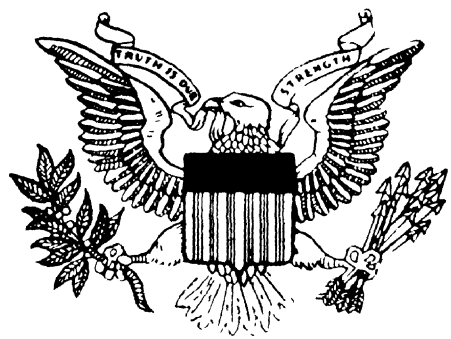
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THE COLUMBIA ENCYCLOPEDIA

THE COLUMBIA ENCYCLOPEDIA

IN ONE VOLUME
SECOND EDITION

EDITED BY WILLIAM BRIDGWATER
AND ELIZABETH J. SHERWOOD

COLUMBIA UNIVERSITY PRESS
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PREFACE

IT IS fifteen years since *The Columbia Encyclopedia* was first offered to the reader. In that time it has established itself as a standard reference work, and in that time work has gone steadily forward on revising, expanding, and bringing up to date the vast amount of information that has changed with the changing world The second edition of *The Columbia Encyclopedia* now incorporates the fruits of those long labors as well as the advice and counsel of thousands of persons who in print, in letters, or by word of mouth have suggested improvements and emendations for enriching the book This new edition is a complete revision, not merely an expansion Every article has been inspected, and wherever new information has become available, it has been incorporated into a rewritten article Errors have been corrected wherever found, and a few modest innovations have been made In purpose and in form, however, the book remains the same as the one-volume encyclopedia published in 1935 and found serviceable by many readers since then

The credit for that purpose and that form, for the very conception of this one-volume encyclopedia, belongs to the late Clarke Fisher Ansley, Editor in Chief of the first edition. He survived the herculean task of supervising its growth from an idea to a substantial volume by only a few years Out of the large staff who aided him in the preparation of that edition has come the nucleus of the editorial staff of this second edition His high ideals and his rigorous training in craftsmanship have lived on This second edition has also had the advantage of the encouragement and counsel of two men who were important in bringing *The Columbia Encyclopedia* to birth Charles G. Proffitt, now Director of Columbia University Press, and Frederick Coykendall, Chairman of the Board of Trustees of Columbia University and President of Columbia University Press To them gratitude is due for this second edition of the book as for the first The title of the work remains the one suggested by the late Nicholas Murray Butler, then President of Columbia University The following remarks on the general character and the lasting ideal of *The Columbia Encyclopedia* are largely expressed in the words of Clarke Fisher Ansley himself

One who makes good use of the art of reading needs to have three reference works at hand a dictionary, an atlas, and an encyclopedia The dictionary and the atlas for workaday purposes are each in one volume On the continent of Europe one-volume encyclopedias have long been in general use *The Columbia Encyclopedia* serves readers of English in a like way, as the companion of the dictionary and the atlas Since it is prepared primarily for Americans, it is constructed mindfully to fill the needs of American readers and therefore takes a distinctive form.

To make this encyclopedia as convenient and satisfactory in its field as the good one-volume dictionary and atlas are in their fields various means have been employed In typography and other physical details the book is compact In the articles much space for encyclopedia material has been gained by avoiding the duplication of material that belongs to the dictionary and the atlas Maps are left to the atlas Definitions have been left to the dictionary, if space that could be given to an item in the encyclopedia would allow no more than the sort of definition that appears in a good dictionary, that item is omitted from the encyclopedia. The cross-reference system used is an integral part of the encyclopedia Since space is at a premium, information given under one heading is generally not repeated under another. Instead the reader is directed to the item containing the information by printing the reference to that article in SMALL CAPITALS. The reader may benefit greatly by mastering this simple system at once

Before the development of specialization in knowledge, an encyclopedia could attempt to comprise substantially the sum of human knowledge It could hold, with much else, substantially all the book learning of the minister, the physician, the lawyer, the teacher, the businessman, and the historian Such compass is no longer possible A general encyclopedia cannot hope to take the place of the many books (including specialized reference works) that the professional or the businessman now needs, and these are commonly in technical language, unintelligible to those who have not had his training. The most that others may have in a specialist's field is first aid, and in the specialties of others the specialist's need of such first aid is not less than that of other men The human mind has its limitations, and progress in knowledge makes it less and less possible for one person to know all that is known The need for first aid increases

Since first aid and essential facts are all that a general encyclopedia can now give successfully, they are all that *The Columbia Encyclopedia* attempts to give It contains no technical treatises. It does not try to instruct a specialist in his specialty The specialist who expects to find technical information should not, in any case, be consulting a general encyclopedia, but rather technical works and reference works in his field In *The Columbia Encyclopedia* he may find only ready reference, reminders of dates, titles, and the like The substance of the articles is essential information in language intelligible to the ordinary reader—which the specialist becomes in every field but his own

The bibliographical suggestions are of the same first-aid nature as the rest of the book The ideal has been to name good books for reasonably elementary information Books which have good bibliographies have been preferred Because the ordinary American reader cannot be expected to know all the various foreign languages, the bibliographical items are normally limited to works in English The books listed may lead the reader ultimately to all that books hold on a subject in which he is interested.

The exclusion of material of interest only to specialists in a subject, the elimination of illustrations (which also helps to keep the price of the book modest), and various economies of space have permitted *The Columbia Encyclopedia* to be comprehensive in ways that seem likely to be helpful. Geographic names and biblical proper names will illustrate. An encyclopedia primarily for American use should include many American place names This book therefore includes all incorporated places in the United States with a population of 1,000 or more, many unincorporated and smaller places are also included because of historic or other reasons A similar policy has been followed with regard to Canada The King James Bible is a treasured possession of English-speaking people, accessible everywhere and basic in general education Its importance is freely recognized even by those who prefer other versions *The Columbia Encyclopedia* gives in its alphabetical position every proper name in this Bible with references to passages where information about the person, people, or place named is given In these and the many other fields covered by the book's 6,000,000 words, one may seek not unhopefully in-

formation not given in more voluminous reference works. The separate entries in *The Columbia Encyclopedia* number about 70,000, a generous amount.

Facts and figures for the articles have been taken from the most authoritative sources. Population figures, for instance, are derived from the latest official census, wherever possible. If later official estimates have been issued, they have been utilized. Bitter experience has demonstrated the unwisdom of using unofficial estimates, and they have therefore been avoided. The materials used for writing articles on the places, history, and literature of foreign nations have been largely those in the respective languages as well as standard works in English on the subjects.

In debated matters, as in politics, economics, and religion, *The Columbia Encyclopedia* endeavors to present facts and not opinions. In religion, for example, articles have generally been inspected by Roman Catholic, Protestant, and Jewish experts. The statements do not represent the views of an individual or a single group, they have been reviewed by experts and editors differing in faith.

This is one of the reasons why articles are unsigned. Every article in this encyclopedia has had the careful inspection of more than one person and is a product of cooperation. In order to present unbiased articles written in the briefest possible form and in language intelligible to the ordinary reader, special writing techniques are necessary. The expert in a particular field is not usually a master of such technical skills, although there are rare and happy exceptions. Generally, then, the articles have been written by persons specially trained for this particular type of writing in special fields, the items have later been reviewed by specialists. *The Columbia Encyclopedia* is a highly cooperative effort. It is intended to be, like a good dictionary or an atlas, a coordinated and reliable reference work.

In the second edition, as in the first, the aim has been to serve the English-speaking reader. Therefore the effort has been to record the forms that are current in educated English usage, not forms that would be unintelligible to those who are not masters of a foreign language. In the European languages more commonly known in the United States and Canada, the diacritical marks and special characters are given at least once in the article. Such forms, if they do not coincide with the usual English written forms, are given in italics after the entry under the English spelling. This device should be of some value to those who know the languages. In names that occur in languages written in alphabets other than the Roman, forms that have been established as standard in English are employed. Where no standard forms exist, efforts have been made to transliterate names simply and consistently. Unfortunately attempts to regularize Arabic and certain other non-Roman forms proved more or less futile, because of the conflict of competing but equally acceptable systems of transliteration. Established common forms are used. A few of the languages written in Roman contain such unusual special letters that it proved impossible, because of expense, to reproduce them even in italics after the headings. These are few.

Similarly the pronunciations given are forms which are used in English-speaking circles. Certain foreign pronunciations are also indicated. Serious efforts have also been made to discover and reproduce the accepted pronunciations of American and English places and persons, it has been a difficult undertaking. The key to pronunciation faces the first page of text.

This book is in no sense an official or an unofficial publication of Columbia University. Yet it is deeply indebted to Columbia University and to members of its teaching staff. In many cases articles have been read by members of the faculty, who approved or suggested changes in articles in their special fields. The Columbia experts have, indeed, been most generous in giving of their time and their knowledge. Some of those who were especially kind in writing or revising articles or in making suggestions for including or excluding headings are listed elsewhere as advisers and contributors. It is, however, impossible to thank by name all of the many persons at Columbia who have rendered valuable service to *The Columbia Encyclopedia*. This simple statement must serve as a warrant of gratitude.

A special word must be said of the Libraries of Columbia University. The members of their staffs have borne patiently with the many and various demands made upon them by the research workers of *The Columbia Encyclopedia*. The librarians have been most generous in valuable counsel and aid. Particular mention must be made of Constance M. Winchell and Jean F. McAllister, but all of the staff of the Libraries without exception have been most helpful.

The unusually complete and up-to-date collection of technical works assembled by the Mount Vernon Public Library has been invaluable in the writing of scientific articles. The librarians of the New York Public Library have graciously answered numerous telephone queries, and their magnificent collection of books has been of prime value.

A reference work is tested by its readers. If it serves their purposes, it is a good work. The response of the readers is of the utmost importance to the editors. The editorial staff of *The Columbia Encyclopedia* is, therefore, grateful to all those many readers of the first edition who have taken the trouble to write words of praise and suggestions for additions or improvements. The letters received have been read with great care. Their substance has been weighed. The suggestions made have all been considered. Not all of these were feasible, but in general they proved of the utmost worth in guiding revision. Most of the letters have been answered personally, but here the importance of their contribution must be acknowledged. Similarly the points raised by reviewers have all been considered and taken into account as the labor of the second edition progressed. The remarks made were almost universally favorable. A few of the objections proved groundless, in certain instances "errors" were pointed out solely on the basis of comparison with other reference works, when the research workers of *The Columbia Encyclopedia* had established correct statements, superseding errors in the other works. The workers on the second edition have read and taken note of all reviews that came to hand, they have derived immense profit from them.

The new edition is now, like the first edition, offered to the reader with the hope that he will find it comprehensive and accurate. It is reassuring to know that the revised work is not being laid entirely before strangers but before a host of warm and much-appreciated friends.

May 1, 1950

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KEY TO PRONUNCIATION

ā *fate* (fāt), *fail* (fāl), *vacation* (vākā′-shun)
â *care* (kâr), *Mary* (mâ′rē)
ă *bat* (băt), *add* (ăd), *marry* (mă′rē)
a *father* (fa′dhur), *marble* (mar′bul)
ä French *tant* (tä), *Rouen* (rōōä′), and similar sounds in some other languages
b *back* (băk), *cab* (kăb)
ch *chap* (chăp)
d *dock* (dŏk), *cod* (kŏd)
dh *father* (fa′dhur), *then* (dhĕn). Compare with th
ē *even* (ē′vun), *clearing* (klēr′ĭng), *obvious* (ŏb′vēus)
ĕ *end* (ĕnd), *met* (mĕt), *marry* (mă′rē)
ē French *vin* (vē), *bien* (byē), and similar sounds in some other languages
f *fat* (făt), *Philip* (fĭ′lĭp)
g *get* (gĕt), *tag* (tăg)
h *hat* (hăt) See also ch, dh, kh, sh, th, zh, and hw
hw *where* (hwâr), *what* (hwŏt)
ī *fine* (fīn), *buyer* (bī′ur)
ĭ *pin* (pĭn), *pit* (pĭt), *spirit* (spĭ′rĭt), *fated* (fā′tĭd)
j *jam* (jăm), *edge* (ĕj), *ginger* (jĭn′jur)
k *cook* (kōōk), *tackle* (tă′kul)
kh *loch* (lŏkh), German *Aachen* (a′khun), *Licht* (lĭkht), and similar sounds in some other languages
l *peal* (pēl), *pull* (pŏŏl)
l̩ *crumple* (krŭm′pl̩)
m *hammer* (hă′mur)
m̩ *fanaticism* (fună′tĭsĭzm̩)
n *dinner* (dĭ′nur)
n̩ *dampen* (dăm′pn̩)
ng *singing* (sĭng′ĭng), *finger* (fĭng′gur), *sang* (săng), *sank* (săngk)
ō *hope* (hōp), *potato* (putā′tō)
ô *orbit* (ôr′bĭt), *fall* (fôl)
ŏ *hot* (hŏt), *toddy* (tŏ′dē), *borrow* (bŏ′rō)
ō French *dont* (dō), *chanson* (shāsō′), and similar sounds in some other languages
oi *boil* (boil), *royal* (roi′ul)
ōō *boot* (bōōt), *lose* (lōōz)
ŏŏ *foot* (fŏŏt), *purely* (pyŏŏr′lē), *manipulate* (munĭ′pyŏŏlāt)
ou *scout* (skout), *crowd* (kroud)
p *pipe* (pīp), *happy* (hă′pē)
r *road* (rōd), *appeared* (upēr′d), *carpenter* (kar′puntur)
s *saw* (sô), *case* (kās)
sh *shall* (shăl), *nation* (nā′shun)
t *tight* (tīt), *rating* (rā′tĭng)
th *thin* (thĭn), *myth* (mĭth) Compare with dh
ū *fume* (fūm), *euphemism* (ū′fumĭzm̩)
û *cur* (kûr), Hamburg (hăm′bûrg), French *œuvre* (û′vru), *peu* (pû), German *schön* (shûn), *Goethe* (gû′tu), and similar sounds in some other languages
ŭ *butter* (bŭ′tur), *suds* (sŭdz), *hurry* (hŭ′rē)
ů *affair* (ufâr′), *sofa* (sō′fu), *contravene* (kŏntrůvēn′), *monopoly* (munŏ′půlē), *suburban* (subůr′bun), *callous* (kă′lůs), *rather* (ră′dhůr)
u French *Cluny* (klunē′), German *Lubeck* (lu′bĕk), and similar sounds in some other languages
ũ French *Melun* (mulũ′), *Chambrun* (shābrũ′), and similar sounds in some other languages
v *rest* (vĕst), *trivial* (trĭ′vēůl)
w *wax* (wăks)
y *you* (yōō), *bunion* (bŭ′nyun)
z *zipper* (zĭ′pur), *ease* (ēz), *treads* (trĕdz)
zh *pleasure* (plĕ′zhur), *rouge* (rōōzh)
′ main accent, written after accented vowel or syllable Nebraska (nubră′-sku), James Buchanan (jāmz′ būkă′-nun)
″ secondary accent: Mississippi (mĭ″-susĭ′pē)
– dash, replacing obvious portion of pronunciation hegemony (hĭj′ĕ′munē, hē–, hĕ′jumō″nē, hĕ′gu–)
- hyphen, to prevent ambiguity Erlangen (ûr′lăng-un), dishearten (dĭs-har′tun)

NOTES

The purpose of the pronunciation symbols is to give at least one serviceable way in which the word in question may be pronounced when used by careful speakers of English.

In this work a pronunciation is ordinarily indicated for words printed in boldface when this pronunciation is not obvious to the English-speaking reader Of two or more words or names in succession spelled and pronounced alike, a pronunciation is frequently indicated for the first occurrence only

For names of localities in English-speaking areas the local pronunciation is preferred, provided it is acceptable to careful speakers

For foreign words and names the speaker of English desires to use a pronunciation that will be acceptable to other speakers of English (unless he is speaking in a foreign language) In many cases (e g , Paris) there is a traditional pronunciation that resembles little the current native pronunciation, and attempts to introduce into English conversation an approximation of the native form (something like parē′) are regarded as an affectation It is customary with foreign names that have no conventional English form to pronounce them with English sounds approximating the foreign ones Such an approximation is indicated in this work, whenever there is no established usage to follow

Actual good foreign-language pronunciations can be acquired only through imitation and study Nevertheless, Englishmen and Americans have for many years made a practice of imitating roughly five French sounds ä, ē, ō, ũ, and u A speaker of English can attain ä by saying ang without the closure at the back of the mouth necessary to make ng, breathing through nose and mouth as well, ē is similarly like the beginning of ăng, ō like that of ōng, and ũ like that of ŭng To approximate u say ōō with vigor, then, keeping the lips rounded, change the sound quickly to ē

For Latin words the venerable English tradition is followed [e.g , Caesar (sē′zur)], except where some other pronunciation is well established, as in ecclesiastical names [e g , Salve Regina (sal′vā rājē′nu)] The so-called classical pronunciation, which approximates the pronunciation Caesar used [e g , Caesar (kī′sar)], is not given, as being not usual in English conversation.

A

A, first letter of the ALPHABET Its Greek correspondent is named alpha, as in the expression "Alpha and Omega" ("first and last", see Ω), symbolizing God It is a usual symbol for a low central vowel as in *father*, English ä is a diphthong of ĕ and y In MUSICAL NOTATION it is the symbol of a note in the scale In chemistry A is the symbol of the element ARGON

Aa (ä) [from a word for "water" of the same Indo-European root as Latin *aqua*], name of many small streams of N Europe and Switzerland Aa, or a derivative of it is a component part of hundreds of European place names

Aachen (ä'khun) or **Aix-la-Chapelle** (āks'-lä-shupĕl'), city (1939 pop 162,164; 1946 pop 110 462), in the former Rhine Prov of Prussia, W Germany, after 1945 in North Rhine-Westphalia, near the Belgian and Dutch borders One of the great historic cities of Europe, it is now chiefly important as an industrial center It is located in a brown-coal district and manufactures machinery, rubber goods, and textiles Its hot mineral baths, frequented since Roman times, are still in use CHARLEMAGNE, who was probably born here, made Aachen his northern capital He built a splendid palace and founded the great cathedral, which contains his tomb From its waters and from Charlemagne's shrine Aachen derived its French name, Aix-la-Chapelle, which is also often used in English The cathedral, which was rebuilt in the 10th cent after a Norman invasion, retains part of the original structure, an imitation of the Byzantine Church of San Vitale in Ravenna, there are later Gothic additions It was relatively little damaged in the Second World War, which devastated almost all other historic buildings, notably the Church of St Nicholas (14th cent), the Church of St Foilan (12th cent), and the 14th-century city hall, built on the site of Charlemagne's palace The old fortifications also were partially damaged Until 1531 the German kings were crowned "kings of the Romans" at Aachen (see HOLY ROMAN EMPIRE) Though it declined in importance, Aachen remained a free imperial city until its annexation (1801) to France It passed to Prussia in 1814 From 1918 to 1930 it was occupied by the Allies, and in the Second World War it was the first important German city to fall into Allied hands, it surrendered, after bitter resistance, to American troops on Oct 21, 1944 Several important treaties were signed at Aachen (see AIX-LA-CHAPELLE, TREATY OF), and in 1818 a conference was held here, important to the development of the Holy Alliance

Aagesen, Svend (svĕn' ô'gusun), fl 1185, Danish historian He was a cleric in the service of Absalon, archbishop of Lund, who encouraged him to write a history of the early Danish kings His brief account, written in rough Latin, is overshadowed by that of his contemporary, Saxo Grammaticus Aagesen was probably also the editor of a Latin translation of the military laws of Canute the Great and may have been the translator

Aakjaer, Jeppe (yĕp'ü ôk'yär), 1866–1930, Danish poet and novelist Most of his works deal with life in his native Jutland His novels *The Peasant's Son* (1919) and *Children of Wrath* (1904) reflect his passionate interest in the poor His most memorable work is his poetry, such as *Songs of the Rye* (1906) and *Heimdal's Wanderings* (1924)

Aaland Islands see ÅLAND ISLANDS

Aalborg, Dan *Ålborg* or *Aalborg* (all ôl'bôrg, ôl'bôr), city (pop 60,880), Denmark, in N Jutland, on the south side of Lim Fjord It is a commercial port and the seat of a naval school Dating from the early 11th cent, it has a 14th-century church and is the see of a Lutheran bishop

Aalesund, Norway see ÅLESUND

Aalst, Belgium see ALOST

Aalto, Alvar (ôl'var ál'tô), 1899–, Finnish architect and furniture designer He has designed both public buildings (notably a library at Viipuri) and private dwellings and pioneered in evolving functional plywood furniture, especially chairs He has sought to use mass production to bring his modern designs into ordinary homes His wife, Aino Aalto, has collaborated with him in both fields

Aanrud, Hans (hänś' ôn'rōōd), 1863–, Norwegian writer of stories, plays, and books for children He was especially successful in his portrayal of life in his home valley, Gudbrandsdal His works include *Sidsel Sidsaerk* (1903) and *Solve Solfeng* (1910), both translated in *Sidsel Longskirt and Solve Suntrap: Two Children of Norway* (1935)

Aar (är), river, c 183 mi long, rising in Switzerland, in the Bernese Alps It traverses the Lake of Briens and the Lake of Thun (whence it is navigable), passes Bern, Solothurn, and Aarau, and joins the Rhine opposite Waldshut, Germany

Aarau (ä'rou), town (pop 12,900), capital of Aargau canton, Switzerland, at the foot of the Jura and on the Aar river Scientific instruments and shoes are manufactured, and there is a printing industry

aardvark (ard'värk) [Dutch, =ground pig], nocturnal mammal of the order Tubulidentata There are two species of the genus *Orycteropus*, one in central Africa and one in the southern part The aardvark, about 6 ft long has a long snout, large erect ears, an almost naked or sparsely haired body, and a long tail Its forefeet are adapted for making burrows in the ground and for clawing open the nests of ants and termites in order to capture the insects with its long sticky tongue Its cylindrical teeth are without enamel and roots It is also called ant bear and earth pig

Aargau (är'gou), canton (542 sq mi, pop 270,463), Switzerland The capital is Aarau The canton is traversed by the Aar river, and there are wooded hills and fertile valleys The territory was taken (1415) by the Swiss cantons from the Hapsburg and governed by them until 1798 In 1803 it was admitted as a canton to the Swiss Confederation The population is mainly German-speaking and Protestant

Aarhus, Dan *Århus* or *Aarhus* (all ôr'hōōs), city (pop 107,393), Denmark, in E Jutland, on Aarhus Bay, which opens on the Kattegat It is second in size to Copenhagen and is a seaport and a commercial and industrial center with machine shops, oil refineries, tobacco and other factories, and breweries An episcopal see (now Lutheran) since the 13th cent, it has a medieval cathedral and many fine Renaissance houses Its university was opened in 1928 Some damage was inflicted on Aarhus in the Second World War

Aaron (ă'rŭ), in the Bible, first high priest, the brother of Moses and his spokesman in Egypt His descendants were high priests and priests The prestige of descent from him was emphasized especially after the Exile He was the instrument of Jehovah in miracles, as in turning his rod into a serpent and in causing the rod to bud, blossom, and bear almonds He made the golden calf and took part in the worship of it Ex 4 14–16, 6 20, 7 1–12, 28–32, Num 12, 17, 18, 20, 33 38, 39, Deut 10 6

Aaron's-beard, name sometimes applied to several plants usually characterized by some beardlike aspect, as the St -John's-wort because of its many stamens and the Kenilworth ivy because of its threadlike runners Aaron's-beard cactus is *Opuntia leucotricha*, a true cactus

Aaron's-rod, popular name for several tall-flowering, infrequently branching plants, such as goldenrod and mullein The name is an allusion to the rod which Aaron placed before the ark and which miraculously blossomed and bore almonds (Num 17 8)

Aartsen, Pieter see AERTSEN, PIETER

Aasen, Ivar Andreas (ē'var ändrā'as ô'sŭn), 1813–96, Norwegian lexicographer He enjoys the distinction of being perhaps the only man who, by standardizing the dialects of a people, created a speech (i e, the Landsmaal) which became the national language For this he was responsible largely through the publication of a grammar (1848) and a dictionary (1850)

abacá see MANILA HEMP

Abaco and Cays (ă'bukō, kēz', kāz'), island group, most northerly of the BAHAMA ISLANDS It includes Great Abaco, Little Abaco, and the surrounding islets

abacus (ăb'ukus) [Latin, from Gr], in architecture, a flat slab forming the top member of a capital In classic orders it varies, a square form having unmolded sides in the Greek Doric, thinner proportions and ovolo molding in the Greek Ionic, and sides incurving and corners cut in Roman Ionic and Corinthian examples In Romanesque work the abacus is heavier in proportion, projects less, and is generally molded and decorated In Gothic work the form varies, appearing in square, circular, and octagonal forms with molded members

abacus, in mathematics, simple calculating device The type of abacus now best known is represented by the frames used for scoring in billiards, for teaching children the elements of arithmetic, and by Chinese in computation An apparatus of pebbles or other movable counters was known in antiquity to Egyptians, Greeks, Romans, and Chinese An especial merit of the abacus is that it simplifies the addition and subtraction of numbers written in Roman numerals Other types of abacus include a board covered with sand or wax to facilitate making and erasing marks See D E Smith, *History of Mathematics* (1923–25)

Abadan (ăbudăn', ăbădan'), city (1949 estimated pop 39,739), E Iran, on Abadan island, in the delta of the Shatt el-Arab at the head of the Persian Gulf Abadan is dominated by its huge oil refinery, it became the terminus of a pipe line in 1909 The modern section of the town houses the employees of the oil company, while the old section is native The climate is hot and humid, and food and other necessities must be imported

Abaddon (ubăd'un) [Heb, =destruction], Hebrew name of APOLLYON Rev 9 11 In ancient Jewish tradition it was used for part of Sheol

Abadeh (ăbudē'), town (1949 estimated pop 7,448), S Iran, between Isfahan and Shiraz Its cool climate encourages growing of poppies and fruits, and the region produces grain

Abagtha (ubāg'), one of Ahasuerus' seven chamberlains Esther 1 10

Abakan (ăbukan'), city (pop 36,135), capital of the Khakass Autonomous Oblast, RSFSR, in S central Siberia, on the Yenisei river It is on the South Siberian RR and has sawmills, meat plants, and metalworking plants Founded (1707) as a fortress it was known as Ust-Abakanskove until 1931 Bronze Age tumuli and Turkic inscriptions have been found here

abalone (ăbulō'nē) [Span], popular name in America for a univalve mollusk of the genus *Haliotis*, members of which are also called ear shells or sea ears On the California coast it is taken in vast numbers for food The iridescent pearly shell is made into buttons and other articles Before protective legislation was enacted quantities of the dried flesh and some shells were exported to the Orient

Abana (ubā'nu), river of Damascus 2 Kings 5 12 It is probably the Barada, flowing near Damascus See also PHARPAR

abandonment, in law, relinquishment of rights in property without conveying them to any other person In extended usage, the term means surrender of property rights to another person, e g, when the beneficiary of an insurance policy surrenders his rights to the proceeds to another Abandonment also means willfully leaving one's spouse or children, intending not to return (see DESERTION)

Abano, Pietro d' (pyā'trō dă'bänō), 1250?–1316?, Italian physician and philosopher, a professor of medicine in Padua His famous work, *Conciliator differentiarum*, an interpretation of the views of Arabists and Greeians, marks the rise of the Paduan school as a center of medical dialectics He was tried by the Inquisition on charges of heresy and practicing magic Acquitted in the first trial he died in the second trial He was found guilty, and his body was ordered burned The body was missing, but was burned in effigy

Abarbanel, Isaac see ABRAVANEL, ISAAC

Abarim (ăb'urim) [Heb, =districts beyond], general term for the country E of the Jordan Num 27 12, 33 47, Deut 32 49 The same original term is translated in Jer 22 20

Abascal, José Fernando de (hōsā' fĕrnän'dō dā abäskäl'), 1743–1827, Spanish viceroy of Peru (1806–16) He displayed great skill in reconciling the Spanish and the creoles He reorganized the army, stamped out local rebellions, and opposed the revolutionists of Buenos Aires and Chile

Abati, Niccolò dell' see ABBATE, NICCOLÒ DELL'

A battery see BATTERY, ELECTRIC

abattoir (ăb'utwar') [Fr], a building for butchering The abattoir houses the work of killing animals for food, dressing, cutting, and inspection of meats, and in some instances refrigeration, curing, and the manufacture of by-products The largest abattoirs are those of the MEAT PACKING industry, highly developed especially in the United States Plant construction, drainage, water supply, disposal of refuse, and all operations are under government regulation Abattoirs are also called slaughterhouses

Abbadides (ă'budīdz), Arabian dynasty in Spain It ruled SEVILLE from 1023 to 1091 Taking advantage of the disintegration of the caliphate of CÓRDOBA, the cadi (governor) of Seville seized power and made himself king (1023–42) of the newly founded state as Abbad I His son and successor, Abbad II, made Seville the most powerful kingdom in S Spain He was noted for his cruelty He was succeeded (1068) by his son, Abbad III (Abbad al-Mutamid), a great patron of the arts and a poet, but an inept ruler In a dispute with Alfonso VI of Castile he called in the ALMORAVIDES from Morocco for help They defeated Alfonso in 1086, but they also deposed (1091) Abbad, who died in exile

Abbadie, Antoine Thomson d' (ătwăn', dăbădē'), 1810–97, French traveler, b Dublin With his brother **Arnaud Michel d'Abbadie** (arnō' mēshĕl'), 1815–93, he explored Ethiopia (1837–48), where he collected valuable material on ethnography, linguistics, geography and geology

Abbas (ă'bus, ă'băs", -bas"), d 652, uncle of Mohammed the Prophet and of Ali the caliph He was a wealthy merchant of Mecca and was the ancestor of the Abbasid caliphs

Abbas I (Abbas the Great), 1557–1628, shah of Persia (1587–1628), of the Safavid dynasty In 1597 he ended the raids of the Uzbeks, and subsequently (1603–23) he conquered extensive territories from the Turks His reign was prosperous, and, holding a royal silk monopoly, he was interested in trade With English aid he took (1622) Ormuz from the Portuguese and founded what is now the port of BANDAR ABBAS He broke the power of the tribal chiefs and established a new tribe, the Shahsavan [friends of the Shah] He erected the monumental buildings of ISFAHAN and had an impressive palace and gardens at Babol He left Persia strong and orderly

Abbas II (Abbas Hilmi), 1874–1944, khedive of Egypt (1892-1914) Nominally he ruled in subordination to the Ottoman Empire, but in fact Egypt was controlled by the British resident—at first Lord Cromer, and later Kitchener The British deposed Abbas after Turkey joined the Central Powers in the First World War He wrote *The Anglo-Egyptian Settlement* (1930) Lord Cromer wrote *Abbas II* (1915), a defense of British policy

Abbasid (ăbă'sĭd, ă'busĭd) or **Abbaside** (-sīd, -sĭd), Arabic family descended from ABBAS, the uncle of Mohammed They held the caliphate from 749 to 1258 Under the Omayyad caliphs the Abbasids lived quietly until trouble began to gather early in the 8th cent The family then joined with the Shiite faction in opposing the Omayyads, and in 747 the gifted ABU MUSLIM united most of the empire in revolt The head of the Abbasid family became caliph as ABU-L-ABBAS AS-SAFFAH late in 749 The last Omayyad caliph, Marwan II, was defeated and killed Under the second Abbasid caliph, called MANSUR (d 775), the capital was removed to Baghdad, and Persian influence grew strong in the empire The early years of Abbasid rule were brilliant, rising to true splendor under HARUN AL-RASHID, the fifth caliph, and to intellectual brilliance under his son MAMUN, the seventh caliph After less than a hundred years of rule, however, the slow decline of the Abbasids began There were long periods of disorder, control by Turkish soldiers, assassinations, depositions, and other trouble, and from the beginning there were rival caliphs (see CALIPHATE) Under lax Abbasid rule, the power of the caliphs became chiefly spiritual, many independent kingdoms sprang up, and the empire split into autonomous units The Seljuk Turks came to hold the real unifying power The conquests of Jenghiz Khan shook the empire, and in 1258 his grandson Hulagu Khan overthrew the Abbasid caliphate The 37th caliph died in the disaster, but a member of the family escaped to Cairo, where he and his descendants were called caliphs for several centuries See Sir William Muir, *The Caliphate* (rev ed , 1915), G LeStrange, *Baghdad during the Abbasid Caliphate* (1925), Reuben Levy, *A Baghdad Chronicle* (1929)

Abbate or **Abati, Niccolò dell'** (nēk-kōlō' dĕl-lă-bba'tā, -bă'tē), 1512?–1571 Italian painter He assisted Primaticcio in the decorations at Fontainebleau He was also known as Messer Niccolino (mĕs'sĕr nēk-kōlē'nō)

Abbe, Cleveland (ăb'ē), 1838–1916, American meteorologist, b New York city, brother of Robert Abbe He studied astronomy at the Univ of Michigan and under B A Gould at Cambridge, Mass As director of the Cincinnati Observatory, he inaugurated daily weather forecasting based on telegraphic reports and thus influenced the establishment of a government weather service He served from 1871 in the national weather service established (1870) under the Signal Corps and from 1891 to 1916 in the U S Weather Bureau, which was organized under the Dept of Agriculture to take over the meteorological work

Abbe, Ernst (ĕrnst' a'bu), 1840–1905, German physicist From 1870 to 1896 he was professor at the Univ of Jena Associated from 1866 with the Zeiss optical works at Jena, he became sole owner in 1888 and reorganized it on a cooperative basis His own experimental work was largely responsible for the high standard of Zeiss optical instruments He invented the Abbe refractometer, for determining the refractive index of substances, and improved photographic and microscopic lenses

Abbe, Robert (ăb'ē), 1851–1928, American surgeon, b New York city, M D Columbia, 1874, brother of Cleveland Abbe He was noted as a skillful and resourceful surgeon, especially successful in plastic operations A friend of the Curies and interested in their work, Abbe was one of the first in the United States to use radium in treating cancer

Abbeville (ăb'vĭl, ă'bēvĭl, Fr ăbvēl'), city (pop. 16,098), Somme dept , N France, in Picardy, on the Somme river and 12 mi. from the English Channel It has linen and other textile manufactures It was chartered in 1184 The late Gothic Church of St Wolfram was badly damaged in the Second World War, as was much of the rest of the town Here in 1259 Henry III of England concluded a treaty with Louis IX of France by which he relinquished his claims to Normandy, Anjou, Maine, Poitou, and Touraine and undertook to do homage to the French king for his other possessions in France

Abbeville (ăb'ĕvĭl) **1** City (pop 2,080), co seat of Henry co , SE Ala , near the Chattahoochee, in a cotton and timber area An agricultural experiment station is here **2** City (pop 1,010), co seat of Wilcox co , S central Ga , on the Ocmulgee river and SSE of Macon, in a farm area, inc 1883 **3** Town (pop 6,672), parish seat of Vermilion parish, S La , N of Vermilion Bay, in a rice-growing district It grew around a Roman Catholic chapel built in 1845 by the French and preserves in its old buildings much of the early atmosphere **4** City (pop 4,930), co seat of Abbeville co , NW S C , near the Savannah WNW of Columbia, in a cotton-growing area It has textile mills

Abbey, Edwin Austin, 1852–1911, American illustrator and painter, b Philadelphia, studied with a wood engraver and later in the Pennsylvania Academy of the Fine Arts Employed by Harper & Brothers, he was sent to England, where he gathered materials for his illustration of Herrick's poems and other works His illustration of Shakspere is usually considered his best work His first oil painting was exhibited in 1890 in the Royal Academy, London *The Quest of the Holy Grail* (a series of wall panels in the Boston Public Library) is perhaps his most famous painting He was official painter of the coronation of Edward VII See biography by E V Lucas (1921)

abbey, monastic house, especially among BENEDICTINES and CISTERCIANS It is conceived as being autonomous and, primitively, as economically self-supporting The priory is a house dependent on an abbey The head of an abbey is an abbot or abbess In the Benedictine expansion from the 8th cent , abbeys were often centers of peaceful arts in a still disordered Europe The buildings were centered around the church, there were refectory, dormitory guest house, and other buildings, all surrounded by a wall Cluniac abbeys (see CLUNIAC ORDER) and Cistercian abbeys developed their own styles on the same basic plans Cluniac buildings were florid, Cistercian ones notably bare They naturally worked in the architectural pattern of the period, hence the earlier abbeys were Romanesque, but that style gave way in the 12th cent to Gothic The CARTHUSIANS, with their different polity, developed a special type of house, called rather charterhouse than abbey A basic feature of the abbey was the courtyard, derived from the Roman ATRIUM The CLOISTER surrounding the court is so characteristic of Western monasticism that the word has come to be synonymous with monastic seclusion See D H Cranage, *The Home of the Monk* (1926), R L Palmer, *English Monasteries in the Middle Ages* (1930), F H Crossley, *The English Abbey* (1936)

Abbey Theatre Experiments (1899 1902) with an Irish theatre by W B Yeats and others led to the founding of the Irish National Theatre Society in 1902 Yeats, A E (George Russell), Lady Gregory, and J M Synge were directors and playwrights and William and Frank Fay the leading actors In 1904 Miss A E F Horniman gave them a subsidy and the free use of the Abbey Theatre in Dublin In 1910 the theater was bought for them by public subscription Among playwrights whose works they first gave are Lennox Robinson, Sean O Casey, and Paul Vincent Carroll The company, generally known as the Irish Players, toured the United States in 1911 12, 1932–33, and 1937 38 See Lady Gregory, *Our Irish Theatre* (1913), and her journals (ed by Lennox Robinson, 1946), Andrew Malone, *The Irish Drama, 1896–1928* (1929), W G Fay and Catherine Carswell, *The Fays of the Abbey Theatre* (1935)

Abbo of Fleury (ăbō', flûrē'), Fr *Abbon de Fleury* (abō' du), Latin *Abbo Floriacensis*, 945?–1004, French monk at the abbey of Fleury (at present Saint-Benoît-sur-Loire, near Orléans, France) He was head of the monastery school, later taught at the abbey in Ramsey, England, and in 988 became abbot at Fleury Famous for his learning, he wrote on grammar, astronomy, mathematics, and philosophy He served King Robert II of France on diplomatic missions

Abbot, Charles Greeley, 1872–, American astrophysicist, b Wilton, N H He became acting director of the astrophysical observatory of the Smithsonian Institution in 1896 and director in 1907 Many of his research studies were initiated by S P Langley, his predecessor He completed the mapping of the infrared solar spectrum and over a long period of years carried out, from stations at various altitudes in North and South America and in Africa, systematic studies of variation in solar radiation, its relation to the sunspot cycle, and its effect upon weather variation He also studied intensively the nature of atmospheric transmission and absorption Abbot perfected various standardized instruments, now widely used, for measuring the sun's heat and invented devices utilizing solar energy Besides scientific papers and reports he wrote *The Sun* (1911), *The Earth and the Stars* (1925; rev ed , 1946), *The Sun and the Welfare of Man* (1929), and, with S A Mitchell, a standard textbook on astronomy (1927) In 1928 he became secretary (chief executive officer) of the Smithsonian Institution He resigned from the executive office in 1944 to become research associate

Abbot, Francis Ellingwood, 1836 1903, American philosopher, b Boston, grad Harvard, 1859 He founded the Free Religious Association in 1867 but became estranged from it in 1894 His works, exemplified by *Scientific Theism* (1885), were severely criticized by Josiah Royce and the proponents of idealism

Abbot, George, 1562–1633, British clergyman, archbishop of Canterbury He was one of the collaborators (in the Oxford group) on the Authorized Version of the Bible and was an authority on geography Known as the Puritan archbishop (appointed 1611), he was unpopular, and his accidental killing of a gamekeeper while hunting (1622) was used against him His steady opposition to William Laud, together with his refusal (1627) to elevate the king's prerogative over law and Parliament, led Charles to force him from active control

Abbotsford (ăb'utsfurd), estate of Sir Walter Scott from 1811 to 1832, Roxburghshire, Scotland, on the Tweed and W of Melrose The baronial mansion, built over a period of about 10 years, contains many relics of Scott See Washington Irving, *Abbotsford and Newstead Abbey* (1835)

Abbott, Edwin Abbott, 1838–1926, English clergyman and author He wrote several theological works and a biography (1885) of Francis Bacon, but he is best known for his standard *Shakespearian Grammar* (1870)

Abbott, Emma, 1850–91, American operatic soprano, b Chicago She became a church singer in New York c 1870 and later studied in Milan and Paris, making her debut in Covent Garden in 1876 She returned to the United States and formed her own opera company, which toured the country under the management of Eugene Wetherell, whom she married in 1878

Abbott, Grace, 1878–1939, American social worker, b Grand Island, Nebr She did notable work as director (1921–34) of the Child Labor Division of the U S Children's Bureau *The Child and the State* (2 vols , 1938) is her most important publication Her sister, **Edith Abbott,** 1876–, was made dean of the School of Social Service Administration, Univ of Chicago, in 1924 Her publications include *Women in Industry* (1910) and *The Tenements of Chicago* (1936)

Abbott, Jacob, 1803–79, American teacher, pastor, and writer of boys' books, b Hallowell, Maine, grad Bowdoin, 1820, and studied at Andover Theological Seminary In 1828 he founded Mt Vernon School for girls in Boston, and later, in New York he started Mt Vernon School for boys and the Abbott Institute for girls The *Rollo* series of 28 volumes and *The Young Christian* (1832) are perhaps the most famous of his 180 books, many designed to teach history, science, and ethics through stories

Abbott, Sir John Joseph Caldwell, 1821–93, Canadian lawyer and statesman, b St Andrews, Que , educated at McGill Univ He was dean of the law faculty at McGill for 10 years After serving in the legislative assembly, he was elected (1867) as a Conservative to the House of Commons, but he was defeated in 1874 after the Pacific scandal (1873) in which, as adviser to Sir Hugh Allan, Abbott was implicated He was returned (1880) to Parliament and was appointed in 1887 to the Senate On the death of Sir John A Macdonald in 1891, Abbott succeeded him as premier but resigned the following year because of ill-health

Abbott, Lyman, 1835–1922, American clergyman and editor, b Roxbury, Mass , grad New York Univ , 1853, son of Jacob Abbott He was admitted to the bar in 1856 and ordained a minister in 1860 He held various pastorates before succeeding Henry Ward Beecher at the Plymouth Church (Congregational), Brooklyn, in 1888 With Beecher he had begun in 1876 to edit the *Christian Union*, the name of which he changed in 1893 to the *Outlook* He resigned his church in 1899 for his editorial duties Abbott was a leader in developing the "social gospel" emphasis in modern American Christianity Besides periodical articles he wrote *The Theology of an Evolutionist* (1897), *Henry Ward Beecher* (1903), and *The Spirit of Democracy* (1910) See his *Reminiscences* (new ed , 1923)

Abbott, Wilbur Cortez, 1869–, American historian, b Kokomo, Ind He was educated at Wabash College, Cornell Univ , and Oxford and on the Continent He taught history at various places and was a professor at the Univ of Kansas (1902–8), Yale Univ (1908–20), and Harvard Univ (1920–37) and a research associate at Yale (1938–46) Probably his best-known work is *The Expansion of Europe* (2 vols , 1917), a world-scale view of the founding of empires in the Renaissance. He edited the writings and speeches of Oliver Cromwell (4 vols , 1937–47).

abbreviation, in writing, arbitrary shortening of a word, usually by cutting off letters from the end, e.g., U S A, Geo (George) Contraction serves the same purpose but is understood strictly to be the shortening of a word by cutting out letters in the middle, the omission sometimes being indicated by an apostrophe Many writers hold that a contraction (in which the last letter of the word appears) should not be followed by a period, though an abbreviation should Usage, however, differs widely A period is never used when apostrophes appear The forms in the following select list of abbreviations are those which are widely used in authoritative sources and are preferred by Columbia University Press

LIST OF ABBREVIATIONS

a =are [100 sq. meters]
a =acre, acres
AAA =Agricultural Adjustment Administration
A A A =American Automobile Association
A B =Able-bodied Seaman, *Artium Baccalaureus* [Bachelor of Arts]
abbr (*or* abbrev) =abbreviation
Abp =Archbishop
abr =abridged
AC =alternating current
Acad =Academy
acct =account
A D =*anno Domini* [in the year of the Lord] (often small capitals)
ad fin =*ad finem* [to the end, at the end]
adj =adjective
Adjt =Adjutant
ad lib =*ad libitum* [at pleasure]
Adm =Admiral, Admiralty
adv =adverb
ad val (*or* adv) =*ad valorem* [on the value]
advt (*or* adv) =advertisement
AEC =Atomic Energy Commission
A E F =American Expeditionary Force
aet (*or* aetat) =*aetatis* [of age]
A F of L (*or* A F L) =American Federation of Labor
Afr =Africa
agt =agent
A H =*anno Hegirae* [in the year of the Hegira] (often small capitals)
A I A =American Institute of Architects
A L A =American Library Association
Ala =Alabama
alt =altitude
Alta =Alberta
A M =*ante meridiem* [before noon] (often small capitals), *anno mundi* [in the year of the world] (often small capitals), *Artium Magister* [Master of Arts]
A M A =American Medical Association
A M D G =*ad majorem Dei gloriam* [to the greater glory of God]
Amer (*or* Am) =America, American
amp =ampere, amperes
amt =amount
anc =ancient
ann =annual, annals
anon =anonymous
AP =Associated Press
A P A =American Protective Association
app =appendix, appointed
apt =apartment
Ariz =Arizona
Ark =Arkansas
art =article
A S (*or* AS) =Anglo-Saxon
ASCAP =American Society of Composers, Authors, and Publishers
assn =association
ASSR =Autonomous Soviet Socialist Republic
asst =assistant
atty =attorney
at wt =atomic weight
A U C =*ab urbe condita* [from the founding of the city] *or anno urbis conditae* [in the year of the founding of the city] (often small capitals)
Aug =August
AV =Authorized Version
Av (*or* Ave) =Avenue
av =average, avoirdupois
AVC =American Veterans Committee
avdp (*or* av) =avoirdupois
Ave (*or* Av) =Avenue
AWOL =absent without leave
b. =born, born in
B A. =Bachelor of Arts
bal. =balance
Bapt =Baptist
B Arch =Bachelor of Architecture
Bart =Baronet
B B C. =British Broadcasting Corporation
bbl =barrel
B C =before Christ (often small capitals), British Columbia
B D =Bachelor of Divinity
bd =board
bf =boldface
Bl =Blessed
Bldg =Building
B Lit =Bachelor of Literature
Blvd =Boulevard
B Mus =Bachelor of Music
bor =borough
Bp =Bishop
B P O E =Benevolent Protective Order of Elks
Br (*or* Brit) =British
Brig Gen =Brigadier General
Brit (*or* Br) =British
bro =brother
B S =Bachelor of Science
B Sc =Bachelor of Science
B T U =British thermal unit
bu =bushel, bushels
bul =bulletin
Bulg =Bulgarian
bur =bureau
B V M =Blessed Virgin Mary
C =centigrade, Celsius
c =copyright
c (*or* ca) =*circa* [about]
ca =centare
cal =calorie
Calif =California
Can =Canadian
can =canon, canto
Cant =Canticles (Song of Solomon)
Cantab =*Cantabrigiensis* [of Cambridge]
cap =capital letter, capitulum [chapter]
Capt =Captain
car (*or* k) =carat
CARE =Cooperative for American Remittances to Europe
Cath =Catholic
C B =Companion of the Order of the Bath
C C =Chamber of Commerce
c c (*or* cc) =cubic centimeter
C C C =Civilian Conservation Corps, Commodity Credit Corporation
C E =Civil Engineer
cen =central
cent =century, centuries
cf =*confer* [compare]
cgs =centimeter-gram-second
chap =chapter
Chem E =Chemical Engineer
Chron =Chronicles
Cia =*Compañia* [Company]
C I D =Criminal Investigation Department
Cie =*Compagnie* [Company]
CINC =Commander in Chief
C I O =Congress of Industrial Organizations
C J =Chief Justice
cm =centimeter, centimeters
Cn =Cneus
Co =Company
co =county
c/o =care of
C O D =cash (also collect) on delivery
Col =Colonel, Colossians
col =collector, column
Coll =Collection
Colo =Colorado
Comdr =Commander
comp =compiled, compiler
Cong =Congressional, Congregational
conj =conjunction
Conn =Connecticut
cont =continued
Cor =Corinthians
cor =corrected
Corp =Corporal
corp =corporation
CP =Communist party
c p =candle power
C P A =Certified Public Accountant
CPO =Chief Petty Officer
Cr =credit, creditor
C S =Christian Science
C S A =Confederate States of America
cu =cubic
CVA =Columbia Valley Authority
cwt =hundredweight
C Z =Canal Zone
D =Don or Doña (Span address), Dom or Dona (Port address), Decimus
d =daughter, *denarius* [penny], *denarii* [pence], died, died in
Dan =Daniel, Danish
D A R =Daughters of the American Revolution
DC =direct current
D C =District of Columbia
D C L =Doctor of Civil Law
D D =Doctor of Divinity
D D S =Doctor of Dental Surgery
DDT =Dichlorodiphenyltrichlorothane
Dec =December
deg =degree, degrees
Del =Delaware
Dem =Democrat, Democratic
dept =department
Deut =Deuteronomy
diam =diameter
dict =dictionary
dist =district
div =division
DM =Deutschemark
do =ditto [the same]
doz =dozen, dozens
DP =displaced person
Dr =debtor, Doctor
dr =dram, drams
D S C =Distinguished Service Cross
D Sc =Doctor of Science
D S M =Distinguished Service Medal
D S O =Companion of the Distinguished Service Order
Du =Dutch
D V =*Deo volente* [God willing]
dwt =pennyweight
E =east
ECA =Economic Cooperation Administration
Eccles =Ecclesiastes
Ecclus =Ecclesiasticus
ed =edited, edition, editor, educated
E E =Electrical Engineer
e g =*exempli gratia* [for example]
E M =Engineer of Mines
emf =electromotive force
ency (*or* encyc) =encyclopedia
ENE =east-northeast
Eng =English
engr =engraved
enl =enlarged
Eph =Ephesians
Epis (*or* Episc) =Episcopal
ERP =European Recovery Program
ESE =east-southeast
esp =especially
Esq =Esquire
est =established, estimated
et al =*et alibi* [and elsewhere], *et alii* [and others]
etc =*et cetera* [and others, and so forth]
et seq =*et sequens* [and the following]
et sqq =*et sequentes, et sequentia* [and those following]
Eur =Europe
Ex =Exodus
ex =example, except
Ezek =Ezekiel
F =Fahrenheit, Fellow
F (*or* Fri) =Friday
f =and the following page
f (*or* fem) =feminine
fac =facsimile
F A G S =Fellow of the American Geographical Society
F and A M =Free and Accepted Masons
FAO =Food and Agriculture Organization of the United Nations
FBI =Federal Bureau of Investigation
FCC =Federal Communications Commission
Feb =February
fed =federated, federation
fem (*or* f) =feminine
FEPC =Fair Employment Practice Committee
ff =and the following pages
fig =figure
fl =*floruit* [flourished]
Fla =Florida
fl oz =fluid ounce
fo =folio
f o b =free on board
Fr =French, Father, Friar
fr =franc
F R A S =Fellow of the Royal Astronomical Society
F R C P =Fellow of the Royal College of Physicians
F R C S =Fellow of the Royal College of Surgeons
F R G S =Fellow of the Royal Geographical Society
Fri (*or* F) =Friday
front =frontispiece
F R S =Fellow of the Royal Society
FSA =Federal Security Agency
ft =foot, feet, fort
FTC =Federal Trade Commission
g =gram, grams
Ga =Georgia
Gal =Galatians
gal =gallev, gallon, gallons
Gall =Gallery
G A R =Grand Army of the Republic
G C =Knight Grand Cross, Knight Grand Commander (of various British orders when followed by abbreviation designating the order)
G C B =Knight Grand Cross of the Order of the Bath
Gen =General, Genesis
Ger =German
GHQ =General Headquarters
gloss =glossary
G O P =Grand Old Party (Republican Party)
Gov =Governor
govt =government
Gr =Greek
gr =gram, grains
grad =graduated, graduated at
ha =hectare
Hab =Habakkuk
Hag =Haggai
Heb =Hebrew, Hebrews (NT)
hhd =hogshead
H M S =His (Her) Majesty's Ship, His (Her) Majesty's Service
Hon =the Honorable
hp =horsepower
H R =House of Representatives
hr =hour, hours
H R H =His (Her) Royal Highness
ht =height
Hung =Hungarian
ib (*or* ibid) =*ibidem* [in the same place]
ICAO =International Civil Aeronautical Organization
ICC =Interstate Commerce Commission
I E (*or* I-E *or* IE) =Indo-European
i e =*id est* [that is]
IHS =*Iesus Hominum Salvator* [Jesus, the Savior of Men], *in hoc signo* [in this sign] (originally three letters of the Greek for Jesus)
Ill =Illinois
ill (*or* illus) =illustrated, illustration
ILO =International Labor Organization
in =inch, inches
inc =incorporated
incl =including, inclusive
incog =incognito [unknown, unrecognized]
Ind =Indiana
ind =index
inf =infinitive, *infra* [below]
I N R I =*Iesus Nazarenus, Rex Iudaeorum* [Jesus of Nazareth, King of the Jews]
Inst =Institute, Institution
inst =instant [the present month]
int =interest
introd =introduction
I O F =Independent Order of Foresters
I O O F =Independent Order of Odd Fellows

I O U = I owe you
I Q (*or* IQ) = intelligence quotient
Ir = Irish
IRO = International Refugee Organization
Isa = Isaiah
isl = island
Ital (*or* It) = Italian
ital = italic type
ITO = International Trade Organization
I W W = Industrial Workers of the World
JAG = Judge Advocate General
Jap = Japanese
Jan = January
J D = *Juris Doctor* [Doctor of Laws]
Jer = Jeremiah
jg = junior grade (in U S Navy)
jour = journal
J P = Justice of the Peace
Jr = Junior
J U D = *Juris Utriusque Doctor* [Doctor of Both Civil and Canon Laws]
k (*or* kar) = carat
K C = King's Counsel, Knight Commander (of various British orders, when followed by abbreviation designating the order)
K C (*or* K of C) = Knights of Columbus
kc = kilocycle, kilocycles
K G = Knight of the Order of the Garter
kg = kilogram, kilograms
K K K = Ku Klux Klan
kl = kiloliter, kiloliters
km = kilometer, kilometers
K of C (*or* K C) = Knights of Columbus
K P = Knights of Pythias
K T = Knight Templar
Kt = Knight
kw = kilowatt, kilowatts
kwh = kilowatt hour, kilowatt hours
Ky = Kentucky
L = Left (in stage directions), Lucius
£ = *lsbra* [pound]
l = liter, liters
l = line
La = Louisiana
Lab = Labrador
Lam = Lamentations
Lat = Latin
lat = latitude
lb = *lsbra* [pound], *librae* [pounds]
l c = lower case [not capitalized]
Lev = Leviticus
L H D = *Litterarum Humaniorum Doctor* [Doctor of Humane Letters]
L I = Long Island
Lieut = Lieutenant
Litt B = *Litterarum Baccalaureus* [Bachelor of Literature]
Litt D = *Litterarum Doctor* [Doctor of Literature]
ll = lines
LL B = *Legum Baccalaureus* [Bachelor of Laws]
LL D = *Legum Doctor* [Doctor of Laws]
loc cit = *loco citato* [in the place cited]
log = logarithm
long = longitude
Lt = Lieutenant
Ltd = Limited
Luth = Lutheran
M = mark [German coin], *meridies* [noon] (often small capitals), Monsieur [Mr, Sir], Marcus
m = meter, meters
m = married
m (*or* masc) = masculine
M A = Master of Arts
Mac = Maccabees
Maj = Major
Mal = Malachi
Man = Manitoba
masc (*or* m) = masculine
Mass = Massachusetts
Mat = Matthew
M D = *Medicinae Doctor* [Doctor of Medicine]
Md = Maryland
mdse = merchandise
M E = Mechanical Engineer, Methodist Episcopal
M E (*or* ME *or* Mid Eng) = Middle English
memo = memorandum
Messrs = Messieurs [Gentlemen] (plural of Mr)
Met E = Metallurgical Engineer
Meth = Methodist
Mex = Mexican
mfg = manufacturing
M F H = Master of Foxhounds
mg = milligram, milligrams
Mgr = Monsignor
mgr. = manager
M H G (*or* MHG) = Middle High German
mi = mile, miles
Mich = Michigan
Mid Eng (*or* M E *or* ME) = Middle English
min = minute, minutes
Minn = Minnesota
misc = miscellaneous
Miss = Mississippi
ml = milliliter, milliliters
Mlle = Mademoiselle [Miss]
MM = Messieurs [Gentlemen] (plural of M)
mm = millimeter, millimeters
Mme = Madame
Mo = Missouri
mo = month
Mon = Monday
Mont = Montana
M P = Member of Parliament
mph = miles per hour
Mr = Mister (always abbreviated)
Mrs = Mistress (always abbreviated)
MS = manuscript
M S (*or* M Sc) = Master of Science
Msgr = Monsignor
MSS = manuscripts
mt = mount, mountain
mus = museum, music
Mus B = *Musicae Baccalaureus* [Bachelor of Music]
Mus D = *Musicae Doctor* [Doctor of Music]
MVA = Missouri Valley Authority
N = north
n = *natus* [born], neuter, noun
n (*or* nom) = nominative
N A = National Academy, North America
N A M = National Association of Manufacturers
natl = national
N B = New Brunswick, *nota bene* [note well]
N C = North Carolina
NCO = Noncommissioned Officer
n d = no date
N Dak = North Dakota
NE = northeast
N E A = National Educational Association
Nebr = Nebraska
Neh = Nehemiah
neut (*or* n) = neuter
Nev = Nevada
N F = Newfoundland
N H = New Hampshire
N J = New Jersey
NLRB = National Labor Relations Board
N Mex = New Mexico
NNE = north-northeast
NNW = north-northwest
No = *numero* [number]
Nor = Norwegian
Nov = November
N P = Notary Public
NRA = National Recovery Administration
NROTC = Naval Reserve Officers' Training Corps
N S = New Style, Nova Scotia
NT = New Testament
Num = Numbers
NW = northwest
N Y = New York
NYA = National Youth Administration
ob = *obiit* [died]
Obad = Obadiah
obs = obsolete
Oct = October
O E (*or* OE) = Old English
O F M = *Ordo Fratrum Minorum* [Order of Friars Minor] (Franciscan)
O Fr (*or* O F *or* OF) = Old French
O H G (*or* OHG) = Old High German
O Ir = Old Irish
O K (*or* OK) = correct
Okla = Oklahoma
O M = Order of Merit
O N (*or* ON) = Old Norse
Ont = Ontario
O P = Order of Preachers (Dominicans)
op. = *opus* [work]
OPA = Office of Price Administration
op. cit = *opere citato* [in the work cited]
opp = opposite
O S = Old Style
O S B = *Ordo Sancti Benedicti* [Order of St Benedict] (Benedictines)
OSS = Office of Strategic Services
OT = Old Testament
Oxon = *Oxoniensis* [of Oxford]
oz = ounce, ounces
P = Publius
p = page
Pa = Pennsylvania
Pat Off = Patent Office
p c = per cent
pd = paid
Pd D = *Pedagogiae Doctor* [Doctor of Pedagogy]
P E = Protestant Episcopal
P E I = Prince Edward Island
PFC (*or* Pfc) = Private First Class
Pg (*or* Port) = Portuguese
Ph B = *Philosophiae Baccalaureus* [Bachelor of Philosophy]
Ph D = *Philosophiae Doctor* [Doctor of Philosophy]
Philp = Philippians
P I = Philippine Islands
pinx = *pinxit* [he painted]
pk = peck
pl = plate
pl (*or* plur) = plural
plur (*or* pl) = plural
P M = Postmaster, *post meridiem* [afternoon] (often small capitals)
PO = Petty Officer
P O = post office
Pol = Polish
pop = population
Port (*or* Pg) = Portuguese
POW = prisoner of war
pp = pages
P R = Puerto Rico
pref = preface
prep = preposition
Pres = President
Presb = Presbyterian
pron = pronoun, pronounced
Prot = Protestant
pro tem = *pro tempore* [temporarily]
Prov = Proverbs
prov = province
prox = *proximo* [of the next month]
P S = *post scriptum* [postscript]
Ps = Psalm
pseud = pseudonym
Pss = Psalms
pt = part, pint, pints, point
pub = published, publisher
Pvt = Private
PWA = Public Works Administration
Q = Quintus
Q C = Queen's Counsel
Q E D = *quod erat demonstrandum* [which was to be demonstrated]
Q E F = *quod erat faciendum* [which was to be done]
QM = Quartermaster
qq v = *quae vide* [which see] (plural)
qt = quart, quarts
Que = Quebec
q v = *quod vide* [which see]
R = Réaumur, *Rex* [King], *Regina* [Queen], Right (stage direction)
R A = Royal Academician
RAF = Royal Air Force
R C = Red Cross, Roman Catholic
Rd = Road
REA = Rural Electrification Administration
recd = received
rect (*or* rept) = receipt
Regt = Regiment
Rep = Republican, Representative
rept = report
rept (*or* rect) = receipt
Ret = Retired
Rev = Revelations, the Reverend
rev = revised
RFC = Reconstruction Finance Corporation
R F D = rural free delivery
R I = Rhode Island
R I P = *requiescat in pace* [may he rest in peace]
RM = Reichsmark
R N = Registered Nurse, Royal Navy
Rom. = Romans
rom = roman type
ROTC = Reserve Officers' Training Corps
rpm = revolutions per minute
RR = railroad
RSFSR = Russian Socialist Federated Soviet Republic
R S V P = *Répondez, s'il vous plaît* [An answer is requested]
Rt Rev = the Right Reverend
Rus = Russian
RV = Revised Version
Ry = railway
S = south
S = *San, Santa, Santo,* or *São* [Saint]
S (*or* Sun) = Sunday
s = *solidus* [shilling], *solidi* [shillings]
S A = Salvation Army, South America, *Sociedad Anónima, Société Anonyme* [Limited]
Sam = Samuel
S A R = Sons of the American Revolution
Sask = Saskatchewan
Sat = Saturday
S C = South Carolina
s c = small capitals
sc = *sculpsit* [namely]
Sc D = *Scientiae Doctor* [Doctor of Science]
S Dak = South Dakota
SE = southeast
SEC = Securities and Exchange Commission
sec = second, seconds, section, sections
secy = secretary
Sen = Senator
Sept = September
ser = series
Sex = Sextus
Sgt = Sergeant
SHAEF = Supreme Headquarters, Allied Expeditionary Force
sing = singular
S J = *Societas Jesu* [Society of Jesus]
Skt = Sanskrit
Soc = society
SOS = distress signal (not a true abbreviation)
Span (*or* Sp) = Spanish
S P C A = Society for the Prevention of Cruelty to Animals
S P C C = Society for the Prevention of Cruelty to Children
sp gr = specific gravity
S P Q R = *Senatus Populusque Romanus* [the Senate and People of Rome]
sq = *sequens* [the following], square
sqq = *sequentes, sequentia* [those following]
Sr = Senior
SS = Saints
S S = Steamship, Sunday School
SSE = south-southeast
SSR = Soviet Socialist Republic
SSW = south-southwest
St = Saint, Street
S T D = *Sacrae Theologiae Doctor* [Doctor of Sacred Theology]
Ste = *Sainte* [Saint, feminine]
Sun (*or* S) = Sunday
sup = supplement, *supra* [above]
Supt = Superintendent
s v = *sub verbo* (under the entry)
SW = southwest
Swed (*or* Sw) = Swedish
T = Titus
Tenn = Tennessee
T H = Territory of Hawaii
Th (*or* Thurs) = Thursday
Thess = Thessalonians
Thurs (*or* Th) = Thursday
Ti = Tiberius
Tim = Timothy
TNEC = Temporary National Economic Committee
T N T (*or* TNT) = trinitrotoluene, trinitrotoluol
tp = township
t p (*or* t-p) = title page
tr = transitive, translated, translation, translator, transpose
treas = treasurer
Tu (*or* Tues) = Tuesday
TVA = Tennessee Valley Authority
U C V = United Confederate Veterans
U.D C = United Daughters of the Confederacy
ult = *ultimo* [of the last month]
UN = United Nations

UNESCO = United Nations Educational, Scientific, and Cultural Organization
Unit = Unitarian
Univ = Universalist, University
UNRRA = United Nations Relief and Rehabilitation Administration
UP = United Press
U S = United States
USA = United States Army
U S A = United States of America
USBGN = United States Board on Geographic Names
USCG = United States Coast Guard
USMC = United States Marine Corps
USN = United States Navy
USO = United Service Organizations
U.S.S = United States Ship
USSR = Union of Soviet Socialist Republics
v. = *vide* [see]
v. (*or* vb) = verb
v. (*or* vs) = *versus* [against]
VA = Veterans' Administration
Va. = Virginia
V C = Victoria Cross
Ved = Vedic
Ven = the Venerable
V I = Virgin Islands
viz = *videlicet* [namely]
vol = volume, volunteer
vs = verse, versus
Vt = Vermont
W = west
W (*or* Wed) = Wednesday
WAC = *Women's Army Corps*
Wash = Washington
WAVES = Women Accepted for Voluntary Emergency Service (United States Women's Naval Reserve)
W C T U = Woman's Christian Temperance Union
Wed (*or* W) = Wednesday
WHO = World Health Organization
W I = West Indies
Wis = Wisconsin
wk = week
WNW = west-northwest
WO = Warrant Officer
WPA = Work Projects Administration
WSW = west-southwest
wt = weight
W Va = West Virginia
Wyo = Wyoming
yd = yard, yards
Y M C A = Young Men's Christian Association
Y M H A = Young Men's Hebrew Association
yr = year
Y W C A = Young Women's Christian Association
Y W H A = Young Women's Hebrew Association
Zech = Zechariah
Zeph = Zephaniah

A.B.C. Powers, term formerly applied to Argentina, Brazil, and Chile After 1910 cordial relations developed among them in a kind of entente, for which a treaty was signed but not ratified Their chief objective was to secure hegemony and maintain peace in Latin America Offering to mediate in the dispute which arose between the United States and Mexico (1914) because of American occupation of Veracruz, they were invited to attend a conference at Niagara Falls Fundamental differences of opinion caused the gradual dissolution of the entente

Abda [Heb ,=servant] **1** Father of Solomon's officer Adoniram 1 Kings 4 6 **2** Levite Neh 11 17 Obadiah 1 Chron 9 16

Abd al-Rahman. For Moslem rulers thus named, see ABDU-R-RAHMAN

Abdeel (ăb'dē-ĕl) [Heb ,=servant of God], father of the Shelemiah sent to arrest Baruch and Jeremiah Jer 36 26

Abd-el-Krim (ăb"dĕl-krĭm', Arabic ăb"dōōl-kurēm), 1882?–, leader of the Riffian tribes of Morocco, called in full Mohammed ben Abd-el-Krim He was an important figure in the administration of the Spanish Zone until 1920, when he took up arms against Spanish rule In 1921 his small force wiped out a disorganized and ill-equipped Spanish army He used the next three years to strengthen his position, and in 1924 he drove the Spanish back to Tetuán After capturing his only rival, Raisuli, he advanced into the French Zone in 1925 Defeated by combined Franco-Spanish forces, he surrendered in 1926 and was deported to the island of Réunion While traveling to a new place of internment in France in 1947, he escaped into Egypt, where he became a leader of the North African independence movement

Abdera (ăbdēr'ŭ), Gr *Avdera* (avdē'rĭă), town (pop 2,821), Greece, in SW Thrace It is an agricultural market Founded (c 650 B C) by Clazomenae, it was soon destroyed by the Thracians, but was rebuilt (c 500 B C) by colonists from Teos It lost its independence to Macedon in 352 B C, and in 198 B C became a free city under Roman rule The Abderites were considered by the ancient Greeks as proverbially stupid, however, Protagoras and Democritus both lived at Abdera

Abdera. see ADRA, Spain

Abderhalden, Emil (ä'mĕl ap'dürhäl" dun), 1877–, Swiss physiologist and biochemist, pupil of Emil Fischer From 1911 he was professor at Halle He carried forward Fischer's work on enzymes, devised (1912) the Abderhalden pregnancy test, and investigated the metabolism of foods, especially of certain proteins He wrote a textbook of physiological chemistry (1908) and edited a handbook of biochemic technique (9 vols, 1910–19) and a handbook of biological technique (106 vols to 1939)

Abdi (ăb'dī) [Heb ,=my servant] **1, 2** Merarite Levites 1 Chron 6 44, 2 Chron 29 12 **3** Israelite married to a foreign wife Ezra 10 26

Abdias (ăbdī'ŭs), Vulgate form of OBADIAH

abdication, in a political sense, renunciation of high public office, usually by a monarch Degrees of free will enter into the decision to abdicate, some abdications have reflected solely a personal desire and have been followed by undiminished prestige or even, as in the case of Philip V of Spain, by resumption of the throne However, most abdications amount to a confession of failure of policy and loss of power, that of Emperor CHARLES V is unusual in that it was prompted by apparently sincere religious motives, and the emperor retained much prestige and actual power until his death. In China, forced abdication was frequent, the empire ending with the abdication of the boy ruler Hsüan T'ung in 1912 (see PU YI, HENRY) In Japan, however, voluntary abdication occurred more often, the retired ruler assumed a special title and led a life of religious contemplation, receiving many honors Almost unique in political and constitutional history was the abdication of EDWARD VIII of England in 1936. Since 1688, when the English Parliament declared James II to have abdicated by reason of flight and subversion of the constitution, abdication by a British ruler without parliamentary consent has been forbidden, but few written constitutions refer to abdication, and there are no uniform rules or legal principles dealing with it Defeat and political chaos following the First and Second World Wars forced the abdication of many European rulers

Abdiel (ăb'dĭĕl) [Heb ,=servant of God], in the Bible, a Gadite 1 Chron 5 15

abdomen, region of the body which lies below the diaphragm On the anterior wall is a scar, the navel or umbilicus (ŭmbĭl'ĭkŭs, ŭm"bĭl'kŭs), resulting from closure of the umbilical orifice of the fetus The abdomen is covered by a wall of skin, fascia, and muscles and is lined with a membrane, the peritoneum, the ribs and vertebrae protect only a small portion The abdominal cavity proper contains the stomach, intestines, liver pancreas, spleen, and kidneys The lower part of the abdominal cavity lying between the hip bones is called the pelvic cavity, in it are found the bladder, the rectum, and some of the genital organs

Abdon [Heb ,=servile] **1** Judge of Israel Judges 12 13–15 **2** Officer under Josiah 2 Chron 34 20 Achbor 2 Kings 22 12, Jer 26 22, 36 12 **3, 4** Benjamites 1 Chron 8 23,30, 9 36 **5** Unidentified boundary town, NW Palestine Joshua 21 30, 1 Chron 6 74 Hebron AV and Ebron RV Joshua 19 28

abduction, in law, the unlawful taking away or detention of a person, usually a woman under a given age (AGE OF CONSENT), for the purpose of carnal knowledge While the consent of a woman under age does not avoid criminal prosecution, subsequent marriage to her abductor may be a defense unless she was taken away by some sinister means (e g, KIDNAPING) The woman's lack of chastity is not ordinarily a defense See FALSE IMPRISONMENT and RAPE

Abdu-l-Aziz IV (ăb"dōōl-ăzēz'), 1881?–1943, sultan of Morocco (1894–1908), son of Mulai-el-Hasan His weak control was evident after the death (1900) of the regent Si Ahmed His submissiveness to foreign influence, his indulgence in European novelties (which Moslems considered unbefitting his position as religious leader), and the higher taxes which he imposed to reorganize the army and to support his extravagances led to widespread unrest A loan from France (1904) furnished a pretext for French demands which led in 1906 to the Conference of Algeciras Moroccan disapproval of the settlement resulted in further revolts, and Abdu-l-Aziz was deposed (1908) by his brother Abdu-l-Hafid

Abdu-l-Aziz, 1830–76, Ottoman sultan (1861–76), brother and successor of Abdu-l-Mejid Under his rule, the decline of Turkey made great progress In 1875 his bankrupt government repudiated the interest on the huge loans raised in Western Europe, this act led to foreign control over part of the Ottoman revenues RUMANIA, SERBIA, and EGYPT gained virtual independence, and revolts broke out in Bosnia and Hercegovina and Bulgaria Political decay was paralleled, however, by cultural rebirth Many important schools were founded, and newspapers helped to educate the Turks politically In 1876 MIDHAT PASHA, foremost among the liberals (the Young Turks), overthrew Abdu-l-Aziz, who died a few days later, probably murdered He was succeeded by his nephew, Murad V

Abdu-l-Aziz. see IBN SAUD

Abdu-l-Hafid (ab"dōōl-hafēd'), 1875?–, sultan of Morocco (1908–12) Placed on the throne by the revolution which deposed his brother Abdu-l-Aziz IV, he was soon confronted with uprisings and the demands of European creditors Besieged at Fez by rebels (1911), he was relieved by a French army On March 30, 1912, he accepted a French protectorate and on Aug 12 he abdicated

Abdu-l-Hamid I (ăb"dōōl-hămēd'), 1725–89, Ottoman sultan (1774–89), brother and successor of Mustafa III His reign, one of decline, saw the end of the war of 1768–74 and the beginning of the war of 1787–91 with CATHERINE II of Russia (see RUSSO-TURKISH WARS) By the Treaty of Kuchuk Kamarji (1774) Turkey lost Azov and the Crimea and granted Russia the position of protector of Moldavia and Walachia and of the Christians in general throughout the Ottoman Empire The treaty, which established Russia as the foremost power in the Near East, had incalculable effects. In 1775 Austria, jealous of Russian expansion, forced the Porte to cede Bukovina Abdu-l-Hamid was succeeded by his nephew, Selim III

Abdu-l-Hamid II, 1842–1918, Ottoman sultan (1876–1909) His uncle, ABDU-L-AZIZ, was deposed by the Young Turks in 1876 Abdu-l-Hamid's brother, Murad V, succeeded, but was shortly declared insane, and Abdu-l-Hamid became sultan He at first accepted the constitution of MIDHAT PASHA, but soon suspended it, got rid of Midhat, and eventually had him strangled The war with Russia (see RUSSO-TURKISH WARS) led to the Treaty of SAN STEFANO, subsequently modified by the Congress of BERLIN To save what remained of his empire, the sultan now pursued a policy of friendship with Germany German officers reorganized the Turkish army, and German business interests obtained concessions, especially in the matter of the BAGHDAD RAILWAY For his part in the Armenian massacres of 1894–96, he was called the Great Assassin and the Red Sultan Ruling as an absolute monarch, he lived in virtual seclusion In 1908 the Young Turks, who had penetrated the armed services, revolted and forced the sultan to accept a constitution He was deposed (1909) when he tried to plot a counterrevolution and was succeeded by his brother, Mohammed V

Abdu-l-Kadir (ăb"dōōl-kădēr'), 1808–83, Algerian leader, of Arab descent Succeeding his father as leader of an anti-Turkish faction, he was made emir of Mascara From 1832 to 1839 he extended his power over much of N Algeria at the expense of both French and Turks, subduing hostile tribes and organizing the hinterland A learned Moslem, as gifted in eloquence as in arms, he declared (1839) a holy war against the French In four years of fighting, General Bugeaud drove him into Morocco, where he gained the sultan's support Their combined forces were overwhelmed (1844) at Isly, and Abdu-l-Kadir surrendered in 1847 and was imprisoned in France until 1852 In 1860 he was awarded the Grand Cross of the Legion of Honor for assisting Christian victims of a riot in Damascus See Wilfred Blunt, *Desert Hawk* (1947).

Abdullah (ăbdŭ'lŭ, ăbdōōla'), d c 570, father of Mohammed

Abdullah (Abdullah ibn Husein) (ăbdŭ'lŭ, ăbdōōla' ĭ'bun hōōsān'), 1862–, king of Jordan (1946–) He was born in Mecca, the son of HUSEIN In the First World War, Abdullah led revolts in Arabia to aid the British war effort After the war he unsuccessfully fought against IBN SAUD for the control of the Hejaz In 1919 Great Britain created Abdullah emir of Trans-Jordan, a province of the former Ottoman Empire Trans-Jordan became an independent country in 1923 In the Second World War, Abdullah strongly opposed the AXIS Following the partition of Palestine (May, 1948) he led the troops of his British-trained forces, the Arab Legion, against Israel Abdullah annexed the portions of Palestine not assigned to Israel His foreign policy was directed toward creation of an Arab federation, preferably under the rule of a member of his family Abdullah assumed the title king of Jordan in 1946

Abdullah ibn Yasin (ĭ'bun yäsēn'), d 1059?, Mohammedan leader, founder of the ALMORAVIDES A Berber leader in Morocco, he held sway by fiery and strict observance of the Moslem law He and his followers were marked by fanatic and puritanical intolerance

Abdu-l-Malik (ăb"dōōl-mulk'), c 646–705, 5th OMAYYAD caliph (685–705), son of Marwan I At his accession, Islam was torn by dissension and hard pressed by the Byzantine Empire With the help of his able general Hajjaj, Abdu-l-Malik overthrew the rival caliphs and united Islam His battles with Byzantine forces were without final result An able administrator, he introduced Arabic coins, improved postal facilities, made Arabic the official language, and reorganized government

Abdu-l-Mejid (ăb"dōōl-mĕjēd'), 1823–61, Ottoman sultan (1839–61), son and successor of Mahmud II The rebellion of MOHAMMED ALI was checked by the intervention (1840–41) of England, Russia, and Austria Abdu-l-Mejid was influenced by the British ambassador, STRATFORD DE REDCLIFFE, who helped to bring on the CRIMEAN WAR (1853–56)

The Congress of Paris (1856, see PARIS, CONGRESS OF) brought Turkey no advantage Abdu-l-Mejid's attempts at internal reform (1839, 1856) had no permanent effect He was succeeded by his brother, Abdu-l-Aziz

Abdu-l-Mumin (abʺdo͝ol-mo͞oʹmĭn), 1094–1163, founder of the ALMOHADES He was the favorite companion and successor (1130) of Ibn Tumart He earned early fame by defeating an Almoravide army in 1114 After 1140 he conquered Morocco in a campaign of six or seven years, and in 1151 he took advantage of a general revolt against the Almoravides in Spain to establish his authority there In a rapid campaign (1158–59) he took over all the conquests made by Roger II of Sicily in Africa clear to Tripoli Abdu-l-Mumin founded and restored many towns and fitted up several ports—especially Rabat – for his fleet

Abdu-r-Rahman (abʺdo͝or-rəʹmən, -ränʹ), 1778–1859, sultan of Morocco (1822–59) He sought, unsuccessfully, to take advantage of the overthrow of Turkish rule in Algeria in order to extend his territory Later he allied himself with Abdu-l-Kadir, but after then defeat at Isly (1844) made peace with France and refused the emir further asylum in Morocco Abdu-r-Rahman was at various times involved in difficulties with Austria, Spain, and England

Abdu-r-Rahman I or **Abd al-Rahman I** (abʺdo͝ol-), d 788, first OMAYYAD emir of Córdoba (756–88) The only survivor when the Abbasids massacred his family, he fled from Damascus to Spain There he defeated the emir of Córdoba at Alameda and seized power In spite of the jealousy of the Arabian aristocracy and the turbulence of the Berbers, he reorganized and consolidated the state and tried to unite the various Moslem races Though successful against the Franks, he did not recover all the territories CHARLEMAGNE had taken He started the great mosque at Córdoba, continued by his son and successor, Hisham I

Abdu-r-Rahman III or **Abd al-Rahman III**, 891–961, OMAYYAD emir (912–29) and caliph (929–61) of Córdoba Under him Moslem Spain reached the height of its glory He gave his state internal peace and prosperity, consolidated the central government, and built up a strong army and navy For a time he held sway over the Moslem northern part of Africa (939–47), and he successfully fought against the Christian kings He made CORDOBA one of the greatest cities in the West

Abdu-r-Rahman or **Abd al-Rahman** d 732, Moslem governor in Spain He invaded France and won a victory at Toulouse, but was defeated in the battle of Tours or Poitiers (732) by CHARLES MARTEL

Abdu-r-Rahman Khan (kän', khänʹ), 1844?–1901, emir of Afghanistan (1880–1901), grandson of Dost Mohammed He opposed his uncle, SHERE ALI, and had to go into exile in 1869 He was, however, recognized by the British as emir in 1880, and he supported British interests as against the Russians

à Becket, Thomas see THOMAS À BECKET, SAINT

à Beckett, Gilbert Abbott (ubĕkʹĭt), 1811–56, English humorous writer The author of many plays and of books illustrated by John Leech and George Cruikshank, he had a lively style, he was long associated with *Punch*, the predecessor of which, *Figaro in London*, he had founded (1813) *Punch* published much of the work of his eldest son, **Gilbert Arthur à Beckett**, 1837 91, playwright and co-author with W S Gilbert of *The Happy Land* (1873) See A W à Beckett, *The à Becketts of Punch* (1903)

Abed-nego (ubĕdʹnēgō), one of the THREE HOLY CHILDREN

Abel, son of Adam and Eve, a shepherd, killed by his older brother, Cain Gen 4 1–8 Mentioned as the first martyr Mat 23 35

Abel, Sir Frederick Augustus, 1826 1902, English chemist, an authority on explosives He was professor of chemistry at the Royal Military Academy (1851–55) and chemist to the War Dept and government referee (1854 88) Among his achievements are improvements in the manufacture of guncotton, the invention, with Sir James Dewar, of cordite, a study, in collaboration with Sir Andrew Noble, of the behavior of black powder when fired, and the invention of an instrument to determine the flash point of petroleum, known as the Abel test He wrote widely on explosives

Abel, John Jacob, 1857–1938, American pharmacologist, b Cleveland, grad Univ of Michigan (Ph B , 1883) and Univ of Strasbourg (M D , 1888) Professor of pharmacology (1893-1932) and director of the laboratory for endocrine research (from 1932) at Johns Hopkins, he is known for the isolation of epinephrine (adrenaline) in 1898 and later of insulin in crystalline form His other contributions include the isolation of amino acids from the blood He was a founder and editor (1909–32) of the *Journal of Pharmacology and Experimental Therapeutics*

Abel, Niels Henrik (nēlsʹ hĕnʹrĭkʺ äʹbul), 1802–29, Norwegian mathematician He is noted for proving the impossibility of solving by radicals the general equation of the quintic and for his work in elliptic functions

Abel, Thomas: see ABELL, THOMAS

Abel. 1 Ostensibly a place name. 1 Sam. 6 18. The RV text does not give the name. 2 See ABEL-BETH-MAACHAH

Abelard, Peter (äʹbulard), Fr *Pierre Abélard* (pyĕr' ābālärʹ), 1079–1142, French philosopher and teacher, b Le Pallet, near Nantes He went to Paris to study under WILLIAM OF CHAMPEAUX at the school of Notre Dame (1100) and soon attacked the ultrarealist position of his master with such success that William was forced to modify his teaching Abelard became master at Notre Dame but, when deprived of his place, set himself up at a school on Mont Ste Geneviève, just outside the city walls (1112) Abelard's fame as a dialectician attracted great numbers of students to Paris, because of this fact Abelard is usually regarded as the founder of the later Univ of Paris This part of his career was cut short by his romance with Heloise (d c 1164), the learned and beautiful niece of Fulbert, canon of Notre Dame, who had hired Abelard as her tutor After the birth of a son, a secret marriage was held to appease her uncle Fulbert's ill-treatment of Heloise led Abelard to remove her secretly to the convent at Argenteuil Fulbert, who thought that Abelard planned to abandon her, had ruffians attack and emasculate him Abelard sought refuge at Saint-Denis, where he became a monk In 1120 he left Saint-Denis to teach St BERNARD OF CLAIRVAUX thought Abelard's influence dangerous, and at the Council of Soissons certain of Abelard's teachings were pronounced heretical (1121) After a short imprisonment, he returned to Saint-Denis but fell out with the monks and built a hermitage near Troyes Students sought him out, and to house them he built a monastery, the Paraclete When he became abbot at Saint-Gildas-en-Rhuys, Brittany, he gave the Paraclete to Heloise, who became an abbess of a sisterhood there About to be condemned by the Council of Sens (1141), Abelard appealed to the pope, who upheld the council Abelard submitted and retired to Cluny He was buried at the Paraclete, as was Heloise, their bodies were later moved to Père-Lachaise in Paris A Platonist in theology, Abelard emphasized the method of Aristotle's dialectic His belief that the methods of logic could be applied to the truths of faith was in opposition to the mysticism of St Bernard He also opposed the extreme views of William of Champeaux and ROSCELIN on the problems of universals, his own solution, in which universals are considered as entities existent only in thought but with a basis in particulars, is called moderate realism and to some extent anticipates the conceptualism of St Thomas Aquinas His most influential work, the *Sic et non*, a collection of contradictory writings of the Fathers of the Church, formed the basis for the widely read *Sentences* of Abelard's pupil, PETER LOMBARD Abelard was perhaps most important as a teacher, among his pupils were some of the celebrated men of the 12th cent , including John of Salisbury and Arnold of Brescia Of Abelard's poetry only Latin hymns survive He is chiefly remembered for the events of his life as chronicled in his autobiographical *Historia calamitatum* and revealed in the poignant letters of Heloise and Abelard (Eng tr by C K Scott Moncrieff, 1926) See Joseph McCabe, *Life of Peter Abelard* (1901), J G Sikes, *Peter Abailard* (1932)

Abel-beth-maachah (ābʹəl-bĕthʹ-māʹə-kə) [Heb , = meadow of the house of Maachah, perhaps the Syrian Maachah], ancient town, Palestine, probably c 25 mi E of Tyre It was attacked by Ben-hadad and taken by Tiglath-pileser 1 Kings 15 20, 2 Kings 15 29 Abel and Beth-maachah 2 Sam 20 14 Abel of Beth-maachah 2 Sam 20 15 Abel-maim 2 Chron 16 4

Abell, Arunah Shepherdson (äʹ-), 1806–88, American journalist With two partners he founded in 1836 the Philadelphia *Public Ledger*, a penny paper In 1837 they founded the Baltimore *Sun* on a similar plan, and Abell managed it until his death

Abell, Kjeld (kyĕlʹ, äʹbĕl), 1901-, Danish dramatist His first play, *Melody That Got Lost* (1935, Eng tr , 1939), was an immediate success Abell trained as a stage designer, is an innovator in stage technique Later plays, such as *Anna Sophie Hedvig* (1939) and *The Queen Walks Again* (1943), are problem plays, with political, social, or ethical implications

Abell or **Abel, Thomas** (both äʹbul), d 1540, English Roman Catholic priest, chaplain to Katharine of Aragon He vigorously opposed Henry VIII's divorce from Katharine both in his sermons and in a book, *Invicta veritas* [truth unconquered] (1532?) He was imprisoned, accused of aiding Elizabeth Barton, the Maid of Kent, and after six years in the Tower he was executed for treason He was beatified in 1886

Abel-maim (-māʹĭm) [Heb , = meadow of the waters], the same as ABEL-BETH-MAACHAH

Abel-meholah (-mĕhōʹlə) [Heb , = meadow of dancing], name of towns or districts mentioned in the Bible, probably not all different 1 Near the Jordan, limit of the Midianites' flight Judges 7 22 2 In N central Palestine. 1 Kings 4 12 3 Home of Adriel 1 Sam 18 19 4 Elisha's home 1 Kings 19 16 See MEHOLATHITE.

Abel-mizraim' (-rāʹĭm) [Heb , = meadow of the Egyptians], place "beyond Jordan" where Jacob was mourned Gen 50 11

Abel-shittim. see SHITTIM.

Abenaki Indians: see ABNAKI INDIANS

Aben Ezra, Abraham ben Meir see IBN EZRA

Abeokuta (äʺbēōkōōʹtə, äʺ-), town (pop 45,763), SW Nigeria, founded c.1825 It was built at the foot of a hill and was fortified for protection against slave raiders Cotton cloth is dyed here

Aberavon, Wales see PORT TALBOT

Aberbrothock or **Aberbrothwick**, Angus, Scotland see ARBROATH

Abercarn (ăbûrʹkärnʹ), urban district (pop 20,551), Monmouthshire, England It is in a coal-mining district and has tin-plate works

Aberconway, Caernarvonshire, Wales see CONWAY

Abercorn, James Albert Edward Hamilton, 3d duke of (ăʹburkôrn), 1869–, British statesman. He served as a Unionist member of Parliament until he succeeded his father in the dukedom in 1913 He was (1922–45) governor of Northern Ireland.

Abercrombie, Lascelles (lăsʹəlz ăbʹurkrŏmbĭ), 1881–1938, English poet and critic His long poems, many of them in blank-verse dialogue, are brilliant in colorful imagery They are frequently based on scriptural themes, but his metaphysical interpretations are not those of the Bible Among his works are *Interludes and Poems* (1908), *Deborah* (1912), *Thomas Hardy a Critical Study* (1912), *Emblems of Love* (1912), *The Theory of Poetry* (1924), *Romanticism* (1927), and *Poems* (1930)

Abercrombie, Sir Patrick, 1879–, British architect and town planner Professor of civil design at the Univ of Liverpool from 1915 to 1935 and of town planning at the Univ of London after 1935, he has acted as consultant in the rebuilding and planning of London, Edinburgh, Bath, and other British cities He was knighted in 1945

Abercrombie, Fort, US army post on the west bank of the Red River some miles above the present Wahpeton, N Dak Founded in 1858 at the head of navigation on the Red, it had steamboat connection with Fort Garry (now Winnipeg), was a stopping point on the route from St Paul to the Western gold fields, and played a role in opening the Dakota country to settlement It was twice unsuccessfully attacked by the SIOUX in 1862 A treaty between the Ojibwa and the Sioux was concluded here in 1870 Fear of Indian attack declined and the post was abandoned in 1877 Part of the military reservation is now a state park at Abercrombie, N Dak

Abercrombie, James, 1706–81, British general in the French and Indian War, b Scotland He arrived in America in 1756 and in 1758 replaced the earl of Loudoun as supreme British commander After failing to take Ticonderoga from General Montcalm, Abercromby was (1758) replaced by Jeffrey AMHERST

Abercrombie, Sir Ralph, 1734–1801, British general In his first period in the army (1756–83) he served on the continent and retired chiefly because he had sympathized with the American colonists Returning in 1793 for service against France, he won a major military reputation by his command of a brilliant retreat in Flanders in the winter of 1794–95 He was (1795–97) commander-in-chief in the West Indies, where he captured Grenada, St Lucia, St Vincent, and Trinidad He next had commands in Ireland, Scotland, and Holland In 1800 Abercromby was sent to expel the French from Egypt and made a forced landing at Aboukir In the first engagement, which was successful, he was mortally wounded

Aberdare (ăbûrdârʹ), urban district (1931 pop 48,746, 1947 estimated pop 40,100), Glamorganshire, Wales, NW of Cardiff It is in an anthracite and iron-ore region Cables are made

Aberdeen, George Gordon, 1st **earl of** (ăburdēnʹ), 1637–1720, Scottish statesman He exerted much influence on politics between 1680 and 1707 As lord chancellor of Scotland (1682–84), he enforced religious conformity, though not strictly enough to prevent his dismissal by the English commission He refused to swear allegiance to the English revolutionary government that enthroned William III, was in retirement until 1703, and opposed the union of England and Scotland (1707) until he was assured that the Scots would not be treated as aliens

Aberdeen, George Hamilton-Gordon, 4th **earl of,** 1784–1860, British statesman Aberdeen negotiated, as ambassador to Austria, the Treaty of Toplitz (1813), which cemented Austria to the anti-Napoleonic coalition, and he helped arrange (1814) the peace terms at Paris He was foreign secretary (1828–30) in Wellington's cabinet and colonial secretary (1834–35) under Sir Robert Peel As foreign secretary (1841–46) in Peel's second government, he settled with the United States the Northeast Boundary Dispute by the Webster-Ashburton Treaty (1842) and ended the very threatening Oregon controversy by the treaty of 1846 He also improved relations with France. He supported Peel in abolishing the CORN LAWS (1846) and resigned with him. As prime minister (1852–55), Aberdeen headed a brilliant coalition

ministry, quite successful in home affairs He was, however, unable to prevent those in his cabinet who wanted war from involving England on the side of Turkey in the Crimean War The bad management of the campaigns and the unpopularity of the war forced his resignation in 1855 See *The Correspondence of Lord Aberdeen and Princess Lieven*, 1832–1854 (ed by E J Parry, 1938), biography by Lady Frances Balfour (1922)

Aberdeen (ăbŭrdēn′) [Scottish, =mouth of the Don], independent burgh or county of a city (1931 pop 167,258; 1948 estimated pop 188,853), partly in Aberdeenshire, partly in Kincardine, Scotland, on the North Sea at the mouth of the Dee and near the mouth of the Don With a good harbor, it is the chief port and largest city of NE Scotland Aberdeen is called the Granite City Granite quarries are near, many buildings are of the native stone, and the Cathedral of St Machar (c 1136) is of granite There are tanneries and an acetylene plant Aberdeen was chartered as a royal burgh in 1179 A second charter was granted (1319) by Robert the Bruce The Univ of Aberdeen includes King's College (founded 1494 by Bishop Elphinstone) and Marischal College (founded 1593 by George Keith, 5th earl marischal of Scotland).

Aberdeen. **1** Village (pop 1,016), SE Idaho, near American Falls, in the region irrigated by the American Falls Reservoir **2** Town (pop 1,525), N Md, NE of Baltimore, inc 1892 It is supported by the near-by Aberdeen Proving Grounds and by several canning factories **3** Cotton city (pop 4,746), co seat of Monroe co, NE Miss, on the Tombigbee and N of Columbus, inc 1837 A number of fine ante-bellum houses remain **4** Town (pop 1,076), central N C, SW of Raleigh, inc 1893 It is a trade and shipping center for a tobacco and fruit area **5** City (pop 17,015), co seat of Brown co, NE S Dak, NW of Watertown, platted 1881, inc 1882 It is the commercial, distribution, and railroad center for a productive agricultural area A state teachers college is here **6** City (pop 18,846), W Wash, a port of entry on Grays Harbor, at the confluence of the Chehalis and Wishkah rivers, settled c 1865, platted 1884 Built and developed by lumbermen, Aberdeen and its sister city, Hoquiam, are noted for lumber, plywood, and other forest products Fishing and canning are growing industries, and there is a great volume of shipping from both cities through the Port of Grays Harbor Aberdeen has a junior college

Aberdeen and Temair, John Campbell Gordon, 1st marquess of (tumâr′), 1847–1934, British statesman, grandson of the 4th earl of Aberdeen As lord lieutenant of Ireland in 1886 and again from 1905 to 1915, he achieved some popularity with the people He was governor general of Canada from 1893 to 1898 His wife, **Ishbel Maria, marchioness of Aberdeen and Temair,** 1857-1939, daughter of the 1st Baron Tweedmouth, was active in the improvement of working conditions and organizations for women She and her husband wrote a joint autobiography, "*We Two*" (1925) and *More Cracks with "We Two"* (1929), and she wrote *Musings of a Scottish Granny* (1936)

Aberdeen Angus cattle, breed of beef cattle which originated in Scotland and which has gained importance in cattle-raising regions of the United States The cattle are black and hornless and are sometimes called black Angus cattle They are bred chiefly for the production of high-grade beef

Aberdeenshire (ăbŭrdēn′shĭr), county (1,971 sq mi, 1931 pop 300,436, 1948 estimated pop 335,117), NE Scotland The capital is Aberdeen The land is level and fertile near the coast, rising to the stern Grampians in the southwest Agriculture and fishing (salmon, herring, whitefish) are the leading industries, cattle breeding is important The county was anciently inhabited by the Picts, among whom St Columba evangelized in the 6th cent There are numerous remains of feudal castles and, at Braemar, the modern British royal residence, Balmoral Castle

Aberhart, William (ā′bərhärt), 1878–1943, premier of Alberta, b near Seaforth, Ont, grad Queen's Univ, 1906 He was a schoolteacher and a founder and dean of the Calgary Prophetic Bible Institute (opened 1927) About 1932 he became interested in SOCIAL CREDIT He was an organizer of the Social Credit party of Alberta and was elected (1935) to the provincial legislature with enough supporters to control it Thus Aberhart became premier (1935–43) of the first Social Credit government in the world However, many of the legislative attempts to enact his principles were declared invalid by the courts

aberration, in optics, a condition which causes a blurring and loss of clearness in the images produced by lenses or mirrors Spherical aberration is caused by the failure of a lens or mirror to bring the rays of light from a point to a single focus The effect results from the operation of the laws of optics, not from defects in construction When there is a blurring of the image and fringes of color appear at its edges, the condition is called chromatic aberration This results from the fact that some colors of light are bent more than others after passing through a lens. For example, violet is bent more than red, and violet light is brought to a focus nearer the lens than is red

Abersychan (ăbərsĭk′ən, –sŭkh′ən), former urban district (1931 pop 25,748), since 1935 part of Pontypool, Monmouthshire, England It has ironworks and tinworks

Abertawe, Glamorganshire, Wales see SWANSEA

Abertillery (ăbərtĭlăr′ē), urban district (1931 pop 31,803, 1947 estimated pop 28,250), Monmouthshire, England It is in an area of coal and iron mines and produces tin plate

Aberystwyth (–ĭst′wĭth), municipal borough (1931 pop 9,473, 1943 estimated pop 10,712), Cardiganshire, Wales, on Cardigan Bay A castle begun in 1277, destroyed by the Welsh in 1282, and rebuilt by Edward I in 1284 was a stronghold of Owen Glendower It was destroyed by parliamentarians in the 17th cent The town is a summer resort and a cultural center, the seat of a constituent college of the Univ of Wales and of the National Library of Wales Tanning is the chief industry

Abetti, Antonio (äntō′nyō ăbĕt′tē), 1846–1928, Italian astronomer He was director of the Arcetri observatory at Florence (1893–1921) He made observations on comets and minor planets and he was influential in increasing the production of astronomical instruments in Italy His works include a description of the transit of Venus (1874).

Abez (ă′–), city of Issachar Joshua 19 20

Abgar, Epistles of see PSEUDEPIGRAPHA

Abi (ā′bī) [short for ABIJAH], King **Hezekiah's** mother 2 Kings 18 2 Abijah 2 Chron 29 1

Abia (ubĭ′u) see **ABIJAH 2** and **ABIJAH 6**

Abiah (ubĭ′u), variant of **ABIJAH 1** Wife of Hezron 1 Chron 2 24 **2** Benjamite 1 Chron 7 8 **3** Second son of Samuel 1 Sam 8 2

Abi-albon (ă″bĭ-ăl′–) see **ABIEL 2**

Abiasaph (ubĭ′ŭsăf) [Heb, =my father has gathered], Levitical family Ex 6 24 Ebiasaph 1 Chron 6 23, 9 19 Asaph 1 Chron 26 1

Abiathar (ubĭ′uthär) [Heb, =father of plenty], priest, son of Ahimelech, the only one of his family who escaped massacre by Doeg He fled to David, to whom he remained loyal Later he sided with Adonijah against Solomon, who took away from him the priesthood 1 Sam 22 9–23, 2 Sam 15 17, 29, 1 Kings 1 7, 2 27, Mark 2 26 Name exchanged with his father's 2 Sam 8 17, 1 Chron 18 16, 24 6

Abich, Wilhelm Hermann (vĭl′hĕlm hĕr′män ä′bĭkh), 1806–86, German geologist His early studies dealt with the volcanic phenomena of Italy Subsequently he traveled in Armenia, Persia, Daghestan, and the Caucasus and published numerous works, notable for their thoroughness and accuracy, on the results of his investigations

Abida or **Abidah** (both ubĭ′–) [Heb, =my father received knowledge], son of Midian Gen 25 4, 1 Chron 1 33

Abidan (ăb′ĭ–, ubĭ′–) [Heb, =my father is judge], Benjamite chief Num 1 11, 2 22, 7 60,65, 10 24

Abidjan (ăbĭjan′), town (pop 46,000), capital of the Ivory Coast, French West Africa, a port on Ebrie Lagoon off the Atlantic Ocean It is the largest city of the Ivory Coast and the terminus of a railroad to the interior Cacao, coffee, cotton, palm oil and rubber are exported

Abiel (ā′bēĕl, ubĭ′ĕl, ăb′ēĕl) [Heb, =my father is God] **1** Grandfather of King Saul 1 Sam 9 1, 14 51 **2** One of David's men 1 Chron 11 32 Probably erroneously Abi-albon 2 Sam 23 31

Abiezer (ā″bĭē′zur) [Heb, =my father is help] 1 Manassite 1 Chron 7 18 Jeezer Num 26 30 **2** One of David's chief men 2 Sam 23 27, 1 Chron 27 12

Abigail (ăb′ugāl) [Heb, =my father is joy] **1** The wife of Nabal She persuaded David not to take vengeance on her husband When Nabal died, she married David 1 Sam 25, 2 Sam 3 3, 1 Chron 3 1 **2** David's stepsister, mother of Amasa 2 Sam 17 25, 1 Chron 2 16,17

Abihail (ăbuhā′ul) [Heb, =my father is strength] **1** Father of Queen Esther Esther 2 15, 9 29 **2** Gadite 1 Chron 5 14 **3** Merarite woman Num 3 35 **4** Wife of Abishur 1 Chron 2 29 **5** Mother-in-law of Rehoboam 2 Chron 11 18

Abihu (ubĭ′hū) [Heb, =He is father], son of Aaron, destroyed with his brother, Nadab, for offering "strange" fire Ex 6 23, 24 1,9, 28 1, Lev 10 1, Num 3 2,4, 26 60,61, 1 Chron 6 3, 24 1,21

Abihud (ubĭ′hud) [Heb, =my father is majesty], grandson of Benjamin 1 Chron 8 3

Abijah (ubĭ′jŭ) [Heb, =God is my father] **1** See **ABI 2** Died c 911 B C, king (c 914–c 911 B C) of Judah, the southern kingdom He succeeded his father, Rehoboam, and King Jeroboam continued warfare against him 2 Chron 13 Abijam 1 Kings 15 1–8 Abia 1 Chron 3 10, Mat 1 7 **3** Son of Jeroboam, whose death was used by a prophet to foreshadow Jeroboam's 1 Kings 14 **4,5** See **ABIAH 2,3.** **6** Priestly family 1 Chron 24 10 Abia Luke 1 5 **7,8** Priests in the return to Jerusalem Neh. 10 7, 12 4,17

Abijam (ubĭ′jm) see **ABIJAH 2.**

Abila (ăb′ĭlu), ancient town, W Syria There are ruins, between Damascus and Baalbek It was the capital of Abilene, the tetrarchy mentioned in Luke 3.1.

Abildgaard, Nikolaj Abraham (nē′kōlī ä′brähäm ä′bĕlgôrd), 1743–1809, Danish classicist painter, founder of the Danish school **He was** the teacher of Thorvaldsen and Eckersberg Most of his work is in Copenhagen

Abilene, Syria see **ABILA.**

Abilene (ă′bĭlēn) **1** City (pop 5,671), co seat of Dickinson co, central Kansas, on the Smoky Hill River and W of Topeka, laid out 1860, inc 1869 It was the railhead, 1867–71, for a large cattle-raising region extending SW into Texas Under the promotion of J G McCoy, millions of head of cattle followed the Chisholm Trail into Abilene's stockyards, whence they were shipped It was a typical cow town of which Wild Bill **HICKOK** was marshal It is now a shipping point in a wheat and farming region A state fair is held here in September Gen Dwight D Eisenhower lived in Abilene **2** City (1940 pop 26,612, 1947 estimated pop 35,000), co seat of Taylor co, W central Texas, WSW of Fort Worth, founded 1881 with the coming of the railroad Long a shipping point for cattle ranches, the city now handles milk, chickens, and oil and the cotton and other crops of the region as well as cattle It is well known for its colleges—Hardin-Simmons Univ (Baptist, 1891), Abilene Christian College (Church of Christ, 1906), and McMurry College (Methodist, 1923), all are coeducational There are also several hospitals (including one state owned) Abilene is proud of its planned neatness and its interest in music Within a radius of 25 mi are the ruins of Fort Phantom Hill, an early army post and stagecoach stop, the ruins of the old frontier town of Buffalo Gap, and Lake Abilene, the city's water reservoir in a state park

Abimael (ubĭm′ăēl), descendant of Shem Gen 10 28, 1 Chron 1 22

Abimelech (ubĭm′ulĕk) [Heb, =my father is Melech, or king] **1** Name or title of a king of Gerar, who had various dealings with Abraham and Isaac Gen 20, 21, 26 **2** See **AHIMELECH 1** **3** Son of Gideon He slew his 70 brothers, except Jotham, and became "king" Judges 9 1–57, 2 Sam 11 21 **4** See **ACHISH 1**

Abinadab (ubĭn′udăb) [Heb, =my father is liberal] **1** Second son of Jesse 1 Sam 16 8, 17 13, 1 Chron 2 13 **2** Son of King Saul, killed at the battle of Mt Gilboa 1 Sam 31 2, 1 Chron 10 2 **3** Man in whose house the ark remained 20 years 1 Sam 7 1,2, 2 Sam 6 3,4, 1 Chron 13 7 **4** Father of one of Solomon's chief officers 1 Kings 4 11 The officer is called Ben-abinadab in RV

Abingdon (ăb′ĭngdun), municipal borough (pop 7,241, Berkshire, England, on the Thames below Oxford, in an agricultural region There are ruins of a Benedictine abbey, dating from 675 See James Townsend, *A History of Abingdon* (1910)

Abingdon. **1** City (pop 3,218), W Ill, SE of Galesburg, in a farm area, inc 1857 Its manufactures include plumbing supplies, pottery, and clothing **2** Town (pop 3,158), extreme SW Va, in a tobacco area, settled c 1765, inc 1778 The courthouse of Washington co is here Lusterware is made here The Barter Theatre dates from 1933

Abington, Frances, 1737–1815, English actress, until her marriage known as Frances Barton She was a flower girl, a street singer, and a domestic servant before she first appeared at the Haymarket Theatre, London, as Miranda in *The Busybody* in 1755 Beauty and ability made her the first actress of the day in Shakesperian and Restoration plays A leading lady with Garrick for 18 years at Drury Lane, she was first to play Lady Teazle in Sheridan's *School for Scandal* Reynolds painted her portrait

Abington, town (pop 5,708), SE Mass, SSE of Boston, settled 1668, inc 1713

Abinoam (ubĭn′ōum) [Heb, =my father is loveliness], father of Barak Judges 4 6,12, 5 12

Abiram (ubĭ′rĭm) [Heb, =my father is the high one] **1** Levite who died with his brother **DATHAN** **2** Son of a rebuilder of Jericho, associated obscurely with its foundations 1 Kings 16 34

Abishag (ăb′ĭ), Shunammite woman, David's attendant in his old age and the cause of Adonijah's murder 1 Kings 1, 2

Abishai (ubĭsh′ā-ī, ăb′ĭshī), nephew of David 2 Sam 2 18–24, 10, 18, 23 18, 1 Sam 26 6–9

Abishalom (ubĭsh′ulŏm, ubĭ′shŭ–) [Heb, =my father is peace] see **ABSALOM**

Abishua (ubĭsh′ū-u) **1** Priest 1 Chron 6 4,5,50, Ezra 7 5 **2** Benjamite 1 Chron 8 4

Abishur (ăb′ĭshŭr, ubĭ′–) [Heb, =my father is a wall], grandson of Jerahmeel 1 Chron 2 28

Abital (ăb′ĭtăl) [Heb, =my father is dew], mother of David's son Shephatiah 2 Sam 3 4, 1 Chron 3 2

Abitibi, Fort (ăbŭtĭb′ē), Canadian fur-trading post, on Abitibi Lake, at the mouth of the Abitibi river, built in 1686 For 77 years it played an important role in the French fur trade From 1774 to 1914 the post was operated by the Hudson's Bay Company, who rebuilt (1794–96) the original fort, after 1783 it was a valuable outpost of the company's Moose Factory on James Bay

Abitibi Lake (ăbŭtĭb′ē), c 60 mi long, on the Quebec–Ontario boundary E of Cochrane, Ont Irregular and islanded, it is drained by the Abitibi river, which

flows c 200 mi W and N to the Moose river near James Bay Gold is mined in the region

Abitub (ăb'ĭtŭb) [Heb ,=my father is good], Benjamite 1 Chron 8 11

Abiud (ăb'ĭŭd) [Gr for ABIHUD], son of Zerubbabel in Matthew's genealogy. Mat 1 13

Abkhaz Autonomous Soviet Socialist Republic (ăbkăz', Rus ŭpkhäz') or **Abkhasia** (ăbkā'zhŭ, Rus ŭpkhä'sēŭ), autonomous state (3,360 sq mi, pop c 300,000), NW GEORGIAN SSR, between the Black Sea and the Greater Caucasus Sukhumi is the capital The population, which is concentrated along the agricultural coastal strip, is 35 percent Georgian, 30 percent Abkhasian, and 13 percent Armenian The Abkhasians are a largely Mohammedan people of the North Caucasian linguistic family The region, annexed by Russia from Turkey in 1810, became an autonomous republic in 1921

ablative (ă'blŭtĭv") [Latin,=for carrying off], in Latin grammar, CASE used in a number of circumstances, particularly with certain prepositions and in locating place or time The term is also used in the grammar of some languages (e g , Sanskrit, Finnish) for a case of separation (e g , translating "from the house") In Russian the INSTRUMENTAL case often translates a Latin ablative

ablaut (ap'lout) [Ger ,=off-sound], in INFLECTION, variation between vowels of the type of English *ring, rang, rung* In this verb the variation is the only meaningful difference between the words, hence one may speak of the change of ĭ to ă as equaling the addition of *ed* to *talk* This was not always true, for at an unknown period the corresponding forms of the language (known through scientific reconstruction) had differences in accent, not differences in vowel A variation of vowel associated with variation of accent is seen in ă'tŭm versus ŭtō'mĭk, where ă- alternates with u'- and -ō- with -u- Such variation is often called gradation For the variation shown in *man, men*, see UMLAUT

Abnaki Indians or **Abenaki Indians** (both ăbnä'kē), North American Indians of ALGONQUIAN stock The name is a vague one, applied by some of the Indians to all Atlantic seaboard tribes and used by early white visitors—notably Sébastien RASLES—to mean a more or less related group of tribes in present S New Brunswick and Maine, including the Malecite, the Passamaquoddy, and the Penobscot After most of these Indians had removed to Canada, leaving only small remnants on the coast, the name referred more especially to the Penobscot The Abnaki—under any definition of the term—were in settled villages, often stockaded, and lived by growing corn, fishing, and hunting Their own name for their conical huts covered with bark or mats, *wigwam*, came to be generally used in English See F G Speck, *Penobscot Men* (1940)

Abner [Heb ,=my father is Ner], relative of Saul and commander in chief of his army Jealousy and revenge probably caused his death at Joab's hands 1 Sam 9 1, 14 50,51, 17 55, 2 Sam 2, 3

Abney, Sir William de Wiveleslie (wĭ'vŭlslē), 1843–1920, British chemist and physicist He was known especially for his pioneer work in establishing and standardizing science laboratories in the school system and for his experimental work in photography He was the first to make plates which were sensitive to the red and infrared of the solar spectrum He was knighted in 1900

Abo, Finland see TURKU

abolitionists. For the wider relations of the anti-slavery movement, see SLAVERY In U S history, particularly in the three decades before the Civil War, abolitionists were those who agitated for the compulsory emancipation of Negro slaves They are to be distinguished from those who opposed the further extension of slavery (the free-soilers), but both groups came to act together politically and otherwise in the antislavery cause Although anti-slavery sentiment had existed since colonial days and Benjamin LUNDY began his work early in the 19th cent , the abolition movement did not reach crusading proportions until the 1830s One of its mainsprings was a strong religious revival which, beginning in W New York in 1824, swept much of the North by 1830 The moving spirit in the revival was Charles G FINNEY, who created among his converts a powerful impulse towards *social reform*—emancipation of the slaves, temperance, foreign missions, and woman's rights Outstanding among Finney's converts were Theodore D WELD and the brothers Arthur and Lewis TAPPAN The Tappans and William Lloyd GARRISON, recently returned from Great Britain (which had just abolished slavery in the West Indies), were the principal organizers in Dec , 1833, at Philadelphia, of the American Anti-Slavery Society The primary concern of the society was the denunciation of slavery as a moral evil It flooded the slave states with literature until Southern Congressmen were provoked into seeking exclusion of abolitionist journals, pamphlets, and tracts from the mails. The society's agents, especially Weld and his disciples, journeyed throughout the North preaching, usually in churches, the ambiguous doctrine of "immediate abolition, gradually accomplished," which confirmed most Northerners in their opinion that abolitionists were impractical visionaries, dangerous to the security of society However, many local branches of the society were founded, these, with women especially active, sent thousands of antislavery petitions to the House of Representatives The congressional attempt to set aside these petitions (see GAG RULES) and the killing of the abolitionist editor Elijah P LOVEJOY were ably exploited by abolitionists as flagrant violations of the constitutional guarantees of the right of petition and freedom of the press and won them increasing sympathy in the North Abolitionists united in denouncing the African venture of the AMERICAN COLONIZATION SOCIETY, but disagreed among themselves as to how their goal might be best effected Garrison believed moral suasion was the only weapon, he and his followers also tied other reforms, notably woman's rights, to their abolitionism, thus disturbing the less radical element Direct political action was advocated by James G BIRNEY, presidential candidate of the LIBERTY PARTY in 1840 and 1844 These fraternal differences and the localizing tendency of the petition campaign led to a decline in the society's activities in the early 1840s But by persuading Northerners to denounce slavery, it partially achieved its end, and the antislavery movement expanded Eminent writers like John G WHITTIER and orators like Wendell PHILLIPS gave their services to the cause, while Frederick DOUGLASS and other freed or escaped slaves also took to the lecture platform A powerful antislavery lobby in Washington, directed by the able Weld, labored the point that slavery could not exist without the support of the industrial North. Increasing sectional bitterness resulted in the withdrawal (1844) of Southern Methodists and Baptists from association with their Northern brethren, while extremists like Garrison openly advocated the breakup of the Union After the demise of the Liberty party, which, in its brief existence, had hastened the extinction of the WHIG PARTY, the political abolitionists supported the FREE-SOIL PARTY in 1848 and 1852, and in 1856 they voted with the REPUBLICAN PARTY The passage of more stringent FUGITIVE SLAVE LAWS in 1850 increased abolitionist activity on the UNDERGROUND RAILROAD *Uncle Tom's Cabin*, by Harriet Beecher STOWE, a most effective piece of abolitionist propaganda, and the KANSAS question further aroused both North and South, and the culminating act of extreme abolitionism occurred in the raid of John BROWN on Harpers Ferry After the opening of the Civil War insistent abolitionist demands for immediate freeing of the slaves greatly embarrassed Lincoln in his struggle to keep the border states loyal (see EMANCIPATION PROCLAMATION) The whole movement was one of high moral purpose and courage, and its uncompromising temper helped to prevent any other solution of the slavery question than that of war See A B Hart, *Slavery and Abolition, 1831 1841* (1906), Jesse Macy, *The Anti-Slavery Crusade* (1919), L D Turner, *Anti-Slavery Sentiment in American Literature Prior to 1865* (1929), G H Barnes, *The Antislavery Impulse, 1830–1844* (1933), A C Cole, *The Irrepressible Conflict, 1850–1865* (1934), D L Dumond, *Anti-slavery Origins of the Civil War in the United States* (1939), A Y Lloyd, *The Slavery Controversy, 1831–1860* (1939), H H Simms, *A Decade of Sectional Controversy, 1851-1861* (1942)

abortion, expulsion of the product of conception before the fetus is viable Any interruption of pregnancy prior to the 28th week is known as abortion Some authorities restrict the use of this term to the first 12 weeks and refer to the premature termination of pregnancy after the placenta is formed as a miscarriage Popularly, miscarriage is used to signify accidental premature birth at any period, as opposed to purposely induced abortion Spontaneous abortion may occur after the death of the fetus and hemorrhage in the uterus Spontaneous expulsion during the last two thirds of pregnancy may be due to many causes, among them infectious disease (e g , syphilis and toxemia), endocrine dysfunction (as in hypothyroidism and diabetes), and trauma In certain cases, in order to save the life of the mother, the fetus is delivered during the first two thirds of pregnancy when it cannot survive However, in any other case, to produce or to attempt to produce abortion in a pregnant woman is a legal offense in all states of the United States Abortion in animals is commonly caused by UNDULANT FEVER

abortion, contagious see CONTAGIOUS ABORTION

Aboukir or **Abukir** (both ă"bōōkēr', ŭbōō'kŭr), village, Egypt, on Aboukir Bay, SW of the Rosetta mouth of the Nile and 13 mi NE of Alexandria The village is on a promontory where lay ancient CANOPUS Horatio Nelson's victory here over the French fleet commanded by Admiral de Villeneuve (sometimes called the battle of the Nile) on Aug 1, 1798, restored British prestige in the Mediterranean and, with the land victory (1801) under Sir Ralph Abercromby, cut short Napoleon's venture

About, Edmond (ĕdmō' ăbōō'), 1828–85, French journalist and novelist His amusing novels were very popular; perhaps the best known is *Le Roman d'un brave homme* (1880; Eng tr , *The Story of an Honest Man*, 1880).

abracadabra (ăb'rŭkŭdăb'rŭ), magical formula used by the Gnostics of the 2d cent to invoke the aid of benevolent spirits to ward off disease and affliction It is supposed to be derived from, or similar in origin to, the abraxas, a word highly significant of the Supreme Power, which was engraved on gems and amulets or was variously worn as a protective charm Handed down through the Middle Ages, the abracadabra gradually lost its occult significance, and its meaning was extended to cover any hocus-pocus. The charm was set down:

A B R A C A D A B R A
A B R A C A D A B R
A B R A C A D A B
A B R A C A D
A B R A C A
A B R A C
A B R A
A B R
A B
A

Abraham [according to Gen 17 5=father of many] or **Abram** [Heb ,=the father is high], progenitor of the Hebrews He is the example of a man devoted to God, as in his journey to Canaan, his treatment of Lot, or his willingness to sacrifice his son He is principally important as the founder of Judaism, the religion of a covenant In this function he instituted circumcision and received the promise of Canaan for his people, who are descended from Isaac, the son of his old age Gen 11–25 Because of this dual role as founder of a race and its religion, the expression "Abraham's bosom," meaning the bliss awaiting his children, was current among later Jews and has become, for Christians, a synonym for heaven Luke 16 19–31 His titles, Father of the Faithful and Friend of God (2 Chron 20 7, Rom 4 11), are used by Mohammedans, who deem him ancestor, through Ishmael, of the Arabs The frequent use of his name among Christians and the numerous paintings depicting the story of the sacrifice of Isaac (e g , by Andrea del Sarto) testify to the universal reverence in which worshipers of God have held this founder of their faith See Sir C L Woolley, *Abraham Recent Discoveries and Hebrew Origins* (1936)

Abraham, Plains of, comparatively level field adjoining the upper part of the city of Quebec Here was fought in 1759 the famous battle between the English under Gen James WOLFE and the French under MONTCALM which decided the outcome of the last of the FRENCH AND INDIAN WARS and the fate of Canada Part of the battle site is now occupied by suburban buildings, but a part is preserved as a national park

Abraham ben Meir ibn Ezra see IBN EZRA

Abraham Lincoln National Historical Park see NATIONAL PARKS AND MONUMENTS (table)

Abram see ABRAHAM

Abramovich, Sholem (or **Solomon**) **Yakob** see MEN DELE MOCHER SFORIM

Abrams, LeRoy, 1874–, American botanist b Sheffield, Iowa He was professor in Leland Stanford Univ from 1920 until 1940, when he became professor emeritus He wrote several works on the flora of the Pacific coast, including *Illustrated Flora of the Pacific States* (1923)

Abrantès, Laure (Permon) Junot, duchesse d' (lōr' pĕrmō' zhünō' düshĕs' dăbrätĕs'), 1784–1838, French memoirist, wife of Gen Andoche JUNOT She was noted for her extravagance and frivolity After her husband's death, she joined in legitimist conspiracies, and under the Restoration her salon was a social and literary center Her memoirs (1831–38), in many volumes, describe the scandals and personalities she had known

Abrantes (ŭbrän'tĭsh), town (pop 4,170, commune pop 7,216), Santarém dist , central Portugal, in Estremadura, on the Tagus river Early fortified, it was a strategic point through the centuries Alfonso I took it from the Moors in 1148 John I gathered his army here before the battle of Aljubarrota (1385) In the Napoleonic Wars, the French under Junot won the battle of Abrantes in 1807, but Masséna was in 1810 unable to take the town by siege

abrasive, material used for grinding, smoothing, cutting, or polishing another substance Among the important natural abrasives are DIAMOND (in the form of dust and small inferior stones), CORUNDUM, emery, SAND, ground quartz, PUMICE, kieselguhr, chalk, and TRIPOLI. Important artificial abrasives are alundum (see ALUMINA), carborundum (see SILICON CARBIDE), and boron carbide, all of which are very hard Tripoli, chalk, and aluminum hydroxide, suspended in water, are efficient polishing agents Silicon carbide, emery, and corundum are frequently mixed with cement and molded into wheels, blocks, and sticks. The finer powders are dusted on glue paper to produce emery paper, glass paper, and sandpaper Pumice, finely powdered, is used to remove tartar from teeth. Sand is used to great advantage in sandblast machines Automobile cylinders and valves are ground with

emery or carborundum powder, mixed with oil, and tools are sharpened on emery wheels Diamonds are cut by a thin disc of copper revolving at high speed and dipping into a small container of oil and diamond dust Materials with abrasive qualities can do much damage to machinery, especially to bearings and sliding parts See Johnson Heywood, *Abrasive Grains and Their Uses* (1943).

Abravanel or **Abarbanel, Isaac** (ubrä'vunĕl, -barbū-), 1437–1508, Jewish theologian, biblical commentator, and financier, b Lisbon He served as treasurer to Alfonso V of Portugal until Alfonso's death and subsequently was employed by Ferdinand and Isabella and by the governments of Naples and Venice His biblical commentaries are notable for their interpretation of the books of the Bible in terms of their various historical and social backgrounds and for their liberal quotations from Christian commentaries Other sections of his work are devoted to the defense of miracles against the rationalistic explanations of Maimonides and to analyses of the Messianic prophecies

Abruzzi, Luigi Amedeo, duca degli (lwē'jē ämädā'ō dōōkä dā'lyē ābrōōt'tsē), 1873–1933, Italian naval officer, mountain climber, and arctic explorer, b Madrid, cousin of Victor Emmanuel III He achieved the notable first ascent of Mt St Elias in Alaska (1897) Abruzzi led a polar expedition (1899–1900) in which Captain Cagni in a sledging journey reached 86° 34′ N, slightly above Nansen's record In 1906 Abruzzi explored the Ruwenzori range in Africa and in an attempt on K2 (Mt Godwin-Austen) in the Himalayas (1909) set a world record for altitude (24,600 ft) In the Tripolitan War he commanded a naval squadron and from 1915 to 1917 commanded Italian naval forces in the Adriatic Between 1919 and 1929 he explored and colonized in East Africa along the Shebeli river His own account of his polar expedition has been translated in *On the "Polar Star" in the Arctic Sea* (1903) For an account of his Himalaya expedition, see Filippo de Filippi, *The Italian Expedition to the Himalaya, Karakoram, and Eastern Turkestan* (Eng tr, 1932)

Abruzzi e Molise (ubrōōt'tsē ā mōlē'zā), region (5,883 sq mi, pop 1,589,804), central Italy, along the Adriatic Sea and in the most rugged part of the Apennines, which culminate here in the GRAN SASSO D'ITALIA The region is divided into five provinces, named after their chief towns Aquila, Chieti, Pescara, and Teramo, in the north, constitute the Abruzzi, Campobasso proper, in the south, is coextensive with Molise Aquila is the regional capital Sheep are raised on the extensive pastures, vineyards and olive groves cover the lower mountain slopes, and cereals are produced along the coast and in the fertile area of reclaimed Lake Fucino Industries are very poor The region was conquered by the Romans in the 4th cent B C It was part of the Lombard duchy of Spoleto (6th–11th cent A D), the Norman kingdom of Sicily (12th–13th cent), and the kingdom of Naples (13th–19th cent).

Absalom (ăb'sŭlŏm) [Heb, =father of peace], son of David He murdered his brother Amnon for the rape of their sister Tamar and fled After a time he returned, but no sooner was he reconciled with his father than he stirred up a rebellion ultimately fatal to himself 2 Sam 3 3, 13–19, 2 Chron 11 20,21 The form Abishalom in 1 Kings 15 2,10 is probably a substitution from taboo

Absalon (ap'sälōn) or **Axel** (ak'sŭl), c 1128–1201, Danish churchman, archbishop of Lund (1178–1201) He had great influence on political affairs under Waldemar I and Canute VI, warred against the pagan Wends, and in 1184 won a naval victory over Bogislav, duke of Pomerania He attempted monastic reforms, introduced canon law into Denmark, and was the patron of Svend Aagesen and of Saxo Grammaticus Absalon also first fortified Copenhagen

Absaroka Indians, see CROW INDIANS

Absaroka Range (ăbsŭrō'ku), part of the Rocky Mts, c 150 mi long, NW Wyo and S Mont, partly in Yellowstone National Park and W of the Bighorns

abscess, the result of infection, characterized by inflammation and the formation of pus in disintegrated tissue Abscesses are hot, red, and painful. They may occur in the skin, at the root of a tooth, in the middle ear, in the mammary gland, in bone, in the recto-anal region, and elsewhere in the body Unless they discharge spontaneously, they require surgical incision Tubercular abscess may occur in nodes of the lymphatic system An infected sinus (see FISTULA) resulting from this condition responds to rest treatment in the early stages In chronic cases, heliotherapy (sun baths) may be of assistance

Absecon (ăbsē'kŭn), city (pop, 2,084), SE N J., NW of ATLANTIC CITY, settled c 1780, inc 1902

absenteeism. In its original usage the term refers to a system under which a person controls, and derives income from, land or capital in a region or country in which he does not live Absenteeism was an abuse in pre-Revolutionary France, in Ireland during the 18th and 19th cent, and in countries of E and S Europe before the First World War. Under the Irish land settlement of 1885 large holdings of absentee English owners were divided and sold to residents Revolutions and reforms after the First World War abolished or reduced absentee ownership of land in a number of countries of E and SE Europe More recently, the term has been applied to the concentrated control of wealth through various corporate devices Many corporations limit voting power to certain classes of stocks, and large percentages of investors have no directing power Holding companies further remove the average investor from the actual conduct of the business Chain stores and branch banking are also aspects of absentee ownership See Thorstein Veblen, *Absentee Ownership and Business Enterprise in Recent Times* (1923), Elton Mayo, *Human Problems of an Industrial Civilization* (1933).

absinthe (ăb'sĭnth), an emerald-green, toxic LIQUEUR distilled from wormwood and other aromatics, including angelica root, sweet-flag root, star anise, and dittany, which have been macerated and steeped in alcohol Genuine absinthe is 70 to 80 percent alcohol Excessive consumption of absinthe affects the digestive organs and nerve centers and may produce delirium and idiocy Its manufacture and sale were prohibited by Switzerland (1908) and France (1915), formerly the chief producers In 1912 the United States forbade the importation of absinthe

absolute, in philosophy, the opposite of relative The term has acquired numerous widely variant connotations in different philosophical systems It means unlimited, unconditioned, or free of any relation, perfect, complete, or total, permanent, inherent, or ultimate, independent, or valid without reference to a perceiving subject In logic, absolute means certain or indubitable as opposed to probable or hypothetical As a substantive, the absolute is the ultimate basis of reality, the principle underlying the universe Theologically, it is synonymous with, or characteristic of, God Philosophically, it may be considered as the unknowable, the thing-in-itself, as that ultimate nonrelative which is the basis of all relation, as the ultimate, all-comprehensive principle in which all differences and distinctions are merged The concept of the absolute was present in Greek philosophy In modern days, both realists and idealists have used the term, but it is, perhaps, most intimately connected with Hegel's absolute idealism For HEGEL and his followers, the absolute is the all-comprehensive mind

absolute music, term used for abstract musical composition in antithesis to PROGRAM MUSIC It is not associated with ideas or with a pictorial or narrative scheme of emotions, nor does it attempt to reproduce sounds in nature It endeavors to be wholly self-sufficient

absolute pitch, the position of a tone in the musical scale determined according to the number of vibrations per second, irrespective of other tones The term is used for denoting the capacity to identify any given tone upon hearing it sounded alone or to sing any specified tone Experiments have shown that this ability can be acquired through practice, but it is inborn in certain individuals

absolute zero see TEMPERATURE

absolution [Latin, =loosing], in theology, the act of cleansing and the effective decree which at once cleanses the sinner and makes him capable of accepting the free grace of God The absolved person is said to be in a state of grace Protestants have virtually rejected the decree of absolution, placing their emphasis on God's act (see GRACE) In the Roman Catholic Church absolution is the chief end of PENANCE, a sacrament ministered by the priest as the voice of the Church, which has her authority from God There are two formal types of absolution—indicative, e g, "I absolve thee" (*ego absolvo te*), and deprecatory, e g, "May the Lord absolve thee" (*Dominus absolvat te*) The first is a decree, the second at best an assurance Both are customary in penance, the first is prescribed, the second may be always valid

absolutism, system of government in which SOVEREIGNTY is most highly concentrated and without theoretical checks by portions of the body politic or by the people as a whole In practice the absolute government tends to be limited by existing law and political custom, by the danger of war and overthrow by states on whom its claims may impinge, and by the possibility of internal revolt against it, which Hobbes called the effectual limit to tyranny The sway of the tyrants over the political life of the Greek cities, resulting from their control over the labor force and the new coinage, furnishes the first instance of Western absolutism Plato and Aristotle, influenced by the example of DIONYSIUS THE ELDER, contemporary tyrant of Syracuse, stressed the role of the democracy and of military power in the composition of the absolutist state In the Hellenic and Roman periods, deification added religious status to the political claims of the absolutist ruler and insured the legality of his edicts after death In the period of the Renaissance, absolutism, represented by the monarchies of Europe (see DIVINE RIGHT), triumphed over the rival powers of feudalism, the Church, and the empire Its greatest exponent was Louis XIV of France The recrudescence of absolutism in the 20th cent, after the victories of popular government in the English, American, and French revolutions, followed the crisis of capitalist economy and the rise of Marxian and Fascist economic and political philosophies The modern absolutist state centers around the person of the DICTATOR, who tends to assume permanent status instead of acting as temporary trustee as in classical practice

absorption: see GAS, OSMOSIS, SPECTRUM

abstinence: see FASTING, TEMPERANCE MOVEMENTS

abstract art, 20th-century tendency in the plastic arts to suppress everything in a work save its basic formalized structure Some critics credit Cézanne with the initial step in this direction Among a host of related movements CUBISM in France and EXPRESSIONISM in Germany survived long enough to produce lasting results English vorticism and Italian futurism were shorter lived The term is applied to works ranging from the purely geometric improvisations of Kandinsky to the still lifes of Braque, in which the subject is clearly indicated Abstract art has played a vital role in the envisaging and decorating of the new forms necessitated by modern techniques and invention Among those who continue the tradition of pure abstractionism in painting are Piet Mondrian and Alexander Calder Most important modern galleries contain examples of abstract painting and sculpture The Museum of Modern Art and the Museum of Non-Objective Paintings in New York city have notable collections See F B Blanshard, *Retreat from Likeness in the Theory of Painting* (1945)

abstract of title, summary of all documents and facts which concern the ownership of a piece of land A brief account is given of court proceedings, wills, mortgages, taxes, previous sales, and all other factors which at any time affected the ownership of the property The old rule in England required that an abstract of title should cover the 60 years before the proposed sale In 1874 this was changed to 40 years No such rule exists in the United States, where the procedure is to trace the title, if possible, back to the original grant from the government See Robert Kratovil, *Real Estate Law* (1946)

Absyrtus see MEDEA

Abt, Franz (frants' äpt'), 1819–85, German conductor, prolific composer of piano pieces, choruses, and songs His songs include *When the Swallows Homeward Fly*

Abu, Mount (ä'bōō), plateau, c 4,000 ft high, in the Aravalli Hills in Rajputana, India, now in Bombay prov It rises to a peak 5,650 ft high and has a hot-weather resort notable for many temples and especially for two, of white marble, which are outstanding examples of Jain architecture

Abu Bakr (ä'bōō bä'kur), 573–634, 1st caliph, friend, father-in-law, and successor of Mohammed. He was probably Mohammed's first convert outside the Prophet's family and certainly his most zealous believer He alone accompanied Mohammed on the Hegira The marriage of his daughter Ayesha to Mohammed made the ties even stronger On the Prophet's death in 632, Omar secured Abu Bakr's election over the tribal chiefs and Ali The two years of his caliphate were critical for Islam Though he was himself fervent rather than warlike, his party crushed opposition in Arabia and began the remarkable extension of Islam as a world religion

Ababus (-bū'-), father of the Ptolemy who murdered Simon the Maccabee 1 Mac 16 11

Abu Hanifa (ä'bōō hänē'fa), 699–767, Moslem jurist He founded the Hanafite system of Islamic jurisprudence This gives the judge considerable discretion when the Koran and the Sunna (traditions) are inapplicable (see ISLAM).

Abu Khasim. see ABULCASIS

Abukir, Egypt see ABOUKIR

Abu-l-Abbas as-Saffah (ä'bōōl-äbäs' äs-säfä'), d. 754, 1st ABBASID caliph (749–54) Raised to the caliphate by the armed might of ABU MUSLIM, he took the reign name as-Saffah [shedder of blood] Most of the Omayyad family were exterminated, and the reign was one of massacre and force

Abu-l-Ala al-Maarri (ä'bōōlä'la al-mä-är-rē'), 973–1057, Arabic freethinking poet He was born and lived most of his life in Maarrah, S of Aleppo He was blind from childhood Brilliantly original, he became one of the literary reformers who discarded classicism for a modern intellectual urbanity After 35 he lived a life of seclusion, and with his advocacy of an utterly ascetic purity, his poetry became more stereotyped He replaced all religion with a fatalistic monotheism

Abu-l-Atahiya (ä'bōōlätä'hēyä), 748–828, Arabic poet He lived in Kufa and Baghdad and was patronized by the caliphs Mahdi and Harun-al-Rashid

Abulcasis (ä'bōōlka'sĭs) or **Abu Khasim** (ä'bōō kä'sĭm), fl. 11th cent, Arabian physician His chief work, a detailed account of medicine and surgery, was long a valued text Known as the *Tasrif* [the collection], it consisted of three parts dealing with cautery, with surgery, and with fractures and dislocations It was translated many times into Latin and into other languages. His name also appears as Albucasis (ăl'bōōkā'sĭs).

Abu-l-Faraj or **Abulfaragius** · see BAR-HEBRAEUS

Abu-l-Faraj Ali of Isfahan (ä'bo͞olfä'räj à'lē, ĕsfähän'), 897–967, Arabic scholar The invaluable *Book of Songs*, the result of his study of Arabian history at Baghdad, is a compilation of Arabic poems set to music, with notes on the authors and composers

Abulfazl (ä'bo͞olfä'zul, u'bo͞olfŭz'ul), 1551–1602, minister of state and adviser to Akbar, Mogul emperor of India His *Book of Akbar*, in Persian, recounts a history of the reign, describing the political and religious organisation of the empire

Abu-l-Fida (ä'bo͞ol-fē'dĭa, -fīda'), 1273–1331, Arab writer, b Damascus He fought against the Christians in the last period of the Crusades and later was governor of Hama in Syria He was a patron of learning and wrote a universal history, a superior source for Arabic history from 700 to 1200

Abu-l-Walid Merwan ibn Janah, see JONAH, RABBI

Abu Muslim (ä'bo͞o mo͞oslēm'), c 728–755, Persian revolutionist By political and religious agitation and by force of arms he started (747) a revolution against the Omayyads before he was 21, and in 749 he established the head of the Abbasid family in the caliphate as ABU-L-ABBAS AS-SAFFAH Abu Muslim retired to Khurasan as governor, but the Abbasid caliphs feared him and Mansur treacherously murdered him

Abu Nuwas (no͞owäs'), d c 810, Arabic poet Born in Ahwaz, Persia, he spent most of his life in Baghdad High in favor with the caliphs Harun-al-Rashid and Amin, he lived a courtier's life, the extravagance of which his highly talented poetry echoes with no reserve

Abury, Wiltshire, England see AVEBURY

Abu Said ibn Abi-l-Khair (ä'bo͞o sa'ĭd ĭb'n ä'bēlkhīr'), 967–1049, Persian poet, a Sufi and a dervish He was the first to write rubaiyat in the Sufistic strain that Omar Khayyam made famous

Abu-Simbel (ä'bo͞o-sĭm'bul) or **Ipsambul** (ĭp"sambo͞ol'), village, S Egypt, on the Nile and 36 mi N of Wadi Halfa It is the site of two rock-hewn temples constructed (c 1250 B C) in the reign of Ramses II The façade of the principal temple bears three sitting statues (c 65 ft high) of the king, a fourth has fallen

Abu Tammam Habib ibn Aus (tăm-măm' hä-bēb' ĭb'n ous'), c 805–c 845, Arabic poet, compiler of the HAMASA

abutilon (ubū'tĭlŏn), any species of the genus *Abutilon*, chiefly tropical herbs or shrubs cultivated in the Temperate Zone as house or bedding plants Those having maplelike leaves are known as flowering maple The bell-shaped flowers, mostly in colors varying from red to yellow and white and often striped, may be almost continuous blooming Propagation is by seed or cutting The VELVETWEED is a species of *Abutilon*

Abydos (ubī'dus), ancient city of Egypt, c 50 mi NW of Thebes Associated in religion with Osiris, it became the most venerated place in Egypt Its temples, of the I to the XXX dynasty, include one by Seti I, which is perhaps the finest surviving in Egypt, and another by Ramses II

Abydos, ancient town of Phrygia, Asia Minor, on the Asiatic side of the Hellespont opposite Sestos, in present Turkey Near here Xerxes built his bridge of boats, and in 411 B C the Athenian fleet defeated the Spartans It was the scene of the story of Hero and Leander and of Byron's *Bride of Abydos*

Abyssinia see ETHIOPIA

Ac, chemical symbol of the element ACTINIUM

acacia (ukā'shu), any of the trees or shrubs of the genus *Acacia*, legumes, chiefly of the tropics and subtropics of both hemispheres, where they are cultivated for decorative and economic purposes, farther north they are greenhouse plants The foliage often appears feathery because of many small leaflets, but in some species leaflike flattened stems take the place of the leaves The small yellow or white flowers grow in fluffy ball-like or elongated clusters Various species yield GUM arabic, dyes, tanning materials, fiber, perfume, medicine, soap, CATECHU, furniture wood, and fragrant timbers The Ark of the Covenant and furniture of the Tabernacle were made of SHITTIM WOOD, thought to be an acacia Among species considered acacias are the kangaroo thorn, WATTLE, blackwood, and the bull-horn acacias, which have large hollow thorns inhabited by ants said to feed upon a sweet secretion of the plant and in turn to guard it against leaf-eating insects Some acacias grow wild in the W United States Various species of LOCUST are sometimes called acacia, and acacias may be called MIMOSA, which they often closely resemble

academic costume, dress required on stated occasions by educational institutions for students, faculty, candidates for degrees, and degree holders It is a medieval form of clothing retained by clerics and adopted in the early universities to distinguish members from the lay community In the United States a system prescribing styles and colors was adopted in 1895 and revised in 1932 It has been accepted by over 700 colleges and universities The gown shows the academic rank (see DEGREE, ACADEMIC) of the wearer The undergraduate's is a plain gown of black stuff, the bachelor's is similar but with long, pointed sleeves; the master's, often of silk, has sleeves closed at the end and slit to pass the arm, the doctor's, of silk faced with velvet, bears on the bell sleeves three velvet bars of a color indicating the department of learning in which the degree was conferred (e g , theology, scarlet, law, purple, philosophy, dark blue, science, golden yellow, medicine, green) A hood lined with the official color of the institution conferring the degree and in the shape and length prescribed for the academic rank may be worn over the gown The mortarboard is a skull cap supporting a stiffened square top with a tassel suspended from the center

academic freedom, right of scholars to pursue their research, to teach, and to publish without control or restraint from the institutions which employ them This is a civil right that is enjoyed, at least in statute, by the citizens of democratic countries In the case of scholars whose occupation is involved with that right, the concept of academic freedom generally includes the property right of tenure of office An essential to the acceptance of the concept is the notion that truth is best discovered through the open investigation of all data A less clearly developed corollary of academic freedom is the obligation of all those who enjoy it to pursue the line of open and thorough inquiry regardless of personal considerations Historically, academic freedom developed in the period of Enlightenment Early cultures, where education was viewed as a system of absorbing a well-defined content of subject matter, offered little opportunity for speculation The medieval universities also operated within a field of definite scope, primarily theological, and every teacher and scholar was in danger of the charge of heresy if he extended his inquiry beyond the approved limits The Enlightenment initiated the scientific method of analysing data and establishing hypotheses, much of the groundwork being laid by scholars outside university life, such as Thomas Hobbes, John Locke, and Voltaire Germany was the first country to apply the new freedom within the university, and the tolerance of Frederick the Great aided this development In England it was laymen like Jeremy Bentham, Ricardo, Herbert Spencer, Darwin, and Thomas Huxley who demonstrated the value of free investigation The schools had to be secularized before there was general acceptance of this right within university walls Not until 1828 was the first nonsectarian university established in London In the United States the early colleges were religiously controlled, and there are still some denominational schools which define the areas of speculation Another danger to academic freedom has been the control exerted by financial contributors whose endowments definitely stipulate the direction and extent of inquiry The American ASSOCIATION OF UNIVERSITY PROFESSORS has been active in establishing standards of academic freedom and obligation and has investigated and passed judgment upon cases in question See *Freedom Its Meaning* (ed by R N Anshen, 1940), C L Becker, *Freedom and Responsibility* (1946)

Académie française see FRENCH ACADEMY

Academus (ăkudē'mus), in Greek legend, eponym of the ACADEMY He informed Castor and Pollux where Theseus had concealed their sister Helen and thenceforth was honored by the Spartans

Academy, garden near Athens (named for the hero ACADEMUS) which was frequented by PLATO In this garden (c 387 B C) Plato taught and conferred, and here his followers met for nine centuries until, along with other pagan schools, it was closed by Justinian in A D 529 The Academy has come to mean the entire school of Platonic philosophy, covering the period from Plato through Cicero During this period Platonic philosophy was modified in various ways, and these phases have been noted in two, three, or five main sections The frequently used division into three phases is the Old Academy (until c 250 B C) of Plato, SPEUSIPPUS, and XENOCRATES, the Middle Academy (until c 175 B C) of ARCESILAUS, and the New Academy of CARNEADES Various learned and literary societies and art associations have called themselves academies, e g , the Accademia della Crusca, the French Academy, the National Academy of Design, and the Royal Academy of Art

Acadia (ukā'dēu), region and former French colony, E Canada, centered on Nova Scotia but including also Prince Edward Island and the mainland coast from the Gulf of St Lawrence S into Maine The first and chief town, Port Royal (now ANNAPOLIS ROYAL, N S), was founded by the sieur de Monts in 1605 (see SAINT CROIX 1) and was soon involved in the imperial struggle that was to end in America with the FRENCH AND INDIAN WARS Destroyed by the British under Samuel ARGALL in 1614, the town was later rebuilt, and as British claims temporarily lapsed (see NOVA SCOTIA), the colony grew to be fairly prosperous with farmers on their dike-protected fields, fishermen on the shore, and fur traders in the forests British attacks on Port Royal were resumed later, and the capture of 1710 was confirmed as permanent in the Peace of Utrecht (1713). The British feared and distrusted their French-speaking, Roman Catholic neighbors, who were friendly with the Indians and, wishing only to remain neutral, refused to swear allegiance to Great Britain In 1755 the British fell upon the peaceful Acadian farms and, seizing most of the Acadians (sometimes said to be 7,000 of 10,000), deported them to the more southerly British colonies, scattering them along the Atlantic coast from Maine to Georgia and sending some to the West Indies and Europe The men were sent first, families were riven, farmhouses burned, and some lands abandoned to waste In 1762 a new mass deportation was thwarted, the war ended in 1763, and hysteria subsided The remaining Acadians and exiles who returned took the British oath, and after 1767 they rapidly became Nova Scotians Today in Canada, Acadian (French *Acadien*) means a French-speaking inhabitant of the Maritime Provinces Many exiles who did not return found havens elsewhere, the most celebrated being the region around St Martinville in S Louisiana, where even yet the Cajuns—as they are popularly called—maintain a separate folk culture The sufferings of the expulsion are pictured in Longfellow's *Evangeline* See A G Doughty, *The Acadian Exiles* (1916), J Bart Brebner, *New England's Outpost* (1927) and *The Neutral Yankees of Nova Scotia* (1937)

Acadia National Park · see MOUNT DESERT ISLAND

Acadia University · see WOLFVILLE, N S

Acajutla (äkähōōt'lä), town (1946 estimated pop 1,501), SW Salvador, a Pacific port It is the terminus of the railroad, and Acajutla exports coffee

acanthus (ukăn'-) or **bear's-breech,** any species of the genus *Acanthus*, perennial, semihardy decorative plants, native to the Mediterranean region The leaves, deeply cut and sometimes prickly, probably have been more often used in decoration (as in the capital of the Corinthian column, see CORINTHIAN ORDER) than any other plant In Greek decoration, a narrow, spiny-leaved acanthus was used, in Roman decoration, the form was usually broad leaved and spineless In Christian painting and sculpture, the acanthus symbolizes heaven

Acapulco (äkäpōōl'kō), city (pop 9,993), Guerrero, SW Mexico, a port on the Pacific A fine natural harbor formed by mountainous promontories made Acapulco the starting point of many Spanish colonial voyages of exploration and the chief port in the development of the Philippines A long period of decline followed the winning of Mexican independence, but the city has recently become a popular winter resort Local products are hides, sesame seed, and tropical fruits Earthquakes have partially destroyed it several times, and in 1932 a hurricane caused severe damage

Acarnania (ăkurnā'nēu), region of ancient Greece, between the Achelous river and the Ionian Sea The inhabitants maintained their isolation, contributing little to Greek civilization The chief city was Stratos The Acarnanians generally sided with Athens, and Athens helped Acarnania to uphold its independence against Corinth and Sparta in the 5th cent B C Later (390-375) the Spartans controlled the region Acarnania then allied itself with Macedon The persistent struggle with the Aetolians cost Acarnania national existence for a time, but it was restored and the Acarnanians kept some autonomy under the Roman Empire until the Christian era

Acarya see BHASCARA

Acastus (ukā'stus), in Greek legend, an Argonaut, son of PELIAS and father of LAODAMIA He dethroned JASON in revenge for Pelias' death Later, his wife, rebuffed by Peleus, accused the latter of dishonoring her Acastus abandoned Peleus in the wilderness, but he was saved by Chiron and returned to kill Acastus and his wife

Accad see AKKAD

Acca Larentia (-rĕn'shu) or **Acca Larentina** (-tī'nu), in Roman religion, wife of FAUSTULUS and nurse of ROMULUS and Remus Her 12 sons founded the priesthood of the ARVAL BROTHERS At the feast of Larentalia, Dec 23, she was honored as a goddess of fields and a protector of the city.

Accaron see EKRON

Accault, Michel see ACO

accent, in language, emphasis given a particular sound In English each independently spoken form has an accented vowel, often it is the first vowel The English accent is phonemic (or significant), for there are words different from each other only in their accent, e g , *contract*, verb and noun In French the accent is entirely different, but the signs called accents have nothing to do with it These so-called accents, acute (´), grave (`), and circumflex (^), are borrowed from Greek writing, where they probably showed differences in pitch Some languages have significant variations of both pitch and loudness (or stress) Thus in English every utterance is marked as complete by having one of certain established pitch patterns (or intonations), meaning, for example, "complete definite declaration" in *He's a good boy*, "question" in *Is he there?* or "tentative statement" in *She'll probably come* See ABLAUT and PHONETICS

acceptance, in law, term having several meanings. In the law of contracts it signifies assent to an offered

CONTRACT In the law of negotiable instruments it is the signification by the drawee of a BILL OF EXCHANGE that he assents to the order of the drawer. A trade acceptance is a bill of exchange which the seller of goods has drawn on the purchaser and which the purchaser has accepted A banker's acceptance is a special kind of bill of exchange by which a bank grants credit See FEDERAL RESERVE SYSTEM

accessory (ăk-sĕ'sŭrĭ, ŭk-), in law, a person who, though not a principal (actual perpetrator) of a crime, is in some way connected with its commission. An accessory before the fact is one whose counsel or instigation leads another to commit a crime An accessory after the fact is one who, having knowledge that a crime has been committed, aids, or attempts to aid, the criminal to escape apprehension In misdemeanors and in treason (at least in England) there is no distinction between principals and accessories In certain felonies besides treason (e g , murder) many American statutes treat the accessory before the fact as a principal or as one engaged in a CONSPIRACY The penalties for being accessory after the fact are usually much less severe than those meted out to the principal See STOLEN GOODS

Accho (ăk'ō), OT variant of ACRE

accident, in law, an unusual or unexpected event producing physical injury or loss of property The term includes events which happen without human agency (see ACT OR GOD) and those which are produced through human agency though without design When not an act of God, an accident ordinarily involves NEGLIGENCE on the part of the perpetrator Such terms as "mere accident" or "pure accident," however, connote absence of negligence An inevitable accident is an act of God or an event produced through human agency which could not be foreseen or prevented, hence, there can be no damages for its commission In equity, relief may be given from the effects of an accident which benefits a party, thus, if by accident the boundaries of property are confused, the party injured may seek a judicial determination of the true boundaries In INSURANCE and in WORKMEN'S COMPENSATION statutes, accident has special meanings Recently some psychiatrists have discounted accident (in the lay sense) as an explanation of events in a person's life They maintain that many so-called accidents are unconsciously motivated and that in many persons a proneness to physical injury through apparent accidents indicates psychological maladjustment See EXTRAHAZARDOUS OCCUPATIONS, FIRST AID, SAFETY MOVEMENT, SHOCK

acclimatization (ŭklī"mĭtŭzā'shŭn), ability of plants and animals to become adapted to conditions of environment to which they have not been accustomed These conditions relate to food, temperature, moisture, and altitude Acclimatization does not necessarily imply naturalization The canary is not acclimatized, although it is established in many regions The English sparrow is naturalized in the United States Ability to become acclimatized is important in the struggle for existence (see SELECTION)

Accolti, Benedetto (bānādĕt'to ăk-kōl'tō), c 1415–1466?, Italian humanist, lawyer, and historian He succeeded (1459) Poggio as chancellor of the republic of Florence His most notable work was a history of the First Crusade, from which Tasso supposedly drew the idea for *Jerusalem Delivered* His son, **Bernardo Accolti** (bĕrnar'dō), 1465?–1535, called Unico Aretino, achieved great renown in his day as an extemporaneous poet His works are forgotten today Another son of Benedetto, **Pietro Accolti** (pyā'trō), 1455–1532, became a cardinal He was abbreviator under Leo X and drew up the papal bull against Luther in 1520

accompaniment, in music, a background part, such as the chords supporting the melody in a piano piece or the orchestral or instrumental support given a soloist or choral group In the lieder of Schubert, Brahms, and Schumann, the intrinsic musical interest of the piano accompaniment is usually as great as that of the voice part, while at other periods and in other types of music, accompaniments consist only of the barest musical background for the solo part

accordion, small portable musical instrument, consisting of rectangular bellows expanded and contracted between the hands Buttons or keys operated by the player control valves through which air is admitted, setting in motion metallic tongues or free reeds, whose length and thickness determine the pitch of the tone The first accordions were those made by Friedrich Buschmann (Berlin, 1822), Buffet (1827), and Damian (Vienna, 1829) The keyboard was added by Bouton (Paris, 1852), hence the term "piano accordion " The instrument is generally associated with folk music and is also very popular with musical amateurs Instruments related to it in principle are the CONCERTINA and the REED ORGAN

accounting, classification, analysis, and interpretation of the BOOKKEEPING records of an enterprise The accountant evaluates records drawn up by the bookkeeper and shows the results of his investigation as losses and gains, leakages, economies, or changes in value, so as to reveal the progress or failures of the business and also its limitations and possibilities An accountant must also be able to draw up a set of books and prescribe the system of accounts which will most easily give the desired information, he must be capable of arriving at a comprehensive view of the economic and the legal aspects of a business, envisaging the effect of every sort of transaction both on the profit and loss statement and on the balance sheet, and he must recognize and classify all other factors which enter into the determination of the true condition of the business, e g , statistics or memoranda relating to production and properties and financial records representing investment, expenditures, receipts, fiscal changes, and standing Cost accounting shows the actual cost from time to time of each service rendered or of each article produced, by this system unprofitable ventures, services, departments, and methods may be discovered AUDITING is an important branch of accounting While there were stewards, auditors, or bookkeepers in ancient times, the professional accountant who, instead of serving one employer, offers his services, for a fee, wherever they are needed is a 19th-century development The profession was first recognized in Britain in 1854, when the Society of Accountants in Edinburgh was given a royal charter Similar societies were later established in Glasgow, Aberdeen, and London In the United States the first such professional society was the American Association of Public Accountants duly chartered by the state of New York in 1887 All the states and also Alaska, Hawaii, Puerto Rico, and the District of Columbia now have laws under which the public accountant who complies with certain educational and experience requirements and passes the required examination may be granted the title Certified Public Accountant (C P A) The holders of these certificates have organized into societies in most of the states There is only one body representing the accounting profession as a whole in this country, the American Institute of Accountants, which succeeded the American Association of Public Accountants in 1916 Many colleges now teach the subject, which has increased in importance with the growth of corporate activity and the increasing necessity for governmental regulation of such activity See W L Green, *History and Survey of Accountancy* (1930), R B Kester, *Principles of Accounting* (4th ed , 1939), J L Dohr and H A Ingham, *Cost Accounting Principles and Practice* (3d ed , 1946)

Accra (ukra', ă'kru), city (pop 135,456), capital of the Gold Coast, a port on the Gulf of Guinea It grew around Danish, British, and Dutch forts built in the 17th cent and developed rapidly after the completion (1923) of a railroad to the agricultural and mining hinterland There is a college near by Accra has an international airport

Accrington, municipal borough (1931 pop 42,991, 1947 estimated pop 39,440), Lancashire, England, N of Manchester There are coal mines and large factories for the spinning, printing, and dyeing of cotton and the manufacture of textile machinery and dyestuffs

Accursius, Franciscus (frănsĭ'skŭs ukûr'shŭs), c 1185–c 1260, Italian jurist He was a professor of Roman law at the Univ of Bologna His great work on the Corpus Juris Civilis sums up the contributions of earlier Bolognese writers

accusative (ukū'zutĭv") [Latin,=for accusing], in Latin grammar, CASE typically meaning that the noun refers to the entity directly affected by an action The term is used for similar, but often not identical, features in the grammar of other languages Thus English *him*, usually called objective, is also called accusative

Aceldama (usĕl'dŭmŭ) [according to Acts 1 18,19= field of blood], potter's field bought with Judas' 30 pieces of silver, it is apparently the place where Judas died The purchase of this field to bury strangers in is the origin of the term "potter's field" for the paupers' burying ground Mat 27 3–10, Acts 1 16–19

acetaldehyde see ALDEHYDE

acetic acid (usē'tĭk), weak organic acid, a colorless liquid with a characteristic pungent odor, boiling at 118 5° C It is miscible with water in all proportions, heat is evolved Glacial acetic acid is the concentrated acid of 99 5 percent purity which solidifies at 17° C Acetic acid is the essential constituent of VINEGAR Concentrated acetic acid for industrial uses is prepared either from acetylene by a reaction yielding acetaldehyde (see ALDEHYDE), which is oxidized to produce acetic acid, or from the distillate of hardwood which contains pyroligneous acid Acetic acid reacts with other chemicals to form numerous compounds of commercial importance Among them are cellulose acetate, used in making acetate rayon, noninflammable moving-picture film, lacquers, and plastics, lead acetate (see SUGAR OF LEAD) and potassium acetate, both of which are used in medicine, copper acetate (see VERDIGRIS), and amyl acetate (often called banana oil), butyl, and ethyl acetate, all of which are used as solvents, chiefly in certain quick-drying lacquers Aluminum, chromium, and iron salts of acetic acid are used as mordants in dyeing textiles Acetic acid is employed in the production of acetone and in organic syntheses

acetone (ăs'ĭtōn) [from *acetic*], colorless, inflammable liquid compound of carbon, hydrogen, and oxygen, with a characteristic minty taste and odor, boiling at 56 1°C and solidifying at −94 6°C Acetone is used widely in industry as a solvent for numerous organic substances, in paint and varnish removers, and for dissolving and storing acetylene It is used in the manufacture of celluloid, of smokeless powders (as cordite), and of such substances as chloroform, iodoform, and sulphonal It is prepared by the distillation of wood and of certain acetates (as calcium acetate), by the oxidation of isopropyl alcohol, and by the fermentation of starch A liquid, oil of acetone, used in denaturing alcohol, is obtained when acetone is distilled

acetylcholine (ăs'ĭtĭlkō'lēn), organic compound of carbon, hydrogen, oxygen, and nitrogen and an active principle in ERGOT. By those who adhere to the chemical hypothesis as the explanation for the method of transmission of nerve impulses to muscles it is held that acetylcholine liberated at the terminations of the nerves causes the stimulation of the muscle fibers Acetylcholine is sometimes used, usually in the form of a chloride, in the the treatment of high blood pressure

acetylene (usĕt'lēn) [from *acetyl*, from *acetic*], colorless gas, boiling at −84°C , with an ethereal odor when pure The offensive odor often noted in the commercial product is caused by impurities With air it forms an explosive mixture It is soluble in acetone, alcohol, and water When dissolved in acetone it is nonexplosive and is stored under pressure in cylinders for commercial use It can be liquefied, but is explosive in this condition and is stored only in the smallest quantities. Acetylene is used as an illuminant, burning with a very luminous flame in special burners which admit air, and for cutting and welding metals (see OXYACETYLENE FLAME) Acetylene gas when subjected to high temperature undergoes polymerization and benzene is produced Commercially the gas is usually prepared by the action of water on calcium carbide Acetylene is the first member of a series of hydrocarbons, the **acetylene series** The acetylene molecule consists of two hydrogen atoms and two carbon, the carbon atoms joined together by a triple bond and each holding one of the hydrogen atoms In the acetylene series a definite relation exists between the number of hydrogen and carbon atoms, each member has a number of hydrogen atoms two less than twice the number of carbon atoms Thus, the second member of the series, allylene, has three carbon and four hydrogen

Achaea (ukē'u), region of ancient Greece, principally in the northern part of the Peloponnesus on the Gulf of Corinth It lay between Sicyon and Elis Here the Achaeans supposedly remained when driven from other parts of Greece by the Dorian invasion There were small Achaean cities banded together in a confederation The Achaeans colonized part of S Italy but were at first of little significance in the general picture of Greek politics Later, however, the Achaean League became an important factor After the downfall of the confederation, the name Achaea or Achaia (ŭkā'u, ŭkī'u) was given to a Roman province in the Peloponnesus

Achaean League (ukē'ŭn), confederation of Achaean cities on the Gulf of Corinth The so-called First Achaean League was formed apparently before the 5th cent B C for mutual protection against pirates The Achaeans remained aloof from the wars in Greece until they joined in the opposition to Philip II of Macedon in 338 B C The confederation was dissolved not long after that time The Second Achaean League was formed somewhat later In 251 B C Sicyon was freed from the rule of its tyrant, and it soon joined the confederation under the leadership of ARATUS Other cities outside Achaea also joined, and in 247 B C the Macedonians were driven from Corinth There was some promise of liberating all Greece, but unfortunately the interference of CLEOMENES III of Sparta threatened the Achaean League, and in 227 B C he commenced warfare The Achaean League then asked (224 B C) Macedonian aid against Sparta and the Aetolian League The result was the eclipse of the confederation until the wars between Macedon and Rome In 198 B C the Achaeans went over to Rome and with Roman aid won practically the whole Peloponnesus, forcing Sparta and Messene to join Later suspecting the Achaeans of again looking toward Macedon, the Romans deported (168 B C) many of them (including Polybius) to Italy Anti-Roman feeling grew, and in 146 B.C the Achaeans waged a suicidal war Rome easily triumphed at Corinth, dissolved the confederation, and ended Greek liberty A smaller Achaean League was formed, but was powerless

Achaeans, people of ancient Greece. Their origins are unknown, the theory that they were invaders

from the north is countered by the theory that they were autochthonous in the Peloponnesus. They had power in Greece by 1300 B C., and they were about that time in possession of Mycenae, but their relation to Mycenaean civilization is not entirely clear. The invasions of the Dorians supposedly forced some of them out to Asia Minor, others were concentrated in the region known in classical times as Achaea.

Achaemenidae (ăkĭmĕ'nĭdē) or **Achaemenids** (ăkĭmĕ'nĭdz), dynasty of ancient Persia. They were descended presumably from one Achaemenes, who was a minor ruler in a mountainous district of SW Iran. His successors, when Elam declined, spread their power westward. CYRUS THE GREAT was the real founder of the Persian rule by his conquest of ASTYAGES of MEDIA. The dates of the Achaemenid rule may be given as c 550–330 B C. It embraces all of the period of ancient Persian greatness, with the flourishing of PERSIAN ART AND ARCHITECTURE, the vast development of governmental administration, the appearance of literature written in CUNEIFORM, and the spread of ZOROASTRIANISM. The Achaemenid rulers after Cyrus were CAMBYSES, the impostor SMERDIS, DARIUS I, XERXES I, ARTAXERXES I, XERXES II, Sogdianus, DARIUS II, ARTAXERXES II (opposed by CYRUS THE YOUNGER), ARTAXERXES III, Arses, and DARIUS III. The dynasty came to an end when Darius III died in his flight before Alexander the Great.

Achaeus (ŭkē'ŭs), in Greek mythology, son of Xuthus and Creusa and ancestor of the Achaeans.

Achaicus (ukā'ĭkus) [Gr., =Achaean], Christian. 1 Cor. 16 17,18

Achai of Shabcha: see AHA OF SHABCHA.

Achan (ā'kăn) or **Achar** (ā'kär), Judahite who kept some of the spoil from the city of Jericho. For this he was stoned. Joshua 7; 1 Chron 2 7

Achard, Franz Karl (fränts' kärl' äkh'ärt), 1753–1821, German chemist. He made pioneer use of Marggraf's discovery of sugar in beetroots. The government granted him an estate in Silesia where, in 1806, he succeeded in producing beet sugar. Among his other contributions is the discovery of a method for working platinum.

Acharius, Erik (ĕr'ĕk akā'rēŏos), 1757–1819, Swedish physician and botanist, pupil of LINNAEUS. He was long an authority on lichens and wrote *Lichenographia universalis* (1810).

Achaz (ā'kăz), variant of AHAZ. Mat 1 9.

Achbor (ăk'bôr) [Heb., =mouse], same as **ABDON 2**.

Achen, Caran d': see CARAN D'ACHE.

Achelous (ăkĭlō'ŭs), in Greek religion, river-god. He was the son of OCEANUS and TETHYS and father of the Sirens and other nymphs. Several Greek rivers were named after him.

Achelous, Gr *Akheloos* (akhĕlō'ŏs), river, NW Greece, formerly also known as Aspropotamos. Rising in the Pindus mts., it flows generally south for 137 mi., traversing many mountain gorges, and empties into the Ionian Sea opposite Cephalonia. It is used for floating logs and supplies a hydroelectric power plant.

Achenbach, Andreas (ändrā'äs ä'khŋbäkh), 1815–1910, German marine painter, one of the founders of the modern German school of landscape painting. His brother **Oswald Achenbach,** 1827–1905, was also a landscape painter.

Achenwall, Gottfried, (gŏt'frēt akh'ŭnval), 1719–72, German statistician and political scientist. He used the term *Statistik* for the first time in his *Staatsverfassung der heutigen vornehmsten europäischen Reiche und Völker im Grundrisse* [the political constitution of the present principal European countries and peoples] (1749). By the term he meant a comprehensive description of the social, political, and economic features of a state.

Acheron (ă'kŭrŏn), in Greek religion, river of Hades.

Acheson, Dean Gooderham (ăch'ŭsun), 1893–, U S Secretary of State (1949–), b Middletown, Conn., grad Yale, 1915, and Harvard Law School, 1918. A student and friend of Felix Frankfurter, he was (1919–21) private secretary to Louis D. Brandeis, was a successful lawyer, and served (1933) as Undersecretary of the Treasury until disagreement with President Roosevelt's fiscal policy caused his resignation. As Assistant Secretary of State (1941–45) and Undersecretary of State (1945–47), he in the Second World War favored extensive aid to the Allies and in the post-war period strongly supported international organization (the United Nations), international relief (the UNRRA and the ERP), and the Truman doctrine (see TRUMAN, HARRY S.). He also systematized the method of the Dept. of State in dealings with other countries. In 1947 he was made vice chairman of the Hoover commission to recommend government reorganization. Acheson was appointed (Jan., 1949) to succeed George C. MARSHALL as Secretary of State. He faced difficulties in settling U.S. relations with the USSR, notably in the settlement of the Berlin crisis at the Paris conference in May, 1949 (see FOREIGN MINISTERS, COUNCIL OF).

Acheson, Edward Goodrich, 1856–1931, American inventor, b Washington, Pa. He became an electric-furnace expert and specialized in carbon and silicon research. In 1891 he discovered carborundum (see SILICON CARBIDE). He developed several lubricating media and originated processes in the production of silicon and aluminum. He invented a process important to industry for producing synthetic graphite of high purity.

Acheulian (ŭshōō'lēŭn), division of the PALEOLITHIC PERIOD which takes its name from Saint-Acheul in France, the site where its typical implements were first discovered.

Achill (ăk'ĭl) [Irish, =eagle], island, 14 mi. long and 11 mi. wide, off W Ireland, in Co. Mayo. It is connected with the mainland by a bridge over Achill Sound. The land is generally barren, and the inhabitants subsist with great difficulty by fishing and farming. It is known for its magnificent cliff scenery. Slieve Mor at the north end rises to 2,204 ft.

Achilles (ukĭl'lēz), in Greek legend, hero of the *Iliad*, one of the foremost of the Greek warriors who fought in the TROJAN WAR. He was the son of PELEUS and THETIS and was educated by the centaur CHIRON. Thetis, hearing a prophecy that her son would die at Troy, attempted to make him invulnerable by bathing him in the river Styx, but the water did not touch the heel by which she held him. She disguised him as a girl and hid him among the daughters of King Lycomedes of Skyros. One of the princesses, Deidamia, became the mother of his son Neoptolemus. Odysseus found Achilles and persuaded him to join the expedition to Troy. In the last year of the siege, he quarreled with Agamemnon over the possession of the slave girl BRISEÏS and refused to take further part in the war until his best friend, PATROCLUS, was killed by HECTOR. Then Achilles forgot his quarrel, went to battle once more, and killed Hector. Soon he himself was killed by PARIS (according to one story when arrangements were being made for the marriage of Achilles and Polyxena). He was wounded in the heel, his one vulnerable spot.

Achilles Tatius (tā'shŭs), fl. 3d or 4th cent. ?, Greek novelist of Alexandria, author of the stilted, pornographic *Leucippe and Clitophon*.

Achillini, Alessandro (ä"lĕs-sän'drō ä"kēl-lē'nē), 1463–1512, Italian scientist. He taught medicine and philosophy at Bologna and Padua, but owes his reputation chiefly to his writings on anatomy.

Achim (ā'kĭm), name in the genealogy of Mat. 1 14.

Achish (ā'kĭsh). **1** King of Gath with whom David took refuge. 1 Sam. 27 2. Called Abimelech in the title of Ps. 34. **2** King of Gath in the time of Solomon. 1 Kings 2 39. Possibly a title, possibly only one person.

Achitophel (ăkĭt'ŭfĕl), variant of AHITHOPHEL.

Achmet. For sultans named thus, see AHMED.

Achor (ā'kôr) [Heb., =trouble], valley where Achan was stoned. Joshua 7 25,26, 1 Chron 2 7.

Achsa or **Achsah** (both ăk'sŭ) [Heb., =anklet], Caleb's daughter, given as wife to Othniel. Judges 1 12–15, 1 Chron 2 49.

Achshaph (ăk'shăf), town, N Palestine, taken by Joshua. Joshua 11 1, 12 20, 19 25.

Achurch, Janet (ŭchûrch'), 1864–1916, English actress and producer, whose real name was Janet Achurch Sharp. She introduced both Ibsen and G. B. Shaw to the English stage. Her first appearance was in 1883, and she joined Beerbohm Tree's company in 1887. As manager of the Novelty Theatre, London, she produced (1889) Ibsen's *Doll House*, playing Nora. She was first to play Shaw's Candida.

Achzib (āk'zĭb) [Heb., =a lie]. **1** Seacoast Palestinian town, c 15 mi. S of Tyre. Joshua 19 29, Judges 1 31. **2** Unidentified city of Judah. Joshua 15 44, Micah 1 14. Chezib in Gen. 38 5 and Chozeba in 1 Chron. 4 22 may be the same.

acid, a compound which, according to the theory of the ION, yields hydrogen ions when dissolved in water. Certain properties are characteristic of acids and result from the presence in solution of the hydrogen ion. Acids in aqueous solution have a sour taste, turn blue litmus red, and react with bases and basic oxides (see NEUTRALIZATION) to form salts and water. They can conduct a current of electricity and are decomposed by it, hydrogen being liberated. Acids are prepared in several ways, two of the more common methods are by the reaction between an acid anhydride and water and by the action of an acid, such as sulphuric acid, on a SALT of the acid which is to be prepared. Under ordinary conditions and when pure, the majority of the more common acids are solids. A much smaller number are liquids, and a few are gasses. Such acids as hydrochloric, sulphuric, and especially nitric, which are largely ionized in solution, yielding many hydrogen ions, are called strong acids, those which are little ionized, e.g., acetic, boric, and carbonic, are called weak acids. An acid may be prepared in concentrated or dilute solution, depending upon the amount of acid dissolved. Acids are classified also according to the number of replaceable hydrogen atoms present in one molecule. For example, nitric acid is a monobasic acid since there is but one replaceable hydrogen atom in each molecule, sulphuric acid is dibasic, the molecule containing two atoms of replaceable hydrogen, phosphoric acid is tribasic. Acids which, like hydrochloric, are composed of two elements, hydrogen and some other, are binary acids. Organic acids are characterized in general by the presence in their molecule of a group of atoms (the carboxyl group or carboxyl radical) which consists of one atom of carbon, two of oxygen, and one of hydrogen, the radical being written in chemical symbols as —COOH. They are formed naturally in plants and animals in connection with the performance of life functions. Some of the more common organic acids are acetic, citric, formic, lactic, oxalic, and tartaric. Acids as a whole are widely used in many industrial chemical processes and also in the arts, in medicine, and in agriculture.

acidophilus milk: see FERMENTED MILK.

acidosis. Acids (e.g., carbonic acid and lactic acid) are continually being formed in the body in the processes of METABOLISM. Certain alkalis such as sodium bicarbonate neutralize the acids and those which remain after neutralization form an alkali reserve. This alkali reserve becomes reduced in such conditions as nephritis, diabetes, starvation, and infectious diseases. This decrease of the alkali reserve is called acidosis. This does not mean that acidosis creates a real acidity of the blood, for such a condition is incompatible with life. Alkalosis is a condition in which there is an abnormal increase in the alkali reserve.

Acireale (ä"chĕrāä'lā), city (pop. 19,440), E Sicily, Italy, NE of Catania. Beautifully situated on a height near the Ionian Sea, it has been frequented since Roman times for its warm sulphur springs. Acireale was largely rebuilt after the earthquake of 1693.

Acis (ā'sĭs), in Greek mythology, lover of Galatea. His rival, Polyphemus, killed him, and his blood formed the river Acis.

Ackerman, lumber-milling town (pop. 1,528), co. seat of Choctaw co., N central Miss., WSW of Columbus.

Ackia Battleground National Monument: see TUPELO, Miss.

Ackley, town (pop. 1,586), N central Iowa, W of Waterloo, inc. 1858. It is a farm trade center.

Acklins Island. see BAHAMA ISLANDS.

acknowledgment, in law, a formal declaration or admission that one executed an instrument (e.g., a will or a deed) which purports to be his. The acknowledgment is made before a court or a notary public or other authorized person. By extension, the term applies to the writing which attests the acknowledgment.

Acmeists (ăk'mēĭsts), school of Russian poets started in 1912 by Gorodetsky and Gumilev as a reaction against the symbolists. They aspired to concreteness of image and clarity of expression. The leading Acmeists were Gumilev, Akhmatova, and Osip Mandelstam. See Alexander Kaun, *Soviet Poets and Poetry* (1943), Gleb Struve, *Twenty-five Years of Soviet Russian Literature* (1946).

acne (ăk'nē), inflammatory disease of the sebaceous glands commonly occurring in adolescence. The bacterium *Staphylococcus aureus* is frequently the offending agent. A pink papule forming on the skin surrounds a comedo (blackhead), the papules occur most frequently on the face, back, and chest. Common acne (acne vulgaris) may become chronic. In severe cases, scarring of the face results. Local applications of salves and ointments are commonly used in treatment, but it is important to maintain proper elimination and a diet free from concentrated carbohydrates and to administer large doses of vitamin A. Some cases respond well to endocrine therapy.

Aco or **Accault, Michel** (mēshĕl' ăkō'), fl. 1680–1702, French explorer. He became La Salle's lieutenant, being favored by that explorer because of his courage, prudence, and wide acquaintance with Indian languages. When LA SALLE reached the mouth of the Illinois river on his famous voyage down the Mississippi, he sent Aco with two companions to explore the upper reaches of the Mississippi. One of the companions was Father Louis HENNEPIN, who in his *Nouvelle Découverte* made himself the hero of the expedition. Near the Falls of St. Anthony, which they were the first to see, the three were captured by Sioux Indians and were released only through the energy and influence of Daniel Greysolon DULUTH. Little is known of Aco's subsequent life except that he was long a trader on the Illinois and that in 1693 he married the daughter of a Kaskaskia chief.

Acoma or **Ácoma** (both: ă'kumŭ), Indian pueblo, W central N Mex., c 70 mi. W of Albuquerque. This "sky city" is on top of a steep-sided sandstone mesa more than 350 ft. high and difficult of access. Below in the reservation are two villages, Santa María de Ácoma and Acomita (ăkūmē'tu), near the cultivated fields that support the inhabitants (c 1,200) of the pueblo. There is also some grazing. The Acoma Indians are skilled pottery makers. They speak a Western Keresan language (see PUEBLO INDIANS). The location of the pueblo has astonished white visitors from Coronado's men in 1540 to the tourists of today. Juan de Oñate was allowed to enter in 1598, but the Indians revolted fiercely in 1599 and were subdued only after severe fighting. The missionary Fray Juan Ramírez arrived in 1629. The Acoma people joined in the

great revolt of the Pueblo Indians in 1680, had to submit to Diego de Vargas in 1692, joined in the later rising of 1696, and were subdued again in 1699. They became thoroughly Christianized, and their chief festival is Sept. 2, which they celebrate as the feast of their patron saint, Stephen. See Mrs. W. T Sedgwick, *Acoma, the Sky City* (1926); Ruth Bunzel, *The Pueblo Potter* (1929).

Acominatus, Michael (ukŏmĭnā'tŭs), or **Michael Choniates** (kōnē'ātēs), c 1140–1220, Byzantine writer and metropolitan of Athens His speeches, poems, and letters give much information about medieval Athens, which he, an enthusiastic classicist, found barbarous and degenerate. After the capture (1204) of Athens by the army of the Fourth Crusade, he retired to the island of Keos, where he died

Acominatus, Nicetas (nĭsē'tŭs) or **Nicetas Choniates** d 1216, Byzantine historian, younger brother of Michael Acominatus He held high offices until the fall (1204) of Constantinople to the army of the Fourth Crusade, when he accompanied Theodore I to Nicaea. His history, in 21 books, covers the period from 1118 to 1206 Largely based on personal observation and eyewitness accounts, it is marked by the patriotic assertion of the superiority of Byzantine to Western civilization.

Aconcagua (äkŏnkä'gwä), peak, 22,835 ft high, Mendoza prov, Argentina, in the Andes N of USPALLATA PASS, generally considered the highest peak of the Western Hemisphere Aconcagua was first scaled by the Fitzgerald expedition (1897) See Sir William Martin Conway, *Aconcagua and Tierra del Fuego* (1902)

aconite (ăk'-) [Gr], **monkshood,** or **wolfsbane,** any of several species of the genus *Aconitum*, hardy perennial plants of the North Temperate Zone, growing wild or cultivated for ornamental or medicinal purposes They contain violent poisons (for antidote, see POISONING, table), recognized from early times and mentioned by Shakspere (2 *King Henry IV*, IV 4), more recently used medicinally in a liniment, tincture, and drug and in India on spears and arrows, for hunting As range plants, aconites have not been found particularly dangerous for cattle The drug aconite, the active principle of which is the alkaloid aconitine, is used as a sedative and is obtained from *Aconitum napellus* Aconites are erect or trailing, with deeply cut leaves and, late in the summer and fall, hooded showy flowers of blue, yellow, purple, or white Winter aconite is a name for plants of the genus *Eranthis*, wild or garden perennials that bloom early in the spring

Acontius (ukŏn'shŭs), in Greek legend, a young man who loved Cydippe He met her at a festival of Artemis and threw before her an apple inscribed, "I swear by the temple of Artemis to marry Acontius " She read the inscription aloud The goddess accepted her words as an oath and brought about the marriage of the lovers Ovid tells the story.

Açores see AZORES

acorn see OAK

Acosta, Joaquín (hwäkēn' äkō'stä), 1799?–1852, Colombian scientist He served under Bolívar in the revolution His scientific knowledge was broad, and he wrote about the geography, history, geology, and meteorology of Colombia, constituting himself a sort of intellectual publicity agent for his country

Acosta, José de (hōsä' dā), 1539?–1600, Spanish Jesuit missionary to Peru, author of books on history, archaeology and theology His best-known work is *The Natural and Moral History of the Indies* (1590, Eng trs , 1604, 1880)

Acosta, Uriel (ōōr'yĕl), or **Uriel da Costa**, c 1590–1647, Jewish rationalist, b Oporto, Portugal His original name was Gabriel da Costa, and his family had been converted to Catholicism When he reached manhood, he was restive in the Christian faith and persuaded his family to move to Amsterdam, where all of them returned to Judaism In a work in 1624, he expressed rationalistic doctrines and criticized the Jews He was tried, imprisoned, and excommunicated In 1633 he recanted, but soon he offended again and was again excommunicated After seven years, he once more recanted and was subjected to public humiliation Rather than endure further trouble he committed suicide He left an autobiographical sketch, *Exemplar humanae vitae* (1687, Eng tr , *Specimen of Human Life*, 1695). Gutzkow wrote a tragedy about him, *Uriel Acosta*.

acoustics (ŭkōō'stĭks, ŭkou-) [Gr =the facts about hearing], the science of SOUND, including its production, transmission, and effects Successful practical application of the science in the construction, for example, of auditoriums depends upon knowledge of the characteristics and behavior of sound waves The most important factors to be considered are reverberation (the persistence of sound which is responsible for the slowness with which sounds die away) and INTERFERENCE In an enclosed space reverberation results from the repeated reflection of sound waves by smooth surfaces. Reflection of sounds sometimes causes an echo. Some reverberation is desirable, especially in halls where music is performed, to avoid too much deadening of the sounds. Reflection of sound waves of different frequencies produces varying degrees of interference resulting either in reinforcement or in destruction of the sound Reflection can be reduced by the use of sound-absorbent materials, such as draperies, upholstery, and carpets. Porous or acoustic plasters and other sound-absorbing materials can be used on walls and ceilings Reflection is reduced when the windows are open and when people are present in the room Acoustical defects can be avoided by care in the designing of structures and can often be corrected in those already built See G W Stewart, *Introductory Acoustics* (1933), F R Watson, *Acoustics of Buildings* (1941), E G Richardson, *Acoustics for Architects* (1947), W. T. Bartholomew, *Acoustics of Music* (1942)

acquired characters refers generally to modifications produced in an individual plant or animal as a result of such factors as mutilation, disease, and use and disuse or resulting from some other distinctly environmental influence There is much evidence to show that such bodily changes are not transmitted to the offspring of the affected individual Lamarck believed that offspring could inherit characters acquired during the lifetime of the parent which make possible a better adjustment of the individual to its environment The evolutionary theories of Darwin and Buffon also embraced the belief in the inheritance of acquired characters Evidence against such inheritance was presented in the theory of August Weismann, who maintained that the germ plasm (cells through which inheritable characters are transmitted) is unaffected by changes in the soma (the protoplasm of which the rest of the body is made up) He performed experiments demonstrating that the descendants of mice whose tails have been cut off are all born with normal tails Modern scientists do not believe in the inheritance of acquired characters but they are aware of the importance of environment in both physical and mental development of the individual Many characters in a developed organism cannot be attributed entirely to either its inheritance or its environment

acquittal, in law, discharge of a person indicted for a crime Acquittal is the judgment of the court that the accused did not commit the acts charged An acquittal-in-fact is rendered subsequent to a verdict of not guilty, and the prosecution cannot appeal the judgment An acquittal-in-law results from the operation of the rules of law, as when one accused as accessory is acquitted because of the acquittal of another who was accused as principal. See JEOPARDY

Acre (ä'kur, a'kur), Arabic *Acca*, Fr *Saint Jean d'Acre*, Heb *Acco*, city (pop 8,000), N Palestine, a port on the Bay of Acre (part of the Mediterranean Sea) opposite Haifa It is called Accho in the Old Testament (Judges I 31) and Ptolemais in the New Testament (an early Christian center Acts 21 7). Its port made it a frequent military objective Acre was taken by the Arabs in 638 In 1104 it was captured by the Christians in the First Crusade and was held until 1187 In the Third Crusade it was won back in 1191 by Guy of Lusignan, Richard I (England), and Philip II (France), who gave it to the Knights Hospitalers (the Knights of St John, whence its French name). Its surrender (1291) to the Saracens after a century of prosperity marked the decline of the Latin Kingdom of Jerusalem and the Crusades Acre was taken by Turkey in 1517 Turkish forces with the aid of Great Britain successfully withstood a 61-day siege by Napoleon in 1799 The city was taken in 1832 by Ibrahim Pasha for Mohammed Ali of Egypt, but European and Turkish forces won it back for Turkey in 1840 In the First World War, British soldiers took it in 1918 The partition of Palestine (1948) assigned Acre to the Arabs, but in the course of military operations it was captured by Israeli forces, and its disposition remained undecided early in 1950 The name is also spelled Akka

Acre (ä'krĕ) river rising at the border of Peru and Brazil and flowing northeast to join the Purús It was formerly also called the Aquiry The ownership of the surrounding wild jungle territory was unsettled, but it was generally supposed to belong to Bolivia when in the late 1890s Brazilian wild-rubber traders took over the region They declared an independent republic in 1899 Subsequent disorders, aggravated by an arrangement between Bolivia and a U S syndicate, led Bolivia and Brazil close to war A settlement was reached in the Treaty of Petrópolis (1903) Brazil received most of the area, but paid Bolivia a large indemnity and constructed a railroad on the Madeira river The Brazilian territory has an area of 59,139 sq mi and a population estimated in 1949 as 96,295

acre [Indo-European, =field], measure of land used by the English-speaking peoples The acre was originally the area a yoke of oxen could plow in a day and therefore differed in size from one locality to another It is now fixed by statute as 160 square rods i e , 4,840 sq yd , 43,560 sq ft , or 1/640 sq mi It is equal to about 4047 of a hectare Local customary acres survive in Scotland, Ireland, and several counties of England.

Acrisius: see DANAË and PERSEUS.

Acrocerauna (ăk"krōsĕrō'nēu) or **Kep i Gjuhezes** (kĕp' ē gyōōhū'zŭs), promontory, S Albania, on the Adriatic coast The CERAUNIAN MOUNTAINS, which extend further inland, are sometimes called the Acroceraunian range.

Acrocorinthus (ăk"krōkurĭn'thŭs), Gr *Akrokorinthos* (ăk"krōkō'rĕnthŏs), rock, 1,886 ft high, central Greece, overlooking Old CORINTH The site of the Acropolis of Corinth (of which ruins remain), it was also strongly fortified in the Middle Ages and in modern times On its summit stood a temple of Aphrodite Below gushed the fountain of Pirene, from which, in legend, PEGASUS drank when captured by Bellerophon

Acropolis (ukrŏp'ulĭs) [Gr , =high point of the city], elevated, fortified section of various ancient Greek cities The Acropolis of Athens, a hill c 260 ft high, with a flat oval top c 500 ft wide and 1,150 ft long, was walled before the 6th cent B C. by the Pelasgians and chiefly during the time of Cimon and Pericles was adorned with some of the world's greatest architectural and sculptural monuments The top was anciently reached by a winding processional path at the west end, where stood the impressive PROPYLAEA The Sacred Way led thence past a colossal bronze statue of Athena and the site of the old temple of Athena to the PARTHENON To the north was the Erechtheum and to the southwest the temple of Nike Apteros (Wingless Victory) On the southern slope were the Odeum of Herodes Atticus and the theater of Dionysus Many treasures from the Acropolis are in the national museum of Greece, in Athens, the ELGIN MARBLES are in the British Museum. See W J. Anderson, R P Spiers, and W B Dinsmoor, *Architecture of Ancient Greece* (1927).

Acropolita, George (ukrŏp"ulĭ'tu), 1217–82, Byzantine historian and statesman He served as chancellor and general under John III and Theodore II of Nicaea, and after the Byzantine Empire was restored he represented (1274) Emperor Michael VIII at the Council of Lyons (see LYONS, SECOND COUNCIL OF) His chief work, a history of the period from 1203 to 1261 (i e , the period of the Latin Empire of Constantinople) is valuable

acrostic (ukrŏ'stĭk, ukrō'-), arrangement of words or lines wherein a series of initial, final, or other corresponding letters, when taken together, stand in a set order to form a word, a phrase, the alphabet, or the like A famous acrostic was made on the Greek for Jesus Christ, God's Son, Savior *Iesous Christos, Theou Uios, Soter* (*ch* and *th* being each one letter in Greek) The initials spell *ichthus*, Greek for fish, hence the frequent use of the fish by early Christians as a symbol for Jesus There are several alphabetic acrostics in the Bible, e g , in Ps 119 and LAMENTATIONS Acrostic verses are common, and very elaborate puzzles have been devised combining several schemes

act, in law, something done by an individual in an official position or by an official body (e g , a judge or a legislature) The term includes decrees, judgments, and awards It is often synonymous with STATUTE, meaning a bill which has been enacted into law by the legislature A legislative act may be changed by AMENDMENT or abolished by REPEAL.

acta (ăk'tu), term for Roman official texts, whether written or carved on stone or metal Usually acts were texts made public, although publication was sometimes restricted Acta were first posted or carved for general reading c 131 B C These were accounts of general interest and were later called *Acta diurna*, they have been likened to modern newspapers There were special acts of municipal, legal, or military content The *Acta senatus*, according to a Roman administrative tradition, had long been kept secret, so that the public should have no knowledge of senatorial debate In 59 B C , Julius Caesar, being consul, ordered their publication equally with the established one of the *Acta diurna*, but later the publication was censored Acta was also the term used for laws enacted, primarily those promulgated by the emperors

Actaeon (ăk-tē'ŭn), in Greek legend, son of Aristaeus and Autonoë While hunting in the forest, he saw the goddess Artemis bathing She changed him into a stag, and his own dogs killed him

acting see THEATER

actinic ray see RAY, SPECTRUM, SUNLIGHT

actinium (ăktĭn'ēŭm) [Gr , =like a ray], radioactive element of the actinide series (symbol=Ac, for physical constants, see ELEMENT, table) Actinium was first recognized in 1899 by André Debierne while he was working with uranium residues from pitchblende It was found to be identical with an element discovered in 1902 by F. O Giesel and called by him *emanium* Actinium occurs in radioactive minerals containing uranium, and the ratio of actinium to uranium is always the same. Actinium is a disintegration product of protoactinium, which emits alpha rays Actinium emits beta rays to form radioactinium.

action, in law see PROCEDURE

Actium (ăk'tēŭm, ăk'shēŭm), Gr *Aktion*, promontory with vestiges of several temples and an ancient town, NW Acarnania, Greece It is famous for the victory of the forces of Octavian (later AUGUSTUS)

over the fleet and land forces of Antony and Cleopatra (31 B C) and for the commemorative Actian games, held every four years The battle established Octavian as ruler of Rome

active see VOICE

act of God, in law, an ACCIDENT caused by the operation of extraordinary natural force (equivalent to *force majeure* or *vis major*) The effect of ordinary natural causes (e g , that rain will leak through a defective roof) may be foreseen and avoided by the exercise of human care, failure to take the necessary precautions constitutes NEGLIGENCE, and the party injured in the accident may be entitled to damages An act of God, however, is so extraordinary that reasonable care would not avoid the consequences, hence, the injured party has no right to damages Accidents caused by failure to take precautions against lightning, tornadoes, extraordinary floods, and severe ice storms are usually considered acts of God, but fires are not so considered unless they are caused by lightning

Acton, John Emerich Edward Dalberg Acton, 1st **Baron,** 1834-1902, English historian, b Naples, grandson of Sir John Francis Edward Acton and of Emmerich Joseph, duc de Dalberg He became (1859) a Liberal member of Parliament and editor of the *Rambler*, a Roman Catholic monthly Gladstone, his close friend, nominated him to the peerage (1869), and in 1892 Acton was made lord in waiting Acton's genuine and ardent liberalism gave frequent offense to some Catholic authorities Though he opposed the Syllabus of Errors issued by PIUS IX and the promulgation of the dogma of papal infallibility, Lord Acton as a sincere Catholic accepted them after their pronouncement In 1895 he was appointed professor of modern history at Cambridge and in the following years planned the cooperative *Cambridge Modern History*, of which only the first volume appeared before his death Admittedly one of the most brilliant and influential scholars of his age, Acton never completed a book Many articles, essays, and lectures were brought together after his death in *History of Freedom* (1907), *Historical Essays and Studies* (1907), and *Lectures on Modern History* (1906) Some of these were reprinted in *Essays on Freedom and Power* (1948) See F A Gasquet, ed , *Lord Acton and His Circle* (1906)

Acton, Sir John Francis Edward, 1736?-1811, Neapolitan statesman of British origin, b Besançon, France He was minister of Ferdinand IV of Naples (later FERDINAND I of the Two Sicilies) from 1779 to 1804 The favorite of Queen MARIE CAROLINE, he directed the policy of Naples toward Great Britain and Austria rather than toward Spain, he was assisted by Lady Emma HAMILTON After the fall of the PARTHENOPEAN REPUBLIC (1799) he played a major role in the bloody reprisals, and he consolidated absolutism, but Napoleon I requested his dismissal and Acton retired to Sicily He was the grandfather of the 1st Baron Acton

Acton, village (pop 2,063), S Ont , W of Toronto It was first settled in 1820

Acton, municipal borough (1931 pop 70,510, 1947 estimated pop 68,980), Middlesex, England, W of London, of which it is a residential suburb Henry III once lived here Acton was a center of Puritanism at the time of the Commonwealth

Acton, town (pop 2,701), E Mass , NW of Boston, settled c 1680, inc 1735 It has a chemical plant

Acton Vale, town (pop 2,366), S Que , E of St Hyacinthe It has varied manufactures

Acts of the Apostles, book in the Bible between Gospels and Epistles, the only contemporary historical account of the expansion of Christianity in its earliest period It was written in Greek between A D 60 and A D 80 as a sequel to the Gospel of St Luke, and Luke is its traditional author It falls into two divisions the first 12 chapters, on the Palestinian church from Pentecost until Herod's death, having chiefly to do with St Peter, the rest of the book, on the missionary work of St Paul among the Gentiles (13-21 14) and his arrest, trial, and trip as prisoner to Rome (21 15-28) St Luke was sometimes a companion of St Paul, and the narrative is then in the first person (16 10-17, 20 5-21 18, 27 1-28 16) Three critical events are noteworthy —the descent of the Holy Ghost (Acts 2), the martyrdom of St Stephen (Acts 6 and 7), and the conversion of St Paul (Acts 9) The author of the work has written the whole with a consuming interest, as if his native talent were intensified by his inspiration See E F Scott, *The Literature of the New Testament* (1932)

actualism, any metaphysical system of which the central doctrine is that existence lies in activity, development, or process Heraclitus was the first to expound the doctrine It has been often repeated in variant forms, as in the teachings of Fichte, Hegel, and Schopenhauer Actualism in psychology is based on the theory that the elements of consciousness are not states but constituents of the self This opposes the theory of substantiality —that the self is the core or substratum in which the states of consciousness occur In actualism the self is merely the sum total of consciousness, an active, volatile being

actuary, originally, in England, a clerk or registrar, appointed either to record court acts and proceedings or to manage a joint stock company Later the term came to be applied exclusively to managers of insurance companies and especially to those who calculate the probabilities involved in any contingency for which INSURANCE is desired and the necessary premium rates to cover such contingency As loss of life is the most important of these contingencies, actuaries are particularly concerned with life tables based on age, health, and probable longevity However, there are other contingencies which must be calculated such as loss by fire, sickness, and accident An actuary also calculates the probabilities upon which annuities are based and the amount of money, at compound interest, necessary to provide for such probabilities

Acuña, Cristóbal de (krĕstō'bnl dā äkōō'nyä), 1597-1676?, Spanish Jesuit missionary and explorer in South America, rector of the Jesuit college at Cuenca, Ecuador In 1638 he was sent by the viceroy to accompany TEIXEIRA on his return journey down the Amazon Acuña's *New Discovery of the Great River of the Amazons* (1639, modern Eng tr in C R Markham, *Expedition into the Valley of the Amazons*, 1859) was the earliest firsthand description of the Amazon to be printed

Acuña, Juan de (hwän' dā äkōō'nya), 1658?-1734, Spanish-American administrator, viceroy of New Spain (1722-34), marqués de Casa Fuerte, b Lima, Peru After a distinguished career in Spain he was sent to Mexico, where his creole origin and his wise government made him popular He extinguished favoritism and corruption, extended and consolidated Spanish territorial claims, and ordered the construction of many public works In his term the *Gaceta de México* and the *Mercurio de México* first appeared

Acushnet (ŭkōō'shnĭt), town (pop 4,145), SE Mass , N of New Bedford, settled c 1660, inc 1860 Druggists' rubber goods are made here

Acworth, city (pop 1,267), NW Ga , NW of Atlanta, inc 1860 Kennesaw Mt is near by

Ada. 1 City (pop 1,938), co seat of Norman co , NW Minn , in the Red River valley, founded 1874, inc 1881 It is a farm trade center **2** Village (pop 2,368), NW Ohio, E of Lima, laid out 1853 as Johnstown, inc 1861 as Ada Ohio Northern Univ (Methodist, coeducational, 1871) is here **3** City (pop 15,143), co seat of Pontotoc co , S central Okla , near the Canadian river SE of Oklahoma City, settled 1889 It is the center of an area producing chiefly cotton, grains, hay, livestock, and oil, with industries based on these, cement and glass are also made here A state teachers college is here

Adabazar see ADAPAZARI, Turkey.

Adadah (ăd'udu), town of Judah in the southernmost part of Palestine Joshua 15 22

Adah (ā'du) [Heb ,=ornament] **1** Wife of Esau Gen 36 1-20 **2** Wife of Lamech Gen 4 19-24

Adaiah (udā'yu) [Heb ,=god has adorned] **1** Josiah's mother's father 2 Kings 22 1 **2** Gershomite Levite 1 Chron 6 41 Iddo 1 Chron 6 21 **3** Benjamite 1 Chron 8 21 Shema 1 Chron 8 13 **4** Priest 1 Chron 9 12, Neh 11 12 **5, 6** Men who had foreign wives Ezra 10 29,39 **7** Father of MAASEIAH **2** **8** Ancestor of ASAIAH **4**

Adai-Kokh (ŭdī"-kôkh'), peak, 15,240 ft high, USSR, in the central Greater Caucasus

Adair, James (udâr'), 18th cent , Indian trader in the Carolinas and Georgia He wrote *The History of the American Indians* (1775), based on over 30 years of experience with various tribes Although his work advanced the unlikely thesis that the Indians were descendants of the ancient Jews, it is valuable as a source for frontier history and for Indian life and customs See 1930 edition by S C Williams

Adair, John, 1757-1840, American pioneer in Kentucky, b North Carolina He went into the Kentucky country in 1786 and gained note as an Indian fighter and as a political leader In the War of 1812 he was a commander of Kentucky volunteers in the battle of New Orleans As governor of the state (1820-24) he adopted a vigorous program of internal improvement to fight hard times

Adak (ă'dăk, a'dak), off W Alaska, one of the ALEUTIAN ISLANDS In the Second World War the U S armed forces established (1942) a base on Adak, which was important in the Aleutian campaign

Adalbert, Saint (ă'dulbûrt), d 997, bishop of Prague He was a missionary in Russia, Prussia, and Poland and was martyred in Danzig He is patron of Bohemia and Poland Feast April 23

Adalbert, d 1072, archbishop of Hamburg-Bremen, a diocese which included Scandinavia He was a favorite of Emperor Henry III, who even wanted to install him as pope (1046), and was a guardian of Henry IV, but his relentless ambition to become ecclesiastical ruler of all N Europe defeated itself The nobles envied his importance at court, the abbots hated him for his efforts to subordinate the abbeys, and the bishops feared his increasing ecclesiastical power They accomplished his dismissal in 1066, but Henry IV recalled him in 1069 One of the ablest statesmen of his time, Adalbert, though working mainly for his own selfish aims, helped to consolidate the imperial authority. **Adam** of Bremen was his biographer.

Adalia (ădālī'ŭ), one of Haman's sons. Esther 9 8.

Adalia, Turkey: see ANTALYA.

Adam [Heb ,=mankind], in the Bible, the first man For the account of his creation, of that of his wife EVE, of their life in the Garden of Eden (see EDEN, GARDEN OF), of their first disobedience, and of their expulsion, see Gen 1 26-5 5 The opening chapters of Genesis are very interesting to believers of the three principal monotheistic religions, for conceptions derived therefrom, see SIN and GRACE, for examples of the mass of legends that Judaism and Islam have collected about the biblical account, see LILITH and PSEUDEPIGRAPHA To St Paul, Adam represented the earthy side of man, as in 1 Cor 15 20-22,42-58 The higher criticism has seen in Adam's story an attempt to harmonize Hebrew cosmogonic myths They compare Babylonian myths of creation, which are similar to the biblical account in many features

Adam, Adolphe Charles (ädôlf' shärl' adă'), 1803-56, French composer of the popular *Cantique de Noël* He composed over 50 stage works Outstanding are his comic operas, including *Le Postillon de Longjumeau* (1836), and his ballet *Giselle* (1841)

Adam, Alexander, 1741-1809, Scottish educator and antiquary As head of Edinburgh High School from 1768, he reformed the methods of teaching Greek and Latin His *Principles of Latin and English Grammar* (1772) is written in English Sir Walter Scott, Brougham, and Jeffrey were among his pupils His *Roman Antiquities* (1791) made him famous

Adam, Juliette Lamber (zhülyĕt' läbā' ädă'), 1836-1936, French author and editor She married as her second husband (1868) Edmond Adam, prefect of the police and a senator Their home was a center for the Gambetta group of republicans, in whose support she founded and edited (1879-99) the *Nouvelle Revue* Her works include *Le Siège de Paris journal d'une Parisienne* (1873) and a novel, *Paienne* (1884)

Adam, Lambert Sigisbert (läbĕr' sēzhēsbĕr' adă'), 1700-1759, French sculptor, known as Adam the Elder He won the Prix de Rome at 23 In Rome he was employed by Cardinal de Polignac to restore statues excavated from the Villa Marius In 1737 he was admitted to the Académie royale de Peinture et de Sculpture for his *Neptune and Amphitrite*, executed for the basin of Neptune at Versailles From then on he enjoyed constant royal commissions His colossal *La Seine et la Marne*, for the cascade of Saint-Cloud, and his *Neptune Calming the Waves* (Louvre) are well known His brother, **Nicolas Sébastien Adam** (nēkôlä' sābastyĕ'), 1705-78, known as Adam the Younger, had the same training and enjoyed the same favor as Lambert He is famous for his *Prometheus Chained* (Louvre), his bas-relief *The Martyrdom of St Victoire* (chapel, Versailles), his tomb of Catherine Opalinska (Nancy), and the mausoleum of Cardinal de Fleury A third brother, **François Balthasar Gaspard Adam** (fräswa' bältäzar' gäspar'), 1710-61, became sculptor to Frederick the Great His work is to be seen in Potsdam and at Sans Souci

Adam, Paul (pôl), 1862-1920, French novelist His series of novels treating the life of a French family from the fall of the old regime through the July Monarchy are brilliant rather than profound

Adam, Robert (ăd'ŭm), 1728-92, and **James Adam,** 1730-94, Scottish architects, brothers They designed important public and private buildings in England and Scotland and numberless interiors, pieces of furniture, and decorative objects Robert possessed the great creative talents, his brother James serving chiefly as his assistant Robert Adam drew his inspiration from Greek and Roman architecture In 1764 he published the study *Ruins of the Palace of Diocletian in Dalmatia* Utilizing the columns and decorative motives of classic architecture, he molded them into a greater lightness of proportion and an almost extreme elegance This graceful style, which gained great favor in his day, has been imitated constantly since his death Designs imitative of his work are said to be in the Adam style Robert Adam designed his buildings to achieve the most harmonious relation between the exterior, the interior, and the furniture His designs took account of every detail, practically every object being executed under his direction Among the artists whom Robert employed to paint decorations for walls, ceilings, and furniture were Angelica Kauffmann and Antonio Zucchi The brothers were among the first to group a row of London houses into a single imposing unit, as in Portland Place, and to create a real-estate development, Adelphi Terrace, consisting of streets and houses supported on brick catacombs They made plans for the city of Bath and designed the stone screen at the admiralty in London and buildings for the Univ of Edinburgh They wrote *Works in Architecture of Robert and James Adam* (3 vols , 1778-1822). Robert was architect to the king from 1762 until 1768, when he was succeeded by James Robert Adam was buried in Westminster Abbey See James Lees-Milne, *The Age of Adam* (1948).

Adam, town, on the upper Jordan Joshua 3 16
Adamah (ăd'ŭmŭ), Naphtalite city Joshua 19 36
Adam de la Halle (ădȧ' dŭ lȧ ȧl') or **Adam le Bossu** (lŭ bōsŭ'), b 1237?, d between Jan , 1285, and 1288, French dramatist and poet, b Arras He is the author of the first important French comic pieces, *Le Jeu de Robin et de Marion*, a witty little pastoral sometimes called the earliest comic opera, and *Le Jeu de la feuillée*, a composite work, fantastic and satirical, diverting rather than dramatic His name appears in antique form as Adan de le Hale
Adami (ăd'ŭmĭ) or **Adami-nekeb** (-nĕb'-), border town of Naphtali Adami-nekeb RV Two towns, Adami and Nekeb, in AV Joshua 19 33
Adamic, Louis (ăd'umĭk), 1899–, American author, b Blato, Slovenia, now in Yugoslavia He came to the United States in 1913 and worked as a laborer in many sections of the country, educating himself by wide reading His first book, *Dynamite* (1931), is a history of the labor movement in the United States Adamic has been chiefly concerned with the immigrant's problems in America, and his *Laughing in the Jungle* (1932) and *My America* (1938) record his personal experiences in this field, *The Native's Return* (1934), made possible by a Guggenheim fellowship, describes an expatriate's visit to Yugoslavia Pleading the cause of racial tolerance and unity and discussing the immigrant's cultural contribution to the United States, Adamic has also written *From Many Lands* (1940) and *A Nation of Nations* (1945)
Adam le Bossu see ADAM DE LA HALLE
Adamnan, Saint (ă'dumnăn), 624?–704, Irish abbot of Iona He was instrumental in effecting the adoption by the Celts of the Roman paschal rule He is the author of a life of St Columba
Adams, Abigail (Smith), 1744–1818, wife of President John ADAMS and mother of President John Quincy ADAMS, b Weymouth, Mass A lively, intelligent woman, she was the chief figure in the social life of her husband's administration and one of the most distinguished and influential of the first ladies in the history of the United States Her detailed letters are a vivid source of social history The correspondence with her husband was edited in a number of volumes by Charles Francis Adams, letters to her sister, Mary Smith Cranch, are in *New Letters of Abigail Adams, 1788–1801* (1947) See biographies by Laura E Richards (1917), Dorothie Bobbé (1929), and Janet Whitney (1947)
Adams, Brooks, 1848–1927, American historian, b Quincy, Mass , grad Harvard, 1870, son of Charles Francis ADAMS (1807–86) His theory that civilization rose and fell according to the growth and decline of commerce was first developed in *The Law of Civilization and Decay* (1895) Adams applied it to his own capitalistic age, of which he was a militant critic, but failed to find the universal law which he persistently sought His ideas greatly influenced his brother Henry ADAMS, whose essays he edited in *The Degradation of the Democratic Dogma* (1919) In *America's Economic Supremacy* (1900, reissued 1947), Brooks said that Western Europe had already begun to decline and that Russia and the United States were the only potential great powers left His other chief works were *The Emancipation of Massachusetts* (1887), *The New Empire* (1902), and *Theory of Social Revolutions* (1913) See J T Adams, *The Adams Family* (1930)
Adams, Charles Francis, 1807–86, American statesman, minister to Great Britain (1861–68), b Boston, son of John Quincy ADAMS After a boyhood spent in various European capitals, he was graduated (1825) from Harvard and studied law under Daniel Webster He practiced in Boston, looked after his father's business affairs, and wrote articles on American history for the *North American Review* Adams served (1840–45) in both branches of the state legislature, founded and edited the Boston *Whig*, and became a leader of the Conscience Whigs In 1848 he was the FREE-SOIL PARTY candidate for the vice presidency He represented (1858–61) his father's old district in Congress and assumed prominence as a Republican leader Upon Seward's advice, Lincoln appointed him minister to Great Britain In the face of English sympathy for the Confederacy, he maintained the Northern cause with wisdom and a bold dignity that won British respect, particularly in the serious *Trent* and *Alabama* incidents He later represented the United States in the settlement of the ALABAMA CLAIMS He published many political pamphlets and addresses and was an editor of the works (10 vols , 1850–56) of his grandfather, John Adams and of the diary (12 vols , 1874–77) of his father See biography by his son, Charles Francis Adams (1900), W C Ford, ed , *A Cycle of Adams Letters, 1861–1865* (1920), J T Adams, *The Adams Family* (1930)
Adams, Charles Francis, 1835–1915, American economist and historian, b Boston, grad Harvard, 1856, son of Charles Francis ADAMS (1807–86) In the Civil War he fought at Antietam and Gettysburg and was brevetted brigadier general of volunteers Adams became a railroad expert after the war, writing *Chapters of Erie* (1871), which exposed the corrupt financing of the Erie RR, and *Railroads Their Origin and Problems* (1878) In 1869 he became a member, and from 1872 to 1879 was chairman, of the Massachusetts Board of Railroad Commissioners, the first of its kind in the nation Adams was made chairman of the government directors of the Union Pacific in 1878 and became president in 1884, but was ousted by the forces of Jay GOULD in 1890 His reform of the public schools in the home town of the Adamses, Quincy, Mass , was described in *The New Departure in the Common Schools of Quincy* (1879), and the Quincy system was widely adopted Adams served 24 years on the Harvard Board of Overseers and was president (1895–1915) of the Massachusetts Historical Society He wrote *Three Episodes of Massachusetts History* (1892), *Studies Military and Diplomatic, 1775–1865* (1911), *Trans-Atlantic Historical Solidarity* (1913), which was a collection of lectures he had given at Oxford, and biographies of his father (1900) and Richard Henry Dana (1890) See his autobiography (1916), W C Ford, ed , *A Cycle of Adams Letters, 1861–1865* (1920), J T Adams, *The Adams Family* (1930)
Adams, Charles Francis, 1866–, U S Secretary of the Navy (1929–33), b Quincy, Mass , grandson of Charles Francis Adams (1807–86) He was educated at Harvard (B A , 1888, LL B , 1892) and from 1898 to 1929 was treasurer of the Corporation of Harvard College He practiced law for a brief period in Boston but for most of his life has been connected with a wide variety of business enterprises in that city and elsewhere Adams served in the cabinet of Herbert Hoover An expert yachtsman, he captained the *Resolute* in defeating Sir Thomas Lipton's *Shamrock IV* in 1920
Adams, Charles Kendall, 1835–1902, American historian and educator, b Derby, Vt , grad Univ of Michigan, 1861 He was assistant professor (1863–67) and professor (1867–85) of history at Michigan, president of Cornell Univ (1885–92), and president of the Univ of Wisconsin (1892–1901) Adams pioneered in introducing the seminar method into the United States and wrote several historical works, but was better known for his administrative ability Cornell and, especially, Wisconsin expanded tremendously under his leadership See biography by C F Smith (1924)
Adams, Frank Dawson, 1859–1942, Canadian geologist, b Montreal, educated at McGill Univ , Yale, Johns Hopkins, and Heidelberg (Ph D , 1892) He was long associated with McGill Univ —as Logan professor of geology, dean of the faculty of applied science, vice principal, and, for a time, acting principal He was a fellow of the Royal Society of London as well as of Canada, a fellow of the Geological Society of London (by whom he was awarded the Wollaston gold medal), and a member of many noted scientific bodies His *Birth and Development of the Geological Sciences* (1938) is authoritative, as are his many pamphlets and papers on various aspects of geology
Adams, Franklin Pierce, pseud **F. P. A ,** 1881–, American columnist and author, b Chicago, studied at Armour Scientific Academy and the Univ of Michigan He began (1903) work as a columnist on the Chicago *Journal* and continued it on the New York *Evening Mail*, the *Tribune*, the *World*, the *Herald Tribune*, and the *Post* His column, "The Conning Tower," consisted of verse and humorous comment, about equally divided between F P A and his contributors His Saturday column, an account of his weekly activities, imitated the style and language of Samuel Pepys and was republished as *The Diary of Our Own Samuel Pepys 1911–1934* (2 vols , 1935) In 1938 he became a member of the cast of the radio program "Information Please"
Adams, George Burton, 1851–1925, American historian, b Fairfield, Vt , grad Beloit College (B A , 1873, M A , 1876), Yale (B D , 1877), and Leipzig (Ph D , 1886) Professor of history at Yale (1888–1925) and editor of the *American Historical Review* (1895–1913), he wrote *Civilization during the Middle Ages* (1894), *The Growth of the French Nation* (1896), and *The History of England from the Norman Conquest to the Death of John (1066–1216)* (1905, Vol II in William Hunt and R L Poole, ed , *The Political History of England*) His studies in English constitutional history, notably *The Origin of the English Constitution* (1912, 2d ed , enlarged, 1920) and *Constitutional History of England* (1921, revised by R L Schuyler, 1934), were his greatest contributions to historical knowledge
Adams, Hannah, 1755–1831, American writer, b Medfield, Mass She was perhaps the first woman in the United States to make writing pay as a profession Most of her books were compilations showing industry and great care *An Alphabetical Compendium of the Various Sects* (1784), which went through four editions, was the most successful Her *Summary History of New England* (1799) was a pioneer history of the region and in an abridged form won favor as a school text
Adams, Henry (Henry Brooks Adams), 1838–1918, American historian, b Boston, grad Harvard, 1858; son of Charles Francis ADAMS (1807–86). He was secretary (1861–68) to his father, then U S. minister at the Court of St James's Upon his return to the United States, having already abandoned the law and seeing no opportunity in the traditional Adams calling, politics, he briefly tried journalism He reluctantly accepted (1870) an offer to teach medieval history at Harvard, but stayed on seven years and also edited (1870–76) the *North American Review* In 1877 Adams moved to Washington, D C , his home thereafter He wrote a good biography of Albert Gallatin (1879), a less satisfactory one of John Randolph (1882), and two novels (the first anonymously and the second under a pseudonym)—*Democracy* (1880), a cutting satire on politics, and *Esther* (1884) His exhaustive study of the administrations of Jefferson and Madison, *History of the United States of America* (9 vols , 1889–91, reprinted in 3 vols , 1929, condensed and ed by Herbert Agar as *The Formative Years*, 2 vols , 1947), is one of the major achievements of American historical writing Famous for its style, it is deficient, perhaps, in understanding the basic economic forces at work, but the first six chapters constitute one of the best social surveys of any period in U S history. Never of a sanguine temperament, Adams became even more pessimistic after the suicide (1885) of his adored wife He abandoned American history and began a series of restless journeyings, physical and mental, in an effort to achieve a basic philosophy of history Drawing upon the physical sciences for guidance and influenced by his brother, Brooks ADAMS, he found a satisfactory unifying principle in force or energy He selected for intensive treatment two periods—1050–1250, presented in *Mont-Saint-Michel and Chartres* (privately printed 1904, pub 1913), and his own era, presented in *The Education of Henry Adams* (privately printed 1906, pub 1918) The first is a brilliant idealization of the Middle Ages, specifically of the 13th-century unity brought about by the force of the Virgin, then dominant The second, although written in the third person and reticent about much of his life, was classified by his publishers as an autobiography Another *tour de force*, it describes his unsuccessful efforts to achieve intellectual peace in an age when the force of the dynamo is dominant These two books, containing some of the most beautiful English ever written, rather than his monumental *History*, won Adams his lasting place as a major American writer *The Degradation of the Democratic Dogma* (1919), edited and prefaced by a memoir of Henry Adams by his brother Brooks, contains three brilliant essays on his philosophy of history—"The Tendency of History," "A Letter to American Teachers of History" (pub separately in 1910), and "The Rule of Phase Applied to History" Friendships, especially those with John HAY and Clarence KING, played a large part in Adams's life, and his personal letters reveal a warmer man, for an Adams, than one might suspect See his letters (ed by W C Ford, 2 vols , 1930–38), J T Adams, *Henry Adams* (1933), Ward Thoron, ed , *The Letters of Mrs Henry Adams, 1865–1883* (1936), H D Cater, ed , *Henry Adams and His Friends a Collection of His Unpublished Letters* (1947), Ernest Samuels, *The Young Henry Adams* (1948)
Adams, Henry Cullen, 1850–1906, American legislator and dairyman, b Oneida co , N Y , attended the Univ of Wisconsin A farmer near Madison, Wis , he was state dairy and food commissioner (1895–1902) and, as Congressman after 1902, he championed the Pure Food and Drugs Act and the Adams Act (for the support of state agricultural experiment stations)
Adams, Herbert, 1858–1945, American sculptor, b West Concord, Vt He is known especially for his portrait busts, some of which are tinted The McMillan Fountain in Washington, D C , and the statue of William Cullen Bryant in Bryant Park, New York city, are among his finest works Adams was a founder of the National Sculpture Society
Adams, Herbert Baxter, 1850–1901, American historian, b Shutesbury, near Amherst, Mass , grad Amherst, 1872 In 1876, the year he received his doctorate at Heidelberg, he became one of the original faculty of Johns Hopkins Univ There, in 1880, he began his famous seminar in history, in which a large proportion of the next generation of American historians received their training Adams founded the "Johns Hopkins Studies in Historical and Political Science," the first of such series, and brought about the organization in 1884 of the American Historical Association of which he was secretary until 1900 He wrote *The Germanic Origin of New England Towns* (1882), *Life and Writings of Jared Sparks* (1893), and many articles and reports on the study of the social sciences which were very influential in their day See W S Holt, ed , *Historical Scholarship in the United States, 1876–1901, as Revealed in the Correspondence of Herbert B Adams* (1938)
Adams, Isaac, 1802–83, American inventor, b Rochester, N H He invented(1827) the Adams power press, which supplanted the hand press and was for many decades a superior aid in producing artistic printing
Adams, James Truslow (trŭ'slō), 1878–1949, American historian, b. Brooklyn, N Y , grad Polytechnic

Institute of Brooklyn (B A , 1898) and Yale (M A., 1900) In the First World War he was a captain in military intelligence and later was detailed to the Paris Peace Conference *The Founding of New England* (1921), which brought him the Pulitzer Prize in history for 1922, was followed by *Revolutionary New England, 1691–1776* (1923) and *New England in the Republic, 1776–1850* (1926) Among the best of his many books are *Provincial Society, 1690–1763* (Vol III in the "History of American Life" series, 1927) and *The Epic of America* (1931), which was widely translated *The March of Democracy* (2 vols , 1932–33) and *America's Tragedy* (1934) were also popular *The Adams Family* (1930) and *Henry Adams* (1933) were books on the famous Massachusetts clan by an unrelated descendant of the Virginia Adamses Adams, who spent much of his time in London as representative of his publishers, Charles Scribner's Sons, wrote *Building the British Empire: to the End of the First Empire* (1938) and *Empire on the Seven Seas the British Empire, 1784–1939* (1940) He was also editor in chief of *Dictionary of American History* (6 vols , 1940, rev ed , 1942), *Atlas of American History* (1943), and *Album of American History* (4 vols , 1944–48), three valuable reference works Some of his later writings reflect his obvious distaste for the New Deal, of which he was a vigorous critic (he had retired from Wall St. in 1912 to devote himself to history).

Adams, John, 1735–1826, 2d President of the United States (1797–1801), b Quincy (then in Braintree), Mass , grad. Harvard, 1755 A lawyer, he emerged into politics as an opponent of the Stamp Act and, after moving to Boston, was a leader in the patriot group opposing the British measures that were leading to the American Revolution Sent (1774) to the First Continental Congress, Adams distinguished himself, and in the Second Continental Congress he was a moderate but forceful revolutionary He proposed George Washington as commander in chief of the Continental troops to bind Virginia more tightly to the patriot cause He favored the DECLARATION OF INDEPENDENCE, was a member of the drafting committee, and argued eloquently for it As a diplomat seeking foreign aid for the just-born nation, he had a thorny career Appointed (1777) to succeed Silas Deane as a commissioner to France, he accomplished little before returning home (1779) to be a major figure in the Massachusetts constitutional convention Back he went (1779) to France, where he quarreled with Vergennes and was able to lend little assistance to Benjamin Franklin in his peace efforts His attempts to negotiate a loan from the Netherlands were long fruitless, but in 1782 he did secure a loan Adams was one of the negotiators who drew up the momentous Treaty of Paris (1783) to end the American Revolution After this service he obtained another Dutch loan and then was envoy (1785–88) to Great Britain, where he met with British coldness and unwillingness to discuss the problems growing out of the treaty He asked for his own recall and ended a significant but discouraging diplomatic career In America once more, he was chosen VICE President and served throughout George Washington's administration (1789–97) Though he inclined to conservative policies, he acted somewhat as a balance wheel in the partisan contest between Alexander HAMILTON and Thomas JEFFERSON In the 1796 election Adams was chosen to succeed Washington as President despite the reluctance of Hamilton The Adams administration was one of crisis and conflict, in which the President showed an honest and stubborn integrity, and though allied with Hamilton and the conservative property-respecting Federalists, he was not dominated by them in their struggle against the vigorously rising, more broadly democratic forces led by Jefferson Though the Federalists were pro-British and strongly opposed to post-Revolutionary France, Adams by conciliation prevented the near war of 1798 (see XYZ AFFAIR) from developing into a real war between France and the United States Nor did the President wholeheartedly endorse the ALIEN AND SEDITION ACTS (1798), aimed at the Anti-Federalists He was, however, detested by his Jeffersonian enemies, and in the election of 1801 he and Hamilton were both submerged in the tide of Jeffersonian democracy After 1801 Adams lived in retirement at Quincy (in a mansion given in 1946 to the nation as a historic site), issuing sober and highly respected political statements and writing many letters, notably those to Jefferson By remarkable coincidence he and Jefferson died on the same day, Independence Day, July 4, 1826 John Adams and his wife, Abigail ADAMS, founded one of the most distinguished families of the United States, their son, John Quincy ADAMS, was also President. See works of John Adams (10 vols , ed by J Q Adams and C F Adams, 1851–66, Vol I is a biography by C F Adams), *The Selected Writings of John Adams and John Quincy Adams* (ed by Adrienne Koch and William Peden, 1946), biographies by John T Morse (1884) and Gilbert Chinard (1933); James Truslow Adams, *The Adams Family* (1930).

Adams, John Couch, 1819–92, English astronomer, grad St John's College, Cambridge, 1843 By mathematical calculation based on irregularities in the motion of Uranus, he predicted the position of the then unknown planet NEPTUNE Because of delay in making in England a telescopic search for the planet, the credit for the discovery went to a Frenchman, LEVERRIER In 1858 Adams became professor of mathematics at St Andrews Univ., but he soon returned to Cambridge, to occupy the Lowndean chair of astronomy and geometry until his death From 1861 he was also director of the university observatory, preferring this post to that of astronomer royal, which was offered to him in 1881 He made valuable studies of the moon's motions, of the Leonids in the great meteor shower of 1866, and of terrestrial magnetism His collected papers, edited by his brother, were published at Cambridge in 1896 and 1901.

Adams, John Quincy, 1767–1848, 6th President of the United States (1825–29), b Quincy (then in Braintree), Mass , son of John and Abigail Adams and father of Charles Francis Adams (1807–86). He accompanied his father on missions to Europe and gained broad knowledge from study and travel —he even accompanied (1781–83) Francis Dana to Russia—before returning home to graduate (1788) from Harvard and to study law Washington appointed (1794) him minister to the Netherlands, and in his father's administration he was minister to Prussia (1797–1801). In 1803 he became a U S. Senator as a Federalist, but his independence of mind led him to approve Jeffersonian policies in the Louisiana Purchase and in the Embargo Act of 1807, the Federalists were outraged, and he resigned (1808) Sent as minister to Russia in 1809, he was well received at the tsarist court, but the wars of Napoleon eclipsed Russian-American relations He then helped to draw up the Treaty of Ghent (1814), and his diplomatic training was completed as minister to Great Britain As Secretary of State (1817–25) under President James Monroe, Adams gained an enduring fame His best-known achievement was the MONROE DOCTRINE (1823), but in other ways also he gave the United States a firmer position as a power dealing with equals In 1824 Adams was a candidate for the U S presidency The Democrats under Andrew JACKSON and the Whigs under Henry CLAY were closely matched, and the election was decided in the House of Representatives There Clay supported Adams and made him President Adams then appointed Clay Secretary of State, but the Democrats' cry that the appointment fulfilled a corrupt bargain was unfounded in fact With little popular support and without a party, Adams had an unhappy, ineffective administration After Jackson won the 1828 election, Adams retired to Quincy but emerged (1829) and won a new renown as U S Representative (1831–48), he was eloquent in attacking slavery, the GAG RULES, and all measures that would expand slavery His coldness and rather gloomy introspection still kept him from general popularity, but he was respected for his high-mindedness and his great knowledge. His interest in science led him to promote the Smithsonian Institution His diary (selections ed by C F Adams, 12 vols , 1874–77, abridged by Allan Nevins, 1928) is a truly valuable historic document Most of his writings were edited by W C Ford (7 vols , 1913–17) and some appear in *The Selected Writings of John and John Quincy Adams* (ed by Adrienne Koch and William Peden, 1946) See biographies by John T Morse (1883) and Bennett Champ Clark (1932); Dorothie Bobbé, *Mr and Mrs John Quincy Adams* (1930), James Truslow Adams, *The Adams Family* (1930), Samuel Flagg Bemis, *John Quincy Adams and the Foundations of American Foreign Policy* (1949)

Adams, Maude, 1872–, American actress, b Salt Lake City, Utah Her name was Kiskadden, but she used her mother's maiden name At 16 she left school to play an ingénue role in the E H Sothern company When John Drew came under Charles Frohman's management, Miss Adams was selected as Drew's supporting lady in the Empire Stock Company, opening with Clyde Fitch's *Masked Ball* (1892) She supported Drew for five years and finally made her first stellar appearance in Barrie's *Little Minister* (1897), the first of his plays in which she became famous Others include *Quality Street* (1901), *What Every Woman Knows* (1908), and the play for which she was most loved, *Peter Pan* (1905) She also played in Rostand's *L'Aiglon* (1900) and *Chantecler* (1911) In retirement after 1918, Miss Adams made contributions to the development of stage lighting, in 1937 she became professor of drama at Stephens College

Adams, Roger, 1889–, American chemist, b Boston, grad Harvard (B A , 1909, Ph D , 1912) and studied in Berlin. After 1916 he taught at the Univ of Illinois He served in the First World War with the Chemical Warfare Service and in the Second World War on the Scientific Advisory Board and the National Defense Research Committee and as scientific adviser in the American-occupied zone in Germany. Among his contributions to chemistry are the development of methods of identifying and preparing substances and of new methods of synthesis. He was among the first to synthesize the local anesthetics butyn and procaine He has long been connected in various capacities with the annual publication of *Organic Syntheses* (editor in chief of Vols I and VIII, 1921, 1927), with J. R. Johnson he wrote *Elementary Laboratory Experiments in Organic Chemistry* (1928).

Adams, Samuel, 1722–1803, American Revolutionary patriot, signer of the Declaration of Independence, b Boston, Mass , grad Harvard, 1740, second cousin of John Adams. A brewer, he undertook a political career and was a member (1764–74) and clerk (1766–74) of the lower house of the Massachusetts legislature As colonial resistance to British laws stiffened, Adams spoke for the discontented and replaced James Otis as leader of the extremists. He drafted a protest against the Stamp Act in 1765 and, as clerk, composed documents of historic significance More important, he used his able pen in pamphleteering against the British and for the NATURAL RIGHTS of man With the help of such men as John Hancock he organized the revolutionary Sons of Liberty and helped to foment revolt through the Committees of Correspondence. He was the moving spirit in the BOSTON TEA PARTY. Thomas GAGE issued a warrant for the arrest of Adams and Hancock, but they escaped punishment and continued to stir up lethargic patriots. Samuel Adams was a member (1774–81) of the Continental Congress, but after independence was declared his influence declined, the "radical" was replaced by more conservative leaders, who tended to look upon Adams as an irresponsible agitator. He later (1794–97) served as governor of Massachusetts See selection of his writings ed by Elizabeth Lawson (1946), biographies by J K Hosmer (1885), R V. Harlow (1923), and J C Miller (1936)

Adams, Sarah Flower, 1805–48, English poet She began early to contribute to the *Monthly Repository* In 1841 *Vivia Perpetua*, a dramatic poem, was published Her best work was in hymns, the most widely known is *Nearer, My God, to Thee*

Adams, Walter Sydney, 1876–, American astronomer, b. Antioch, Syria, grad Dartmouth, 1898, and studied at the universities of Chicago and Munich He has written extensively on the motions of the stars and on the spectroscopy of the sun and stars In 1901 he became assistant in the Yerkes Observatory on Lake Geneva, Wis , going to Mt Wilson Observatory in California as astronomer in 1909, he became director in 1923 In 1946 he retired as director to become research associate of the Carnegie Institution

Adams, Wayman, 1883–, American portrait painter, b Muncie, Ind , son of a farmer He worked at a lunch counter and later as manager of a restaurant in Indianapolis while he studied art at the John Herron Art Institute From 1910 to 1912 he studied abroad with William Chase and Robert Henri In 1914 he established his reputation as a brilliant portraitist His painting is spontaneous and his characterization dramatic and penetrating His portrait of Joseph Pennell (Art Inst , Chicago) is a well-known example of his work

Adams, William (Will Adams), 1564?–1620, first Englishman to visit Japan As pilot of a Dutch ship, he reached there in 1600 He soon became a favorite of IEYASU Adams's knowledge of shipbuilding, navigation, mathematics, and Western affairs proved valuable Many of the longer voyages which the Japanese made were in vessels constructed under his direction Adams attempted to foster trade relations with England, and he himself made trading trips to the Ryukyu Islands, Siam, and Cochin China He married a Japanese woman, acquired a Japanese name, and was given an estate at Yokosuka He remained in Japan until his death See his letters (ed. by Thomas Rundall, 1850) and his log-book (ed by C J. Purnell, 1916), F R Dulles, *Eastward Ho! the First English Adventurers to the Orient* (1931)

Adams, William, 1807–80, American clergyman, b Colchester, Conn , grad Yale, 1827, and Andover Theological Seminary, 1830 After serving for 40 years as a Presbyterian minister in New York city, he became in 1874 president of Union Theological Seminary, which he had helped found

Adams, William Taylor, pseud **Oliver Optic,** 1822–97, American writer of juvenile stories, b Medway, Mass He edited *Oliver Optic's Magazine*, 1867–75, and wrote 116 books, many of them related, such as the "Great Western" series, and many newspaper stories All combined exciting tales with wholesome, if elementary, instruction

Adams. 1 Town (pop 12,608), NW Mass , in the Berkshires and on the Hoosic river; inc 1778. It has textile and paper mills and calcium quarries Susan B Anthony was born here There is an 18th-century Friends' meetinghouse 2 Village (pop 1,594), N N Y , SW of Watertown, in a dairy region, inc. 1851 Paint and patent medicines are made here 3 City (pop 1,310), central Wis., S of Wisconsin Rapids, founded before 1860 as Lower Friendship, inc 1926

Adams, Mount. 1 Peak in New Hampshire· see PRESIDENTIAL RANGE. 2 Peak, 12,307 ft. high, SW Wash , in the Cascade Range.

Adam's Bridge or **Rama's Bridge**, chain of shoals, c 20 mi long, between Rameswaram island and a peninsula of Ceylon A sort of natural bridge between India and Ceylon, it is said by legend to be the site of a causeway built by Rama, hero of the Ramayana

Adam's-needle · see YUCCA

Adana (ä'dänä), city (pop 100,780), S Turkey, on the Seyhan river Colonized by the Romans, it prospered and declined, it was revived (c 782) by Harun al-Rashid Today it is a commercial center

Adanson, Michel (mēshĕl' ädäsôN'), 1727–1806, French botanist of Scottish descent His *Familles des plantes* (1763) places him with the early systematists The BAOBAB is named *Adansonia* for him

Adapazari (ädäpäzär'ē) or **Adabazar** (ädäbäzär'), town (pop 29,386), NW Turkey It is a commercial center, with trade in rugs, textiles, and tobacco

adaptation, in biology, the adjustment of living matter to environmental conditions and to other living things This ability is a fundamental property of protoplasm and constitutes a basic difference between living and nonliving matter Most living things require free oxygen from the air or from water, but yeasts, many bacteria, and some other simple forms obtain the oxygen required for oxidation from molecules of substances which contain the element Various animals and plants are adapted for securing their food and for surviving the extremes of temperature and of water supply in desert, tropical, and polar regions For most organisms the optimum temperature is between about 20° C (68° F) and 40° C (104° F) Some algae and protozoa live in hot springs, and some bacteria can survive freezing The CACTUS can survive heat and drought Certain fish and other aquatic animals live in deep water and are so specialized to withstand the great pressure that they burst if lifted to sea level Animals show anatomical adaptations—e g , the body of the fish is suited to life in the water, the body of the BIRD is adapted for flight, the land mammals show wide variation in the structure of limbs and body which enable some to run swiftly, some to climb, some to swing from tree to tree, some to glide through the air, and others to jump The whale, an aquatic mammal, can adjust to great pressure changes at different levels in the water The beaks of birds which feed on different kinds of food, e g , on seeds, on insects, on aquatic animals, and on small mammals, differ in shape and size The feet and legs of birds also show modifications which fit them for perching, for wading, and for paddling through the water Adaptive coloration is observed in many animals (see PROTECTIVE COLORATION) Among communal insects, such as ants and honeybees, the individuals are highly adapted to perform their functions in the community It is believed by many scientists that life originated in the sea and that through gradual evolutionary changes some forms became adapted to life on land Variations may arise as mutations or as a result of recombinations of the genes in the germ cells Such variations are inherited Those which aid the individual in his competition with other living things help him to survive, and thus the changes tend to be passed on from one generation to another Forms which retain their adaptability and which do not become too specialized are the most likely to survive See also ECOLOGY

Adar (ä), in the Bible see HAZAR-ADDAR

Adare, Cape (ədâr'), northeastern projection of Victoria Land, Antarctica Here C E Borchgrevink made (1895) the first landing in Antarctica

Adasa (ăd'əsä), town, near Beth-horon, place of encampment of Judas Maccabaeus 1 Mac 7 40

Adbeel (ăd'bēēl), son of Ishmael Gen 25 13, 1 Chron 1 29

Adda (ăd'dä), river, c 195 mi long, rising in the Alps of Lombardy, N Italy It flows through Lake Como into the Po There are many hydroelectric plants along its upper course It has been a strategic line in many wars

Addams, Jane, 1860–1935, American social worker, b Cedarville, Ill , grad Rockford College, 1881 In 1889, with Ellen Gates Starr, she founded the famous Hull House in Chicago, one of the first social settlements in the United States Based on the university settlements begun in England by Samuel Barnett, Hull House has had influence throughout the nation in the settlement movement It has also been important in Chicago civic affairs, especially in its relations with foreign-born citizens Jane Addams was a leader in the woman-suffrage and peace movements She was the recipient (jointly with Nicholas Murray Butler) of the 1931 Nobel Peace Prize Her books on social questions include *The Spirit of Youth and the City Streets* (1909), *A New Conscience and an Ancient Evil* (1912), and *Peace and Bread in Time of War* (1922) See her autobiographical *Twenty Years at Hull-House* (1910) and *The Second Twenty Years at Hull House* (1930); biography by her nephew, J W Linn (1935).

Addan, unidentified Palestinian town. Ezra 2 59 Addon Neh 7 61.

Addar: see ARD

adder, poisonous snake of the VIPER family. In Great Britain the only venomous snake is the adder. Adults usually recover from the effects of its bite In Africa are found the related puff adder and night adder The names puff adder and spreading adder are sometimes applied to the harmless hog-nosed snake of America The death adder of Australia and the krait of India, which is often called the blue adder, are related to the COBRA

adder's-tongue, name for several plants, among them DOGTOOTH VIOLET

Addi (ăd'ī), name in Luke's genealogy Luke 3 28

Addicks, John Edward O'Sullivan, 1841–1919, American politician, b Philadelphia He rose from being a clerk to partnership at 21 in a flour business, gaining a fortune which he lost in 1873 After moving (1877) to Claymont, Del , he earned the name "Gas Addicks" by promoting gas companies In 1885 he went to Boston, where he was president of the Bay State Gas Company Though his maintenance of a residence in Delaware was questionable, he plunged into politics in that state by announcing his candidacy for the U S Senate in 1889 His stubborn ambition and expenditure of millions of dollars kept Republican politics stirred up until 1905 and gave Delaware politics a national reputation for corruption He died obscure and poor

adding machine: see CALCULATING MACHINE

Addington, Henry: see SIDMOUTH, HENRY ADDINGTON, VISCOUNT

Addis Ababa (ä'dĭs ä'bŭbŭ), city (pop 120,000), capital of Ethiopia It was founded in 1887 by Menelik II, who established the capital here in 1889 It was captured by Italy in 1936 and was the capital of Italian East Africa until 1941, when the Italians were driven from the country Addis Ababa is spread wide over a hilly plateau which is partly enclosed by mountains There are only a few modern, substantial buildings among its thatched huts Near the city are the imperial palace and the parliament building Addis Ababa is the terminus of Ethiopia's only railroad, which extends to Jibuti in French Somaliland, and it is a road center

Addison, Joseph, 1672–1719, English essayist, poet, and statesman He was educated at Charterhouse (Richard Steele was there at the same time) and at Oxford, where he became a distinguished Latinist His travels on the Continent from 1699 to 1703 were recorded in *Remarks on Italy* (1705), essays modeled after Bacon Addison first achieved prominence, however, in 1704 with *The Campaign*, an epic celebrating the victory of Blenheim The poem was commissioned by Lord Halifax, and its great success resulted in Addison's appointment in 1706 as undersecretary of state to Lord Sunderland and in 1709 as secretary to the lord lieutenant of Ireland Addison also held a seat in Parliament from 1708 until his death, and he was kept from want for the rest of his placid life His authorship extended to an opera *Rosamund* (1707), a tragedy, *Cato* (1713), which was immensely popular because of its contemporary political appropriateness, and a comedy, *The Drummer* (1716) But Addison's most enduring fame was achieved as an essayist In 1710 he began his contributions to the *Tatler*, which Steele had founded in 1709 Upon the demise of the *Tatler* in 1711, Addison continued his efforts in its successor, the *Spectator*, and it was for this paper that he developed Steele's creation of Sir Roger de Coverley and his coterie Addison also published there a series of critical papers on *Paradise Lost*, he judged the poem by the tenets of classical criticism and concluded that Milton was the peer of Homer and Vergil Addison's contributions to the *Spectator* were witty, polished, and urbane With these papers he not only began a reaction in literary tastes, but also gave to the English essay a new body and personality Addison's training in the classics is reflected in the form, clarity, and precision of his essays, while their gently ironic tone mirrors neatly the personality of the author Near the end of his life he married (1716) the wealthy dowager countess of Warwick Addison is buried in Westminster Abbey See *Selections* (ed by Barrett Wendell and C N Greenough, 1905), his letters (ed by Walter Graham, 1941), biography by W J Courthope (1903)

Addison, Thomas, 1793–1860, English physician He received (1815) his medical degree at the Univ of Edinburgh and lectured on pathology at Guy's Hospital, London, where Richard Bright was one of his associates Among his important clinical contributions was his description of disorders of the suprarenal or adrenal glands, including the disease later known as **Addison's disease** This rather rare malady is a result of the destruction of the cortex of the adrenal glands, usually by tubercular infection It is commonest in persons of middle age and starts with fatigue and weakness, low blood pressure, low temperature, digestive and nervous disturbances, and a gradual brownish pigmentation of the skin Rest, a nutritive diet, and tonic measures are needed Injections of cortical hormones from the adrenal glands may overcome some of the symptoms, but the disease is fatal It was first described in Addison's *On the Constitutional and Local Effects of Disease of the Suprarenal Capsules* (1855)

Addison. 1 Village (pop 1,617), S N Y , on the Canisteo and W of Elmira, in a dairy region, inc 1873 Woodwork products are made here. 2 Town, W Va see WEBSTER SPRINGS

Addison's disease · see ADDISON, THOMAS.

addition, one of the four fundamental operations of arithmetic The symbol for this operation is + The result of adding two or more numbers is called the sum, the numbers to be added are the addends When numerical quantities are to be added, their denominations must be the same one foot must not be added to one meter or one yard without first converting the meter or yard to the equivalent number of feet One foot cannot be added to one hour The addition of columns of numbers can be checked by adding upwards as well as downwards Some of the properties of the operation are associativity, which means that in adding three numbers any two may first be added and their sum added to the third without affecting the final sum, commutivity, which means that the sum of two numbers is the same whether the second is added to the first or the first to the second, and distributivity, which means that the result of adding two numbers and multiplying their sum by a third is the same as the result of multiplying each of the first two numbers by the third and then adding these products These properties are important in higher algebra See also ALGEBRA, DECIMAL SYSTEM, FRACTION

Addon, variant of ADDAN

address, forms of Both spoken and written salutations differ widely even in English-speaking countries Monarchical traditions and hereditary titles give rise to great complexity, England has a multiplicity of forms and a strict code of address The United States has fewer and simpler forms, which have grown out of custom and convenience rather than inheritance and are indicative, not of a man's birth or family, but of his professional or political position However, in all official and diplomatic correspondence and in formal social intercourse, modes of addressing letters and invitations, as well as the manner of personal address, are of great importance The President of the United States is addressed in speech as *Mr President*, in writing as *The President, The White House, Washington* The formal opening of a letter may be *Sir*, the informal opening *My Dear Mr President* Ambassadors, in speech, are *Your Excellency*, in writing *His Excellency the Ambassador of Great Britain* A governor of a state is spoken of formally as *His Excellency the Governor of Ohio* An invitation would read *The Honorable the Governor of New York* The Vice President, heads of executive departments (cabinet members), justices of the higher courts, mayors of cities, American ministers, Senators and Representatives, and ex-Presidents are addressed as *The Honorable*, e g , *The Honorable the Vice President of the United States, The Honorable the Secretary of State* The secretary to the President, heads of independent boards and commissions, assistant secretaries of executive departments, are also addressed as *Honorable Esquire* is used after the names of chief clerks and chiefs of the bureaus of executive departments, diplomatic officers below the rank of minister, consular officers, clerk of the Supreme Court and officers of other courts *Reverend* or *Honorable* should be preceded by the word *the* and should not be abbreviated, letters after the heading should begin (this is known as the salutation) *Dear Mr* ——— Professional titles precede the name, and professional abbreviations follow Church dignitaries are addressed in writing thus the pope, *His Holiness Pope Pius XII*, in the salutation *Your Holiness* or *Most Holy Father*, cardinals, *His Eminence the Cardinal Archbishop of New York* or (when not an archbishop) *His Eminence Cardinal* ———, salutation *Your Eminence;* archbishops, *His Grace the Archbishop of* ———, salutation *My Lord Archbishop* or *Your Grace*, bishops, *The Right Reverend Bishop* ——— or *The Right Reverend Bishop of* ———, salutation *Dear Sir* or *My Lord;* Methodist Episcopal bishops, *The Reverend Bishop* ———, salutation *Dear Sir*, deans, *The Very Reverend* ———, salutation *Very Reverend Sir* English titles are numerous and complex The king and the queen, in speech with intimates, are *Sir* and *Ma'am* Addressed by letter, the king is *His Most Gracious Majesty the King*, the salutation of the letter is *Sire* or *Your Majesty* The queen in writing is *Her Most Gracious Majesty the Queen*, salutation *Madame* or *Your Majesty* A prince is in writing *His Royal Highness the Prince of* ———, a princess *Her Royal Highness the Princess Margaret Rose* A duke is in writing *His Grace the Duke of* ———, salutation *My Lord Duke* or *Your Grace* A countess is in writing *The Right Honourable the Countess of* ———, salutation *Madame* or *Your Ladyship* An earl is in writing *The Right Honourable the Earl of* ———, salutation *My Lord* or *Your Lordship* Members of Parliament add the letters M P to their address A privy councilor is *The Right Honourable* ——— ——— In addressing invitations the full title is used except in the case of barons The title *Right Honourable* belongs to all peers and is the right of members of the privy

council and of cabinet ministers. Professional titles precede titles of rank as *Captain the Honourable John Blank*. The use of *Esquire*, formerly limited to lawyers, country gentlemen, and eldest sons of knights, is now more general. The title *Honourable* is ignored in conversation and is never used on visiting cards

Addyston, village (pop 1,610), extreme SW Ohio, on the Ohio and W of Cincinnati Iron pipe and castings are made here The William Henry Harrison memorial park is near

Ade, George, 1866–1944, American humorist and dramatist, b Kentland, Ind, grad Purdue Univ, 1887 He was a reporter in Lafayette, Ind, until 1890, when he went to work for the Chicago *News* at the insistence of his friend J T McCutcheon His "Stories of the Streets and of the Town," in the *Record* (the morning edition of the *News*), attracted attention for their racy and idiomatic humor and for the shrewdness with which they sketched people of the Midwestern scene he knew so well The title of his best-known book, *Fables in Slang* (1900), describes his successful formula—short, satirical, wittily vernacular sketches Many similar volumes followed, including *People You Knew* (1903) and *Hand-made Fables* (1920) He also wrote several comedies and comic operas, among them *The Sultan of Sulu* (1902), *The County Chairman* (1903), *The College Widow* (1904), *The Fair Co-ed* (1908), *The Old Town* (1909), and a number of musical comedy librettos and film scenarios See biography by Fred C Kelly (1947)

Adel. 1 (ā″dĕl′) City (pop 2,134), co seat of Cook co, S Ga, NE of Thomasville, inc 1889 Settled near by in 1860 as Puddleville, it was moved to its present site in 1888 to be on the railroad Adel is a tobacco market and trade center for a farm area **2** (ûdĕl′) Town (pop 1,740), co seat of Dallas co, S central Iowa, on the Raccoon river just W of Des Moines, in a farm area, settled 1846 as Penoach, named Adel 1849, inc 1887

Adelaide or **Adelheid** (a′dulhīt), c 931–999, empress consort of Otto I, daughter of King Rudolf II of Arles After the death of her first husband, King Hugh of Italy, she was about to be forced into a marriage with the son of BERENGAR II when she appealed to OTTO I, who rescued and married her in 951 She was sole regent for her grandson, Otto III, from 991 to 995 She was a great benefactress of religious houses

Adelaide, city (pop 35,032, metropolitan pop 382,604), capital of South Australia, near Gulf St Vincent SE of Port Adelaide and on the Torrens river Named for the queen of William IV, it was founded in 1836 and is the oldest city in the state Here are the Univ of Adelaide (1874), a natural history museum (1895), the Waite Institute of Agricultural Research (1924), and Anglican and Catholic cathedrals There are knitting mills and state-owned munitions plants GLENELG is one of the principal suburbs

Adelard of Bath (ă′dulard), fl 12th cent, English scholastic philosopher, celebrated for his study of Arabian learning He traveled widely in the East and around the Mediterranean and probably spent some time in Spain He translated Euclid from Arabic into Latin One of his works, published in the 15th cent under the title *Perdifficiles quaestiones naturales* [difficult problems], is a kind of compendium of Arabian learning His principal philosophical work, *De eodem et diverso* [on identity and difference], attempts a solution to the problems of NOMINALISM and REALISM

Adeler, Max see CLARK, CHARLES HEBER

Adelheid see ADELAIDE, empress

Adélie Land (ă′dulē, ădālē′), region, Antarctica, in the Australian quadrant, W of King George V Land and E of Wilkes Land It was discovered (1840) by DUMONT D'URVILLE and explored by Sir Douglas MAWSON It is a heavily glaciated area and has stronger winds than any other part of the globe

Adelphi, the (udĕl′fē), area in central London England, near the Thames and just S of the Strand It was developed by the Adam brothers from designs mainly by Robert Adam Among its famous residents have been David Garrick, John Galsworthy, James M Barrie, G B Shaw, W B Yeats, and H G Wells Most of the buildings have been demolished since 1937 to make way for blocks of modern offices and apartments

Adelphi College. see GARDEN CITY, N Y.

Adelsberg, Yugoslavia see POSTOJNA

Adelung, Johann Christoph (yō′hän krĭs′tōf ä′dulōōng), 1732–1806, German grammarian, principally known for his study of German grammar, vocabulary, and idiom His dictionary of High German establishes him in his field as the ablest predecessor of Jakob GRIMM, and his incomplete survey of the languages of the world was a famous, if inaccurate, work

Ademar or **Adhemar** (both ăd′ûmär), Fr *Adhémar de Monteil* (ädāmär′ du mōtāy′), d 1098, French prelate, bishop of Le Puy, a leading member of the First Crusade (see CRUSADES) He was designated at the Council of Clermont (1095) as papal legate on that expedition He distinguished himself at the sieges of Nicaea and Antioch and carried the Holy Lance (with which Christ's side had been pierced by a Roman soldier) after its discovery, though he at first doubted its authenticity After his death at Antioch, he was believed to appear to his companions in visions

Aden (ā′dun, a′–), British crown colony (80 sq mi; pop 81,236, including PERIM), SW Arabia, on the Gulf of Aden The colony mostly comprises two extinct volcanic craters joined by a flat sandy foreshore A gap in the rock wall gives the town of Aden (the major part of the colony) access to the well-protected harbor The colony was captured by Moslems in 632 Turkey occupied it almost continuously from 1538 to 1630 against Portuguese opposition In 1839 it fell to Great Britain and was administered as part of India until 1937 Aden is a free port which attracts much shipping on the trade route served by the Suez Canal In the Second World War it was an important air base The British protectorate of Aden (c 112,000 sq mi, pop c 630,000) is bordered by Yemen and Saudi Arabia It occupies a coast line c 740 mi long For the most part mountainous or desert, it has fertile valleys where corn, millet, and wheat are grown The inhabitants, all Moslem, are directly ruled by sultans or tribal chiefs The boundaries of the protectorate were established in 1945 See Hugh Scott, *In the High Yemen* (1942)

Aden, Gulf of, western arm of the Arabian Sea, lying between Aden protectorate and Somaliland It is connected with the Red Sea by the Bab el Mandeb The gulf is on the great trade route from the Mediterranean Sea to the Indian Ocean via the Suez Canal After the 16th cent Portugal, Turkey, and Great Britain were the chief contenders for control of the gulf, and by the 19th cent British power was dominant

Adena (udē′nu), village (pop 1,703), E Ohio, SW of Steubenville, in a coal-mining area

adenoids, common name of the pharyngeal tonsils, masses of lymphoid tissue in the nasopharynx (the upper part of the throat cavity) In children these growths may interfere with normal breathing and become a factor in malformation of face and jaws and in malocclusion of teeth Infected adenoids may result in frequent colds, sore throats, and impairment of hearing

Ader (ā′–), Benjamite 1 Chron 8 15

Adernò, Italy see ADRANO

Adeste Fideles (ädĕs′tā fēdā′lēs) [Latin,=come, ye faithful], Christmas hymn of irregular meter It was written in Latin, probably by a 17th- or 18th-century German or French author, whose name remains unknown There are many English translations, the most popular is perhaps that of Frederick Oakeley (1802–80), beginning, "O come, all ye faithful" The usual tune, *Portuguese Hymn*, appears in a manuscript called *Cantus Diversi* (1751), a collection of hymn tunes copied by J F Wade The composition of the tune has been variously ascribed to Marcos Antonio Portogallo (1762–1830) and to the late 17th-century English composer John Reading, but without certainty

Adhémar de Monteil see ADEMAR

adhesive, substance capable of adhering to, and bonding, surfaces Animal glue, a gelatin made from hides, hoofs, or bones, was probably known in prehistoric times and remained the leading adhesive until the 20th cent Used now especially in cabinetmaking, it is sold as a solid—either ground or in sheets to be melted in a water-jacketed gluepot and applied while hot—or as liquid glue (an acid solution) In the 19th cent, adhesives from vegetable sources became commercially important, these include natural gums and resins, mucilage, and starch (used in flour and water pastes or in the form of dextrins and other derivatives) These vegetable substances are used as extenders and modifiers for synthetic adhesives, for sizing paper and textiles, and for labeling, sealing, and manufacturing paper goods Other adhesives derived from animal and vegetable sources include protein glues such as casein, blood albumin, and soybean glues, rubber adhesives, and cellulose derivatives Synthetic adhesives are resistant to extremes of temperature and humidity, are unaffected by bacteria, and are useful in bonding ceramics, glass, plastics, metals, rubber, and wood They are widely used in construction materials, airplanes, and automobiles and in some uses have replaced screws, rivets, and welding See also CEMENT See John Delmonte, *The Technology of Adhesives* (1947)

Adiel (ā′dĭl) [Heb,=ornament of God] **1** Father of David's treasurer 1 Chron 27 25 **2** Simeonite 1 Chron 4 36 **3** Priest 1 Chron 9 12

Adige (ä′dējā), Ger *Etsch* (ĕ′ch), river, 255 mi long, rising in N Italy, in the Tyrolean Alps It flows S through the Alto Adige and Trentino past Verona, then turns east to empty into the Adriatic north of the mouth of the Po

Adighe. see ADYGE AUTONOMOUS OBLAST

Adin (ā′–) [Heb,=tender], family which returned from exile Ezra 2 15, 8 6, Neh 7 20, 10 16

Adina (ădī′–, ûdī′–) [Heb,=pliant], Reubenite captain 1 Chron 11 42

Adino (ădī′–, ûdī′–), the EZNITE, one of David's men. 2 Sam 23 8.

Adirondack Mountains (ădĭrŏn′dăk), NE N Y, sometimes mistakenly included in the Appalachian system The group is bounded on the east by the west shore of Lake Champlain and the Lake George region and extends from foothills near the St Lawrence on the north to the Mohawk valley on the south Geologically the Adirondack region resembles the LAURENTIAN PLATEAU Its pre-Cambrian metamorphic rock with intruded igneous rock (largely masses of granite) has been uplifted and eroded through countless years Faulting caused the eastern portion to be the most rugged. Layers of sedimentary rock (sandstone and limestone) containing marine fossils of Cambrian and Ordovician times are tilted against the mountains Some of the oldest sedimentary rocks have metamorphosed to form marble, mica schist, and quartzite A sheet of glacial till over the area and lakes formed from streams backed up by moraines are characteristic The main range rises to 5,344 ft. in Mt MARCY, highest peak in the state, among the other summits are WHITEFACE, MacIntyre, Haystack, and Skylight Wild, rugged scenery, beautiful forests, and numerous lakes characterize the area, where 2,177,701 acres have been set aside in the Adirondack Forest Preserve Lake Placid and Lake George, Indian, Schroon, Long, Cranberry, Big and Little Tupper, Upper and Lower Saranac, and Raquette lakes, and the Fulton Chain have winter and summer resorts on their shores The Hudson, the Ausable, the Black, and several tributaries of the St Lawrence have their sources in the Adirondacks The mining of iron ore in the region was not considered profitable, in competition with Western ore, until c 1938 During the Second World War millions of tons were mined Highways and railroads give access to the region, where there are popular trails and canoe routes See W C O'Kane, *Trails and Summits of the Adirondacks* (1928), Adirondack Mountain Club, *Guide to Adirondack Trails* (2d ed, 1945)

Aditham (ădī′thăm), town of Judah, probably c 10 mi from the coast Joshua 15 36

adjective, English PART OF SPEECH, one of the two which refer typically to attributes The other is the adverb These two classes overlap with the form class marked by *–er* and *–est* (or *more* and *most*) They are functionally distinct in that adjectives never occur far from nouns, while adverbs are associated primarily with verbs There is a small class of words (e g, *very* and *too*) which typically precede adjectives and adverbs, these are usually called adverbs Many adverbs belong to a form class of words ending *–ly* Adjective and adverb are typically Indo-European form classes, and probably most languages lack specialized classes with analogous functions See Leonard Bloomfield, *Language* (1933)

Adlai (ăd′lī), father of SHAPHAT 4 1 Chron 27 29

Adler, Alfred (ad′lur), 1870–1937, Austrian psychiatrist, founder of the school of individual psychology Although one of Freud's earlier associates, he soon rejected the Freudian emphasis upon sex He maintained that all personality difficulties have their roots in a feeling of inferiority (see INFERIORITY COMPLEX) derived from physical handicaps or from conflict with the environment which restricts an individual's need for power and self-assertion Thus he saw behavior disorders as overcompensation for deficiencies In later life he lectured and practiced in the United States Besides *The Practice and Theory of Individual Psychology* (1923), he wrote *The Neurotic Constitution* (1909) and *Understanding Human Nature* (1927) See biography by Phyllis Bottome (1939)

Adler, Cyrus, 1863–1940, American Jewish educator, b Van Buren, Ark, grad Univ of Pennsylvania, 1883, Ph D Johns Hopkins, 1887 He taught (1884–93) Semitic languages at Johns Hopkins He was long librarian and then secretary of the Smithsonian Institution, was the founder of the American Jewish Historical Society, was one of the editors of the *Jewish Encyclopedia*, and edited the *American-Jewish Year-Book* after 1899 He was president of Dropsie College from 1908 to 1940 and of the Jewish Theological Seminary after 1924 His writings include a number of articles on comparative religion, Assyriology, and Semitic philology, *The Shofar Its Use and Origin* (1893), *Jews in the Diplomatic Correspondence of the United States* (1906), *Jacob Henry Schiff* (1921), and, with Allan Ramsay, *Told in the Coffee House* (1898) See biography by A A Neuman (1942)

Adler, Denkmar, 1844–1900, American architect, b Germany He came to the United States in 1854, settling in Detroit After serving in the Civil War, he became a draughtsman in Chicago The firm in which he was partner had a large share in the reconstruction of Chicago subsequent to the fire of 1871 In 1880 the firm of Adler and Sullivan was formed by the admission of Louis SULLIVAN, who had been Adler's chief draughtsman Into works such as the Wainwright Building in St. Louis (1891) and the Meyer Building in Chicago (1893) were put some of the earliest efforts at SKYSCRAPER design

Adler, Felix, 1851–1933, American educator and leader in social welfare, founder of the ETHICAL

CULTURE MOVEMENT, b. Germany. He was brought to the United States as a small child, was graduated from Columbia in 1870, and afterward studied in Germany In 1876 he established the New York Society for Ethical Culture and, in connection with the Ethical Culture School, the first free kindergarten in New York city Adler organized the Workingmen's Lyceum, helped to establish the Workingmen's School and the Manhattan Trade School for Girls, and founded (1883) the first child study society in the United States He was a member (1885) of New York state's first tenement house commission and served for many years as chairman of the National Child Labor Committee He became professor of political and social ethics at Columbia Univ in 1902 and was Roosevelt professor (1008–9) at the Univ of Berlin and Hibbert lecturer (1923) at Oxford Univ Among his books are *Creed and Deed* (1877), *An Ethical Philosophy of Life* (1918), and *The Reconstruction of the Spiritual Ideal* (1923)

Adler, Friedrich (frē'drĭkh), 1879–, Austrian Socialist leader, son of Viktor Adler He shot and killed (1916) the Austrian premier, Count STÜRGKH His death sentence was commuted to imprisonment, and he was amnestied on Nov 1, 1918 In 1923 he became secretary of the Second International He went into exile in 1934

Adler, Viktor (vĭk'tôr), 1852–1918, Austrian politician and journalist, founder and leader of the Austrian Social Democratic party A prominent figure in the Second International, he entered parliament in 1905 When the Austro-Hungarian empire was collapsing, he was made foreign secretary of German Austria, but he died on Nov 11, one day before Austria proclaimed itself a republic

Adlum, John, 1759–1836, American horticulturist He originated the Catawba grape from a native variety and wrote several books on viticulture and wine making The *Adlumia*, a climbing fumitory, is named for him

Admah (ăd'mu), city destroyed with SODOM

Admatha (ăd'-), counselor of Ahasuerus Esther 1 14

Admetus (ădmē'tus), in Greek legend, Thessalian king whom Apollo, banished from Olympus for killing the CYCLOPES, served as a shepherd When Admetus was dying, Apollo persuaded the gods to spare him if someone consented to die in his place His wife ALCESTIS willingly gave her life, but HERCULES rescued her from Hades

administration, public see PUBLIC ADMINISTRATION

Admirable Crichton see CRICHTON, JAMES

admiralty (ăd'mĭrulte), in British government, department in charge of the navy and the royal marine It is headed by a board of six lords commissioners The first lord of the admiralty is a member of the cabinet, he has charge of political matters, finances, and appointments The operating staff has charge of supply and maintenance of the fighting forces Admiralty jurisdiction, formerly under the high court of the admiralty, is now assigned to the high court of justice

Admiralty Island, off SE Alaska, in the ALEXANDER ARCHIPELAGO and SW of Juneau The large island (1,164 sq mi) is separated from the mainland by Stephens Passage It is mountainous and heavily forested Wildlife abounds There is a fish cannery, and the island has several native villages

Admiralty Islands, small volcanic group, area 800 sq mi, SW Pacific, W of New Ireland, in the BISMARCK ARCHIPELAGO and part of the Territory of New Guinea Manus is the chief island, surrounded by several islets and coral reefs Copra and pearls are the principal products The group was discovered in 1616 by Willem Schouten In the Second World War it was the site of a Japanese air base taken in 1944 by Allied forces, who first landed on Los Negros Island off the east coast of Manus

admiralty law see MARITIME LAW

Admiralty Range, northern part of the great mountain range in Victoria Land W of the Ross Sea, Antarctica It has peaks reaching 10,000 ft, and its heavy cover of snow gives it austere beauty

Adna [Heb, =pleasure], name of two Israelites of the returned community Ezra 10 30, Neh 12 15

Adnah (-nu) [Heb, =pleasure] **1** Deserter from Saul 1 Chron 12 20 **2** Officer under Jehoshaphat 2 Chron 17 14

adobe (udō'bē) [Span], a kind of sun-dried brick, a building with walls of such bricks, or a clay suitable for making them When used for low buildings with a roof overhang, adobe walls do not deteriorate in regions of limited rainfall, examples of Indian structures in the SW United States date from the 16th cent Sun-dried bricks of clay mixed with straw were used in ancient Egypt and Babylonia They are believed to have been introduced from Africa into Spain and thence to arid regions of the New World An adobe house is warm in winter and cool in summer, its walls are fireproof, and it is inexpensive to build, since the material usually costs nothing in areas with a suitable clay soil See also RAMMED EARTH

adolescence (ă"dulĕ'suns) [from Latin, =youth], in the physical development of the individual, the stage between puberty and maturity. The exact period of adolescence has been variously estimated; most authorities, however, are agreed on the ages between 12 and 21 Adolescence is marked by physiological changes which appear to reinforce strivings for independence as well as for heterosexual drives The emotional conflict common in this period is believed by some to be the result of an inability to express newly developed needs in a socially acceptable manner Others, however, emphasize the view that emotional instability is the inevitable result of conflict induced by biological changes within the personality See K C Garrison, *Psychology of Adolescence* (1940)

Adolf of Nassau, d 1298, German king (1292–98) He owed his election to the unpopularity of Albert of Austria (later King ALBERT I) and to his own willingness to purchase votes by promising to alienate imperial lands Adolf tried to establish a territorial power by seizing Meissen and Thuringia In order to replenish his treasury he allied himself, for a considerable subsidy, with Edward I of England against Philip IV of France His independence of action antagonized the princes, who proclaimed his deposition (1298) Soon afterward he was defeated and killed by an army commanded by Albert

Adonai see GOD

Adonis (udō'nēu), in Greek religion, festival celebrated by women in honor of the death and resurrection of ADONIS The Gardens of Adonis, used in this ceremony, were small pots of herbs which grew and died quickly, as all vegetation is born and dies every year

Adoni-bezek (ădō'nī-bē'zĕk, ăd'-) [Heb, =lord of Bezek], king of Bezek captured and mutilated by the Judahites Judges 1 5–7

Adonijah (ăd"ŋī'ju, udŏn'uju) [Heb, =God is my lord] **1** Son of David He wanted the throne which David gave to the younger son, Solomon 2 Sam 3 4, 1 Kings 1, 2 1–25 **2** Teacher of the law 2 Chron 17 7–9 **3** Sealer of the covenant after the return from the Exile Neh 10 16 Perhaps the same as **Adonikam** (-ĭ'kăm, -dŏn'-) [Heb, =my lord has risen], a name in the lists of families Ezra 2 13, 8 13, Neh 7 18

Adoniram (ăd"ŋī'-) [Heb, =my lord is on high], tax overseer 1 Kings 4 6 Adoram 2 Sam 20 24, 1 Kings 12 18 Hadoram 2 Chron 10 18

Adonis (udŏ'nĭs), in Greek religion, young man loved by APHRODITE When he was killed by a wild boar, Aphrodite persuaded the gods to allow him to leave the underworld for six months of every year His death and resurrection were celebrated in the midsummer festival ADONIA The worship of Adonis, an symbolic of the yearly growth and decay of vegetation, apparently came to Greece from Asia Minor and corresponded to the cults of the Phrygian ATTIS and the Babylonian TAMMUZ (see FERTILITY RITES) Sir J G Frazer, in *The Golden Bough*, describes the history and significance of the worship of Adonis and similar deities The story of the goddess and her mortal lover is told in Shakspere's poem *Venus and Adonis*

Adoni-zedec (ădō'nī-zē'dĕk, ăd'-) [Heb, =lord of justice], chief at Jerusalem, leader of the allies routed at Gibeon Joshua 10 1–27

adoption, act by which the legal relation of PARENT AND CHILD is created between persons not naturally so related Since adoption is not known to the common law, its practice in the United States is regulated by statute, and most states now allow it Louisiana and Texas follow the Roman law with respect to adoption, though with some changes Adoption statutes usually provide that the consent of the parents or guardian of the child—and that of the child, if above a certain age—must be obtained An adopted child generally assumes the rights and duties of a natural legitimate child The natural parents have no right to control an adopted child, nor have they any duties toward it, but in some states (e g, New York) the child does not lose the right to inherit from them In England legal adoption was not authorized until 1926

adoptionism, heresy promulgated in Spain after 783 by Felix, bishop of Urgel, and, after c 785, by Elipandus, archbishop of Toledo They held that Christ was born a man and became Son of God by adoption when he was baptized in the Jordan This doctrine had been advanced at various times by others, e g, the Theodotians, Paul of Samosata, and Nestorius It reappeared as a belief of sects like the Paulicians Felix and Elipandus were repeatedly condemned, especially at Frankfurt (794) The vigorous refutations of ALCUIN had much to do with the sect's disappearance from Spain in the early 9th cent

Adoraim (ăd"ŏrā'ĭm), town, near Hebron to the west 2 Chron 11 9 Adora 1 Mac 13 20.

Adoram (ŭdō'-), the same as ADONIRAM

Adour (adōōr'), river, 210 mi long, rising in SW France, in the Pyrenees of GASCONY Describing a wide arc, it enters the Bay of Biscay near Bayonne.

Adowa, Ethiopia see ADUWA

Adra (ă'dhrā), Mediterranean port (pop. 6,907), Almería prov, S Spain, in Andalusia At the foot of a hill below the present town stood Abdera, founded by Phoenician traders. Adra was the last stronghold of the Moors in Spain under Boabdil There are lead mines near by.

Adrammelech (ŭdrăm'ŭlĕk) **1** God of a Samaritan cult 2 Kings 17 31 **2** One of the two men named as murderers of their father, Sennacherib, Sharezer was the other Babylonian sources mention one son. 2 Kings 19 37 (=Isa 37 38)

Adramyttium (ăd"rŭmĭt'ēum), place, the modern Edremid, NW Turkey Here Paul's ship was built Acts 27 2

Adrano (adrā'nō), rural city (pop 24,307), E Sicily, Italy, at the foot of Mt Etna It was formerly named Adernò Founded c 400 B C near a temple of the god Hadranus, it has ruins of ancient walls and an imposing Norman castle Fierce fighting between Germans and Allies took place here in 1943

Adrastus (udrăs'-), in Greek legend, king of Argos, the only survivor of the SEVEN AGAINST THEBES Ten years later he led the sons of the Seven, the EPIGONI, in a war to avenge their fathers They were successful and took the city of Thebes

adrenal gland (ădrē'nul) [Latin, =at the kidney] or **suprarenal gland** (sōōprurē'nul) [Latin, =over the kidney], one of a pair of glands about 2 in long, of yellowish color, resting on the upper part of each kidney near the vertebral column These glands are ductless, pouring their secretion directly into the blood stream A hormone, cortin, is secreted by the outer layer of yellowish tissue (the cortex) Cortin is concerned with carbohydrate metabolism and sex function The inner red portion (the medulla) of the gland secretes another hormone, adrenaline Emotional disturbances such as fear and anger stimulate the secretion of adrenaline, causing acceleration of the heart beat, increased blood pressure, and an increased output of glucose from the liver Adrenaline is injected hypodermically in the treatment of shock, asthma, and hemorrhage The adrenal glands are subject to injury, infection (e g, tuberculosis), the growth of tumors, and atrophy

adrenaline (ŭdrĕn'ulĭn) or **epinephrine** (ĕpĭnĕf'rĭn), the active agent in the secretion of the medulla of the adrenal gland, a HORMONE which helps to maintain normal pressure in the circulation of the blood Chemically, it is a colorless crystalline substance composed of carbon, hydrogen, and nitrogen in molecules of complex atomic arrangement It is soluble in alkalies and acids (with which it forms compounds) and glycerin, but is only slightly so in water Obtained in the pure state by Takamine in 1901, it was synthesized independently by F Stolz (1904) and by Dakin (1905) It is used in medicine to cause contraction of the capillaries and smaller blood vessels so that bleeding may be prevented or stopped Such action causes an increase in blood pressure Mixed with local anesthetics, e g, cocaine or novocaine, it prevents bleeding during an operation and reduces the toxic action of the cocaine drugs It is used as an antispasmodic in the treatment of bronchial asthma Adrenaline is extracted from the glands of slaughtered animals and is also produced synthetically

Adria (ă'drēu), ancient name of the Adriatic, extended to mean the central Mediterranean in Acts 27 27

Adrian I, d 795, pope (772–95), a Roman, successor of Stephen IV (also called Stephen III, see ZACHARIAS) and predecessor of St LEO III When he came to the throne, Adrian called on CHARLEMAGNE to help repulse an invasion of the papal domains by the Lombard king, Desiderius Charlemagne successfully aided the pope, confirmed his father's concessions, and subsequently added to the papal lands with the so-called Donation of Charlemagne Adrian supported Empress IRENE in her struggle against ICONOCLASM and sent legates to Nicaea (see NICAEA, SECOND COUNCIL OF)

Adrian IV, d 1159, pope (1154–59), an Englishman (b Langley, near St Albans) named Nicholas Breakspear, successor of Anastasius IV and predecessor of ALEXANDER III He was an Austin canon He was made cardinal-bishop of Albano (1149?) by Pope Eugene III, became one of the pope's close advisers, and was sent on several diplomatic missions As papal legate he organized (c 1152–1154) the diocese of Norway After his election to the papacy Adrian was opposed by the Roman commune (led by ARNOLD OF BRESCIA) which had plagued his predecessors and was forced to go to Viterbo Adrian laid Rome under the interdict (an extraordinary step) and was able to return by 1155 Adrian's relations with the Normans of Sicily were strained from the start William I of Sicily invaded the Papal States, but in 1157 he withdrew and made an agreement with the pope, he did homage for Apulia and Sicily, with which Adrian invested him So long as the pope was at war with Sicily, FREDERICK I and Adrian were at peace, Adrian crowned Frederick (1155) and Frederick put down the Roman disorders When Adrian and William came to agreement, the emperor and the pope fell out, for Frederick considered the investiture of William a usurpation by the pope of imperial prerogative A meeting of the diet at Besançon (1157) turned into a riot when Cardinal Bandinelli (later Pope Alexander III) spoke of the empire as a benefice from the pope A papal letter to Frederick explaining that *benefice*

in this case meant "benefit," not "feudal grant," composed this misunderstanding, but Frederick's campaign in Lombardy (1158–59) worsened relations with Adrian, who was on the point of excommunicating Frederick when he died Alexander continued the struggle One of the most disputed matters in the history of the Holy See arose with the donation of Ireland, as a papal fief, to Henry II of England by Adrian Scholars tend to hold that the investiture and the bull *Laudabiliter* confirming it are genuine See E M Almedingen, *The English Pope* (1925)

Adrian VI, 1459–1523, pope (1522–23), a Netherlander (b Utrecht) named Adrian Florensz, successor of LEO X and predecessor of CLEMENT VII He was the most recent non-Italian pope He taught at Louvain and was tutor of the young prince, later Emperor CHARLES V This was a time when Roman life was most extravagant, papal expenditures on worldly objects were at their height, and the Curia most needed drastic reform Adrian, an ascetic and a pious man, did his best to curb the abuses he found, but he died after 20 months The Italians rejoiced at his death

Adrian, Roman emperor see HADRIAN

Adrian, Edgar Douglas, 1889–, English physiologist, M.D Trinity College, Cambridge, 1915 He was research professor of the Royal Society from 1929 to 1937 and professor of physiology at Cambridge from 1937 His research was chiefly on the physiology of the nervous system He wrote *The Basis of Sensation* (1928), *The Mechanism of Nervous Action* (1932), and, with others, *Factors Determining Human Behavior* (1937) With Sir Charles S Sherrington he shared the 1932 Nobel Prize in Physiology and Medicine for their work on the function of the neuron

Adrian, 1 City (pop 14,230), co seat of Lenawee co , S Mich , SW of Detroit, settled 1825, inc as a village 1836, as a city 1853 It is a farm trade center, is known for its chrysanthemums, and manufactures locks, metal and paper products, and wire fences Adrian College (Methodist, coeducational, 1845) and Siena Heights College (Catholic, for women) are here Indian trails crossed here, and there are several Indian village sites in the vicinity 2 Village (pop 1,066), SW Minn , near the Iowa line between Worthington and Luverne It is a farm trade center

Adrianople (ā"drēənō'pul) or **Edirne** (ĕdĭr'nĕ), city (pop. 29,439), European Turkey, in Thrace It is a commercial center with silk and cotton manufactures It was named after Emperor Hadrian, who founded (A D c 125) it on the site of the older Uscudama, Byzantine writers also called it Orestias Of great strategic importance and strongly fortified, the city had a turbulent history The defeat (378) of Emperor VALENS by the Visigoths at Adrianople laid Greece open to the barbarians Later conquered by the Avars, the Bulgarians, and the Crusaders, the city passed to the Turks in 1361 and was the residence of the sultans until the conquest of Constantinople in 1453 In the 19th cent the Russians captured Adrianople twice in the Russo-Turkish Wars In 1913 it fell to Bulgaria in the First Balkan War and was restored to Turkey after the Second Balkan War It passed to Greece by the Treaty of Sèvres (1920), but was again restored to Turkey by the Treaty of Lausanne (1923) Among the landmarks of Adrianople are the great mosque of Selim I and ruins of the palace of the sultans

Adrianople, Treaty of, 1829, peace treaty between Russia and the Ottoman Empire (see RUSSO-TURKISH WARS) Turkey gave Russia additional territory on the Black Sea, allowed Russia to occupy Moldavia and Walachia, granted Russia exclusive protective rights over the Palestinian holy places and over the Christian subjects of the sultan, opened the Dardanelles to all commercial vessels, granted autonomy to Serbia, and promised autonomy for Greece

Adriatic Sea (ādrēă'tĭk), arm of the Mediterranean, between Italy and the Balkan Peninsula It is 500 mi long and 58 to 140 mi wide, with a maximum depth of 4,100 ft , it extends from the Gulf of Venice, at its head, SE to the Strait of Otranto, which leads to the Ionian Sea The Italian coast (west and north) is low, Venice, Ancona, Bari, and Brindisi are the chief ports Trieste, in the northeast, once the chief Adriatic port, forms a free territory with part of ISTRIA The eastern shore line belongs to Yugoslavia (north) and to Albania (south) The Yugoslav coast (see DALMATIA) is rugged, Fiume, Susak, and Dubrovnik are among its ports

Adriel (ā'-), husband of MERAB 1 Sam 18 17–20.

adsorption [Latin,=sucking towards], phenomenon in which the molecules of one substance are attracted and adhere to the surfaces of some other substance and in which no chemical change takes place Certain solids have the power to adsorb great quantities of gases The molecules of the gas gather (condense) upon the exposed surfaces of the solid Charcoal, for example, having a great extent of surface because of its porous nature, adsorbs large volumes of gases, including most of the poisonous ones. Because of this property it is used in gas masks. Certain finely divided solids have great adsorptive properties Minute particles of platinum attract multitudes of hydrogen molecules to their surfaces and hold them Platinum adsorbs other gases as well as hydrogen, and this property is made use of in the production of sulphuric acid by the contact process and in the preparation of ammonia Adsorption also occurs in solutions In a colloidal solution, the colloidal particles may adsorb much of the solvent (see COLLOID) Bone black and charcoal are used in industry to remove colors from solutions, since they adsorb many coloring materials and carry these with them when separated from the solution On the other hand, liquid dye is held to the surface of cloth and permeates the fibers so that when the liquid has evaporated the dye still remains Adsorption is made use of in photography, in the hydrogenation of oils, and in gas analysis

Adua, Ethiopia see ADUWA

Adullam (udŭl'-), border town of Judah, SW of Jerusalem Joshua 15 35, 2 Chron 11 7, Neh 11 30 David hid in the Cave of Adullam when he fled from Saul From here three of his men went to get him water from the well at Bethlehem 1 Sam. 22, 2 Sam 23 13–17, 1 Chron 11 15–19

adult education, extension of educational opportunities to those adults, beyond the age of general public education, who feel a need for further training of any sort Its relatively recent development results from various social trends—the general spread of public education, the intensification of economic competition with its premiums for skills, the complexities of national and international politics demanding constant study, the stimulating effects of the urbanization of populations, and increased leisure time The commonest form of adult education activities is the reading and discussion group, in which people meet informally to study and discuss a topic of common interest Formalized adult education in the modern period probably started in Europe in political groups and advanced technical education Continuation schools for workers in Germany and Switzerland were typical The FOLK SCHOOL in Denmark founded by Bishop Grundtvig stressed the cultural aspect, and the Adult Schools of the Society of Friends in England (1845) fostered the education of unfortunates Distinct from the incidentally educational activities of such groups as the New England town meeting are two notable early organized activities—development of the public lecture systems of the LYCEUM (c 1826) and the Lowell Institute of Boston endowed by John Lowell (1836) In 1873 the CHAUTAUQUA MOVEMENT introduced the discussion group and modified lecture system Free public lectures under the department of education of New York city were inaugurated in 1904 Since that time public schools have been active in furnishing facilities and assistance to private adult education groups in many communities Colleges have instituted extension work, courses without credit, and correspondence courses In 1926 the Carnegie Corp of New York founded the American Association for Adult Education This group, through its quarterly journal and in research, has worked to systematize the methods and philosophy of the field Organizations designed to relieve ILLITERACY are instruments in adult education, as are the schools established for the education of the foreign-born in the English language and in the customs of the country A large amount of adult education is carried on in the field of worker education by labor unions and in VOCATIONAL TRAINING Since 1930 economic and world affairs have further stimulated a demand for adult education Organized forums, community centers, PARENT EDUCATION groups, political and economic action associations, dramatic, musical, and artistic groups—all can be regarded as adult education activities, as can the modern developments in public library group organization The "great books" groups, which read and discuss with trained leaders a specified list of about 70 books, began meeting in 1947, the movement grew out of great books seminars in Chicago and Columbia universities and St John's College In many places the public library sponsors the group The Federal government in its Agricultural Extension Service and in the Works Progress Administration has been active in promoting adult education See publications of the U S Office of Education, *The Program Planner*, a periodical published by the Program Information Exchange, *Handbook of Adult Education* and *Studies in the Social Significance of Adult Education* published by the American Association for Adult Education; William Sharlip and A A Owens, *Adult Immigrant Education* (1925), Lyman Bryson, *Adult Education* (1936), J T. Adams, *Frontiers of American Culture* (1944)

adulteration of food: see FOOD ADULTERATION.

Adummim (udŭm'-) [Heb ,=red], ascent in the Jericho road Joshua 15 7, 18 17

Aduwa or **Adowa** (both ä'dŭwä), Ital. *Adua*, town (pop 6,000), N Ethiopia It was the scene in 1896 of the victory of the Ethiopian emperor, Menelik II, over Italian forces invading from Eritrea. The defeat forced Italy to abandon the invasion.

Advent [Latin,=coming, i.e., of Jesus], season of the Christian ecclesiastical year, lasting, in the West, from the Sunday nearest Nov. 30 (St Andrew's) until Christmas. It is a season of penitence, to prepare for the holy day, and its liturgical color is purple. The first Sunday of Advent is the first day of the church calendar. The third Sunday, called Gaudete Sunday, is a break in the penitential season, like LAETARE in Lent

Advent Christian Church: see ADVENTISTS.

Adventists (ăd'vĕn"tĭsts) [advent, Latin,=coming], members of a group of related religious denominations whose distinctive doctrine centers in their belief concerning the second coming of Christ (see JUDGMENT DAY). The name Adventism is specifically applied to the teachings of William MILLER (1782–1849), who predicted the end of the world for 1843, then for 1844 When it did not occur, the Millerites or Second Adventists, at a meeting at Albany in 1845 adopted a statement declaring their belief in the visible return of Christ at an indefinite time, when the resurrection of the dead would take place and the millennium would have its beginning. Later this body took the name Evangelical Adventists. The Seventh-Day Adventists adopted in 1844 the observance of Saturday as the Sabbath. They include in their doctrine the belief that the wicked will have no resurrection, and they accept Mrs Ellen Gould White as an inspired prophetess. The Seventh-Day Adventists carry on world-wide missionary work The Church of God was organized (c 1866) as a result of division among Seventh-Day Adventists over the question of the prophesies of Mrs White, in 1888 this body formed an association known as the Churches of God in Jesus Christ The observance of the seventh day is retained by this group The Advent Christian Church, a branch of the first Adventist organization, dates from 1861, their members believe in the complete extinction of the unrighteous, as do the members of the Life and Advent Union, which was formed c 1862

adverb see PART OF SPEECH and ADJECTIVE

advertising. In 1932 the periodical *Advertising Age* conducted a contest for the purpose of defining the word *advertising* The definition recommended by the judges was, "the printed, written, spoken, or pictured representation of a person, product, service or movement, openly sponsored by the advertiser and at his expense for the purpose of influencing sales, use, votes or endorsement " Advertising may be classified according to sponsor (retailer, manufacturer, or association), according to the audience addressed (national or local, consumer or dealer), and according to various other aspects Perhaps the most generally used classification is according to media The major media in the United States are magazines, newspapers, radio, and outdoor advertising (posters, billboards, painted bulletins, and the like) Compilations made by *Advertising Age* give the total spent in the United States in 1948 in these four media as $1,100,000,000, this figure does not include expenditures for local and regional advertising, which probably total about twice the costs of national advertising The expenditures of national advertisers were divided among the four media (approximately) as 42 percent in national magazines, 39 percent in daily newspapers, 12 percent in national-network radio, and 7 percent in outdoor advertising The radio figures do not include television, 1948 expenditures in this new field were, not including program costs, $2,500,000 In that year television was broadened with completion of coaxial cables from New York to Chicago and St Louis, cables had earlier been completed from New York to Boston and to Richmond Besides these major advertising media, there are many minor means such as car cards, direct mail (form letters, circulars, folders, and the like), counter and display signs, novelties (ashtrays, pencils, matches, and the like), moving pictures, skywriting, and "sandwich men " The history of advertising dates back to the modest public notice Newspaper classified advertising still closely resembles its ancestor, but other forms of advertising have changed greatly Modern advertising for the most part no longer merely "offers for sale " Early in the 19th cent the influence of salesmanship began to insert itself into the public notice, and the present elaborate form of advertising began to evolve The advertising agency has perhaps been more responsible for this change than any other factor The advertising agent, who first came into prominence in the United States in the 1860s, began simply as an agent selling space for advertisements Capitalising on his special knowledge of the circulation and the reader interest of various publications (about which there was no generally known accurate information in those days), he bought space, frequently in quantity and at lower rates; he resold this space to advertisers, taking a commission of about 15 percent. With stricter postal regulations and the establishment of associations and bureaus for auditing the circulation figures of publications, circulation claims became more honest and dependable and the rates were more nearly standardized. To help the advertiser make more effective and profitable use of the space, the agent began to place

more emphasis on planning, preparing, and writing the advertisements for clients; such work has come to be his chief function, although payment of commissions by the advertising media is still the agency's accepted method of compensation—generally 15 percent of the cost of space and time For the year 1948 some 44 U S advertising agencies each reported placing $10,000,000 or more in advertising expenditures With the increase in the number of advertising media and the scientific and technical improvements in them, advertising has become a highly specialized business New York, Chicago, and Detroit are the leading U S advertising centers. The chief advertising trade publications are *Printer's Ink*, *Advertising Age*, *Advertising Agency* (formerly *Advertising and Selling*), and *Tide* Authentic figures on circulation and advertising rates for magazines, newspapers, and the like and coverage and rates for radio stations are supplied in *Standard Rate and Data Service* (issued monthly with interim changes) See Frank Allen Bart, *American Advertising Agencies* (1940), Neil H Borden, *Economic Effects of Advertising* (1942), Harry Walker Hepner, *Effective Advertising* (2d ed , 1949).

advocate: see BAR, THE

Ady, Andrew (ŏ'dē), Hung *Ady Endre* (ĕn'drĕ), 1877–1919, Hungarian poet, studied law at Budapest and Debrecen Abandoning a career of scholarship for journalism and literature, he spent much of his time in Paris, where he came under modernist influence and became the leader of the radical group in Hungarian literature. He is one of the finest of Hungarian poets, his writings expound the national, religious, and ethical contrasts of the society of his time Of his works, 12 volumes of verses were published and 7 of prose See René Bonnerjea, *Endre Ady Poems* (1941)

Adyge Autonomous Oblast (ŭdĭgyĕ'), administrative division (1,700 sq mi , pop c 300,000), KRASNODAR TERRITORY, RSFSR, in Circassia, at the foot of the northwestern part of the Greater Caucasus and S of the Kuban river Maikop is the capital. The population is largely Adyge (see CIRCASSIA) Subdued by Russia in 1864, the region became an autonomous oblast in 1922 The name also appears as Adyghe and Adighe

adz or **adze.** The adz is related to the HOE, but is adapted to shaping wood The work formerly done by the adz is now usually done by the saw and the plane Before iron and steel were available for making tools, the adz of stone, copper, or bronze was often assisted by charring the wood to be removed The dugout canoes of the American Indians were shaped in this way See Thomas Hibben, *The Carpenter's Tool Chest* (1933)

Adzhar Autonomous Soviet Socialist Republic (ŭjär', a'jär, Rus ŭjär') or **Adzharistan** (ŭja'rĭstän", Rus ŭja"rĕstan'), autonomous state (1,080 sq mi , pop c 200,000), SW GEORGIAN, SSR, on the Black Sea at the western end of the Lesser Caucasus, bordering (south) on Turkey BATUM is the capital The Adzhars, a largely Mohammedan people of the South Caucasian linguistic family, form 53 percent of the population, the rest are Georgians (27 percent), Armenians, Russians, and Greeks The region was annexed by Russia from Turkey partly in 1829, partly in 1878, it became an autonomous republic in 1921

A. E. see RUSSELL, GEORGE WILLIAM

Aeacus (ē'kŭs), in Greek mythology, son of Zeus by the nymph Aegina He was the father of PELEUS and TELAMON His followers were the MYRMIDONS, a swarm of ants which Zeus changed into men His descendants included Achilles, Neoptolemus, and Telamonian Ajax

aedile or **edile** (both ē'dĭl) [Latin,=belonging to the temples], in the Roman republic, a city magistrate who had general charge of the temples, controlled the public markets, arranged for the public games, regulated the grain supply, and looked after the public order In the 5th cent. B C there were plebeian aediles appointed as assistants to the tribunes, but their office and duties were largely taken over by the curule aediles, first set up at the time of the Licinian Rogations (see LICINIUS) There were two curule aediles, elected annually, alternately patricians and plebeians The importance of the office shrank in the 1st cent B C , and Augustus transferred most of the remaining important duties to other officials

Aëdon (ā'dŏn), in Greek legend, the wife of Zethus, king of Thebes She had only one son, while her sister-in-law, NIOBE, had many Her jealousy increased until, in trying to murder Niobe's oldest son, she killed her own child She was changed to a nightingale, and her song was a mournful call for her son, Itys or Itylus

Aedui (ē'dŭī) or **Haedui** (hē'dŭī), Gallic people, occupying in the 1st cent. B C. a part of later Burgundy. Defeated by ARIOVISTUS and at odds with their Gallic neighbors, they were allies of the Romans They at first aided Julius CAESAR and later were not wholehearted in their support of Vercingetorix Their early capital was BIBRACTE.

Aëtes: see JASON and MEDEA.

Aegadian Isles (ĕgā'dēŭn), Ital. *Egadi* (ā'gädē), Latin *Aegates*, archipelago (c 15 sq mi , pop 6,196), in the Mediterranean off W Sicily, Italy. The largest islands are Favignana, Marèttimo, and Levanzo. Here are the most important tuna fisheries of Sicily A Roman naval victory over the Carthaginians near here in 241 B.C. ended the First Punic War.

Aegaeon: see BRIAREUS.

Aegates: see AEGADIAN ISLES.

Aegean civilization (ĭjē'ŭn), general term for the cultures of pre-Hellenic Greece. The richness of these early civilizations was not suspected before the excavations of archaeologists in the late 19th cent The most remarkable of the cultures was perhaps that of Crete which was flourishing by the end of the 4th millennium B C , this was the MINOAN CIVILIZATION On the mainland of Greece excavations have showed the remains of MYCENAEAN CIVILIZATION The exploration of the ruins of Troy gave knowledge of another culture, and runs in the Cyclades have demonstrated remarkable early development there The exact relationships of these different centers have not yet been worked out, and there are many subjects of conjecture such as the role of the Achaeans and the causes of the decline of Crete before 1100 B C New knowledge is, however, broadening the picture of these highly developed Aegean civilizations

Aegean Sea, arm of the Mediterranean, c 400 mi long and c 200 mi wide, between Greece and Asia Minor Very irregular in outline, it is dotted with islands Its ancient name, ARCHIPELAGO, now applies to its islands, which include EUBOEA, the Northern and Southern SPORADES, the CYCLADES, and the DODECANESE The strait of the Dardanelles connects the Aegean with the Sea of Marmara The name Aegean has been variously derived from Aegae, a city of Euboea, from Aegeus, father of Theseus, and from Aegea, an Amazon queen, who drowned in it

Aegeus (ē'jēŭs, ē'jōōs), in Greek legend, king of Athens, father of Medus, by MEDEA, and of THESEUS, by Aethra. Believing that Theseus had been killed by the MINOTAUR, he drowned himself in the sea, called, therefore, the Aegean

Aegina (ĭjī'nŭ), in Greek mythology, river nymph, daughter of ASOPUS She bore Zeus a son, Aeacus

Aegina, Gr *Aegina* (ā'yēnä), island (32 sq mi , pop 10,052), off SE Greece, in the Gulf of Aegina or Saronic Gulf, an arm of the Aegean Sea, 17 mi SW of Athens It produces figs, almonds, peanuts, and vegetables and has several sulphur springs The chief town is Aegina (pop 5,820), on the northwest shore The island, inhabited from late Neolithic times, was influenced in its culture by Minoan Crete Conquered (c 1000 B C) by Dorian Greeks, it struck the first Greek coins and rose to great commercial importance In 431 B C the Athenians, against whom Aegina sided in the Peloponnesian War, expelled the population of the island, and Aegina sank into insignificance Aegina was settled by Albanians in the 16th cent In 1828–29 the town of Aegina was the temporary capital of Greece The AEGINETAN MARBLES were discovered in 1811 5 mi east of the town

Aegineta, Paulus see PAUL OF AEGINA

Aeginetan marbles (ē"jĭnē'tŭn), archaic Greek sculptures, probably of the 5th cent B C , discovered in the island of Aegina in 1811 and restored (erroneously) by Thorvaldsen Originally they formed the decorations of the pediments of a temple They represent episodes in the story of Troy The figures were painted, the color, though nearly effaced, remained visible

aegis (ē'jĭs), in Greek legend, weapon borne by Zeus, Athena, and Apollo Its use was terrifying to the enemy, and it was thrown over the shoulder, hence it is thought that the aegis was a pelt which was shaken at the enemy to dazzle or stupefy him. Athena's aegis bore the head of MEDUSA The Romans took over the legend, which was, by the 4th cent B C , already quite changed by the Greeks Thus, it was supposed to be a shield or breastplate, hence its synonymy with "protection", a false etymology made it a goatskin, made from the skin of AMALTHAEA

Aegisthus (ĭjĭs'thŭs), in Greek legend, son of THYESTES and (according to one legend) his daughter Pelopia He survived the murder of his brothers and killed his uncle ATREUS Then he became the lover of Clytemnestra and helped her to kill her husband, Agamemnon In revenge for this deed, Agamemnon's son, ORESTES, killed him

Aegospotamos (ē"gŭspŏ'tumŏs), river of ancient Thrace flowing into the Hellespont. At its mouth in 405 B C occurred the culminating battle of the PELOPONNESIAN WAR. Lysander and his Spartan fleet had come north to cut the grain supply of Athens The Athenian fleet under CONON came to Aegospotamos and at first vainly tried to induce the Spartans to fight Despite the warnings of ALCIBIADES, Conon and his men did not take proper precautions Lysander fell upon them and completely destroyed the Athenian fleet.

Aegyptus: see DANAÜS.

Aehrenthal, Alois Lexa, Graf von (ā'lōēs lāk'sä grāf' fŭn ârŭntāl), 1854–1912, Austro-Hungarian foreign minister (1906–12). The chief event of his ministry was the Austrian annexation (1908) of BOSNIA AND HERCEGOVINA. The Russian foreign minister, IZVOLSKY, had given his formal agreement to the annexation in a secret meeting at Buchlau, Moravia, in return, Aehrenthal promised Austrian support for the opening of the Dardanelles to Russian warships The annexation followed promptly, whereas Izvolsky was frustrated in his Dardanelles plan by English opposition Serbian indignation at the annexation as well as belated Russian opposition almost led to a European war in 1909 Aehrenthal with difficulty restrained the Austrian war party led by Conrad von Hötzendorf At last the Bosnian crisis was ended by German mediation, the signatory powers of the Congress of Berlin (1878), including Russia, ratified the annexation

Aeken, Jerom van. see BOSCH, HIERONYMUS.

Ælfric (ăl'frĭk), c 955–1020, English churchman and writer, educated at Winchester He was abbot successively of Cernel in Dorsetshire and of Eynsham in Oxfordshire His grammar, glossary, and colloquy were long the standard texts for Latin study in the English monasteries, but his principal literary works are two series of homilies and one of saints' lives in the vernacular They were written for the use of priests in instructing the people in church doctrine and patristic literature Among his other writings are the *Heptateuch*, a free English version of the first seven books of the Bible His lucid, fluent prose is generally esteemed the best in Anglo-Saxon literature. See C. L. White, *Ælfric* (1898)

Aemilian Way see ROMAN ROADS.

Aeneas (ĭnē'ŭs; ēnē'ä–), palsied man whom Peter cured Acts 9 32–35

Aeneas (ĭnē'ŭs), in classical legend, a Trojan, son of ANCHISES and Venus After the fall of Troy he escaped, bearing his aged father on his back He tarried at Carthage with Queen Dido, then went to Italy, where his descendants founded Rome. The deeds of the "pious" Aeneas are the substance of the great Roman epic, the *Aeneid* of VERGIL.

Aeneas Sylvius Piccolomini see PIUS II

Aeneid (ĭnē'ĭd), epic written by VERGIL to glorify the origins of Rome He developed the later legends about the Trojan hero Aeneas, who is mentioned in the *Iliad* Out of rather disconnected stories of the wanderings of Aeneas after the fall of Troy, Vergil created a true epic Of Aeneas he made the paragon of the most revered Roman virtues, stern rectitude, devotion to family, care for the state, and the piety assigned to him in Homer In 12 books, he tells how Aeneas escaped from Troy to Carthage, where he met Dido and told her of his adventures He then left Dido, went to Sicily, visited Hades, and landed in Italy There he established the beginnings of the Roman state and waged successful war against the natives The work ends with the death of Turnus at the hands of Aeneas The verse in dactylic hexameters is strikingly regular, though Vergil's death left the epic incomplete and some of the lines unfinished Other writers were forbidden by Augustus to complete or "improve" the work The sonority of the words and the nobility of purpose make the *Aeneid* one of the greatest of long poems in any literature

Aenon (ē'-) [Gr ,=spring], unidentified place, where John the Baptist baptized John 3 21

Aeolia see AEOLIS

aeolian harp (ēō'lēŭn) [fr AEOLUS], musical instrument, sometimes called an aeolian lyre It consists of a rectangular box over which silk or catgut strings are stretched, all tuned to the same pitch but varying in thickness, thus producing different harmonics as the wind passes over them St Dunstan of Canterbury is said to have experimented with strings blown by the wind, but Athanasius Kircher, in the 17th cent , seems to have made the first true aeolian harp

Aeolian Islands. see LIPARI ISLANDS.

Aeolians see GREECE

Aeolis (ē'ŭlĭs) or **Aeolia** (ēō'lēŭ), ancient region of the west coast of Asia Minor Aeolis was not a geographic term but a collective term for the cities planted there by the Aeolians, a branch of the Hellenic peoples The 12 southern cities were grouped in the Aeolian League, these were Temnos, Smyrna, Ptane, Neonteichos, Aegirusa, Notium, Cilla or Killa, Cyme, Gryneum, Larissa, Myrina, and Aegae

Aeolus (ē'ŭlŭs), in Greek mythology **1** The wind-god He lived on the island of Aeolia, where he kept the winds in a cave **2** Son of HELLEN and ancestor of the Aeolian branch of the Hellenic race

aerial see ANTENNA

aerial photography, the art and science of taking still or moving-picture photographs from an aircraft in the air Aerial photography was tried before the advent of the airplane by using kites and balloons It was used in the First World War to a small extent when its tremendous military value became apparent During the ensuing peacetime years methods were so perfected for taking still pictures from airplanes that photogrammetry, the science of measurement from photographs, became an important tool of agencies making any type of surface maps During the Second World War, aerial photographs were the most important source of military intelligence The use of aerial photog-

raphy is still expanding. See H T. Smith, *Aerial Photographs and Their Applications* (1943).

aerodrome see AIRPORT

aerodynamics, the physics of air (and other gases) in motion, including especially the science of FLIGHT It involves, for example, a study of the force exerted by the air against the wings and fuselage of the flying machine or, inversely, the resistance offered to the air by a body moving through it The sciences of streamline and of aerial propulsion are results of research in this field Experiments to determine the flow of air around an airplane or other body have been performed by means of the WIND TUNNEL

aeroembolism see AIRSICKNESS

aeronautical engineering see ENGINEERING

aeronautics, the science and art of flight For history and mechanics, see AERODYNAMICS, AIRPLANE, AIRSHIP, AIRWAY, AUTOGIRO, BALLOON, FLIGHT, GLIDER, HANGAR, HELICOPTER, JET PROPULSION, PARACHUTE, PILOT, SEAPLANE For notable flights, see AVIATION For military and naval aeronautics, see AIRCRAFT CARRIER, AIR FORCES, AIR POWER See also AIR, LAW OF THE, AIRSICKNESS, and articles on leading aviators and air pioneers See H E Baughman, *Aviation and Reference Guide* (2d ed , 1942), A P De Seversky, *Victory through Air Power* (1942), H L Williams, *Casey Jones Cyclopedia of Aviation Terms* (1946) and *Fundamentals of Aviation* (1946), A W Judge, *Aircraft Engines* (2 vols , rev ed , 1945–47)

aeroplane see AIRPLANE

Aertsen or **Aartsen, Pieter** (pē'tur ärt'sən), c 1508–c 1575, Dutch painter of religious pictures and scenes of rustic life Most of his religious pictures have been destroyed, but examples of the others are in Antwerp, Amsterdam, and Vienna Aertsen was nicknamed Lange Pier [tall Pete]

Aeschines (ĕs'kĭnēz), c 389–314? B C , Athenian orator, the rival of DEMOSTHENES A man arisen from humble circumstances, he became powerful in politics because of his oratorical gifts At first opposed to Philip II of Macedon, he later changed sides, arguing that resistance to Macedonian power was useless Both he and Demosthenes were members of the embassy to Philip in 348 B C , and afterward Demosthenes bitterly accused Aeschines of accepting Macedonian bribes Aeschines defended himself in his orations *Against Timarchus* (Timarchus being an ally of Demosthenes) and *On the False Legation* (342 B C , Demosthenes' oration on the occasion had the same title) The trouble between the two orators grew and culminated in the affair of the gold crown that the orator Ctesiphon proposed should be given Demosthenes in 330 B C Aeschines brought suit with *Against Ctesiphon* Demosthenes replied with his sturdy defense *On the Crown* Aeschines lost, was fined, and retired to Asia Minor

Aeschylus (ĕs'kĭlus, ēs'–), 525–456 B C , Athenian tragic poet b Eleusis He was the first of the three great Greek writers of TRAGEDY He fought at Marathon (which sole fact his epitaph, written by himself, states proudly) and at Salamis In middle age he went to Sicily to live at the court of Hiero I, and he died at Gela He wrote perhaps 90 plays (seven survive in full) and won 13 first prizes In each case four connected plays were submitted (a tragic trilogy plus a lighter satyr play) Aeschylus really invented tragedy Before him a tragedy was a dialogue between a chorus and one actor —a dramatically limited form Aeschylus added an actor and increased the potentialities of his vehicle immeasurably (Though only two actors and the chorus appeared on the stage at the same time, an actor often took more than one part) Aeschylus seems to have introduced actors' costumes, to have decorated his scene, and to have placed supernumeraries on the stage He also, by his supreme poetic ability, his piety, and his high-mindedness, made Athenian tragedy more of an artistic and intellectual creation than it had been before. His extant plays are hard to date The earliest is probably *The Suppliants*, simple in plot (on the marriage of the 50 daughters of DANAÜS) and with only one actor besides the chorus, whose passages dominate the tragedy *The Persians* (472? B C), glorifying the Athenian victory over Persia at Salamis, has two actors but the new form is still unpolished *The Seven against Thebes*, the grimmest and most awful of his tragedies, can be dated in 467 *Prometheus Bound* (see PROMETHEUS), of uncertain date, is striking for its bold attack on the relations of god and man, but the later two parts of its trilogy, which are lost, probably left Zeus as magnificent as ever The last three tragedies of Aeschylus compose the only extant ancient trilogy, the *Oresteia*, with which the poet won first prize in 458 The plays are *Agamemnon*, *The Choëphoroe*, and *The Eumenides*, three actors are used—an innovation of SOPHOCLES *Agamemnon* is by many considered the greatest Attic tragedy, in suspense it is approached in ancient drama perhaps only by the *Oedipus Rex* of Sophocles The modern reader of Aeschylus usually compares him unfavorably with Sophocles, Aeschylus prospers ill in translation, and this is true especially of his choral lyrics, which are, at their best, rivals of the odes of Pindar. The choruses, more important in Aeschylus than in his successors, are both ethical commentaries on the action and means for the presentation of the action Vivid in its character portrayal, majestic in its tone, and beautiful in its lyricism, Aeschylus' tragic poetry has been esteemed among the greatest of all time He alone of Greek tragedians was honored at Athens by having his plays performed repeatedly after his death There are many English translations Browning's *Agamemnon* is a poetic translation, and Eugene O'Neill's *Mourning Becomes Electra* is an American version of the trilogy For bibliography, see J E Harry, *Greek Tragedy*, Vol I (1933)

Aesculapius see ASCLEPIUS

Aesir see GERMANIC RELIGION

Aeson (ē'sŏn), in Greek mythology, father of JASON He was driven from his kingdom by his brother PELIAS One legend says that he died while Jason was seeking the GOLDEN FLEECE, another that, after Jason's return, Aeson's youth was restored by MEDEA

Aesop (ē'sŏp, ē'sōp), Greek fabulist About him nothing is known, and it is probable that he never existed An old legend makes him a slave of Samos in the 6th cent B C and gives him wild adventures The fables called Aesop's fables were preserved principally through BABRIUS, PHAEDRUS, and PLANUDES MAXIMUS See FABLE

aesthetics (ĕsthĕt'ĭks), the science of beauty and art The several fine arts are the realization or expression of beauty through their appropriate media, as wood, marble, pigment, and sounds The province of aesthetics is to determine the nature of beauty in general and the laws governing its expression in a concrete medium On the nature of beauty, there are two types of thought—the objective, generally maintaining that beauty inheres in the external object, and the subjective, generally maintaining that beauty depends solely upon the perception of the observer There are innumerable shades of variation between these two poles A theory of aesthetics is an essential part of any complete philosophic theory, and almost every philosopher has attempted to draw up his own laws of beauty Some of the most interesting theories of aesthetics have been those of Plato, Aristotle, the 3d earl of Shaftesbury, Hegel, Bosanquet, Fechner, and, in recent years, Croce and Santayana Aesthetics also embraces all the arts as well as the principles underlying the works of critics of painting, sculpture, architecture, literature, and music See George Santayana, *The Sense of Beauty* (1896), Irving Babbitt, *The New Laokoon* (1910), K E Gilbert and Helmut Kuhn, *A History of Esthetics* (1940), H M Kallen, *Art and Freedom* (2 vols , 1942)

aestivation see HIBERNATION

Aeta see PYGMY

Æthelbald (ē'thulbôld, ă'–), d 757, king of Mercia (716–57), grandson of a brother of Penda He was in exile many years before he became king A strong ruler, he by 731 controlled all England S of the Humber and led expeditions into Northumbria (740) and against the Welsh (743) He was murdered by his own bodyguard

Æthelbald, d 860, king of Wessex, son of ÆTHELWULF and brother of ALFRED During his father's pilgrimage to Rome (855–56), Æthelbald ruled, and in 856 he led a group who refused to receive the king back Æthelwulf left Wessex to his son and resumed his reign over Kent, Devon, Sussex, and Essex After Æthelwulf's death, in 858, Æthelbald married his father's widow, Judith of France At his death Æthelbald was succeeded by his brother Æthelbert

Æthelbert (ē'thulburt, –bûrt, ă–), d 616, king of Kent (560?–616) Although he was defeated (possibly at Wimbledon) by the West Saxons in 568, he later reconstructed his broken power and was the strongest ruler in England S of the Humber His wife Bertha, daughter of the Frankish king, Charibert of Paris, was a Christian Æthelbert received St Augustine of Canterbury, who converted the king to Christianity and made his capital, Canterbury, a great Christian center The laws issued by him are the earliest extant body of laws in any Germanic language and in their list of payments for physical injuries illustrate the social order of the time

Æthelbert, d 866, king of Wessex (860–66), son of ÆTHELWULF and brother of ALFRED In 858 at the death of his father he began to rule Kent (with Surrey, Sussex, and Essex), and he reunited them with Wessex when in 860 he succeeded his brother ÆTHELBALD Throughout his reign the attacks of the Danes were severe, and they continued through the reign of his brother and successor, ÆTHELRED

Æthelflæd (ē'thulflĕd, ă'–) or **Ethelfleda** (ĕthŭlflē'du), d 918, daughter of King ALFRED of England and wife of Æthelred, ealdorman of Mercia After her husband's death in 911 she reigned alone and was known as the Lady of the Mercians Her energetic prosecution of resistance against the Danes and her wise government, both before and after her husband's death, won her a reputation as one of the most remarkable women in English history

Æthelfrith (ē'thŭlfrĭth, ă–), d 617, king of Northumbria He was the first great leader to arise among the northern Angles, and he ruled over both Bernicia and Deira, probably beginning c 593 He repulsed an attack by the Scottish Gaels under Aidan in 603 and about 10 years later defeated the Welsh at Chester During Æthelfrith's lifetime (if not solely as a result of the battle of Chester) the West Welsh were separated from their northern brethren by the penetration of the English to the Irish Sea Æthelfrith forced his brother-in-law Edwin, who had pretensions to the throne in the Deiran line, into a long exile Edwin found a protector in Rædwald of East Anglia, who made war on Æthelfrith and killed him in battle at the Idle river near present-day Nottingham

Æthelmar of Valence. see AYMER OF VALENCE

Æthelred (ē'thŭlrĕd, ă'–), d 871, king of Wessex (866–71), son of ÆTHELWULF and brother of ALFRED He succeeded his brother ÆTHELBERT as king and as overking of Kent and possibly of East Anglia On one occasion he gave military aid to his brother-in-law Burgred, king of Mercia Æthelred spent much of his short reign gathering forces to oppose the Danes, who had occupied York (866) and ravaged much of England Alfred was his important second in command in a series of battles (870–71) Although Æthelred had young children, Alfred succeeded his brother in April, 871, as better fitted to defend the kingdom

Æthelred, 965?–1016, king of England (978–1016), called Æthelred the Unready [from Old Eng unræd=without counsel] He was the son of EDGAR and the brother of EDWARD THE MARTYR The obscure circumstances of Edward's murder in 978 started Æthelred's reign under a cloud of suspicion The catastrophes of the period occurred partly because Æthelred was a weak king, but his reign coincided with the height of Danish power, and his people were often treacherous The first payment of tribute to raiding Danes was in 991—a payment raised by the DANEGELD then and frequently thereafter In 997 the Danes came not only to raid but to stay and to plunder the rich realm until 1000 It is impossible to assign reasons or blame for the devastation of Strathclyde by the English in 1000 or the massacre of Danes in England in 1002, both of which may have been at the king's order Æthelred seems to have tried to defend his kingdom, in 1002 he married Emma, sister of Richard II, duke of Normandy, perhaps in an attempt to gain an ally, in 1007 the army was placed under a single commander, by 1009 a national navy had been built, but was rendered useless by the treason of many commanders, who took to piracy A severe harrying at will by the Danes in 1009–12 left England disorganized and hopeless, and when the Danish king SWEYN returned in 1013 to conquer he was well received in the DANELAW, and London capitulated without much fighting Æthelred fled to Normandy Upon Sweyn's death in 1014 Æthelred's restoration was negotiated in the first recorded pact between an English king and his subjects CANUTE, son of Sweyn withdrew, but returned in 1015 and was opposed desperately by Æthelred and his son, EDMUND IRONSIDES. Æthelred died in April, 1016 Edmund was declared his successor and made a treaty with Canute, but died in November Canute ruled England and married Emma, Æthelred's widow, Æthelred's heirs were restored only with EDWARD THE CONFESSOR

Æthelstan see ATHELSTAN

Æthelwulf (ē'thulwōōlf, ă'–), d 858, king of Wessex (839–56), son of EGBERT and father of ÆTHELBALD, ÆTHELBERT, ÆTHELRED, and ALFRED He had been underking of Kent (with Surrey, Sussex, and Essex) before his father's death in 839, and upon becoming king of Wessex he became overking of Kent He was compelled to defend his country against the invasion of the Danes, and with Æthelbald he won a notable victory over them at Aclea in 851 He also campaigned against the Welsh A man of great piety, he sent his son Alfred to Rome and went there himself on a pilgrimage in 855 In 856 he took as his second wife Judith, daughter of Charles II (Charles the Bald) of France Learning before his return to England that Æthelbald would resist his resumption of the kingship, Æthelwulf left his son as king of Wessex and himself ruled only in Kent and its dependencies, where Æthelbert succeeded him

Aetius (ā'shēus), d 367, Syrian theologian He became prominent (c 350) as an exponent of the extreme ARIANISM principally developed by his secretary EUNOMIUS Members of his party were called Aetians and Anomoeans

Aetius, c 396–454, Roman general At first unfriendly to VALENTINIAN III, he later made his peace with GALLA PLACIDIA and was given a command in Gaul An ambitious general, he was embroiled in difficulties with his rival BONIFACE, who defeated him near Rimini in 432 Aetius went briefly into exile among the Huns but returned in 433 and rose to be the chief power of the Western Empire He defeated the Germans in Gaul, then crowned his career by commanding Roman and Visigothic troops in the repulse of Attila and the

Huns in the battle of Châlons (451)—a battle generally said to have saved the West Valentinian, presumably jealous of Aetius' success, had him murdered

Aetna· see ETNA

Aetolia (ētōl′yù), region of ancient Greece, N of the Gulf of Corinth and the Gulf of Calydon, E of the Achelous river (separating it from Acarnania) Little is known of the early population of Aetolia, but later Aetolians, though they had coastal cities, were primarily an inland farming and pastoral people They had famous shrines at Calydon (to Artemis) and Thermum (to Apollo) Aetolia was of little significance in Greek history until the rise of the Aetolian League After the downfall of that confederation, Aetolia was absorbed by the Romans into Achaea

Aetolian League, confederation centering in the cities of Aetolia It was formed in the 4th cent B C and began to gain power in the 3d cent in opposing the ACHAEAN LEAGUE and the Macedonians In alliance with the Romans, the Aetolians helped to defeat Philip V of Macedon at Cynoc ephalae in 200 B C The Aetolians, then dissatisfied, turned against Rome and made an alliance with Antio hus III of Syria His defeat (189 B C) spelled the ruin of the league Though it formally continued, its power was totally gone

Afanasyev, Aleksandr Nikolayevich (ŭlyĭksan′dur nyĭkull′uvĭch ŭfuna′syŭf), 1826–71, Russian folklorist His collections, published from 1866 on, were instrumental in introducing Russian popular tales to world literature A selection was translated into English as *Russian Fairy Tales* (1945)

affidavit (ă″fudā′vĭt), written statement sworn to before a magistrate or before some other person authorized by law to administer oaths, such as a notary public It must be signed by the party making the statement and by the officer administering the oath An affidavit is used upon the hearing of a motion in court (or in support of some contention) when it is not necessary that the person be cross-examined It thus differs from a deposition, which is made by a witness who was examined and cross-examined out of court An affidavit cannot be used upon the trial of issues raised by pleadings Affidavits are also used whenever written attestation of some fact is needed A willful misstatement of fact in an affidavit constitutes perjury

Afghan hound, large, slender hunting dog related to the greyhound Its coat is thick and silky and long-haired over most of the body, but shorter along the back, the limbs and the pendulous ears are feathered, and the head has a topknot The tail is set low and carried high A papyrus believed to date from 3000 or 4000 B C indicates that the dog was known to the ancient Egyptians It was developed chiefly in Afghanistan, where it has long been bred for hunting in the mountains

Afghanistan (ăfgă′nĭstăn″, ăfgă″nĭstan′), kingdom (c 253,000 sq mi , pop c 12,000,000), S central Asia The capital is KABUL Afghanistan lies between Iran on the west and Pakistan on the east, between the USSR (Turkmen SSR, Uzbek SSR, and Tadzhik SSR) on the north and Baluchistan on the south A narrow strip, the Wakhan, stretches in the northeast to touch Sinkiang prov , China, and Kashmir The great mass of the country is steep-sloped with mountains, the ranges fanning out from the towering Hindu Kush (reaching more than 24,000 ft) across all the center of the country There are, however, many fertile valleys and plains within the mountain ranges and on the edges Here are cultivated fields of barley and wheat and orchards yielding fine fruits, such as the famous peaches and grapes of KANDAHAR In the south and particularly in the southwest are great stretches of untenantable desert To the north, between the north central mountain chains (notably the Koh-i-Baba or the Kuh-i-Baba and the Paropamisus) and the Amu Darya river (formerly called the Oxus), which marks part of the boundary with the USSR, are the regions of Afghan Turkistan, the highlands of Badakshan (with the finest lapis lazuli in the world), the Amu Darya plain, and the rich valley of HERAT on the Hari Rud in the northwest corner of the country (the heart of ancient ARIANA), connected with the Khurasan region Farther east is the anciently splendid BALKH and the modern MAZAR-I-SHARIF The regions thus vary greatly, though prevailingly the land is dry, and the rivers are mostly not navigable The longest is the Helmand, which flows generally SW from the Hindu Kush to the Iranian border Its water was used in the remote past for irrigation, and the waters of the Hari Rud and the Amu Darya have also been utilized The Kabul river, on which the capital stands, is particularly famous because it leads to the KHYBER PASS and so south to the riches of India This route has been much used by conquerors, and the incursions of various invaders from prehistoric days until relatively recent times helped to make the population of present Afghanistan almost as variegated as the regions In the north there are the Tadzhiks about Herat and in the Wakhan, the nomadic Turkmen, and the Uzbeks In the central mountains are the Hazaras, who speak a Mŏngolian language In the east and the south are the Afghans and their almost, if not quite, undistinguishable kinsmen, the Pathans (a name used particularly for those in the North-West Frontier Prov , Pakistan), they speak Afghan or Pushtu This and Iranian are the principal languages of Afghanistan A unifying factor among the people is religion, for almost all the inhabitants of Afghanistan are Moslem The large majority are Sunnite, the minority (perhaps as many as 1,000,000) Shiite Diversity is, however, remarkable Anthropological study has not yet been extensive enough to supply a true picture of the variations in culture Differences are, however, obvious in such distinctions as that between the nomadic "tent" Afghans and the sedentary "house" Afghans Grazing is of great importance in the economy, and the fat-tailed sheep is a staple of Afghan life, supplying skins and wool for clothing, meat and fat for food Karakul is the largest single item of Afghanistan export Fine horses are the pride of many tribesmen Early in 1950 mineral wealth was largely undeveloped, though plans were under way for exploitation of coal, oil, copper, and sulphur deposits, formerly much silver and some gold came from the area Afghanistan is also traditionally known for its native plants producing castor beans, madder, and asafetida Industry was still in 1950 only in the stage of infancy, though Kabul has minor processing and manufacturing plants (matches, shoes, furniture, and the like) Only a little of the potential hydroelectric power has yet been developed Communications are poor in this mountainous country There are no railroads, and motor roads, though extensive, are subject to great difficulties, the road from Kabul to Herat via Bamian, for instance, must cross high mountain passes in great danger of avalanche The airplane promises to take much of the transport that is still carried on the backs of pack animals Generally, however, despite the recent efforts of the government, the peoples of Afghanistan have a relatively low material culture Constant strife has hindered development The position of Afghanistan across the land road to India has enticed conquerors The high mountain barriers, on the other hand, has helped the invaded Thus, the very topography that kept Afghanistan disunited served at the same time to make the hill tribes independent It is probable that there were well-developed civilizations in S Afghanistan in prehistoric times before the land had been reduced to utter desert, but the archaeological record has not yet been made clear Certainly cultures had flourished in the north and the east before Darius I by conquest annexed those areas to the Persian Empire Later Alexander the Great conquered them on his way to India, and after him came the independent kingdom of BACTRIA, which flourished with its capital at Balkh from the middle of the 3d cent B C until the middle of the 2d cent B C It fell to conquering Parthians and rebellious tribes (notably the Saka) The present Afghanistan remained divided, as petty rulers rose and fell, struggling against conquerors from the west Buddhism spread from the east, but it was wiped out, and the conquest by Moslems, which began in present W Afghanistan in the 7th cent A D , was to provide the stable religion Petty Moslem kingdoms were founded The greatest of them was that with its capital at GHAZNI, and MAHMUD OF GHAZNI, who conquered the lands from Khurasan in Iran to the Punjab in India early in the 11th cent , was the greatest of the rulers The state fell to conquering hordes from Ghor in 1152 Later Afghanistan was to succumb to the conquest of Jenghiz Khan and then to that of Tamerlane BABER, a descendant of Tamerlane, used Kabul for his conquest of India and the establishment of the Mogul empire in the 16th cent Meanwhile Islam had been accepted even by most of the remote hill tribes, and the new peoples who came in to take over the devastated land also took the new religion Tribes and families continued at strife In the 18th cent Iranian conquest under Nadir Shah marked the real beginning of Afghanistan as a unit because after his death (1747) his lieutenant, AHMED SHAH, established a unified state covering most of the present Afghanistan as well as NW India His dynasty, the Durani, gave the Afghans the name (Durani) that they themselves frequently use The Durani line ended when DOST MOHAMMED succeeded to the emirate of Afghanistan in 1802 His rule saw the emergence of the 19th-century problem of Afghanistan The struggle between Great Britain and Russia for central Asia and British desire to guard India led to the Afghan Wars The first of these began in 1838, and though British soldiers took the major cities of the east and south, the war culminated in a massacre of the British in Kabul in 1842 The following decade saw the struggles that made Khyber Pass a famous name in British military annals Dost Mohammed, ousted from his emirate, was restored with British help, but internal family and tribal strife continued Dost Mohammed's successor, SHERE ALI, was opposed by his brothers and nephews When he turned from British to Russian aid, the second of the full-scale Afghan Wars began (1878) Fortunes varied, but the upshot of the war was the ousting (1880) of Shere Ali and the establishment of the Anglophile ABDU-R-RAHMAN KHAN as emir until his death in 1901 He did much to establish order in his unruly land The boundary between North-West Frontier Prov and Afghanistan was established by Sir Mortimer Durand in 1893 as the Durand line, but the question of the exact status of some tribal lands was left unclear, and troubles continued with the Afridis, the Wazirs, and other border tribes The Anglo-Russian agreement of 1907 guaranteed the independence of Afghanistan under British influence That influence was resented, especially in the First World War, when the Afghans remained neutral but sympathized with the Moslem Turks, thus feeling led in 1919 to a short war against the British, but the emir, AMANULLAH, soon negotiated the Treaty of Rawalpindi and then devoted himself to an earnest effort to modernize his country The emirate was changed (1926) to a kingdom, and radical reforms were introduced Westernization, however, provoked the wrath of his fanatical Moslem subjects, who rose in 1929 under a leader called the Water Boy Amanullah had to resign, but Mohammed Nadir Shah, placed on the throne after the suppression of the revolt, continued moderate efforts to modernize Afghanistan until he was assassinated in 1933 His son and successor, Mohammed Zahir Shah, set out to strengthen the country and to build its economy The aspect of Afghan life was early in 1950 still somewhat anachronistic Afghan women still went completely veiled, and the educational system was only in early stages of formation (the Univ of Kabul was, for example, founded in 1932), but development programs were begun, and some irrigation schemes inaugurated to redeem the desert lands These plans were forwarded by lend-lease in the Second World War and by some American loans and aid after the war Afghanistan was deeply interested in the division of India into India and Pakistan, in early 1950 the Afghan government was protesting the incorporation of the tribal lands within the Durand line into Pakistan and urging the creation of an independent or autonomous state with a Pathan majority, to be made from the North-West Frontier Prov and to be called Pushtunistan See Sir George MacMunn, *Afghanistan from Darius to Amanullah* (1929), Jamal ud-Din Ahmad and Muhammad Abdul Aziz, *Afghanistan* (1937), Sir Percy Sykes, *A Short History of Afghanistan* (1940)

Afghan language (ăf′găn″, -gun), Iranian language of the Indo-European family See LANGUAGE (table)

Afghan Turkistan, wild region, N Afghanistan, between the Hindu Kush and the Amu Darya

Afinogenov, Aleksandr Nikolayevich (ŭlyĭksăn′dur nyĭkull′uvĭch ăfē″nŭgyĕ′nuf), 1904–41 Russian playwright He was the author of the popular Soviet play *Fear* (1931, Eng tr , 1934) Other plays available in English are *Dalyokoye* (1935, Eng trs *Remote* 1936, *Distant Point*, 1941, *Far Taiga*, 1940) *Listen, Professor* (1941, Eng tr , 1944), and *On the Eve* (1941, Eng tr in *Seven Soviet Plays*, 1946) Afinogenov was killed in a German air raid on Moscow

A F of L. see AMERICAN FEDERATION OF LABOR

Afonso For rulers thus named, see ALFONSO

Afragola (afragō′la), town (pop 29,281), Campania, S Italy, 4 mi NE of Naples A rural center, it has an Angevin castle, now used as orphanage

Africa, continent (with adjacent islands c 11,860,000 sq mi , pop c 175,000,000), lying across the equator, mainly in the Northern Hemisphere Madagascar is the largest of the islands included Africa is entirely surrounded by water At the points where it lies closest to Europe and Asia it is separated from them by the Straits of Gibraltar and the Suez Canal respectively Africa is otherwise bounded by the Mediterranean Sea on the north, by the Red Sea, the Gulf of Aden, and the Indian Ocean (including the Mozambique Channel) on the east, and by the Atlantic Ocean (including the Gulf of Guinea) on the west The smooth coast affords few natural harbors Africa is mainly a plateau averaging 2,000 ft in height Important mountainous areas are confined to the northeast (Atlas Mts), to the southwest tip (the Drakensberg), and to the east central region (split by the Great Rift Valley), where is Mt Kilimanjaro (19,565 ft), the greatest continental elevation The high lakes of E central Africa, including Lakes Rudolph, Nyasa, and Tanganyika and Victoria Nyanza and Albert Nyanza, are a major factor in much of the continental drainage system, they feed several great rivers, including the Nile (NE Africa), the Congo (equatorial Africa), and the Zambezi (SE Africa) The Niger drains W central Africa Africa, although mainly in the tropics, displays many varieties of climate Most of the north (which includes the Libyan Desert and the Sahara) and the Kalahari in the south are extremely arid There are more or less open savannas along the borders of the arid regions Dense jungle covers west equatorial Africa, where rainfall is heavy throughout the year Native Negro stocks, speaking a great variety of languages, inhabit most of the continent Large concentrations of non-Negro populations are in North Africa and in the Union of South Africa In the civilization of Egypt, established before 3000 B C , Africa perhaps may

claim the most ancient settled culture in the world Ethiopia, the second oldest African country which survives in some form from antiquity, has been traced to the 3d cent B C In ancient times the Mediterranean region of Africa was of great world importance Rome gradually acquired this area after finally defeating and destroying Carthage in 149 B C. With the dissolution of the West Roman Empire, the northern coastal regions were divided among barbarians Later a degree of unity was restored by invading Arabs (7th–11th cent), who propagated Islam effectively, today there are c 60,-000,000 Moslems in Africa After the 8th cent the Moslems (chiefly Moors) from the northern lands of Africa invaded the Christian countries of S Europe and were not finally expelled until the 15th cent Portugal, stimulated by the wish to establish a safe trade route to India, pioneered in exploring the coasts of Africa, and a Portuguese, Bartholomew Dias, was the first to round (1488) the Cape of Good Hope He was followed by Vasco da Gama, who sailed to India in 1499 Portugal established many coastal ports to trade in the commodities for which Africa became famous—spices, ivory, gold, and slaves Dutch, British, and French competition severely restricted Portugal in the two following centuries, when the slave trade reached its zenith In the 18th and the 19th cent , explorations of the interior of Africa by (among others) James Bruce, Mungo Park, John Speke, David Livingstone, and Sir Henry Stanley exposed the existence of great wealth which might be exploited by founding colonies Though the Dutch had colonized the Cape of Good Hope in the 17th cent and the British had founded the colony of Sierra Leone in 1807, the really intense struggle for empire in Africa did not arise until the final disappearance of the slave trade in the mid-19th cent By 1912 the major powers of Europe had accomplished the partition of Africa, and Egypt, Ethiopia, and Liberia alone retained at least nominally complete independence France pushed its claims to NW Africa and ultimately acquired French West Africa, French Equatorial Africa, and the French Cameroons and established protectorates in Algeria, Morocco, and Tunisia French territories in other parts of Africa are French Somaliland, French Togoland, Madagascar, Mauritius, and Réunion The main group of British possessions is in E Africa, it comprises Anglo-Egyptian Sudan, British Somaliland, Uganda, Kenya, Tanganyika, Zanzibar, Nyasaland, Northern Rhodesia, Southern Rhodesia, Bechuanaland, Basutoland, and Swaziland The Union of South Africa is a dominion of the British Commonwealth of Nations Gambia, Sierra Leone, the Gold Coast, and Nigeria are the British possessions on the west coast Portugal's African empire comprises Portuguese Guinea, Angola, and Mosambique Belgium's possessions are the Belgian Congo and Ruanda-Urundi The Spanish possessions in Africa are the smallest—Spanish Guinea, Spanish Sahara, Ifni, and the protectorate of Spanish Morocco Tangier International Zone is bordered by Spanish Morocco The former extensive German holdings —Togoland, Cameroons, German Southwest Africa, and German East Africa—were lost after the First World War Still undecided in early 1950 was the final disposition of Italy's empire, which included, before the conquest of Ethiopia (1936), Libya, Eritrea, and Italian Somaliland In the Second World War the independence of Ethiopia was reestablished, and there was a series of major campaigns in North Africa which ended in 1943 with the defeat of the Axis forces See C P Lucas, *Partition and Colonization of Africa* (1922), R V Light, *Focus on Africa* (1941), Walter Fitzgerald, *Africa* (6th rev ed , 1949)

African Methodist Episcopal Church, one of the leading Negro denominations of METHODISM It was founded by Richard ALLEN

African Negro art, primarily a sculpture and handicraft art of equatorial Africa Though of ancient and obscure origins, the examples known today are mainly of recent fabrication, because the materials used were for the most part not lasting in the tropical climate The style of the work ranges from extreme naturalism to extreme conventionalization and from crudity to the greatest technical refinement Generally speaking, ancestor worship has inspired the portrait art of the open countries, whereas in the jungles animistic beliefs have led to the production of ritual masks and fetishes Important sources of art objects include Dahomey, Liberia, the Ivory Coast and the Gold Coast, Nigeria, the Cameroons, the Belgian Congo, and French Equatorial Africa Among the most ancient and highly prized examples are the bronzes and ivories of Benin, Nigeria, the best of which were probably produced during the 16th and 17th cent They include figures, heads, and reliefs cast in bronze by the elaborate cire-perdue method The introduction of this technique has been variously ascribed to the ancient Egyptians, the Moslems and the Portuguese Aside from these Benin bronzes and ivories, only some terra-cotta heads from Ife, Nigeria, remain of earlier *objets d'art*. White domination has brought a rapid decline in production, and the number of fine examples is limited. Since 1905 there has been a growing appreciation of this art, first among European artists and then among collectors and galleries everywhere Unfortunately this popularity has led to widespread appearance of inferior and false products African sculpture has, however, had an incalculable influence on abstract modern art and is considered the highest sculptural achievement of the 19th cent by some critics See J J Sweeney, ed , *African Negro Art* (1935), Paul Guillaume and Thomas Munro, *Primitive Negro Sculpture* (1926)

African Negro music. Researches into African music are of recent date because efforts to study it were ineffectual until after the invention of the phonograph Highly complex rhythms are its outstanding feature It is a physical music, inseparable from bodily movements There is great virtuosity in African drum-beating Polyphony exists to a large degree, possibly because of the antiphonal character of much of African singing Melody, not harmony, is its basis The Negro is highly susceptible to the influence of other cultures, and European and Arabian elements have been assimilated to the extent that it is difficult to determine what elements are native to African music The xylophone and several wind instruments have been borrowed from Asiatic sources How much the spiritual of the American Negro is indebted to African music is the subject of much disagreement See E M von Hornbostel, *African Negro Music* (1929)

Africanus, Sextus Julius (sĕk'stŭs jo͞ol'yŭs ăfrĭkā'nŭs), fl 221, Christian historian, resident in Palestine He wrote a history of the world from the creation to 221, which was used by Eusebius, and also letters and a sort of anthology, mostly of materials on magic

Afridis (ăfrē'dēz), Afghan tribe, North-West Frontier Prov , Pakistan, near the Khyber Pass The Afridis often raided trading caravans using the pass, and in the late 19th and early 20th cent Great Britain dispatched numerous military expeditions to repress them

Afrikaans (ă'frĭkäns', -käns'), standard language of the South African Dutch It is a Germanic language of the Indo-European family See LANGUAGE (table)

afterbirth see PLACENTA

afterdamp, see DAMP

Afton (ăf'tŭn) **1** Town (pop 1,261), extreme NE Okla , in a rich farm area The Grand River Dam is near by **2** Town (pop 1,211, alt c 6,100 ft), W Wyo , near the Idaho line, laid out c 1896 by Mormons, inc 1902 It is a dairy center for the Star Valley There is a Mormon tabernacle here, and near by is a Univ of Wyoming agricultural experiment station

Afton, river of Ayrshire, Scotland It is the "sweet Afton" of Burns's poem

Afyonkarahisar (äfyōn'kä"rähĭsär') [Turkish, = black castle of opium], city (pop 29,030), NW Turkey It is the center of a region growing opium poppies

Afzelius, Adam (ä'dăm äfsā'lē-o͝os), 1750–1837, Swedish botanist and founder of the Linnaean Institute at Uppsala He edited the autobiography of Linnaeus and wrote several books on the plants of the Guinea coast

Afzelius, Arvid August (är'vēd ou'gŭst), 1785–1871, Swedish historian, mythologist, and song writer His best-known large work is *Swedish Folk Tunes from Olden Times* (1814). His song *The Sea God* is still sung He also translated the *Elder Edda* and wrote a history of the Swedish people His autobiography, *Memories*, was published in 1901

Ag, chemical symbol of the element SILVER

Agabus (ăg'ŭ-), prophet who foretold the famine in the time of Claudius Caesar and the imprisonment of Paul Acts 11 27,28, 21 10,11

Agade, ancient Mesopotamian city see AKKAD

Agadir (ägädēr', ăgĭdēr'), town (pop 12,438), French Morocco, a port on the Atlantic Ocean It has a good natural harbor and is the gateway to the fertile Sous region The port was opened to foreign shipping in 1930. Agadir was the scene of an international incident in 1911 When French soldiers were intervening in a revolt in Morocco, the German cruiser *Panther* appeared at Agadir with the announced intention of protecting German property This move threatened the French program in Africa, and for a time war seemed imminent, but the question was settled by later agreement

Agag (ā'găg) **1** King of the Amalekites who was defeated and spared by Saul, but killed by Samuel 1 Sam 15 **2** The allusion is not understood in Num 24 7

Agagite (ā'gŭgīt), a not necessarily ethnical term used of Haman because of his hatred of the Jews Esther 3 1

Aga Khan (Aga Sultan Sir Mahomed Shah) (ä'gä khän'), 1877–, Indian leader Hereditary ruler of the Mohammedan Ismaili sect, with followers in India, East Africa, and Central Asia, the Aga Khan was born to great power. He tried to secure Moslem support for British rule in India, particularly by founding (1906) the All-India Moslem League, and he was chairman of the British Indian delegation to the imperial conference in London in 1930–31. He also represented India at the Geneva disarmament conference (1932) and in the League of Nations (1932, 1934–37) He is, however, perhaps best known for his fabulous wealth and for his interest in horse racing. He early took up residence in Europe

agalloch: see ALOES

Agamedes: see TROPHONIUS.

Agamemnon (ăg"əmĕm'nŏn), in Greek legend, the leader of the Greek armies in the TROJAN WAR. He and his brother Menelaus suffered misfortunes because of the curse placed on their father, ATREUS Menelaus married HELEN, and Agamemnon married Helen's sister CLYTEMNESTRA, who bore him ORESTES, ELECTRA, and IPHIGENIA His quarrel with ACHILLES—a main theme in the ILIAD—was brought on when Agamemnon, deprived of CHRYSEIS, took BRISEIS from Achilles. On his return from Troy, he brought CASSANDRA as his captive Soon after his return, Clytemnestra and her lover, AEGISTHUS, murdered him. The necessity for Orestes and Electra to avenge his death is the basis for the *Oresteia* of Aeschylus

Aga Mohamad Khan or **Agha Mohammed Khan** (both ägä' mōhä'mŭd kän'), d 1797, shah of Persia, founder of the Kajar (Qajar) dynasty Captured and emasculated by family enemies at the age of five, he grew up with hatred toward the world He was vigorous and able, but his cruelty is proverbial He captured and killed (1794) the last ruler of the Zand dynasty and ended his campaign with a wholesale massacre in Kerman He made himself shah in 1796 Aga Mohamad resisted a Russian invasion and himself invaded (1795) Georgia He was detested by his people and his murder was not regretted The succession of his nephew Fath Ali caused great rejoicing

Agana (ägä'nyä), city and municipality, on Guam, on the west coast 5 mi east of the naval base at Apra Harbor Before it was completely destroyed (1945) in the Second World War, it was the largest and most important town (1940 pop 10,004) on the island U S appropriations were made in 1946 for its rehabilitation

Aganippe (ăg"ənĭp'ē), in Greek legend, nymph whose fountain on HELICON gives poetic inspiration to all who drink therefrom The MUSES are therefore called, at times, Aganippides (ăg"ənĭp'ĭdēz") [Gr , = daughters of Aganippe]

Agapemone (ăgŭpĕm'ənē) [from Gr , = abode of love], English religious community of men and women, holding all goods in common It was founded (c 1850) at Spaxton, near Bridgwater, Somerset, by Henry James Prince (1811–99), with Samuel Starky and others Prince and Starky were clergymen who had been prohibited from preaching in the Church of England Prince, known to his disciples as "the Lord" and "the Beloved," believed himself to be the Holy Ghost and proclaimed the imminent second coming of Christ The sect was sometimes called the Lampeter Brethren, but this term belonged rather to a group of clergymen earlier associated with Prince at St David's College, Lampeter, Wales A branch establishment, known as the Ark of the Covenant, was opened in London c 1890, its pastor, J H Smyth-Pigott, later succeeded Prince as head of the sect

Agapetus I (ăgŭpē'tŭs) or **Agapitus I, Saint** (-pī'tŭs), d 536, pope (535–36), a Roman, successor of John II and predecessor of St SILVERIUS He went to Constantinople to dissuade JUSTINIAN I from the projected invasion of Italy by BELISARIUS and pawned the church vessels to pay for the journey. He was unsuccessful, but while in Constantinople he accomplished the deposition of the patriarch Anthimus, who held Monophysitic doctrines and had been uncanonically elected This action has been regarded in the Roman Church as an exercise of the papal prerogative of deposing bishops. Feast April 22

Agar (ā'gər), the same as HAGAR

agar (ā'gär, ä'-, ăg'ər) or **agar-agar**, product obtained from several species of red algae or seaweed, *chiefly from the Ceylon or Jaffna moss (Gracilaria lichenoides)* and species of *Gelidium*. Although agar comes chiefly from the Far East, California is also a source of supply Cooked in water and cooled, agar becomes gelatinous, its chief uses are as a culture medium (particularly for bacteria) and as a laxative, but it serves also as a thickening for soups and sauces, in jellies and ice cream, for clarifying beverages, and for sizing fabrics

Agasias (ăgā'shēăs), 1st cent B C , Greek sculptor; son of Dositheus. His Borghese Warrior is in the Louvre Another **Agasias**, 1st cent B C , Greek sculptor, was the son of Menophilus A statue by him is in the national museum at Athens

Agassiz, Alexander (ăg'ŭsē), 1835–1910, American naturalist, b. Neuchâtel, Switzerland, son of Louis Agassiz In 1849 he came to the United States. He studied at Harvard (A B , 1855) and at the Lawrence Scientific School (B S , 1857) From 1862 until his death he was connected in various capacities with Harvard and with the Museum of Comparative Zoology founded there largely through his father's efforts. In 1867 he became superintendent of the Calumet and the adjacent Hecla copper mines on Lake Superior Under his direc-

tion the mines were completely reorganised and established on a successful financial basis Agassiz instituted many safety and welfare measures The Calumet and Hecla interests were consolidated (1871) in a single company, of which Agassiz was president until his death From the mines he obtained the wealth which he expended in the interests of science—chiefly in contributions to Harvard and in financing expeditions and publications on his research. In 1875 he studied Lake Titicaca and parts of the west coast of South America, in 1877, 1878, and 1880, traveling on the steamer *Blake*, he made, for the U S Coast Survey, oceanographic explorations off the east and southeast coasts of the United States, extending into the Gulf of Mexico and into West Indian waters to the Barbados He studied coral formations in the Tortugas (1881), in the Hawaiian Islands (1885), in the Bahamas, Cuba, the Bermuda islands, and the Florida Keys (1893–94), in the Great Barrier Reef of Australia (1896), and in the Maldive Islands (1902) His theory of the formation of coral atolls and reefs, refuting that of Darwin, was substantiated by observations made on these expeditions In 1904 Agassiz investigated marine life in the tropical Pacific waters off the west coast of South America He wrote *North American Acalephae* (1865), *Embryology of the Starfish* (1865), *Revision of the Echini* (1874), *North American Starfishes* (1877), and, with Elizabeth Cary Agassiz, *Seaside Studies in Natural History* (1865) See study by his son G R Agassiz (1913)

Agassiz, Elizabeth Cary, 1822–1907, American author and educator, b Boston In 1850 she married Louis Agassiz. She accompanied his expeditions to Brazil (1865–66) and along the Atlantic and Pacific coasts of the Americas (1871–72) She conducted a girls' school from 1856 to 1863 and was influential in the founding of Radcliffe College, which she served until 1903 as its first president Her writings include *A Journey in Brazil* (in collaboration with her husband, 1868), a biography of her husband (1885), and, with her stepson Alexander Agassiz, *Seaside Studies in Natural History* (1865) See study by L A Paton (1919)

Agassiz, Louis (Jean Louis Rodolphe Agassiz) (zhäˈ lwēˈ rôdôlfˈ), 1807–73, Swiss-American zoologist and geologist, b Fribourg, Switzerland He studied at the universities of Zurich and Erlangen (Ph D, 1829), Heidelberg, and Munich (M D, 1830) His *Fishes of Brazil* (1829) was produced at Munich from material turned over to him by C P J von Martius, who had collected it with J B von Spix Agassiz practiced medicine briefly, but his real interest lay in other fields of scientific research In 1831 he went to Paris, where he continued his study of fossil fishes under the guidance of Cuvier While in Paris he made a life-long friend of Alexander von Humboldt, who in 1832 urged him to accept the professorship in natural history at the Univ of Neuchâtel He remained there until 1846 and made the place a noted center for scientific study Among his many publications during this period was *Recherches sur les poissons fossiles* (5 vols and atlas, 1833–43), a work of historic importance in the field It was illustrated in part by his first wife, Cecile Braun Agassiz Between 1839 and 1845 he also wrote studies of fossil echinoderms and fossil mollusks and his *Fresh Water Fishes of Central Europe* (1839–42) Agassiz was an opponent of Darwinism, he considered that new species could arise only through the intervention of God From Neuchâtel he made annual studies of the Aar glacier, presenting in his *Études sur les glaciers* (1840) the first exposition of glacial movement and deposit He presented the theory that glaciers had formerly been much more extensive, that ice sheets had once covered all countries where unstratified gravel (boulder drift) could be found Agassiz's American career began when he came to the United States to deliver the Lowell Institute lectures at Cambridge in 1846 Two years later he accepted the professorship of zoology and geology at the Lawrence Scientific School of Harvard. His first wife died in Germany in 1848, and in 1850 in Cambridge he married Elizabeth Cabot Cary In the United States he was primarily a teacher and a most popular lecturer He published in 1850 the results of his study of Lake Superior. He wrote *Contributions to the Natural History of the United States* (4 vols, 1857–62), the first volume containing his famous "Essay on Classification" His expeditions included one to Brazil (1865–66) and one along the Atlantic and Pacific coasts of the Americas from Boston to California (1871–72) on the vessel *Hassler* Through his efforts the Harvard Museum of Comparative Zoology was established (1859) During the summer of 1873 he conducted the Anderson School of Natural History on Penikese Island, Buzzards Bay. He gave a tremendous impetus in America to the study of science direct from nature and trained a generation of American scientists See biographies by Elizabeth C Agassiz (1885), Jules Marcou (1896), and M. L. Robinson (1939), Lane Cooper, *Louis Agassiz as a Teacher* (1917)

Agassiz, Lake, c.700 mi long and 250 mi. wide, of the Pleistocene epoch, formed by the melting of the continental ice sheet some 10,000 years ago over much of the present NW Minnesota, NE North Dakota, and S Manitoba It was named in 1879 in memory of Louis Agassiz, for his contributions to the theory of the glacial epoch Lake Traverse, Big Stone Lake, and the Minnesota river are in the channel of the original outlet (the prehistoric River Warren) to the south, but as the ice completely disappeared, the water drained N into Hudson Bay, leaving Lakes Winnipeg, Manitoba, Winnipegosis, Red Lake, Lake of the Woods, and many smaller lakes The bed of the old lake, the Red River valley, has become an important wheat-growing region because of its rich, deep soil See Warren Upham, *The Glacial Lake Agassiz* (1895, U S Geological Survey, Monographs, Vol XXV)

agate, cryptocrystalline variety of quartz banded in two or more different colors, extensively used as a semiprecious gem stone and in the manufacture of delicate balances The banded appearance owes its origin to the fact that agates are built up by the slow deposition of silica from solution into cavities in older rock—often igneous rocks The layers differ in porosity, and the stones can be artificially stained so as to produce combinations of color more vivid and pleasing than are found in the natural state The cutting and staining of agates has long had its center at Idar and Oberstein in Germany Important sources of the stones are Brazil, Uruguay, India, and the United States (in the Lake Superior region and in some Western states) The moss agate or mocha stone is so called because it contains a dendritic inclusion resembling moss See also chalcedony, onyx, sard

Agatha, Saint (ăgˈəthə), 3d cent., Sicilian virgin, martyred under Decius She is mentioned in the Canon of the Mass and is invoked against storms Symbols palm and pincers Feast ᵻFeb 5

Agatharchus (ăgˈəthärˈkəs), 5th cent B C, Greek painter He is credited with important discoveries in the application of shading and perspective and is said to have been the first painter of scenery for use in the performance of a tragedy

Agathocles (ugăˈthuklēz), 361?–289 B C, Greek tyrant of Syracuse (317–289 B C) He warred with the other cities of Sicily and with Carthage He undertook a campaign in Africa (310–307? B C) and threatened Carthage Suffering ill fortune, Agathocles returned to Sicily and there declared himself king He had a reputation among the ancients for great cruelty

Agathon (ăgˈəthŏn), c 450–c 400 B C, Athenian tragedian Plato's *Symposium* has as its scene the celebration of Agathon's first dramatic victory Fragments of his work survive

Agave see pentheus

agave (ugāˈvē, -gäˈ-) [Gr, =noble], any of the species of plants of the genus *Agave*, economically important in their native tropical America for the fibers, soap, food, and beverages obtained from the different kinds *Maguey* (mugäˈ) is a Mexican name for several species, particularly those used in making the popular intoxicating beverages pulque and mescal Juice of the maguey contains the sugar agavose and has been used medicinally Sisal hemp and henequen, Tampico hemp or istle, and pita are among the fibers obtained from agaves The name amole or soap plant is applied to some The leaves of agaves are typically long, stiff, fleshy, often sharp tipped, and in a cluster at the ground or along a trunk The flowers, produced annually in some kinds but usually at much longer intervals, are borne on a tall, rapidly growing stalk, which rises well above the leaf cluster The flower stems of a few kinds are reputed to make good razor strops The species most often cultivated in the North for decoration requires 10 or often many more years to blossom, giving rise to the name *century plant*, also called American aloe After blooming, the century plant dies back and is replaced by shoots The agave cactus, *Leuchtenbergia principis*, is a true cactus resembling an agave The false aloe of the E United States is sometimes considered an agave

Agawam (ăgˈəwäm) 1 Town (pop 7,842), SW Mass, on the west bank of the Connecticut below West Springfield; settled 1635, inc 1855 Woolens are produced here Near by is a race track (1935). 2 Former name of Ipswich, NE Mass

Agdistis. see Cybele

age, in classical mythology, a period of the world's history, especially as systematized by Hesiod and Ovid These ages were the Golden Age, ruled by Cronus (Saturn), a period of serenity, peace, and eternal spring, the Silver Age, ruled by Zeus (Jupiter), less happy than the preceding, with luxury prevailing, the Bronze Age, a period of strife, the Iron Age, the present, a time of travail, when justice and piety are no more Hesiod had also a Heroic Age before the Iron Age, in it the Trojan War was fought The term *era* rather than *age* is now used to denote the grand divisions of geologic time (see geology).

Agee (ăgˈē-ē), father of Shammah, a mighty man. 2 Sam 23 11

Ageladas (ăjˈəlāˈdəs), c 540–c 460 B C., Greek sculptor of the Argive school, famous for his statues of gods and Olympian athletes A popular tradition, discredited by many authorities, names him as the teacher of the great sculptors, Polycletus the elder, Phidias, and Myron

Agen (ăzhēˈ), city (pop 26,051), capital of Lot-et-Garonne dept, SW France, on the Garonne, in a wine and fruitgrowing region Dating from Roman times, it became under the Carolingians the seat of the county of Agen or Agenois The county was reconquered from the English in the Hundred Years War and incorporated into the province of Guienne. A handsome old town, Agen has a remarkable, largely Romanesque cathedral

Agenor (ujēˈ-), in Greek mythology 1 Phoenician king, father of Cadmus and Europa. 2 Trojan hero, son of Antenor

agent-provocateur. see espionage

age of consent, the age at which the law provides that persons are bound by their words and acts There are different ages at which one has legal capacity to consent to marriage, to choose a guardian, to conclude a contract, and the like For marriage, the age is generally higher for males than for females Age of consent also means the age below which consent of the female to sexual intercourse cannot be offered as a defense to a charge of rape At common law this age was 10, state statutes in the United States generally set it between 13 and 18 See consent

ageratum (ăjˈərāˈtəm, ûjĕrˈu-) [Gr, =unaging], any plant of the genus *Ageratum*, tropical American annuals sometimes called flossflower The small composite flowers, commonly a lavender blue, are in thick terminal clusters borne throughout the summer and cultivated for beds, borders, and even pots The common species is *Ageratum houstonianum* A similar but perennial native plant (*Eupatorium coelestinum*), the mistflower, is sometimes called hardy ageratum

Agesander. see Laocoön

Agesilaus II (ujĕˈsĭlāˈəs), c 444–360 B C, king of Sparta After the death of Agis I (398? B C) he was brought to power by Lysander, whom he promptly ignored After the Peloponnesian War the Greek cities in Asia Minor had not been ceded to Persia despite Spartan promises, and Agesilaus went there (396) to oppose the Persian satraps Tissaphernes and Pharnabozus by attacking them He had to return to Greece, where he won (394) a hollow victory over the Thebans and their allies at Coronea, but could not reestablish Spartan hegemony In 386 by the King's Peace (or Peace of Antalcidas), the cities of Asia Minor were yielded to Persia Thebes and Athens entered an alliance against Sparta, and war followed After Agesilaus had deliberately excluded Thebes from the peace talks, Thebes renewed the war and the Theban general Epaminondas won (371 B C) a resounding victory at Leuctra Sparta did not recover Agesilaus took Spartan mercenaries to Asia Minor and Egypt and died on the way back His rule had seen the ruin of Sparta, though he was much admired by some contemporaries, notably Xenophon

Aggeus (ăjēˈəs), Vulgate form of Haggai.

agglutination. see inflection

Agha Mohammed Khan see Aga Mohamad Khan

Aghri Dagh see Ararat, Mount

Aghrim, Co Galway, Ireland see Aughrim

agilawood. see aloes

Agincourt (ăˈjĭnkôrt, Fr ăzhĕkōōrˈ), modern Fr *Azincourt* (ăzĕkōōrˈ), village, Pas-de-Calais dept, N France, c 30 mi SE of Boulogne-sur-Mer. Here, on Oct 25, 1415, Henry V of England defeated a much larger French army in the Hundred Years War His success was mainly due to the superiority of the masses of English longbow men over the heavily armored French knights and demonstrated the obsolescence of the methods of warfare proper to the age of chivalry The battle is the core of Shakspere's drama *Henry V*

Agira (ăjēˈrä), town (pop 14,411), E central Sicily, Italy Once a flourishing Greek colony, it declined under the Romans There are marble quarries in the vicinity

Agis I (āˈjĭs), d 398? B C, king of Sparta. He prosecuted the Peloponnesian War and was the Spartan general at Mantinea (418 B C) He used the advice of Alcibiades in invading Attica and establishing a post there Later he quarreled with his adviser Agis aided Lysander in the final Spartan victories of the war He is sometimes called Agis II

Agis II, d 331 B C, king of Sparta He led a revolt of Peloponnesian cities against Alexander the Great, who was in Asia The rebels were crushed, and Agis was killed at Megalopolis He is sometimes called Agis III.

Agis III, d c 240 B C, king of Sparta He sought by reform and by returning to the constitution of Lycurgus to revive dying Spartan power after 244 B C He failed and was murdered.

Aglaia. see Graces

Aglipay, Gregorio (grāgōˈrēō äglēpīˈ), 1860–1940, Philippine clergyman A priest who joined the revolutionary forces of Emilio Aguinaldo, he later took his followers from the Roman Catholic Church to found the Philippine Independent Church Bishop Aglipay attracted many followers, said to number more than 1,000,000. His church, which retained many of the forms of the Roman Church, later

established friendly relations with the Unitarians. After Aglipay's death dissension shook the organization, and one faction in 1947 allied itself with the Protestant Episcopal Church Aglipay was defeated by Manuel Quezon in the presidential election of 1935

Agnes, Saint, 4th cent , virgin martyr A noble Roman girl, she was martyred at 13 after rejecting a well-born suitor She is commemorated in the Canon of the Mass On her feast two lambs are blessed and from their wool are made the pallia sent by the pope to archbishops Feast Jan 21

Agnes Scott College see EMORY UNIVERSITY

Agnew, David Hayes (ăg'nū), 1818–92, American surgeon, b Lancaster co , Pa , M D Univ of Pennsylvania, 1838 He practiced in Philadelphia and from 1872 was famous as professor of surgery at the Univ of Pennsylvania He attended President Garfield at the time of his assassination See biography by J H Adams (1892)

Agnew, Paul Gough, 1881–, American engineer, b Hillsdale co , Mich , grad Hillsdale College, 1901, M A Univ of Michigan, 1902, Ph D Johns Hopkins 1911. He specialized in the standardization of weights and measures He was physicist (1906–19) of the Bureau of Standards and then secretary of the American Standards Association

Agni, see HINDUISM

Agnolo di Ventura see AGOSTINO DI GIOVANNI

agnosticism (ăgnŏs'tĭsĭzm), form of skepticism which holds that reason cannot penetrate beyond experience and that, therefore, metaphysical positions cannot have any definite proof Among prominent agnostics have been Herbert Spencer, T H Huxley (who coined the word *agnostic*), and Auguste Comte Kant was an agnostic who argued that belief in divinity can rest only on faith The term is most frequently used with reference to doubt concerning the existence of divinity and the possibility of immortality The agnostic position turns on the definition of what constitutes knowledge and proof

Agnus Dei (ăg'nŭs dē'ī, ān'yōōs dā'ē) [Latin], the Lamb of God, i e , Jesus Christ John 1 29 The lamb of the Passover sacrifice was said to prefigure the crucified Savior (as throughout Revelation) and hence the HOST In the MASS the precommunion hymn is named *Agnus Dei* because those are its opening words It is usually the final number of sung Masses In iconography a lamb with halo and cross is called an Agnus Dei

agora (ă'gurə) [Gr ,=assembly], the public square or market place of a Greek city It was usually in a readily accessible part of the city and served as a general meeting ground About it were often the public buildings, such as the royal palace, the law courts, the assembly house, and the jail A favorite architectural device was the colonnade surrounding the agora The agora was quite similar to the Roman FORUM

Agoracritus (ăg"ərăk'rĭtus), fl 5th cent B C , Athenian and Parian sculptor, said to have been the favorite pupil of Phidias His best-known work was the colossal *Nemesis* at Rhamnus in Attica, ascribed by some to Phidias himself Fragments of this statue and its pedestal are in the British Museum and in the national museum at Athens

Agostino di Duccio (ägōstē'nō dē dōō'chō), b 1418, d after 1481, Florentine sculptor, who excelled in very low reliefs and in sculptural decorations Among his important works are the reliefs of the façade of the cathedral at Modena, portions of the interior decorations and the tomb of Malatesta in the so-called temple of Malatesta at Rimini, and the façade of San Bernardino at Perugia, in colored marble and glazed terra cotta, one of the finest examples of architectural sculpture of the Renaissance A marble relief *Madonna and Children* is in the Duomo, Florence

Agostino di Giovanni (dē jōvän'nē) and **Agnolo di Ventura** (ä'nyōlō dē vāntōō'rä), fl 1310–c 1350, Italian architects and sculptors, who often worked together and have therefore erroneously been called brothers They served jointly as architects of Siena, where they designed the convent and church of St Francis and other important buildings Their sculptural masterpiece was the tomb of Bishop Tarlati, at Arezzo, destroyed by the French

Agostino Veneziano (vānätsē'nō) or **Agostino di Musi** (dē mōō'zē), c 1490–c 1540, Italian engraver He studied with Marc Antonio Raimondi, with whose work his is compared He worked in Rome, Florence, and Venice, executing plates after Raphael, Dürer, Michelangelo, and others His prints are scarce and highly prized

Agoult, Marie Catherine Sophie (de Flavigny), comtesse d' (märē' kätürēn' sōfē' du flavēnyē' kōtĕs' dägōō'), pseud **Daniel Stern,** 1805–76, French author, b Frankfurt, Germany She was the mistress of Liszt, to him she bore three children, among them Cosima, who became the wife of Hans von Bülow and later of Richard Wagner Mme Agoult's works include autobiographical romances and social and political writings She is the "Arabella" of George Sand's *Lettres d'un voyageur* See the autobiographical *Mes Souvenirs, 1806–1833* (1877)

agouti (ăgōō'tē), name applied to rodents of the genera *Dasyprocta* and *Myoprocta* of Central and South America and the West Indies They are usually about 1½ ft long, with slender legs, a rudimentary tail, and a speckled coat which varies from reddish to black They are chiefly nocturnal and forest animals Some confusion has arisen from the occasional use of *Agouti* instead of *Cuniculus* as the generic name of the paca, a large South American rodent

Agra (ä'grə, ăg'rə), city (pop 284, 149), W central United Provs , India, on the Jumna river The present city was established (1566) by Akbar to replace FATEHPUR SIKRI as capital In the reign (1632–58) of Shah Jehan many magnificent buildings were erected in a mixture of Mogul and Pathan styles The TAJ MAHAL, tomb of the shah and his empress, is the greatest, other notable examples are the Pearl Mosque and the Great Mosque (in the ancient fort) Agra declined after the capital was moved (1658) to Delhi Before its capture by the British (1803), it underwent repeated disorders and conquests From 1835 to 1858 it was the capital of the Northwest Provs Today a rail junction about midway between Bombay and Calcutta, it has much trade Cotton spinning and carpet manufacture are important industries With Agra College (founded 1823) and a medical school, it is a major educational center of N India

Agra and Oudh, United Provinces of, India· see UNITED PROVINCES

Agram, Yugoslavia see ZAGREB

Agramonte, Aristides (ärestē'dās agramōn'tā), 1869–1931, Cuban physician and pathologist, M D Columbia, 1892 A member of the medical corps of the U S army, he was appointed pathologist on the Commission on Yellow Fever in Havana, with Walter REED and James CARROLL, in 1900 He was professor of bacteriology and experimental pathology at the Univ of Havana Shortly before his death he undertook the organization of a department of tropical medicine at Louisiana State Univ

Agramonte, Ignacio (ĕgnä'syō), 1841–73, Cuban revolutionist He played an important part in the Ten Years War He was an official of the revolutionary government (1869), but, disagreeing with Carlos Manuel de CÉSPEDES, resigned For a time commander in chief of the revolutionary forces, he died in battle

Agrapha of Jesus (ăg'rəfə) [Gr ,=not written], sayings attributed to Jesus not found in the Gospels There are quotations in the New Testament outside the Gospels (e g , Acts 20 35), and in early Christian literature there are some Agrapha from oral tradition Thus the papyri found at OXYRHYNCHUS have given some new Agrapha Many are probably PSEUDEPIGRAPHA, i e , ascribed to Jesus with false intent

agrarian laws, in ancient Rome, the laws regulating the disposition of public lands (*ager publicus*) It was the practice of Rome to confiscate part of the land of conquered cities and states, and this was made public land So long as this remained public land, it was occupied by tenants who paid rent, usually in kind, to the state From the earliest times the patricians gained the lion's share in the assignment of public lands for occupation, and the holding of public lands tended always in Italy to become the exclusive prerogative of the wealthy There was also a tendency to consider land long occupied as real property of the occupier The agrarian laws resulted from the continued efforts of the poorer classes to gain, by alienation or reallotment, some share in the public lands Since these lands were occupied without lease, the strictly legal aspects were not difficult, but inasmuch as most agrarian legislation challenged the lucrative privilege of the powerful of retaining the lands they held, the agrarian laws were often flagrantly disobeyed or calmly ignored In 486 B C Spurius CASSIUS VISCELLINUS tried to pass a law assigning some new lands to the poor of Rome and Latium, but Roman jealousy prevented its passage The most famous of early agrarian laws were the Licinian Rogations of C LICINIUS CALVUS STOLO (367 B C), which limited strictly the amount of land any citizen could hold and the number of sheep and cattle he could pasture on public land These laws fell into desuetude About 233 B C , C Flaminius succeeded in assigning some public lands to poor citizens The next serious attempt to rectify an increasingly difficult situation was the Sempronian Law of 133 B C devised by Ti Sempronius GRACCHUS This reenacted the provisions of the Licinian Rogations and added to the maximum allowance an extra amount for each son The occupants were to be reduced to the legal maximum and the surplus given to the poor The occupants were to receive in compensation full title to the land they retained A commission was set up to execute the law, but the senate by an emergency decree abolished the commission thus emasculating the law In 123 B C , Caius Gracchus revived the Sempronian Law, but this time the senate ruined the reform by allowing the new tenants to sell their new land, which the wealthy bought up From time to time newly acquired lands would be assigned to the poor, but as a rule they simply passed into the hands of the wealthy landholders In the 1st cent B C there were several assignments of public lands to veterans in Italy as well as on the borders of the empire The wholesale confiscation and reassignment of private lands by Sulla (82 B C) and Octavian and Antony (43 B C) were called agrarian laws The first step in the final collapse of the democratic effort which had resulted in the agrarian laws was the edict of Domitian assigning the title of public lands in Italy to those who held them The poorer classes were now confirmed in a dependency on the powerful which foreshadowed the greater dependency of FEUDALISM

Agricola (Cneius Julius Agricola) (ugrĭ'kŭlu), A D c 37–A D. 93, Roman general, the real conqueror of Britain After a distinguished army career (partly in Britain), he was made consul (A D 77 and then was (A D 78?–A D 85?) legate or governor of Britain He pacified most of the island conquering North Wales and taking the Roman eagles far into Scotland He also circumnavigated the island He was an enlightened governor, seeking to Romanize Britain without harshness or oppression of the people Agricola was also, as portrayed in the biography by his son-in-law, Tacitus the finest exemplar of the old Roman virtues in his day

Agricola, Georg (gā'ôrk), Latinized from **Georg Bauer** (bou'ur), 1490?–1555, German physician and scientist known as the father of mineralogy He was a pioneer in physical geology and the first to classify minerals scientifically His celebrated work *De re metallica* (1556) was a standard in metallurgy and mining for over a century and was translated into English (1912) by Herbert C Hoover and Lou H Hoover

Agricola, Johann or **Johannes** (yō'hän, yōha'nus) 1492–1566, German Protestant minister, whose family name was Schnitter (originally Schneider) He was born at Eisleben and is sometimes called Magister Islebius He was early associated with Martin Luther and was active in the founding of Protestantism In 1536 he espoused antinomianism, thus breaking with Luther He was court preacher in Brandenburg and helped draw up the Augsburg Interim Agricola also made a collection of German proverbs

Agricola, Rudolphus, 1443–85, Dutch humanist whose real name was Roelof Huysman He opposed scholasticism and spread the culture of the Renaissance throughout Germany

Agricultural Adjustment Administration (A A A), U S government agency established (1933) in the Dept of Agriculture under the Agricultural Adjustment Act of 1933 as part of F D Roosevelt's New Deal program An administrator and six regional directors were appointed. The basic idea was to help farmers by cutting supplies of staple crops, thus raising the farm prices and changing the agricultural pattern from overproduction of staple crops to more diversified farming Farmers were offered contracts, by which they were given benefit payments in return for limiting acreage given to staple crops, in the case of cotton and tobacco coercive taxes forced (1934–35) farmers to cut the amount of staple crops marketed The curtailment, along with severe droughts, helped to push farm prices up In 1936 the Supreme Court declared important sections of the act invalid because they infringed upon the powers of the states Congress promptly adopted (1936) the Soil Conservation and Domestic Allotment Act, which encouraged conservation by paying benefits for planting soil-building crops instead of staple crops, thus seeking to attain the chief end of the earlier act, other conservation practices were also encouraged Business recession and bumper crops sent farm prices tumbling in 1937, and the Agricultural Adjustment Act of 1938—declared valid by the Supreme Court in 1940—established the "ever-normal granary", the AAA was empowered in years of good crops to make loans to farmers on staple-crop yields and store the surplus produce, to release it later in years of low yield, thus trying to establish stable prices Soil conservation was continued and farmers could by two-thirds vote adopt compulsory marketing quotas (as they did for cotton and tobacco) By 1941 under the several acts the government had made direct payments of about $5,300,000,000 to farmers In the Second World War, the AAA turned its attention to increasing food production for war needs In 1942 it was included in the Food Production Administration In 1946 its functions were taken over by the Production and Marketing Administration See E G Nourse and others, *Three Years of the Agricultural Adjustment Administration* (1937), G S Shepherd, *Agricultural Price Policy* (2d ed , 1947)

agriculture. In its etymological sense, agriculture is tilling the soil Culture and colony are closely related words In broader meanings, agriculture includes the care of livestock, forestry, and some manufacturing, as buttermaking The introduction of agriculture wrought fundamental changes in human life, the hunter and the fisher must go where his food is to be found, but one who cultivates a crop cannot wander far Tillage leads to habitations in settlements, neighborhoods, or communities, so it leads to civilization Such a change, from hunting to agriculture, was associated with

the revolutionary change from the Paleolithic period to the Neolithic period Stock raising is sometimes associated with tillage and tends to improve conditions rather than to change them fundamentally, but if not associated with tillage, stock raising encourages a nomadic life. The herdsman must seek new pastures For Europeans and their descendants, mixed farming, with livestock and diversified crops, has been typical since the Neolithic period when the major crops and animal species were domesticated It has usually been subsistence farming, producing primarily for the use of the family and their neighbors Subsistence farming typically is associated with other occupations, as with watchmaking and wood carving in Switzerland Such combined occupations may be seen in many parts of Europe and America In the United States as the Western frontier disappeared and settlements increased, more and more land was cleared and used for crops and pasturage Farming became a business of increasing importance as the growth of large cities created bigger markets With the development of mechanized machinery still larger areas were brought under cultivation The United States became a leading food-producing nation Agricultural colleges and government agencies have sought to increase the productiveness of depleted soil by disseminating knowledge of rotation of crops, of good cultivation practices, of soil chemistry, and of other agricultural problems See P A Kropotkin, *Fields, Factories, and Workshops* (rev ed , 1913), Lyman Carrier, *The Beginnings of Agriculture in America* (1923), N S B Gras, *A History of Agriculture in Europe and America* (1925), U P Hedrick, *A History of Agriculture in the State of New York* (1933), *Farmers in a Changing World*, 1940 yearbook of the U S Dept of Agriculture, Harold Barger and H H Landsberg, *American Agriculture, 1899–1939* (1942), W R Van Dersal, *The American Land* (1943), C M Wilson, ed , *New Crops for the New World* (1945), Karl Brandt, *The Reconstruction of World Agriculture* (1945), publications of the U S Dept of Agriculture

Agriculture, United States Department of, division of the U S government The Secretary of Agriculture has been a member of the President's cabinet since 1889 Specific agricultural aid from the Federal government began in 1839, when Congress appropriated $1,000 to the Patent Office for collecting and distributing seeds, making agricultural investigations, and procuring agricultural statistics In 1862 the Dept of Agriculture was created and was until 1889 under a commissioner The department is now one of the chief research, planning, service, and regulatory agencies of the government Its principal duty is to serve farmers, by helping them to solve their problems of production, marketing, farm organization, land tenure, and land utilization However, it also serves urban consumers, both directly and indirectly The department is directed by the Secretary, an Undersecretary, and an Assistant Secretary The staff officers include the directors and chiefs of the many bureaus and services The Agricultural Research Administration supervises the work of the bureaus of agricultural and industrial chemistry, animal industry, dairy industry, entomology and plant quarantine, human nutrition and home economics, and plant industry, soils, and agricultural engineering It also controls the Office of Experiment Stations and the Agricultural Research Center (at Beltsville, Md) Other important units within the department include the Soil Conservation Service, Forest Service, Rural Electrification Administration, Federal Crop Insurance Corporation, Farm Credit Administration, Farmers Home Administration, Commodity Credit Corporation, and Production and Marketing Administration The Bureau of Agricultural Economics is the main agency for compiling and disseminating agricultural statistics It develops plans and programs for the whole department as a basis for the entire pattern of agricultural, conservational, and marketing services and acts as the department's liaison agency with other government agencies The library is the largest agricultural research library in the world Of great value to farmers, horticulturists, and many others are the publications of the department See *The Department of Agriculture* (U S Dept of Agriculture, Miscellaneous Publication 532)

Agrigento (ägrējĕn'tō), Latin *Agrigentum*, city (pop 27,785), capital of Agrigento prov , S Sicily, Italy, on a height 2 mi from the sea Its Italian name until 1927 was Girgenti Now an agricultural market and export center for sulphur, it was founded (*c* 580 B C) as Acragas or Akragas by Greek colonists of Gela and became one of the most splendid and prosperous cities of the Grecian world, as is shown by its imposing ruins Destroyed c 406 B C by Carthage, it recovered but fell definitively to the Romans in 210 B C Between the city and the sea there are remains of several Doric temples (6th-5th cent. B C), the largest was that of Zeus The temple of Concord is very well preserved There also are Roman remains, Christian catacombs, and an archaeological museum. About 3 mi. to the southwest is Porto Empedocle, which functions as the port of Agrigento; it is named after Empedocles, who was born at Agrigento

agrimony (ăg'rĭmō"nē), any plant of the genus *Agrimonia*, perennials growing wild chiefly in the North Temperate Zone or cultivated in herb gardens The divided leaves are aromatic and astringent and are used in making a tonic tea Inconspicuous yellow flowers are followed by small top-shaped burs Hemp or water agrimony is related to the asters

Agrippa, in Palestinian history see HEROD

Agrippa, Marcus Vipsanius (mär'kŭs vĭpsā'nēŭs ugrĭ'pu), *c* 63 B C –12 B C , Roman general A close friend of Octavian (later Emperor AUGUSTUS), he won a name in the wars in Gaul before becoming consul in 37 B C He organized Octavian's fleet and is generally given much credit for the defeat of Sextus Pompeius in the naval battles at Mylae and Naulochus (like Mylae, on the north coast of Sicily) in 36 B C He took part in the war against Antony, and his naval operations were the basis of Octavian's decisive victory at Actium in 31 B C He was perhaps the most trusted of all Augustus' lieutenants and rendered many services, notably in putting down disorders in both East and West His third wife was Augustus' daughter Julia, by whom he was father of two sons who died young, one son who turned out badly (Agrippa Postumus), and two daughters (Julia and Agrippina I)

Agrippa von Nettesheim, Heinrich Cornelius (hĭn'rĭkh kôrnā'lyōōs agrĭ'pa fŭn nĕ'tus-hīm), 1486–1535, German physician He is remembered for his interest in magic, which involved him in trouble with the Church His life under royal patrons in Germany, Italy, and France was one of great storm and stress He died in poverty at Grenoble His *De occulta philosophia*, a defense of magic, and his feminist *De nobilitate et praecellentia feminei sexus* are two of his chief works See biography by Henry Morley (1856)

Agrippina I (ă"grĭpī'nu), d A D 33, Roman matron, daughter of Agrippa and Julia and granddaughter of Augustus She was the wife of GERMANICUS and accompanied him on his provincial duties After her husband's death (A D 19) she accused TIBERIUS of having caused Cn Calpurnius Piso to poison Germanicus, and she was consistently on bad terms with the emperor Exiled to an island in the Bay of Naples, she starved herself to death She is also called Agrippina Major or Agrippina the Elder Her son Caius became emperor (see CALIGULA)

Agrippina II, d A D 59, Roman matron, daughter of Germanicus and Agrippina I By her first husband, Cn Domitius Ahenobarbus, she was the mother of NERO When her brother Caligula became emperor, she had some power until she was discovered conspiring against him She achieved her ambitions after her uncle Emperor CLAUDIUS I took her as his third wife She dominated the emperor and persuaded him to advance the interests of Nero at the expense of his own son, BRITANNICUS She almost certainly poisoned Claudius, thus bringing Nero to power She quarreled with Seneca and the other ministers, and her son, weary of her intrigues, had her murdered Colonia Agrippina (modern Cologne) was named for her

Agua (ä'gwä, ä'wa), inactive volcano, 12,310 ft high, S Guatemala In 1541, climaxing three days of unceasing rain and earthquakes, a wall of water, whose origin is not scientifically explained, swept down from its slopes, completely destroying CIUDAD VIEJA Over 1,000 inhabitants were drowned, including the governor, Doña Beatriz de la CUEVA The flood forced the founding of ANTIGUA.

Agua Caliente see TIJUANA

Aguadilla (ä"gwädē'ya, ä"wä–), city (pop 13,468), NW Puerto RICO, a port on the north coast Founded in 1775, it is a port of entry and has manufactures of embroideries, furniture, and straw articles Sugar (the principal crop), coffee, tobacco, cotton, coconuts, and vegetables are raised Columbus is supposed to have landed here in 1493

Aguascalientes (ä"gwäskälyĕn'tĕs, ä"was–), state (2,499 sq mi , 1946 estimated pop 189,132), N central Mexico, on the central plateau, bounded on the east, north, and west by Zacatecas With fertile soil, the state is fairly rich in agricultural produce Cattle are raised on the wide plains and in the foothills, and there is some mining in the mountainous areas, though much of the mineral wealth, especially copper, remains unexploited It is noted for the warm mineral springs, for which it is named, and for a fine climate **Aguascalientes,** the capital (pop 82,234), is a pleasant city Mineral springs make it a health resort Founded in 1575, it was long a Spanish outpost against hostile Indians The city is built over an intricate system of tunnels constructed by earlier inhabitants as yet unidentified Railroad development in the late 19th cent made Aguascalientes commercially important It has a large smelter, cotton and woolen mills, and other factories In 1914 the city was the scene of the Convention of Aguascalientes, an unsuccessful attempt in the Mexican Revolution to end factional strife between Venustiano CARRANZA and Francisco VILLA Villa's troops, known then as the Army of the Convention, later occupied Mexico city

ague: see MALARIA

Aguesseau, Henri François d' (ärē' frăswä' dägĕsō'), 1668–1751, French orator and statesman. He became *procureur général* in the Parlement of Paris (1700) and chancellor of France (1717) Because of his opposition to John LAW he was exiled to his estates Recalled, he devoted himself to judicial reform The name also appears as Henri François Daguesseau

Aguilar, Grace (ägĕlär', ägwĭl'ur), 1816–47, English author, of Jewish descent Besides several works on Jewish history, she wrote sentimental but interesting novels They include *The Mother's Recompense* (1851) and two historical novels, *The Vale of Cedars* (1850) and *The Days of Bruce* (1852) Only one, *Home Influence* (1847) appeared in her lifetime

Aguilar (ăg'ĭlar), city (pop 1,397, alt *c* 6,700 ft), SE Colo , S of Walsenburg and on the Apishapa river, inc 1894.

Aguilera, Ventura Ruiz (vāntōō'ra rōōēth' ägwē lā'ra), 1820–81, Spanish poet He edited several journals and held office under liberal ministries In his writings he tried to arouse the masses to a sense of national dignity His verse includes *Elegías* (1862) and *La Arcadia moderna* (1872)

Aguinaldo, Emilio (ägwĭnal'dō, āmē'lyō agēnäl'dō), 1869?–, Philippine leader In the insurrection against Spain in 1896 he took command, and by terms of the peace that ended it he went into exile at Hong Kong After the Spanish-American War broke out, he led a Philippine insurrection in concert with U S attacking forces He set up a republic with its capital at Malolos and himself as president, and when Philippine independence was brushed aside in the peace treaty, he headed (1899–1901) a rebellion against U S occupying forces until he was captured by Frederick FUNSTON In 1935 he was defeated in the presidential election by Manuel Quezon Aguinaldo was charged with cooperating with the Japanese occupying the Philippines in the Second World War and in 1945 was taken into custody but was not tried

Aguirre, Lope de (lō'pā dā agē'rā), *c* 1510–1561, Spanish rebel in colonial South America A horse trainer in Peru, he was often involved in violence and sedition before joining (1560) the expedition of Pedro de Ursúa down the Marañón and the Amazon On that expedition he earned a name for monstrous violence and cruelty He was one of the men who overthrew and killed Ursúa, then he killed Ursúa's successor and took command himself He and his men reached the Atlantic—probably by the Orinoco—and on the way wantonly laid waste Indian villages In 1561 he seized Margarita Island and held it in a grip of terror He was, however, foiled in his plan to take Panama secretly and crossed to the mainland, openly proclaiming rebellion against the Spanish crown Surrounded at Barquisimeto, Aguirre in desperation crowned his far from admirable life by the murder of his own daughter He surrendered and was shot See A F Bandelier, *The Gilded Man* (1893)

Aguihas, Cape (ugŭ'lus) [Port ,=needles], W Cape Prov , Union of South Africa It is the most southerly point of Africa The name is derived from the saw-edged reefs and sunken rocks running out to sea, they have wrecked many vessels A powerful lighthouse guards ships The meridian of the cape (long 20° E) is the dividing line between the Atlantic and the Indian oceans

Agur (ā'–), unidentified author of Proverbs 30

Ahab (ā'hăb) [Heb ,=father's brother], d *c* 853 B C , king of Israel (*c* 874–*c* 853 B C), son and successor of OMRI **1** Ahab was one of the greatest kings of the northern kingdom He consolidated the good foreign relations his father had fostered, and he was at peace much of his reign His marriage with JEZEBEL helped his friendship with Tyre, and the alliance of his daughter ATHALIAH **1** with the king's son in Jerusalem made Ahab sure of his less powerful neighbor Ahab's prestige is seen in inscriptions mentioning his alliance against SHALMANESER III, who won an indecisive victory (*c* 854 B C) at Karkar on the Orontes After this campaign Ahab and BEN-HADAD **2** of Damascus went to war over the country E of the Jordan Ahab was killed in battle The biblical account of Ahab's reign (1 Kings 16 28–22 40) is most interested in its religious aspects To the devout, Ahab's foreign wife, with her Tyrian cults and behavior, represented evil Besides, she was a willful woman and entertained exalted ideas of royal prerogative She met her match in ELIJAH, the champion of Israel's God He could not endure compromise with national apostasy, and he must have been an important factor in the discontent which began to develop in Israel at this period Ahab was succeeded by his sons, first Ahaziah, then Jehoram The Ahab of Jer 29 21,22 is a different person, a lying prophet

Aha of Shabcha (ä'ha, shăb'kha) or **Achai of Shabcha** (ă'khī), d 761?, Babylonian rabbi He was the author of *Sheiltoth* (questions), a collection of legal and ethical sermons or treatises intended to be of use to laymen as well as to the scholars for whom most of the learned Jews wrote Aha is the first scholar after the close of the compilation of the Talmud of whom there is record His work emphasizes the value of the basic virtues and everyday morals.

Aharah (āhăr'û), the same as AHIRAM.

Aharhel (ûhär'-), Judahite family. 1 Chron. 4.8.

Ahasai (āhās'āī, āhā'sī), priest Ahzai RV. Neh. 11 13 Jahzerah 1 Chron 9 12

Ahasbai (āhās'bāī, -bī), father of ELIPHELET 3

Ahasuerus (āhās"ûē'rûs), Hebrew form of the name Xerxes, as used in the Bible The Ahasuerus of Esther is probably Xerxes I That of Tobit 14 15 may intend Cyaxares I, destroyer of Nineveh The name of the father of DARIUS THE MEDE is also given as Ahasuerus

Ahava (āhā'-), unidentified place, where Ezra collected one of his expeditions Ezra 8 15,21,31

Ahaz (ā'hăz) [Heb ,=he is possessor], d c 727 B C , king of Judah (*c* 731–727 B C), son of Jotham His reign marks the end of the real independence of Judah A coalition of Pekah of Israel and Rezin of Syria attacked him and nearly took Jerusalem Ahaz appealed for help to Tiglath-pileser III of Assyria, who defeated Ahaz's enemies, but required tribute of Judah Ahaz sent some of the Temple gold as payment The greatest figure in this time in Judah was the prophet Isaiah, who opposed the Assyrian alliance Ahaz is denounced in the Bible for his heathen abommations and his sacrilege with the Temple gold. In Ahaz's reign Judah lost Elath, her Red Sea port, permanently He was succeeded by Hezekiah. 2 Kings 16, 2 Chron 28, Isa 7, 38 Achaz Mat 1 9 A different Ahaz, otherwise unknown, is mentioned in 1 Chron 8 35 and 9 42

Ahaziah (āhûzī'û) [Heb ,=God has taken] **1** Died c 852 B C , king of Israel (*c* 853–852 B C), son of Ahab He was hardly a worthy successor of his father, except as he entertained Ahab's religious views He was succeeded by his brother JEHORAM **1** 1 Kings 22 51–53, 2 Kings 1, 2 Chron 20 35–37 **2** Died c 846 B C , king of Judah (*c* 846 B C), son of JEHORAM **2** and ATHALIAH **1** He was considered a typical descendant of Ahab He was killed in Jehu's coup d'état while visiting at Jezreel His mother succeeded him 2 Kings 8 25–29, 9, 2 Chron 22 He is called Azariah in 2 Chron 22 6 and Jehoahaz in 2 Chron 21 17 and 25 23

Ahban (ā'băn), Jerahmeelite 1 Chron 2 29

Aher (ā'-) [Heb ,=another], Benjamite 1 Chron 6 12 Perhaps the same as AHIRAM

Ahi (ā'hī) [Heb ,=brother] **1** Gadite. 1 Chron. 5 15 **2** Asherite 1 Chron 7 34

Ahiah (uhī'ûh), variant of AHIJAH

Ahiam (uhī'ăm) [Heb ,=father's brother], one of David's men 2 Sam 23 33, 1 Chron 11 35

Ahian (uhī'ŭn) [Heb ,=brotherly], Manassite 1 Chron 7 19

Ahiezer (āhī'ēzur) [Heb ,=my brother is help] **1** Prince of Dan Num 1 12 **2** Chief of David's bowmen 1 Chron 12 2

Ahihud (āhī'hŭd) [Heb ,=my brother is majesty] **1** Prince of Asher Num 34 27 **2** Benjamite. 1 Chron 8 7

Ahijah (uhī'jû) [Heb ,=brother of God], common name in the Bible, occasionally spelled Ahiah **1** Prophet from Shiloh 1 Kings 11 29, 12 15, 14 1–18, 2 Chron 10 15 **2** Priest in the time of Saul, perhaps the same as AHIMELECH **1** 1 Sam 14 3 **3** One of David's mighty men 1 Chron 11 36 **4** Scribe 1 Kings 4 3 **5** Father of King BAASHA **6** Jerahmeelite 1 Chron 2 25 **7** Benjamite 1 Chron 8 7 Ahoah 1 Chron 8 4 **8** Levite 1 Chron 26 20 **9** Sealer of the covenant Neh 10 26

Ahikam (ûhī'-) [Heb ,=my brother has gone up], protector of Jeremiah and the father of Gedaliah 2 Kings 22 12,14, 2 Chron 34 20, Jer 26 24, 40 5

Ahilud (uhī'-) **1** Father of JEHOSHAPHAT **2** **2** Father of BAANA **3**

Ahimaaz (uhīm'āăz) [Heb ,=brother of anger] **1** Father of AHINOAM **1** **2** One of the men set to spy on Absalom 2 Sam 15 27, 17 17–21, 18 19–32 **3** Husband of BASMATH and perhaps the same as **2**

Ahiman (ûhī'mŭn) **1** Son of ANAK **2** Family of porters 1 Chron 9 17

Ahimelech (uhīm'ulĕk) [Heb ,=my brother is king] **1** Priest at Nob, brother of, or perhaps the same as, AHIJAH **2** He befriended David, and Saul had him killed 1 Sam 22 9–19 Abimelech 1 Chron 18 16 Name reversed with that of his son, Abiathar 2 Sam 8 17, 1 Chron 18 16, 24 6 **2** Hittite in David's camp 1 Sam 26 6

Ahimoth (uhī'mŏth) [Heb ,=brother of death], Merarite Levite 1 Chron 6 25

Ahinadab (uhĭn'-) [Heb ,=my brother is liberal], one of Solomon's stewards 1 Kings 4 14

Ahinoam (uhĭn'ŏum) [Heb ,=my brother is loveliness] **1** A wife of Saul 1 Sam 14 50 **2** One of David's early wives 1 Sam 25 43, 27 3, 30 5, 2 Sam 2 2, 3 2

Ahio (uhī'ō) [Heb ,=brotherly] **1** One of those who drove the cart that carried the ark 2 Sam 6 3, 4, 1 Chron 13 7 **2** Uncle of Saul 1 Chron 8 31, 9 37 **3** Benjamite 1 Chron 8 14

Ahira (ûhī'ru), prince of Naphtali Num 1.15

Ahiram (uhī'-) [Heb ,=my brother is the high one], son of Benjamin Num 26 38 Ehi Gen 46 21 Aharah 1 Chron 8 1 AHER may be the same

Ahisamach (ûhīs'ûmăk) [Heb ,=my brother supports], father of AHOLIAB

Ahishahar (uhĭsh'-, uhī'-), Benjamite 1 Chron. 7.10.

Ahishar (ûhī'-) [Heb.,=my brother sings], royal steward 1 Kings 4 6.

Ahithophel (ûhĭth'ûfĕl), David's counselor who joined Absalom When he lost his ascendancy, he killed himself He was perhaps the grandfather of Bath-sheba 2 Sam 15.12, 16 20–17 23, 11 3, 23 34 Dryden's political satire, *Absalom and Achitophel*, uses the Vulgate form of the name

Ahitub (ûhī'-) [Heb ,=my brother is good] **1** Father of AHIMELECH **1** and AHIJAH **2** **2** Father, or grandfather, of ZADOK **1** **3** Father of ZADOK **5**

Ahlab (ā'lăb), town of Asher Judges 1 31

Ahlai (ā'lăī) **1** Jerahmeelitess 1 Chron. 2 31, 34 **2** Father of one of David's men, Zabad. 1 Chron 11 41

Ahmadabad, India see AHMEDABAD

Ahmadnagar or **Ahmednagar** (both ämûdnŭg'ur), town (pop 54,193), W central Bombay state, India It was founded (1490), by Nizam Shah Bahri, as the capital of a dynasty which lasted till 1600 Cloth is woven, and implements are made of iron and copper

Ahmad Shah · see AHMED SHAH

Ahmed IV (ä'mĕd), d 1603, sultan of Morocco (1578–1603) He was known as al-Mansur or el-Mansur [the victorious] for completing the victory over the Portuguese at Alcazarquivir (1578) Under Ahmed, Morocco enjoyed one of its most peaceful and flourishing periods His conquest of Timbuktu (*c* 1590) inaugurated a profitable traffic in gold, slaves, and ivory He engaged in a commercial correspondence with Queen Elizabeth and encouraged foreign trade

Ahmed I, 1589–1617, Ottoman sultan (1603–17), son and successor of Mohammed III The chief event of his reign was the Treaty of Szitvatorok (1606), which supplemented the Treaty of Vienna between Archduke (later Emperor) MATTHIAS and Prince Stephen BOCSKAY of Transylvania By the treaty, the emperors, as kings of Hungary, ceased to pay tribute to the sultan, and Transylvania was recognized as independent In the Asiatic provinces disorders were suppressed by his vizier, the Croatian Murad Pasha, but after Murad's death (1611) they broke out again, allowing Shah Abbas I of Persia to seize Tabriz On Ahmed's death, the law of succession was changed to favor the oldest member of the house Mustafa I, Ahmed's brother, succeeded With Ahmed's reign began Turkish decline

Ahmed II, 1642–95, Ottoman sultan (1691–95), brother and successor of Suleiman II The death of his grand vizier, Mustafa KUPRILI, in the battle of SLANKAMEN (1691), heralded the conquest of Hungary by Austria He was succeeded by his nephew, Mustafa II

Ahmed III, 1673–1736, Ottoman sultan (1703–30), brother and successor of Mustafa II He gave asylum to CHARLES XII of Sweden and to MAZEPPA after PETER THE GREAT had defeated (1709) them at Poltava Charles's advice helped to bring about war between Turkey and Russia (1710–11) By the Peace of the Pruth (1711) Turkey recovered Azov and the surrounding territory Ahmed seized (1715) the Peloponnesus and the Ionian Isles (except Corfu) from Venice, but he was defeated by the Austrians under Prince EUGENE OF SAVOY in 1716–18 By the Treaty of Passarowitz (1718) the Banat and N Serbia, including Belgrade, were lost to Hungary Ahmed's grand vizier after 1718 was Ibrahim, who encouraged learning by establishing several notable libraries and favored the rise of Greek PHANARIOTS to high offices The sultan and his minister were overthrown by the Janizaries, who were jealous of the new aristocracy Ahmed's nephew, Mahmud I, became sultan, and Ahmed died in prison

Ahmed, 1898–1930, shah of Persia (1909–25) The last of the Kajar (or Qajar) dynasty, he lost power through a coup d'état in 1921 and was deposed in 1925 He was succeeded by REZA SHAH PAHLEVI

Ahmedabad or **Ahmadabad** (both ăm"ûdubăd', ä"mûdubăd'), city (pop 591,267), NW Bombay state, India Founded A D c 1400, it has old architecture combining Saracenic and Hindu stylistic elements Of the many mosques, the Jama Masjid, dating from the 15th cent , is the most beautiful There are more than 100 temples of the Gujarat sect of Jains, to whom the city is sacred From the 16th to the 18th cent Ahmedabad was celebrated for its fabrics and jewelry Today it has great cotton textile mills Gandhi lived here for a time and had very strong influence here

Ahmednagar, India see AHMADNAGAR

Ahmed Shah (ä'mĕd sha') or **Ahmad Shah** (ä'mud), c 1723–1773, Afghan ruler, founder of the Durani dynasty His success in commanding Afghan forces in India for Nadir Shah of Iran won him the rule of Afghanistan on Nadir's death (1747) He invaded India several times and twice (1756, 1760) occupied and sacked Delhi, the capital of the Mogul empire; but his attempts to found an empire in Kashmir, Baluchistan, and Punjab failed In Afghanistan, however, his rule was strong and his family retained power until the rise of Dost Mohammed

Ahoah (uhō'u), the same as AHIJAH **7**. The patronymic **Ahohite** suggests this name, it occurs with the names of DODO **2** and ILAI.

Aholah (ûhō'lû) [Heb.,=tent] and **Aholibah** (ûhōl'ĭbû) [Heb.,=tent in her], the sisters in an allegory on Israel's idolatry Ezek. 23.

Aholiab (ûhō'lĭ-ăb) [Heb.,=tent of the father], specially chosen worker on the tabernacle Ex. 31.6, 35 34, 36.1,2; 38 23.

Aholibah (ûhōl'ĭbû) see AHOLAH

Aholibamah (-hō"lĭbā'mû, ā"hŭlĭb'û-) [Heb ,=my tent is raised] **1** One of Esau's wives. Gen 36.2. **2** Duke of Edom. Gen 36 41

Ahoskie (ûhŏs'kē), town (pop 2,313), NE N.C., N of Windsor, in a farm and lumber area.

Ahriman: see ZOROASTRIANISM

Aht Confederacy, see NOOTKA INDIANS.

Ahumai (ûhū'māī, -mī), Judahite 1 Chron. 4.2.

Ahura Mazdah: see ZOROASTRIANISM.

Ahuzam (ûhū'zŭm), Judahite. 1 Chron. 4.6.

Ahuzath (ûhū'zăth), friend of Abimelech of Gerar. Gen 26 26.

Ahvaz, Iran see AHWAZ

Ahvenanmaa · see ÅLAND ISLANDS

Ahwaz or **Ahvaz** (both· ä'wäz', ähwäz'), city (1949 estimated pop. 45,528), SW Iran, on the Karun river The capital of the Sixth Prov , it is on the Trans-Iranian RR and is a highway center. The old section of the city survives from medieval glory, while the new section, Khorram Kushk (formerly Khasalliah), is a center of the oil business and has been recently industrialized

Ai (ā'ī) [Heb ,=heap]. **1** Town, somewhere in the eastern part of S central Palestine The repulse the Israelites met here revealed the sin of ACHAN Joshua 7. Hai Gen 12 8, 13 3 Aiath Isa. 10 28 Aija Neh 11 31 **2** Town Jer 49 3.

Aiah (āī'û) **1** Edomite. 1 Chron 1.40. Ajah· Gen 36 24 **2** Father of RIZPAH

Aiath (āī'ăth), the same as AI **1**

Aichi, prefecture, central Honshu, Japan. see NAGOYA

Aidan, Saint (ā'dŭn), d 651, Irish monk He came at the request of Oswald of Northumbria to convert the English and founded the abbey on Lindisfarne Symbols torch and stag Feast Aug 31

aids, in FEUDALISM, type of feudal due paid by a vassal to his suzerain or lord The exact nature and the specified occasions for payment of aids has not been satisfactorily explained by modern students of feudal law Aids varied with time and place, though it is traditional in English-speaking countries to say that aids were due on the knighting of the lord's eldest son, on the marriage of the lord's eldest daughter, and for ransom of the lord when in captivity These are the three aids specified in the MAGNA CARTA (1215), which forbade the king to levy aids from the barons on occasions other than these, except by the "common counsel" of the realm In later issues of the charter, aids do not appear It is very difficult to distinguish aids from other forms of feudal dues such as SCUTAGE and TALLAGE The term had a very much wider scope than might be supposed from reading the Magna Carta In general aids fell into disuse with the decline of feudalism, though they continued nominally due long afterward in most places In France the aids were converted into a form of royal tax and continued until the Revolution

Aiea (ā"ēā'ā), town (pop 3,553), on Oahu, T H , NW of Honolulu It is a center of sugar culture

Aiglon, L' see NAPOLEON II

Aigues-Mortes (ĕg-môrt'), town (pop 3,320), Gard dept , S France, near the Mediterranean Louis IX, who embarked from here for his two crusades, developed the port It has kept its 13th-century ramparts and a fortified tower (Tour de Constance)

Aija (āī'ju), the same as AI **1**

Aijalon (ā'jû-, ī'jŭ-, ā'jû-), occasionally spelled Ajalon **1** Town, S central Palestine Joshua 19 42 Judges 1 35, 2 Chron 11 10, 28 18. **2** Town, N central Palestine Judges 12 12 **3** Valley over which Joshua commanded the moon to stand still Joshua 10 12

Aijeleth Shahar (āj'ûlĕth shā'hăr) [Heb.,=hind, or help, of the morning], superscription of Ps 22, probably the tune to which it was to be sung, named from the first words of some other verse set to it Other superscriptions of similar explanation are Al-taschith (ăl"tăs'kĭth) [Heb ,=destroy not] Pss 57, 58, 59, 75 Jonath-elem-rechokim (jō'nŭth-ē'lĕm-rēkō'kĭm) [Heb ,=dove of the distant terebinths or dove of the silence of distant places] Ps 56 Mahalath (mā'hûlăth) Ps 53 Mahalath Leannoth (lēăn'ŏth) Ps 88 Shoshannim (shō-shăn'ĭm) [Heb ,=lilies] Pss 45, 69 Shoshannim-Eduth (-ē'dŭth) Ps 80. Shushan-eduth (shō'-shăn-) Ps 60

Aiken, Conrad (ā'kĭn), 1889–, American poet and novelist, b Savannah, Ga , grad Harvard, 1912 He has been variously and extensively influenced by other poets, notably T S Eliot, but all his poetry shows in mood, sound, and structure his preoccupation with music Volumes of his poetry include *Earth Triumphant and Other Tales* (1914), *The Jig of Forslin* (1916), *The Charnel Rose; Senlin, a Biography; and Other Poems* (1918), which contains the well-known Morning Song from "Senlin"; *Selected Poems* (1929), awarded a Pulitzer Prize in 1930, *John Deth* (1930), *Time in the Rock* (1936); and *Brownstone Eclogues* (1942). He has edited antholo-

gies, including *American Poetry, 1671-1928* (1929) and, with W. R. Benét, *An Anthology of Famous English and American Poetry* (1945) His novels suggest the method of James Joyce in their concern with psychological association—*Blue Voyage* (1927), *Great Circle* (1933), *King Coffin* (1935), and *A Heart for the Gods of Mexico* (1939). He has also written short stories and criticism See Houston Peterson, *The Melody of Chaos* (1931)

Aiken, George L., 1830–76, American playwright and actor, b Boston. He was especially skillful in adapting short stories and novels for theater production. The most famous is his version of Mrs Stowe's *Uncle Tom's Cabin*, first produced in Troy, N.Y., Sept , 1852, and soon brought to New York city Its run of over 300 nights was unprecedented

Aiken, city (pop 6,168), co seat of Aiken co , W S C , NE of Augusta, Ga , laid out 1834, inc 1835 With an excellent climate and located in the midst of fine scenery with gardens and forests, it is a popular health and pleasure resort during the greater part of the year There are many large estates and facilities for sports, especially riding and polo Aiken is also an industrial center for a cotton, pottery-clay, and timber area

ailanthus (ālān'-) or **tree of heaven,** hardy deciduous tree of the genus *Ailanthus*, naturalised from China in the 18th cent. and now grown extensively in cities in Europe and America because of its smoke resistant, insect-free nature The large compound leaves lend a tropical aspect to the trees, which are of rapid growth Since the male flowers have a disagreeable odor, only the female, or seed-bearing, trees should be planted Ailanthus wood is used in Europe for making woodenware and charcoal, certain silkworms feed on its leaves, and the bark has been used medicinally Rows of the trees are sometimes pruned back and treated as hedges There are varieties with red fruit, drooping leaves, and purple leafstalks

aileron see AIRFOIL

Ailly, Pierre d' (pyĕr' dāyē'), 1350-1420, French theologian and writer, a cardinal of the Roman Church. He was the teacher of Gerson and his predecessor as chancellor at the Univ of Paris (1385–95) A nominalist, Ailly partly followed MARSILIUS OF PADUA, he urged that a general council be called to name a new pope as the only means of settling the Great Schism (see SCHISM, GREAT) He seems to have been more concerned with a practical solution than with the theoretical implications of his position He attended the Council of Pisa Although he accepted (1411) the red hat from the antipope John XXIII (see COSSA, BALDASSARE), Ailly continued to work for his objective solution to the schism He was instrumental in convoking the Council of Constance (1414-18) and in holding it to its purpose (see CONSTANCE, COUNCIL OF) Ailly's vast number of writings embrace theology, philosophy, cosmography, plans for ecclesiastical reform, and French religious verse His best-known work, the *Imago mundi*, an astronomical compendium, was studied by Columbus See J P McGowan, *Pierre d'Ailly and the Council of Constance* (1936)

Ailsa Craig (āl'sə), conspicuous rocky island, 1,114 ft high, off SW Scotland, in Ayrshire, at the mouth of the Firth of Clyde and W of Girvan Its structure is largely of granite The island has a lighthouse and is a breeding place of sea birds

Ain (ĕ), department (2,219 sq mi , pop 306,778), E central France, bordering on Switzerland and traversed by the Ain river, a tributary of the Rhone It occupies, roughly, the BRESSE region Bourg-en-Bresse is the capital

Ain (ā'ĭn) 1 Town, N Palestine. Num. 34 11. 2 See EN-RIMMON

Ainsworth, William Harrison, 1805–82, English novelist He was editor of Bentley's miscellany (1840–42) and *Ainsworth's Magazine* (1842–53) His first success, *Rookwood* (1834), was followed by a number of popular historical novels, in an imaginative but immature style, including *Jack Sheppard* (1839), *The Tower of London* (1840), *Old St Paul's* (1841), and *The South Sea Bubble* (1868) See biography by S M Ellis (1911)

Ainsworth, trading city (pop 1,833), co seat of Brown co , N Nebr , in a region of streams and lakes, gateway to the cattle country, settled 1877, inc 1883

Aintab, Turkey: see GAZIANTEP.

Aintree, racecourse, Lancashire, England near Liverpool Started in 1836, it was one of the first regular steeplechase courses The course, 4½ mi long, with 30 jumps, is difficult and dangerous The most important race run here is the Grand National, founded in 1839.

Ainu (ī'nōō), aborigines of Japan The more civilized Japanese invaders forced the Ainu to retreat to the northern islands, where today, in Hokkaido, in Sakhalin, and on some of the Kurile Islands, c 17,000 live as hunters and food gatherers Physically short and stocky, with abundant, slightly wavy hair, they lack the Mongoloid traits of their neighbors and seem most closely akin to the races of Europe. Their language is unrelated to any known speech. Once a warlike people, they have been thoroughly subdued for several centuries. Their religion is highly animistic. Both native culture and population have markedly declined

air: see ATMOSPHERE, LIQUID AIR; RESPIRATION, VENTILATION.

air, law of the, in the broader sense, the law connected with use of the air, including air communication (e g , radio and telegraph) In a narrower sense used here it embraces law, both national and international, concerning civil aviation (military aviation is not included) After the First World War civil air transport grew to be a major business, and it became clear that regulation was necessary, both national (in the larger and better-developed countries) and international In 1919 a meeting of the nations victorious in the war resulted in the International Convention for Air Navigation, commonly called the Paris Convention The convention was a compromise between two contradictory views, some nations held that a state had sovereignty over the air above it, others that there should be freedom of the air comparable to the freedom of the seas, the convention recognized the sovereignty of each state over its air space without prejudice to innocent passage by aircraft of another state It further provided that each aircraft (like each ship) must have a registered nationality Rules were adopted as to the air-worthiness of aircraft, certification of pilots as competent, and licensing of pilots Among the 33 signatory nations were Great Britain, France, Italy, and Japan The United States signed but did not ratify the convention Nevertheless U S air laws were modeled on it The Air Commerce Act of 1926 provided extensive Federal regulations as to licensing of pilots, airways, altitude of flying, scientific aids and equipment for flying, and the like Those regulatory powers were put in the charge of the Bureau of Air Commerce in the Dept of Commerce This was replaced in 1938 by the Civil Aeronautics Authority, an independent agency By the reorganization of 1940 the functions of the Civil Aeronautics Authority were assigned to the Civil Aeronautics Administration and the Civil Aeronautics Board in the Dept of Commerce Other countries have also adopted legislation modeled on the Paris Convention There were also many bilateral agreements among nations and several more general conventions—notably the Pan American Convention on Air Navigation (1925) The need for sounder regulation of international air transport and for uniformity of equipment, laws, and regulations became more apparent as air traffic developed to an enormous business in the 1920s and 1930s and transoceanic air travel became a commonplace The Second World War emphasized this need, and even before the war's end an international civil aviation conference met in Chicago in Nov , 1944 Representatives of 52 nations met, but the USSR did not take part Several agreements were drawn up There was much discussion of the "five freedoms of the air"—freedom to fly across the territory of a state without landing, freedom to land for non-traffic purposes, the right to disembark in a foreign country traffic from the country of registry of the aircraft, the right to pick up in a foreign country traffic destined for the country of registry, and the right to carry traffic between two foreign countries The first two were accepted, but the fifth was bitterly opposed, only the first two were included in the International Air Services Transit Agreement, which was generally signed The conference, after considerable debate, set up the Provisional International Civil Aviation Organization (PICAO), which had its seat at Montreal After ousting Spain, this organization became in 1947 the INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO), affiliated with the United Nations

air brake see BRAKE

air conditioning, process for regulating the humidity, temperature, and circulation of air in buildings and rooms Air is conditioned in theaters, hotels, factories, office buildings, railway cars, and homes in order to maintain the temperature-humidity combination most suitable to human comfort and health Dust and soot are filtered from the air in the process, permitting purified air to be circulated In hospitals and public places the air is sometimes sterilized by means of chemicals Many industries use air conditioning to regulate the temperature and humidity so that it is most suitable to their particular products and processes and to remove substances from the air which might be harmful to the health of the workers See E L Joselin, *Ventilation and Air Conditioning* (2d ed , 1948)

aircraft carrier, ship designed to carry aircraft and to permit their take-off therefrom and landing thereon. Its distinctive features are a flat upper deck (flight deck) which functions as a take-off and landing field and a main deck (hangar deck) beneath the flight deck for storing and servicing the aircraft Obstructions above the flight deck are minimized by localising them along the starboard side amidships Developments in radio and radar have made carrier air operations possible under all weather conditions except in severely stormy, rough water. The aircraft carrier emerged after the First World War as an experimentally modified cruiser and became, toward the close of the Second World War, the most important capital ship Aircraft carriers are indispensable in tactical sea-borne operations against a sea- or land-based enemy possessing air power Modern carriers with their air groups provide the principal striking, defending, and investigating arms of the fleet, the other ships being disposed so as to afford the carriers maximum protection from and optimum effectiveness in attack See Oliver Jensen, *Carrier War* (1945)

Airdrie (ârˈdrē), burgh (1931 pop 25,954, 1948 estimated pop 30,645), Lanarkshire, Scotland, E of Glasgow There are metalworks and manufacture of boilers, paper, and biscuits Its free library was the first established in Scotland

Airedale terrier see TERRIER

airfoil, surface designed to react in a particular way when exposed to a moving stream of air For example, the wing surfaces of an airplane produce lift Some airfoils are manipulated to produce variable reactions Ailerons (surfaces hinged usually to the trailing edges of the wings) can be manipulated to produce banking and either clockwise or counterclockwise rotation of the plane, the propeller blades can be varied in pitch to change maximum thrust The rotor blades on an autogiro can be suddenly pitched so as to jump the craft into the air.

air forces The history of air forces begins with the use of balloons by French forces in Italy in 1859 and by the Federal forces in the American Civil War, but it was much later in the 19th cent that their true military value for observation and reconnoitering was realized In the First World War the Germans used captive balloons for directing artillery fire Destroyers towed captive balloons to spot enemy submarines During the Second World War, London and many other large cities and military objectives were defended by captive balloons which supported wire cables Airplanes were first used for war purposes by Italian forces against the Turks in Tripoli in 1911, although the United States had purchased a Wright biplane for military use in 1908 At the beginning of the First World War airplanes, because of their inability to carry loads, were used primarily for reconnoitering, but as their efficiency increased they were employed in air combat, as bombers, and to photograph enemy territory Formation flying, mass attack, and bombing raids on enemy lines of communication and munition depots marked the further advance of military aeronautics The German Zeppelin raids began in 1915, airplane attacks were most numerous in 1917 Airplanes and seaplanes executed some antisubmarine patrols in the First World War Since the First World War the rapid and extensive advance in aeronautical knowledge and technique has made air forces a major factor in armaments Aeronautical development kept pace with the great advances in scientific and engineering design and practice Commercial aviation became profitable for high-cost passenger and freight service (e g , air mail) Through intensive research programs in aeronautical engineering started by all major powers near the beginning of the Second World War and continued in the victor countries, the cost of passenger and freight service was greatly reduced and the commercial airlines network was extended to cover the earth with frequent fast flights In the Second World War the development of AIR POWER altered the nature of warfare Use of aircraft to control the sea and the air over both land and sea was decisive in nearly all major engagements The principal uses of aircraft in the Second World War were transportation of personnel and cargo (for supply, attack, and evacuation), strategic and tactical bombing, torpedoing of naval and merchant ships, mining of harbors, shipping lanes, and dams, defensive and offensive patrolling, often combined with attack (including antisubmarine action), photo reconnaissance, fighter bombing, and fighter attack for the defense of friendly units on land, at sea, or airborne or for the promotion of offensive action Major developments of the Second World War included increased horsepower per unit of engine weight, improved techniques of flying and plane design resulting in greater safety and efficiency, and an accumulation of geographical, aerological, and other knowledge essential to modern aviation The applications of radar, rocket and jet propulsion, and remote radio control in aviation are important problems of research See *Jane's All the World's Aircraft* (latest ed)

air gas see FUEL

air lock, compartment connecting with the outer atmosphere that part of a CAISSON which contains compressed air By its means access can be gained to the caisson without loss of pressure It is also used at the head of tunnel excavations under water It has a door at each end When the outer door of the air lock is opened, men or material may be admitted into the compartment The outer door is then closed The pressure in the compartment is then raised to equal the pressure in the caisson, after which the inner door can be opened The reverse of this procedure takes place on leaving the compressed-air region Great care must be exercised in passing workmen through an air lock, so that the change of atmospheric pressure takes

place gradually Too sudden change of pressure may cause caisson disease, or "the bends"

air mail. Demonstration flights which showed the feasibility of carrying mail by air were made in England and in the United States in 1911 In the United States, after money for experimentation was appropriated by Congress in 1918, the first regular air-mail service for carrying civilian mail began on May 15, 1918 Army pilots and army equipment were used The first flight was from New York city to Washington, D C The Post Office Dept took over operation of the line from the army in Aug , 1920, and in 1921 the line was discontinued In May, 1920, the transcontinental route from New York city to San Francisco was completed On July 1, 1924, coast to coast service all the way by air was scheduled for the first time (before then the mail had been transferred to trains at night) In 1925 the Postmaster General was authorized to award air-mail contracts to private companies The Post Office Dept , however, continued to operate the transcontinental service until 1927 The Civil Aeronautics Authority was established in 1938 to control all nonmilitary flying It took over the work of the Bureau of Air Mail (created in the Interstate Commerce Commission in 1934) Air-mail service now extends to nearly all parts of the world

airplane or **aeroplane,** a heavier-than-air craft, mechanically driven and fitted with fixed wings by means of which support is maintained through the dynamic action of the air Early attempts were made to build flying machines according to the principle of bird flight, but it was not until the beginning of the 20th cent that flight in heavier-than-air craft was achieved In 1891 Otto LILIENTHAL constructed his first GLIDER Samuel P LANGLEY commenced his experiments with model aircraft in 1892, in 1903 his power-driven monoplane failed to rise after two attempts On Dec 17, 1903, the Wrights produced the first power-driven, full-sized, heavier-than-air flying machine at Kitty Hawk, N C The first flight lasted 12 seconds, but later flights on the same day were a little longer, a safe landing was made after each attempt The machine was a biplane (an airplane with two main supporting surfaces or wings) with two propellers chain-driven by a gasoline motor Modern airplanes are monoplanes (having one main supporting surface or wing) and are of three general classes, the high-wing, mid-wing, and low-wing Airplanes may be further classified as propeller-, jet-, or turbojet-driven The airplane is comprised of six essential parts—fuselage, wings, stabilizer or tail plane, rudder, one or more engines and landing gear The fuselage is the main body of the machine, streamlined in form, to which are attached the wings and the tail unit The fuselage usually contains control equipment, passengers, and cargo The wings are the main supporting surfaces At the trailing edge of the wings are auxiliary hinged surfaces known as ailerons which can be manipulated to impress a rolling motion on the airplane The stabilizer, or tail plane, is a fixed airfoil at the rear of the airplane, employed to lessen its pitching motion To the rear of the stabilizer are usually hinged the *elevators,* movable auxiliary surfaces The rudder, generally at the rear, is a movable auxiliary airfoil which gives the craft a yawing movement when in normal flight Most engines are of the conventional internal-combustion type and may be air or liquid cooled During and after the Second World War, duct-type and gas-turbine engines became increasingly important and practical for aircraft motivation The landing gear is the understructure which supports the weight of the craft when on the ground or on the water and which reduces the shock on landing There are five common types—the wheel, float, boat, skid, and ski types The lift of an airplane, or its ability to fly, obtained by forcing the machine through the air, is the result of the direct action of the air against the lower surfaces of the wings and the vacuum created on the upper side The vacuum effect furnishes more than half the lift of the plane The lift varies with the speed, there being a minimum speed at which flight can be sustained Thus the landing speed of modern planes varies from less than 40 to more than 120 mi per hour The development of the airplane has been directly associated with that of the internal-combustion engine, minimum weight with maximum horsepower being the governing factors The Wright brothers' first engine weighed about 12 lb per horsepower, while the modern engine of conventional type weighs 1 lb or less per horsepower, jet and gas-turbine engines being much lighter per horsepower Much has also been done toward improving equilibrium, stability, and control in flight and other factors making for safety For epoch-making flights, see AVIATION See also AUTOGIRO, HELICOPTER, ORNITHOPTER, SEAPLANE See bibliography under AERONAUTICS and also publications of the U S National Advisory Committee for Aeronautics

air plant or **epiphyte,** any plant that does not normally root in the soil but grows upon another living plant while remaining independent of it except for support (thus differing from a PARASITE) An epiphyte manufactures its own food (see PHOTOSYNTHESIS) in the same way that other plants do, but obtains its moisture from the air or from moisture-laden pockets of the host plant, rather than from the soil Some epiphytes are found in every group of the plant kingdom but particularly among the algae, lichens, mosses, and ferns Of the flowering plants, the best-known epiphytes are orchids and Spanish moss Epiphytes may grow upon the trunk, branches, or leaves of the host plant, sometimes so thickly as to damage the original plant by crowding out its leaves They are most abundant in the moist tropics Other plants not strictly epiphytes are popularly known as air plants Such plants are usually capable of producing plantlets from the leaves without direct contact with the soil, as in *Bryophyllum*

airport, a place for the landing and taking off of aircraft which provides facilities for their shelter, supply, and repair or a place used for receiving and discharging passengers and cargo by air Along an established AIRWAY, in addition to the terminal airports, there are secondary airports, landing fields, and emergency landing fields An airport should be within easy and quick reach of the principal centers of distribution Other essential factors are that the landing fields be as near level as possible, the ground be firm and easily drained, approaches to runways be unobstructed by poles, trees, wires, fences, and buildings, and the site be reasonably unaffected by smoke or fog, which is one of the greatest hazards in landing An airport on a water front has the added advantage of being able to accommodate both land planes and seaplanes The size and shape of an airport depend largely on the requirements of the service and the available tract of land or water or both A large airport should have a minimum runway of about half a mile, and many of the more important ones are well over a mile square Besides the hangars, terminal airports are provided with office and terminal buildings Office buildings are placed so that a clear view is obtained of the landing field, and the necessary provisions are made for the administrative and operating forces, traffic control, radio communication, and weather observation At airports of entry, accommodation is also provided for customs and immigration officials The terminal building is designed for the expeditious handling of passengers and cargo As a knowledge of weather conditions is one of the most important and vital factors in air transport, all large airports maintain a trained staff who constantly observe weather conditions, receive weather information from other sources, and in turn transmit it by radio to aircraft in operation and to other airports Warning signals regarding storms, high winds, and other hazards are also displayed in conspicuous places, so that they can be readily seen by the pilots of approaching aircraft During hours of darkness beacon lights boundary lights, obstacle lights, and illuminated wind indicators are kept burning, and for actual landing of planes by night powerful floodlights are used Airports are known in Great Britain as aerodromes Airports used in connection with airships are, in general, similar to those used for heavier-than-air craft, except that a mooring mast and facilities for the production of inflating gas are installed See H V Hubbard and others, *Airports* (1930), H K Glidden, *Airports* (1946), J H Frederick, *Commercial Air Transportation* (rev ed , 1946), M B Baker, *Airline Traffic and Operations* (1947)

air power. The rapid development of aviation in the 20th cent was reflected in the use of aircraft in war (see AIR FORCES) and gave rise to theories of the strategic value of air power The rather tentative use of scout planes at the beginning of the First World War was followed by the creation of small forces of fighter planes, which engaged primarily in "dog fights," and by the first intensive air bombing Yet the experience did little more than suggest the potential military use of the airplane A few enthusiasts appreciated its significance, among them the American Gen William Mitchell and the Italian Gen Giulo Douhet Both of them fought for intensive development of air power, and Douhet pleaded for predominance of the air force, arguing that future wars would be won by air power alone Mitchell was ignored and then court-martialed for criticism of his superiors Douhet won more of a hearing Meanwhile Great Britain, France, and Italy established separate departments of the government for air, headed by cabinet members The first powers to devote themselves seriously to the development of air power were Hitler's Germany and Mussolini's Italy Italian aviators were given practical experience in the conquest of Ethiopia (1935–36), and both German and Italian aviators in the civil war in Spain (1936–39) showed the effectiveness of air bombing against modern cities The early days of the Second World War seemed to uphold Hitler's boasts of the power of the *Luftwaffe* under Hermann Goering Planes were to a great extent responsible for German victories in Poland, Norway, the Low Countries, and France, and the first German setback was in the failure of bombers to win any decisive results in the Battle of Britain The capture of Crete (1941) by air-transported soldiers seemed to bear out some of the more extreme claims of air-power enthusiasts. The effec of air power in revolutionizing war at sea was demonstrated by the sinking of the *Prince of Wales* by Japanese aircraft (Dec , 1941) The extensive us of aircraft carriers and of land-based planes in sea warfare was the decisive factor in the battles of th Coral Sea and Midway The value of intensive ai bombing was shown in the U S. capture of th Pacific islands and in the enormous destructio wrought on the Axis-held Continent by bomber based in England Air power played an incalcu lably large part in the winning of the war. Th dauntless Russian airmen did much to make th Russian counteroffensive possible Allied bombin planes (in size from small attack bombers to Super fortresses), fighters, and transport planes were es sential to victory Parachute troops and air transported troops proved their value, the Allie conquest of New Guinea repeating the lesson o Crete Nevertheless opponents of extreme advo cates of air power pointed out that no major battl was won by air forces alone but only by air force combined with land troops, naval forces, or both The eminence of air power was, however, accepte by all The introduction of the atomic bomb an jet propulsion toward the end of the war had altere the concept of air power somewhat and opened new era of argument concerning its nature and uses

air pump · see PUMP

airship, dirigible balloon, i e , a balloon furnishe with a propelling system and a means of controllin the direction of motion There are three genera types—nonrigid, in which the supporting structur is held in form by internal pressure in the gas bag semirigid, in which the form is maintained in a simi lar manner with the addition of a rigid or jointe keel, and rigid, which has a completely rigid frame The nonrigid type, simple in construction and ver light, is suitable only for the smaller class of airshi such as the blimp, which is useful especially for pa trol work The rigid airship consists, in general, o a latticework structure of aluminum or duralumin divided into separate compartments Within th compartments are the gas cells, and the whol frame is covered with a fabric envelope Arms, sup porting propellers driven by engines in the interio of the ship, jut out from the side U S armed force now have no rigid airships, but in those of the re cent past, accommodation for crew, passengers, an cargo was provided within the main structure, ther being main observation and control cabins direct l connected at the bottom Lifting power in airship is obtained by the use of hydrogen or helium helium, although without so high a lifting power has the decided advantage of being nonflam mable The elongated shape of airships was adopt ed because of its advantages over the spheroida shape of free ballons in its suitability for propulsio and steering Sails, paddles, flapping wings, an crude propellers were tried for propulsion, the pro pellers proved best as suitable engines were devel oped The first successful power-driven airshi was constructed by Henri Giffard, in 1852, and i 1855, he built a larger and more efficient vessel pro pelled by a five-horsepower steam engine which wa able to make a little headway against a strong wind Other experimentors of this period were Dupuy d Lôme, and the Tissandier brothers In 188 Charles Renard and Captain Krebs built and suc cessfully operated an airship named *La France* propulsion of which was obtained by electri storage batteries In Germany, Welfert built a airship propelled by a benzine engine He mad many successful flights beginning in 1880 In 189 he lost his life in an explosion in the air Other out standing names in the development of the airshi are Alberto Santos-Dumont, a young Brazilian and Count Ferdinand von ZEPPELIN and Hug Eckener, both of Germany Santos-Dumont, work ing in France, built airships of various shapes an volumes In 1901 he won a prize for flying aroun the Eiffel Tower To Zeppelin and Eckener belon the credit for successfully developing the rigid typ of airship Great Britain constructed only a few nonrigid airships Except for the *Mayfly,* whic met with disaster upon completion, the building o rigid airships was not undertaken in England unti the First World War, when the *R33, R34,* and other were built The *R34,* the first airship to cross th Atlantic, crossed in 1919, returning in 75 hr Post war airships constructed in England were the *R10* and *R101,* which were built as commercial vessels The *R101* met with disaster in France on her maide trip to India The *Graf Zeppelin,* built in Germany in 1926–27, traveled 20,000 mi around the world i 1929 In the United States little was done regard ing airships before the First World War except fo the purchase of a few of the nonrigid type Afte 1916 many sea scouts were built of the nonrigi type for the Navy Dept The first rigid airshi built was the *Shenandoah,* completed in 1923 Thi was the first vessel to use helium as a lifting gas She was wrecked by a violent storm in 1927 The *Los Angeles,* built by Germany as part of her repa rations payment to the United States and com pleted in 1924, was successfully navigated acros the Atlantic late in 1924 by Captain Eckener. In

1932 the *Los Angeles* was retired from active service in the navy and was dismantled in 1939 The *Akron*, a much larger and more powerful airship, capable of long-range flights and of carrying a fleet of airplanes, was commissioned in 1931 but was wrecked in a storm at sea in 1933 A sister ship, the *Macon*, commissioned in 1933, was wrecked in 1935 The *Hindenburg* and those aboard, burned at its mooring mast at Lakehurst, N J , in 1937 No rigid airship survived the Second World War The *Graf Zeppelin* and the *Graf Zeppelin II* were destroyed by Germany near the end of the war to prevent their falling into Allied hands See E A Lehmann and H L Mingos, *Zeppelins* (1927), C E Rosendahl, *What about the Airship?* (1938), P W. Litchfield and Hugh Allen, *Why, Why Has America No Rigid Airships?* (1945).

airsickness Flying at high altitudes and at great speed may produce bodily conditions classified generally as airsickness The motion of the flying ship causes symptoms of seasickness in susceptible individuals As in seasickness, the vestibular apparatus of the inner ear is affected in some manner not clearly understood SCOPOLAMINE, administered to pilots from ½ to 1 hr before flying, has been found effective in eliminating airsickness symptoms for a period of about 4 hr Altitude sickness, similar to "mountain sickness," is induced by a decrease in air pressure and in the amount of oxygen Two forms of altitude sickness known as anoxia, in which the body cells lack sufficient oxygen, have been described In one, this lack of sufficient oxygen, for even a short time, results in a loss of muscular control and may cause unconsciousness The other form is a chronic condition resulting from repeated exposure to a rarefied atmosphere Complete lack of oxygen for even one minute may destroy brain cells and may result in degeneration of the adrenal glands Aeroembolism is a condition resulting from rapid ascents to extreme altitudes As in CAISSON DISEASE the sudden change of atmospheric pressure causes the release of atmospheric nitrogen bubbles which block the circulation

airway, defined by the National Advisory Committee for Aeronautics as an air route between air traffic centers which is over terrain best suited for emergency landings, with landing fields at intervals equipped with aids to air navigation and with a communication system for the transmission of information pertinent to the operation of aircraft The term may apply to an air route for land planes, for seaplanes, or for both The airway between two or more airports does not necessarily follow a straight line, since it is often advisable to deviate in order to avoid mountains or certain localities where weather conditions are generally unfavorable Prevailing winds are also a factor to be considered in selecting an airway, particularly when airships are to be used At the extremities of an airway are the terminal airports and at intervals are intermediary airports and landing fields Intermittent communication is kept with all aircraft in flight, and the progress of each machine is carefully recorded throughout its journey All established airways now have definite air markings for day flying and beacon lights for navigation at night The air markings consist of large painted signs on roofs, highways and other prominent places which indicate the name of the locality, the direction and distance of the nearest airport or landing field, and other information Such markings are of as simple a form as possible, so painted as to stand out clearly from the background and to be easily recognizable at an average altitude Whenever possible they are illuminated for night traveling Airway beacon lights are placed c 10 mi apart along the route and are generally of about 1,800,000 candle power revolving six times a minute Code landmark beacons indicate specific features identifiable from the aircraft by the color and timing of the lights All such lights in the United States are under the supervision of the Dept of Commerce, as are the radio beacons which enable a flier to find an airport and land in it successfully even in the thickest fog Definite flying rules have been established, all aircraft being required to keep to the right of an airway and to observe the regulations governing minimum altitudes, the approaching, overtaking, or crossing of other aircraft, acrobatic flying, and dropping of objects Definite scheduled air transportation in the United States may be said to have had its beginning in 1918, when the first air-mail line was established The main cities of Europe are connected by excellent airways, and service is maintained throughout the year Great Britain has a network of airways between all principal points at home and abroad which has steadily increased since its establishment in 1919 Airways also cross and connect all continents except Antarctica See J H Frederick, *Commercial Air Transportation* (rev ed , 1940), M. B Baker, *Airline Traffic and Operation* (1947).

Airy, Sir George Biddell, 1801-92, English astronomer, educated at Trinity College, Cambridge He served as Lucasian professor of mathematics at Cambridge (1826–28) and Plumian professor of astronomy and director of the observatory (1828–35). From 1835 to 1881 he was astronomer royal, in charge of Greenwich Observatory. His researches in magnetism and meteorology were important, and he introduced new and improved instruments, some designed by himself, at the observatory He found a corrective for atmospheric chromatic dispersion as it affected telescopic observation and worked out a device to rectify the disturbance of the compass in vessels made of iron He was responsible for the astronomical observations required for defining the boundary between the United States and Canada See his autobiography (ed by his son, 1896)

Aisha see AYESHA

aisle (īl) [Latin, *-wing, s* is not etymological], in architecture, a narrow side space separated from the rest of the floor plan by a line of piers or columns An early form is in the halls of Egyptian temples, while the Roman basilica shows a later use The early Christian and Romanesque churches borrowed the aisle from the Roman basilica, inaugurating its almost universal inclusion in church construction In Gothic churches, the side aisles are usually lower than the nave or main body of the building, the upper portion of the nave walls thus forming a clerestory Most Gothic churches have one aisle flanking the nave on either side, but side aisles total four or six in some churches The terms "nave aisle" and "transept aisle" refer to position, and ambulatory refers to an aisle continued around the choir end of the church

Aisne (ān, Fr ĕn), department (2,868 sq mi , pop 453,411), NE France, touching the Belgian border An agricultural area producing grain and sugar beets, it occupies parts of Ile-de-France, Picardy, and Champagne Laon is the capital Soissons, Château-Thierry, and Saint-Quentin are the historic towns of the region, which has been the scene of fighting in many wars The Aisne river, a tributary of the Oise, was an important battle line in the First World War

Aitken, Robert Grant (āt'kĭn), 1864–, American astronomer, b Jackson, Calif , grad Williams, 1887 He became astronomer at Lick Observatory, Mt Hamilton, Calif , in 1895, associate director in 1923, director in 1930, and emeritus director in 1935 He went with the observatory's eclipse expedition to Flint Island in the Pacific in 1908 He studied especially the double stars, of which he has discovered more than 3,000 He is the author of *The Binary Stars* (2d ed , 1935)

Aitken, Robert Ingersoll, 1878–1949, American sculptor, b San Francisco Among his most noteworthy works are the monuments to William McKinley at St Helena, Calif , Berkeley, Calif , and San Francisco, the Dewey monument at San Francisco, sculptured figures on the western pediment of the Supreme Court Building, Washington, D C , and the mortuary relief, *The Gates of Silence* He designed the 50-dollar gold coin issued by the United States

Aitkin (ā'kĭn), village (pop 2,063), co seat of Aitkin co , central Minn , on the Mississippi N of Mille Lacs Lake and WSW of Duluth, in a fertile farm and resort region, settled 1870

Aix-en-Provence (ĕks'-ā-prôvās', ĕk"sā-), city (pop 32,076), Bouches-du-Rhône dept , SE France It has trade in wines, cereals, and olive oil Aix was founded (c 122 B C) as Aquae Sextiae by the Romans, beside mineral springs In 102 B C , Marius defeated the Teutons here Aix has been, since its beginning, the capital of PROVENCE (except when replaced by Arles) and was made an archiepiscopal see in the 5th cent Here in 1486 the estates of Provence approved union of Provence with the French crown, and from 1501 to 1789 Aix was the seat of a provincial PARLEMENT. A center of medieval Provençal literature, Aix has a university (founded 1409), part of which is now at Marseilles Good King RENÉ held his brilliant court here (late 15th cent) Though Aix does not lack beautiful monuments (notably the baroque town hall and the Gothic Cathedral of St Sauveur), it is rather through its pervasive charm that it has become a favorite sojourn for painters CÉZANNE was born here

Aix-la-Chapelle, German see AACHEN

Aix-la-Chapelle, Treaty of. 1 Compact of May 2, 1668, which ended the French invasion of the Spanish Netherlands (see DEVOLUTION, WAR OF) France kept most of its conquests in Flanders, Cambrai, Aire, Saint-Omer, and the province of Franche-Comté were returned to Spain, and the remainder of Spain's possessions in the Low Countries were guaranteed by the TRIPLE ALLIANCE **2** Treaty of 1748, ending the War of the AUSTRIAN SUCCESSION In general, it restored the *status quo ante*, but awarded Silesia and Glatz to Prussia and conferred the duchies of Parma, Piacenza, and Guastalla on the Spanish infante, Philip It confirmed the PRAGMATIC SANCTION, and it renewed the ASIENTO agreement of 1713, the trade agreements with Britain regarding the Spanish colonies, and the recognition of the Protestant succession in England

Aix-les-Bains (ĕks'-lā-bĕ', –bĭng', Fr ĕks'-lā-bĕ'), town (pop 10,720), Savoie dept , E France, beautifully situated on Lake Bourget at the foot of the Alps It is a famous spa with alum and sulphur springs frequented since Roman times

Ajaccio (ŭyă'chŏo, ŭjă'sō, Ital ăyät'chō) city (pop 27,536), capital of Corsica, France, a fortified seaport on the Gulf of Ajaccio The house where Napoleon I was born is now a museum Ajaccio is a farm market center In Sept , 1943, it was the first town of Corsica to liberate itself from German occupation

Ajah (ā'ju), variant of AIAH I

Ajalon (ā'ju–, ă'–), variant of AIJALON.

Ajanta (ujŭn'tu), village, NW Hyderabad state, India It is noted for its monastic cave dwellings and shrines lined with frescoes representing scenes from the life of Buddha The caves provide a study of Buddhist art from 200 B C to A D 600

Ajax (ā'jăks), Gr *Aias*, in Greek legend **1** Hero of the TROJAN WAR, called the Telamonian Ajax or Ajax the Greater He was the son of TELAMON and leader of the Salamis warriors Ajax was a giant, overpoweringly strong and slow to think and speak He rescued the body of Achilles, and when Achilles' armor was given to Odysseus, Ajax, maddened with jealousy, committed suicide The story of his death is told differently in the *Ajax* of Sophocles, which says that Ajax went insane, attacked a flock of sheep, thinking them warriors, and then in a lucid moment realized what he had done and killed himself in humiliation **2** Leader of the forces from Locris in the Trojan War, called the Locrian Ajax, Ajax of Oileus (his father), or Ajax the Lesser In the Trojan War he violated Cassandra at the altar of Athena, and Athena caused him to be shipwrecked on the way home Poseidon saved him, but Ajax, boasting of his own power, defied the lightning to strike him down and was instantly struck by it Other versions of the story say that he stole the Palladium and that later Poseidon destroyed him for blasphemy

Ajmer (ŭjmēr', ŭj–), state (2,400 sq mi , pop 583,693), NW India It comprises two detached areas surrounded by Rajasthan, and it is identical with the former British province of Ajmer-Merwara Hardy grains and cotton are grown For early history see RAJPUTANA) **Ajmer,** city (pop 147,258), the capital, was founded c 1100 A Jain temple (constructed 1153, now converted into a mosque), the shrine of the Moslem saint Khivaja Muin-ud-din (d 1235), and the palace of Akbar are the most notable buildings Cotton is processed, and there are large railroad shops The city has a college

Ajodhya (ujō'dˈyu) or **Oudh** (oud), town, E central United Provs , India, joint municipality with FYZABAD (total pop 55,215) It was the capital of the kingdom of Kosala, which fell A D c 1000 Many pilgrims visit the place, which is associated with Hindu legends Ayodhya is the official name

Akaba, Jordan see AQABA

Akan (ă'-), descendant of Esau Gen 36 27 Jakan· 1 Chron 1 42

Akbar (ăk'bur), 1542-1605, Mogul emperor of India (1556-1605), grandson of Baber He succeeded his father, Humayun, under a regent and began to rule in his own right in 1560 By continual warfare he enlarged his original domain in N central India to include Afghanistan, Baluchistan, and nearly all the Indian peninsula N of the Godavari river To unify this vast state he initiated administrative and fiscal reforms and held to the policy of religious toleration Although he was himself illiterate, Akbar's courts at Delhi, FATEHPUR SIKRI, and Agra were centers of the arts, letters, and learning A passion for spiritual certainty led him to promulgate (1582) the Din-i-Ilahi [divine faith], an eclectic religion in place of Mohammedanism, but it disappeared after his death

Akeldama (ukĕl'dumu), variant of ACELDAMA

Akeley, Carl Ethan (āk'lē), 1864–1926, American naturalist, animal sculptor, and author, b Orleans co , N Y He served (1887–95) at the Museum of Milwaukee and from 1895 to 1909 was at the Field Museum, Chicago (now the Chicago Natural History Museum), here he developed his method of mounting habitat groups and became a master of animal sculpture From 1909 he was affiliated with the American Museum of Natural History, New York Of his many small bronze groups of African wildlife among the best known are *The Wounded Comrade* (elephants) and *Lion and Cape Buffalo* On a larger scale are the groups *Vandi Spearman* and *Lions* in the American Museum of Natural History Akeley made numerous expeditions to Africa to collect specimens for the Field Museum and the American Museum of Natural History, for his work he invented the cement gun and the Akeley camera, both widely used by naturalists He was influential in establishing wildlife sanctuaries in Africa He wrote *In Brightest Africa* (1923) His first wife, Delia Denning Akeley (later Mrs Warren D Howe), aided him in field work and in mounting groups, in 1924 and 1928 she headed expeditions for the Brooklyn Museum She wrote *J T., Jr , the Biography of an African Monkey* (1928), *Jungle Portraits* (1930), and *All True* (1931) Akeley's second wife, Mary Jobe Akeley, before their marriage in 1924 had taught at Hunter College and had explored the Canadian Rockies (Mt Jobe was named for her) She collaborated in Akeley's work and after his death in Africa assumed direc-

tion of the expedition on which they were then engaged She made another expedition (1935–36) to the Transvaal and Southern Rhodesia Her books include *Akeley's Africa* (1929), *Restless Jungle* (1936), *The Wilderness Lives Again* (1940), and, with Akeley, *Adventures in the African Jungle* (1930) and *Lions, Gorillas, and Their Neighbors* (1932)

Akenside, Mark (ā'kĭnsĭd), 1721–70, English poet and physician, studied medicine at the universities of Edinburgh and Leiden His chief literary work was a didactic poem, *The Pleasures of Imagination* (1744) Among the earliest if not the best neoclassical odes in English were his *Odes on Various Subjects* (1745), and his *Epistle to Curio* (1744) was a vigorous political satire In the *Museum*, a magazine which he edited in 1746–47, he continued to write in both veins Under George III, Akenside turned Tory and became physician to the queen See biography by C T Houpt (1944)

Akers, Benjamin Paul, 1825–61, American sculptor, b Cumberland co , Maine He made portrait busts of Longfellow and other American celebrities before setting up a studio in Rome His work (of which the best known is *The Dead Pearl Diver*) was neoclassical Deeply religious, Akers was nicknamed "St Paul "

Akhenaton see IKHNATON

Akhetaton see TEL-EL-AMARNA

Akhisar (ăk"hĭsär'), city (pop 23,799), W Turkey It is the biblical THYATIRA

Akhmatova, Anna (ăn'nŭ ŭkhmä'tûvŭ), pseud of **Anna Andreyevna Gorenko** (ŭndrā'uvnu gôryĕng'kô), 1888–, Russian poet of the Acmeist school She remained in Russia after the revolution and was idolized by the Russian people Her poems, whether of love (1910–18, when she divorced the poet Gumilev) or tragedy (in 1921 and after 1940), are sculptured in their simplicity yet rhythmic in the tradition of Pushkin

Akiba ben Joseph (ŭkē'bu), A D c 50–c 132, Palestinian rabbi He was one of the first Jewish scholars to make a systematic compilation of the Hebrew oral laws This compilation, known as the *Mishnah of Rabbi Akiba*, exercised a profound influence upon the development of Mishnaic doctrines Akiba believed in the Messianic mission of BAR KOCHBA and sided with him in his revolt against Rome He was an idol of the people, the facts of his life are obscured with legends He was imprisoned and, it is said, tortured to death by the Romans, he is one of the 10 martyrs mentioned in the Jewish penitential prayer See biography by Louis Finkelstein (1936)

Akita (ä'kētä), city (1940 pop 61,791, 1947 pop 110,300), capital of Akita prefecture, NW Honshu, Japan, a port on the Sea of Japan Oil refining is one of its industries Japan's largest oil field lies in Akita prefecture, which also contains important copper mines

Akka see PYGMY

Akka, Palestine, see ACRE.

Akkad (ă'kăd, a'kad), region of Mesopotamia, occupying the northern part of later Babylonia The southern part was Sumer In both regions city-states had begun to appear in the 4th millennium B C In Akkad a Semitic language or a language akin to the Semitic tongues, Akkadian, was spoken The rulers in Akkad were generally opposed by the Sumerians, and both conflicted with the Elamites Akkad flourished after Sargon began (c 2800? B C) to spread wide his conquests, taking them from his capital, Agade (ugä'dĕ, ugä'dē) (or the city of Akkad), to the Mediterranean shores He held firm overlordship of all the petty states of Sumer and Akkad So did his successors, the most notable being Naram-sin After more than a century decline seems to have set in Mountain tribes overran the empire Later the Sumerians held sway, and the kingdom of Ur embraced both Akkad and Sumer Elam took over the power generally toward the end of the 3d millennium while a new wave of Semitic-speaking peoples entered Mesopotamia It was by defeating the Elamites that Hammurabi was able to create Babylonia, which had its capital in Akkad The name also appears as Accad

Akkerman, see BELGOROD-DNESTROVSKI, Ukraine

Akkub. 1 Descendant of David 1 Chron 3 24. **2** Levitical family 1 Chron 9 17, Ezra 2 42, Neh 7 45, 11 19, 12 25 **3** One of the Nethinim **Ezra** 2 45 **4** One who explained the law Neh 8 7

Aklavik (ăklä'vĭk), post of the Royal Canadian Mounted Police and public seaplane anchorage in the Mackenzie dist , Northwest Territories, on the Peel river c 30 mi from its mouth on Beaufort Sea

Akmolinsk (ŭkmulyĕnsk'), city (1939 pop over 30,000), capital of Akmolinsk oblast, Kazakh SSR, on the Ishim river and at the junction of the Petropavlovsk-Balkhash and South Siberian railroads. Founded in 1830, it is a rural center, with flour mills, sawmills, and plants producing agricultural machinery

Akrabbim (ŭkrăb'ĭm) see MAALEH-ACRABBIM.

Akron (ăk'run) **1** Railroad town (pop. 1,417), co. seat of Washington co , NE Colo , ENE of Denver, in a farm area, founded 1882, inc 1887 **2** Town (pop 1,314), NW Iowa, on the Big Sioux (here marking the S.Dak. line) and N of Sioux City; platted 1871 as Portlandville, inc. 1882 It is a farm trade and processing point **3** Village (pop 2,263), W N Y , NE of Buffalo, in a farm and dairy region, inc 1849 Gypsum products are made here Near by is the Tonawanda Indian Reservation (chiefly Seneca) **4** City (pop 244,791), co seat of Summit co , NE Ohio, on the Little Cuyahoga and SE of Cleveland, settled 1807, inc as a city 1865 Its site on the old Indian Portage Path was included in the Western Reserve Akron is an important industrial center, the hub of the country's rubber industry, it produces also breakfast foods, chemicals, and other products The Ohio and Erie Canal and later the railroad spurred the city's commercial growth It is a port of entry With a fine municipal airport, a huge Zeppelin airdock, and an airport stadium (1937), Akron is the U S center for lighter-than-air craft, the dirigibles *Akron* and *Macon* were built here The Portage Lakes are south The first important application of the sit-down strike technique occurred in Akron in 1936, several thousand rubber workers were involved The **University of Akron** (city supported, coeducational) was chartered in 1870, opened in 1872 as Buchtel College (Universalist), became the Municipal Univ in 1913, and was renamed in 1926 It includes colleges of education, engineering, and liberal arts (Buchtel) and a two-year general college, Guggenheim Airship Institute, and a city testing laboratory Rubber chemistry is a specialty

Aksakov, Ivan Sergeyevich (ĭvän' sĕrgyā'ûvĭch ŭksä'kuf), 1823–86, Russian publicist, son of Sergei Timofeyevich Aksakov He exerted great political influence and was editor of various Slavophile journals, among them the weekly *Rus*

Aksakov, Sergei Timofeyevich (syĭrgā' tyĭmufyā'uvĭch), 1791–1859, Russian writer, famous for his descriptions of the Orenburg region His chief work is *Family Chronicle* (1856, Eng tr , 1916–24), a remarkable picture of life on a country estate in the days of serfdom Though influenced by Gogol, his work is devoid of social criticism

Aksum or **Axum** (both ăksōōm'), town (pop 10,000), N Ethiopia It was the capital of a line of emperors who ruled (1st–6th cent) part of modern Ethiopia and much of the Anglo-Egyptian Sudan They erected here gigantic obelisks carved in the form of towers Aksum is a major center of Coptic Christianity Its cathedral is said to house the Ark of the Covenant

Akte see ATHOS

Aktyubinsk (ăktyōō'bĭnsk), city (1936 estimated pop 45,000), capital of Aktyubinsk oblast, Kazakh SSR, on the Trans-Caspian RR Founded in 1869, it developed rapidly after the construction (1905) of the railroad There are metallurgical plants (chrome, nickel), a chemical industry (fertilizers), machine shops, and flour mills

Akureyri (ä'kurā"rē), port (pop 6,180), N Iceland, on the Eyja Fjord The second largest city of Iceland, it exports train oil, fish products, wool and sheepskins

Akyab (ăkyăb', ăkyab'), town (pop 38,094), W Burma, on the Bay of Bengal It became a large center for exporting rice after the British occupation in 1826 In the Second World War it was held by the Japanese from 1942 to 1945

Al, chemical symbol of the element ALUMINUM

Alabama (ălŭbă'mu), state (51,609 sq mi , 1940 pop 2,832,961, 1949 estimated pop 2,920,000), SE United States, admitted 1819 as the 22d state (a slaveholding state) The capital is MONTGOMERY, the largest city is BIRMINGHAM, and the seaport is MOBILE Alabama is bounded on the north by Tennessee, on the east by Georgia, on the south by Florida and the Gulf of Mexico, and on the west by Mississippi Except for the mountainous section in the northeast (the southern end of the CUMBERLAND PLATEAU), the state is a rolling plain with a mean elevation of c 600 ft in two geologic regions—the Appalachian piedmont above the fall line and the coastal plain below These plains, drained by the Alabama and Tombigbee rivers and their tributaries, are primarily given over to agriculture The central BLACK BELT yields cotton and lesser crops —corn, peanuts, hay, sweet potatoes, oats, Irish potatoes, peaches, sugar cane, and sorghum Where the Tennessee river loops across the north, hydroelectric power from the TENNESSEE VALLEY AUTHORITY has been increasingly turning an agricultural land into an industrial section The mineral riches of coal, iron, and limestone have also contributed to the state's industries, and Birmingham is a leading U S iron and steel center Lumbering and Gulf fishing also add to the wealth of Alabama, which is still predominantly devoted to farming Agriculture was known to the four great Indian groups of the region (Creek and Cherokee in the east, Choctaw and Chickasaw in the west) when the Spanish explorers arrived Pánfilo de Narváez may have visited Alabama in 1528, Cabeza de Vaca certainly did, and Hernando de Soto spent some time in the region in 1540 White settlement was begun, however, not by the Spanish but in 1702 by the French under the sieur de BIENVILLE in the Mobile area French and British contended for the furs gathered by the Indians, and the region went (1763) to the British, who were victorious over France and Spain in the French and Indian Wars At the close of the American Revolution, Great Britain ceded (1783) to the United States all lands east of the Mississippi except the Floridas (see WEST FLORIDA CONTROVERSY) The Territory of Mississippi was set up in 1798, but the land was still largely wilderness with a considerable fur trade, centered at SAINT STEPHENS, and with only the beginnings of cotton cultivation Both were interrupted in the War of 1812, when part of the Creek Confederacy took the warpath under William WEATHERFORD Andrew Jackson decisively defeated the Indians at Horseshoe Bend on March 27, 1814 This victory, coupled with the need of England for cotton, ushered in the period of heavy settlement Immigrants poured into the Alabama region from the neighboring states, especially Georgia The wealthy newcomers took up land in the fertile bottom lands and established great slave-worked plantations that produced cotton for the markets of the great southern ports, Mobile and New Orleans Poorer newcomers took over less fertile uplands, where they scrabbled a living as best they could So many came that the Territory of Alabama was set up in 1817 with William W Bibb as governor, two years later it became a state In cotton-prosperous Alabama the slave-owning planters were dominant, and as the Civil War loomed closer the support of Southern rights and secession sentiment grew under the urging of "fire-eaters" such as William L YANCEY Alabama broke away from the Union on Jan 11, 1861, and shared in the fate of the Confederacy Federal troops held the Tennessee valley after 1862 and one of the great naval battles of the war was won by Admiral D G FARRAGUT in Mobile Bay in 1864, but most of the state was not occupied in force until 1865 In the Reconstruction era, Alabama's ruined agricultural economy supported a corrupt regime of scalawags and carpetbaggers Few reforms emerged, but the mining of coal and iron was expanded by Daniel PRATT and H F DE BARDELEBEN to mark the rise of Alabama industry Farming was still dominant and the fortunes of the state still rose and fell with the market price of cotton, but constant use and erosion began to exhaust the land Diversification of crops, much advocated in the 20th cent , was sped when the boll weevil invaded the cotton fields and the great demand in the First World War brought high prices for food crops The depression and the agricultural program of F D Roosevelt's New Deal caused more farmers to produce subsistence crops and took more land away from the wasting cotton culture The social and economic problems of Alabama were brought to national attention in the quarrels concerning the SCOTTSBORO CASE and the operations of TVA The state also contributed figures of importance to the national scene, such as Hugo L Black and John H and William Bankhead Industrialization was much quickened in the Second World War with the appearance of factories producing machines, munitions, powder, and war supplies, and many varied industries arose The Univ of Alabama, at Tuscaloosa, is the leading institution of higher learning Others are Alabama Polytechnic Institute, at Auburn, Birmingham-Southern College and Howard College, at Birmingham, Huntingdon College, at Montgomery, Alabama College at Montevallo, Spring Hill College at Spring Hill, and Tuskegee Institute, at Tuskegee See A J Pickett, *History of Alabama* (1900), W L Fleming, *Civil War and Reconstruction in Alabama* (1905), T P Abernathy, *The Formative Period in Alabama, 1815–1828* (1922), A B Moore, *History of Alabama* (1935), C S Davis, *The Cotton Kingdom in Alabama* (1939), Federal Writers' Project, *Alabama, a Guide to the Deep South* (1941)

Alabama, river formed in central Alabama by the confluence of the Coosa and Tallapoosa just above Montgomery It flows 312 mi W, SW, then S to the Tombigbee, with which it forms the Mobile river c 30 mi N of Mobile It is navigable

Alabama see CONFEDERATE CRUISERS

Alabama, University of, mainly at University, near Tuscaloosa, state supported, coeducational, chartered 1820, opened 1831 It has colleges of arts and sciences, education, engineering, and medicine (at Birmingham) and schools of chemistry, metallurgy, and ceramics, commerce and business administration, home economics, law, and mines An experiment station of the U S Bureau of Mines, the state natural history museum, the state geological survey, and a business research bureau are here

Alabama City, Ala see GADSDEN

Alabama claims. In the Civil War the *Alabama* and other CONFEDERATE CRUISERS inflicted great damage on Northern merchant marine Since these were built, fitted out, and otherwise aided by British interests, the United States claimed damages These claims came to be the sore point in British-American relations, already aggravated by other disputes W H Seward failed to reach a settlement while he was Secretary of State However, his successor, Hamilton Fish, brought about the Treaty of Washington (1871), which provided for arbitration. Charles Francis Adams for the United

States, Alexander J E Cockburn for Great Britain, and three members from neutral countries constituted the tribunal, which met at Geneva in 1871–72 The arbitrators threw out American claims for indirect losses, but awarded the United States $15,500,000 for all the direct damage done by the *Alabama* and the *Florida* and for most of the damage caused by the *Shenandoah* The British were absolved of blame in the cases of several less important cruisers

Alabama College: see MONTEVALLO

Alabama Polytechnic Institute, at Auburn; land-grant and state supported, coeducational, chartered and opened 1872 as Alabama Agricultural and Mechanical College, renamed 1899 It has schools of agriculture, architecture and allied arts, chemistry, education, engineering, home economics, pharmacy, science and literature, and veterinary medicine

alabamine: see ASTATINE

alabaster (ăl'ŭbăs"tur), fine-grained, massive, translucent variety of GYPSUM, pure white or streaked with reddish brown, used in statuary and for other decorative purposes It is soft enough to be scratched with the fingernail and hence is easily carved, but also easily broken, soiled, and weathered It is quarried in England and also in Italy Vases and statuettes of Italian alabaster are sold as "Florentine marbles" The alabaster of the ancients, called Oriental alabaster and onyx marble, to distinguish it from true alabaster, is MARBLE, a calcium carbonate, whereas gypsum is a calcium sulphate The calcium carbonate form occurs both in underground masses (TRAVERTINE) and in cave formations (see STALACTITE AND STALAGMITE) Important sources of supply are Algeria, Egypt, Iran, and Mexico (from which it is exported under the name Mexican onyx), in the United States there are important sources in Utah and Arizona Oriental alabaster was extensively used by the Egyptians in sarcophagi, in the linings of tombs, in the walls and ceilings of temples, and in vases and sacrificial vessels The Romans worked the Algerian and Egyptian quarries and used the stone for similar purposes In modern times it was used by Mohammed Ali for his mosque in Cairo The French make extensive use of alabaster in interior decoration See G P Merrill, *Stones for Building and Decoration* (3d ed, 1903), John Watson, *British and Foreign Marbles* (1916)

Alachua (ălkch'ŏŏu), city (pop 1,081), N central Fla, NW of Gainesville, founded 1884 It is a shipping center for truck, chiefly watermelons

Alacoque, Margaret Mary see MARGARET MARY, SAINT

Alagez, Mount see ARAGATS, MOUNT

Alai (ălī'), mountain range, Kirghiz SSR, a western branch of the Tien Shan system The Alai extends 200 mi west from the border of China and rises to c 16,500 ft

Alain de Lille (ălăⁿ' du lēl'), c 1128–c 1202, French scholastic philosopher, a Cistercian, called The Universal Doctor He was born in Lille, taught in Paris, lived long in Montpellier, and died at Cîteaux An eclectic, he wished to temper the rational with the mystical He held that the mind unaided by revelation can know the universe, but by faith alone can man know God Though he was a neoplatonist, he made use of numerous Aristotelian and neo-Pythagorean elements The mathematical and deductive method had an important place in his theology, reason is preferred to authority His chief work was *De fide catholica contra haereticos* Two poems have been translated into English, the satiric *Complaint of Nature* (Eng tr, 1908) and the encyclopedic *Anticlaudian* (Eng tr, 1935) He is also called Alanus de Insulis.

Alais, France see ALÈS

Alajuela (ălahwā'lă), city (1944 estimated pop, 10,170), W central Costa Rica, NW of SAN JOSÉ It is one of the four principal cities of the central plateau Sugar is the chief industry

Alamán, Lucas (lōō'kus ălămän'), 1792–1853, Mexican historian and statesman As deputy to the Spanish Cortes, he failed to win a hearing for the insurgents in Mexico He later (1822) organized in London a company to exploit Mexican mines Returning to Mexico, he was minister in the provisional government after the fall of ITURBIDE and was until his death active in national and international affairs Alamán founded the Archivo General and the National Museum, in Mexico city He wrote *Disertaciones sobre la historia de la república mexicana* (3 vols, 1844–49) and *Historia de México desde 1808* (5 vols, 1849–52)

Alamanni or **Alemanni, Luigi** (lwō'jē ălämän'nē, ălāmän'nē), 1495–1556, Italian poet He conspired against Cardinal de' Medici (later POPE Clement VII) and was forced to flee to France, where he was patronized by Francis I He wrote lyrical verse of polish and dignity, outspoken satires, a long poem, *The Cultivation of the Fields*, inspired by Vergil's *Georgics;* and *Girone il Cortese*, a romantic poem For a translation of one of his sonnets, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

Alameda. 1 (ălūmē'dŭ,–mā'dŭ) City (1940 pop 36,256; 1945 special census pop 89,906), W Calif, on an island just off the eastern shore of San Francisco Bay, inc as a town 1854, as a city 1884 A residential city, with fine beaches and parks, it is also a manufacturing and shipping center, with shipyards and railroad shops Shipbuilding is its chief industry Alameda is the seat of a large U S naval air station (formerly Benton Field), of a U S coast guard base, and of a U S maritime school The city is connected with the mainland by bridges and a tunnel **2** (ălumē'dŭ) Village (pop 2,691), SE Idaho, a suburb of Pocatello, laid out 1912, inc 1924

Alamein (ălūmān', ă–) or **El Alamein** (ĕl), town, N Egypt, on the Mediterranean coast 70 mi W of Alexandria It was the site of a decisive British victory in the North African campaigns of the Second World War (see NORTH AFRICA, CAMPAIGNS IN) In preparation for Marshal Rommel's attack from Libya (begun May 26, 1942) the British forces retreated into Egypt and by June 30 had set up a defense line extending 35 mi from Alamein S to the Qattara Depression, a badland which could neither be crossed nor flanked If this position had fallen, the British might have lost Alexandria and might have been forced to withdraw from North Africa The defenders at first depended upon the depleted 8th Army and extensive mine fields, by September, however, British air power had ascendancy In August, Gen Bernard L Montgomery took command of the 8th Army, newly supplied and with its ranks filled The British offensive opened on Oct 23 with tremendous air and artillery bombardments The artillery guns were concealed, and deception played a part in the victory Montgomery's forces cleared the German mine fields and on Nov 1 and 2 burst through the German lines near the sea and forced a swift Axis retreat out of Egypt, across Libya, and into E Tunisia Egypt was definitely saved, and with the landing on Nov 7 and 8 of American troops in Algeria the Axis soon suffered total defeat in North Africa For his victory Montgomery was made a viscount with the title Montgomery of Alamein

Alameth (ā'l–), Benjamite 1 Chron. 7 8.

Alamgir see AURANGZEB

Alammelech (ulăm'ulĕk), town, NW Palestine Joshua 19 26

Alamo (ăl'ŭmō) **1** Town (pop 1,137), co seat of Crockett co, W Tenn, NW of Jackson, in a farm area **2** City (pop 1,744), extreme S Texas, WNW of Brownsville, in the irrigated district of the lower Rio Grande valley, inc 1924

Alamo, the [Spanish, =cottonwood], building in San Antonio, Texas, "the cradle of Texas liberty" Originally constructed after 1744 as the chapel for the Mission San Antonio de Valero, it was later fortified In the Texas Revolution, San Antonio was taken by Texas revolutionaries in Dec, 1835, and was lightly garrisoned When Santa Anna approached with an army of several thousand in Feb, 1836, only a handful of men held the Alamo, and confusion, indifference, and bickering among the insurgents throughout Texas prevented any help going to them, except for 32 volunteers from Gonzales who slipped through the Mexican lines after the siege had already begun Defying Santa Anna's demands for surrender, the Texans in the fort determined to fight against the hopeless odds The siege, which began Feb 24, ended with hand-to-hand fighting within the walls on March 6 William B Travis, James Bowie, David Crockett, and some 184 other defenders were dead, but the heroic resistance roused fighting anger among Texans, who six weeks later defeated the Mexicans at San Jacinto, crying, "Remember the Alamo!" The chapel-fort was bought by the state in 1883 the surrounding area was added in 1905, and the whole was restored and improved in 1936–39 See John Myers Myers, *The Alamo* (1948)

Alamogordo (ăl"umugôr'dō,–du), town (pop 3,950), co. seat of Otero co, S central N Mex, near the Sacramento Mts, settled 1898 It is the trade center of a farm, timber, and recreation area and the seat of a state school for the blind In a remote part of the Alamogordo air base, the first atomic bomb was exploded in a test which took place on July 16, 1945 Near Alamogordo are White Sands National Monument, Mescalero Apache Indian Reservation, and Lincoln National Forest Alamogordo Dam is not here but in the Pecos near Fort Sumner

Alamo Heights, city (pop 5,700), S central Texas, a suburb of San Antonio, inc 1926

Alamosa (ălumō'sŭ), city (pop 5,613, alt c 7,500 ft), co seat of Alamosa co, S Colo, on the Rio Grande and in the San Luis Valley, founded 1878 It is the shipping and processing center for a prosperous farm and ranch area Adams State College for teachers is here Great Sand Dunes National Monument lies to the northeast

Alamoth (ā'l–). Hebrew musical term, unknown in meaning, although some have guessed "soprano," connecting it with a word for "maidens" It occurs in 1 Chron 15 20 and in the title of Ps 46 The term *Shemnith* (shĕm'ĭ–) [Heb, =eighth], in the titles of Pss 6 and 12, has been explained as "bass," complementary to Alamoth

Aland Islands (ä'lŭnd, ô'–), Finnish *Ahvenanmaa* (ä'vĕnänmä'), Swed *Ålandsöerna* (ô'lântsû'urnä), archipelago (572 sq mi, pop 27,676), in the Baltic Sea, between Sweden and Finland, at the entrance of the Gulf of Bothnia It belongs to Finland The chief town is Mariehamn (Finnish *Maarianhamina*), a port on Aland, the largest of the islands The islands were early colonized by Swedes, who still form a majority of a population of fishermen and farmers The importance of the islands is strategic They were ceded by Sweden to Russia in 1809 In the Crimean War the Russian fortifications were destroyed (1854), and remilitarization was forbidden by the Treaty of Paris (1856) With Finland, the archipelago became independent of Russia in 1917 Pro-Swedish feelings among the islanders led to a dispute between Sweden and Finland, but in 1921 the League of Nations temporarily settled the case by awarding the islands to Finland with an autonomous status and renewed the ban on their militarization A Finnish-Swedish agreement to allow Finland to fortify the islands was blocked (May, 1939) by Russia in the Council of the League Finnish fortifications erected during the Finnish-Russian War (1939–40) were later dismantled, and a demilitarization agreement, signed by Finland and Russia in Oct, 1940, was renewed after the Second World War Despite the continuing autonomy of the islands, sentiment for greater independence or for union with Sweden remains strong

Alans or **Alani** see SARMATIA

Alarcón, Hernando de (ĕrnän'dō dā alarkōn'), fl 1540, Spanish explorer in the Southwest He was given command of a fleet that was supposed to support the land expedition of Francisco Vásquez de CORONADO In the summer of 1540 he sailed up the Gulf of California, proved definitely that Lower California was a peninsula, not an island, and discovered the Colorado river He explored the river a few months before García López de CÁRDENAS discovered the Grand Canyon

Alarcón, Pedro Antonio de (pādrō antō'nyō), 1833–91 Spanish writer and diplomat He was active in politics during his youth and became editor of a revolutionary journal in Madrid, later he was ambassador to several countries of Europe In 1875 he was admitted to the Spanish Academy His first book was a novel, *El final de Norma* (1855), but his first important literary work was the very successful report on the war in Africa (1860) This was followed by other interesting books of travel The lighter works of Alarcón, *El sombrero de tres picos* (1874, Eng tr, *The Three-cornered Hat*, 1891) and *El capitán Veneno* (1881, Eng tr *Captain Venom*, 1914) are now best known They are short novels, in which the author shows a keen power of observation, an extraordinary ability to describe with color and plasticity, and a subtle humor Two of his longer novels are *El escándalo* (1875, Eng tr, *The Scandal*, 1945) and *El niño de la bola* (1880)

Alarcón y Mendoza, Juan Ruiz de (hwän' rōōēth' dā alarkōn' ē mändō'thä), d 1639, Spanish dramatic poet, one of the great literary figures of the *siglo de oro* [golden age], b Mexico After a stay in Spain (1600–1608), where he studied law, he returned to Mexico Disappointed of preferment there he returned to Spain (1613) and obtained a minor post in the Council of the Indies His comedies appeared in two volumes (1628, 1634) Alarcón's carefully wrought plays in the classical tradition are—unlike those of his great contemporary, Lope de Vega—notable for characterization Perhaps the best-known is *La verdad sospechosa* [the suspicious truth], which was the model for Corneille's *Le Menteur* [the liar] Among the others are *Las paredes oyen* [the walls have ears] and *El anticristo*

Alaric I (ă'lurĭk), c 370–410, Visigothic king He headed the Visigothic troops serving Emperor Theodosius I, after whose death (395) they rebelled and chose Alaric as their leader (see VISIGOTHS) Alaric devastated Thrace, Macedonia, and Greece Stopped, but not defeated, by STILICHO, he retired northward, and by an agreement with the Eastern emperor, ARCADIUS, occupied Epirus About 400 he invaded Italy, where after some indecisive warfare he agreed with Stilicho on a joint attack against the Eastern Empire This attack failed to materialize, and in 408 Alaric again left Epirus and invaded Italy Stilicho persuaded the Romans to buy Alaric's alliance through a huge payment, but shortly afterward Emperor HONORIUS had Stilicho executed for treason Alaric again turned on Rome (409) and forced the city to accept a puppet emperor, Attalus, whom he himself deposed, the next year, for disregarding his advice After the failure of renewed negotiations with Honorius (who all the while held out at Ravenna) Alaric stormed and sacked Rome (410) and then marched south to attack Sicily and Africa A storm destroyed his fleet, and Alaric, having turned back, died of an illness His brother-in-law Ataulf was elected his successor It is said that Alaric was buried with his treasures near Cosenza in the bed of the Busento river, which was temporarily diverted from its course That the secret might be kept, the slaves employed in the labor were killed.

Alaric II, d 507, Visigothic king of Spain and of S Gaul (c 484–507), son and successor of Euric. He issued (506) at Toulouse the BREVIARY OF ALARIC for his Roman subjects. Alaric's adherence to Arianism gave CLOVIS I, king of the Franks, an easy pretext for attacking him in the name of orthodoxy. Alaric was defeated and slain at Vouillé (507), and the Visigoths lost all their possessions in Gaul save Septimania.

Alasco or à Lasco, Johannes: see LASKI, JOHN.

Alashehir or **Alaschir** (both ä"lashĕ'hĕr, –shĕhĕr'), town (pop 8,883), W Turkey. It is a trade center. The site of ancient PHILADELPHIA is near by.

Alaska, U S territory (571,065 sq mi, with water surface 586,400 sq mi; 1939 pop 72,524, 1949 estimated pop c 92,000), NW North America. JUNEAU is the capital, ANCHORAGE the largest city. Alaska is a huge block of land at the northwest extremity of the continent between the Arctic Ocean on the north and Pacific Ocean on the south. Its rugged coast line in the west thrusts in the Seward Peninsula to the Bering Strait, which separates it by only a few miles from the Asiatic USSR. The strait widens to the Bering Sea, which cuts into Alaska with Norton Sound, below Seward Peninsula, and Bristol Bay, just N of the Alaska Peninsula. Alaska thrusts toward Russia again in the Alaska Peninsula, which is continued by the ALEUTIAN ISLANDS, reaching out toward the Russian Komandorski Islands, they divide the Bering Sea from the Pacific. The south shore of Alaska is deeply indented by Cook Inlet and Prince William Sound, the Kenai Peninsula between them, running southwest, continues in Kodiak Island. Prince William Sound is itself a part of the wide Gulf of Alaska. Where the coast runs SE from the Gulf of Alaska lies the narrow Panhandle of Alaska, cutting into the Canadian province of British Columbia. Except for the Panhandle, the eastern boundary of Alaska is with Yukon territory. Not only the rough coast but the high mountain ranges of Alaska cut the Territory into isolated regions. The difficulties of communication are one of the most troublesome problems of Alaska, air transport is answering it in part, and all Alaskan towns have their much-used airports, but even so the towns are for the most part isolated, self-contained units. This is true even in the Panhandle, the most populous of the regions, with the capital and others of the best-known towns—KETCHIKAN, old SITKA, and SKAGWAY. The region is one of a narrow coast, rising steeply to the mountains of the Coast Range and the St Elias Mts, and of islands of the ALEXANDER ARCHIPELAGO. It is connected with Seattle by steamships plying the Inside Passage and is more "civilized" than the other sections of Alaska, although tourists find the abrupt mountains, the dense forests, and the villages of Haida, Tlingit, and Tsimshian Indians exotic and remote. The climate is generally mild, and the combination of the Japan Current and the high cold mountains on the coast produces extremely heavy rainfall. The scenic wonders of mountain and fjord are augmented by the glaciers such as the Malaspina Glacier at the entrance to the Panhandle and the acres of blue ice in Glacier National Monument. The chief economic reliance of the people is upon fish, notably the Alaska salmon. Some riches still come from the mines that were the spur for founding most of the towns, and the third of the Alaskan trilogy of wealth—fish, minerals, furs—was formerly of great importance. The land is generally so steep that agriculture is minimal. This is not true of S central Alaska. There, between the mountains of the coast and the wide curve of the Alaska Range, which sweeps up to Mt McKinley (in MOUNT MCKINLEY NATIONAL PARK), the highest point in North America, there are wide valleys that can support farms, here is the much-publicized MATANUSKA VALLEY, with its market center at Palmer. Anchorage, the metropolis of the region, is the larger center for the Matanuska Valley and, more important, the center for the Alaska RR, for airways, and for U S defense installations. It is also connected with the Alaska Highway and continued its wartime boom after the Second World War was over. The Kenai Peninsula also has farmlands (mostly potential). There the port of Seward, having lost its commanding position as terminus of the Alaska RR to Whittier, fell back upon the development of a highway. Communication is essential to the Alaskan community. Valdez on Prince William Sound is enhanced by the Richardson Highway to Fairbanks (linked with the Alaska Highway). Cordova, which formerly was the port for the big Kennecott copper mine up the Copper river, was injured by the closing of the mine and the railroad to it in 1938 and took recourse only to sea communications, the products of its fish canning are taken away by steamer. Kodiak also depends upon the ocean lanes. Extreme W Alaska is dominated by the ALEUTIAN RANGE, which is the spine of the Alaska Peninsula (c 500 mi long) and is continued in the grass-covered, treeless Aleutian Islands. The climate there is unremittingly bad, foggy and in the winter disagreeably damp and cold and subject to violent winds (the williwaws). The native ALEUTS were the first to feel the pressure of white civilization when Russian fur traders came in the 18th cent. When the hunting of the sea otter declined in the 19th cent so did the importance of the islands, only to be reawakened when Japanese attack in the Second World War showed their prime significance in strategy. Bloody fighting took place on them (notably on Attu), and Dutch Harbor became a major key of the U S. defense system. On the Alaska Peninsula recent volcanic action attracted much interest, particularly in the Valley of Ten Thousand Smokes in 1912 (the area is now in Katmai National Monument). North of the peninsula is Bristol Bay, where much fishing goes on in summer. The Pribilof Islands in the Bering Sea, also belonging to the region of W Alaska, are noted principally as the source of sealskins and the pelts of the Pribilof blue fox. Farther to the north is the Seward Peninsula, with the fabulous NOME, where gold was gathered on the beaches after 1899. Except for the gold, however, the peninsula—mostly tundra covered—remained unexploited. The Eskimo lives his simple and efficient life on the peninsula and the islands off the coast and gets his food from the surrounding waters. The interior of Alaska, between the ALASKA RANGE in the south and the BROOKS RANGE in the north, was also opened to settlement by the discovery of gold, and gold in early 1950 was still the major product of FAIRBANKS, the metropolis of the interior. Some agriculture had, however, been developed around Fairbanks in the valley of the Tanana river (a tributary of the Yukon), and more was anticipated, it was argued that farming could be developed in much of the whole Yukon valley, famed mostly in the past for its furs and for its gold fields. The climate of the interior is continental, with an intensified effect, the summers are short but very hot, the winters long and very cold. Arctic Alaska, N of the Brooks Range, is, contrary to popular belief, not so cold as the interior. It is, however, mostly BARREN GROUNDS, cut by numerous short rivers and one long river (the Colville). The northernmost reach of Alaska is Point Barrow. If the arctic regions are defined as the region N of the Arctic Circle rather than N of the Brooks Range, they include lands that are usable for growing potatoes and other vegetables. Alaska, which still seems a remote land to most of the people of the United States, was first reached by white men not from the United States or Canada, but from Russia. The adventurous and disastrous voyage of Vitus BERING and Aleksandr Chirikov in 1741 capped the march of Russian traders across Siberia. The survivors who returned with fine sea-otter skins started a rush of fur traders (the *promyshlenniki*) to the Aleutian Islands. Rough, resourceful men, they survived great hardships to take away fortunes in fur. Their hardships were, however, mild in comparison with the harsh treatment they gave the unfortunate natives. The trade was later organized by merchants with larger interests in the reign of Catherine II. Grigori SHELEKHOV in 1784 founded the first permanent settlement in Alaska on Kodiak in 1784. He sought a monopoly of the fur trade and sent (1791) to Alaska the man who was to dominate Russian days there, Aleksandr BARANOV. The monopoly was granted to the Russian American Company in 1799, and it was Baranov who directed its activities in Alaska. Sitka was founded in 1799 as his capital and was rebuilt after destruction by the Indians in 1802. From a "castle" at Sitka, Baranov ruled, extending the Russian trade far down the coast and even, after several unsuccessful attempts, founded (1812) a farming settlement at Ross in Alta California. Earlier Nikolai Rezanov had visited San Francisco and in 1806 obtained food from the Spanish there for the then-starving Sitka. Rivalry for the Northwest coast was strong even before the Russian monopoly was created, for not only the long-established Spanish but newly come British and U S vessels were venturing in the N Pacific. The voyage of Capt James COOK brought him to Alaskan waters in 1778. His explorations were followed by others, notably George VANCOUVER. Canadian fur traders pushed across the continent in the wake of Sir Alexander Mackenzie, and the American Lewis and Clark expedition had been followed by the founding of the short-lived post at Astoria. A clash of interests occurred. Baranov was removed from his post in 1818 and Russian naval officers on detached service—most prominent among them Baron Wrangel—took charge of the colony, which was by negotiations with Great Britain and the United States in 1824 limited definitely to lat 54° 40′ N. Already the Russians had begun to withdraw from the American coast, and Alaska settled into a long period of decline. As the Crimean War threatened, the Russian American Company reached an agreement with the Hudson's Bay Company, but its precarious position was obvious, and after the war Russia undertook to dispose of Alaska altogether. The monopoly was withdrawn in 1863. In 1867 the territory was bought by the United States for $7,200,000. The purchase was due almost solely to the determined energy of Secretary of State William H Seward, and for many years afterward—even after Alaska had begun to return fortunes in gold and fish—the land was sometime derisively called Seward's Folly or Seward's Icebo Immediately there was no return, and Alaska wa neglected. The Alaska Commercial Company u herited the Russian commercial rights but was n active. The U S army officially had Alaska charge until 1876, when scandals caused the soldie to be withdrawn. After a small lapse when gover ment resided only in customs men, the navy wa given charge in 1879. Most of the territory was n even known, although the British (notably S John Franklin and Capt F W. Beechey) ha early explored the coast of the Arctic Ocean, an the Hudson's Bay Company men Robert Campbe and Alexander Murray had explored the Yuko where Fort Yukon was founded in 1847. It wa not until after gold was discovered in the Junes region in 1880 that Alaska was given a governo and a feeble local administration by the Organ Act of 1884. Missionaries, who had come to th region in the late '70s, exercised considerable u fluence. Most influential of them all was Sheldo Jackson, best known for his introduction of ren deer to help the Alaskan Eskimo, beggared by th wanton destruction of the fur seals. The sealin was the subject of a long international controver (the BERING SEA FUR-SEAL CONTROVERSY), whic was not ended until after gold had changed Alask permanently. Paradoxically, the first finds tha had tremendous influence on Alaska were not Alaska at all, but in Canada. The development Fortymile Creek and in the upper Yukon area pr pared the way for the great Klondike strike of 189 which brought a stampede. Most of the mine were from the United States, and most of the came through Alaska. The big discoveries Alaska itself followed—Nome in 1899, Fairbank in 1902. The miners and prospectors—the sou doughs—took over Alaska, and the era of the roug mining camps reached its height, this was th Alaska of Jack London, Rex Beach, and romanc It was also lawless, and a criminal code was b latedly applied in 1899. Not until 1906 did Alask get a territorial representative in Congress, an self-government was not established then. Th vexed question of the boundary between the Pa handle of Alaska and British Columbia, know usually as the Alaska Boundary Controversy was settled in 1903 by the Alaska Boundary Tr bunal, a six-man board made up of three American (Elihu Root, Henry Cabot Lodge, and Georg Turner) and three representatives of Canadia British interests (Viscount Alverston, Sir Louis Jetté, and A B Aylesworth), the decision wa generally favorable to Alaska. A period of rapi building and development began. Mining, requi ing heavy financing, passed into the hands Eastern capitalists, notably the monopolisti Alaska Syndicate. Opposition to the "interests became the burning issue in Alaska and wa catapulted into national U S politics in the charge and counter-charges about the giving of Alaska coal lands to the large companies and their cohorts Gifford Pinchot and R A Ballinger were the chie antagonists, and this was a major issue on whic Theodore Roosevelt split with President W H Taft. Taft was defeated in the 1912 election. Be fore that time a new era had begun for Alaska wit the establishment of local government in 191 (Juneau had officially replaced Sitka as capital u 1900 and had begun to function as capital in 1906). The building of the Alaska RR from Seward t Fairbanks was commenced with government fund in 1915. Already, however, the flush of gold feve had begun to die, and Alaska receded into one o its periods of lull. The fishing industry, quietly going forward in the noise of gold rushes, had be come the major Alaskan industry, which it stil remained in 1950. Mining was revived by use o the deep-dredging process in the 1920s, and the rise in the price of gold in Franklin D. Roosevelt' New Deal also aided the mines. Alaska's latest lull was ended by its greatest boom on the approach of the Second World War. Already development of transoceanic aviation had pointed out the valu of arctic bases, and the threat of the Japanese showed glaringly the importance of Alaska to the defense of North America. The Japanese did ac tually get a foothold in the Aleutian Islands in 1942 and were ousted only after hard fighting in 1943. More important, Alaska became an arsenal, and money poured in for creation of army camps, naval bases, and air bases. Still more important, the Alaska Highway was built, supplying a still-weak but much-needed link in communication. The growth of air travel in the period between the wars created a modern transport net, but still more transportation means were needed to forward the anticipated settlement schemes. The permanent defense bases, the Univ of Alaska, the success of arctic farming in Siberia—all brightened the hopes for more development of farming and the growth of stable settlements. Alaskans in 1946 voted in favor of statehood and in 1950 were looking forward confidently to entrance into the Union in the future. See W W Woollen, *The Inside Passage to Alaska, 1792–1920* (1924), Jeanette P. Nichols, *Alaska. a History* (1924), Merle Colby and

Federal Writers' Project, *A Guide to Alaska, Last American Frontier* (1939, new ed., 1941), Stuart Ramsay Tompkins, *Alaska Promyshlennik and Sourdough* (1945), Herbert H Hilscher, *Alaska Now* (1948)

Alaska, University of, at College, near Fairbanks, land grant and territorial, coeducational, chartered 1917, opened 1922 as Alaska Agricultural College and School of Mines It became a university in 1935 and has a school of mines, extension services in agriculture, home economics, and mines, agricultural experiment stations, a museum, a geophysical observatory, and a seismograph It cooperates in research projects with government and private institutions

Alaska Highway, 1,527 mi long, from Dawson Creek, British Columbia, to Fairbanks, Alaska Built (March–Oct , 1942) in the Second World War by U S troops to supply the forces in Alaska, it was a significant engineering feat because of the difficulties of terrain and weather A Canadian road already connected Dawson Creek with Edmonton, Alta The Haines Cutoff connects the Alaska Highway with the Panhandle of Alaska In the last stretch to Fairbanks the road used the previously built Richardson Highway In 1946 the Canadian part of the road was transferred to Canadian control It was formerly called the Alaska Military Highway, the Alaskan International Highway, and the Alcan Highway See P H Godsell, *The Romance of the Alaska Highway* (1944)

Alaska Range, S central Alaska, rising to the highest mountain in North America, Mt McKinley The range divides S central Alaska from the great plateau of the interior

Alastor (ulă'stur), in Greek mythology, the spirit of vengeance It is an epithet applied to Zeus or any other god in his aspect as avenger and is also sometimes applied to the evildoer who is subject to vengeance Another mythological Alastor, the brother of Nestor, was killed by Hercules

Ala-Tau (ä'lä-tou') [Turki, =snowy peak], six lofty mountain ranges of central Asia In general they are near Lake Issyk Kul and belong to the Tien Shan system All are economically unproductive and are chiefly inhabited by Turki-speaking pastoral tribes The **Dzungarian Ala-Tau** (zo͝ongä'rĭ-tou) is for 130 mi the border between the Kazakh SSR and Sinkiang prov , China, and rises to 16,550 ft This, the northernmost branch of the Tien Shan, extends from southwest to northeast c 250 mi The **Kungei Ala-Tau** (ko͝ong-gä'), a branch of the Tien Shan, rises to 16,360 ft and lies north of the lake It extends from east to west 130 mi and forms part of the boundary between the Kirghiz SSR and the Kazakh SSR The **Kuznetsk Ala-Tau** (ko͝oznĕtsk'), SW Siberia, Russian SFSR, rises to 6,890 ft It extends generally from north to south c 250 mi The **Talass Ala-Tau** (talas'), a range of the Tien Shan, Kirghiz SSR, rises to 13,200 ft and extends from east to west c 150 mi The **Terskei Ala-Tau** (tĕr'skā), in the Kirghiz SSR, rises to 16,440 ft and lies south of the lake It extends from east to west 225 mi The **Trans-Ili Ala-Tau** (trăns'-ēlē'), a range of the Tien Shan in the Kazakh SSR, rises to 16,460 ft and extends from east to west some 250 mi more or less

Alatyr (ŭlutĭr'), city (pop c 26,000), Chuvash ASSR, E European RSFSR, at the junction of the Alatyr and Sura rivers It is an agricultural center, founded in 1552

Álava see BASQUE PROVINCES

Alba or **Alva, Fernando Álvarez de Toledo, duque de** (ăl'bu, ăl'vu, Span both fĕrnän'dō ăl'värăth dā tōlä'dhō dō͝o'kā dā ăl'vä), 1508–82, Spanish general After a distinguished military career in Germany and Italy, Alba returned to Spain as adviser to King Philip II Advocating a stern policy toward the rebels against Spain in the NETHERLANDS, he was appointed (1567) captain general there, with full civil and military powers The regent, MARGARET OF PARMA, opposed him and resigned, and Alba became regent and governor general A religious fanatic and ruthless absolutist, he set out to crush the Netherlanders' attempts to gain religious toleration and political self-government The special court he set up at Brussels, popularly known as the Court of Blood, spread terror through the provinces, where Alba's name is still remembered with loathing Some 18,000 persons were executed (among them the popular EGMONT and HOORN), and their properties were confiscated Increased taxation also fanned popular resentment Several cities rebelled, but were punished with much bloodshed, and the forces of WILLIAM THE SILENT, who had invaded the Netherlands, were defeated Nevertheless, after six years of his rule, Alba found the Netherlands more resolutely opposed to Spanish rule than ever, while at the court of Philip II he was accused of having compromised the royalist cause His resignation (1573) was accepted, and Requesens was appointed in his stead In 1580 Philip again resorted to him for the conquest of Portugal After seizing Lisbon, Alba permitted a massacre of the citizens.

Albacete (älbäthä'tā), city (pop. 50,567), capital of **Albacete prov.,** SE Spain, in Murcia, at the Southeast end of La Mancha plateau Under the Moors, Albacete was a part of the kingdom of MURCIA, with which it was incorporated (1269) into Castile The city now has a modern aspect and is mainly an agricultural center

albacore see TUNA

Alba-Iulia (ăl'bä-yo͞o'lyo), Hung *Gyulafehérvár*, Ger *Karlsburg*, city (pop 14,420), central Rumania, in Transylvania It is the center of a wine-producing region The Roman Apulum, it was destroyed several times in its history It was the seat of the princes of Transylvania and has many historic monuments The Karlsburg fortress was built by Emperor Charles VI

Alba Longa (ăl'bu lông'gŭ), city of ancient Latium, in the Alban Hills near Lake Albano, c 12 mi SE of Rome It was a city before 1100 B C and apparently was then the most powerful in Latium Legend says it was founded by Ascanius, son of Aeneas, that Romulus and Remus were born here, and that it was thus the mother city of Rome Tradition also said that Tullus Hostilius, king of Rome, razed it in 665 B C Possibly Rome was founded from Alba Longa, and certainly the Romans destroyed it (c 600 B C ?)

Alban, Saint, 3d or 4th cent , traditionally the first British martyr He lived and died at Verulamium, now St Albans Feast Roman Catholic Church, June 22, Church of England, June 17

Albanel, Charles (sharl albanĕl'), 1616–96, French missionary explorer in Canada, a Jesuit priest After arrival in Canada (1649), he was stationed many years at Tadoussac and explored the surrounding wilderness At the time when the British Hudson's Bay Company was beginning operations, he was a leader of a French party that went (1671–72) by the Saguenay river, Mistassini Lake, and the Rupert river to Hudson Bay The region was claimed for France On another journey there he was captured (1674) by the British and taken to England After returning (1676) to Canada, he served at missions in the West and died at Sault Ste Marie

Albani, Francesco (franchäs'ko albä'nē), 1578–1660, Italian painter, fellow student with Guido Reni under Calvaert and Lodovico Carracci He won fame by completing the painting in the chapel of San Diego in the national Spanish church at Rome, which Annibale Carracci had begun In conjunction with Guido Reni, Albani painted a picture of the *Assumption* in the manner of Carracci His allegorical pictures of *The Four Elements* are noted His style is graceful and charming

Albani, Madame (ălbä'nē), 1852–1930, stage name of Marie Louise Emma Cécile Lajeunesse, Canadian operatic soprano She studied with Francesco Lamperti in Milan, made her debut in Messina (1870), and afterward sang with great success both in Europe and in the United States Her last triumph came as Isolde in Berlin (1896), with Jean de Reszke as Tristan She was made Dame of the British Empire in 1925 See her reminiscences, *Forty Years of Song* (1911)

Albania, (ălbā'nyŭ,) Albanian *Shqipnia* or *Shqiperia*, republic (10,629 sq mi , estimated pop 1,120,000), SE Europe, on the Adriatic coast of the Balkan Peninsula between Yugoslavia (north) and Greece (south) Tirana is the capital As a region, Albania is often understood to extend deeply into SW Yugoslavia and, to a lesser extent, into NW Greece, in both these countries there are considerable Albanian minorities Save for a fertile coastal strip Albania is rugged and mountainous, rising in the north to more than 8,000 ft Agriculture (corn, wheat, tobacco, and stock raising) is the chief occupation There are valuable mineral deposits (copper and bituminous coal), as yet only partly exploited A hydroelectric power plant was begun in 1947 Communications are poor except for the roads linking the chief inland cities (Tirana, Scutari, Elbasan, Koritsa, and Argyrokastron) and the main ports (Durazzo, Valona, and Sarande) The Drin (north) and the Voyutsa (south) are the chief rivers The Shkumbi river cuts Albania approximately into halves, it also separates speakers of the northern dialect (Gheg) from speakers of the southern dialect (Tosk) of the Albanian language, which belongs to the Illyrian subfamily of Indo-European languages (see LANGUAGE, table) Some Greek is spoken in the south The people are mainly hill tribes of very ancient stock About 60 percent are Moslem, about 20 percent Orthodox, and about 10 percent Roman Catholic The region, which anciently comprised parts of ILLYRIA and EPIRUS, was known to the ancient Greeks for its mines The coastal towns, Epidamnus (see DURAZZO) and APOLLONIA, were colonies of Corcyra (Corfu) and Corinth, but the interior formed an independent kingdom, which reached its height in the 3d cent B C Fought over by Macedonia and Rome, the country was under at least nominal Roman rule by the 1st cent. A D In fact, the Albanian mountain tribes were never fully subdued by any of their many conquerors, and the chieftains of their clans throughout the centuries retained much authority. After being occupied (5th cent) by the Ostrogoths, Albania was reconquered (535) for the Byzantine Empire by Justinian I Byzantine control was effective in the coastal cities, but was chronically superseded, inland, by the Serbs and the Bulgars As the bridgehead (across the Strait of Otranto) of Italian influence in the Balkans, Albania became after the 11th cent the theater of international rivalries Venice established autonomous colonies at SCUTARI and Alessio, Almalfi established its power at Durazzo In 1082 the Normans under ROBERT GUISCARD began, with fluctuating success, to dispute Albania with Byzantium Their efforts were continued by the Neapolitan Angevins Charles I of Naples was proclaimed (1272) king of Albania, however, in the 14th cent the Serbs under Stephen Dushan conquered most of the country and the Turks began their conquest. The Angevin domains were soon reduced to Durazzo, which in 1363 passed to a local lord The stout resistance to the Turks led by the Albanian national hero, SCANDERBEG, supported by Venice and Naples, collapsed in 1478, when Albania passed under Ottoman rule Durazzo, acquired by Venice in 1392, held out against the Turks till 1501 Ottoman domination lasted longer and influenced the country more deeply than that of any other foreign power Islam became the majority religion Numerous local revolts were suppressed Early in the 19th cent ALI PASHA ruled Albania like a sovereign, but was at last brought to ruin by the Porte The first of the BALKAN WARS gave the Albanians the opportunity to proclaim (1912) their independence An international control commission traced the borders of Albania in 1913 and destroyed the dream of a Greater Albania by assigning large tracts to Montenegro, Serbia, and Greece In the Second Balkan War (1913) Albania was occupied by the Serbs In 1914 WILLIAM, PRINCE OF WIED, became king of Albania, but he was soon expelled by his premier, ESSAD PASHA The First World War having begun, Albania was occupied by Serbs, Montenegrins, Greeks, and Italians, these, though allied, conflicted in their interests In 1916 the Bulgarians and Austrians entered Albania, which remained a battleground till the end of the war The borders of 1913 were subsequently reestablished, with minor changes Proclaimed a republic (1925), Albania was again made a kingdom under ZOG in 1928 In April, 1939, Italy, which had come to exert a virtual protectorate over the country, occupied Albania and united it with the Italian crown The chronic dispute between Albania and Greece regarding their respective minorities furnished a convenient pretext for the Italian attack on Greece in 1940 in the Second World War, S Albania again became the scene of heavy fighting The Albanian puppet government declared war on the Allies in 1940, but anti-fascist resistance forces later fought guerrilla warfare against the Axis Powers The strongest of these groups, led by Enver Hoxha, was radically leftist When Allied task forces landed late in 1944, Hoxha's partisans seized most of Albania and established (1946) a republic Under Hoxha's presidency a Communist one-party government was imposed Guided by the COMINFORM, Albanian foreign policy clashed with British, Greek, and Yugoslav interests See Rose Wilder Lane, *The Peaks of Shala* (1922), Ferdinand Schevill, *History of the Balkan Peninsula* (1922), E P Stickney, *Southern Albania or Northern Epirus in European International Affairs, 1912–1923* (1926)

Albania (ălbā'nēu), ancient name of a region in the E Caucasus, bordering on the Caspian Sea It is now largely comprised in the Azerbaijan SSR The Albanian or Caspian Gates (Latin *Albaniae Pylae*) are probably identical with the Iron Gates at DERBENT, RSFSR

Albano, Lake (ălbu'nō), picturesque crater lake central Italy, in the Alban Hills 15 mi SE of Rome It is c 6 mi in circumference An underground tunnel built in the 4th cent B C is still its only outlet ALBA LONGA was located near the lake South of the lake is Albano Laziale, a small town on the Appian Way, noted for the beautiful villas built here by the ancient Romans There are several Roman remains

Albany, Alexander Stuart or **Stewart, duke of.** see STUART OR STEWART, ALEXANDER

Albany, Louisa, countess of (ŏl'bŭnē), 1752–1824, wife of Charles Edward STUART (the Young Pretender), self-styled count of Albany, daughter of a German noble, the prince of Stolberg-Gedern Married in 1772, she was made unhappy by her dissolute husband, left him after eight years, and became the mistress of the poet Vittorio Alfieri until his death in 1803 After that she was mistress of a French artist, François Fabre Secret marriages with both men were rumored, but not well attested See biographies by Vernon Lee (pseud of Viola Paget, 1884) and Margaret Mitchiner (1937)

Albany, Robert Stuart or **Stewart,** 1st **duke of:** see STUART OR STEWART, ROBERT

Albany, ancient and literary name of Scotland Variants are Alban and Albin. ALBION usually refers to England

Albany, port (pop 4,761), Western Australia, SSE of Perth and on Princess Royal Harbour of King George Sound Founded in 1826 as a penal colony, it is the oldest settlement in the state. It is a rail terminus. Fruit is the chief export.

Albany. 1 Residential city (pop. 11,493), W Calif., on San Francisco Bay adjoining Berkeley, inc 1908 A U S Dept of Agriculture research laboratory is here 2 City (pop 19,055), co seat of Dougherty co , SW Ga , on the Flint river, founded 1836, inc 1841 It is an industrial city in a productive coastal-plain pecan area Meat packing is done here, and hosiery is produced Albany is also a tourist center, the transportation point for near-by Radium Springs, a popular resort Chehaw State Park is just east Albany State College (Negro, coeducational, 1903) is here 3 Town (pop 1,623), E Ind , NE of Muncie 4 Town (pop 1,259), co seat of Clinton co , S Ky , SSW of Danville, in the Cumberland foothills near the Tenn line The area was settled c 1800 and yields timber, coal, and farm produce 5 City (pop 2,010), co seat of Gentry co , NW Mo , on the East Fork of the Grand and NE of St Joseph, in a farm area, founded c 1845 6 City (pop 130,577), state capital, and co seat of Albany co , E N Y , on the west bank of the Hudson In 1609 Henry Hudson visited the site, and five years later the Dutch built Fort Nassau on Castle Island for their fur trade In 1623 several Walloon families began a permanent settlement at the Dutch post here, Fort Orange, which was renamed Albany (1664) when the English took control Albany was chartered as a city in 1686 and was made the state capital in 1797 It was long important as a fur-trading center and was active in the French and Indian Wars In 1754 the ALBANY CONGRESS met here The city's trade grew with the development of the state and of transportation, particularly after the opening of the Champlain and Erie canals in the 1820s A port of entry, it has much shipping, industry, and trade, with oil refineries and railroad shops Its products include machinery, chemicals, paper, and wood products Albany is the seat of the New York State College for Teachers, of the observatory (Dudley Observatory) and the schools of pharmacy, law, and medicine of Union Univ (see UNION COLLEGE), and of the Albany Institute of History and Art Dominating the city is the capitol (built 1867–98 7 City (pop 5,654), co seat of Linn co , NW Oregon, on the Willamette and S of Salem, founded 1848, inc 1864 It is a trade center in a fertile area of farms and orchards The state Republican party was organized here in 1856 8 City (pop 2,230), co seat of Shackelford co , N Texas, NE of Abilene The frontier army post, Fort Griffin, occupied from 1867 to 1881, was in the county Albany, earlier a center of ranching and salt-working, is still proud of the fine Hereford cattle bred here but is also a farm market and refines oil from near-by fields

Albany, river rising in W central Ontario and flowing east and northeast c 610 mi to the west side of James Bay The Kenogami, Little Current, and Ogoki rivers are its chief tributaries The river was named for the duke of York and Albany, later James II

Albany, Fort, fur-trading post, central Ont , at the mouth of the Albany river on James Bay It was founded by the Hudson's Bay Company as one of its earliest forts (before 1682) In the Anglo-French struggle for the Hudson Bay trade, it was first taken by the French under the chevalier de Troyes in 1686 and was later captured by Iberville, but from 1697 to 1713 it was the only post of the region in the possession of the British company It continued as a major post of the trade

Albany Congress, 1754, meeting at Albany, N Y , of commissioners representing seven British colonies in North America to treat with the Iroquois, chiefly because war with France impended A treaty was concluded, but the Indians of Pennsylvania were resentful of a land purchase made by that colony here and allied themselves with the French in the ensuing French and Indian War The meeting was notable as an example of cooperation among the colonies, but Benjamin Franklin's Plan of Union for the colonies, though voted upon favorably at Albany, was refused by the colonial legislatures and by the crown as demanding too great a surrender of their powers

Albany Regency, informal group of leaders of the DEMOCRATIC PARTY in New York state after 1820 Close cooperation, backed by social connections and a loose but vigorous program of democratic reform, was used by the members to enforce party regularity and to control elections, partly through the SPOILS SYSTEM Notable figures in the Regency were Silas WRIGHT, Martin VAN BUREN, William L MARCY, Azariah C FLAGG, and the elder Benjamin F BUTLER The power of the group was attacked by other groups, notably the ANTI-MASONIC PARTY, and was shaken by internal differences as to the radical reforms of Andrew JACKSON The slavery issue and the quarrel between BARNBURNERS and HUNKERS led to the decay of the Regency's prestige, which dwindled to nothing after the elections of 1848

albatross (ăl'bŭtrŏs), sea bird of the order of tube-nosed swimmers, which includes petrels, shearwaters, and fulmars The wandering albatross, made famous by Coleridge's *Rime of the Ancient Mariner*, has a wingspread of from 10 to 12 ft , although the wings are only about 9 in wide Albatrosses eat mainly fish, floating carrion, and refuse. Most albatrosses are found in the S Pacific region, e g , the wandering and the sooty species; a few, the black-footed, the short-tailed, and the Laysan albatrosses, regularly frequent the N Pacific, and the yellow-nosed occasionally does

Albay, Philippine Islands see LEGASPI

Albemarle, Arnold Joost van Keppel, 1st earl of (äl'bümärl), 1669–1718, Dutch adherent and close adviser of William III of England He accompanied the king to England (1688), was made an earl in 1696, and served William throughout his reign, then returned to Dutch service. He fought in the War of the Spanish Succession.

Albemarle, George Monck or Monk, 1st duke of: see MONCK OR MONK, GEORGE

Albemarle, town (pop 4,060), co seat of Stanly co., central N C , ENE of Charlotte, inc 1842 It has lumber, cotton, hosiery, and flour mills

Albemarle see GALÁPAGOS ISLANDS

Albemarle Point, site on the Ashley river, S C Here the English colonists of CHARLESTON made their first settlement in 1670

Albemarle Sound, arm of the Atlantic Ocean, NE N C , extending inland c 60 mi It is a fishing and boating resort A 4 5-mile bridge (opened 1938) spans the sound near Edenton

Albéniz, Isaac (ēsäk' älbā'nēth), 1860–1909, Spanish pianist and composer As an infant prodigy he toured Spain and South America unaccompanied He was influenced and encouraged by D'Indy, Fauré, Dukas, and Liszt, but it was Felipe Pedrell, in Madrid, who turned him toward the spirit of Spanish folk music, which characterizes his most significant works He is best known for *Iberia*, piano pieces in four books (1906–9) See Gilbert Chase, *The Music of Spain* (1941)

Alberdi, Juan Bautista (hwän' boutē'stä älbĕr'dē), 1810–84, Argentine publicist and diplomat With other young intellectuals he opposed Juan Manuel de ROSAS, and after 1838 he spent years of exile in Uruguay, Chile, and Europe, writing against ROSAS After the overthrow of ROSAS by URQUIZA (1852), Alberdi was employed on diplomatic missions Many of the suggestions made in his *Bases y puntos de partida para la organización política de la república argentina*, published in Valparaiso (1852), a masterpiece of political science, were incorporated into the Argentine constitution of 1853 After the overthrow of Urquiza, Alberdi settled in Paris and wrote political tracts against MITRE and SARMIENTO, sociological works, and essays In his less serious sketches he used the pseudonym Figarillo

Alberdingk Thijm, Josephus Albertus (yōsā'fōōs älbĕr'tōōs al'burdĭngk tĭm'), 1820–89, Dutch writer of poetry and prose dominated by a strongly Roman Catholic, often mystical, spirit Among his best works are the poem *De Klok van Delft* (1846) and the long short story *De Organist van den Dom* (written 1848) His son, **Karel Alberdingk Thijm** (kä'rl), pseud **Lodewijk van Deyssel** (lō'du-wĭk van dī'sl), 1864–, a leader of the literary revival of the 1880s, gained a greater reputation by his brilliant naturalistic novel, *Een Liefde* [a love] (1887)

Alberni (ălbûr'nē), city (pop 1,807), on S central Vancouver Island, British Columbia PORT ALBERNI, which adjoins it, is at the head of Alberni Canal, a 22-mile inlet allowing passage to the largest ocean vessels The cities' industries are based on forest products

Alberoni, Giulio. (jōō'lvō älbārō'nē), 1664–1752, Italian statesman in Spanish service, cardinal of the Roman Church As representative after 1713 of the duke of Parma at the court of PHILIP V of Spain, Alberoni gained influence and ultimately became prime minister With the princess des URSINS he arranged the marriage of the king with ELIZABETH FARNESE His aim was to strengthen Spain, to nullify the Peace of UTRECHT, and to crush Austrian hegemony in Italy The expeditions by which he recovered Sardinia from Austria (1717) and Sicily from Savoy (1718) precipitated the QUADRUPLE ALLIANCE of Britain, the Netherlands, France, and Austria Spain had to yield, and Philip was forced to dismiss and banish (1719) Alberoni, who retired to Rome He later became papal legate in the Romagna and in Bologna

Albert I, 1875–1934, king of the Belgians (1909–34); nephew and successor of Leopold II He married (1900) ELIZABETH, a Bavarian princess In the First World War his heroic resistance to the German invasion of Belgium in 1914 greatly helped the Allied cause Albert spent the entire war in the field at the head of his army, and in 1918 he led the Allied offensive which recovered the Belgian coast The king and his queen did much to improve social conditions in Belgium and in the Belgian Congo Albert's democratic and affable ways won him immense popularity and respect both at home and abroad He died in a rock-climbing accident in the Ardennes and was succeeded by his son, Leopold III His daughter, Marie José, married Humbert, crown prince (later king) of Italy See biography by Emile Cammaerts (1936).

Albert I, c 1250–1308, German king (1298–1308), son of RUDOLF I Albert was invested with Austria and Styria in 1282 His ambitious disposition and his power caused the electors to reject his candidacy for the crown (1292) and to choose ADOLF OF NASSAU In 1298 he led an army to the diet of Frankfurt, which deposed Adolf; he was subsequently chosen as Adolf's successor His failure to secure Holland and Zeeland (1300) encouraged the Rhenish archbishops and the elector palatine, backed by Pope BONIFACE VIII, to rebel (1300-1302), but he put down the revolt with the aid of the Rhine towns, in whose favor he had previously suppressed all tolls imposed since the death of Emperor Frederick II Albert's title was not recognized by Boniface till 1303 He interfered to keep Hungary out of the hands of WENCESLAUS II of Bohemia, but his campaign was unsuccessful until Wenceslaus's death (1305) Albert's son Rudolf succeeded Wenceslaus III (1306), but Bohemia was lost to the Hapsburgs at Rudolf's death (1307) Albert was assassinated by a band of conspirators, one of them his nephew He was succeeded by Emperor Henry VII

Albert II, 1397–1439, German king, king of Hungary and Bohemia (1438–39), duke of Austria (1404–38), son-in-law of Emperor Sigismund He was unable to suppress the revolt of the Bohemians and died of dysentery on a disastrous campaign against the Turks With Albert began the lasting HAPSBURG rule over the Holy Roman Empire until its dissolution in 1806

Albert (Prince Albert), 1819–61, royal consort of Victoria of Great Britain, whom he married in 1840 He was of WETTIN lineage, the son of Ernest I, duke of Saxe-Coburg-Gotha His unpopularity as an alien prince in England was not diminished by his dependence on the opinions of Baron von Stockmar The English came in time to admire him for his irreproachable character, his devotion to the queen and their children, and his responsible and studious concern with public affairs and with her handling of them His influence was strong in diplomacy, and his insistence on a moderate approach to the Trent Affair (1861) may have averted war with the United States See his letters, ed by Hector Bolitho (1933) and by Kurt Jagow (Eng tr by E T S Dugdale, 1938), biography by Hector Bolitho (1932)

Albert I, 1848–1922, prince of Monaco (1911–22) He was noted for his scientific expeditions and for his valuable contributions in the field of oceanography Louis II succeeded him as prince

Albert, 1490–1545, German churchman, a cardinal of the Roman Church, he belonged to the house of Brandenburg He became archbishop-elector of Mainz in 1514 In 1516, at Albert's direction, Johann TETZEL began to preach an indulgence in Albert's diocese It was this preaching which Martin Luther attacked Albert, a patron of Ulrich von HUTTEN, was expected to go over to the Reformers, but after 1525 he became actively opposed to them Later he invited the Jesuits to preach in his diocese He was a friend of Erasmus

Albert, Eugen Francis Charles d' (dăl'bĕr), 1864–1932, pianist and composer, b Glasgow, son of a German-French musician A pupil of Liszt, he was renowned as a piano virtuoso in Europe and first toured the United States, 1889–90, with Sarasate He became director of the Berlin Hochschule in 1907 As a composer, he is remembered for the operas *Tiefland* (1903) and *Die toten Augen* (1916) He was married to Teresa CARRENO, 1892–95

Albert, Lake see ALBERT NYANZA

Alberta (ălbûr'tu), province (c 248,800 sq mi ; with water surface 255,285 sq mi , pop 803,330), W Canada The capital is Edmonton, other important cities are Calgary, Lethbridge, and Medicine Hat Alberta is bounded on the east by Saskatchewan, on the north by Mackenzie dist , Northwest Territories, on the west by British Columbia, and on the south by Montana Westernmost of the Prairie Provs , it lies on a high plateau, rising on the west to the Continental Divide at the British Columbia border There are the foothills of the Rocky Mts and the mountains themselves, with three noted national parks—Jasper, Banff, and Waterton Lakes (the Canadian section of Waterton-Glacier International Peace Park) Although known as a prairie province, only about one quarter of its area is actually treeless—the undulating prairie of S Alberta Central Alberta has parklike, partly wooded country, and the northern stretches bear thousands of acres of virgin timberland Endowed with many lakes, streams, and rivers, the province is drained by the Peace, the Athabaska, the north and south branches of the Saskatchewan, the Red Deer, the St Mary, the Milk, and many other rivers The population is concentrated in S and central Alberta, except for farm centers in the fertile valley of the Peace, the northern portion is sparsely settled and still knows the presence of the fur trapper Agriculture ranks high in the provincial economy; grain, especially wheat, is a dominant crop, but mixed farming is developing In the south, expanding irrigation projects, such as the St. Mary-Milk project and those around Calgary, are placing thousands of additional acres under cultivation. Noted for its beef and dairy cattle, its hogs, and its sheep, the province is also rich in mineral re-

sources. Vast coal beds contain about 87 percent of the coal reserves of Canada. Oil has been commercially important since it was discovered in 1914 in quantity at Turner Valley, SW of Calgary, and rich new petroleum deposits were disclosed in the late 1940s, mainly in central Alberta. The bituminous sands along the Athabaska in N Alberta, as yet little exploited, are considered by some geologists to contain the greatest oil reserve yet known in the world The province also has extensive resources of natural gas Industrial development was accelerated by the Second World War, among Alberta's chief industries are meat packing, flour milling, oil refining, dairying, lumbering, textile milling, and the manufacturing of iron, steel, and clay products Alberta's early history was dominated by the fur trade Traders arrived from the upper Great Lakes before Sir Alexander Mackenzie crossed the region on his way to the Pacific The area remained under the control of the Hudson's Bay Company, with the most important post at Fort Chipewyan In 1870 the region became part of Canada Ranching began soon afterwards and is still important The Canadian Pacific Railway, completed in 1885, brought the homesteader Alberta received its name when it was separated (1882) from the Northwest Territories and was created a district and was named Alberta It became a province in 1905 In 1935 the Social Credit party captured the provincial legislature and William ABERHART became premier of the first SOCIAL CREDIT government in the world, upon his death in 1943, C E Manning was elected to his place, but the government's attempts to reform banking and money control were largely declared unconstitutional by the courts The Univ of Alberta is at Edmonton See C M MacInnes, *In the Shadow of the Rockies* (1930), W A Mackintosh, *Prairie Settlement the Geographical Setting* (1934), C H Douglas, *The Alberta Experiment an Interim Survey* (1937), M W Campbell, *The Saskatchewan* (1950)

Alberta, University of, at Edmonton, provincially supported, coeducational, chartered 1906, opened 1908 It has faculties of agriculture, applied science, arts and science, dentistry, education, law, and medicine and schools of commerce, household economics, nursing, and pharmacy Affiliated are two men's colleges, St Joseph's (Catholic) and St Stephen's (United Church)

Albert Achilles, 1414–86, elector of Brandenburg (1470–86), younger son of Elector FREDERICK I He succeeded his brother in 1470 and in 1473 issued the *Dispositio Achillea*, which established the indivisibility of Brandenburg and subjected it to the law of primogeniture The *Dispositio* remained in force until 1918

Albert Canal, waterway, 81 mi long Belgium, from the Meuse at Liége to the Scheldt (Escaut) at Antwerp Inaugurated in 1939, it was named for King Albert I, who started it in 1930 Connecting the vital industrial area of Liége with the chief port of Belgium, the canal was also intended as a defense barrier However, its fortifications were quickly overrun by German forces in May, 1940, in the Second World War The speedy capture of formidable Fort Eben Emael, near Liége, was particularly spectacular

Alberti, Domenico (dōmā'nēkō älbĕr'tē), c 1710–c 1740, Venetian singer, player on the harpsichord, and composer His prominence was chiefly due to his development of a type of broken-chord bass accompaniment, named for him Alberti bass

Alberti, Leone Battista (lā ō'nā bät-tēs'tä), 1404–72, Italian architect, musician, painter, and humanist He was one of the architectural founders of the Italian Renaissance His *De re aedificatoria* (1485) was the first printed book on architecture and was instrumental in spreading appreciation for antique Roman architecture His buildings show a pure classical style Among his works are, at Mantua, the Church of Sant' Andrea, which served as a model for many Renaissance churches, and, in Florence, the façade of Santa Maria Novella and the Rucellai Palace, where superimposed pilasters were used for the first time in the Renaissance Alberti designed also the so-called temple of the Malatesta in RIMINI, almost completely destroyed during the Second World War

Albertinelli, Mariotto (märyōt'tō älbĕr"tēnĕl'lē), 1474–1515, Florentine painter, of noble descent, one of the great masters of the High Renaissance He studied under Piero di Cosimo in the atelier of Cosimo Rosselli Here he formed a lasting friendship with his fellow student Bartolomeo di Pagholo, who, on joining the Dominicans, left to Albertinelli the completion of his *Last Judgment*, a fresco for Santa Maria Novella and now in the Uffizi Of Albertinelli's independent works, the *Visitation* (Uffizi) is his masterpiece In collaboration with Fra Bartolomeo he painted *Madonna and Saints* (Florence); *Annunciation* (Volterra), *Assumption*, and *Madonna in Glory* (cathedral, Besançon)

Albert Lea (lē), city (pop 12,200), co seat of Freeborn co, S Minn, near the Iowa line S of Minneapolis, settled 1855, platted 1856 It is a trade and manufacturing center in a diversified farm area Its manufactures include oil burners and clothing.

Albert Memorial, monument in Kensington Gardens, London, erected (1872–76) to the memory of Albert, prince consort It was executed from designs by Sir George Gilbert Scott and is a leading example of Victorian Gothic architecture The statue of the prince and the group *Asia* are the work of J H Foley Several other sculptors collaborated on the monument

Albert Nile: see BAHR-EL-JEBEL

Albert Nyanza (nyän'zu, nyän'su), **lake,** area 2,064 sq mi, central Africa, on the Belgian Congo—Uganda border, at an altitude of 2,018 ft It is almost enclosed by cliffs and wooded slopes It receives the Semliki river and the Victoria Nile, and it is drained by the Albert Nile (see BAHR-EL-JEBEL) There is steamer service reaching to Murchison Falls on the Victoria Nile The lake, discovered by Sir Samuel Baker in 1864, was named for the consort of Queen Victoria of England It is also called Lake Albert

Albert of Brandenburg, 1490–1568, grand master of the TEUTONIC KNIGHTS (1511–25), first duke of Prussia (1525–68), grandson of Elector Albert Achilles In 1525 he turned Protestant, secularized the dominions of the order which had elected him, and transformed them into the hereditary duchy of PRUSSIA, for which he did homage to King Sigismund I of Poland On the extinction of his line (1618), Prussia passed to the senior line of Brandenburg, and in 1701 it was made a kingdom

Albert the Bear, c 1100–1170, first margrave of Brandenburg (1150?–1170) He was a loyal vassal of Emperor Lothair II, who, as duke of Saxony, invested him (1123) with the East March (Austria), Albert was later deprived of the greater part of it He was rewarded for his share in Lothair's Italian campaign with the North March, which he used as a base for campaigns against the Wends (1134). Invested (1138) with Saxony by Conrad III, he was driven out by HENRY THE PROUD and in 1142 made peace with HENRY THE LION He took part in the Wendish Crusade of 1147, but generally preferred more conciliatory methods of dealing with his pagan neighbors, and as a result he inherited Brandenburg from its last Wendish prince and became (1143 or 1150) the first margrave Albert's achievements in Christianizing and Germanizing NE Germany were very important

Albertus Magnus, Saint (älbĕr'tŭs măg'nŭs), or **Saint Albert the Great,** b 1193 or 1206, d 1280, scholastic philosopher, called the Universal Doctor A nobleman of Bollstädt in Swabia, he joined (1223) the Dominicans and taught at Hildesheim, Freiburg, Regensburg, Strasbourg, and Cologne before the Univ of Paris made him doctor of theology in 1245 Later he taught again at Cologne, and he was also briefly (1260–62) bishop of Regensburg He was a thorough student of Aristotle, and he not only followed Robert Grosseteste in his approach to Aristotelian thought but also did much to introduce Aristotle's scientific treatises and scientific method to Europe Like Roger BACON, he had a scientific interest in nature He made notable botanical observations (recorded in such works as *De vegetabilibus*), was the first to produce arsenic in a free form, and studied the combinations of metals In philosophy he set out in his *Summa theologiae* to controvert AVERROËS and others and to reconcile the apparent contradictions of Aristotelianism and Christian thought He wrote many treatises, and many more have been ascribed to him, the problem of determining which are genuinely of his authorship is difficult He was a strong influence on his favorite pupil, St THOMAS AQUINAS Albertus was canonized in 1931

Albertville, town (pop c 6,000), SE Belgian Congo, on Lake Tanganyika It is connected by steamer with Kigoma, the terminus of the railroad from Dar-es-Salaam, and by rail with Kabalo Copper, cotton, and peanuts are exported

Albertville, city (pop 3,651), NE Ala, NNW of Gadsden, in a cotton and truck area It has textile mills

Albi (älbē'), city (pop 27,185), capital of Tarn dept, S France, in Languedoc, on the Tarn It has textile manufactures An episcopal see since the 5th cent, Albi was ruled from the late 12th cent until the French Revolution by its bishops It was the center of the heresy to which it gave its name (see ALBIGENSES) The council finally ending the heresy was held here in 1254 Built of red bricks, Albi is a marvel of medieval architecture The huge Gothic cathedral (13th-14th cent) resembles a fortress rather than a church Other structures include the episcopal palace (13th-15th cent) and an 11th-century bridge

Albia (äl'bēu), city (pop 5,157), co seat of Monroe co, S Iowa, SE of Des Moines and W of Ottumwa, near large coal fields, founded as Princeton, inc 1859 Farm equipment is made here

Albigenses (älbĭjĕn'sēz) [Latin,=people of Albi, one of their centers], religious sect of S France in the Middle Ages They were officially heretics, but actually they were CATHARI, i e, not Christians at all, but Provençal adherents of the great Manichaean dualistic system that was endemically popular in the Mediterranean basin for centuries (see MANICHAEISM and BOGOMILS). They held the coexistence of two principles, good and evil, represented by God and the Evil One, light and dark, the soul and the body, the next life and this life, peace and war, and the like They believed that Jesus lived only in semblance (a typically Gnostic idea) They were extremely ascetic, bound to absolute chastity, and abstaining from flesh in all its forms, including milk and cheese They were in two classes, believers and Perfect, the former much more numerous, making up a catechumenate not bound by the stricter rules such as the Perfect observed The Perfect were those who had received the sacrament of *consolamentum*, a kind of laying on of hands Their clergy the Albigenses held in high regard One of the most curious practices of the sect was the custom of suicide, preferably by starvation, for if this life is essentially evil, its end is to be hastened They had proselyting enthusiasm and preached vigorously This fact partly accounted for their success, for at that time preaching was unknown in ordinary parish life In the field of asceticism also the contrast between local clergy and the Albigenses was helpful to the new sect Albigensianism appeared in the 11th cent and soon had powerful protectors Local bishops were ineffectual in dealing with the problem, and the pope sent St Bernard of Clairvaux and other Cistercians to preach in Languedoc, the center of the movement In 1167 the Albigenses held a council of their own at Toulouse Innocent III attacked the problem anew, and his action in sending (1205) St Dominic to lead a band of poor preaching friars into the Albigensian cities was decisive These missionaries were hampered by the war that soon broke out In 1208 the papal legate, a Cistercian, Peter de Castelnau, was murdered, probably by an aid of RAYMOND VI of Toulouse, one of the chief Albigensian nobles The pope proclaimed (1208) the **Albigensian Crusade.** From the first, political interests in the war overshadowed others, behind Simon de MONTFORT, the Catholic leader, was France, and behind Raymond was Peter II of Aragon, irreproachably Catholic Innocent attempted to make peace, but the prize of S France was tempting, and the crusaders continued to harry the whole region In 1213, at Muret, Montfort was victor and Peter was killed The war went on, with the son of Philip II (later Louis VIII) as one of the leaders Simon's death in 1218 robbed him of victory and left his less competent son to continue the fight Raymond's son, Raymond VII, joined the war, which was finally terminated with an honorable capitulation by Raymond By the Peace of Paris (1229) Louis IX acquired the county of Toulouse The religious result of the crusade was negligible In 1233 Pope Gregory IX established a system of legal investigation in Albigensian centers and put it into the hands of the Dominicans, this was the birth of the medieval INQUISITION After 100 years of the Inquisition, of tireless preaching by the friars, and of careful reform of the clergy, Albigensianism was dead See Steven Runciman, *The Medieval Manichee* (1947)

albino (älbī'nō) [Portuguese,=white], animal or plant lacking normal pigmentation The absence of pigment is observed in the body covering (skin, hair, and feathers) and in the iris of the eye The blood vessels of the iris show through, giving it a pink or reddish color, and the eyes are highly sensitive to light Albinism is inherited as a Mendelian recessive character in humans and other animals Through experimental breeding, races of albinos have been established among some domestic animals, e g, mice, rabbits, pigeons, and chickens Albino animals are sometimes held sacred, e g, white elephants in Siam and white cattle in India The presence of an excess of black pigment is called melanism

Albion (äl'bēun), ancient and literary name of Britain It is usually restricted to England and is perhaps derived from the chalk cliffs [Latin *albus*= white] ALBANY generally designates Scotland

Albion (äl'bēun) **1** City (pop 1,855), co seat of Edwards co, SE Ill, founded 1818 by Englishmen led by Morris BIRKBECK and George FLOWER, inc 1869 Several old houses are preserved **2** Town (pop 1,234), co seat of Noble co, NE Ind, NW of Fort Wayne, laid out 1847 The surrounding countryside with its numerous lakes is beautiful "Limberlost," the home of Gene Stratton Porter, is here **3** Industrial city (pop 8,345), S Mich, on the Kalamazoo and S of Lansing, settled 1833, inc as a village 1855, as a city 1885 Heating and cooling equipment is made Albion College (Methodist, coeducational, 1835) is here Near by is Starr Commonwealth, a home for delinquent boys **4** City (pop 2,268), co seat of Boone co, E central Nebr, SW of Norfolk, settled 1871, inc 1873 **5** Village (pop 4,660), co seat of Orleans co, W N Y, on the Barge Canal and W of Rochester; inc 1828 It has a cannery and stone quarries A state training school for women is here **6** Manufacturing borough (pop 1,604), NW Pa, near Erie, settled 1815, inc 1861

Albizu Campos, Pedro (pädrō älbē'sōō kam'pōs), 1891–, Puerto Rican political leader, grad Harvard (B A, 1916, LL B, 1921) After service in the First World War, he entered politics and became

the fiery champion of Puerto Rican independence. Convicted of seeking to overthrow the U S government, he was imprisoned (1937–43) at Atlanta, then hospitalized in New York before returning to Puerto Rico in 1947 His party made a poor showing in the 1948 election

Alboin (ăl'boin), d 572?, first Lombard king in Italy (569–572?) After concluding an alliance with the Avars, he led a mixed host across the Alps into Italy in 568 He took Milan in 569 and after a three-year siege reduced Pavia, which became his capital He conquered most of N and central Italy from the Byzantines (see LOMBARDS) According to a legend probably based on fact, he was murdered at the instigation of his wife, ROSAMOND

Alborg, Denmark see AALBORG

Albornoz, Gil Álvarez Carrillo de (hĕl' ăl'vărăth kărē'lyō dā ălbōrnōth'), 1310?–1367, Spanish and papal statesman and general, cardinal of the Roman Church He was archbishop of Toledo before he received (1350) the red hat Under Alfonso XI of Castile he distinguished himself fighting against the Moors at Tarifa and Algeciras and was chancellor of Castile, but at the accession (1350) of Peter I (Peter the Cruel) he left Spain and entered the service of the pope, then at Avignon Put in charge of the papal armies, he was sent (1353) to the Papal States as cardinal legate Using the prestige of Cola di RIENZI, he entered Rome with him By skillful diplomacy and force of arms when necessary, he restored papal authority in the Romagna and the Marches, where the communes and petty local tyrants had enjoyed practical autonomy He compiled the law code of the Marches, known as the Constitutions of Aegidius (1357), which was in use until 1816 He died soon after becoming papal legate at Bologna, where the college he founded for Spanish students still exists His military and political accomplishments had no lasting results

Albrecht. For rulers thus named, see ALBERT

Albrechtsberger, Johann Georg (yō'hän gā'ôrg ăl'brĕkhtsbĕr"gur), 1736–1809, Austrian musical theorist, one of Beethoven's teachers In 1772 he became court organist in Vienna and in 1792 was appointed chief organist and choirmaster of St Stephen's Church, Vienna His compositions, including Masses, symphonies, chamber music, and six oratorios, reveal capable workmanship, but did not transcend their own time

Albret, Jeanne d' see JEANNE D'ALBERET

Albret (ălbrā'), former duchy, SW France, in the LANDES of Gascony The powerful lords of Albret became kings of NAVARRE by the marriage (1494) of Jean d'Albret with Catherine de FOIX, queen of Navarre, who also brought him FOIX and BÉARN Their son, Henri d'Albret, married (1527) MARGARET OF NAVARRE, thus adding ARMAGNAC to his territories, which now included nearly all Gascony He was made a peer of France in 1550, when Albret was raised to a duchy His daughter and heir, JEANNE D'ALBRET, married Antoine de BOURBON, and their combined territories were inherited by Henry of Navarre, who in 1589 became king of France as Henry IV Henry added Albret to the royal domain in 1607 as part of the province of Gascony

Albright, Ivan Le Lorraine (ōl'brīt), 1897–, American painter, b Chicago He made medical drawings in the First World War In his somber and meticulous painting even commonplace subjects take on a macabre and symbolic significance He is represented in leading galleries throughout the United States His twin brother, Malvin Albright (1897–), also a well-known painter, has exhibited widely under the name Zsissly

Albright, Jacob, 1759–1808, American Protestant religious leader, founder of the Evangelical Association (later the Evangelical Church), b near Pottstown, Pa A Pennsylvania German and a Lutheran, he was converted c 1790 to Methodism Preaching and forming classes in the German settlements he was ordained a minister (1803) by representatives from these classes and was elected bishop at the first annual conference held by his followers in 1807 The movement, unrecognized by the Methodists, did not take the name Evangelical Association until after Albright's death A college in Reading, Pa, bears his name The Evangelical Church united in 1946 with the United Brethren in Christ to form the EVANGELICAL UNITED BRETHREN CHURCH

Albright College. see READING, Pa

Albumazar (ăl"bōōmā'zur), 805?–885, Arabian astronomer, more fully Abu-Mashar Jafar ibn Mohammed Something of his achievement is known through manuscripts in the Escorial library in Spain and other libraries of Europe In his *De magnis conjunctionibus* he claimed that the world had been created when the seven planets were in conjunction in the first degree of Aries and that its end would come when they should be in conjunction again in the last degree of Pisces In his astronomical tables he used the Persian calculations of the years and pointed out that they did not follow the Jews' reckoning of time The name of Albumazar was given to the chief character in a play, *L'astrologo* (1606), by G B. della Porta, and an adaptation in English, called *Albumazar*, by Thomas Tomkis was performed in 1614

albumin (ălbū'mĭn) [from Latin,=white of egg], member of a class of proteins which are soluble in water and coagulate on heating Albumins are complex organic compounds widely distributed in plant and animal tissues, e g , leucosin is found in wheat, lactalbumin in milk, serum albumin in blood, and ovalbumin in eggs The white of egg is now believed to be a mixture of proteins and is generally spelled *albumen* In the human body the serum albumin, along with other proteins in the plasma, plays an important part in regulating the distribution of water in the body Egg white is frequently used as an antidote for poisons In industry the value of albumins lies chiefly in their ability to clear liquids of suspended particles They are used in textile printing, in the fixation of dyes, in refining sugar, and in other processes

Albuquerque, Afonso de (ăfō'zō dŭ ăl"bŭkĕr'kŭ), 1453–1515, Portuguese admiral, the real founder of the Portuguese Empire in the East He first went to India in 1503, and in 1506 he set out with Tristão da CUNHA, carrying secret instructions to supersede Francisco de ALMEIDA in command After they had gone along the coasts of Madagascar and E Africa and captured the island of Socotra, Albuquerque left Tristão da Cunha and with his own fleet ravaged the Oman coast and took (1507) Hormuz, he attempted to build a fort at Hormuz, but had to retire to Socotra when some of his men deserted Almeida disavowed the conquest and, after Albuquerque had arrived in India, refused to yield office to him and imprisoned him When a Portuguese fleet arrived with confirmation of Albuquerque's appointment, Almeida yielded In 1510 Albuquerque's expedition against Calicut failed, and after capturing Goa he had to yield it briefly only to capture it again and make it a mainstay of Portuguese strength In 1511 he sailed to Malacca and took it, thus bringing SE Asia into the Portuguese orbit He made peace with the ruler of Calicut and set out to gain control of the Red Sea He did not succeed in his attempt (1513) to take Aden, but Hormuz fell to him in 1515 While on his way from Hormuz to India he received word that he had been superseded He died at the entrance to Goa harbor By his conquests, his system of forts, and his genius in administration, he had made the Portuguese secure in the East See K G Jayne, *Vasco da Gama and His Successors* (1910)

Albuquerque (ăl'bukûr"kē), city (pop 35,449), co seat of Bernalillo co , W central N Mex , on the upper Rio Grande and SW of Santa Fe, inc 1890 Largest city of the state, it is an important commercial, industrial, rail, and air center, serving a rich timber, mineral, farm, and livestock area The city has railroad shops, lumber mills, and wool warehouses, among its manufactures are bricks and tiles, dairy products, woodwork, and Indian jewelry and curios It is divided into the old and the new town, the old was founded in 1706 and named San Felipe de Alburquerque, in honor of Philip V of Spain and the duke of Alburquerque (the first r was later dropped from the name of the city) New Albuquerque was platted in 1880, in connection with the railroad In a mountain region, it is a noted health resort with many sanatoriums and hospitals (including a U S veterans' hospital and a U S Indian hospital) The UNIV OF NEW MEXICO (see NEW MEXICO, UNIVERSITY OF), Catholic Teachers College of New Mexico, and a U S school for Indians are here Other points of interest include the Church of San Felipe de Neri (1706) and the old-town plaza Albuquerque is in the Pueblo Indian country with many pueblos near by See Erna Fergusson, *Albuquerque* (1947)

Alburg (ôl'bûrg), town (pop 1,623), NW Vt , a peninsula jutting into Lake Champlain from the Canadian line It is a port of entry Settlement, attempted by the French before 1750, was accomplished in 1782 A bridge was built in 1937 between Rouses Point and Alburg

Albury (ăl'bŭrĭ), town (pop 14,419), New South Wales, Australia, on the Murray and WSW of Canberra It is a gold-mining and wool-trading center The Hume Reservoir is near by

Alcaeus (ălsē'us), d c 580 B C , Greek poet of Lesbos, a noted early writer of personal lyrics The extant fragments of his charming, impulsive verse are concerned with politics, war, love, and wine An aristocrat, he was often embroiled in political battles with the ruling tyrants He was, according to tradition, a literary associate of SAPPHO The Alcaic strophe (ălkā'ĭk), said to have been his invention was much used by Greek lyrists The stanza has four lines—two of 11 syllables, the third of 9, and the fourth of 10 It was greatly admired by Horace, who used it with slight modification

Alcalá de Henares (ălkălä' dā ānā'rĕs), city (pop. 18,013), Madrid prov , central Spain, in New Castile It is triply famous as the former seat of a great university founded in 1508 and transferred to Madrid in 1836, as the birthplace of Cervantes, and as the scene of the Cortes in which ALFONSO XI promulgated the *Ordenamiento de Alcalá* Among its landmarks are a Gothic collegiate church and the fine archiepiscopal palace. Leather, soap, and china are made

Alcalá la Real (lä räăl'), city (pop 8,437), Jaén prov , S Spain, in Andalusia It has well-known mineral springs. Here in 1810 the French defeated the Spanish in the Peninsular War

Alcalá Zamora, Niceto (nēthä'tō ălkälä' thämō'rä), 1877–1949, Spanish statesman and president of Spain (1931–36) After holding several cabinet posts under the monarchy, he turned republican and was jailed for his political activity in 1930 After leading the successful revolution of 1931, he became first provisional and then constitutional president of the Spanish republic A middle-of-the-road liberal, he was ousted by the Cortes on a Socialist motion (April, 1936) and was succeeded as president by Manuel Azaña He went into exile first to France and then (1942) to Argentina

alcalde (ălkăl'dē, Span ălkăl'dā) [Span , from Arabic,=the judge], Spanish official title, in existence at least since the 11th cent , originally designating a judge with certain administrative functions The office was deprived of most of its purely judicial powers in 1812, since 1877 the alcalde has been the chief of the municipal government and the local representative of the governor The office was also instituted in the Spanish colonies There, the *alcalde mayor* was the administrator of a provincial division usually though not always smaller than that of a corregidor, he might even be the assistant of a corregidor The alcalde proper became the *alcalde ordinario*, a municipal officer, who frequently exercised the powers of mayor and sheriff and was in some villages the sole representative of the law Another Spanish title, *alcaide* or *alcayde*, has the same origin, but is used to designate the governor of a castle or a fortress

Alcamenes (ăl"kumē'nēz), 5th cent B C , Athenian sculptor, said to have been a pupil and rival of Phidias He worked in gold, ivory, marble, and bronze and was celebrated for his number and unusual artistry of his statues His *Aphrodite of the Gardens* at Athens was one of the great masterpieces of antiquity Pausanias erroneously attributed to him the sculptures of the west pediment of the temple of Zeus at Olympia

Alcamo (ăl'kamō), rural city (pop 38,129), NW Sicily, Italy The ruins of ancient SEGESTA are near by

Alcántara (ălkăn'tara), town (pop 4,404), Cáceres prov , W Spain, in Estremadura, near the Tagus There are a fine Roman bridge built in honor of Emperor Trajan and ruins of the convent and church of the Knights of Alcántara The **Order of Alcántara,** one of the great military religious orders of Spain, established its seat here in the 13th cent after the expulsion of the Moors and enjoyed a period of great splendor (13th-14th cent) The dignity of grand master passed to the Castilian crown in the 15th cent

Alcatraz (ăl'kutrăz"), rocky island in San Francisco Bay, W Calif Fortified by the Spanish and used after 1859 as a U S military prison, it was made in 1933 a Federal prison for dangerous criminals Nicknamed "The Rock," the island prison has a reputation for strict discipline and is allegedly escapeproof

alcazar (ăl'kuzär", Span *alcázar* (ălkă'thär) [Arabic,=the palace], type of palace in Spain, generally royal, built in the centuries of Moorish domination Formed around large courts, within strong walls, it stood in the streets of a city and was defensible but not fortresslike The fortress palace was a separate type, to which the Alhambra belonged There are alcazars at Seville, TOLEDO, Segovia, and Córdoba The term is also commonly used for any palace in a Mohammedan country

Alcazarquivir (ălkă"tharkēvēr'), city (pop 35,786), E Spanish Morocco Here, on Aug 4, 1578, was fought the "battle of the three kings," in which the king of Morocco (whose army won the victory), his Portuguese-supported rival, and Sebastian of Portugal all perished The name also appears as Al Qasr al Kabir and Kasr el Kebir

Alcestis (ălsĕ'stĭs), in Greek mythology, daughter of Pelias She was won in marriage by Admetus, who fulfilled her father's condition that her suitor come for her in a chariot drawn by wild animals So great was her wifely devotion that when Admetus was granted life by the gods if someone else would die in his place, she willingly gave her life Hercules, however, rescued her from Hades and reunited husband and wife

alchemy (ăl'kumē), ancient art of obscure origin in which chemistry had its roots Some scholars hold that it was first practiced in early Egypt and others that it arose in China (in the 5th or in the 3d cent B C) and was from there carried westward Alchemy centered chiefly around experiments with metals and with other chemical materials Alchemical apparatus included the alembic (or *ambix*) for distillation and the *kerotakis* for sublimation A chief goal of alchemy was to transmute the base metals into gold In its beginnings alchemy was chiefly a craft and it embraced many kinds of metalwork, including the use of alloys resembling gold and silver. Alexandria is generally

considered a center of early alchemy, and the art was influenced by the philosophy of the Hellenistic Greeks, the conversion of base metals into gold (considered the most perfect of metals) was a part of a general striving of all things toward perfection Alchemy was early associated with astrology It is believed that the concept of the philosopher's stone (called also by many other names including the elixir and the grand magistery) may have originated in Alexandria, this was an imaginary substance capable of transmuting the less noble metals into gold and also of restoring youth to man Alchemy, strongly tinged with magic, reached the Arabs (perhaps in the 8th cent) and remained for several centuries under the Moslem influence, in the 12th cent it reached parts of Europe through translations of writings of the Arabs (the early Greek treatises were not known in Europe in the Middle Ages) Arabian alchemy was preserved especially in the works of GEBER, and the earlier Greek alchemy in that of Zosimus and others The alchemical writings of the Middle Ages were couched in symbolic and cryptic language The alchemists became obsessed with their quest for the secret of transmutation, some adopted deceptive methods of experimentation, and many gained a livelihood from hopeful patrons This pseudo-alchemy fell into disrepute However, in the searching experimental quests of the alchemists chemistry had its beginnings, indeed, the line between alchemy and chemistry is impossible to draw TRANSMUTATION OF ELEMENTS has been accomplished in modern chemistry See Lynn Thorndike, *A History of Magic and Experimental Science* (6 vols , 1923–41), John Read, *Prelude to Chemistry* (1937), A J Hopkins, *Alchemy· Child of Greek Philosophy* (1943), F. Sherwood Taylor, *The Alchemists* (1949)

Alcibiades (ălsĭbī'dēz), c 450–404 B C , Athenian statesman and general. Of the family of Alcmaeonidae, he was a ward of Pericles and was for years a devoted attendant of Socrates He turned to politics after the Peace of Nicias (421 B C , see NICIAS) brought the PELOPONNESIAN WAR to a temporary halt and was the leader in agitating against Sparta So successful was he that Athens joined an alliance against Sparta, and when Sparta attacked (418 B C) Argos, Alcibiades led an Athenian force to help the Argives Athens and the allies were roundly beaten at Mantinea When Melos refused an alliance with Athens, Alcibiades led the expedition that took the island, killed all the men, and sold the women and children into slavery—as a demonstration of Athenian might. He was (415 B C) the chief promoter of the Sicilian campaign and was one of the three leaders (with Nicias and Lamachus) of the Athenian forces On the night before the expedition sailed, all the statues of Hermes (the hermae) in Athens were mutilated, a sacrilege that caused fear and commotion in the city Alcibiades was accused—almost certainly falsely—of the crime and was not allowed to have an immediate trial before sailing When the forces reached Sicily, he proposed an attempt to win allies rather than attacking the hostile cities of Selinus and Syracuse at once This was the policy carried out to ultimate disaster, but not under the direction of Alcibiades, for he was summoned home to stand trial Instead he fled to Sparta, where he gave advice to King AGIS I, who was successful against Athens Alcibiades, however, fell into trouble with the Spartan king, presumably because of an affair with the queen, and c 413 he fled to the protection of the Persian satrap TISSAPHERNES He then sought to return to Athens, and after the oligarchy of the Four Hundred fell (411), he was recalled at the instance of Thrasybulus Athens seemed to have a short new era of greatness, as the fleet again became mistress of the Aegean when Alcibiades in 410 won a victory over the Peloponnesian fleet off CYZICUS In command of Athenian forces, he recovered (408) Byzantium, and he was acclaimed in Athens A new Spartan commander, however, appeared in Lysander, who defeated the Athenian fleet at Notium in 406 B C. Though Alcibiades was absent on another expedition at the time, he was, nevertheless, blamed and exiled He went to a castle he owned on the western shore of the Hellespont There in 405 B C he attempted to warn the Athenian fleet at AEGOSPOTAMOS against a surprise attack by the Spartans, but his advice was ignored A little later at the behest of Lysander, the Persian satrap PHARNABAZUS had Alcibiades murdered Historians and commentators have disagreed in their estimate of Alcibiades from his own day to the present, some have viewed him as a highly competent and unappreciated leader, but most have considered him an evil adviser largely responsible for the decline of Athens

Alcimus (ăl'sĭ-) [Gr , =brave], Hellenizing Jew, appointed to the high priesthood, but opposed by the Maccabees 1 Mac 7, 9 1,54–57, 2 Mac 14 3,13,26

Alcinoüs (ălsĭl'nōŭs, -nō'ŭs), in Greek legend, hospitable king of Phaeacia; father of Nausicaä He entertained Jason and Medea as well as Odysseus.

Alciphron (ăl'ăfrŏn,-frŭn), fl. A D. c 200?, Greek satirist. His extant work (in fine Attic style) consists of 118 imaginary letters by common people living in Athens in the 4th cent. B C. and tells much about domestic life

Alcmaeon (ălkmē'ŭn), in Greek legend, one of the EPIGONI, son of AMPHIARAÜS and ERIPHYLE He killed his mother in revenge for his father's death For this crime he was persecuted by the ERINYES. Later he married CALLIRRHOË and lived in peace until his wife demanded the robe and necklace of HARMONIA When he tried to regain these from his former wife, Arsinoë, her brothers killed him

Alcmaeonidae (ălk"mēŏn'ĭdē), Athenian family powerful in the 7th, the 6th, and the 5th cent B C Blamed with the murder of the would-be tyrant Cylon (c 632 B C), they were considered attainted and were exiled, but they were again in Athens in the 6th cent The most prominent members of the family later were CLEISTHENES, PERICLES (whose mother was an Alcmaeonid), and ALCIBIADES

Alcman (ălk'mun), fl before 600 B C , Greek poet of Sparta, founder of the Dorian school of choral lyric poetry. Short choral fragments and a longer one (part of a *parthenion* or choir song for girls) survive His verse, simple, clear, and musical, was often sung at festivals and public functions

Alcmene (ălkmē'nē), in Greek legend, wife of AMPHITRYON Zeus, in love with her, visited her in the form of Amphitryon She bore Hercules to Zeus and Iphicles to Amphitryon.

Alcoa (ălkō'ŭ), industrial city (pop 5,131), E Tenn , S of Knoxville, inc 1919 It was founded in 1913 by the Aluminum Company of America, which has established large reduction plants here

Alcobaça (ălkōōbă'sŭ), town (pop 4,016), Leiria dist , W central Portugal, in Estremadura. It became a center of the Cistercians in the reign of Alfonso I, and the abbey (building begun 1152) was the greatest of medieval Portugal It exercised enormous influence on education, social conditions, finance, and politics The early kings of Portugal are buried here

alcohol, any of a class of organic compounds which are composed of carbon and hydrogen with one or more hydroxyl (see HYDROXIDE) radicals present in each molecule In common usage the term *alcohol* is applied to ETHYL ALCOHOL The class includes METHYL ALCOHOL, the amyl, butyl, and propyl alcohols, glycol, a colorless liquid with a sweetish taste used sometimes as a substitute for glycerin in explosives, and GLYCERIN or glycerol Alcohols are generally classified according to the number of hydroxyl groups in the molecule Those which have one hydroxyl group are called monohydric or monatomic alcohols These include methyl, ethyl, propyl, butyl, and amyl alcohol Glycol, with two hydroxyl groups, is a dihydric alcohol, and glycerol, with three hydroxyl groups, is trihydric The monohydric alcohols are further classified as primary, secondary, or tertiary according to the number of carbon atoms attached to the carbon atom that is bound to the hydroxyl group Chemical reactions involving the hydroxyl (oxygen-hydrogen) group of atoms present in an alcohol molecule are of two types, that in which the hydroxyl group as a whole is replaced and that in which the hydrogen only is involved in the reaction Alcohols differ in boiling and melting points, densities, and other physical properties, they range from volatile liquids to paraffinlike solids at ordinary temperatures

alcoholism results from the ingestion of relatively large amounts of ethyl alcohol Alcohol is absorbed through the gastrointestinal tract, the rate of absorption is dependent chiefly upon the concentration of the alcohol—the presence of food in the stomach decreases the rate Ingestion of adulterated alcoholic beverages containing methyl (wood) alcohol results in a condition known as methyl-alcohol poisoning. One of the disastrous effects of such poisoning is optic neuritis which may lead to complete blindness within a few days Washing out the stomach is the treatment Consumption of alcohol in small amounts may have no obvious effects Taken in larger quantities it usually causes muscular incoordination, the reflexes are less rapid, the face becomes flushed, occasionally pallid, and nausea and vomiting may occur A state of partial consciousness may be followed by coma The condition known as acute alcoholism results from the action of alcohol on the central nervous system The term alcoholism, however, more usually means chronic alcoholism, caused by the cumulative effect upon the organs and tissues of the body following the frequent ingestion of large amounts of alcohol. Physiological and structural changes may ensue, e g , chronic gastritis, which leads to loss of appetite and malnutrition Neuritis and DELIRIUM TREMENS are among related syndromes Chronic alcoholism is now considered to be a symptom of psychic instability, and the problem is being studied by various educational institutions At Yale University scientific studies of alcoholism were undertaken at the laboratory of applied physiology in 1930, and a school of alcoholic studies was established there in 1943 The first free clinics in the United States for diagnosis, treatment, and guidance of inebriates were established (1944) in New Haven and Hartford, Conn. The organization known as Alcoholics Anonymous was founded in 1934 for aiding those who desire help, chiefly through association with and encouragement from others who have been alcoholics. In 1937 the Research Council on Problems of Alcohol was organized and in 1938 it became affiliated with the American Association for the Advancement of Science

Alcorn Agricultural and Mechanical College: see PORT GIBSON, Miss

Alcott, Bronson (Amos Bronson Alcott) (ôl'kut), 1799–1888, American educational reformer and transcendental philosopher, b. near Wolcott, Conn His meager formal education was supplemented by indiscriminate reading while he worked on the farm or in a clock factory or peddled Yankee goods in the South He taught in several places until, in 1834, he opened his famous Temple School in Boston His own record and that made by Elizabeth Peabody, his assistant, show his concern with the threefold mental, physical, and spiritual development of the child He was working on lines similar to Froebel's, but was not as thorough, practical, or consistent His disappointment at his failure in Boston was lessened when he heard of Alcott House, a school founded by his disciples in England He named and wrote for the *Dial* (the transcendental "Orphic Sayings" being his most famous contribution) and was a nonresident member of Brook Farm With three Englishmen he started (1843) a high-thinking, cooperative vegetarian community, "Fruitlands," near Harvard, Mass , but abandoned it in 1844 Poverty dogged the family but did not disturb the calm, kindly Alcott in his pursuit of the soul of the universe The wholesome family life of the Alcotts is reflected in the writings of his daughter Louisa May ALCOTT Her success relieved him of financial worry and freed him to continue his rambling "conversations" on tour through the West He became superintendent of the Concord public schools, whose reformation he described in his *Reports* From 1879 on he was dean of the Concord School of Philosophy, which annually gathered disciples to hear him and many other speakers Among his writings are *Observations on the Principles and Methods of Infant Instruction* (1830), *Record of a School* (1835), *Conversations with Children on the Gospels* (1836–37), and *Ralph Waldo Emerson* (1882) See his journals (ed by Odell Shepard, 1938), H. W Morrow, *The Father of Little Women* (1927), Odell Shepard, *Pedlar's Progress* (1937)

Alcott, Louisa May, 1832–88, American novelist and writer of children's books, b Germantown, Pa , daughter of Bronson ALCOTT She is chiefly remembered for one of the most popular girls' books ever written, *Little Women*, in which the character Jo March is largely autobiographical Among her friends and tutors were Emerson and Thoreau, but in her works she recorded her impatience with most of her father's transcendental plans. An impulsive, warmhearted girl, she early began to assist in the family support and tried domestic service, sewing, and teaching, at 17 she contemplated a stage career and wrote several melodramatic plays By 1860 her poems and short stories began to be published in the *Atlantic Monthly* Her first book, *Flower Fables* (1854), was a collection of tales originally written for Emerson's little daughter Her letters written to her family while she was a Civil War nurse and published as *Hospital Sketches* (1863) were received with enthusiasm, and her first novel, *Moods*, followed in 1864 In 1867 she became editor of *Merry's Museum*, a magazine for children *Little Women*, published in 1868–69, had a phenomenal sale in English and in numerous translations Among the well-loved books for young people which followed in rapid succession are *An Old-fashioned Girl* (1870), *Little Men* (1871), *Eight Cousins* (1875) and its sequel, *Rose in Bloom* (1876), *Under the Lilacs* (1878), *Jack and Jill* (1880), and *Jo's Boys* (1886) Her second novel, *Work* (1873), described some of her early trials as a wage earner Although Louisa Alcott regarded herself as more of a moralist than an artist in literature, she combined idealism and practicality in stories of family life which generations of young people have loved See her letters and journals (1889), biography by M B Stern (1950)

Alcoy (ălkoi'), city (pop 42,519), Alicante prov , E Spain, in Valencia, on the Alcoy river An important industrial center manufacturing paper (especially cigarette paper), matches, and textiles, it also has trade in grain, wine, and oil from the surrounding region

Alcuin (ăl'kwĭn), 735?–804, English churchman and educator He was educated at the cathedral school of York by a disciple of Bede, he became principal in 766 CHARLEMAGNE invited him to court (781?) to set up a school For 15 years Alcuin was the moving spirit of the Carolingian renaissance He combated illiteracy with a system of elementary education On a higher level he established the study of the seven liberal arts, the trivium and quadrivium, which became the curriculum for medieval Western Europe He encouraged the study and preservation of ancient texts His dialogue textbook of rhetoric, called *Compendia*, was much used. He wrote verse, and his letters were

preserved. Alcuin's treatise against Felix of Urgel did much to defeat the heresy of ADOPTIONISM He died as head of the abbey of St Martin of Tours, where he had one of his most famous schools See E J B. Gaskoin, *Alcuin* (1904).

Alda, Frances (ăl'du), 1883–, stage name of Frances Davis, operatic soprano, b Christchurch, New Zealand She studied with Mme Marchesi in Paris and made her debut at the Opéra-Comique in 1904 She sang at the Metropolitan Opera, New York, 1908–29 From 1910 to 1928 she was married to Gatti-Casazza See her autobiography, *Men, Women, and Tenors* (1937).

Aldan (ŭldän'), city (1939 pop over 10,000), Yakut ASSR, RSFSR, in E Siberia It is on the Aldan Plateau and 265 mi SSW of Yakutsk, a gold-mining center Until 1939 it was named Nesametny

Aldan (ŏl'dŭn), borough (pop 2,642), Delaware co, SE Pa, near Philadelphia

Aldan (ŭldän'), river, 1,300 mi. long, rising in the Stanovoi Range, Yakut ASSR, RSFSR, in E Siberia. It winds N and E around the Aldan Plateau, then turns northward and finally westward to enter the Lena 100 mi N of Yakutsk It is navigable for 1,100 mi Tributaries are the Amga (left) and the Uchur and Maya (right)

Aldanov, Mark (märk' ŭldä'nuf), pseud of **Mark Aleksandrovich Landau** (ŭlyĭksän'drŭvĭch län'dou), 1886–, Russian political writer and novelist Emigrating to France after the October Revolution, he won fame abroad with *The Thinker*, a tetralogy on the revolutionary era 1793–1821, comprising *The Ninth Thermidor* (1923, Eng tr, 1926) *The Devil's Bridge* (1925, Eng tr, 1928), *The Conspiracy* (1927), and *St Helena Little Island* (1921, Eng tr, 1924) He returned to the Napoleonic era in *The Tenth Symphony* (1931; Eng tr, 1948) and *For Thee the Best* (1939, Eng tr, 1945), which treat the problem of human frustration as exemplified in well-known figures connected with the Congress of Vienna In *The Key* (1930, Eng tr, 1931), *The Flight* (1930), and *The Cave* (1934–36), he dealt with the effect of the Russian Revolution on the lives of the émigrés, and in *The Fifth Seal* (1939, Eng tr, 1943) he portrayed the decay of revolutionary idealism and the general disillusionment prevalent in Europe and among Russians on the eve of the Second World War He came to the United States in 1941

Aldegrever, Henrich (hĭn'rĭkh ăl'dugrāvur), b 1502, d after 1555, German painter and engraver His real name was Heinrich Trippenmeker, and he lived and worked in Soest, Westphalia His paintings are rare, and he is best known for his remarkable engravings, which include portraits and religious and mythological compositions Among the most famous are his portrait of John of Leiden, his *Parable of the Wicked Rich Man, The Wedding Feast*, and the series *Labors of Hercules* Aldegrever is one of the greatest of the German Little Masters His work shows the influence of Dürer in its severity and richness of detail

aldehyde (ăl'dĭhīd) [quasi-abbreviation of *alcohol* and New Latin *dehydrogenatus*=deprived of hydrogen], any member of a class of organic compounds characterized by having in their molecules a carbon-hydrogen-oxygen (CHO) group of atoms The aldehydes result from partial oxidation of primary alcohols (when some hydrogen is removed) and are named for the acids which they produce when they in turn are oxidized For example, by the oxidation of ethyl alcohol, acetaldehyde, a typical aldehyde, is formed, which upon oxidation yields acetic acid The aldehydes are important in industry in the manufacture of synthetic resins (e g, bakelite) and of dyestuffs, and also as disinfectants Many aldehydes occur in essential OILS of certain plants The term *aldehyde* is commonly used to indicate acetaldehyde, called also acetic aldehyde or ethanal, a colorless liquid, boiling at 20 8° C and melting at −120° C It is used in silvering mirrors and in the manufacture of dyes and of the hypnotic drug paraldehyde Benzaldehyde, called also benzoic aldehyde or, commercially, oil of bitter almonds, is a colorless liquid with a characteristic almond odor, boiling at 180° C, soluble in alcohol, but insoluble in water It is formed by the oxidation of benzyl alcohol and is oxidized to benzoic acid It is prepared in various ways from bitter almonds crushed and boiled in water, when a glucoside called amygdalin is hydrolysed; from toluene, or directly from benzal chloride by treatment with an alkali or from benzyl chloride by oxidation Benzaldehyde is used in the preparation of certain aniline dyes and of other products, such as perfumes and flavorings FORMALDEHYDE is the first member of the aldehyde series See also FURFURAL

Alden, Henry Mills (ôl'–), 1836–1919, American editor, b Mt Tabor, Vt, grad Williams, 1857, and Andover Theological Seminary, 1860 He was managing editor of *Harper's Weekly* from 1863 to 1869, then editor of *Harper's Magazine* from 1869 until his death As an editor, his policy was to recognize the novice and to encourage the best type of Americanism His department, the "Editor's Study," served as a vehicle for personal expression His *Magazine Writing and the New Literature* was published in 1908

Alden, John, c 1599–1687, Puritan settler in Plymouth Colony He came to America on the *Mayflower* and was prominent as assistant to the governor of the colony He moved (c 1627) to Duxbury and there was neighbor and friend of Miles STANDISH Alden's marriage to Priscilla Mullens gave rise to the romantic legend made familiar to all Americans in Longfellow's poem, *The Courtship of Miles Standish*

alder, name for deciduous trees and shrubs of the genus *Alnus*, widely distributed, especially in the Northern Hemisphere, mostly on mountains and in moist places It has small conelike woody fruits The black alder (*Alnus glutinosa*) is an Old World species now naturalized in E North America Its bark, still used for dyes and tanning, was formerly also used for medicinal purposes, its wood, suitable for turning and allegedly durable in water, is made into pilings and pumps The wood of the western American red alder (*A rubra*) is used for making furniture

Alderdice, Frederick Charles (ôl'dûrdĭs'), 1872–1936, Newfoundland statesman, b Belfast, Ireland. He was prime minister for several months in 1928 and again from 1932 to Feb, 1934, when Newfoundland passed under the administration of a commission appointed by Great Britain Alderdice became vice chairman of this commission

Alderman, Edwin Anderson, 1861–1931, American educator, b Wilmington, N C, grad Univ of North Carolina, 1882 One of the most liberal interpreters of the South, Alderman held successively the presidency of three great Southern universities the Univ of North Carolina, 1896–1900, Tulane Univ, 1900–1904, and the Univ of Virginia, from 1904 until his death He wrote on the South as well as on education See biography by Dumas Malone (1940)

Alderney (ôl'durnē), Fr *Aurigny* (ōrēnyē'), anc *Riduna*, island (c 3 sq mi, pop 1,521), in the English Channel, northernmost of the larger CHANNEL ISLANDS It is separated from the French coast and from other islands by swift tidal races The soil is fertile and well cultivated about St Anne, the principal town, the main crops are potatoes and grains Cattle breeding is important

Aldershot (ôl'durshŏt), municipal borough (1931 pop 34,280, 1947 estimated pop 26,130), Hampshire, England, SW of London It is the site of the largest and most complete military training center (est 1854) in the United Kingdom

Alderson, residential town (pop 1,493), S W Va, on the Greenbrier river and NE of Bluefield, settled 1777 A federal reformatory for women is here

Aldhelm, Saint (ôld'hĕlm), 640?–709, English churchman He was abbot of Malmesbury (from 675) and bishop of Sherborne (709) Aldhelm was a student of the classics, and his own Latin was widely imitated His prose is chiefly represented by letters His verse includes riddles and short poems which influenced St Boniface St Aldhelm promoted the Latin method of reckoning EASTER, as established at the Synod of Whitby An old spelling of his name is Ealdhelm Feast May 25 See E S Duckett, *Anglo-Saxon Saints and Scholars* (1947)

Aldington, Richard (ôl'–), 1892–, English poet and novelist In 1913 he married Hilda Doolittle ("H D"), the American poet, they were later divorced At one time regarded as a leader of the imagist poets, Aldington subsequently came to disagree with their theories Among his volumes of verse are *Images Old and New* (1915), *War and Love* (1915–18), and *A Fool i' the Forest* (1925) *Death of a Hero* (1929) and *The Colonel's Daughter* (1931) are novels, *The Strange Case of Charles Waterton* (1949) is a biography See his book of reminiscences, *Life for Life's Sake* (1941)

Aldrich, Chester Holmes (ôl'drĭch), 1871–1940, American architect, b Providence, R I, educated at Columbia and at the École des Beaux-Arts, Paris From 1903 he was a partner in Delano & Aldrich, the designers of many distinguished buildings, including the Chapin School, the Colony Club, the Child Education Foundation, the Nightingale School, and the Knickerbocker Club, all in New York, the Smith College music school, Northampton, Mass, the Hotchkiss School chapel and dormitory, Lakeville, Conn, the Riggs Foundation, Stockbridge, Mass; and the J D. Rockefeller residence at Pocantico Hills, N Y

Aldrich, Henry, 1647–1710, English theologian, musician, writer, and architect In 1689 he became dean of Christ Church College, Oxford Univ, to which he left his valuable music library; several Oxford buildings are of his designing. His book on logic (1691) was long used as a text, and some of his compositions (chiefly church services and anthems) are still heard

Aldrich, Nelson Wilmarth, 1841–1915, U.S. Senator from Rhode Island, b Foster, R I He rose in local politics as state assemblyman (1875–76) and U S Representative (1879–81) before he served as Senator (1881–1911) Aldrich, after the death of Henry B Anthony, dominated Rhode Island politics, and because of his wide interests in banking, manufacturing, and public utilities he was popularly considered the spokesman of big business in the Republican party and the nation From the controversy of 1888 he was the great proponent of protective tariffs and was successful in saving the Payne-Aldrich Tariff Act of 1909 even against the combined opposition of the Democrats and the Progressives. He took charge of Republican administrative legislation after 1897 and helped force the Silver Republicans out of the party, the Gold Standard Act of 1900 completing the work As Theodore Roosevelt's sympathies grew increasingly progressive Aldrich led the Senate opposition to him Aldrich was deeply concerned with monetary problems, helped shape the Aldrich-Vreeland Currency Act of 1908, and headed the National Monetary Commission to study bank reform He visited Europe in this study, which he continued after leaving the Senate The "Aldrich plan," published in 1911, was not made into law but it did offer information used by the Democrats in setting up the Federal Reserve System. See biography by N W Stephenson (1930)

Aldrich, Richard, 1863–1937, American music critic and writer, b Providence, R.I., educated at Harvard and in Germany From 1891 to 1902 he was assistant to H E Krehbiel, music critic of the New York *Tribune*, and from 1902 to 1924 Aldrich was chief music critic of the New York *Times* His principal published works are *How to Sing* (1902), translated from the German of Lilli Lehmann, *Guide to Parsifal* (1904), *Guide to the Ring of the Nibelung* (1905); and *Concert Life in New York* (pub posthumously, 1941)

Aldrich, Thomas Bailey, 1836–1907, American author and editor, b Portsmouth, N H He lived in New Orleans, Portsmouth, and New York, until in 1865 he settled in Boston *The Story of a Bad Boy* (1870), a zestful narrative based on his own boyhood in Portsmouth, first made him known, and it remains his most widely read work Though his novels, sketches, and plays were well received, he excelled in light verse and the short story As a poet his discriminating craftsmanship is at its best in his shorter poems His short stories, especially those in *Marjorie Daw and Other People* (1873), had a naturalness which concealed their artistry and which influenced other writers, as did his use of the surprise ending As editor of the *Atlantic Monthly*, 1881–90, Aldrich increased the magazine's reputation as a model of taste, but his own preoccupation with literature in a more restricted sense narrowed its scope See biography by Ferris Greenslet (1908), Mrs T. B Aldrich, *Crowding Memories* (1920)

Aldrovandi, Ulisse (ōōlē'sā ăldrōvän'dē), 1522?–1605?, Italian naturalist, professor at the Univ of Bologna He instigated the establishment (1567) of the Bologna Botanical Garden and wrote an early pharmacopoeia His chief work was the *Natural History* (13, possibly 14, vols), of which four volumes (some sources say five) were published before his death, the remaining volumes were prepared for publication from his manuscripts

Aldus Manutius (ăl'dŭs munū'shŭs), 1450–1515, Venetian printer He was educated as a humanistic scholar and became tutor to Alberto and Lionello Pio, princes of Carpi Aldus became interested in printing as a way of making books available to scholars, and Alberto Pio provided him with money to establish a printery in Venice, where many good manuscripts were accessible Aldus was at this time about 40 years old His purpose was to print hitherto unpublished Greek and Roman classics He was especially interested in producing books of small format for scholars at low cost To this end he added to his Greek alphabet a series of ligatures or tied letters, similar to the conventional signs used by scribes, which represented in the width of one character two to five letters To save space in Latin texts he had a type designed after the Italian cursive script This was the first *italic* type used in books (1501) Books produced by him are called Aldine and bear his mark, which was a dolphin and an anchor Aldus employed competent scholars as editors, compositors, and proofreaders to insure accuracy in his books He was a classical scholar in his own right and an associate of Erasmus and Linacre Much of his type was designed by Francesco Griffi, called Francesco da Bologna The Aldine Press was later managed by other members of the family, including a son, Paulus Manutius (1512–74), and a grandson, Aldus Manutius (1547–97).

ale: see BEER

Aleandro, Girolamo (jĕrō'lämo ălāän'drō), 1480–1542, Italian librarian and scholar, cardinal of the Roman Church, called Hieronymus Aleander. He was librarian of the Vatican. He took part in the controversy with Luther, especially at the Diet of Worms **Girolamo Aleandro**, the younger, 1574–1649, his grandnephew, a scholar and poet, was one of the founders of the Academy of Roman Humorists He wrote in Italian and Latin

Alecsandri, Vasili (vāsē'lē ălĕksän'drē), 1821–90, Rumanian poet and statesman He was foreign minister (1859–60) and minister to France (after 1885) Besides writing lyric poetry he collected Rumanian folk songs.

Alecto: see ERINYES.

Aledo (ŭlē'dō), city (pop. 2,593), co. seat of Mercer co, NW Ill, 88W of Rock Island, in a farm area; inc 1885 Roosevelt Military Academy is here

Alegría, Ciro (sē'rō älägrē'ä), 1909–, Peruvian novelist Imprisoned several times for his political activities as a member of the APRA party, he finally went as an exile to Chile in 1934 In 1941 he won the Latin American Novel Prize for *El mundo es ancho y ajeno* (Eng tr, *Broad and Alien Is the World*, 1941), in which he depicted the exploitation of the Indian by the white man The novel is primarily a strong social document Alegría was already well known in South America for an earlier prize-winning novel of regional character, *La serpiente de oro* (1935, Eng tr, *The Golden Serpent*, 1943)

Aleichem, Sholom (shō'lŭm älā'khŭm) [Heb ,= Peace be upon you! (a very common form of greeting in Yiddish)], 1859–1916, Yiddish author, b Russia His real name was Solomon, or Shalom, Rabinowitz The first part of his pseudonym is also written Sholem or Shalom His five novels, many plays, and some 300 short stories, all written in Yiddish, have been translated into Russian, German, and other European languages, but he is perhaps best known for his humorous tales of life among the poverty-ridden and oppressed Russian Jews of the late 19th and early 20th cent, English translations of some of these include *The Old Country* (1946) and *Tevye's Daughters* (1949) In the last years of his life Sholom Aleichem lived in the United States, he died in New York city See Maurice Samuel, *The World of Sholom Aleichem* (1943), Melech Grafstein, ed, *Sholom Aleichem Panorama* (1949)

Aleijadinho (ŭlā"zhŭdē'nyō) [Port ,=little cripple], 1730–1814, Brazilian sculptor, a native of Minas Gerais His real name was António Francisco Lisbôa In spite of being maimed in hands and feet, he is known for the brilliance of his church sculpture He carved two pulpits, the high altar, and a doorway for the Church of São Francisco at Ouro Preto The distinctive Churrigueresque style of his known works, carved in wood and native soapstone, has caused much church sculpture in Minas Gerais to be attributed to him

Alekhine, Alexander (ŭlyō'khĭn), 1892–1946, Russian-French chess player, b Moscow At the age of 16 he gained the rank of master and in 1927, by a surprising defeat of Capablanca at Buenos Aires, became world champion In 1930 at San Remo, Italy, he won without losing a single game in a tournament that included all of the major European players In 1935 he lost the championship to Max Euwe, but regained it in 1937 and kept it until his death His clear and realistic style and the brilliance of his middle-game and end-game combinations are found in his book, *My Best Games of Chess, 1924–1937* (1939)

Aleks-. For some Russian names beginning thus, see ALEX-, e g, for Aleksandr, see ALEXANDER

Aleksandropol, Armenia see LENINAKAN

Aleksandrov (ŭlyĭksän'drŭf), city (pop 12,655), RSFSR, c 60 mi NE of Moscow It has varied industries (radios, cotton textiles, clothing, and food) The famous Uspenski convent, dating from the 16th and 17th cent, was formerly used as a place of exile Ivan the Terrible resided here (1564–81) and here organized his political police, the Oprichnina (see IVAN IV)

Aleksandrov-Grushevski, see SHAKHTY

Aleksandrovsk, Ukraine see ZAPOROZHE

Aleksandrovsk-Sakhalinski (ŭlyĭksän'drŭfsŭkhŭlyēn'skē), city (1926 pop 2,748, 1948 estimated pop, with surrounding area, c 100,000), on N Sakhalin, Far Eastern RSFSR It is a port on the Tatar Strait and a coal-mining center Founded in 1881, it was formerly a place of exile

Alekseyev, Mikhail Vasilyevich (mēkhīēl' vāsē'lyŭvĭch ŭlyĭksyā'ŭf), 1857–1918, Russian general, chief of staff (1915–17) of Nicholas II He urged the tsar to abdicate in favor of the tsarevich in order to save the dynasty Alekseyev was chief of staff under the Kerensky government, but after its overthrow he resigned to join General KORNILOV and was head of the counterrevolutionary government in the south after Kornilov's death

Alekseyev, Yevgeny Ivanovich (yĭvgā'nyē ēvu'nuvĭch), 1843–1909, Russian admiral, natural son of Alexander II. His policy as viceroy in the Far East probably contributed to the outbreak (1904) of the Russo-Japanese War Early in that war he was commander in chief of the army and navy, but after a series of defeats he was recalled (1905)

Alema (äl'–), town, E of the Jordan 1 Mac 5 26

Alemán, Mateo (mätā'ō älämän'), 1547–1614?, Spanish novelist He studied medicine, was chief accountant at Madrid, led an exciting and adventurous life, was sent to jail twice for his debts, and at the age of 60 found a refuge in Mexico. He owes his fame to one of the best picaresque novels, *Guzmán de Alfarache* The first part was published in 1599 and the second part in 1604 It was translated into many languages, Le Sage adapted it in French, and James Mabbe translated it into English as *The Rogue; or, The Life of Guzmán de Alfarache* (1922).

Alemán, Miguel (mēgĕl' älämän'), 1902–, president of Mexico (1946–) Son of a revolutionary general, Alemán became a highly successful lawyer and a champion of Mexican labor. He was governor of Veracruz from 1936 to 1940 but resigned to manage the presidential campaign of Manuel ÁVILA CAMACHO, under whom Alemán held (1940–45) the ministry of the interior After defeating Esequiel Padilla in the presidential election of 1946, Alemán undertook a vigorous program of modernizing Mexico by encouraging foreign investment, developing reclamation and power projects, improving communication and education, and generally raising the standard of living.

Alemanni (älĭmä'nī), Germanic tribe, closely connected with the Suebi (see GERMANS) By the 5th cent A D they occupied territories on both sides of the Rhine south of its junction with the Main (present Alsace, Baden, and NE Switzerland) Their westward expansion brought them into conflict with the Franks, whose king CLOVIS I defeated them in 496. In 506 he forced them to retire into Rhaetia, and in 536 they passed entirely under Frankish rule The High German dialects of SW Germany and Switzerland are called after them Alemannic, and in French speech their name (*Allemands*) came to signify all Germans.

Alemanni, Luigi· see ALAMANNI, LUIGI

Alembert, Jean le Rond d' (shäⁿ lŭ rō' däläbĕr'), 1717–83, French mathematician and philosopher Illegitimate son of the chevalier Destouches, he was found on the steps of the St Jean le Rond church and put into a foundling home, from which his father later had him taken to be cared for and educated Diderot made him coeditor of the ENCYCLOPÉDIE, for which he wrote many mathematical, philosophical, and literary articles and the "preliminary discourse" (1751) He withdrew in 1758, apparently for reasons of discretion A member of the Academy of Science (1741) and the French Academy (1754, appointed secretary, 1772), he had great influence on the intellectual life of his time His writings include a famous treatise on dynamics (1743), a work on the theoretical and practical elements of music (1759), and a history of the members of the French Academy (1787)

Alembert's principle· see D'ALEMBERT'S PRINCIPLE

Alemeth (äl'ŭ–) 1 Descendant of Saul 1 Chron 8 36, 9 42 2 Town, c 3 mi NE of Jerusalem 1 Chron 6 60 Almon Joshua 21 18

Alemtejo, Portugal see ALENTEJO

Alençon, François, duc d' see FRANCIS, duke of Alençon and Anjou

Alençon (äläsôⁿ'), town (pop 16,692), capital of Orne dept, N France, in Normandy, on the Sarthe It was the capital of the county and (after 1414) the duchy of the same name, which passed (1525) to the French crown and was an appanage of Valois princes It has long been famous for its lace industry

Alentejo (älänta'zhō), historic province, SE Portugal, now divided into Upper Alentejo (Port *Alto Alentejo*, 4,888 sq mi, pop 317,628) and Lower Alentejo (Port *Baixo Alentejo*, 5,318 sq mi, pop 375,511) The capital of Upper Alentejo is Évora, and the capital of Lower Alentejo is Beja Estremoz and Vila Viçosa are also in the province Alentejo, "the granary of Portugal," is drained by the Guadiana and tributaries of the Sado The climate varies greatly with the seasons Sheep, horses, cattle, and hogs are bred, and grains, olives, and fruits are grown It was from the time of Portugal's beginning involved in the many wars with Castile (see PORTUGAL) The name formerly was spelled Alemtejo

Alep (ŭlĕp') or **Aleppo** (ŭlĕ'pō), Arabic *Haleb*, city (pop c 320,000), NW Syria It was the Greek and biblical Berœa or Berea (as in 2 Mac 13 4) An ancient city on the main caravan route across Syria to Baghdad, it was the center of a kingdom of the Hittites before 1000 B C and was taken by the various conquerors of Syria Its importance was enhanced after the fall of Palmyra in A D 272 A flourishing city of the Byzantine Empire, it was taken by the Arabs in the 7th cent, recovered by the Byzantines in the 10th cent, and taken by the Seljuk Turks late in the 11th cent The Crusaders formally besieged it, but without success in 1124 Saladin took it in 1183 and made it his stronghold It was conquered by the Mongols under Hulagu Khan in 1260 and again by Tamerlane in 1401, but was not long held In 1517 the Ottoman Turks made it a part of their empire, and it was a great commercial center Ibrahim Pasha took it (1832) for Mohammed Ali of Egypt who was forced to give it up in 1840 Its importance declined with the establishment of new trade routes, but it revived after Syria was established as a French mandate and then recovered its independence It has silk and cotton textile industries and much trade in wool, hides, and fruit It has often been severely damaged by earthquake

Aleramo, Sibilla (älärä'mō sēbēl'lä), 1878?–, Italian novelist and poet, whose real name is Rina Faccio Her novel *Una donna* (1906, Eng tr, *A Woman at Bay*, 1908) was a literary sensation and, widely translated, was considered a feminist document Her later works, largely autobiographical, are essentially concerned with erotic experience They include the novels *Trasfigurazione* [transfiguration] (1922) and *Amo, dunque sono* [I love, therefore I am] (1927); two volumes of verse, and a poetic drama, *Endimione* (1923)

Ales, Alexander· see ALESIUS, ALEXANDER

Alès (älĕs'), formerly **Alais** (älā', älēs'), town (pop 20,027), Gard dept, S France Located in a coal-mining region, it has metal industries The Peace of Alais (1629) stripped French Protestants of their political power (see HUGUENOTS)

Alesia (ŭlē'shu), hilltop town of Celtic and Roman Gaul, supposedly on the site of Alise Sainte-Reine, near Dijon It was in the hands of VERCINGETORIX and many of his men (52 B C) when Caesar besieged them He prevented Vercingetorix' allies from raising the siege and starved out the town. Gallic resistance to Rome ended

Alesius, Alex, or **Alexs, Alexander** (u-lē'shus, both ŭ-lēs'), 1500–1565, Scottish Protestant theologian As canon of the collegiate church at St Andrews he tried to reclaim Patrick Hamilton, abbot of Fern, from his heretical Lutheran views but was himself persuaded to accept the reformed teachings In 1532 he escaped to the Continent, where he gained the confidence of Luther and Melanchthon By them he was commended to Henry VIII, and arriving in England in 1535, he enjoyed friendly association with Cranmer, Thomas Cromwell, and others He lectured on divinity at Cambridge and afterward practiced medicine in London After Cromwell's fall in 1540, Alesius returned to Germany, where he was professor of theology, first at Frankfurt-an-der-Oder and later at Leipsig

Alessandri, Arturo (ärtōō'rō älĕsän'drē), 1868–, president of Chile (1920–25, 1932–38) A lawyer of humble birth, he rose to a cabinet position by 1913. Presidential candidate of the Liberal Alliance, a conglomerate group made up of all the enemies of the conservatives, Alessandri was elected on a program of social and political reform, including the introduction of direct vote for president, the entire separation of Church and state, greater autonomy of the provinces, and socialistic legislation. An army revolt forced him out of office after a troubled administration His second term was likewise stormy

Alessandria (älĭsän'drēu, Ital älās-sän'drēä), city (pop 51,949), capital of Alessandria prov, Piedmont, N Italy A commercial and communications center, it also makes felt hats Alessandria was founded in 1168 as a stronghold of the LOMBARD LEAGUE and was named for Pope Alexander III At first a free commune, it passed in 1348 to the duchy of Milan and in 1713 to the Duke of Savoy. There are two 14th-century churches, a modern cathedral, and a citadel

Alesund or **Aalesund**, Nor *Ålesund* (all ô'lusôn), city (pop 18,143), More og Romsdal co, W Norway, a seaport on three small islands The largest fishing harbor in Norway, it has cod and herring fleets and is a whaling base It is the commercial center of the STOR FJORD region

Aletsch (ä'lĕch), largest glacier (66 sq mi.) in the Swiss Alps It lies between the Jungfrau and the Aletschhorn (ä'lĕch-hôrn), the second highest peak in the Bernese Alps

Aleut (ăl'ēōt), native inhabitant of the Aleutian Islands Of the same racial stock as the ESKIMO, the Aleuts have become, through long contact with Indians and whites, chiefly a mixed breed In their semicivilized mode of life they more closely resemble their North American Indian neighbors than they do the Eskimos Their language is a member of the Eskimo-Aleut family When first noted by Bering in 1741, their estimated population was between 20,000 and 25,000 Because of their skill in hunting sea mammals, the Aleuts were dispersed by Russian fur traders throughout the coastal waters of the Gulf of Alaska, some as far south as California The ruthless policies of their masters and conflict with the fierce mainland natives reduced their population by the end of the 18th cent to one tenth its former size After that time they lived in comparative isolation and neglect until the strategic importance of their islands recently focused the attention of the U S government on their condition, and measures were instituted for their economic betterment Converts of the Russian Orthodox Church, they yet retain a few of their earlier superstitous beliefs See H B Collins, Jr, *The Aleutian Islands: Their People and Natural History* (1945)

Aleutian Islands (ŭlōō'shŭn), chain of islands curving southwest from the tip of the Alaska Peninsula and approaching the Russian Komandorski Islands Actually a partially submerged continuation of the Aleutian Range, they divide Bering Sea from the Pacific They fall into four main groups. The Fox Islands nearest Alaska include among the larger islands Unimak, Unalaska (with Dutch Harbor on small Amaknak island), Umnak, and Akutan The Andreanof Islands are many, some of the larger ones are Amlia, Atka, Adak, Kanaga, and Tanaga Among the Rat Islands the most important are Amchitka and Kiska The Near Islands are farthest west and the smallest group of all, the two larger islands are Agattu and Attu. Within their general area are Shemya and the other Se-

michi Islands The islands are generally rugged and show the traces of volcanic action There are few good harbors, and the many reefs make navigation treacherous Temperatures are relatively moderate, but constant fog makes the climate dreary The islands, almost completely treeless, have a luxuriant growth of grass, bushes, and sedges Sheep have been grown on some of them Vitus BERING discovered them in 1741, and the native Aleuts were exploited for fur hunting by Russian traders Fishing and fur hunting are now government controlled Dutch Harbor became a transshipping point for Nome in 1900 In 1940 a U S naval base was established there, and the Aleutian Islands were important in the Second World War The Japanese occupied Attu and Kiska in 1942 The United States built bases on Adak and Amchitka and launched a counterattack In 1943 U S forces by bitter fighting took Attu and the Japanese withdrew from Kiska U S bases were also built on Shemya, Umnak, and Atka See Murray Morgan, *Bridge to Russia* (1947)

Aleutian Range, mountain chain, SW Alaska, extending along the entire Alaska Peninsula and continuing, partly submerged, in the Aleutian Islands The range has shown recent volcanic activity, notably at Katmai (Valley of Ten Thousand Smokes)

Alex . For some Russian names beginning thus, see ALEKS-, e g, for Alexandrov, see ALEKSANDROV

Alexander III, d 1181, pope (1159–81), a Sienese named Rolando Bandinelli, successor of ADRIAN IV and predecessor of LUCIUS III He was a learned canonist who had studied law under Gratian and had taught at Bologna He came to Rome under Eugene III, was made a cardinal, and became a trusted adviser of Adrian IV Alexander's election to the papacy was opposed by a few cardinals, who elected an antipope, VICTOR IV Although the antipope was supported only by Germany and some Lombards, the schism thus begun continued until 1178 with antipopes Paschal III and Calixtus III Alexander was forced by Emperor FREDERICK I into exile in France In the long struggle with the emperor, the pope was aided by the LOMBARD LEAGUE, which named the town of Alessandria for him After the battle of Legnano, the emperor was forced to submit Alexander had already (1174) received the penance of Henry II of England for the murder of St Thomas à Becket, whom Alexander canonized (1173) He convened and presided at the Third LATERAN COUNCIL One of the great medieval popes, he issued many decretals, established the procedure for canonizing saints, inaugurated the two-thirds rule for papal elections, protected the universities, and was one of the most distinguished champions of ecclesiastical independence in the Middle Ages See M W Baldwin, *The Medieval Papacy in Action* (1940)

Alexander IV, d 1261, pope (1254–61), a Roman named Rinaldo di Segni, successor of INNOCENT IV and predecessor of URBAN IV Popes Gregory IX (Alexander's uncle) and Innocent III were also of the noble Segni family An irresolute pope, Alexander struggled unsuccessfully with the Roman commune and with the HOHENSTAUFEN, particularly MANFRED, whom he excommunicated Alexander upheld and aided the Franciscan order

Alexander VI, 1431–1503, pope (1492–1503), a Spaniard (b Játiva) named Rodrigo de Borja or, in Italian, Rodrigo Borgia, successor of INNOCENT VIII and predecessor of PIUS III He took Borja as his surname from his mother's brother Alfonso, who was Pope Calixtus III Rodrigo became cardinal (1456), vice chancellor of the Roman Church (1457), and dean of the sacred college (1476) Cardinal Borgia had four children by a Roman woman, Vannozza, among them were Cesare and Lucrezia Borgia The conclave that elected Alexander was corrupt The foreign relations of the papacy in his time were dominated by the increasing influence of France in Italy, culminating in the invasion of Charles VIII in 1494 Alexander prevented Charles from taking the church property in Rome, but he turned over to the French the valuable Ottoman hostage Djem, brother of BAJAZET II Alexander's son, Cesare Borgia, was the principal leader in papal affairs, and papal resources were spent lavishly in building up Cesare's power For his daughter Lucrezia, Alexander arranged suitable marriages The favoritism shown his children and the lax moral tone of Renaissance Rome as well as the unscrupulous methods employed by Cesare and other papal officials have made Alexander's name the symbol of the worldly irreligion of Renaissance popes It was Alexander who proclaimed the line of demarcation, awarding part of the new discoveries in the world to Spain, part to Portugal The original line was subsequently (1494) in the Treaty of Tordesillas moved westward so that it ran 370 leagues W of the Cape Verde Islands, it was this redefinition that gave Portugal a claim to Brazil Alexander was a munificent patron of the arts See Orestes Ferrara, *The Borgia Pope Alexander VI* (1940)

Alexander I, 1777–1825?, emperor and tsar of Russia (1801–25), son of PAUL I (in whose murder he may have taken an indirect part) The liberalism of his Swiss tutor, Frédéric César de LA HARPE, was at first influential in shaping his policy, but he proved unable to carry out a consistent scheme of internal reform as proposed by Mikhail M SPERANSKI He joined the coalition against NAPOLEON I in 1805, but after the defeats of AUSTERLITZ and Friedland he signed (1807) the Treaty of Tilsit, which brought Russia into Napoleon's CONTINENTAL SYSTEM Although an alliance between the two emperors was reached (1808) at the Congress of ERFURT, relations deteriorated, and in 1812 Napoleon invaded Russia The French defeat left Alexander one of the most powerful rulers in Europe He entered Paris at the head of the allied armies in 1814 He still used his power in the cause of liberalism, saving France from harsh treaty terms at the Congress of Vienna (see VIENNA, CONGRESS OF) and in the Treaty of Paris, he gave autonomy to Finland, which he annexed in 1809, and to Poland, of which he became king in 1815 However, he soon came under the dual influence of Metternich and of the pietistic Julie de KRÜDENER, who encouraged him to promote the HOLY ALLIANCE By 1818 he had become completely reactionary, morbid, and embittered, with alternating periods of dissipation and brooding mysticism With the help of his favorite, Aleksey A ARAKCHEYEV, he established in parts of Russia the notorious "military colonies" of "militarized" peasantry serving as police Alexander's reign witnessed the brilliant beginnings of modern Russian cultural life St Petersburg became a social and artistic center of Europe KRYLOV and PUSHKIN dominated the literary scene National consciousness was stirred by the Napoleonic invasion Being childless, Alexander was succeeded by his brother, NICHOLAS I Concerning Alexander's death, there is a considerable mystery Officially, he died at Taganrog in 1825 It is widely believed, however, that he actually had himself secretly taken away on the yacht of the 1st Earl Cathcart, a former ambassador to Russia, and spent the rest of his life in penitence as a monk—possibly to be identified with one Feodor Kuzmich, a hermit who died in Siberia in 1864 When his tomb was opened by the Soviet government in 1926, it was found empty, and recent biographies have revived the story of his escape Some light may be shed on the question when the Cathcart papers are opened in 1964 An excellent picture of Alexander's period is found in Tolstoy's *War and Peace.* See biographies by C Joyneville (3 vols, 1875), Maurice Paléologue (Eng tr, 1928), and L I Strakhovsky (1947)

Alexander II, 1818–81, emperor and tsar of Russia (1855–81), son and successor of Nicholas I Influenced by his humane and liberal education (particularly the teaching of the poet ZHUKOVSKY) and by the sad outcome of the Crimean War (1853–55), he put into effect a great program of internal reforms, of which the most important was the emancipation (1861) of the serfs (see EMANCIPATION, EDICT OF) The emancipation changed the whole social order of the empire, but many of its features —particularly the communal ownership of the land and the high cost to the peasants of their small plots—ultimately proved disastrous and were factors in subsequent revolutionary movements The other major reforms were the ZEMSTVO system of local self-government (1864), a new judicial system (1864), and the introduction (1874) of compulsory military service These reforms were not enough to satisfy the liberals and radicals, and Russia came to be disturbed by revolutionary and terrorist activities (see NIHILISM), these, intensified by harsh governmental persecution, resulted in the assassination of the tsar on March 13, 1881 (N S), the very day he signed a liberal constitution drafted by LORIS-MELIKOV The chief events of Alexander II's reign were the unsuccessful Polish revolution of 1863, the acquisition by Russia of much territory in Asia, the formation (1872) of the THREE EMPERORS' LEAGUE, and the war with Turkey (see RUSSO-TURKISH WARS) Alexander II's reign and that of his successor, Alexander III, were the high-water mark of Russian literature and music, best represented by TURGENEV, DOSTOYEVSKY, Leo TOLSTOY, MOUSSORGSKY, and TCHAIKOVSKY See H F Skrine, *Expansion of Russia, 1815–1900* (1903), Stephen Graham, *Tsar of Freedom* (1935)

Alexander III, 1845–94, emperor and tsar of Russia (1881–94), son and successor of Alexander II His father's assassination, his limited education, the military environment in which he was reared, the influence of advisers such as Mikhail N KATKOV and Konstantin P POBYEDONOSTZEV, and numerous attempts on the life of Alexander III himself, all contributed to the reactionary policy that characterized his reign He harshly suppressed revolutionary activities and liberal thought, subjected minorities to forcible Russification, encouraged the persecution of Jews, and strengthened the nobility, which had lost much of its power under his predecessor More positive achievements were the creation of industries and the construction of the TRANS-SIBERIAN RAILROAD, both due to the initiative of Count WITTE, land and labor reforms, and a foreign policy (conducted by Nikolai K GIERS) which helped to preserve peace in Europe The THREE EMPERORS' LEAGUE of Russia, Austria, and Germany was replaced (1892) by a Franco-Russian entente. Alexander III was succeeded by his son, Nicholas II

Alexander, 1893–1920, king of the Hellenes (1917–20), second son of CONSTANTINE After his father's abdication, he was raised to the throne through the support of the Allies, who mistrusted the sympathies of his elder brother George (later King George II) Alexander's death was due to the bite of a pet monkey

Alexander III, king of Macedon see ALEXANDER THE GREAT

Alexander I, 1078?–1124, king of Scotland (1107–24), son of MALCOLM III and St MARGARET OF SCOTLAND He succeeded his brother Edgar, who had divided the kingdom so that Alexander ruled only N of the Forth and the Clyde Early in his reign he decisively quelled an uprising in N Scotland. Alexander encouraged, as his mother had, ecclesiastical conformity with English ways and established several monasteries, including the abbeys at Inchcolm and Scone He opposed, however, the efforts of the English hierarchy to rule the Church in Scotland

Alexander II, 1198–1249, king of Scotland (1214–49), son and successor of WILLIAM THE LION When King John became embroiled with the English barons, Alexander, who held land in England, joined them (1215) With Henry III, who came to the English throne in 1216, Alexander made an agreement whereby he gave up his claims as an overlord in old Northumbria and exchanged lands he held in central England for lands in the north Later Henry and he nearly went to war over the homage Alexander owed for these northern lands Alexander was assiduous at home in quelling disorder His reign saw a notable growth in religious houses and ecclesiastical architecture Alexander III succeeded him

Alexander III, 1241–86, king of Scotland (1249–86), son and successor of Alexander II He married a daughter of HENRY III of England and disputed with him the old English claims to overlordship in Scotland The great achievement of Alexander was his final acquisition for Scotland of the Western Isles and of the Isle of Man, which his father had already claimed from Norway To drive the Scots from the islands King HAAKON IV of Norway sailed with a great fleet in 1263, but a storm battered his ships, and he fought the inconclusive battle of Largs in the River Clyde (1263) Alexander signed a treaty with Haakon's successor, MAGNUS VI, assigning the Western Isles and the Isle of Man to Scotland This was followed by an arrangement with Norway providing for the marriage of Magnus's son Eric with Alexander's daughter Margaret Alexander survived his children, and when he died his only near relative was his little granddaughter MARGARET MAID OF NORWAY With his death peaceful relations between England and Scotland ended, and the dynastic struggle between ROBERT I (Robert the Bruce) and John de BALIOL (1249–1315) began See biography by James Fergusson (1937)

Alexander (Alexander Karageorgevich) (kärujôr'juvĭch), 1806–85, prince of Serbia (1842–58), son of KARAGEORGE He was elected to succeed the deposed MICHAEL of Serbia Weak and vacillating, he yielded to Russian influence in refusing aid to the Serbs of Hungary in their struggle against the Magyar nationalists during the Kossuth regime (1848–49) and later submitted to Turkish and Austrian pressure in withholding his support from Russia in the Crimean War His pro-Austrian policy finally led his Russophile subjects to depose him and to recall MILOSH as king In 1858 he was condemned to death *in absentia* by a Serbian court for his alleged part in the assassination of Michael III He was the father of Peter I of Yugoslavia.

Alexander (Alexander Obrenovich) (ôbrĕ'nuvĭch), 1876–1903, king of Serbia (1889–1903), son of King MILAN He succeeded on his father's abdication Proclaiming himself of age (1893), he took over the government, abolished (1894) the relatively liberal constitution of 1888, and restored the conservative one of 1869 In 1897 he recalled his father, gave him command of the army, and permitted him to undertake a campaign against the pro-Russian Radical party In 1900 he married Draga Mashin (see DRAGA) despite ample proof of the lady's extremely shady past The scandal of the marriage exasperated his opposition In 1903, after Alexander had suspended and restored the constitution, he and his queen were assassinated, under fittingly revolting circumstances, by a clique of officers Peter Karageorgevich was recalled as King Peter I, and the Obrenovich dynasty came to an end

Alexander, 1888–1934, king of Yugoslavia (1921–34), son and successor of Peter I Of the Karageorgevich family, he was educated in Russia and became crown prince of Serbia upon the renunciation (1909) of the succession by his brother George He led the Serbian army in the Balkan War of 1912, became regent in June, 1914, led the Serbian army in the First World War, and became (Nov , 1918) regent of the kingdom of the Serbs, Croats,

and Slovenes. In 1922 he married Princess Marie of Rumania. After his accession increasing disorder arose from the Croatian autonomy movement After the assassination (1928) of Stefan RADICH, Alexander in 1929 dismissed the parliament, abolished the constitution, abolished the parties, and became absolute ruler To emphasize the unity he hoped to give the country he changed (Oct., 1929) its official name to Yugoslavia Though he announced the end of the dictatorship in 1931 and proclaimed a new constitution, he continued to keep the substance of power in his own hands His authoritarian and centralizing policy brought him the hatred of the separatist minorities, particularly the Croats and Macedonians, as well as the opposition of Serbian liberals In foreign policy he was loyal to the French alliance and to the LITTLE ENTENTE In 1934 he debarked at Marseilles on a state visit to France A member of the Croatian terrorist organization, the Ustashi, fired on his car, killing the king and fatally wounding the French foreign minister, Louis Barthou Accusations made by the Little Entente against Hungary and Italy for fostering Ustashi activities very nearly led to the outbreak of hostilities Alexander was succeeded by his young son, Peter II See Stephen Graham, *Alexander of Yugoslavia* (1939)

Alexander (Alexander of Battenberg), 1857–93, prince of Bulgaria (1879–86), second son of Prince Alexander of Hesse-Darmstadt by his morganatic wife, Countess Julia von Hauke He served in the Russian army against the Turks (1877–78) and, backed by the tsar, was elected hereditary prince of Bulgaria under Turkish suzerainty In 1885 he united E Rumelia with Bulgaria and thus incurred the wrath of the Russian tsar and of Serbia, which declared war. Alexander was victorious, and by an agreement with Turkey became governor of E Rumelia, but he was forced to abdicate by a pro-Russian faction of officers. Ferdinand was elected to succeed him

Alexander, in the Bible **1** Kinsman of Annas Acts 4 6 **2** Son of Simon of Cyrene, probably a Christian Mark 15 21 **3** Heretic condemned by Paul 1 Tim 1 20 **4** Coppersmith who did Paul harm 2 Tim 4 14 **5** Jew who tried to speak during a riot at Ephesus The last three may be the same man The Alexanders in the books of the Maccabees are Alexander the Great and ALEXANDER BALAS

Alexander, in Greek legend see PARIS

Alexander, Archibald, 1772–1851, American Presbyterian clergyman, b near Lexington, Va He was president (1797–1806) of Hampden-Sydney College, pastor (1807–12) of the Pine St Church, Philadelphia, and afterward, until his death, professor of theology at Princeton Theological Seminary, which he helped found

Alexander, Francis, 1800–1881, American painter and portrait lithographer, b Windham Co, Conn He worked under the influence of Gilbert Stuart in Boston and later in Italy One of his most charming portraits is that of Mrs Fletcher Webster (Mus of Fine Arts, Boston) Other works include a portrait of Charles Dickens and several of Daniel Webster

Alexander, Harold Rupert Leofric George, Viscount Alexander of Tunis, 1891–, British field marshal, b Ireland, educated at Harrow and Sandhurst, son of the earl of Caledon A long military career was high-lighted by service in the First World War and in the North-West Frontier Prov, India (1935) In the Second World War he commanded the retreats at Dunkirk (1940) and in Burma (1942) before, as commander in the Middle East (Aug, 1942–Feb, 1943), he had superior command of the British triumph in North Africa He then commanded the conquest of Sicily (1943) and the bitter fighting in Italy In 1944 Alexander was made field marshal and Allied commander in chief in the Mediterranean, in 1945 he was appointed governor general of Canada, and on Jan 1, 1946, he was created viscount

Alexander, Hartley Burr, 1873–1939, American poet and philosopher, b Lincoln, Nebr, grad Univ of Nebraska, 1897 He is the author of several philosophical works He was interested in the American Indian, and this is reflected throughout his poetry Plans which he made for the decoration of the Nebraska state capitol have contributed to its beauty and significance

Alexander, John White, 1856–1915, American portrait, figure, and mural painter, b Allegheny (now part of Pittsburgh) At 18 he became an illustrator on the staff of Harper & Brothers and three years later made his first trip to Europe He achieved a high reputation as a portrait painter, counting among his sitters Robert Louis Stevenson, Joseph Jefferson, Oliver Wendell Holmes, John Burroughs, and Grover Cleveland The Metropolitan Museum contains his *Walt Whitman, The Ring,* and *Study in Black and Green* His portraits of Rodin and Robert Blum are in the Cincinnati Museum Other well-known easel paintings include *The Pot of Basil* (Mus of Fine Arts, Boston) and *The Blue Bowl* (R I School of Design, Providence) Alexander also executed various murals including *The Evolution of the Book* (Library of Congress), *Apotheosis of Pittsburgh* (Carnegie Inst, Pittsburgh), the unfinished *Industrial Development of Pennsylvania* (state capitol, Harrisburg) Alexander is particularly remembered for his graceful studies of women.

Alexander, Samuel, 1859–1938, British philosopher, b Australia From 1893 to 1924 he was professor of philosophy at Victoria Univ, Manchester He conceived of space-time as the ultimate principle from which all other qualities of existence are emergent He has written *Space, Time, and Deity* (1920), *Spinoza and Time* (1921), *Art and the Material* (1925), and *Beauty and Other Forms of Value* (1933) See studies by M R Konvitz (1946) and John W McCarthy (1948)

Alexander, Stephen, 1806–83, American astronomer, b Schenectady, N Y, grad Union College, 1824 In 1834 he became adjunct professor of mathematics at Princeton and from 1840 to 1877 held professorships in astronomy, mathematics, and mechanics His conscientious astronomical observations of nearly 50 years, chiefly in connection with solar eclipses, represented a major contribution to astronomical data and furnished material for many notable papers which were published in the *Astronomical Journal* and in the *Reports* or *Contributions* of the Smithsonian Institution

Alexander, Sir William, d 1640 see STIRLING, WILLIAM ALEXANDER, EARL OF

Alexander, William, known as **Lord Stirling,** 1726–83, American Revolutionary general, b New York city Although the House of Lords rejected his claim to succeed as the 6th earl of Stirling, he was, nevertheless, in America generally considered a nobleman He served in the French and Indian War and joined the Continental army early in the Revolution He fought well at the battle of Long Island (1776) and was captured by the British but was soon exchanged and later saw action at Trenton, Brandywine, Germantown, and Monmouth In 1778 he helped to expose the CONWAY CABAL

Alexander Archipelago, just off SE Alaska It and the mountainous coast make up the Panhandle of Alaska, the most populous section of the Territory A submerged mountain system, the islands rise steeply from the sea Deep fjordlike channels separate them and cut them from the mainland, and the Inside Passage from Seattle to Alaska threads its way among them Some of the islands are CHICHAGOF ISLAND, ADMIRALTY ISLAND, BARANOF ISLAND (with the town of Sitka), WRANGELL ISLAND (with the town of Wrangell), REVILLAGIGEDO ISLAND (with the town of Ketchikan), Kupreanof Island, Mitkoff Island, and Prince of Wales Island

Alexander Balas (bā'–), d 145 B C, ruler of Syria, putative son of Antiochus IV He seized power from his uncle Demetrius I (c 152 B C), Jonathan the Maccabee supported him Eventually he was defeated by Ptolemy Philometor 1 Mac 10–11

Alexander City, city (pop 6,640), E central Ala, SE of Birmingham, in a farm area, settled in the mid-19th cent, inc 1873 It has textile mills Martin Lake is near by

Alexander John I, prince of Rumania see CUZA, ALEXANDER JOHN

Alexander Karageorgevich. see ALEXANDER, prince of Serbia, and ALEXANDER, king of Yugoslavia

Alexander Nevski, Saint (nĕv'skē) [Rus, =of the Neva], 1220?–1263, grand duke of Vladimir-Suzdal He earned his surname by his victory (1240) over the Swedes on the Neva river In 1242 he defeated the Livonian Knights He is a national hero of Russia

Alexander of Aphrodisias (ăfrŏdĭsh'ēus) fl 200, Greek Peripatetic philosopher Most celebrated ancient commentator on Aristotle, he was called for his preeminence the Exegete His influence was strong down to the Renaissance, when his interpretations of Aristotle were used to counter those of the Church Two original treatises are extant

Alexander of Hales (hālz), d 1245, English scholastic philosopher, called the Unanswerable Doctor He was a Franciscan and a lecturer at the Univ of Paris His *Summa universae theologiae* was the first systematic exposition of Christian doctrine to introduce Aristotle as a prime authority His eclectic work also contains elements of neoplatonism and Augustinianism and Arabic ideas, these are not always harmonized Alexander held that all created things spiritual as well as corporeal, are made up of matter and form This teaching became the central feature of Franciscan scholasticism Alexander was one of the important influences on St Thomas Aquinas

Alexander of Pherae (fēr'ē), d 358 B C, tyrant of the city of Pherae in Thessaly after 369 B C. He was opposed by other Thessalian cities and by the Thebans PELOPIDAS failed (368) in one expedition against him and was briefly imprisoned Returning in 364 Pelopidas destroyed Alexander's power in the battle of Cynoscephalae, though the Theban leader was killed Alexander was murdered by members of his own family

Alexander Severus (Marcus Aurelius Alexander Severus) (sĭvēr'us), d. 235, Roman emperor (222–35), b Syria His name was changed from Alexius Bassianus (221) when he was adopted as the successor to HELIOGABALUS He was of a virtuous and studious character, but proved unable to maintain military discipline. Although successful in a campaign (231–33) against Ardashir I of Persia, he failed to suppress a mutiny on the Rhine, where he was murdered by the supporters of MAXIMIN.

Alexanderson, Ernst Frederik Werner, 1878–, American engineer and inventor, b Uppsala, Sweden, grad Royal Institute of Technology, Stockholm, 1900 He came to the United States in 1901 and joined the General Electric Company at Schenectady in 1902 His many inventions in the radio field include a high-frequency alternator, a multiple-tuned antenna, and a system of television

Alexander the Great or **Alexander III,** 356–323 B C, king of Macedon, conqueror of much of Asia, one of the greatest leaders of all time The son of PHILIP II of Macedon and OLYMPIAS, he had ARISTOTLE as his tutor and was given the education of a model prince Though he had difficulties with his father, who neglected Olympias for another wife, Alexander had no part in the murder of Philip He succeeded to the throne in 336 B C and immediately showed his brilliance by quieting the restive cities of Greece, then putting down uprisings in Thrace and Illyria On a false rumor that Alexander was dead, Thebes revolted The young king rushed south and sacked the city, sparing only the temples and Pindar's house Greece and the Balkan Peninsula secured, he then crossed (334) the Hellespont and undertook the war on Persia that his father had been planning The march he had begun was to be one of the greatest in history At the Granicus river (near the Hellespont) he met and defeated a Persian force and moved on to take Sardis, Miletus, and Halicarnassus None could stand up against his skill in planning and executing his military moves Having taken most of Asia Minor, he entered (333) N Syria and there in the battle of Issus he met and routed the hosts of DARIUS III of Persia, who fled before him Alexander, triumphant, now seems to have envisioned conquest of the whole of the Persian Empire It took him nearly a year to reduce Tyre and Gaza, and in 332, in full command of Syria, he entered Egypt There he met no resistance When he went to the oasis of Amon he was acknowledged as the son of Amon-Ra, and from that time forward he seems to have had a conviction of his own divinity In the winter he founded Alexandria, perhaps his greatest monument, and in the spring of 331 he returned to Syria, then went to Mesopotamia where he met Darius again in the battle of Gaugamela (more frequently called the battle of Arbela after the town 60 mi. away) The battle was hard, but Alexander was victorious He marched S to Babylon, then went to Susa and on to Persepolis He was now the visible ruler of the Persian Empire, pursuing the fugitive Darius to Ecbatana, which submitted in 330, and on to Bactria There the satrap Bessus, a cousin of Darius, murdered the Persian king and declared himself king. Alexander went on through Bactria and captured and executed Bessus He was now in the regions beyond the Oxus (the modern Amu Darya), and his men were beginning to show dissatisfaction In 330 a conspiracy against Alexander was said to implicate the son of one of his generals, PARMENION, Alexander not only executed the son but also put the unquestionably innocent Parmenion to death This arbitrary harshness further alienated the soldiers, who murmured against Alexander's adoption of Persian dress and his manners of an Oriental despot Nevertheless Alexander conquered all of Bactria and Sogdiana after hard fighting and then went on from what is today Afghanistan into N India Some of the princes there received him favorably, but at the Hydaspes (the modern Jhelum) he met and defeated an army under Porus He overran the Punjab, but here his men would go no farther He had built a fleet, and after going down the Indus to its delta, he sent Nearchus with the fleet to take it across the unknown route to the head of the Persian Gulf, a daring undertaking He himself led his men through the desert regions of modern Baluchistan, S Afghanistan, and S Iran The march was accomplished only with great suffering but finally ended at Susa in 324 Here he found that many of the officials he had chosen to govern the conquered lands had indulged in corruption and misrule He also found that there was feeling against him In Greece, for instance, many decried his execution of his own nephew, the historian CALLISTHENES, and it is said that he requested the Greek cities to treat him as a god and thus aroused much more feeling against him Alexander's Macedonian officers resented his attempt to force them to mingle and even intermarry with the Persians (he had himself married ROXANA, a Bactrian princess, as one of his several wives) and resisted his Orientalizing ways and his vision of the equality of peoples There was a mutiny, which was put down In 323 Alexander was planning a voyage by sea around Arabia when he took a fever and died He was 33. Whether or not he had plans for a world empire cannot be told. He had

accomplished greater conquests than any before him, but he had not even had time to mold the government of the lands he had taken, and after his death his generals fell to quarreling about dividing the rule (see DIADOCHI) His only son was Alexander Aegus, born to Roxana after Alexander's death and destined for a short and pitiful life There has been much written of Alexander and his character—his manly beauty, his impulsiveness (he killed a dear friend in a debauch), his visionary schemes, his sense of his own divinity Inconstestably, however, he was one of the greatest generals of all time and one of the most powerful personalities of antiquity To him must be credited the spread of HELLENISM and profound changes in the history of the world He early passed into legend He was said to have cut the Gordian knot, and wonderful stories were told of his feats on his horse Bucephalus As centuries went on the mists grew thicker about his historical personage, and a whole literature of romance grew up about him in the Middle Ages Biographies of him were written in ancient times by Arrian and Plutarch See modern biographies by Ulrich Wilcken (Eng tr, 1932), F A Wright (1934), L. V. Cummings (1940), and W W Tarn (1948)

Alexandra, 1844–1925, queen consort of Edward VII of Great Britain, whom she married in 1863 She was the daughter of Christian IX of Denmark

Alexandra, Mount· see RUWENZORI

Alexandra Feodorovna (fēō"durōv'nu, Rus fyŏ'dŭrŭvnŭ), 1872–1918, Russian empress, consort of NICHOLAS II, a Hessian princess and a granddaughter of Queen Victoria Neurotic and superstitious, she was responsible for the influence of RASPUTIN at court and used her great influence over her husband to encourage his reactionary policy Her unpopularity increased during the First World War, when she was suspected of being pro-German On July 17, 1918, she was shot by the Bolsheviks at Ekaterinburg, together with her husband and children

Alexandretta or **Alexandrette,** Turkish seaport· see ISKENDERUN

Alexandretta, sanjak of (sän"jäk', ă"lĭgzăndrĕ'tŭ), former name of Hatay prov (2,141 sq mi, pop 254,141), S Turkey, comprising the cities of Antioch (the capital) and its port, Alexandretta (now Iskenderun) It has a mixed population, with a high percentage of Syrian Christians Awarded to Syria in 1920, it became in 1936 the subject of a complaint to the League of Nations by Turkey, which claimed that Turkish minority privileges in the sanjak were being infringed An agreement between France (then mandatory power in Syria) and Turkey was effected (1937) by the League, and Alexandretta was given autonomous status Riots between Turks and Arabs resulted (1938) in the establishment of joint French and Turkish military control Finally, in 1939, France transferred the district to Turkey

Alexandria, town (pop 2,175), SE Ont, NNE of Cornwall It has a Roman Catholic cathedral

Alexandria, Arabic *Al Iskandariya,* city (pop 928,237), N Eygpt, a port on the Mediterranean Sea It is at the western extremity of the Nile delta on a narrow isthmus between the sea and Mareotis lake The city was founded late in 332 B C by Alexander the Great It was the capital (304 B C –30 B C) of the Ptolemies, and much of the Mediterranean trade passed through its sheltered port Alexandria soon outgrew Carthage and became the largest city in the West It was the great center of Hellenistic and Jewish culture (the Septuagint was prepared here) The city contained two celebrated royal libraries, to which Antony added a vast collection of rolls from PERGAMUM One library was kept in a temple of Zeus and the other in the museum The collections at their maximum were said to contain about 490,000 different rolls or, counting duplicates, a total of about 700,000 rolls Around the museum a great university arose and attracted many scholars, including Aristarchus of Samothrace, the collator of Homeric texts, Euclid, the mathematician, and Herophilus, the anatomist, who founded a medical school Alexandria formally became part of the Roman empire in 30 B C It was the greatest of the provincial capitals, with a population of c 300,000 free persons and an even larger number of slaves Julius Caesar occupied (49 B C) the city while in pursuit of Pompey, and Octavian (later Augustus) entered it (30 B.C) after the suicide of Antony and Cleopatra In the late centuries of rule under the Roman and Byzantine empires Alexandria was a center of Christian learning rivaling Rome and Constantinople, and a patriarchate was established here The famous libraries were destroyed—possibly in part in Julius Caesar's invasion, certainly more under Aurelian and still more in the razing of pagan temples and structures under Theodosius I in 391 Although a decline in shipping had severely hurt Alexandria's prosperity, it still had 300,000 inhabitants when it fell in 642 to the Arabs They moved the capital of Egypt to what is now Cairo, and Alexandria's decline continued, becoming especially rapid in the 14th cent, when the canal to the Nile silted up On his campaign in Egypt, Napoleon took the city in 1798 but lost it to the British in 1801 In the 19th cent Alexandria (sunk to 12,000 persons) gradually regained importance when the canal was reopened and the harbor improved Today there is a modern harbor (lying to the west of the ancient disused harbor) which handles most of Egypt's foreign trade. There are rail connections with Cairo and most of the Nile valley in Egypt The city is noted for its extensive parks and its fine beaches on the Mediterranean Much of the ancient city is covered by modern buildings or is under water Only a few landmarks are readily accessible, these include ruins of the museum and of the PHAROS and a granite shaft called Pompey's Pillar The spacious Greco-Roman museum houses a vast collection of antiquities In the Second World War the city was saved (1942) from possible capture by Marshal Rommel through Gen B L Montgomery's victory at ALAMEIN

Alexandria 1 City (pop 4,801), E central Ind, NE of Indianapolis Limestone quarried in the surrounding area is used for the manufacture of rock-wool insulation **2** City (pop 27,066), parish seat of Rapides parish, central La, beautifully situated on the Red River, laid out 1810, inc 1818 Its industries are based on the materials produced in the area—cotton, sugar, farm products, and lumber. Commercial fishing and ski manufacture are important A Roman Catholic cathedral (1898) is here, and a state park near by Several state institutions are in the sister city, PINEVILLE **3** City (pop 5,051), co seat of Douglas co, W Minn, SE of Fergus Falls, in a resort region with many lakes, settled 1857, laid out 1865 It is the trade center of a rich farm area Knute Nelson lived here after 1871 The KENSINGTON RUNE STONE is exhibited at the Chamber of Commerce **4** City (pop 33,523), N Va, just S of Washington, D C, on the Potomac, patented 1657, permanently settled in the early 18th cent, laid out 1749, inc as a town 1779, as a city 1852 It is a port of entry and an important railroad center with repair shops and extensive yards and has varied industries, including foundries and metalworking plants In recent years many old places of interest (often associated with George Washington) have been restored, among them are Gadsby's Tavern (1752), Carlyle House (1752, Washington received his commission as major from General Braddock here), Christ Church (1767–73), and Ramsay House (1749–51) The George Washington Masonic National Memorial Temple (1923–32) houses Washington momentos One of the Washington family estates, Woodlawn, was made a national shrine in 1949 Alexandria was part of the District of Columbia from 1789 to 1847 Near by are an Episcopal seminary (1823) and Mt Vernon

Alexandria Bay, resort village (pop 1,748), N N Y, on the St Lawrence and N of Watertown, inc 1878 It is a port of entry and a gateway to the Thousand Islands Sturgeon fisheries are here The Thousand Islands Bridge spans the St Lawrence to Canada from Collins Landing near here

Alexandria Troas (trō'ăs) or **Troas,** ancient Greek seaport city, Mysia, NW Asia Minor It was important under the Greeks and Romans Acts 16 8, 11, 20 5,6, 2 Cor 2 12, 2 Tim 4 13

alexandrine (ălĭgzăn'drĭn), in modern prosody, a line of 12 or 13 syllables, usually considered an iambic hexameter, with the last foot containing a final unstressed syllable if the line has 13 syllables It derives its name, probably, from a medieval romance on Alexander Rhyming couplets of two alexandrines of equal length have been the classic form for French serious poetry since the time of Ronsard, e g, in the dramas of Racine, Corneille, Rostand The important English use is in the Spenserian stanza of eight iambic pentameters and an alexandrine, which rhymes with the last pentameter, e g (*Faerie Queene*)

The builder Oak, sole king of forests all,
The Aspin good for staves, the Cypress funeral.

See ONOMATOPOEIA for a further example

Alexis (ŭlĕk'sĭs), 1629–76, tsar of Russia (1645–76), son and successor of Michael His reign, marked by numerous popular outbreaks, was a crucial one for the later development of Russia A new code of laws, promulgated in 1648, remained in effect until the early 19th cent, it favored the middle class and the landowners, but tied the peasants to the soil The reforms of Patriarch NIKON resulted in a dangerous schism in the Russian Church, and Nikon's deposition (1666) was a prelude to the abolition of the Moscow patriarchate in 1717. In 1654 the Cossacks of the Ukraine, led in revolt against Poland by Bohdan CHMIELNICKI, voted the union of the Ukraine with Russia War with Poland resulted and ended in 1667 with Russia retaining most of the Ukraine A serious revolt broke out two years later among the Don Cossacks under Stenka RAZIN and was quelled in 1671 Alexis was succeeded by his son Feodor III. A younger son, by a second marriage, was Peter the Great (Peter I).

Alexis (Aleksey Petrovich) (ŭlyĭksyā' pĕtrô'vĭch), 1690–1718, Russian tsarevich, son of Peter the Great (Peter I) by his first wife and father of Peter II. Opposing his father's anticlerical policy, Alexis renounced his right of succession and fled to Vienna (1717). Peter, who feared that Alexis might win foreign backing, enticed him to return; he then had him arrested and tried for treason. Sentenced to death, Alexis died from the effects of torture shortly before his scheduled execution

Alexishafen (ŭlĕk'sĭs-hä"fŭn), harbor of N Astrolabe Bay, E New Guinea, in the Territory of New Guinea In the Second World War it was the site of a Japanese air base taken in 1944 by Allied forces It is sometimes called Sek Harbour.

Alexius I (Alexius Comnenus) (ŭlĕk'sēŭs, kumnē'nŭs), 1048–1118, Byzantine emperor (1081–1118) Under the successors of his uncle, ISAAC I, the empire had fallen prey to anarchy and foreign invasions In 1081 Alexius, who had become popular as a general, overthrew Nicephorus III and was proclaimed emperor. Among the dangers besetting the empire, that of the Norman invasions (1081–85) under ROBERT GUISCARD and his son BOHEMOND was the most immediate Alexius, though a superior diplomat, failed to secure the aid of either Emperor Henry IV or Pope Gregory VII, but obtained Venetian help at the price of valuable commercial privileges. This and a truce with the Turks enabled him to defend the Balkan Peninsula until the death of Robert Guiscard, when the Normans temporarily withdrew. Next, Alexius secured the alliance of the CUMANS and with their help defeated (1091) the PETCHENEGS, who had besieged Constantinople In 1095 he repulsed the Cumans, who had turned against him During that period he also regained territory from the Turks and suppressed insurrections in Crete and Cyprus Amid these difficulties, Alexius had again sought the help of the rulers of the West This appeal, however, was not the cause of the First Crusade (see CRUSADES), which began shortly afterward Faced with the presence of an unruly and pillaging host within his territory, Alexius sought both to rid himself of the Crusaders and to employ them for his own purposes Thus he furnished (or bribed) them with money, supplies, and speedy transportation to Asia Minor, but only after he had persuaded the leaders to swear him fealty and agree to surrender to him all conquests in territories that formerly had belonged to the Byzantine Empire In return, he pledged himself to lead the Crusade and furnish a contingent He never fully kept his pledge, partly because of the breach of faith of Bohemond, who seized Antioch for himself, in 1099 Alexius began operations against Bohemond, who in 1108 was forced to acknowledge Alexius as his suzerain The last years of Alexius' reign were consumed by fresh struggles with the Turks and by the intrigues of his daughter ANNA COMNENA against his son and heir, John II Alexius' reign, though at the cost of onerous taxation, restored Byzantine military and naval power and political prestige

Alexius II (Alexius Comnenus), c 1168–1183, Byzantine emperor (1180–83), son and successor of Manuel I His mother, Mary of Antioch, who was regent for him, alienated the population by favoring the Latin element in Constantinople In 1183 Alexius' cousin Andronicus, after instigating a massacre of the Latins, stormed the city, had Alexius sign the death sentence of his mother, and, as Andronicus I, became joint emperor One month later he strangled Alexius and married his widow

Alexius III (Alexius Angelus) (ăn'jūlŭs), d after 1210, Byzantine emperor (1195–1203) He acceded to power by deposing and blinding his brother Isaac II This act served as pretext for the leaders of the Fourth Crusade (see CRUSADES) to attack Constantinople (1203) The Crusaders made Isaac II and his son Alexius IV joint emperors, Alexius III having fled. In 1204 Alexius III's son-in-law was briefly emperor as Alexius V. Another son-in-law, Theodore I, became emperor of Nicaea Alexius died in obscurity

Alexius IV (Alexius Angelus), d. 1204, Byzantine emperor (1203–4), son of ISAAC II With the encouragement of his brother-in-law, Philip of Swabia, he obtained (1202) from the leaders of the Fourth Crusade (see CRUSADES) the promise of help in the deposition of his uncle, Alexius III. Made joint emperor with Isaac II after the entry of the Crusaders into Constantinople, he was overthrown for his subservience to his allies and was strangled by order of Alexius V.

Alexius V (Alexius Ducas Mourtzouphlos), (dōō'kŭs môrt'sōōflōs), d. 1204, Byzantine emperor (1204), son-in-law of Alexius III The head of the Byzantine national party, he overthrew Emperors Isaac II and Alexius IV (who had been instated by the Crusaders), thus precipitating the conquest and sack of Constantinople (1204) by the army of the Fourth Crusade (see CRUSADES). He was deposed and executed, and Baldwin I was elected by the Crusaders as Latin emperor of Constantinople.

Aleyn, Simon· see BRAY, Berkshire, England

alfalfa (ălfăl'fŭ) [from Arabic], a perennial (*Medicago sativa*), the most important legume for forage and hay in North America. It is valued for its high yield (two to six mowings a year being possible

from established meadows), its adaptability to a wide range of soils and climates, its high protein content, and its addition to the productivity of the soil It is a trefoil, related to the clovers Its flowers are usually blue or purple but some varieties have yellow flowers, and in others both yellow and blue or purple flowers occur It is not adapted to acid soils or to soils with poor drainage Alfalfa was cultivated in ancient times As lucern, a name by which it is still known, it came to the Atlantic seaboard of North America Varieties cultivated in Latin America have been brought to the W United States, where alfalfa has become the principal hay crop Young alfalfa shoots have been used as food for humans and found to have antiscorbutic properties Carotene and chlorophyll for commercial uses can be extracted from alfalfa

Al-Farabi (äl-furʹäʹbē) or **Alfarabius** (älʺfurāʹbēus), d 950, Arabian philosopher of Damascus Author of an encyclopedic work which draws largely from Aristotle, he was one of the earlier Moslem philosophers to develop a philosophical method reconciling Aristotle and Islam Neoplatonism also is clearly influential in Al-Farabi He might be said to correspond in Arabian philosophy to Robert Grosseteste in scholasticism

Alfaro, Flavio Eloy (fläʹvyō äloiʹ älfaʹrō), 1867–1912, president of Ecuador (1897–1901, 1907–11) Regarded as the greatest of Ecuador's liberal champions, he introduced material and constitutional reforms that largely undid the clericalism of GARCÍA MORENO Exiled by the opposition, he returned to lead a revolt, but was defeated and imprisoned He was dragged from prison by a frenzied mob and murdered.

Al-Fasi, Isaac ben Jacob ha-Kohen (ulfäʹsē), 1013–1103, Jewish Talmudic scholar, b near Fez, North Africa His *Halachoth*, a codification of the Talmud, is his greatest work, it contains a simplified exposition of complicated Talmudic passages He is also known for his collection of *Responsa*, a great deal of which was written in Arabic and later translated into Hebrew

Alfieri, Vittorio, Conte (vēt-tōʹrēō kōnʹtā älfyäʹrē), 1749–1803, Italian tragic poet A Piedmontese, born to wealth and social position, he spent his youth in dissipation and adventure From 1767 to 1772 he traveled over much of Europe but returned to Italy imbued with a sense of the greatness of his own country He considered himself a prophet called to revive the national spirit of Italy Determined to become a tragic dramatist, he evolved a highly individual style, vigorous and harsh The first of his tragedies, *Cleopatra*, was staged in Turin in 1775 From 1776 to 1786 he wrote 19 tragedies, among them *Saul* (written in 1782), *Antigone*, *Agamemnon*, *Orestes*, *Philip the Second* (all four 1783), *Sophonisba* (1788), and *Maria Stuart* (1804) They are distinguished by lofty tone, restraint, and verse which, if not great, is worthy of admiration They are in the style of the French classical tragedy His minor verse is chiefly notable for its energy He was also the author of comedies, of a bitter satire against France, the *Misogallo*, and of a very revealing autobiography (1804, Eng tr , 1810) The period of Alfieri's greatest literary activity coincided with the beginning of his friendship with the countess of Albany, wife of Charles Edward Stuart, the Young Pretender. The remainder of his life was spent with her, and they may have secretly married after her husband's death His complete works were posthumously edited and published (1805–15) by the countess of Albany His tragedies were translated into English by Charles Lloyd (1815) and E A Bowring (1876) For a selection from his verse, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1922) See Gaudense Megaro, *Vittorio Alfieri, Forerunner of Italian Nationalism* (1930); C D R Miller, *Alfieri* (1936)

Alfold · see HUNGARY

Alfonsine tables or **Alphonsine tables** (älfōnʹsĭn), improved planetary tables They were a revision of the Ptolemaic tables and were made at Toledo by about 50 astronomers, assembled for the purpose by Alfonso X of Castile The tables, completed c 1252, were printed in Venice in 1483

Alfonso I, d 1134, king of Aragon and of Navarre (1104–34); brother and successor of Peter I He was the husband of URRACA, queen of Castile His life was spent in continuous warfare He was obliged to abandon his efforts to extend his authority over Castile in order to fight the Moors, from whom he captured Saragossa (1118) Calatayud (1120), and many other towns His raid into Andalusia had a great moral, if not practical, effect. He was succeeded by his brother Ramiro II in Aragon (see ARAGON, HOUSE OF) and by García IV in NAVARRE

Alfonso II, 1152–96, king of Aragon (1164–96), count of Barcelona (1162–96), son and successor of Raymond Berengar IV of Barcelona and Petronella of Aragon. He inherited Provence (1166) and Roussillon (1172) and successfully defended against the counts of Toulouse the claims to the French fiefs of his house He conquered (1171) Teruel from the Moors and resettled it, and he released himself from homage to Castile, but followed a varying policy toward the Castilian king, Alfonso VIII. A patron of troubadours, he wrote Provençal verse His son, Peter II, succeeded him.

Alfonso III, 1265–91, king of Aragon and count of Barcelona (1285–91), son and successor of Peter III He was forced to grant wide privileges to the Aragonese nobles At first he supported the claim to Sicily of his brother James (later JAMES II of Aragon) against CHARLES II of Naples Later, however, he released Charles from captivity, recognized papal suzerainty over Sicily, and pressed James to abandon his claim He also made war on Castile and on his uncle, JAMES I of Majorca James II succeeded him

Alfonso IV, 1299–1336, king of Aragon and count of Barcelona (1327–36), son and successor of James II Before his accession he conquered (1323–24) SARDINIA, where later a revolt involved him in a war with Genoa He was succeeded by his son, Peter IV

Alfonso V (Alfonso the Magnanimous), 1396–1458, king of Aragon and Sicily (1416–58) and of Naples (1443–58), count of Barcelona He was the son of Ferdinand I, whom he succeeded in Aragon and Sicily In 1420 Queen JOANNA II of Naples sought his aid against LOUIS III, rival king of Naples, and adopted him as her heir They quarreled in 1423, and at her death (1435) Joanna left her throne to RENÉ of Anjou Attempting to conquer Naples, Alfonso was at first captured by the Genoese, but was released through the agency of Filippo Maria Visconti, duke of Milan In 1442 he defeated René, took Naples, and was recognized (1443) as king by Pope Eugene IV Leaving his Spanish possessions under the rule of his wife, Alfonso spent the rest of his life in Naples, where he accorded great privileges to Spanish nobles and tried to introduce Spanish institutions A great patron of arts and letters, he held a splendid court and beautified the city Alfonso became involved in Italian politics and tried to stem through diplomacy the advance of the Turks At his death he left Naples to his son Ferdinand I and the rest of his kingdom to his brother John II

Alfonso I, Port *Afonso Henriques*, 1111?–1185, first king of Portugal, son of Henry of Burgundy After his father's death (1114), his mother, Countess Theresa, ruled the county of Portugal with the help of her Spanish favorite, Fernando Péres, until in 1128 young Alfonso, allying himself with discontented nobles, took power and drove her into Leon with the still-faithful Péres (Alfonso did not, despite the popular legend, put her in chains at Guimarães) Beginning as little more than a quasi-independent guerrilla chief, Alfonso spent his life in almost ceaseless fighting against the kings of Leon and Castile and against the Moors to increase his prestige and his territories In 1139 he defeated the Moors in the battle of Ourique (fought not at Ourique, but at some undetermined place) In 1147 he took Santarém by surprise attack and in that same year, with the help of the English, Flemish, and German crusaders, captured Lisbon Styling himself king after 1139, he put (1143) his lands under papal protection, and Alfonso VII of Castile recognized the title, which was confirmed (1179) by Pope Alexander III Alfonso's son SANCHO I ascended an established throne

Alfonso II (Alfonso the Fat), 1185–1223, king of Portugal (1211–23) His reign was spent in struggles with the Church and his brothers and sisters, to whom his father, Sancho I, had left many of his estates Alfonso's measures against the Church holdings and the bishops led to his excommunication (1219) Though he was himself most unwarlike, Portuguese soldiers took part in the battle of Navas de Tolosa and pushed conquests against the Moors He was succeeded by Sancho II

Alfonso III, Port *Afonso o Bolonhez* [Alfonso of Boulogne], 1210–79, king of Portugal (1248–79), son of Alfonso II, successor of Sancho II By his marriage with Matilda, countess of Boulogne, he became count of Boulogne, but he had ambitions to gain the throne of Portugal Through intrigues, capped by an agreement reached (1245) in Paris with the archbishop of Braga and the bishop of Coimbra, he secured support for the deposition of Sancho II and entered Portugal He controlled most of the country before the death of Sancho, whom he succeeded to the throne His reign saw the completion of the reconquest of Portugal from the Moors with the taking of the rest of the Algarve (1249) This involved him in a long quarrel with Alfonso X of Castile, who had been receiving revenues from Algarve, but the two kings reached an agreement by which Alfonso III married the illegitimate daughter of Alfonso X, and Alfonso X was to relinquish all rights to the Algarve when the heir born of this union (the later King DINIZ) should reach the age of seven Since Matilda of Boulogne was still living, Alfonso's second marriage brought the Portuguese king into disfavor with the Church, but the matter was patched up after Matilda's death, and the disagreement with Castile was ended by an agreement at Badajos in 1267 Alfonso III, despite the promises he had made in Paris, undertook vigorously to recover properties that had been alienated to the Church, and his seizure of lands caused a long break with the Church, healed shortly before his death He called the Cortes of Leiria (1254), the first Portuguese Cortes to include commoners He also instituted administrative and financial reforms, encouraged the cities and commerce, and commuted many feudal dues into money payments French and Provençal culture was imported to the court, and the period was one of great intellectual and cultural activity

Alfonso IV, 1291–1357, king of Portugal (1325–57), son and successor of DINIZ Disgruntled at the favoritism his father showed toward Alfonso's illegitimate half brothers, Alfonso rose in revolt in 1320, and though peace was patched up twice by his mother, St Elisabeth (or St. Isabel) of Portugal, he was estranged from Diniz most of the five years before his father's death He was then involved in a fruitless war with Alfonso XI of Castile until 1340 The two kings immediately thereafter campaigned together against the Moors and won the notable battle of Tarifa Alfonso is, however, best remembered for countenancing the murder of his son's mistress (or wife), the most romantic figure in Portuguese history, Inés de CASTRO, in 1355 The prince (later PETER I) promptly led a rebellion, but peace between father and son was restored before Alfonso's death

Alfonso V (Alfonso the African), 1432–81, king of Portugal (1438–81), son of Duarte and Queen Leonor He was just six when his father died, and in his minority there was a struggle for the regency between the queen mother and the duke of Coimbra (Dom Pedro, uncle of Alfonso) The duke was triumphant and retained power after Alfonso was declared of age (1446) until, influenced by the machinations of the illegitimate half brother of Dom Pedro (see BRAGANÇA, family), the young king took unjust measures against Dom Pedro and brought on a civil war The king's troops killed (1449) his uncle at Alfarrobeira Alfonso undertook ventures in Morocco and by capturing Alcacer-Seguer (1458) and Tangier (1471) won the name Alfonso the African, but these campaigns were ultimately not fruitful Even less rewarding was his long attempt to win the throne of Castile after his marriage—never sanctioned by the Church—in 1475 to JUANA LA BELTRANEJA, officially the daughter and heiress of Henry IV of Castile though generally thought to be the child of Beltrán de la Cueva This claim brought Alfonso into war with ISABELLA I of Castile and her husband, FERDINAND V of Aragon Alfonso, badly beaten, capitulated in 1479 His son, the later John II, was exercising control in Portugal long before Alfonso's death

Alfonso VI (Alfonso the Victorious), 1643–83, king of Portugal (1656–67), son and successor of John IV Slightly paralyzed and mentally defective, unable to govern, he distinguished himself under the regency of his mother by associating with rowdy youths When the leader of them was sent away, he, under the direction of the count of Castelho Melhor, ousted his mother by a palace revolution in 1662 The count of Castelho Melhor then directed the government ably, and organized the army for the great repulse of the Spanish under John of Austria in 1663, thus earning for the king the ironic title Alfonso the Victorious After the marriage of Alfonso to Marie Françoise of Savoy, daughter of the duke of Nemours, in 1666, the young queen took a hand in government She and the king's younger brother (later Peter II) fell in love, and by concerted action they forced Castelho Melhor from power and had Alfonso sign away his crown to his brother, who became prince regent After obtaining a quick annulment of her marriage to Alfonso, his queen was wedded to his brother Alfonso was confined in the Azores until 1674 and after that at Sintra

Alfonso I (Alfonso the Catholic), 693?–757, Spanish king of Asturias (739–57) He was the son-in-law of PELAYO Strife among the Moors facilitated his conquests in parts of Galicia, Leon, and Santander

Alfonso II (Alfonso the Chaste), 759?–842, Spanish king of Asturias (791–842), grandson of Alfonso I He continued the struggle against the Moors and established his residence at Oviedo, which his father, Fruela I, had founded His alliance with Charlemagne and Emperor Louis I met opposition among his nobles Alfonso II built the first church on the site of SANTIAGO DE COMPOSTELA

Alfonso III (Alfonso the Great), 838?–910?, Spanish king of Asturias (866–909) The kingdom was consolidated in his reign, though after his forced abdication it was divided among his sons.

Alfonso V (Alfonso the Noble), 994?–1027, Spanish king of Asturias and Leon (999–1027) While he was still a minor, the Moors under Al-Mansur were defeated Alfonso gave Leon its *fuero* [charter] and was killed in the siege of Viseu

Alfonso VI, 1030–1109, Spanish king of Leon (1065–1109) and Castile (1072–1109). He inherited Leon from his father Ferdinand I. Defeated by his brother, SANCHO II of Castile, he fled to the court of Al-Mamun, Moorish ruler of Toledo After Sancho's assassination (1072) he succeeded to the throne of Castile and took Galicia from his

brother García (1073), thus becoming the most powerful Christian ruler in Spain He raided Moslem territory and penetrated as far as Tarifa After the conquest of strategic Toledo (1085), he took many other cities and reached the line of the Tagus Aroused by his advance, Abbad III (see ABBADIDES) and his Moslem allies called to their aid the Almoravide YUSUF IBN TASHUFIN, who defeated Alfonso in 1086 and again in 1108, when Alfonso's only son was killed in battle Alfonso's reign gave a tremendous impulse to the reconquest of Spain and was also notable for the exploits of the Cid His court at Toledo became the center of cultural relations between Moslem and Christian Spain, while French influence also grew strong through his many French followers At this time the Cluniac reform was introduced into Spain Alfonso was succeeded by his daughter URRACA

Alfonso VII (Alfonso the Emperor), 1104–57, Spanish king of Castile and Leon (1126–57), son and successor of URRACA He recovered the places in Castile which his stepfather, Alfonso I of Aragon, had occupied and soon gained supremacy over the other Christian states in Spain In 1135 he had himself crowned emperor in Leon His many victories over the Moors had no permanent results, the most famous was the conquest of Almería (1147) Alfonso left Castile to Sancho III and Leon to Ferdinand II

Alfonso VIII (Alfonso the Noble), 1155–1214, Spanish king of Castile (1158–1214), son and successor of Sancho III Chaos prevailed during his minority, but he quickly restored order after assuming the government He married Eleanor, daughter of Henry II of England, and their daughter, Blanche of Castile, married Louis VIII of France Alfonso incorporated the provinces of Álava and Guipúzcoa into Castile and took Cuenca (1177) Attacked simultaneously by a coalition of Navarre, Aragon, and Leon and by the Moors, he was defeated by the Moors at Alarcos (1195) He later made peace with his former Christian enemies and led them to the great victory over the Almohades at Navas de Tolosa (1212) At Palencia he founded the first university in Spain (1212 or 1214) He was succeeded by his son, Henry I (1214–17), who was succeeded by his nephew, Ferdinand III

Alfonso IX, 1171–1230, Spanish king of Leon (1188–1230), son and successor of Ferdinand II He conquered from the Moors several cities in Estremadura and was frequently at war with Alfonso VIII of Castile His marriages with Theresa of Portugal and Berenguela of Castile were both annulled by the pope as being within the forbidden degree He defeated (1230) the Moors at Mérida His son by Berenguela, Ferdinand III, reunited Leon and Castile (1230)

Alfonso X (Alfonso the Wise), 1221–84, Spanish king of Castile and Leon (1252–84), son and successor of Ferdinand III, whose conquests from the Moors he continued, notably by taking Cádiz (1262) His mother, Beatriz, was a daughter of Emperor Philip of Swabia and a granddaughter of Isaac II, the Byzantine emperor On the death (1250) of Conrad IV and of William, count of Holland, Alfonso was elected by a faction of German princes as antiking to Richard, earl of Cornwall, and (after 1272) to Rudolf of Hapsburg He did not go to Germany, however, and in 1275 renounced his claim In his domestic policy he showed weakness toward the nobles He debased the coinage, thus adding to the general discontent After the death (1275) of his eldest son, Ferdinand, in fighting against the Moors in Andalusia, civil war for the succession broke out between Ferdinand's children and Alfonso's second son, who eventually succeeded him as Sancho IV Sancho's partisans in the cortes at Valladolid even declared Alfonso deposed (1282) The king died while the dynastic dispute was still unsettled. Though unfortunate in politics, Alfonso did much to stimulate the cultural life of his time Under his patronage the schools of Seville, Murcia, and Salamanca were furthered, and Moslem and Jewish culture flowed into Western Europe He was largely responsible for the *Las Siete partidas*, a compilation of the legal knowledge of his time, for the ALFONSINE TABLES in astronomy, and for other scientific and historical works A collection of poems for music, *Songs to the Virgin*, in Galician, is attributed to him

Alfonso XI, 1311–50, Spanish king of Castile and Leon (1312–50), son and successor of Ferdinand IV His vigorous campaign against Granada led to an invasion by the Moors from Morocco, they took Gibraltar in 1333 In 1340, having formed alliances with Portugal, Navarre, and Aragon, Alfonso won the great victory of Tarifa (also called the battle of the Salado), in 1344, aided by many foreign soldiers, of whom Chaucer's Knight is a type, he took Algeciras He died while besieging Gibraltar Alfonso was succeeded by his son Peter I (Peter the Cruel) By the *Ordenamiento de Alcalá* issued at Alcalá de Henares in 1348, he enforced the *Siete partidas* of Alfonso X

Alfonso XII, 1857–85, king of Spain (1870–85), son of ISABELLA II He went into exile with his parents at the time of the revolt of the CARLISTS in 1868 and was educated in Austria and England In 1870 his mother abdicated in his favor, and in 1874 he was proclaimed king He entered Madrid in triumph early in 1875 and soon won great popularity. Supported by MARTÍNEZ DE CAMPOS and CÁNOVAS DEL CASTILLO, he consolidated the monarchy, suppressed republican agitation, and restored order His wife MARIA CHRISTINA (1858–1929) was regent during the minority of his posthumous son Alfonso XIII

Alfonso XIII, 1886–1941, king of Spain (1886–1931), posthumous son and successor of Alfonso XII His mother MARIA CHRISTINA (1858–1929) was regent until 1902 In 1906 Alfonso married Princess Victoria of Battenberg In spite of his personal popularity, the monarchy was threatened by social unrest in the newly industrialized areas, by Catalan agitation for autonomy, by dissatisfaction with the Moroccan situation, and by the rise of socialism and republicanism After keeping Spain out of the First World War, Alfonso, dissatisfied with the functioning of parliamentary government, supported (1923) PRIMO DE RIVERA in establishing a military dictatorship At the fall (1930) of Primo de Rivera, popular discontent was running high After the municipal elections of 1931 showed an overwhelming republican majority, Alfonso "suspended the exercise of royal power" and went into exile (April 14, 1931) A few weeks before his death in Rome he renounced his claim to the throne in favor of his third son, Juan (see BOURBON, family)

Alford, Henry (ôl'furd), 1810–71, English clergyman and scholar, dean of Canterbury He is best known for several hymns (e g *Ten Thousand Times Ten Thousand* and *Come, Ye Thankful People, Come*) and for his critical edition of the New Testament in Greek (4 vols , 1849–61) He was the first editor (1866–70) of the *Contemporary Review*

Alfred [Old Eng Ælfred], 849–899?, king of WESSEX (871–899?), one of the most heroic and best-loved figures of English history, b Wantage, Berkshire He is sometimes called Alfred the Great Youngest of the four sons of King ÆTHELWULF, he was sent in 853 and again in 855 to Rome, where the pope invested him with the honorary dignity of a Roman consul Although he lacked adequate instruction and learned to read English only after he was 12, these trips stimulated his desire for learning His adolescence was marked by ill-health and deep religious devotion, both of which persisted for the rest of his life Few facts are known of him during the end of his father's reign and those of his older brothers, ÆTHELBALD and ÆTHELBERT, but when ÆTHELRED took the throne (866?), Alfred became *secundarius* (viceroy?) and aided his brother in subsequent battles against the Danes, who now threatened to overrun all England When the Danes turned from the east and north regions late in 870 to Wessex, Æthelred and Alfred resisted with varying fortunes in the victory at Ashdown, Berkshire, the defeat at Basing, and several indecisive engagements Upon his brother's death after Easter in 871, Alfred became king of the West Saxons and overking of Kent (with Surrey, Sussex, and Essex) Faced by a persistent enemy too powerful to defeat decisively, Alfred cleared the Danes from Wessex by a heavy payment (see DANEGELD) in 871 In 876 and 877 the Danes returned to ravage for several months and finally, halted by Alfred's army, swore to leave Wessex forever In a surprise invasion early in 878 the Danes, however, crushed Alfred's forces, and he fled to Athelney in the fens of Somerset, from which he continued to wage guerrilla war The famous legend of Alfred and the cakes, in which he appears as an unrecognized king, exposed to the scolding of a peasant woman, probably reflects this period of his life The West Saxons rallied, however After the men of Devon had won a victory at Cynwit (Countisbury?), Alfred gathered an army to win a complete victory at Ethandun (Edington) He then dictated the Peace of Chippenham or Wedmore by which Guthrum, the Danish leader, accepted baptism and probably agreed to separate England into English and Danish "spheres of influence" The Danes moved into E Anglia and E Mercia, and Alfred established his overlordship in W Mercia In later campaigns scantily recorded, Alfred captured London and again defeated the Danes (885–86) Another treaty with Guthrum in 886 marked off the DANELAW E and N of the Thames, the Lea, the Ouse, and Watling Street, leaving the south and west of England to Alfred, established the relative indemnities of Englishmen and Danes in law, and attempted to prevent border raids The years of security which followed gave Alfred the opportunity for numerous reforms Against further probable attacks by the Danes, he reorganized the militia or *fyrd* about numerous garrisoned forts throughout Wessex and commanded the construction of a fleet Drawing from the old codes of ÆTHELBERT of Kent, INE of Wessex, and Offa of Mercia, he issued his own code of laws, marked at once by Christian doctrine and measures for a strong, centralized monarchy He reformed the administration of justice and energetically participated in it. He came eventually to be considered the overking of all England although this title was not realized in concrete political administration His greatest achievements, perhaps, were the revival of learning and the establishment of Old English literary prose His conviction of the necessity for education caused him to gather together a group of scholars, including the Welsh Asser, the Mercians Werferth and Plegmund, the Frank Grimbald, and John the Old Saxon These strengthened the Church by reviving learning among the clergy and organized a court school like that of Charlemagne, in which not only youths and clerics but also many nobles were taught Alfred himself between 887 and 892 learned Latin in order to make the best Latin works available in English translations—Gregory the Great's *Pastoral Care*, Bede's *Ecclesiastical History*, Orosius's universal history, Boethius's *Consolation of Philosophy*, and St Augustine's *Soliloquies* The adaptation of Boethius is most remarkable for the liberal interpolation of his own figures and thoughts The Orosius is interesting for the addition of accounts of voyages made by OHTHERE and WULFSTAN, in the North Sea and the Baltic Although he did not write it, Alfred influenced the extant form of the ANGLO-SAXON CHRONICLE All these pursuits were interrupted, but not ended, by new Danish invasions between 892 and 896 The struggle was severe because Alfred's military reforms had not been completely executed and because the already strong invading forces were joined by settlers from the Danelaw He received excellent support from his son EDWARD THE ELDER, his daughter ÆTHELFLÆD, and her husband Æthelred of Mercia In the critical year of 893 the great Danish fort at Benfleet was successfully stormed One Danish expedition attempting conquest by way of the Thames and Severn was defeated at Buttington, another occupying Chester was besieged and forced back to Essex In 896 the Danes slowly dispersed to the Danelaw or overseas, and Alfred's new long ships fought with varying success against pirate raids on the south coast Alfred's career was later embroidered by many heroic legends, but history alone can justify the inscription on the statue at his birthplace "Alfred found learning dead, and he restored it, the laws powerless, and he gave them force the Church debased, and he raised it, the land ravaged by a fearful enemy, from which he delivered it Alfred's name shall live as long as mankind shall respect the past." Our knowledge of Alfred's life depends upon the biography by Asser, the *Anglo-Saxon Chronicle*, the royal charters, and Alfred's own writings See the various editions of Alfred's works, Bishop Asser, *Life of King Alfred* (tr by A S Cook, 1906), Charles Plummer, *The Life and Times of Alfred the Great* (1902), R H Hodgkin, *A History of the Anglo-Saxons*, Vol II (1935)

Alfred, town (pop 1,039), co seat of York co , SW Maine, W of Biddeford, settled 1764, inc 1794 A Shaker settlement was here from c 1793 to 1925

Alfred University, at Alfred, N Y , SW of Hornell, nonsectarian, with state and private support, coeducational, opened as a school 1836, chartered 1857 as Alfred University It is especially known for the state college of ceramics, chiefly developed by Charles F BINNS

Alfreton (ôl'frətun), industrial urban district (1931 pop 21,234, 1943 estimated pop 22,000), Derbyshire, England, N of Derby

Alfsborg, county, Sweden see ÄLVSBORG

algae (ăl'jē) [plural of Latin *alga*=seaweed], group of plants belonging to the most primitive phylum of the plant kingdom, the thallophytes, plants which lack true roots, stems, leaves, and flowers Unlike the fungi, the other large group of thallophytes, the algae have chlorophyll They are of world-wide distribution and form the chief aquatic plant life both in the sea and in fresh water Practically all seaweeds are algae The simplest algae are single cells, the more complex forms consist of many cells grouped in a spherical colony (e g , *Volvox*), in a ribbonlike filament (e g , *Spirogyra*), or in a branching thallus form (e g , *Fucus*) The cells of the colonies are generally similar, but some are differentiated for reproduction and for other functions Many algae are microscopic, though the marine thallod forms (e g , KELP) may attain a length of more than 100 ft Some of the primitive forms are free swimming, a few of these (e g , *Euglena*) are regarded by zoologists as animals and by botanists as plants (see ANIMAL) The four chief algal groups are, in order of complexity, blue-green algae and green algae, which include most of the fresh-water forms, and brown algae and red algae, chiefly salt-water forms Algae are an important source of food for fish Pond scum or frog spit, a green slime found in stagnant water, is an alga, as is the green film found on the bark of trees. Marine algae include IRISH MOSS and GULFWEED See also DIATOM and SEAWEED See L H Tiffany, *Algae, the Grass of Many Waters* (1938), J E. Tilden, *The Algae and Their Life Relations* (1935).

Algardi, Alessandro (älgĕs-sän'drō algär'dē), 1602–54, Italian architect, sculptor, and designer, b. Bologna, studied under Lodovico Carracci In Rome he achieved his first great work, the statue *St Magdalene*, for the Church of San Silvestro. He

erected the VILLA DORIA PAMPHILI and built the altar of St Niccolò Tolentino and the façade of the Church of San Ignazio In collaboration with Borromini he decorated St Peter's Church His best sculpture is a bas-relief over the altar of St Leo in this church, representing *Attila's Retreat from Rome* He made a *Pietà*, a crucifix, and other statues in ivory There are a few prints, in the style of Agostino Carracci, attributed to him

Algarotti, Francesco, Conte (frănchās'kō kŏn'tā ălgärŏt'tē), 1712–64, Italian writer and scientist He was an intimate friend of Frederick the Great, at whose court he lived for several years and who erected a memorial to him He wrote on many subjects—travel, science, music, and literature His works translated into English include *Sir Isaac Newton's Philosophy Explained for the Use of the Ladies* (1737, Eng tr, 1939), *An Essay on Opera* (1755, Eng tr, 1767), and his letters (Eng tr, 1769) He was a pioneer Italian essayist

Algarve (ălgär'vu), province (1,958 sq mi, pop 317,628), S Portugal, coextensive with Faro dist The capital is Faro Algarve is the most southerly of the provinces (see PORTUGAL)

Al-Gazel (ăl-guzĕl'), or **Ghazali** (gnz'lē), 1058–1111, Arabian philosopher, native of Khurasan He was a professor at Baghdad for some years, but abandoned his career and became a mystical ascetic His principal works, *The Destruction of the Philosophers* and *The Restoration of the Sciences of Religion*, show a profound distrust of speculation and philosophic method in approaching the mysteries of religion He was one of the most mighty opponents of Moslem rationalism, and his teaching undoubtedly was influential in causing the suppression of rationalism in Baghdad in the 13th cent

algebra [Medieval Latin, from Arabic,=reunion of parts], branch of mathematics in which the operations of arithmetic are generalized In elementary algebra this generalization is achieved by the use of letters to represent numbers A term is the product of several numbers and letters, such as $6xy^3$ It represents a number whose value depends on the values of the unknowns, the letters x and y The number 6 in this term is a coefficient and the number 3 written above and to the right of the y is an exponent The sum or difference of two or more terms is named according to the number of terms in the final expression, e g, binomial and trinomial Rules are formulated for the addition, subtraction, multiplication, and division of such expressions and for the simplification of the resulting expressions This simplification may involve such operations as factoring, combining like terms, canceling, and removing parentheses (symbols of grouping) With these techniques many equations can be solved Algebra is used in most branches of mathematics (e g, geometry, trigonometry, and calculus) and in the applications of mathematics (e g, physics and statistics) In most of these applications algebra is needed in order to solve an equation expressing a relationship between the unknown quantity and various known quantities Historically it is hard to distinguish the emergence of algebra from arithmetic Some of the problems solved by the early Egyptians (as shown in the Ahmes papyrus written c 1650 B C), by the Babylonians, and by the Greeks (especially by Diophantus) seem to require algebra, but these ancients apparently had no such body of generalized theory and probably solved their problems by special methods Some aspects of generality appear in the work of the Hindu mathematicians (e g, in that of Aryabhatta, Brahmagupta, and Bhascara) Generality was lost again in the work of the Arabians, whose great contribution to mathematics was to preserve and pass on the Hindu notation for numbers, the decimal system In the 13th cent this way of writing numbers was introduced into Europe by Leonardo of Pisa A hundred years later the work of François Viète showed that generality (i e, true algebra as distinguished from arithmetic) was again appearing Modern abstract algebra is a further generalization in which not only the numbers but also the operations are generalized It has been developed by Karl F GAUSS, William R HAMILTON, Evariste GALOIS, Max Noether, and others See W L Hart, *Introduction to College Algebra* (1937), E T Bell, *The Development of Mathematics* (1940)

Algeciras (ălhŭsĕr'ŭs, Span alhāthē'ras), city (pop 20,226), Cádiz prov, S Spain, in Andalusia, a Mediterranean seaport on the Bay of Algeciras opposite Gibraltar It was taken from the Moors in 1344. In the naval engagements of July, 1801, near Algeciras, the British defeated the French and Spanish fleets The city suffered in the Spanish civil war of 1936–39.

Algeciras Conference: see MOROCCO

Alger, Horatio (ăl'jur), 1834–99, American writer of boys' stories, b Revere, Mass Trained for the ministry, he left his charge (1866) and went to New York Living there for 30 years, he spent much of his time at the Newsboys' Lodging House He wrote over 100 books for boys, the first, *Ragged Dick*, being published in 1867 By leading exemplary lives, struggling valiantly against poverty and other odds, all Alger's heroes win wealth and honor. His works were amazingly popular and left a strong mark upon the character of a generation of American youth Alger gave away, chiefly to street boys he befriended, most of his large income and died poor See H R Mayes, *Alger a Biography without a Hero* (1928)

Alger, Russell Alexander, 1836–1907, U S Secretary of War (1897–99), b near Medina, Ohio After moving to Michigan he engaged in the lumber business, in which he later made a fortune In the Civil War he rose from the ranks to be a brevet major general He was governor of Michigan (1885–86) and was prominent in national affairs of the Republican party He was made Secretary of War by President McKinley, but the inefficiency of his department—in bad condition when he took charge—and his appointment of William R SHAFTER were bitterly criticized, and he resigned He was later (1902–7) Senator from Michigan

Algeria (ăljēr'ĭu), Fr *Algérie* (alzhārē'), French government general (847,552 sq mi, pop 7,234,684), N Africa ALGIERS is the capital, other important ports are ORAN, BÔNE, and PHILIPPEVILLE, and the chief inland city is CONSTANTINE Algeria fronts on the Mediterranean in the north, with c 650 mi of coast between Tunisia and Libya on the east and Morocco on the west In the south it has a desert frontier with French West Africa in the Sahara The northern coastal strip is narrow and broken, with poor natural harbors From it the mountains of the Tell Atlas (or Maritime Atlas) rise abruptly Beyond is the fertile, well-populated band of hilly country that has for more than 3,000 years been producing cereals for foreign lands under foreign exploitation Its plains and valleys run east and west and have since immemorial times been part of the best land route of communication across N Africa Between the blooming Tell and the fastnesses of the Saharan Atlas there are semiarid plateaus, which are suitable for grazing and for cultivation of alfa (esparto), they are dotted with salt marshes and shallow salt lakes called shotts Beyond lies the great harshness of the Sahara itself, interrupted only by a few date-bearing oases, such as those of Touggourt, Tuat, and Biskra In the southeast is the Hoggar, a center of the nomadic Tuareg culture The remote Tuareg represent only one of the many variations in the native peoples usually called Berbers The tribesmen in early days had little or no unity, and indeed Algeria has no natural boundaries and was not a political entity until after the French occupation Native groups were contending for regional power over parts of the land before the Romans knew the coastal and subsidiary area Carthaginian power had extended over the present Algerian coast The richness of the Tell attracted the Roman conquerors to take part in the wars of NUMIDIA and MAURETANIA, and after 146 B C, Rome gradually took control of the hills and some of the plateau country beyond Grain ships went from the little ports with precious food for Rome, and the cities came to be Latinized In the Christian days of the empire, coastal N Africa was an integral part of the great whole, and St Augustine was bishop at Hippo (now Bône) This civilization was worn away not only by the incursions of the barbarians but also by revolts and dissensions in the Roman colonies themselves The drastic conquests of the Vandals in 430–31 only marked the culmination of a long process Though the Byzantines regained part of old Roman Africa in 534, their hold was insecure and Roman culture did not revive The next conquerors had a far more profound effect, for when the Arabs arrived in the 7th cent they brought with them Islam, and gradually all of the peoples of present Algeria took over the religion Many of the Berbers adopted the Arabic language, and Arabs were mingled with the older population, except in such remote areas as the Hoggar and Kabylia (the region of the Kabyles in the northeast) Little dynasties rose and fell with their capitals at Tiaret, Bougie, and Tlemcen, and sometimes the region or part of it was molded into a greater whole, usually with religious as well as political power The ALMORAVIDES and the ALMOHADES, for instance, united much of the present Algeria with Morocco and Spain in a great Moorish empire The local control was, however, lax, and local potentates were always able to establish themselves, even if nominal power resided in a larger unit In 1518 Algiers was seized and brought under Turkish rule (see BARBAROSSA), but the Turkish power never extended much beyond the Tell, and its strength was concentrated on the coast, which became a stronghold for pirates preying on the Mediterranean commerce (see BARBARY STATES) A number of punitive expeditions were sent against the city of Algiers, but to little effect The ruler in the city, the dey, became virtually independent of Turkish rule altogether at the beginning of the 18th cent, and he maintained himself as ruler of much of present Algeria partly from the proceeds of piracy, he therefore defied foreigners The so-called Algerine War in the second decade of the 19th cent did have the effect of forcing a halt in holding European and American captives for ransom The dey, however, maintained his hostile attitude toward foreigners until he was engulfed in the imperial ventures of the French France took Algeria in 1830, conquered (1830–47) the northern belt against opposition led by ABD-EL-KADIR, and took upland Kabylia after 1850 The Sahara region in the south was not brought under effective control until the period 1900–1909 France undertook to develop the resources of the land Modern ports were built at Algiers, Oran, Bône, and Philippeville, a railroad with branch lines was constructed through the Tell, and a road system was stretched out through the Sahara Irrigation increased cultivable areas, and new products became important, notably wine and tobacco Mineral resources, such as the phosphates near Tébessa, have been exploited Education and health services have been begun and expanded Many colonists came to the northern area, though only a little more than 10 percent of the population is of European descent The government of Algeria was reorganized in 1946, with supplementary legislation in 1947, opening all civil and military posts to Moslems A governor general is appointed by France The three northern departments (Oran, Algiers, and Constantine) elect their own legislative assembly (first elections 1948) The four southern departments (Aïn-Sefra, Ghardaïa, Touggourt, and the Saharan Oases) are organized as the Southern Territory The Fezzan and Ghadames, formerly part of Libya, were after the Second World War provisionally attached to Algeria Algeria played a part in the Second World War, notably in the attack of British vessels on the French vessels at Oran in 1940 and after the Allied landing for the conquest of North Africa in 1942 Algiers became the Allied headquarters and was also the seat of Charles de Gaulle's provisional French government The war also had the effect of fanning the desire of the Moslem natives for independence—the major problem of France in Algeria See Stéphane Gsell, Georges Marçais, and Georges Yver, *Histoire d'Algérie* (1929), A Berque, *L'Algérie, terre de l'art et d'histoire* (1937), *L'Encyclopédie coloniale et maritime Algérie et Sahara* (1946)

Algerine War. see BARBARY STATES, DECATUR, STEPHEN, TRIPOLITAN WAR

Algiers (ăljērz') Fr *Alger* (alzhā'), city (1936 pop 264,232, city area 1947 estimated pop 473,261), N Algeria, capital of Algeria and a chief port of N Africa Founded (late 10th cent) by the Berbers on the site of the Roman Icosium, it became important after Turkish rule was established (1518) by BARBAROSSA, and a great mole was built to protect the port Algiers was a base for the Barbary pirates (see BARBARY STATES) who preyed on Mediterranean commerce, and the city was visited with many European punitive expeditions, notably by a Spanish expedition (1509) and later one led by Emperor Charles V (1541), by Abraham Duquesne's French fleet (1682–83), by Stephen Decatur's force (1815), and by the Anglo-Dutch fleet under Lord Exmouth (1816) The ruling official in the city, called the dey of Algiers, had virtually sovereign power in the 18th and 19th cent He lost it when the French conquest of Algeria opened (1830) with the capture of Algiers Under French rule a modern city was built along the harbor Above it the older part with its narrow, crowded streets rises steeply up a height that is surmounted by the 16th-century Casbah [fortress], the whole of the old quarter is by extension called the Casbah Algiers has become a tourist center The leading university of French Africa, a Moslem university, an observatory, and celebrated botanical gardens are here In the Second World War, Allied forces, bent on the conquest of North Africa, took the city on Nov 8, 1942 It became the headquarters of the Allied forces and of Charles de Gaulle's provisional French government

Algoa Bay (ălgō'ă), arm of the Indian Ocean, cutting into SE Cape Prov, Union of South Africa Discovered by the Portuguese in the late 15th cent, it was used as an anchorage Port Elizabeth is on the shore of the bay

Algoma (ălgō'mu), city (pop 2,652), NE Wis, on Lake Michigan S of Sturgeon Bay, inc 1879 A county normal school is near by

Algona (ălgō'nu), city (pop 4,954), co seat of Kossuth co, N Iowa, on the Des Moines river and N of Fort Dodge, in a farm area, settled 1854, inc 1872

Algonac (ăl'gŭnăk), resort village (pop 1,931), S Mich, on the St Clair and NE of Detroit, inc 1867 It has long been a shipbuilding center and makes speedboats and gas engines Algonac State Park is near by

Algonquian (ălgŏng'kwōăn, -kēun), linguistic family of North America It was one of the most widespread of Indian linguistic stocks, in historical times tribes speaking the languages extended from New Brunswick to the Continental Divide Edward Sapir's suggestion of a great Algonquian-Wakashan (or Algonquian-Mosan) family has not been proved this would tie together Algonquian, Kootenai, Salishan, Chemakuan, and Ritwan (Yurok and Wiyot) languages The culture of the various peoples of the Algonquian family varied with their location Generalizations about them are usually based on the tribes of the Atlantic seaboard and Canada who have been longest known to the whites Some of the peoples of the Algonquian fam-

ily may be listed as Algonquin (from whom the name Algonquian is taken), Abnaki, Montagnais, Massachuset, Mahican, Micmac, Narragansett, Pennacook, Penobscot, Wampanoag, Wappinger, Delaware, Chickahominy, Powhatan, Shawnee, Potawatami, Menominee, Cree, Ojibwa, Ottawa, Arapaho, Blackfoot, and Cheyenne (see also LANGUAGE, table) The name also appears as Algonkian.

Algonquin Indians (ălgŏng'kwĭn, -kĭn), North American Indian tribe The name of the ALGONQUIAN linguistic stock (to which they belong) is derived from their name A small tribe of Canada, they were among the first Indians with whom the French formed alliances, and their name was used to designate other tribes in the area Despite French aid, they were dispersed in the 17th cent by the Iroquois, and the remnants of the tribe chiefly found refuge near white settlements in Quebec and Ontario They mingled with whites and other Indian groups, so that little remains that might be designated as of Algonquin culture The name is also spelled Algonkin

Algonquin Provincial Park, 2,741 sq mi , S Ont , set aside in 1893 as a game preserve and public recreation area It is on the watershed between the Ottawa river and Georgian Bay and is a region of fine forests, innumerable lakes, and many clear streams

algum · see ALMUG

Alhambra (ălhăm'brŭ), city (1940 pop 38,935, 1946 special census pop 44,013), in San Gabriel township, S Calif , NE of Los Angeles, founded 1881, inc 1903 A residential and industrial city, with an airport, it produces aircraft, oil-refinery machinery, and a large variety of other manufactures

Alhambra [Arabic, =the red], extensive group of buildings on a hill overlooking Granada, Spain Built chiefly between 1248 and 1354, they formed a citadel of the Moorish kings once in control of the country After the expulsion of the Moors in 1492, the structures suffered mutilations, but were extensively restored after 1828 The Alhambra is a true expression of the once flourishing Moorish civilisation and is the finest example of its architecture in Spain It comprises citadel remains, the palace of the kings, and the quarters once used by officials and nobles The halls and chambers surround a series of open courts, which include the Court of Lions containing arcades resting on 124 white marble columns The building has magnificent examples of the so-called honeycomb and stalactite vaulting, its walls and ceilings are decorated with geometric ornament of great minuteness and intricacy, executed in marble, alabaster, glazed tile, and carved plaster See also ALCAZAR See Washington Irving, *Legends of the Alhambra* (1832)

Ali (ä'lē, ălē'), 602?–661, fourth caliph (656–61) He was the son of Abu Talib, Mohammed's uncle, but was more closely related to the Prophet as the husband of FATIMA. One of the Prophet's most faithful followers, he was expected to become caliph on Mohammed's death, but Abu Bakr was chosen Ali succeeded only on Othman's death He was strongly opposed by AYESHA, who fomented a revolt. This Ali put down, but he was never able to suppress MUAWIYA. Ali was murdered at Kufa by fanatics (the Kharijites), and his son HASAN abdicated in favor of Muawiya The division in Islam between SUNNITES and SHIITES comes from the time of Ali He and his son Husein are the great saints of the Shiites

Aliah (älī'ŭ) see ALVAH.

Alian (älī'un) see ALVAN

Alibamu Indians (ălĭbă'mōō), North American Indian tribe of the Natchez-Muskogean linguistic stock They lived in S Alabama in the early 19th cent and were members of the Creek confederacy Alabama takes its name from them

Ali Bey: see BADIA Y LEBLICH, DOMINGO

Alicante (älēkan'tā), city (pop 83,140), capital of Alicante prov , SE Spain, in Valencia An excellent Mediterranean port, it ships wine, oil, cereals, and fruit from the fertile surrounding region After its reconquest (c 1250) from the Moors, the city was contested between Castile and Aragon until it went to Aragon in 1309 In the civil war of 1936–39 air raids by Insurgent planes caused damage and casualties (1938)

Alice, city (1940 pop 7,792, 1947 estimated pop 12,000), co seat of Jim Wells co , S Texas, W of Corpus Christi, inc 1910 Long a cow town at a railroad junction, Alice still ships many cattle and also gets wealth from oil fields

Alice Springs, town (pop 2,078), Northern Territory, Australia, 88E of Darwin, in a pastoral area nearly in the center of the continent and at the terminus of the Central Australian RR Formerly called Stuart, it was the capital of Central Australia (1926–31), a former subdivision of the Northern Territory There is opal mining

Aliceville, town (pop 1,475), W Ala , WSW of Tuscaloosa and near the Tombigbee, in a farm area It has a textile mill

alien, person not belonging to the sociological or political group with which he is in physical association. The attitude of the group toward aliens is a matter of custom, usage, and law. All modern governments have laws covering the rights and privileges of aliens, and there is a large body of international law on the subject. A state has the right to exclude undesirable aliens, and most states, including the United States, forbid the admission of criminals, paupers, and the diseased. A state may exclude completely certain groups and nationalities, but such discrimination is likely to cause unfriendly feelings From the right to exclude aliens proceeds the right to establish the conditions upon which they will be admitted and to make special laws concerning them An alien, while he resides in a country, is subject to the laws of that country and not to those of his own country, except in the case of EXTERRITORIALITY jurisdiction. A state distinguishes between aliens who are merely traveling or living there temporarily and those who have come to stay or to earn their livelihood, and wider powers are assumed over the second class Such aliens are subject to taxation and often may be drafted to serve in the national defense An alien, though he be under the laws of the country in which he resides, still owes ALLEGIANCE to his own country and as a citizen may call upon it to intercede if he feels that the country in which he lives has failed properly to protect his person or property The home state usually points out or protests injustice, but it may threaten reprisals Such situations have frequently caused international dispute, and there is controversy as to how far a nation is justified in interfering in behalf of its nationals abroad On the other hand, an alien may find ASYLUM in the country to which he has fled unless treaties of EXTRADITION provide for the DEPORTATION of such refugees A state also has the right to expel an alien who was once admitted As population in a state increases and the competition for livelihood becomes more intense, hospitality towards the alien tends to change to hostility This process was seen in the United States in more restrictive IMMIGRATION laws and more stringent deportation laws In time of war the laws governing aliens are stricter, and special restrictions usually govern enemy aliens Treaties between most of the important governments of the world provide that in case of war a reasonable period should be given enemy citizens in either country to withdraw under supervision After this time the remaining enemy aliens may be expelled or may be permitted to remain under whatever conditions the government chooses to impose Thus, in the Second World War enemy aliens in the United States were required to register, were excluded from certain areas, and in some cases were confined to camps See E M Borchard, *The Diplomatic Protection of Citizens Abroad* (rev ed , 1927), W C Van Vleck, *Administrative Control of Aliens* (1932), Milton Konvitz, *The Alien and the Asiatic in American Law* (1946)

Alien and Sedition Acts, 1798, passed by the U S Congress when warfare with France threatened (see XYZ AFFAIR) The Federalists in power, fearing the ideas of the French Revolution and denouncing the French sympathies of the followers of Thomas Jefferson, adopted the acts, which were a naturalization act requiring 14-year rather than 5-year residence as a prerequisite to citizenship, two alien acts empowering the President to expel "dangerous" aliens and to imprison any who resisted expulsion, and a sedition act directed against those who should "unlawfully combine or conspire" against the administration or should write or speak "with intent to defame" the government, the Congress, or the President President John Adams opposed the alien laws and made no use of them Many were, however, indicted under the sedition act, and 10 persons (including Thomas COOPER) were tried and convicted The acts provoked the KENTUCKY AND VIRGINIA RESOLUTIONS

Aligarh (älēgŭr'), town (pop 112,655), W central United Provs , India There are ancient Buddhist remains and numerous Moslem buildings Aligarh Moslem Univ (opened 1875) attracts students from all the East Aligarh has trade in grain and cotton and processes cotton The native name is Kol

alimentary canal, the digestive passage which extends from the MOUTH to the anal orifice and includes the pharynx, esophagus, STOMACH, INTESTINE, and rectum The entire tract is about 30 ft in length, its wall comprising peritoneal and muscular coats and a mucous-membrane lining which contains glands This gastrointestinal tract together with associated organs (LIVER and PANCREAS) performs the functions of DIGESTION and absorption of food By muscular contractions (peristalsis) unused material reaches the anus

alimony, in law, allowance for support which by order of a court a husband pays to his wife who is not living with him Temporary alimony is allowed pending the outcome of a suit for DIVORCE, for SEPARATION, or for a decree of NULLITY OF MARRIAGE, whether the wife be plaintiff or defendant Permanent alimony is the allowance to the wife after the action has been tried and the decree rendered Laws concerning the award of alimony vary greatly in the states of the United States Usually it is not allowed in annulments It is allowed after separation by judicial decree, but in some states only if the wife is not the guilty party and in others at the discretion of the court. Alimony originally was not granted after a divorce, but the contrary practice is now general in the United States Alimony ceases on the death of the husband, because it is not payable out of his estate unless there are arrears Although remarriage does not necessarily terminate alimony, the amount may be reduced or cut off at the court's discretion if the second husband is able to support the wife In all cases the amount of, and the continuing need for, alimony are questions which can always be reopened in a court having jurisdiction over the parties. The rule that the husband cannot obtain alimony from the wife has been changed in a few states but for the most part holds, since the wife generally has no duty to support the husband. A decree awarding alimony is a court order issued to the husband personally, and failure to pay constitutes CONTEMPT OF COURT

Ali Pasha (ä'lē päshä'), 1741?–1822, Turkish military governor, the pasha of Yannina (now Ioannina), called the Lion [Turkish *Arslan*] of Yannina His father, governor at Tepelene in S Albania, was murdered, and Ali went to live with the mountaineer brigands who infested the country He soon rose to leadership among them, came to the attention of the Turkish government, and as its agent reduced the rebellion of a governor at Scutari in Albania About 1787 he became governor of Yannina, where his power grew until he ruled as a quasi-independent despot over most of Albania and Epirus He made war on the French along the Adriatic coast and entered on an alliance (1814) with Great Britain By 1820 it became apparent that he intended to create a Mediterranean state for himself, and the Porte, which until then had looked the other way, ordered him deposed Ali refused to comply, thus keeping Turkish troops engaged against him while they were needed against the Greeks, who had begun their fight for independence. Ali was assassinated by an agent of the Porte, his head was publicly exposed at Constantinople The rugged court of Ali at Yannina was described by several French and English visitors, notably by Byron in *Childe Harold*

Aliquippa (ălĭkwĭp'ŭ), borough (pop 27,023), Beaver co , W Pa , on the Ohio river, in an industrial region NW of Pittsburgh Aliquippa grew after the expansion of steel mills in 1909 A large Jones & Laughlin Steel Corp. plant is here

alizarin (ălĭz'urĭn) [from Arabic, =juice], mordant dye It is a compound of carbon, hydrogen, and oxygen occurring in the root of the MADDER plant, which was the only source of the dye until its synthesis (patented 1869) was accomplished It is produced commercially from anthracene In the pure state it exists in the form of a powder or crystals It is of importance in industry since with salts of metals it forms brilliant lakes, although by itself it is a poor dye Turkey red is produced with an aluminum mordant, other shades of red with calcium and tin salts, dark violet with iron mordants, and brownish-red with chromium Purpurin, also used in dyeing, occurs with alizarin in madder and is produced synthetically

Aljubarrota (ăzhōōbŭrô'tu), village (pop. c.500), Leiria dist , W central Portugal, S of Leiria. Here was fought on Aug 14, 1385, the momentous battle in which the Portuguese, aided by English archers, defeated the forces of the Spanish King John I of Castile, thus assuring Portuguese independence and making possible the vigorous administration of John I of Portugal Nun'Alvares was the Portuguese hero of the battle

alkali (ăl'kulī) [ultimately from Arabic, =roasted, i e , the ashes of saltwort, which are full of soda] In chemistry, the term is generally applied to a strong BASE, e g., sodium hydroxide and potassium hydroxide Alkalies exhibit the characteristic properties of bases in a marked degree, as they are extremely soluble in water and neutralize acids to form salts and water Each a strong CAUSTIC in concentrated solution, they are distinguished from the weak alkalies, as ammonium hydroxide, by the term "caustic alkalies" They are used commercially in the manufacture of SOAP, cotton goods, and paper Sodium hydroxide for household use is sold under the name LYE **Alkali metals**, a group so called because the members all react violently with water to form very active, or strong, bases, are composed of the elements cesium, rubidium, potassium, sodium, and lithium. **Alkaline earths** are a group of oxides which resemble the alkalies in character—specifically, the oxides of barium, strontium, and calcium and also sometimes that of magnesium These oxides all react with water to form the hydroxide of their constituent metal. The active, divalent metals themselves are referred to as metals of the alkaline earths.

alkali soils contain an excess of the soluble salts natural to all soils Such soils, which are often encrusted with the salts, occur usually where rainfall is insufficient to leach out the salts Those in which the salts are chiefly sulphates of sodium, magnesium, and potassium are known as white alkali soils Those containing a large amount of sodium carbonate are known as black alkali soils because,

although the salt is white, the carbonate form decomposes the humus, thus blackening the soil The black alkalies are the more harmful to plants Temporary improvement of alkali soils can be accomplished by thorough cultivation, by growing tolerant plants on the soil, and, for the black alkali soils, by adding gypsum Liming the soil helps to counteract the effects of Epsom salts (magnesium sulphate) in it Actual removal of large amounts of the alkali can be achieved by flooding the area with nonalkaline water and underdraining it

alkaloid (-loid), any of a class of organic compounds composed of carbon, hydrogen, nitrogen, and usually oxygen and derived from plants The term *alkaloid* indicates alkaline or BASE properties Typical examples are ATROPINE, CAFFEINE, COCAINE, CODEINE, MORPHINE, NICOTINE, QUININE, and STRYCHNINE Aconitine is the alkaloid of ACONITE Cinchonine and quinine are derived from CINCHONA Curarine is in the deadly poisonous extract CURARE, conine is found in poison HEMLOCK; and veratrine is prepared from sabadilla seeds Emetine is the alkaloid of IPECAC

alkalosis: see ACIDOSIS

Al-Khowarizmi (ăl-khōwārēz'mē), fl 820, Arabian mathematician of the court of Mamun in Baghdad His treatises on Hindu arithmetic and on algebra made him famous He is said to have given algebra its name, and the word *algorism* is said to have been derived from his name Much of the mathematical knowledge of medieval Europe was derived from Latin translations of his works

Al-Kindi see KINDI

Alkmaar (ălk'mär), municipality (pop 37,471) and town, North Holland prov, NW Netherlands An important market center, it has industries, including iron foundries The cheese market of Alkmaar, held weekly in front of the ancient weighhouse, is world famous The Spanish under Alba unsuccessfully besieged Alkmaar in 1573

Allah (ă'lu, ă'lu), Arabic name of GOD It is used not only in Islam but also among Arabic-speaking Christians

Allahabad (ăl"uhŭbăd',-bad'), city (pop 260,630), United Provs, India, former provincial capital On the site of Prayag, an ancient Aryan holy city, Allahabad is at the junction of two sacred rivers, the Jumna and the Ganges, and is visited by many Hindu pilgrims The oldest monument is a pillar (c 242 B C) with inscriptions from the reign of Asoka The city is a trading center and has a university

All-American Canal, SE Calif, built 1934–40 A part of the Federal irrigation system of the Hoover Dam, it taps the Colorado river at Imperial Dam, c 20 mi above Yuma, Ariz, and runs 80 mi west to a point beyond Calexico, Calif Three main canals, diverting from the All-American Canal, supply water to the IMPERIAL VALLEY The Coachella Main Canal, completed in 1948, diverts from the All-American 36 mi from its head and carries water 123 mi N and E to the Coachella Valley

Allan, Sir Hugh, 1810–82, Canadian financier and shipowner, b Scotland He emigrated to Canada in 1826 and shortly thereafter was employed by a large shipbuilding company in Montreal He founded the Allan line of steamships For his services in developing Canadian commerce, he was knighted in 1871 The following year the Canadian government gave him the contract to build the Canadian Pacific Railway, but the PACIFIC SCANDAL (1873) led to the cancellation of the contract

Allbutt, Sir Thomas Clifford (ôl'bŭt), 1836–1925, English physician, educated at Cambridge Univ and studied medicine at St George's Hospital, London, and in Paris From 1892 he taught at Cambridge An authority on diseases of the circulatory system, particularly those of the arteries, he also made notable studies of diseases of the nervous system He invented the short clinical thermometer His writings on the history of medicine are highly regarded He edited a valuable *System of Medicine* (1896–99) See study by H D Rolleston (1929)

Allegan (ăl'ĭgăn), city (pop 4,526), co seat of Allegan co, S Mich, on the Kalamazoo and S of Grand Rapids, in a farm area, settled 1834, inc as a village 1838, as a city 1907 It manufactures automobile parts.

Allegany (ăl'ŭgā"nē, ăl"ŭgā'nē), village (pop 1,436), W N Y, on the Allegheny and W of Olean, in an oil region, inc 1906 Dairy products are made here St Bonaventure College (Catholic, Franciscan, for men, 1859) is near by, as are Allegany State Park and the Allegany Indian Reservation (Seneca and some Cayuga)

Alleghany, variant spelling see ALLEGHENY

Allegheny (ăl'ugā"nē, ăl"ugā'nē), river rising in N central Pennsylvania and flowing NW into New York, thence generally southwest c 325 mi to the Monongahela, forming the Ohio, at Pittsburgh Before the advent of railroads, the river was an important channel of commerce and is still used to some extent in the transport of bulky freight.

Allegheny College see MEADVILLE, Pa

Allegheny Mountains, a western part of the Appalachian Mts, extending SW from N Pennsylvania through Maryland, West Virginia, and Virginia. The heights vary from c 2,000 ft in the north to over 4,000 ft in the south The eastern portion of the range, with a steep escarpment often called the Allegheny Front, is generally more rugged than the western portion, which is a plateau reaching into E Ohio and Kentucky The Allegheny upland, like the Cumberland upland into which it extends on the south, was largely formed by the folding of sedimentary rocks There has been much subsequent erosion and leveling The Alleghenies are rich in coal and contain iron, petroleum, and gas

allegiance, formal tie which binds one to a superior, whether a person or an institution The term usually refers to allegiance to governments, but it may have reference to any institution which one is bound to support Allegiance in strict usage is a legal tie, but as used in ordinary speech the term includes also those emotional ties which supplement the legal one, and thus it is synonymous with loyalty Allegiance to the government is due from both CITIZENS and subjects and may be of four kinds natural allegiance arises from membership by birth within the bounds of a political society, express allegiance arises from an oath or promise to support a political society and usually results from NATURALIZATION, local allegiance is the temporary allegiance one may owe a government when residing under its protection as an alien, and legal allegiance arises from an oath taken in certain cases to support a government temporarily, as when a foreign soldier joins its armed forces or when areas are taken by an enemy and such an oath is administered to the remaining inhabitants Under the customary law of Europe a subject did not have the right to change his allegiance without the consent of his government, but in the 19th cent, under the lead of the United States, this conception was challenged, and the right of all persons to choose the government to which they wished to give allegiance was partly established Great Britain in 1870 gave British citizens the right to expatriate themselves, and Sweden, Denmark, Germany, and other European states followed, but the right is by no means universally allowed

allegory (ăl'ĭgôr"ē) [Gr, =one thing said for another], in literature, an elaborate work intended to convey a meaning not superficially connected with the thought or the action literally expressed The term is used for narratives of some length, as contrasted with the shorter but similar parable, fable, or metaphor In allegory the characters may be types or personifications, and the story may be enjoyed for itself without perception of its main and hidden purpose Symbolism differs from allegory in that symbolism requires understanding of what is symbolized if the work is to have meaning Celebrated allegories include Spenser's *Faerie Queene* and John Bunyan's *Pilgrim's Progress* Many have interpreted the *Song of Solomon* as an allegory, Richard Wagner looked upon his *Ring* as one great allegory, and many pastoral poems are intended as such Jonathan Swift's *Gulliver's Travels* might be called a mock allegory, and Samuel Butler's *Erewhon* shows a Utopian type of allegory

Allegri, Gregorio (grĭgō'rēō ăl-lā'grē), 1582–1652, Italian singer and priest, composer of a nine-part *Miserere* sung annually during Holy Week in the Sistine Chapel To keep it for that exclusive use, its publication was forbidden under pain of excommunication In 1770 Mozart, visiting in Rome, heard the work and wrote it down from memory It was later published

Alleine, Joseph (ăl'ĭn), 1634–68, English nonconformist clergyman and scholar He served as chaplain (1653–54) at Corpus Christi College, Oxford, and as assistant minister (1655–62) at Taunton until ejected from the church for nonconformity He then worked and preached as an evangelist, subjected to fines and imprisonment and hunted from place to place He was a much-loved Puritan preacher, and his influence was far-reaching His *Alarm to the Unconverted* (1672), which was republished in 1675 as *A Sure Guide to Heaven,* was afterward printed a number of times in England and America See Charles Stanford, *Joseph Alleine His Companions and Times* (1861)

Alleluia, Latin form of the expression HALLELUJAH

Allen, Ethan, 1738–89, hero of the American Revolution, leader of the Green Mountain Boys, and promoter of the independence and statehood of Vermont, b Litchfield, Conn He had some schooling and was proud of his deist opinions, with which he annoyed orthodox Congregational ministers, he later incorporated his ideas in *Reason the Only Oracle of Man* (1784) A man of Gargantuan strength with a taste for showy clothes and manners and great volubility of speech, he was a born leader After fighting briefly in the French and Indian War, he interested himself in land speculation, and in 1770 he appeared as one of the proprietors in the NEW HAMPSHIRE GRANTS He and his brothers, notably Ira ALLEN, became the leaders of the New England settlers and speculators in the disputed lands—invoterate enemies of the Yorkers (settlers under New York patents) and violent opponents of all attempts of New York to exert control in the area He was active in forming the GREEN MOUNTAIN BOYS and became their leader in defying the New York government and harrying the Yorkers Governor Tryon of New York put a price on the heads of Allen and two of his followers, but Ethan was not captured After the outbreak of the American Revolution, he made the Green Mountain Boys into an independent patriot organization Joined by Benedict ARNOLD (with a commission from Massachusetts) and some Connecticut militia, Ethan Allen and his men captured Ticonderoga from the British on May 10, 1775 Legend says that when the British officer asked him under what authority he acted, Ethan Allen roared, "In the name of the Great Jehovah and the Continental Congress!" The story is, however, almost certainly apocryphal Allen then urged an expedition against Canada, and the Green Mountain Boys were attached to Gen P J Schuyler's invasion force, but the men chose not Allen, but his cousin Seth WARNER, as leader Allen went on the expedition and in a rash plan to capture Montreal before the main patriot army arrived was captured (Sept, 1775) by the British He told his own story of this in the popular *Narrative of Captain Ethan Allen's Captivity,* which appeared in 1779, a year after he had been exchanged He returned to VERMONT, which had declared its independence but was unrecognized by the Continental Congress. Ethan Allen and his brother Ira then devoted themselves to insuring the new political unit in one way or another The region remained in danger of British attack, and the British late in 1779 opened negotiations with Ethan Allen in an attempt to attach Vermont to Canada Ethan and his brother entered into devious negotiations with the British agents and Tories either with the serious intent of annexation to Canada or with the aim of protecting Vermont and enhancing its value to the United States No conclusion was reached, and the victory at Yorktown ending the American Revolution also ended the talks Ethan Allen withdrew from politics in 1784, and Vermont was still independent and still dickering with Congress and dealing with internal struggles between the Allen party and their opponents when he died at Burlington He is remembered as a salty, colorful leader, a strong adherent to the principles of individual liberty, and the fiery defender of the men of the Vermont country See Matt B Jones, *Vermont in the Making* (1939), biography by Stewart Holbrook (1940).

Allen, Florence Ellinwood, 1884–, American jurist, b Salt Lake City, Utah, grad Western Reserve Univ, 1904, LL B New York Univ, 1913 A judge of the Ohio supreme court from 1922 to 1934, she was in 1934 the first woman to be appointed to a U S Circuit Court of Appeals She wrote *The Constitution of Ours* (1940)

Allen, Frederick Madison, 1879–, American physician, b Des Moines, Iowa, M D Univ of California, 1907 He investigated diabetes and metabolism and wrote books on these subjects He was director (1920–33) of the Physiatric Institute, Morristown, N J, and later was on the staff of the New York Polyclinic Hospital and Medical School.

Allen, Grant (Charles Grant Blairfindie Allen), 1848–99, English author, b Canada Known first as a writer on popular science, he is remembered for his novel, *The Woman Who Did* (1895), an attack on the double standard of morality

Allen, Hervey, 1889–1949, American novelist and poet, b Pittsburgh, grad Univ of Pittsburgh, 1915, and studied at Harvard After service in the First World War he taught English in Charleston, S C, where in collaboration with DuBose Heyward he wrote *Carolina Chansons* (1922) Later poetry is in *Earth Moods and Other Poems* (1925), *Poems for Annette* (1929), and other volumes Allen's biography of Poe, *Israfel* (2 vols, 1926), was immediately popular His historical novel, *Anthony Adverse* (1933), was both the longest and the best-selling novel of the century up to its time and was further famous as a moving picture *Action at Aquila* (1938) is a Civil War tale Of six related novels he planned to write on early American history, three appeared, *The Forest and the Fort* (1943), *Bedford Village* (1944), and *Toward the Morning* (1948) He succeeded Stephen Vincent Benét as editor of the "Rivers of America" series

Allen, Horatio, 1802–90, American civil and mechanical engineer, b Schenectady, N Y, grad Columbia, 1823 In 1828 the Delaware & Hudson Company sent him to England to buy a steam locomotive, this, the *Stourbridge Lion,* built by George Stephenson and operated by Allen near Honesdale, Pa, in Aug, 1829, was the first steam locomotive in the United States to run on rails. Shortly after Peter Cooper's *Tom Thumb* was finished, the second serviceable locomotive in the country was completed for the Delaware & Hudson under Allen's supervision at the West Point Foundry Later he specialized in marine engines, becoming one of the foremost designers of river and ocean steamboats He served as chief engineer and as president of the Erie RR and as consulting engineer for the Panama RR and the Brooklyn Bridge

Allen, Ira, 1751–1814, political leader in early Vermont, b Cornwall, Conn He was the younger brother and the assistant of Ethan ALLEN Though he was a member of the GREEN MOUNTAIN BOYS,

he took little part in their activities His cool shrewdness, his adeptness in business matters, and his brilliant planning complemented the colorful vigor and rash violence of his brother He it was who organized the Onion River Land Company and secured the lands about the Winooski and Lake Champlain that the Allens worked hard to protect He took part in the conventions at Dorset and Westminster that brought about the independence of VERMONT, and he was a leading figure in the political life in the years following, holding many offices He was involved in the long negotiations with the British and was accused of treason He was of no political consequence after Vermont became a state He helped to establish the Univ of Vermont His brief autobiographical note appeared in J B Wilbur, *Ira Allen, Founder of Vermont* (1928)

Allen, James Lane, 1849–1925, American novelist, b Lexington, Ky, grad Transylvania College, 1872 After he had taught for a few years, his stories, essays, and poems of Kentucky in periodicals were so well received that he could devote himself to writing His first book, *Flute and Violin* (1891), was a collection of stories, his first successful novel was *A Kentucky Cardinal* (1894), still a minor classic of romantic fiction *Aftermath* followed in 1895, and *The Choir Invisible* in 1897 *The Reign of Law* (1900) reflected his interest in Darwinian evolution Later novels were less popular See G C Knight, *James Lane Allen and the Genteel Tradition* (1935)

Allen, Richard, 1760–1831, founder of the African Methodist Episcopal Church He was born a slave in Philadelphia Out of the Free African Society (1787) developed the church (founded 1794) When a national organization was realized in 1816, Allen was chosen as bishop See C H Wesley, *Richard Allen, Apostle of Freedom* (1935)

Allen, William, 1704–80, American jurist, b Philadelphia He and his father-in-law, Andrew Hamilton, decided the choice of Philadelphia instead of Chester as provincial capital, and he helped finance the building of Independence Hall Allen was chief justice of Pennsylvania (1750–74), secured (1763) postponement of the sugar duties, and helped (1766) Franklin's efforts to have the Stamp Act repealed He wrote *The American Crisis* (1774), containing a plan for colonial reconciliation with England When it was not accepted he made his home in England Allentown, Pa, was named for him

Allen, Zachariah, 1795–1882, American inventor, b Providence, R I, grad Brown He invented the application of power by belting (instead of by cogwheels as before) and also an automatic cutoff valve for steam engines He is said to have made the first central hot-air furnace system for heating buildings He wrote many books and magazine articles

Allen, town (pop 1,389), SE central Okla, near the Canadian river SE of Shawnee

Allen, Bog of, area of morass and peat bog with patches of cultivable land, near the center of Ireland, in Counties Offaly, Laoghis, and Kildare

Allen, Lough (lŏkh, lŏk), lake, 8 mi long and 3 mi wide, Co Leitrim and Co Roscommon, Ireland, near the headwaters of the Shannon

Allenby, Edmund Henry Hynman Allenby, 1st **Viscount** (ă'lunbē), 1861–1936, British field marshal Active service in Bechuanaland (1884–85) and Zululand (1888) and in the South African War (1899–1902) was followed by command of the cavalry in France on outbreak of the First World War (1914) and of the 3d Army (1915 17) As commander in chief of the Egyptian Expeditionary Force (1917–19), he invaded Palestine, captured Jerusalem, and ended Turkish resistance by the battle of Samaria (Sept 18–21, 1918) He was British high commissioner for Egypt and the Sudan (1919–25) See A P Wavell, *Allenby* (1941) and *Allenby in Egypt* (1945)

Allendale. 1 Borough (pop 2,058), NE N J, N of Ridgewood, settled 1740, inc 1894 **2** Town (pop 2,217), co seat of Allendale co, SW S C, near the Savannah SSW of Columbia, in a farm area noted for its watermelons There are good hunting and fishing grounds in the area

Allende, Ignacio (ēgnä'syō ayän'dā), 1779–1811, Mexican revolutionist He was a captain in the army when he entered into the movement against Spanish control He played a prominent part in the revolution and after the great defeat at Calderón Bridge (Jan 17, 1811) took chief command of the forces, leaving Miguel HIDALGO Y COSTILLA only nominal power The revolutionists went northward, hoping to reach the United States, but the treachery of one of their leaders led to capture by the royalists Allende was shot at Chihuahua

Allen Park, village (pop 3,487), SE Mich, west suburb of Detroit, settled 1776, inc 1927

Allenport, borough (pop 1,078), Washington co, SW Pa, on the Monongahela and SE of Washington, Pa, inc 1931 Steel is made here

Allenstein (ă'lunshtīn) or **Olsztyn** (ôl'shtĭn), city (1939 pop 50,396, 1946 pop 29,053), S former East Prussia, transferred to Polish administration in 1945 It is a trade and railroad center Founded (1348) by the Teutonic Knights, who built its impressive castle, it was ceded to Poland in 1466 and to Prussia in 1772 Allenstein was retained by Germany after a plebiscite in 1920 The city, which suffered heavy damage in the Second World War, was entirely resettled by Poles after 1945 and was made the capital of Olsztyn prov (c 7,500 sq mi, pop 351,828)

Allenstown, rural town (pop 1,673), S N H, on the Suncook and SE of Concord, inc 1831 Granted to Samuel Allen's family in 1722, it was settled before 1748 Timber for the *Constitution* was cut here

Allentown, industrial city (pop 96,904), co seat of Lehigh co, E Pa, on the Lehigh river and N of Philadelphia, laid out c 1752 as Allentown, inc as a borough 1811 and renamed Northampton, renamed Allentown 1838, inc as a city 1867 In the Pennsylvania Dutch region, it has metal, cement, and textile industries and is a trading center for farmers It is the seat of Cedar Crest College (for women, 1868) and Muhlenberg College (Lutheran, for men, 1848) A flourishing town before 1790, it was settled by representatives of various German religious groups The Liberty Bell was brought here (1777) for safekeeping, and the city became a munitions center for the Continental army Civil War recruits from the city were so numerous that they became known as "the First Defenders"

Allen University see COLUMBIA, S C

allergy, term used to denote a hypersensitivity on the part of susceptible individuals to substances which are innocuous to other individuals Such allergy-producing agents are known as allergens or antigens They include air-borne substances, e g, pollen and danders, vegetable oils (from poison ivy and certain other green plants), bacteria, various proteins, and physical agents such as light, heat, and cold There is some evidence that in a susceptible person the allergen causes the tissues or organs affected (e g, the lungs in ASTHMA) to release a substance called histamine and also other substances The reaction of the body to the allergens also produces antibodies in the blood stream Diseases such as HAY FEVER, asthma, urticaria, and eczema are caused by such reactions The most obvious method of treating the allergic individual is to remove the allergen when known, e g, a particular kind of food or a pet animal When it is not possible to escape air-borne irritants such as ragweed, injections of the allergen (gradually increasing in strength) are given to hyposensitize the susceptible individual A third method of treatment is through the use of certain drugs, e g, epinephrine, which have the effect of counteracting the released histamine More recently, benadryl and pyrobenzamine have been found to relieve the symptoms

Allerton, Isaac (ă'lurtun), c 1586–1659, Puritan settler in Plymouth Colony Possibly a London merchant, he had been in Leiden before coming to America in the *Mayflower* From 1626 to 1631 he was much in England, acting as the agent of the colony, and there he bought up the rights of merchants in the enterprise and in 1630 secured a new patent (see PLYMOUTH COLONY)—but not the sort of grant William Bradford and others wanted Allerton was at best incompetent and ran up the debt, even if he was not—as his neighbors accused him of being—dishonest He had to leave Plymouth Colony in 1631 and was later at Marblehead, at New Amsterdam, and in the New Haven colony

Alleyn, Edward (ă'lĭn), 1566 1626, English actor A member of the earl of Worcester's players in 1586, he married the stepdaughter of Philip Henslowe and with him built the Fortune Theatre (1600) Here, as a member of the lord admiral's company, he played leading roles in Marlowe's *Tamburlaine, Jew of Malta,* and *Faustus* Alleyn was the main rival of Richard Burbage, and his popularity brought him great wealth, which he employed in the founding (1613) of Dulwich College and in aiding Dekker, John Taylor, and other writers After his wife's death, he married a daughter of John Donne

Allia (ă'lēu), small river, Latium, Italy Near its confluence with the Tiber, N of Rome, the Gauls defeated the Romans in 390 B C

Alliance. **1** City (pop 6,253), co seat of Box Butte co, NW Nebr, in the Great Plains region, founded 1888 as the terminus of the Chicago, Burlington, & Quincy RR Shipping and trade center for a large grain and livestock area, it has railroad repair shops, manufactures dairy products, and has a seed-potato testing ground **2** City (pop 22,405), NE Ohio, NE of Canton and SE of Akron, on the Mahoning, laid out 1838 as Freedom, inc as a village 1854, as a city 1889 It is an industrial, distributing, and rail center, with manufactures of steel, aircraft, heavy mill machinery, and other industrial equipment It is the seat of Mt Union College (Methodist, coeducational, 1846), with Clarke Observatory Near by is the county sanatorium for the tubercular

Allibone, Samuel Austin, 1816–89, American author and librarian, b Philadelphia He is chiefly known for his *Critical Dictionary of English Literature and British and American Authors* (3 vols., 1858–71), a standard reference work for half a century and still useful. He compiled *Poetical Quotations from Chaucer to Tennyson* (1873) and other similar works and, after 1879, was librarian of the Lenox Library, New York city

Allier (älyā'), department (2,848 sq mi; pop 373,381), central France, in the BOURBONNAIS, traversed by the Allier river Moulins (the capital), Montluçon, and Vichy are the chief towns

Allier, river, 255 mi long, rising in central France, in the Cévennes, and flowing 255 mi N past Vichy and Moulins to join the Loire near Nevers

alligator [Span, =the lizard], large reptile similar to the CROCODILE, which also belongs to the order Crocodilia The American alligator, which is about 12 to 14 ft long, is found from North Carolina to Florida and in the Gulf states When young, it is dark brown or black with yellow transverse bands These fade as the animal grows older, and the adult is black Alligators eat fish and other water life, they are not known to attack man except in self-defense From 20 to 50 eggs are laid in a mound of vegetation The demand for alligator leather has reduced the number of wild specimens The Chinese species is smaller than the American Closely related to the alligator is the cayman, or caiman, of Central and South America

alligator pear. see AVOCADO

Allingham, William (ă'lĭngm), 1824–89, Irish poet He was editor of *Fraser's Magazine* from 1874 until 1879 He is chiefly remembered for one poem, "The Fairies," beginning "Up the airy mountain, Down the rushy glen" See his diary (ed posthumously by his wife and Dollie Radford, 1907)

Allioni, Carlo (kär'lō al"lēō'nē), 1725–1804, Italian physician and botanist, whose *Flora Pedemontana* (3 vols, 1785) introduced a number of new plants to the botanical science of his day

Allison, William Boyd, 1829–1908, U S Senator from Iowa (1873–1908), b Ashland co, Ohio, grad Western Reserve College, 1849 After admission to the bar, he settled in Dubuque, Iowa, where after 1857 he was a successful lawyer and a politician He served in the House of Representatives before entering the Senate One of the more influential Republican members of Congress, he spoke for the farmers of the Midwest and was considered a "moderate" Allison opposed high tariffs on goods needed in quantity by the farmers and helped to build compromise tariff bills He changed the bill for "free and unlimited coinage" of silver to allow specified limited coinage and thus gave his name to the BLAND-ALLISON ACT

Alliston, town (pop 1,733), S Ont, SSW of Barrie and on the Boyne and Nottawasaga rivers

alliteration (ulit'-) [Latin], in rhetoric, the repetition of sounds for effect, especially by beginning neighboring words with the same sound In the Germanic languages it was the ancient basis of versification Old English poetry, for example, called for two alliterated words in the first half and one in the second half of each line, a conscious reversion to this form is in *Piers Plowman*

Mercy hight that maid, a meek thing withal,
A full benign burd, and buxom of speech

A more modern example of poetic alliteration is in A C Swinburne's *Forsaken Garden,* "The wind that wanders, the weeds wind-shaken" The Germanic languages have many common alliterative phrases, e g, in English, 'bed and board," "hearth and home," "kith and kin," "weep and wail"

Alloa (ă'lōu), burgh (pop 13,323), Clackmannanshire, Scotland, near the head of the Firth of Forth It is a seaport, manufacturing agricultural machinery and bottles and with engineering works The seat of the earl of Mar, Alloa Park, is near here

Allobroges (ulō'brujēz), Celtic tribe in Gaul, inhabiting later Dauphiné and Savoy They were conquered (121 B C) by Quintus Fabius Maximus, who was called Allobrogicus In the time of Julius Caesar they sided with Rome

Allon [Heb, =oak] **1** Simeonite 1 Chron 4 37 **2** Naphtalite city Joshua 19 33

Allon-bachuth (-bāk'uth) [Heb, =oak of weeping], spot close to Bethel, where they buried Rebecca's nurse Gen 35 8

allopathy (u-lŏp'u-thē) [Gr, =difference of feeling], term first used by Hahnemann, early in the 19th cent, for the established system of medicine of that time To this he opposed his system of HOMEOPATHY See also MEDICINE

Allori, Agnolo di Cosimo see BRONZINO, IL

Allori, Alessandro (ălēs-sän'drō al-lō'rē), 1535–1607, Florentine painter, known also as Alessandro Bronzino (brōndzē'nō) after the death of his master and foster father, Il Bronzino After studying in Rome, where he acquired something of the grand manner of Michelangelo, Allori returned to Florence, here he had many commissions for churches and public buildings and painted portraits of distinguished contemporaries The portrait of Giuliano de' Medici, duc de Nemours, believed to be a copy of a lost Raphael, is considered Allori's best work This and many other paintings by him are in the Uffizi His son and pupil, **Cristofano Allori** (krēstōfä'nō), 1577–1621, of the later Florentine school, was an excellent portraitist and, like his father, painted many of the celebrated people of

his time. His work is distinguished by great delicacy of technique and richness of color *Judith and Holofernes*, *St Julian*, and the *Sacrifice of Isaac* are in the Pitti Palace, Florence

allotropy (ulŏt'rupē) [Gr ,=other form], chemical term indicating the occurrence of an element in two or more forms The difference in form results from variation in the number and arrangement of the atoms in the molecule of an element and not from differences in chemical composition For example, the diamond and graphite are two of the allotropic forms of CARBON They are unlike in physical appearance (physical properties), but alike in chemical activity (chemical properties) Among other elements which exhibit striking allotropism are OXYGEN, PHOSPHORUS, and SULPHUR

Allouez, Claude Jean (klōd' zhă' ălwā'), 1622–89, French missionary in Canada and the Old Northwest, a Jesuit priest After arriving (1658) in Canada he served at posts in the St Lawrence region until 1665, when he went to Lake Superior and founded the Chequamegon Bay mission (near present Ashland, Wis) A canoe trip around Lake Superior in 1667 supplied material for the well-known Jesuit map of the lake Later he founded several missions, including that at De Pere, made his headquarters at Green Bay, and spent his last years as missionary to the Illinois and Miami Indians His accurate and informed reports made the Great Lakes country known

Alloway (ăl'–), hamlet, Ayrshire, Scotland, near Ayr The birthplace of Burns and the scene of "Tam o' Shanter," it has a Burns museum and monument

alloy (ăl'oi, uloi') [O Fr ,=combine], substance having metallic properties and consisting of two or more metals or of metals and nonmetallic elements united to form either a mixture or a compound The properties of an alloy differ from those of the constituent elements Most metals are used in the form of alloys, for by combining various elements in different proportions an alloy can be produced which has properties better suited for certain purposes than has the pure metal Most of the commercially important alloys are heterogeneous, i e , microscopic examination reveals them to be composed of crystals embedded in a matrix or of interlocking crystals of several types Gray cast iron and Babbitt metal are heterogeneous alloys In homogeneous alloys the components form in the solid state a solid solution which has, throughout the substance, uniform physical properties Gold and silver form homogeneous alloys Because of the softness of gold it is usually alloyed with copper or silver, and the proportion of gold is indicated in terms of carats Coin silver is 90 percent silver and 10 percent copper, and sterling silver is 92 5 percent silver and 7 5 percent copper Two important alloys of copper are BRASS and BRONZE Nickel coins are made of an alloy of about 75 percent copper and 25 percent nickel Monel metal is a nickel alloy STEEL is iron alloyed with carbon in proportions which are varied to suit the purpose Among the metals added to steel to form alloys are chromium, tungsten, and manganese

All Saints, Nov 1, feast of the Roman Catholic and Anglican churches, the day on which the church glorifies God for all his saints, known and unknown Old names are All hallows and Hallowmass It is one of the principal feasts of the year in the Roman Catholic Church all are obliged to hear Mass on it, and it has an octave and a vigil of fasting and abstinence Its origin probably lies in the common commemoration of martyrs who died in groups or whose names were unknown In the 7th cent the Pantheon at Rome was dedicated in honor of Our Lady and all martyrs, and before 900 All Saints was generally celebrated on Nov 1 The vigil (Oct 31), Halloween, is associated, in countries where Celtic influence is strong, with age-old customs peculiar to that night In certain parts of the British Isles bonfires and fortunetelling like those of midsummer night continue Elsewhere, especially in America, mumming and masquerading are popular, and jack-o'-lanterns are displayed Tales of witches and ghosts are told, and in remote communities old superstitions are kept One of the special games, bobbing for apples, is known to date from the Middle Ages These pagan survivals of Halloween probably represent old Celtic practices associated with Nov 1, the beginning of winter. Probably All Saints rose apart from Celtic influence, and the customs of Halloween have survived independently of the Christian feast ALL SOULS' DAY has no connection with Halloween

All Saints Bay, Brazil see TODOS OS SANTOS BAY.

All Souls College see OXFORD UNIVERSITY.

All Souls' Day, Nov 2 (exceptionally, Nov 3), feast of the Roman Catholic Church on which the church on earth prays for the souls of all the faithful departed still suffering in PURGATORY The proper office is of the dead, and the Mass is a REQUIEM All Souls' Day and Christmas are the only days of the year on which a priest may say three Masses Though not obliged by church law to hear Mass on this day, laymen generally observe it, and indulgences applicable to the souls in purgatory are granted. General suffrages for the departed, e.g., for those of a parish, of a city, or of a regiment, are very ancient (2 Mac. 12 43–45), but the modern feast was probably established first by an 11th-century abbot of Cluny for his community and later extended throughout the Church. In Catholic countries there are many customs peculiar to All Souls' Day, e g , leaving lights in the cemeteries on the night before These vary from region to region For the customs of Halloween (Oct 31), apparently an independent development, see ALL SAINTS

allspice, dried green berry of the pimento or allspice tree (*Pimenta officinalis*), a small evergreen belonging to the myrtle family The tree is cultivated in the West Indies for its aromatic leaves and berries, the latter are supposed to combine the flavors of different spices and are used in medicine and for seasoning various foods, particularly pickles and relishes The name is also applied to fragrant shrubs, such as the Carolina allspice (*Calycanthus floridus*) and the wild SPICEBUSH (*Benzoin aestivale*) which grows in the NE United States

Allston, Robert Francis Withers, 1801–64, South Carolina planter and statesman His administration as governor (1856–58) was noted for its agricultural and educational reforms He was one of the most advanced and scientific planters of the day, and his *Memoir of the Introduction and Planting of Rice in South Carolina* (1843) and *An Essay on Sea Coast Crops* (1854) had permanent influence on rice-growing methods in the South

Allston, Washington, 1779–1843, American painter and author, b Georgetown Co , S C After graduation from Harvard (1801) he went to London, where he studied painting under Benjamin West A result of four years in Rome was his lifelong friendships with Coleridge and Washington Irving The peak of his fame as a painter was reached in England, 1810–18, an important work of this period was a portrait of Coleridge After his return to America (1818) his career declined, most of his efforts being expended on the colossal but never completed *Belshazzar's Feast* (now in the Boston Athenaeum) His paintings, usually biblical or classical in subject, show the influence of the Venetian school Among the best known are *The Dead Man Revived* (Pa Acad of the Fine Arts), *Uriel in the Sun* (Stafford House, England), *Jeremiah* (Yale Univ), *Witch of Endor* (Gardiner Coll , Boston), and *A Spanish Girl* and *The Deluge* (Metropolitan Mus) Among his numerous pupils was Samuel F B Morse Allston began to write verse as a student at Harvard, the only published collection of his poetry is *The Sylphs of the Seasons* (1813) *Monaldi*, a romance, was published in 1841 Allston's first wife was William Ellery Channing's sister, Ann, after her early death he married Martha Dana, sister of Richard Henry Dana See biographies by M F Sweetser (1879), J B Flagg (1892) and E P Richardson (1948)

alluvium (ulōō'vēum), soil or land originating from the deposit of sediment by running water Its mixed composition makes it exceedingly fertile Alluvial fans occur at the bases of gentle slopes, alluvial cones at the bases of steep grades, flood plains and alluvial terraces along rivers, and deltas at the mouths of rivers The best-known alluvial regions are the deltas and flood plains of the Mississippi, the Nile, the Ganges-Brahmaputra, and the Tigris-Euphrates

Allward, Walter Seymour, 1876–, Canadian sculptor, b Toronto He created the Vimy Ridge Memorial in France, commemorating the Canadian troops of the First World War, and many monuments in Canada

Alma (ăl'mŭ) **1** City (pop 1,840), co seat of Bacon co , SE Ga , N of Waycross, in the coastal-plain farm area, inc 1906 **2** City (pop 7,202), S Mich , N of Lansing, settled 1853, inc as a village 1872, as a city 1905 Its industries include beet-sugar and oil refining and dairying Alma College (Presbyterian, coeducational, 1886) and the Michigan Masonic Home are here Several Indian mounds are found in the vicinity **3** City (pop 1,272), co seat of Harlan co , S Nebr , on the Republican river near the Kansas line, in a farming area, founded 1871 **4** City (pop 1,139), co seat of Buffalo co , W Wis at the foot of bluffs on the Mississippi and SW of Eau Claire, settled c 1852, inc 1885 A Federal dam here was completed in 1935

Alma (ăl'mŭ, Rus ălmă'), small river, S European RSFSR, in S Crimea It enters the Black Sea 16 mi N of Sevastopol It was the scene (Sept , 1854) of an allied victory over the Russians in the Crimean War

Alma-Ata (ăl'mŭ-ă'tă, -ätä', Rus ălmä'-ătă'), city (pop 230,528), capital of the Kazakh SSR and of Alma-Ata oblast, in the northern foothills of the Trans-Ili Ala-Tau On the Turksib RR, it has important industries processing the regional produce (cotton, fruit, meat, and tobacco) Founded in 1854 as Verny, it was twice destroyed by earthquakes (1887, 1910), but developed rapidly after the construction of the Turksib It was renamed Alma-Ata in 1927 It has a university (founded 1928), an academy of science (1945), two opera houses, and several theaters and museums Alma-Ata also is the center of a moving-picture industry.

Almadén (ălmädhān'), city (pop. 12,468), Ciudad Real prov., central Spain, in New Castile It is the center of one of the richest mercury-mining regions in the world The mines have been exploited since Roman times

Almagest (ăl'mŭjĕst) [Arabic distortion of Gr ,= the greatest composition], name derived from the Arabian translation of the less well-known Greek title of the *Syntaxis*, the famous astronomical work of Claudius Ptolemy The original Greek version was translated, some centuries after it was written, into Arabic and then into Latin It was highly influential in Europe in the Middle Ages Chiefly an abstract of the astronomical science of the Alexandrian Greeks, it preserved the work of Hipparchus

Almagro, Diego de (dyā'gō dā almä'grō), c 1475–1538, Spanish conquistador, a leader in the conquest of Peru A partner of Francisco PIZARRO, he took part in the first (1524) and second (1526–28) expeditions and in the bloody subjugation of the Inca after 1532 He aided (1534) BENALCÁZAR in thwarting Pedro de ALVARADO in Ecuador. No match for the crafty Pizarro brothers, he lost out in the division of spoils, but was granted the lands S of CUZCO In 1535 Almagro set out on a march incredible in its hardships—south through the freezing cordillera of the Andes, probably as far as Coquimbo in present Chile, and then, after finding no gold, back north through the desert wastes of ATACAMA He believed Cuzco was within his jurisdiction and so seized (1537) the city from Hernando PIZARRO, whom he injudiciously set free Civil war ensued, and Almagro's forces were defeated. Begging for his life, he was promised it, then he was garroted by orders of Hernando Pizarro His half-Indian son, Diego de Almagro, inherited his rights. Later the youth nominally headed the revolt which began with the assassination of Francisco Pizarro, but in 1542 he was captured and executed by the new governor, VACA DE CASTRO

Al-Mamun see MAMUN

almanac, calendar with notations of astronomical and other data In simple form almanacs have been known almost since the invention of writing, for they served to record religious feasts, seasonal changes, and the like The Roman *fasti*, originally a list of *dies fasti* (days when legal business might be transacted) and *dies nefasti* (days when legal business should not be transacted), were later elaborated into various lists, some of them resembling modern almanacs In the Middle Ages there were various means of noting saints' days, seasons, and the like, but the almanac did not become a really prominent type of reading matter until the introduction of printing in Western Europe in the 15th cent made possible the reproduction of many copies The almanac then developed promptly Regiomontanus produced one of the famous early almanacs (his *Ephemerides*) out of his astronomical knowledge Most of the works of the almanac type were given over to a great extent to astrology and predictions of the future This sort of literature had a great vogue, persisting late, in 1708 Jonathan Swift ridiculed such an almanac by one John Partridge in his "Isaac Bickerstaff" pamphlets The core of the predictions—foretelling the weather—has persisted in many modern almanacs, but the crude and sensational magic began to disappear early, to be replaced by more or less scientific information There appeared late in the 18th cent truly scientific almanacs—notably the British NAUTICAL ALMANAC (founded 1767), which was the inspiration for the *American Ephemeris and Nautical Almanac* (founded 1855), these recall the serious purpose of Regiomontanus The popular almanac, however, developed in the 17th and 18th cent into a full-blown form of folk literature, with notations of anniversaries and interesting facts, home medical advice, statistics of all sorts and qualities, jokes, and even fiction and poetry. The first production (except for a broadside) of printing in British North America was an almanac for the year 1639 Almanacs continued popular in the colonies, and some of high quality were produced early One was the *Astronomical Diary and Almanack* begun by Nathaniel Ames in 1725, and this was the forerunner of the most famous of them all, Benjamin Franklin's *Poor Richard's Almanack* (pub by him 1732–57), which in its title recalled one of the most popular and long-lasting of English almanacs, that of "Poor Robin" (founded c 1662) Franklin's humorous and pointed anecdotes and more especially his collection of proverbs marked by common sense and shrewd wisdom are still known to most Americans The longest lasting of all American almanacs was first published in 1793 by Robert Bailey Thomas, it came later to be called *The Old Farmer's Almanack* In the rural homes of the United States in the 19th and early 20th cent. the almanac on a nail in the kitchen was a virtual necessity To fill the demand all sorts of almanacs were issued—regional, humorous, statistical, all usually filled with advertisements of patent medicines and the like Out of the welter of these emerged the best type of present-day almanacs, handy and dependable compendiums of large amounts of statistical information. Noteworthy

are *The World Almanac and Book of Facts* (first pub as a booklet in 1868; discontinued 1884; revived 1885), *Information Please Almanac* (first pub 1947), and the regional *Texas Almanac* (first pub 1857) The name almanac has also been applied to many other types of literature not properly considered almanacs, such as the *Almanach de Gotha*, a periodical record of the royal, princely, and noble houses of Europe

Al-Mansur: see MANSUR.

Alma-Tadema, Sir Lawrence (ăl'mŭ-tăd'ĭmŭ), 1836–1912, English painter, b Friesland, Netherlands He studied in Belgium, where he lived until 1869 In that year he went to England, there he became a citizen and enjoyed a long popularity and many honors He is best known for his scholarly and meticulous paintings of intimate classical subjects, such as *A Reading from Homer*

Almaville (ăl'muvĭl), village (pop 2,282), S Que., on the St Maurice river at the head of the Shawinigan Falls and opposite the town of Shawinigan Falls, N of Trois Rivières.

Almeida, Antonio José de (äntō'nyō zhōzā' dŭ ălmā'dŭ), 1866–1929, Portuguese statesman. A republican, he was minister of the interior in the provisional government after the revolution of 1910 As leader of the moderate Evolutionist party, he was premier of a coalition cabinet in the First World War and later (1919–23) was president of the republic

Almeida, Francisco de (frănsĕsh'kō), c 1450–1510, Portuguese admiral, viceroy of Portuguese India He first arrived in India in 1503 as captain major of a fleet and helped Portuguese forces defeat the ruler of Calicut In 1505 he was back as viceroy, instructed to develop Portuguese commerce by building fortifications on the east coast of Africa, securing the allegiance of the Indian rulers, and taking the control of the spice trade from the Arabs In Africa he built a fort at Kilwa and burned Mombasa, and in India he worked diligently to become master of all sea trade The Egyptians, seeing their commerce threatened, built a fleet (with the help of Venice) and defeated (1508) Almeida's son, who was killed in the action. Off Diu in 1509 Almeida beat them and their Indian allies in a great naval battle Almeida at first refused to yield his power to Afonso de ALBUQUERQUE and had Albuquerque imprisoned (1509), but later did give him command. On his way home Almeida was killed by Hottentots near the Cape of Good Hope See K G Jayne, *Vasco da Gama and His Successors* (1910)

Almeida Garrett, João Batista de (zhwăō' bătēsh'tŭ dŭ ălmā'dŭ gurĕt'), 1799–1854, Portuguese dramatist and poet, leader of the romantic movement in Portugal. The family fled to the Azores in the period of the French occupation, and he spent some years there before he returned to graduate from the Univ of Coimbra He supported the revolution of 1820 and was strong in espousing democracy and liberty He was by the reactions of politics forced into exile twice (1823–26, 1828–32), and by his return he had completely abandoned classicism for romanticism, which he expressed most effectively in his plays *Alfageme de Santarém* and *Frei Luis de Sousa* and his long poems *Camões* and *Dona Branca* He is generally considered the greatest of Portuguese dramatists and is high in the rank of poets and developers of Portuguese folklore. He was a supporter of Dom Pedro in the war (1832–33) with Dom Miguel and later had many political offices and did much to forward the democratic cause Among his other works are collections of poetry, *Flores sem fruto* [flowers without fruit] (1844), *Folhas caídas* [fallen leaves] (1853), a book of folklore, *Romanceiro* (1843), and the prose *Viagens na minha terra* [journeys in my native land] (1846).

Almelo (ăl'mulō), industrial town (pop. 39,574), Overijssel prov., E Netherlands

Almería (älmärē'ä), city (pop 69,824), capital of Almería prov., S Spain, in Andalusia. A busy port on the Gulf of Almería, it ships out the celebrated grapes of the region, other fruits, esparto fibers, and iron and other minerals mined near by Probably founded by Phoenicians, Almería flourished from the 13th to the 15th cent A D as the outlet of the Moorish kingdom of Granada; it fell to the Christians in 1489. There is a Moorish fort, now in ruins, and a Gothic cathedral In 1937, during the civil war, the city was shelled by German warships and seriously damaged

Almirante (älmērän'tā), small port (pop 1,566), NW Panama, on Almirante Bay. It is the port of exit for the banana-growing region of S Costa Rica and N Panama.

Almodad (-mō'-), descendant of Shem Gen 10 26, 1 Chron 1 20

Almohades (ăl'mūhădz, -hädz) or **Almohads** (-hădz), Berber Moslem dynasty that ruled Morocco and Spain in the 12th and 13th cent It had its origins in the puritanical sect founded by Mohammed ibn Tumart, who (c 1120) stirred up the tribes of the Atlas to purify Islam and oust the Almoravides His successors, ABDU-L-MUMIN, Yusuf II, and YAKUB I, succeeded in conquering Morocco and Moslem Spain, and by 1174 the Almohades had completely displaced the Almoravides. With time the Almohades lost some of their fierce purifying zeal; Yakub had a rich court and was the patron of Averroës Yakub defeated (1195) ALFONSO VIII of Castile in the battle of Alarcos, but in 1212 the Almohade army was defeated and Almohade power in Spain was destroyed by the victory of the Spanish and Portuguese at Navas de Tolosa In Morocco they also lost power, there to the Meremide dynasty, who took Marrakesh in 1269.

Almon: see ALEMETH 2

almond, kernel of the fruit of a tree (*Amygdalus*, or *Prunus, communis*) resembling the peach The tree is probably native to W Asia In California it is rapidly becoming an important crop The tree, of moderate size, is very ornamental and flowers early in the spring There are two kinds of almonds the sweet, with a pink blossom, and the bitter, with a white blossom From the sweet almond is obtained by pressure a bland, fixed oil used in medicine as a demulcent Bitter almonds also yield almond oil and a glucoside called amygdalin, which when decomposed gives prussic acid The sweet almond, especially the broad or Jordan variety, is a favorite nut much used in fine cookery and confectionery Almond cake, the residue left after the oil has been extracted, is used in the making of soaps and cosmetics In Syria and Palestine, where the almond tree breaks into sudden bloom in January, it early came to symbolize beauty and revival The rod of Aaron in the Bible (see AARON'S-ROD) bore almonds. The beauty of the almond in bud, blossom, and fruit gave motif to sacred and ornamental carving For the ornamental shrub, see FLOWERING ALMOND

Almon-diblathaim (-lŭthā'ĭm), camping place of the Israelites Num 33 46,47 Called Beth-diblathaim in a denunciation of Moab Jer 48 22

Almonte (ăl'mŏnt), town (pop 2,543), SE Ont., on the Mississippi river (tributary of the Ottawa) and SW of Ottawa It is a manufacturing town

Almoravides (ălmŏ'rŭvĭdz, -vīdz) or **Almoravids** (-vĭdz), Berber Moslem dynasty that ruled Morocco and Moslem Spain in the 11th and 12th cent Its real founder was ABDULLAH IBN YASIN, who by force of arms converted some Saharan tribes to his own reformed religion and then advanced on Morocco. After his death (1059), YUSUF IBN TASHUFIN and his brother Abu Bakr came to power MARRAKESH was founded in 1062 and was the center of a powerful empire Called by the Moors in Spain to help stem Christian reconquest, Yusuf entered Andalusia and defeated (1086) Alfonso VI of Castile Later he subdued the local Moslem rulers and governed Moslem Spain with N Morocco (Abu Bakr had S Morocco) The Almoravides were rough and puritanical, contemptuous of the luxurious Moslem culture in Spain Their rule was never entirely stable and in the 12th cent was attacked by the ALMOHADES, who finally (by 1174) won both Morocco and Moslem Spain

Almquist, Carl Jonas Love (kärl' yōō'nas lōō'vu älm'kvĭst), 1793–1866, Swedish writer Most of his writings—novels, plays, poems, and short stories—are contained in *The Book of the Thorn Rose* (14 vols., 1832–51) His novel *Sara Videbeck* (1839) was translated into English in 1919 His career was varied and checkered, he was a civil servant, the founder of an unsuccessful farm colony, a teacher, a clergyman, and a socialist He was convicted of forgery and escaped a murder charge by fleeing to America In 1865 he returned to Europe and lived in Bremen as Professor Westermann See Axel Hemming-Sjoberg, *A Poet's Tragedy* (Eng tr., 1932)

almug or **algum**, precious wood mentioned in the Bible (2 Chron 2 8, 9 10,11), used in the Temple of Solomon and in his palace, brought from Ophir and Lebanon It is perhaps a red SANDALWOOD

Aloadae (ulō'udē) or **Aloidae** (ă'lōĭ'dē), in Greek legend, two giants who warred on the Olympian gods Their names were Otus (ō'tus) and Ephialtes (ē"fēăl'tēz), and they were putative sons of one Aloeus, but were really children of Aloeus' wife by Poseidon They managed to capture and imprison Ares for some months, and they tried to reach heaven to overthrow the gods by piling the mountain Ossa on Olympus and the mountain PELION on Ossa Apollo killed them, and they suffer forever in Hades To pile Pelion upon Ossa is thus to attempt an enormous and fruitless task.

alod (ă'lŏd) In feudal tenure, lands held without obligation to any suzerain were termed held in alod. Alodial lands existed both in England and on the Continent, but their number early decreased as landowners sought protection by turning their lands over to more powerful lords and receiving the holdings back as fiefs. In modern times the distinction between fee simple and alod has vanished.

aloe (ăl'ō) [Gr.], any species of the genus *Aloe* (ăl'ōē), perennials, chiefly from the warm dry regions of South Africa, but cultivated in other climates as pot or tub plants because of their rugged aspect. The different kinds, ranging in height from a few inches to tree size, bear flowers of red or yellow and large fleshy leaves in a stiff cluster. Products obtained from the juices of various species in different regions include the drug aloes (used chiefly as a cathartic and emmenagogue), an insect repellent, and a transparent pigment used in miniature painting, from the fibers are made cords and nets. In ancient times the juice was used in embalming A Mohammedan, returned from his pilgrimage to Mecca, hangs an aloe above his door. The ALOES mentioned in the Scriptures and the American aloe or AGAVE do not belong to this group of plants. The false aloe is sometimes considered an agave.

aloes (ăl'ōz), drug obtained from the ALOE; also a biblical name for an aromatic substance of various uses, mentioned in connection with myrrh and spices (Ps 45.8, Prov 7 17, Cant 4 14; John 19 39) and thought to be the fragrant wood of the modern aloeswood, also called eaglewood, agalloch (ăg'ulŏk), or agilawood (ăg'ĭlŭ-), an *Aquilaria* native to Asia In the East the aloeswood has been valued for medicinal purposes, as an incense, and for the beautiful grain of its wood which takes a high polish and was used for setting precious stones The tree lignaloes (lĭnăl'ōz, lĭgnăl'ōz) of Num 24.6, sometimes thought to be the aloeswood, may have been a different plant The aloe and the American aloe or AGAVE are not to be confused with the aloes of the Scriptures

Aloidae: see ALOADAE.

Alost (ălōst'), Flemish *Aalst* (ălst), town (pop. 42,020), East Flanders, Belgium, NW of Brussels It has textile manufactures (cotton, linen, and silk) The Church of St Martin and the town hall date from the 15th cent

Aloth (ă'lŏth) see BEALOTH

Aloysius, Saint (ălō'shŭs), 1568–91, Italian Jesuit, of the Gonsaga family He died of the plague, which he caught from people he had tended. He is the patron of youth. St Aloysius has been especially extolled for his purity Feast June 21

alpaca (ălpăk'ŭ), partially domesticated South American hoofed mammal of the camel family It belongs to the same genus (*Lama*) as the wild guanaco and the vicuña and, like the llama, is probably a descendant of the guanaco Although the flesh is sometimes used for food, the animal is bred chiefly for its long, lustrous wool, which varies from black, through shades of brown, to white Flocks of alpaca are kept by Indians in the highlands of Bolivia, Chile, and Peru Grasses which grow close to the snow line provide pasturage for the animals They require a pure water supply The Incas had domesticated the alpaca and utilized its wool before the Spanish Conquest Exporting of alpaca wool to Europe began after Sir Titus Salt discovered (1836) a way of manufacturing alpaca cloth The name alpaca is sometimes used for materials such as mohair which do not contain alpaca wool

Alp Arslan (ălp ärslän'), 1029–72, Seljuk sultan of Persia (1063–72) He embraced Islam and was a vigorous conqueror of the Christians. Successful invasions of Armenia and Georgia were followed by penetration of the Byzantine Empire A campaign against Romanus IV ended in 1071 with the brilliant victory of Alp Arslan at MANZIKERT The emperor was captured but was apparently treated not only with magnanimity but even with courtesy, he was released for a ransom Alp Arslan was assassinated in 1072, but his conquests and his extraordinarily orderly and well-run government were continued by his son Malik Shah, who controlled most of Asia Minor

Alpena (ălpē'nu), resort city (pop 12,808), co. seat of Alpena co., N Mich., on Thunder Bay of Lake Huron and N of Bay City, laid out 1856 as Fremont, renamed 1859, inc 1871 There are fisheries, limestone quarries, and cement and paper plants

alpenhorn see ALPHORN

Alpes-Maritimes (alp'-märētōm'), department (1,442 sq mi., pop 448,973), SE France, bordering on Italy and surrounding Monaco. It is a part of the French RIVIERA. Nice is the capital. The formerly Italian districts of BRIGUE and TENDE were added in 1947 (not included in figures given)

Alpha, borough (pop 2,301), W N J , near Phillipsburg, inc 1911.

alphabet [Gr *alpha-beta*, like Eng. ABC], type of WRITING, theoretically having a one-for-one relation between character (or letter) and phoneme (see PHONETICS). Few alphabets have achieved the ideal exactness An alphabet is called a syllabary when one character represents a syllable rather than a phoneme; such is the kana, used in Japanese to supplement the originally Chinese characters normally used The alphabet of modern Western Europe is the Roman alphabet, the base of most alphabets used for newly written languages of Africa and America, as well as for scientific alphabets. Russian, Serbian, Bulgarian, and many languages of the USSR are written in the Cyrillic alphabet, an augmented Greek alphabet Greek, Hebrew, and Arabic all have their own alphabets The great writing of India is the Devanagari, an alphabet with syllabic features, thus, invented probably for Sanskrit, is the source of a number of Asiatic scripts. The Roman is derived from the Greek, perhaps by way of Etruria, and the Greeks had imitated the Phoenician alphabet. The exact

steps are unknown, but the Phoenician, Hebrew, Arabic, and Devanagari systems are based ultimately on signs of the Egyptian HIEROGLYPHIC writing This was not alphabetic, but in the phonogram it bore the germ of phonemic writing; thus the sign "bear" might (to use an English analogy) mean also the sound *b*, and "dog" *d* A similar development created the Persian CUNEIFORM syllabary Two European alphabets of the late Roman era were the RUNES and the OGHAM An exotic modern alphabet is the Cherokee syllabary of SEQUOYAH, suggested by, but not based on, the Roman alphabet. Another was the Mormon Deseret alphabet See LETTERING and TYPOGRAPHY See Isaac Taylor, *The Alphabet* (1883), W S Mason, *A History of the Art of Writing* (1920); Edward Clodd, *The Story of the Alphabet* (new ed , 1938); Oscar Ogg, *26 Letters* (1948)

Alpha Bottis: see ARCTURUS

Alphaeus (ălfē'ŭs) 1 See CLEOPHAS 2 Father of the evangelist Matthew Mark 2 14; Mat 9 9

alpha particle and alpha ray· see RADIOACTIVITY, RADIUM, RAY

Alphege, Saint'(ăl'fĕj), d 1012, English churchman, archbishop of Canterbury after having been bishop of Winchester The Danes captured him and held him for ransom, but St Alphege would not ask his people to buy him back The Danes murdered him

Alpheus (ălfē'ŭs), in Greek legend, river-god He fell in love with Arethusa, a nymph of Artemis She tried to escape him and, changing into a fountain, plunged into the earth. He followed her, hence the legend of the course of the River Alpheus and of the fountain of Arethusa

Alpheus (ălfē'ŭs), Gr Alpheios (ălfē'ŏs'), river, 69 mi long, rising in the Taygetus mts , S Greece, and flowing NW through the Peloponnesus, past Olympia, into the Ionian Sea In Greek mythology, its waters were said to pass under the sea and to emerge at Syracuse in the fountain of ARETHUSA Hercules, to clean the stables of AUGEAS, turned the Alpheus through them It is the river Alph of Coleridge's poem, *Kubla Khan* The lower Alpheus was formerly known as Rouphia

Alphonse (ălfŏn'), 1220–71, count of Poitiers and of Toulouse, brother of Louis IX of France By his marriage to the daughter of RAYMOND VII, count of Toulouse, he inherited Raymond's lands in 1247, thus facilitating their incorporation (1271) into the French crown lands An able administrator, he did much to heal the wounds of the Albigensian Crusade During Louis's absence in the Holy Land he was coregent with Blanche of Castile (1248–52) and regent (1252–54)

Alphonsine tables see ALFONSINE TABLES

Alphonso. For rulers thus named, see ALFONSO

Alphonsus Liguori, Saint (ălfŏn'sŭs lĭgwō'rē), 1696–1787, Italian churchman, Doctor of the Church He was named Alfonso Maria de' Liguori In 1732 he founded the Congregation of the Most Holy Redeemer (the Redemptorists) for religious work among the poor, especially in the country He refused the archiepiscopal see of Palermo but accepted (1762) a miserable country diocese near Capua He labored incessantly until 1775, when sickness forced him to resign He worked for his order under great difficulties, caused by an anticlerical government and overzealous monks Goatherds of the mountains were his especial care St Alphonsus was an accomplished musician and wrote many hymns and instrumental pieces His point of view in casuistry, which has become standard, is called equiprobabilism in deciding whether a course of conduct is morally permissible, the opinions of good theologians are to be followed, when they differ, a course is allowable which a substantial number allow, in general the less austere point of view is preferable St Alphonsus was unusual, even among Catholics, for his great devotion to the Virgin Feast Aug 2

alphorn or alpenhorn [Ger ,=Alps horn], wooden horn from 3 to 12 ft long, sometimes curved slightly, with conical bore and a cup-shaped mouthpiece It produces only the natural harmonics of the tube, slightly modified, however, by the materials of the horn and its somewhat irregular shape In Switzerland it is used to call cattle and to entertain tourists The RANZ DES VACHES is played upon it

Alpine (ăl'pĭn), town (1940 pop 3,866; 1947 estimated pop 5,100), co seat of Brewster co , W Texas, in the mountains N of the Big Bend of the Rio Grande Founded in 1882 with the coming of the railroad, it is today a railroad junction and shipping point for cattle and for sheep ranches Sul Ross Teachers College here has a museum with historical and archaeological exhibits The mountain scenery attracts visitors, and Big Bend National Park is near.

alpine plants, natives of high mountainous regions, in demand for cultivation in alpine and ROCK GARDENS, where they are grown under artificial conditions that imitate those of their native habitat The plants are typically perennial, dwarf in form, and are profuse bloomers, some becoming turflike They often require a high altitude and a short growing season to thrive, and some will not succeed except in a specially constructed garden with a system for supplying cool water underground, comparable to the melting snows of mountains. Many common garden plants, such as primroses and irises, have alpine representatives, but alpine species of the gentians, saxifrages, and sedums are among those most commonly planted. The EDELWEISS is a popular alpine See A J Macself, *Alpine Plants* (1923), H D Correvon, *Rock Garden and Alpine Plants* (1930)

Alps, great mountain system, S central Europe It swings north, east, and southeast in a great arc from the Mediterranean coast between France and Italy to the Adriatic coast of Yugoslavia, with its northernmost point in S Bavaria The Alps thus form a barrier separating the great plain of the Po in N Italy from France (west), Germany (north), and the Danuban plain (east) The larger parts of Switzerland and Austria, between Germany and Italy, are covered by the Alps and their foothills Cut by numerous gaps and saddles (passes), the Alps do not form a complete climatic or strategic barrier However, the cisalpine (i e , of N Italy) climate is noticeably milder than that of the transalpine slopes, moreover, though the Alps have often been crossed by invaders, they are easily defensible Alpine waters drain, through three rivers rising there, to the North Sea (the Rhine), to the W Mediterranean (the Rhone), and to the Adriatic (the Po), they also feed the Danube, which flows to the Black Sea The Alpine chain represents the western culmination of a vaster mountain system, stretching SE to the Caucasus and the Himalayas It is more immediately connected with the Jura, from which it is separated by the Rhone, the Carpathians, from which it is separated by the Danube, the DINARIC ALPS, which continue the main chain along the Yugoslav coast and link it with the Balkans; and the APENNINES The Alps are the result of extensive folding and overthrusting of the earth's crust due to pressure exerted from the south Movements of the crust probably began in the Mesozoic, the uplift of the mountain mass probably culminated in the Pleistocene epoch of the Cenozoic Where the sedimentary layers have been worn away, the older crystalline rocks are exposed, forming the angular peaks Among the Alpine peoples the word *Alp* or *Alm* designates not the snow-capped peaks, but the high pastures above the timber line, where the cattle (cows, goats, and sheep) are taken to graze in summer In the high Alps, dairying is the chief industry and cheese the staple food Agriculture is confined to the valleys and foothills, viticulture and fruitgrowing are important on the southern slopes New industries are being introduced through increasing exploitation of the huge hydroelectric potential and may radically alter the traditional Alpine economy The tourist trade, especially in the Western and the Central Alps, has contributed to the prosperity of the frugal and hard-working Alpine population and has received great impetus from the growing popularity of MOUNTAINEERING The relatively low base level (3,000–4,000 ft) of the magnificent Alpine peaks stresses the majesty of their height and allows a great diversity of climate and vegetation on various levels Many valleys contain large and beautiful lakes, notably those of Geneva, Lucerne, Zurich, Constance, Como, and Garda, and the Lago Maggiore Above the timber line there is a wealth of characteristic ALPINE PLANTS, and, still higher, vast glaciers (see GLACIER) and a perpetual mantle of snow The alpine fauna is sparse, the CHAMOIS and the MARMOT are its only distinctive members The subdivisions of the Alps are generally arbitrary The Western Alps, stretching from the Riviera to the SIMPLON, comprise, from south to north, the Maritime Alps in Provence and Liguria, the Cottian and Graian Alps in DAUPHINÉ and Piedmont, and the MONT BLANC group and the Pennine Alps in SAVOY, the Val d'AOSTA, and the VALAIS Mont Blanc (15,772 ft) is the highest peak of the entire Alpine system; Monte Viso, the MATTERHORN, the GRAN PARADISO, and Monte ROSA are among the other chief peaks of the Western Alps, the Mont CENIS and Simplon tunnels and the Great and Little SAINT BERNARD passes are the main thoroughfares The Central Alps include the Bernese Oberland (see BERN), the Lepontine Alps, centered around the SAINT GOTTHARD group; and the Rhaetian Alps (E Switzerland, including the ENGADINE) The JUNGFRAU, the FINSTERAARHORN, and PIZ BERNINA are among the loftiest of all Alpine peaks, the St Gotthard and LOTSCHBERG tunnels and the FURKA, SPLÜGEN, MALOJA, and STELVIO passes are vital links The Eastern Alps comprise the Alps of VORARLBERG, the Austrian and Italian Tyrol (including the ÖTZTAL ALPS, the ZILLERTAL ALPS, the ORTLES group and the DOLOMITES), the HOHE TAUERN, with the GROSSGLOCKNER, the Alps of BAVARIA and Salzburg, the SALZKAMMERGUT; the Alps of Styria, and, farther south, the Carnic Alps (between Carinthia and Italy), the Karawanken (between Carinthia and Yugoslavia), and the Julian Alps (between Yugoslavia and Italy) The ARLBERG, BRENNER, and SEMMERING passes and tunnels are the main through routes See A E H Tutton, *High Alps* (1931), R L G. Irving, *The Alps* (1940).

Alps, Australian: see AUSTRALIAN ALPS.

Als (ăls), Ger *Alsen* (ăl'zŭn), island (121 sq mi , pop 34,294), Denmark, in the Little Belt, separated from S Jutland by the narrow Als Sound Sonderborg, the chief city, is on both sides of the sound. Agriculture and fruitgrowing are the main occupations. After being ceded to Prussia in 1864, the island was restored to Denmark as a part of N Schleswig after the plebiscite of 1920

Alsace (ălsās', ălsās, Fr alsās'), Ger *Elsass* (ĕl'zăs), region and former province, E France, along the Rhine border with Germany It is now divided into three departments, Bas-Rhin, Haut-Rhin, and Territory of Belfort Virtually the whole population can speak French, but a very large majority have also retained their Alemannic dialect. Although the Roman Catholic Church is very powerful here, about 25 percent are Protestants The fertile Alsatian plain along the Rhine gives way in the west to the VOSGES Largely agricultural, Alsace also has important cotton manufactures, chiefly at Mulhouse and Colmar, and large potash and minor oil deposits. The wines (notably Riesling) are highly prized. STRASBOURG is the chief city A part of the Roman province of Upper Germany (see GAUL), Alsace fell to the Alemanni (5th cent) and to the Franks (496). The treaty of Verdun (843, see VERDUN, TREATY OF) included it in Lotharingia, the Treaty of MERSEN (870) put it in the kingdom of the East Franks (later Germany). The 10 chief cities of Alsace gained (13th cent) virtual independence as free imperial cities The rest of the country was divided into petty feudal and ecclesiastic fiefs except in Upper Alsace (8 Alsace), where the HAPSBURG family consolidated its original holdings. In alliance with the Swiss, the Alsatian towns successfully resisted (1476–77) the pretensions of Charles the Bold of Burgundy They accepted the Reformation, but the rural areas remained generally Catholic The Peace of Westphalia (1648) transferred all Hapsburg lands in Alsace to France it moreover transferred all imperial rights throughout the "landgraviate of Alsace" to the French crown The vagueness of this clause helped Louis XIV when, on various pretexts, he forcibly took control of virtually all Alsace, including Strasbourg (1680–97) The Treaty of Ryswick (1697) confirmed France in its new possessions MULHOUSE, being allied with Switzerland, and a few other isolated holdings were not annexed to France until the French Revolution The province, with its own PARLEMENT at Colmar, retained a favored fiscal and religious status until 1790 The Edict of Nantes, promulgated before the annexation of Alsace, could not be revoked here; religious worship thus remained free In 1871, on debatable historical grounds, all Alsace except BELFORT was incorporated into Germany, as a result of the FRANCO-PRUSSIAN WAR. Until its recovery (1918) by France, Alsace and part of LORRAINE formed the "imperial land" (*Reichsland*) of Alsace-Lorraine, held in common by all the German states that formed the empire Many Alsatians emigrated to France rather than submit to a policy of thorough "Germanization" Clamor for the return of Alsace-Lorraine became the chief rallying force for French nationalism and was a major cause of the armaments race that led to the First World War After the first enthusiasm over the reunion with France, confirmed by the Treaty of Versailles (1919), had died down, problems faced the French government A strong particularist movement gained ground, demanding cultural and even political autonomy The movement received considerable impetus from recurrent efforts by the French government to end the CONCORDAT OF 1801, which had remained valid in Alsace-Lorraine though it had been ended in the rest of France in 1905 These efforts met the determined resistance of Catholic conservatives. The German occupation of Alsace in the Second World War began in 1940, a large part of the population having previously been evacuated to central France Alsace was considered part of Germany, and Alsatians were drafted into the German army When, late in 1944, French and American troops began the reconquest of Alsace, they were generally hailed as liberators By Jan , 1945, after heavy and difficult fighting, Alsace was fully recovered for France

Alsberg, Carl Lucas, 1877–1940, American chemist, b New York city, grad Columbia (B A , 1896, M D , 1900) In the Dept of Agriculture he served (1908–12) with the Bureau of Plant Industry and as head (1912–21) of the Bureau of Chemistry and was director (1921–37) of the Stanford Univ. Food Research Institute From 1937 he was director of the Giannini Foundation of Agricultural Economics at the Univ of California His numerous researches covered many phases of biochemistry and the chemistry of foods

Alsen, Denmark see ALS

alsike (ăl'sĭk, –sīk, ôl–), species of perennial CLOVER, *Trifolium hybridum*, with pinkish blossoms, widely naturalized and an important pasture crop in the United States and Canada. It is also called Swedish clover

Alsop, Richard (ôl'sŭp), 1761–1815, American author, b Middletown, Conn , of a wealthy family

As one of the CONNECTICUT WITS he collaborated with Theodore Dwight (1764–1846) and others in the *Echo* (1807) and later Federalist satires His poetry includes *The Charms of Fancy* (1856) and imitations of Scandinavian heroic literature In prose his most popular work was *A Narrative of the Adventures . of John R Jewitt* (1815), based on Jewitt's journal and his conversations See biography by K P Harrington (1939)

Alta (ăl'tu), town (pop 1,269), NW Iowa, ENE of Sioux City near Storm Lake, in a farm area, inc 1878 It has a municipal hospital

Alta California, see CALIFORNIA

Altai or Altay (both ăltī', ăl'tī, ăltī', Rus. ŭltī'), mountain system, SW Siberia, largely in the MOUNTAIN-ALTAI Autonomous Oblast, RSFSR, and in the Kazakh SSR It extends along the Russo-Mongolian border between the upper Irtysh river and the upper Yenisei river and includes the Kolyvan Range in the west, the Sailyugem Range in the southeast, and the central Katun and Chuya Alps The highest peak, Belukha (15,155 ft), is in the Katun Alps Numerous glaciers give birth to the headwaters of the Irtysh, Ob, and other rivers Connected with the Altai system are the Salair Ridge and the Kuznetski ALA-TAU (to the north), the Sayan Mts. (to the northeast), the Tannu-Ula Range (to the east), and the Mongolian Altai (see MONGOLIA) Formed mostly of much-folded Paleozoic strata, eroded to plateaus, and lifted again, the system has a continental climate with rainy summers and cold, dry winters It has dense forests to 6,500 ft and alpine meadows below the snow line (8,200 ft) The Altai and several of its branches are extremely rich in minerals (lead, zinc, silver, wolfram, copper, mercury, and gold) LENINOGORSK is the largest mining center, Kolyvan has a wolfram mine opened in 1726 The inhabitants of the region, mainly Russians and Oirots, engage in hunting, cattle breeding, and farming

Altai Territory, administrative division (101,005 sq mi , pop 2,520,084), RSFSR, in SW Siberia, drained by the Ob river. Barnaul is the capital It includes the MOUNTAIN-ALTAI Autonomous Oblast (southeast), which contains most of the Altai mts The central section is the richest black-earth area of Siberia and produces wheat, sugar beets, flax, and dairy products The Turksib RR passes through the territory, which was first settled by Russians in the early 18th cent

Altamira (ăl"tămē'ra), site of the caverns in N Spain, near Santander, where famous examples of Paleolithic CAVE ART were discovered in 1879

Altamirano, Ignacio Manuel (ēgnä'syō manwĕl' altămēra'nō), 1834–93, Mexican novelist, of pure Indian blood At 14 an unlettered country boy, he later, after formal education, became an advocate of learning and freedom After Maximilian was executed, he was a key figure in the reconstruction of the republic under Benito JUAREZ He edited the *Correo de Mexico* and as a poet interpreted the Mexican landscape He is best known for two novels—*Clemencia* and a story sketching Mexican customs, *La navidad en las montañas* [Christmas in the mountains]

Altamira y Crevea, Rafaél (räfäĕl' altămē'rä ē krāvā'ä), 1866–, Spanish jurist and historian He was appointed professor of the history of the law in the universities at Oviedo (1897), Madrid (1914), and Mexico city (1945) From 1921 to 1940 he was a judge of the Permanent Court of International Justice (the World Court) Among his numerous works on education, social science, literature, law, and history, his *Historia de España y de la civilización española* (5 vols , 1900–1930) is the best known, an English adaptation is C E Chapman, *A History of Spain* (1931) The translation, *A History of Spanish Civilization*, appeared in 1930

Altamont (ăl'tumŏnt), city (pop 2,111), S central Ill , SE of Springfield, inc as a village 1872, as a city 1901 It is a railroad junction and shipping point in a farm area.

Altamura (ăl"tămōō'ra), city (pop 31,099), Apulia, S Italy It is a purely agricultural center The imposing cathedral, with twin campaniles, was begun by Emperor Frederick II in 1232

Altar (ăltăr'), extinct volcano, 17,300 ft high, S central Ecuador Its name is derived from a fancied resemblance to an altar It is also called Capac Urcu

altar, table or platform for the performance of sacrifice In its simplest form the altar is a small pile, with a square or circular surface, made of stone or wood Its features vary according to its purpose, the altar of libation usually has a drain for the liquid, and so does the altar of bloody sacrifice The altar of burnt offering (including incense) often has a depressed hollow for a fire Altars in Egypt, in Mesopotamia, in Greece, and in Rome and among the Aztec and the Maya were highly adorned with friezes, cornices, elaborate platforms, and canopies At Pergamum there was a huge monumental altar 40 ft high Altars as a rule were out of doors in the ancient world and in Central America The Christian altar is the place to celebrate the EUCHARIST, a sacrifice in the traditional view. In the Western Church the altar is a long narrow table of stone, often reminiscent of a tomb, at its back is a REREDOS, which often bears a canopy In the Roman rite there are in the middle of the altar a crucifix and a tabernacle to contain the reserved Host There is a recess in each altar stone containing bones of martyrs, thus is even true of tiny portable altars carried by chaplains In Eastern rites the altar is square and has no backing or reredos, it is away from the wall Most Protestant denominations have no altar, instead, a typical practice is to have a permanent communion table below and in front of the pulpit

Al-taschith, see AIJELETH SHAHAR

Altavista (ăltăvĭs'tù), industrial town (pop 2,919), SW Va , on the Roanoke and SSW of Lynchburg, inc 1910, rechartered 1936 The town has cedar-chest and rayon industries

Altay, see ALTAI.

Altdorf (ält'dôrf), town (pop 5,692), capital of Uri canton, Switzerland It is the scene of the traditional exploits of William Tell, commemorated in open-air theatrical festivals

Altdorfer, Albrecht (ăl'brĕkht ältdôr'fur), 1480–1538, German painter and engraver He served as city architect of Regensburg, where much of his life was spent He was a follower of Dürer, with whom he is thought to have studied, but his work has a gentler and more romantic character than that of his master Fine examples of his painting are *Susanna Bathing*, *Victory of Alexander over Darius* (painted in contemporary costumes), *St George and the Dragon*, and *Holy Family at a Fountain* Altdorfer excelled in painting landscape and particularly forest interiors, which often predominate in his enchanting compositions He was probably the first German to paint a pure landscape He was no less successful as an engraver and etcher *Virgin of Regensburg* and *St Jerome* are among his noted prints See study by Sturge Moore (1900)

Altenburg (ăl'tŭnbōōrk), city (pop 51,805), Thuringia, S central Germany, on the Pleisse river There are manufactures of machines, textiles, and playing cards Lignite is mined near by First mentioned in 976, Altenburg became (12th cent) an imperial city It passed 1329 to the house of Wettin and later was the capital of the duchy of SAXE-ALTENBURG It was burned by the Hussites in 1430 The tower of the monastery, founded (1172) by Emperor Frederick I, still stands, the 15th-century ducal castle is now a museum

alternating current see ELECTRICITY, GENERATOR

Altgeld, John Peter (ält'gĕlt), 1847–1902, governor of Illinois (1892–96), b Germany He came with his immigrant parents to Ohio, where he grew up After practicing law and serving as county attorney at Savannah, Mo , he moved to Chicago in 1875 There he wrote *Our Penal Machinery and Its Victims* (1884), arguing that American judicial methods were weighted against the poor, and in 1886 he was elected to the Cook co superior court He was elected governor in the wave of Democratic success across the nation in 1892 and established himself as a champion of labor, of reform, and of liberal thought Charging a miscarriage of justice, he pardoned three anarchists imprisoned because of the Haymarket riot of 1886 In the strike at PULLMAN in 1894, when President Cleveland sent in Federal troops on the grounds of interference with U S mails, Governor Altgeld sturdily protested, calling the act unconstitutional Though conservatives in his day roundly denounced him as a radical and he was not reelected when he ran as an advocate of free silver in 1896, he has later been exalted as a champion of human rights and of the underprivileged See W R Browne, *Altgeld of Illinois* (1924), Harry Barnard, *"Eagle Forgotten" the Life of John Peter Altgeld* (1938)

althea, shrubby see ROSE OF SHARON

Althing (ăl'thĭng) [Icelandic,=general diet], parliament of Iceland This assembly, the oldest in Europe, was convened at Thingvellir, SW Iceland, in 930 It was dissolved in 1800, was revived as an advisory body in 1843, and in 1874, when Iceland was granted a constitution, became again a legislative body The members serve for four years Its upper house (one third of the members) and lower house (two thirds) sometimes work together in a United Althing The Althing in 1944 voted the independence of Iceland from Denmark, a decision ratified by popular vote

Althouse, Paul Shearer (ălt'-), 1889–, American tenor, first entirely American-trained singer of leading roles with the Metropolitan Opera Company, New York His debut was made there in 1915, and he later sang successfully in Europe and Australia as well as in many U S cities He was the first American to sing the role of Tristan (Metropolitan Opera House, 1913)

Altichiero da Zevio (ältēkyā'rō da tsā'vyō), c 1330–c 1395, early Italian painter, follower of Giotto and founder of the school of Verona His frescoes at Padua in the churches of Sant' Antonio and San Giorgio are famous

altimeter (ăltĭm'ĭtur, ăl'tĭmē"tûr), device used in airplanes and balloons to determine altitude, commonly a type of BAROMETER A barometer, however, can indicate only the altitude above sea level and not the distance above the surface of the ground A more recently developed device is known as a terrain-clearance indicator. This type of altimeter measures the time required for radio waves transmitted from the airplane to be reflected back to the plane from the surface below, converts the time lapse into feet, and thus indicates the actual vertical distance from the terrain or objects below.

altitude, in astronomy, the angular distance of a heavenly body above the astronomical horizon The angle used in measuring is that which a line drawn from the eye of the observer to the heavenly body makes with the plane of the horizon. The reading of the apparent altitude, as determined by a telescope attached to a graduated circle, must be corrected for refraction and certain other errors to ascertain the true altitude In navigation, observations are made with a sextant.

altitude, in physical geography, the elevation of a physical feature of the earth above the mean sea level Mean sea level, the average of the heights of the surface of the sea over a long period of time, is determined by a recording apparatus called a tide gauge The altitude of any feature is calculated by trigonometric triangulation or (less accurately) by photographic surveying or barometric readings On topographical maps altitude is represented usually by contour lines and sometimes by hachures or by differential coloring

altitude sickness see AIRSICKNESS

Alto (ăl'tō), town (pop 1,141), E Texas, ESE of Palestine, in a tomato-growing region, inc 1909

alto (ăl'tō) [Ital , =high], formerly the highest male voice or part in music which was also called countertenor, now a term used for the lowest female voice or part and synonymous with contralto In several families of instruments the member next to the highest is called alto, e g , the alto saxophone and alto clarinet and the tenor violin or viola.

Alto Adige, see TRENTINO–ALTO ADIGE

Alton (ŏl'tun) **1** City (pop 31,255), SW Ill , on bluffs above the Mississippi N of St Louis, laid out 1817 in a region visited by Jolliet and Marquette in 1673, inc 1821 A shipping and industrial center, it has numerous manufactures, including flour, steel, glass, chemicals, farm and mine tools, brass, and petroleum It is the seat of Shurtleff College (Baptist, coeducational, 1827), a boys' military academy, and a junior college for girls There is a monument to Elijah P Lovejoy A tablet marks the scene of a Lincoln-Douglas debate (1858) The PRINCIPIA (at Elsah) and Pere Marquette State Park are near by **2** Town (pop 1,025), NW Iowa, on the Floyd river and NE of Sioux City , inc 1883 **3** Town (pop 1,209), S N H , NE of Concord, settled 1770, inc 1796 It is a resort and rural region on Merrymeeting river and includes villages near the southern end of Lake Winnipesaukee

Altona (ăltō'nu), village (pop 1,065), SE Man , SSW of Winnipeg and near the N Dak border, in a grain and stock-farming region It has flour mills

Altona (ăl'tōna), river port of Hamburg, N Germany, on the Elbe It was incorporated into the city of Hamburg in 1938 It has chemical and other industries

Altoona (ăltōō'nu) **1** Industrial city (pop 80,214), central Pa , near the source of the Juniata E of Pittsburgh, settled c 1769, laid out 1849, inc as a borough 1854, as a city 1868 Extensive bituminous coal mining is done near here Industries include textile products, lumber, sand, paper, and automobile shops The city is a railroad center with railroad shops, and 5 mi west of the city is the famous scenic Horseshoe Curve of the Pennsylvania RR The Altoona motor speedway is well known Governor Curtin called a conference of governors in 1862 at Altoona to pledge support to Lincoln's administration The near-by historic hotel, Fountain Inn, appears in Dickens's *American Notes* **2** City (pop 1,239), W central Wis , near Eau Claire, settled 1882, inc 1887

alto-relievo see RELIEF

Altschuler, Modest (mŭdyĕst' ält'schōō'lûr), 1873–, Russian-American conductor, studied at the Moscow Conservatory In 1903 he organized the Russian Symphony Orchestra, which until 1919 introduced to American audiences works of Rachmaninov, Scriabin, and other modern Russian composers

Alturas (ältōr'us), city (pop 2,090), co seat of Modoc co , NE Calif , on the Pit river, inc 1901 A trade center in a timber, grain, and livestock area, it is the headquarters for the Modoc National Forest

Altus (ăl'tus), city (pop 8,593), co seat of Jackson co , SW Okla , between the Wichita Mts and the Red River, founded c 1892, inc 1901 Cotton and food products are made here and shipped It is the chief city on the W C Austin (formerly Altus) project of the Bureau of Reclamation, started in 1941 Ultimately some 50,000 acres will be irrigated by water from the North Fork of the Red River diverted by the dam, which is 110 ft high and 1,100 ft long

alum (ăl'ŭm), any of a series of double crystalline salts They are sulphates of a univalent cation (a positively charged atom or radical), e g , sodium, potassium, ammonium, or thallium, combined with a trivalent cation, e g , aluminum, chromium, or manganese Commonly the terms *alum* and *common alum* are applied to potassium alum or potash

alum, the double sulphate of potassium and aluminum, which is used in the purification of water, in tanning hides, as a mordant in dyeing, and as an astringent. Sodium aluminum sulphate, also known as alum, is used in some kinds of baking powder. Chromium potassium sulphate or chrome alum is used in the textile industry as a mordant, in tanning, and in the fixing bath to harden the gelatine on photographic films and plates

alumina (ŭlōō'mĭnŭ) [from Latin, =alum] or **aluminum oxide**, occurring almost pure in nature as CORUNDUM (e g , RUBY and SAPPHIRE) and combined with silica in CLAY, SLATE, and MARL The crystalline forms are extremely hard Corundum, next to the diamond in hardness, and emery (an impure form of corundum) are used as abrasives Alundum or aloxite, an artificial form of the oxide, is a hard white or gray crystalline powder prepared from bauxite and extensively used as an abrasive It is used also in making crucibles and other laboratory apparatus When precipitated from solutions containing coloring matter, alumina absorbs these substances and insoluble pigments are formed Such a precipitate is called a LAKE, and the process employing lakes is mordant dyeing Alumina is insoluble in water and in most acids but reacts with sodium hydroxide Precipitated alumina prepared from bauxite is used in the preparation of metallic aluminum.

aluminum [from Latin, =alum], called in British countries **aluminium** (ăl"ūmĭn'yum), silvery-white metallic element (symbol=Al, for physical constants, see ELEMENT, table) It is extremely light, weighing much less than the more common metals iron, copper, zinc, and lead, and for this reason is used in airplane, dirigible, and automobile construction It resists corrosion, being acted upon only slightly by water or moist air, upon exposure, a thin layer of oxide is formed almost immediately upon its surface, preventing further oxidation Since it keeps its brightness and is an excellent conductor of heat, it is used extensively in the manufacture of cooking utensils and kitchenware It is a conductor of electricity, and since it is ductile it is employed often in place of copper for high-tension wires Because of the metal's malleability and resistance to moisture, aluminum foil is used increasingly in place of tin foil as a wrapper Powdered, it is used in paints Since it is a powerful reducing agent, the metal is mixed in very small quantities with molten iron and steel to assure sound castings (i e , without holes), the aluminum combining with the gaseous impurities This reducing power is utilized also in the preparation of certain elements, such as manganese and chromium, from their oxides When a mixture of powdered aluminum and iron oxide, called THERMITE, is ignited, much heat is generated and the reaction is utilized in welding Although one of the most plentiful elements, aluminum does not occur free in nature It appears in numerous compounds, including CLAY, BAUXITE, MICA, FELDSPAR, ALUM, CRYOLITE, and the several forms of aluminum oxide (ALUMINA), such as emery, CORUNDUM, alundum, SAPPHIRE, and RUBY It is present also in the Oriental AMETHYST, AQUAMARINE, Oriental EMERALD, TOPAZ, TOURMALINE, and TURQUOISE Sir Humphry Davy recognized the existence of the metal and, with other chemists in the early 19th cent , considered alumina as an oxide Oersted succeeded (1825) in obtaining the impure metal, but Wohler had greater success and is usually credited with its first isolation (1827) H E Sainte-Claire Deville first secured the pure metal in 1854 and set about perfecting a process for its commercial production Not, however, until 1886 was the method discovered by which aluminum is produced today—in the United States by C M Hall, a student at Oberlin College, and in France by Paul Héroult, working independently Hall's process consists essentially of the electrolysis of alumina (a compound of aluminum and oxygen) dissolved in fused cryolite The alumina is first prepared from bauxite and then dissolved in the molten cryolite In the electric furnace carbon rods serve as positive electrodes, and the carbon lining of the furnace acts as the negative electrode The molten aluminum collects at the negative electrode and can be drawn off Oxygen is given off at the positive electrodes Aluminum may also be obtained from clay Important among the alloys of aluminum are DURALUMIN, aluminum bronze, and MAGNALIUM

aluminum oxide see ALUMINA.

alundum see ALUMINA.

Alush (ā'lush), wilderness camping ground of the Israelites Num 33 13,14

Alva, Fernando Álvarez de Toledo, duque de. see ALBA, FERNANDO ÁLVAREZ DE TOLEDO, DUQUE DE

Alva (ăl'vu), city (pop 5,055), co seat of Woods co , NW Okla , on the Salt Fork of the Arkansas river, settled 1893. It is the business and community center of a large wheat-growing area. Near by is a state teachers college

Alvah (-vŭ), duke of Edom. Gen. 36.40. Aliah 1 Chron 1 51

Alvan, Horite. Gen 36.23. Alian. 1 Chron 1.40

Alvarado, Juan Bautista (hwän' boutēs'tä ălvärä'-dhō), 1809–82, governor of Alta California (1836–42), b Monterey, Calif Out of the chaotic times in the more or less neglected Mexican province, he emerged as a brilliant and ambitious politician After a small but successful revolt in 1836, he declared California an independent state with himself as governor He pacified his opponents in San Diego and Los Angeles, but the southern faction continued to view the northern upstart with suspicion until he secured (1838) regular appointment as Mexican governor He and his uncle, Mariano Guadalupe Vallejo, who acted as military commander, could not accomplish much, and after they disagreed both men were removed in 1842 Alvarado was one of the leaders of a new and successful revolt in 1844–45, but the new government was shortly faced with the Bear Flag revolt and the Mexican War, and Alvarado's public career, typical of the turbulence of California in his day, ended

Alvarado, Pedro de (pā'dhrō dā), 1485?–1541, Spanish conquistador He went to Hispaniola (1510), commanded a vessel in the expedition (1518) of Juan de Grijalva, and was the chief lieutenant of Hernán CORTÉS in the conquest of Mexico He commanded at Tenochtitlán in the absence of Cortés Sent out by Cortés in 1523, he conquered Guatemala and Salvador He was governor and captain general of Guatemala until his death He met with much opposition from the *audiencia* in Mexico, but, strengthening his power on two voyages to Spain (1527–28, 1536–39), he exercised absolute control He founded many cities and developed the colony An expedition to Ecuador (1534 35), made in an attempt to share in the booty Francisco PIZARRO was taking from the Inca empire, led to defeat at the hands of Sebastian de Benalcázar and Diego de Almagro In 1540 Alvarado sailed for the Moluccas, stopping in Mexico, he was diverted to a search for Cíbola by the viceroy, Antonio de MENDOZA, and by the stories of MARCOS DE NIZA When the Indians of Nueva Galicia revolted (1541), Alvarado took part against them in the Mixtón War He commanded a foolhardy attack at Nochistlán and was accidentally killed in the subsequent retreat Juan Rodríguez CABRILLO took command of the maritime expedition Alvarado's wife, Doña Beatriz de la CUEVA, succeeded him as governor of Guatemala His letters concerning the conquest of Guatemala have been published See J E Kelly, *Pedro de Alvarado* (1932)

Alvarado (ălvurā'dŭ), city (pop 1,324), N Texas, S of Fort Worth, in a blackland farming area

Álvarez, José (José Álvarez de Pereira y Cubero) (hōsā' ăl'vurĕth dā pĕrā'ra ē kōōbā'rō), 1768–1827, Spanish classicist sculptor, follower of Canova He was employed on the decoration of the Quirinal Palace in Rome On returning to Madrid he became director of the Academy of San Fernando and sculptor to Ferdinand VII He is best known for his portrait statues of Spanish royalty and for his mythological figures in marble

Álvarez, Juan (hwän' al'vurĕs), 1790?–1867, Mexican general, president of Mexico (1855) An Indian, he fought well under MORELOS Y PAVÓN in the revolution and was later a prominent leader in the Acapulco region In 1854 he commenced the liberal Revolution of Ayutla, which overthrew (1855) SANTA ANNA He yielded the presidency soon to Ignacio COMONFORT Álvarez later fought against the French invaders and the imperialist troops of Maximilian

Álvarez Quintero, Serafín (sărnfēn' al'vurĕth kēntā'-rō), 1871–1938, and **Joaquín Álvarez Quintero** (hwakēn'), 1873–1944, Spanish dramatists They wrote in collaboration a large number of highly successful plays of all types, the most popular have been genre pictures of Andalusian middle-class life, which are racy, brilliant, and witty comedies The brothers were admitted to the Spanish Academy in 1922 Among their best-known plays are *Los galeotes* (1900), *Mañana de sol* (1905, Eng tr , *A Bright Morning*, 1916), *El genio alegre* (1906), *Las de Caín* (1908), *Doña Clarines* (1909), and *Malvaloca* (1912)

Alvear, Carlos María de (kar'lōs mārē'ä dā ălvăr'), 1789–1852, Argentine general and statesman, supreme director of the United Provs of La Plata (1815) He was a leader in the domestic revolution (Oct 8, 1812) which overthrew the first and set up the second triumvirate of the young republic and resulted in the popularly elected constituent assembly of 1813 Commanding the patriot army besieging Montevideo, he received the capitulation of the royalists (June 20, 1814) He became supreme director in Jan., 1815, but was deposed in April, after attempting to establish a dictatorship His attempt to seize the government in 1820 was unsuccessful In the war with Brazil, Alvear won the decisive battle of Ituzaingó (Feb 20, 1827) From 1838 to 1852 he was minister to the United States

Alvear, Marcelo Torcuato de (märsā'lō tôrkwa'tō), 1868–1942, Argentine statesman and diplomat, president of the republic (1922–28). A Radical, he became minister to France after a victory of the Radical party in 1916 placed IRIGOYEN in the presidency Succeeding Irigoyen in 1922, he secured enactment of some reforms, especially agricultural measures, but largely because of a split with Irigoyen his administration was, on the whole, fruitless Later the breach was healed, and Alvear became the leader of the Radical party In 1931 he was barred from the presidential race, and in the 1937 election he was defeated

Alverstone, Richard Everard Webster, 1st Viscount (ôl'vûrstun), 1842–1915, lord chief justice of England (1900–1913) He served on various international arbitration commissions, including those dealing with the Bering Sea Fur-Seal Controversy and the Venezuela Boundary Dispute (1898–99) In the Alaska Boundary Dispute, he gave the deciding vote against the Canadian claims He was created baronet in 1899, baron in 1900, and viscount in 1913 He wrote *Recollections of Bar and Bench* (1914)

Alves, Francisco de Paula Rodrigues: see RODRIGUES ALVES, FRANCISCO DE PAULA.

Alvin, city (pop 3,087), S Texas, SSE of Houston This region of the Gulf Coast plain produces truck and flowers and some oil

Alvord, Clarence Walworth (ăl'vurd), 1868–1928, American historian, b Greenfield, Mass Educated at Williams (B A , 1891), Friedrich Wilhelm Univ in Berlin, and the Univ of Chicago, he became (1901) an instructor in history at the Univ of Illinois (Ph D , 1908) and was full professor there (1913–20) and at the Univ of Minnesota (1920–23) He was general editor (1906–20) of the *Illinois Historical Collections*, edited the *Centennial History of Illinois* (6 vols , 1918–24) and wrote its first volume, and was the principal founder of *The Mississippi Valley Historical Review* and its managing editor (1914–23) He also wrote *The Mississippi Valley in British Politics* (1917)

Alvord, Henry Elijah, 1844–1904, American agriculturist, educator, and specialist in dairy husbandry, b Greenfield, Mass He was a pioneer in developing the cooperative creamery system Between 1886 and 1893 he served as professor and president of various state agricultural colleges In 1895 he became first chief of the dairy division of the Bureau of Animal Industry, U S Dept of Agriculture

Alvsborg, Swed *Alvsborgs län* (ălfs'bôr"yus lĕn'), county (4,919 sq mi , pop 338,996), SW Sweden. Vanersborg is the seat Its northern section, the historic province of Dalsland, W of Vanern lake, is an agricultural and lumbering district, the rest of the county consists of the western part of Vastergotland prov , with important textile plants and with large power works at TROLLHATTAN Alvsborg was formerly also spelled Alfsborg or Elfsborg

Alyattes (ălī'ătēz), d 560 B C , king of Lydia He built up the kingdom While he was warring with Cyaxares of Media an eclipse of the sun occurred (585 B C) The two kings then made peace. Alyattes continued Lydian conquest of the Ionian cities of Asia Minor His immense, round tomb can still be seen N of Sardis He was the father of CROESUS

Alypius (ulĭp'ēŭs), fl c 360, Greek author of *Introduction to Music*, which is the chief source of our knowledge of Greek musical notation

alyssum (-lĭs'-), any species of the genus *Alyssum*, low garden plants (annual and perennial) especially used in borders and rock gardens for their masses of yellow or white blossoms Yellow tuft (with a long blooming season) and golden tuft (also called gold-dust or basket-of-gold) are favorite yellow kinds and are perennial They have been called madwort or heal-bite because of an old belief that they cured hydrophobia The **sweet alyssum,** similar, but cultivated as an annual, is classed botanically in the genus *Lobularia*, but catalogues include it in the genus *Alyssum* It has fragrant white or lilac flowers, and is most popular as a garden flower but may be used as a potted plant These plants all show their relationship to the mustards.

Am, chemical symbol of the element AMERICIUM

Amad (ā'măd), unidentified city of Asher, NW Palestine Joshua 19 26

Amadas or **Amidas, Philip** (both ăm'ŭdăs), 1550–1618, English navigator With Arthur Barlowe he was sent by Sir Walter Ralegh in 1584 to prospect the North American coast Their favorable report on Roanoke Island, N C , led to the colonizing expedition (1585) under Sir Richard Grenville and Sir Ralph LANE See W A Raleigh, *English Voyages of the Sixteenth Century* (1906)

Amadeus VIII (ămudē'ŭs), 1383–1451, count (1391–1416) and duke (from 1416) of Savoy, antipope (1439–49) with the name Felix V In 1434 he appointed his son regent of Savoy and retired to the hermitage of Ripaille, on Lake Geneva, which he had founded In 1439 the Council of Basel (see BASEL, COUNCIL OF) declared EUGENE IV deposed, and elected Amadeus, much respected for his probity, to the papacy Although a layman, Amadeus reluctantly accepted, believing that he could bring peace to the Church As Felix V, he was recognized only in Germany When Nicholas V became pope, Felix had no supporters and yielded his claim. He was subsequently made a cardinal

Amadeus, 1845–90, king of Spain (1870–73), duke of Aosta, son of Victor Emmanuel II of Italy Juan PRIM urged his election as king by a constituent assembly after the expulsion (1868) of Queen

ISABELLA II Amadeus accepted the crown reluctantly. Just before the new king arrived in Spain, Prim was assassinated The dissensions of the ministers and the Cortes, the repeated attempts on the king's life, and the renewal of rebellion by the CARLISTS finally made Amadeus's life in Spain unendurable He abdicated and returned to Italy A year later Alfonso XII was proclaimed king

Amadis of Gaul (ă'mŭdĭs), Fr *Amadis de Gaule* (ämädēs' dŭ gōl'), famous romance of chivalry, first composed in Spain or Portugal and probably based on French sources It dates from the 13th or 14th cent , but the first extant version, in Spanish, a revision by Garcia de Rodriguez de Montalvo, was published in 1508 It was translated into French in 1540 and appeared in English in 1619. It was immensely popular in France and Spain until it was superseded by *Don Quixote* It was, in fact, a sign of inelegance not to be acquainted with its noble code of honor and ideal of the perfect knight There were numerous continuations of the original Its influence is apparent in Sir Philip Sidney's *Arcadia* The story became the subject of a lyric tragedy by Philippe Quinault (1684), with music by Jean Baptiste Lully, and it inspired the opera *Amadigi* (1715) by George Frideric Handel

Amado, Jorge (zhôr'zhû ŭmä'dô), 1912–, Brazilian novelist His works deal largely with the sufferings of the common man and have a strong leftist viewpoint They are marked by grim and violent realism with a fluently poetic appreciation of Brazilian life and land and compassion for the oppressed Typical are *Cacáu* [cacao] (1933), *Suór* [sweat] (1934), and *Terras do sem fim* (1942; Eng tr , *Land of Violence*, 1945).

Amagasaki (ä'mägäsä'kē), city (1940 pop. 181,011, 1947 pop 233,183), Hyogo prefecture, S Honshu, Japan, a port on Osaka Bay The Yodo river traverses this great industrial center, which has metallurgical works and chemical and textile manufactures

Amager (ä'mägûr), island (25 sq mi , pop 150,775), Denmark, in the Oresund Its northern end is occupied by part of Copenhagen

Amakusa Islands (ämäkōō'sä), archipelago (341 sq mi , 1940 pop 192,595, 1947 pop 260,854), in the East China Sea, W of Kyushu, Japan There are c 70 islands in the group

Amal (ä'mŭl). Asherite 1 Chron 7.35

Amalasuntha (ä"mŭlŭsŭn'thŭ), d. 535, Ostrogothic queen in Italy (534–35), daughter of Theodoric the Great After her father's death (526) she was regent for her son Athalaric After her son's death (534) she ruled Italy jointly with her husband She alienated her people by her good relations with the Byzantine emperor, Justinian I In 535 the Goths revolted, and Amalasuntha was imprisoned and murdered by order of her husband Justinian used her murder as a pretext for attacking and reconquering Italy

Amalek (ăm'ŭlĕk), aboriginal people of Canaan and the Sinai peninsula They waged a constant warfare against the Hebrews until dispersed by Saul Their eponymous ancestor was a duke of Edom and Esau's descendant Gen 14 7, Ex 17 8–16, Gen 36 12,16, Num 13 29, 14 25,45, 24 20, Judges 3 13, 6 3,33; 7 12, 1 Sam 15 5–8, 30 1–20, 1 Chron 1.36, 4 43

Amalfi (ämäl'fē, Ital ämäl'fē), town (pop 4,259), Campania, S Italy, a port on the north shore of the Gulf of Salerno Founded, according to tradition, in the 4th cent A D , it was (9th cent) the first Italian maritime republic A duchy in 953, it rivalled Pisa, Venice, and Genoa in wealth and power Amalfi lost its independence to the Normans (1131) and was sacked by Pisa (1135, 1137) Its early maritime code was the *Tavole Amalfitane* The sea swept away part of the town in 1343 The cathedral in Sicilian-Arabic style (10th cent , repeatedly restored) has an imposing façade, its fine bronze doors were cast (11th cent) in Constantinople Attached to the cathedral is a picturesque cloister (*chiostro del Paradiso*)

amalgam, an ALLOY combining mercury and practically any other metal, e g , bismuth, cadmium, copper, gold, lead, silver, tin, and zinc Platinum and iron are exceptions Almost all amalgams are artificially formed, not occurring in nature, the chosen metal being allowed to dissolve in the mercury These alloys are widely used—e g , zinc amalgam to prevent the polarization of the zinc plates in batteries, tin amalgam in the manufacture of mirrors; and silver, gold, and copper amalgams in dentistry The **amalgamation process** for the extraction of gold and silver from their ores is based upon the fact that mercury dissolves gold and silver to form an amalgam The gold ore is crushed and treated with mercury, in which the gold dissolves The amalgam thus formed is removed and the mercury separated from the gold by heating, the mercury vaporizes at comparatively low temperatures and the gold remains

Amalia, duchess of Saxe-Weimar see ANNA AMALIA.

Amalric I (ŭmăl'rĭk, ä'mŭlrĭk) or **Amaury I** (ŭmô'rē, Fr. ämōrē'), c 1135–1174, Latin king of Jerusalem (1163–74), brother and successor of Baldwin III He spent his reign in attempts to gain and hold the suzerainty of Egypt, but was balked by the Turkish sultan NUREDDIN, one of whose lieutenants finally obtained control of the country and left it at his death to SALADIN During Amalric's frequent absences in Egypt, Nureddin repeatedly raided the increasingly weak Latin states of the East Amalric was succeeded by his son, Baldwin IV.

Amalric II or **Amaury II**, d. 1205, Latin king of Jerusalem (1197–1205) and king of Cyprus (1194–1205), brother and successor (in Cyprus) of GUY OF LUSIGNAN. His title to Jerusalem was established through his marriage with Isabella, eldest daughter of Amalric I (see JERUSALEM, LATIN KINGDOM OF)

Amalric of Bena (bē'nä), d 1207? French professor of philosophy He taught heretical precepts concerning God, a pantheistic universe, and a progressive Trinity. Before he died, he publicly retracted, but his followers in Champagne formed a heretical sect, the Amalricians They were condemned by Pope Innocent III and by councils held at Paris (1210) and the Lateran (1215) The heresy caused a temporary ban to be laid on Aristotle and the Arabic philosophers at the Univ of Paris and, later, led to the condemnation of some of the works of John Scotus ERIGENA.

Amalthaea (ămŭlthē'ŭ), in Greek legend, nurse of Zeus Some myths make her a nymph, but more commonly she is a she-goat with wonderful horns. One of these, broken off, became the CORNUCOPIA

Amam (ä'mäm), city of Judah Joshua 15 26

Aman (ä'–), the same as HAMAN

Amana (ŭmä'nŭ), unidentified mountains Cant 4 8

Amana Society (ŭmăn'ŭ), corporate name of a group of seven small villages (total pop c 1,400), E central Iowa, clustered around the Iowa river WNW of Iowa City, settled 1855 by members of the Community of True Inspiration The community originated in one of the Pietist religious sects of 17th-century Germany Led by Christian Metz (1794–1867), members came to America in 1843 to escape persecution at home Settling first near Buffalo, N Y , they developed a communal way of life which reached its flowering in Iowa Amana became one of the most successful of such communities in America In 1932 it was made a cooperative corporation, with separation of religious and economic administration The villages with their unpainted, grapevine-covered houses have long been famous for the products of their woolen mills, woodworking shops, and fertile farms See B M Shambaugh, *Amana That Was and Amana That Is* (1932)

Ama-no-hashidate see MIYAZU, Japan.

Amanullah (ämänōō'lä), 1892–, emir (1919–26) and king (1926–29) of Afghanistan, commonly called Amanullah Khan He was hostile to the British at the beginning of his reign and invaded India, but no really serious fighting had occurred before the Treaty of Rawalpindi was signed (1919) British influence was strong, and the emir after a tour of Europe attempted a strong program of Westernization in Afghanistan He accomplished much, but his fanatical Moslem subjects rose against his reforms, and he had to flee in 1929 In the Second World War he made tentative gestures toward recovering his throne with German help in 1941

Amapala (ämäpä'lä), town (pop 2,809), on TIGRE ISLAND, S Honduras, a small port on the Gulf of Fonseca It is the chief Pacific port of the country Products must be transshipped by launch to and from SAN LORENZO

amaranth (ăm'–) [Gr ,=unfading], any of a number of species of the widely distributed genus *Amaranthus*, annual plants growing wild, as weeds, or cultivated for their colorful foliage and conspicuous heads of chaffy flowers, which are usually red and in tasselike or short, thick spikes The amaranth has long been a poetic symbol for immortality, being used by the Greeks to wreathe their idols and decorate their tombs Some of the weed species are known as green amaranth, pigweed, and TUMBLEWEED The better-known garden kinds are love-lies-bleeding or tassel flower, Joseph's-coat, and prince's-feather Tender shoots of the amaranth are used as potherbs in Mexico and the Orient, and the seeds were ground into a meal in ancient Mexico The COCKSCOMB and GLOBE AMARANTH are related to the amaranths

Amarapura (ä"mŭrŭpōō'rä), town (pop 8,254), central Burma, on the Irrawaddy river A silk-weaving center, it was twice (1783–1823, 1837–60) capital of Burma It was finally replaced by Mandalay Its great temples and fortifications are now in ruin

Amaravati (ä"mŭrŭvŭ'tē), ruined town, NE Madras prov , India It was the capital (c 100 B C –A.D c 225) of the Buddhist Andhra kingdom

Amariah (ăm"ŭrī'ŭ) [Heb ,=whom God promised] **1** High priest, son of Meraioth. 1 Chron 6 7,52 Perhaps he is the same as **2** and **3** **2** High priest, son of Azariah 1 Chron 6 11 Perhaps he is the same as **1**, **3**, and **4** **3** Ancestor of Ezra Ezra 7 3 Perhaps he is the same as **1** and **2** **4** High priest under Jehoshaphat 2 Chron 19 11 Perhaps he is the same as **2** **5** Levite 1 Chron 23 19; 24 23 **6**, **7** Contemporaries of Ezra, perhaps the same person Ezra 10 42, Neh. 11 4 **8** A priestly family 2 Chron. 31 15, Neh 10 3; 12 2,13. See IMMER **1** and IMRI **1**. **9** Ancestor of the prophet Zephaniah. Zeph. 1.1.

Amarillo (ămŭrĭl'ō,–rĭl'yō), city (pop. 51,686), co seat of Potter co., extreme N Texas. The metropolis of the Panhandle, it is a prosperous city with tall buildings and green-treed streets in the midst of treeless plains that are swept by summer dust storms and winter blizzards The spot was known to Indians, buffalo hunters, and cowboys before the railroad came in 1887 The first huddle of buffalo-hide shelters was succeeded by a noisy cow town, which in the 20th cent became a market for wheat farms and, after the discovery of natural gas and oil, mushroomed into an industrial city. Amarillo packs meat, mills flour, smelts ores, makes oil-field supplies and agricultural implements, and processes farm and dairy products It is the nucleus of a highly developed region, in near-by communities are many industrial establishments, including a helium plant It has a junior college, a veterans' hospital and other hospitals, supports a symphony orchestra, and has an annual music festival

amaryllis (ăm"ŭrĭl'ĭs) [from the name of a shepherdess in pastorals, e g , those of Theocritus, Vergil, and Ovid], name commonly used for bulbous lilylike plants of several genera (particularly *Hippeastrum*, *Sprekelia*, and *Lycoris*), all of these are related to the genus *Amaryllis*, which has a single species sometimes called belladonna lily. This, the true amaryllis (*Amaryllis belladonna*), is a South African plant cultivated for its showy and fragrant flowers, commonly rose red in color The best known of the plants called amaryllis belong to the genus *Hippeastrum*, these have heavy stalks topped by a cluster of lilylike flowers of various colors from white to orange and red They are native to tropical America and are popular elsewhere as house and greenhouse plants or in warm regions as garden plants One species is called Barbados lily

Amasa (ăm'ŭsŭ, ŭmā'sŭ) [Heb ,=burden] 1 Cousin of Absalom, with whom he revolted Later he became David's commander in chief, he was murdered by Joab 2 Sam 17 25, 19 13, 20 4–13; 1 Kings 2 5 **2** Ephraimite chief 2 Chron 28 12

Amasai (ämä'ĭ, ämā'–) [Heb ,=burdensome] 1 Chief of the deserters from Saul to David 1 Chron 12 18 **2** Priest 1 Chron 15 24 **3** Levite 1 Chron 6 25,35 **4** Levite contemporary with Hezekiah 2 Chron 29 12

Amashai (umā'shāī), priest contemporary with Nehemiah Neh 11 13 He is perhaps the same as MAASIAI

Amasiah (ăm"ŭsī'ŭ) [Heb ,=whom God bears], captain in Jehoshaphat's army 2 Chron 17 16

Amasis I (umā'sĭs), d c 1557 B C , king of ancient Egypt (c 1580–c 1557 B C) The founder of the XVIII dynasty, he drove out the Hyksos The name also appears as Ahmose

Amasis II, d 525 B C , king of ancient Egypt (569–525 B C), of the XXVI dynasty In a military revolt he dethroned APRIES He erected temples and other buildings at Memphis and Sais He encouraged Greek merchants and artisans to settle at Naucratis His revision of the laws is said to have influenced the laws of Solon He had alliances with Greek leaders and maintained himself partly with Greek mercenaries He died just before the Persian invasion under CAMBYSES The name also appears as Ahmose II

Amatei, Louis (ämätā'ĭs), 1855–1913, Italian sculptor, trained at the Royal Academy, Turin He moved to the United States in 1884, was naturalized, and later opened a studio in Washington, D C , where he executed the bronze doors of the Capitol and painted numerous murals. He established the School of Architecture and Fine Arts of George Washington Univ The Alamo monument in Austin, Texas, the military memorial in Galveston, Texas, and *El Caney*, a Pan-American Exposition group, are outstanding achievements

amateur The Amateur Athletic Union of the United States declares that "an amateur sportsman is one who engages in sports solely for the pleasure and physical, mental, or social benefits he derives therefrom " A professional athlete, on the other hand, is paid Definitions and rules governing amateurs differ from country to country Baseball, football, rowing, tennis, and golf are outside the jurisdiction of the Amateur Athletic Union of the United States, each of these sports having a governing body of its own Intercollegiate sports are theoretically open only to amateurs, and present-day "athletic scholarships" and other forms of athletic subsidies are considered by many educators and students a violation of the amateur spirit For international athletic meets, such as the Olympic games, each contestant must be certified as an amateur by the authorized athletic organization of his country

Amati (ämä'tē), family of violinmakers of Cremona, Italy The founder of the Cremonese school was Andrea Amati (ändrā'ä) (fl. 1535–80), whose violins date from c 1564 His labels bore the name Amadus His sons were Antonio Amati (äntō'nyō) and Geronimo or Girolamo Amati (jĭrō'lämō, jĭrō'-lämō), who worked together and followed in general the patterns of their father in making small violins of graceful shape and sweet but not very powerful

tone. **Niccolò Amati** (nēk-kōlō') (1596–1684), son of Geronimo, brought the Amati violin to its height after c 1645. Although he still used the family's designs, he usually made larger instruments, of more powerful tone Antonio STRADIVARI and Andrea Guarneri were pupils of Niccolò Niccolò's son, Geronimo (1649–1740), was the last of his line to achieve distinction The Latin forms of the first names, Andreas, Antonius, Hieronymus, and Nicolaus, were generally used on the labels, and the family name was sometimes Latinized as Amatus

Amato, Giovanni Antonio d' (jōvän'nē äntō'nyō dämä'tō), 1475–1555, Neapolitan painter, called Il Vecchio [the elder] He imitated the style of Pietro Perugino Paintings by him are in the churches at Naples, among them the *Holy Family* in a chapel of San Dominico Maggiore

Amaury. For persons thus named, see AMALRIC

Amaziah (ăm"əzī'ə) [Heb ,=strength of God] 1 Died c 775 B C , king of Judah (c 802–c 775 B C), son and successor of Jehoash of Judah The two incidents of his reign were the conquest of Edom, including the capture of Petra, and an unprovoked attack by Amaziah on King Jehoash of Israel Jehoash took Amaziah prisoner, entered Jerusalem, and sacked the Temple Amaziah died at Lachish, assassinated, and his son Uzziah succeeded 2 Kings 14; 2 Chron 25 2 Simeonite 1 Chron 4 34 3 Levite. 1 Chron 6 45 4 Priest at Bethel, Amos's enemy Amos 7 10–15

Amazon (ă'məzŏn), in Greek legend, one of a tribe of women who allowed no men in their country (in Asia Minor) and spent their time in hunting and warfare Bellerophon once fought with them One of the 12 labors of HERCULES was to steal the girdle of their queen, HIPPOLYTE According to one legend, THESEUS married Hippolyte, according to another, her sister ANTIOPE In the TROJAN WAR the Amazons fought against the Greeks, and their leader, PENTHESILEA, was killed by Achilles

Amazon, Port *Amazonas* (ămŭzŏ'nŭsh), river rising in the Andes of Peru in the sources of two major headstreams, the Marañón (generally considered part of the Amazon proper) and the longer Ucayali It flows across the whole of Brazil to the Atlantic The Amazon is one of the greatest rivers of the world and carries more water than any other river Its length, with the Marañón, is more than 3,000 mi , with the Ucayali instead, it is nearly 4,000 mi The gradient of the river is very low Manaus, 1,000 *mi* upstream, is only c 100 ft higher than Belém near the mouth and is an ocean port, ships with a draft of 14 ft can reach IQUITOS, Peru, more than 2,000 mi from the sea The drainage basin is enormous, covering not only most of N Brazil but also parts of Bolivia, Peru, Ecuador, Colombia, and Venezuela In the lowlands stretching E from the Andes is the largest rain forest in the world—a hot, wet, green land with the annual rainfall in spots of the upper and lower regions exceeding 100 in The beginning of the river as the Marañón is, however, in the cold heights of the Andes not far from the Pacific Ocean It flows north before turning east and coming down from the mountains to join the Ucayali and form the Amazon proper (which is, however, occasionally called the Solimões from the Brazilian border to the junction with the RIO NEGRO) The NAPO comes in from the north before the Amazon flows eastward out of the jungle forests of Peru into the jungle forests of Brazil Before it reaches the mouth of the Negro, the Amazon receives the PUTUMAYO or Içá and the Caquetá or Japurá from the north and the JURUÁ and the PURUS (which has a remote but famous tributary, the ACRE) from the south On the large Negro just before its junction with the Amazon is MANAUS, metropolis of the region and capital of the state of Amazonas, and below that the MADEIRA pours in the waters collected over the large Madeira-Mamoré drainage basin to the south Between the Madeira and another large southern tributary, the XINGÚ, the flood plains narrow as highlands on both sides approach the Amazon From the south comes the TAPAJÓS to empty in this stretch of the Amazon Below the Xingú the river reaches its delta, with many islands formed by alluvial deposit and submergence of the land Around the largest of these, MARAJÓ, the river splits into two large streams Of these the northern threads its way around many islands, the southern, called the Pará river, receives the TOCANTINS and has the important port of BELÉM. The immense discharge of the Amazon is visible far out to sea It was probably first seen in 1500 by Vicente Yáñez Pinzón, who explored the lower part Real exploration of the river came with the voyage of Francisco de ORELLANA down the Napo in 1540–41, his fanciful stories of female warriors gave the river its name Not long afterward Pedro de Ursúa began (1559) the expedition that ended with the baleful melodramatics of Lope de AGUIRRE Nearly a century later Pedro TEIXEIRA led the voyage upstream (1637–39) that really opened the Amazon to world knowledge The valley was largely left to its sparse Indian inhabitants (mostly groups of the Guaraní-Tupi linguistic stock and meager material culture), and it is for the most part still left to them today. Steamship service was regularly established on the river in the 1850s, and settlements were made (such as that of Confederate veterans from the United States at Santarém), but except for the region around the mouth, which was settled early, the valley has not been much exploited The wild-rubber boom on the upper Amazon in the late 19th and early 20th cent reached its peak in 1912 but soon fell off, for Brazil could not compete with the newly developed rubber plantations in the Far East. Rubber is still obtained in quantity from the rubber trees and there was a mild boom in the Second World War The factories of São Paulo and Rio de Janeiro are now supplied with native rubber Cacao, native to the Amazon valley, is still grown in small quantities The selvas [tropical forests] yield some exotic woods, copaiba (used for pharmaceuticals and varnish), and other products Japanese settlers were largely responsible for building up jute production The huge Brazilian region, mostly comprised in PARÁ and in the huge Amazonas state (614,913 sq mi , 1940 pop 438,008, 1949 estimated pop 511,393), is largely undeveloped The Brazilian government in the 1940s undertook plans of development, setting aside money expressly for its exploitation The establishment of a health service (chiefly by launch) in the Second World War is a promise of future preparation for settlement See C R Markham, ed , *Expeditions into the Valley of the Amazons* (1859); H W Bates, *The Naturalist on the River Amazons* (1910), H M Tomlinson, *The Sea and the Jungle* (1928), José Toribio Medina, *The Discovery of the Amazon* (Eng tr , 1936)

Ambarvalia (ămbərvā'lyə), in Roman religion, yearly procession around the fields, held on May 29, accompanied by prayers to Ceres for fertility. There are similar Christian observances, e g , the ROGATION DAYS

ambassador see DIPLOMATIC SERVICE

Ambato (ämbä'tō), city (1944 estimated pop. 21,692), central Ecuador, in a high Andean basin. Ambato is a rail and highway commercial center The region's porous volcanic soil limits agriculture, but some sugar, grains, fruits, cochineal, cotton, and hides are produced Near Ambato in 1821 the patriot *Antonio José de* SUCRE, at first defeated by Spanish royalists, later won over them after receiving help from José de San Martín This victory led to the decisive battle of PICHINCHA Near the epicenter of the disastrous earthquake which struck central Ecuador in 1949, Ambato was almost destroyed

amber [Arabic], fossil resin exuded in past geologic time by coniferous trees now extinct It is used in the manufacture of beads, amulets, mouthpieces, cigar and cigarette holders, pipes, and other small ornamental objects Its chief chemical constituents are carbon, hydrogen, and oxygen, in varying proportions, because of the content of succinic acid in Baltic amber it is often called succinite An essential oil (amber oil) is obtained from amber When rubbed with a cloth, amber becomes charged with static electricity The chief source of the world's amber is the Baltic coast of Germany, Lithuania, and Latvia, millions of pounds have been taken from the mine at Palmnicken (in former East Prussia) Some is found off the coasts of Sicily and England The normal color is dark yellow to brown The best amber is transparent, but some varieties are cloudy Bubbles of air, leaves, bits of wood, and insects are frequent inclusions, the insects sometimes being extinct species new to science Amber was known in the Bronze Age and to the Greeks and Romans, who used it extensively in jewelry Thales was familiar with its electrical properties, and Pliny recounts several instances of its artistic uses It is connected with many superstitions and is believed to be a preventive of disease and ill luck.

Amberg (äm'bĕrk), city (pop 36 795), Upper Palatinate, central Bavaria, on the Vils river Precision instruments are manufactured Until 1810 it was the capital of the Upper Palatinate The Gothic Church of St Martin and a 15th-century town hall are its outstanding buildings Near Amberg there are large iron mines known since the Middle Ages Here in 1796 Archduke Charles of Austria defeated the French under Jourdan

Amberger, Christoph (krĭs'tŏf ämbĕrgur), c 1500–1562?, German painter He is particularly noted for his fine portraits, such as those of Charles V and Sebastian Münster. He made a number of religious paintings for the churches of Augsburg His portraits have sometimes been confused with Holbein's The Art Institute of Chicago has two

ambergris (ăm'bərgrēs), waxlike, fatty substance originating pathologically in the digestive tract of the sperm whale It is found in the seas of tropical regions floating on the surface in yellow, gray, black, or variegated masses It is soluble in alcohol and of great value as a fixative in perfumes Its active principle is ambrain

Ambiorix (ămbī'ərĭks), fl. 54 B.C , Gallic chieftain of the Eburones (in what is now central Belgium) He had been favorably treated by the Romans, but he joined another tribe in attacking Julius Caesar's legates. When he heard of Caesar's approach, he fled across the Rhine

Ambler, borough (pop 3,953), SE Pa , near Philadelphia, inc 1888 Asbestos, boilers, and chemicals are manufactured here It has a school of horticulture for women

Ambleside, village, Westmorland, England, in the Rothay valley near the head of Windermere It is a tourist center for the Lake District The parish church, built by Sir George Gilbert Scott in 1854, contains a stained-glass window contributed by English and American admirers of Wordsworth At near-by Waterhead is a Roman camp with two forts one of which is excavated and preserved

Amboina (ămboi'nu), Malay *Ambon,* island (314 sq mi , pop 66,821), East Indonesia, one of the Moluccas In the Banda Sea SW of Ceram, it is 32 mi long and 10 mi wide, with a generally rugged terrain Discovered in 1512 by the Portuguese, it was taken in 1600 by the Dutch and was temporarily under British rule during two periods (1796–1802, 1810–17) The fertile island produces nutmeg, cloves, rice, and sugar The natives in the south were Christianized by the Portuguese and Dutch; those in the north are Mohammedans The chief town, also called Amboina (pop 17,334), is a port (exporting copra and spices) and the site of an airport Early in the Second World War the port was an important Allied naval base, which fell to the Japanese in Feb , 1942 The name is sometimes spelled Amboyna

Amboise, Georges d' (zhôrsh' dămwäz'), 1460–1510, French statesman, cardinal of the Roman Church He became archbishop of Rouen in 1494 In 1498, as the most intimate friend of the new King, Louis XII, he became chief minister Subsequently he was appointed cardinal and papal legate in France He devoted himself primarily to the furtherance of Louis's ambitions in Italy and was lieutenant general in Italy at the conquest of Milan (1500) His ambitions for the papal crown were disappointed by the election of Pius III (1503), but Julius II designated him (1503) papal legate in France for life He negotiated the abortive treaties of Blois (1504) and helped form the League of CAMBRAI (1508) His domestic administration was beneficent, by his patronage of artists and writers, he contributed, more than any other figure of his time, to the promotion of the Renaissance in France

Amboise (ămbwäz'), town (pop 4,224), Indre-et-Loire dept , NW central France, on the Loire E of Tours Its celebrated castle, mostly in late Gothic style with Renaissance additions, overlooks the town from a rocky height It was a royal residence from the reign of Charles VIII (who was born and died here) to that of Francis II Leonardo da Vinci, who presumably worked on it, is buried in its chapel Amboise castle served repeatedly as a prison The town has many handsome Renaissance buildings

Amboise, conspiracy of, also known as the **Tumult of Amboise,** 1560, plot of the French Huguenots and other enemies of Charles and François de GUISE It was possibly supported by Elisabeth of England and by Calvin in Geneva The plan, presumably worked out by Louis I de CONDÉ, provided for a march, led by Godefroi de la Renaudie, a nobleman from Limousin, on the castle of Amboise, the abduction of King FRANCIS II, and the arrest of the duke and the cardinal Cardinal de Guise was forewarned, and the rebels, beaten before they had united their forces, were ruthlessly massacred For weeks the bodies of hundreds of conspirators were hanging from the castle and from every tree in the vicinity The Huguenots were enraged, to appease them Catherine de' Medici used her power to appoint the moderate Michel de l'Hôpital chancellor His first act was to bring about the Edict of Romorantin (1560), which halted Protestant persecution until the outbreak (1562) of the Wars of Religion

Amboy (ăm'boi), city (pop 1,986), N Ill , S of Rockford, in a farm area, inc 1857

Amboyna, Indonesia see AMBOINA

Ambracia (ămbrā'shə), Latin *Arachthus,* city of ancient Greece, in Epirus, on the Arachthus river and near the Ambracian Gulf, an inlet of the Ionian Sea Founded (7th cent B C) by Corinthian colonists, it was ceded (294 B C) by Macedon to Pyrrhus, who made it the capital of Epirus It was conquered by Rome in 189 B C It is the modern Greek town of Arta (pop 9,441), an agricultural trading center

Ambridge, borough (pop 18,968), W Pa , on the Ohio and NW of Pittsburgh near Aliquippa It has a large structural steel plant and manufactures metal products and electrical machinery Members of the HARMONY SOCIETY established here the communistic settlement Economy (1825–1906) Some of the old buildings remain

Ambrogio Stefani da Fossano see BORGOGNONE

Ambrose, Saint (ăm'brōz), 339?–397, bishop of Milan, Doctor of the Church, b Trier, of Christian parents Educated at Rome in the classics and in law, he became (c 370) governor of Liguria and Aemilia and was much loved for his justice and his concern for the people. Popular demand caused his appointment (371) as bishop, though he was reluctant and lacked religious training. He became at once an ardent student of religious matters and

a pillar of the Catholics. Though Arianism was supported by VALENTINIAN II, he fought it, and after he had persuaded GRATIAN to outlaw (379) all heresy, Arianism disappeared from the West. St Ambrose, a great spiritual administrator, insisted upon the spiritual authority of the Church even over the emperor, and he anticipated Canossa when he forced THEODOSIUS I to do penance for the massacre at Salonica. Ambrose's preaching spurred the conversion of St Augustine. His writings, based on the Scriptures and the creed, were enhanced by wide knowledge of classical and patristic writings. Among the works of St Ambrose translated in *A Select Library of Nicene and Post-Nicene Fathers* are *On the Duties of the Clergy* (*De officiis ministrorum*), which shows the influence of Cicero's ethics, and *On the Christian Faith* (*De fide*), which was written at Gratian's request. Among his untranslated works is the *Hexaemeron*, this uses the allegorical method of biblical exegesis which was developed by Philo, Origen, and St Basil and which also reflects the mysticism of St Ambrose. His name is attached to the type of PLAIN SONG called Ambrosian chant. About 386 he introduced the practice of having the congregation sing liturgical hymns and antiphonal psalms in the diocese of Milan. His hymns, written in the iambic dimeter that became standard in Western hymnody, were more singable and more popular than those of St Hilary of Poitiers. Of the extant "Ambrosian" hymns, only six are definitely his. Feast: Dec. 7. See E. K. Rand, *Founders of the Middle Ages* (1928), biography by F. H. Dudden (1935).

ambrosia (ămbrō'zhu), in Greek religion, food with which the Olympian gods preserved their immortality. It was accompanied by the drink called nectar, wine of the gods.

Ambrosian Library, founded c.1609 in Milan by Cardinal Federigo Borromeo. It is one of the earliest public libraries, being open to citizens and strangers. It is especially rich in early Greek and Latin texts (e.g., Homer and Vergil) and incunabula and has a good collection of paintings.

ambulatory (ăm'bŭlŭtôr"ĕ) [Latin,=place to walk], commonly the aisle passing around the choir of a church and behind the altar. The term also refers to the covered walk or passageway in a cloister and to the narrow passageway in a classic peripteral temple which comes between the row of columns and the wall of the cella or naos.

Amchitka (ămchĭt'kŭ), island, 40 mi. long, off W Alaska, one of the ALEUTIAN ISLANDS. A U.S. air base was established here in the Second World War.

Amecameca (ămā"kămā'kä), town (pop. 7,573), Mexico state, SE of Mexico city. It is the starting point for ascents of POPOCATÉPETL and IXTACCÍHUATL. Here on the Sacro Monte is a shrine to which crowds of people make a pilgrimage every Ash Wednesday.

amendment, in law, alteration of the provisions of a legal document. The term usually refers to the alteration of a STATUTE or a CONSTITUTION, but it is also applied in PARLIAMENTARY LAW to proposed changes of a bill or motion under consideration and in judicial PROCEDURE to the correction of errors. A statute may be amended by the passage of an act which is identified specifically as an amendment or which renders some previous statutory provision nugatory. Written constitutions, however, for the most part must be amended by an exactly prescribed procedure. The CONSTITUTION OF THE UNITED STATES, as provided in Article 5, may be amended when two thirds of each house of Congress approves a proposed amendment and three fourths of the states thereafter ratify it. Congress decides whether state ratification shall be by vote of the legislatures or by popularly elected conventions. Only in the case of the Twentieth Amendment (repeal of prohibition) was the convention system used. Many state constitutions (e.g., New York) require that a proposed constitutional amendment be submitted to a referendum.

Amenemhet I (ă"mĕnĕm'hĕt, ä"–), d. 1970 B.C., founder of the XII dynasty of ancient EGYPT. He came of a powerful family of Thebes and seized (2000 B.C.) the kingship. He centralized the government and subjected the long-powerful nobles (monarchs) to a virtually feudal state. His son and successor, SESOSTRIS I, was coregent from 1980.

Amenemhet II, d. 1903 B.C., son and successor of Sesostris I, was coregent with his father (1938–1935 B.C.), then sole ruler (1935–1906), finally coregent with his son and successor, SESOSTRIS II. He reopened the mines of Sinai. **Amenemhet III,** d. 1801 B.C., was the son and successor of SESOSTRIS III, with whom he had been coregent. He extended the irrigation system. The first Nilometer was established. Thousands of acres in the Fayum were reclaimed. Under his successor, **Amenemhet IV,** d. 1792 B.C., the power of the dynasty declined, and his successor, a woman, Sebenekfrure, was last of her family.

Amenhotep I (ä"mĕnhō'tĕp, ă"–) or **Amenophis I** (ă"mĕnō'fĭs), fl. 1557 B.C., king of the XVIII dynasty of ancient Egypt, successor to his father, Amasis I. His chief exploits were military. He pushed southward and reestablished the boundary at the second cataract fixed by Sesostris III in the Middle Kingdom. He invaded Syria as far as the Euphrates. His successor, THUTMOSE I, was not his son. **Amenhotep II** or **Amenophis II,** son and successor of THUTMOSE III, succeeded (1448 B.C.) as coregent and later ruled for 26 years alone. Young and vigorous, he put down a revolt in Syria and maintained his father's conquests. He built extensively, especially at Karnak. On his death (c. 1420 B.C.) he was succeeded by his son THUTMOSE IV. **Amenhotep III** or **Amenophis III** succeeded his father, Thutmose IV, c. 1411 B.C. His reign (until c. 1375 B.C.) marks the beginning of the decline of the XVIII dynasty. It is the age of greatest Egyptian splendor, he enjoyed peace in his Asiatic empire (in spite of incursions by Bedouins and Hittites) and invaded Nubia once only. The accounts of royal celebrations and games give a clear picture of the Egyptian kingdom enriched and softened by the tribute of the known world. This is the period of the greatest elaboration in Egyptian architecture and sculpture. Amenhotep III built especially at Luxor and Karnak. His wife, TIY, was given an unprecedented position as queen consort and exerted much influence over her husband and his son and successor, IKHNATON.

Amenia (umē'nēu), unincorporated village (pop. 1,052), SE N.Y., NE of Poughkeepsie near the Conn. line, in a farm and resort region. Thomas Lake HARRIS had his Brotherhood of the New Life settlement in Amenia (1863–67). J. E. Spingarn lived here at his estate, "Troutbeck," and owned the local newspaper from 1911 to 1926.

Amenophis see AMENHOTEP.

America [for Amerigo VESPUCCI], the lands of the Western Hemisphere—North America, Central America (sometimes Middle America), and South America. In English, America and American are frequently used to refer only to the United States. Martin WALDSEEMÜLLER first used the name.

America, patriotic hymn of the United States beginning, "My country, 'tis of thee." The words were written in 1832 by Samuel Francis Smith while he was a theological student in Andover, Mass. According to his own account he was asked by Lowell Mason to examine a book of German school songs with the idea of either translating some of them or of writing English words to them. There he found the tune (probably to the words *Heil dir im Siegerkranz*) which inspired his poem, and only later did he discover that he had used the tune of GOD SAVE THE KING. See C. A. Browne, *The Story of Our National Ballads* (rev. ed., 1931).

American, river rising in three forks in N central California, in the Sierra Nevada near Lake Tahoe, and flowing W and SW into the Sacramento river at Sacramento. Gold discoveries in 1848 along the river and its forks played an important part in the history of California.

Americana (umĕrĭkā'nu,–kä'nu,–kā'nu), defined as all that has been printed about the Americas, printed in the Americas, or written by Americans, but usually restricted to the formative period in the history of the two continents. The Columbus letter (1493), a two-leaf newssheet announcing to the Spanish court the discovery of the islands of the Indies, is the earliest known printing about America. Richard Hakluyt's *Divers Voyages touching the Discovery of America* was published in London in 1582. Early American books were printed by Juan PABLOS, Stephen DAYE, and William BRADFORD. The John Carter Brown Library, Providence, the New York Public Library, the Newberry Library, Chicago, and the Huntington Library, San Marino, Calif.—all have fine collections of Americana. See Isaiah Thomas, *The History of Printing in America* (1810), Joseph Sabin, Wilberforce Eames, and R. W. G. Vail, *Bibliotheca Americana: a Dictionary of Books Relating to America* (29 vols., 1868–1937), M. B. Stillwell, *Incunabula and Americana* (1931).

American Academy in Rome, founded 1894 as the American School of Architecture in Rome, chartered by New York state 1897, incorporated under its present name by act of Congress 1905. In 1911 the charter was amended to include the American School of Classical Studies in Rome. The academy comprises schools of fine arts and classical studies in Rome and the headquarters of the officers and board of trustees in New York city. It awards annually to U.S. citizens under 30 years of age competitive fellowships bearing a yearly stipend, a travel allowance, and residence in Rome. Only men are eligible for the fine arts fellowships; these are awarded in architecture, painting, sculpture, music, and landscape architecture. C. F. McKim was a founder of the academy and its first president.

American aloe see AGAVE.

American architecture. Each group of white settlers in North America brought with it the building techniques and the prevailing forms of its home country and thus gave rise to different types of colonial building. But in all areas the differences between American and European conditions and climates, the fact that available building materials were not those of the home country, the frequent lack of trained architects and craftsmen, and often the poverty of the settlers produced rapid and profound change. Thus in French America stone building was rare and was often replaced by a sort of stucco over half timber or, in the St. Lawrence valley, by wood, a characteristic low, rectangular plan with high hipped roofs, however, persisted. Only in New Orleans, where the government sent skilled architects and engineers, was anything produced which approached the sophistication of the home country. The comparatively short Spanish reign in Florida also produced highly complex structures, such as the forts at St. Augustine and Matanzas, the St. Augustine Cathedral, and various houses, but this beginning had little enduring influence. In the Southwest, however, the Spanish impress was more permanent, there the settlers, already inured to American conditions in Mexico, borrowed widely the Indian techniques of construction in small-stone masonry and in adobe and produced work admirably fitted to its surroundings. In it the Mexican baroque details and church forms appeared in a new and simpler guise, as in the Texas, New Mexico, Arizona, and California missions. The Dutch settling in New Amsterdam were essentially traders and, well backed from Holland, rapidly developed a typical 17th-century Dutch village. They brought an adequate number of craftsmen with them, so that their environment was a closer copy of the home environment than was true anywhere else. But outside the large centers they modified their building types. The English settlements were of two basic types and produced two types of building, one, in the South, based on the large mansion house and plantation system, the other, in the North, based on small-scale individual activities in farming, fishing, lumbering, and commerce. In both cases the settlers tried first to build as they had at home—many-gabled half-timber houses of late Gothic inspiration. In the South brick rapidly superseded wood as the chief building material, and the growing classicism of English architecture was almost immediately reflected, as in the official buildings of Williamsburg. In the North the climate rapidly forced the covering of half-timber houses, the lowering of roof slopes, and the simplification of plans, poverty (except in space and natural resources) prompted simplicity of detail. In the 18th cent., growing prosperity and widening commerce brought a new influx of well-trained craftsmen, and English architectural books became increasingly available. There was a flowering of native craftsmen and designers who adapted the English precedent to American conditions with great skill. The result can be seen especially well in Charleston (S.C.), Annapolis, Philadelphia, Portsmouth (N.H.), Newburyport, Marblehead, and the earlier buildings of Salem (Mass.). The same period produced many churches in which the current English types by Christopher Wren and James Gibbs received simple, but elegant, American interpretations (e.g., St. Paul's Chapel, New York). Toward the end of the colonial period, styles based on a more direct study of ancient Roman and Greek structures were beginning to appear in Europe. The Adam trend (see ADAM, ROBERT) rapidly appeared in America, especially in interior detail. In a more monumental way the Adam style is typical of the work of Charles BULFINCH in Boston and of Samuel McINTIRE in Salem, both among the growing number of native-born designers. Architectural books began to be published in America, and American simplifications of Adam work were spread widely by means of the earlier books of Asher BENJAMIN. Both Washington and Jefferson gave serious thought to architecture and were deeply involved in the building of WASHINGTON, D.C. Both looked to the ancient classic world as the truest source of inspiration. Jefferson's ideals were perfectly expressed in his own house at Monticello and in the Virginia capitol and the Univ. of Virginia. The eventual result was the CLASSIC REVIVAL in America. This was introduced largely by European architects who came to the New World in search of commissions and honor. The Greek revival appeared first in the work of Benjamin Henry LATROBE in Philadelphia and Washington and was spread widely by the architects who followed him. The later books of Asher Benjamin and those of Minard Lafever spread the new type of detail over the country, and details from them can be found alike in Louisiana and Maine, in the Carolinas and Wisconsin. Yet certain regional constants persisted beneath this uniformity of style. The plantation regions still built great mansions, often with two-story colonnades, and farmhouses of basically 18th-century type still dominated much of New England, it was in the port cities that the uniformity was greatest. Temple-type porticoes decorated churches, banks, and public buildings. Masonry vaults, built with great skill, created fireproof structures for public use. Dignified simplicity marked commercial buildings, in city houses the established local types had doors and fireplaces and cornice details of the new kind. In the newly settled areas (upstate New York and the new states W. of the Alleghenies) the Greek revival style had its greatest chance at experimentation and the creation of new house types. It was this period which largely cre-

ated Nantucket and many New York, Ohio, and Michigan towns and contributed much to the New Orleans we know today Meanwhile, prior to the Mexican War, in the Southwest the Spanish tradition remained supreme, although in California it was becoming more and more modified by the environment and was borrowing occasionally also from the Eastern states The houses of Monterey are typical of this mixture As early as the end of the 18th cent the "castellated Gothic" of the English dilettanti began to have American imitators, occasional houses and a few churches were built in a primitive kind of Gothic in the first two decades of the 19th cent The romantic revival of the Gothic that was dominant in England was increasingly popular in the United States from 1835 on, especially for churches and cottages, the Gothic work of A J Davis, Richard Upjohn, and Minard Lafever won instant acclaim, and the widely distributed books of A J DOWNING on domestic architecture and landscape gardening helped spread the new gospel Although the church work was sometimes derivative, many of the cottages and mansions were well planned, original, and charming Local designers often interpreted the Gothic stone detail in wood Just before and during the Civil War, the writings of Ruskin began to influence American architects profoundly An epidemic of American versions of the Victorian Gothic followed but was generally short-lived It left, however, a valuable residue in the forcing of a new, more logical, and deeper questioning of the bases of design The two decades following the Civil War were confused, in architecture as in politics Great strides in industrialization changed building methods and techniques A new study of the functional basis of house design brought many experimental forms into being Westward expansion and growing urbanization made an extraordinary amount of building necessary, but they promoted crude speculation in land and often resulted in jerry-building At the same time new wealth sought expression in unbridled ostentation, and increasing foreign travel brought acquaintance with all types of European building, overwhelming existing local traditions of taste and technique However, the growing use of metal in building, the new freedom in planning, and an almost unconscious skill in the relating of volumes within a building evidenced the continuing existence of architectural creativeness Under such conditions eclecticism in taste was inevitable, and in the United States eclecticism dominated architecture from the late 1880s to the great economic debacle of the 1930s Many architects went to Paris, if possible to the École des Beaux-Arts, to receive the traditional doctrines The expression of purpose, materials, and techniques was forgotten, and architecture in becoming "scholarly" became largely superficial In the earlier periods, almost up to the Civil War, the architect and the engineer had often been identical or at least had worked for the same ends Eclecticism put an end to this unity The engineer designed the structural elements which the architect decorated, in the process both forgot the great principle of the oneness of visible form and structure Yet throughout this chaotic period certain creative efforts continued One was the development of a high technical ability in planning, i e , in arranging spaces within a building so that they would function efficiently Another was the extraordinary development of the techniques of industrialized BUILDING in steel and in reinforced concrete, together with the organization of the building industry to make possible the swift and economical erection of projects of almost any size In both planning and the techniques of building the United States was far in advance of most European centers American houses in general were excellently arranged, and American hotels, railroad stations, and office buildings were the envy of the world Thus the basic search for an expressive and functional architecture never entirely died The old colonial and classic revival tradition of direct construction continued long to dominate in many of the simpler buildings The later Ruskinian influence made many designers rebel against the senseless details of the ruling taste The work of Henry Hobson RICHARDSON expressed this rebellion The William Morris movement toward realizing the importance of craftsmanship also had tremendous influence These protests were climaxed by the work of the so-called Chicago school and in the designs and writings of its archprophet, Louis Henry SULLIVAN He had many followers, especially in Chicago, but later in Minneapolis and on the West Coast, young men caught his enthusiasm and designed buildings—especially houses—in accordance with the demands of use and site and the search for a creative, expressive beauty Of these young men, Frank Lloyd WRIGHT, one of the acknowledged founders of the so-called modern movement, was the most famous All through the decade preceding the First World War the rumblings of protest had been growing stronger Hints of new and different kinds of architecture being built abroad were becoming known The depression of the 1930s brought to an end the concept of the inevitability of eclecticism. The new work that came gradually into being had four chief roots First, new economic conditions which forced attention on new problems—mass housing and community planning, great power developments, and new types of factory. From these problems flowed others, such as recreational developments and shopping centers, from power developments came the inspiration of social purpose and great scale, from factory design (as emphasized by the industrial demands of the Second World War) came new approaches to planning, a study of the use of new materials, and a new realization of the importance of the human element in industrial buildings Second, the work in Europe of the International school, especially of Le Corbusier and Gropius, and that of other, freer modern European architects, such as Oud and Mendelsohn and Aalto and other Scandinavian designers (see MODERN ARCHITECTURE) Third, the work of Frank Lloyd Wright and the inspiration derived from the continually changing products of his superb creative imagination This proved a valuable counterinfluence against the more rigid doctrines of the International school and encouraged continued freely creative design in which use, construction, materials, effects, and expressive power were all integrated into one organic whole Frequently local and traditional materials —stone and wood, for instance—were used in close combination with newer materials such as large sheets of plate glass and metal posts or frames Fourth, and perhaps most important, the result of the coupling of applied science and industrial production This produced a great number of new materials—metal alloys, plastics, adhesives—and rendered cheaper and more available many older materials such as glass and wood veneers It led also to increased perfection in mechanical equipment, especially in heating (as in panel or radiant heating) and ventilation (as in air conditioning) The new architecture of the United States is increasingly flexible It produces different results in different regions, as climate and materials suggest, it adapts itself to buildings of all types—schools, churches, factories government buildings, houses It is growing visually richer as its techniques and materials are increasingly mastered, little by little it is becoming as satisfactory emotionally as it has been physically See S E Kimball, *Domestic Architecture of the American Colonies and Early Republic* (1922) and *American Architecture* (1928), Talbot Hamlin, *American Spirit in Architecture* (1926) and *Greek Revival Architecture in America* (1944), T E Talmadge, *The Story of Architecture in America* (1927), J M Fitch, *American Building* (1948), Louis Henry Sullivan, *Autobiography of an Idea* (1926), Frank Lloyd Wright, *Autobiography* (1943)

American art. The North American colonies in the 17th cent enjoyed neither the wealth nor the leisure to cultivate the fine arts extensively The colonial craftsman in pewter, silver, glass, or textiles followed closely the European model Minor portrait painters alternated "limning" with coach and sign painting Even in the 18th cent it was seldom possible to earn a living by art alone The silversmith Paul Revere turned his talents to commercial engraving and the manufacture of false teeth The crafts in general followed English, Dutch, and Bavarian models, though in furniture some variations appeared in the Hadley and Connecticut chests and the Windsor and rocking chairs and in the work of talented craftsmen such as Samuel McIntire, William Savery, and Duncan Phyfe A steady demand for portrait painting attracted such artists as John Smibert, Peter Pelham, and Joseph Blackburn from England, Gustavus Hesselius from Sweden, Jeremiah Theus from Switzerland, and Jacobus Strycker and Pieter Vanderlyn from Holland The first known native-born painter, Jeremiah Dummer, was also a silversmith Joseph Badger, Robert Feke, Ralph Earl, John Trumbull, and Charles Willson Peale, who followed, did not depart widely from the tradition of 18-century English portraiture, but while their work is harder and cruder, it is often more vigorous In the early work of John Singleton COPLEY this vigor is combined with a great native talent Another 18th-century American painter, Benjamin WEST, set up shop in London and became painter to the king and president of the Royal Academy Both his training and practice were European but his studio became the mecca of American painters who for half a century came to study under him His training in historical painting did not stand them in good stead on their return to America, where no demand existed for such work Gilbert Stuart, however, emerged from his tutelage a superb portrait painter and after gaining success in England returned to America, where he executed a long series of famous and charming portraits and set a standard rarely surpassed in this country Of all the arts sculpture was, perhaps, the least cultivated in the colonies The wax portraits of Patience Wright and the figureheads of William Rush are almost the only works of known authorship prior to the Revolution The period from the birth of the republic to the Civil War did not see much increased demand for the fine arts Such early painters as Washington Allston, Samuel F B Morse, John Vanderlyn, and John Trumbull, who sought a market in America for historical painting in the classical manner of Jacques Louis David, were quickly disillusioned Portrait painting alone could provide the patronage enjoyed by such men as Mather Brown, Henry Benbridge, Edward Savage, Thomas Sully, John Neagle, Chester Harding, and the miniaturists Edward G Malbone and John Wesley Jarvis None of these men equaled Stuart or Copley, but all of them produced work of real interest Perhaps even more interesting, however, was the gradual rise of a number of excellent genre painters—Henry Inman, William Sidney Mount, Henry Sargent, and George Caleb Bingham. These were the earliest painters of the American scene Meanwhile J J Audubon achieved fame as the painter of American birds It is significant that he had to go to England for recognition and publication of his work The first half of the 19th cent saw the first school of American landscape painting Thomas Doughty and Thomas Cole started the HUDSON RIVER SCHOOL, which was continued by Asher Durand, John Frederick Kensett, and Frederick Edwin Church Despite a tendency toward the panoramic, the better work of these men showed a direct inspiration by nature which has never ceased to be an important factor in American art In sculpture portraiture provided the main source of patronage John Frazee and Hezekiah Augur with little training produced forceful and original work in marble and wood Horatio Greenough began the long tradition of the American sculptor in Italy, where he was soon followed by Thomas Crawford, Hiram Powers, and Harriet Hosmer All of them were greatly influenced by Thorvaldsen More authentic talents, perhaps, were Clark Mills, whose figure of Gen Andrew Jackson was the first equestrian statue cast in America, and Thomas Ball and William Rimmer, whose untutored work had originality and power In painting, the post-Civil War period produced works of enduring worth and striking individuality. It is probable that in no period has art enjoyed more ardent patronage in America Not only the newly wealthy industrialists but also the state and Federal governments showed an unprecedented readiness to support the arts Much of the more popular work of the period, such as the historical and mural paintings of Leutze and the panoramas of Bierstadt, have relatively little aesthetic interest today But Whistler, Ryder, Eakins, and Winslow Homer have seldom been equaled in our history The four are strikingly dissimilar Whistler, an expatriate, cultivated a delicate art of suggestion in his oils and etchings alike Ryder, a hermit, produced a visionary art of deep significance Eakins painted with uncompromising honesty the everyday world about him And Homer's water colors are among the strongest realistic interpretations of pure landscape This was also the period of the fine romantic landscape painters George Inness, Alexander H Wyant, Homer D Martin, and Ralph Blakelock In Inness and perhaps even more in William Morris Hunt, the influence of the BARBIZON SCHOOL was brought to America Although French influence had begun to supplant German, the portrait painters William M Chase and Frank Duveneck reflect Munich John La Farge, who studied in Paris, did much to widen the cultural horizon His religious murals and stained glass set a new standard for these arts in America John Singer Sargent excelled rather in society portraiture, and Elihu Vedder and Edwin Abbey in illustration At the close of the century the influence of French impressionism appears in the work of five admirable painters, John Twachtman, Childe Hassam, William Glackens, Maurice Prendergast, and Mary Cassatt The late 19th cent also saw a greatly increased demand for sculpture In addition to portraits, an illustrative sculpture of figures and figure groups became popular The work of John Rogers and Frederic Remington is notable in this minor field After the Civil War a great number of commemorative works and monuments were commissioned Outstanding among these are such works as John Quincy Adams Ward's statue of Gen G H Thomas and Augustus Saint-Gaudens's of David Farragut American trained, Ward introduced a strong note of realism into a tradition suffering from the somewhat vapid classicism of the Italianates His heroic Washington in bronze at the New York Subtreasury Building is an American masterpiece His student Daniel Chester French also devoted his talents to monumental sculpture Saint-Gaudens and Olin Levi Warner furthered the trend toward realism under the inspiration of the French romantic realists Both of them studied in Paris Saint-Gaudens eventually dominated the sculpture of the period and set a high standard of dignity and style in such works as the Adams Memorial and the Shaw Memorial His followers, Herbert Adams, Paul Wayland Bartlett, Karl Bitter, Gutzon Borglum, John Flanagan, Frederick MacMonnies, Lorado Taft, and many others, carried on his tradition with varying success George Grey Barnard gave it a new probity in his famous statue of Lincoln in Cincinnati His fine collection of French medieval sculpture (see CLOISTERS, THE) was one of many

important collections, both of sculpture and of painting, which now began to be available to the American art student and the American public Such collections, together with the rapid growth of art schools, widened the understanding of the European past and lessened the naïveté of earlier periods The 20th cent in America is characterized by an immense expansion and rapid perfection of the industrial arts Such factors as the improved printing processes and the mass production and standardization of architectural units and such a new art as the moving picture have opened fresh fields to the artist and have had a direct influence on all the fine arts It is characteristic of this period that the distinction between the fine and the industrial arts has become increasingly tenuous American painting of the 20th cent has reflected most of the radical movements and fleeting schools of the same period in Europe but with less violent departure from tradition and with a more constant interest in local color and in subject matter generally The opening years saw a vigorous movement towards realism in subject and technique headed by such men as Robert Henri, John Sloan, and George Bellows With others they formed The EIGHT, a group not so much distinguished for a common ideal as for a freedom of thought which opened the way to quite other ideals than those of its founders America was first introduced to cubism, futurism, and expressionism at the famous Armory Show of 1913 under the auspices of an original but essentially romantic painter, Arthur B Davies Among the artists early affected by abstraction were Max Weber, Charles Demuth, John Marin, Walt Kuhn, Maurice Sterne, Marsden Hartley, and Stuart Davis The 1930s and '40s saw a continued growth in the interest in varying degrees of abstraction, in both painting and sculpture In artists such as Georgia O'Keeffe, Charles R Sheeler, and Peter Blume it took on a mixed character of selective realism combined with formal design The photographer Alfred Stieglitz maintained galleries devoted to promoting the work of many of these artists But abstraction has never threatened the existence of naturalistic painting, well represented by Eugene Speicher, Edward Hopper, J S Curry, Charles Burchfield, and countless others In 1934 the U S government initiated a Section of Painting and Sculpture as a branch of the Dept of the Treasury This section, later transformed into the Section of Fine Arts, has charge of the embellishment of Federal buildings and has carried on an ambitious program of mural painting with projects open to competition In a few years it commissioned a large number of murals, employing the work of many notable artists including Thomas Hart Benton, George Biddle, and Boardman Robinson This section should not be confused with the Works Progress Administration program initiated in 1935 and later discontinued Both these acts of government sponsorship stimulated the arts and particularly the art of mural painting, which had already attracted the interest of socially minded artists because of its public character and because of the vigorous exploitation of its possibilities by the noted Mexican fresco painters, J C Orozco and Diego Rivera In sculpture, as in painting, the 20th cent has seen a radical departure from the anatomical realism of the preceding period and a growing concern for formal design and expressive form. This is clearly seen in the work of such different men as Jacob Epstein, Gaston Lachaise, Elie Nadelman, Robert Laurent, William Zorach, and Alfeo Faggi A more conservative and eclectic talent is that of Paul Manship, whose popular and decorative style lends itself to many types of architectural and monumental sculpture Naturalism is represented in Mahonri Young's figures of laborers and Jo Davidson's portraits and in the work of the women sculptors Anna Vaughn Hyatt and Malvina Hoffman See William Dunlap, *History of the Arts of Design in the United States* (new ed , 1918), Samuel Isham, *The History of American Painting* (new ed., 1927), Suzanne Lafollette, *Art in America* (1929), Lorado Taft, *The History of American Sculpture* (new ed , 1930); Sadakichi Hartmann, *A History of American Art* (new ed , 1932), Holger Cahill and A. H Barr, *Art in America* (1935), Jerome Mellquist, *The Emergence of an American Art* (1942)

American Colonization Society, organized Dec , 1816–Jan., 1817, at Washington, D C , to transport free Negroes from the United States and settle them in Africa The freeing of many slaves, principally by idealists, created a serious problem, since no sound provisions were made for establishing them in society on an equality with white Americans anywhere in the United States Southern fears that the freedmen would encourage a slave revolt were much stirred by the uncovering in 1822 of the obscure plot of Denmark Vesey, a free Negro of Charleston, S C Robert Finley, principal founder of the colonization society, found much support among prominent men, notably Henry Clay A journal, *The African Repository*, was founded, and money was raised—with some indirect help from the Federal government when (1819) Congress appropriated $100,000 for returning to Africa Negroes illegally brought to the United States. In 1822 an agent, Eli Ayres, and Capt R. F. Stockton of the U.S. purchased land in Africa, where subsequently Jehudi ASHMUN and Ralph R. GURLEY laid the foundations of LIBERIA The colonization movement came under the bitter attack of the ABOLITIONISTS, who charged that in the South it strengthened slavery by removing the free Negroes The Negroes themselves were not enthusiastic about abandoning their native land for the African coast. The colonization society, with its associated state organizations, declined after 1840 More than 11,000 Negroes were transported to Liberia before 1860 From 1865 until its dissolution in 1912, the society was a sort of trustee for Liberia See E L Fox, *The American Colonization Society, 1817–1840* (1919)

American cowslip: see SHOOTING STAR

American Expeditionary Force: see WORLD WAR, FIRST

American Falls, city (pop 1,439), co seat of Power co , SE Idaho, on the Snake river and SW of Pocatello The American Falls themselves were well known to travelers on the Oregon Trail, who often camped near them The town grew after the railroad came in 1892 A dam built in 1925–27 made a lake which covered most of the city. The new city, moved a half mile, is the center of a large irrigated farming section The reservoir, 25 mi. long, now also serves as a part of the MINIDOKA PROJECT Wheat is the most notable crop There is a hydroelectric plant in American Falls. A trout hatchery is near by.

American Federation of Labor, a federation of trade unions of the United States, Canada, and dependencies In 1881, parts of various workingmen's trade organizations, meeting in Pittsburgh, formed the Federation of Organized Trades and Labor Unions of the United States and Canada, which in 1886 became the American Federation of Labor With a strong executive council at the top (15 members elected annually) and with loosely federated autonomous unions at the bottom, the A F of L operates through national labor and trade locals which form into city central bodies and state and national federations Representation to the annual national convention, which constitutes the legislative branch of the A F of L , is made on the basis of one delegate each for the city central bodies, state federations, and national departments, with the national and international unions having one delegate for approximately every 4,000 members (32,000 members or more, five delegates) Issues at the conventions are decided mostly by a majority vote, on the basis of one vote for every 100 members or major fraction thereof Based on unionism by crafts and opposed to organization by industry, the A F of L has through the use of strikes secured higher wages, shorter hours, workmen's compensation, compulsory state education, and laws against child labor Under the leadership of Samuel Gompers and, after his death in 1924, of William Green, the A F of L became the largest labor federation in the United States, with a membership of over 7,500,000 A split (Nov , 1935) over the organization of mass-production industries and the formation of industrial unions resulted in the suspension of 10 affiliates in Sept , 1936, and their expulsion from the federation in Oct , 1937 These, under the leadership of John L Lewis, formed the Committee for Industrial Organization (see CONGRESS OF INDUSTRIAL ORGANIZATIONS) Although reconciliation efforts failed, two unions were later readmitted to the A F of L —the International Ladies Garment Workers Union (June, 1940) and the United Mine Workers (Jan , 1946) The U M W stalked out again in Dec , 1947, on a difference with the A F of L over the filing of non-Communist affidavits as required by the Taft-Hartley Act In the Second World War the A F of L pledged a no-strike policy With the formation of its Education and Political League it was influential in the 1948 national election See Samuel Gompers, *Seventy Years of Life and Labor* (1925), L L Lorwin and J A Flexner, *The American Federation of Labor* (1933), Florence Peterson, *American Labor Unions* (1945), issues of the *American Federationist*, official organ published since March, 1894

American Fork, city (pop 3,333), N central Utah, on American Fork Creek in the valley of Utah Lake, S of Salt Lake City, settled 1850 by Mormons, inc 1853 A poultry-raising center in an irrigated area, it is now served by the Provo river project

American Fur Company, chartered by John Jacob ASTOR (1763–1848) in 1808 as a rival to the great companies in Canada, the North West Company and the Hudson's Bay Company Astor's most spectacular venture in the fur trade, the post at ASTORIA, Oregon, was made under a subsidiary company, the Pacific Fur Company His early operations around the Great Lakes were under another subsidiary, the South West Company, in which Canadian merchants had a part Both failed. It was only in 1817, after the government had excluded foreign traders from U S territory, that the American Fur Company took over the trade in the Lakes region Ramsay Crooks and Robert Stuart were Astor's chief partners, and through an alliance with the Chouteau interests of St Louis, operations were expanded after 1821 in the Missouri river region and later into the Rocky Mts. (see also MOUNTAIN MEN). The company was notable as one of the first great trusts and maintained its virtual monopoly by buying out or crushing the small opposition companies that kept springing up. After Astor withdrew in 1834, the company was split, and the name properly belonged to the northern firm under Ramsay Crooks's presidency, but in popular usage it was employed for all the succession companies The American Fur Company had much influence in shaping the history of the frontier, not only in preparing the way for white settlement but in opening traffic in lead, Great Lakes fishing, and steamboating See H M Chittenden, *The American Fur Trade of the Far West* (3 vols , 1902); K W. Porter, *John Jacob Astor* (1931), Bernard De Voto, *Across the Wide Missouri* (1948).

American ivy: see VIRGINIA CREEPER

Americanization, term used to describe the cultural process by which the immigrant to the United States gradually assimilates American speech, ideals, traditions, and ways of life. The name has also been given to the movement fostering assimilation, which grew to crusading proportions in the first quarter of the 20th cent as a result of the great immigration from the eastern and southern countries of Europe from 1880 to the outbreak of the First World War (see IMMIGRATION) Fear and suspicion of the newcomers and of their possible failure to become assimilated gave impetus to the movement Joined by social workers interested in improving the slum conditions surrounding the immigrants and by representatives of the business and industrial world who feared that the source of cheap labor might be colored by the spread of radical social doctrines, organizations were formed to propagandize and to agitate for municipal, state, and Federal aid to educate the immigrants and to teach them American ways Spearheading the drive were the North American Civic League for Immigrants (a New England group), the Committee for Immigrants in America, and the National Americanization Committee (both with headquarters in New York city) The coming of the First World War with the resultant heightening of American nationalism strengthened the movement The Federal bureaus of education and of naturalization joined in the crusade and aided the private Americanization groups Giant rallies, patriotic naturalization proceedings, and Fourth of July celebrations featured the campaign With America's entry into the struggle, Americanization was made an official part of the war effort State after state passed legislation providing for night-school classes and other facilities for the education and Americanization of the foreign-born The anti-Red drive conducted by the Dept of Justice in 1919–20 stimulated the movement and led to even greater legislative action on behalf of Americanization Virtually every state which had a substantial foreign-born population had provided educational facilities for the immigrant by 1921 The passage of this legislation plus the return of "normalcy" and, more especially, the coming of the quota system of immigration caused the Americanization move to subside and the private groups to disband See E G Hartmann, *The Movement to Americanize the Immigrant* (1948)

American Labor party, organized in New York by labor leaders and liberals in 1936, primarily to support Franklin D Roosevelt's New Deal and the men favoring it in national and local elections It gathered strength in New York state and particularly in New York city and had considerable weight there in tipping the scales toward chosen Democratic or Republican candidates After 1939 it was much torn by strife between left-wing and right-wing factions, chiefly concerning policy toward the USSR In 1944 a right-wing group, defeated in the primaries, withdrew to form the Liberal party, and in 1948 many members withdrew when the party endorsed Henry A. Wallace

American Legion, national association of the veterans of the First and Second World Wars, founded in PARIS in 1919 The preamble to the constitution, adopted at the convention in St Louis that same year, expresses its purposes in part as, "to uphold and defend the Constitution of the United States, to maintain law and order; to foster and perpetuate a one hundred percent Americanism, . . to safeguard and transmit to posterity the principles of justice, freedom, and democracy, to consecrate and sanctify our comradeship by our devotion to mutual helpfulness " To achieve these ends the American Legion has done much work in social welfare, particularly child care It is by far the largest of the veterans' associations and, with its system of state departments and local posts centered in headquarters at Indianapolis, exerts considerable influence on the national life The annual convention, at which policies are formulated, gains much attention, and the political force of the organization is considerable The efforts of the American Legion have been bent not only to obtaining benefits for the veterans but also to building up the military strength of the United States and to attacking "subversive" or "anti-American" teachings and organizations. Its poli-

cies have been criticised by opponents as reactionary, as in William Gellermann's book, *The American Legion as Educator* (1938) It is organized on a nonpartisan, nonpolitical basis There is also a woman's auxiliary for the wives, mothers, sisters, and daughters of veterans Veterans of the women's corps of the armed services in the Second World War are members of regular posts See Richard Seelye Jones, *A History of the American Legion* (1947)

American literature. Colonial American literature naturally began as a somewhat tardy part of English literature The 17th-century historical narratives of Capt John Smith of Virginia and of Gov William Bradford and John Winthrop of Massachusetts were the earliest writing in the colonies Cotton Mather, in his *Magnalia Christi Americana* (1702), was consciously literary The earliest poetry was written by Anne Bradstreet, Michael Wigglesworth, and Edward Taylor, but the first book published in the colonies was the *Bay Psalm Book* (1640) Austere Calvinism found its last great utterance in America in the sermons of the Puritan Jonathan Edwards A true lyric poet did not appear until Philip Freneau, who was also probably the earliest professional journalist in the colonies The first weekly newspaper appeared in 1704 in Boston, and the first daily in 1784 in Philadelphia Benjamin Franklin, who founded the early *Saturday Evening Post*, was a master of shrewd, witty prose, shown especially in his *Poor Richard's Almanack* (begun 1732), the most famous of many almanacs of that period, and in his autobiography In the political writing attendant on the American Revolution, the prose of Thomas Paine, Alexander Hamilton, Thomas Jefferson, and George Washington was decisive William Hill Brown has been credited with the first American novel, but Charles Brockden Brown was our first professional novelist, as Royall Tyler was the first professional American playwright Washington Irving, with his sketches, tales, and histories, was the American man of letters first recognised as such in Europe In the 19th cent , despite the early popularity of Fitz-Greene Halleck, William Cullen Bryant was the outstanding poet before the appearance of Emerson, Longfellow, Whittier, and Poe The American historical novel was made popular by its great exponent, James Fenimore Cooper, and was written also by William Gilmore Simms and Robert M Bird A significant and influential group of writers in the first half of the 19th cent was the transcendentalists in Concord, Mass It included Ralph Waldo Emerson, Henry David Thoreau, Bronson Alcott, Margaret Fuller, and Theodore Parker Nathaniel Hawthorne, on the edge of the group, was preeminent as the novelist of New England, interpreting the brooding, Puritan spirit in romantic tales, while his friend Herman Melville interpreted romanticism in novels full of exotic subject matter and cloudy philosophy Oliver Wendell Holmes in novels, essays, and poems showed another side of New England life, as did James Russell Lowell, whose *Biglow Papers* brought native dialect into literature and who was not only a poet, but an editor, a critic, and a teacher Richard Henry Dana, Jr , wrote his masterly story of adventure at sea in 1840 Most romantic of New England poets was Henry Wadsworth Longfellow, whose poems on American themes, such as *Hiawatha* and *Evangeline*, were widely known John Greenleaf Whittier wrote poems of American rural life, and he, Lowell, and the novelist Harriet Beecher Stowe served the antislavery cause well Magazines, such as the *Southern Literary Messenger* (1834–64), the *North American Review* (1815–1940), the *Knickerbocker Magazine* (1833 65), and *Godey's Lady's Book* (1830–98)—the latter edited for years by Sara Josepha Hale—helped maintain literary standards During New England's literary ascendancy, Edgar Allan Poe, working mostly in Richmond and New York, created the modern short-story form, wrote poems revealing his genius for metrics, and became our first mature, systematic literary critic, his influence as poet and critic has been strongest in France The scholarly European tradition brought back to America by George Ticknor, Henry Wadsworth Longfellow, and others was continued by James Russell Lowell and later great teachers William Hickling Prescott, John Lothrop Motley, Francis Parkman, and George Bancroft were unsurpassed as historians in their day, and their work remains valuable Early drama in America was undistinguished, but is best represented in the 18th cent by works of William Dunlap, in the 19th by those of John Howard Payne, Robert M. Bird, George Henry Baker, and Nathaniel Parker Willis, and later in the century by those of Bronson Howard, Augustin Daly, and J A Herne The pioneering figure in poetry in the latter half of the 19th cent was Walt Whitman, who sought a new American form in chants on a variety of subjects and who also wrote some of the best poems to come out of the Civil War, other poets included Sidney Lanier and John Bannister Tabb The fine lyric gift of Emily Dickinson remained unknown until after 1915, although she died in 1886. Among lesser poets, the best known by 1900 were perhaps Bliss Carman, Richard Hovey, and William Vaughn Moody. Moody was also a popular playwright, as were Clyde Fitch, Augustus Thomas, and David Belasco In fiction, the new nationalism, interest in "local color," and the tall tales and folklore of the country produced a sectional literature Prominent among those who wrote in the Western country were Bret Harte, Edward Eggleston, and Joaquin Miller, in the South, Joel Chandler Harris, George W Cable, Thomas Nelson Page, and James Lane Allen; in New England, Louisa M Alcott, Sarah Orne Jewett, and Mary E W Freeman, and in the Midwest, James Whitcomb Riley Greatest of all was the humorist Mark Twain in his stories of the Mississippi river, with his collaborator, Charles Dudley Warner, he also gave a name to a novel and a period, the Gilded Age A school of fiction which dealt with political and economic evils grew up in the latter half of the 19th cent and included the novels of Edward Bellamy, Rebecca Harding Davis, Harold Frederic, Helen Hunt Jackson, David Ross Locke, and others, direct precursors of Frank Norris and Upton Sinclair. Some of the most influential prose of the period was in the nonfiction of Henry Adams and Henry George The sudden expansion of magazines after the Civil War had provided a market for new American fiction and especially for the short story, which Bret Harte, Ambrose Bierce, Richard Harding Davis, O Henry, and many others helped perfect Henry James, expatriate, excelled in the form and wrote realistic novels, subtly analysing his characters. Edith Wharton to some degree followed his lead in her short stories and novels William Dean Howells was the most influential literary editor as well as representative novelist of the last of the 19th cent and the first part of the 20th and also wrote popular farces The realism which was attenuated in his novels became grim in the work of Hamlin Garland and Stephen Crane, leading to what is known as naturalism in the writings of Theodore Dreiser, Sherwood Anderson, and many writers of the period of disillusion after the First World War At the same time romance was popular in another school of fiction, much of it historical Writers in this field include S Weir Mitchell, Charles Major, Mary Johnston, Paul Leicester Ford, Winston Churchill, F Marion Crawford, and Owen Wister Most popular romancer was Jack London, writer of Western stories The late 19th cent saw also a number of flourishing humorists, of which Mark Twain was most famous—Artemus Ward, Petroleum V Nasby, Finley Peter Dunne, Seba Smith, Josh Billings, and the short-story writer Frank Stockton In direct line of succession were the columnist and poet Eugene Field, George Ade and Don Marquis in the 20th cent , and such contemporary writers as Ogden Nash, James Thurber, and the so-called "*New Yorker*" humorists In the 20th cent the naturalists' merciless dissection of character in fiction led to dialogue and narration very closely imitating the states of mind of characters in the subjective fiction of such novelists as Erskine Caldwell, John Dos Passos, James T Farrell, William Faulkner, Vardis Fisher, F Scott Fitzgerald, Ben Hecht, Ernest Hemingway, and Thomas Wolfe Perhaps also in the pursuit of truth in fiction, many American regional novels were written by Mary Austin, Branch Cabell, Willa Cather, Mary Ellen Chase, Edna Ferber, Rachel Field, Henry Blake Fuller, Oliver La Farge, Zona Gale, Ellen Glasgow, Sinclair Lewis, J P Marquand, Elizabeth Madox Roberts, John Steinbeck, and Booth Tarkington, to name only a few The interest in America's past led these among many others to write outstanding historical novels Hervey Allen, Stephen Vincent Benét, James Boyd, Esther Forbes, MacKinlay Kantor, Margaret Mitchell, Kenneth Roberts, and Stark Young The short story has followed the novel in subject matter and has been especially well handled by Wilbur Daniel Steele, Katharine Anne Porter, Dorothy Parker, William Saroyan, Eudora Welty, and others Americans are also established as writers of the detective story Harriet Monroe's founding (1912) of *Poetry a Magazine of Verse* was a welcome outlet for the renewed interest in poetry and was the first of a legion of small magazines which followed New poetic forms were sought by H D (Hilda Doolittle) and Amy Lowell in imagism, by Vachel Lindsay and Carl Sandburg in free-verse chants, by Ezra Pound and by T S Eliot and his followers in 17th-century English poets and the French symbolists, by John Gould Fletcher and Conrad Aiken in Oriental as well as English influence Wallace Stevens and E E Cummings represent extreme individualism. Local material was also cultivated by the poets —Robert Frost, Edgar Lee Masters, Robinson Jeffers, Lew Sarett, J P Blackmur, and many others Of the traditionalists in form, E. A Robinson was the earliest in the century and perhaps greatest, later came Wilbam Ellery Leonard, Elinor Wylie, Hart Crane, and Sara Teasdale The first well-known Negro poet was Paul Laurence Dunbar; in the 20th cent his race was well represented in poetry by Countee Cullen, James Weldon Johnson, and Langston Hughes and in prose by Zora N Hurston, Richard Wright, and Claude McKay, among others Archibald MacLeish, Stephen Vincent Benét, and Edna St Vincent Millay were outstanding among the poets who adapted their poems and poetic plays to radio broadcasting during and after the Second World War Since 1920 the American theater has been vigorous The outstanding playwright is Eugene O'Neill, and there have been excellent plays by Maxwell Anderson, Philip Barry, Marc Connelly, Rachel Crothers, Ben Hecht, Lillian Hellman, Sidney Howard, George S. Kaufman, Elmer Rice, Clifford Odets, Thornton Wilder, and Tennessee Williams Essayists include the 19th-century naturalists John Burroughs and John Muir and Donald Culross Peattie in the 20th cent , the philosophers William James, George Santayana, Josiah Royce, and John Dewey, and Agnes Reppher and E B White In criticism the "new humanists" Irving Babbitt, P E More, and W C Brownell represented moderately conservative thought in the first decades of the 20th cent and were later opposed by a group which included Van Wyck Brooks, Randolph Bourne, H L Mencken, H S Canby, and others Edmund Wilson, Lewis Mumford, and Malcolm Cowley were friendly to the new realism and interested in the Marxist theories of the social responsibility of literature, which in the '30s were applied especially by Max Eastman, Waldo Frank, Granville Hicks, and Bernard Smith. Preoccupation with aesthetics in criticism had been characteristic of T S Eliot and Ezra Pound in this whole period and in the '40s was notable also in the writing of R P Blackmur, I A Richards, Yvor Winter, and others Historical writing in this century also found a more realistic approach to its subjects, with emphasis on economic, sociological, and psychological factors in civilisation John Fiske, Henry Adams, Theodore Roosevelt, and Woodrow Wilson marked increasingly the transition from older schools of thought, and the pioneers of the new movement were Frederick Jackson Turner, John B McMaster, James H Robinson, Charles A Beard, Albert B Hart, Herbert L. Osgood, William A Dunning, John R. Commons, Charles M Andrews, and James Ford Rhodes Historians prominent since 1920 include Henry Osborn Taylor, Carl Becker, Carlton J H Hayes, Herbert E Bolton, Allan Nevins, H S Commager, Arthur Schlesinger, Arthur Schlesinger, Jr , and S E Morison See *The Cambridge History of American Literature* (ed by William P Trent and others, 4 vols , 1917–21), *Literary History of the United States* (ed by Robert Spiller and others 2 vols and a volume of bibliography, 1948)

American Museum of Natural History, incorporated in New York city in 1869 to promote the study of natural science and related subjects Buildings on its present site were opened in 1877 Among the buildings since added are the Hayden Planetarium (opened 1935) and the Roosevelt Memorial building (completed 1936) A board of trustees controls and directs the museum's activities. As a result of its wide explorations and its program of research the museum has acquired specimens and data of great value Resources are derived from endowment, grants from the city, and a membership fund Among the facilities for study are an extension library , illustrated lectures, publications, a special school service whereby the museum cooperates with city schools, circulating exhibits, habitat groups of animals and plants, a mineral and gem collection, an unrivaled assemblage of skeletons of extinct animals, especially dinosaurs, and replicas of invertebrates in glass The Indians of North and South America are admirably portrayed, with exhibits of their basketry, pottery, and porcelain

American party see KNOW-NOTHING MOVEMENT

American Philosophical Society, first scientific society in America, founded in 1743 in Philadelphia It was an outgrowth of the junto formed by Benjamin Franklin in 1727 Franklin was the first secretary of the society, and Thomas Hopkinson the first president In 1769 the Philosophical Society merged with the American Society for Promoting Useful Knowledge This combined organization elected Franklin its first president, an office which he held until his death David Rittenhouse and Thomas Jefferson were his immediate successors The society, which has a notable library, includes all fields of intellectual and scientific study Its transactions date from 1771 and records of its proceedings from 1838

American Red Cross · see RED CROSS

American Revolution, 1775–83, struggle by which the THIRTEEN COLONIES on the Atlantic seaboard of North America won independence from Great Britain and became the United States. It is also called the American War of Independence. By the middle of the 18th cent , differences in life, thought, and interests had developed between the mother country and the little colonies expanding between the sea and the mountains. Local institutions took shape in the colonies, and though there was little feeling of intercolonial unity (as shown by the failure of the plan of union in the Albany Congress), there was a general appreciation of divergence from

the English attitudes and interests The British government, like other imperial powers in the 18th cent , favored a policy of MERCANTILISM, and many colonials felt that their activities were unfairly limited The NAVIGATION ACTS, intended to regulate commerce in the British interest, could not be well enforced on the long American coast, and smuggling, though officially a crime, was generally regarded in the colonies as an open and honorable profession There had been brushes between officials and colonials, some quite serious (e g , Bacon's Rebellion), but the underlying causes of trouble emerged only after 1763 The Treaty of Paris in that year ended the FRENCH AND INDIAN WARS and removed a long-standing threat to the colonies At the same time the ministry (1763–65) of George GRENVILLE in Great Britain undertook a new colonial policy, intended to make the colonies pay for their defense and return revenue to the mother country The tax levied on molasses and sugar in 1764 caused some consternation among New England merchants and makers of rum, but it was the STAMP ACT (1765) with its direct demand for revenue that roused a violent outcry among the colonial people—Northern merchants, Southern planters, and pioneer farmers and land speculators Everywhere leaders such as James OTIS, Samuel ADAMS, and Patrick HENRY denounced the act with eloquence, societies called the SONS OF LIBERTY were formed, and the Stamp Act Congress was called to protest that Parliament was violating the rights of trueborn Englishmen in taxing the colonials, who were not directly represented in the supreme legislature The threat of boycott and refusal to import English goods supported the colonial clamor Parliament repealed (1766) the Stamp Act but passed an act formally declaring its right to tax the colonies The incident was closed, but a barb remained to wound American feelings Colonial political theorists—not only hotheads such as Samuel Adams, Patrick Henry, Josiah Quincy, and Alexander MacDougall but also moderates such as John DICKINSON, John ADAMS, and Benjamin FRANKLIN—asserted that taxation without representation was tyranny and repeated the doctrines of John LOCKE The teachings of 18th-century French philosophers and continental writers on law, such as Emmerich de Vattel, were implicit in the colonial arguments based on the theory of NATURAL RIGHTS The colonials tended to claim that they were subject only to the king and that King George III, who, though hedged in by Parliament, did have some hand in the actions of his ministers, was a tyrant Trouble flared when the ministry of Charles TOWNSHEND adopted (1767) the TOWNSHEND ACTS, which taxed numerous imports, care was taken to lay an "external" or indirect tax, since direct taxes had been hotly challenged by the colonials The indirect taxes were challenged too, and though the duties were not heavy, the principle was attacked Incidents came in interrupted sequence to make feeling run higher and higher—the seizure of a ship belonging to John HANCOCK in 1768, the bloodshed of the BOSTON MASSACRE in 1770, the burning of H M S GASPÉE in 1772 Even repeal of the Townshend Acts in 1770 did no more than temporarily quiet the turmoil, for the tax on tea was kept as a sort of token of Parliament's supremacy Indignation in New England led to the BOSTON TEA PARTY in 1773 Despite the earnest pleas of William Pitt the elder (see CHATHAM, WILLIAM PITT, 1ST EARL OF) and Edmund BURKE, Parliament replied with coercive measures These (and the QUEBEC ACT) the patriotic colonials called the INTOLERABLE ACTS, and resistance was prompt The Sons of Liberty and individual patriots were already spreading statements of the colonial cause to win merchant and farmer, workingman and sailor, to the defense of liberty Committees of correspondence had been formed by the patriots to exchange information and ideas and to build colonial unity, and in 1774 the committees of correspondence prepared the way for the CONTINENTAL CONGRESS The representatives at this First Continental Congress, except for a few radicals, had not the remotest idea of independence but wished only to persuade the British government to recognize their rights A plan of reconciliation offered by Joseph GALLOWAY was rejected, it was agreed that the colonies would refuse to import British goods until colonial grievances were righted, those grievances were listed in petitions to the king, and the congress adjourned Before it met again the situation was changed On the morning of April 19, 1775, shots had been exchanged by patriots and British soldiers, men had been killed, and a revolution of violence had begun (see LEXINGTON AND CONCORD, BATTLES OF) On the very day (May 10, 1775) when the Second Continental Congress met, Ethan ALLEN and his Green Mountain Boys, together with a force under Benedict Arnold, took Fort Ticonderoga from the British, and two days later Seth WARNER captured Crown Point Boston was under British siege, and before that siege was climaxed by the costly British victory usually called the battle of Bunker Hill, the Congress had chosen (June 15, 1775) George WASHINGTON as commander in chief of the Continental armed forces The war was on in earnest Some delegates had come to the Congress already committed to declaring the colonies independent of Great Britain, but even many stalwart upholders of the patriot cause were not ready to take such a step. The lines were being more clearly drawn between the pro-British LOYALISTS and the colonial patriots The time was one of indecision, and the division of the people was symbolized by the split between Benjamin Franklin and his Loyalist son, William FRANKLIN The Loyalists were numerous, especially among the holders of large properties A large part of the population was more or less neutral, swaying to this side or that or else remaining inert in the struggle, which was to some extent a civil war So it was to remain to the end Civil government and administration had fallen apart and had to be patched together locally In some places the result was bloody strife, as in the partisan raids in the Carolinas and Georgia and the Mohawk valley massacre in New York, elsewhere hostility did not produce open struggles In the parlous early days of doubt Thomas PAINE wrote a pamphlet, *Common Sense*, which urged the patriot cause In arms the cause did not prosper too greatly Delegations to the Canadians had been unsuccessful, and the QUEBEC CAMPAIGN (1775–76) ended in disaster The British gave up Boston in March, 1776, but the prospects were still not good for the ill-trained, not too well-armed volunteer soldiers of the Continental army when the Congress decided finally to declare the independence of the Thirteen Colonies The DECLARATION OF INDEPENDENCE is conventionally dated as of July 4, 1776 Drawn up by Thomas JEFFERSON (with slight emendations), it was to be one of the great historical documents of all time It did not, however, have any immediate good effect The British under Gen William HOWE and his brother, Admiral Richard Howe, came to New York harbor After vain attempts to negotiate a peace, the British forces struck Washington lost Brooklyn Heights (see LONG ISLAND, BATTLE OF), retreated northward, was defeated at Harlem Heights on Manhattan and at White Plains, and took part of his dwindling army into New Jersey Thomas Paine in a new pamphlet, *The Crisis*, exhorted the patriots to courage in desperate days, and Washington showed his increasing military skill and helped to restore patriot spirits in the winter of 1775–76 by crossing the ice-ridden Delaware and winning small victories over forces mostly made up of Hessian mercenaries at Trenton (Dec 26) and Princeton (Jan 3) In 1777 the British undertook a plan to wipe out the flickering revolt by a concerted plan to split the colonies with converging expeditions concentrated upon the Hudson valley Gen William Howe, instead of taking part in it, moved into Pennsylvania, defeated Washington in the battle of Brandywine (Sept 11), took Philadelphia, and beat off (Oct 4) Washington's attack on Germantown Meanwhile the British columns under Gen John BURGOYNE and Gen Barry ST LEGER had failed (see SARATOGA CAMPAIGN), and Burgoyne on Oct 17, 1777, ended the battle of Saratoga by surrender to Gen Horatio GATES The victory is commonly regarded as the decisive battle of the war, but its good effects again were not immediate The patriot army still had to endure the hardships of the cruel winter at VALLEY FORGE, when only loyalty to Washington and the cause of liberty held the half-frozen, half-starved men together Among them were three of the foreign idealists who had come to aid the colonials in their struggle—KALB, STEUBEN, and LAFAYETTE At Valley Forge, Steuben trained the still-raw troops, who came away from Valley Forge a disciplined fighting force and gave a good account of themselves in 1778 Sir Henry CLINTON, who had succeeded Howe in command, decided to abandon Philadelphia for New York, and Washington's attack upon the British in the battle of Monmouth (see MONMOUTH, BATTLE OF) was cheated of success mainly by the equivocal actions of Gen Charles LEE The warfare in the Middle Atlantic region settled almost to stagnation, but foreign aid was already coming Agents of the new nation—notably Benjamin Franklin, Arthur Lee, Silas Deane, and later John Adams—were striving to get help, and in 1777 BEAUMARCHAIS had succeeded in getting arms and supplies sent to the patriots in time to help win the battle of Saratoga That victory made it easier for France to enter upon an alliance with the United States, for which Franklin and Vergennes signed (1778) a treaty Spain entered the war against Great Britain in 1779, but Spanish help did little for the United States, while French soldiers and sailors and French supplies and money were of crucial importance The warfare had meanwhile shifted from the quiescent North to other theaters George Rogers CLARK by his daring exploits (1778–79) in the West, climaxed by the second capture of Vincennes, established patriot prestige on the frontier Gen John SULLIVAN led an expedition (1779) against the British and Indians in upper New York. The chief fighting, however, was in the South. The British had taken Savannah in 1778 In 1780 Sir Henry Clinton attacked and took Charleston (which had resisted attacks in 1776 and 1779) and set Gen Charles CORNWALLIS off on the CAROLINA CAMPAIGN Cornwallis swept forward to beat Horatio Gates soundly at Camden (Aug., 1780), and briefly only guerrilla bands under Francis MARION, Andrew PICKENS, and Thomas SUMTER continued to oppose the British S of Virginia. Another low point had been reached in American fortunes Bitter complaints of the inefficiency of the Congress, political conniving, lack of funds and food, and the strains of long-continued war had increased widespread apathy and disaffection, and the British tried to take advantage of the division among the people In 1780 occurred the most celebrated of the disaffections, the treason of Benedict ARNOLD Lack of pay and shortages of clothing and food drove some Continental regiments into an orderly mutiny of protest in Jan , 1781 The dark was, however, already lifting A crowd of frontiersmen with their rifles defeated a British force at Kings Mt. in Oct , 1780, and Nathanael GREENE, who had replaced Gates as commander in the Carolina campaign, and his able assistant, Daniel MORGAN, together with Thaddeus KOSCIUSKO and others, ultimately forced Cornwallis into Virginia The stage was set for the YORKTOWN CAMPAIGN Now the French aid counted greatly, for Lafayette with patriot troops held the British troops in check, and it was a Franco-American force which Washington and the comte de ROCHAMBEAU led from New York S to Virginia The French fleet under Admiral de GRASSE played the decisive part Previously naval forces had been of little consequence in the Revolution State navies and a somewhat irregular national navy had been of less importance than Revolutionary privateers Esek HOPKINS had led a raid in the Bahamas in 1776, John BARRY won a name as a gallant commander, and John Paul JONES was one of the most celebrated commanders in all U S naval history, but their exploits were single incidents It was the French fleet—ironically, the same one defeated by the British under Admiral Rodney the next year in the West Indies—which bottled up Cornwallis at Yorktown Outnumbered and surrounded, the British commander surrendered (Oct 17–19, 1781), and fighting was over The rebels had won the American Revolution The Treaty of Paris (see PARIS, TREATY OF) formally recognized the new nation in 1783, though many questions were left unsettled The United States was floundering through a post-war depression and seeking not too successfully to meet its administrative problems under the Articles of Confederation (see CONFEDERATION, ARTICLES OF) The leaders in the new country were those prominent either in the council halls or on the fields of the Revolution, and the first three Presidents after the Constitution of the United States was adopted were Washington, Adams, and Jefferson Some of the more radical Revolutionary leaders were disappointed in the turn toward conservatism when the Revolution was over, but liberty and democracy had been fixed as the highest ideals of the United States The effect of the American Revolution on liberal thought in European countries cannot by its very nature be weighed, but the presence of a youthful democracy in the world had some influence on the French Revolution and most assuredly later helped to inspire revolutionists in Spain's American colonies Naturally the stirring events of the birth of the country have been often represented in U S literature It has given dramatic material to playwrights from William Dunlap to Maxwell Anderson, to novelists from James Fenimore Cooper and William G Simms to S Weir Mitchell, Paul Leicester Ford, and Kenneth Roberts Older histories, still read for their literary value, are those of George Bancroft, John Fiske, and G O Trevelyan Countless excellent studies have been made of particular aspects and incidents, recent examples are H E Wildes, *Valley Forge* (1938), R B Morris, ed , *The Era of the American Revolution* (1939), Philip Davidson, *Propaganda and the American Revolution 1763–1783* (1941), and Carl Van Doren, *Secret History of the American Revolution* (1941) and *Mutiny in January* (1943) For works of more general interest, see Carl L Becker, *The Eve of the Revolution* ("Chronicles of America" series, 1918), A M Schlesinger, Sr , *The Colonial Merchants and the American Revolution, 1763–1776* (1917), C H Van Tyne, *The Causes of the War of Independence* (1922) and *The War of Independence American Phase* (1929), C H McIlwain, *The American Revolution a Constitutional Interpretation* (1923), C M. Andrews, *The Colonial Background of the American Revolution* (1924), J F Jameson, *The American Revolution Considered as a Social Movement* (1926), S. F Bemis, *The Diplomacy of the American Revolution* (1935), E B Greene, *The Revolutionary Generation, 1763–1790* ("A History of American Life" series, 1943), John C. Miller, *Origins of the American Revolution* (1943) and *Triumph of Freedom, 1775–1783* (1948).

American Samoa: see SAMOA.

American University: see WASHINGTON, D.C.

American Veterans Committee (AVC), organization of veterans of the Second World War, founded in Jan., 1943, and designated the American Veterans Committee in Oct, 1944 In 1946 the AVC had close to 80,000 members It opposed special privileges for veterans ("Citizens first, veterans second") though advancing their best interests The struggle in 1947 to eject extreme leftist elements from the organization was successful The AVC backed (1949) plans for a world veterans' association Efforts to merge the American Veterans Committee with the American Veterans of World War II met with defeat in 1949

American Veterans of World War II (Amvets), organization of veterans of the Second World War, founded in Dec, 1944 The Amvets numbered c 100,000 and had posts in every state by 1947, when President Harry S Truman signed the bill giving this organization a national charter In its 1949 national convention, the American Veterans of World War II rejected a proposed merger with the American Veterans Committee, recommended a Federal bonus to Second World War veterans, proposed a pacific military pact, and advocated the registration of Communists in the United States

americium (ămurĭ'shēum), radioactive element of the actinide series (symbol=Am, for physical constants, see ELEMENT, table) It is formed from plutonium on the emission of beta rays and was first produced in the cyclotron Americium emits alpha particles and has a half life of 500 years Americium hydroxide has been obtained in a pure form

Americus (umĕr'ĭkus), city (pop 9,281), co seat of Sumter co, SW Ga, SE of Columbus, inc 1832 It is an industrial center in a farm and lumber area Fertilizer is produced There is a state junior college

Amerighi, Michelangelo da see CARAVAGGIO, MICHELANGELO AMERIGHI DA

Amersfoort (ä'mursfôrt), municipality (pop 55,447) and town, Utrecht prov, central Netherlands A manufacturing center today, it has medieval houses, a 14th-century water gate, and the 15th-century Gate of Our Lady. Johan van Oldenbarneveldt was born here

Amery (ă'mûrē), city (pop 1,461), NW Wis, NW of Eau Claire, settled 1884, inc 1919

Ames, Fisher, 1758–1808, American political leader, b Dedham, Mass, grad Harvard, 1774, son of Nathaniel Ames Admitted to the bar in 1781, he began political pamphleteering and by a speech in the Massachusetts convention that ratified the Federal Constitution set himself on the road to being a leading Federalist As a Congressman (1789–97) and after his retirement he was high in party councils, a staunch follower of Hamilton and a violent attacker of Jefferson Of Ames's able speeches perhaps the best known was that made in 1796 when the House was disposed to nullify Jay's Treaty by withholding appropriations, he spoke for the treaty He was the archetype of the New England conservative of his period, a strong proponent of order and of the rights of property

Ames, James Barr, 1846–1910, American jurist, b Boston, grad Harvard Law School, 1873 At Harvard he was successively associate professor (1873), professor (1877), and dean (1895) A disciple of LANGDELL, Ames insisted that legal education should require the study of actual cases instead of abstract principles of law At the time of his death the case method was in general use in the United States Ames's careful historical scholarship is displayed in his *Lectures on Legal History* (1913) His writings in various fields of law (e g, torts and trusts) evince a clear grasp of the underlying jurisprudential principles

Ames, Joseph, 1689–1759, English bibliographer He compiled *Typographical Antiquities* (1749), a valuable list of English books printed before 1600

Ames, Joseph Sweetman, 1864–1943, American physicist, b Manchester, Vt, grad Johns Hopkins (A B, 1886, Ph D, 1890) He was associated with Johns Hopkins throughout his career, serving successively as professor of physics and director of the physical laboratory, as provost, as president (1929–35), and as president emeritus An authority on aerodynamics, he was a member of the National Advisory Committee for Aeronautics from 1917 to 1939 (chairman from 1927) He wrote several books in the field of physics

Ames, Nathaniel, 1708–64, American almanac maker, b Bridgewater, Mass His *Astronomical Diary and Almanack*, begun in 1725 and issued after c 1732 from Dedham, Mass, was highly popular and served as a model for Franklin's *Poor Richard's Almanack* and later almanacs After Ames's death it was continued to 1795 by his son Nathaniel, Jr The elder Ames was a physician and also after 1750 landlord of the Sun Tavern at Dedham He was the father of Fisher Ames See Samuel Briggs, ed, *The Essays, Humor, and Poems of Nathaniel Ames* (1891), G L Kittredge, *The Old Farmer and His Almanack* (1904).

Ames, Oakes, 1804–73, American manufacturer, railroad promoter, and politician, b Easton, Mass With his brother Oliver (1807–77) he managed the family's well-known shovel factory at Easton. The business expanded under demands from the expanding Midwest frontier and the Western gold diggings Active in founding the Republican party in Massachusetts, Ames served in Congress from 1863 to 1873 Interested in the construction of the Union Pacific Railroad, Ames secured control of the CRÉDIT MOBILIER after ousting T C DURANT, its founder The financial scandals of that company brought upon Ames in 1872 public disgrace and the censure of Congress.

Ames, Oakes, 1874–1950, American botanist, b North Easton, Mass, grad. Harvard (B A, 1898, M A, 1899), son of Oliver Ames He was associated with Harvard from 1899, becoming professor of botany in 1926, Arnold professor of botany in 1932, and research professor of botany in 1935 (emeritus from 1941) An authority on orchids, he was the author of many articles and of *Orchidaceae* (7 fascicles, 1905–22) and *Enumeration of the Orchids of the United States and Canada* (1924) He also wrote *Economic Annuals and Human Cultures* (1939)

Ames, Oliver, 1831–95, American capitalist, governor of Massachusetts, b North Easton, Mass, son of Oakes Ames (1804–73) He early entered the family's shovel factory at Easton, where he showed inventive skill, managerial capacity, and business acumen On his father's disgrace and death, he pledged his own income to satisfy his father's creditors, aided by railroad recovery and through capable management, he cleared the estate, made good his father's large philanthropic bequests (about $1,000,000), and amassed great wealth of his own He entered politics, was a state senator (1880-82) and lieutenant governor (1882–86), and as governor (1886–89) was noted for his businesslike methods, excellent appointments, and educational and financial reforms

Ames, Winthrop, 1871–1937, American theatrical producer, b North Easton, Mass, grad Harvard, 1895 He was director (1904–8) of the Castle Square Theatre, Boston, then he undertook directorship of the New Theatre, New York This ambitious project, following that of the New Theatre, Chicago (founded 1906), had for its object the encouragement of the American drama by experimentation and freedom from commercialism When the New Theatre in New York failed, Ames built (1912) the Little Theatre and, later, the Booth Theatre Before his retirement in 1932, he produced Gilbert and Sullivan operas with great success The Winthrop Ames Memorial Collection was donated by his wife to the New York Public Library in 1938

Ames, city (pop 12,555), central Iowa, on the Skunk river and N of Des Moines, laid out 1864, inc 1869 It has varied manufactures The campus of the IOWA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS lies 2 mi from the town proper The headquarters of the state highway commission is at Ames

Amesbury, small market town, Wiltshire, England, N of Salisbury STONEHENGE, the chief megalithic monument in Britain, is near Amesbury is the Almesbury of Arthurian legend

Amesbury, town (pop 10,852), NE Mass, on the Merrimack, settled 1654, inc 1668 It produces metal goods and specialties Whittier lived here most of his life

amethyst (ăm'uthĭst) [Gr, =non-drunkenness], variety of QUARTZ, violet to purple in color, used as a gem It is the most highly valued of the semiprecious quartzes It is associated with a number of superstitions, being regarded as a love charm, as a potent influence in improving sleep, and as a protection against thieves and drunkenness Brazil, Uruguay, Ceylon, Siberia, and parts of North America are important sources of supply The so-called Oriental amethyst or purple sapphire is not a variety of quartz, but a very much harder and rarer stone—a variety of corundum

Amharic (ămhă'rĭk), standard language of Ethiopia It belongs to the Ethiopic group of Semitic languages See LANGUAGE (table)

Amherst, Jeffrey Amherst, Baron (ăm'urst), 1717–97, British army officer He served in the War of the Austrian Succession and in the early part of the Seven Years War In 1758 he was sent to America as a major general to lead the Louisburg campaign in the French and Indian War The capture (1758) of the French fortress gave Britain her first important victory in the war, and Amherst replaced James Abercromby as supreme commander in America. The next year (1759), pushing northward from Albany, he took Crown Point and Ticonderoga, but he arrived too late to help General Wolfe take Quebec He directed (1760) the capture of Montreal and returned (1763) to England In the American Revolution, Amherst refused to command British troops in New England, but in 1778 he became commander in chief of home defenses Amherst, for whom Amherst College is named, was created baron in 1776 and made a field marshal in 1796 See biography by J C Long (1933)

Amherst, town (pop 8,620), co seat of Cumberland co, N N S. It is a manufacturing and lumbering town, in a region noted for scenic beauty Near by are the ruins of Fort Lawrence and Fort Beauséjour, built in 1750–51 on the English-French boundary.

Amherst. 1 Town (pop 6,410), W Mass, NE of Northampton, settled 1703, inc 1775. Emily Dickinson was born and lived here all her life, and Noah Webster lived here, 1812–22 The town was named for Lord Jeffrey Amherst It is the seat of the Univ of Massachusetts (see MASSACHUSETTS, UNIVERSITY OF) and of **Amherst College** (nonsectarian, for men), opened in 1821, chartered in 1825 by Congregationalists A leading and well-endowed small college with noted alumni, it has fostered the missionary spirit, emphasized liberal arts education, and pioneered in the fields of survey courses, student government, and student-health programs Amherst has a natural science museum, it holds in trust the Folger Shakespeare Memorial Library, Washington, D C See C M Fuess, *Amherst* (1935) **2** Town (pop 1,174), S N H, SW of Manchester, inc 1760 It was granted by Massachusetts in 1728 to soldiers of King Philip's War and their heirs and was settled about five years later Horace Greeley and G W Kendall were born in the town Franklin Pierce and Jane Means Appleton were married in the Robert Means House (built 1785) **3** Village (pop 2,896), N Ohio, near Lake Erie NW of Elyria, in a sandstone quarry area, settled c 1810

Amherstburg, town (pop 2,853), S Ont, on the Detroit river where it enters Lake Erie Fort Malden was built here in 1796 The village contained about 100 houses when the War of 1812 began and was a British naval station as well as a garrison town At the close of the war it was held by the Americans Only 20 mi. S of Detroit, the town is now in the summer resort district

Amherst College see AMHERST, Mass

Ami (ä'mĭ) [Heb, =architect], servant of Solomon whose descendants came out of exile Ezra 2 57 Amon Neh 7 59

Amici, Giovanni Battista (jōvän'nē bät-tēs'ta ämē'chē), 1786?–1863, Italian astronomer, mathematician, and naturalist He became director of the observatory and professor of astronomy at Florence and published papers on various scientific subjects His most important work was in designing and improving physical and astronomical apparatus, especially the microscope and reflecting telescope

Amicis, Edmondo de see DE AMICIS, EDMONDO

Amida (ă'mĭdu, umī'du), ancient city, E Asia Minor, on the Tigris A Roman colony from A D 230, it was captured (4th cent) by Shapur II of Persia It is the modern DIYARBAKIR, Turkey.

Amidas, Philip see AMADAS, PHILIP

amide see AMMONIA

Amiel, Henri Frédéric (ärē' frādārēk' amyĕl'), 1821–81, Swiss critic, b Geneva His introspective *Journal intime* aroused interest on its incomplete, posthumous publication (1883, augmented 1923) It is the revelation of a personality seeking to explain and justify his lifelong inactivity There is an English translation (1936) by Van Wyck Brooks and Charles Van Wyck Brooks of the parts published so far

Amiens (ă'mēunz, -ĕnz", Fr ämyĕ'), city (pop 79,807), capital of Somme dept, N France, on the Somme river It has an old textile industry and was the capital of PICARDY An important Gallo-Roman town and an early episcopal see, Amiens was overrun and occupied by many invaders In the First World War it was taken and lost by the Germans in 1914, became an important British base, and was heavily bombarded in 1918 More than half of the city was destroyed in the Second World War The Cathedral of Notre Dame, damaged in the First World War, escaped harm in the second conflict It is the largest and one of the finest of French Gothic cathedrals (begun 1220) It is 470 ft long and has a nave 140 ft high, the transept dates from the 14th cent, the spire (370 ft high) and the large rose window were added in the 16th cent The sculptured façades are particularly beautiful Near the cathedral stands a statue of Peter the Hermit, who was born at Amiens

Amiens, Treaty of, 1802, peace treaty signed by France, Spain, and the Batavian Republic on the one hand and Great Britain on the other England was to give up most conquests made in the FRENCH REVOLUTIONARY WARS, and France was to evacuate Naples The peace lasted barely a year (see NAPOLEON I)

Aminadab (umĭn'u-) variant of AMMINADAB.

amine see AMMONIA

Amiot, Joseph see AMIOT, JOSEPH.

Amish Church. see MENNONITES

Amisus. see SAMSUN, Turkey

Amite (umēt') town (pop 2,499), parish seat of Tangipahoa (tăn'jĭpuhō") parish, SE La, NE of Baton Rouge, settled 1836, inc 1861 It is in an area producing strawberries, cotton, corn, and dairy products Gravel pits are near by

Amittai (ămĭt'ăī) [Heb, =loyal], father of Jonah. Jonah 1 1

Amityville (ăm'ĭtēvĭl), residential village (pop 5,058), on the south shore of Long Island, SE N Y, E of New York city, settled 1780, inc 1894. It is a summer resort with small manufactures

Ammah (ăm'u), hill near Gibeon. 2 Sam. 2 24.

Amman, Jost (yōst' ăm'ăn), 1539–91, Swiss engraver, glass painter, and painter In 1560 he established himself in Nuremberg, where he continued the tradition of the German Little Masters, producing over 540 spirited engravings on wood or copper His illustrations of the Bible are well known. The museum at Basel has *Man with a Rose*, his only known painting

Amman (ămăn'), city (pop c 12,000), N Trans-Jordan, the capital and royal residence It is on the Wadi Zerka (or Jabbok), NE of the Dead Sea Amman is the biblical Rabbah (răb'u) or Rabbath, capital of the Ammonites It was rebuilt and renamed Philadelphia by Ptolemy II Philadelphus Amman contains notable Roman ruins Deut 3 11, Joshua 13 25, 15 60, 2 Sam 11 1, 12 26–29, 17 27, 1 Chron. 20 1, Jer 49 2,3, Ezek 21 20, 25 5, Amos 1 14

Ammanati, Bartolomeo (bärtōlōmā'ō ăm-mănā'tē), 1511–92, Italian sculptor and architect He studied under Bandinelli in Florence and assisted Jacopo Sansovino in his work on the Library of St. Mark's, Venice Ammanati, whose style was much influenced by Michelangelo's Medici tombs, made a colossal statue of Hercules, at Padua In Rome he collaborated with Vignola and Vasari in their work at the villa of Pope Julius III His best work here was in the Ruspoli Palace and in the court of the Collegio Romano Returning to Florence in 1557, he became architect to Cosimo de' Medici He made the Santa Trinità bridge over the Arno and a number of fountains, among them the Neptune fountain for the Piazza della Signoria He built the court façade of Pitti Palace, the Guigni Palace, and a cloister of Santo Spirito The poet Laura Battiferri was his wife

Ammann, Othmar Hermann (ōt'mär, ō'mŏn), 1879–, American civil engineer, b Switzerland, grad Federal Polytechnic Institute, Zurich, 1902 He came to the United States in 1904 and was naturalized in 1924 He served (1925–40) with the Port of New York Authority and was its director of engineers (1937–40) An authority on bridges, he participated in either the designing or the construction of Hell Gate, George Washington, Triborough, and Bronx-Whitestone bridges in New York city and of San Francisco's Golden Gate Bridge

Ammers-Küller, Jo van (yō' văn ăm'urs-kül'ûr), 1884–, Dutch novelist and short-story writer Her works, nearly always tendentious, are largely feministic Among her novels which have been translated into English are *The Rebel Generation* (Eng tr, 1928), *The House of Joy* (Eng tr 1929) and its sequel, *Jenny Heysten's Career* (Eng tr, 1930); *No Surrender* (Eng tr, 1931), sequel to *The Rebel Generation;* and the historical novel *The House of Taselnick* (Eng tr, 1938)

ammeter: see GALVANOMETER.

Ammi (ăm'ī) [Heb, =my people], figurative name of Israel after reconciliation with God Hosea 2 1 Cf LO-AMMI

Ammianus Marcellinus (ămēā'nŭs märsĕlī'nŭs), c 330–c 400, Latin historian, b Antioch After retiring from a successful military career, he wrote a history of the Roman Empire as a sequel to that of Tacitus, his model The history, in 31 books, covered the years from A D 96 to 378, only Books XIV–XXXI, covering the years A D 353–78, survive Though written in an extreme rhetorical style, it is a reliable and impartial account A pagan and an admirer of Julian the Apostate, Ammianus was not prejudiced against Christianity

Ammiel (ămī'ĕl) [Heb, =people of God] 1 Spy Num 13 12 2 Father of MACHIR 2 3 Porter of the Temple 1 Chron 26 5 4 See ELIAM 1

Ammihud (ămī'hŭd, ŭmī'hŭd) [Heb, =people of Judah] 1 Ancestor of Joshua Num 1 10, 2 18, 7 48,53, 10 22, 1 Chron 7 26 2 Simeonite Num 34 20 3 Naphtalite Num 34 28 4 Judahite 1 Chron 9 4 5 Father of a king of Geshur 2 Sam 13 37

Amminadab (ămĭn'ă-)[Heb, =my people is princely] 1 Aaron's father-in-law Ex 6 23; Num 1 7, 2 3, 7 12, 10 14, Ruth 4 19,20, 1 Chron 2 10 **Amminadab' Mat** 1 4, **Luke** 3 33 2 Head of a Levitical family, 1 Chron 15 10–12 3 The same as IZHAR

Amminadib (ămĭn'ădĭb, ŭmĭn'ădĭb), word of uncertain significance Cant 6 12

Ammishaddai (ămĭshăd'ī), [Heb, =people of the Almighty], Danite, father of AHIEZER 1. Num 1 12, 2 25, 7 66,71, 10 25

Ammizabad (ŭmĭz'ubăd) [Heb, =my people have given], son of BENAIAH 1 1 Chron 27 6

Ammon (ăm'ŏn), in the Bible, people living E of the Dead Sea A marauding, nomadic tribe, they had few large settlements With seldom a peaceful interlude, they were hostile to the Hebrews Their eponymous ancestor was Lot's son Gen 19.38, Deut 2 19,20,37, 23 3,4, Judges 3 13, 1 Sam 11, 2 Sam 10–12, 2 Chron 20; Neh 2.10; 4 7, Jer 49 1–6

Ammon, Egyptian god· see AMON.

ammonia [from *sal ammoniac*, said to have been made first near the temple of Jupiter Ammon in Egypt], a compound of nitrogen and hydrogen, each molecule containing one atom of nitrogen to three of hydrogen It is a colorless gas at ordinary temperatures, with a characteristic penetrating odor, and is slightly more than one half as heavy as air. The "ammonia" sold for household use is an aqueous solution, the gas being extremely soluble in water, one volume of water dissolving about 1,200 volumes of ammonia at 0° C. The solution exhibits basic properties, since only a part of the gas goes into solution and the rest reacts with the water to form ammonium hydroxide To this the cleansing action is due Ammonia gas liquefies at –33 4° C and solidifies at –78° C under normal pressure (760 mm) At ordinary temperatures, it is easily liquefied by added pressure For this reason and because a relatively large amount of heat is absorbed when the liquid reverts again to the gas, ammonia is used extensively in REFRIGERATION It reacts with acids to form salts with nitric acid it yields ammonium nitrate, used in making explosives, with hydrochloric acid, ammonium chloride or SAL AMMONIAC, and with sulphuric acid, ammonium sulphate, which is used in fertilizers Ammonia is important commercially It is employed in the preparation of nitric acid in the OSTWALD PROCESS or oxidation process and in the preparation of soda by the SOLVAY PROCESS It is used also in medicine. Ammonia is prepared in several ways: as a by-product in the destructive distillation of coal, synthetically, by the HABER PROCESS; and by the cyanamide process, in which calcium carbide is treated with nitrogen and the resulting product with water It is prepared in the laboratory by heating an ammonium salt with a strong base Originally, ammonia was obtained by the destructive distillation of the horns and hoofs of animals, and the resulting solution of the gas was known consequently as spirits of hartshorn The compound occurs in nature in small quantities in the air and is among the products of the decomposition of animal and vegetable matter It occurs also in animal excretions When an atom of hydrogen is added to the ammonia molecule, the ammonium radical is formed, consisting of one atom of nitrogen and four of hydrogen. It does not appear free, but only in compounds In solution it forms a positively charged ion It behaves chemically as a monovalent metal, its compounds resembling those of the more active monovalent metals, such as potassium and sodium Certain compounds, as amides and amines, are considered derivatives of ammonia Acetamide, benzamide, and formamide are examples of amides. Amides are formed by the replacement of one or more of the hydrogen atoms of the ammonia molecule by an equal number of the characteristic radical of an organic acid, such as the acetyl radical of acetic acid or the benzoyl radical of benzoic acid. Amines can be derived from ammonia by replacing one or more of the hydrogen atoms in the ammonia molecule with a corresponding number of alkyl groups (each a chain of carbon and hydrogen atoms) or of aryl groups (each a ring of carbon and hydrogen atoms). The aliphatic amines are related to the fats and fatty acids Both amides and amines are classified as primary, secondary, or tertiary depending upon the number of hydrogen atoms replaced in the ammonia molecule

ammoniac or **gum ammonia** (ŭmō'nēăk'), yellowish substance with a sickening, bitter taste, obtained in the milky exudence from the injured stem of a plant (*Dorema ammoniacum*) found in Persia, India, and parts of W Asia It is a gum resin soluble in alcohol, benzol, carbon disulphide, and ether In industry it is used in the manufacture of porcelain cements, and in medicine as an expectorant When gum ammoniac is distilled it yields a liquid, oil of ammoniac

ammonite (ăm'ŭnīt), one of a type of extinct marine molluska, related to the nautilus and resembling it in having an elaborately coiled and chambered shell The type included numerous species, which were widely distributed during the Mesozoic era.

amnesia [Gr, =forgetfulness], condition characterized by loss of memory for long or short intervals of time It may be caused by injury, shock, senility, severe illness, or mental disease In some cases, memory of events prior to the illness is lost, in others, events following the illness are forgotten One form of the condition known as tropic amnesia or coast memory affects white men on the west coast of Africa, this condition is thought to be hysteric in origin. APHASIA of the amnesic variety is caused by an organic brain condition and is not to be confused with other forms of amnesia. To cure amnesia, attempts are made to establish associations with the past by suggestion, and HYPNOTISM is sometimes employed

amnesty (ăm'nĭstē), in law, exemption from prosecution for crime Amnesties are usually extended during a period of prolonged disorder or insurrection The criminals are offered a promise of immunity from prosecution if they will abandon their unlawful activities. After a revolution or civil war the victorious side will often extend amnesty to the losers, e g, the United States granted a qualified amnesty to the Confederate forces after the Civil War An amnesty is distinguished from a PARDON, which treats the crime as a nullity.

Amnon [Heb, =faithful]. 1 David's eldest son He ravished his half sister Tamar and was killed for it by her brother Absalom. 2 Sam. 3.2; 13. 2 Judahite. 1 Chron. 4.20.

amoeba (ŭmē'bŭ) [Gr., =change], member of a genus (*Amoeba*) of PROTOZOA A common species, *A. proteus*, found in fresh-water ponds and streams, is about 1/100 in. long The amoeba is a single CELL. The cytoplasm consists of an outer clear layer, called ectoplasm, surrounding an inner granular mass, called endoplasm The nucleus is oval Pseudopods or false feet form as outpushings of the ectoplasm and into them the endoplasm flows In this way locomotion in the direction of the pseudopod is achieved Pseudopods are formed also to obtain food (minute animals and plants) from the water The pseudopods engulf the food, which is then enclosed in a bubblelike vacuole and circulated through the protoplasm until digestion is completed. Theories which attempt to account for the formation of pseudopods include those based on changes in surface tension and in viscosity. Digestive enzymes are secreted by the cytoplasm into the food vacuoles as they circulate through the cell The products of digestion are assimilated and solid wastes are egested through any part of the surface Oxygen in the water diffuses into the cell and carbon dioxide is eliminated from the cell directly through its surface The contractile vacuole, which alternately fills and bursts, expels water and possibly other substances. The amoeba moves away from intense light, from heat, and from chemicals. It moves toward food Reproduction is usually by binary fission (splitting), with the nucleus dividing by mitosis Under unfavorable conditions some amoebae undergo division into spores inside a hard cyst wall, from which the spores emerge when conditions are favorable Members of a closely related genus, *Pelomyxa* (or *Chaos*), are multinucleate protozoa visible to the naked eye, some of them reaching a diameter of 8 mm.

Amok (ā'–) [Heb., =deep], postexilic Jewish family. Neh 12 7,20

amole· see SOAP PLANT

Amon (ā'mŏn) 1 Died c 641 B C, king of Judah (c 643–c 641 B.C.), son and successor of Manasseh He was inattentive to the worship of God, and the biblical accounts denounce him strongly Jeremiah was his contemporary Amon was murdered, and Josiah succeeded him 2 Kings 21 19–26, 2 Chron 33 20–25 2 Ahab's governor of Samaria 1 Kings 22 26, 2 Chron 18 25 3 See AMI.

Amon (ā'mŭn, ă'–) or **Ammon** (ă'mŭn), ancient Egyptian deity, originally the local god of Thebes He was represented as a ram, as a man with a ram's head, or as a perfect man, on whose head were the two high feathers emblematic of royalty and in whose hands were a scepter and a handled cross The divine triad of Thebes consisted of Amon with his wife Mut [the mother] and his son Chumsu. His principal temple stood in the oasis of Siwa in the Libyan desert, 12 days' journey from Memphis In his solar character Amon was allied with the sun-god Amen Re He was identified by the Greeks with Zeus and by the Romans with Jupiter The wealth and power of Amon rendered his high priest a figure of importance in Egyptian politics, from the XII dynasty on. The oracle at Siwa was famous among the Greeks See also EGYPTIAN RELIGION.

amontillado (ŭmŏn"tĭlä'dō), dry SHERRY noted for its delicate bouquet, resembling the wine of Montilla, from which it derives its name A blend of pale, dry sherries of the *palma* type, it assumes in aging a darker tint.

Amontons, Guillaume (gēyōm' ămōtō'), 1663–1705, French physicist. He is known for his work on friction and on the relationship of temperature and pressure and also as an inventor of instruments such as the hygrometer.

Amor: see CUPID AND EROS.

Amorites (ăm'ŭrīts), in the Bible, aboriginal people of Canaan There is also evidence of them in Babylonia At the time of Joshua they were living both E and W of the Dead Sea, and Sihon and Og are named as kings. Gen. 10 16, 14.7, 15 16, Num. 13 29, 21.13,21–32; Deut 1 4–7, 4.47,48, Joshua 5.1; 10 6

amortization, reduction, liquidation, or satisfaction of a debt or the sum used for this purpose. The term is commonly used in ascertaining the investment value of securities. Thus, if a security is bought at more than its face value, a part of the premium is periodically charged off so as to bring the value of the security to par at maturity; or if the security is bought at less than its face value, the discount is similarly charged off. Another application of amortization is treating dividends of investments having limited duration, such as mine stock, as both interest on capital and the return of the capital, designating part of the interest as return of capital and reinvesting this part at a set rate. The term necessary for the stock to return its original cost can then be figured Paying off a mortgage by installments or paying off this or any other debt by a SINKING FUND is amortization. The term has been used also of the alienation of lands to a corporation, especially to an ecclesiastical corporation. Amortization by paying off a certain number of bonds each year is practiced by

public corporations; national governments of limited credit and private corporations commonly amortise by sinking funds Nations of the best credit usually refund debts by the issuance of new bonds. The satisfying of a debt by a single payment may also be termed amortization See H A Finney, *Principles of Accounting* (1924).

Amory (ā'mûrē), city (pop 3,727), NE Miss , N of Columbus and near the Tombigbee, founded 1887 It is a railroad, shipping, and trade center for a cotton and dairy area

Amos (ā'mus), book of the Old Testament, third of the books of the Minor Prophets The prophet was a shepherd of Tekoa in S Palestine, who preached in the first half of the 8th cent. B C in the northern kingdom of Israel under Jeroboam II, especially against hypocritical worship, oppression of the poor, and immorality The book falls into three parts God's judgment on various Gentile nations, finally on Israel (1 2), three sermons on the doom of Israel (3–6); and five visions of destruction (7–9), of which the last promises redemption The book contains powerful passages The name of another Amos occurs in the genealogy of Luke 3 25 For bibliography, see OLD TESTAMENT

Amos, town (pop. 2,862), W Que , on the east bank of the Harricanaw river and NE of North Bay, Ont Incorporated and named in 1914, it is a center of the Quebec mining industry

Amoskeag Falls, see MANCHESTER, N H

Amoy (umoi'). Mandarin *Hsia-men*, city (pop 158,271), S Fukien prov., China, a port on Amoy Island at the mouth of the Lung river It was captured (1841) by the British in the OPIUM WAR and became a TREATY PORT in 1842 Despite its excellent harbor, trade is limited, largely because communications in the mountainous hinterland are poor Tea grown in the region is the chief export, and the locally manufactured paper, macaroni, and wine are distributed to other parts of China Imports greatly exceed exports, the deficit being made up by money sent back from emigrants abroad to their relatives There is a large university in Amoy It was captured by the Japanese in May, 1938, and held till the end of the Second World War in 1945 The Communists took it in 1949

Amoz (ā'mŏz), father of the prophet Isaiah Isa 1 1

Ampelius, Lucius (ămpē'lēus), fl at some time between 100 and 400, Roman author His *Liber memorialis* is a compendium of historical, geographical, and mythological miscellanea It includes reference to the sculptures of Pergamum

ampelopsis (ăm"plŏp'-) [from Gr ,=looking like a vine], botanically, name for woody vines of the genus *Ampelopsis*, but from long association also used in horticultural practice for the VIRGINIA CREEPER, BOSTON IVY, and others of related genera Species of the genus *Ampelopsis*, including the pepper vine of the Southern states, have small greenish flowers, tendrils without disk tips, and showy berries of various colors The vines are chiefly cultivated for wall and arbor coverings, but a few grow wild

Ampère, André Marie (ăm'pĕr, ädrā' marē' äpĕr'), 1775–1836, French physicist, mathematician, and natural philosopher He was professor of physics at the Ecole polytechnique, Paris, and later at the Collège de France Known for his contributions to electrodynamics, including the formulating of Ampère's law, he confirmed and amplified the work of Oersted on the relationship of electricity and magnetism and invented the astatic needle The ampere was named for him His writings include *Observations électro-dynamiques* (1822) and *Essai sur la philosophie des sciences* (1834)

ampere [for A M Ampère], electrical unit of current strength and unit of measurement of rate of flow of an electric current The intensity of the current (in amperes) may be determined (according to OHM'S LAW) by dividing the electromotive force (volts) by the resistance (ohms) The international ampere is defined (electrochemically) as the unvarying electric current which, when passed through an aqueous solution of silver nitrate, causes 0.001118 g of silver to be deposited per second A current of one-ampere strength transfers, therefore, a unit quantity of electricity per second, i e , one coulomb per second

Amphiaraüs (ăm"fēurā'ŭs), in Greek legend, prophet; husband of ERIPHYLE and brother-in-law of Adrastus. He sailed with the Argonauts and joined the Calydonian hunt. Though he foresaw the disaster of the expedition of the SEVEN AGAINST THEBES, Eriphyle insisted that he should go, and he had to accede because he and Adrastus had agreed that in case of difference between them Eriphyle should decide His sons were ALCMAEON and AMPHILOCHUS.

amphibian, (ămfi'bēun), a cold-blooded vertebrate animal of the class Amphibia, which is intermediate between the fish and the reptiles. Animals of this group characteristically undergo a metamorphosis from an aquatic to a partially terrestrial form. See FROG, NEWT, SALAMANDER, TOAD

amphibious warfare (ămfi'bēus), the combination of land and sea forces to take or defend a military objective. The general strategy is very ancient and was extensively employed by the Greeks in their warfare, e g , in the Athenian attack in Sicily in 415 B C. The term is, however, of recent coinage It is sometimes applied to the joint operations of Allied army and naval forces in the disastrous Gallipoli campaign (1915) of the First World War In the Second World War *amphibious warfare* became a staple form of fighting Though the German capture of Crete in 1940 was not a typical amphibious operation, it did emphasize the third element important in sea-land fighting in the Second World War--air power When Japan entered the Second World War on a large scale in Dec , 1941, combined operations were necessary for the Japanese to capture their objectives, particularly those on islands such as the Philippines and New Guinea These operations were not, however, typical of the problems of amphibious warfare, since in the Japanese landings there was little opposition The same was true of the Allied landings in North Africa in Nov , 1942 Later campaigns, however, were to a large extent dependent upon the development of special vessels built to be seaworthy and yet capable of allowing tanks or foot soldiers to emerge without difficulty into shallow water for landing These were vital in the "island hopping" by which U S marines, soldiers, and sailors took the regions of the Pacific from the Japanese conquerors a group of islands at a time The typical pattern was heavy and continued air bombardment of Japanese defenses, followed by a landing from the landing craft or landing ships with complete equipment, the landing forces were supported in the early stages by naval guns until land artillery could come into action By this method the islands were reconquered The same basic strategy was used in the landing on Sicily in 1943—an experience that helped to spur the building of special ships suited for landing tanks, supplies, and men The most spectacular example of amphibious warfare was the invasion of Europe by the Allies from England on June 6, 1944 This action was a prime example of the combined movements of naval craft, armed land forces, and aircraft (used for offense, protection of other forces, and transport) The landing of U S forces in the Philippines in Oct , 1944, was marked especially by another special aspect of amphibious war, the use of the aircraft carrier, the landing troops had an air umbrella supplied by 18 carriers The culminating amphibious actions of the war were the landings on Iwo Jima in Feb , 1945, and Okinawa in April, 1945 The need for amphibious operations against the Japanese home islands was removed when Japan surrendered before the planned operations were begun

amphictyony (ămfĭk'tēŏnē, -ō"nē, -ūnē"), in ancient Greece, a league connected with maintaining a temple or shrine There were a number of these, but by far the most important was the Great Amphictyony or Delphic Amphictyony, a league originally of 12 tribes, which had meetings in the spring at the temple of Anthela near Thermopylae and in the autumn at Delphi The Amphictyonic Council passed legislation regarding religious matters and had power to declare a sacred war against an offender Each tribe had two votes By the 6th cent the religious organization had begun to have political influence The greater city-states by using pressure on the lesser got control of more tribal votes and were able to control laws and policy The significance of the Amphictyonic Council was shown by Philip II of Macedon, who after managing to get on the council by securing the votes of the Phocians, used sacred wars as a pretext for furthering his conquests in Greece This one large unifying organization, therefore, in the end had no real unifying power in divided Greece The Great Amphictyony continued in existence (but with no power) until late in the Roman Empire

Amphilochus (ămfi'lukŭs), in Greek legend, son of Amphiaraus and ERIPHYLE and brother of ALCMAEON He was one of the EPIGONI and fought in the Trojan War

Amphion (ăm'fēun), in Greek legend, son of Antiope and ZEUS, husband of NIOBE He and his twin brother Zethus took Thebes from their kinsman Lycus and killed Lycus and his wife, DIRCE, in revenge for their cruelty to Antiope The brothers built the walls of Thebes with stones which were put together by the music of Amphion's lyre

Amphipolis (ămfi'pulĭs), ancient city of Macedonia, on the Strymon (Struma) river near the sea and NE of later Salonica The place was known as Ennea Hodoi [nine ways], before it was settled and was of interest because of the gold and silver and timber of Mt Pangaeus to which it gave access Athenian colonists were driven out (c 464 B C.) by Thracians, but a colony was established in 437 B C This was captured by Sparta, and Brasidas and Cleon were both killed in a battle here in 422 After it was returned to Athens in 421, it actually had virtual independence until captured (357) by Philip II of Macedon His retention of Amphipolis was a major cause of the war with Athens The kings of Macedon held it until they were conquered by Rome Paul, Silas, and Timothy passed through Amphipolis Acts 17.1

amphitheater [Gr], open structure serving for the exhibition of gladiatorial contests, struggles of wild beasts, sham sea battles, and similar spectacles There is no Greek prototype of amphitheaters, which were primarily Roman and were built in many cities throughout the empire More or less well-preserved examples are in Rome (see COLOSSEUM), Verona, and Capua in Italy, at Nîmes and Arles in France, at Cirencester in England, and in Sicily, Greece, and North Africa The typical amphitheater was elliptical in shape, with seats, supported on vaults of masonry, rising in many tiers around an arena at the center, there were corridors and stairs assuring the easy circulation of great throngs The arena itself was usually built over the quarters for gladiators, for wild animals, and for storage Until the erection of the Colosseum (A D 80), practically all amphitheaters were of wood, the notable exception being that of stone built at Pompeii c 70 B C The word *amphitheater* is now applied to modern structures used for concerts and athletic displays and having little similarity to their ancient prototypes Examples are at Wembley near London and in New York (the old and the new Madison Square Garden)

Amphitrite (ămfĭtrī'tē), in Greek religion, queen of the sea, wife of Poseidon and mother of Triton She was a Nereid.

Amphitryon (ămfĭ'trēun, -ŏn"), in Greek legend, son of Alcaeus and husband of Alcmene After accidentally killing Alcmene's father he went into exile but later warred on the hereditary enemies of her family While he was off fighting, Zeus took the opportunity to visit Alcmene in the form of Amphitryon She bore HERACLES to Zeus and Iphicles to Amphitryon, who accepted both as his sons Amphitryon became the type of the wronged husband Plautus burlesqued this legend in his *Amphitruo*, and the theme was later a favorite with writers of French comedy and farce (notable among them Molière)

amphora (ăm'furu), large, two-handled vessel of earthenware, used by the Greeks and Romans to hold liquids, as a standard unit of capacity, and as an ornament The body, commonly ovoid and with a narrow neck, was mounted on a base or ended in a point to be inserted into the ground Two vertical handles extended usually from shoulder to orifice Decorated amphorae were presented as prizes to victors in the Panathenaic games

Amphias (ămp'lēus), Christian in Rome Rom 16 8

amplification, radio: see TUBE, VACUUM

ampulla (ămpŭl'ù), small glass or earthenware bottles used by the ancient Romans for holding perfumes and oils and for serving wine. They were usually globular in shape, narrow-necked, and equipped with one or two handles The name is applied also to flasks carried by travelers in the Middle Ages, to containers holding the unguent for coronation ceremonies, and, in church ritual, to vessels containing oil, water, or wine The famous *sainte ampoule*, long used at Rheims in the coronation of French monarchs, was destroyed in the Revolution

Amqui (ăm'kwē), town (pop 1,594), E Que , between Matapedia and Mont Joli at the base of the Gaspé Peninsula

Amram [Heb ,=my people is exalted] **1** Moses' father, ancestor of a Levitical family Ex 6 18,20, Num 3 19,27, 26 58,59, 1 Chron 6 2,3,18; 23 12, 13, 24 20, 26 23 **2** See HEMDAN **3** Jew who had married a foreign wife Ezra 10 34

Amram ben Sheschna (shĕsh'nā) or **Amram Gaon** (gā'ŏn), d 875, Hebrew scholar He is chiefly known as the author of the *Siddur Rab Amram* (prayer book), a compilation of the order of prayers, with their context for the whole year and the liturgical laws governing the ceremonial observances of all the holidays This book is the basis for the modern orthodox Jewish religious rites

Amraphel (ăm'rufĕl, ămrā'fĭl) see CHEDORLAOMER and HAMMURABI

Amritsar (ămrĭt'sŭr), city (pop 391,010), NW Punjab state, India Established in 1577 by Ram Das, the fourth guru [Hindustani,=teacher], it is the center of the Sikh religion The Golden Temple (refurbished 1802) is especially sacred Trade in the products of N India and the manufacture of silks, carpets, and fabrics of goat hair are the principal economic activities There is a branch of Punjab Univ Here in an open-air meeting place, the Jalianwala Bagh, on April 13, 1919, hundreds of Gandhi's followers were killed and thousands wounded, when they were fired upon by soldiers under British control

Amru-l-Kais (ăm'rōōl-kīs'), 6th cent , Arabian poet His verse is, like all the poetry of the pre-Islamic period, intensely subjective and formally perfect He was esteemed by Arabs as the great model for erotic poetry He probably went to Constantinople and lived for many years in high favor with the imperial court. He is represented in the MUALLAQAT

Amsdorf, Nikolaus von (nē'kōlous fŭn ăms'dôrf), 1483–1565, German Protestant reformer. He became a devoted supporter of Martin Luther Elector John Frederick I of Saxony appointed Amsdorf bishop of Naumberg in 1542, but after the

elector was captured by Emperor Charles V, the office was withdrawn (1547) A zealous defender of Luther's doctrines, Amsdorf attacked all who deviated from them in the slightest, including Melanchthon He took part in the founding of a new university at Jena and superintended the Jena edition of the works of Luther

Amsler, Samuel (sa'mōōzĕl ämz'lûr), 1791–1849, Swiss engraver He was a friend of Overbeck and Thorvaldsen in Rome Most of his excellent engravings are reproductions of their work and that of Raphael

Amsterdam (ăm'sturdăm", Dutch amsturdäm'), municipality (pop 798,358), and city, constitutional capital and largest city of the Netherlands, in North Holland A major port, it is also the seat of one of the world's chief stock exchanges, a center of the diamond-cutting industry, and one of the great commercial, intellectual, and artistic capitals of Europe It is mainly on the south bank of the IJ, formerly written Y (both ī), the IJ is the mouth of the short Amstel river (for which Amsterdam is named) on the Zuider Zee Amsterdam is connected with the North Sea by the North Sea Canal, which accommodates the largest ocean-going vessels, and by the older North Holland Canal The Merwede Canal connects with the Rhine delta and thus with industrial NW Germany, with which there is considerable transit trade Because of the soft ground, Amsterdam is built on wooden piles and is cut by numerous concentric and radial canals flanked by streets and crossed by some 400 bridges The old and picturesque houses along the canals, once patrician homes, now are mostly offices and warehouses The main streets are the Dam, on which stand the 15th-century Nieuwe Kerk [new church] and the 17th-century Dam Palace (formerly the city hall, since 1808 a royal palace), the Damrak, with the stock exchange, and the Kalverstraat and Leidsche-straat, which are the chief shopping centers Outstanding buildings are the Oude Kerk [old church], built c 1300, the weighhouse (15th cent), the city hall (16th cent), and the Begunage (Dutch *Begynenhof*), of the 17th cent Originating in the 13th cent, Amsterdam was chartered in 1300 and joined the Hanseatic League in 1369 Having accepted the Reformation, the people of Amsterdam in 1578 expelled their pro-Spanish magistrates and joined the rebellious Netherland provinces The commercial ruin of Antwerp and Ghent and a large influx of refugees from all nations (notably of Flemish merchants, of Jewish diamond cutters from Portugal and Spain, and of French Huguenots) contributed to the rapid growth of Amsterdam after the late 16th cent The Peace of Westphalia (1648), by closing the Scheldt (Escaut) to navigation, further stimulated the prosperity of Amsterdam at the expense of the Spanish Netherlands Taken (1795) by the French, Amsterdam became the capital of the kingdom of the Netherlands under Louis Bonaparte The constitution of 1814 made it the capital of the Netherlands However, The Hague remains the seat of the government and of the sovereigns, who are merely sworn in at Amsterdam Occupied in the Second World War by German troops from 1940 to 1945, Amsterdam suffered severe hardship and (after the premature Dutch rising late in 1944) even famine Of the Jews (about 10 percent of the pre-war population) only a few survived The birthplace of Spinoza and the residence of Rembrandt, Amsterdam reached its apex as a center of thought and art in the 17th cent, it has since then maintained its high reputation Rembrandt and the other Dutch masters are best represented in the celebrated Rijks Museum, founded by Louis Bonaparte Among other museums are the municipal museum and Rembrandt's house The Univ of Amsterdam was founded as an academy in 1632 and reorganized in 1876

Amsterdam. **1** Industrial city (pop 33,329), E central N Y, on the Mohawk and NW of Albany, inc 1885 Its industries include the making of rugs, carpets (begun about a century ago), and brooms Fort Johnson, home of Sir William Johnson, is near by **2** Village (pop 1,177), E Ohio, SE of Carrollton, settled 1830, inc 1904

Amu Darya (ä'mōō dar'yu, amōō' daryä), river, c 1,450 mi long, rising in central Asia, in the Hindu Kush It flows generally northwest, marking much of the boundary between the USSR and Afghanistan and then between the Turkmen SSR and the Uzbek SSR It enters the Aral Sea through a delta 90 mi long The Amu Darya is rich in fish, and it provides much water for irrigation in the arid regions of the USSR and portions of Afghanistan In ancient times it was called the Oxus and figured importantly in the history of Persia and in the campaigns of Alexander the Great

amulet (ă'myōōlĭt), object worn as a charm to ward off evil influences Reliance on such protective agencies, related to fetishism and to primitive medical practices, is found in many cultures Egyptians wore a multiplicity of amulets in both life and death, the Hebrews wore phylacteries with words from Holy Writ In the 4th cent Christians wore crosses and amulets enclosing sacred objects and significant passages of Scripture. Amulets are of innumerable materials and forms In many cultures the teeth, claws, and other parts of animals are supposed to communicate their properties to the wearer Materials often said to have mysterious qualities include diamond, amethyst, bloodstone, agate, coral, and amber and certain metals and plants Symbolical shapes and figures, such as the wheel of the sun-god and the swastika, are very common in amulets Much modern jewelry originated as forms of the amulet, and much decorative art has employed magical designs as motifs Walls and doorways are favorite spots for protective devices Examples of magic formulas used in amulets are ABRACADABRA and the MAGIC SQUARE The Christian use of amulets is explained on the principle that they are pious reminders or that by putting on one the Christian puts himself under protection of God or a saint After the cross the most popular Christian amulet is a medal worn about the neck, typically of silver and bearing the image of a saint, e g, Our Lady, St Theresa of Lisieux, or St Christopher (in automobiles)

Amundsen, Roald (rō'ĭl ä'mōonsûn), 1872–1928, Norwegian polar explorer He served (1897–99) as first mate on the *Belgica* (under the Belgian Adrien de Gerlache) in an expedition to the Antarctic, and he commanded the *Gjoa* in the arctic regions in the first negotiation of the NORTHWEST PASSAGE (1903–6) His account appeared in English as *Amundsen's North West Passage* (1908) He then purchased Fridtjof Nansen's *Fram* and prepared to drift toward the North Pole and then finish the journey by sledge The news that Robert E Peary had anticipated him in reaching the North Pole caused Amundsen to turn his eyes south In striving for the South Pole he was successful, reaching it on Dec 14, 1911, after a dash by dog team and skis from the Bay of Whales (an inlet of Ross Sea) He arrived there just 35 days before Robert F SCOTT This story he told in *The South Pole* (Eng tr, 1913) He had added much to the knowledge of Antarctica In 1918, back in the arctic regions, he set out to negotiate the Northeast Passage in the *Maud* After two winters he arrived at Nome, the first after N A E Nordenskjold to sail along the whole northern coast of Europe and Asia Amundsen then turned to air exploration He and Lincoln ELLSWORTH in 1925 failed to complete a flight across the North Pole, but the next year in the *Norge*, built and piloted by Umberto NOBILE, they succeeded in flying over the pole and the hitherto unexplored regions of the Arctic Ocean N of Alaska A bitter controversy followed with Nobile as to the credit for the success Yet in 1928 when Nobile crashed in the *Italia*, Amundsen set out on a rescue attempt and lost his life The story of the ventures with Ellsworth written by the two of them appear in *Our Polar Flight* (1925) and *The First Crossing of the Polar Sea* (1927) See the autobiographical *My Life as an Explorer* (Eng tr., 1927), biography by Bellamy Partridge (1929)

Amur (ämōōr'), Chinese *Hei-lung-kiang* (hā'-lōōng'-jĕäng'), river, 1,830 mi long, formed by the junction of the SHILKA and ARGUN rivers at the Russo-Manchurian border in NE Asia Following the border for 1,180 mi, it flows generally SE past Blagoveshchensk and Khabarovsk, near where it leaves the border and flows NE through the Maritime Territory into the Tatar Strait opposite the island of Sakhalin Its estuary is 10 mi wide The Amur, which is navigable for its entire length during the ice-free months (May-Nov), is an important artery for the transport of grain and lumber and is rich in fish The chief tributaries originating in Siberia are the Zeya, Bureya, and Amgun, those originating in Manchuria are the Sungari and Ussuri

Amurath. see MURAD

amylase see DIASTASE

Amyot, Jacques (zhak' amyō'), 1513–93, French humanist, translator of Heliodorus' *Aethiopica* (1547), of Longus' *Daphnis and Chloe* (1559), and particularly of Plutarch's *Lives* (1559)

Amyot or **Amiot, Joseph** (zhōzĕf' amyō'), 1718–1794?, French Roman Catholic missionary in China, a Jesuit He wrote *Mémoires concernant l'histoire, les sciences et les usages des chinois* (15 vols, 1776–89) and was one of the first Europeans to make Chinese literature, antiquities, and customs known to Europe He was an early authority on the Manchu language

Amyraut, Moïse (mōēz' amĕrō'), or **Moses Amyraldus** (ämĭrăl'dus), 1596–1664, French Protestant theologian As pastor of Saumur he won a reputation as theologian and orator, and he was appointed (1631) to present to Louis XIII the protest of the synod against infractions of the Edict of Nantes He became professor of theology at Saumur and wrote extensively on theological subjects

Amzi (ăm'zī) [Heb, =strong] **1** Levite 1 Chron 6 46 **2** One of a priestly family Neh 11 12

Anab (ā'năb) [Heb, =grape town], hill town, S Palestine, 10 mi SSW of Hebron. It is now in ruins Joshua 11 21, 15 50

Anabaptists (ăn"ŭbăp'-) [from Gr, =rebaptizers], name applied in scorn to certain Christian sects holding that infant baptism is not authorized in Scripture and that baptism should be administered to believers only A convert, if baptized in infancy, must be rebaptized Anabaptists were prominent in Central Europe in the Reformation, forming the radical wing of the Reformers, their principal centers were in Germany, Switzerland, Moravia, and the Netherlands They are to be distinguished from the BAPTISTS, primarily an English group. The Anabaptists were widely persecuted because of their advocacy of the separation of Church and state and of far-reaching social and economic reforms They were never united, and there was disparity of doctrine and aim among the various groups, but certain principles they held in common They believed in the absolute brotherhood of Christ, in the direct accountability of each soul to God, and in peace in its widest sense They refused to bear arms or to take oaths and taught that obedience to the state was evil if it conflicted with conscience Martin Luther sought to suppress the Anabaptists as dangerous, they were dissatisfied with what they considered the halfway measures of the Reformation Thomas MÜNZER, a Saxon pastor who helped to incite the Peasants' War, gained a strong following among them by his socialistic teaching Melchior Hoffman, an Anabaptist leader in the Rhine district, proclaimed the imminent return of Christ In Münster c.1533 some of the Anabaptists had gathered to set up a theocracy, first under the direction of Bernard Rothmann, a preacher, and Jan Matthys or Johann Matthyszoon, a fanatical Dutch baker, then under Bernhard Knipperdollinck In 1534 JOHN OF LEIDEN assumed control In his "Kingdom of Zion" there was no law, no marriage, no property This extreme form of Anabaptism ended with the execution of the leaders in 1535 Another group of Anabaptists, under the leadership of MENNO SIMONS, became MENNONITES Others, descendants of the followers of Jacob Hutter, moved in 1874 from Russia to South Dakota (see HUTTERISCHE COMMUNITY) See E B Bax, *The Rise and Fall of the Anabaptists* (1903), R J Smithson, *The Anabaptists Their Contribution to Our Protestant Heritage* (1935)

Anabasis (ună'bŭsĭs) [Gr, =going up, i e, to the sea from the interior], celebrated Greek prose history of the campaign of CYRUS THE YOUNGER, by XENOPHON It tells the story of the retreat of the Ten Thousand, a Greek mercenary band collected by CLEARCHUS, after the battle of CUNAXA They went up the Tigris, into Armenia, going due northward through the mountains (this was in December), finally down to the sea at Trapezus (Trebizond) and thence back home to Greece This retreat, through the most rugged country, in the coldest weather, by a band of men who had practically no supplies and were much harassed by the Persians, is a peculiar testimony to the Greek morale The Ten Thousand marched some 1,300 mi from Sardis to Cunaxa and more than 900 from there to Trapezus

Anacharsis (ănukär'sĭs), 6th cent B C, Scythian prince and philosopher He is supposed to have toured Greece, to have visited Athens, and to have been given the most signal honors, e g, initiation at Eleusis and Athenian citizenship Many witty remarks are attributed to him by classical writers, and he is called one of the Seven Sages

Anacletus, Saint see CLETUS, SAINT

Anaconda (ănŭkŏn'dŭ), city (pop 11,004), co seat of Deer Lodge co, SW Mont, NW of Butte, laid out 1883, inc 1888 Marcus DALY chose this place for the smelter of the Anaconda Copper Mining Company and in the 1890s tried unsuccessfully to make it the state capital The present high-stacked smelter dominates the life of the city, and there are foundries, machine shops, and by-product plants manufacturing arsenic, sulphuric acid, and phosphate fertilizer

anaconda, nonvenomous snake of South America, largely aquatic but partially arboreal, related to the BOA CONSTRICTOR and the PYTHON The largest of the true boas is the species of anaconda in N South America called water boa, which reaches a length of 30 ft It is olive green with black spots and rings It eats birds, small mammals, and fish, which it kills by constriction

Anacortes (ănukōr'tĕz), city (pop 5,875), NW Wash, on the Strait of Georgia S of Bellingham It is a port of entry and a shipping and processing center for a lumbering, farming, and fishing region

Anacostia (ănŭkŏs'tēu), river, flowing into the Potomac at Washington, D C, rising near Bladensburg, Md

Anacreon (unăk'rēun, -ŏn), fl c 521 B C, Greek lyric poet, b Teos He lived much at Samos and at Athens, where Hipparchus patronized him His poetry, graceful and elegant, celebrates the joys of wine and love Little of his verse survives The Anacreontics (-ŏn'tĭks) are poems after the manner of Anacreon written from the Alexandrian period to the Renaissance.

Anadarko (ănudär'kō), city (pop 5,579), co seat of Caddo co, SW Okla, on the Washita river and SW of Oklahoma City, founded 1901 It is the center of a rich area producing cotton, grains, alfalfa, livestock, and oil Among the many Indians in the

section are some of the few remaining of the once great Delaware tribe. An annual Indian exposition is held here

Anadyomene (ăˌnədīŏˈmĭnē) [Gr ,=rising, i e , out of the sea], name of APHRODITE in her aspect of springing from the sea into which the blood of URANUS fell.

Anadyr (ănədĭrˈ), river, 550 mi long, rising in the Kolyma Range, SFSR, in extreme NE Siberia. It flows eastward S of the Anadyr Range and N of the Kamchatka peninsula into Anadyr Bay, an inlet of the Bering Sea There are coal and gold deposits along its shores The town of Anadyr (pop c 1,000) is a port on the Anadyr estuary

ana-, for words beginning thus see ANE-

anagram [Gr ,=something read backward], rearrangement of the letters of a word or words to make another word or other words A famous Latin anagram was an answer made out of the question that Pilate asked The question was *Quid est veritas?* [what is truth?], and the answer *Est vir qui adest* [it is the man who is here] An anagram that reads the same backward as forward is a palindrome, e g , "Able was I ere I saw Elba"

Anah (āˈnə), name appearing several times in the genealogy of Esau's family Three persons may be distinguished, but if the genealogy refers to tribes rather than to persons, Anah may be a single tribal name Gen 36, 1 Chron 1

Anaharath (ănˈəhāˈrăth), unidentified town, E central Palestine Joshua 19 19

Anaheim (ănˈəhīm), city (pop 11,031), S Calif , SE of Los Angeles, founded 1857 by Germans, inc 1870 In a citrus-fruit and walnut area, the city has canneries and manufactures canning equipment, chemicals, and wire

Anahuac (ənuwăkˈ), unincorporated town (pop c 1,500), co seat of Chambers co , SE Texas, at the mouth of the Trinity and E of Houston A prominent port of early Texas, it was the scene of two clashes (1832, 1835), in which Anglo-American settlers were successful in opposing officials of the Mexican government Today it is a small port with an oil refinery and a recycling plant

Anáhuac (ănäˈwäk) [Aztec,=near the water], geographical term used variously in MEXICO before the Spanish Conquest Today it commonly refers to that part of the central plateau of Mexico comprising the PÁNUCO and LERMA river systems and the lake basin of the Valley of Mexico

Anah (ănˈăhˈū, ānäˈyū), the name of two who returned from the Exile Neh 8 4, 10 22

Anak (āˈnăk), in the Bible, ancestor of the Anakim (ănˈəkĭm) or Anakims, a race of giants inhabiting Hebron and its vicinity at the time of the conquest of Canaan ARBA is given as Anak's father, and his sons are given as Ahiman, Sheshai, and Talmai Joshua and Caleb practically extirpated the race Num 13 22,28,33, Deut 1 28, 9 2, Joshua 11 21, 14 15, 15 13,14, 21 11, Judges 1 20

analysis, chemical see CHEMISTRY and ASSAYING

Anamim (ănˈəmĭm), unidentified tribe of Egypt Gen 10 13, 1 Chron 1 11

Anammelech (ənămˈəlĕk), god of an otherwise unknown Samaritan cult 2 Kings 17 31

Anamosa (ănəmōˈsə), city (pop 4,069), co seat of Jones co E central Iowa, NE of Cedar Rapids and on the Wapsipinicon river, in a limestone area, first named Dartmouth, then Lexington, inc 1856 The state reformatory for men is here Grant Wood was born near Anamosa

Anan (āˈnən) [Heb ,=cloud], scaler of the covenant Neh 10 26

Ananda see BUDDHISM and PALI LITERATURE

Anani (ănāˈnī) [Heb ,=God protects], descendant of David 1 Chron 3 24

Ananiah (ănˈənīˈə) [Heb ,=God protects] **1** Ancestor of AZARIAH **20** **2** Benjamite town, probably just N of Jerusalem Neh 11 32

Ananias (ănˈənīˈəs) [Gr ,=Heb ANANIAH and HANANIAH] **1** Man who, with his wife Sapphira, held back part of a gift to the church and lied about it They were rebuked by Peter and fell dead Acts 5 1–11 The name has become a term for liar **2** High priest at Jerusalem, a Roman sympathizer, hated by most of the Jews for his oppression and his alliance with the Roman interest He was assassinated between A D 60 and 67 Acts 23 2–5, 24 **3** Christian at Damascus who took charge of Paul after his conversion Acts 19 10–22 **4** One of the THREE HOLY CHILDREN

Anarajapura, Ceylon see ANURADHAPURA

anarchism (ănˈärkĭzəm) [Gr ,=having no government], theory that equality and justice are to be sought through the abolition of the state and the substitution of free agreements between functional and territorial groups Capitalism and private property, considered limitations on the freedom of personality, would be abolished Necessary production would be carried on by decentralized, freely associating groups Anarchism differs from SOCIALISM in considering the state an intrinsic evil Zeno of Citium, founder of Stoic philosophy, is regarded as the forefather of anarchism, but it is important to distinguish the philosophic and literary school of anarchism from that which has a political tendency and even a program Individual mystics in the Middle Ages and individual modern writers belong to the first category, certain medieval religious associations, as well as the ANABAPTISTS in the 16th cent and the Levelers in 17th-century England, were anarchists of a political stamp, though motivated by religion The philosophy of modern political anarchism was outlined in the 18th and 19th cent by William GODWIN, P J PROUDHON (who has been credited with inventing the term), and others BAKUNIN attempted to orient the First INTERNATIONAL towards anarchism but was defeated by Marx Bakunin gave modern anarchism its collectivist and violent tone, in which it has largely persisted despite the revisionary efforts of KROPOTKIN and TOLSTOY Political anarchism in Russia was suppressed by the Bolsheviks after the Russian Revolution Anarchism's only real mass following was in Latin countries, where it was a force in the syndicalist movement, especially in Spain In the United States early anarchists such as Josiah WARREN were associated with cooperation and with utopian colonies Violent doctrines were introduced from Europe, and after the Haymarket riot in Chicago in 1886 and the assassination of President McKinley in 1901 a law was passed forbidding anarchists to enter the country The execution of Sacco and Vanzetti in 1927 attests the fear of anarchism in America As an organized movement anarchism is well-nigh dead, but it retains importance as a philosophical attitude and a political tendency See C E M Joad, *Introduction to Modern Political Theory* (1924), Herbert Read, *Poetry and Anarchism* (1938)

Anastasia, Saint (ănəstāˈshə), 4th cent , Roman noblewoman, kind to the poor, martyred under Diocletian She is mentioned in the Canon of the Mass As her feast is Dec 25, she is commemorated in the Christmas Mass at dawn

Anastasius I (ănəstāˈshəs, -zhəs), c 430–518, Roman emperor of the East (491–518), successor of Zeno, whose widow he married He broke the power which the Isaurians had enjoyed since Leo I, made peace with Persia, maintained relations with Theodoric the Great, and made Clovis I an ally His reign saw the abatement of some taxes and the abolition of gladiatorial contests He built a wall to protect Constantinople against the Slavs and Bulgars His Monophysite inclinations stirred religious unrest throughout the empire Anastasius was succeeded by Justin I

Anath (āˈ–), father of SHAMGAR

anathema (unăˈthĭmu) [Gr ,=set aside, as a devoted object], traditional Christian decree of EXCOMMUNICATION The usual form of a canon of a council is "If anyone does so-and-so, let him be anathema" Formerly in the Roman Catholic Church anathema was attended often with ceremonial rite with "bell, book, and candle" In 1 Cor 16 22 the expression Anathema Maranatha (măˈrunāˈthu) includes an Aramaic word, the whole probably means "anathema—may the Lord come!"

Anathoth (ănˈuthŏth, -thōth) **1** Town, c 2 mi NE of Jerusalem It was the home of Jeremiah Jer 1 1, 1 Chron 12 3, 1 Kings 2 26, Neh 7 27 Its adjective is Antothite, Anetothite, Anathotite 1 Chron 27 12, 12 3 **2** Chief of the people Neh 10 19 **3** Benjamite 1 Chron 7 8

Anatolia (ănətōˈlēu) [Gr ,=sunrise], Asiatic part (287,117 sq mi , pop 17,293,562) of TURKEY It comprises 97 percent of all Turkey Anatolia, the westernmost part of Asia, is a plateau crossed by mountains and is a peninsula between the Black Sea on the north, the Aegean Sea on the west, and the Mediterranean on the south It is almost identical with, and is sometimes used to mean, ASIA MINOR

anatomy [Gr ,=to cut apart], study of body structure and structural relationships The study of body tissues is known as histology (microscopic anatomy) Comparative anatomy deals with the study of structure in various animal forms Embryology is the study of developmental anatomy in prenatal forms Among the early contributors to the science of anatomy were GALEN, VESALIUS, William HARVEY, and John HUNTER The works of Leonardo da Vinci include many drawings of dissections of the human body Modern anatomists are concerned with the study of living structures as well as with general body structure in the cadaver At a conference in Basel, Switzerland, in 1895 an international anatomical nomenclature was established See D C Kimber and C E Gray, *Textbook of Anatomy and Physiology* (12th ed , 1948)

Anau, see ANNAU

Anaxagoras (ănˈăksăgˈərəs), c 500–c 428 B C , Greek philosopher of Clazomenae He is credited with having transferred the seat of philosophy to Athens He was closely associated with many famous Athenians and is believed to have been the teacher of Socrates His belief that the sun was a red-hot stone and that the moon was made of earth merely reflecting the sun's rays resulted in a charge of atheism and blasphemy, forcing him to flee to Lampsacus, where he died Anaxagoras' outstanding contribution to philosophy was his postulation of an all-pervading mind (*nous*) This caused the formation of the world and imposed order upon what was originally an infinite number of particles in an undifferentiated mass These particles represented specific qualities, such as hair, water, flesh, gold Mind set the mass in motion, causing the infinitely small particles to combine, like with like, thus bringing into being the stuff of the perceptual world See F M Cleve, *The Philosophy of Anaxagoras* (1949)

Anaximander (unăkˈsĭmănˈdur), c 611–c 547 B C , Greek philosopher, b Miletus, pupil of Thales. Anaximander postulated the boundless (*apeiron*) as the primary source of all things The boundless was a kind of unlimited neutralized reservoir which, by its constant motion, separated out from itself opposites, e g , hot and cold, moist and dry The interaction of these opposites gave rise to the stuff of the universe The boundless made good the imbalances caused by the encroachment of one opposite upon another, a process Anaximander called justice, similar in contemporary terms to the law of compensation Anticipating the theory of evolution, he held that man achieved his physical state by adaptation to environment, that life had evolved from moisture, and that man developed from fish

Anaximenes (ănˌəksĭmˈnēz), 6th cent B C , Greek philosopher, last of the Milesian school founded by Thales He taught that the single substance of the universe was air All other natural elements were produced by rarefaction or condensation and were merely different degrees of density of the basic substance Anaximenes believed the earth to be a flat disk floating on air

Ancenis, Peace of, 1468, treaty between Louis XI of France and Francis II of Brittany, concluded at Ancenis near Nantes, France See LOUIS XI

ancestor worship, religious practice found in every stage of civilization and type of culture Among civilized peoples it has been prominent especially in China and Japan, and it was usual among Romans and Greeks Essential to ancestor worship is the belief in the power of the dead and their free association with gods Belief in ghosts or in the necessity of propitiating the dead does not predicate ancestor worship Ancestor worship is sometimes associated with an extreme conservatism and a distaste for leaving the family home See APOTHEOSIS, MANES, SHINTO

Anchieta, José de (zhōzāˈ dŭ ănshēāˈtu), 1530–97, Portuguese missionary in Brasil, a Jesuit He wrote in Spanish, Portuguese, and Tupi and wrote poetry as well as prose tracts on history, philosophy, and religion He is usually called the first Brazilian writer

Anchises (ăn-kīˈsēz, ăngkīˈsēz), in Greek legend, Trojan hero, father of AENEAS by Aphrodite

anchor, device used to secure a ship, a boat, a buoy, or some other floating object by means of weight, by friction, or by hooks called flukes Normally the anchor rests firmly on the bottom of the sea or stream In ancient times and among simple seagoing peoples the anchor may be merely a large stone or a bag or basket filled with stones, a bag filled with sand, or a log of wood weighted with lead Lead-weighted logs were used by the Egyptians, and the Greeks are credited with the first use of iron anchors The Romans had metal devices with arms like modern anchors Changes and improvements over the centuries resulted in two types of modern anchor The ordinary anchor consists of the shank (the stem, at the top of which is the anchor ring), the stock (the cross piece at the top, either fixed or removable), the crown (the bottom portions), and the arms fastened at right angles to the stock and curving up to end in the flukes or palms (flat triangular portions that come to points in the bills or pees) The patent anchor, unlike the ordinary one, has either no stock at all or a stock lying in the same plane as the arms, it has tripping palms that come out when the anchor falls Modern ships have several anchors, usually there are two forward and two aft (the sheet anchors) A stream anchor is lighter than the regular anchor and is used in narrow or congested waters A grapnel is a simple shank with four or five upturned hooks radiating about the center A sea anchor is a wooden framework covered with canvas and weighted at the bottom, it is a temporary device used by disabled ships Anchors, formerly made of wrought iron, are now usually made of forged steel

Anchorage (ăngˈkurĭj), city (1939 pop 3,495, 1949 estimated pop 19,000), S central Alaska, at the head of Cook Inlet Founded (1915) as a town for the headquarters and shops of the Alaska RR then being constructed, it grew as a railroad town, but also became a center of fishing, a market and supply point for gold-mining regions to the north, the metropolis for the coal mining and farming of Matanuska Valley, and the air-traffic capital of Alaska Glenn Highway connects it with the Alaska Highway The Second World War saw the establishment of the largest army post in Alaska and a large air base near by Air and rail traffic grew enormously. After the war it remained a defense center and continued to grow as Alaska's largest city

anchoret or **anchorite** see HERMIT

anchovy (ănˈchōvē), small fish of the herring family Spanish and Italian anchovies (*Engraulis encrasi-*

cholus), abundant in the Mediterranean and nearby waters, are cured by a process involving fermentation Norwegian or Swedish anchovies are sprats or brislings of the genus *Clupea* and are cured without a fermentation process

anchovy pear, West Indian tree (*Grias cauliflora*) and its fruit, which is eaten as a pickle like the mango and resembles it in taste.

ancien régime (äsyĕ' rāshēm') [Fr ,=old regime], expression used specifically to designate the order of things in France before the social changes of the FRENCH REVOLUTION (1789).

Ancon (ăng'kŏn, Span ängkōn'), town (pop 1,946), Panama Canal Zone, near the Pacific end of the canal and NW of Panama city The residential and medical center of this part of the zone, Ancon is virtually a part of Panama city

Ancona, Alessandro d' : see D'ANCONA, ALESSANDRO

ancona (ängkō'nu, Ital ängkō'nä), city (pop 57,100), capital of the Marches and of Ancona prov , central Italy, a port on the Adriatic Late in the 4th cent B C , Greeks from Syracuse took refuge in Ancona. It prospered under the Romans, and Trajan enlarged its harbor In the 9th cent. A D it became a semi-independent maritime republic under the nominal rule of the popes, under whose direct control it passed in 1532 The city suffered great damage in the Second World War The Byzantine Romanesque Cathedral of San Ciriaco (11th–13th cent) and the archaeological museum were partly destroyed, but the white marble Arch of Trajan was undamaged

ancon sheep (ăng'kŏn) or **otter sheep,** breed of sheep which originated, probably as a mutation, in the flock of a Massachusetts farmer, Seth Wright (or Wite), in 1791 The distinguishing characteristics —short, crooked legs and a long back—appeared first in a ram Realizing that such sheep would be easier to confine because of their difficulty in jumping fences, the farmer began breeding experiments and soon established the type, but it later became extinct

Ancre, Concino Concini, marquis d' : see CONCINI

Ancren Riwle (ăng'krŭn rē'ōōlu, rōōl', ăng'krŭn) [Mid. Eng ,=anchoresses' rule], English tract written c 1200 by an anonymous cultivated English churchman for the instruction of three young ladies who were about to settle in a hermitage in the West Midlands It is one of the few extant examples of early Middle English prose

Ancrum (ăn'krum), parish (pop 858), Roxburghshire, Scotland, NW of Jedburgh **Ancrum Moor,** near by, was the scene of the defeat (1545) of 5,000 English by Scots under Archibald Douglas

Ancus Martius (ăng'kŭs mär'shŭs), fourth king of ancient Rome (640?–616? B C) This semilegendary king is supposed to have enlarged the area of Rome

ancylostomiasis. see HOOKWORM.

Ancyra see ANKARA, Turkey

Andalusia (ăndŭlōō'zhŭ, –shu), Span. *Andalucía* (ăn"dälōōthē'ä), region (33,675 sq mi , pop 5,219,362), S Spain, on the Mediterranean, the Straits of Gibraltar, and the Atlantic Comprising the provinces of Almería, Cádiz, Córdoba, Granada, Huelva, Jaén, Málaga, and Seville, it covers all S Spain It is crossed in the north by the Sierra Morena and in the south by mountain ranges which rise in the Sierra Nevada to the highest peak in Spain, between the ranges lies the basin of the Guadalquivir With a subtropical climate, Andalusia has many affinities with Africa, which it faces Barren lands contrast with richly fertile regions, where cereals, grapes, olives, sugar cane, and citrus and other fruits are produced Cattle, bulls for the ring, and fine horses are bred The rich mineral resources, exploited since Phoenician and Roman times, include copper, iron, zinc, and lead The fertility and mineral wealth of S Spain has attracted Mediterranean peoples since ancient times. In the 11th cent B C the Phoenicians settled here and founded several coastal colonies, notably Gadir (now CÁDIZ) and, supposedly, the inland town of Tartessus, which became the capital of a flourishing kingdom (sometimes identified with the biblical TARSHISH) Greeks and Carthaginians came in the 6th cent B C , the Carthaginians were **expelled** (3d cent B C) by the Romans, who included S Spain in the province of Baetica In 711 the MOORS, crossing the Straits of Gibraltar, established here the center of their western emirate (see CÓRDOBA). Andalusia remained under Moorish rule until in the 13th cent. most of it was reconquered by the kings of Castile, only the Moorish kingdom of GRANADA survived until it fell to the Catholic kings in **1492** The Moorish period was the golden age of Andalusia Agriculture, mining, trade, and industries (textiles, pottery, and leather working) were fostered and brought tremendous prosperity; the Andalusian cities of Córdoba, SEVILLE, and Granada, embellished by the greatest Moorish monuments in Spain, were celebrated as centers of culture, science, and the arts. From the 16th cent Andalusia, except the flourishing ports of Seville and Cádiz, generally suffered in the decline of Spain Andalusia fell to the Insurgents early in the Spanish civil war of 1936–39 Moorish influence is still noticeable in the character, language, and customs of the people. Andalusian songs, dances, and festivals enjoy great popularity; these are also influenced by the large groups of gypsies who live in the region.

Andalusia (ăndŭlōō'shŭ, –shū), city (1940 pop. 6,886; 1948 special census pop 8,767), co seat of Covington co , S Ala , near the Fla. line 8 of Montgomery, in a farm and pine area; settled in the early 19th cent , inc 1901.

Andaman Islands (ăn'dŭmŭn, –măn) (2,508 sq mi ; pop 21,316), in the Bay of Bengal Lumbering is the chief economic activity, and the population is made up of native Negritos and settlers from the Indian mainland The climate is tropical. A penal colony was established here in 1858 and abolished in 1945 The islands are joined with the more southerly Nicobar Islands to form a state of India, the Andaman and Nicobar Islands, with its capital at Port Blair

Andelys, Les (lăsdŭlē'), town (pop 3,735), Eure dept , N France, on the Seine On the border between Normandy proper and the Norman VEXIN, it was, in the Middle Ages, of considerable strategic importance Richard I of England built CHÂTEAU GAILLARD near by Les Andelys suffered considerable damage in the Second World War Poussin was born here

Anderida (ăndĕr'ĭdŭ), ancient Roman fort at the present PEVENSEY, Sussex East, England The fort was built toward the end of the 3d cent and was one of a group of forts intended for defense against the Saxons, who took the fort in 491

Anderlecht (an'durlĕkht), town (pop 85,168), Brabant, Belgium, 3 mi SW of Brussels and on the Charleroi-Brussels Canal It is an industrial and residential suburb of Brussels.

Andermatt (ăn'dürmät), resort village (pop 1,496), Uri canton, Switzerland, at the north entrance to the St Gotthard Pass and above the St Gotthard Tunnel

Andernach (ăn'dürnäkh), town (pop 13,869), in the former Rhine Prov of Prussia, W Germany, after 1945 in Rhineland-Palatinate A busy port on the Rhine, it has manufactures of chemicals and pottery Drusus founded a garrison here, and in 939 Andernach was the scene of a victory gained by Emperor Otto I over the rebellious dukes of Franconia and Lotharingia From 1167 until 1801 it belonged to the archbishopric of Cologne Andernach has a 15th-century tower and a 16th-century town hall

Andersen, Hans Christian, 1805–75, Danish poet, novelist, and writer of fairy tales Brought up in poverty, at 14 he left Odense to seek his fortune in Copenhagen The theater lured him and he tried acting, but without success Generous patrons came to his aid and finally interested King Frederick VI, who sent him to school for several years at public expense Although he managed to pass his examinations, these years were unhappy ones In 1829 the fantasy *A Journey on Foot from the Holmen Canal to the Eastern Point of Amager* was published This was followed in 1830 by the first collected volume of his poems Granted a traveling pension by the king, he wrote sketches and impressions of the European countries visited His first novel, *Improvisatoren* (1835), marked the turning point in his career The critics, who had derided him as temperamental, egotistical, and ineffectual, now granted him some favor With the publication in the same year of his first book of fairy tales, *Eventyr*, he found at last the medium of expression which was to immortalize his genius Other volumes of fairy tales followed on an average of one a year, until he became unquestionably the best-known Danish author and a storyteller without a peer Among the most popular of his tales are "The Fir-Tree," "The Ugly Duckling," "The Brave Tin Soldier," "The Little Mermaid," and "The Red Shoes" His autobiography, *The Story of My Life* (1855), was translated into English in 1871 See biography by Signe Toksvig (1934), C B Burnett, *The Shoemaker's Son* (1941)

Andersen Nexo, Martin (mär'tĕn ăn'dürsĕn nĕksō'), Dan *Nexø*, 1869–, Danish novelist Born in a Copenhagen slum, he spent his childhood on the island of Bornholm He has written with realism and with pity of the poor. His proletarian novels *Pelle the Conqueror* (4 vols , 1906–10, Eng tr , 1913–17, in one volume, 1930) and *Ditte, Daughter of Mankind* (5 vols , 1917–21, Eng tr , *Ditte Girl Alive!* 1920, *Ditte, Daughter of Man*, 1921, *Ditte Toward the Stars*, 1922, in one volume, 1931) made him internationally famous and did much to improve social conditions in Denmark. In his later life he lived much in Russia and has written several books on that country Of his four-volume autobiography, the first two volumes are translated into English as *Under the Open Sky* (1938). See Harry Slochower, *Three Ways of Modern Man* (1937)

Anderson, Alexander, 1775–1870, American engraver, b New York city A graduate of the medical department of Columbia College, he soon abandoned medicine for copperplate engraving He was the first to practice wood engraving successfully in America Among the numerous cuts, chiefly book illustrations, which Anderson produced are designs for Webster's *Elementary Spelling Book*, Holbein's *Dance of Death*, published as *Emblems of Mortality*; and Shakspere's plays. A good example of his skill is the *Water Fowl*, after Teniers. See biography by F. M. Burr (1893).

Anderson, Carl David, 1905–, American physicist, b New York city, grad. California Institute of Technology (B S , 1927; Ph D., 1930). Associated with the institute's physics department from 1930, he became professor in 1939 For his discovery of the POSITRON, he shared with Victor F. Hess the 1936 Nobel Prize in Physics The MESON (or mesotron) was discovered in cosmic rays in 1937 by Anderson and Seth Neddermeyer and almost simultaneously by J. C. Street and E C. Stevenson

Anderson, Clinton Presba, 1895–, U.S. Secretary of Agriculture (1945–48), b Centerville, S.Dak. He had a newspaper and insurance background before he served New Mexico as treasurer (1933–34) and as administrator of relief (1935) and compensation (1936–39). As a Representative (1941–45), he was put in charge of the House investigation covering scarcities and agency administration of food products, while he was also a member of the Committee on Ways and Means (1945). He was chosen (May, 1945) Secretary of Agriculture by President Truman He formulated a long-range farm program with flexible farm-price supports and quit his post (May, 1948) in order to be elected (Nov , 1948) Senator from New Mexico

Anderson, Elizabeth Garrett, 1836–1917, English physician A sister of Millicent Garrett Fawcett, Elizabeth too worked for woman suffrage. With difficulty she obtained a private medical education under accredited physicians and in London hospitals, in 1865 she was licensed to practice by the Scottish Society of Apothecaries In London in 1866 she opened a dispensary, later a small hospital, for women and children, the first in England to be staffed by women physicians, it was known after 1918 as the Elizabeth Garrett Anderson Hospital Largely as a result of her efforts, British examining bodies opened their examinations to women In 1908 Dr Anderson was elected mayor of Aldeburgh, Suffolk See M G Fawcett, *What I Remember* (1924), biography by her daughter, L G Anderson (1939)

Anderson, Elizabeth Milbank, 1850–1921, American philanthropist, b New York city From 1884 she used her large fortune to advance higher education of women and in behalf of enlightened charity In memory of her parents she established (1905) the Memorial Fund Association, later called the Milbank Memorial Fund, the income from which was to be used "to improve the physical, mental, and moral condition of humanity, and generally to advance charitable and benevolent objects "

Anderson, John August, 1876–, American astronomer, b Clay co , Minn He was associate professor of astronomy at Johns Hopkins (1908–16) and then became physicist at Mt Wilson Observatory In 1943 he retired He wrote (with H C Jones) *Absorption Spectra of Solutions* (1909)

Anderson, Judith, 1898–, Australian-American actress, b Adelaide, Australia She went on the stage in 1915 (in *A Royal Divorce*) and in 1918 came to the United States After 1920 she had many important parts With her playing of the queen to Gielgud's Hamlet (1936), her ability as a great tragic actress was recognized She played Lady Macbeth in the Maurice Evans production (London, 1937, New York, 1941) Her Medea in the play by Robinson Jeffers (1947) won wide acclaim.

Anderson, Marian, 1902?–, American Negro contralto, b Philadelphia, where she received most of her musical education. She began her concert career in 1924, but her first great successes were in Europe. After her return to the United States in 1935, she soon became known to Americans as one of the greatest of living singers Her rich voice has a compass of three octaves

Anderson, Mary, 1872–, American labor expert, chief (1919–44) of the Women's Bureau, U S Dept of Labor, b. Sweden. She came to the United States in 1888 After some years as an industrial worker in garment and shoe factories, she became an organizer for the National Boot and Shoe Workers' Union and one of the founders of the National Women's Trade Union League In 1918 she was appointed assistant to the chief of the Women's Bureau, becoming its chief in 1919 On her retirement (1944) she was succeeded by Frieda S. Miller.

Anderson, Mary Antoinette, later **Madame de Navarro,** 1859–1940, American actress, b. Sacramento, Calif. After early training, she received encouragement from Charlotte Cushman and made her debut as Juliet at Louisville, Ky , in 1875. Her first success was as Meg Merrilies in an adaptation of Scott's *Guy Mannering*, but she later excelled in such Shakesperian roles as Desdemona, Rosalind, and Lady Macbeth and as Galatea in W. S. Gilbert's *Pygmalion and Galatea*. Her youth, beauty, and genuine if untrained talent made her a favorite in the United States and won her a welcome in England In 1890 she married Antonio de Navarro and retired to England. She wrote *A Few Memories* (1896) and *A Few More Memories* (1936) and collaborated with Robert Hichens in the dramatization of his *Garden of Allah*.

Anderson, Maxwell, 1888–, American playwright, b Atlantic, Pa., grad. Univ. of North Dakota, 1911, and M A. Stanford, 1914. He was a journalist on the Pacific coast and in New York city before 1924, when *What Price Glory*, written in collaboration with Laurence Stallings, proved to be the dramatic event of the season Anderson, whose plays are often written in blank verse, is one of the few dramatists to make consistent use of poetry on the modern stage Other plays include *Saturday's Children* (1927), *Gods of the Lightning* (with Harold Hickerson, 1928), on the Sacco-Vanzetti case, *Elizabeth the Queen* (1930), *Valley Forge* (1934), *Joan of Lorraine* (1946), and *Anne of the Thousand Days* (1948). *Winterset* (1935) and *High Tor* (1937) won respectively the 1936 and 1937 New York Drama Critics Circle award, and *Both Your Houses* (1933) won the 1933 Pulitzer Prize for drama See his *Essence of Tragedy* (1939)

Anderson, Robert, 1750–1830, Scottish editor He is known for his *Complete Edition of the Poets of Great Britain* (14 vols , 1792–1807).

Anderson, Robert, 1805–71, American army officer, defender of Fort SUMTER, b near Louisville, Ky , grad West Point, 1825 He fought in the Black Hawk, Seminole, and Mexican wars and was promoted major in 1857 In Nov , 1860, he took command of the U S force in the harbor of Charleston, S C., where he distinguished himself in the Fort Sumter controversy Anderson, made a brigadier general in the regular army (May, 1861), commanded the Dept of Kentucky (June–Oct) He retired from active service in Oct , 1863 In Feb , 1865, he was brevetted major general for his gallant service in the defense of Fort Sumter

Anderson, Sherwood, 1876–1941, American author and editor, b Camden, Ohio Sketchily educated, he started work at 12 and at 17 served in Cuba in the Spanish-American War He became an advertising writer and later, in Elyria, Ohio, manager of a paint factory, suddenly he left his job there and went to Chicago to write Encouraged by Dreiser, Sandburg, Floyd Dell, and others, he published *Windy McPherson's Son* (1916), his first novel *Marching Men* (1917) and *Mid-American Chants* (1918) followed, but not until *Winesburg, Ohio*, a book of short stories, was published in 1919 did he win wide recognition for his portrayal of the lives of inarticulate Americans He lived for a time in New York and New Orleans and finally settled in Marion, Va , where he became editor of two weekly newspapers, one Republican, one Democratic His works include short stories in *The Triumph of the Egg* (1921) and *Horses and Men* (1923), the novels *Poor White* (1920), *Dark Laughter* (1925), *Beyond Desire* (1932), *Kit Brandon* (1936), and the autobiographical books *A Story Teller's Story* (1924), *Tar a Midwest Childhood* (1926), *Sherwood Anderson's Note Book* (1926), and *Sherwood Anderson's Memoirs* (1942)

Anderson. 1 Industrial city (pop 41,572), co seat of Madison co , E central Ind , on the White River and NE of Indianapolis, platted 1823, inc as a town 1838, as a city 1865 Its manufactures include machinery for glassware manufacture, iron castings, engine parts, and gas ranges Anderson College and Theological Seminary (Church of God, coeducational, 1917) is here Mounds State Park at Anderson has numerous prehistoric mounds and a museum of natural history and archaeology A tuberculosis hospital is in the city The Moravians had an Indian mission near by in 1801–6 **2** City (pop 19,424), co seat of Anderson co , NW S C , between the Saluda and Savannah rivers, in a rich farm, cotton, and livestock area, laid out 1827, inc 1882 It has textile mills and other industries A junior college and the county fairgrounds are here

Anderson, river of the Mackenzie dist , Northwest Territories, flowing into the Arctic Ocean at Liverpool Bay It is 465 mi long

Andersonville, village (pop 211), SW Ga , NNE of Americus, inc 1881 In **Andersonville Prison** (now a state park) here, tens of thousands of Union soldiers were confined (1864–65) in the Civil War under conditions so bad that over 12,000 of them died Andersonville National Cemetery, near by, contains more than 13,000 soldiers' graves See W B Hesseltine, *Civil War Prisons* (1930)

Andersson, Karl Johan (yōs'hän än'dürsōn"), 1827–67, Swedish explorer in Africa In 1850 he set out from Walfish Bay, accompanied by Francis Galton, to visit Damaraland and Ovamboland, but did not get beyond Etosha Pan On a second trip he reached Lake Ngami (long the goal of explorers) and penetrated for 60 mi beyond it In 1859, on a third trip, he reached the Kubango river He died on another journey to explore the upper reaches of the Kunene He wrote *Lake Ngami* (1855) and *The Okavango River* (1861). *Notes of Travel in South Africa* is a posthumous account of his last trip

Andes (ăn'dēz), mountain system, over 4,000 mi long, South America The ranges run generally parallel to the Pacific coast and extend from Tierra del Fuego northward as the backbone of the entire continent. The Falkland Islands are a continuation of the Andes, and recent evidence shows that the system is continued in Antarctica. The Andes go through seven South American countries—ARGENTINA, CHILE, BOLIVIA, PERU, ECUADOR, COLOMBIA, and VENEZUELA. The ranges are continuous and make one of the world's most important mountain masses, loftier than any other except the Himalayas, there are many peaks higher than Mt McKinley, the highest in North America In the south the mountains run east and west, in Tierra del Fuego, then turn north between Argentina and Chile The westernmost of the mountains run into the sea, lining the coast of S Chile with islands In the mountains of the Patagonian border are high glacier-fed lakes in both Argentina and Chile The region has noted resorts. The highest range of the Andes is on the central and northern Argentine-Chilean border Here are lofty ACONCAGUA (highest mountain of the Western Hemisphere), and TUPUNGATO, and between them USPALLATA PASS, with the Transandine Railway and the Christ of the Andes Other major peaks such as LLULLAILLACO flank the main range, and in Argentina subandean ranges enclose the high, cold Puna de Atacama The new Transandine Railway of the North crosses Socompa Pass The central Andes broaden out in Bolivia and Peru in multiple ranges with high altiplano [plateau] country and many high intermontane valleys, where the great civilization of the Inca had its home High in the mountains on the Peru-Bolivian border is Lake Titicaca In Bolivia are the notable volcanoes, ILLIMANÍ and ILLAMPÚ, and in S Peru is El MISTI The western or coastal range in Peru has lofty peaks (notably HUASCARÁN) and is crossed by the highest railroad of the Andes (from La Oroya to Lima) The ranges approach each other again in Ecuador, where the N Andes begin Between two volcanic cordilleras (with noted CHIMBORAZO and COTOPAXI) are rich intermontane basins In Colombia the Andes divide again, the western range running between the coast and the Cauca river, the central between the Cauca and the Magdalena, and the eastern running N parallel to the Magdalena, then stretching out on the coast into Venezuela. The Andes continue in some of the islands of the West Indies, and in Panama northern Andean spurs connect with the mountains of Central America and thus with the Sierra Madre and the Rockies Obviously the Andes do much to determine the whole pattern of communication, climate, weather, and life in South America Andean waters reach the Orinoco, the Amazon, and the Río de la Plata The plateaus and valleys of Bolivia, Peru, Ecuador, and Colombia have been peopled since remote times and saw the rise not only of the Inca but of other great Indian civilizations, notably the Chibcha Agriculture was the basis of these cultures (with the native llama and alpaca domesticated), and the lands there are still tilled, mostly for subsistence crops only In modern times the produce of the Andes that has been of importance to world commerce is the great mineral wealth, notably copper, silver, and tin See Sir Martin Conway, *The Bolivian Andes* (1901), Isaiah Bowman, *The Andes of Southern Peru* (1916), A. G Ogilvie, *Geography of the Central Andes* (1922)

Andizhan (ändĭzhän', Rus ŭndyĕzhän'), city (pop 83,691), capital of Andizhan oblast, Uzbek SSR, in the Fergana Valley It is a rail junction and the industrial center of an area producing cotton and silk

Andocides (ändŏs'ĭdēz), c 440–c 390 B C , one of the Ten Attic Orators (see ORATORY) In 415 B C he was accused of mutilating the hermae and, in association with ALCIBIADES, of other sacrilege He went into exile, and one of his speeches was a plea to be restored to citizenship After he returned in 403, he was again accused (399) of sacrilege and again defended himself.

Andorra (ändôr'rù), Fr *Andorre* (ädôr'), small state (191 sq mi , pop 5,231), in the E Pyrenees between France and Spain, under the joint suzerainty of the president of France and the bishop of Urgel (Spain) Drained by the Valira river, Andorra comprises several high mountain valleys generally poor in soil but supporting large flocks of sheep The population, Catalan in speech and Catholic in religion, live in six villages, of which Andorra la Vieja is the most important Smuggling is an important occupation In 843 Emperor Charles II made the count of Urgel overlord of Andorra, in 1278 the bishop of Urgel was made joint suzerain The rights of the count passed by inheritance through the counts of Foix and the house of Albret to Henry IV of France and from the French kings to the French presidents Actually, Andorra has always maintained virtual independence and does homage to its two suzerains only through nominal yearly gifts The state is governed by a council of 24 headed by a syndic The constitution preserves traces of an ancient communal agrarian organization.

Andover (ăn'dōvur) **1** Town (pop 11,122), NE Mass , near the Merrimack, settled 1643, inc 1646 Woolen and rubber goods are produced PHILLIPS ACADEMY and Abbot Academy (for girls) are here The former Andover Theological Seminary is now at Newton Centre Samuel Francis Smith wrote the words for *America* while a student at the seminary There are art galleries and several old buildings Harriet Beecher Stowe lived and is buried here. **2** Rural town (pop 1,108), S central N H , NW of Concord, granted 1751 to Edmund Brown and others, settled 1761, inc 1779 **3** Village (pop 1,290), W N Y , SW of Hornell, in an oil region, inc 1892

Andrada e Silva, José Bonifácio de see BONIFÁCIO, José

Andrade, Olegario Víctor (ōlāgä'ryō vēk'tōr ändrä'dhā), 1839?–1882, Argentine romantic poet and journalist, sometimes called the national poet of Argentina because of his patriotic fervor Although he supported himself by writing for provincial newspapers and in 1880 was made editor in chief of the government newspaper in Buenos Aires, *Tribuna nacional*, his fame was won through his poems These, strongly influenced by Victor Hugo, had a grandiloquent and sonorous tone, suitable for reading aloud Most of his best-known poems are didactic, among them "El nido de cóndores" (written 1877), which describes San Martín's crossing of the Andes, and "La Atlántida" (written 1881), a hymn to the future progress of the Latin race

Andrassy, Julius, Count (ŏn'drash-shē), Hung *Andrássy Gyula* (dyōō'lō), 1823–90, Hungarian statesman One of the leading figures in the revolution and the war of independence of 1848–49, he supported the liberal program of Louis KOSSUTH and after the Hungarian defeat went into exile, mostly in Paris and London, until 1858 With Francis DEAK he then rose into prominence in the negotiations leading to the compromise (*Ausgleich*) of 1867, which created the AUSTRO-HUNGARIAN MONARCHY, and Andrassy became the first constitutional prime minister of Hungary He opposed Austrian interference, attained the creation of a separate Hungarian defense force, put down the opposition led by Kossuth's partisans, and established Magyar supremacy at the expense of the Slavic and other minorities of the kingdom. In 1870 his influence was largely responsible for keeping Austria-Hungary neutral in the Franco-Prussian War As foreign minister of the Dual Monarchy (1871–79) he reversed the anti-Prussian policy of his predecessor, Beust, held Austria-Hungary to the THREE EMPERORS' LEAGUE, and signed (1879) the Dual Alliance with Germany (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) His chief program was to limit Russian expansion in the Balkans and to maintain the *status quo* among the Slavic peoples At the Congress of BERLIN (1878) he obtained for the Dual Monarchy the right to occupy BOSNIA AND HERCEGOVINA This step provoked much opposition in Hungary because it further increased the Slavic element in the empire, and Andrassy resigned

Andrassy, Julius, Count, Hung *Andrássy Gyula*, 1860–1929, Hungarian statesman, son of the elder Count Andrassy He occupied several cabinet posts before becoming (1900) minister of the interior of Austria-Hungary in the coalition cabinet under WEKERLE He opposed the Austrian diplomacy of 1914, and as foreign minister (late in 1918) he severed all connections with Germany in the hope of obtaining a separate peace for Austria-Hungary. In 1921 he was involved in the attempt of King Charles (Emperor CHARLES I) to regain the Hungarian throne, and he later led the royalist opposition to Admiral Horthy and Count Stephen Bethlen He wrote a number of political and historical studies, notably *Bismarck, Andrassy, and Their Successors* (1927, in English)

André, Brother (ä'drā, an'drā, Fr ädrā'), 1845–1937, Canadian religious mystic, b St Grégoire d'Iberville, Que His secular name was Alfred Bissette, Bassette, or Bessette For some 40 years he was a porter at a school in Montreal After 1900 he became noted for his simplicity and faith Many miraculous cures were attributed to him Through his efforts the Oratory of St Joseph was built in Montreal See H P Bergeron, *Le Frère André* (1938, Eng tr , 1938)

André, John (ăn'drē), 1751–80, British spy in the American Revolution He was captured (1775) by Gen. Richard Montgomery in the Quebec campaign but was exchanged and became adjutant general under Sir Henry Clinton Major André negotiated with Benedict ARNOLD for the betrayal of West Point and was captured (Sept. 23, 1780), when returning to New York, by John Paulding, David Williams, and Isaac Van Wert, near Tarrytown, N Y He was tried, condemned, and hanged at Washington's headquarters at Tappan, despite protests from Clinton Major André's charming personality and his talents in the arts had won him many American friends, who mourned him as a romantically tragic young man

Andrea del Sarto see SARTO, ANDREA DEL.

Andreani, Andrea (ändrā'ä ăn"drāä'nē), c 1540–1623, Italian wood engraver He worked at Florence, Mantua, Siena, and Rome. His engravings are rare and are highly valued for their excellent drawing, for their spirited execution, and, particularly, for their masterly treatment of light and shade Among the best are *Pavement of Siena Cathedral*, 12 large prints, after Beccafumi, *The Deluge, Destruction of Pharaoh's Host*, and *Christ Triumphus*, after Titian, *The Miraculous Draught of Fishes*, after Raphael, and the fine series *Triumph of Julius Caesar*, after Mantegna.

Andreanof Islands see ALEUTIAN ISLANDS

Andree, Karl Theodor (tä'ōdōr än'drā), 1808–75, German journalist and geographer His works include geographies of North America and Argentina He founded and edited *Globus*, an ethnographic and geographic publication continued by his son **Richard Andree** (rĭkh'ärt), 1835–1912, who was an ethnographer of central Europe

Andree, Salomon August (sä'lōomōn ou'gŭst ändrā'), Swed *Andrée*, 1854–97, Swedish polar explorer An aeronautical engineer, he was the first to attempt arctic exploration by air His first attempt by balloon in 1896 never got fairly started, but in 1897 he set out again in a balloon called the *Eagle* Tragic mishaps attended the expedition from the start, and when Andree and his men reached lat 82° 56′ N they did not have sufficient clothing for the attempt to travel by sledge and by boat All died of exposure Search expeditions found no trace of them, and it was not until 1930 that the remains were found In the equipment were Andree's diaries, included in *Andrée's Story* (Eng tr , 1930) See G P Putnam, *Andrée the Record of a Tragic Adventure* (1930)

Andreev, Leonid Nikolayevich see ANDREYEV

Andreini (ändrā'ēnē), family of Italian actors celebrated in the COMMEDIA DELL' ARTE of the 16th and 17th cent **Francesco Andreini** (frunchā'kō), 1548–1624, joined the Gelosi troupe of players, excelled in a variety of roles, and composed scenarios such as *Le bravure del capitan Spavento* (1607) More celebrated was his wife, **Isabella Andreini** (ē"zäbāl'lä), 1562–1604, whose maiden name was Canali Beautiful, virtuous, and well educated, she was one of the most famous actresses of her time After joining the Gelosi troupe, she became a leading player when it was managed by Francesco Andreini, whom she married in 1578 The heroines which she portrayed were later given the name Isabella She wrote many poems and the pastoral *Mirtilla* (1588), her letters appeared in 1607 (new ed , 1647) She was lauded by the poets Tasso and Marini, and after her death a medal was struck in her honor Her son **Giovanni Battista** or **Giambattista Andreini** (jōvän'nē bät-tēs'tä, jambät-tēs'tä), 1579?–1654, was an actor, a writer, and a stage director He probably had early training in the Gelosi and c 1604 managed the Fidele, another troupe He gained fame for his poems, comedies, and religious plays His play *L'Adamo* (1614) is said to have been a source for Milton's *Paradise Lost* Giovanni's wife, **Virginia Andreini** (vērjē'nyä), 1583–c 1628, whose maiden name was Ramponi, was an actress of repute, noted for her beauty See Allardyce Nicoll, *Masks, Mimes, and Miracles* (1931)

Andrew, Saint [Gr ,=manly], one of the Twelve Disciples, brother of Peter Mat 4 18, 10 2, Mark 3 16, 13 3, Luke 6 14, John 1 40 42, 6 8,9, 12 22, Acts 1 13 Tradition calls him a missionary in Asia Minor, Macedonia, and S Russia, with his martyrdom in Greece He is said to have died on an X-shaped cross (St Andrew's cross) He is patron of Russia and Scotland, Scotland is represented on the Union Jack by a white St Andrew's cross on a blue field He has been frequently portrayed in art, favorite subjects are his calling and his martyrdom His feast Nov 30

Andrew II, d 1235, king of Hungary (1205–35), son of Bela III He expelled the Teutonic Knights from Transylvania, which he later settled with Saxon immigrants, to whom he gave (1224) the right to establish an autonomous administration He continued his predecessors' policy of alienating crown lands to the magnates, and the lesser nobles forced him to issue a Golden Bull (1222), which strengthened the royal power and the liberties of the majority of the nation Among the important provisions of this "Magna Carta," which was expanded in 1231, were that the diet should meet annually, that no noble should be executed except when regularly convicted, that no tax should be levied on the lands of the nobles or the Church that charges against nobles for which the punishment was death or confiscation of goods should be heard by the king or at least reviewed by him, that foreigners should not receive offices without the consent of the diet, and that offices should not be perpetual In the event that the king violated any of these provisions the nobles were to have the right of resistance Andrew took part (1217) in the Fifth Crusade He was the father of St Elizabeth of Hungary and of Bela IV, his successor

Andrew, John Albion, 1818–67, Civil War governor of Massachusetts (1861–66), b Windham, Maine, grad Bowdoin, 1837 He practiced law in Boston, and his antislavery sympathies drew him into politics, he was one of the organizers of the Free-Soil party and later of the Republican party Sensing the coming conflict, he secured, soon after taking office as governor, special legislation placing the militia in readiness and an appropriation for transporting it to Washington When Lincoln's call came, the 6th Massachusetts was the first regiment to reach the capital The same spirit characterized Andrew's actions throughout the war, and his zeal was imparted to the people When peace came, he advocated a policy of friendship and leniency toward the South, but he did not live to urge it See biography by H. G. Pearson (1904), W B Hesseltine, *Lincoln and the War Governors* (1948)

Andrewes, Lancelot (ăn'drōōz), 1555–1626, Anglican divine, bishop of Chichester (1605), of Ely (1609), and of Winchester (1619) One of the most learned men of his time, he was among the first to be selected to make the new version of the Bible (now the Authorized Version) He had a royal chaplaincy to Elizabeth, James I, and Charles I His preaching gave him great favor with King James, who was keenly interested in theology Bishop Andrewes was the great theologian of the High Church party of the 17th cent and was opposed to Puritanism, his position being somewhat similar to that of LAUD His gifts were very great, but to many of his day his outstanding characteristics were his goodness and piety, his contributions to charity were noteworthy His *XCVI Sermons* were edited (1629) by Bishops Laud and Buckeridge, his *Private Devotions*, translated (1647) from his prayers in Greek and Latin, have passed through a number of editions Richard Crashaw, the poet, paid him a beautiful tribute in "Upon Bishop Andrewes Picture before His Sermons," and Milton, a Puritan, wrote a Latin elegy on his death See biographies by R L Ottley (1894) and Alexander Whyte (1896), T S Eliot, *For Lancelot Andrewes* (1928)

Andrew Johnson National Monument see NATIONAL PARKS AND MONUMENTS (table)

Andrews, Charles McLean, 1863–1943, American historian, b Wethersfield, Conn A graduate of Trinity College, Hartford (B A , 1884), and of Johns Hopkins (Ph D , 1889), he was associate professor at Bryn Mawr (1889–1907) and professor at Johns Hopkins (1907–10) and Yale (1910–31) Andrews, a leader in the reinterpretation of British colonial policy in America, studied the colonies in the light of the larger imperial problem, and his seminar in colonial institutions at Yale stimulated much able research in this field He himself capped his long, distinguished career with *The Colonial Period of American History* (4 vols , 1934–38, Vols I–III, *The Settlements*, Vol IV, *England's Commercial and Colonial Policy*) This excellent work won him the 1935 Pulitzer Prize for history and, in 1937, the gold medal for history and biography awarded only every 10th year by the National Institute of Arts and Letters His other books include *Colonial Self-Government, 1652–1689* (1904, in the "American Nation" series), *The Fathers of New England* (1919) and *Colonial Folkways* (1919, both in the "Chronicles of America" series, and *The Colonial Background of the American Revolution* (1924) He also compiled manuscript and bibliographical guides and wrote works on various historical subjects

Andrews, Christopher Columbus, 1829–1922, American diplomat and author, b Hillsboro, N H , studied law at Harvard One of the New England emigrants to Kansas in 1854, he later (1857) went to St Cloud, Minn In the Civil War he rose to be a brevet major general in the Union forces His Republican political activities led to his serving as minister in Stockholm (1869–77) and consul general in Rio de Janeiro (1882–85) Andrews was an acute observer of landscapes, events, life, and manners, and his own life is reflected in his books, *Minnesota and Dacotah* (1857), *My Experience in Rebel Prisons* (1893), *History of the Campaign of Mobile* (1867), *Life and Manners in Sweden and Norway* (undated), and *Brazil Its Conditions and Prospects* (1887) His interest in forest conservation was awakened in Sweden, and he was a pioneer of forest culture in the United States See his recollections (1928)

Andrews, Elisha Benjamin, 1844–1917, American educator and administrator, b Hinsdale, Vt He served in the Civil War, afterwards graduating from Brown in 1870 and from Newton Theological Seminary in 1874 He became successively president of Denison Univ , president of Brown Univ , superintendent of schools in Chicago, and chancellor of the Univ of Nebraska, from which he retired in 1908 His numerous works range from *Wealth and Moral Law* (1894) to *The History of the United States* (6 vols , 1913)

Andrews, Ethan Allen, 1787–1858, American educator and classical scholar, b New Britain, Conn , grad Yale, 1810 He became a teacher of the classics at the Univ of North Carolina He later headed academies in New Haven, Conn , and in Boston His chief work, *A Copious and Critical Latin-English Lexicon* (1850), is still used

Andrews, Joseph, c 1805–1873, American engraver, b Hingham, Mass *Plymouth Rock, 1620*, after P F Rothermel, is his chief plate He excelled in portraiture, and among his best portraits are the head of Washington, after Gilbert Stuart, and one of Franklin Andrews did much work for publishers, including a number of plates for the *Galerie historique de Versailles*

Andrews, Lorrin, 1795–1868, American missionary to the Hawaiian Islands, b present Vernon, Conn , grad Princeton Theological Seminary, 1825 He founded (1831) on Maui a training school for teachers, offered courses in printing (which he had himself learned from a book), and began (1834) publishing the first Hawaiian newspaper After 1841 he had posts in the native Hawaiian government, becoming (1852) an associate justice of the supreme court His cultural contribution was marked by his *Dictionary of the Hawaiian Language* (1865, revised by H H Parker, 1922) and his interest in native songs and folklore

Andrews, Roy Chapman, 1884–, American naturalist and explorer, b Beloit, Wis , grad Beloit College, 1906 Connected with the American Museum of Natural History from 1906, he was its director from 1935 to 1941 Until 1914 he specialized in the study of whales and other water mammals in Alaska, along the coast of Asia, and in Malayan seas, as told in his *Whale Hunting with Gun and Camera* (1916) and *Ends of the Earth* (1929) About 1912 he conceived the idea of making expeditions into central Asia to study both fossil and living plants and animals in order to test H. F Osborn's theory that central Asia was a dispersal center for northern mammalian life On his first expedition he explored the province of Yünnan in SW China and the borders of Burma and Tibet, described in his *Camps and Trails in China* (1918) In 1919 he made a reconnaissance survey of N Mongolia, as related in *Across Mongolian Plains* (1921), in order to select the sites and plan for the larger expeditions which he led into the field in 1922, 1923, 1925, 1928, and 1930 The expeditions resulted in increased knowledge of the geography and geology of Mongolia and in the discovery of several of the world's great fossil fields, which have yielded the remains of many primitive animals and plants previously unknown to science *On the Trail of Ancient Man* (1926) is a popular narrative of the earlier expeditions, while all are discussed in Andrew's *New Conquest of Central Asia* (1932) His writings include also *Meet Your Ancestors* (1945) and the autobiographical works *Under a Lucky Star* (1943) and *An Explorer Comes Home* (1947)

Andrews, Stephen Pearl, 1812–86, American reformer and author, b Templeton, Mass He was a fervent abolitionist, the inventor of a universal language, and a proponent of the Pitman shorthand system which he did much to introduce into America In *The Science of Society* (1851–53) he elaborated upon the anarchistic ideas of Josiah WARREN His other writings include *The Basic Outline of Unsociology* (1872)

Andrews, Thomas, 1813–85, Irish chemist and physicist He discovered and named the phenomenon of critical temperature, the temperature above which a gas cannot be liquefied, no matter how great the amount of pressure

Andrews, William Loring, 1837–1920, American bibliophile He was a founder of the library of the Metropolitan Museum of Art and of the Grolier Society and the Society of Iconophiles He wrote on New York city and on early books and printers

Andrews **1** Town (pop 1,520), extreme SW N C , WSW of Asheville, in the Nantahala National Forest near the Ga line It is a lumber-mill town **2** Town (pop 2,008), E S C , NNE of Charleston It is a trade center for a farm and lumber area

Andreyev, Leonid Nikolayevich (lyĭunyĕt' nyĭkull'uvĭchĭndrā'uf), 1871–1919, Russian short-story writer and playwright Always a seeker after the hidden motive of human action, he became the spokesman for the intellectual in the twilight era around 1900 In his early short stories Andreyev probed individuals in the traditional style of Russian realism Later he used allegory and symbol, as in *The Red Laugh* (1905, Eng tr , 1905), a drama inspired by the Russo-Japanese War, and *When the King Loses His Head* (1906, Eng tr , 1920), suggested by the Revolution of 1905 Besides the popular drama of a circus clown, *He Who Gets Slapped* (1916, Eng tr , 1921), his best-known plays are *Anathema* (1904, Eng tr , 1910), an allegory on the futility of goodness, *The Life of Man* (1907, Eng tr , 1914), a morality, *King Hunger* (1907, Eng tr , 1911), *The Seven Who Were Hanged* (1908, Eng tr , 1909), and *The Pretty Sabine Women* (1912, Eng tr , 1914), a political satire *Judas Iscariot* (1910, Eng tr , 1947) is a collection of short stories Andreyev's great popularity declined, owing to the lack of any positive note in his writings An anti-Bolshevist, he died in Finland His name also appears as Andreev See biography by Alexander Kaun (1924)

Andreyevsky, Sergei Arkadyevich (syĭrgā' urkā'dyĭvĭch ŭndrā'ufskĕ), 1847–1918, Russian lawyer and literary critic He was the first to recognise the importance of Dostoyevsky (in an essay on *The Brothers Karamazov*, 1888) His masterpiece is the autobiographical *Book of Death* (1922)

Andria (ăn'drēa), rural city (pop 54,438), Apulia, S Italy It is the center of a region producing wine and olive oil Emperor Frederick II favored it and built near by the imposing Castel del Monte with eight round towers.

Androgeus (ăndrŏ'jēŭs), in Greek legend, Cretan prince, son of MINOS and PASIPHAË He was killed by AEGEUS, king of Athens. Minos revenged his son by compelling the Athenians to send human sacrifices to Crete, to be killed by the MINOTAUR.

Andromache (ăndrŏ'mukē), in Greek legend, Trojan woman, wife of Hector and mother of Astyanax After the Trojan War she was carried away by NEOPTOLEMUS, whose father, Achilles, had slain her husband Neoptolemus died, and she married Hector's brother Helenus She is mentioned in the *Iliad*, the plays of Euripides and Racine which bear her name treat her captivity by Neoptolemus

Andromeda (ăndrŏ'mŭdu), in Greek religion, princess of Ethiopia, daughter of Cepheus and Cassiopeia (kā"sēōpē'u, -sēu-) Cassiopeia angered Poseidon by saying that Andromeda (in another account, Cassiopeia herself) was more beautiful than the Nereids Poseidon sent to prey upon the country a sea monster who could be appeased only by the *sacrifice* of the king's daughter Andromeda was left on a rock by the sea, to wait for the monster There she was found by PERSEUS, who rescued her and married her Cassiopeia was changed into a constellation

Andromeda, in astronomy, a northern constellation lying south of Cassiopeia and merging on the west with Pegasus The brightest of the spiral nebulae is in Andromeda To the naked eye the nebula looks like a faint star with a hazy outline, its distance from the earth has been estimated to be from about 750,000 to more than 900,000 light years, and its size is believed to be about that of our Milky Way galaxy

Andronicus I (Andronicus Comnenus) (ăndrŏnī'kus, kŏmnē'nus), 1110?–1185, Byzantine emperor (1183–85), nephew of John II He acceded to the throne by strangling his cousin ALEXIUS II Though notorious in his younger years for his scandalous morals, he was a competent ruler He took strict measures to protect the peasants against the great landowners, enforced honesty on the tax collectors, and was the terror of corrupt officials His severity and his failure to stop the rapid advance of WILLIAM II of Sicily against the capital led to his overthrow and the elevation of ISAAC II Andronicus was tortured by the rabble for two days before he died He was the last of the Comneni on the throne of Constantinople

Andronicus II (Andronicus Palaeologus), (pālēŏ'lugus), 1258–1332, Byzantine emperor (1282–1328), son and successor of Michael VIII He devoted himself chiefly to church affairs, renewing the schism by renouncing the union established at the Second Council of Lyons He made a treaty with the rising kingdom of Serbia Against the Turkish menace he allied himself with Roger de FLOR, with little success His reign, which ruined his empire to its doom, was cut short by his grandson, who forced him into a monastery and became emperor as Andronicus III

Andronicus III (Andronicus Palaeologus), c 1296–1341, Byzantine emperor (1328–41), grandson of Andronicus II, whom he deposed During his reign the Turks gained almost complete control of Asia Minor, while STEPHEN DUSHAN of Serbia conquered part of Macedonia and Albania He was succeeded by his son, John V

Andronicus [Gr ,=conqueror of men], apostle at Rome Rom 16 7

Andronicus, Livius see LIVIUS ANDRONICUS

Andros, Sir Edmund, 1637–1714, British colonial governor in America, b Guernsey As governor of New York (1674–81) he was bitterly criticized for his high-handed methods and he was embroiled in disputes over boundaries and duties (see NEW JERSEY), going so far as to arrest Philip CARTERET When James II, partly influenced by Edward Randolph, consolidated all the New England colonies into the Dominion of New England, he named (1686) Andros governor In 1688 New York and the Jerseys were also put under his control The suppression of charters and colonial assemblies, interference with local customs and rights, and Andros's overbearing ways caused intense friction After news of the overthrow of James II in 1688 reached the colonies, the colonials in Boston rebelled (1689), seized Andros and other officials, and sent them to England as prisoners He was soon released and later was governor of Virginia (1692–97) and governor of Guernsey (1704–6) See Viola F Barnes, *Dominion of New England* (1923)

Andros (ăn'drŏs), island (145 sq mi , pop 17,926), off Greece, in the Aegean Sea, second largest and northernmost of the CYCLADES The chief town is the port of Andros (pop 3,028) The island produces silk, citrus fruit, and wine and has manganese deposits Colonized by Athens in the 5th cent B C , Andros rebelled in 410 B C , became a free state, and later passed under the rule of Macedon and Rome Seized from the Byzantines by Venice in 1204, it was dominated, with interruptions, by Venice until it fell (1514) to the Turks

Androscoggin (ăndruskŏg'ĭn), river, c 175 mi long, formed in NE New Hampshire and flowing south, then east, to enter W Maine Later turning south again, it joins the Kennebec near Bath Long important for logging, it now also furnishes power for Rumford, Auburn, Lewiston, and other towns

Andros Island: see BAHAMA ISLANDS

Androuet du Cerceau (ădrōō-ă' dü sĕrsō'), family of French architects active in the 16th and 17th cent. It was founded by **Jacques Androuet** (shăk'), c 1510–c 1584, surnamed du Cerceau [Fr ,=circle] from the emblem of a circle marking his workshop Though a leader in introducing the Italian Renaissance style into France, he is known by his writings rather than by authenticated buildings Of his two sons, who both worked on the Louvre, **Baptiste Androuet du Cerceau** (bătēst'), c 1544–1602, designed the Pont Neuf spanning the Seine at Paris and became supervisor of royal construction in Paris, while **Jacques Androuet du Cerceau,** the younger, d 1614, worked on the Tuileries Baptiste's son **Jean Androuet du Cerceau** (zhăⁿ') is known for his mansions in Paris

Andrus, Leonard, 1805–67, pioneer of the steel PLOW industry, b Cornwall, Vt After some years as a merchant in Malone and Rochester, N Y , he traveled in 1834 through the Middle West, decided to found a settlement at GRAND DETOUR, Ill , and returned in 1835 with a group of settlers He was associated with John DEERE in making (1837) the first Grand Detour steel plow The moldboard of this plow was made by Deere of a broken circular saw from the sawmill of Andrus Andrus and Deere were partners in a steel-plow factory from 1843 to 1847, and Andrus afterward continued the factory at Grand Detour In 1937 a centennial celebration of the making of the first Grand Detour steel plow was held at Grand Detour, and a memorial, designed by Avard Fairbanks, was dedicated there to Andrus

Andrusov, Treaty of (ăn'drōōsŏf", Rus ŭndrōō'suf), 1667, signed by Poland and Russia at the village of Andrusovo (ŭndrō'suvŭ) (formerly Andrusov), RSFSR, SW of Smolensk It ended the war of Tsar ALEXIS of Russia against JOHN II of Poland Russia gained Smolensk and the Ukraine E of the Dnieper, including Kiev

Andújar (andōō'hăr), city (pop 22,924), Jaén prov , S Spain, in Andalusia, on the Guadalquivir river It is famous for its pottery and for its water-cooling jars made of porous stone

Anegada see VIRGIN ISLANDS, BRITISH

Anem (ā'nĕm), the same as **EN-GANNIM 2**

anemia. When the amount of hemoglobin in the blood or the number of red cells of the blood or both are reduced, the condition is referred to as anemia It is a symptom of a variety of diseases Causes are a loss of blood, inadequate blood formation, or increased destruction of red blood cells Hemorrhage results in a deficiency in the number of red corpuscles Transfusion is necessary if the loss is considerable An iron deficiency in the blood may result in a low hemoglobin content Lack of the antianemic factor of the liver, which occurs most frequently in pernicious anemia, affects the number and the formation of red blood cells In the latter stages of pernicious anemia, in chronic infections, malaria, lead or arsenic poisoning, overdosage of certains drugs, or after excessive exposure to X ray or radium, the bone marrow may be affected, with a resultant lack of red blood cell formation An anemic individual feels weak, tires easily, becomes short of breath readily, and complains of faintness, dizziness, and palpitation There may be pallor, a rapid pulse, and sometimes a heart murmur In anemias due to an iron deficiency, the hemoglobin may be increased by a diet containing foods rich in iron In anemias due to a lack of the antianemic factor, the condition is treated by injection of liver extract together with a diet rich in vitamins and minerals Folic acid has also been found to stimulate the formation of red blood cells

anemometer see WIND

anemone (unĕm'unē) or **windflower,** any of the perennial herbs, wild or cultivated, of the genus *Anemone* In general, the plants are spring blooming, with showy single flowers on plant stems and with three-divided leaves Not all are hardy. A rich legendary history has gained the anemone many names and attributes It is said to have sprung from the blood of Adonis, Romans held it valuable in preventing fever, it has been applied for bruises and freckles, for some it is tainted with evil and by the Chinese has been associated with death The name windflower is accounted for in several ways, one of which is Pliny's statement that anemone blossoms are opened by the wind Anemones contain an acrid principle—anemonin—poisonous, but formerly used medicinally Best known of the wild kinds are the white- or purplish-flowered wood anemone, sometimes known specifically as the windflower, and the greenish-white-flowered tall anemone or thimbleweed (from the thimblelike fruit) The most common cultivated kinds include the tall and autumn-flowering Japanese anemone for gardens and the large poppy anemones of florists Similar to the wood anemone is the wild rue anemone of another genus The PASQUEFLOWER is sometimes considered an *Anemone*.

Aner (ā'nur) **1** Ally of Abraham Gen 14 13,24 **2** Levitical town, E of the Jordan. 1 Chron 6 70

aneroid barometer see BAROMETER

anesthesia (ănĭsthē'zhu) [Gr ,=insensibility], loss of sensation, especially of tactile sensibility, induced by drugs General anesthesia, usually employed in surgical operations of long duration, causes loss of consciousness and is produced by inhalation anesthetics (e g , ether, chloroform, nitrous oxide, and cyclopropane) Avertin, given rectally, is sometimes used to initiate general anesthesia and is later supplemented by an inhalant anesthetic Local anesthetics (e g novocaine and ethyl chloride) are used in dentistry and in minor surgery and cause anesthesia of a localized area at the point of application Anesthesia of short duration may be induced by intravenous injection of sodium pentothal Spinal anesthesia is produced by injecting the anesthetic beneath the membrane of the spinal cord This method is often used in surgery of the abdomen and legs Caudal anesthesia, used in obstetrics, is produced by injecting the anesthetic into the caudal or sacral canal SCOPOLAMINE has been used to lessen the pain accompanying childbirth Early experimenters with nitrous oxide (laughing gas) were Sir Humphry DAVY of England and Horace WELLS of the United States Ether was used as a general anesthetic in the United States by Crawford W LONG in 1842, but more general use of ether came after a demonstration at the Massachusetts General Hospital in Boston by William T G MORTON in 1846 Sir James Y SIMPSON in 1847 was the first to employ a general anesthetic in obstetrics See Victor Robinson, *Victory over Pain* (1946)

Aneto, Pico de (pē'kō dā ănā'tō), Fr *Pic de Néthou* or *Pic d'Anethou*, peak, 11,168 ft high, NE Spain, in the Maladetta group near the French border, highest of the Pyrenees

Anetothite (ăn'ĭtōthīt) see ANATHOTH

Aneurin (ănū'rĭn, ă'-), Welsh bard, perhaps a son of the historian Gildas He is said to be the author of *Gododin*, a 900-line poem on a defeat of the Britons by the Saxons The poem is one of the oldest pieces in Welsh literature Neither the date nor the place of this defeat is known certainly See W F Skene, *Four Ancient Books of Wales* (1868)

Angara (ang"gurā', Rus ŭn-gŭrā'), river, RSFSR, in Siberia, the outlet of Lake Baikal and a right tributary of the Yenisei The Upper Angara (Rus *Verkhnyaya Angara*), 250 mi long, rises NE of Lake Baikal, into which it empties, and is partly navigable The Angara proper, 1,075 mi long, leaves Lake Baikal near its southeastern end, flows N past Irkutsk, turns west after receiving the Ilim river, and joins the Yenisei above Yeniseisk In its course below the junction with the Ilim it is also known as the Upper Tunguska (Rus *Verkhnyaya Tunguska*) It is navigable above and below the 50-mile rapids below its junction with the Oka at Bratsk A large-scale hydroelectric power project is under way

angel [Gr ,=messenger], bodiless, immortal spirit, limited in knowledge and power accepted in the traditional belief of Judaism, Christianity, and Islam Angels appear frequently in the Bible, often in critical roles, e g , comforting Hagar (Gen 16 7–14), visiting Abraham and Lot (Gen 18, 19), wrestling with Jacob (Gen 32 24-32), and guiding Tobit (TOBIT 5) In the gospels an angel announced the Incarnation to the Virgin Mary (Luke 1), and an angel at the empty tomb revealed the Resurrection (Mat 28 3) The Bible also speaks of guardian angels, protecting individuals or nations Dan 10 13,20, Mat 18 10 The "angels of the churches" are perhaps their bishops Rev 2–3 The hierarchy of angels in three choirs appears early in the Christian era, the classes are, from the highest seraphim, cherubim, thrones, dominions, virtues, powers, principalities, archangels, angels Eph 1 21, Col 1 16 Roman Catholics and Orthodox venerate angels, and the cult of guardian angels is especially extensive in Western Christendom (Feast of Guardian Angels Oct 2) Protestants generally abandoned the cult of angels along with the saints The angels of hell, or dark angels, or devils, are the evil counterpart of the heavenly host, the chief of them, Satan (or Lucifer), was cast out of heaven for leading a revolt They are often viewed as the initiators of evil temptations Job 1–2, Isa 14 4 23, Mat 25 41, Luke 10 18, Eph 6 12, Jude 9 Famous literary depictions are those of Milton's *Paradise Lost* and Dante's *Divine Comedy* See ARCHANGEL, CHERUB, SERAPH, GABRIEL, MICHAEL, RAPHAEL, SATAN

Angela dei Merici, Saint (ănˈjĕlä dāˈē märēˈchē), 1470–1540, Italian nun of the third order of St Francis She was the founder of the Ursulines, a teaching order Feast May 31

Angel Falls, waterfall, SE Venezuela, in the Guiana Highlands It is said to be between 3,300 and 5,000 ft high

angelica (ănjĕl'ĭku), any species of the genus *Angelica*, plants of the Northern Hemisphere and New Zealand, valued for their various aromatic parts and formerly for their potency as a medicament and protection against evil spirits and the plague, which probably accounts for the name Angelica is a poetic symbol for inspiration The roots and fruits yield angelica oil, used in perfume and for flavoring liqueurs (such as angelica), the leafstalks are candied and used in decorating pastry, and the plants were once blanched and eaten like celery The species most often used for these purposes is *Angelica archangelica* (European)—and sometimes the purple-stemmed angelica (*Angelica atropurpurea*, American) These and other species of the

genus are often planted in herb gardens or in borders for the bold effect of their large compound leaves The flowers are white or greenish and are inconspicuous

Angelico, Fra (frä ănjĕl'ĭkō), 1387–1455, Florentine painter, b Vicchio, Tuscany He was diversely called Guido (his baptismal name), or Guidolino, di Pietro, Giovanni da Fiesole, and, after his beatification, Il Beato Fra Giovanni Angelico da Fiesole Nothing is known of his family or early training, but he was already an accomplished artist, probably a miniaturist, when he entered the Dominican convent at Fiesole in 1407 In 1408 he took the vows of the order and the name Giovanni In his novitiate the brotherhood was exiled to Cortona, and his earliest extant works are there—*Madonna and Saints*, with a predella illustrating the life of St Dominic (in San Domenico), and *Annunciation*, with scenes from the life of the Virgin and of St Dominic on the predella (Oratorio del Gesù) In 1418 the brotherhood returned to Fiesole, where Fra Angelico executed some of his most famous frescoes and altarpieces and several small reliquaries for the local churches and convents In 1436 under the protection of Cosimo de' Medici, the Dominicans of Fiesole removed to the convent of St Mark's in Florence, which was decorated by the frescoes of Fra Angelico At this time he probably studied the great frescoes in the Brancacci Chapel and came under the influence of the works of Orcagna The most celebrated of his many paintings in St Mark's are *Christ as a Pilgrim Welcomed by Two Dominicans*, *Crucifixion with St Dominic* (in the cloisters), and the great *Crucifixion* (in the chapter house), with Mary and saints on one side and on the other the founders of the monastic orders adoring the Cross In a frieze below are portraits of 17 Dominicans Though badly restored, this remains one of the most beautiful works in Italian painting On the upper floor (containing over 40 frescoes) are *Christ on the Cross*, *Annunciation*, *Entombment of Christ*, *Agony in the Garden*, *Transfiguration*, and three reliquaries painted for Santa Maria Novella—*Adoration of the Magi*, *Madonna of the Star*, and *Coronation of the Virgin* In 1445 he was summoned to Rome by Pope Eugene IV to decorate the Cappella del Sacramento (demolished) in the Vatican, and in 1447 he visited Orvieto, where, assisted by Benozzo Gozzoli, his pupil, he painted *Christ as Judge* and *Prophets*, in the Cappella Nuova of the cathedral Returning to Rome, he began the following year what is probably his greatest achievement, the series of frescoes in the Chapel of Nicholas V in the Vatican, representing scenes from the lives of St Stephen and St Lawrence, the most vigorous and technically perfect of his works He treated none but religious subjects, and a remarkable idealistic unity pervades all his works He was one of the greatest colorists of all time and his faces and figures are among the most expressive and spiritual in Christian art Perhaps because of the reverence in which he was held in his own time and in later times, his works have been unusually well preserved and there are between 200 and 300 in existence, most of them still in Florence Other important works include *Assumption* and *Dormition of the Virgin*, a small panel (Gardner Mus, Boston), *Crucifixion* and *The Nativity* (Metropolitan Mus), *Gabriel, the Announcing Angel* and *The Virgin Receiving the Divine Message*, originally the panels of a diptych (Edsel B Ford Coll, Detroit), the predella, *Christ in Glory*, with over 266 figures of saints and angels, originally part of the now badly damaged altarpiece in San Domenico, Fiesole (National Gall, London), *The Ascension* (Corsini Palace, Rome) See biographies by G C Williamson (1901), R Langton Douglas (2d ed, 1902), and I B Supino (Eng tr, 1927)

Angel Island, W Calif, N of San Francisco, largest island in San Francisco Bay It was discovered in 1775 From 1863 to 1946 it was a U S army base

Angell, James Burrill, 1829–1916, American educator, editor, and diplomat, b Scituate, R I, grad Brown, 1849, and studied abroad He became professor of modern languages at Brown Resigning in 1860, he served as editor of the Providence *Journal* Later, as president of the Univ of Vermont (1866–71) and of the Univ of Michigan (1871–1909), Angell became known as an administrator In this period he served also as minister to China (1880–81) and to Turkey (1897–98) See his *Reminiscences and Selected Addresses* (1912)

Angell, James Rowland, 1869–1949, American educator and psychologist, b Burlington, Vt, grad Univ of Michigan (B A, 1890, M A, 1891), M A Harvard, 1892, son of James B Angell After study abroad, he taught at the Univ of Minnesota, then at the Univ of Chicago (1894–1920), where he became professor and head of the psychology department (1905), dean of the university faculties (1911), and acting president (1918–19) He served as president of Yale from 1921 until his retirement in 1937, in his administration the physical facilities of Yale were greatly expanded In 1937 he became educational counselor of the National Broadcasting Company His writings include several standard psychology textbooks, *Chapters from Modern Psychology* (1911), *American Education* (1937), and articles on psychology and education

Angell, Sir Norman, 1874–, British internationalist and economist, whose name originally was Ralph Norman Angell Lane At 17 he left his school in Geneva to go to the W United States, where he became a ranch hand and later a reporter on a San Francisco paper He jumped into fame with *The Great Illusion* (1910), the thesis of which is the futility of war because of the common economic interests of the nations involved After Japanese aggression in Manchuria and Italian moves in Ethiopia, Angell wrote against the British Conservative policy of condoning such aggression in *The Defence of the Empire* (1937) and *Peace with the Dictators?* (1938) Later works are *America's Dilemma Alone or Allied?* (1940), *Let the People Know* (1943), and *The Steep Places* (1947), urging greater unity among Western democracies Norman Angell was knighted in 1931, as one of the most valiant fighters for peace he received the 1933 Nobel Peace Prize

Angels Camp, city (pop 1,163), central Calif, E of Stockton, founded 1848 after the discovery of gold in the Mother Lode, inc 1912 Mark Twain's story of the jumping frog is said to have its locale here

Angelus (ăn'jŭlus), family name of three Byzantine emperors (1185–1204) see ISAAC II, ALEXIUS III, ALEXIUS IV

Angelus (ăn'jŭlus) [Latin,=angel], daily prayer of the Roman Catholic Church, said usually three times daily, as announced by a bell, traditionally at six in the morning, at noon, and at six in the evening It is said in honor of the Incarnation, the second and third passages coming from Luke 1 38 and John 1 14 respectively It also includes a collect and repetition of the Ave Maria The distinctive order of the ringing of the Angelus bell is three times, three times, nine times

Angelus Silesius (ăn'jŭlus sĭlē'zhŭs), pseud of **Johannes Scheffler** (yōhăn'ŭs shĕf'lur), 1624–77, German poet, b Breslau A physician, he became a priest after his conversion to Catholicism. His religious pastoral poems, the best of their period, are deeply mystical

Angerman, Swed *Ångermanälven* (ông'ûrmänĕl"vun), river, 280 mi long, rising in N central Sweden and flowing into the Gulf of Bothnia at Harnosand It is one of the main arteries for the floating of logs from the forests to the coast for processing

Angermanland, Swed *Ångermanland* (ông'ûrmänland"), historic province, NE Sweden It is now administratively divided between VASTERNORRLAND and VASTERBOTTEN counties

Angerona (ănjurō'nu), Roman goddess of silence, of fear, or of grief

Angers (ăzhā'), city (pop 86,083), capital of Maine-et-Loire dept, W France, on the Maine It is an industrial center and an important market for Anjou wines The historic capital of ANJOU, Angers dates from pre-Roman times Excavations made in 1937 revealed important Roman and early medieval remains There is a fine cathedral (12th–13th cent) and a museum containing remarkable 14th-century tapestries and a large collection of the sculpture of DAVID D'ANGERS The 13th-century castle and the 15th-century house of Olivier Barrault were among the buildings damaged by the Germans in 1940

Angevin (ăn'jŭvĭn) [Fr,=of Anjou], name of two medieval dynasties originating in France The first ruled over parts of France and over Jerusalem, and England, the second ruled over parts of France and over Naples, Hungary, and Bohemia, with a claim to Jerusalem The older house issued from one Fulk, who became count of ANJOU in the 10th cent Among his descendants was FULK (1092–1143), king of Jerusalem (Fulk V of Anjou) A younger son inherited the kingship of Jerusalem as BALDWIN III and was succeeded by AMALRIC I, BALDWIN IV, and BALDWIN V, with whom the branch ended (1186) Fulk V's elder son, GEOFFREY (Geoffrey Plantagenet), inherited Anjou, conquered NORMANDY, and married MATILDA, daughter of Henry I of England Their son became (1154) the first Angevin (or Plantagenet) king of England as HENRY II His successors were RICHARD I, JOHN, HENRY III, EDWARD I, EDWARD II, EDWARD III, and RICHARD II, after whom the English branch split into the houses of LANCASTER and of YORK A nephew of Kings Richard I and John became (1196) duke of Brittany as ARTHUR I From his sister and her Capetian husband, PETER I, the subsequent rulers of BRITTANY issued The second house of Anjou was a cadet branch of the Capetians and originated with Charles, a younger brother of King Louis IX of France Charles was made count of Anjou, acquired PROVENCE by marriage, and in 1266 was invested with Naples as CHARLES I (see NAPLES, KINGDOM OF) His successors were CHARLES II, Robert, and JOANNA I of Naples and Provence On the death (1382) of Joanna I the succession to Naples was contested by two cadet branches, both descended from Charles II of Naples The first was represented by Charles of Durazzo (CHARLES III of Naples), a great-grandson through the male line, and by his children, LANCELOT and JOANNA II They retained, for the most part, actual possession of the kingdom, despite the efforts of the rival line, issued from Margaret, a daughter of Charles II Margaret married CHARLES OF VALOIS, whose son and grandson were King Philip VI and John II of France John made a younger son, Louis, duke of Anjou, Joanna I of Naples adopted Louis as heir, Louis thus became Louis I of Naples and Provence His successors were LOUIS II, LOUIS III, and RENÉ Though the last two were successively designated as heirs by Joanna II, Naples was seized by Alfonso V of Aragon and eventually remained in Spanish hands René became duke of Lorraine by marriage His death (1481) left only a brother, Charles of Maine (d 1486, without issue), and Anjou, Maine, Provence, and the Angevin claim to Naples all passed to the French crown The theoretical claim to Jerusalem stemmed from Charles I of Naples, whom Pope John XXI invested (c 1276) with the title René's claim to the title was transmitted to the house of Lorraine The Hungarian branch of Anjou began (1308) with Charles Robert (CHARLES I of Hungary), a grandson of Charles II of Naples and of Emperor Rudolf I Charles I's son became king of Hungary and Bohemia as LOUIS I Hungary passed to his daughter Mary and to her husband, Emperor Sigismund, and Bohemia to Ladislaus II of Poland, husband of Louis's daughter Jadwiga

Anghiera, Pietro Martire d' (pyĕ'trō märtē'rā dänggyā'ra), 1457?–1526, Italian geographer and historian In 1487 he removed to Spain Knowing Columbus, Vespucci, Magellan, and other explorers and navigators, he was in regular receipt of information about the explorations in his time His chief work is *De orbe decades octo* (1530)

Angier (ăn'jur), town (pop 1,028), central N C, S of Raleigh, in a farm area

Angilbert, Saint (ăng'gĭlbûrt), d 814, Frankish statesman and courtier under Charlemagne, abbot of St Centula (now Riquier), near Amiens He was highly regarded in the Carolingian revival as a writer of Latin poetry Feast Feb 18

angina pectoris (ănjī'nu pĕk'tûrĭs) [Latin,=tightening of the heart], is characterized by chest pain, experienced usually under or to the left of the sternum (breast bone) The pain extends down the left arm or right arm or both It is caused by occlusion of the coronary arteries, which results in a lack of oxygen to the heart muscle Occurring usually after the age of 50, more frequently in men than in women, angina pectoris usually follows exertion, excitement, a heavy meal, or exposure to cold Associated symptoms are faintness and difficulty in breathing Drugs, such as amyl nitrite or nitroglycerine, which dilate the blood vessels of the heart, are used in treatment In all cases, physical and mental activities must be restricted The basic treatment, however, depends upon the cause

Angkor (ăng'kôr), great collection of ruins N of Tonle Sap, W Cambodia, Indo-China, for five and a half centuries the heart of the KHMER EMPIRE The most celebrated of the monuments are the buildings at Angkor Thom (which became the Khmer capital in the 9th cent) and the temple of Angkor Wat Angkor was raided in the 12th cent by the Chams and in the 14th and early 15th cent by the Thai It was abandoned before 1450 for Phnom Penh The ruins were discovered by the French in 1861

Angkor Thom (tôm'), ruined capital of the KHMER EMPIRE, N of Tonle Sap, W Cambodia, Indo-China The city, which covered an area of more than 5 sq mi, was walled and surrounded by a moat Five avenues cross the moat on causeways and enter the city through gates surmounted by four-faced heads These heads, formerly believed to represent Siva, are now generally considered to be those of the bodhisattva Lokesvara Rows of huge seated stone figures, carrying on their laps the sacred many-headed cobras, line the avenues The buildings that survive are chiefly temples, some terraces belonged to the royal palace and other associated buildings Near the center is the Bayon, a temple of Siva or of Lokesvara (possibly also a royal tomb), with a central tower rising to over 150 ft and about 50 smaller towers The outer wall of almost every building is covered with carvings, of these the most elaborate are the bas-reliefs of the Bayon, depicting scenes of Khmer life and episodes from the Hindu epics See H G Q Wales, *Towards Angkor* (1937), Larry Briggs, *A Pilgrimage to Angkor* (1943)

Angkor Wat (wät'), great temple of the ancient Khmer Empire, Cambodia, Indo-China, a mile S of Angkor Thom. The temple with its five lofty acorn-shaped towers rising in a central pyramid more than 200 ft high is comparable, as an architectural entity, to the Taj Mahal. Across the moat which surrounds the temple a broad causeway, 600 ft long, leads to the main gate Within the gate a series of wide courtyards and long galleries leads to the shrine of Vishnu, which is reached by a flight of 38 nearly upright stone steps, each 2 ft. thick The Angkor Wat is rich with carvings

angle, in plane geometry, the figure formed by two straight lines meeting at a point. The lines are called the sides of the angle, the point at which they meet is the vertex. In solid geometry, an angle is formed by the intersection of two or more planes.

When two planes intersect, they intersect in a line and the angle thus formed is called dihedral When the angle is formed by three planes, they must all go through the same point, and the angle is called trihedral In trigonometry the plane angle is considered to be the amount of rotation about its vertex required to carry one of its sides (called the initial side) into the position of the other side (the terminal side). With this definition it is possible to consider positive and negative angles as well as angles larger than one complete rotation The magnitude of a plane angle is given in degrees, each degree representing 1/360 of a complete rotation For example, a right angle, an angle whose sides are perpendicular to each other, is 90°, since it is 90/360 or ¼ of one complete rotation A minute is 1/60 of a degree, a second is 1/60 of a minute Angles of less than 90° are acute, angles of more than 90° but less than 180° are obtuse, angles of more than 180° are reflex Two angles are complementary if their sum is 90° and supplementary if their sum is 180° Certain figures are named for the number of angles formed by their sides, e g , the TRIANGLE and the quadrangle

Angles: see ANGLO-SAXONS; EAST ANGLIA; MERCIA; NORTHUMBRIA

Anglesey or **Anglesea** (both ăng'gŭlsē), island county (276 sq mi ; 1931 pop 49,029, 1948 estimated pop 49,130), NW Wales Known as Mona to the Romans, who conquered it under Agricola in A D 78, the island shows many traces (such as dolmens) of prehistoric occupation It was the last stronghold of the druids against the Romans Conquered by Edward I in the 13th cent and made into a shire, Anglesey was important from medieval times as a route to Ireland HOLYHEAD is today the eastern terminus of the packet service to Dublin. The island's surface is flat and low, and the principal industries are agriculture, sheep raising, fishing, and shipping There are two bridges over the narrow MENAI STRAIT to the mainland

anglesite (ăng'glusīt), pale green, blue, yellow to white, or colorless mineral, a sulphate of lead formed by the oxidation of GALENA, crystallizing in the orthorhombic system and occurring also in granular or massive form It is widely distributed and commonly associated with galena and other lead minerals It is an important lead ore

Angleton, city (pop 1,763), co seat of Brazoria co , S Texas, SSW of Houston, settled 1896, inc 1912 It grew as a rail center in a region that once boasted large plantations but is now given over mainly to vegetables, cattle, and oil

Anglican Communion, the body of churches in all parts of the world that are in communion with the Church of England (see ENGLAND, CHURCH OF) They include the Protestant Episcopal Church of America (see EPISCOPAL CHURCH, PROTESTANT), the Scottish Episcopal Church, and the Church of Ireland Worship is liturgical and is regulated by the BOOK OF COMMON PRAYER See *The Anglican Communion a Survey* (ed by J W C Wand, 1948)

Anglin, Margaret Mary, 1876–, American actress, b Ottawa, Canada She made her debut in New York (1894) as Madeline West in Howard Bronson's *Shenandoah*, a Charles Frohman production In 1898 she won fame as Roxane in Rostand's *Cyrano de Bergerac* and from 1900 to 1903 played leads at the Empire Theatre With Henry Miller in 1903–4, she played in *Camille* by Dumas fils and *The Devil's Disciple* by G B Shaw, and later, when she and Miller formed a producing company, she discovered and won acclaim in William Vaughn Moody's play *The Great Divide* (1906) She performed in *Antigone*, *Electra*, and *Medea*, receiving the Laetare Medal at the Univ of Notre Dame in 1927 She appeared in New York in Ivor Novello's *Fresh Fields* in 1936 and as Mrs Malaprop in Sheridan's *Rivals* in 1942

Anglo-Catholic movement · see OXFORD MOVEMENT

Anglo-Egyptian Sudan (sōōdăn'), condominium, (967,500 sq mi ; pop. 7,547,500), NE Africa, on the Red Sea The capital is Khartoum Anglo-Egyptian Sudan is bordered on the north by Egypt, on the east by the Red Sea, Eritrea, and Ethiopia, on the south by Kenya, Uganda, and the Belgian Congo, and on the west by French Equatorial Africa and Libya It comprises most of the SUDAN The outstanding geographical feature of the country is the Nile, which, with its tributaries, the Blue Nile and the White Nile, traverses the east The northern half of Anglo-Egyptian Sudan (Nubia), except for a narrow cultivated strip which is annually flooded by the Nile and for the irrigated plain of GAZIRA (both producing cotton), belongs to the Sahara and is an undulating plateau (mostly 2,000–5,000 ft high) which rises to 7,000 ft in the mountains on the Red Sea coast The desert supports a sparse population of pastoral nomads (predominantly white) and yields hides, wool, and salt. The south, populated by Negroes, has a rugged terrain, and there is a steady increase in rainfall as the equator is approached. In the southwest there are tropical forests, and in the southeast swamp forests and alluvial grasslands Peanuts, sesame, millet, and hardwoods are produced in the south. The country's railroads (c 2,000 mi long) are supplemented by a road system in central and S Anglo-Egyptian Sudan and by steamer service on the rivers. Ancient Egypt colonized NUBIA as far as the Fourth Cataract of the Nile, but it may have withdrawn by 1500 B C Nubia embraced Coptic Christianity in the 6th cent , but in the 15th cent conquering Arabs converted the people to Islam and proceeded south to take territories controlled by Ethiopia The country was not unified until, in the early 19th cent , the Egyptians occupied Nubia to take gold and slaves, they founded (1823) Khartoum as their headquarters Sir Samuel Baker, while in Egyptian service (1870–73), completed the conquest of the south and began to suppress the slave trade He was followed (1874–81) by Charles Gordon, who established military posts on the upper Nile, dealing the slave traders a mortal blow. In 1881 began the revolt of the MAHDISTS, who scored great victories at El Obeid (1883) and at Khartoum (1885), but by 1898 an Anglo-Egyptian army under Lord Kitchener finally destroyed their power A convention (1899) between Great Britain and Egypt provided for the territory to be administered by a governor general appointed by Egypt with the assent of Great Britain; this status was affirmed in the Anglo-Egyptian treaty of 1936 In June, 1948, the governor general established a predominantly elective legislative assembly and an executive council (at least half Sudanese) In the first elections (Nov , 1948) the Independence Front, which wishes the immediate establishment of a separate state, secured a large majority over the National Front, which favors union with Egypt See H A MacMichael, *Anglo-Egyptian Sudan* (1934)

Anglo-Saxon Chronicle, customary name for the annals of the English until 1154 It is made up of several units and is uneven in style Its extant form was probably begun c 892 by monks at Winchester under the supervision or possibly at the dictation of Alfred the Great, entries from earlier years were incorporated from Bede and old monkish records The narrative from 893 to 897 is an example of good Anglo-Saxon prose, that from 897 to 910 is crude, but the hand of a good writer is seen again up to 924 The last unit, the *Peterborough Chronicle*, carries the narrative to 1154

Anglo-Saxon literature, the literary writings in Old English (see ENGLISH LANGUAGE) Much of the early literature of England was in Latin (see MEDIEVAL LATIN LITERATURE) The earliest Anglo-Saxon poems, although recorded after the conversion of the English to Christianity, reveal a strong current of old Germanic paganism The great example of this half-pagan poetry is the epic BEOWULF A dignified, often sad tone pervades *Beowulf* and the many shorter poems of the period, which include WIDSITH, of great archaeological interest, and *Deor*, the earliest English lyric Religious poetry in Anglo-Saxon begins with the hymn of CÆDMON, recorded by BEDE, poets of Cædmon's school and others paraphrased parts of the Bible and achieved some stirring poetry, especially in the epic fragment JUDITH The work of CYNEWULF and his followers reflects the growing interest in saints' legends and homilies For vividness and religious intensity, "The Dream of the Rood" is notable, as are "The Battle of Maldon" and "The Battle of Brunanburh" (see MALDON and BRUNANBURH) for the typically heroic spirit of the Anglo-Saxons in war The usual form of early Anglo-Saxon poetry is an alliterative, four-stress line, broken by a caesura into two half lines and end-stopped Rhyme was only an occasional ornament until the later period, which was marked by increasing use of run-on lines and rhyme Stylistic features include the use of kennings—e g , "whale's road" for "sea"—and repetition with variations within the sentence Literary prose in England began to be written in Anglo-Saxon instead of Latin only when KING ALFRED made his extensive and excellent translations from Latin to educate his people The ANGLO-SAXON CHRONICLE was probably undertaken at his order The finest original prose is generally said to be found in the homilies of ÆLFRIC and of Wulfstan, bishop of Worcester and archbishop of York. See E E Wardale, *Chapters on Old English Literature* (1935), C W Kennedy, *The Earliest English Poetry* (1943), Kemp Malone, "The Old English Period," in A C Baugh, ed , *A Literary History of England* (1948), G P Krapp and E V K Dobbie, eds , *The Anglo-Saxon Poetic Records* (6 vols , 1932–)

Anglo-Saxons, name given to the Germanic-speaking peoples who settled in England after the decline of Roman rule there. The Angles (Latin *Angli*) mentioned by Tacitus are probably the same people, who seem to have come from what is now Schleswig in the later decades of the 5th cent. Their settlements in the eastern central and northern portions of the country were the foundations for the later kingdoms known as EAST ANGLIA, MERCIA, and NORTHUMBRIA The SAXONS, a Germanic tribe who had been continental neighbors of the Angles, also settled in England in the late 5th cent after earlier marauding forays there The later kingdoms of SUSSEX, WESSEX, and ESSEX were the outgrowths of their settlements. The Jutes, a tribe about whom very little is known except that they probably came from the area around the mouths of the Rhine, settled in Kent (see KENT, KINGDOM OF) and the Isle of Wight The use of the term "Anglo-Saxons" to denote the non-Celtic settlers of England dates from the 16th cent In more modern times it is loosely used to denote any of the people of or descendants of the peoples of the British Isles, including the Danes and the Normans For chronology and bibliography, see ENGLAND

Angmagssalik (ăngmäg'sälĭk), trading post, on E Greenland, on the coast just south of the Arctic Circle The radio meteorological station, established in 1925, has great strategic importance

Angola (ăng-gō'lu) or **Portuguese West Africa,** colony (with CABINDA 481,351 sq mi , pop 3,378,010), W Africa, on the Atlantic Ocean The capital is Luanda, although it was announced (1927) that Huambo would become the capital Angola extends c 1,000 mi along the coast between the Congo on the north and the Cunene river on the south It is otherwise bordered by the Belgian Congo on the north and east, by Northern Rhodesia on the east, and by South-West Africa on the south. Most of Angola is a desiccated plateau Rainfall is generally low, and nearly all the land is desert or savanna. In the northeast, however, there are densely forested valleys which yield hardwoods and diamonds, and along the coast there is a narrow strip where rainfall is heavy and palm trees are cultivated. Much of the savanna region is suitable for raising livestock, especially goats and sheep The crops of Angola include wheat, corn, palm oil, coffee, and cotton Industry (mostly food processing) is minor, but profit is derived from transporting the metals of the Katanga region in the Belgian Congo by the railroad which extends from Beira in Mozambique W across Africa to the port of Lobito in Angola The country has, besides, a shorter rail line and a fair road net The Portuguese first explored and settled Angola in the late 15th cent , and, except for a short occupation (1641–48) by the Dutch, it was always under Portugal's control. Until recently, however, strong Bantu states maintained their practically independent existence in Angola with no Portuguese interference Angola supplied most of the slaves exported to Brazil in the 19th cent With the end of slavery, food products, including sugar, coffee, and palm oil, became important exports See J C B Statham, *Through Angola* (1922)

Angola (ăng"gō'lu) **1** Resort city (pop 3,141), co seat of Steuben co , NE Ind , NE of Fort Wayne, in hill and lake country near Pokagon State Park. Automotive and aircraft products are made in the city Tri-State College (coeducational) is here **2** Village (pop 1,663), W N Y , near Lake ERIE SW of Buffalo, inc 1873

Angora, Turkey see ANKARA.

Angostura, Venezuela see CIUDAD BOLÍVAR.

angostura bark (ăng"gŏstū'rŭ, -stōr'u), bitter bark of a South American tree of the genus *Cusparia* (or *Galipea*) Formerly valued as a tonic, it is now used in **angostura bitters,** an aromatic appetizer often added to cocktails

Angoulême, Charles de Valois, comte d'Auvergne, duc d' (shärl' du välwä' kōt' dôvĕr'nyu dük' dăgōōlĕm'), 1573–1650, natural son of Charles IX of France He turned against Henry IV, conspired with Henriette d'ENTRAGUES, his half sister, and was imprisoned until 1616 After his release he held high military rank

Angoulême, Louis Antoine de Bourbon, duc d' (lwē' ätwan' du bōōrbō' duk'), 1775–1844, last dauphin of France, son of Charles X His career was undistinguished, his most notable achievement being the command of the French forces sent (1823) to aid King Ferdinand VII of Spain When his father abdicated in 1830, the dauphin also renounced his claim in favor of Henri, comte de CHAMBORD, and spent the rest of his life in exile in Austria

Angoulême, Margaret of or **Marguerite d'** · see MARGARET OF NAVARRE

Angoulême, Marie Thérèse Charlotte, duchesse d' (märē' tārĕz' shärlôt' dushĕs'), 1778–1851, wife of Louis Antoine d'Angoulême, daughter of Louis XVI She was imprisoned (1792–95) by the revolutionists Energetic and ambitious, she exerted considerable political influence in the reigns of Louis XVIII and Charles X She died in exile at Frohsdorf, Austria

Angoulême (ăgōōlĕm'), city (pop 39,087), capital of Charente dept , W France, on the Charente It has important paper manufactures and liquor distilleries Of pre-Roman origin, it was an early episcopal see and became (9th cent) the seat of counts ruling the surrounding region as vassals of the dukes of AQUITAINE Recovered from England in 1373, it later was an appanage of a branch of the house of Valois (see ANGOUMOIS)

Angoumois (ăgōōmwä'), region and former province, W France, surrounding Angoulême, its chief city, and occupying most of Charente dept. In the Charente valley there are excellent vineyards The brandy made from their grapes is called cognac, after Cognac, the chief distillery center The region was ruled by the counts of ANGOULÊME, the last of whom became king of France in 1515 as Francis I and definitively incorporated Angoumois into the royal domain

Angra do Heroísmo (äng'grŭ dōō ĕrōĕsh'mō), town (9,435), capital of Angra do Heroísmo dist, on Terceira, in the Azores It is a small port and in the past was the home of many prominent Portuguese in exile

Angstrom, Anders Jons, Swed *Anders Jöns Ångström* (än'dûrs yŭns' ông'strûm), 1814–74, Swedish physicist He was educated at the Univ of Uppsala and in 1839 became a member of its faculty He is particularly remembered for his study of light, especially spectrum analysis He wrote on optical research (1853), the solar spectrum (1869), the spectra of simple gases (1871), and the earth's temperature (1871) His son **Knut Johan Angstrom** (knŭt' vōō'hän), 1857–1910, is known for his work on solar radiation

angstrom unit (äng'strum) [for A J Angstrom], unit of length, 1/100,000,000 of a centimeter, used to measure wave lengths of light

Anguier, François (frăswä' ägyā'), 1604–69, French sculptor He is noted for the mausoleum of Henri II, duc de Montmorency, in Moulins and for the monuments of the Longuevilles and of Jacques Souvre (Louvre) He and his brother, **Michel Anguier** (mēshĕl'), 1614–86, are considered among the best sculptors of their century Michel executed the marble group *The Nativity* in the Church of Val-de-Grâce, Paris, and the decorations for the apartments of Anne of Austria (Louvre) and for the triumphal arch at Porte Saint-Denis, Paris A third brother, **Guillaume Anguier** (gēvōm'), 1628–1708, a painter, was director of the Gobelin factory

Anguilla, British West Indies, see SAINT KITTS

Anguille, Cape (äng-gil'), most westerly point of Newfoundland

Anguille Range, W N F, running NE from Cape Anguille into the highlands of St George Bay

Angus, earls of. see DOUGLAS, ARCHIBALD

Angus, maritime county (874 sq mi, 1931 pop 270,190, 1948 estimated pop 280,651), E Scotland, N of the Firth of Tay between Perthshire and the North Sea The county town is Forfar, and the county was formerly Forfarshire The surface varies from wild rugged mountains (the Sidlaw Hills and part of the Grampians) to the fertile valleys of the Esk and Isla The county is mainly agricultural, with important jute and linen industries at Dundee, Arboath, Forfar, and Brechin There is some granite quarrying, shipbuilding, and fishing Angus has numerous historical remains, the most famous of which is Glamis Castle

Anhalt (än'hält), former German state (898 sq mi, 1939 pop 432,289), central Germany, surrounded by the former Prussian provinces of Saxony and Brandenburg It was included after 1945 in the Russian-occupied state of Saxony-Anhalt Dessau, the capital, and Kothen are the chief cities Anhalt has some mineral resources (salt, lignite, copper, and zinc) Sugar beets are the main crop, grain and cattle are produced in the region of the Lower Harz There are chemical industries and some textile manufactures Anhalt until 1918 was ruled by one of the most ancient houses of Germany, issued from a son of Albert the Bear It was divided, at most times, into several principalities held by various branches of the family Reunited into a single duchy in 1863, it joined the German Empire in 1871, became a republic in 1918 and joined the Weimar Republic Celebrated members of the house of Anhalt were Leopold I, prince of Anhalt-Dessau, and Sophie of Anhalt-Zerbst, empress of Russia as Catherine II

Anhwei or **An-hui** (both än'hwā'), province (56,488 sq mi, pop 22 122,093), E central China Hofei is the capital Anhwei may be divided into two climatic areas The northern half, within the Yellow River valley, is very cold in winter and dry throughout the year It has a single harvest annually, the chief crops being wheat, kaoliang, millet, and beans The southern half, through which the Yangtze river flows, enjoys a relatively moist, warm climate Often two crops a year are grown there, mainly rice, cotton, and sugar cane, and mulberry trees are raised for silk culture Coal and iron are abundant throughout the province, and some smelting is done, principally at Wuhu Communications in Anhwei are fairly good The Hwai river (in the north) and the Yangtze are navigable A railroad connecting Nanking and Shanghai crosses the province, and there are many motor roads

anhydride (ănhī'drīd, –drĭd) [New Gr, =without water], any nonmetallic oxide which unites with water to form an ACID For example, sulphur trioxide is the anhydride of sulphuric acid, since it reacts with water to form sulphuric acid Although the term is usually reserved for the anhydrides of acids, it is used also to denote a metallic oxide which unites with water to form a base Acid anhydrides are also called acidic oxides, and basic anhydrides are called basic oxides

Ani (ä'nē), ancient ruined city of Asia Minor, now in Turkey, c 30 mi SE of Kars The capital of medieval Armenia, it was often besieged by various invaders and was finally destroyed by an earthquake in the 14th cent There are notable ruins of a cathedral and several churches (11th–13th cent) and remnants of double walls

Aniakchak (ănĕăk'chăk), volcano, W Alaska, in the Aleutian Range, on the Alaska Peninsula. It erupted in 1931. Aniachak has a crater 6 mi. in diameter

Aniam (ănī'ŭm) [Heb, =the people's lament], Manassite 1 Chron 7 19

Aniene (ănyā'nā), Latin *Anio*, river, 60 mi long, Latium, central Italy, emptying into the Tiber 2 mi above Rome Below Tivoli, where it forms a celebrated waterfall, it is also called the Teverone It has supplied Rome with water since ancient times and now also feeds several hydroelectric plants

aniline (ăn'ulēn) [New Latin, =belonging to anil, from Arab, =indigo, from Sanskrit, =blue], colorless, oily liquid compound of carbon, hydrogen, and nitrogen, an amine, basic in character, boiling at 184°C and solidifying at –6°C It is of great importance in the dye industry, being used as the starting substance in the manufacture of many dyes—e g, indigo—and as an aid in the manufactures of others For this reason many dyes have the word *aniline* in their common name, as aniline black (one of the best black dyes known), aniline red, yellow, blue, purple, orange, green, and others Today these synthetic dyes have largely replaced the natural ones Aniline is prepared commercially by the reduction of nitrobenzene, a product of coal tar It was obtained originally from three sources, from indigo, from coal tar, and from the reduction of nitrobenzene It was some time, however, before these products were shown to be identical by A W von Hofmann, a German chemist, who gave aniline its name

Anim (ā'–) [Heb, =fountains], place, Palestine, probably c 8 mi SW of Hebron Joshua 15 50

animal, any member of the animal kingdom as distinguished from the plant kingdom Demarcation between animals and plants is usually based on a fundamental difference in their method of obtaining food Green plants characteristically manufacture their food from inorganic substances (see PHOTOSYNTHESIS) Animals, on the other hand, must secure organized food Animals have specialized means of locomotion and possess more highly developed nervous systems and sense organs They are adapted for securing, ingesting, and digesting their food In all but the simpler forms there is a distinct alimentary canal or digestive system It is easy to distinguish between plants and animals of the higher groups, but among the simpler and the microscopic forms it is more difficult Some single-celled organisms, e g, *Euglena*, possess chlorophyll and carry on photosynthesis but are bounded by a flexible membrane and lack the cellulose wall characteristic of plant cells *Euglena* can swim freely by lashing the water with its flagellum Classification of such forms is controversial Plants without chlorophyll (bacteria, molds, mushrooms and other fungi, and the seed-producing Indian pipe) are unable to carry on photosynthesis Animals and plants are interdependent—green plants provide oxygen and are the ultimate source of all food for animals From animals the plants obtain carbon dioxide and minerals Animals, like plants, have been classified by phylum, class, order, family, genus, and species The word *animal* is sometimes incorrectly limited to the members of the class Mammalia See also INVERTEBRATE, VERTEBRATE, ZOOLOGY See R W Hegner, *Parade of the Animal Kingdom* (1935), R L Ditmars and William Bridges, *Wild Animal World* (1937), A H Clark, *Animals Alive* (1948)

animal heat, the heat produced in the body of an animal by the oxidation of food Animals whose body temperature depends largely on the environmental temperature are known as cold-blooded or poikilothermous animals Warm-blooded or homoiothermous animals (the birds and mammals) when in normal health maintain a generally constant temperature generated within the body regardless of the environment In humans the normal oral temperature is usually considered to be 98 6°F, although the normal range is from 98°F to 99°F, normal rectal temperature ranges from 99°F to 100°F and 99 6° is taken as the average Excess heat in humans is removed chiefly through the skin and the respiratory system Fever results if excess heat is not eliminated When, as in cold weather, more body heat is required to maintain the normal temperature, the rate of oxidation can, within certain limits, increase

animals, domestication of see DOMESTICATION.

anima mundi see WORLD SOUL

animated cartoon, form of the moving picture in which a series of static drawings are arranged and photographed and then synchronized with sound In 1905 Emile Cohl, in France, produced several films with animated puppets, and in 1907 he made *Mr Stop* and *Drame chez les Fantoches*, the first films to use animated drawings Other pioneers were the Americans Winsor McCay, who made *Gertie the Dinosaur* (1909), Bud Fisher, who began his "Mutt and Jeff" cartoons (c 1918), and Pat Sullivan, who produced "Felix the Cat" cartoons (1924) The outstanding maker of animated cartoons is Walt Disney, who based his technique on an invention of single-frame photography Known all over the world are his "Mickey Mouse" series, "Silly Symphonies," *Snow White*, *Fantasia*, *Dumbo*, *Bambi*, and *Pinocchio* Lotte Reiniger's work with cut-out paper figures, Georg Pal's "Puppetoons," and Berthold Barthosch's use of Frans Masereel's woodcuts in *L'Idée* (1930–34) were important developments in the perfection of this film form. See R D Feild, *The Art of Walt Disney* (1942)

animism (ă'nĭmĭzm), belief that all objects in the natural world are infused with consciousness, a view common in most so-called primitive societies Trees, mountains, stones, and the like are usually regarded as having personalities and may even be considered as having quasi-human or divine doubles (e g, dryads and river-gods) These natural objects are to be propitiated, cajoled, and outwitted and are thus dealt with like persons rather than objects A soul may be attributed to each of them—frequently in a very rudimentary sort of way This belief is connected with rites to obtain for humans some of the qualities of animals, e g, the cunning of the fox Usually the universe is considered to contain a great many "spirits" which have a more or less material existence and interfere in the activities of the material world, these may include the spirits of the dead Animism is thus connected with ancestor worship. Among certain groups there arose the concept of a spirit that is nonpersonalized (e g, in the South Seas the spiritual force called mana and the American Indian idea of manito) Belief in such has by some been called animatism—a term also sometimes used to mean the belief that beasts, objects, and phenomena have personalities but no individual souls With the development of great organized religions, animism tends to disappear or at least to be obscured in popular belief Animism remains, however, clearly the major part of Japanese Shinto and of many of the varieties of Buddhism The subject aroused the interest of 19th-century students of myth and religion E G Tylor attempted to explain its origin on a rationalistic basis, and later Sir James Frazer sought to show that animism is "primitive science" Today the prevailing view is that animism is primarily an expression of thought that is based on emotional response to the universe without differentiation between persons and things See FETISH, IDOL, SHAMAN

Anio, river, Italy see ANIENE

anise (ăn'ĭs), annual plant (*Pimpinella anisum*) native to the Mediterranean region but long cultivated elsewhere for its aromatic and medicinal qualities It has flat-topped clusters of small yellow or white flowers followed by seedlike fruits—the aniseed of commerce From the seeds and sometimes from the leaves is derived anise oil (obtained also from the star anise), an unrelated woody plant) The oil is an official drug of the U S Pharmacopoeia, it is used also as a perfume, as a flavoring, in liqueurs, and, in drag hunting, to scent a trail for the dogs in the absence of a fox The anise of the Bible (Mat 23 23) is dill **Anisette** is an anise-flavored liqueur

Anita (ănē'tŭ), town (pop 1,088), SW Iowa, W of Des Moines, platted 1869, inc 1875

Anjou (ăn'jōō, Fr ăzhōō'), region and former duchy, W France, on both sides of the Loire and E of Brittany It occupies, roughly, Maine-et-Loire dept A fertile lowland with excellent vineyards, it is well watered by the Loire, Mayenne, Sarthe, Loir, and Maine rivers Angers and Saumur are the chief towns A county since the 9th cent, Anjou was often attacked by the dukes of Brittany and by the Normans By the 10th cent it was in the hands of the first line of the counts of Anjou (see ANGEVIN dynasty), who expanded their holdings vigorously FULK NERRA acquired Saumur from the counts of BLOIS His successor, Geoffrey Martel, won TOURAINE from Blois (1044) and Maine from Normandy (1051) FULK (d 1143), after protracted wars with HENRY I of England over the possession of Maine, married his son GEOFFREY (Geoffrey Plantagenet) to Henry's daughter Matilda When Fulk departed for Jerusalem, of which he became king, Geoffrey succeeded him in Anjou (1129–51) and conquered Normandy, of which he was crowned duke in 1144 His son, later HENRY II of England, established the English Angevin dynasty and, marrying ELEANOR OF AQUITAINE, brought most of W France to England When Henry II's grandson, ARTHUR I, duke of Brittany, rebelled against his uncle, JOHN of England, he won the support of PHILIP II of France, to whom he did homage (1199) for Anjou, Maine, and Touraine After Arthur's premature death, Philip II in 1204 seized all Anjou, John's attempt at reconquest failed In 1246 Louis IX of France gave Anjou in appanage to his brother Charles, count of Provence, who later also became king of Sicily and Naples (see CHARLES I) Charles II of Naples gave Anjou as dowry to his daughter Margaret when she married Charles of Valois, son of Philip III of France When their son became (1328) King Philip VI of France, Anjou was again united to the French crown John II of France, however, made Anjou a duchy (1360) and gave it to his son Louis (later LOUIS I of Naples) On the death (1480) of Louis's grandson, RENÉ, King Louis XI annexed Anjou to the French royal domain In the 16th cent Anjou was held as appanage at various periods, the last duke being FRANCIS of Alençon and Anjou

Ankara (ăng'kûrû, ăng'kărä), city (pop 226,712), capital of Turkey, central Anatolia Known in ancient days as Ancyra and later as Angora, it was an important commercial center from Hittite times, in the 1st cent. A D it became the capital of a Roman province. It flourished under Augustus, in the ruins of a marble temple dating from his reign was found the *Monumentum Ancyranum*, an inscription valuable as a record of Augustan history Here in 1402 Tamerlane defeated and captured Sultan Bajazet I Ankara declined and was a small town of no importance when, in 1920, Kemal ATATURK chose it for the Turkish Nationalist government In 1923 the government was transferred here from Istanbul, partly to break with past tradition, partly to take advantage of the central situation of Ankara The city grew with amazing speed Except for its ancient citadel atop a high rock, it is completely modern, with impressive public buildings, wide streets, theaters, an opera, and a university (founded 1925) The region and the town have been noted for centuries for the breeding of longhaired goats and the production of Angora wool or MOHAIR

Anking, China see HWAINING

Ann, Cape, NE Mass, N of Massachusetts Bay It is noted for its old fishing villages, resorts, and artists' colonies, especially GLOUCESTER and ROCKPORT See Roger W Babson and F H Saville, *Cape Ann* (1936)

Anna (Anna Ivanovna), 1693-1740, empress and tsarina of Russia (1730-40), daughter of Ivan V and niece of Peter the Great (Peter I) On the death of her distant cousin, Peter II, she was chosen empress by the supreme privy council, which thus hoped to gain power for itself Anna signed articles limiting her power, but autocracy was soon restored Vindictive and sensual, she distrusted both the nobility and the people and surrounded herself with Baltic-German favorites, among whom BIRON was notable She allied herself closely with Austria, intervening in the War of the POLISH SUCCESSION on the side of Augustus III and joining Emperor CHARLES VI in a campaign (1736-39) against Turkey Charles's separate peace with the Turks at Belgrade forced Russia to make peace in turn, at the price of all recent conquests save Azov During Anna's reign began the great Russian push into central Asia Anna was succeeded by her grandnephew, Ivan VI

Anna [Gr, = Heb HANNAH] **1** Aged prophetess who hailed Jesus' presentation at the Temple Luke 2:36-38 **2** In Tobit, the mother of young Tobias

Anna, city (pop 4,092), S Ill, N of Cairo, inc 1865 It is a shipping and processing center in an orchard and farm area, has marble and granite works, and manufactures shoes and staves A state hospital for the insane is here

Anna Amalia, duchess of Saxe-Weimar (ämä'lya, zäk'su-vī'mär), 1739-1807, German patron of science and letters Her court at Weimar, known as the Athens of Germany, attracted such authors as Herder, Wieland, Goethe, and Schiller She wrote the music for Goethe's *Erwin und Elmire*

Anna Comnena (kŏmnē'nu), b 1083, d after 1148, Byzantine princess and historian, daughter of Emperor Alexius I She plotted, during and after her father's reign, against her brother, JOHN II, in favor of her husband, Nicephorus Bryennius, whom she wished to have on the throne Her plot was discovered, but she was pardoned and retired to a convent There she wrote the *Alexiad* (finished in 1148), one of the outstanding Greek historical works of the Middle Ages Covering the reign of Alexius I and the First Crusade, it tends to glorify her father and his family, however, Anna's familiarity with public affairs and her access to the imperial archives give her work great value There is an English translation by Elizabeth A S Dawes (1928) See Georgina Buckler, *Anna Comnena* (1929)

Anna Ivanovna see ANNA, empress of Russia

Anna Leopoldovna (lyä"upôl'duvnu) or **Anna Karlovna** (kar'lûvnu), 1718-46, duchess of Brunswick-Wolfenbüttel, regent of Russia (1740-41), daughter of Charles Leopold, duke of Mecklenburg-Schwerin, and of Catherine, sister of Empress Anna of Russia She married the duke of Brunswick-Wolfenbüttel, and their son, IVAN VI, succeeded (1740) Anna as emperor After the deposition of Ivan by Empress ELIZABETH, Anna Leopoldovna and her husband were imprisoned She died in childbirth

Annam (unăm', ă'năm"), state (c 57,000 sq mi, pop c 7,200,000), E Indo-China Between Tonkin on the north and Cochin China on the south, Annam extends nearly 800 mi along the South China Sea The ridge of the Annamese cordillera separates N and central Annam from Laos on the west, then swings southeastward and runs along the coast of S Annam, which includes the plateaus that stretch to the borders of Cambodia and Cochin China In N and central Annam there are narrow coastal plains, interrupted by spurs of the mountains that almost reach the sea as at the Porte d'Annam, a pass important in Annamese history The short, often torrential, rivers, flowing from west to east, form deltas given over to the growing of rice, but the crop is too small to feed the population. Cinnamon, cocoa, and cotton are other agricultural products In peacetime, Annam is an important producer of raw silk There is little industry, aside from some weaving of silk and cotton and the preparation of various fish products The principal cities are Hué (the capital) and Tourane The inhabitants are mostly farmers and fishermen Of the various peoples, most important are the Annamese (the majority), others are the Chinese, the Thai, the Muong, and the remnant of the Chams The Annamese have been strongly influenced by Chinese culture Confucian principles permeate their social structure, Confucian, Buddhist, and Taoist elements have been combined into a popular religion which is basically a blend of animism and ancestor worship The origins of the Annamese state may be traced to the peoples of the Red River valley in Tonkin After more than 2,000 years of contact with the Chinese, they fell under Chinese rule as the result of an invasion c 214 B C and remained subject (with some interruptions after A D 923) until 1428, when the Annamese rose and established an independent kingdom The region to which the Chinese gave the name of Annam comprised, besides Tonkin, the three northern provinces of modern Annam, the balance of modern Annam formed, from late in the 2d cent A D, the kingdom of the Chams or CHAMPA Against the incursions of the Chams, the Chinese and later the Annamese of Tonkin fought a series of wars, indecisive until 1472, when the Chams were severely defeated and the Annamese kingdom was extended south to the vicinity of Tourane The native Annamese dynasty that had overthrown the Chinese soon fell into decadence After 1558 the kingdom was in effect divided between two great families, one ruling from modern Hanoi over Tonkin and Annam as far south as Porte d'Annam, the other ruling from Hué over Annam from Porte d'Annam to the vicinity of Quinhon It was to these two domains that Europeans, whose first extensive contacts with Indo-China came in the 16th cent, gave the names of Tonkin and Cochin China In the 17th cent the lords of Hué pushed southward, taking from the Chams the remainder of present-day Annam and penetrating the Cambodian provinces on the lower Mekong The early 18th cent saw their control extended into part of Laos and, at the expense of Cambodia, to the shores of the Gulf of Siam The dynasties of Hué and Tonkin were alike overthrown in the last decades of the 18th cent, but in 1802 all of the Annamese lands were united under the restored dynasty of Hué as the empire of Annam In 1807 the Annamese extended a protectorate over Cambodia, which led, in succeeding decades, to frequent wars against Siam The first emperor of Annam (1802-20) showed favor to the French, who had been sending missionaries into Indo-China since the 17th cent and who had aided in establishing the empire His successors attempting to withdraw into isolation, mistreated French nationals and Annamese Christian converts The way was thus opened for French military operations, beginning in 1858, which resulted in the seizure of modern Cochin China and of Tonkin A French protectorate over Annam was established in 1884, as well as a separate protectorate over Tonkin, in 1887 Annam became part of the Union of Indo-China After the Second World War, Annamese and Tonkinese nationalist leaders demanded independence for the state of VIET NAM, and Annam (like Tonkin and Cochin China) was plunged into a long series of disorders Under the Viet Namese regime of Bao Dai, Annam was divided into Central Viet Nam and the special administrative district of the southern plateaus

Annandale-on-Hudson (ăn'undāl-), unincorporated village, SE N Y, on the east bank of the Hudson and near Red Hook It is the seat of BARD COLLEGE

Anna Perenna (pĭrĕn'nu), in Roman religion, goddess of the new year She was worshiped in the Ides of March (the first full moon of the year) as a bringer of long life and happiness Late Roman poets identified her with Anna, sister of DIDO

Annapolis (unăp'ulĭs), city (pop 13,069), state capital, and co seat of Anne Arundel co, central Md, on the south bank of the Severn river near its mouth on Chesapeake Bay SSE of Baltimore The city, which contains many colonial buildings, is the business and shipping center for the fruit and vegetable farmers of S Maryland and is a port of entry Sea food is packed, and small sea craft are built here It was settled c 1648 as Providence by Puritans from Virginia, who successfully revolted against the Catholic governor in 1655 only to lose control after the Restoration in England Later it was called Anne Arundel after the wife of the 2d Lord Baltimore, and in 1694, when it became the provincial capital, it was named Annapolis for Anne of England It rapidly became an important colonial social and commercial center The first newspaper in Maryland was published here in 1745 The town was the scene of the Annapolis convention (1786) which led to the FEDERAL CONSTITUTIONAL CONVENTION Points of interest include the statehouse (1772), meeting place of Congress (1783) where Washington resigned as commander in chief of the Continental army, the Old Treasury (c 1695), the library (1737), SAINT JOHN'S COLLEGE; and the UNITED STATES NAVAL ACADEMY.

Annapolis, river of W Nova Scotia, rising c 75 mi NE of Annapolis Royal and flowing into Annapolis Basin Its valley is noted for apple orchards

Annapolis Basin, tidal arm of the Bay of Fundy, c 10 mi long and 3 to 5 mi wide, W N S Its entrance, about a half mile wide and bordered by 500-foot cliffs, is known as Digby Gut

Annapolis Royal, town (pop 782), W N S, on the Annapolis river 6 mi above the Annapolis Basin Founded as Port Royal by the sieur de MONTS in 1605 (see SAINT CROIX I), it was destroyed (1614) by Samuel ARGALL but was rebuilt by the French The fort changed hands between French and English five times from 1605 to 1710, when it finally capitulated to a force of New Englanders under Francis Nicholson The name was then changed in honor of Queen Anne The fort resisted attacks by French and Indians in 1744 and 1745 Fort Anne National Park (about 31 acres, est, 1917) includes the ruins of the fort The officers' quarters (built 1797-98) have been restored as a museum.

Ann Arbor, city (pop 29,815), co seat of Washtenaw co, S Mich, on the Huron and W of Detroit, in a rich fruitgrowing area, laid out 1824, inc as a village 1833, as a city 1851 Ann Arbor grew as a farm trade center, its manufactures include machine tools and metal products Headquarters of the cooperative Michigan Municipal League are here Ann Arbor is the seat of the Univ of Michigan (see MICHIGAN, UNIVERSITY OF), where music and dramatic festivals are held in May The Nichols Arboretum is famous for its lilacs and peonies Indian trails crossed here, and several Indian mounds are found near by

Annas [Gr, for Heb HANANIAH], Jewish high priest who examined Jesus Non-biblical sources say that he was retired high priest His son-in-law was Caiaphas John 18:13,24, Acts 4:6-22

Annau or **Anau** (ănou'), village, Turkmen SSR, 5 mi SE of Ashkhabad, near the Iranian border It has a 15th-century mosque, a citadel, ancient burial mounds, and other remains Here Raphael Pumpelly discovered (1903) traces of habitation dating back to c 3000 B C There are indications of ancient cultivation of grain, and beautifully designed pottery has been found See Raphael Pumpelly, *The Prehistoric Civilization of Anau* (1908)

Anne, Saint [ultimately from Heb HANNAH], in tradition, mother of the Virgin and wife of St Joachim She is not mentioned in Scripture, but her cult is very old In the West she has been especially popular since the Middle Ages She is patroness of Quebec prov, and Ste Anne de Beaupré is one of the principal shrines in the New World Brittany, also under her patronage, has as its principal shrine and the scene of its most important pardon Sainte-Anne-d'Auray She is invoked by women in childbirth In art she is usually an elderly veiled woman and often appears teaching her daughter to read Feast July 26

Anne, 1665-1714, queen of England, Scotland, and Ireland (1702-7), later queen of Great Britain (1707-14), daughter of James II and Anne Hyde, successor to William III Reared as a Protestant and married (1683) to Prince George of Denmark (d 1708), she was not close to her Catholic father and acquiesced in the revolution (1688), which put William III and her sister, Mary II, on the throne With them she was soon on bad terms because of private animosities, partially caused by Anne's favorite This woman was her attendant and intimate friend from girlhood, Sarah Jennings, who had married John Churchill (later the duke of Marlborough) and who was to exercise great influence in Anne's private and public life They addressed each other as Mrs Freeman (Anne) and Mrs Morley (Sarah) to avoid obligations of rank Of Anne's many children the only one to live much beyond babyhood—the duke of Gloucester—died at the age of 11 in 1700 Since neither she nor William had surviving children and support for her exiled Catholic half brother rose and fell in Great Britain (see STUART, JAMES EDWARD, and JACOBITES), the question of succession continued vexed after the ACT OF SETTLEMENT (1701) and after Anne's accession This last Stuart ruler, she was the first to rule over the United Kingdom of Great Britain, which was created when the Act of Union joined Scotland and England in 1707 Her reign, like that of William III, was one of transition to parliamentary government, Anne was for example, the last English monarch to exercise (1707) the royal veto Domestic and foreign affairs alike were dominated by the War of the SPANISH SUCCESSION (1702-13), called Queen Anne's War in its imperial phase (see FRENCH AND INDIAN WARS) On the Continent the duke of MARLBOROUGH won glory for English arms At home the costs of the fighting were an issue between the conservative Tories, who were cool to the war, and the more democratic Whigs, who favored it Party lines were slowly hardening, but party government and ministerial responsibility were not yet established, intrigues and the favor of the queen still made and unmade cabinets, though public opinion and elections did have increasing influence. Thus it was at least

partly through the pressure of the Marlboroughs that Anne was induced (1705–6), despite her Tory sympathies, to oust Tory ministers in favor of Whigs The Marlboroughs forced the dismissal of Robert HARLEY in 1708, though the scolding duchess had already lost much of her power to Anne's new favorite, the quiet Mrs Masham (later Lady MASHAM), kinswoman and friend of Harley When the unpopularity of the war and the furor over the prosecution of SACHEVERELL showed the power of the Tories (who won the elections of 1710) and made the move feasible, Anne gave the power to Harley, and the Marlboroughs were dismissed Harley, as earl of Oxford, was political leader until 1714, when he was replaced by his Tory colleague and rival, Viscount Bolingbroke (see ST JOHN, HENRY) Soon afterward the queen died and, Jacobite plans having failed, she was succeeded by GEORGE I of the house of HANOVER Queen Anne was a dull, stubborn, but conscientious woman devoted to the Church of England and within it to the High Church party She supported the act (1711) against "occasional conformity" and the Schism Act (1714), both directed against dissenters and both repealed in 1718 She also created a trust fund called Queen Anne's Bounty for poor clerical livings Her reign, significant in the growth of empire and constitution, also saw developments in the intellectual awakening that produced such thinkers as Bishop George Berkeley and Sir Isaac Newton and such scholars and writers as Richard Bentley, Swift, Pope, Addison, Steele, and Defoe The British press grew rapidly as a political instrument Sir Christopher Wren and Sir John Vanbrugh were at the same time popularizing Palladian architecture and setting in stone and brick the rich elegance that was perhaps the most attractive aspect of life and society under Queen Anne See biography by M R Hopkinson (1934), G M Trevelyan, *England under Queen Anne* (1932), G N Clark, *The Later Stuarts* (1934), B C Brown, ed , *Letters and Diplomatic Instructions of Queen Anne* (1935)

annealing, process in which glass and metallic substances, such as steel and certain others containing copper, tin, or zinc, are treated in order to render them less brittle It consists in heating the substance, often almost to the temperature at which it liquefies, and then cooling it very slowly under controlled conditions It is believed that the heating process permits the molecules of the substance to assume a more stable arrangement Annealing is distinguished from TEMPERING

Anne Boleyn, queen of England see BOLEYN, ANNE

Annecy (ănsē'), city (pop 24 414), capital of Haute-Savoie dept , E France, SE of Geneva It is beautifully situated at the foot of the Alps on Lake Annecy In 1535 the bishop of GENEVA, driven out by the Reformation, made it his residence St FRANCIS OF SALES, who was born here, was bishop from 1602 to 1622, his memory still fills the city, which has many fine churches, monasteries, and seminaries Annecy is now a diocese in its own right, that of Geneva having been united with the dioceses of Fribourg and Lausanne The center of the city, traversed by narrow canals, is medieval in character The castle of the counts of Geneva (12th–14th cent) dominates Annecy from a hill

Anne de Beaujeu (du bōshû'), c 1460–1522, regent of France With her husband, Pierre de Beaujeu, duc de Bourbon, she acted as regent for her brother, Charles VIII, after the death of Louis XI (1483) She displayed remarkable ability and preserved the royal authority intact against the rebelling great nobles In 1491 she and her husband arranged the marriage of Charles VIII to ANNE OF BRITTANY, but soon afterward their influence declined

Annensky, Innokenty Feodorovich (ĭnŏkĕn'tyĭ fyô'dûrvĭch ĭnyĕn'skĭ), 1850–1909, Russian symbolist poet He began his literary career with a modernized translation of Euripides His poetry, *Quiet Songs* (1904) and *The Cypress Chest* (1910), although hard to comprehend, has permanent appeal

Anne of Austria, 1601–66, queen of France, daughter of Philip III of Spain Married to Louis XIII (1615), she was neglected by her husband and sought the society of Mme de CHEVREUSE She injured her reputation by unwise frivolities, especially by her flirtation with the duke of Buckingham, she was accused by Cardinal Richelieu of treasonable correspondence with Spain but was pardoned (1637) In spite of the express wish of her husband, she assumed (1643) the regency for her son LOUIS XIV She entrusted the government to MAZARIN, and her administration was disturbed by the wars of the FRONDE After Mazarin's death (1661), her son excluded her from participation in affairs of state. Anne of Austria is a central figure of Dumas's *Three Musketeers*

Anne of Bohemia, 1366–94, queen consort of RICHARD II of England, daughter of Emperor Charles IV, sister of Emperor Wenceslaus She was married to Richard early in 1382, quickly gained popularity in England, and influenced the king toward clemency and moderation She introduced Bohemian fashions into England, and it was probably through her entourage that the writings of Wyclif were introduced into Bohemia, where they gained much prominence among the HUSSITES.

Anne of Brittany, 1477–1514, queen of France as consort of CHARLES VIII (1491–98) and of LOUIS XII (1499–1514) She was the daughter of Duke FRANCIS II of Brittany, from whom she inherited the duchy in 1488 Her hand was eagerly sought by a number of suitors, who had their eyes on her duchy. On her father's death a French army under Louis de la Trémoille invaded Brittany, while Jean d'Albret, Archduke Maximilian (later Emperor MAXIMILIAN I), Louis of Orléans (later Louis XII of France), and HENRY VII of England sent small forces to young Anne's assistance La Trémoille was victorious, and Anne was forced to promise not to marry without the consent of the French crown Warfare was, however, resumed in 1489, and Anne appealed to Maximilian for protection In 1490 Maximilian married Anne by proxy but failed to assist her with armed strength Besieged at Rennes, Anne was forced by the French to seek annulment of her marriage, and in 1491 she was married to Charles VIII It was agreed that if Charles died without issue before Anne, she was to marry his successor Accordingly, in 1499, she married Louis XII, who had previously obtained a divorce from his first wife Brittany remained theoretically separate, but the marriage (1514) of Claude, Anne's daughter by Louis XII, to Francis of Angoulême (later Francis I of France) led to the eventual incorporation (1532) of Brittany into France See biography by H J Sanborn (1917)

Anne of Cleves (klēvz), 1515–57, queen of England, fourth wife of Henry VIII She was the sister of William, duke of Cleves, one of the most powerful of the Protestant princes After the death of Jane Seymour, Henry was free to marry again, and a marriage with Anne for political purposes was considered advisable and was especially forwarded by Thomas CROMWELL The marriage was agreed upon in 1539, and though Henry, after seeing his bride, tried to break the contract, they were married (Jan , 1540) Henry found Anne dull and unattractive, and a turn in policy destroyed the political utility of the marriage In July, Henry had the marriage declared null and void Anne gave her consent and, by agreement, lived the rest of her life in England.

Anne of Denmark, 1574–1619, queen consort of James I of England, daughter of Frederick II of Denmark and Norway She married James in 1589 and was crowned with him at Windsor in 1603 Court entertainments and the embellishment of buildings interested her more than affairs of state Although believed to be inclined toward Catholicism, she died a Protestant Of her six children, the three who survived infancy were Henry, prince of Wales (d 1612), Charles (later Charles I), and Elizabeth (later electress palatine and queen of Bohemia)

annexation, formal act by which a state asserts its sovereignty over a territory newly incorporated within its dominions Many varieties of territories are subject to annexation, chief among them those uninhabited by civilized peoples, those inhabited by settlers of the annexing power, those which already have the status of protectorates of the annexing state, and those conquered by the force of arms The governing body of the annexing power must ratify the act of annexation, and the consent of other interested powers must be obtained in order that the annexation be generally recognized in international law The full exercise of the annexing power's sovereignty is the final objective test of the validity of annexation Objections of philosophers such as Kant and efforts to establish the self-determination of inhabitants as the only grounds for the transfer of territory have failed to put an end to annexation as an instrument of national policy In America, the annexation of Texas to the United States in 1845 was instrumental in starting war with Mexico

Anniston, city (pop 25,523), co seat of Calhoun co , NE Ala , ENE of Birmingham, in a mining region of the Appalachian foothills Founded in 1872 as an iron-manufacturing "company town," it was opened for settlement in 1883 Its manufactures iron, steel, textile, and chemical products Near by are a fish hatchery and U S Fort McClellan

annual, plant which germinates, blossoms, and dies within one year, being perpetuated from year to year by seed only, as distinguished from the BIENNIAL and the PERENNIAL Annuals of cool temperate regions usually germinate in the spring and die in the fall, those of regions where the growing period is at a different season are adapted for growth at that time Cultivated annuals are usually considered to be of three general types tender, half-hardy, and hardy Tender and half-hardy annuals cannot mature and blossom in an ordinary growing season unless they are started early under glass and are set outdoors as young plants Hardy annuals are usually sowed where they are expected to bloom and often will spring up voluntarily year after year by reseeding themselves, the blooming season will be prolonged, however, if seed are not allowed to form Some biennials and even fast-growing perennials may be treated as annuals Plants considered typical annuals include species of cosmos, larkspur, petunia, and zinnia. See H. S Ortloff, *Annuals in the Garden* (1932); V. H. Rics, *How to Grow Annual Flowers* (1936), *Growing Annual Flowering Plants* (U S. Dept. of Agriculture, Farmers' Bul 1171).

annuity: see INSURANCE.

Annulment of marriage: see NULLITY OF MARRIAGE.

Annunciation of the Virgin: see MARY.

Annunzio, Gabriele D': see D'ANNUNZIO, GABRIELE

Annville, village (pop. 3,163), Lebanon co , SE Pa , near Harrisburg It is the seat of Lebanon Valley College (coeducational, 1866)

anode: see ELECTRODE and ELECTROLYSIS.

anodyne. see SEDATIVE.

Anoka (ănŏ'kŭ), city (pop 6,426), co seat of Anoka co , E Minn , on the Mississippi at the confluence of the Rum and NW of Minneapolis, settled 1844, laid out 1853, inc. 1878 Originally a trading post and lumber town, it grew as a farm trade center and resort On June 18, 1939, a tornado killed several people and destroyed many buildings here A state hospital for the insane was established here in 1900

Anopheles: see MOSQUITO

Anquetil Duperron, Abraham Hyacinthe (ăbrà-hăm' yäsĕt' äkŭtē'l' dŭpĕrô'), 1731–1805, French Orientalist While studying for the priesthood (which he did not enter), he became deeply interested in Eastern languages After study (1755–61) in India, chiefly with the Parsis, he returned to Europe with 180 manuscripts and a knowledge of Sanskrit, Avestan, Pahlavi, and Persian His three-volume translation of the *Zend-Avesta* (1771) introduced Zoroastrian texts to Europe It was bitterly criticised by Sir William Jones and other scholars in England Anquetil Duperron also translated the *Upanishads* into Latin and wrote works on India

Ansbach (ans'bakh), city (pop 31,745), capital of Middle Franconia, W Bavaria, on the Rezat river It has manufactures of cars, motors, and chemicals The city developed around an 8th-century Benedictine abbey and in 1331 became the residence of the Franconian branch of the Hohenzollern It passed to Prussia in 1791 and to Bavaria in 1806 The 12th-century Romanesque Church of St Gumbertus was rebuilt in the 15th cent Formerly the name appeared as Anspach

Anschar or **Anscharius, Saint** see ANSGAR, SAINT

Anschluss see AUSTRIA

Anselm, Saint (ăn'sĕlm), 1034?–1109, Italian churchman, archbishop of Canterbury (1093–1109), Doctor of the Church, b Aosta He was a monk in France at Avranches and at Bec, where he was befriended by LANFRANC, then prior In 1062 Anselm succeeded Lanfranc In 1078 he became abbot The many possessions of the abbey in England threw Anselm at once into English public life He frequently visited Lanfranc at Canterbury So much did William the Conqueror esteem Anselm that as he lay dying he asked for him After Lanfranc's death (1089) WILLIAM II of England delayed appointing a successor, until in 1093, in fear of death, he made Anselm archbishop Anselm literally had to be forced to accept the crozier, but after his installation he showed the firmness of purpose necessary if the Church was to retain independence of the king Anselm soon asked permission to go to Rome to receive the pallium from URBAN II, but William hesitated to recognize Urban as pope The king finally sent a mission to get the pallium, but Anselm would accept it from no one but a papal legate In 1097 Anselm went to Rome, and the king seized the diocesan property on specious charges against Anselm, the archbishop stayed abroad with the pope until the king's death in 1100 At the Council of Bari (1098) as apologist for the West, he defended the use of *filioque* in the CREED Anselm's relations with HENRY I were a struggle over INVESTITURE Henry wanted to reinvest the archbishop, and he did invest several bishops, but Anselm would not be reinvested and had nothing to do with Henry's bishops Finally in 1107, after Anselm had gone in vain to Rome for relief, Henry gave up the struggle and agreed not to ask to invest bishops, Anselm agreeing to do homage for his temporalities Anselm had been of service to the king, even in the course of the quarrel, by arranging Henry's marriage with Matilda of Scotland and by helping to prevent Robert of Normandy from invading England. St Anselm was an early Western proponent of the philosophical theory that what is known by faith is amenable to natural reason, this is the bearing of his first famous work, *Monologium* A notable phrase sums up the idea, *fides quaerens intellectum* [faith seeking to be understood] In *Cur Deus Homo?*, a work on the Incarnation, St Anselm proposed an explanation of the ATONEMENT that has been largely accepted in theology He also proposed a famous ontological proof of the existence of God—that our ability to conceive of an Infinite Being necessarily entails the existence of that Being He was in controversy with Roscelin. St Anselm's meditations, prayers, and hymns are famed for their devout eloquence. He was a man of holy life and was much loved by those about him Feast April 21 The primary source for his life is the writing of his companion, Eadmer. See biographies by R W. Church (1905) and Joseph Clayton (1933).

Ansgar, Saint (ăns'gär), 801–65, Frankish missionary to Scandinavia, called the Apostle of the North He was the first archbishop of Hamburg (from 831) Other forms of the name are Anskar, Anschar, and Anscharius Feast Feb 3. See C H Robinson, *Anskar, the Apostle of the North* (1921)

Anshan (ăn'shän'), city (pop 219,715), central Liaoning prov., China, on a branch of the South Manchurian railroad. The Anshan steel mill, one of the largest in China, processes the iron from nearby deposits

Anskar, Saint. see ANSGAR, SAINT

Ansley, Clarke Fisher, 1869–1939, American teacher and editor, b Swadona, near Springfield, Ill , grad Univ of Nebraska, 1890, and studied for two years at the universities of Leipzig, Heidelberg, and Paris After teaching English at Nebraska, he was professor of English at the State Univ of Iowa (1899–1917) and dean of its College of Fine Arts (1911–15) Having turned to editing, he conceived the idea of a one-volume, entirely new general encyclopedia, compact enough and simply enough written to serve as a guide to the "young Abraham Lincoln " This work was started in 1928 as *The Columbia Encyclopedia* with Ansley as its editor in chief He lived to see the first edition published (1935)

Anson, Adrian Constantine, 1852-1922, American baseball player-manager, known usually as "Cap" or "Pop" Anson, b Marshalltown, Iowa For most of his career he played with the Chicago club of the National League and was four times league batting champion As manager (1879–97), he lead the team to five pennants In 1939 he was elected to the National Baseball Hall of Fame and is considered one of baseball's greatest player-managers of the 19th cent

Anson, George Anson, Baron, 1697-1762, British admiral His famous voyage around the world was undertaken to attack the Spanish possessions in South America Shipwreck at Cape Horn and scurvy reduced his six-ship squadron to one ship and a crew, with which the indomitable commander captured a prize vessel on the Pacific and finished his voyage As first lord of the admiralty he reorganized naval administration and established in 1855 the corps of marines See *A Voyage round the World* (comp by Anson's chaplain, Richard Walter, 1748, ed by G S L Clowes, 1928), biographies by Sir John Barrow (1839) and M V Anson (1912)

Anson, Sir William Reynell, 1843–1914, English jurist He was a founder of the school of law at Oxford Univ From 1899 to his death he sat in Parliament as a member for Oxford His *Principles of the English Law of Contract* (1879) and *The Law and Custom of the Constitution* (1886–92) are frequently consulted standard works See memoir ed by H H Henson (1920)

Anson. 1 Town (pop 2,130), central Maine, on the Kennebec and W of Skowhegan, inc 1798 Lumber products are made here **2** City (pop 2,338), co seat of Jones co , W central Texas, NW of Abilene, settled c 1880, inc 1904 Its past as a cow town is commemorated each year in the Cowboys' Christmas Ball, but Anson is today primarily a shipping point for cotton and other crops, with cotton gins, a mattress factory and other small industries

Ansonia, city (pop 19,210), SW Conn , on the Naugatuck and NW of New Haven, settled 1651 from Derby, inc 1893, coextensive with Ansonia town, inc 1889 Copper and brass and other metals are produced

Ansted, town (pop 1,422), S W Va , SE of Charleston, settled 1790 It is the trade center for a mining region Hawks Nest State Park is near

Anstey, F., pseud of **Thomas Anstey Guthrie,** 1856–1934, English novelist and playwright A barrister, he turned to writing humorous fiction He contributed to *Punch* and produced many popular books, which include *Vice Versa* (1882), a lighthearted satire of English public-school life, *Voces Populi* (1890), a series of humorous dialogues, and the play *The Man from Blankley's* (1893) See his memoirs, *A Long Retrospect* (1936)

ant, cosmopolitan social insect of the order Hymenoptera, to which the bee and the wasp also belong The body is divided distinctly into three regions, with a narrow constriction between the thorax and abdomen Ants are usually black or various shades of brown, red, and yellow The majority nest underground, in galleries or chambers, often beneath stones, others nest in wood, in decaying tree trunks, or in plants, and some make paper nests in trees Mounds of earth excavated from the nest are often piled up at the entrance Colonies range from a few dozen individuals to hundreds of thousands. They usually consist of one or more queens, egg-laying females which are usually winged, female, usually sterile, wingless workers, and fertile males, usually winged Worker ants are the ones generally seen. Males and fertile females swarm in a nuptial flight; the time of the year depends upon the species Soon after mating, the males die The female or queen then returns to the earth, sheds her wings, and finds or makes a burrow in which she seals herself. There she lays a few eggs and feeds and cares for the first brood of young. They hatch as workers, which enlarge the nest and care for the queen and the following generations The queen is then able to lay fertilized eggs for the rest of her life, which may be as many as 15 years Workers usually live from about 4 to 7 years In some species the queen cannot establish the colony herself and is adopted by workers of her own or another species Adult ants live chiefly or entirely on liquids obtained from plants or animals or both Certain ants obtain sweet secretions from ants called repletes and from the APHID and other small insects which they feed and protect Parasites are often found in ant colonies Ants sometimes make slaves of other species Among the ant pests which invade dwellings are Pharaoh's ant, a tiny yellowish species, now widely distributed in the New World, the odorous house ant, the Argentine ant, found chiefly in the S United States and California, the little black ant, and the black carpenter ant, which bites humans and damages timbers of buildings and telephone poles The black pavement ant gnaws at roots and steals seeds The mound-building ant makes large anthills The agricultural ants, some of which are called leaf cutters, parasol ants, fungus growers, and harvester ants, are widely distributed pests numerous in the warmer regions The Texas leaf-cutting ant is a serious crop pest Like others of the genus *Atta*, the workers macerate leaves on which they grow fungi for food In tropical America and Africa long columns of the carnivorous army or driver ants travel like armies and often overrun dwellings The TERMITE is miscalled white ant See *House Ants* (U S Dept of Agriculture, Leaflet 147), *Red Harvester Ant and Its Control* (U S Dept of Agriculture, Farmers' Bul. 1668), W M Wheeler, *Ants* (1910), J S Huxley, *Ants* (1930), C P Haskins, *Of Ants and Men* (1939)

Antaeus (ăntē'ŭs), in Greek mythology, giant, son of Poseidon He became stronger whenever he touched the earth, his mother, GAEA He killed everyone with whom he wrestled until Hercules overcame him by lifting him in the air

Antakya, Turkey see ANTIOCH

Antalcidas (ăntăl'sĭdus), d after 371 B C , Spartan diplomat The agent of Sparta in Persia, he managed to undermine Athenian influence there and persuaded Artaxerxes II to agree to the so-called Peace of Antalcidas or King's Peace (386 B C), but the terms were those of the Persian king Cyprus and the Greek cities in Asia Minor were returned to Persia, Athens was allowed to retain Imbros, Lemnos, and Scyros, other Greek communities were to be independent, their alliances were outlawed The treaty was much criticized as ignominious for Greece Sparta used the terms to justify arrogant action against other city-states and thus brought on the Spartan defeat at LEUCTRA in 371 B C

Antalya (ăntälyä'), city (pop 25,037), SW Turkey A Mediterranean seaport and a silk production center, it was known in ancient times as Attaleia or Attalia, in the Middle Ages as Satalia or Sataleh, and more recently as Adalia It is mentioned in Acts 14 25 as the port whence Paul and Barnabas sailed to Antioch. Situated on a tall cliff, Antalya is a picturesque town, its ancient wall, built in different epochs, remains virtually intact Near by there are chrome and manganese deposits

Antar (ăntär'), fl 600, Arabian warrior and poet, celebrated in his own day as a hero, for he rose from slave birth to be a tribal chief His poetry is represented by one poem in the MUALLAQAT He is the hero of the popular Arabic *Antar*, a romance which has developed over centuries He has become in it the ideal of a Bedouin chief, rich, generous, brave, and kind.

Antarctica (ănt"ärk'tĭkŭ), continent, area between 5,000,000 and 6,000,000 sq mi , surrounding the South Pole The waters about the continent are sometimes called the Antarctic Ocean but actually are only the southernmost parts of the Atlantic, Pacific, and Indian oceans The seas, whipped by cold, violent winds and clogged with drifting ice, ice packs, and mountainous icebergs, also show extreme and rapid variability that makes them doubly dangerous to navigation The continent was therefore completely unknown until modern times and is still imperfectly known Its roughly circular outline is broken by two deeply indenting seas, Ross Sea on the Pacific side and Weddell Sea on the Atlantic side, and by a long narrow land projection, the Palmer Peninsula, which stretches toward South America, some 600 mi away The other southernmost lands, Africa and Australia and New Zealand, are much farther away, and the great southern continent is isolated by distance as well as difficulty of access The coasts are protected from intruders by belts of pack ice, sometimes hundreds of miles wide, and by hanging ice shelves, which end in sheer ice cliffs 50 to 200 ft. high These ice barriers and the glaciers that come from the mountains and thrust tongues of ice into the sea "calve," making enormous icebergs (many 30 mi or more long) Beneath the ice shelves there are some small islands, but Antarctica has only a few large islands, and those are near the Palmer Peninsula. Off the tip of the peninsula are the South Shetlands The South Orkneys in the Atlantic and Macquarie in the Pacific are farther away The Falklands, which show antarctic conditions, lie closer to South America. The term "Antarctic Archipelago" was originally a misnomer given to the Palmer Peninsula (and the adjacent land) under the impression that it was an island, part of the string of islands off the peninsula is still sometimes called the Antarctic Archipelago but is now more usually called the Palmer Archipelago Antarctica itself is upheaved in giant mountain ranges, some with peaks rising over 15,000 ft high The central area is a high plateau hidden under a perpetual ice cap Almost all of the continent (with an estimated average altitude of 6,000 ft , almost twice that of any other continent) is, indeed, covered by a vast ice sheet It has unassailably the severest climate on earth, with winter temperatures dropping to −70°F and even −80°F, and in the brief, unthawing antarctic summers temperatures remain an average of 15°F lower than those of the ARCTIC REGIONS In broad general plan the two ends of the earth are in truly antipodal contrast—in the north a circumpolar landlocked sea, in the south a circumpolar ocean-surrounded land mass From this difference comes the much more intense cold in the south and the greater dangers and difficulties of exploration Although there was for centuries a tradition that another land lay south of the known world, attempts to find it were defeated by the ice Navigators—notably Capt James Cook in 1774—made their way into antarctic waters, and the British mariner William Smith discovered the South Shetlands in Feb , 1819, and confirmed his discovery the following autumn The discovery of Antarctica itself came as a by-product of the search by whalers for new whaling grounds, although the question as to who made it is still in some dispute An American, Capt Nathaniel PALMER, in Nov , 1820, sighted an unknown coast He told the Russian voyager, Admiral Bellingshausen, who, speaking of it to others, called it Paalmer's Land An Englishman, Capt Edward Bransfield, sailed between the South Shetlands and the continent in Jan , 1821, and probably saw the continent In 1830 another Englishman, John BISCOE, sighted high mountains two years later he landed on an island and, thinking it part of the mainland, called it and the near-by peninsula Graham Land Hence the double name for the peninsula which Americans call Palmer Peninsula and the British call Graham Land The British also question Palmer's log and consider either Bransfield or Biscoe the discoverer The voyages of James Weddell, John Balleny, Dumont d'Urville, Charles WILKES, and James C Ross followed in the first half of the 19th cent That of Ross was important in opening the Ross Sea approach For nearly a half century then interest in polar exploration concentrated on the arctic region A renewed turn to the south was marked by the explorations of the Belgian, Adrien de Gerlache, in 1897-99, his expedition was the first to winter in the area of Antarctica As the 20th cent began, scientific interest quickened and led to a number of well-equipped expeditions, notably those of C E BORCHGREVINK, William BRUCE, Erik von DRYGALSKI, Otto Nordenskjold, Robert F SCOTT, Jean B CHARCOT, and Sir Douglas MAWSON, all these wintered in the Antarctic Extensive scientific surveys were made Several expeditions were fired by the desire to reach the South Pole, E H SHACKLETON failed (1908–9), but Roald AMUNDSEN succeeded (Dec 14, 1911), to be followed almost immediately (Jan 18, 1912) by Robert F Scott Considerable knowledge of the interior of Antarctica was gained, but the First World War interrupted the search When interest was resumed, the airplane provided a new method of exploration, with George Hubert WILKINS and Richard E BYRD as the pioneers The years just before and after 1937 were highly productive, with the British expedition (1934–37) under John Rymill, the Norwegian expedition (1936–37) of Lars Christensen, the fourth antarctic journey (1938–39) of Lincoln ELLSWORTH, and the voyage (1937–39) of the British *Discovery II*, on the fifth of her two-year commissions to investigate the distribution and the feeding grounds of whales In 1939–41 the U S Antarctic Service, with Richard E Byrd in command, pursued research from two bases 2,000 mi apart, one (see LITTLE AMERICA) on the Bay of Whales (an inlet of Ross Sea), the other on Palmer Peninsula A British expedition under J. W S Moor in 1944 evolved plans for systematic study of the peninsula and the mainland coast, including the establishment of meteorological stations In the years 1946–48 knowledge of Antarctica was tremendously increased by three U S expeditions The U S navy's "Operation Highjump," led by Byrd, was much the largest, most completely organized, and most thoroughly mechanized expedition ever sent to Antarctica It involved 12 navy vessels, airplanes, a submarine, and many scientists and experts, as well as some 4,000 navy officers and men Achievements were commensurate with its size Topographical knowledge was greatly broadened by exploratory flights, recorded

by moving pictures Unfrozen areas were found, especially a warm-lake region in the quadrant toward Australia, a bay or inland sea some 20,000 sq mi in area was discovered, many new lofty peaks were noted, and islands under the Ross ice shelf were indicated by the magnetometer Photomapping clarified old knowledge and added new Photographs, specimens, and data were brought back to the United States for analysis A smaller naval expedition in 1947-48 supplemented the work by further photomapping, by more investigation of the warm-lake region, and by obtaining tons of mineral specimens The expedition (1946-48) led by Finn Ronne centered at the base of the Palmer Peninsula and cooperated with the British Falkland Islands Dependencies Survey Many discoveries were made, including a mountain range running SE from the Palmer Peninsula to the high, snow-covered central plateau, which was shown to be a continuation of the Andes It was demonstrated that the theory that a strait between Ross Sea and Weddell Sea cuts Antarctica is almost certainly false In 1947 Australia sent an official expedition into the antarctic regions Chile and Argentina, the USSR, Norway (cooperating with Britain and Sweden), and Japan all showed interest in Antarctica in the years after the Second World War The wide range of national interest reflects a similarly wide range of conflicting claims to antarctic territory The latent strife of opposing national interests was demonstrated by the tension caused in 1939 when German aviators dropped flags at various points on the coast The various claims on Antarctica cut the continent and its surrounding waters like pieces of a pie that has as its circumference the circle of lat 60° S Beginning at long 20° W and reading clockwise, the claims are Norway, long 20° W–45° E (Queen Maud Land), Australia, long 45° E–160° E (Australian Antarctic Territory), except for the Adélie Coast (French) between long 136° E and 142° E, New Zealand, long 160° E–150° W (Ross Dependency), officially unclaimed but explored by U S expeditions, long 150° W–90° W, and the area of overlapping claims (Chile, long 90° W–53° W, Argentina, long 74° W–25° W, and Great Britain, long 80° W 50° W south of lat 58° S and long 50° W–20° W south of lat 50° S) The USSR, while making no specific claims, insists upon Russian rights by reason of Bellingshausen's work The United States recognizes no claims in Antarctica and makes no official claims, although U S explorers have dropped flags on areas they have explored One of the usual requisites for establishing claims to a territory —that of settlement—has thus far proved impossible The **antarctic regions** are definitely not friendly to man Though the Antarctic Circle is drawn the same distance (23° 30′ of latitude) from the South Pole that the Arctic Circle is from the North Pole, the area of antarctic weather conditions is much greater than that of arctic weather conditions The cold is intensified by the incredibly strong winds that blow mainly outward from the central plateau of Antarctica and drive the melting shore ice and the great icebergs to sea and extend the area of cold to lat 50° S While the arctic regions have a rapid and varied summer vegetation some year-round and abundant summer animal life, and human inhabitants, the antarctic regions have only mosses, lichens, and algae as vegetation, no year-round land animal life except a wingless insect about ⅛ in long and microscopic organisms, and no human inhabitants What other animal life there is relies on the sea and is found only in the sea and directly on the coast There are, however, a surprising number of birds the emperor penguin is the only year-round resident, but Adélie penguins and smaller birds are summer visitors In that season whales and seals also arrive Many scientists say, however, that Antarctica may have been tropical or temperate millions of years ago and may again be habitable millions of years from now Classic narratives of antarctic exploration include Robert F Scott, *The Voyage of the "Discovery"* (1905-7) and *Scott's Last Expedition* (1913), E H Shackleton, *The Heart of the Antarctic* (1909), Roald Amundsen, *The South Pole* (Eng tr, 1913), Sir Douglas Mawson, *The Home of the Blizzard* (1915), Richard E Byrd, *Little America* (1930) and *Discovery* (1935), and Finn Ronne, *Antarctic Conquest* (1949) For more general studies, see Otto Nordenskjold and Ludwig Mecking, *The Geography of the Polar Regions* (Eng tr, 1928), J Gordon Hayes, *Antarctica* (1928) and *Conquest of the South* (1932), Andrew Croft, *Polar Exploration* (rev ed, 1947), U S Board on Geographical Names, *The Geographical Names of Antarctica* (1947)

Antares (ăntâr'ēz) [Gr, =similar to Mars, i e in color], bright star in the constellation Scorpius It is a giant red star about 360 light years from the earth Measured by the Michelson interferometer, its diameter is c 420,000,000 mi

anteater, name applied to various animals which feed on ants, termites, and other insects, but more properly restricted to a completely toothless group of the order Edentata There are three genera, all found in tropical Central and South America The great anteater or ant bear (*Myrmecophaga*) has an elongated, almost cylindrical head and snout, a sticky tongue about 12 in long, a coarse-haired body about 4 ft long, and a long, broad tail The large, sharp claws on the forefeet are weapons of defense and are useful for opening the hard earth mounds of termites The collared or lesser anteater (*Tamandua*), less than half the size of the great anteater, is a short-haired yellowish and black arboreal creature The two-toed anteater (*Cyclopes*) is about the size of a squirrel and has a tail and silky yellow fur For the scaly anteater, see PANGOLIN

antelope, name applied to a large group of hoofed ruminant mammals of the order Artiodactyla They are usually included in the family Bovidae but are in some classifications considered a separate family, Antilopidae The true antelopes are confined to Africa and Asia Their unbranched horns, unlike the antlers of the deer, are not shed and consist of a hollow chitinous shell with a bony core Africa is the home of most antelopes, including the bushbuck, waterbuck, lechwe, marshbuck, impala or palla, kudu, nyala, springbuck, bongo, dik-dik, klipspringer, ELAND, and GNU The GAZELLE is found in Africa and Asia Native to India are the nilgai or blue bull, the four-horned antelope, and the black buck, the saiga lives on the steppes of S Russia and in central and W Asia, and the chiru in Tibet The hunting of antelopes for their flesh, hide, and horns has greatly reduced their numbers, some to the verge of extinction Many are protected in Kruger National Park, Transvaal, and in other reserves See also PRONGHORN and ROCKY MOUNTAIN GOAT

antenna (ăntĕn'ŭ) or **aerial** (âr'ēul), in radio, a system of wires or metal bars to project or intercept RADIO WAVES Antennas have a frequency characteristic based on the relation between their physical dimensions and the wave length of the signal, i e, a wire of given length is inherently tuned to a radio wave of the same length and of simple fractions of this length All antenna arrays that are not straight vertical conductors display another fundamental property, directivity This quality makes possible a more efficient use of power in transmitting, through the concentration of signal into desired areas In receivers it is helpful in selecting one of several signals having the same frequency but arriving from different directions Vacuum-tube and receiving-circuit development and the introduction of the loop antenna made possible satisfactory reception without any external antenna in many locations For operation at high frequencies, however, as in television, frequency modulation, and radar, antennas designed to meet specific circuit requirements are necessary

Antenor (-tē'nur), in Greek legend, wise Trojan counselor, father of Agenor

Antenor, fl last half of 6th cent B C, Greek sculptor, who executed the bronze statues of Harmodius and Aristogiton In 480 B C Xerxes carried these statues away from Athens but they were discovered later at Susa by Alexander and sent back A marble figure of a woman, by this artist, was found in the ruins of the Acropolis at Athens

Antequera (antākā'ra), city (pop 23,218), Málaga prov, S Spain, in Andalusia, in a fertile region at the foot of the Sierra de los Torcales It has important textile manufactures The Cueva de Menga, a large prehistoric burial chamber, was discovered near by in 1842

Antequera y Castro, José de (hōsā' dā ăntākā'ra ē kā'strō), 1690–1731, leader of a revolt in Paraguay A Peruvian lawyer and prosecutor of the *audiencia* of Charcas, he was sent to Asunción to probe charges against the governor of Paraguay, Diego de los Reyes Antequera sided with the opposition, became governor himself, and made the celebrated pronouncement that "the authority of the people is superior to that of the king" He lead the uprising of the COMUNEROS in a war against the authority of the viceroy and was finally captured and beheaded in 1731 This first struggle for freedom was the forerunner of the Spanish American revolts against Spain

Anteros (ăn'tĭrŏs) [Gr, =opposed to love], in Greek legend, son of APHRODITE and Ares He was severally represented as opposed to his brother EROS, as the god of passion, or as the avenger of unhappy love, though he is relatively obscure

anthem [ultimately from ANTIPHON], short sacred choral composition used in Protestant services, usually accompanied and having an English text It arose in the Anglican church, as the English counterpart of the Latin motet, at the hands of Christopher Tye (1497?–1572?), Thomas TALLIS, and William BYRD (b 1542 or 1543) Significant names in its development are Henry Purcell, Handel, and Mendelssohn A full anthem is entirely choral, while a verse anthem includes parts for solo singers The term is also used for any hymn of praise or jubilation in poetry or music, hence the term "national anthem" See M B Foster, *Anthems and Anthem Composers* (1901), A T Davison, *Protestant Church Music in America* (1933)

anthemion (ănthē'mēun), radiating, fan-shaped motive of ornament, suggestive of a palm leaf or of honeysuckle and found in Egyptian, Assyrian, and Aegean art it was profusely used by the Greeks and Romans on their buildings and on all sorts of decorative objects The designers of the Renaissance employed the motive with numberless variations, and it is used today in new forms

Anthemius of Tralles (ănthē'mēŭs, trăl'ēz), 6th cent, Greek architect, engineer, and mathematician By order of Emperor Justinian and with the aid of Isidorus of Miletus, he built (532–37) the Church of HAGIA SOPHIA in Constantinople

anthology (ănthŏl'ŭjē) [Gr, =garland], collection of selected literary pieces, often of verse The name was first given to the GREEK ANTHOLOGY Anthologies have become very popular in modern times, a collection of Vergilian and other Latin poems, the *Catalecta*, by J J Scaliger appeared early (1573) Two successful anthologies of English poetry are *The Golden Treasury* (1861) by Francis Turner Palgrave and *The Oxford Book of English Verse* (1900, new ed, 1939) by Arthur Quiller-Couch

Anthon, Charles, 1797–1867, American classical scholar, b New York city, grad Columbia, 1815 He taught at Columbia College from 1820 to his death and was also rector (1830–64) of Columbia Grammar School His editions of classical texts were among the first American editions to have notes and explanations for study He issued editions of Sir William Smith's classical dictionaries and also compiled one of his own, based on a French original

Anthony, Saint (ăn'tunē, ăn'thunē), 251?–c 350, Egyptian hermit, called St Anthony of Egypt and St Anthony the Abbot At 20 he became a hermit, and at 35 he went into utter seclusion He experienced then, says tradition, every temptation the devil could devise and repelled them A colony of hermits grew up about him, and after 20 years he emerged to rule them in a community, the monks being in solitude except for worship and meals After a few years he went away to the desert near Thebes, where he lived most of the rest of his long life St Anthony was the father of Christian MONASTICISM, his community became a model, but he did not write the rule ascribed to him His type of community is seen in the West among the Carthusians St Athanasius wrote his life He is a patron of herdsmen and is invoked against ERYSIPELAS The story of his temptations provided Flaubert with a theme There are imaginative paintings of him by Bernardino Luini, Van der Goes, and Guido Reni Feast Jan 17

Anthony, Andrew Varick Stout, 1835–1906, American illustrator and wood engraver As a youth he traveled in Central America and California The drawings and text of "Scraps from an Artist's Note Book," which appeared in *Harper's Magazine*, are descriptive of Honduras He illustrated the works of Whittier, Longfellow, and Hawthorne and designed fine editions for Ticknor & Fields and their successors From 1894 until his death he was associated with Harper & Brothers

Anthony, Henry Bowen (ăn'tunē), 1815–84, American editor and politician, b Coventry, R I, grad Brown, 1833 Under his editorship (1838–49), the Providence *Journal* became the focus of conservative thought in Rhode Island He was elected governor in 1849 and 1850 From 1858 until his death he was a U S Senator and undisputed boss of the Republican party in the state

Anthony, Marc see ANTONY

Anthony, Susan Brownell (ăn'thunē), 1820–1906, American reformer and leader of the woman-suffrage movement, b Adams, Mass, daughter of Daniel Anthony, Quaker abolitionist From the age of 17, when she was a teacher in rural New York, she agitated for equal pay for women teachers, for coeducation, and for college training for girls When the Sons of Temperance refused to admit women into their movement, she organized the first women's temperance association, the Daughters of Temperance At a temperance meeting in 1851 she met Elizabeth Cady Stanton, and from that time until Mrs Stanton's death in 1902 they were associated as the leaders of the woman's movement in the United States and were bound by a warm personal friendship Susan B Anthony lectured (1851–60), on women's rights and on abolition, and, with Mrs Stanton, secured the first laws in the New York state legislature guaranteeing to women rights over their children and control of property and wages In 1863 she was a coorganizer of the Women's Loyal League to support Lincoln's government, especially his emancipation policy After the Civil War she opposed granting suffrage to freedmen without also giving it to women, and many woman-suffrage sympathizers broke with her on this issue She and Mrs Stanton organized the National Woman Suffrage Association In 1890 this group united with the American Woman Suffrage Association to form the National American Woman Suffrage Association, of which Miss Anthony served as president from 1892 to 1900 In 1872 she led a group of women to the polls in Rochester, N Y, to test the right of women to the franchise under the terms of the Fourteenth Amendment Her arrest, trial, and sentence to a fine (which she refused to pay) were a *cause célèbre*, other women followed her example until the case

was decided against them by the Supreme Court. From 1869 she traveled and lectured throughout the United States and Europe, seeing the woman movement gradually advance to respectability and political importance. The secret of her power, aside from her superior intellect and strong personality, was her unswerving singleness of purpose. With Elisabeth Cady Stanton and Matilda Joslyn Gage, she compiled Volumes I to III of the *History of Woman Suffrage* (1881–86), using a personal legacy to buy most of the first edition and present the volumes to colleges and universities in the United States and Europe. The *History* was completed by Ida Husted Harper (Vols. IV-VI, 1900–1922, Susan B. Anthony contributed to Vol. IV). See biographies by I. H. Harper (3 vols., 1898–1908) and Rheta Childe Dorr (1928).

Anthony (ăn'thunē), city (pop. 2,873), co. seat of Harper co., S Kansas, W of Arkansas City near the Okla. line; laid out 1878, inc. 1879.

Anthony of Padua, Saint, 1195–1231, Portuguese Franciscan, b. Lisbon. He was renowned for his eloquence. In a vision he received the child Jesus in his arms, and he is usually represented thus in art. He was known as a preacher and for his holy life and was canonized the year after he died in Padua. He is popularly invoked by Roman Catholics to find lost articles. Feast: June 13.

anthracene (ăn'thrusēn), colorless, crystalline solid with a blue fluorescence, melting at 217° C. and boiling at about 350° C. It is insoluble in water, but soluble in alcohol, ether, chloroform, and other organic solvents. Its molecule consists of 14 atoms of carbon and 10 of hydrogen, the carbon atoms are arranged in three hexagonal BENZENE rings set side by side and interlocking, and the hydrogen atoms are attached at the free corners. Anthracene is obtained from coal tar and is important for its derivative anthraquinone, used in the preparation of ALIZARIN and other dyes. It is the first member of the **anthracene series** of aromatic hydrocarbons. In the molecule of each member of the series the ratio of hydrogen to carbon atoms is the same, i.e., the number of hydrogen atoms is 18 less than twice the number of carbon atoms.

anthracite see COAL.

anthrax, acute infectious disease caused by the anthrax bacillus. The bacilli affect animals primarily, but are transmitted to man through contact. Individuals who handle hides of animals (e.g., farmers and butchers) are particularly susceptible; anthrax is therefore included among the occupational diseases. The bacillus may exist in the form of a spore for many years. Cutaneous lesions (pustules) are found commonly on the hands, arms, and shoulders, and in the lungs. More rarely the gastrointestinal tract may be affected. Prompt injection of the specific anthrax serum is the treatment. To prevent the disease, raw materials such as hides and wool which may carry the anthrax spores are disinfected. Robert KOCH succeeded in obtaining, in 1876, pure cultures of the anthrax bacillus and demonstrated the relationship of the microbe to the disease. Confirmation of the anthrax bacillus as the cause of the disease was given by PASTEUR, who also developed a method of vaccinating sheep and cattle against anthrax.

anthropology (ănthrupŏl'ujē) [from Gr. *ánthrōpos* = man], the science of man and his works. It is concerned with the origin, development, and varieties of mankind and of CULTURE. A synthesizing science, anthropology deals with all varieties of phenomenon as they concern man and often employs the techniques and conclusions of other fields. It is divided primarily into physical anthropology and cultural anthropology. Physical anthropology includes human paleontology (or paleoanthropology), studies of the major biological divisions or races of mankind, and somatological studies. Cultural anthropology includes ARCHAEOLOGY, which is the study of prehistoric and extinct cultures, and ETHNOLOGY, which deals with the living cultures of mankind and their variety and with linguistics, the science of LANGUAGE. Anthropology differs from other sciences concerned with man and his behavior mainly in the scope of its interests and in its emphasis on data from nonliterate peoples and archaeological record. Applied anthropology is the practical operation of anthropological techniques in areas such as those of colonial administration, industrial relations, and minority-group and other problems. See Franz Boas, ed., *General Anthropology* (1938), R. H. Lowie, *Introduction to Cultural Anthropology* (1940), Ralph Linton, ed., *The Science of Man in the World Crisis* (1945) and *Most of the World* (1949), A. L. Kroeber, *Anthropology* (1948), Clyde Kluckhohn, *Mirror for Man, the Relation of Anthropology to Modern Life* (1949).

anthropometry (ănthrupŏm'utrē), system of measuring the human body and its parts by accurate and mechanical techniques. By such means, gross and relative size of the physique, coloration, and a number of observable physical traits can be presented as objective data, valid for statistical treatment and scientifically meaningful. It is frequently employed in human paleontology, race classification, and growth studies. See Ales Hrdlicka, *Practical Anthropometry* (2d ed., 1939).

anthropomorphism (ăn"thrupômôr'fizm) [Gr., = having human form], in religion, conception of divinity as being in human form. The idea is especially familiar in the mythology of Greece, but anthropomorphism is widespread and might be called latent in religion. There is some question as to whether a God shorn of *all* human characteristics is conceivable. Ancient Christian apologists defended themselves against charges of anthropomorphism by pagan philosophers, the orthodox doctrine is that Christ has two distinct natures (one divine, one human). The modern descriptive study of religion by anthropologists makes little use of the concept of anthropomorphism.

Antibes (ătēb'), town (pop. 13,778), Alpes-Maritime dept., SE France, a Mediterranean port. It exports oranges and olives. It was founded as a Greek colony (Antipolis) in the 4th cent. B.C. Cap d'Antibes, a near-by promontory, is a fashionable resort of the French Riviera.

antibiotic substances (ăn"tēbīŏ'tĭk), chemical substances obtained from microorganisms and having an antagonistic effect on certain other microorganisms. These substances are produced in the ordinary growth processes of the organisms. The majority are effective chiefly because they inhibit the growth of microbes, although many actually destroy microbial cells. However, the exact methods of action have not been fully determined. Among the substances most useful for treating human diseases are PENICILLIN, streptomycin, chloromycetin, and aureomycin. Streptomycin, derived from *Streptomyces griseus*, one of the actinomycetes (moldlike bacteria which normally produce, at some stage, a fine mycelium), was discovered in 1943 by Selman A. Waksman and an associate. It has been found effective in treating infections of the urinary tract and various diseases including tularemia, a form of meningitis in children, and some forms of tuberculosis. Chloromycetin is produced by *Streptomyces venezuelae*, an actinomycete discovered in a sample of soil from Venezuela. It can be produced synthetically and is effective against typhus, typhoid fever, and a number of other diseases. Aureomycin is produced by *Streptomyces aureofaciens* and has been used successfully in treating many diseases, including undulant fever, amoebic dysentery, pneumococcal and viral pneumonia, Rocky Mountain spotted fever, and typhus fever. Early observations of antagonism between organisms were made by Pasteur, by Metchnikoff, and by a number of other investigators. From the latter part of the 19th cent. it was known that the bacteria *Pseudomonas aeruginosa* (or *Bacillus pyocyaneus*) produced substances with antibacterial properties. Isolation of the first antibiotic substance (in crystalline form) from soil bacteria is credited to René J. Dubos, who obtained (1939) from *Bacillus brevis* a substance originally called by him gramicidin, later he gave the name tyrothricin to this crude substance in which are found the two components gramicidin and tyrocidine. Gramicidin is effective against mastitis in cattle and some local infections in humans, e.g., surface ulcers and sinusitis, but cannot be used intravenously because it destroys red blood cells; tyrocidine is ineffective in treating infections. Numerous other antibiotic substances have been isolated, but some produce toxic effects in the human body and others require further study. See S. A. Waksman, *Microbial Antagonisms and Antibiotic Substances* (1945), Samuel Epstein and Beryl Williams, *Miracles from Microbes* (1946).

antibody, specific substance produced by the tissues of the body when stimulated by another substance known as an antigen. Among the antigens are bacteria, bacterial toxins, viruses, and foreign proteins. Antibodies of various types (e.g., agglutinins, antitoxins, and bacteriolysins) give IMMUNITY by neutralizing the specific antigen. The serum for this immunization is obtained from animals after antibodies have been produced in them by injection of gradually increasing amounts of antigen.

Antichrist (ăn'tĭkrīst), in Christian belief, a person who will represent the powers of darkness on earth, to oppose the will of God and destroy His religion. 1 John 2:18–22, 4:3, 2 John 7. Scholars have seen affinities to Antichrist in Hebrew false prophets and in Persian dualistic ideas. It has been a commonplace for Christians to identify enemies of their belief with Antichrist, e.g., with early Christians it was Nero, with some Protestants the pope.

Anti-Comintern Pact see COMINTERN and AXIS.

Anti-Corn-Law League, organization formed in 1839 to work for the repeal of the English CORN LAWS. It was an affiliation of groups in various cities and districts with headquarters at Manchester and was an outgrowth of the smaller Manchester Anti-Corn-Law Association. Richard COBDEN and John BRIGHT were its leading figures.

Anticosti (ăntĭkŏs'tē), low, flat island (pop. 424), 135 mi. long and 10 to 30 mi. wide, E Que., at the head of the Gulf of St. Lawrence NE of the Gaspé Peninsula. The island was discovered by Cartier in 1534. Louis XIV granted it to Jolliet as a reward for his discovery of the Mississippi, and it long remained in the hands of Jolliet's heirs. Attempts to colonize it failed. Henry Menier, French chocolate manufacturer, purchased it in 1895 and made it a game preserve. In 1926 it was bought by the Consolidated Paper Corp.

anticyclone [opposite of a CYCLONE], area of high barometric pressure, from which the air moves spirally outward. The air is deflected by the earth's rotation according to Ferrel's law (clockwise in the Northern Hemisphere, counterclockwise in the Southern Hemisphere). The atmosphere in an anticyclone is characterized by clear skies, low humidity, and lack of precipitation. In the United States, anticyclones, or "highs," move in a general easterly direction at 400 to 600 mi. a day.

antidote see POISON.

Antietam campaign (ăntē'tum), Sept., 1862, of the Civil War. After the second battle of BULL RUN, Gen. R. E. LEE crossed the Potomac to invade Maryland and Pennsylvania. At Frederick, Md., he divided (Sept. 10) his army, sending Stonewall Jackson to capture the large Union garrison at Harpers Ferry and thus to clear his communications through the Shenandoah Valley. With the remainder, Lee marched NW toward Hagerstown. Gen. G. B. MCCLELLAN learned of this division of forces and moved to attack. In the battle on South Mt. (the Blue Ridge N of the Potomac, 12 mi. W of Frederick) on Sept. 14, 1862, McClellan defeated Lee's rear guard and took the passes of that range. Lee then fell back to Sharpsburg (c. 9 mi. W of South Mt.), where his position lay behind Antietam Creek. On Sept. 15 the Harpers Ferry garrison capitulated to Jackson, who, with part of his command, joined Lee before McClellan attacked. The battle of Antietam (or Sharpsburg) opened on the morning of Sept. 17. Early assaults on Lee's left were repulsed. In the afternoon Burnside's corps crossed the Antietam over the bridge on Lee's right and drove the Confederates back, but A. P. Hill's division arrived from Harpers Ferry and repulsed the attack. The battle was not renewed. On Sept. 18–19 Lee recrossed the Potomac into Virginia unmolested. The fighting at Antietam was so fierce that Sept. 17, 1862, is said to have been the bloodiest single day of the war. It was a Union victory only in the sense that Lee's invasion was stopped. The scene of the battle of Antietam has been set aside as a national battlefield site (183.32 acres, est. 1890).

Anti-Federalists, in American history, opponents of the FEDERALIST PARTY and the policies of Alexander HAMILTON in the early days of the republic. They looked on Thomas JEFFERSON as their leader and later called themselves Democratic-Republicans. With them began the DEMOCRATIC PARTY.

antifreezing solution, aqueous solution having a freezing point well below that of water, widely used in automobile cooling systems under weather conditions of low temperature. It is desirable that an antifreezing solution should not corrode metal parts, attack rubber, or have high viscosity at low temperatures, but should have a low freezing point, remain freely liquid at low temperatures, and show little evaporation at ordinary temperatures. Alcohol is used extensively, since it has little corrosive action, it tends, however, to evaporate rapidly. Salt solutions, such as that of calcium chloride, used formerly are highly corrosive. The solution of glycerin (glycerol) does not flow readily at low temperatures. Ethylene glycol has a low freezing point and does not evaporate readily, but it acts upon rubber. The following table of antifreezing solutions for automobile radiators gives the percent by volume in water of the substance and the freezing point (on the Fahrenheit scale) of the solution:

Substance	Freezing Point of Solution (Percentage by Volume in Water) 10%	20%	30%	40%	50%
Denatured alcohol (90% by vol.)	26.6°	19.4°	10.4°	−2.2°	−18.4°
Wood alcohol (97% by vol.)	23°	10.4°	−2.2°	−20.2°	−40°
Distilled glycerin (95% by vol.)	28.4°	21.2°	12.2°	−0.4°	−14.8°
Ethylene glycol (95% by vol.)	26.6°	15.8°	3.2°	−11.2°	−31°

antifriction metal, ALLOY used to line bearings in machinery when ball bearings are not used. Such alloys are not uniform, they consist of a soft material, called the matrix, in which are embedded hard particles. The soft material flows slightly under pressure, making a smooth surface which conforms to the shape of the axle or shaft. The hard particles take the load and distribute it evenly through the bearing. The bearing metals are alloys of antimony, copper, lead, tin, and zinc in various combinations, to some of which the names BABBITT METAL and white metal are applied.

antigen see ANTIBODY.

Antigo (ăn'tĭgō), city (pop. 9,495), co. seat of Langlade co., NE Wis., NE of Wausau, settled 1876, inc. 1885. Dairy and wood products are made. The county historical society has a museum in Antigo.

Antigone (ănt'ĭgunē), in Greek legend, daughter of Oedipus She followed her father in his banishment and disgrace When her brothers ETEOCLES and POLYNICES were killed in the war of the SEVEN AGAINST THEBES, CREON, regent of Thebes, forbade the burial of Polynices Antigone, in spite of his command, performed the funeral service for her brother Creon buried her alive Her story is told by Sophocles in *Oedipus at Colonus* and *Antigone*

Antigonish (ănt"ĭgŏnĭsh'), town (pop 2,157), NE N S, on the West River near its mouth and NE of Truro It was settled by the French in 1763, by the English in 1784 The town is known for its cooperative movement promoted by SAINT FRANCIS XAVIER UNIVERSITY

Antigonus I (Antigonus Cyclops) (ănt'ĭgunus sī'klŏps), 382? 301 B C, general of ALEXANDER THE GREAT and ruler in Asia He was made (333 B C) governor of Phrygia, and after the death of Alexander he was advanced by the friendship of ANTIPATER, who with PTOLEMY and CRATERUS, supported Antigonus in 321 against PERDICCAS and EUMENES In the wars of the DIADOCHI, Antigonus was the leading figure because he seems to have had the best chance to re-create Alexander's empire He had control of Asia Minor, Syria, and Mesopotamia at the time (316) when Eumenes was murdered His great power, however, ultimately caused LYSIMACHUS, SELEUCUS I, and PTOLEMY I to unite against him Antigonus' son, Demetrius Poliorcetes (later DEMETRIUS I of Macedon), was an able agent in the bid to build the empire by invading Greece, and Antigonus defeated (306) Ptolemy, but they both went down to defeat in the battle at Ipsus Antigonus was killed

Antigonus II (Antigonus Gonatas) (gōnā'tŭs), c 320–239 B C, king of Macedon, son of Demetrius I He took the title king on his father's death but made good his claims only by defeating the Gauls in Thrace and by taking Macedon in 276 His rule was very troubled PYRRHUS attacked him, and so did Ptolemy II A confederation of Greek cities headed by Athens waged (c 266–c 262 B C) the so-called Chremonidean War against him, and the Achaean League under Aratus gained power Yet Antigonus maintained himself and had a court notable for the poets and philosophers He rebuilt the Macedonian state and briefly united Greece He was succeeded by DEMETRIUS II

Antigonus III (Antigonus Doson) (dō'sŏn, -sun), d 221 B C, king of Macedon On the death of Demetrius II he became regent for Demetrius' son Philip (PHILIP V) He married the widow of Demetrius, and in 227 he proclaimed himself king The attacks of CLEOMENES III on the ACHAEAN LEAGUE caused Aratus to call for the help of Antigonus, who led his troops south in 224 In 222 he crushed Cleomenes at Sellasia in Laconea Meanwhile he had reconstituted the Hellenic League, and when he died he left power in Greece as well as Macedon to Philip V

Antigua (ănte'gwa, Span antē'gwä) or **Antigua Guatemala** (gwatumä'lu, Span gwatämä'lä) [Span, =Old Guatemala], city (pop 12,601), S central Guatemala After the destruction of CIUDAD VIEJA, Antigua was founded at the head of the same valley, dominated by the inactive volcanos AGUA and Acatenango (12,982 ft high) and the active volcano Fuego (12,854 ft high) In its heyday its splendor rivaled that of Lima and Mexico city By the 18th cent its population had increased to 80,000, and churches, convents, monasteries, public buildings, and homes were characterized by massive luxury The life of Antigua was continually subject to disaster from flood, volcano, plague, and earthquake and constant internecine struggles and scandals of ecclesiastical and lay authority In 1773 two earthquakes leveled the city The captain general ordered the removal of the capital to a plan supposedly free from earthquakes and there founded GUATEMALA CITY Today Antigua is a popular stopping point for tourists and the center of a rich coffee-growing region See Dorothy Popenoe, *Santiago de los Caballeros de Guatemala* (1933)

Antigua (ănte'gwa, ănte'gwu), island, area 108 sq mi, British West Indies In the LEEWARD ISLANDS colony, it is the principal island of the Antigua presidency (pop 41,826), with SAINT JOHN'S as the capital It is mountainous with a much-indented coast Island dependencies of the presidency are Barbuda (62 sq mi) and Redonda (1 sq mi) Chief products are sugar and molasses Discovered by Columbus in 1493, Antigua was ignored until the British established a settlement in 1632 For a short time in 1666 the French occupied it, but it was almost immediately returned to the British In accordance with an agreement of 1940 the United States operates defense bases on Antigua under a 99-year lease

Antigua Guatemala see ANTIGUA OR ANTIGUA GUATEMALA.

Anti-Lebanon, see *Anti-Libanus*, mountain range between Syria and Lebanon, rising to Mt. HERMON The name also appears as Anti-Liban

Antilles. see WEST INDIES

Antilochus (ănt'ĭlukus), in Greek legend, hero of the Trojan War, companion of Achilles. He died to save the life of his father, Nestor, and he and PATROCLUS were buried with Achilles

Anti-Masonic party, American political organization which rose after the disappearance in W New York in 1826 of William Morgan A former Mason, he had written a book purporting to reveal Masonic secrets The Masons were said, without proof, to have murdered him, and in reaction local organizations arose to refuse support to Masons for public office In New York state Thurlow WEED and William H SEWARD attempted unsuccessfully, to use the movement, which appealed strongly to the poorer classes, to overthrow Martin VAN BUREN and the ALBANY REGENCY Anti-Masonry spread from New York to neighboring states and influenced many local and state elections At Baltimore, in 1831, the Anti-Masons held the first national nominating convention of any party and issued the first written party platform—innovations followed by the older parties The vote for their presidential candidate, William WIRT, mostly hurt Henry Clay Usually the Anti-Masons in national politics acted with the NATIONAL REPUBLICAN PARTY in opposition to Jacksonian democracy, and in 1834 they helped to form the WHIG PARTY See W B Hesseltine, *The Rise and Fall of Third Parties* (1948)

antimony (ănt'ĭmō"nē) [Late Latin], silver-white crystalline element (symbol =Sb [Latin *stibium*], for physical constants, see ELEMENT, table), metallike in appearance but displaying properties of both a metal and a nonmetal It is like nitrogen, phosphorus, arsenic, and bismuth in chemical activity in that it forms similar compounds It unites with hydrogen to form stibine, a poisonous gas With oxygen it forms several compounds, a trioxide, a tetroxide, and a pentoxide The trioxide when heated with the bitartrate of potassium yields tartar emetic Antimony unites directly with the halogens and combines with sulphur Antimony is employed in making alloys, such as BRITANNIA METAL, TYPE METAL, BABBITT METAL and sometimes PEWTER Because it expands upon solidification, it makes good castings It is employed also in the preparation of battery plates, in the vulcanizing of special rubber, and in paints and explosives Its compounds have long been used in medicine, e g, TARTAR EMETIC (For antidote, see antimony under POISONING, table) Antimony occurs free in nature only rarely Its ores, however, are widely distributed throughout the world, in North and South America, Mexico, Europe, and Asia The chief commercial source of the element is STIBNITE, a sulphur compound known since very early times A method for the extraction of antimony from it was first described in the works of BASILIUS VALENTINUS Although known to the ancients, the element was first adequately described at the beginning of the 18th cent by LÉMERY Antimony is detected in compounds by MARSH'S TEST

Antin, Mary, 1881-1949, American author, b Russia In 1894 she emigrated to the United States with her parents and received her education in Boston and at Columbia Univ In 1901 she married Professor Amadeus Grabau She is known for her writings on the immigrant, notably *From Polotzk to Boston* (1899), *The Promised Land* (1912), her most widely read book, and *They Who Knock at Our Gates* (1914)

antinomianism (ănt"ĭnō'mēunĭzm) [Gr, =against law], tendency always more or less latent in Christian thought Its proponents hold that Christians, bought by the precious blood of Jesus and justified by their faith, have no need to regard the moral law, especially as laid down in the Old Testament The great argument against antinomianism is the sixth chapter of Romans The idea behind antinomianism was strong among Gnostics, in some of the medieval heresies, and in the teachings of Johann Agricola The only members of a great sect which has held antinomianism are the ANABAPTISTS In colonial Massachusetts, Anne Hutchinson was persecuted for antinomianism

Antinoüs (ănt"ĭnō'ŭs), c 110–130, favorite of Emperor Hadrian, b Bithynia He was constantly with the emperor until on a journey in Egypt he was drowned in the Nile—some say in saving Hadrian's life His beauty was legendary, and Hadrian mourned him greatly, had him deified, founded the city of Antinoöpolis in Egypt in his honor, and seems to have renamed the youth's birthplace Antinoopolis A cult was inaugurated in his honor, coins were struck with Antinoüs' head on them, and many busts and statues were made

Antioch (ăn'tēŏk), town of ancient Phrygia, near the Pisidian border and therefore called Pisidian Antioch Its site is north of the present Antalya, Turkey It was visited by St Paul Acts 13 14, 14 21, 2 Tim 3 11

Antioch or **Antakya** (äntakyä'), town (pop 27,448), S Turkey, on the Orontes river, at the foot of Mt Silpius and 20 mi from the sea It was founded c 300 B C by Seleucus I near two already existing Greek colonies and was named for his father; the population was largely Macedonian Lying at the crossing of routes from the Euphrates to the sea and from El BIKA to Asia Minor, it soon grew into one of the largest commercial centers and most sumptuous cities of the world: the two main streets, at right angles to each other, were lined with marble colonnades and adorned with temples, palaces, and statues The city was surrounded by a thick wall; its remains as well as those of the aqueduct, the theater, and the castle are still visible today It was here that the followers of Jesus were first called Christians after having severed themselves from the synagogue (see Acts 11 26, 13.1). Antioch is one of the three ancient patriarchates and is the seat of a Melchite, a Syrian rite, a Maronite, a Latin rite, and a Jacobite PATRIARCH Aurelian, who recovered it from Shapur I of Persia, erected more magnificent buildings and churches St John Chrysostom estimated the population (4th cent) at 200,000. In 538 Antioch fell to the Persians, and in 637 to the Arabs Nicephorus I reconquered it (969) for the Byzantine Empire, but in 1085 it fell, through treason, to the Seljuk Turks The army of the First Crusade (see CRUSADES) laid siege to Antioch in 1097 and conquered it in 1098 BOHEMOND I was made prince of Antioch His principality, which extended from Iskenderun southward beyond Latakia, was one of the most powerful of the Crusaders' states In 1108 Bohemond was forced to recognize Emperor Alexius I of Byzantium as his suzerain, but the Byzantines could not for long enforce their claims and Bohemond's successors held Antioch as a virtually independent fief from the Latin Kingdom of Jerusalem After its fall (1268) to the Mamelukes of Egypt, Antioch declined, in 1516 it was conquered by the Ottoman Turks With the sanjak of ALEXANDRETTA, Antioch was transferred to Syria in 1920 and restored to Turkey in 1939 The city has suffered many severe earthquakes, the most destructive in recent times was in 1872 Modern Antioch occupies but a fraction of the ancient city Excavations begun in 1935 at Antioch and at its ancient suburban resort, Daphne, have yielded splendid mosaics (1st-6th cent A D)—mostly copies of lost paintings—and many other important remains An earlier find was the Great Chalice of Antioch (see CHALICE) held by many to be the Holy Grail

Antioch 1 Town (1940 pop 5,106, 1947 special census pop 9,923), W Calif, on the San Joaquin near its junction with the Sacramento and NE of Oakland, founded 1849–50, inc 1872 A power plant of the Central Valley project is located at this processing center of a farm region 2 Summer resort village (pop 1,098), NE Ill, near the Wis line NNW of Chicago, in a lake region, settled 1836, inc 1857

Antioch College, at Yellow Springs, Ohio, nonsectarian, coeducational, chartered 1852, opened 1853 Antioch is a pioneer in experimentation, the chief feature being the cooperative plan by which students partly work their way by alternating periods of study and full-time work More recent is a community-government plan for training in group living Horace Mann and Arthur E Morgan were noted presidents

Antiochus I (Antiochus Soter) (ănt'ĭukus sō'tur), d c 261 B C, king of Syria (280–c 261 B C), son of SELEUCUS I He did not, like his father, seek to expand in Europe The Seleucid holdings were much reduced, particularly by the Egyptians under Ptolemy II, and the territories he left to his son Antiochus II were far from being all of Syria

Antiochus II (Antiochus Theos) (thē'ŏs), d 247 B C, king of Syria (c 261–247 B C), son of Antiochus I In warfare with Ptolemy II he had varied fortune, but his marriage to Ptolemy's daughter Berenice sealed the peace, and Antiochus was confirmed in most of the Syrian possessions his father had lost Antiochus' second marriage had evil results, on the death of Antiochus, his son by an earlier marriage, SELEUCUS II, and Berenice in behalf of her infant son struggled for the throne, a war with Ptolemy III ensued

Antiochus III (Antiochus the Great), d 187 B C, king of Syria (223–187 B C), son of Seleucus II At his accession the Seleucid empire was dissolving He could not restore it completely—Bactria and Parthia were not brought back though they were made vassal kingdoms—but he did much to revive the glory of the Seleucid dynasty He led an expedition to India (212–205 B C) Though he was earlier defeated by the Egyptians at Rafa, he and Philip V of Macedon undertook (202) to wrest Egyptian territories from the boy king, Ptolemy V Antiochus, successful, did not properly appreciate the growing power of Rome While Philip V was engaged by the Roman armies, Antiochus recovered S Syria and Asia Minor In 196 he seized the Thracian Chersonese and thus alarmed the Greeks They as well as the Egyptians sought the aid of the Romans Antiochus, who disregarded the advice of Hannibal (at his court in 193), waited and then challenged Rome by accepting the invitation of the Aetolian League to interfere in Greece in 192 The Romans crushed him (191) at Thermopylae and again at Magnesia (190). He also lost naval engagements, and in 188 he was forced to give up all his territory W of the Taurus Thus the Seleucid empire became a purely inland Asiatic state, and dreams of reviving Alexander's empire were dead.

Antiochus IV (Antiochus Epiphanes) (ĕpĭ'fənēz), d. 163 B.C., king of Syria (175–163 B.C.), son of Antiochus III; successor of his brother Seleucus IV His nephew (later Demetrius I) was held as a hostage in Rome, though still claiming the throne. Antiochus is best known for his attempt to Hellenize Judaea and extirpate Judaism—a policy that brought on the rising of the MACCABEES Antiochus invaded Egypt, which was torn by strife between Ptolemy VI and his brother (later Ptolemy VII), and would probably have conquered that land if the Romans had not intervened in his siege of Alexandria (168). Antiochus was briefly succeeded by his son, Antiochus V, a boy king who was overthrown by Demetrius I.

Antiope (ănt'ĭ'əpē), in Greek legend **1** Daughter of the king of Boeotia Zeus loved her and came to her as a satyr She fled the wrath of her father, who committed suicide. She married Epopeus, but her brother Lycus recovered her, and he and his wife Dirce mistreated her. Antiope's twin sons by Zeus, AMPHION and Zethus, rescued her and killed DIRCE. **2** Sister of HYPPOLYTE, queen of the Amazons According to one legend she loved THESEUS, who abducted her This legend makes her the mother of HIPPOLYTUS

Antipas (ăn'tĭpăs) **1** See HEROD **2** Martyr at Pergamum, traditionally its first bishop Rev 2 13

Antipater (ănt'ĭpətûr), d 319 B C, Macedonian general He was one of the ablest and most trusted lieutenants of PHILIP II and was a friend of ALEXANDER THE GREAT When Alexander went on his Asiatic campaign, Antipater was left as regent (334–323 B C) in Macedon He resisted the attempt of Olympias to gain the regency and governed ably After the death of Alexander he put down a rebellion of many of the Greek cities in the Lamian War and punished Athens Antipater was a leading opponent of the regent, Perdiccas, and after Perdiccas was defeated in 321 by Ptolemy I, Antigonus I, and Craterus, it was Antipater who held the kingdom together After his death it fell violently apart in the wars of the DIADOCHI.

Antipater, in the Bible see HEROD

Antipatris (ăntĭp'ətrĭs) city, Roman Palestine, founded by Herod the Great and named after his father It was some 10 mi NE of Joppa, on the north-south road Paul was taken there on the way to Caesarea Acts 23 31

Antiphilus (ăntĭf'ĭləs), fl. 4th cent B C., Greek painter, of Egyptian origin He invented a grotesque caricature called a gryllos, a creature part man, part animal or bird He painted portraits of Philip of Macedon and Alexander the Great

Antiphon (ăn'tĭfŏn, -fən), c 479 B C –411 B C, Athenian orator He probably was not a barrister, but wrote defenses for others to speak Of his 15 extant orations three were for use in court, the rest for the instruction of his pupils He did much to advance attic prose writing His position in politics was with the conservative aristocrats, and he was instrumental in setting up the Four Hundred in 411 B C When they fell, Antiphon was executed among the first, before ALCIBIADES returned

antiphon (ăn'tĭfən), in liturgical music, generally a short response sung before and after a psalm The introit, offertory, and communion of the Mass were originally antiphons which later were used independently Certain festival chants, sung preparatory to the Mass itself, are called antiphons There are also the four antiphons of the Blessed Virgin Mary, which are in the nature of office hymns and are sung by alternating choirs (i e , antiphonally), each one belonging to a certain portion of the year The best known of these is SALVE REGINA, of whose text there are many polyphonic settings

Antipodes (ăntĭp'ədēz), rocky uninhabited islands, S Pacific, c 450 mi SE of New Zealand, to which they belong The Antipodes are so named because of their location in relation to Greenwich, England

antipodes [Gr , =having feet opposite], people or places diametrically opposite on the globe Thus antipodes must be separated by half the circumference of the earth (180°), and one must be as far north as the other is south of the equator, midnight at one is noonday at the other New Amsterdam and St. Paul, small islands nearly midway between South Africa and Australia, are more nearly antipodal to Washington, D C , than is any other land

antipope [Latin, =against the pope], one supposed to be pope whom subsequent popes do not recognize as their predecessor in the Holy See. Important antipopes were NOVATIAN, Clement III (GUIBERT OF RAVENNA), Nicholas V (see RAINALDUCCI, PIETRO), Clement VII (see ROBERT OF GENEVA), Benedict III (see LUNA, PEDRO DE), John XXIII (sometimes called John XXII, see COSSA, BALDASSARRE), and Felix V (see AMADEUS VIII).

antique. The term is used collectively to designate classic Greek and Roman works of art, particularly sculptures; as an adjective to indicate an object, a period, or a style of ancient or early times, and as a noun, for objects of art, furniture, rugs, pottery, metalwork, costumes, jewelry, and household goods of early production The demand and prices paid for antiques have led to the widespread making of reproductions and reconstructions, some with spurious marks of age. The genuineness of antique furniture is judged by such details as toolmarks, patina, kind and grain of wood, structure and line, hardware, nails, and signs of wear Collections of antique furniture are preserved in European and American museums and mansions Outstanding collections of American antiques are in the American wing of the Metropolitan Museum, the Museum of Fine Arts, Boston; Henry Ford's Edison Institute of Technology, Dearborn, Mich., the museum of the Bucks County Historical Society, Doylestown, Pa , the national shrines Mt Vernon and Monticello. See Esther Singleton, *The Collecting of Antiques* (1926); Carl Drepperd, *The Primer of American Antiques* (1944)

Anti-Saloon League, U S organization working for prohibition of the sale of alcoholic liquors Founded in 1893 as the Ohio Anti-Saloon League at Oberlin, Ohio, by representatives of temperance societies and evangelical Protestant churches, it came to wield great political influence and was a large factor in securing the passage of the Eighteenth Amendment A critical study of the national lobby of the Anti-Saloon League appears in P H Odegard, *Pressure Politics* (1928)

anti-Semitism, sentiment, ranging from antipathy to violent hatred, against the JEWS Before the 19th cent , anti-Semitism was largely religious, based on dislike for the "perfidious" Jews who crucified Christ, and was expressed in the later Middle Ages by sporadic persecutions and expulsions—notably the expulsion from Spain under Ferdinand and Isabella—in severe economic and personal restriction (see GHETTO), and in fantastic legends such as those of ritual murder by Jews of Christian children However, the Jews being generally restricted to the profession of unpopular trades (notably usury), the sentiment was also economic in nature After the emancipation of the Jews, brought about by the Enlightenment of the 18th cent and by the French Revolution, religious and economic motives were gradually replaced by "race" feeling This development was due not only to the rising nationalism of the 19th cent , but also to the conscious preservation, among Orthodox Jews, of cultural and religious barriers that isolated the Jewish minorities from their fellow citizens The unpopularity of the Jews, on whom all evils could be blamed with impunity, was exploited either by demagogues, such as Édouard DRUMONT in France, to stir the masses against an existing government, or by reactionary governments, as in Russia, to find an outlet for popular discontent The millions of Russian and Polish Jews who, after the assassination (1881) of Alexander II, fled the pogroms and found refuge in other countries contributed to the popular feeling that Jews were aliens and intruders In addition, a spurious document, the "Protocols of the Wise Men of Zion," purporting to outline a Jewish plan for world domination, emerged in Russia early in the 20th cent and has circulated throughout the world ever since After the Russian Revolution of 1917, the Jews were accused of plotting to dominate the world by their international financial power or by a Bolshevik revolution, the argument varied according to the audience addressed These emotional arguments received pseudoscientific backing from theories of "Aryan" superiority These theories emerged in the 19th cent with the writings of Count GOBINEAU and Houston Stewart CHAMBERLAIN and found their climax in those of Alfred ROSENBERG, which were incorporated in the official doctrine of German NATIONAL SOCIALISM by Adolf Hitler Hitler's persecution of the Jews during the Second World War is unparalleled in history It is estimated that between 5,000,000 and 6,000,000 European Jews were exterminated between 1939 and 1945 (see CONCENTRATION CAMP) Hitler's fall, though it stopped persecution, did not stop anti-Semitism, which is likely to last as long as fear and insecurity make the masses receptive to anti-Jewish agitation

antiseptic, an agent that inhibits the growth of microorganisms without necessarily causing their destruction Examples of antiseptics are alcohol, iodine, lysol and carbolic acid in dilute solutions, sunlight, and water at high temperature Powders of the sulfanilamide drug group are used in surgical wounds as an antiseptic LISTER was the first to employ an antiseptic (carbolic acid) in surgery, following the discovery by PASTEUR that microorganisms are the cause of infection Modern surgical techniques for avoiding infection are founded on asepsis, the absence of pathogenic organisms Sterilization of the area of operation, the air in the operating room, the instruments, and everything that comes in contact with the wound are attempts to achieve asepsis

antislavery movement: see SLAVERY and ABOLITIONISTS

Antisthenes (ăntĭs'thənēz), b 444? B C , d after 371 B C , Greek philosopher, founder of the CYNICS Antisthenes in his middle age rejected the Sophist doctrines of his teacher, Gorgias, and became one of Socrates' most ardent followers He believed virtue to be the chief aim of man. Man to attain virtue must reduce to a minimum his dependence on the external world, thus, he must disregard social convention, shun pleasure, and live in poverty Antisthenes, like Xenophanes, repudiated polytheism, substituting one god, whom he described as unlike anything known to man.

Anti-Taurus see TAURUS

antitoxin, substance formed in the body fluid which neutralizes the poisonous products (toxins) of bacteria In healthy individuals, immunity to disease results from the production of antitoxins The immunity may be increased by injecting specific, specially prepared antitoxins For example, those used in the treatment of diphtheria and tetanus are obtained from the blood serum of horses which have received injections of the specific toxin to stimulate antitoxin formation

Anti-Trust Act see CLAYTON ANTI-TRUST ACT and SHERMAN ANTI-TRUST ACT

Antium, Italy see ANZIO

Antlers, lumber town (pop 3,254), co seat of Pushmataha co , SE Okla , on the Kiamichi, inc 1903.

Antofagasta (äntōfägä'stä), city (pop 49,106), N Chile, a port on the Pacific. Most important of the republic's northern cities, Antofagasta was founded by Chileans in 1870 to exploit nitrates in the desert of ATACAMA, then under Bolivian administration. Its occupation by Chilean troops in 1879 began the War of the Pacific (see PACIFIC, WAR OF THE), and after the war it was, with the province, ceded to Chile Antofagasta has depended primarily on nitrates and copper exports, often threatened by sharp fluctuations in world demands. The open harbor is partially protected by a breakwater With highway and rail connections to N Chile, Bolivia, Argentina, and S Chile, the city has become an international commercial center Industries include a brewery, a fish cannery, an explosives plant, soap and paint factories, a clothing mill, and foundries and ore refineries Backed by desert hills, Antofagasta, though enjoying a moderate climate, hardly ever receives rain Water is bought from 280 mi away

Antoine, André (ädrā' ätwän'), 1858–1943, French theatrical manager In 1887 he formed his own company, which came to be called the Théâtre Libre Here, by means of private subscriptions, he was able to present the foremost works of the naturalist school He produced many of the first plays of Brieux, Curel, and Lavedan and of contemporary Russian, German, and Scandinavian masters before his project proved a financial failure in 1894. In 1897 he founded the Théâtre Antoine, where he continued the tradition of his Théâtre Libre for 10 years He was appointed director of the Odéon in 1906 and remained at this theater until 1914 The work of Antoine became a model for experimental theaters in Europe and the United States See S M. Waxman, *Antoine and the Théâtre-Libre* (1926)

Antoine, Père (pâr' äntwän') [Fr , =Father Anthony], d 1829, Spanish priest in New Orleans, a Capuchin friar His Spanish name in religion was Antonio de Sedella, his family name was Moreno. Through many years of service at St Louis Cathedral under Spanish, briefly French, and then U.S. rule, he won his French congregation from distaste for his harshness to great love and respect He was almost constantly at war with the authorities The Spanish colonial rulers once sent him back as a prisoner to Spain, and U S officials were later highly incensed at his secret dealings with the Spanish The legend that he was empowered to introduce the Inquisition to Louisiana but refrained from doing so is apparently based on fact He is the chief figure in the historical novel *Père Antoine* (1947) by Edward F Murphy

Antokolski, Markus (mär'kŏos äntŭkôl'skē), 1843–1902, Russian sculptor Most of his works are statues of famous personages such as Socrates, Spinoza, and Peter the Great His masterpiece, of Ivan the Terrible, was cast in bronze for the Hermitage collection

Antonelli, Giacomo (jä'kōmō äntônĕl'lē), 1806–76, Italian statesman, cardinal of the Roman Church, adviser to Pope PIUS IX He received the red hat in 1847, presided over the council drafting the constitution for the papal states, and became the premier of the pope's first constitutional cabinet After return from his exile in Gaeta (1849), Pius IX made him secretary of state His vigorous diplomacy was directed against Italian national unification.

Antonello da Messina (äntônĕl'lō dä mäs-sē'nä), c 1430–c 1479, Italian painter, b Messina One of the first in Italy to practice the Flemish technique of oil painting, he is thought to have introduced it into Venice, where he was active c 1475 His paintings are notable for their fine luminosity and keen observation Among them are *Pietà* (Venice), *Annunciation* (Syracuse), *Calvary* (Antwerp), *St Jerome* and *Christ on the Cross* (National Gall , London), and *Madonna and Child* (one in the National Gall of Art, Washington, D C., another in the Metropolitan Mus)

Antonescu, Ion (yôn äntônĕ'skōō), 1882–1946, Rumanian marshal and dictator He served in the First World War, later became chief of staff, but fell into disfavor with King Carol II because of his suspected intrigues with the IRON GUARD. In the Second World War, on Sept 2, 1940, Carol,

threatened with revolution and German intervention, appointed Antonescu premier with dictatorial powers Two days later Antonescu forced the king to abdicate in favor of Carol's son, MICHAEL In Nov, 1940, Rumania joined the Axis Powers, and early in 1941 Antonescu ruthlessly suppressed a revolt by the Iron Guard, which, though it had helped him to power, had been disappointed in its hope of dominating Rumania Antonescu gave Hitler virtual control over Rumanian economy and foreign policy, tolerated violent pogroms against the Jews, and declared (June 22, 1941) a "holy war" on Russia Military disasters and economic misery caused increasing opposition to Antonescu's regime With two Russian armies deep in Rumania, King Michael in Aug, 1944, had Antonescu and his cabinet arrested in a theatrical coup Antonescu was tried (1946) for war crimes by a people's court, sentenced, and executed

Antonines (ăn'tunīnz), collective name of the Roman emperors of the 2d cent These emperors are usually listed as ANTONINUS PIUS, his adopted sons, MARCUS AURELIUS and Verus, and COMMODUS

Antoninus, Saint (ăntōnī'nus), 1389–1459, Italian churchman, named Antoninus Pierozzi He was a Dominican and became archbishop of Florence He ruled well and was renowned for his charitable work in the city His *Summa moralis* is a long, pioneering work in moral theology It has great interest in that its special theme is commercial ethics and the morality of banking, it shows admirably the effect the new business methods were having on everyday life Feast May 10 See Bede Jarrett, *St Antonino and Medieval Economics* (1914)

Antoninus, Wall of, ancient Roman wall built across N Britain from the Firth of Forth to the Firth of Clyde by the prefect Lollius Urbicus in the reign of Antoninus Pius—probably A D 140–42 Built as a protection against the peoples to the north, it had a ditch on the north, 19 forts along its southern side, and was 37 mi long Its construction was similar to that of HADRIAN'S WALL See Sir George Macdonald, *The Roman Wall in Scotland* (2d ed, 1934)

Antoninus Pius (Titus Aurelius Fulvus Boionius Arrius Antoninus) (pī'us), A D 86–A D 161, Roman emperor (138–161), b Lanuvium After a term as consul (120) he went as proconsul to Asia, where he governed with distinction He was adopted by the emperor HADRIAN and, on succeeding him, administered the empire with marked ability Italy was embellished with fine buildings and the provinces were eased of much of their burden During his reign Agricola built in Britain the Wall of Antoninus The empire enjoyed peace in his time His wife was Faustina, aunt of his successor, MARCUS AURELIUS

Antonito (ăn'tunē'tō), town (pop 1,220, alt c 7,900 ft), S Colo, S of Alamosa and near the N Mex line, inc 1889 It is a railroad center for a large farm area

Antony or **Marc Antony,** Latin *Marcus Antonius,* c 83 B C–30 B C, Roman politician and soldier, one of the romantic figures of history He was of a distinguished family His mother was a relative of Julius CAESAR, his stepfather was P Cornelius LENTULUS Sura Antony was notorious from his youth for riotous living, but even his enemies admitted his courage and endurance in war Between 58 and 56 B C he campaigned in Syria with Aulus Gabinius and then in Gaul with Caesar, who saw signs in Antony of great promise and made a protégé of him Antony became quaestor and in 49 B C tribune When the situation between POMPEY and Caesar became critical, Antony and Q CASSIUS Longinus, another tribune, vetoed the bill to deprive Caesar of his army and fled to him Caesar crossed the Rubicon, and the civil war began At the battle of Pharsala Caesar took the right wing, and Antony gave distinguished service as the leader of the left After a conspiracy had resulted in the assassination of Caesar, Antony, then consul, at Caesar's funeral aroused (44 B C) the mob against the conspirators and drove them from the city When Octavian (later AUGUSTUS), Caesar's adopted son and heir, arrived in Rome for his patrimony, Antony joined forces with him, but they soon fell out Antony went to take Gaul as his assigned proconsular province, but DECIMUS BRUTUS would not give it up, and Antony besieged him at Modena The senate, urged by CICERO, who excoriated Antony in the *Philippics,* sent the consuls Aulus HIRTIUS and C Vibius Pansa to attack Antony The consuls fell in battle, but Antony retired into Transalpine Gaul (43 B C) Octavian now decided for peace and arranged with Antony and M Aemilius LEPIDUS the Second Triumvirate, Antony receiving Asia as his command In the proscription following this treaty Antony had Cicero killed Antony and Octavian crushed the republicans at Philippi, and the triumvirate ruled the empire in 42 B C In the same year Antony met CLEOPATRA, and their tragic love affair began In the course of Antony's stay in the East his wife Fulvia (widow of CLODIUS) and a brother of his had become so alienated from Octavian that civil war had broken out in Italy At about the time Antony arrived in Italy, Fulvia died (40 B C) and a peace was patched up between Octavian and Antony, who married Octavian's sister Octavia; she became, thereafter, Antony's devoted partisan and the strongest force for peace between the two In 36 B C Antony undertook an invasion of Parthia The war was costly and useless, and Antony succeeded only in adding some of Armenia to the Roman possessions In 34 B C, Antony settled in Alexandria as the acknowledged lover of Cleopatra He gave himself up to pleasures and indulgence, caring neither for the growing ill will in Rome nor for the increasing impatience of Octavian, who saw the wealth of the entire East flowing into Alexandria In 32 B C the senate deprived Antony of his powers, and civil war was inevitable In 31 B C, Antony and his fleet met M Vipsanius Agrippa with Octavian's fleet off Actium, and Antony found his great galleys were no match for the swift small craft Octavian had built In the middle of the battle Cleopatra retired with her boats, and Antony followed her His navy surrendered to Octavian The situation of the two lovers was desperate Returning to Alexandria, they set about fortifying Egypt against Octavian's arrival When at length (30 B C) Octavian did come, Antony committed suicide, under the impression, it is said, that Cleopatra had died already She killed herself soon afterward The most celebrated drama on Antony is, of course, Shakspere's *Antony and Cleopatra* Dryden rewrote this in *All for Love, or, The World Well Lost* For Antony's part in Caesar's funeral Shakspere's *Julius Caesar* is interesting The name also sometimes appears as Marc Anthony

Antothijah (ăntuthī'ju), descendant of Benjamin 1 Chron 8 24

Antothite (ăn'tōthīt) see ANATHOTH

Antrim (ăn'trĭm) maritime county (1,098 sq mi, 1937 pop 197,266 and 1948 estimated pop 216,527, excluding Belfast), Ulster prov, Northern Ireland Belfast is the county town The eastern and seaward third of the county is mountainous, broken by picturesque glens, to the west, where Antrim borders on Lough Neagh, there are the fertile valleys of the Bann and the Lagan On the north coast, near Portrush, is the extraordinary basaltic formation known as the GIANT'S CAUSEWAY The region is chiefly agricultural (oats, flax, potatoes), with fishing and cattle breeding important occupations BELFAST is a major British port and the chief industrial center of Ireland There are no other large urban areas Larne, Lisburn, Ballymena, Carrickfergus, and Antrim are important local centers

Antrim, town (pop 1,627), Co Antrim, Northern Ireland, on Lough Neagh An agricultural market in a flax-growing region, it has linen mills The round tower here dates from c 900

Antrim, town (pop 1,127), S N H, on the Contoocook and SW of Concord, settled 1741, inc 1777 Many settlers were Scotch-Irish

Antung (ăn'tōōng'), province (24,046 sq mi, pop 3,341 908) NE China, bordered on the southeast by the Yalu river, which separates it from Korea, and by the Bay of Korea The capital is Tunghwa A part of Manchuria, it was included in Manchukuo and was created a province in 1945, largely out of the southeastern section of the former province of Liaoning The city of Antung is the only major port on the coast (c 50 mi long) The Hun, an unnavigable tributary of the Yalu, is the longest river which crosses this mountainous province Antung is adequately served by rail, it includes a section of the South Manchurian RR Except that its overseas trade is less, Antung is economically much like the present province of LIAONING

Antung, city (pop 315,242), S Antung prov, China A former TREATY PORT, opened in 1907, it is at the mouth of the Yalu river A southern terminus of the South Manchurian RR, Antung enjoys a large export trade in timber and soybean products

Antwerp, (ăn'twûrp), Flemish *Antwerpen* (ant'vĕrpun), Fr *Anvers* (ăNvĕr'), province (1,104 sq mi, pop 1,266,647), N Belgium It is a level cultivated plain drained by the Scheldt (Escaut) river and the Albert Canal Antwerp (the capital) and Malines are the chief cities The province, which is mostly Flemish-speaking, was a part of the duchy of BRABANT

Antwerp, Flemish *Antwerpen,* Fr *Anvers,* city (pop 259,622, with suburbs c 600,000), capital of Antwerp prov, Belgium, on the Scheldt (Escaut) river Rivaled only by Rotterdam as the largest seaport of continental Europe, Antwerp is also a world center of the diamond trade and industry, the seat of the oldest stock exchange (founded 1460), an industrial center (oil refineries, automobile plants, assembly plants, and flour mills), and one of the great historical and artistic cities of Europe Major imports are cotton, grain, and (from the Belgian Congo) copper and other ores, major exports are textiles and machinery Transit trade to and from W Germany, notably the Ruhr area, is a vital part of the port's activities An early seat of the counts of Flanders and one of the old communes of Brabant, Antwerp rose into prominence with the decline (15th cent) of Bruges and Ghent In 1446 the English Merchant Adventurer gave the port great impetus by moving their factory from Bruges to Antwerp By the middle of the 16th cent Antwerp was the commercial and financial hub of Europe, with a population of c 200,000 Its busy docks were the marvel of the day The diamond industry, established in the 15th cent, expanded greatly after the arrival of Jewish craftsmen expelled from Portugal Antwerp's prosperity suffered a fatal blow when the city was sacked by mutinous Spanish troops in 1576 (the "Spanish Fury"), but Antwerp resisted for 14 months (1584–85) before surrendering to the Spanish under Alexander Farnese To favor Dutch commerce, the Peace of Westphalia (1648) closed the Scheldt to navigation, thus reducing Antwerp to insignificance Napoleon I revived its trade but the Dutch-Belgian treaty of separation (1839) gave the Netherlands the right to collect a toll on Scheldt shipping The modern expansion of Antwerp dates only from 1863, when Belgium is deemed this right by a cash payment In the First World War, the Germans reduced the formidable defenses of Antwerp, which suffered great hardship In the Second World War, Antwerp was captured (Aug, 1944) by British troops, became a vital Allied supply base, and was heavily attacked and damaged by German rocket weapons The artistic fame of Antwerp dates from the rule (15th cent) of Philip the Good of Burgundy, who founded an academy of painting Quentin MASSYS and RUBENS made Antwerp their home, and Sir Anthony VAN DYCK was born here Many of their works are in the museums and churches of Antwerp Christophe PLANTIN (16th cent) made the city a printing center Among the many splendid buildings of Antwerp are the Cathedral of Notre Dame (14th–15th cent), one of the finest of Gothic cathedrals with a spire 400 ft high, and the old guild house that line the Groote Markt [market place] The zoological garden has long been world famous

Antwerp, rural village (pop 1,086), NW Ohio, on the Maumee near the Ind border Cheese is made here

Anu see BABYLONIAN RELIGION

An Uaimh, Co Meath, Ireland see NAVAN

Anub (ā'nŭb), Judahite 1 Chron 4 8

Anuradhapura (unōō'radupōō'ru) or **Anarajapura** (una'raju–), town (pop 12,287), N Ceylon It is the site of a city, founded in 437 B C, which was (4th cent B C–8th cent A D.) the capital of Ceylon and one of the leading Buddhist centers of the world Ruins include large stupas, a temple hewn from the rock, and the Brazen Palace (so called from its metal roof) Many Buddhist pilgrims visit the BO TREE grown from a slip of the tree at BUDDH GAYA under which Buddha is believed to have attained enlightenment

Anvers see ANTWERP

Anville, Jean Baptiste Bourguignon d' (zhäN' batēst' bōōrgēnyō' dävēl'), 1697 1782, French geographer and cartographer His maps of ancient geography, characterized by careful accurate work and based largely on original research, are especially valuable He became cartographer to the king, who purchased his maps, atlases, and other geographical material (the largest collection in France), Anville himself made more than 200 maps

Anyox, mining area, W British Columbia, NNE of Prince Rupert Here are large copper mines and a pyrite smelter

Anza, Juan Bautista de (hwan' boutēs'ta dā an'sä), 1735–88, Spanish explorer and official in the Southwest and the Far West, founder of San Francisco, b Mexico Accompanied by Father F T H Garcés and a small expedition, he opened (1774) an overland road from Sonora through present Arizona to California, reaching San Gabriel and Monterey Viceroy A M Bucareli, who was alarmed by the threatened encroachments of the Russians and the British on the Pacific coast, sent (1775) Anza on a new expedition to establish a colony In 1776 he chose the site of San Francisco, where a presidio was founded by one of his lieutenants and a mission was founded by Father Francisco Palóu under the direction of Father Junipero Serra Later, as governor of New Mexico (1777–88), Anza built up Spanish frontier defenses and established order Journals of men on his California journey are in *Anza's California Expeditions* (ed by H E Bolton, 5 vols, 1930) For his diaries and a study of his policy, see A B Thomas, *Forgotten Frontiers* (1932)

Anzengruber, Ludwig (lōōt'vĭkh an'tsungrōō"bur), 1839–89, Austrian author After working as a clerk and as an actor, while he unsuccessfully tried to supplement his income by writing, Anzengruber at 30 joined the imperial police In 1870 *Der Pfarrer von Kirchfeld* [the parish priest of Kirchfeld], the first of a long series of folk plays, was an immediate success and was followed by *Der Meineidbauer* (1871, Eng tr, *The Farmer Forsworn,* 1913–15) and *Die Kreuzelschreiber* [the illiterates] (1874) *Das vierte Gebot* [the fourth commandment] (1878), laid in Vienna, is considered to be one of the first naturalistic plays. He also wrote two novels and many short stories

Anzhero-Sudzhensk (ănzhĕ"rū-sōōjĕnsk'), city (pop 71,079), RSFSR, in Siberia, E of the Ob river and on the Trans-Siberian RR. One of the

largest coal-mining centers of the Kuznetsk Basin, the city was formed in 1928 out of Anzherka and Sudzhenka.

Anzio (ăn'sēō, Ital ăn'tsyō), Latin *Antium*, town (pop 5,989), Latium, central Italy, on the Tyrrhenian Sea and 33 mi. S of Rome. A Volscian town, it later became a favorite resort of the Romans. Nero was born here; among the ruins of his villa two famous statues, the Apollo Belvedere and the *Girl of Anzio*, were found. Anzio declined in the Middle Ages, was later a residence of the popes, and is now a flourishing bathing resort. In Jan., 1944, Allied troops landed here to draw German forces from Cassino and thus permit a breakthrough to Rome. The large beachhead forces absorbed fierce German attacks and held out until contact was established in May with the main body of the U.S. 5th Army.

Aomori (ä'ōmō'rē), city (1940 pop. 99,065, 1947 pop. 90,828), capital of Aomori prefecture, extreme N Honshu, Japan, a port on Aomori Bay. It is the chief port of N Honshu and an export and import center for Hokkaido, and it has a fishing fleet. The prefecture yields timber and farm products.

aorist: see TENSE.

Aosta, Emmanuel Philibert of Savoy, duke of (aō'stä, -stä), Ital. *Emanuele Filiberto di Savoia, duca d'Aosta*, 1869–1931, Italian general, son of King Amadeus of Spain and cousin of Victor Emmanuel III of Italy. In the First World War he held the Piave front after the Italian defeat at Caporetto and later occupied Friuli. He became a marshal in 1926. His son Amadeus (1898–1942), who succeeded to his title, was viceroy of Ethiopia (1937–41), he surrendered to the British in 1941 after a valiant defense.

Aosta (aō'stu, -stä, Ital. aō'stä), town (pop. 13,466), capital of Val d'Aosta region, NW Italy, near the junction of the Great and Little St. Bernard roads. Emperor Augustus founded (25 B.C.) a colony here on the site of an older settlement. In the 11th cent. Aosta was given as a fief to Humbert, the founder of the Savoy dynasty, the cadet line of the house bore the title of dukes of Aosta. Roman remains include walls and gates, a triumphal arch, a theater, and an amphitheater. There are medieval towers and a fine cathedral (9th-15th cent.).

Aosta, Val d' (väldhō'stä), autonomous region (1,260 sq. mi., pop. c. 83,000), NW Italy, bordering on France and Switzerland. Until 1945 it was Aosta prov. The Italian constitution of 1947 placed the region outside the Italian customs barrier and made it a free zone. A French dialect is spoken here. Aosta is the capital. A high Alpine country, the Val d'Aosta includes the Italian slopes of MONT BLANC, the MATTERHORN, and Monte ROSA, its highest peak is the GRAN PARADISO. Life is concentrated in the valleys of the DORA BALTEA and its tributaries. The Great and the Little SAINT BERNARD roads join in the upper Aosta valley. There are many resorts. After passing (11th cent.) to the counts of Savoy, the region shared the history of Piedmont. The feudal system long prevailed here, more than 70 castles are still standing.

Apa (ä'pä), short river forming the northern border of E Paraguay with Brazil.

Apache (upăch'ē), town (pop. 1,047), SW Okla., NE of the Wichita Mts., in a farm and oil district, settled and inc. 1901.

Apache Indians, North American Indian peoples of the Southwest. They speak Athapascan languages, the southernmost branch of which is called Apachean (see LANGUAGE, table). The NAVAHO INDIANS also speak an Apachean language. Many local designations and confusion with neighboring tribes make them hard to identify in early literature. There were many groups—E of the Rio Grande along the mountains were the Jicarilla, the Lipan, and the Mescalero groups. In W New Mexico and Arizona were the Western Apache, including the Chiricahua and the Coyotero. The Kiowa Apache in the early southward migration attached themselves to the Kiowa, whose history they have since shared. The Apache as known in historic times were dependent upon hunting game and gathering roots and berries. The women were expert at making basketry, but the arts of pottery and weaving were not highly developed. Social organization was simple, but the Apache mother-in-law taboo—a man could not speak to, or look directly at, his mother-in-law—was remarkably rigorous. The Apache are known principally for their fierce fighting qualities and for their cruel treatment of captured enemies. They preyed on the PUEBLO INDIANS and offered particularly strong resistance to white encroachment. In the latter part of the 19th cent. their leaders, particularly COCHISE and GERONIMO, were famous across the United States for their counteraggression to white aggression. See M. E. Opler, *An Apache Life-Way* (1941).

Apalachee Bay (ăpulăch'ē), arm of the Gulf of Mexico, NW Fla., S of Tallahassee.

Apalachee Indians, tribe of North American Indians once centered about Apalachee Bay, NW Florida. Prosperous agriculturalists, they fought off the raids of the Creek Indians until early in the 18th cent. Combined Indian and British forces then conquered them, wiping out their villages along with Spanish missions and garrisons. Many of the Apalachee were sold into slavery, and a remnant who fled to Louisiana were extinct a century later. They were of Natchez-Muskogean linguistic stock.

Apalachicola (ăp"ulăchĭkō'lu), city (pop. 3,268), co. seat of Franklin co., NW Fla., SW of Tallahassee, on Apalachicola Bay (a fine landlocked harbor) at the mouth of the Apalachicola river, founded c. 1820, inc. 1838. It is a port of entry and an important center for oyster, shrimp, and other fisheries. Its position as one of the country's largest cotton-shipping ports after 1830 was ruined by the Civil War blockade. There is a monument to John Gorrie, who invented a method of making ice in 1845. A bridge (1935) spans the bay from east to west. The spelling Appalachicola is incorrect.

Apalachicola, river, NW Fla., formed by the junction of the Chattahoochee and Flint rivers at the Ga. line and flowing S to Apalachicola Bay. It is navigable. The river valley is noted for its rare specimens of the cedar of Lebanon.

Aparri (apär'rē), municipality (1948 pop. 24,974), on N Luzon, Philippine Islands. It is the port for a large tobacco-producing area.

apartment house, building providing separate dwelling quarters for a number of persons or families. Its most phenomenal development has been in the United States since 1900. In Paris, blocks of apartments were erected in the mid-19th cent. and were considered a suitable mode of residence, but in England and the United States at that time any residence not a private house was considered undesirable. Prior to 1870, apartments existed in New York only in the form of tenements in the common sense of the word. Crowded and unsanitary, they constituted in themselves a deterrent to any general acceptance of multiple quarters. However, after the Civil War a revised form of housekeeping was needed economically and physically to provide proper accommodations for the huge new tide of population that was flowing into the cities. About 1870, with only the old-fashioned disfavored tenement as a basis, improvements began to be introduced, and with buildings erected between 1870 and 1875 the genesis of the modern apartment house commenced. About 1885 the new developments of fireproof steel-frame construction, the improvement of the elevator, and the introduction of electric lighting made possible a rapid evolution, around 1900, apartment plans had emerged which provided comfortable quarters for the person of moderate means. In 1901 a tenement-house law was put into effect in New York covering fire protection, sanitation, and every feature relating to the safety and the health needs of occupants of such buildings. In the erecting of apartment houses a phenomenal activity has taken place since 1921 in all the larger cities, reaching its peak in New York. There the private house is now a rarity. New York has buildings which shelter only a few families and others which domicile thousands. They run a full economic range from the cheapest walk-up apartments without elevator service to the extremely luxurious duplex and triplex suites of the very wealthy. The cooperative apartment is a building in which the tenants own, rather than rent, their individual quarters, buying them as they would a private dwelling. The apartment hotel combines the accommodations of apartments, including cooking space, with the services characteristic of a hotel. Apartment houses have now spread to the suburbs of the larger cities, where they often include gardens, tennis courts, and children's playgrounds. The populations of the urban centers, both in the United States and in Europe, have now come to consider apartment-house living as normal.

apatite (ăp'utīt), calcium phosphate mineral (sp. gr., 3.1–3.2, hardness, 5), containing fluorine or chlorine or both. It is colorless when pure, but there are impure colored varieties which are sometimes cut as gem stones. Such gems cannot be very extensively used because of their comparative softness. The principal use for apatite is in the manufacture of phosphorus fertilizers. Among the sources of gem apatite are Ehrenfriedersdorf, Saxony, Schlaggenwald, Bohemia, St. Gotthard, Switzerland, and Auburn, Maine; there are extensive deposits in Renfrew co., Ontario, and in Ottawa co., Quebec.

Apaturia (ăpūchō'rēu, -tyō'rēu), in Greek religion, yearly meeting of the phratries (clans). It is known chiefly to modern readers through the Apaturia at Athens in October or November.

ape, name for certain primates. It is now usually limited to those which most closely resemble man—the GORILLA, the CHIMPANZEE, the ORANGUTAN, and the GIBBON. Formerly ape was used as a synonym for monkey or applied to certain tailless monkeys. The anthropoid apes differ from the typical Old World monkeys in having no external tail and no cheek pouches. Except in the gibbon, ischial callosities are absent. The arms are longer than the legs. Apes are chiefly arboreal but they can stand in a semierect position. They have 32 teeth, a vermiform appendix, a flattened breastbone, and a brain which is similar in structure to that of a man but smaller. See R. M. Yerkes and A. W. Yerkes, *The Great Apes* (1929).

Apeldoorn (ä'pŭldôrn), municipality (pop. 82,686), and town, Gelderland prov., E central Netherlands. It has manufactures of pharmaceuticals, refrigerators, and paper. Near by are the royal summer palace of Het Loo and several sanatoriums.

Apelles (upĕl'ēz), fl. 4th cent. B.C., Greek painter, the most celebrated of antiquity, but now known only through descriptions of his works. He is supposed to have studied under Ephorus of Ephesus and under Pamphilus at Sicyon. He was court painter to Philip of Macedon (Philip II) and to Alexander the Great. Among portraits of Alexander was one in the Temple of Diana at Ephesus which showed him wielding the thunderbolts of Zeus. Apelles excelled in painting horses, and according to Pliny the portrait of Antigonus Cyclops on horseback was his masterpiece. Most famous, perhaps, was the picture of Aphrodite rising from the sea. A drawing made by Raphael from Lucian's description of Apelles' *Calumny* is in the Louvre. Apelles is said to have been the first to recognize the talents of PROTOGENES.

Apelles, Christian at Rome. Rom. 16:10.

Apennines (ă'punīnz), Ital. *Appennino* (äp-pān-nē'nō), mountain system, traversing the entire length of the Italian peninsula. From the Cadibona Pass in Liguria, where it adjoins the Ligurian Alps, to the Strait of Messina, it is c. 840 mi. long, the mountains of Sicily are a continuation. The greatest width is c. 80 mi. The highest peak, in the GRAN SASSO D'ITALIA group, rises to 9,560 ft., but generally the peaks are much lower. There are several volcanic lakes and volcanoes (two, VESUVIUS and ETNA, are still active) and many mineral springs. The few important rivers (Arno, Tiber, and Volturno) all flow W into the Tyrrhenian Sea. The Apennines are pierced by many railroad tunnels and highway passes, and by the Appian, Cassian, Flaminian, and Salarian ways (see ROMAN ROADS). The forests of the Apennines (chestnut, birch, oak, and pine) have been greatly reduced by man through the centuries, deep erosion and frequent landslides resulted. Attempts at reforestation are being made. The peaks mostly have a bare, savage aspect. Pastures are very extensive. The lower hills are covered with olive groves and vineyards, and corn is grown in some areas up to altitudes of 2,500 ft.

Apharsachites (ufar'sukĭts) or **Apharsathchites** (ufar'săthkĭts), Assyrian colonists settled in Samaria. Ezra 4:9, 5:6, 6:6. The **Apharsites** (ufar'sīts) apparently were other colonists. Ezra 4:9.

aphasia (ufā'zhu) [Gr., =speechlessness], condition caused by a lesion of the brain, in which an individual is unable to express himself in speech or in writing or to comprehend the written or spoken word. Treatment consists of reeducation, the oral and lip-reading methods employed in the education of deaf and mute children have been found to be of assistance in therapy.

Aphek (ā'fĕk) **1** Place, where Ahab defeated Benhadad. It has been identified with the modern Fiq on the plateau above Galilee (c. 3 mi. east), due E of Tiberias. It was on a road from Damascus. **1** Kings 20:26–30. This is probably the Aphek meant by Elisha in 2 Kings 13:17. **2** City of Asher. Joshua 13:4, 19:30. Aphik. Judges 1:31. **3** City of Judah, probably the same as APHEKAH and perhaps the same as **4** or **5** or both. Joshua 12:18. **4, 5** Two places, where the Philistines encamped. 1 Sam. 4:1; 29:1. Some believe them to be the same place, some identify one or the other or both with **3**.

Aphekah (ufē'ku), unidentified place, probably the same as APHEK **3**. Joshua 15:53.

Aphiah (ufī'ú), ancestor of King Saul. 1 Sam. 9:1.

aphid (ā'fĭd, ăf'ĭd) or **plant louse**, parasitic insect, one of the most injurious to crops and other vegetation. It is also referred to as green fly and blight. The majority are from 1/25 to ¼ in. long. On house and field plants the species frequently seen is soft-bodied and green with long legs and antennae. Some are wingless and some have two pairs of membranous wings. There is much variation in form among individuals of the same species. The reproductive cycle is complex and varies in different species. In many species fertilized eggs which are laid in the fall hatch in the spring or summer into females called stem mothers. A stem mother produces, by PARTHENOGENESIS and viviparously, wingless females which give rise parthenogenetically to a number of generations of wingless females. Finally, winged females are produced which migrate from the crowded host plant to another one, there to continue the cycle of winged and wingless generations. Toward fall males and egg-laying females are produced. Fertilized eggs are then deposited in crevices of the host plant. Those which survive the winter hatch as the stem mothers. Insect enemies, fungi, and damp weather help to keep in check the vast numbers of aphids. Some aphids deposit their eggs in the tissues of leaves or stems and cause a GALL. Many species secrete from the end of the alimentary tract a sweet substance or honeydew. The ant, which prizes this material as food, cares for the aphids as "ant cows." Among the aphid pests causing serious damage to food

crops are the grain, cabbage, corn-root, apple, woolly apple, and hickory aphids, the alder blight, the beech-tree blight, and the phylloxera

Aphik (ā'fĭk) see APHEK 2

Aphrah (ăf'rŭ), in the punning passage of Micah 1 10, apparently the name of a town The name meant "dust" in Hebrew or sounded like a word meaning "dust," hence probably the use of the name.

Aphrodite (ăfrŭdī'tē), in Greek religion, Olympian goddess of love, beauty, and fertility According to some legends she was the daughter of Zeus and Dione, according to others she was born out of the sea into which the blood of URANUS fell (whence the representations of Aphrodite Anadyomene) She was according to the usual legend the wife of HEPHAESTUS, but she loved Ares, to whom she bore Eros and Anteros She also gave her favors to Anchises (father of Aeneas) and DIONYSUS (father of Priapus) She is, as goddess of fertility, most closely connected with ADONIS She was called Cytherea and Cyprus because her worship was important in Cythera and in Cyprus as well as in Paphos and Corinth She had a cult as Aphrodite Urania, the heavenly goddess, which recalls her affinity with the Oriental goddess Astarte (Ishtar), and there is good reason to believe that her worship was imported into Greece from the Orient She is also called Pandemos—goddess of all the people The myrtle, the rose, the apple, the dove, and the sparrow are sacred to her By awarding Aphrodite the APPLE OF DISCORD, PARIS won HELEN and thus brought on the Trojan War Aphrodite was consistently on the Trojan side She is identified with the Roman VENUS

Aphses (ăf'sēz) [Heb ,=dispersion], head of a priestly course 1 Chron 25 15

Apia (ăpē'ŭ), town (pop 3,500), capital of Western Samoa, on the northern coast of UPOLU island The chief port of Western Samoa, it has been since 1923 the port of entry for TOKELAU

Apianus, Petrus (pē'trŭs ăpĭā'nŭs), Latinized from **Peter Bienewitz** or **Bennewitz** (pā'tur bē'nŭvĭts, bĕn'uvĭts), 1495–1552, German cosmographer and mathematician He was professor of mathematics at Ingolstadt and was noted for his knowledge of astronomy and his general learning Best known among his writings is the *Cosmographia* (1524), which has some of the earliest maps of America

Apicius, Marcus Gabius (upĭsh'ŭs), 1st cent A D , Roman gourmet He squandered most of his large fortune on feasts and then, anticipating a need to economize, committed suicide The cookbook called *Apicius* probably dates from a century later

Apis see EGYPTIAN RELIGION

Apo, Mount (ä'pō), active volcano, 9,690 ft high, on S Mindanao, Philippine Islands It is the highest peak of the islands

apocalypse (upŏk'ŭlĭps) [Gr ,=uncovering], type of ancient Hebrew and Christian prophetic literature, exemplified by the biblical REVELATION, often called simply the Apocalypse The same sort of mysterious writing, depending mainly on visions, appears extensively in Isaiah, Ezekiel, Daniel, Joel, and Zechariah The book called 4 ESDRAS is one of the chief Jewish apocalypses; other PSEUDEPIGRAPHA also are apocalyptic Modern books of this sort are seen among the works of SWEDENBORG See also FOUR HORSEMEN OF THE APOCALYPSE

Apocrypha (upŏk'rĭfu) [Gr ,=hidden things], appendix to the Authorized Version of the Old Testament containing the following books and parts of books 1 and 2 ESDRAS, TOBIT, JUDITH, ESTHER 10 4–16, WISDOM, ECCLESIASTICUS, BARUCH, Dan 3 24–90 (see DANIEL and THREE HOLY CHILDREN), Dan 13 (see SUSANNA 1), Dan 14 (see BEL AND THE DRAGON), the Prayer of Manasses (see MANASSEH 2), 1 and 2 MACCABEES The Western canon includes all these except 1 and 2 Esdras and the Prayer of Manasses, which are often given in an appendix to editions of the Vulgate (where the 1 and 2 Esdras of the Apocrypha are called 3 and Esdras) At first Protestants regarded as valuable for instruction the parts of the Western canon which they did not accept as canonical (see OLD TESTAMENT), but relegation of these parts to a separate, secondary part of the Bible resulted in their being practically discarded by many Protestants For Jewish and Christian works resembling biblical books but not included in the Western or the Hebrew canon—sometimes called apocryphal—see PSEUDEPIGRAPHA

Apodaca Juan Ruiz de (hwän' rōōēth' dā ăpōdhä'kä), 1754–1835, Spanish naval officer and statesman He was sent to London by the Central Junta of Seville to gain English support against Napoleon After service as governor of Cuba (1812–15), Apodaca, as viceroy of New Spain (1816–21), devoted himself to repressing revolutionary movements The royalist cause was at first successful, but with the defection of ITURBIDE it failed. Feeling that Apodaca was not making sufficient effort to put down the revolution, a group in Mexico city, headed by the Masons, forced him to surrender his authority He returned (1821) to Spain, where he held various offices. He had the title visconde de Venadito.

Apollinaire, Guillaume (gēyōm' ăpōlēnâr'), 1880–1918, French poet, b. Rome. An illegitimate child, he was christened Wilhelm Apollinaris de Kostrowitsky Apollinaire, a leader in the restless period of technical innovation and experiment in the arts in the second decade of the 20th cent , wrote short stories in a Gothic spirit (as in *L'Hérésiarche et Cie*, 1910), bizarre, exquisite poems (collected especially in *Alcools*, 1913, and *Calligrammes*, 1918), a surrealistic drama *Les Mamelles de Tirésias* (1918), and art criticism which advanced the cause of CUBISM and its practitioners

Apollinarianism (ŭpŏlĭnâ'rēunĭzm), heretical doctrine taught by Apollinaris or Apollinarius (c.315–c 390), bishop of Laodicea, near Antioch. A celebrated scholar and teacher, author of scriptural commentary, philosophy, and controversial treatises, he propounded the theory that Christ possessed the Logos in place of a human mind. Apollinarianism was popular in spite of its repeated condemnation, particularly by the First Council of Constantinople It anticipated MONOPHYSITISM

Apollinaris Sidonius (Caius Sollius Apollinaris Sidonius) (upŏlĭnâ'rĭs sĭdō'nēŭs, sĭdō'-), fl 455–75, Latin writer, b Lyons. He had a minor part in imperial politics and was bishop of Clermont. He wrote inconsequential panegyric poetry and letters that are an interesting historical source.

Apollo (ŭpō'lō) or **Phoebus Apollo** (fē'bus), in Greek religion, Olympian god of light, music, poetry, prophecy, and pastoral pursuits He seems to have been originally and primarily a god of shepherds, flocks and herds, and beekeepers (see ARISTAEUS), and in anger he could send pestilence and wolves against the flocks The animals of the wild country were particularly connected with him—the deer, the raven, and the swan He was always represented as a beautiful young man and sometimes as a young shepherd with a shepherd's crook As god of music the lyre was sacred to him, and he was the father of ORPHEUS (by CALLIOPE) He was also the god of healing and the father of ASCLEPIUS Identification with Helios as the sun-god, the bringer of light and morning, was consistent with his youth and vigor The principal legend of his birth is that he and his twin sister, ARTEMIS, were born to Zeus and LETO in DELOS He was sometimes called Delius, and the island had one of his principal shrines Most important was, however, the shrine at DELPHI, where he was particularly the god of prophecy speaking through the oracle at the center of the earth The significance of the shrine made him one of the most potent figures in Greek mythology One of the legends concerning Delphi was Apollo's slaying of the PYTHON The Pythian games honored him Various legends, such as that of CASSANDRA, are concerned with the gift of prophecy Perhaps better known in later time was his connection with the higher arts of civilization as the laurel-crowned god of music and poetry, attended by the MUSES Apollo was adopted wholeheartedly by the Romans, who emphasized his cult as god of healing Representations of him in art are numerous The most celebrated statue is the **Apollo Belvedere** (bĕl"vĭdēr'), a marble statue in the Belvedere of the Vatican, Rome, a Roman copy, dating from the early empire, of a Greek original in bronze The right forearm and the left hand were restored by a pupil of Michelangelo The statue represents the god as a vigorous and triumphant youth, naked except for the chlamys draped over his extended left arm, and with the aegis clasped in his hand

Apollo, borough (pop 3,232), W Pa , SW of Kittanning, laid out 1815, inc 1848 It has a steel mill

Apollo Belvedere see APOLLO, in Greek religion

Apollodorus (upŏl"ŏdôr'ŭs), fl c 415 B C , Athenian painter, called the Shadower, said to have introduced the use of light and shade Among his few known works are *Ajax Struck by Lightning* and *Priest in the Act of Devotion*, both were at Pergamum in the time of Pliny the Elder

Apollonia (ăpulō'-nēŭ) [Greek,=of Apollo], name of several ancient Greek towns The most important was that in Illyria, a port on the Adriatic It was founded by Corinthians and later a Greek and a Roman intellectual center Julius Caesar used it as a base Octavian (later AUGUSTUS) was here when he received news of Julius Caesar's death Others were in Thrace on the Aegean (a town famous for a large statue of Apollo), in N Sicily, and in the Chalcidice (visited by Paul on his way to Salonica Acts 17 1)

Apollonius (ăp"ŭlō'nēŭs) [Latin,=of Apollo] **1** Governor of Coele-Syria and Phoenicia for Seleucus IV He oppressed the Jews and was killed by Judas Maccabaeus 1 Mac 3 10–24, 2 Mac 4 4, 5.24 **2** Governor of Coele-Syria under Alexander Balas 1 Mac 10 69

Apollonius of Perga, fl 247–205 B C , Greek mathematician of the Alexandrian school He produced a treatise on conic sections which included, as well as his own work, much of the work of his predecessors, among whom was Euclid Most of his other works have been lost

Apollonius of Tralles see FARNESE BULL

Apollonius of Tyana (tīā'nŭ), fl A D 100?, Greek philosopher, leading exponent of NEO-PYTHAGOREANISM Inasmuch as his biographer, Philostratus, is considered unreliable, nothing is certainly known of Apollonius' life. He is said to have wandered widely in the empire, and he was accounted a great seer and wonder-worker. See D. M. Tredwell, *A Sketch of the Life of Apollonius of Tyana* (1886)

Apollonius Rhodius (rō'dēŭs), 3d cent. B.C., epic poet of Alexandria and Rhodes. He became librarian at Alexandria. His extant work, the *Argonautica*, is a Homeric imitation in four books on the story of the Argonaut heroes; though labored in style, it contains occasional depth of feeling and originality

Apollos (ŭpŏl'ŭs) [Gr ,=belonging to Apollo], Alexandrian Jew who became a Christian missionary. Acts 18 24–19 1; I Cor 1 12, 3.4–6; 4.6.

Apollyon (ŭpŏl'yŭn), Greek name of the destroying angel Rev. 9.11. See SATAN and HELL.

apologetics, phase of theology which devotes itself, by appeal to reason, to defending Christian belief against attack. Of course, the apologist defends his own point of view; thus Roman Catholic theologians include defense of the authority of the Church as a part of apologetics, while many Protestants limit their apologetics largely to the defense of the verbal inspiration of the Bible. Apologetic works are many Famous names in early Christian apologetics includes Aristides, Tertullian, and Origen More recent examples are Melanchthon (Lutheran), Antoine Arnauld (Jansenist), and Alfred Schweitzer (modernist) A special, traditional type of apologetic work is the autobiography of conversion Examples of this are St Augustine, *Confessions*, J H Newman, *Apologia pro vita sua*, and Thomas Merton, *The Seven-Storey Mountain* (1948)

Apopka (ŭpŏp'kŭ), city (pop 1,312), central Fla , near Lake Apopka, settled 1856 It is a shipping center for an area growing ferns, citrus fruit, and vegetables

Apopka, Lake, central Fla., popular fishing lake Winter Garden is on its south shore

apoplexy or **stroke**, the result of cerebral hemorrhage, usually occurring after the age of 40 in individuals who have high blood pressure Symptoms which precede an apoplectic attack include dizziness and headache or a sensation of pressure in the head, hemorrhage from the nose or into the retina may also be symptomatic In some individuals apoplexy has occurred without any previous symptoms Coma accompanying the seizure may be of short or long duration Paralysis of one side of the face and the opposite side of the body is a typical sequel As the blood clot is resorbed, the individual gradually regains the use of his muscles Treatment consists of a decrease in salt intake, sedation, and rest

apostle (upŏs'ŭl) [Gr ,=envoy], one of the prime missionaries of Christendom The apostles par excellence are SS PETER, ANDREW, JAMES (the Greater), JOHN, THOMAS, JAMES (the Less), JUDE (or Thaddaeus), PHILIP, BARTHOLOMEW, MATTHEW, SIMON, and MATTHIAS (replacing JUDAS ISCARIOT) Traditionally the list of the Twelve Disciples includes Judas and not Matthias, and the list of the Twelve Apostles includes Matthias and not Judas St PAUL is always classed as an apostle, and so are sometimes a few others, such as St BARNABAS The principal missionary to any country is often called its apostle, e g , St Patrick is the apostle of Ireland, St Augustine the apostle of England For the Apostles' Creed, see CREED, for the *Teaching of the Apostles*, see DIDACHE

Apostle Islands, group of over 20 islands, off N Wisconsin, in SW Lake Superior Part of Wisconsin, they are reached by boat from Bayfield and Ashland Their wave-eroded cliffs are noted Madeline, the largest, includes LA POINTE town

Apostolic Constitutions: see CONSTITUTIONS, APOSTOLIC

apostolic succession, in Christianity, belief that the chosen successors of the apostles enjoyed by the grace of God the same position as the apostles in the Church and that the bishops of today, as the successors of previous bishops and so on back to the apostles, enjoy this position Hence the ecumenical councils are held infallible (and, among Roman Catholics, ex cathedra pronouncements of the pope), God conferring infallibility to guarantee the purity of His Church It is generally held that the essential to maintaining the apostolic succession is the right consecration of bishops, and it is on that ground that the Roman Catholic Church refuses to recognize the apostolic succession in the Church of England. The apostolic succession is to be distinguished from the Petrine supremacy (see PAPACY) Scriptural authority is given as Mat. 18 18, 28 19,20 See ORDERS, HOLY

apostrophe: see PUNCTUATION and ABBREVIATION

apotheosis (upŏ"thēō'sĭs, ă"pŭthē'ŭsĭs) [Gr ,=deification], in religion, the act of raising a person who has died to the rank of a god It received its greatest exploitation in history at Rome under the emperors In the life of the emperor his genius was worshiped, but after he died he was often enrolled solemnly as one of the gods to be adored publicly In the East, apotheosis was known in Egypt and in many dynasties It is difficult to say where ancestor worship ends and apotheosis begins, at least so far as a royal family is concerned. Apotheosis is es-

pecially understandable when it is remembered that many Greeks believed that the heroes of Homer had lived as men, yet they worshiped the heroes as demigods

Apoxyomenus (ăpŏk″sĕŏm′ĭnŭs) [Gr ,=scraping one's self], a Roman copy in marble of a bronze statue by LYSIPPUS It represents an athlete scraping the sand and oil from his body with a strigil after a contest in the palaestra It was found in Rome in 1849

Appaim (ăp′ăĭm) [Heb ,=the nostrils], Jerahmeelite 1 Chron 2 30,31

Appalachia (ăpălāch′ă), town (pop 3,010), extreme SW Va , in the Cumberland Plateau near the Ky line, settled 1890, inc 1906 It is a coal-mining center and railroad junction

Appalachian Mountains (ăpălā′chŭn,-chōōn,-lăch′-), general name for the numerous groups of elevations in E North America, extending SW from the St. Lawrence valley in Quebec prov , Canada, to the Gulf Coast plain in Alabama They include the WHITE MOUNTAINS, GREEN MOUNTAINS, CATSKILL MOUNTAINS, ALLEGHENY MOUNTAINS, BLUE RIDGE, BLACK MOUNTAINS, GREAT SMOKY MOUNTAINS, CUMBERLAND PLATEAU, and other ranges The Appalachians, mainly formed by folding (see MOUNTAIN), consist largely of sedimentary rocks and are for the most part much worn down In general, the eastern portions are more rugged than the western, which are largely plateau formations of horizontal rock structure Mt Mitchell, 6,684 ft high, in the Black Mts , is the highest elevation in the system Valuable coal deposits, iron, petroleum, and gas are found in parts of the Appalachians Comprising as they do some of the most beautiful scenery in the country, the mountains abound in resorts Crossed by few passes, the system especially in the central sections was a barrier against early westward expansion and played an important part in the history of the United States See Douglas W. Johnson, *Stream Sculpture on the Atlantic Slope* (1931), N M Fenneman, *Physiography of Eastern United States* (1938)

Appalachian Trail, for hikers, extending 2,050 mi along the ridges of the Appalachian Mt system from Mt Katahdin, Maine, to Mt Oglethorpe, N Ga It owes its inception to Benton MACKAYE See guides published by the Appalachian Trail Conference

Appalachicola, see APALACHICOLA

apparition (ăpurĭ′shŭn) Belief in apparitions and ghosts is ancient and widespread and is based on the idea that the spirit of a man (or of any object) is "a shape within a shape," endowed with volition and motion of its own A ghost is an apparition or specter of a dead person A wraith, double, or fetch among the Highland Scots is the spirit of a person just before his death Apparitions were often considered as premonitions or warnings These included particular shapes attached to certain families, as the spectral horseman, the hound, or the white bird Summoning apparitions by means of incantations, CRYSTAL GAZING, polished stones, hypnotic suggestion, and various other devices is one of the oldest means of DIVINATION and WITCHCRAFT Some spirits are considered beneficent (as the genius of a family), but most are thought to be revengeful and dangerous, trying to lure the living to the world of shades The most malignant are those of persons who have died violent deaths, suicides, those with guilty secrets, and those who were unburied or not buried with proper rites Many burial customs have originated in the desire to placate the dead and keep them from haunting the living Modern belief in supernatural appearances finds an expression in studies of CLAIRVOYANCE, SPIRITISM, and PSYCHICAL RESEARCH. Often optical illusions are regarded as ghosts or phantasms Modern science explains some supernatural appearances by means of telepathy, autosuggestion, or hallucination Perhaps the most famous apparitions in literature are the ghost in *Macbeth* and that of Hamlet's father

appeal, in law, hearing by a superior court of errors allegedly committed by an inferior court There are two types of errors, of fact and of law An error of fact is drawing a false inference from evidence presented at the trial An error of law is an erroneous determination of the legal rules governing PROCEDURE, EVIDENCE, or the matters at issue between the parties When the appeal is taken from a jury trial, only errors of law may be reviewed, but when it is taken from a trial where the judge sat without a jury, his errors both of law and of fact may be examined Should the appeals court conclude that no error was committed, it will affirm the decision of the lower court If it finds that there was error, it may direct a retrial or grant a JUDGMENT or DECREE in favor of the party who lost in the lower court. The determinations of appeals courts are usually printed, often with an opinion indicating the basis for the court's decisions Such opinions are of great utility in guiding the inferior courts and in establishing uniform legal principles in matters where dispute may arise

appendix, vermiform. Considered to be a vestigial remnant, the vermiform appendix, a wormlike tubular structure about 3 in long, springs from the caecum, a portion of the large intestine (colon), located in the lower right abdomen Infection of the appendix may result in **appendicitis.** This condition occurs at any age, but is most common in the second and third decades of life The clinical picture of appendicitis varies considerably Symptoms include shifting pain which increases in severity, later becoming localized in the lower right abdomen, and tenderness and muscle spasm over the site of the appendix Variables are fever, a more rapid pulse, nausea, and vomiting Additional symptoms are diarrhea or constipation or alternating diarrhea and constipation Diagnosis is confirmed if examination of the blood shows a high white blood count and an increase in polymorphonuclear cells The use of cathartics instead of an enema may result in an abscess with rupture of the appendix and a spread of infection to the peritoneum (peritonitis) Early surgery is imperative

Appenzell (ă′puntsĕl), canton, Switzerland Mostly meadowland, it also has textile manufactures It was ruled after the 11th cent by the abbots of St Gall, against whom it revolted in 1403 In 1411 Appenzell allied itself with the Swiss Confederation, which had helped defeat the abbot, and in 1513 it became a Swiss canton In 1597 Appenzell split into two independent half-cantons Ausser-Rhoden (94 sq mi , pop 44,756), with its capital at Herisau, accepted the Reformation Inner-Rhoden (67 sq mi , pop 13,383) remained Catholic, its capital, Appenzell (pop 4,756), is noted for the manufacture of embroideries

Appert, Nicolas (nēkôlä′ äpâr′), sometimes known as **François Appert** (frāswä′), 1750–1841?, French originator of a method of CANNING This process, based on his theory that heat destroys or neutralizes the ferments which cause food spoilage, consisted in heating foods for varying periods in corked bottles After years of experimentation he opened in 1806 a factory (destroyed 1814) at Massy, near Paris, and in 1810 published his results (Eng tr , *The Art of Preserving*, 1920), winning a prize of 12,000 francs which had been offered by the French government for a method of preserving foods for army and navy stores He lost public confidence after an investigation by Gay-Lussac, who, although supporting Appert's method, opposed his theory However, through the influence of Berthollet, Appert was able in 1817 to establish a factory in Paris. His last years are obscure

Apphia (ăf′ĭə), Christian woman associated with Philemon Philemon 2

Appian (ă′pēən), fl 2d cent , Roman historian A Greek, born in Alexandria, he was a government official there and later at Rome His history of the Roman conquests from the founding of Rome to the reign of Trajan is undistinguished and strongly biased in favor of Roman imperialism, but it reproduces many documents and sources which otherwise would have been lost. Of the 24 books, written in Greek, only Books VI–VII and Books XI–XVII have been fully preserved

Appiani, Andrea (ändrā′ä äp-pyä′nē), 1754–1817, Italian painter in oil and fresco His best frescoes, which approach those of Correggio in grace and beauty, are in Milan His oil paintings include *Rinaldo in the Garden of Armida*, *Venus and Cupid*, and *Olympus*.

Appian Way (ă′pēən), Latin *Via Appia*, road built (312 B C) under Appius Claudius Caecus This "queen of roads" connected Rome with Capua and was later extended to Beneventum (Beneveuto), Tarentum (Taranto), and Brundisium (Brindisi) It was the chief highway to Greece and the East Its total length was more than 350 mi The substantial construction of cemented stone blocks has preserved it to the present Branch roads led to Neapolis (Naples), Barium (Bari), and other ports The first stretch of road out of Rome has the Church of St Sebastian with its catacombs, and there are interesting tombs See ROMAN ROADS In 1784 Pope Pius VI built the new Appian Way from Rome to Albano, parallel with the old

Appii forum (ăp′ēĭ) [Latin,=Appius' market, cf RV], important stop on the Appian Way, c 40 mi E of Rome It was at the head of a canal through the Pontine Marshes When Paul arrived here on his way to Rome, he was met by Christians from the city Acts 28 15 The modern Italian successor is Foro Appio

Appius Claudius, see CLAUDIUS, Roman gems.

apple, best known and commercially most important fruit of the temperate zones and its tree *Malus sylvestris* or *Pyrus malus*, a member of the rose family It lives long, is easy to grow, and thrives in any good soil and at higher altitudes than any other fruit tree There are said to be more than 7,500 varieties, of which only about 50 are of commercial importance The leading apple-growing region of the world is North America Of Asiatic and European origin, the apple has been cultivated since prehistoric times According to ancient tradition the forbidden fruit of the Garden of Eden was the apple (Gen 3) In religious painting, the apple represents the fruit of the tree of knowledge of good and evil, as do occasionally the pear and the quince It was sacred to Aphrodite in classical mythology (see APPLE OF DISCORD) The apple is attacked by several diseases (e g , canker, rust, and scab) and by insect pests Some species of CRAB APPLE are native to North America See S A Beach, *Apples of New York* (1905), J C Folger and S M Thomson, *The Commercial Apple Industry of North America* (1921), A H Hoare, *Commercial Apple Growing* (rev ed , 1949), bulletins of state experiment stations and of the U S Dept of Agriculture

Appleby, John Francis, 1840–1917, American farmer, b Onondaga co , N Y He was the inventor of the Appleby knotter, patented in 1878 after long experimenting It was first manufactured on a large scale after its value was recognized by William DEERING, and was soon adopted on harvesters generally It is still commonly used on grain binders

Appleby, municipal borough (pop 1,618), county town of Westmorland, England, in the Eden valley It is the market center for a farm area A 16th-century grammar school and the site of historic Appleby Castle are here

Applegarth, Robert, 1834–1924, English trade-union leader, a carpenter by trade A charter member of the Amalgamated Society of Carpenters and Joiners, he became in 1862 its general secretary, under his leadership, this, with other unions, pressed the fight for legalization of unions and for protection of their funds and in 1871 was successful See biography by A W Humphrey (1913)

Applegate, Jesse, 1811–88, American pioneer in Oregon, b Kentucky With his family he moved (1821) to Missouri, and there in 1843 he joined the "great emigration" of more then 900 people over the Oregon Trail—a trek pictured in his *Day with the Cow Column in 1843* (ed by Joseph Schafer, 1934, pub with *Recollections of My Boyhood* by Applegate's nephew) Established as a leader on the westward journey, he was elected (1845) a member of the legislative committee of the provisional government which ruled Oregon until it was made (1849) a U S territory Later he helped organize the new government, and, as surveyor general, he did much exploring and opened a wagon route to California

applejack, brandy made by partly freezing hard cider and removing the ice or by distilling hard cider or fermented apple pomace It is popularly associated with New Jersey, and because of its potency when undiluted it is colloquially called "Jersey lightning"

apple of discord, in Greek mythology, a golden apple inscribed "*for the fairest*," thrown by the uninvited ERIS among the guests at the wedding of PELEUS and THETIS APHRODITE ATHENA, and HERA all claimed it They chose a mortal PARIS, to settle the dispute To sway his decision Hera offered him empire and riches, Athena glory in war, and Aphrodite the fairest of women. HELEN Paris decided in favor of Aphrodite The abduction of Helen by Paris led to the TROJAN WAR

Appleseed, Johnny, see CHAPMAN, JOHN

Appleton, Daniel, 1785–1849, American publisher, b Haverhill, Mass He built up in New York one of the largest publishing houses in the country The firm was continued by his sons under the name D Appleton & Company See G M Overton, *Portrait of a Publisher* (1925).

Appleton, Sir Edward Victor, 1892–, English physicist, grad St John's College, Cambridge After returning from active service in the First World War he became assistant demonstrator in experimental physics at the Cavendish Laboratory in 1920 He was professor of physics at the Univ of London (1924–36) and professor of natural philosophy at Cambridge Univ (1936–39) Since 1939 he has been secretary of the Dept of Scientific and Industrial Research. He received the 1947 Nobel Prize in Physics for his contributions to the knowledge of the ionosphere which led to the development of radar He was knighted in 1941

Appleton, Nathan, 1779–1861, American manufacturer, b New Ipswich, N H He was a wealthy Boston importing merchant when he invested money in the venture of a cotton mill at Waltham undertaken by Francis C LOWELL, and he was a major figure in financing the building of the manufacturing town envisioned by Lowell—which was to be LOWELL, Mass As a Congressman (1831-32, 1841–42) Appleton showed, especially by favoring protective tariffs, the shifting of interests of the wealthy in New England from commerce to textile and other mills. He was one of the founders of the Boston Athenaeum

Appleton. 1 Village (pop 1,877), W Minn , on the Pomme de Terre and NW of Granite Falls, settled 1869, laid out 1870, inc 1881 It is a farm trade center 2 City (pop 28,436), co seat of Outagamie co , E Wis , on the Fox near its exit from the north end of Lake Winnebago, in a dairying and stock-raising region, settled before 1850, inc 1857 Falls provide power for the city's paper mills and allied industries Appleton had the nation's first hydroelectric plant (1882) and the state's first electric streetcar (1886) It is the seat of LAWRENCE COLLEGE OF WISCONSIN Harry Houdini was born in Appleton

Appleton City, city (pop 1,188), W Mo, SE of Kansas City, in a farm and timber area, founded 1868, inc 1871

apple worm see CODLING MOTH

Appomattox (ăpŭmă'tŭks), town (pop 992), in Appomattox Co, central Va, E of Lynchburg, near the source of the Appomattox River, which winds 150 mi E to the James, inc 1925 R E Lee surrendered to U S Grant at near-by **Appomattox Courthouse,** April 9, 1865 After P H Sheridan's victory at Five Forks on April 1, 1865, Lee abandoned PETERSBURG and Richmond and retreated west, planning to unite at Danville, Va, with the army of J E Johnston, who was still holding out against W T Sherman in North Carolina But Grant pursued vigorously Part of the Union army pressed hard on Lee's flank and rear, while Sheridan cut off further retreat at Appomattox Courthouse Realizing the futility of carrying on the struggle, Lee surrendered the remnants of the Army of Northern Virginia on April 9 The surrender marked the virtual end of the war, as the remaining Confederate armies, on hearing of Lee's capitulation, followed suit The site of the surrender has been made a national historical monument (968 25 acres, est 1940)

Apponaug, R I see WARWICK

Apponyi, Albert, Count (ŏp'pônyē), 1846-1933, Hungarian statesman The son of the conservative chancellor George Apponyi, he entered the house of deputies in 1872 Though a royalist he favored liberal electoral reforms, and, as minister of education (1907), free education in elementary schools However, the rigid state control which accompanied his program roused bitter opposition In 1920, as chief Hungarian delegate to the Paris Peace Conference, Apponyi signed, under protest, the Treaty of Trianon (see TRIANON, TREATY OF) He represented his country in the League of Nations until his death

apprenticeship, system of learning a trade from one who is engaged in it and of paying for the instruction by a given number of years of work Apprenticeship flourishes wherever there is handicraft production It was known in ancient Babylon, Egypt, Greece and Rome, as well as in Europe and to some extent in the United States Typically, a master of a trade agrees to instruct a young man, to give him shelter, food and clothing, and to care for him during illness The young man binds himself to work for the master for a given time After that he may become a journeyman, working for a master for wages, then—sometimes without service as a journeyman—he may set up as a master himself The medieval guilds supervised to some extent the relation of master and apprentice and decided the number of apprentices in a given guild The Industrial Revolution, with its introduction of machinery, put an end to most of these guilds, but apprenticeship continues in highly skilled trades, competing with technical schools The terms of apprenticeship are regulated by many trade unions, as well as by law It is sometimes arranged for orphans and other wards of the state See R A Bray, *Boy Labour and Apprenticeship* (1911)

appropriation, in constitutional law, the allotment by a legislature of money for a particular purpose The Constitution of the United States provides that no money may be drawn from the Treasury except under appropriations made by law and that no appropriations shall be made for more than two years In the United States a general appropriation bill is passed at the beginning of each session of Congress, in England, at the end of sessions of Parliament Legislative appropriation is always required in democratic governments See also BUDGET See A E Buck, *Public Budgeting* (1929)

APRA see HAYA DE LA TORRE, VÍCTOR RAÚL, PERU

Apra Harbor (ä'pä) or **Port Apra,** in Sumay town, on GUAM, on the west coast 5 mi W of Agana The only good harbor on the island, it is the port of entry, closed to foreign vessels except by permit There is a large U S naval base

Apraksin, Feodor Matveyevich (fyô'dur mŭtvyā'uvĭch ŭprak'syĭn), 1671-1728, Russian admiral He helped Peter the Great create the Russian navy and won several naval battles in Peter's wars against Sweden Apraksin was created count in 1709.

apricot [Arabic from Latin,=early ripe], tree, *Prunus armeniaca,* and its fruit, of the plum branch of the rose family, native to temperate Asia and long cultivated in Armenia The fruit is used raw, canned, preserved, and dried California is the chief place of cultivation in the United States, although by selecting suitable varieties the apricot can be grown in most regions where the peach is hardy In the British Isles the apricot is grown mostly in greenhouses or trained on walls

Apries (ā'prē-ēz), king of ancient Egypt (588-569 B C), of the XXVI dynasty He succeeded Psamtik II and sought to recover Syria and Palestine He attacked Tyre and Sidon but failed (586 B C) to relieve the siege of Jerusalem by NEBUCHADNEZZAR A revolt in Egypt caused him to seek the assistance of AMASIS II, who killed him and took the throne Apries is called Pharaoh-hofra (fā'rō-hōf'ru) in the Bible Jer 44

April. see MONTH

Apsaras: see HINDUISM.

apse [Gr.,=round vault, loop], the termination at the sanctuary end of a church, generally semicircular in plan but sometimes square or polygonal The apse appeared early in Roman temples and basilicas, it was originally a semicircular recess with a half dome as ceiling and contained the monumental statue of the deity The motive was adopted in the early Christian churches, in these the apse occupied the eastern end of the building where the altar, the bishop's throne, and the seats of the clergy were placed A fine example of this early form is in the cathedral of Torcello near Venice Because of its location and function in the church services, the apse became the architectural climax of the church interior and was richly ornamented In the early churches, the half-dome ceiling was incrusted with handsome mosaics, the walls were veneered with fine marbles, and the altar and pulpits were also richly decorated The apse steadily increased in liturgical and architectural emphasis, chapels were added to it, and with the introduction of the ambulatory, its whole aspect was altered until it became crystallized in the hands of the Gothic designers In England the apse was in most cases a square termination, and in Italy its form remained a simple semicircle, as the chapels were in another part of the church In France the entire choir—composed of apse, ambulatory, and radiating chapels (the whole termed a *chevet*)—attained, in the 12th and 13th cent, its great splendor The abundant structural ornamentation of both the interior and the exterior of the apse gave a complex and rich appearance, far from its original simplicity

Apsheron (ŭpshĭrŏn'), peninsula, Azerbaijan SSR, extending c 40 mi into the Caspian Sea It contains about 15 percent of the world's petroleum reserves There also are mud volcanoes, natural-gas wells, and salt lakes The principal oil fields are at Balakhany, Sabunchi, Surakhany, Kara-Chukhur, Kala, and SW of BAKU, on the southwest shore The peninsula is included within the Baku city limits

apteryx see KIWI

Apuleius, Lucius (ă"pyōō'lē'ŭs), fl 2d cent, Latin writer of African birth, b Hippo (now Bône, Algeria) His *Golden Ass* or *Metamorphoses,* a romance, is one of the few surviving examples of the Latin novel It has been tremendously popular, influencing strongly the later novel, e g, the works of BOCCACCIO, Cervantes, Fielding, and Smollett Other works by Apuleius include *The Apology* or *On Magic,* his defense in a suit brought by his wife's family for gaining her affections by magic, *Florida,* an anthology from his own works, and *On the God of Socrates, On the Philosophy of Plato,* and *On the World,* philosophical treatises

Apulia (upū'lēu), Ital *Puglia* (pōō'lyä), region (7,469 sq mi, pop 2,642,076), S Italy, occupying approximately the southern third of the Italian east coast, opposite Albania Its southernmost tip, a peninsula between the Strait of Otranto and the Gulf of Taranto, forms the heel of the Italian boot Apulia is divided into five provinces, Bari, Brindisi, Foggia, Ionio, and Lecce, named after their chief cities (except for Ionio, with its capital at Taranto) Bari is the regional capital Apulia is mostly a plain, its low coast is broken by the mountainous peninsula of Monte GARGANO Agriculture—producing wine, olive oil, almonds, figs, corn, and oats—is the chief occupation Sheep and goats are raised The scarcity of water has always been a vital problem, and drinking water is carried by a modern aqueduct across the Apennines In ancient times only the northern part of the region was called Apulia, the southern peninsula was called Calabria, a name which later was shifted to designate the toe of the boot The region was settled by several Italic peoples and by Greek colonists before its conquest (4th cent B C) by Rome After the fall of Rome, Apulia was held successively by the Goths, the Lombards, and the Byzantines In the 11th and the 12th cent it was conquered by the Normans under ROBERT GUISCARD, who set up the duchy of Apulia After the Norman conquest of Sicily, Palermo replaced MELFI as the center of Norman power, and Apulia became a mere province, at first of the kingdom of Sicily, then of the kingdom of Naples Its coasts were at times occupied by the Turks and the Venetians The feudal society long prevailed in the rural areas, much-needed social and agrarian reforms have proceeded slowly since the 19th cent The characteristic Apulian architecture of the 11th to 13th cent, showing Greek, Arabian, Norman, and Pisan influences, reflects the varied history of the region.

Apure (ăpōō'rā), river, c 500 mi long, W Venezuela, rising in tributaries in the Andes and flowing E to the ORINOCO Draining much of the western portion of the Orinoco basin, it is navigable for c 400 mi

Apurímac (ăpōōrē'mäk), river rising in S Peru, in the Andes, c 100 mi from the Pacific. It flows generally northwest to join the URUBAMBA and form the UCAYALI Upper sections of the Apurímac are Ené and Tumbo One of the most famous of Incan suspension bridges spans the river

Aqaba (ä'kăbă), village (pop c 200), Jordan, at the head of the Gulf of Aqaba, the northeast arm (100 mi long and 10 mi wide) of the Red Sea, lying between Egypt and Arabia It is the only Jordanian port with direct access to the Red Sea, and it was acquired from Hejaz in 1925 At this site, since at least 1000 B C, there has always been a port which handled trade to and from Palestine and Syria EZION-GEBER, Solomon's base, was near Aqaba, and ELATH was close by, perhaps on the very site of Aqaba

Aquae Sextiae see AIX-EN-PROVENCE.

aquamarine (ăk"wumurēn') [Latin,=sea water], transparent BERYL with a blue or bluish-green color Sources of the gems include Brazil, Germany, Siberia, Ceylon, Madagascar, and parts of the United States The name chrysolite aquamarine is often applied to yellowish-green beryl Oriental aquamarine is a transparent crystalline corundum with a bluish tinge The emerald is similar in composition, differing only in color.

aquarelle see WATER-COLOR PAINTING

aquarium, name for a tank or bowl, an artificial pond, or a museum for aquatic animals and plants It is not known when and where glass containers first came into use as aquariums Some believe that it was in Egypt Goldfish have been bred in captivity in China for several hundred years and are still the most commonly kept fish in the home aquarium, but tropical toy fish e g, guppies, have become increasingly popular in recent years For every inch of body length of fish, the container should provide from about 18 to 24 sq in of water surface in contact with air A rectangular tank is preferable to a round one It is harmful to the fish to have copper, brass, zinc, or galvanized iron in contact with the water Tanks having new wood or new concrete should be filled with water, changed at intervals, for a number of weeks before fish are put into them If the aquarium is properly set up and remains unpolluted, it is rarely necessary to do more than replace the water lost by evaporation Frequent changes of water are harmful Debris on the bottom can be siphoned off Green plants are useful in an aquarium, since they release oxygen in the presence of sunlight, which they need at least part of the day Sometimes supplementary artificial light is needed Plants which grow in sand and gravel are preferable Most satisfactory are species of *Sagittaria* and *Vallisneria* Other desirable plants are *Myriophyllum, Anacharis* (*Elodea*), and *Nitella Cabomba* does not survive long Fish should not be put into the aquarium for at least a day after the plants have been placed in the water Most aquarium fish remain healthy if the water temperature is kept between 70° and 75°F Goldfish can stand lower temperatures than can tropical fish Sometimes heating units and oxygenators are necessary Useful as scavengers are snails (among the most desirable are the large Japanese snails, the African paper-shelled snails, the ram's-horn snails, and pond snails), small catfish, and freshwater mussels Greenness of the water and on the walls of the aquarium is caused by algae It is usually the result of too much light or the presence of too many fish Any food not consumed by fish within five minutes after feeding should be removed from the tank to avoid pollution Marine aquariums containing sea anemones and other marine life can also be maintained indoors See I M Mellen and R J Lanier, *1,001 Questions Answered about Your Aquarium* (1935), W T Innes, *The Modern Aquarium* (latest ed) and *Goldfish Varieties and Water Gardens* (1947)

Aquarius (ukwâ'rēus) [Latin,=the water bearer], large zodiacal constellation, resembling the form of a man pouring a stream of water from a jar It is also the 11th sign of the ZODIAC From the third week in February to about the middle of March the sun is in the part of the heavens represented by this sign

aquatint, etching technique The plate is covered with a porous ground through which the acid bites many tiny pockmarks in the metal The tones produced resemble those of a wash drawing The technique is said to have been introduced by J B Le Prince c 1750 It is often used in combination with other types of etching See B F Morrow, *The Art of Aquatint* (1935)

Aquaviva, Claudio (klou'dyō akwävē'vä), 1543-1615, Italian Jesuit He was fifth general (1581-1615) of the Society of Jesus and composed the *Ratio,* the basis of Jesuit education

aqueduct (ă'kwudŭkt) [Latin,=conveyor of water], channel or trough built to convey water, chiefly for providing a city with a supply of fresh water Aqueducts were employed from early times, probably first in Mesopotamia Their construction reached a peak in Roman times in those around Rome as well as in Gaul and Spain and other parts of the empire Such a peak of skill was not again reached until the 19th cent The first Roman aqueduct was the Aqua Appia built c 312 B C, probably the first of those supported for some distance by a high arched structure was the Aqua Marcia (con-

structed between 146 and 140 B C), which became noted for the purity of its water. Portions of some of the original Roman aqueducts are still standing. An aqueduct of the Maya from Chapultepec to Tenochtitlán (Mexico city) was very important before the Spanish Conquest. Many large cities in the United States now obtain their water from considerable distances. Los Angeles draws much of its water from the Owens river (by means of an aqueduct more than 230 mi long) as well as from the Colorado river, also over a distance of more than 200 mi, the Colorado river aqueduct carries water for a number of cities of S California. Most of the supply for New York city is conducted through the CATSKILL AQUEDUCT and the CROTON AQUEDUCT. The topography of the land influences the design of the aqueduct, part of the aqueduct is usually above ground and part below.

Aquidneck (ukwĭd'nĕk), Indian and early colonial name of RHODE ISLAND in Narragansett Bay, largest island of the state of Rhode Island.

Aquila (ăk'wĭlu, ukwĭl'u) [Latin,=eagle], Christian of Jewish origin from Pontus who lived at Rome. He and his wife, Prisca or Priscilla, were friendly to Paul. Acts 18 2,18,26, Rom 16 3, 1 Cor 16 19.

Aquila or **Aquila degli Abruzzi** (ä'kwēlä dā'lyē ăbrōōt'sē), city (pop 20,573), capital of Abruzzi e Molise region and of Aquila prov, S central Italy, beautifully situated at the foot of the GRAN SASSO D'ITALIA. Anciently a castle, it rose to importance in the 13th cent and later became the second city of the kingdom of Naples, enjoying some autonomous rights, with flourishing trade and a university. It suffered several devastating earthquakes, but it has kept its medieval ramparts and gates, a 16th-century castle, and many old houses and fine churches.

Aquila Pontucus (pŏn'tĭkus), 2d cent., Jewish translator of the Old Testament from Hebrew into Greek. The characteristic feature of Aquila's version was its extremely literal rendering of the Hebrew. It was much used by Jews, even in the synagogues. No complete specimen exists.

Aquilegia see COLUMBINE.

Aquileia (ăkwēlā'yə), town (pop 1,116), Friuli-Venezia Giulia, NE Italy, near the Adriatic. Founded in 181 B C, it became a Roman stronghold against the barbarians and (6th cent) the see of a patriarch. It was repeatedly destroyed by invaders. Fleeing the Lombards, the patriarch took refuge in Grado, the island port of Aquileia, and remained there while Aquileia elected its own patriarch. The pope recognized (9th cent) both patriarchates, in 1445 that of Grado was transferred to Venice. After the 11th cent. Aquileia flourished under the temporal power of its patriarchs, who acquired Friuli, Carniola, and Istria. Decline began in the 14th cent., and in 1420 Venice occupied Aquileia and Friuli. From the early 16th cent. until 1918 Aquileia was under Austrian rule. The patriarchate was abolished c 1751. Aquileia has kept its famous Romanesque basilica (11th cent., partly restored in the 14th cent.), with the best-preserved mosaic floor of its kind and with frescoes of the 12th and 13th cent. The local archaeological museum has mosaics, sculptures, and glass objects dating from late Roman times. Grado, now joined to the mainland by a bridge, is a popular bathing resort.

Aquinas, Saint Thomas: see THOMAS AQUINAS, SAINT.

Aquitaine (ăk'wĭtān), Latin *Aquitania*, former duchy and kingdom in SW France. At the time of Julius Caesar, one of whose lieutenants conquered Aquitaine in 56 B C, the province occupied the territory between the Garonne and the Pyrenees, under Augustus it was extended northward and eastward almost as far as the Loire. Aquitaine was to appear in later history both in the narrow and in the wide meaning of the word. The VISIGOTHS under Ataulf included it in their kingdom (5th cent.), but with the victory (507) of Clovis I over Alaric II at Vouillé it passed to the Franks. In the chaotic strife among the various Merovingian kingdoms much of Aquitaine, notably GASCONY, escaped Frankish control. By 736 Pepin the Short had recovered Aquitaine, but Gascony remained virtually independent. Charlemagne erected Aquitaine into a kingdom for his son Louis (later Emperor LOUIS I). After the death (838) of Louis's son, Pepin I, the kingdom was reunited, after some struggle, to the West Frankish (French) kingdom. A duchy of Aquitaine, enfeoffed to the French crown, soon emerged. The ducal title was given to the counts of Poitiers and, late in the 9th cent., to William, count of Auvergne. The duchy of Aquitaine (or GUIENNE, as it was then already called) was one of the most powerful states in Western Europe. It included the subfiefs of Poitou, Saintonge, Aunis, Marche, Périgord, Limousin, Angoumois, and Auvergne. In the 11th cent. the dukes acquired Gascony and made Bordeaux their capital. Their claim to the county of Toulouse, however, was not successful. The marriage of ELEANOR OF AQUITAINE to Louis VII of France, its subsequent annulment, and her marriage (1152) to Henry II of England initiated a long struggle between France and England over the title to Aquitaine. After 1154 the fiefs composing the duchy were held by the English kings as vassals of France. PHILIP II annexed Poitou to the French royal domain, and in the HUNDRED YEARS WAR, which was largely caused by the refusal of England to do homage for its French fiefs, France recovered all of Aquitaine. Guienne and Gascony, Angoumois, Aunis, and Saintonge were part of the royal domain by 1454.

Ar, city of Moab, probably one of the important centers E of the Dead Sea. It has been tentatively connected with two ruined places, one on the Arnon c 10 mi E of Aroer, the other on the old Roman road c 10 mi SW of Aroer. Num 21 15,28, Deut. 2 9,18,29, Isa 15 1. It is the nameless city of Num. 22 36, Deut 2 36, and Joshua 13 9.

Ara (ä'rə), Asherite. 1 Chron 7 38.

Arab see ARABIA and ARABS.

Arab (ă'rĭb) [Heb.,=ambush], hill town, S Palestine, near Hebron. Joshua 15 52.

Araba or **Arabah** (both ă'rəbä, ä'rubä), depression, S Palestine, extending from the Dead Sea S to the Gulf of Aqaba and lying on the boundary (not yet officially set in April, 1950) between S Israel and Jordan. It is in the Old Testament variously called a wilderness, a plain, and a desert.

arabesque (ărubĕsk') [Fr.,=Arabian] term applied to any complex, linear decoration based on flowing lines. Although such decoration is perhaps most fully exploited in Moorish art, in which it is characteristically nonrepresentational, arabesque in modern usage derives from a type of Renaissance design which was Greco-Roman in inspiration.

Arabia, peninsula (c 1,000,000 sq mi, pop between 5,000,000 and 7,000,000), SW Asia. The Persian name is Arabistan. It includes all the territory lying between the Red Sea (with its northern extension, the Gulf of Aqaba) on the west and the Persian Gulf and the Gulf of Oman on the east. The peninsula is bounded on the south by the Gulf of Aden and the Arabian Sea. Politically, Arabia is made up of two independent countries, Saudi Arabia and Yemen, six semi-independent states—Aden, Bahrein, Kuwait, Oman, Qatar, and Trucial Oman (all under British protection)—and several neutral territories. British possessions include the colony of Aden and the Kuria Muria islands. Arabia is mainly a great plateau which slopes gently from west to east. The coast, for the most part elevated above the somewhat depressed interior, precipitates what little moisture is carried by the dry winds which cross Arabia. This makes the interior of the country so arid that there is not a single perennial stream, and large areas, especially the Rub al Khali in the south, are without water and forbid exploration. In certain regions, notably the NEJD in central Arabia and along much of the HEJAZ (the precipitous Red Sea coast), sufficient water collects in or below the surface of water courses (wadies) to create oases which support settled agricultural communities. Only in SW Arabia (the YEMEN, see this heading for discussion of the term "Arabia Felix"), where the coastal mountains rise to c 10,000 ft, does the rainfall permit extensive agriculture, here Mocha coffee and large crops of grain are raised. The climatic conditions of the Yemen obtain to a lesser extent on the northeast coast of OMAN. About four fifths of the Arabian population is sedentary and is supported by agriculture, the remaining fifth are pastoral nomads who raise goats and sheep. Until recently Arabia was a poor country with little to export except small quantities of hides, wool, and coffee and the famed highly bred horses. Thus the country hardly felt the absence of good ports (except that of ADEN). In recent years, however, E Arabia has been revealed as very rich in oil reserves. American and British—and, to a lesser degree, Dutch and French—firms have a monopoly on the drilling concessions, and much oil is produced. In time, undoubtedly, modern technology will strongly affect the traditional ways of Arabia. Archaeological evidence points to very early trade between Yemen and what is now Somaliland in Africa. From time to time peoples of Arabian provenience invaded and settled the inviting regions of the eastern Mediterranean basin, such, possibly, were the HYKSOS, conquerors of Egypt (17th cent B C), and the Israelites, who seized Palestine. Little is definitely known of Arabian history in this early period preceding the oldest inscriptions discovered—those dating from c 1000 B C. In ancient historical times much of Arabia was divided between the domains of Ma'in and SHEBA. Political unity in Sheba seems to have been hastened by Darius' conquest of N Arabia and its organization into a satrapy. No ancient power ever attempted the complete conquest of Arabia, because of the formidable difficulties involved in crossing the deserts. Rome did invade (24 B C) N Arabia but soon withdrew, although for a long period it held the northern part of the Hejaz. Ethiopia, during its great expansion under the Aksumite kings (see AKSUM), twice (300–378, 525–70) held Yemen and the south coast (the HADRAMAUT) and enriched itself with the trade from Persia and India. Arabian unity was not achieved until the establishment of ISLAM by MOHAMMED the Prophet, who came from MECCA, a religious center in the Hejaz. His dynamic faith, furthered by his immediate successors, unified the warring Arab tribes and sent them out on a career of immediate conquest in the 7th cent. First Egypt and Syria fell, and under the OMAYYAD caliphate Turkistan and Persia were conquered. Further Arab expansion was checked in the east by the Byzantine Empire, and in the west the defeat (732) inflicted by Charles Martel at the battle of Tours or Poitiers forced a withdrawal from France. The tremendous territorial expansion of Islam deprived the religion of its exclusively Arabic character, and the need for a more convenient administrative center led to the transfer of the seat of the CALIPHATE from Mecca to Damascus. Arabia was again without political cohesion, and independent emirates arose in Yemen, Oman, and elsewhere. In the 10th cent. a semblance of unity was imposed by the Karmathians, but in the 11th cent. anarchic conditions again prevailed. After the discovery of the route to India around the Cape of Good Hope, foreign powers were attracted to Arabia as a site for bases. The Portuguese seized (1508) Oman but were driven out (1659) by the Ottoman Empire, which attempted, but never with complete success, to control all Arabia. In the early 19th cent. the empire permanently lost Aden to Great Britain. Nationalist opposition to Turkish rule was aroused in the late 19th cent., by the WAHABI movement, which was a reform within Islam. Its cause was strengthened by the adherence of the founder of the present ruling family of Saudi Arabia, into whose hands much of Arabia fell. Although after its temporary eclipse in 1818 the Wahabi domain never again attained its greatest extent, the Wahabis continually harassed the steadily weakening Ottoman Empire. Just before the First World War, IBN SAUD revived the Wahabi movement, and during the war he revolted against the Turks. His strongest rival, HUSEIN IBN ALI, also led a successful revolt in the Hejaz. The Saud family prevailed in the violent struggle after the war and in 1925 founded SAUDI ARABIA, the dominant state of the peninsula. See D G Hogarth, *Arabia* (1922), T E Lawrence, *Revolt in the Desert* (1927), C M Doughty, *Travels in Arabia Deserta* (new ed., 1936), Philip K. Hitti, *History of the Arabs* (3d ed., 1943).

Arabian art and architecture: see MOSLEM ART AND ARCHITECTURE.

Arabian Desert: see EGYPT.

Arabian music, term used popularly to include the music of all the Islamic peoples. It includes some elements which are the result of Greek influence, and it is related to Hindu music, as well as to other Semitic musical cultures—Assyrian and Hebrew. Theory concerning it abounds, but little actual music is extant. The principal theorist was Al-Farabi (10th cent.), who introduced the Greek conception of tetrachords into the tonal system. After his reform, the Arabian gamut was extended to include 12 notes roughly corresponding to the chromatic scale of Western music. In the 13th cent. five more notes were added, each a quarter tone below each diatonic whole tone. This scale of 17 notes provides the possibility for an infinite number of modes, most of which resemble the Greek modes. That which sounds like the major mode of Western Europe is a specifically Persian element. Melody employs the system of *maqams*, melody types which correspond to the Hindu *ragas* (see HINDU MUSIC). The rhythms of Arabian music are provided by the meters of poetry. In folk music the rhythms are simple, often endlessly reiterated, and the melodic range is short. In art music, there is contrast of strict and free rhythms, but in general the rhythmic element of Arabian music is less highly organized than the *tala* of Hindu music. Arabian music's principal form is the *nuba*, which is a sort of cantata, in nine parts, some of which are instrumental, some vocal. All Arabian music is monodic, the occasional harmonic intervals in ensemble music are accidental. The principal instruments are a long lute and a short lute, and the influence of Arabian music on that of Europe lies mainly in the introduction of the lute by the Moors in Spain. See H G Farmer, *A History of Arabian Music* (1929), Curt Sachs, *The Rise of Music in the Ancient World* (1943).

Arabian Nights see THOUSAND AND ONE NIGHTS.

Arabian Sea, northwestern part of the Indian Ocean, lying between Arabia and India. The Gulf of Aden and the Gulf of Oman (extended by the Persian Gulf) are its principal arms. The Indus river is the greatest of the many streams which pour their waters into the sea. Aden, Basra, Bombay, and Karachi are its chief ports.

Arabic language, Semitic language, one of the most widely spoken languages on earth. See LANGUAGE (table).

Arabic literature. The first Arabic writing is a golden age of lyric poems, from the 4th to the 7th cent. They are strongly personal odes, often very short, some longer than 100 lines. The life of the camp is in them, with themes of love, fighting, and the chase. The poet talks directly, not romantically, of nature and never lacks a serious note on the power of God. The poems read excellently in translation. They survive only through col-

lections, chiefly the MUALLAQAT, HAMASA, and MOFADDALIYAT The most esteemed of the poets are AMRU-L-KAIS, ANTAR, and ZUHAIR The Prophet Mohammed was not interested in poetry and he continually decried it, so Arabic poetry fell into a decline from which it recovered only in far different form The KORAN supplanted poetry by becoming the prime piece of literature, the chief object of study of the Moslem world The second great period of Arabic literature was a result of the rise of the new Arabic-Persian culture of Baghdad under the Abbasids in the 8th and 9th cent. Philosophy, mathematics, law, Koranic exegesis, history, and science were cultivated, and to this period is owed the collections of early Arabic poetry During the 7th and part of the 8th cent, Arabic poets had become entirely artificial Bedouin themes alone might inspire poetry, and the only poets were city men At the end of the 8th cent in Baghdad a group of young poets arose who established a new court poetry Two of these were ABU-L-ATAHIYA and ABU NUWAS The new poetry was successful, but soon was once more in decline Typical of the time is Mutanabbi (d 965), with a careful, exaggerated, formal style He always has been one of the most popular Arabic poets, but he is disappointing when compared to Amru-l-Kais This is an age of preciosity, e g, the poet HARIRI (11th cent), whose avowed aim was to combine "refinement with dignity of style, and brilliancies with jewels of eloquence." An unusual poet, who represents first the liberalism and then the orthodoxy of his time, is ABU-L-ALA AL-MAARRI Prose romance had long before this begun to be the main literary interest The influence of India and Persia is seen in Arabic stories, but it was the Arabs who cast them in their permanent form The greatest collection is the THOUSAND AND ONE NIGHTS The historical and geographical works in Arabic are important writers in this field include BUKHARI, TABARI, MASUDI, IBN-KHALDUN, and IBN-BATUTA The great Western center of Arabian culture was Spain, especially Córdoba under the Omayyads The Spanish Arabs had fine poets and scholars, but they are dwarfed by the great philosophers—AVEMPACE, AVERROËS, and IBN TUFAIL Since 1200 in Spain and 1300 in the East, there has been little Arabic literature of wide interest After 1870, with the growth of Western influence on the East, a vernacular literature arose in Syria and in Egypt, which aims to rouse Arabic national consciousness in literature either by a return to classical models or by an imitation of Western forms See R A Nicholson, *A Literary History of the Arabs* (1907, 2d ed, 1930), Sir C J Lyall, *Translations of Ancient Arabian Poetry, Chiefly Prae-Islamic* (1885)

Arabistan see ARABIA

Arab League, association of the countries predominantly Arabian in descent Long efforts to form such a Pan-Islamic federation succeeded in 1944 when a conference was held at Alexandria and a protocol calling for an Arab League was signed In 1945 the Arab states met in Cairo to draft a constitution, which was accepted by Egypt, Syria, Lebanon, Trans-Jordan (now Jordan), Iraq, Saudi Arabia, and Yemen A representative of Palestinian Arabs, though he did not sign the document because he represented no recognized government, was, nevertheless, given full status and a vote in the Arab League. The charter provided for coordination among the signatory nations on education, finance, law, trade, and foreign policy, and it forbade the use of force to settle disputes among the members The league supported Syria and Lebanon in their disputes (1945) with France At the conference of foreign ministers in London (Sept, 1945) the league demanded an independent Libya The league early announced opposition to the formation of a Jewish state in Palestine and insisted that the country as a whole, with the majority of its population remaining Arab, be given independence The league failed to dissuade the United Nations from partitioning Palestine, and when the state of ISRAEL was created in May, 1948, the league countries jointly attacked it Israel resisted successfully, and dissensions soon developed among the members of the organization on what attitude they should take towards that nation

Arabs. In the widest sense the Arabs are those persons whose primary language is Arabic Except for minor settlements elsewhere, they comprise the vast bulk of the population of Arabia, Syria, Lebanon, Jordan, Iraq, Anglo-Egyptian Sudan, North Africa (where, however, there are many speakers of Hamitic languages), and the portions of Palestine which do not belong to Israel The term does not usually include Arabic-speaking Jews (found chiefly in Yemen, North Africa, and Iraq), but it does include Arabic-speaking Christians (chiefly inhabiting Syria, Lebanon, and Palestine). A narrower use of the term *Arab* confines it to the Moslem inhabitants of ARABIA. It was the Moslems from Arabia whose invasions in the 6th and 7th cent widely diffused both the Arabic language and Islam A great Arab civilization was built up, and learning flourished in the Islamic lands. Medicine, mathematics, and science were particularly developed by the Arabs, and such philosophers as Kindi and Al-Gazel absorbed Greek philosophy (particularly Aristotle) and expanded upon it The waves of Arab conquest across the East and into Europe widened the scope of their civilization and contributed greatly to world development In Europe they were particularly important in Sicily, which they held from the 9th cent to the late 11th cent, and the civilization of the MOORS in Spain was part of the great Arabic pattern Christian scholars in those two lands gained much of the Islamic knowledge, and scholasticism and the beginnings of modern Western science were derived ultimately from the Arabs The emergence of the Seljuk Turks in the 11th cent and of the Ottoman Turks in the 13th cent ended the specifically Arab dominance in Islam, though Moslem culture still remained on the old Arab foundations See C H Haskins, *The Renaissance of the Twelfth Century* (1927), Philip K Hitti, *History of the Arabs* (3d ed, 1943)

Aracaju (ä"rukushōō'), city (pop 50,306), capital of Sergipe, NE Brazil Founded late in the 16th cent, it is today a port with only coastwise trade Sugar is exported

Arachne (ürăk'nē) [Gr, =spider], in Greek legend, girl who challenged ATHENA to a trial of skill in weaving The goddess changed her into a spider

arachnid (ürăk'nĭd), animal with eight legs, belonging to the class Arachnida of the phylum Arthropoda See DADDY LONGLEGS, MITE, SCORPION, SPIDER, TICK

Arad (ă'răd) **1** Benjamite 1 Chron 8 15 **2** Town, c 15 mi S of Hebron Joshua 12 14, Judges 1 16 The "king Arad" of Num 21 1 and 33 40 is a mistranslation for "king of Arad"

Arad (ărăd'), city (pop 87,291), W Rumania, in Crisana-Maramures, on the Mures river and near the Hungarian border It is a commercial center with varied industries (flour mills, tanneries, machine shops, and manufactures of electric appliances) About 35,000 of the inhabitants are Hungarians First mentioned in the 14th cent, it was long (1542–1689) under Turkish occupation The citadel was built (18th cent) by Maria Theresa

Aradus (ăr'udus), islet and town of ancient Phoenicia, the modern Ruad, N of Tripoli off the Syrian coast It was the most northerly of the important Phoenician centers In the Old Testament it is Arvad Gen 10 18, 1 Chron 1 16, Ezek 27 8,11, 1 Mac 15 23

Arafat (ărafat'), granite hill, Saudi Arabia, near Mecca In commemoration of Mohammed's stop here on his flight (hegira) from Mecca to Medina, the hill is visited by hordes of pilgrims Its springs supply water to Mecca It is also called Jebel-er-Rahm (jĕ'bul-ur-ram'), Arabic for "mountain of mercy"

Arafura Sea (ărufōō'ru), part of the Pacific Ocean, between Australia and New Guinea It contains several islands of Indonesia The Timor Sea is to the west, the Coral Sea east

Aragats, Mount (ărugăts', Rus ărugats'), or **Mount Alagez,** (ălugyôs'), extinct volcano, 13,435 ft high, Armenian SSR, in the Lesser Caucasus, highest peak of the Armenian SSR There is an astrophysical research center at c 5,000 ft

Arago, Dominique François (dôměnk' frăswa' aragō'), 1786–1853, French astronomer and physicist He is noted for his astronomical lectures, delivered while he was director of the Paris Observatory, and for his discoveries in magnetism and optics He also contributed his services to the state, as a member of the provisional government of 1848 and, for a time, as minister of war and of the navy His collected works (1854–62) include his well-known *Astronomie populaire* (4 vols)

Aragon, Louis (lwē' ărăgō'), 1897–, French poet, novelist, and journalist A onetime Dadaist and surrealist, he was later a Communist and editor of the radical Paris daily *Ce Soir* Novels available in English translation are *The Bells of Basel* (1934, Eng tr, 1936), *Residential Quarter* (1936, Eng tr, 1938), *The Century Was Young* (1941, Eng tr, 1941), and *Aurelien* (1945, Eng tr, 1947). His best poetry, written during the Second World War, includes *Le Crève-Cœur* (1941) and *Les Yeux d'Elsa* (1942) Translations of miscellaneous pieces which he wrote as a leader of the French underground appear in *Louis Aragon, Poet of the French Resistance* (ed. by Hannah Josephson and Malcolm Cowley, 1945)

Aragon (ă'rugŏn), Span *Aragón* (ărägōn'), region (18,382 sq mi, pop 1,058,806) and former kingdom, NE Spain, bordering in the north on France and in the east on Catalonia Comprising the provinces of Huesca, Teruel, and Saragossa, Aragon includes the southern slopes of the Pyrenees, which here reach their greatest height, a central plain drained by the Ebro, and the western fringe of the central plateau of Spain The region is sparsely populated and desertlike Irrigation works, started by the Moors, were resumed in the 16th cent., the two lateral canals of the Ebro are the most important. In the oases and irrigated areas cereals, grapes, olives, and sugar beets are grown. Sheep are raised throughout Aragon, and cattle in the Pyrenees. Sugar refining is the only important industry. The Aragonese, mostly poor and deeply religious, have remained secluded in their small towns, jealously preserving their ancient traditions At the death (1035) of Sancho III of Navarre, his western territories were erected into the kingdom of Aragon for his natural son, Ramiro I He and his successors extended their dominions southward at the expense of the Moorish emirate of SARAGOSSA, and in the 12th cent Saragossa replaced Huesca as their capital. From 1076 to 1134 Aragon was reunited with Navarre, and in 1137 it became united, through personal union, with CATALONIA Both regions preserved their own cortes, laws, language, and customs and evolved along separate lines Their deep historical, social, and cultural differences at times caused much friction With the expansion of the house of Aragon (see separate article), the name Aragon came to signify a confederation of its Spanish possessions (Aragon, Catalonia, MAJORCA, and VALENCIA) and several French fiefs In the bitter struggles (12th–15th cent) between kings and nobles, the nobles gained more and more privileges until PETER IV defeated them in 1348 The justiciar, a type of magistrate created in the 12th cent, acted as a sort of intermediary between king and nobles, after 1348 he lost most of his political power but gained more juridical importance Aragon played only a minor role in the expansionist policy of its kings in the Mediterranean United with Castile after 1479 through the marriage of Ferdinand the Catholic with Isabella, Aragon preserved its cortes and its city privileges These, however, were gradually limited by the centralizing policies of the Spanish monarchy, and in 1716 Philip V abolished most of the remaining political privileges to punish the Aragonese for siding with Archduke Charles (later Emperor Charles VI) in the War of the Spanish Succession The passionate attachment of the Aragonese to their liberties was illustrated by the episode of Antonio PÉREZ under Philip II and by the heroic defense of Saragossa in the Peninsular War

Aragon, house of, family which ruled in Aragon, Catalonia, Majorca, Sicily, Naples, Sardinia, Athens, and other territories in the Middle Ages It is descended from RAMIRO I of Aragon (1035–63), natural son of SANCHO III of Navarre Under Ramiro's successors—SANCHO I, PETER I, and ALFONSO I—Navarre was temporarily (1076–1134) united with Aragon During that period considerable territory was wrested from the Moors Ramiro II (1134–37) was succeeded by his daughter, Petronella, and her husband, RAYMOND BERENGAR IV, count of Barcelona Aragon and CATALONIA (see also BARCELONA) remained united under their descendants—ALFONSO II, PETER II, JAMES I, PETER III, ALFONSO III, JAMES II, ALFONSO IV, PETER IV, JOHN I, and MARTIN I, after a brief interregnum (1410–12) they passed to MARTIN'S nephew, FERDINAND I, and from him to ALFONSO V, JOHN II, and Ferdinand II, who after his marriage with Isabella of Castile became joint king of Castile as FERDINAND V or Ferdinand the Catholic His grandson, Charles I (later Emperor CHARLES V) succeeded him and merged the houses of Aragon and Castile with that of Hapsburg Through its merger of 1037 with the house of Barcelona, the house of Aragon had acquired various fiefs in S France, notably Roussillon, Provence, and Montpellier, and suzerainty over others Most of these it lost between 1213 and 1246, mainly because Peter II intervened in the ALBIGENSIAN CRUSADE and was defeated (1213) at Muret In the same period (1229–38), however, James I won the BALEARIC ISLANDS and VALENCIA from the Moors, in 1282 Peter III became king of SICILY, and in the 14th cent, after a long struggle, Alfonso IV conquered SARDINIA The duchies of ATHENS and Neopatras were under the nominal rule of the family in the 14th cent, and in 1442 the kingdom of NAPLES was conquered by Alfonso V Only rarely were these possessions united under a single ruler, mostly they were held by various branches of the house, often at war with each other as well as with other rulers in Spain The kingdom of MAJORCA, with ROUSSILLON and Cerdagne, was separate from 1276 to 1343, that of Sicily, from 1296 to 1409, and Naples, from 1458 to 1501 Even when united under one ruler, as they were under Alfonso V, the various possessions retained their distinct institutions, which continued important in diminished and varying degree after the union of the crowns of Aragon and Castile See also NAVARRE

Araguaia (ărugwī'u), river, more than 1,000 mi long, rising in Mato Grosso, Brazil, and flowing generally N to the TOCANTINS

Arah (ā'rŭ) [Heb., =wayfarer] **1** Asherite 1 Chron 7 39 **2** Family in the return from the Exile Neh. 7.10.

Araish, El, Spanish Morocco see LARACHE.

Arakan (ărŭkăn', ărăkăn'), division (16,001 sq mi., pop 1,186,738), W Burma, extending along the Bay of Bengal and at the foot of the Arakan Yoma mountain range, which rises to 10,918 ft at Victoria Peak The chief city is Akyab. The Arakanese, who are of Burmese stock with strong Indian influences, are mostly engaged in intensive rice culti-

vation. The country, which is geographically isolated, was at various times under Burmese rule, but was not finally absorbed into Burma till 1783, it was the first Burmese territory ceded to the British (1826)

Arakcheyev, Aleksey Andreyevich (ŭlyĭksyā' ŭndrā'yĭvĭch äräkchā'ĕf), 1769–1834, Russian general and minister of war He organized the bodyguard of Paul I, who created him a count, and under ALEXANDER I reorganized the Russian army on the line of strict discipline Made minister of war in 1808, he became one of the most powerful men in Russia in the second half of Alexander's reign

Aral Sea (ä'rŭl, Rus ŭrāl'), inland sea, area 24,635 sq mi., USSR, in the Kazakh SSR and the Kara-Kalpak ASSR, 175 mi E of the Caspian Sea Fed by the Syr Darya and Amu Darya rivers, it is 230 mi long and 175 mi wide, is 170 ft above sea level, has an average depth of 55 ft , and is slightly saline (1 03 percent) There is no outlet The western and northern shores are rocky escarpments (Ust-Urt Plateau), the desert lands of the Kyzyl Kum stretch to the east There are many small islands Navigation is hindered by storms and shallowness, the only route being from Muynak to Aralsk The sparse population (mainly in the northeast and the south) engages in fishing (sturgeon, carp, perch) First mentioned by Arab geographers as the Khwarazm Sea, it was reached by the Russians in the mid-19th cent

Aram (ā'răm) **1** Ancient people and their country, roughly identifiable with Syria Movement of Arameans westward to Syria apparently took place before 1200 B C The Bible records constant contacts between Hebrews and Aram, mentioning states of Damascus, Beth-rehob, Geshur, Maachah, and Zoba Their language was a form of Aramaic Gen 10 22, Num 13 21, Judges 18 28, 2 Sam 8 5,6, 10 6–19, 1 Kings 11 23–25, 1 Chron 19 6, Ps 60 **2** Descendant of Nahor Gen 22 21 **3** Asherite 1 Chron 7 34 **4** In the Gospel genealogy, see RAM 1

Aram, Eugene (ā'rŭm), 1704–59, English philologist, whose execution for murder after a brilliant scholastic career is the basis for *The Dream of Eugene Aram* (1829), a poem by Thomas Hood, and *Eugene Aram* (1832), a novel by Bulwer-Lytton Aram was a self-taught linguist and was the first philologist to identify the Celtic languages as Indo-European He was at work in 1758 upon a comparative dictionary of all European tongues when the discovery of a skeleton led to his conviction, confession, and hanging for the murder of his friend Daniel Clark in 1745 See study by E R Watson (1913)

Aramaic (ărămā'ĭk), Semitic languages of Syria, flourishing in the centuries before and after Christ. See LANGUAGE (table)

Aram-naharaim (ā'rām-nā"hārā'ĭm) [Heb ,=Aram of the rivers], the same as PADAN-ARAM

Aram-zobah (ā'rŭm-zō'bu), the same as ZOBA

Aran (ā'răn) [Heb ,=wild goat], descendant of Seir the Horite Gen. 36 28, 1 Chron 1 42

Aranha, Oswaldo (ushvăl'dō urä'nvû), 1894–, Brazilian statesman and diplomat He was minister of justice (1930–31) and minister of finance (1931–34) under Getulio Vargas and later was ambassador to the United States (1934–38) Aranha was foreign minister from 1938 to 1944, when he resigned, denouncing Vargas In 1947 he served as delegate to the United Nations

Aran Islands or **Arran Islands** (both ăr'un), Co Galway, W Ireland, in Galway Bay The three islands are Inishmore, which is also known as Arranna-naomh [Irish,=Aran of the Saints] (ä'run-nänāv'), from the number of monks gathered here, Inisheer, and Inishmaan There are many early Christian and pre-Christian remains The islands are barren, and living is primitive Robert Flaherty's moving picture, *Man of Aran*, is an authentic representation of the life See J M Synge, *The Aran Islands* (1911)

Aranjuez (aranghwāth'), town (pop 21,771), Madrid prov., central Spain, in New Castile near the Tagus river, noted as a royal residence since the 16th cent. The palace, burned in the 17th cent., was rebuilt by Philip V (1727) The Jardín de la Isla along the Tagus is the finest of the several palace gardens

Aransas Pass (ărăn'sŭs), city (pop 4,095), S Texas, NE of Corpus Christi, settled 1890, inc 1910 A Gulf port, it has a deepwater ship channel that goes through Harbor Island and through the pass between St Joseph Island and Mustang Island, where Port Aransas stands A sea wall protects the city, which ships much oil, has a carbon-black plant, and is also a fishing port

Arany, John (ō'rônyu), Hung *Arany János* (yä'nōsh), 1817–82, Hungarian poet Interrupting his studies at Debrecen, he joined a company of actors, but, disillusioned, returned to his native town of Nagykoros and became professor of Hungarian literature at the local college After his satirical poem *The Lost Constituton* (1845) won the prize of the Kisfaludy Society, he began work on his epic *Toldi* (1846), later adding *Toldi's Eve* (1854) and *Toldi's Love* (1879), which have been translated into English. Among his other works is an epic trilogy, *Buda's Death*, *Ildiko*, and *Prince Csaba* (unfinished), in addition to the ballads which are perhaps his finest works. His style, simple and often reminiscent of folk song, is compelling and powerful, and he is considered by some critics the greatest of all Hungarian poets He was secretary (1864–79) of the Hungarian Academy of Sciences

Arapahoe (ŭrăp'uhō), city (pop 1,002), S Nebr , on the Republican and SW of Kearney, in a farm area, laid out 1871

Arapahoe Peak, 13,506 ft high, N central Colo , in the Front Range of the Rocky Mts It has a large glacier

Arapaho Indians (ŭrăp'uhō), North American Indians of Algonquian linguistic stock, once settled about the North Platte and Arkansas river regions Tradition places their early home in N Minnesota, but nothing is known of the date or circumstances of the separation of the Arapaho from other Algonquian peoples They are thought to be most closely related to the Cheyenne and to the Blackfoot (see LANGUAGE, table) Traditionally the Southern Arapaho were allied with the Cheyenne against the Pawnee The Arapaho stressed membership in age-graded societies, mainly for ceremonial purposes Their annual sun dance was a major tribal event, and later the Arapaho fervently adopted the ghost-dance religion There are three major divisions—the Atsina or GROS VENTRE INDIANS, allied with the Blackfoot Indians and now on a reservation with them, the Southern Arapaho, now living with the Cheyenne in Oklahoma, and the Northern Arapaho, considered by the Indians to represent the parent group, settled since 1876 on the Wind River Indian Reservation in Wyoming with their former enemies, the Shoshone Wyoming and Oklahoma Arapaho were estimated to number 1,900 in 1942

Ararat (ă'rurăt), region, W Turkey and E Armenian SSR, a portion of Armenia The region, identical with ARMENIA in many ancient records, is stated in the Bible to be the landing place of Noah's ark Gen 8 4, Jer 51.27, 2 Kings 19 37, Isa 37 38 In ancient Assyrian inscriptions Ararat appears as Urartu Today it is called Massis in Armenian, Aghri Dagh (or Egri Dagh) in Turkish, and Koh-i-nuh in Persian Mt Ararat (16,946 ft high), in Turkey, is sometimes identified as the spot where the ark came to rest

Aras (ärəs'), river, 550 mi long, rising in Turkish Armenia near Erzerum It flows generally east, forming parts of the borders between Turkish and Soviet Armenia and between Soviet and Iranian Azerbaijan After entering the Azerbaijan SSR it joins the Kura before emptying into the Caspian Sea Much of its course is rapid and tumultuous The Aras is the Araxes of the ancients

Arason, Jon see ARESSON, JON

Aratus (ură'tus), 3d cent B C , Greek court poet, of Soli in Cilicia He wrote an astronomical treatise, *Phenomena*, which was quoted by Paul at Athens Acts 17 28.

Aratus, d 213? B C , Greek statesman and general of Sicyon, prime mover and principal leader of the second ACHAEAN LEAGUE To him was due the credit for bringing into the confederation many of the principal cities of Greece (e g , Athens and Argos), but his also was probably the blame for the subsequent Macedonian domination of the Peloponnesus, for, in fighting Sparta and the Aetolian League, he called in ANTIGONUS III

Araucanian Indians (ă"rôkā'nēun, ă"ru-), South American people, occupying at the beginning of the Spanish conquest of Chile (1540) the region W of the Andes between lat 30° S and lat 43° S Though vigorous and warlike, the Araucanians were an agricultural people living in small settlements Drinking *chicha* was a daily practice, and at feasts long bouts of intoxication were common In wars some cannibalism was practiced The known history of the Araucanians begins with the Inca invasion (c 1448–c 1482) under Tupac Yupanqui, but Inca influence was never strong Against the Spanish under Pedro de VALDIVIA the Araucanians offered resistance, notably under LAUTARO and CAUPOLICÁN, and their stout fight was immortalized in the epic by ERCILLA Y ZÚÑIGA They were successful in protecting S Chile and by 1598 had erased almost all Spanish settlements S of the Bío-Bío Their struggle continued intermittently in the 17th and 18th cent in the uprisings of 1723, 1740, and 1766 White immigration southward brought on the war of 1880–81, which ended with Araucanian submission Earlier, especially at the beginning of the 18th cent , Araucanians fleeing white pressure had gone across the Andes into Argentina. Capturing wild horses, they became wanderers on the plains and absorbed the PUELCHE Gen Julio A Roca subjugated them in his campaigns (1879–83) There are a number of tribes and a number of languages, which make up a separate linguistic family Most important is Mapuche The Araucanians continue to influence Chilean life

Araunah (ărô'nu), Jebusite who sold his threshing floor to David that an altar might be erected there This site, on Mt Moriah, was afterward used for the Temple. 2 Sam 24 15–25 Ornan 1 Chron 21 14–30, 2 Chron 3 1

Arawak (ă'rəwăk), linguistic stock of American Indians occupying at the time of the Spanish Conquest the islands of the Greater Antilles, the Bahamas, and Trinidad It is believed that the tribes came from South America Before the arrival of the Spanish they were driven from the Lesser Antilles by the Carib Most of the Arawak died out after the Spanish Conquest

Araxes, river see ARAS

Arba or **Arbah** (both är'bu), eponym of Kirjath-arba, "the city of Arba," more usually called HEBRON He is called the father of ANAK Gen. 35 27, Joshua 14 15, 15 13, 21 11

Arbela (ärbē'lu), town of ancient Assyria Its name is sometimes given to the battle fought at Gaugamela, some 60 mi away In the battle Alexander the Great defeated the hosts of Darius III in 331 B C Arbela is the modern Erbil

arbitration, industrial, method of settling disputes between employer and employees by seeking and accepting a decision by a person or persons not a party to the dispute Such arbitration may be compelled by the government, as in New Zealand (since 1894), Australia (since 1904), Canada (Lemieux Act, 1907), and Italy (1926), or it may be by voluntary agreement, as is often the case in the United States In the United States the government is occasionally forced to intervene, in case of a strike affecting the public welfare, by persuading the parties concerned to accept the decision handed down by the arbitrator Machinery for that purpose has been set up at both Federal and state levels in the form of mediation and arbitration boards through such laws as the Erdmann Act (1898), the Esch-Cummins Act (1920), and the Act of 1926 Formal agreement to abide by the decision is usually made in voluntary arbitration See Herbert Feis, *The Settlement of Wage Disputes* (1921), E M Burns, *Wages and the State* (1926), H A Millis and R E Montgomery, *Organized Labor* (1945), Vol III of *Economics of Labor*

arbitration, international, acceptance by states of the decision rendered by a third party or an impartial body respecting a dispute between them If the parties do not agree in advance to abide by the decision but merely to consider whether to accept it, the process used is conciliation, not arbitration Arbitration was practiced by the Greek city-states, and in the Middle Ages high ecclesiastical authorities were called upon to settle controversies In the 19th cent the growing intercourse of nations throughout the world made recourse to arbitration a more general practice An outstanding case involving the United States in the 19th cent was the arbitration of the ALABAMA CLAIMS Great advances were made as a result of the HAGUE CONFERENCES, notably the establishment of the Permanent Court of Arbitration (the HAGUE TRIBUNAL) Many treaties now provide for arbitration of disputes Functions analogous to arbitration were performed by the Permanent Court of International Justice (the WORLD COURT) and have been transferred to the INTERNATIONAL COURT OF JUSTICE See C M Bishop, *International Arbitral Procedure* (1930, J H Ralston, *International Arbitration from Athens to Locarno* (1929), John B Moore, *International Adjudications, Ancient and Modern* (6 vols , 1929–36)

Arblay, Madame d' see BURNEY, FRANCES

Arboga (är'bō"gu), town (pop 8,087), Vastmanland co , central Sweden, on the Arboga river Incorporated in 1330, it flourished especially in the 17th cent , and several diets assembled there

Arbogast (är'bŭgăst), d 394, Frankish general in Roman service He fought for THEODOSIUS I against the Visigoths in Thrace and for VALENTINIAN II against the usurper MAXIMUS In 392 Valentinian was murdered in Gaul, presumably on the order of Arbogast, who set up a puppet emperor, Eugenius, in the West In 394 Theodosius defeated Arbogast and Eugenius, Arbogast was slain in his flight

Arboleda, Julio (hō̄'lyō ärbōlā'dhä), 1817–1862?, Colombian poet and politician He was an important political force and spent some time in prison and some time in exile In 1860 he appeared as a revolutionist against Mosquera and was named president by his followers, but his career was ended some months later by assassination He is best known as the author of the unfinished epic poem *Gonzalo de Oyón*.

Arbor Day, in the United States, day specifically designated for the planting of trees It was first suggested by Julius Sterling MORTON of Nebraska in 1872 It is celebrated at different times in different states because of seasonal variation Planting of trees by school children has been a usual method of marking Arbor Day

arboretum see BOTANIC GARDEN

arborvitae (är"burvī'tē) [Latin,=tree of life], aromatic evergreen tree of the genus *Thuja*, with scalelike leaves borne on flattened branchlets of a fanlike appearance and with very small cones Some of the numerous varieties are dwarf forms There are several species, two native to North America, the remainder native to Asia but sometimes cultivated in this country *Thuja occidentalis*, of E North America, called arborvitae, white cedar, or northern white cedar, has many garden forms and is popular for hedges The leaves were once

used as a remedy for rheumatism, and their oil as a vermifuge *T plicata* of W North America, called western arborvitae, red cedar, or western red cedar, is much used for shingles, doors, and interior finishing The wood of both of these species is weak, soft, brittle, and light but quite resistant to decay, whence its popularity for fence posts

Arbroath (arbrōth'), **Aberbrothock** (ăb"ərbruthŏk'), or **Aberbrothwick** (ăb"ərbrōth'ĭk), burgh (pop 17,635), Angus, Scotland, on the North Sea It is the Fairport of Scott's *Antiquary* There are ruins of an abbey founded by William the Lion in 1178 A seaport and industrial town, it makes shoes and distills tar

Arbuckle Mountains, range of old mountains, S Okla Though reaching an average altitude of only 700 ft, they have interesting geological formations Platt National Park and Lake Murray State Park are parts of the region

Arbuthnot, John (arbŭth'-, är'-), 1667–1735, British writer, wit, and scientist, court physician (1705–14) to Queen Anne He is best remembered for his satirical writings, notably the five "John Bull" pamphlets ridiculing the Whig war policy (1712), which appeared as "The History of John Bull" in *Miscellanies in Prose and Verse* (1727) A friend of Swift, Pope, and Gay, Arbuthnot was a member of the SCRIBLERUS CLUB and wrote most, if not all, of "Memoirs of Martinus Scriblerus," published in Pope's works (1741) To him Pope addressed the famous "Epistle to Dr Arbuthnot" (1735) See G A Aitken, *The Life and Works of John Arbuthnot* (1892), L M Beattie, *John Arbuthnot* (1935), a critical study

arbutus, trailing see TRAILING ARBUTUS

Arc, Joan of see JOAN OF ARC.

arc. In electricity, the arc as first demonstrated by Sir Humphry Davy early in the 19th cent and so called by him because of its shape is the highly luminous and intensely hot path formed when two charcoal (carbon) rods, originally touching and transmitting an electric current, are pulled apart a short distance The current continues to flow from one to the other, the charcoal vaporizing, becoming incandescent, and acting as conductor between the two rods On one rod, the anode, which is commonly known as the positive carbon, a depression (called the crater) appears when direct current is used, while on the other rod, the cathode or negative carbon a cone is formed The size of both rods decreases continuously during operation, as a result of the oxidation of the carbon Before the invention of the incandescent lamp the carbon arc was used for LIGHTING purposes Coke was found to be more satisfactory than charcoal Various mechanical devices to maintain the carbon electrodes at a constant distance were employed Later, in place of carbon, metallic substances such as magnetite and copper were introduced as electrodes The mercury-arc lamp was invented by P C Hewitt (see MERCURY) The principle of the electric arc is employed in WELDING (as in the flaming hydrogen arc when hydrogen is introduced between tungsten electrodes) and is also used for generating heat in the electric furnace For oscillating arc, see OSCILLATOR

arc, in geometry, a curved line or any part of it, in particular a portion of the circumference of a circle

Arca, in Syria see ARKITE

Arcade, village (pop 1,683), W N Y , SE of Buffalo, in a dairy region, settled c 1800, inc 1871

arcade, series of arches supported by columns or piers An arcade may stand free, if it is attached to a wall, it is termed a wall arcade or a blind arcade The earliest-known arcades were in Roman architecture, in which piers, ornamented with engaged columns carrying an entablature, invariably formed the arch supports However, in Diocletian's palace at Spalato there are arches supported by columns and resting directly upon their capitals, the type which was given full development in Romanesque and Gothic architecture In the early Christian basilica columnar arcades separated nave and side aisles and supported the wall of the clerestory From this beginning was developed the rich system of bays used in Romanesque and Gothic church interiors, in which lofty arcades extended the full length of the nave Both free-standing and blind arcades were used in Romanesque façades (notably in N Italy) and in the west fronts of English and French Gothic cathedrals, where the arches were often filled with statues of saints Richly designed arcades surrounded the enclosed cloisters of the medieval and Renaissance monasteries, they were similarly used in the courts of dwelling houses in Italy and Spain and in the courtyards of Mohammedan mosques The Romanesque structures of Spain, Sicily, and S Italy made frequent use of arcades composed of interlacing arches, in which the arch rings overlap to alternate columns or piers Continuous arcades, extending over sidewalks, are common in Italian towns, notably in Bologna

Arcadia (ärkā'dēə), region of ancient Greece, in the middle of the Peloponnesus, without a seaboard, and surrounded and dissected by mountains The Arcadians, shepherds and hunters relatively isolated from the rest of the world, lived a proverbially happy, simple, natural life By far the largest city was MEGALOPOLIS, founded by Epaminondas It had some political power, especially in the Achaean League, but Arcadia as a whole was of little significance The independent mountaineers periodically fought against Spartan power, but did not cooperate well Other cities were MANTINEA, TEGEA, ORCHOMENUS, and Heraea A shrine of Zeus recalled the story of the eponymous hero, Aras

Arcadia 1 City (1940 pop 9,122, 1949 special census pop 21,556), in Monrovia township, S Calif , E of Pasadena, inc 1903 The area has orange and walnut groves, poultry farms, and truck gardens The Santa Anita race track is here 2 City (pop 4,055), co seat of De Soto co , S central Fla , on Peace river It is a trade and shipping center for an extensive livestock and citrus-fruit area 3 Town (pop 1,601), parish seat of Bienville parish, NW La , E of Shreveport, in a cotton area It has a training school for Negroes 4 City (pop 1,830), W Wis , on the Trempealeau and S of Eau Claire, inc 1925

Arcadius (ärkā'dēəs), c 377–408, Roman emperor of the East (395–408), son and successor of THEODOSIUS I His brother HONORIUS inherited the West He entrusted the government successively to RUFINUS, EUTROPIUS, and other ministers and was later much influenced by his wife EUDOXIA The chief events of his reign were the invasion (395) of Greece by ALARIC I, Alaric's expulsion (396) after the return of STILICHON, the temporarily successful revolt (399 400) of the Gothic officials and mercenaries in Constantinople, and the exile (404) of the patriarch St JOHN CHRYSOSTOM His son, Theodosius II, succeeded him

Arcagnolo see ORCAGNA

Arcanum (ärkā'nŭm), village (pop 1,188), Darke co , SW Ohio, NW of Dayton

Arcas (är'kəs), in Greek legend, son of Zeus by Callisto The people of Arcadia were said to be his descendants For the story of his becoming Arcturus, see CALLISTO

Arcata (ärkā'tu), city (1940 pop 1,855, 1948 special census pop 3,392), N Calif , N of Eureka and on Humboldt Bay, founded 1850, inc 1903 Its industries include lumbering and dairying Humboldt State College (coeducational, 1913) is here

Arc de Triomphe de l'Étoile (ärk' dŭ trēōf' du lātwäl') [Fr , =triumphal arch of the Étoile, i e , the Star, an open place, so called from its shape], imposing triumphal arch in Paris standing upon an elevation at the end of the Avenue des Champs Élysées and in the center of the Place de l'Étoile, which is formed by the intersection of 12 radiating avenues It commemorates the victories of Napoleon I, under whose decree it was built Construction was begun in 1806 by J F CHALGRIN from his own designs and was carried on after his death successively by L Goust, J N Huvot, and G A Blouet, who brought the arch to completion in 1836 It is 160 ft high, about 150 ft wide, and 72 ft deep, with colossal symbolic groups flanking the arch In 1920 the body of a French unknown soldier of the First World War was interred beneath it and a perpetual flame was lighted

Arce, Manuel José (manwĕl' hōsā' är'sā), d 1847, first president of the Central American Federation, (1825–29) Prominent in the revolution against Spain (1821) and his opposition to incorporation of Central America into Mexico, he was elected by the Liberals, but subsequently deserted his party and ruled arbitrarily with the support of the Conservatives He was overthrown by Francisco MORAZAN

Arcesilaus (ärsĕs"ĭlā'əs), c 316–c 241 B C , Greek philosopher of Pitane in Aeolis He was the principal figure of the Middle Academy Despite his position in the ACADEMY, his teachings diverged sharply from Platonic doctrine By emphasizing the doubt expressed by Socrates as to the possibility of gaining knowledge, he took a position comparable to that of the Skeptics As an intellectual agnostic he taught that knowledge and opinion could not be distinguished from each other As to behavior in practice, Arcesilaus held that we act on ideas rather than on certain knowledge, and so he avoided the usual ethical trap of skepticism Arcesilaus indirectly influenced Carneades and his school Arcesilaus was, in his day, the great opponent of Stoicism See M M Patrick, *The Greek Skeptics* (1929)

Arch, Joseph, 1826–1919, English labor leader, a Primitive Methodist preacher He founded the National Agricultural Labourers Union in 1872 and became its president In 1873 Arch visited Canada and the United States to study labor and immigration problems In Parliament he served (1885–86, 1892–1900) as one of its first labor members and was instrumental in enfranchising the agricultural laborers See his autobiography (ed by the countess of Warwick, 1898)

arch, the spanning of a wall opening by means of separate units (such as bricks or stone blocks) assembled into an upward curve which maintains its shape and stability through mutual pressure of the separate pieces The weight of the supported load is thus converted into two lateral pressures which are received by the solid piers (abutments) flanking the opening The downward and outward lateral pressures which they resist are called thrusts The blocks—voussoirs—composing the arch have a wedge shape, the block which fits into the crown of the arch is the keystone The curve at the inner edge is the intrados, that at the outer edge is the extrados The spring is the level at which the arch commences the upward rise There is also the flat arch composed of voussoirs radiating from a center An arch may also be executed in a homogeneous material, such as concrete, forming a single continuous unit, in which case there is little or none of the active lateral thrust In modern fireproof construction the word *arch* is also used for the masonry which fills the space between steel beams and acts as floor support Examples of arch construction have been found which date from c 3500 B C The arch was used by the Egyptians, Babylonians, and Greeks, chiefly for underground drains, and also by the Assyrians in the construction of vaulted and domed chambers In Europe the oldest-known arch is the Cloaca Maxima, the huge drain at Rome built by Lucius Tarquinius Priscus c 578 B C The Etruscan arched structures formed the starting point from which the Romans developed the semicircular arch to a full architectural expression in the vaults and domes of their monumental buildings Its use was continued in early Christian, Byzantine, and Romanesque architecture In the 13th cent the pointed arch (used as early as 722 B C in Assyrian drains) came into general use The contact of Europeans with Saracenic architecture during the Crusades is offered among other theories for its introduction into Europe But it is likely that the pointed arch may have been independently rediscovered in Europe in the Middle Ages as a device for solving many of the mechanical difficulties of vault construction Its adoption was an essential element in the evolution of the Gothic system of design With the Renaissance there was a return to the round arch, which prevailed until the 19th-century invention of steel beams for wide spans relegated the arch to a purely decorative function Though the circular and pointed forms have predominated in the West, the Mohammedan nations of the East developed a variety of other arched shapes including the ogee arch used in Persia and India, the horseshoe arch used in Spain and North Africa, and the multifoil or scalloped arch used especially in the Mohammedan architecture of Spain See also TRIUMPHAL ARCH

archaeology (ärkēŏ'lŭjē) [Gr , =study of beginnings], scientific study of the relics of man found in deposits dating from the beginnings of human life to the era of modern history Archaeology provides the materials for establishing the history of prehistoric times and supplements documentary material in the study of historic periods To locate, excavate, interpret, record, preserve, and, if necessary, restore his finds, the present-day archaeologist requires expert assistance from historians, anthropologists, linguists, geologists, chemists, botanists, architects, engineers, and photographers Materials have been collected since ancient times, notably by the Romans and during the Renaissance Research into the life and culture of the past, initiated in Italy after the introduction of a knowledge of ancient Greece by Greek scholars dispersed by the fall of Constantinople (1453), inspired the excavation of Greek sculpture In the 18th cent the progress of Greek and Roman archaeology was advanced by Johann Winckelmann and E Q Visconti and by excavations at HERCULANEUM and POMPEII, in the 19th, by the acquisition of the Elgin Marbles The study of ancient cultures in the Aegean region was stimulated by the excavations of Heinrich Schliemann at Troy and in Greece and of Sir Arthur Evans at Crete The foundations of Egyptology, a prolific branch of archaeology because of the antiquity of Egyptian culture and the wealth of material preserved in the Egyptian climate, were laid by the recovery of the ROSETTA STONE and the work of French scholars who accompanied Napoleon to Egypt Investigations which have reconstructed ancient life in the Nile valley and rewritten Egyptian history have been carried on in the 19th cent by C R Lepsius, A É Mariette, and G C C Maspero, and in the 19th and 20th cent by W M Flinders Petrie, J H Breasted, and other scholars Interest in the Near East was stimulated by the work of Edward Robinson (1794–1863) on the geography of the Bible and by the decipherment of a cuneiform inscription copied by H C Rawlinson from the BEHISTUN rock in Persia Archaeology in Mesopotamia was notably advanced in the 19th cent by Jules Oppert, P É Botta, and A H Layard, in the 20th, by C L Woolley The scientific explanation of prehistoric finds dates from the conclusion advanced in 1832 by the Danish archaeologist C J Thomsen that human industrial culture may be divided into stages of progress based on the principal materials used for weapons and implements These stages are the PALEOLITHIC PERIOD, the NEOLITHIC PERIOD, the BRONZE AGE, and the IRON AGE This sequence of culture is accepted as in general true of most of the world, it indicates the condition of a people rather than absolute divisions of time. In

different areas the succession is not synchronous, nor are the stages of equal duration in all areas Parts of Africa are still in the Neolithic period, the Bronze Age is represented in remote regions of Siberia Some peoples have passed directly from the Stone to the Iron Age Important prehistoric finds have been made at HALLSTATT, Austria, Villanova (near Bologna), Italy, and LA TÈNE, Switzerland, and in the study of such characteristic remains as the BARROW, KITCHEN MIDDEN, LAKE DWELLING, MOUND building, and MEGALITHIC MONUMENTS The study of past times is enhanced, especially in America, by the investigation of the life and customs of existent aboriginal groups Advanced indigenous cultures were ignored until the publication of J L Stephens's account of his travels (1839) in Central America excited the interest of archaeologists in the MAYA In the 19th cent fruitful studies were begun of the TOLTEC and of the AZTEC who followed them in Mexico and of the INCA in South America The culture of the MOUND BUILDERS of the Mississippi and Ohio valleys was first described by E G Squier and E H Davis in *Ancient Monuments of the Mississippi Valley* (1848) G E A Nordenskiold wrote of the CLIFF DWELLERS of the SW United States in *The Cliff Dwellers of the Mesa Verde* (Eng tr , 1895?) Studies of the BASKET MAKERS of the Southwest have been illuminating The antiquity of man in America had been considered as from 5,000 to 6,000 years until excavations near Folsom, E of Raton, N Mex , in 1926 revealed a culture possibly 20,000 years old (see FOLSOM CULTURE) In the 20th cent archaeological researches have been vigorously prosecuted in all parts of the world Important efforts have been made to promote systematic research and the scientific study of archaeological materials and to preserve them Museums with valuable collections include the Metropolitan Museum and the American Museum of Natural History in New York, the British Museum, the Louvre, national museums in Denmark, Norway, and Sweden, rich in remains of the Iron Age, the Vatican and Capitoline museums, Rome, collections from Pompeii and Herculaneum at Naples, and museums in Athens and Cairo Many universities have established schools and museums of archaeology Organizations, such as the Carnegie Institution, the Smithsonian Institution, and the National Geographic Society in the United States, promote archaeological studies See also INDIANS, AMERICAN See R V D Magoffin and E C Davis, *The Romance of Archaeology* (1930), W G Childe, *Progress and Archaeology* (1944), Grahame Clark, *Archaeology and Society* (2d ed , 1947), W W Taylor, *The Study of Archeology* (1948), publications of learned societies, e g , Archaeological Institute of America, Hellenic Society, Egypt Exploration Society, and Palestine Fund

archaeopteryx (ärˌkēŏpˈtərĭksˌ) [*archaeo-*, Gr , = primitive, *pteryx*, Gr , = wing], primitive bird, two incomplete fossils of which were discovered in the 19th cent in the late Jurassic limestone of Solnhofen, Bavaria A true bird, as is shown by the presence of feathers and the structure of the legs and wings, it nevertheless had many characteristics now found only in reptiles or in bird embryos It was smaller than a crow

Archaeozoic era see ARCHEOZOIC ERA

Archangel (ärkˈänˈjəl), Rus *Arkhangelsk* (ŭrkhänˈgĭlsk), city (pop 281,091), capital of Archangel oblast, RSFSR, a major port on the mouth of the Northern DVINA, 25 mi from the White Sea The port is free of ice from July to September Archangel, which is the largest sawmilling and lumber-exporting center of the USSR, also ships resin, turpentine, furs, and hog bristles It is the terminus of a railroad from Vologda The city was founded (1583) as Novo-Kholmogory after a party of English merchants had landed here, it was renamed (1716) for a monastery The Cathedral of the Archangel Michael was built in 1685 99 Until the foundation (1703) of St Petersburg, Archangel was the principal port of Russia It regained importance after the construction (1897) of the railroad, and it played a major role as a supply port in both world wars From 1918 to 1920 it was occupied by the Allies and the White Army

archangel (ärkˈān-), chief ANGEL, differing from other angels only in importance Three are best known, MICHAEL, GABRIEL, and RAPHAEL, they have set functions According to Tobit 12 15 there are seven archangels

Archbald, mining and industrial borough (pop 8,296), NE Pa , on the Lackawanna river and NE of Scranton, settled 1831 by Welsh, inc 1877

Archbold, village (pop 1,236), NW Ohio, SW of Wauseon

Archdale, residential town (pop, 1,097), central N C , SE of High Point, founded 1773 by Quakers

Archelaus (ärˌkēlāˈəs) [Gr , = ruler of the people] see HEROD

Archeozoic era (ärˌkēəzōˈĭk) [Gr , = primeval life], first grand division of geologic time, characterized by the formation of the oldest accessible rocks, the Archean system The Archean is, however, covered by rock systems of more recent origin over most of the surface of the earth, where it is not covered, it has been greatly altered by METAMORPHISM. One of the largest areas exposed is the Canadian Shield of central and E Canada (and the N United States near Lake Superior), where Sir William LOGAN did his pioneer work The rocks of this region, and of the Archean as a whole, are generally GRANITE, SCHIST, or GNEISS. The most notable formations are the Keewatin and Coutchiching of Minnesota and the adjoining part of Canada, the Grenville of Ontario, which, however, may be of the PROTEROZOIC ERA, and the widely distributed Laurentian The Keewatin series is composed chiefly of metamorphosed lava, with some sediments, and the Coutchiching series of sedimentary gneisses and schists, the Grenville limestone, marble, gneiss, and quartzite are predominantly metamorphosed sediments, the Laurentian gneiss and granite are probably younger than the other series, having been forced up through the Grenville as IGNEOUS ROCK in some great earth movement After the appearance of the Laurentian the Temiskaming or Sudburian sediments were deposited, and a second series of gneisses and granites, the Algoman, was formed Fossils have been reported from this era, but none have yet been found in strata universally acknowledged to be Archeozoic Indirect evidence, however, supports the belief that rudimentary life existed The Archeozoic is estimated by some geologists to have endured 500,000,000 years Many combine it with the Proterozoic as Pre-Cambrian time

Archer, William, 1856 1924, English author and critic and translator of Ibsen, b Scotland, grad Edinburgh Univ Largely through his efforts *Pillars of Society* was produced in London in 1880, other plays of Ibsen's followed in subsequent years, and Archer edited Ibsen's *Prose Dramas* (5 vols , 1890 91) He became dramatic critic of the London *World* and launched Shaw on a journalistic career, his criticisms for the *World* were collected as *The Theatrical "World"* (1893–97) His writings include *America To-day* (1900) and *Real Conversations* (1904) *The Green Goddess* (1921), a play, was produced successfully in England and the United States See biography by his brother, Charles Archer (1931)

Archer, the see SAGITTARIUS

Archer City, city (pop 1,675), co seat of Archer co , N Texas, S of Wichita Falls, settled c 1880 inc 1910 Founded as a cow town, it now serves oil fields, ranches, and poultry, grain, and dairy farms

archery An important military skill before the introduction of gunpowder, shooting with BOW AND ARROW was revived as a sport (c 1675) in England by Charles II The object of the archer is with a specified number of arrows to hit or to come as close as possible to the inner circle –the "bull's-eye"—of the target, which is composed of a number of concentric circles In the United States, archery became a popular sport after 1879, when the National Association of Archers (now the National Archery Association) was formed National championship matches are held annually Famous American archers include W H Thompson, L W Maxson, Dr R P Elmer, and Mrs M C Howell

Arches National Monument see NATIONAL PARKS AND MONUMENTS (table)

Archevites (ärˈkēvīts), colonists sent into Samaria by the Assyrian government They were probably natives of Erech Ezra 4 9

Archi (ärˈkē) see ARCHITE

Archibald, Raymond Clare, 1875–, American mathematician, b Nova Scotia, grad Mt Allison College, 1894, and Harvard (B A , 1896, M A , 1897) He studied at the universities of Strasbourg (Ph D , 1900), Berlin, and Rome and at the Sorbonne From 1908 he taught at Brown Univ , becoming professor of mathematics in 1923 In 1945 he became professor emeritus His works include a bibliography of Simon Newcomb (1905), *Euclid's Book on Divisions of Figures with a Restoration* (1915), *Benjamin Peirce* (1925), and *Bibliography of Egyptian Mathematics* (1927–29) He edited the American Mathematical Society *Bulletin* and the *American Mathematical Monthly*

archil (ärˈkĭl, -chĭl) or **orchil** (ôrˈ–) [O Fr], purple dye extracted from certain species of LICHEN, also called orchella weeds, found in various parts of the world The archil of commerce is either a powder (called cudbear) or a paste, archil proper

Archilochus (ärkĭlˈŭkŭs), fl c 700 or c 650 B C , Greek poet, b Paros His masterful iambic satire and his innovations in the use and construction of the personal lyric were much appreciated by the ancients A few fragments of his verse survive

Archimedes (ärkĭmēˈdēz), 287–212 B C , Greek mathematician, physicist, and inventor He is famous for his work in geometry (on the circle, sphere, cylinder, and parabola), physics, mechanics, and hydrostatics He lived most of his life in his native Syracuse, where he was on intimate terms with the royal family Few facts of his life are known, but tradition has made one or two stories famous According to one, Hiero II asked him to determine whether a certain crown was pure gold or alloyed with silver Archimedes was perplexed until one day in his bath he realized that gold and silver being of different density, would displace different weights of water and that he could test the crown thus To illustrate the principle of the lever he is said to have told Hiero, "Give me place to stand, and I will move the world " His machines of war were so ingenious that the besieging armies of M Claudius Marcellus were held off for three years When Syracuse was taken, the general gave orders to spare the scientist, but Archimedes was killed The general raised him a great tomb and did him high honors In 75 B C , Cicero, who was visiting Syracuse, rediscovered Archimedes' tomb Nine of Archimedes' treatises survive, demonstrating his discoveries in mathematics and in floating bodies They are entitled *On the Sphere and Cylinder, The Measurement of the Circle, On the Equilibrium and the Center of Gravity of Planes, On Conoids and Spheroids, On Spirals, The Quadrature of the Parabola, Arenarius* (a system for counting into very high numbers), *On Floating Bodies,* and *The Method* See study by T L Heath (1920)

Archimedes' principle states that a solid body immersed in a liquid is buoyed up by a force equal to the weight of the liquid displaced When a solid body heavier than water is immersed in water and weighed thus, it apparently loses weight, i e , weighs less than when weighed in air Furthermore, this apparent loss of weight is found to equal the weight of the water which has been displaced by the solid As a result, then, it is said that the solid body is buoyed up by a force (in physics, forces are measured in units of weight) equal to the weight of the water displaced A body lighter than water will float in water but with a certain portion of its volume beneath the surface, thus displacing a certain volume of the water When the weight of this volume of water is determined, it is found to equal the total weight of the floating body itself Therefore, it is said that a floating body displaces its own weight in a liquid Archimedes' principle is applied in determining the displacement of ships and, in the laboratory, the specific gravity of substances It is applied also to gases, especially with respect to the "lifting" force of balloons Archimedes is also supposed to have invented the machine known as **Archimedes' screw** It consists of a cylinder inside of which a continuous screw, extending the full length, forms a spiral chamber By placing the lower end in water and revolving the screw, the water is raised to the top A machine of this general type is used in the Netherlands for drainage purposes The principle is further applied in the spiral conveyors designed for handling loose, light materials such as grain, sand, and ashes and also in some types of high-speed tools

Archipelago (ärkĭpĕˈlŭgō) [Ital , from Gr = chief sea], ancient name of the AEGEAN SEA, later applied to the numerous islands it contains The word now designates any cluster of islands

Archipenko, Aleksandr (älyĭksändrˈ ärkĭpĕngˈkō), 1887–, Russian sculptor in America His somewhat abstract figures, often based on the female nude, have gained him international celebrity His *White Torso* in silvered bronze (examples in the National Gall , London, and in the Chicago Art Club) is characteristic Archipenko's highly decorative and rhythmic creations in bronze, terra cotta, cement, and colored ceramics are to be seen in many modern galleries Archipenko is also known as an abstract painter and as a gifted teacher

Archipiélago de Colón see GALAPAGOS ISLANDS

Archippus (ärkĭpˈəs) [Gr , = master of the horse], Colossian Christian Col 4 17, Philip 2

Archite (ärˈkīt), customary epithet of HUSHAI It refers to a district probably near Bethel At Joshua 16 2 AV has "the borders of Archi," and RV, more clearly, "the Archites"

architecture, construction in which the human requirements and the building materials involved have been so dealt with as to furnish a practical and aesthetic solution, thus differing from the pure utility of engineering construction Modern architecture, however, often approaches actual engineering in its mechanical completeness, and modern works of engineering—airplane hangars, for example—often achieve, without intention, an undeniable beauty As an art, architecture is abstract and nonrepresentational The means used for achieving beauty are dimensional forms and the spatial relationship integral to the structure itself and independent of any extraneous associations While always under the necessity of enclosing the requisite spaces for living and working, architecture in each of its historical phases has also permanently preserved for study the social and religious patterns of the era The course of architecture has often been made to seem merely a succession of more or less arbitrary 'styles", however, behind each of the greater styles lies, not a casual trend or vogue, but a period of serious and urgent experimentation directed toward answering the needs of a specific way of life Climate, methods of labor, available materials, and economy of means impose their dictates Behind the works of the past can be discerned the search for methods permitting the most sparing outlay and the greatest expediency The processes of style formation generally are slow and conservative, only by experimentation and

over a long period, sometimes lasting for centuries, can the suitable mechanical technique and artistic form be attained The one word *style* is forced, unhappily, to apply, not only to great organic modes such as the Gothic, but to all the numerous minor fashions, such as the Empire style Each of the greater styles has been given its impetus by the discovery of a new structural method and has arrived laboriously at adequate employment of it Once developed it survives tenaciously, giving way only when social changes or new forms of construction have reduced it finally to a complete anachronism Most of this is well illustrated by MODERN ARCHITECTURE, which has been evolving since the first uses of structural iron and steel in the mid-19th cent Up to the present there have been three great developments in architectural construction—the post-and-lintel, or trabeated, system, the arch system, either the cohesive type, employing plastic materials hardening into a homogeneous mass, or the thrust type, in which the loads are received and counterbalanced at definite points, and the modern steel-skeleton system In Egyptian architecture, to which belong some of the earliest extant structures entitled to be designated as architecture, the post-and-lintel system was employed exclusively and produced the earliest stone columnar buildings in history The architecture of W Asia, reaching back, as in Egypt, to more than 3,000 years B C, employed the same system, however, arched construction also was known and used The Chaldaeans and Assyrians, chiefly dependent upon clay as their material, built vaulted roofs of damp mud bricks which adhered to form a solid shell—the first examples of the cohesive system It remained, however, for the Greeks, using also the simple post-and-lintel system, to bring it after generations of experimentation to a climax in buildings of limited variety but of high perfection Greek architecture, with its pure and completely honest forms, arrived at its apogee in the PARTHENON and the other majestic marble temples of the 5th cent B C (See also ORDERS OF ARCHITECTURE) Roman architecture, borrowing and combining the columns of Greece and the arches of Asia, erected a wide variety of monumental and lavish buildings over the civilized world Their momentous invention of CONCRETE enabled the imperial builders to bring toward a culmination the cohesive system of vault construction of W Asia and to cover vast unbroken floor spaces with great inert vaults and domes, as in the rebuilt Pantheon (2d cent A D) Masonry vaulting, thus first employed as a monumental architectural element by Roman builders, was destined to pose its problems to future centuries, both in East and West The Romans and the early Christians also used the wooden truss for roofing the wide spans of their basilica halls Neither Greek, Chinese, nor Japanese architecture has used the vault system of construction However, in the Asiatic division of the Roman Empire, vault development continued, and here Byzantine architecture experimented with new principles and developed the PENDENTIVE, which perfected in the 6th cent the vaulted system in the Church of HAGIA SOPHIA, Constantinople Instead of insuring vault stability by massive bulk the builders seized the scientific devices of opposing one vault thrust against that of another and of transferring thrusts to definite points where they could be conveniently abutted In Romanesque architecture, vaulting again became dominant in the West, this time being executed in cut stone In Lombard Romanesque (11th cent) the Byzantine concentration of thrusts was enhanced by the device of vault ribs and of piers to support them The idea of organic supporting and buttressing skeleton of masonry, here appearing in embryo, became the vitalizing aim of the medieval builders In 13th-century Gothic architecture it emerged in perfected form, as in the Amiens and Chartres cathedrals The various possibilities of vaulted architecture, first explored in ancient Mesopotamia, had now, in medieval Europe, been finally coordinated into one of the few supreme styles The birth of Renaissance architecture (15th cent) inaugurated a period of several hundred years in Western architecture during which the multiple and complex buildings of the modern world began to emerge, while at the same time no new and compelling structural conceptions appeared The forms and ornaments of Roman antiquity were resuscitated and were ordered into numberless new combinations, and structure served chiefly as a convenient tool for attaining these effects BAROQUE architecture was the chief 17th-century manifestation of the Renaissance, while the GEORGIAN STYLE was among its notable 18th-century expressions The first half of the 19th cent was given over to the CLASSIC REVIVAL and the GOTHIC REVIVAL The architects of the later 19th cent found themselves in a world being reshaped by science, industry, and speed. The needs of a new society pressed them, while steel, reinforced concrete, and electricity were among the new factors at their disposal The imitation of dead styles became yearly more pointless, and individual architects began the conscious search for adequate new structural and artistic formulas After a half century of assimilation and experiment it seems possible to recognise the modern steel-skeleton style in its essence See BUILDING See Russell Sturgis and A L Frothingham, *History of Architecture* (1915); F M Simpson, *History of Architectural Development* (1921), Talbot Hamlin, *Architecture through the Ages* (1940) and *Architecture—an Art for All Men* (1947); Bannister Fletcher, *History of Architecture* (1943)

architrave (är'kĭtrāv), in architecture, the principal beam and lowest member of the classical entablature, whose other main members are the FRIEZE and the CORNICE Its position is directly above the columns, between which it extends, thus carrying the upper members of the order (see ORDERS OF ARCHITECTURE) The term also applies to molding around the sides and top of a door or window frame and to that for a wainscot or other panel

archons (är'kŏnz, -kunz) [Gr, =leaders], in ancient Athens and other Greek cities, officers of state Originally in Athens there were three archons the *archon eponymos* (so called because the year was named after him), who was the chief officer of state, the *archon basileus*, who was primarily connected with sacred rites, and the *archon polemarchos* (the polemarch), who—theoretically, at least—had military leadership Six more archons, the *thesmothetai* (thesmothetes), were later added, they were junior officers, generally in charge of the courts The archons were elected, and after they had served and their records had been approved, they entered the AREOPAGUS In 487 B C the election law was altered, and the archons were thereafter chosen by lot, the office, which had previously been limited to the two upper classes, was opened to the third class Thereafter the archontate declined greatly in importance The lists of eponymous archons kept after the 7th cent are a valuable source

Arciniegas, Germán (hĕrmän' ärsēnyä'gäs), 1900–, Colombian historian and diplomat He gained prominence as a journalist and publisher Translated works are *The Knight of El Dorado the Tale of Don Gonzalo Jiménez de Quesada* (1942) and *Germans in the Conquest of America* (1943) He edited *The Green Continent* (1944), an interpretation of Latin America by its leading writers

Arcola (ärkō'lu), city (pop 1,837), E central Ill, ESE of Decatur, in a broomcorn area, platted 1855, inc 1865

Arcole (är'kōlā), village, Venetia, NE Italy, 15 mi SE of Verona Here in 1796 Napoleon Bonaparte defeated the Austrians in a three-day battle

Arcos de la Frontera (är'kōs dā la frōntā'ra), city (pop 10,919), Cádiz prov, SW Spain, in Andalusia, on a rocky hill above the Guadalete river At the summit are a Gothic church and the palace of the duke of Arcos Wine and olive oil are produced

Arcot (ärkŏt'), town (pop 16,583), E central Madras state, India It was the first important city captured (1751) by Robert Clive in the British-French struggle for S India After being taken by the French (1758), by the British (1760), and by Hyder Ali (1780), it came in 1801 under British control Arcot is a center for trade in rice, sugar cane, peanuts, and cotton Weaving is the chief industry

Arctic Archipelago (ärk'tĭk ärkĭpĕ'lugō), off N Canada, in the Arctic Ocean The largest islands are BAFFIN ISLAND, VICTORIA ISLAND, BANKS ISLAND, ELLESMERE ISLAND, and MELVILLE ISLAND The group was assigned to Canada in 1880

Arctic Ocean, sea, roughly circular and almost entirely landlocked, at the top of the world, extending from the North Pole to lat 80° N (or, including the fringe of smaller seas, lat 70°) Geographers, regarding it as a subsidiary of the Atlantic, prefer to call it the Arctic Sea With an area of c 5,400,000 sq mi, it is a little smaller than the Antarctic continent and about one sixth the size of the Atlantic Ocean The lands which lock it in are Greenland, Canada, Alaska, the USSR, and Norway Fringing the Arctic proper are the Greenland Sea, Baffin Bay, and the Beaufort, East Siberian, Laptev, Kara, and Barents seas Its islands are the ARCTIC ARCHIPELAGO, Wrangel Island, the New Siberian and Lyakhov islands, Severnaya Zemlya, Novaya Zemlya, the Franz Josef archipelago, and Spitsbergen Iceland lies just outside the Arctic Circle (see ARCTIC REGIONS) The Arctic was formerly known as the Frozen Ocean, and it was long thought that no life could exist there Instead, despite drifting ice, ice packs, vast ice floes, and winter temperatures to −60° F, there are hares, polar bears, gulls, and guillemots as far north as 88° and plankton in all the waters In the Arctic Ocean the widest continental shelf known to the world stretches N from Siberia, and a similar shelf, extending N from North America, is partly exposed in the Arctic Archipelago before it drops off in the northwest to an oval basin, which reaches from the North Pole S toward BERING STRAIT and is the deepest part of the sea—14,070 ft near the pole The basin was almost wholly unexplored until the Amundsen-Ellsworth flight over it in 1926 This and subsequent flights and explorations proved that the deep water has no islands The only other considerable depth is in the Greenland Sea E of Greenland Connected with the Pacific only by the narrow and very shallow Bering Strait, the Arctic does communicate widely with the Atlantic, principally through the Greenland Sea Even there, though surface waters communicate freely and a strong subsurface current brings warm water from the Atlantic into the polar basin, exchange of deeper waters is barred by a submerged mountain range This is the Faeroe-Icelandic Ridge, which has peaks emerging as islands Thus the Arctic, though small, has an independent existence, with peculiar temperatures, ice conditions, and currents Because several major rivers in Siberia and Canada, draining a large land area, bring in much water and evaporation is only slight, the outflow through the Greenland Sea is important It creates the cold current, the East Greenland Current, which flows south along the east coast of Greenland A weaker current goes through Smith Sound and Baffin Bay and is known as the Labrador Current Another weak current flows out of the Bering Strait The water which does not flow out by the Greenland Sea seems to be deflected by the north shore of Greenland and forms the current which, off the northwest shores of the Arctic Archipelago, runs southwest and west and turns again to seek the outlet, thus giving rise to a circular flow in the Arctic itself. This current causes the ice in the Siberian seas to be relatively light as compared with the heavy-pressure ice phenomena off Greenland and Ellesmere Island (in the Arctic Archipelago) The drift of the ice southward and westward has been noted and utilized by recent explorers Some of the ice pack remains in the Arctic basin Some, carried out by the East Greenland Current, melts before going far enough south to reach the regular Atlantic shipping lanes, the icebergs that harass ships are generally brought from the fjords of W Greenland by the Labrador Current The cold Arctic currents give the northeast shores of North America and Asia a much colder climate than the northwest shores of Europe and North America, which are warmed by the NORTH ATLANTIC DRIFT (see also GULF STREAM) and the JAPAN CURRENT The Arctic currents are also less saline and lighter than these warmer currents and therefore the Arctic water is at the surface and the Atlantic current beneath, where they are exchanged in the Greenland Sea The broad general picture of the Arctic was established some years ago, but Arctic research was stimulated when it was recognized that the shortest air routes between capitals and commercial centers of the Northern Hemisphere lie above the Arctic Ocean Flights over the North Pole are now made with almost routine frequency Scientific equipment has also facilitated research, with aerial photography and photogrammetic map making, radar and the Fathometer for measuring ocean depths, and radio to maintain contact with the rest of the world Detailed knowledge of drifts and ice floes, water depths, and the ocean floor has been vastly increased One fact of great potential importance is now being studied—the Arctic Ocean is warming Recorded temperatures, glacial regressions, and the appearance of observed species of fish in larger numbers, at higher latitudes, at earlier seasons, and for longer periods prove that over decades a "climatic improvement" has taken place Similar changes have been reported in subarctic latitudes Whether the warming is a phase in a cycle or permanent cannot yet be said For an account of exploration and for bibliography, see ARCTIC REGIONS

Arctic Red River, rising in the Mackenzie dist, W Northwest Territories, in the northern ranges of the Rockies and flowing 230 mi generally NW to the Mackenzie At its mouth are a post of the Royal Canadian Mounted Police and the Arctic Red River Post (1900) of the Hudson's Bay Company

arctic regions, northernmost area of the earth, centered about the North Pole and the Arctic Ocean It extends more than one third of the way to the equator The Arctic Circle at 66° 17′ N could be considered arbitrarily the boundary, but the weather boundary determined by temperature is a wavy line changing with the seasons In summer the coldest areas are on the icecap in N Greenland and in the never-melting region about the North Pole In winter the lowest temperatures are in N Siberia and N central Canada The arctic regions, therefore, are marked in winter by an ellipse with the ends hanging over the northern continents, in summer the regions are wide over the oceans and pressed far northward over the continents The cold loses its full grip on the arctic regions in summer, everywhere there is at least one month with a temperature above freezing Under the "midnight sun" temperatures mount and vegetation springs to life in the BARREN GROUNDS and the TUNDRAS wherever the soil can give sufficient nourishment The flowers of the arctic meadows have pleased the eyes of many explorers The abundant animal life has many fur bearers and many animals with a high food value for man There are seal, walrus, whale, and many fish. Duck and other water fowl light on the summer lakes. On the rocky coasts are rookeries of auks, terns, and other sea birds The ESKIMO has used this abundant animal life to adapt

himself to arctic conditions. Arctic explorers have generally succeeded in so far as they have learned what the Eskimo can teach, as did Vilhjalmur STEFANSSON The first explorers in the arctic regions were the Norsemen, the VIKINGS Much later the search for the NORTHWEST PASSAGE and the NORTHEAST PASSAGE to reach the wealth of the Orient from Europe spurred exploration to the north This activity began in the 16th cent and continued in the 17th, but the hardships suffered and the negative results obtained by early explorers —among them Martin FROBISHER, John DAVIS, Henry HUDSON, William BAFFIN, and William BARENTZ—caused interest to wane The fur traders in Canada did not begin serious explorations across the barren grounds until the latter part of the 18th cent Alexander MACKENZIE undertook extensive exploration after the beginnings made by Samuel Hearne, Philip Turnor, and others. Already in the region of NE Asia and W Alaska the Russian explorations under Vitus BERING and others and the activities of the *promyshlennyki* [fur traders] had begun to make the arctic coasts known After the Napoleonic Wars, British naval officers, inspired by the efforts of John BARROW, took up the challenge of the North Sir John FRANKLIN, F W BEECHEY, John Ross and James ROSS, W E PARRY, P W DEASE, Thomas SIMPSON, George BACK, John RAE—each name carries its own story of courage, hardship, and adventure The disappearance of Franklin on his expedition of 1845–48 gave rise to more than 40 searching parties, English and American The general outlines of the arctic Canadian coast and the archipelago N of Canada were made known Otto SVERDRUP, D B MACMILLAN, and Vilhjalmur STEFANSSON added significant knowledge Meanwhile FRANZ JOSEF LAND was discovered, NOVAYA ZEMLYA explored The Northeast Passage was finally navigated in 1875 by N A E NORDENSKJOLD Roald AMUNDSEN, who went through the Northwest Passage in 1903–6, also went through the Northeast Passage in 1918–20 GREENLAND attracted some explorers, and some sought to be first at the North Pole The credit went to Robert E PEARY in 1909 Fridtjof NANSEN in the brilliantly conceived drift of his vessel *Fram* in the ice in 1893–96 failed to reach the North Pole but added enormously to the knowledge of the Arctic Ocean and earned rank as one of the greatest of arctic explorers Air exploration of the regions began with the tragic balloon attempt of S A ANDREE in 1897 In 1926 Richard E BYRD and Floyd BENNETT flew over the North Pole, and Amundsen and Lincoln ELLSWORTH flew from Spitsbergen to Alaska across the North Pole and unexplored regions N of Alaska In 1928 George H WILKINS flew from Alaska to Spitsbergen The new era was thus inaugurated The accent was not only upon the air but also upon cooperative enterprise rather than individual explorations The use of the "great circle" route for world air travel increased the importance of arctic regions, while new ideas of the agricultural and other possibilities of arctic and near-arctic regions led to many projects of development The USSR was particularly active In 1937 and 1938 many field expeditions were sent out by British, Danish, Norwegian, Russian, Canadian, and American groups to learn more of the North The Soviet group under Ivan Papinin set down on an ice floe near the North Pole and drifted with the current for 274 days Valuable hydrological, meteorological, and magnetic observations were made The four men were taken off the floe at lat 70° 48′ N, long 19° 48′ W, after having drifted from lat 89° 26′ N, long 78° W Arctic drift was further explored (1937–40) by the Russian icebreaker *Sedov*, and the existence of Sannikov Island was proved a myth In 1938 air photographs by Lange KOCH over N Greenland proved the much-sought Peary Channel to be only a fjord Before the Second World War the USSR had established many meteorological and radio stations in the arctic regions Russian activity in practical exploitation of resources also pointed the way to the development of the arctic regions, thus, Igarka at the mouth of the Yenisei above the Arctic Circle was built up to develop the mineral and timber resources of the region Between 1940 and 1942 the Royal Canadian Mounted Police vessel, the *St Roch*, made the first west-east journey through the Northwest Passage In the war interest in transporting supplies gave rise to considerable study of arctic conditions After the war interest in the North was keen The Canadian army in 1946 undertook a project which had as one of its objects the testing of new machines (notably the snowmobile) for use in developing arctic regions After the war there was a strong impulse to develop Alaska and N Canada, but no consolidated effort, like that of the Russians, to take the natives into partnership for a full-scale development of the regions Classic narratives of arctic exploration include N A E. Nordenskjold, *The Voyage of the "Vega"* (Eng tr., 1881); G W. De Long, *The Voyage of the "Jeannette"* (1883); A W Greely, *Three Years of Arctic Service* (1886), Fridtjof Nansen, *Farthest North* (Eng tr., 1897) and *In Northern Mists* (Eng. tr , 1911); Roald Amundsen, *Amundsen's North-West Passage* (Eng tr , 1908); R E Peary, *The North Pole* (1910), Vilhjalmur Stefansson, *My Life with the Eskimo* (1913) and *The Friendly Arctic* (1921), Knud Rasmussen, *Greenland by the Polar Sea* (Eng tr , 1921) and *Across Arctic America* (Eng tr , 1927), G H Wilkins, *Flying the Arctic* (1928), and D L Brainard, *The Outpost of the Lost* (1929) For history and geography, see R N R Brown, *The Polar Regions* (1927), A W Greely, *The Polar Regions in the Twentieth Century* (1928), Otto Nordenskjold and Ludwig Mecking, *The Geography of the Polar Regions* (Eng tr , 1928); Robert Marshall, *Arctic Village* (1933); N M Crouse, *The Search for the Northwest Passage* (1934), Jeannette Mirsky, *To the North!* (1934), Peter Freuchen, *Arctic Adventure* (1935), Andrew Croft, *Polar Exploration* (rev ed , 1947)

Arcturus (ärktyōōr'ŭs) or **Alpha Boötis** (ăl'fu bō-ō'tĭs) [Arcturus from Gr ,=guard of the bear (see CALLISTO), Alpha Boötis, from Gr ,=chief star of the constellation Bootes (bō-ō'tēz)], one of the most brilliant stars of the northern celestial hemisphere An orange-colored first magnitude star, located almost directly in line with the two end stars of Ursa Major (i e , the last two stars in the handle of the Dipper), Arcturus is the most prominent object in the constellation Boötes Its heat has been found to be about two thirds as great as that of our sun, and its distance from our solar system is about 32 6 light years Its diameter, measured by means of the Michelson interferometer, is c 18,000,000 mi Arcturus was known to mariners in very ancient times, many Egyptian temples were oriented to it, and mention is made of it by Hesiod The Arcturus in AV (Job 9 9, 38 32), as often in the ancients, is probably the constellation Ursa Major, RV translates in those passages "the Bear " It is one of the stars noted by Halley as having changed its place between his time and that of ancient Greek astronomers or even of Tycho Brahe By means of a photoelectric cell, a beam from Arcturus, received in a telescope at Yerkes Observatory, Williams Bay, Wis , turned on the lights at the opening of the Century of Progress fair, Chicago, May, 1933

Ard [Heb ,=descent] **1** Son of Benjamin Gen. 46 21 **2** Benjamite, perhaps the same as **1** Num. 26 40 Addar 1 Chron 8 3

Ardashir I (ärdĭshēr') [another form of Artaxerxes], d 240, king of Persia (226?–240) He overthrew the last Parthian king, Artabanus (or Ardawan), entered Ctesiphon, and built reunited Persia out of the confusion of Seleucid decline He established the strong Sasani or Sassanian dynasty (see SASSANIDAE) and reconquered the old eastern territories Ardashir established ZORASTRIANISM as the state religion and gave much power to the priestly caste His move against Mesopotamia, Armenia, and Cappadocia caused ALEXANDER SEVERUS to campaign against him A great battle in 232 cost both armies heavy losses It was Alexander who had to retire, and though Alexander celebrated a triumph in Rome, Ardashir took Armenia and Persian power was firmly established Ardashir earned a reputation as a just, strong ruler He is sometimes called Ardashir Papakan, for his father, Papak Shapur I succeeded him

Ardashir II, king of Persia (379–83), of the Sasani or Sassanian dynasty (see SASSANIDAE) A provincial governor under SHAPUR II, he succeeded to the throne He earned popularity by remitting taxes, but his rule was weak, and he was deposed in favor of his nephew, Shapur III

Ardebil (ärdŭbĕl'), city (pop 63,406), NW Iran, near the Russian line and near the Caspian Sea It was the capital of Azerbaijan from c 700 to c 1100 The Safavids, originally high priests here, erected its beautiful shrine The fine library was taken to St Petersburg by Russians who captured the city in 1828

Ardèche (ärdĕsh'), department (2,145 sq mi , pop 254,598), S France, in VIVARAIS, traversed by the Ardèche, a western tributary of the Rhone Privas is the capital

Ardee (ärdē') [Irish,=ford on the Dee], town (pop 2,340), Co Louth, Ireland, on the Dee river and NW of Drogheda Roger de Pippart founded a Crutched Friary and built a castle here early in the 13th cent The castle was taken by Edward Bruce in 1315 and by Conn O'Neill in 1538 In 1641 it was captured by the Irish and retaken by the British Later it was used as headquarters by both forces in the war between James II and William III

Arden 1 Residential community (pop 612), NE Del , near Wilmington Founded as a single-tax colony in 1900, it is noted for its handicrafts **2** Town (pop 1,187), central S C , near Columbia

Arden, Forest of, well-wooded area, formerly very extensive, now in N Warwickshire, England Most of Shakspere's *As You Like It* is laid here

Ardennes (ärdĕn'), department (2,028 sq mi , pop. 245,335), NE France, bordering on Belgium, watered by the Meuse and the Aisne It contains part of the Ardennes Forest Except for several frontier towns (notably SEDAN) it constitutes, roughly, the old county of RETHEL, a part of CHAMPAGNE Mézières, which is a twin city of Charleville, is the departmental capital.

Ardennes (ärdĕn'), wooded plateau, from 1,600 to 2,300 ft high, partly in Ardennes dept , N France, but mostly in SE Belgium and N Luxembourg, E and S of the Meuse river The plateau is cut into wild crags and ravines by rapid rivers Agriculture and cattle raising are the main occupations of the population (mostly Walloons) In Germany, the Ardennes Forest is continued by the Eifel The chief cities (Liége, Namur) are in the Meuse valley, other towns are Spa, Verviers, Malmédy, Bouillon, and Bastogne A traditional battleground, the Ardennes saw heavy fighting in the First and the Second World wars, notably in the BATTLE OF THE BULGE (Dec , 1944–Jan , 1945)

Ardmore 1 City (pop 16,886), co seat of Carter co , S Okla , near the Red River, settled 1887, inc 1898 It is the commercial center of a rich farm area which also produces livestock, oil, and asphalt Its industries include cotton and cotton-oil processing, oil refining, flour milling, and the manufacture of machinery A state hospital and a U S Indian school are here The near-by Arbuckle Mts and state park offer recreational opportunities **2** Unincorporated town (pop 9,015), E Pa , W of Philadelphia Its chief manufacture is automobile trucks

Ardon (är'dŭn) [Heb ,=fugitive], Caleb's third son. 1 Chron 2 18.

Ardrossan (ardrŏs'ŭn), burgh (pop 6,889), Ayrshire, Scotland, on the Firth of Clyde and SW of Glasgow It is a resort and seaport, with an oil refinery Remains of the historic Ardrossan Castle are on a hill above the town

Ardsley, residential village (pop 1,423), SE N Y , in Westchester co , E of Dobbs Ferry, inc 1896 Columbia Univ maintains a large arboretum here Ardsley-on-Hudson is about one mile northwest

area, in geometry, the amount of surface measured in terms of some unit of surface, e g , square feet or acres In elementary geometry, formulae for the areas of the simple plane figures and the surface areas of simple solids are derived These are given in the following table

Plane Figures	*Area*
triangle	ab/2
parallelogram	ab
rectangle	ab
square	s^2
circle	πr^2
Solids	*Total Area*
right circular cylinder	$2\pi r(r+a)$
right circular cone	$\pi r(r+l)$
sphere	$4\pi r^2$

The abbreviations used are b=base (length of any side of a plane figure), a=altitude (perpendicular distance from the base to the farthest point of the figure, the bases of the solids mentioned meaning any of their circular faces), s=side, r=radius (of the base circle in the case of the solids), l=slant height (distance from vertex to base of a cone)

The areas of irregular figures, plane or solid, can be computed or closely approximated by the use of integral CALCULUS

Arecibo (ärsē'bō), city (pop. 22,134), N Puerto Rico A port, it is also a flourishing agricultural center where sugar, coffee, and other products are grown, and it has two large sugar centrals and a rum distillery

Areli (ârē'lī) [Heb ,=son of a hero], son of Gad Gen 46 16, Num 26 17

Arendal (ä'rundal), city (pop 11,570), co seat of Aust-Agder co , SE Norway, a port on the Skagerrak Before the steamship era it had the largest fleet in Norway

Arensky, Anton Stepanovich (ŭntôn' styĭp'ŭnôvĭch ărĕn'skē), 1861–1906, Russian composer, pupil of Rimsky-Korsakov at the St Petersburg Conservatory Upon his graduation (1882) he became professor of harmony and composition at the Moscow Conservatory, and in 1895 he succeeded Balakirev as conductor of the Imperial Court Choir He composed prolifically in various forms, but is known today for his opera *Raphael* (1894), his *Trio in D Minor* (1906), and his piano pieces, particularly the suites for two pianos

Areopagite see DIONYSIUS THE AREOPAGITE, SAINT

Areopagus (ârĕō'pugus) [by incorrect etymology assumed by the Greeks to mean *hill of Ares*, cf the *Mars' hill* of Acts 17 22], rocky hill, 370 ft high, NW of the Acropolis of Athens, famous as the sacred meeting place of the prime council of Athens This council, called the **Areopagus**, represented the ancient council of elders, which usually combined judicial and legislative functions from the beginning The Areopagus represented in the 5th and 6th cent B C the stronghold of aristocracy Solon gave it various censorial powers over the officers of the state Jurisdiction in murder cases had probably been given to it by Draco The change in the method of choosing the archons in 487 B C caused the beginning of the decline of the Areopagus In 480 B C the Areopagus enabled the manning of the fleet for the battle of Salamis, and in the years after 478 B C. the council still had great power, unchecked by the people's assembly But c 462 B C began a determined series of attacks which finally brought the august council to the status of a court

of homicide only, although its religious character remained PERICLES was a leader in this democratizing movement, AESCHYLUS was the most prominent opponent, and he brought his greatest trilogy to a close in the *Eumenides* with an open appeal for the preservation of the Areopagus

Arequipa (ärākē'pa), city (pop 79,185), S Peru It was founded by FRANCISCO PIZARRO in 1540 on the site of an Inca town in the Chili river valley The valley, an oasis of green in an arid plain, produces subsistence and feed crops for local consumption Near El MISTI volcano, Arequipa at c 7,800 ft altitude has a dry, mild climate It is the commercial hub of S Peru and N Bolivia The chief industry is the grading and sorting of alpaca wool, exported through MOLLENDO Although Arequipa was virtually leveled by earthquake in 1868, there has been considerable restoration of the impressive and lovely examples of lay and religious Spanish colonial architecture The building material, sillar, has given Arequipa the name of "white city" The Indians, the decorated churches, and the setting of lofty volcanoes give Arequipa a distinctive charm for tourists

Ares (ā'rēz), in Greek mythology, Olympian god, the god of war He was the son of Zeus and Hera and was the lover of APHRODITE (in some legends, her husband) He was usually given the attributes of a good soldier—courage, endurance, cleverness in battle He is also pictured in legend as a violent lover He was the father of EROS, ANTEROS, HARMONIA, DIOMED, and HIPPOLYTE He favored the Trojans in the TROJAN WAR, sometimes interfering unfairly in their behalf He is identified with the ROMAN MARS

Aresson, Areson, or **Arason, Jon** (all yōn' ä'rĕson), 1484?–1550, Icelandic churchman He was the last Roman Catholic bishop in Iceland before the Reformation, elected in 1522 Aresson established the first Icelandic printing press at Holar in 1528 When upon the death of Frederick I of Denmark the Reformation began, Aresson refused to enforce the new religious ordinances, and troops were sent from Denmark to compel his obedience Aresson continued the revolt and, finally captured, resolutely followed his sons, Ara and Bjorn, to the block He was the only Catholic bishop in the Scandinavian countries who was executed in the Reformation His poetry, secular and sacred, has been preserved

Aretas (ă'rĭtus, –tăs), dynastic name of the Arabian kings at Petra The best-known Aretas was, according to 2 COR 11:32, ruler of Damascus His daughter was married to HEROD ANTIPAS, who put her away in favor of HERODIAS Aretas attacked Antipas and defeated him, but Rome took Antipas' part TIBERIUS' death (A D 37) saved Aretas from the imperial army

Arethusa (ărĭthū'sa), in Greek mythology, nymph loved by the river-god ALPHEUS She fled his attentions and was changed into a fountain He pursued and caught her, whence the story that the waters of the Alpheus river flow beneath the sea from Greece to reappear in the fountain of Arethusa in the harbor of SYRACUSE

Aretnian syllables see GUIDO D'AREZZO

Aretino, Pietro (pyā'trō ärātē'nō), 1492-1556?, Italian satirist He led a life of adventure and wrote abusive works for hire He was a friend of Titian, who painted his portrait His comedies and letters, in spite of their indecency, have merit Ariosto called him the "scourge of princes" See T C Chubb, *Aretino, Scourge of Princes* (1940)

Aretnius, Guido see GUIDO D'AREZZO

Arezzo (ärät'tsō), city (pop 24,411), capital of Arezzo prov, Tuscany, central Italy It is an agricultural center that has largely preserved its medieval character An Etruscan town, later a Roman military station, it became (11th cent A D) a free commune Siding with the Ghibellines, it was defeated (1289) at Campaldino by Florence, to which it passed definitively at the end of the 14th cent In Roman times the famous red-clay Aretine vases were made here Late in the Middle Ages, Arezzo was a center of learning and the arts, Guido d'Arezzo, Petrarch, Aretino, and Vasari were born here The fine Gothic cathedral was not completed until 1510 In the Church of San Francesco are important frescoes by Piero della Francesca, the Palazzo della Fraternità dates from the 14th and 15th cent, and the Palazzo Pretorio houses an art gallery and a museum Notable are also the Romanesque church, the Pieve di Santa Maria, and the Renaissance Santa Maria delle Grazie

Argall, Sir Samuel (ar'gul), d 1626?, British ship captain, prominent in the early settlement of Virginia He commanded a ship sent to Jamestown in 1609 and had charge of one of the ships Baron De la Warr brought to the failing colony in 1610 He made voyages—supposedly to Bermuda, Cape Cod, and Canada—to get needed supplies for the colonies In 1613 on a voyage up the Potomac, Argall kidnaped POCAHONTAS He commanded the Virginia Company expedition that destroyed the rival French colonial settlement on MOUNT DESERT ISLAND in 1613, and in 1614 he led an expedition against Port Royal (now Annapolis Royal) As deputy governor of Virginia (1617–19), he governed autocratically, and the accusations of his opponents in the colony that he was unduly harsh with the poor have been credited by most, but not all, modern historians He was knighted in 1623 and in 1625 as an admiral commanded a fleet off the Spanish coast

Argand burner (ar'gănd) invented by Aimé Argand (āmā' ärgā') (1755–1803), Swiss chemist and physician The burner first introduced the principle of admitting air to the interior of the flame This was accomplished by means of a circular wick through the center of which a current of air was passed, thereby increasing the rate of combustion and affording more intense illumination Modern gas and oil burners are developments of this principle

Argelander, Friedrich Wilhelm August (frē'drĭkh vĭl'hĕlm ou'gōost är'gulandĕr), 1799–1875, German astronomer He became director of the observatory at the Univ of Bonn in 1837 and continued there the work of determining the positions of stars which F W Bessel had begun at Konigsberg The results of his observations appear in the *Bonn Durchmusterung* (1862), which records the positions and brightness of more than 324,000 stars in the northern heavens

Argenson, Marc Antoine René de Voyer, marquis de Paulmy d' (mark' ätwan' runā' du vwayā' markē' du pōlmē' darzhänsō'), 1722–87, French diplomat and author, son of René Louis d'Argenson He was minister of war (1757–58) and ambassador to Poland (1762–64) and Venice (1766–70) After 1770 he accumulated the library which was the foundation of the Bibliothèque de l'Arsenal and undertook the publication of two great collections of romances

Argenson, Marc Pierre de Voyer de Paulmy, comte d' (pyĕr, kōt), 1696–1764, French statesman and patron of literature, younger son of Marc René d'Argenson As secretary of state for war (1743–57), he assisted Maurice de SAXE in reforming the army, especially the artillery, and founded the École militaire He also had charge of printing, of the mails, and of the city of Paris The Champs Élysées and the Place de la Concorde were planned by him VOLTAIRE was his friend and DIDEROT and D'ALEMBERT dedicated the *Encyclopédie* to him

Argenson, Marc René de Voyer, marquis de Paulmy and **marquis d'**, 1652–1721, French official He was for 21 years lieutenant general of the Paris police later he became (1719) keeper of the seals and president of the council of finance

Argenson, René Louis de Voyer de Paulmy, marquis d' (lwē), 1694–1757, French foreign minister (1744–47), elder son of Marc René d'Argenson Well intentioned but impractical, he sought to form a federation of Italian states and to make France the disinterested arbiter of international affairs After committing numerous blunders, he was dismissed and appointed president of the Academy of Inscriptions A friend of VOLTAIRE and the Encyclopedists, he spent the rest of his life in study and literary pursuits He left memoirs

Argenteuil (arzhätû'ĕ), town (pop 53,513), Seine-et-Oise dept, N France, on the Seine A northwestern suburb of Paris, it has important heavy industries, which were severely bombed in the Second World War Argenteuil grew around a convent, founded in the 7th cent, here HELOISE was educated and, after her misfortune, became prioress The convent (later a monastery) was destroyed in the French Revolution, the famous relic, the Seamless Tunic, said to have been worn by Christ, was given by Charlemagne to the convent and is now enshrined in a 19th-century church

Argentia, N F see PLACENTIA BAY

Argentina, La (lä ärjäntē'na), d 1936, Spanish dancer, b Buenos Aires, Argentina, whose real name was Antonia Mercé Her first appearances in New York in 1916 and 1917 failed to attract attention, but her performances throughout the United States in 1928 won her fame She was responsible for the revival of interest in the Spanish classical dance, and she made popular many compositions by Albéniz, Granados, and Falla See La Meri, *Spanish Dancing* (1948)

Argentina (ärjäntē'na), republic (1,073,699 sq mi, with water surface 1,084,129 sq mi, pop 16,105,244), S South America, called also the Argentine The capital is BUENOS AIRES The second largest nation of South America, Argentina is more than one third the size of the United States Between the Andes on the west and the Atlantic on the east, it is an enormous triangle, stretching from the broad base near the Tropic of Capricorn southward 2,000 mi to the island tip of TIERRA DEL FUEGO, which points toward Antarctica In the Atlantic off the far south are the Falkland Islands, claimed by Argentina but administered by the British There are also large Argentine claims in Antarctica Argentina in the northeast fronts on the Río de la PLATA, one of the major waterways of the Western Hemisphere, which divides Argentina from Uruguay The tributary rivers also act as international boundaries of Argentina—the Uruguay, with Uruguay and Brazil, the Paraná and the Pilcomayo, with Paraguay In the northwest the land borders with Bolivia are in the arid Andean highlands and the semitropical CHACO. The western boundary with Chile follows the line of the Andes, in the highest elevations of the globe outside central Asia. The kingly ACONCAGUA has at its foot USPALLATA PASS and the TRANSANDINE RAILWAY, it is the highest of many snow-capped volcanoes, including Llullaillaco, Mercedario, Tupungato, and Maipú The climate of Argentine is as varied as its topography Humidity, lowest in the rainshadow of the eastern Andean slopes, increases markedly across plains of the PAMPA, the heart of Argentina, and across the "West Pampa" to the Atlantic In N Argentina, the Chaco and the physiographically similar Mesopotamia (between the Paraná and Uruguay rivers) are predominantly flat, but in the extreme northeast the country reaches into the Brazilian highland and converges with Brazil and Paraguay at IGUASSÚ FALLS The northern country—savannas and dense forests, interspersed with swamps—yields QUEBRACHO and MATE as well as lumber, tung nuts, and castor beans, agricultural produce (flaxseed, cotton, rice, and citrus fruits) comes chiefly from the cleared sections of the Mesopotamia Only here and in the Andean highlands is the native Indian element still strong Pioneer settlements of East Europeans in the 1930s and later gained considerable success in this neglected land Just to the south the Pampa owes most of its fabulous success to hard-working Italian immigrants, who came in the late 19th cent Yet the GAUCHO, the nomadic herdsman of an earlier day—depicted in *Martín Fierro*, the great Argentine folk epic by José Hernández—is still a legendary national symbol The vast, somewhat monotonous plain lies between the Chaco and the Colorado river (roughly lat 30° S to lat 40° S) and is some 400 mi wide from the Atlantic to the Andean foothills Its deep soil is the basic wealth of the republic, for commerce and industry rely upon the products of its farms and ranches As exporter of wheat, corn, and flaxseed, beef, mutton, hides, and wool, Argentina rivals the United States, Canada, and Australia Alfalfa, the leading crop, is grown to feed the cattle herds, which are among the world's finest Truck gardening, dairying, and fruitgrowing increase in importance about the city of Buenos Aires (coextensive with the federal district) Most of the principal cities of Argentina are on the Pampa, and Buenos Aires is leader of them all The largest city of South America, cosmopolitan Buenos Aires is one of the great ports of the world, connected by rail not only to other cities of the Pampa and S Argentina, but also to Paraguay, Uruguay, and Brazil, to Chile by two routes (the Transandine, via Mendoza, and the Transandine of the North, via Salta) and to Bolivia via Tucumán These lines, a road net, national and international airlines, and a small Argentine merchant marine built up in the Second World War give the nation the best communications system of the continent, with Buenos Aires in the hub Industries center in the city, mostly processing plants but also some factories—meat-packing plants (*frigoríficos*), flour mills, sugar refineries, oil refineries, chemical works, textile mills, cement plants, machine shops, and printing plants Near by are several industrial cities such as Avellaneda, Quilmes, and Lomas de Zamora Elsewhere on the Pampa are LA PLATA, capital of Buenos Aires prov supreme in meat packing, ROSARIO, second largest Argentine city, a huge grain port on the Paraná, SANTA FE, a northern commercial center, MAR DEL PLATA, a resort and fishing center on the Atlantic, and BAHÍA BLANCA, the largest port directly on the Atlantic, acting with its five subports as gateway to the southern part of the Pampa, the Plaza Huincul oil fields in Neuquén Territory, and the Patagonian lake district On the western edge of the Pampa is the third city of the republic, picturesque CÓRDOBA, with its old university and its trade in fruits and grain Córdoba shows the transition from the "Dry Pampa" to the desolation of the arid Andean foothills, mostly useful only for pasturing goats In the great arid stretches there are, however, small but remarkably productive oases, settled from Peru and Upper Peru (Bolivia) in the second half of the 16th cent—MENDOZA, SAN JUAN, TUCUMAN, and SALTA The oases produce wine, sugar, and all kinds of fruit The minerals of this northwestern region (coal, salt, borates, quartz, mica, onyx, gypsum, wolfram, zinc, tin, copper, lead, and silver), exploited to a small extent earlier, have been subject to more development recently The oil fields of Mendoza and Salta provs early in 1950 were of far greater economic value They in turn were surpassed by the oil fields of PATAGONIA, in the COMODORO RIVADAVIA military district, these supply about 70 percent of Argentina's oil output, and a pipe line linking them with Buenos Aires was completed in 1950. Except for the oil fields, Argentine Patagonia is largely undeveloped, although in the northwestern section there is a region of blue lakes cupped in the Andes Here Nahuel Huapí National Park (est 1934), adjoining the Chilean lake district, is a resort area, attractive both in winter and in summer Elsewhere Patagonia sweeps S from the Colorado river to Tierra del Fuego in bleak, wind-bitten plateaus, supporting little more than sheep grazing Like Siberia in diversity, it also has gained a bad name from use

as a penal colony. On the Atlantic a few small, river-mouth ports have fishing fleets, lumberyards, and processing plants—Viedma on the Río Negro, Rawson on the Chubut, Santa Cruz on the Santa Cruz, and Río Gallegos on the Gallegos Ushuaia on Beagle Channel is called the southernmost town in the world Into this forbidding country Welsh, Scottish, and English sheep ranchers came after 1880, and after the Second World War many Italian immigrants arrived, while the influx of Chileans has always been tied to boundary disputes Only a scant few of the native Indians remain These once warlike tribes were even lower in the scale of material culture than most of the Indians of Argentina Only in NW Argentina was there an agricultural people, under the influence of the Inca They are recalled by ruins N of Jujuy, but their importance was eclipsed in later time by the immigration of Araucanian Indians from Chile Elsewhere there were fierce warriors, who did much to hamper settlement but disappeared under white warfare and white pressure Argentina, unlike most of the Latin American nations, has a population that is overwhelmingly of European descent The Europeans probably first arrived in the region in 1502 in the voyage of Amerigo Vespucci (if the possibility of Phoenician discovery in ancient times is disregarded altogether) The search for a Southwest Passage to the Orient brought Juan Díaz de Solís to the Río de la Plata in 1516 Magellan entered (1520) the estuary, and Sebastian CABOT ascended the Paraná and the Paraguay His delight in native ornaments may be responsible for the name of the Río de la Plata [silver river] and the name of Argentina [of silver] Pedro de Mendoza in 1536 founded the first settlement of the present Buenos Aires, but Indian attacks forced abandonment of the settlement, and Asunción became the unquestioned leading city of the Río de la Plata region Buenos Aires was refounded in 1580 by Juan de GARAY His son-in-law, Hernando ARIAS DE SAAVEDRA (Hernandarias), one of the ablest of Spanish colonial administrators, secured the division of the Río de la Plata territories, and Buenos Aires achieved a sort of semi-independence under the viceroyalty of Peru The mercantilist system, however, placed Buenos Aires under severely hampering commercial conditions, and smuggling became an accepted profession, particularly in commerce with the Portuguese in Brazil and with the British While the cities of present W and NW Argentina grew by supplying the mining towns of the Andes, Buenos Aires was threatened by the activities of the Portuguese in the Banda Oriental The disparate development of the cities foreshadowed the separatist tendencies of the provinces after the republic was created In 1776 the Spanish government finally made Buenos Aires a free port and the capital of a viceroyalty that included present Argentina, Uruguay, Paraguay, and (briefly) Bolivia From this combination grew the idea of a Greater Argentina to include all the Río de la Plata countries, a concept that was to haunt many Argentine politicians after independence was won A prelude to independence was the British attack on Buenos Aires Admiral Sir Home POPHAM and Gen William Carr BERESFORD in 1806 took the city after the Spanish viceroy fled An Argentine militia force under Jacques de LINIERS ended the British occupation and beat off a renewed attack under Gen John WHITELOCKE in 1807 Creole self-confidence was built up On May 25, 1810 (May 25 is the Argentine national holiday), revolutionists, acting nominally in favor of the Bourbons dethroned by Napoleon (see SPAIN), deposed the viceroy, and the government was controlled by a junta The result was war against the royalists The patriots under Manuel BELGRANO won (1812) a victory at Tucumán On July 9, 1816, a congress in Tucumán proclaimed the independence of the United Provs of La Plata Other patriot generals were Mariano MORENO and Juan Martín de PUEYRREDÓN and, above all, that great liberator, José de SAN MARTÍN URUGUAY and PARAGUAY went their own way despite hopes of reunion In Argentina virtually permanent civil war followed independence with countless coups d'état, ephemeral triumphs of regional, social, or political factions, the strong man, the *caudillo*, only too often replaced by a new *caudillo*, and periods of democratic rule, too often beset by disorder, too often dislodged by "public opinion" that turned out to be only the views of an army clique Anarchy was not ended by the election of Bernardino RIVADAVIA in 1826 The unitarians, who favored a centralized government dominated by Buenos Aires, were opposed to the federalists, who opposed the oligarchy of Buenos Aires and were backed by autocratic *caudillos* with gaucho troops The unitarians temporarily triumphed when Argentinians combined to help the Uruguayans repel Brazilian conquerors in the battle of Ituzaingó (1827), which led to the independence of Uruguay The internal conflict was, however, soon resumed and was not even quelled when Juan Manuel de ROSAS, idol of the gauchos and most notorious *caudillo* of them all, established a dictatorship that lasted until 1852. Ironically, this federalist leader, who was nominally only the governor of Buenos Aires, did more than the unitarians to unify the country. Ironically, too, this enemy of intellectuals stimulated his political opponents to write in exile some of the finest works of the Spanish American romantic period, among the writers were Domingo F SARMIENTO, Bartolomé MITRE, José MÁRMOL, and Esteban ECHEVERRÍA After Rosas had involved himself in a political struggle in Uruguay, he was routed (1852) in the battle of Monte Caseros by combined Argentine, Brazilian, and Uruguayan forces, recruited by one of his former supporters, Justo José de URQUIZA As president, Urquiza called a constituent assembly at Santa Fe, and a constitution was adopted (1853) based on the principles enunciated by Juan Bautista ALBERDI Mitre, denouncing Urquiza as a *caudillo*, brought about the secession of Buenos Aires prov and the downfall of the Urquiza plans. Under the administrations of Mitre (1862–68), Sarmiento (1868–74), and Nicolás AVELLANEDA (1874–80), schools were built, public works started, and liberal reforms instituted The War of the Triple Alliance (see TRIPLE ALLIANCE, WAR OF THE) brought little advantage to Argentina In 1880 federalism triumphed Buenos Aires remained capital, but the federal district was set up, and Buenos Aires prov was given La Plata as its capital Conquest of the Indians by Gen Julio A ROCA made colonization of the region in the south and the southwest possible Already the Pampa had begun to undergo its agricultural transformation The immigration of Italians, Spanish (including Basques), French, Germans, British, Swiss, and East Europeans helped to fill the land and to make Argentina one of the world's granaries Establishment of refrigerating plants for meat made expansion of commerce possible The British not only were prime consumers of Argentine products but also invested substantially in building factories, public utilities, and railroads (which were nationalized in 1948) Efforts to end the power of the great creole landowners, however, were not genuinely successful, and the military tradition continued to play a part in politics, the army frequently combining with the conservatives and later with the growing ranks of labor to alter the government by coup d'état In the second administration of Roca, a serious boundary dispute with Chile was settled (1902), and perpetual peace between the two nations was symbolized in the CHRIST OF THE ANDES Even before the First World War, Argentina maintained neutrality, the wealthy southern nation had begun to act as spokesman for the rights and interests of Latin America as a whole, notably through Carlos Calvo, Luis M Drago, and later Carlos Saavedra Lamas Internal problems remained vexing, even with political change Electoral reforms introduced by Roque SÁENZ PEÑA led to the victory of the Radical party under Hipólito IRIGOYEN He introduced social legislation, but when, after the presidency of Marcelo T ALVEAR, Irigoyen returned to power in 1928 his policies aroused much dissatisfaction even in his own party In 1930 he was ousted, and the conservative oligarchy was again in power The administration (1932–38) of Agustín P JUSTO was opposed by revolutionary movements, and a coalition of liberals and conservatives won an election victory The Radical leader, Roberto M Ortiz became president, but serious illness caused him to withdraw, and the conservative vice president, Ramón S Castillo, succeeded Economic difficulties, intensified by the Second World War, helped to increase dissatisfaction In 1943 Castillo was overthrown by a military coup Gen Arturo Rawson was provisional president and was succeeded by Gen Pedro Ramírez A "palace revolt" in 1944 brought Gen Edelmiro Farrell to power, but the real power resided in a group of army colonels, chief among them Juan PERÓN Argentina belatedly (March, 1945) entered the Second World War on the side of the Allies and became a member of the United Nations A return to regular democratic procedure seemed momentarily to be promised, but Perón, who had won the firm support of labor, was overwhelmingly victorious in the election of Feb, 1946 He was aided rather than injured by the "blue book" issued by the U S Dept of State, showing the collaboration of the "colonels' government" with Germany in the war, for U S intervention in Latin America is particularly resented in Argentina Peron established a type of popular dictatorship new to Latin America, based on support from reactionaries, workers, the army, nationalists, and the clerical groups His regime was marked by creation of concentration camps, curtailment of freedom of speech, and transition to the one-party state To cure Argentina's serious economic ills a program of economic self-sufficiency was inaugurated The speed of industrialization was, however, limited by lack of power resources and machine tools Protective tariffs tended to strain international relations and hinder the disposal of Argentina's surplus agricultural produce, and the emergence of Argentina from a "colonial" status did not promise to be easy, though Argentine influence on other Latin American nations, especially Paraguay, Chile, and Bolivia, grew with the economic penetration forwarded by the Perón government See also SPANISH AMERICAN LITERATURE See Pierre Denis, *The Argentine Republic* (1922), F A Kirkpatrick, *A History of the Argentine Republic* (1931), Ricardo Levene, *A History of Argentina* (Eng tr, 1937), John W White, *Argentina the Life Story of a Nation* (1942), Ray Josephs, *Argentine Diary* (1944), Isabel Rennie, *The Argentine Republic* (1945)

Argentinita, La (la arjäntēnē'tä), 1898–1945, Spanish dancer, b Buenos Aires, Argentina, whose real name was Encarnación López She first came to the United States in 1930 and made an unsuccessful debut in *The International Revue* When she toured the United States (1938) and South America (1939) she had tremendous success, and for her performances of traditional and modern Spanish and South American dances was acclaimed the greatest Spanish dancer after La Argentina See La Meri, *Spanish Dancing* (1948)

Arghandab (ärkhändäb'), river, 250 mi long, rising in E Afghanistan and flowing SW to the Helmand Kandahar is in its valley

Arginusae, battle of (ärjīnū'sē), 406 B C, great naval engagement in the PELOPONNESIAN WAR, fought 406 B C The Athenians defeated the Spartans off the small Arginusae islands, between Lesbos and Asia Minor A storm at the end of the battle caused several Athenian ships to founder The failure of the eight Athenian commanders to rescue the crew was used as a pretext by their political enemies to have six of them executed A son of Pericles was among the victims

Argo (är'gō), in Greek mythology, the ship in which JASON and the ARGONAUT heroes sailed in quest of the GOLDEN FLEECE It was built with the help of Athena, by Argus, son of Phrixus It could utter prophecies, for it contained a piece of wood from the sacred oak tree at DODONA

Argob (är'gŏb) 1 One of the two guards murdered with King Pekahiah 2 Kings 15 25 2 District, Syria, possibly the modern Hauran Deut 3 4,13, 14, 1 Kings 4 13

argol see TARTAR

Argolis (är'gulĭs), region of ancient Greece in the NE Peloponnesus It was roughly identical with the Argive plain and was the area dominated by the city of Argos Nauplia is now the center of the region

argon (är'gŏn) [Gr, =inert], colorless, odorless, tasteless, inert gaseous element (symbol=A, for physical constants see ELEMENT, table), occurring in the air 0 93 percent by volume, and in some volcanic gases Its extreme inertness has caused it to be substituted for nitrogen in electric-light bulbs It is used in electric signs for its reddish glow when conducting an electric current It resembles XENON In 1894 it was first obtained by Lord Rayleigh and Sir William Ramsay Previously Lord Rayleigh had noticed that a liter of nitrogen extracted from the air and supposedly pure weighed more than a liter prepared from a nitrogen compound This difference in weight led him to conclude that another gas was present in the supposedly pure nitrogen Actually several inert gases were present, first samples of "argon" contained also helium, neon krypton, and xenon Ramsay obtained pure argon later by evaporation from liquid air Argon is prepared today from liquid air

Argonaut (är'gunôt') [Gr, =sailor on the Argo], in Greek mythology, one of the band of heroes who accompanied JASON to Colchis in the ship ARGO in quest of the GOLDEN FLEECE Versions of this ancient story vary, and the list of heroes in the several versions grows long Among them were ORPHEUS, ARGOS, HERCULES and HYLAS, Castor and Pollux, Peleus, Meleager, Amphiaraüs, Ancaeus, Laertes, Telamon, and the huntress Atalanta The helmsman was Tiphys The *Argo* set sail, but the voyage was interrupted for a year while the Argonauts tarried with the women of Lemnos who had killed all the men on the island The ship managed to get safely past the SYMPLEGADES On the return journey they passed between SCYLLA and CHARYBDIS and escaped the temptation of the Sirens' singing (see SIREN) because Orpheus' music was more entrancing

Argonne (är'gŏn, Fr ärgôn'), region NE France in Champagne and Lorraine (Meuse, Marne, and Ardennes depts), a hilly and woody district centering around Sainte-Menehould Its importance is mainly strategic Here in 1792 the French under Dumouriez and Kellermann repulsed the Prussians at Valmy The sector was a battleground throughout the First World War In the Allied victory drive of Sept-Nov, 1918, the Meuse-Argonne sector was carried by the Americans

Argos, in Greek legend see ARGUS

Argos (är'gŏs, är'gus), city of ancient Greece, in NE Peloponnesus, 3 mi inland from the Gulf of Argos or Nauplia and not far from the modern Nauplia It was the center of Argolis and for a time in the 7th cent B C, under Pheidon, dominated much of Peloponnesus For centuries it was one of the most powerful Greek cities, struggling with Sparta and rivaling Athens and Corinth Much of its power disappeared after Cleomenes I of Sparta took (c 494 B C) the city with great slaughter of

the inhabitants Pyrrhus was killed in an attack on Argos in 272 B C. The city joined the Achaean League in 229 B C , and in 146 B C it was taken by Rome, under whose rule trade flourished Argos figures in early Greek legend as the home of various heroes and was the principal center of the worship of the goddess Hera, a great temple was erected a few miles outside the city, toward Mycenae There is a small town called Argos on the site of the ancient city

Argos, town (pop 1,190), N Ind , S of South Bend and near Lake Maxinkuckee Dairy farming is done here

Arguedas, Alcides (älsē'dās ärgā'dās), 1879–, Bolivian novelist He studied social sciences in Paris and is versed in history and sociology He also represented Bolivia in Paris, in London, and in Bogotá. In his writings he examines the social ills of his country and shows particular interest in the lot of the Indians His best-known works are *Raza de bronce* (1919), *Un pueblo enfermo* [a sick people] (1910), and *Los caudillos bárbaros* (1929)

Arguello, Luis Antonio (lwēs' äntō'nyō ärgwā'yō), 1784–1830, governor of Alta California (1822–25), b San Francisco His father, José Darío Argüello, was commander of the San Francisco presidio, acting governor (1814) of Alta California, and governor (1815–22) of Baja (Lower) California, and Luis was early notable, especially as a leader of exploring expeditions He discovered Lassen Peak, probably in 1821 When Alta California accepted Mexican independence from Spain, he was elected (not appointed) governor and vigorously undertook colonization and improvement of trade His sister, Concepción, was the heroine of a celebrated romance with Nikolai Petrovich Rezanov

Argun (ärgōōn'), Mandarin *O-erh-hu-na*, river, 980 mi long, NE Asia, a headstream of the Amur It rises in Hingan prov , China, flows W past Hulun to the USSR–Chinese frontier, and forms for 500 mi the border between the USSR and Manchuria Silver-lead ores and coal are found along its banks

Argus (är'gŏs, -gus), in Greek mythology **1** Called Panoptes (pănŏp'tēz), hundred-eyed guardian of Io after she was changed into a heifer Hermes killed him His eyes were said to be seen in the tail of the peacock, sacred to Hera The people of Argos traced their origin to him **2** Son of Phrixus He built the ship Argo and joined the Argonaut heroes in the quest for the Golden Fleece **3** Dog of Odysseus, the first creature to recognize him when he reached home Argus leaped up to greet him, and fell dead

Argyll, dukes of, earls of, and **marquesses of,** Scottish nobles see the family name, Campbell

Argyllshire (ärgīl'shĭr) or **Argyll,** maritime county (3,110 sq mi , 1931 pop 63,050, 1948 estimated pop 66,335), W Scotland The county faces the Atlantic, and the coast line is extremely irregular, deeply indented by lochs There are numerous islands of the Inner Hebrides, chief among them Coll, Tyree, Mull, Jura, and Islay, and the elongated peninsula of Kintyre, extending S into the North Channel The county is wild and mountainous, cut by swift streams, and it is a favorite tourist resort Agriculture (oats, hay, and barley) is confined to coastal strips The region is one of the chief sheep-raising districts of the British Isles Cattle raising and fishing are important, and granite and slate are quarried Whisky is distilled at Campbeltown and elsewhere The most important historic remains are those of the ancient monastic center at Iona

Argyrokastron (äryĕrō'kästrŏn) [Gr ,=silver castle], Albanian *Argirokastra* (är"gērō'kä'strä), city (pop 10,910), S Albania, picturesquely situated above the Drin river An ancient place, dating probably from the 4th cent , it has an old citadel, rebuilt (19th cent) by Ali Pasha There are several 18th-century mosques and churches Argyrokastron was captured by Greek troops in Dec , 1940, and held by them until April, 1941

Arhus, Denmark see Aarhus

Aria (ä'rēŭ, ur'ĭ), province of the ancient Persian Empire, region about the Arius (now the Hari Rud) river It is now mostly included in the Herat region of E Iran and Herat prov about the city of Herat, NW Afghanistan

aria (är'ēä, ar'yä), air or melody, especially an accompanied solo in an opera, oratorio, or cantata The 17th-century Italian opera composers created the aria, which, in the operas of Alessandro Scarlatti, became standardized into the form of the *aria da capo*, having a contrasting, usually shorter, middle section, followed by a repetition of the first section The infinite variety possible within this pattern is illustrated in the arias of Handel, who brought the form to perfection The aria was the principal feature of opera composition until Wagner merged recitative and aria in his music dramas In the 18th cent the aria was also used as an instrumental form

Ariadne (ärīăd'nē), in Greek legend, Cretan princess, daughter of Minos and Pasiphaë She loved Theseus and gave him a clue of thread to guide him out of the Labyrinth after he had killed the Minotaur When Theseus left Crete he took Ariadne with him, but he deserted her in Naxos, where the god Dionysus found her and wedded her. Zeus gave her immortality and set her bridal crown among the stars In Italy Dionysus was identified with Liber and Ariadne with Libera.

Ariana or **Aryana** (both ärēä'nù, -ä'nù), general name for the eastern provinces of the ancient Persian Empire. It was used to mean the regions S of the Oxus (modern Amu Darya) river, those to the north being Transoxiana Ariana is included in present E Iran, N and E Afghanistan, and India NE of the Indus

Arianism, heretical movement founded by Arius He taught (c 318–321) that God had created from nothing and begotten before the creation of other things a Son, the first creature, but neither eternal nor equal with the Father Arius was excommunicated on the grounds that he had made Jesus Christ merely a divine creature, neither truly God nor truly man By implication, he had set up a demigod beside God Arianism was widely propagated among the masses through popular sermons and songs and among the powerful through the efforts of influential leaders, e g , Eusebius of Nicomedia The civil as well as the religious peace of the East was threatened, and Constantine I convoked (325) the Council of Nicaea (see Nicaea, First Council of) The council condemned Arianism and refuted it with the term *homoousion* [consubstantial, of the same substance] to describe the Son's relationship to the Father The best brief statement of the Catholic position controverted by Arians is found in the Nicene Creed "I believe in one Lord Jesus Christ, the only-begotten Son of God, born of the Father before all ages, God of God, light of light, true God of true God, begotten not made, consubstantial with the Father by whom all things were made " In opposing the formulary of Nicaea, the Arians were, in effect, attacking the whole Church, and they were banished But through the influence of Constantine I, Arius returned from exile, and Marcellus of Ancyra, St Eustathius, and St Athanasius were banished The wholesale deposition of bishops now became a custom, whatever group had the hegemony purged the Church of all opposing bishops, increasing intrigue and confusion among the people The exile of Athanasius to Rome brought Pope Julius I actively into the struggle A council wholly favorable to Athanasius, convened at Sardica (c 343), was avoided by the Eastern bishops and ignored by Emperor Constantius, an Arian Thus the Catholics were left dependent on Rome for support Soon triumphant Arianism split into three parties of its own, which rapidly became as violent toward each other as they had been toward the Catholics On the extreme left were the Anomoeans, followers of Eunomius and Aetius, never strong, condemned by other Arians and Catholics In the center was the court party later called Homoeans because, adopting the position that only scriptural terms were appropriate to Jesus Christ, they declared him like (Gr *homoion*) the Father This was the sect of Constantius and Valens, who furthered its aims constantly In the West the Homoeans exiled Pope Liberius and St Hilary of Poitiers and forced Hosius to abjure They were in power from 351 to 378, except under Julian and Jovian (361–64) The third party, the rightist conservative Arians, adopted *homoiousion* [like in substance] as safer than *homoousion* The Homoiusians were oppressed by the Homoeans, causing them to draw closer to the Catholics In time, most Homoiusian bishops accepted the *homoousion* The Catholics in the East had no sympathetic emperors like Valentinian I and Gratian in the West, so that it took the greatest efforts of such men as St Basil the Great and St Gregory Nazianzen to gain a Catholic victory In 379, for the first time in many years, the empire had two Catholic rulers, Theodosius and Gratian Theodosius' establishment of Catholicism as the state church (381) was apparently easily accomplished, and Arianism probably expired in the empire at once However, Ulfilas had carried (c 340) Homoean Arianism to the Goths living in what is now Hungary and Yugoslavia with such success that the Visigoths and other Germanic tribes became staunch Arians Arianism was thus carried over Western Europe and into Africa The Vandals remained Arians until their defeat by Belisarius (c 534) Among the Lombards the efforts of Pope St Gregory I and the Lombard queen were successful, and Arianism finally disappeared among them (c 650) In Burgundy the Catholic Franks broke up Arianism by conquest in the 6th cent In Spain, where the conquering Visigoths were Arians, Catholicism was not established until the end of the 6th cent (by Recared), and Arian ideas survived for at least another century Arianism brought many results—the ecumenical council, the Catholic Christological system, Nestorianism, and, by reaction, Monophysitism Politically, Arianism gave great impetus to the union of Church and state Since Arianism did not question the authority or institution of the hierarchy or any important practice of the Church, it was quite unlike the Reformation See H M Gwatkin, *Studies of Arianism* (1882); Adolf von Harnack, *History of Dogma* (Eng tr , 1895–1900).

Arias de Ávila, Pedro (pā'dhrō ä'ryäs dā ä'vēlä), known as **Pedrarias** (pādhrä'ryäs), c.1440–1531?, Spanish colonial administrator. He was sent (1514) as governor to Darien, where Vasco Núñez de Balboa was ruling. A long quarrel between the two ended with Balboa's execution Pedrarias was jealous of his power and notoriously harsh and cruel. He sent (1523) Francisco Fernández de Córdoba to usurp control of Nicaragua, conquered the year before by Gil González de Ávila. When Fernández de Córdoba tried to shake off the governor's control, Pedrarias captured and executed him Pedrarias extended the Spanish dominions and founded (1519) Panama city, he aided, then hindered, Francisco Pizarro and Diego de Almagro in their conquest of Peru Superseded as governor in 1526, he went to Nicaragua, where he retained power until his death His name also appears as Pedrarias Dávila

Arias de Saavedra, Hernando (ĕrnän'dō ä'ryäs dā sävä'drä), known as **Hernandarias** (ĕrnändä'ryäs), 1561–1634 Spanish colonial governor, b Asunción, in the present Paraguay In 1592 he was elected lieutenant governor of Asunción by the cabildo Having demonstrated his ability as an administrator, he was chosen governor of Río de la Plata prov three times (1597–99, 1602–9, 1614–18) His administration was more than able He introduced public schools He did much to pacify and protect the Indians, to extend and consolidate the Spanish settlements, and to stimulate the growth of Buenos Aires and other riverine cities He granted the Jesuits territorial privileges for religious colonization in Paraguay In 1617 he secured a royal order for the division of the region into two separate governments, Guairá (present Paraguay) and Buenos Aires or Río de la Plata

Arias Montanus, Benedictus (bĕnĕdĭk'tŭs ä'rēŭs mŏntā'nŭs), or **Benito Arias Montano** (bänē'tō ä'ryas môntä'nō), 1527–98, Spanish Benedictine monk, editor of the Antwerp Polyglot Bible He attended the Council of Trent (1562)

Arica (ärē'kä), city (pop 14,064), N Chile, a Pacific port just south of the Peruvian border At the northern limit of the desert of Atacama, Arica is rainless but is cooled by the action of the Peruvian current It is the terminus of a railroad to La Paz Agriculture—orchards, vineyards, corn, and vegetables—is carried on by irrigation In the War of the Pacific (see Pacific, War of the) Peru lost Arica to Chile By the settlement of the Tacna-Arica Controversy in 1929 Chile, while retaining sovereignty, was required to furnish complete port facilities to Peru Both Bolivia and Peru maintain customs houses, and exports of borax, tin, wolfram, antimony, copper, hides, sulphur, and some agricultural produce give Arica its importance Subject to earthquake, the town suffered severe damage in 1868

Arichat (ărĭshăt'), village, on Isle Madame, NE N S , S of Cape Breton Island First settled by the French in 1730, it was raided by John Paul Jones during the American Revolution

Aridai (urĭd'āī), one of Haman's sons Esther 9 9

Aridatha (ûrĭd'uthŭ), son of Haman Esther 9 8

Ariège (äryĕzh'), department (1,893 sq mi , pop 145,956), SW France, in the Pyrenees, bordering on Spain and Andorra Named after a tributary of the Garonne, it roughly corresponds to the old county of Foix Stock raising is the main occupation Foix is the capital

Arieh (ăr'ē) [Heb ,=lion], one of the two guards murdered with King Pekahiah 2 Kings 15 25

Ariel (ā'rēĕl) [Heb ,=lion of God], aid of Ezra Ezra 8 16 In two other passages AV has "honlike men" beside "sons of Ariel" in RV 2 Sam 23 20, 1 Chron 11 22 Nothing is known of this Ariel Ariel is also a symbolic name of Jerusalem Isa 29

Aries (ā'rē-ēz) [Latin,=ram], zodiacal constellation named in honor of the ram of the Golden Fleece It is also the first sign of the zodiac The "first point of Aries" is that part of the celestial sphere where celestial equator and ecliptic cross, the point where the sun's vernal passage crosses the equator A little more than 2,000 years ago, the sun entered the constellation Aries at the vernal equinox; but now, as a result of the precession of the equinoxes, the vernal equinox has moved westward into the constellation Pisces

Arikara Indians (ûrĭ'kurŭ), North American Indian tribe of Caddoan linguistic stock (see language, table), occupying part of the upper Missouri valley in North Dakota in the early 20th cent A semi-sedentary group, they were organized in village bands and lived in earth-covered lodges In winter they hunted buffalo, returning to their villages for spring planting They traded maize with the Cheyenne and other hunting tribes in return for buffalo hides and meat, and they were very active in bartering with early white traders, who frequently called them the Rees. They were closely associated with the Mandan Indians and share a reservation in Montana with the Mandan and the Hidatsa

Arimathaea (ăr"ĭmŭthē'ŭ), home of St. Joseph of Arimathea, not otherwise known. It may be the same as Ramathaim-zophim. Mat. 27 57, Mark 15 43, Luke 23 50,51, John 19 38.

Ariminium: see RIMINI, Italy

Arioch (ā'rēŏk) 1 See CHEDORLAOMER. 2 Captain under Nebuchadnezzar Dan. 2.14

Arion (ărī'ŭn), legendary Greek poet, inventor of the dithyramb. He is said to have lived at Periander's court in the 7th cent B C A story repeated by Herodotus tells how, having been thrown overboard by pirates, Arion was saved by a dolphin charmed by his music

Ariosto, Ludovico (lōdōvē'kō ăryōs'tō), 1474–1533, Italian epic and lyric poet, one of Italy's great poets As a youth he was a favorite at the court of Ferrara, later he was in the service of Ippolito I, Cardinal d'Este, and then of the duke of Ferrara He was never properly rewarded by his patrons While at the duke's court, he commenced the *Orlando Furioso*, published in its final form in 1532 This epic treatment of the ROLAND story, theoretically a sequel to the unfinished masterpiece of BOIARDO, is perhaps the greatest of Renaissance poems It was intended to glorify the Este family as Vergil had glorified the Julians It was formerly customary to dispraise Ariosto to the advantage of Tasso Ariosto also wrote lyric verse of unequal merit and several comedies, among them *I suppositi* [the pretenders] and *Il negromante* [the necromancer] The *Orlando Furioso* has been translated into English, as has *I suppositi* See E G Gardner, *The King of Court Poets* (1906); Leigh Hunt, *Stories from the Italian Poets with Critical Notices* (1846), Richard Garnett, *A Short History of Italian Literature* (1898)

Ariovistus (ă"rēōvī'stŭs), fl 58 B C, Germanic chieftain, leader of the Suebi Sometime before 60 B C he crossed the Rhine, defeated the AEDUI, and came to dominate much of GAUL In 60 B C he was made a friend and ally of Rome, but his power threatened the Romans in Gaul, and soon after winning the great victory of BIBRACTE over the Helvetii, Julius CAESAR undertook a campaign against Ariovistus He defeated the German leader somewhere in Upper Alsace in 58 B C Ariovistus fled across the Rhine

Arisai (urīs'āī), son of Haman Esther 9 9

Arish, El (ēl ărēsh'), town (pop 10,791), NE Egypt, on the Mediterranean Sea King Baldwin I of Jerusalem died here in 1118 in the course of his Egyptian campaign Here the French signed (1800) the treaty by which they undertook to evacuate Egypt

Arista, Mariano (mărvà'nō ărē'stä), 1802–55, Mexican general and president (1851 53) A royalist in the revolt against Spain, he later joined Agustín de ITURBIDE He fought in the Mexican army that tried to put down the Texan revolt (1836) In command of the army in N MEXICO in the Mexican War, he was defeated by Zachary TAYLOR at Palo Alto and Resaca de la Palma (1846) Arista succeeded J J Herrera as president, he was forced to resign

Aristaeus (ărīstē'ŭs), in Greek religion, a pastoral deity, son of APOLLO and Cyrene, especially honored as the inventor of beekeeping He loved Eurydice, wife of ORPHEUS, and brought about her death when fleeing him, she was bitten by a snake The nymphs punished him by destroying his bees, but a new swarm came from the bodies of cattle that he sacrificed in atonement for his sin His wife was AUTONOË, his son ACTAEON

Aristarchus (ăr"istär'kŭs) [Gr ,=excellent prince], Macedonian companion of Paul Philemon 24, Acts 19 29, 20 4, 27 2, Col 4 10

Aristarchus of Samos (sā'mŏs), 3d cent B C, Greek astronomer of the Alexandrian school Of his writings only a treatise, *The Sizes and Distances of the Sun and Moon*, remains This does not mention his conclusion that the earth moves round the sun and that the sun is at rest, but a quotation by Archimedes and statements by Copernicus prove that he held this theory Other conclusions in which he seems to have anticipated later scientists are that the sun is larger than the earth, that the earth rotates upon its axis causing day and night, and that its axis is inclined to the plane of the ecliptic, causing the change of seasons See T L Heath, *Aristarchus of Samos* (1913)

Aristarchus of Samothrace (sămʹuthrās), c 217–c 145 B C, Greek scholar, successor to his teacher, Aristophanes of Byzantium, as librarian at Alexandria His painstaking recension of Homer is responsible for the good texts of Homer extant Though none of his works (he is said to have written about 800 books of exegesis and commentary) survives, frequent quotations by ancient critics have given us an insight into his works and method His commentaries and recensions embraced a great number of writers, such as Alcaeus, Anacreon, Pindar, Hesiod, and the tragedians

Aristides, Saint (ărīstī'dēz), 2d cent, Greek philosopher, author of an early Christian apology It was presented to the emperor (c 126 or 136) to protest anti-Christian slanders and persecutions The text is embedded in BARLAAM AND JOSAPHAT. Feast Aug 31.

Aristides (ărīstī'dēz), d c 468 B.C, Athenian statesman and general He was one of the 10 generals who commanded the Athenians at the battle of Marathon (490 B.C) and in the next year became chief archon In 483 B C he was ostracized through the influence of Themistocles, who, in opposition to him, desired the formation of a navy. In 480 B C, however, Aristides fought with his countrymen at Salamis In the following year he was recalled to aid in the war against the Persians and commanded the Athenians at the battle of Plataea Later he organized the finances of the Delian League He is the classic example of probity in public life and was called Aristides the Just

Aristides, probably two Greek painters, one of the 5th cent B C, one of the 4th They may have been grandfather and grandson Ancient writers confused the two

Aristippus (ărīstĭp'ŭs), c 435–c 360 B C, Greek philosopher of Cyrene, first of the CYRENAICS He held pleasure to be the highest good and virtue to be identical with the ability to enjoy His doctrines, comprising the first coherent exposition of HEDONISM, were in opposition to those of the Cynics, although both groups drew upon aspects of Socratic philosophy.

Aristobulus: see MACCABEES

aristocracy (ărʺistŏkʹrusē) [Gr ,=power of the best (people)], in political science, government by the best citizens in the interest of the entire state As a political concept in the West it owes its formulation to Plato in the *Republic* All governments, even democracies, contain an aristocratic element in their composition in that the rulers are usually thought to be the best fitted for their function, by whatever criterion they may be actually chosen Historically, aristocracies have usually rested on landed possessions, have invoked the hereditary principle, and, despite frequent conflicts with the ruler, have flourished chiefly within the framework of MONARCHY Within themselves, aristocracies tend to be antiroyal, and the BOURGEOISIE in the West rose to prominence partly as a royal weapon against them Aristocracy may be based on wealth, as well as land, as in ancient Carthage and medieval Venice, or may be a theocracy like the Brahman caste in India The foe of the aristocratic principle is the democratic, and today aristocracy survives chiefly as a social concept

Aristogiton, see HARMODIUS AND ARISTOGITON.

Aristophanes (ărʺistŏfʹunēz), b c 448 B C, d after 388 B C, Athenian comic poet, greatest of the ancient writers of COMEDY His plays, the only full extant samples of the Greek Old Comedy, mix political, social, and literary satire The direct attack on persons, the severity of invective, and the burlesque extravagances made the plays fitting for the festival of Dionysus Aristophanes was conservative in all things, hence he distrusted sophistry and Socrates alike, satirized Euripides' art as degenerate, and deplored the tendency to excessive imperialism that ruined Athens in the Syracusan expedition The typical plan of an Aristophanic comedy is simple—the protagonist undertakes seriously some preposterous project, and the play is an elaboration of his success or failure Despite the absurdity of the situation, Aristophanes' characters are real as types, their verisimilitude comes from their perfectly natural behavior in unnatural circumstances In some respects the satiric tone of his plays can be compared to some of the plays of W S Gilbert in English literature Aristophanes' Greek is exceptionally beautiful, many of his choruses are among the finest lyric pieces in Greek literature, his careful diction and his ability to characterize in a few words are remarkable, and he shows himself especially astute in his parodies of Euripides Eleven of his plays survive *The Acharnians* (425 B C), an attack on the Peloponnesian War, *The Knights* (424 B C), a political satire on the demagoguery of the period, *The Clouds* (423 B C), a satire on the sophists and on Socrates, *The Wasps* (422 B C), a satire on the Athenian passion for litigation, *The Peace* (421 B C), a defense of the Peace of Nicias, *The Birds* (414 B C), an escape into an amazing imaginary kingdom, *Lysistrata* (411 B C), in which the Athenian women boycott their husbands to end a war, *The Thesmophoriazusae* or *The Women at Demeter's Festival* (411 B C.), in which the women conspire to ruin Euripides because of his misogyny, *The Frogs* (405 B.C), a literary satire involving Aeschylus and Euripides, *The Ecclesiazusae* or *The Women in Politics* (c 392 B C), in which the women take over the government, and *Plutus* (388 B C), in which the blind god of wealth recovers his eyesight and distributes the gifts of fortune more equitably See L E Lord, *Aristophanes* (1925), Gilbert Murray, *Aristophanes* (1933)

Aristophanes of Byzantium (bizăn'shēum, -shŭm, -tēum), c 257–c 180 B C, Greek scholar He was librarian at Alexandria, edited various texts, and reputedly invented the Greek diacritical marks Aristarchus of Samothrace was his pupil

Aristotle (ărʺistŏt'ŭl), 384–322 B C, Greek philosopher, one of the greatest thinkers of all time Born in Stagira, he is called the Stagirite His father, Nicomachus, was a physician Aristotle studied (366-347 B.C) under Plato at Athens He tutored (343–336 B C.) Alexander the Great, returned to Athens, and conducted a school in the Lyceum His habit of lecturing in the walking place (*peripatos*) of the Lyceum gave his school the name Peripatetic In 323 Aristotle left Athens in the anti-Macedonian agitation and fled to Chalcis, where he died Aristotle believed LOGIC to be the necessary introduction to philosophy He gave the name SYLLOGISM to the basic form in which all logical thought moves His premises were the universal and self-evident first principles common to all sciences and to metaphysics Though they are implicit in the mind of man (a priori), experience is necessary to actualize them Aristotle further systematized his logic by the use of what he called categories (see CATEGORY) Aristotle, like Plato, saw the universe as an ideal world, an interrelated organic system of eternal and unchangeable forms (*ideas*) The crucial difference between Aristotle and Plato lay in their conceptions of the relation of form to matter Aristotle argued that form was immanent in matter, that the two were bound together and could not exist separate from each other Aristotle explains motion and change as the union of form and matter Form is what causes motion in matter, form is the mover, matter the thing moved Motion is the realization of that which is possible (the potential) Aristotle taught that God, who was at once the First Cause and the Final Cause, was ultimately responsible for all motion All things move toward God, the pure and supreme form, as the final end, not by mechanical impulsion, but by attraction, as the object of desire The most famous of his extant works are *Organum* (six treatises on logic), *Metaphysics*, *Physics*, *On the Heavens*, *History of Animals*, *On the Parts of Animals*, *De Anima* (*On the Soul*, a psychological treatise), *Politics*, *Nicomachean Ethics*, *Rhetoric*, and *Poetics* In the delimitation of many fields of knowledge we follow Aristotle today Of his works the *Organum* is perhaps the most influential, from it arise the Aristotelian scientific method and the Aristotelian logic Aristotle's biological works are encyclopedic, consisting of his close observations of natural life and of his classification of it His information is astonishingly accurate This is not so true of his astronomical work, which set the arrangement of concentric spheres and fixed stars, later elaborated by Ptolemy and not controverted until Copernicus and Galileo Aristotle's analysis of the components of nature as earth, air, fire, and water perpetuated a common Greek error Aristotle's psychology was not successfully questioned until the faculty psychology was challenged in the late 19th cent The central idea of Aristotle's ethics was that the goodness of a thing lies in the realization of its specific nature The highest good for man is the complete and habitual exercise of the functions that make him a human being This, and not HEDONISM, is what Aristotle means by happiness, which he calls man's chief purpose His ethics emphasize the celebrated Greek notion of the golden mean (nothing too much) In politics he believed that the chief function of the state was to enable its citizens to live happy and virtuous lives For the essential conclusions of Aristotle in the *Poetics*, see TRAGEDY In the late 19th cent a work was found which has proved to be the famous CONSTITUTION OF ATHENS, Aristotle's account of Athenian government His works were extensively used in ancient times, but the Academy of Plato dominated philosophy to such an extent that Aristotelianism was secondary In the 9th cent Arabian scholars introduced Aristotle to Islam, and Moslem theology, speculation, and natural science all took on an Aristotelian form This was true in Baghdad and in Spain, where the great Arabian philosophers flourished It was largely from the Arabs and from Jewish thinkers, also strongly influenced by Aristotle, that he became the philosopher par excellence of the Christian Middle Ages Scholasticism is essentially an Aristotelian system, and it became almost heretical to question Aristotle's observations or conclusions Some have viewed the Renaissance as a revolt against Aristotelianism, but Francis Bacon's experimental method might be called a return to Aristotle See A E Taylor, *Aristotle* (1912), W D Ross, *Aristotle* (1923)

Aristoxenus of Tarentum (ărĭstŏk'sənus, turĕn'tŭm), fl 4th cent B C, foremost musical theorist of ancient Greece He was the first to base musical studies on the aural perception of sound Only two of his treatises are extant, *Elements of Rhythm* and *Elements of Harmony* See H S Macran, *The Harmonics of Aristoxenus* (1902)

arithmetic, the most elementary and ancient branch of mathematics It includes both the art of reckoning or calculating which is called concrete, practical, or elementary arithmetic, and the study of the theory of numbers, which is called abstract, theoretical, or higher arithmetic Both studies deal with numbers or numerical quantities and their behavior under the four fundamental operations of arithmetic—ADDITION, SUBTRACTION, MULTIPLICATION, and DIVISION—and the operations of involution and evolution The difference between elementary and abstract arithmetic lies in the concept of number In elementary arithmetic the familiar numbers of practical life are used, and the training covers, in addition to the actual techniques of calculation, the application of arithmetic to problems

like those met in the business world, e g , problems in percentage, interest, and merchandising In higher arithmetic, which is essentially abstract algebra, the concept of number is greatly generalized to include not only complex numbers, but also quaternions, tensors, and abstract entities with no other meaning than that they obey certain laws This division of arithmetic into the practical and the theoretical dates back to classical Greek times when the term *logistica* meant elementary arithmetic and the term *arithmetic* was reserved for the theory In neither field were the Greeks particularly *proficient* Calculations in those days were performed arduously upon an ABACUS since the decimal system was not used by the Greeks The little true theoretical arithmetic which might be accredited to them, such as the work of Diophantus and Euclid, was buried under the mysticism of the Pythagorean school which attached esoteric meanings to numbers Finally, when Leonardo da Pisa introduced into Europe the decimal system of numbers that he found in use among the Arabians, who had adopted it in turn from the Hindus, elementary arithmetic as it is known today began to emerge Modern higher arithmetic began to develop c 1800 with the work of Karl F Gauss, William R Hamilton, and others in generalizing the concept of number Its development has been greatly influenced by the work of Georg Cantor, J W Dedekind, and Karl Weierstrass on the logical basis of the number system and by the modern work on the theory of infinite numbers See D E Smith, *History of Mathematics* (1923), E T Bell *The Development of Mathematics* (1940), Moses Richardson, *Fundamentals of Mathematics* (1941), Alfred Hooper, *An Arithmetic Refresher* (1944)

Arius, c 256–336, Libyan theologian and heresiarch A parish priest in Alexandria, he advanced the doctrine famous as ARIANISM and was excommunicated locally (321) He was declared orthodox in Asia Minor, where he had fled (324), but he was anathematized by the Council of Nicaea (see NICAEA, FIRST COUNCIL OF) and banished by Constantine (325) But in the reaction after Nicaea, he was received again into the Church (335) The emperor had ordered the Athanasians at Alexandria to receive him at communion but before the order took effect he suddenly died

Arizona, state (113,580 sq mi , 1940 pop 499,261, 1949 estimated pop 745,000), SW United States, one of the Rocky Mt states, admitted 1912 as the 48th state The capital and largest city is PHOENIX Arizona is bounded on the north by Utah, on the west, where the COLORADO river is the main part of the line, by S Nevada and California, on the south by Mexico, and on the east by New Mexico At the northeast corner is the only spot in the United States where four states (Arizona, Utah, Colorado, and New Mexico) meet N Arizona is part of the Colorado plateau with dry plains more than 4,000 ft high, interrupted by the canyons of the Little Colorado and the Colorado (with the wonders of the GRAND CANYON), by isolated mountains (notably the SAN FRANCISCO PEAKS), and by some forest stretches The plateau breaks on the south in an escarpment of mountains—with some sheer bluffs such as the Tonto Rim—that run NE-SW across central Arizona with rocky peaks and broad forests of ponderosa pine To the south, where the GILA flows west across the entire state, are hot desert plains, striated in the southeast by mountain chains running north and south, in the west the plains fall to the relatively low (alt c 140 ft), hot region about YUMA Arizona has minerals —copper that has given it the name the Copper State, gold, silver, lead, zinc, nickel, asbestos, wolfram, molybdenum, and others Arizona has sunshine and dry air that in the 20th cent has been an attraction for tourists and for those in ill-health Yet, although there are mountain spots with annual rainfall of more than 30 in , the state as a whole has been a thirsty land In prehistoric times early Indians—the pit dwellers and later builders of pueblos which flourished in the 13th and 14th cent —undertook irrigation and adapted themselves to scarcity of water, as shown by the surviving Hopi villagers with their dry farming and by the ruined pueblos and homes of the CLIFF DWELLERS, which today awaken the casual traveler to the sense of vanished time The nomadic APACHE INDIANS and the NAVAHO INDIANS and the somewhat more settled peoples farther west (Maricopa, Pima, Papago, Yuma, and Yavapai) had living techniques governed by the drought The first-coming Spanish, Fray MARCOS DE NIZA in 1539 and Francisco VÁSQUEZ DE CORONADO in 1540, found SE Arizona forbidding Though Coronado's men explored far—Pedro de Tovar to the Hopi villages and García López de Cárdenas to the Grand Canyon, while an allied expedition under Hernando de Alarcón was voyaging in the lower Colorado—the region was neglected by the Spanish in favor of the more fruitful area of present New Mexico Antonio de ESPEJO and Juan de OÑATE visited the country, and late in the 17th cent the valiant Father Eusebio KINO, converting the Indians of Pimería Alta (Sonora and S Arizona), founded the first missions, Guevavi and Tumacacori, near present NOGALES, and San Xavier del Bac (1700) near present Tucson Tucson itself was to emerge (1776) as the "Old Pueblo" in the time of Juan Bautista de ANZA and Father F T H. GARCÉS Some mining was done, but there were few settlers when Old Bill Williams and other MOUNTAIN MEN trapped beaver in the mountains and when P St G Cooke and his Mormon Battalion entered (1846) Tucson in the Mexican War The Treaty of GUADALUPE HIDALGO (1848) and the GADSDEN PURCHASE (1853) gave Arizona to the United States, but it remained a relatively obscure part of New MEXICO, traversed by some of the gold seekers going to California Prospectors found gold and silver as well as then-neglected copper, and in 1863 Arizona was set off as a territory, with the capital at Prescott (1864–67), Tucson (1867–77), Prescott again (1877–89), and then Phoenix But the region was precariously held by U S soldiers in the cruel, intermittent warfare with the Apache (1861–86) under several leaders, notably COCHISE and GERONIMO, and Arizona was almost altogether abandoned in the Civil War In the '70s copper mining began on a large scale, and the big copper companies gained the prominence they continued to hold Cattlemen took advantage of the grasslands to establish baronial ranches in the 1870s and '80s, and Arizona was a characteristic part of the Old West, complete with the gun play of the frontier and the Graham-Tewkesbury feud, called the Pleasant Valley War, which started with the traditional friction between sheep rancher and cattleman Irrigation was being practiced by small groups of Mormon immigrants and by other farmers, and Phoenix was by 1912 the center of the controlled and growing richness of the SALT RIVER VALLEY Arizona was, however, still true frontier when it became a state after a storm over its constitution, which contained provisions for initiative, referendum, and recall President Taft refused to sign the statehood bill until the provisions were omitted in 1912 Arizona became a state, then promptly restored the "radical" sections, which, as events turned out, had no significant effect in state history After the First World War, Arizona lost its frontier rawness The three institutions of higher education—the Univ of Arizona, Arizona State College at Tempe and Arizona State College at Flagstaff—grew and improved Attention to conservation and to water use grew more intense Though much of the state is given to national forests and Indian reservations, much of it is intensively used Not only the Salt River Valley but also the Yuma region and the section about COOLIDGE DAM produce lettuce, melons, and other truck as well as cotton and other staples Arizona emerged successful from a long contest to secure a fixed percentage of water and power rights from the dams in the Colorado Copper production reached a new high under the pressure of the Second World War Control of some of the grazing rights regularized the large business of raising sheep, cattle, and goats And the growth of a large tourist industry made the people supremely conscious of the values of the Indian ruins and present Indian customs, of natural curiosities, such as the Grand Canyon, the Painted Desert, the Petrified Forest, and various curious rock formations, of the bizarre flora and fauna of the desert, of the uses of Lake Mead (see HOOVER DAM), of the vestiges of the Old West, and of the beauties of desert and mountain See T E Farish, *History of Arizona* (8 vols , 1915), J H McClintock, *Arizona, Prehistoric, Aboriginal, Pioneer, Modern* (3 vols , 1916), *Arizona and Its Heritage* (1936, Univ of Arizona, General Bul 3), Federal Writers' Project, *Arizona a State Guide* (1940), Ross Santee, *Apache Land* (1947)

Arizona, University of, at Tucson, land-grant and state supported, coeducational, chartered 1885, opened 1891 It includes colleges of agriculture, business and public administration, education, engineering, fine arts, law, mines, and liberal arts and schools of home economics, music, and pharmacy The state museum, state and U S bureaus of mines (Southwest Experiment Station), a laboratory of tree-ring research, and the Southwestern Forest and Range Experiment Station are here Because of the proximity of pueblos and cliff-dwelling remains, Indian archaeology is an important field of research

ark, in the Bible **1** Famous boat of NOAH which he built at God's command to preserve his family and certain creatures from the Flood Gen 6–9, Luke 17 27, Heb 11 7, 1 Peter 3 20 **2** Usually called Ark of the Covenant, the sacred wooden chest of the Hebrews, representative of God or identified with Him It was overlaid with gold inside and out and always heavily veiled, for the high priest alone could look upon its uncovered surface Especially guarded, it was carried about by staves thrust through rings on its side, for to touch it was a profanation punished by death Uzza, when one of its escorts, inadvertently transgressed this law and so lost his life As its presence implied victory, it accompanied the warriors into battle, where once it was captured by the Philistines Restored after many years, it found a resting place in Solomon's Temple. From this time on it is lost from view. Ex. 25 10–21; Num 10 33–36; Deut 10 1–5, Joshua 3–6; 1 Sam 4–7; 2 Sam. 6, 15 24,29, 1 Kings 8 3,9; 1 Chron 13; 15–16 6; 2 Chron 5; Jer 3 16; Heb 9 4.

Arkadelphia (ärkŭdĕl'fēă), city (pop 5,078), co seat of Clark co , SW Ark , on the Ouachita river, first settled c 1807, inc 1838 Ouachita College (Baptist; coeducational; 1886) and a state teachers college are here

Arkansas (är'kŭnsô), state (52,725 sq mi , 1940 pop 1,949,387, 1949 estimated pop 1,964,000), central and SW United States, admitted in 1836 as the 25th state (a slaveholding state) The capital and largest city is LITTLE ROCK, other important cities are FORT SMITH, PINE BLUFF, HOT SPRINGS, and TEXARKANA Arkansas is separated on the east from Tennessee and Mississippi by the Mississippi river, it is bounded on the north by Missouri, on the west by Oklahoma and a part of Texas, and on the south by Louisiana The Arkansas river flows southeast across the state from the mountains of the north and west, going between the Ozark plateaus (see BOSTON MOUNTAINS and OZARK MOUNTAINS) and the OUACHITA MOUNTAINS and running down to the plains of the south and east to empty into the Mississippi The other rivers of the state also generally trend southeast or south to the Mississippi the SAINT FRANCIS (which is for a distance the Missouri line), the WHITE RIVER, the OUACHITA, and the RED RIVER (which is for a very short distance the Texas line) The climate of the whole state is affected by the long, hot summers, and agricultural products are Southern, cotton still leads, but livestock, rice, corn, soybeans, fruits and berries, and truck and dairy produce also give the state wealth Of the various minerals most important are petroleum, coal, bauxite (Arkansas has more than 90 percent of the nation's supply), and natural gas Lumbering is still important in the forests of the state, which is heavily wooded The first white men to see (1541 42) those forests were the members of the Spanish expedition under Hernando DE SOTO More than a century later the French came Marquette and Jolliet descended (1673) the Mississippi to the mouth of the Arkansas (1673) La Salle, going to the mouth of the Mississippi in 1682, met the friendly QUAPAW INDIANS, and the next year his lieutenant, Henri de TONTI, established ARKANSAS POST among them The region was part of the French territory of Louisiana, which was transferred (1762) to Spain and was again held by France before passing to the United States with the LOUISIANA PURCHASE In 1811 and 1812 earthquakes at New Madrid, Mo , drove residents of that area to flee to Arkansas, which was part of the Territory of Missouri from 1812 to 1819, when it was made a separate territory The cotton boom of 1818 brought the first large wave of settlers and the Southern plantation system, moving west, fixed itself in the alluvial plains of S and E Arkansas In the highlands farmers worked hard for a subsistence and got no more The slaveholding planters held most political power, and though the poorer farmers were generally indifferent to questions of slavery and states' rights as the Civil War began, Arkansas after some hesitation seceded (May 6, 1861) from the Union Confederate defeats at PEA RIDGE (March, 1862), PRAIRIE GROVE (Dec , 1862), and Arkansas Post (Jan , 1863) led to Union occupation of N Arkansas, and Grant's Vicksburg campaign broke all the trans-Mississippi South from the rest of the Confederacy In Sept , 1863, Federal troops entered Little Rock, where a Unionist convention set up (Jan , 1864) a government which repudiated secession and abolished slavery The state was not, however, readmitted to the Union until 1868 Reconstruction in Arkansas reached a turbulent climax in the struggle (1874) of two Republican claimants to the governorship, Elisha Baxter and Joseph Brooks When their followers resorted to violence, President Grant declared for Baxter, who called a constituent assembly dominated by Democrats The convention adopted the constitution still in force in 1949 The corrupt regime of carpetbaggers and scalawags was detested by most Arkansas whites, but it brought advances in education and (at exorbitant costs caused by corruption) the building of railroads The broken plantation system was replaced, because of high cotton prices and the failure to give the freed Negroes any economic status, by share cropping and farm tenancy with the attendant evils that have plagued E and S Arkansas The people of the Ozarks remained pretty much as they had been, with a "backward" economy and with customs, skills, and superstitions that have given the hill folk a name for poverty and "quaintness " The fortunes of the state were pegged to the price of cotton, and the depression of the early 1930s struck hard Dispossessed tenants, Negro and white, formed (1939) the Southern Tenant Farmers Union, which after trouble with the authorities moved its headquarters to Memphis, Tenn A strike called in 1936 spread to other regions before its strength waned. Other impoverished farmers migrated W to California as "Arkies" —like the "Okies" from neighboring Oklahoma

After the First World War, Negroes moved in a steady stream to the industrial North And the Second World War brought further loss of population as men left Arkansas for war factories elsewhere The war, however, also boomed new industries in the state, notably the processing of bauxite into aluminum The decline of industrial output after the war has been offset by the vigorous efforts of a state development commission Leading institutions of higher education are the Univ of Arkansas, at Fayetteville, Arkansas State College, near Jonesboro, Arkansas Agricultural and Mechanical College, at Monticello, Hendrix College and Arkansas State Teachers College, at Conway, Ouachita Baptist College and Henderson State Teachers College, at Arkadelphia, and the College of the Ozarks, at Clarksville See T S Staples, *Reconstruction in Arkansas, 1862–1874* (1923), D Y Thomas, *Arkansas in War and Reconstruction, 1861–1874* (1926), Federal Writers' Project, *Arkansas a Guide to the State* (1941), D C Alexander, *The Arkansas Plantation, 1920–1942* (1943), J G Fletcher, *Arkansas* (1947)

Arkansas (ärkăn'zŭs, ar'kunsô'), river rising in central Colorado in the Rockies and flowing generally southeast almost 1,500 mi across Colorado, Kansas, Oklahoma, and Arkansas into the Mississippi midway between Memphis, Tenn , and Vicksburg, Miss The river is crossed by a bridge at Royal Gorge in Colorado, receives the Cimarron and Canadian rivers in Oklahoma, and passes through the cities of Wichita (Kansas), Tulsa (Okla), and Little Rock (Ark) It is the chief waterway for the state of Arkansas, where it drains a broad valley The John Martin Dam in SE Colorado (153 ft high and 13,946 ft long), for flood control and irrigation, was completed in 1948 The Blue Mountain Dam, the Hulah Dam, the Fall River Dam, and the Wister Dam are government projects on tributaries of the Arkansas See W K Moorehead, *Archaeology of the Arkansas River Valley* (1931), C B Davis, *The Arkansas* (1940)

Arkansas, University of, mainly at Fayetteville, land-grant and state supported, coeducational, chartered 1871, opened 1872, called Arkansas Industrial Univ until 1899 There are colleges of agriculture, arts and sciences, business administration, education, and engineering and schools of medicine (at Little Rock) and law

Arkansas City. 1 (ar'kunsô", arkăn'zus) Port town (pop 1,446), co seat of Desha co , SE Ark , on the Mississippi river, founded c 1873 **2** (arkăn'zus) City (pop 12,752), S Kansas, SSE of Wichita at the confluence of the Arkansas and the Walnut, laid out 1870, inc 1872 Its great activity in refining and shipping oil (after the discovery of rich oil fields here in 1914) overshadows the city's importance as a trade and manufacturing center for an agricultural region

Arkansas Indians see Quapaw Indians

Arkansas Post, community (estimated pop 64), SE Ark , on the Arkansas river and c 120 mi SE of Little Rock The oldest white settlement in the state, it was founded by the French in 1686 as a trading post It was an important port for a while, and during the Civil War it was a Confederate stronghold until a successful attack was made by Union troops under General McClernand in 1863 Arkansas Post State Park is adjacent

Arkansas State College, near Jonesboro, coeducational, chartered 1909, opened 1910 as an agricultural school, a junior college 1918–30, called an agricultural and mechanical college 1925–33

Arkhangelsk, RSFSR see Archangel

Arkhangelsky, Aleksandr Andreyevich (ŭlyĭksandr' undrā'yĭvĭch ŭrhŭnggyĕl'skĭ), 1846–1924, Russian composer and choral director, the first to substitute women's voices for boys' voices in Russian church choirs He composed Masses and sacred choruses

Arkite, Canaanite tribe centered about Arka a town near the E Mediterranean Sea NE of Tripoli Gen 10 17, 1 Chron 1 15 Arka, called Area Caesarea and Caesarea Libani by the Romans, was the birthplace of Alexander Severus, it was vainly besieged by the Crusaders in 1099

Arkwright, Sir Richard, 1732 92, English inventor His construction of a machine for spinning, the "water frame," patented in 1769, was an early step in the Industrial Revolution His machines and his gift for organization enabled him and his partner, Jedediah Strutt, to establish huge cotton mills and thus helped to start the factory system He became very wealthy and was knighted in 1786 See Ephraim Lipson, *History of the Woolen and Worsted Industries* (1921), George Unwin, *Samuel Oldknow and the Arkwrights* (1924)

Arlberg (ärl'bĕrk), pass, 5,910 ft high, W Austria, beside Arlberg peak, on the boundary between Tyrol and Vorarlberg The Arlberg Tunnel here is 6½ mi long

Arles (ärl), city (pop 20,138), Bouches-du-Rhône dept , SE France, in Provence, on the Rhone delta It has silk manufactures and trade in wine, olive oil, and fruits It was a flourishing Roman town (Arelas) and the metropolis of Gaul in the late empire Constantine I convoked (314) a synod at Arles which condemned Donatism, Constantine II was born here Arles was an archiepiscopal see from the 4th cent, until 1790 and the scene of many councils It became (879) the seat of the kings of Cisjurane Burgundy or Provence and (933) of the kingdom of Arles (see separate article) The burghers soon obtained extensive rights and were governed by an elected *podestat*, who appointed the consuls and other magistrates Arles retained a special status until the French Revolution Much of the city was destroyed in the Second World War and the population declined c 10,000, but most historical monuments were little harmed They include a Roman arena (2d cent A D), seating 26,000 and now used for bullfights, a Roman theater (1st or 2d cent A D), the Aliscamps (i e , Elysian Fields), remains of a Roman necropolis, the Church of St Trophime (11th–15th cent , formerly a cathedral), the town hall (17th cent), and the Museon Arlaten, a museum of Provençal culture and folklore, installed in a 16th-century mansion by Frédéric Mistral, who was born near Arles The very soul of Provence, Arles has attracted many painters, notably Van Gogh and Gauguin A few miles from Arles, at Fontvieille, is the mill where Alphonse Daudet wrote his *Lettres de mon moulin*

Arles, kingdom of. This kingdom was formed in 933, when Rudolf II, king of Transjurane Burgundy, united the kingdom of Provence or Cisjurane Burgundy to his lands and established his capital at Arles Emperor Conrad II annexed it to the Holy Roman Empire in 1033, but few of his successors troubled to have themselves crowned kings of Arles The imperial vicars, who nominally governed the realm, exercised little control, especially in the south, and its component parts (Provence, Vivarais, Lyonnais, Dauphiné, Savoy, W Switzerland, and Franche-Comté) gradually broke away When, in 1378, Emperor Charles IV ceded the vicariate of the realm to the dauphin (later Charles VI of France), the kingdom of Arles for all practical purposes ceased to exist

Arlington, Henry Bennet, 1st **earl of,** 1618 85, English courtier He fought for the royalists in the civil war, traveled on the Continent, and went to Spain as envoy for Charles II After the Restoration Charles made him a secretary of state (1662), and he became a member of the unscrupulous Cabal ministry He knew of the king's secret agreement with Louis XIV in the Treaty of Dover (1670) and seems to have furthered Charles's policies in the Declaration of Indulgence (1672) and in the third Dutch War He was made earl of Arlington in 1672 Impeached (1674) for corruption, betrayal of trust, and pro-Catholic activities, he was acquitted, resigned, and was made lord chamberlain (1674) See biography by Violet Barbour (1915)

Arlington, 1 City (pop 1,337), SW Ga , WSW of Albany, in the coastal plain, inc as a village 1881, as a city 1923 **2** Town (pop 40,013), E Mass , northwestern suburb of Boston, settled c 1630 Some 17th-century buildings remain **3** Village (pop 1,122), S Minn , N of Mankato, in a farm area **4** City (pop 1,157), E S Dak , S of Watertown, in a farm and dairy region, founded 1880, originally called Nordland by Scandinavian settlers **5** City (1940 pop 4,240, 1947 estimated pop 11,000), N Texas, E of, and near, Fort Worth, inc 1896 Founded near by in 1873, it was moved to the railroad in 1876 It is a market and industrial center in a farming district and is the seat of North Texas Agricultural College (a branch of the Agricultural and Mechanical College of Texas) **6** Town (pop 1,418), SW Vt , SSW of Manchester and on Batten Kill, in an area of country estates and summer homes, settled 1762 An Arlington view (from the home of Gov Thomas Chittenden) is represented on the Vermont state seal Mary Brownson, first wife of Ethan Allen, is buried in the St James churchyard Dorothy Canfield Fisher, whose forebears were early settlers of Arlington, lives here **7** Unincorporated town, N Va , across the Potomac from Washington, D C Here are various government offices, Arlington National Cemetery, and Lee Mansion National Memorial **8** Town (pop 1,460), NW Wash , N of Everett, in a dairy, poultry, and truck area

Arlington Heights. 1 Residential village (pop 5,668), NE Ill , just NW of Chicago, settled in the 1830s, inc 1887 Arlington Park race track is here **2** Village (pop 1,222), SW Ohio, near Cincinnati

Arlington Memorial Bridge, granite and concrete bridge across the Potomac, connecting the Lincoln Monument in Washington, D C , with Arlington National Cemetery, N Va , built 1926–32

Arlington National Cemetery, 408 acres, N Va , across the Potomac from Washington, D C , est 1864, extended in 1889 and 1897 In it are the graves of c 60,000 American war dead, and there are many commemorative monuments, the tomb of the Unknown Soldier and the marble amphitheater are notable The cemetery is part of "Arlington," the former estate of the Custis and Lee families, and includes Arlington House, now preserved as the Lee Mansion National Memorial

Arliss, George, 1868–1946, English stage and moving-picture actor In 1887–1901 he acted Ibsen, Pinero, and Shakspere roles in London and the British colonies In 1911 he had his first great success in the title role of L N Parker's *Disraeli*, and he later added to his reputation in such plays as Archer's *Green Goddess* and Galsworthy's *Old English* He repeated many of his stage successes in moving pictures See his autobiographies, *Up the Years from Bloomsbury* (1927) and *My Ten Years in the Studios* (1940)

arm, the upper extremity in man It includes shoulder, upper arm, forearm, and hand There is one bone, the humerus, in the upper arm The forearm has two parallel bones, the outer radius and the inner ulna The joints at the elbow and wrist give the motion of a hinge A third joint below the elbow, between radius and ulna, allows a sort of rotation Muscles stimulated through nerves cause the motion The biceps and triceps have opposite actions on the elbow joint In the adult the arm is five sixths as long as the leg

Arma (ar'mu), coal-mining city (pop 1,615), SE Kansas, N of Pittsburg near the Mo line, inc 1909

Armada, Spanish (ärmä'dŭ), 1588, fleet launched by Philip II of Spain for the invasion of England, called also the Invincible Armada Commanded, after the death of the marqués de Santa Cruz, by the duque de Medina Sidonia, it consisted of about 130 ships, including transports and merchantmen, and carried c 30,000 men It was to go to Flanders and from there convoy the army of the duke of Parma to invade England and seize the throne for Philip Setting out from Lisbon in May, it was delayed at Coruña, in July at Plymouth it found the English fleet, which was commanded by Charles Howard, later earl of Nottingham, the English captains included Sir Francis Drake, Sir John Hawkins, and Sir Martin Frobisher The English, by getting to windward of the Spanish and firing at long range, forced them up the English Channel and somewhat damaged them in three engagements, at Calais they sent fire ships among the Spanish, who in a panic cut their cables and set sail In the battle on the next day the English had the advantage, but, the wind suddenly changing, most of the Spanish ships escaped northward In attempting to sail home by Scotland and the west coast of Ireland, they were dispersed by storms, their provisions gave out, many of the men were killed or captured by the Irish Only about half the fleet reached home

armadillo (armudil'ō), mammal of the order Edentata, found from Patagonia northward to parts of the S and SW United States The head and body are almost completely covered by an armor of bone and horny material and there are few hairs The tail is usually covered by bony rings Armadillos can burrow into the ground with great speed Some can roll into a ball for protection They are omnivorous feeders, although insects form the bulk of their diet The nine-banded armadillo is the only species which ranges into the United States It produces either four or eight young In South America the largest is the great armadillo (about 3 ft long) and the smallest is the pichiciago (about 5 in long) The flesh of the armadillo is palatable

Armageddon (-gĭd'ŭn), great battlefield where, in the last times, the powers of evil will fight the powers of good Rev 16 16 If the usual etymology is correct, the name alludes to the frequency of battles at Megiddo

Armagh (ärmä'), inland county (449 sq mi , 1937 pop 108,815, 1948 estimated pop 113,125), Ulster prov , Northern Ireland The county town is Armagh, a notable ecclesiastical center for centuries The county rises from the boggy, fertile lowlands in the north to the barren hills in the south Mainly a farming region, it also produces cattle, sheep, pigs, and poultry and is noted for its fine linen It was organized as a shire in 1586

Armagh, urban district (pop 7,064), county town of Co Armagh, Northern Ireland, SW of Belfast From the 5th cent it has been the religious center of Ireland, St Patrick having been bishop of Armagh It is the seat of both Roman Catholic and Protestant archbishoprics Beside the two cathedrals, there are an observatory, the Royal School (1627), and St Patrick Diocesan College The town was subjected to several Danish raids, it was destroyed by Shane O'Neill in 1566 and was burned in 1642 Near by is Navan Fort, a large elliptical mound, on the site of Emania, the legendary capital of Ulster The town has linen mills

Armagnac (ärmänyak'), region and former county, SW France, in Gascony It is famous for its brandy Armagnac is roughly coextensive with Gers dept , Auch is the chief town The counts originated in the 10th cent as vassals of the dukes of Gascony, their power reached its height with Count Bernard VII, whose party dominated France in the early 15th cent Margaret, sister of Francis I of France, married the last count, who died without issue, Armagnac passed to her second husband, Henri d'Albret, king of Navarre, whose grandson became king of France as Henry IV Henry added Armagnac to the royal domain in 1607

Armagnacs and Burgundians, opposing factions which dominated French politics in the early 15th cent The rivalry of Louis d'Orléans, brother of

King Charles VI, and JOHN THE FEARLESS, duke of Burgundy, led to Louis's murder in 1407 In the troubles that followed, the partisans of Charles d'ORLÉANS, son of Louis, were led by BERNARD VII, count of Armagnac, after whom they were named The partisans of the duke of Burgundy, nicknamed Burgundians, had the support of part of the nobility and of the lower classes, notably the CABOCHIENS They were particularly strong in Paris Open civil war broke out in 1411 John the Fearless was at first successful in maintaining his power, but in 1413 the excesses of the Cabochiens turned the Parisians against him and the Armagnacs came into power During these events both factions had made overtures to the English, but after the invasion (1415) of France by Henry V of England, the Armagnacs became the national party, and the Burgundians allied themselves with the British The dauphin (later King Charles VII) took over the leadership of the Armagnacs when Charles d'Orléans was captured at Agincourt The conflict became part of the Hundred Years War In 1418 the Parisians, tired of Armagnac rule, opened their city to the duke of Burgundy, in the ensuing massacre Bernard VII and several thousand followers were killed. During one of the negotiations which he now began with the dauphin, John was assassinated (1419) His successor, PHILIP THE GOOD of Burgundy, continued his alliance with England until the Treaty of ARRAS (1435) Although the terms Armagnacs and Burgundians ceased to be used in their original meanings, the struggle between the French crown and Burgundy continued until the death of Charles the Bold in 1477 The name Armagnacs was applied in 1444 to a large army of ÉCORCHEURS whom Charles VII dispatched, under the command of the dauphin (later Louis XI) in an ultimately unsuccessful campaign against the Swiss confederates

armature, in art see SCULPTURE

armature. 1 In electricity, an important part of the electric GENERATOR and electric MOTOR Essentially it is a coil of wire which rotates in the magnetic field between opposite magnetic poles In its simplest form, the coil is wound around a central core of soft iron and the whole rotated The coil, when kept in motion by mechanical means as in the dynamo (a generator), in its movement cuts the magnetic lines of force between the opposite poles of a magnet and causes a current of electricity to be generated in the coil A commutator is applied to change the current so generated from alternating to direct (see ELECTRICITY) In simple electric motors, a current passed through the armature causes it to rotate between the poles of a stationary electromagnet A shaft attached rigidly to the armature and rotating with it makes possible the conversion of electrical to mechanical energy Armatures differ in the way in which the coil is wound about the core, in the shape of the core, and in the number of turns in the coil Although in general the armature is the rotating part, in some cases it is held stationary and the field rotated about it **2** In MAGNETISM, the armature is a piece of iron or steel commonly placed across or between the poles of a horseshoe magnet, or the opposite poles of two separate magnets, to prevent a decrease in the magnetic property during the time the magnets are not in use This type of armature is called the keeper

Armavir (ärmuvēr', Rus ûrmuvēr'), city (pop 83,677), Krasnodar Territory, SE European RSFSR, on the Kuban river It is the center of a rich agricultural region (grain and livestock) and a railroad junction Armavir was founded in 1848

Armenia (ärmē'nēu), region and former kingdom of Asia Minor Its boundaries varied widely in the course of history, but as a region it is generally understood to include present E TURKEY and the ARMENIAN SOVIET SOCIALIST REPUBLIC It thus forms a continuation of the Anatolian Plateau Mt Ararat, the highest point, is in Turkey, as are the sources of the Euphrates, Tigris, and Aras rivers and Lake VAN Trebizond, on the Black Sea, Erzerum, and Kars are the chief cities of Turkish Armenia, which, unlike Soviet Armenia, has no official standing The history of the Armenians is extremely ancient According to tradition, the kingdom was founded in the region of Lake Van by Haig or Haik, a descendant of Noah, and was ruled for centuries by Haig's successors It was frequently invaded, but never fully subdued, by the Assyrians, in whose inscriptions it is mentioned as Urartu (ARARAT) A battleground of Assyrians, Medes, and Persians, it was by the 6th cent B C a Persian satrapy Conquered (4th cent B C) by Alexander the Great, it became after his death part of the kingdom of SELEUCUS I and his descendants After the Roman victory over ANTIOCHUS III at Magnesia, the Armenians declared (189 B C) their independence under a native dynasty The imperialistic ambition of King TIGRANES led to war with Rome, defeated Armenia became tributary to the republic, and after the campaigns of LUCULLUS and POMPEY it was made a Roman protectorate The Romans distinguished between Greater Armenia and Lesser Armenia, respectively E and W of the Euphrates TIRIDATES, a Parthian prince, was confirmed as king of Armenia by Nero in A D 66 Christianity was introduced early, Armenia is the oldest Christian state In the 3d cent. A D, ARDASHIR I, founder of the SASSANIDAE, came to power in Persia and overran Armenia. Persecution of Christianity made innumerable martyrs and kindled nationalism among the Armenians, particularly after the partition (384) of the kingdom between Persia and Rome Attempts at independence were short-lived, as Armenia was the constant prey of Persians, Byzantines, White Huns, Khasars, and Arabs From 885 to 1046 the kingdom enjoyed autonomy under native rulers, the Bagratids, it then was reconquered by the Byzantines, who promptly lost it to the Seljuk Turks Pushed westward, a number of Armenians, led by Prince Reuben, established the kingdom of Little Armenia in CILICIA, which entertained close relations with its neighbor, the Latin Kingdom of Jerusalem In 1375 the Mamelukes conquered and destroyed the kingdom of Little Armenia Shortly afterward (1386–94) Tamerlane seized Greater Armenia and massacred a large part of the population The Ottoman Turks followed and by the 16th cent held all Armenia Under Ottoman rule the Armenians, though often persecuted and always discriminated against because of their religion, nevertheless acquired a vital economic role Constantinople and all other large cities of the Ottoman Empire had colonies of Armenian merchants and financiers Eastern Armenia was chronically disputed between Turkey and Persia It was from Persia that Russia, in 1828, acquired the present Armenian SSR There remains a considerable Armenian minority in NW Iran The Congress of Berlin (1878, see BERLIN, CONGRESS OF) also assigned the Kars, Ardahan, and Batum districts to Russia, which restored Kars and Ardahan to Turkey in 1921 The Armenian people underwent one of the worst trials in its history between 1894 and 1915 A systematic plan for its extermination was put into action under Abdu-l-Hamid II and was sporadically resumed, notably in 1915, when the Armenians were accused of aiding the Russian invaders The Armenians rose in revolt at Van, which they held until relieved by Russian troops The Treaty of Brest-Litovsk (1918) made Russian Armenia an independent republic under German auspices It was superseded by the Treaty of SÈVRES (1920), which created an independent Greater Armenia, comprising both the Turkish and the Russian parts In the same year, however, the Communists gained control of Russian Armenia and proclaimed it a Soviet republic, and in 1921 the Russo-Turkish Treaty established the present boundaries, thus ending Armenian independence Before 1914 there were c 2,500,000 Armenians in Russia, Turkey, and Iran Of these a large percentage were massacred or fled abroad See also ARMENIAN CHURCH and ARMENIAN LITERATURE See Jacques de Morgan, *Histoire du peuple arménien* (1919), Kevork Aslan, *Armenia and the Armenians* (1920)

Armenia (ärmā'nyä), city (pop 29,673), W central Colombia A coffee center, Armenia is also a rail and highway transshipping point for products passing between BUENAVENTURA and Bogotá, the capital, by way of Quindío Pass and IBAGUÉ

Armenian Church, independent Christian church, also called the Gregorian Church Its head, a primate of honor only, is catholicus or patriarch of Echmiadzin, some other bishops also are called patriarchs—those of Sis (Cilicia), Jerusalem, and Constantinople In general, Armenian practices are like those of other churches of Byzantine type, but in a few respects they resemble Western ways, e g , in the use of unleavened bread in the liturgy The liturgical language is Classical Armenian Armenia became Christian at the end of the 3d cent through the missionary work of St GREGORY THE ILLUMINATOR In the next century the young church made itself autonomous, apparently because of the efforts of the metropolitan bishop of Caesarea, St Basil the Great, to impose certain reforms After the Council of Chalcedon the Armenians rejected the orthodox position, this adoption, at least tacit, of MONOPHYSITISM completed the isolation of the Armenian Church from the rest of Christendom In 1198 the Armenians of Cilicia reunited with the Holy See The head of this Armenian rite under the pope is patriarch of Cilicia The rite shares most practices of the national church The Mechitarists, monks of Venice and elsewhere who cultivate Armenian letters and print Armenian books, are of this rite They are in friendly relation with members of the Armenian Church See Donald Attwater, *The Christian Churches of the East* (1947–48).

Armenian language, subfamily of Indo-European languages See LANGUAGE (table).

Armenian literature. The first work is a translation of the Bible, and its language became the standard of Classical Armenian The Armenian Church fostered literature from its inception, and the principal works are religious or hagiographical, most of them translations This is the so-called golden age of Armenian literature (5th cent) At first there was influence from Mesopotamia, hence the translations from the old Syriac of Aphrsates and St Ephraem Syrus. But Armenia turned west for inspiration, and there were translations of many of the fathers, e.g., Athanasius, Basil the Great, Gregory of Nyssa, Gregory Nazianzen, and John Chrysostom. Among secular works are renderings of Aristotle and of the romance of Alexander The original writings of this period are confined to saints' lives and histories The history of Moses of Khorni contains practically all that is known of pre-Christian Armenia. In the 12th cent many Armenians went to Cilicia to escape the Seljuk Turks, and a new literary period began Its principal figure is Catholicos Narses IV, prelate and poet, whose literary style is unexcelled in Armenian The literary language was still the Classical Armenian, but contemporary forms began to be used for writing in many fields—trade, agriculture, medicine, law, and political administration From the Middle Ages, Constantinople was the chief city of Armenians There, in the 18th cent , Mechitar (1676–1749), a monk of the Catholic Armenians (those in communion with the Holy See), founded a community to cultivate Armenian letters These monks (Mechitarists) center at Venice and do the main publishing in Armenian The 19th cent saw a considerable revival of Armenian letters, and this interest takes the form of a flourishing journalism

Armenian Soviet Socialist Republic, constituent republic (11,500 sq mi , pop c 1,300,000), USSR The capital is Erivan The Armenian SSR lies between Turkey on the west and the Azerbaijan SSR on the east, between Iran on the south and Georgia on the north It thus occupies a part of ancient ARMENIA Situated in the Lesser Caucasus, Soviet Armenia is a region of high, bare mountains, many over 10,000 ft, Mt Aragats (13,432 ft) being the highest Above 6,000 ft there are excellent pastures The ARAS is the chief river, artificial irrigation has made agriculture possible in the relatively low valley (c 3,000 ft) despite a minimal rainfall Lake SEVAN, the largest lake, furnishes considerable hydroelectric power The chief cities are Erivan, Echmiadsin (seat of the head of the Armenian Church), and Leninakan The main products of Armenia are wine, cotton, wool, volcanic building stones, and copper The region was taken by Russia from Persia in 1828 and was made a constituent republic in 1936 After the Turkish massacres of the Armenians, efforts have been made, with some success, to absorb Armenian refugees from all over the world in Soviet Armenia

Armentières (ärmuntēr', Fr ärmätyĕr'), town (pop 18,691), Nord dept , N France, in Flanders, on the Lys It is a rail center and has a large textile industry The scene of heavy fighting in the First World War, Armentières is known through the song *Mademoiselle from Armentières*

Armfield, Maxwell Ashby, 1882–, English etcher and illustrator His style is characterized by realism and precision His *Manual of Tempera Painting* was published in 1930

Arminianism see ARMINIUS, JACOBUS

Arminius (ärmĭ'nēus), d A D 21?, leader of the Germans, called Hermann in modern German He was a chief of the Cherusci in the area of modern Hanover, when the Romans were pushing E from the Rhine toward the Elbe Arminius, who had been a Roman citizen and soldier, secretly gathered a great force of allies and set upon P Quintilius Varus by surprise in the Teutoburger Wald in A D 9 In the ensuing battle Varus' army was utterly destroyed So great was the shock in Rome that the story goes that Emperor Augustus afterward would start up from sleep crying, "Varus, Varus, bring me back my legions!" The Romans never again made any real effort to absorb the territory E of the Rhine, though GERMANICUS CAESAR, called to aid the father of Arminius' wife, Thusnelda, against Arminius, badly defeated and wounded the German leader in A D 16 Arminius was later killed by treachery In the romantic period German nationalists made much of Arminius, who became a major national hero F G. Klopstock wrote a trilogy of plays about Arminius, and J E von Bandel erected a large monument to him near Detmold Tacitus glorified Arminius as the noble barbarian, and Tacitus is the source of modern knowledge of him

Arminius, Jacobus (jukō'bus), 1560–1609, Dutch Reformed theologian, whose original name was Jacob Harmensen He studied at Leiden, Marburg, Geneva, and Basel and in 1588 became a pastor at Amsterdam He undertook to defend the Calvinist doctrine of predestination against the attacks of Dirck Volkertszoon Coornhert, but his study resulted in his adopting instead views in sympathy with the critics He was professor of theology at the Univ of Leiden after 1603, and he engaged in violent theological debates, seeking to win the Dutch Reformed Church to his views **Arminianism** in his teaching was not yet well formulated, but in his works he advocated a moderate doctrine of election, belief that man could resist grace, and a much broader view of redemption than that of the Calvinists. His ideas were formulated after his death into a definite system by his disciple, Simon Episcopius, who drew up the "Remonstrance" (see REMONSTRANTS). Arminianism later was the doc-

trine of the Wesleys and the Methodist Episcopal Church.

Armistead, George (är'mĭstĕd), 1780–1818, American artillery officer distinguished in the War of 1812, b. Virginia He took part in the capture of Fort George on the Niagara frontier but is better remembered as the defender of Fort McHenry (see McHENRY, FORT) against British attack (Sept., 1814)—a defense that inspired the STAR-SPANGLED BANNER

Armistead, Lewis Addison, 1817–63, Confederate general, b New Bern, N C He was commissioned (1839) in the U S army from Virginia but resigned when that state seceded In the GETTYSBURG CAMPAIGN, Armistead, commanding a brigade under G E PICKETT in the famous charge, accomplished the farthest penetration of the Union lines, but he was mortally wounded A monument where he fell marks the "high tide" of the Confederacy

Armitage, Edward, 1817–96, English historical painter, studied under Paul Delaroche in Paris His early *Prometheus Bound* is in the Louvre After a year in Rome he exhibited (1845) at the Royal Academy He traveled in Russia and painted battle scenes of the Crimean War, but he is better known for his pictures of religious subjects, such as *The Remorse of Judas* (Tate Gall., London) and *Herod's Birthday Feast* (Guildhall, London) Armitage also painted numerous murals in fresco

Armoni (ärmō'nī) [Heb., =one of the palace], one of Saul's sons killed to end the Gibeonite famine 2 Sam 21 1–14

armor, apparatus for defense of persons, horses, and such objects as vehicles, naval vessels, and aircraft Characteristic forms of body armor are the shield, helmet, cuirass, and complete suit of mail Wood or hides, used as materials for armor in ancient times, were later replaced by metal Coverings worn to protect the body against weapons were known to the Assyrians and Etruscans, the Greek hoplite was protected by helmet, cuirass, shin guards (greaves), and shield The armor of the Roman legionary passed through many stages, but was characteristically a cuirass and a shield That of the medieval knights became more elaborate from the 11th cent to the 16th Chain mail gave place to a complete protective covering of steel plates The evolution of warfare, with increased emphasis on mobility, was diminishing the importance of armor, even before firearms speeded its disappearance Helmets and cuirasses were worn in action as late as the 17th cent, later they were used for ceremonial purposes in certain cavalry regiments In the wars of the 20th cent, steel helmets were reintroduced, and there were some experiments with shields, breastplates, and other protective clothing Armor was also used for vehicles The TANK, introduced in the First World War, was extensively used in the Second in mass formations, as were other armored vehicles Armor plate forms an important part of the defense of ships and aircraft

Armorica: see BRITTANY

Armour, Philip Danforth (är'mur), 1832–1901, American meat packer, b Stockbridge, Madison co, N Y At first a farmer and wholesale grocer (1856–63), Armour netted at least $2,000,000 selling meat during the Civil War He increased his wealth by moving his stockyards to Chicago, by personally supervising slaughter of animals, by selling the waste products, and by adapting principles of refrigeration to meat, but his prestige was dimmed by the "embalmed beef" scandals of 1898–99 See biography by Harper Leech and John C Carroll (1938)

Armour, city (pop 1,013), co seat of Douglas co, SE S Dak, NW of Yankton, founded 1886 It is a shipping center for grain, livestock, and poultry

Armour Institute see ILLINOIS INSTITUTE OF TECHNOLOGY

Arms, John Taylor, 1887–, American etcher and draughtsman, b Washington, D C He studied architecture at the Massachusetts Institute of Technology and was a practicing architect until the First World War, during which he served in the navy After the war he devoted himself to etching and became noted for his excellent studies of picturesque medieval architecture, among them illustrations for his wife's *Churches of France* and *Hill Towns and Cities of Northern Italy* His faultless technique and draughtsmanship won him numerous awards, and his work is in many principal galleries and collections He served as president of the Society of American Etchers Arms wrote the excellent *Handbook of Print Making and Print Makers* (1934). See monograph by Cynthia Eaton (1923)

arms, coat of: see BLAZONRY and HERALDRY

Armsby, Henry Prentiss, 1853–1921, American agricultural chemist, b Northbridge, Mass, Ph D Yale, 1879 He carried on important work on animal nutrition and the application to it of the law of the conservation of energy He was author of *The Nutrition of Farm Animals* (1917), *The Conservation of Food Energy* (1918), and *The Animal as a Converter of Matter and Energy* (ed by C R Moulton, 1925), posthumously published

Armstead, Henry Hugh, 1828–1905, English sculptor and silversmith His principal works are in bronze and marble *St Paul, David,* and *Moses* (all Westminster Abbey) and *Bishop Wilberforce* (Winchester Cathedral) are noteworthy examples Armstead was employed on the Albert Memorial

Armstrong, David Maitland, 1836–1918, American mural and genre painter and worker in stained glass, b Newburgh, N Y Windows by him are in Trinity, St Michael's, Holy Communion, and Ascension churches, New York, in St Paul's Chapel, Columbia Univ, and in All Souls' Church, Baltimore, N C See his *Day before Yesterday* (1920).

Armstrong, Edwin Howard, 1890–, American engineer and radio inventor, b New York city, grad Columbia (E E, 1913) He was associated in research with Michael I Pupin at Columbia and became professor there in 1934 Numerous awards have been given Armstrong for his contributions to the development of radio, e g, for the invention of the regenerative circuit (1912), the SUPERHETERODYNE circuit (1918), upon which the design of nearly all modern receivers is based, the superregenerative circuit (1920), and the development of "wide-swing" FREQUENCY MODULATION In 1947 he received the Medal for Merit for his contributions to military communications during the Second World War

Armstrong, John, 1717–95, American pioneer, the "hero of Kittanning," b Co Fermanagh, Ireland He laid out the town of Carlisle, Pa In 1756 he led the expedition that destroyed Kittanning, a Delaware Indian town on the Allegheny Later he was a major general in the American Revolution and a member of the Second Continental Congress

Armstrong, John, 1758–1843, American army officer, U S Secretary of War (1813–14), b Carlisle, Pa, son of John Armstrong, the "hero of Kittanning" From the beginning of the Saratoga campaign until after the end of the American Revolution he was on the staff of Horatio GATES In 1783 at the camp on the Hudson, Armstrong wrote the "Newburgh Addresses" or "Newburgh Letters," anonymously issued appeals urging the restive Continental officers to force from Congress recognition of their grievances General Washington denounced the appeals After marriage (1789) to Alida, sister of Robert R Livingston, Armstrong moved to Red Hook, N Y, and became a political supporter of George and De Witt Clinton He was U S Senator (1800–02, 1803–04) and was ambassador to France (1804–10) in the troubled times of Napoleon's CONTINENTAL SYSTEM As Secretary of War under President Madison, in the War of 1812 he was held responsible for the disasters of 1813–14, notably the failure of the expedition to Canada and the British capture of Washington city He resigned in public disfavor Armstrong wrote *Notices of the War of 1812* (1836–40), biographies of Richard Montgomery and Anthony Wayne, and books on agriculture and gardening

Armstrong, Samuel Chapman, 1839–93, American educator, philanthropist, and soldier, b Hawaiian Islands, of missionary parents, grad Williams, 1862 He served in the Civil War, rising to the rank of major general Appointed an agent of the Freedmen's Bureau in Virginia, he quickly realized the need for vocational training for Negroes and persuaded the American Missionary Association to found, in 1868, the Hampton Normal and Agricultural Institute, now the Hampton Institute Because of Armstrong's interest, Indians were later admitted to the institution, which he headed until his death See biography by E A Talbot (1904), F G Peabody, *Education for Life* (1918), a history of Hampton Institute

Armstrong, William George, 1810–1900, English inventor After creating numerous inventions, including a hydraulic crane and a hydroelectric engine, he built (c 1855) a breech-loading gun, made of successive rings of metal shrunk upon a rifle-bored steel barrel The gun, which revolutionized modern artillery, made him famous He also built warships and wrote on scientific subjects He was knighted in 1859 and created Baron Armstrong of Cragside in 1887 His engineering works expanded greatly and after his death were joined with another firm to form Vickers, Armstrong, Ltd, the immense munitions company long headed by Sir Basil Zaharoff

army, armed land force, under regular military organization—distinguished from the horde, the armed mass of all able-bodied men in a tribe The earliest known army was that of Egypt, like the later Oriental armies of Assyria and Persia, it was a professional body The Greeks made military service obligatory on citizens, their infantry was the first to fight in close order The Greek formation, the PHALANX, was adopted by Philip of Macedon and Alexander the Great Although heavy and light infantry and cavalry were all joined in the largest unit of the Roman army, the LEGION, the early triumphs of Rome rested on the maneuverability of small units, at first composed of citizen soldiers With the growth of Roman power, a professional standing army came into being, the legions of the empire came increasingly to be filled up with barbarians, whose lack of attachment to the state contributed greatly to the decline of Roman power The original Germanic method of organizing an army was by massing all men of fighting strength into a horde, this mass levy was the ancestor of the Anglo-Saxon fyrd and the modern militia. The army of the Middle Ages was based on FEUDALISM The great lords by the nature of their holdings were necessarily soldiers, with their private armies of vassal knights and yeomanry who followed as light-armed infantry and archers Alongside the feudal levies grew up bodies of mercenaries When the evolution of infantry tactics and the introduction of firearms ended the predominance of the knights in warfare, as artillery ended the significance of the castle, the mercenary became the dominant figure The CONDOTTIERE hired mercenaries and fought under the prince who was able and willing to pay most The German *Landsknechte* and the Swiss served all over Europe The professional soldier was also a notable feature of the armies of the Ottoman Turks, who threatened to destroy all the forces of Western Europe in the 15th cent The Turkish forces were at that time, however, still infused with the power of earlier Islamic conquerors—a unity that affected all later army organization After the Thirty Years War (1618–48), France emerged as the preeminent military power Under Louis XIV and Louvois, France organized a national standing army, which was the pattern for all Europe up to the French Revolution It took the form of a professional body, set apart from contact with civilian life and under an iron discipline that reached its harsh perfection under Frederick II of Prussia The introduction of conscription in the French Revolutionary Wars set in motion the development of mass armies, built around a professional nucleus It was by conscription that Napoleon's armies were largely recruited In the 19th cent the Prussian army, based on conscription and the maintenance of trained reserves, was the best-organized, best-drilled, and most widely imitated instrument of warfare Even so, Great Britain and the United States maintained their peacetime armies by voluntary enlistment The United States traditionally relied for emergencies on its citizen militia (the National Guard), though conscription was used in the Civil War Great Britain in 1907 organized a militia body, the territorials These countries too turned to conscription in the First World War and, at last, in peacetime—Great Britain in 1939, the United States in 1940 Warfare had evolved to the point where large masses of men were essential It evolved further, in the First World War and especially in the Second World War, to include women in auxiliary or regular services From very early times necessarily there had to be troops whose major duty was in supplying food, quarters, and the like for the troops actually engaged in fighting—even when the armies simply lived off the land There was, however, no formal distinction made between service troops and combat troops, as there was between infantry and cavalry (though this latter distinction was vitiated somewhat by the introduction of artillery) With the creation of the great citizen armies after the time of the American Revolution and the French Revolution, formal specialization proliferated more and more, with quartermasters, ordnance troops, engineers, medical specialists, and the like organized into separate units In many armies a newly developed body, the air force, has tended to become an entirely separate arm, like the navy The term *army* is still applied to all the armed land forces of a nation, as in "the French army" or "the U S army," but it also has other uses In combat the term came to be used for a self-contained force fighting in a particular region, e g, the Army of the North in the French Revolution and the Army of the Potomac in the U S Civil War In the modern armed forces of the United States, the division is the unit that has specialized services such that it is a self-contained unit, the unit next higher in the hierarchy of command is the corps, the unit above the corps is the army, which may be of varying size and structure In operations in the Second World War, army groups were created, including several armies (sometimes from different allied national armed forces) Above the army groups is the command of a theater of operations See STRATEGY AND TACTICS, MILITARY

army worm, striped green, brown, and yellow larva of a noctuid moth found in the United States and Canada E of the Rocky Mts and in other parts of the world It is especially destructive to young corn, timothy, millet, and some legumes When numerous, army worms move in hordes like an army from one field to another, ravaging crops The adult is a dull brown moth with a white spot on each forewing One method of control is by spreading a poison bran mixture on the fields, another is by digging ditches with deeper holes at intervals as traps. The fall army worm or grassworm of the same family attacks grasses and many other crops in the S United States

Arnall, Ellis Gibbs, 1907–, governor of Georgia (1943–47), b Newnan, Ga, grad. Univ of the South (Sewanee), 1928, and Univ of Georgia Law School, 1931 He had served as a member of the state house of representatives (1933–37), assistant

attorney general (1937–39), and attorney general before in the Democratic primary of 1942 he defeated Eugene TALMADGE The constitution of 1945 was notable among the many achievements of Arnall's liberal administration as governor In Dec , 1948, he became president of the Society of Independent Motion Picture Producers He wrote *The Shore Dimly Seen* (1946) and *What the People Want* (1948)

Arnan (är'năn) [Heb , = active], descendant of David. 1 Chron 3 21

Arnaud, Arsène see CLARETIE, JULES

Arnaud, Henri (ärnō', ärnō'), 1641–1721, pastor and leader of the WALDENSES When VICTOR Amadeus II of Savoy, in league with the French, set out to expel the Waldenses, Arnaud led (1686) a band of them into Switzerland In 1689 he led some of them back to their Piedmont valleys, where they withstood a combined French-Savoyard attack In 1690 Victor Amadeus turned against the French, and Arnaud gained the favor of the duke and acted as his agent while the Waldenses fought on the side of the Savoyards and were repatriated A new political turn sent Arnaud into exile again, and after 1699 he lived in Württemberg He wrote an account of the return of the Waldenses, *Histoire de la glorieuse rentrée des vaudois dans leurs vallées* (1710, Eng tr , 1827)

Arnauld (ärnō', ärnō'), French family involved in JANSENISM The name is also spelled Arnaut or Arnault The leader was a nun, **Marie Angélique de Sainte Madeleine** (märē' ăzhälēk' du sēt' mädulăn'), 1591–1661, abbess from early youth of PORT-ROYAL, a Cistercian house near Paris Under the influence of St Francis of Sales she reformed her abbey She was interested in Jansenism by DUVERGIER DE HAURANNE, and her introduction of the ideas into Port-Royal was a decisive step in their progress Her younger brother, **Antoine Arnauld** (ătwăn'), 1612–94, was a leading Jansenist controversialist He was a priest and a member of the Sorbonne His best-known work was an attack on the Jesuits, *De la fréquente communion* (1643) He also wrote against Calvinism and the freethinkers In 1656 he was expelled from the Sorbonne and the faculty of theology He lived for some years at Port-Royal-des-Champs, where he collaborated on the Port-Royal textbooks He withdrew to Belgium in 1679 The chief controversy of his later years was with Malebranche on the theology of grace His elder brother, **Robert Arnauld d'Andilly** (rōbĕr', dädēlē'), 1588 1674, was a translator of religious writings and an original religious poet He lived long in retirement at Port-Royal-des-Champs

Arndt, Ernst Moritz (ĕrnst' mō'rĭts arnt'), 1769–1860, German poet and historian An ardent nationalist and opponent of Napoleon I, he was forced to flee to Sweden and Russia because of his book, *Geist der Zeit* [spirit of the times] (Vol I, 1807, Vols II-III, 1813–18) He taught history at the Univ of Bonn (1818–20, 1840–60) and in 1848 was elected to the Frankfurt Parliament His verse, of the patriotic and martial variety, helped to influence German feelings against Napoleon See A G Pundt, *Arndt and the National Awakening in Germany* (1935)

Arne, Thomas Augustine, 1710–78, English composer of the song *Rule, Britannia* (see THOMSON, JAMES, 1700–1748) He composed music for Milton's masque *Comus* and set many of Shakspere's songs to music Other works are the oratorio *Judith* (1761), operas, and instrumental music See studies by W H Cummings (1912) and Hubert Langley (1938)

Arneth, Alfred, Ritter von (äl'frăt rĭ'tur fün är'nĕt), 1819–97, Austrian historian, an authority on 18th-century Austria His *Geschichte Maria Theresias* (10 vols , 1863–79) and his *Prinz Eugen* (1858) are his chief works

Arnhem (är'num), municipality (pop 96,051) and city, capital of Gelderland prov , E Netherlands A port on the Lower Rhine, it is an industrial center (textiles, leather goods, chemicals, engines, and electrical engineering) Dating from the 10th cent, it was long the residence of the dukes of Gelderland In Sept , 1944, British troops landed here in the huge Allied air-borne operation designed to outflank the German Siegfried Line, they were soon isolated and in a heroic stand lost two thirds of their strength, the remainder were evacuated (see also EINDHOVEN and NIJMEGEN)

Arnhem Land, aboriginal reservation, area 31,200 sq mi , Northern Territory, Australia, on a wide peninsula W of the Gulf of Carpentaria An archaeological expedition was made here in 1948 by American and Australian scientists

Arnim, Bettina von (bĕtē'nä fün är'nim), 1785–1859, German writer of the romantic school, whose maiden name was Elisabeth Brentano She was a friend of Beethoven and, supposedly, of Goethe, about whom she wrote the quite unreliable *Goethes Briefwechsel mit einem Kinde* (1835, Eng tr , *Goethe's Correspondence with a Child*, 1837) Her other works include a tale of the hardships of Silesian weavers, *Dies Buch gehört dem König* (1843) Her husband, **Ludwig Joachim von Arnim** or **Ludwig Achim von Arnim** (lōōd'vĭkh yōăkh'ĭm, akh'ĭm), 1781–1831, was the author of poems, plays, and novels His chief work was an unfinished novel of the Reformation, *Die Kronenwächter* [the guardians of the crown] (1817) Perhaps his best-known work is *Isabella von Ägypten* (1812, Eng tr , *Isabella of Egypt*, 1927), a *Novelle* With his brother-in-law, Clemens BRENTANO, he published a collection of folk songs, *Des Knaben Wunderhorn* [the boy's magic horn] (1806–8)

Arnim, Mary Annette (Beauchamp), Countess von. see RUSSELL, MARY ANNETTE RUSSELL, COUNTESS.

Arno (är'nō), river, 150 mi long, Tuscany, central Italy It rises in the Tuscan Apennines and flows past Florence and Pisa into the Tyrrhenian Sea Its upper valley, the Casentino, is famous for its lovely countryside

Arnold, Benedict, 1741–1801, American Revolutionary general and traitor, b Norwich, Conn As a boy he joined the colonial militia in the French and Indian War but soon deserted Early in the Revolution, his expedition against Ticonderoga was joined with that of Ethan ALLEN and the joint command took the fort Arnold pushed on to the northern end of Lake Champlain, where he destroyed a number of ships and a British fort In the QUEBEC CAMPAIGN, he invaded Canada (1775) by way of the Maine forests The march proved incredibly hard, and the force was impotent when it reached Quebec Richard MONTGOMERY arrived from Montreal, and the two small armies launched the unsuccessful assault on Dec 31, 1775 Arnold was wounded but continued the siege until spring, when Sir Guy Carleton forced him back to Lake Champlain Here he built a small fleet, which, although defeated, halted the British advance In Feb , 1777, Congress, despite Washington's protests and Arnold's service, promoted five brigadier generals of junior rank to major generalships over Arnold's head, an action which embittered the proud and ambitious man and may in part have motivated his future treason He soon won his promotion, however, by his spectacular defense (1777) against William Tryon in Connecticut In the SARATOGA CAMPAIGN, his relief of Fort Stanwix and his brilliant campaigning under Horatio Gates played a decisive part in the American victory He became (1778) commander of Philadelphia, after the British evacuation, and there married Peggy Shippen, daughter of a leading Tory Arnold was court-martialed because of disputes with civil authorities He was cleared of all major charges but soon afterwards began his treasonable correspondence with Sir Henry Clinton in New York Arnold became commander of West Point (1780), intending to betray it for a British commission and a sum of money The plot was discovered with the capture of John ANDRÉ, but Arnold escaped In 1781 in the British service he led two savage raids—one against Virginia and the other against New London, Conn —before going into exile in England and Canada See Carl Van Doren, *Secret History of the American Revolution* (1943), biographies by Oscar Sherwin (1931) and Malcolm Decker (1932)

Arnold, Bion Joseph, 1861–1942, American electrical engineer, b Casnovia, Mich An authority on electric traction, he was consultant in the building of the street railway systems of Chicago, Pittsburgh, Los Angeles, Cincinnati, and other cities and for the New York subways He devised the plan for the terminal electrification of the New York Central RR The magnetic clutch was invented by Arnold, and he was a pioneer in the use of alternating-current, direct-current, and single-phase electric traction systems

Arnold, Sir Edwin, 1832–1904, English poet and journalist, b Gravesend, educated at University College, Oxford For some years principal of the government college in Poona, India, he was a member of the staff of the *Daily Telegraph* after 1861 and chief editor after 1873 He won celebrity with *The Light of Asia* (1879), a blank-verse epic dealing with the life of Buddha The poem was attacked for its alleged distortion of Buddhist doctrine and for its tolerant attitude toward a non-Christian religion. *The Light of the World* (1891), on the life of Jesus, was not so successful Besides other volumes of poetry, Arnold wrote a number of picturesque travel books, among them *Seas and Lands* (1891) and *Japonica* (1892) He is also known for his translations

Arnold, Henry Harley, 1886–1950, American general, chief of the Army Air Forces (1941-46), b Gladwyne, Pa , grad West Point, 1907 Assigned (1911) to the aviation division of the Signal Corps, Arnold later served almost entirely with the air arm He was chief of the Air Corps from 1938 to 1940, when he became deputy chief of staff for the air Arnold was chief of the U S Army Air Forces throughout the war and was made (1944) general of the army and later (June, 1949) general of the air force—both "five-star" ranks He wrote a number of books, several of them with I C Eaker

Arnold, Matthew, 1822–88, English poet and critic, b Laleham, near Staines, educated at Rugby, grad Balliol College, Oxford, 1844, fellow of Oriel College, Oxford, 1845 He was the son of Dr Thomas Arnold After a brief period as secretary to the 3rd marquess of Lansdowne, Matthew Arnold reluctantly accepted (1851) an inspectorship of elementary schools which he held until 1886. In the line of duty he went on several missions to European schools, about which he wrote *The Popular Education of France, with Notices of That of Holland and Switzerland* (1861) and *Schools and Universities on the Continent* (1868), in addition to his official reports He strenuously advocated a system of secondary education completely state regulated Aside from prize school poems, Arnold's poetic career began with *The Strayed Reveller and Other Poems* (1849) and *Empedocles on Etna and Other Poems* (1852), both of which he signed "A " and later withdrew, dissatisfied with them. His *Poems* (1853) under his own name included some items from the suppressed books *Poems Second Series* (1855) followed, in 1857 he was elected professor of poetry at Oxford His later work included *Merope a Tragedy* (1858) and *New Poems* (1867), in 1867 he resigned his chair and practically stopped writing poetry His books of literary criticism began to appear while he was teaching at Oxford, the most important being *On Translating Homer* (1861), *On Translating Homer Last Words* (1862), *Essays in Criticism* (1865), and the second series of *Essays in Criticism* (1888) In *Culture and Anarchy* (1869) and *Friendship's Garland* (1871) he widened his field to include social criticism His interest in religion was responsible for *St Paul and Protestantism* (1870), *Literature and Dogma* (1873), *God and the Bible* (1875), and *Last Essays on Church and Religion* (1877), his lecture tours in America resulted in *Discourses in America* (1885) and *Civilization in the United States* (1888) Arnold believed poetry should be objective, and yet his best poems live because he exemplifies 19th-century romantic pessimism, because he was "wandering between two worlds," the dead one of lost dogmatic belief and the new ethical and moral order "powerless to be born " It is the poignant despair of "Dover Beach" and "Isolation To Marguerite" and the poems on the Grande Chartreuse and on Senancour which is appealing Some of his best poems are elegiac—"Thyrsis" (on his friend Arthur Hugh CLOUGH), "The Scholar Gypsy," and "Rugby Chapel" (on his father) He also wrote a vivid narrative poem in 'Sohrab and Rustum," based on an episode taken from FIRDAUSI, *Rustram and Isrult*, a modern treatment, and an effective dramatic monologue, "The Forsaken Merman " Arnold saw the need in England for "disinterested" criticism, neither personal nor historical His standards were classical, and although he was influenced by the French, it was from the Greek point of view as he understood it that he attacked the taste and manners of the "Barbarians" (aristocracy), the "Philistines" (middle class), and the "Populace" alike He became the apostle of "culture"—"the study of the best that has been thought and said in the world"—as the preventive of anarchy See his *Letters* (ed by G W E Russell, 2 vols , 1895), *Unpublished Letters* (ed by Arnold Whitridge, 1923), and *Letters to Arthur Hugh Clough* (ed by H F Lowry, 1932) and his notebooks (ed by Mrs Armine Wodehouse, 1902), commentary on his manuscript poetry notes by C B Tinker and H F Lowry (1940), studies by Lionel Trilling (1939), E K Chambers (1947), and E K Brown (1948)

Arnold, Thomas, 1795–1842, English educator, b Isle of Wight, educated at Winchester and Corpus Christi College, Oxford He was a fellow of Oriel College from 1815 to 1819, was ordained deacon in 1818, and was headmaster of Rugby School from 1827 to 1842 A man of great personal integrity and magnetic influence, Arnold through his reforms at Rugby revivified the entire English public school system Mathematics, modern languages, and modern history were added to the traditional classical curriculum The monitorial system was introduced, and independent thought was encouraged Through the medium of his weekly sermons to his students in Rugby Chapel, Arnold inculcated the Christian principles and ideals which formed the core of his own religious convictions An effective preacher, Arnold was an excellent classical scholar and historian as well An edition of Thucydides (1835), *History of Rome* (3 vols , 1838–43, to the Punic Wars), and *History of the Roman Commonwealth* (pub posthumously, 1845) are among the products of a lifetime of study Arnold's expression of liberal political and theological views made him unpopular, however, and general recognition was not accorded him until 1841, when he was appointed regius professor of modern history at Oxford His sudden death a year later cut short his influential and important career Matthew Arnold was his son and Mrs Humphry Ward his granddaughter See A P Stanley, *The Life and Correspondence of Thomas Arnold, D D* (1844), Arnold Whitridge, *Dr Arnold of Rugby* (1928), Lytton Strachey, *Eminent Victorians* (1918), Thomas Hughes, *Tom Brown's Schooldays* (1857), a novel of life at Rugby in which Arnold is portrayed as headmaster

Arnold, Thurman Wesley, 1891–, U S Assistant Attorney General in charge of the antitrust division (1938-43), b Laramie, Wyo., grad Princeton (B A , 1911), Yale (M A , 1911), and Harvard Law School (LL B , 1914). Dean of the Univ of West Virginia

law school (1927–30), professor of law at Yale (1930–36), author and prominent lawyer, Arnold served as special counsel to the AAA (1933) and as trial examiner for the SEC (1935) As Assistant Attorney General, he instituted suits attacking control of patents and housing and transportation trusts He was (1943–45) associate justice of the U S Court of Appeals for the District of Columbia but resigned (July, 1945) to go into private practice. He is best known for his book *The Folklore of Capitalism* (1937)

Arnold, borough (pop 10,898), SW Pa , on the Allegheny and NE of Pittsburgh, inc 1895. It manufactures glass

Arnold of Brescia (brŏ'shu), c 1090–1155, Italian reformer He was a priest of irreproachable life who was first prominent in a struggle at Brescia between the bishop and the city government A pupil of ABELARD, Arnold was sharply critical of the Church, declaring that secular powers only ought to hold property, for the Church was being tainted by her temporal power Unlike St BERNARD OF CLAIRVAUX (who also castigated abuse of ecclesiastical wealth), Arnold held that the very possession of property by the Church was bad At the Synod of Sens (1140), dominated by St Bernard, Arnold and Abelard were adjudged to be in error Pope INNOCENT II ordered Arnold exiled and his books burned Arnold returned to France, then went to Zurich In 1145 Pope Eugene III ordered him to go to Rome There the people had asserted the rights of the commune and had set up a republic Arnold was attracted to their cause and became their leader, eloquently pleading for liberty and democratic rights He was excommunicated by the pope in 1148 but continued to head the republican city-state even after Eugene III was permitted to reenter Rome When Adrian IV became pope, however, he took stern measures By placing Rome under an interdict in Holy Week, 1155, he forced the exile of Arnold When Emperor Frederick I came to Rome, his forces at the pope's request seized Arnold, who was then tried by the Roman Curia as a political rebel (not a heretic) and executed by secular authorities To the end he was idolized by the Roman populace See biography by G W Greenaway (1931)

Arnoldson, Klas Pontus (klas' pŏntŭs ar'nōldsōn), 1844–1916, Swedish journalist and peace advocate His untiring efforts for peace were rewarded by the 1908 Nobel Peace Prize, which he shared with Fredrik Bajer A book he wrote on world peace (1900) was widely read As a member of the second chamber of the Riksdag (1882–87) he introduced a motion for permanent neutrality In the union crisis in 1905, he opposed a war with Norway He founded several societies devoted to peace

Arnold von Winkelried see WINKELRIED

Arnolfo di Cambio (ärnōl'fō dē käm'byō), c 1232–c 1310, Italian architect and sculptor He was a pupil of the sculptor Nicola Pisano, as witnessed by the admirable tomb of Cardinal de Braye in the Church of San Domenico at Orvieto (c 1282), but forsook sculpture to become the foremost architect of the Italian Gothic era He designed many buildings in Florence, including the Baptistery (1290), the Church of Santa Croce (1294), and the Palazzo Vecchio (1298) From 1296 till his death he was occupied with the design and erection of the basic portion of Santa Maria del Fiore, Florence

Arnon (ar'nŏn), river of Jordan, entering the eastern side of the Dead Sea, called today Wadi Mojib. It is frequently mentioned in the Bible, as the border between Moab (on the south) and the Amorites and later as the border between Moab and Israel The city Aroer was on the Arnon Num 21 13,14, 24,26,28, Deut 2 24,36, 3 8,12,16, 4 8, Joshua 12 1,2, 13 9,16, Judges 11 13,18,26, 2 Kings 10 33, Isa 16 2, Jer 48 20

Arnprior (arnprī'ur), town (pop 3,895), SE Ont , at the confluence of the Madawaska and Ottawa rivers W of Ottawa Its chief industries are lumber, pulp and paper, and woolen goods

Arnsberg (ärns'bĕrk), town (pop 16,675), Westphalia, W Germany, on the Ruhr river It was the seat of the Westphalian VEHMGERICHT

Arnstadt (ärn'shtät), city (pop 27,846), Thuringia, S central Germany, on the Gera river It has manufacturers of gloves, shoes, and machinery Fluor spar and manganese are mined near by The Liebfrauenkirche is a fine 13th-century church J S. Bach was organist at the Church of St Boniface (1703–5, 1706–7)

Arnulf (ar'nŭlf), c 850–899, emperor (896–99), king of the East Franks (887–99), natural son of Carloman of Bavaria In 887 he led the rebellion of the East Franks against his uncle, Emperor CHARLES III (Charles the Fat), and was proclaimed their king He defeated the Normans in 891 but campaigned less successfully against the Moravians, with whom he finally negotiated a peace (894). In 894, at the request of Pope Formosus, he invaded Italy, then in a state of anarchy, but went no further than Piacenza, he returned in 895, captured Rome, and was crowned emperor (896), but he was stricken with paralysis and went home. Arnulf, whose personal appearance, energy, and bravery have often caused him to be likened to his great-great-grandfather, Charlemagne, was the last Carolingian to be crowned emperor.

Arod (ā'rŏd), son of Gad Num. 26.17. He is the **Arodi** (ār'udī) of Gen 46 16

Aroe Islands, Indonesia see ARU ISLANDS

Aroer (ār'ōŭr). **1** Roman road on the north side of the Arnon river and c 11 mi E of the Dead Sea It changed hands frequently A Roman road crossed the river at this point Deut 2 36, 3 12, 4 48, Joshua 12 12, 13 9, Judges 11 26, 2 Kings 10 33, Jer 48 19 **2** City of Gad, near Amman Joshua 13 25, Judges 11 33 **3** City of Judah, perhaps near Beersheba 1 Sam 30 28 In Chron 11 44 an Aroerite is mentioned, it is not known which Aroer is meant in this passage or in Isa 17 2

Aroostook (urōōs'tōōk, -tĭk, urōōs'-), river, c 140 mi long, rising in N Maine and winding generally E to the St John in New Brunswick prov It gives its name to a county famous for potatoes See Helen Hamlin, *Pine, Potatoes, and People* (1948)

Aroostook War. In 1838 Maine and New Brunswick both claimed territory left undetermined on the U S - Canadian border, including the valley of the Aroostook river Maine farmers were eying the farmlands there, and when New Brunswick sent Canadian lumbermen to do logging, Maine authorities got up a force to eject them New Brunswick asked for British regular troops and full-scale fighting seemed to be promised, but Gen Winfield Scott, sent with a U S force, managed to reach an agreement (March, 1839) which prevented trouble, and the boundary was settled by the WEBSTER-ASHBURTON TREATY

Arosa (arō'za), health resort and winter sports center (resident pop 1,980), Grisons canton, Switzerland

Arp, city (pop 1,139), E Texas, SE of Tyler, in an oil region, inc 1931

Arpad (ôr'pād), c 840–907?, chief of the MAGYARS. He led his people into Hungary in 895 The leaders of the Magyars and the Hungarian kings from St. STEPHEN I to Andrew III were of the house of Arpad (see HUNGARY)

Arpad (ar'pād), unidentified city, probably in W central Syria Hamath is always named with it. 2 Kings 18 34, 19 13, Isa 10 9, Jer 49 23. It is the **Arphad** (ar'fād) of Isa 36 19, 37 13

Arphaxad (arfāk'săd) **1** Median king at Ecbatana, defeated by Nebuchadnezzar He has not been surely identified with anyone in other records Judith 1 **2** Son of Shem It has been supposed that he was the eponym of the Chaldeans. Gen. 10 22,24, 11 10, Luke 3 36

arrack, ardent spirits distilled chiefly in the Far East from fermented juices or grains The introduction of European spirits has led to a decline in the native industry In the 19th cent , Ceylon was especially noted for palm toddy arrack Primitive methods of distilling yield raw spirits injurious because of a high content of fusel oil and acids. Other names are rack or raki

Arran, earls of. see HAMILTON, JAMES, and STUART, JAMES

Arran, island (165 sq mi ; pop 4,506), Buteshire, W Scotland, in the Firth of Clyde Oval shaped, it is largely granitic and is wild and rocky Its scenery and its hunting and fishing have made it a resort Brodick is the chief town See R Angus Downie, *All about Arran* (1933).

Arran Islands, Ireland see ARAN ISLANDS.

Arras (ă'rus, Fr ärăs'), city (pop 30,065), capital of Pas-de-Calais dept , N France, and historic capital of ARTOIS Of Gallo-Roman origin, it became an episcopal see c 500 By the 14th cent it had become a center of wealth and culture, renowned particularly for TAPESTRY With Artois, Arras passed successively to Burgundy, France, and Spain and was definitively reconquered by France in 1640 The city was almost destroyed in the First World War, but resisted all German assaults In the Second World War many buildings restored after 1919 were again damaged These include the Renaissance town hall and the 18th-century cathedral The restored 18th-century Abbey of St Vaast (now housing the museum) was left intact Despite the considerable destruction, Arras retains much of the general aspect of a 17th-century Spanish-Flemish town Its huge citadel dates from the 17th cent The house where Robespierre was born still stands.

Arras, Treaty of. 1 Treaty of 1435, between CHARLES VII of France and PHILIP THE GOOD of Burgundy Through it, France secured the alliance of Burgundy against England in exchange for important territories (notably Picardy), and exempted Philip from homage to the crown **2** Treaty of 1482, between LOUIS XI of France and the local governments of the Netherlands, following the death of MARY OF BURGUNDY In 1483 Mary's widower, Archduke MAXIMILIAN (later Emperor MAXIMILIAN I), reluctantly accepted the treaty Maximilian's infant daughter, MARGARET OF AUSTRIA, was to marry the dauphin (later Charles VIII), bringing Artois and Franche-Comté as dowry Maximilian's infant son (later PHILIP I of Castile) was to do homage for Flanders to France. When Charles VIII married ANNE OF BRITTANY, Maximilian forced him to restore Margaret's dowry by the Treaty of Senlis (1493).

Arreboe, Anders (ăn'ŭrs ă'rŭbō, -bō"ŭ), 1587–1637, Danish poet, bishop of Trondheim In his narrative poem, the *Hexaemeron* (written c 1630, pub 1661), he introduced the alexandrine meter which became the accepted vehicle for dignified poetry throughout the north

arrest, in law, seizure and detention of a person. Arrest may be either civil or criminal Civil arrest is most often used when one has been guilty of CONTEMPT OF COURT, but in some states it is also allowed where the defendant in a civil suit may attempt to flee the court's jurisdiction or otherwise frustrate justice Those who are suspected or convicted of crime are subject to criminal arrest Arrest is ordinarily accomplished by a warrant issued by a court or officer of justice In civil arrest a WARRANT must always be issued and the apprehension may not be effected on Sundays or legal holidays There are no time restrictions on effecting criminal arrest Any person may make such an arrest without a warrant if a crime is committed in his presence An officer of the law, besides, does not need a warrant to arrest one whom he reasonably suspects of having recently committed a felony In all other criminal cases there must be a warrant before the arrest Force may be used in effecting arrest, even to the extent of killing a person who resists arrest for a felony If an arrest is contrary to law, the apprehended person may procure his release by HABEAS CORPUS and may bring a civil suit for FALSE IMPRISONMENT In most cases the person detained may be released in BAIL Diplomatic personnel and members of Congress and of state legislatures during legislative sessions are the chief classes exempt from arrest

Arrhenius, Svante August (sfän'tu-ōu'gŭst ār'ā'nēŭs), 1859–1927, Swedish chemist He was associated with the Univ of Stockholm from 1891 (as rector, 1897–1902) and became director of the Nobel Institute for Physical Chemistry, Stockholm, in 1905 For originating (1884, 1887) the theory of electrolytic dissociation or ionization, he received the 1903 Nobel Prize in Chemistry He also investigated osmosis and toxins and antitoxins His works, translated into many languages, include *Immunochemistry* (1907), *Quantitative Laws in Biological Chemistry* (1915), *Destinies of the Stars* (1918), and *Chemistry in Modern Life* (Eng tr , 1925)

Arrian (Flavius Arrianus) (ă'rēun), fl 1st half of 2d cent , Greek historian, philosopher, and general He was governor of Cappadocia under Emperor Hadrian and in 134 repulsed a dangerous invasion of the Alans His chief work is the *Anabasis of Alexander*, the prime source on Alexander the Great Modeled on Xenophon, the *Anabasis* relies chiefly on the writings of two of Alexander's generals (Ptolemy I and Aristobulus) for source material Other extant works include the *Indica* (an account of a voyage of Alexander's general, Nearchus, to India) and parts of his edition of, and commentaries on, the *Discourses of Epictetus*

Arrol, Sir William, 1839–1913, British engineer, a pioneer in steel construction Among the bridges built under his supervision are the Forth and Tay bridges in Scotland, the Tower Bridge over the Thames (London), and the Nile bridge in Cairo The Manchester Ship Canal was his achievement

arrowhead, any plant of the genus *Sagittaria*, widely distributed marsh or aquatic perennial herbs The plants are white flowered, the best known have leaves shaped like arrowheads An important potatolike food of North American Indians was prepared by roasting or boiling the tubers, particularly of *Sagittaria latifolia*, one species has long been cultivated in the Orient for its starchy root Arrowheads are often grown in aquariums, ponds, and bog gardens

Arrow Lakes, two expansions of the Columbia river, S British Columbia Both lie at the bottom of narrow valleys bounded by high mountain ranges and are noted for their beauty Upper Arrow Lake is 36 mi long and c 2 mi wide, Lower Arrow Lake is 51 mi long and somewhat narrower Arrowhead is at the head of the upper lake and SE of Revelstoke Steamers ply the lakes

arrowroot, edible starch extracted from the rootstocks of various plants The true or West Indian arrowroot is obtained from a maranta (*Maranta arundinacea*), native to tropical America and now naturalized in Florida The mature rootstocks, peeled and ground to a pulp, yield about 26 percent of starch in a white meal that is easily digestible and is therefore valued as a food for children and invalids, usually in the form of pudding A perennial herb growing to 6 ft high, the maranta is sometimes sold by florists for the ornamental leaves, Indians are said to have used it to counteract the effect of poisoned arrows Some of the plant starches called arrowroot, and sometimes used as a substitute, are East Indian arrowroot (from *Curcuma angustifolia*), Florida arrowroot (from the coontie, *Zamia floridana*), and Brazilian arrowroot or TAPIOCA (from the bitter CASSAVA)

Arrowsmith, Aaron, 1750–1823, English cartographer and geographer He founded the map-making and publishing business carried on by his sons and by his nephew **John Arrowsmith,** 1790–1873 John Arrowsmith's *London Atlas* was famous, and

he was one of the founders of the Royal Geographic Society The Arrowsmith maps were among the best at the time of their publication

arrowwood, name for several woody plants formerly used for making arrows, particularly for various species of VIBURNUM The common arrowwood is *Viburnum dentatum*, which has flat-topped clusters of small, white flowers followed by dark blue berry-like fruits.

Arroyo (ärô'yō), town (pop 4,290), SE Puerto Rico It is a port of entry

Arroyo Grande (uroi'ō grān'dē), city (pop 1,090), S Calif, NW of Santa Barbara, in a vegetable-raising area, founded 1877, inc 1911

Aru Islands, Indonesia see ARU ISLANDS

Arsaces (är'sāsēz), fl 250 B C, founder of the Parthian dynasty of the **Arsacidae** (–sā'sīdē"), which ruled Persia from c 250 B C to A D 226 Arsaces led a successful revolt against Antiochus II, king of Syria, when Antiochus was engaged in war with Egypt and trying to cope with another revolt in Bactria Among the kings were Tiridates, Mithridates I, Mithridates II, and Phrasates IV Their empire became a formidable rival of the Roman power, but had begun to decay in the 2d cent A.D, when Avidius Cassius and Emperor ALEXANDER SEVERUS invaded the country The Arsacidae were overthrown by a revolt of the Persians, under ARDASHIR I, who in 226 slew Artabanus IV (Ardawan IV), the 29th and last of the Arsacidae.

arsenic (är'sənĭk) [Gr., =yellow orpiment, from a word meaning male, because of its strength] chemical element (symbol=As, for physical constants, see ELEMENT, table) It appears in three allotropic forms (see ALLOTROPY) a silver-gray, crystalline, metallike, brittle solid, tarnishing rapidly in air, a black, amorphous form, and a yellow, crystalline solid It passes directly from solid to gas at about 615°C It burns in the air, forming white clouds of an oxide In the periodic table it is grouped with nitrogen, phosphorus, antimony, and bismuth It combines readily with many elements with hydrogen, forming arsine, an extremely poisonous gas, with oxygen, forming a trioxide, commonly called "white arsenic" or simply "arsenic," and a pentoxide, with the halogens, forming halides, and with sulphur, forming REALGAR, ARSENOPYRITE, and orpiment, which is called "yellow arsenic" These last compounds, the sulphides, are the chief commercial source of the element. The element and its compounds are used widely—in glass works, in making pigments, animal poisons, and insecticides (PARIS GREEN), in calico and indigo printing, in tanning and taxidermy, as preservatives, in making poison gas for warfare, and in pyrotechny Small quantities of arsenic added to lead in the manufacture of lead shot assure perfectly spherical pellets, since the arsenic delays the solidification of the molten lead thereby making it flow more readily, the arsenic also contributes hardness Several of its compounds are used in medicine (arsenious oxide, arsenic iodide, arsenates), in the treatment of pernicious anemia and various skin diseases, to counteract the aftereffects of malaria, and in such common afflictions as hay fever On the other hand, arsenic is a strong poison (for symptoms and antidote, see POISONING, table). One delicate test for the presence of even microscopic quantities of arsenic in compounds is MARSH'S TEST When prepared commercially from sulphide ores, the ores, e g, arsenical pyrites, are heated (with air excluded) or roasted the arsenic sublimes and is condensed In another method white arsenic (arsenious oxide) is reduced with carbon Although certain arsenic compounds, such as realgar and orpiment, were known to the Greeks of Aristotle's time, the element itself was not The "arsenic," so called by them and by the later alchemists, was not true arsenic, but probably the oxide of arsenic, arsenious oxide The metallike element was first described by Albertus Magnus in the 13th cent

arsenopyrite (är"sĭnōpĭ'rīt, arsēn'ō–) or **mispickel**, silver-white to steel-gray mineral with the metallic luster characteristic of a PYRITE It is a sulpharsenide of iron (composed of iron, arsenic, and sulphur), crystallising in the orthorhombic system and occurring also in massive form. It is widely distributed and is an important source of arsenic Often it is found associated with other minerals and ores of lead and tin Saxony, Sweden, Switzerland, England (Cornwall), and various parts of the United States have important deposits

arson, the malicious and willful burning of a house or other building or structure or of a vehicle At common law, it was an offense against the security of habitation rather than against property rights. Although this rule still holds in some state jurisdictions of the United States, in others statutes have changed the meaning of the offense not only by extending its application to all sorts of things but also by stressing to a greater extent the protection of property rights. Some statutes distinguish several degrees of arson, e.g., arson committed at night is considered more serious than arson committed in the daytime. In most states setting fire to one's own habitation or other property to defraud a fire-insurance company is arson.

Arsonval, Arsène d' (ärsēn' därsōvăl'), 1851–1940, French physicist and physician. He worked under Claude Bernard and under Brown-Séquard (whom he succeeded in 1897 at the Collège de France) and was professor at the Sorbonne from 1901 to 1932. The D'Arsonval galvanometer is named for him A pioneer in electrotheraphy, he studied the medical application of high-frequency currents and originated the term *diathermy*.

Arta, Greece see AMBRACIA

Artagnan, Charles de Batz-Castelmore d' (shärl' dŭ bats'-kästĕlmôr' därtänyä'), c 1623–1673, French soldier of Gascon origin His career was spent in the king's musketeers under Louis XIV, he fell at the siege of Maastricht Memoirs attributed to Artagnan were used by Dumas père in the series beginning with *The Three Musketeers* Artagnan called himself *comte* without right

Artaphernes (är"tufûr'nēz), fl. 490 B C, Persian soldier, satrap of Lydia He was related to the king of Persia He was one of the generals commanding Darius' great expedition against Greece, which ended at MARATHON. He led detachments in the invasion of Xerxes (480 B C).

Artaxerxes I (är'tuzûrk'sēz), d 425 B C, king of ancient Persia (465–425 B C), of the dynasty of the Achaemenidae Artaxerxes is the Greek form of the name, Ardashir the Persian, he is sometimes called Artaxerxes the Long-handed He succeeded his father, XERXES I, in whose murder he had no part It is conventional to say that the weakness of the Persian Empire began to appear in his reign, and there were many risings in the provinces The revolt of Egypt, aided by the Athenians, was, however, put down (c 455) after years of fighting, and Bactria was pacified The Athenians sent a fleet under CIMON to aid a rebellion of Cyprus against Persian rule The fleet won a victory, but the treaty negotiated by CALLIAS was generally favorable to Persia In the reign of Artaxerxes, Ezra and Nehemiah began the revival of Judaism, on which the king seems to have looked with favor He also befriended the exiled Themistocles He was succeeded by XERXES II

Artaxerxes II, d 358 B C, king of ancient Persia (404–358 B C), son and successor of DARIUS II He is sometimes called in Greek Artaxerxes Mnemon [the thoughtful]; his Persian name is Ardashir His reign began badly with the attempt of CYRUS THE YOUNGER to seize the throne This was ended at the battle of Cunaxa (401 B C), where Cyrus was killed The story of the Greek contingent in the battle was made famous by Xenophon Artaxerxes relied heavily upon his officials, and the satraps PHARNABAZUS and TISSAPHERNES had real ruling power They managed by liberal broadcast of Persian gold to gain great influence in Greece, and the peace (386 B C) that is known by the name of ANTALCIDAS marked the imposition of Persian control of the Greek city-states The provinces of the empire were visited with unrest EVAGORAS made himself independent as a ruler of Cyprus but finally (c 385) submitted to the king Pharnabazus and Iphicrates, sent to reduce Egypt, disagreed and accomplished nothing A formidable and long-lasting revolt of the satraps (among them Mausolus) against the king was put down just before Artaxerxes' death In his reign the cult of MITHRA was revived, and Mithraism entered on its period of popularity

Artaxerxes III, d. 338 B C., king of ancient Persia (358–338 B C), son of Artaxerxes II He was originally named Ochus and is sometimes called Artaxerxes Ochus, his Persian name is Ardashir He gained the throne by a general massacre of the family and throughout his reign continued a policy of terror and blood An early expedition against Egypt failed, but he set out again (c.342) and, having destroyed Sidon on his way, reduced Egypt by bloody conquest He also put down the unruly satraps and centralized and strengthened the empire One of his ministers, the eunuch Bagoas, finally poisoned the king, put Artaxerxes' son Arses on the throne in 338, then deposed him in 336 in favor of DARIUS III

Artem (ärtyôm') city (1947 pop. c 50,000), SW Maritime Territory, RSFSR, in Siberia, NNE of Vladivostok It is a coal-mining center.

Artemas (är'tĭmus) [Gr.,=gift of Artemis], companion of Paul Titus 3 12

Artemidorus of Ephesus (ärtĕm"ĭdôr'us, ĕf'ĕsŭs), fl 103 B C, Greek geographer quoted by Strabo. He wrote 11 books on his Mediterranean travels.

Artemis (är'tumĭs), in Greek legend, Olympian goddess, a virgin huntress, daughter of Zeus and LETO and twin sister of APOLLO She was born in Delos and is sometimes called Delia. She also is called Phoebe Primarily she was the goddess of the wild, a forest dweller and the guardian as well as the huntress of wild animals She turned Actaeon, who had seen her naked, into a stag, and his own hounds destroyed him She loosed a wild boar in the lands of Oeneus and so caused the Calydonian hunt. Agamemnon killed a stag sacred to her and had to undertake to sacrifice his daughter. There is thus a strain of the avenger about a number of her legends such as the story of Niobe and the killing of Orion. All her attendants were virgins, and if any lost her chastity she was severely punished. The cypress was sacred to her, and the stag and the hind, the hound, the bear, and the boar were peculiarly hers Besides being a huntress, however, she was a protector of women, and in certain places, notably EPHESUS, she was the opposite of the virgin goddess, the GREAT MOTHER, and in some cults she was equated with Astarte As complementary to Apollo, she was also the goddess of the moon (with the Pleiades as attendants) and of the night, and her cults were frequently confused with those of Selene and HECATE. She was identified with the Roman Diana. In Greek popular religion worship of Artemis was very widespread and was blended with that of various earth and nature goddesses. In some places she seems to have been placated in forgotten times with human sacrifice.

Artemisia (är"tūmĭ'shĭŭ), 4th cent B C, ruler of Caria, sister, wife, and successor of Mausolus. In his memory she erected the Mausoleum She was a strong ruler and conquered Rhodes. She also patronized the arts An earlier Artemisia also ruled Caria under Xerxes I of Persia

artemisia. see WORMWOOD

Artemisium (är"tūmĭ'shĭŭm), cape, N Euboea, Greece, named for a great temple of Artemis. Off the cape in 480 B.C was fought a naval battle of the Persian Wars. The delay won by the defense of Thermopylae helped make it possible for the Greeks to ward off the Persian fleet, though the battle was indecisive.

Artemovsk (ûrtyô'mufsk), city (pop 55,165), E Ukraine, in the Donets Basin. The industrial center of a salt-mining region, it was founded in 1571 and was named Bakhmut until 1923

arteriosclerosis, hardening of the arterial walls accompanied by inflammatory changes A loss of elasticity, with fibrotic changes in the wall of the artery, results in a narrowing of the lumen (canal) of the artery. When these changes are marked in the blood vessels of the heart the cardiac musculature may be affected, and occlusion of the vessels may occur, similar changes in the blood vessels of the brain affect the intellect Arteriosclerosis may also result in hypertension because of the loss of elasticity in the vessel walls

artery, blood vessel carrying blood from the heart to the tissues of the body The largest arterial trunk leaving the heart, carrying oxygenated blood is the aorta, branches of which decrease in size, finally terminating in capillaries, which communicate with the venous system (see VEIN) The other large artery leaving the heart, the pulmonary artery, carries deoxygenated blood to the lungs The arterial wall comprises fibrous, elastic, and muscle layers The PULSE may be palpated in the larger arteries near the body surface

Artesia (ärtē'zhu), city (pop 4,071), SE N.Mex, just W of the Pecos river and N of Carlsbad, in an oil, farm, and livestock area, settled 1903, inc 1905 A large area is irrigated by water from artesian wells

artesian well (ärtē'zhun) [from *Artesium*, ancient name of the old ARTOIS prov, France], in its narrower sense, a natural fountain rising by hydrostatic pressure from a fissure in a layer of permeable rock between two impermeable layers in a basinlike geological formation In areas where the slope of the layers is sufficient to produce the required hydrostatic pressure, a true artesian well can be made by drilling through the upper impermeable layer into the permeable layer (known as the aquifer) Such borings were made anciently in Egypt and China In North America the necessary conditions exist in the Dakota artesian system (of which the aquifer is Dakota sandstone, underlying parts of the Dakotas, Kansas, Nebraska, Montana, Wyoming, and Saskatchewan), in the Illinois-Wisconsin system, along the Atlantic coastal plain S from Long Island, and in the Gulf Coast region, especially in Texas If the hydrostatic pressure is not great enough (when the level of the source of the water is not much above that of the land at the well or when the water has other escapes besides the well), the water is sometimes pumped to the surface, and the well is not truly artesian Water from artesian wells and springs is usually cold and usually free from organic impurities. Artesian springs occur where the ground water flows out through a natural opening Some of these, in which the water comes from deep in the earth, are known as thermal springs since the water is either warm or hot. Those which are called mineral springs contain large amounts of various minerals (all spring water contains some minerals in solution). Artesian springs exist in many parts of the world, e g., at Saratoga, N Y, Hot Springs, Ark, Hot Springs, Va, Yellowstone National Park, Bath, England; Carlsbad, Czechoslovakia, Vichy, France, and Wiesbaden, Germany. See also GEYSER.

Artevelde, Jacob van (yä'kôp vän är'tüvĕldü), c.1290–1345, Flemish statesman, of a patrician family of Ghent In 1337 the Flemish cloth industry underwent a severe crisis. The pro-French policy of the count of Flanders in the conflict between EDWARD III of England and PHILIP VI of France cut off English wool imports and thus ruined the Flemish merchants and weavers. Ghent re-

belled, and Artevelde was given virtually dictatorial powers as head of the city government. He negotiated (1338) a commercial treaty with England and obtained recognition of Flemish neutrality. The other towns of Flanders followed his lead, the count fled to France, and trade revived and prospered under Artevelde's reforms In 1340 Artevelde had Edward III recognized as king of France (and thus suzerain of Flanders) by the Flemish towns Artevelde's firm leadership and patrician origin soon were to cause suspicions Enemies accused him of proposing the lordship of Flanders to Edward the Black Prince In 1345 a riot broke out in Ghent, and Artevelde was killed by the mob

Artevelde, Philip van, 1340–82, Flemish popular leader, captain general of Ghent, son of Jacob van Artevelde In the struggle between the "Goods" (the propertied classes supported by the count of Flanders) and the "Bads" (the workers, led by the weavers), he put himself (1381) at the head of the rebellious weavers He captured Bruges (1382) and most of Flanders but was defeated and slain at Roosebeke by the French under Olivier de Clisson.

art galleries see MUSEUMS OF ART

Arthabaska, town (pop 1,883), SE Que , on the Nicolet river and SSW of Quebec

arthritis (ärthrī'tĭs) [Gr ,=inflammation of the joints], inflammation of a joint There are two classes of chronic arthritis, atrophic, which is marked by inflammation and degenerative changes in joint structures, and hypertrophic, marked by degeneration and by the formation of bony spicules in the joint Predisposing factors which may result in arthritis include infection, injury, changes in temperature, emotional disturbances, and endocrine imbalance The rheumatoid type of arthritis is acute and is marked by pain, heat, redness, and swelling Arthritis deformans, a chronic arthritis, may be atrophic or hypertrophic and leads to marked deformity of the joints Treatment includes removal of suspected foci of infection, a well-balanced diet, endocrine therapy, drugs for relief of pain, and correction of the deformity by apparatus and surgery

arthropod (är'thrŭpŏd") [Gr ,=having jointed feet], any member of the phylum of invertebrate animals called Arthropoda, which is represented by more species than all the other animal groups combined Included are the CRUSTACEAN animals, the SPIDER and its relatives, the CENTIPEDE and the MILLIPEDE, the numerous members of the INSECT group, and the extinct TRILOBITE Arthropods have segmented bodies, jointed appendages, and an exoskeleton containing a horny substance called chitin Either gills or trachea are the respiratory organs

Arthur. see ARTHURIAN LEGEND

Arthur I, 1187–1203, duke of Brittany (1196–1203) His father, Geoffrey, second son of Henry II of England, married Constance, daughter of Duke Conan IV of Brittany, and thus acquired the duchy Arthur, a posthumous child, was proclaimed duke in 1196, and an invasion by his uncle, Richard I of England, was repulsed On Richard's death (1199) Arthur's claim to the English crown was passed over in favor of his uncle JOHN, third son of Henry II Arthur allied himself with King Philip II of France, who invested him with all of Richard's fiefs in France The nobles of Anjou, Maine, and Touraine recognized Arthur as their ruler, but the young duke was captured (1202) by John while attempting to subdue Poitou Imprisoned in Rouen, he was presumably murdered by John in 1203 His story is told in Shakspere's *King John* Arthur's sister and heir married Pierre Mauclerc, who became duke of Brittany as PETER I

Arthur III, 1393–1458, duke of Brittany (1457–58), known before 1457 as comte de Richemont (kōt' dŭ rēshmôN'), constable of France in the Hundred Years War In 1435, by the Treaty of Arras, he succeeded in reconciling Philip the Good, duke of Burgundy, England's chief ally, to Charles VII of France He captured Paris from the English in 1436 and later had a leading part in winning Normandy permanently for France His nephew, Francis II, succeeded him

Arthur, Chester Alan, 1830–86, 21st President of the United States (1881–85), b Fairfield, Vt , grad Union College at Schenectady He studied law and before the Civil War practiced in New York city In the war he was for a time quartermaster general of New York state. In 1871 President Grant appointed him collector of the port of New York He administered this office with personal honesty but had an excessive staff of party supporters and appointees. President Hayes, bent on civil service reform, displaced Arthur in 1878, thus defying Senator CONKLING and the New York Republican machine At the Republican national convention of 1880, Garfield was nominated for President, and the Conkling "Stalwarts," who had supported Grant, were placated by the nomination of Arthur for Vice President Garfield's assassination soon after his inauguration made Arthur President He came into office handicapped by a record in machine politics and grave doubt as to his ability and integrity, but his administration proved honest, efficient, and dignified He effectively supported the civil service reform act of 1883, vetoed a Chinese exclusion bill which violated a treaty with China, and vigorously prosecuted the STAR ROUTE trials. See biography by George F Howe (1934)

Arthur, Joseph Charles, 1850–1942, American botanist, b. Lowville, N Y He was known for his work in vegetable physiology and pathology, especially on the life history and control of rusts and smuts His numerous publications include *History and Biology of Pear Blight* (1886), *Concerning the Potato Tuber* (1888), and *Manual of the Rusts in United States and Canada* (1934) With others he wrote *Handbook of Plant Dissection* (1886), *Living Plants and Their Properties* (1898), and *The Plant Rusts* (1929)

Arthur, Timothy Shay, 1809–85, American editor and moralist, b near Newburgh, N Y His only successful editorial venture was *Arthur's Home Magazine*, which he edited from 1853 until his death, the while producing a stream of books and moral tracts in the cause of temperance He was firmly convinced that all social ills are attributable to alcoholism The dramatization of his most successful novel, *Ten Nights in a Barroom and What I Saw There* (1854), is still known

Arthur, village (pop 1,405), E central Ill , ESE of Decatur, in a farm area, platted 1873, inc 1877 It is the trade center of a near-by Amish colony (1864) Among its manufactures are brooms, caskets, powdered milk, and cheese

Arthurian legend, the vast material popular in medieval story centering about King Arthur of Britain The earliest mention of Arthur in any literature, so far as is known, is a brief probable reference to him as a mighty warrior in the Welsh poem *Gododdin* (c 600) His battle of Mt Badon, but not his name, is mentioned by Gildas He next appears in Nennius (c 800) as a British chief who c 600 fought 12 victorious battles with the Celts against the Saxon invaders These and several subsequent references indicate that his legend had already developed into a considerable literature even before GEOFFREY OF MONMOUTH wrote his *Historia*, in which Arthur is made master of Europe After Geoffrey comes Wace, and modeled on Wace the English Layamon These were less influential in the literary development of Arthurian legend than CHRESTIEN DE TROYES His *Perceval* and the *Parzival* of WOLFRAM VON ESCHENBACH were two sources of the PARSIFAL story so artistically developed in Germany In the early 13th cent GOTTFRIED VON STRASSBURG composed his *Tristan*, the first great literary treatment of the TRISTRAM AND ISOLDE story, which became attached to the Arthurian legend A third outstanding theme in the legend is that of the quest by the knights for the Holy GRAIL After 1225 no great medieval Arthurian literature was produced on the Continent, but it flourished in England *Sir Gawain and the Green Knight* (see PEARL THE), written c 1370 90, is a long alliterative romance, one of the best Middle English works The last such work is the great *Morte d'Arthur* of Sir Thomas MALORY, the source of subsequent Arthurian material in literature Many poets and prose writers have used Arthurian themes since Malory, none more successfully than Alfred Tennyson, whose *Idylls of the King* has become for many the one source of information on Arthurian legend An example of the innumerable poems inspired by the Arthurian story is William Morris's *Defence of Guenevere* (1858) It was thought formerly, and still is thought by some, that the Arthurian legend was the work of inventive poets and romancers of the Middle Ages A well-established theory now is that Arthurian legend developed from stories of Celtic mythology The most archaic form in which these occur in British sources is the Welsh MABINOGION, but much of Irish mythology is palpably identical with Arthurian romance For instance, Cuchulain and Gawain are both thought to be derived from an Irish solar deity According to this theory, during the Dark Ages traditional Irish hero stories fused in Britain with those of the Welsh, the Cornish, and the North Britons The resultant legend with its hero Arthur was transmitted to their Breton cousins on the Continent probably by the year 1000 The Bretons, famous as wandering minstrels and able to speak both their own language and French, followed Norman armies over Western Europe and used for their repertory the stories of the legend By 1100 therefore, some Arthurian stories were well known even in Italy Such tales formed the material for the Arthurian romances Thus theory is a convenient way to account for the additions to Arthurian story, especially when two unrelated authors add identical supplementary material It also explains how a 6th-century chief in Nennius became the king of Western Europe in Geoffrey In the later form of Arthurian legend King Arthur and his knights kept court at CAMELOT, where they had the ROUND TABLE Arthur was the illegitimate son of King Uther Pendragon and as a boy showed his royal blood by drawing a sword from a stone The LADY OF THE LAKE presented him his sword Excalibur Because it is derived from history, mythology, legend, and fairy lore, Arthur's character is not consistent throughout the romances, and sometimes seems almost phantomlike. When he was fatally wounded in battle with Sir Modred he was taken by three queens to AVALON, whence (according to Celtic story) he will return to save his people Principal persons of Arthurian legend in its developed form were (besides those mentioned) Balin and Balan, brothers who unwittingly killed each other, Sir Bedivere, King Arthur's steward; Elaine, the name of several characters, especially Elaine of Astolat, whose love for Launcelot was unrequited, and Elaine daughter of King Pelles, who loved Launcelot and became Sir Galahad's mother, Enid, the wife of Sir Geraint, Sir Launcelot's son, Sir Galahad, purest of the knights and leader in the quest for the Holy Grail, Sir Gareth, a nephew of King Arthur, Sir Gawain, another nephew, frequently the ideal of knightly courtesy, Sir Geraint, married to Enid, whom he would not allow to stay with Queen Guinevere, Guinevere (Guenever, Guenevere), Arthur's queen, unfaithful to him in her romantic love for Sir Launcelot, Sir Kay, villainous foster brother of King Arthur, the Lady of the Lake, Sir Launcelot of the Lake (Lancelot du Lac), the queen's love, father of Sir Galahad Merlin, the great court magician, who lived in the forest of BROCÉLIANDE and was ruined by his mistress Vivien, Sir Modred (Mordred), King Arthur's treacherous nephew (or son), who fought with Arthur the king's last battle, MORGAN LE FAY, King Arthur's sister, a pupil of Merlin, Sir PELLEAS, lover of Ettarre; Sir Percivale (i e , Parsifal), and Vivien, an enchantress, mistress and pupil of Merlin, who was brought to ruin by her arts To modern readers, Arthurian legend has become the great mirror of the ideal of medieval knighthood and chivalry See editions of works cited, W W. Lawrence, *Medieval Story* (1911), J D Bruce, *The Evolution of Arthurian Romance to 1300* (2 vols., 1923–24), E K Chambers, *Arthur of Britain* 1927), R S Loomis, *Celtic Myth and Arthurian Romance* (1927) and *Arthurian Tradition & Chrétien de Troyes* (1949), R S Loomis and L H. Loomis, *Arthurian Legends in Medieval Art* (1938).

artichoke, name for two quite different plants having edible parts The French or globe artichoke (*Cynara scolymus*) is a thistlelike plant which bears a globular composite flower used in the immature state as a salad or vegetable, only the lower part of the scales and the center being eaten The cultivation of this south European plant is now a considerable industry in California A large part of the yearly crop is canned for South American export The edible blanched leaves and leafstalks are called chard For the other plant bearing the name artichoke, see JERUSALEM ARTICHOKE

artificial insemination see BREEDING

artificial lung, mechanical means of carrying on artificial respiration, used for individuals whose breathing mechanism cannot function normally Inability to inhale and exhale may result from disease (e g , infantile paralysis), from poisoning, or from asphyxia In such conditions a device which, by means of pressure changes, brings about inhaling and exhaling is employed The iron lung is a steel cylinder in which the patient lies with his head protruding through a sealed collar Rhythmically air is pumped into and out of the cylinder decrease in the pressure within the chamber causes expansion of the chest, and air enters the lungs, increase in pressure causes air to leave the lungs Among the newer, lighterweight devices is a bowl-shaped plexiglass respirator which fits over the patient's chest An electronic respirator, the electrodes of which must be attached to the phrenic nerve, has been devised.

artificial respiration. Measures which take the place of natural breathing in cases of paralysis, DROWNING, ELECTRIC SHOCK, and ASPHYXIA from choking, gas, or smoke include those performed by hand, by the pulmotor, and by the ARTIFICIAL LUNG, which is especially suitable in cases of infantile paralysis where respiration is paralyzed Various methods include the Sylvester, the Marshall Hall, and the Schafer (Schäfer, Schaefer) In the Schafer or prone pressure method, the person is laid on his stomach, one arm extended above the head and the other bent at the elbow, on which the head is placed with the face to the side, leaving the nose and mouth free Kneeling over the thighs, just below the patient's hips, one places the palms of one's hands on the small of the back, the little fingers along the lowest ribs Keeping the hands in this position and the arms straight, the operator then alternately leans forward, bearing down on the region of the patient's diaphragm, and swings backward, releasing the pressure This rhythmic pressure and release is performed at the rate of 12 to 14 times a minute without any interruption for at least 1½ hr or until the patient breathes. Application of warmth must be by a second person since only by uninterrupted artificial respiration is there likelihood of saving life.

artificial silk. see RAYON.

Artigas, José Gervasio (hōsā' hĕrvä'syō ärtē'gäs), 1774–1850, national hero of Uruguay, first leader in the movement toward independence A typical gaucho of the BANDA ORIENTAL, he joined the revolution against Spain in 1811 and became the leader of the "Orientales" In 1813 he instructed the delegates from the Banda Oriental to the Bue-

nos Aires assembly to work for a federation of autonomous La Plata provinces, but they were denied admission to the assembly by the centralist military junta Artigas then championed Uruguayan independence After an initial setback in 1813 by Buenos Aires and subsequently the restoration of Spanish power (1816), he still managed to rule much of the territory as protector against Spain, Brazil, and Buenos Aires Finally in 1820, when Artigas had once again renounced the United Provs of La Plata, the Portuguese captured the territory and annexed it to Brazil Artigas spent his remaining years in exile in Paraguay

artillery, term originally applied to all projectiles employed in war, but later limited to certain types of heavy guns and howitzers and the troops serving them The machine gun, light in weight and using rifle ammunition, does not fall into the category of artillery, nor does the mortar The use of artillery had to await the discovery of gunpowder Small guns are said to have been used at Crécy (1346), and the Turks at the siege of Constantinople (1453) used bronze cannon firing stone balls The chief early employment of artillery was against fortifications, it put an end to the long security of the medieval castle It was first used extensively in support of troops in the Thirty Years War under Gustavus II (Gustavus Adolphus) who greatly improved mobility and rapidity of fire Thereafter it played, until the introduction of the airplane in the 20th cent, an increasingly important part in warfare Artillery may be fixed (e g, coastal guns and many anti-aircraft guns) or mobile in varying degrees, it may be heavy (guns) or light (howitzers) Field artillery was at first mounted exclusively on horse-drawn vehicles, later railway cars were used, and in the Second World War artillery was completely mechanized Mechanized field guns may either be drawn by tractors or mounted on self-propelled trucks

Art Institute of Chicago, museum and art school, in Grant Park, facing Michigan Ave It was incorporated (1879) as the Chicago Academy of Fine Arts, an outgrowth of the Chicago Academy of Design (1866), it took its present name in 1882 Since 1893 the institute has been housed in its present Italian Renaissance building, designed by Shepley, Rutan, and Coolidge Besides its galleries of paintings and sculpture, the museum has departments of prints, textiles, furniture, and Oriental art, the Ryerson Library, and a school of drama (founded 1925) Among its old masters, the museum has an El Greco and a Rembrandt, it has a good collection of 19th-century French paintings

Artois (ärtwä'), region and former province, N France, inland but near the English Channel, between Picardy on the west and Flanders on the east It is now included in Pas-de-Calais dept A slightly hilly region, largely agricultural, it occupies part of the rich Franco-Belgian coal basin and has old textile manufactures Arras was the provincial capital and seat of the PARLEMENT A possession of the counts of FLANDERS, Artois was annexed (12th cent) to France by Philip II and made an appanage (1237) by Louis IX for his brother Robert Passing (14th cent) to BURGUNDY by marriage, it was contested, upon the death (1477) of Charles the Bold, between Louis XI of France and Emperor Maximilian I It was under Austrian and later under Spanish rule from 1493 until its conquest (1640) by Louis XIII The Treaty of the Pyrenees (1659) confirmed it in French possession Artois continued to be a battleground, particularly in the First World War there was very heavy fighting The region gives its name to the ARTESIAN WELL, known here for centuries

arts and crafts, term for that general field of applied designing in which hand fabrication is dominant The term was invented in England in the late 19th cent as a label for the current movement directed toward the revivifying of the decorative arts The chief influence behind this movement was William MORRIS By the middle of the 19th cent, factory processes had almost entirely driven handicraftsmen from their ancient trades and obliterated the techniques by which beautiful objects of utility could be produced The GOTHIC REVIVAL, however, had brought into existence a great body of knowledge concerning the arts of the Middle Ages, and Morris, together with the Pre-Raphaelite painters and a small group of architects and designers, eagerly returned to these arts as a rich source of inspiration The pupils and followers of Morris multiplied, and numbers of proficient craftsmen developed Their methods aimed at a practical demonstration not only of Morris's aesthetic creed but also of his ideas upon socialism and upon the moral need for integrating beauty with the accessories of daily life The Art Workers' Guild was established in 1884, the Arts and Crafts Exhibition Society held its first exhibition in London in 1888 The revival of folk arts has prospered, especially in remote communities and among American Indians of the Southwest Handicrafts are widely taught in schools, have been adopted by hobbyists, and are valued in occupational therapy See A H Eaton, *Handcrafts of the Southern Highlands* (1938)

Art Students League of New York, art school, founded in 1875 in New York city by a group of art students who wished to establish a self-governing institution Members of the League yearly elect a board of control, through whom invitations are extended to artists of national reputation to teach at the League Each student studies under the instructors of his choice, and teachers are allowed entire freedom as to teaching methods Instruction is offered in drawing, painting, sculpture, and graphic and applied arts Since 1892 the League has been housed in the American Fine Arts Building, New York city It conducts a summer school at Woodstock, N Y Among the many noted artists who have taught at the League are Thomas Eakins, W M Chase, Frank V DuMond, Kenyon Cox, Robert Bridgman, Augustus Saint-Gaudens, Daniel C French, Howard Pyle, Robert Henri, George Bellows, Kenneth H Miller, George Luks, Joseph Pennell, John Sloan, Thomas H Benton, George Gross, Morris Kantor, Kuniyoshi, and William Zorach

Artzybasheff, Boris (ärtsĭbä'shĕf), 1899–, American draughtsman, illustrator, writer, and cartoonist, b Kharkov, Russia, son of Mikhail Petrovich Artzybashev In 1919 he went to New York, where he worked in an engraving shop Later he became noted for his brilliant and imaginative work as an advertising artist and illustrator of books and periodicals Artzybasheff is also known as the author and illustrator of children's books, such as *Poor Shaydullah* (1931)

Artzybashev, Mikhail Petrovich (mĭkhīŭyĕl' pĕtrô'vĭch ärtsĭbä'shĕf), 1878–1927, Russian novelist, playwright, and essayist In 1907 he leaped into fame with a previously rejected (1903) novel, *Sanine* (Eng tr, 1914), in many countries proscribed as pornographic Soon the *Sanine* cult subsided, and he tried to hold his public with other sensational works, such as the novels *The Millionaire* (1910, Eng tr, 1915) and *Breaking-Point* (1912, Eng tr, 1915) and the plays *The Law of the Savage* (1912 Eng tr, 1923) and *Jealousy* (1913, Eng tr, 1923) Artzybashev opposed the Bolshevist Revolution and attacked it bitterly from abroad

Aruba, Dutch West Indies see CURAÇAO

Aruboth (ärʺōbŏth), part of Solomon's kingdom Aruboth RV 1 Kings 4 10

Aru Islands or **Aroe Islands** (both ä'rōō), group of about 90 low islands (3,306 sq mi, pop 18,176), East Indonesia in the Moluccas In the Arafura Sea SW of New Guinea, the islands were discovered in 1606 by the Dutch and colonized after 1623 Pearls and tortoise shell are the principal products, sago, rice, sugar, and tobacco are grown Dobo, principal town of the group, is on 6-mile-long Wamar island (pop 1,774) In the Second World War most of the town was destroyed by Allied bombing Arru is another spelling

Arumah (urōōʹmu), town, Palestine Judges 9 41

Arundel, Henry Fitzalan, 12th **earl of** (ăʹrundul), c 1518–1580, English statesman Lord chamberlain under Henry VIII, he was one of the council of 12 appointed by him for the minority of Edward VI and opposed so far as he dared the designs of John Dudley, duke of Northumberland, to crown Lady Jane Grey Arundel helped bring Mary to the throne and was prominent in her reign, but was always a suspect Catholic noble, though a powerful one, under Elizabeth

Arundel, Thomas Howard, 2d **earl of,** c 1586–1646, first great English art collector and patron of arts, educated at Trinity College, Cambridge He was appointed privy councilor in 1616 and later made earl marshal of England He formed a collection of ancient sculptures, including the *Parian Chronicle*, or *Marmor Chronicon* These sculptures were given to Oxford Univ in 1667 and became known as the **Arundel Marbles** His library was given to the Royal Society, the manuscripts known as the **Arundel Collection** were later transferred to the British Museum The **Arundel Society,** founded in 1849, reproduced the works of famous artists Discontinued in 1897, it was followed in 1904 by the **Arundel Club,** which reproduces, in photogravure, works of art in private collections

Arundel (ăʹrundul), municipal borough (pop 2,490), Sussex West, England It is on a hillside beneath the magnificent Arundel Castle, the seat of the dukes of Norfolk, which dates from the 12th cent

Arundel Club, Arundel Collection, Arundel Marbles, and **Arundel Society** see ARUNDEL, THOMAS HOWARD, 2d EARL OF

Arunta Desert, Australia see SIMPSON DESERT.

Aruwimi, river see CONGO

Arvad (ärʹvăd), variant of ARADUS

Arvada (ärvădʹu), town (pop 1,482), N central Colo, near Denver, in a farm area, inc 1904

Arval Brothers (ärʹvl), in Roman religion, organization of 12 priests, said to have been founded by the sons of ACCA LARENTIA The emperor was always a member of the group They worshiped an obscure goddess, DEA DIA, and their chief festival, held in May, was a blessing of fields

Arvida (ärvĕʹdu), city (pop. 4,581), S Que, on the south side of the Saguenay river and W of Chicoutimi It is the site of the immense plant of the Aluminum Company of Canada

Arvika (ärʹvē"kä), city (pop 14,727), Varmland co, W central Sweden It is a commercial center and also produces tobacco, farm machinery, and pianos

Aryabhatta (ärʺyubhŭtʹŭ), fl 5th cent, Hindu mathematician and astronomer He is one of the first known to have used algebra; his writings include rules of arithmetic and plane and spherical trigonometry and solutions of quadratic equations

Aryan [Sanskrit, =noble], proper name used for themselves by Hindus and other speakers of Indo-Iranian languages It came to be used for these and other Indo-European languages until it has practically ceased to have any linguistic usefulness The antiquity of Hindu culture was formerly much overestimated This, combining with the assumption (now considered naïve) that ancient linguistic and genetic relationships were complementary, produced a notion that there was a sort of parent "Aryan race" The word thus became a favorite in the racistic literature of the period of Gobineau, hence also in the intellectual apparatus of 20th-century German anti-Semitism These racial theories, old and new, are now regarded as historical nonsense See also LANGUAGE.

Aryans see ARIANA

Arza [Heb, =earth], steward at Tirzah 1 Kings 16 9

Arzamas (ŭrzumasʹ), city (pop 19,203), central European RSFSR, 65 mi S of Gorki An ancient city, Arzamas was a fortress in the 14th cent and has numerous old churches and monasteries It is now an agricultural center

As, Czechoslovakia see ASCH

As, chemical symbol of the element ARSENIC

Asa (āʹsu) [Heb, =physician] **1** Died c 870 B C, king of Judah (c 911–c 870 B C), son and successor of Abijah He was a "good" king, zealous in his extirpation of idols When Baasha of Israel took Ramah (a few miles N of Jerusalem), Asa bought the help of Benhadad of Damascus and recaptured Ramah His son Jehoshaphat succeeded him 1 Kings 15 8–24, 2 Chron 14–16 **2** Levite 1 Chron 9 16

asafetida (ăsʺŭfĕtʹĭdu) [Latin, =foetid asa; asa was a drug], ill-smelling gum resin exuded from the stem and roots of the genus *Ferula* It is used as a tincture in 70 percent alcohol and when greatly diluted is useful as a perfume and flavoring material The gum contains sulphides which impart the evil odor It is found in Persia and Afghanistan and is used in the Orient as a condiment In medicine it is sometimes used as a laxative and as an expectorant and sedative According to a superstition, if placed in a bag and worn around the neck it warded off disease

Asahel (āʹsuhĕl, āsʹu-) [Heb, =made by God] **1** David's nephew Murdered by Abner, he was avenged by his brother Joab 2 Sam 2 18 24, 3 27,30, 23 24, 1 Chron 11 26, 27 7 **2, 3** Levites 2 Chron 17 8, 31 13 **4** Priest Ezra 10 15

Asahiah (āʺsuhīʹu, āsʺu-) [Heb, =Asaiah], the same as ASAIAH **1**

Asahigawa (asähēʹgäʹwä) or **Asahikawa,** city (1940 pop 87,514, 1947 pop 107,508), W central Hokkaido, Japan, on the Ishikari river It is a commercial, industrial, and railroad center in a farm area

Asaiah (āʺsīʹu, āsʺu-) [Heb, =whom God has made] **1** One of Josiah's deputation to Huldah 2 Chron 34 20 Asahiah 2 Kings 22 12 **2** Simeonite 1 Chron 4 36 **3** Levite 1 Chron 6 30, 15 6,11 **4** Shilonite 1 Chron 9 5 Maaseiah Neh 11 5

Asama, Mount (asäʹma), or **Asama-yama**(-yäʹma), peak, c 8,200 ft high, central Honshu, Japan It is an active volcano

Asaph (āʹsăf) [Heb, =collector] **1** Choirmaster of David's time, or the eponym of a corps of singers His name is attached to a little collection of psalms Pss 50, 73–83 1 Chron 6 39, 9 15, 25 1, 2 Chron 20 14, 29 30, Neh 11 17, 12 46 **2** The same as ABIASAPH **3** Father of a chronicler 2 Kings 18 37, Isa 36 3,22 **4** King's forester Neh 2 8

Asareel (ăsāʹrēĭl) [Heb, =whom God has bound], son of Jahallel 1 Chron 4 16

Asarelah (ăsʺurēʹlŭ), Asaphite 1 Chron 25 2 Jesharelah 1 Chron 25 14

Asbestos, town (pop 5,711), SE Que, NNW of Sherbrooke A large plant here manufactures products of asbestos taken from the neighboring mines

asbestos [Latin, a noninflammable mineral, from Gr, =unquenchable], trade name used for any magnesium silicate mineral which is fibrous in structure and more or less resistant to acid and fire The name was originally given to fibrous forms of actinolite and tremolite, varieties of amphibole Chrysotile asbestos, a form of SERPENTINE, is the more important commercial asbestos Important varieties of amphibole are amosite, which is neither as strong nor as easy to spin as chrysotile but which is used in insulating materials, crocidolite, also known as blue asbestos, used because of its high strength for making asbestos-cement products, and tremolite, used in laboratories (for filtering acids and other chemicals) because of its resistance to chemical action Varieties of amphibole which are less important commercially include anthophyllite, actinolite, and hornblende. Asbestos is usually found lying in veins in other rock, in most cases it appears

to be the product of METAMORPHISM By far the largest asbestos-producing country is Canada; other important asbestos-producing countries are the USSR, Rhodesia, the Union of South Africa, Cyprus, and the United States Canadian asbestos is mostly chrysotile South African asbestos is largely amosite and crocidolite which was discovered on the Cape of Good Hope. In the United States, chrysotile asbestos is produced chiefly in Arizona and Vermont Asbestos is mined both in open quarries and in underground tunnels It is then crushed, dried, screened to remove the fibers from the ore, graded, and sold to spinners Among the chief products made from asbestos are asbestos yarns and ropes, pipe covering, brake linings, fire-fighting equipment, asbestos cloth, asbestos shingles, asbestos millboard, and asbestos plaster and plasterboard See *Asbestos* (U S Bureau of Mines, Bul 403)

Asbjornsen, Peter Christian, Nor *Ashjørnsen* (pä'tur krĕs'tyan as'hyŭrnsun), 1812–85, Norwegian folklorist, writer, and naturalist With his friend the poet Jorgen Moe, he began to collect legends *Norwegian Folk Stories* (4 vols , 1841–44), by the two friends, was immediately acclaimed throughout Europe as a valuable contribution both to comparative folklore and to literature In 1845 he published the first series of his *Norwegian Fairy Stories and Folk Legends* His books have been widely translated, editions in English are *Popular Tales from the Norse* (tr by Sir George W Dasent, 1858) and *Fairy Tales from the Far North* (tr by H L Braekstad, 1881)

Asbury, Francis (ăz'bŭrĭ,–bĕ–), 1745–1816, Methodist bishop in America, b England The Wesleyan conference in London sent him in 1771 as a missionary to America, where he promoted the growth of the CIRCUIT RIDER system which proved so eminently suited to frontier conditions His powerful preaching, his skill in winning converts, and his mastery of organization had, by the end of the Revolution, established Asbury as the leader of American Methodism In 1784 John Wesley ordained Dr Thomas Coke as superintendent of the societies in America, Asbury was to be associate superintendent At the American conference held that year, however, Asbury was the dominating figure and was made superintendent He then assumed the title of bishop and took steps to institute a centralized church government Although tormented by ill-health, he maintained personal supervision of the expanding church traveling on horseback over 5,000 mi each year and strongly entrenching Methodism over the entire area of the new nation His journal is valuable for its account of contemporary society as well as of his personal life See *The Heart of Asbury's Journal* (ed by E S Tipple, 1904), Herbert Asbury *A Methodist Saint* (1927)

Asbury Park, city (pop 14,617), E N J , a resort with an excellent beach on the Atlantic SE of New Brunswick, founded 1869, inc 1897 It was named for Francis Asbury The city has a municipal auditorium and a boardwalk

Ascalon (ăs'kŭ–), variant of ASHKELON

Ascanius (ăskā'nēŭs), in Roman myth, son of AENEAS and CREUSA, known also as Julus, by which name he was regarded as the eponymous ancestor of the Julian gens He is said to have founded ALBA LONGA

Ascension, name usually given to the departure of JESUS from the earth as told at the end of the Gospels according to Mark and Luke and in Acts 1 1–11 The annual commemoration of this is one of the principal feasts of the year in most Christian churches **Ascension Day** or **Holy Thursday,** as it is called, is the 40th day after Easter, being the Thursday after the fifth Sunday after Easter

Ascension, island, in the S Atlantic, NW of St Helena and belonging to the British St Helena Colony Little Ascension is a volcanic, rocky island with only 34 mi of area and few inhabitants Discovered by the Portuguese João da Nova in 1501, it was later taken by the British and used as a naval station In the Second World War, U S forces built an airfield here

Ascension Island, Caroline Islands see PONAPE

Ascensius, Jodocus Badius see BADIUS, JODOCUS

asceticism (ŭsĕ'tĭsĭzm), practice of self-denial or self-mortification for a religious or ethical purpose Asceticism is widespread, it may be in connection with taboo, with purification, with totemism, or with the desire to please the god or gods, or with any of several other ideas Thus, FASTING, a universal type of asceticism, is used to induce visions, to propitiate the dead, to show sorrow, or to gain strength In Hinduism fasting, flagellation, and abstinence from pleasures are common, in Buddhism, Nirvana is unattainable by those who do not practice asceticism, in Zoroastrianism and Manichaeism there were many ascetic taboos, in Greece the Cynics developed a very thoroughgoing detestation of fine clothes, food, and manners, in Judaism fasts were kept and pork was never eaten, and the Nazarites and Essenes had special ascetic practices, in Islam alcohol is forbidden In treating Christian asceticism it is usual to restrict the term to practices beyond those prescribed—hence the traditional fasting on set days, like sexual abstinence on the part of the unmarried, is just obedience to the law But the older churches have always recommended some voluntary mortification, especially in Lent, and have highly esteemed CELIBACY In Christian MONASTICISM (always voluntarily embraced), the common life, obedience, and personal poverty are regarded as the most ascetic of practices The general Protestant view rejected voluntary asceticism, Calvinism did this in teaching that one cannot merit more than sufficient for salvation (though Puritanism laid great stress on rigid obedience to the formulated moral laws), Lutheranism through the doctrine of justification by faith alone See HERMIT, FAKIR, RECHABITES

Asch, Sholem or **Shalom** (shō'lum ăsh', shä'lum), 1880–, Jewish novelist and playwright, b Poland He first came to the United States in 1910, was naturalized here in 1920, and has lived in various parts of Europe and the United States One of the most widely known Yiddish writers, he won his first success with the play *The God of Vengeance,* produced by Max Reinhardt in Berlin in 1910 and given in many languages and places since then Among his works available in English translations are the novels *Mottke the Thief* (1917), *Uncle Moses* (1920) *Three Cities* (1933), *Salvation* (1934), *The War Goes On* (1935), *The Nazarene* (1939) *The Apostle* (1943), *One Destiny* (1945), *East River* (1946), and *Mary* (1949) and the two collections of short stories and novelettes *Children of Abraham* (1942) and *Tales of My People* (1948) Several of his plays have been very successful in the Yiddish theater in New York city

Asch, Czech *Aš* (both ash), city (pop 11,378), NW Bohemia, Czechoslovakia, near the Bavarian border It has textile, lace, and embroidery manufactures A city of 22,930 in 1930, it lost its German-speaking population after 1945

Aschaffenburg (ăshä'fŭnbōōrk), city (pop 36,383), Lower Franconia, NW Bavaria, on the Main It has textile, paper, and metal industries The city was a Roman garrison, in the 9th cent it became the summer residence of the archbishops of Mainz It changed hands several times during the Thirty Years War and was stormed in 1672 by Turenne Aschaffenburg was heavily damaged in the Second World War

Ascham, Roger (ăs'kum), 1515–68, English humanist and scholar, b Yorkshire He was at St John's College, Cambridge, from 1530 and became interested in extending the study of Greek, later in life he was recognized as an outstanding scholar of Latin and Greek Ascham's *Toxophilus* (1545), a dialogue on archery, proved him a master of English prose He was tutor (1548–50) to Princess Elizabeth, and he seems to have been partly responsible for her love of the classics and her proficiency in Greek As a member of a diplomatic mission Ascham spent several years on the Continent and in 1553 was appointed Latin secretary to Queen Mary *The Scholemaster* (1570), a treatise on the teaching of Latin urged the use of the double-translation method His personal influence was large Dr Johnson's life of Ascham, included in many editions of Ascham's collected works, is a classic

Aschersleben (ä'shurslä"bun), city (pop 42,196), in the former Saxony prov of Prussia, central Germany Its industries produce chemicals, steel and iron, machinery, and textiles There are lignite and potash mines

Asclepiades of Bithynia (usklŏpēăd'ēz, bĭthĭn'ēu), c 124 B C –40 B C , Greek physician He was the founder of an influential school of medicine in Rome He propounded the theory that disease is caused by disturbances in the movement of the atoms or particles of which he believed the body was composed He used baths, massage, exercises, and diet as therapeusis Parts of his works are collected in C G Gumpert's *Asclepiadis Bithyni fragmenta* (1794)

Asclepius (ăsklē'pēus), Latin *Aesculapius* (ĕs"kūlā' pēus), legendary Greek physician, son of Apollo and Coronis His first teacher was the wise centaur Chiron When he became so skillful in healing that he could revive the dead, Zeus killed him Apollo persuaded Zeus to make Asclepius the god of medicine The worship of Asclepius is believed to have originated in Thessaly Temples were built at Epidaurus, Cos, Pergamum, and many other places, where treatments, including massage and baths, were given to the sick The serpent and the cock were sacred to Asclepius People who claimed descent from him and those who followed his teachings were known as Asclepiads

Ascoli Piceno (ä'skōlē pēchā'nō), city (pop 20,665), capital of Ascoli Piceno prov , the Marches, central Italy, 18 mi from the Adriatic It has silk manufactures The medieval aspect is preserved, and it has a 12th-century baptistery and notable churches and palaces

Ascot (ăs'kut), village, Berkshire, England On Ascot Heath, near here, are held annually in June the famous races instituted by Queen Anne in 1711

Aculum (ă'skŭlum), ancient town of Apulia, SE Italy, on a branch of the Appian Way Here Pyrrhus won a hard-fought battle against the Romans in 279 B C Modern Ascoli Satriano is in the region

Asenath (ăs'unăth), Poti-pherah's daughter, the Egyptian wife of Joseph, mother of Manasseh and Ephraim Gen 41 45,50–52, 46 20 Her marriage is the subject of Joseph and Asenath, one of the PSEUDEPIGRAPHA

Asenovgrad (ăsănôv'grät), city (pop 20,920), Bulgaria It is a farm center with wineries and tobacco manufactures, formerly known as Stanimaka There are several 16th-century churches and ruins of a 13th-century castle

asepsis see ANTISEPTIC

Aser (ā'sur), variant of ASHER

Asgard (ăs'gärd) [Norse,=home of the gods], the Norse Olympus, home of the 12 chief gods, or Aesir Odin was its chief, and VALHALLA, his home for heroes, was here There were also residences of the various gods The bridge BIFROST was its approach See also GERMANIC RELIGION

ash, name for any species of *Fraxinus,* a genus of widely distributed trees and shrubs Among the numerous North American species are the blue, black, white, red, green, and Oregon ashes The mountain ash and prickly ash are not true ashes The white ash (*Fraxinus americana*) is one of the most valuable of American timber trees The strong and tough wood is used for tool handles, furniture, and oars and has been used for airplane and automobile parts The black ash (*F nigra*) has been much used in making barrel hoops and baskets, and the bark of the blue ash (*F quadrangulata*) has yielded a blue dye Commercial manna is obtained from the Old World *F ornus*

ash, residue after combustion The composition of an ash depends upon its source When wood is burned or heated in air, carbonates and oxides of the metals originally compounded in the plant's woody tissue are present in the residue Potassium carbonate is formed from the original potassium compounds, it used to be extracted from wood ash and got its name, POTASH, as a result Coal ash has a high content of minerals and is contaminated sometimes with rock If the mineral matter becomes partially fused during the combustion of the coal, a clinker is formed Bone ash is composed largely of calcium phosphate Seaweeds when burned produce an ash, called kelp or varec, from which SODA and iodine are obtained

Ashan (ā'shăn) [Heb ,=smoke], unidentified town, S Palestine, perhaps the same as CHOR-ASHAN Joshua 15 42, 19 7, 1 Chron 4 32, 6 59

Ashanti (ushän'tē, ă"shänte'), British protectorate (24,560 sq mi , pop 823,672), Gold Coast, W Africa The capital is Kumasi Ashanti is a native kingdom founded (c 1697) by Osei Tutu, who subdued rival states After his successors won additional victories over neighboring tribes and were dangerous to British power in the Gold Coast, the British sent (1873–74) expeditions which razed Kumasi, and in 1896 they deposed the king A native uprising was suppressed in 1900, and in 1901 Ashanti was made a crown colony, but the king was restored in 1926, and in 1935 the protectorate was established Human sacrifice has been abolished, but other native religious practices are still prevalent The people are capable weavers and metalworkers

Ashbea (ăshbē'u) [Heb ,=I adjure], name of a person or place 1 Chron 4 21

Ashbel (ăsh'bĕl), son of Benjamin Gen 46 21; Num 26 38, 1 Chron 8 1

Ashburn, city (pop 2,266), co seat of Turner co , SW Ga , ENE of Albany, founded 1889 It is a trade center for a coastal-plain farm and livestock area

Ashburnham (ăsh'burnhăm), town (pop 2,255), N Mass , NW of Fitchburg, settled 1736, inc 1765 Furniture making early became an industry here

Ashburton, Alexander Baring, 1st **Baron** (ăsh'bŭr"tun), 1774–1848, British financier and statesman He was the British commissioner sent to America in 1842 to negotiate the WEBSTER-ASHBURTON TREATY

Ashburton, John Dunning, 1st **Baron** see DUNNING

Ashburton Treaty see WEBSTER-ASHBURTON TREATY

Ashby, rural town (pop 1,026), N Mass , N of Fitchburg, settled c 1676, inc 1767

Ashby-de-la-Zouch (–zōōch', –zōōsh'), urban district (1931 pop 5,091, 1943 estimated pop 5,892), Leicestershire, England It figures in Sir Walter Scott's *Ivanhoe* and is the site of Ashby Castle, in which Mary Queen of Scots was held in 1569, and of the Church of St Helen, in which are tombs of the Huntingdons Manufactures include hosiery, chemicals and soap

Ashchenaz (ăsh'kēnăz") see ASHKENAZ

Ashdod [Heb ,=stronghold], Gr *Azotus* (–zō'–), ancient city of the Philistines, on the Mediterranean coast between Jaffa and Gaza Of military importance in the wars between Egypt and the countries to the north, it was frequently assaulted and withstood a memorable siege by Psammetichus lasting 29 years The seat of the worship of Dagon, it was destroyed by the Maccabees and restored by the Romans, it was early a Christian center Ashdod is

now a little village called Esdud References in the Bible include. 1 Sam. 5 1; Joshua 15 47, 2 Chron 26 6, Neh 4 7, 13 23, Isa 20 1, Jer 25 20; 1 Mac 5.68, 10 84; Acts 8 40

Ashdoth-pisgah (ăsh'dŏth-pĭs'gu), unidentified portion of Mt Pisgah The term occurs thrice in AV, translated in RV "slopes of Pisgah." Deut 3 17, Joshua 12 3, 13 20 The same Hebrew expression is translated in Deut 4 49 "springs of Pisgah" AV, but RV has "slopes" there too

Ashdown, rail city (pop 2,332), co seat of Little River co, SW Ark, near the Red River, in a cotton and truck-farm area, founded 1892

Ashe, John (ăsh), c 1720–1781, American Revolutionary general, b Brunswick co, N C Speaker of the colonial assembly (1762–65) and a leader of the opposition to the Stamp Act, he was important to the patriot cause in North Carolina On March 3, 1778, Ashe, major general commanding North Carolina troops, was badly defeated by British regulars at Briar Creek, a tributary of the Savannah The British hold on Georgia was thereby strengthened

Asheboro (ăsh'bŭru), town (pop 6,981), co seat of Randolph co, central N C, S of Greensboro, in the piedmont, founded 1779, chartered 1796, inc 1843 Its products include hosiery, textiles, furniture, and bricks In 1936 a prehistoric Keyauwee Indian burial ground was excavated near by

Ashendene Press, founded in 1895 in London and directed by C H St John Hornby It was a leader (with the KELMSCOTT PRESS and the DOVES PRESS) in the 19th-century revival of the art and craft of making books Its edition of Dante (1909) is considered an achievement comparable to the Kelmscott Chaucer of William Morris The Subiaco type used by the Ashendene Press was designed by Sir Emery Walker and S C Cockerell Ptolemy type was also originated for the Ashendene Press, which issued 40 books in the years 1895–1914 and 1920–35

Asher (ăsh'ur) [Heb, = happy, Gen 30 12,13] **1** Tribe of Israel. Its eponym was Jacob s eighth son It occupied the northwestern part of Palestine, and its position had Asher open to influence from other nations and attacks by them It seems to have become insignificant early in Jewish history The name occurs in Egyptian inscriptions See Gen 30, Deut 33 24, Joshua 19 24–31, Judges 5 17,18 Anser Luke 2 36, Rev 7 6 **2** Unidentified place, central Palestine Joshua 17 7

Asherah (ăsh'ŭru) or **Asheroth** (–rŏth), ancient Canaanite goddess, whose worship was continued by Hebrews By an ancient mistake, AV translates this name as "groves" Judges 3 7, 1 Kings 15 13-14, 18.19, 2 Kings 21 7, 23 4, 2 Chron 15 16

Asherton, town (pop 1,538), SW Texas, SW of San Antonio, inc 1925 It is near Carrizo Springs in the truck-growing winter-garden area

Asheville, city (pop 51,310), co. seat of Buncombe co, W N C, on the French Broad River and on a plateau (2,216 ft high) in the Blue Ridge, founded after 1791, inc. 1797 The city is a resort and the financial, distribution, transportation, tourist, and retail center for W North Carolina Great Smoky Mountains National Park and Pisgah National Forest are in the area Mt Mitchell (6,684 ft) and Mt Pisgah (5,749 ft) are notable peaks The Vanderbilt estate, "Biltmore" (now also partly in Pisgah National Forest), is a show place Tobacco is marketed in the city, and paper and leather goods, furniture, and textiles are manufactured Thomas Wolfe was born in Asheville, and many other well-known writers have lived here It is the seat of Asheville-Biltmore College (junior, coeducational). Annual rhododendron and folk and dance festivals are held

Ashford, town (pop 1,224), extreme SE Ala, near Dothan, in a farm area

Ash Grove, farm trading city (pop 1,101), SW Mo, in the Ozarks near Springfield Lead is found in the area

Ashhurst, John, 1839–1900, American surgeon, b Philadelphia, M D Univ of Pennsylvania, 1860 He became professor of clinical surgery there in 1877 and of surgery in 1888 He wrote *Injuries of the Spine* (1867) and *Principles and Practice of Surgery* (1871) and edited the important *International Encyclopaedia of Surgery* (6 vols, 1881–86)

Ashi or **Asser, Rab** (ä'shē, ăs'ur), 352–427, Hebrew scholar of Babylon, who devoted his life to editing the Talmud The work was completed by his pupil Rabina in 500

Ashikaga (ä'shē'kä"gu), city (1947 pop 51,309), Tochigi prefecture, central Honshu, Japan Its famous school, with a vast library of Chinese classics, was a major center of Chinese culture from the 13th to the 17th cent

Ashima (ăsh'ĭmu, ăshī'mu), god whose cult flourished in Hamath 2 Kings 17 30

Ashkelon (ăsh'ku-) or **Ascalon** (ăs'-), ancient city of the Philistines, on the Mediterranean coast of Palestine between Jaffa and Gaza It was a seat of the worship of the goddess Astarte In the Crusades, Godfrey of Bouillon won a great victory here in 1099, and Richard Cœur de Lion occupied the town (in Crusade literature commonly spelled Ascalon or Askalon) in 1191 Numerous ruins mark the site of the ancient city See Judges 14 19, Jer 25 20, 47 5,7; Amos 1.8; Zeph. 2.4,7; Zech. 9.5; 1 Mac 10 86, 11 60; 12.33. Askelon Judges 1.18, 1 Sam. 6 17; 2 Sam 1 20 Eshkalon Joshua 13.3

Ashkenaz (ăsh'kĕnăz"), eponym of a people perhaps localized in Armenia He was grandson of Japheth Gen 10 3 Ashchenas 1 Chron. 1 6, Jer 51 27 In modern times the term **Ashkenazim** (–năz'–) refers to the German Jews as distinguished from the Sephardim, the Jews of Spain and Portugal.

Ashkhabad (ăsh'kŭbăd", ăsh'kubăd', Rus ŭshkhubăt'), city (pop 126,580), capital of the Turkmen SSR and of Ashkhabad oblast, on the Trans-Caspian RR and near the Iranian border founded in 1881, it has cotton and silk factories, a moving-picture industry, several scientific and educational institutions, and a Turkmen museum It was partly destroyed by earthquake in 1948

Ashland. 1 Town (pop 1,608), co seat of Clay co, E central Ala, ESE of Birmingham. **2** Village (pop 1,139), central Ill, WNW of Springfield, in a farm area, inc 1869 **3** City (pop 1,186), co seat of Clark co, SW Kansas, near the Okla line, laid out 1884, inc 1886 Wheat and cattle are produced in the area Oil was found in 1935–36 **4** Industrial city (pop 29,537), E Ky, on terraces along the Ohio near the influx of the Big Sandy and NW of Huntington, W Va, settled 1815, laid out 1850, inc as a village 1858, as a city 1870 The region yields coal, clay, gas, and lumber The city is a railroad and river shipping point, among its products are iron and steel, coke, refined oil, chemicals, leather products, and bricks A coeducational junior college is here Near by is the "Traipsin' Woman's Cabin," scene of the annual American Folk Song Festival At near-by Raceland is a noted race track **5** Town (pop 2,457), NE Maine, on the Aroostook and W of Presque Isle, settled c 1837, inc 1862 It is a trade center, shipping mainly lumber and potatoes **6** Town (pop 2,479), E Mass, SW of Framingham, settled c 1750, inc 1846 Metal and electrical products are made here. **7** City (pop 1,709), E Nebr, on the Platte and, SW of Omaha, in a farm and recreation area, settled 1863, inc 1886 The site of an Oto Indian village is near **8** Town (pop 1,460), central N H, on the Pemigewasset and N of Franklin, near Squam Lake, organized 1867. **9** City (pop 12,453), co seat of Ashland co, N Ohio, NE of Mansfield, in a farm area, laid out 1815 as Uniontown, renamed 1822 Farm equipment, hardware, rubber automobile parts, toy balloons, and men's clothing are among Ashland's products It is the seat of Ashland College (Brethren Church, coeducational, 1878) **10** City (pop 4,744), SW Oregon, W of Klamath Falls near the Calif line, founded 1852, inc 1874 It is the seat of Southern Oregon College of Education and is the trade center for a region producing fruits, grain, and lumber Mineral springs and quarries are in the area, the Siskiyou Mts are within sight **11** Industrial borough (pop 7,045), Columbia and Schuylkill counties, E Pa, near Pottsville, settled 1845, laid out 1847, inc 1857 Anthracite, metal products, textiles, and shirts are produced here **12** Town (pop 1,718), central Va, N of Richmond, settled 1848, inc 1858 RANDOLPH-MACON COLLEGE is here Patrick Henry and Henry Clay were born near by, and not far from Ashland is "Scotchtown," Patrick Henry's home from 1771 to 1777 and later the girlhood home of Dolly Madison **13** City (pop 11,101), co seat of Ashland co, N Wis, a port of entry on Chequamegon Bay of Lake Superior, settled 1854, inc 1887 French explorers visited the bay shore in the 17th cent, and Father Allouez's mission was near here (1665) The first railroad to N Wisconsin (1877) brought growth to the town Early iron mining and lumbering gave way to papermaking, and iron ore from the Gogebic range to the southeast, coal, and lumber are shipped by lake Northland College is in Ashland The APOSTLE ISLANDS are to the north

Ashley, Anthony Ashley Cooper, Baron see SHAFTESBURY, ANTHONY ASHLEY COOPER, 1ST EARL OF

Ashley, William Henry, c 1778–1838, American fur-trader and politician, b Virginia In 1820 he was elected lieutenant governor of Missouri He sent fur-trading expeditions up the Missouri river to the Yellowstone in 1822 and 1823, the parties including Jedediah SMITH and other MOUNTAIN MEN A detachment of the second party under the command of Thomas FITZPATRICK went through SOUTH PASS to the Green River valley In 1825 Ashley accompanied his expedition, passing up the Platte and across to Green River, which he explored for a distance, and where he held the first rendezvous in the mountains In 1826 he led an expedition which reached the vicinity of Great Salt Lake Having acquired an ample fortune, he retired from active participation in the business and devoted himself to politics. He was defeated for the governorship of Missouri in 1824 and 1836, but from 1831 to 1837 was U S Representative and an able advocate of Western measures See H C. Dale, *The Ashley-Smith Explorations* (1918), Bernard De Voto, *Across the Wide Missouri* (1948).

Ashley. 1 City (pop 1,345), co seat of McIntosh co, S N Dak, near the S Dak boundary SE of Bismarck, inc 1920 In a grain, stock, and dairy area, it was founded on near-by Hoskins Lake as Hoskins and moved to its present site in 1888 to be on the railroad **2** Industrial borough (pop. 6,371), NE Pa., near Wilkes-Barre; inc 1870 Its industries include anthracite and metal products.

Ashley, river see CHARLESTON, S C

Ashmead, William Harris, 1855–1908, American entomologist, b Philadelphia. He became a field member of the staff of the U S. Dept. of Agriculture in 1887 After 1897 he was assistant curator of insects in the National Museum. His excellent taxonomical work is indicated by the 607 new genera and 3,100 new species he described and especially by his *Monograph of North American Proctotrypidae* (1893) and *Classification of the Chalcid Flies* (1904)

Ashmodai (ăsh"mŏdā'ĭ), DEMON, probably ASMODEUS

Ashmole, Elias (ăsh'mōl), 1617–92, English antiquary. A royalist in the civil war, Ashmole held court offices under Charles II His earlier interests were in astronomy and Rosicrucianism, but later he made exhaustive antiquarian studies, especially *The Institution, Laws, and Ceremonies of the Order of the Garter* (1672) and *The Antiquities of Berkshire* (3 vols, 1719) His donation to Oxford Univ in 1677 of a collection of curiosities bequeathed him by a friend formed the nucleus of the **Ashmolean Museum** (ăshmō'lēun), the first such public institution in England He later donated his library to Oxford, and the whole was housed in a building erected by Sir Christopher Wren See his memoirs (ed by R T Gunther, 1927)

Ashmun, Jehudi, 1794–1828, U S agent to Liberia, b Champlain, N Y, grad Univ of Vermont, 1816 After entering the Congregationalist ministry and spending a few years in teaching and editorial work, he was sent (1822) by the AMERICAN COLONIZATION SOCIETY to LIBERIA There he found the colony ridden with fever, short of supplies, and threatened by native attack Ashmun with a handful of men repulsed the attacks and built up the colony He wrote *History of the American Colony in Liberia, from December 1821 to 1823* (1826). See biography by R R Gurley (1835)

Ashmunein, Egypt see HERMOPOLIS MAGNA

Ashnah (ăsh'nu) [Heb, = strong], two towns, Palestine, W of Jerusalem Joshua 15 33,43

Ashokan Reservoir (ushō'kun), area c 13 sq mi, SE N Y, W of Kingston, completed 1916 It is supplied by the Esopus and Schoharie watersheds and provides part of New York city's water supply The water, aerated by hundreds of fountains, is carried to New York by the CATSKILL AQUEDUCT

Ashpenaz (ăsh'pēnăz), Nebuchadnezzar's chief eunuch Dan 1 3

Ashtabula (ăsh"tubū'lu), city (pop 21,405), NE Ohio, on Lake Erie at the mouth of the Ashtabula river, settled c 1801, inc as a village 1831, as a city 1891 City-manager government was adopted in 1916 Ashtabula is a port of entry and an important receiving port for large quantities of ore Varied manufactures include oxygen and acetylene, leather, and farming tools Hothouse vegetables are extensively cultivated

Ashtaroth (ăsh'turŏth), Hebrew form of the name of the goddess ASTARTE A city of Bashan was named Ashtaroth Joshua 9 10, 12 4, 13 12,31, 1 Chron 6,71 Astaroth Deut 1 4 Beesh-terah, an otherwise unidentified town, was probably the same Joshua 21 27

Ashteroth Karnaim (ăsh'tĕrŏth kärnā'ĭm) [Heb, = Astarte of two horns], place, E of the Jordan Gen 14 5 Carnaim 1 Mac 5 43,44 Carnion 2 Mac 12 21

Ashton, village (pop 1,203), E Idaho, near the Wyo line, settled 1900 as Vernon, renamed and inc 1906 The center of an irrigated region producing seed peas, potatoes, and grain, Ashton is also a tourist gateway to the Yellowstone and other scenic regions The American Dog Derby is run here each February

Ashton-under-Lyne, municipal borough (1931 pop 51,573, 1947 estimated pop 47,000), Lancashire, England, on the River Tame and NE of Manchester Its industries include cotton spinning, weaving, and dyeing, coal mining, leather manufacture, and metal casting

Ashtoreth (ăsh'tŏrĕth), Hebrew form of ASTARTE

Ashuapmuchuan, Lake (ăshwäp"mŏchwän'), 10 mi long and 4 mi. wide, S Que, W of Lake St. John It empties into the Ashuapmuchuan river, which is 165 mi long and flows into Lake St John

Ashur (ăsh'ur), founder of Tekoa. 1 Chron. 2 24, 4 5.

Ashur: see ASSYRIA.

Ashur-bani-pal. see ASSUR-BANI-PAL.

Ashurites (ăsh'urīts), unidentified people mentioned in the Bible 2 Sam 2 9 There are two likely interpretations (1) the Geshurites, as the Vulgate indicates, or (2) the house of Asher

Ashurnasirpal III (ä"shŏrnä'sĭrpäl), d. 860? B C, king of ancient Assyria (884–860? B C.), also called Ashur-nazir-pal III and Assurnasirbal III One of the earliest of the Assyrian conquerors, he took territory westward to the Mediterranean While warring constantly, he also commenced the system of placing Assyrian governors in conquered lands and thus helped to create a centralized state.

Excavations of his palace and temple at Calah revealed bas-reliefs and records of his conquests,

Ashvath (–vāth), Asherite. 1 Chron. 7.33

Ashville, village (pop. 1,101), S central Ohio, N of Circleville.

Ash Wednesday, in the Western Church, the first day of LENT, being the seventh Wednesday before Easter. On this day ashes are placed on the foreheads of the faithful to remind them of death and of the sorrow they should feel for their sins This practice dates from the early Middle Ages.

Asia, largest of the continents of the world. The conventional boundary with Europe—which may be said geographically to be a peninsula of the Eurasian land mass—lies approximately along the Ural mts , the Ural river, and the Caspian Sea Thus defined, Asia, including Ceylon but excluding the islands of JAPAN, the PHILIPPINE ISLANDS, and INDONESIA, has an area of c 16,000,000 sq mi and a population of c 1,050,000,000 (approximately half the world's total) In the west Asia Minor is separated from Europe by the Bosporus, the Dardanelles, and the Aegean Sea The connection of Asia with Africa is broken only by the Suez Canal between the Mediterranean and the Red Sea. In the far northeast, Siberia approaches close to North America at the Bering Strait Asia is washed on the south by the Gulf of Aden, the Arabian Sea, and the Bay of Bengal, on the east by the South China Sea, the East China Sea, the Yellow Sea, the Sea of Japan, the Sea of Okhotsk, and the Bering Sea, and on the north by the Arctic Ocean The continent ranges through all climatic extremes from torrid heat to arctic cold and from torrential rains (the product of the monsoons) to extreme aridity (as in the Gobi) The population is generally concentrated along the coasts, except in the north and in Arabia Farming is the chief occupation, in dry areas it gives way to grazing In S central Asia are great mountain systems Mt Everest (29,141 ft high), in the Himalayas, is the loftiest elevation in the world The Pamirs are sometimes regarded as the nodal mountain system of the continent, from them the Hindu Kush, the Tien Shan, the Karakorum, and the Himalayas seem to extend The great rivers of Asia, mostly radiating from the mountains, include the Ob, the Yenesei, and the Lena in the north, the Amur, the Yellow River, and the Yangtze in the east, and the Mekong, the Brahmaputra and the Ganges, and the Indus in the south The westernmost part of Asia is ASIA MINOR, or the Anatolian plateau, the major part of TURKEY To the southeast is the great peninsula of ARABIA, to which, on the northwest, is joined the Sinai peninsula (a part of Egypt) Along or near the E Mediterranean are PALESTINE (divided into ISRAEL and Arab territory), SYRIA, LEBANON, JORDAN (formerly Trans-Jordan), and IRAQ Other countries farther to the east—like those already enumerated (except Israel) predominantly Moslem in religion—are IRAN, AFGHANISTAN, and PAKISTAN Pakistan shares the Indian peninsula with INDIA In the Himalaya zone, N of India, are Nepal and Bhutan, to the southeast is the island dominion of CEYLON Southeastward extends the peninsula on which are situated BURMA, MALAYA, THAILAND, and INDO-CHINA Much of SE and E central Asia belongs to CHINA, which is bordered on the north by the MONGOLIAN PEOPLE'S REPUBLIC, on the southwest by TIBET, and on the northeast by KOREA A very large part of the continent is included in the UNION OF SOVIET SOCIALIST REPUBLICS, the north is Siberia, and in central Asia are several constituent republics

Asia Minor, peninsula, extreme W Asia, called also Anatolia The Black Sea is on the north, the Mediterranean on the south, and the Aegean arm of the Mediterranean on the west The Black Sea and the Aegean are linked by the Sea of Marmara and the two straits of the Bosporus and the Dardanelles—one of the most famous waterways of the world Near the south coast of Asia Minor are the Taurus mts , and the rest of the peninsula is occupied by the mountain-crossed, lake-dotted Anatolian plateau. It corresponds to most of TURKEY in Asia Asia Minor was the chief meeting place of Oriental and Occidental civilization in ancient times, for it was connected with Mesopotamia by the Tigris and Euphrates rivers and with Greece by its coasts After the decline of the Hittites, Greek colonies were begun on the coastlands, and the Greeks thus came in contact with Lydia and Phrygia and more especially with Troy The conquest of Asia Minor by the Persians led to the Persian Wars. Alexander the Great incorporated the region in his empire, and after his death it was divided in the wars of the Diadochi into small states. It was reintegrated by the Romans, but was subject to almost constant attack by invaders under the Byzantine Empire, falling to the Arabs and the Seljuk Turks It was temporarily reconquered for the West by the Crusaders, who set up ephemeral states Taken by the Ottoman Turks in the 13th to 15th cent., it was thereafter in the Ottoman Empire.

Asiel (ā'sēĭl) [Heb., =created by God], Simeonite. 1 Chron. 4.35.

Askalon (ăs'kŭ–), variant of ASHKELON.

Aske, Robert (āsk), d. 1537, leader of the PILGRIMAGE OF GRACE, the revolutionary movement in the north of England. Aske was hanged.

Askelon (ăs'ku–), variant of ASHKELON.

Asmara (ăsmä'rä, ăs–), city (pop. 98,000), capital of Eritrea. It is healthfully situated at an altitude of c 7,700 ft. Asmara is connected with its port of Massawa by a railroad and by an aerial cable (c 45 mi long). Animal and agricultural produce is processed, and there are light manufactures Italy took the city in 1889 and in 1897 transferred the capital here from Massawa.

Asmodeus (ăs"mōdē'ŭs), DEMON of Hebrew story He plays an important role in the book of Tobit (3.6, 8)

Asmoneans· see MACCABEES

Asnah (ăs'nu) [Heb ,=thorn bush], head of a family which returned with Zerubbabel Ezra 2 50

Asnappar. see ASSUR-BANI-PAL

Asoka (ŭsō'ku), d c 237 B C , ruler (c 255–c 237 B C) of the MAURYA empire His domain, much enlarged by conquest, included Afghanistan, Baluchistan, and nearly all the Indian peninsula north of lat 14° S These lands he ruled from his capital at Pataliputra After his conversion (c 257) from Brahmanism to BUDDHISM, he established many monasteries and sponsored a revision of the scriptures Knowledge of Asoka's reign is obtained chiefly from the pillars inscribed with his exhortation of the people to pious observance of Buddhism, a notable example is at SARNATH

Asopus (usō'pus), in Greek mythology, river-god He tried to prevent Zeus from abducting his daughter AEGINA, and Zeus killed him

Aso-san (ä'sō-sän'), group of five volcanic cones, central Kyushu, Japan One is active All lie in the largest volcanic crater (circumference 37 2 mi) in the world

asp, popular name of a poisonous snake known chiefly through the story of Cleopatra's suicide by allowing one to bite her Some historians believe that the species used was the vicious Egyptian cobra, or asp, *Naja haje,* which is smaller than the Indian cobra and of a dull brown color Others think that Cleopatra used the Egyptian or horned viper, or asp, *Cerastes cornutus,* a pale species of the Sahara

Aspadana. see ISFAHAN, Iran

asparagus (ŭspăr'u–), perennial garden vegetable (*Asparagus officinalis*), the tender shoots of which are cut and eaten in the spring The plant is cultivated from seed, is planted in rows 3 ft apart in rich, well-drained soil, and should be frequently tilled The shoots should not be cut until the plants are at least two years old Asparagus has been cultivated from antiquity Cato's directions as to the growing of asparagus, in his *On Farming* are similar to those in a modern manual of horticulture He recommends fertilizing with sheep manure to avoid weeds Columella also wrote on asparagus growing The feathery sprays of the garden asparagus are sometimes used by florists, but more popular for decorative purposes are other plants of the same genus—especially the SMILAX and the asparagus fern (*Asparagus plumosus*) See *Asparagus* (U S Dept of Agriculture, Farmers' Bul 829)

Aspasia (ăspā'shu), 5th cent ;B C , Greek courtesan, mistress of PERICLES She was probably a native of Miletus She was renowned for her learning, her wit, and her beauty. A famous story of her life told how she was accused of impiety by Pericles' enemies and how he defended her

Aspatha (ăs'puthu, ăspā'–), one of Haman's sons Esther 9 7

Aspen, city (pop 777, alt 7,850 ft), co seat of Pitkin co , W central Colo , SW of Leadville, founded c 1878, inc 1881 Once a populous silver camp, it is now a resort In 1949 Aspen was the scene of an international convocation in honor of the 200th anniversary of the birth of Goethe.

aspen, name for several species of POPLAR having relatively long, flat leafstalks which cause the broad leaves to tremble in even the faintest breeze. Thus trait led to the belief that the Cross was made of aspen The common American or quaking aspen (*Populus tremuloides*) is widely distributed over much of Canada and the United States (except the southeastern portion) Its western variety, the golden aspen (*P. tremuloides aurea*), is found from Alaska through the W United States to Mexico The aspen is often the first tree to reforest burned-over woodlands The large-toothed aspen is *P grandidentata,* of Canada and the United States southward to North Carolina and westward to Iowa and Ontario *P tremula* is widely distributed in Europe and Asia.

Asper, Hans (hänz' äs'pûr), 1499–1571, Swiss portrait painter and draughtsman His work has been confused with that of Holbein, whom he imitated Most of his work is in Zurich, where he was town painter and where he lived and died in poverty Included are well-known portraits of Regula Gwalter and of Zwingli and his daughter, as well as many fine drawings of flowers, birds, and game.

asperges (uspûr'jŭs), ceremonial sprinkling of the people with holy water by the priest before the Sunday High Mass in Roman Catholic churches The accompanying antiphon begins, *Asperges me, Domine, hyssopo* (purge me, Lord, with hyssop, i e , thou shalt sprinkle me, etc] At Easter time the antiphon is different, beginning, *Vidi aquam* [I saw water], this is based on Ezek 47 2

Aspermont, town (pop 1,041), co seat of Stonewall co., W central Texas, NW of Abilene The region produces grains, cotton, cattle, and some oil

Aspern (ăs'purn), eastern suburb of Vienna, Austria Here the Austrians under Archduke Charles defeated Napoleon I on May 21–22, 1809

asphalt (ăs'fôlt, –fält), brownish-black substance used commonly in road making or roofing and in waterproofing. Chemically, it is a natural mixture of HYDROCARBON compounds It varies in consistency from a solid to a semisolid, has great tenacity, melts when heated, and when ignited will burn with a smoky flame leaving very little or no ash It is found in nature in deposits termed "asphalt lakes," the best known of these is in Trinidad This natural asphalt was probably formed by the evaporation of petroleum Asphalt is obtained as a residue in the distillation or refining of petroleum This is its important commercial source It occurs in asphalt rock, a mixture of asphalt with sand and limestone, which when crushed is used as road-building material Asphalt is also used in the manufacture of paints and varnishes, giving an intensely black color

asphodel (ăs'fudĕl"), species of hardy stemless plants (genus *Asphodelus*), of the lily family, with a showy spike of white or yellow flowers, native to the Mediterranean region and India The asphodel or king's spear of the ancients, sacred to Persephone and associated with the dead, belongs to the genus *Asphodelus,* of which there are 14 species The asphodel of the early French and English poets was a NARCISSUS

asphyxia (ăsfĭk'sēŭ) [Gr ,=stopping of the pulse], suffocation, resulting from a deficiency of oxygen in the blood The lips and skin become bluish in color (cyanotic) Strangulation, foreign bodies in the respiratory tract, inhalation of poisonous gases (e g , illuminating gas), and drowning are frequent causes of asphyxia ARTIFICIAL RESPIRATION is an emergency treatment When the respiratory tract is blocked—e g , in diphtheria, in which a membrane may occlude the larynx—tracheotomy (surgical opening of the windpipe in order to establish an airway) may be the only means of saving life

Aspinwall, William Henry (ăs'pĭnwôl"), 1807–75, American merchant and railroad builder, b New York city He was apprenticed to, and in 1832 became a partner of, G G and S Howland (his uncles), in their New York trading and shipping firm Its business with Latin America was increased under his direction After the discovery of gold in California he organized the company which built (1850–55) the railroad across Panama With others, in 1848, he had organized the Pacific Mail Steamship Company, so that he held a monopoly of the California trade until the completion of the Union Pacific in 1869

Aspinwall. see COLÓN, Panama.

Aspinwall, residential borough (pop 4,716), SW Pa., near Pittsburgh, settled 1796, inc 1893.

aspirin, name for the acetyl derivative of SALICYLIC ACID It is a white crystalline compound of carbon, hydrogen, and oxygen Its use as a substitute for the more harmful antipyretics and as an analgesic is large

Aspropotamos: see ACHELOUS

Asquith, Herbert Henry· see OXFORD AND ASQUITH, HERBERT HENRY ASQUITH, 1ST EARL OF

Asquith, Margot see OXFORD AND ASQUITH, MARGOT ASQUITH, COUNTESS OF

Asriel (ăs'rēĕl) [Heb ,=God's vow], descendant of Manasseh Joshua 17.2, Num 26 31. Ashriel 1 Chron 7 14

ass, animal of the HORSE genus (*Equus*) widely known in its domesticated state as the donkey Herds of wild asses of several species are still found in Asia and in Africa They live in mountains and deserts and thrive on dry and rough forage Compared with the horse, the ass is usually smaller, has a large head, small hoofs, short mane and tail, and long ears Its bray is unlike any call of the horse In Mesopotamia and in Egypt the domestic ass was in use probably c 4000 B C , or about 2,000 years before the horse It is not certain whether the horse or the ass was the first to be domesticated. Both are among the latest additions to the list of domesticated animals The ass is often mentioned in the Bible (Gen 12 16, 22 3,5, Job 42 12, Num 22.30, Mat 21 1-7) In modern times, the ass is used chiefly in the warmer parts of the world. In the W United States, Mexico, and some other places, a very small ass, the burro, is used as a pack animal As a child's pet, the burro rivals the Shetland pony The breeds of asses used in America in the production of the MULE have included the Andalusian, Catalonian, Majorca, Maltese, and Poitou. From various breeds a breed called American has been developed. Famous American importers of asses have included George Washington and Henry Clay Asses were presented to Washington by the king of Spain (1785) and by General Lafayette (1786). The ass is hardy and

sure-footed Justly or unjustly, its stubbornness, stupidity, and patience are proverbial A male ass is called a jack or jackass, a female ass is called a jennet or jenny See C S Plumb, *Types and Breeds of Farm Animals* (1906), H J Peake, *Early Steps in Human Progress* (1933)

Assam (ăsăm′), state (62,738 sq mi, pop 8,197,186), NE India It is bounded by Burma on the east, by China, Tibet, and Bhutan on the north and by Pakistan on the west The capital is Shillong The terrain largely consists of hill ranges running generally from northeast to southwest and separated by streams and rivers which flow southwest The river valleys, particularly those of the Brahmaputra and Surma, contain the richest soil and support more than half the population The rainfall is often excessive, Cherrapungi in the southwest reputedly has the heaviest precipitation in the world (about 500 in annually) Rice is the principal crop, and citrus fruits, sugar cane, sesame, tea, cotton, and jute are important Industry is mainly based on the processing of agricultural products The hills produce abundant timber and some oil, coal and limestone Although the rail and road nets are limited, the rivers afford adequate commercial routes to Calcutta, West Bengal state, which is the metropolis of Assam The hills restrict north-south communication, and the population is very heterogeneous The largest element is Hindu and speaks Bengali There are various aboriginal tribes, notably the Nagas, Lushais, Garos, and Khasis The Ahom people of Burma invaded Assam in the 13th cent and dominated the land later The British assisted the Assamese several times in expelling Burmese invaders, and by the Treaty of Yandabo (1826) Assam was ceded to Great Britain and became part of Bengal It was made a separate province in 1874 Japan occupied the southern area for a time in 1944 A southwest section was incorporated in 1947 into East Pakistan

Assamese (ăs′ămēz″), language of the Indic group of the Indo-Iranian family of Indo-European languages See LANGUAGE (table)

Assandun, battle of (ă′sundun), a victory by the Danes under CANUTE over the English led by EDMUND IRONSIDE The battle was fought Oct 18, 1016, at what is now Ashingdon, in SE Essex

Assassin (usă′sĭn) [Arabic,=under the influence of hashish], European name for the member of a secret order of the Moslem SHIITES The order was founded by Hasan Sabbah (c 1090) in the mountain fortress of Alamut The distinguishing mark of the order was not in their tenets, but in their methods of disposing of enemies by ruthless murder Of the organization and its history, it is difficult to speak with absolute certainty, as is the case of most secret societies The grand master of the order, the Sheikh al-Jabal, known in Western Europe as the Old Man of the Mountain, was absolute ruler Under him the members were strictly organized into classes, according to the degree of initiation into the secrets of the order The most important of the classes was one of the lower groups of the hierarchy, the devotees, from whom unquestioning obedience and a fanatic disregard for their own safety —martyrdom was not avoided, but sought— were expected by their superiors, these men were the instruments of assassination It is generally believed that they were prepared for their tasks and rewarded by being taken occasionally into the earthly paradise in the fastness of the Old Man's fortress, where hashish was administered to them and they were allowed to indulge in the most exquisite forms of sensual pleasure The order grew strong over all Persia and Syria The succeeding grand masters of the order—six in all, after Hasan —were of great political significance About the end of the 12th cent the Syrian branch of the order made itself independent, it was with this branch that the Crusaders came in contact The coming of the Mongols doomed the power of the Assassins, Hulagu Khan in 1256 attacked their fortresses and with widespread massacre destroyed them in Persia The Syrian branch suffered a similar fate at the hands of Bibars, Mameluke sultan of Egypt Only scattered groups of the order persisted They are said to persist today, particularly in N Syria Tales of the Crusaders and the writings of Marco Polo brought the Assassins and the Old Man of the Mountain into European folklore The term *assassin* came into English and is today used to mean murderer and particularly one who kills for political motives

assault, in law, any unlawful attempt to use violence with the intent and the ability to do bodily harm to another If the act is consummated—that is, if the attempt is successful and the threat realized, if the fist lands a blow, the brick strikes home, or the like—the offense is BATTERY Every criminal assault is a tort, for which the party assaulted may sue for damages At common law, assault was a misdemeanor Under modern criminal statutes, varying degrees of assault (e g, assault with intent to kill, to do great bodily harm, to rape) are recognized as aggravated assaults and are felonies, though simple assault is still a misdemeanor.

assaying (ăsā′yĭng), in metallurgy, the process of determining the specific metallic content of an ore, alloy, or other substance, especially those containing precious metals It consists, in some cases, of subjecting the substances to complete chemical analysis and, in others, of simply determining the quantity present of one or more of the metal constituents An accurate assay depends first upon procuring a representative sample of the ore in question Since distribution of the ore's constituents is not uniform, a common method employed in obtaining this sample is to procure several samples, crush and mix them together, and from the final mass take the sample to be assayed Assays are gravimetric when the weight of the metal is determined, volumetric when the analysis involves the volume of the metal in solution as compared to that in a standardized solution A "wet" assay (one which involves the use of liquid reagents) is generally used in a determination of weight In a "dry" assay the ore is fused and the metal is finally obtained in a pure state Assaying of gold and silver is especially important, and government offices are established for public service throughout the country Ores of other metals, such as copper and iron, are also commonly assayed

assembly, unlawful: see RIOT, ROUT, AND UNLAWFUL ASSEMBLY

Asser (ă′sur), d 909, Welsh clergyman, monk of St David's He went to the court of King ALFRED c 884 and later was made bishop of Sherborne He is remembered for his biography of Alfred to 893, apparently modeled on that of Charlemagne by EINHARD He combined a translation of some text of the *Anglo-Saxon Chronicle* with his original observations on Alfred's life

Asser, Rab see ASHI, RAB

Asser, Tobias Michael Carel (tōbē′ăs mē′khāl kä′rul ăs′ur), 1838-1913, Dutch statesman and jurist He was a delegate to many international conferences, including the Hague Conference of 1899, and wrote on international law He forwarded international arbitration and was awarded the 1911 Nobel Peace Prize jointly with Alfred Fried

Asshurim (ăshōō′rĭm), unidentified Arabian tribe, whose eponym is named in Gen 25 3

Assideans see HASIDIM

assignats (ăsēnyä′, ăs′ĭgnäts) paper currency issued during the FRENCH REVOLUTION To redeem the huge public debt and counterbalance the growing deficit, the National Assembly issued (Dec, 1789) treasury notes to the amount of 400,000,000 French pounds at five percent, called assignats, which were intended as short-term obligations pending the sale of confiscated crown and church land They were made legal tender in April, 1790, and subsequent issues bore no interest Inflation resulted, and early in 1796, the assignats in circulation amounted to 36,000,000 000 pounds, their value had fallen below the cost of printing them "Territorial mandates," issued in 1796 as a new land-based currency, were also soon depreciated (see MANDAT) Inflation stopped only when all paper currency was demonetized and redeemed at the rate of 3,000 pounds in assignats or 100 francs in mandates to one franc in gold On May 21, 1797, all unredeemed assignats were voided See S E Harris, *The Assignats* (1930)

Assiniboia (ŭsĭnĭboo′ə), town (pop 1,585), S Sask, SW of Regina

Assiniboine (ŭsĭn′ĭboin), river rising in E Saskatchewan and flowing SE into SW Manitoba, southward until it is joined by the Qu'Appelle, then SE and E to the Red River at Winnipeg The Souris is its principal southern tributary From its headwaters at the source of the Qu'Appelle to its mouth the river is over 600 mi long The Assiniboine valley is one of Canada's leading wheat areas The river was discovered and explored by the Verendrye in 1730, when forts were built at its mouth and just below the site of Portage la Prairie It was the route by which settlement spread westward from the Red River valley in its advance to the plains The river was named for the Assiniboin Indians

Assiniboine, Fort, Canadian fur-trading post of the North West Company, on the Assiniboine river near the mouth of the Souris, in the present-day Manitoba Built (1794) on the north side of the Assiniboine and later moved to the south bank, it was variously known as Macdonell's House (for the brother of Miles Macdonell of the RED RIVER SETTLEMENT), Stone Indian River House, and Fort La Souris Although trade declined after 1805, the post was not closed until 1821 A fur-trading post of the Hudson's Bay Company on the Athabaska river was also known as Fort Assiniboine

Assiniboine, Mount, 11,870 ft high, SW Alta, on the Continental Divide in the Rocky Mts and S of Banff The highest peak between the U S boundary and the main line of the Canadian Pacific Railway, it is frequently climbed by expert mountaineers It was first climbed by Sir James Outram in 1901

Assiniboin Indians (ŭsĭn′ĭboin), North American Indian tribe Their culture is that of the N Great Plains, their language Siouan (see LANGUAGE, table) At the time of the first contact with the white man, they had no permanent village sites, moving about as their search for food required. They seem to have been a branch of the Yankton Dakota who moved north and westward at the end of the 16th cent to the region of Lake Winnipeg; later they went to the upper Saskatchewan and the upper Missouri rivers They were allied with the Cree against the Blackfoot

Assir (ăs′ĭr) [Heb.,=captive] 1 Son of Korah Ex 6 24, 1 Chron 6 22 2 Ancestor of Samuel 1 Chron 6 23,37 3 Son of Jeremiah, unless RV is right in translating "Jeconiah, the captive" 1 Chron 3 17

Assisi (usē′zē, Ital as-sē′zē), town (pop 4,686), Umbria, central Italy, 10 mi SE of Perugia, on a hill in the Apennines It owes its fame to St Francis of Assisi, who was born here in 1182, and has preserved its deeply religious and medieval atmosphere Above the saint's tomb two Gothic churches were built—the lower church and the upper church Both churches are decorated with frescoes depicting the life of St Francis by CIMABUE, GIOTTO, and others The Franciscan convent near by has a valuable library In the plain below Assisi is the imposing late Renaissance Church of Santa Maria degli Angeli, built around the little chapel of Porziuncola, where St Francis relinquished active leadership of his order Assisi has other fine churches, among them the cathedral (12th cent), the Santa Chiara, and the near-by San Damiano The countryside around Assisi is filled with memories of the saint

Associated Press see NEWS AGENCIES

association, in psychology, the tendency of an individual to link or connect consciously or unconsciously some word or idea with some other word or idea A basic technique in PSYCHOANALYSIS is known as free association, in which the patient is told to voice his thoughts exactly as they occur to him without regard to their seeming triviality This procedure is designed to reveal the areas of basic conflict and to bring into consciousness traumatic events and desires that have been repressed During free association the psychoanalyst observes not only the manifest content of the associations but the accompanying somatic reactions so that any attempt at conscious or unconscious suppression of material will be evident

associationism, theory that all consciousness is the result of the combination, in accordance with the law of association, of certain simple and ultimate elements derived from sense experiences It was developed by David HARTLEY and advanced by James MILL Its influence continued until late in the 19th cent See PSYCHOLOGY

Assos (ăs′ŏs) or **Assus,** ancient city, Mysia, NW Asia Minor, on the Gulf of Adramyttium E of Point Lectum, westernmost point of Asia There are extensive ruins St Paul passed through Assos Acts 20 13,14

Assuan, Egypt see ASWAN

Assumption, city (pop 1,561), central Ill, SSW of Decatur, in a grain region, inc 1902

Assumption of the Virgin see MARY

Assur see ASSYRIA

assurance see INSURANCE

Assur-bani-pal (ă″sŏor-bä′nē-päl) or **Ashur-banipal** (ă′shŏor-), d 626? B C, king of ancient Assyria (669?-626? B C), son and successor of ESARHADDON The last of great kings of Assyria, he drove Tirhakah out of Egypt and firmly established NECHO in power there only to have Necho's son PSAMTIK I later revolt (660 B C) and wrest Egypt permanently from Assyria This uprising took place when Assur-bani-pal was campaigning against the Elamites and Chaldaeans His brother, in command at Babylon, headed a serious revolt, in which all the enemies of the king joined This was put down with difficulty, and Assur-bani-pal after taking Babylon slaughtered (648 B C) many of the inhabitants He then defeated Elam and sacked Susa, Elamite power disappeared Under Assur-bani-pal, Assyria reached the height of sumptuous glory His palace and the temples at Nineveh had some of the finest of ancient sculpture, particularly the virile and fine-lined bas-reliefs Assur-bani-pal made an enormous collection of cuneiform tablets in his library at his rich capital His reign ended the greatness of the empire, which succumbed to the Medes and the Persians only a few years after his death His great expenditures in wars to preserve the state contributed somewhat to its collapse Assurbanipal is probably the Asnapper (ăsnă′pur) or Osnapper (ŏsnă′pur) of Ezra 4 10 He is identified with, but only faintly resembles, the SARDANAPALUS of the Greeks

Assurnasirbal III see ASHURNASIRPAL III.

Assus, variant of ASSOS

Assyria (usĭr′ēu), ancient empire of W Asia It developed around the city of Ashur or Assur on the upper Tigris and south of the later capital, Nineveh Apparently the nucleus of a Semitic state was forming by the beginning of the 3d millennium B C, but it was inconsiderable, and its eponymous god, Ashur, was little honored while the kings of BABYLON and the HITTITES were powerful Assyria was not steadily a tributary state, for its fortunes depended on the might and ability of its ruler. Briefly in the 17th cent B C. it expanded, but it soon relapsed into weakness. The 13th cent. B C. saw Assyria threatening the sur-

rounding states, and under TIGLATH-PILESER I (reign c 1115–c.1102 B.C.), Assyrian soldiers entered the kingdom centered about Urartu (Ararat; see ARMENIA), took Babylonia, and crossed N Syria to reach the Mediterranean This empire was, however, only ephemeral, and Assyrian greatness was to wait until the 9th cent., when ASHURNASIRPAL III entered on his career He was not only a vigorous and barbarously cruel conqueror who pushed his conquests N to Urartu and W to Lebanon and the Mediterranean but also was an administrator Instead of merely making other kings pay tribute he installed Assyrian governors and thus created real control over the empire SHALMANESER III attempted to continue the policy and claimed many victories in his ceaseless campaigns, but he seems to have failed to establish hegemony over the Hebrews and their Aramaic-speaking allies Raids from Urartu were resumed and grew destructive after the death of Shalmaneser His palace in CALAH (the capital since c 1300) shows the development of architecture continuing After his reign advance seems to have halted, but the foundations of the empire had been laid Conquest was pushed by TIGLATH-PILESER III, who reigned from 745 to 728 B.C. He subdued Babylonia, defeated the king of Urartu, attacked the Medes, established control over Syria, and, as an ally of Ahaz of Judah (who became his vassal), defeated his Aramaic-speaking enemies centered at Damascus His successor, Shalmaneser V, and particularly Shalmaneser's successor, SARGON, expanded Assyria The great victory of Sargon at Raphia (720 B.C.) and his invasions of Armenia, Arabia, and other lands made Assyria indisputably one of the greatest of ancient empires His son SENNACHERIB devoted himself to retaining the gains his father had made He is particularly remembered in the West for his warfare against his rebellious vassal, Hezekiah of Judah His successor, ESARHADDON (reign 681–668 B.C.), defeated the Chaldaeans, who threatened Assyria, and carried his conquests to Egypt, where he deposed Tirhakah and established Necho in power Under Esar-Haddon's son ASSUR-BANI-PAL, Assyria reached its zenith and approached its fall A revolt in Egypt was put down, but when Assur-bani-pal was fighting against the Chaldaeans and the Elamites, an Egyptian revolt under Psamtik I was successful The rapid decline of Assyria had begun, but the reign of Assur-bani-pal (669?–626? B.C.) saw the Assyrian capital at its height of splendor The big library of cuneiform tablets he collected ultimately proved to be one of the most important historical sources of antiquity The magnificent Assyrian bas-reliefs reached their peak The royal court was luxurious Assyrian culture owed much to earlier Babylonian civilization, and in religion particularly Assyria seems to have taken much from its southern neighbor and subject The military aspect of the empire was its most prominent feature, for Assyria was embattled from beginning to end, and agriculture suffered from the constant need for men to fight the incessant battles The Assyrians ultimately had to import food The division of society into a fairly rigid three-class system was not unlike that of other early western Asiatic peoples, but it did not supply a solid base for the overgrown Assyrian state The lavish expenditures of Assur-bani-pal on warfare and decoration of his buildings helped to drain the resources It was not long after the death of Assur-bani-pal that Assyria fell The king of the Medes, Cyaxares, and the ruler of Damascus, Nabopolassar, joined forces to take Nineveh in 612 B.C. Under the son of Nabopolassar, NEBUCHADNEZZAR, Babylonia was renewed in power, and the great-grandson of Cyaxares, Cyrus the Great, was to establish the Persian Empire, which owed much to the earlier Assyrian state See A. T. E. Olmstead, *Western Asia in the Days of Sargon of Assyria* (1908), *History of Assyria* (1923), and *History of Ancient Persia* (1948), Sir Percy M. Sykes, *History of Persia* (3d ed., 1930)

Assyrian language, Semitic language of ancient times, in the Akkadian group. • See LANGUAGE (table)

Astacus (ăs'tukus), city of ancient Bithynia, N Asia Minor, founded by colonists from Megara at the eastern end of an arm of the Sea of Marmara Destroyed by Lysimachus, it was rebuilt on a new site by Nicomedes I and renamed NICOMEDIA for him The modern Izmit, Turkey, is near by.

Astaroth (ăs'turŏth), variant of ASHTAROTH.

Astarte (ăstär'tē), Semitic goddess of fertility, beauty, and love She was the most important goddess of the Phoenicians and corresponds to the Babylonian ISHTAR APHRODITE is also usually identified with her Because Astarte was a heavenly goddess and sometimes regarded as goddess of the moon, she was occasionally confused in later times with the Greek moon-goddesses ARTEMIS and Selene The Syrian goddess Atargatis is undoubtedly connected with her, but may have been a synthesis of Astarte and some other divinity In the Bible, which contains some of the earliest material on her, Astarte is mentioned with particular loathing The form of her name first used is Ashtaroth Later she appears as Ashtoreth—probably a taboo variant. Judges 2 13; 10 6; 1 Sam 12 10, 31 10; 1 Kings 11 5,33, 2 Kings 23 12

astatine (ăs'tătēn, -tĭn) [Gr., =unstable], chemical element (symbol=At, for physical constants, see ELEMENT, table), member of the halogen group of elements but showing some similarities in chemical activity to the metals Its discovery was announced in 1931 by Fred Allison and E. J. Murphy, and it was first known as alabamine It was produced in 1940 in the cyclotron at the Univ. of California by Emilio Segrè, D. R. Corson, and K. R. Mackenzie

Astell, Mary (ăs'tul), 1666–1731, English author and feminist Her *Serious Proposal to the Ladies* (2 parts, 1694–97) offered a scheme for a woman's college, an idea so far in advance of the time that it failed of accomplishment Her ideas were ridiculed in the *Tatler* Lady Mary Wortley Montagu and other intellectual women of the day were among Mary Astell's friends See study by Florence M. Smith (1916)

aster (ăs'-) [Gr., =star], in America name for two kinds of flowers, for those of the genus *Aster* sometimes called wild aster, and for a related plant more correctly called China aster Plants of the genus *Aster* are regarded in North America, where most species are native, as wild flowers but in Europe they are cultivated as garden flowers and often called Michaelmas daisy (they usually bloom at Michaelmas) Most species of *Aster* are perennial and fall blooming They have small daisylike or starlike composite heads of flowers on leafy, often tall, stems Their colors vary from white to pink, blue, and purple Among the more showy native species beginning to be cultivated in American gardens are the New England aster (*Aster novae-angliae*), purple (sometimes rose) flowered, and the New York aster (*Aster nova-belgii*), in shades of violet or blue The New England aster was used by Shakers as an application for skin disorders The China aster (*Callistephus chinensis*) is a popular fall-blooming garden annual It is an Asiatic plant that in cultivation has a very full head of ray flowers, varying from white and pink to deep purple

Asterabad, Iran: see GORGAN

Asteria (ăstēr'ēă), in Greek religion, daughter of the Titans Coeus and Phoebe and sister of Leto She was the mother of Hecate by Perses One legend says that she was pursued by Zeus and turned into a quail

asteroid or **planetoid,** small heavenly body or minor planet revolving around the sun The orbits of most asteroids lie at least partially between Mars and Jupiter More than 1,500 asteroids have been recognized and many more are believed to exist Toward the end of the 18th cent. astronomers were searching for a planet whose orbit should, according to Bode's law, lie between the orbits of Mars and Jupiter On Jan. 1, 1801, Piazzi discovered a small body, Ceres, traveling in the orbit which had been anticipated Ceres with its diameter of c. 480 mi. is the largest asteroid Pallas, which has a diameter of c. 304 mi., was discovered in 1802, Juno, c. 120 mi. in diameter, in 1804, and Vesta, with a diameter of c. 240 mi., in 1807 Astraea, found in 1845, was the next discovery From 1847 one or more asteroids were discovered each year After 1891 asteroids were identified by their paths on exposed photographic plates, a method inaugurated by the German, Max Wolf Many asteroids are about a mile or less in diameter and resemble meteorites rather than small planets Close approaches to the earth are made by some as they travel in their orbits Adonis, discovered in 1936, approaches within 1,500,000 mi. of the earth, and Hermes, discovered in 1937, came within 485,000 mi. of the earth One attempt to account for the presence of the asteroids is the theory that they are fragments of a planet which exploded Some scientists hold that this theory lacks supporting evidence Many believe that their origin like that of the planets, can be explained on the basis of the PLANETESIMAL HYPOTHESIS

asthma [Gr., =panting], condition characterized by "wheeze," breathing which may be continuous and paroxysmal A cough producing a sticky mucoid sputum is symptomatic Asthma is thought to have an allergic basis Heredity may be a factor The specific cause may be determined by skin tests Treatment consists of removing the cause when known and giving injections of adrenaline Relief is often obtained by inhaling the smoke of stramonium (Jimson weed) leaves In individuals hypersensitive to various dusts (e.g., house dust), to fur or feathers, or to certain foods (e.g., eggs, wheat, and milk), injections of the irritating substances are often helpful

Asti (ăs'tē), city (pop. 26,476), capital of Asti prov., Piedmont, NW Italy It is the center of a wine-producing region. Sparkling Asti is its best-known product There are several medieval towers and palaces and a fine Gothic cathedral

astigmatism, type of imperfect vision in which a defect in the refractive surfaces (the cornea and lens) of the eye results in a diffusion of the light rays on the retina (In the normal eye, the light rays are focused on the retina.) The condition may be congenital A similar optical effect may occur in old age or in the early stages of senile cataract Astigmatism is usually corrected by prescription of correcting lenses In some cases, improvement of vision is obtainable only by contact glasses

Astolat, in ARTHURIAN LEGEND see GUILDFORD

Aston, Francis William, 1877–1945, English chemist. He was affiliated with the Cavendish Laboratory, Cambridge, from 1910 In 1922 he received the Nobel Prize in Chemistry mainly for his discovery, by means of a mass spectrograph of his own invention, of a number of isotopes in non-radioactive elements His writings include *Isotopes* (1922) and *Mass-Spectra and Isotopes* (1942)

Aston, Hugh, c 1480–1522, English composer His *Hornpipe*, for virginals, is the earliest purely instrumental English music extant Its maturity of technique and style suggests the existence of an earlier English keyboard school of which, however, no compositions remain His name was also spelled Ashton, Austen, and Aystoun

Astor, John Jacob, 1763–1848, American merchant, b Waldorf, near Heidelberg, Germany At 16 he went to England, and in 1784 he arrived in Baltimore, penniless He went to New York, where in a few years he started business with a small shop for trade in musical instruments and furs Shrewdness, driving ambition, and stolid concentration brought him to a commanding position as the youthful economy of the United States expanded He was a prince of the China trade and was an astute investor in lands, principally in and around New York city, but he is perhaps best remembered as a fur trader He chartered the AMERICAN FUR COMPANY (1808) and founded subsidiary companies—the Pacific Fur Company (see ASTORIA, Oregon) and the South West Company (operating about the Great Lakes) His firm exercised a virtual monopoly of the trade in U.S. territories in the 1820s and still did when he retired from it in 1834 At his death the wealthiest man in the United States, he left a fortune that has continued to make the family name prominent Part of his money went to found the Astor Library (see NEW YORK PUBLIC LIBRARY) His Astor House was a forerunner of family hotel properties that much later included the Astor Hotel and the Waldorf-Astoria See biography by K. W. Porter (1941)

Astor, John Jacob, 1822–90, American capitalist, b New York city, educated at Columbia and Gottingen universities and at Harvard Law School, son of W. B. Astor (1792–1875) The third of the name in the United States he served in the Peninsular campaign and later took a minor part in New York civic and political affairs His son was William Waldorf Astor

Astor, John Jacob, 1864–1912, American capitalist, b Rhinebeck, N.Y., son of William B. Astor (1829–92) Fourth of the name in the United States, he served in the Spanish-American War and was drowned in the *Titanic* disaster He left two sons, Vincent, the son of his first marriage (to Ava Lowe Willing), and John Jacob Astor fifth of the name in America, the son of his second marriage (to Madeleine Talmage Force)

Astor, Nancy Witcher (Langhorne) Astor, Viscountess, 1879–, British political leader, b Virginia She was married first to Robert Gould Shaw and after her divorce (1903) from him she went to England There she was married (1906) to Waldorf Astor When he succeeded his father as viscount and reluctantly had to give up his seat for Plymouth in Parliament, she ran instead and was in 1919 the first woman to sit in Parliament (though Countess Markiewicz was elected earlier) In her years of service as a Conservative member to 1945 her sharp tongue in debate her passionate espousal of reforms in woman and child welfare and of temperance, and her gay lack of reverence for any and all won her respect and attention She and her husband in the 1920s were leaders in the "gradual" reform program of "Tory democracy," but in the late 1930s they turned more to pleas for settlement with the fascist powers, and their enemies said that the policy of appeasement which led to the Munich Pact was hatched by the "Cliveden set" of reactionaries —so called after the Astor country home "Cliveden" (given to the government in 1942), where all the great and near-great of whatever political stripe were invited for week ends

Astor, William Backhouse, 1792–1875, American capitalist, b New York city, son of John Jacob Astor (1763–1848) Educated in Germany, he was associated with his father in business after 1818 Later called the landlord of New York, he also inherited money from his uncle Henry Astor and left an immense fortune

Astor, William Backhouse, 1829–92 American capitalist and sportsman, b New York city He was a retiring man, notable principally for his wealth and for his marriage to Caroline Schermerhorn She became famous, with the assistance of Ward McAllister, as Mrs William Astor, the Mrs Astor of modern folklore, glittering queen of New York society's ostentatious Four Hundred Their son was John Jacob Astor (1864–1912)

Astor, William Waldorf Astor, 1st Viscount, 1848–1919, American-British capitalist, b New York city, educated in Germany and Italy and at the

Columbia School of Law; son of John Jacob Astor (1822–90) When his minor political career as state assemblyman and senator was halted by his failure to win an election to the U S Congress, he was consoled by service as minister to Italy (1881–85) In 1890 he moved to England, where he bought a newspaper and magazines and founded—mainly to forward the literary ambition shown in two mediocre novels—*Pall Mall Magazine* His estates, Cliveden and Hever Castle, were magnificent, his entertainments extravagant, his contributions to public causes—especially in the First World War—overpowering He was made a baron in 1916 and a viscount in 1917 His elder son, Waldorf Astor, who succeeded him as viscount, was a leader of "Tory democracy" His wife is Nancy, Lady Astor The younger son, John Jacob Astor, was aide-de-camp to the viceroy of India and a distinguished officer in the First World War He bought a major share of the London *Times* His wife is Lady Violet Astor

Astorga (ästôr'gä), city (pop 14,352), Leon prov, NW Spain, in the Cantabrian Mts In the 8th and 9th cent it was one of the chief cities of Asturias The cathedral, rebuilt in the 15th cent, has additions in various styles

Astoria (ästôr'ēu) **1** Town (pop 1,292), W central Ill, SW of Peoria, inc 1839 It is a trade center in a farm area **2** Commercial, industrial, and residential section of NW Queens borough of New York city; SE N Y, settled in the 17th cent as Hallet's Cove It was renamed for John Jacob Astor and incorporated in 1839 Several 18th-century houses remain Astoria Park is here **3** City (pop 10,389), co seat of Clatsop co, NW Oregon, on the south bank of the Columbia not far from its mouth, inc 1865 Capt Robert Gray sailed past the site in 1792, Lewis and Clark had an encampment (Fort Clatsop) near by in 1805, and in 1811 an American fur-trading post was established here A double expedition came by sea and by land under the orders of John Jacob ASTOR Though in the troubles of the War of 1812 the little post was sold (1813) to the North West Company, its brief and vigorous history not only had helped to establish the American claim to the Oregon country but had contributed much to exploration of the continent (see especially HUNT, WILSON PRICE, and STUART, ROBERT) The North West Company renamed the post Fort George, and though Astoria was formally restored by the British to the United States in 1818, the trade remained in British hands Astoria had disappeared before it was refounded (1843) by overlanders who came over the Oregon Trail, of which Astoria was briefly the terminus. It grew as a port for seagoing and river vessels and later attracted Scandinavian settlers It is a port of entry and has a fishing fleet, salmon canneries, flour mills, and sawmills. A fire in 1922 destroyed much of the old city See Washington Irving, *Astoria* (1836), K W Porter, *John Jacob Astor* (1931)

Astrabad, Iran see GORGAN

Astraea (ästrē'ù), in classical myth, goddess of justice who withdrew from the earth at the end of the Golden Age (see AGE) She was daughter of Zeus and Themis and has taken her place in heaven as the constellation Virgo

Astraeus (ästrē'us), in Greek religion, son of the Titans CREUS and Eurybia and father by Eos of the stars and the winds

Astrakhan (ä'strukän", Rus a'strūkhŭ"nyù), city (pop. 253,655), capital of Astrakhan oblast, SE European RSFSR. A Caspian port on the Volga delta, it is a major fishing and caviar-processing center, a railroad junction, and a transshipment point for the oil transported from Baku to the Volga Astrakhan has several technical schools Once the capital of the khanate of Astrakhan (see TATARS), the city was conquered by Ivan the Terrible in 1557 and settled by Cossacks The oldest section, the Kreml (see KREMLIN), has preserved its cathedral, monastery, and palace Astrakhan has retained much of its Oriental character

astrakhan (äs'trukän) [from Astrakhan], pelt of the newborn Persian lamb, used like fur in garments, and also the woolen fabric woven to resemble real astrakhan. This cloth is woven on a cotton base entirely covered by a pile of closely curled mohair Before weaving, the mohair is wound on spindles and steamed to produce a tight, permanent curl

astringent (ästrin'jŭt), any substance—such as alum, catechu, and gallic and tannic acids—which causes the constriction of organic tissue Other astringents are many metallic salts, as the sulphates of copper, iron, and zinc, the nitrate of silver, and the acetate of lead, the mineral acids, and various organic compounds, called vegetable astringents In medicine, astringents are used to stop hemorrhage and diarrhea and to inhibit secretions of mucous surfaces and of various glands They are applied both externally and internally

astrolabe (äs'trulāb), instrument probably used originally for measuring the altitudes of heavenly bodies and for determining their positions and movements Although its origin is ancient and obscure, its invention is frequently ascribed either to Hipparchus or to Apollonius of Perga For many centuries it was used by both astronomers and navigators A simple astrolabe consisted of a disk of wood or metal with the circumference marked off in degrees It was suspended by an attached ring Pivoted at the center of the disk was a movable pointer called by Arabian astronomers the alidade By sighting with the alidade and taking readings of its position on the graduated circle, angular distances could be determined Mariners, if sufficiently skilled in navigation, could use the astrolabe to determine latitude, longitude, and time of day and as an aid in making other calculations It was much used on voyages of discovery in the 15th cent and was important until the invention of the sextant in the 18th cent The more elaborate astrolabes bore a star map (the planisphere, a circular map, was added by Hipparchus), a zodiacal circle, and various other useful or decorative devices

astrology [Gr, =science of the stars], method of DIVINATION based on the theory that the stars influence human affairs and determine the course of events Astrological lore is very old, and the extensive knowledge that the ancient Egyptians, Babylonians, Assyrians, and Chaldaeans had concerning astronomy was gained because of the belief in the divine influence of heavenly bodies Astrology was popular in Greece in the 4th cent B.C and later was much studied by the Romans even after it had been officially prohibited In the Middle Ages it was associated with alchemy and other occult sciences and prepared the way for the development of the modern science of astronomy After the work of Copernicus, astronomy and astrology diverged, but astrology by no means withered away Many prominent figures from Wallenstein to Hitler have depended upon astrologers to guide their actions, and astrology gained wider currency as printing grew more common New schools of thought such as the hermetic philosophers of the 17th cent and the many groups of occultists in the 19th cent added new items to astrological teaching Astrology today has perhaps numerically more adherents than ever before, though it is generally discredited in academic circles Foretelling one's future is done by means of charts of the zodiac One's horoscope or *nativity* is a map of the heavens at the time of one's birth, showing the position of the heavenly bodies in relation to the 12 "houses" or signs through which they pass and their positions in relation to each other Each house has as its "lord" one of the heavenly bodies, and the one in the "ascendant" is the one of greatest significance to the inquirer, endowing him with his temperamental qualities, his tendencies to particular diseases, and his liability to certain fortunes or calamities Popular handbooks of astrology are legion The well-known astrologer Evangeline Adams, for instance, wrote *Astrology: Your Place in the Sun* (1928), *Astrology Your Place among the Stars* (1930), and *Astrology for Everyone* (1931) The many studies in the history of astrology include Franz Cumont, *Astrology and Religion among the Greeks and Romans* (1912), T O Wedel, *The Mediaeval Attitude toward Astrology* (1920), and Ellen McCaffery, *Astrology: Its History and Influence in the Western World* (1942)

astronomy, scientific study of the heavenly bodies Early astronomy consisted chiefly of observations of the positions and movements of the heavenly bodies and arose mainly from the need for designating time intervals The earliest known writings found in Babylonia, China, and India reveal some knowledge of astronomy It is believed that predictions of eclipses were probably made c 2000 B C The pseudo science of ASTROLOGY was early associated with astronomy Early Egyptian astronomy was of a practical nature, mapping of the heavens, identification of stars, and the development of instruments for determining the positions of stars had been accomplished centuries before the rise of the Old Kingdom Greek astronomers made the first important theoretical contributions to the science They had observed evidences of the roundness of the earth several centuries B C. Contributions were made by THALES, PYTHAGORAS, ERATOSTHENES, and many others ARISTARCHUS OF SAMOS held to a heliocentric view of the cosmos The astronomy of HIPPARCHUS and other Alexandrian Greeks was preserved in the *Almagest* of Claudius PTOLEMY, and the geocentric viewpoint set forth in it was displaced only after the enunciation of the heliocentric viewpoint in the 16th cent through the writings of COPERNICUS Observations of GALILEO with a telescope of his own making gave support to the Copernican theory, which revolutionized astronomy Johannes KEPLER was influenced by the work of Copernicus Tycho BRAHE made notable astronomical observations Studies of the laws of falling bodies by NEWTON and Galileo made it possible to explain the force which maintains the planets and their satellites in their orbits Among the chief theories of the origin of the solar system are the now generally discarded NEBULAR HYPOTHESIS and the PLANETESIMAL HYPOTHESIS, which is the most generally accepted theory in the 20th cent, although its inadequacies are many. A more recent theory is based on the origin of our solar system from a double star and postulates the existence of many other solar systems During the past few centuries astronomical knowledge has been advanced by many scientists among whom are Edmund Halley, Sir William and Sir J. F. W. Herschel, Joseph von Fraunhofer, C. G. Abbott, Albert Einstein, G. E. Hale, Sir J H. Jeans, Sir S. A Eddington, Harlow Shapley, and Otto Struve. Much of the recent history of astronomy is concerned with astrophysics, the science in which physics is applied to astronomy It includes studies of the composition of the heavenly bodies (for which the spectroscope is an essential instrument), studies of radiation, and studies of the light of heavenly bodies. See also ASTEROID; COMET, METEOR, MOON, PLANET, STAR, SUN. See G. C Fisher, *Exploring the Heavens* (1937), A L. Draper and Marian Lockwood, *The Story of Astronomy* (1939), George Gamow, *The Birth and Death of the Sun* (1940) and *Biography of the Earth* (1941), Sir J H Jeans, *The Universe around Us* (4th ed, 1944), C G Abbott, *The Earth and the Stars* (rev ed, 1946), W. T Skilling and R S Richardson, *Astronomy* (rev ed, 1947), W L. Kennon, *Astronomy* (1948)

Astrophel (äs'trūfĕl), name given Philip Sidney by Spenser in his elegy on him, from Sidney's own sonnet series, *Astrophel and Stella.*

astrophysics. see ASTRONOMY

Asturias (ästōō'rēus, Span ästōō'ryas), region (4,207 sq mi; pop 836,642) and former kingdom, NW Spain, S of the Bay of Biscay and E of Galicia, identical with Oviedo prov It is crossed by the CANTABRIAN MOUNTAINS The coal mines, exploited since Roman times, are the richest in Spain Iron and zinc are also mined Though high production costs and poor transportation have hindered industrialization, the steel mills and other metallurgical industries of Oviedo have been important since the late 19th cent. On the broad mountain pastures cattle are raised, and along the coast, where Gijón is the chief port, fishing is the main occupation, but the larger part of the population is engaged in mining The name Asturias is derived from an Iberian people that lived here before the Roman conquest (2d cent B C) and was absorbed later by the Visigoths When the Moors overran the peninsula, the core of Christian Spain persisted in the Asturian mountains, where Christian nobles fled, created the first Christian kingdom of Spain (see PELAYO), and defended themselves at the battle of COVADONGA From Asturias came the Christian reconquest of Spain, as the successors of King ALFONSO I extended their control over Asturias, Galicia, Leon, and parts of Castile, of Navarre, and of Vizcaya In the 10th cent the capital was moved from Oviedo to Leon and the kingdom of Asturias became the kingdom of Asturias and Leon, which three centuries later was united with the kingdom of Castile In 1388 John I of Leon and Castile made his son Henry prince of the Asturias —the title borne ever afterward by the heir to the throne The Asturians are noted for their stubborn courage and independence—traits shown in the warfare against Napoleon, in various uprisings, and on the Loyalist side in the Spanish civil war of 1936–39

Astyages (ästī'ujēs), 6th cent B C, king of the Medes (584–c.550 B C), son and successor of Cyaxares His rule was harsh and he was unpopular. His daughter married the elder Cambyses, and her son was CYRUS THE GREAT, who rebelled against his grandfather and overthrew (c 550 B C) him, thus creating the Persian Empire

Astyanax (ästī'unăks), in Greek legend, son of Hector and Andromache When the Greeks captured Troy, they killed him

Asunción (äsōōnsyōn'), city (pop. over 100,000), capital of Paraguay, on the Paraguay river and more than 600 mi N of Buenos Aires Approximately 75 percent of the exports and 90 percent of the imports of Paraguay clear through the port of Asunción. The city is also a center of industries, with flour mills, tanneries, distilleries, and shoe, furniture, and match factories From the east bank of the river, the city spreads out on gentle hills in a pattern of rectangular blocks Asunción, one of the oldest cities of South America, has a decidedly colonial aspect, enhanced by red-tiled roofs, colorful patios, and flowering trees. The outstanding structures are the government buildings, the postal and telegraph building, the municipal theater, the Godoi Museum, the Church of La Encarnación, and the modern, air-conditioned Bank of Paraguay The Panteón Nacional has the remains of Francisco Solano López and the tomb of the unknown soldier Several colleges, two normal schools, and the National UNIV are here The site of the city may have been visited by Ayolas, but the town, called Nuestra Señora de la Asunción [Our Lady of the Assumption], was founded in Aug, 1536, or Aug, 1537, by Juan de Salasar and Gonsalo de Mendoza A trading post on the route to Peru, it flourished under the governorship of Domingo Martínez de Irala and became the most important town in the Río de la Plata region The development of Buenos Aires ended the eminence of Asunción, but it has grown steadily in recent years.

Asuppim (ŭsŭp'ĭm) [Heb.,=gatherings]. AV in 1 Chron. 26.15 reads "the house of Asuppim"; RV reads more correctly "the storehouse."

Asura: see HINDUISM.

Asvins: see HINDUISM.

Aswan or **Assuan** (both: ăswän', ăswän'), city (pop. 25,397), Upper Egypt, at the First Cataract of the Nile. The granite quarries in the vicinity supplied material for the statues and buildings of the Pharaohs. In the Bible, Aswan is called Syene and is described as the south limit of Egypt. The foundation of the **Aswan Dam** of the Nile, near the city, was completed in 1902. It was designed and built by Sir William Willcocks. It is over a mile in length, is 176½ ft high, and is crossed by a roadway 26 ft. wide. The dam affects the water level of the Nile as far upstream as Abu Simbel, 174 mi distant. A system of locks permits navigation. The Aswan Dam and the barrages of Asyut are the chief means for regulating the level of the Nile for irrigation purposes.

asylum (ăsī'lŭm), extension of hospitality and protection to a fugitive and the place where such protection is offered. The use of temples and churches for this purpose in ancient and medieval times was known as sanctuary. In modern international law, the granting of asylum to refugees from other lands is the right of a state by virtue of its territorial sovereignty. A fugitive, however, has no right to demand asylum from the state to which he flees; that state makes its own determination in each case. Between most nations there are treaties of EXTRADITION providing for the mutual surrender of fugitives from justice, and there is a tendency to confine the granting of asylum to political refugees and victims of apparent discrimination and intolerance. A situation causing many international disputes is the use of embassies and legations, by virtue of their status of EXTERRITORIALITY, as places of refuge in times of disorder and conflict. The United States has never practiced this type of asylum except where lives were threatened by mob violence.

Asyncritus (ăsĭn'krĭtŭs) [Gr.,=incomparable], Roman Christian. Rom. 16.14.

Asyut (ăsōōt'), city (pop. 90,378), central Egypt, on the Nile. It is famed for its pottery. Near by is the Asyut barrage, which, together with the ASWAN DAM, is of great importance in regulating the flow of the Nile. Asyut was the ancient Greek city of Lycopolis and later a station of caravan trade.

At, chemical symbol of the element ASTATINE.

Atacama, Desert of (ätkä'mä), arid region, c 600 mi. long, N Chile, extending south from the border of Peru. The desert itself, c 2,000 ft above sea level, is a series of dry salt basins flanked on the west by the Pacific coastal range, averaging c 2,500 ft high, and on the east by the Andes. There is practically no vegetation, in many places rain has never been recorded. Of the streams descending from the Andes only the LOA reaches the Pacific. ANTOFAGASTA and other regional ports are without protected anchorages and are subject to frequent and severe earthquakes. Yet the Atacama has been a source of fabulous nitrate and copper wealth. The first European to cross the forbidding waste was Diego de ALMAGRO in 1537. From then until the middle of the 19th cent. it was largely ignored, but with the discovery of the use of sodium nitrate as a fertilizer and later the invention of smokeless powder using nitroglycerin, the desert had a mining boom. While the southern half of Atacama belonged to Bolivia, the companies exploiting the deposits were Chilean. Differences arose, and in the ensuing war (see PACIFIC, WAR OF THE) Chile won the entire area. When synthetic nitrates were developed after the First World War, the boom collapsed. See Isaiah Bowman, *Desert Trails of Atacama* (1924).

Atad (ā'tăd) [Heb.,=thorn], name of the unidentified threshing floor where Joseph and his brethren mourned the death of Jacob. Gen. 50.10,11.

Atahualpa (ätäwäl'pä), d. 1533, last Inca of Peru; favorite son of Huayna Capac. At his father's death (1525), he received the kingdom of Quito while his brother Huascar inherited the rest of the Inca empire. Shortly before the arrival (1532) of Francisco PIZARRO, Atahualpa rebelled against Huascar, imprisoned him, and made himself Inca. On Nov. 16, 1532, Pizarro met Atahualpa at Cajamarca. Invited into the city, Atahualpa was seized and imprisoned. Atahualpa offered as ransom a room full of gold and at the same time secretly ordered the death of Huascar. He was tried for his brother's murder and for plotting against the Spanish and was executed.

Atalanta (ătŭlăn'tŭ), in Greek legend, huntress who joined the CALYDONIAN HUNT and the voyage of the ARGONAUT heroes. She ran a race with each of her suitors, on condition that he who won should marry her and he who failed should die. Hippomenes (hĭpŏ'mĭnēz) won the race by dropping three golden apples which Atalanta turned aside to catch. Because Hippomenes and Atalanta forgot to honor Cybele, they were turned into lions and yoked to her chariot. Another account makes Milanion the successful suitor.

Atami (ä'tämē), city (1947 pop. 34,754), Shizuoka prefecture, central Honshu, Japan. It is a noted hot-springs resort.

Atarah (ăt'ərŭ) [Heb.,=crown], one of Jerahmeel's wives. 1 Chron. 2.26.

Atargatis: see ASTARTE.

Ataroth (ā't'rŏth) [Heb.,=crowns]. **1** Town of Gilead. Num. 32.3,34. **2** Unidentified place, E central Palestine. Joshua 16.7. **3** See ATAROTH-ADAR. **4** Place or family of Judah. 1 Chron. 2.54.

Ataroth-adar (-ă'dĭr), unidentified town, N of Jerusalem. Joshua 18.13. Ataroth. Joshua 16.2.

Ataroth-addar (-ăd'dĭr), the same as ATAROTH-ADAR.

Ataturk, Kemal (kĕmäl' ätätürk'), 1880–1938, Turkish leader, founder of modern Turkey. The name was taken in 1934 in place of his earlier name, Mustafa Kemal, it is made up of the Turkish words Kemal [the Perfect] and Ataturk [father of the Turks]. Born at Salonica, he ran away from school to enter a military academy, where his excellence at mathematics won him the surname Kemal. In 1908 he took part in the Young Turk revolution as chief of staff of ENVER PASHA, whom he later opposed. He served in Libya (1911-12), in the Second Balkan War (1913), and in the First World War. His efficient work in the Dardanelles, on the Armenian front, and in Palestine, though it merely helped to postpone disaster, won him the title pasha. In May, 1919, while on mission to E Anatolia, Kemal organized the Turkish Nationalist party and began to form an army. When the Turkish nation was aroused by the Greek landing at SMYRNA, he convoked nationalist congresses at Erzerum (July, 1919) and at Sivas (Sept.). Outlawed by Sultan MOHAMMED VI, who was in the hands of the Allies in Constantinople, he set up a rival government at Ankara. The signing of the Treaty of SÈVRES by the Constantinople government made the split with Ankara final. With the tacit consent of Soviet Russia, Kemal retook the Kars and Ardahan from Armenia (1920). Then, taking advantage of disagreements among the Allies, he expelled the Greeks from Anatolia in a brilliant campaign (1921–22). For his victory he received the official name Ghazi [victorious]. On Nov. 1, 1922, Kemal proclaimed the abolition of the sultanate and exiled the sultan's family. The Treaty of Lausanne (1923; see LAUSANNE, CONFERENCE OF) was a triumph for the nationalist cause. Kemal was elected president (1923) of the newly founded Turkish republic and reelected in 1927, 1931, and 1935—all four times by a unanimous parliament. With astounding energy he set out on a program of internal reform and "westernization," 15 years of his rule changed Turkey profoundly in the most essential as well as the minutest aspects of its life (see TURKEY). Like other dictators Kemal tolerated no opposition, and his methods were ruthless. With regard to Islam, he abolished (1924) the CALIPHATE, and broke all religious opposition to reform. Abroad, he pursued a policy of conciliation and neutrality. He established friendly relations with all neighbors, particularly Russia, helped to bring about the BALKAN ENTENTE, and freed Turkey from foreign influence, even though he had to refuse capital for industrialization of the country. Despite his energy, he was avowedly a heavy drinker, and the cause of his death was cirrhosis of the liver. Ismet Inonu succeeded him as president. See biographies by Dagobert von Mikusch (Eng. tr., 1931), H. E. Wortham (1931), and Hanns Froembgen (Eng. tr., 1937), D. E. Webster, *Turkey of Ataturk* (1939).

Ataulf (ă'tŏŭlf), d. 415, Visigothic king (410–15). Succeeding his brother-in-law, ALARIC I, he abandoned Alaric's plan of southward expansion, led the Visigoths out of Italy into S Gaul (France) in 412, and sought the alliance of the Western emperor, HONORIUS, whose sister, GALLA PLACIDIA, he married in 414. However, the general Constantius (later Emperor CONSTANTIUS III), jealous of Ataulf, turned Honorius against him. Constantius blockaded the Gallic ports, and Ataulf, cut off from supplies, led his people into N Spain (see VISIGOTHS). He was assassinated at Barcelona.

atavism (ă'tŭvĭzŭm), reversion to an ancestral type. It is evidenced by the sudden appearance in an individual of a characteristic not seen in the immediately preceding generation. Sometimes the characteristic is a family one which reappears after several generations. Other atavistic tendencies are seen in the appearance in a race of humans or in animals of a characteristic either unusual or abnormal for that race or group but normal to a supposedly ancestral race. Atavism is commonly explained, on the basis of the Mendelian laws of heredity, as the result of the recombination of the factors which determined the characteristics of the earlier individual.

ataxia (ŭtăk'sēŭ), lack of muscular coordination, resulting in irregular movements of the body. The condition has a number of causes. A transient state of ataxia (unsteadiness and staggering) is commonly observed in the intoxicated individual; the condition is permanent when the central nervous system is affected, e.g., in LOCOMOTOR ATAXIA.

Atbara (ătbä'rŭ, ăt-, ät'bŭrä), town, NE Anglo-Egyptian Sudan, at the junction of the Atbara river with the Nile. It is a railroad junction. Near by, in 1898, Kitchener defeated the Mahdists in a pitched battle.

Atbara, river, c.700 mi. long, E Africa, rising in NW Ethiopia and flowing to the Nile in Anglo-Egyptian Sudan.

Atchafalaya (ŭchä'fŭlī'ŭ), river, c 170 mi. long, branching in E Louisiana from the Red River a few miles above the Red's junction with the Mississippi. The Atchafalaya, navigable, flows generally south with a slow, winding course through several lakes (including Grand Lake) to Atchafalaya Bay, an inlet of the Gulf of Mexico in S Louisiana.

Atchison, David Rice, 1807–86, U.S. Senator, b. Frogtown, Ky., grad. Transylvania Univ. A lawyer and politician in Missouri, he was chosen to fill an unexpired term in the Senate in 1843 and was returned in 1849. He was chairman of the committee on Indian affairs and was elected president pro tempore many times. As a proslavery Democrat, Atchison was instrumental in having the KANSAS-NEBRASKA BILL passed. After his defeat for reelection in 1855, he was a leader of the border ruffians in the raids into KANSAS (1855–56). He supported the Confederacy in the Civil War. Atchison, Kansas, is named for him.

Atchison, city (pop. 12,648), co. seat of Atchison co., NE Kansas, on the Missouri, settled 1854, inc. 1855. A military post was established (1818–19) on near-by Cow Island, in the Missouri. The city boomed as an important wagon-train, river, and railroad terminal, one of the outfitting points for travel west. It is now a wholesale and jobbing center, with flour mills and other industries. Mt. St. Scholastica College (Catholic, for women, 1863) and St. Benedict's College (Catholic, for men; 1859) are here. A new bridge spanning the river was opened in 1938.

Ate (ā'tē) [Gr.,=folly], in Greek religion, personification of the rash temper which leads men to folly and misfortune. She was a daughter of ZEUS, who cast her from OLYMPUS. In the tragic writers she was also an avenger of evil deeds, hence she often was confused with NEMESIS and the ERINYES.

Ater (ā'tər). **1** Ancestor of a family that returned with Zerubbabel. Ezra 2.16, Neh. 7.21, 10.17. **2** Ancestor of a family of porters. Ezra 2.42, Neh. 7.45.

Athabaska (ăthŭbă'skŭ), river of Canada, 765 mi. long, most southerly of the Mackenzie headstreams. Rising in W Alberta in the Columbia snow field of the Canadian Rockies, not far from the headwaters of the North Saskatchewan, it flows N through Jasper National Park and then roughly NE and N to Lake Athabaska. Its chief tributaries are the Pembina, Lesser Slave, La Biche, and Clearwater. The river has always been the chief route to the Mackenzie valley, and for many years the Hudson's Bay Company took its goods overland from Edmonton to Athabaska Landing, whence they were sent down the river on scows to the Grand Rapids and there taken by tramway to the steamers below.

Athabaska, Lake, c 200 mi. long and 5 to 35 mi. wide, NE Alta. and NW Sask. It was surveyed and mapped (1790–92) by Philip TURNOR. It is on the margin of the LAURENTIAN PLATEAU. The lake receives the Athabaska river at its southwest end and is drained from its northwest part by the Great Slave river to Great Slave Lake and then by the Mackenzie to the Arctic Ocean. Fort Chipewyan was built at the west end of the lake by Roderick McKenzie of the North West Company in 1788 and has been maintained. Steamers of the Hudson's Bay Company ply the lake in summer between Chipewyan and Fond du Lac, where the canoe route begins via Wollaston Lake and Reindeer Lake to the Churchill river.

Athabaska, Mount, 11,452 ft. high, W Alberta, in the Canadian Rockies at the headwaters of the Athabaska river. It is on the edge of the Columbia snow field, and the Saskatchewan and Athabaska glaciers flow around it. The mountain was climbed by J. N. Collie in 1898.

Athabaska Pass, 5,736 ft. high, W Alta. and E British Columbia, leading from the headwaters of the Athabaska river across the Continental Divide to the Columbia river. It was discovered by David THOMPSON or one of his agents c 1811, and for the next 50 years it was the chief route of the Hudson's Bay men on their journeys to and from the Columbia river country. See L. J. Burpee, *On the Old Athabaska Trail* (1926).

Athach (ā'thăk) [Heb.,=lodging place], place, S Palestine, visited by David. 1 Sam. 30.30.

Athaiah (ăthā'yŭ), Judahite. Neh. 11.4. Uthai. 1 Chron. 9.4.

Athaliah (ăth"ulī'ŭ) [Heb.,=whom God afflicts]. **1** Died c 841 B.C., queen of Judah (c 846–c 841 B.C.), daughter of AHAB of Israel, wife of JEHORAM of Judah, and mother of AHAZIAH **2** of Judah, whom she succeeded. She had the males of the royal family murdered, but she was thwarted by her stepdaughter Jehosheba, who hid away a baby son of Ahaziah. Some years after, Jehosheba and her husband effected a coup d'état in favor of this baby, JEHOASH **2**. Athaliah they killed. These events are the subject of Racine's *Athalie*. 2 Kings 11; 2

Chron. 22-23. ‡ Benjamite 1 Chron 3 26 ‡ Father of one who returned with Ezra Ezra 8 7.

Athamas (ăth'ŭmăs), in Greek legend, king of Boeotia His first wife was Nephele (nĕf'ĭlē), mother of PHRIXUS and Helle He deserted her and married INO, mother of Learchus and Melicertes, Ino plotted to kill Nephele's children HERA punished Athamas by causing him to go mad and kill Learchus

Athanagild (uthă'nŭgĭld), d 567, Visigothic king of Spain (554–67) Having deposed his predecessor, Agila, with the aid of an army sent by Emperor Justinian I, he ceded a large portion of S Spain to the Byzantines and was unable to prevent them from extending their limits beyond the agreed line Although throughout his rule he had to fight the Byzantines the Franks, and the Basques, Athanagild strengthened his kingdom internally by conciliating the Catholics, whom his Arian predecessors had oppressed His court at Toledo was famed for its splendor Athanagild was the father of the Frankish queens Brunhilda and Galswintha He was succeeded by his brothers Liuva and Leovigild

Athanaric (ăth'ănărĭk), d 381, Visigothic chieftain He led the VISIGOTHS against Emperor VALENS and negotiated a favorable peace in 369 A pagan, he persecuted the Christians, possibly on that account he was involved in war with FRITIGERN Defeated by the Huns in 376, he fled to Transylvania and later (381) to Constantinople There Theodosius received him with royal honors, but he died two weeks later

Athanasian Creed (ăthŭnā'zhun), exact, elaborate Catholic statement on the Trinity and the Incarnation It is no longer believed to be by Athanasius, but rather by an unknown Western author of the 6th cent An English translation appears in the British Book of Common Prayer It is sometimes called *Quicunque Vult* [whoever wishes (to be saved)]

Athanasius, Saint (ăthunā'zhŭs), 295–373, Doctor of the Church, patriarch of Alexandria (328–73), called the father of orthodoxy Ordained a deacon, he was, in his youth, secretary and adviser to the bishop of Alexandria and attended the Council of Nicaea (see NICAEA, FIRST COUNCIL OF) with him There he distinguished himself for his eloquent opposition to ARIANISM As patriarch of Alexandria, he refused to yield to the demands of EUSEBIUS OF NICOMEDIA and of the emperor to reinstate Arius, who had been recalled from exile Tried at a council at Tyre (335) and deposed for sacrilege, Athanasius appealed to the emperor, his accusers then charged him instead with threatening to stop the Egyptian grain exports Constantine I unaccountably halted the trial and banished Athanasius to Trier This was the first of five exiles He was brought east and reinstated (337) and displaced again (339) He fled to Pope JULIUS I The West vigorously upheld him and the council at Sardica (343) vindicated him Emperor Constantius was Arian, and only in fear of the Catholic Constans did he allow Athanasius' return (346) For ten years—the most brilliant of his episcopate—Athanasius reigned in peace He strengthened his diocese and wrote some of his greatest works, including the *Defense against the Arians* (c 348), our best source for Christianity in the period 300–350 In his next exile (356–62) he composed a continuation of the *Defense* called *History of the Arians* (357–8) and his greatest doctrinal work, *Discourses against the Arians*, an exposition of the Nicene Christology to disprove Arianism and the views of MARCELLUS OF ANCYRA Athanasius was again in his see under Julian (362), who excepted him from the general amnesty Jovian brought him to Alexandria (363), and Valens drove him out (365), but he was finally restored to his see in 366 Athanasius defended Catholicism for the rest of his life and was ably assisted toward the end by ST BASIL THE GREAT Selected works, including those against the Arians and *De Incarnatione*, (c 318) a brilliant pamphlet of his youth, are translated in collections of patristic literature Feast May 2

Athapascan or **Athapaskan** (both, ăthŭpăs'kŭn), linguistic stock of North America It is one of the most widely distributed of families of languages, and the tribes speaking them are culturally very diverse They vary from the nomadic hunters of the Yukon and Mackenzie river basins to the NAVAHO INDIANS and APACHE INDIANS The languages fall into three geographical groups, Northern, Pacific Coast, and Apachean (see LANGUAGE, table) According to a suggestion never proved, Athapascan belongs to a greater linguistic family (called Na-Dene) This would unite with it first Tlingit, then Haida.

Atharva Veda: see VEDA.

atheism, doctrine that there is no supernatural being. Historically the term has been loosely used by various groups to describe any doctrine differing from their particular orthodoxy Thus Socrates was accused of atheism, as were the early Christians Spinoza was so charged and so were deists such as Thomas Paine and Thomas Jefferson. There have been few active advocates of atheism except the orthodox Marxian Communists, who feel religion to be a positive danger to the state. One type of atheist, like the agnostic, denies the possibility of achieving any conception of a divine being but goes further and says that therefore none exists

Athelney, Isle of (ăth'ulnē), small tract formerly surrounded by marshland, Somerset, England, near the junction of the Tone and Parrett rivers NE of Taunton King ALFRED took refuge from the Danes here in 878 and here, in 888, he founded a Benedictine abbey Relics have been found, including the Alfred Jewel now in the Ashmolean Museum at Oxford

Athelstan or **Æthelstan** (both ăth'ulstŭn, -stăn″, adh'ŭl-), d 940, king of the English (924–40), son (possibly illegitimate) of EDWARD THE ELDER He is said to have been the favorite grandchild of ALFRED Apparently he spent much of his youth with ÆTHELFLÆD, Lady of the Mercians After coming to the throne, he vigorously built up the state on the foundations laid by Alfred He made himself overking of all England, conquering Northumbria and establishing his hegemony firmly by victory over a coalition of his enemies at BRUNANBURH in 937 He also led forces into Cornwall He was popular as well as able, was generous to the Church, and issued laws that attempted to impose royal authority on customary law The royal family established continental connections, Athelstan's sisters were married to Charles III (Charles the Simple), Hugh the Great, Otto I, and Louis, king of Arles The long residence of the prince who was to be LOUIS IV of France at the court of his uncle Athelstan caused him to be called Louis d'Outremer The prince who was to be later Haakon I or Haakon the Good of Norway also spent years at Athelstan's court.

Athena (uthē'nu) or **Pallas Athena** (păl'ŭs), Olympian goddess of wisdom, patron of the arts of peace and of war, ruler of storms, and a guardian of cities, especially of Athens She is usually shown wearing a helmet and an AEGIS with the head of MEDUSA Her greatest gift to man was the olive tree The owl, the serpent, and the cock were sacred to her The Parthenon was built as a temple to her, and the PANATHENAEA festivals were held in her honor A representation of her as guardian of a city was the Palladium She was a virgin goddess, who sprang from the forehead of Zeus after he had swallowed her mother, Metis She was sometimes called NIKE The Romans identified her with MINERVA There are many representations of her in art

Athenaeus (ăth″unē'ŭs), fl c 200, Greek writer, b Naucratis, Egypt His anthological work, the *Deipnosophistae* (*Banquet of the Learned*), though of little literary merit, is valuable because of the wealth of curious information it contains

Athena Parthenos, by the Greek sculptor PHIDIAS, the chief treasure of Athens In Athena's temple, the Parthenon, the gold and ivory statue was dedicated c 438 B C The helmeted goddess, represented standing, with a shield and a spear at her left, held on her right hand a figure of Nike.

Athenodorus see LAOCOON

Athens (ăth'ĭnz), Gr *Athenai* (athē'nē), city (pop 481,225), capital of Greece, on the plain of ATTICA, between the Cephissus river (west) and the Ilissos river (east) Greater Athens, including the port of PIRAEUS on the Saronic Gulf and several suburbs, has a population of 1,124,109 The Parnes, Pentelicon, and Hymettus mts rise in a semicircle N, NE, and SE of Athens More than half of the industrial production of Greece is concentrated in the Athens area The industries include manufactures of silk, wool, and cotton textiles, machine-tool plants, and public utilities Athens is also the see of an archbishop, who presides over the Holy Synod of the Greek Orthodox Church The cultural legacy of ancient Athens to the world is incalculable, and Athens remains a cultural center, the seat of a university (founded 1837), a polytechnic institute, an academy of sciences, several schools of archaeology, and many museums and libraries Its ancient monuments attract thousands of tourists and students yearly It is the past commemorated by those monuments that makes Athens a world-known name To a great extent the references to the Greek heritage and Hellenic culture that abound in the writings of Western Europe are to Athenian civilization Athens more than any other Greek city-state created the golden period of ancient Greece Until the 6th cent B C, however, there were few signs of what Athens would become. It was an old city and proudly claimed that its inhabitants were autochthonous—had been there even before the settlements of Attica had been molded into a single state (an accomplishment attributed in legend to Theseus) The days of rule by kings were barely remembered or recorded The succeeding control by the aristocrats through the archontate (see ARCHONS) continued till the reforms of SOLON were begun in 594 B C. He abolished serfdom, replaced the laws attributed to DRACO, altered the economy and constitution to give power to all the propertied classes, and thus established a very qualified democracy These reforms were retained when the government of Athens fell under the rule of the tyrant PISISTRATUS and his sons, HIPPIAS and HIPPARCHUS—a period of tyranny that lasted until 510 B.C. The system of Solon also made it possible for CLEISTHENES to establish a democracy for the freemen of Athens, and the city was a democracy in most of the years of its greatness. Commerce had already begun to enrich Athenians, and the literature and art that were to develop rapidly had already started their growth It was with the PERSIAN WARS (500–449 B C) that the city-state emerged Much smaller and less powerful than SPARTA, Athens was more active and more effective in the fighting against the Great King of Persia, and the Athenian heroes MILTIADES, THEMISTOCLES, and CIMON not only were able military and naval leaders but also built Athens' might The creation of a great navy was perhaps of more importance than the memories of the victories of MARATHON and SALAMIS The fleet made possible the Athenian hegemony in the DELIAN LEAGUE which was created in 478 B C through the confederation of many city-states The league in the succeeding years was gradually transformed into an empire, with Athens as the queen of the sea The constant warfare between little states that characterized the whole history of ancient Greece did not cease, but peace with Persia was arranged in 449 B C and peace with Athens' greatest rival, Sparta, was negotiated in 445 Already with the rise of PERICLES to chief power in the city, Athens had reached its apogee In the days when that cool aristocrat managed the government of the democracy, SOCRATES was speaking his words of wisdom in the streets, AESCHYLUS was ending his career as a tragedian, and SOPHOCLES and EURIPIDES were writing some of the noblest dramas ever conceived The incomparable Parthenon was erected Sculpture and painting flourished Probably never again in the history of the West (unless in Renaissance Florence) was so much creative genius gathered in one spot The political peace did not long endure The rivalry with Sparta did not die, and the PELOPONNESIAN WAR began in 431 B C It went badly at the start The Long Walls built to protect the city and its port, Piraeus, did save the city itself so long as the fleet was paramount, but the Athenian allies fell away and the land empire Pericles had tried to build had disappeared before he died in 429 Fortunes varied in the war, which dragged on under the policy of a new Athenian leader CLEON and continued even after the expedition urged by ALCIBIADES against Syracuse failed dismally It ended in 404 with Athens completely humbled, compelled under Sparta's dictates to tear down the Long Walls and accept the government of the Thirty Tyrants Recovery after such exhausting defeat was surprisingly rapid The next year the Thirty Tyrants were overthrown by Thrasybulus, and by 376 Athens had a fleet again, had re-created the Delian League, and had won a naval victory over Sparta Sparta lost power in the battle of Leuctra (371), and though Athens did not achieve hegemony in Greece again, the city did have a period of great prosperity and comfort The coming of the Macedonian conqueror, PHILIP II, to Greece spelled Athen's political doom The fulminations of DEMOSTHENES against Philip availed nothing, and the attempt of the city to escape his grasp failed ultimately The battle of Chaeronea in 338 reduced the city, and Athenians did not dare dispute the mastery of Philip's son, Alexander the Great An attempt (323–322 B C) to escape the Macedonian control after Alexander's death failed, and Athens began to sink to the position of a provincial city Its last bid for greatness in the years 266–263 was firmly suppressed by Antigonus II Through the troubled times of the Peloponnesian War and the wars against Philip, Athenian achievements in philosophy, drama, and art continued ARISTOPHANES held up the mirror of comedy to humankind, PLATO taught in the Academy, and ARISTOTLE compiled an incredible store of information This glory sank away in the 3d cent as Athens' contributions were spread over the world in Hellenistic culture Athens became a rather inconsiderable ally of growing Rome, and a period of stagnation was broken only when Athens unwisely chose to support Mithridates VI of Pontus against Rome The result was the sack of Athens in 86 B.C. by Sulla, who sneered at Athenian claims of past greatness. Yet Athens sent out many teachers to Rome and kept a certain faded glory in decadence as a moderately prosperous small city in the backwash of empire This it remained to the days when the Eastern Empire was falling to barbarian attack Athens was taken (395), but probably not sacked, by the Visigoths under Alaric I. It continued as a provincial capital under Byzantine rule and was a center of religious learning and devotion. As a result of the creation (1204) of the Latin Empire of Constantinople (see CONSTANTINOPLE, LATIN EMPIRE OF) Athens passed (1205) to Othon de la Roche, a French nobleman from Franche-Comté, who was made *megaskyr* [great lord] of Athens and Thebes His nephew, Guy I, took the ducal title Under him and his successors the duchy of Athens enjoyed great prosperity but became thoroughly French in its institutions. In 1311 the duchy fell

to a band of Catalan soldier-adventurers who offered (1312) the ducal title to King Frederick II of Sicily, of the house of Aragon. Members of the house of Aragon carried the title, but Athens was actually governed by the "Catalan Grand Company," which also acquired (1318) the neighboring duchy of Neopatras. The French feudal culture disappeared, and Athens sank into insignificance and poverty, particularly after 1377 when the succession was contested in civil war. Peter IV of Aragon assumed sovereignty in 1381, but ruled from Barcelona. On his initiative the devastated duchy was settled by Albanians. Athens again knew a brief prosperity after its conquest (1388) by Nerio I Acciajuoli, lord of Corinth, a Florentine noble. Under the Acciajuoli family numerous Florentine merchants established themselves here, but in 1458 the fall of the Acropolis to the Turks marked the beginning of nearly four centuries of Ottoman rule, and Athens once more declined. Venice, which had held Athens from 1394 to 1402, recovered it briefly from the Turks in 1466 and besieged it in 1687–88. During the siege the Acropolis, used by the Turks as a powder magazine, was largely blown up in a bombardment. Modern Athens was built only after 1834, when it was declared the capital of newly independent Greece. Its population suffered extreme hardship during the German occupation (1941–44) in the Second World War, but the city escaped damage in the war and in the civil troubles that followed its liberation. Its main landmark and the pride of its citizens remains the ancient ACROPOLIS, which dominates the city and on which stand the remains of the PARTHENON, the PROPYLAEA, and the ERECHTEUM. Occupying the southern part of modern Athens, the Acropolis is ringed by the other chief landmarks of the ancient city—the PNYX, where the citizens' assemblies were held, the AREOPAGUS, the Theseum or Hephaesteum, a well-preserved Doric temple of the 5th cent. B.C., the old AGORA and the Roman forum, the Tower of the Winds (*see* ANDRONICUS OF CYRRHUS), the temple of Zeus or Olympieum (begun under Pisistratus in the 6th cent. B.C., completed in the 2d cent. A.D. under Hadrian, whose arch stands near by), the theater of Dionysus (oldest in Greece), and the ODEUM of Herodes Atticus. There are many Roman remains in the "new" quarter built east of the original city walls by Emperor Hadrian, here also are the royal palace and gardens. The STADIUM is E. of the Ilissos. Parts of the ancient city walls are still visible, particularly at the Dipylon, the sacred gate on the road to Eleusis, the Long Walls, however, connecting Athens and Piraeus, have almost entirely disappeared. For bibliography, see GREECE. See also W. S. Ferguson, *Hellenistic Athens* (1911), John Day, *An Economic History of Athens under Roman Domination* (1942)

Athens 1 (ăth'ĭnz) Industrial city (pop. 4,342), co. seat of Limestone co., N. Ala., near the Tenn. line, N. of Birmingham, in a cotton area, settled 1814, inc. 1818. Sacked and occupied by Federals in 1862, it was recaptured by Gen. N. B. Forrest in 1864. TVA power was purchased in 1934. The town has fine ante-bellum houses. Athens College (Methodist, coeducational, 1843) is here. **2** (ăth'-ĭnz) City (pop. 20,650), co. seat of Clarke co., NE Ga., on the Oconee and ENE of Atlanta, in a piedmont area. It was founded in 1801 as the site for the Univ. of Georgia (*see* GEORGIA, UNIVERSITY OF) and incorporated as a city in 1872. The city's industries—the making of textiles, tire cord, and cottonseed oil—depend mainly on the cotton produced in this diversified farm area. Numerous Georgia statesmen came from Athens, and some of their homes are among the many fine examples here of classic revival style—the Howell Cobb house (1850), the T. R. R. Cobb house (1830–43), the Joseph H. Lumpkin house (c. 1845), the Camak house (1817), and the Benjamin H. Hill house (1855). **3** (ă'thĭnz) City (pop. 1,062), central Ill., NW of Springfield, in a farm and coal area, inc. 1892. **4** (ă'thĭnz) Village (pop. 1,655), SE N.Y., on the west bank of the Hudson and S of Albany, settled 1686, inc. 1805. Bricks are made. **5** (ăth'-ĭnz) City (pop. 7,696), co. seat of Athens co., SE Ohio, on bluffs overlooking the Hocking river, inc. as a city 1912. It was surveyed in 1795–96 by the Ohio Company of Associates as the site of a university and settled shortly thereafter. Printing, publishing, and manufacture of business machines are industries. It is the seat of OHIO UNIVERSITY and of a state hospital for the insane. Wayne National Forest is north. **6** (ăth'ĭnz) Industrial borough (pop. 4,215), NE Pa., NW of Towanda at the confluence of the Chemung and Susquehanna rivers, settled c. 1778, laid out 1786, inc. 1831. Its manufactures include metal products, silk, and machine tools. Tioga Point Museum has Indian implements, geological specimens, and skeletal remains. **7** (ăth'ĭnz) City (pop. 6,930), co. seat of McMinn co., E. Tenn., between Knoxville and Chattanooga, in a farm area, laid out 1821. Tennessee Wesleyan College (junior, coeducational) is here. Athens was the scene of violence in Aug., 1946, when veterans of the Second World War forcibly took over supervision of the county elections in a successful effort to insure honest balloting. **8** (ăth'ĭnz) City (pop. 4,765), co. seat of Henderson co., E. Texas, SE of Dallas and SW of Tyler, founded before 1850, inc. 1901. The peaches, potatoes, tomatoes, other truck and fruit, and the oil of the surrounding area are shipped, and clay is made into pottery, brick, and tile.

Atherton, Gertrude Franklin (Horn), 1857–1948, American author, b. San Francisco. Her historical novels of California were pioneer works in that field and include *The Doomswoman* (first pub. serially, 1892), *The Californians* (1898), *Rezánov* (1906), and *Ancestors* (1907). She also wrote short stories (*The Splendid Idle Forties*, 1902) and the nonfictional *California: an Intimate History* (1914). *The Conqueror* (1902) is a novel based on Alexander Hamilton's life. Best-known later works are *Black Oxen* (1923), *The Immortal Marriage* (1927), about Pericles and Aspasia, her autobiography, *The Adventures of a Novelist* (1932), and the partly autobiographical *My San Francisco* (1946).

Atherton, residential town (1940 pop. 1,908, 1947 special census pop. 3,172), W Calif., S of San Francisco, inc. 1923.

Athlai (ăth'lī, ăthlā'ī) [Heb., =God afflicts], Israelite. Ezra 10:28.

athlete's foot. see RINGWORM.

Athlone, Godart van Ginkel, 1st earl of see GINKEL, GODART VAN.

Athlone (ăthlōn'), urban district (pop. 8,356), Co. Westmeath, Ireland, on the Shannon, here crossed by an interesting bridge. Its strategic location was important in Ireland's early history. Athlone Castle was besieged, unsuccessfully (1641), by men of Connaught and successfully (1691) by General van Ginkel for William III. Athlone has textile mills and is the site of the largest Irish radio transmitter.

Athol (ăth'ŭl), town (pop. 11,180), N Mass., W of Fitchburg. Machine parts are made here.

Atholl (ăth'ŭl), successively an earldom, a marquisate, and a dukedom of Scotland. See STUART, JOHN, and MURRAY, JOHN.

Atholl or **Athole** (both ăth'ŭl), mountainous district, 450 sq. mi., N Perthshire, Scotland. The castle at BLAIR ATHOLL is the seat of the dukes of Atholl.

Atholstan, Hugh Graham, 1st **Baron** (ăth'ulstun), 1848–1938, Canadian publisher and philanthropist, b. Huntingdon co., Que. He was founder and proprietor (1869) of the Montreal *Evening Star* (later the *Daily Star*) and of the *Family Herald and Weekly Star*, two of the largest and most influential of Canadian newspapers. He was made a knight in 1908, a baron in 1917. His contributions to charity were munificent.

Athor · see EGYPTIAN RELIGION.

Athos (ăth'ŏs, ā'thŏs) or **Akte** (ak'tē), easternmost of the three peninsulas of CHALCIDICE, NE Greece. About 30 mi. long and 1½ to 7 mi. wide, it forms the virtually independent state of the monks of **Mount Athos,** also called Hagion Oros [Gr., =Holy Mountain], at the southern tip of the peninsula, which rises above 6,000 ft. Here in the 10th cent. monks of the Orthodox Eastern Church (see MONASTICISM) formed a community which enjoyed administrative independence under the Byzantine emperors, the Ottoman sultans, and the modern Greek government. Under the direct rule of the patriarch of Constantinople, the community consists of 20 convents, besides many chapels and cells, and it is governed by a committee in which each convent is represented by one member. No female, human or animal, is admitted in the territory. The icons made at Mt. Athos are celebrated, the libraries contain a great wealth of ancient Byzantine manuscripts. See R. M. Dawkins, *The Monks of Athos* (1936).

Atitlán (ätētlän'), volcanic lake, 17 mi. long and 11 mi. wide, SW Guatemala, at an altitude of c. 5,100 ft. Set among mountains with three inactive volcanoes (Santiago Atitlán is 11,499 ft. high) near by, the lake is one of the largest in Central America and offers some of the most distinctive and magnificent scenery in the world. Through the principal towns, Santiago Atitlán, San Lucas Tolimán, and Panajachel, the Indians, paddling dugouts, transport produce to and from the Pacific coast and the highlands.

Atkins, railroad town (pop. 1,322), W central Ark., near the Arkansas. NW of Little Rock, in an area growing fruit and potatoes, settled 1840, inc. 1878.

Atkinson, George Francis, 1854–1918, American botanist, b. Raisinville, near Monroe, Mich., grad. Cornell, 1885. From 1892 he was affiliated with Cornell, first as professor of botany and later as head of the department. One of the ranking mycologists of the country, he wrote many papers on parasitic plants. Among his books are *The Study of the Biology of Ferns by the Collodion Method* (1894) and *Studies of American Fungi* (1900).

Atkinson, Henry, 1782–1842, American army officer, b. North Carolina. After service as a colonel in the War of 1812, he was a commander in the West and led two expeditions (1819, 1824) to the Yellowstone river. He was general commander of forces in the BLACK HAWK WAR and later superintended removal of the Winnebago Indians to Iowa. Jefferson Barracks (near St. Louis) and Fort Leavenworth were first built under his direction.

Atkinson, Wilmer, 1840–1920, American editor, b. Bucks co., Pa., grad. Freeland Seminary, Montgomery co., Pa., 1858. He founded the *Farm Journal* in 1877 in Philadelphia and edited it for 40 years. The *Journal*, one of the most widely circulated farm papers, was noted for its shrewd humor and practicality. It advocated such rural improvements as mail delivery and modern homes and conveniences and was one of the first periodicals to bar patent-medicine advertisers and to guarantee its subscribers against fraudulent advertising. See his autobiography (1920).

Atkinson, city (pop. 1,350), N Nebr., on the Elkhorn and near O'Neill, in a grazing region, settled 1876, inc. 1884.

Atlanta (ŭtlăn'tu, ăt-) **1** City (pop. 302,288), state capital, and co. seat of Fulton co., NW Ga., near the Appalachian foothills. It is the largest city and principal cultural, industrial, railroad, and commercial center of the state and a port of entry, as well as one of the leading cities of the South. Hardy Ivy, the first settler, built a cabin here (1833) on what had been Creek Indian land. The town, founded (1837) as Terminus, end of a railroad line, was incorporated as Marthasville (1843). Named Atlanta in 1845, it was incorporated as a city in 1847. Development as a marketing and industrial city was rapid, especially after Reconstruction. In the Civil War, Atlanta, an important center for Confederate communications and supplies, fell to W. T. SHERMAN on Sept. 2, 1864 (see ATLANTA CAMPAIGN). Most of the city was burned on Nov. 15, before Sherman began his march to the sea. A number of conventions and expositions in the 19th and 20th cent. drew attention to Atlanta's strategic distributory position. Atlanta has been capital since 1868 (chosen permanently by popular vote in 1877). The federal penitentiary here (est. 1899) is one of the most widely known prisons in the United States. In 1946 a hotel fire took many lives. Points of interest are the capitol (1889), housing the state library, the impressive city hall (1929), the High Museum of Art, the state archives building, housing a historical museum and library, the Roman Catholic co-cathedral of Christ the King, the building housing the huge *Cyclorama of the Battle of Atlanta*, large stockyards and the state farmers' market, the airport, and (near by) Fort McPherson. EMORY UNIVERSITY, GEORGIA INSTITUTE OF TECHNOLOGY, Oglethorpe Univ. (coeducational, 1916), Morris Brown College (Negro, Methodist, coeducational, 1885), Gammon Theological Seminary, Atlanta Southern Dental College, Woodrow Wilson College of Law, and Atlanta Law School are here. The **Atlanta University System** (Negro, organized 1929) includes four affiliated schools with adjacent campuses and some common facilities. Atlanta Univ. (coeducational, opened 1865, chartered 1867), formerly a college, is now the graduate school of the system (with academic business administration, and education courses). Atlanta Univ. School of Social Work (coeducational, 1920) became affiliated in 1938. Morehouse College (for men, 1867) and Spelman College (for women, 1881) are undergraduate units. Students and teachers are interchanged in the system and with other Atlanta Negro colleges. See also CLARK COLLEGE. **2** City (pop. 1,290), central Ill., SW of Bloomington, in a farm and coal area, founded 1854 as Xenia, inc. 1869. **3** Town (pop. 2,453), E Texas, S of Texarkana near the point where Texas, Arkansas, and Louisiana meet. It is a center for a truck-growing and lumbering area, and an oil field is near, in Louisiana.

Atlanta campaign, May–Sept., 1864, of the Civil War. In the spring of 1864 Gen. W. T. SHERMAN concentrated the Union armies of G. H. Thomas, J. B. McPherson, and J. M. Schofield around Chattanooga. On May 6 he began to move along the railroad from Chattanooga to Atlanta against Dalton, Ga., c. 30 mi. southeast, where Gen. J. E. JOHNSTON had a smaller Confederate force. Sherman had a twofold objective: the destruction of Johnston's army and the capture of Atlanta, c. 140 mi. southeast. Since Johnston was strongly entrenched, Sherman turned his left flank, forcing him back to Resaca, c. 12 mi. south. The campaign continued in this way—Sherman outflanking Johnston, who withdrew to previously fortified positions—until June 27, when Sherman tried a direct attack at Kennesaw Mt., c. 25 mi. NW of Atlanta, and was repulsed. He then reverted to flank operations. By July, Johnston had withdrawn to the south bank of the Chattahoochee river, where he prepared to fight on his own terms. On July 17, the day Sherman crossed the Chattahoochee, J. B. Hood replaced Johnston. Following Johnston's plan, Hood attacked Sherman's divided army (July 20) as it crossed Peach Tree Creek, a small tributary of the Chattahoochee, and was beaten. In the battles of Atlanta (July 22) and Ezra Church (July 28), Hood again failed to stop the Union advance; he then retired behind the strong works of Atlanta, which Sherman soon had under bombardment. The Union lines were gradually extended until the last Confederate line of communications south of the city was broken on Sept. 1. Hood abandoned Atlanta that night and Sherman occupied it on Sept. 2,

1864 The destruction of Hood's army was accomplished in another campaign (see HOOD, JOHN BELL). Significant points along the route of Sherman's advance are identified by the Atlanta Campaign National Historic Site (20 96 acres, est 1944).

Atlanta University System see ATLANTA, Ga.

atlantes (-lăn'tēz) [Latin plural of ATLAS], sculptured male figures serving as supports, or apparent supports, in the place of a column or pier They are also called telamones The earliest and most important example from antiquity is in the Greek temple of Zeus at Agrigento, Sicily, though the original place on the building of the now overthrown atlantes is uncertain The baroque architecture of the 17th cent made considerable use of atlantes, and they were a frequent decorative motive in mantelpieces and doorways of the classic revival in the early 19th cent.

Atlantic, city (pop 5,802), co seat of Cass co , SW Iowa, on the East Nishnabotna river and ENE of Council Bluffs, inc 1869 A trade and processing center in a farm area, it has packing plants and corn and pumpkin canneries and produces dairy foods

Atlantic Charter, program of peace aims, jointly enunciated by Prime Minister Winston Churchill of Great Britain and President F D Roosevelt of the United States on Aug 14, 1941, when they met at sea off the coast of Newfoundland The statement—which was not an official document—declared that (1) the two nations would seek no territorial aggrandizement, (2) no territorial changes would be made except through the freely expressed wishes of the people concerned; (3) sovereign rights and self-government would be restored to those who had been forcibly deprived of them, (4) all states would have access to the trade and the raw materials of the world, (5) all nations would collaborate to bring about improved labor standards, economic advancement, and social security for all, (6) a peace would be established to assure for all men in all lands freedom from fear and want, (7) the seas should be free to all, and (8) the use of force would be abandoned and all nations which threaten, or may threaten, aggression would be disarmed In the United Nations declaration of Jan 1, 1942, the signatory powers pledged adherence to the principles of the charter

Atlantic City, city (pop 64,094), SE N J , a seaside resort and convention center c 60 mi SE of Philadelphia and c 100 mi SSW of New York, on a 10-mile sand bar called Absecon Beach, inc 1854 It was a fishing village until the coming of the railroad (1854) The first boardwalk was built in 1870, the first rolling chairs appeared in 1884 The present boardwalk, lined with shops and hotels, is 7 mi long and 40 to 60 ft wide There are six amusement piers and a municipal auditorium whose main hall seats over 40,000 The Absecon Lighthouse in the city was operated from 1854 to 1932 Custom-built boats are made here

Atlantic Highlands, borough (pop 2,335), E N J , on Sandy Hook Bay, settled before 1675, inc 1887 It is a resort and residential area

Atlantic Ocean [Latin,=of Atlas], second largest ocean, estimated area 31,830,000 sq mi , extending in an S-shape from the arctic to the antarctic regions between the Americas and Europe and Africa It is connected with the Pacific Ocean by the Panama Canal and with the Indian Ocean by the Suez Canal The principal western arms are Hudson and Baffin bays, the Gulf of Mexico, and the Caribbean Sea, those in the east are the Baltic Sea, the North Sea, the Bay of Biscay, the Mediterranean, and the Gulf of Guinea The islands include, in the N Atlantic, i e , north of the equator, Greenland (the southern part), Iceland, Newfoundland, the British Isles, Bermuda, the West Indies, the Azores, the Canary Islands, the Madeira Islands, and the Cape Verde Islands, in the S Atlantic, Ascension, St. Helena, Tristan da Cunha, the Falkland Islands, South Georgia, and Bouvet The shortest distance across the Atlantic is between Dakar, Africa, and the bulge of Brazil More large rivers drain into it than into any other ocean The surface waters in the trade-wind belts attain the highest salinity known in ocean water The chief Atlantic currents are the Equatorial Currents (North and South) and their subsidiary currents, the Guinea and Brazil currents in the south, and the GULF STREAM that flows up the eastern coast of North America to the Grand Banks off Newfoundland, where it meets the Labrador Current, then bends eastward to form part of the NORTH ATLANTIC DRIFT. Heavy fogs form on the front where the warm Gulf Stream meets the cold Labrador Current This area is part of the busiest shipping lane in the world, it is patrolled for icebergs by the U S coast guard Scientific knowledge of the ocean floor dates from the circumnavigation of the British *Challenger* expedition (1872–76). A submarine ridge extends from E Greenland to N Scotland, part of it is known as the telegraph plateau from the network of cables laid here The mid-Atlantic ridge, from 300 to 600 mi wide, extending S from Iceland almost to the Antarctic Circle, is a center of volcanic activity and of earthquakes. It rises to an average height of c.10,000 ft ; a few of the peaks emerge as islands. It is flanked by a series of basins The chief Atlantic deeps are the Milwaukee Depth (30,246 ft) near the Bahamas and Nares Deep (27,972 ft.) near Puerto Rico. Commerce between the Mediterranean Sea and the NE Atlantic was initiated by the Carthaginians. From about the 7th cent A D , Scandinavians navigated on the Atlantic, they probably reached North America c 1000 Trade routes along the coast of Africa were opened in the 15th cent. by the Portuguese under the leadership of Henry the Navigator and to the Western Hemisphere after the voyages of Columbus

Atlantis, in Greek legend, large island in the western sea Plato, in his dialogues the *Timaeus* and the *Critias*, tells of the high civilization which flourished there until the island was destroyed by an earthquake Many writers have tried to prove that the island really existed The legend has persisted, and societies for the discovery of Atlantis are still active Many old maps show fabulous islands such as Antilia, Brazil, and the Island of the Seven Cities Plato described Atlantis as an ideal state and the name is considered as synonymous with UTOPIA Francis Bacon called his account of the ideal state *The New Atlantis*

Atlas (ăt'lŭs), in Greek religion, Titan; son of IAPETUS and Clymene Atlas was the father of the PLEIADES, the HESPERIDES, the HYADES, and (according to Homer) CALYPSO After the downfall of the Titans he was condemned to stand at the western end of the earth, bearing the sky on his head and hands PERSEUS is said to have changed him into Mt Atlas because of his inhospitality

atlas, collection of MAPS From very early times a representation of the mythological character Atlas, supporting the world, had been used to decorate maps, the term was probably first used in its present sense by Mercator

Atlas Mountains, system of nonvolcanic ranges, NW Africa It extends c 1,500 mi NE from Morocco through Algeria to Cape Bon in Tunisia The Grand, or High, Atlas in Morocco, including peaks which are perpetually snow-capped, is flanked on the northwest by the Middle Atlas and on the southwest by the Anti-Atlas A coastal range, the Maritime, Little, or Tell Atlas, extends from Ceuta, Morocco, to E Algeria, there it merges with the Saharan Atlas (which divides the plateau region of Algeria from the Sahara) and continues into Tunisia The Atlas region is economically important for the fertility of its valleys, the forests of its northern slopes, and its mineral wealth, especially its phosphates The Berber inhabitants were long unconquered

Atlin Lake (ăt'lĭn), long, irregular mountain lake (covering c 300 sq mi), NW British Columbia, touching the Yukon boundary The town of Atlin is on the east shore and is the headquarters of the Atlin dist , a region in which there is both placer and quartz gold mining The region is noted for its scenery and its hunting

Atmore, shipping city (pop 3,200), SW Ala , NE of Mobile, in a truck area, inc 1907 Near by is a state prison farm

atmosphere [from Gr ,=sphere of air], the mixture of gases surrounding the earth Since the substances in the atmosphere or air are not combined chemically, each retains its own characteristic properties The composition of the troposphere (the layer closest to the earth) has been calculated to be nitrogen, 78 09 percent, oxygen, 20 95 percent; argon, 0 93 percent, carbon dioxide, 0 03 percent, and minute amounts of neon, krypton, helium, hydrogen, xenon, and ozone In addition to these gases the atmosphere contains varying percentages of water vapor (measured in terms of relative HUMIDITY) When condensation occurs the moisture may take the form of clouds, dew, fog, frost, hail, rain, sleet, or snow. Carried in the air are dusts from many sources, including those of meteoric origin, and pollen, germs, salt particles, and various gaseous impurities Weather is dependent on the condition of the atmosphere, and the atmosphere is the chief agent of erosion Air pressure is measured by a barometer At sea level, under average conditions, the pressure is 14 7 lb per square inch or sufficient to support a column of mercury about 30 in. high or a column of water about 30 ft in height The pressure of air at sea level is taken as a unit of measure and is called an atmosphere Exploration of the atmosphere has been carried on with the aid of instruments carried aloft by manned and unmanned balloons and by rockets Meteorological information about the upper atmosphere is obtained regularly by means of the radiosonde (see BALLOON) The troposphere extends upward from the earth to a height of c 5 mi at the poles, to c.7 mi in the middle latitudes, and to c 10 mi at the equator The upper layer is the STRATOSPHERE, and the limiting boundary between the two layers is the tropopause Within the troposphere the air is constantly mixed because of ascending and descending currents, the temperature decreases about 1°C for each 500-foot increase in altitude until the stratosphere is reached The outer limit of the atmosphere is not known, but studies of the AURORA BOREALIS indicate that it must extend to at least 600 mi. from the earth. About nine tenths of the mass of the atmosphere lies within c.10 mi. of the earth's surface. It was long believed that the thin outer regions of the atmosphere were composed almost entirely of the lightest gases, hydrogen and helium, but more recent investigations indicate that oxygen and nitrogen predominate at all altitudes. Some scientists think, however, that the light gases may be proportionately more abundant at high than at low altitudes. The ionosphere, an electrified region from 50 to 250 mi. above the earth, reflects radio signals. Mars is the only other planet that shows evidence of atmospheric conditions at all capable of supporting life; the presence of vegetation on the planet is considered by some astronomers to be possible and by others probable.

Atoka (ŭtō'kŭ), city (pop 2,548), co seat of Atoka co , SE Okla., NE of Ardmore An agreement with the Indians was signed here in 1897.

atoll: see CORAL.

atom [from Gr ,=indivisible], in chemistry and physics, according to the ATOMIC THEORY an almost inconceivably minute particle of matter. It was considered by John DALTON to be the ultimate unit into which any given kind of matter could be divided This conception is no longer held Atoms are believed to consist of positively charged (+) particles called protons, negatively charged (−) particles called electrons, and neutral particles called neutrons In an atom there is a central portion called the nucleus, which contains protons and neutrons The nucleus, therefore, has a positive charge Around the nucleus are electrons equal in number to the number of protons in the nucleus Since an equality of positive and negative charges renders a substance electrically neutral, atoms are normally neutral, the extranuclear electrons (electrons outside the nucleus) neutralising the positive charge of the nucleus Ions are atoms or groups of atoms which are positively or negatively charged Atoms of different elements differ from one another in weight (see ATOMIC WEIGHT) and also in the number of protons in the nucleus and of electrons outside the nucleus, by which the atomic number (see PERIODIC LAW) is determined For example, an atom of hydrogen has one proton in the nucleus and, to neutralize this, one extranuclear electron The oxygen atom has eight protons in the nucleus and, therefore, eight extranuclear electrons The arrangement of the electrons varies in different elements The atoms of an element are of the same kind in that they react chemically in the same way, but they sometimes differ in mass (see ISOTOPE) Atoms of the same element or of two or more elements are joined together in chemical combinations called molecules The great variety of existing matter results from the large number of such combinations possible These combinations are constantly being formed, broken down, and re-formed in the life processes of plants and animals and in the continual change going on in the earth from chemical action Much is yet unknown concerning the structure of the atom The discovery of the X ray late in the 19th cent made possible the study of the structure of the MOLECULE and thus added to the knowledge about the atom Among the many who have contributed to knowledge of the atom are N. H D BOHR, Sir W H BRAGG, W L BRAGG, Albert EINSTEIN, Irving LANGMUIR, Max von LAUE, G N LEWIS, R A MILLIKAN, H. G MOSELEY, Max PLANCK, the 1st Baron RUTHERFORD, James CHADWICK, Werner Heisenberg, and Enrico FERMI Splitting of the atom resulting in the release of ATOMIC ENERGY was the work of many scientists In 1919 Lord Rutherford, by bombarding nitrogen atoms with accelerated alpha particles, changed some of the nitrogen atoms into atoms of oxygen and hydrogen In 1932 J D Cockcroft and E T S Walton bombarded lithium with a beam of accelerated protons and caused splitting (or fission) of the lithium atom Calculations of the energy released verified Einstein's equation stating the equivalence of mass and energy The discovery of the neutron by James Chadwick in 1932 provided scientists with an electrically uncharged and very penetrating particle for producing nuclear changes Enrico Fermi (in Italy in 1933) created nuclear changes in atoms by means of slow neutrons and produced element 93 from uranium (element 92). In Germany, O. F Hahn while repeating Fermi's experiments reported (1939) that he had found barium among the products resulting from the bombardment of uranium with slow neutrons Lise Meitner (who had worked with Hahn) and O R Frisch interpreted Hahn's results to indicate that the nucleus of the atom had been split into two fairly equal parts consisting of barium (atomic weight 137) and krypton (atomic weight 82). Lise Meitner and Frisch had left Nazi-controlled Germany and were, in 1938, working in Sweden. They communicated to Niels Bohr in Denmark their belief that splitting of the atom could be accomplished with the release of vast amounts of energy. Bohr and Albert Einstein were influential in persuading President Roosevelt to initiate investigations of the potentialities of uranium fission. Confirmation of the splitting of the uranium atom was received from Bohr's laboratory in Copenhagen, and the process

was soon repeated in the United States. The atomic research which followed resulted in the production of the ATOMIC BOMB and in the inauguration of a program for investigating peacetime uses of atomic energy.

atomic bomb, weapon depending for its explosive force on the release of atomic energy and first used in the Second World War The production of the atomic bomb was the culmination of intensive research which began in the United States in 1940 after fission (splitting) of the uranium nucleus by German scientists was reported. During the Second World War, Germany too was investigating atomic energy Research in the United States resulted in the production, at the atomic-bomb laboratory at Los Alamos, N.Mex., of the first atomic bomb On July 16, 1945, this bomb was tested at the Alamogordo air base in New Mexico On Aug 6, 1945, an atomic bomb was dropped from a B-29 superfortress on the city of HIROSHIMA Three days later a more powerful one was dropped on NAGASAKI. Both caused widespread death, bodily injury, and destruction

atomic energy, the energy derived from the splitting or fission of the nucleus of the atom Scientists in the United States visioned the prospect of unleashing atomic energy in 1939 after they had confirmed by experiments using the CYCLOTRON the reported splitting of the uranium nucleus by German scientists. President Roosevelt named a committee to investigate the use of atomic energy for military purposes In 1940 this uranium committee was reorganized as a subcommittee of the National Defense Research Committee, and on Dec 6, 1941, the project was enlarged to become a section of the Office of Scientific Research and Development On Aug 13, 1942, the "Manhattan District" was officially established in the Corps of Engineers to carry on special work, and in May, 1943, it took over all the work on the uranium project which had been under the OSRD Gen Leslie R Groves, in charge of the Manhattan District from 1942, acted as coordinator throughout the atomic-bomb project The work, which also involved cooperation with British and Canadian scientists, was conducted with the utmost secrecy Much of the early research was carried on at Columbia, Princeton, and the Univ of California, and scientists from these universities and other researchers later joined to concentrate on the problem of producing a chain reaction at the "Metallurgical Laboratory" of the Univ of Chicago, under Arthur H Compton. There, on Dec 2, 1942, a group working under Enrico Fermi achieved the first nuclear chain reaction (in which the uranium nucleus, bombarded by neutrons, splits as the result of capturing a neutron and releases other neutrons which cause fission of more nuclei) The uranium isotope of atomic weight 235 (known as U-235) was used in these experiments When this isotope captures a neutron it becomes uranium 236, which splits almost immediately into two nearly equal parts (the elements formed are not always the same) One problem was that of separating out the U-235 which occurs in uranium ore in the proportions of one part of U-235 to about 138 parts of U-238 Methods of separation were investigated by groups directed by E O. Lawrence at the Univ of California and by H C Urey at the Clinton Engineer Works, near Oak Ridge, Tenn Another fissionable material was revealed when it was discovered that changes resulting from the capture of a neutron by the nucleus of U-238 formed a new unstable element (of atomic number 93), neptunium. Neptunium quickly becomes transformed into another new element (of atomic number 94), plutonium, which, upon undergoing fission, yields at least as much energy as does U-235 (Fission of one uranium atom is said to yield 200,000,000 electron volts) A plant for producing plutonium was erected at Hanford, Wash In order to produce an explosion a chain reaction which will result in many fissions must be set up. Such a reaction was first achieved in a "pile" consisting of blocks of graphite and lumps of metallic uranium The word *reactor* has been adopted by the Atomic Energy Commission in preference to *pile*, and it is used to refer to all forms of chain-reacting systems developed later The special research necessary to design a bomb which would release atomic energy was accomplished under the direction of J. Robert Oppenheimer at the atomic-bomb laboratory at Los Alamos, N Mex, now the Los Alamos Scientific Laboratory. Other research centers include the Oak Ridge National Laboratory, where radioactive isotopes are manufactured for medical and other scientific studies; the Brookhaven National Laboratory on Long Island, N.Y., the Knolls Atomic Power Laboratory, Schenectady, N.Y.; and the Argonne National Laboratory, Chicago. The explosion of the atomic bombs had startled philosophers, moralists, politicians, and laymen, demonstrating the cataclysmic possibilities of the use of atomic energy. To channel that use to peaceful, rather than destructive, ends became a national and an international problem. The U.S. Congress set about creating a national control body with flurries of argument as to whether it should be predominantly a military or a civilian body. The Atomic Energy Act of 1946 marked the victory of the civilian advocates A five-man Atomic Energy Commission was established, the members to be appointed by the President with the advice and consent of the Senate David E Lilienthal was made its first head (resigned 1949). Its activities are carried on under six divisions—research, production, engineering, military application, reactors, and biology and medicine. Canada, Great Britain, and the United States proposed an international commission on atomic energy as early as Nov, 1945 On Jan 24, 1946, the Atomic Energy Commission was established by the United Nations, with responsibility to the Security Council on matters of security The deliberations of the commission resulted in the drawing up of a comprehensive plan for an international body to have wide powers to conduct and control research and production of atomic energy—a body that would in effect take over the exclusive management of production of atomic energy and would be empowered to punish violators of its regulations without being subject to the usual veto rule of the Security Council Bernard M Baruch was given large credit for the authorship of this plan, which was favored by the Western nations. The USSR, on the other hand, opposed the creation of such a powerful international body as infringing national sovereignty The Russians proposed instead that there should be immediate prohibition of the use of atomic weapons and immediate destruction of all such weapons existing; this was to be followed by the negotiation of an international convention intended to set up an international body having limited powers of inspection and control and subject to the management of the Security Council The two proposals were fundamentally opposed in principle, and negotiations in the Atomic Energy Commission came to a deadlock in 1948—a situation still continuing early in 1950.

atomic number · see PERIODIC LAW.

atomic theory, theory which holds that elementary matter is not continuous but is made up of extremely minute particles called atoms Democritus, in the 5th cent B C, held that matter is composed of atoms which are in constant motion and which are indivisible His beliefs were restated by LUCRETIUS Aristotle did not accept the theory of the atom The fundamental premises of the ancients was brought forward again by John DALTON in the early 19th cent He accepted their assumption that the atom is indivisible He held that the atoms of any element are of exactly the same size and weight (ATOMIC WEIGHT) and in these two ways are unlike the atoms of any other element He stated that atoms of the elements unite chemically in simple numerical ratios to form compounds No distinction was made at this time between the terms *atom* and MOLECULE, but shortly afterwards AVOGADRO used *molecule* to indicate the rapidly moving particles of which a gas is composed Support was given to the atomic theory by the work of Mendelejeff on the periodic law and by that of Arrhenius on ionization The discovery of the ELECTRON and the observations on RADIOACTIVITY were essential to the development of the modern concept of the structure of the ATOM The number of protons in the nucleus, or center, of the atom and the number and arrangement of the negatively charged particles (electrons) outside the nucleus determine the nature of the atom The atoms themselves are neutral since the positive and negative charges are equal Chemical action is believed to be caused by the tendency of some atoms to take on negatively charged particles (electrons) and of others to give them up An atom which has lost or gained an electron or electrons is called an ION See George Thomson, *The Atom* (3d ed., 1947)

atomic weight of an element, in chemistry, is the number expressing the ratio of the weight of an ATOM of that element to the weight of an atom of some other element taken as a standard For some time hydrogen, the lightest element, was used as a standard, the weight of its atom being taken as unity On this basis, the atomic weight of any element represented the number of times heavier one of its atoms was than an atom of hydrogen. For example, the atomic weight of oxygen was approximately, but not quite, 16, i.e., an oxygen atom was considered to be almost 16 times heavier than one of hydrogen Today, however, oxygen, taken as exactly 16, is used as a standard The atomic weight of hydrogen has become 1 0080 or 1 0081 This standard, *oxygen* = 16 000 (indicated usually by O = 16), in which oxygen is represented by a whole number, is more convenient, since oxygen forms many more compounds than hydrogen, thus permitting a wider direct comparison of the weight of its atom with the weights of the atoms of other elements. The determination of the accurate atomic weight of an element depends upon a careful and precise quantitative analysis of as many of its compounds as possible. Among the first chemists to work out systematically a group of atomic weights was Baron J. J. BERZELIUS. Others who have contributed are J. S. Stas, Stanislao CANNIZZARO, and T. W RICHARDS. Discovery of the specific-heat method for determining the approximate atomic weight of elements which do not form stable gaseous compounds was made by P. L Dulong and A T Petit F W. Aston discovered that although an element is composed of atoms which are chemically of the same nature—i e, which behave alike chemically—these atoms in some cases differ from one another in weight (see ISOTOPE) The atomic weight of an element which is made up of atoms differing in this way is an average of the weights of the different atoms For example, chlorine is composed of atoms with weight 35 and 37 These are present in such proportions that the element's atomic weight is 35 457 Some other elements having isotopic forms are bromine, lead, mercury, and tin

atonality (ā"tōnăl'ĭtĭ), in music, the absence of TONALITY The term has often been applied to any 20th-century music which does not observe the principles of harmonic relationship of the 18th and 19th cent Ears accustomed to 18th- and 19th-century tonality may not perceive the harmonic relationships which are present in certain 20th-century compositions and therefore label them atonal Some composers accept the designation, others do not Thus, a definition of atonality which is acceptable to all is not yet possible From the time of Rameau the seven tones of the diatonic scale were felt to bear certain definite relations to one another The five additional chromatic tones were available as auxiliary tones. Increased use of these auxiliary tones by 19th-century composers reached a peak in the chromaticism of Wagner In his and in Debussy's music the feeling of tonality is already beginning to break down Chords built in fourths instead of thirds, used by Arnold SCHÖNBERG *c* 1906 at the outset of his first period of atonal composition, contributed to the process Finally all the 12 tones were regarded as equal, bearing no fixed relations to one another In December, 1914, Schönberg arrived at the specific method of composing atonal music known as the 12-tone technique The composer arranges the 12 chromatic tones into a tone row, in which the tones may be in any order but in which no tone may be repeated until all 12 have been used This tone row must be the basis of the whole composition. It may be transposed, inverted, used backward, used to form chords, or used in counterpoint with itself, or in various other ways Melodic or harmonic formations which suggest diatonic harmony must be avoided in strict application of the system The principal objection to the system is that the ear cannot follow all the transformations to which the tone row is subjected The system, however, is yet in its infancy, and the last word concerning its significance has not been spoken Among Schönberg's disciples are Alban BERG, Anton von Webern, Egon Wellesz, and Ernst KRENEK, who is the theorist of the movement These composers and Schönberg himself have written 12-tone music which does not strictly adhere to all the principles of the system Various American composers, notably Walter PISTON, have written occasional 12-tone compositions A 12-tone system quite different from Schönberg's was developed contemporaneously by Josef Matthias Hauer (1883–), also an Austrian, but its influence has been less far-reaching See Adolfo Salazar, *Music in Our Time* (Eng tr., 1946), Nicolas Slonimsky, *Music since 1900* (1938), Ernst Krenek, *Music Here and Now* (Eng tr., 1939)

atonement [Mid Eng., = making *at one*], in Christian theology, the reconciliation of (naturally sinful) man with God, a fundamental problem The conception of the atonement most widely held is often called vicarious atonement It was first explicitly stated by St ANSELM in *Cur Deus Homo?* His doctrine, slightly altered or elaborated, has become part of Roman Catholic theology and of that of many Protestant churches Simply stated it is this man soon after his creation fell from GRACE, he has continued in a state of sin, and he is therefore by his own efforts unable to become reconciled with God God, desiring the reconciliation of man, offers man pardon for his sins if man will make satisfaction for them. But man's offense to God's majesty is greater than any conceivable satisfaction he can give Therefore God sent Jesus Christ to earth to reconcile man As God, Jesus Christ can satisfy God, and as man He can take on the sins of man By His life on earth, by His sufferings, and especially by His death on the cross, He satisfied God for the sins of man, and man, accepting his Redeemer, may enjoy the atonement Christ has bought The Jewish atonement of the Day of Atonement (Yom Kippur) has now little vicarious aspect

Atonement, Day of, Heb *Yom Kippur*, The most sacred Hebrew holy day, which falls at the end of September or beginning of October (on the 10th day of the 7th month, *Tishri*), is a day of prayer for forgiveness for sins committed during the year The Jews gather in synagogues on the Eve of Yom Kippur, when the fast begins, and return the following morning to continue confessing, doing penance, and praying for forgiveness In European countries, before the fast day, the people go to the

homes of their neighbors and acquaintances, friend and enemy alike, announce and accept forgiveness for the wrongs of the past year, and wish one another to be "written and sealed into the Book of the Living," where the names of all the virtuous are entered The synagogue is the scene of confession of sins and the reading of prayers

Atrato (äträ'tō), river of W Colombia, flowing across the base of the Isthmus of Panama N to the Gulf of Darien or Urabá. The valley yields platinum and gold

Atreus (ā'trēŭs), in Greek legend, king of Mycenae He was the son of PELOPS and therefore suffered from the curse laid on his father Atreus brought an even greater curse upon himself and his sons, AGAMEMNON and MENELAUS After his brother, Thyestes, seduced Atreus' wife, Atreus murdered three of the four sons of Thyestes and served them up to their father at a feast Thyestes thereupon laid a curse on the house of Atreus, who was later killed by Aegisthus, the one son of Thyestes to escape slaughter The descendants of Atreus were called the Atrides (utrī'dēz)

atrium (ā'trēŭm), term applied to certain rooms in the dwelling houses of ancient Rome and also to a type of entrance court in early Christian churches In the earliest Roman houses the atrium was utilised as an assembly place for the family In its center was a cooking hearth whose smoke issued through an opening in the roof In later houses, the hearth was placed elsewhere and in the center of the atrium was a tank (impluvium) to receive the rain water falling through the large roof opening which furnished light to the rooms grouped around the atrium In the more luxurious and complex Roman dwellings, the private apartments had a court of their own, called the peristyle, and the atrium then served only as a semipublic reception hall The ruins of Pompeii contain remains of atria in their various forms In early Christian churches, the atrium was a large arcaded or colonnaded open court serving as a general meeting place in front of the church itself, with a fountain used for ablutions in its center. The basilical churches of Sant' Ambrogio, Milan, and San Clemente, Rome, have noteworthy atria This type of large forecourt is a characteristic element of the Mohammedan mosque

Atropatene: see AZERBAIJAN, region, Iran

atrophy (ăt'rŭfē), condition brought about by the wasting away of living tissue Such wasting may be caused by malnutrition, e g , starvation, by disease which affects the nerve supply of muscles, e g , infantile paralysis, and by disuse or continued pressure, e g , long fixation by a plaster cast following fracture of an arm or leg

atropine (ăt'rupēn, -pĭn), poisonous alkaloid drug discovered in the plant deadly nightshade, or BELLADONNA, by P L Geiger in 1833 It may cause death by its action upon the heart and respiratory organs (For antidote, see POISONING, table) It is used in medicine as an anodyne in external application, affecting the nerve endings in the skin It reduces the secretion of some glands, as the pancreas, and stops it entirely in others, as the sweat glands The pupil of the eye is dilated greatly by its action upon the involuntary muscles It is valuable in the treatment of whooping cough and asthma It serves as an antidote for mushroom poisoning Tincture of belladonna is the common form in which the drug appears

Atropos see FATES

Atroth (āt'rŏth) [Heb ,=ATAROTH], town, E of the Jordan Num 32 35 Perhaps Atroth should be taken with the following name, Shophan, thus, RV has Atroth-shophan

Atsina Indians: see GROS VENTRE INDIANS

Attai (ăt'āī) [Heb ,=opportune] **1** Descendant of Jerahmeel 1 Chron 2 35,36 **2** One of David's Gadite warriors 1 Chron 12 11 **3** Son of Rehoboam 2 Chron 11 20

Attaleia or **Attalia**, see ANTALYA.

Attalla (utăl'u), railroad city (pop 4,885), NE Ala , just W of Gadsden, in a mine and cotton area, founded 1870, inc 1872 It has foundries

Attar see FERID EDDIN ATTAR

attar of roses, fragrant essential oil obtained from roses and used in making perfume It is extracted chiefly by distillation with water or steam and sometimes by enfleurage (a method employing another oil to absorb the floral oil which is later separated out by distillation) It is one of the most valuable of the volatile oils Much of the commercial supply comes from Bulgaria, where the damask rose (*Rosa damascena*) is used, some is obtained from France, where the cabbage rose (*R centifolia*) is the chief source, and also from other parts of Europe, from Asia Minor, and from India Attar of roses is known also as otto of roses and rose oil When marketed it is often adulterated with a less costly oil, e g , palmarosa oil Rose water is made either from the water (with small amounts of oil) remaining after distillation or from water to which a little of the oil has been added

Attawapiskat (ăt'uwupĭs'kăt), river of N Ontario, flowing 465 mi E, N, and E into James Bay.

Atterbom, Per Daniel Amadeus (pär' dā'nĕĕl ämädā'ŭs äturbōm'), 1790–1855, Swedish poet He was one of the founders of the literary Aurora Society and a member of the Swedish Academy. He is remembered for his fairy-tale play, *The Isle of Bliss* (1824) As a critic he wrote *Swedish Seers and Poets* (1841–55)

Attersee: see SALZKAMMERGUT

Attica (ă'tĭkù), region of ancient Greece, a triangular area at the eastern end of central Greece, around ATHENS It has rough hills and two coastal plains Greek legend says Theseus combined 12 townships into a single state, while the four Attic tribes are said to have been founded by Ion The historic Cleisthenes late in the 6th cent reclassified the people into 10 tribes By the 5th cent Athens was dominant, and the history of Attica thereafter was that of its chief city.

Attica. **1** City (pop 3,760), W Ind , on the Wabash river and SW of Lafayette, settled 1825, inc 1866. It is a trading center for farmers, and its industrial products include overalls, steel castings, and brick Bear Creek Canyon and a natural stone arch are scenic features near by **2** Village (pop 2,379), W N Y , SW of Batavia, settled 1804, inc 1837 Automatic stokers are made Attica State Prison is here

Atticus, Titus Pomponius, 109 B C –32 B C , Roman philosopher and patron of letters He was a friend of Cicero, who wrote several letters to him

Atticus Herodes see HERODES ATTICUS

Attila (ă'tĭlu), d 453, king of the HUNS (r 433–453), called the Scourge of God He extorted increased tribute and other humiliating concessions from the Eastern Roman emperor, Theodosius II In 441, on the pretext that the emperor had violated the treaty, he began ravaging the Balkans Peace was made, and Attila's tribute greatly increased in 443 and again in 447 In 450, however, the new Eastern emperor, MARCIAN, refused to pay further tribute, and his example was followed by Valentinian III, emperor of the West Attila's relations with the Roman Empire were further strained when Grata, Valentinian's sister, secretly offered herself to Attila in marriage and Attila's request for half the Western Empire as dowry was refused Setting out (451) from Hungary with an army of perhaps half a million Huns and allies, Attila invaded Gaul but was defeated by AETIUS (who was supported by the Visigoths) in the battle of Châlons (451) in Champagne He turned back and invaded N Italy (452) but abandoned his plan to take Rome itself His withdrawal has been ascribed to the eloquence of the embassy headed by Pope LEO I but appears to have been motivated largely by shortage of provisions and the outbreak of pestilence in the Hun army Attila died soon afterward in Hungary, suffering a hemorrhage while celebrating his wedding The fear Attila inspired in the Roman provincials has been preserved in many accounts of his savagery Though undoubtedly harsh, Attila was a just ruler to his own people He favored the presence of learned Romans at his court and was far less bent on devastation than other conquerors before and after him He appears in many legends, particularly as Etzel in the NIBELUNGENLIED See Marcel Brion, *Attila* (Eng tr , 1929)

Attis (ă'tĭs) or **Atys** (ă'tĭs), in Phrygian religion, fertility god Like ADONIS and TAMMUZ, he died and was resurrected each year, and the spring fertility rites (orgiastic in character) celebrated his rebirth His worship was connected with that of CYBELE. See Sir James G. Frazer, *Adonis, Attis, Osiris* (1906)

Attleboro (ăt'ulburu), city (pop 22,071), SE Mass , NE of Providence, R I , settled 1634, inc as a town 1694, as a city 1914 Its jewelry industry began in 1780, tools are also produced

Attlee, Clement Richard (ăt'lē), 1883–, British prime minister (1945–) and Labour party leader, educated at Haileybury and University College, Oxford Admitted to the bar (1905), he was a social service worker and a lecturer in the London School of Economics before the First World War, in which he gained the rank of major Elected mayor of Stepney in 1919 and sent to Parliament from Limehouse in 1922, he had posts in the 1924 and 1929 Labour governments but did not enter Ramsay MacDonald's coalition cabinet (1931) In 1935 he succeeded George Lansbury as party leader In the coalition cabinet of Winston Churchill, he was lord privy seal (1940–42), deputy prime minister (1942–45), dominions secretary (1942–43), and lord president of the council (1943–45) He was attending the POTSDAM CONFERENCE with Churchill when the elections of July, 1945, brought the Labour party to power and made Attlee prime minister After he became head of the government, Great Britain took great strides in nationalizing industry, ended its mandate in Palestine and recognized Israel, relinquished control of India, and strengthened British ties with Western European nations and with the United States See biography by Roy Jenkins (1948)

attorney, agent put in place of another to manage the affairs of the principal An attorney in fact is an agent who conducts business under authority which is controlled and limited by a letter, or power, of attorney granted by the principal. An **attorney at law is an officer of a court of law** authorized to represent the person (the client) employing him in legal proceedings In England until 1873 an attorney was the representative of a client in the management of affairs in a case at common law but not in arguing the case before the court and jury (see BAR, THE, and SOLICITOR) In the United States, the distinction was formerly made in some states between a counselor at law, who argued the case in court, and an attorney, who limited himself to advice and management of affairs without speaking in the actual trial, but that distinction has generally now disappeared Today an attorney at law is authorized to exercise all the functions of a practicing lawyer The growth of large business corporations, beginning in the 19th cent , has, however, brought into existence a large group of attorneys who rarely or never act as trial lawyers yet are some of the most influential members of the profession There has also been much specialization of work among the members of big law firms The professors of law in the law schools are also influential members of the profession who generally do not practice law All the men must, however, like the ordinary attorney, be admitted to the bar The requirement for admission to the bar varies in different states, but, generally speaking, a man must have certain qualifications or training before being acknowledged as an attorney at law Formerly a usual requirement was a stipulated amount of time spent in clerking and "reading law" in a law office, but now more generally the requirement is the passing of "bar" examinations or the successful completion of a stated course of study. The county, state, and Federal prosecuting officers are generally also called attorneys, as county attorney, district attorney, and Attorney General (see JUSTICE, UNITED STATES DEPARTMENT OF)

Attu (ă'tōō, ătōō'), island, 30 mi long, off W Alaska, westernmost of the ALEUTIAN ISLANDS An extremely rugged island, it rises more than 4,000 ft In the Second World War it was occupied (1942) by the Japanese, who removed the inhabitants to Japan U S forces landed (May 11, 1943) at Holtz Bay and Massacre Bay and in three weeks of bloody fighting retook the island An air base was established In 1945 the remaining natives were repatriated

Atuona (ätuōnä') or **Atuana** (ätōōä'na), town (pop 618), on Hiva Oa, S Pacific, capital of the Marquesas Islands dist , French Establishments in Oceania The town overlooks the Bay of Traitors on the south coast of the island Paul Gauguin lived in Atuona Valley and was buried there

Atwater, Wilbur Olin, 1844–1907, American chemist, b Johnsburg, N Y , grad Wesleyan Univ , 1865, Ph D Yale, 1869, and studied abroad From 1873 he taught at Wesleyan, founding there the first American agricultural experiment station, which he directed from 1875 until it was discontinued in 1877 In 1888 he became the first director of the Office of Experiment Stations, U S Dept of Agriculture, and in 1894 led the investigations in nutrition made by the Dept of Agriculture He was convertor of the Atwater-Rosa-Benedict respiration calorimeter, by which he demonstrated that the law of the conservation of energy is applicable to human metabolism

Atwater, city (pop 1,235), central Calif , NW of Fresno, in a farm area, inc 1922

Atwood, George, 1746–1807, English mathematician and physicist He was the inventor of Atwood's machine, a device for measuring the acceleration and velocity of falling bodies by mechanical means Besides a work on the motion of bodies, he published two on natural philosophy

Atwood, Wallace Walter, 1872–1949, American geographer and geologist, b Chicago, grad Univ of Chicago, 1897 (Ph D , 1903) He taught physiography at Chicago and at Harvard before he became (1920) president of Clark Univ , he retired in 1946 He founded (1925) and edited *Economic Geology* His books include *The Growth of Nations* (1936), *The United States in the Western World* (1944), and *The Rocky Mountains* (1945)

Atwood, city (pop 1,408), co seat of Rawlins co , NW Kansas, near the Nebr line, in a wheat and livestock area, founded 1878, inc. 1885

Atys see ATTIS

Au, chemical symbol of the element GOLD.

Aubanel, Théodore (tāôdôr' ōbänĕl'), 1829–86, French Provençal poet, with Frédéric MISTRAL a founder of the Felibrige He was the author of poems in *La Miougrano entre-duberto* [the split pomegranate] (1860) and *La Fiho d'Avignoun* [the young ladies of Avignon] (1885) and a play, *Lou Pan dóu pecat* [the bread of sin] (1878)

Aube (ōb), department (2,327 sq mi., pop 235,237), NE France, in CHAMPAGNE. It is named after a tributary of the Seine. Troyes is the capital

Auber, Daniel François Esprit (danyĕl' frāswa' ĕsprē' ōbĕr'), 1782–1871, French operatic composer His greatest successes resulted from his collaboration with the librettist Scribe Their first success together was *Le Maçon* (1825), and among the long succession which followed were *Fra Diavolo* (1830), *Le Domino noir* (1837), and *La Part du*

diable (1843), witty, tuneful, sophisticated works which were very popular in their time *La Muette de Portici* (1828, also known as *Masaniello*) was the model of the French grand opera of the 1830s

Aubert de Gaspé, Philippe: see GASPÉ, PHILIPPE AUBERT DE

Aubigné, Jean Henri Merle d': see MERLE D'AUBIGNÉ, JEAN HENRI.

Aubigné, Théodore Agrippa d' (tāôdôr' agrēpä' dôbēnyä'), 1552–1630, French poet and Huguenot soldier A devoted follower of Henry of Navarre (Henry IV) from 1568, he was later associated with Henri de Rohan in an abortive plot and fled France (1620), to live in Geneva His *Histoire universelle* (1616–18) is an account of the Huguenots from 1553 to 1602, his memoirs, which first appeared as *Histoire secrète* (1729), are also valuable His chief reputation rests on his monumental *Les Tragiques* (1616), which he composed largely in 1577–80 It is a partly satirical, partly epical poem of 9,300 lines, often eloquent and powerful

Aubigny, Robert Stuart or **Stewart, seigneur d'** (sānyûr' dôbēnyä'), d 1544, marshal of France Aubigny, a Scot, fought with distinction in the Italian Wars under Charles VIII and Francis I, notably at Marignano (1515) and Pavia (1525)

Aubrey, John, 1626–97, English antiquary At Oxford he met Anthony à Wood, whom he assisted with his *Athenae Oxonienses* Aubrey knew most of the celebrities of his period (which stretched from the reign of Charles I, through the Commonwealth, to the Restoration) and left copious memorandums as well as letters His *Lives of Eminent Men* was not published until 1813 It was republished as *Brief Lives*, edited by Anthony Powell (1949) and by Oliver Lawson Dick (1949) His *Miscellanies* appeared in 1696, *The Natural History and Antiquities of the County of Surrey* (5 vols, 1719) and *The Natural History of Wiltshire* (ed by John Britton, 1847) were not published in his lifetime See *Scandal and Credulities of John Aubrey* (ed by John Collier, 1931), biography by Anthony Powell (1948)

Aubry de Montdidier (ôbrē' du môdēdyā'), in French legend, a French courtier of Charles V, murdered near Montargis c 1371 by one Macaire The animosity of Aubry's dog toward Macaire was so great that the king ordered trial by combat between the dog and Macaire, armed with a cudgel The dog won, and Macaire confessed and was hanged It is thought that the circumstantial account of this event in medieval works was based on an older story, under this form it became celebrated in European literature

Auburn or **Lissoy,** village, Co Westmeath Ireland, NNE of Athlone It is the scene of Goldsmith's *Deserted Village*

Auburn 1 City (pop 4,652), E Ala, ENE of Montgomery, settled c 1836 ALABAMA POLYTECHNIC INSTITUTE is here **2** City (pop 4,013), co seat of Placer co, N central Calif, NE of Sacramento and on a fork of the American river settled 1848 after the discovery of gold, inc 1860 The city is a mountain resort in the Sacramento valley and the shipping center of an orchard and poultry region It has an airport The city is the seat of Placer Junior College (coeducational) The *Placer Herald* has been published in Auburn since 1852 Among the city's old buildings is the New Orleans Hotel, made famous by Bret Harte **3** City (pop 1,952), central Ill, SSW of Springfield, in a farm and coal area, inc 1865 **4** City (pop 5 415), co seat of De Kalb co, NE Ind, N of Fort Wayne, settled 1836 It is a trading center for farmers, and it manufactures machine parts The city has a large, well-planned residential section **5** City (pop 19,817), co seat of Androscoggin co, SW Maine, on the Androscoggin (here crossed by several bridges) opposite Lewiston, inc as a town 1842, as a city 1869 There was an Indian village at this site, white settlement began c 1786 Auburn was the first Maine city to adopt the city-manager plan (1917) Its great shoe industry dates from c 1835 Mt Apatite, 3 mi from Auburn, is a source of apatite **6** Town (pop 6,629), S central Mass, S of Worcester, settled 1714, inc 1837 Chains are among its products **7** City (pop 3,639), co seat of Nemaha co, SE Nebr, near the Missouri S of Nebraska City, in a fruitgrowing area Sheridan (founded 1868) and Calvert (founded 1881) united in 1882 as Auburn **8** City (pop 35,753), co seat of Cayuga co, W central N Y, in the Finger Lakes region, on the outlet of Owasco Lake and SW of Syracuse, settled 1793, inc 1848 Farm machinery, rope, shoes, and food products are made It is the seat of Auburn State Prison, in which Thomas Mott OSBORNE served a voluntary term The home and grave of William H Seward are here Seward's records and books are among the collections in the city's museum, which also has Indian relics **9** City (pop 4,211), W Wash, between Seattle and Tacoma, platted c 1887. It is a farm trading center and railroad junction

Auburndale, city (pop 2,723), central Fla, ENE of Tampa and NW of Lake Kissimmee, in a citrus-fruit area A citrus experiment station is near by

Aubusson, Pierre d' (pyĕr' dôbûsô'), 1423–1503, French soldier, a cardinal of the Roman Church, and grand master of the Knights Hospitalers (1476–1503) In 1480 he valiantly defended Rhodes against Sultan Mohammed II After the accession (1481) of Sultan BAJAZET II, Aubusson gave shelter to Djem, Bajazet's brother However, he soon sent Djem to France as a virtual prisoner and obtained a truce and a large annual pension from Bajazet in exchange for keeping Djem confined In 1489 Aubusson ceded his valuable hostage to Pope Innocent VIII, who made Aubusson a cardinal and granted new privileges to his order

Aubusson (ôbûsô'), town (pop 4,935), Creuse dept, central France Its famous tapestry and carpet manufactures, which date at least from the late 15th cent, have in recent times been revived Cardinal Aubusson was born here

Aucassin et Nicolette (ōkäsĕ' ā nēkôlĕt'), medieval French love story in prose and verse, composed probably in the 13th cent It is preserved in a manuscript which contains the music to which the verses were to be sung The simplicity of the story is its charm It has been often translated into English, notably by Edward Everett Hale, Andrew Lang, and Laurence Housman

Auch (ōsh), city (pop 11,489), capital of Gers dept, S France It has an important wine and brandy trade One of the principal cities of Roman Gaul, it became an archiepiscopal see in the 9th cent and was capital of ARMAGNAC and of GASCONY The cathedral (15th–16th cent) contains magnificent stained glass windows and woodwork

Auchinleck, Sir Claude John Eyre (ăr'ô"kĭnlĕk', ô"khĭn–), 1884–, British field marshal, educated at Wellington College A long army career led to command of the 1933 and 1935 operations based in the North-West Frontier Prov, India In the Second World War he commanded briefly at Narvik (1940), then in building defenses in England, and (1940–41), in India After succeeding (July, 1941) Gen Sir Archibald P Wavell in the Middle East command, he launched in Nov, 1941, a campaign into Libya and in June, 1942, was thrust back into Egypt In August he was removed, and in June, 1943, he once more became commander in chief in India He was made field marshal in 1946

Auchmuty, Sir Samuel (ôkmû'tē, ôk'–, ă'mŭtē), b 1758 (not, as commonly stated, 1756), d 1822, British general He was born in New York city and graduated from King's College (now Columbia Univ) in 1775 A Loyalist soldier in the American Revolution, he was commissioned in the British army and removed to England He served in India (1783–97) and in Egypt (1801–2), his success bringing him popularity and knighthood (1803) Commanding the British reinforcements to the Río de la Plata, he in 1807 captured Montevideo and served under John WHITELOCKE in the unsuccessful attack on Buenos Aires He became commander in chief at Madras (1810), captured Java from the Dutch (1811), and was commander in chief in Ireland for a short time in 1822 See Annette Townsend, *The Auchmuty Family of Scotland and America* (1932)

Auckland (ôk'lund), city (pop 123,457, metropolitan pop 263,370), on N North Island, New Zealand It is the chief port of the dominion Founded in 1841, it was formerly (1841–65) the capital of New Zealand Among the many fine buildings are Auckland University College, Anglican and Roman Catholic cathedrals, and the War Memorial Museum with its collection of Maori art Surrounding the city are many extinct volcanic cones, the highest of which is Mt Eden (644 ft) There are shipyards, ammunition plants, canneries, and a sugar refinery The chief exports are dairy products, hides, and timber The city is in an area known for its hot springs and health resorts

Auckland Islands, small uninhabited group, area 234 sq mi, S Pacific, 300 mi S of South Island, New Zealand, to which it belongs

Aude (ōd), department (2,449 sq mi, pop 268 889), SE France, in LANGUEDOC, at the foot of the Pyrenees Carcassonne, the capital, and Narbonne are the chief cities The Aude, a small river, reaches the sea E of Narbonne

Auden, Wystan Hugh (wĭs'tŭn hu' ô'dun), 1907–, Anglo-American poet, b York, England, educated at Oxford As the leader of a left-wing literary group known as the Auden Circle, he wrote with Christopher Isherwood, three verse plays, *The Dog beneath the Skin* (1935), *The Ascent of F 6* (1936), and *On the Frontier* (1938), as well as *Journey to a War* (1939), a record of their experiences in China He is co-author with Louis MacNeice of *Letters from Iceland* (1937) Other works of Auden, who is by many considered a successor of T S Eliot, include *The Double Man* (1941), *For the Time Being* (1944), *Collected Poetry* (1945), and *The Age of Anxiety* (1947), which won the 1948 Pulitzer Prize for poetry Lectures at the Univ of Virginia were the basis of essays in *The Enchafèd Flood, or, The Romantic Iconography of the Sea* (1950) In 1946 Auden became a citizen of the United States

Audenarde see OUDENARDE

audiencia (oudyän'syä), royal court in Spain and the Spanish Empire, having some administrative as well as judicial functions *Audiencias* appeared in Spain as early as 1274 and varied greatly in their forms and functions. By 1480 the common type was a tribunal of two chambers, one for civil jurisdiction, the other for criminal jurisdiction The regional *audiencias* established in the colonies were of great importance in the force they exerted against conquistadors, viceroys, and captains general The most important were viceregal *audiencias* The viceroys presided over these but could not interfere in juridical functions The *audiencia* came to exercise some executive and legislative power and, in a sense, was the core of Spanish colonial government

audio frequency see VIBRATION

audio-visual education see VISUAL EDUCATION

audiphone, instrument used to aid defective hearing in cases where the auditory nerve is not completely destroyed It consists of a sheet of hard rubber which is pressed against the upper teeth, the vibrations being conveyed through the teeth and bones of the head to the internal EAR

auditing, examination and statement of accounts and of vouchers and other documents connected with accounts by persons who have had no part in their preparation Systems of checking have long been used, especially in connection with public accounts In Italy the elaboration of commerce considerably increased the duties of an auditor in the late Middle Ages, but the auditing of business accounts did not become common until the 19th cent, when there were an increasing number of groups concerned with businesses which were continually growing in size and complexity Corporate charters usually came to be granted only on condition that licensed experts should conduct annual audits Such audits are particularly useful to the owners (partners or stockholders), executives (managers, officers, and directors), creditors or prospective creditors (investors, note brokers, commercial and investment bankers), and receivers, trustees, and creditors' committees of a business, as well as the vendors of its merchandise, the owners of patents and other recipients of profit shares or royalties, governmental regulatory bodies, and prospective donors to institutions An audit settles certain categories of questions It must determine whether all assets and liabilities shown are actual and are properly valued, incurred, and recorded A check must be made of the surplus, income, and capital-stock accounts, verified by the examination of the authorization for stock issues and by comparing the amount issued with the amount authorized Finally, auditing constitutes an independent check on the tendency to overstate assets and understate liabilities, satisfactorily made only by independent auditors The duties of auditors have been expanded into a comprehensive survey and analysis of the entire conduct of the financial and accounting branches of an enterprise Thus the auditor must add to his knowledge of ACCOUNTING a broad understanding of business and finance The accountant records the facts of a business, the auditor must determine whether or not such recording has been accurately and honestly done and then interpret and judge the facts, perhaps adding to his report recommendations for the future conduct of the business In many countries, auditors are now established as a separate profession, with government licenses See R H Montgomery, *Auditing Theory and Practice* (6th ed, 1940); W A Staub, *Auditing Developments during the Present Century* (1942), De W. C. Eggleston, *Auditing Procedure* (3d ed, 1947).

Audley of Walden, Thomas Audley, Baron, 1488–1544, lord chancellor of England (1533–44) under Henry VIII He was made lord keeper of the great seal in 1532 A loyal servitor of Henry VIII, he supported the divorce from Katharine of Aragon and as chancellor presided over the trials of Sir Thomas More and Bishop Fisher He continued subservient to the king in the prosecution of Anne Boleyn, Sir Thomas Cromwell, and other notables He was created baron in 1538

Audoux, Marguerite (märgurĕt' ōdōō'), d 1937, French novelist, a seamstress by trade Her unpretentious autobiographical novel, *Marie Claire* (1910, Eng tr, 1911), was widely read It was followed by *L'Atelier de Marie Claire* (1920, Eng tr, *Marie Claire's Workshop*, 1920)

Audran, Gerard (zhurar' ōdrā'), 1640–1703, French engraver, most important of a family of engravers He studied with his father, Claude Audran, and with his uncle, Charles Audran, and later with the painter Charles Le Brun The series of plates for Le Brun's *Battles of Alexander* is well known

Audubon, John James (ô'dŭbŏn), d 1851, American ornithologist He gave the place and date of his birth as near New Orleans in 1780, some scholars assert, however, that he was of illegitimate birth and was born at Aux Cayes, Haiti, in 1785 He was educated in France and in 1803 came to the Audubon estate, "Mill Grove," near Philadelphia, here he spent much time observing birds and making the first American bird-banding experiments In 1808 he married Lucy Bakewell, whose faith and support were factors in his eventual success Between 1808 and 1820 he lived mostly in Kentucky, in Henderson, frequently changing his occupation and neglecting his business to carry on

his bird observations He began painting portraits for a livelihood and descended the Mississippi to New Orleans, where for a time he taught drawing From 1823 to 1828 his wife conducted a private school, in which he taught for a short time, in West Feliciana parish, La In 1826 he went to Great Britain in search of a publisher and subscribers for his bird drawings, meeting with favorable response in Edinburgh and London *The Birds of America*, in elephant folio size was published in parts between 1827 and 1838, with engravings by Robert Havell, Jr The accompanying text, called the *Ornithological Biography* (5 vols., 1831–39), was prepared largely in Edinburgh in collaboration with William MacGillivray, who was responsible for its more scientific information Extracts from Audubon's contributions, edited in 1926 by F H Herrick as *Delineations of American Scenery and Character*, reveal his stylistic qualities and furnish many pictures of American frontier life Audubon worked on a smaller edition of his great work and also, in collaboration with John Bachman, began *The Viviparous Quadrupeds of North America*, which was completed by his sons Victor Gifford Audubon and John Woodhouse Audubon (plates, 30 parts, 1842–45, text, 3 vols, 1846–54) During these years his home was on the Hudson river in the northern part of Manhattan island While his drawings and paintings of bird life do not wholly satisfy the critical artist and the meticulous scientist, they represent a rare combination of artistic talent and scientific observation and remain one of the great achievements of American intellectual history His Manhattan home was purchased in 1932 for preservation as a shrine See his journal (1929) and letters (1930), both ed by Howard Corning, studies by F H Herrick (1917), E A Muschamp (1929), D C Peattie (1935), Constance Rourke (1936), A J Tyler (1937), and S C Arthur (1937) **Audubon societies** for the preservation and study of wildlife are organized in all parts of America and are united into an endowed National Association of Audubon Societies George Bird Grinnell founded the first Audubon Society *Bird Lore* is the official magazine of the association

Audubon, I City (pop 2,409), co seat of Audubon co, SW Iowa, NE of Atlantic, in a farm area, platted 1878 by the railroad, inc 1881 Canning is done here The city park has a wild-flower garden, a library, and a war memorial building **2** Borough (pop 8,906), SW N J , near Camden, inc 1905. A large cooperative housing project is here

Audubon societies: see AUDUBON, JOHN JAMES

Aue, Hartmann von see HARTMANN VON AUE

Auenbrugger, Leopold (lā'ōpōlt ou'unbrŏog"ur), 1722–1809, Viennese physician His findings on the use of percussion in diagnosing chest diseases were published in 1761 (Eng tr , *On Percussion of the Chest*, 1936) Although ignored for some 40 years, his method, revived by Jean Nicolas Corvisart, was ultimately generally adopted

Auer, Leopold (ou'ur), 1845–1930, Hungarian violinist and teacher, studied at the conservatories of Budapest and Vienna and with Joachim in Hanover He taught at the St Petersburg Conservatory, 1868–1917, succeeding Wieniawski In 1918 he came to the United States, where he taught at the Institute of Musical Art, New York, and the Curtis Institute of Music, Philadelphia He became an American citizen, 1926 He was tremendously successful as concert violinist, conductor, and teacher, numbering Mischa Elman, Heifetz, and Zimbalist among his pupils See his autobiography (1923)

Auerbach, Berthold (bĕrt'hōlt ou'urbäkh), 1812–82, German novelist, of Jewish origin He fought in the Revolution of 1848 and in the Franco-Prussian War By his *Schwarzwälder Dorfgeschichten* (1843, Eng tr , *Village Tales from the Black Forest*, 1846–47), somewhat stylised pictures of peasant life which were much imitated, he became the virtual founder of the peasant-story genre in German. *Diethelm von Buchenberg* (in *Schwarzwälder Dorfgeschichten*), *Das Frau Professorin* (1847, Eng tr., *The Professor's Wife*, 1850), and *Barfüssele* (1856, Eng. tr , *The Barefooted Maiden*, 1857), all *Novellen*, are considered typical Of his longer works, some of which are stories of Jewish life, the best known is *Auf der Höhe* (1865, Eng tr , *On the Heights*, 1867) A dramatization of *Das Frau Professorin* by Charlotte Pfeiffer held the stage for 50 years in Germany

Auerstedt (ou'ürshtĕt), village, central Germany, 15 mi NE of Weimar Here, on Oct 14, 1806, the French Marshal Davout defeated the Prussians under the duke of Brunswick; on the same day Napoleon I triumphed at Jena.

Augeas (ôjē'us), in Greek mythology, king who owned 3,000 oxen HERCULES was commanded to clean in one day his stables (the Augean Stables), which had not been cleaned for 30 years He did this by making the rivers Peneus and Alpheus flow through them

Auger: see DRILL

Augereau, Pierre François Charles (pyĕr' frēswä' shärl' ôshurō'), 1757–1816, marshal of France. He fought in the French Revolutionary and Napoleonic Wars and was a principal in the coup d'état of 18 FRUCTIDOR (1797) For his services in the Italian campaign Augereau was later created duke of Castiglione

Aughrim or **Aghrim** (ôg'rĭm, ôkh–), small town, Co Galway, Ireland It was the scene of a battle (July 12, 1691) in which the forces of William III under General van Ginkel won a decisive victory over those of James II under General St Ruth

Augier, Émile (Guillaume Victor Émile Augier) (gāyōm' vēktôr' amāl' ôshyā'), 1820–89, French dramatist and satirist His plays, pioneering in modern realism, exhibit the social foibles of his time from a strongly ethical point of view. His chief work, *Le Gendre de M. Poirier* (1854), was written with Jules Sandeau

Augsburg (ouks'bŏork), anc *Augusta Vindelicorum*, city (1939 pop 185,374, 1946 pop 160,055), capital of Swabia, W Bavaria, on the Lech It is the textile center of S Germany and has varied other industries Augsburg was a Roman colony founded by Augustus in 15 B C ; it became (6th cent) an episcopal see Created a free imperial city in 1276, it was a prominent member of the SWABIAN LEAGUE (1488–1534) The home of the FUGGER and WELSER families and the birthplace of Holbein and Burgkmair, it was one of Europe's most important commercial and banking centers in the 15th and 16th cent and a rallying point of German art and science Several important agreements were concluded here during the Reformation, the city remained predominantly Catholic It declined during the Thirty Years War Augsburg was rich in architectural beauty until the Second World War, when it was very heavily damaged by frequent bombings.

Augsburg, League of, defensive alliance formed (1686) by Emperor Leopold I with various German states, including Bavaria and the Palatinate, and with Sweden and Spain so far as their German interests were concerned It was an acknowledgment of a community of German feeling against French expansion The adherence of the Dutch Netherlands, England, and Savoy to this coalition resulted in the formation of the GRAND ALLIANCE (1689)

Augsburg, Peace of, 1555, temporary settlement within the Holy Roman Empire of the religious conflict arising from the REFORMATION Each prince was to determine whether Lutheranism or Roman Catholicism was to prevail in his lands (*cuius regio, eius religio*). Calvinists and other groups were ignored All church property held by abbots or bishops who changed their faith after 1552 was to be forfeited by them

Augsburg Confession see CREED

Augsburg Interim: see REFORMATION

Augur, Hezekiah, 1791–1858, American sculptor, self-taught Only after a business failure did he devote himself to his art His bust of Washington and *Jephtha and His Daughter* (Yale Art School) are among his best-known works

augurs see OMEN

August see MONTH

Augusta (ougŭ'stä), town (pop 17,716), E Sicily, Italy, a port and naval and air base on the Ionian Sea In 1676 it was the scene of a French naval victory over the Dutch Destroyed by the earthquake of 1693, it is now a modern city

Augusta (ôgŭs'tu, ûgŭs'–) 1 City (pop 2,235), co seat of Woodruff co , E central Ark., on the White River, settled 1846, inc. 1861 It has cotton gins and commercial fishing **2** City (pop 65,919), co seat of Richmond co , E Ga At the head of navigation on the Savannah and protected by levees, the city is a large cotton market and an important industrial center making cotton textiles, cottonseed products, brick and tile, lumber and processed farm products, chemicals, and fertilizer Augusta is also a winter resort, with a mild climate It was laid out by James Oglethorpe in 1735 as a trading post and named for the mother of George III, it was incorporated as a town in 1789, as a city in 1798 In the Revolutionary War, Augusta, after changing hands many times, was finally taken in 1781 by Continental forces under Andrew Pickens and Light-Horse Harry Lee It was capital of Georgia from 1785 to 1795 During the Civil War it was the site of the largest Confederate powder works. Points of interest include Paine College (Negro, Methodist, coeducational, 1883), the Univ of Georgia School of Medicine, a city junior college, Haines Institute (Negro), a U S arsenal (1819), the boyhood home of Woodrow Wilson, and numerous fine old houses of Georgian and classic revival design **3** City (pop. 3,821), SE Kansas, E of Wichita and on the Walnut, settled c 1868, inc 1871. Trading center for a rich farm region, it is also a distributing and refining point for oil fields **4** City (pop 1,701), N Ky , on the Ohio and SE of Cincinnati, founded 1792 The city, with a fine harbor, has in a tobacco and grain area It was the site of one of the first Methodist schools (c 1800) in the country **5** City (pop 19,360), state capital, and co seat of Kennebec co , SW Maine, on the Kennebec and NE of Portland Part of Hallowell before its incorporation as a town in 1797, it was made a city in 1849 Even before 1628, when the Plymouth Company established a trading post here, traders had visited this site, long known as Cushnoc. Fort Western was built in 1754 for protection against the Indians; Benedict Arnold's expedition to Quebec gathered at the fort in 1775. (The garrison house was restored as a museum in 1921.) The settlement about the fort developed with the shipping and shipbuilding on the Kennebec; a dam was built across the river in 1837, and manufacturing began Wood and paper products, shoes, and printing are important Fire destroyed most of the business section of Augusta in 1865. The domed capitol (1829), of Hallowell granite, was designed by Charles Bulfinch but has been considerably altered James G Blaine's home (early 19th cent) became the governor's mansion Augusta is the seat of a state hospital for the insane and of a U S arsenal and has an airport A soldiers' home is near by **6** City (pop 1,519), W central Wis , SE of Eau Claire, inc 1885

Augustana College (ô"gŭstān'ŭ), at Sioux Falls, S Dak , Lutheran, coeducational, opened 1860 as a seminary in Chicago, chartered 1865 It followed Norwegian pioneers westward, with various names and sites before it absorbed the Lutheran Normal School in Sioux Falls in 1918 In 1869 a Swedish section split off and became **Augustana College and Theological Seminary**, at Rock Island, Ill., since 1875 (mainly coeducational), it has a music school with a noted choir.

Augustenburg, Christian Augustus, Herzog von: see SCHLESWIG-HOLSTEIN

Augustine, Saint (ô'gŭstĭn, –tēn, ôgŭ'stĭn), Latin *Aurelius Augustinus*, 354–430, Doctor of the Church, one of the four Latin fathers, bishop of Hippo, b Tagaste (c 40 mi S of Hippo) His mother, St Monica, was a great influence in his life She brought him up as a Christian, but he gave up his religion when he went to school at Carthage There he became adept in rhetoric In his *Confessions* he repents bitterly of his life in Carthage Some time in his youth he became a convert to Manichaeism After 376 he went to Rome, where he taught rhetoric with success, in 384, at the urging of the Manichaeans, he went to Milan to teach His years at Milan were the critical period of his life Already mistrustful of Manichaeism, he came to renounce it after a deep study of Platonism and skepticism Augustine, troubled in spirit, was greatly drawn by the eloquent fervor of St AMBROSE, bishop of Milan After two years of great doubt and mental disquietude Augustine suddenly decided to embrace Christianity, and he was baptized on Easter, 387 Soon afterwards he returned to Tagaste, where he lived a monastic life with a group of friends In 391, while he was visiting in Hippo, he was chosen, against his will, to be priest of the Christians there For the rest of his life he remained in Hippo, where he became auxiliary bishop in 395 and bishop soon after He died in the course of the siege of Hippo by the Vandals St Augustine's influence on Christianity is thought by many to be second only to that of St Paul, and theologians, Roman Catholic and Protestant, look upon him as the founder of theology His *Confessions* is considered a classic of Christian mysticism This work (c 400), the prime source for St Augustine's life, is a beautifully written apology for the Christian convert Next to it his best-known work is the *City of God* (after 412)—Augustine's view of society and its transformation by Christian ends into a new order It is an apology for Christianity, written when the fall of Rome was attributed to that religion His greatest purely dogmatic work is *On the Trinity*, a systematization of Christian doctrine, but much of his theological teaching comes from his polemical writings His works against the Manichaeans, especially *Against Faustus* (his Manichaean teacher), are important for the light they throw on the religion they denounce and for the picture they present of the author's flight from dualistic materialism into Platonism, then into Christianity Against DONATISM, St Augustine directed two works, *On Baptism* and *On the Correction of the Donatists*, in which he formulated the idea, since then become part of Roman Catholicism, that the Church's authority is the guarantee of the Christian faith, her own guarantee being the APOSTOLIC SUCCESSION The most spectacular controversy in which St. Augustine was involved was his battle against PELAGIANISM The Pelagians denied original sin and the fall of man The implication of this, that God's grace was unnecessary for the first step toward salvation, aroused Augustine, who held that man was corrupt and helpless He wrote many treatises in this controversy and continued to elaborate his ideas afterwards From his writings the great controversies on grace proceed, and as professed followers of Augustine, Calvin and the Jansenists developed their predestinarian theologies Though revering Augustine, many theologians have refused to follow him in his more extreme statements on grace Another of St Augustine's important treatises, *On the Work of Monks*, has been much used by monastics. He also composed works on biblical exegesis One of his most interesting treatises is called *Retractions*, composed late in life, a kind of review of his works, in which he revised some of his views.

He was a master of style. His letters are numerous and revealing His feast is Aug. 28 His most important works are available in translation.

Augustine of Canterbury, Saint, d. c 605, Italian missionary, called the Apostle of the English, first archbishop of Canterbury (from 601) A Roman Benedictine monk, he was sent, at the head of some 40 monks, to England by Pope St. GREGORY I Arriving in 597, they were well received by King ÆTHELBERT, who gave them land at Canterbury St Augustine brought many books with him from Rome, inaugurating the love of learning which was to characterize Anglo-Saxon England. His mission, introducing the more widespread Roman ways, was resented by Celtic monks of the British Isles, whose austerities were more severe and who kept a different date of EASTER The differences were settled at the Synod of Whitby, when England abandoned Celtic practices Feast May 28 or 26 (in England) See Bede's *Ecclesiastical History;* H. H. Howorth, *Saint Augustine of Canterbury* (1913)

Augustinians, religious orders in the Roman Catholic Church The name is derived from the so-called Rule of St Augustine, an old, rather generalized, and flexible monastic rule The canons regular are often called Augustinian, or Austin, canons because they use the rule, two famous canons who used modifications of the rule in establishing new orders were St Norbert, founder of the Premonstratensians, and St Dominic The Austin friars are an entirely different group of religious, dating from the 13th cent., their life and motive were those of mendicants devoted to the apostolate in the world They have been at times very numerous and influential Luther was one of them. In the 20th cent there were three orders of Austin friars, the Augustinian Hermits (the most numerous, especially in the United States), the Recollects of St Augustine, and the Discalced Augustinian Hermits There are congregations of women corresponding to both canons and friars

Augustus (ôgŭ'stŭs, ŭ–), 63 B.C.–A.D. 14, first Roman emperor, a grandson of the sister of Julius CAESAR Named at first Caius Octavius, he became on adoption by the Julian *gens* (44 B.C.) Caius Julius Caesar Octavianus (Octavian), Augustus was a title of honor granted by the senate He lost his father when he was a boy, and his stepfather brought him up When Octavius was in his teens Caesar took a great interest in him and in his education and made Octavius his heir without the youth's knowledge Octavius was in Illyricum when Caesar was killed, and he set out promptly for Italy, at Brundisium (Brindisi) the army hailed him as its leader, but Octavius preferred to enter Rome unostentatiously Before he reached the city, he heard that he had been adopted into the Julian gens and was Caesar's heir At Rome ANTONY was in control, and Octavian was considered by Cicero and the senate as a leader against him Antony went north to take Gaul and was defeated at Modena and forced to flee (43–42 B.C.) Octavian, now dominant in Rome, secured the consulship and made an alliance with Antony and LEPIDUS as the Second Triumvirate Proscriptions having disposed of the enemies of the triumvirate, Octavian and Antony went east and defeated the army of BRUTUS and CASSIUS at Philippi (42 B.C.) Octavian now attacked Sextus POMPEIUS, who was master of the Mediterranean, and M. Vipsanius AGRIPPA drove Pompeius (36 B.C.) from the sea Meanwhile, at Rome, Octavian had been consolidating his power, avoiding carefully any seeming desire for any kind of royal honor and contenting himself with a consulship The growing disgust of Rome at Antony was helpful to Octavian, who had himself appointed general against Antony (31 B.C.) After the battle of ACTIUM, which Agrippa won over Antony and Cleopatra, Octavian was master of all Roman territories (30 B.C.) He set about at once to reform the city and the provinces He purged the senate of unworthy members and added new members, restored and built temples, and fostered a revival of Roman tradition Augustus had no court, and he considered himself, publicly at least, not the ruler, but the first citizen, of the republic The senate delighted to honor him in 29 B.C. he was made *imperator* [Latin,=commander; from it is derived *emperor*], in 28 B.C. *princeps* [leader; from it is derived *prince*], in 27 B.C. *augustus* [august, reverend], in 12 B.C. *pontifex maximus* [high priest], and a month (Sextilis) was renamed Augustus (August) in his honor His reforms were as prudent as far-reaching He divided the provinces into two classes—senatorial, ruled by a proconsul chosen by the senate with a term of one year, and imperial, in charge of a governor solely responsible to Augustus with an indefinite term. To man the provinces Augustus spread the army throughout the empire This was a boon to Italy, which had been cursed with a huge standing army for nearly a century Augustus desired no more conquest, and his consequent policy was to hold the borders set by Caesar. He probably wanted to make a buffer state of Germany between the Rhine and the Weser (or the Elbe), for otherwise it is hard to understand the occupation that led to the defeat of VARUS by ARMINIUS—the only real reverse Augustus ever suffered. Augustus fostered colonization throughout the empire, and he seems to have studied the plans of Caesar in this matter very carefully Taxation he made more equitable, and he had general censuses taken Knowing that the roads were the arteries of the empire, he lavished expenditures on them and regulated the post with much care Augustus is said to have remarked that he found Rome of brick and left it of marble, a saying at least partly true, for he built a new forum, beautified the streets, reformed the housing, and set up adequate police and fire protection He was munificent to arts and letters, and he was a close friend of MAECENAS and a patron of VERGIL, OVID, LIVY, and HORACE This is, indeed, called the Augustan Age of Roman art and letters Perhaps Augustus' greatest achievement was his establishment of the Pax Romana [Roman peace] This world peace may certainly be said to have made possible the civilization of the Roman Empire Augustus was succeeded by his stepson TIBERIUS For bibliography, see *Roman Empire* under ROME See also J. B. Firth, *Augustus Caesar* (1925); Mason Hammond, *The Augustan Principate* (1933), John Buchan, *Augustus* (1937)

Augustus II (Augustus the Strong), 1670–1733, king of Poland (1697–1733) and, as Frederick Augustus I, elector of Saxony (1694–1733) He commanded the imperial army against the Turks (1695–96) but without success, and he was replaced by Prince Eugene of Savoy as soon as he competed for the Polish throne, left vacant by the death of John III (John Sobieski) His physical prowess was equaled only by his lack of principle By dint of becoming a Catholic and of granting the Polish nobility unprecedented privileges he was elected king. With the help of PATKUL, Augustus allied himself (1699) with Emperor PETER I of Russia and FREDERICK IV of Denmark for an attack on young CHARLES XII of Sweden. In the resulting conflict (see NORTHERN WAR) Augustus invaded Livonia with his Saxon troops but was defeated by Charles XII at Klissow (1702) The Treaty of Altranstädt (1706) forced him to renounce the Polish crown in favor of STANISLAUS I and to give up his alliance with Russia After Charles's defeat by the Russians at Poltava (1709), Augustus revived the alliance, recovered Poland (1710), and was recognized by Sweden (1719) In Poland, where he kept a Saxon force, Augustus was highly unpopular His desire to secure the Polish throne for his son and successor in Saxony, Augustus III, was balked for some time after his death by the accession of Stanislaus I Among Augustus's many mistresses was Maria Aurora KÖNIGSMARK, and her son, Maurice de Saxe, was one among his innumerable illegitimate offspring A patron of the arts, Augustus greatly embellished DRESDEN and created the MEISSEN china manufactures

Augustus III, 1696–1763, king of Poland (1736–63) and, as Frederick Augustus II, elector of Saxony (1733–63), son of Augustus II, whom he succeeded in Saxony Claiming Poland, he allied himself with Empress Anna of Russia and Emperor CHARLES VI in the War of the POLISH SUCCESSION (1733–35), drove STANISLAUS I from Poland, and thus secured the throne In the War of the AUSTRIAN SUCCESSION (1740–48) Augustus opposed Maria Theresa because of his claims as a son-in-law of Emperor Joseph I, but he changed sides in 1742. When the SEVEN YEARS WAR broke out (1756), Augustus fled to Poland; he returned to Dresden only after the war was over (1763) Like his father, Augustus was a patron of the arts His indolence and sensuality kept him from business of state, which he left to his ministers, notably to Count BRÜHL

auk (ôk), member of the family of swimming and diving birds of the N Atlantic and Pacific which includes the guillemots and puffins Their legs are set far back on their bodies, making them clumsy on land, where they seldom go except to nest The flightless great auks or garefowl, the largest species, about the size of a goose, black above and grayish white below, were formerly abundant in the N Atlantic They were exterminated (c 1844) by being slaughtered in their breeding grounds for their flesh, feathers, and oil The least auklet (about 6½ in.), common in the Bering Sea region, is the smallest of the family, and the razor-billed auk (16–18 in.) is the largest surviving member The Eskimo capture the dovekie or little auk for food and make their feathered skins into clothing.

Aulander (ôlăn'dẽr), town (pop. 1,057), NE N.C., NE of Rocky Mount, in a farm area.

Aulard, Alphonse (älfôs' ôlär'), 1849–1928, French historian. He is an authority on the French Revolution, to the study of which he devoted his whole life. A professor at the Univ. of Paris, he founded the Société de l'Histoire de la Révolution and the monthly review, the *Révolution française* The first to study the French Revolution with a thoroughly scientific method, Aulard opposed the conclusions of Taine as prejudiced, nevertheless, he himself clearly represented the republican, bourgeois, and anticlerical concept of the Revolution, which he transmitted to his best-known disciple, Albert MATHIEZ. His works include *Études et leçons sur la Révolution française* (9 vols., 1893–1924), *Histoire politique de la Révolution française* (1901; Eng. tr., 4 vols., 1910), *Les Grands Orateurs de la Révolution Mirabeau, Vergniaud, Danton, Robespierre* (1914), and *La Révolution française et le régime féodal* (1919)

Aulie-Ata, Kazakh SSR: see DZHAMBUL

Aulis (ô'lĭs), small port of ancient Greece, in Boeotia From here the Greek fleet set out against Troy after the sacrifice of IPHIGENIA

Aulnoy, Marie Catherine Le Jumel de Barneville de la Motte, baronne d' (märē' katurēn' lu shümēl' du bärnvēl' dù là môt bürôn' dônwä'), b. 1650 or 1651, d. 1705, French writer Her chief work was a collection of fairy tales (1st ed., 1697), drawn from various sources, they have been translated often into English, as in *D'Aulnoy's Fairy Tales* (1923) and *The White Cat and Other Old French Fairy Tales* (1928) Her memoirs of life in England and Spain are largely fictitious

Aulus Gellius see GELLIUS, AULUS

Aungerville, Richard. see RICHARD DE BURY

Aunis (ônēs'), small region and former province, W France, on the Atlantic coast N of the Charente It is now a part of Charente-Maritime dept., including the islands of RÉ and OLÉRON A port of AQUITAINE, it was incorporated (1371) into the French crown lands Its chief cities, La ROCHELLE and ROCHEFORT, were important in later history

aura (ô'ru) emanation, usually invisible, enveloping the body or substance from which it radiates In spiritualism it is the mysterious light enveloping a spirit manifestation To theosophists the aura is a manifestation of the complex influences which together make up the body and the higher self or permanent ego, and it is apparent to those qualified to see it

Aurangabad (ourŭng"gäbäd'), town (pop. 50,924), NW Hyderabad state, India It was founded in 1610, and nearby is the great mausoleum (1711) of Aurangzeb's empress It is a center of trade in cotton and wheat

Aurangzeb (ôr'ŭngzĕb") or **Aurangzib** (–zĭb"), 1618–1707, Mogul emperor (1658–1707), youngest of the four sons of SHAH JEHAN After defeating his brothers in battle and imprisoning his father for life, he ascended the throne at Delhi with the reign title Alamgir A scholarly, austere man, he was intensely devoted to righteous government and to the Mohammedan religion Despite great popular dissatisfaction he rigorously suppressed Hinduism His costly conquests, especially in the Deccan, brought the empire to its greatest extent but so weakened it that after his death it fell apart His name also appears Aurungzebe, Aurungzeb, and Aureng-Zebe See Sir Jadunath Sarkar, *History of Aurangzib* (5 vols., 1912–24)

Auray (ôrā'), town (pop. 8,038), Morbihan dept., NW France, in Brittany, c 11 mi. W of Vannes About 4 mi to the north is the famous Basilica of Sainte-Anne-d'Auray (see ANNE, SAINT), built in Renaissance style in the 19th cent The yearly pilgrimage to the shrine takes place on July 26 and dates back to the 17th cent., when St. Anne appeared to Yves Nicolazic, a peasant. The town has many medieval houses Near Auray took place (1364) the decisive battle of the War of the BRETON SUCCESSION On the Champ des Martyrs, also near Auray, 800 royalists, who had landed at QUIBERON, were massacred (1795)

Aurelian (Lucius Domitius Aurelianus) (ôrē'lēŭn), c 212–275, Roman emperor (270–75) Rising in the ranks, he became consul under Valerian He succeeded CLAUDIUS II, whose victory over the Goths was the opening wedge for the territorial rehabilitation of the empire He conceded Dacia to the Goths, but consolidated the provinces within the Danube and held the barbarians beyond the Rhine. His most brilliant exploits were in the East, whither he went to reckon with Egypt, Mesopotamia, and Palmyra The last, ruled by ZENOBIA, gave him the most trouble, but he captured her and destroyed PALMYRA Aurelian went to Gaul, where he received the submission of the independent "emperor," Tetricus Aurelian was murdered, but before he died he had regained Britain, Gaul, Spain, Egypt, Syria, and Mesopotamia, and he had removed for a while the barbarian threat to the eastern provinces. He fortified Rome with a wall some 12 mi. in circumference, averaging more than 40 ft. in height Much of it still remains. TACITUS succeeded him.

Aurelius, Marcus: see MARCUS AURELIUS

aureole, in art, see NIMBUS.

aureole, in physics, luminous circle which under certain conditions surrounds the sun or other bright light It sometimes occurs as a series of concentric circles Color, more or less distinct, appears in this phenomenon, which is caused by aqueous vapor or dust particles in the atmosphere The colors result from REFRACTION of the light waves (see LIGHT).

Aureomycin: see ANTIBIOTIC SUBSTANCES.

Auriesville, unincorporated village, E central N.Y., near Amsterdam. It is the site of the Roman Catholic Shrine of Our Lady of Martyrs, commemorating St. Isaac Jogues and seven other martyrs, called the Jesuit Martyrs of North America. They were killed by the Iroquois.

Aurignac (ôrēnyäk'), village, S France, at the foot of the Pyrenees and SW of Toulouse Its caves contain relics of prehistoric man of the Aurignacian period (see PALEOLITHIC PERIOD).

Aurigny, Channel Islands see ALDERNEY

Aurillac (ôrēyäk'), town (pop 18,957), capital of Cantal dept, SE central France, in Auvergne There are many picturesque old houses, especially along the Jordanne river Pope Sylvester II was born here

Auriol, Vincent (vĕsäN' ôryôl'), 1884–, French Socialist statesman, president of the French republic (1947–) A deputy after 1914, he was finance minister under Léon Blum in the first Popular Front government (1936–37) and minister of justice in the succeeding Chautemps cabinet (1937–38) He escaped from France in 1943, joined Gen Charles de Gaulle, was a member of the provisional government (1945), and was elected president of the national assembly (1946) and of the republic (1947)

aurochs (ôr'ŏks), originally the name for the now extinct wild ox or urus of Europe (*Bos primigenus*), a large blackish-brown animal believed to be the ancestor of European domestic cattle It is mentioned in the writings of Julius Caesar The clearing of forests and hunting resulted in its extermination A cow believed to be the last survivor died in 1627 in the Jaktorowka Forest in W Poland The European BISON is often called aurochs

Aurora (urô'ru, ôrô'-) in Roman religion, goddess of dawn, identified with the Greek Eos A famous painting of Aurora and her train by GUIDO RENI is at Rome in the Rospighosi Palace

Aurora (ùrô'rù, ôrô'-), town (pop 2,726) S Ont, N of Toronto It has a residential school for boys and various small industries

Aurora. **1** Residential city (pop 3,437), N central Colo, in the Denver metropolitan area, inc 1903 Near by is a large army hospital **2** City (pop 47,170), NE Ill, W of Chicago and on the Fox river, settled 1834, inc 1837 It has large railroad shops and a variety of manufactures including iron and steel products, fabric goods typewriter supplies, and road-making machinery It was one of the first towns to use electricity for street lighting (1881) Aurora College (Advent Christian, coeducational, 1893) is here **3** City (pop 4,828), SE Ind, on the Ohio and W of Cincinnati, laid out 1819 Its products include furniture and coffins A flood inundated the city in 1937 Elmer Davis was born here **4** Iron-mining village (pop 1,528), NE Minn, E of Virginia and at the eastern edge of the Mesabi iron range, inc 1903 **5** City (pop 4 056), SW Mo, SW of Springfield in the Ozarks, laid out 1870 It is a trade center, whose small industries include flour and feed mills and a shoe factory Lead and zinc mines are in the region **6** City (pop 2,419), SE Nebr, W of Lincoln, in a grain and livestock area, founded 1872, inc 1877 **7** Village (pop 372), W central N Y, on Cayuga Lake, settled 1783, inc 1837 Wells College (for women, 1868) is here **8** City (pop 228) NW Oregon, near Salem, settled 1855 It was founded as a Christian communistic colony by a group of followers of William KEIL

Aurora, Tuamotu Islands see MAKATEA

aurora borealis (bôˌrēā'lĭs -ā'lĭs) [Latin, =northern dawn] and **aurora australis** (ôstrā'lĭs) [southern], luminous display seen in various forms and colors and believed to result from collisions of streams of charged particles from the sun with the gases of the earth's upper atmosphere The aurora borealis of the Northern Hemisphere is often called the northern lights, and the aurora australis of the Southern Hemisphere is known as the southern lights Each is visible over an area centering around the geomagnetic pole of its own hemisphere The aurora borealis is said to occur with greatest frequency along a line extending through N Norway, across central Hudson Bay, through Point Barrow Alaska, and through N Siberia It is often visible in Canada and the N United States and is seen most frequently at the time of the equinoxes Auroral displays appear in shades of red, yellow, green, blue, and violet and are usually brightest in their most northern latitudes The aurora is seen in a variety of forms, e g, as patches of light, in the form of streamers, arcs, banks, rays, or resembling hanging draperies A rare form is the corona which appears close to the zenith Measurements of the height of the aurora are made by calculations from studies of photographs taken simultaneously at a known distance of some miles apart It has been found that the aurora may extend 600 mi into the upper atmosphere, none has been found to be less than 35 mi from the earth Spectrographic analysis shows that most of the light of the aurora comes from oxygen and nitrogen, which therefore must comprise much of the upper atmosphere, excitation of these gases produces the various colors of the aurora The occurrence of the aurora has been found to coincide with periods of greatest sunspot activity and with magnetic storms (disturbances of the ionosphere which interfere with long-distance radio communication) Studies of the aurora are useful in making possible the prediction of magnetic storms and in determining the composition of the upper atmosphere.

Aurungzebe: see AURANGZEB.

Au Sable (ôsä'bùl), river, c 80 mi long, rising in several branches which unite in Crawford co, N Mich The combined stream flows S and E to Lake Huron, N of the mouth of Saginaw Bay Moving with swift current through a once heavily forested region, the river was important for log driving

Ausable (ôsä'bùl), river of NE New York formed at Au Sable Forks village by the junction of its East Branch (c 30 mi long) and its West Branch (c 25 mi long), both rising in the Adirondacks and flowing generally northeast The united stream flows c 20 mi northeast to enter Lake Champlain S of Plattsburg A stone-arch bridge (1842) crosses the river at Keeseville Above Keeseville is **Ausable Chasm** (c 1 5 mi long, 20–50 ft wide, and 100–200 ft deep), where the river plunges in waterfalls and rapids past curious rock formations.

Auschwitz, Poland see OSWIECIM

auscultation, one of the aids in diagnosis of disease It consists of listening to sounds produced in the body—either by application of the examiner's ear to the body surface or by means of the stethoscope The trained ear can distinguish abnormal sounds which are the result of abnormal physical states of the tissues and organs Auscultation is especially useful in examining the heart and lungs, but is also used for the abdomen

Ausonius (Decimus Magnus Ausonius) (ôsō'nēŭs, dĕs'ĭmŭs), c 310–c 395, Latin poet and man of letters, b Bordeaux He tutored Gratian, who, when he ascended the throne, made Ausonius prefect of Gaul, Italy, and Africa, and finally consul (379) When Gratian died, Ausonius returned to Bordeaux His numerous poetical writings are competent academic exercises in versification, but not inspired or inspiring poetry His work gives us a good picture of contemporary people and places *Mosella*, a description of his journey on the Moselle river, contains his best verse Among his other works are *Parentalia*, verse sketches of dead relatives, and *Ordo nobilium urbium*, a description of the leading cities of Europe He was at least vaguely Christian in religion

Aussig, Czechoslovakia see ÚSTÍ NAD LABEM

Aust-Agder (oust"-ag'dur), county (3,610 sq mi, pop 74, 861), SE Norway, formerly called Nedenes It comprises the SETESDAL There are nickel and iron mines Arendal is the county seat

Austell (ôstĕl'), industrial city (pop 1,229), NW Ga, just W of Atlanta, inc as a town 1885, as a city 1929

Austen, Jane, 1775–1817, English novelist The daughter of a clergyman, she spent the first 25 years of her life at "Steventon," her father's Hampshire vicarage Here her first novels, *Pride and Prejudice*, *Sense and Sensibility*, and *Northanger Abbey*, were written, although they were not published until much later She was one of a large and affectionate family, and her writing was carried on in odd moments in the common living room On her father's retirement in 1801, the family lived in Bath for several years and then in Southampton, settling finally at Chawton Cottage, near Alton, Hampshire, which was Jane's home for the rest of her life *Northanger Abbey*, a satire on romances of the school of Mrs Radcliffe, was sold for £10 in 1803, but as it was not published, was bought back by members of the family and did not appear in print until after its author's death The novels published in Miss Austen's lifetime were *Sense and Sensibility* (1811), *Pride and Prejudice* (1813), *Mansfield Park* (1814), and *Emma* (1816) *Persuasion* was issued in 1818 with *Northanger Abbey* The author's name did not appear on any of her title pages, and although her own friends knew of her authorship, she received little public recognition in her lifetime Her writing was done for her own pleasure and was subjected to the most careful polishing She was quite aware of her special excellences and limitations, comparing herself to a miniaturist In her own field of social comedy on a small stage she has never been surpassed, and such characters as Miss Bates, Mrs Bennet, and Mr Collins have delighted many generations of readers Admirers usually give first place either to *Emma* or to *Pride and Prejudice* See various editions of her letters, memoir by her nephew, J E Austen-Leigh (1870), R B Johnson, *Jane Austen* (1930), May Lascelles, *Jane Austen and Her Art* (1939), Sheila Kaye-Smith and G B Stern, *Speaking of Jane Austen* (1944)

Austerlitz (ô'stŭrlĭts, Ger ou'-), Czech *Slavkov u Brna* (slăf'kôf ōō bŭr'nô), town (pop 4,451), Moravia, Czechoslovakia, 10 mi E of Brno Here, in the "battle of the three emperors," Napoleon I defeated (Dec 2, 1805) the Russian and Austrian armies under Tsar Alexander I and Emperor Francis II The battle, fought on the first anniversary of Napoleon's coronation, was his most brilliant victory The "sun of Austerlitz" (it was a cloudless day) became synonymous with the peak of Napoleon's fortunes An armistice with Austria, concluded (Dec 4) at Nikolsburg, was followed by the Treaty of PRESSBURG Russia continued the war, but had to withdraw all troops from Austria A famous description of the battle is in Tolstoy's *War and Peace.*

Austin, Alfred, 1835–1913, English author. He was an editor (1883–95) of the *National Review*, and in 1896 succeeded Tennyson as poet laureate His most popular work, however, is prose, *A Garden That I Love* (1894, 1907), a miscellany in diary form See his autobiography (1911)

Austin, Jane Goodwin, 1831–94, American author, b Worcester, Mass A student of early New England history, she contributed stories of that period to the *Atlantic Monthly* and other magazines and wrote several novels Her "Pilgrim Books" for young people include *Standish of Standish* (1889) and *Betty Alden* (1891)

Austin, John, 1790–1859, English jurist The lectures which he delivered while he was (1826–32) professor of jurisprudence at the Univ of London were published (with additional material) as *The Province of Jurisprudence Determined* (1832) and *Lectures on Jurisprudence* (1869, 5th ed, 1911) These books presented an analysis of the principles underlying all legal systems and were not confined to an exposition of the rules of English law Austin argued that law was the expression of the will of the sovereign authority and was not to be confused with the dictates of religion and ethics Austin's work—in part stemming from that of Jeremy BENTHAM—had a strong influence on many later legal theorists, including John Stuart MILL His wife, Sarah Taylor Austin, was known as a translator Their daughter was Lucie, Lady Duff-Gordon See Jethro Brown, ed, *The Austinian Theory of Law* (1906)

Austin, Mary (Hunter), 1868–1934, American author, b Carlinville, Ill, grad Blackburn College, 1888 Her sympathetic interpretations of Indian and Spanish cultures in America were the outgrowth of her long residence in California and in Santa Fe, N Mex, and her conviction that an important culture is arising there Her works include *The Land of Little Rain* (1903), the play *The Arrow-Maker* (1911), a chapter on aboriginal literature in *The Cambridge History of American Literature*, a study of American poetry, *The American Rhythm* (1923), and *The Children Sing in the Far West* (1928) See the autobiographical *Earth Horizon* (1932), biography by H M Doyle (1939), study by T M Pearce, *The Beloved House* (1940)

Austin, Moses, 1761–1821, American pioneer, b Durham, Conn After developing lead mines in SW Virginia, he went (1796–97) to inspect prospects in Missouri, then Spanish territory In 1798 he moved to Potosi, Mo, which he founded, and was a miner and trader there Hard times caused him to go to Texas in 1820 and get the Spanish governor's permission to settle 300 families in Texas The grant was confirmed in 1821, but Moses Austin died before he could take out a colony. His son, Stephen F Austin, took up the plans

Austin, Stephen Fuller, 1793–1836, American leader of colonization in Texas, b Wythe co, Va, son of Moses Austin He grew up in Missouri, studied at Transylvania Univ in Kentucky, served (1814–20) in the Missouri territorial legislature, and was studying law in New Orleans when his father died Stephen took up the plans to colonize Texas and on a journey there (1821) selected the area between the Brazos and Colorado rivers He later went to Mexico city to have his grant cleared and confirmed by the newly independent Mexican government Austin's settlements, with the town of San Felipe de Austin and Brazoria, prospered Other American colonists poured in As friction developed over the years with the Mexican government, Austin opposed illegal efforts at Texan independence He was sent in 1833 to Mexico city to present the settlers' grievances, to ask that Texas be separated from Coahuila, and to get the Mexican immigration law modified He was accused of treason and imprisoned On his return to Texas in 1835 he opposed the government of SANTA ANNA and so forwarded the Texas Revolution He was sent as one of the commissioners (1835–36) of the provisional government to obtain aid in the United States, was defeated (1836) by Sam Houston for the presidency of Texas, and served briefly until his death as secretary of state See E C Barker, ed, *The Austin Papers, 1765–1837* (1924–28), biography by Barker (1925)

Austin, Warren Robinson, 1877–, U S representative at the United Nations (1946–), b Highgate, Vt, grad Univ of Vermont (Ph B, 1899) Admitted (1902) to the bar, Austin practiced law (1902–31) and also was state's attorney (1904–6) of Franklin co, Vt, and mayor (1909) of St Albans, Vt Serving (1931–46) as Senator from Vermont, he advocated a bipartisan U S foreign policy In the United Nations, amidst diplomatic conflict he ably presented his country's viewpoint before the UN Security Council

Austin. **1** City (pop 18,307), co seat of Mower co, SE Minn, on the Cedar near the Iowa line, settled 1853, platted 1856, inc 1870 The industrial and commercial center of a rich farming region, it has a meat-packing plant and railroad shops A junior college (coeducational) is here Horace Austin State Park (50 acres) is close by. **2** Borough (pop 1,050), N central Pa, SW of Coudersport, inc 1888. It is owned by a paper mill. A flood

occurred in 1911 when the Austin Dam gave way. **3** City (1940 pop 87,930; 1947 estimated pop. 112,000), state capital, and co. seat of Travis co., S central Texas, on the Colorado Laid out in 1838 as Waterloo, it was selected in 1839 as site of the capital and renamed to honor Stephen F Austin by the legislature of the Texas republic Fear of Mexicans and Indians drove the government officials out from 1842 to 1845, but Austin remained the nominal capital, became the temporary head of the state government when Texas was annexed to the United States in 1845, and was finally made permanent capital in 1870 It was for decades a small commercial city dependent on the capitol, the Univ of Texas (see TEXAS, UNIVERSITY OF), and other state and educational institutions, but after the 1920s and especially with the development of power and flood-control projects on the COLORADO river and with the urgencies of the Second World War, it boomed to considerable industrial activity It produces brick, tile, and pottery, food products, metalwork and machinery, and various other goods The massive capitol (completed 1885) is the most prominent of the many state buildings, which besides government buildings include a state mental hospital and schools for the blind, for the deaf, and for the Negro deaf, dumb, and blind Besides the university, Austin has St Edward's Univ, Austin Presbyterian Theological Seminary, Lutheran Concordia College, and two Negro colleges—Samuel Huston College and Tillotson College The hilly streets have many points of interest, including the house where O Henry lived (now a museum), the studio of Elisabeth Ney (also a museum), and the old French embassy, dating from the republic In the hills outside the city are many spots for recreation and enjoyment of the scenery, particularly Barton Springs

Austin canons · see AUGUSTINIANS

Australasia (ôstrulā'zhu, -shu), islands of the S Pacific, including Australia New Zealand, New Guinea, and adjacent islands The term is sometimes used to include all Oceania

Australia [Gr, =eastern], island continent between the Indian and Pacific oceans and SE of Asia Its greatest extent from east to west is some 2,400 mi and its greatest extent from north to south is nearly 2,000 mi, but the extremely irregular coasts keep it from seeming a square With the island state of TASMANIA in the south, the continent makes up the Commonwealth of Australia, a British dominion (2,974,581 sq mi, pop 7,580,820, excluding aboriginals) There are five continental states (QUEENSLAND, NEW SOUTH WALES, VICTORIA, SOUTH AUSTRALIA, and WESTERN AUSTRALIA) as well as the NORTHERN TERRITORY and the AUSTRALIAN CAPITAL TERRITORY (cut out of New South Wales, with CANBERRA, the federal capital) Australia also has jurisdiction of the Territory of Papua (see PAPUA, TERRITORY OF), NORFOLK ISLAND, and the AUSTRALIAN ANTARCTIC TERRITORY The Territory of New Guinea (see NEW GUINEA, TERRITORY OF) is governed by Australia under United Nations trusteeship, and NAURU, also under United Nations trusteeship, is governed jointly by Australia, the United Kingdom, and New Zealand The continent itself (the smallest continent or the largest island of the world, according to definition) is nearly as large as the continental United States It is on the whole excessively dry, supposedly because there are no mountains in the interior to precipitate rainfall Up from the narrow coast in the west the land rises abruptly in what from the sea seem to be mountain ranges but are actually the escarpment of a rough plateau that occupies approximately the western half of Australia It is from 1,000 to 2,000 ft high and has no permanent rivers or lakes In the southwest corner of Western Australia there is a fertile area, but the rest of the state is arid and valuable chiefly for its gold mines To the north the Timor Sea separates Australia from Indonesia The Territory of Northern Australia also fronts on the Timor Sea in the northwest and also belongs to the arid plateau, with tropical temperatures Its northernmost section, Arnhem Land (principally given over to reservations for aborigines), faces the Arafura Sea in the north and the huge Gulf of Carpentaria on the east On the eastern side of the gulf is the long spit of land called Cape York Peninsula, the northernmost section of Queensland, this, far from being dry, is wet jungle land. In the extreme east of Australia, hugging the coast, are the mountains of the Great Dividing Range, which runs down the whole east and then parallels the southeast coast, through Queensland, New South Wales, and Victoria It rises to Mt Kosciusko (7,305 ft) in the section called the Australian Alps, and it is a watershed The rivers on the eastern and southern slopes run to the Coral Sea and the Tasman Sea through narrow but rich coastal plains The rivers on the west flow either N to the Gulf of Carpentaria or W and SW to the Indian Ocean The longest of all Australian river systems, that of the MURRAY river and its tributaries the DARLING and the Murrumbidgee (with the Lachlan), drain the southern part of the interior basin that lies between the mountains and the great plateau The basin is not well supplied with water, but in the Great Artesian Basin of S Queensland wells can be sunk to obtain water for sheep ranching, and the rivers can be used for irrigation The Hume Dam in the Murray on the New South Wales–Victoria border creates a reservoir that irrigates a large agricultural area Most of the good farming areas and the good ports are in the east and particularly the southeast (except for the area about Perth in SW Western Australia) Victoria is the smallest but by far the most densely populated of the continental states Its capital, Melbourne, is surpassed in size only by Sydney, the capital of New South Wales, while Brisbane, the capital of Queensland (in the extreme southeast of the state), and Adelaide, the capital of South Australia, are also large Stock raising and grain production have long been staple occupations of Australia, and there are many vineyards Tropical and subtropical produce—citrus fruits, sugar cane, tobacco, and tropical fruits (mostly from the northeast)—are also important, and there is considerable dairying, some lumbering is done in the east and the southeast Besides the gold fields of Western Australia there are coal mines in New South Wales Gold and coal are also found elsewhere, as well as lead, silver, zinc, and tin Industries have developed in the large cities, and the Murray, besides being used for irrigation, is also a source of hydroelectric power Australia, remote from any other continent, has many distinctive forms of plant life, notably species of giant eucalyptus, and of animal life, including the kangaroo, the flying opossum, the wallaby, the wombat, the platypus, the spiny anteater, and many unusual birds Foreign animals when introduced have frequently done well Rabbits, brought into the land in 1788, have done entirely too well, multiplying until by the middle of the 19th cent they were a distinct menace to sheep raising In 1907 a fence 1,000 mi long was built from the north coast to the south to prevent the rabbits from invading Western Australia When Europeans first reached Australia, they found two general groups of natives speaking unrelated languages and having completely different customs—those in the north resembling the Western Papuans and those in the south supposedly related to the Dravidians of India The material culture of both groups was low, and they did not offer much opposition to white settlement Today they are some 75,000 in number and are concentrated on reservations in the northern, torrid area of the continent White settlement was slow in coming It seems probable that Australia was first sighted by a Portuguese, Manuel Godhino de Eredia, in 1601 and may have been sighted by a Spaniard, Luis Vaez de Torres (1605-6) In the century following it was visited by the Dutch, who named it New Holland In 1688 the British William Dampier landed at King Sound on the northwest coast Nearly a century later Capt James Cook reached Botany Bay in 1770 and sailed N to Cape York, claiming the coast for Great Britain Not long afterward, in 1788, the first British settlement was made—a penal colony on the shores of Port Jackson where Sydney now stands By 1829 the whole continent was a British dependency Exploration, begun before the first settlement was founded, was continued by such men as Sir Matthew Flinders (1798), Ludwig Leichhardt (lost with all his party in 1848), and John McDouall Stuart (first to cross the continent, 1862) Sheep raising was introduced early, and before the middle of the 19th cent wheat had become important enough to prompt the races of the "grain ships" taking their precious cargo half way around the world to England A gold strike in Victoria in 1851 brought a rush to that region and caused it to be separated from New South Wales With minerals, sheep, and grain forming the base of the economy, Australia developed The colonial administration was shifted, but confederation did not come until a constitution drafted in 1891 was approved by the British Parliament and was put in operation in 1901, by it the colonies of New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania were federated. The Northern Territory was transferred to the federation in 1911 In that same year territory was acquired from New South Wales for building a new capital, Canberra, Parliament began meeting there in 1927 The executive power is vested in a governor-general (representing the British sovereign) and a cabinet presided over by a prime minister representing the party or a coalition given a majority in popular elections The parliament consists of two houses The distribution of federal and state powers is roughly like that of the United States, attempts to increase the power of the federal government at the expense of the state were frustrated by a referendum in 1944 From its early years, however, the federal government has been noted for its liberal legislation—woman suffrage was adopted in 1902; old-age pensions were provided in 1909, invalid pensions in 1910, maternity allowance in 1912, a subsidy to parents for each child born after the first (1941), and unemployment and sickness benefits in 1944 Education is not a federal concern, but is left to the states The systems established are generally effective, and the literacy rate is high Government grants have aided in the establishment of state universities—the Univ of Sydney (1852), the Univ of Melbourne (1854), the Univ of Adelaide (1874), and the Univ of Queensland (in Brisbane, 1909) The railroad systems in the growing land are also owned by the separate states and there is no uniformity A railroad crosses the continent from east to west, but a projected line from north to south has never been finished Air service is greatly aiding the communications system Australia had compulsory military service until 1929, and Australians were notable in service in the First World War They also were in arms in great numbers in the Second World War, Australia declared war on Germany on Sept 3, 1939, and compulsory service was reinstated in Oct, 1939, war was declared on Japan on Dec 9, 1941 The continent seemed in imminent danger of attack by the Japanese early in 1942, but the threat was averted by Allied victory in the battle of the Coral Sea Australia was admitted as a member of the United Nations and took an active part in UN affairs, Herbert V Evatt gaining considerable note See Sydney Upton, *Australia's Empty Spaces* (1938), S M Wadham and G L Wood, *Land Utilization in Australia* (1939); E J B Foxcroft, *Australian Native Policy* (1941), C H Grattan, *Introducing Australia* (1942), Griffith Taylor, *Australia* (1943) Australian Institute of International Affairs, *Australia and the Pacific* (1944)

Australian Alps, chain of mountain ranges, SE Australia, comprising the southern part of the Great Dividing Range and forming the watershed between the Murray river system and streams flowing into the Tasman Sea Its Mt Kosciusko (7,305 ft) is the highest peak in Australia

Australian Antarctic Territory, comprising the islands and territory (except Adélie Land) between long 45° E and 160° E and below lat 60° S Australian sovereignty was officially claimed in 1933

Australian bear see KOALA

Australian Capital Territory (911 sq mi, pop 16,905) SE Australia, within the state of New South Wales and containing Canberra, capital of the Commonwealth of Australia This area, formerly known as Yass-Canberra, was surrendered by New South Wales to the commonwealth in 1911 and was called the Federal Capital Territory until 1938 A part of the JERVIS BAY area was ceded in 1915 by New South Wales to the commonwealth

Australian literature Australian writing in the early 19th cent was a colonial offshoot of English literature The work of such early poets as M M Robinson, Judge Barron Field, Charles Tompson, Lionel Michael, and W C Wentworth (author of *Australasia an Ode*, 1823)] is minor and imitative English poetry Literature of and about Australia and of some consequence can be said to have begun with the nature poetry of Charles Harpur (1817–68) and the novels of Henry Kingsley (brother of Charles Kingsley), especially his *Geoffrey Hamlyn* (1859), and those of Catharine Helen Spence Henry Clarence KENDALL and Adam Lindsay GORDON discovered the beauty of the bush in their poems, and the lesser-known scholar James Brunton Stephens wrote an unusual poem, "Convict Once" The bush ballad, begun by Gordon, flowered in the work of John Farrell (1851-1904) and of A B ("Banjo") Paterson, whose *Man from Snowy River and Other Verses* (1895) is famous and whose song *Waltzing Matilda* was popular in the Second World War Edward Dyson and Henry Lawson both wrote more realistic ballads than Paterson and both wrote short stories, Lawson's *While the Billy Boils* (1896) includes some of the best tales of Australia A classic Australian novel is that by Marcus CLARKE, *For the Term of His Natural Life* (1874) Less powerful, but true to life in the bush, are the novels of Thomas A BROWNE (pseud. Rolf Boldrewood) Other popular older novelists are the poet Mrs G F Cross, whose maiden name was Ada Cambridge (*A Marriage Ceremony*, 1894), Mrs Campbell Praed (*Longleat of Kooralbyn*, 1887), and the diarist-novelist Joseph Furphy (pseud Tom Collins, *Such Is Life*, 1903). In the 20th cent the stature of Australian novelists increases with the work of Katharine Susannah Prichard (*Working Bullocks*, 1926) and of the master craftsman, Henry Handel RICHARDSON Of varying quality are the novels of Martin Boyd, M L Skinner (collaborator with D H Lawrence in *The Boy in the Bush*, 1924), F D Davison, Brian Penton, Miles Franklin, Eleanor Dark, Christina Stead, and the two women who write under the name M Barnard Eldershaw There is no outstanding Australian poet, although among many who are competent may be mentioned C J Brennan, Hugh R McCrae, J P McAuley, Kenneth Slessor, Douglas Stewart, R. D Fitzgerald, and Vance Palmer See H M Green, *An Outline of Australian Literature* (1930) and *Modern Australian Poetry* (1946), an anthology, descriptive bibliography of Australian authors to 1938 by E M Miller (1940), Walter Murdock, ed, *A Book of Australa-*

sian Verse (1924), George Mackaness, ed , *Poets of Australia* (1946); two anthologies of selections from Australian novels ed. by Colin Roderick (1945, 1947)

Austral Islands· see TUBUAI ISLANDS

Austrasia (ôstrā'shŭ), eastern portion of the MEROVINGIAN kingdom of the FRANKS in the 6th, 7th, and 8th cent , comprising, in general, parts of E France, W Germany, and the Netherlands, with its capital at Metz It took its origin from the partition (511) of the realm of CLOVIS I among his sons Austrasia was constantly troubled by dynastic rivalries between its rulers and those of the neighboring kingdom of NEUSTRIA These struggles reached their climax in the fierce fights between Queen BRUNHILDA of Austrasia and Queen FREDEGUNDE of Neustria During the reigns of CLOTAIRE I, CLOTAIRE II, and DAGOBERT I, Austrasia was temporarily reunited with Neustria With the decline of the royal power in Austrasia, the office of mayor of the palace developed into the real seat of power and finally became hereditary in the family of the CAROLINGIANS See F Funck-Brentano, *Earliest Times* (Vol I of *National History of France*)

Austria, Ger *Österreich* (ŭs'tŭrīkh), federal republic (32,375 sq mi , pop 6,818,593), central Europe It is bounded by Yugoslavia and Italy in the south, by Switzerland and Liechtenstein in the west, by Bavaria and Czechoslovakia in the north, and by Hungary in the east Its nine provinces (Ger *Bundesländer*) are VORARLBERG, TYROL, SALZBURG, CARINTHIA, STYRIA, UPPER AUSTRIA, LOWER AUSTRIA, BURGENLAND, and the capital, VIENNA The Alps traverse Austria from west to east in three main ranges and occupy three fourths of the country, the rest is hilly The highest peak of the Austrian Alps is the Grossglockner (12,460 ft) in the HOHE TAUERN group The scenic beauty of Tyrol, Salzburg, and the SALZKAMMERGUT has made Austria one of the chief tourist centers in Europe Austria is drained by the DANUBE and its tributaries the Inn, Enns, Mürs, and Mur Forestry, cattle raising, and dairying are the main sources of livelihood in the Alpine provinces, Vorarlberg also has an ancient textile industry In Upper and Lower Austria and in Burgenland agriculture and winegrowing predominate Self-sufficient only in beet sugar and potatoes, Austria depends on food imports Manufacturing is centered around the metalworking and machinery industries, most of the raw materials (iron, magnesium, copper, lead, and zinc) being mined in the country Other mineral resources include salt mines in Tyrol, Salzburg, and Upper Austria, and oil fields at Zistersdorf The chemical industry expanded after the Second World War More than half of the industries are concentrated in the Vienna basin, LINZ, STEYR, GRAZ, and LEOBEN are the other chief industrial centers Vienna is the seat of the federal government In the bicameral parliament the *Bundesländer*, which also have their own provincial assemblies, are represented by the upper house Austrians are predominantly Roman Catholic and, except for a small Slovene minority in S Carinthia, German speaking Educational standards are high Austria has three universities, at Vienna, Graz, and Innsbruck The word *Austria* in the past 10 centuries has designated various geographic and political concepts In its narrowest sense Austria meant only Upper and Lower Austria, including Vienna, in its widest meaning the word symbolized the imperial Hapsburg power, its present meaning—German-speaking Austria—dates only from 1918 This article is focused on the history of German-speaking Austria Other aspects are treated under HOLY ROMAN EMPIRE, HAPSBURG, AUSTRO-HUNGARIAN MONARCHY, HUNGARY; BOHEMIA, and NETHERLANDS, AUSTRIAN AND SPANISH The history of Austria reflects its position at the crossroads of Europe Vienna is at the gate of the Danubian plain, and the BRENNER PASS links Germany and Italy From the earliest times Austria has been a thoroughfare, a battleground, and an outpost It was occupied by Celts when the Romans conquered it (15 B C—A.D.10) and divided it among the provinces of RHAETIA, NORICUM, and Upper PANNONIA After the 5th cent A D , Huns, Ostrogoths, Lombards, and Bavarians overran and devastated the provinces In 788 Charlemagne conquered the area and set up the first Austrian (i e , Eastern) March in present Upper and Lower Austria to halt the inroads of the Avars It soon fell to the Moravians and later to the Magyars, from whom it was reconquered (955) by Emperor OTTO I Otto reconstituted the march and attached it to BAVARIA, but in 976 Otto II bestowed it as a separate fief on Leopold of BABENBERG, founder of the first Austrian dynasty. Emperor Frederick I raised (1156) Austria to a duchy, and in 1192 Styria also passed under Babenberg rule After the death of the last Babenberg, King OTTOCAR II of Bohemia acquired (1251–69) Austria, Styria, Carinthia, and CARNIOLA Fearing his power, the German princes elected (1272) the relatively obscure Rudolf of Hapsburg as German king Rudolf I asserted his royal prerogative to reclaim the four duchies from Ottocar (1276) and, after defending them (1278) against Ottocar's attack, incorporated them in his domains With this event both Austria and the house of Hapsburg made their entrance on the European stage After the murder (1308) of Rudolf's son, ALBERT I, the German princes balked at electing another member of the ambitious family. However, Albert's ducal successors did not waste their time They enlarged the Hapsburg holdings, which were ruled by the various branches of the family, by acquiring Tyrol (1363) and Trieste (1382) and extended their influence over the ecclesiastic states of Salzburg, TRENT, and Brixen (see BRESSANONE), which, however, remained independent until 1801–3 Marriage and inheritance were their preferred methods of aggrandizement. Marriage brought ALBERT II to the position of being elected German king in 1438 After his election the rulers of the Holy Roman Empire were chosen from the Hapsburg dynasty Despite their vast dynastic and imperialistic preoccupations, the emperors never ceased to consider German Austria the privileged core of their dominions FREDERICK III raised (1453) Austria to an archduchy During his long reign originated several of the factors that determined later Austrian history These were the protracted wars caused by Hapsburg rivalry with France, the Turkish menace, which reached its peak in the second siege of Vienna (1683), the lasting union (1526), under the same crown, of Austria, Bohemia, and Hungary (see FERDINAND I, emperor), and the Catholic REFORM, which gave the Jesuits and the ultramontane party characteristic influence over most phases of Austrian life The Austrian peasantry, especially in Tyrol, had gained some advantages in the Peasants' War of 1524–26, however, because of its Protestant leanings, it was severely repressed in the following two centuries The commercial revolution of the 16th cent harmed Austria by diminishing the importance of its trade routes and of the ancient gold and silver mines of Tyrol and Carinthia The THIRTY YEARS WAR (1618–48) broke Hapsburg supremacy in Germany and drained Austria of man power and funds The Holy Roman Empire afterwards continued a mere shadow existence, while the Hapsburg lands emerged as a distinct empire Bohemia and Moravia, defeated by the Austrians at the White Mt (1620), became virtually Austrian provinces and were subjected to Germanization But the growing Hapsburg absolutism was felt by the Austrians no less than by the Czechs Police regulations prescribed even the food and the clothes that each class of subjects was permitted to eat and to wear Censorship and obscurantism flourished Emperor CHARLES VI (1711–40), whose dynastic wars had drained the state, secured the succession to the Hapsburg lands for his daughter, MARIA THERESA, by means of the PRAGMATIC SANCTION Maria Theresa's struggle with FREDERICK II of Prussia in the War of the AUSTRIAN SUCCESSION and the SEVEN YEARS WAR opened a new phase in German history Except for the loss of Silesia, Maria Theresa held her own Her husband, FRANCIS I, became emperor in 1745, but his position was largely ornamental The major event of Maria Theresa's later reign was the first partition of Poland (1772 see POLAND, PARTITIONS OF), in that transaction and in the third partition (1795) Austria renewed its eastward expansion JOSEPH II, who succeeded her, impetuously carried forward the reforms which his mother had cautiously begun His unsuccessful attempt to centralize and Germanize his scattered and disparate dominions met active popular resistance, his project to consolidate his state by exchanging the Austrian Netherlands for Bavaria was balked by Frederick II The purest representative of "benevolent despotism" and the ENLIGHTENMENT, Joseph also decreed a series of revolutionary agrarian, fiscal, and judicial reforms They provoked such opposition, especially among the clergy and the landowners, that his successor, LEOPOLD II, had to resound the larger part In Joseph's reign the Austrian bourgeoisie emerged from its long intellectual torpor Music and architecture flourished in 18th-century Austria, and modern Austrian literature emerged early in the 19th cent In the reign of FRANCIS II, Austria was drawn (1792) into war with revolutionary France (see FRENCH REVOLUTIONARY WARS) and with NAPOLEON I The treaties of CAMPO FORMIO (1797) and Lunéville (1801) preluded the dissolution (1806) of the Holy Roman Empire, and in 1804 Francis II took the style "Francis I, emperor of Austria " His rout at Austerlitz (1805) led to the severe Treaty of Pressburg (see PRESSBURG, TREATY OF) An upsurge of nationalism resulted in the renewal of warfare in 1809, the defeat at Wagram preceded the even more humiliating Peace of SCHÖNBRUNN Austria was forced to take part in the Russian campaign of 1812 as Napoleon's ally, but in 1813 it again joined the coalition against Napoleon, an Austrian, Prince Karl Philipp von Schwarzenberg, headed the Allied forces The Congress of Vienna (1814–15, see VIENNA, CONGRESS OF) did not restore to Austria its former possessions in the Netherlands and in Baden but awarded it Lombardy, Venetia, Istria, and Dalmatia As the leading power both of the GERMAN CONFEDERATION and the HOLY ALLIANCE, Austria under the ministry of METTERNICH dominated European politics Extreme reaction and ruthless coercion characterised the age The European Revolution of 1848 shook the Hapsburg empire but was destined to failure there because of the conflicting nationalist aspirations that set the revolutionary movements of Germans, Slavs, Hungarians, and Italians against each other Revolts were at first successful throughout the empire (see HUNGARY, BOHEMIA, GALICIA; RISORGIMENTO), in Vienna the revolutionists drove out Metternich (March, 1848) Emperor FERDINAND at first granted a liberal constitution, which a parliament, convened in Vienna, was to revise After a new outbreak Vienna was retaken and the revolutionists were punished by troops under General WINDISCHGRÄTZ The parliament was transferred to Kremsier, Prince Felix zu SCHWARZENBERG became premier, and Ferdinand abdicated in favor of FRANCIS JOSEPH Absolutism returned The Kremsier parliament was dissolved, the provinces reduced to order, and Austrian leadership in Germany reasserted at the Convention of OLMÜTZ in 1850 Alexander BACH intensified (1852–59) Schwarsenberg's centralizing policy, thus heightening racial tension within the empire However, economic prosperity was promoted by the suppression of internal tariff barriers, and several reforms dating from 1848 were upheld, notably the complete abolition of feudal dues The military and political weakness of the empire was demonstrated by the Austrian loss of Lombardy in the Italian War of 1859 The moment was ripe for Prussia to strike a blow at its rival After involving Austria in the war over SCHLESWIG-HOLSTEIN in 1864, BISMARCK found an easy pretext for attacking and crushing Austria in 1866 (see AUSTRO-PRUSSIAN WAR) After the disaster of Sadowa, Austria was expelled from the German Confederation and moreover lost Venetia to Italy A reorientation toward the east and a reorganization of the government became inevitable, and in 1867 a compromise (Ger *Ausgleich*) established a dual state, the AUSTRO-HUNGARIAN MONARCHY. Constitutional government returned, but failure to provide a satisfactory status for the Slavs and the disastrous part of Austria in bringing about the First WORLD WAR caused the collapse of the monarchy in 1918, two years after Francis Joseph's death His successor, CHARLES I, abdicated, on Nov 12, after a peaceful revolution staged by the Socialist and Pan-German parties, German Austria was proclaimed a republic and a part of Greater Germany The Treaty of SAINT-GERMAIN (1919) fixed the present Austrian borders and forbade (as did the Treaty of Versailles) any kind of political or economic union with Germany This left Austria a small country of some 6,000,000 inhabitants, of which one third lived in a single large city that had been geared to be the financial and industrial hub of a large state The Dual Monarchy had been virtually self-sufficient economically, its component parts had complemented each other ideally The breakup and the consequent erection of tariff walls deprived Austria of raw materials, food, and markets Reorientation toward Germany was balked by the insistence of France, Italy, and Czechoslovakia on the treaty clauses against union (Ger *Anschluss*) with Germany In the immediate post-war period starvation and influenza exacted a heavy toll, especially in Vienna These ills were followed by currency inflation, ended only in 1924 by League of Nations aid, by chronic unemployment, by financial scandals and crises, and by growing political unrest "Red" Vienna, under the moderate Socialist government of Karl SEITZ, became increasingly opposed to the "Black" (i e , clericalist) rural population, which won the elections of 1921 The cabinet of Karl RENNER was succeeded by Christian Socialist and Pan-German coalitions under SCHOBER, SEIPEL, and other men Riots culminated in 1927 in severe outbreaks in Vienna, and two private militias—the *Heimwehr* of the monarchist leader E R von STAHREMBERG and the *Schutzbund* of the Socialists—threatened the authority of the state NATIONAL SOCIALISM, feeding on anti-Semitism, gained rapidly and soon absorbed the Pan-German party Engelbert DOLLFUSS, who became chancellor in 1932, though irreconcilably opposed to *Anschluss* and to National Socialism, increasingly tended toward corporative FASCISM and relied heavily on Italian support. His stern suppression of the Socialists precipitated a serious revolt (1934), which was bloodily suppressed by the army. Soon afterward a totalitarian state was set up, and both the Social Democratic and the National Socialist parties were outlawed. In July, 1934, the National Socialists assassinated Dollfuss but failed to seize the government. Kurt SCHUSCHNIGG continued his predecessor's policy, but he lost his strongest foreign support when Mussolini allied himself with Hitler (1936) German pressure on Austria increased, the National Socialists became a legal party again, and in 1938 were included in the cabinet Schuschnigg's last-minute attempt to prevent *Anschluss* by taking a plebiscite brought an ultimatum from

Germany Austria yielded and in March, 1938, was occupied by German troops. First governed by SEYSS-INQUART, it was fully incorporated into Germany in 1940 In 1943 the Allies agreed to re-establish an independent Austria at the end of the Second World War. Early in 1945 Austria was conquered by Russian and American troops, and in April a provisional government was set up under Karl Renner. The country was divided into five zones of military occupation—Vorarlberg and Tyrol (French zone), Salzburg and W Upper Austria (American zone), E Upper Austria, Lower Austria, and Burgenland (Russian zone), Carinthia and Styria (British zone), and Vienna, with a special regime In Jan , 1946, Austria was formally recognized by the Western powers An independent government was set up under a coalition cabinet, but a peace treaty with Austria had failed to materialise by the spring of 1950, largely because of dissension between the Western powers and Russia as to what constituted German-owned assets, which Russia claimed as reparations payments. Austrian economy had been shattered by the war, its recovery was blocked by the deterioration of trade between Western and Eastern Europe and by continued division into separate occupation zones See Louis Léger, *History of Austria-Hungary* (6th French ed , 1920, 1st English ed , 1907), Richard Kralik, *Österreichische Geschichte* (1913); W C Langsam, *The Napoleonic Wars and German Nationalism in Austria* (1930), K W Rothschild, *Austria's Economic Development Between the Two Wars* (1947); C A Gulick, *Austria from Habsburg to Hitler* (1948)

Austrian literature see GERMAN LITERATURE

Austrian Succession, War of the, 1740–48, general European war that broke out when, on the strength of the PRAGMATIC SANCTION, the archduchess MARIA THERESA succeeded her father, Emperor Charles VI, as ruler of the Hapsburg lands The elector of Bavaria (later Emperor CHARLES VII) advanced counterclaims to the succession while PHILIP V of Spain and AUGUSTUS III of Poland and Saxony advanced weak claims of their own FREDERICK II of Prussia, who on still shakier grounds claimed part of SILESIA, began the war by invading and rapidly occupying that province His cynical offer of support to Maria Theresa if she would cede Silesia was rejected Victorious at Mollwitz (1741), Frederick obtained the alliance of France, Spain, Bavaria, and Saxony The elector of Bavaria, who was promised the imperial election, advanced on Vienna In Oct , 1741, however, Prussia agreed to a truce in exchange for Lower Silesia This armistice, though soon broken by Frederick, caused the Bavarians to attack Bohemia instead of Vienna Joined by the French and Saxons, they took Prague (Nov , 1741) Meanwhile Maria Theresa had obtained full support from the Hungarian diet and the promise of aid from England, which had been at war with Spain since 1739 (see JENKINS'S EAR, WAR OF) Early in 1742 Austrian troops overran Bavaria and invested Prague and in July, Maria Theresa made peace with Prussia by ceding most of Silesia (Treaty of Berlin) Saxony also made peace and joined Austria as an ally in 1743 The epic retreat from Prague of the French under Marshal BELLE-ISLE (winter 1742-43) was followed by the victory of GEORGE II over the French at Dettingen (1743) In 1744 Frederick II started the Second Silesian War by invading Bohemia, but he was soon expelled by Austrian and Saxon forces On the death (1745) of Emperor Charles VII, Bavaria, once more overrun by Austrian troops, was forced out of the war These Austrian successes were balanced by the great French victory of Fontenoy (1745), where Maurice de SAXE defeated the British Anxious for peace, George II concluded (1745) the Convention of Hanover with Frederick II, who promised to support the imperial candidacy of Maria Theresa's husband (shortly afterward elected as Francis I) in return for the cession of Silesia guaranteed by Europe Defeated at Hohenfriedberg and at Kesselsdorf, Maria Theresa accepted the compromise in the Treaty of Dresden with Prussia (Dec , 1745) The war continued in N Italy, in the Low Countries, in North America (see FRENCH AND INDIAN WARS), and in India. The chief belligerents (Austria, England, Holland, and Sardinia on the one side, France and Spain on the other) grew weary of the war Although Maria Theresa secured (1748) the alliance of Russia, the other nations were bent on peace, and late in 1748 the Treaty of AIX-LA-CHAPELLE (see AIX-LA-CHAPELLE, TREATY OF, 2) was signed The only real beneficiary was Prussia, which emerged, much enlarged in territory, as a major European power

Austro-Hungarian Monarchy or **Dual Monarchy,** the Hapsburg empire from the constitutional compromise (Ger. *Ausgleich*) of 1867 between AUSTRIA and HUNGARY until its fall in 1918 The expulsion of Austria from the German Confederation after the Austro-Prussian War of 1866 caused Emperor FRANCIS JOSEPH to reorient his policy toward the east and to consolidate his heterogeneous empire. The agitation in Hungary for national independence necessitated a number of concessions if the Austrian and Hungarian crowns were to remain united in one person The *Ausgleich*, which was worked out by Count BEUST, Count ANDRASSY, and Francis DEAK, divided the Hapsburg empire into two states Cisleithania (the land W of the Leitha river) comprised Austria proper, Bohemia, Moravia, Austrian Silesia, and Austrian Poland; it was to be ruled by the Hapsburg monarchs in their capacity as emperors of Austria Transleithania included Hungary, Transylvania, Croatia, Slovenia, and part of the Dalmatian coast, it was to be ruled by the Hapsburg monarchs in their capacity as kings of Hungary CROATIA was given a special status Austria-Hungary was the greatest recent example of a multinational state in Europe, however, of the four chief ethnical groups (Germans, Hungarians, Slavs, and Italians) only the first two received full partnership The crown of Bohemia was conspicuously ignored Both Cisleithania and Transleithania elected independent parliaments to deliberate on internal affairs and had independent ministries A common cabinet, composed of three ministers, dealt with foreign relations, defense, and the finances of the whole empire It was responsible to the emperor-king and to the delegations of 60 members each, chosen by the two parliaments The regular armed forces were under unified command and currency was uniform throughout the empire, but there were separate customs regimes The strength of the Dual Monarchy lay in its vastness, its virtual economic self-sufficiency, its opportunities for commercial intercourse from the Swiss border to the Carpathians Its weakness was less in its ethnical diversity than in the unequal treatment accorded to its minorities in the spirit of the maxim, "Divide and rule " Of the Slavic elements the Czechs and Serbs were the most disaffected The efforts of the TAAFFE ministry to satisfy Czech demands failed The Italian minority was won to the Italian nationalist cause (see IRREDENTISM) The Rumanians of Transylvania had bitter grievances against their Hungarian masters Nationalist movements gained steadily throughout the empire, enlarged their demands from cultural autonomy to full independence, and ultimately broke up the monarchy These movements existed not only in the oppressed provinces, but also among Hungarian extremists, who desired total independence, and among Austrian Pan-Germans, who advocated the union of German-speaking Austria with Germany. The greatest danger to the monarchy probably was PAN-SLAVISM, spreading from Serbia and encouraged by Russia among the South Slavs Archduke FRANCIS FERDINAND, heir to the throne, apparently had a project by which Croatia was to become the nucleus of a third, South Slavic, partner in the monarchy, his assassination (1914) at Sarajevo cut short this hope and precipitated the First World War In external policy, Austria-Hungary early became reconciled with Germany and joined the THREE EMPERORS' LEAGUE At the Congress of Berlin (1878, see BERLIN, CONGRESS OF) Count Andrassy, the foreign minister, commenced an aggressive policy of eastward expansion (*Drang nach Osten*), notably by securing a mandate over BOSNIA AND HERCEGOVINA In 1879 he entered an alliance with Germany, joined also by Italy in 1882 (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) The formation of the Triple Entente (France, England, Russia) to oppose this alliance led to the tense diplomatic situation that preceded the First WORLD WAR The foreign policy of AEHRENTHAL led to the Bosnian crisis of 1908–9, and the reckless demands which his successor, BERCHTOLD, made on Serbia after the assassination of Francis Ferdinand helped to precipitate the cataclysm The internal weakness of the empire became immediately obvious. Czech regiments deserted wholesale from the beginning, Italy and Rumania, eying their respective minorities in Austria and Hungary, joined the Allies, Croats and Slovenes, won by Serbian propaganda, joined (1917) in agreement with the Serbs, to found a South Slavic state (see YUGOSLAVIA) Abroad, the Czechs under Masaryk and the Poles under Pilsudski formed legions fighting on the Allied side, and in Oct , 1918, Poland, Czechoslovakia, and Hungary proclaimed their independence The Austrian defeat at VITTORIO VENETO was followed by unconditional surrender, on Nov 11 Emperor CHARLES I abdicated, on Nov 12, German Austria was proclaimed a republic The treaties of Versailles, Trianon, and Saint-Germain fixed the boundaries of the successor states The breakup of the Dual Monarchy fulfilled the 19th-century liberal ideal of national self-determination, at the same time, the creation of small, strongly nationalist states, cut off from each other by tariff walls, has been criticized as representing a "Balkanisation of Europe " See Louis Léger, *History of Austria-Hungary* (6th French ed , 1920, 1st English ed , 1907), Wolf von Schierbrand, *Austria-Hungary the Polyglot Empire* (1917), Stephan Burian von Rajecz, *Austria in Dissolution* (Eng tr , 1924), Oszkar Jaszi, *Dissolution of the Hapsburg Monarchy* (1929), R A Kann, *The Multinational Empire* (1949).

Austronesian (ôs'trōnē'shŭn), name sometimes used for the Malayo-Polynesian languages.

Austro-Prussian War or **Seven Weeks War,** June 15–Aug. 23, 1866, between Prussia, allied with Italy, and Austria, seconded by Bavaria, Württemberg, Saxony, Hanover, Baden, and several smaller German states It was deliberately provoked by BISMARCK, over the objections of his king, in order to expel Austria from the GERMAN CONFEDERATION as a step toward the unification of Germany The pretext for precipitating the conflict was found in the dispute between Prussia and Austria over the administration of SCHLESWIG-HOLSTEIN The Austrian appeal to the German diet when Prussia declared the GASTEIN CONVENTION nullified by Austria and the Prussian proposal to reorganize the German Confederation immediately preceded the outbreak of hostilities Prussia with an efficient military machine that amazed Europe, overran the German states allied with Austria and crushed the Austrians at SADOWA (July 3) However, Bismarck had no intention of weakening Austria, a potential ally, more than necessary The preliminary peace of Nikolsburg (July 26) was followed (Aug 23) by the Peace of Prague Against Italy, the Austrians had won overwhelming victories on the land, at Custozza, and on the sea, at Lissa Nevertheless the peace treaty forced Austria to cede Venetia to Italy Prussia, satisfied with the exclusion, acknowledged in the treaty, of Austria from German affairs, demanded no territory from Austria, but annexed Hanover, Hesse-Kassel, Nassau, and Frankfurt The German Confederation was replaced by the Prussian-led NORTH GERMAN CONFEDERATION Thus the war paved the way for the establishment (1871) of the German Empire and the reorientation of Austria (reorganised in 1867 as the Austro-Hungarian Monarchy) toward the east The moderate peace terms facilitated the Austro-German alliance of 1879 See Heinrich Friedjung, *The Struggle for Supremacy in Germany, 1859–1866* (Eng tr , 1935)

Auteuil (ōtûl') old town, now incorporated into Paris, France Bordering on the Bois de Boulogne, it is the site of a fashionable racecourse.

Authari (ô'thärī), d 590, Lombard king (584–90) Elected by the Lombard dukes to end the anarchy which prevailed after the murder (572?) of Alboin, Authari consolidated Lombard power in N Italy and repelled several Frankish invasions.

authentic modes, in music see MODE

autobiography see BIOGRAPHY

autogiro (ôtōjī'rō) or **gyroplane** (jī'rōplān), type of aircraft which constitutes the first departure from the method of flying established by the Wright brothers Invented by Juan de la Cierva, it was the outcome of many experiments carried out in Spain between 1919 and 1924 It was successfully demonstrated in England in 1925 The fixed wings, unlike those of the ordinary monoplane, are greatly reduced in size, and the principal lift is supplied by airfoils which are rotated about a nearly vertical axis by aerodynamic forces generated by the passage of the plane through the air The lift on opposite sides of the plane of symmetry is equalized by the vertical oscillation of the blades or by the centrifugal force of the rotor's rotation Some advantages of the machine are that it will parachute to the ground if the engine fails, its descent being slowed by the turning rotor, that it becomes airborne with a very short take-off run, and that with a moderate headwind it can virtually hover with zero ground speed Thrust is supplied by an ordinary engine and propeller The body and tail assembly are conventional Control is maintained by rudder, elevators, and ailerons and in some models by changing the pitch of the rotor blades

autograph [Gr ,=self-writing], either a signature or a document written entirely by the author's hand Autographs of the great are eagerly sought by collectors, and rare examples—such as those of Button Gwinnett and other signers of the Declaration of Independence—bring very high prices A famous collection is the Emmet collection in the New York Public Library An entire manuscript in good condition by a writer whose autographs are rare may sell for thousands of dollars, the original of Poe's *Raven* and of Lewis Carroll's *Alice in Wonderland* are examples See M A Benjamin, *Autographs a Key to Collecting* (1946)

autointoxication, condition occurring usually because uneliminated toxins from waste products retained in the gastrointestinal tract bring about a poisoning Headache and fatigue are symptomatic. The condition may be corrected by proper elimination and a proper diet

Autolycus (ôtŏ'lĭkŭs), 4th cent B C , Greek astronomer and mathematician of Pitane in Aeolis. Of his two extant works, that on the revolving sphere is said to be the oldest completely preserved Greek treatise on a mathematical subject The other deals with the apparent rising and setting of the fixed stars.

Autolycus (ôtŏ'lĭkŭs), in Greek myth, celebrated robber who lived on Mt Parnassus. His daughter Anticlea was the mother of ODYSSEUS Some said Autolycus was a son of Hermes, who had given him remarkable powers of cunning

automatic writing, term used by spiritualists in relation to certain phenomena common in the

séances, where the writer is said to be "under control" of the spirit of one departed It has been used in the past as a means of DIVINATION In modern SPIRITISM, the planchette and ouija board have been used as instruments

automaton: see ROBOT

automobile. Nicolas Joseph Cugnot is generally conceded to have built in Paris in 1769 the first self-propelled vehicle, a heavy, three-wheeled carriage driven by steam cylinders and having a boiler that projected in front, its speed was c 3 mi an hour Another early car, built by Richard Trevithick of England in 1801, was also a three-wheeled vehicle driven by steam, and the engine drove the rear pair of wheels In the following years in England many steam road carriages were built and attempts were made to operate them on scheduled routes, but excessive bridge and road tolls and shortsighted legislation (notably the Red Flag Act, 1836) finally drove mechanical vehicles off the roads and retarded their development in England for decades The Red Flag Act, repealed only in 1896, required that self-propelled vehicles be preceded by a man carrying a red flag by day and a red light by night, speed was limited to 4 mi an hour Sir Goldsworthy Gurney, Walter Hancock, Scott-Russel, and George Medhurst in England and Oliver Evans and William T James in the United States contributed to the development of the early steam automobile Electric cabs were in use in Brighton, England, as early as 1887 The development of the automobile was accelerated by the introduction of the internal-combustion engine Probably the first vehicle of this type was the three-wheeled car built in 1885 by Karl Benz in Germany Another German, Gottlieb Daimler, built an improved internal-combustion engine c 1885 The Panhard car, introduced in France by the Daimler company in 1894, had many features of the modern car France was also a pioneer in the inception of the automobile as is evidenced by the French terms *chauffeur, chassis, tonneau, garage* In the United States, internal-combustion cars of the horseless-buggy type were manufactured in the 1890s by Charles Duryea and J Frank Duryea, Elwood Haynes, Henry Ford, Ransom E Olds, and Alexander Winton Many of the early engines had but one cylinder with a chain and sprocket drive on wooden carriage wheels The cars were generally open, accommodated two passengers, and were steered by a lever The tonneau type became common c 1903 Early experimenters included also John D Maxwell, H H Franklin, and Dave Buick W C Durant Hugh Chalmers, Benjamin Briscoe, and J N Willys were leaders in promotion and sales Henry Leland was noted for producing precision machine parts By 1903 Detroit was on the way to becoming the automotive center of the United States The noted Selden patent threatened the free growth of the industry in the early 20th cent George Selden designed a gasoline vehicle in 1879 and applied for a patent which was granted in 1895 Several early manufacturers licensed by Selden formed an association in 1903 and took over the patent in 1907 Henry Ford, the leader of a group of independent manufacturers who refused to acknowledge the patent, was engaged in litigation with Selden and the association from 1903 until 1911, when the U S Circuit Court of Appeals ruled that the patent, although valid, covered only the two-cycle engine, most cars, including Ford's, used a four-cycle engine Until c 1910 the automobile was in an experimental stage, and every conceivable type of drive, transmission, and steering was tried, the cylinders ranged in number from one to eight or more The improvement of roads, the rapidity and economy of automobile transportation, and the First World War were factors in the rapid development of the automobile Steam-driven cars, at first more common than gasoline models, gradually disappeared because of the engineering skill required of the driver Electric models require frequent recharging of storage batteries and are used today mainly for trucks making local deliveries The modern automobile is driven by the INTERNAL-COMBUSTION ENGINE For operational and technical features, see BRAKE, DIFFERENTIAL, GENERATOR, LUBRICATION, SHOCK ABSORBER, SPEEDOMETER, STEERING, TIRE, TRAFFIC REGULATION, TRUCK See H L Barber, *Story of the Automobile* (1917), C B Glasscock, *The Gasoline Age* (1937), B G Elliott and E L'Estrange, *The Gasoline Automobile* (5th ed, 1939)

automobile racing, sport in which specially constructed, high-speed automobiles race on an outdoor or an indoor track Automobile racing started in France in 1894 and appeared in America the following year. The Indianapolis Speedway meet, America's best-known automobile race, was first held in 1911 The sport did much to develop better types of automobile motors and equipment William K Vanderbilt, Barney Oldfield, Henry Ford, James Snyder, Edward V Rickenbacker, and Wilbur Shaw have been among the more famous racing drivers Sir Malcolm Campbell, George Eyston, and John R Cobb attained speeds of over 300 mi. per hour in speed trials. The racing of midget automobiles has become increasingly popular.

Autonoë (ôtŏn'ōĕ), in Greek legend, daughter of CADMUS and HARMONIA, wife of ARISTAEUS, and mother of ACTAEON.

autonomy (ôtŏn'ŭmē) [Gr, =self-rule], in a political sense, limited self-government, short of independence, of a political state or, more frequently, of some subdivision of a political state The term is also used for other self-governing units, as a parish, a corporation, or a religious sect The objective test of any autonomy is the recognition that the group may legislate for itself This right may be delegated or simply permitted by the state The autonomy of a nonpolitical body implies a disparity in kind such as exists between the two institutions of Church and state However, even political autonomy is frequently based on cultural and ethnic differences Autonomy within empires founded by force has frequently been a prelude to independence, as in the case of states formed out of the Hapsburg, tsarist, and Ottoman empires The situation of the autonomous border regions of the USSR today is peculiar in that one reason for their existence is to attract neighboring peoples into the Russian orbit Other regions thought of as autonomous, such as the British dominions, have moved towards more or less complete SOVEREIGNTY.

autopsy see POST-MORTEM EXAMINATION

autumn crocus see MEADOW SAFFRON

Autun (ôtŭ'), town (pop 11,767), Saône-et-Loire dept, E central France Founded by Augustus to replace BIBRACTE, it became an early episcopal see and a center of learning There are Roman ruins, the cathedral dates from the 12th cent

Auvergne (ōvûrn', ōvärn', Fr ōvĕr'nu), region and former province, SE central France, in the MASSIF CENTRAL, occupying Cantal and Puy-de-Dôme depts and part of Haute-Loire It is traversed from north to south by the Auvergne mts, a chain of extinct volcanoes (of which the MONT-DORE group, the PUY DE DÔME, and the Plomb du CANTAL are the highest) surrounded by high basaltic plateaus There are numerous hot mineral springs, notably at La Bourboule, Mont-Dore, and ROYAT, these and the strange and beautiful scenery of the region attract many tourists CLERMONT-FERRAND is the chief city and industrial center Other towns include Aurillac, Riom, and Thiers The Auvergnats are descendants of the Arverni, a Celtic people whose leader, VERCINGETORIX, headed the revolt of Gaul against Julius Caesar, they have retained distinctive characteristics to a high degree They are mostly engaged in stock raising and dairying in the upper regions and in agriculture in the rich valleys, the Aurillac basin, and the Limagne, a fertile plain E of Clermont-Ferrand Their prosperity, however, dates only from recent times, when communications were improved, therefore, the Auvergnats tended to migrate in large numbers during the winters, working as tinkers, chimney sweeps, and street vendors, especially in Spain and, even now, in Paris As a part of AQUITAINE, Auvergne passed (1154) to the English Divided, through feudal quarrels, into several lordships, it was attached, in part, to the French crown lands in 1204, another major section (the duchy of Auvergne), which had passed to the dukes of Bourbon, was annexed (1527) by Francis I when Constable Charles de Bourbon committed treason Auvergne was fully incorporated into the royal domain by the 17th cent and put under the Parlement of Paris

Aux Cayes (ō kā'), **Cayes,** or **Les Cayes** (lā kā'), city (pop c 20,000), SW Haiti Most important of the southern ports, it handles about 7 percent of Haiti's exports, principally sugar and coffee

Auxerre (ōsĕr'), town (pop 20,809), capital of Yonne dept, NE central France, on the Yonne It is a trading center for CHABLIS wines St GERMANUS of Auxerre was bishop here in the 5th cent. The former abbatial church of St German (13th cent) is built on crypts dating back to the 6th cent The abbey (now a hospital) has a fine Romanesque clock tower The cathedral (13th-16th cent) shows the Gothic style prevalent in Champagne Auxerre was made part of Burgundy by the Treaty of Arras (1435)

Ava (ā'vu), in the Bible, unidentified city of Mesopotamia, perhaps the same as IVAH 2 Kings 17 24 Its inhabitants are called Avites 2 Kings 17 31

Ava (ä'vu), village, central Burma, on the Irrawaddy river c 10 mi S of Mandalay Founded in 1364, it was the capital of a dynasty of early Burmese kings till 1783 (when it was replaced by Amarapura) and again from 1823 to 1837 Only ruins remain of its greatness.

Ava (ā'vu), city (pop 1,393), co seat of Douglas co, S Mo, SE of Springfield, founded 1864 It is a mountain resort in a farm and timber area

Avacha (ävä'chu) or **Avachinskaya Sopka** (ävä'-chĭnskĭŭ sôp'kŭ), active volcano, 8,958 ft high, RSFSR, on S Kamchatka peninsula, in NE Siberia

Avadana: see BUDDHISM.

Aval: see BAHREIN ISLANDS

avalanche (äv'ulănch), rapidly descending mass of snow and ice, earth, or rock, usually set in motion by an addition to the weight of an insecure mass or by the removal, through melting or washing, of part of the base of the mass The action of an avalanche is often destructive since it is sudden, unanticipated, and violent

Avalon (äv'ulŏn), in Celtic or Welsh mythology, the happy otherworld of the dead and also the island to which the mortally wounded King Arthur was taken by three queens There Morgan le Fay was said to live, and from there Arthur was expected to return In medieval England, Avalon was placed at Glastonbury See ARTHURIAN LEGEND

Avalon 1 City (pop 1,637), on SANTA CATALINA, S Calif, founded 1888, inc 1913 The city is the center of the island's resort and sport activities, it has an Indian museum, a marine museum and aquarium, a bird sanctuary, and a casino and theater 2 Residential borough (pop 6,155), SW Pa, on the Ohio NW of, and near, Pittsburgh, settled 1802, inc 1874

Avalon Peninsula, area 3,579 sq mi, SE N F It is nearly divided at its center by Conception Bay on the north and St Mary's Bay on the south, which come within 20 mi of joining each other The peninsula is the most densely populated part of Newfoundland

Avalos, Ferdinando Francesco d': see PESCARA, FERDINANDO FRANCESCO D'AVALOS, MARCHESE DI

Avars (ä'värz), mounted nomad people who in the 4th and 5th cent dominated the steppes of central Asia Dislodged by stronger tribes, the Avars pushed west, increasing their formidable army by incorporating conquered peoples into it Reaching their greatest power in the late 6th cent, they plundered all of present S Russia and the Balkans Their siege (626) of Constantinople was unsuccessful, but they continued to dominate the Hungarian plain until Charlemagne defeated them The Avars were not mentioned after the 9th cent The modern Avars, a pastoral, Moslem people of Dagestan, USSR, number c 160,000 It is doubted that they are descended from remnants of the old Avars

Avebury, John Lubbock, 1st Baron: see LUBBOCK, SIR JOHN

Avebury or **Abury** (both ā'burē), village, Wiltshire, England, W of Marlborough The village, with a medieval church and manor house, lies within Avebury Circle, a Neolithic circular group of upright stones, older and larger than Stonehenge, but not so well preserved The village and the circle have belonged to the nation since 1943 and are administered by the National Trust

Aveiro (ävā'rō), city (11,247), capital of Aveiro dist, NW Portugal, on the Bay of Algarve and at the mouth of the Vouga river Partially built over the water, it is sometimes called the Portuguese Venice It has been notable as a fishing port since the 16th cent and was the birthplace of João Afonso, one of the discoverers of the Newfoundland fisheries Aveiro also produces salt In a convent here is the tomb of Joana, the daughter of Alfonso V who was a nun and died here

Avellaneda, Alonzo Fernández de (älōn'sō fĕrnän'dāth dā ävĕlyänä'dhä), name used by the Spanish writer who published a spurious second part of *Don Quixote* in the year 1614, before Cervante's own second part appeared (1615) Avellaneda's book is usually referred to as *El Quijote apócrifo* [the spurious Don Quixote], and the author is unidentified, although the work has been attributed to several men of letters

Avellaneda, Gertrudis Gómez de: see GÓMEZ DE AVELLANEDA, GERTRUDIS

Avellaneda, Nicolás (nēkōläs' ävāyänä'dhä), 1837–85, Argentine statesman, president of the republic (1874–80) As minister of education under Domingo F SARMIENTO (1868–74), he introduced many reforms After his election as president, he suppressed a revolt led by Bartolomé Mitre, the defeated candidate. His administration was notable for material progress and for the solution of two problems—the Indian question and the question of a federal capital An expedition under Julio A Roca drove the Indians beyond the Río Negro, opening the territory for colonization In Sept., 1880, the national congress decreed the federalization of Buenos Aires, which became effective under Roca, Avellaneda's successor

Avellaneda (ävāyänä'dhä), city (pop 282,054), Buenos Aires prov, Argentina, formerly known as Barracas al Sud It is an industrial city, containing many factories and warehouses. Although outside the federal district, it is usually considered a part of greater Buenos Aires

Avellino (ävāl-lē'nō), city (pop 20,578), capital of Avellino prov, Campania, S Italy It is an agricultural center Near by is the Benedictine convent and shrine of Monte Vergine (founded in 1119), visited yearly by thousands of pilgrims

Ave Maria (ä'vā märē'ä) [Latin,=hail, Mary], prayer to the Virgin universal among Roman Catholics, also called the Ave, the Hail Mary, the Angelic Salutation, and formerly the Ave Mary The words in English are "Hail Mary, full of grace, the Lord is with thee, blessed art thou amongst women, and blessed is the fruit of thy womb, Jesus. Holy Mary, Mother of God, pray for

us sinners now and at the hour of our death. Amen" The first part is from Luke 1 28,42 The prayer is much used in private as well as public devotions, e g , in the ROSARY. It has been much set to music, the compositions by Franz Schubert and C F Gounod being especially popular

Avempace (ä'vümpäs, ä"vĕmpä'thē), Arabic *Ibn Bajja*, d 1138, Spanish-Arabian philosopher Little is known of his life, but he was born in Saragossa and died in Fez, Morocco He is important chiefly for his influence on AVERROËS and for his introduction of Aristotelianism into Spain His chief extant work is the *Hermit's Rule*, which sets forth the ideal of man's gaining complete self-consciousness to the point where thought becomes identical with object. This goal is achieved by the gradual development of mental functions through rising stages

Aven (ā'–) [Heb , =nothingness], in the Bible, abusive name applied to towns to Bethel (see BETH-AVEN), to Heliopolis in Egypt in Ezek 30 17, and to some other place, traditionally Baalbek, in Amos 1 5.

Avenches (ävăsh'), anc *Aventicum*, town (pop 1,565), Vaud canton, Switzerland, c 7 mi NW of Fribourg With an estimated population of 80,000 in c 100 B C , it flourished in the 1st and 2d cent A D as the chief town of HELVETIA under the Romans The numerous remains include an amphitheater.

Aventine Hill: see *Rome before Augustus* under ROME

Avenzoar (ăv"unzō'ur, –zōar') or **Ibn Zohr** (ib'n zōr'), c 1090?–1162, Arabian physician, b near Seville, Spain He championed the experimental method of study in medicine His chief work, *Teisir*, was translated into Latin (1490)

average, statistical measure representing numerically the characteristics of a group of figures See MEAN, MEDIAN, MODE

Averell, William Woods (ă'vurul) 1832–1900, Union general in the Civil War, b Steuben co , N Y , grad West Point, 1855 Averell commanded a brigade and later a division in most of the cavalry operations of the Army of the Potomac He opposed Fitzhugh Lee in the cavalry engagement at Kelly's Ford in March, 1863, both sides claimed the victory Averell served under P H Sheridan in the Shenandoah Valley in 1864 and was brevetted major general in the regular army for his service

Averescu, Alexander (ävĕr'ĕskōō), 1859–1938, Rumanian general and statesman He fought in the Russo-Turkish War of 1877–78, which gained full independence for Rumania, in the Second Balkan War (1913), and in the First World War In Feb , 1918, he was chosen to form a cabinet to negotiate peace with the Central Powers He was president of the right-ist People's party, was premier in 1920–21 and again in 1926–27, and was made a marshal in 1930

Avernus (uvûr'nus), Ital *Averno* (ävĕr'nō) [from Gr =without bird], small crater lake, Campania, S Italy, between Cumæ and Puteoli, near the Tyrrhenian Sea Its intense sulphuric vapors, caused by volcanic activity (now extinguished), killed the birds flying over it, hence its name The ancient Romans, impressed by its vapors and its gloomy aspect, regarded it as the entrance to hell, later the name was used for hell itself

Averroës (uvĕr'ōēz), Arabic *Ibn Rushd*, 1126–98, Spanish-Arabian philosopher He was far more important and influential in Jewish and Christian thought than in Islam He was a lawyer and physician of Córdoba and lived for some time in Morocco in favor with the caliphs He was banished for a period, probably for suspected heresy Averroës's greatest work was his commentaries on Aristotle The Averroistic interpretation of Aristotle remained influential long after his death and was a matter of intellectual speculation well into the Renaissance He attempted to reconcile philosophy with religion by asserting that religion, though apparently differing from philosophy on many points, is actually the symbolical expression of philosophical truth This doctrine was attacked by the orthodox, both Catholic and Moslem, who saw it giving sanction to heretical opinions Though St THOMAS AQUINAS was respectful of Averroës, he attacked many of his ideas Averroës held the aristocratic view that freedom of speculation should be confined to the philosopher while the uneducated man should be forced to adhere strictly to the letter of the Koran He had the same Neoplatonic cast to his metaphysics as Avempace, to whom Averroës was certainly indebted for his ideas on the intellect Averroës's ideas were popular in Jewish thought, and they were the subject of frequent debate in Christian circles

Aversa (ävĕr'sa), city (pop 26,538), Campania, S Italy. It is an agricultural center noted for its white wine. In the 11th cent the county of Aversa was the first possession of the Normans in Italy. There are several notable churches.

Avery Island, c 2 mi in diameter, S La , lying in sea marshes and swamps, SW of New Iberia Here is a sanctuary for water birds, especially the egret The island's former owner, Edward Avery McIlhenny (see his *Bird City*, 1934) created Jungle Gardens, with many rare plants, trees, and flowers. Rock salt is mined on Avery Island, where salt production began soon after the arrival of the first white settler in 1791, although its presence was evidently known to the Indians Some of the prehistoric relics excavated on the island are in the possession of the Smithsonian Institution and Tulane Univ.

Avesta. see ZOROASTRIANISM

Aveyron (ävĕrō'), department (3,386 sq mi ; pop 307,717), S central France, occupying the old county of ROUERGUE It is called after a tributary of the Tarn Rodez is the capital

aviary (ā'vēărē), structure for confining birds. It usually refers to an outdoor screened area within which environmental conditions are suitable to the birds An adequate supply of clean food and water must be maintained, and there must be sufficient perches and flying space Protection against rats and other enemies is necessary and can be achieved by extending the netting underground Nesting sites and materials should be provided When the outdoor temperature is not suitable, an indoor aviary, kept at the proper temperature, well ventilated, and free from drafts and noxious fumes, is required Sanitary conditions of the cage and perches are of vital importance The early Romans constructed walled aviaries The collection by explorers since the 15th cent of unusual bird specimens and the introduction of the canary into Europe stimulated use of aviaries Aviaries are now found in public gardens and on private estates In the Bronx Zoological Gardens, New York, is a large outdoor cage in which the birds can fly

aviation In the limited sense aviation is the operation of aircraft heavier than air In a broader sense it includes not only piloting and air navigation but also all the activities upon which flying depends, e g , construction, maintenance and operation of aircraft, airports, signal beacons, and aviation schools, and aviation services such as weather service and AIR MAIL From early times man's desire to achieve flight was evident Myths and legends of many peoples relate adventures in flying, one of the most familiar is the Greek myth of Daedalus and Icarus. Incidents are related of men who attempted, in the 11th and 12th cent , to fly by attaching wings to their bodies Roger Bacon in the 13th cent suggested the construction of a flying machine with wings that could be operated by the person being carried The detailed observations, explanations, and drawings (including designs for ornithopters) preserved in the notebooks of Leonardo da Vinci mark the beginning of scientific studies of flight Leonardo's work in this field centered around studies of birds, although it included observations of bats and other flying creatures An Italian Jesuit, Francesco de Lana (1631–87), distinguished between lighter-than-air and heavier-than-air machines, his proposed design for a lighter-than-air craft is believed to be the first one published Flight was first successfully accomplished (1783) in a lighter-than-air device (see BALLOON) A number of investigators contributed to an understanding of the principles involved in achieving flight in heavier-than-air machines Among them were Sir George Cayley, who analyzed the mechanics of flight in his series of influential articles on aerial navigation (1809–10), W S Henson, who patented (1842) a design for a machine which closely foreshadowed a modern monoplane, John Stringfellow (with whom Henson was for a time associated), who later developed a model plane said to be the first power-driven machine to fly , and F H Wenham, who contributed (1866) a valuable study on the laws of flight and who later devised the first wind-tunnel experiments Alphonse Penaud, in France, made successful flying models of airplanes, helicopters, and ornithopters, wrote on the theory of flight, and patented (1878), with Paul Gauchot, a design for an amphibian monoplane notable for its streamlined form, retractable landing gear, and other advanced features Clément Ader, a French engineer, achieved flight (over a distance of about 150 ft in 1890 and about 300 yd in 1897) in his power-driven monoplanes fashioned after the bat. In 1894 a plane built in England by Sir Hiram S Maxim, operated by steam engines and carrying equipment and a crew of three, rose into the air from the track on which it was being tested In America, S P LANGLEY and Octave CHANUTE made notable contributions to the early development of the airplane The work of Otto LILIENTHAL inspired the Wright brothers The first successful flight in a man-carrying airplane powered by a motor was made on Dec 17, 1903, by Orville Wright (see KITTY HAWK), and later on the same day his brother Wilbur bettered the length of flying time In 1909 the U S. army purchased the first military airplane from the Wright brothers The first successful crossing of the English Channel was accomplished (1909) by Louis BLÉRIOT Glenn CURTISS made improvements in the design of airplanes and engines and constructed the first successful flying boat or seaplane (1912) Stimulated by awards of trophies and prizes of money, aviators demonstrated, during the early 1900s, the feasibility of air travel in various parts of the world. However, not long after the possibilities of aviation began to be realised, the First World War intervened (for the military development of aviation, see AIR FORCES and AIR POWER) After the war, aviation assumed a constantly increasing importance The first crossing of the N Atlantic (from Newfoundland to England with stops in the Azores and Portugal) was made by A C Read in a U S navy flying boat in May, 1919 In the same year John Alcock and A W Brown made the first nonstop flight from Newfoundland to Ireland and Ross Smith and his crew flew by airplane from London to Australia In May, 1926, Richard E Byrd and Floyd Bennett flew over the North Pole from Spitsbergen Charles A. Lindbergh accomplished the first transatlantic solo flight in May, 1927 The first east-west transatlantic flight, from Ireland to Newfoundland, was made in 1928 by Hermann Kohl, J C Fitzmaurice, and G von Hünefeld The first Pacific crossing was the feat of Charles Kingsford-Smith, who flew in May, 1928, from San Francisco to Australia, making two stops, the first nonstop flight from Japan to Washington state was made (1931) by Clyde E Pangborn and Hugh Herndon Round the world flights were made by Wiley Post and Harold Gatty (1931) in 8 days 15 hr 51 min , by Post alone (1933) in 7 days 18 hr 49½ min , and by Howard Hughes and four companions (1938) in 3 days 19 hr 8 min The first woman to cross the Atlantic by airplane was Amelia Earhart Putnam in 1928 she went as a passenger and in 1932 she made a transatlantic solo flight During the first decade after the war, progress in air transport in Europe far outstripped that in the United States, but later the United States forged ahead Private companies in the United States were permitted to contract for carrying mail by air after 1925, they thus obtained funds for expansion Air express service was inaugurated in 1927 Carrying mail was the chief concern of the companies until after 1930, when the transportation of passengers became profitable Rapid advances were made in the next few years, routes were extended and equipment improved Transpacific air-mail service begun by the Pan American Airways (later Pan American World Airways) system in 1934 was followed by the establishment of the first transoceanic aviation service for passengers on the *China Clipper*, from San Francisco to Manila (to Hong Kong in 1937) In 1939 the first transatlantic service to carry both mail and passengers was inaugurated by Pan American The Second World War interrupted much commercial air service, but tremendous pioneering work by the Army Air Transport Command and the Navy Air Transport Service opened up new routes With the cessation of the war, air transportation was gradually resumed until air routes penetrated all parts of the globe See also AERONAUTICS, AIRPLANE, AIRSHIP, JET PROPULSION, AIR, LAW OF THE, AIR FORCES, AIR POWER, AERIAL PHOTOGRAPHY, AIRSICKNESS See Antoine de Saint Exupéry, *Wind, Sand, and Stars* (Eng tr , 1939), E E Freudenthal, *The Aviation Business* (1940) and *Flight into History* (1949); S Paul Johnston, *Horizons Unlimited* (1941), H A Bruno, *Wings over America* (1942) H H Arnold and I C Eaker, *This Flying Game* (3d ed , 1943), Archibald Black, *The Story of Flying* (rev ed , 1943), Jeremiah Milbank, *The First Century of Flight in America* (1943), N H Randers-Pehrson, *History of Aviation* (1944), C C Fraser, *The Story of Aircraft* (3d ed , 1944) and *Heroes of the Air* (rev ed , 1946), D E Francis, *Aviation* (1945), Griffith Brewer, *Fifty Years of Flight* (1946), Stanley Brogden, *First to Fly from Roger Bacon to Sir Charles Kingsford-Smith* (1946)

aviation medicine see AIRSICKNESS and MEDICINE.

Avicebron. see IBN GABIROL, SOLOMON BEN JUDAH.

Avicenna (ăvĭsĕn'u), Arabic *Ibn Sina*, 980–1037, Arabian physician and philosopher, b near Bukhara He was a teacher and a courtier and lived long in Persia His position in medical history is remarkable, for though much of his work is unoriginal, Avicenna was the greatest name in medicine from 1100 to 1500 His medical masterpiece was the *Canon of Medicine* Avicenna's interpretation of Aristotle followed the Neoplatonic lead He saw God as emanating the universe from himself in a series of triads formed of mind, soul, and body This process terminated in the Aristotelian "active intellect," which governs directly all earthly regions and transmits to all things their appropriate forms Man's soul is also derived from it and is immortal He was not an absolute pantheist as he believed matter to exist independently of God Avicenna fixed the classification of sciences used in the medieval schools of Europe Our knowledge of his life derives from a sketch by one of his pupils based on his autobiography

Avienus (Rufus Festus Avienus) (ăvē-ē'nus), 4th cent , Latin poet To him are ascribed one long poem and part of another on geography (both apparently adapted translations from Greek) and an adaptation of the work of Aratus

Avignon (ăvēnyō'), city (pop 47,040), capital of Vaucluse dept , SE France, on the left bank of the Rhone It has a wine trade and silk manufactures Located in (but never a part of) the Comtat VENAISSIN, Avignon was the papal see during the

"Babylonian captivity," 1309–78 (see PAPACY), and the residence of several antipopes from 1378 to 1408 (see SCHISM, GREAT) Clement VI bought (1348) full title to Avignon from Joanna I, queen of Naples and countess of Provence After the end of the Great Schism, Avignon was ruled by papal legates, though actually the citizens were left free to govern themselves The city became an archiepiscopal see in 1475 Papal rule was tolerant, and the city prospered as a commercial center; it also was a haven for the Jews In 1791, after a plebiscite, Avignon was incorporated into France The huge papal palace, atop a hill, was built in the 14th cent to serve as residence, fortress, and church The Basilica of St Peter was built in the 14th to 16th cent Of the Bridge of St Bénézet (12th cent) across the Rhone only a fragment remains Avignon and near-by VAUCLUSE were celebrated by PETRARCH, who resided at the court of Clement VI

Ávila, Gil González de: see GONZÁLEZ DE ÁVILA.

Ávila (ä'vēlä), city (pop 19,590), capital of Ávila prov , central Spain, in Old Castile, on the upper Adaja river. It was founded in the late 11th cent. and is still surrounded by massive walls The Cathedral of San Salvador and the Basilica of St Vincent are the main landmarks Ávila, which was the birthplace of St Theresa, is now called Ávila de los Caballeros

Ávila Camacho, Manuel (mänwĕl' ä'vēlä kämä'chō), 1897–, president of Mexico (1940–46) When still young, Ávila Camacho joined the revolutionary forces Later he became brigadier general Under Lázaro CARDENAS he became (1938) minister of national defense As president he followed a middle-of-the-road policy based on the agricultural, industrial, and educational reforms begun by Cárdenas His administration was very friendly to the United States in the Second World War.

Ávila y Zúñiga, Luis de (lwēs' dāa'vēla ē thōō'nyēgä), c 1500–1564, Spanish historian, diplomat, and soldier, a favorite of Emperor Charles V, whom he followed in the Schmalkaldic war His account of the war (1547, Eng tr , 1555) is biased but had great influence

Avilés (ävēläs'), city (pop 10,695), Oviedo prov , NW Spain, in Asturias, a port on the Bay of Biscay. There are metalworks and sugar refineries, much coal is exported

Avim (ā'vĭm), unidentified town of Benjamin. Joshua 18 23

Avims (ā'vĭms), the same as AVITES **1.**

Avis (ä'vĭs), borough (pop 1,161), central Pa , near the West Branch of the Susquehanna and NE of Lock Haven

Avites (ā'vīts) **1** People of SW Palestine, probably assimilated by the Philistines Joshua 13 3. Avims Deut 2 23 **2** People of AVA

Avith (ā'vĭth), city of unknown site, E of the Dead Sea Gen 36 35, 1 Chron 1 46

Avitus (ăvī'tŭs), d 456?, Roman emperor of the West (455–56) He was proclaimed emperor in Gaul with the support of the Visigoths but was defeated at Piacenza and deposed by RICIMER.

Aviz, Port *Avis* (both uvĕsh'), village, central Portugal The Castilian order of the Knights of Calatrava assisted in the reconquest of Portugal and in 1166 settled at Évora Alfonso II granted them (c 1162) Aviz, and this branch of the order became separate and was known as the Order of Aviz, a strictly Portuguese organization The knights played an important part in Portuguese history After the death of Ferdinand I in 1383, his illegitimate brother, John, who was master of the Order of Aviz, led a revolution to prevent the crown from going to Beatriz of Castile. He himself became king as John I Thus the house of Aviz was established on the throne It was the most distinguished of Portuguese dynasties, reigning until 1580, when Portugal passed for a time under Spanish rule. Under the Aviz monarchs the Portuguese Empire was built and reached its zenith (see PORTUGAL)

Avoca (uvō'kŭ) **1** Town (pop 1,598), SW Iowa, on the West Nishnabotna river and NE of Council Bluffs; inc 1875 **2** Village (pop 1,006), S N Y , on the Cohocton and NW of Corning, settled 1843, inc. 1883. **3** Residential borough for miners' families (pop. 4,771), NE Pa , SW of Scranton, inc. 1889.

Avoca or **Ovoca** (both, uvō'ku), river of Co Wicklow, Ireland It is formed by the union of the Avonmore (14 mi long) and the Avonbeg (16 mi long) at the "Meeting of the Waters" celebrated by Thomas Moore. It flows 14 mi to the Irish Sea.

avocado (ăv"ŭkä'dō, ăv'–), broad-leaved evergreen tree of the genus *Persea*, common in tropical regions of the Americas. Since the early 20th cent it has been cultivated in California and Florida for the popular pear-shaped or round fruit, rich in oil content, nutritious, and used chiefly as a salad. The fruit is also called alligator pear or, in Spanish, *aguacate* The tree is ornamental

avocet (ăv'usĕt), wading bird about 15 to 18 in. long, related to the snipe and the stilt. North and South America, Europe, and Australia have one species each. The North American "blue shanks" is edible and, ruthlessly hunted, is now rare E of the Mississippi Its black and white wings and white body make it visible at a distance. Unlike most wading birds its front toes are webbed. By sweeping its long, thin, upwardly curved bill through the shallow water and mud, it captures small water animals, mainly harmful insects Other destructive insects are caught on the wing.

Avogadro, Amadeo, conte di Quaregna (ämädā'ō kōn'tā dē kwärā'nyä ävōgä'drō), 1776–1856, Italian physicist, b Turin He became professor of physics at the Univ of Turin in 1820 In 1811 he advanced the hypothesis, since known as Avogadro's law, that equal volumes of gases under identical conditions of pressure and temperature contain the same number of molecules Since then, through the work of other physicists, the number of molecules in the gram molecular volume has been determined and found to be the same for all gases This number (6.02×10^{23}) has been called Avogadro's number

Avon (ā'vŏn, ăv'ŭn) **1** Town (pop 2,258), central Conn , on the Farmington and W of Hartford; inc 1830 Avon Old Farms school for boys is here. **2** Town (pop. 2,335), E Mass , a suburb of Brockton, settled c 1700, inc 1888 **3** Village (pop 2,339), W central N Y , SW of Rochester, in a horse-breeding and dairying region, inc 1867 The Avon Horse Show is held annually Macaroni and alfalfa meal are made here **4** Village (pop 2,118), NE Ohio, near Lake Erie W of Cleveland, settled c 1814, inc. 1918

Avon (ā'vŭn, ăv'un) [Celtic, =river], name of several rivers in England **1** Also called **Bristol Avon** or **Lower Avon,** in Gloucestershire, Wiltshire, and Somerset. It rises at Tetbury, Gloucestershire, and flows 75 mi first S and then NW past Bath and Bristol to the Severn at Avonmouth. **2** Also called **East Avon,** in Wiltshire and Hampshire It rises at Devizes (near Avebury) and flows 48 mi E and S past Salisbury to the English Channel at Christchurch It is navigable below Salisbury **3** Also called **Upper Avon,** in Northamptonshire, Leicestershire, Warwickshire, and Worcestershire This is the most famous of the Avon rivers It rises near Naseby and flows 96 mi SW to the Severn near Tewkesbury, passing Rugby, Warwick, and Stratford-on-Avon. The Alne and Stour rivers are tributaries

Avon by the Sea, borough (pop 1,211), E N J , a resort S of Asbury Park, inc 1900

Avon Lake, village (pop 2,274), NE Ohio, on Lake Erie W of Cleveland It has several beaches

Avonmore (ăv'unmôr), borough (pop 1,354), SW Pa , ENE of, and near, Pittsburgh, inc 1893

Avon Park (ā'vŏn), city (pop 3,125), S central Fla , NW of Lake Okeechobee, in a lake region, settled c 1885 It is a packing and shipping center for a citrus-fruit area The freeze of 1894–95 discouraged settlers, but the arrival of a railroad in 1912 stimulated growth

Avranches (ävrăsh'), ancient town (pop. 6,693), Manche dept , NW France, in Normandy, on the Bay of MONT-SAINT-MICHEL. A Roman town, it became an intellectual center in the early Middle Ages, LANFRANC taught here Avranches was devastated in the Hundred Years War, the Wars of Religion, and the Second World War (see NORMANDY CAMPAIGN).

Awaj (äwäj'), river in SYRIA. see PHARPAR.

Awaji-shima (äwä'jē-shē'mä), island, 32 mi. long and 3 to 17 mi wide, in the Inland Sea, Japan, between Honshu and Shikoku islands. It produces grain and flowers

Awe, Loch (lŏkh" ō'), narrow lake, 23 mi. long, Argyllshire, Scotland.

awl see DRILL

ax or **axe,** one of the oldest of tools Chipped and polished stone axes are of many kinds, and axes were made in copper and bronze as man learned to work metals The stone ax served as a weapon, but its primary uses were in peaceful arts It was used in preparing soil for planting crops, in felling trees previously charred, and in many other ways The ax reached its greatest refinement as a tool, and its greatest usefulness, in the advance of white men across the wooded part of America from the Atlantic seaboard to the prairies In this region the most important items in the pioneer's equipment were the ax and the gun (at its best, a rifle) With the ax he built his log house with its puncheon floor and he cleared fields for his crops Evidence of the skill of the pioneer axmen is seen in the hewn beams of old American houses and barns The curved hickory handle of the single-bitted ax is of American origin The hatchet, an ax with a short handle and a hammer head, and the HAMMER are tools related to the ax The double-bitted ax was a religious emblem in Crete and elsewhere. See Thomas Hibben, *The Carpenter's Tool Chest* (1933), H. J. Peake, *Early Steps in Human Progress* (1933)

Axar Fjord, Icelandic *Axarfjör Fur* (äkh'särfyûr"dhûr), bay, NE Iceland. The Jokulsa empties into it.

Axel: see ABSALON.

Axel Heiberg Island (äk'säl hī'bûrg), off N Canada, in the Arctic Archipelago. It is W of Ellesmere Island. It was named by Otto Sverdrup (who explored it 1898–1902) for one of his patrons.

Axholme Isle (äks'hōlm), flat lowland, c.18 mi. long and 5 mi wide, Lincolnshire, England, W of the Trent Formerly marshy, it became very productive after it was drained in the early 17th cent. Epworth is the principal town.

Axis, coalition of states headed by Germany, Italy, and Japan, 1936–45 (see WORLD WAR, SECOND). The expression "Rome-Berlin axis" originated in Oct , 1936, with an accord reached by HITLER and MUSSOLINI. The Axis was solidified by an Italo-German alliance on May 22, 1939 This was extended (Sept. 27, 1940) by a military alliance among Germany, Italy, and Japan—the so-called Berlin Pact, to which Hungary, Rumania, Bulgaria, Slovakia, and Croatia adhered later The related Anti-Comintern Pact (see COMINTERN), originally concluded between Germany and Japan in 1936, later had as adherents, besides the Berlin Pact nations, Spain, Denmark, Finland, and the puppet governments of Manchukuo and Nanking.

Axminster (äks'–), urban district (pop. 2,326), Devonshire, England, NW of Lyme Regis The fine carpets for which it was famous were later made at Wilton

Axum, Ethiopia see AKSUM.

Ayacucho (äyäkōō'chō), city (pop. 18,275), S Peru In a silver-mining region, it is on a plateau near the plains of Ayacucho. Here Antonio José de SUCRE, commanding revolutionary troops, crushingly defeated (Dec 9, 1824) Viceroy José de la SERNA The battle not only secured Peruvian independence from Spain but also marked the triumph of the revolutionary forces in all South America

Ayala, Pedro López de: see LÓPEZ DE AYALA.

Ayala, Ramón Pérez de. see PÉREZ DE AYALA.

Aycock, Charles Brantley (ā'kŏk), 1859–1912, governor of North Carolina (1901–5), b Fremont, N C , grad Univ of North Carolina, 1880 He had been a lawyer, a county superintendent of schools, and a U S district attorney before he served as governor He is remembered chiefly for his heroic and successful efforts to spread and improve public education—a program which reverberated through the South to the benefit of both Negroes and whites

Aydelotte, Frank (ā'dulŏt), 1880–, American educator, b Sullivan, Ind , grad Indiana Univ , 1900, M A Harvard, 1903 In 1905–7 he was a Rhodes scholar After teaching English in various institutions he was president (1921–40) of SWARTHMORE COLLEGE and later director (1939–47) of the Institute for Advanced Study at Princeton, N J Outstanding in his field, he has held many important positions His works include *Elizabethan Rogues and Vagabonds* (1913), *College English* (1913), *The Oxford Stamp* (1917), and *Breaking the Academic Lock Step* (1944) See Swarthmore College Faculty, *An Adventure in Education* (1941).

Ayden (ā'dŭn), town (pop 1,884), E N C , S of Greenville, in a tobacco-growing area

Aydın (ïdēn'), city (pop 18,504), W Turkey, on the Meander river It is a center for trade in olive oil, olives, figs, and cotton There are ruins of the ancient Greek city of Tralles

Ayer (ār), town (pop 3,572), N Mass , ESE of Fitchburg; settled before 1670, inc 1871 U S Fort Devons and a state pheasant farm are near by

Ayesha (ī'shu, ä'ĭshä"), d 678, favorite wife of MOHAMMED the Prophet She was the daughter of Abu Bakr and was married to the Prophet soon after the hegira A brilliant, astute woman, she was devoted to her husband and his teachings, and after his death she exerted considerable influence, especially against Ali She fomented an unsuccessful revolt in Ali's tenure of the caliphate. The name also appears as Aisha

Aylesbury (ālz'bûrĕ), municipal borough (pop 13,387), Buckinghamshire, England, NW of London It is an agricultural market for the upper Thames valley and is famous for its ducks It has a dairy industry, flour mills, and, near by, silica-sand quarries The 13th-century church was restored by Sir George Gilbert Scott

Ayllón, Lucas Vásquez de (lōō'käs vä'skäth dā ïlyōn'), c 1475–1526, Spanish explorer. He came to Santo Domingo in 1502 In 1521 Francisco Gordillo, sent by Ayllón to explore northward, seems to have landed in either Florida or South Carolina. Ayllón secured title and permission to colonize In 1526 he sailed with three ships and c 500 settlers, landing probably in South Carolina, though some authorities claim it was on the site of the later Jamestown, Va. Fever and other hardships plagued the settlers, and when Ayllón died of fever, the survivors returned to Santo Domingo. Ayllón was buried at sea

Aylmer, John (āl'mûr), 1521–94, bishop of London. His name is also spelled Æilmer or Elmer. He was for a time tutor to Lady Jane Grey. In 1553 he was deprived of his church preferments for opposing the doctrine of transubstantiation, and he fled to Switzerland. There he aided John Foxe in making a Latin translation of the *Acts of the Martyrs* and wrote *An Harborowe for Faithfull and Trewe Subjects* (1559) in answer to a tract by John Knox. Returning to England after Elizabeth's accession, he rose in the Church of England to be (1576) bishop of London. Though he was a man of

great learning, his harsh treatment of his foes made him generally disliked.

Aylmer (āl'mûr) 1 Town (pop. 2,478), S Ont., near Lake Erie and E of St. Thomas Its industries are canning and dairying 2 Town (pop 3,115), SW Que., on the Ottawa river and W of Hull

Aylmer, Lake, Mackenzie dist., Northwest Territories, NE of Great Slave Lake

Aymara (īmārä'), South American Indians inhabiting the Lake Titicaca basin in Peru and Bolivia. They are believed to have been the originators of the great culture represented by the ruins of Tiahuanaco. Although subjugated after a long conquest in the 15th cent by the Inca, the Aymara continue to dominate the region The Aymara languages make up a separate unit; they are spoken in Peru and Bolivia in the Titicaca region The Aymara, conquered (1538) by Hernando and Gonsalo Pizarro, kept their pastoral and agricultural civilisation In general, social organization was, and still is, based on the patrilineal family unit.

Aymer of Valence (ā'mûr, vūlĕns', vālā'), d 1260, bishop of Winchester, son of King John's widow, Isabella, and Hugh X, count of La Marche He was thus half brother of King Henry III of England He is sometimes called Æthelmær With his brothers, Guy de Lusignan and William of Valence, he came to England in 1247 Henry forced the chapter of Winchester to elect Aymer bishop in 1250 but his youth and ignorance, combined with his disinclination to assume the responsibilities along with the revenues of office, delayed his consecration Hostility toward him and his brothers was an important factor in the Barons' War It is apparent that he was anything but a good influence in the Church and the state He refused to swear to the provisions drawn up by the Parliament of Oxford in 1258 (in which he was one of the king's 12 delegates), and later he and his brothers had to flee to the Continent But although the Winchester chapter had chosen a new candidate, Aymer was consecrated by the pope in 1260 and was on his way back to England when he died in Paris

Aymer of Valence, earl of Pembroke: see Pembroke, Aymer de Valence, earl of

Ayolas, Juan de (hwän' dā ayō'lās), d 1537?, Spanish conquistador, explorer of the Río de la Plata country He accompanied Pedro de Mendoza on his expedition of 1535–36 Sent to look for provisions, he sailed up the Paraná and founded a fort called Corpus Christi Later, leaving Domingo Martínez de Irala at a port called Candelaria, he went up the Paraguay in search of a route to Peru, He fought the Guaraní, possibly at the site of Asunción, crossed the Chaco to the mountains, and is said to have been killed by the Indians on his return to Candelaria

Ayr (ār), burgh (1931 pop 36,783, 1948 estimated pop 43,967), county town of Ayrshire, Scotland, on the Firth of Clyde at the mouth of the Ayr It is a seaport and resort Its manufactures include agricultural and mining machinery, leather goods, asphalt, and switch gear The heart of the Burns country, Ayr has various Burns memorials Alloway, the poet's birthplace, is a suburb There are associations too with Sir William Wallace and Robert the Bruce

Ayrshire (ār'shĭr, -shûr) or **Ayr,** maritime county (1,132 sq mi , 1931 pop 285,217, 1948 estimated pop 323,303), SW Scotland, on the Firth of Clyde The county town is Ayr Ayrshire is primarily an agricultural and pastoral region, with pleasant hills, vales, lochs, and rivers, the largest of which are the Ayr and the Doon Ayrshire cows are famous, and the county produces fine Cheddar cheese as well as varied manufactures (woolens, chemicals, leather, and explosives) The iron and coal deposits are mined extensively Ayrshire is rich in literary and historical associations After the departure of its ancient Roman invaders, Ayrshire came eventually under the control of the Northumbrian kings It is the country of Robert Bruce, Robert Burns, and James Boswell See D. C. Cuthbertson, *Autumn in Kyle* (1947)

Ayrshire cattle, breed of dairy cattle originated in Scotland, where, as in New Zealand, they are the leading dairy breed. They are raised in New England and, to some extent, elsewhere in the United States They have better beef qualities than most other dairy breeds They are red or brown and white and of medium size

Ayrton, Hertha (Marks) (ār'tûn), 1854–1923, English scientist, grad Girton College, Cambridge, 1880, wife of W E Ayrton In 1884 she invented a line divider used by artists, architects, and engineers For her work on the electric arc and on sand ripples, Mrs Ayrton was awarded (1906) a medal by the Royal Society, to which she was later elected a member. In 1906 she interrupted her scientific research to work with the Women's Social and Political Union in the campaign for woman suffrage. In 1915 she invented an anti-gas fan for use in the trenches in the First World War. She wrote *The Electric Arc* (1902). See memoir by Evelyn Sharp (1926).

Ayrton, William Edward, 1847–1908, English electrical engineer, educated at University College, London. In 1868 he entered the government telegraph service in India From 1884 until his death he was professor of electrical engineering at Central Technical College, South Kensington He made many improvements in telegraphy, invented a number of electrical measuring instruments, and wrote books and articles in his field His first wife, Matilda Chaplin Ayrton (1846–83), was a doctor, a pioneer among women in the field of medicine

Ayton or Aytoun, Sir Robert (both ā'tûn), 1570–1638, Scottish poet at the English court of James I He was private secretary both to Anne of Denmark and to Henrietta Maria Ben Jonson was one of his friends His own English poems (bearing no trace of Scottish dialect) are instinct with a courtly elegance and delicacy

Aytoun, William Edmonstoune (ā'tōn), 1813–65, Scottish poet and barrister He was professor of belles-lettres at Edinburgh Univ from 1845 to 1865 His literary fame rests on the *Bon Gaultier Ballads* (written with Sir Theodore Martin, 1845), parodies of poems by Tennyson, Macaulay, Mrs Browning, and others, on *Lays of the Scottish Cavaliers* (1849), and on *Firmilian, or, The Student of Badajoz* (1854), a mock tragedy, burlesquing the "spasmodic school" of poetry

Ayuthia or **Ayutthaya** (both āyōō'tēä, āyōōt'hīä), town (pop 15,821), S Thailand, N of Bangkok and on the Menam river It is an important center of trade, but is best known as the ancient Siamese capital Founded c 1350, it was destroyed by the Burmese in 1767, and the seat of government was transferred to Bangkok The ruins at Ayuthia are among the few important monuments of early Siamese civilisation

Ayutla (āyōōt'lä), city (pop 2,519), Guerrero, SW Mexico Its full name is Ayutla de los Libres [Ayutla of the free] Here was drawn up the Plan of Ayutla (1854), a program of reform directed toward removing the dictator, Santa Anna, and calling a constituent assembly to frame a federal constitution Preparing the way for the War of Reform (1858–61), the plan and the subsequent Revolution of Ayutla, which exiled Santa Anna and established a liberal government, were initially supported by Juan Álvarez, Ignacio Comonfort, Miguel and Sebastián Lerdo de Tejada, and Benito Juárez

Ayutthaya, Thailand see Ayuthia

Azal (ā'zăl), name of uncertain meaning in an apocalyptic passage Zech 14 5

azalea (uzā'lyu) [Gr ,=dry], any species of the genus *Azalea*, North American and Asiatic shrubs sometimes included in the genus *Rhododendron* but distinguished by the usually deciduous leaves Azaleas are handsome shrubs with large clusters of pink, red, orange, yellow, purple, or white flowers The better-known native American azaleas, often cultivated, include the flame azalea, orange, yellow, or scarlet flowered, of the Atlantic states, the fragrant white or pink swamp honeysuckle, found chiefly E of the Mississippi, and the pink or white pinkster or pinxter [=Pentecost] flower, native E of the Mississippi Ghent azaleas are popular cultivated hybrids Azaleas, like most other members of the heath family, require an acid soil and were formerly thought to prefer a dry soil Some have become popular as florists' pot plants

Azaliah (ăzŭlī'u) [Heb ,=God sets aside], father of Shaphan 1 2 Kings 22 3, 2 Chron 34 8

Azaña, Manuel (manwāl' āthan'yä), 1880–1940, Spanish statesman A playwright and critic, he lived in Paris during Primo de Rivera's dictatorship, and came to the fore in Spain as a revolutionary political leader in 1931 He was minister of war in the first republican cabinet, and premier (1931–33) under President Alcalá Zamora While premier, he pressed for social, military, and educational reforms. After the victory of the Popular Front in 1936, he again became premier, and in May, 1936, president of the republic after the ousting of Alcalá Zamora He headed the Loyalist government through the Civil War, in which he did not, however, play an important role In Feb , 1939, he fled to France His resignation, made public on March 1, came at the time when organized Loyalist resistance in Spain had collapsed

Azaniah (ăz"ŭnī'u) [Heb ,=whom God hears], Levite Neh 10 9

Azanza, Miguel José de (mēgĕl' hōsā' dā āthān'thä), 1746–1826, Spanish statesman and colonial administrator He served as secretary under José de Gálvez in Mexico and as secretary to the captain general of Cuba He held minor offices and aided in the French Revolutionary Wars He became minister of war (1793), but his French sympathies made him suspect As viceroy (1798–1800) of New Spain, he tried to reduce expenditures and he put down the insurrection known as the Conspiracy of the Machetes A member of the ephemeral first ministry of Ferdinand VII, he was one of the provisional junta that accepted the constitution of Bayonne. He served Joseph Bonaparte as minister and was made duke of Santa Fe When the Bonaparte regime fell, he retired to Bordeaux.

Azarael (ăzăr'ăēl) [Heb.,=whom God has helped], musician. Neh 12.36.

Azareel (ăzăr'ēēl) [Heb.,=whom God has helped]. 1 One of David's warriors 1 Chron 12 6 2 Musician 1 Chron 25 18 Uzziel 1 Chron. 25 4 3 Prince 1 Chron 27 22 4 Jew married to a foreign wife Ezra 10 41 5 Priest Neh 11 13

Azariah (ăzurī'u) [Heb ,=whom God has helped], common name in ancient Israel, especially among the priests The following are not necessarily all different persons 1 Chief officer under Solomon 1 Kings 4 2, 1 Chron 6 9 2 Chief officer under Solomon 1 Kings 4 5 3,4 Judahites 1 Chron 2 8,38,39 5 Kohathite Levite 1 Chron 6 36 Uzziah 1 Chron 6 24 6 High priest, 1 Chron 6 10,11 7 Father of Seraiah 2 1 Chron 6 13,14 8 Prophet who stirred King Asa to reform 2 Chron 15 9 King of Judah see Uzziah 1 10 Same as Ahaziah 2 11 High priest who withstood King Uzziah 2 Chron 26 17–20 12 High priest under Hezekiah 2 Chron 31 10–13 13,14 Levites 2 Chron 29 12 15,16 Sons of King Jehoshaphat 2 Chron 21 1 17,18 Aids of Jehoiada in the conspiracy against Athaliah 2 Chron 23 1 19 Ephraimite leader 2 Chron 28 12 20 Worker on the wall of Jerusalem Neh 3 23,24 21 Same as Seraiah 7 22 Interpreter of the law Neh 8 7 23 Sealer of the covenant Neh 10 2 24 Priest in postexilic Jerusalem 1 Chron 9 11 Seraiah Neh 11 11 25 See Jaazaniah 26 One of the Three Holy Children His name in Greek is Azarias

Azarieh, El, Palestine see Bethany

Azay-le-Rideau (azā'-lu-rēdō'), town (pop 1,387), Indre-et-Loire dept., NW central France, in Touraine Its famous Renaissance château (1518–29), framed by a beautiful park and mirrored by the Indre river, is distinguished by its architectural harmony and simplicity

Azaz (ā'zăz) [Heb ,=strong], descendant of Reuben 1 Chron 5 8

Azazel (uzā'zĕl, ăz'u-zĕl), in the Bible, an obscure term of the ritual of the scapegoat Lev 16 RV Azazel may be the name of the scapegoat or of a desert demon to whom the scapegoat was sent The name was later applied to one of the fallen angels AV translates Azazel "the scapegoat"

Azaziah (ăz"uzī'u) [Heb ,=whom God helps] 1 Musician 1 Chron 15 21 2 Ephraimite 1 Chron 27 20 3 Overseer of the Temple 2 Chron 31 13

Azbuk (ăz'bŭk), father of Nehemiah Neh 3 16

Azeglio, Massimo Taparelli, marchese d' (mas'sēmō täpärĕl'lē markä'zā dadzā'lyō), 1798–1866, Italian statesman and author, b Turin He studied painting, then turned to literature and wrote two historical novels, *Ettore Fieramosca* (1833) and *Niccolò de Lapi* (1841) He married a daughter of Manzoni In 1845 he became a leader of the movement for national liberation He urged a more unified policy but strongly opposed secret conspiracies and violent outbreaks In his pamphlets he denounced the papal government and condemned Austria's ruthless repression of the liberals He influenced King Charles Albert and fought against Austria (1848), being wounded at Vicenza In 1849 the new king, Victor Emmanuel II, made him prime minister, a post he held until 1852, when he was succeeded by the more radical Cavour He soon retired to private life His autobiography throws much light on the Risorgimento

Azekah (uzē'ku), ancient city, Palestine, lying W of Jerusalem Joshua 10 10,11, 1 Sam 17 1, 2 Chron 11 9, Neh. 11 30, Jer 34 7

Azel (ā'zĕl), descendant of Saul 1 Chron 8 37,38, 9 43,44

Azem (ā'zĕm) [Heb ,=bone], town, S Palestine, perhaps to be identified with Azmon. Joshua 15 29; 19 3 Ezem 1 Chron 4 29

Azerbaidzhan, USSR see Azerbaijan

Azerbaijan (ä'zurbĭjän', ăz"ur-), region (41,160 sq mi , pop 2,734,973), extreme NW Iran, comprising the Second and the Third Provs The chief city is Tabriz, and other cities of note are Ardebil and Maragha It is a mountainous region W of the Caspian Sea In the north the Aras river separates it from the Azerbaijan SSR In the west it borders on Iraq and Turkey Azerbaijan, which includes large Lake Urmia, has deep valleys and fertile lowlands that yield much grain as well as fruits The region has been known since antiquity and has, of course, varied in size and boundaries In remote times it was dominated by the kings of Van and Urartu (in Armenia), but by the 8th cent B C it had been settled by Medes, and it came to be the province of Media Minor in the Persian Empire Here Zoroaster is supposed to have been born After Alexander the Great conquered Persia, he appointed (328 B C) as governor the Persian Atropates, who established himself as an independent king Later the region, which came to be called Atropatene or Media Atropatene, was much disputed The Parthian rulers (the Arsacidae) established claims over it, and it was incorporated (A.D 226?) into Persia again by Ardashir I Shapur II enlarged the province with more territory in the north Briefly Heraclius, the Byzantine emperor, conquered it in the 7th cent , just before the Arabs converted it to Islam and made it part of the caliphate The Seljuk Turks dominated the region in the 11th and 12th cent , and the Mongols under Hulagu Khan established their capital at Maragha. After the conquest by Tamerlane in the

14th cent, Tabriz was an important provincial capital in the Timurid empire It was out of Azerbaijan that the Safavid dynasty arose (1492) to renew the state of Persia There was fierce fighting between the Ottoman Empire and Iran for Azerbaijan, but Abbas I in 1603 regained the region, which remained entirely in possession of the shahs until the northern part was ceded to Russia in the treaties of Gulistan (1813) and Turkamanchai (1828) The remainder was organized as a Persian province, and though the majority of the people are Turkic-speaking Azers or Azerbaijani (with some Armenians and Kurds), their culture is Iranian After the Second World War, there was (1946) an uprising of leftists in Azerbaijan, which was put down by force

Azerbaijan or **Azerbaidzhan** (both· ä″zurbĭjän′, ä″zur–, Rus a″zĭrbĭjan′), constituent republic (32,100 sq mi , 1946 estimated pop 3,300,000), USSR Baku is the capital Azerbaijan lies between Dagestan on the north and Armenia on the southeast, between Georgia on the west and the Caspian Sea on the east In the south the Aras river separates the republic from the Iranian region of Azerbaijan The Azerbaijan SSR includes the NAKHICHEVAN ASSR and the MOUNTAIN KARABAKH Autonomous Oblast It occupies the western ranges of the Greater and the Lesser Caucasus and the hot and arid KURA valley The climate is subtropical in the LENKORAN lowland along the Caspian S of the APSHERON peninsula, one of the richest oil regions of the world In the mountains there are large pastures used for stock raising, especially of sheep (for wool) BAKU is the center of the oil industry Other cities are Kirovabad (formerly Gandzha), with large cotton mills, and Nukha, a silk center Mineral resources, besides petroleum, are iron and copper Cotton, grapes, tea, fruit, and tobacco are grown Carpet manufacturing is an important home industry The people are mostly Turkic Azers or Azerbaijani, of Persian culture They are Shiite Moslems Minorities include Armenians, Russians, and highlanders of the Dagestan group Russia acquired the region from Persia by the treaties of Gulistan (1813) and Turkamanchai (1828) It was officially named Azerbaijan only after 1920, when it became a Soviet republic It joined the USSR in 1922 and became a constituent republic in 1936 Known to the ancients as Albania and later divided among several principates (notably Shirwan), the region was linked to the history of Armenia and to that of Persia particularly after its conquest (4th cent A D) by Shapur II

Azgad (ăz′găd), family in the return to Palestine Ezra 2 12, 8 12, Neh 7 17, 10 15

Aziel (ā′zĭ-ĕl), in the Bible, shorter form of JAAZIEL

Azilian see PALEOLITHIC PERIOD

Aziza (uzĭ′zu) [Heb ,=strong], Jew who had a foreign wife Ezra 10 27

Azizia (ăzĭz-ē′ä), town (pop 26,417), Tripolitania, Libya It is a market center for a livestock and agricultural area and a road junction Allegedly it is the hottest place on earth, in 1936 a temperature of 141°F was registered here

Azmaveth (ăzmā′vĕth) **1** One of David's mighty men, perhaps the same as **2** or **3** 2 Sam 23 31, 1 Chron 11 33 **2** David's treasurer, perhaps the same as **1** or **3** 1 Chron 27 25 **3** Father of two of David's warriors 1 Chron 12 3 He may be the same as **1** or **2**, unless the name here be geographical and refer to **5** **4** Descendant of Jonathan 1 Chron 8 36, 9 42 **5** Town, probably the modern Hizmeh, c 5 mi NNE of Jerusalem Ezra 2 24, Neh 12 29 Perhaps the same as **3** Beth-azmaveth Neh 7 28

Azmon (ăz′mŏn) [Heb ,=strong], town, S Palestine Num 34 4,5, Joshua 15 4 See AZEM

Aznoth-tabor (ăz′nŏth-tā′bur) [Heb ,=ears of Tabor], name of part of the boundary of Naphtali, the tribe occupying a strip W of the Jordan running N from the Sea of Galilee The name probably refers to the eastern slopes of Mt Tabor Joshua 19 34

Azor (ā′-), man in the Gospel genealogy Mat 1 13

Azores (uzōrz′, ă′zōrz) Port *Açores* (usō′rĭsh), [Port ,=hawks], islands (890 sq mi , pop 286,885), in the N Atlantic, W of Portugal Administratively they are part of Portugal, in three districts named after the capital cities, Ponta Delgada (on São Miguel), Angra do Heroísmo (on Terceira), and Horta (on Fayal). The nine chief islands are São Miguel (the largest) and Santa Maria, in the east; Terceira, Pico, Fayal, São Jorge, and Graciosa, in the center, and Flores and Corvo, in the west Ponta Delgado is the largest city, Angra do Heroísmo the most important historically. The fertile soil yields grain and fruits and supports vineyards The islands were known and included on a map in 1351 Portuguese sailors reached them in 1427 or 1431, but colonization did not begin until 1445 under Diogo de Sevilha or Gonçalo Velho Cabral (who may have come in 1431) The Azores were used as a place of exile and also played a considerable part at times in Portuguese history, notably in resisting (1580–83) the accession of Philip II of Spain and in supporting Dom Pedro against Dom Miguel in the 19th cent In the Second World War, British naval and air bases were established on the Azores.

Azorín see MARTINEZ RUIZ, José

azotobacter see NITROGEN-FIXING BACTERIA.

Azotus see ASHDOD

Azov (ä′zŏv, -zŏf, ă′–, Rus ŭzŏf′), city (pop 17,545), S European RSFSR, near the mouth of the Don and the Sea of Azov Today a fishing port, it was until the late 18th cent a fortress of strategic importance Peter the Great took it, after an epic siege, from the khanate of Crimea in 1696, but had to cede it back in 1711 Russia took it again in 1736, was forced by treaty to dismantle the fortress in 1739, and secured it definitively in 1774 The ancient Greek colony of Tanais was situated near by

Azov, Sea of, Latin *Palus Maeotis*, northern arm of the Black Sea, with which it is connected by the KERCH STRAIT It has an area of c 14,000 sq mi and a maximum depth of 49 ft It is entirely surrounded by USSR territory, the Crimea (southwest), the Ukraine (north), the Kuban lowland (east), and the Taman peninsula (southeast) The SIVASH or Putrid Sea, in the west, is separated, except for the Genichesk Strait, from the Sea of Azov by the long Arabat Tongue Several rivers, notably the Don and the Kuban, enter the Sea of Azov, which has important fisheries (sturgeon, pike, carp, and herring) Rostov-on-Don, Taganrog, Zhdanov, Osipenko, and Kerch are the chief ports

Azpeitia (ăthpā′tyä), town (pop 6,082), Guipúzcoa prov, N Spain, in the Basque Provs Near the house where Ignatius of Loyola was born are a 17th-century Jesuit church, an imposing convent, and a hospice

Azrael (ăz′rāĕl) [Heb ,=help of God], in the Koran, angel of death, who severs the soul from the body The name and the concept were borrowed from Judaism

Azriel (ăz′rēĕl) [Heb ,=help of God] **1** Manasseite 1 Chron 5 24 **2** Naphtalite 1 Chron 27 19 **3** Father of SERAIAH 9

Azrikam (ăz′rĭkăm) [Heb ,=help against the enemy] **1** Man of the house of David 1 Chron 3 23 **2** Descendant of Saul 1 Chron 8 38, 9 44 **3** Levite 1 Chron 9 14, Neh 11 15 **4** Chief of the royal household 2 Chron 28 7

Aztec (ăz′tĕk″), Indian people dominating central Mexico at the time of the Spanish Conquest Their language belonged to the Nahuatl subfamily of Uto-Aztecan languages They arrived in the Valley of Mexico from the north toward the end of the 12th cent and, until the founding of their capital, TENOCHTITLÁN (c 1325), were a poor, nomadic tribe absorbing the culture of near-by states For the next century they maintained a precarious political autonomy while paying tribute to neighboring tribes, but by alliance, treachery, and conquest during the 15th and early 16th cent they became a powerful political and cultural group To the north they established hegemony over the HUASTEC, to the south over the MIXTEC and ZAPOTEC and even as far as Guatemala Their subjugation of the people of Tlaxcala in the mountains to the east was bloody and intermittent, and Tlaxcala was to prove of great value to the Spanish In the west only did the Aztecs fail to conquer The TARASCAN Indians severely defeated them By absorption of other cultural elements and by conquest the Aztecs achieved a composite civilization, based on the heritage of TOLTEC and Mixteca-Puebla They accomplished nothing in architecture finer than TEOTIHUACÁN, but in the fortification of their island capital they became accomplished engineers. The Aztec further developed sculpture (notably the stone wheel or calendar using the 260-day year and 52-year time cycle), weaving, metalwork, ornamentation, music, and picture writing for historical records Education was almost universal and was intended to fit the youth to assume responsibility in the social, economic, political, and religious life of the state. Agriculture was well advanced. The political and social organization was based on three castes—nobility, priesthood, and military and merchant Aztec government cannot properly be called an empire, for conquered chiefs retained political autonomy but paid tribute and kept commerce open to the Aztec Prisoners of war were used for human sacrifice to satisfy the many gods of the Aztec nature pantheon, notably HUITZILOPOCHTLI The wholesale human sacrifice revolted the Spanish, who arrived under Hernán Cortés in 1519 and began the conquest of Mexico. The last of the independent Aztec chiefs, MONTEZUMA II, was killed, Tenochtitlán was razed (1521), and three years later CUAUHTÉMOC, last of the chiefs, was murdered. See G C Vaillant, *Aztecs of Mexico* (1941)

Aztec, village (pop 756, alt 5,590 ft), co seat of San Juan co , NW N Mex , laid out 1890, inc 1905 It is the trade center of a large fruitgrowing area Aztec Ruins National Monument is near by

Aztec Ruins National Monument see NATIONAL PARKS AND MONUMENTS (table)

Azubah (uzū′bu) [Heb ,=deserted] **1** Wife of Caleb 1 Chron 2 18 **2** Mother of Jehoshaphat 1 Kings 22 42, 2 Chron 20 31

Azuela, Mariano (märyä′nō äswā′lä), 1873–, Mexican novelist As a practicing physician in Guadalajara, Azuela quietly supported the revolutionary cause until he openly joined Francisco Villa after the assassination of Francisco I Madero During Villa's northward retreat before Carranza, Azuela tended the wounded and saw warfare and revolution to the full From this experience came his modern classic, *Los de abajo* (1915, Eng tr , *The Under Dogs*, 1929), which uses the "mass personage" as its hero and depicts the military exploitation of the Indian The novel is composed of linked sketches, short, crisp, and stark, and the literary style has rough vigor and intense realism It is the masterpiece among Mexican *indianista* novels Returning to Mexico in 1916, Azuela continued his medical practice, took a minor part in politics, and wrote novels and essays Among his novels are *María Luisa* (1907), *Los fracasados* [the defeated] (1908), *Mala yerba* (1909), *Los caciques* (1917), and *San Gabriel de Valdivias* (1938)

Azulai, Hayim Joseph David (ĥī-yĭm, uzōō′lī), 1724–1806, Hebrew bibliographer, b Jerusalem, d Leghorn, Italy He was one of the first to write about the history of rabbinical literature, and his works embrace almost every field of rabbinical lore His most important contribution is to be found in his bibliographical *The Name of the Illustrious*, which contains names of hundreds of Jewish authors, and *Assembly of the Wise*, which contains the titles of books Isaac ben Jacob published a systematic arrangement of these two works in 1852

Azur (ā′zur) [Heb ,=helper] **1** Father of HANANIAH **2** **2** Father of JAAZANIAH **4**

azurite (ăzh′urīt), a mineral, the blue basic carbonate of copper, occurring in monoclinic crystals or masses, which range from transparent to translucent and opaque It is usually associated with MALACHITE, which it resembles except in color, when the two minerals are very closely associated, the stone is called azurmalachite Beautiful crystals of azurite are found in the United States in Arizona and New Mexico and in France at Chessy (for which the mineral is sometimes called chessylite), they are used for ornamental purposes The mineral is an important ore of copper

Azusa (uzōō′su), city (1940 pop 5,209, 1947 special census pop 8,506), in Monrovia township, S Calif , E of Pasadena, founded 1887, inc 1898 It is the shipping center of a citrus-fruit area. Citrus Junior College (coeducational) is here

Azzah (ăz′u), variant of GAZA

Azzan (ăz′ăn), man of Issachar Num 34 26.

Azzur (ăz′ur) [Heb ,=helper], a sealer of the covenant Neh 10 17.

B

B, second letter of the ALPHABET. Its Greek correspondent is named beta It is a usual symbol for a voiced bilabial stop In MUSICAL NOTATION it is used to represent a note in the scale In chemistry B is the symbol of the element BORON

Ba, chemical symbol of the element BARIUM

Baader, Franz Xaver von (fränts′ ksävär′ fun bä′dür), 1765–1841, German philosopher and mystic A mining engineer until 1820, Baader was made professor of philosophy at Munich (1826) upon publication of his *Fermenta cognitionis* (1822–25) His philosophy, strongly influenced by that of Boehme, was based on faith in the redeeming love of God and on the mediation of the Roman Catholic Church He is considered one of the foremost modern theologians His collected works were published in 16 volumes (1851–60)

Baal (bā′ul), plural **Baalim** (bā′ulĭm) [Semitic, =possessor], name used throughout the Old Testament for the deity or deities of Canaan Baal is not the name of one god, but a name for the local presiding deity The local Baal could have his own name, as Melkart at Tyre and Baalzebub at Ekron The worship of Baal was characterized by fertility cults of orgiastic type, as shown in OT references to BAAL-PEOR and to the "high places," the sanctuaries of Baalim The strife between the worship of the God of Israel and the local cults combined ethical and national elements At first the Hebrews used the name Baal for their God without discrimination, but as the struggle between Canaanite polytheism and monotheism increased, the name Baal was discarded, hence the substitution of Ishbosheth for Esh-baal, of Jerubbesheth for Jerubbaal (a name of Gideon), and of Merib-baal for Mephibosheth. In the substituted term there is probably

a word meaning "shame" The final detestation of the term is seen in the use of the name Beelzebub (see SATAN), probably the same as Baalzebub 1 Kings 11.4–8, 2 Kings 1–2 The Baal of 1 Chron. 4 33 is probably the same as RAMAH 3 As cognates of Baal in other Semitic languages there are Bel (in BABYLONIAN RELIGION) and the last elements in the Tyrian names Jezebel, Hasdubal, and Hannibal

Baiah (bā'ŭlū) [Heb , fem of Baal] **1** The same as BILHAH 2 **2** The same as KIRJATH-JEARIM **3** Unidentified mountain, in the vicinity of Jamnia Joshua 15 11

Baalath (bā'ŭlăth) [Heb , fem of Baal] **1** Town of Dan Joshua 19 44 **2** Unidentified city 1 Kings 9 18, 2 Chron 8 6

Baalath-beer (-bē'ur) [Heb ,=Baalath of the well], apparently the same as RAMAH 3

Baalbek (bāl'bĕk), town, SW Syria, NW of Damascus It is important only for the ruins of a city great in ancient times It was devoted to the worship of Baal or Bel, the sun-god, and hence was called in Greek Heliopolis [city of the sun] It became very prominent in Roman days and was made a separate colony by Septimius Severus There are notable remains of temples, including a huge temple of Jupiter, begun under Antoninus Pius The city was repeatedly sacked by invaders and was destroyed by earthquake in 1759

Baal-berith (bā'ŭl-bē'rĭth) [Heb ,=Baal of the covenant], local god of Shechem Judges 8 33, 9 4 Beruth Judges 9 46

Baale (bā'ulē) [Heb , fem of Baal], the same as KIRJATH-JEARIM

Baal-gad (bā'ul-găd') [Heb ,=Baal of fortune], town, far N Palestine, possibly the later Caesarea Philippi Joshua 11 17, 12 7, 13 5

Baal-hamon (-hā'mŏn) [Heb ,=Baal of a multitude], location of Solomon's vineyard Cant 8 11

Baal-hanan (-hā'năn) [Heb ,=Baal is gracious] **1** King of Edom Gen 36 38,39, 1 Chron 1 49,50 **2** One of David's officers 1 Chron 27 28

Baal-hazor (-hā'zôr) [Heb ,=Baal of a village], place where Absalom ambushed Amnon 2 Sam 13 23 It was probably NNE of Bethel

Baal-hermon (-hur'mŏn) see HERMON, MOUNT

Baali (bā'ulī) [Heb ,=my Baal], title of God which is to be abandoned by Israel Hosea 2 16,17

Baalim (bā'ulĭm), plural of BAAL

Baalis (bā'ulĭs), king of the Ammonites contemporary with Jeremiah Jer 40 14

Baal-meon see BETH-BAAL-MEON

Baal-peor (bā'ul-pē'ôr) [Heb ,=BAAL OF PEOR] local divinity of Peor One of the apostasies of Israel involved this god, apparently the cult was orgiastic, and the name became symbolic of all shameful apostasies Num 25, Deut 4 3, Ps 106 28, Hosea 9 10 Peor Num 25 18, 31 16, Joshua 22 17 The god's name appears in BETH-PEOR Under the form Belphegor, the name became that of a devil in the Middle Ages, Machiavelli used it in his *Belfagor*

Baal-perazim (-pēr'ŭzĭm) [Heb ,=Baal of breakings], unidentified place where David defeated the Philistines 2 Sam 5 20, 1 Chron 14 11 Perizim of Isa 28 21 is probably the same

Baal-Schem-Tov (bul-shĕm'-tōv'), 1700–1760, Jewish founder of the modern HASIDIM, b Russia His original name was Israel ben Eliezer He lived and taught in Galicia Learned in Talmudic lore, he was in turn teacher of a heder (Hebrew school), worker in a clay pit, slaughterer, and keeper of a village tavern He spent much time living as a hermit in the woods where he learned the healing powers of various plants He prescribed herb remedies and prayers for the villagers and became known as Baal-Schem [the man with a reputation], pilgrims from distant places visited him because of his fame for performing miracles He believed in worshiping God joyously and led others to believe that man is nearest to God when he rejoices, not when he sorrows Baal-Schem-Tov also taught that the doors of repentance are always open so that one's occasional sins should not make him despair, and that learning is not necessary to gain favor with God—that the prayers of the unlettered, if they are happy, are as acceptable as those of the learned This new idea gave great comfort to the ignorant workers who had felt that God was inaccessible

Baal-shalisha (bā'ŭl-shāl'ĭshu), place perhaps in SHALISHA 2 Kings 4 42

Baal-tamar (-tā'mär) [Heb ,=Baal of a palm], unidentified place near Gibeah Judges 20 33

Baal-zebub (-zē'bŭb), god of Ekron see BAAL and SATAN

Baal-zephon (-zē'fŏn), place near the Israelites' crossing of the Red Sea Ex 14 2,9, Num 33 7

Baana or **Baanah** (both bā'unu) [Heb ,=son of affliction] **1** Murderer of Ish-bosheth 2 Sam 4 1–12 **2** Father of HELEB **3** Officer under Solomon 1 Kings 4 12 **4** Officer under Solomon 1 Kings 4 16 **5** One who returned with Zerubbabel, apparently the father of ZADOK **6** Ezra 2 2, Neh 7 7, 10 27

Baara (bā'ărŭ), wife of SHAHARAIM

Baaseiah (bā"ăsē'yŭ) [Heb ,=work of God], Levite 1 Chron. 6 40

Baasha (bā'ăshŭ), d c 886 B C , king of Israel (c 909–c 886 B C.). He made himself king by the murder of King Nadab and the royal family According to the Bible he was a wicked man· he fought against ASA of Judah, who won with the aid of Benhadad of Syria Baasha was succeeded by his son Elah 1 Kings 15 27–16 7, 2 Chron 16.

Bab, see BABISM

Babar see BABER

Babbage, Charles (băb'bĭj), 1792–1871, English mathematician and inventor He devoted most of his life and expended much of his private fortune as well as a government subsidy in an attempt to perfect a calculating machine which foreshadowed present-day machines He was a founder of the Royal Astronomical Society He wrote *Tables of Logarithms* (1827) and an autobiography (1864)

Babbitt, Irving, 1865–1933, American scholar, b Dayton, Ohio, grad Harvard, 1889 After study in Paris, he returned to Harvard in 1894 as instructor, becoming professor of French literature in 1912 He was a vigorous critic of romanticism, deprecating especially the influence of Rousseau on modern thought and art He advocated a humanism which was a violent doctrine of moderation and restraint looking to classical traditions and literature for inspiration. Babbitt's works include *Literature and the American College* (1908), *The New Laokoon* (1910), *The Masters of Modern French Criticism* (1912), and *On Being Creative* (1932) See F E McMahon, *The Humanism of Irving Babbitt* (1931), *Irving Babbitt* (ed by Frederick Manchester and Odell Shepard, 1941)

Babbitt, Isaac, 1799–1862, American inventor and manufacturer, b Taunton, Mass A goldsmith by trade, he was the first in the United States to manufacture (1824) ware of Britannia metal While superintendent of the South Boston Iron Works, he invented and patented (1839) a journal box and suggested lining the bearing surface for the journal or axle with a new alloy he had developed, later known as Babbitt metal

Babbitt metal, an ANTIFRICTION METAL alloy, first produced by Isaac Babbitt in 1839 Today the term is applied to a whole class of silver-white bearing metals or "white metals" which are used widely for machine bearings The alloy is composed of antimony, tin, zinc, arsenic, and copper combined in varying percentages

Babcock, Harold Delos, 1882 , American physicist, b Edgerton, Wis , grad Univ of California, 1907 From 1909 to 1948 he was on the staff at Mt Wilson Observatory in California He specialized in spectroscopy, working and writing on the Zeeman effect, standards of wave lengths, and other subjects in the field

Babcock, Stephen Moulton, 1843 1931, American agricultural chemist, b Bridgewater, Oneida co , N Y , grad Tufts College (B A , 1866), Ph D Univ of Göttingen, 1879 He was, from 1887 to 1913, professor of agricultural chemistry at the Univ of Wisconsin and chief chemist of the Wisconsin Agricultural Experiment Station He is known chiefly for the Babcock test (perfected in 1890) for determining the percentage of butterfat in milk The test advanced the modern dairy industry since it permits the rapid and accurate grading of milk at markets, discourages adulteration and thinning practices, and by making practical the testing of the milk of individual cows promotes the development of better dairy strains His experimental studies in the food requirements of animals paved the way for the work of E V McCollum on vitamin A The last two decades of his life were spent in basic researches upon the nature of matter and its relation to energy

Babel, Isaac Emmanuelovich (ē'sāk umanōōā'luvĭch bă'bul), 1894–, Russian short-story writer and playwright He won meteoric fame with *Odessa Tales* (1923-24), written in the Russo-Jewish jargon of his native city, and *Red Cavalry* (1926, Eng tr 1929), based on his experiences in Budenny's army and employing the race war slang of the Kuban Cossacks A brilliant and dramatic stylist, he turned to drama in *Sunset* (1928) and *Marya* (1935) and in the film-novel *Benya Krik* (1927, Eng tr , 1935), dealing with the exploits of an Odessa bandit His popularity has waned with the increasing proletarization of literature in Russia

Babel (bā'bĭl), in the Bible, Babylonian city where Noah's descendants (who spoke the same language) tried to build a tower to reach to heaven For this presumption their words were made incomprehensible Gen 11 1–9 Some see in this an etiological story on the diversity in speech and also a reminiscence of the ziggurats in Mesopotamia

Bab el Mandeb, see PERIM

Babenberg (bă'bŭnbĕrk), ruling house of Austria (976–1246) It possibly descended from, or succeeded, a powerful Franconian family of the 9th cent from whose castle the city of Bamberg probably took its name Emperor Otto II created Count Leopold of Babenberg margrave of the Eastern March (i e., Austria) Among Leopold's successors were LEOPOLD III, Leopold IV and Henry II, who were also dukes of Bavaria (1139–56), and Henry II, called Jasomirgott ("if God will") for his favorite phrase Henry II became the first duke of Austria In 1192 the Babenbergs inherited Styria. Duke Leopold V took part in the Third Crusade and later made RICHARD I of England a prisoner Leopold VI, called the Glorious, brought the house to its greatest power His son, Frederick II called the Quarrelsome, died childless in 1246, and Austria passed (1251) to OTTOCAR II of Bohemia, who married Frederick's sister

Baber, Babar, or **Babur** (all bă'bur) [Turki,=lion] popular name of Zahir-ud-din Mohammed, 1480–1530, founder of the Mogul empire of India A descendant of Tamerlane, he succeeded (1495) to a principality in central Asia His efforts during the next 20 years to wrest Transoxania (Tamerlane's original domain) from the Uzbeks succeeded only temporarily, but in 1504 he captured Kabul and established a kingdom in Afghanistan From there he invaded India in 1525 Though his force was small, he managed by using artillery to defeat the sultan of Delhi at Panipat in 1526 and to capture Agra and Delhi He finally conquered nearly all N India Baber, the conqueror, was also a distinguished musician and writer His autobiography (Eng tr by A S Beveridge, 1922) is his greatest work

Babeuf, François Noël (frāswä' nōĕl' bábŭf'), 1760–97, French revolutionist Of peasant origin, he spent his young manhood in service of the lay and clerical nobility and conceived a deep hatred for privilege of all sorts An enthusiastic supporter of the French Revolution from the start, he went to Paris only in 1794 After Robespierre had fallen and the Thermidorian reaction had begun, Babeuf founded his journal, the *Journal de la liberté de la presse* (later the *Tribun du peuple*), and argued that the Revolution in establishing only political equality had not gone far enough He was promptly arrested, but emerged from prison a more violent enemy of economic injustice than he was before Calling himself Gracchus Babeuf, he organized an egalitarian group, with the members drawn mostly from the ranks of common soldiers and Parisian workingmen, and announced a program of economic equality and communism—the suppression of private property, the establishment of a common administration, the right of all men to work and to share in the products of the economy Such radical ideas did not please the Directory, Babeuf's journal was halted, and his organization was banned The result was a plot by a secret society (organized on what was later called the cell system) to overthrow the government by force, this is called the Conspiracy of the Equals It was betrayed to the government, and after a long trial Babeuf was executed Thus ended what is generally considered the last stage of the French Revolution Babeuf's doctrines, however—Babouvism—were kept alive, largely by secret revolutionary societies, and reappeared especially in the Revolution of 1848 and in the Commune of Paris in 1871 A practical socialist, Babeuf was a forerunner of Karl Marx

babies'-breath see BABY'S-BREATH

Babine Mountains (bubēn', bă'bēn), minor chain central British Columbia between the Bulkley river and Babine river and lake

Babinet, Jacques (zhak' babēnā'), 1794–1872, French physicist and astronomer He became a professor at the College de France in 1838 He invented a polariscope and a goniometer (an instrument for measuring angles of crystals) and improved the air pump and the hygrometer His writings include popular works on science, an atlas, textbooks of geography and geometry, and *Études et lectures sur les sciences d'observation* (8 vols , 1855–68)

Babington, Anthony (bă'bĭngtun), 1561–86, English conspirator Once a page to MARY QUEEN OF SCOTS, he was among the Catholic nobles who harbored such Jesuits as Edmund Campion In 1586 he was accused of having plotted to murder Queen Elizabeth, to free Mary, and to make England a Catholic realm The proof which caused his execution was used to convince Elizabeth that it was necessary to behead Mary See A G Smith, *The Babington Plot* (1936)

Babism (bă'bĭzm), system of doctrines of a Mohammedan sect of 19th-century Persia In 1843 Mirza Ali Mohammed of Shiraz claimed to be a prophet, assuming the title of Bab ed-Din [gate of faith] By his teachings and criticisms he aroused such hostility that he was jailed As the successor of Moses, Christ, and Mohammed, he announced himself to be the point into which all earlier dispensations were gathered up Each revelation had been adapted to man's progress, and truth had been given in the form man was prepared to receive Babism took its beliefs especially from Sufism and Gnosticism and Shiite Islam Upon the accession of a new shah in 1848, the Bab's followers, rising in insurrection, were defeated Many of the leaders were killed, and the Bab was executed at Tabriz in 1850 Two years later, after an attempt had been made on the life of the shah, there were more persecutions In 1863 the Babists were removed to Constantinople and later to Adrianople and Cyprus After 1868 a division had its center in Acre under the leadership of BAHA ULLAH, the originator of Bahaism, which has supplanted Babism See E G Browne, ed and tr , *A Traveller's Narrative Written to Illustrate the Episode of the Báb* (1891).

Babits, Michael (bŏ'bĭch), Hung. *Babits Mihály* (mĭ'hī), 1883–1941, Hungarian writer Retiring from public school teaching in 1917, he became editor (1919–41) of the literary weekly *Nyugat* In his novels of the disillusioned post-war society, he appeals repeatedly for the establishment of a peaceful world He translated Dante, Shakspere, and Baudelaire into Hungarian and wrote a history of European literature (1934–35)

Babol (bäbōl') city (pop c 34,790), N Iran, NE of Teheran and near the Caspian Sea, in former Mazanderan prov The climate is warm and humid in the summer but very pleasant in winter It exports cotton, silk, and rice and was once the chief trading center of N Iran There are ruins of a palace of Abbas I The city was formerly Barfrush

baboon, large, chiefly terrestrial monkey of Africa and Arabia The face is doglike, the canine teeth large, the limbs powerful, and the tail is of medium length and carried in an arch Baboons travel in packs They eat scorpions, insects, and other animals as well as plant food Most true baboons are yellowish or brown The hamadryas or sacred baboon of E Africa and Arabia is gray, with a mantle of long hair and pink callosities The MANDRILL and chacma are large baboons

Babrius (bā'brēŭs), fl 2d or 3d cent ?, Greek fabulist, versifier of the fables of AESOP Many of the medieval prose collections of Aesop were based on Babrius

Babson, Roger Ward, 1875–, American statistician, b Gloucester, Mass , grad Massachusetts Institute of Technology, 1898 In 1904 he founded the Babson Statistical Organization, Inc , whose business and financial statistics, published in Babson's Reports, Inc , are widely sold in the United States, England, and Canada Babson Institute, in Babson Park, a suburb of Boston, was founded (1919) by him to train business executives, in 1927 he founded Webber College, in Boston, to give training in business and finance to women He is the author of many books on finance and investment, among the best known of which are *Business Barometers* (1909, 3d ed., 1945), *Investment Fundamentals* (1930, 4th ed , 1948), and *If Inflation Comes* (1937) See his autobiography, *Actions and Reactions* (1935, rev ed , 1949)

Babur: see BABER.

baby. see INFANT

Babylon (bă'bĭlŭn), ancient city of Mesopotamia, center of the empire of BABYLONIA It was on the Euphrates and was north of the cities that flourished in S Mesopotamia in the 3d millennium B C It was not until HAMMURABI made it the capital of his kingdom of Babylonia that it took on great importance Its city-god, Marduk (identical with Bel), became a leading god of the Near East, and the city became wealthy from commerce It was destroyed by the Assyrians under SENNACHERIB, and its real splendor belongs to the later period of Babylonia after the city was rebuilt, the brilliant color and luxury of Babylon became legendary from the days of Nebuchadnezzar (d 562 B C) The Hanging Gardens were one of the SEVEN WONDERS OF THE WORLD The walls of Babylon, its brick-built palace, and its towered temples were adorned with color, and the city had a name among the Hebrews (who suffered the CAPTIVITY under Nebuchadnezzar) and the later Greeks for abandoned pleasure Under the rule of Nabonidus the city was captured by the Persians under Cyrus the Great in 538 B C , and its glory ended After the conquest of Alexander the Great, its trade and population were largely taken to SELEUCIA.

Babylon, residential and resort village (pop 4,742), on S Long Island, SE N Y , on Great South Bay, inc 1893

Babylonia (bă'bĭlō'nēŭ), ancient empire of Mesopotamia. The name is sometimes given to the whole civilisation of S Mesopotamia, including the states established by the city rulers of Lagash, Akkad (or Agade), Erech, and Ur in the 3d millennium B C Usually it is limited to the civilization of the valley after the fall of SUMER and the rise of the Semitic states with the triumph of Sargon In its narrowest sense it applies only to the state built (c 2100 B C.) by HAMMURABI, with the city of Babylon as its capital One of the greatest of ancient rulers, Hammurabi issued a celebrated code of laws for the management of his large empire—for he controlled most of the Tigris and Euphrates region even before defeating the Elamites He established the Babylonian civilization Babylonian CUNEIFORM writing (derived from the Sumerians), the division of the quasi-feudal society into classes (the wealthy landowners and merchants and the priests, the less wealthy merchants, peasants, and artisans, and the slaves), and Babylonian religion with its hilltop temples (see ZIGGURAT) and the gods and customs inherited from the older Sumerian culture—all these were to influence the civilization of ASSYRIA and so contribute magnificently to all the later history of the Near East and of Western Europe The wealth of Babylonia, based on the farms irrigated by well-controlled canals and on a vast commerce, tempted nomadic and seminomadic neighbors, even under Hammurabi's successor Babylonia was having to stave off assaults. Early in the 18th cent. B C the Hittites captured Babylon and held it briefly The nomadic Cassites or Kassites took the city c 1746 B C and held it precariously for centuries Babylonia was in a decline, which degenerated to anarchy c 580 B C with the fall of the Cassites There were constant wars and conquests until the growingly powerful kings of Assyria asserted their authority As a subsidiary state of the Assyrian Empire, Babylonia once more flourished So important did it become that it was a key area in the attempted uprising against the Assyrian king, Sennacherib (reign 705–687 B C), and Babylon was sacked (c 689 B C.). Again the brother of the last great Assyrian monarch, Assur-bani-pal, tried to use his governorship of Babylonia to form a coalition against the empire After Assur-bani-pal's death (626? B C), the ruler of Babylonia, Nabopolassar, established (625) his independence He allied himself with the Medes and Persians and helped to bring about the capture of Nineveh and the fall of the Assyrian Empire He established what is generally known as the Chaldaean or New Babylonian Empire Under his son, NEBUCHADNEZZAR, the new empire reached its height Babylon was rebuilt with its famous walls and even more famous terraced gardens (the Hanging Gardens) The brick palace with its brilliant tiles and the other colored buildings gave the city a barbaric splendor that was never forgotten The recalcitrant Hebrews were defeated and punished with the Babylonian captivity Egypt had already been defeated by Nebuchadnezzar in the great battle of Carchemish (605 B C) while Nabopolassar was still alive The empire seemed secure, but it was actually transitory The steady growth of Persian power spelled the end of Babylonia, and in 538 B C the last of the Babylonian rulers surrendered to CYRUS THE GREAT (see also BELSHAZZAR) Babylonia became an unimportant region of the Persian Empire See Morris Jastrow, *The Civilization of Babylonia and Assyria* (1915), R W Rogers, *A History of Babylonia and Assyria* (6th ed , 1915), L W King, *A History of Babylon* (1915), H R Hall, *The Ancient History of the Near East* (8th ed , 1932)

Babylonian captivity see CAPTIVITY and PAPACY

Babylonian religion. The religion of the whole Tigris-Euphrates valley was really one The numerous local gods of the various cities and the mythical legends were taken by other cities Usually some attempt was made to place the particular god of the dominant city at the head of the hierarchy of gods Thus when Babylon was paramount, the special god of Babylon, Marduk, was the king of the gods throughout the Babylonian Empire He was more or less like the god of ASSYRIA, Ashur, who was paramount in the Assyrian days Marduk (also called Amil Marduk) was identical with Bel or BAAL, and he was joined in mythology with the other divinities of the Near East, particularly with the mother goddess, ISHTAR, and with TAMMUZ In well-developed Babylonian mythology Marduk appears as the son of Ea, the god of water and of rain, and was the father of Nebo or Nabu, god of learning and science, who invented writing (he is sometimes also called Borsippa from the seat of his temple near Babylon) An elaborate, but not entirely clear, hierarchy of gods was established and included such gods as Anu (a sky-god), Nergal (god of midsummer and death), and Shamash (a sun-god, who was overshadowed by Marduk, god of light) Notable in Babylonian religion also was the hierarchy of priests, many of the cities were actually ruled by the priests The mythology developed by Babylonia and further elaborated in Assyria was rich and constituted the main bulk of Babylonian and Assyrian literature, which was made permanent in cuneiform writing on clay tablets It included stories of the creation of the world, of the flood that overtook the whole world, of the journey of Ishtar in the underworld, and of the adventures of the great hero, GILGAMESH Just as Assyrian literature and mythology borrowed from Babylon, so Babylon was deeply indebted to Sumerian culture for its religion Prayers were recited in the sacred language, Sumerian, and the temples of the gods (see ZIGGURAT) were made after a pattern familiar to the Sumerians The great towers of later Babylonian temples (suggesting the tower of BABEL) were probably reminiscent of the Sumerian worship of gods of the mountains or high places See Morris Jastrow, *Aspects of Religious Belief and Practice in Babylonia and Assyria* (1911)

baby's-breath or **babies'-breath,** name used commonly for *Gypsophila paniculata* and for some other species of *Gypsophila* The common species is a perennial native to Europe and Asia but established in parts of North America where it has escaped from cultivation. Growing to a height of about 2 or 3 ft., the plant has a bushy but delicate appearance, the much-branched slender stems bear panicles of small white flowers. (Some species have pink flowers) The lanceolate leaves are about 4 in long near the base of the plant and smaller on the flowering stems The plant is grown in greenhouses for use in mixed bouquets and in gardens to fill in bare places and to give a softening effect. Also sometimes called baby's-breath are white bedstraw (*Galium mollugo*) and grape hyacinth (*Muscari*)

Baca (bā'kŭ) [Heb. = weeping], allegorical name of a valley, translated by RV "valley of weeping." The English expression "vale (or valley) of tears" may be a translation of this, through the Vulgate Ps 84 6

Bacau (bäkŏ'), city (pop 34,461), E central Rumania, in Moldavia, on the Bistrita river. It is a commercial center

baccarat (bă'kŭrä, bäkŭrä'), card game introduced into France from Italy in the late 15th cent The game is played by a "banker" and two or more "punters," and the object is to obtain cards whose total value is nearest 8 or 9 with 10's and picture cards counting nothing Two cards are dealt to a hand, with the privilege of a one-card draw

Bacchae (bă'kē) or **Bacchantes** (bŭkăn'tēz, bŭkănts', bă'kŭnts), in Greek and Roman religion, female worshipers of DIONYSUS or BACCHUS They were remarkable for their frenzied ecstasy, and they gathered in bands for their secret worship of the wine god—a worship that involved the thyrsus, the myrtle, and sweet wild music The *Bacchae* of Euripides, which is supposed to represent truly the women in their frenzy, tells of the vengeance wreaked on PENTHEUS Orpheus is also supposed to have been slain by maddened Bacchae The women worshipers were also called Maenads

Bacchanalia (bă'kŭnā'lēŭ) [Latin], in Roman religion, festival in honor of Bacchus, god of wine It was originally a religious ceremony, like the LIBERALIA and the Greek DIONYSIA, but it became a drunken orgy and at last was forbidden by law

Bacchantes see BACCHAE

Bacchelli, Riccardo (rēk-kär'dō bäk-kĕl'lē), 1891–, Italian novelist He had been writing for many years somewhat ponderous and mannered novels when he won a degree of popularity with *Il diavolo al Pontelungo* (1927, Eng tr , *The Devil at the Long Bridge*, 1929) Also in English is *La città degli amanti* (1929, Eng tr , *Love Town*, 1930)

Bacchides (bă'kĭdēz), fl. 160 B.C. governor of Mesopotamia He was sent by Demetrius I of Syria to install Alcimus as priest at Jerusalem, and he was opposed by the Maccabees

Bacchus (bă'kŭs), in Greek and Roman mythology, god of wine, identified with Dionysus He was also a god of vegetation and fertility, and his worship was orgiastic He was the protector of vines Many legends connected with Dionysus were originally those of Bacchus

Bacchylides (băkĭ'lĭdēz), fl c 470 B C , Greek lyric poet, b Ceos, nephew of Simonides of Ceos A contemporary of Pindar, he was patronized by Hiero I His choral lyrics were correct and elegant A number of epinicia and dithyrambs were among the verses fortunately recovered from an Egyptian papyrus (text published by F G Kenyon, *The Poems of Bacchylides*, 1897) See R C Jebb, *Bacchylides the Poems and Fragments* (1905)

Bach (bakh), German family whose members were the outstanding musicians of the cities of Thuringia for seven generations **Hans Bach** (hans) c 1580–1626, a carpet weaver by trade, played the violin at Thuringian festivals and was known as the Player His three sons, **Johannes Bach** (yōhăn'ŭs), 1604–73, **Heinrich Bach** (hīn'rĭkh), 1615–92, and **Christoph Bach** (krīs'tŏf), 1631–61, were all organists in Thuringian cities The descendants of Johannes have been traced into the late 19th cent The most distinguished of this line was **Johann Bernhard Bach** (yō'hän bĕrn'härt), 1676–1749, organist at Erfurt and later at Eisenach His compositions were performed at Leipzig by J S Bach Two of Heinrich's sons were outstanding composers —**Johann Christoph Bach**, 1642–1703, organist at Eisenach, and **Johann Michael Bach** (mĭkh'ä'ĕl), 1648–94, organist at Gehren, instrument maker, and father of Maria Barbara, who became the wife of Johann Sebastian Bach (see separate article) Among the sons of Christoph were identical twins **Johann Christoph Bach**, 1645–94, whose family line survives in this century, was a violinist and a court musician at Arnstadt, **Johann Ambrosius Bach** (ämbrō'zēōōs), 1645–95, was a violinist, town musician at Eisenach, and father of J S Bach. His eldest son, **Johann Christoph Bach**, 1671–1721, was a pupil of the organist Johann Pachelbel He was organist at Ohrdruf when his parents died, and he took into his home his youngest brother, Johann Sebastian, whom he then taught Of Johann Sebastian's sons, three are noteworthy **Wilhelm Friedemann Bach** (vĭl'hĕlm frē'dŭmän), 1710–84, the eldest, became organist at the Sophienkirche, Dresden, in 1733 and was organist and musical director at the Liebfrauenkirche, Halle, from 1747 to 1764. He had a brilliant reputation for his organ playing, and some of his compositions remain He perhaps had the greatest talent in his family, but his dissolute life prevented his fulfilling his father's hopes for him. **Carl Philipp Emmanuel Bach** (fē'lĭp ämä'nōōĕl), 1714–88, was cembalist at the court of Frederick the Great from 1738 to 1767 and succeeded his godfather, Georg Philipp Telemann, as musical director at Hamburg. He wrote the first systematic treatise on clavier playing and

brought order to the sonata form in his two volumes of sonatas (1642–43). He composed also cantatas, oratorios, symphonies, and Passion music

Johann Christian Bach (krĭs'tyän), 1735–82, went to Italy in 1758 There he became a Roman Catholic, composed Masses and other church music and operas and in 1760 became organist of the Milan Cathedral. In 1762 he went to London, where his operas and his sonatas and concertos for clavier were eminently successful See biography by C S Terry (1929)

Wilhelm Friedrich Ernst Bach (frē'drĭkh ĕrnst'), 1759–1845, became an accomplished and successful pianist He was the last male descendant of J S Bach

Bach, Alexander, 1813–93, Austrian statesman A well-known lawyer and liberal, he took part in the Revolution of 1848 in Vienna, but after its suppression he joined the forces of reaction He became minister of justice (1848) and of the interior (1849–59), and after the death (1852) of Prince Schwarzenberg was the chief figure in the ministry He was created baron in 1854 Bach instituted the **Bach system** of bureaucratic control of the Hapsburg lands Centralization and Germanization were its chief aims, stringent control by secret police was the method of enforcing them This program was accompanied, however, by measures promoting economic prosperity, notably the abolition of internal tariff barriers, and by agricultural reforms implementing the emancipation of the serfs To the Roman Catholic Church the Concordat of 1855 gave wide powers The Bach system met with opposition, especially in Hungary, and after the Austrian defeat in the Italian War of 1859 its author was dismissed

Bach, Johann Sebastian (sābas'tyän), 1685–1750, German composer, b Eisenach His early teachers were his father, Johann Ambrosius Bach, his brother Johann Christoph, and, possibly, the organist Georg Böhm during Bach's days as a boy soprano at Lüneberg His education was acquired largely through independent studies, he had an insatiable curiosity toward the works of other composers His journeys afoot to hear the organ playing of Johann Adam Reinken at Hamburg and of Buxtehude at Lübeck are famous In 1703 he became violinist in the private orchestra of the prince at Weimar, leaving later the same year to become organist at Arnstadt He went to Mühlhausen as organist in 1707 and there married his cousin Maria Barbara Bach, who bore him seven children In 1708 he became court organist and chamber musician at Weimar, and in 1714 he was made musical director Prince Leopold of Anhalt engaged him as musical director at Cothen (1717) In 1720 his wife died, and he married (1721) Anna Magdalena Wülken, who bore him 13 children In 1723 he assumed the position of cantor at St. Thomas's, Leipzig, where he remained until his death Since few of Bach's works were published during his lifetime, exact dates cannot be fixed for all of them, but most of them can be placed in their proper periods At Arnstadt and Mühlhausen he began the series of organ compositions which culminated in the great works of the Weimar period—the Passacaglia and Fugue in C Minor, most of the great preludes and fugues, and the 45 chorale-preludes of *Das Orgelbuchlein* At Cothen, having neither organ nor choir at his disposal, he produced instrumental compositions, including clavier works—the Chromatic Fantasy and Fugue, the Six English Suites, the Six French Suites, the Two-Part and Three-Part Inventions, composed for the education of his son Wilhelm Friedemann, and *The Well-tempered Clavier*, Book I—the unaccompanied violin sonatas, and the Brandenburg concertos At Leipzig the St John Passion (1723) was performed while Bach was a candidate for the position there, the Magnificat was performed shortly after he assumed the post The St Matthew Passion (1729), the Christmas Oratorio, the Mass in B Minor, and the six motets followed The principal clavier works of this period were *The Well-tempered Clavier*, Book II, and the four books of the *Clavierübung* (1) the Six Partitas (1726–31), (2) the Italian Concerto and the Partita in B Minor (1735), (3) four duets, the Catechism Preludes, and the Prelude and Fugue ("St Anne") in E Flat (1739), and (4) the Aria with Thirty Variations, known as the Goldberg Variations (1742) The Musical Offering for Frederick the Great was composed in 1747 His last work was *The Art of the Fugue* (1749) In all his positions as choir director, Bach composed sacred cantatas—some 300, of which nearly 200 are extant There are also over 30 secular cantatas, composed at Leipzig, among them *Phoebus and Pan* (1731). Bach must be regarded primarily, however, as a church composer He made four-part settings of 371 Lutheran chorales, also using many of them as the bases of organ preludes and choral works Fugues are to be found in the motets and larger choral works as well as in his keyboard and instrumental compositions Bach represents the consummation of the fugue form The outstanding study of his life and music is by Albert Schweitzer (Eng tr., 1911) See also biography by C. S. Terry (1928), studies by Philipp Spitta (1899), J. N Forkel (Eng tr., 1920), Andre Pirro (Eng. tr., 1920), C. H. H. Parry (rev. ed., 1934), and A E. F. Dickinson (1936), H. T David and Arthur Mendel, *The Bach Reader* (1945)

Bach Choir, name of choral organizations producing the music of J S Bach. The Bach Choir of London was organized in 1875 under Otto Goldschmidt's direction The Bach Choir of Bethlehem, Pa., founded in 1900 by Ruth Porter Doster and J F Wolle, suspended its annual festivals in 1905, but resumed them in 1912 Bruce Carey was conductor, 1933–38, and was succeeded by Ifor Jones See Raymond Walters, *The Bethlehem Bach Choir* (1923)

Bache, Alexander Dallas (bāch), 1806–67, American educator and physicist, b. Philadelphia, grad West Point, 1825; great-grandson of Benjamin Franklin He was professor of natural philosophy at the Univ of Pennsylvania (1828–36, 1842–43) As president-elect (1836–40) of Girard College, he studied (1836–38) educational methods in Europe and produced the influential *Report on Education in Europe* (1839) As first principal (1839–42) of the Central High School of Philadelphia, he influenced the development of a system of free education in the public schools of Philadelphia He established (1839) at Girard College the first magnetic observatory in North America From 1843 he was superintendent of weights and measures of the United States and of the U S Coast Survey, which he largely reorganized He was an active member of the Franklin Institute, a regent of the Smithsonian Institution (1846–67), president of the American Association for the Advancement of Science (1850–51) and of the American Philosophical Society (1855–57), and a founder and first president (1863–67) of the National Academy of Sciences See biography by M M. Odgers (1947)

Bache, Benjamin Franklin, 1769–98, American journalist, b Philadelphia, son of Richard Bache and grandson of Benjamin Franklin In 1790 he founded the Philadelphia *General Advertiser* (later the *Aurora*) As the champion of the Jeffersonians, Bache's paper denounced the Federalists roundly, and he was arrested under the Sedition Act (see ALIEN AND SEDITION ACTS) but was released on parole He died soon afterward of yellow fever

Bache, Franklin, 1792–1864, American physician and chemist, b Philadelphia, grad Univ of Pennsylvania (B A , 1810, M D , 1814), son of Benjamin Franklin Bache He taught at the Franklin Institute (1826–32) and was professor of chemistry at the Philadelphia College of Pharmacy (1831–41) and at Jefferson Medical College (from 1841) With George B Wood he prepared the first 11 editions of *The Dispensatory of the United States* (1st ed , 1833)

Bache, Jules Semon, 1861–1944, American financier and art collector, b New York city He made an immense fortune in Wall St , organized the banking firm of J S Bache and Company, and was director of 12 other firms In 1937 he opened his magnificent art collection to the public, and in 1944 the collection was given permanently to the Metropolitan Museum It includes famous works by Raphael, Titian, Rembrandt, Velázquez, and other masters

Bache, Richard, 1737–1811, American merchant, b Yorkshire, England He came to New York city in 1765 to join an older brother, Theophylact, in the mercantile business but soon moved to Philadelphia in the interest of the firm, which had built up a large West Indian trade In 1767 he married Sarah, daughter of Benjamin Franklin He was a patriot in the American Revolution and served on many committees, including the Board of War He succeeded Franklin as Postmaster General in 1776 and held office until 1782 His wife (1744–1808) is noted for her great activity in the Revolution in collecting food and clothing for the soldiers

Bacheller, Irving, 1859–1950, American novelist, b Pierrepont, N Y , grad St Lawrence Univ , 1882 A newspaperman, he founded in 1884 one of the first newspaper syndicates in the United States Of his many novels, especially popular were *Eben Holden* (1900), the historical romance *D'ri and I* (1901), and *Keeping Up with Lizzie* (1911) His two autobiographical works, *Coming up the Road Memories of a North Country Boyhood* (1928) and *From Stores of Memory* (1938), give a good picture of American rural life of the period

bachelor's-button, popular name for several plants usually characterized by rounded flowers, such as the CORNFLOWER and GLOBE AMARANTH

Bache Peninsula (bāch), on Ellesmere Island, in the Arctic Archipelago off N Canada From 1926 to 1933 the Royal Canadian Mounted Police had here a post that was the most northerly in the world, within 800 mi of the North Pole

Bacher, Otto Henry (bā'kûr), 1856–1909, American etcher, illustrator, and painter, b Cleveland He illustrated for *Century* and *Harper's* and executed many etchings, including his "Danube" series. He was considered one of the best pen-and-ink artists of his time. He wrote *With Whistler in Venice* (1908)

Bachman, John (bāk'–), 1790–1874, American naturalist, b Rhinebeck, N Y From 1815 he was pastor of a Lutheran church in Charleston, S C , and there studied and collected animals of the South. He collaborated with his friend J J Audubon on *The Viviparous Quadrupeds of North America* (plates, 30 parts, 1842–45; text, 3 vols , 1846–54)

Bachrites (bāk'rīts), descendants of BECHER 2.

Bach system see BACH, ALEXANDER

Baciccio, Il: see GAULLI, GIOVANNI BATTISTA.

bacillus: see BACTERIA

Back, Sir George, 1796–1878, British explorer in N Canada He accompanied Sir John Franklin on arctic expeditions in 1818, 1819–22, and 1824–27 On an expedition (1833–35) of his own, Back explored the Great Fish river (now Back river) in the present Northwest Territories His narrative of the voyage appeared in 1836 On another journey (1836–37) he explored the arctic coast of Canada

Back, river of the Mackenzie and Keewatin dists , Northwest Territories It flows northerly for 605 mi through the barren grounds to the Arctic Ocean It was named for Sir George Back

backache. Low back pain has many causes injuries to the ligaments and muscles of the lumbar spine and pelvis, due to trauma or mechanical strain, bony anomalies of the vertebrae, acquired lesions of the bones of the back caused by tuberculosis, poliomyelitis, and chronic arthritis, lesions of the nervous system such as meningitis or tumors of the spinal cord Rupture of an intervertebral disk or flat feet may also result in low back pain Disorders of the uterus and infections of the bladder may cause pain which is referred to the back. See also LUMBAGO

backbone. see SPINAL COLUMN

Backbone Mountain, peak, 3,360 ft high, NW Md., in the Alleghenies, highest elevation in the state

backgammon (bāk'gă"mun, bāk'gă'mun), game of chance and skill played by two persons upon a specially marked board divided into two tables, each of which has 12 alternately colored points or spaces. The moves permitted each player are dictated by the throws of dice, and the object is to remove one's 15 pieces, or disks, from the board first according to the rules The game was played by the ancients, a backgammon board with dice and pieces was found in Babylonian excavations Backgammon was also played in Greece and Rome, and after the 10th cent A D it became popular in Europe In England the game was known as "tables" Parcheesi, which probably originated in India, is a form of backgammon and permits four players in the game See W H Walling and W J Hiss, *Backgammon Standards* (1931), R L Frey, ed, *The New Complete Hoyle* (1947)

Backhuysen or **Bakhuyzen, Ludolf** (lōō'dôlf bak'hīzun), 1631–1708, Dutch marine painter In later years he also did some etching and engraving of marine views He is said to have instructed Peter the Great in drawing

Backus, Isaac, 1724–1806, American clergyman, leader among New England Baptists and a champion of religious freedom, b Norwich, Conn Converted in the Great Awakening, he joined the separatists or "New Light" faction He became pastor in 1748 of a Congregational church in Middleboro, Mass , after his conversion to the Baptist faith, he organized and became minister of a Baptist church there, which he served from 1756 until his death According to his calculations, Backus traveled over 68,000 mi on his evangelistic tours, mostly on horseback His *History of New England with Particular Reference to the Baptists* (3 vols., 1777–96) is a major source for the religious history of the region and the period

Bacon, Anthony, 1558–1601, English diplomat, elder brother of Francis Bacon He was a foreign agent (1579–92) for Lord Burghley and undertook the same service for the earl of Essex in 1593 He was a member of Parliament in 1593 and 1597. He was loyal to Essex, and the execution of Essex seems to have hastened Bacon's death

Bacon, Delia Salter, 1811–59, American author, b Tallmadge, Ohio, sister of Leonard Bacon After literary and lecture work, she became convinced that Shakspere's plays were written by a group of whom Francis Bacon, Sir Walter Ralegh, and Edmund Spenser were the chief figures She wrote *The Philosophy of the Plays of Shakespeare Unfolded* (1857) See Theodore Bacon, *Delia Bacon* (1888).

Bacon, Francis, 1561–1626, English philosopher and statesman He was the son of Sir Nicholas Bacon, lord keeper to Queen Elizabeth Educated at Cambridge and Gray's Inn, he became a member of Parliament in 1584 His opposition to Elizabeth's tax program retarded his political advancement, and only because of the efforts of the earl of Essex did Elizabeth accept Bacon as an unofficial member of her Learned Council At Essex's trial Bacon put duty to the state above friendship and assumed an active part in the prosecution—a course for which many have condemned him With the succession of James I, Bacon's fortunes improved He became knight in 1603, attorney general in 1613, lord keeper in 1617, and lord chancellor in 1621, he was created Baron Verulam of Verulam in 1618 and Viscount St Albans in 1621 In 1621, accused of accepting bribes as lord chancellor, he pleaded guilty and was fined £40,000, banished from the court, disqualified from holding office, and sentenced to the Tower The banishment, fine, and

imprisonment were remitted He spent the rest of his life writing in retirement Bacon belongs to both philosophy and literature He projected a large philosophical work, the *Instauratio Magna*, but completed only two parts, *The Advancement of Learning* (1605), later expanded in Latin as *De dignitate et augmentis scientarum* (1623), and the *Novum Organum* (1620) His *Historia Naturalis et Experimentalis* (1622) is the beginning of the third part of the *Instauratio Magna* Bacon's contribution to philosophy was his formulation and introduction of the inductive method of modern science as opposed to the a priori method of SCHOLASTICISM He insisted upon the principle of exclusion, and he urged full investigation in all cases, for he avoided theories based on insufficient data Despite the fact that he made no discoveries himself, Bacon exerted a tremendous influence on the experimental science of his own country Macaulay and his followers tended to belittle Bacon's scientific writings, but present-day scientists have restored them to a respectable position *The New Atlantis* (1627) is a scientific utopia which found partial fulfillment with the organization of the Royal Society in 1660 The *Essays* (1597) are his best-known writings, and they hold a place in literature for their shrewdness and wisdom and for an epigrammatic style of remarkable concentration and pungency See his works (ed by James Spedding, R L Ellis, and D D Heath, 7 vols , 1857–59), *Letters and Life* (ed by James Spedding, 7 vols , 1861–74), G W Steeves, *Francis Bacon* (1910), Benjamin Farrington, *Francis Bacon, Philosopher of Industrial Science* (1950)

Bacon, Frank, 1864–1922, American actor-manager, b Marysville, Calif He played (1918–21) in *Lightnin'*, written by him with Winchell Smith

Bacon, Henry, 1866–1924, American architect, b Watseka, Ill His professional career was begun in the offices of McKim, Mead, and White, but after 1903 he practiced independently Among the important structures designed by him are the Lincoln Memorial, Washington, the public library, Paterson, N J , the Waterbury (Conn) General Hospital, the Lincoln monument, Lincoln, Nebr , the World War Memorial, Yale Univ , and the monument to Charles Parnell in Dublin, Ireland In 1923 he was awarded the gold medal of the American Institute of Architects

Bacon or Baconthorpe, John, d 1346, English scholastic philosopher, grandnephew of Roger Bacon He was a Carmelite and served (1329–33) as provincial of that order in England Several of his numerous commentaries were long used as theological texts He was most famous for his defense of the doctrines of Averroës

Bacon, John, 1740–99, English sculptor He is best known for his monuments (e g , that of Lord Chatham at Westminster Abbey) and for his portrait busts, which include George III (Christ Church, Oxford) and the Marquess Wellesley and Thomas Gray (both National Portrait Gall , London)

Bacon, Josephine Dodge Daskam, 1876–, American author, b Stamford, Conn Known first for her humorous stories about children—*The Madness of Philip* (1902), *Memoirs of a Baby* (1904)—she has written novels and books for girls She was also largely responsible for the Girl Scout magazine, *The American Girl*, from 1918 to 1923

Bacon, Leonard, 1802–81, American Congregational minister, b Detroit, Mich , grad Yale, 1820, and studied at Andover Theological Seminary He served for 41 years as pastor of the First Church of New Haven, one of the leading Congregational churches in the country Bacon was a noted anti-slavery leader, although not an abolitionist His *Slavery Discussed in Occasional Essays* (1846) made a great impression upon Lincoln He was a founder and editor of the *Independent* and author of the widely known *Pilgrim Hymn* (1833) and *The Genesis of the New England Churches* (1874) See T D. Bacon, *Leonard Bacon, a Statesman in the Church* (1931)

Bacon, Nathaniel, 1647–76, leader of BACON'S REBELLION in colonial Virginia. An aristocrat born and bred (he was kin to Francis Bacon, had been educated at Cambridge and Gray's Inn, and was a member of the governor's council), Bacon nevertheless became the champion of the oppressed yeomen When he died suddenly from the effects of malaria, the revolt collapsed

Bacon, Sir Nicholas, 1509–79, English statesman By his second wife his sons were Anthony and Francis Bacon. This wife, Jane Cooke, was the sister of the wife of William Cecil, later Lord Burghley, and through this connection Bacon was appointed lord keeper of the great seal (1558) under Queen Elizabeth Although a Roman Catholic himself, he regarded the Catholic Mary Queen of Scots as a menace to English peace and opposed any leniency suggested for her

Bacon, Peggy, 1895–, American illustrator, caricaturist, and etcher, b Ridgefield, Conn She studied under many of the important American artists of her day and traveled widely In 1920 she married the painter Alexander Brook, from whom she was divorced in 1940. Her illustrations for George Ade, Sandburg, and Louis Untermeyer and for her own poems and her stories for children are noteworthy She is perhaps best known for her brilliant satirical etchings and dry points which have been much reproduced and are to be seen in many important galleries and private collections *Socialist Meeting* (Metropolitan Mus) is characteristic Among her published works are *Off with Their Heads* (1934) and *Cat-Calls* (1935), a volume of light verse

Bacon, Roger, c 1214–1294?, English scholastic philosopher and scientist, a Franciscan, called the Admirable Doctor He studied at Oxford and the Univ of Paris and became one of the most celebrated teachers at Oxford Friar Bacon was not only an eager student but a zealous teacher, somewhat inclined to be overly abusive of contemporary thinkers He was learned in Hebrew and in Greek and stressed the value of knowing the original languages in the study of Aristotle and of the Bible He may possibly have known Arabic since he was acquainted with Arabian Aristotelianism, and his own philosophy drew upon the Arabs as well as upon St Augustine In modern times he has been considered of particular interest because of his interest in natural science, in experiments, and in observation of phenomena "It is the intention of philosophy," he said, "to work out the natures and properties of things" He repudiated custom and popular opinion Mathematics he considered the gateway to science, and experience, or verification, he thought the only basis of certainty This interest in outer experience was to him, however, not in the least divorced from theology but rather one of the means of reaching that truth which is above all recorded in the Bible Wisdom and faith were to him one He was likewise interested in the inner experience, the mystical way to union with God His writings were numerous Three of the most important were all written in one year (1267–68) for Pope Clement IV—the *Opus majus* (Eng tr , 1928) the *Opus minor*, and the *Opus tertium* He was deeply interested in alchemy and wrote upon alchemical subjects as well as various other aspects of the experimental study of nature He was credited by popular legend with great learning in magical practices—a reputation enhanced by the attribution to him of all sorts of treatises on magic and pseudo science He was long credited with the invention of gunpowder A manuscript in cipher discovered in the 20th cent has been attributed to him, and one transcription of it would make Bacon the first man to observe spiral nebulae through a telescope and to examine cells through a microscope, but considerable doubt has been cast on the original date and the authenticity of the manuscript Bacon would seem to have been involved in some obscure trouble with the authorities of the Church, but there is no evidence that his difficulties were caused by his interest in science, and it would seem more likely that they were due to his notoriously pugnacious disposition Earlier editions of his major works were supplemented by an edition of his hitherto unedited works in various fascicles by Robert Steele and others (1909–35) See A G Little, ed , *Roger Bacon Essays* (1914), biography by F Winthrop Woodruff (1938)

bacon, the flesh of hogs—especially the sides, belly, or back—which has been preserved by being salted or pickled and then dried with or without wood smoke In early agricultural communities the curing of meat was one of the important household industries, the process consisting of soaking the pork in brine or rubbing it in a salt mixture by hand, then smoking the sides or flitches in smoke from an open chimney The process, requiring skill and experience, took sometimes three or four months From ancient times bacon has been an almost indispensable part of the diet of poorer people, and it has entered into games and folkways, given rise to proverbs and phrases, and even acquired, in primitive groups, a vaguely religious significance In ancient Prussia a flitch of bacon was offered to the god of thunder and fertility to invoke good weather for the crops, and traces of this custom still survive in remote communities "To save his bacon" (his person or property), "to bring home the bacon" (win in contest), and "he could bring a flitch from Dunmow" (he is good-natured, see DUNMOW), all indicate the importance of bacon in rustic economy The making of bacon still lingers in some rural communities, but the bulk of its manufacture is carried on in industrial meat-packing plants, which are equipped to slaughter, dress, cure, smoke, and sell on a large scale Canadian bacon is prepared from the boned loin The high fat content of bacon makes it a valuable energy food

Bacon's Rebellion, popular revolt in colonial Virginia in 1676, led by Nathaniel BACON The economic exploitation of the small farmers by England and the tidewater aristocracy was the underlying cause for the uprising, which was precipitated by the failure of the governor, Sir William BERKELEY, to defend the frontier against Indian attacks Bacon commanded two unauthorized but successful expeditions against the Indians and then came to Jamestown as the representative of Henrico co. in the newly elected house of burgesses, which Berkeley had been forced to convene. Shortly thereafter Bacon, bringing many supporters to the capital, coerced Berkeley into granting him a commission to continue his Indian campaigns, and a circumspect assembly passed several reform measures The governor, having failed to raise a force against Bacon, fled to the Eastern Shore on Bacon's approach, and the popular leader returned to his Indian fighting However, the party he had sent to capture Berkeley was itself taken, and the governor, gathering support, returned in triumph to Jamestown, where he proclaimed Bacon and his men rebels and traitors After a sharp skirmish Bacon recaptured Jamestown (Berkeley again took flight), but, fearing that he could not hold it against attack, fired the town His opposition was now disposed of, but Bacon died before he could carry out his sound reforms Without his leadership the rebellion soon collapsed, and after a few months Berkeley returned to wreak a bloody vengeance before he was forced to return to England Berkeley's removal and the end of Indian attacks were the only benefits the yeomen had won in the rebellion, and the tidewater aristocracy long maintained its power See T J Wertenbaker, *Torchbearer of the Revolution. the Story of Bacon's Rebellion and Its Leader* (1940).

Baconthorpe, John see BACON, JOHN.

bacteria, minute unicellular organisms classified usually as plants of the class Schizomycetes belonging to the division of thallophytes called fungi In some classifications bacteria are grouped with the blue-green algae as a separate division of the plant kingdom A cell wall surrounds the protoplasm of the bacterial cell There is evidence that nuclear material is present either scattered through the cell or gathered to form a more definite nuclear body. Three forms are typical—the rod-shaped or bacillus, the round or coccus, and the spiral or spirillum Different species range in their longest dimension from about $^1/_{250}$ in to about $^1/_{250,000}$ in Among the largest are the sulphur bacteria, found in water and mud containing hydrogen sulphide, and the iron bacteria, found on ground washed by water containing iron Many, chiefly the bacillus and spirillum forms, are motile, progressing by whiplike movements of flagella borne singly or in groups at one or both ends of the cell or completely surrounding it Reproduction is chiefly by transverse fission Under unfavorable conditions some bacteria form spores—thickened round or oval coverings within which the living material remains until conditions improve Some bacteria, those known as aerobic forms, can respire only in the presence of free or atmospheric oxygen, others, called anaerobic bacteria, cannot grow in the presence of free oxygen but obtain oxygen from compounds, a third group, called facultative anaerobes, can grow with or without free oxygen Bacteria which parasitize other living things, thus causing disease are known as pathogenic forms Among the diseases caused by bacteria are tuberculosis, diphtheria, cholera, typhoid fever, pneumonia, tetanus, gangrene, anthrax, and tularemia Some bacteria attack the tissues directly, others produce poisonous secretions called toxins Injections of antitoxin or serum prevent certain diseases, e g , tetanus, diphtheria, and hog cholera VACCINATION is a means of inducing immunity to certain diseases Bacteria cause certain diseases of plants, e g , black rot of cabbage, fire blight of apples and pears, and crown galls Useful bacteria outnumber the harmful ones NITROGEN-FIXING BACTERIA and NITRIFYING BACTERIA help to enrich the soil Bacteria of decay, by decomposing dead organic material, also enrich the soil and aid in ridding the world of debris They are employed in some sewage-disposal plants Bacteria aid in many processes such as the curing of tobacco, retting of flax, and making of vinegar Bacteria are responsible for the flavor of fermented milks and of certain cheeses Methods of food preservation are designed to prevent the growth of bacteria Bacteria were first observed by Leeuwenhoek in the 17th cent , but the science of bacteriology was established by the work of Pasteur and Robert Koch See Otto Rahn, *Microbes of Men* (1945), A T Henrici, *The Biology of Bacteria* (3d ed , revised by E J Ordal, 1948)

bacteriophage (băktēr'ĭfāj), substance believed to be composed of ultramicroscopic particles destructive to bacteria F H d'Herelle and his followers believe that it resembles a virus and acts as a parasite Others think that it is similar to an enzyme A number of bacteriophages have been recognized, each of which acts only upon certain species of bacteria Bacteriophages appear to multiply only in the presence of living bacteria They cause lysis, or disintegration, of the bacterial cell. They are found in many places, particularly in the intestines of human beings and in fecal matter and sewage. Bacteriophage was discovered independently by F. W. Twort (1915) and by F. H. d'Herelle (1917).

bacteroid see NITROGEN-FIXING BACTERIA

Bactria (băk'trēă), ancient Greek kingdom of central Asia Its capital was Bactra, the modern BALKH in N Afghanistan The region had been conquered by the Persians and was an eastern province of the Persian Empire It was very prosperous as the region for transmitting Siberian and Indian

metals and goods to the Persians When Alexander the Great invaded the Persian Empire, Darius III, after being defeated, fled to Bactria, where he was murdered by the Bactrian satrap, Bessus The Bactrians resisted (330–328 B C) Alexander stoutly, but were subdued Bactria took on Greek culture and became quasi-independent Theoretically it remained part of the Seleucid empire In 256 B C, Diodotus I was made satrap and a little later assumed complete independence His successor, Euthydemus, successfully resisted the attempts (208–206 B C) of Antiochus III to bring Bactria back into the empire His son Demetrius made Bactria a powerful state He was overlord of part of Chinese Turkistan and carried his conquests deep into N India, taking Patna The Seleucid ruler, Antiochus IV, sent Eucratidas into Bactria, and Eucratidas in 167 B C brought about the death of Demetrius, but he was himself slain in 159 B C Menander, Demetrius' general, continued to exercise power until his death in 145 B C A little later (c 130 B C) Bactria fell to the nomadic Sakas and did not rise again as a state See W W Tarn, *The Greeks in Bactria and India* (1938)

Bacup (bă'kŭp), municipal borough (pop 20,590), Lancashire, England It has cotton mills, shoe factories, coal mines, and iron and brass foundries. The town is known for its cooperative enterprises

Badajoz (bädhähōth'), city (pop 32,604), capital of Badajos prov, W Spain, in Estremadura, on the Guadiana Rising to prominence under the Moors, it was the seat (1022–94) of a vast independent emirate Alfonso IX of Leon liberated it definitively in 1228 In the succeeding years Badajoz was repeatedly attacked by the Portuguese and was consequently strongly fortified In the War of the Spanish Succession it was besieged (1705) by the allies, a century later in the Peninsular War the French failed to take it in a long siege (1808–9) and took it in 1811 only to be driven out by Wellington after bitter fighting (1812) In the civil war of 1936–39 the capture (1936) of Badajoz by the Insurgents after a bloody battle was followed by hundreds of executions Notable landmarks are the massive cathedral (begun in the 13th cent) and remains of the Moorish citadel

Badakhshan (bädakhshan'), province, NE Afghanistan, between the Hindu Kush and the Amu Darya The capital is Faizabad Badakhshan escaped Jenghiz's hordes but was conquered by Tamerlane (c 1400) and Abdullah the Uzbek (1585) It is the world's chief source of fine lapis lazuli and is also noted for its rubies, its pistachio nuts, and its gold

Badakhshan, USSR see MOUNTAIN-BADAKHSHAN

Badalona (bädhalō'nä), city (pop 37,373), Barcelona prov, NE Spain, in Catalonia It is a Mediterranean port and an industrial suburb of Barcelona, with textile, chemical, and glass manufactures Ancient tombs, possibly Phoenician, have been found near by

Bad Axe, city (pop 2,624), co seat of Huron co, N Mich, between Saginaw Bay and Lake Huron, settled c 1860 inc as a village 1885, as a city 1905 It is a farm trade center

Bad Axe, river of SW Wisconsin flowing SW to the Mississippi nearly opposite the Minn–Iowa line Near its mouth Black Hawk was defeated (1832)

Bad Blankenburg (bät' blăng'kunbōork), town (pop 6,601), Thuringia, central Germany During his residence here (1837–45) Froebel founded the first kindergarten

Baddeck (bădĕk'), village, on Cape Breton Island, N S., on the north shore of Big Bras d'Or Lake and W of Sydney It is a summer resort On Feb 23, 1909, it was the scene of the first airplane flight in British territory, made by J A D McCurdy (later lieutenant governor of Nova Scotia) The experimental organization for this was made by Alexander Graham Bell, whose summer home was here

Bad Dürkheim (bät' dürk'hīm), resort (pop 9,680), Rhenish Palatinate, W Germany, W of Mannheim. It is famous for salt baths (frequented since Roman times) and for a cure by a diet of grapes.

Bade, Josse see BADIUS, JODOCUS

Bad Ems see EMS

Baden (bä'dŭn), former German state, SW Germany After 1945 it was divided in two parts—in the south, the state of Baden (3,842 sq mi, pop 1,197,850), occupied by the French, and in the north, the Baden dist (1,984 sq mi, pop c 1,400,000), in the state of Württemberg-Baden, occupied by the Americans Stretching from the Main river in the northeast across the lower Neckar valley and along the right bank of the Rhine to Lake Constance, the former state borders on Bavaria, Hesse, the Rhenish Palatinate, France, Switzerland, and Württemberg The southern section is largely occupied by the BLACK FOREST The American-occupied sector includes the former capital, KARLSRUHE, the industrial and commercial cities of MANNHEIM and Pforsheim, and the university town of HEIDELBERG. The French-occupied state includes the cities of BADEN-BADEN, Freiburg, Constance, Offenburg, Kandern, and Rastatt Farm products and wine are the chief sources of wealth. Until the French Revolution the area was a confusing jigsaw puzzle of petty margraviates and ecclesiastic states (bishoprics of Mainz, Speyer, Strasbourg, and Constance) The BREISGAU belonged to the Hapsburg lands, the Mannheim-Heidelberg area to the Rhenish PALATINATE In 1771 the margraviates of Baden-Baden and Baden-Durlach were united under the same branch of the ancient house of ZÄHRINGEN Margrave Charles Frederick, raised to the rank of elector in 1803, joined the Confederation of the Rhine in 1806 with the title grand duke and between 1803 and 1810 acquired, by grace of Napoleon I, the entire state Despite the liberal constitution of 1818 the grand duchy was severely shaken by the Revolution of 1848, which was suppressed with the help of Prussian troops Among the revolutionary leaders was Friedrich Hecker Baden sided with Austria in the Austro-Prussian War (1866) but joined the German Empire in 1871 It became a republic in 1918 and joined the Weimar Republic

Baden (bä'dun) or **Baden-bei-Wien** (–bī-vēn'), resort city (pop 20,528), Lower Austria, SSW of Vienna It has famous hot sulphur springs

Baden, town (pop 10,388), Aargau canton, Switzerland Noted for its sulphur baths, it was known to the Romans as Aquae Helveticae The Swiss diet met here from 1424 to 1712 The Treaty of Baden (1714) complemented the Peace of Utrecht (see UTRECHT, PEACE OF) The town was the capital of Baden canton under the Helvetic Republic (1798–1803) The Limmat river divides Baden into the "Old Town" (left bank), with the castle of Stein, which once belonged to the counts of Lenzburg, Kyburg, and Hapsburg, and the "Bath Town," with the popular Kur-Park The city produces electrical machinery and aluminumware

Baden, residential borough (pop 2,135), W Pa, on the Ohio and NW of Pittsburgh, laid out c 1839, inc 1868

Baden-Baden (bä'dun-bä'dun), city (pop 32,434), S Baden, SW Germany, in the Black Forest Surrounded by parks, with a splendid casino, it is one of Germany's most fashionable spas Its mineral springs were used by the Romans, and remains of Roman baths have been found here

Baden-bei-Wien see BADEN, Lower Austria

Badenoch (bad'unŏkh"), highland district, Inverness-shire, Scotland, c 45 mi long and 19 mi wide, traversed by the Spey It is wild and forested Kingussie is the leading town

Baden-Powell of Gilwell, Robert Stephenson Smyth Baden-Powell, 1st Baron, (bă'dun-pōŭl), 1857–1941, British soldier, founder of the Boy Scouts He saw much active service in India and Africa prior to the South African War, in which he defended Mafeking for seven months (1899–1900) and subsequently organized the South African constabulary For his enduring work in organizing (1908) the Boy Scout and Girl Guide movements he received a peerage in 1929 His writings include *Scouting For Boys* (1908), *Rovering to Success* (1922), and *Scouting and Youth Movements* (1929) See biography by E E Reynolds (1943)

Badger, Joseph, 1708–65, American painter, b Charlestown, Mass By trade a glazier and house and sign painter, he turned his hand to portraiture His later works rank well with those of our better-known early painters One of Badger's best portraits is that of John Adams, in the Detroit Institute of Art See Cuthbert Lee, *Early American Portrait Painters* (1929)

badger, carnivorous mammal of the family Mustelidae The badger has a broad, heavy body, rather long snout, sharp claws, and shaggy fur generally gray and brownish with markings of black and white Among the badgers are the true Old World badger of Europe and Asia (*Meles*), the American badger (*Taxidea*), found in parts of W, N, and N central North America, and the Asiatic ferret badger (*Helictis*) and sand or hog badger (*Arctonyx*)

Bad Godesberg (bät' gō'dusbĕrk), resort town (pop 38,743), in the former Rhine Prov of Prussia, NW Germany, idyllically situated on a height above Bonn on the Rhine It is visited for its radioactive mineral springs The ruined castle dates from 1210 In Sept, 1938, during the Czechoslovak crisis, Adolf Hitler and Prime Minister Neville Chamberlain met at Bad Godesberg (see MUNICH PACT)

Badham, Charles (bă'dm), 1813–84, English classical scholar He gained a great contemporary reputation by his editions of several Euripidean dramas and Platonic dialogues

Badía y Leblich, Domingo (dōmēng'gō badē'a ē lĕblēch'), 1766–1818, Spanish traveler, known as Ali Bey He set out from Cádiz (1803) and traveled through N Africa, Syria, and Arabia, reaching Mecca, of which he fixed the position astronomically He wrote *Voyage d'Ali Bey en Asie et en Afrique* (1814) See D G. Hogarth, *The Penetration of Arabia* (1904).

Badin (bă'dĭn), unincorporated aluminum-producing "company town" (pop 2,204), central N C, on the Yadkin and NE of Charlotte, founded 1913 A power dam is near by.

Bad Ischl, Austria see ISCHL

Badius, Jodocus (jōdō'kus bā'dēŭs), 1462–1535, French printer in Paris, b. Asche, near Brussels. His original name was Josse Bada (yō'sŭ ba'du), and he is sometimes called for his birthplace Jodocus Badius Ascensius (usĕn'shus) He taught Greek and edited classics in Lyons before he became a printer, and he gained some recognition as a scholar and as an author, his writings included a life of Thomas à Kempis His printer's marks are notable early pictures of a printing press See Alfred Forbes Johnson, *French Sixteenth Century Printing* (1928)

Bad Kissingen (bät' kĭ'sĭng-un), health resort (pop. 15,006), Lower Franconia, NW Bavaria, on the Franconian Saale Its mineral springs have been frequented since the 16th cent It was the scene of an attempt on Bismarck's life in 1874

Bad Kreuznach (bät' krōnts'nakh), spa (pop 26,557), in the former Rhine Prov of Prussia, W Germany, after 1945 in the French-occupied Rhineland-Palatinate Of Celtic origin, it has salt baths frequented since Roman times

Badlands, arid plateau c 120 mi long and 30 to 50 mi wide, SW S Dak, E of the Black Hills The area is characterized by fantastic scenery, the result of erosion, and by deposits of prehistoric fossils Badlands National Monument (122,972 46 acres), occupying part of the region, was authorized in 1929 and established in 1939

Badminton (băd'mĭntun), estate, Gloucestershire, England, NE of Bristol, the seat of the dukes of Beaufort The game badminton derives its name from the place

badminton (băd'mĭntun), game played by volleying a shuttlecock—a small, cork hemisphere to which feathers are attached—over a net Light, gut-strung rackets are used, and badminton, which is generally similar to tennis, is played by two or four persons The game probably originated in India (where it was called poona) though it may have been known earlier in China It was popular in the 1870s in England, taking its name from the seat of the duke of Beaufort Later the game spread to other countries, and in recent years it has become increasingly popular in the United States David G Freeman has been the outstanding American player

Bad Nauheim (bät' nou'hīm), town (pop 12,909), Hesse-Darmstadt, W Germany, in the Taunus mts With carbon dioxide and salt baths, it is a world-famous health resort for heart diseases

Badoglio, Pietro (pyā'trō bädō'lyō), 1871–, Italian field marshal After serving in the First World War, he was governor of Libya (1929–33) and succeeded Gen Emilio de Bono as commander in chief in the Ethiopian war, which he brought to a victorious end (1936) Created duke of Addis Ababa, he was briefly viceroy of Ethiopia, then chief of the Italian general staff until 1940 After the fall of Mussolini, he was made premier by King Victor Emmanuel III (1943) He negotiated an armistice with the Allies, whom he joined in the war against Germany Meeting with much opposition in Italy, he resigned in 1944 He wrote *Italy in the Second World War* (Eng tr, 1948)

Bad Pyrmont see PYRMONT

Bad Reichenhall (bät' rī'khunhal), health resort (pop 13,441), Upper Bavaria, on the Saalach. There are large salt mines near by.

Badrinath (bŭd'rĭnat), peak, 23,210 ft high, United Provs, India, in the central axis of the Himalaya. At an elevation of c 10,400 ft is a temple to Vishnu

Badula see TOTILA

Baeda see BEDE

Baedeker, Karl (bä'dukur), 1801–59, German publisher, founder of the Baedeker guidebooks His printing establishment was at Coblenz, but his son Fritz, who continued the business, moved it to Leipzig The guidebooks have run into many editions, especially for European countries

Baekeland, Leo Hendrik (bäk'länd), 1863–1944, American chemist, b Ghent, Belgium, grad Univ of Ghent, 1882 In 1889 he emigrated to the United States He founded (1893) and conducted, until 1899, when he sold the rights to Eastman, a company for producing a photographic paper of his own invention In 1909 he announced his invention of BAKELITE, and from 1910 to 1939 he served as president of the Bakelite Corporation He wrote *Some Aspects of Industrial Chemistry* (1914)

Baena (baā'na), city (pop 19,787), Córdoba prov, S Spain, in Andalusia It is an agricultural center, with ruins of the ancient Roman market town of Baniana or Banuana

Baer, George Frederick (bâr), 1842–1914, American capitalist, b Somerset co, Pa, educated at Franklin and Marshall College Admitted to the bar in 1864, he became legal adviser to J Pierpont Morgan, and in 1901 was made president of the Morgan-controlled Reading Company He held many other posts and was a key figure in the railroad-and-coal "empire" He is remembered for his refusal to arbitrate and his forthright declarations of the owners' interests in the strike of the anthracite-coal miners in 1902

Baer, Karl Ernst von, 1792–1876, Estonian biologist. He was a professor at Würzburg and Königsberg and from 1834 at St Petersburg. He is considered a founder of modern embryology In 1827 he discovered the mammalian ovum In his *History of the Development of Animals* (2 vols, 1828–37), he

presented the theory of embryonic germ layers (the development of body tissues and organs from definite layers of cells formed in the early embryonic stages) and showed that the development of the embryo in different animals is similar in its early stages

Baer, William Jacob, 1860–1941, American painter, b Cincinnati, studied at the McMicken School of Design, Cincinnati, and at the Munich Royal Academy He painted portraits and genre pictures and later confined himself to miniatures Among his works are *Aurora*, *Nymph*, and *Phoebe* (Walters Art Gall, Baltimore), *Daphne* (Brooklyn Mus), and *Murray Marvin* (Montclair, N J, Art Mus)

Baeyer, Adolf von (Johann Friedrich Wilhelm Adolf von Baeyer) (ä'dôlf fŭn bā'yur, yōhan' frē'drĭkh vĭl'hĕlm), 1835–1917, German chemist He taught at Berlin and Strasbourg and in 1875 succeeded Liebig at Munich, where he was professor of chemistry until his death For his work in organic chemistry, especially that on organic dyes and the hydroaromatic compounds, he received the 1905 Nobel Prize in Chemistry His discovery of the molecular structure of indigo, making possible its commercial synthesis, was a great stimulus to the dye industry He also discovered cerulein and eosin A patent of nobility was conferred on him in 1885 His collected works were published in German (2 vols, 1905)

Báez, Buenaventura (bwā"nävāntōō'rä bä' äs), c.1810–1884, president of the Dominican Republic (1849–53, 1856–58, 1865–66, 1868–73) He and his bitter rival, Pedro SANTANA, went in and out of office by revolution and counterrevolution while political and financial conditions fell into chaos Báez negotiated (1869) a treaty with the United States providing for annexation of the Dominican Republic to the Union Though the idea was not popular, it was approved by a Dominican plebiscite in 1870 The annexation was not accomplished, however, because, despite the support of President U S Grant, the treaty was not ratified by the U S Senate

Baeza (bāä'thä), city (pop 16,453), Jaén prov, S Spain, in Andalusia A prosperous Moorish city, it was taken (c 1237) by Ferdinand III Formerly an episcopal see, it contains a cathedral, a ruined Franciscan monastery, and a university founded in 1533 and later discontinued

Baffin, William, c 1584–1622, British arctic explorer He was pilot on two expeditions (1615–16) sent out to search for the NORTHWEST PASSAGE under command of Robert Bylot (formerly with Henry Hudson) The first expedition vainly tried to find a channel in Hudson Bay N of Southampton Island The second attempt, NW through Davis Strait, led to exploration of what was later Baffin Bay and the northeast shore of Baffin Island Baffin's conviction that the Northwest Passage did not exist discouraged arctic exploration for a time His narratives were edited by Sir Clements Markham in 1881

Baffin Bay, arm of the Arctic Ocean, between Greenland and the Arctic Archipelago It connects with the Arctic by Smith Sound and with the Atlantic by Davis Strait The Labrador Current, bringing many icebergs, makes navigation of the deep bay hazardous most of the year It is named for William Baffin.

Baffin Island, off N Canada, in the Arctic Ocean, in the ARCTIC ARCHIPELAGO It is the largest (197,754 sq mi), most easterly, and best known of the islands Geographically it is a continuation of Labrador, from which it is separated by Hudson Strait The interior has many large fresh-water lakes such as Nettilling and Amadjuak, and in the east mountain ranges rise more than 8,000 ft In the north is the huge fjord, Admiralty Inlet There are more than 2,000 Eskimo inhabitants and there are a number of trading posts—Arctic Bay (on Admiralty Inlet) and Pond Inlet in the north, Pangnirtung (on Cumberland Sound), Lake Harbour, and Cape Dorset (on Foxe Peninsula) in the south The posts generally have not only stores but also post offices, Royal Canadian Mounted Police stations, and mission schools, Pangnirtung has a hospital Whaling and fur trading are the chief occupations Martin FROBISHER visited (1576–78) the island. It is named for William Baffin, who explored the north in 1616 It was formerly called Baffin Land See A E Millward, ed, *Southern Baffin Island* (1930)

Bagby, George William, 1828–83, American author and editor, b. Buckingham co, Va His humorous writings under the pen name MOZIS ADDUMS made him famous in the South. While he was editor (1860–64) of the *Southern Literary Messenger* he wrote for it many sketches of Southern life See biography by J L King (1927)

Bagdad, Iraq see BAGHDAD

Bagé (bŭshä'), city (pop 31,349), Rio Grande do Sul, Brazil It is a center of a cattle- and sheep-ranching region Near the Uruguayan border, it was important in the wars over Uruguay. The name also appears as Bajé

Bagehot, Walter (bāj'ŭt), 1826–77, English social scientist and literary critic He worked in his father's banking firm and edited, after 1860, the *Economist* Out of these activities came his noted work on the English banking system, *Lombard Street* (1873) Other important books by him include *The English Constitution* (1867), *Literary Studies* (1879), and *Economic Studies* (1880) In *Physics and Politics* (1875) he made a pioneer analysis of the interrelations of natural and social sciences His collected works, edited by Mrs Russell Barrington (10 vols, 1915), include a biography The biography by William Irvine (1939) examines him as a literary figure

Baggesen, Jens (yĕns' bag'usən), 1764–1826, Danish poet and satirist, b Zealand He was influential in his time, a transition period from classicism to romanticism He showed wit and a feeling for language in *Comic Tales* (1785), poems, *The Labyrinth* (2 vols, 1792–93), prose, and the satirical *The Ghost and Himself, or, Baggesen on Baggesen* His literary feud with Oehlenschläger was famous Baggesen lived away from Denmark much of his adult life and died in Hamburg

Baghdad or **Bagdad** (both bäg'dăd, bägdäd'), city (pop c 400,000), capital of Iraq, on both banks of the Tigris and 25 mi N of the Euphrates From Sumerian times the site was a nodal point of desert travel and trade The present city was founded (A D 762) on the west bank of the river by the Abbasid caliph MANSUR From then on its commercial position generally was unrivaled In a sense of gardens, it justified its claim to be the "Abode of Peace" when under the caliph HARUN-AL-RASHID it rose to be one of the greatest cities of Islam It was the home of eminent scholars and artists, and it enjoyed great wealth through the sale of its silks and tiles This period of its greatest glory is reflected in the *Thousand and One Nights*, in which many of the tales are set in Baghdad. After the death of Harun the seat of the caliph was moved to Samarra, and when the caliphate did return to Baghdad it was weakened by internecine struggles and could not restore the city entirely The caliphate held on until 1258, when the Mongols sacked the city It rose twice again only to be destroyed by Tamerlane (1400) and by Shah Ismail of Persia (1524) and to fall prey to warring Turks and Persians By 1638, when it became part of the Ottoman Empire, its population was only c 14,000 Few antiquities remain, but the city is still enclosed on three sides by ancient walls, and some of the citadel in the northern frontier survives Baghdad was captured by British forces in 1917 In 1920 it became the capital of the newly constituted kingdom of Iraq The city is the terminus of the BAGHDAD RAILWAY and is connected by rail or by air with many of the major cities of the Near East, including Basra, Jerusalem, and Teheran See Reuben Levy, *Baghdad Chronicle* (1929)

Baghdad Railway, railroad of international importance linking Europe with Asia Minor and the Middle East With its last link completed in 1940, it connects Haidarpasha, opposite Istanbul, Turkey, with Basra, Iraq With alternate lines and branch lines it connects with N Iran, the USSR, Syria, and Palestine Financed chiefly by German capital, its Anatolian sections were completed in 1896 The ambitious project was then formed to carry the railroad to Baghdad, and a company, backed chiefly by German capital, was organized for the purpose Immediate protests were made to Turkey by France, Russia, and, particularly, Great Britain, which saw in the projected line a direct threat to its empire in India Operations were held up for several years by these international representations and by engineering difficulties, but in 1911 work was resumed By playing on imperialistic rivalries, the construction of the railroad was a factor in bringing about the First World War By the end of the war only a stretch between Mosul and Samarra remained to be completed, it was built largely with British capital Indeed, Britain at that time had virtual control over Arabia See Morris Jastrow, *The War and the Bagdad Railway* (1917), E M Earle, *Turkey, the Great Powers, and the Bagdad Railway* (1923)

Bagley, village (pop 1,241), co seat of Clearwater co, NW Minn, W of Bemidji near the source of the Clearwater, in a region of evergreen forest and lakes, settled 1898, inc 1900

Bagnacavallo (bä'nyäkävăl'lō), 1484–1542, Italian painter, whose real name was Bartolomeo Ramenghi He was called Bagnacavallo from the place of his birth He was one of the painters whom Raphael chose to assist him in the decoration of the Vatican

Bagnell Dam, central Mo, in the Osage river, built 1929–31 It is the state's largest power dam (2,543 ft long and 148 ft high) It also forms the Lake of the Ozarks (see OZARKS, LAKE OF THE)

Bagnères-de-Luchon, France see LUCHON

Bagni di Lucca (bä'nyē dē lōōk'kä), watering place, Tuscany, N central Italy Its warm mineral springs have been used since the Middle Ages

Bagot, Sir Charles (bäg'ut), 1781–1843, British diplomat As minister to the United States (1815–20) he negotiated the RUSH-BAGOT CONVENTION (1817), limiting armaments on the Great Lakes. When he was governor general of Canada (1841–43), the reform movement led by Robert Baldwin triumphed as the Canadian ministry became responsible to the Canadian Parliament. See G. P. de T. Glazebrook, *Sir Charles Bagot in Canada* (1929).

Bagotville (bäg'ŭtvĭl), town (pop 3,248), S Que, on the W shore of Ha Ha Bay, an arm of the Saguenay river; founded 1839 It has a pulp mill and a deepwater harbor.

bagpipe, musical instrument of ancient origin, long known in India and possibly introduced to the West in the 1st cent A D. by Nero Some form of bagpipe was later used in nearly every European country, it was particularly fashionable in 18th-century France, where it was called the musette Its widest use and greatest development was in the British Isles, particularly Northumberland, Ireland, and Scotland (see PIBROCH) The island of Skye was the home of a school for pipers It consists of a leathern bag, which is inflated either by mouth through a tube or by a bellows worked by the arm; one or two chanters or chaunters (melody pipes having finger holes), and one or more drones, which produce one sustained tone each Associated with folk and military music, it has been neglected by composers, possibly because of its short range See W L Manson, *The Highland Bagpipe* (1901), Gilbert Askew, *Bibliography of the Bag-Pipe* (1932), W. A Cocks, *Northumbrian Bagpipes* (1933)

Bagration, Piotr Ivanovich, Prince (pyô'tur ēvä'-nuvĭch bagratēōn'), 1765–1812, Russian general in the French Revolutionary and Napoleonic Wars He fought under Suvarov in the Italian and Swiss campaigns of 1799, and at Austerlitz, Eylau, and Friedland In 1808 he captured the Aland Islands from Sweden, in 1809 he fought against the Turks, and in 1812 he commanded an army against Napoleon and was mortally wounded at Borodino.

Baguio (bä'gō, Sp bägō'), city (1948 pop 29,262), on W Luzon, Philippine Islands, NNW of Manila The summer capital of the republic, it is a resort and a gold-mining center at an elevation of c 5,000 ft The city was planned by Daniel H Burnham The construction of the 28-mile mountain road (completed 1913) connecting Baguio with the main highways was hampered by destructive typhoons During the Second World War, Baguio was severely damaged

bagworm, larva of a family of moths of which several species are destructive to forest and shade trees in the E United States The larva makes a silken covering in which it travels When full grown it fastens this covering or bag to a twig and passes the pupa stage within it Twigs or bits of leaves cover the bags of some species The male forthwee the eggs when the wingless, legless adult female emerges only partly from the pupa case After laying the eggs inside the case, the female dies The evergreen bagworm is destructive to red cedar and arborvitae and to many other trees Spraying foliage with poison when the larvae first appear and burning the cocoons help to reduce their numbers

Bahadur Shah II (bahä'dōōr shä'), 1775–1862, last Mogul emperor of India (1837–57) He was completely controlled by the British East India Company Convicted of complicity in the Sepoy Rebellion, he was exiled to Rangoon for life

Bahaism (bähä'ĭzm, bŭhä'ĭzm), religion founded by BAHA ULLAH and led by his son Sir Abdul Baha Bahai (1844–1921) The system of teaching has affinities closest with Babism, Shiite Islam, and Sufism and remotely with Gnosticism It holds that God can be made known to man through manifestations, which have come at various stages of human progress, the prophets include Abraham, Moses, David, Christ, Mohammed, the Bab, and Baha Ullah Bahaists believe in the unity of all religions, in universal education, in world peace, and in the equality of men and women An international language is advocated Emphasis is laid upon simplicity of living and upon service to suffering fellow men The teachings spread across the world in the 20th cent The center of the faith in the United States is the great house of worship at Wilmette, Ill

Bahama Banks (bŭhä'mu, -hä'-), two shoals, in the Bahama Islands, known as the Great Bahama Bank and the Little Bahama Bank Until the sponges were virtually wiped out by disease, sponge diving was an important activity

Bahama Islands or **Bahamas** (bŭhä'mŭs, -hä'-), archipelago (4,403 sq mi, pop 68,846), consisting of some 700 islands and islets, beginning c 50 mi. off SE Florida and extending c 760 mi SE almost to Haiti They are administered as a British crown colony, with the capital at NASSAU on New Providence island Other chief islands, known as "out islands," are Grand Bahama, Great and Little Abaco, the Biminis, Andros, Eleuthera, Cat Island, San Salvador, Great and Little Exuma, Long Island, Crooked Island, Acklins Island, Mayaguana, and Great and Little Inagua Although the TURKS AND CAICOS islands farther to the southeast are geographically part of the archipelago, they were separated in administration from the Bahamas in 1848 Most of the islands, rising from submerged limestone bases, are generally low and flat, riverless, with many mangrove swamps, lakes, coral reefs, and shoals. Although occasionally hurri-

canes cause extensive destruction, the climate is usually pleasant. The rainy season, with an average annual rainfall of 50 in., lasts from May to November. The islands' vivid subtropical atmosphere—brilliant sky and sea, lush vegetation, bright-feathered birds, and submarine gardens where multicolored fish swim among white, rose, yellow, and purple coral—have made the Bahamas a popular winter resort. Pineapples were formerly among the chief products but are not now much grown. Sponge diving declined because disease destroyed the sponges. Sisal is still important, as well as salt, turtles, shells, pearls, ambergris, and tomatoes. There are some valuable forests, but lumbering is limited. The aborigines, the Lucayos, were enslaved and exterminated within 20 years of Columbus's discovery of San Salvador in 1492. The islands were formerly called the Lucayans and the Lucayos. Although the Spanish visited the Bahamas occasionally, the first settlements were made in the 17th cent. by the English, who imported Negroes as slaves. Negroes now comprise some 85 percent of the population. In 1670 the islands were granted to the lords proprietors of Carolina, who did not relinquish their claim until 1787, although Woodes ROGERS, the first royal governor, arrived in 1718. Under Rogers the pirates, notably BLACKBEARD, were driven off. The French disputed the English claim, the Spanish pillaged the islands, and an American force held Nassau for a short time in 1776. After the American Revolution many Loyalists settled in the Bahamas. In 1838 the emancipation of slaves was a step in the destruction of plantation life. Blockade-running into Southern ports in the U.S. Civil War enriched some of the islanders, and during the prohibition era in the United States the Bahamas became a base for rumrunning. The United States leased areas for bases in the Bahamas in the Second World War.

Baharumite (bəhâ'ru-) see BAHURIM

Baha Ullah (bähä' ŏŏ'lä), 1817–92, title of a Persian religious leader, originally named Mirza Hussein Ali. A believer in BABISM, he in 1862 announced himself as the manifestation of God as foretold by the Bab and thus founded BAHAISM. He spent much of his mature life in prison.

Bahawalpur (buhä'wulpōōr", bä'wŭl-), princely state (17,494 sq. mi.; pop. 1,341,209), West Pakistan. It is bordered by India on the south, the east, and the northeast, on the northwest the Sutlej is the boundary. It is mostly a sandy waste with a small fertile irrigated area, where wheat, rice, dates, and cotton are grown. The state was established in the late 18th cent. Bahawalpur, town (pop. 40,015), the capital, is a trade center with light manufactures.

Bahia or **Baía** (both bəē'u), state (217,688 sq. mi.; 1940 pop. 3,918,112; 1949 estimated pop. 4,729,892), E Brazil. The capital is SALVADOR (also called Bahia or Baía), a great port on Todos os Santos Bay. The narrow plain on the Atlantic coast is tropical and humid. A broad mountain range separates it from the valley of the São Francisco river, and W Bahia is part of the central Brazilian plateau. The region around Salvador produces tropical and subtropical crops—sugar, tobacco, cotton, manioc, and rice. In the southeast is one of the great cacao-growing regions of the world, centered about Ilhéus. The eastern mountains yield industrial diamonds, and the state also produces gold, manganese, and chromite. The interior is stock-raising country and also yields forest products. Bahia was the region of Brazil first seen by Cabral in 1500, and Salvador was long the chief city of Brazil.

Bahía Blanca (bəē'ä blăng'kä) [Span., =white bay], city (pop. 93,122), Buenos Aires prov., SE Argentina, a port on the Atlantic. Near the southern edge of the PAMPA at the head of the deep, well-sheltered Bahía Blanca, it is the metropolis of a vast region, a rail terminus, and the principal shipping point in the south. The city developed with the increasing production of the S Pampa, beginning early in the 20th cent. It offers access to the oil fields of Neuquén and to the Patagonian lakes. A huge import and export business is carried on, the chief exports are grain, wool, hides, and oil. Some minor industries have developed. There are a number of ports (subports) around the estuary which are connected with Bahía Blanca by rail, among them are Puerto Ingeniero White, Puerto Galván, Puerto Arroyo Pareja or Puerto Belgrano, and the naval base, Puerto Militar.

Bahrdt, Karl Friedrich (kärl' frē'drĭkh bärt'), 1741–92, German rationalistic theologian. He was dismissed from professorships at Leipsig and Erfurt because of his immoral life and at Giessen because of the rationalistic nature of his translation (1773–75) of the New Testament. He went in 1779 to Halle, where he lectured and attracted much notice by his controversial writing. Bahrdt in 1789 was imprisoned for his political pamphlets. In prison he wrote his autobiography (4 vols., 1790).

Bahreich (bärīch'), town (pop. 39,963), E central United Provs., India. It is noted for the shrine of Saiyud Salar Masud (d. c 1050), a Moslem warrior and saint. There is much trade with Nepal.

Bahrein Islands (bärān', bû-), archipelago (over 200 sq. mi.; pop. c 120,000), off Arabia, in the Persian Gulf. Though Iran claims the islands, they are ruled by an Arab sheik and have been since 1861 under British protection. The capital and chief port is Manamah (pop. c 30,000) on Bahrein or Aval island (26 mi. long), the largest of the group. Oil was discovered in 1932, and the principal importance of the Bahrein Islands is as a petroleum center. Pearl fishing, once very famous, is still carried on. The islands were ruled from Iran from the time of Abbas I until the late 18th cent. The name is also spelled Bahrain and Bahreyn.

Bahr-el-Abiad: see WHITE NILE.

Bahr-el-Azrak: see BLUE NILE.

Bahr-el-Ghazal (bär'-ĕl-gäzäl'), river rising in S Anglo-Egyptian Sudan and flowing 203 mi. E to the BAHR-EL-JEBEL to form the WHITE NILE.

Bahr el-Huleh (bär' ĕl-hōō'lä), lake, NE Palestine. Through it flow the headwaters of the Jordan. The lake is about at sea level, its shores are marshy. The Bahr el-Huleh is undoubtedly the Waters of Merom, where Joshua had a great victory (Joshua 11).

Bahr-el-Jebel (-jĕ'bĕl), river rising in Albert Nyanza on the border of Belgian Congo and Uganda and flowing 594 mi. N to the BAHR-EL-GHAZAL in Anglo-Egyptian Sudan. The White Nile rises from the junction of these two rivers. The upper course of the Bahr-el-Jebel is sometimes called the Albert Nile.

Bahurim (bähū'rĭm) [Heb., =young men], town, NE of Jerusalem. 2 Sam. 3:16, 16:5, 17:18, 19:16; 1 Kings 2:8. Azmaveth of Bahurim is called once a Baharumite, once a Barhumite (1 Chron. 11:33, 2 Sam. 23:31).

Baía, Brasil see BAHIA.

Baia (bī'ä), Latin *Baiae*, village, Campania, S Italy, beautifully situated on the Bay of Naples. It was a celebrated watering place and pleasure resort in Roman times, with sumptuous villas and huge baths, of which remains, erroneously called temples, still stand.

Baia-Mare (bī'ä-mä'rā), Hung. *Nagybánya* (nŏ'dyubänyŏ), town (pop. 20,959), NW Rumania, in Crisana-Maramures. It is the center for mining copper, gold, and silver and is also a trade center and a mountain resort. More than half the population is Hungarian.

Baie Comeau (bā kô'mō), town (pop. 1,548), E Que., on the north shore of the St. Lawrence near the mouth of the Manicouagan river, 250 mi. below Quebec, inc. 1937. It has a large pulp and paper industry.

Baie de Shawinigan (bā' du shô'ĭnugun), town (pop. 1,255), S Que., on the St. Maurice river and NW of Trois Rivières.

Baie Saint Paul (bā' sănt" pôl', Fr. bā sĕ pôl'), town (pop. 3,500), S Que., on the St. Lawrence opposite Île aux Coudres and NE of Quebec.

Baïf, Jean Antoine de (zhä' ätwän' du bäēf'), 1532–89, French poet of the PLÉIADE, author of many sonnets, mostly amorous.

Baikal or **Baykal** (both bīkäl'), lake, area 13,180 sq. mi., RSFSR, in SE Siberia. It is the largest freshwater lake of Asia and the deepest lake in the world (5,710 ft.). Up to 50 mi. wide, it stretches for 387 mi. between mountains rich in mineral resources. The Trans-Siberian RR skirts the southern shore. There are numerous feeders, but the ANGARA river is the only outlet. The lake is rich in fish, many of them of unusual species.

Baikie, William Balfour (bā'kē), 1825–64, Scottish naturalist and philologist, explorer in W Africa. A naval surgeon with the expedition up the Niger in the *Pleiad*, he succeeded (1854) to the command, publishing an account of it later. Returning to the river in 1857, he founded, after his vessel was wrecked, the settlement of Lokoja at the confluence of the Niger and Benue rivers. He opened up the Niger for trade, collected data on the native languages and the natural history of the region, and translated the Scriptures into Hausa. On his way back to Great Britain, he died at Sierra Leone.

bail, in law, release from prison of a person awaiting trial or an appeal, on the deposit of security for his submission at the required time to legal authority. The monetary value of the security is set by the court having jurisdiction of the prisoner. The security may be cash, the papers giving title to property, or the bond of private persons of means or of a professional bondsman or bonding company. Failure of the person released on bail to surrender himself at the appointed time results in forfeiture of the security. Bail is usually granted in all civil arrests. Courts have greater discretion to grant or deny bail in the case of persons under criminal arrest, e.g., it is usually refused when the accused is charged with murder.

Baile Átha Cliath, Ireland: see DUBLIN.

Bailén (bīlān'), city (pop. 9,727), S Spain, in Andalusia. Early in the Peninsular War a French army was surrounded and forced to capitulate here by the Spanish under Castaños, who was created duke of Bailén. In English the name is sometimes spelled Baylen.

Bailey, Ann, 1742–1825, American frontier heroine, b. Liverpool, England. Her maiden name was Ann Hennis. She came to Virginia c.1761. After her first husband, Richard Trotter, was killed at the battle of Point Pleasant (1774), she donned male attire and became a noted scout and messenger. Meanwhile she married John Bailey. In 1791, when Indians besieged Fort Lee, on the present site of Charleston, W.Va., Ann Bailey supposedly rode a hundred miles through the mountain wilderness to Fort Savannah (Lewisburg) and returned with enough ammunition to raise the siege. See biography by Virgil A. Lewis (1891).

Bailey, Florence Merriam: see BAILEY, VERNON.

Bailey, Gamaliel, 1807–59, American abolitionist editor, b. Mt. Holly, N.J., grad. Jefferson Medical College, Philadelphia, 1827. In 1837 he succeeded James G. BIRNEY as editor and publisher of the *Philanthropist* at Cincinnati. Three times his office was attacked by proslavery mobs, and once the entire establishment was destroyed. From 1847 until his death Bailey ably edited the influential *National Era*, published weekly in Washington, D.C., by the American and Foreign Anti-Slavery Society. Harriet Beecher Stowe's *Uncle Tom's Cabin* first appeared in this journal.

Bailey, James Montgomery, 1841–94, American humorist and journalist. He was known as the "Danbury *News* man" because from 1870 his humorous sketches in the Danbury, Conn., *News*, of which he was editor and co-owner, were quoted all over America. His books, among them *Life in Danbury* (1873) and *England from a Back Window* (1878), sold widely.

Bailey, Joseph Weldon, 1863–1929, U.S. Congressman, b. Crystal Springs, Miss. In 1885 he established himself as a lawyer in Gainesville, Texas. When 27 years old he was elected (1890) to the House of Representatives, and in 1896 he became minority leader. He was a free-silver advocate and opposed imperialism after the Spanish-American War. In the Senate from 1901 to 1913, he became conspicuous as opposition leader and a spokesman of the Southwestern farmers. His increasing conservatism brought him into conflict with the Texas Democratic organization at Wilson's election, but "Silver-tongued Joe" kept power in Texas politics. See biography by S. H. Acheson (1932).

Bailey, Liberty Hyde, 1858–, American botanist and horticulturist, b. South Haven, Mich., grad. Michigan Agricultural College (now Michigan State College of Agriculture and Applied Science), 1882. He was professor of horticulture (1888–1903) and director (1903–13) of the agricultural experiment station at Cornell Univ. He is noted for his basic works on botany and horticulture, he edited *The Standard Cyclopedia of Horticulture* (6 vols., 1914–17, 2d ed., 3 vols., 1925, revised 1928) and *Cyclopedia of American Agriculture* (4 vols., 1907–9) and compiled (with E. Z. Bailey) *Hortus* (1930, rev. ed., 1935) and *Hortus Second* (1941). See biography by A. D. Rodgers (1949).

Bailey, Philip James, 1816–1902, English poet. He was the author of *Festus* (1839), a long and incoherent poem on the Faust legend, very popular in its day. He also wrote *The Angel World* (1850), *The Mystic* (1855), and *The Universal Hymn* (1867), large portions of all three were incorporated into later editions of *Festus*.

Bailey, Solon Irving, 1854–1931, American astronomer, b. Lisbon, N.H., educated at Boston Univ. and at Harvard. He taught astronomy at Harvard from 1893 to 1925. In 1889 he selected Arequipa, Peru, to be the site of the Harvard Observatory for the Southern Hemisphere and in 1892 chose the summit of Mt. Misti, Peru, for a meteorological station, the world's highest scientific station (alt. 19,000 ft.). See his *History and Work of the Harvard Observatory* (1931).

Bailey, Theodorus, 1805–77, American naval officer, b. Chateaugay, N.Y. He was appointed a midshipman in 1818. In the Mexican War, Bailey blockaded and captured San Blas on the Pacific coast of Mexico. He commanded (1853–56) the *St. Mary's*, visiting a number of Pacific islands in the interests of the United States. In Farragut's attack on New Orleans in the Civil War, Bailey, commanding the first division, led (April, 1862) the fleet in the gunboat *Cayuga*. Under his efficient direction the East Gulf Blockading Squadron captured (1862–64) some 150 Confederate blockade-runners. He was promoted rear admiral and retired in 1866.

Bailey, Vernon, 1864–1942, American biologist, b. Manchester, Mich. He served the Bureau of Biological Survey as chief field naturalist from 1887 to 1933. He conducted surveys of Texas, New Mexico, North Dakota, and Oregon, writing reports for the bureau and books on the mammals and other animal life of these regions. His wife, **Florence Merriam Bailey**, 1863–, American ornithologist and writer, b. Locust Grove, N.Y., collaborated with him on *Wild Animals of Glacier National Park* (1918) and *Cave Life of Kentucky* (1933). She also wrote a number of books on birds, especially those of the W United States.

Baileyville, town (pop. 2,018), SE Maine, on the St. Croix above Calais, inc. 1828. It includes Woodland village, which produces paper and pulp.

Baillie, Joanna (bā'lē), 1762–1851, Scottish poet and dramatist, descendant of Sir William Wallace. Her *Plays on the Passions* (which came out in three

series, 1798, 1802, and 1812) "attempted to delineate the stronger passions of the mind, each passion being the subject of a tragedy and a comedy" Of these 28 plays, only seven were produced and only one, *De Montfort*, had sufficient appeal to hold the stage A book of poems, *Fugitive Verses*, had appeared anonymously in 1790, and three volumes of dramatic poetry were issued in 1836 Joanna Baillie is best known for her many poems in the Scottish dialect, notably "Woo'd and Married an' A'" and "Oh Swiftly Glides the Bonny Boat" Matthew Baillie was her brother See M S Carhart, *The Life and Work of Joanna Baillie* (1923)

Baillie, Matthew, 1761–1823, English physician, brother of Joanna Baillie He studied medicine under William Hunter, his uncle, and became a noted London practitioner and physician to George III He carried out post-mortem examinations, lectured on pathology and morbid anatomy, and wrote the first systematic text on the subject (1793) See William Macmichael, *The Goldheaded Cane* (1827, 6th ed , 1932)

Baillie, Robert, 1599–1662, Scottish Presbyterian clergyman, chiefly remembered for his historically valuable *Letters and Journals* (3 vols , 1841–42)

Baillon, Henri Ernest (ärē' ĕrnĕst' bäyō'), 1827–95, French botanist and physician He was professor at the Faculty of Medicine, Paris, from 1863, and later also at the École centrale des Arts et Manufactures His works include *The Natural History of Plants* (13 vols , 1867–95, Eng tr of first 8 vols , 1871–88) and *Dictionnaire de botanique* (4 vols , 1876–92)

Bailly, Jean Sylvain (zhäⁿ' sēlvĕ' bāyĕ'), 1736–93, French astronomer and politician His works on astronomy and on the history of science (notably the *Essais sur la théorie des satellites de Jupiter*) were distinguished both for scientific interest and literary elegance and earned him membership in the French Academy, the Academy of Sciences, and the Academy of Inscriptions Elected a deputy from Paris to the States-General, Bailly was in 1789 chosen as president of the National Assembly From 1789 to 1791 he was mayor of Paris, but the populace was enraged when he permitted the National Guard to fire upon a demonstrating crowd (July 17, 1791) He retired from Paris, but in 1793 he was seized, taken to Paris, convicted of having contrived the July massacre, and guillotined His lengthy *Essai sur l'origine des fables et des religions anciennes* was published in 1799

Bailly, Joseph Alexis (bā'lē, bāyĕ'), 1825–83, American sculptor, b Paris The son of a cabinetmaker, he was trained as a wood carver in Paris He was conscripted in the Revolution of 1848, but escaped to the United States and settled in Philadelphia, where he became a sculptor His work, though unimspired, was popular In Philadelphia are statues of Washington and Franklin He long taught at the Pennsylvania Academy of the Fine Arts

Baily, Edward Hodges, 1788–1867, English sculptor, studied under Flaxman One of his best works is the statue of Nelson in Trafalgar Square, London Other works include decorations for Buckingham Palace, numerous portrait busts and statues, and *Eve at the Fountain*, *Psyche*, and *Helen and Paris*

Baily, Francis, 1774–1844, English astronomer He retired from business (1825) to devote himself to the study of astronomy He was a founder of the Royal Astronomical Society, helped to bring about the reform of the *Nautical Almanac*, revised and reduced the star catalogues of several earlier astronomers, and wrote a notable biography, *An Account of the Revd John Flamsteed, the First Astronomer Royal* (1835) He repeated Henry Cavendish's pendulum experiments for determining the mean density of the earth During an annular eclipse of the sun (May 15, 1836) he first observed the phenomenon now known as **Baily's beads,** a series of spots of light seen on one edge of the sun's disk just before total eclipse and again on the opposite edge just after totality The effect is caused by light shining between elevations on the moon's surface

Bain, Alexander, 1818–1903, Scottish philosopher and psychologist He was educated at Marischal College, Aberdeen, where he later taught for three years He taught one year (1845) at Anderson's Univ , Glasgow, but resigned to do free-lance work in London There he joined a brilliant circle including George Grote and John Stuart Mill, with whom he already had close literary relationships From 1860 to 1880 he held the chair of logic and English at the Univ of Aberdeen (which had absorbed Marischal College), where he worked for educational reform After his retirement he was twice elected lord rector of the university He is best known for his work in psychology developed in his courses and in his writings He brought together and systematized the psychology of his time and sought to eliminate metaphysics from its treatment He founded the first psychological journal, *Mind*, in 1876 His contributions to the field center about four positions, psychophysical parallelism, physiological psychology, associationism, and the problem of the will His works include *The Senses and the Intellect* (1855), *The Emotions and the Will* (1859), *Mental and Moral Science* (1868), *Education as a Science* (1879), *James Mill* (1882), *John Stuart Mill* (1882), and his autobiography (pub posthumously, with a bibliography of his works, 1904)

Bainbridge, William, 1774–1833, American naval officer, b Princeton, N J An experienced sea captain, he joined the navy in 1798 when war with France threatened His ship, the *Retaliation*, was captured by two French frigates, and he and his crew were for a time imprisoned on Guadeloupe In 1800 as commander of the *Washington* he carried the tribute money to the dey of Algiers The dey forced him to proceed under the Turkish flag on a mission to Constantinople—an insult that contributed greatly to the American declaration of war against the BARBARY STATES He was sent to the Mediterranean in 1803 in the *Philadelphia* His ship ran aground when entering the harbor of Tripoli and was captured (its later destruction was one of the most daring exploits of Stephen DECATUR) Bainbridge and his men were imprisoned until the end of the Tripolitan War Bainbridge was in command of the Boston navy yard when the War of 1812 broke out, but he soon had active command of the *Constitution* and two other vessels With them he captured the British frigate *Java* off the Brazilian coast in Dec , 1812 In 1815 Commodore Bainbridge was sent in the *Independence* to aid Decatur in the operations against Algiers but arrived after the fighting was over A biography written by H A S Dearborn in 1816 has been edited by James Barnes and was published in 1931

Bainbridge. **1** City (pop 6,352), co seat of Decatur co , extreme SW Ga , on the Flint river, founded 1823, inc 1829 It is a trade and industrial center in a farm area **2** Village (pop 1,450), S N Y , on the Susquehanna and NE of Binghamton, in a dairy area, settled before 1790, inc 1829 Dairy products are made here

Bainville, Jacques (zhäk' bĕvēl'), 1879–1936, French historian and journalist A nationalist and royalist, he was one of the founders and the foreign editor of the royalist daily, *Action française* His most popular work is his *History of France* (1924, Eng tr , 1926) This brilliant and concise account, though highly debatable in its nationalist thesis, is an eloquent apology for the monarchic tradition in France Other books by Bainville include *Napoleon* (Eng tr , 1934), *The French Republic, 1870–1935* (Eng tr , 1936), and *Dictators* (Eng tr , 1937)

Baird, Absalom, 1824–1905, Union general in the Civil War, b Washington, Pa , grad West Point, 1849 He was made a brigadier general of volunteers (April, 1862), distinguished himself under G H Thomas at Chickamauga and Missionary Ridge (1863), and commanded a division in W T Sherman's campaigns (1864–65) Baird was later inspector general of the U S army with rank of brigadier general

Baird, John Logie, 1888–1946, Scottish inventor In 1926 he gave the first demonstration of true television with a televisor of his own invention He accomplished transatlantic television in 1928 and demonstrated color television in the same year He also invented (1926) the noctovisor, an instrument for making objects visible in the dark

Baird, Spencer Fullerton, 1823–87, American zoologist, b Reading, Pa , grad Dickinson College, 1840 He was professor of natural history at Dickinson from 1846 to 1850 As assistant secretary (1850) of the Smithsonian Institution and then as secretary (from 1878), he was interested in the scientific exploration of the West and amassed a great collection of North American fauna In 1871 he was appointed commissioner of fish and fisheries and was influential in the establishment, in the same year, of the U S Bureau of Fisheries He established the marine biological station at Woods Hole, Mass , organized the expeditions of the *Albatross*, and initiated studies of high economic value Baird's publications (over 1,000 titles) show a phenomenal range of scientific work His books on birds inaugurated the so-called Baird school of ornithological description, among other major studies were *Catalogue of North American Reptiles* (with Charles Girard, 1853) and *Catalogue of North American Mammals* (1857) See biography by W H Dall (1915)

Baird, city (pop 1,810) co seat of Callahan co , W central Texas, ESE of Abilene, settled 1880, inc 1891. It processes and ships cotton, wheat, peanuts, and other crops and refines oil

Bairnsfather, Bruce (bârnz'–), 1888–, English author and illustrator, b Murree, India An engineer, he served with the British forces in the First World War and created the character "Old Bill" to typify the spirit of the British infantryman The London *Bystander* published his amusing sketches of life in the trenches, later issued as *Fragments from France* (1916) His other works include *Bullets and Billets* (1917), his popular play, *The Better 'Ole* (performed in the United States, 1918–19), and *Jeeps and Jests* (1943), a book about the American armed forces in Ireland during the Second World War.

Baius (bā'yus) or **Bajus** (bā'jus), **Michael,** 1513–89, Flemish Roman Catholic theologian, also known as Michel de Bay. He was chancellor of the Univ of Louvain and was sent to the Council of Trent Baius was the center of a subtle controversy on GRACE, in which he is said to have been the forerunner of JANSENISM His position was peculiar in giving original sin a very important place but making man partly instrumental in his redemption His doctrines were condemned several times (especially by the bull of Pius V, *Ex omnibus afflictionibus*, 1567), but Baius abjured his errors each time, and he died in the church

Baja (bô'yô), city (pop 32,309), S Hungary, on the Danube Covering an area of 77 sq mi , it is an extreme example of a straggling Hungarian "peasant city," serving as a market center

Baja California ' see LOWER CALIFORNIA.

Bajazet I (bäjŭzĕt'), 1347–1403, Ottoman sultan (1389–1402), son and successor of Murad I He besieged Emperor MANUEL II at Constantinople, conquered E Anatolia, and defeated the army of Sigismund of Hungary (see SIGISMUND, emperor) at NIKOPOL (1396) Turning east to check TAMERLANE, he was routed at Ankara in 1402, most of his troops except the Serbs and the Janizaries having abandoned him The iron cage in which Tamerlane is said to have carried the captive sultan was actually a palanquin He was succeeded by his son, MOHAMMED I The name also appears in other forms, e g , Bayazid, Bayazit, and Bajeset

Bajazet II, 1447–1513, Ottoman sultan (1481–1512), son and successor of Mohammed II He put down the revolt of his brother Djem, who fled to Rhodes and then was held captive, as a threat to Bajazet, first by Pierre d'AUBUSSON, then by Popes INNOCENT VIII and ALEXANDER VI Bajazet offered a fabulous sum to Alexander on condition of Djem's death Transferred to the custody of Charles VIII of France, Djem died (1495) near Naples, possibly from the effects of poison, though the French were blameless in his death A peace-loving monarch, Bajazet did little to advance Ottoman power but much to further Ottoman culture He warred (1485–91) with the Mamelukes of Egypt, to whom he lost Cilicia, and allowed Cyprus to be seized (1489) by Venice A war (1499–1503) with Venice ended to the sultan's disadvantage One of Bajazet's major feats was the speedy rebuilding of Constantinople, which was devastated (1509) by an earthquake In 1512 Bajazet was dethroned by his son, Selim I, who later had him poisoned

Bajazet, d 1638, Ottoman prince; brother of Sultan Murad IV After Murad had taken Baghdad, he sent an order to Constantinople to have Bajazet executed as a dangerous rival Bajazet's death is the subject of Racine's tragedy, *Bajazet* (1672)

Bajer, Fredrik (frādh'rĭk bī'ur), 1837–1922, Danish pacifist and writer He helped to found the International Peace Bureau at Berne in 1891 and was awarded the 1908 Nobel Peace Prize jointly with K P Arnoldson

Bajith (bā'jĭth) [Heb , =house], term of unknown significance Isa 15 2

Bajpai, Sir Girja Shankar (gēr'jŭ shŭng'kar bŭy'pī), 1891–, Indian statesman He was educated at Muir College, Allahabad, and at Oxford He was the first Indian agent general to the United States (1941–47), and in 1946 he became a delegate to the United Nations Economic and Social Council

Bajus, Michael see BAIUS, MICHAEL

Bakacs, Thomas see BAKOCZ, THOMAS

Bakbakkar (bäkbäk'ur), Levite 1 Chron 9 15

Bakbuk (bäk'bŭk) [Heb , =bottle], family which returned with Zerubbabel Ezra 2 51, Neh 7 53

Bakbukiah (bäk"bŭkī'u) **1** Levite with Zerubbabel Neh 11 17, 12 9 **2** Levite Neh 12 25

bakelite (bā'kulīt), trade name for a synthetic resin It is widely used as a substitute for hard rubber, amber, and celluloid, for insulating electrical apparatus (since it is a nonconductor), for manufacturing certain machinery gears, phonograph records, and many other articles both useful and ornamental and as diverse in character as buttons, billiard balls, pipestems, and umbrella handles Bakelite, so named for its inventor, L H Backeland, is produced by subjecting the substance formed by the reaction between formaldehyde and phenol to a special heat treatment under pressure The apparatus used in this process is known as a bakelizer Pure bakelite is colorless or amber-colored, but often during its commercial preparation dyes are added which give it color It is mixed with wood fiber, paper, or asbestos according to the properties—such as great tensile strength—desired in the final manufactured article When applied to wood in the form of varnish it adds hardness

Baker, Sir Benjamin, 1840–1907, English civil engineer He helped build the London underground and metropolitan railway systems and the Aswan Dam in Egypt With Sir John Fowler he designed and built the bridge over the Firth of Forth He also designed the cylindrical ship used to carry Cleopatra's Needle from Egypt to London

Baker, Edward Dickinson, 1811–61, U S. Senator and soldier, b London, England. His family came to the United States in 1815, ultimately moving to Illinois Baker became one of the famous coterie of lawyers practicing at Springfield, Ill., in Lincoln's time In 1844, defeating Lincoln for the Whig nomination, he was elected to Congress. He resigned to lead a regiment in the Mexican War and

distinguished himself at Cerro Gordo. After another term in Congress (1849–51), he moved to California, where he practiced law and became a prominent Republican leader Since the state was Democratic, Baker accepted the invitation of Oregon Republicans to move to their state and was promptly elected (1860) to the U S Senate He was prominent in the first months of the Civil War as Lincoln's friend and as the only administration supporter from the Pacific coast He was killed leading a brigade at Balls Bluff in Oct , 1861 As an orator Baker was nationally known His panegyric on David C. BRODERICK is a classic in California history

Baker, George Fisher, 1840–1931, American financier and philanthropist, b Troy, N Y He studied at Seward Univ in Florida and was employed (1858–63) in the New York state banking department After he joined three others in founding (1863) the First National Bank of New York, Baker became (1877) its president and then (1909) chairman of its board of directors Largely through his efforts this bank became one of the strongest financial institutions in the United States Baker was closely associated with the interests of the house of Morgan, he helped finance James J. Hill in building his railroad empire and backed him in the fight to control the Northern Pacific RR In 1882 Baker acquired the Richmond and Danville RR and made it the nucleus of the present Southern Railway system After 1907 he aided in rehabilitating the Central RR of New Jersey and later the Delaware, Lackawanna & Western RR He also gained a commanding influence in insurance and utilities, as well as in the steel and rubber industries His philanthropic bequests were many The most notable were $6,000,000 to found and support the Harvard graduate school of business administration, $2,000,000 to Cornell, $1,000,000 to build the Baker Memorial Library at Dartmouth, and the money for the establishment of Baker Field of Columbia Univ

Baker, George Pierce, 1866–1935, American educator, b Providence, R I , grad Harvard, 1887 He taught (1888–1924) in the English department at Harvard and there conceived and instituted the 47 Workshop, a laboratory of the drama where problems of composition and construction were given realistic treatment Among those who found inspiration in his courses and in the atmosphere of the Workshop were Eugene O'Neill, Philip Barry, Sidney Howard, George Abbott, and Robert Edmond Jones In 1925 he went to Yale, where as professor of the history and technique of drama and director of the university theater he continued his work He was emeritus after 1933 Baker wrote *The Development of Shakespeare as a Dramatist* (1907) and *Dramatic Technique* (1919) and edited the works of his students See memorial by John Mason Brown and others (1939)

Baker, Newton Diehl, 1871–1937, U S Secretary of War (1916–21), b Martinsburg, W Va , grad Johns Hopkins, 1892, LL B Washington and Lee Univ , 1894 He practiced law and politics in Cleveland as a protégé of Tom L JOHNSON and later (1912–16) as mayor Woodrow Wilson appointed him to the cabinet in March, 1916, just in time to prepare the punitive expedition to MEXICO A pacifist, Baker had the tremendous war-making task of direction in the First World War Though he was at first mercilessly criticized (notably by Theodore Roosevelt) and though his conduct of the war was subjected to a congressional investigation, he was later praised by all groups He retired (1921) to lucrative practice of law in Cleveland but continued to be a public figure, a warm advocate of peace and of U S entry into the League of Nations, a learned and forceful Democratic party speaker, a conservative candidate for the Democratic presidential nomination, and a member (appointed 1928) of the Permanent Court of Arbitration (Hague Tribunal) See Frederick Palmer, *Newton D Baker : America at War* (1931)

Baker, Oliver Edwin, 1883–1949, American economic geographer, b Tiffin, Ohio, grad Heidelberg College, 1903 He studied forestry at Yale and agriculture and economics at the Univ of Wisconsin (Ph D , 1921) After 1912 he served with the U S Dept of Agriculture, largely in research on land utilization Besides many articles and reports, he wrote, with V C Finch, *Geography of the World's Agriculture* (1917), and he edited the *Atlas of American Agriculture*

Baker, Ray Stannard, pseud **David Grayson,** 1870–1946, American author, b Lansing, Mich , grad Michigan State College, 1889 At first a Chicago newspaper reporter, he joined the staff of *McClure's Magazine* in 1897 and wrote for it some famous muckraking articles. With other *McClure's* contributors he purchased the *American Magazine* in 1906 and helped edit it His first book of amiable rural essays by "David Grayson," *Adventures in Contentment*, appeared in 1907, although he did not acknowledge his authorship until 1916, and the series continued with *Great Possessions* (1917), *The Countryman's Year* (1936), and others. Baker, an intimate of Woodrow Wilson, was sent to Europe in 1918 as one of the President's special agents to study the chances for peace At the peace conference at Versailles, Baker was director of the press bureau of the American peace commission Afterward he wrote *Woodrow Wilson and World Settlement* (3 vols , 1922), a history of the peace conference based largely on the Wilson papers With W E Dodd he edited Wilson's *Public Papers* (6 vols , 1925–26) His authoritative biography of Wilson (8 vols , 1927–39), for which he used the President's personal papers, won the Pulitzer Prize for biography in 1940 for the last two volumes See his interesting autobiographical works, *Native American the Book of My Youth* (1941) and *American Chronicle* (1945)

Baker, Sir Samuel White, 1821–93, English explorer in Africa He explored the Nile tributaries in Ethiopia in 1861–62 Going up the Nile from Cairo, he reached Gondokoro in 1863 He continued his journey southward in spite of the opposition of Arab slave traders and discovered Albert Nyanza on March 14, 1864 In 1869, with the authority of the khedive of Egypt, he returned to the region and, creating an administration in the LADO ENCLAVE, he suppressed the slave trade and opened up the lake areas to commerce

Baker, Theodore, 1851–1934, American writer on music, b New York city He was educated in the United States and Leipzig and in 1892 became literary editor for the house of G Schirmer His *Biographical Dictionary of Musicians* (1900, 4th ed , 1940) is outstanding in its field

Baker. 1 City (pop 1,304), co seat of Fallon co , SE Mont , near the N Dak line E of Miles City , inc 1914 A gas field surrounds and enriches the little market city **2** City (pop 9,342), co seat of Baker co , NE Oregon, SSE of Pendleton and in the Powder river valley, laid out 1865 after gold was discovered (1861–62) in the area, inc 1874 The city is the trade and distributing center of an agricultural, stock-raising, lumbering, and mining region

Baker, Mount, peak, 10,750 ft high, N Wash , in the Cascade Range

Baker Island, central Pacific near the equator, 40 mi S of Howland Island, on the air route to Australia The arid coral island (area 1 sq mi) was claimed (1857) by the United States Like JARVIS ISLAND and HOWLAND ISLAND, Baker was worked for guano by both American and British companies In 1935 it was colonized by Americans from Hawaii and a year later was placed under the Dept of the Interior In the Second World War it was captured (1942) by the Japanese, but American forces regained it in 1944 It is now a naval station

Baker Lake, area 1,029 sq mi , Keewatin dist , Northwest Territories, 25 mi W of Chesterfield Inlet of Hudson Bay It has a post of the Royal Canadian Mounted Police at its west end

Bakersfield, city (pop 29,252), co seat of Kern co , S central Calif , on the Kern river and N of Los Angeles, at the southern end of the San Joaquin Valley, laid out 1869, inc 1898 Gold was discovered in the region in 1855, and petroleum in 1899 It is the center of a great oil-producing area and a shipping point for citrus fruits and farm products The city has oil refineries and railroad shops, among its varied manufactures are oil-well tools, pumps, paint, aircraft, and food products A junior college (coeducational) is here Gold, silver, borax, and tungsten mines are in the vicinity

Baker University see BALDWIN CITY, Kansas

Bakewell, Robert, 1725–95, British agriculturist He developed the Leicestershire breed of sheep and the Dishley, or New Leicestershire Longhorn, breed of cattle and instituted many improvements in farm management

Bakhchisarai (bäkh"chəsärī') [Turkish,=garden house], city (pop c 10,000), S European RSFSR, in S Crimea From the 15th cent until 1783 it was the capital of the khanate of Crimea or Little Tatary Until the deportation, at the end of the Second World War, of the Crimean Tatars, the population of Bakhchisarai was 70 percent Turko-Tatar The palace of the khans, celebrated by Pushkin and Mickiewicz for its beauty, notably its white marble fountains, was built in the 16th cent Bakhchisarai formerly had more than 30 mosques Near by are the ruins of CHUFUT-KALE

Bakhmut, Ukraine see ARTEMOVSK

Bakhtegan, lake, Iran see NIRIZ

Bakhtiari (bäkh"tēə'rē, -ärē', bäkh"-), region of SW Iran It is mountainous, and the roads connect the scattered villages only poorly The Karun and Zavinda Rud rise here The section is the chief home of the nomadic mountain tribe, the Bakhtiari, who have sometimes been classified among the Great Lurs They live primarily by pastoral pursuits though they raise some crops in the fertile valleys They are famed for their warlike behavior They are commonly said to have two branches, the Haftlang and the Charlang or Cheharlang The region became important in the 1880s when the British wished to put through a rail line After the discovery of oil, the Bakhtiari chiefs were even more courted by the British and were paid to protect the oil pipe lines through the country The Bakhtiari played a decisive part in the revolution of 1908–9. Reza Shah Pahlavi subdued them, but after his deposition they once more set out on aggressive activities against the central government

Bakhuyzen, Ludolf see BACKHUYSEN, LUDOLF

baking powder, mixture containing baking soda (sodium bicarbonate) and acid-producing ingredients which combine when moistened, causing the evolution of carbon dioxide in dough masses It acts more rapidly than YEAST In the early baking powders, used in the United States from c 1850, the ingredients were commonly put up in separate packets Cookbooks called for measurements of cream of tartar and of baking soda Modern baking powders are classed according to whether the acid-producing constituent is a tartrate, a phosphate, or an alum Tartrate powders liberate all the gas evolved at room temperature, phosphate types release a portion of the gas at oven heat Those called double-acting powders contain two or more of these acid-producing substances and produce some carbon dioxide at room temperature and some at oven heat The use of baking powder is properly limited to quick breads, cakes, and pastry

baking soda see SODA

Bakocz or **Bakacs, Thomas** (bô'kôts, bô'kôch), Hung *Bakócz* or *Bakács Tamás* (tô'mush), c 1442–1521, Hungarian statesman, cardinal of the Roman Church He is often called the Hungarian Wolsey Of unbounded ambition, he rose from servile origin, was secretary to King Matthias Corvinus, and under Uladislaus II, whom he dominated, became chancellor, archbishop of Esztergom, and papal legate Though he was expected by many to succeed Julius II as pope, Leo X was elected Leo in 1514 charged him as primate of Hungary with a crusade against the Turks The nobles did not heed Bakocz's call, and the peasants who had volunteered revolted against the aristocracy The rebellion was crushed with great cruelty by John Zapolya (see JOHN I), and the few remaining liberties of the peasants were abolished After Uladislaus's death Bakocz retired to Esztergom, where he died, leaving an enormous fortune

Bakst, Lev Nikolayevich (lyəf' nyĭkůl'uvĭch bäkst'), 1866?–1924, Russian scenic artist and painter His original, imaginative style and rich and brilliant color exerted a wide influence on the costume, stage setting, and decorative arts Through his designs for the stage settings and costumes for Diaghilev's ballets *Cleopatra* and *Scheherazade* he gained a wide reputation His principal works were exhibited in the United States in 1913–14

Baku (bäkōō', Rus bůkōō'), capital of Azerbaijan, USSR, on the Caspian Sea Greater Baku (pop 809,347) includes the whole APSHERON peninsula, on which Baku proper is situated The city is the chief petroleum center of the USSR and one of the largest in the world It is also a great Caspian port, the head of oil and kerosene pipe lines to Batum, and the seat of the state university of Azerbaijan, of several technical and medical institutes, and of museums, theaters, and a conservatory The city was first mentioned in the 5th cent A D Its oil and gas wells were long worshiped by Zoroastrians, who made shrines of constantly burning fires. After passing under the rule of Arabs, Turks, and Persians, it was ceded to Russia by Persia in the Treaty of Gulistan (1813) It grew rapidly after the development (late 19th cent) of the oil industry Baku proper rises in an amphitheater from the Baku Bay The center of Baku is the Old City, the fortress of Bad-Kube, which includes quaint medieval streets, several mosques, and the 17th-century palace of the khans of Baku, who were vassals of the Persian shahs The Maiden's Tower, part of an old fortification, dates from the 12th cent The New City is modern and European in aspect It adjoins, in the east, the Black City (Rus *Cherny Gorod*) and the newer White City (Rus *Bely Gorod*), where the petroleum refining and cracking plants are situated Numerous industrial suburbs cover the entire area of Greater Baku

Bakunin, Mikhail (mēkhīl' bůkōō'nyĭn), 1814–76, Russian anarchist He was of the aristocracy, but entered upon revolutionary activities as a young man As a result of his part in the German revolutions of 1848–49, he was exiled to Siberia, but escaped In 1868 he became active in the First International where with his militant anarchist doctrines, he had great influence These doctrines, however, brought him into conflict with the Marxists, and he was expelled (1872) He believed that through "anarchism, collectivism, and atheism" men would achieve complete freedom, and he advocated violent overthrow of existing states and institutions as a necessary step to these ends. His writings include *God and the State* (1882, Eng. tr , 1893) See biography by E H Carr (1937)

Balaam (bā'lăm), prophet hired by **Balak,** king of Moab, to curse the Jews, encamped in the Jordan valley For the story of the way every curse became a blessing, see Num 22–24 Later, Balaam seduced the Israelites to evil practices, an act for which he was killed. See also Num 31 8,16, Micah 6 5, 2 Peter 2 15,16, Jude 11, Rev. 2.14.

Balac (bā'lăk), Greek form of BALAK.

Baladan see MERODACH-BALADAN

Balah (bā'lŭ), the same as BILHAH 2.

Balak (bā'lăk) [Heb ,=who devastates], king of Moab who hired **Balaam** to curse Israel Num 22–24 Balac is a Greek form Rev 2 14

Balakirev, Mili Alekseyevich (mē'lyĭ ălyĭksyā'yĭvĭch bălă'kyĭrĭf), 1837–1910, Russian composer and conductor, remembered more for his influence on contemporary nationalist composers, Borodin, Moussorgsky, and Rimsky-Korsakov, than for his own compositions In 1862 he founded the Free School of Music in St Petersburg, he was conductor of the Russian Music Society, 1867–69, succeeding Anton Rubinstein In 1869 he became director of the Imperial Chapel and in 1883 of the Imperial Music Society His compositions, few in number, include the symphonic poems *Tamara* (1881) and *Russia* (1882), a piano fantasy, *Islamey* (1869), incidental music for *King Lear* (1858–59), and songs See M D Calvocoressi and Gerald Abraham, *Masters of Russian Music* (1936); V. I. Seroff, *The Mighty Five* (1948)

Balaklava (bă'lŭklä'vŭ, -klä'vŭ, Rus. bŭlŭklä'vŭ), city (pop 2,323), S European RSFSR, in S Crimea, 8 mi SSE of Sevastopol It is a fishing port and resort on the Black Sea In ancient times it was an important Greek commercial city, and in the Middle Ages it belonged to the Genoese, from whom it was taken (1475) by the Turks There are ruins of a Genoese fortress (14th–15th cent) In the Crimean War, Balaklava became famous for an allied victory (Oct , 1854) over the Russians and particularly for the charge of the Light Brigade, celebrated by Tennyson Owing to a misunderstanding of orders, an English light-cavalry brigade, 670 strong, led by the earl of Cardigan, charged a heavily protected Russian position, with utter disregard for the hopelessness of their task More than two thirds were killed or wounded

balalaika (bălŭlī'kŭ), stringed musical instrument, with triangular body and long, fretted neck, similar to the guitar Its strings, usually numbering three, are plucked Various sizes of balalaikas are often used in ensemble Of uncertain origin, it is now associated with Russia

Balance, the · see LIBRA

balance, instrument designed to measure the MASS or weight of a body The simplest type of balance, the equal-arm or beam balance, is an application of the simple LEVER A uniform bar, the beam, is suspended at its exact center upon a knife-edge set at right angles to it The point of support is called the fulcrum Two pans of equal weight are suspended from the beam, one at each end, at points equidistant from the fulcrum Since the center of gravity of a uniform bar is at its mid-point, the beam supporting the pans will be in equilibrium, i e , will balance upon the knife-edge A long pointer attached at right angles to the beam at the fulcrum indicates zero on a scale when the beam is at rest parallel to a level surface It also shows the extent of swing of the beam on one side or the other, acting somewhat as a pendulum, when the beam is coming to rest The object to be weighed is placed upon one pan and standard weights are added to the other until the balance of the beam is established again One balance of this type, the analytical balance is used for delicate weighing in quantitative analysis in chemistry It is contained in a glass case, since its accuracy is easily affected by dust and moisture The platform balance is a form of equal-arm balance with a small rider mounted upon a bar which is parallel to the beam and connects the supports of the two parts This rider is moved along the bar from left to right, its left edge marking decimal fractions of the unit weight On the unequal-arm balance, the beam is suspended at a point a very short distance from one of its ends The object to be weighed is placed on this end and a small weight is moved out along the longer arm until balance is obtained. One example of this type of balance is the Roman steelyard In the equal-arm and unequal-arm balances, the mass or standard weight of a body is determined, but the spring balance is a machine which records local weight, i e , measures the force of gravity at a certain point on the earth's surface It consists of a coiled spring fastened at one end, with a hook at the other to which the body to be weighed or the force to be measured is applied A pointer fastened to a part of the spring near its attached end records the extent to which the spring is stretched by the body Such balances do not retain their accuracy permanently, for no matter how carefully it is handled, the spring very gradually uncoils even though its limit of elasticity has not been exceeded Although extremely accurate results can be obtained in measuring minute masses, it is physically impossible to construct any balance so perfect mechanically that it will yield directly weighings that are "perfectly" accurate. For ordinary purposes the errors are so small as to be insignificant, but in chemical analysis it has been necessary to work out methods by which they can be corrected Since it is not possible to find the exact center of gravity of a beam or to construct pans of identical weight, the errors can in some degree be overcome by the use of tiny riders and set screws to add extra weight to one side or the other of the beam. Special methods of weighing procedure have also been worked out to minimize error. A so-called TORSION BALANCE depending upon the twisting of a wire or thread has been employed for weighing, but the term is commonly used to indicate a device for measuring minute electrical and magnetic forces It is not strictly a balance

balance of power, in international relations, doctrine that the preservation of peace depends upon preventing any nation or coalition of nations from becoming powerful enough to dominate in relations with all other nations In its operation the doctrine usually leads to either of two results a coalition of states intended to resist and confine a powerful state or, where there are rival states or alliances of opposing power, an offer of support to the weaker. The doctrine was espoused in Europe after the 15th cent Many coalitions, such as the GRAND ALLIANCE, were designed to maintain the balance of power, disruption by threats of territorial aggrandizement would justify any intervention, even war The chief modern schemes of international control, the League of Nations and the United Nations, may be, with great restrictions, viewed as practicing a modified version of the balance of power, in that the strength of the entire organization is theoretically available against any power which endangers the peace

balance of trade, the difference between the exports and imports of a country Under the economic theory of the 16th and 17th cent the Merchants Adventurers sponsored the idea that a country should have an excess of exports over imports to bring money, which they confused with wealth, into the country They urged legislation to restrict use of foreign goods and exportable domestic goods By 1663 these mercantilists had abolished laws forbidding the export of bullion and regulating individual foreign transactions, but the idea that a "favorable" balance of trade spelled prosperity to a country was believed sound until refuted by Adam Smith and David Hume It is still popularly held Any computation of the balance of trade must include not only exports and imports of goods, but also such "invisibles" as money spent by tourists or sent to relatives and such services as cablegrams, patents, charities, missions, and transportation Foreign loans and their interest must also be included The balance of trade is rather an indication of a country's borrowing than of its prosperity See F W Taussig, *International Trade* (1927)

Balanchine, George (bă'lŭnchēn), 1904–, Russian-American ballet dancer and choreographer, whose real name is Georgi Balinchinvadse He attended the Imperial Ballet School, Petrograd, and performed (1921–24) in Russia In the Diaghilev Ballet Russe, Paris (1924–28), he was a principal dancer and a choreographer He came to the United States (1933) and was director (1934–37) of ballet for the Metropolitan Opera House and a founder of the School of American Ballet His choreographical works include *The Nightingale, Apollon musagète, Prodigal Son,* and *Cotillon.*

Balard, Antoine Jérôme (ătwăn' zhārōm' bălär'), 1802–76, French chemist He discovered bromine (1826), extracted sodium sulphate from sea water, and first recognized the composition of bleaching powder

Balassa, Baron Balint (bŭlŭsh'ŭ), Hung *Balassa Bálint* (bô'lôsh-shô ba'lĭnt), 1551–94, Hungarian Renaissance poet He was famous as a dancer of the ceremonial dances of old Hungary Fundamentally a religious poet, he had a keen sense of the beauties of nature and was one of the first Hungarian poets to express it His versification was graceful and his diction powerful, so that he far transcends his contemporaries and immediate predecessors. He is regarded as the creator of Hungarian lyric verse In addition to his original works, he left translations of medieval Latin poets

Balaton (bă'lŭtŏn, Hung bô'lôtôn), Ger. *Plattensee* (plă'tŭnzā), largest lake in Central Europe, area 231 sq mi , 48 mi long There are many tourist and health resorts, the shallow waters abound in fish, and along the shores are fine vineyards

Balbi, Adriano (ădrēä'nō bäl'bē), 1782–1848, Italian geographer, b Venice He published *Atlas ethnographique du globe* (1826), *Abrégé de géographie* (1832), and other works, some of which were edited by his son, **Eugenio Balbi** (āōjā'nyō), 1812–84, who was also a geographer

Balbo, Cesare (chä'zärā bäl'bō), 1789–1853, Italian politician, historian, and author. He held various posts during the Napoleonic occupation of Italy and became involved in the revolution of 1821 in Piedmont King Charles Albert of Sardinia made him premier of his first constitutional cabinet (1848), but Balbo resigned after three months. His works include *Sommario della storia d'Italia* (1846), *Speranze d'Italia* [hopes of Italy] (1844), and a life of Dante (1839)

Balbo, Italo (ē'tälō), 1896–1940, Italian Fascist leader and aviator After serving in the First World War, he joined the Fascist movement and was one of the four top leaders of the March on Rome in 1922. A general of the Fascist militia, he held several cabinet posts and became minister of aviation in 1929 He efficiently developed aviation in Italy and led mass flights, the most notable being Rome—Rio de Janeiro and Rome—Chicago (1933) The same year he was sent to Libya as governor general, a post he held until his death in 1940, when his plane was brought down over Tobruk, Libya, supposedly by accident.

Balboa, Vasco Núñez de (bälbō'ŭ, Span. vä'skō nōō'nyăth dā bälbō'ä), c 1475–1519?, Spanish conquistador, discoverer of the Pacific Ocean. After sailing with BASTIDAS in 1501, Balboa probably went to Hispaniola In 1510, fleeing from creditors, he hid on the vessel that took ENCISO to Panama. After reaching DARIEN, Balboa took command, deposed the incompetent Enciso, and sent him to Spain as a prisoner Balboa showed only rarely the rapacity and cruelty characteristic of the conquistador He won the friendship of the Indians, who accompanied him on his epic march across the isthmus Toward the end of Sept , 1513, he discovered the Pacific and claimed it and all shores washed by it for the Spanish crown His discovery came too late to offset Enciso's complaints at the court of Spain Balboa was replaced by Pedro ARIAS DE ÁVILLA, and while preparing an expedition to Peru, he was summarily seized by Pedrarias, accused of treason, and beheaded See Charles L G. Anderson, *Life and Letters of Vasco Nuñez de Balboa* (1941)

Balboa, town (pop 3,922), Panama Canal Zone, a port on the Pacific It is administrative headquarters of the zone, the canal, and the Panama Railroad Company and the port for Panama city. Balboa dist comprises the Pacific half of the zone

Balbriggan (bälbrĭg'ŭn), town (pop 2,530), Co Dublin, Ireland, on the Irish Sea and N of Dublin It is a fishing port and a textile center (especially hosiery)

Balbus (Lucius Cornelius Balbus) (bäl'bus), 1st cent B C , Roman statesman, b Gades (now Cádiz, Spain) He won notice for brilliant service against Sertorius, and Pompey brought him to Rome and had him made a citizen Balbus helped to bring about the creation of the First Triumvirate (Pompey, Caesar, and Crassus) in 60 B C and thereafter was a friend and protégé of Julius Caesar In 56 B C the conservative party, to embarrass Pompey and Crassus in Caesar's absence, charged Balbus with obtaining citizenship illegally When the case came to trial, CICERO at Pompey's request made a brilliant oration in Balbus' defense and secured an acquittal Balbus at first was neutral, then openly favored Caesar in the struggle with Pompey After Caesar's death he supported Octavian (later Augustus) and in 40 B C was made consul, the first person who was not born a citizen to hold that office

Balch, Emily Greene (bôlch), 1867–, American economist and sociologist, b Jamaica Plain, Mass , grad Bryn Mawr, 1889 She taught economics and social science at Wellesley from 1896 until 1918, when she was dismissed for her activities against the First World War She continued her efforts for peace, being international secretary of the Women's International League for Peace and Freedom from 1919 to 1922 and its honorary international president from 1936 With John R Mott she shared the 1946 Nobel Peace Prize Among her writings are *Approaches to the Great Settlement* (1918), *Refugees as Assets* (1939), and *The Miracle of Living* (1941), poems.

Balchen, Bernt (bäl'kun), 1899–, Norwegian-American aviator He studied flying at the Norwegian naval school and had much experience flying in the arctic He headed one of the search expeditions for Amundsen and Ellsworth in 1925 and was a member of their 1926 expedition to the arctic Byrd, meeting Balchen at Spitsbergen in 1926, brought him to the United States, and the Norwegian became a test pilot for the Fokker aircraft concern He was second pilot on Byrd's transatlantic flight in 1927 and was the hero of the forced night landing in the surf on the Norman coast He took part in the rescuing (1928) of the *Bremen* flyers from Greenly Island near Newfoundland, was chief pilot on Byrd's expedition to Antarctica (1928–30), was a colonel in the U.S Army Air Forces in the Second World War, and was recalled to active service in 1948

bald cypress: see CYPRESS

Baldensperger, Fernand, pseud **Fernand Baldenne,** 1871–, French literary historian and poet From 1900 to 1936 he taught comparative literature at Nancy, Lyons, Strasbourg, and Paris universities He has been connected with several American universities—Harvard, Princeton, and the Univ of California at Los Angeles With Paul Hasard he founded the *Revue de littérature comparée* in 1921 Among his important works is *Études d'histoire littéraire* (4 vols.) Baldensperger has been successful in translating English poetry into French verse, his *D' Edmund Spenser à Alan Seeger* (1938) is an example.

Balder (bôl'dŭr), Norse god of light, son of Odin and Frigg. His mother had extracted oaths from everything but the mistletoe not to harm her son According to one legend Loki gave a dart of mistletoe to the blind Hoder and aimed it at Balder, who was killed by it.

Bald Knob, farm trade town (pop 1,445), N central Ark., between the White and the Little Red rivers

baldness, condition of lack or loss of hair, occurring more frequently in men than in women and usually appearing in later life The cause of baldness has been attributed to a number of factors, including heredity, tension of the scalp resulting in a reduced local blood supply, disease of the nervous system (e g , syphilis), fungus infection, and dandruff Although massage and hair tonics are frequently employed to stimulate growth of hair, most cases fail to respond to such therapy Plastic surgery has been used to loosen the skin of the scalp, thus eliminating skin tension and increasing the local blood supply

Baldoon (–dōōn'), settlement, S Ont , near the present Chatham. It was founded by the 5th earl of Selkirk in 1804 Its failure contributed to the decision of Selkirk to establish Scottish emigrants on the western prairies

Baldovinetti, Alessio (älās'syō bäldōvēnēt'tē), c 1425–1499, painter and decorative artist of the early Florentine Renaissance It is believed that he was a pupil of Uccello and that he assisted Andrea del Castagno and Domenico Veneziano in painting frescoes for Santa Maria Novella, Florence He was one of the first in Italy to experiment with the technique of oil painting Among his surviving works are the *Nativity*, painted for the cloister of Santa Annunziata, Florence, *Madonna with Saints* and *Annunciation* (Uffizi), *Madonna* (Louvre), and several of the ceiling figures from his decorations for the Portuguese chapel in San Miniato, where he also restored some of the mosaics A portrait of himself (Galleria Morelli, Bergamo) is all that survives of his most ambitious work, a series of frescoes representing scenes from the Old Testament and introducing portraits of famous contemporaries, which he painted for the Church of Santa Trinità, Rome The *Trinity*, for the altar of the same church, is now in the Academy at Florence Baldovinetti was considered the foremost designer of mosaics of his day and one of the foremost decorative artists He worked also in stained glass, and painted *cassoni*, shields, and coats of arms His most famous pupil was Domenico Ghirlandaio See biography by R W Kennedy (1939)

Baldung, Hans (hans' bäl'dōōng), c 1480–1545, German painter, sometimes surnamed Grien or Grün because of his predilection for green in his paintings He was probably a pupil of Dürer, and his work shows the influence of Dürer and Grünewald He lived and worked in Strasbourg, where he was court painter to the bishop He painted chiefly religious and mythological subjects His masterpiece is a high altar in the cathedral at Freiburg im Breisgau, depicting the *Coronation of the Virgin* Also famous are two allegories *Luxury* and *Death* (Basel) and *Adoration of the Magi* Baldung's painting is distinguished for its fine color and luminosity In addition to his religious paintings he produced some portraits and various admirable drawings, woodcuts, and designs for stained glass

Baldwin I, 1171–1205, first Latin emperor of Constantinople (1204–5) As count of Flanders, he was a leader in the Fourth Crusade (see CRUSADES) After the taking of Constantinople (1204), the Crusaders elected him emperor (see CONSTANTINOPLE, LATIN EMPIRE OF) He was captured in battle (1205) by the Bulgarians and died in captivity, probably by poison He was succeeded by his brother, Henry of Flanders

Baldwin II, 1217–73, last Latin emperor of Constantinople (1228–61), brother and successor of ROBERT OF COURTENAY He began his personal rule only after the death (1237) of JOHN OF BRIENNE Baldwin traveled in Western Europe in search of financial and military aid for his tottering throne (see CONSTANTINOPLE, LATIN EMPIRE OF) To obtain funds he sold a large part of the True Cross and other sacred relics to Louis IX of France and at one time pawned his son with the Venetians In 1261 MICHAEL VIII, Greek emperor of Nicaea, stormed Constantinople Baldwin escaped to Italy and ultimately transferred his claims on the throne to CHARLES I of Naples

Baldwin I, 1058?–1118, king of Jerusalem (1100–1118), brother and successor of GODFREY OF BOUILLON, whom he accompanied on the First Crusade (see CRUSADES) Separating from the main army after the siege of Nicaea, Baldwin followed TANCRED into Cilicia and deprived him of Tarsus (1097) He wrested Edessa from the Moslems (1097) and as count of Edessa defended the city until elected ruler of Jerusalem. His election marked the triumph of the military faction of the Crusaders over the ecclesiastical faction Taking the title of king, he consolidated the Latin states of the East With the help of crusading fleets from the West and—more important—of the Genoese and the Venetians, to whom he made large concessions, he gained possession of the chief ports of Palestine. He helped the Latin rulers of Antioch, Edessa, and Tripoli against the Moslems and fought against the Egyptians He died on his return from an expedition into Egypt. His cousin, Baldwin II, succeeded him.

Baldwin II (Baldwin du Bourg), d. 1131, king of Jerusalem (1118–31), count of Edessa (1100–1131), cousin and successor of Baldwin I He accompanied Godfrey of Bouillon on the First Crusade, was captured (1104) by the Moslems, and was released in 1108 As king of Jerusalem, he spent most of his reign fighting the Turks in N Syria He was a prisoner from 1123 to 1124, Eustace Grener, his regent during his captivity, took Tyre In Baldwin's reign the Latin principality of Antioch was reduced to dependence on the kingdom of Jerusalem Baldwin's daughter Melisende married (1129) FULK of Anjou, who succeeded him

Baldwin III, 1130–63, king of Jerusalem (1143–63), son and successor of Fulk In his reign began the decay of the Latin power in the East Edessa fell to the Moslems (1144), the Second Crusade (see CRUSADES) failed, and Sultan NUREDDIN seized (1154) Damascus and N Syria Baldwin in 1153 took Ascalon and foolishly directed his policy against the weak Egyptians rather than the more dangerous Turks His brother succeeded him as Amalric I

Baldwin IV (Baldwin the Leper), c 1161–1185, king of Jerusalem (1174–85), son and successor of Amalric I He was constantly engaged, except for a brief truce (1180–82), in defending his kingdom against SALADIN In 1183 his leprosy made sudden progress, and he lost use of his eyes, hands, and feet He appointed GUY OF LUSIGNAN as his lieutenant, but withdrew the commission the same year and had his five-year-old nephew crowned king as **Baldwin V** (d 1186) RAYMOND, count of Tripoli, was regent for Baldwin V, who was succeeded as king by Guy of Lusignan

Baldwin, Abraham, 1754–1807, American statesman, b Guilford, Conn , grad Yale, 1772 After service as a chaplain in the American Revolution, he studied law and in 1784 was admitted to practice in Georgia He was a member of the Continental Congress (1785–88) and the leading Georgia delegate to the Federal Constitutional Convention in 1787 His change of vote in that convention on the issue of the mode of representation in Congress brought about a tie between the large and small states The committee appointed to solve the problem, on which Baldwin served, framed the compromise system of representation which was adopted (by population in the House of Representatives and by states in the Senate) Baldwin was elected to the first House of Representatives and served until 1799 He then served in the Senate until his death He was an industrious member of many committees and supported Jeffersonian policies Earlier, while in the Georgia assembly, Baldwin wrote the charter of Franklin College, a state educational institution, which later developed into the Univ of Georgia, and was chairman of its board of trustees from 1801 until he died See biography by H C White (1926)

Baldwin, James Mark, 1861–1934, American psychologist, b Columbia, S C , grad Princeton (B A , 1884, Ph D , 1889) He taught philosophy at the Univ of Toronto (1889–93), psychology at Princeton (1893–1903), and philosophy and psychology at Johns Hopkins (1903–9) and the National Univ of Mexico (1909–13) Internationally known as philosopher and psychologist, he was the author of numerous works in both fields, many of them were translated into European languages Among his books are *Elements of Psychology* (1893), *Story of the Mind* (1898), *Dictionary of Philosophy and Psychology* (1901–6), *Thought and Things* (1906–11), and *Between Two Wars*, 1861–1921 (1926)

Baldwin, Loammi (lōă'mī), 1740–1807, American civil engineer, b Woburn, Mass He is known for building the Middlesex Canal (opened 1803) between Somerville and Lowell, Mass , and for originating the Baldwin apple His son, **Loammi Baldwin,** 1780–1838, was engineer of the Union Canal in Pennsylvania and a builder of dry docks He designed Holworthy Hall at Harvard

Baldwin, Matthias William, 1795–1866, American industrialist and philanthropist, b Elizabethtown (now Elizabeth), N J At first a successful jeweler, Baldwin moved (1825) to Philadelphia and there manufactured tools for bookbinding He became interested in steam-engine production and completed in 1832 the locomotive *Old Ironsides*—one of the first successful American models—for the Philadelphia and Germantown RR The Baldwin Locomotive Works subsequently prospered and maintained a leading position in the industry Baldwin gave many contributions to the Franklin Institute for the Promotion of Mechanical Arts, of which he was a charter member

Baldwin, Robert, 1804–58, Canadian statesman, leader of the movement for representative government in Canada, b York (now Toronto), Ont His father, William Warren Baldwin (1775–1844), was a leader of the Reform party and a supporter of the principle of responsible government in the colonies In 1836, as a recognized leader of reform in Upper Canada, Robert Baldwin was appointed by Sir Francis Bond Head to the executive council but resigned in a few weeks when it became apparent that the governor had no intention of acceding to the demands of the reformers In England, in 1836, Baldwin sent to the colonial secretary a memorandum which was the first clear enunciation of the tenet of responsible government for Canada Shortly after his return to Canada in 1837, he served as mediator between Head and the rebels, as a moderate reformer, he had not joined the faction of William Lyon Mackenzie in the rebellion of that year Again (1841) he hopefully accepted appointment to the executive council under Lord Sydenham, only to resign when the governor showed no disposition to grant responsible government As a member of the assembly, Baldwin led the opposition group and increased his influence, particularly by effecting an alliance with the French in Lower Canada, whom Sydenham had ignored in forming his council When Sir Charles Bagot became governor, he yielded in 1842 to the Reform party, Baldwin and Louis Hippolyte LAFONTAINE were allowed to form their first coalition government With Bagot's death and the arrival (1843) of Sir Charles Metcalfe, the first Baldwin-LaFontaine government resigned, but in the elections of Dec , 1847, the reformers won an overwhelming vote As a consequence, the second Baldwin-LaFontaine ministry (1848–51) was formed, it is often called "the great ministry" Outstanding among its accomplishments were the Municipal Corporations Act, commonly called the Baldwin Act, for the reformation of local government in Ontario, an act to revise the judicial system, and an act to transform King's College into the nonsectarian Univ of Toronto (over the violent opposition of Bishop Strachan) In 1851 Baldwin retired to private life See biography by G E Wilson (1933), Stephen Leacock, *Mackenzie Baldwin, LaFontaine, Hincks* (rev ed , 1926), R W Langstone, *Responsible Government in Canada* (1931)

Baldwin, Simeon Eben, 1840–1927, American jurist, b New Haven, Conn , grad Yale, 1861 He was a member of the Yale teaching staff from 1869 to 1919, serving as a professor of law after 1872 His teaching and financial aid helped to increase the prestige and quality of the law school He was appointed (1893) associate justice of the supreme court of Connecticut and in 1907 became chief justice In the year of his compulsory retirement from judicial office (1910) he was elected governor of Connecticut and was reelected in 1912 His books include *Modern Political Institutions* (1898), *American Railroad Law* (1904), and *The Young Man and the Law* (1919)

Baldwin, Stanley, 1867–1947, British statesman, son of a Worcestershire ironmaster and cousin of Rudyard Kipling After an education at Harrow and at Trinity College, Cambridge, he was himself an ironmaster In 1908 he was elected to Commons from Bewdley in Worcestershire, and he remained in Parliament, becoming the leader of the Conservative party from 1923 to 1937 He was three times prime minister of England His first term of office (1923–24) was ended by his failure to obtain support for a protectionist tariff policy In his second premiership (1924–29) he broke the general strike of 1926 From 1931 to 1935 he was lord president of the council in Ramsay MacDonald's national government While he was prime minister a third time (1935–37), British foreign relations deteriorated with the decline of the League of Nations, the rise of Nazi Germany, the Italian conquest of Ethiopia, and the start of the war in Spain The rearmament of Britain was finally begun Baldwin's management of the crisis over the marriage of Edward VIII (1936) ended with the king's abdication Baldwin retired in 1937 and shortly thereafter was created Earl Baldwin of Bewdley and Viscount Corvedale

Baldwin, town (pop 1,002), N Fla , just W of Jacksonville It is a railroad junction in a timber and livestock area

Baldwin City, city (pop 1,096), NE Kansas, SE of Topeka, laid out 1855, inc 1870 In 1856 it was the scene of a battle between proslavery and Free State settlers Baker Univ (Methodist, coeducational, 1858) is here

Baldwin of Bewdley, Stanley Baldwin, 1st Earl: see BALDWIN, STANLEY

Baldwinsville, village (pop 3,840), central N Y , on the Seneca and NW of Syracuse, in a farm area, settled 1796, inc 1847 It is a shipping center, and makes flour, knives, and paper products

Baldwin-Wallace College see BEREA, Ohio

Baldwyn, town (pop 1,279), NE Miss , N of Tupelo Near by is Brices Cross Roads, a national battlefield site (one acre, est 1929), where Gen N B Forrest routed a force of Union troops, June 10, 1864

Bale, John, 1495–1563, English dramatist and essayist, bishop of Ossory (1552–53), who wrote polemics in the cause of the Reformation. One of his 21 plays is *Kynge Johan*, published between 1533 and 1536, which shows the transition from the medieval morality play to the Renaissance historical drama He compiled the *Illustrium Scriptorum* (1548), an early bibliography of English literature See J W Harris, *The Life and Works of John Bale* (1935)

Bâle see BASEL

Balearic Islands (bălēăr'ĭk), Span *Baleares* (bälāä'rās), archipelago, off Spain, in the W Mediterra-

nean, forming Baleares prov (1,936 sq. mi ; pop. 407,497) of Spain Palma is the capital The chief islands are MAJORCA, MINORCA, and IVIZA Noted for their scenery and their mild climate, the Baleares are visited by many tourists Agriculture and fishing are the main occupations, fruit, wine, olive oil, majolica ware, and silver filigree are exported Inhabited since prehistoric times—there are numerous Cyclopean remains—the islands were occupied by Iberians, Phoenicians, Greeks, Carthaginians, Romans, and Byzantines Under the Moors, who conquered the Baleares in the 8th cent , an independent kingdom was established (11th cent) It became the seat of powerful pirates, harassing Mediterranean coastal cities and trade JAMES I of Aragon conquered (1229–35) the islands They were included (1276–1343) in the independent kingdom of Majorca and reverted to the Aragonese crown under Peter IV At the outbreak of the Spanish civil war (1936), Majorca and Iviza went over to the Insurgents—Majorca becoming a base of the Italian fleet—while Minorca remained in the hands of the Loyalists until 1939

baleen see WHALE

Balen, Hendrik van (hĕn'drĭk vän bā'lŋ), 1575–1632, Flemish painter He painted portraits and mythological and religious subjects

Bales, Peter, 1547–1610?, English calligrapher and stenographer He was one of the first in modern times to devise a scheme of shorthand writing

Balfe, Michael William, 1808–70, Irish composer Of his 28 operas, very popular in their time and much influenced by the French *opéra comique*, the most enduring has been *The Bohemian Girl* (1843)

Balfour, Arthur James (băl'fōōr), 1848–1930, British statesman He entered Parliament as a Conservative in 1874 and had a number of important posts He was first lord of the treasury (1891–92, 1895–1902) before he succeeded his uncle, the 3d marquess of Salisbury, as premier in 1902 The government was hopelessly divided over Joseph Chamberlain's policy of protection, and it was defeated in the general elections of 1905 In the coalition cabinet headed by Asquith (later earl of Oxford and Asquith), Balfour was first lord of the admiralty, and when Lloyd George reconstructed the ministry Balfour became (1916) foreign minister His most notable action was issuing the Balfour Declaration This pledged British support to the Zionist hope for a Jewish national home in Palestine, with the proviso that the rights of non-Jewish communities in Palestine would be respected The carrying out of this pledge (with considerable ambivalence) was one of the main problems of British policy in the ensuing years Balfour exchanged the foreign ministry for the office of lord president of the council in 1919 and represented Britain at the first meeting of the League of Nations in 1920 and at the Washington Conference on limiting naval armaments in 1921–22 He retired from active politics in 1922, was created 1st earl of Balfour, and became leader of the Conservatives in the House of Lords He was known for his devotion to the cause of international peace and his interest in the problems of a modern religion Among his philosophical works were *The Foundations of Belief* (1900), *Theism and Humanism* (1915), *Theism and Thought* (1923), and *Opinions and Arguments* (1927) See biography by his niece, Blanche Dugdale (1936)

Balfour, Francis Maitland, 1851–82, Scottish embryologist, brother of A J Balfour He did research at Cambridge Univ and at the zoological station at Naples and was appointed (1882) professor of animal morphology at Cambridge Univ He wrote *A Monograph on the Development of Elasmobranch Fishes* (1878) and *A Treatise on Comparative Embryology* (2 vols , 1880–81)

Balfour, Sir James, d c 1583, Scottish judge and politician He was educated for the Church He was with his brothers condemned for the murder of Cardinal Beaton, and on his release from the galleys he abjured Protestantism He was secretly disloyal to Mary Queen of Scots and was involved in the murder of Darnley As governor of Edinburgh Castle, he treacherously surrendered it to James Stuart, earl of Murray Balfour repeatedly changed his political allegiance and eventually withdrew to France, whence he returned on the accession of James VI He then secured the conviction of the earl of Morton for Darnley's murder He was long a jurist, but, despite its name, the early law text, *Balfour's Practicks of Scots Law*, is only partially of his authorship

Bali (bä'lē), island (2,533 sq mi , pop including two offshore islets 1,074,925), East Indonesia, one of the Lesser Sundas It is E of Java, from which it is separated by Bali Strait It is 90 mi long and 55 mi wide and rises to 10,308 ft at the volcanic peak of Mt Agung The Balinese are known for their physical beauty and their high level of culture, which includes advanced forms of music, folk drama, and architecture Copra, rice, coffee, tobacco, and teakwood are the chief products. The capital is Singaraja, near which is Buleleng, the chief port. Klungkung, NE of Denpasar (the largest town), was the capital of the native rulers of Bali from the 17th cent. until 1908. Early converted to Hinduism, the natives of Bali came under Javanese rule, from which they freed themselves in the late 15th cent The Dutch first landed here in 1597, and in the early 17th cent the Dutch East India Company began its trade with the island, Bali was under British rule from 1811 to 1815, and Dutch sovereignty was not firmly established until the conclusion of a series of colonial wars (1846–49) The state of East Indonesia was created at a conference held in 1946 at Denpasar See Miguel Covarrubias, *Island of Bali* (1937)

Balieff, Nikita (nyĭkē'tŭ bä'lyĕf), 1877–1936, Russian impresario and theater manager He founded the *Chauve-Souris*, a revue which featured tableau versions of songs and dances and colorful costumes He acted as master of ceremonies in all its productions and had immense success in Russia and Paris (1917–22), in New York (1922–23), and after 1934 in Paris, London, and New York

Balikesir (bä'lĭkĕsĕr'), city (pop 33,894), NW Turkey, NNE of Smyrna A rail junction and an agricultural center, it has a large annual fair

Balikpapan (bä'lēkpä'pän), port (pop 29,843), on E Borneo, Indonesia, on an inlet of Macassar Strait and NE of Banjermasin It exports oil and timber In the Second World War, in a naval battle (Jan , 1942) off Balikpapan, U S and Dutch fleet units inflicted severe damages on the Japanese but did not prevent their occupying the port

Balin and Balan, knights of King Arthur see ARTHURIAN LEGEND

Balinese music represents, to a large extent, a survival of the pre-Islamic music of Java It was taken to Bali by Hindu Javanese in the 15th cent and uses the tonal systems of JAVANESE MUSIC, of which *pelog* is by far the more important in Bali Balinese music is impetuous and noisy, in contrast to the soft, tranquil music heard in Java today Few *gamelans*, the orchestras of tuned percussion instruments, are heard in Java today but they flourish, their archaic forms preserved, in modern Bali The *gamelans* of the princes are no longer important in Bali, but have left their influence on the village societies for music making There are also the ceremonial *gamelans* of the temples The most important instruments are xylophones, which may be of bronze or of bamboo. Bronze xylophones are of two basic types—*gangsa*, whose keys are supported over a wooden resonance box, and *g'ndér*, whose keys have individual bamboo resonators These are sometimes melody instruments and sometimes play a brilliant figuration Gongs, suspended singly, are used for metrical accentuation, there are also gong chimes, which are of two types The *trompong*, a set of 10, is a solo instrument, and the *réyong*, a set of 12, is played by four men, supplying figuration Flutes, in two sizes, are of bamboo and are used in theatrical music Though the name of the *rebab*, a two-string spike fiddle, is Persian-Arabic, the instrument probably originated in S China and is used in the music of the *gambuh* play Cymbals, bell-rattles, and drums supply the all-important, elaborate rhythmic background The *anklung* is an archaic, tuned bamboo rattle It is not known in all parts of Bali, but gives its name to the *anklung gamelan*, a ceremonial *gamelan* which may once have always included *anklungs* The instrumentation and the repertory of a particular *gamelan* depends on its function Each of the various forms of dance and drama has a *gamelan* which specializes in its music The most recent musical development is *kebyar*, a restless, explosive music which discards the highly developed, balanced forms of the older music *Kebyar* clubs compose their own music, often taking themes from older music The wealthier clubs include a dancer,—a youth who performs seated on the ground, dancing from the waist up Balinese notation was invented by the Javanese who brought the music to Bali It gives no indication of the rhythm and is little used Music is learned by rote, it is not an improvised music, however, but a sophisticated, composed art music See Colin McPhee, *A House in Bali* (1946)

Baliol, John de (bä'lēul), d 1269, English baron, founder of Balliol College, Oxford The name is also spelled Balliol One of the regents for ALEXANDER III of Scotland, he was removed from office (1255) and his lands were forfeited for treason He fought for Henry III of England against the barons, being taken prisoner at Lewes (1264) His third son, **John de Baliol,** 1249–1315, king of Scotland (1292–96), became head of the family after the death of his elder brothers (1278) At the death of MARGARET MAID OF NORWAY (1290), he claimed the Scottish throne through his grandmother, eldest daughter of David of Huntingdon, brother of WILLIAM THE LION His claim was opposed by ROBERT I (Robert the Bruce), son of David of Huntingdon's second daughter and hence one degree nearer to his royal ancestor, though through a younger line The laws of succession not being firmly established, the question was referred to EDWARD I of England, who first demanded and secured (1291), over the opposition of Commons, recognition as feudal overlord of the kingdom. Edward, influenced, perhaps, by John Comyn, decided in favor of Baliol, who was then crowned king (1292) and did homage to Edward for the kingdom; he was therefore called "empty-jacket" by the Scots. To Edward's insistence on the right of appeal from Scottish to English courts, which the newly defined relationship involved, Baliol, after some hesitation, yielded, and in May, 1294, he attended Parliament at Westminster as Edward's vassal In the course of this visit, however, he quarreled with Edward After his return the Scottish council disregarded the summons to help Edward against France and formed an alliance with Philip IV (Philip the Fair). In 1296 the Scots invaded England As Edward marched north to take Berwick, Baliol renounced his oath of fealty, but defeat in a brief campaign, in which he took no active part, led him to surrender to Edward Imprisoned in England till 1299, he was paroled and ended his days quietly on his estates in France, ignoring the struggle for Scottish independence waged, for a time in his name, by Sir William WALLACE His son **Edward de Baliol,** d 1363, king of Scotland, visited EDWARD III of England in 1324 In 1332, after the death of Robert the Bruce and the succession to the throne of young DAVID II, he invaded Scotland, defeated David's supporters, and was crowned at Scone Soon driven out, he was restored the next year with English aid, successively ceded Berwick and Lothian to Edward, and was again driven out David, who had been in France, returned in 1341 as king Never thereafter did Baliol have real power He retired on an English pension in 1356

Balkan Entente (antant'), loose alliance formed in 1934 by Yugoslavia, Rumania, Greece, and Turkey to safeguard their territorial integrity against Hungarian and Bulgarian revisionism It thus was in harmony with the Little Entente (Yugoslavia, Rumania, and Czechoslovakia) The events of the Second World War caused the dissolution of the Balkan Entente, whose chief lasting achievement was the resumption of friendly relations between Greece and Turkey

Balkan Peninsula, large peninsula, SE Europe, between the Black Sea (east), the Bosporus, the Sea of Marmara, the Dardanelles, and the Aegean Sea (south), and the Ionian and Adriatic seas (west) The line of the Sava and Danube rivers is commonly considered as the northern limit Thus all of ALBANIA, continental GREECE (including the PELOPONNESUS), BULGARIA, and European TURKEY are comprised in the peninsula, which also occupies most of YUGOSLAVIA and SE RUMANIA. These six countries, successors to the Ottoman Empire, are called the Balkan States The peninsula is very mountainous, the main ranges are the DINARIC ALPS, the Balkans, and the RHODOPE mts

Balkans, Bulgarian *Stara Planina* (stä'rä plänē'nä), mountain range, N Bulgaria, extending W-E from the Yugoslav border to the Black Sea Its highest peak, the Yumrukchal (7,785 ft high), is in the central portion, it is crossed by the Shipka Pass

Balkan Wars, 1912-13, two short wars for the possession of the European territories of the Ottoman Empire The outbreak of the Italo-Turkish war for the possession of Tripoli (1911) opened an opportunity for the Balkan states to increase their territory at Turkish expense Serbia and Bulgaria accordingly concluded (1912) a treaty of alliance In a secret annex, the treaty provided for joint military action and the division of prospective conquests The outbreak of the war, in which Greece and Montenegro joined the original allies, was followed by the speedy expulsion of the Turks from all Turkey in Europe save the Constantinople area After the conclusion of hostilities Serbia evidenced an intention to annex a large part of Albania, so as to gain an outlet on the Adriatic, but this step toward a "Greater Serbia" was opposed by Austria-Hungary and Italy and by the Albanians, who had proclaimed their independence A conference of the ambassadors of the Great Powers at London (1913) created an independent Albania of fair size, thus cutting Serbia off from the sea Dissatisfied with these terms, Serbia demanded of Bulgaria a greater share of Macedonia Bulgaria thereupon attacked Serbia, only to be attacked by Rumania, Greece, and Turkey As a result of this Second Balkan War, Bulgaria lost territory to all her enemies by the Treaty of Bucharest (1913). The Balkan Wars prepared the way for the First World War by satisfying some of the aspirations of Serbia and thereby giving a great impetus to the Serbian desire to annex parts of Austria-Hungary, by alarming Austria and stiffening her resolution to crush Serbia, and by giving causes of dissatisfaction to Bulgaria and Turkey. See George Young, *Nationalism and War in the Near East* (1915)

Balkar see KABARDIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC.

Balkh (balkh), town, N Afghanistan, on a dried-up tributary of the Amu Darya. Its importance lies in its past One tradition says it was the home of Zoroaster Later it attained great wealth and importance as Bactra, the capital of the independent kingdom of BACTRIA. Still later it was the northern center of Buddhism. It was conquered by the Arabs in 653 and became important in the world of

Islam as the original home of the Barmecides (see HARUN-AL-RASHID). The city was sacked in 1221 by Jenghis Khan and never again regained its old importance The old city is now mostly in ruins, and the new city some distance away is an agricultural and commercial center The population (8,000–10,000) is mostly Uzbek

Balkhash (bŭl-khŭsh'), city (pop c 70,000), Kazakh SSR, on the north shore of Lake Balkhash A railroad terminus, port, and copper-smelting center, it was founded as Bertys in 1929

Balkhash, lake, area 6,680 sq mi , SE Kazakh SSR From 15 to 20 mi wide, it stretches for 375 mi between the Kazakh Hills in the north and desert lands in the south It contains salt water, except in the west, near the mouth of its chief affluent, the Ili There is no outlet There are important copper deposits on the north shore

Balkis (băl'kĭs), name given in the Koran to the queen of Sheba who visited Solomon See SHEBA, region

Ball, Albert, 1835–1927, American inventor of mining and quarrying machinery, b Boylston, Mass He invented a diamond core drill which was used to open the Transvaal gold fields His channeling machines for marble quarrying and coal cutting and his coal-picking machines are as well known See biography by R H Kiernan (1934)

Ball, John, d 1381, English hedge priest He was one of the instigators of the Peasants' Revolt of 1381 under Wat TYLER Little is known of his life He had been preaching for many years, independently of the influence of WYCLIF, advocating ecclesiastical poverty and social equality He incited his listeners with such couplets as

When Adam delved, and Eve span
Who was then the gentleman?

He had been excommunicated in 1376 and was in prison at Maidstone when the rebels released him After the dispersal of the rebels, Ball was hanged, drawn, and quartered William Morris wrote one of his works on utopian socialism under the title *The Dream of John Ball* See Charles Oman, *The Great Revolt of 1381* (1906)

Ball, Mary see WASHINGTON, MARY (BALL)

Ball, Sir Robert Stawell, 1840–1913, British astronomer, b Dublin By his lectures, essays, and books, he did much toward popularizing science He served as royal astronomer of Ireland from 1874 to 1892 In 1892 he became professor of astronomy at Cambridge Univ and director of the observatory there He became a Fellow of the Royal Society in 1873 and was knighted in 1886 Among his writings are *The Story of the Heavens* (1885), *The Story of the Sun* (1893), *The Great Astronomers* (1895), *Elements of Astronomy* (1900), and *The Earth's Beginnings* (1901)

Ball, Thomas, 1819–1911, American sculptor, b Charlestown, Mass , son of a house and sign painter Thomas Ball was also a singer of reputation, the first in this country to sing the title role in Mendelssohn's *Elijah* Although he lived many years after middle life in Florence, his work remained distinctly American He made portrait busts and statuettes of many distinguished people Among his works are the mounted figure of Washington, in the Boston Public Gardens, one of the finest equestrian statues in the country, the statue of Edwin Forrest as Coriolanus, Actor's Home near Philadelphia, *Eve Stepping into Life*, his most ambitious work, and *St John the Evangelist*, Forest Hills Cemetery, Boston His first life-size portrait bust was of Daniel Webster, from which, years later, he made the statue of Webster now in Central Park, New York *Emancipation*, in Washington, D C , was made for the Freedman's Memorial Association, a replica is in Boston, as are also his *Charles Sumner* and *Josiah Quincy* The Washington monument, Methuen, Mass , undertaken after he was 70 years of age, received highest honors at the Columbian Exposition His autobiography, *My Three Score Years and Ten*, appeared in 1890

ballad (băl'ŭd), narrative poem of unknown authorship, intended to be sung, preserved by oral tradition among people culturally homogeneous and without great literary sophistication Such ballads are objective, impersonal, and unreflective and abound in conventional epithets and set phrases The familiar stanza form is four lines, with four and three stresses alternating and with the second and fourth lines rhyming For example

It was in and about the Martinmas time,
When the green leaves were a falling,
That Sir John Graeme, in the West Country,
Fell in love with Barbara Allan
—*Bonny Barbara Allan*

Jesse had a wife to mourn for his life,
Three children, they were brave,
But the dirty little coward that shot
Mister Howard
Has laid Jesse James in his grave
—*Ballad of Jesse James*

A refrain, sometimes meaningless, is a common feature of the ballad, often the same stanza is repeated with slight changes which tell the story—a device named incremental repetition The "communal theory" of authorship is that ballads originated in the collective activity of a group dancing and singing together, with individuals spontaneously contributing to the story It is unlikely that any of the ballads we know can have attained their present form in this way, though their origins may have been in such a process Almost all peoples possess a ballad literature More than 300 English and Scottish ballads are extant, many from the 14th cent Interest in the ballad among cultivated people began with Bishop Percy's *Relques of Ancient English Poetry* (1765) and was furthered by Sir Walter Scott's *Minstrelsy of the Scottish Border* (1802) Francis Child made the great and definitive collection, *English and Scottish Popular Ballads* (5 vols , 1883–98, one-volume abridgment by H C Sargent and G L Kittredge, 1904) English and Scottish ballads fall roughly into four classes—the historical, such as *Otterburn* and *The Bonny Earl o'Moray*, the Robin Hood cycle, the romantic, such as *Barbara Allan* and *The Douglas Tragedy*; and the supernatural, such as *The Wife of Usher's Well* This takes no account of the nautical ballad, of which there are fine examples in English Similar subject matters can be found in ballads of other lands, but when such similarity is found in American ballads, it indicates descent from the English Word-of-mouth transmission has sometimes changed the stories Subjects indigenous to American ballads include cowboys, folk heroes such as Casey Jones, outlaws such as Jesse James, the mountain folk of Kentucky and Tennessee, and the Southern Negro The word *ballad* has long been used popularly for any narrative poem, from the 17th-century political broadsides to ballads on current happenings in newspapers and magazines today The word is also used for the work of serious poets in ballad meter, such as Coleridge's *Rime of the Ancient Mariner* and Oscar Wilde's *Ballad of Reading Gaol* In music the term *ballad* has an additional usage, referring to a simple, often sentimental type of song, not usually a folk song See studies of the ballad by F B Gummere (1894, 1907), Louise Pound (1922), and G H Gerould (1932), W J Entwistle, *European Balladry* (1940) For excellent collections of American ballads, see J A Lomax and Alan Lomax *Our Singing Country* (1941) and *American Ballads and Folk Songs* (reissued 1946), Carl Sandburg, ed , *The American Songbag* (1927), Dorothy Scarborough, *A Song Catcher in the Southern Mountains* (1937)

ballad opera, in English a play of comic satiric, or pastoral intent interspersed with songs, most of them to popular airs First and best was *The Beggar's Opera* (1728) by John GAY, and the vogue for these operas lasted until c 1750 See E M Gagey, *Ballad Opera* (1937)

Ballantyne, James (băl'tīn), 1772–1833, Scottish editor and publisher Ballantyne and his brother John set up a publishing business in Edinburgh with the aid of Sir Walter SCOTT The firm published Scott's works, beginning in 1802 with *Minstrelsy of the Scottish Border*

Ballantyne, Robert Michael, 1825–94, Scottish author, nephew of James Ballantyne Between the ages of 16 and 22 he was with the Hudson's Bay Company in Canada Returning to Scotland, he wrote *Hudson's Bay, or, Every-Day Life in the Wilds of North America* (1848) Later he wrote over 80 books for boys, including *Snowflakes and Sunbeams, or, The Young Fur Traders* (1855), *The Dog Crusoe* (1860), and *The Gorilla Hunters* (1861) See his *Personal Reminiscences of Book-Making* (1893)

Ballarat (băl'ŭrăt'), municipality (pop 40,181), Victoria, Australia, WNW of Melbourne It is an industrial center with woolen mills and brass foundries There are Anglican and Roman Catholic cathedrals Founded in 1851 with the gold rush, it was once an important mining center

ball bearings see BEARINGS

Balleny Islands (bă'lunē), extreme S Pacific, off Victoria Land, in the Australian Antarctic Territory There are five volcanic islands and some small islets They were discovered in 1839 by Capt John Balleny, a sealer

ballet (bă'lā, bălā', bă'lĭ), solo or ensemble dancing of a drama set to music It first appeared as a part of opera, in which it is still used, sometimes as part of the drama, sometimes as mere divertisement The ballet was known in Italy in the 15th cent , but the first ballet to coordinate action, music, and decoration was the Ballet comique de la Reine, at Paris (1581) The first treatise on ballet dancing was the *Orchesography* of Thoinot Arbeau (Jean Tabouret), published at Langres (1588) Louis XIV founded a dancing academy (1661) in a room in the Louvre, and his court ballet master, Père Manestrier, described some 50 ballets in his *Ballets anciens et modernes* (1681) The paradigms of the five absolute ballet positions were set down by Rameau in *The Dancing Master* (1725), and at the debut of Mme Camargo (1726) the short, billowy skirt of the dancer was first introduced. The most important treatise of the 18th cent was *Lettres sur la danse et les ballets* (1759) by Jean Georges Noverre The early part of the 19th cent saw the ballet flourish in Italy Salvatore Vigano, at Milan, carried out Noverre's reforms in his "choreodrame" (1812), and Carlo Blasis wrote *An Elementary Treatise upon .. the Art of Dancing* (1820), the basic work of modern ballet The romantic ballet now reigned Maria TAGLIONI won fame in *La Sylphide* (1832), Fanny ELSSLER followed in *Le Diable boiteux*, and Carlotta GRISI in *Giselle*, composed for her by Théophile Gautier The Danish dancer, Adeline Genêt was one of the last great performers of romantic ballet Ballet in the middle of the 19th cent reached a zenith in Russia, where ballet schools were sponsored by the tsars at St Petersburg and Moscow The fruition of the Russian tradition began in the reforms of Michel FOKINE and came to a conclusion in the work of Sergei DIAGHILEV, whose company included Pavlova, Mordkin, Nijinsky, Karsavina, and Massine as dancers, Stravinsky, Ravel, Falla, and Milhaud as composers, and Bakst, Picasso, and Derain as stage designers Later developments in the ballet include the Triadic Ballet at the Bauhaus theater, Germany (1923), the ballet of Kurt Jooss (1933), the founding of the School of American Ballet in New York city (1934), and the performances of the companies of Anthony Tudor and Robert Helpmann in England during and after the Second World War See also DANCE See works of C W Beaumont, especially his *History of Ballet in Russia, 1613–1881* (1930) and *Complete Book of Ballets* (1938), Tamara Karsavina, *Theatre Street* (1930), Lincoln Kirstein, *Dance* (1935), A L Haskell, *Ballet Panorama* (1938), Grace Robert, *The Borzoi Book of Ballets* (1946), George Amberg, *Art in Modern Ballet* (1946), Anatole Chujov, *The Dance Encyclopedia* (1949)

Ballinger, Richard Achilles (băl'ĭnjur), 1858–1922, U S Secretary of the Interior (1909–11), b Boonesboro (now in Boone), Iowa, grad Williams, 1884 A reform mayor of Seattle (1904–6) and the commissioner of the General Land Office (1907–9), he was made Secretary of the Interior by President Taft His administration was charged with trouble L R Glavis of the Land Office, who protested that Ballinger had halted investigation into coal-land claims in Alaska, was dismissed from service Articles by Glavis in *Collier's Weekly* then roused the conservationists notably Gifford Pinchot and the public A congressional investigation into Ballinger's handling of national resources exonerated him, but he resigned in March 1911 The incident helped to turn the election of 1912 against Taft

Ballinger, city (pop 4 472), co seat of Runnels co , W central Texas, on the Colorado at the mouth of Elm Creek and SSW of Abilene, laid out 1886 with the coming of the railroad, inc 1892 Processing plants handle milk, cheese, oats and wheat, cotton, wool, and truck A reservoir on Elm Creek is part of the Colorado river project

Balliol, John de see BALIOL, JOHN DE

Balliol College see OXFORD UNIVERSITY

ballistics (bŭl'stĭks), the science concerned with the propulsion and motion of projectiles One branch of the science, interior ballistics, deals with the processes and the motion of the projectile within the gun Its problems include the ignition and burning of the propellent powder, the pressure produced by the expanding gases, the movement of the projectile through the bore, and the designing of the barrel to resist the stresses and strains Exterior ballistics treats of the motion of a projectile after it has left the muzzle of the gun, i e , while it is in flight This branch has been extended to include the study of the paths of aerial bombs The two main forces affecting all projectiles traveling through the air are the resistance offered by the air and the force of gravity Under the influence of these forces a projectile follows a curved path known as the trajectory Trajectories vary with the weight and shape of the projectiles, with their initial velocities, and with the direction (up or down) from which they are released

Ballivián, José (hōsā' bayēvyan'), 1805–52, president of Bolivia (1841–47) An able military commander who had served in the war against Spain, Ballivián was proclaimed president after the breakup of the Peru-Bolivia confederation under SANTA CRUZ At Ingavi (1841) he defeated President Gomarra of Peru, who had attempted to seize La Paz Ballivián thus restored the status quo and ended any further possibility of federation Promulgating (1841) a new constitution, he energetically but arbitrarily instituted public reforms Intense opposition forced him to resign

balloon, aircraft without a propelling system whose lift results from the inflation of one or more containers with a gas lighter than air or with heated air When in flight, altitude is gained by discarding ballast (e g , bags of sand) and is lost by releasing some of the light gas from its container As early as the 13th cent , schemes were suggested whereby ascent could be accomplished by exhausting the air from vessels In 1766 Henry Cavendish showed that hydrogen was seven times lighter than air The invention of the balloon is attributed to J M and J É MONTGOLFIER of France, who first experimented with inverted paper bags filled with heated air So successful were their experiments that in 1783, before a large gathering, they caused a linen bag about 100 ft. in diameter to rise into

the air, burning straw being used to heat the air within it The bag drifted more than a mile before it descended The next year J A C Charles, also of France, successfully raised a balloon, built by the Robert brothers, which was filled with hydrogen gas The first balloon ascent by man was made in 1783 by Pilâtre de Rozier in a hot-air-filled captive balloon (i e , one made fast to prevent free flight) Later Pilâtre de Rozier, accompanied by the marquis d'Arlandes, ascended in a free hot-air balloon which they kept in the air by burning chopped straw in a brazier suspended under the bag Also in 1783 the Robert brothers with J A C Charles ascended and traveled 27 mi in a balloon raised by hydrogen The first ascent in England was made by James Tytler in 1784 In 1793 the French balloonist J P Blanchard made at Philadelphia an ascent which was witnessed by President Washington The first sea voyage by balloon was made across the English channel in 1785 by Dr John Jeffries and Blanchard Shortly after the beginning of the 19th cent , coal gas was used for inflation, and balloons were constructed in many countries To evade the enemy during the siege of Paris in 1870, balloons were used to carry messages to outside authorities In 1879 the Swedish engineer S A ANDREE tried to reach the North Pole by balloon In the First World War kite balloons were used along the whole Western Front to observe the movements of the enemy and to direct gunfire Kite balloons were of the captive type and were fitted with special fins at one end which were effective in keeping them headed into the wind In the Second World War captive kite balloons, raised and lowered on cables by winches, helped protect military installations and other possible targets from enemy dive bombers and fighter planes The helplessness of the balloon in controlling direction led to the development of the dirigible balloon (see AIRSHIP) Ballooning as a sport is, however, still practiced, the international race for the James Gordon Bennett Cup takes place in the country which holds the trophy Alan R Hawley became, in 1910, the holder of the long-distance record for free balloons by his flight of 1,172 mi in this race In 1931 Auguste Piccard ascended in a balloon with a sealed spherical aluminum gondola to a height of nearly 52,000 ft and in 1932 to a height of over 53,000 ft. Jean Piccard, in 1934, reached an altitude of nearly 58,000 ft An altitude record was established by the ascent in 1935 of the *Explorer II*, commanded by A W Stevens and O A Anderson, to a height of 72,395 ft Scientific information obtained through the use of instruments carried on such flights includes knowledge of temperature variations and air currents at different altitudes, cosmic rays, and the composition of the stratospheric atmosphere Unmanned balloons known as radiosondes are used in meteorological studies These are equipped with radio sets, which at regular intervals during the ascent send to the ground station the readings recorded by the instruments, and with parachutes, which convey the instruments to the earth after the balloon bursts See C. J Hylander, *Cruisers of the Air* (1931)

ballot, means of voting for candidates for office The choice may be indicated by the ballot forms themselves—e g , colored balls, printed tickets, or mechanical devices—or by the depositories into which the ballots are put The ballot was used in Athens in the 5th cent B C by the popular courts and, on the question of ostracism, by the people as a whole, in India before 300 B C , and in Rome by the popular assemblies and occasionally by the senate The ballot, like other institutions of popular government, was largely abandoned during the Middle Ages Its use reappeared in the Italian communes and in elections to the papacy during the 13th cent In the 16th and the 17th cent the ballot appeared in English borough and university elections The General Court of Massachusetts elected governors by ballot after 1634, corn and beans were occasionally used as ballots, following Indian custom Early American ballots were known as "papers" the name ballot does not occur in America before 1676 The British colonies in America were the first to elect representatives by secret ballot, and its use was made obligatory in all but one of the state constitutions adopted in the United States between 1776 and 1780. In the 19th cent the use of the ballot became widespread in local and national elections in Europe Groups wishing to exert undue influence, intimidation, or force upon the voter have opposed the ballot The effort to reform election abuses has led to the widespread use of the Australian ballot, adopted in Victoria in 1857, in Great Britain in 1872, and in the United States after 1888. In the United States it gradually replaced earlier methods of voting, including the lengthy "tickets" distributed by political parties In the Australian system all candidates' names are placed on a single ballot printed and placed in the polling places at public expense, and the printing, distribution, and marking of the ballot are protected by law. The Australian ballot is now used in many European countries and in 45 states of the United States. Separate ballots are frequently distributed for referendums and constitutional propositions In the United States, the office-group ballot, whereby candidates' names are grouped together with the names of the respective offices to be filled, is less used than the party-column ballot The VOTING MACHINE is increasingly used to insure electoral honesty The institution of official ballots has helped bring political parties under the scope of the law. In Great Britain and Canada, party designations are left off the ballot, elective offices are few, and local and national elections are separated, hence the ballot is a short one, easier to use intelligently Some critics denounce the excessive length of the ballot in the United States and the combination on one ballot of too many items and claim that the voter is thus too much pressed for time in his decisions See S D Albright, *The American Ballot* (1942)

Ballou, Adin (bălo͞o'), 1803–90, American Universalist clergyman, b Cumberland, R I He was prominent in the movement which resulted in the Massachusetts Association of Universal Restorationists, in existence from 1831 to 1841 In 1841 he organized near Milford, Mass , the Hopedale Community, one of the religious utopian communities of the period He was its president and edited its periodical, the *Practical Christian*, until he resigned after 1852 and wrote his *Practical Christian Socialism* (1854) The Hopedale Community, whose dissolution as a communal enterprise began c 1857, merged (1868) with the Unitarian Hopedale Parish, of which Ballou was pastor until 1880 His writings include *Primitive Christianity and Its Corruptions* (1870) and *History of the Hopedale Community* (1897)

Ballou, Hosea, 1771–1852, American clergyman, foremost among expositors of Universalism in America, b Cheshire co , N H From 1818 until his death he was pastor of the Second Universalist Society in Boston One of the founders (1819) of the *Universalist Magazine*, he was its editor until 1828, from 1831 he edited the *Universalist Expositor* His works include *Notes on the Parables* (1804), *A Treatise on the Atonement* (1805), and a number of hymns See J C Adams, *Hosea Ballou and the Gospel Renaissance of the Nineteenth Century* (1902)

Ballou, Hosea, 2d, 1796–1861, Universalist clergyman, b Guilford, Windham co , Vt , grandnephew of Hosea Ballou (1771–1852) He was one of the founders and the first president (1853–61) of Tufts College His *Ancient History of Universalism* (1829) was the earliest American monograph dealing with the history of the doctrine

Balls Bluff, hill, near Leesburg, Va , on the south bank of the Potomac river Here in the Civil War on Oct 21, 1861, Union troops who had crossed the river were severely repulsed

Ballston Spa (bôl'stun spā), village (pop 4,443), co seat of Saratoga co , E N Y , SW of Saratoga Springs, in a farm area, settled 1771, inc 1807 Knitting mills and tanneries are here It was formerly a popular resort, with mineral springs

Ballymena (bălēmē'nu), urban district (pop 12,928), Co Antrim, Northern Ireland, on the Braid river and NW of Belfast Linen and woolen goods are produced, and iron is mined here According to tradition, St Patrick worked as a herdsman at Slemish, 8 mi from Ballymena

balm see LEMON BALM, for the bee balm, see OSWEGO TEA

Balmaceda, José (hōsā' bälmäsā'dha), 1840–91, president of Chile (1886–91) A leader of a liberal anticlerical group, he served as foreign minister under Domingo Santa María As president, Balmaceda instituted a wide reform program, particularly fostering internal improvements, but his rule was unparliamentary, he interpreted the constitution as an instrument of strong presidential government A resultant quarrel with congress came to a head when Balmaceda tried to control the election of his successor A revolution began in Jan , 1891, and was soon led by Jorge MONTT After vigorous fighting the revolutionists triumphed Balmaceda took refuge in the Argentine legation Rather than surrender for a trial, he committed suicide

Balmerino, Arthur Elphinstone, 6th **Baron:** see ELPHINSTONE, ARTHUR

balm of Gilead (gĭl'ĕăd, -ăd), name for several unrelated plants The historic Old World balm of Gilead is a small evergreen tree (*Commiphora meccanensis*) native to Africa and Asia and the source of the commercial balm of Gilead, it is referred to in Jer 8 22. The Ishmaelites from Gilead were bearing balm when Joseph's brothers sold him to them Balm of Gilead is still in high repute in some countries for healing The American balm of Gilead is a species of POPLAR (*Populus candicans*) of uncertain origin which has large balsamic and fragrant buds The tree is seldom seen in the wild but was formerly a favorite dooryard tree of the northern states. The buds were used in domestic medicine Thus poplar is closely related to, sometimes considered a variety of, the balsam poplar (*P tacamahaca*), which has also been called balm of Gilead and tacamahac. The name balm of Gilead has also been used for the balsam fir and for a herbaceous aromatic, shrubby plant (*Dracocephalum canariense* or *Cedronella canariensis*) native to the Canary Islands and cultivated in parts of the United States

Balmont, Konstantin Dmitryevich (kŏnstăntyēn' dĭmē'trēvĭch bäl'mônt), 1867–1943, Russian poet and translator After hailing the Bolshevist Revolution, he repudiated it and lived chiefly in France Although his early verse was revolutionary in content, after 1894 he belonged to the symbolist school He translated much poetry from other languages There are good translations of his verse by Babette Deutsch in *Russian Poetry* (1927), by Charles Coxwell in *Russian Poems* (1929), in the books of Russian verse edited by C M Bowra (1943, 1948), and in *A Treasury of Russian Verse* (1949), edited by Avrahm Yarmolinsky and translated in the main by Babette Deutsch

Balmoral Castle (bălmŏr'ul), royal residence in Braemar, Aberdeenshire, Scotland, on the right bank of the Dee and W of Ballater Constructed of white granite, with extensive grounds, it was built by Queen Victoria in 1854 On the surrounding hills are memorial cairns to Prince Albert and others

Balmorhea (bălmurā'), unincorporated town (pop c 800), W Texas, SSW of Pecos Farms in the region are irrigated from near-by Lake Balmorhea, a reservoir in the Pecos river system fed by San Solomon Springs A state park around the springs also lies on an approach to the Davis Mts , and Balmorhea is visited by tourists

Balnaves, Henry (bălnāv'ĭs), d 1579, Scottish reformer and statesman, one of the most ardent Protestants in the struggles over religion under Mary of Guise and Mary Queen of Scots He was imprisoned for suspected complicity in the assassination of Cardinal Beaton His *Confession of Faith*, posthumously published (1584), was written while he was in exile

balsa (bôl'su, bal'sù) or **corkwood,** deciduous tree of the Bombax family, native to tropical America It has leaves much like those of the catalpa and a very light velvety wood, in appearance like that of the white pine The wood is the lightest known, about one half as heavy as cork, it is very porous, so soft it can be dented with the fingernail, and is often waterproofed to make it more durable It is used in airplane construction and in making model airplanes, in life preservers and floats, and for insulating purposes The balsa is one of the most rapidly growing trees—seedlings appear like weeds around fruited trees

balsam (bôl'sum), resin of various trees Among these resins are the commercial balsam of Peru and tolu balsam, also South American, which contain benzoic acid or cinnamic acid, the Mecca balsam or BAIM OF GILEAD, the copaiba balsam, and the CANADA BALSAM For the balsam plant, see TOUCH-ME-NOT

balsam fir or **balsam,** name for a valuable fir, *Abies balsamea*, growing chiefly in Canada and the NE United States Blisterlike swellings on the smooth bark contain the economically important CANADA BALSAM Balsam needles, usually appearing to be arranged in a flat plane on the branchlets, are gathered for their fragrance The trees are very popular for Christmas trees, but the wood is of little value Also called balsam fir are the she-balsam (*A fraseri*) of the mountains of Virginia, Tennessee, and North Carolina, and the Alpine fir (*A lasiocarpa*) of W North America

Balsamo, Giuseppe see CAGLIOSTRO, ALESSANDRO

balsam poplar: see BALM OF GILEAD

Balsas, Río de las (rē'ō dā läs bäl'säs), river rising in the state of Puebla, E central MEXICO, and flowing in a great curve from south to northwest through Puebla and Guerrero to Michoacán Then it turns southwest, forms most of the boundary between Guerrero and Michoacán and empties into the Pacific It is one of the longest rivers of MEXICO Near its source it is called the Atoyac, and in Guerrero, where the valley is important in the production of sesame seed, it is called the Mezcala

Balsham, Hugo de. see HUGO DE BALSHAM.

Balta, José (hōsā' bäl' ta), 1816–72, president of Peru (1868–72) In 1865 he helped Mariano I PRADO to seize the presidency and served in his government, but in 1867 Balta led in overthrowing the dictatorship As president, he reestablished constitutional rule and undertook vast schemes for internal improvement, including railroad construction and harbor construction He granted a monopoly of guano export to a French company and obtained large loans in Europe, yet the lavish expenditures of his administration plunged Peru deep in debt Balta was deposed and shot He was succeeded by Manuel Pardo

Balthazar (bălthā'zŭr) see WISE MEN OF THE EAST

Baltic provinces and **Baltic states,** the countries bordering on the extreme eastern coast of the Baltic Sea. See COURLAND, INGERMANLAND, LIVONIA, ESTONIA, LATVIA, LITHUANIA Finland is usually classed with the Scandinavian rather than with the Baltic states

Baltic Sea, eastern arm of the Atlantic Ocean, indenting N Europe. It covers c.160,000 sq mi. The ORESUND, the Great BELT, and the Little Belt connect it with the Kattegat and Skagerrak, which lead into the North Sea; the KIEL CANAL is a more

direct connection with the North Sea The countries surrounding the Baltic are, counterclockwise and beginning in the west, Denmark, Germany (Holstein, Mecklenburg, Pomerania), Poland, East Prussia (divided in 1945 between Poland and Russia), Lithuania, Latvia, Estonia, Russia, Finland, and Sweden. The northernmost portion, between Finland and Sweden, is the Gulf of Bothnia, the indentation between Finland and Estonia, receiving the Neva river, is the Gulf of Finland There are numerous other bays, notably the Gulf of Riga Of the many islands the most important are Zealand, Fyn, Lolland, Falster, and Bornholm (Denmark); Rügen (Pomerania), Saaremaa (Estonia), the Aland Islands (Finland), and Gotland (Sweden) Most of the Baltic is shallow, and parts freeze over in winter. Its tides are less pronounced than those of the North Sea, its salinity is reduced by the many rivers that feed it (Oder, Vistula, Niemen, Dvina, Torne, Ume, Angerman, and Dal) The Baltic coast was frequented from ancient times, especially because of its amber In the late Middle Ages its commerce was dominated by the HANSEATIC LEAGUE Its chief modern importance is as a fishing ground Copenhagen, Stettin, Gdynia, Danzig, Riga, Tallinn, Leningrad, Helsinki, and Stockholm are the chief modern ports The Baltic is connected with the White Sea by canal (completed 1933), from Leningrad, through Lake Onega, to Belomorsk, and with the Volga through the MARIINSK SYSTEM

Baltimore, Cecilius Calvert, 2d Baron: see CALVERT, CECILIUS.

Baltimore, Charles Calvert, 3d Baron · see CALVERT, CHARLES

Baltimore, George Calvert, 1st Baron · see CALVERT, GEORGE

Baltimore (bôl'tĭmôr, -mur), city (pop 859,100), N Md , largest city in the state, on the Patapsco river near Chesapeake Bay It is a port of entry, a commercial and industrial center, and an important seaport Among its leading industries are shipbuilding, meat packing, food processing, sugar, petroleum, and copper refining, and the manufacture of steel, tin cans, straw hats, airplanes, clothing, textiles, chemicals, electrical equipment, glass products, and fertilizer. The city is a cultural and educational center, it is the site of JOHNS HOPKINS UNIVERSITY, Loyola College (Jesuit, for men, 1852), GOUCHER COLLEGE (being moved to Towson), MORGAN STATE COLLEGE, Notre Dame of Maryland (Catholic, for women, 1848), St Mary's Seminary and Univ (Catholic, Sulpician), the Peabody Institute, the Maryland Institute of Art, the Walters Art Gallery, and the Baltimore Museum of Art The Enoch Pratt Free Library and the municipal symphony orchestra are well known Settlement of the area now occupied by the city took place early in the 17th cent , but the founding date is established as 1729, when the royal governor authorized the building of a town It was incorporated as a town in 1745 and as a city in 1797 Its excellent natural harbor soon made the town an important center for shipping tobacco and grain Shipbuilding, an early industry, flourished during the Revolution with the fitting out of many privateers and culminated with the building of the famous Baltimore clippers in the early 1800s The nation's wars have played a large role in the city's history When the British occupied Philadelphia (1776), Baltimore became the meeting place of Congress In the War of 1812 the gallant defense of Fort McHenry (restored 1933) inspired Francis Scott Key to write the STAR-SPANGLED BANNER Maryland remained in the Union during the Civil War, but Baltimore held violent pro-Southern sympathies, as witnessed by the mob's attack on the 6th Massachusetts Regiment in April, 1861. Baltimore played an important part in the First and Second World Wars as a shipbuilding and supply-shipping center. The city's hold on the trans-Allegheny trade was endangered by the completion of the Erie Canal (1825), making New York an ocean outlet for the West, but this was offset by the construction of the Baltimore & Ohio RR to Ellicott's Mills in 1830 After a disastrous fire (1904) a more beautiful and better-planned metropolis emerged Some of its well-known landmarks include the Washington Monument (designed by Robert Mills), the Roman Catholic cathedral (the first cathedral in the United States, designed by B H Latrobe), St Paul's Cemetery, Westminster Churchyard (where Edgar Allan Poe is buried), and the Pimlico race track Baltimore is known as the Monumental City and the Convention City Logan Field, an army air base, is near See A M L Stoussat, *Old Baltimore* (1931), Hamilton Owens, *Baltimore on the Chesapeake* (1941).

Baltimore & Ohio Railroad, first railroad in the United States open for public traffic. After the end of the War of 1812 the city of Baltimore experienced a period of phenomenal growth, due largely to the NATIONAL ROAD, but faced a period of rapid decline after trans-Allegheny traffic had gravitated toward the newly opened Erie Canal in New York Construction of the CHESAPEAKE AND OHIO CANAL was not yet begun. In 1827, therefore, a group of Baltimore business leaders petitioned for and received the charter under which the Baltimore & Ohio RR still operates Construction was started in 1828, and the first division was opened in 1830 for traffic from Baltimore to Ellicott's Mills (now Ellicott City), Md., 14 mi away Horses were at first used for motive power, but the successful trial (1830) of the *Tom Thumb*, built by Peter COOPER, brought a change to steam-driven locomotives The B & O. reached Cumberland, Md , in 1842, Wheeling, Va (now W Va), in 1852, and St Louis, over connecting roads, in 1857 Great exertions were put forth to keep it open during the Civil War for transportation of troops and supplies in the face of Southern raids Connections to Chicago were made in 1874, to Philadelphia in 1886, and to New York city in 1887 Because of its centrally located route, the Baltimore & Ohio RR retained a prominent place among the country's railroad systems See Edward Hungerford, *The Story of the Baltimore & Ohio Railroad, 1827-1927* (1928), F P Summers, *The Baltimore and Ohio in the Civil War* (1939)

Baltimore oriole. see ORIOLE

Balts, peoples of the east coast of the Baltic Sea They include the Latvians, the Lithuanians, and the now extinct Old Prussians (see LANGUAGE) Conquered and forcibly converted to Christianity by the TEUTONIC KNIGHTS and the LIVONIAN KNIGHTS (13th cent), the Baltic peoples entered a long period of subjection The Teutonic Order lost (15th cent) all but East Prussia, but the descendants of the German knights and settlers retained their hold over the land and the commerce As the "Baltic barons," they held sway over the depressed Baltic populations until the 20th cent The huge empire of LITHUANIA, which arose with the decline of the Teutonic Order, was increasingly absorbed by the Polish crown, its nobility soon became thoroughly Polish in language and political outlook The Estonians, a Finnic, not a Baltic people, came under Swedish rule in 1561 and in 1721 passed under Russia, which by 1795 had acquired all the Baltic provinces The independence won by Lithuania, LATVIA, and ESTONIA in 1918 was lost again in 1940

Baluchi (bŭlōō'chē), Eastern Iranian language of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Baluchistan (bŭlōō'chĭstän', -stăn'), province (including the former Baluchistan states agency, 134,002 sq mi, pop 857,835), West Pakistan, on the Arabian Sea Quetta is the capital It is bounded on the west by Iran and on the north by Afghanistan Lying outside the monsoon zone and with few rivers usable for irrigation, Baluchistan is largely desert land with marable hills and mountains Pastoral nomads, who speak Iranian languages, constitute the bulk of the sparse population Some cotton is raised and processed On the coast there is trade in fish and salt

baluchitherium (bŭlōōchĭthēr'ēum), extinct primitive rhinoceros of the Miocene period, fossilized bones of which were found in central Asia It is believed to be the largest land mammal that ever lived, with an estimated shoulder height of nearly 18 ft and a weight of about 10 tons

Balue, Jean (zhän' bălü'), c 1421-1491, French statesman, cardinal of the Roman Church One of the most trusted advisers of LOUIS XI, he saved Paris for the king during the revolt of the League of the Public Weal (1465) Subsequently he conspired with Charles the Bold of Burgundy against Louis and arranged the meeting of the two rulers at Péronne (1468), where Charles made Louis a prisoner Louis had Balue arrested (1469) and kept him in an iron cage till 1480, when the pope intervened Balue went to Rome, but in 1484 returned temporarily to France as a papal legate

Balzac, Honoré de (bäl'zăk, bôl'-, Fr ônôrā' dŭ bälzäk'), 1799-1850, French novelist, b Tours Of a bourgeois family, he himself later added the "de" to his name Neglected in childhood, he was sent to a boarding school at Vendôme and later to the grammar school at Tours Although educated for the law, Balzac turned to authorship, half starving in Paris before he began writing to order sensational novels, pseudonymously published Throughout his life he worked with feverish activity, sleeping a few hours in the evening and writing from midnight until noon or afternoon of the next day He was ridden with debts, which were increased rather than relieved by his business ventures Balzac's first success, *Les Chouans* (1829, first published as *Le dernier Chouan*), was followed by *La Peau de chagrin* (1831) In the next 20 years he produced the vast collection of novels and short stories called "La Comédie humaine" This, his greatest work, is a reproduction of the French society of his time, picturing in precise detail individuals of every class and every profession The chief novels in "La Comédie humaine" are *Louis Lambert* (1832), *Eugénie Grandet* (1833), *La Recherche de l'absolu* (1834), *Le Père Goriot* (1835), *Les Illusions perdues* (1837), *César Birotteau* (1837), *La Cousine Bette* (1847), and *Le Cousin Pons* (1847) Balancing Balzac's faults—his lack of literary style, his moralizing, his tendency toward melodrama—are his originality, his great powers of observation, and his vivid imagination. His short stories include some of the best in the language, but his attempts at drama failed His liaisons, an attempt to live the romances of his works, were famous His marriage to Countess Eva Hanska occurred only a few months before his death See *The Human Comedy* (with introductions by George Saintsbury, 40 vols , 1895-98), Balzac's *Letters to His Family, 1809-1850* (ed. by W S Hastings, 1934), biographies by Frederick Wedmore (1890), René Benjamin (Eng tr , 1927), and Stefan Zweig (Eng tr , 1946), bibliography and index comp by W H Royce (1929, 1930, 1946)

Balzac, Jean Louis Guez de (zhän' lwĕ' gä'), 1597?-1654, French writer His *Lettres* (1st ed , 1624) were of great influence in reforming French prose style The first English translation made its appearance 1634

Bamah (bä'mu) [Heb ,=high place], term elsewhere translated, but in Ezek 20 29 given in the original The word is translated earlier in the same verse There is a pun on the verb "to go" which had in Hebrew a sound much like the word Bamah

Bamako (bamakō') town (pop c 22,000), capital of French Sudan, on the upper Niger river It is connected by rail with Dakar Cotton, peanuts, hides, and skins are exported

Bamberg (bäm'bûrg, Ger bäm'bĕrk), city (pop 74,733), Upper Franconia, Bavaria, on the Regnitz river It has silk mills and metal industries Now an archiepiscopal see, it was (1007-1802) the capital of a powerful ecclesiastic state The bishops of Bamberg were raised to princely rank in the 15th cent. Among the several remarkable buildings of Bamberg are the splendid cathedral (early 13th cent), with the tombs of Emperor Henry II, his wife, St Kunigunde, and Pope Clement II, and the episcopal palaces (16th and 18th cent)

Bamberg (bäm'bûrg), town (pop 3,000), co seat of Bamberg co , S S C , S of Columbia, in a diversified farm area A boys' military school is here

Bamberger, Ludwig (lōōt'vĭkh bäm'bĕrgur), 1823-99, German economist, politician, and journalist An ardent liberal, he took part in the Revolution of 1848 and was forced to live in exile until 1866 He worked for the unification of Germany, and as a leader of the National Liberals he supported Bismarck until he was alienated by the chancellor's turn to protection and state socialism As a member of the Reichstag (1870-93), he was recognized as an authority on currency and was chiefly responsible for the adoption of the gold standard in Germany and for the founding of the Reichsbank

Bamboccio, Il · see LAAR, PIETER VAN

bamboo, any plant of the tribe Bambuseae, grasses chiefly of warm or tropical regions, where they are extremely important Various species of bamboo may be low, climbing, or, more commonly, tall and treelike (sometimes reaching 100 ft) The stalks are round (rarely square), jointed, and hollow or solid with evergreen or deciduous leaves Some kinds die after flowering and some do not flower until they are about 30 years old In many places bamboo is used as wood, for construction work, furniture, utensils, fiber, paper, fuel, and innumerable small articles Bamboo sprouts are eaten as a vegetable, and the grains of some species are also utilized for food The bamboo has long been used for decorative purposes, both in gardens and in art In the United States the native bamboo is a CANE The common bamboo is *Bambusa arundinacea* See Agnes Arber, *The Gramineae a Study of Cereal, Bamboo, and Grass* (1934)

Bamford, Samuel, 1788-1872, English weaver and social reformer His first prominence came in 1819 when, favoring repeal of the corn laws, he was jailed for his active though peaceful part in what became known as the Peterloo massacre Bamford loved poetry, and his own mediocre verses were popular among the Lancashire workers Besides his poetry, Bamford is noted for *Passages in the Life of a Radical* (1840-44)

Bamian (bamyan'), valley, Afghanistan, NW of Kabul Its rocky walls, lined with cave dwellings still in use, display two gigantic carved statues of Buddhist saints They were partly ruined by Aurangzeb c 1645 See Emil Trinkler, *Through the Heart of Afghanistan* (Eng tr , 1928)

Bamoth (bā'mŏth) [Heb ,=plural of BAMAH], unidentified place, E of the Dead Sea Num 21 19,20 It is probably the same as **Bamoth-baal** (-bā'l) [Heb ,=high places of Baal], Joshua 13 17 Bamoth-baal is translated at Num 22 41

Bampton, John, d 1751, English clergyman, founder of an Oxford lectureship on religious subjects The Bampton Lectures have frequently given rise to lively controversy

Bampton, Rose, 1909-, American operatic soprano, studied at the Curtis Institute of Music, Philadelphia She made her debut at the Metropolitan Opera House in 1932 in the leading contralto role in Ponchielli's *La Gioconda* and sang contralto and mezzo-soprano roles until 1936, when she first appeared as a soprano in a European tour. She made her soprano debut at the Metropolitan in 1937 Her repertoire includes the leading dramatic soprano roles in Italian opera, and c.1942 she added Elsa in *Lohengrin* and Sieglinde in *Die Walküre.*

Banaba: see OCEAN ISLAND.

banana, name for several species of the genus *Musa* and for the fruits these produce The common banana plant (*Musa sapientum* or *Musa paradisiaca sapientum*)—one of the largest herbaceous plants—is said to be native to tropical Asia, but is now cultivated throughout the tropics where it is one of the most important plants economically It is of palm-like aspect and has very large leaves, the overlapping bases of which form the so-called trunk As the plant reaches maturity the true stem rises from the ground and pushes through the center of the false trunk to emerge from the top of the plant, there becoming pendent and bearing the flowers At the tip of the pendent stem are borne the male flowers, above them the female, which develop into bananas Each plant produces only one such bunch, which is formed of clusters of upcurved bananas called "hands," each banana being a "finger " The plants are cut down to harvest the fruit, since they bear only once, but shoots from the rhizome serve to maintain the stand for a number of years New plantations of bananas are started by planting these shoots or pieces of the rhizome, since the seeds are sterile, such plants may reach maturity in about one year The fruit of this common banana (botanically a berry) is edible raw or cooked and is rich in carbohydrates, it is used also in making a banana powder and a dried fruit, both of them useful in cookery (Banana oil is a synthetic product, so named because of its odor) The first regular shipments of bananas to the United States began about the middle of the 19th cent There are several varieties of the common banana, one being red Other important species of the banana genus (many with inedible fruit) include the MANILA HEMP plant, valued for its fiber, and *plantain,* valued for its fruit—a staple article of food in the tropics where it is cooked and eaten as a vegetable

Banat (bä'nät') The term *banat* was originally used for several frontier provinces of Hungary and Croatia, which were governed by bans It now applies only to the former **Banat of Temesvar** (tĕ'mĕshvar), which until 1918 was an integral part of Hungary Its chief city was Temesvar (see TIMIŞOARA) With a population of c 1,500,000, the Banat is a fertile low-lying region bracketed by the Danube, Theiss, and Mures rivers and the Transylvanian Alps After the First World War, the Treaty of Trianon (1919) divided the Banat between Yugoslavia and Rumania

Banbury, municipal borough (1931 pop 13,953, 1943 estimated pop 19 000), Oxfordshire England, in a productive agricultural district The town still produces the cakes for which it has been famous since the 17th cent The Banbury Cross of the nursery rhyme was destroyed by the Puritans in 1602, but a new one was built later Banbury is a farm market with light-metal industries

Bancroft, Edward, 1744-1821, American Revolutionary spy, b Westfield, Mass While living in London, he became the friend of Benjamin Franklin and in the Revolution began to operate as an American secret agent He reported to the American commissioners in France, but, unknown to them, he played the double agent and also reported their movements to the British Bancroft in 1778 gave advance information of the Franco-American alliance to the British Evidence of his duplicity was first revealed by Paul Leicester Ford in 1891 See Carl Van Doren, *Secret History of the American Revolution* (1941)

Bancroft, George, 1800-1891, American historian and statesman, b Worcester, Mass Educated at Harvard (B A , 1817) and Gottingen (Ph D , 1820), he taught briefly at Harvard and then for eight years at the Round Hill School at Northampton, Mass , of which he was a founder and coproprietor He then turned definitely to writing His article (Jan , 1831) in the *North American Review* attacking the Bank of the United States delighted Jacksonian Democrats, and in 1834 Bancroft became an avowed apostate from New England Federalism, "a traitor to his class " In that year also appeared the first volume of his monumental work, *A History of the United States* (10 vols , 1834-74). As a reward for his speeches and writings in the Democratic cause he was appointed (1837) collector of the port of Boston by President Martin Van Buren, and as the dispenser of the patronage of that office Bancroft was the Democratic boss in Massachusetts He was defeated for the governorship in 1844, but another Democratic President, James K Polk, at the earnest prompting of Van Buren, made him Secretary of the Navy In that post (March, 1845–Sept , 1846) he established the U S Naval Academy at Annapolis and issued the standing orders under which Capt John D Sloat, commanding the Pacific squadron, seized California ports on the outbreak of the Mexican War That conflict formally began in May, 1845, when Bancroft, then serving also as acting Secretary of War, gave the order which sent Gen Zachary Taylor into Mexico. While minister to Great Britain (1846–49), he diligently collected materials for his *History* in British and French archives Bancroft, an antislavery Democrat, came to support Abraham Lincoln in the Civil War and on Feb 12, 1866, delivered the official memorial address on Lincoln before Congress (he had also been the official eulogist of Andrew Jackson in 1845) He wrote President Andrew Johnson's first message to Congress, and in 1867 Johnson appointed him minister to Prussia He held the post until 1874, the year he finished the 10th volume of the *History* In 1876 he brought out a revised edition of the whole in six volumes, bringing events up to 1782 His *History of the Formation of the Constitution of the United States* (1882) was incorporated with "the author's last revision" of his *History* (6 vols , 1883–85), which brought it down to 1789 Although his famous *History* is little read today, it was an important landmark in American historiography, hitherto burdened with Federalist myths Bancroft always had his eye to the main chance and was doubtless as devious as the next politician, but the *History,* violently anti-British and intensely patriotic, leaves no doubt that he was passionately sincere in his devotion to democracy Acknowledged partisan that he was, Bancroft, the first American trained in the so-called scientific school of German historical scholarship, nevertheless insisted that his was an objective interpretation, the high praise his work won from the great Leopold von Ranke as the best history ever written from the democratic point of view annoyed as well as gratified him His literary style was sonorous and rather ponderous, though some passages still have a welcome emotional appeal See biographies by M A De Wolfe Howe (1908) and R B Nye (1944), J S Bassett, *The Middle Group of American Historians* (1917), O W Long, *Literary Pioneers Early American Explorers of European Culture* (1935), A M Schlesinger, Jr , *The Age of Jackson* (1945)

Bancroft, Hubert Howe, 1832–1918, American publisher and historian, b Granville, Ohio He so impressed his bookseller brother-in-law of Buffalo, N Y , with his salesmanship that he was sent to San Francisco in 1852 with $5,000 worth of books Soon he had his own firm, the largest book and stationery business west of Chicago In publishing a handbook on California, Bancroft began gathering what reference works existed, and this developed into a passion for collecting material on all W America, from Alaska to Patagonia When completed, his collection ran to some 60,000 volumes, including rare manuscripts, transcripts by copyists he sent to various archives, and personal narratives of early pioneers as recorded by reporters he had also hired The collection, now the Bancroft Library of the Univ of California, is the greatest existing single source for Western history Having acquired it, Bancroft, always the businessman as well as an amateur of history, decided to put it to practical use After toying with the idea of compiling an encyclopedia, he settled on the publication of a prodigious history (39 vols , 1874-90), reissued (1882-90) as *The Works of Hubert Howe Bancroft* Called "the greatest feat of historiography since Thucydides," it was a cooperative effort under his general editorial supervision About a dozen people, out of some 600 tried out in his "history factory," wrote most of the *Works* Bancroft personally wrote very little The *Works* cover the history and to some extent the anthropology of Central America, Mexico, and the Far West of the United States and Canada The first five volumes concern the "native races," the next 28 the "Pacific states," and the last six are "essays" *Literary Industries,* the 39th volume, contains autobiographical material and an account of Bancroft's historical method Because his assistants were not given credit lines and because a subsequent "who's who of the West" which he published included names for a price (sometimes exorbitant), Bancroft and his *Works* were at first severely attacked However, his enormous contribution soon received its just due See biography by J W Caughey (1946)

Bancroft, Marie Effie Wilton, Lady, 1839–1921, English actress and manager Miss Wilton made her debut (1856) at the Lyceum Theatre, London, and in 1865 became joint manager of the Prince of Wales's Theatre, London, here **Squire Bancroft,** 1841 1926, whose real name was Squire Bancroft White Butterfield was her leading man In 1867 they married and were a great success in T W Robertson's *Caste* From 1880 to 1885 they managed the Haymarket Theatre, London, where they starred in Shakspere's comedies, Sheridan's *School for Scandal,* Lytton's *Money,* and *Diplomacy* by Clement Scott and B C Stephenson They appeared together until 1886, when Mrs Bancroft retired Squire Bancroft was knighted in 1895 See his *Empty Chairs* (1925) and their joint memoirs, *Mr and Mrs Bancroft, on and off the Stage* (1888) and *Recollections of Sixty Years* (1909)

Bancroft, village (pop 1,094), S Ont , on the York river and NNW of Belleville

band, in music, a group of musicians playing principally upon wind instruments, usually out of doors Until late in the 17th cent the term was loosely used for an ensemble playing for the court or the theater The band as known today originated as the military band, to stir the emotions of troops and to signal their attacks Portability and loudness, then, had to be primary considerations in band instrumentation, and the march has always been characteristic of band music A German, Wilhelm Wieprecht (1802–72), was the first to use trumpets and horns with valves in the band, when (c 1830) he reformed the instrumentation of Prussian cavalry and infantry bands A little later Adolphe Sax introduced his saxhorns into French military bands in great numbers, largely replacing the oboes, bassoons, and horns for a time. In the 1860s the sarrusophone became a part of the band, and by this time the wind band had become in most respects the ensemble known today The U S Marine Band, founded in 1798, was the first important band in this country and is still outstanding The concert band is of fairly recent development The first in the United States was that of P S GILMORE, founded in 1859 His successor as the leading American bandmaster was John Philip Sousa In 1911 Edwin Franko Goldman (1878–) organized the Goldman Band, which gives outdoor concerts in New York every summer The instrumentation of bands is often governed by functionality, arbitrary provisions by military authorities, and other nonmusical considerations Consequently, each band must make its own arrangements, and band concerts consist largely of music written for other media Modern bands usually include the PICCOLO, FLUTE, CORNET, TRUMPET, FRENCH HORN, TUBA, TROMBONE, OBOE, CLARINET, ENGLISH HORN, BASSOON, SAXOPHONE, *Flügelhorn,* euphonium and various PERCUSSION INSTRUMENTS Concert bands also use the cello, bass viol, and harp The instrumentation of dance bands and jazz bands is tremendously varied The term *band* is also used for an ensemble of any one type of instrument, as brass band, wind band, or marimba band See R F Goldman, *The Band's Music* (1938) and *The Concert Band* (1946), A A Clappe, *The Wind Band and Its Instruments* (1911)

bandage FIRST AID often requires the use of a bandage to protect a wound, to hold dressings and poultices in place, to control bleeding, to serve as a sling for supporting a part of the body, and to limit motion Bandages are made of thin gauze and of heavier material, such as muslin, are from about 1 in to 5 in wide, and are rolled for convenience in handling Various bandages named for the way in which they are wound, e g , circular, spiral, spiral reverse, figure eight, and spica, are used on different parts of the body It is important to place the part in the desired position before the bandage is applied, to prevent interference with circulation, and to tie the ends of the bandage in such a way that it does not cause pressure Elastic bandages are used to support various veins

Banda Islands (bän'du), group of 10 volcanic islands (72 sq mi , pop 13,036), East Indonesia, in the Banda Sea S of Ceram, in the Moluccas Bandalontar is the largest Nutmeg and mace are the chief products Visited by the Dutch in 1599, the group came under the control of the Dutch East India Company in 1619

Banda Oriental (bän'dä ôryäntäl') [Span ,=eastern shore, i e , of the Rio de la Plata], region, S Uruguay It is an alluvial plain where nearly all of Uruguay's agricultural products (wheat, flax, linseed, oats, and barley) are raised and most of the population is concentrated Banda Oriental was the term applied to Uruguay in the Spanish colonial period

Bandar, India see MASULIPATAM

Bandar Abbas (bän'dur äbäs'), town (pop c 14,000), SE Iran, a port on the Strait of Hormuz at the end of the Persian Gulf Practically all imports from India come through Bandar Abbas Chief exports are cotton, rugs, nuts, and gums There was a small settlement here, Gombroon or Gomberun, before Shah Abbas I began (1622) the development of a major port

Bandar Shah (shä'), town, N Iran, a small port on the Caspian Sea It was long a fishing village and now derives its importance from the fact that the Trans-Iranian RR ends here Its name also occurs as Shahi

Bandar Shahpur (shäpōōr'), city (pop c 40,000), SW Iran, between Mohammerah and Bushire It is of increasing importance as the Persian Gulf terminus of the Trans-Iranian RR

Banda Sea (bän'du, bän'dä), bounded by islands of the Malay Archipelago, with the Celebes on the northeast, Ceram on the north, and Timor on the south

Bandel, Ernst von (ĕrnst' fŏn bän'dul), 1800–1876, German sculptor He studied architecture, painting, engraving, and modeling, and spent two years in Italy, giving his whole time to sculpture He was employed in the court of Louis I of Bavaria, and in 1834 he went to Hanover, where he devoted his best years to the monument to Arminius, erected near Detmold Other works include *Mars Asleep, Charity, Christ,* and busts of Maximilian of Bavaria and Peter von Hess

Bandelier, Adolph Francis Alphonse (băndālēr'), 1840–1914, American archaeologist, b Berne, Switzerland He went to Illinois with his parents in 1848, but returned to the Univ of Berne for his education His first studies, published through the Peabody Museum (1877–79), were scholarly papers on ancient Mexican civilizations. From 1880 to 1889 he carried on field researches in New Mexico

under the auspices of the Archaeological Institute of America, in the *Papers* of which the scientific results are to be found. *The Delight Makers* (1890) and *The Gilded Man* (1893) are more popular books based upon the work of this period In 1892 he began a decade of archaeological exploration and study in Peru and Bolivia After 1903 he became a lecturer in the American Museum of Natural History. Upon his work critical scholars of American archaeology have since largely built

Bandelier National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Bandello, Matteo (mät-tā'ō bändĕl'lō), c 1480–1562, Italian novelist, a Dominican priest He is famous for his *novelle*, short tales in imitation of those of Boccaccio They are often coarse but have considerable vitality and occasional tragic force His version of an earlier author's *Romeo and Juliet* is probably the source of Shakspere's play An edition of his *novelle* was translated into English by Sir Geoffrey Fenton in 1567 and reprinted in 1924

Bandera (băndâ'ru), unincorporated town (pop c 1,300), co seat of Bandera co, SW Texas, on the Medina and NW of San Antonio Founded by Mormons in 1854 and later turned into a Polish settlement, this ranching and farm center in the cool hill country keeps some Old West flavor, has a well-known museum stocked with pioneer relics, and attracts vacationers

Bandinelli, Bartolomeo (bärtōlōmā'ō bändēnĕl'lē), or **Baccio** (bät'chō), 1493?–1560, Florentine sculptor and painter, son of a goldsmith He strove to emulate Michelangelo Among his best-known sculptures are a statue of St Peter and an altar screen in the cathedral at Florence and *Hercules and Cacus*, also in Florence

bandit. see BRIGANDAGE

Bandjermasin, Indonesia see BANJERMASIN

Bandoeng, Indonesia see BANDUNG

Bandon, resort city (pop 1,004), SW Oregon, SSW of Coos Bay, on the Pacific coast at the mouth of the Coquille, inc 1891 It was rebuilt after a fire in 1936 that destroyed most of the city

Bandung or **Bandoeng** (both bän'dōōng), town (pop 166,815), on W Java, Indonesia, SE of Batavia, at an altitude of 2,300 ft It was formerly an administrative and a military headquarters of the Netherlands East Indies Among its products are textiles, quinine, soap, cigars, rubber goods, and machinery Bandung has an engineering college and a textile institute It has an airport, and its radio station is the most powerful in Indonesia

baneberry, any plant of the genus *Actaea*, perennials having compound leaves and a cluster of small white flowers, sometimes cultivated for the handsome (though poisonous) fruits Native species, formerly used medicinally by both Indian and white man and called also cohosh, have a stalk of red berries—red baneberry—or a stalk of white berries on short, swollen red stems—white baneberry Herb Christopher is another name, particularly for the dark-fruited European baneberry

Baner, Johan, Swed *Banér* (yōō'han bənär'), 1596–1641, Swedish general in the THIRTY YEARS WAR He served in Poland and Russia (1626–29) and, as counselor and general, landed with Gustavus Adolphus in Germany (1630) In 1632 he occupied Magdeburg and, with Bernhard of Saxe-Weimar, held Bavaria and Swabia Chief Swedish general after the death of Gustavus Adolphus at Lützen, he met with signal defeat at Nördlingen (1634) At Wittstock (1636) against the Saxon and imperialist forces, he recovered the military prestige of the Swedes, though forced to retreat for lack of reinforcements In 1638, he recovered Pomerania and Mecklenburg After winning a victory over the Saxons at Chemnitz (1639) and penetrating into Bohemia, he was forced to retreat

Banff (bămf, bänf), town (pop 2,081), SW Alta, on the Bow river in the Rocky Mts A famous tourist center, it is the chief station on the transcontinental line of the Canadian Pacific Railway for the Banff National Park (2,564 sq mi, est 1887), which has hot sulphur springs Banff has also become a winter resort for eastern prairie dwellers, with an annual winter carnival There are a national park museum and a zoological garden

Banff, burgh (pop 3,489), county town of Banffshire, Scotland, at the mouth of the Deveron and near Moray Firth It has a harbor and a fishing industry

Banffshire or **Banff,** county (630 sq mi, 1931 pop 54,907, 1948 estimated pop 52,482), NE Scotland The county town is Banff Other important towns are Keith, Portsoy, and Buckie The county is bounded on the north by the Firth of Moray and on the east and south by Aberdeenshire. The region is rolling and fertile near the coast, rising to the Grampians in the south It is an agricultural county, with small fishing villages along the coast. There is some quarrying, and large quantities of fine whisky are distilled Associated in history with Aberdeenshire, Banffshire was the scene of many battles between the Scots and the Norse invaders and later was torn by religious strife after the Reformation and through the period of the Puritan Revolution.

Bang, Herman Joachim (hĕr'män yō'ákhĭm bäng'), 1857–1912, Danish novelist, journalist, and critic His first important book was *Generations without Hope* (1880), a novel subjective and autobiographical In his collection of short stories *Quiet Lives* (1886) appears what is generally regarded as his masterpiece, "By the Wayside" His later books are impressionistic in style, among them are *The White House* (1898) and *Denied a Country* (1906, Eng tr, 1927)

Bangalore (băng-gulôr'), city (pop 248,334), SE Mysore state, India The city was founded in 1537 and there are remains of Tippoo Sahib's palace. Today it is a major rail junction and commercial center of S India Woolen, cotton, and silk textiles are manufactured An airplane factory was opened in 1941

Bangka or **Banka** (both bäng'kä, bäng'ku), island (4,611 sq mi, pop including offshore islets 205,363), Indonesia, in the Java Sea SE of Sumatra Since c 1710 when tin was discovered here Bangka has become one of the principal tin producers of the world The island also has deposits of iron, manganese, gold, lead, and copper Pangkalpinang is the capital, Muntok the principal port

Bangkok (băng'kŏk'), city (pop 688,832), capital of Thailand, on the Menam river near the Gulf of Siam It is the industrial center of Thailand and is surrounded by the fertile Menam plain, but it is most important as the seat of government and the principal port of the kingdom The chief exports are rice, tin, teak, and rubber Industrial plants include rice mills, sawmills, salt and oil refineries, and shipyards Bangkok is connected by rail with Singapore, Chiang Mai, and Pnom Penh The old city was built on the river and canals and was walled In the late 19th cent, Bangkok underwent modernization, many buildings were constructed in the European or a modified European style Notable buildings include the Grand Palace in the old city and the Dusit Palace in the northern outskirts The Chinese quarter is to the south Bangkok became the administrative center of Siam soon after the fall of AYUTHIA, and in 1782 it became the capital

Bangor (băng'gur), municipal borough (pop 15,769), Co Down, Northern Ireland, on Belfast Lough near its mouth and ENE of Belfast It is a seaport, a resort, and a yachting center, scene of an annual regatta There are remains of an abbey The original missionary abbey was founded c 555 by St Comgall and was destroyed by the Danes in the 9th cent Rebuilt in 1120, it was taken over by Franciscans in 1469 and dissolved in 1542

Bangor. 1 (băng'gôr, băn'-, băng'gur) City (pop 29,822), co seat of Penobscot co, S Maine, on the Penobscot at the head of navigation and at the mouth of the Kenduskeag, opposite Brewer, inc as a town 1791, as a city 1834 A port of entry, it is a commercial center and a gateway to an extensive resort area Its varied industries include printing, food and lumber processing, and the production of shoes and dental supplies Champlain and Monts probably ascended the river this far in 1604 Settlers began to arrive in 1769 The British occupied Bangor in 1814 Bangor Theological Seminary was established in 1814 There are many early-19th-century houses **2** (băng'gôr) Village (pop 1,409), SW Mich, near Lake Michigan W of Kalamazoo, in a fruitgrowing area, settled 1837, inc 1877 **3** (băng'gur) Industrial borough (pop 5,687), E Pa, between Easton and Stroudsburg, settled 1773, inc 1875 It is the center of a slate-quarrying area and has textile-products industries

Bangor (băng'gôr), municipal borough (pop 10,960), Caernarvonshire, Wales, at the northern opening of Menai Strait The cathedral, on the site of a 6th-century church, dates from the 15th and 16th cent Bangor is the seat of the University College of North Wales Slate is shipped from adjacent Port Penrhyn

Bangorian Controversy (băng-gô'rēən), in the Church of England in the early part of the reign of George I Benjamin HOADLY, bishop of Bangor, Wales, delivered a sermon (1717) before the king in which he denied the delegation by Jesus Christ of any authority to the church Advocates of ecclesiastical authority (among them William LAW) attacked Hoadly's position, and a sharp controversy ensued, in which some 50 writers participated and about 200 pamphlets were issued The Bangorian Controversy led the king to prorogue convocation in 1717, this great council of the church was rendered inactive for about 135 years

Bangs, John Kendrick, 1862–1922, American humorist, b Yonkers, N Y, grad Columbia, 1883 He was associate editor of *Life*, 1884–88, joined the staff of *Harper's Magazine*, 1888, and edited *Harper's Weekly*, 1899–1901, and *Puck*, 1904–5 Besides other editorial work, he wrote over 30 books of humorous stories, verse, and plays The best known are *Coffee and Repartee* (1893), *The Idiot* (1895), and *A House-Boat on the Styx* (1896). See biography by his son, F H Bangs (1941).

Bang's disease: see CONTAGIOUS ABORTION.

Bangweolo (băng"wēō'lō) or **Bangweulu** (-ōō'lōō), lake (area 3,800 sq mi, including swamps), N Northern Rhodesia It is 60 mi long and 25 mi. wide. It empties into the Luapula river, a headstream of the Congo The lake was discovered by David Livingstone in 1868

Bani (bä'nī) [Heb, =built] **1** One of David's mighty men 2 Sam 23 36 **2** Musician 1 Chron 6 46 **3** Levites Neh 3 17, 9 4, 11 22 **4** Family in the return from exile Ezra 2 10, 10 29, Neh 10 14 BINNUI Neh 7 15 **5** The same as BINNUI **1** **6** Judahite 1 Chron 9 4 **7** Jew married to a foreign wife Ezra 10 38

Banim, John (bă'nĭm), 1798–1842, Irish novelist. He studied art, then turned to literature, writing *Damon and Pythias*, a tragedy, and a long poem, *The Celt's Paradise*, both in 1821 He and his brother, Michael Banim (1796–1874), wrote a series of novels, *Tales by the O'Hara Family* (2 series, 1825 26), of which *The Nowlans* by John was exceptional *The Boyne Water* (1826), a historical novel also by John, and *Father Connell* (1842), by both brothers, were notable Irish national tales

banishment see EXILE

Banja Luka (ban'ja lōō'kä), city (pop 33,191), Bosnia, N Yugoslavia First mentioned in the 15th cent, it was (1580–1640) the seat of the Bosnian pashas The city has ruins of Roman baths, a 16th-century mosque, and an Orthodox Eastern cathedral There are textile, beer, tobacco, and dairy industries

Banjermasin or **Bandjermasin** (both bän"jurmä'sĭn), town (pop 65,698), capital of Borneo, Indonesia It is a port on the Barito where the Martapura enters, 10 mi from the south coast The trade center of the rich Barito basin, it exports oil, timber, rubber, coal, gold, and iron There is a large oil refinery The Dutch settled here in 1711, succeeding the British

banjo, small stringed musical instrument Its body consists of a hoop over which parchment is stretched, resembling a tambourine Its neck is like that of a guitar Its five to nine strings are plucked, with either the fingers or a plectrum The Negroes brought it to America from W Africa, where the idea was possibly borrowed from European sources Because of its incisive, metallic quality, the banjo is used sometimes in jazz bands

Banjoewangi, Indonesia see BANYUWANGI

Banka, Indonesia see BANGKA

Bankhead, John Hollis, 1872–1946, U S Senator from Alabama (1930–46), b Lamar co, Ala, grad Univ of Alabama, 1891, and Georgetown Univ law school, 1893 A successful corporation lawyer and coal-mine operator, he defeated James Thomas HEFLIN for the Senate Except on those issues having to do with the civil rights of Negroes in the South, Bankhead supported the New Deal His brother, William B Bankhead, of the House, and he were especially interested in legislation affecting cotton They were chiefly responsible for the passage in 1934 of the Cotton Control Act (repealed in 1936), designed to aid distressed planters and sharecroppers, who were given subsidies to limit production of the crop

Bankhead, William Brockman, 1874–1940, U S Representative from Alabama (1917–40), b Lamar co, Ala, grad Univ of Alabama, 1893, and Georgetown Univ law school, 1895 Chairman of the House rules committee (1934–35), Democratic floor leader (1935–36), and speaker of the House (1936–40), he was one of the outstanding New Deal legislative leaders The Cotton Control Act of 1934 was largely the work of his brother, Senator John H Bankhead, and himself He was also interested in monetary legislation and was considered one of the ablest parlementarians in the House He was the father of the well-known actress Tallulah Brockman Bankhead (1903)

bank holidays, days when the law requires that banks be closed In the United States the list varies from state to state but generally includes, besides the major holidays, many days that are observed only by the banks and such government institutions as post offices In England since 1871 bank holidays have had special significance as secular and perpetual holidays The days include Christmas, Dec 26 (Boxing Day, if a week-day), Good Friday, Easter Monday, Whitmonday, and the special banking day on the first Monday in August

banking, primarily the business of dealing in money and instruments of credit Banks are usually differentiated from other financial institutions by their principal functions of accepting deposits—subject to withdrawal or transfer by check—and of making loans In a simple form, banking was practiced by the ancient temples of Egypt, Babylonia, and Greece, which loaned at high rates of interest the gold and silver deposited for safekeeping Private banking existed by 600 B C and was considerably developed by the Greeks, Romans, and Byzantines During the Middle Ages banking was dominated by the Jews because of the prejudice of the Christian Church against interest The forerunners of the modern banks were frequently chartered for a specific purpose, e g, the Bank of Venice (1171) and the Bank of England (1694), in connection with loans to the government, the Bank of Amsterdam (1609), to receive deposits of gold and silver Banking developed rapidly throughout the 18th and 19th cent, accompanying the expansion of

industry and trade, with each nation evolving the distinctive forms peculiar to its economic and social life In the United States the first bank was the Bank of North America, established in 1781 in Philadelphia Congress chartered the first BANK OF THE UNITED STATES in 1791 to engage in general commercial banking and to act as fiscal agent of the government, but failed to renew its charter in 1811 A similar fate attended the second Bank of the United States, chartered in 1816 and closed in 1836 Prior to 1838 a bank charter could be obtained only by specific legislative act In 1838 New York state adopted the Free Banking Act, which authorized any one to procure a charter and engage in banking upon compliance with certain conditions Free banking spread rapidly to other states, and from 1837 to 1863 all banking business was done by state-chartered institutions In many Western states it degenerated into "wildcat" banking because of laxity and abuse of state laws Bank notes were issued against little or no security, credit was overexpanded, and depressions brought waves of bank failures In particular, the multiplicity of state bank notes caused great confusion and loss To correct these conditions, there was passed in 1863 the National Bank Act, which provided for a system of banks to be chartered by the Federal government By granting to national banks authority to issue bank notes and by placing a prohibitive tax on state bank notes, the act aimed at bringing all banks under Federal supervision. Most banks in existence did take out national charters, but some, being banks of deposit, were unaffected by the tax and continued under their state charters, thus giving rise to what is generally known as the "dual banking system " The number of state banks expanded rapidly with the increasing use of bank checks and has exceeded the number of national banks since 1892 Recurrent banking panics caused by overexpansion of credit, stringency of bank reserves, and inelastic currency prompted Congress in 1908 to create the National Monetary Commission to investigate the field of banking and currency and recommend legislation Its suggestions were embodied in the Federal Reserve Act (1913), which provided for a central banking organization, the FEDERAL RESERVE SYSTEM The fact that commercial banks are able to expand their loans and investments or are forced to contract them in accordance with changes in reserves and reserve requirements differentiates them from mutual savings banks, where the volume of loans and investments is governed by changes in customers' deposits Commercial banks include national and state banks, trust companies, stock savings banks, and industrial banks, most of which, in addition to their primary functions of making loans and investments and handling demand as well as savings and other time deposits, render a wide range of services Mutual savings banks, on the other hand, accept only savings and other time deposits, and the types of loans made and services rendered are limited Since the establishment of the Federal Reserve System, Federal banking legislation has been limited largely to detailed amendments of the National Bank and Federal Reserve acts The Banking Act of 1933 was a reform measure designed to correct specific abuses which had been disclosed by events leading to the bank holiday at the beginning of the Roosevelt administration It strengthened the powers of supervisory authorities, increased controls over the volume and use of credit, and provided for the insurance of bank deposits under the Federal Deposit Insurance Corporation (FDIC) The Banking Act of 1935 strengthened the powers of the Federal Reserve Board of Governors in the field of credit management, tightened existing restrictions on certain banking operations, and enlarged the supervisory powers of the FDIC Membership in the FDIC is compulsory for all Federal Reserve member banks but optional for other banks Types of financial institutions which are not subject to the supervision of state or Federal banking authorities but which perform one or more of the traditional banking functions are building and savings and loan associations, mortgage companies, finance companies, insurance companies, credit agencies owned in whole or in part by the Federal government, credit unions, brokers and dealers in securities, and investment bankers These operate under state or Federal laws and most of them are under the jurisdiction of the Dept. of Agriculture or the Federal Loan Agency Other credit institutions operating under Federal laws include the Postal Savings System, the U S Housing Authority, and the Veterans Administration Building and loan associations, which are state institutions, and savings and loan, which are Federal associations, make loans on real estate with funds obtained by the sale of shares to members. Finance companies make small loans and purchase conditional sales contracts with funds obtained from invested capital, surplus, and borrowings. Credit unions, which are institutions owned cooperatively by groups of persons having a common business, fraternal, or other interest, make small loans to their members out of funds derived from the sale of shares to members. The primary functions of investment bankers are the purchase of new issues of securities from public bodies or corporations and their sale to institutional and individual investors and the distribution of blocks of outstanding securities from large holders to the investing public Investment bankers usually act as intermediaries between the issuers of securities and investors in supplying long-term or capital funds, as distinguished from commercial banks, which primarily make short-term loans to finance the production and distribution of goods In Canada the banking system developed along lines similar to that of Scotland, with branches controlled by a small number of head offices The result has been a remarkable freedom from bank failures, accompanied by a rather heavy dependence of the remoter parts of the country upon Montreal and Toronto for their supply of credit Owing to the centralized nature of the business of each bank in this system, the need for a central bank was not felt in Canada until recently, but the Bank of Canada was established in 1934 and has been wholly owned by the government since 1938 The powers of the chartered banks are granted for periods of 10 years only by the Bank Act See R G Rodkey, *The Banking Process* (1928), H P Willis and B H Beckhart, *Foreign Banking Systems* (1929), D R Dewey, *Financial History of the United States* (12th ed , 1934), H P Willis and J M. Chapman, *The Banking Situation* (1934), R B Westerfield, *Money, Credit, and Banking* (1938), Board of Governors of the Federal Reserve System, *Banking Studies* (1941), J I Bogen, *Financial Handbook* (1948)

Bank of England, popularly known as the Old lady of Threadneedle Street It stands on the street of that name in London and has a number of branches in England and the British dominions At first a commercial bank, it eventually became the central banking institution of England It was founded (1694) by William PATERSON with a capital of £1,200,000, which was advanced to the government in return for banking privileges, including the right to issue notes up to the amount of its capital A new agreement with the government in 1709 allowed the bank to double its capital, which was then lent to the government The bank renewed its charter in 1742, 1764, 1781, and 1842, when it was divided by the Bank Charter Act into two departments This act placed rigid restrictions on the issue of the bank's notes and formed the basis of its present structure The issue department handles the issuing of bank notes for general circulation, the banking department handles the remaining features of banking service, including the management of the public debt, and serves as the depository of government funds and as the staple bank of England. The affairs of the bank are controlled by a governor, a deputy, and 24 directors It was privately owned until 1945, when an act of Parliament provided for its nationalization The stockholders were recompensed with government bonds to the value of more than £58,000,000 See J H Clapham, *The Bank of England a History* (1944)

Bank of France, the central bank of France, founded in 1800 at the direction of Napoleon Its original capital was 30,000,000 francs, since 1857 it has been 182,500,000 francs The bank has the sole right to issue notes and is also the depository of government funds It exercises central banking functions by means of its discount rates and by open-market operations In addition it is the largest commercial bank in France Its central office is in Paris, and it maintains branches throughout the country The private owners of the bank elect directors, but actual management is by a governor and two deputies appointed by the government

Bank of the United States. There were two Banks of the United States, the first existing from 1791 to 1811 and the second from 1816 to 1836 The first bank was established by the Federalists as a part of the Hamiltonian system (see HAMILTON, ALEXANDER) and was bitterly opposed by the Anti-Federalists on the ground that it closely allied the government with the commercial and moneyed interests Their opposition was based on the claim that the bank was unconstitutional, the Constitution not having granted the government power to establish a CENTRAL BANK The conservative policies of the bank and its restraining influence on other banks antagonized more exuberant business elements, especially in the West. The bank's field was nation-wide, with a head office in Philadelphia and branches in eight other cities The government subscribed one fifth of the capital of $10,000,000, but a loan of $2,000,000 was immediately made to the government. The bank acted as a fiscal agent for the government and also conducted a general commercial business. It was well managed and paid good dividends, but when its 20-year charter expired in 1811 a new one was refused by the Jeffersonian Democrats then in control. Later, financing the War of 1812 proved difficult because of the lack of a central bank, and the end of the war found the financial system of the country in a chaotic state. Enough support was therefore secured to charter a new bank for 20 years The second bank, capitalised at $35,000,000, operated much as did the first one, 25 branches being established. It became especially prosperous under the management of Nicholas BIDDLE and aroused much criticism on the part of state banks and frontiersmen on the ground that it was too powerful and that it operated in the interests of the commercial classes of the East. The opponents of the bank came into power with Andrew JACKSON He vetoed the bill for its recharter in 1832 and made it one of the leading issues of his fight for reelection Interpreting his victory at the polls as an expression of the popular will on the subject, he did not wait for the expiration of the bank's charter in 1836 but had the government's deposits removed in 1833 to the state banks, known to his opponents as "pet banks " Under Van Buren's administration the INDEPENDENT TREASURY SYSTEM was established to handle the government's funds See D R Dewey, *Financial History of the United States* (12th ed , 1934), R C H Catterall, *The Second Bank of the United States* (1903)

bankruptcy, in law, settlement of the liabilities of a debtor who is wholly or partially unable to meet his obligations The purposes of bankruptcy laws are to distribute the bankrupt's assets equitably among his creditors and, in most instances, to discharge him from further liability The U S Constitution authorizes Congress to enact uniform bankruptcy legislation for the entire United States The present law was adopted in 1898 and has been amended several times, especially in 1938 Bankruptcy proceedings may be voluntary (instituted by the debtor) or involuntary (instituted by creditors) Ordinarily the debtor must actually be insolvent, i e , even if the full value of his assets were realized, he would not be able to pay all his debts Bankruptcy is also permitted where the discharge of debts would otherwise be unduly delayed, e g , if the debtor has fraudulently transferred property to put it out of a creditor's reach When a person has been adjudged bankrupt, preferred creditors (e g , workmen and suppliers of materials) are paid in full, and the other creditors, who manage the estate through a committee, share, usually pro rata, in the remaining assets Unless a debtor was discharged from debt by bankruptcy proceedings within the previous six years or was guilty of fraud in becoming bankrupt, the effect of bankruptcy proceedings is to wipe out his indebtedness The law also permits courts, instead of ordering the liquidation of all the assets of a business threatened with insolvency, to reorganize it on a sound basis In the United States the bankrupt receives perhaps more lenient treatment than in any other country, this practice reflects the belief that business initiative should not be stifled by the threat of criminal penalties for unintentional commercial failure

Banks, Sir Joseph, 1743–1820, British naturalist and patron of the sciences He accompanied Captain James Cook on his voyage around the world and made large collections of biological specimens Most of the plants were previously unclassified Botany Bay was named on this voyage In 1772 Banks went on an expedition to Iceland From c 1762 until his death he was the chief influence in inaugurating and directing the policies which made Kew Gardens an important botanical center for encouraging exploration and experimentation In 1766 he was elected to the Royal Society, and he served as its president from 1778 until his death The plant genus *Banksia* was named for him See studies by J H Maiden (1909) and Edward Smith (1911)

Banks, Nathaniel Prentiss, 1816-94, American politician and Union general in the Civil War, b Waltham, Mass He served (1849–52) in the Massachusetts house of representatives and was (1851–52) speaker Banks entered Congress in 1853 as a Democrat and was returned in 1855 as a Know-Nothing and in 1857 as a Republican In his second term he was an able and impartial speaker of the House. He resigned from Congress in Dec , 1857, to become the Republican candidate for the governorship of Massachusetts, which he held for three successive terms (1858–60) In the Civil War he was made a major general of volunteers (May, 1861) After service in the Dept. of Annapolis, Banks was given a command in the Dept of the Shenandoah, where T J (Stonewall) JACKSON defeated him at Front Royal and Winchester, forcing him to retreat across the Potomac In the maneuvering before the second battle of BULL RUN, Banks led Gen. John Pope's advance but at Cedar Mt. was again defeated by Jackson Late in 1862 Banks replaced B F BUTLER at New Orleans. He cooperated with Grant in opening up the Mississippi by moving against PORT HUDSON, which fell in July, 1863 In the Red River expedition (1864) Banks, defeated by Richard TAYLOR at SABINE CROSSROADS (April 8), retreated to Pleasant Hill, where he repulsed the pursuing Confederates (April 9) before completely withdrawing from that region. After the war Banks was again a Representative from Massachusetts (1865–73, 1875–77, 1889–91). See biography by F. H Harrington (1948)

Banks, Thomas, 1735–1805, English sculptor, studied at the Royal Academy A traveling scholarship enabled him to study in Rome from 1772 to 1779. In

1781 he went to Russia, where Catherine II bought his *Cupid Catching a Butterfly* and commissioned his *Armed Neutrality* On his return to England he executed numerous monuments and portrait busts, but he is best known for such imaginative works as *Achilles Mourning Briseis* (Tate Gall , London)

banksia [for Sir Joseph Banks], Australian honey-bearing evergreen trees and shrubs, also called honeysuckle trees or Australian honeysuckles. It is sometimes cultivated in America

Bankside, locality by the Thames, in Southwark metropolitan borough, London, England, just E of Southwark Bridge In the 16th and 17th cent it was an amusement center, with the Globe Theatre and other places associated with Shakspere Here also were the palace of the bishop of Winchester and the CLINK

Banks Island, off N Canada, in the Arctic Ocean, in the Arctic Archipelago It is the westernmost of the group and is separated from the mainland by Amundsen Gulf Banks Island, c 250 mi long and c 225 mi wide, is a hilly plateau rising to 3,000 ft in the south There is a small Eskimo population Sir Robert McClure discovered that it was an island in 1851 Vilhjalmur Stefannson spent much time (1914–17) here and explored the interior

Bann, river of Northern Ireland, rising as the Upper Bann in the Mourne Mts and flowing 40 mi NW through Counties Down and Armagh to the southern end of Lough Neagh It leaves the lake at its north shore as the Lower Bann and flows 40 mi north, forming the border between Counties Antrim and Londonderry, past Coleraine to the Atlantic. It has important salmon fisheries

Bannack, ghost town, SW Mont , SW of Butte Founded when gold was discovered (1862) along Grasshopper Creek here, Bannack was the first town in Montana, had the first school, and was territorial capital (1864–65) until most of the miners had left the thin deposits for the richer gold of Virginia City It was also called East Bannack and Bannack City

Bannatyne, George (băn'ŭtĭn), 1545–1608?, British anthologist, b Scotland He compiled one of the best collections of Middle Scottish verse, the Bannatyne MS (1568) The Bannatyne Club was founded in his honor by Sir Walter Scott in 1823 for the purpose of publishing old Scottish works

Banner, Peter, fl 1794–1828, American architect Born in England, he probably practiced there before going to Boston in 1794 Besides the Eben Crafts house at Roxbury, Mass (1805), the most important work attributed to Banner is the Park St Church in Boston (1809), its graceful spire resembles the tower of St Bride's Church, London, by Christopher Wren

Banning, resort city (1940 pop 3,874, 1947 special census pop 6,655), S Calif , E of Riverside, laid out 1883, inc 1913 A health resort, it lies in a mountainous fruitgrowing area

Bannockburn, field on the Bannock, a tributary of the Forth, Stirlingshire, Scotland, S of Stirling and near the village of St Ninian's Here was fought the battle of Bannockburn, beginning June 23, 1314, and ending June 24, 1314, in which Robert the Bruce completely defeated the English under Edward II, thereby establishing himself on the Scottish throne

Bannock Indians, tribe of North American Indians, who formerly ranged over wide territory of the N Great Plains and into the foothills of the Rockies They were concentrated in S Idaho Their language was Uto-Aztecan (see LANGUAGE, table), their culture typical of the Plains Indians The Bannock were greatly reduced by hardship following the disappearance of the buffalo They were defeated in Indian wars in 1863 and 1878, and life on a reservation did not help them They were long associated with the Northern Shoshone and were put on a reservation with them The Bannock lost their separate identity They and the Shoshone were sometimes called Snake Indians

banns or bans: see MARRIAGE

banshee (băn'shē) [Gaelic, = woman fairy], in Gaelic Ireland and Scotland, spirit said to warn, by weeping and wailing, of impending death, especially of death by violence Only certain families are said to have a banshee, and only the kin or household of the doomed person may hear her.

Bantam, Conn see LITCHFIELD

bantam fowl: see POULTRY

Banting, Sir Frederick Grant, 1891–1941, Canadian physician, M D Univ of Toronto, 1922. From 1923 he was professor of medical research at Toronto. Working with C H BEST under the direction of J J. R. MACLEOD, he succeeded in isolating (1921) from the pancreas the hormone later called INSULIN. For this he shared with Macleod the 1923 Nobel Prize in Physiology and Medicine He was knighted in 1934 Besides his work on insulin, he made valuable studies of the cortex of the adrenal glands, of cancer, and of silicosis and stimulated research in aviation medicine. He was killed in a plane crash en route to England on a medical war mission. See Seale Harris, *Banting's Miracle* (1946).

Bantry Bay, inlet of the Atlantic, 21 mi long and 4 mi wide, on the southwest coast of Co. Cork, Ireland. It is one of Europe's best natural anchorages At the head of the bay is Bantry town In 1689 Bantry Bay was the scene of an indecisive Anglo-French naval battle

Bantu (băn'tōō'), ethnic and linguistic group of Africa, numbering some 40,000,000. The Bantu, a Negro people, inhabit nearly all the continent S of the Congo except the extreme southwestern part The classification is primarily linguistic, and there are several hundred Bantu languages and dialects, including Kafir, Zulu, and Swahili Few cultural generalisations concerning the Bantu may be made Before the European conquest of Africa the Bantu tribes were either pastoral and warlike or agricultural and usually pacific There were some highly developed Bantu states, including Buganda in present-day Uganda Possibly under the fear of white encroachment several additional Bantu confederations developed in the 19th cent , notably the Zulu and the Basuto (in Basutoland) Other well-known Bantu tribes include the Matabele and the Mashona

Banvard, John, 1815–91, American painter, b New York city, self-taught After traveling down the Mississippi in a skiff, he began in 1840 to paint a huge panorama of the river, which was exhibited around the United States and in London The first American chromo was copied from his painting, *The Orison*

Banville, Théodore Faullain de (tāôdôr' fōlĕ' du bāvēl'), 1823–91, French poet of the Parnassian school His many volumes of verse, including *Odes funambulesques* (1857) and *Occidentales* (1869), are characterized by expertness of technique

banyan (băn'yŭ) [Anglo-Indian from Sanskrit, = merchant, used as a trading place], species of FIG (*Ficus bengalensis*) native to India, where it is venerated Seeds of the banyan usually germinate in the branches of some tree where they have been dropped by birds The young plant puts forth aerial roots, which, on reaching the ground, enlarge to serve as trunks Branches from these ultimately send down more such prop roots until the banyan crowds out the host tree and becomes grovelike in appearance, often covering large areas The seeds frequently germinate on walls and buildings, causing considerable damage Banyans are sometimes grown in Florida

Banyuwangi or **Banjoewangi** (both băn"yōōwäng'ē), port (pop 25,185), on E Java, Indonesia, opposite Bali on Bali Strait It exports copra, lumber, and rubber It is connected by cable with Australia and Singapore

baobab (bā'ō-), gigantic tree of Senegal, exceeded in size only by the big tree of California The trunks of living trees are often hollowed out for dwellings Ropes and cloth are made from the bark, condiments and medicine from the leaves The fruit is eaten by the natives The baobab is also called monkey bread, sour gourd, and, botanically, *Adansonia*

Baphomet (băf'ŭmĕt), name of a demon or mystic figure It occurs in the accusations leveled at the Knights Templars when they were persecuted in France Apparently the name was unknown before that time in Western demonology Its origin is disputed, it may have been a distorted form of Mahomet, it may have been of Greek origin, some later students of the occult hold that it is an anagram on the alleged esoteric motto of the Knights Templars In later demonology the Great Baphomet is a buck-headed god of evil and death

baptism [Gr , = dipping], SACRAMENT of the Christian church, conveying, or representing, the grace which removes the taint of previous sin from the soul Those who believe in ORIGINAL SIN hold baptism essential for salvation Many churches encourage the baptism of infants The form of baptism is by immersion, or by the pouring or sprinkling of water over the person to be baptized, accompanied by the recitation of a formula, usually in the name of the Trinity The Baptists do not allow infant baptism and baptize by immersion In the Roman Catholic, Orthodox, and Anglican churches the child baptized must have sponsors—godfather and godmother The name *christening* [making Christian] is used for baptism The giving of a name at baptism is secondary For the baptism of Jesus see Mat 3, Mark 1 1–11, Luke 3 1-22, John 3 22,23

baptistery (băp'tĭstrē) [from Latin, = place for baptism], part of a church, or a separate building in connection with it, used for administering the sacrament of baptism In the earliest examples it was merely a basin or pool, set into the floor During the persecutions of the Roman Empire, the baptisms could be administered by Christians only in concealed places, such as the catacombs The Christian church set aside a separate structure for the ceremony. The earliest such still extant is in the Lateran basilica at Rome, in which, by tradition, Emperor Constantine was baptized (337) Octagonal in plan, it formed a model for many subsequent baptisteries, most of which were octagonal or circular In the center of the chamber was the sunken pool, often surrounded by columns, with curtains to screen the neophyte during immersion Early baptisteries are chiefly found in Italy and Asia Minor. In Hagia Sophia there is a 6th-century example still extant. When immersion was no longer practiced, a separate structure became unnecessary and was supplanted by a mere space within the church itself, set aside for the purpose The standing fonts of the Middle Ages and the Renaissance were often objects of superb artistry In Italy separate baptisteries continued to be built in the 12th to the 14th cent , notably the beautiful Romanesque structures at Florence, Pisa, Siena, and Parma The baptistery at Florence contains the celebrated bronze doors of Andrea Pisano and of Lorenzo Ghiberti, that at Pisa the pulpit by Nicola Pisano

Baptists, denomination of Christians holding a distinctive belief with regard to the ordinance of baptism Since 1644 the name has been applied to those who maintain that baptism should be administered to none but believers and that immersion is the only mode of administering baptism indicated in the New Testament The doctrine and practices of some earlier bodies, such as the ANABAPTISTS and MENNONITES, were similar In Holland a group of separatists, led by John SMYTH (escaped from persecution in England), came under Mennonite influence and formed in Amsterdam c 1608 the first English Baptist congregation Smyth baptized first himself, then the others In 1611 certain members of this congregation returned to London and established a church there This was the first of the churches afterward known as General Baptists, since they held the Arminian belief that the atonement of Christ is not limited to the elect only but is general Particular Baptists were those whose doctrine was Calvinistic, teaching that atonement is particular or individual The first such church was formed by secession, in 1633, from a separatist congregation in Southwark, London Immersion was not yet insisted upon in these churches, but in 1644 seven Particular Baptist churches issued a confession of faith requiring that form of baptism, and Baptist was thenceforth the name given to those who practiced it In 1891 General and Particular Baptists united It was the Particular type that first took root among the Puritans and Calvinists in America, when Roger Williams and his companions in Rhode Island rejected infant baptism and established a church in 1639 Baptists were later persecuted in New England for opposing infant baptism, and one group emigrated from Maine to Charleston, S C , c 1684 In the Southeast the General Baptist views found acceptance, but the stricter Calvinistic ideas suited the pioneers who settled the Southern mountains after the Revolution Their opposition to mission work gave them the name Anti-Mission They were also called Hard Shell or Primitive Baptists Baptist churches are congregational in matters of government Such general associations as are formed do not have control over the individual churches Early missionary activity extended the Baptist movement to the Continent and elsewhere In the United States the American Baptist Missionary Union (under a longer title) was formed in 1814 to support workers in foreign lands—at that time, Adoniram JUDSON and Luther Rice In 1832 the American Baptist Home Mission Society was organized When the question of slavery became a dividing wall, the Southern Baptist Convention was established (1845), with its various boards for missions and other activities The Northern Baptist Convention, organized in 1907, is a delegated body operating through many agencies Both support a number of educational institutions and periodicals The original national organization of the Negro Baptist churches is the National Baptist Convention of the United States of America Separated from this body is the National Baptist Convention of America The four principal conventions agree in doctrine and ecclesiastical order Other groups have their own associations, among them the American Baptist Association of the Southwest (1905), the National Baptist Evangelical Life and Soul Saving Association, the Seventh-Day Baptists, the Duck River (and Kindred) Baptists, and the Free Will Baptists There are no fewer than 19 bodies The Baptist World Alliance (formed 1905) holds international congresses regularly See Thomas Armitage, *A History of the Baptists* (2 vols , 1887), H C Vedder, *Baptist History* (1909), Vol IV of *Church History Handbooks*

bar, the, originally, the rail which enclosed the judge in a court, hence, a court or a system of courts The persons qualified and authorized to conduct the trial of cases are also known collectively as the bar From late medieval times in England the Inns of Court acted as training schools for men who were to plead causes in the courts, and when a student was judged to be trained in competence, he was "called to the bar" of the Inn, automatically he was then judged competent to plead at the bar of the courts England retains the old distinction between the pleader of a cause (*advocatus*) who conducts the actual trial and the agent who merely represents or advises a client but does not appear before the court (*procurator*) Those who appear in behalf of clients are barristers (called in Scotland advocates) Formerly the legal agents who plead causes were of three types—attorneys, who represented clients in cases at common law, solicitors, in cases in equity; and proctors, in cases in admiralty and ecclesiastical courts

cases The SOLICITOR is today of outstanding importance in the British legal profession, though the barrister traditionally has the weightier role King's (or queen's, as the case may be) counsel designates a barrister selected as counsel for the crown formerly, such barristers could not plead causes against the crown without special permission Today most senior and distinguished barristers are king's counsel and are privileged to write K C after their names The distinction between the pleader and the agent is retained on the Continent, and formerly in the United States there was some distinction in nomenclature between the counselor at law, who conducted the lawsuit before the court, and the attorney, who did not appear in the actual trial The distinction has now fallen into disuse in the United States See ATTORNEY

Bar, Confederation of, union formed in 1768 at Bar (now in W Ukraine) by a number of Polish nobles to oppose interference of Catherine II of Russia in Polish affairs Its purpose was the defense of Polish independence, of the Polish constitution, and of Catholicism Supported to a minor degree by France and, more effectively, by Turkey, which declared war on Catherine, the confederates fought a bitter war against Russia for several years In 1770 they declared King STANISLAUS II deposed The first partition of Poland (1772) ended the effective resistance of the confederation

Bara, Theda, 1890?–, American moving-picture actress, whose name is Theodosia Goodman, b Cincinnati Films that made her a sensational silent-screen siren or "vamp" include *A Fool There Was, The Eternal Sin, Cleopatra,* and *The Vampire*

barabara, semisubterranean dwelling, typical of the Aleutian Islands and found also in NE Siberia and Alaska It is roofed with turf supported by driftwood or by whalebone beams, the floor is excavated, and the walls are partially or wholly sunk into the ground The old type of barabara was sometimes over 200 ft in length, housing 10 to 40 families Today there is only the single-family size, with an entrance from the side wall

Baraba Steppe (bürübä'), agricultural district, RSFSR, in W Siberia, between the Ob and Irtysh rivers **Barabinsk** (pop c 10,000), a town on the Trans-Siberian RR, is the chief center

Barabbas (burăb'ŭs) [probably an Aramaic surname,=son of the master], bandit held in jail at the time of Jesus' arrest Pilate, who annually released a prisoner at Passover, offered to release Jesus, but the people demanded His death and Barabbas' delivery Mat 27 15–18, Mark 15 6–14, Luke 23 13–25, John 18 39,40

Barabinsk, RSFSR see BARABA STEPPE

Baraboo (băr'ŭbōō), city (pop 6,415), co seat of Sauk co, central Wis, in a hilly region, on the Baraboo and NW of Madison, founded before 1850, inc 1882 It is a manufacturing and farm trade center The Ringling Brothers' circus began here Devils Lake State Park, in the Baraboo Range, and the Dells of the Wisconsin are near by

Barachel (băr'ŭkĕl, burä'k]) [Heb ,=whom God has blessed], father of ELIHU **2** Job 32 2 6

Barachias (bărŭkī'ŭs), the same as BERECHIAH

Baracoa (bärnkō'ä), town (pop 10,395), E Cuba, a port near the eastern extremity of the island Founded c 1512 by Diego de VELÁZQUEZ, it is Cuba's oldest settlement Exported are bananas and cocoa, manufactures include chocolate and coconut oil Overlooking the town is a landmark for navigators, El Yunque de Baracoa (1,932 ft high), which was named for its fancied resemblance to an anvil

Barada see ABANA

Baradla Caves (bô'rŏdlô), three large caves, NE Hungary and S Czechoslovakia, c 25 mi NNW of Miskolc They are noted for their stalactites Two caves are in Hungary, one in Slovakia

Baraga, Frederic (bär'ŭgu), 1797 1868, Roman Catholic missionary to the Indians of Upper Michigan, b Slovenia He received (1821) a law degree from the Univ of Vienna, and after study at the Laibach seminary he was ordained (1823) As a missionary, he reached (1831) Cincinnati, where he later (1853) was consecrated bishop of Upper Michigan The seat of this bishopric was Sault Ste Marie, and in 1865 he was also given authority over the see of Marquette His authoritative grammar and dictionary of the Ojibwa language are still used by scholars See biography by Chrysostomus Verwyst (1900)

Baraga (bär'ugŭ), resort village (pop 1,110), W Upper Peninsula, N Mich, near the head of Keweenaw Bay and near L'Anse, inc 1891 Deep-sea fishing is a sport here The vicinity abounds in Indian relics A state park is near by

Barak (bä'räk) [Heb ,=lightning], leader from N Canaan who fought with DEBORAH, against Jabin and Sisera Judges 4 1–5,31. See also BEDAN.

Baranof Island (bä'rŭnôf, barä'nôf), off SE Alaska, in the ALEXANDER ARCHIPELAGO It is more than 100 mi long and has an area of 1,607 sq. mi On it is SITKA, long the center of the fur trade and administration in the days of Russian ownership. It is named for Aleksandr Baranov.

Baranov, Aleksandr Andreyevich (ülyĭksän'dür ŭndrä'ŭvĭch bürä'nôf), 1746–1819, Russian trader, chief figure in the days of Russian control in Alaska He was a merchant in Siberia, and when his business came on evil days he accepted (1790) an offer to become the managing agent of a Russian fur-trading company at Kodiak and went to present Alaska The organization of the Russian American Company in 1799 made Baranov the virtual governor of all the Russian activities in North America, and he continued to hold that power until 1817, unchallenged except for the brief activities of Rezanov His firm rule in discouraging situations, his keen business sense, and his dogged (if somewhat melancholy) determination kept the little settlements going and brought steady profits to the company He had trouble with the natives The first settlement he planted at Sitka (Novo Arkhangelsk) in 1799 was wiped out by Indians in 1802, but with Russian naval help the company recovered the place and refounded the town He made some efforts to curb British and American trading vessels but also traded with them, obtaining food and supplies Russian activities were extended to California with the founding of Fort Ross (later sold to J A Sutter) and briefly stretched to Hawaii He was supplanted in 1817 and died on his way back to Russia See Hector Chevigny, *Lord of Alaska* (1942), S R Tompkins, *Alaska Promyshlennik and Sourdough* (1945)

Baranovichi (burä"nŭvē'chĭ), Pol *Baranowicze* (baränôvē'chĭ) city (1931 pop 22,848), capital of Baranovichi oblast, Belorussia SW of Minsk This railway center, formerly Polish, was ceded to the USSR in 1945

Barante, Aimable Guillaume Prosper Brugière, baron de (ämä'blu gĕyōm' prôspĕr' brügyĕr' barô' du barät'), 1782–1866, French statesman and historian He held numerous administrative and diplomatic posts but retired with the downfall of the Orleanist monarchy (1848) Of his historical works, the best known is a history of the duchy of Burgundy (1824) His *Souvenirs* (8 vols, 1890–1901) have considerable charm and some value as historical source material

Barany, Robert (rō'bert bä'ranē), 1876–1936 Austrian physician For his work on the physiology and pathology of the vestibular apparatus of the ear he received the 1914 Nobel Prize in Physiology and Medicine From 1917 until his death he was professor at the Univ of Upsala

Barataria Bay (bărutär'ēu), SE La, c 40 mi S of New Orleans cut off from the Gulf of Mexico by Grand and Grand Terre islands Former headquarters of the pirates under Jean LAFFITE, it is now a shrimping center

Barbados (bärbā'dōz), island (166 sq mi, pop 192,841), British West Indies It is also Barbados colony, with the capital at BRIDGETOWN The island, E of St Vincent, in the Windward Islands, is largely sandstone and coral overlaid with some volcanic ash deposits from St Vincent Barbados is low and rises gradually toward its highest point at Mt Hillaby (1,104 ft high) Although there is ample rainfall from June to December, there are no rivers, and water must be pumped from subterranean caverns by windmills The porous soil and moderate warmth are excellent for the cultivation of sugar cane, long the island's major occupation, and also for cotton Besides sugar and cotton, exports include molasses, rum, tamarinds, and margarine Barbados, with a population about 93 percent Negro, has a rural population density greater than any other land in Middle or South America It is considered by some to have the finest climate of any of the West Indian islands, and it is a popular tourist resort Although it was probably discovered by the Portuguese and possibly visited by the Spanish in the 16th cent, it was not definitely claimed until an English expedition landed in 1605 While neighboring islands suffered kaleidoscopic changes in sovereignty, Barbados has been steadily under the English flag In 1812 and again in 1902 it was covered with a thick fall of ashes from St Vincent's SOUFRIÈRE volcano See Raymond Savage, *The Enchanting Isle* (1937), O P Starkey, *The Economic Geography of Barbados* (1939)

Barbara, Saint, 3d or 4th cent, virgin martyr, whose life is shrouded in contradictory legends Her father is said to have shut her up in a tower and then to have killed her for being a Christian He was struck down by lightning, and by an extended analogy St Barbara became the patroness of makers and users of firearms and fireworks She is invoked for a happy death Feast Dec 4

Barbarelli, Giorgio see GIORGIONE

Barbarossa (barbürô'sŭ) [Ital,=red-beard], surname of the Algerian corsair Khair ad-Din (c 1483–1546) His brother Koruk, or Aruj (c 1474–1518), having seized (1518) Algiers from the Spanish, Barbarossa placed Algeria under Turkish suzerainty and extended his conquests Between 1533 and 1544, as admiral of the Turkish fleet, he twice defeated Andrea DORIA and ravaged the coasts of Greece, Spain, and Italy His able son Hasan (d 1570) succeeded him in Algeria

Barbarossa, Frederick: see **FREDERICK I, emperor**

Barbaroux, Charles Jean Marie (ahärl' shä' märē' bärbärô'), 1767–94, French revolutionist He led (Aug, 1792) the revolutionary troops from Marseilles on their famous march to Paris A Girondist, he opposed Robespierre in the Convention and finally fled to Caen, there to organize Girondist resistance. He was guillotined at Bordeaux

Barbary Coast, waterfront area of San Francisco, Calif, in the years after the 1849 gold rush Gamblers and gangsters, prostitutes and confidence men flourished, and the brothels, saloons, and disreputable boardinghouses made the Barbary Coast —so called after the pirate coast of North Africa— notorious across the world See Herbert Asbury, *The Barbary Coast* (1933)

Barbary States, term used for the North African states of TRIPOLITANIA, TUNISIA, and ALGERIA (and usually also MOROCCO), which were semi-independent under Turkish rule from the 16th cent onward Moors who had been expelled from Spain and Turkish corsairs began the large-scale piracy that was to be a main source of revenue for the local rulers for centuries The pirates preyed on the Mediterranean shipping and sporadically attacked coastal towns They took booty, held captives for ransom, and enslaved the unransomed These activities played some part in the Spanish and Portuguese attempts at conquest in Africa and also brought on sporadic punitive expeditions by European rulers, such as the famous attack of Charles V on Algiers For the most part, however, the matter simmered down to regular payment by the European powers of tribute which would guarantee them against piratical attack The young United States joined in this system Trouble arose however, in 1800 beginning with the insult offered William Bainbridge by the dey of Algiers and capped by the demand of the pasha of Tripoli for more U S tribute The TRIPOLITAN WAR resulted; it was closed somewhat ignominiously by negotiation in 1805 In the so-called Algerine War in 1815 Stephen DECATUR forced the dey of Algiers to sign a treaty giving up the tribute The next year Lord Exmouth led a stronger Anglo-Dutch expedition, and after the Congress of Aix-la-Chapelle in 1818 resolved to punish the Barbary States, a concerted naval expedition was sent Piracy was not completely ended, however, until the French captured Algiers in 1830

Barbauld, Anna Laetitia (Aikin) (bar'bôld), 1743 1825, English poet and editor In 1774 she married Rochemont Barbauld and with him opened a boarding school Her *Hymns in Prose* for children, widely read and translated into several languages, was followed by *Early Lessons* (both 1781) She edited works of Collins, Akenside, and Richardson and the 50-volume edition of *British Novelists* with short biographies and critical notes See editions of her works by Lucy Aikin (1826) and G A Ellis (1874), memoir by A L Le Breton (1874)

Barbazan, Arnaud Guilaume, seigneur de (ärnō' gĕyōm' sänyŭr' du barbäzä'), c 1360–1431, French general in the Hundred Years War, called *le chevalier sans reproche* [the knight without blame] He was a leader of the Armagnacs and a staunch supporter of the dauphin, Charles VII Barbazan defended Melun against the English (1420) and was held prisoner by them from 1420 to 1430 After his release he fought with success against the English and Burgundians, being made governor of Champagne and Brie He died fighting in Lorraine under René I

barbecue (bar'bukū) [West Indian or South American], in the United States, an open-air gathering political or social, where an ox or a hog is roasted whole over a pit of glowing embers and food and drink are liberally enjoyed In the modern barbecue smaller cuts of meat dipped in or basted with a highly seasoned sauce may be used As an American institution it seems to be of Southern origin, the word having been used in Virginia before 1700

barbed wire As the frontier moved westward to the open plains the traditional fence materials, wooden rails and stone, became scarce and expensive, and the cost of fencing (from $2 to $8 an acre) was frequently more than the land was worth An attempt at a solution was the hedge movement which spread from Texas to Iowa, the osage orange was particularly popular, but it, too, was expensive and required several years to grow The invention of barbed wire helped to solve the problem Of many early types of barbed wire, that invented in Illinois in 1873 by Joseph F GLIDDEN proved most popular The advent of barbed wire on the plains transformed the cattle industry, ending the open range to a large extent and making possible the introduction of blooded cattle The transformation was not made without protests which took the form of fence-cutter's wars and often led to bloodshed The battle between fence men and anti-fence men was carried into the legislatures in most Western states, where laws were enacted to cover the subject In the First World War, through its use for entanglements and obstacles, barbed wire gained new importance as a medium of defense

Barbellion, W. N. P, pseud of **Bruce Frederick Cummings,** 1889–1919, English biologist and author Until 1917 he held a post at the Natural History Museum, South Kensington, London, and despite constant ill-health wrote important scientific papers. He is remembered for a remarkable au-

tobiography, published just before his death, *The Journal of a Disappointed Man*, with an introduction by H G Wells Posthumously published were *Enjoying Life, and Other Literary Remains* (1919) and, with a preface by A J Cummings, *A Last Diary* (1920) See R H Hellyar, *W N P Barbellion* (1927)

Barbé-Marbois, François, marquis de (frāswä' märbē' du bärbā'-märbwä'), 1745–1837, French statesman After holding a governmental post in Santo Domingo, he joined the Revolution in 1789 but was deported to French Guiana (1797) He was released by Napoleon, who made him councilor of state and director of the treasury (1801) Barbé-Marbois negotiated the treaty by which Louisiana was ceded to the United States He later became minister of justice under Louis XVIII but resigned in 1816 See E W Lyon, *The Man Who Sold Louisiana* (1942)

Barber, John Warner, 1798–1885, American engraver, b East Windsor, Conn He opened a business in New Haven, where he produced religious and historical books, illustrated with his own wood and steel engravings He is best known for books on state, national, and local history, in which his vivid engravings caught and held the flavor and appearance of city, town, and countryside in his day

Barber, Samuel, 1910–, American composer, b West Chester, Pa , studied at the Curtis Institute of Music, Philadelphia His music is lyrical, revealing a thorough knowledge of counterpoint and of classical form He has experimented with various modern techniques, such as dissonance, polytonality, and irregular rhythms, but his work is on the whole conservative Outstanding works are a setting (1931) of Matthew Arnold's "Dover Beach" for voice and string quartet, an overture (1932) to *The School for Scandal*, *Adagio for Strings* (1936), two symphonies (1936, 1944), *Essay for Orchestra* (1937) and *Second Essay for Orchestra* (1942), Capricorn Concerto (1944), a ballet, *Medea* (1946), to which Martha Graham's *Cave of the Heart* is danced, and *Knoxville Summer of 1915*, for soprano and orchestra (1947)

Barberini, Francesco (franchās'kō barbärē'nē), 1597–1679, Italian prelate and Orientalist, a cardinal of the Roman Church He was a founder of the library at Rome noted for rare manuscripts, many of these are now in the library of the Vatican

Barberini vase see PORTLAND VASE

barberry, any plant of the genus *Berberis*, widely distributed spiny shrubs, often cultivated for hedges Some have brilliant fall foliage and some, not hardy, are evergreen The berries are red or blackish and often winter persistent, those of the common or European barberry (*Berberis vulgaris*) and American barberry (*Berberis canadensis*) are used for jelly A yellow dye and a medicament have been obtained from the roots, particularly of the common barberry that has been naturalized in North America but is being eradicated because it harbors one stage of the wheat RUST, the Japanese barberry does not harbor this rust See also OREGON GRAPE

Barberton, city (pop 24,028), NE Ohio, on Lake Anna and SW of Akron, laid out 1891 Matches, chemicals, and rubber products are made here

Barbey d'Aurevilly, Jules Amédée (zhül' āmādā' bärbā' dōrvēyē'), 1809–89, French novelist, who long survived the romantics, his true school His novels, of which the best is perhaps *Les Diaboliques* (1874), have an affinity with those of FLAUBERT in their portrayal of Norman provincial life and in their sordid psychological realism Unlike Flaubert, Barbey d'Aurevilly was a monarchist and an aristocrat who never tired of attacking democracy, materialism, and naturalism His output of critical and polemical articles was enormous See Sir Edmund Gosse's preface to Ernest Boyd's translation of *Les Diaboliques* (1925)

Barbier, Antoine Alexandre (ätwän' älĕksä'dru bärbyā'), 1765–1825, French bibliographer and government librarian His outstanding work was a great bibliography of anonymous and pseudonymous works in French and Latin (1806–8, 3d ed , 1872–79)

Barbieri, Giovanni Francesco see GUERCINO

Barbirolli, John (–rōl'–), 1899–, English conductor, studied at the Royal Academy of Music After being cellist (1920–24) of the International String Quartet, in 1925 he organized the Barbirolli Chamber Orchestra He was conductor of the Covent Garden Opera (1927–33) and then of both the Leeds Symphony and the Scottish Orchestra (1933–36) He conducted the New York Philharmonic-Symphony Orchestra from 1937 to 1942, succeeding Toscanini After 1943 Barbirolli conducted the Hallé Orchestra, Manchester, England

Barbizon school, also called **Fontainebleau school,** an informal school of French landscape painting which flourished c 1830–1870 Its name derives from the village of Barbizon (Seine-et-Marne dept) near the forest of Fontainebleau, a favorite resort of the painters associated with the school, who are also designated as the "Men of Thirty" Theodore Rousseau, sometimes called the "hermit of Barbizon," was the chief figure of the group, which included Corot and Millet as well as such landscapists as Jules Dupré, Diaz de la Peña, Constant Troyon, Charles Daubigny, and Charles Jacque These men reacted against the conventions of classical and Italianate landscape and advocated a direct study of nature Their approach was in part inspired by English romanticism with its cult for the sublime and picturesque aspects of nature, and their work was strongly influenced by 17th-century Dutch landscape masters such as Ruisdael, Cuyp, and Hobbema The Barbizon painters, with their insistence on a relatively straightforward, unpretentious rendering of landscape, helped pave the way for the subsequent development of the realist and impressionist schools Paintings of the Barbizon school were very popular with American collectors of the late 19th and early 20th cent and influenced American painters of this period The school is well represented in American public collections, notably the Corcoran Gallery, the Metropolitan Museum, and the Museum of Fine Arts, Boston See Arthur Hoeber, *The Barbizon Painters* (1915)

Barbon, Praise-God see BAREBONE, PRAISE-GOD

Barbosa, Ruy or **Rui** (both rōō'ē bŭrbō'su), 1849–1923, Brazilian philosopher of the law He was a noted jurist and a member of the World Court (the Permanent Court of International Justice) He was largely responsible for the republican constitution of Brazil and was the champion of law and liberty He admired the British system and urged Brazil to adopt a modified form of it He was remarkable as a linguist and as a stylist in his writing

Barbour, John (bär'bur), c 1320–1395, Scottish poet, archdeacon of Aberdeen His poem *The Bruce* (1375), chronicling the deeds of ROBERT I (Robert the Bruce), is a romance of considerable historical value Many scholars deny Barbour's reputed authorship of a fragmentary *Troy-Book*, the Scottish *Legends of the Saints*, and the *Buik of Alexander* See W W Skeat, ed , *The Bruce* (1894)

Barboursville, town (pop 1,550), W W Va , at the confluence of the Mud and Guyandot rivers near Huntington, chartered 1813 A state hospital is here

Barbourville, city (pop 2,420), co seat of Knox co , S Ky , in a valley of the Cumberland river and NW of Middlesboro, founded 1800 Union College (Methodist, coeducational, opened 1880) is here The area produces coal, timber, horses, and farm products Near by is Dr Thomas Walker State Park, with a replica of a log cabin built in 1750, the first home of white people in Kentucky

Barbuda, British West Indies see ANTIGUA

Barbusse, Henri (ärē' bärbüs'), 1873–1935, French journalist and author His realistic story of the First World War, *Le Feu* (1916, Eng tr , *Under Fire*, 1917), won the Prix Goncourt and gained for Barbusse an international reputation Other works are *L'Enfer* (1908, Eng tr , *The Inferno*, 1918), *Les Enchaînements* (1925, Eng tr , *Chains*, 1925), and *Jésus* (1927, Eng tr , 1927) He died in Moscow

Barca, surname given members of a Carthaginian family see HAMILCAR BARCA, HANNIBAL, HASDRUBAL

barcarole or **barcarolle** (bär'kurōl") [Ital and Fr , = little boat], boat song made popular by Venetian gondoliers or any musical composition which suggests the characteristic manner and rhythm of the Venetian boat song, such as the *Barcarolle* from *Tales of Hoffmann* by Jacques Offenbach

Barcelona (barsulō'nu, Span bärthälō'na), city (pop 1,079,601), capital of Barcelona prov and chief city of Catalonia, NE Spain, on the Mediterranean The second largest city of Spain, it is Spain's largest port and chief commercial and industrial center and is the seat of a university (founded 1450) and of many other educational institutions Machinery, locomotives, automobiles, airplanes, and electrical equipment are the chief manufactures The city flourished under the Romans and Visigoths, fell to the Moors (8th cent), and was taken (801) by Charlemagne, who included it in the Spanish March In the 9th to 10th cent the march became independent under the leadership of the powerful counts of Barcelona, who wrested lands to the south from the Moors, thus acquiring all CATALONIA, and also won suzerainty over several fiefs in S France The marriage of Count RAYMOND BERENGAR IV to the heiress of ARAGON united (1137) the two lands under one dynasty, the title count of Barcelona was subsequently borne by the kings of Aragon and later the kings of Spain Under its strong municipal government Barcelona vastly expanded its trade and its cloth industry and flourished as a banking center As the capital of the kings of Aragon it gave the chief impetus to their expansion throughout the Mediterranean, Reaching its peak around 1400, it later shared in the general decline of Catalonia, but enjoyed a period of prosperity as the embarkation point of the armies of Emperor Charles V Barcelona was always the stronghold of Catalan separatism and the scene of many insurrections Later it also became the Spanish center of socialism, syndicalism, anarchism, and other radical creeds It was the capital of the Catalan autonomous government (1932–39) and was the seat of the Spanish Loyalist government from Oct , 1938, until its fall to Franco, Jan. 26, 1939. It was repeatedly bombed during the civil war; several historical buildings were damaged, including the imposing Gothic Cathedral of Santa Eulalia (14th -15th cent) with its fine cloisters A handsome modern city, Barcelona also has many fine ancient buildings, notably the Church of Santa María del Mar, the city hall, and the exchange, all of the 14th cent There also are some Roman remains

Barclay, Alexander (bär'klē), 1475?–1552, English poet and divine A Benedictine and later a Franciscan monk, he became after the suppression of the monasteries (1552) rector of All Hallows, London He is best known for *The Ship of Fools* (1509), a translation of Sebastian Brant's satirical poem *Das Narrenschiff*

Barclay, John, 1734–98, minister of the Church of Scotland and founder of the BEREANS or Barclayites His *Without Faith, without God* (1769) and other works were not acceptable to his presbytery, and he was prohibited from preaching His adherents then united in independent congregations and Barclay became minister of the one at Edinburgh Later he had the foundations for a Berean church in London

Barclay, Robert, 1648–90, Scottish apologist for the Society of Friends He wrote many controversial works but is best known for his great treatise, *An Apology for the True Christian Divinity, as . Preached by the People Called in Scorn, Quakers*, which appeared in Latin in 1676 and two years later in English The duke of York (later James II) granted a patent of the province of East Jersey to 12 members of the Society of Friends, Barclay was nominal governor (1682–88), but he never went to America His collected works were published in 1692 as *Truth Triumphant* See biography by M C Cadbury (1912)

Barclay de Tolly, Mikhail, Prince (mēkhŭyĕl', bŭrklē' du tô'lyē), 1761–1818, Russian field marshal, of Scottish descent He achieved prominence in the Napoleonic Wars, was appointed minister of war in 1810, and commanded the Russian forces against Napoleon in 1812 His policy of continuous retreat into the heart of Russia and his defeat at Smolensk (Aug 17–18) resulted in his being replaced by Kutuzov, but his successor, recognizing the soundness of the strategy, followed the same road After Kutuzov's death (1813) he again commanded the Russian forces and distinguished himself at Leipzig and in the capture of Paris

Bar Cochba, Simon see BAR KOKBA, SIMON

Bard, John, 1716–99, American physician, b Burlington, N J He practiced in Philadelphia and in New York city, where he was a leader in establishing on Bedloe's Island the first quarantine station He was the city's first health officer and the first president of the Medical Society of the State of New York His more noted son, **Samuel Bard,** 1742–1821, b Philadelphia, M D Univ of Edinburgh, 1765 was a founder (1767) and faculty member of the medical school of King's College (later Columbia Univ) and was its dean from 1792 to 1807, in 1813 this school was absorbed by the College of Physicians and Surgeons, of which Bard was president (1811–21) He was also a founder of the New York Hospital and the New York Dispensary His writings include a standard manual on midwifery (1807), as well as valuable contributions on diphtheria and other diseases of humans, on diseases and breeding of sheep, and on medical education See J B Langstaff, *Doctor Bard of Hyde Park* (1942)

bard, in Wales, a minstrel and poet who served as a national chronicler and enjoyed many of the privileges of the nobility, regardless of his birth The position of bards was formally established in 940 by King Howel Dha The order became hereditary, and its perquisites were fixed in the law, which was probably simply the codification of custom Edward I of England broke the power the bards had, but he allowed them to live on After this they became professional poets and singers, dependent on the people in general but highly regarded for their learning and skill The EISTEDDFOD is a bardic institution In Ireland the poets answered to the bards, having similar perquisites and honors, and they have had a somewhat similar history In Scotland, in the Isle of Man, and in Brittany bards are still to be found, but they probably never held the legally powerful position that was theirs in Wales and Ireland There were Cornish bards until the language died out (18th cent) See Edward Jones, *Musical and Poetical Relics of the Welsh Bards* (4th ed , 1825); W F Skene, *Four Ancient Books of Wales* (2 vols , 1868)

Bard College, at Annandale-on-Hudson, N Y ; coeducational, founded 1860 as St Stephen's College for men, rechartered 1935 as Bard College, became coeducational 1944 It was affiliated with Columbia Univ from 1928 to 1944

Bardesanes (bärdŭsā'nēz), 154–222?, heretical Christian philosopher and poet of Syria He attacked GNOSTICISM, although his own writings were dualistic He composed 150 hymns, which made his doctrine, a mystical astrology, popular in Syria until the time of St EPHRAEM

Bardia (bärdē'a, bär'dēa), town (pop 2,370), Libya, on the Mediterranean Sea The town, with its port

facilities improved, was in the Second World War the most strongly defended Italian position in the British campaign (Dec , 1940–Feb , 1941) in Libya It was taken by the British on Jan 5 In subsequent fighting the town changed hands several times until its final capture by the British under Gen B L Montgomery on Nov 13, 1942

Bardstown, city (pop 3,152), co seat of Nelson co , central Ky , SSE of Louisville, in a rich farm area; settled 1778, inc 1788 The city has distilleries and a flour mill It was a center for early missionary work in the Mississippi valley and the seat of religious institutions founded by Bishop J B M DAVID The monument to John Fitch, whose grave is in Bardstown was erected by the U S Congress In the Civil War the city was occupied (Sept , 1862) by Bragg's invading Confederate army Near by is "Federal Hill" (built 1795–1818), the manor house of John Rowan, it is said that his cousin, Stephen Foster, wrote *My Old Kentucky Home* here Other places of interest in the area are the Cathedral of St Joseph (1816–19), which has paintings said to have been given by Louis Philippe of France, the Abbey of Our Lady of Gethsemani, a Trappist monastery founded in 1848, and Nazareth Junior College (est 1814) St Catharine Junior College (est 1820), and Loretto Junior College (founded 1812), all for women The city has wide streets with fine trees and many early-19th-century houses

Bardwan, India see BURDWAN

Bardwell, town (pop 1,218), co seat of Carlisle co (formed 1886), SW Ky , near the Mississippi, SW of Paducah It is the trade center for a fertile farm area Tobacco and cotton are among the region's crops

Barebone or **Barbon, Praise-God** (both bär'bŏn), 1596?—1679, English lay preacher He was a leather merchant Deeply interested in religion, he was a Baptist, then a Fifth Monarchy man In April, 1653, the army dissolved the Rump Parliament In July, Oliver Cromwell and his provisional council assembled 140 "godly men," from a list nominated by Congregational ministers Barebone was London member in this nominated parliament which was called in derision Barebone's Parliament Actually his part in the proceedings was insignificant. The body was composed largely of reformers who initiated a series of measures regarded as radical by most of their compatriots The Parliament met from July until December, when the moderate members willingly and the radical members under compulsion resigned their powers into Cromwell's hands They had accomplished little

Bareilly (burā'lē), city (pop 192,688), E central United Provs , India It was founded in 1657 and was (1707–20) the capital of the Hindu Rohillas Sugar refining is the principal industry

Barents Island. see SPITSBERGEN

Barents Sea (bä'runts, ba'–), arm of the Arctic Ocean, N of Norway and European RSFSR, partially enclosed by Franz Josef Land on the north, Novaya Zemlya on the east, and Spitsbergen on the west Its waters are shallow and are warmed by the remnants of the North Atlantic Drift It was named for Willem Barentz

Barentz or **Barents, Willem** (both vĭ'lŭm bä'runts), d 1597, Dutch navigator He made three voyages (1594, 1595, 1596) in search of the Northeast Passage to Asia He reached Novaya Zemlya on the first two expeditions On the third he accidentally discovered Spitsbergen, rounded the north point of Novaya Zemlya, and was caught in the ice After the arctic winter the crew started for the mainland in two small boats Barentz died on the way The extent of his explorations and the accuracy of his charts made him one of the most important of all arctic explorers

Barère de Vieuzac, Bertrand (bĕrträ' bărĕr' du vyŭzăk'), 1755–1841, French revolutionist A prominent member of the National Assembly and of the Convention, he turned from a moderate to a radical stand. He voted for the execution of Louis XVI and became a member of the Committee of Public Safety, but when Robespierre fell on 9 Thermidor, Barère drew up the report outlawing him (1794) Imprisoned for his own part in the Terror, he escaped, remained in hiding for several years, and reappeared as a secret agent of Napoleon Banished (1815) after the Bourbon restoration, he returned in the reign of Louis Philippe

Barfrush, Iran. see BABOL.

barge, large, flat-bottomed boat used for transporting goods on inland waterways Barges on canals are mostly towed, but some river barges are self-propelled There are also sailing barges On the Great Lakes huge steel barges are used for heavy transport Towing, done in the past by men or horses or mules, is now mostly by steam or motor tugboat or by other barges equipped with semi-Diesel engines. Barges have been used since the dawn of history; they were common on the Nile in ancient Egypt Some of them were highly decorated and used for carrying royalty Use of such state barges persisted in Europe until quite recent times See also LIGHTER

Barge Canal see NEW YORK STATE BARGE CANAL

Bargello (bärjĕl'lō), 13th-century palace in Florence, Italy, which houses the national museum Once the residence of the highest city official but later used as a prison and as the office of the chief of police (*bargello*), it was restored (1857) to receive the art treasures of the city Giotto's frescoes, with the famous portrait of Dante, are in the chapel The Bargello is famous for its courtyard and its Renaissance sculptures, including Michelangelo's *David* and works by Verocchio, Donatello, Cellini, and others

Barham, Richard Harris (bär'ăm), pseud **Thomas Ingoldsby** (ĭng'gōldbĭ), 1788–1845, English humorist, educated at St Paul's School and at Oxford In 1824 he became a priest in ordinary of the Chapel Royal He wrote a novel, *My Cousin Nicholas* (1834), and in 1837 began in Bentley's miscellany, under his pseudonym, a series of parodies of country superstitions, medieval legends, and contemporary foibles, (*The Ingoldsby Legends*), in fluent colloquial prose or in grotesque verse Barham had a lively invention, a gift of creating suspense, and an unusually discerning sense of the ludicrous See George Saintsbury, "Three Humorists," in *Collected Essays* (1923)

Bar Harbor, town (pop 4,378), on Mt Desert Island, S Maine, SE of Bangor, inc 1796 The site was not permanently occupied until 1763 Developing as a summer resort in the middle of the 19th cent , the town became one of the most famous on the New England coast It is a port of entry In Oct , 1947 it was ravaged by forest fires but rebuilding started immediately Among the buildings destroyed was the Roscoe B Jackson Laboratory for Cancer Research, which began reconstruction in May, 1948

Bar-Hebraeus, Gregorius (bär-hēbrē'ŭs) [Syriac, = *son of a Hebrew*] 1226–86, Syrian scholar, catholicos of the Jacobite church, partly Jewish in ancestry His original name was Abu-l-Faraj His most celebrated work is a chronicle in Syriac of the world from Adam down His commentaries (in Arabic and Syriac) on Aristotle were widely known among Arabic-speaking scholars

Barhumite (bärhū'–, bar'hŭ–) see BAHURIM

Bari (bä'rē), city (pop 162,238) capital of Apulia and of Bari prov , S Italy, called in fuller form Bari delle Puglie It is an Adriatic seaport and the center of a fertile agricultural area It has textile, food, and printing industries Probably of Illyrian origin, it was a Roman colony and later passed under the Goths, Lombards, and Byzantines The Normans conquered Bari in 1071 It became the chief city of Apulia, from which many crusaders sailed Enfeoffed to the kingdom of Naples, Bari was during the Middle Ages a duchy ruled by powerful lords The Romanesque basilica, with relics of St NICHOLAS of Bari, is a major place of pilgrimage Bari has a fine cathedral with an ancient baptistery a medieval castle, a museum of antiquities, and a university (founded 1924) The port was heavily bombarded by the Germans in 1943–44

Bariah (bărī'u) [Heb , = bolt], one of the house of David 1 Chron 3 22

Baring, Alexander see ASHBURTON, ALEXANDER BARING, 1ST BARON

Baring, Maurice (bā'rĭng), 1874–1945, English author He was in the diplomatic service (1898–1904), then a war correspondent (1904–12) He is best known for his volumes on Russia, *A Year in Russia* (1905–6), *The Russian People* (1911), and *An Outline of Russian Literature* (1914) His other works include *The Green Elephant* (1911), a play, *C* (1924), *Daphne Adeane* (1926), and *Tinker's Leave* (1927), novels, *Selected Poems* (1930), *The Puppet Show of Memory* (1922), reminiscences, and *Have You Anything to Declare* (1936), one of his famous notebooks See E M Smyth, *Maurice Baring* (1938)

Baring-Gould, Sabine (bā'rĭng-gōōld'), 1834–1924, English novelist and folklorist, a clergyman Among his diverse works are the novels *John Herring* (1883) and *The Broom Squire* (1896) and folklore studies such as *The Book of Were Wolves* (1865) and *Curious Myths of the Middle Ages* (1866–68) He was the author of the well-known hymn *Onward, Christian Soldiers* (1865), for which Sir Arthur Sullivan later wrote the tune *St Gertrude*

barite (bā'rīt), **barytes** (burī'tēz) [new Latin from barium], or **heavy spar,** a white, yellow, blue, red, or colorless mineral It is a sulphate of barium, found in nature in tabular crystals or in granular or massive form It occurs often mixed with other minerals in veins It is insoluble in water, and this property is made use of in testing for the SULPHATE radical It is practically insoluble under ordinary conditions in all the usual chemical reagents Barite is used as a commercial source of barium and many of its compounds, in making white paint, and as a filler in various glazed papers It is a constituent of LITHOPONE The mineral is abundant and is found widely distributed throughout the world.

Barito (bärē'tō), river of S Borneo, rising in the central mountains and flowing c 550 mi generally S to the Java Sea Banjermasin is near its mouth

baritone or **barytone** (both bă'rĭ–), male voice, in range lighter and higher than a BASS but lower than a TENOR. It is also an alternate name for the viola da gamba.

barium (bā'–) [New Latin from Gr , = *heavy*], silvery-white, active, poisonous metallic element (symbol = Ba, for physical constants, see ELEMENT, table) It oxidizes in the air, ionizes in solution, and reacts with water to form the hydroxide and to liberate hydrogen It belongs to the periodic group of divalent elements which includes also magnesium, calcium, strontium, and radium Barium is classed as a metal of the ALKALINE EARTHS, with calcium and strontium, which it resembles chemically It forms numerous compounds, with oxygen it forms a monoxide (baryta) and a peroxide which is used in removing oxygen from the air (Brin's process) and in the preparation of hydrogen peroxide, with chlorine it forms barium chloride used in testing for sulphuric acid in chemical analysis, with the sulphate radical it forms barium sulphate, called BARITE (or barytes or heavy spar), which, mixed with zinc, constitutes LITHOPONE, and with chromium and oxygen it forms barium chromate, which has limited use as a yellow pigment The metal does not occur free in nature but chiefly in such compounds as the carbonate (called also witherite) and the sulphate Barium metal is obtained by the electrolysis of fused barium chloride Its compounds are prepared usually from either the sulphate or the carbonate Barium salts are poisonous (for treatment, see POISONING, table) and because of this property have limited uses They produce a green flame when held in a Bunsen burner (the FLAME test for barium compounds) and consequently are used in pyrotechny to give green light The spectrum shows orange and green lines The metal was first prepared by Sir Humphry Davy in 1808

barium sulphate see BARITE

Bar-jesus [Gr from Aramaic, = *son of Joshua*], called **Elymas** (ĕl'ĭmăs), Jewish sorcerer at Paphos who tried to divert a prospective Christian convert Acts 13 4–12

Bar-jona (–jō'–) [Aramaic, = *son of Jonah*], patronymic of St Peter Mat 16 17 Peter's father is called Jonas AV and John RV John 21 15,16,17 He is called Jona AV at John 1 42

bark, outer covering of the stems and roots of plants, best developed in woody plants It is composed of an outer portion, called the cork layer in trees, and an inner portion, the BAST It is separated from the WOOD by the CAMBIUM The bark of some trees, particularly hemlock, oak, and acacia, supplies TANNIN used in tanning Latex, a source of rubber and gutta percha, is a secretion of living tissue in the bark Bark also furnishes cork (see CORK OAK), textile fibers from the bast, dyes, cinnamon, and medicinal drugs The white papery bark of the birch was used by the Indians for making canoes

bark or **barque** (both bärk), sailing vessel with three masts The mainmast and the foremast are square-rigged, the mizzenmast is fore-and-aft-rigged Though once the word was used to mean any small boat, the modern bark may be quite large (up to 6,000 tons) Many large barks were used to carry wheat from Australia to England in the Second World War In 1926 the bark *Beatrice* sailed from Fremantle, Western Australia, to London in 86 days A four-master bark is a four-masted ship that is fore-and-aft-rigged on the aftermast A barkentine is a three-masted vessel with the foremast square-rigged and the other masts fore-and-aft-rigged

bark cloth, primitive fabric made in tropical and subtropical countries from the soft inner bark of certain trees It has been made and used in parts of Africa and India, the Malay Peninsula, Samoa, the Hawaiian Islands, and the Fiji Islands and perhaps reached its highest perfection in Polynesia and parts of Central America Lengths of branches or of young stems are cut from trees, such as the fig, the breadfruit, or the paper mulberry The outer bark is removed, the inner bark is cut in narrow strips and then alternately soaked and beaten with a grooved or carved wooden mallet, or beetle, until the fibers are well matted and become thin and flexible Gum is sometimes added, and pieces may be joined and beaten together to form large sheets The peeling and beetling are usually done by the men, the decorating, by the women Patterns, often elaborate, may be sketched or may be applied by block printing or by leaves dipped in dye and pressed on the cloth The cloth may be gummed or oiled to make it waterproof Tapa cloth is a fine variety made in the Pacific islands. Bark cloth is used for loincloths, skirts, draperies, and wall hangings, in layers 2 or 3 ft high it makes an excellent bed So ancient is the art of making the cloth that it is deeply involved in religious and ceremonial life. In Borneo a strip of the cloth signifies mourning In Nyasaland it forms the initiation dress of girls In India some sects prescribe either skins or bark cloth as the dress of a religious recluse

Barker, Albert Smith, 1843–1916, U.S naval officer, b Hanson, Mass , grad Annapolis, 1862 In the Civil War he participated in the capture of New Orleans and the reduction of Port Hudson He made (1882–86) extensive deep-sea soundings and later was attached to the Bureau of Navigation.

After he was made a member of the naval board of strategy, he commanded the cruiser *Newark* in the bombardment of Santiago in the Spanish-American War Barker relieved (1899) Admiral George Dewey as commander of the Asiatic Fleet He became (1903) commander of the Atlantic Fleet, retired (March, 1905) from the navy, and was promoted (Oct , 1905) to the rank of rear admiral See his autobiography, *Everyday Life in the Navy* (1928)

Barker, Benjamin Fordyce, 1818–91, American physician, b Wilton, Maine, M D Bowdoin College, 1841 He taught midwifery at Bowdoin, was professor of obstetrics at New York Medical College (1850–57) and at Bellevue Hospital Medical College (1860–91), and was a founder of the New York Academy of Medicine and of the American Gynecological Society His *Puerperal Diseases* (1874) was translated into many languages

Barker, Eugene Campbell, 1874–, American historian, b Walker co , Texas, grad Univ of Texas (B A., 1899, M A , 1900), Ph D Univ of Pennsylvania, 1908 He taught history steadily at the Univ of Texas after 1899 except for a short time He became the outstanding authority on the history of American settlement in Texas and the history of the republic of Texas Notable are his biography of Stephen F Austin (1925), his *Mexico and Texas, 1821–1835* (1928), and his edition (with Amelia W. Williams) of the writings of Sam Houston (8 vols , 1938–43)

Barker, Harley Granville- see GRANVILLE-BARKER

Barker, Sir Herbert Atkinson, 1869–, English specialist in manipulative surgery Although his standing was not recognized by the medical profession, he was knighted in 1922 for his successful work in the First World War, particularly in treating cases of joint derangement See his *Leaves from My Life* (1927)

Barker, James Nelson, 1784–1858, American playwright, b Philadelphia In 1838 Van Buren appointed him comptroller of the Treasury, and with slight interruptions he worked in the Treasury Dept until his death He wrote 10 plays, five of which have survived in print The best were *The Indian Princess* (1808), *The Court of Love* (1836, pub in 1817 as *How to Try a Lover*), and *Superstition* (1824), a play of colonial New England, possessing unusual tragic power A dramatization (1812) of Scott's *Marmion* had extraordinary success and held a place in American repertoires for 30 years Aside from his merits as a dramatist, Barker is important for his use of American material and themes, unusual in his period See biography by P H Musser (1929)

Barking, municipal borough (1931 pop 51,270, 1947 estimated pop 78,450), Essex, England, on the Roding It is a suburb of London and is the site of extensive pump works for part of London's water system It manufactures paint and radio parts and has electrical engineering works There are remains of a Benedictine abbey (c 670)

Barkla, Charles Glover (glä'vur bär'klu), 1877–1944, English physicist He was professor of natural philosophy at Edinburgh from 1913 For his discovery of the characteristic X rays of elements he received the 1917 Nobel Prize in Physics He evolved the laws of X-ray scattering and the laws governing the transmission of X rays through matter and excitation of secondary rays

Barkley, Alben William, 1877–, Vice President of the United States (1949–), b Graves co , Ky , grad Marvin College (Ky), 1897, After study (1897–1903) at Emory College law school and the Univ of Virginia law school, he was admitted to the bar (1901) and was prosecuting attorney (1905–9) and judge (1909–13) for McCracken co , Ky. He served as Representative (1913–27) and then as Senator (1927–49) from Kentucky A loyal Democratic party man, he was majority leader (1937–46) in the Senate before he was elected Vice President with President Truman

Bar Kokba, Simon, or **Simon Bar Cochba** (kōk'bu) [Hebrew, = son of the stars], d 135, Hebrew hero and leader of the third revolt against Rome under Hadrian (131–135) He claimed to be a second Messiah, his personality and the facts of his life are surrounded by legend He is sometimes called Simon the Prince of Israel At first he successfully defeated the Roman armies, but the tide turned against him with the victories of the Roman general Julius Severus, and he was killed at Bether

Barkos (-kŏs), ancestor of a family of Nethinim Ezra 2 53; Neh. 7 55.

Barlaam and Josaphat (bär'läum, jō'sufăt), popular romance found in many languages It is a Christianized version of the Buddha legend, written (c.980) as a Greek tale by Euthymius, a Georgian monk Incorporated in it are bits of fable from many sources, saints' lives, and virtually the entire apology of St Aristides The many Western versions (including that of *The Golden Legend*) derive from a Latin translation (1048) of the Greek. The story tells of a young Indian prince, Barlaam, who was converted to Christianity by the hermit Josaphat (or Joasaph). The story is sometimes falsely attributed to St. John of Damascus.

Barlach, Ernst (ĕrnst' bar'läkh), 1870–1938, German sculptor and writer After studying at the Dresden Art Academy he lived in Paris (1895–96) and in Berlin, Hamburg, and other German cities Barlach's work is characterized by simplicity of detail and clean, bold line, his subjects are usually common people, treated realistically and sympathetically One of his best-known sculptures is *Der Berserker*, outstanding for its characterization of strength and movement Another well-known example is the bronze war memorial in the cathedral at Güstrow (head detail in the Mus of Modern Art, New York), where he settled after 1910 He also worked in wood, terra cotta, and porcelain and made portrait busts He illustrated some of his poems and plays, which include *Der tote Tag* (1912), *Der arme Vetter* (1918) *Die echten Sedemunds* (1920), *Die Findling* (1922), *Die Sündflut* (1924), and *Die gute Zeit* (1929)

Bar-le-Duc (bär-lŭ-dük'), town (pop 14,015), capital of Meuse dept , NE France It has textile mills and processes wine and foods, notably jellies and preserves Situated in the picturesque Ornain valley, Bar-le-Duc has preserved many houses built in the 16th, 17th, and 18th cent It was the capital of the county (later duchy) of Bar, an irregularly shaped area stretching from the Marne to the Luxembourg frontier In 1301 Philip IV of France forced Henry, count of Bar, to do homage to France for his lands W of the Meuse (including Bar-le-Duc), the rest remaining a fief of the Holy Roman Empire The duchy passed (15th cent) to RENÉ of Anjou, later also duke of Lorraine Bar from then on shared the history of LORRAINE, with which it passed to France in 1766

Barletta (barlĕt'tä), city (pop 51,597), Apulia, S Italy, a seaport on the Adriatic and an agricultural and commercial center It has a fine cathedral (12th 15th cent), the Church of Santo Sepolcro (with 12th-century frescoes), a medieval castle, and a huge bronze statue of a Byzantine emperor North of Barletta are the largest saltworks in Italy

barley, cereal grass (*Hordeum vulgare*), cultivated by man probably as early as any cereal It was known to the ancient Greeks, Romans, Chinese, and Egyptians and was the chief bread material in Europe as late as the 16th cent It has a wide range of cultivation and matures even at high altitudes, since its growing period is short It is a valuable stock feed and is used for malting when the grain is of high quality It is a minor source of flour and breakfast foods Varieties, which are usually classified as being six-rowed, four-rowed, or two-rowed, have been developed for specific uses, e g , the six-rowed for feeding and the two-rowed for malting, although some varieties may be grown for either purpose, depending on culture and growing conditions Fields of barley make good winter pasture Barley is attacked by several diseases including smut and rust

Barlow, Francis Channing, 1834–96, Union general in the Civil War, New York state official, b Brooklyn, N Y , grad Harvard, 1855 He served in the Army of the Potomac, attaining the rank of major general of volunteers after conspicuous service at Antietam and in the Gettysburg and Wilderness campaigns Barlow was elected New York secretary of state in 1865 and 1869 and attorney general in 1871 He had charge of the prosecution of the Tweed Ring (see TWEED, WILLIAM MARCY)

Barlow, Jane, 1857–1917, Irish author Her works, chiefly on Irish peasant life, include the tales *Irish Idylls* (1892) and the poems and stories in *Ghostbereft* (1901)

Barlow, Joel, 1754–1812, American writer and diplomat, b Redding, Conn , grad Yale, 1778 He served as a chaplain in the Revolutionary army and entered business and journalism at Hartford, Conn He was one of the CONNECTICUT WITS and contributed to their satirical political poem, *The Anarchiad* (1786–87) His own epic, *The Vision of Columbus* (1787), brought him fame in America and Europe and was revised later as *The Columbiad* (1807) In 1788 he went to France as agent for an Ohio land company, the venture failed, but he remained abroad for 17 years, becoming a friend of Thomas Paine and one of the most liberal thinkers of his day His political creed is best seen in his prose *Advice to the Privileged Orders* (1792), urging that the state must represent not a class but the people and must be responsible for the individual's welfare His *Letter to the National Convention of France on the Defects in the Constitution of 1791* was an able critique and won him French citizenship His best-known lighter work is a mock eulogy, *The Hasty-Pudding*, written in Savoy in 1793 Appointed U S consul to Algiers in 1795, he succeeded in releasing many American prisoners and negotiating treaties with Algiers, Tunis, and Tripoli He returned to Washington in 1805 Sent to Europe in 1811 to negotiate a commercial treaty with Napoleon, he went to Wilno for an interview with the emperor, but was caught in the retreat of the armies from Moscow and died from exposure. See C B. Todd, *Life and Letters of Joel Barlow* (1886), T A Zunder, *The Early Days of Joel Barlow* (1934); Leon Howard, *The Connecticut Wits* (1943).

Barlow, Peter, 1776–1862, English mathematician. He was professor at the Royal Military Academy from 1806 to 1847 He wrote *New Mathematical and Philosophical Dictionary* (1814), *Essay on Magnetic Attractions* (1820), and *Tables of Squares, Cubes, Square Roots, Cube Roots and Reciprocals of All Integer Numbers up to 12,500* (reissue of 4th ed , 1947)

Barmecides see HARUN-AL-RASHID

Barmen, Germany see WUPPERTAL

Barmouth (bär'muth), urban district (pop 2,489), Merionethshire, Wales, on the estuary of the Mawddach It is a resort on a strip of land between the sea and a hillside Llanaber Church (early 13th cent) is near by

barn. American experience of winning a wild land for civilization repeats experience elsewhere and makes some of the beginnings obvious Civilization is based on agriculture The home is supported by the farm, and an adequate barn must be built even when the adequate house must wait until the work symbolized by the barn can build and maintain it The barn comes first and dominates the farm buildings When plowing was done by oxen, the barn was their shelter The width of an ox stall is regularly 4 ft , a "short yoke" of two oxen requires 8 ft. of stall room, a "long yoke" of four oxen requires 16 ft The length of a barn tends to be some multiple of 8 or 16 ft Sixteen feet becomes a normal length for boards, and dimensions of houses tend to be such as will utilize 16-foot boards without waste, as 20 ft or 24 ft An economical way of enlarging the barn is by building a lean-to along each side and another across the rear The barn then takes the form of a Gothic church, with nave, side aisles, choir, and clerestory That the church, like the home, was influenced by the barn has been suggested See S O Addy, *The Evolution of the English House* (1898, rev ed , 1933) For information as to building barns, see publications of the U S Dept of Agriculture

Barnabas, Saint (bar'nubus) [etymology unclear, see Acts 4 36], apostle a Cypriote, missionary companion of Paul and of Mark, his relative His forename was Joses AV, Joseph RV Acts 4 36,37, 9 27, 11 22–15 41, 1 Cor 9 6, Gal 2 1,9,13, Col 4 10 He is said to have been martyred in Cyprus One of the oldest Christian PSEUDEPIGRAPHA is an epistle attributed to Barnabas He is named in the Canon of the Mass Feast June 11

barnacle, marine crustacean usually found attached to rocks, stones, seaweed, wharf piles, ships, and marine animals The body of the adult barnacle is covered with shell-like plates There are usually six pairs of plumelike legs, with which a current is created for drawing food to the mouth Some forms, such as the goose barnacles, are attached by fleshy stalks to ships or driftwood No stalks are found in the group which includes the acorn or rock barnacle The use on ships of plastic paint and paint containing DDT helps to prevent the attachment of barnacles

Barnard, Edward Emerson (bar'nurd), 1857–1923, American astronomer, b Nashville, Tenn , grad Vanderbilt Univ , 1887 From 1887 to 1895 he was astronomer at Lick Observatory in California, and from 1895 he was professor of practical astronomy at the Univ of Chicago and astronomer at Yerkes Observatory The discoverer of 16 comets and of Jupiter's fifth satellite (1892), he was given distinguished recognition by the Academy of Sciences of France and the Royal Astronomical Society of Great Britain His photographs of comets, planets, nebulae, and the Milky Way are notable contributions to astronomy

Barnard, Frederick Augustus Porter, 1809–89, American educator and mathematician, b Sheffield, Mass , grad Yale, 1828 After tutoring at Yale and teaching in institutions for the deaf and mute, he was professor of mathematics and natural history at the Univ of Alabama from 1837 to 1854 and of mathematics and natural philosophy at the Univ of Mississippi from 1854 He served there as president (1856–58) and chancellor (1858–61), resigning at the outbreak of the Civil War After a period of research in astronomy and after work as head of the map and chart department of the U S Coast Survey, he was selected to succeed Charles King as president of Columbia College (now Columbia Univ) During his long administration (1864–89), he expanded the curriculum, added departments, supported the sciences, and fostered the development of the School of Mines. He extended the elective system and advocated equal educational privileges for men and women Barnard College, the woman's undergraduate unit of Columbia, was named for him and opened shortly after his death Barnard was active in founding the American Association for the Advancement of Science and the National Academy of Sciences He edited *Johnson's Universal Cyclopaedia* and wrote many addresses, articles, books, and pamphlets in the fields of mathematics, physics, economics, and education. His annual reports on Columbia, outstanding discussions of current educational progress, have been edited by W F Russell in *The Rise of a University*, Vol. I (1937) See memoirs by John Fulton (1896).

Barnard, George Grey, 1863–1938, American sculptor, b Bellefonte, Pa He studied engraving, then sculpture, first at the Art Institute of Chicago, then in the École des Beaux-Arts, Paris His first exhibition was held in Paris in 1894 *Two Natures,* exhibited then, is now in the Metropolitan Museum *Brotherly Love,* another early work, is in Langesund, Norway Several figures for the new state capitol at Harrisburg, Pa , were completed in 1912 A colossal statue of Lincoln in 1917 was the subject of heated controversy because of its rough-hewn features and slouching stance It is now in Manchester, England, and a replica is in Cincinnati Interested in medieval art, Barnard gathered in French villages discarded fragments of Gothic art This collection he established near his home on Washington Heights, New York city, in a building which he called the CLOISTERS Others of Barnard's sculptures are *The God Pan* (Columbia Univ campus), *The Hewer* (Cairo, Ill), and *Rising Woman* and *Adam and Eve* (both Rockefeller estate, at Pocantico Hills, N Y) At the time of his death he was at work on the 100-foot *Rainbow Arch,* a memorial to peace

Barnard, Henry, 1811–1900 American educator, b Hartford, Conn , grad Yale, 1830 He studied law and was admitted to the bar in 1835 As a member (1837–39) of the Connecticut legislature, he originated and secured the passage in 1838 of an act to provide for the better supervision of the common schools Horace Mann had carried through a similar reform in Massachusetts in 1837, and the two men became leaders in the movement to reform the common schools of the country Barnard was secretary of the Connecticut board of commissioners of common schools from 1838 to 1842 and performed pioneer work in school inspection recommendation of textbooks, organization of teachers' institutes and parents' and teachers' meetings, and the framing of additional legislative measures on education He also edited the *Connecticut Common School Journal* and made valuable reports, including a survey of the existing school system A political overturn in Connecticut in 1842 abolished his office and entire program In 1843 Barnard was selected to survey the common school system of Rhode Island and instituted similar reforms there, as well as starting school libraries and revising examination methods In 1849 he returned to Connecticut, where his program had been reestablished, to serve as superintendent of schools and principal of the new state normal school at New Britain Ill-health compelled his resignation in 1855 In 1858 he accepted the chancellorship of the Univ of Wisconsin and in two years there did much for the state's common school system Again illness forced him to rest He became president of St John's College, Annapolis, in 1866, but resigned in 1867 to become the first U S commissioner of education Barnard had long urged the establishment of a Federal agency to gather and disseminate educational information and statistics, which had been collected for the first time in the census of 1840 As commissioner he planned and organized the work of this agency and prepared extensive reports on education in this country and abroad and on school legislation The appropriation for his work was cut, however, thus sharply circumscribing his plans, and Barnard resigned in 1870 He continued the publication of the *American Journal of Education* (31 vols , 1855–81, reissued in 1902 with an additional volume dated 1882) This journal, subsidized by Barnard, included translations of many hitherto unavailable European educational classics Some 50 of these treatises were reprinted as Barnard's "Library of Education " See biography by B C Steiner (U S Bureau of Education, Bul 8, 1919), J S Brubacher, ed , *Henry Barnard on Education* (1931), R C Jenkins and G C Warner, *Henry Barnard an Introduction* (1947)

Barnard, John Gross, 1815–82, U S army engineer, Union general in the Civil War, b Sheffield, Mass , grad West Point, 1833, brother of Frederick A P Barnard He was superintending engineer in the reconstruction of several port fortifications, and in the Mexican War he built the fortifications at Tampico At the beginning of the Civil War, Barnard was put in charge of the defenses of Washington He was chief engineer of McDowell's army at the first battle of Bull Run (1861) and of McClellan's army in the Peninsular campaign (1862), was made a brigadier general of volunteers in Sept , 1861, and was again (1862–64) in charge of the defenses of Washington In June, 1864, Grant appointed him chief engineer of the armies in the field attached to his staff, and Barnard served in that capacity for the rest of the war After the war he was actively engaged in various engineering duties till his retirement in 1881

Barnard College. see COLUMBIA UNIVERSITY

Barnardo, Thomas John (–närˈdō), 1845–1905, British social reformer, b Ireland Pioneering in the care of destitute children, he founded in London in 1867, with the aid of the 7th earl of Shaftesbury, the first of his famous Dr Barnardo Homes These soon spread to all parts of England. The children were taught a trade, and many of them emigrated to Canada. Barnardo was instrumental in securing parliamentary legislation (1891) for child welfare See biography by J W Bready (1930)

Barnato, Barnett (bärnäˈtō), 1852–97, South African financier, b London He was of Jewish origin, and his name was originally Barney Isaacs, he called himself Barney Barnato first when he performed as a comedian In South Africa, by buying worked-out diamond mines in the Kimberley area and mining the abandoned blue earth he made a fortune He increased it by speculation in diamond and gold mines until he was maneuvered by Cecil Rhodes into merging the Kimberley with Rhodes's De Beers interests He was also plunged into politics, which Barnato did not understand He committed suicide by leaping from the S S *Scot* See biography by Richard Lewinsohn (Eng tr , 1938)

Barnaul (bŭrnōōlˈ), city (pop 148,129), capital of Altai Territory, RSFSR, in SW Siberia, on the Ob river and the Turksib railroad An important transportation point, it was founded in 1738 as a gold- and silver-refining center There are cotton mills and various other manufactures and a rapidly growing chemical industry Barnaul has a meteorological observatory, a geological museum, and a school of mining

Barnave, Antoine Pierre Joseph Marie (ätwänˈ pyĕrˈ zhōzĕfˈ marēˈ barnavˈ), 1761–93, French revolutionist A member of the States-General of 1789, he was a brilliant spokesman of the extreme left When Louis XVI fled in 1791, Barnave was one of those sent to bring him back from Varennes to Paris This experience awakened royalist sympathies in Barnave and led to conferences with MARIE ANTOINETTE Seeking to establish a constitutional monarchy, he supported his former opponent, Mirabeau, and became a leader of the FEUILLANTS Condemned by the Revolutionary Tribunal, he was guillotined His *Introduction à la Révolution française* (in *Œuvres,* 1843) anticipates Marx in explaining the Revolution as the result of the evolution of the industrial bourgeoisie See biography by E D Bradby (1915), O G von Heidenstam, ed , *The Letters of Marie Antoinette, Fersen, and Barnave* (Eng tr , 1926)

Barnay, Ludwig (lōōdˈvĭk bärˈnī), 1842–1924, German actor and theatrical manager He acted (1870–75) at the Staattheater in Frankfurt-am-Main and acted and directed (1875–80) at the Staattheater in Hamburg In 1871 he inaugurated the stage congress at Weimar, out of which developed the stage association *Bühnengenossenschaft,* of great value to the German theatrical profession

Barnburners, radical element of the Democratic party in New York state from 1843 to 1848, opposed to the conservative HUNKERS The name arose from the story of the Dutchman who burned his barn to get rid of the rats, the implication being that the Barnburners would destroy the corporations and public works to do away with the abuses connected with them The Barnburners also opposed the extension of slavery When the Hunkers captured the Democratic state convention at Syracuse in 1847, the Barnburners seceded and held their own convention Among their leaders were C C Cambreleng, Azariah C Flagg, and Samuel J Tilden Having failed to get recognition at the Democratic national convention of 1848, they nominated Martin VAN BUREN for President and, uniting with the FREE-SOIL PARTY, Charles Francis ADAMS (1807–86) for Vice President Largely because of this Democratic split, the Whig candidate, Zachary Taylor, defeated the regular Democrat, Lewis Cass Many Barnburners remained Free-Soilers and eventually joined the new Republican party See H D A Donovan, *The Barnburners* (1925)

Barnby, Sir Joseph, 1838–96, English composer, organist, and conductor, studied at the Royal Academy of Music He held many positions as organist and in 1864 organized his own choir for the performance of oratorios In 1872 he succeeded Gounod as conductor of the Royal Choral Society In this position and as conductor (1878–86) of the London Musical Society, he set a high standard of choral music, making many great works, such as Beethoven's *Missa Solemnis* and Bach's St Matthew Passion, familiar to the London public In 1875 he became precentor and director of music at Eton, in 1892 principal of the Guildhall School of Music He composed an oratorio, anthems, services, songs, piano pieces, and organ pieces, but is known principally for a few of his 246 hymn tunes —*Now the Day Is Over* and *O Perfect Love,* which is part of an anthem composed in 1893 for a royal wedding—and for the lullaby *Sweet and Low*

Barnegat (bärˈnŭgăt), unincorporated village (pop. 881), E N J It is c 2 mi inland from Barnegat Bay.

Barnegat Bay, arm of the Atlantic, c 30 mi long, E N J , entered through Barnegat Inlet between Long Beach island and Island Beach peninsula Barnegat Lighthouse, 168 ft high, built in 1858 on Long Beach at the inlet, was replaced by a lightship in 1930 The borough of Barnegat City (pop 225, inc 1904) grew up near the lighthouse. F. Hopkinson Smith depicted the lives of the fishermen of Barnegat Bay in painting and novels.

Barnes, Albert, 1798–1870, American Presbyterian clergyman, b Rome, N.Y., grad Hamilton College, 1820, and studied theology at Princeton From 1830 he was pastor of the First Church in Philadelphia, mother church of the Presbyterian denomination in America In the schism (1837–70) in Presbyterianism between the strict Calvinists and those whose views had become tinged with New England liberalism, Barnes's opinions and writings placed him with the liberal wing His commentaries on biblical books, published as *Notes Explanatory and Practical* (rev ed , 6 vols , 1872), attracted wide attention

Barnes, Barnabe, 1569?–1609, English poet His major work is the highly fanciful *Parthenophil and Parthenophe Sonnettes, Madrigals, Elegies, and Odes* (1593) He also wrote *A Divine Centurie of Spirituall Sonnets* (1595) and *The Divil's Charter* (1607), a tragedy

Barnes, Charles Reid, 1858–1910, American botanist He was eminent as a teacher, first at Wisconsin and after 1898 at the Univ of Chicago, and helped stimulate interest in botanical research, especially in plant physiology and in the study of bryophytes He was coeditor with John M Coulter of the *Botanical Gazette* and wrote *Analytic Keys to the Genera and Species of North American Mosses* (1896) and *Plant Life* (1900)

Barnes, Harry Elmer, 1889–, American historian and sociologist, b Auburn, N Y , grad Syracuse Univ (B A , 1913, M A , 1914), Ph D Columbia, 1918 He taught economics, sociology, and history at various institutions of higher learning, notably at the New School for Social Research His wide interests generally centered about the main themes of the development of Western thought and culture His ability to synthesize information from various fields into an intelligible pattern showing human development profoundly affected the teaching of history Notable among the works that show his remarkable sweep and scope are *Social History of the Western World* (1921), *History and Social Intelligence* (1926), *History of Western Civilization* (1935), *An Intellectual and Cultural History of the Western World* (with some contributions from others, 1937), and *Social Thought from Lore to Science* (with Howard Becker, 1938) He took great interest in prison reform and became an authority on penology

Barnes, Juliana: see BERNERS, JULIANA

Barnes, William, 1801–86, English poet and philologist, son of a farmer He is best known for his poems in Dorset dialect, the first of which began to appear in local newspapers in 1833 After a career as a schoolmaster, in 1847 he took holy orders Barnes's *Poems of Rural Life in the Dorset Dialect* were published in three series between 1844 and 1863 Besides a *Philological Grammar* (1854), comprising examples from more than 60 tongues, he wrote other books on the English language, including *Se Gefylsta an Anglo-Saxon Delectus* (1849), *Two* (1862), and *A Glossary of the Dorset Dialect* (1886) See his *Select Poems* (ed by Thomas Hardy, 1909), biography by his daughter, Lucy E Baxter (1887)

Barnes, urban district (1931 pop 42,440, 1947 estimated pop 41,440), Surrey, England, on the Thames It is a suburb of London

Barnesboro, industrial borough (pop 3,831), W Pa , in the Alleghenies ENE of Pittsburgh, laid out 1891, inc 1893 Bituminous coal is mined here, and there is a clothing factory

Barnesville 1 City (pop 3,535), co seat of Lamar co , W central Ga , NW of Macon, settled c 1825 inc 1854 It is a processing center in a farm and lumber area Clothing and tire fabric are made Gordon Military College (junior) is here **2** City (pop 1,450), W Minn , SE of Moorhead, in the Red River valley It is a trade center for a farm and dairy region and has railroad shops **3** City (pop 5,002), SE Ohio, SW of St Clairsville, in a mine area

Barnet, urban district (1931 pop 14,726, 1943 estimated pop 25,000), Hertfordshire, England It is divided into various districts—among them Chipping Barnet—and is largely a residential area for London In 1471 Warwick the Kingmaker was killed here in a battle between the Yorkists and the Lancastrians The town holds a three-day horse fair East Barnet is in a separate urban district

Barnet (bärˈnĭt), town (pop 1,596), NE Vt , S of St Johnsbury, bounded on the east by the Connecticut, settled 1770 Henry Stevens, the bibliographer, was born in Barnet Many early settlers were Scottish. At Fifteen-Mile Falls on the Connecticut is a large power plant See F. P Wells, *History of Barnet, Vermont* (1923).

Barnett, Samuel Augustus (barˈnĕt), 1844–1913, English clergyman and social worker, pioneer in the social settlement movement As vicar of St Jude's, in the slums of London, he persuaded groups of university men to live in the neighborhood and work for community betterment Toynbee Hall, the first social settlement, was an outgrowth of these activities; it was opened in 1884 by Barnett He was also active in the university extension movement In 1893 he was made a canon His wife, **Henrietta Octavia Barnett,** 1851–1936,

worked with him in his projects and collaborated in some of his books, notably *Practicable Socialism* (1888). She also wrote his biography (1918). Especially interested in housing, Mrs Barnett helped found a model garden suburb at Hampstead In 1924 she was created Dame Commander of the British Empire

Barnett, Samuel Jackson (bärnĕt'), 1873–, American physicist, b Woodson co, Kansas, Ph D Cornell, 1898 He taught at several institutions and was physicist at Carnegie Institution, Washington, D C, from 1918 to 1926 and professor of physics at the Univ of California from 1926 until 1944 He specialized in electricity and magnetism In 1918 he discovered magnetization by rotation He is the author of *Elements of Electro-magnetic Theory* (1903)

Barneveldt, Jan van Olden see OLDENBARNEVELDT

Barney, Joshua, 1759–1818, American naval hero, b Baltimore He entered the navy early in the American Revolution, undertook daring exploits, and was captured by the British three times, his most famous action was the capture (1782) of the *General Monk* in Delaware Bay Later (1796–1802) Barney served with distinction in the French navy In the War of 1812 he engaged in large-scale privateering In July, 1814, he was given the task of checking the British push up Chesapeake Bay For several weeks he halted the drive on Washington, and when the British did disembark, he rushed his marines and sailors to Bladensburg There he held the center of the line until the cowardice of the troops led to his being outflanked Barney was wounded and captured See biographies by W F Adams (1912), R D Paine (1924), and Hulbert Footner (1940)

Barnfield, Richard, 1574–1627, English poet, author of *The Affectionate Shepherd* (1594), *Cynthia, with Certain Sonnets* (1595), and *The Encomion of Lady Pecunia* (1598) Two of his poems, "If Music and Sweet Poetry Agree" and "As It Fell upon a Day," were for many years attributed to Shakspere See edition of Barnfield's poems by A B Grosart (1876)

Barnsdall (bärnz'dôl), oil city (pop 1,831), NE Okla, NW of Tulsa It was called Bigheart until 1921

Barnsley, county borough (1931 pop 71,522, 1947 estimated pop 74,410), West Riding of Yorkshire England, N of Sheffield It is the railroad center of a coal region and has ironworks, linen mills, and other industries

Barnstable (bärn'stubul), resort town (pop 8,333), SE Mass, on Cape Cod Its villages include Barnstable, county seat of Barnstable co, Hyannis, and Cotuit, noted for oysters This area was settled in 1639 Several 18th-century buildings remain

Barnstaple (barn'stupul) or **Barum** (bä'rum), municipal borough (pop 14,700), Devonshire, England on the west coast at the mouth of the Taw A 16-arch stone bridge across the river dates from the early 13th cent Barnstaple is a seaport and has shoe factories and foundries An annual fair attracts many visitors

Barnum, Phineas Taylor, 1810–91, American showman, b Bethel, Conn His first independent venture was the exhibition (1835) of a Negro slave, Joice Heth, who he claimed was the nurse of George Washington Barnum gained fame when he established (1842), the American Museum in New York city by combining Scudder's and Peale's museums Barnum enlivened his museum with a bearded lady and countless other exhibits and by extravagant advertising The dwarf "General Tom Thumb" was one of his major attractions In 1850 Barnum managed the American tour of the Swedish singer Jenny Lind and achieved remarkable financial success for her and for himself He served as mayor of Bridgeport, Conn, and in the Connecticut legislature, but after an unsuccessful campaign for Congress he turned to organizing his famous circus, "The Greatest Show on Earth," which opened in Brooklyn, N Y, in 1871 and soon became an American institution In 1881, the year that he imported the giant African elephant Jumbo, he merged with his most successful competitor, J A Bailey, and under the name Barnum and Bailey the circus continued for a generation after his death In 1883 the Barnum Museum of Natural History was established at Tufts College in honor of Barnum, who was one of its trustees His autobiography was published in 1855 and kept up to date in succeeding editions, he wrote also *Humbugs of the World* (1865), *Struggles and Triumphs* (1869), and *Money Getting* (1883) See his autobiography, *Barnum's Own Story* (ed. by W R Browne, 1927), biographies by M R Werner (1923) and H W Root (1927)

Barnwell, town (pop 1,922), co seat of Barnwell co, SW S C, SSW of Columbia, in a farm area, settled 1798, inc 1842 A state park is near by In the Civil War the town was burned (1865) by Sherman

Baroach, India see BROACH

Barocchio, Giacomo: see VIGNOLA, GIACOMO DA

Barocci or Baroccio, Federigo (fädâr'ē'gō bärō't'chē, -chō), c 1530–1612, Italian painter and engraver, also called Fiori da Urbino Many of the paintings executed for the churches of his native Urbino still survive, chief among them is *St Sebastian*, in the cathedral Barocci was employed by Pope Pius IV on the decorations of the Belvedere Palace, Rome His chief works in Rome are *Presentation in the Temple* and *Visitation* (Chiesa Nuova), *Last Supper* (Santa Maria sopra Minerva), *Burning of Troy* (Borghese Palace), and others in the Vatican collections Other works are *Madonna del popolo* (Uffizi), *Madonna and Child with Saints* (Louvre), *Descent from the Cross* (cathedral, Perugia), *Crucifixion* (cathedral, Genoa), *Holy Family* (Metropolitan Mus), and a portrait of Quintilia Fischeri (National Gall of Art, Washington, D C)

Baroche, Pierre Jules (pyĕr' zhül' barôsh'), 1802–70, French statesman He deserted the republican standard to support Napoleon III Subsequently he held many ministerial posts and was one of the most prominent politicians of the Second Empire until he was forced into retirement because of republican sympathies in 1869

Baroda (burō'du), former native state (8,127 sq mi, pop 2,855,010), Bombay state, India It is a prosperous area on a fertile, alluvial plain Its existence as a state dated from the 18th cent and its ruler was the Gaekwar In May, 1949, Baroda merged with Bombay Its chief city, **Baroda** (pop 153,301), has imposing new buildings (including a palace and a museum), several colleges, and a cotton-textile industry

Baroja y Nessi, Pio (pē'ō barō'ha ē nĕ'sē), 1879–, Spanish novelist from the Basque Provs, belonging to the group of writers known as the Generation of 1898 He left medicine to devote himself to literature after 1900 and is perhaps the best-known Spanish novelist of the 20th cent Most of his novels are published in trilogies, such as *Tierra vasca* [the Basque country], which includes his first novel, *La casa de Aizgorri* (1900), as well as *El mayorazgo de Labraz* (1902) and *Zalacaín el aventurero* (1909) Of the trilogies, the most widely read abroad is *La lucha por la vida* [the struggle for existence] formed by the three novels published in 1904, *La busca* (Eng tr, *The Quest*, 1922), *Mala hierba* (Eng tr, *Weeds*, 1923), and *Aurora roja* (Eng tr, *Red Dawn*, 1924) The longest cycle of novels that he has written, with a historical background, is known as *Memorias de un hombre de acción* [memoirs of a man of action] Baroja's novels are forceful though loosely constructed, characterized by a rather bare, hard style, vitality, and an undercurrent of social discontent

barometer (burŏm'utur), instrument for measuring atmospheric pressure The simple mercurial barometer, invented in 1643 by Torricelli, consists essentially of a glass tube 3 ft long with one end sealed and the other end open, completely filled with mercury With the open end temporarily closed, the tube is inverted and the temporarily closed end submerged in a cup of mercury, called the cistern With the tube supported vertically, the temporarily closed end is opened, causing the level of mercury in the tube to fall a short distance and creating a vacuum above it (Torricelli's vacuum) When this is done at sea level, the top of the mercury column in the tube will be about 30 in above the surface of the mercury in the cup The column of mercury in the tube is supported by the external pressure of the atmosphere on the surface of mercury in the cup and varies in height with changes in elevation above sea level and variations in atmospheric pressure Standard sea-level pressure is 14 7 lb per square inch, which is equivalent to a column of mercury 29 92 in in height, the decrease with elevation being approximately 1 in for every 900 ft of ascent A barometer used to indicate altitude is called an ALTIMETER The barometer is employed in weather forecasting, a storm being indicated when the barometer is "falling," i e, when the pressure shows a decreasing tendency When the barometer is "rising," the opposite weather conditions can be predicted The **aneroid barometer** is a metallic box so made that when the air has been partially removed from the box the surface depresses or expands with variation of air pressure on it, this motion is transmitted by a train of levers to a pointer which records the pressure on a graduated scale A barograph is a self-recording aneroid barometer in which a pen traces a continuous pressure record on a cylindrical chart which revolves by clockwork

Baron or **Boyron, Michel** (mēshĕl' barō', bwarō'), 1653–1729, French actor and playwright A pupil of Molière, he was one of the most famous actors of his time in both comedy and tragedy He wrote several plays, of which *L'Homme à bonnes fortunes* (1686) was the most popular

Baronius, Caesar (burō'nēŭs), 1538–1607, Italian ecclesiastical historian, cardinal of the Roman Church He came to Rome c 1557 and soon came under the tutelage of St PHILIP NERI His chief work is *Annales ecclesiastici a Christi nato ad annum 1198* [ecclesiastical annals from the Nativity to 1198] It is erudite and complete, revealing the author as a remarkably honest scholar, though it was directed against the Protestant arguments, Protestants as well as Catholics concede that Baronius never suppressed a fact He was a strong defender of the Holy See He was largely responsible for the Roman Martyrology Baronius became superior of the Oratory on St Philip's death (1593), cardinal (1596), and librarian of the Vatican, he was confessor to Clement VIII It is said that only the hostility of the Spanish, aroused when Baronius questioned their claims to Sicily, prevented Baronius from becoming pope

Barons' War, in English history, that phase of the struggle between king and barons which took place between 1263 and 1267 HENRY III in 1261 denounced the Provisions of Oxford (1258) and the Provisions of Westminster (1259), which had vested all power in a council and a council of barons, and reasserted his sovereignty and his right to appoint councilors The barons led by Simon de MONTFORT finally resorted to arms in 1263 A decision in favor of the crown by Louis IX of France as arbitrator (1264) was rejected by the barons Montfort was victorious at Lewes (1264) and forced the king to submit again to government by council, and in 1265 he summoned Montfort's Parliament (see PARLIAMENT) to consolidate his power But a renewal of the war followed a rising of the "Marchers," Englishmen of the Welsh border, who were incensed over Montfort's alliance with Llewelyn ap Gruffydd and the Welsh Prince Edward (later EDWARD I) took the leadership of the royalist forces and won a victory at Evesham (1265), where Montfort was killed The barons submitted to the king finally in 1267 Though they had been unable to check the rise of royal power, though they had failed to establish the supremacy of the nobles, they had destroyed the influence of Henry's French half brothers and other foreign favorites at the court and had helped prepare the way for the constitutional developments of the reign of Edward I

baroque (burōk'), in architecture and decoration, a style marked by complex organization of rich plastic forms and freedom of design Originating in Italy in the late 16th cent, it reached its height throughout Europe a century later Though the term was long used with an opprobrious implication, in recent times there has come a revaluation of the style and a recognition of its actual merits The movement achieved its most noteworthy results in Rome Part of the final phase of the Renaissance, its primary impulse was to revolt from the cold architecture of such classicists as Palladio The grandiosity, effectiveness and rich decoration of baroque apparently corresponded to the spirit of the time Once adopted, it tremendously enlarged the vocabulary of the architects, permitting a freedom hitherto impossible The works of baroque artists included monuments of great nobility, such as Lorenzo Bernini's masterly colonnades in St Peter's Square and also many extravagant designs, in which sane and honest quality was sacrificed to a facile decorative effectiveness Outstanding designers were Vignola, Borromini, and Carlo Maderna (designer of the façade of St Peter's) in Rome, Galeazzo Alessi in Genoa, and Baldassare Longhena in Venice In France the early period of baroque fell in the reign of Louis XIII, and the style developed its full richness under Louis XIV, it was superseded by the fanciful products of the ROCOCO style in the reign of Louis XV Germany and Austria were notably hospitable to all forms of baroque, the aspects of Vienna, Dresden, and Würzburg being almost dominated by it In Spain the style was carried to an extreme development in the work of José CHURRIGUERA Carried from Spain to the New World, it became an idiom of wide currency in Mexico and Latin America In Mexico a particular richness resulted from the fusion of Spanish churrigueresque and native Aztec tastes, reaching a peak of achievement in the 18th cent The style in Europe lasted well into that century, its dethronement was the result of archaeological interest in classical art See M S Briggs, *Baroque Architecture* (1913)

baroque, in music, a style which extends from 1600, the date of production of the first extant opera music to 1750, the year of Bach's death Its beginnings were in the late 16th-century revolt against POLYPHONY which gave rise to the accompanied RECITATIVE and to OPERA With opera and recitative came the FIGURED BASS used consistently in ensemble music throughout the baroque era Renaissance polyphony persisted, however, being called the *stile antico* and considered more appropriate to the church than the *nuove musiche*, the baroque, then, was an era of stylistic duality It was a romantic era (see ROMANTICISM), which displayed emotional extremes, and thus opera was its outstanding creation By the end of the era major and minor TONALITY had replaced the church modes (see MODE) Contrapuntal writing was resumed in the middle baroque, but it now had a harmonic basis Idiomatic writing, taking account of the individual character and capacities of instruments and voices, was characteristic of baroque music Originating in Italy, opera, ORATORIO, and CANTATA were the principal vocal forms of the period. In instrumental music the

SONATA, CONCERTO, and OVERTURE were creations of the baroque In France and Italy the baroque had by 1725 been overshadowed by its outgrowth, the ROCOCO, and it remained for Germany, where the baroque saw the flowering of Protestant church music, to bring the era to culmination The FUGUE was the greatest form of the late baroque, the chorale prelude and the toccata were also important See M F Bukofzer, *Music in the Baroque Era* (1947)

Barotseland see NORTHERN RHODESIA.

Barozzi, Giacomo see VIGNOLA, GIACOMO DA.

barque see BARK

Barquisimeto (bärkēsēmä'tō), city (pop 54,176), NW Venezuela Founded in 1552 in a highland area between the Sierra Nevada de Mérida and the Caribbean coastal range, Barquisimeto is a commercial center on the Pan American Highway and has rail connections with PUERTO CABELLO Although the Segovia highlands to the north are largely barren, the city itself is in good grazing country Besides cattle, exports include coffee, cacao, and sugar, shipped in bags made from locally grown sisal Here ended (1561) the infamous career of Lope de AGUIRRE Barquisimeto had to be rebuilt after the earthquake of 1812

Barr, Amelia Edith Huddleston, 1831–1919, Anglo-American novelist, b Ulverston, England She came to the United States with her husband, Robert Barr, in 1853 Her ability to tell a story and her interest in history redeem her many sentimental, romantic novels, which include *Jan Vedder's Wife* (1885), *A Bow of Orange Ribbon* (1886), *Remember the Alamo* (1898), and *An Orkney Maid* (1917) See her autobiography, *All the Days of My Life* (1913)

Barr, Robert, 1850–1912, Scottish novelist and journalist, educated in Toronto He wrote for the Detroit *Free Press* from 1876 to 1881 and in 1892 founded the *Idler* with Jerome K Jerome in London *In the Midst of Alarms* (1894), *The Triumphs of Eugène Valmont* (1906), *The Tempestuous Petticoat* (1908), and *The Sword Maker* (1910) are among his numerous romances He collaborated with Stephen Crane in *The O'Ruddy* (1903)

Barra (bă'rə), island (22,222 acres, pop 2,250), off NW Scotland, in Inverness-shire, one of the Outer Hebrides Its town is Castlebay, a fishing center

barracuda (bărəkōō'də), elongated fish of tropical and subtropical seas, resembling the pike and having a long snout, large sharp-edged teeth, and a projecting lower jaw Swift and voracious, it pursues and kills fish, often those much larger than itself Many attacks on humans are recorded and it is much feared by bathers, especially in the West Indies and the warm coastal waters of the Americas Some forms, chiefly the smaller ones from 1 to 2 ft long, are used for food

Barranquilla (bă"rŭn-kē'u, Span bärangkē'yä), city (pop 150,395), N Colombia, near the mouth of the MAGDALENA Founded in 1629, Barranquilla was a sleepy tropical town until the middle of the 19th cent, when steamboats began navigating the river up to HONDA A modern railroad and highway connecting the city with Puerto Colombia on the coast, the recent dredging of the mouth of the Magdalena, and intercontinental air routes have made Barranquilla one of the most important Caribbean ports in South America, surpassing its old rival, CARTAGENA The new residential district, El Prado, has fine residences, hotels, avenues, and public buildings Negro farmers raise sugar and cotton (supplying the city's textile industry) in the region W of Barranquilla and vegetables along the river's natural levees Besides cotton and rayon mills, manufactures include cigarettes, paper, beer, vegetable oil, structural steel, corn products, hats, shoes, chocolate, building materials, and other minor products

Barras, Paul François Nicolas, comte de (pōl' frāswä' nēkōlä', kōt' du bara'), 1755–1829, French revolutionist Though of a noble family, he joined the Jacobins in the Revolution He was a member of the Convention and one of the commissioners in Toulon during the reprisals of 1793 Having turned against Robespierre, he was made commander of Paris on 9 THERMIDOR (July 27, 1794) His firmness saved the coup d'état from failure The leader of the subsequent reaction, he turned the troops over to Napoleon Bonaparte to suppress the VENDÉMIAIRE rising of 1795 and became the chief member of the DIRECTORY (1795–99) Barras was notorious for his corruption, ostentation, and immorality He played some part in appointing Bonaparte to command in Italy and, after some hesitation, supported Sieyès in his plans for the Napoleonic coup d'état of 18 Brumaire (Nov 9, 1799), which ended his political prominence See his memoirs (Eng tr, 4 vols, 1895–96)

Barré, Isaac (bă'rē), 1726–1802, British soldier and politician, b Dublin He served under James Wolfe and was wounded at Quebec in 1759. Entering Parliament in 1761, he was appointed adjutant general and governor of Stirling (1763), but was dismissed from the army by Pitt, with whom he had quarreled After reconciliation with Pitt, he was appointed (1768) vice treasurer of Ireland. A powerful orator, he persistently opposed taxing the American colonies. His advocacy of their cause is commemorated in the names of Barre, Mass., and Wilkes-Barre, Pa, which is also named for John Wilkes, his fellow advocate in England of the Americans

Barre (bă'rē) **1** Town (pop 3,528), central Mass, NW of Worcester, settled c 1720, inc 1774 Woolen and metal products are made here It has a particularly beautiful village square **2** City (pop 10,909), central Vt, near Montpelier, inc 1894 The town of Barre (pop 4,052) was organized as Wildersburgh in 1793 It is dominated by its famous granite quarries, which, developed after the War of 1812, supplied granite for the state capitol at Montpelier in 1836 A statue of Robert Burns by J Massey Rhind stands in the city high school grounds The town has an airport At the village of East Barre, in Barre town, is a flood-control dam, part of the Winooski river control system Goddard College (coeducational, 1938) is at near-by Plainfield

Barre des Écrins (bär' dāsākrē'), peak, 13,461 ft high, in the Pelvoux group, SE France, loftiest of the Dauphiné Alps

barrel organ, mechanical musical instrument, widely used in English churches from the late 18th cent A revolving cylinder is fitted with pegs which open valves permitting air to enter a set of organ pipes Some of the larger ones have several sets of pipes and various couplers Some have electric motors which cause the cylinders to turn The principle is one which was employed in the Middle Ages A portable type of barrel organ whose cylinder is turned by a hand crank is known as a HURDY-GURDY

barren grounds, term loosely applied to the open lands of the north beyond the tree line More specifically the term is applied to Canada NW of Hudson Bay and E of the Mackenzie basin—the basins of those rivers that enter the Arctic Ocean E of the Mackenzie and of those that enter Hudson Bay N of the Churchill It is not high country, its altitude above sea level seldom reaching above 600 ft even on the divide between the Arctic and Hudson Bay, but its geology is largely that of the LAURENTIAN PLATEAU The soil is thin, and large areas of bare rock, chiefly granites and gneisses polished by the ice, are exposed Drainage is still young and disorganized, and depressions are filled with swamps, ponds, and lakes The southwestern forest line is only relative, and trees may be found in any part where they are sufficiently sheltered, but the land is for the most part completely exposed Winters are colder and summers are cooler than they are in the Mackenzie basin Vast herds of caribou cross the area seasonally Musk oxen are common in the north The few inland Eskimo, along lakes and rivers, exist on fish and the caribou and live quite differently from those along the coast, where there are the seal and the walrus The barren grounds were first crossed by Samuel HEARNE in 1770-71 Sir John FRANKLIN, Sir George BACK, John RAE, and J B TYRRELL are others whose explorations covered this region Recently the airplane has permitted its more thorough exploration See P G Downes, *Sleeping Island* (1943)

Barrère, Georges (shôrzh' bărer'), 1872–1944, French-American flutist and conductor, grad Paris Conservatoire, 1895 In Paris he founded (1895) the Modern Society for Wind Instruments, was solo flutist (1897–1905) of the Colonne Concerts and the Paris Opera, and taught at the Schola Cantorum In the United States he was solo flutist (1905–28) of the New York Symphony Orchestra He joined the faculty of the Institute of Musical Art in 1905 and of the Juilliard School of Music in 1930 The Barrère Ensemble, founded in 1910, was expanded (1914) into the Barrère Little Symphony Through his efforts and artistry the flute became important as a solo instrument He composed a nocturne for flute and piano, *Chanson d'automne* for voice and piano, and pieces for wind instruments

Barrès, Maurice (mōrēs' bărēs'), 1862–1923, French novelist and nationalist leader He wrote at first as an advocate of an egregious egoism, product of scientific naturalism, a trilogy, *Le Culte du moi* [the cult of the ego] (1888–91), expressed this viewpoint He soon turned to a nationalism which grew into vengeful hatred for Germany, nourished by Barrès's love for his native Lorraine and by an ardent racial feeling After the First World War his views remained extremely nationalistic Even his enemies recognized the beauties of his style and his powers to analyze, to describe, and to move His trilogy, *Le Roman de l'énergie nationale* [the novel of national vitality] (1897–1902), announced his nationalistic views, the first of these, *Les Déracinés* [the uprooted] (1897), might be called a companion piece to *Le Disciple* of Bourget *La Colline inspirée* (1913, Eng tr, *The Sacred Hill*, 1929) has been highly praised See A L Guérard, *Five Masters of French Romance* (1916)

Barrett, Elizabeth: see BROWNING, ELIZABETH.

Barrett, John (bă'rĭt), 1866–1938, American diplomat and authority on international affairs, b Grafton, Vt, educated at Vanderbilt Univ and Dartmouth (B.A., 1889). After newspaper work in Portland, Oregon, he was (1894–98) minister to Siam In the Spanish-American War he was a correspondent in the Philippines, returning to the United States in 1900 In that year he was sent as a delegate to the Pan American Congress in Mexico city and thus began his long connection with Latin American affairs, as minister to Argentina (1903–4), Panama (1904–5), and Colombia (1905–6) and, more significantly, as the very able director general of the Pan American Union from 1907 to 1920

Barrett, Lawrence, 1838–91, American actor, b Paterson, N J, of Irish parents named Brannigan He made his New York debut (1856) in *The Hunchback*, appeared (1858–59) with the Boston Museum Company, and served (1861–62) as a captain in the Civil War From 1866 to 1869 he was associated with Edwin Booth, played Othello to his Iago, and Cassius to his Brutus, and performed other Shaksperian roles with great success He resumed acting with Booth, after many American and English tours, in 1887 Barrett had a fine voice and an intense manner He excelled in such tragic-romantic roles as King Arthur in William Young's *Pendragon* (1881) and Lanciotto in George Henry Boker's *Francesca da Rimini* (1882) He wrote a biography of Edwin Forrest (1881) See biography by A E Barron (1889)

Barrett, Sir William Fletcher, 1844–1925, British physicist, b Jamaica, British West Indies He was professor of physics at the Royal College of Science, Dublin, from 1873 to 1910. His many contributions include the discovery of the contraction of nickel when magnetized, the recalescence (sudden liberation of heat at a certain temperature during the cooling process) of the Society for Psychical Research (1882)

Barrie, Sir James Matthew (bă'rē), 1860–1937, British playwright and novelist, b Kirriemuir, Scotland He took up journalism, wrote leaders for a Nottingham newspaper, and became a contributor to various London papers, finally moving to London in 1885 *Auld Licht Idylls* (1888), sketches of his native village, was followed by *A Window in Thrums* (1889) and *My Lady Nicotine* (1890) The publication of *The Little Minister* (1891) established him as a successful novelist, just as the dramatization of this novel began his career as a successful playwright *Margaret Ogilvy* (1896), a tribute to his mother, was followed by the novels *Sentimental Tommy* (1896) and *Tommy and Grizel* (1900), a study of the "artistic temperament" at least in part autobiographical After 1902 Barrie's production was almost entirely dramatic The most important of his full-length plays were, aside from *The Little Minister*, *Quality Street* (1901), *The Admirable Crichton* (1902), *Peter Pan* (1904), *Alice-Sit-by-the-Fire* (1905), *What Every Woman Knows* (1908), and *Dear Brutus* (1917) Among his one-act plays, *The Twelve-Pound Look* (1911) and *Shall We Join the Ladies?* (1921) deserve mention. Many of Barrie's plays were made famous in the United States by Maude ADAMS See his speeches *M'Connachie and J M B* (1930) and letters (ed by Viola Meynell, 1947), biographies by J A Roy (1937) and Denis Mackail (1941)

Barrie, town (pop 9,725), S Ont, on Kempenfelt Bay, a western arm of Lake SIMCOE, in a mixed farming and dairying district

Barrier Reef, Australia see GREAT BARRIER REEF

Barrili, Antonio Giulio (äntō'nyō jōō'lyō bär-rē'lē), 1836–1908, Italian writer and patriot Born in Savona, he spent most of his life in Genoa His novels and short stories had a sentiment and charm that made them very popular Among these are *Capitan Dodèro* (1865, Eng tr, *The Adventures of Captain Dodèro*, 1920) and *Santa Cecilia* (1866) His part in Garibaldi's campaign is described in *Con Garibaldi alle porte di Roma* (1895)

Barrington, E . see BECK, LILY ADAMS (MORESBY)

Barrington, George, 1755–1804, English author and pickpocket, b Ireland His family name was Waldron, but he assumed the name Barrington when he ran away from school Arriving in London in 1773, he became a professional pickpocket and, obtaining introductions in society, robbed many wealthy persons After serving several jail terms, he was in 1790 sentenced to seven years' transportation to Botany Bay For his aid in suppressing a mutiny aboard the transport ship, he was released in 1792 and became superintendent of convicts He is supposed to have written *A Voyage to Botany Bay* (1801) and a history of New South Wales Barrington, however, denied these writings Although it was probably not his, Barrington is usually remembered by the frequently quoted couplet which appears in a prologue to Edward Young's *Revenge*, a play said to have been acted by the convicts under his direction: "True patriots we, for be it understood, We left our country for our country's good" See R S Lambert, *The Prince of Pickpockets* (1930).

Barrington. **1** Village (pop, 8,560), NE Ill, northwest suburb of Chicago; founded in the 1850s, inc 1865. It is primarily residential. **2** Borough (pop 2,329), SW N J, near Camden, laid out c.1890, inc

1917. **3 Town** (pop 6,231), E R.I., SE of Providence; settled c 1670, included in Massachusetts until 1746, inc 1770 A residential and resort area, it has brick, shellfish, shipbuilding, and textile industries The 1938 hurricane destroyed much property here

Barrios, Justo Rufino (hōō'stō rōōfē'nō bär'yōs), 1835?–1885, president of Guatemala (1873–85) He took part in the successful revolution of 1871 and was elected to office by the liberals He imposed reforms on the country the religious orders were suppressed, Catholic schools and universities were replaced by secular institutions, railroads and telegraphs were introduced, agriculture was encouraged, Barrios dreamed of reestablishing the Central American Federation and, failing in his attempts to bring about the union by constitutional means, he resorted to force He was killed in a battle with the Salvadorean army. See biography by Paul Burgess (1926)

barrister: see BAR, THE.

Barron, Clarence Walker, 1855–1928, American financial editor, b Boston He worked on the Boston *Daily News*, then on the *Evening Transcript*, and in 1887 founded the Boston News Bureau, to supply financial news to brokers In 1897 he founded the Philadelphia News Bureau and in 1901 became publisher of the *Wall Street Journal Barron's Financial Weekly* was founded by him in 1921 His notes of conversations with leading financiers, edited by Arthur Pound and S T Moore, are published as *They Told Barron* (1930) and *More They Told Barron* (1931)

Barron, James, 1769–1851, U S naval officer, b Hampton, Va Of a seafaring family, he served in the Virginia navy in the Revolution, entered the U S navy as a lieutenant in 1798, and had commands in the Mediterranean at the time of the Tripolitan War Promoted commodore in 1807, he had just left Norfolk when his flagship, the *Chesapeake*, was halted and then bombarded by the British warship *Leopard* on June 22, 1807 (see CHESAPEAKE) The incident, notable in the troubles over the right of the British to search American vessels, aroused American anger Barron was court-martialed, found guilty of "neglecting, on the probability of an engagement, to clear his ship for action" and suspended (1808) from duty for five years Later, embittered and convinced (perhaps with justice) that STEPHEN DECATUR was barring his return to honorable standing in the navy, Barron challenged him to a duel, in which Decatur was mortally wounded (March 22, 1820) Though reinstated to duty (1821) Barron was under something of a cloud until retirement in 1848 See P B Watson, *The Tragic Career of Commodore James Barron* (1942)

Barron, city (pop 2,059), co seat of Barron co , NW Wis , at the confluence of the Vermillion with the Yellow NW of Eau Claire, founded before 1878, inc 1887 Dairy products are made

Barros, João de (zhwÄ̃ō' dŭ bä'rōōsh), 1496?–1570, Portuguese historian He was of noble family and early entered the service of the prince who became King John III and showered João de Barros with favors The most important office he held (1533–67) was that of factor for Guinea and the Indies, through his hands passed all the important affairs of the Portuguese Empire in Asia and Africa An ill-judged attempt to direct and settle the captaincy of Maranhão in Brazil was ended (1539) by a shipwreck of his large fleet João de Barros never finished paying the resultant debts He won fame in his own time and forever after by his brilliantly written *Asia*, which was published in parts (1552, 1553, 1563, 1615) It is divided into decades in imitation of Livy and is a patriotic, uncritical, but stirring and nobly composed narrative of the building of the Portuguese Empire

Barrot, Camille Hyacinthe Odilon (kamē'yu yasĕt' ōdēlō' bärō'), 1791–1873, French liberal politician A leader of the liberal opposition to the Restoration government, he aided the July Revolution, but was disappointed in the bourgeois monarchy of Louis Philippe He became a leader of the so-called dynastic opposition to the July Monarchy and participated in the banquets and other devices for spreading propaganda against the conservative government He was a moderate in the Revolution of 1848 and opposed the radical economic schemes of some of his colleagues A minister when Louis Napoleon was president, he was forced to resign in 1849 but later appeared as president of the council of state in the Third Republic (1872–73) Some of his writings were collected as *Mémoires posthumes* (1875–76)

Barrow, Isaac, 1630–77, English mathematician and theologian. He was professor of mathematics at Cambridge from 1663 to 1669 and was succeeded by his pupil Isaac Newton Barrow became master of Trinity College in 1672 and vice chancellor of Cambridge in 1675. His theological works were edited by Alexander Napier (1859) and his mathematical works by William Whewell (1860).

Barrow, Sir John, 1764–1848, British geographer, promoter of arctic exploration His early travels as secretary to Earl Macartney (who was ambassador to China and governor of the Cape of Good Hope colony) were recorded in *Travels in China* (1804) and *Travels into . Southern Africa* (1806) When he served (1804–6, 1807–48) as second secretary of the admiralty, he instigated many arctic expeditions, notably those of Sir John Ross and W E Parry He founded the Royal Geographical Society in 1830. Point Barrow, Cape Barrow, and Barrow Strait were named in his honor He wrote *Voyages of Discovery and Research in the Arctic Regions* (1846) See his autobiography (1847).

Barrow, river of Ireland, rising in W Co Laoighus in the Slieve Bloom mts and flowing E to the Co Kildare line, then south along the borders of Counties Laoighis, Kildare, Carlow, Kilkenny, Wexford, and Waterford, past Carlow and New Ross to Waterford Harbour It is 119 mi long and is navigable below Athy It receives the Nore river

barrow, in archaeology, a mound or tumulus erected over a place of burial Earth and stone or timber are the usual construction materials, in parts of SE Asia stone and brick have entirely replaced earth Barrows occur in many parts of the world, dating from the Neolithic period in Western Europe to recent times in Buddhist countries In European prehistory the characteristic barrows are either long or round The long are apparently the older and consistently appear to be the work of a single ethnic group The grave chamber was placed at one end of the mound and was approached by a passage, sometimes over 300 ft in length These may have been intended to simulate cave burials Round barrows were introduced by a metal-using people and are usually well furnished with burial goods The round barrow was commonly bell shaped, another type had a low central mound surrounded by a walled ditch, normally about 150 ft in diameter, and invariably contained a secondary burial of cremated remains Barrow building in Europe continued until the Christian era Roman, Saxon, and Viking barrows are known, though such burials were apparently only for important personages It is frequently discovered that barrows have been penetrated and enlarged by successive interments of later peoples, and their proper excavation is a slow and painstaking task. The erection of tumuli over burials has had widespread appeal Nomad chiefs of the Asiatic steppes and the priests and kings of Ceylon are among those so memorialized The round barrow or STUPA of Asia is usually a shrine for cremated relics of Buddha

Barrow, Point, Alaska see POINT BARROW

Barrow-in-Furness (–fûr'nus), county borough (1931 pop 66,202, 1947 estimated pop 67,610), Lancashire, England, on the southwest coast of the peninsula of FURNESS It is one of the principal engineering cities of Britain There are hematite iron mines near, and immense steelworks, smelting works, and shipbuilding plants have developed An airship factory is on WALNEY ISLAND, which is connected with Barrow by a great bridge The ruins of medieval Furness Abbey are near by

Barrows, Samuel June, 1845–1909, American clergyman and reformer, b New York city, grad Harvard Divinity School He was a pastor in Dorchester, Mass , and later edited (1880–96) the *Christian Register*, a Unitarian weekly In 1896 he was elected to Congress, where he worked for prison and civil service reform Especially interested in obtaining better treatment of prisoners, he helped draft and secure passage of New York state's first probation law (1901) He wrote numerous reports and articles and several books, including *The Isles and Shrines of Greece* (1898) See biography by his wife, Isabel C Barrows, *A Sunny Life* (copyright, 1913)

Barry, Sir Charles, 1795–1860, English architect, a leader in the use of a revived Gothic style in England His most imposing work is Westminster Palace (1840–60) in London, one of the most important buildings of the period See biography by Alfred Barry (1870)

Barry, Elizabeth, 1658–1713, English actress She gained entrance to the stage through the patronage of the earl of Rochester She failed at Dorset Garden in 1673, but from the time of her appearances (1682–95) at the Theatre Royal, until her last performance at the Haymarket in 1710, she reigned as the greatest tragic actress of the Restoration stage She was the first to play Monimia in Otway's *Orphan* and Belvidera in his *Venice Preserved*, Cordelia in Tate's version of *King Lear*, Zara in Congreve's *Mourning Bride*, and Lady Brute in Sir John Vanbrugh's *Provoked Wife*

Barry, James, 1741–1806, Irish historical painter and etcher Under the patronage of Edmund Burke, he studied five years in Rome He returned to London with a classical style which caused much controversy After 10 years as professor at the Royal Academy of Arts, he was expelled for quarrelsomeness Examples of Barry's work are to be seen in the National Gallery of Ireland, Victoria and Albert Museum, and National Portrait Gallery, London Characteristic are his *Adam and Eve, Venus Rising from the Sea*, and *Death of General Wolfe* He published engravings and etchings and a book called *An Inquiry into the Obstructions to the Acquisition of the Arts in England* (1775)

Barry, John, 1745–1803, U S. naval officer in the American Revolution, b. Co Wexford, Ireland He came when young to Philadelphia, where he was a trader and a shipmaster He offered his services at the beginning of the Revolution and commanded the brig *Lexington* when she captured (1776) the British tender *Edward*—first British ship taken by a commissioned American ship Later commands he accomplished with gallantry in the *Raleigh* he fought against superior forces until compelled to beach the vessel to save it and the crew from capture, in the *Alliance* he took (1781) two British vessels after a hard fight He was the foremost naval hero of the Revolution after John Paul Jones See biographies by Joseph Gurn (1933) and W B Clark (1938)

Barry, Sir John Wolfe Wolfe-, 1836–1918, English civil engineer, son of Sir Charles Barry He served as consulting engineer to many construction companies in England as well as some in China and India Projects with which he was connected in England include the extension of London's underground railways and the building of numerous bridges and docks

Barry, Patrick, 1816–90, American horticulturist, b Ireland. A noted nurseryman and a leader in the development of fruitgrowing in New York state, he was prominent in state agricultural and horticultural societies He was editor of the horticultural department of the *New Genesee Farmer* (1845–53) and editor of the *Horticulturist* (from 1853) He wrote *The Fruit Garden* (1851), which went through many editions.

Barry, Philip, 1896–1949, American dramatist, b Rochester, N Y , grad Yale, 1919, and studied under George Pierce Baker at Harvard Known for his satirical comedies of social manners, he wrote many stage successes, including *Holiday* (1928), *Hotel Universe* (1930), *Here Come the Clowns* (1938), *The Philadelphia Story* (1939), and *Without Love* (1942) *White Wings* (1926) is considered by many critics his finest play

Barry, Spranger, 1719–77, English actor, b Ireland Originally a silversmith, he went on the stage and made an immediate success as Othello at Drury Lane, after which he was engaged to alternate with Garrick in *Hamlet* and *Macbeth* In 1749–50 Barry, with Mrs Cibber, set up at Covent Garden a rival performance of *Romeo and Juliet* to Garrick's and George Anne Bellamy's at Drury Lane —a famous episode in theatrical history

Barry, William Taylor, 1785–1835, U S Postmaster General (1829–35), b Lunenburg co , Va , grad William and Mary College, 1803 In Kentucky, where he lived from childhood, Barry, a lawyer, was elected to several public offices He was (1814–16) a U S Senator He was made chief justice of the new state court of appeals established in 1825 by Relief party legislators, who sought to ease the economic difficulties caused by the collapse of many Kentucky banks The Democratic candidate for governor in 1828, he was defeated, but Andrew Jackson carried the state, and the new President took Barry into his cabinet Although personally honest, he was not particularly competent, and his administration of the Post Office Dept was criticized in congressional investigations (1834–35) On Barry's resignation in April, 1835 Jackson appointed him minister to Spain, but he died on the way there

Barry, city (pop 1,545), W Ill , E of Hannibal, Mo , founded 1836, inc 1859 It is a trade center for a dairy and farm area

Barry, municipal borough (1931 pop 38,891, 1947 estimated pop 38,920), Glamorganshire, Wales, on the Bristol Channel and SW of Cardiff It is one of the great coal-exporting ports of Britain as well as a seaside resort

Barrymore, family of actors The first of the name, **Maurice Barrymore,** 1847–1905, whose real name was Herbert Blythe, was born in Agra, India He graduated from Cambridge, studied law, and was admitted to the bar, but turned to the stage He began his acting career when he toured England with Charles Vandenhoff's company (1872) On his arrival in the United States (1875), he joined the stock company of Augustin Daly and played in a Daly melodrama, *Under the Gaslight* He married (1876) Georgiana Drew and thenceforth became a prominent figure of the American stage He played leading roles with Modjeska, Mrs Fiske, Olga Nethersole, and Lily Langtry and was starred in various stock companies His wife, **Georgiana Drew Barrymore,** 1856–93, b Philadelphia, was the daughter of John and Louisa Drew After her marriage to Maurice Barrymore, she acted with him in Mme Modjeska's company and in the Daly and Palmer stock companies One of the great comediennes of her day, she also acted with Booth, Barrett, and McCullough **Lionel Barrymore,** 1878–, b Philadelphia, is the older son of Maurice and Georgiana Barrymore He made his first stage appearance in 1893 and played minor roles in companies headed by his uncle, John Drew He played the title role in Barrie's *Pantaloon* in 1905 and later starred in *The Copperhead*, *Peter Ibbetson*, and *The Jest* After success in these and other romantic dramas, he won acclaim for his performance of *Macbeth* (1921)

He was one of the first actors of distinction to appear in moving pictures and is well known for his acting in *A Free Soul, Grand Hotel, Rasputin and the Empress, Dinner at Eight, David Copperfield,* and *You Can't Take It with You* His role of Scrooge in Dickens's *Christmas Carol* won him a wide radio audience **Ethel Barrymore,** 1879–, b Philadelphia, daughter of Maurice and Georgiana Barrymore, made her first appearance (1894) in New York Under Charles Frohman's management, she appeared (1901) in Clyde Fitch's play *Captain Jinks of the Horse Marines,* scoring instant success Her other stage successes include *A Doll's House, Alice-Sit-by-the-Fire, The Constant Wife, The Silver Box, The Twelve-Pound Look, Whiteoaks, The Corn Is Green,* and *Embezzled Heaven* She has appeared with success in moving pictures Her acting has great range, depth, and dignity **John Barrymore,** 1882–1942, b Philadelphia, was the younger son of Maurice and Georgiana Barrymore He attempted painting and cartooning, but turned to the stage, where he had his first success in *The Fortune Hunter* in 1909 He gave distinguished performances in Galsworthy's *Justice* and in *Peter Ibbetson, Redemption, The Jest,* and *Richard III,* but as Hamlet in 1922 he gave one of the greatest American portrayals of the role He last appeared on the stage in *My Dear Children* (1939), a pathetic burlesque of his baroque private life Some of the moving pictures in which he starred were *Beau Brummel, Moby Dick, Rasputin and the Empress, Grand Hotel, Reunion in Vienna, Dinner at Eight,* and *Counsellor at Law* See his autobiographical *Confessions of an Actor* (1926), Gene Fowler, *Good Night, Sweet Prince* (1943) *The Royal Family* (1934), a play by Edna Ferber and George S Kaufman is based, to some extent, on the Barrymore family

Barry's Bay, village (pop 1,198), S Ont , SW of Pembroke It is the supply center for the eastern part of Algonquin Provincial Park

Barsabas (bär'sŭbŭs), surname of JOSEPH BARSABAS and JUDAS BARSABAS

Barsetshire, imaginary county, S England It is the locale of novels by Anthony Trollope and Angela Thirkell Its county seat is Barchester

Barsotti, Charles (bärsōt'tē), 1856–1927, Italian-American editor, b near Pisa, Italy He came in 1872 to New York city, here in 1880 he established the *Progresso,* the first Italian daily newspaper in the United States

Barstow, unincorporated town (pop c 2,500) SE Calif , NE of San Bernardino, on the dry Mojave river It is a railroad division point, with railroad shops, and an outfitting point for expeditions into Death Valley

Bart, Jean (zhä' bar'), 1650–1702, French naval hero, b Dunkirk Of a seafaring family, he enlisted in the Dutch navy but entered the French service as a privateer at the outbreak of the Dutch War (1672) In 1686 he was commissioned a navy captain As a reward for his spectacular exploits, particularly in the War of the Grand Alliance, he was ennobled (1694) and made a rear admiral (1696) by Louis XIV The disarming simplicity of his manners charmed the Versailles court and won him a popularity that is still great

Bartas, Guillaume de Salluste du see DU BARTAS

Bartels, Hans von (häns' fŭn bar'tl̩s), 1856–1913, German painter He painted in both oil and water color, chiefly seascapes and fishing scenes He taught painting in Munich

barter, generally speaking, the exchange of commodities for one another as differentiated from their sale for money In the primitive community barter, as well as GIFT, was an important means of exchange Bartering practices which have persisted until recent times among Australian tribes suggest the importance of the institution for primitive society Wampum and beaver skins were articles of barter among North American Indians Bartering gave rise to trade routes and much of the social life of the tribes In general, barter gave way to the sale of commodities for money as more complex communities arose, sometimes, as in China, after an intermediate period of unmarked money shaped to resemble the articles previously bartered Barter, however, has never completely died out even in the most civilized communities Recourse to barter is sometimes had in times of depression as a self-help device Barter has also taken place among large corporations In the 1930s large-scale international barter was revived by the German government, payment for imported raw materials was made in the form of blocked marks, good only for the purchase of German manufactures This practice tended to perpetuate the unfavorable trade balances of nations exporting raw materials to Germany and to extend the power of the German government over both foreign and domestic economy See also TRADE

Barth, Heinrich (hīn'rĭkh bart'), 1821–65, German explorer His first book describes his travels (1845–47) through North Africa and the Levant In a journey (1849–55) for the British government, he crossed the Sahara and traveled in the then little-known Negro kingdoms of the W Sudan; here his two companions died His *Travels and Discoveries in North and Central Africa* (5 vols , 1857–58, in English and German) is a masterpiece of narrative and of geographic research

Barth, Karl, 1886–, Swiss Protestant Reformed theologian As leader of the German Protestant Church, Barth opposed the Nazi regime and in 1935, when he refused to take the oath of allegiance to Hitler, was retired from his position at the Univ of Bonn and deported to Switzerland There, at the Univ of Basel, he continued teaching his evangelical or dialectical theology In reaction to the growth of modernism in Christianity Barth has developed a biblical theology, an essential of which is revelation by faith, a revelation in which reason plays no part This doctrine is regarded by some as a development of the teaching of KIERKEGAARD Man's role is a passive one, best played through obedience to divine authority rather than through intellectual insight The relationship between man and God, as seen by Barth, is thus a reversion to the Calvinist doctrine of predestination This theological development is also associated with Emil BRUNNER, Paul Tillich, and Reinhold Neibuhr, although Barth's position is the most orthodox Barth's writings include *Der Römerbrief* (1919, Eng tr , *The Epistle to the Romans,* 1933), *Das Wort Gottes und die Theologie* (1924, Eng tr , *The Word of God and the Word of Man,* 1928), *Credo* (1935, Eng tr , 1937), and *The Church and the War* (Eng tr , 1944) See Wilhelm Pauck, *Karl Barth, Prophet of a New Christianity?* (1931), Adolf Keller, *Karl Barth and Christian Unity* (Eng tr , 1933), H R Mackintosh, *Types of Modern Theology Schleiermacher to Barth* (1937), P H Monsma, *Karl Barth's Idea of Revelation* (1937)

Barthélemy, Auguste Marseille (ōgüst' marsā'yŭ bartālmē'), 1796–1867, French poet With his friend J P A Méry he wrote several brilliant and popular political satires, including *La Villéliade* (1827), *Napoléon en Égypte* (1828), and *Le Fils de l'homme* (1829), a poem on Napoleon's son, the duke of Reichstadt, for the publication of which Barthélemy was imprisoned In *L'Insurrection* the authors celebrated the Revolution of 1830, only, shortly after, to attack the new government in their short-lived journal *Nemesis* (1831–32)

Barthélemy, François, marquis de (frāswä' märkē' dŭ bartālmē'), 1747–1830, French statesman While ambassador to Switzerland, he negotiated the Treaties of Basel (1795), which took Prussia and Spain out of the French Revolutionary Wars Elected to the DIRECTORY (1797), he opposed the coup d'état of 18 Fructidor and was deported to French Guiana He escaped (1799), returned to France, and supported Napoleon In 1814 he went over to the Bourbons, who rewarded him by raising him to the peerage

Barthez, Paul Joseph (pôl' zhōzĕf' bärtās', bärta'), 1734–1806, French physician and philosopher A professor at the Univ of Montpellier from 1760, he is remembered for his theory—set forth in his *Nouveaux Éléments de la science de l'homme* (1778) —that the vital principal is a life force distinct from the mind and from physicochemical changes in the body

Bartholdi, Frédéric Auguste (frādārēk' ōgust' bartōldē'), 1834–1904, French sculptor, b Colmar, Alsace He studied painting under Ary Scheffer but turned to sculpture Among his many works is a colossal group *Switzerland Succoring Strasbourg,* presented by France to Switzerland and now at Basel Monuments and statues include those of Martin Schongauer at Colmar, Vercingetorix at Clermont-Ferrand, and Lafayette and Washington in Paris Union Square, New York, has a statue of Lafayette Well known is the colossal *Lion of Belfort,* commemorating the heroic defense of BELFORT in 1870–71 and carved from the rock flanking the citadel Best known is *Liberty Enlightening the World* (see LIBERTY, STATUE OF), erected on Bedloe's Island, New York Bay, and dedicated in 1886

Bartholin, Kaspar (kä'spär bär'tōlēn), 1585–1629, Danish physician, b Sweden He was professor of medicine and later of theology at the Univ of Copenhagen and author of a textbook of anatomy, *Institutiones anatomicae* (1611) His son, **Thomas Bartholin** (tō'mus), 1616–80, physician, naturalist, and philologist, was professor of mathematics and of anatomy at the Univ of Copenhagen He is noted for describing the lymphatic system **Kaspar Bartholin,** 1655–1738, a son of Thomas Bartholin, also a professor at the Univ of Copenhagen, is credited with discovering the glands of Bartholin (a pair of glands of the vagina) and an accessory duct of the sublingual salivary gland

Bartholomaeus Anglicus. see BARTHOLOMEW DE GLANVILLE

Bartholomé, Paul Albert (pôl' älbĕr' bartōlōmā'), 1848–1928, French sculptor and painter. He studied painting in Geneva and then under Gérôme in Paris, not achieving much success, he turned to sculpture and became one of the outstanding sculptors of his generation In 1895 he completed his most celebrated work, the *Monument to the Dead,* in Père-Lachaise cemetery, Paris

Bartholomew, Saint (bärthŏl'ùmū) [Aramaic,=son of Talmai], one of the Twelve Apostles, identified with NATHANAEL Nathanael is a given name. Bartholomew a patronymic Mat 10 3, Mark 3 18, Luke 6 14, Acts 1 13 Tradition makes N India his missionary field and Armenia the place where he was flayed to death His attribute is a knife Feast Aug 24

Bartholomew de Glanville or **Bartholomaeus Anglicus** (bärthŏl'umē'ŭs äng'glĭkŭs), fl c 1250, English Friar Minor He was the author of *De proprietatibus rerum,* celebrated medieval encyclopedia

Bartholomew Fair, held in West Smithfield, London. It was founded by a charter (1133) granted by Henry I to his former jester, Rahere, who had turned monk and founded the Priory of St Bartholomew It lasted for a fortnight and was principally noted as a cloth fair Late in the 17th cent , when the fair had degenerated, the time was reduced to four days It continued until 1855, but in its later days was merely a period of riotous gaiety for the lower classes of London

Barthou, Louis (lwē' bartōō'), 1862–1934, French statesman and man of letters He held portfolios in numerous cabinets after 1894 and in 1934 became foreign minister in the Doumergue cabinet Barthou sought to strengthen the French position in Eastern Europe He was welcoming Alexander of Yugoslavia at Marseilles when a Croatian nationalist assassinated both the king and Barthou (Oct , 1934) A man of culture and learning, Barthou was the author of several biographies, notably one of Victor Hugo (Eng tr , *The Loves of a Poet,* 1919) and of Hugo's father (Eng tr , *General Hugo,* 1920)

Bartimaeus (–mē'us) [Aramaic,=son of Timaeus], blind man to whom Jesus restored sight Mat 20 29–34, Mark 10 46–52, Luke 18 35–43

Bartlesville, city (pop 16,267), co seat of Washington co , NE Okla , on the Caney river and N of Tulsa, founded c 1877 on the site of an old trading post It is a distribution center for a rich agricultural and oil-producing area, with offices of many gas and oil companies and a U S Bureau of Mines experiment station There is some zinc smelting A state park is near by

Bartlett, Elisha, 1804–55, American physician, b Smithfield, R I , M D Brown Univ , 1826 He practiced in Lowell, Mass , was mayor there (1836), and later taught medical subjects in several universities Among his works are a history (1842, 1852), of the fevers of the United States, *Essay on the Philosophy of Medical Science* (1844), and *Inquiry into the Degree of Certainty of Medicine* (1848) See studies by William Osler (1900) and J T Winterich (1933)

Bartlett, John, 1820–1905, American compiler and publisher, b Plymouth, Mass While he worked in his University Book Store in Cambridge, he compiled the invaluable *Familiar Quotations* (1855), which ran through nine editions in his lifetime and was revised and enlarged (1914) by Nathan Haskell Dole and again (1937) by Christopher Morley and Louella D Everett Bartlett joined the publishing firm of Little, Brown & Company in 1863 and in 1871 became senior partner His Shakspere concordance (1894) is still a standard work

Bartlett, Josiah, 1729–95, American Revolutionary patriot, signer of the Declaration of Independence, b Amesbury, Mass He practiced medicine in Kingston, N H , and was a delegate to the provincial assembly (1765–75) and the provincial congress (1775) before serving in the Continental Congress (1775–78) He returned to New Hampshire, held judicial posts, advocated (1788) the adoption of the federal Constitution, and was chief executive of the state (1790–94)

Bartlett, Paul Wayland, 1865–1925, American sculptor, b New Haven, Conn The son of a sculptor, he lived in Paris in his boyhood and studied at the École des Beaux-Arts and under Frémiet *The Bohemian Bear Trainer* won a gold medal at the Salon of 1888 Of his other works, *The Ghost Dance* is at the Pennsylvania Academy of the Fine Arts, the equestrian statue of Lafayette is in Paris and a replica is in Hartford, Conn , *Columbus, Michelangelo,* and *Law* are in the rotunda of the Library of Congress The bronze statue of Robert Morris (Philadelphia) was unveiled after the sculptor's death

Bartlett, Robert Abram, 1875–1946, American arctic explorer, b Brigus, near St John's, Newfoundland He accompanied Robert E Peary on the expeditions of 1897–98 and 1905–6 In the expedition of 1908–9 he accompanied Peary to lat 87° 47' N and was the last white man from whom Peary parted to make his dash for the North Pole He commanded the *Karluk* on the expedition headed by Vilhjalmur Stefansson in 1913–14 The vessel was frozen in ice near Point Barrow and drifted until it was crushed by ice near Wrangel Island Bartlett crossed to Siberia for help and returned to rescue 13 of the party Later he commanded on many arctic voyages of his own, making an annual cruise from 1925 to 1941 His exploring and scientific work in Greenland was especially notable, and he was widely known. See G P. Putnam, *Mariner of the North* (1947).

Bartlett, Samuel Colcord, 1817–98, American Congregational clergyman and educator, b Salisbury, N H., grad. Dartmouth, 1836 He studied at Andover Theological Seminary and was ordained in 1843. He was professor (1858–77) of biblical literature and sacred theology at the Chicago Theological Seminary and from 1877 to 1892 was president of Dartmouth College

Bartlett, William Henry, 1809–54, English draughtsman and writer He made sketches for John Britton's *Cathedral Antiquities of England* (1814–32) and *Picturesque Antiquities of English Cities* (1828–30) For a series of volumes by William Beattie he made over 1,000 drawings He visited the United States and Canada, making drawings for *American Scenery* (1840) and *Canadian Scenery* (1842), with text by N P Willis

Bartlett. 1 Resort town (pop 1,154), E N H , on the Saco and SSE of Crawford Notch, in the White Mountain National Forest, inc 1790 This land was granted in 1769 to veterans of the French and Indian Wars **2** City (pop 1,668), central Texas, NNE of Austin, in a blackland farm area, settled 1882, inc as a city 1902

Bartok, Bela (bā'lu bar'tôk), Hung *Bartók Béla,* 1881–1945, Hungarian composer, pianist, and collector of folk music He studied, 1899–1903, at the Royal Academy, Budapest, where he became professor of piano in 1907 His strongly national symphony, *Kossuth* (1903), was his first successful work In 1905 he and Zoltan Kodaly began their collection of Magyar, Slovakian, Rumanian, and Transylvanian folk tunes The vigorous rhythms and melodies of this music influenced all Bartok's subsequent work The New Hungarian Musical Society, founded in 1911 by Bartok and Kodaly for the performance of new music, failed, and in 1913 Bartok went to Biskra, where he collected 200 Arab melodies His first unqualified success in Budapest came in 1917, at the performance of his mime play, *The Wooden Prince* (1913), and gave him incentive to resume composition On a tour of the United States, 1927–28, he performed his own works at the piano In 1940 he returned to the United States, where Columbia Univ commissioned him to transcribe a large collection of Yugoslav folk tunes This work occupied him until his death His principal works include six string quartets, *Duke Bluebeard's Castle* (1911) and *The Miraculous Mandarin* (1919), for the theater, three orchestral suites, much piano music, including *Allegro barbaro* (1910), Rhapsody for Piano and Orchestra (1904), two concertos (1926, 1931), and a set of progressive piano studies, *Mikrokosmos* (1935), *Cantata profana* (1917), for soloists, chorus, and orchestra, two rhapsodies for violin and orchestra, Music for Two Pianos and Percussion (1937), and *Contrasts* (1938), for clarinet, violin, and piano (1938) His music is harsh, vigorous, and highly contrapuntal, sometimes combining four melodies in different keys simultaneously See study by Emil Haraszti (1938)

Bartoli, Pietro Santi (pyā'trō sän'tē bar'tōlē), 1635–1700, Italian painter and engraver, studied painting with Nicolas Poussin His plates, once numerous, are now scarce Called Il Perugino, he is sometimes confused with the great Perugino

Bartolini, Lorenzo (lōrān'tsō bärtōlē'nē), 1777–1850, Italian sculptor His best works are *Charity,* in the Pitti Palace, *Faith in God,* Polli-Pezzoli Museum, Milan, a statue of Machiavelli, Uffizi, and the Niccolò Demidoff monument in Florence

Bartolomeo di Pagholo del Fattorino, Fra (frä' bärtōlōmā'ō dē pä'gōlō dēl fät'tōrē'nō), 1472?–1517, Italian painter He was also called Fra Bartolomeo and Baccio della Porta because he lived near the gate of San Pietro Gattolino (now Porta Romana), Florence He became (1500) a Dominican, relinquishing his art, which he resumed four years later at the solicitation of his prior and friends Raphael's visit to Florence, in 1506, resulted in a mutually helpful friendship Fra Bartolomeo later, in Venice, came under the influence of Bellini and Giorgione His finest paintings followed this period Among them are *Vadonna between St Stephen and St John* (cathedral, Lucca), *God the Father Adored by Mary Magdalen and St Catherine* (Lucca), *Madonna with Six Saints* (San Marco, Florence), *Marriage of St Catherine* (Louvre), *St Mark* (Uffizi), and *The Creation of Eve* (National Gall of Art, Washington, D C) In 1509 he formed a partnership with Albertinelli, and together they produced *Madonna and Saints* and *Marriage of St Catherine* (both Pitti Palace), and *Patron Saints of Florence* and *The Last Judgment* (both Uffizi)

Bartolomeo Veneto (vānā'tō), fl 1502–55, Italian painter He studied under Gentile Bellini in Venice but came under the influence of the Milanese school Vigorous, if over exact, draughtsmanship and fine high coloring distinguish his work His *Madonna* (Venice) and *Madonna and Child* (Bergamo) belong to his earliest period Notable among his portraits are those of Massimiliano Sforza and Lodovico Martinengo (National Gall , London) and *Portrait of a Gentleman* (National Gall of Art, Washington, D C) *Madonna* and *Portrait of a Man in Black* are in the Ambrosian Library

Bartolozzi, Francesco (frānchā'skō bärtōlōt'sē), 1727–1815, Italian engraver. In Florence he studied drawing and painting and formed a lifelong friendship with Cipriani, most of whose drawings he later engraved In 1764 he went to London, where he became one of the original members of the Royal Academy In England he achieved his best work in etching—a series from the drawings of Guercino He was responsible for the vogue in England of the stipple, or "red-chalk style" of engraving, a process which he greatly improved His unusual knowledge of anatomy accounted for his success in rendering the human figure In 1802 Bartolozzi went to Lisbon, to become head of the academy there

Barton, Benjamin Smith, 1766–1815, American physician and botanist, b Lancaster, Pa , studied at the College of Philadelphia, at Edinburgh, and at Gottingen (M D , 1789) He taught at the College of Philadelphia and after its merger with the Univ of Pennsylvania succeeded Benjamin Rush as professor of the theory and practice of medicine His *Elements of Botany* (1803) and his *Collections for an Essay toward a Materia Medica of the United States* (1798–1804) were useful contributions

Barton, Clara, 1821–1912, American humanitarian, organizer of the American Red Cross, b Oxford, Mass She taught school (1836–54) and clerked in the U S Patent Office (1854–61), before the outbreak of the Civil War Then she established a service of supplies for soldiers and nursed in army camps and hospitals President Lincoln appointed her (1865) to attend to correspondence of relatives of missing prisoners, the records she compiled from hospital and burial lists served to identify thousands of the dead at Andersonville prison In 1869 she attended a meeting of the International Committee of Relief for the Care of War Wounded, at Geneva, Switzerland, and, at the outbreak (1870) of the Franco-Prussian War, she went to the front for the German Red Cross Returning (1873) to the United States, she worked for the President's signature to the Geneva treaty for the care of war wounded, and for the organization of an American branch of the International Red Cross In 1877 she organized the American National Committee, which later became the American Red Cross, of which she was president until 1904 Her influence was important in securing the amendment providing Red Cross relief in catastrophes other than war She also served in Cuba during the Spanish-American War She wrote *An Official History of the Red Cross* (1882), *The Red Cross in Peace and War* (1898), *A Story of the Red Cross* (1904), and *The Story of My Childhood* (1907) See biographies by P H Epler (1915), Corra Bacon-Foster (1918), W E Barton (1922), J C Nolan (1941), and B C Williams (1941)

Barton, Sir Edmund, 1849 1920, Australian jurist and statesman He held high political offices in New South Wales, was a leader in the movement for Australian federation, and became the first premier of the Commonwealth of Australia in 1901 Knighted in 1902, the next year he was appointed a justice of the High Court

Barton, Elizabeth, 1506?–1534, English prophetess, called the Maid of Kent, or the Nun of Kent She was a domestic servant After a period of illness (1525) she commenced going into trances and uttering prophecies, which were supposed to be of divine inspiration Her fame spread She entered a convent in Canterbury, and her prophecies took on more and more a political tone dangerous to the government In particular she foretold dire consequences to HENRY VIII in case he should divorce KATHARINE OF ARAGON and marry Anne BOLEYN Her correspondence with many notables made the Maid's political importance great, and she was a serious obstacle to Henry She was arraigned before Cranmer and was brought to confess herself an impostor She and her accomplices were put to death for treason

Barton, Robert Childers, 1881–, Irish politician A member of the Sinn Fein party from 1916, he was a signer of the treaty with England in 1921 and a member of the Dail Eireann from 1921 to 1923 He was (1919–21) minister of agriculture

Barton, William Paul Crillon, 1786–1856, American naval surgeon and botanist, b Philadelphia, grad Princeton, 1805 He served as a naval surgeon (1809–15) and as the first chief (1842–44) of the naval Bureau of Medicine and Surgery He was a nephew of Benjamin S Barton, under whom he studied medicine and whom he succeeded (1815) as professor of botany at the Univ of Pennsylvania His chief works are *Vegetable Materia Medica of the United States* (1817–18), *Flora of North America* (1820–23), and *Outlines of Lectures on Materia Medica and Botany* (1827–28)

Barton, town (pop 3,371), N Vt , S of Newport It includes Barton village (pop 1,262), ORLEANS village, Willoughby mill village, and Crystal Lake

Bartonville, village (pop 1,879), central Ill , near the Illinois river just SW of Peoria, in a coal area, inc 1903 A state hospital for the insane is here

Bartow, city (pop 6,158), co seat of Polk co , central Fla , E of Tampa and W of Lake Kissimmee, in a region producing phosphates, citrus fruit, and truck. It was settled in the mid-19th cent on the site of a fort built during the Seminole War

Bartram, John, 1699–1777, pioneer American botanist, b near Darby, Pa He had no formal schooling but possessed a keen mind and a great interest in plants In 1728 he purchased land along the banks of the Schuylkill river near Philadelphia and planted there the first botanical garden in the United States It still exists as a part of the Philadelphia park system He made journeys in the Alleghenies and Catskills and in the Carolinas and Florida in search of new plants Among his correspondents were nearly all the great European botanists of the day By exchanging specimens with them, Bartram introduced many American plants into Europe and established some Old World species in the New World To his home and gardens came the famous Americans of his day and many distinguished European travelers His *Observations,* on a trip to Lake Ontario, appeared in 1751, and the journal of his Florida trip (1765–66) was published in William Stork's *Description of East Florida* (3d ed , 1769) His name is commemorated in a genus of mosses, *Bartramia* See Ernest Earnest, *John and William Bartram* (1940)

Bartram, William, 1739–1823, American naturalist b Philadelphia, son of John Bartram He accompanied his father in exploring (1765–66) the St Johns river of Florida From 1773 to 1777 William Bartram traveled through the Carolinas, Georgia, and Florida and the Indian country to the west, aided financially by John FOTHERGILL of England, to whom he agreed to send plant specimens and seeds Bartram is known chiefly for his *Travels* (1791), in which he described these journeys and vividly portrayed the plants and wildlife of the country The book was soon republished in London and Dublin and translated into Dutch, French, and German Its influence is seen in the works of Wordsworth, Coleridge, and other writers who found it an unexcelled source of descriptions of the American wilderness and its inhabitants After his father's death he continued the correspondence with European naturalists and aided his brother John in caring for the botanical gardens at their home on the Schuylkill river He wrote many sketches and papers, prepared the drawings for Benjamin S Barton's *Elements of Botany* and furnished much of the material for Barton's *Collections for an Essay toward a Materia Medica* He kept records of the birds he had seen and of their migrations His list of 215 native birds was the most complete list in existence before *American Ornithology* by Alexander Wilson was published His name is commemorated in the genus name, *Bartramia,* of the bird known as the upland plover, Bartram's plover, Bartram's (or Bartramian) sandpiper, and upland sandpiper See his *Travels* (ed by Mark Van Doren, 1947)

Bartsch, Adam von (Johann Adam Bernhard von Bartsch) (ä'dam fŭn bärch', yōhän', bĕrn'härt), 1757–1821, Austrian engraver, etcher, and writer His critical catalogue, *Le Peintre Graveur* (21 vols , 1803–21), is still the authority on this subject Bartsch executed over 500 plates from his own designs and those of others

Baruch (bä'rŭk) [Heb ,=blessed] **1** Jeremiah's scribe for whom the book of BARUCH is named **2** Judahite Neh 11 5 **3** Builder of the wall Neh 3 20 **4** Signer of the covenant Neh 11 5

Baruch, Bernard Mannes (burōōk'), 1870–, U S government adviser on economics, b Camden, S C , grad College of the City of New York, 1889 He became wealthy through stock-market speculation before he was 30 In the First World War he advised on national defense and was (1918–19) chairman of the War Industries Board In the Second World War he became (1942) special adviser to James F Byrnes and wrote the report (1943) on post-war conversion As U S Representative to the UN Atomic Energy Commission (1946), he formulated plans for international control of atomic energy

Baruch, Simon, 1840–1921, American physician, b Poland, M D Medical College of Virginia, Richmond 1862, father of Bernard M Baruch He served (1862–65) as surgeon in the Confederate army and practiced medicine in Camden, S C (1865–81), and in New York city (from 1881) A pioneer exponent of hydrotherapy, he wrote *The Principles and Practice of Hydrotherapy* (1898, 3d ed , 1908) and established at Chicago and New York the first free municipal bathhouses in the United States

Baruch, book of the Old Testament, placed in the Apocrypha in AV and after Jeremiah in the Western canon It is named for a Jewish prince Baruch (fl 600 B C), faithful friend of JEREMIAH the prophet and editor of his book Jer 32 12–16, 36, 43 3,6, 45 Baruch contains the following parts a message from the exiled Jews to the Jews still at home (1–3 8), containing a prayer for Palestinian Jews to use, confessing sin and asking divine mercy, an exhortation to wisdom (3 9–4 4), including a famous messianic allusion (3 36–38), a consolation of Jerusalem (4 5–5 9) containing a lament, finally chapter 6, which is a letter of Jeremiah (called sometimes the Epistle of Jeremy) warning the exiles against idolatry The extant ancient versions of Baruch are in Greek, but Hebrew was probably the

original language. Critics disagree greatly over the dates of Baruch; some see it as a collection of several authors For the Apocalypse of Baruch, see PSEUDEPIGRAPHA For bibliography, see OLD TESTAMENT

Barum, Devonshire, England see BARNSTAPLE.

Bary, Heinrich Anton de see DE BARY

Barye, Antoine Louis (ätwän' lwē' barē'), 1796–1875, French animal sculptor Son of a Parisian goldsmith, he followed his father's trade as a youth In 1832 he exhibited at the Salon his *Lion and Serpent* (Tuileries), which won him some reputation, but only late in life did he achieve fame and free himself from debt His simple and forceful studies of animals or groups of animals, many of them small and designed for commercial reproduction in bronze, enjoyed an international popularity and are still highly prized Well-known examples of his work are *Tiger and Gavial*, *Jaguar and Hare*, *Theseus and the Minotaur* (all Louvre), and *Centaur and Lapith* (Tuileries) He is also well represented in the Metropolitan Museum (which held a special exhibition of his work, Jan , 1940) and in the Brooklyn Museum

barytes see BARITE

barytone see BARITONE

Barzillai (-zĭl'ā-ī) [Heb , =iron] **1** Chief in Gilead who was friendly to David 2 Sam 17 27–29, 19 31–39, 1 Kings 2 7, Ezra 2 61, Neh 7 63 **2** Father-in-law of Saul's daughter MERAB

Barzun, Jacques (zhäk' bar'zun), 1907–, American historian and teacher, b France, grad Columbia (B A , 1927, Ph D , 1932) He came to the United States in 1919 and was naturalized in 1933 Interested first in law, he turned to history and wrote his dissertation on *The French Race* (1932) After engaging in several historical research projects, he began (1928) teaching history in Columbia College, becoming professor of history in 1945 He is known as a critic of literature and the arts as well as a historian, and the titles of his works show the breadth of his interests, they include *Race a Study in Modern Superstition* (1937), *Of Human Freedom* (1937), *Culture in the Democracy* (1940), *Darwin, Marx, Wagner* (1941), *Romanticism and the Modern Ego* (1945), *The Teacher in America* (1945), and *Berlioz and the Romantic Century* (1950).

basalt (busôlt', bă'sôlt), a common LAVA or extrusive igneous rock of volcanic origin, dark gray to black in color, fine-grained, and usually crystalline Some basalts are porphyritic (see PORPHYRY), others are relatively free of phenocrysts In basalt-porphyry the phenocrysts, often of olivine, augite, or labradorite, are exceeded in volume by the ground mass The surface of a basalt flow may be quite smooth or it may be scoriaceous (containing many irregularly shaped gas cavities) When subjected to METAMORPHISM, basalt is transformed into hornblende-schist and other kinds of SCHIST Most of the world's great lava flows, e g , the Deccan trap, the Iceland flows, and the Columbia river plateau of the NW United States, are basaltic lava

Bascama (bās'kŭmŭ), unidentified town, E of the Jordan, where Jonathan the Maccabee was killed 1 Mac 13 23–26

Bascom, Henry Bidleman, 1796–1850, American Methodist minister and college president, b Hancock, N Y He became at an early age a preacher in the Ohio Methodist Conference and was a frontier circuit rider Bascom was chaplain (1824–26), in the U S Congress, president (1826–29) of Madison College, Uniontown, Pa , professor (1832–42) of moral science at Augusta College, Augusta, Ky , and president (1842–49) of Transylvania Univ At the convention of 1845 at which the Methodist Episcopal Church, South, was organized, he played an important role In 1850 he was elected a bishop of that church He was the author of *Methodism and Slavery* (1847)

Bascom, John, 1827–1911, American educator and philosopher, b Genoa, N Y, grad Williams, 1849, and Andover Theological Seminary, 1851 After serving (1855–74) as professor of rhetoric at Williams, he became president of the Univ of Wisconsin, which was reorganized during his administration (1874–87) Later he returned to Williams and until his retirement in 1903 was professor of political science Author of many magazine articles and some 20 books, including *Ethics* (1879), *The New Theology* (1891), and *God and His Goodness* (1901), Bascom did much to popularize liberal religious ideas See his autobiography, *Things Learned by Living* (1913), biography by Sanford Robinson (1922)

base, in chemistry, a compound which, according to the theory of the ION, yields hydroxyl (OH) ions in aqueous solution as the negative ions Such a compound is described also as the HYDROXIDE of a metal or of a positively charged RADICAL such as the ammonium radical (NH_4) Because of the presence of the hydroxyl ion, bases exhibit certain common characteristics when dissolved in water They have a caustic or bitter taste and a soapy feeling and turn red litmus blue Other properties of bases depend upon the specific metallic ion which they yield Bases in solution conduct electricity and react with acids and acid anhydrides (see NEUTRALIZATION) to form salts and water They vary in solubility, some (e.g., sodium and potassium hydroxide) being very soluble and others (e g , copper hydroxide) being very slightly soluble These last do not exhibit all the characteristic properties of the group Strong bases (see ALKALI) are those which are freely ionized in solution, weak bases ionize only slightly Bases are classified according to the number of hydroxyl groups present in a molecule Bases are used in industry (as in the manufacture of soap and textiles), in building, in the refining of petroleum, in agriculture, and as cleansing agents and disinfectants

baseball, the "national game" of the United States It derives its name from the four bases on the wide, flat (except for a slight rise at the pitcher's mound) playing field (the diamond) Horsehide-covered hard balls, wooden bats, and heavily padded gloves (the catcher and chief umpire wear additional protective material) constitute the basic equipment A game is played by two opposing teams of nine players each—a pitcher, a catcher, four infielders, and three outfielders Once replaced in a particular game (this happens most often with pitchers), a player may not again take part in that contest The umpires rule on the plays of the game To win, a team must score more runs than its opponent, and a run is made when a player completes a circuit of the bases The rules of the game continue to undergo gradual change A form of baseball, doubtless derived from the English games of cricket and rounders, was played in the early 19th cent , and the children's game "one old cat" existed before that time Baseball was played largely in the northeastern states before the Civil War, and Alexander Cartwright and Henry Chadwick were important in the development of the game The report (1908) of a commission headed by A G Mills which declared that Abner DOUBLEDAY created the modern game in 1839 at Cooperstown, N Y , has been hotly contradicted Baseball made great headway in New York city and the neighboring regions, and a national organization of teams was formed in 1857 The sport was popular with Union soldiers during the Civil War, and after the war professional teams banded together in associations The National League, organized in 1876, is today made up of the Boston Braves, Brooklyn Dodgers, Chicago Cubs, Cincinnati Reds, New York Giants, Philadelphia Phillies, Pittsburgh Pirates, and St Louis Cardinals In 1900 the Western League changed its name to the American League and three years later gained recognition as the second major league The American League is composed of the Boston Red Sox, Chicago White Sox, Cleveland Indians, Detroit Tigers, New York Yankees, Philadelphia Athletics, St Louis Browns, and Washington Senators Since 1903 the leading teams—the pennant winner—of the two major leagues have met in an annual series of games to decide the world's championship The winners of the world series were 1903, Boston Red Sox, 1905, New York Giants, 1906, Chicago White Sox, 1907–8, Chicago Cubs, 1909, Pittsburgh Pirates, 1910–11, Philadelphia Athletics, 1912, Boston Red Sox, 1913, Philadelphia Athletics, 1914, Boston Braves, 1915–16, Boston Red Sox, 1917, Chicago White Sox, 1918, Boston Red Sox, 1919, Cincinnati Reds, 1920, Cleveland Indians, 1921–22, New York Giants, 1923, New York Yankees, 1924, Washington Senators, 1925, Pittsburgh Pirates, 1926, St Louis Cardinals, 1927–28, New York Yankees, 1929–30, Philadelphia Athletics, 1931, St Louis Cardinals, 1932, New York Yankees, 1933, New York Giants, 1934, St Louis Cardinals, 1935, Detroit Tigers, 1936–39, New York Yankees, 1940, Cincinnati Reds, 1941, New York Yankees, 1942, St Louis Cardinals, 1943, New York Yankees, 1944, St Louis Cardinals, 1945, Detroit Tigers, 1946, St Louis Cardinals, 1947, New York Yankees, 1948, Cleveland Indians, and 1949, New York Yankees There are several minor leagues—notably the International League, the American Association, the Pacific Coast League, the Southern League, and the Texas League—which also hold post-season play-offs An attempt to form (1914–15) a third major league—the Federal League—ultimately failed The "Black Sox" scandal (1920–21), in which several members of the Chicago White Sox were found guilty of having been paid to lose the 1919 world series to the Cincinnati Reds, led (1920) the major league clubs to appoint Judge Kenesaw M LANDIS high commissioner of professional baseball Albert B (Happy) CHANDLER was elected in 1945 to succeed Landis, who had died in office In 1935 night baseball games were introduced in the major leagues A number of baseball's greatest figures have been elected to the National Baseball Hall of Fame and Museum, built at Cooperstown, N Y in 1939 Baseball is also played by school, college, club, and semiprofessional teams It has achieved considerable popularity in Japan as well as in Cuba, Puerto Rico, Mexico, and elsewhere in Latin America. Softball, a form of baseball in which a larger ball and a smaller infield are required, has become very popular in recent years. Among the more famous names, past and present, in professional baseball are Grover C. (Ol' Pete) Alexander, Adrian C. (Cap) Anson, John F. (Home Run) Baker, Frank L Chance, Tyrus R Cobb, Gordon S. (Mickey) Cochrane, Edward T Collins, Jerome H (Dizzy) Dean, William M. Dickey, Joseph P Di Maggio, Hugh Duffy, Robert W. A. Feller, James E. Foxx, Frank F Frisch, Henry L (Lou) Gehrig, Robert M (Lefty) Grove, Rogers Hornsby, Carl O Hubbell, Miller J Huggins, Walter P. Johnson, William J Klem, Joseph V. McCarthy, Cornelius McGillicuddy (Connie Mack), John J McGraw, Christopher Mathewson, Stanley F Musial, Jackie Robinson, George H (Babe) Ruth (who has been called the greatest hero of them all), Tristram E Speaker, John S Vander Meer, John P (Honus) Wagner, Theodore S Williams, and Denton T (Cy) Young See Robert Smith, *Baseball* (1947), Martin Rothan, ed , *The Baseball Rules and Decisions Book* (1949), Parke Cummings, *The Dictionary of Baseball with Official Rules* (1950), Lee Allen, *100 Years of Baseball* (1950), J G T Spink, *The Baseball Register* and *The Baseball Guide* (latest eds)

Basedow, Johann Bernhard (yōhän' bĕrn'hart bā'zudō), 1723–90, German educator, b Hamburg, educated in Hamburg and at the Univ of Leipzig Later he taught in Denmark (1753) and Germany (1761) but became involved in controversies aroused by his unorthodox religious writings In 1774 his *Elementarwerk* was published with funds raised by popular subscription, and Basedow opened at Dessau a school called the Philanthropin, where the methods of elementary education outlined in this text were employed Basedow emphasized realistic teaching and introduced nature study, physical education, and manual training He resigned in 1778 because of disagreements with his staff, and the school closed in 1793 His reforms were widely influential, however, and similar institutions were established throughout Germany

Basel (bä'zul) or **Basle** (bäl), Fr *Bâle* (bal), canton, Switzerland, bordering on France and Germany It is traversed by the Rhine (which here becomes navigable) and, in the south, by the Jura mts The inhabitants are mainly German-speaking and Protestant The canton has been divided since 1833 into two independent half cantons—**Basel-Land** (-länt), (165 sq mi , pop 94,459), formed of the rural districts, with its capital at Liestal, and **Basel-Stadt** (shtat), coextensive with the city of **Basel** and its suburbs (14 sq mi , pop 169,961) Founded by the Romans, it became an episcopal see (7th cent), passed to the Alemanni, the Franks, and Transjurane Burgundy, and in the 11th cent became a free imperial city ruled by prince-bishops It joined the Swiss Confederation in 1501 and accepted the Reformation in 1523 Though expelled from the city, the bishops continued to rule the bishopric of Basel, including PORRENTRUY and DELÉMONT, which in 1815 became part of Bern canton. The oppressive rule of the patriciate in the city over the rest of the canton resulted in revolts (1831–33) and the split into two half cantons The city is divided by the Rhine into Greater Basel (left bank), the intellectual and commercial center, and Lesser Basel, where the industries—producing chiefly chemicals, metal products, clothes, foodstuffs, and silk—are concentrated Among the principal buildings are the cathedral (consecrated 1019), the university (founded 1460), the 16th-century town hall, and an art gallery with a valuable collection of Holbein's works One of the oldest intellectual centers of Europe, Basel was the residence of Froben, Erasmus, Holbein the Younger, Calvin, and Nietzsche Leonhard Euler, Jacob, Jean, and Daniel Bernoulli, and Jakob Burckhardt were born here It is also a financial center and the seat of the Bank for International Settlements and of the Swiss Industries Fair.

Basel, Council of, 1431–49, council in the Roman Catholic Church, generally considered to have been ecumenical at its convocation It fell into heresy Its chief importance lies in the contest between council and pope The Council of Constance had seen the rise of the conciliar theory, the doctrine that the ultimate authority in the Church rests upon the general council, to which the pope must be subject It had been the plan to have frequent councils, but that of Basel was the first of importance to follow Constance, that of Pavia-Siena having accomplished little Pope MARTIN V convoked the council but died soon afterward, and it was EUGENE IV who confirmed the convocation. Various problems were brought before the council, the settlement of the difficulties with the Hussites, reform in the Church, particularly financial reform, and the matter of negotiations for the union of the Eastern Church and Western Church. Eugene was suspicious of the council, fearing that in the question of the Hussites it might reawaken doctrinal questions already regarded as settled, and he ordered the council dissolved almost immediately This marked the real outbreak of trouble between the council and the pope which was not to end until the council did. Emperor SIGISMUND, who desired the settlement of Hussite disputes from the

council and desired coronation at the hands of the pope, acted as mediator The council pronounced its supremacy over the pope and in 1432 reached the zenith of its power Eugene was driven to granting more and more concessions, but the compromise reached was not lasting, and the continual reassertion of the conciliar supremacy led to the institution of a process against the pope for disobedience and ultimately to the complete denunciation of the council by the pope in the bull *Doctoris gentium* (1437) The council, which thus became heretical, had accomplished a good deal before this time The Compactata had marked a compromise with the Hussites, the annates and various papal taxes were declared illegal, various other reforms in church organization and finance were accomplished Eugene summoned the council to Ferrara (see FERRARA-FLORENCE, COUNCIL OF) The council continued to function at Basel Finally the process against Eugene was carried through, and AMADEUS VIII of Savoy was elected as pope (called Antipope Felix V) The allegiance of most temporal rulers was still given to Eugene, although the reforms of Basel were adopted by the French at Bourges and incorporated into the Pragmatic Sanction of Bourges, the council was not actually approved, some tentative steps were taken by the German princes in favor of the council, and these helped to bring the pope to accept the Basel reforms, only Savoy and Switzerland were loyal to the council Trouble arose between Felix V and his electors, the power of the council declined In its last days it moved to Lausanne All of its efforts came to an end with the resignation of Felix V in favor of NICHOLAS V, successor to Eugene IV With it the conciliar theory fell

base line : see GEODESY

Basel-Land and **Basel-Stadt** : see BASEL

Bashan (bā'-), in the Bible, fertile region E of the Jordan from the latitude of Haifa northward to that of Tyre It was conquered by the Israelites and given to the half tribe of Manasseh and is mentioned for fertility and for the sturdiness of its cattle and sheep Num 21 33, Deut 3, 2 Kings 10 33, Ps 22 12, 68 15, Amos 4 1

Bashan-havoth-jair see HAVOTH-JAIR

Bashemath (bāsh'u-), wife of Esau Gen 26 34, 36 2, 3

Bashford, James Whitford, 1849–1919, American educator and missionary, b Lafayette co , Wis , grad Univ of Wisconsin, 1873, and Boston Univ School of Theology, 1876 From 1889 to 1904 he was president of Ohio Wesleyan Univ Elected (1904) bishop in the Methodist Church with China as his field, Bashford became an authority on Chinese questions His books include *China and Methodism* (1906) and *China an Interpretation* (1916) See biography by G R Grose (1922)

Bashkir Autonomous Soviet Socialist Republic (bŭshkēr'), autonomous republic (55,400 sq mi , pop 3,144,713), E European RSFSR, in the western foothills of the Urals and in the S Urals Ufa, the capital, Sterlitamak, and Beloretsk are the main cities Drained by the Ufa Belava, and other rivers, it is important for its agriculture, timber, and minerals (iron, copper, manganese, magnesite, gold, chromium, lead, bauxite, barite, petroleum, and lignite) The Trans-Siberian and South Siberian railroads serve the area About 40 percent of the population are Russians, about 24 percent are Bashkirs, and the rest are mostly Turko-Tatars Originally an eastern nomadic people, the Bashkirs made their appearance in the 10th cent They came under Tatar rule in the 13th cent , accepted the religion (Islam) and the speech (Turkic) of their conquerors, and became tributary to Russia in 1556 Despite the numerous rebellions of the warlike people, Bashkiria was gradually penetrated by Russian colonization Bashkiria was made an autonomous republic in 1919

Bashkirtseff, Marie (bāsh'kurtsĕf), 1860–84, French diarist and painter, b Russia As a young child she lived at various resorts of Italy and France The journal for which she is famous was begun at the age of 12 It is the frank record of an egotistical, talented, and precocious child, avid for fame and admiration She hoped first to win it as a singer, but her voice failed and she studied painting at Julien's in Paris Several of her pictures were hung in the Salon, a self-portrait is in the museum at Nice She wrote letters to many of the famous men of her time, of whom only Maupassant continued the correspondence In the last years of her short life she had a devoted friend in her art teacher, Bastien-Lepage Parts of her journal were published in both French and English in 1890, her letters in 1891 See her *Journal of a Young Artist* (new ed , 1926), Dormer Creston, *Fountains of Youth* (1937)

basic slag, artificial fertilizer obtained as a waste product in the manufacture of steel by both the Bessemer and the open-hearth processes It is a valuable source of phosphorus and also contains free lime (calcium), which is beneficial in neutralising acid soils

Basil, Saint: see BASIL THE GREAT, SAINT

Basil I (Basil the Macedonian), c 813–886, Byzantine emperor (867–86). Of obscure background, he came (c 856) to the attention of Emperor MICHAEL III, who, impressed by his athletic physique, made him his boon companion In 866 Basil assassinated Michael's uncle, Bardas, who until then was chief minister, and prevailed upon Michael to declare him coemperor Michael having shifted his affections to a boatman, whom he wished to have crowned, Basil procured the emperor's murder in 867 and had himself proclaimed sole emperor Thus the Macedonian dynasty of the East, which lasted for two centuries, was founded Basil turned out to be a capable ruler He reformed the finances, modernized the law of Justinian I by introducing a new code, protected the poorer classes, and restored the military prestige of the empire Byzantine art and architecture entered their second golden age during his rule The major event of his reign was the dissension between the Roman and the Eastern churches Basil strove vainly to prevent a breach He restored (867) to the patriarchate IGNATIUS OF CONSTANTINOPLE, who had been deposed in favor of PHOTIUS, but on Ignatius' death Photius again became patriarch Basil in 865 had divorced his wife and married the mistress of Michael III His successor, Leo VI, though legally Basil's son, was probably fathered by Michael

Basil II, c 958–1025, Byzantine emperor (976–1025), surnamed Bulgaroktonos [Bulgar slayer] With his brother, Constantine VIII, he nominally succeeded his father, Romanus II, in 963, but had no share in the government during the administration of the usurping generals NICEPHORUS II (963–67) and JOHN I (967–76) Primarily a soldier, Basil from 976 exercised virtually sole rule, while his debauched brother was emperor only in name Basil suppressed (976–89) a series of revolts of the great landowners and revived and strengthened the laws directed against them by ROMANUS I He subjugated and annexed (1018) Bulgaria, though leaving it some measure of autonomy, and later extended the eastern frontier of his empire to the Caucasus During his reign the schism between the Roman and the Eastern churches continued and widened Basil was succeeded by Constantine VIII (1025–28) and by Constantine's daughter Zoë

Basil III, Russian ruler see VASILY III

basil (bāz'ĭl), any plant of the genus *Ocimum*, tender herbs or shrubs mostly of Old World warm regions, related to the mints and widely cultivated for the aromatic leaves used for seasoning The basil of Kents's "Isabella" (and that of Boccaccio's story) is the common or sweet basil (*Ocimum basilicum*), once considered medicinal There are also the holy basil, venerated in India, the bush basil, and related plants sometimes called basil

Basilan (bäsē'län), northernmost group of the Sulu Archipelago, SW of Mindanao, in the Philippine Islands The largest island (494 sq mi , 1939 pop 48,086) of the group is also called Basilan, its products are rubber and coconuts

Basile (bäzēl'), village (pop 1,132), SW La , NE of Lake Charles, founded 1905 It has oil fields

Basilian monks (bŭzĭl'ēŭn), monks of the Eastern Church They follow the Rule of St BASIL THE GREAT, which has been universal among them since the 7th cent They have no centralized government, the rule treats proper monastic living, not organization Basilians are cenobites Their monasteries are collections of small cells, the whole group being a laura The chief monastery is the Great Laura of Mt Athos, another famous Orthodox monastery is St Catherine on Mt Sinai There are Basilians in communion with the pope The chief figure of Basilian history is the reformer, St THEODORE OF STUDIUM See MONASTICISM

basilica (bŭsĭl'ĭkŭ) [Gr ,=royal], large building erected by the Romans for transacting business and disposing of legal matters The term is also applied to the general type of church building used by Christians up to the 10th cent The floor plan exhibits a wide central aisle, with one or more aisles at each side and with an apse or apses at the end, the aisles were continuous open colonnaded porticoes, surrounding the center space Sometimes, as in the Basilica Julia in the Roman Forum, the aisles were double Among the early basilicas were one in Pompeii (2d cent B C) and the Basilica Porcia in Rome Several basilicas, generally near the forums, were built before A D 300 in Rome, in Italy, and in the colonies In the 4th cent , Christians began to build edifices for worship like the smaller basilicas of private mansions These had a center nave with one aisle at each side and an apse at one end on this platform sat the bishop and priests Basilicas of this type were built not only in Western Europe, but in Greece, Syria, Egypt, and Palestine A good example of the Oriental basilica is the Church of the Nativity at Bethlehem (6th cent) The finest basilicas in Rome were St John LATERAN, St Paul-outside-the-Walls, and San Clemente After the 6th cent the simple columnar construction was modified aisles were used instead of straight lintels, heavy piers replaced the slender columns, and vaulting came to be used throughout rather than only in the side aisle Thus gradually emerged the massive Romanesque churches, which still retained, however, the fundamental plan of the basilica.

Basilicata (bäzēlēkä'tä), region (3,856 sq. mi , pop 543,262), S Italy, extending from the Apennines southward to a short strip of the Tyrrhenian coast and southeastward to the Ionian Sea Corresponding to most of ancient LUCANIA and part of ancient SAMNIUM, Basilicata is now divided into Matera and Potenza provs and has the city of Potenza as its capital The climate is unfavorable, water is scarce over much of the region, and the soil is not very fertile Agriculture is supported by the raising of sheep and goats Communications are poor and commerce and industry minimal Malaria, still a scourge on the coast, caused the flourishing coastal towns to be abandoned in the early Middle Ages The region passed in turn to the Lombards, the Byzantines, and (11th cent) to the Norman duchy of Apulia, of which MELFI, now in Basilicata, was the capital Basilicata shared the fortunes of the kingdom of Naples, but its territory was constantly under feudal lords The 20th cent has seen reclamation works and social and land reforms

Basilides (bŭsĭl'ĭdēz), fl 120–145, Gnostic teacher of Alexandria He wrote *Exegetica* (24 books of biblical commentary) and poems The Basilidean sect of GNOSTICISM attracted many followers

Basilikon Doron (bŭsĭl'ĭkun dō'rŭn) [Gr ,=royal gift], book written by James VI of Scotland (subsequently James I of England) as a guide for the conduct of his son Henry when he became king It was completed in manuscript in 1598 and published the following year James warned Henry of meddlesome ministers and expounded the doctrine of the divine right of kings Henry died in 1612 and did not ascend the throne See edition by James Craigie (1944)

Basiliscus (bă'sĭlĭ'skus), d 477, usurper at Constantinople (475–77) He caused the failure of the expedition sent (468) against the Vandals by his brother-in-law LEO I and usurped the throne in the reign of ZENO (475) His extortions and his Monophysite tendencies led to the restoration of Zeno, who imprisoned Basiliscus and left him to die

basilisk (bă'sĭlĭsk, bă'zĭlĭsk) [Gr ,=little king], in fable, winged African lizard or serpent Pliny says that serpents flee at his hiss and his very glance is fatal

Basilius Valentinus (bŭsĭl'ēŭs văl'untī'nus), pseudonym (representing a nonexistent monk of the 15th cent), believed to have been adopted by Johannes Thölde of Frankenhausen, Germany His *Currus triumphalis antimonii* (1604) led to the wide use of antimony in fevers Thölde claimed that his books on chemistry were translations from the Latin of Basilius Valentinus

Basil the Great, Saint (bă'zĭl, bā'-), c 330–379, Greek prelate, bishop of Caesarea in Cappadocia, Doctor of the Church, and one of the Four Fathers of the Greek Church He was a brother of St GREGORY OF NYSSA In his student days at Athens he knew Julian, later emperor, and began his lifelong friendship with St GREGORY NAZIANZEN Converted to the religious life by his sister, St Macrina, he withdrew (c 357) to a retreat in Pontus There he wrote much of the *Longer Rule* and of the *Shorter Rule*, on these the life of the BASILIAN MONKS is based Through his rules Basil was a spiritual ancestor of St BENEDICT As counselor (365) and successor (370) of Eusebius, bishop of Caesarea and head of most of the Church in Asia Minor, Basil established orthodoxy over ARIANISM in the Byzantine East His revision of the liturgy is occasionally used in the Byzantine rite His works *On the Holy Ghost* and *Against Eunomius* are elegant, acute defenses of the Catholic system In the West his feast is June 14 See William Kemp Lowther Clarke, *Basil the Great* (1913), M G Murphy, *St Basil and Monasticism* (1930)

Basin, town (pop 1,099), co seat of Big Horn co , N Wyo , on the Bighorn river, in a farm area The state tuberculosis sanatorium is near by

Baskerville, John, 1706–75, English designer of type and printer His work as printer and publisher began in 1757, and in 1758 he became printer to Cambridge Univ His type faces introduced the "modern," pseudoclassical style, with level serifs and with emphasis on the contrast of light and heavy lines His work influenced that of the Didot family in France and that of BODONI in Italy, and for a time his "modern" type faces were generally preferred to the "old style" of CASLON Books printed by Baskerville are typically large, with wide margins, and excellent as to paper and ink The first wove paper used for printing books was made to his order The thin lines of his types required paper of smooth finish After his death most of his types were bought by Beaumarchais and were used for his edition of Voltaire The matrices, long lost, were rediscovered in Paris in 1929 by W E Rudge

basketball. The game is played mostly indoors by two opposing teams of five players each—a center, two forwards, and two guards—on a regulation court 94 ft long and 50 ft wide At each end of the court is a basket made of bottomless white cord suspended from a metal ring, 18 in in diameter, which is attached, 10 ft. above the floor, to a backboard A team directs its play toward throwing the ball—which is round, leather-covered, and

inflated—through one basket and toward preventing members of the opposing team from scoring through the other basket Each goal or basket counts two points Illegal body contact is penalized by awarding free throws—counting one point for each one made—to players fouled A player guilty of five personal fouls must leave the game An umpire and a referee rule on the plays of the game, which is divided into two periods or halves of 20 min each Basketball was originated in the United States in 1891 by Dr James A Naismith (1861–1939), then physical director of the Y M C A college in Springfield, Mass Today it is one of the leading national sports and has been enthusiastically adopted all over the world In March, 1937, the center jump (the opposing centers leaping to tap the ball tossed up between them to their respective mates) was limited by the National Rules Committee to the opening of the regular and overtime periods Previously there had been a center jump after every goal scored Now the team scored on puts the ball in play again with a throw-in from out of bounds underneath the basket it defends This virtual elimination of the center jump, the most far-reaching change in the game, has made basketball an even faster, higher-scoring sport and has reduced some of the advantage enjoyed by taller players While basketball rules vary widely from country to country, there are only slight variations within the United States Basketball became an important sport in American colleges, and such post-season collegiate basketball tournaments as the National Invitation Tournament, launched in 1938, and the National Collegiate Athletic Association play-off, begun in 1939, attract wide attention In 1950 the College of the City of New York team became the first to win both tournaments in the same year Professional basketball was begun in 1896 in New York city, and in 1925 the short-lived American Basketball League was formed, with nine cities in the circuit The New York Celtics (1918–29) became one of the best-known professional teams in the country In 1946 the Basketball Association of America was formed, and after public enthusiasm grew, the professional league admitted several new teams Various new rules have been adopted by this league Famous players and coaches of basketball are Forrest C Allen, Clair F Bee, Nathan (Nat) Holman, Joseph Lapchick, Angelo (Hank) Luisetti, George Mikan, and Adolph Rupp See H A Hobson, *Basketball Illustrated* (1948)

Basket Makers, name given to the members of an early American Indian culture in the Southwest, predecessors of the Pueblo Indians They are so called because they knew much of basketmaking, and by covering the baskets with clay and baking them hard they created useful fireproof containers They seem to have been at first nomadic hunters, using hunting sticks and wooden clubs Later they learned agriculture, particularly maize growing, probably from the southern neighbors in Mexico They dug pits and lined them with stone for storage of grain and later built substantial dwellings One system of dating places their arrival in the area as early as 1500 B C At some time, perhaps 2,000 years later, they were succeeded in the area by the ancestors of the Pueblo Indians, who probably absorbed many of the older people Others may have moved and may have been the ancestors of other Indian tribes Archaeologists divide the time of their culture into several periods, usually called Basket Maker I, Basket Maker II, and Basket Maker III

basketry, the art of weaving or coiling and sewing flexible materials to form vessels or other commodities The materials used include twigs, roots, strips of hide, splints, osiers, bamboo splits, cane or rattan, raffia, grasses, straw, and crepe paper Discoveries in the W United States indicate that the use of clay-covered baskets for cooking probably led to making pottery, while in the Andaman islands pottery was evidently made first In Egypt baskets used for storing grain in 4,000 or 5,000 B C have been excavated The tombs of Etruria have yielded ancient specimens, and these, as well as much later Roman baskets, display weaving strokes still in use Basketry has been employed by primitive peoples for rude huts, which they daubed with clay, and for articles of dress and adornment, granaries, traps, boats, cooking utensils, water vessels, and other utilities Africa, India, the East Indies, and China contribute largely to the modern supply of baskets Through skill in weaving, the basketmakers of certain localities become widely known This is the case with those of Leicester, East Leake, and Newark, England, the Black Forest of Bavaria, Verdun, France, Arima, Japan, the Blue Ridge, the Cumberland Plateau, and Great Smoky Mts and Arizona and California, where the Navaho and Hopi Indians are expert There are two types of baskets—woven and coiled or sewed—but variety is afforded by the many different strokes, forms, and methods of decoration Among the articles now made of wickerwork are furniture, hampers, flower, fruit, market, and shipping baskets, demijohn covers, and smaller baskets for general and household use. There are many large commercial basket-weaving establishments, but basketry is still a popular home industry and is taught in schools and, as vocational therapy, in hospitals See H H Bobart, *Basketwork through the Ages* (1936), M L Lee, *Basketry and Related Arts* (1948)

Basking Ridge, village (pop 1,778), N N J , near the Passaic SW of Morristown, settled early in the 18th cent At a tavern here Charles Lee was captured by the British in 1776.

Basle see BASEL

Basmath (băs'-), daughter of Solomon 1 Kings 4 15

Basoche or **Bazoche** (both bȧzôsh'), guild of clerks of the Parlement of Paris, formed early in the 14th cent It was organized as a miniature feudal state (the Royaume de la Basoche), with its king and other dignitaries It had the power to try minor cases among members and cases brought by outsiders against members It held mock trials, designed to give practice and instruction in legal procedure The Basoche played a great role in the development of the French stage, the clerks gave moralities, farces, and other comic pieces, many of them virulent satires on the existing order Henry III, in 1582, prohibited its use of the title king and ended its dramatic representations Besides the Royaume de la Basoche, there were similar organizations connected with other Parisian courts and with provincial courts After the French Revolution these organizations disappeared

Basque Provinces (băsk), Basque *Euzkadi*, Span. *Vascondadas*, the provinces of Álava, Guipúzcoa, and Vizcaya (combined area, 2,803 sq mi , pop 955,764), N Spain, S of the Bay of Biscay and bordering on France in the northeast (In a wider sense the name also applies to other territories largely inhabited by Basques—Spanish NAVARRE and the French provinces of Labourd, Soule, and Lower Navarre, all in Basses-Pyrénées dept) BILBAO, capital of Vizcaya prov , is the largest Basque city and one of the chief industrial centers of Spain Other cities include San Sebastián, capital of Guipúzcoa prov , Vitoria, capital of Álava prov , and historic GUERNICA The region includes the southern slopes of the W Pyrenees and is crossed by the CANTABRIAN MOUNTAINS In the southwest it is bounded by the Ebro In the densely populated coastal provinces of Vizcaya and Guipúzcoa the chief occupations are mining (iron, lead, copper, and zinc), shipbuilding, and fishing The minerals are exported mainly to England The history of the three provinces up to 1936 is covered in the article on the Basques Shortly after the outbreak of the Spanish civil war of 1936–39 the central government granted the three provinces autonomous status, and the Basque nationalist leader, José Antonio de Aguirre, was elected president of the autonomous government With a large part of Basque territory in insurgent hands, the Basques nevertheless defended their newly won status with their customary heroism and fervor However, by April, 1937, a new Insurgent offensive resulted in the complete subjection of the provinces by the Franco regime, which abolished Basque autonomy

Basques, people of N Spain and SW France There are c 1,550,000 Basques in the three Basque Provs and Navarre, Spain, c 200,000 in Labourd, Soule, and Lower Navarre, France, and c 250,000 in South America and other parts of the world The majority have preserved their ancient language, which is unrelated to any other tongue They also have jealously guarded their ancient customs and traditions, although they have played a prominent role in the history of Spain and France Primarily a people of free peasants, shepherds, fishermen, navigators, miners, and metalworkers, they also have produced such figures as St Ignatius of Loyola, St Francis Xavier, and Francisco de Vitoria Their physical stamina is symbolized by their strenuous national game, *jai alai* The Basques may be descendants of CRO-MAGNON MAN, they almost certainly are the oldest surviving racial group in Europe, and they antedate the ancient Iberian tribes of Spain, with which they have been erroneously identified Before Roman times the Basque tribes, little organized politically, extended further to the north and south than now But the core of the Basque country resisted Romanization and was only nominally subject to Roman rule Christianity was slow in penetrating (3d–5th cent) Once converted, the Basques have remained fervent Catholics, but they retained a certain tradition of independence from the hierarchies of Spain and France Both hardy and wily as warriors, the Basques withstood domination by the Visigoths and Franks Late in the 6th cent they took advantage of the anarchy prevailing in the Frankish kingdoms and expanded northward, occupying present GASCONY (Latin *Vasconia*), to which they gave their name The duchy of Vasconia, formed in 601 and chronically at war with the Franks, Visigoths, and Moors, was closely associated with, and at times dominant over, AQUITAINE In 778 the Basques, who had just been reduced to nominal vassalage by Charlemagne, destroyed the Frankish rearguard at RONCESVALLES, but they subsequently recognized Louis the Pious, king of Aquitaine, as their suzerain. The duchy of Gascony continued, but the Basques early in the 9th cent concentrated in their present habitat and in 824 founded, at Pamplona, the kingdom of NAVARRE, which under SANCHO III (1000–1035) united almost all the Basques. Although Castile acquired Guipúzcoa (1200), Álava (1332), and Vizcaya (1370), the Castilian kings had to acknowledge the wide democratic rights enjoyed by the Basques The Basque assemblies at GUERNICA remain famous With the conquest (1512) of Navarre by Ferdinand the Catholic, the Basques lost their last independent stronghold After the 16th cent , Basque prosperity declined and emigration became common, especially in the 19th cent Basque privileges remained in force under the Spanish monarchy, but in 1873 they were abolished because of the Basques' pro-Carlist stand in the Carlist Wars To regain autonomy, the Basques in Spain supported nearly every political movement directed against the central authority. In the civil war of 1936–39 they wholeheartedly supported the Loyalist government

Basra (bŭs'rŭ, băz'ru), city (pop c 180,000), Iraq, a port on the Shatt el Arab, 75 mi from the Persian Gulf The city, founded (A D 636) by the caliph Omar, owes its importance to its position on the trade routes using the Persian Gulf and to the fertility of the floodlands, where dates are grown A cultural center under Harun-al-Rashid, it declined with the decay of the Abbasid caliphate, and its possession was long contested by the Persians and the Turks With the opening of the rail connection to Baghdad, it regained commercial importance and resumed the profitable export of dates, barley, wool, and wheat In the Second World War, Basra was the scene of brief fighting in 1941, when British troops landed to crush the German-inspired Iraqi rebellion The name of the city also appears as Bassora, Bussora, and Busra

bas-relief see RELIEF

Bas-Rhin (bȧ-rȧ'), department (1,848 sq mi , pop 673,781), E France, occupying lower ALSACE Strasbourg is the capital

Bass, Sam (băs), 1851–78, American desperado, b near Mitchell, Ind He went (c 1870) to Denton, Texas, where he worked for a hotelkeeper and then was a cowboy and a deputy sheriff before he "went bad," joining a gang of gamblers and cattle rustlers He was a road agent and train robber around Deadwood, S Dak , for a time, then returned to Texas, where he gained a name as a train robber One of his gang turned informer, and when Sam Bass arrived to rob the bank at Round Rock he came into a trap and was mortally wounded by the Texas Rangers His career and especially his death provided material for frontier ballads See biography by Wayne Gard (1931)

bass, name for various food and game fish chiefly those of the sea-bass family (Serranidae) and of the sunfish family (Centrarchidae) The common sea bass (*Centropristes striatus*) is found along the coast from Massachusetts to N Florida Sometimes included in the sea-bass family and sometimes considered members of a separate family (Moronidae) are the striped bass or rockfish (*Roccus saxatilus* or *R lineatus*) found in fresh and salt water from New Brunswick to Florida and introduced in California the white bass (*R chrysops*) of the Great Lakes and Mississippi and Ohio valleys region, the yellow bass (*Morone interrupta*) of the lower Mississippi valley and the white or silver perch (*M americana*) of fresh and brackish waters from Nova Scotia to South Carolina In Europe the bass (*M labrax*) is found on the southwest coast and in the Mediterranean Fresh-water bass of the sunfish family include the largemouthed black bass, the smallmouthed bass, and the calico bass

bass, tree see BASSWOOD

bass (bās), in musical harmony, the part of lowest PITCH The term is used for the lowest-pitched male voice and for instruments of low pitch, such as bass CLARINET, bass DRUM, FRENCH HORN, BASSOON (bass oboe), and bass TROMBONE

Bassano, Jacopo (yäkō'pō bas-sä'nō), 1510–92, Venetian painter, whose real name was Jacopo, or Giacomo, da Ponte, b Bassano, Italy He studied with his father, Francesco da Ponte, an able painter, and in Venice Most of his life was passed in his native village and his paintings of religious themes abound in peasant types and homely scenes He was perhaps the first artist in Italy to paint genre A contemporary of Tintoretto, he recalls the latter in his brilliant use of high-lighting, with which he achieves dramatic characterization With his four sons he maintained a productive workshop, and his works abound in galleries throughout Europe Characteristic works include *The Nativity* (San Giuseppe, Bassano), *Expulsion of the Money Changers* (National Gall , London), *Jacob's Return to Canaan* (Ducal Palace, Venice); and *The Annunciation to the Shepherds* (National Gall. of Art, Washington, D C). His son and worthy follower, **Leandro Bassano** (lāän'drō), 1558–1623, is represented in many European galleries The Cleveland Museum of Art has his fine *Pietà*

Bassano (bȧsä'nō), town (pop 590), E Alta , ESE of Calgary The Bassano or Horseshoe Bend Dam near by, on the Bow river, is one of the longest dams in the world.

Bassano (bäs-sä'nō), city (pop 11,774), Veneta, NE Italy, on the Brenta A free commune in the Middle Ages, it was under Venetian rule after 1402. The Da Ponte family of painters, called Bassano after the city, had a flourishing school here in the 16th cent and here are many of their works In the 17th and 18th cent the Remondini printing plant was famous throughout Europe The palaces, churches, villas, and gardens of the city recall its past flowering Here in 1796 Bonaparte defeated the Austrians

Bassein (bŭsān', busān'), town (pop 45,662), S Burma, on the Bassein river Lying at the western edge of the Irrawaddy delta, it is important chiefly for the milling and export of rice

Basselin, Olivier (ôlēvyā' bäsulē'), 15th cent, French miller of Vire, Normandy, leader of a set of villagers who made drinking songs, love songs, and war songs The men were called the Compagnons du Vau de Vire [companions of the Vire valley, see VAUDEVILLE], and their songs the *Vau*, or *Vaux, de Vire* No specific song can be attributed to Basselin, though formerly the oldest collection of *Vaux de Vire* was ascribed to him This collection (first surviving ed , 1670) was composed by Jean Le Houx (d 1616), a Vire advocate See J P Muirhead, *The Vaux-de-Vire of Maistre Jean Le Houx* (1875)

Basses-Alpes (bäs-zälp'), department (2,698 sq mi , pop 83,354), SE France, in Provence, bordering on Italy Digne is the capital

Basses-Pyrénées (bus'-pērānā'), department (2,978 sq mi , pop 415,797), SW France The Pyrenees form its border with Spain, and Biarritz and Bayonne lie on its short Atlantic coast line The department, with Pau as its capital, includes all of BÉARN and the Basque part of GASCONY

Basse-Terre (bastĕr'), port (pop 10,086), capital of GUADELOUPE dept , French West Indies It is at the southern end of Guadeloupe or Basse-Terre island in a beautiful setting backed by rugged mountains The chief commercial activities of the department, however, center at POINTE-A-PITRE

Basseterre, town (pop 12,210), on SAINT KITTS, capital of St Kitts-Nevis presidency, British West Indies While sugar refining is its chief industry, Basseterre is also a port, the commercial depot at which the products of the presidency are collected for export

basset hound see HOUND

Bassett, James, 1834-1906, American Presbyterian missionary, b Canada, grad Wabash College, 1856, and Lane Theological Seminary, 1859 In 1872, under the auspices of the American Board, he founded the first American mission at Teheran, Persia Under his supervision other mission stations were founded, and in 1881 he became senior missionary and head of the Eastern Mission of Persia He wrote *Persia, the Land of the Imams* (1886) and *Persia, Eastern Mission* (1890)

Bassett, John Spencer, 1867-1928, American historian, b Tarboro, N C , grad Trinity College (now Duke Univ), 1888, Ph D Johns Hopkins, 1894 He was professor of history at Trinity (1894-1906) and then at Smith College (1906-28) His first writings were mostly monographs on North Carolina history published in the "Johns Hopkins Studies " Bassett founded (1902) the *South Atlantic Quarterly* and also established the "Smith College Studies " Chief among his writings are *The Federalist System, 1789-1801* (1906, Vol II in the "American Nation" series), *The Life of Andrew Jackson* (1911), *The Middle Group of American Historians* (1917), *Expansion and Reform, 1889-1926* (1926, Vol IV in the "Epochs of American History" series), *The Writing of History* (with J J Jusserand, W C Abbott, and C W Colby, 1926), and *The Makers of a New Nation* (1928, Vol IX in the "Pageant of America" series) His textbook, *A Short History of the United States* (1913, 3d ed , revised and enlarged by Richard H Bassett, 1939), is still widely used Bassett also edited much original material, including *The Writings of "Colonel William Byrd "* (1901), *Selections from the Federalist* (1921), *The Southern Plantation Overseer as Revealed in His Letters* (1925), and *The Correspondence of Andrew Jackson* (7 vols , 1926-35)

Bassompierre, François, baron de (frāswä' bärō du bäsōpyĕr'), 1579-1646, marshal of France Under Henry IV he distinguished himself in the army and as a courtier, and he remained loyal to Marie de' Medici during her regency Subsequently he was ambassador to Spain, to England, and to Switzerland, and he fought against the HUGUENOTS in 1621-22 and 1627-28 His opposition to Richelieu and his alleged part in an intrigue caused him to be imprisoned (1631) in the Bastille until after the cardinal's death (1643) During his captivity he wrote his valuable memoirs

bassoon (bäsōōn'), wood-wind instrument, the bass of the oboe family The long tube of which it is made is bent double, and because of its resemblance to a bundle of sticks, its Italian name is *fagotto* It may have been invented in the 16th cent., by 1600 it was made in several sizes In 1659 it made its appearance in the opera orchestra and today is considered indispensable in the modern orchestra. It was much improved in both France and Germany in the 19th cent , each country producing a very fine instrument

Bassora, Iraq see BASRA

basso-relievo. see RELIEF

Bass Strait (bäs), channel, 80 to 150 mi wide, between Tasmania and Victoria, Australia, merging with the Indian Ocean to the west and the Tasman Sea to the east Its discovery by George Bass in 1798 proved that Tasmania was not a part of the Australian continent, as had been believed

bass viol (bās vī'ul), largest type of the viola da gamba Sometimes the double bass is erroneously called bass viol

basswood (bās'wŏōd) or **linden,** name for any of a number of species of the genus *Tilia*, deciduous trees of the Northern Hemisphere The wood, light, strong, and easily worked, is valued for many uses, e g , for beehives and frames for honeycombs, Venetian blinds, woodenware, cheap furniture, carving, paper pulp, excelsior, and, because of its lack of odor, for tubs and baskets for foods The tough fibers of the inner bark, or bast, have been much used as cordage and for mats and other items The nectar of the fragrant flowers of most species is valued as a source of honey The blossoms have also been used in making a tea and a perfume The famous Berlin street, Unter den Linden, shaded by basswoods, was named for the trees, which have also been called linn, lime, and bass tree and whitewood

Bast see EGYPTIAN RELIGION

bast (bäst), inner BARK of the stems of plants, not necessarily of woody plants It is the phloem or food-conducting tissue It is the source of commercially important fibers in such plants as hemp, flax, jute, ramie, sunn hemp, and basswood Most bast fibers are obtained by retting—a process in which the rotting away of the other tissues is hastened by exposure to the weather or by submerging in water

bastard, person born out of wedlock If the child was born after the marriage of the parents, but its conception took place before the marriage, it is not a bastard It is presumed that any child born to a married woman, or within competent time after termination of the marriage, is the child of her husband If, however, it can be proved that it was physically impossible for the husband to have been the father, because of nonaccess to the wife, he may bring action to establish the ILLEGITIMACY of the child See LEGITIMATION

Bastard of Orléans, French general see DUNOIS, JEAN, COMTE DE

Bastia (bästē'ä), seaport (pop 37,122), NE Corsica, France It is the chief commercial center of the island Founded (14th cent) by the Genoese, it was the capital of Corsica until 1791 There is a citadel built in the 17th and 18th cent Bastia was severely damaged in the Second World War

Bastian, Adolf (ä'dôlf bas'tyan), 1826-1905, German anthropologist Often called the father of ethnography, he recorded his observations of peoples and cultures in *Der Mensch in der Geschichte* [man in history] (1860) His concept of "elemental ideas" as common to mankind but varying in form according to "folk ideas" of a given area foreshadows the culture-area theory of modern anthropology His influence was transmitted through the works of Boas and others His more important studies are in the *Zeitschrift für Ethnologie*, which he helped to found and edit, and *Ethnologische Forschungen* (1871-73)

Bastian, Henry Charlton (bās'-), 1837-1915, English physician At the University college, London, he taught pathological anatomy (1867-87), and principles and practice of medicine (1887-95) His numerous publications include books on the various kinds of paralysis, on the brain, and on the origin and evolution of life

Bastiat, Frédéric (frādārēk' bastyä'), 1801-50, French economist In his *Harmonies of Political Economy* (1850, Eng tr , 1860) he advocated and developed the classical theories of economic individualism and laissez faire He was a popular writer on controversial subjects, especially free trade, which he vigorously supported There are several translations of his series of *Sophismes économiques* (1847-48)

Bastidas, Rodrigo de (rôdhrē'gō dā bästē'dhas), c 1460-1526, Spanish conquistador in Colombia In 1501, accompanied by Balboa and Juan de la Cosa, he discovered the mouths of the Magdalena Because of difficulties with the Spanish crown, it was 1525 before he returned to found SANTA MARTA He prohibited exploitation of the Indians and so dissatisfied his followers that they attempted his assassination The wounds inflicted made him return to Cuba, where he died

Bastien-Lepage, Jules (zhül' bästyĕ'-lupäzh'), 1848-84, French painter of figures in the open air, son of a peasant of Damvillers, France He early showed talent and after graduating from the College of Verdun entered the École des Beaux-Arts and studied under Cabanel His portrait of his grandfather in the Salon of 1874 and *First Communion* (Luxembourg Mus , Paris), shown the following year, won him early recognition. A strong bond of friendship existed between him and his pupil Marie Bashkirtsev which lasted until their early deaths Well known are his *Haymakers* and portrait of André Theuriet, both in the Luxembourg Museum, and *Joan of Arc* (Metropolitan Mus) See memoir by André Theuriet (Eng tr , 1892), journal of Marie Bashkirtsev

Bastille (bästēl') [O Fr ,=fortress], fortress and state prison in Paris, located, until its demolition in 1789, near the site of the present Place de la Bastille Begun c 1369 by Hugh Aubriot, the provost of Paris under Charles V, it was later enlarged Among the political prisoners it housed were Nicolas Fouquet, the Man with the Iron Mask, and Voltaire Arbitrary and secret imprisonment by LETTRE DE CACHET gave rise to stories of horror, but actually the regime of the Bastille was for most political prisoners mild, no dishonor attached to being confined there Yet as a symbol of absolutism the Bastille was bitterly hated On July 14, 1789, a Parisian mob, angry at the dismissal of Necker, stormed the Bastille in the hope of capturing ammunition The governor, the marquis de Launey, was killed, the seven inmates, none of them political prisoners, were freed Marking the real outbreak of the French Revolution, the event acquired symbolic significance, and July 14 became the national holiday of republican France

Bastogne (bästô'nyu), town (pop 4,717), Luxembourg prov , SE Belgium, a market town in the Ardennes During the German counteroffensive of Dec , 1944 (known as the BATTLE OF THE BULGE), elements of the 101st U S Airborne Division and of other units, all under Gen Anthony McAuliffe, held (Dec 20-26) encircled Bastogne until relieved by the U S 3d Army Invited by the Germans to surrender, McAuliffe supposedly replied, "Nuts!" The town was nearly destroyed in the battle

Bastrop (bās'trŏp") **1** Industrial town (pop 6,626), parish seat of Morehouse parish, NE La Founded c 1845, it boomed after the discovery of natural gas in 1916 It has paper, pulp, carbon, and brick manufactures **2** City (pop 1,976), co seat of Bastrop co , S central Texas, on the Colorado and SE of Austin, settled 1827, inc 1837 It ships cotton, pecans, turkeys, and eggs Lignite and oil are found in the area

Basutoland (busōō'tōländ", buzōō'-), British territory (11,716 sq mi , pop 624,605), an enclave in the Union of South Africa, administered directly by the crown The capital is Maseru Basutoland is a high plateau rising to 11,000 ft in the large mountain region of the Drakensberg range in the east Cattle, sheep, and goats are raised, and hides, skins, and wool are exported The chief crops are wheat, corn, and sorghum There are no railroads or hard finished roads The native inhabitants, the Basuto, were formed into a nation (1815-31) out of the remnants of tribes which had been scattered by the raids of the Zulu and Matabele To resist the advances of the Boers, the Basuto accepted (1868) the protection of Great Britain In 1871 the territory was annexed to the Cape Colony, but in 1884 it was restored to the direct control of the British crown The country is governed by a resident commissioner with the help of an advisory native council

bat, mammal of the order Chiroptera It is the only mammal with the power of true flight and is found in almost all temperate and tropical parts of the world The wing is a membrane stretched between the elongated bones of four fingers, and in most bats it extends along the body from the forelimbs to the hind limbs and from the hind limbs to the tail The thumb is small, clawed, and free of the membrane Bats suspend themselves head downward when at rest Chiefly nocturnal, they have some sight but depend for their ability to avoid collision in flight mostly on their keen senses of hearing and touch In temperate climates some bats hibernate in caves in winter and some migrate Bats are divided into two suborders, the Microchiroptera or insectivorous bats of both hemispheres and the Old World Megachiroptera, most of which feed on fruits and blossoms Some Megachiroptera (e g , *Pteropus* and *Acerodon*) that have a foxlike muzzle and a wingspread of nearly 5 ft are called "flying foxes " Among the Microchiroptera are the Old World mouse-tailed, horseshoe, hollow-faced, and false vampire bats, the New World hare-lipped, long-legged, smoky, disk-winged, and vampire bats (the only true blood-drinking vampires are *Desmoda* and *Diphyllus*), and the free-tailed and vespertilionid (or typical) bats of both hemispheres The excreta of some species is a source of guano There is evidence that the bite of some vampires can transmit paralytic rabies to humans and to stock animals Bats have figured in folklore, sorcery, primitive religions, and in heraldry The belief that they will deliberately try to fly into one's hair is unfounded See G M Allen, *Bats* (1939)

Bataan (bätän', -tan', bata-an'), peninsula and province (157 sq mi , 1948 pop 92,901), W Luzon, Philippine Islands The peninsula (30 mi long, 15 mi wide) forms the west shore of Manila Bay After the fall of Manila in the Second World War, U S troops withdrew here in Jan., 1942, and fought

gallantly against tremendous odds for three months before they were forced to surrender They were first under the command of Gen Douglas MacArthur and later under Lt Gen Jonathan M Wainwright

Bataille, Henry (ārē' bătāy'), 1872–1922, French dramatist His early poetry allied him with the symbolists, but in the 1900s he gained success with plays based on divided personality and on the reflection of the subconscious in conscious behavior Some of his successes were *Maman Colibri* (1904), *La Marche nuptiale* [the wedding march] (1905), *La Vierge folle* [the foolish virgin] (1910), and *L'Homme à la rose* [the man with the rose] (1921)

Batalha (bătă'lyū) [Port ,=battle], town, W central Portugal, just S of Leiria, in the old region of Estremadura Here is the magnificent Dominican monastery and church (Santa Maria da Vitória), built by John I of Portugal to commemorate his victory (1385) over John I of Castile at near-by Aljubarrota The monastery, now a national museum, is a masterpiece of architecture

Batalpashinsk, RSFSR see CHERKESSK

Batanes, Philippine Islands see BATAN ISLANDS

Batangas (bătäng'gäs), municipality (1948 pop 59,582), on SW Luzon, capital of Batangas prov, Philippine Islands, S of Manila It is in a farm area producing rice and sugar cane

Batan Islands (bătän') or **Batanes** (bătä'nēs), island group and province (76 sq mi , 1948 pop 10,705), N of Luzon, in the Philippine Islands They are separated from Formosa by Bashi Channel Coal and sulphur are mined

Batavi (bută'vī), ancient Germanic tribe, in the Rhine estuary Batavian regiments served under Rome until the anti-Roman conspiracy of Civilis, one of their leaders, in A D 70 Their name was later revived to designate Holland, particularly the BATAVIAN REPUBLIC

Batavia (bûtā'vēu), Malay *Jakarta* or *Djakarta*, city (pop 533,015), capital of the United States of Indonesia, on NW Java The city is divided into two sections—the old town in the north, with Javanese, Chinese, and Arab quarters, and the modern residential garden suburb of Weltevreden in the south Its port, Tanjungpriok (5 mi northeast of the city proper), is the largest in Indonesia With its canals crossed by drawbridges, Batavia somewhat resembles a Dutch town There are a university, an archaeological and ethnological museum, and several churches built in the late 17th cent Industries include the manufacturing of textiles, leather and rubber goods, machinery, and chemicals The chief exports are minerals, rubber, tea, and spices In 1619 the Dutch founded the fort of Batavia next to the Javanese settlement of Jakarta, which was destroyed in 1620 From 1811 to 1814 Batavia was the headquarters of British rule in Java In the Second World War it was briefly the headquarters of the Allied Far East Command

Batavia. **1** City (pop 5,101), NE Ill , on the Fox river and W of Chicago, founded 1834, inc as a village 1856, as a city 1891 Among its manufactures are cosmetics, medicines, and farm implements Near by is Mooseheart, a community supported by the Loyal Order of Moose **2** City (pop 17,267), co seat of Genesee co , W N Y , SW of Rochester, in a farm area, inc as a city 1914 It was settled in 1801 by Joseph Ellicott, agent for the HOLLAND LAND COMPANY Shoes, paper boxes, and farm tools are made Batavia has a U S veterans' hospital and a state school for the blind The Genesee County Fair is held in the city annually A monument to William Morgan is a reminder of the Anti-Masonic movement once waged here Albert Brisbane was born in the old Brisbane homestead, now the city hall **3** Village (pop 1,320), co seat of Clermont co , SW Ohio, E of Cincinnati, settled c 1797, laid out 1814, inc 1842

Batavian Republic, 1795–1806 The United Provs of the NETHERLANDS, occupied by the French in the FRENCH REVOLUTIONARY WARS, were reconstituted as the Batavian Republic in 1795 and remained under French occupation and tutelage In 1801 Bonaparte imposed a new constitution on the republic, which was financially drained by French requisitions, and in 1806 he made it into the kingdom of Holland for his brother, Louis BONAPARTE

Bate, William Brimage, 1826–1905, Confederate general, governor of Tennessee, and U S Senator (1887–1905), b Castalian Springs, Tenn He served in the Mexican War and was a member of the state legislature before studying law at Lebanon and serving as attorney general of the Nashville district (1854–60) Entering the Confederate army as a private (1861), Bate rose in a spectacular career to be a major general, he served with distinction at Shiloh, Murfreesboro, Chattanooga, and Missionary Ridge, in the Atlanta campaign, and at Nashville He was elected governor of Tennessee in 1882 and reelected in 1884, the chief accomplishment of his administration being the settlement of the state debt His career was capped by his terms as Senator See biography by Park Marshall (1908)

Bateman, Kate Josephine, 1843–1917, American actress. Of a theatrical family, she appeared as a prodigy at the age of three, was managed (1851–54) by P T Barnum, and was successful in Shakesperian roles and in the title role of Augustin Daly's *Leah the Forsaken*, just before and after the Civil War She acted (1875–77) with Sir Henry Irving in London and after 1892 conducted a school of acting there

Bates, Edward, 1793–1869, American statesman, b Goochland co , Va In 1814 he went to Missouri, where he became an outstanding lawyer Bates held several public offices, including a seat in Congress (1827–29), but as Whig leader in strongly Democratic Missouri he did not have much chance for political success However, he was sufficiently well regarded to win 48 votes on the first ballot of the Republican national convention at Chicago in 1860, even though he had not formally joined that party Lincoln chose him as one of the border-state representatives in his cabinet, and Bates served as Attorney General until Nov , 1864, when he retired to St Louis See H K Beale, ed , *The Diary of Edward Bates, 1859–1866* (1933), B J Hendrick, *Lincoln's War Cabinet* (1946)

Bates, Henry Walter, 1825–92, English naturalist and explorer In 1848 he went with A R Wallace to Brazil, where he explored the upper Amazon, returning in 1859 with some 8,000 new species of animals He was the first to state a plausible theory of MIMICRY His great work was *The Naturalist on the River Amazon* (1863) From 1864 Bates was assistant secretary of the Royal Geographical Society

Bates, Katharine Lee, 1859–1929, American educator and poet, b Falmouth, Mass , grad Wellesley, 1880 She began teaching at Wellesley in 1885 and from 1891 to 1925 was professor of English literature Her hymn, *America the Beautiful*, which first appeared in the magazine the *Congregationalist*, July 4, 1895, is commemorated by murals at Wellesley Her books of verse include *Fairy Gold* (1916) and *Little Robin Stay-behind* (1923), a collection of plays in verse See foreword of her *Selected Poems* (1930)

Batesburg, town (pop 2,933), W central S C , WSW of Columbia, in a farm and timber area Cotton goods are made here

Bates College see LEWISTON, Maine

Bateson, William, 1861–1926, British naturalist He is known especially for his work on Mendelism and the determination of sex His works include *Materials for the Study of Variation* (1894), *Mendel's Principles of Heredity* (1902), and *Method and Scope of Genetics* (1908) See his *Essays and Addresses* (with biography by Beatrice Bateson, 1928) and *Scientific Papers* (1929)

Batesville. **1** City (pop 5,267), co seat of Independence co , N central Ark , on the White River and in the Ozarks, settled c 1810 It is the center of an area producing cotton, lumber, fruit, poultry, milk, manganese, bauxite, and marble Arkansas College and the state Masonic orphans' home are here Near by are a Univ of Arkansas agricultural experiment station and the White River Dam **2** City (pop 3,065), SE Ind , ESE of Greensburg Meat packing is done here **3** Town (pop 1,815), a co seat of Panola co , NW Miss , near the Tallahatchie and S of Memphis, Tenn in a farm area, founded 1855

Bath, county borough (1931 pop 68,815, 1947 estimated pop 77,490) and city, Somerset, England It is in a natural amphitheater in the Avon valley, the river flows through the city In the 1st cent A D the Romans discovered the warm springs here, named the town Aquae Sulis, and built walls and elaborate baths (first excavated in 1755) In Saxon England the town's importance was religious A convent was founded in 676, and a Benedictine abbey was built in the 10th cent., demolished in 1090, and rebuilt A new abbey, finished in the early 17th cent , is still standing. In Chaucer's time Bath was a wool-marketing and cloth making town Although the curative properties of the baths had early drawn visitors, it was in the 18th cent that Bath flourished as a fashionable spa Beau, or Richard, Nash, called the king of Bath, was the social arbiter John Wood and later his son, John Wood the younger, planned streets, terraces, and squares of buildings suited to the purposes of the gay resort, chiefly built of Bath stone Of these, Royal Crescent and the Circus are most noted The Assembly Rooms (destroyed by fire in air raids of 1942) were built by the younger Wood Among the industries of modern Bath are metal casting, electrical engineering, limestone quarrying, and the manufacture of electric generators, soap, biscuits, paints, and plasticine See Edith Sitwell, *Bath* (1932), Bryan Little, *The Building of Bath* (1947)

Bath. **1** City (pop 10,235), co seat of Sagadahoc co , SW Maine, on the west bank of the Kennebec 12 mi from the ocean, inc as a town 1781, as a city 1847 Champlain and others visited or passed this site when exploring the Kennebec, and permanent settlers came c 1670. Having a good harbor and with timber resources easily accessible, Bath became a busy shipbuilding center. At Bath Iron Works, founded soon after the Civil War, cruisers and destroyers as well as pleasure and commercial craft were built, the city flourished particularly during the First and Second World Wars It is a port of entry The Davenport Memorial has ship models and paintings and other marine exhibits. Carlton Bridge (1927) spans the Kennebec at Bath **2** Village (pop. 4,606), co seat of Steuben co , S N Y , on the Cohocton and NW of Elmira, in a rich farm area; settled 1793, inc. 1816 Its chief products are ladders and knit goods A U.S veterans' administration center (opened 1878) is here **3** Town (pop 380), E N C , on the Pamlico river and SE of Washington, settled c 1690 on the site of an Indian village, laid out 1704, inc 1705 The oldest town in the state, it was for a time the capital of the province of North Carolina A library was started in 1700, the first public library in the state In 1941 several old buildings were restored **4** Borough (pop 1,720), E Pa , near Bethlehem, settled c 1810, laid out 1816, inc 1856 It has cement plants **5** Town, W Va see BERKELEY SPRINGS

Bath, Order of the, British order of knighthood Established as a military order by George I in 1725, it was said to be a revival of an order created by Henry IV in 1399 Existence of the earlier order is disputed, but there is evidence of the creation of knights of the Bath (if not of the order) at Henry's coronation and as late as that of Charles II In 1815 the order was instituted in three classes, and in 1847 civil knights were added to the military Aside from the sovereign, the order consists of knights grand cross (G C B), knights commanders (K C B), and commanders (C B) The order ranks second only to that of the Order of the Garter

Bathgate, burgh (pop 10,097), West Lothian, Scotland Its chief industries are metal casting and the manufacture of chemicals

Bathory (bă'tôrē), Hung *Báthory*, Pol *Batory*, Hungarian noble family **Stephen Bathory,** 1477–1534, a loyal adherent of JOHN I of Hungary (John Zapolya), was made (1529) voivode of TRANSYLVANIA His youngest son became (1575) king of Poland (see STEPHEN BATHORY) and was succeeded as prince of Transylvania by his brother, **Christopher Bathory,** 1530–81 Christopher married Elizabeth, sister of Stephen Bocskay His son and successor, **Sigismund Bathory,** 1572–1613, was probably insane At first a loyal vassal of the Hapsburg king of Hungary (Emperor Rudolf II), he crushed (1594) the pro-Turkish faction of nobles and was recognized by Rudolf as hereditary prince In 1596 he abdicated in favor of his cousin, Andrew Cardinal Bathory (d 1599), planning to enter religious life, but he soon reversed his decision and, with the help of Stephen Bocskay, returned to power as a vassal of the sultan After a second abdication (1599) he returned in 1601, but in 1601 he abdicated definitively (in favor of Rudolf) and retired to Silesia **Elizabeth Bathory,** d 1614, a niece of Stephen Bathory, is celebrated in legend and history as a female werewolf She is said to have slaughtered more than 600 virgins in order to renew her youth by bathing in their blood She was incarcerated in 1610 and died in prison See Baring Gould, *Book of Werewolves* (1865) **Gabriel Bathory,** 1589–1613, a nephew of Andrew Cardinal Bathory, became prince of Transylvania in 1608 His harsh regime provoked a rebellion by the nobles, and he was murdered By the marriage of his niece Sophia (d 1680) to George II RAKOCZY, the two prominent families were united

Bath-rabbim (–răb'–), gate in Heshbon Cant 7 4

baths, in architecture The practice of building chambers for the purpose of bathing is traceable to ancient Egypt and to the early civilizations about the Aegean Sea Remains of bathing apartments dating from the Minoan period exist in the palaces at Cnossus and Tiryns The ancient Greeks devised luxurious bathing provisions, with heated water, plunges, and showers Bathing as a public diversion was developed by the Romans to a unique degree Thermae, probably copied after the Greek gymnasia, had no exterior architectural adornments, but the interiors were lofty and impressive, with rich mosaics, rare marbles, and gilded metals Water, brought by aqueducts, was stored in reservoirs, heated to various temperatures, and distributed by piping to the bath apartments Certain rooms were kept heated by means of furnaces which sent hot air into lines of flues beneath floors and in the walls In Pompeii there are ruins of public baths, and in Rome there exist extensive remains of the thermae of Titus (A D 80), of Caracalla (A D 212–35), and of Diocletian (A D 302)

Bath-sheba (băth'-shē'bû, băth-shē'bû), the wife of Uriah the Hittite David seduced her, effected the death of her husband, and married her Her second son by David was Solomon 2 Sam 11, 12, 1 Kings 1; 2, Mat 1 6 Bath-shua 1 Chron 3 5.

Bath-shua (–shō'ŏ'û) [Heb ,=daughter of Shua], same as BATH-SHEBA

Bathurst, municipality (pop. 11,889), New South Wales, Australia, WNW of Sydney Founded in 1815 and named for the earl of Bathurst, then colonial secretary, it was the first settlement on the western side of the Blue Mts. It is a gold-mining center and the seat of a Roman Catholic and an Anglican archbishop.

Bathurst, town (pop. 3,554), NE N B. It is a fishing and lumbering center and a summer resort on Nipisiguit Bay, a recess on the south shore of Chaleur Bay The Nipisiguit river entering the bay here affords fine salmon fishing.

Bathurst (bă'thûrst, bă'thûrst'), town (pop 21,000), capital of Gambia, on St Mary's Island in the mouth of the Gambia river, a port on the Atlantic Ocean. It was founded (1816) by the British as a base for suppression of the slave trade Peanuts are exported

Bathurst Island, area 786 sq mi , off the north coast of Australia, in the Timor Sea. It is an aboriginal reservation

bathysphere: see DIVING

batik (bŭtēk', bă'tĭk), method of decorating fabrics practiced for centuries by the natives of Indonesia It consists in applying a design to the surface of the cloth by means of melted wax The material is then dipped in cool vegetable dye, the portions protected by the wax or "resist" do not receive the dye and when the wax is removed in hot water display a light pattern on the colored ground Remains of clothing found in Java indicate that the same or similar patterns have been in use for about 1,000 years and are handed down in families Certain designs are reserved for royalty and high officials Motifs are geometric or are based on conventionalized natural objects Cotton cloth is generally used, and some silk Batik was first brought into Europe by Dutch traders In the 19th cent , Western craftsmen adopted the art See C F Lewis, *A Practical Handbook of Batik* (1924), Tassilo Adam, *The Art of Batik in Java* (1935)

Batista y Zaldívar, Fulgencio (fōōlhĕn'sēō bătā'stă ē saldē'vär), 1901–, president of Cuba (1940–44) An army sergeant, Batista took part in the opposition that overthrew Gerardo MACHADO in 1933 and subsequently headed the military and student junta that ousted Carlos Manuel de CÉSPEDES and installed GRAU SAN MARTÍN Made chief of staff of the army, he increased its size and power and soon became *de facto* ruler, launching a three-year plan for economic and social rehabilitation Batista's term in office as *de jure* ruler was characterized by increasingly democratic practices, in the 1944 election his candidate lost to Grau San Martín

Batley, municipal borough (1931 pop 34,573, 1947 estimated pop 39,700), West Riding of Yorkshire, England, SW of Leeds It leads in the manufacture of shoddy and produces other textiles, carpets, and machinery

Batlle y Ordóñez, José (hōsa' bät'vā ē ôrdō'nyās), 1856–1929, president of Uruguay (1903 7, 1911–15) A journalist and the head of the Colorado party, Batlle in his second term initiated legislation to increase public welfare and break the anarchism which had plagued Uruguay since the winning of independence The constitution of 1919, because of his influence, curbed the powers of the executive and provided for socialistic government, a trend not interrupted until Gabriel TERRA became president in 1931

Batoche (bătŏsh'), village, central Sask , S of Prince Albert Here, in Riel's Rebellion, Louis Riel made his headquarters, and the rebels were routed on May 11, 1885

Batoni, Pompeo Girolamo (pōmpā'ō jērō'lämō bätō'nē), 1708–87, Italian painter, b Lucca, one of the foremost painters of his day His works include *Magdalen,* his masterpiece (Louvre), *Achilles* (Uffizi), *John the Baptist, Marriage of St Catherine* (Quirinal, Rome), and many fine portraits of popes and sovereigns, among them Benedict XIV, Clement XIII, Pius VI, and Emperor Joseph II

Baton Rouge (bät'un rōōzh") [Fr ,=red stick], city (pop 34,719), state capital, and parish seat of East Baton Rouge parish, SE La , NW of New Orleans It stretches along high bluffs, safe from floods, on the east bank of the Mississippi Built by the French in 1719 as a fort, it occupied a strategic place on the river It was incorporated in 1817 and was made state capital in 1849 In the Civil War the city was taken by Farragut after the fall of New Orleans (May, 1862), a Confederate attempt to recapture it failed (Aug , 1862) In the railroad-building boom that followed the Civil War, Baton Rouge emerged as a major distributing and commercial center It is served by three main railroad lines and is a deepwater port (a port of entry), an airport, and the focus of retail trade for a large surrounding area Set in a rich agricultural region producing cotton, sugar, strawberries, fruit, vegetables, cattle, and dairy products, it has numerous food-processing industries Chemical plants and woodwork factories are also important The chief industry, however, is oil refining, the Standard Oil plant here being one of the largest in the world The city retains much of its old French charm The old capitol (1882), built in the Gothic style of the original which was burned during the Civil War, still stands, a new capitol was occupied in 1932 LOUISIANA STATE UNIVERSITY AND AGRICULTURAL AND MECHANICAL COLLEGE is here, as are a state agricultural experiment station and the state schools for the deaf and the blind Near by is Southern University and Agricultural and Mechanical College (Negro; land grant; coeducational; 1880).

Batory: see STEPHEN BATHORY and BATHORY, family

Battenberg (bă'tnbûrg), princely family issued from the morganatic union of Alexander, a younger son of Louis II, grand duke of Hesse-Darmstadt, and Countess Julia von Hauke, who was created (1858) princess of Battenberg Their oldest son, Louis, an admiral in British service, was created marquess of Milford Haven, and married a granddaughter of Queen Victoria In the First World War he changed his name to Mountbatten His daughter Alice married Prince Andrew of Greece, third son of King George I of Greece, and their son, Prince Philip, married (1947) Princess Elizabeth of England Louis Mountbatten is third son of the 1st marquess of Milford Haven The second son of Prince Alexander of Hesse was (1879–86) prince of Bulgaria (see ALEXANDER) A third son, Henry, married Beatrice, daughter of Queen Victoria of England Their daughter, Victoria Eugenie, married Alfonso XIII of Spain

Battenberg lace or **Renaissance lace** see LACE

battering ram, machine used in war to destroy the walls of fortifications in ancient and medieval times The invention is very old and is sometimes attributed to the Phoenicians or to Archimedes The primitive battering ram was a huge beam borne on men's shoulders and crashed into a wall Later the beam was supplied with a metal cap and was suspended to be swung, still later it was laid on rollers and impelled by means of ropes The machine in its most elaborate form in the Middle Ages was mounted on wheels and had a protective roof, the beam was from 60 to 120 ft long, and the machine was operated by as many as 100 men The battering ram fell into disuse with the introduction of artillery

Battersea, metropolitan borough (1931 pop 159,552, 1948 estimated pop 116,500) of SW London, England, on the south bank of the Thames. The river is here crossed by the Albert and Chelsea bridges, along the shore between them stretches Battersea Park (nearly 200 acres) The borough is largely one of workingmen's residences This district suffered much damage in air raids in 1940–41

Battery, the, park at the southern extremity of Manhattan island, New York city, the site of Dutch and later English fortifications The municipal aquarium here (opened in 1896 and closed in 1941 because of the construction of the Brooklyn-Battery tunnel) occupied a historic structure Built as a fort (c 1807), it was converted into Castle Garden, a noted amusement hall and opera house Here Jenny Lind made her American debut (1850) under P T Barnum In 1855 Castle Garden became an immigration station, serving as such until Ellis Island opened in 1892 See Rodman Gilder, *The Battery* (1936)

battery, in law, the unlawful touching by an aggressor, or by some force put in motion by an aggressor of any part of the person of another or of anything worn or carried by another, e g , a stick The contact need not be by a direct blow, spitting on his clothes or performing an operation upon him without consent also constitute battery Every consummated ASSAULT is a battery, but a battery may also occur without any intent to direct the force against the one injured, as when it results from a negligent act To be the basis for a suit, a negligent battery must cause actual physical injury, whereas an intentional battery may render the aggressor liable to damages even if no direct physical injury has been done By the term "assault and battery" is meant an intentional or malicious physical injury, however slight, done to another's person in an offensive manner

battery, electric Commonly the term is used to describe an electric CELL, such as the "dry-cell battery," but more correctly it is applied to a group of cells acting together as a source of electric current In radio receiving sets in which batteries are used to supply the current, these batteries are given special names to indicate the part of the set which they supply The **A battery** or **filament battery** is a small electric battery which provides current to heat the FILAMENT in the vacuum tube of a radio receiver Both dry cells and storage batteries are used, and from 1 5 to 6 volts are necessary, according to the type of tubes used The current to the filament is controlled by a small, variable resistance, called a rheostat A batteries are used chiefly in portable and automobile sets The **B battery** is used to produce the necessary voltage on the plates of the vacuum tubes in a radio receiving set It is the source of the current in the PLATE circuit The battery is usually of the dry-cell type and consists of many small individual dry cells connected in series, the current consumed being very small The battery may also be of the storage type The standard dry-cell B battery is made in 45-volt size, and two or more batteries are used in each set Where direct current (DC) is available, it may be used, together with a suitable resistance, to replace the B battery This system has been extended to replace A and C batteries also, and the rectifying systems are incorporated in "all-electric" sets Such sets require only a single supply of current Even in automobile radios, a generator may be used to provide suitable current and so eliminate all batteries The **C battery** is used in the GRID circuit of a vacuum tube (see TUBE, VACUUM) for the purpose of creating a potential or bias (usually negative) on the grid of the tube C batteries are used in some detector-tube circuits, but they are more frequently found in amplification circuits The bias required for receiving sets varies from 1 5 to 45 or more volts, depending on the plate voltage and the type of tube used One of the chief advantages of using a C battery is the reduction of B battery or plate current Without grid bias, this would increase in large-power tubes to such a point that the tube would overheat and be destroyed In "all-electric" radio sets, the grid bias is almost always obtained from the rectified and filtered power supply that furnishes the plate voltage In this case the voltage is divided by means of resistances, so that the grid of the tube is slightly negative with respect to the filament or cathode (see ELECTRODE), and the plate is maintained at a relatively high positive voltage The **storage battery** is much used as a source of electric current, especially in the automobile It consists of a number of electric cells connected in series (see ELECTRIC CIRCUIT) Within each cell positive plates are connected together to form the positive electrode, and negative plates to form the negative electrode When the battery is being charged, an electric current is led into it causing a chemical reaction to take place In this reaction, electric energy is transformed into chemical energy, which later, by reversing the process, can be converted back into electrical energy and can thus cause a current to flow The lead storage battery is commonly used It is made up of a number of electric cells with plates of lead and lead oxide and is filled with a solution of sulphuric acid In discharging, the lead and lead oxide are acted upon by the sulphuric acid to form (in both cases) lead sulphate In the reaction electricity is generated

Battey, Robert, 1828–95, American surgeon, b Augusta, Ga , M D Jefferson Medical College, 1857 He practiced in Macon, Ga A specialist in diseases of women, he became internationally known for the introduction of new techniques and practices in abdominal surgery

Battle, former urban district (1931 pop 3,491), Sussex East, England, NW of Hastings In 1066 the battle was fought here which resulted in the death of Harold and the elevation of his Norman conqueror as WILLIAM I of England There are ruins of **Battle Abbey,** founded by William to commemorate his victory **Battle Abbey Roll,** which was kept here, was a purported list of the noble companions of William in his battle It exists only in 16th-century documents which are possibly copies of a 14th-century compilation, now lost The whole is of doubtful authenticity

battle In modern warfare the meaning of the word *battle* has broadened Though a battle may still be called a single conflict between armed forces of considerable size, a modern battle is likely to be fought in a much larger theater and over a longer period of time than in the past Sir Edward S Creasy made a list of 15 decisive battles of the world from 490 B C to 1815 They are Marathon (490 B C), Syracuse (413 B C), Arbela (331 B C), Metaurus (207 B C), the Teutoburg Forest (A D 9), Châlons-sur-Marne or Catalaunian Fields (451), Tour or Poitiers (732), Hastings or Senlac (1066), Orléans (1429), the victory over the Spanish Armada (1588), Blenheim (1704), Poltava (1709), Saratoga (1777), Valmy (1792), and Waterloo (1815) The list is, of course, arbitrary Other famous or decisive battles that affected the history of Europe and America are Salamis (480 B C), Issus (333 B C), Cannae (216 B C), Zama (202 B C), Pharsala (48 B C), Philippi (42 B C), Actium (31 B C), Adrianople (A D 378), Lechfeld (955), Bouvines (1214), Sluis (1340), Crécy (1346), Nikopol (1396), Agincourt (1415), Constantinople (1453), Pavia (1525), Mohacs (1526), Mühlberg (1547), Lepanto (1571), White Mt (1620), Lützen (1632), Rossbach (1757), Plassey (1757), Kings Mt (1780), Yorktown (1781), Aboukir Bay or battle of the Nile (1798), Austerlitz (1805), Trafalgar (1805), Leipzig (1813), Ayacucho (1824), Solferino (1859), Vicksburg (1863), Gettysburg (1863), Sedan (1870), Manila Bay (1898), Tsushima (1905), first and second battles of the Marne (1914, 1918), Jutland (1916), Verdun (1916), Coral Sea and Midway (1942), Alamein (1942), and Stalingrad (1942–43)

battle, wager of: see ORDEAL

Battle Abbey and **Battle Abbey Roll:** see BATTLE

Battle above the Clouds see CHATTANOOGA CAMPAIGN

Battle Creek, city (pop 43,453), S Mich , SW of Lansing, at the confluence of the Kalamazoo with the Battle Creek, settled 1831, inc. as a village 1850, as a city 1859 It is a farm trade center and is widely known for its cereal and other health foods Automobile parts, farm equipment, and ink are also made Dr J H Kellogg became director of the Health Reform Institute (founded 1866 by Seventh-Day Adventists) and reorganized it (1876) as Battle Creek Sanitarium. The W. K. Kellogg

Foundation (for child welfare) has headquarters here In the Leila Arboretum is the Kingman Memorial Museum of natural history Not far is the Kellogg Bird Sanctuary, a U S veterans' administration center and a convalescent hospital are at near-by Fort Custer

Battleford, town (pop 1,336), W Sask , at the confluence of Battle river with the North Saskatchewan NW of Saskatoon It is one of the oldest towns in the western part of the province, having served as capital (1876–83) of the Northwest Territories and figured prominently in Riel's Rebellion of 1885 North Battleford has become the business center of the region

Battle Hymn of the Republic, The: see HOWE, JULIA WARD

Battle of the Bulge, popular name of the battle in the Second World War, Dec , 1944–Jan , 1945, resulting from the last German attempt to break through the Allied lines on the Western Front On Dec 16, 1944, a strong German force, spearheaded by armor and commanded by Marshal von Rundstedt, attacked the thinly held American front in the Belgian Ardennes sector Taking advantage of the foggy weather and of the utter surprise of the Allies, the German columns penetrated deep into Belgium, threatening Spa, Liége, Namur, and Dinant, and thus created a dent, or "bulge," in the Allied lines Simultaneously, the supply centers of Liége and Antwerp were subjected to intensive punishment by rocket bombs Only a small American pocket at BASTOGNE held out against the onslaught Cut off from the headquarters of General Bradley at Luxembourg, the U S 1st and 9th armies were temporarily placed under Field Marshal Montgomery, while the U S 3d Army attacked the German salient from the south Improved flying weather after Dec 24 helped the Allied counterthrusts, which by mid-January, 1945, had cut off the German escape routes The German offensive soon turned into a total rout, but not without having cost the U S forces more than 40,000 casualties During the battle both sides—but especially the less warmly dressed Americans—suffered greatly from the intense cold and snow of the Ardennes

Battle of the Spurs. **1** Fought in 1302 near Courtrai, Belgium, between the rebellious Flemish towns, led by Bruges, and an army sent by Philip IV of France, who had annexed Flanders in 1301 The French were utterly defeated The spurs taken from the fallen French knights formed so huge a trophy that they gave the battle its name **2** Won in 1513 by the English under Henry VIII over the French, at GUINEGATE, N France This second battle received its name possibly because of the speedy flight of the French cavalry

battleship: see WARSHIP

Batu Khan (ba'tōō kän'), d 1255, Mongol commander, grandson of Jenghiz Khan In 1235 Batu was placed at the head of the Mongol army assigned to the conquest of Europe, his chief general was Subutai Batu crossed the Volga, sending part of his force to Bulgaria but most of it to Russia By 1240 he had Moscow and Kiev in his grasp, and in the following two years he conquered Hungary and Poland and invaded Germany His recall to Karakorum in 1242 to participate in the election of a grand khan is sometimes said to have saved Europe from subjection to the Mongols Batu died while preparing additional campaigns From the gorgeous tents in which he camped, his host was called the GOLDEN HORDE The domain which he established is known as the Kipchak khanate

Batum (bŭtōōm'), city (pop 70,807), capital of Adzhar Autonomous SSR, Georgia, USSR, on the Black Sea near the Turkish border, with a large and excellent port Connected by pipe lines with Baku, it is a major oil-refining and -shipping center, a naval base, and a subtropical resort An ancient city, Batum was ceded to Russia by Turkey in 1878 at the Congress of Berlin

Batwa see PYGMY

Batyushkov, Konstantin Nikolayevich (kŭnstăntyēn' nyĭkul'yĭvĭch bŭt'yōōshkôf), 1787–1855, Russian poet He wrote lyrics, epigrams, and elegies in the classical manner and was a translator of Tibullus, Petrarch, and Boccaccio

Batz, Jean, baron de (zhäⁿ' bärō' dŭ bats), 1761–1822, French counterrevolutionist conspirator A deputy of the nobles to the States-General of 1789, he opposed the Revolution from the start He vainly plotted to save Louis XVI and Marie Antoinette from the guillotine and was involved in every royalist conspiracy against the Convention Despite his recklessness he always managed to escape arrest Batz was made a general after the Bourbon restoration See Meade Minnigerode, *Marie Antoinette's Henchman* (1936).

Baucis, in Greek legend see PHILEMON AND BAUCIS

Baudelaire, Charles (sharl' bōdlâr'), 1821–67, French poet and critic Brilliant, erratic, and inordinately attached to his mother, Baudelaire destroyed his life by poverty, debt, misunderstanding, and excesses His only volume of verse, *Les Fleurs du Mal* (1857, enlarged 1861, 1868, Eng tr., *Flowers of Evil*, 1936, and *One Hundred Poems from "Les Fleurs du Mal,"* 1947), was publicly condemned as obscene, and six of the poems were suppressed A perfectionist who labored years on his work and was himself obsessed with morality, Baudelaire never fully recovered from the assault which he felt to be personal, and his affairs from that time declined progressively Although always haunted by inner despair, his work as a critic and as the translator of Poe, to whom he felt great affinity, earned him many friends and distinction in literary circles After two years in Belgium, where he lived in abject poverty, Baudelaire died in Paris See his letters to his mother (tr by Arthur Symons, 1927) and his intimate journal (tr by Christopher Isherwood, 1947), biography by Enid Starkie (1933), study by J D Benpett (1944)

Baudette (bôdĕt'), village (pop 1,017), co seat of Lake of the Woods co , N Minn , on Rainy River at the Canadian boundary It is a port of entry and lumber and farm trade town Headquarters of a Federal forest and game reservation and of a resettlement project are here Baudette was destroyed by forest fire in 1910 but rebuilt

Baudrillart, Jacques Joseph (zhäk' zhōzĕf' bōdrēyär'), 1774–1832, French writer on forestry and arboriculture He wrote *Dictionnaire de la culture des arbres et de l'aménagement des forêts* (1821) and *Traité générale des eaux et forêts, chasses et pêches* (10 vols , 1821–34)

Bauer, Georg see AGRICOLA, GEORG

Bauer, Harold, 1873–, Anglo-American pianist He was first a successful violinist, but in 1892 he studied the piano with Paderewski and has since earned international recognition as a pianist See *Harold Bauer His Book* (1948)

Bauer, Louis Agricola, 1865–1932, American magnetician, b Cincinnati, grad Univ of Cincinnati, 1888, Ph D Univ of Berlin, 1895 From 1899 he was lecturer on terrestrial magnetism at Johns Hopkins He served as chief of the terrestrial magnetism division of the U S Coast and Geodetic Survey (1899–1906) and as director of the department of terrestrial magnetism of Carnegie Institution (1904–29) Influential in coordinating work in magnetism in many parts of the world, he was a permanent member of the committee on terrestrial magnetism of the International Meteorological Conference and secretary and director of the central bureau of the section on terrestrial magnetism and electricity of the International Geodetic and Geophysical Union (1919–27) He founded in 1896 and edited until his death the periodical *Terrestrial Magnetism and Atmospheric Electricity*

Bauhaus (bou'hous), art school in Germany It revolutionized art training by combining the teaching of the pure arts with the study of crafts The Bauhaus was founded (1919) at Weimar when the old Weimar art academy was merged with a crafts school It was headed by Walter GROPIUS, with a faculty including Paul Klee, Lyonel Feininger, Vasily Kandinsky, Laszlo Moholy-Nagy, and Marcel Lajos Breuer The teaching plan, which insisted on functional craftsmanship in every field with a thorough realization by the student designers of the industrial problems of mechanical mass production, found vigorous opposition by politicians and academicians In 1925 the school moved to the more friendly city of Dessau, where Gropius designed special buildings to house the various departments Gropius resigned (1928) to return to private practice, and the leadership was continued by the architect Hannes Meyer, who in turn was replaced (1932) by Miés van der Rohe In the summer of 1932 the opposition to the school had increased to such an extent that the city of Dessau withdrew its support The school was then moved to Berlin, where they endeavored to carry on their ideas, but in 1933 the new German government closed the school entirely The Bauhaus ideas, enveloping design in architecture, furniture, weaving, and typography, among others, had by this time found wide acclaim in many parts of the world and especially in the United States Many of the instructors came here and encouraged and practiced further work with the same ideals The Chicago Institute of Design, founded by MOHOLY-NAGY, most completely carried on the teaching plan of the Bauhaus

Bauhin, Gaspard (gaspar' bōĕ'), 1560–1624, Swiss botanist and doctor of medicine, of French descent His early classification of plants by genus and species in his chief work, the *Pinax theatri botanici* (1623), anticipated the binomial arrangement of Linnaeus His elder brother, **Jean Bauhin** (zhäⁿ'), 1541–1613, was also a botanist and doctor of medicine A genus of plants, *Bauhinia*, was named for the brothers

Bauld, Cape, N F , at the extreme north end of the Great Northern Peninsula

Baum, Lyman Frank (bōm), 1856–1919, American writer of juvenile stories, b Chittenango, N Y Famous as the author of the Oz books, he wrote 14 in all. The first, *The Wonderful Wizard of Oz* (1900), was made into a musical extravaganza (Chicago, 1902), in which Fred Stone and Dave Montgomery rose to stardom, and in 1939 was made into a technicolor movie. The Oz books, many dramatized, were continued by R. P. Thompson after Baum's death.

Baumann, Oskar (ôs'kär bou'män), 1864–99, Austrian explorer in Africa He traveled up the Congo river to Stanley Falls (1885), and the following year explored Fernando Po, in the Gulf of Guinea. After accompanying a party to Mt Kilimanjaro in 1888, he explored East Africa for the German East African Society in 1890 and took a party (1892–93), to Victoria Nyanza where he found the Kagera river to be the chief tributary of the lake and the ultimate source of the Nile

Baumé, Antoine (ätwän' bōmā'), 1728–1804, French chemist He invented a graduated hydrometer (the scale of which is known as the Baumé scale) still used for specific gravity determinations and discovered various processes (e g , for the manufacture of sal ammoniac) important in industrial chemistry He wrote *Éléments de pharmacie théorique et pratique* (1762, 9th ed , 1818) and *Chimie expérimentale et raisonnée* (1773)

Bäumeler, Joseph Michael see BIMELER

Baur, Ferdinand Christian (fĕr'dĭnänt krĭs'tyan bour'), 1792–1860, German Protestant theologian He was from 1826 on the theological faculty of Tübingen He became convinced of Hegel's philosophy of history and studied Christian history and doctrines and the Bible from that point of view In New Testament criticism he rejected the authenticity of most of the books, using philosophical and literary criteria His methods and disciples were referred to as the Tübingen School

Bausch, Edward (boush), 1854–1944, American inventor of scientific devices, b Rochester, N Y From 1874 he was associated with the Bausch & Lomb Optical Company He worked with Edison on the kinetoscope and with Eastman on the camera and contributed largely to the development and perfection of microscopes and other instruments

Bautzen (bou'tsun), city (pop 38,524), Saxony, SE Germany, in Upper LUSATIA, on the Spree It has machine and textile industries Founded in the 10th cent , it was contested in the 11th and 12th cent by Poland, Meissen, Brandenburg, and Bohemia Eventually passing to Bohemia, it was burned (1634) in the Thirty Years War and in 1635 passed to Saxony In 1813 Napoleon I defeated a Russo-Prussian army near by Since 1921 Bautzen has been the see of the Catholic suffragan bishop of Meissen

Baux, Les (lā bō') ruined medieval town (pop c 60), Bouches-du-Rhône dept , SE France, near Arles Once the seat of a powerful feudal family, it is now a remarkable historical monument Bauxite, first discovered here, was named after Baux and is mined in the vicinity

Bauxite (bôk'sīt), unincorporated "company town" (pop 1,821), Saline co , central Ark , SW of Little Rock, in the midst of rich bauxite mines

bauxite, the hydrate of alumina, mixed with oxides of iron, silicon, or titanium in varying quantities It is a noncrystalline mineral, claylike, earthy, and ranging in color from white to deep brown or red, depending upon the nature and quantity of its components Its composition varies, alumina constituting from about 50 to about 70 percent It is widely distributed, the larger deposits occurring in Russia, Italy, Ireland, France (at Baux, where it was first discovered and from which it received its name), and the United States (Alabama, Arkansas, and Georgia) It is important as the chief source of metallic ALUMINUM, alumina, alums, and alundum—in fact, of most aluminum compounds It is used also, mixed with clay or lime, to line furnaces, because of its high melting point

Bavai (bäv'āī, bāvā'ī), the same as BINNUI **1.**

Bavaria, Ger *Bayern* (bī'urn), state (without LINDAU and the Rhenish PALATINATE 27,119 sq mi., pop 9,029,090), S Germany MUNICH is the capital Bavaria is bounded by Czechoslovakia on the east, by Austria on the southeast and south, by Württemberg and Baden on the west, and by Hesse, Thuringia, and Saxony on the north Bavaria is divided into seven administrative and historical districts—Upper and Lower Bavaria, Upper, Middle, and Lower FRANCONIA, SWABIA, and the Upper PALATINATE Upper Bavaria, with Munich as its capital, rises to the Bavarian Alps, along the Austrian border, and culminates in the Zugspitze Between the Alps and the BOHEMIAN FOREST, which forms the border with Czechoslovakia, lies a high plateau, traversed from west to east by the Danube Lower Bavaria comprises parts of that plateau and of the Bohemian Forest, its capital, PASSAU, lies on the junction of the Danube and the Inn The FICHTELGEBIRGE, in NE Bavaria, occupies the Upper Palatinate The lowest-lying part of Bavaria is the Main river valley, at its northeastern extremity, in Lower Franconia The population of Bavaria is about evenly divided between agricultural and industrial pursuits, but the country, especially in Bavaria proper (i e , Upper and Lower Bavaria), is predominantly rich, softly rolling agricultural land Major industrial products are machinery, instruments, beer, and textiles There are important home industries such as the making of toys and musical instruments Salt and graphite are the chief mineral resources The scenic beauties and the picturesque local customs and costumes of the Bavarian Alps attract many tourists. Among

the resorts are GARMISCH-PARTENKIRCHEN and OBERAMMERGAU and the spas Bad Kissingen and Bad Reichenau Until the Second World War the historic cities and artistic centers, AUGSBURG, NUREMBERG, BAMBERG, WÜRZBURG, and ROTHENBURG OB DER TAUBER (all in Swabia and Franconia) were also major tourist attractions The borders of Bavaria varied considerably throughout its long history Until the early 19th cent Bavaria did not include Swabia and Franconia, which have separate histories The region was inhabited by Celts when Drusus conquered it (15 B C) for Rome The Baiuoarii (see GERMANS) invaded it (6th cent A D) and set up the duchy to which they gave their name St Boniface (8th cent) completed its Christianization In 788 Charlemagne defeated Duke Tassilo and added Bavaria to his empire From 817 to 911 Bavaria was ruled by the Carolingians LOUIS THE GERMAN, CARLOMAN (d 880), Emperor ARNULF, and LOUIS THE CHILD In 911 the duchy (then comprising, roughly, Bavaria proper, present Austria, and part of the Upper Palatinate) came under native rulers Frequent Magyar inroads were stopped (955) by Emperor OTTO I, who in 947 gave Bavaria to his brother Henry Henry's grandson was duke of Bavaria when he was elected (1002) German king as Henry II After his accession Bavaria was ruled by various houses, but in 1070 Emperor Henry IV gave the fief to Welf or Guelph d'Este IV (see ESTE) who began the dynasty of the GUELPHS From the 9th to the 12th cent the Bavarian dukes, of whatever house, were at the center of the rebellions of the great German princes against the imperial authority To reduce their power Emperor OTTO II in 976 stripped the duchy of all but present Upper and Lower Bavaria and the Tyrol When in 1137 the Guelph HENRY THE PROUD acquired Saxony in addition to Bavaria, Emperor CONRAD III deposed him and gave Bavaria to the BABENBERG rulers of Austria Frederick I restored (1154) Bavaria to HENRY THE LION, but in 1180 deposed the rebellious Guelph and bestowed the duchy (from which he detached the Tyrol) to Otto of Wittelsbach The political history of Bavaria, much reduced in importance, became that of the WITTELSBACH family, which ruled until 1918 The Wittelsbach fiefs, including the Rhenish Palatinate (acquired in 1214) were almost always divided among the numerous branches of the dynasty Under the Wittelsbach emperor LOUIS IV (1314–46) Bavaria was briefly reunited Duke Albert IV (d 1508), who again united Bavaria (except the Rhenish Palatinate) under his rule, introduced the law of *primogeniture*, thus Bavaria entered the Reformation period much strengthened The triumph of Catholicism in Bavaria proper was crucial for its later history Duke MAXIMILIAN I headed the Catholic League in the Thirty Years War and was rewarded with the Upper Palatinate and the rank of ELECTOR The agricultural wealth and the strategic position of Bavaria made it a coveted prize and a favorite battleground then and later Bavaria was overrun by foreign armies notably in the War of the SPANISH SUCCESSION, the War of the AUSTRIAN SUCCESSION, the War of the Bavarian Succession, and the French Revolutionary Wars Elector Maximilian, who in 1799 united all Wittelsbach lands, allied himself with Napoleon I, joined the CONFEDERATION OF THE RHINE, and in 1806 was proclaimed king of Bavaria as MAXIMILIAN I, and later gained much territory In 1813 Maximilian abandoned Napoleon and joined the Allies, who at the Congress of Vienna left him in possession of virtually all present Bavaria, including the Rhenish Palatinate In the period of reaction that followed, Bavaria stood out for the liberalism of its government The liberal constitution of 1818 lasted exactly a century King LOUIS I, dethroned by the mild revolution of 1848, was succeeded by the able MAXIMILIAN II and the brilliant but insane LOUIS II All three rulers had a passion for the arts, sciences, and architecture The reputation of Bavaria, particularly Munich, as a cultural center dates from their reigns The abolition (1848) of guild restrictions opened the way for industrialization However, the rural prosperity of Bavaria and the strong influence of the Catholic Church (which predominates except in the Upper Palatinate and in Middle Franconia) accented the hostility of Bavaria toward the rising power of Prussia Bavaria sided with Austria in the Austro-Prussian War (1866) Defeated, it acknowledged Prussian leadership, sided with Prussia against France in 1870–71, and joined (1871) the German Empire As the chief German state after Prussia, Bavaria retained a distinctive position and a separatist tendency King LOUIS III, successor of the mad OTTO I, was dethroned in Nov, 1918, and a Socialist republic was set up under Kurt EISNER Eisner's assassination resulted in a Communist revolution (April, 1919), which was bloodily repressed by the German army. Bavaria joined the Weimar Republic Though Munich soon became the center of National Socialism, Catholic Bavaria as a whole resisted the movement until Hitler's accession Under the National Socialist regime Bavarian autonomy was lost. Conquered by American troops in 1945, Bavaria was placed (except for the Rhenish Palatinate and Lindau, occupied by France) in the U S zone of occupation A new constitution was drawn up in 1946

Bavarian Succession, War of the, 1778–79 Elector Maximilian III having died childless in 1777, the duchy of Bavaria passed to the elector palatine, Charles Theodore, of the Sulzbach line of the house of WITTELSBACH However, by a secret treaty with Emperor Joseph II, Charles Theodore, in exchange for certain concessions, ceded Bavaria to Austria, which occupied the duchy Charles Theodore had no legitimate issue, his heir presumptive, Duke Charles of Zweibrücken (of the Birkenfeld line) with the council of Frederick II of Prussia protested the transfer of his inheritance Prussia declared war on Austria and invaded Bohemia No serious engagement took place, and the war ended with the Congress of Teschen (1779) Austria renounced its claims but retained the Innviertel, a district now in Upper Austria A classic example of 18th-century cabinet warfare, the conflict has been called the *Potato War* because the entire campaign was spent in provisioning the armies

Bax, Sir Arnold, 1883–, English composer, studied at the Royal Academy of Music, London His early works, in a highly complex style, did not find great public recognition, but works in a simpler style, composed after 1910, brought him recognition as one of the outstanding contemporary British composers Wagner, French impressionism, and Celtic folklore all influenced his works, among which are piano pieces, four piano sonatas, the tone poems *In the Faëry Hills* (1909), *The Garden of Fand* (1916), and *Tintagel* (1917), chamber music, the motet *Mater ora Filium* (1921), *Symphonic Variations* (1917) and *Winter Legend* (1930) for piano and orchestra, ballets, songs, and concertos Between 1921 and 1939 he composed seven symphonies He was knighted in 1937 In 1942 he succeeded Walford Davies as Master of the King's Musick

Bax, Ernest Belfort, 1854–1926, English socialist philosopher He studied music and philosophy in Germany In England, influenced by Marxist and other radical thought, he became active in socialist groups, especially the Social Democratic Federation He left this to help found (1885), with William Morris, the Socialist League, but returned when the League veered to anarchism With Morris he wrote *Socialism Its Growth and Outcome* (1893) His other writings include *The Problem of Reality* (1893, rev ed, 1914), *The Fraud of Feminism* (1913), and *The Real, the Rational, and the Alogical* (1920) See his autobiography (1918)

Baxar, India see BUXAR

Baxley, city (pop 2,916), co seat of Appling co, SE Ga, WSW of Savannah, inc 1875 It is a market center for a tobacco, pecan, and lumber area

Baxter, Gregory Paul, 1876–, American chemist, b Somerville, Mass, grad Harvard (B A, 1896, Ph D, 1899) He taught chemistry at Harvard from 1902 and became emeritus professor in 1944 From 1930 to 1947 he was chairman of the International Committee on Atomic Weights He wrote with others *Researches upon the Atomic Weights* (1910)

Baxter, Richard, 1615–91, English nonconformist clergyman Ordained in 1638, he began his ministry at Kidderminster in 1641 He sided with Parliament when the civil war broke out and served (1645–47) as a chaplain in Cromwell's army, where he urged moderation in both religious and political opinions Upon the Restoration, Baxter was chosen by Charles II as one of the royal chaplains He took a leading part at the Savoy Conference (1661), where he strove to provide means that would permit moderate dissenters to stay in the Church of England He declined an offer of the bishopric of Hereford, and with the passage of the Act of Uniformity (1662) he took farewell of the Church of England Despite the persecution of nonconformist ministers, Baxter continued preaching, he was imprisoned for 18 months, after a trial conducted with great brutality by Judge Jeffreys, on the charge of having libeled the Church of England in his *Paraphrase of the New Testament* (1685) Among Baxter's voluminous works are *The Saints' Everlasting Rest* (1650), *Gildas Salvianus, the Reformed Pastor* (1656), and *A Call to the Unconverted* (1657) His autobiographical *Reliquiae Baxterianae* (1696) was edited (1925) by J M L Thomas See biography by F J Powicke (2 vols, 1924–27)

Baxter Springs, city (pop 4,921), SE Kansas, near the Okla and Mo lines, settled c 1850, inc 1868 Now the rail center for an area of zinc and lead mining, it boomed as a cow town during the 1860s and 1870s A monument in near-by Baxter Springs National Cemetery commemorates the victims of the Baxter Springs massacre (1863), in which a force under W C Quantrill killed 87 men.

bay or **sweet bay,** see LAUREL

Bayamo (bäyä'mō), town (pop 16,161), SE Cuba, on the Bayamo river Founded in 1513, it was an inland port until the 19th cent and is now a quiet agricultural town, where cheese and canned milk are manufactured. Once it was a breeding place of revolutions—the TEN YEARS WAR (1868–78) and the successful revolt begun in 1895 Carlos Manuel de CÉSPEDES and ESTRADA PALMA were born here

Bayamón (bayamōn'), town (pop 14,596), N Puerto Rico, just SW of San Juan Traditionally the district was the first settled on the island Tropical fruits, sugar, tobacco, and coffee are grown, industries include cigar making and the canning of grapefruit and pineapples

Bayard, James Asheton (bī'urd), 1767–1815, U S Representative (1797–1803) and Senator (1804–13) from Delaware, b Philadelphia, grad Princeton, 1784 Admitted to the bar in 1787, he began practice at Wilmington, Del Bayard, a prominent Federalist, played a leading part in securing Thomas Jefferson's election as President over Aaron Burr in 1800 In 1814 he served on the commission which negotiated the difficult Treaty of Ghent (see GHENT, TREATY OF) ending the War of 1812 His papers were edited (1915) by Elizabeth Donnan

Bayard, James Asheton, 1799–1880, U S Senator from Delaware (1851–64, 1867–69), b Wilmington, Del, grad Union College, 1818, son of James Asheton Bayard (1767–1815) A Jacksonian Democrat in Whig Delaware, he continually failed of election to public office until 1851, when a combination of parties favoring the Wilmot Proviso sent him to the Senate His Unionist sentiments led him into the new Republican party, but he bitterly opposed the dominant radical Republicans and in 1864 resigned He was elected again, however and served (1867–69) as a Democrat and supporter of President Andrew Johnson's Reconstruction policy His son, Thomas Francis BAYARD, succeeded him

Bayard, Pierre du Terrail, seigneur de (bī'urd, pyĕr' du tĕrī'yu sānyûr' du bāyar'), c 1474 1524, French military hero, called *le chevalier sans peur et sans reproche* [the knight without fear or blame] He exhibited bravery and genius as a commander in all the important battles of the Italian Wars, from Fornovo (1495) to the Sesia, in which he was killed (1524) His defense of Mézières (1521) saved central France from an imperial invasion See biography by Samuel Shellabarger (1928)

Bayard, Thomas Francis (bī'urd), 1828–98, U S statesman, b Wilmington, Del, son of James Asheton Bayard (1799–1880) He began his law practice at Wilmington (1851) An active Democrat, Bayard was elected U S Senator (1869) to succeed his father, and was reelected in 1875 and in 1881 He became Secretary of State during Cleveland's first administration and was ambassador to Great Britain during Cleveland's second presidency In both posts he was much concerned with the VENEZUELA BOUNDARY DISPUTE

Bayard (bā'urd), city (pop 2,121), W Nebr, on the North Platte below Scottsbluff, in an irrigated area, founded c 1887 Beet sugar is produced here

Bayard (bā'urd), Ital *Bayardo* (bayar'dō), in romances of chivalry, a wonderful bay horse, remarkable for his spirit and for his unique ability to fit his size to his rider He appears in Boiardo, Ariosto, and Tasso

Bayazid or **Bayazit** see BAJAZET

bayberry, name for some of the species of the genus *Myrica*, wild or cultivated American shrubs, growing chiefly near the eastern seacoast The species most commonly known as bayberry is *Myrica carolinensis*, which bears numerous small, gray, stemless berries that are very waxy These persist on the bush through the winter and are often sold for winter bouquets, but they have long been particularly valued for making bayberry candles, for which they are gathered in the fall, boiled to extract the waxy substance, refined by remelting, and made into the aromatic green candles now largely used at Yuletide The berries may yield 4 or 5 lb of wax to the bushel Besides being used in candles, the wax is sometimes employed in making scented soap and sealing wax Other names for the bayberry are wax myrtle and candleberry, another species (*Myrica cerifera*), similar in appearance, is also called bayberry and candleberry, but is more commonly known as wax myrtle It is sometimes used as a substitute for the bayberry, and the bark has been used as a tonic and astringent The leaves of the bayberry may be retained into early winter, while those of the wax myrtle are sometimes evergreen There is a California bayberry (*Myrica californica*) on the West Coast The commercial bayberry, yielding the oil of bay used in BAY RUM, is a West Indian tree

Bay City **1** City (pop 47,956), co seat of Bay co, S Mich, on the Saginaw near its mouth on Saginaw Bay, settled c 1831, inc as a village 1859, as a city 1865 It is a port of entry, and its fine river harbor carries Great Lakes and ocean shipping and fishing tugs The vicinity is rich in Indian relics In the 1890s the city's thriving lumber industry declined, today coal mining, commercial fishing, and sugar refining are among its many industries Its chief products include automobile parts, heavy machinery, and boats The county historical society maintains exhibits here Near by are a state park and fish hatchery **2** Town (1940 pop 6,594, 1947 estimated pop 9,000), co seat of Matagorda co, S Texas, SW of Houston and near the Colorado, inc 1901 It is a shipping and industrial center for a region producing oil, rice, poultry, and live stock

Bayer, Johann (yō'hän bī'ûr), 1572–1625, German astronomer. His *Uranometria* (1603), a star chart in 51 sheets, added 12 new constellations to the 48 previously charted He introduced (1603) the system of designating the stars in a constellation (usually in the order of their brightness) by letters of the Greek alphabet

Bayeux (bāyō'), Fr bayû'), town (pop. 8,744), Calvados dept., N France, in Normandy, near the English Channel A Roman town and early an episcopal see, it was burned (1105) by Henry I of England Sections of its Romanesque church withstood the fire and form a part of the remarkable Gothic cathedral Bayeux was the first French town to be liberated from German occupation when it was entered (June 8, 1944) by British troops

Bayeux tapestry. This so-called tapestry is in fact an embroidery, which chronicles the Norman conquest of England by William the Conqueror in 1066 It is a long, narrow strip of coarse linen, 230 ft by 20 in., embroidered in worsteds of eight colors in couching and stem stitch The embroidery is a valuable document on the history and the costumes of the time Its prominence and date have long been disputed Tradition attributes it to Queen Matilda, wife of William the Conqueror, and her handmaidens, but it is now thought to be of somewhat later origin and possibly the work of English embroiderers The embroidery is preserved in the Bayeux Museum See F R Fouke, *The Bayeux Tapestry* (1875), Hilaire Belloc, *The Book of the Bayeux Tapestry* (1914), Sir Eric Maclagan, *The Bayeux Tapestry* (1945)

Bayfield, city (pop 1,212), N Wis., on Lake Superior N of Ashland, settled 1856, inc 1913 It is a fishing resort and fruit center The Apostle Islands are reached from here

Bay Islands, archipelago, off the north coast of Honduras, in the Caribbean Of the three principal islands (Roatán, Guanaja, and Utila), Roatán is the largest Guanaja (or Bonaca) was visited by Columbus in 1502 The climate is sultry The chief products are tropical fruits and the logwood that was being exploited by English logcutters (the baymen) as early as the 17th cent British garrisoning of the islands in 1848 led to unrest, which was ended by the CLAYTON-BULWER TREATY (1850) and relinquishment of British rights (1859) to Honduras Dissatisfied, the English inhabitants requested and from the American filibuster, William WALKER, who was shot at TRUJILLO The population today retains many British characteristics

Baykal. see BAIKAL

Bayle, Pierre (pyĕr' bāl'), 1647–1706, French rationalistic philosopher He was of Huguenot background; from 1681 he taught at Rotterdam The chief work propounding his views was a biographical dictionary, *Dictionnaire historique et critique* (1697) Bayle's opinions had a profound influence on the French and German ENLIGHTENMENT, especially on the authors of the *Encyclopédie*, and on the English deists See Howard Robinson, *Bayle, the Sceptic* (1931); L P Courtines, *Bayle and England* (1938)

Baylen, Spain see BAILÉN

Bayley, Richard, 1745–1801, American physician, b Fairfield, Conn., pupil of William Hunter He practiced in New York city and taught anatomy and surgery at Columbia Public feeling against dissection of the human body by anatomists took the form of violence when the "Doctor's Mob" destroyed (1788) his valuable anatomical collection He made thorough studies of yellow fever and prepared a valuable account of the disease (1796) during the epidemic of 1795 in New York city As health officer of the port of New York he was influential in setting up quarantine laws He died as a result of contracting yellow fever

Bayliss, Sir William Maddock (bā'lĭs), 1860–1924, English physiologist At University College, London, he carried on researches in the mechanism of heart action, circulation, and digestion With E H. STARLING he discovered, in 1902, secretin, a hormone produced in the small intestine, and developed the theory of hormone action He wrote *Principles of General Physiology* (1914) and *The Vaso-Motor System* (1923)

Baylor, Robert Emmett Bledsoe, 1793–1873, American jurist, b Kentucky He served in the War of 1812, studied law, served in the Kentucky legislature, moved (1820) to Alabama, served in the Alabama legislature, and was (1829–31) a U S Representative from Alabama before moving again (1839), this time to Texas. He was a judge in the republic of Texas and was prominent in drafting the state constitution, which became operative on the annexation of Texas He was a judge under the new constitution. Baylor was also a Baptist preacher and is chiefly remembered because he drew up and secured passage of a charter for the Baptist college that became Baylor Univ

Baylor University, mainly at Waco, Texas, coeducational, chartered and opened 1845 by Baptists (see BAYLOR, ROBERT E B) at Independence, moved 1886 and absorbed Waco Univ (chartered 1861) The college of medicine is in Houston, the college of dentistry and the nursing school are in Dallas. The library has a noted Robert Browning collection.

Bay Minette (mĭnĕt'), town (pop. 1,763), co. seat of Baldwin co., SW Ala., NE of Mobile, in a farm area, founded c.1861 It produces naval stores. Indian mounds are near by The region has fine hunting and fishing grounds

Baynes, Thomas Spencer, 1823–87, British editor, b Wellington, Somerset, studied at the Univ of Edinburgh He was editor (1850–54) of the Edinburgh *Guardian* and assistant editor (1858–64) of the London *Daily News* From 1864 until his death he was professor of philosophy and English literature at the Univ of St Andrews, from 1873 he was also editor of the ninth edition of the *Encyclopaedia Britannica* He wrote *Essay on the New Analytic of Logical Forms* (1850) See his *Shakespeare Studies and Other Essays* (with memoir by Lewis Campbell, 1894)

Bay of Whales see ROSS SEA and ANTARCTICA

Bayonne (bāyŏn'), city (pop 28,110), Basses-Pyrénées dept., SW France, in Gascony, on the Adour near its entrance into the Bay of Biscay Basque is spoken here, as well as French and Spanish The seaport, fortified by Vauban, has an arsenal and shipyards Here Napoleon I forced CHARLES IV and FERDINAND VII of Spain to abdicate (1808) At the end of the Peninsular War Bayonne resisted its British besiegers for several weeks until the conclusion of the armistice (1814) Bayonne gives its name to the bayonet, invented here in the 17th cent The cathedral of Bayonne (13th cent.) is copied from those of Soissons and Rheims There is a museum of Basque folklore and a splendid fine arts museum, left to the city by the painter Bonnat, who was born here

Bayonne (bāyōn'), city (pop 79,198), NE N J., on a 3-mile peninsula S of Jersey City, between New York harbor and Newark Bay, inc 1869 A bridge, 1,675 ft long, opened in 1931, connects Bayonne with Staten Island Dutch traders came c 1650, the British gained possession in 1664 The U S navy has a dry dock and supply depot here Bayonne has had great oil refineries since 1875, and the oil pipe line from the Southwest comes here.

bayou (bī'ō, bī'ōō) [Louisiana Fr., from Choctaw, = small stream], term used chiefly in the Gulf states, especially Louisiana and Mississippi (the "Bayou State"), to describe a body of water formed by a branch of the Gulf of Mexico, a lake, or a river in which the water is apparently quite stationary or only very sluggishly moving The term is sometimes used as a synonym of OX-BOW LAKE

Bayport, village (pop 2,633), E Minn., on the St Croix and E of St Paul The state prison is here

Bay Psalm Book, common hymnal of the Massachusetts Bay colony Written by Richard Mather, John Eliot, and Thomas Weld, it was published in 1640 at Cambridge as *The Whole Book of Psalms Faithfully Translated into English* The announced effort of the authors to make a literal rendering at the expense of elegance is successful if the crudity of the verse be a criterion This was the first book published in the Thirteen Colonies

Bayreuth (bīroit'), city (pop 55,612), capital of Upper Franconia, Bavaria, on the Red Main river It manufactures textiles and metal and food products Founded in 1194, Bayreuth belonged to the HOHENZOLLERN family from 1248 to 1807, when it was ceded to France In 1810 it came to Bavaria The city was the residence (1872–83) of Richard WAGNER Annual music festivals of international importance, held at the Festspielhaus, were interrupted by the Second World War Wagner and Franz Liszt are buried at Bayreuth, which suffered heavy war damage "Villa Wahnfried," Wagner's residence, was completely destroyed

Bay Roberts, town (1945 pop 1,281), SE N F., on Conception Bay and S of Harbour Grace. It was formerly the base for a great fleet of fishing schooners that fished on the Labrador banks A transatlantic cable station is here

bay rum, aromatic liquid used chiefly for the hair as a cosmetic and a perfume It originated in the West Indies, where it was prepared by distillation from rum and bay leaves It is now commonly a mixture of oil of bay (from a bayberry), alcohol, water, oil of pimento, and oil of orange peel

Bay Saint Louis (lōō'ĭs), resort city (pop 4,138), co seat of Hancock co., S Miss., on Mississippi Sound W of Gulfport and at the entrance to St Louis Bay, inc 1854 Settled about the turn of the 19th cent., it was first called Shieldsborough

Bay Shore, unincorporated village (pop 8,631), on the south shore of Long Island, SE N Y At the widest point of Great South Bay, it is noted as a fishing and duck-hunting center A ferry runs to Fire Island

Bay Springs, lumber-processing town (pop 1,228), a co seat of Jasper co., SE Miss., N of Hattiesburg, settled 1896, inc 1904.

Baytown, city (1948 estimated pop 20,000), S Texas, on Galveston Bay and SE of Houston It was formed in 1947 by the combination of three cities, Goose Creek, Pelly, and Baytown The region produces oil, and the city has oil refineries, chemical plants, and docks that send large shipments of oil across the world

Bay Village, village (pop 3,356), NE Ohio, western suburb of Cleveland.

Bayville, village (pop. 1,516), on the north shore of Long Island, SE N.Y.; inc. 1919. It is included in Oyster Bay town.

Baza (bā'thä), city (pop 14,330), Granada prov., S Spain, in Andalusia In a fertile agricultural area, it is noted for its cattle An important city of the Moorish kingdom of Granada, it fell to the Spanish in 1489.

Bazaine, Achille François (ăshēl' frăswä' bāzĕn'), 1811–88, marshal of France After service in Algeria, Crimea, Lombardy, and Mexico, he was at the outbreak of the FRANCO-PRUSSIAN WAR (1870) put in command of the 3d Corps of the Army of the Rhine In Aug., 1870, Napoleon III devolved his supreme command on Bazaine, whose incompetence was rivaled only by that of the emperor himself Bazaine allowed his army to be invested at Metz The attempt of Marshal MACMAHON to rescue him led to the disaster of Sedan. Bazaine then engaged in questionable diplomatic intrigues with the Germans in the hope of joining them in a march on Paris and of "saving France from herself"—i e, from a revolution The result was his capitulation at Metz (Oct 27). Found guilty of treason in 1873, he was sentenced to 20 years' seclusion but escaped and spent the rest of his life in Italy and Spain See Philip Guedalla, *The Two Marshals: Bazaine, Pétain* (1943).

Bazán, Álvaro de see SANTA CRUZ, ÁLVARO DE BAZÁN, MARQUÉS DE

Bazán, Emilia Pardo see PARDO BAZÁN

Bazard, Saint-Amand (sĕtämä' bazär'), 1791–1832, French socialist, founder of a Carbonarist republican society, *Les Amis de la vérité* [Friends of Truth], in 1818 Bazard plotted for the overthrow of the monarchy but was unsuccessful He adopted the socialistic doctrines of Saint-Simon and, with ENFANTIN, headed the Saint-Simonian movement until he withdrew after a quarrel

Bazargic, Bulgaria see DOBRICH

Bazin, René (runä' bāzĕ'), 1853–1932, French novelist His novels, artistic, charming, sensitive, were often intended to propagate Christian morality *Les Oberlés* (1901, Eng tr., *The Children of Alsace*, 1912), and *Le Blé qui lève* (1907, Eng tr., *The Coming Harvest*, 1908) are notable

Bazlith (bāz'-) [Heb., = nakedness], family in the return from exile Neh 7 54. This is the **Bazluth** of Ezra 2 52

Bazoche see BASOCHE

Bazzi, Giovanni Antonio see SODOMA, IL.

B battery: see BATTERY, ELECTRIC

bdellium (dĕl'ĭum), gum resin obtained from trees of the genus *Commiphora* (or *Balsamodendron*) It is similar to myrrh Bdellium is mentioned in the Bible (Gen 2 12, Num 11 7).

Be, chemical symbol of the element BERYLLIUM

Beach, Chester, 1881-, American sculptor, b San Francisco, studied in Paris and Rome He is one of the few artists who are also craftsmen, able to cut from the marble in the rough the figures of their imagining Among his works are large groups for the Panama-Pacific Exposition, San Francisco, 1915, reredos for St Mark's Church, *The Sacred Fire* for the American Academy of Arts and Letters and *Service to the Nation* for the American Telephone and Telegraph Company Building, New York, fountain, Cleveland Museum of Art, and portrait head of Mrs Beach, Art Institute of Chicago

Beach, Harlan Page, 1854–1933, American Congregational missionary and educator, b South Orange, N J., grad Yale, 1878, and Andover Theological Seminary, 1883 He served (1883–90), as a missionary in China, as superintendent (1892–95), of the School for Christian Workers, Springfield, Mass., as educational secretary (1895–1906) of the Student Volunteer Movement for Foreign Missions, as professor (1906–21) of the theory and practice of missions at Yale, and as lecturer on missions (1921–28) at Drew Theological Seminary He wrote numerous books about missions and was co-author of the *World Missionary Atlas* (1925)

Beach, Mrs. H. H. A., 1867–1944, American composer and pianist, b Henniker, N H She was Amy Marcy Cheney before her marriage She received her piano training in the United States and toured both here and in Europe In composition she was largely self-taught Her Gaelic Symphony (1896) was the first important symphony by an American She composed a piano concerto, many songs, including *Ah, Love, but a Day*, and choral music, including *The Canticle of the Sun* (1928).

Beach, Moses Yale, 1800–1868, American journalist, b Wallingford, Conn. He invented a rag-cutting machine still used by paper mills. In 1838 he bought the New York *Sun* from his brother-in-law, Benjamin Day, for whom he had been working Beach found the *Sun*'s chief competitor in the penny-paper field to be the New York *Herald*, edited by James Gordon Bennett. The rivals used ingenious means to get news fast—the *Sun* even kept carrier pigeons in a special house atop its building Costs, especially during the Mexican War, mounted so much that at a conference in Beach's office the editors of a number of New York newspapers established the New York Associated Press to cooperate in securing the news. Beach is credited with the first European

edition of an American paper, the weekly *American Sun* (1848), and with starting the newspaper syndicated article In 1848 he turned the paper over to his sons, Alfred E and Moses Sperry Beach. See F. M. O'Brion, *The Story of the Sun* (1918).

Beach, city (pop. 1,178), co. seat of Golden Valley co., SW N.Dak., W of Bismarck and near the Mont. line; inc. 1910 It is a grain-shipping center

beach grass or **marram grass,** any species of the genus *Ammophila,* sand-loving grasses important in the control of shifting sands The European beach grass has been used to hold dunes in Europe and was early planted at Cape Cod to bind the sands, later it was used at Golden Gate Park and elsewhere in the United States. The American beach grass is native to dunes of the Great Lakes and much of the eastern seacoast. Beach grasses have creeping rootstalks which form mats of roots

beach plum: see PLUM

Beachy Head, high chalk cliffs on the south coast of Sussex, England, SW of Eastbourne The battle of Beachy Head, in the War of the Grand Alliance, was fought (June 29, 1690) between an Anglo-Dutch fleet and the French fleet under the comte de Tourville, it resulted in a French victory

Beacon, city (pop 12,572), SE N Y, on the east bank of the Hudson opposite Newburgh, inc as a city 1913, when Fishkill Landing and Matteawan (măt'ŭwän') villages were united An inclined railway here ascends Mt Beacon The city's chief products are hats and rubber goods Matteawan State Hospital for insane criminals is here Several historic buildings remain A tuberculosis hospital for veterans is at near-by Castle Point

Beacon Falls, town (pop 1,756), SW Conn., on the Naugatuck S of Waterbury, settled c 1678, inc 1871.

Beaconsfield, Benjamin Disraeli 1st earl of: see DISRAELI, BENJAMIN

Beaconsfield (bē'kŭnz-, bĕk'unz-), urban district (1931 pop 4,840, 1943 estimated pop 6,000), Buckinghamshire, England Disraeli became earl of Beaconsfield in 1876 The town is the burial place of Edmund Burke

bead [Mid Eng.,=prayer or something on which a prayer is said, as a ROSARY bead], used from prehistoric times in ornament and costume, for jewelry, and as embroidery on garments and accessories Beads were early employed as talismans and amulets, and Phoenician relics illustrate their use in barter Beads have been made from innumerable materials, including shells, seeds, clay, metals, ivory, and glass, and from precious and semiprecious stones Characteristic beads have been developed in certain localities—of colored glass in Venice, jet in Central Europe, faïence in Egypt, carved ivory in China Amber, coral, amethyst, and jade are among the substances believed to confer peculiar benefits on their wearers Pearls, real and imitation, have been highly favored both in strings and in embroidery "Eye beads" have been made in different times and places to wear as a protection from the "evil eye" The manufacture of trade beads has long flourished in Europe, beads being found valuable in dealing with primitive people Such glass beads, first brought by white traders, have been used by the American Indians in embroidery on fine leather Modern fashion employs a wide diversity of beads, in costume jewelry, embroidery, millinery, bags, purses, and various accessories

beaded lizard: see GILA MONSTER

Beadle, Erastus, 1821–94, American publisher, b Pierstown, N Y. He learned the printer's trade at Cooperstown, N Y, and about 1848 set up his own shop in Buffalo In 1851 he issued the first *Dime Song Book* and afterwards other songbooks that printed and preserved the cheaper lyrics of the period In 1852 he began to publish game books and manuals, and in 1856 he started the *Home Monthly,* which soon had a large circulation In 1860, having moved to New York city, his firm published the first of his DIME NOVELS, which became immediately popular From then until Beadle's resignation from the firm in 1889 he continued to publish such adventure stories, in various series See his *To Nebraska in '57 a Diary* (1923), E. L Pearson, *Dime Novels* (1929)

Beadle, William Henry Harrison, 1838–1915, American educator, b Parke co, Ind, grad Univ of Michigan, 1861 He served (1861–66) in the Union army, rising to the rank of brigadier general, practiced law for two years, and in 1869 was appointed surveyor general of Dakota Territory Through his efforts as secretary of the commission which drew up the territorial code in 1877 and as a member of the legislature and chairman of its judiciary committee in 1878, a law was passed requiring that the school lands of the state should not be sold for less than $10 an acre While Beadle was superintendent of public instruction (1879–85), he succeeded despite opposition in having this provision embodied in the state constitution. Congress then required similar constitutional provisions of North Dakota, Montana, Washington, Idaho, and Wyoming before these states were admitted in 1889–90. From 1889 until his retirement as emeritus professor in 1905, he was president of the state teachers college at Madison, S Dak.

Beagle, small, 235-ton vessel which made a world cruise (1831–36), under Capt Robert Fitzroy with Charles DARWIN as naturalist of the expedition This was the opportunity for Darwin's collection of observations from which he formulated his theories regarding organic EVOLUTION He recorded his observations in several series of publications which appeared from 1839 to 1846

beagle: see HOUND

Beal, Gifford Reynolds, 1879–, American painter of landscapes, marines, and figure pieces, studied at the Art Students League of New York, pupil of William M Chase His canvases have been awarded many medals and honors Among his best-known works are *Mayfair, The Albany Boat,* and *Across the Valley,* a water color (Metropolitan Mus), *Freight Yards* (Syracuse, N Y, Mus), and *A Puff of Smoke* (Art Inst, Chicago)

Beal, William James, 1833–1924, American botanist, born on a Michigan frontier farm, grad Univ of Michigan (B A, 1859, M A, 1862), B S Harvard, 1865, M S Univ of Chicago, 1875 He taught botany at the Michigan Agricultural College from 1871 until his retirement in 1910 His lecture *The New Botany,* published in several editions, had wide influence on teachers of botany *Grasses of North America* (1896) and *Seed Dispersal* (1898) were also popular In addition he published many papers and bulletins In 1875 he founded a forest preserve for the college

Beale, Dorothea, 1831–1906, English educator In 1857 she was appointed head teacher of the Clergy Daughters' School, Casterton, Westmorland, the "Lowood" of Charlotte Brontë's *Jane Eyre* In 1858 Miss Beale became principal of Cheltenham Ladies' College Recognising the need for trained teachers, she was a founder (1885) of St Hilda's College, Cheltenham, and of St Hilda's at Oxford (1893) Her *Reports on the Education of Girls* was published in 1869

Beale, Edward Fitzgerald, 1822–93, American frontiersman, b District of Columbia, grad Annapolis, 1842 He sailed to California in the *Congress* with Robert F STOCKTON just as the Mexican War was starting When Stephen W KEARNY was hard pressed in the battle of San Pasqual, Beale and Kit CARSON daringly crawled through the lines to get aid Later Beale made several trips across the continent, and he was the first to bring east the news of the gold strike in California He was appointed in 1852 superintendent of Indian affairs in California and Nevada and served well In the Southwest he is best remembered for a curious experiment in transportation in 1857 he had camels imported to use when he was surveying a government wagon road across New Mexico and Arizona He made other surveys and was (1861–66) surveyor general of California Beale was briefly (1876–77) also minister to Austria-Hungary See biography by Stephen Bonsal (1912), L B Lesley, ed., *Uncle Sam's Camels* (1929)

Bealiah (bē'ul'u) [Heb.,=God is Baal], warrior who joined David at Ziklag 1 Chron 12 5

Bealoth (bē'u-) [Heb.,=fem plural of BAAL], town, S Judah Joshua 15 24 At 1 Kings 4 16 RV has Bealoth, but AV translates "in Aloth"

Beamsville, village (pop 1,309), S Ont., near Lake Ontario and E of Hamilton

Bean, Roy, c 1825–1903, American frontiersman, b Mason co, Ky. Roy Bean left (1847) Kentucky, traveled westward by wagon train, and managed a trading post in Chihuahua, Mexico, until 1849 He lived adventurously in California before he aided the Confederate cause in the Civil War as a lawless irregular in New Mexico and Texas When the Southern Pacific RR was being built across Texas, Bean followed the construction camps as a saloonkeeper, and in 1882 he settled at the camp at Vinegaroon (later renamed LANGTRY), Texas There he became justice of the peace—to which he added the title "the law west of the Pecos"—and Judge Bean meted out decisions in his saloon with one lawbook and a six-shooter One of the most colorful figures of the Southwest, Bean rendered unorthodox and often witty decisions See biography by C L Sonnichsen (1943)

Bean, Tarleton Hoffman, 1846–1916, American ichthyologist, b Bainbridge, near Harrisburg, Pa. He was curator of the Dept of Fisheries in the U S National Museum (1880–95) and director of the New York Aquarium (1895–98). As New York state fish culturist from 1906, he developed scientific methods of fish propagation which were imitated throughout the country His many books include *Catalogue of the Fishes of New York* (1903) and *Catalogue of the Fishes of Bermuda* (1906) He collaborated with G B Goode on *Oceanic Ichthyology* (1895) and with W. C Harris on *The Basses* (1905).

bean, various genera and species of the legume family which have long been cultivated, many even in prehistoric times. The Greeks and Romans used the broad bean for balloting, black seeds signifying opposition and white seeds agreement. This custom lingered in England in the election of the king and queen for Twelfth Night and other celebrations and was taken to the New World colony at Massachusetts Bay, where Indian beans were used Beans are prolific, adaptable, and easily cultivated. They are an important crop, both for human consumption and for fodder. Of some genera the whole plant is grown for forage or soilage and as green manure or cover crops Bean forage is high in protein content and combines well with grains rich in carbohydrates, dried beans are fed to horses in some countries In the human diet dried beans are useful as a meat substitute and are found in different parts of the world as a characteristic item of the national fare. Beans and bacon were a staple food of the poorer folk of England Baked beans, cooked for hours with pork or molasses or with both, became a traditional New England dish The broad bean (*Vicia faba*) of ancient Old World origin is grown in England and on the Continent as a field and a garden crop It needs a long, cool season and is grown to some extent in Canada Other names for the broad bean are Windsor and horse bean The common garden bean of the United States is *Phaseolus vulgaris,* of which there are numerous varieties, among them the snap or string bean, of which both pods and seeds are edible There are two main groups, the bush beans and the climbing or pole beans, and both green-podded and yellow-podded or wax beans are found in each group In Europe the common bean is called kidney, French, or haricot bean. The lima bean (*Phaseolus limensis* or *P lunatus macrocarpus*) is a climbing variety from which the pod is stripped and only the seeds are eaten It is successfully grown in a warm climate and is an important crop of California It contains more fat than other beans A bush form has been developed The cowpea or black-eyed pea (*Vigna sinensis*), one of the main forage and green-manure crops of the S United States, is also used as food by man The scarlet runner (*Phaseolus coccineus*), grown in Europe for food, is in North America mainly an ornamental vine The tepary (*P acutifolius latifolius*), a small bean long grown by the Indians in the SW United States, has been found better suited to hot, arid climates and more prolific than the frijole Other beans are the hyacinth bean or lablab (*Dolichos lablab*), grown in the Orient and tropics for forage and food and cultivated in North America as an ornamental climbing plant, the asparagus bean or yard-long bean (*Vigna sesquipedalis*), grown as a curiosity, the locust or carob bean (*Ceratonia siliqua*), and the velvet bean (*Stizolobium*), cultivated in the S United States as a forage crop and soil renovator. See also CAROB, FRIJOLE, SOYBEAN

Bear, river rising in NE Utah in the Uinta Mts and flowing some 350 mi in a circuitous course N and NW through Wyoming and Idaho, then S into Utah again to enter Bear River Bay of Great Salt Lake It thus loops around Bear Lake, and in 1915 a canal was dug to connect river and lake

bear, mammal of the family Ursidae of the order Carnivora, found almost exclusively in the Northern Hemisphere Its feet are plantigrade, the claws nonretractile, the fur thick and shaggy, and the tail very short, the body appears clumsy Some bears can run at a speed of 25 or 30 mi an hour Except for the heavy grizzly bear, most climb trees Bears are omnivorous, living generally on fruits, roots, and other vegetable matter, honey, insects, fish, carrion, and infrequently on mammals Where the winters are cold they hibernate in sheltered spots or caves The young, usually twins, are born during the winter in an undeveloped state. The brown bear (*Ursus arctos*) of the Old World is extinct in much of Western Europe, but small numbers survive in some wooded sections of the Continent, and larger numbers in Russia and N Asia Closely related to the Old World brown bear are the grizzly bears of W North America and the Alaskan brown bears In the United States the grizzly bear has been almost exterminated except where it is protected in national parks. The coat of the various species ranges from shades of brown to blackish-gray, often with gray-tipped hairs They usually weigh from 300 to 1,000 lb Unless wounded or startled they rarely attack man An Alaskan brown bear known as the Kodiak or Kadiak bear is the largest living carnivore, sometimes weighing 1,500 lb or more The commonest bear in North America is the black bear found in wooded and mountainous regions from parts of Canada to Mexico city. It usually weighs about 200 to 300 lb and has a smaller, more pointed head than the grizzly and shorter, more curved claws, it is taller in the posterior region than at the shoulder, while the grizzly has its greatest body height at the shoulder Among the races of the black bear are the cinnamon bear, the white Kermode's bear, and the glacier or blue bear The polar bear of the arctic has a thick white or creamy coat, black tongue, and relatively small head and long neck It is a strong swimmer, and its hairy soles facilitate walking on ice It eats chiefly fish, seal, and other flesh It is believed that polar bears remain active throughout the year except for the pregnant females, which seek winter burrows in the ice and drifted snow in which the cubs are born In South America the only known bear is the spectacled bear of the Andes. The Atlas bear, the only African bear, may be extinct. Among related Asiatic ani-

mals are the Himalayan or Tibetan black bear, the Malay or sun bear, and the sloth bear

bear, in speculative markets see BULLS AND BEARS

Bear, Great and **Little,** in astronomy see URSA MAJOR

bearberry (bâr'bĕr"ĭ), trailing, evergreen woody plant (*Arctostaphylos uva-ursi*) of the Northern Hemisphere, related to the heaths and sometimes cultivated as a ground cover The small leathery leaves, astringent and an official drug until recently, were once used for tobacco by the Indians, who also utilized the red mealy berries for food and beverages Manzanita belongs to the same genus, other plants are sometimes called bearberry

Beard, Charles Austin, 1874–1948, American historian, b near Knightstown, Ind, grad DePauw Univ, 1898 A year at Oxford gave him an interest in English local government, and after graduate study at Cornell Univ and Columbia he wrote, for his doctoral dissertation at Columbia, *The Office of Justice of the Peace in England* (1904) While teaching (1904–17) history and politics at Columbia, he joined James Harvey ROBINSON in forwarding the teaching of history that would include economics, politics, the intellectual life, and culture—that would, in short, embrace civilization Together they wrote *The Development of Modern Europe* (1907) and compiled an accompanying book of readings Beard was especially concerned with the relationship of economic interests and politics His study of the conservative economic interests of the men at the Federal Constitutional Convention, *An Economic Interpretation of the Constitution* (1913), caused much stir, he also wrote *Economic Origins of Jeffersonian Democracy* (1915) and *The Economic Basis of Politics* (1922) His interest in city government led to *American City Government* (1912) as well as the long-standard *American Government and Politics* (1910) After resigning from Columbia in the First World War, he helped to found the New School for Social Research, was director (1917–22) of the Training School for Public Service in New York city, and was an adviser on administration in Tokyo after the disastrous Japanese earthquake of 1923 Beard wrote *A Charter for the Social Sciences in the Schools* (1932)—the first and basic volume of the report of the American Historical Association Commission on the Social Studies in the Schools, he thus exercised enormous influence on the teaching of history He became widely known to the general reading public through *The Rise of American Civilization* (2 vols, 1927) and its sequels (Vol III and Vol IV), *America in Midpassage* (1939) and *The American Spirit* (1943), all written in collaboration with his wife, Mary Ritter Beard (1876–) This panoramic work is an example of the broad historical view that Beard championed, the great store of fact is laid open with easy and graceful literary style With his wife he also later wrote a brief survey, *The Beards' Basic History of the United States* (1944) Mary R Beard, a historian in her own right, was also graduated from DePauw and also did graduate work at Columbia She was particularly interested in feminism and the labor movement and wrote a number of works on them, notably *Women's Work in Municipalities* (1915), *A Short History of the American Labor Movement* (1920), *On Understanding Women* (1931), and *Women as Force in History* (1946) Charles A Beard, much criticized as a radical in his earlier years, was just as much criticized by the liberals in his later years for his violent opposition to Franklin D Roosevelt's administration, especially in the struggle over the Supreme Court and in foreign policy Beard's last work was *President Roosevelt and the Coming of the War, 1941* (1948)

Beard, Daniel Carter, 1850–1941, American illustrator and naturalist, b Cincinnati, Ohio, studied at the Art Students League, New York He illustrated many books (among them Mark Twain's *Connecticut Yankee at King Arthur's Court*) and taught animal drawing In 1878 he became interested in work for boys, and his best-known book, *The American Boys' Handy Book*, was published in 1882 The Dan Beard Outdoor School for Boys in Pike co, Pa, was started in 1888 One of the founders (1910) of the Boy Scouts of America, he served for the remainder of his life as national scout commissioner To boys all over the country he was known as Uncle Dan Mt Beard, adjoining Mt McKinley, is named for him In addition to many articles on woodcraft and nature study, Beard wrote *Boy Pioneers and Sons of Daniel Boone* (1909), *American Boys' Book of Wild Animals* (1921), and *Wisdom of the Woods* (1927) See his autobiography, *Hardly a Man Is Now Alive* (1939)

Beard, Frank (Thomas Francis Beard), 1842–1905, American illustrator, b Cincinnati; son of James Henry Beard In the Civil War he served as special artist for Harper & Brothers His "chalk talks"—lectures illustrated by crayon sketches—were popular with Chautauqua audiences His political and temperance cartoons appeared in *Judge* and the *Ram's Horn* Beard was professor of fine arts at Syracuse Univ from 1881 to 1884.

Beard, George Miller, 1839–83, American physician, b Montville, Conn., M D Columbia, 1866 He was a pioneer in electrotherapeutics and in neurology He introduced in the United States the concept of neurasthenia or nervous exhaustion His works include *The Medical and Surgical Uses of Electricity* (with A D Rockwell, 1871), *Nervous Exhaustion* (1880), and *American Nervousness* (1881)

Beard, James Henry, 1812?–93, American painter, b Buffalo, N Y He was long a portrait painter in Cincinnati, his subjects included Henry Clay, John Quincy Adams, Zachary Taylor, and William H Harrison In 1846 he exhibited in New York his famous *Carolina Emigrant* In his later years he painted animals

Beard, William Holbrook, 1824–1900, American artist, b Painesville, Ohio, brother and pupil of James Henry Beard He started his career as an itinerant portrait painter, but turned to satire His *Bear's Temperance Question* is in the Art Institute of Chicago

beard, the hair grown on the lower face Modern usage usually prefers the term *mustache* for hair left only on the upper lip, while *whiskers* may apply to the cheek hair of an otherwise clean-shaven face Modern studies distinguish 15 standard types of beards, but these do not include the possible varieties among them or the innovations of precivilized peoples Alteration of the natural growth of facial hair by trimming, depilation, plaiting, or curling may well have begun with the earliest societies The first trimmed beard of classical antiquity is the fringe type which outlines a shorn face This type was evident in the Cretan-Mycenaean period and for centuries thereafter served to identify the native of the Near East The historical scholar may interpret the many fashions in beards as reflections of wider social change Many beards have been shorn as a concession to modernism, on the other hand, groups to whom face hair was once abhorrent, e g, the Japanese, have adopted the mustache and chin beard of Western peoples An oath sworn on one's beard is solemnly binding, an insult to the beard an outrage Important deities and patriarchs are portrayed with beards, testifying their venerability A young man's first beard may admit him to adult status Beards have been found convenient social or professional insignia, the guardsman's mustache of the 18th and early 19th cent was the sign of an army man Beards 5 ft long have been reported The most abundant beards are found among the Ainu, the most sparse among Mongoloid and Negroid peoples

Beardsley, Aubrey Vincent, 1872–98, English black-and-white illustrator One of the greatest of modern illustrators, Beardsley received much criticism because of the erotic character of some of his work He is never exempt from a certain morbidity He found inspiration for his decorative pen-and-ink drawings and posters in the art of Japan and that of the Italian Renaissance and created an exquisitely artificial style Among his best work are the frontispiece to *Volpone* and the illustrations for the *Morte d'Arthur*, the *Yellow Book*, the *Savoy Magazine*, and *The Rape of the Lock* Beardsley was art editor of the *Yellow Book* until 1896 and died of tuberculosis two years later He embraced the Roman Catholic faith not long before his death See *Letters from Aubrey Beardsley to Leonard Smithers* (1937), studies by Joseph Pennell (in *Studio*, April, 1893), Robert Ross (1909), Arthur Symons (1918), and Haldane Macfall (1928) For collections of his works, see *Early Works* (1899), *Later Works* (1901), *Uncollected Works* (1925)

Beardstown, city (pop 6,505), W central Ill, WNW of Springfield and on the Illinois river, from which it is protected by a high levee, settled 1819 as a ferry crossing, platted 1827, inc 1837 It is a rail, trade, and shipping center for a fruit and farm area It has railroad shops and commercial fisheries and manufactures gloves and cigars The city hall, built in 1845, was the setting in which Lincoln argued and won the Armstrong murder case

beardtongue or **pentstemon** (pĕntstē'mŏn) [Gr, = having five stamens], any plant of the genus *Pentstemon*, chiefly western American herbs or shrubs often cultivated as garden flowers The tubular flowers of various colors usually have a characteristic sterile "bearded" stamen Normally perennials, many kinds are not hardy in the North and are treated as annuals There are a number of garden hybrids

bearings, in general, parts of a machine which support a shaft and are intended to minimize FRICTION A good bearing should fit so that the shaft turns freely but cannot move in any way to set up vibration Bearings are made of materials soft enough to permit some slight unevenness in the shaft but hard enough to stand without distortion the load placed upon them In general they are made of ANTIFRICTION METAL, such as BABBITT METAL Since heat is generated by friction, the efficiency of a bearing depends largely upon its LUBRICATION Oil or grease is deposited between the contact surfaces by a sigzag groove in the bearing; the lubricant is fed from a cup at the top, the revolutions of the shaft spreading a film of oil over the contact surface. Failure of lubrication or the introduction of foreign matter such as grit results in overheating which, if not remedied, causes the bearing metal to melt or the shaft to "seize" in the bearing because of unequal expansion Bearings are held in position by a frame commonly called a pillow block or plummer block High-speed bearings are generally lubricated by oil under pressure or by the running of the whole bearing in an oil bath Machinery working at high speed is usually fitted with ball bearings, an arrangement of hard steel balls surrounding a shaft and overcoming frictional resistance by a rolling, instead of a sliding, contact The balls are usually in a frame or cage designed to hold them apart from one another and at the same time allow contact with the revolving and stationary elements of the machine The balls and the races are made of case-hardened steel, in a great variety of types and sizes Modern, smooth-running machinery can be attributed largely to their extensive use In high-grade bearings, the balls are perfectly spherical and of equal diameter and hardness In roller bearings, cylindrical rollers replace the balls They are usually arranged parallel to one another around the shaft and are used principally in heavy machinery where greater contact surface is required These two types of bearings are generally known as antifriction bearings Thrust bearings are designed to resist forces in a shaft along the direction of its own length, as those of the propeller shaft of a ship In this case the thrust from the propeller has to be transferred into the hull of the vessel It is accomplished by flanges projecting from the shaft and revolving in grooves, the grooves being part of a plummer block securely fastened to the ship's structure

Bear Island: see SPITSBERGEN

Bear Lake, c 30 mi long and 7 mi wide, N Utah and S Idaho, NE of Great Salt Lake

Bear Mountain **1** Peak, 2,355 ft high, NW Conn, in Salisbury town, one of the highest points in the state **2** Peak, 1,314 ft high, SE N Y, overlooking the Hudson (here crossed by Bear Mountain Bridge), S of Newburgh It gives its name to a section of the Palisades Interstate Park The park has facilities for summer and winter sports and is accessible to New York city by water and highway

Bear Mountain Bridge, highway toll bridge, 2,257 ft long, across the Hudson N of Peekskill, N Y, opened 1924, acquired by New York state 1940 It is a suspension bridge, with a central span of 1,632 ft

Béarn (bärn'), region and former province SW France, in the Pyrenees It now is the inland part of Basses-Pyrénées dept The valleys of Béarn are well cultivated, and cattle breeding is an important activity Pau replaced Orthez as the capital in the 15th cent The Bearnese are related to the BASQUES but speak French One of the lordships of GASCONY, the viscounty of Béarn passed (13th cent) to the counts of FOIX, who also became kings of NAVARRE, and (1494) to the house of ALBRET JEANNE D'ALBRET, queen of Navarre and Béarn, imposed Protestantism on the Bearnese Béarn was formally united with France in 1620 as an anti-Protestant measure With the Basque districts of French or Lower Navarre, Béarn became a French province under the jurisdiction of the parlement of Navarre, which sat at Pau

bear's-breech: see ACANTHUS

Beas (bē'ăs), river, mainly in Punjab state, India, flowing c 285 mi generally W to the Sutlej river It is the easternmost of the five rivers of the Punjab It marked the limit of Alexander's invasion (326 B C) from the west

beatification: see CANONIZATION

Beatitudes (bēăt'-) [Latin, = blessing], eight blessings uttered by Jesus at the opening of the Sermon on the Mount Mat 5 3–12 Some, counting verses 11–12 apart from verse 10, say there are nine In the parallel passage, Luke 6 20–26, only four of the blessings appear, with four corresponding woes

Beaton, Cecil Walter Harry, 1904–, English photographer, writer, and designer His witty books of photographs and sketches, such as *Cecil Beaton's Scrapbook* (1937) and *Cecil Beaton's New York* (1938), are highly popular His costume and stage design are equally well known In 1946 he designed sets and costumes for and acted in a revival of Wilde's *Lady Windermere's Fan*

Beaton or **Bethune, David** (both bē'tun), 1494–1546, Scottish churchman, cardinal of the Roman Church He was the nephew of James Beaton, archbishop of St Andrews, whom he succeeded as archbishop and primate of Scotland in 1539 He was made cardinal in 1538 Beaton arranged the marriage of James V and Mary of Guise and tried to assume the regency for MARY QUEEN OF SCOTS (1542), but James HAMILTON, earl of Arran, seized power The following year Arran abjured Protestantism and sided with Beaton, who crowned Mary. Beaton became chancellor of Scotland and ably opposed the designs of Henry VIII of England Beaton's relentless persecution of Scottish reformers led to the execution of George WISHART in 1546, and in reprisal the cardinal himself was brutally murdered in his castle four months later.

Beatrice (bē'ătrĭs), city (pop. 10,883), co. seat of Gage co, SE Nebr., on the Big Blue River and S of

Lincoln; founded 1857, inc. as a town 1871, as a city 1873. It is on the old Oregon Trail and is the trading and industrial center for a grain, dairy, and livestock area. Irrigation equipment is made. The state institution for the feeble-minded is here. Near by is the Freeman homestead, first farm claimed under the Homestead Act of 1862.

Beatrice Portinari (bā'trĭs, bā'ätrē'chā pôrtēnä'rē), 1266–90, Florentine lady believed to be the Beatrice of the *Divine Comedy* and *Vita nuova* of DANTE. He first saw Beatrice when he was nine years old, and she remained his ideal and inspiration until his death in 1321. Her identity has been the cause of much controversy.

Beattie, James (bā'tē), 1735–1803, Scottish poet and essayist. Professor of moral philosophy at Marischall College, Aberdeen, he attacked Hume in his *Essay on the Nature and Immutability of Truth* (1770) and advocated the doctrine afterwards known as that of "common sense." He is best remembered as the author of *The Minstrel* (1771–74). This long, unfinished poem in Spenserian stanzas is an autobiographical account of the formation of the poet's mind.

Beatty, David Beatty, 1st Earl (bē'tē), 1871–1936, British admiral. He entered the navy in 1884 and served with distinction in Egypt and the Sudan (1898), and in the Boxer Rebellion (1900). Advanced to rear admiral in 1910, he commanded successful naval actions in the First World War at Heligoland Bight (1914) and at Dogger Bank (1915). By great daring and hard fighting his squadron lured the German fleet into position for its defeat by the British grand fleet under Admiral Jellicoe at Jutland (1916). Beatty commanded (1916–19) the fleet and was (1919–27) first sea lord of the navy. He was made Earl Beatty in 1919.

Beattyville (bā'tēvĭl), town (pop 1,012), co. seat of Lee co., central Ky., on the Kentucky and SE of Lexington, in a coal, oil, timber, and farm region. Cumberland National Forest is near by.

Beauce (bōs), region, N France SW of Paris, a flat limestone plateau between the Seine and Loir rivers. The "granary of France," it is covered with wheat fields. The region shared the history of the countship of Chartres, its only important city. **Little Beauce,** Fr *Petite Beauce*, between the Loir and the Loire, is also a rich wheat district. Vendôme is the center.

Beauceville (bōs'vĭl), town (pop 899), SE Que., SSE of Lévis. It is a gold-mining and agricultural center. **Beauceville East** (pop 1,251) has been separate since 1931.

Beauchamp, Guy de see WARWICK, GUY DE BEAUCHAMP, EARL OF.

Beauchamp, Richard de see WARWICK, RICHARD DE BEAUCHAMP, EARL OF.

Beauchamp, Thomas de see WARWICK, THOMAS DE BEAUCHAMP, EARL OF.

Beaufort, Edmund see SOMERSET, EDMUND BEAUFORT, 2D DUKE OF.

Beaufort, François de Vendôme, duc de (frāswä' du vädôm' duk' du bōfôr'), 1616–69, French courtier and politician, grandson of Henry IV and Gabrielle d'Estrées. Implicated in the Cinq Mars (sē' mar') conspiracy, he fled (1642) to England. After his return (1643), he joined the Importants, a clique opposing Mazarin, and was imprisoned from 1643 to 1648. During the FRONDE, he was nicknamed King of the Markets because of his popularity with the Parisian mob. Exiled in 1652, he was later recalled and given command (1666) of the French fleet against the Turks and the Barbary pirates.

Beaufort, Henry (bō'furt), c. 1377–1447, English prelate and statesman, cardinal of the Roman Church, b. Beaufort castle in Anjou. The son of John of Gaunt and Catherine Swynford, he was half brother to Henry IV and was declared legitimate by Richard II. He entered the Church and was made bishop of Lincoln and later (1404) bishop of Winchester. Under Henry IV he was chancellor (1403–4) but, as friend of Prince Henry, shared his fall from power. On the prince's accession as Henry V, Beaufort again was chancellor (1413–17). At the Council of Constance Beaufort swung (1417) English influence to help elect Pope Martin V, but Henry refused to let him accept a cardinalate. When in 1422 the baby Henry VI became king of England and France, Beaufort, as a strong member of the council of regency, opposed the selfish designs of Humphrey, duke of Gloucester, and served again as chancellor (1424–26). He became a cardinal in 1426 and was papal legate in Germany, Hungary, and Bohemia until 1431. In that year he crowned Henry VI in Paris and thereafter sought to end the French wars.

Beaufort, Margaret, countess of Richmond and Derby (bō'fûrt, därb'bē), 1443–1509, English noblewoman, daughter and heiress of John, 1st duke of Somerset, and granddaughter of John of Gaunt. She married (1455) Edmund Tudor, earl of Richmond, whose posthumous son became Henry VII. Next she married Henry Stafford, and later Lord Thomas Stanley, afterwards earl of Derby. Renowned for her philanthropy, she endowed professorships of divinity at Oxford and Cambridge and with the help of her confessor, John Fisher, founded Christ's College and St. John's College, Cambridge. She was the patron of many religious houses and of Caxton and Wynkyn de Worde.

Beaufort. **1** (bō'furt) Resort and fishing town (pop 3,272), co. seat of Carteret co., E N C., SE of New Bern, on the coast near Cape Lookout, laid out 1722. It is a port of entry. The U S Fish and Wildlife Service has a marine biological laboratory near by. **2** (bō'furt) City (pop 3,185), co. seat of Beaufort co., on Port Royal Island (one of the SEA ISLANDS), S S C., SW of Charleston. Beaufort has a good harbor and is a tourist center and a canning and shipping point for a farming, shrimping, and oystering area. The second oldest town in the state, it was founded in 1711. The city was held by Union forces from Nov., 1861, to the end of the Civil War. The many interesting old buildings here include a number made of tabby (crushed oyster shells). The city has a national cemetery and an arsenal.

Beaufort Sea (bō'furt), part of the Arctic Ocean, N of Alaska and Canada, lying between the mainland and the Arctic Archipelago. It was explored by Vilhjalmur Stefansson in 1914, and here G. H. Wilkins in 1927 proved that an airplane could land on the ice pack.

Beaufort's scale see WIND.

Beauharnais, Alexandre, vicomte de (alĕksä'dru vēkôt' du bōarnā'), 1760–94, French general, b. Martinique. He fought in the American Revolution and the French Revolutionary Wars. A moderate member of the National Assembly, he was guillotined in the Reign of Terror. His widow later became the empress JOSEPHINE.

Beauharnais, Eugène de (ûzhĕn'), 1781–1824, French general, son of Alexandre and Josephine de Beauharnais. He served ably in the campaigns of his stepfather, NAPOLEON I, who made him viceroy of Italy in 1805. His court at Milan was brilliant, his administration in Italy capable. Beauharnais married a Bavarian princess, and after Napoleon's downfall he lived in Munich with the titles of duke of Leuchtenberg and prince of Eichstadt.

Beauharnais, Hortense de (ôrtäs'), 1783–1837, queen of Holland (1806–10), daughter of Alexandre and Josephine de BEAUHARNAIS and wife of Louis BONAPARTE. She was the mother of Napoleon III and, by her lover, the comte de Flahaut—of the duc de MORNY.

Beauharnais, Josephine de see JOSEPHINE.

Beauharnois, Charles de la Boische, marquis de (sharl' du la bwash' markē' du bōarnwa'), 1670–1749, French governor of New France (1726–46). When he returned to France in 1747 he left memories of good rule in an era of peace, prosperity, and expansion.

Beauharnois (bōhär'nwa), town (pop 3,550), S Que., on the south shore of Lake St. Louis and SW of Montreal. **Beauharnois Canal,** opened in 1843, was originally a navigation work on the south side of the St. Lawrence to avoid the rapids between Lakes St. Francis and St. Louis, c. 40 mi. above Montreal. It was superseded by the Soulanges Canal on the north side in 1899. In 1931 the development of the Beauharnois Canal for power purposes under a lease granted by the dominion government led to the "Beauharnois scandal." The province of Quebec took over the plant as a public-ownership enterprise in 1945.

Beaujeu, Anne de see ANNE DE BEAUJEU.

Beaujeu, Daniel Hyacinthe Marie Lienard de (dänyĕl' yasĕt' marē' lyĕnar' du bōzhû'), 1711–55, soldier of New France, b. Montreal. Sent in 1755 to relieve the sieur de Contrecœur as commander at Fort Duquesne, he had charge of the small force that met and defeated Gen. Edward Braddock, but Beaujeu lost his life early in the action.

Beaujolais (bōjôlā'), hilly region, Rhône dept., E central France, W of the Saône between Mâcon and Lyons. Its famous red wine is lighter than the Burgundy grown farther north. Villefranche-sur-Saône is the chief town. Beaujolais was once the fief of the powerful lords of Beaujeu (a small town which gave the region its name). It was annexed to the crown in 1531 and incorporated into Lyonnais proper.

Beaumanoir, Philippe de Remi, sire de (fēlēp' du rumē' sēr' du bōmänwar'), c. 1250–1296, French poet and jurist, a writer of medieval law texts. He was a judicial officer at Clermont and Senlis. His *Coutumes de Beauvoisis* [customary laws of the region of Beauvais] is a source for medieval French law and social customs.

Beaumarchais, Pierre Augustin Caron de (pyĕr' ôgüstĕ' kärô' du bōmarshā'), 1732–99, French dramatist, at first a watchmaker by trade. His two successful comedies were the brilliant *Le Barbier de Séville* (1775), basis of an opera by Rossini, and *Le Mariage de Figaro* (1784), source of an opera by Mozart. The second of these is regarded as an attack on the privileges of the nobility. Beaumarchais was famous as a litigant, and the pamphlets he wrote about his cases were witty and effective. One of them (1774) narrated an incident about his sister which served as the basis of Goethe's *Clavigo*. Beaumarchais's employment as a secret agent by the monarchy introduced him to the intrigues that led up to his interest in the American Revolution and dealings (1774–75) with Silas DEANE and Arthur LEE, his mock firm, Hortalès & Cie, furnished arms to the Americans (1776–77). The payment in tobacco and other products expected in return was never forthcoming, and the claims of Beaumarchais against the Americans were settled only in 1835 through a grant by Congress to his heirs. Another costly venture was a 70-volume edition of Voltaire (pub. 1785–90, though volumes bear dates 1784–89). See biographies by René Dalsème (Eng. tr., 1929) and Paul Frischauer (Eng. tr., 1935), E. S. Kite, *Beaumarchais and the War of American Independence* (1918).

Beaumont, Élie de, see ÉLIE DE BEAUMONT.

Beaumont, Francis (bō'mŏnt), 1584?–1616, English playwright, probably b. Leicestershire, educated at Oxford and the Inner Temple. The plays of Ben Jonson were models for his early works, *The Woman Hater* (1606) and his great comedy *The Knight of the Burning Pestle* (between 1607 and 1610), both of which seem to show the touch of John FLETCHER as well. It is difficult to say just when Beaumont and Fletcher began their collaboration, just as it is a major problem of scholarship as to what and how much each wrote, although Dryden says their tragicomedy *Philaster* (between 1608 and 1610) was the first to bring them fame. They are generally considered to have also written together *Cupid's Revenge* (between 1607 and 1612) and *A King and No King* (1611). So far as is known, the only plays entirely by Beaumont are *The Masque of the Inner Temple and Gray's Inn* (1613) and *The Theatre of Apollo* (1625). His style was laconic, his plots romantic, and his contemporary popularity great. He retired to his estate in Kent after his marriage in 1612 or 1613. Beaumont's poems were collected in 1640, although there may be some poems by other hands in the volume. See edition of the Beaumont and Fletcher works by Arnold Glover and A. R. Waller (10 vols., 1905–12), biography by C. M. Gayley (1914), E. H. C. Oliphant, *The Plays of Beaumont and Fletcher* (1927), L. B. Wallis, *Fletcher, Beaumont & Company* (1947).

Beaumont, William, 1785–1853, American physician and army surgeon, b. Lebanon, Conn. He was privately educated, and was licensed (1812) to practice in Vermont. His *Experiments and Observations on the Gastric Juice and the Physiology of Digestion* (1833, facsimile ed., 1929, with biographical essay by Sir William Osler, reprinted 1941) was an exhaustive account, covering several years of a case famous in medical history. In 1822, while serving as post surgeon on Mackinac Island, Beaumont was called to treat Alexis St. Martin, a youth of 19 whose stomach had been torn open by an accidental gunshot at close range. All efforts to close the wound failed although St. Martin recovered his health and strength. Later, realizing a unique opportunity for studying the digestive process, Beaumont, with the assent of his frequently rebellious patient, instituted a series of experiments which completely revolutionized the knowledge of the subject. In all, about 238 experiments were reported. These were begun at Mackinac Island in 1825 and were continued at intervals at Plattsburg, N.Y., at Fort Crawford (Prairie du Chien, Wis.), and at Washington, D.C. See J. S. Myer, *Life and Letters of Dr. William Beaumont* (1912, new ed., 1939).

Beaumont. **1** City (1940 pop. 2,208, 1946 special census pop. 3,016), S Calif., E of Riverside, at the summit of San Gorgonio Pass, in a fruit-growing area, inc. 1912. **2** City (1940 pop. 59,061, 1943 special census pop. 77,335), co. seat of Jefferson co., SE Texas, on the Neches and ENE of Houston; settled before 1835, laid out 1837, inc. 1881. The lush-growing forest, the flat fields, the petroleum beneath the earth, and the sea itself have made the fortune of this Gulf Coast city. Pine was the base of a thriving lumber industry before the Civil War. Livestock grazed on pastures of the region, and rice fields covered more and more acres in the late 19th cent. In 1901 the life of the city was revolutionized when an oil gusher came in at near-by Spindletop. Oil is the principal support of the city, but there are many industries, from rice mills, paper mills, and wooden-box factories to oil refineries, metalworks, and chemical plants. A canal, completed in 1916, made Beaumont a deepwater port. Now a port of entry on the Sabine-Neches Waterway, it ships by rail and road as well as by sea. Shipbuilding, long known, was especially important in the Second World War. Lamar Junior College is in Beaumont.

Beaune (bōn), town (pop. 11,022), Côte-d'Or dept., E France, famed for its art treasures and as a wine center. It flourished as a residence of the dukes of Burgundy. Its textile industry was ruined when the revocation of the Edict of Nantes expelled (1685) the Protestant craftsmen. Beaune has a Romanesque church (12th cent.) with 15th-century Flemish tapestries. Its famous *hôtel Dieu* was founded (1443) by Chancellor Nicolas Rollin, a patron of Roger van der WEYDEN, whose *Last Judgment* it contains. The Hôtel de la Rochepot (c. 1502) and the 15th-century ramparts are further witnesses to the past splendor of Beaune.

Beauport (bōpôr'), town (pop. 3,725), S Que., on the St. Lawrence and NE of Quebec. One of the oldest

communities in Canada, it was settled in 1634 The French, strongly entrenched here, repulsed General Wolfe's attacks and thus made necessary the surprise landing below the Plains of Abraham in 1759.

Beauregard, Pierre Gustave Toutant (bō'rĭgär'd), 1818–93, Confederate general, b St Bernard parish, La., grad West Point, 1838 As engineer on the staff of Winfield Scott in the Mexican War, he figured prominently in the taking of Mexico city He later did engineering work in Louisiana and for five days in Jan , 1861, was superintendent of West Point Beauregard, resigning from the army in February, was soon made a Confederate brigadier general and was sent to Charleston, where he ordered the firing on Fort Sumter He took command of the army in NE Virginia (June) and in July was second in command to J E Johnston at the first battle of Bull Run Promoted full general, he was sent to the West in 1862 Upon the death of A S Johnston at the battle of Shiloh, Beauregard succeeded to the command of the Army of Tennessee He retreated to Corinth, which he shortly abandoned to Halleck's superior army Ill-health then forced him to yield the command to Bragg After a rest he was charged with the defense of the South Carolina and Georgia coast, which he ably held against Union attacks, particularly those on Charleston in 1863 In May, 1864, Beauregard reinforced Lee in Virginia He defeated B F Butler at Drewrys Bluff and held Petersburg against Grant until Lee arrived In the closing months of the war he was in the Carolinas with J E Johnston After the war Beauregard was a railroad president, manager of the Louisiana state lottery, and for many years adjutant general of that state His superior engineering abilities overshadowed his deficiencies as a field commander See Alfred Roman, *Military Operations of General Beauregard* (1884), biography by Hamilton Basso (1933).

Beauséjour (bōsāzhōōr'), town (pop 1,181), SE Man., NE of Winnipeg near the Brokenhead river

Beauséjour, Fort, N B , near Amherst, N S Built between 1751 and 1755 to command Chignecto isthmus between Nova Scotia and New Brunswick, it was captured (1755) by British and American troops under General Monckton and was renamed Fort Cumberland In 1926 it was made a national park (area 81 acres), with a museum and some ruins

Beauvais (bōvā'), city (pop 20,665), capital of Oise dept , N France, between Paris and Amiens A Roman town and an early episcopal see, it flourished in the Middle Ages and again after the 17th cent , when Colbert made it the center of the state manufactures of tapestries It was the center of the Jacquerie in 1358, and in 1472 its citizens resisted Charles the Bold of Burgundy Jeanne Hachette, who earned her surname for the hatchet with which she helped to repel the Burgundians, is commemorated in a yearly celebration Until 1940 the center of Beauvais was a gem of medieval architecture, the Germans bombed and set fire to the city, and almost none of its past glory remains The tapestry manufactures were transferred to the Gobelins workshops in Paris Amidst the ruins, and partly damaged itself, stands the Cathedral of St. Pierre, begun in 1227 as the highest building in Christendom and never completed Its choir vault (154 ft), the highest of all Gothic vaults, was reinforced after it fell in 1284, the transept was completed in 1548 Although the cathedral still lacks a nave, it remains one of the loftiest monuments of medieval faith and daring

Beaux, Cecilia (bō), 1863–1942, American figure and portrait painter, b Philadelphia, studied in Philadelphia under William Sartain and Eakins, in Paris in the Julien and Lazar schools A skilled technician, with an unusual sense of design, she won many honors through her long career She painted, among other celebrities, Henry James, Clemenceaux, and Cardinal Mercier Well-known paintings include *A New England Woman* (Pa Acad of the Fine Arts), *After the Meeting* (Toledo Mus), *Ernesta* (Metropolitan Mus), *The Dancing Lesson* (Art Inst , Chicago), *Sita and Sarita* (Corcoran Gall.), *Portrait of Mrs Dupont* (Mus of Fine Arts, Boston); *Portrait of Adelaide Nutting* (Johns Hopkins Hospital, Baltimore), *Girl with Cat* (Luxembourg Mus , Paris), self-portrait (Uffizi) See her autobiography, *Background with Figures* (1930)

Beaux-Arts, École des see École des Beaux-Arts

Beaver. 1 Wheat-shipping town (pop 1,166), co seat of Beaver co., NW Okla , on the North Canadian river in the Panhandle, first settled (by squatters) c 1880 Beaver was the capital (1887) for the "Territory of Cimarron" (see Cimarron, Territory of) 2 Residential borough (pop 5,641), co seat of Beaver co., W Pa., NW of Pittsburgh near the junction of the Beaver and Ohio rivers, laid out 1791, inc 1802. A flagstaff marks the site of Fort McIntosh (1778), the first U S military post, N of the Ohio 3 City (pop 1,808; alt 5,970 ft), co. seat of Beaver co , SW Utah; settled 1856 by Mormons There was a mining boom in the 19th cent. Now water from the Beaver river irrigates farms, and livestock is raised.

Beaver, rivers of Canada 1 Rising in central Alberta and flowing 350 mi E into Saskatchewan, then north to headwaters of the Churchill 2 Digby co , SW N S 3 SE Yukon and N British Columbia, a tributary of the Liard

Beaver, tributary of the Ohio river, W Pa., which it joins at Rochester

beaver, large rodent of the family Castoridae of Europe and North America It is characterized by its thick fur (a soft undercoat with a longer, rougher outer coat), rounded head with small ears, scaly, flattened tail (about 10 in long and 6 in wide), and webbed hind feet Its body length exclusive of the tail is about 30 in and it weighs 40 to 50 lb , often more The tail acts as a rudder in swimming and is used to slap the water to warn other beavers of danger and as a support when gnawing a tree The hind feet have combing claws with which it grooms itself There are two living species, *Castor fiber*, the European beaver, exterminated in most countries but found in small numbers in parts of France, Germany, Norway, Poland, and Siberia, and *C canadensis*, the American beaver Although some American beavers live in burrows in stream banks, the majority construct "lodges" of branches and twigs tightly plastered with mud A room above the water level in the lodge serves as living room and nursery The entrances and an emergency exit are under water as a protection from enemies If the water of the chosen site is not deep enough to cover the entrances of their lodges and to provide an underwater cache for food, the group of beavers make a dam of tree trunks, branches, mud, and stone A winter store of wood is submerged in the water near the lodge, where it can be reached by swimming under the ice Bark of aspen, cottonwood, willow, birch, and alder and succulent parts of aquatic plants constitute most of its diet Chipping the wood with its incisor teeth, the beaver fells trees to be used in making the dam and for food Canals are often made in which to float the more distant logs to the site of the dam The beaver was the staple article of the fur trade of Canada and the United States from the early 17th cent The constant hunting by Indians and by white trappers almost exterminated the beaver, which was preserved only by protective laws The beaver pelt (called a plus or "plew") was the basis of value of articles of trade including other furs Until about the mid-19th cent , pelts were used chiefly in making hats, the rest in coats and trimmings See E R Warren, *The Beaver* (1927), G M Vevers, *The Life Story of the Beaver* (1946)

Beaverbrook, William Maxwell Aitken, 1st Baron, 1879–, British statesman and newspaper owner, b Maple (near Toronto), Ont The son of a Presbyterian clergyman, he grew up near Beaverbrook, N B He made a fortune, chiefly by merging small firms, and went to England There he was prominent in finance and entered political life as an associate of Bonar Law, becoming a member of Parliament in 1910 In the First World War he was observer for the Canadian forces and was minister of information in 1918 He was made a baron in 1917 and in that year bought his first newspaper Soon his *Daily Express*, *Sunday Express*, and *Evening Standard* thundered out his imperialist and generally Conservative views In the Second World War, Lord Beaverbrook served in Churchill's coalition cabinet as minister of aircraft production (1940–41), minister of state (1941), minister of supply (1941–42), minister of war production (Feb , 1942), special envoy to the United States on supplies (1942), and lord privy seal (1943–45) After the fall of the Churchill cabinet in 1945 he continued his supervision of his newspapers

Beaver City, city (pop 1,015), co seat of Furnas co , S Nebr , on Beaver Creek near the Kansas line; inc 1872

Beaver College see Jenkintown, Pa

Beaver Dam, locality, S Ont , on the Niagara peninsula just S of St Catherines, scene of a battle fought June 24, 1813, in the War of 1812 An American force of 600 men advanced from Fort George by way of Queenston to attack a British force, but the British commander, warned of the approach by Laura Secord, was ready The Americans were ambushed by Indians, and when the small British force advanced, the Americans believed that they were surrounded by a superior force and surrendered

Beaver Dam. 1 City (pop 1,166), W Ky , SSE of Owensboro and near the Green River. It is a trade center in an area raising grain and tobacco and also having coal deposits 2 City (pop 10,356), central Wis , SW of Fond du Lac and on Beaverdam Lake, settled 1841, inc 1856 Its varied products include shoes, malleable-iron ranges, and cheese

Beaver Falls, city (pop 17,098), W Pa , on the Beaver river and NW of Pittsburgh, settled c 1793, laid out 1806, inc as a borough 1868, as a city 1930. It manufactures chinaware and metal and cork products. The city was founded on an Indian trail, which later became a pioneer road, and is the seat of Geneva College (Reformed Presbyterian; coeducational; 1848)

Beaver Island, 13 mi long and c 3 to 6 mi. wide, off N Michigan, in Lake Michigan NNW of Charlevoix, with which it is connected by ferry and plane. It is the largest of the Beaver Archipelago and has lakes, beaches, and a harbor at St. James village Its permanent inhabitants are mainly fishermen. James J. Strang had a Mormon settlement here from 1847 to 1856. See O. W Riegel, *Crown of Glory* (1935)

Beaver Meadows, industrial borough (pop. 2,030), E central Pa , near Hazleton; settled 1787. It has anthracite mines and a silk mill

Beaverton, city (pop 1,052), NW Oregon, near Portland, founded 1868, inc 1893 St Mary's home for boys and St Mary's home for girls are here

Bebai (bē'bā'ī), head of a family in Zerubbabel's return Esra 2 11, 8,11, 10 28, Neh 7 16, 10 15

Bebel, August (ou'gōōst bā'bul), 1840–1913, German Socialist leader. A turner by trade, he became a Marxian Socialist under the influence of Wilhelm Liebknecht At a congress at Eisenach (1869) he was instrumental in founding the German Social Democratic party, which he later represented in the Reichstag His antimilitarism and his social program earned him the hatred of Bismarck In 1872 Bebel and Liebknecht, tried on false charges, were sentenced to two years' imprisonment, but Bebel was reelected to the Reichstag In 1875 he helped to unite the Lassalle group with the Social Democrats Among his writings are *Women and Socialism* (1883, Eng tr , 1910) and his autobiography (1910–14, abridged Eng tr , 1912)

Bec (bĕk), former Benedictine abbey, near the village of Bec-Hellouin, Eure dept , N France, in Normandy, S of Rouen Founded in the 11th cent , it soon became famous when Lanfranc taught there and Anselm was abbot It declined after the Hundred Years War, was suppressed in the French Revolution, and fell into ruin

Beccafumi, Domenico di Pace (dōmā'nēkō dē pa'chā bĕk-kafōō'mē), 1486–1551, Italian painter and sculptor, also called Il Mecherino He studied painting in Siena and Rome and was a versatile and prolific worker, achieving distinction also as engraver and sculptor He is best known for his frescoes in the city hall in Siena and for his designs for the famous pavement of Siena Cathedral, on which he worked at intervals from 1517 to 1546, his designs consisting of a great series of scenes from the Old Testament Among his other works are *Holy Family* (Pitti Palace), *Descent into Limbo* and *Nativity of the Virgin* (Siena), and the fine bronze and marble sculptures in Siena Cathedral *Holy Family with Angels* is in the National Gallery of Art, Washington, D C

Beccaria, Cesare Bonesana, marchese di (chā'zärē bōnāzē'nä markā'zā dē bĕk-kärē'ä), 1738–94, Italian economist, jurist, and criminologist Of a retiring disposition, he nevertheless held several public offices, through these and through his writings he influenced local economic reforms and stimulated penal reform throughout Europe In 1764 appeared his famous *Essay on Crimes and Punishments* (Eng tr , 1767), one of the first arguments against capital punishment and inhuman treatment of criminals This especially influenced Jeremy Bentham and the utilitarians He made original contributions to economic theory, applying mathematics to economics, analyzing population problems, and anticipating the wage and labor theories of Adam Smith Much of this work appears in *Elementi di economia publica* (1804), a posthumous collection of his lectures (1768–70) in political economy at Milan See Coleman Phillipson, *Three Criminal Law Reformers* (1923)

Becerra, Gaspar (gäspär' bāchĕr'rä), 1520–70, Spanish sculptor, architect, and painter. He studied in Rome with Vasari and decorated the Alcazar of Madrid (burned in 1735) for Philip II His best-known surviving work is his altarpiece in the Astorga Cathedral

Béchamp, Pierre Jacques Antoine (pyĕr' shäk' ätwăn' bāshä'), 1816–1908, French chemist He is noted for his discovery of a method of preparing aniline from nitrobenzene

Becher (bē'kur) 1 Son of Benjamin Gen 46 21, 1 Chron 7 6,8 In 1 Chron 8 1 "his first-born" should perhaps be read "Becher", cf Bocheru See Bicri 2 Son of Ephraim His descendants are Bachrites Num 26 35 Bered 1 Chron 7 20

Becher, Johann Joachim (yō'hän' yō'äkhĭm bĕ'khĭr), 1635–82, German chemist With G E Stahl (who summarized Becher's doctrines in *Specimen Becherianum*) he was cofounder of the phlogiston theory

Bechorath (bĕkō'răth) [Heb., =first-born], ancestor of Saul 1 Sam 9 1,

Bechuanaland (bĕchōō'ənŭlănd"), British protectorate (c.275,000 sq mi ; pop 250,022), Africa. It is administered from Mafeking in the Union of South Africa Bechuanaland is bounded by South-West Africa on the west and north, by Southern Rhodesia on the east, and by the Union of South Africa on the east and south. The country is mainly a plateau averaging over 3,000 ft. high The Kalahari occupies S Bechuanaland, and in the north sandy depressions mark former extensive lake beds. Rainfall in general is insufficient to raise crops, and grazing of cattle, sheep, and goats

is the chief occupation. Gold and silver are mined, especially in the TATI concession. In part of E Bechuanaland, which is served by the protectorate's only railroad, there are white farmers, otherwise, the entire territory is a native reservation inhabited by Bantu tribes, notably the Bechuana, and by some Bushmen. In the early 19th cent., except for some Boer incursions in the south, there was little white interest in the area Under Khama, a Bechuana chief, the depredations of the Matabele were curbed and a fairly unified native state grew up In the late 19th cent., however, the Boers in the neighboring Transvaal made threats against the territory, and at the request of Khama, Great Britain established a protectorate over present-day Bechuanaland and over certain territory to the south, which, in 1895, was annexed to Cape Colony Most of the protectorate today is ruled by a paramount chief under a British high commissioner

Beck, Sir Adam, 1857–1925, Canadian statesman, b Baden, Ont Entering the Ontario legislature in 1902, he was appointed (1903) a commissioner to investigate the development of power at Niagara Falls In 1906 he introduced a bill creating the Hydro-Electric Power Commission of Ontario, of which he was chairman until his death

Beck, Carl, 1856–1911, American surgeon, b near Heidelberg, Germany, M D Univ. of Jena, 1879 He came to the United States in 1882 and was president of St Mark's Hospital from 1886 and professor of surgery at the New York Post-Graduate Medical School from 1890 His innovations in surgery of the chest and of the abdomen brought him wide fame He was among the first to use X rays in medical diagnosis and treatment Among his works are *Text Book on Fractures* (1900) and *Surgical Diseases of the Chest* (1909)

Beck, John Brodhead, 1794–1851, American physician, b Schenectady, N Y, M D College of Physicians and Surgeons, 1817, brother of Lewis C Beck and Theodric R Beck He taught materia medica and medical jurisprudence for many years at the College of Physicians and Surgeons Besides aiding his brother Theodric in preparing a famous work on medical jurisprudence, he wrote *Essays on Infant Therapeutics* (1849) and *Lectures on Materia Medica and Therapeutics* (1851) and articles for the *New York Medical and Physical Journal*, of which he was editor and cofounder

Beck, Lewis Caleb, 1798–1853, American physician and chemist, b Schenectady, N Y, educated at Union College and at the College of Physicians and Surgeons, brother of John B Beck and Theodric R Beck He practiced medicine for a time, but soon turned to teaching and to the pursuit of studies in botany, chemistry, geology, and mineralogy Most of his teaching was at Rutgers and at Albany Medical College In 1837 he was appointed to the geological survey of New York state as mineralogist He was chosen, in 1848, to make a chemical investigation of foodstuffs under the first congressional appropriation made for that purpose His works include *A Manual of Chemistry* (1831), *Botany of the Northern and Middle States* (1833), and *Mineralogy of New York* (1842)

Beck, Lily Adams (Moresby), pseud **E Barrington,** d 1931, British author She traveled widely in the East and lived in Canada from 1919 until just before her death Her published work is of two different types Under the name L Adams Beck she wrote of Oriental life and thought, including *The Story of Oriental Philosophy* (1928) and *The Ninth Vibration and Other Stories* (1922) She is better known, however, for her romantic biographies written under the pseudonym E Barrington and including *Glorious Apollo* (1925, on Byron) and *The Divine Lady* (1924, on Lady Hamilton) She wrote *The Glory of Egypt* (1926) under the pseudonym Louis Moresby

Beck, Theodric Romeyn, 1791–1855, American physician, b Schenectady, N Y, M D College of Physicians and Surgeons, 1811, brother of John B Beck and Lewis C Beck He was principal of the Albany Academy (1817–54) and professor at the Western College of Physicians and Surgeons, Fairfield, N Y, from 1815 until the school was given up in 1840 From 1840 to 1843 he taught materia medica at Albany Medical College His *Elements of Medical Jurisprudence* (1823), the first important book on the subject in America, went through many editions His first name is also spelled Theodoric

Beckenham (bĕk'ənum), municipal borough (1931 pop 43,832, 1947 estimated pop 75,460), Kent, England, near London It has tanneries and cable works

Becker, Carl Lotus, 1873–1945, American historian, b Blackhawk co, Iowa, grad Univ of Wisconsin (B A., 1896; Ph D, 1907) and studied at Columbia Univ. He taught history at the Univ of Kansas (1902–16) and at Cornell Univ (1917–41). After retirement he was professor emeritus and university historian at Cornell Among his early works were monographs such as his *History of Political Parties in the Province of New York, 1760–1776* (1909), but his real forte was the analysis of thought and philosophy in action, exemplified by his studies in the American Revolutionary period. *The Eve of the Revolution* (1918; in the "Chronicles of America" series) and *The Declaration of Independence* (1922), and in the broader study, *The Heavenly City of the Eighteenth-Century Philosophers* (1932) His deep concern with the use of history for the betterment of international relations and of mankind was shown in his *How New Will the Better World Be?* (1944). His works are remarkable as much for the quiet originality of his thought as for the purity and lucidity of his impeccable literary style.

Becker, George Ferdinand, 1847–1919, American geologist, b New York city, grad Harvard (B A., 1868) and Heidelberg (Ph D., 1869) He taught at the Univ of California (1875–79) When Clarence King became director of the U S Geological Survey in 1879, Becker was appointed geologist-in-charge. He carried on important geophysical research at his Washington, D C, laboratory Besides the *Geology of the Comstock Lode* (1882), which established his reputation, he wrote on geodynamics and the genesis of various metals and on gold fields in many parts of the world

Becker, Wilhelm Adolf (vĭl'hĕlm ä'dôlf), 1796–1846, German archaeologist He was professor of archaeology at Leipzig His unfinished *Handbuch der römischen Alterthümer* (1843–46) was completed by Marquardt and Mommsen. Two popular romances, *Gallus* (1838, Eng tr, 1844) and *Charicles* (1840, Eng tr, 1845), went through numerous editions

Becket, Thomas. see THOMAS À BECKET, SAINT

Beckett, Gilbert Abbott à, and **Gilbert Arthur à Beckett** see À BECKETT, GILBERT ABBOTT

Beckford, William, 1760–1844, English author and dilettante Although he wrote several travel books and two burlesques on the novels of the day—*The Elegant Enthusiast* (1796) and *Azemia* (1797)—he is remembered for the Oriental romance *Vathek*, written in French but first published (1784) in English translation Becoming involved in scandal (he was suspected, among other things, of practicing black magic), he lived on the Continent for a number of years, later he built in Wiltshire a Gothic castle, Fonthill Abbey, where he lived in magnificent seclusion until even his large fortune was depleted His last years were spent at Bath. See biographies by J W Oliver (1932) and Guy Chapman (1937)

Beckley, city (pop 12,852), co. seat of Raleigh co, S W Va, N of Bluefield, in a coal area, chartered 1838 A junior college and a state tuberculosis sanatorium are here

Becknell, William see SANTA FE TRAIL

Beckwith, James Carroll, 1852-1917, American painter, b Hannibal, Mo, studied with Carolus-Duran and at the École des Beaux-Arts His genre paintings include *The Blacksmith* (National Mus, Washington, D C), but he is probably best known for portraits, of which those of Mrs R H McCurdy, Mark Twain, and Capt Joseph Lentilon are noted He taught at the Art Students League, New York city, for many years

Becque, Henry François (ärē' frāswä' bĕk'), 1837–99, French dramatist of the naturalistic school Notable among his plays which mordantly depict aspects of French bourgeois life are *Les Corbeaux* (1882) and *La Parisienne* (1885), translated in the volume *The Vultures, The Woman of Paris, The Merry-go-round* (1913)

Bécquer, Gustavo Adolfo (gōōstä'vō adôl'fō bä'kĕr), 1836–70, Spanish poet Bécquer's lonely and introspective life is evident in his writings His *Rimas*, of which he wrote 76, are a collection of lyrics comparable to Heine's, Byron's, and Musset's poetry His relation to these romantic poets has been the subject of much research In prose he wrote 22 *leyendas* [legends] and *Desde mi celda* (1864), a group of nine literary letters Bécquer expressed profound feelings in a delicate and subtle manner, enveloping both poetry and prose in an atmosphere of dreams and shadows He is considered one of the outstanding Spanish poets He died of tuberculosis at 34

Becquerel, Alexandre Edmond (ălĕksä'dru ĕdmô' bĕkurĕl'), 1820–91, French physicist In 1878 he succeeded his father, Antoine César Becquerel, as professor at the Muséum d'Histoire naturelle Known for his studies in light, photochemistry, and phosphorescence (for which he invented the phosphoroscope), he wrote *La Lumière, ses causes et ses effets* (1867–68) Antoine Henri Becquerel was his son.

Becquerel, Antoine César (ätwan' sāzär'), 1788–1878, French physicist, a pioneer in electrochemical science He was professor of physics at the Muséum d'Histoire naturelle from 1837 until his death He made a special study of telegraphy and magnetism and wrote several books on these subjects

Becquerel, Antoine Henri (ätwän' ärē'), 1852–1908, French physicist He was professor at the École polytechnique, Paris, from 1895 He studied atmospheric polarisation and the influence of the earth's magnetism on the atmosphere In 1896 he discovered RADIOACTIVITY IN URANIUM, the Curies made further investigations of the phenomenon and shared with Becquerel the 1903 Nobel Prize in Physics (see CURIE, PIERRE).

bed. A litter of dried grasses and animal skins placed on the floor or in a shallow depression or chest was used for sleeping by prehistoric and primitive peoples. In ancient Babylonia, Assyria, and Egypt, people of wealth slept on ornate bedsteads of wood, stone, ivory, or metal, laced with wickerwork or other resilient material on which rested rush mattresses Pillows, as in many parts of the Orient today, were headrests of wood, stone, or pottery The Greeks used couches and mattresses which were often stuffed with wool or feathers Air cushions were an innovation of the Etruscans The Romans developed different types of beds for sleeping and for reclining In Europe during the Middle Ages only the nobility used bedsteads, these were light frames easily carried on expeditions or sojourns in the lord's various residences and were set up in the great hall Canopies were suspended from wall or ceiling, covers and draperies were of the richest fabrics In the 15th cent, separate bedchambers became common, bedsteads had high, ornately carved headboards and elaborate canopies supported on four posts and were enclosed with rich hangings Children and servants often slept on low pallets, or truckle beds concealed by day under the principal bed In England especially, monumental beds came into fashion in the 15th cent, the Great Bed of Ware (c 1580) measured 10 by 11 ft The 17th cent saw the development of a variety of forms--luxurious great beds with testers of many sizes and shapes, couches with adjustable headpieces, beds that turned up against the wall, cupboard beds concealed by doors or shutters In the 18th cent both beds and hangings became lighter and more graceful In the 19th cent the sleigh bed with curved ends was popular, and in the latter half of the century cast-iron and brass bedsteads and woven wire, link, and vertical coil springs were common Modern developments include the inner-spring mattress, a number of space-saving forms, and hospital beds In parts of the Orient, rugs piled on the floor serve as beds, the Japanese sleep between quilts spread on the floor matting, Ceremonial beds have been used since ancient Egyptian times In the 17th cent it became customary to receive guests while lying in bed The "Bed of Justice" was a cushioned seat used by the kings of France in the parliament chamber

Bedad (bĕ'-), father of HADAD **2**

Bedan (bē'dăn) [Heb, =servile] **1** Otherwise unknown deliverer of Israel 1 Sam 12 11 The Septuagint reading, Barak, may be correct **2** Manasseite 1 Chron 7 17

Bedaresi or **Bederi, Yedayah ben Abraham** (bädärä'sē bädēr'ē), 1270?–1340, Jewish poet and philosopher, b Béziers, France His most successful poem was the didactic *Examination of the World*, of which many translations have been made, among them one in English by Rabbi Tobias Goodman (London, 1806)

bedbug, bug of the order Hemiptera found in most parts of the world The common species, *Cimex lectularius*, is a flat, reddish-brown bug about ¼ in long It has an unpleasant odor Both male and female bedbugs feed only on blood and can live for 4 to 12 months without eating They attack man chiefly, but also other mammals and poultry By day they usually hide in crevices in walls and furniture Steam cleaning of furniture and mattresses, spraying, and fumigation are methods of control See *Bedbugs* (U S Dept of Agriculture, Leaflet 146)

Beddoes, Thomas Lovell, 1803–49, English poet He was the author of poetry—*The Improvisatore* (1821), *The Bride's Tragedy* (1822)—and the play *Death's Jest-Book, or, The Fool's Tragedy* (1850) Beddoes had a liking for the grim and grotesque, which contrast with the delicacy of his lyrical passages See his works (ed by H W Donner, 1936), Lytton Strachey, *Books and Characters* (1922)

Bede (bēd) or **Baeda** (bē'du), 673?–735, English historian, a Benedictine monk, called the Venerable Bede and St. Bede He spent his whole life at the monasteries of Wearmouth (at Sunderland) and Jarrow and became probably the most learned man in Western Europe in his day His writings, virtually comprising a summary of the learning of his time, consist of theological, historical, and scientific treatises. Like a modern scholar, he gives due credit to his sources, a practice then most unusual His theological works are commentaries on the Scriptures in the light of the interpretations of the Church Fathers He wrote biographical works such as the lives of St Cuthbert (in prose and verse) and the *History of the Abbots* (of Wearmouth and Jarrow). His *Ecclesiastical History of the English Nation*, written in Latin prose, is an important primary source for English history from 597 to 731 His accounts in it of how the poet Caedmon received the gift of song and of the conversion of Northumbria to Christianity are among the most notable passages in medieval literature. The *Ecclesiastical History* has been many times translated, while the best edition of the text is in *Bedae opera historica* (ed by Charles Plummer, 1896) Among Bede's scientific treatises the best known are those on chronology, long held as standard Feast May 27 See the collection of essays, *Bede His Life, Times, and Writings* (ed by A. Hamilton Thompson, 1935)

Bedeiah (bĕdē'yù), Jew married to a foreign wife. Ezra 10 35.

Bedell, Frederick (bûdĕl'), 1868–, American physicist and electrical engineer, b Brooklyn, N Y, grad Yale (B A, 1890) and Cornell (Ph D, 1892) He taught at Cornell (1893–1937) and was an editor (1894–1922) of the *Physical Review* He specialized in alternating currents, wrote on electricity and aerodynamics, and invented systems of power transmission

Bedersi, Yedayah ben Abraham see BEDARESI

Bedford, Francis Russell, 5th duke of see RUSSELL, family

Bedford, Francis Russell, 2d earl of: see RUSSELL, family

Bedford, Francis Russell, 4th earl of: see RUSSELL, family

Bedford, Gunning, 1747-1812, U S statesman, b Philadelphia, grad Princeton Settling in Delaware, Bedford became a member of the local legislature, attorney general (1784-89), and a delegate to the Continental Congress (1785 86) In the Federal Constitutional Convention (1787) he opposed a strong central government and was a vigorous champion of the rights of small states

Bedford, Hastings William Sackville Russell, 12th **duke of** see RUSSELL, family

Bedford, John of Lancaster, duke of: see JOHN OF LANCASTER

Bedford, John Russell, 4th **duke of:** see RUSSELL, family

Bedford, John Russell, 1st **earl of.** see RUSSELL, family

Bedford, William Russell, 5th **earl and** 1st **duke of** see RUSSELL, family

Bedford, town (pop 1,697), S Que, on the Pike river and SE of Montreal

Bedford, municipal borough (1931 pop 40,554, 1947 estimated pop 52,210), co seat of Bedfordshire, England on the Ouse and NNW of London It is a residential community and market center, with some manufactures of farm implements In the 6th cent it was a battlefield for Saxons and Britons, there are examples of Saxon stone carvings in St Peter's Church John Bunyan is commemorated by a chapel on the site of a building where he preached after 1672 The town's schools, well known throughout England were established in 1556 by Sir William Harper, a native of the town Bedford School, founded in 1552, is one of the largest public schools of England

Bedford 1 City (pop 12,514), co seat of Lawrence co, S Ind, near the East Fork of the White River SSE of Bloomington, laid out 1820 It has many large quarries of the excellent building limestone to which it gives its name and which is shipped all over the world **2** City (pop 2 151), co seat of Taylor co, SW Iowa, near the Mo line, inc 1885 Bedford State Park, with a fish hatchery, is near by **3** Town (pop 3,807), E Mass, NW of Boston, settled c 1640, inc 1729 It still has pre-Revolutionary houses, also here are a hospital for veterans (1928), a convent, and a seminary **4** Town (pop 1,561), S N H, SW of, and near, Manchester; inc 1750 It was settled in 1737 on grants made in 1733-34 to soldiers of King Philip's War and their heirs J E Worcester and Zachariah Chandler were born in Bedford Many houses were wrecked by an explosion in 1944 **5** Unincorporated residential village (pop 893), SE N Y, in Westchester co A state reformatory for women is at near-by Bedford Hills **6** Residential village (pop 7,390), NE Ohio, SE of Cleveland It was settled c 1813 on the site of a Moravian settlement (1786) Chairs and china are among Bedford's products **7** Agricultural borough (pop 3,268), co seat of Bedford co, S Pa, on a branch of the Juniata river and SE of Johnstown, settled c 1750, laid out 1766 It has stock farms and apple orchards The borough is on the site of a fort (c 1757), later an important post on the Pittsburgh Turnpike and the place where Washington in 1794 reviewed troops sent to suppress the Whisky Rebellion It has several colonial buildings The resort, Bedford Springs, is near by. **8** Town (pop 3,973), SW Va between Roanoke and Lynchburg, in a farm area, founded 1781, inc 1890, reinc 1912 It has tobacco warehouses and varied manufactures The courthouse of Bedford co and the Elks National Home are here Near by is "Poplar Forest" (1806–9, restored), the country home of Jefferson.

Bedford Level, England see FENS, THE

Bedfordshire or **Bedford,** county (473 sq mi, 1931 pop 220,525, 1948 estimated pop 298,715), S central England The shortened form of the name is Beds The county town is Bedford The terrain is generally flat with low chalk hills in the south The region is a fertile one, drained by the meandering course of the Ouse More than four fifths of the area is under cultivation, agriculture, particularly market gardening for near-by London, is the chief occupation. The county manufactures agricultural implements, and Luton, its largest town, has been famous for centuries as a center for the manufacture of lace and straw plait for hatting Part of the ancient kingdom of Mercia, Bedfordshire was first mentioned as a shire in 1016 when the region was laid waste by King Canute A refuge for continental Protestants, the county strongly opposed the king in the Puritan Revolution. John Bunyan was born at Elstow and preached at Bedford See *Victoria History of Bedfordshire* (3 vols, 1904–12), Arthur Mee, *Bedfordshire and Huntingdon* (1939)

Bédier, Joseph (zhôzĕf bādyā'), 1864–1938, French authority on medieval literature. He was professor of medieval French language and literature at the Collège de France and a member of the French Academy His reconstruction of the *Roman de Tristan et Iseult* (1900) into modern French brought him fame for its beauty of language and excellence of scholarship *Les Légendes épiques* (4 vols, 1908–13), his masterpiece, developed a new theory of the origin of the great romances of the Middle Ages

Bedivere, Sir, King Arthur's steward see ARTHURIAN LEGEND

Bedlam [i e, Bethlehem], oldest insane asylum in England and one of the oldest in Europe A priory in 1247, the building was used c 1400 for the insane Known properly as the Bethlem Royal Hospital, it was moved (1930) from Lambeth borough to a new site near Croydon

Bedlingtonshire, urban district (1931 pop 27,461, 1947 estimated pop 27,350), Northumberland, England In a coal-mining area, it includes the towns of Bedlington, Netherton, and West Sleekburn The Bedlington terrier is bred here

Bedlington terrier see TERRIER

Bedloe's Island, 10 38 acres, in Upper New York Bay, SW of Manhattan Island, site of the STATUE OF LIBERTY NATIONAL MONUMENT The island, site of New York city's first quarantine station (established by John BARD) and later of a fort and other army buildings, was placed under the jurisdiction of the National Park Service in 1937

Bedny, Demyan (dyĕmyan' byĕd'nyĭ), 1883-1945, Soviet verse writer, whose real name was Yefim Pridvorov As the "early poet-laureate of the Revolution" he wrote topical verse and was widely acclaimed In 1936 a libretto, *The Heroes*, in which the legendary champions of Russia were satirized, turned critical opinion against him

Bedouin (bĕ'dōōĭn) [Arabic, = tent dwellers], nomad peoples of interior Arabia They are of the same Semitic stock as their sedentary neighbors and with them share a devout belief in ISLAM, but are distrustful of any but their own local traditions and way of life Camel breeding provides their main livelihood Land is divided into recognized tribal orbits within which are roving family groups As with most nomads, hospitality and simple, immediate justice are first rules of conduct See C M Doughty, *Travels in Arabia Deserta* (1926), C R Raswan, *Black Tents of Arabia* (1935, reissue, 1947)

Beds. see BEDFORDSHIRE

Bedzin, Pol *Będzin* (bĕ'jĕn), Ger *Bendzin* (bĕn'tsēn), city (pop 27,754) Silesia prov, SW Poland, a center of the KATOWICE mining and industrial region Founded in the 14th cent, it passed to Prussia (1795) and to Russia (1815) It reverted to Poland in 1919

bee, insect of the order Hymenoptera, which also includes the ant and the wasp The solitary bees include the carpenter, the cuckoo, the leaf-cutter, and the mason bees Solitary bees do not produce wax The groups of social bees are the bumblebees, the stingless bees, and the hive bees Bumblebees belong to the genus *Bombus* In the tropics, bumblebee colonies continue for many years, but in temperate regions the workers and drones die in the fall Only the young, fertilized queens live through the winter, in hibernation In the spring they begin to lay eggs, often in deserted nests of field mice and chipmunks Bumblebees are pollinators of red clover Stingless bees are chiefly tropical Some species release a caustic liquid which burns the skin The honeybee or hive bee commonly raised in many parts of the world is *Apis mellifera* (or *mellifica*) of Old World origin Races of the honeybee include the Carniolan, Caucasian, Cyprian, and Italian Artificial insemination is sometimes employed to insure purity of the strain A typical colony consists of a queen, many thousands of workers (sexually undeveloped females), and a few hundred drones (fertile males) At the tip of the bee's abdomen is the strong, sharp lancet or sting In the queen it is smooth and can be withdrawn easily She stings only rival queens The worker bee stings humans and other animals Its sting is barbed and can rarely be withdrawn without tearing the body of the bee, causing it to die In the nuptial flight the queen is followed aloft by the drones, one of which succeeds in impregnating her with millions of sperms These are stored in her body in a pouch The drone dies and the queen returns to the hive For the rest of her life (usually several years) she lays in the waxen cells both fertilized eggs, which develop into workers, and unfertilized eggs, which become drones A queen is produced from a fertilized egg when the cell is enlarged and the larva in it is fed entirely on royal jelly during the larval period (five and a half days), other larvae are fed pollen and nectar for the last two or three days When a hive becomes overcrowded a swarm may leave and establish another colony The duties of the workers include gathering nectar, making and storing honey, building the cells, cleaning, ventilating, and protecting the hive; and feeding and caring for the queen and her young. They are of inestimable value as agents of pollination Workers live for only about six weeks during the active season. Those which hatch in the fall live through the winter Drones die in the fall See also BEESWAX and HONEY See Maurice Maeterlinck, *The Life of the Bee* (1913), A I. Root and E R Root, *The ABC and XYZ of Bee Culture* (1940), E W Teale, *The Golden Throng* (1940)

bee balm see OSWEGO TEA and LEMON BALM

Beebe, William (bē'bē), 1877–, American scientist, explorer, author, b Brooklyn, N Y, grad Columbia (B S, 1898) He became (1899) curator of ornithology at the New York Zoological Society and made his department there one of the greatest in the world His expeditions have carried him to many parts of the globe, including under water in a bathysphere Among his numerous books are *The Bird* (1906), *Jungle Peace* (1918), *Galapagos* (1923), *The Arcturus Adventure* (1925), *Pheasants Their Lives and Homes* (1926), *Beneath Tropic Seas* (1928), *Nonsuch Land of Water* (1932), first volume of a study of waters around Bermuda, *Half Mile Down* (1934), *Book of Bays* (1942), and *High Jungle* (1949) He edited *Book of Naturalists* (1944)

Beebe, strawberry-shipping town (pop 1,189), central Ark, NE of Little Rock A state junior agricultural college is here

Beebe Plain (bē'bē), village (pop 1,024), SE Que, near Lake Memphremagog SSW of Sherbrooke and near the international boundary

beech, name for any of several species of the genus *Fagus*, deciduous trees of the Northern Hemisphere The American beech (*Fagus grandifolia*) is one of the dominant forest trees over much of E North America The tree is symmetrical and has a distinctive, smooth light gray bark Its wood is tough and strong but easily worked and is used for furniture, interiors, and woodenware, among other things, and it makes a good firewood The beechnuts are of sweet flavor but are no longer marketed to any extent, swine are often turned into beech forests to fatten on the mast The European beech (*F sylvatica*) is an important forest tree especially in Central and S Europe, valued for its wood and for an edible oil extracted from the nuts Varieties of the European beech, e g, the purple and copper beeches, are cultivated in America The blue or water beech is an IRONWOOD

Beecham, Sir Thomas, 1879, English conductor He made his debut in 1899 and in 1906 organized and conducted the New Symphony Orchestra As producer and conductor of opera he introduced to England the operas of Richard Strauss, many Russian operas, and the Russian ballet He has also been the champion of the music of Delius In 1932 he organized the London Philharmonic Orchestra, which he conducted for many years He was a frequent conductor of the Hallé Orchestra, Manchester, until 1942 In the 1942-43 season he appeared as conductor of the New York Philharmonic-Symphony Orchestra and the Metropolitan Opera He organized in 1946 the Royal Philharmonic Orchestra, of which he is conductor See his autobiography, *A Mingled Chime* (1943)

Beecher, Catharine Esther, 1800–1878, American educator, b East Hampton, N Y, educated in Litchfield, Conn, daughter of Lyman Beecher She first taught in New London, Conn, and in 1824 founded a girls' school in Hartford Later she organized the Western Female Institute in Cincinnati (1832) and similar institutions in Quincy, Ill, Milwaukee, and Burlington, Iowa Author of works on religion, health, and domestic science (which she introduced in her schools), she was indefatigable in the promotion of liberal education for women, although she opposed woman suffrage See biography by M E Harveson (1932)

Beecher, Henry Ward, 1813–87, American Congregational preacher, orator, and lecturer, b Litchfield, Conn, son of Lyman Beecher and brother of Harriet Beecher Stowe He graduated from Amherst in 1834 and attended Lane Theological Seminary, Cincinnati After two pastorates in Indiana, he was called in 1847 to the newly organized Plymouth Church (Congregational) in Brooklyn, N Y Every important issue of the day was discussed on his platform He was an outstanding leader in the antislavery movement, a proponent of woman suffrage, and a convert to the theory of evolution Beecher became editor of the *Independent* in 1861 and of the *Christian Union* in 1870 In 1863 he visited England, where his lectures were influential in gaining a more sympathetic understanding of the Union cause Enthusiasm, imaginative insight, a real interest in his fellow man, ready wit, and an easy command of English produced a convincing eloquence The sensational lawsuit brought against him by Theodore Tilton for adultery ended after a long trial (1875) with disagreement of the jury Beecher's friends acclaimed him victor The statue of him in Brooklyn is the work of John Quincy Adams Ward Beecher's published works include *The Life of Jesus the Christ* (1871) and *Evolution and Religion* (1885) See biographies by Lyman Abbott (1903) and Paxton Hibben (1927).

Beecher, Lyman, 1775–1863, American Presbyterian clergyman, b New Haven, Conn., grad. Yale, 1797.

In 1799 he became pastor at East Hampton, N.Y While serving (1810–26) in the Congregational church at Litchfield, Conn , he published his six sermons on intemperance, which passed through many American and English editions Beecher helped to found (1816) the American Bible Society In 1826 he was called to the Hanover St Church, Boston, where his revival services created excitement He was president of Lane Theological Seminary, Cincinnati, from 1832 to 1852 His liberal views not infrequently placed him in sharp opposition to the conservative group in the Presbyterian church Of his 13 children, Henry, Charles, Edward, Thomas, Harriet Beecher Stowe, and Catharine Beecher won wide recognition See his *Collected Works* (1852) and his *Autobiography and Correspondence* (ed by Charles Beecher, 1863–64), L B Stowe, *Saints, Sinners, and Beechers* (1934)

Beechey, Frederick William, 1796–1856, British arctic explorer A naval officer, he accompanied an expedition N of Spitsbergen in 1818 and wrote an account of it in his *Voyage of Discovery towards the North Pole* (1843) He accompanied W E Parry to the Canadian arctic regions in 1819, and in 1825–28 he commanded the *Blossom* in its explorations of the NW Alaska coast He wrote *Narrative of a Voyage to the Pacific and Bering Strait* (1831) He later surveyed the North African and the Irish coasts

Beechey, Sir William, 1753–1839, English portrait painter, studied at the Royal Academy of Arts Beechey early gained an enviable reputation and painted many portraits of British fashionable society and of the royal family He is represented in the National Gallery, London, the Louvre, and the Metropolitan Museum

Beech Grove, suburban town (pop 3,907), central Ind , near Indianapolis, settled 1902, inc 1906 It has railroad shops

beef, flesh of CATTLE prepared for food In the United States it has become one of the chief products of MEAT PACKING and is sold either chilled, frozen, or cured The carcasses, after being dressed, are split in half along the back and then cut into fore and hind quarters In this form beef usually reaches local dealers and is cut by them into portions e g , shank, round, rump, loins (roasts and steaks), flank, rib (roasts), chuck, plate, and brisket In addition to the heart, kidneys liver, tongue, tripe, and tail are edible Only the choicest animals are thus disposed of for fresh beef The inferior ones are converted into various products, as beef extract, sausage, pickled or corned beef, and canned or potted products Young steers especially fattened produce the finest beef, which is a clear light red color, firm, and well marbled with fat

Beefeaters, popular name for the YEOMEN OF THE GUARD and for the warders of the Tower of London Both wear colorful uniforms similar to those of the Elizabethan period

Beeliada (bē″ĕlī′ŭdu) [Heb ,=known by Baal], the same as ELIADA **1**

Beelzebub (bēĕl′zĭbŭb), in the Bible see SATAN

bee moth, wax moth, or **honeycomb moth,** small moth (*Galleria mellonella*)which lays its eggs in crevices of the hive of a weak colony of bees The larvae eat the wax and debris, making silk-lined tunnels which destroy the comb See *Wax Moth and Its Control* (U S Dept of Agriculture; Circular 386)

Beer, George Louis, 1872–1920, American historian, b Staten Island, N Y , grad Columbia (B A , 1892, M A , 1893) He was a tobacco importer for 10 years but also lectured on European history at Columbia from 1893 to 1897 After 1903 he devoted himself to continuing his economic historical studies of British colonial policy His works revolutionized history writing about the American colonies These were, notably, *The Commercial Policy of England toward the American Colonies* (1893), *British Colonial Policy, 1754–1765* (1907), *Origins of the British Colonial System, 1578–1660* (1908), and *The Old Colonial System,* Part 1 (1912) He was also a practical expert on colonial problems, and he is sometimes credited with the first employment of the word *mandates* in its modern usage He was one of the corps of U S experts at the Paris Peace Conference and was a member of the League of Nations mandates commission

Beer, Thomas, 1889–1940, American author, b Council Bluffs, Iowa, grad Yale, 1911, and studied law at Columbia, 1911 13 He is remembered for his biographies of Stephen Crane (1923) and Mark Hanna (1929) and his witty study of American manners in the 1890s, *The Mauve Decade* (1926) Those three works were edited with an introduction by Leonard Bacon (1941), and some of Beer's short stories which appeared in magazines were edited by Wilson Follett in *Mrs Egg and Other Americans* (1947)

Beer (bē′ur) [Heb ,=well] **1** Place, to which Gideon's son Jotham fled Judges 9 21 **2** Place, E of the Dead Sea between the Arnon and the Jordan, where Israel camped and dug a well Num 21 13–18 The little song quoted is one of the oldest poetic pieces in the Bible See BEER-ELIM.

beer, alcoholic beverage made by brewing and fermenting cereals, especially malted barley, usually with hops (see HOP) added as a flavoring agent and stabilizer One of the oldest of alcoholic beverages, beer was already well known in ancient Egypt Earlier brewed chiefly in the household and monastery, it became in late medieval times a commercial product and is now made by large-scale manufacture in almost every modern country, especially England, Germany, Czechoslovakia, and the United States It is less popular in southern or wine-producing areas Although English, continental, and American beers differ markedly in flavor and content, brewing processes are similar A mash prepared from crushed malt (usually barley), cereal adjuncts such as rice and corn, and water are heated and rotated in the mash tun to dissolve the solids and permit the malt enzymes to convert the starch into sugar The liquid wort is drained into a copper vessel, where it is boiled with the hops, then run off for cooling and settling At the required temperature it is "pitched" with barm (liquid yeast), the strain of yeast employed determining top or bottom fermentation Modern beers, lighter than ancient, contain about 3 to 6 percent alcohol The term *ale,* once used for a beer made without hops, is now applied in England to any light-colored beer In the United States ale is a pale, strongly hopped malt beverage generally brewed by top fermentation Most American beers are made by the bottom fermentation process and stored for several weeks or months before marketing, hence the name lager beer (Ger *Lager* = storage place) Bock beer, said to take its name from Einbeck, Prussia, where it was first made is a heavier, darker beer commonly drunk in spring Porter is a strong, dark ale brewed with the addition of roasted malt to give flavor and color Stout, darker and maltier than porter, has a more pronounced hop aroma and may attain an alcoholic content of 6 to 7 percent See Carl A Nowak, *Modern Brewing* (1934), John Arnold, *Origin and History of Beer and Brewing* (1911)

Beera (bē-ē′ru) [Heb ,=a well], Asherite 1 Chron 7 37

Beerah (bē-ē′ru) [Heb ,=a well], Reubenite 1 Chron 5 6

Beerbohm, Sir Max (bēr′bōm), 1872–, English essayist and caricaturist He contributed to the famous *Yellow Book* while still an undergraduate at Oxford By the time he succeeded G B Shaw as dramatic critic for the *Saturday Review,* Beerbohm was the author of several books, including *The Christmas Garland* (1895) and *The Works of Max Beerbohm* (1896) Other works include *Zuleika Dobson* (1911), a satire-fantasy on Oxford, *Seven Men* (1919), *And Even Now* (1920), and *Mainly on the Air* (1947) He was knighted in 1939 on his return from Italy, where he had lived from 1910 Collections of his caricatures, for which he was famous, include *The Poets' Corner* (1904) and *Rossetti and His Circle* (1922)

Beer-elim (bē′ur-ē′lĭm) [Heb ,=well of the heroes], unidentified place, perhaps the same as BEER **2** and certainly in the same region Isa 15 8

Beer-Hofmann, Richard (rĭkh′ärt bär′-hôf′man), 1866–1945, Austrian poet and dramatist He was associated with the "Young Vienna" group active in Austria at the turn of the century His *Schlafied fur Miriam* [cradle song for Miriam] (1898) is considered to be one of the finest philosophical lullabies in German His first and best-known play, *Der Graf von Charolais* [the count of Charolais] (1904), was followed by *Jaakobs Traum* [Jacob's dream] (1918) and *Der junge David* [the young David] (1933) Some of his verse was collected in 1941 He came to the United States in 1939

Beeri (bē-ē′rī) [Heb ,=my well] **1** Father of Esau's wife, Judith Gen 26 34 **2** Father of Hosea, the prophet Hosea 1 1

Beer-lahai-roi see LAHAI-ROI

Beernaert, Auguste (ōgüst′ bârnart′, bâr′nart), 1829–1912, Belgian statesman Belonging to the liberal wing of the Catholic party, he was a member of several cabinets and promoted electoral reform Beernaert was a delegate to the Hague Peace Conferences (1899, 1907), and he shared the 1909 Nobel Peace Prize with Estournelles de Constant

Beeroth (bē-ē′rŏth, bē′r-) [Heb ,=wells, plural of BEER] **1** City, c 10 mi due N of Jerusalem, important as a road station, now Bireh Joshua 9 17, 18 25, 2 Sam 4 2, 23 37, Ezra 2 25, Neh 7 29 **2** The same as BENE-JAAKAN

Beers, Clifford Whittingham, 1876–1943, American founder of the mental hygiene movement, b New Haven, Conn , grad Sheffield Scientific School, Yale, 1897 After the publication of *A Mind That Found Itself* (1908), an autobiographical account of his confinement in a mental institution, he had the support of the medical profession and others in the work to prevent mental disorders He was a leader in the field until his retirement in 1939

Beersheba (bērshē′bu, bēr′shēbu) [Heb ,=seven wells or well of the oath], town, S Palestine, now called Bir es-Seba, c 28 mi SE of Gaza, 48 mi SW of Jerusalem It has always been one of the most southerly towns of the country, hence the expression "from DAN to Beersheba" for the whole of Palestine It is especially connected, in the Bible, with Abraham, Hagar, Isaac, and Elijah Gen 21 31; 26 33, Joshua 19 1,2, Judges 20 1, 1 Chron 21 2, 2 Kings 23 8, 2 Chron 19 4; Neh 11 30 Beersheba was the first city taken by the British in the Palestine campaign (1917) of the First World War In the partition of Palestine (1948), Beersheba was assigned to the Arabs and occupied by forces of Jordan

Beesh-terah (bēĕsh′-tĭrû) see ASHTAROTH

beet, biennial or annual vegetable cultivated since before the Christian era Only one species, *Beta vulgaris,* is of commercial importance, many varieties of it having been developed, about 50 of these are grown in the United States Besides the garden vegetable—of which both root and leaf are eaten—other varieties are cultivated for their foliage, for a cattle feed, and one, the sugar beet, for beet sugar Chard or Swiss chard is a potherb variety Mangelwurzel is a coarse beet used for fodder The beet is attacked by fungus diseases, such as leaf spot, red and white rust, and scab It is one of the root crops most often included in crop rotation systems

Beethoven, Ludwig van (lōōd′vĭkh van bā′tōvn), 1770–1827, German composer, b Bonn He studied first with his father, a singer The most important of his early teachers was C G Neefe, who introduced him to Bach's *Well-tempered Clavier* In 1787 he had some lessons with Mozart From 1792 he lived in Vienna, studying under Haydn and later under Antonio Salieri and J G Albrechtsberger, at the same time earning renown as a solo pianist and improviser In 1800 he appeared publicly in concert, but his growing deafness made a career as a virtuoso impossible The first period of his composition includes piano sonatas, among them the *Sonata pathétique* (1799) and the *Sonata quasi una fantasia* (1801) in C sharp minor, known as the Moonlight Sonata, the early chamber music, serenades, and violin sonatas, the first three piano concertos, and the first two symphonies In the next period are most of the best-known works including the Fourth Piano Concerto (1805–6) the Fifth, or Emperor, Concerto (1809), the Violin Concerto in D (1806), the most famous of his 10 violin sonatas, the Ninth, or Kreutzer, Sonata (1803), the Third, or Eroica, Symphony (1802–4), the Fifth Symphony (1805–7), the Sixth, or Pastoral, Symphony (1807–8), the Seventh Symphony (1812), the Eighth Symphony (1812), his one opera *Fidelio* (1803–5, revised 1806, 1814), for which he composed four overtures, each of the first three called Leonore Overture, and many well-known piano sonatas, including the *Waldstein* (1804), *Appassionata* (1804–6), and *Les Adieux* (1809) sonatas In the years 1812–18 when he was occupied with a bitter struggle over the custody of his nephew (whom he loved dearly but who caused him much anxiety and grief), his creative output was very small The great works of his last period were mostly composed in total deafness the last five piano sonatas, including Opus 106, the *Hammerklavier* (1818 19), the Ninth Symphony (1817–23), with choral finale based on Schiller's "Ode to Joy", the *Missa Solemnis* in *D* (1818–23), and the last five string quartets (1825–26) A continuous developing and maturing, rather than abrupt changes of style, are evident throughout Beethoven's music He took the classical forms, principally the sonata, and developed them to the ultimate Although some of his harmonies were considered daring and his instrumentation sometimes bizarre, his works were successful in his lifetime, and the financial difficulties of his later years were chiefly the result of his own ineptness He is regarded simultaneously as the last of the classical composers and the first of the romantic composers See biographies by A W Thayer (rev ed , 1921), Paul Bekker (1928), Romain Rolland (1929), R H Schauffler (1929), M M Scott (1934), Walter Riezler (1938), J N Burk (1943), and Madeleine Goss (rev ed , 1946), Sir George Grove, *Beethoven and His Nine Symphonies* (1904), J W N Sullivan, *Beethoven His Spiritual Development* (1927), D G Mason, *Beethoven and His Forerunners* (rev ed , 1930), D F Tovey, *Beethoven* (1944)

beetle, insect of the order Coleoptera, of which there are about 180,000 species Approximately 22,000 species are found in North America Most beetles have two pairs of wings, the first of these is modified to a thickened pair of wing covers, or elytra which form a protective covering for the body and for the membranous hind wings Beetles undergo a complete metamorphosis The larva is usually called a grub A few families are aquatic but the majority are terrestrial Some are predaceous, others feed on living plants, on deadwood, or on decaying animal or vegetable matter The tiger, whirligig, and carrion beetles are common, as are the BOLL WEEVIL, the COLORADO POTATO BEETLE, the FIREFLY, the JAPANESE BEETLE, the LADYBIRD, the SCARAB, the TUMBLEBUG, the JUNE BEETLE, and the WIREWORM See also WEEVIL

Beets, Nicolaas (nē′kōlas bāts), 1814–1903, Dutch author He translated Byron into Dutch and was fairly well known as a poet when his *Camera Obscura* (1839), published under the pseudonym Hildebrand, won great popularity This was a series of sketches of everyday life, gently humorous in tone

beet sugar see BEET and SUCROSE

Beeville, city (pop 6,789), co seat of Bee co, S Texas, NW of Corpus Christi, settled in the 1830s, laid out 1878, inc. 1908 Long a cow town, Beeville is, with its markets and small factories, the center of an area producing cattle, oil, milk, and eggs.

Begas, Karl Joseph (kärl' yō'zŏf bā'gäs), 1794–1854, German historical and portrait painter He studied in Paris and became painter to the king of Prussia, who sent him to Italy On his return, he was appointed a professor in the Royal Academy, Berlin Influenced successively by the German and the Italian masters, he adopted first the style of the Nazarenes (or German Pre-Raphaelites), then the romantic manner, and finally became a realist His portraits are among the finest examples of his work. Of his three sons, **Oskar Begas** (ôs'kär), 1828–83, was a painter of portraits of contemporaries, genre subjects, and wall decorations **Reinhold Begas** (rīn'hŏlt), 1831–1911, was a sculptor who studied under Rauch and later in Italy, where he was influenced by the works of Michelangelo and of the artists of the baroque period His *Borussia*, executed for the façade of the Berlin Exchange, first brought him into prominence His portrait busts include those of Moltke, Bismarck, Alexander von Humboldt, and members of the Hohenzollern family His brother and pupil, **Karl Begas** 1845–1916, studied also in Rome His best work, as well as that of the rest of the family, was in Berlin

Begg, Alexander, 1839–97, Canadian pioneer He was an early settler and merchant in Manitoba, and his *Creation of Manitoba* (1871), *Ten Years in Winnipeg* (1879), and *History of the North-West* (3 vols, 1894–95) are of value for their regional history Another **Alexander Begg**, 1825–1904, a journalist, wrote a *History of British Columbia* (1894).

beggar, one who lives by asking alms for his personal use The rise of begging is linked with the beginnings of private property There is most begging in times of economic and social stress and in regions where there is a religious stimulus to almsgiving Vagrants (see VAGRANCY) are roving beggars, able but unwilling to work, to be distinguished from hobos, who are itinerant workers The unemployed and handicapped drift easily into professional begging, against which punitive measures do little The opening of municipal lodginghouses, vocational help for the handicapped, old-age pensions, organised charity—including hospitals and convalescent homes—all aid in removing the cause of begging See C J Ribton-Turner, *History of Vagrants and Vagrancy* (1887), H W Gilmore, *The Beggar* (1940)

Beggars of the Sea see GUEUX

Beggar's Opera, The. see GAY, JOHN

beggarweed, leguminous plant (*Desmodium purpureum*), native to the West Indies and sown in the United States for forage and for green manure It has high nutritive value and is palatable to stock Although it does well as far north as Virginia, it is little grown outside of Florida

Beggs, oil city (pop 1,283), E central Okla, S of Tulsa, inc 1902

Beghards (bĕg'ŭrdz), associations of men in Europe, organized similarly to the BEGUINES They are first known to have been established at Louvain in 1220 From there they extended their organisations throughout the Netherlands, into Germany, and into France and Italy Although they survived into the 15th cent, they were unpopular and mistrusted from before 1300 According to the Council of Vienne (1311), which condemned their doctrine, the Beghards taught that one may attain in this life to such a perfection as to be unable to sin, i e, what he may do thereafter is by definition never sinful This idea is found earlier among the Albigensians and later among some Protestants The Beghards were influenced by the pantheistic mystical sect, Brothers and Sisters of the Free Spirit, which flourished around Cologne

begonia (-gō'-), any plant of the large genus *Begonia*, mostly succulent perennial herbs of the tropics cultivated elsewhere as bedding or pot plants and propagated by seeds, stem or leaf cuttings, or division Some kinds are grown for their showy, variously colored leaves—rex begonias—and some for their flowers, sometimes double The blossoms, white, pink, red, or yellow, are of a single sex Begonias may be divided roughly into root types, as fibrous, rhizomatous, and tuberous There are a large number of hybrids See Bessie Buxton, *Begonias and How to Grow Them* (1939)

Beguines (bāgēn'), religious association of women in Europe, established in the 12th cent The members, who took no vows and were not controlled by the rules of any order, usually were housed in separate cottages and devoted themselves to charitable works Their community was called a beguinage Until the 14th cent, women of high social standing came into the communities in numbers From Belgium and the Netherlands the movement extended across France and Germany. During the earlier years, their services to society brought to the Beguines favor and protection from secular heads and Church authorities, but in the 13th and 14th cent accusations of heresies and immorality among them as well as among the BEGHARDS, the corresponding bands of men, led to the scattering of the members. The character of the communities changed, eventually, where they survived, taking the form of almshouses for needy spinsters in certain places Some still exist in Germany but the most successful beguinages today are in Belgium and Holland, particularly in Ghent

Behaim, Behem, or Boeheim, Martin (all bā'hīm), b 1436? or 1459?, d 1506?, German traveler and cosmographer He studied (possibly under Regiomontanus) astronomy, navigation, and mathematics He went to Portugal as a merchant c 1480 and may have gone on an expedition along the west coast of Africa In 1486 he went to Fayal in the Azores, where he married He is believed to have developed an astrolabe and other devices for the use of navigators, but is best known for the terrestrial globe which he made in 1492 and gave to his native city, Nuremberg The globe is inaccurate and does not represent the best geographical information of the late 15th cent

Beham (bā'hām), **Behem** (-hĕm), or **Peham** (pā'-), name of two German engravers and painters, among the most celebrated of the German Little Masters **Hans Sebald Beham** (hāns' sā'bŏlt), 1500–1550, a pupil of Dürer, with his brother was banished from Nuremberg for freethinking in 1525 After some vicissitudes he settled in Frankfurt c 1531 His rare paintings have less interest than his engravings on wood and copper, of which he produced some 1,250 Many of his prints deal with biblical or mythological subjects, such as *The Labors of Hercules*, but his best work depicts the life of his day, as in the spirited *Village Weddings* series His brother, **Barthel Beham** (bär'tul), 1502–40, was painter to Duke William of Bavaria, who sent him to Italy He painted a celebrated *Christ Bearing the Cross* and numerous portraits, one of which is in the Metropolitan Museum He is best known, however, for his excellent engravings, which include *Virgin at the Window* and portraits of the emperors Charles V and Ferdinand I

behaviorism, explanation of human behavior entirely in terms of physiological activity (of the nervous system) in response to stimuli Introduced by J B WATSON in 1912, it is based on the early mechanistic concepts of Democritus and Epicurus and the later beliefs of Hobbes Behaviorism was modern, however, in its subjection of psychology to the laboratory technique Watson, in his insistence that behavior is a physiological reaction to environmental stimuli, denied the value of introspection and the concept of consciousness as unscientific and saw mental processes as bodily movements, even when unperceived, thus thinking is subvocal speech The conditioned-reflex experiments of Pavlov and Bekhterev had a central place with the behaviorists, who considered that all emotions—aside from rage, fear, and love—were conditioned by habit and could be learned or unlearned Behaviorism was influential in the United States between the First World War and the Second World War See J B Watson, *Behaviorism* (1925), R S. Woodworth, *Contemporary Schools of Psychology* (rev ed, 1948).

Behem, artists see BEHAM

Behem, Martin see BEHAIM, MARTIN

behemoth (bē'hĭmŏth, bĭhē'-) [Heb, =plural of *beast*], animal mentioned in Job 40 15–24, probably the hippopotamus

Behistun (bāhĭstōōn', bū-, bēhĭ'stōōn) or **Bisutun** (bēsōōtōōn', bēsu-), village, W Iran, E of Kermanshah Near it is a mountainous rock which bears on its face, c 300 ft. above the ground, a bas-relief depicting Darius I with a group of captive chiefs, together with a cuneiform inscription in Old Persian, in Susian (the Iranian language of Elam), and in Assyrian The rock was not unknown (Diodorus attributed the carvings to Semiramis), but it was not until 1835 that Sir Henry RAWLINSON scaled the rock, copied the inscriptions, and thus made it possible to decipher the Assyrian text and provide a key for study of ancient Mesopotamia

Behm, Ernst (ĕrnst' bām), 1830–84, German geographer and statistician, b Gotha He was the founder and editor (1866–84) of *Geographisches Jahrbuch*, editor (1878–84) of *Petermanns Mitteilungen*, and statistician (1876–84) of the *Almanach de Gotha*

Behmen, Jakob see BOEHME, JAKOB

Behn, Aphra (bān, bēn), 1640–89, English dramatist, novelist, and poet, first English woman to write for a livelihood According to tradition, she spent her youth in Surinam, married Behn, a merchant of Dutch extraction, in England, and after his death served as an English spy in Antwerp and in Holland When she turned to writing, Mrs Behn produced works as indecent, as witty, and as bustling with intrigue as any Restoration playwright *The Feign'd Courtezans* (1679) and *The Lucky Chance* (1686) are probably her best plays. The scene of *Oroonoko* (1688), her best-known novel, is chiefly Surinam See Montague Summers, ed, *The Works of Aphra Behn* (1915), V. Sackville-West, *Aphra Behn* (1928)

Behrendt, Walter Curt (väl'tŭr kōōrt' bā'rĕnt), 1884–1945, German writer on modern architecture. Building adviser to the Prussian ministry of finance, he came to the United States in 1934 and taught at Dartmouth His works include *Alfred Messel* (1910), *Der Sieg des neuen Baustils* (1927), *Die holländische Stadt* (1928), and *Modern Building* (1937)

Behrens, Peter (pā'tŭr bā'rŭns), 1868–1940, German architect, influential in Europe in the evolution of the modern architectural style He established before the First World War a predominantly utilitarian type of architecture which, at the same time, achieved qualities of clarity and impressiveness His buildings were among the earliest European works to base a simple and effective style upon the frank terms of modern construction. Behrens is known also for residences, for workers' apartment houses in Vienna, and for the Abbey of St Peter at Salzburg Among his pupils were the Swiss architect Le Corbusier and the German, Walter Gropius

Behring, Emil Adolph von (ā'mĭl a'dôlf fun bâr'ĭng), 1854–1917, German physician He worked with Kitasato at Koch's laboratory in Berlin and from 1895 was professor of hygiene at Marburg A pioneer in serum therapy, following the work of P P E Roux, he demonstrated immunization against diphtheria (1890) and tetanus (1892) by injections of antitoxins which he developed with Kitasato For this work he received the 1901 Nobel Prize in Physiology and Medicine

Behrman, Samuel Nathaniel (bâr'mŭn), 1893–, American dramatist, b Worcester, Mass, grad Harvard, 1916 He studied under George Pierce Baker His plays *The Second Man* (1927), *Serena Blandish* (1928), based on a novel by Enid Bagnold, and *Meteor* (1929) were issued as *Three Plays* (1934) He also wrote *Brief Moment* (1931), *Biography* (1932), and *No Time for Comedy* (1939) He is the author of the notable moving-picture play *Queen Christina*, which starred Greta Garbo

Beira (bā'rŭ, bā'rū), region and former province, N central Portugal, S of the Douro river The old capital was Coimbra It extended to the coast between the Douro and the Mondego, and S of the Mondego it extended SE to the upper Tagus The region is now occupied by Beira Alta, Beira Baixa, and part of Beira Littoral It is to a large extent mountainous (the Serra da Estrela) and has some lovely mountain scenery The arable land yields wheat, and there are also vineyards and olive groves The area had been reconquered from the Moors even before Portugal was formed, but Moorish attacks continued into the 13th cent Later Beira was contested in the incessant Portuguese-Castilian wars

Beira, city (pop 24,762), central Mozambique, a port on the Mozambique Channel of the Indian Ocean, founded 1884 It is connected by rail with many of the major cities of South Africa, Angola, and E Africa Among the products of E central Africa which it exports are lead, copper, chrome, iron, and asbestos

Beirut, Lebanon see BEYROUTH

Beisan (bāsan'), village, Palestine, in the Jordan valley, c 300 ft below sea level It is the site of the biblical BETH-SHAN and of the Greek city Scythopolis, which belonged to the DECAPOLIS Archaeological expeditions have uncovered ruins, notably of a great temple Some finds date from c 1500 B C Beisan is occupied by the forces of Jordan

Beissel, Johann Conrad (yō'hän kōn'rät bī'sŭl), 1690–1768, founder of the Seventh-Day Baptist community at Ephrata, Pa Emigrating (1720) from Germany, he settled first with the German Baptists, or Dunkards, in Germantown, Pa He soon moved to the Conestoga Valley, where he preached to the German settlers Beissel published (1728) a tract on his conviction that Saturday was the true Sabbath With his followers he established (c 1728–1733) at EPHRATA a semimonastic religious community which became well known in colonial times Over 400 of Beissel's hymns were printed, most of them in the *Turtel-Taube* (1747), the Ephrata hymnal See biography by W. C Klein (1942)

Belt, Alfred (bĭlt), 1853–1906, South African financier, b Hamburg He went to South Africa in 1875, became wealthy from the development of diamond mines, and was a colleague and lieutenant of Cecil Rhodes in Rhodesia Gifts which he made for education include the founding of a chair at Oxford Univ. for colonial history and bequests to found universities at Hamburg and Johannesburg

Beja (bā' zhŭ), city (pop. 21,851), S Portugal, capital of Beja dist, Alentejo prov, SE of Lisbon The Roman city of Pax Julia, it was later a fortress city of the Moors and was reconquered by the Portuguese in 1162. Notable are the 14th-century citadel and the Mosteiro da Conceição [Monastery of the Conception] Beja has trade in agricultural products and in copper and other minerals, and pottery is made here

Bejapur, India: see BIJAPUR.

Béjart or **Béjard** (both: bāshär'), French family of actors associated with MOLIÈRE, who joined them (1643) to form a troupe at Paris called the Illustre Théatre After the collapse of the venture (1645) and a long period in the provinces, the Béjarts and Molière organized (1658) a new company in Paris,

which was successful. The eldest of the family was **Joseph Béjart** (zhōzĕf'), b.1616–1659. His sister, **Madeleine Béjart** (mädulĕn'), 1618–72, the ablest of the family and the virtual manager, was Molière's mistress. Her sister, **Geneviève Béjart** (zhônùvyĕv'), 1624–75, and the youngest brother, **Louis Béjart** (lwĕ'), 1630–78, also acted in the Paris company. Louis retired in 1670. **Armande Grésinde Béjart** (ärmäd' grāzĕd'), d 1700, Madeleine's sister or daughter, married Molière (1662) and played the ingénue roles for some years. The death of Molière (1673) caused a momentary collapse of the King's Troupe, as the company was called, but Molière's widow and the actor La Grange procured the absorption by their group of one of the two rival Parisian companies, the troupe of the Théatre du Marais. At the same time they lost the Palais Royal, the theater they had had since 1660. From its new quarters the company was known as the Hôtel Guénégaud troupe. In 1680 the troupe's only rival, the company of the Hôtel de Bourgogne, an older group, was merged with it by royal decree. The resultant company was called the COMÉDIE FRANÇAISE. See Rosamond Gilder, *Enter the Actress* (1931)

Bek-Budi, Uzbek SSR. see KARSHI

Beke, Charles Tilstone (bĕk), 1800–1874, English traveler and author. In 1840–43 he visited Ethiopia, where he mapped some 70,000 mi of the country, determined approximately the course of the Blue Nile, and compiled vocabularies of 14 languages or dialects. He wrote *Origines Biblicae* (1834), *The Sources of the Nile* (1860), and *The British Captives in Abyssinia* (1865). His *Discoveries of Sinai in Arabia and of Midian* appeared posthumously, and his widow published (1874), a *Summary* of his works.

Bekes, Hung. *Békés* (bā'kĕsh), town (pop 29,283), SE Hungary, on the White Körös river. It is an agricultural center.

Bekescsaba or **Csaba**, Hung. *Békéscsaba* (bā'kĕshchō'bŏ), city (pop 52,404), SE Hungary. In a silk-raising and tobacco-growing area, it manufactures textiles and agricultural implements. In the early 18th cent. many Slovaks were settled here.

Bekhterev, Vladimir Mikhailovich (vlŭdyĕ'mĭr mĕkhī'lùvĭch byĕkh'tyĭrĭf), 1857–1927, Russian neurologist and psychologist. He made studies of the localization of functions in areas of the brain and studies of body heat and applied his study of conditioned reflexes in dogs to interpretation of human behavior. His emphasis on the physiological nature of psychic phenomena greatly influenced the behaviorists. He wrote *General Principles o Human Reflexology* (1904, Eng. tr., 1932).

Bel, deity of the BABYLONIAN RELIGION. The name is a cognate of that of BAAL. For Bel in the Bible, see BEL AND THE DRAGON.

Bela IV (bĕ'lu, bä'lù), 1206–70, king of Hungary (1235–70), son and successor of Andrew II. He set out to recover the crownlands his father had alienated. Confronted by the menace of the Mongol invasion, he sent unheeded appeals to Gregory IX and Frederick II and was crushingly defeated at Mohi on the Sajo river in 1241. Returning after the withdrawal of the invaders, he repopulated the country by inviting foreign colonization and encouraged the building of castles. Bela defeated and killed the last Babenberg duke of Austria in 1246. He was defeated by OTTOCAR II of Bohemia in a war over Styria. His last years were disturbed by the rebellion of his son, later King STEPHEN V.

Bela (bē'-) **1** First king of Edom. Gen. 36.32, 1 Chron. 1.43. **2** Benjamin's first son. Num. 26.38, 1 Chron. 7.6, 8.1. Belah. Gen. 46.21. **3** Reubenite. 1 Chron. 5.8. **4** City later called ZOAR.

Belah (bē'lu), the same as BELA **2**.

Bel Air (bulâr'), trading and banking town (pop 1,885), co. seat of Harford co., N Md., NE of Baltimore, in a rich farm area, settled c 1782. Edwin and John Wilkes Booth were born near by.

Bela Kun, see KUN, BELA.

Belalcázar, Sebastián de: see BENALCÁZAR, SEBASTIÁN DE.

Bel and the Dragon, customary name for Dan. 14, a chapter placed in the Apocrypha in AV (see DANIEL). Verses 1–21 tell of the idol Bel, ministered to by priests who secretly consume food left for it, thus deceiving the people. Daniel reveals the fraud, and priests and idol are destroyed. Verses 22–42 tell of a dragon, i.e., a great beast or monster, worshiped as a god. Daniel kills him and is thrown to the lions. To the den Habakkuk is brought miraculously by an angel to minister to him. Daniel is preserved, and the king recognizes the power of the God of Daniel.

Belasco, David, 1853–1931, American actor, playwright, and manager, b. San Francisco. Actively connected with the theater from his youth and at 19 stage manager of the Baldwin Theatre in San Francisco, Belasco by the age of 27 was accredited with some 200 roles, varying in histrionic demand from *Uncle Tom's Cabin* to *Hamlet*. In 1880, in partnership with James A. HERNE, he toured the country in *Hearts of Oak*, his first play. Connections with the Frohmans brought him to New York city in association (1882–84) with the Madison Square Theatre and later as stage manager (1886–90) of the Lyceum. At this time he launched himself as an independent manager. Belasco, a prolific playwright, was best when collaboration displayed his flair for adapting ideas to a theatrical medium. He was famous as a producer of stage lighting and scenery effects, for his inclination towards the spectacle, and for his promotion of talent. He was lucratively associated with Mrs. Leslie CARTER, David WARFIELD, Ina Claire, Mary Pickford, and Lenore Ulrich. His most successful writing combinations were with Herne, Franklyn Fyles, William C. De Mille, and John Luther LONG. He built the Stuyvesant Theatre (1907), later known as the Belasco, during his fight against the Theatrical Syndicate of the '90s. He wrote *The Theatre through Its Stage Door* (1919). See biography by William Winter (2 vols., 1918).

Belaya (byĕ'lŭ), river, 853 mi. long, Bashkir Autonomous SSR, E European RSFSR. It rises in the Urals and winds generally NW past Beloretsk, Sterlitamak (where it becomes navigable), and Ufa to join the Kama.

Belaya Tserkov (tsĕr'kŭf), city (pop 42,974), NW Ukraine. Here in 1651 Bohdan Chmielnicki signed a short-lived peace with Poland. It has flour mills.

Belcher, John, 1841–1913, English architect. He was known for his ability to give dignified architectural treatment to the many commercial structures which chiefly made up his commissions. With Mervyn Macartney he wrote *Later Renaissance Architecture in England* (2 vols., 1901), an influential work.

Belcher Islands, area 1,096 sq. mi., off W Quebec, in Hudson Bay northwest of the mouth of Great Whale river, part of the Northwest Territories.

Belchertown, town (pop 3,503), W central Mass., NE of Springfield, settled 1731, inc. 1761. A state school for mental defectives is near. J. G. Holland was born in Belchertown. Quabbin Reservoir is near by.

Belding, industrial city (pop 4,089), S Mich., NE of Grand Rapids and on the Flat River, inc. 1893. Silk, refrigerators, and automobile parts are made.

Belém (bulān') or **Pará** (pùrä', parä'), city (pop 164,673), capital of Pará state, NE Brazil, on the Pará river. It is the chief port and the metropolis of the vast Amazon river basin and handles the Amazonian produce—rubber, Brazil nuts, cacao, roots (especially cube or timbo root, yielding rotenone), tagua nuts, tobacco, hardwoods, and some jute. There are small plants that process some of this produce. The port area was included in the nationalization of the Port of Pará in 1940. The climate is humid and hot, the streets are heavily shaded by tropic trees, and the botanical garden is brilliant with exotic flowers. Health conditions were much improved by a drainage program in the Second World War. Belém [Port. = Bethlehem] was founded early in the 17th cent. as Santa Maria de Belém do Grão Pará, and there is a 17th-century Jesuit church. The government palace and the cathedral were built in the 18th cent. Belém reached a peak of feverish prosperity in the wild-rubber boom in the early 20th cent., then suffered a depression which was lifted by diversification and planned development in the 1930s. An airport and a coastal railroad enhance the trade of Belém, which also has various state and other institutions, including several schools of higher education. There is a well-equipped modern leprosarium. The city has usually been called Pará by foreigners.

Belen (bulān'), village (pop 3,038), W central N. Mex., S of Albuquerque, in a grain area. It is a trade and railroad center, with railroad yards and shops and a large flour mill. In the Indian revolt of 1680, the pueblo was destroyed.

Belfast (bĕlfăst'), county borough (pop 438,086), capital of Northern Ireland, mainly in S Co. Antrim, but partly in N Co. Down. It is on Belfast Lough, an inlet of the North Channel of the Irish Sea, and at the mouth of the Lagan. The harbor, 8½ mi. long, is navigable to the largest ships. The great shipyards of the Harland and Wolff company have built some of the largest ocean liners. Belfast is the center of the Irish linen industry, its other industries include tobacco processing, flour milling, engineering, food canning, distilling, brewing, iron founding, woolen milling, and the making of rope, cables, chemicals, soap, machinery, and clothing. A castle in defense of a ford over the Lagan was built in 1177. Town and castle were destroyed by Edward Bruce in the 14th cent. French Huguenots, coming here after the revocation of the Edict of Nantes, stimulated the growth of the town's linen industry. Belfast became a city in 1888 and capital of Northern Ireland in 1920. In 1935 there was serious rioting between Catholics and Protestants after a celebration of the battle of the Boyne. The city and surrounding country were subjected to heavy air raids in 1941. Belfast is the seat of Queen's Univ. (founded 1845) and the Protestant Cathedral of St. Anne. The Parliament House of Northern Ireland is at Stormont, a suburb.

Belfast (bĕl'făst), city (pop 5,540), co. seat of Waldo co., S. Maine, on Penobscot Bay opposite Castine, chartered 1853. It was settled by Scotch-Irish in 1770 and sacked by the British in 1779 and again in 1814. Belfast flourished as a shipping and shipbuilding port in the 19th cent., the old homes of many sea captains are preserved. Marine supplies are still made here, and the city is a port of entry and a tourist center.

Belfort (bŭfôr', bĕ-, bĕl-), town (pop 35,952), capital of the Territory of Belfort, E France, in Alsace. A major fortress town since the 17th cent., it commands the Belfort Gap or Burgundy Gate between the Vosges and the Jura mts., thus dominating the roads from France, Switzerland, and Germany. An Austrian possession, Belfort passed to France through the Peace of Westphalia (1648) and was fortified by Vauban. In the Franco-Prussian War (1870–71) the garrison withstood a siege of 108 days. Partly in appreciation of this heroism, Belfort and the surrounding territory were left to France when the rest of Alsace was annexed to Germany. The siege is commemorated by a huge statue (36 ft. high, 72 ft. long), the *Lion of Belfort*, by Bartholdi. In the First World War, Belfort was successfully defended, in 1940, attacked from the rear by the Germans who had swung around the Maginot Line, it was of no military value.

Belfort, Territory of, department (235 sq. mi., pop. 86,648), E France, surrounding the city of Belfort (its capital) and bordering Switzerland on the south. It was created in 1871 from the only district of Alsace then left to France.

Belgae: see GAUL.

Belgaum (bŏlgoum') town (pop 58,319), capital of Belgaum dist., SW Bombay state, India. There are several mosques and Jain temples. Textiles are manufactured here, and there is trade in fish, dates, coconuts, and salt.

Belgian Congo, Fr. *Congo Belge*, colony (904,991 sq. mi., pop. 10,805,658), equatorial Africa. Leopoldville is the capital. The Atlantic coast line (c. 50 mi. long) of the Belgian Congo separates two parts of Portuguese Africa—Cabinda to the north, the rest of Angola to the south. The frontier with French Equatorial Africa is largely marked by the Bomu and Ubangi rivers on the north and by the Ubangi and the Congo on the west. The colony is otherwise bordered by the Anglo-Egyptian Sudan on the north, by Uganda, Lake Edward, Ruanda-Urundi, Lake Tanganyika, and the Luapula river (largely forming the eastern border with Northern Rhodesia) on the east, and by Northern Rhodesia and Angola on the south. About two thirds of the Belgian Congo is below the equator. The climate is hot and the rainfall heavy, especially in the equatorial zone. The character of the vegetation varies with the elevation of the land. The low-lying central region, traversed by the Congo, is dense jungle or swamp, and the surrounding highlands are bush or grass savannas. The exportable wealth of the colony comprises minerals, including copper, diamonds, lead, and gold (all mined in the east, notably in KATANGA), and agricultural products, especially cotton, palm oil, and coffee. Rubber and ivory were formerly important. The country's foreign trade mainly travels along the CONGO (where are situated major cities, including Leopoldville and Stanleyville) and its tributaries. A sparse network of railroads and roads connects to the waterways some of the regions (e.g., that around Elisabethville) where the navigable river system does not extend. Transportation facilities are inadequate for the expanding economy. The Belgian Congo has very little industry, and the native population, except for miners and other hired workers comprising about 25 percent of the adult males, is engaged in agriculture. There are several distinct native stocks. The Pygmies, who are mostly nomadic forest dwellers, are thought to be the oldest element. Bantu tribes (constituting the bulk of the population) and Nilotic peoples probably invaded the area and displaced the Pygmies. A small element of the population is of Arab descent, and there are some 45,000 white settlers. Diogo Cão visited the mouth of the Congo in the 1480s. The difficulty of penetrating the jungle long discouraged further explorations. In the 19th cent. David Livingstone explored the lakes lying on the eastern border, and later Henry STANLEY made his epic trip down the Congo. The riches revealed excited the interest of King Leopold II of Belgium, who commissioned (1878) Stanley to make further journeys and to conclude treaties with the native rulers. Leopold organized the Belgian Free State in 1885 with himself as monarch and as chief stockholder in the managing company. The Free State concerned itself with suppression of the slave trade and with exploration as well as with exploiting the resources of the land. Investigation of abuses of the native population on the rubber plantations and in the mines led to a demand for a less personal regime, and in 1908 the Free State was transformed into the colony of the Belgian Congo. In the First World War troops from the colony fought against the German holdings in Africa, and after the war the German territory of RUANDA-URUNDI was placed under the administration of the Belgian Congo. See L. G. Pugh, *The Changing Congo* (1948).

Belgian horse: see HORSE.

Belgian literature. For literature in Flemish (Dutch), see DUTCH AND FLEMISH LITERATURE. The writings

of French-speaking Belgians, of whom the chief are MAETERLINCK and VERHAEREN, belong to French literature See also WALLOONS.

Belgium (bĕl'jŭm), Flemish *België* (bĕl'khā'ŭ), Fr *Belgique* (bĕlzhĕk'), kingdom (11,779 sq. mi , pop. 8,388,526), NW Europe BRUSSELS is the capital Belgium borders on the North Sea and the Netherlands in the north, on Germany and the grand duchy of Luxembourg in the east, and on France in the west and the southwest A constitutional monarchy with a bicameral legislature, Belgium is divided into nine provinces, which enjoy a large measure of self-government—ANTWERP, BRABANT, EAST FLANDERS, WEST FLANDERS, HAINAUT, LIÉGE, LIMBURG, LUXEMBOURG, and NAMUR In the BELGIAN CONGO the kingdom possesses a valuable colony Belgium is low-lying except in the ARDENNES mts in the south Its population, the densest in Europe, is overwhelmingly industrial. Coal mining, steel production, and chemical industries are concentrated mainly in the Sambre and Meuse valleys, around MONS, CHARLEROI, NAMUR, and LIÉGE, and in the CAMPINE coal basin Some iron is mined, but most is imported, especially from the Lorraine basin in France Zinc is mined and worked in the Liége area Textiles, the chief Belgian manufacture, are produced mainly in West Flanders (e g , at Tournai) and Hainaut (e g , at Courtrai) MALINES, BRUGES, and Brussels are celebrated for their lace The industrial centers are linked with each other and with the main ports (ANTWERP and GHENT) by the MEUSE and SCHELDT rivers and their tributaries, by a network of canals (notably the ALBERT CANAL) totaling c.1,100 mi , and by the densest railroad net of continental Europe In shipping and transit trade Belgium is among the world's leading countries Except in the marshy Campine and in the heavily forested Ardennes there is much arable and well-irrigated soil Truck farming and cattle raising are important in Belgian agriculture Despite the intense industrialization, many cities have preserved their treasures of medieval architecture and art, thus attracting tourists Ghent, LOUVAIN, Brussels, and Liége are university cities The Belgians are about evenly divided into two language groups by a line running roughly E-W through Brussels North of the line Flemish, a Dutch dialect, is official, south of the line, French is official Brussels is bilingual German is spoken in parts of Liége prov , notably at Eupen and Malmédy The WALLOONS, in SE Belgium, speak a French dialect which has no official standing The Roman Catholic Church embraces virtually the entire population and plays a powerful part in Belgian life, especially in education Its primate in Belgium is the archbishop of Malines Belgium takes its name (in general use only since the late 18th cent) from the Belgae, a people of ancient GAUL The Roman province of Belgica was much larger than modern Belgium Here the FRANKS first appeared in the 3d cent A D The Carolingian dynasty had its roots at HERSTAL, in Belgium After the divisions (9th cent) of Charlemagne's empire Belgium was comprised in LOTHARINGIA and later in the duchy of Lower Lorraine, which occupied all but the western part of the so-called LOW COUNTRIES In the 12th cent Lower Lorraine disintegrated, the duchies of Brabant (see BRABANT, DUCHY OF) and LUXEMBOURG and the bishopric of Liége took its place The histories of these feudal states and of FLANDERS and Hainaut constitute the medieval history of Belgium The salient fact was the rise of the cities (e g , Ghent, Bruges, and YPRES) to virtual independence and to economic prosperity through their wool industry and their trade In the 15th cent all present Belgium passed to the dukes of BURGUNDY, who strove to curtail local liberties At the same time the wool industry declined, partly because of English competition With the death (1482) of MARY OF BURGUNDY a period of foreign domination began (see the article NETHERLANDS, AUSTRIAN AND SPANISH, which covers the period from 1477 to 1797). The Treaty of Campo Formio (1797) transferred Belgium from Austria to France, the Treaty of Paris (1815) gave it to the Netherlands In 1830 a rebellion broke out in Brussels against King WILLIAM I Belgian independence was declared, and in 1831 Prince Leopold of Saxe-Coburg-Gotha was chosen king of the Belgians (see LEOPOLD I) The European powers, meeting at London (see LONDON, CONFERENCE of, 1830-31) approved the new status, but William I rejected their decision and invaded Belgium, withdrawing only when France and England intervened in 1832 A final Dutch-Belgian peace treaty was signed in 1839, and the "perpetual neutrality" of Belgium was guaranteed by the major powers, including Prussia. Under the rule (1865–1909) of LEOPOLD II the rapid industrialization of the country led to labor unrest and to the rise of the Socialist party in opposition to the reactionary and clerical groups Social conditions improved under ALBERT I (1909–34), who also granted universal and equal male suffrage (the suffrage was extended to all women only in 1948) In Aug , 1914, Germany invaded neutral Belgium and kept it under a harsh occupation regime throughout the First World War, while the Belgian army continued to fight on French soil Tension between the French and Flemish elements characterised the period after 1918 In May, 1940, Germany, which in 1937 had again guaranteed Belgian neutrality, attacked and occupied Belgium (see WORLD WAR, SECOND). King LEOPOLD III surrendered unconditionally on May 28, but the Belgian cabinet continued to wage war on Germany from London German occupation placed the country under a reign of terror, by 1944 some 600,000 Belgians were working as slave laborers in Germany Liberation by British and American troops, aided by an efficient Belgian underground army, came in Sept , 1944. The unsuccessful German counteroffensive of Dec., 1944—Jan , 1945 (see BATTLE OF THE BULGE), caused much destruction in addition to the damage wrought in May, 1940, and by Allied air raids However, Belgian economy recovered far more rapidly than the rest of Western Europe The chief political issue of post-war years was the question of the return of King Leopold, whose surrender in 1940 had led to attacks by the Liberals and Socialists Despite the support of the Conservative Catholics, Leopold was still barred from return in May, 1950, his brother, Prince Charles, was regent for him after 1944 Belgium joined (1947) with the Netherlands and Luxembourg to form a customs union This bloc, known as Benelux, joined with England and France in a Five-Power Pact (1948), participated in the European Recovery Program after 1948, and joined in the North Atlantic Treaty (1949) See Henri Pirenne, *Histoire de Belgique* (6 vols , 1900–1926) and *Belgian Democracy Its Early History* (1910, Eng tr , 1915), A R H. Moncrieff, *Belgium, Past and Present* (1920), Émile Cammaerts, *History of Belgium* (1921), S B Clough, *History of the Flemish Movement in Belgium* (1930), Hugh Gibson, *Belgium* (1939)

Belgorod (byĕl'gŭrŏd), city (pop 31,036), SW European RSFSR, 45 mi NNW of Kharkov It is a railroad junction and an agricultural center

Belgorod-Dnestrovsky (-dunyĕstrŏf'skē), Rumanian *Cetatea-Alba*, city (1930 pop 34 485), S Ukraine, a port at the mouth of the Dniester It is in a fertile agricultural and wine-producing region Founded as Tyras by Greek colonists (7th cent B C), it later passed under Roman and Byzantine rule Until its conquest (1484) by the Turks, who named it Akkerman, the city frequently changed hands The Genoese built a castle near by, which Stephen the Great of Moldavia restored in the 15th cent , of this ruins remain With Bessarabia, the city passed to Russia in 1812, to Rumania in 1918, and again to Russia in 1940 (confirmed 1947)

Belgrade (bĕl'grād), town (pop 1,046), SW Maine, SW of Waterville, settled 1774. Belgrade village is headquarters for the Belgrade Lakes resort area

Belgrade (bĕl'grād), Serbo-Croatian *Beograd* (bā̆'grăd), city (pop 388,246), capital of Yugoslavia and of Serbia, on the Danube at the mouth of the Sava Because of its strategic position it is called the key to the Balkans It has metallurgical, woodworking, textile, tanning, and food industries and is the seat of a university (founded 1863), of a Roman Catholic archbishop, and of an Orthodox Eastern patriarch Belgrade grew from fortifications built by Celts, Illyrians, and Romans Its Roman name was Singidunum Here Decius was born and was proclaimed emperor In the early Middle Ages, Belgrade was held variously by the Byzantine Empire, Hungary, and Bulgaria In the 12th cent it passed to Serbia and became its capital John Hunyadi and St John Capistran repulsed a Turkish attack in 1456, but in 1521 it was captured by Suleiman I The Turks made Belgrade their chief strategic fortress in Europe The Austrians stormed it in 1688, in 1717, and in 1789 but were able to keep it only from the Treaty of Passarowitz (1718) to the Treaty of Belgrade (1739) The *pashalik* [Turk , =province] of Belgrade was the scene of the Serbian insurrections led by Karageorge and Milosh Obrenovich The Turkish garrison bombarded the city in 1862 but finally withdrew in 1867 In the First World War, Belgrade was occupied (1915–18) by the Austrians In the Second World War it underwent extreme hardship under German occupation (1941–44) and suffered widespread damage Belgrade, a handsome city with fine parks, palaces, museums, and churches, was quickly rebuilt after the war

Belgrano, Manuel (mänwāl' bĕlgrä'nō), 1770–1820, Argentine revolutionist Important as a political figure—he was appointed secretary of the commercial tribunal of Buenos Aires in 1794—he vigorously championed popular education and proposed economic reforms He contributed to *Telégrafo mercantil*, the first periodical of the Río de la Plata (founded 1801), and published (1810–11) *Correo de comercio* He served under LINIERS against the British invaders (1806–7) A leader in the revolution of May, 1810, he was a member of the first patriot governing junta and commander of the unsuccessful expedition to Paraguay. In 1812 he succeeded Pueyrredón as commander of the Army of the North and won decisive battles at Tucumán (1812) and Salta (1813) Later in 1813 he invaded Upper Peru (now Bolivia), but after defeats at Vilcapugio and Ayohuma he was superseded (1814) by San Martín. In 1815 Belgrano was in Europe on an unsuccessful diplomatic mission. He again commanded the Army of the North from 1816 to 1819 See Bartolomé Mitre, *Historia de Belgrano* (4th ed , 3 vols., 1887).

Belgravia (bĕlgrā'vēə), fashionable section of London, England, in the West End, S of Belgrave Square and touching Buckingham Palace gardens and Hyde Park

Belhaven, town (pop 2,360), E N C., at the mouth of the Pungo on a branch of Pamlico Sound and E of Washington, in a lumber and fishing area

Belial (bē'lēəl), name applied to SATAN

Belington, shipping city (pop 1,517), N W.Va , NW of Elkins, in a forest area, inc 1905

Belinsky, Vissarion Grigoryevich (vĭsärĭyôn' grĭgôr'yŭvĭch byĭlyĭn'skē), 1810–48, Russian writer He was the founder of modern Russian literary criticism and is considered today, as he was before the Russian Revolution, a great progressive thinker not only in the field of literature but also in that of sociopolitical ideas Although for a time he appeared, under Hegel's influence, to condone tsardom and reaction in general, he returned in the 1840s to his early liberalism and repudiated the doctrine of art for art's sake which he had embraced From this time he was the principal champion of the realistic and socially responsible new Russian literature

Belisarius (bĕlĭsâr'ēəs), c 505–565, Byzantine general under JUSTINIAN I After suppressing (532) the dangerous *Nika* sedition (see BLUES AND GREENS), he defeated (533–34) the Vandals of Africa, capturing their king, and in 535 was given command of the expedition to recover Italy from the Ostrogoths He took Naples and Rome (536) and, after some delays occasioned by a conflict of authority with NARSES, captured Milan and Ravenna (540) He fought an indecisive campaign (541–42) against KHOSRU I of Persia, and in 544 was sent back to Italy against TOTILA Handicapped by Justinian's jealousy and distrust, he did little more than hold the enemy in check, he was recalled in 548 and replaced by Narses In 559 he emerged from retirement to drive the Bulgarians from Constantinople He was accused (562) of a conspiracy and temporarily imprisoned but was shortly restored to favor

Belitong, Indonesia see BILLITON

Belize (bĕlēz'), city (pop c 16,500), capital and chief seaport of BRITISH HONDURAS, at the mouth of the Belize river The river flows 150 mi generally W to the Gulf of Honduras and is navigable almost to Guatemala, its estuary forms a good harbor, but outlying cays exclude deep-draft vessels and make passage difficult for coastwise trade Through Belize pass the forest products of the interior Usually free from storms, the city (alt 1 ft) was nearly destroyed by hurricane in 1931

Belknap, Jeremy (bĕl'năp), 1744–98, American historian, b Boston A Congregational minister, he wrote history out of antiquarian interest, but showed great diligence and skill in research and considerable ability in writing His *History of New Hampshire* (3 vols , 1784–92) was a model of early local history He was a leader in the founding (1794) of the Massachusetts Historical Society, the first state historical society

Belknap, William Worth, 1829–90, U S Secretary of War (1869–76), b Newburgh, N Y He attended Princeton, studied law at Georgetown, D C , and practiced in Iowa He served in the Civil War, was a division commander under Sherman in Georgia and the Carolinas, and became a major general in 1865 An internal revenue collector in Iowa (1865–69), he was made Secretary of War by GRANT In 1876 a political scandal broke when a House committee found evidence that Belknap had indirectly received annual bribes from the trader at an Indian post Impeachment was unanimously voted Grant accepted Belknap's resignation At the Senate trial, the vote was 35 "guilty," 25 "not guilty"—falling short of the two thirds necessary to convict Of the 25, 22 declared that they voted "not guilty" on the ground that the Senate lacked jurisdiction after Belknap's accepted resignation. He later practiced law in Washington, D C

Bell, Alexander Graham, 1847–1922, American scientist, inventor of the telephone, b Edinburgh, Scotland, educated at the Univ of Edinburgh and University College, London, son of Alexander Melville Bell. He worked in London with his father, whose system of visible speech he used in teaching the deaf to talk In 1870 he went to Canada, and during 1871 he lectured, chiefly to teachers of the deaf, in Boston and other cities During the next few years he conducted his own school of vocal physiology in Boston, lectured at Boston Univ , and worked on his inventions His teaching methods were of lasting value in the improvement of education for the deaf As early as 1865 Bell conceived the idea of transmitting speech by electric waves In 1875, while he was experimenting with a multiple harmonic telegraph, the principle of transmission and reproduction came to him, and by March 10, 1876, his apparatus was so far developed that the first complete sentence,

"Watson, come here; I want you," was distinctly heard by his assistant. The first demonstration took place before the American Academy of Arts and Sciences in Boston on May 10, 1876, and a more significant one, at the Philadelphia Centennial Exposition the same year, introduced the telephone to the world The Bell Telephone Company was organized in July, 1877 A long period of patent litigation followed in which Bell's claims were completely upheld by the U S Supreme Court. With the telephone commercially established, Bell's attention turned to other subjects With the 50,000 francs awarded him as the Volta Prize for his invention he established the Volta Laboratory in Washington, D C , where the first successful phonograph record was produced Bell invented the photophone, which transmitted speech by light rays, the audiometer, another invention for the deaf, the induction balance, used to locate metallic objects in the human body, and the flat and the cylindrical wax recorders for phonographs He investigated the nature and causes of deafness and made an elaborate study of its heredity Largely through his influence was founded (1880) the magazine *Science*, which became the official organ for the American Association for the Advancement of Science A liberal gift also established the Astrophysical Observatory at the Smithsonian Institution, and in 1898 he was made a regent of the Smithsonian He was president of the National Geographic Society from 1896 to 1904 and by insisting on pictures in its magazine did much to increase its circulation under the editorship of his son-in-law, Gilbert Grosvenor After 1895 his interest was occupied largely by aviation, and he spent many months experimenting at his summer home on Cape Breton He invented the tetrahedral kite The Aerial Experiment Association, founded under his patronage in 1907, brought together G H Curtis, F W Baldwin, and others, who invented the aileron principle and developed the hydroplane See biography by Catherine Mackenzie (1928)

Bell, Alexander Melville, 1819–1905, Scottish-American educator, b Edinburgh Bell taught elocution in Edinburgh from 1843 to 1865 He worked out a physiological or visible alphabet, with symbols by means of which it was possible to represent every sound of the human voice He later lectured at the Univ of London and in Boston, in 1870 he moved to Kingston, Ont., in 1881 to Washington, D C There he engaged in the education of deaf-mutes and continued to write on education and the science of speech Alexander Graham Bell was his son

Bell, Andrew, 1753–1832, British educator, b St Andrews, Scotland After seven years in Virginia as a tutor, he returned to England, was ordained a deacon, and later (1789) became superintendent of an orphan asylum in Madras, India Here he developed the MONITORIAL SYSTEM, which he described in a pamphlet, *Experiment in Education*, published upon his return to London (1797) Joseph LANCASTER, a Quaker, established a school on similar principles, and Bell organized a system of schools teaching the principles of the Established Church See biography by Robert Southey and C C Southey (3 vols , 1844), J M D Meiklejohn, *An Old Educational Reformer* (1881)

Bell, Sir Charles, 1774–1842, Scottish anatomist and surgeon, educated at Edinburgh He became professor of anatomy and surgery at the Royal College of Surgeons, London, in 1824 and was professor of surgery at the Univ of Edinburgh from 1836 He was the first to distinguish between the motor and the sensory functions of the nerves; this work was confirmed and elaborated by Magendie in 1822 Among Bell's works is *The Nervous System of the Human Body* (1830), a contribution of great importance See his letters (ed by his wife, 1870) His brother **John Bell,** 1763–1820, a surgeon of Edinburgh, was a founder of modern surgery of the blood vessels and author of *Anatomy of the Human Body* (1793), *Discourses on the Nature and Cure of Wounds* (1795), and *Principles of Surgery* (1801–7)

Bell, Clive, 1881–, English critic of art and literature His works include *Art* (1914), *Since Cézanne* (1922), *Landmarks in Nineteenth-Century Painting* (1927), *Civilization* (1928), *Proust* (1929), *An Account of French Painting* (1931), *Enjoying Pictures* (1934), and *Victor Pasmore* (1946)

Bell, Gertrude Margaret Lowthian, 1868–1926, English traveler and author, one of the builders of modern Iraq She graduated at Oxford (1887) with first-class honors in history An intrepid mountain climber, she achieved several Alpine records From 1892 she journeyed extensively in Persia, Anatolia, and Syria and early in 1914 reached Hail in the Arabian Desert. In the First World War she placed her unmatched knowledge of Near Eastern geography, languages, and personalities at the disposal of the British government and in 1915 was appointed to the intelligence service. As liaison officer of the Arab Bureau in Iraq and assistant political officer, her aid was invaluable. She was largely responsible for the selection of Feisal I as king. She founded and directed the archaeological museum of Baghdad, for which she secured part of the funds from Ur. Her writings include *Poems from the Divan of Hafiz* (1897), *The Desert and the Sown* (1907), *Amurath to Amurath* (1911), *Palace and Mosque at Ukhaidir* (1914), *The Arab of Mesopotamia* (1917), and *Persian Pictures* (1928, pub anonymously as *Safar Nameh*, 1894) See *The Letters of Gertrude Bell* (ed by Lady Bell, 1927), *Earlier Letters* (ed by Elsa Richmond, 1937); biography by Ronald Bodley and Lorna Hearst (1940)

Bell, Henry, 1767–1830, British ship designer, b. Scotland He was a pioneer in building steamships His *Comet*, launched on the Clyde in 1812, introduced practical steam river navigation in Europe

Bell, John, surgeon see BELL, SIR CHARLES

Bell, John, 1797–1869, American statesman, b near Nashville, Tenn , grad Cumberland College (now the Univ of Nashville), 1814 A leading member of the Nashville bar, he served in the U S House of Representatives (1827–41), was speaker in 1834, and for a few weeks in 1834 was Secretary of War under Harrison At first a Jacksonian, Bell broke with Jackson in the fight over the Bank of the United States and ultimately became the chief leader of the Whigs in Tennessee, dominating state politics for nearly two decades As U S Senator (1847–59), he was the leader of the conservative Southern element which, though supporting slavery, placed the Union first He admitted the right of Congress to prohibit slavery in the territories, supported Clay's Compromise of 1850, objected to the Kansas-Nebraska Bill, and supported the admission of Kansas under the Lecompton Constitution In 1860 Bell was the presidential candidate of the moderate CONSTITUTIONAL UNION PARTY and won the electoral votes of Tennessee, Kentucky, and Virginia, significantly all border states The lower South seceded with Lincoln's election, but Bell held Tennessee in the Union until after the firing on Fort Sumter Bell counseled resistance to the Union invasion, but, heartbroken and in ill-health, took no active part in the Civil War See biography by Joseph Howard Parks (1950)

Bell, John Joy, 1871–1934, Scottish journalist and author He wrote humorous stories and plays, frequently in dialect, of life in Glasgow, but is best remembered for his story *Wee Macgreegor* (1902).

Bell, Robert, 1800–1867, Irish journalist and author, a founder of the Dublin Historical Society He is best remembered for his annotated edition of the *English Poets* (24 vols , 1854–57)

Bell, Robert, 1841–1917, Canadian geologist, b Toronto, educated at McGill Univ For over 50 years he was connected with the Geological Survey of Canada, part of the time as director and chief geologist His explorations and surveys took him to nearly every part of Canada

Bell, city (pop 11,264), in San Antonio township S Calif , near Los Angeles, inc 1927 Among its manufactures are steel and iron products

bell, in music, a percussion instrument consisting of a hollow vessel usually cup-shaped with a flanged opening and now generally cast of bell metal, set into vibration by a blow from a clapper within or from a hammer without A set of bells, usually not more than 15 in number, tuned to the intervals of the major scale, is called a chime A larger set, with chromatic intervals, is called a carillon The bells of a carillon are played from a keyboard and are stationary, while those of a chime may not be Harmonies and effects of shading, not possible on a chime, are part of the art of carillon playing—an art for which there is a school in Belgium The bells of a carillon must be tuned with more accuracy than those of a chime, the best modern craftsmen can tune the fundamental (known as the hum note), the octave (known as the strike note), the twelfth, and the fifteenth with perfect accuracy Bells were known in ancient civilizations and have been used in connection with all major religions except Mohammedanism China had very large bells as early as 2000 B C but did not make musical use of them Bells tuned to a musical scale were first used in Venice, before the 11th cent By the 14th cent , bells had become part of the symbolism and ritual of Christianity The carillon developed out of the Belgian *voorslag* of the 15th cent , a set of bells attached to a large tower clock which played a tune before striking the hour In the Low Countries, where the making and playing of carillons centered, they were installed in all the principal cities A peak in carillon making was reached in the work of the brothers Hemony of Amsterdam, who were active from 1641 until 1677 The carillonneur's art reached its flower in the 18th cent , declining during the French Revolution, when many carillons were melted to make armaments Although at Queen Elizabeth's command a carillon of 40 bells was installed in the Chapel Royal, carillon playing was overshadowed in England by the science of change ringing, which became popular in the 17th cent In this practice a group of ringers, using a peal (or set) of bells tuned to the diatonic scale, ring the bells in various stated orders, not repeating any order. The bell is swung full circle, being sounded by a clapper within, thus giving a more resonant sound than in carillon playing, wherein a hammer strikes a stationary bell Toward the end of the 19th cent. English bellmakers rediscovered the secrets of tuning which had been used by the 17th-century Dutch and Flemish craftsmen This, with improvements in methods of striking, in placement of the bells, and in action of the keyboard, has made 20th-century carillons the finest in existence Active in a renaissance of carillon music was Jef Denijn (1862–1941), carillonneur of Mechlin Since the First World War many carillons have been installed in the United States, outstanding is that of the Riverside Church, New York (1930), whose 20-ton bourdon bell is the largest ever cast in England The largest bell in the world is the Great Bell of Moscow, cast in 1733, it cracked before it was ever rung Bells signaled the Sicilian Vespers in 1282 and the massacre of St Bartholomew's Day in 1572 Many legends and traditions are associated with bells. For use of the term *bells* on shipboard, see BELLS. See S N Coleman, *Bells* (1928), W G. Rice, *Carillon Music and Singing Towers of the Old World and the New* (1930), F P Price, *The Carillon* (1933).

Bells, Stefano della (stäfa'nō dĕl'la bĕl'lä), 1610–64, Italian engraver, b Florence His engravings number over 1,400 pieces, the view of the Pont Neuf, Paris, is usually considered his finest work.

belladonna (bĕludŏ'nù) [Ital , = beautiful lady, from an old practice of using the drug to dilate the pupils of the eyes for cosmetic reasons] or **deadly nightshade,** an Old World perennial NIGHTSHADE (*Atropa belladonna*), long noted for its narcotic poison (see ATROPINE) Belladonna has purplish flowers and black berries and is cultivated for its various medicinal uses

belladonna lily. see AMARYLLIS

Bellaire (bĕl"ăr'), city (pop 13,799), E Ohio, on the Ohio river below Wheeling, W Va , settled c 1802 Coal mining and the manufacture of enamelware and glass are done here

Bellamy, Edward (bĕl'umē), 1850–98, American author, b Chicopee Falls (now part of Chicopee), Mass After being admitted to the bar he tried his hand at journalism and contributed short stories of genuine charm to magazines These were later collected as *The Blind Man's World and Other Stories* (1898) His novels—*Dr Heidenhoff's Process* (1880), *Miss Ludington's Sister* (1884), and *The Duke of Stockbridge* (book form 1900)—were followed by *Looking Backward, 2000–1887* (1888), which overshadowed his other work and brought him fame This utopian romance pictured the world in A D 2000 under a system of state socialism Much of the book's appeal lies in its unpretentious style and vivid picture of the imagined society The work sold over a million copies in the next few years and resulted in the formation of "Nationalist" clubs throughout the nation and the founding of the *Nationalist* monthly (1888–91) Bellamy himself founded and edited the *New Nation* (1891–94), a weekly *Equality*, a sequel to *Looking Backward*, appeared in 1897 See biography by A E Morgan (1944), Morgan, *The Philosophy of Edward Bellamy* (1945), with excerpts

Bellamy, George Anne, 1731?–1788, English actress Her first appearance in 1742 was in Congreve's *Love for Love*, and she was Garrick's Juliet in the celebrated theatrical duel with Spranger BARRY and Mrs Cibber in 1750 Admired in her heyday by aristocratic and theatrical society, she died in poverty See her *Apology for the Life of George Anne Bellamy* (1785)

Bellamy, Joseph, 1719–90, Congregationalist clergyman, b Cheshire, Conn , grad Yale, 1735 A follower of Jonathan Edwards and a powerful revivalist of the Great Awakening, he preached in Bethlehem, Conn , for 52 years Bellamy wrote *True Religion Delineated* (1750) and pamphlets in opposition to the Half-Way Covenant

Bellarmine (bĕlar'mĭn), 1542–1621, Italian churchman, cardinal of the Roman Church His full name was Roberto Francesco Romolo Bellarmino He joined the Jesuits (1560) and taught at Louvain (1569–76) and at the Roman College (1576) In 1599 he received the red hat and from 1601 to 1605 he was archbishop of Capua His theological works (in Latin) were polemical and widely noticed One, the most lucid modern exposition of Catholic doctrine, called forth many Protestant replies In another, a reply to the work of William Barclay, Cardinal Bellarmine uses the analogy, taken from THOMAS AQUINAS, of body and soul to show the relative interdependence and importance of the state and the Church As Jesuits nearly always are, Cardinal Bellarmine was uncompromisingly ultramontane He was an admirer of Galileo, with whose condemnation he had nothing to do, in spite of his position as an officer of the Holy Office His devotional works have been translated frequently into English Bellarmine was a principal influence in the Catholic REFORM Pope Pius XI beatified him in 1923

Bellary (bĭla'rē), town (pop 56,148), N Madras state India Iron and manganese deposits are near by. The chief industry is the weaving of cotton and silk textiles

Bellay, du. see DU BELLAY.

Belle-Alliance (bel'-ălyäs'), village near Waterloo, Belgium The battle of Waterloo (see WATERLOO CAMPAIGN) is sometimes known, particularly in Germany, as the battle of Belle-Alliance

Belleau, Remy (rümē' bĕlō'), 1528–77, French poet of the PLÉIADE *La Bergerie* (1st ed, 1565) a collection of his poems, mainly sonnets, is best in its passages on nature

Belleau Wood (bĕlō', bĕlō'), forested area, N France, E of CHÂTEAU-THIERRY. Here in the First World War, U S troops were victorious over the Germans in an action of the second battle of the Marne With French troops cooperating, U S infantry and marines (whose conduct was particularly praised) secured the wood clean of enemy emplacements by hard fighting from June 6 to June 25, 1918

Belleek ware (bŭlēk'), pottery with a highly lustrous and often iridescent glaze It is made at Belleek, Co Fermanagh, Northern Ireland

Bellefontaine (bĕlfoun'tĭn, -fŏn'tĭn), city (pop 9,808), co seat of Logan co, W central Ohio, N of Springfield, laid out 1820 It is a trade and rail center (with railroad shops) for a farm area and has varied industries Campbell Hill or Hogue's Hill, highest point in Ohio (1,550 ft), is near by

Bellefonte (bĕl'fŏnt') **1** Town (pop 2,593), NE Del, near Wilmington, inc 1915 **2** Borough (pop 5,304), co. seat of Centre co, central Pa, NE of Altoona, platted 1795, inc 1806 It is a resort and farm trading center with limestone quarries. George Grey Barnard was born here

Belle Fourche (bĕl fōōrsh) [Fr, =beautiful fork], city (pop 2,496), co seat of Butte co, W S Dak, near the Wyo. line and at the north edge of the Black Hills, settled 1878, platted 1890, inc 1903 It is at the junction of Redwater Creek with the Belle Fourche river The city grew as the shipping center of a great cattle and sheep region Its industries include a beet-sugar factory, flour mills, and bentonite-processing plants. A Black Hills roundup has been held annually since 1918

Belle Fourche, river rising in NE Wyoming and flowing N of the Black Hills to the Cheyenne in W central South Dakota Its waters are used by a Bureau of Reclamation project, which is served by Belle Fourche Dam (est 1911), 112 ft high and 6,282 ft long, and by Keyhole Dam

Belle Glade, town (pop 3,806), S central Fla, near the southern tip of Lake Okeechobee W of Palm Beach, founded c 1925, inc 1928 It is the trade center for a productive truck area In 1928 a hurricane devastated the town and killed many people Near by are the Everglades Experiment Station and the state prison farm

Belle-Isle, Charles Louis Auguste Fouquet, duc de (shärl' lwē' ōgüst' fōōkā' dük' du bĕl-ēl'), 1684–1761, marshal of France and diplomat His support of the claims of Charles of Bavaria (Emperor Charles VII) was in part responsible for France's entry into the War of the AUSTRIAN SUCCESSION, with the unfortunate outcome for France, he became unpopular, although his masterly retreat from Prague had saved the French army from surrender (1742) He became minister of war in 1758 and did much to reorganize the army

Belle Isle, Strait of (bĕl'), between Newfoundland and Labrador, the northern entrance to the Gulf of St Lawrence It is 10 to 15 mi wide and c 35 mi long, deep, and free of rocks and shoals There is a strong tidal current The tiny rock island Belle Isle (700 ft high), at the Atlantic entrance, has a lighthouse and is the first land sighted by ships from Europe

Belle Meade, city (pop 2,061), central Tenn, a suburb of Nashville

Belle Plaine. **1** City (pop 3,202), E central Iowa, near the Iowa river WSW of Cedar Rapids, platted 1861 as Gwinsville, renamed 1862, inc. 1863 It is a railroad division point **2** Borough (pop 1,407), S Minn, on the Minnesota river and SW of Minneapolis, in rich farming country, platted 1853

Bellerophon (bŭlĕr'ufŏn", -fun), in Greek legend, hero, originally named Hipponoüs Assigned the task of killing the Chimera, he captured and rode the winged horse PEGASUS and thus was enabled to kill the monster and accomplish other warlike feats Grown prosperous and proud, he attempted to fly to heaven on Pegasus but was thrown down and blinded. He spent his last days in miserable wandering One version has Zeus send a gadfly to make Pegasus fling Bellerophon from his back, killing him.

Bellerose (bĕl'rōs), village (pop 1,317), on W Long Island, SE N.Y., near Floral Park, settled 1908, inc. 1924

Bellevernon (bĕlvûr'nŭn), borough (pop 2,463), SW Pa., near the Monongahela SSE of Pittsburgh, laid out 1813, inc. 1863 Glass is made here.

Belleville, city (pop. 15,710), co seat of Hastings co, S Ont, on the Bay of Quinte. It is a port and a manufacturing city Albert College (1857) is here. Massassaga Point across the bay is a summer resort

Belleville. **1** City (pop 28,405), co seat of St. Clair co., SW Ill., adjoining East St Louis, in a coal, clay, and sand area, platted 1815, inc. 1819. Its manufactures include stoves, bricks, clothing, shoes, and beer Le Clerc College (for women) is here. Near by is Scott Field, a military air base. **2** City (pop 2,580), co. seat of Republic co., N Kansas, N of Salina near the Nebr line; laid out 1869, inc 1878. It is the trade center for an agricultural region, and dairy products are made here. A large regional fair is held at Belleville in September. **3** City (pop. 1,286), SE Mich, on the Huron river and near Detroit, settled 1826, inc. 1905. **4** Town (pop. 28,167), NE N J, on the Passaic just N of Newark, settled c 1680, set off from Newark 1839, inc 1910. Electrical equipment and chemicals are produced In 1798 an engine was built here for John Stevens's boat for the run between the Passaic river and New York.

Bellevue (bĕl'vū) **1** Town (pop 1,771), E Iowa, in a farm area, on the Mississippi below Dubuque, settled in the 1830s, inc 1844 A U S fish hatchery, Bellevue State Park, and a lock and dam of the Mississippi project are here In 1840, after a series of depredations by a gang under the leadership of William W. Brown, a battle (known as "the Bellevue War") was fought between the gang and a posse sent against them The 13 bandits captured alive were flogged and exiled **2** City (pop 8,741), N Ky, near the Ohio, a suburb of Covington and Cincinnati **3** Village (pop 1,011), S Mich., SW of Lansing, settled 1830, inc. 1867 **4** Village (pop 1,184), E Nebr., on the Missouri and S of Omaha, inc. 1855 Oldest town in the state, it was a trading post in the early 19th cent and was the site of a Presbyterian Indian mission in the '40s and '50s A newspaper, the *Nebraska Palladium*, was published here in 1854 **5** City (pop 6,127), N Ohio, SW of Sandusky, named Bellevue 1839 It is a railroad center in a farm area Vegetable oils are made here Near by are the Seneca Caverns **6** Residential borough (pop 10,488), SW Pa, near Pittsburgh, settled 1802, inc 1867.

Bellevue Hospital Medical College: see NEW YORK UNIVERSITY

Bellew, Frank Henry Temple, 1828–88, American caricaturist and illustrator, b India He wrote and illustrated children's stories and contributed illustrations and political and comic caricatures to *Harper's Weekly*, *Scribner's Monthly*, *Vanity Fair*, and other papers

bellflower or **campanula** (kămpăn'ūlŭ), any plant of the genus *Campanula*, annual, biennial, or perennial herbs of the Northern Hemisphere, with usually bell-shaped flowers These occur in various colors but are prevailingly blue and hence are sometimes called bluebell The many species range from dwarf to tall and are particularly used in borders or rock gardens Species include the Canterbury bells, a tall popular garden biennial (*Campanula medium*), the HAREBELL, the chimney bellflower (*Campanula pyramidalis*), often grown as a pot plant, and the rampion (*Campanula rapunculus*) with roots and leaves used as a salad

Belli, Giuseppe Gioacchino (jōōzĕp'pā jwäk-kē'nō bĕl'lē), 1791–1863, Italian poet He wrote, in Roman dialect, more than 2,000 sonnets which portray the life of the common people with unusual accuracy and insight Belli also wrote political attacks in sonnet form

belligerency (bŭlĭj'ûrŭnsē), status of parties legally at war. Belligerency exists in a WAR between nations or in a civil war when the established government treats the insurgent force as if it were a sovereign power The rules of international law require that belligerency between states be preceded by an absolute declaration of war or an ultimatum prescribing the terms on which the issuing power will refrain from war When belligerency has been established, the relations between the warring powers are determined by the laws of war (see WAR, LAWS OF) In recent years there have been anomalous situations in regard to belligerency Thus, in the Second Chino-Japanese War, Japan and China maintained diplomatic relations until 1941, although their armies were locked in combat In civil wars if the insurgent force is granted belligerency rights, neutral nations generally abstain from supplying or helping either the established government or its opponent An example of this practice is found in the NEUTRALITY proclamations issued by European powers in the American Civil War Neutral nations may refuse to recognize the belligerency of an insurgent, however, and in this way preserve the right to claim any damages which accrue against the established government for having failed to suppress the rebellion without delay.

Bellingham. **1** Town (pop 2,979), S Mass, SE of Worcester; settled c.1713, inc. 1719 Woolen goods are produced **2** City (pop. 29,314), co. seat of Whatcom co, NW Wash., a port of entry on Bellingham Bay, near Canada Settled in 1852 as Whatcom, it merged (1903) with three other towns and became Bellingham. It is the distributing center for an area producing dairy and truck products, fruit, and poultry Fruit and salmon canneries, lumber factories, paper mills, and coal mining are important. The area attracts tourists. A state teachers college and a U S experimental bulb farm are here, Larabee State Park and an Indian reservation are near by.

Bellini (bĕl-lē'nē), illustrious family of Venetian painters of the Early Renaissance **Jacopo Bellini** (yä'kōpō), c.1400–c.1464, founder of the family, was a pupil of Gentile da Fabriano. He worked chiefly in the churches and palaces of N Italy and established a studio in Padua, where his famous sons, Gentile and Giovanni, received their early training Many of his greatest paintings have perished, among them the enormous *Crucifixion* in the cathedral at Verona. His extant works include three Madonnas (Uffizi, Academy, Venice, and the Louvre), the fine *Crucifixion* in the archbishop's palace, Verona, and *Annunciation*, in Sant' Alessandro, Brescia A profile portrait of a boy and *Christ Washing the Feet of the Apostles* are in the National Gallery of Art, Washington, D C Two very important sketchbooks, which contain a vast number of studies and drawings, an invaluable source of information for a critical study of his work, are in the National Gallery, London, and in the Louvre His son **Giovanni Bellini** (jōvän'nē), c 1426–1516, studied with his father and with Mantegna, whose influence appears in many of his earlier works. Among these are the *Agony in the Garden* (National Gall, London), three Madonnas (Johnson Coll, Philadelphia, Davis Coll, Newport; and Metropolitan Mus.), and *Crucifixion* (Correo Mus, Venice). With his brother, he executed many historic frescoes in Venice, none of which has survived Giovanni's work, at its best, is characterized by a monumental quality, a mastery of color, and an intensity of religious feeling, combined with serenity and majesty, that exerted a profound influence upon his contemporaries He became the teacher of many noted painters, among them Giorgione and Titian His chief fame rests upon his great altarpieces The best known are those of the Frari and San Zaccaria, in Venice, two of the most magnificent of the Renaissance, *Baptism of Christ* (La Santa Corona, Vicenza), *St Job* (now in the Academy at Venice), and the imposing altarpiece in San Giovanni Crisostomo, Venice Other noted examples of his art are the portrait of the *Doge Loredano* (National Gall., London), *Feast of the Gods* (National Gall. of Art, Washington, D C), *Allegory of the Church* (Uffizi), and *St. Francis* (Frick Coll, New York). See monograph by Roger Fry (1900) Jacopo's son **Gentile Bellini** (jäntē'lā), c 1427–c 1507, was a pupil of his father and of Mantegna The paintings on the doors of St Mark's School, Venice, are his earliest known works In 1479 he was sent by the state to the court of Mohammed II in Constantinople The results of this visit include the *Reception of a Venetian Ambassador at Constantinople* (Louvre), portrait of Mohammed II (National Gall., London), and the portrait of a Turkish scribe (Gardner Mus, Boston) Returning to Venice, he worked with his brother Giovanni on the great historic frescoes in the ducal palace (entire decoration destroyed by fire), depicting episodes in the struggle between Pope Alexander III and Barbarossa He excelled in portraiture and in pageant and processional pictures, and his paintings are valued for their historical interest and faithful representation of contemporary Venetian life Extant examples include three fine historical paintings in the Academy at Venice, *Adoration of the Magi* (National Gall, London), and his last and perhaps greatest work, *St. Mark Preaching at Alexandria* (Brera, Milan)

Bellini, Vincenzo (vēnchän'tsō bĕl-lē'nē), 1801–35, Italian composer of operas much admired by Chopin. His style, profusely melodic, demands virtuosity of the singers *Norma* and *La sonnambula* (both 1831) are his most popular operas *I Puritani* (1835) shows the influence of the French grand opera, felt again in the early operas of Verdi

Bellinzona (bĕl-lēntsō'nä), town (pop. 10,948), capital of Ticino canton, Switzerland, on the Ticino river Possibly a Roman settlement, it belonged at times to Lombardy, Como, Milan, France, and the Four Forest Cantons It became in 1798 the capital of the Bellinzona canton under the Helvetic Republic and the capital of Ticino in 1803. The town has two 16th-century churches and three 15th-century castles of the dukes of Milan. It is a center of transalpine traffic and has diversified industries

Bell Island, island (1945 pop. 8,167), 6 mi. long and 3 mi. wide, SE N F., in Conception Bay Bell Island town is the oldest industrial center in Newfoundland. Large reserves of iron ore are here.

Bellman, Carl Michael (mē'kĕl bĕl'män), 1740–95, Swedish song writer, protégé of Gustavus III. His dithyrambic odes in *Fredmans Epistlar* (1790) and *Fredmans Sanger* (1791) include drinking songs, bacchanals, pastorals, and comics Sometimes he wrote the music, but oftener he set the words to French melodies See H W. Van Loon and Grace Castagnetta, *The Last of the Troubadours* (1929), with the words and music of 20 songs

Bellmawr (bĕlmär'), borough (pop. 1,250), SW N.J., near Camden, inc. 1926.

bell metal: see BRONZE.

Bello, Andrés (ändrās' bā'yō), 1781–1865, South American intellectual leader, b. Venezuela. In 1810 he was sent with Bolívar on a mission to London, where he remained 19 years as diplomat, teacher, and writer. He reflected a new attitude in Hispanic American letters, initiating the move-

ment for intellectual independence from Europe. Called to a governmental post in Chile, he soon became a leader in Chilean education and reorganized the university at Santiago, becoming (1843) its rector Many of his learned works, such as *Gramática de la lengua castellana* (1847) and *Principios de derecho internacional* (1844; revised from an earlier work), became textbooks, and he was author of a code of civil law for Chile He wrote many poems in the neoclassic style, of which the best known is his "Silva a la agricultura de la zona tórrida "

Belloc, Hilaire (Joseph Hilaire Pierre Belloc) (bĕl'ŏk), 1870–, British author, b France, grad Balliol College, Oxford, 1895 He became a British subject in 1902 Noted for his versatility, he is a poet, essayist, satirist, and historian, writing from the Roman Catholic point of view Among his works are *The Bad Child's Book of Beasts* (1896), *The Jews* (1922), *The Cruse of the Nona* (1925), *Napoleon* (1932), *Selected Essays* (1936), and *Places* (1942) He was a close friend of G K Chesterton, and, known as Chesterbelloc, they defended distributism, a medieval, anticapitalist, antimaterialist philosophy opposed to Fabian socialism

Bello Horizonte, Brazil see BELO HORIZONTE

Bellomont, Richard Coote, earl of, 1636–1701, colonial governor of New York, Massachusetts, and New Hampshire, b Ireland He arrived (1698) in New York at a time when a more unified administration of colonial affairs was being attempted His administration was uneventful, but his endeavors to enforce the trade laws and to suppress piracy brought him the enmity of the aristocratic party in New York He was noted for his arrest of William KIDD

Bellona (bulŏ'nu), in Roman religion, goddess of war She was associated with Mars and her temple stood in the Campus Martius The senate met there on certain occasions

Bellotto, Bernardo see CANALETTO

Bellows, Albert Fitch, 1829–83, American painter, b Milford, Mass He lived in Antwerp for some time and became a member of the Belgian Royal Society of Painters His earlier genre pictures were executed in oil, but later he devoted himself to landscapes painted usually in water color Many of his pictures were painted in England and Wales Among his paintings are *Sunday in Devonshire; Forest Life* (N Y Public Library), *A Village Scene* (Art Inst , Chicago)

Bellows, George Wesley, 1882–1925, American painter, draughtsman, and lithographer, b Columbus, Ohio, son of an architect and builder In his senior year he left Ohio State Univ , where he excelled as a baseball player, to study painting under Robert Henri in New York He achieved early success, and in 1907 his promise was already recognized A popular instructor at the Art Students League, in 1910 he married one of his students, Emma Louise Story, and settled in lower Manhattan, where he spent the remainder of his life Bellows never visited Europe and seemed uninfluenced by the currents affecting his European contemporaries, but actively supported independent art movements in New York His work has a direct, unself-conscious realism and has survived because of its real humanity and conviction *Emma and Her Children* (Mus of Fine Arts, Boston), *Up the River* (Metropolitan Mus), *Stag at Sharkey's* (Cleveland Mus), and a portrait of the artist's mother (Art Inst., Chicago) are characteristic paintings Bellows revived lithography in America and his prints are quite as important as his paintings *Billy Sunday, Dance in a Mad House,* and *Dempsey and Firpo* are American classics His untimely death robbed America of an artist of growing power See studies by Emma S Bellows (1927) and G W Eggers (1932)

Bellows, Henry Whitney, 1814–82, American clergyman, b Boston, Mass , educated at Harvard and at Cambridge Divinity School He was pastor of the First Unitarian Church (later All Souls), New York city, from 1839 until his death and was one of the founders of Antioch College, but perhaps his outstanding service was the organization and administration of the U S Sanitary Commission, which served the sick and wounded during the Civil War Among his books are *The Treatment of Social Diseases* (1857) and *Restatements of Christian Doctrine* (1860)

Bellows Falls, village (pop 4,236) in Rockingham town, SE Vt , on terraces above the Connecticut A navigation canal, said to have been the first begun in the United States, was built (1792–1802) around the 50-foot falls here It was used for a time after the first Vermont railroad, from Boston, reached Bellows Falls (1849), and it was rebuilt as part of a hydroelectric power development in 1926–28 The first bridge over the Connecticut was built at Bellows Falls in 1785 The paper-making industry here was begun in 1802

Bells, town (pop 1,054), W Tenn , on the South Fork of the Forked Deer and NW of Jackson. It is a railroad shipping point in a farm area.

bells, term used on shipboard to indicate the time of day, which is marked by the strokes of a ship's bell The custom originated when the sand glass used for marking time was turned every half hour and the turning was announced by the stroke The day is divided into six four-hour periods (related to watches; see WATCH), and within the period each half hour is marked by an increased number of bell strokes, thus, 12 30, one bell, 1 00, two bells, 1 30, three bells, and so on to 4 00, eight bells. The sequence is repeated, beginning with 4 30, one bell For bells in music, see BELL

Belluno (bĕl-lōō'nō), city (pop 10,083), capital of Belluno prov , Venetia, NE Italy, on the Piave at the foot of the Dolomites It belonged to various lords until 1420, when it voluntarily submitted to Venice The town has a 16th-century cathedral with a beautiful baroque bell tower, and a Renaissance city hall

Bellville. 1 Village (pop 1,199), N central Ohio, S of Mansfield, in a fruitgrowing area, settled 1809, platted 1815, inc 1841 **2** City (pop 1,347), co seat of Austin co , S Texas, WNW of Houston, settled 1847, inc. 1927 It is the trade center of a farm and dairy region

Bellwood. 1 Residential village (pop 5,220), NE Ill , near Chicago, inc 1900 Among its manufactures are hardware and machinery **2** Borough (pop 2,772), central Pa , NNE of Altoona at the eastern base of the Allegheny Mts

Belly, river rising in the north part of Glacier National Park, Mont , flowing generally NE into Alberta, and joining the Oldman river NW of Lethbridge The Waterton river, draining Waterton Lakes (a national park) on the Canadian side of the boundary, is one of its tributaries

Belmar (bĕl'mar), borough (pop 3,435), E N J , a resort on the Atlantic S of Asbury Park, inc 1890

Belmond, town (pop 2,109), N Iowa, on the Iowa river, and SW of Mason City, inc 1881 It has a soybean-processing plant

Belmont. 1 City (1940 pop 1,229, 1947 special census pop 3,916), W Calif , SE of San Francisco, inc 1926 It is a flower-shipping point The College of Notre Dame (junior, Catholic, for women) is here. **2** Town (pop 26,867), E Mass , a suburb of Boston, settled 1636, inc 1859 **3** Town (pop 1,374), S central N H , S of Laconia, set off from Gilmanton and inc 1859 **4** Village (pop 1,145), co seat of Allegany co , W N Y , on the Genesee and SW of Hornell, in a farm region, inc 1871 Dairy products and handles are made **5** Town (pop 4,356), W central N C , on the Catawba river and W of Charlotte, in the agricultural piedmont region Belmont has textile mills and dye works Belmont Abbey College and Sacred Heart Academy are here

Belmonte, Juan (hwän' bĕlmōn'tā), 1892–, Spanish bullfighter, b Seville He made his debut in Madrid in 1913, and soon the thin, undersized matador achieved great fame for his skill and daring and became a national hero Often gored Belmonte retired from bullfighting several times, but repeatedly returned See his autobiography (as told to Manuel Chaves Nogales, Eng tr , 1937), biography by Henry Berlein (1934)

Beloeil (bĕlû'yu), town (pop 2,008), S Que , on the Richelieu river and NE of Montreal The seigniory of Beloeil was granted in 1694

Belo Horizonte (bĕl' ōrĕzŏnt'), city (pop 177,004), capital of Minas Gerais state, E Brazil It is a planned city, with broad avenues somewhat reminiscent of Washington, D C It was built to replace OURO PRETO as the state capital, and construction began in 1895 It handles the minerals produced in the state (iron, manganese, and gold), cattle, and farm products The opening of a hydroelectric plant in 1946 speeded the growth of industries, mostly utilizing the products of the area—cotton mills, furniture factories, and plants producing light metal goods, footwear, and pottery The name was formerly spelled Bello Horizonte

Beloit (bĭloit') **1** City (pop 3,765), co seat of agricultural Mitchell co , N central Kansas, on the Solomon, settled 1868, inc 1872 It has flour mills The state reform school for girls is here **2** City (pop 25,305), S Wis , on the Rock River at the Ill line, founded c 1837, inc 1857 The city's products include papermaking and woodworking machinery and Diesel engines It is noted for its winter sports Roy Chapman Andrews was born here **Beloit College** (nonsectarian, coeducational), chartered in 1846, was organized in 1847 by Congregationalists and Presbyterians in territory opened by the Black Hawk War It is noted for anthropology courses and has anthropology and art museums

Belon, Pierre (pyĕr' bülŏ'), 1517–64, French naturalist. Besides an account of his travels in the Near East, he wrote monographs on fishes and other aquatic animals, on conifers, and on birds (1555, in comparing skeletons of birds and man, this *Histoire . des oyseaux* foreshadows comparative anatomy) Belon was murdered in the Bois de Boulogne, Paris

Beloretsk (byĕlûrĕtsk'), city (pop c 32,000), Bashkir Autonomous SSR, E European RSFSR, in the Urals and on the Belaya river. It is a metallurgical center exploiting the regional iron ore and pyrite mines.

Belorussia (byĕ'lûrŏō'shŭ) or **White Russia,** constituent republic (80,150 sq. mi.; 1946 estimated pop 9,300,000), W European USSR. Minsk is the capital, other cities are Bobruisk, Brest, Gomel, Grodno, Mogilev, Pinsk, Polotsk, and Vitebsk Belorussia borders on Poland in the west, on Lithuania and Latvia in the northwest, on the RSFSR in the east, and on the Ukraine in the south The larger part of Belorussia is a lowland, drained by the Dniepr, the Western Dvina, and the Niemen rivers The PRIPET MARSHES are in the south The soil is generally turfy or sandy, but has been much improved by drainage The leading crops are potatoes -used for extensive hog raising—hemp, *kok-saghyz* (a rubber-bearing plant), rye, oats, and wheat Peat is the main fuel source, phosphorite and salt are mined Chemicals, lumber, textiles, and machines are the chief industrial products The population consists mainly of Belorussians (80 percent), a Slavic group influenced by Polish culture, both the Roman Catholic and the Russian Orthodox churches have adherents among them The rest are Russians, Jews, Ukrainians, and Poles The region fell (9th cent) under the sway of Kiev and was later subdivided into several principalities forming part of Kievan Russia The destruction of the Kievan state by the Mongols facilitated the conquest (early 14th cent) of Belorussia by the dukes of LITHUANIA The region became part of the Lithuanian empire, which in 1569 was fully merged with Poland The large Jewish population settled here in the 14th cent White Russia flourished under Lithuanian rule and its language became that of the state, but after its incorporation with Poland the ruling classes became thoroughly Polonized Through the Polish partitions (1772, 1793, 1795) all White Russia passed to the Russian Empire The country suffered much in the wars (16th–18th cent) between Poland and Russia and in the Napoleonic invasion of 1812 (during which it was laid waste by the retreating Russians) The Russian Social Democratic party was first organized in Belorussia, which played a leading part in the Russian Revolution of 1917 Great poverty, notably among the Jews, led to mass emigration to the United States Belorussia was a battlefield in the First World War and again in the Russo-Polish War of 1919–20 The Treaty of Riga (1921) gave part of the country to Poland The Belorussian Soviet Socialist Republic, originally formed in 1919, joined the USSR in 1922 Its territory was nearly doubled in the Polish partition of 1939 Occupied (1941–44) by the Germans in the Second World War, Belorussia was one of the most devastated parts of the Soviet Union Its western border was adjusted (1945) slightly to the advantage of Poland, but the 1939 frontier was essentially retained The republic joined the United Nations in 1945 The name also appears as Bielorussia and Byelorussia

Belphegor see BAAL-PEOR

Belpre (bĕl'prā), village (pop 1,717), SE Ohio, on the Ohio river opposite Parkersburg, W Va , in a fertile fruit and truck area, settled 1789, laid out 1852, inc 1902 Near by is Blennerhassett Island, where Aaron Burr plotted with Harman BLENNERHASSETT

Belsen (bĕl'zun), village, in the former Hanover prov , N Germany, near Celle A large and infamous concentration camp was here under the Hitler regime

Belshazzar (bĕlshăz'ur), in the Bible, son of NEBUCHADNEZZAR and last king of Babylon At his feast, handwriting appeared on the wall, and Daniel interpreted it as a prophecy of doom That night Belshazzar's kingdom fell to Cyrus Dan 5 The identity of Belshazzar is a problem Josephus apparently held him to be identical with NABONIDUS, a theory that is tenable except for his relation to Nebuchadnezzar Nabonidus had a son Belshar-uzur, who governed the southern part of the kingdom, he was not a king

Belt, Great, and **Little Belt,** two shallow straits connecting the Kattegat with the Baltic Sea The Great Belt (maximum width c 20 mi) separates Zealand and Fyn islands, Denmark The Little Belt (maximum width c 20 mi), between Fyn and Jutland, Denmark, is crossed by a railroad and road bridge

belt, in costume see GIRDLE

Belteshazzar (-shăz'-), in the book of DANIEL, Babylonian name of the prophet

Belton. 1 Town (pop 2,119), NW S C , just E of Anderson It has cotton mills **2** City (pop 3,572), co seat of Bell co , central Texas, on the Leon river and Noland Creek, between Austin and Waco, founded 1850 as Nolanville, renamed 1851, inc 1884 A market center in a rich farm region, it is the seat of Mary Hardin-Baylor College (Baptist; for women, 1845), formerly called Baylor-Belton and connected with Baylor Univ Prehistoric skeletons and artifacts have been found near by

Beltraffio, Giovanni Antonio see BOLTRAFFIO

Beltramelli, Antonio (antō'nyō bĕlträmĕl'lē), 1879–1930, Italian writer Active in the political struggles following the First World War, he finally became a Fascist His earlier prose somewhat resembles Verga's, he later followed D'Annunzio In addition to plays and verse, he wrote *Il Cavalier Mostardo* (1921), a story of post-war political life,

and a biography of Mussolini, *L'Uomo nuovo* [the new man] (1923). His juvenile *Piccolo Poms* (1915) was translated into English (1925)

Beltrami, Eugenio (āōjā'nēō bĕltrā'mē), 1835–1900, Italian mathematician He is famous for his work on non-Euclidian geometry, electricity, and magnetism

Belvedere (bĕl'vŭdēr'), name of a gallery and court of the Vatican, Rome, containing some of the rarest classical antiquities, among which are the *Apollo Belvedere*, the *Torso of Hercules*, and the *Laocoön* It was built 1490 for Innocent VIII A palace of this name in Vienna houses the Museum of History and Art

Belvidere (bĕl'vĭdēr"). **1** City (pop 8,094), co seat of Boone co, N Ill, on the Kishwaukee and E of Rockford, founded 1836, inc 1852 It is a trade center in a farm area. Among its manufactures are sewing machines, machine parts, scales, clothing, and grain and food products **2** Town (pop 2,060), co seat of Warren co, NW N J, on the Delaware and NNE of Phillipsburg, settled 1759, laid out 1799, inc 1845

Bely, Andrei (ŭndrā' byĕ'lĭ), pseud of **Boris Nikolayevich Bugayev** (bŭrēs' nyĭkŭl'uvĭch bōōgā'yŭf), 1880-1934, Russian poet, novelist, essayist, and philosopher One of the leading symbolists, he had great influence on early Soviet literature He was an experimenter, whether in prose or verse His poems are contained in the four-volume *Symphonies* (1901–8), his best prose is in *The Silver Dove* (1910), *Petersburg* (1912), and *Kotik Letayev* (1920), an autobiographical novel in the James Joyce vein In his later life Bely came under the influence of Rudolph Steiner's anthroposophy He left Russia in 1922 but returned a year later For his poems available in English, see Babette Deutsch, *Russian Poetry* (1927), and Charles Coxwell, *Russian Poems* (1929)

Belzoni, Giovanni Battista (jōvän'nē bät-tēs'ta bĕltsō'nē), 1778–1823, Italian traveler and archaeologist He lived (1803–12) in England and there invented a hydraulic machine, which he introduced into Egypt in 1815 Becoming interested in archaeology, he opened (1817) the rock temple of Abu-Simbel and he discovered (1817) the tomb of Seti I at Thebes The bust of Rameses II (known as *The Young Memnon*, now in the British Mus) was taken by Belzoni from Thebes to Alexandria His discoveries are recorded in his *Narrative* (1920)

Belzoni (bĕlzō'nē), city (pop 3,789), co seat of Humphreys co, W central Miss, on the Yazoo, in a rich cotton area, founded c 1827

Bembo, Pietro (pyā'trō, bĕm'bō), 1470–1547, Italian humanist, cardinal of the Roman Church A favorite of the Medici, he was secretary of Leo X, he received the red hat from Paul III Bembo was for many years the arbiter of Italian letters, insisting that classic traditions should be preserved He wrote the *History of Venice* (1551), a disquisition on platonic love, *Gli Asolani* (1505), based on the form of Cicero's *Tusculan Disputations*, lyric verse (*Rime*, 1530) in Latin and Italian, the latter modeled upon Petrarch, and *Prose della volgar lingua* [prose in the vernacular] (1525) For translations of his Italian verse, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1922), for translations of his Latin verse, see J A Symonds, *The Renaissance in Italy*

Bement (bē'mĕnt'), village (pop 1,466), central Ill, NE of Decatur, in a farm area, inc 1874

Bemidji (bumĭj'ē), city (pop 9,427), co seat of Beltrami co, N central Minn, on Bemidji Lake; settled c 1892, inc as a village 1896, as a city 1905 The Mississippi flows through Bemidji Lake Formerly a lumber center on the site of an Indian camp, Bemidji became a manufacturing and trade center for a resort and farm area A state teachers college is here An 18-foot figure of Paul Bunyan is on the lake shore

Bemis Heights, battle of see Saratoga campaign

Ben, Levite porter under David 1 Chron 15 18

Ben-abinadab (-ubĭn'-) [Heb, =son of Abinadab] see Abinadab **4**

Benaiah (bēnā'yu) [Heb, =built by God] **1** One of David's warriors, faithful in David's old age to Solomon 2 Sam 8 18, 20 23, 23 20–23, 1 Kings 1, 2, 1 Chron 11 22–25, 18 17, 27 5,6 **2** Warrior under David 2 Sam 23 30, 1 Chron 11 31, 27 14 **3** Levite 1 Chron 15 18,20, 16 5 **4** Priest 1 Chron 15 24, 16 6 **5** Simeonite 1 Chron 4 36 **6** Asaphite 2 Chron 20 14 **7** Levite of the reign of Hezekiah 2 Chron 31.13. **8** Father of Pelatiah Ezek 11.1,13 **9, 10, 11, 12** Jews who had married foreign wives Ezra 10 25,30,35,43

Benalcázar or **Belalcázar, Sebastián de** (sāvästyän' dā bānälkä'thär, bäläl-), c 1479–1551, Spanish conquistador. After accompanying Columbus on his third voyage (1498), Benalcázar served in Darien and Nicaragua before joining Francisco Pizarro in the conquest of Peru (1532). Setting out from Piura, he forestalled Pedro de Alvarado and entered (1533) the Indian stronghold of Quito, now capital of Ecuador, founded Guayaquil, and marched (1535) into SW Colombia (Popayán) in search of El Dorado In 1539 he tried unsuccessfully to ally himself with Federmann against Jiménez de Quesada. Journeying to Spain with them, Benalcázar returned (1541) as governor of Popayán prov. Between 1541 and 1548 he aided Vaca de Castro against Diego de Almagro the younger and then helped Núñez Vela and Pedro de la Gasca against Gonzalo Pizarro For executing the refractious leader of a neighboring province which he claimed as his, Benalcázar was tried (1550) and convicted On his way to appeal to the Council of the Indies he died of fever in Cartagena.

Ben-ammi (bĕnăm'ī) [Heb, =son of my kindred], son of Lot and of his younger daughter, eponym of the Ammonites Gen 19 38

Benares (bunu'rĭs), city (pop 263,100), SE United Provs, India, on the Ganges river Buddha is believed to have preached (c 500 B C) at near-by Sarnath In the 7th cent A D Benares had nearly 100 temples sacred to Siva Under Moslem rule (13th-18th cent) Hinduism was suppressed and all its monuments destroyed The mosque of Aurangzeb, the Mogul emperor, is the most notable building of this period Hindus believe that one who dies in Benares must achieve salvation Annually c 1,000,000 pilgrims visit the city to make a circuit of 36 mi in its outskirts and to bathe in the Ganges from the numerous ghats The present-day brasses, embroideries, and brocades are inferior to those which were famous long ago It is an educational center with a Hindu university opened in 1921

Benavente y Martínez, Jacinto (häthēn'tō bā"navān'tā ē märtē'nĕth), 1866–, Spanish dramatist Born in Madrid, he has lived there all his life He was awarded the 1922 Nobel Prize in Literature His best-known play is *Los intereses creados* (1907, Eng tr, *Bonds of Interest*, 1917), a farce written on the pattern of the Italian *commedia dell' arte* In 1916 he wrote a second part to this play, *La ciudad alegre y confiada* [the gay and confident city] *Señora Ama* (1908) and *La malquerida* (1913) are both rural dramas highly appreciated by the public and the critics Some of his other plays are *La noche del sábado* (1903, Eng tr, *Saturday Night*, 1918), *Alfilerazos* (1925), and a short play for children, *El príncipe que todo lo aprendió en los libros* [the prince who learned everything in books] (1909) See study by Walter Starkie (1924)

Benavides (bānăvē'dus, -vĭd'-), city (pop 3,081), S Texas WSW of Corpus Christi, inc 1936 The area yields oil, cotton, and livestock

Ben Avon (bĕn ā'vun), residential borough (pop 2,516), SW Pa, on the Ohio and near Pittsburgh, inc 1891

Benbow, John (bĕn'bō), 1653–1702, English vice admiral Some of the stories of his exploits seem to be legendary, but he did successfully fight the French at Saint-Malo (1693) and Dunkirk (1696) and the Spanish in the West Indies (1698) He received a fatal wound in a four-day running fight with a French fleet in the Caribbean off Santa Marta In this engagement his flagship, the *Breda*, was deserted by all but one of his fleet, several of the disobedient captains were later court-martialed and shot

Benbow, William, fl 1825–40, English pamphleteer and publisher He is known especially as the author (c 1832) of the *Grand National Holiday, or, Congress of the Productive Classes*, which introduced the theory of the general strike and was influential in promoting class consciousness and unity among workers Little is known of his life except that he had a publishing house in London, was a member of the National Union of Working Classes, took a minor part in the Chartist movement, and was several times imprisoned

Benbridge, Henry, 1744–1812, American portrait painter and miniaturist, b Philadelphia, studied in Italy and with Benjamin West in London His portraits are characterized by technical skill and have sometimes been attributed to John Singleton Copley Among his works are portraits of Mrs Simons (Metropolitan Mus) and Benjamin Franklin (Carnegie Inst, Pittsburgh) He lived in Charleston, S C, for many years

Benchley, Robert Charles, 1889–1945, American humorist, b Worcester, Mass, grad Harvard, 1912 He was dramatic editor of *Life* (1920–29) and of the *New Yorker* (1929–40) and was known by many for the short films which he wrote, directed, and acted in himself His books include *Of All Things* (1921), *My Ten Years in a Quandary* (1936), and *Benchley beside Himself* (1943)

Bend, city (pop 10,021), co seat of Deschutes co, W central Oregon, on the Deschutes and S of The Dalles, at the eastern foot of the Cascade Range, laid out and inc 1905. The city is the industrial and commercial center for a large lumber area, with irrigated farming and resort and recreation facilities

Benda, Julien (zhülyĕ' bādā'), 1867–, French novelist and critic A humanist, he led a sustained attack against the aesthetic philosophy of Bergson *L'Ordination* (1912, Eng tr., *The Yoke of Pity*, 1913), a novel, won him immediate recognition *La Trahison des clercs* (1927, Eng tr., *The Treason of the Intellectuals*, 1928) was regarded as sensational for its theory that the thinker, in pursuit of truth, should disregard any practical consequences He has also written *La Jeunesse d'un clerc* (1936) and *Un Régulier dans le siècle* (1938). See H. E. Read, *Julian Benda and the New Humanism* (1930).

Benda, Wladyslaw Theodor, 1873–1948, Polish-American painter and illustrator, b Poznan, Poland, studied at the Art Academy in Cracow and in Vienna, San Francisco, and New York city He came to the United States in 1899. In addition to decorative works and many illustrations for magazines and books, he created a modern mask for the theater, first used in *Greenwich Village Follies* (1920) He wrote *Masks* (1945)

Ben Day process see Day, Benjamin

Bendemann, Eduard Julius Friedrich (ā'dōōārd" yōō'lyōōs frēd'rĭkh bĕn'dumän), 1811–89, German Jewish historical and portrait painter *The Jews Mourning in Exile*, exhibited in Berlin in his 21st year, created a sensation and established his reputation While a professor at the Dresden Academy, he executed many historical frescoes on a monumental scale To these he devoted 15 years, and on them his fame chiefly rests From 1859 to 1867 he was director of Düsseldorf Academy

Bender (bĕn'dur), Rumanian *Tighina* (tĭgē'nā), Rus *Bendery* (bĭndyĕ'rē), city (1930 pop 31,384), S Moldavian SSR, in Bessarabia It was conquered (1538) from Moldavia by the Turks From 1709 to 1713 Charles XII of Sweden resided near Bender as the unwelcome guest of the Turkish government There are ruins of old fortifications

Bendigo (bĕn'dĭgō), municipality (pop 30,778), Victoria, Australia, NW of Melbourne It is the trade center for a wheat-growing area There is a Roman Catholic cathedral Founded in 1851 with the gold rush, it was formerly an important mining town, popularly called Sandhurst The municipality includes Eaglehawk (pop 4,039).

Bendix, N J see Teterboro

bends see caisson disease

Bene-berak (bĕ'nē-bĕ'rāk) [Heb, =sons of Barak], town, W Palestine, ESE of Jaffa Joshua 19 45

Benedek, Ludwig von (lōod'vĭkh fŭn bā'nudĕk"), 1804–81, Austrian general He served in the suppression of the Polish insurrection of 1846, in the Austrian campaigns of 1848–49 in Italy and Hungary, and in the Italian War of 1859 His wide repute was destroyed by his crushing defeat at Sadowa (1866) in the Austro-Prussian War

Benedetti, Vincent (vĕsäl' bānädĕt'tē), 1817-1900, French diplomat, b Corsica, made a count by Napoleon III He was ambassador to Prussia from 1864 to 1870 His interview (1870) with William I at Ems (in which he asked the king to disapprove formally and permanently the candidacy of a Hohenzollern prince for the Spanish throne) was so altered in Bismarck's version of the Ems dispatch that it inflamed feelings in both countries and thus became the immediate cause of the Franco-Prussian War

Benedetto da Majano (bānädĕt'tō dä mäyä'nō) 1442–97, Italian sculptor and architect of the Florentine school His pulpits, altarpieces, and other church furniture are of great beauty Examples of these are in Santa Croce and the Palazzo Vecchio, Florence, and in San Domenico, Siena The altarpiece in the Church of Monte Oliveto at Naples was probably his masterwork A polychrome terra-cotta sketch, made for the figure of the Virgin in this altarpiece, is in the Metropolitan Museum

Benedict, Saint, d c 547, Italian monk, founder of the Benedictines, called Benedict of Nursia, b Norcia (E of Spoleto), Italy He went to Rome to study, then withdrew to Subiaco to live as a hermit, after three years he was famous for holiness He started an establishment of monks, a set of cells of 13 monks each This he finally left, and at Monte Cassino, in an old pagan holy place, he started the first truly Benedictine monastery The product of Benedict's experience appears in the Rule of St Benedict (in Latin), the chief rule in Western monasticism, used always by Benedictines and by Cistercians as well Its 73 chapters (with Prologue) original and personal and full of a spirit of common sense, set forth the central ideas of Benedictine monasticism St. Benedict's sister, St Scholastica, was a religious also His feast March 21 See St Gregory I, *Dialogues*, Book II (Eng tr, 1874, 1911, 1925), Dom John Chapman, *Saint Benedict and the Sixth Century* (1929), Dom Justin McCann, *Saint Benedict* (1937), Leonard J Doyle, *St Benedict's Rule for Monasteries* (1948)

Benedict XI, d 1304, pope (1303–4), an Italian (b Treviso) named Niccolò Boccasini, successor of Boniface VIII and predecessor of Clement V He had risen to become master general of the Dominican order and was in the empire as legate during the tragic close of Boniface's reign He was able to conciliate many of the enemies Boniface had made, but he would not yield on the necessity that those who had assaulted the pope, namely, Sciarra Colonna and Nogaret, should stand trial. He has been beatified

Benedict XIII, antipope see Luna, Pedro de

Benedict XIV, 1675–1758, pope (1740–58), an Italian (b Bologna) named Prospero Lambertini, successor of Clement XII and predecessor of Clement XIII Long before his pontificate he was renowned for his learning. In 1728 he received the red hat.

He was much interested in the Eastern churches and began (with the bull *Etsi pastoralis*, 1742) the modern papal legislation which favors the Eastern rites and prohibits activity which is likely to Latinize them He beautified Rome and restored monuments, and he was munificent to Bologna He patronized learning and welcomed all to his court He denounced the cruelty to the Indians in the disbanding of the Paraguay REDUCTIONS

Benedict XV, 1854-1922, pope (1914-22), an Italian (b Genoa) named Giacomo della Chiesa, successor of PIUS X and predecessor of PIUS XI He was made archbishop of Bologna in 1907 and cardinal in 1914, two months before his election as pope His conduct in the First World War was one of the strictest neutrality, and he had the respect of all belligerents He originated several proposals for peace Benedict was lavish in charity toward war victims, and he founded the Vatican service for prisoners of war In his pontificate France and England resumed diplomatic relations with the Holy See

Benedict, Sir Julius, 1804–85, German-English composer and conductor, active in England from 1835 until his death, pupil of Weber He was conductor (1876–80) of the Liverpool Philharmonic and also conducted at Covent Garden and Drury Lane His best-known work is the opera *The Lily of Killarney* (1862) He was knighted in 1871

Benedict, Ruth Fulton, 1887–1948, American anthropologist, b New York city, grad Vassar, 1909, Ph D Columbia, 1923 She was a student and later a colleague of Franz Boas at Columbia Univ, where she taught from 1924 With others she contributed toward enlarging the scope of anthropology to include, in addition to the already established concepts, culture motif and the role of culture in individual personality formation During the Second World War she guided research on culture analysis for the Dept of State and afterward continued a program of investigation of contemporary European cultures She was the author of *Concept of the Guardian Spirit in North America* (1923), *Patterns of Culture* (1934), *Race: Science and Politics* (rev ed, 1943), and *The Chrysanthemum and the Sword: Patterns of Japanese Culture* (1946)

Benedict Biscop (bĭs'kŭp), c 628–690, English monk He founded the monasteries of Wearmouth (at Sunderland) and Jarrow, and he was abbot of St Peter's, Canterbury Bede was his pupil

Benedict College see COLUMBIA S C

benedictine (bĕnŭdĭk'tĭn), sweet, brown LIQUEUR originated in 1510 by Benedictine monks at Hâvre, France, and now manufactured by a secular concern on the grounds of the old abbey Every bottle bears the initials of the Latin dedication *Deo Optimo Maximo* [To God most good, most great]

Benedictines, monks of the Roman Catholic Church, following the Rule of St BENEDICT They are called Black Monks Their first establishment was at MONTE CASSINO, Italy, ever since the symbolic center of Western MONASTICISM St Benedict's institute was novel in monastic life in replacing austerity by moderation The monastery, or ABBEY, was conceived as a devout Christian family of men, fathered by the abbot The monks promised to live in the house till death The whole life was in common, the waking hours being devoted principally to worship and work, especially manual labor The individual's motives on entering were to lead the monastic life, rather than to join in some project the house might undertake The greatest of early Benedictines was Pope St GREGORY I, whose espousal of the life had great influence He sent out St AUGUSTINE OF CANTERBURY, with his monks, who brought Benedictine life and Christianity together to Anglo-Saxon England So too went St BONIFACE from England to Germany. In this expansion of Christendom the abbey was an outpost, a unit both of Latin culture (including Western agricultural methods) and Christian religion Also within the area that had been Latin for centuries the Benedictines were active—their preservation of books was a critical service In the 10th cent a reform began at the abbey of CLUNY, France, though this led to a separate organization (see CLUNIAC ORDER); it deepened the long-standing Benedictine tendencies to emphasize the liturgy, study, and education A Benedictine reform, or reaction, in 1098, resulted in a new foundation, the CISTERCIANS Throughout the centuries, however, many Benedictine houses went on quietly, unaffected by the fashions which provoked the rise and decline of various orders Since the Middle Ages the Benedictines have occupied a central position in Western religious orders, they are not so rigorous as the TRAPPISTS (who aim at living a primitive Benedictine life), and they are as attached as ever to the domestic life of the monastery They are organized as a loose federation of congregations, each congregation is a collection of geographically related abbeys or monasteries The abbeys are mainly autonomous Famous abbeys include Bobbio, St Denis, St. Gall, Einsiedeln, Fulda, Hersfeld, Lorsch, Reichenau, Solesmes, Monserrat, St Albans, Glastonbury, Westminster, and Bury St Edmunds Permanent Benedictine establishments in the United States began in the 1840s, the oldest among them were at Latrobe, Pa, St Meinrad, Ind, Collegeville, Minn, Atchison, Kansas, and Newark, N J. See Edward C. Butler, *Benedictine Monachism* (1922)

benediction (bĕn'-) [Latin, =blessing], solemn blessing administered usually in the name of God by one especially able to do so, as a priest or a minister The temple worship at Jerusalem had fixed forms of benedictions, and Christians have always given them an important place in ceremony, especially at the end of a ritual Protestants have generally abandoned many of the blessings of the Roman Catholic Church, such as the apostolic benediction by the pope and his delegates and benediction of the dying **Benediction of the Blessed Sacrament,** a popular extraliturgical service of Roman Catholics, consists of a blessing of the people by the priest with the Host exposed in a monstrance

Benedict the Moor, Saint, d 1589, Sicilian Negro friar He was first a hermit, then a Franciscan lay brother Though illiterate and therefore not a priest, he became a superior because of character and ability He had many supernatural visitations St Benedict was not a Moor He was canonized in 1809 Feast April 14

Benedictus (bĕnudĭk'tus), hymn of Zachary Luke 1 68–79 It begins in Latin, "Benedictus Dominus Deus Israel" [blessed be the Lord God of Israel] It is used at funerals and at lauds in the Roman Catholic Church and at morning prayer in the Church of England For another hymn called *Benedictus*, see SANCTUS

benefice (bĕ'nŭfĭs [Latin, =gift], in canon law, income attached to a position in the Church The income is usually from an endowment, the endowment having commonly been made originally by a lay person The problem raised by the existence of benefices is simply whether a layman may control the selection of the churchman to occupy the benefice The Church has always demanded, and usually got, the right to veto a presentee (one presented to the benefice) on the grounds of moral or other ineligibility The most commonly beneficed were, on the Continent, abbots and superiors, and in England and Scotland, parish ministers In England beneficed parish ministers are called vicars As a result of the disestablishment of the Roman Catholic Church on the Continent and after the reforms of the Council of Trent (see TRENT, COUNCIL OF), the evils of benefices have largely vanished, and the Church has for bishops and superiors everywhere full control over appointments so far as lay patronage is concerned In England benefices are still common, but reforms and restrictions have removed many abuses The Church of Scotland was involved in a struggle over lay patronage from 1715 on This culminated in the great disruption of 1843, when more than a third of the Church seceded to set up the Free Church of Scotland, the immediate cause of the great disruption was a decision in the courts that the presentee of any person who had the right to present must be accepted by the presbytery and the congregation if he fulfilled the minimum essentials In 1874 the Church of Scotland abolished patronage entirely, and benefices were at an end in Scotland

benefit of clergy, term originally applied to the exemption of Christian clerics from criminal prosecution in the secular courts The privilege was established by the 12th cent, and it extended only to the commission of felonies The ecclesiastical courts did not inflict capital punishment, and their severest sentences usually were degradation and the imposition of penances Many criminals posed as clerics to obtain benefit of clergy In England the privilege was soon extended to all clerks, i e, literate persons Since the first verse of Psalm 51 was the test of literacy, violators of the law would memorize the text The ecclesiastical courts lost their criminal jurisdiction in 1576, and thereafter all clerics were tried by the secular courts and either discharged or sentenced to a year's imprisonment In Queen Anne's reign the reading test was abolished and all persons were allowed to claim the privilege for the first conviction of felony, and later the privilege was extended generally to peers and women Benefit of clergy thus mitigated the severities of English criminal law, which imposed death for many offenses now deemed trivial The criminal law was ameliorated in the early 19th cent, and in 1827 benefit of clergy was abolished as being no longer necessary In the United States it was abolished in 1790 for all Federal crimes and c 1850 it disappeared from the state courts The term "benefit of clergy" has come in popular usage to mean "sanction of the clergy" particularly in the phrase "without benefit of clergy" See L C Gabel, *Benefit of Clergy in England in the Later Middle Ages* (1929)

Bene Israel or **Beni Israel** (both bā'nē) [Heb, = sons of Israel], Jewish community of India, numbering some 15,000 mostly in and near Bombay city Allusions in literature indicate that this people may have come to India in the 2d cent A D, but some authorities claim that they descend from Moslems converted to Judaism in the early 18th cent. When the Bene Israel were discovered by Westerners in the late 18th cent their customs were substantially like those of the Hindus except that they kept the Sabbath and several Jewish festivals and circumcised boys on the eighth day after birth The only Hebrew they were said to know was the prayer, "Hear, O Israel, the Lord our God, the Lord is one!" In the 19th cent many of the men were soldiers in the British army Wealthy Jews established schools to instruct the Beni Israel in Hebrew and Judaism, and in time their religious practices became quite similar to those of Jews throughout the world Certain other Eastern groups, notably tribesmen in Afghanistan, also claim Hebrew descent

Bene-jaakan (bĕn'ē-jā'ŭ-) [Heb, =tribe of AKAN], halting place in the wilderness Num. 33 31,32 Beeroth Deut 10 6

Beneke, Friedrich Eduard (frē'drĭkh ā'dōōärt bā'nŭkŭ), 1798–1854, German philosopher and psychologist A *Privatdocent* at Berlin, he opposed the doctrines of Hegel and was deprived of the right to teach From 1824 to 1827 he lectured in Gottingen and after Hegel's death returned (1832) to Berlin to lecture Beneke emphasized the use of the empirical method in psychological investigation, maintaining that metaphysics should be based on psychology His writings include *Psychologische Skizzen* (1825–27) and *Lehrbuch der Psychologie als Naturwissenschaft* (1833)

Benelli, Sem (sĕm' bānĕl'lē), 1875?–1949, Italian dramatic poet He fought in the First World War, entered politics, and from the late 1920s was a successful impresario He wrote some 30 dramas and comedies, among them romantic plays notable for their dramatic power and richness of expression and setting *La cena della beffe* (presented 1909, Eng trs, *The Jester's Supper* 1924–25, *The Jest*, 1939) won international acclaim and has been produced in the United States both as a play and as an opera by Giordano *L'amore dei tre re* (1910, Eng tr, *The Love of Three Kings*, 1923) was set to music by Montemezzi His last important play was *Orfeo e Proserpina* (1929)

Benes, Eduard, Czech *Beneš* (bĕ'nĕsh), 1887–1948 Czech statesman As a university student at Prague he became a disciple of T G MASARYK He finished his studies in France, later taught sociology and economics at Prague, and in 1915 joined Masaryk in exile After the breakup of the Austro-Hungarian Monarchy he represented Czechoslovakia at the Paris Peace Conference of 1919 As foreign minister (1918–35), premier (1921–22), leader of the Czech National Socialist party (a liberal and nationalist party, not to be confused with its German namesake), and right-hand man of Masaryk, Benes exerted a strong influence on both national and European politics The LITTLE ENTENTE and the Czech alliance with France were essentially his work Elected president of Czechoslovakia at Masaryk's retirement (1935), he resigned (1938) after the dismemberment of his country by the MUNICH PACT and went into exile in the United States and England After the outbreak of the Second World War he resumed (1940) the title president and headed a provisional government, at war with Germany, in London He returned to Prague in 1945, was confirmed in office and was reelected president in 1946 After the Communist coup of Feb, 1948, he reluctantly endorsed the new regime, but resigned in June on the ground of illness, refusing to sign the new constitution He died shortly afterward at his country home Among his writings are *My War Memoirs* (Eng tr, 1938) and *Democracy Today and Tomorrow* (in Eng, 1939) Publication, in Czech, of his later memoirs began in 1947

Benét, Stephen Vincent (bĕnā'), 1898–1943, American poet and novelist, b Bethlehem, Pa, grad Yale, 1919, brother of William Rose Benét Before he left college, Stephen Benét had written three volumes of promising verse He rapidly added more poetry and several novels, including *The Spanish Bayonet* (1926) *John Brown's Body*, a book-length poem of the Civil War, brought him fame and the Pulitzer Prize for the best volume of verse written in 1928 *Ballads and Poems* followed in 1931 With his wife, Rosemary, he wrote for children the poems in *A Book of Americans* (1933) His short stories are some of the best of their time and include "Johnny Pye and the Fool-Killer" and "The Devil and Daniel Webster" The latter became in turn a play, an opera (score by Douglas Moore), and a motion picture Moore also wrote the music for his operetta *The Headless Horseman* (1937) Many of Benét's poems and stories were dramatized over the radio, and when, during the last three years of his life, he devoted himself to propaganda writing, he produced several radio scripts, now collected in *We Stand United* (1945) His *Selected Works* (2 vols) appeared in 1942, and the unfinished American epic, *Western Star*, published after his death in 1943, won the Pulitzer Prize in 1944 Benét's work is uneven, but at its best it has increased the small body of great American writing about America

Benét, William Rose, 1886–, American poet and editor, b Fort Hamilton on New York Bay, grad Sheffield Scientific School, Yale, 1907, brother of

Stephen Vincent Benét. He has been associated as editor or assistant editor with the *Century Magazine*, the Literary Review of the New York *Evening Post*, and the *Saturday Review of Literature* (which he helped found in 1924) His books include *Merchants from Cathay* (1913), *The Great White Wall* (1916), and *Man Possessed* (1927), poems, a novel, *The First Person Singular* (1922), a volume of essays, *Wild Goslings* (1927), and an anthology, *The Reader's Encyclopedia* (1948) His autobiographical verse-narrative, *The Dust Which Is God* (1941), won the 1942 Pulitzer Prize in poetry His second wife was the poet, Elinor Wylie, whose poems he edited in 1932

Benevento (bĕnəvĕn'tō), city (pop 26,692), capital of Benevento prov, Campania, S Italy, on a small plain in the Apennines The region produces tobacco, cereals, and grapes A town of the Samnites, it became under the Romans an important commercial center on the Appian Way It was the capital of a powerful Lombard duchy (6th–11th cent), extending over much of S Italy Near here in 1266 Charles of Anjou defeated MANFRED From the 11th cent to 1860 the city was under papal rule, except for periods of foreign occupation Among its monuments are a triumphal arch erected for Trajan, remains of a Roman theater, and the Church of Santa Sofia (8th cent), with a 12th-century cloister The cathedral was practically destroyed in the Second World War

Benezet, Anthony (bĕnəzĕt'), 1713–84, American reformer, b France Of Huguenot parentage, Benezet joined the Society of Friends in England before he came to Philadelphia (1731) He taught in the Friends' English Public School after 1742, and in 1755 he founded a girls' school Benezet wrote numerous articles and pamphlets against the evil of slavery, helped organize the first antislavery group in the United States, and founded and endowed a Negro school He was also concerned with the welfare of the Indians See biography by G S Brookes (1937)

Ben Ezra see IBN EZRA, ABRAHAM BEN MEIR

Benfey, Theodor (tā'dōr bĕn'fī), 1809–81, German linguist An authority on Sanskrit, he compiled a Sanskrit-English dictionary (1866)

Bengal (bĕng-gôl'), region (77,442 sq mi, pop 60,306,525), India and Pakistan, on the Bay of Bengal Some inland sections are mountainous, but most of Bengal is fertile land of the Ganges-Brahmaputra alluvial plains and delta Along most of the coast are the richly timbered jungles of the Sundarbans, mainly swamps and islands The heavy monsoon rainfall and predominantly warm weather make possible two harvests a year Rice, produced in exportable surplus, is the chief crop, sugar cane and oil seeds are also important Bengal is the world's chief source of jute Industry in the province includes steel mills as well as numerous plants to process agricultural produce Coal, produced in great quantity in the southwest, is exported to the factories of Bihar prov Large iron deposits are untouched An abundance of waterways and a good rail net facilitate the movement of commodities to and from CALCUTTA, the metropolis and chief port, and insure the region's prosperity Higher education is provided by the universities at Calcutta and DACCA, each with affiliated colleges In the 3d cent B C, Bengal belonged to the empire of Asoka It was conquered (A D c 1200) by Mohammedans of Turki descent When the Portuguese began their trading activities (late 16th cent), Bengal was a part of the Mogul empire The British East India Company made its first settlement in 1642, and during the next 125 years completed its occupation by conquering the native princes and expelling the Dutch and French Under British control Bengal was a presidency of India The population, which mainly speaks Bengali, is ethnically quite homogeneous However, the people are divided almost equally between Mohammedans and Hindus, and when India was partitioned in 1947, the presidency was divided along the line approximately separating the two main concentrations of the religious communities to make the Indian state of **West Bengal** (28,033 sq mi, pop 21,194,613) with its capital at Calcutta and the Pakistan province of **East Bengal** (including territory formerly in W Assam 54,029 sq mi, pop. 41,844,912) with its capital at Dacca.

Bengal, Bay of, arm, c 1,300 mi long and c 1,000 mi wide, of the Indian Ocean, with India on the west and Burma and Malaya on the east It receives many large rivers, including the Ganges and the Irrawaddy, and in it are the Andaman Islands and the Nicobar Islands

Bengali (bĕngäl'ē), Indo-European language See LANGUAGE (table)

Bengasi or **Benghazi** (both bĕngä'zē), city (pop 50,751), Cyrenaica, Libya, a port on the Mediterranean Sea On this site was the ancient city of Berenice (thus renamed for the wife of Ptolemy III) Bengasi is a center of communications, and it has varied light industries In the Second World War it was taken and retaken several times before its final capture by the British in Dec., 1942.

Bengel, Johann Albrecht (yō'hän äl'brĕkht bĕng'əl), 1687–1752, German Lutheran theologian and biblical scholar. He was appointed (1713) professor in charge of a theological training school at Denkendorf and remained there for 28 years In this period he produced his most important works —a carefully prepared Greek text of the New Testament (1734), with an *Apparatus criticus*, which formed the point of departure for modern New Testament textual criticism, and his *Gnomon Novi Testamenti* (1742), an exegetical commentary, later translated into German and English.

Benghazi, Libya see BENGASI

Benguela (bĕn-gĕ'lə, bĕng-gĕ'lə), town (pop 14,243), central Angola, a port on the Atlantic, founded 1617 It is on a transcontinental railroad extending to Beira, Mozambique. It has a large trade in fish, sugar, coffee, cotton, sisal, and oil seeds.

Benha (bĕn'hä), city (pop 35,245), N Egypt, in the Nile delta Cotton is ginned, and rugs are woven

Benhadad (–hā'dăd) [Heb, =son of Hadad, a Syrian god], kings of Damascus **1** Fl 890 B C, ally of ASA of Judah against Baasha of Israel 1 Kings 15 17–20 **2** Fl 854 B C, leader of the coalition that withstood Shalmaneser III of Assyria at Karkar on the Orontes (c 854 B C), he continued the traditional enmity of his kingdom with Israel and defeated AHAB and Jehoshaphat He was murdered and succeeded by Hazael 1 Kings 20, 22, 2 Kings 8 15 **3** Fl 800 B C, son of Hazael and contemporary of Jehoash of Israel, who defeated him in war He also was Assyria's vassal 2 Kings 13 25, Amos 1 4

Ben-hail (–hā'əl) [Heb, =son of might], one of Jehoshaphat's princes 2 Chron 17 7

Ben-hanan (–hā'nən) [Heb, =son of the Merciful], Judahite 1 Chron 4 20

Ben-hur [Heb, =son of Hur] see HUR **4**

Beni (bā'nē), river formed by tributaries rising in the Andes of Bolivia It flows N and NE to Brazil and, joining the Mamoré at the Brazilian border, forms the MADEIRA The Beni is navigable across the selvas N to the Madre de Dios Before the collapse (1912) of the rubber boom it was an important avenue of trade

Benicia (bənĭsh'ə), city (1940 pop 2,419, 1944 special census pop 8,368), W Calif, a port on Carquinez Strait (see SAN FRANCISCO BAY) NE of Oakland, founded 1847, inc 1850 A U S army ordnance depot and an arsenal are here

Beni Hassan or **Beni Hasan** (both bĕ'nē hä'sən), village, central Egypt, on the Nile There are 39 tombs carved out of solid rock in the XII dynasty of ancient Egypt Their columns are remarkable

Beni Israel see BENE ISRAEL

Benin (bĕnēn'), town (pop 8,530), SW Nigeria Its rulers, who formerly controlled a small native state, had contact with European traders as early as the 14th cent Benin was notorious for its unparalleled slave trade and as a place of human sacrifice It was stormed in 1897 to avenge the massacre of British officers who had been sent on a diplomatic mission The ironwork and carved ivory which were formerly made in Benin rank with the finest native art of Africa Today the town trades in hardwood and native crafts The Benin river here empties into the Bight of Benin, the northern part of the Gulf of Guinea

Beninu (bēnī'nū) [Heb, =our son], Levite sealer of the covenant Neh 10 13

Beni Suef (bĕ'nē swäf'), city (pop 56,356), Egypt, on the Nile Cotton is milled, and sugar is refined

Benjamin [Heb, =son of the right hand, i e, auspicious] **1** Youngest son of Jacob and Rachel and ancestor of one of the 12 tribes of Israel His mother, dying, named him Benoni (bĕnō'nī) [Heb, =son of my sorrow] He was the favorite of his family The tribe of Benjamin was allotted the plateau of E central Palestine lying W of the Jordan between Jerusalem and Bethel The tribesmen were famous archers The name survived in the High Gate of Benjamin of the Temple at Jerusalem Saul was the most noted man of the house of Benjamin Gen 35 18, 42–46, 49 27, Num 1 36, 13 9, 26 38–41, 34 21, Deut 33 12, Joshua 18 11–28, Judges 3 15, 20–21, 1 Chron 8 40, 12 2, 2 Chron 14 8, 17 17 **2** Descendent of Benjamin 1 Chron 7 10 **3** One who was separated from a foreign wife Ezra 10 32. **4** Repairer of the wall Neh. 3 23 **5** Dedicator of the wall Neh 12 34 He may be the same person as **3** and as **4.**

Benjamin, Asher, 1773–1845, American architect, b Greenfield, Mass His *Country Builder's Assistant* was published in 1797 and *The American Builder's Companion*, with Daniel Reynard, in 1806. Both contained many architectural plates and passed through a number of editions. Benjamin built houses and churches in many New England towns, but his greater influence was through his books, which popularised the details of the Late Colonial style His later books, *The Rudiments of Architecture* (1814) and *The Practical House Carpenter* (1830), show more Greek design.

Benjamin, Judah Philip, 1811–84, Confederate statesman and British barrister, b. Christiansted, St Croix, Virgin Islands His family moved (c.1813) to Wilmington, N C., later lived at Fayetteville, N.C., and by 1822 had finally settled in Charleston, S.C. A precocious young man, Benjamin entered Yale at 14, but left (1827) under a cloud early in his junior year. He went to New Orleans in 1828, worked for a notary, taught English, and studied French and the law in his spare time. Admitted to the bar in Dec., 1832, he published (1834), with his friend Thomas Slidell, a digest of Louisiana appeal cases which enhanced his reputation as a rising young lawyer His practice soon made him wealthy enough to become a sugar planter as well. Benjamin, a prominent Whig, served in both branches of the state legislature, was a delegate to two state constitutional conventions, and in 1852 was elected to the U.S Senate On the dissolution of the Whig party because of the slavery issue, he publicly proclaimed himself a Democrat (May 2, 1856), and two years later he was reelected Senator One of the ablest defenses of Southern policy was presented in the Senate by Benjamin on Dec. 31, 1860 On Feb 4, 1861, after Louisiana's secession, he resigned his seat. In the new Southern government, Benjamin first served as attorney general, was appointed secretary of war in Nov., 1861 (he had been acting secretary since September), and from March, 1862, to the end of the Civil War was secretary of state Though not popular with the people, he was the intimate friend of Jefferson DAVIS and was known in the North as "the brains of the Confederacy " As secretary of war he was an able administrator, but was severely criticized—for the most part unjustly—for Confederate defeats early in 1862, particularly the loss of Roanoke Island, N C Davis, however, not only ignored strong demands that Benjamin be removed from the cabinet but promoted him to head the state department There he worked unceasingly but unsuccessfully to secure European recognition of the Confederacy In Feb, 1865, he proposed that slaves who willingly joined the Confederate ranks be freed On the collapse of the Confederacy, Benjamin escaped via Florida and the West Indies to England and there carved out a new career in the law He was called to the bar in 1866 and won immediate recognition with *A Treatise on the Law of Sale of Personal Property* (1868) On his retirement early in 1883, he was universally acknowledged to have been in the front rank of his profession He died and was buried in Paris, where his wife, a Louisiana Creole, and his daughter had made their home since the 1840s See biography by R D Meade (1943); B J Hendrick, *Statesmen of the Lost Cause* (1939)

Benjamin, Park, 1809–64, American editor and poet, a prominent sensational journalist of his day, b British Guiana As owner and editor of the *New England Magazine*, he merged it (1835) with the *American Monthly Magazine* of New York and became associate editor with C F Hoffman For a time he was literary editor of Greeley's *New Yorker*, but in 1839 he founded the *New World*, a weekly which ran until 1845. See biography by M M Hoover (1948)

Benjamin, Samuel Greene Wheeler, 1837–1914, American painter and author, b Greece, son of a missionary After graduation from Williams College, he attempted work in a library, then traveled extensively before establishing himself as a marine painter He wrote magazine articles on yachting and travel as well as on art He served (1883–85) as the first American minister to Persia and wrote two books on that country See his autobiography, *Life and Adventures of a Free Lance* (1914)

Benjamin-Constant, Jean Joseph, see CONSTANT, JEAN JOSEPH BENJAMIN

Benjamin of Tudela (tōōdā'lə), d 1173, Jewish traveler, b Tudela, Spain He traveled from 1159 to 1173, reaching China His account, *Massaoth Schel Rabbi Benjamin*, sheds light on the history of the Jews An English translation was published in 1840 as *Itinerary of Benjamin of Tudela*

Benkelman, village (pop 1,448), co seat of Dundy co, S Nebr., on the Republican near the Kansas line, in the Great Plains region, settled 1880. It is a trade center and has a fish hatchery

Benld (bĕnĕld', –ĕl') [for Ben L. Dorsey, founder], city (pop 2,444), SW Ill, NE of Alton, in a coal area, inc 1904

Benlliure y Gil, José (hōsā' bĕnlyōōr'ē ē hēl'), 1855–, Spanish history and genre painter, long a leader of the Spanish colony in Rome. Among his well-known paintings are *The Swashbuckler*, *Valley of Jehosaphat*, and *Vision in the Colosseum* His brother **Mariano Benlliure y Gil** (märēä'nō), 1862–, is a sculptor His portrait statues of GOYA, Ribera, and López del Haro are famous

Ben Macdhui or **Ben Muich-Dhui** (mäkdōō'ē), peak, 4,296 ft high, Aberdeenshire, Scotland, in the Cairngorm mts, second highest peak in Scotland

Benmore Head or **Fair Head,** rocky promontory, 636 ft high, Co. Antrim, Northern Ireland

Bennet, Henry: see ARLINGTON, HENRY BENNET, 1ST EARL OF.

Bennett, Arnold (Enoch Arnold Bennett), 1867–1931, English novelist, b. Staffordshire. He was educated at the Univ of London and studied for the bar, he turned to journalism, however, and became editor of the magazine *Woman*, from which he resigned in 1900 to devote himself to his own

writing. Bennett's best work is in the novels of the "Five Towns," the pottery-manufacturing district in which he was born *The Old Wives' Tale* (1908) and the trilogy *Clayhanger* (1910), *Hilda Lessways* (1911), and *These Twain* (1916) are naturalistic in style, building up a picture of the Five Towns in great detail. His lesser works include *The Grand Babylon Hotel* (1902); *The Grim Smile of the Five Towns* (1907), short stories, *The Card*, known in the United States as *Denry the Audacious* (1911), *Riceyman Steps* (1923), and *Imperial Palace* (1930). His writing for the stage brought forth two notable successes, *Milestones* (1912), written with Edward Knoblock, and *Buried Alive* (from which the moving picture *Holy Matrimony* was made), adapted from his novel written in 1923 See his journal (3 vols, 1932–33); Virginia Woolf, *Mr Bennett and Mrs Brown* (1924), an essay, biography by Dorothy Cheston Bennett (1935) and study by Georges Lafourcade (1939)

Bennett, Charles Edwin, 1858–1921, American classical scholar, b Providence, R I, grad Brown, 1878 After study at Harvard and in Germany he returned to the United States and from 1872 taught Latin at Cornell Univ His scholarly papers and his *Syntax of Early Latin* (2 vols, 1910–14) won him an international reputation, but his name was more widely known because of his textbooks, beginning with *A Latin Grammar* (1895) He also translated Horace and Frontinus

Bennett, Floyd, 1890–1928, American aviator, b near Lake George, N Y In 1925 he was assigned to accompany the Mac Millan expedition to NW Greenland as a member of the aviation detachment under Richard E Byrd With Byrd he made a number of notable flights from Greenland W over Ellesmere Land In 1926 Byrd and Bennett, the latter acting as pilot, made a nonstop flight from Spitsbergen to the North Pole and return, this being the first airplane flight over either pole. He was made second in command of Byrd's antarctic expedition and had taken charge of transportation arrangements when his career was cut short by death from pneumonia, contracted while flying to the relief of the stranded *Bremen* transatlantic flyers at Greenly Island See biography by his wife, Cora Bennett (1932)

Bennett, James Gordon, 1795–1872, American newspaper proprietor, b Keith, Scotland, educated at Blair's College, Aberdeen He came to America in 1819 and won a reputation as Washington correspondent of the New York *Enquirer* and later (1829–32) as assistant editor of the combined *Courier and Enquirer* He launched his New York *Herald* May 6, 1835, a new penny paper of four four-column pages His capital totaled $500 and his office was a Wall St cellar, yet in less than a year the paper sold almost 15,000 copies daily Bennett's innovations made the *Herald* a landmark in the history of American journalism in his brief editorials he criticized all political parties, he included new fields of news, notably that of Wall St finance, he played up crime and sensational news, he first (1838) established European correspondents for his paper, he first used the telegraph extensively in newspaper work, and he first used illustrations (drawings) for news articles The *Herald's* reputation for full and accurate news was at its height during the Civil War, when it spent $525,000 on war reporting See Oliver Carlson, *The Man Who Made News James Gordon Bennett* (1942).

Bennett, James Gordon, 1841–1918, American newspaper proprietor, b New York city, son of James Gordon Bennett (1795–1872) Educated mostly in France, Bennett in 1867 took over from his father the management of the New York *Herald* In 1867 also he founded the New York *Evening Telegram* as a separate venture For several decades he maintained the *Herald's* unrivaled reputation as a news gatherer In 1869–71 he financed Stanley's expedition into Africa to find David Livingstone, in 1879–81 he supported the ill-fated expedition of G W De Long to the arctic In international news and relations the *Herald* scored repeated triumphs Its staff of brilliant reporters was famous. After 1877 Bennett lived mostly in Paris, directing his newspapers by cable, and with John W Mackay he organized (1883) the Commercial Cable Company to handle European dispatches He established London and Paris daily editions of the *Herald*, the Paris paper was an unprofitable, sincere attempt to promote international good will Bennett was fond of sports, especially of yachting, and established the James Gordon Bennett cup as a trophy in international yacht races and similar cups for balloon and airplane races. See Don C. Seitz, *The James Gordon Bennetts* (1928).

Bennett, John Hughes, 1812–75, English physician and physiologist, M.D. Univ. of Edinburgh, 1837 He was professor at the Univ. of Edinburgh from 1843 to 1874 He described leukemia (1845) simultaneously with Virchow, advocated fresh-air treatment of pneumonia and the use of cod-liver oil in tuberculosis and other diseases, and wrote on medical subjects.

Bennett, Richard Bedford, 1870–1947, Canadian prime minister, b. Hopewell, N.B., educated at Dalhousie Univ. He represented Calgary in the House of Commons of the Canadian Parliament from 1911 to 1917 and served as minister of justice and attorney general in the first Meighen ministry (1921) and as minister of finance in the second Meighen ministry (1926) In 1927 Bennett succeeded Arthur Meighen as leader of the Conservative party; upon the defeat of the Liberals in 1930, he became prime minister At the imperial conference in London in 1930 he strongly urged a preferential tariff for the empire, at the conference held in Ottawa in 1932, over which he presided, his policy was partly adopted with the signing of 12 separate trade agreements of Great Britain with the dominions and of the dominions with one another With the defeat of his Conservative party in 1935, Bennett resigned as prime minister He was leader of the opposition until 1938, when he retired from politics and went to live in England In 1941 he was raised to the peerage as 1st Viscount Bennett of Calgary, of Mickleham, and of Hopewell

Bennett College see Greensboro, N C

Bennettsville, town (pop 4,895), co seat of Marlboro co, NE S C, NE of Columbia, laid out 1818 It is the trade and processing center for a cotton, tobacco, vegetable, and timber area and produces aircraft parts

Ben Nevis (bĕn'vĭs, nĕv'ĭs), peak, 4,406 ft high, Inverness-shire, Scotland, overlooking Glen Nevis, highest peak of Great Britain Ruins of an observatory are on the summit, from which there is an impressive view, especially on the northeastern side with its precipice of more than 1,450 ft

Bennewitz, Peter see Apianus, Petrus

Bennigsen, Rudolf von (rōō'dôlf fŭn bĕn'ĭksun), 1824–1902, German politician An ardent nationalist, he led the opposition in the Hanoverian parliament and in 1866 founded, with Eduard Lasker, the National Liberal party After 1871 he exercised considerable influence in the Reichstag and in the Prussian lower house

Bennington, town (pop 11,257), SW Vt, a co seat of Bennington co, chartered in 1749 as a New Hampshire town, the first W of the Connecticut, settled 1761 by Samuel Robinson It includes the villages of Bennington (pop 7,628), North Bennington (pop 992), and Old Bennington (pop 169) Old Bennington, now chiefly a resort village, was headquarters of the Green Mountain Boys A shaft over 300 ft. high commemorates the battle of Bennington (see Saratoga campaign) Other points of interest include the site of the first schoolhouse in Vermont, the site of William Lloyd Garrison's printing shop, the site of Catamount Tavern, meeting place of the Green Mountain Boys, marked by a sculptured catamount, Walloomsac Inn (1764), a historical museum, and the beautiful Old First Church (1806), restored in 1937 as a state monument Stoneware was made in Bennington from late in the 18th cent to late in the 19th cent, that produced by Christopher Fenton in the middle of the 19th cent is especially prized by collectors Bennington College (nonsectarian, for women), chartered in 1925 and opened in 1932, is at North Bennington It has a noted summer school of modern dance A leading experimental college, Bennington has self-dependent education without fixed general requirements The arts, literature, science, and social studies are featured In the winter there is a two-month field and reading period See John Spargo, *The Bennington Battle Monument* (1925) and *The Potters and Potteries of Bennington* (1926), B S Jones, *Bennington College* (1946)

Benno, Saint, d 1106, German prelate He was bishop of Meissen and an ardent supporter of Gregory VII against Henry IV, who had him deposed He was reinstalled on Gregory's death Luther was much displeased at the canonization (1523) of Benno St Benno is a patron of Munich Feast June 16

Beno (bē'nō) [Heb, =his son], Levite 1 Chron 24 26,27

Benois, Aleksandr Nikolayevich (ălyĭksän'dŭr nyĭkult'uvĭch bĕnŏā'), 1870–, Russian illustrator, scene designer, painter, and art critic He has written on Russian art He painted the scenery and wrote the scenarios for several ballets, of which Stravinsky's *Petrouchka* is the most important

Benoît de Sainte-More or **Benoît de Sainte-Maure** (bĕnwä' dŭ sĕt-môr'), fl 1175, French trouvère He was the author of the *Roman de Troie*, a romance in 301,000 verses based on Dares and Dictys. It became the source of medieval versions of the Trojan legend, notably the story of Troilus At the order of Henry II of England, Benoît undertook a rhymed *Chronique des ducs de Normandie*.

Benoni (bĕnō'nī) see Benjamin 1

Benoni, city (pop 74,170), S Transvaal, Union of South Africa, on the Witwatersrand. It is on a railroad and 16 mi E of Johannesburg There are heavy industries, including iron and brass foundries

Benozzo di Lese. see Gozzoli, Benozzo.

Bensenville, village (pop. 1,869), NE Ill, NW of Chicago, in a truck-farm area, inc 1894.

Benson, Arthur Christopher, 1862–1925, English writer, educated at Eton and at Kings College, Cambridge, eldest son of Archbishop Benson He was a master at Eton (1885–1903) and at Magdalene College, Cambridge (1915–25) His writings include essays, *From a College Window* (1902) and *The House of Quiet* (1904), critical studies, and biographies of his father and brother Hugh See his *Memories and Friends* (1924)

Benson, Edward Frederick, 1867–1940, English novelist, educated at Cambridge, third son of Archbishop Benson His novel *Dodo* (1893), the heroine of which was believed to be Margot Tennant later Countess of Oxford and Asquith, was the first of a number of popular books, which included the series about "Lucia." His several autobiographical writings include *Our Family Affairs* (1920), *As We Were* (1930), and *Final Edition* (1940)

Benson, Edward White, 1829–96, archbishop of Canterbury, educated at Trinity College, Cambridge He was appointed the first bishop of Truro (1877), and in 1882 he became archbishop of Canterbury Three of his four sons made literary reputations—A C Benson, E F Benson, and Robert Hugh Benson See biography by A C Benson (1899)

Benson, Egbert, 1746–1833, American political leader, b New York city, M A King's College (now Columbia), 1768 Benson was a figure of much local importance in New York in the period of the American Revolution, the Confederation, and the early republic He was first state attorney general and was also a judge and a lawyer of some repute He served in the Continental Congress and the later Congress and adopted Federalist principles Benson founded the New York Historical Society

Benson, Frank Weston, 1862–, American etcher and painter In 1889 he became instructor of the school of the Museum of Fine Arts, Boston Long a successful painter, Benson is represented in numerous museums and painted seven decorations in the Library of Congress He is best known as an etcher of highly popular sporting prints of ducks and duck hunting

Benson, Robert Hugh, 1871–1914, English writer and Roman Catholic priest, educated at Eton and at Cambridge, fourth son of Archbishop Benson He was converted to Roman Catholicism in 1903 and ordained the next year. In 1911, as a monsignor, he became privy chamberlain to Pope Pius X His novels include *By What Authority?* (1904) and *The Queen's Tragedy* (1905) He also wrote *Confessions of a Convert* (1913) See biographies by A C Benson (1915) and C. C Martindale (2 vols, 1916)

Benson, Stella, 1892–1933, English novelist, b Much Wenlock, Shropshire Her travels with her husband, John O'Gorman Anderson, are reflected in her writing Her books, widely read in America as well as in England, include *Goodbye, Stranger* (1926), *Tobit Transplanted* (1931, American title, *The Far-away Bride*, 1930), which won the Femina Vie Heureuse Prize in 1932, *The Little World* (1925) and *Worlds within Worlds*, travel sketches (1928), *Hope against Hope* (1931) and *Christmas Formula* (1932), short stories

Benson. 1 City (pop 2,729), co seat of Swift co, W Minn, on the Chippewa and E of Ortonville, platted 1870 for a railroad company, inc as a village 1877, as a city 1908 It is a shipping center for wheat, dairy products, and livestock **2** Town (pop 1,837), central N C, S of Raleigh, in a farm area, settled 1779, inc 1887 The town has lumber and cottonseed mills

Bent, Charles, 1799–1847, American frontiersman, b St Louis, educated at West Point He entered the fur trade of the Missouri and became one of the mountain men. His interests turned to the Southwest, and he led expeditions on the Santa Fe Trail Charles Bent was the senior partner of a trading firm that included Ceran St Vrain as well as William Bent and others of the seven Bent brothers The company was one of the most prominent on the frontier, and Bent's Fort was one of the most famous of American trading posts Because of his high standing, Charles Bent was chosen as governor of New Mexico after the American occupation in the Mexican War, but his great repute, bravery, and nobility of character did not prevent his being murdered at Taos in an uprising of Indians and Mexicans His wife was the sister-in-law of Kit Carson

Bent, James Theodore, 1852–97, English explorer and archaeologist, grad. Oxford, 1875 He studied local customs in the Aegean archipelago (1885–87) and engaged in archaeological research on the coast of Asia Minor (1888–89), the Bahrein Islands (1889), Cilicia Trachia (1890), Mashonaland (1891), Ethiopia (1893), and the Arabian peninsula (1893–97), where he mapped the Hadramaut region. He wrote *The Ruined Cities of Mashonaland* (1892), *The Sacred City of the Ethiopians* (1893), and *Southern Arabia, Soudan, and Sokotra* (1900)

Bent, William, 1809–69, American frontiersman, b St Louis One of the younger brothers of Charles Bent, he was for many years the manager of famous Bent's Fort, while Charles Bent lived mainly in Taos William Bent was one of the most widely known and highly respected traders in the West He greatly aided Stephen W. Kearny and Sterling Price in the conquest and pacification of New Mexico in the Mexican War. The generally ac-

cepted story says that with the decline of the Indian trade and the coming of the U S army, he tried to sell the fort to the U S government but, dissatisfied with the response of the government, blew it up Later he built a new fort farther down the Arkansas. After this was leased to the government in 1859, he became a rancher at the mouth of the Purgatoire river He is sometimes called the first permanent settler of Colorado

bent grass, any species of the genus *Agrostis*, chiefly slender, delicate grasses, many of which are cultivated for pasture, hay, lawn, and turf purposes Important kinds of bent grasses include redtop (sometimes called herd's-grass or florin), much used for forage and pasture, creeping bent, a lawn and putting-green grass that becomes established in a short time when stolons are planted and is useful in acid soil, and Rhode Island bent, a lawn and pasture grass The cloud grass (*Agrostis nebulosa*) is cultivated for use as an EVERLASTING

Bentham, George (bĕn'thm), 1800–1884, one of the greatest of English systematic botanists, nephew of Jeremy Bentham He wrote *Handbook of British Flora* (1858) and (with Hooker) *Genera Plantarum* (1862–83) and handbooks on the flora of several British possessions

Bentham, Jeremy, 1748–1832, English philosopher, jurist, political theorist, and founder of UTILITARIANISM Educated at Oxford, he prepared for the law, which he practiced briefly before devoting himself to the scientific analysis of the forms and operation of political institutions His discerning analyses, which showed the influence of Helvétius, won him recognition throughout the Western world His greatest work was his *Principles of Morals and Legislation* (1789), of which a second part *The Limits of Jurisprudence Defined*, was first published in 1945 Bentham's philosophy stems from two principles, the associationist psychology and the ethics of utilitarianism From them he arrived at a deterministic position in which he argued that legislation could be devised to bring men to virtue Though he was no strong advocate of liberty his belief in equality led him to political democracy and opposition to imperialism Bentham generally sided with the employing group in his economics and ceased to be considered even mildly radical as the government absorbed his major positions Bentham's utilitarianism held that the greatest good of the greatest number is the primary goal of social ethics Good is identified with happiness and happiness with pleasure He argued that self-interest is harmonious with the interest of the group and that each person, in pursuit of his own happiness, should strive for that of all Among his close friends he counted his fellow utilitarian, James Mill Other works by Bentham were *The Fragment on Government* (1776), *Defence of Usury* (1787), and *Theory of Punishment and Reward* (1801), See C W Everett, *The Education of Jeremy Bentham* (1931)

Bentinck, Lord George (bĕn'tĭngk, –tĭk), 1802–48, English statesman, whose full name was William George Frederick Cavendish Bentinck A wealthy landowner, an important figure in the world of horse racing, and a member of Parliament from 1828, he entered political strife only when he felt that Sir Robert PEEL, in favoring repeal of the corn laws, had betrayed his party and his class He and Benjamin DISRAELI led the protectionists in the conservative group in their fight against repeal

Bentinck, William see PORTLAND, WILLIAM BENTINCK, 1ST EARL OF

Bentinck, Lord William Cavendish, 1774–1839, British statesman in India He served in the Napoleonic Wars and was (1803–7) governor of Madras Going out as governor general of Bengal in 1827, he became the first governor general of British India (1833) when the functions of his office were extended Bentinck courageously introduced reforms in the interests of the people, he opened offices to natives, fostered communication and education, revised the system of landholding, abolished suttee, and destroyed the dreaded Thugs. See biography by D C Boulger (1892)

Bentinck, William Henry Cavendish: see PORTLAND, WILLIAM HENRY CAVENDISH BENTINCK, 3D DUKE OF

Bentivoglio (bān'tēvō'lyō), Italian noble family, which struggled with other families for BOLOGNA most of the 15th cent Its greatest member was GIOVANNI II, who was lord—in fact if not in name—from 1462 until 1506, when Pope Julius II took Bologna. He held a splendid court and beautified his city Cardinal Bentivoglio was a member of the family

Bentivoglio, Guido (gwē'dō bān'tēvō'lyō), 1579–1644, Italian diplomat and historian, cardinal (after 1521) of the Roman Church He was papal nuncio to Flanders and to France His history of the war in Flanders is reliable, and his memoirs and letters vividly picture his times

Bentley, John Francis, 1839–1902, English architect. He is noted for his design of Westminster Cathedral (Roman Catholic), London, an original and imposing structure in the Byzantine style, with vast, unobstructed nave and tall campanile He died at Clapham, with his designs for a proposed cathedral in Brooklyn, N.Y , unfinished.

Bentley, Richard, 1662–1742, English critic and philologist He was largely responsible for the high standards of textual criticism in the work of his many followers, and he is generally considered the greatest of English classical scholars His exposure of a 2d-century forgery, *The Epistles of Phalaris*, is his most celebrated work See biography by R C Jebb (1882)

Bentley, William, 1759–1819, American Unitarian clergyman, b Boston, grad Harvard, 1777 From 1783 until his death he was pastor of East Church, Salem, Mass His *Diary* (4 vols , 1905 -14), covering 1784–1819, is a valuable historical source

Bentleyville, borough (pop 3,428), SW Pa , SE of Washington, laid out 1816, inc 1868

Benton, Thomas Hart, 1782–1858, American statesman, b Hillsboro, N C , studied briefly at the Univ of North Carolina He moved to Tennessee in 1809, was admitted to the bar in 1811, and served (1809–11) in the state senate In 1815 Benton pushed on to St Louis, where he became editor of the *Missouri Enquirer*, established a thriving law practice, and won political prestige He entered the U S Senate on Missouri's admission to the Union in 1821 and was four times reelected, serving to 1851 He was the first Senator to hold office that long In Tennessee, Benton had been a personal enemy of Andrew JACKSON, who was wounded in a frontier brawl with Benton and his brother Jesse, but Benton and Jackson were reconciled in 1824 Thereafter the Missouri Senator was one of Jackson's stoutest supporters and a power in the administrations of Jackson and Martin Van Buren He played one of the most prominent parts in the successful war on the BANK OF THE UNITED STATES A rigid "hard money" man (he delighted in the sobriquet "Old Bullion"), Benton had the ratio of silver to gold revised from 15 to 1 to 16 to 1 in 1834 and thus brought gold into circulation again Congress defeated his resolution requiring that the public lands be paid for in hard money only, but Jackson immediately legalized the idea in an executive order (1836), the famous Specie Circular, which Benton himself drew up All these currency measures benefited the common man and limited the unwarranted privileges previously enjoyed by the business community, which despised Benton as heartily as it did Jackson and Van Buren Benton also supported all legislation which favored the development of the West and aided settlers—reduction in the price of government lands, suppression of land speculation, westward removal of the Indians, and internal improvements He advocated government support of Western exploration, with which he was intimately connected through the expeditions of John Charles FRÉMONT, who married one of his four daughters, Jessie Benton FRÉMONT The Oregon country especially interested him, and he protested the joint occupation with Britain Yet he insisted that the 49th parallel (the line established) was the only boundary the United States could rightfully claim and deplored the Democratic campaign slogan of 1844—"Fifty-four forty or fight" As to Texas, although he had protested the 1819 treaty with Spain as one in which the United States gave up its rights to that region, he could not acquiesce in the intrigues which led to the annexation of Texas and the Mexican War Benton had early come to favor the gradual abolition of slavery, and with the ascendancy of the proslavery Democrats he naturally lost influence in the party His antislavery sentiments ran counter to majority opinion in Missouri at that time, and with his opposition to the proslavery features of the Compromise of 1850 he was defeated for a sixth term However, he returned to Congress as a U S Representative (1853–55), but, having voted against the Kansas-Nebraska Bill in 1854, he was again defeated for reelection In 1856 he was also defeated for the governorship of Missouri He compiled *An Abridgment of the Debates of Congress from 1789 to 1856* (16 vols , 1857–61) and wrote the autobiographical *Thirty Years' View* (2 vols , 1854–56) Benton was a large man, physically and intellectually, with much personal charm Even his vanity was of such huge proportions that it was not resented See biographies by Theodore Roosevelt (1886), W. M. Meigs (1904), and J M Rogers (1905), A. M. Schlesinger, Jr , *The Age of Jackson* (1945)

Benton, Thomas Hart, 1889–, American painter, b Neosho, Mo , grandnephew of Sen Thomas Hart Benton and son of Congressman Maecenas E Benton Much of his youth was spent in Washington, D C At 15 he made sketches for the Joplin *American* In 1906 and 1907 he attended the Art Institute of Chicago and at 19 went to Paris, where he remained five years On his return to the United States, he designed movie sets, managed an art gallery, and continued to paint In 1918 he joined the navy During 1919 he traveled over the country making sketches of American types and occupations which later served him for his first mural commission at the New School for Social Research His work there, depicting phases of American industry, established his reputation Since then he has executed murals for the Whitney Museum, New York, the Indiana Building at the Century of Progress Exposition in Chicago (now in the Indianapolis War Memorial); the new Post Office Dept and Dept of Justice buildings, Washington, D C , and the Missouri statehouse in Jefferson City His easel paintings and lithographs are in many leading galleries Benton is noted for his dramatization of American themes and brilliant characterization of popular types His style is graphic, strong in color, and dynamic in its insistent use of rhythmic line He taught painting at Bryn Mawr, Dartmouth, the Art Students League, and the Kansas City Art Institute See his autobiographical *An Artist in America* (1937)

Benton. 1 City (pop 3,502), co seat of Saline co , central Ark , SW of Little Rock, founded c 1834 A railroad junction, it has furniture and pottery plants Bauxite mines are in the area A state hospital for nervous diseases is near by 2 City (pop 7,372), co seat of Franklin co , S Ill , inc 1841 It is a farm and coal-mining center 3 Town (pop 1,906), co seat of Marshall co , SW Ky , SE of Paducah It is in a rich farm area which grows principally strawberries, tobacco, and grain The Southern Harmony Singing Festival has been held here annually since 1884, "Tater Day," when farmers meet to buy their potatoes, is another yearly event 4 Town (pop 1,290), S Maine, bordered on the west by the Kennebec above Waterville and crossed by the Sebasticook, settled c 1775, inc 1842 as Sebasticook, renamed 1850

Benton Harbor, resort city (pop 16,668), SW Mich , on Lake Michigan at the mouth of the St Joseph and opposite St Joseph city, settled c 1840, inc as a village 1869, as a city 1891 Its temperate climate has made it the center of Michigan's fruit industry Canning and shipping of fruit and manufacture of metal products are important Mineral springs here have made Benton Harbor a popular health resort The House of David, a religious colony founded here in 1903, has numerous business and farm holdings Its rival, the Israelite City of David, is near by One of the city's landmarks is the municipal fruit market, said to be the nation's largest With St Joseph it has an annual Blossom Festival

bentonite see CLAY

Bentonville, city (pop 2,359), co seat of Benton co , extreme NW Ark , on the Ozark plateau, settled 1837 It ships poultry, dairy products, and apples from the environs and has hatcheries, feed mills, and a cheese factory Bella Vista, a resort, is near by, and mineral springs are in the area

Bent's Fort, one of the most noted trading posts of the American West, on the Arkansas river in present SE Colorado, E of Rocky Ford and La Junta and some miles above the mouth of the Purgatoire The trading company headed by Charles Bent and Ceran St Vrain, one of the most successful in the West, also included William Bent and two other Bent brothers They had their first post in the neighborhood in 1826 and settled upon this site in 1828 The fort, often called Bent's Old Fort, was completed in 1832 Because William Bent was the manager and chief trader in all the years of its prosperity, it is also sometimes called Fort William Within its adobe walls came all the famous mountain men of the later period, for the fort on the mountain branch of the Santa Fe Trail came to dominate the trade of all the Indian tribes S of the Black Hills—not to mention the trade of the Mexicans and the arriving Americans Kit Carson was a hunter here from 1831 to 1842 S W Kearny and Sterling Price each briefly used the fort for their troops in the Mexican War The generally accepted story says that the Indian trade fell off and William Bent attempted to sell the fort to the U S government, he reached no satisfactory conclusion and in anger abandoned the fort and set the powder in it on fire, partially destroying it In any case the fort was abandoned by 1852 William Bent erected a new establishment farther down the Arkansas in 1852 or 1853 This (Bent's New Fort) he leased to the government in 1859 It was soon afterward destroyed by flood and was replaced by a new army fort

Benue (bān'wā), river, c 870 mi long, N Nigeria, the chief tributary of the Niger It flows W from the French Cameroons to the Niger at Lokoja In the rainy season the lower course is navigable

Benwood, steel-manufacturing city (pop 3,608), W Va , in the Northern Panhandle near Wheeling, in a mining region; chartered 1853

Benz, Karl (bĕnts), 1844–1929, German engineer, credited with building the first automobile powered by an internal-combustion engine The car, driven in Mannheim in 1885 and patented in 1886, had three wheels, an electric ignition, and differential gears and was water-cooled See St J C. Nixon, *The Invention of the Automobile* (*Karl Benz and Gottlieb Daimler*) (1936).

benzaldehyde see ALDEHYDE.

benzedrine, drug used to stimulate the higher nerve centers, particularly the cortex of the brain. Because of its toxic effects and its stimulant action on the central nervous system, it should be used only on prescription.

benzene (bĕn'zēn, bĕnzēn') or **benzol** (ben'zōl,–zŏl), colorless liquid with a pleasant aromatic odor,

boiling at 80.1°C. and solidifying at 5.48°C. It should not be confused with benzine, an entirely separate substance. Benzene is a compound of hydrogen and carbon, its molecule consisting of six atoms of each element with the carbon atoms arranged, according to Kekulé, in a hexagonal ring called the benzene ring or benzene nucleus To this ring are attached the six hydrogen atoms, one to each of the six carbon atoms This compound is the first in a series of aromatic hydrocarbons, called the **benzene series**, all of which are obtained by the destructive distillation of coal tar, as a by-product in the manufacture of coke, and each of which contains a benzene ring in its structural formula The other members of the series have in their molecules twice as many hydrogen atoms less six as there are carbon atoms Besides benzene the series includes TOLUENE, from which TRINITROTOLUENE (TNT) is derived, and XYLENE, a solvent Benzene is used in the manufacture of dyes and explosives and as a solvent for certain organic substances, such as fats and resins It is chiefly important because of substances derived from it Phenol, or CARBOLIC ACID, is formed when one hydroxyl (OH) group of atoms replaces one of the hydrogen atoms attached to the central benzene ring Phenol subjected to a series of nitrations (reactions resulting in the addition of nitrogen and oxygen) yields trinitrophenol, or PICRIC ACID Nitrobenzene, another derivative, when reduced yields ANILINE Benzene and the other aromatic hydrocarbons are widely used in the manufacture of many synthetic drugs and perfumes and of certain lacquers

benzine (bĕn'zēn, bĕnzēn'), colorless, highly inflammable liquid It is used widely as a cleaning agent because of its power as a solvent for organic substances such as fats, oils, and resins and is used also in the preparation of certain dyes and paints It should not be confused with benzene Benzine is a mixture of hydrocarbons, chiefly those of the METHANE SERIES (or paraffin series) such as pentane and hexane It is obtained by the fractional distillation of PETROLEUM Its vapors, when mixed with air, are extremely explosive

benzoate of soda see SODIUM BENZOATE

Ben-zoheth (–zō'hĕth), Judahite 1 Chron 4 20

benzoic acid (bĕnzō'ĭk), solid, crystalline, organic ACID, melting at 122°C and boiling at 249°C It is used in medicine as an antiseptic, in the laboratory as the starting point for many organic syntheses, and commercially in the preparation of many dyes It is usually prepared commercially from toluene

benzoin (bĕn'zoin, –zōĭn), balsamic RESIN, the dried exudation from the pierced bark of various species of the benzoin tree (*Styrax*) native to Sumatra and Java, appearing as red-brown to yellow-brown tears Because of its fragrant odor it is used in perfumery and sometimes in incense The benzoic acid present in it gives it value in medicine as an antiseptic, a diaphoretic, and a stimulant and, in certain respiratory diseases, as an inhalant (see FRIAR'S BALSAM) Among the several varieties are Siam benzoin and Sumatra benzoin Siam benzoin is considered finer, since it has a high content of benzoic acid, Sumatra benzoin contains cinnamic acid

benzol see BENZENE

Beograd, Yugoslavia see BELGRADE.

Beon (bē'un) see BETH-BAAL-MEON

Beor (bē'ôr) [Heb ,=burning] **1** Father of Balaam Num 22 5 Bosor 2 Peter 2 15 **2** Father of BELA **1**

Beowulf (bā'ŭwōlf), oldest English epic, probably composed in the early 8th cent by an Anglian bard in the vicinity of Northumbria It survives in only one manuscript, written A D c 1000 by two scribes and preserved in the British Museum in the collection of Sir Robert Cotton The materials for the poem are derived mainly from Scandinavian history, folk tale, and mythology Its narrative consists of two parts the first relates the hero's successful fights with the water monster Grendel and with Grendel's mother, the second narrates Beowulf's victory in his old age over a dragon and his subsequent death and funeral at the end of a long life of honor These events take place entirely in Denmark and Sweden The poem contains a remarkable fusion of pagan and Christian elements and provides a vivid picture of old Germanic life It is written in a strongly accentual, alliterative verse For translations into modern English in the original verse form, see F B Gummere, *The Oldest English Epic* (1909) and C W Kennedy, *Beowulf* (1940), see also W W Lawrence, *Beowulf and Epic Tradition* (1928)

bequest. see WILL

Bera (bē'ra), king of Sodom Gen 14 2.

Berachah (bĕra'kŭ) [Heb ,=blessing] Beracah RV. **1** One who joined David at Ziklag 1 Chron 12 3. **2** Valley, N of Hebron, running roughly east-west. 2 Chron 20 26

Berachiah (bĕr"ākī'u), variant form of BERECHIAH.

Berachya ben Natronai ha-Nakdan see BEREKHIAH.

Beraiah (bĕr"ī'ŭ) [Heb ,=whom I created], Benjamite 1 Chron 8 21.

Béranger, Pierre Jean de (pyĕr' zhā' dŭ bārāzhā'), 1780–1857, French lyric poet ' He was a protégé of Lucien Bonaparte and numbered among his friends some of the most eminent men of his day His first collection of songs, published in 1815, was immediately popular For the republican views expressed in later poems he was twice imprisoned Successive collections of his verse appeared in 1821, 1825, 1833, and 1838 He owed his wide popularity largely to the fact that, like Burns, he fitted his verse to popular melodies, and as he used his poems largely to express republican and Bonapartist ideas, his influence was great Criticism is divided as to his rank as a poet, but Goethe and Heine admired him Some of his most popular pieces are "Le Roi d'Yvetot," "Ce n'est plus Lisette," "Le Grenier," and "Le Dieu des bonnes gens " See translations of his works by William Walsh (1889) and Béranger's autobiography (1857)

Berar, India see MADHYA PRADESH

Berat (bĕrät'), town (pop 11,872), S central Albania In a fertile district, probably on the site of ancient Antipatrea, it fell to the Serbs in 1345, and to the Turks in 1440 A citadel, rebuilt by the Byzantines in the 13th cent, overlooks the town, which has a 15th-century mosque and several old churches

Berbera (bûr'bŭrŭ), city (pop c 15,000), capital of British Somaliland, a port on the Gulf of Aden It was occupied in 1875 by the Egyptians and in 1884 by the British

Berbers, aboriginal peoples of North Africa They inhabit the lands between the Sahara and the Mediterranean, from Egypt to the Atlantic coast The now extinct Guanches of the Canary Islands were related to them Except for the TUAREG, who are nomads, they are relatively simple agriculturists with warlike tendencies, living under a loose tribal organization in independent villages They have developed many local industries The native languages are of the Hamitic group, but many speak Arabic, the language of their religion, Islam Despite a history of conquests, they have retained a remarkably homogeneous culture, which, on the evidence of Egyptian tomb paintings, derives from earlier than 2,400 B C Their successful administration under French government has largely depended on the extent to which their own culture and regulations have been respected See D P Barrows, *Berbers and Blacks* (1927), C S Coon, *Tribes of the Rif* (1931).

Berbice: see GUIANA

Berceo, Gonzalo de (gônthä'lō dā bĕrthā'ō), 1180?–1247?, Spanish medieval poet, the earliest whose name is known in Spanish literature, b Berceo, a village of Castile A religious in a Benedictine monastery, he wrote many books, chiefly devotional in character and dealing with the life of saints His devotion for the Virgin is expressed in the 25 poems entitled *Milagros de Nuestra Señora* [miracles of Our Lady]

Berchem or **Berghem, Nicolaes** (or **Claes) Pieterszoon** (both nē'kōlas pē'tursōn bĕr'khum), 1620–83, Dutch painter and etcher He was particularly adept in rendering sunshine and atmospheric effects, and his landscapes were popular *Rest*, a typical example, is in the Metropolitan Museum

Berchem (bĕr'khŭm), industrial suburb (pop 44,491) of Antwerp, Belgium

Berchet, Giovanni (jōvän'nē bĕrkĕt'), 1783–1851, Italian patriot and poet He conspired to free Lombardy from Austria and was exiled He wrote stirring patriotic ballads of a romantic type and rhymed romances, such as *Giulia* and *Matilde*

Berchtesgaden (bĕrkh'tūsgn"dun), winter and summer resort (pop 5,752), S Bavaria, in the Bavarian Alps At the foot of the near-by Obersalzberg is the Berghof, Hitler's residence, which was the unofficial capital of the Third Reich Atop the mountain, connected with the Berghof by an elevator, was Hitler's private retreat

Berchtold, Leopold, Graf von (lā'ōpōlt graf fŭn bĕrkh'tōlt), 1863–1942, Austro-Hungarian foreign minister (1912–15) After the assassination (June 28, 1914) of Archduke FRANCIS FERDINAND at Sarajevo he directed the reckless policy which precipitated the First WORLD WAR Although Serbia made a conciliatory reply to his harsh ultimatum, Berchtold pressed for full acceptance, he probably even magnified a border incident in order to secure Emperor Francis Joseph's signature to the declaration of war on Serbia See S B Fay, *The Origins of the World War* (1928)

Berdichev (bĕrdyĕ'chuf), city (pop 66,306) W Ukraine Founded in 1482, it became a trade center in the late 18th cent and now has sugar refineries, tanneries, machine shops, and flour mills

Berdyaev, Nicholas (bĕrdyī'uf), 1874–1948, Russian Orthodox religious philosopher, b Kiev He early rejected the social and economic mores of his elders and espoused Marx's equalitarian views Berdyaev emphasized the supreme need of the human spirit to seek the suprasensual and God and the concomitant importance of eschatology in lending meaning to individual experience and to history " He was driven into exile from the USSR in 1922 Among his works are *The End of Our Time* (Eng. tr., 1933), *The Destiny of Man* (Eng. tr., 1937), *Slavery and Freedom* (Eng tr , 1943), and *The Russian Idea* (Eng tr., 1948)

Berdyansk see OSIPENKO, Ukraine

Berea or **Beroea** (both bĕrē'u), Greek name of three places mentioned in the Bible **1** Bivouac of the Syrian army, near Jerusalem 1 Mac 9 4 **2** See VERGIA, Macedonia **3** See ALEP, Syria

Berea (burē'ŭ) **1** Town (pop 2,176), central Ky , SSE of Lexington, The Churchill Weavers here are noted for their hand-woven products Berea College (nonsectarian, coeducational), opened in 1855 by John G FEE as a school, was chartered in 1866 and became a college in 1869 The school owns and the students operate the town utilities, a press, a tavern, and various manufactories Crafts such as woodwork, weaving, sewing, and broommaking are taught, and the products sold The college provides extension services and an opportunity school for the mountain people of E Kentucky There are lower schools and a nursing school The campus includes extensive farm and forest lands See W G Frost, *For the Mountains* (1937) **2** City (pop. 6,025), NE Ohio, near Cleveland, settled 1809, inc 1850 Berea has stone quarries It is the seat of Baldwin-Wallace College (Methodist, coeducational, 1845)

Bereans or **Beroeans** (both burē'ŭnz) [Acts 17 10, 11], members of a religious sect, now almost extinct, formed in Scotland c 1773 Their name indicates their emphasis upon the Scriptures The founder was John BARCLAY, and his followers are sometimes known as Barclayites

Berechiah (bĕr"ukī'u) [Heb ,=God will bless] **1** Son of Zerubbabel 1 Chron 3 20 **2** Father of MESHULLAM **5** **3,4** Levites, perhaps the same person 1 Chron 9 16, 15 23 **5** Important Ephraimite 2 Chron 28 12 **6** Father of Asaph the psalmist 1 Chron 15 17 Berachiah 1 Chron 6 39 **7** Father of Zechariah the Minor Prophet Zech 1 1,7 In Mat 23 35 the name Barachias is probably a textual insertion, for the Zechariah being referred to is almost certainly ZECHARIAH **2**, not Zechariah the Minor Prophet

Bered (bē'rĕd) [Heb ,=hail] **1** Unidentified place, S Palestine Gen 16 14 **2** See BECHER **2**

Berekhiah ben Natronai ha-Nakdan (bĕrukī'ŭ bĕn nutrōnī' hänäk'dän), 12th or 13th cent , Jewish fabulist, biblical commentator, philosopher, grammarian, and translator His first name also appears as Berachya He is best known for his collection of fables in rhymed prose Another work attributed definitely to him is *Sefer Masrif* (Eng tr by Sir Herman Gollancz, *The Ethical Treatises of Berachya*, 1902)

Berengar II (bĕ'rĭng-gur), d 966, marquis of Ivrea In 950 he made himself and his son joint kings of Italy, but his great unpopularity and his designs on ADELAIDE brought about the intervention (951) of OTTO I of Germany Berengar swore fealty to Otto (952) Later, however, he ravaged Italy and intrigued with Pope JOHN XII against Otto, who captured and imprisoned him in 963

Berengaria (bĕ"rĭng-gā'rēu), d c 1230, queen consort of Richard I of England, to whom she was married in 1191 She was the daughter of Sancho VI of Navarre

Berengar of Tours (bĕ'rĭng-gūr), c 1000–1088, French theologian, also called Bérenger and Berengarius, b Tours He was archdeacon of Angers (c 1040–1060) He studied at Chartres and returned to Tours to become head of the cathedral school Berengar gradually evolved a dialectic concerning the Eucharist in which he held a nominalist viewpoint similar to that of ERIGENA, but he probably did not deny the Real Presence His denial of authority angered his contemporaries, particularly LANFRANC Berengar was defended by Pope GREGORY VII and Peter Damian He wrote a reply to Lanfranc, *De Sacra Coena*, which was condemned He was declared a heretic See A J Macdonald, *Berengar and the Reform of Sacramental Doctrine* (1930)

Berenice (bĕrunī'sē), fl c 325 B C , consort of Ptolemy I, king of ancient Egypt A Macedonian, she was the widow of one of the officers of Alexander the Great as well as half sister of Ptolemy and cousin of his wife Eurydice She accompanied Eurydice to Egypt and soon supplanted her in the affections of Ptolemy Berenice, whose portrait appears with that of Ptolemy on many medals, was the mother of Ptolemy II

Berenice, d 221? B C , queen of ancient Egypt. She was the daughter of King Magas of Cyrene Objecting to her mother's choice of a husband for her after her father's death, Berenice led a successful revolt and put her mother and her suitor to death She married Ptolemy III in 247 B C Legend has it that her hair, offered for her husband's safe return from war, became a constellation, Berenice's Hair (*Coma Berenices*) After her husband's death she was joint ruler with their son, Ptolemy IV, until he had her murdered Despite the murder, he had a special priestess in Alexandria appointed to honor her

Berenice, d 246 B C , queen of Antiochus II of ancient Syria, called Berenice Syra She was the daughter of Ptolemy II, and her marriage to Antiochus marked a temporary cessation in the wars

between the Egyptian monarchs and the Seleucids. On the death of Antiochus II, however, Seleucus II, his son by Laodice, whom he set aside for Berenice, seems to have brought about (with his mother) the death of Berenice and her infant son before Berenice's brother, Ptolemy III, could arrive. New war resulted.

Berenice, fl. 6 B C , Jewish princess, daughter of Costobarus and Salome, sister of Herod the Great She was married to her nephew Aristobulus and bore him a son, Herod Agrippa I She was accused of having instigated the death of her husband at the hands of Herod the Great in 6 B C Later she married Theudion, the maternal uncle of Herod the Great After Theudion was put to death for plotting against Herod, she married Archelaus and settled in Rome

Berenice, d A D c 28, Jewish princess, daughter of Herod Agrippa^I She was very beautiful and consequently was involved in much intrigue. After her first husband died, she was married to her uncle Herod of Chalcis After his death she lived with her brother, Herod Agrippa II, causing some scandal Her third husband was Polemon, a king in Cilicia, whom she abandoned, returning to Herod Agrippa II. It was before her and Agrippa that Paul appeared at Caesarea In the struggle between Rome and Judaea both she and her brother espoused the Roman cause She attracted the attention of Titus, and after the destruction of Jerusalem he apparently planned to marry her. The great unpopularity of the Jews with the Romans forced him to withdraw from the match. This is the theme of Racine's *Bérénice*

Berenice, city of ancient Cyrenaica: see BENGASI

Berenice, city of ancient Egypt, on the Red Sea. It was founded by Ptolemy II and commanded the trade with Arabia

Berenson, Bernard (bĕ'rĭnsŭn), 1865–, American art critic, authority on Italian art, b Lithuania, grad Harvard, 1887 He lived near Florence, Italy, making frequent trips to America His publications include *Venetian Painters of the Renaissance* (1894), *Lorenzo Lotto* (1895), *Florentine Painters of the Renaissance* (1896), *Central Italian Painters of the Renaissance* (1897), *Study and Criticism of Italian Art* (3 series, 1901, 1902, 1915), *Drawings of the Florentine Painters* (1903), *North Italian Painters of the Renaissance* (1907), *Venetian Painting in America* (1916), *Sunese Paintings* (1918), *Medieval Art* (1930), and *Aesthetics and History in the Visual Arts* (1949)

Beresford, William Carr Beresford, Viscount (bĕr'ĭs-, -ĭz-), 1768–1854, British general He won popularity while serving in Egypt (1801–3) and participated in the capture of Cape Colony (1806) Under the orders of Sir Home POPHAM, he captured Buenos Aires (June 27, 1806), later he capitulated to Jacques de LINIERS Beresford occupied Madeira (1807) and for a time was governor of the island Joining Sir Arthur Wellesley (later duke of Wellington) in Portugal (1808), he successfully reorganized the Portuguese army and was prominent throughout the PENINSULAR WAR Returning to England, he entered politics and was master general of ordnance in Wellington's first cabinet from 1828 to 1830, when he retired

Beresford, city (pop 1,642), SE S Dak , S of Sioux Falls near the Iowa line It is a trade center in a grain and poultry region

Berezina (bĕrĕzē'nŭ), river, 365 mi. long, Belorussia. Rising near the Lithuanian border, it flows S past Borisov and Bobruisk into the Dnieper It is navigable for 330 mi The Beresina Canal (built 1798–1805) connects it with an affluent of the Western Dvina, thus linking the Baltic with the Black Sea Near Borisov took place (Nov 26–29, 1812) the heroic retreat across the Berezina of the remnants of Napoleon's Grand Army. Despite the loss of more than 20,000 men, the crossing—effected under heavy Russian attacks—saved Napoleon and his forces from capture.

Berg, Alban (äl'bän bĕrk'), 1885–1936, Austrian composer. In his *Lyric Suite* (1926) for string quartet, he employs the 12-tone technique invented by his teacher, Arnold SCHÖNBERG Berg's works have sometimes been received with the same violent demonstrations that have attended performances of some of Schönberg's music The opera *Wozzeck* (Berlin, 1925) attained considerable success, he left unfinished his highly erotic *Lulu* (Zurich, 1937) His Violin Concerto (Barcelona, 1936) was his last completed work Berg owes much to the Viennese romantic tradition There are lyricism and solidity of form in his works See Nicolas Slonimsky, *Music since 1900* (1937); David Ewen, *The Book of Modern Composers* (1942).

Berg (bĕrk), former duchy, W Germany, on the eastern bank of the Rhine between the Ruhr and Sieg rivers Düsseldorf was its chief city. Originally a county, it passed (1348) to the dukes of JÜLICH and in 1380 was made a duchy On the failure of the Jülich line it passed (1524) to John III of Cleves (see CLEVES, DUCHY OF). In 1666 it was annexed by the Palatinate-Neuburg branch of the house of WITTELSBACH Ceded by Bavaria to France in 1806, Berg was raised to a grand duchy by Napoleon I in favor of Joachim Murat. The Congress of Vienna assigned (1815) the duchy to Prussia.

Bergamo (bĕr'gämō), city (pop. 73,584), capital of Bergamo prov , Lombardy, N Italy, picturesquely located in the Alpine foothills. Anciently a Gallic town, it was an independent commune in the 12th cent Later it came under the rule (1329–1427) of the VISCONTI and then of Venice until 1797, when it was included in the Cisalpine Republic Within the walls of the old hilltop town are the Romanesque cathedral (12th cent), the beautiful Renaissance Colleoni chapel, and the baptistery In the modern city on the plain below cotton, wool, and silk textiles are made. Bergamo, the birthplace of Donizetti, has a fine musical tradition

bergamot (bûr'gəmŏt) [from Bergamo, Italy], citrus tree (*Citrus bergamia*) grown chiefly in Italy. From the rind of the bergamot orange is extracted an essential oil used in perfumes and eau de Cologne Various American plants of the mint family are called bergamot because of their bergamotlike fragrance Chief among these is *Monarda fistulosa*, or wild bergamot, closely related to the OSWEGO TEA, which it resembles The name bergamot is also applied to a variety of pear

Berge, Edward (bûr), 1876–1924, American sculptor He is noted for his graceful garden figures and fountains and for his public monuments which are to be seen in his native Baltimore and in Charleston, S C , and Prince George, Md His *Pietà* (St Patrick's Church, Washington, D C.) is characteristic of his more formal work

Bergen (bûr'gun, Nor bär'gün), city (pop 109,320), co seat of Hordaland co , SW Norway, on the Vagen (Nor *Vågen*=the bay) and on the Pudde Fjord—both inlets of the North Sea. It is the main shipping center and the second largest city of Norway Founded (c.1070) as Bjorgvin by Olaf III, Bergen soon prospered as an export center (handling chiefly codfish) and became the largest city of medieval Norway The Norwegian kings made it their main residence As an episcopal see and as seat of numerous monasteries it had cultural as well as economic importance Foreign, especially German, merchants acquired (13th and 14th cent) increasing trading privileges, and the HANSEATIC LEAGUE created (c 1350) one of its four great foreign establishments at Bergen The Hansa merchants, enjoying extraterritorial privileges, imposed their unpopular rule on the city until 1560 In 1395 Bergen was sacked by pirates. During the disturbances accompanying the Reformation most of the ancient churches and monasteries were destroyed The center of the city was rebuilt after a severe fire in 1916 In the Second World War the German naval installations were heavily bombed Bergen is built on a high promontory, guarded by two fortresses Its ancient buildings are mostly restorations, these include Haakon's Hall, a 12th-century palace, the cathedral (13th cent), a 12th-century church; and the Rosenkrantz Tower (16th cent.), which overlooks the formerly walled Hanseatic quarter Bergen has a university and several scientific institutes and museums Its theater, founded by Ole Bull, gained international importance through its association with Ibsen and Bjornson. Edvard Grieg was born here

Bergen, N J . see JERSEY CITY

Bergenfield (bûr'gunfēld), borough (pop 10,275), NE N.J , NE of Hackensack, inc 1894 Its Old South Church was built in 1799

Bergen op Zoom (bĕr'gun ŏp zōm'), municipality (pop 28,234) and town, North Brabant prov., SW Netherlands, a commercial and fishing port on the Eastern Scheldt (an arm of the North Sea) Once strongly fortified, it was repeatedly besieged by the Spanish and the French in the wars of the 16th–18th cent and by the English in 1814 There are several ancient buildings, notably the town hall (14th cent), a 15th-century church (*Groote Kerk*), and the Markiesenhof palace

Berger, Victor Louis, 1860–1929, American Socialist leader and Congressman, b Austria-Hungary After study at the universities of Budapest and Vienna, he came (1878) to the United States and settled in Milwaukee After 1892 he devoted himself to Socialist politics and journalism, editing the Milwaukee *Vorwärts!* (1892–98) and a weekly which became (1911) the influential Milwaukee *Leader*. In opposition to the policies of Samuel GOMPERS and the A F of L he, with Eugene V DEBS, pioneered in creating the American Socialist party His leadership brought (1910) the Socialists control of Milwaukee for many years and made him the first Socialist member of Congress (1911–13) Reelected twice (1918, 1919), he was twice excluded by Congress on grounds of sedition, for which he was sentenced to a 20-year prison term The decision was reversed by the U S Supreme Court in 1921 He was allowed to take his seat when reelected in 1922 and continued in the House until his death *Voice and Pen* (1929) is a collection of his speeches and editorials.

Bergerac, Cyrano de see CYRANO DE BERGERAC.

Bergerac (bĕrshürăk'), town (pop. 17,014), Dordogne dept., SW France, in PÉRIGORD, on the Dordogne. Bergerac processes wines and luxury foods.

Bergerat, Émile (Auguste Émile Bergerat) (ōgüst' āmēl' bĕrshürä'), 1845–1923, French journalist and dramatist. In addition to many articles for *Figaro* under the pseudonym Caliban, he wrote the plays *La Nuit bergamasque* [Bergamasque night] (1887), *Le Capitaine Fracasse* (1896), and *La Fontaine de jouvence* [the fountain of youth] (1906), *Souvenirs d'un enfant de Paris* (1911–13); and a biography (1877) of Gautier, his father-in-law.

Bergey, David Hendricks (bûr'gē), 1860–1937, American bacteriologist, b. Montgomery co , Pa , M.D. Univ. of Pennsylvania, 1884. He was associated with the Univ. of Pennsylvania from 1896 until his retirement in 1932 In 1931 he became director of research in biology for the National Drug Company. He wrote *Handbook of Practical Hygiene* (1899) and *The Principles of Hygiene* (1901) and was chairman of the editorial committee for the *Manual of Determinative Bacteriology*, first published in 1923 and revised at intervals

Bergh, Christian (bûrg), 1763–1843, American shipbuilder, b. near Rhinebeck, N Y. He opened a shipyard on the East River in New York city and there built a number of vessels for the U.S. navy His ships, especially the frigate *President*, gained fame in the War of 1812, and after the war he built some of the swiftest packet ships on the sea

Bergh, Henry, 1811–88, American philanthropist, son of Christian Bergh. In 1866 he founded the American Society for the Prevention of Cruelty to Animals, the first such organization in the country He later succeeded in having passed a state law for the protection of animals In 1875 Bergh helped Elbridge T GERRY establish the Society for the Prevention of Cruelty to Children See Zulma Steele, *Angel in Top Hat* (1942).

Berghem, Nicolaes Pieterszoon: see BEECHEM, NICOLAES PIETERSZOON

Bergholz (bûr'gōlz), village (pop 1,122), E Ohio, NW of Steubenville; settled 1885, inc 1906

Bergius, Friedrich (frād'rĭkh bĕr'gēōōs), 1884–1949, German chemist. As chairman of the board of the Holshydrolyse Aktiengesellschaft he contributed to the synthetics (ersatz) industry He devised processes for transforming bituminous coal into liquid fuel (by hydrogenation under high pressure) and wood into sugar (by hydrolysation of cellulose with concentrated hydrochloric acid) With Carl Bosch he shared the 1931 Nobel Prize in Chemistry, awarded to them for their work in devising and developing chemical high-pressure processes for producing essential products

Bergman, Torbern Olof (tôr'bürn ōl'lôv bĕr'yümän), 1735–84, Swedish chemist, physicist, and naturalist A professor at the Univ. of Uppsala from 1758, he developed a theory of chemical affinity, made improvements in the methods of chemical analysis (especially blowpipe analysis) and in the classification of rocks, and did important research in crystallography He wrote *A Dissertation on Elective Attractions* (1775, Eng tr , 1785). His collected works, *Essays, Physical and Chemical*, appeared in six volumes (1779–81, Eng tr , 1791)

Bergmann, Ernst von (ĕrnst' fun bĕrg'män), 1836–1907, German surgeon, b Riga He became professor at the Univ of Berlin in 1882 He contributed to the modern practice of asepsis in surgery by introducing (1886) steam sterilization of instruments and dressings

Bergognone see BORGOGNONE

Bergson, Henri (äNrē' bĕrgsôN'), 1859–1941, French philosopher He became a professor at the Collège de France in 1900 Bergson devoted some time to politics and, after the First World War, took an interest in international affairs He is well known for his brilliant and imaginative philosophical works, which won him the 1927 Nobel Prize in Literature. Among his works which have been translated into English are *Time and Free Will* (1888), *Matter and Memory* (1896), *Laughter* (1901), *Introduction to Metaphysics* (1903), *Creative Evolution* (1907), *The Two Sources of Morality and Religion* (1935), and *The Creative Mind* (1934). Bergson's philosophy is dualistic—the world contains two opposing tendencies, life and matter Life climbs, creates, and is the dynamic *élan vital* which struggles for richness and complexity through and beyond matter Matter is clinging and clogging, the congealed results of creation, and is ever moving downgrade in the dissipation of eroding natural law Men know matter through the intellect which is, in fact, attuned to matter as a tool for handling it Intellect sees matter in extended geometrical space and in divisible marked-off time It formulates the doctrines of science and sees things as entities set out as separate units within the stream of becoming Set above intellect is intuition which derives from the instinct of lower animals. Intuition gives us an intimation of the life force which pervades all becoming. Intuition perceives the reality of time—that it is duration directed in terms of life and not divisible or measurable Duration is demonstrated by the phenomena of memory. See H. W. Carr, *The Philosophy of Change* (1914); H. M. Kallen, *William James and Henri Bergson* (1914), Ben-Ami Scharfstein, *Roots of Bergson's Philosophy* (1943).

Bergstrand-Poulsen, Elisabeth (bĕr'yûstrănd-poul'sun), 1887–, Swedish artist and writer Her paintings hang in several Swedish museums Since 1926 she has written and illustrated a number of books which depict provincial life Among her books are *The Crown* (1937, Eng tr., 1939) and *Man and the Hells* (1939)

Berhampore (bûr'ŭmpôr'), town (pop 41,558), N West Bengal state, India Here occurred the first uprising in the Sepoy Rebellion of 1857

Berhampur (bûr'ŭmpŏor') town (pop 43,536), SE Orissa state, India Silks and sugar are the principal products

Beri (bā'rī) [Heb ,=my fountain], Asherite 1 Chron 7 36

Beriah (bĕr'ŭ). **1** Son of Asher, eponym of the Berites Gen 46 17, Num 26 44,45, 1 Chron 7 30 **2** Son of Ephraim 1 Chron 7 23 **3** Benjamite 1 Chron. 8 13,16 **4** Levite 1 Chron 23 10,11

beriberi (bĕ'rĭbĕ'rē), disease of malnutrition, common in the Orient and more widespread in the Western Hemisphere than was formerly supposed The disease, which affects the nervous system and causes damage to many organs, may in extreme cases result in paralysis and death It is caused by an unbalanced diet with a low vitamin B content In the Orient, individuals who developed beriberi after a monotonous diet of polished rice were cured on being fed the rice polishings A properly balanced diet containing the whole grain of rice, wheat, or corn will prevent the symptoms of the disease Treatment consists of the administration of vitamin B, orally or by injection

Bering, Vitus Jonassen (vē'tŏos yō'nasŭn bā'rĭng), 1681–1741, Danish explorer in Russian employ. Called to command in the Russian navy, he resigned in 1724 but was persuaded by Peter I in 1725 to accept an appointment to explore far NE Siberia Having finally got men and supplies across Siberia, Bering in 1728 sailed N through Bering Strait but sighted no land and did not recognize the importance of the strait Later in 1728, setting out from Kamchatka, he was driven from his course and discovered the southern route around Kamchatka He returned to St Petersburg, arriving in 1730 Bering then drew up a large scheme of exploration, which was supported by the government Under his general command various units (such as one under Dmitri Laptev) of a huge expedition set out to map the far reaches of the Siberian arctic regions Much was accomplished, but at great expense and with no immediate prospects of profit Bering himself headed an expedition across the sea to Alaska In 1741 he commanded the *St Peter* while Aleksey Ilich Chirikov (d 1748) commanded the *St Paul* They set out, rounded Kamchatka, founded the town of PETROPAVLOVSK, and then went west The vessels were separated Bering himself sighted the St Elias Mts in Alaska on July 16, and the scientist Georg Wilhelm Steller led a landing party on a small island Bering then sailed W past the Aleutian Islands The weather was bad and almost all the crew had scurvy when the ship was wrecked on the shore of Bering Island, which they took to be the coast of Kamchatka There on Dec 8 Bering died The few survivors of his crew patched up a small vessel from the *St Peter* and managed to reach Kamchatka in the summer of 1742 The *St Paul* under Chirikov had also sighted land and had halted on the way westward at one of the Aleutian Islands, possibly Attu He reached Kamchatka in Oct , 1741 See F A Golder, *Bering's Voyages* (2 vols , 1922–25, Vol II is a translation of Steller's journal), L H Stejneger, *Georg Wilhelm Steller* (1936)

Bering Island (bĕr'ĭng, bâr'-, bĕr'-), off Kamchatka, extreme NE Asiatic RSFSR, in the Bering Sea, largest of the Komandorski Islands The low, treeless island has an area of more than 600 sq mi and a population of some 600. Vitus Bering was wrecked and died here

Bering Sea, area c 878,000 sq mi , northward extension of the Pacific Ocean between Siberia and Alaska It is screened from the Pacific proper only by the Aleutian Islands With the Arctic Ocean it is connected by Bering Strait. The warm Japan Current has little influence on Bering Sea, which has much ice; it can usually be traversed only after late May (Bering Strait can be traversed only after late June) The sea has various islands, notably NUNIVAK, SAINT LAWRENCE, Hall, St Matthew, and the PRIBILOF ISLANDS (all owned by the United States) and the KOMANDORSKI ISLANDS (owned by the USSR) It was explored by the Russian Deshnev in the 17th cent , but not until after the voyages of Vitus Bering (1728, 1741) was the fur-seal wealth of the Bering Sea made widely known The whole region was under the control of the Russian American Company (see ALASKA), but it proved impossible to prevent mariners from other nations from getting the skins of the seals and the sea otters. The question of protecting the seals became in 1886 the subject of a bitter international incident called the **Bering Sea Fur-Seal Controversy.** The seal herd that summered in the Pribilof Islands wintered farther south, when returning north in the spring they could be taken in the open sea. This pelagic (open-sea) sealing, practiced by Canadian and other sealing vessels, greatly reduced the herd and threatened its extinction The Alaska Commercial Company, which had a U S monopoly on the sealing, protested, and in 1886 several Canadian vessels were seized and were condemned by a court at Sitka. The legal basis for such action was the claim that Russia had controlled all the Bering Sea and that the control had gone to the United States with the purchase of Alaska This was not accepted by the British, and a move to settle the matter of protection by international agreement was blocked by the Canadians The matter was referred to a court of arbitration, which, meeting in Paris, declared in 1893 against the U S. claim, damages were paid to the owners of the seized vessels It was obvious, however, that regulation of the sealing was necessary, and it was arranged under international agreement In 1911 by an agreement of Great Britain, Russia, Japan, and the United States pelagic sealing was forbidden altogether and sealing in the Pribilofs was put completely under U S supervision. For several years it was halted altogether, and then it was resumed under careful restrictions The herd has been built up again The sea otter is, however, almost extinct, the 1911 agreement forbade killing sea otters altogether

Bering Strait, water lane between extreme NE Asia and extreme NW North America It connects the Arctic Ocean and the Bering Sea and varies in width (generally c 50 mi) The Diomede Islands are in the strait The narrowness of the strait makes it possible for small boats to cross from the tip of Siberia to Seward Peninsula in Alaska, the usual theory is that the American Indians came thus to America Vitus Bering traversed the strait in 1728 without knowing that he had passed between the continents

Berites (bĕ'rīts). see BICHRI

Berith (bĕ'rĭth), abbreviation of BAAL-BERITH

Berkeley, George (bâr'klē, bûr'-), 1685–1753, Irish philosopher and clergyman Educated at Trinity College, Dublin, he became a scholar and later a fellow there He knew Jonathan Swift well and became acquainted with the philosophy of John Locke Most of Berkeley's important work in philosophy was done in his younger years His *New Theory of Vision* (1709), the *Treatise concerning the Principles of Human Knowledge* (1710), and the famous *Dialogues* (1713) are among his more important works. He progressed rapidly in the English church At considerable personal sacrifice he organized a movement to establish a college in the Bermudas to convert the American Indians, going to Rhode Island in 1728 to wait for promised support This support never came, and after three years in the colony he returned to England He was made bishop of Cloyne in 1734 Berkeley in his philosophy went beyond Locke, who had argued that such qualities as color and taste arise in the mind while primary qualities of matter such as extension and weight have existence independent of the mind Berkeley held that both types of qualities are known only in the mind and that therefore there is no existence of matter independent of perception (*esse est percipi*) The observing mind of God makes possible the continued apparent existence of material objects God arouses sensations in us in a regular coherent order Selves and God make up the universe Berkeley felt that his argument constituted a complete disproof of atheism He demonstrated that qualities, not things, are perceived and that the perception of qualities is relative to the perceiver See E C Graham *Optics and Vision the Background of the Metaphysics of Berkeley* (1929), John Wild, *George Berkeley* (1936), Frans Bender, *George Berkeley· Philosophy Reexamined* (1946)

Berkeley, John, 1st **Baron Berkeley of Stratton,** 1602–78, English army officer and courtier He fought in numerous royalist engagements, and later through association with the duke of York (later JAMES II) won great political advancement. In 1661 he was appointed lord president of Connaught for life, in 1664 he was made one of the proprietors of NEW JERSEY, and in 1670 he became lord lieutenant of Ireland

Berkeley, Miles Joseph, 1803–89, English botanist and authority on fungi and plant pathology He contributed much to the knowledge of the fungus pests of several crop plants

Berkeley, Sir William, 1606–77, colonial governor of Virginia, was educated at Oxford He was knighted in 1639, appointed governor in 1641, and arrived in Virginia in 1642 Berkeley defeated the Indians and the Dutch, extended explorations, and encouraged agriculture, but so persecuted dissenters that many of them left the colony An uncompromising royalist, he made Virginia a haven for supporters of Charles I and declined to recognize the Commonwealth Berkeley was deposed by a Puritan force from England in 1652 and lived quietly on his Virginia plantation until the Restoration in 1660, when he was reappointed governor. Supported by the small aristocratic planter class of the tidewater, he became a tyrant The people, deprived of a voice in the government, might have continued to bear injustices had not Berkeley declined to defend them against Indian attacks. Apparently he was more concerned with protecting his large financial interests in the fur trade than with safeguarding lives on the frontier At any rate his stupid and arrogant negligence brought on BACON'S REBELLION. He was soon restored to power after Bacon's premature death Berkeley's vindictive hanging of many of Bacon's followers has been compared to the Bloody Assizes of the following decade The executions were carried out in defiance of a royal commission which had arrived with pardon for all except Bacon Universally despised, he finally yielded to the commission's order that he return to England, where he died discredited See T J Wertenbaker, *Virginia under the Stuarts, 1607–1688* (1914)

Berkeley (bûrk'lē) **1** City (pop 85,547), W Calif , on the eastern shore of San Francisco Bay and NE of San Francisco Originally part of the Rancho San Antonio granted to the Peralta family in 1820, the site was bought in 1853 by Americans The city was incorporated in 1878 In 1923 it adopted the council-manager form of government Berkeley is a suburban and educational center, with various industries It is the seat of the Univ of California (see CALIFORNIA UNIVERSITY OF), Armstrong College, several divinity schools, and state schools for the deaf and the blind It has a fine aquatic park and yacht harbor **2** City (pop 2,577), E Mo , west suburb of St Louis, inc 1937

Berkeley Springs, town (pop 1,145), co seat of Morgan co , W Va , in the agricultural Eastern Panhandle, NW of Martinsburg, chartered 1776 as Bath, still its official name The warm springs which have made the town a health resort from colonial days are in a state park, the site of a sanatorium Glass sand is mined here

Berkey, Charles Peter (bûr'kē), 1867–, American geologist, b Goshen, Ind , grad Univ of Minnesota (B S , 1892, Ph D , 1897) He taught at Columbia Univ from 1903 to 1939 A specialist in geology as applied to engineering, he served as geologist of the Port of New York Authority, as consulting engineer of the U S Bureau of Reclamation, as consulting geologist for the New York Board of Water Supply (from 1906), and as geologist in many engineering projects From 1922 he was chief geologist on the Central Asiatic Expeditions of the American Museum of Natural History

Berkhampstead or **Berkhamsted,** Hertfordshire, England see GREAT BERKHAMPSTEAD

Berkley 1 Town (pop 1,130), SE Mass , S of Taunton, settled 1638, inc 1755 **2** City (1940 pop 6,406, 1947 special census pop 12,358), SE Mich , northwest suburb of Detroit, inc as a village 1924, as a city 1932

Berkman, Alexander, 1870?–1936, anarchist, b Vilna (then in Russian Poland) He came to the United States c 1887 At the time of the Homestead, Pa , strike (1892) Berkman attempted to kill Henry Clay Frick but succeeded only in wounding him He served 14 years of a 22-year sentence imposed for this attack His association with Emma GOLDMAN, begun before his imprisonment, was resumed after his release In 1917 they were arrested for obstructing the draft and in 1919 were deported to Russia Disappointed in his hope of finding under the Bolshevist government the freedom which he sought, Berkman left Russia and in various European cities supported himself by translation He died in Nice, a suicide His writings include *Prison Memoirs of an Anarchist* (1912), *The Bolshevik Myth* (1925), *The Anti-Climax* (1925), and *Now and After the A B C of Communist Anarchism* (1929)

Berkshire (bark'shĭr, -shur, bûrk'-) or **Berks** (bârks, bûrks), inland county (725 sq mi , 1931 pop 311,453, 1948 estimated pop 391,290), S central England The county town is Reading Berkshire lies almost entirely in the basin of the Thames, which forms its northern boundary It is largely agricultural, and its most productive regions are the Vale of the WHITE HORSE and the Kennet valley Chalk downs extend across the center of the county Dairying is important, and Berkshire hogs are famous Berkshire has been a transportation artery from the time of the Romans Great modern motor highways run west from London through Berkshire Anciently part of the kingdom of Wessex, the county was the birthplace of King Alfred There are remains of medieval abbeys at Abingdon and Newbury At Windsor, in the eastern end of the county, is the famous castle, chief residence of the English monarchs for many centuries See the *Victoria History of Berkshire* (4 vols , 1906–24), Arthur Mee, *Berkshire* (1939)

Berkshire (bûrk'shĕr), town (pop 1,156), N Vt , on the Missisquoi at the Canadian line, settled 1792, inc 1795 or 1796

Berkshire Hills, region of wooded hills with many streams and small lakes, Berkshire co , W Mass The Berkshires are part of the TACONIC MOUNTAINS, but the name is used loosely, referring sometimes to all the highlands in W Massachusetts, sometimes to that portion separated from the main range of the Taconics by a valley. The hills are dotted with resorts and country homes North Adams, Pittsfield, Great Barrington, Lenox, and Stock-

bridge are among the towns in the area Mt GREYLOCK is the highest point, the Housatonic and the Westfield are the chief rivers See Federal Writers' Project, *The Berkshire Hills* (1939), Roderick Peattie, ed , *The Berkshires* (1948)

Berkshire Symphonic Festival, summer music festival, held since 1937 at "Tanglewood," a former estate near the center of LENOX, Mass , but mostly in adjoining Stockbridge town The Berkshire Festivals were begun in 1934 at a farm in Stockbridge, and Henry Hadley conducted for two summers an orchestra composed largely of members of the New York Philharmonic-Symphony In 1936 Serge Koussevitsky and the Boston Symphony Orchestra took over the festival The music shed at Tanglewood, designed by Eliel Saarinen, was opened in 1938 In 1940 a summer school, the Berkshire Music Center, was begun in combination with the festival See M A De Wolfe Howe, *The Tale of Tanglewood* (1946)

Berle, Adolf Augustus, Jr. (bûr'lē), 1895–, American lawyer, b Boston, Mass , grad Harvard, 1913, and Harvard Law School, 1916 In the First World War he was an army intelligence officer in the Caribbean area Berle went with the American commission to negotiate peace with Germany He returned to practice law in New York and later lectured at the Harvard School of Business and Columbia Univ School of Law As a specialist in corporation law and finance, he became a member of F D Roosevelt's Brain Trust. In 1933 he was sent as financial adviser to the American embassy in Cuba Later (1934–37) he was chamberlain of New York city In 1936 Berle was a delegate to the inter-American conference at Buenos Aires, and from 1938 to 1944 he was Assistant Secretary of State After serving (1945–46) as ambassador to Brazil, he resumed his professorship at Columbia Univ

Berlichingen, Götz von (gûts' fŭn bĕr'lĭkhĭng-n), c 1480–1562, German knight and adventurer He was known as Gotz of the Iron Hand because, having lost his right hand at the siege of Landshut (1504), he bore an iron one in its place A soldier of long and varied experience, he was a leader of the rebellious peasants in the PEASANTS' WAR Later he served against the Turks and the French His memoirs inspired Goethe's drama, *Götz von Berlichingen* (1773), a rugged product of the STURM UND DRANG era in German literature

Berlin, Irving, 1888–, American composer of over 1,000 popular songs, b Russia His surname was originally Baline *Alexander's Ragtime Band* (1911), not strictly ragtime, was Berlin's outstanding song hit In 1918, while he was in the army, he wrote, produced, and acted in *Yip, Yip, Yaphank*, which was given by an army cast and which he rewrote in 1942 as *This Is the Army* He has written songs for many successful musical comedies, including the *Ziegfeld Follies*, and for moving pictures, beginning with *Top Hat* (1935). See biography by Alexander Woollcott (1925).

Berlin, Ont see KITCHENER

Berlin (bûr'lĭn', bûrlĭn', Ger bĕrlēn'), city (1939 pop , 4,321,521, 1946 pop 3,199,938), former capital of Germany and of Prussia, N Germany, in Brandenburg (from which it is administratively separate), on the Spree and Havel rivers The incorporation (1912, 1920) of neighboring towns (notably Charlottenburg and SPANDAU) and communities gave it an area of 344 sq mi , including extensive forests and lakes Until its virtual destruction in the Second World War, Berlin was the second largest city of Europe and the political, industrial, financial, commercial, and cultural center of Germany, with a large inland port Textiles and clothing, chemicals, electrical machinery, and publishing were among its chief industries The major communications center of Central Europe, it has SIX railroad stations. The chief airfield is at Tempelhof A suburban railroad system and an underground railroad system facilitate internal communication Berlin took its origin from two Wendish villages, Berlin and Kölln, which were chartered in the 13th cent and merged in 1307 It assumed importance as a Hanseatic town and became the residence of the electors of Brandenburg (after 1701 kings of Prussia) in the late 15th cent After the ravages of the Thirty Years War, Frederick William, the Great Elector, restored and improved the city. Occupied in the Seven Years War by Russian and Austrian troops (Oct , 1760) and in the Napoleonic Wars by the French (1805), Berlin emerged from both conflicts as a center of German national feeling and an increasingly serious rival of Vienna From the 18th and early 19th cent date the few distinguished monuments and buildings of the city (chiefly by Andreas SCHLÜTER and Karl Friedrich SCHINKEL), near-by POTSDAM became famous as the favorite residence of Frederick II The Revolution of 1848 against King Frederick William IV was weathered with little bloodshed In 1866 Berlin became the seat of the North German Confederation The capital of the German Empire after 1871, Berlin prospered and expanded rapidly, but the German collapse of 1918 brought on a period of social and political unrest After the establishment (Nov , 1918) of a Socialist government, Berlin was the scene of the abortive uprising of the communistic SPARTACUS PARTY (Jan., 1919) and of the conservative putsch of 1920 (see KAPP, WOLFGANG). In the following years inflation and unemployment, along with the reckless profiteering of a few speculators, created a favorable climate for the rise of extremist groups of the right and the left The crisis year of 1929 was preceded by a brief recovery. Berlin at that time was a brilliant, cosmopolitan, *avant-garde* center of the arts, literature, and music. The accession (1933) of the National Socialist government brought a sudden end to these activities Berlin was repeatedly bombed from the air by the Allies in the Second World War, but the heaviest destruction was caused by the Russian artillery barrage of unprecedented intensity which accompanied the capture (April 28, 1945) of the city by Marshal Zhukov. At the POTSDAM CONFERENCE of 1945 Berlin was divided into four occupation zones The Russian sector (pop 1,175,979) comprises largely the workers' district (in the east) and the center of Berlin The American sector (pop 989,598) and the British sector (pop 605,588) occupy the southern districts, including Tempelhof, the southwestern and western residential sections, and the Tiergarten (a park, not to be confused with the zoological garden) The French sector (pop 428,773) is in the northwest A joint Allied military government (*Kommandatura*) and a city government were set up The Allied Control Council for GERMANY was also installed in Berlin Political friction between Russia and the three Western powers soon impeded the functioning of the *Kommandatura* and of the city government, Berlin became increasingly split into two distinct administrations After imposing (April 1, 1948) stringent restrictions on the railroad and highway traffic linking the Western sectors with the Western occupation zones of Germany, the Russian authorities left the *Kommandatura* on June 15 and on June 24 stopped all railroad and highway traffic into Berlin from the West Ostensibly the reason was a conflict over the introduction (June 18 and 23) of separate Western and Eastern currencies The Western powers, foremost among them the United States, began to supply their sectors by a constant stream of airplanes flying through three narrow air "corridors" left open by the Russian authorities The Berlin airlift continued throughout the summer of 1949 until the blockade was lifted after a meeting of the Council of Foreign Ministers Through their tremendous and costly effort, the Allies thus succeeded in maintaining their position in Berlin and in demonstrating the firmness of their purpose The physical destruction of Berlin extends to almost every building, and whole quarters have been wiped out The buildings along the best-known thoroughfares, Kurfurstendamm and Unter den Linden, are severely damaged The Brandenburg Gate, terminus of Unter den Linden, still stands, but the near-by governmental buildings, notably the chancellery, where Hitler presumably committed suicide, were gutted The REICHSTAG building remains gutted since the historic fire of 1933 Among the undamaged buildings is the Marienkirche, begun in the 13th cent , with a pulpit by Schlüter The Hohenzollern palace, largely by Schlüter, was heavily damaged The Univ of Berlin, founded in 1810, was reopened after the war The contents of the famous Kaiser Friedrich Museum were saved but scattered

Berlin (bûr'lĭn) **1** Industrial town (pop 5,230), central Conn , SSW of Hartford, settled 1686, inc 1785 Tools and metal products are made here **2** Town (pop 1,435), Eastern Shore, Md , SE of Salisbury, in a farming area, settled in the early 19th cent It has fruit-tree nurseries and textile and food-processing plants Stephen Decatur was born here Near by are the training grounds for thoroughbred horses where War Admiral was trained **3** Rural town (pop 1,057), E central Mass , near Wachusett Reservoir, settled 1665, inc 1784 **4** City (pop 19,084), NE N H , in the White Mts at falls of the Androscoggin, settled 1821, inc as a town 1829, as a city 1897 In heavily forested country, it early became a center of pulp and paper milling The city is a winter sports center, the first ski club in the United States was organized here Near by are a municipal airport and a government fish hatchery **5** Borough (pop 1,753), SW N J , SE of Camden, inc 1927 **6** Borough (pop 1,602), SW Pa , SE of Somerset, settled c 1769 by Germans, laid out 1784, inc 1833. Maple sugar is produced here **7** Town (pop 1,111), Washington co , central Vt , just S of Montpelier **8** City (pop 4,247), central Wis , W of Oshkosh and on the Fox, in a farm area, inc 1857

Berlin, Congress of, 1878, called by the signatories of the Treaty of Paris of 1856 (see PARIS, CONGRESS OF) to reconsider the terms of the Treaty of SAN STEFANO which Russia had forced on the Ottoman Empire earlier in 1878 Great Britain and Austria-Hungary were the powers most insistent on revision, Russia submitted the treaty to revision only after war was threatened and Bismarck had offered to mediate as "honest broker " He was chairman of the congress Disraeli represented Great Britain; Count Andrassy, Austria-Hungary, Waddington, France; Alexandr M. Gorchakov, Russia, Count Corti, Italy; and Alexander Karatheodori, Turkey. The agreements reached in the Treaty of Berlin and the accompanying British-Turkish pact deeply modified the Treaty of San Stefano. Montenegro, Serbia, and Rumania were recognized as independent states; Rumania, however, was forced to cede S Bessarabia to Russia in return for the less favored Dobruja. Bulgaria was divided into N Bulgaria, a principality under nominal Turkish suzerainty, Eastern RUMELIA, to be governed, with certain autonomous rights, by a Christian appointee of the Porte, and Macedonia (including Adrianople), under unrestricted Turkish sovereignty. BOSNIA AND HERCEGOVINA, original cause of the Russo-Turkish war of 1877–78, were assigned to Austria-Hungary for administration and military occupation In Asia, Russia acquired Ardahan, Batum, and Kars from Turkey Cyprus passed to Great Britain through a separate agreement, and Crete was promised constitutional government Other provisions included an important rectification of the Greco-Turkish boundary, the demilitarization of the lower Danube, and the protection of the Armenians and other religious minorities in Turkey See C D Hazen, W R Thayer, and R H Lord, *Three Peace Congresses of the 19th Century* (1917)

Berlin Decree, decree issued in Berlin by Napoleon I, Nov 21, 1806, in answer to the British blockade Claiming that the British blockade of purely commercial ports was contrary to international law, Napoleon retaliated by declaring the British Isles under blockade and forbidding any trade to or from them The Berlin Decree initiated the CONTINENTAL SYSTEM

Berliner, Emile (bûr'lĭnur), 1851–1929, American inventor, b Hanover, Germany He came to the United States in 1870 In 1877, the year after Bell invented the telephone, Berliner invented the loose-contact telephone transmitter (which also serves as a radio microphone) The rights were transferred to the Bell Company, with which Berliner became identified His other major invention was the disc record, the groove varying in width and direction, rather than in depth as in Edison's cylindrical record On the basis of this patent and Berliner's invention for the duplication of records in quantity, the business of the Victor Talking Machine Company was built Berliner was also a pioneer worker on the helicopter In 1901 he instituted an educational program to make public the dangers of raw milk He was responsible for the Washington Milk Conference in 1907 See F W. Wile, *Emile Berliner* (1926).

Berlin Pact see AXIS

Berlioz, Louis Hector (lwē' ĕktôr' bĕrlēōz'), 1803–69, French romantic composer, whose ideas of orchestral coloring influenced many later composers He abandoned medical study to enter the Paris Conservatoire as a composition student In 1830 his cantata *Sardanapale* won the Prix de Rome and his *Symphonie fantastique* received its first performance in Paris During the next decade in Paris he wrote the symphonies *Harold in Italy* and *Romeo and Juliet*, the opera *Benvenuto Cellini*, and the Requiem In 1842–43 he toured Germany successfully and later made concert appearances in Austria, England, Germany, and Russia His outstanding dramatic works are the dramatic legend, *The Damnation of Faust* (1846), sometimes given as an opera, and the two-part opera *The Trojans*, first given in its entirety (1890) in Karlsruhe and successfully revived after 1920 Some of his works are scored for large masses of instruments, not only for loudness but for richness of tone color even in delicate passages He had many impetuous love affairs and was twice married, first to Harriet Smithson, Irish actress He was librarian, but never a professor, of the Paris Conservatoire He wrote newspaper criticisms as well as his interesting memoirs (rev ed , 1935) His treatise on instrumentation (1843) was widely recognized as a text See biographies by W J Turner (1934) and J H Elliott (1938), studies by Ernest Newman (1905), Romain Rolland (1915), and T S Wotton (1935), Jacques Barzun, *Berlioz and the Romantic Century* (1950)

Bermondsey (bûr'mundsē), metropolitan borough (1931 pop 111,542; 1948 estimated pop 60,410) of S London, England, on the south bank of the Thames It is a district of workmen's residences, factories, docks, and wharves

Bermuda (bûrmū'du), British crown colony (21 sq mi , 1946 estimated pop 34,965), comprising a group of some 300 coral islands (of which about 20 are inhabited), c 650 mi SE of North Carolina. The capital is HAMILTON on the largest island, Bermuda (or Great Bermuda) Smaller islands are Somerset, Ireland, and St George. Discovered in 1515 by the Spaniard, Juan de Bermúdes, the islands were uninhabited until a group of colonists under Sir George Somers was wrecked there in 1609 This wreck was known to Shakspere when he wrote *The Tempest* Long called Somers Islands, they were at first governed by a chartered company but were acquired by the crown in 1684.[1] Climate, scenery, charm, and luxurious semitropical vegetation have made the Bermudas a year-round resort The population is about 60 percent Negro With no industries, Bermuda's revenues come from tourists,

customs receipts, and exportation of bananas, vegetables, lily bulbs, and flowers As a result of the Second World War, automobiles have been permitted, and the United States, acquiring a 99-year lease, has built a naval and air base See W B. Hayward, *Bermuda, Past and Present* (1923), Hudson Strode, *The Story of Bermuda* (1932), R. J Wilhams, *Bermudiana* (1937)

Bermuda grass, one of the most important pasture grasses (*Cynodon dactylon*) common in warmer regions of both hemispheres Bermuda is the standard pasture in the S United States It is heat- and drought-resistant and will grow in almost any soil that is not too wet or shady, often becoming a weed It may be grown from seed or by rootstocks

Bermuda Hundred, fishing village, SE Va , on the peninsula at the confluence of the Appomattox with the James NNE of Petersburg, founded 1613 In the Civil War the Union Army of the James was bottled up here after its defeat at Drewrys Bluff, May 16, 1864

Bern (bûrn, Ger bĕrn) or **Berne** (Fr bĕrn), canton (2,658 sq mi , pop 728,916), Switzerland, the most populous of the country It comprises three sections—the Bernese Alps or Oberland [Ger , highlands] with many peaks, including the Finsteraarhorn and Jungfrau, the Mittelland [midlands], in the northern foothills of the Alps, and the Seeland [lake country], in the northwest, including Biel and the Bernese Jura Agriculture, cattle raising, dairying, and tourist trade are the chief means of livelihood in the Oberland and the Mittelland, the Seeland is industrialized, producing mostly watches The population is predominantly Protestant and—except in the Jura—German-speaking The history of the canton is largely that of its capital, **Bern** or **Berne** (pop 130,331), which is also the capital of Switzerland Situated on the Aar river in the center of the canton, it was founded (1191) by Berchtold V of Zähringen as a military post and made (1218) a free imperial city by Emperor Frederick II when Berchtold died without issue Bern grew in power and population and in 1353 joined the Swiss Confederation, of which it became the leading member Its conquests, including Aargau (1415) and Vaud (1536), besides numerous smaller territories, were governed until 1798 by an autocratic urban aristocracy Bern accepted the Reformation in 1528 The secularization of convents and monasteries increased the city's wealth When, during the French Revolutionary Wars, Switzerland was invaded (1798) by the French, Bern was occupied, its treasury pillaged, and its territories dismembered At the Congress of Vienna (1815), Bern failed to recover Vaud and Aargau, but received the Bernese Jura (the former bishopric of Basel) A liberal constitution was adopted in 1831, and in 1848 Bern became the capital of the Swiss Confederation It is the seat of numerous international agencies, notably the Universal Postal Union (since 1875), the International Telecommunication Union (since 1869), and the International Copyright Union (since 1886) The city is largely medieval in its architecture, with arcades, fountains, a 15th-century cathedral, and numerous historic buildings An elaborate medieval clock tower and a pit in which bears (Bern's heraldic animal for seven centuries) are kept are well known to tourists Modern buildings include the federal palace, museums, and the university (founded 1834)

Bernadette, Saint (bûrnădĕt'), 1843–79, French girl, who claimed to see the Virgin Mary in apparitions at a grotto near Lourdes, her home, in 1858 Her name was Bernadette Soubirous After years of unpleasantness at the hands of the curious, the skeptical, and the powerful, she was allowed to enter a convent at Nevers (1866) She was canonized in 1933 Feast April 16 See Frances Parkinson Keyes, *The Sublime Shepherdess* (1940), Franz Werfel, *The Song of Bernadette* (1942)

Bernadotte, Count Folke (fōl'kŭ bĕrnădŏt', bûr'nudŏt), 1895–1948, Swedish internationalist, nephew of King Gustavus V As president of the Swedish Red Cross, he sought in 1945 to negotiate an armistice between Germany and the Western Allies In 1948 he was appointed United Nations mediator in Palestine He was suspected by the Jews of favoring British interests, and members of an extremist gang assassinated him in Jerusalem He was succeeded as mediator by Ralph Bunche Bernadotte wrote *The Curtain Falls* (1945) and *Instead of Arms* (1948)

Bernadotte, Jean Baptiste Jules see Charles XIV (Sweden)

Bernanos, Georges (zhôrzh' bĕrnanōs'), 1888–1948, French novelist and political writer Three novels, *Sous le soleil de Satan* (1926, Eng tr , *The Star of Satan*, 1940), *La Joie* (1929, Eng tr , 1946), and *Journal d'un curé de campagne* (1936, Eng tr , *The Diary of a Country Priest*, 1937), reflect deep mysticism and study of spiritual life A Roman Catholic, Bernanos considered monarchy insurance against materialistic greed His political writings include *Les Grands Cimetières sous la lune* (1938, Eng tr , *A Diary of My Times*, 1938), repudiating the Spanish civil war, and *Lettre aux Anglais* (1942, Eng tr , *Plea for Liberty*, 1944).

Bernard, Saint: see Bernard of Clairvaux, Saint, and Bernard of Menthon, Saint For the two Alpine passes, see Saint Bernard

Bernard VII, d 1418, count of Armagnac, constable of France As father-in-law of Charles d'Orléans he was the actual head of the Armagnac faction (see Armagnacs and Burgundians) and from 1415 to 1418 was the virtual ruler of France His oppression of the Parisians caused the betrayal of Paris to John the Fearless of Burgundy, in the massacre that followed Bernard was killed

Bernard, Claude (klōd' bĕrnar'), 1813–78, French physiologist He turned from literature to medicine, working in Paris under Magendie and teaching at the Collège de France and at the Sorbonne One of the great scientific investigators, he is known as the founder of experimental medicine because of his work on the digestive processes (especially the discovery of the glycogenic function of the liver and of the action of pancreatic juice) and on the vasomotor mechanism He is the author of *An Introduction to the Study of Experimental Medicine* (1865, tr by H C Greene, 1927) See studies by Sir Michael Foster (1899) and J M D Olmsted (1938)

Bernard, Sir Francis (bûr'nurd), 1712–79, British colonial governor He was educated at Oxford and was in 1737 called to the bar As colonial governor of New Jersey (1758–60), he did much to promote colonial solidarity and to build defense in the French and Indian War Transferred to the governorship of Massachusetts, he lost early popularity there because he felt it his duty to enforce the Stamp Act and other laws the colonists found objectionable In 1769 he was recalled to England An amateur architect, he was the designer of Harvard Hall at Harvard Univ

Bernard, Joseph Antoine (zhōzĕf' atwan' bĕrnar'), 1866–1931, French sculptor, b Vienna, son of a stonemason He studied in Lyons and Paris and worked in Rodin's studio He is best known for his simple and monumental works in stone Characteristic is his monument to Servetus in Vienna

Bernardes, Diogo (dyō'gō burnar'dĭsh), c 1530–c 1596, Portuguese poet A follower of Sá de Miranda, he wrote smooth-flowing bucolic verse, notable for sweet melody, and became one of the chief poets of the Renaissance in Portugal He was official poet on the tragic expedition that ended at Alcacer-Kebir, and later he was given a pension by Philip II of Spain

Bernardin de Saint-Pierre, Jacques Henri (zhăk' ăNē' bĕrnardĕ' du sĕ-pyĕr'), 1737–1814, French naturalist and author He was a friend of Rousseau, by whom he was strongly influenced His chief work, *Études de la nature* (1784), sought to prove the existence of God from the wonders of nature, it is rich in descriptive passages, and it added to the French language specific color terms and plant names From it was taken the prose idyll, *Paul et Virginie* (1788), which achieved the great success of the larger work and was made into an opera set to music by Victor Massé

Bernardine of Siena, Saint (bûr'nurdĭn, sēĕn'ă), 1380–1444, Italian preacher He was a Franciscan of the Observant congregation He was one of the most effective and most widely-known preachers of his day His popular, lively sermons still make good reading He was vicar general of his congregation, and he refused ecclesiastical preferment repeatedly St Bernardine was one of the great promoters of devotion to the Holy Name of Jesus His principal companion was St John Capistran Feast May 20

Bernardo del Carpio (bĕrnar'dō dĕl kär'pyō), hero of medieval Spanish legend Supposedly the nephew of Alfonso II, he strove against that king and others to secure his father's release from prison Many stories were told of him, and the Spanish made of him a counterpart and opponent of the French Roland and even the slayer of Roland at Roncesvalles

Bernard of Clairvaux, Saint (klârvō'), 1090?–1153, French churchman, Doctor of the Church, b Fontaines, near Dijon, of noble family He entered the abbey of Cîteaux (1112) taking along 4 brothers and 25 friends In 1115 he headed the band sent to found a house at Clairvaux There he remained abbot all his life, in spite of many efforts to move him higher A holy life, a reputation for miraculous cures, and unusual eloquence made Bernard renowned, and he became the most powerful influence in France and, in time, in all Western Europe. It was he who led the long struggle to seat Innocent II, the canonically elected pope, and persuaded Lombardy to accept Emperor Lothair II (1130–38) He procured the condemnation of Abelard and Arnold of Brescia (1140 or 1141), and he preached the Second Crusade (1146) He was the adviser of popes, especially of his friend Eugene III The abbot's fame greatly benefited the Cistercians, thus in his lifetime 68 houses were founded out of Clairvaux alone He was tireless in journeys to make peace, and he would undertake any mission of charity, however arduous or apparently trivial, thus he stopped a wave of pogroms in the Rhineland (1146), and he repeatedly saved luckless peasants from the powerful. St Bernard's works have had wide influence They consist of about 330 sermons, some 500 known letters, and 13 other prose works, or "treatises," some of which were originally letters or sermons His style, strong and eloquent, full of biblical allusions, intensely personal and direct, has gained him the name the Mellifluous Doctor Among his sermons the series of 86 on the Canticles have been favorites The treatises include *On the Steps of Humility and Pride* (c 1125, tr by G B Burch, 1940), *Apologia* (c 1125), an influential attack on monastic laxity, particularly at Cluny, *On the Love of God* (c 1127, tr by T L Connolly, 1937), a masterpiece on contemplation, *On Grace and Free Will* (c 1127, tr by W W Williams, 1920), important in the history of theology, *On Conversion* (1140, tr by W W Williams, 1938), a long, severe sermon to Parisian students, *Against Abelard* (1140), *Life of St Malachy* (c 1149, see Malachy, Saint), and finally, on the duties of a pope, a masterpiece called *On Consideration* (1149–1152? tr by George Lewis, 1908) A number of nonauthentic or doubtful works, including 15 hymns (among them *Jesu, dulcis memoria*, "Jesus, the very thought of Thee"), bear St Bernard's name He was canonized in 1174 Feast Aug 20 See biographies by E Vacandard (1927, in French) W W Williams (two 1935, 1944), and A J Luddy (1937), Étienne Gilson, *The Mystical Theology of Saint Bernard* (Eng tr , 1940)

Bernard of Cluny (klōō'nĭ) or **Bernard of Morlaix** (môrlā'), fl 1150, French Cluniac monk, of English parentage He wrote *De contemptu mundi* [on contempt for the world], a poem in 3,000 hexameters On it Horatio Parker based his oratorio *Hora novissima*, and from it John Mason Neale drew the words of *Jerusalem the Golden*

Bernard of Menthon, Saint (mătŏ'), 11th cent , Savoyard churchman, founder of the Alpine hospices of Saint Bernard His life was spent working among the people of the Val d'Aosta He is patron of mountaineers Feast May 28

Bernardston, rural town (pop 954), N Mass , on the Falls River, permanently settled 1738, inc 1762 It was an early outpost against Indians

Bernardsville, borough (pop 3,405), N N J , SW of Morristown, settled early 18th cent , inc 1924

Bernauer, Agnes (bĕrnou-ûr), d 1435, German heroine Daughter of a baker of Augsburg, she was secretly married to the son of a duke, and his father, enraged, caused her to be drowned Greif, Hebbel and others have dramatized the story

Bern Convention see COPYRIGHT

Berne, Switzerland see Bern

Berne, town (pop 2,075), NE Ind , near the Ohio boundary SSE of Fort Wayne, settled 1840 by Swiss, inc 1887 A milk company is here

Berners, John Bourchier, 2d Baron (bou'chur, bûr'nurz), 1467–1533, English diplomat and man of letters, who spent many years in France His literary work includes translations—Froissart's *Chronicles* (2 vols , 1523–25), *Huon of Bordeaux* (1534?), said to have furnished Shakspere with scenes for *A Midsummer Night's Dream*, and *The Golden Book of Marcus Aurelius* (1535, from a French version of Guevara's work), a forerunner of the euphuistic school

Berners, Bernes, or **Barnes, Juliana** (bûr'nurz bărnz), fl early 15th cent , supposed English author according to tradition the prioress of Sopwell convent, Hertfordshire A conjectural biography has been built up, but nothing is actually known of her life To her is attributed a popular treatise on hunting in *The Book of Saint Albans* (1486, 2d ed , printed by Wynkyn de Worde, 1496) See facsimile edition (with introduction by William Blades, 1881)

Bernese Alps see Bern

Bernhardi, Friedrich von (frē'drĭkh fŏn bĕrnhar'dē), 1849–1930, German general and military writer His book, *Germany and the Next War* (1912, Eng tr , 1914) was widely publicized by the Allies as an example of Pan-Germanism and German ambition

Bernhard of Saxe-Weimar (säks'-wī'mar, zăksevī'mĕr), 1604–39, Protestant general in the Thirty Years War Under Mansfeld and the margrave of Baden, Bernhard fought against the emperor He served in the Netherlands and later allied himself (1631) with Gustavus Adolphus, after whose death at Lutzen (1632) he took command Bernhard was made joint commander of the army of the Heilbronn Union In 1633 he was rewarded with the newly created duchy of Franconia His capture of Regensburg (1633) made him the hero of the Protestant West In 1634 he suffered a crushing defeat at Nordlingen Bernhard and his army were taken into French pay in 1635 Victories at Breisgau and Breisach (1638) brought him control over Alsace and the Upper Rhine A dispute with the French arose over Bernhard's claim to Breisach and was unsettled at Bernhard's sudden death

Bernhardt, Sarah (bûr'hart, Fr bĕrnar'), 1844–1923, stage name of Rosine Bernard, French actress of Jewish descent, b Paris Her parents embraced the Catholic faith She was brought up in a convent until she was 13, when she entered the Paris Conservatoire, at 17 she made an unsuccessful debut at the Comédie Française. Her first successes

were at the Odéon as Cordelia in *King Lear* and as the queen in Hugo's *Ruy Blas* in 1867, and she added to her stature as Zanetto in Coppée's *Le Passant* in 1869 In the title role of Racine's *Phèdre* in 1874 and as Doña Sol in Hugo's *Hernani* in 1877, her portrayals were superb; by this time the "divine Sarah," as Oscar Wilde called her, had made her name. The queen of the French stage in romance and classic tragedy, she began (1880) the tours which brought her to all of Europe, England, and the United States in such plays as *Adrienne Lecouvreur*, *La Dame aux Camélias*, and *Froufrou* She was long associated with the works of Sardou, who often patterned his plays for her, and she starred in his *Fédora*, *Théodora*, and *La Tosca* from 1883 to 1893 She managed the Théâtre de la Renaissance in 1893, appearing there in Lemaître's *Les Rois*, Sardou's *Gismonda*, and Rostand's *La Princesse lointaine*, and in 1899 she leased the Théâtre des Nations, renamed it Théâtre Sarah Bernhardt, and appeared there in Rostand's *L'Aiglon* and in the title role of *Hamlet* In 1912 she appeared in the silent moving pictures *La Dame aux Camélias* and *Queen Elizabeth* Her leg was amputated in 1914, but her career continued She wrote *L'Aveu* (1888), a play, and her memoirs (Eng tr , 1907) See biographies by Jules Huret (1899), Sir George Arthur (1923), Basil Woon (1924), G G Geller (1934), Maurice Baring (1934), and Louis Verneuil (1942)

Berni, Francesco (frănchā'skō bĕr'nē), 1497?–1535, Italian humorous poet, a priest He was noted for his burlesque *capitoli*, light, often ribald verses in *terza rima* He revised Boiardo's *Orlando Innamorato*, adding humorous touches and what he considered stylistic improvements For many years Berni's version of Boiardo was the only one used, but now it is generally discarded

Bernice (bûr'nēs, burnēs'), another form of the name Berenice Bernice has been commonly used in English-speaking countries in modern times

Bernice (bûr'nēs, burnēs'), town (pop 1,071), N La , NW of Monroe, settled 1841, inc 1899 It has cotton gins and sawmills

Bernicia (bûrnĭ'shu), Anglian kingdom Established in 547, it later extended from the Tees to the Forth In the late 6th cent. it was united with Deira to form Northumbria

Bernie, city (pop 1,160), SE Mo , SE of Poplar Bluff, inc 1908 It has cotton gins

Bernierville (bĕr'nyĕvĭl) or **Saint Ferdinand** (sĕt fĕrdēnā'), village (pop 1,638), SE Que , W of Thetford Mines, in an area of farms and dairies

Bernina (bĕrnē'na), Alpine mountain group on the Swiss-Italian border, culminating in the Piz Bernina (pēts) (13,295 ft) The Bernina pass, 7,645 ft high, from the Upper Engadine Valley, Switzerland, to the Valtellina, Italy, is crossed by a road (built 1842–65) and a railroad (built 1907–10)

Bernini, Giovanni Lorenzo (jōvan'nē lōrĕn'tsō bĕrnē'nē), 1598–1680, Italian architect and sculptor, a commanding figure of the baroque period In the adornment of the great elliptical piazza in front of St Peter's Church with superb flanking colonnades four rows deep (1629–67), he produced a masterpiece To him are due the striking bronze baldachin beneath the dome in St Peter's, the royal staircase in the Vatican, and two extravagantly baroque fountains in the Piazza Navona, Rome Bernini's most noted sculpture is the group of Apollo and Daphne in the Borghese Gallery at Rome See Sir Reginald Blomfield, *Sir Architects* (1935)

Bernoulli or **Bernouilli** (both bĕrnōōyē'), name of a family distinguished in scientific and mathematical history The family, after leaving Antwerp, finally settled in Basel, Switzerland, where it grew in fame

Jacob, Jacques, or **James Bernoulli** (shăk'), 1654–1705, became professor at Basel in 1687 He was the first to use the word *integral* in solving Leibnia's problem of the isochronous curve He wrote an important treatise on the theory of probability (1713) He discovered Bernoulli's numbers He was succeeded at Basel by his brother, **Jean, Johann,** or **John Bernoulli** (shă, yō'hăn), 1667–1748, who was famous for his work in the field of integral and exponential calculus His collected works were published under the title *Johannis Bernoulli opera omnia* His son, **Daniel Bernoulli** (dănyel'), 1700–1782, was a mathematician and a physician He solved a differential equation proposed by Riccati, today the equation is known as Bernoulli's equation In his work *Hydrodynamica* (1738), he advanced the kinetic theory of gases and fluids He wrote several mathematical and medical works

Bernstein, Eduard (ā'dōōărt bern'shtīn), 1850–1932, German socialist From 1872 he was actively associated with the Social Democratic party In 1878 he left Germany because of antisocialist legislation and spent over 20 years in exile, chiefly in England In 1898 he aroused great discussion among German socialists by his criticisms of Marxist theories, denying the inevitability of intensification of the class struggle and world revolution. Returning to Berlin in 1901 he became the leader of revisionism, opposed by Kautsky The most important of his several books setting forth criticisms of Marxism is *Evolutionary Socialism* (1898, Eng tr., 1909). See his reminiscences, *My Years of Exile* (1918, Eng tr., 1921).

Bernstein, Henry (ārē' bĕrnstīn'), 1876–, French dramatist Prolific writer of sophisticated comedy, he was represented continuously on the French stage after 1904 Some 10 of his plays have appeared in America, most successful among them *Le Voleur* (1906, Eng tr , *The Thief*, 1907) Others are *Le Secret* (1912, Eng tr , 1913) and *Espoir* (1934, Eng tr , *Promise*, 1937) Bernstein came to America in 1940 to escape the Nazis and was deprived (1941) of his French citizenship by the Vichy government

Bernstorff, Andreas Peter (ăndrā'ăs pā'tûr bĕrns'tôrf), 1735–97, Danish statesman, nephew of Johann Hartwig Ernst Bernstorff Made foreign minister (1773) after the fall of Struensee, he obtained from Russia the final ratification of the exchange treaty negotiated by his uncle in 1767 Sacrificed in 1780 to pacify Russia, he was recalled in 1784 and was chief minister until 1797 He sought friendly relations with Sweden, kept Denmark neutral in the French Revolutionary Wars, and undertook a liberal program of social, economic, and educational reform

Bernstorff, Johann Hartwig Ernst (yōhăn' härt'vĭkh), 1712–72, Danish statesman, of German (Hanoverian) origin As minister of foreign affairs (1751–70) under FREDERICK V and Christian VII he exerted himself successfully to keep Denmark at peace In 1767 he negotiated with Russia a provisional treaty by which the Danish crown was to cede OLDENBURG to Catherine II of Russia in exchange for ducal HOLSTEIN In 1770 Christian VII, under the influence of STRUENSEE, dismissed Bernstorff

Bernstorff, Johann Heinrich, Graf von (hĭn'rĭkh grăf' fŭn), 1862–1939, German diplomat As ambassador to the United States (1908–17) he tried to conciliate American feelings and repeatedly warned his government that unrestricted submarine warfare would bring the United States into the First World War A member of the Reichstag from 1921 to 1928, and a delegate to the League of Nations disarmament conferences (1929–31), he went into exile at Geneva after Hitler took power in Germany His memoirs were published in 1936

Bernward, Saint see BERWARD, SAINT

Berodach-baladan: see MERODACH-BALADAN.

Berœa (bĕrē'u), the same as BEREA

Beroeans see BEREANS

Berossus (burŏ'sŭs), 3d cent B C , Babylonian priest-historian, contemporary of MANETHO His work, in Greek, preserved Mesopotamian myths regarding creation and history It survives in fragments quoted by Josephus and Eusebius

Berothah (bĕrō'thu), city, Syria Ezek 47 16 Berothai may be the same

Berothai (bĕr'ōthī), city, Syria, perhaps the same as Berothah 2 Sam 8 8 Chun 1 Chron 18 8

Berothite (bĕr'ōthīt), inhabitant of the city Beeroth 1 Chron 11 39

Berrettini, Pietro see CORTONA, PIETRO DA

Berrien Springs (bĕr'ēun), village (pop 1,510), SW Mich , SE of Benton Harbor and on the St Joseph, platted 1830, inc 1867 Automobile parts and tools are made here, and there are medicinal springs The village is the seat of Emmanuel Missionary College (Seventh-Day Adventist) Near by are Indian mounds

Berruguete, Alonso (ălōn'sō bĕr-rōōgā'tā), c 1480–1561, Spanish sculptor, painter, and architect He studied with his father, Pedro Berruguete, a painter at the Spanish court, and in Rome with Michelangelo On Berruguete's return to Spain (1520) he was appointed court painter and sculptor to Charles V He is best known for his magnificent sculpture and wood carving The carved altar screens for San Benito el Real (Valladolid Mus), the choir stalls of the cathedral at Toledo, and the marble tomb of Cardinal Tavera (Toledo) are masterpieces Berruguete brought the influence of the Italian Renaissance and of Michelangelo to Spain, but his vigorous and original art is essentially Spanish His work is best seen in Valladolid See Bernard Bevan, *History of Spanish Architecture* (1938)

Berry, Caroline Fernande Louise, duchesse de (bĕ'rē, Fr kărōlēn' fĕrnăd' lwēz' dūshĕs' du bĕrē'), 1798–1870, wife of the French prince, Charles Ferdinand, duc de Berry, daughter of Francis I of Naples She was exiled from France in 1830 but returned in 1832 in an attempt to win the throne for Berry's posthumous son, later known as Henri, comte de CHAMBORD Her activities ended in imprisonment, The discovery of her marriage to an Italian so alienated French sympathy, however, that Louis Philippe found it safe to release her

Berry, Charles Ferdinand, duc de (shărl' fĕrdēnă' dūk'), 1778–1820, younger son of Charles, comte d'Artois (later Charles X of France) He served in Condé's army against the French Revolution His assassination in 1820 caused a sensation which the ultraroyalists used to their advantage in turning Louis XVIII even more decidedly against the liberals

Berry, Edward Wilber, 1875–1945, American paleontologist, b. Newark, N J From 1907 to 1942 he was associated with Johns Hopkins; he became professor of paleontology in 1917, dean in 1929, and provost in 1935 In 1910 he became senior geologist of the U.S Geological Survey Besides hundreds of articles on the paleontology and paleobotany of North and South America, he wrote *Tree Ancestors* (1923) and *Paleontology* (1929).

Berry, Martha McChesney, 1866–1942, American educator, b near Rome, Ga., Pd.D Univ of Georgia, 1920 Determined to provide educational opportunities for underprivileged mountain children, Miss Berry opened in 1902 a log-cabin school with five pupils This she developed at Mt Berry, Ga., into an institution comprising four units, a boys' school (1902), a girls' school (1909), Berry College (1926, coeducational), and a model practice school Now spread over 35,000 acres, the schools offer liberal arts and vocational training to over a thousand students who work out their tuition, Martha Berry was the only woman member of the Univ of Georgia Board of Regents (1932) and the State Planning Commission (1937) Her many honors include the Roosevelt medal (1925) See biography by Tracy Byers (1932)

Berry (bĕ'rē, Fr bĕrē'), region and former province, central France, S and W of the Loire It is largely occupied by a semiarid plateau, the Champagne Berrichonne, used for raising cattle The valleys of the Indre and the Cher are fertile agricultural districts BOURGES and Châteauroux are the chief towns A part of the Roman province of Aquitania, Berry was conquered (5th cent) by the Visigoths and (507) by the Franks It was first made a county in the 8th cent and was purchased (c 1100) by the French crown In 1360 Berry was made a duchy and until 1601 it was held as an appanage by various princes of the blood.

berry see FRUIT

Berryville. **1** Resort town (pop 1,482), a co seat of Carroll co , NW Ark , near Missouri, in the Ozark fruitgrowing region, laid out 1850 **2** Town (pop 1,262), N Va , near Winchester, in a farm and apple area of the Shenandoah Valley, laid out 1798, inc 1870 The courthouse of Clarke co is here An annual horse show is held

Bersimis (bĕrsēmē'), river of E Quebec, 250 mi long, flowing SE to the St Lawrence 67 mi above Tadoussac, navigable for 35 mi from its mouth. It is the property of the Montagnais Indians

Bertha of the Big Foot, d 783, Frankish queen, wife of Pepin the Short and mother of Charlemagne She figures prominently in Carolingian legend

Berthelot, Pierre Eugène Marcelin (pyĕr' ŭzhĕn' marslĕ'), 1827–1907, French chemist He was professor at the École supérieure de Pharmacie (1859) and at the Collège de France from 1865 He was made a life senator in 1881 and later served as minister of education (1886) and of foreign affairs (1895) In 1900 he became a member of the French Academy A founder of modern organic chemistry, he was the first to produce organic compounds synthetically, at the same time exploding the old theory of a vital force essential to organic compounds He also did valuable work in thermochemistry and in explosives His works include *Chimie organique fondée sur la synthèse* (1860) and *Leçons sur la thermochimie* (1897)

Berthier, Louis Alexandre (lwē' ălĕksădr' bĕrtyā'), 1753–1815, marshal of France He served in the American Revolution and in the French Revolutionary Wars, distinguishing himself in Italy under Napoleon The emperor made him prince of Neuchâtel and Wagram, appointed him chief of staff, and arranged his marriage with a Bavarian princess Berthier acclaimed the return of the Bourbons in 1814. Torn by divided allegiance when Napoleon returned from Elba he withdrew to Bavaria, where he killed himself or was killed on June 1, 1815

Berthier (bĕrtyā'), town (pop 2,634), S Que , on the St Lawrence at the head of Lac St Pierre (Lake St. Peter) and NE of Montreal It contains the ruins of the first Protestant church built (1786) in Canada after the British conquest

Berthollet, Claude Louis, Comte (klōd' lwē', kōt bĕrtōlā'), 1748–1822, French chemist His contributions to chemistry include analyzing ammonia; discovering the bleaching properties of chlorine, the use of carbon to purify water, and the detonating properties of potassium chlorate, and stating the theories of chemical equilibrium and the double decomposition of salts In 1798 he went with Napoleon to Egypt

Bertillon system (burtēl'yun, Fr bĕrtēyō'), first scientific method of criminal identification, developed by the French criminologist Alphonse Bertillon (1853–1914) The system, based on the classification of skeletal and other body measurements and characteristics, was officially adopted in France in 1888 and soon after in other countries Fingerprinting, added later as a supplementary measure, has largely replaced the system.

Bertrand, Henri Gratien (ārē' grāsyē' bĕrtrā'), 1773–1844, French general under Napoleon I He was created count Bertrand accompanied Napoleon to Elba (1814–15) and St. Helena (1815–21)

Bertrand de Born (bur'trŭnd) or **Bertran de Born** (bĕrtrā'), c 1140–c.1214, French TROUBADOUR of Limousin Some of his 40 surviving poems (in the language of his province) commemorate Bertrand's part in the struggles between Henry II of England and his sons.

Berward, Saint (bûr'wŭrd), d, 1022, German priest. He was court chaplain under Otto III, and as bishop of Hildesheim after 993 he created the glory of the place, walling the bishop's house, founding the cloisters, starting the construction of St. Michael's Church, and instituting the decorative arts, especially work in mosaics and in gold His name also appears as Bernward and Bernard He was canonized in 1193

Berwick, James Fitz-James, duke of (bĕr'ĭk), 1670–1734, marshal and peer of France, illegitimate son of King James II of England and Arabella Churchill, sister of the duke of Marlborough Born and educated in France, he first fought under Charles V of Lorraine at Buda and Mohacs Later he received high rank in the English army After the dethronement of his father (1688), he took part in the invasion of Ireland (1689) and fought at the Boyne (1690) He then joined the French army and fought in the War of the Grand Alliance He became a naturalized Frenchman in 1703 As military governor of Languedoc (1705) he took rigorous measures against the Protestant CAMISARDS In the War of the Spanish Succession he won the decisive victory of Almansa (1707) The campaign which he undertook against Prince Eugene in 1709 in defense of the southeastern frontier of France was a distinguished achievement in strategy, and his capture of Barcelona (1714) was the closing event of the war In 1717, as governor of Guienne, he befriended Montesquieu, who later wrote an introduction to his memoirs Berwick was killed at Philippsburg in the War of the Polish Succession

Berwick (bĕr'ĭk) or **Berwickshire** (bĕr'ĭkshĭr), maritime county (457 sq mi , 1931 pop 26,612, 1948 estimated pop 26,219), SE Scotland The county town is Duns Berwick is separated from England by the Tweed The coast line (along the North Sea) is rocky and inhospitable The county is divided into three geographical regions the Merse, in the southeast, one of the most productive valleys in Scotland, the Lammermuirs, a pastoral mountainous region in the northwest, and Lauderdale, a cultivated hilly region along Leader Water in the west The Eye is the chief river Agriculture (oats, barley) is the chief occupation Berwick was part of the ancient Saxon kingdom of Northumbria For many centuries it was the scene of border strife between England and Scotland See W S Crockett, *Berwickshire and Roxburgh* (1926)

Berwick (bûr'wĭk) **1** Town (pop 1,906), S La , on the Atchafalaya river near the mouth It has seafood, shell, and boat-construction industries **2** Town (pop 1,971), SW Maine, on the Salmon Falls River opposite Somersworth, N H , inc 1713 Settled c 1627, it was raided by Indians in 1675, 1690, and 1723 Woolen goods are manufactured **3** Industrial borough (pop 13,181), E Pa , on the Susquehanna and SW of Wilkes-Barre, settled 1783, inc 1818 It produces automobile parts, railroad cars, and rayon The site of Fort Jenkins (1777) is here

Berwick-on-Tweed (bĕr'ĭk) or **Berwick-upon-Tweed,** municipal borough (pop 12,299), Northumberland, England, on the north side of the mouth of the Tweed Being the principal border town, it was a bone of contention between England and Scotland for centuries, until it definitely became a part of Northumberland in 1885 There are complete ramparts around the town Its leading industries are fishing (herring and salmon) and metal casting The county of Berwick or Berwickshire is part of Scotland

Berwyn (bur'wĭn), city (pop 48,451), NE Ill , residential suburb of Chicago, founded 1890, inc as a village 1891, as a city 1908

beryl (bĕr'ĭl), mineral, a silicate of beryllium and aluminum, extremely hard, occurring in hexagonal crystals which may be of enormous size and may be rose-colored, red, green, blue, or colorless It is commonly used as a gem stone The refractive index is low, and the stones have little or no fire The most valued variety of beryl is EMERALD An AQUAMARINE is a blue to sea-green beryl, morganites are the rose-red beryls of California and Madagascar

beryllium (burĭ'lĭŭm) [from *beryl*] or **glucinum** (glōōsī'nŭm) [Gr ,=sweet], rare, steel-white, metallic element (symbol=Be or sometimes Gl, for physical constants, see ELEMENT, table) Lighter and harder than aluminum, it resists corrosion as effectively Resembling magnesium chemically as well as physically, it combines with various other elements to form compounds, e g , a chloride, a silicate, and a sulphate With oxygen it forms the oxide beryllia Beryllium does not occur by itself in nature, but only in combination BERYL, of which the aquamarine and emerald are variations, contains about 5 percent of beryllium Combined with silicon and oxygen, the element appears as the quartzlike substance phenacite. It is found also in the granite pegmatite Beryllium ores are found in the United States, Europe, and Africa, but the cost of extracting the metal (by electrolysis) limits its commercial use Alloyed with aluminum it produces a material lighter, with a higher melting point, and of greater strength than aluminum itself; alloyed with other metals it adds hardness and strength Beryllium metal was first isolated independently by Wöhler and Bussy in an impure state in 1828, although discovery of the element had been anticipated (1798) by Vauquelin, who recognized a new earth which he called glucina (now beryllia) as a compound distinct from alumina, with which it had been confused.

Berytus: see BEYROUTH, Lebanon

Berzelius, Jons Jakob, Baron (bûrzā'lēŭs, Swed yuns' yä'kôp, bĕrzā'lĭŭs), 1779–1848, Swedish chemist, M D Univ of Uppsala, 1802 He was noted for his work as teacher at the medical school and other institutions in Stockholm and for his discoveries in diverse fields of chemistry He developed the modern system of symbols and formulas in chemistry, prepared a remarkably accurate table of atomic weights, analysed numerous chemical compounds, and discovered the elements selenium, thorium, and cerium Silicon in the amorphous form was first prepared by Berzelius, and he was the first to isolate zirconium He also contributed to the science of electrochemistry and wrote a number of books

Bessi (bĕ'sī), family which returned with Zerubbabel Ezra 2 49, Neh 7 52

Besançon (buzāsôN'), city (pop 51,939), capital of Doubs dept , E France, on the Doubs river It today has large watch and clock manufactures Besançon was a Roman military station and early became an archiepiscopal see It passed to the successive kingdoms of Burgundy and to FRANCHE-COMTÉ, but Emperor FREDERICK I (who had held here in 1157 the fateful diet which led to his excommunication) made Besançon a free city, with special privileges for its archbishops Besançon maintained its independence, with interruptions, until 1648, when it passed completely under Spanish rule through its incorporation with Franche-Comté After LOUIS XIV's second conquest of Franche-Comté (1674), Besançon became (1676) the capital of his new province, and he transferred the PARLEMENT and the university (founded c 1422) here from Dôle Besançon has Roman ruins, a cathedral (12th-16th cent), and many other handsome buildings in Spanish Renaissance style, notably the Palais Granvelle (birthplace of Cardinal GRANVELLE now housing a museum) and the imposing town hall Proudhon, Fourrier, and Victor Hugo were born in Besançon

Besant, Annie (Wood) (bĕ'zănt), 1847–1933, English *theosophist and social reformer* When in 1873 she separated from her husband, a clergyman, the courts refused her the guardianship of her children because of her agnosticism As a member of the National Secular Society she preached free thought and as a member of the Fabian Society spread socialist propaganda With Charles Bradlaugh she became coeditor of the *National Reformer* and with him published (1877) a pamphlet on birth control, *The Fruits of Philosophy*, for which they were tried on a charge of immorality and acquitted In 1889 she joined the Theosophical Society, becoming a disciple of Mme Blavatsky From this time on she lived in India, and she became active in Indian politics She founded the Central Hindu College at Benares in 1898 and in 1916 established the Indian Home Rule League and became its president She was president of the Indian National Congress in 1917 She traveled (1926–27) in England and America with her protégé, Jiddu KRISHNAMURTI, whom she announced as the new Messiah President of the Theosophical Society from 1907, she wrote an enormous number of books and pamphlets on theosophy The long list of her works includes her autobiography (1893), *Four Great Religions* (1897), *The Ancient Wisdom* (1897), and *The Wisdom of the Upanishads* (1906)

Besant, Sir Walter (bĭzănt'), 1836–1901, English novelist and humanitarian, grad Christ's College, Cambridge, 1859 He taught at the Royal College of Mauritius from 1861 to 1867 After his return to England he devoted himself to writing and to various causes, among these the improvement of the copyright laws His first novels, in collaboration with James Rice, won immediate popularity, they include *The Golden Butterfly* (1876) and *Ready-Money Mortiboy* (1872) After the collaboration with Rice ceased in 1881, many of Besant's novels dealt with social problems, among them were *All Sorts and Conditions of Men* (1882) and *Children of Gibeon* (1886) Although he was one of the most widely read novelists of the late 19th cent., Besant's popularity did not long survive his death He wrote or edited a long series of works on London, many of which were published posthumously. Other works include the novels *Armorel of Lyonesse* (1890) and *Beyond the Dreams of Avarice* (1895), biographies of Gaspard de Coligny (1879), Rabelais (1879), and Captain Cook (1890), and critical studies of French literature Besant was knighted in 1895 See his autobiography (1902)

Besier, Rudolf (bāsyā'), 1878–1942, English dramatist, b. Java He wrote *The Virgin Goddess* (1906), *Don* (1909), *Lady Patricia* (1911), and *Kings and Queens* (1915) and collaborated with H G Wells in writing *Kipps* (1912), with Hugh Walpole in *Robin's Father* (1918), and with May Edginton in several plays. He is best known for *The Barretts of Wimpole Street* (1931), produced in the United States with Katharine Cornell as Elizabeth Barrett

Beskids, mountain range of the Carpathians, along the Polish-Czechoslovak border The highest peak (Pol *Babia Góra*, Slovak *Babí Hora*) rises to 5,658 ft

Beskow, Elsa Maartman (ĕl'sä märt'man bĕs'kôv), 1874 , Swedish writer for children Many of her stories, which she illustrates, have been translated into English They include *Aunt Brown and Aunt Lavender* and *Pelle's New Suit*

Besnard, Paul Albert (pôl' älbĕr' bänär'), 1849–1934, French painter, studied with Cabanel and in Italy He received many official honors and was the last important academic painter His portrait of Legros and his *Woman Warming Herself* are in the Luxembourg Museum, Paris He is best known for his many mural decorations in schools and public buildings of Paris See study by Camille Mauclair (1914, in French)

Besodeiah (bĕsōdē'yu, bĕsōdā'ĭ'u) [Heb ,=in God's secret], father of MESHULLAM **6**

Besor (bē'-), wadi, S Palestine 1 Sam 30 9,10,21

Bessarabia (bĕsurā'bēu), region of SE Europe, bounded by the Dniester on the north and east, the Pruth on the west, the Danube on the south, and the Black Sea on the southeast Consisting largely of flat steppes, it has an extremely fertile soil, which, however, often suffers from severe drought Corn, wheat, tobacco, and grapes are among the chief crops, sheep raising furnishes wool for export Kishinev, Izmail, and Belgorod-Dnestrovsky are among the chief centers Always a march country, the region changed hands often It was part of Roman Dacia, was invaded by numerous nations (Goths, Petchenegs, Cumans, Mongols) and was largely conquered by the princes of MOLDAVIA (14th cent) The name is derived from that of Bassarab, a princely family of Walachia, which at one time extended its rule into S Bessarabia By the end of the 15th cent the Turks and their vassals, the khans of the Crimean Tatars, conquered Bessarabia, which was placed under Tatar governors and later under Turkish pashas After the Russo-Turkish War of 1806–12 it was ceded to Russia by the Treaty of Bucharest (1812) The Crimean War resulted (1856) in the cession by Russia of S Bessarabia to Moldavia, but the Congress of Berlin (1878) returned the district to Russia, compensating Rumania with the Dobruja In 1918 all Bessarabia was seized and annexed to Rumania The Soviet government, which never recognized the loss of the province, in 1940 presented an ultimatum to Rumania, demanding the return of Bessarabia and N Bukovina Rumania yielded, but in 1941, having joined Germany in its war on Russia, reoccupied Bessarabia It was in turn recovered by Russian troops in 1944 The Rumanian peace treaty of 1947 confirmed Bessarabia as part of the USSR The larger part was incorporated in the Moldavian SSR, the southern section, with a predominantly Ukrainian-speaking population, was added to the Ukraine

Bessarion, Johannes (gōhän'ĭs bĕsär'ĭun), 1395?–1492, Byzantine humanist, cardinal of the Roman Church He attended the Council of FERRARA-FLORENCE as metropolitan of Nicaea and remained in Italy He was made a cardinal in 1439, and in 1463 the pope named him patriarch of Constantinople Bessarion's time was chiefly occupied in translating from Greek into Latin He was a student of Plato and introduced Neoplatonic ideas to Italy A projected translation of Ptolemy was completed by his protégés, Purbach and REGIOMONTANUS His fine collection of Greek MSS was the nucleus of St Mark's library, Venice

Bessborough, Vere Brabazon Ponsonby, 9th earl of, 1880–, English governor general of Canada (1931–35) He served in Gallipoli and France during the First World War In 1931 he was appointed governor general of Canada He edited (with Arthur Aspinall) *Lady Bessborough and Her Family Circle* (1940)

Bessel, Friedrich Wilhelm (frēd'rĭkh vĭl'hĕlm bes'l), 1784–1846, German astronomer He became in 1810 director of the new observatory at Königsberg and professor of astronomy at the Univ of Königsberg Among his many achievements the most noted is his discovery of the parallax of the fixed star 61 Cygni Announced in 1838, it was officially recognized in 1841 as the first fully authenticated measurement of the distance of a star His observations had, by 1833, increased the number of accurately determined stars to 50,000 This work was continued and extended by his pupil ARGELANDER Bessel's works include *Fundamenta Astronomiae* (1818) and *Astronomische Untersuchungen* (1841–42)

Bessemer, Sir Henry (bĕs'umur), 1813–98, English inventor, b Charleton, Hertfordshire He had no formal education, but possessed an aptitude for mechanics. While working at the time of the Crimean War to improve the construction of cannon, he became convinced of the prime necessity of

better iron and began experiments to that end After two years he discovered the basic principle involved in the BESSEMER PROCESS and in 1856 read before the British Association at Cheltenham his important paper "The Manufacture of Iron without Fuel" He built a successful converter and, later, erected the Bessemer Steel Works at Sheffield, which began to operate in 1858 and soon produced iron so cheaply that he could undersell his competitors In America the Bessemer process was patented in 1857, but Bessemer's priority right here was challenged by William KELLY, and in the end the battle between the two interests was settled by a consolidation of the rival companies Bessemer received many honors for his signal contribution and was knighted in 1879 See his autobiography (1905, new ed , 1924)

Bessemer. **1** Industrial city (pop 22,826), central Ala , just SW of Birmingham, in a mining area, founded 1887 Iron, steel, and chemical products are made here **2** City (pop 4,080), co seat of Gogebic co , W Upper Peninsula, N Mich , near the Black River NE of Ironwood, inc as a village 1887, as a city 1889 It is in the Gogebic iron-mining region There is a small museum with a collection of arms here **3** Borough (pop 1,635), W Pa , WSW of New Castle near the Ohio border; inc c 1910 Portland cement is made here

Bessemer City, textile-mill town (pop 3,567), W central N C , just W of Gastonia, in the piedmont

Bessemer process [for Sir Henry BESSEMER] industrial process for the manufacture of STEEL from cast iron (pig iron) The principle involved is that of oxidation of the impurities in the iron by the oxygen of air blown through the molten iron, the heat of oxidation raises the temperature of the mass and keeps it molten during operation The process depends for its efficiency upon a large container made of steel with a lining of silica and clay or of dolomite, called the Bessemer converter The capacity is from 15 to 25 tons of molten iron, the usual charge is 15 or 18 tons The converter is egg shaped At its narrow, or upper, end it has an opening through which the iron to be treated is introduced and the finished product is poured out The wide end, or bottom, has a number of perforations (tuyères) through which the air is forced upward into the converter during operation The container is set on pivots (trunnions) so that it can be tilted at an angle to receive the charge, turned upright during the "blow," and inclined for pouring out the molten steel after the operation is complete As the air passes upward through the molten pig iron, impurities such as silicon, manganese, and carbon unite with its oxygen to form oxides, the carbon monoxide burns off with a blue flame and the other impurities form slag (see METALLURGY) Phosphorus and sulphur are difficult to remove by the process and cause brittleness in the product Dolomite is used as the converter lining when the phosphorus content is high, the process is then called basic Bessemer The silica and clay lining is used in the acid Bessemer In order to provide the elements necessary to give the steel the desired properties another substance, often spiegeleisen (an iron-carbon-manganese alloy), is usually added to the molten metal after the oxidation is completed The converter is then emptied into ladles from which the steel is poured into molds, the slag being left behind The whole process is completed in from 20 to 30 min. Bessemer steel is used for making machinery, tools, wire, and nails and for structural purposes

Bessenyei, George (bĕ′shĕnyā), Hung *Bessenyei György* (dy ör′dy ü), 1747–1811, Hungarian dramatist and writer A member of the famous Hungarian Horse Guard at Vienna, he came in contact with the ideas of French rationalism and was soon an ardent follower of Voltaire and the Encyclopedists His plays and prose writings have no literary merit; Bessenyei's importance lies in the fact that he wrote in Hungarian, which had fallen into disuse among the upper classes of his country His efforts encouraged other writers to use that language again, and thus Bessenyei is often regarded as the inaugurator of the modern era in Hungarian literature

Bessey, Charles Edwin, 1845–1915, American botanist, b Wayne co , Ohio, educated at Michigan State College of Agriculture, at Harvard, and at the State Univ of Iowa (Ph D , 1879) He was professor of botany at the Univ of Nebraska from 1884 until his death and was head dean from 1909 He was among the first to use laboratory methods, nontechnical and well illustrated, in teaching botany, and he wrote a number of texts and studies concerning plant life

Best, Charles Herbert, 1899–, Canadian physiologist, b West Pembroke, Maine, grad Univ. of Toronto (B A , 1921, M D , 1925) With F G BANTING he discovered (1921) the use of insulin in the treatment of diabetes He was appointed professor of physiology at Toronto in 1929, served as associate director of the Connaught Laboratories from 1932 to 1941, and became director of the Banting-Best department of medical research at Toronto in 1941. With N. B Taylor he wrote *The Living Body* (rev. ed., 1946), *The Physiological Basis of Medical Practice* (4th ed , 1946), and *The Human Body and Its Functions* (rev ed , 1948).

bestiary (bĕs′-), a type of medieval book that was widely popular The bestiary presumed to describe the animals of the world and to show what human traits they severally exemplify. The bestiaries are the source of a bewildering array of fabulous beasts and of many misconceptions of real ones They were the artist's guide to animal symbolism in religious building, painting, and sculpture *Physiologus*, an ancient work of the type, was probably the chief source of the bestiaries

Bestuzhev, Aleksandr Aleksandrovich (ŭlyĭksan′dur ŭlyĭksān′druvĭch byĭstōō′zhŭf-), pseud **Cossack Marlinsky** (kŏs′ŭk märlyēn′skē), 1797–1837, Russian novelist and poet He wrote popular romantic tales in the Byronic manner As an officer in the guards he joined the Decembrists and was exiled to Siberia Later transferred to the Caucasus, he found here the material for his best novel, *Ammalat Bek*, available in Thomas Shaw's translation in *Blackwood's Magazine* (1843)

Bestuzhev-Ryumin, Aleksey Petrovich, Count (ŭlyĭksyā′ pĕtrō′vĭch byĭstōō′zhĕf-ryōō′myĭn), 1693–1766, Russian statesman, grand chancellor under Empress Elizabeth In the War of the AUSTRIAN SUCCESSION he succeeded (1747) in forming an alliance of Russia, Austria, England, and Saxony to check France and Prussia The death of Elizabeth and the accession of Peter III (1762) resulted in Bestuzhev-Ryumin's fall, but Catherine II after her accession recalled him to the court and made him a field marshal

Betah (bē′tu), the same as TIBHATH

beta particle and beta ray see RADIOACTIVITY, RADIUM, RAY

betatron (bā′tutrŏn), electron-accelerating machine originally called a rheotron, invented by D W Kerst in 1941 Electrons are given off by a hot filament in a doughnut-shaped glass vacuum tube which lies between the poles of a large electromagnet These electrons are accelerated in a circular path and are either released from the tube as a beam of beta rays or are directed at a metal target, causing the generation of X rays The betatron has been used in the study of cosmic rays and in medical and industrial research

Betelgeuse (bē′tuljōōz, bē′-, bē′tulj(ŭ)z), bright star in the constellation Orion, called also Alpha Orionis The name Betelgeuse [from Arabic,=the shoulder of the giant] indicates its position, marking the right shoulder Betelgeuse was the first star whose diameter was measured with the Michelson interferometer (Mt Wilson, Calif , 1920) It is a variable giant red star about 240 light years from the earth, and it is believed to have a linear diameter of c 215,000,000 mi

betel nut (bē′-), fruit of the betel palm (*Areca catechu*) It is chewed with a leaf of the betel pepper smeared with quicklime and makes the teeth black and the saliva red Betel-nut chewing, as a narcotic stimulant, is a custom of many Eastern peoples Opinion is divided as to its beneficial qualities The betel nut is an article of considerable commerce in the East

Beten (bē′tĕn), village, N Palestine Joshua 19 25

Bethabara (-ăb′ŭru) [Heb ,=house of the ford], place, on the Jordan, traditionally located at a ford close by the Dead Sea, where John was baptizing when Jesus came to him Bethany RV, following the better ancient texts John 1 28

Bethalto, village (pop 1,207), SW Ill , just E of Alton, inc 1869

Beth-anath (-ā′năth) [Heb ,=house of Anat, Canaanite goddess], town, N Palestine Joshua 19 38, Judges 1 33

Beth-anoth (-ā′nŏth) [Heb ,=house of Anat, Canaanite goddess], town, probably the modern Beit Anun, not far NNE of Hebron Joshua 15 59.

Bethany (bĕth′unē) **1** Village, at the southeastern foot of Mt Olivet, the modern El Azariеh, 2 mi E of Jerusalem. Home of Lazarus, Martha, and Mary, it was frequently visited by Jesus It is closely associated with the final scenes of his life, and the ascension took place near Bethany Mark 11 1,11, John 11, Mat 21 17, 26 6, Mark 14 3, Luke 19 29, 24 50 **2** See BETH-ABARA

Bethany. **1** City (pop 2,682), co seat of Harrison co , NW Mo , NE of St Joseph, in a farm and limestone region, founded 1845, inc 1858 **2** City (pop 2,590), central Okla , near Oklahoma City Members of the Nazarene sect, who predominate, maintain the Bethany-Peniel College **3** Town (pop 410), W Va , in the Northern Panhandle, NNE of Wheeling and near the Pa line It is the seat of **Bethany College** (coeducational), chartered in 1840 and opened in 1841 by Alexander CAMPBELL.

Bethany College. see BETHANY, W.Va., and LINDSBORG, Kansas

Beth-arabah (-ăr′ŭbu) [Heb ,=house of the ARABA], town, in the Jordan valley near Jericho. Joshua 15 6,61, 18 22.

Beth-aram (-ā′-), the same as BETH-HARAN.

Beth-arbel (-är′bĕl), town not surely identified. It is probably one of two places called in modern times Irbid, one not far NW of Tiberias, the other c.15 mi. E of the Jordan and in the latitude of Jezreel. Hosea 10.14.

Beth-aven (-ā′vĕn) [Heb ,=house of nothingness], town, S central Palestine, between Bethel and Michmash. Joshua 7 2, 1 Sam 13 5; 14.23 It is probably used as an abusive name for Bethel in Hosea 4 15, 5 8, and 10 5 The prophet seems to use Aven (for Beth-aven) also in the same way. Hosea 10 8.

Beth-azmaveth: see AZMAVETH.

Beth-baal-meon (-bā′ul-mē′ŭn) [Heb ,=house of the Baal of habitation], town, E of the Jordan, now represented by the extensive ruins of Main, 12 mi SW of Heshbon. Joshua 13 17 Baal-meon Num 32 38, Ezek 25 9, 1 Chron 5 8 Beth-meon Jer 48 23 Beon in Num 32 3, an otherwise unidentified place, is probably the same

Beth-barah (-bā′ru), unidentified town, near Bethshan Judges 7 24

Beth-birei (-bĭr′rē), unidentified town. 1 Chron 4 31 See BETH-LEBAOTH

Beth-car [Heb ,=house of the lamb], town, westerly of Jerusalem 1 Sam 7 11

Beth-dagon (-dā′-) [Heb ,=house of Dagon] **1** Town, SW Palestine, perhaps the modern Beit Dejan, 5½ mi NW of Lydda going toward Joppa, or the modern Dajun, c 1½ mi SW of Beit Dejan Joshua 15 41 **2** Town, N Palestine, possibly another Beit Dejan, 7 mi ESE of Shechem going toward the Jordan Joshua 19 27

Beth-diblathaim: see ALMON-DIBLATHAIM

Bethe, Hans Albrecht (bā′tŭ), 1906–, American physicist, b Strasbourg, educated at Frankfurt and Munich universities In 1935 he came to the United States to teach at Cornell, where he became professor in 1937 From 1943 to 1946 he was director of the theoretical physics division of the Alamos Atomic Bomb Project He is noted for his brilliant theories on atomic properties and on the origin of solar and stellar energy

Bethel (bĕth′l) [Heb ,=house of God] **1** Ancient city, central Palestine, the modern Beitin, c 12 mi N of Jerusalem According to the Bible, where it is very frequently mentioned, it was called Luz (see Luz 1) at first, Bethel was first the name of Jacob's sacred stone there, then transferred to the town itself Bethel lost to Jerusalem its preeminence as a Jewish shrine, and Jeroboam's attempt to set Bethel up as his religious capital in rivalry to Jerusalem was vain Gerizim instead became the center of Jewish worship in the northern kingdom, and Bethel was increasingly associated with heathen worship—hence the denunciations by Amos and by Hosea, who calls it BETH-AVEN by way of insult As a heathen shrine Bethel was overshadowed by Jezreel and Samaria, and the New Testament does not even mention it See (for example) Gen 12 8, 35 1-15, Judges 20 26,27, 1 Kings 12 26-33, Amos 3 14 **2** Unidentified place, S Palestine Joshua 12 16, 1 Sam 30 27 Chesil Joshua 15 30 Bethul Joshua 19 4 Bethuel 1 Chron 4 30

Bethel. **1** Town (pop 4,105), SW Conn , near Danbury, settled c 1700, inc 1855 Its hat factories date from c 1800 P T Barnum was born here **2** Resort town (pop 2,034), W Maine, SW of Rumford, in beautiful country on the Androscoggin, settled 1774, inc 1796 Wooden products are manufactured **3** Town (pop 217), NE Mo , WNW of Hannibal, founded 1844 by William KEIL as a communistic enterprise **4** Town (pop 1,333), E N C , N of Greenville, in an agricultural area **5** Village (pop 1,604), SW Ohio, SE of Cincinnati, in a farm area, settled 1797 **6** Town (pop 1,477), central Vt , S of Montpelier, chartered 1778 Its granite quarries closed in 1925

Bethel College see NEWTON, Kansas

Beth-emek (-ē′mĕk) [Heb ,=house of the valley], town, probably the modern Amkah, c 8 mi NE of Acre Joshua 19 27

Bether (bē′thur), in the Bible, word or name of unknown significance It has been suggested that this may mean the plant malabathrum Cant 2 17

Bethesda (-thĕz′-, -thĕs′-) [Aramaic,=house of mercy], pool in Jerusalem, perhaps the one recently discovered under the Crusaders' Church of St Anne near St Stephen's Gate in the northeast corner of the city Its healing properties, which made it the resort of the sick and ailing, arose from an angel's visits. John 5 2–9

Bethesda (bĭthĕz′du) **1** Unincorporated town in election district 7 (pop 26,114) of Montgomery co , W central Md , northwestern suburb of Washington, D.C. The research center (1939) of the National Cancer Institute is here, as well as a naval medical center (1942) **2** Village (pop. 1,127), SE Ohio, SW of St Clairsville

Beth-ezel (-ē′zĕl), unidentified town Micah 1 11

Beth-gader (-gā′-) [Heb ,=house of the wall], unidentified town 2 Chron 2 51 The Geder of Joshua 12 13, otherwise unidentified, is perhaps the same town

Beth-gamul (-gā′-) [Heb ,=house of the weaned], unidentified town of Moab Jer 48 23

Beth-haccerem (-hăk′urĕm) [Heb ,=house of the vine], town, S Palestine, traditionally identified with the Frank mountain, or Herodium, 3 mi. SE of Bethlehem Neh 3 14, Jer 6 1.

Beth-haran (-hā′-), town, E of the Jordan, not far northeast of its mouth into the Dead Sea. Num. 32 3. Beth-aram. Joshua 13.27.

Beth-hogla or Beth-hoglah (bŏth'-hŏg'lă) [Heb.,=house of the partridge], town, the modern Ain Hajlah, c 2 mi W of the Jordan, SE of Gilgal. Joshua 15.6, 18 19,21.

Beth-horon (-hō'-) [Heb.,=house of the cave], name of two neighboring towns on the northerly road from Lydda to Jerusalem Beth-horon the nether (modern Beit Ur et-Tahta) is c 11 mi ESE of Lydda, and Beth-horon the upper (modern Beit Ur el-Fokha) c 2 mi farther up In this strategic locality two historic Jewish victories were gained, by Joshua and Judas Maccabaeus Joshua 10, 1 Mac 3 See also Joshua 16 3,5, 18 13,14, 21 22, 1 Kings 9 17, 1 Chron 6 68, 7 24, 2 Chron 8 5

Beth-jeshimoth (-jĕsh'I-) or **Beth-jesimoth** (-jĕs'I-) [Heb ,=house of wastes], town, c 1 mi NE of the Dead Sea. Num 33 49, Joshua 12 3, 13 20, Ezek. 25 9

Beth-lebaoth (-lĕb'ăŏth) [Heb ,=house of the lionesses], town, S Palestine Joshua 19 6 Lebaoth Joshua 15 32 BETH-BIREI corresponds with Bethlebaoth in a parallel passage

Bethlehem (bĕth'lēum) [Heb ,=house of bread or house of Lahmu, a goddess], Arabic *Beit Lahm*, town (pop 6,814), S central Palestine, just S of Jerusalem It was the birthplace of Jesus and is one of the great shrines of the world On a hill in green, fertile country, it looks across to the Dead Sea and beyond Its inhabitants, largely Christian, depend on the pilgrims for their livelihood In the Old Testament, it was the birthplace of Benjamin, the scene of the book of Ruth, and the home of David Another name—probably earlier—was Ephrath or Ephratah Gen 35 16-20, 48 7, 1 Sam 16, 17, 2 Sam 23 13-17, 1 Chron 15-19 David and his family neglected their city, which was obscure, forgotten by all except those who looked to Bethlehem for the Messiah, the second David Micah 5 2 Christians believe that Jesus was this Messiah, born of David's house in David's city, and view Bethlehem with peculiar affection Hadrian desecrated (135) the traditional place of the Nativity with a grove sacred to Adonis In 315 Constantine destroyed the heathen grove and in 330 set up instead a basilica A church standing there is shared by monks of the Greek, Latin, and Armenian rites The manger in which Jesus was born is said to have been in the grotto under the church In the court of the church St Jerome lived for 30 years Bethlehem has borne a charmed life and has been spared by almost all invaders In 1949 it was under Arab control There is also another Bethlehem NNW of Nazareth Joshua 19 15

Bethlehem. **1** Resort town (pop 935), NW N H , in the White Mts , on the Ammonoosuc river and SW of Whitefield, settled 1787, inc 1799 **2** Industrial city (pop 58,490), Northampton and Lehigh counties, E Pa , on the Lehigh river and N of Philadelphia, settled 1740–41 by Moravians, inc as a borough 1845, as a city 1917 Steel products of all types are manufactured here, and it is the site of the Bethlehem Steel Corp The annual music festival (May) was developed by J Frederick Wolle and has attained international recognition (see BACH CHOIR) Bethlehem is the seat of LEHIGH UNIVERSITY, Moravian College (for men, 1807), and Moravian College for Women (1742) Points of interest in the city are the Central Moravian Church (c 1803), the Schmitz House (1749), and the Moravian Buildings The town was threatened with destruction in 1757 by hostile Delaware and Shawnee Indians, but was saved by Paxinosa, a Shawnee chief During the Revolutionary War one of the community buildings was used as a hospital for Continental soldiers

Bethlen, Gabriel (bĕth'lun), Hung *Bethlen Gábor* (bĕt'lĕn gă'bôr), 1580–1629, prince of Transylvania (1613–29) He was chief adviser of Stephen BOCSKAI and was elected prince after the assassination of Gabriel BATHORY A Protestant, though tolerant towards all religions, he allied himself (1619) with FREDERICK THE WINTER KING and overran Hungary, of which he was elected king (1620) After the Bohemian defeat at the White Mt (1620), he signed with Emperor FERDINAND II the Treaty of Nikolsburg (1621), by which he renounced the royal title but retained control of seven Hungarian counties and received the rank of prince of the empire He continued his relations with the Protestant powers opposing the emperor in the Thirty Years War and married the sister of the elector of Brandenburg, however, he kept the interests of Transylvania paramount He was a wise administrator and encouraged the development of law and learning

Bethlen, Count Stephen, Hung *Bethlen István*, 1874–, Hungarian statesman, premier (1921–31), member of the same Protestant Transylvanian family as Gabriel Bethlen. He entered the Hungarian parliament in 1901, and in 1919 he was a delegate to the Paris Peace Conference Called to the premiership by Admiral Horthy, he prevented, despite his monarchist leanings, the return of King Charles (Emperor CHARLES I) to avoid military intervention by the Little Entente The chief aim of his foreign policy was the revision of the Treaty of Trianon, a treaty of friendship (1927) with Italy advanced this cause Bethlen survived the scandal over the forgery of francs in 1926, in which high officials were involved, but his revisionism aroused the increasing suspicion of the Little Entente powers In 1931 French bankers offered a loan to the hard-pressed government only on condition that revisionism halt, and he resigned He was succeeded as premier by Count Julius Karolyi Active in parliamentary opposition, Bethlen at first favored cooperation with Hitler's Germany but later advised a more cautious course. He retired from politics in 1939

Beth-maachah ' see ABEL-BETH-MAACHAH

Bethmann-Hollweg, Theobald von (tā'ôbält fŭn bāt'mun-hōl'vāk), 1856–1921, German statesman He became minister of the interior (1905) and secretary of state (1907), and in 1909 succeeded Bernhard von BÜLOW as chancellor A Liberal, he worked for a comprehensive insurance law, extension of the franchise, and greater autonomy for Alsace-Lorraine, his legislative efforts were supported in the Reichstag by a coalition of Conservatives and Centrists By the settlement (1911) of the crisis over MOROCCO he won a large area for the German colony in the Cameroons and he also came to an agreement with Russia concerning the Near East Even though he greatly increased the German peacetime army he did not desire the First World War, but once in it he tried to justify the German stand His statement, calling the treaty guaranteeing Belgian neutrality "a scrap of paper," was much cited Bethmann-Hollweg tried to restrict submarine warfare and to end the war by conciliation (1916)—an attempt that led to his overthrow (1917) by Ludendorff and Hindenburg

Beth-marcaboth (-mar'kŭbŏth) [Heb ,=house of chariots], town, perhaps the same as MADMANNAH Joshua 19 5, 1 Chron 4 31

Beth-meon (-mē'un) see BETH-BAAL-MEON

Bethnal Green (bĕth'nul), metropolitan borough (1931 pop 108,194, 1948 estimated pop 60,580) of NE London, England It is an industrial district once noted for silk weaving It suffered severely from air raids in 1940–41 Bethnal Green Museum is a branch of Victoria and Albert Museum

Beth-nimrah (-nĭm'ru) [Heb ,=panther house], town, the modern Tell Nimrin, 6 mi E of the Jordan and c 10 mi from its mouth Num 32 36, Joshua 13 27 Nimrah Num 32 33

Beth-palet (-pā'-) [Heb ,=house of flight], unidentified town, S Palestine Joshua 15 27 Beth-phelet Neh 11 26 Its adjective is Paltite 2 Sam 23 26 See PELONITE

Beth-pazzez (-păz'ĕz) [Heb ,=dispersion], unidentified town Joshua 19 21

Beth-peor (-pē'ôr) [Heb ,=house of Peor, i e , house of BAAL-PEOR], town, perhaps the modern Minyeh, 10 mi SE of the mouth of the Jordan Num 25 3, Deut 3 29, 4 46, 34 6, Joshua 13 20

Bethphage (-fā'jē, -fāj) [Heb ,=house of green figs], place of unknown location, traditionally between Bethany and the Mount of Olives, NW of Bethany Mat 21 1, Mark 11 1, Luke 19 29

Beth-phelet (-fē'-) see BETH-PALET

Beth-rapha (-rā'-), unidentified person or place 1 Chron 4 12

Beth-rehob (-rē'hŏb) [Heb ,=house of the street], town, N Palestine Judges 18 28, 2 Sam 10 6 Rehob Num 13 21, 2 Sam 10 8

Bethsaida (-sā'ĭdu) [Heb ,=house of fish], birthplace of SS Peter, Andrew, and John It was renamed Julias later John 1 44, 12 21, Mark 6 45, 8 22, Mat 11 21, Luke 10 3 Some identify Bethsaida with the Julias just E of the Jordan and N of the Sea of Galilee, others would place it on the eastern shore of the lake, still others suppose two Bethsaidas, one on the eastern and another on the northwestern shore

Beth-shan (-shăn') or **Beth-shean** (-shē'un) [Heb , =quiet house], ancient fortress, at the meeting of the Vale of Jezreel with the Jordan valley, the modern BEISAN It was the principal strategic point of E Palestine, with the crossing of four roads, from the upper Jordan, from the lower Jordan, from Jerusalem past Mt Gerizim, and from Esdraelon and the sea Joshua 7 11, Judges 1 27, 1 Sam 31 10,12, 2 Sam 21 12, 1 Kings 4 12, 1 Chron 7 29 Bethsan 1 Mac 5 52, 12 40,41

Beth-shemesh (-shē'mĕsh) [Heb ,=house of the sun] **1** The Egyptian HELIOPOLIS Jer 43 13 The Greek and Hebrew names of this city are synonymous **2** Town, 16 mi W of Jerusalem Excavations here have revealed traces of the Egyptian occupation in the 2d millennium B C Joshua 15 10, 21 16, 1 Sam 6, 1 Kings 4 9, 2 Kings 14 11,13, 1 Chron 6 59, 2 Chron 28 18 Ir-shemesh Joshua 19 41 **3** Town of Issachar Joshua 19 22 **4** Town of Naphtali Joshua 19 38

Beth-shittah (-shĭt'u) [Heb ,=acacia house], town, on the north side of the Vale of Jezreel c 5½ mi above Beth-shan, probably the modern Shutta. Judges 7 22

Bethsura (-sū'ru), the same as BETH-ZUR

Beth-tappuah (-tăpū'u) [Heb ,=house of TAPPUAH], town, c 4 mi W of Hebron, of which it was perhaps a colony Joshua 15 53

Bethuel (bĕthū'ŭl) [Heb ,=man of God] **1** Father of Laban and Rebecca Gen 22 23, 28 5, 29 5 **2** The same as BETHEL **2.**

Bethul (bĕth'ŭl) the same as BETHEL **2.**

Bethulia (bĕthū'lēu), city, Palestine, apparently located somewhere NE of Samaria, c 10 mi from that city It was the scene of the principal events of the book of Judith It has been variously identified, by some even with Jerusalem

Bethune, David ' see BEATON, DAVID

Bethune, Mary McLeod (mukloud' buthūn'), 1875–, American Negro educator, b Mayesville, S C , grad Moody Bible Institute, Chicago, 1895 In 1904 she founded the Daytona Normal and Industrial Institute for Negro Girls (now Bethune-Cookman College) and until 1942 was its president Mrs Bethune was director (1936–44) of the Division of Negro Affairs of the National Youth Administration and consultant on interracial understanding at the San Francisco Conference of the United Nations. In 1935 she was awarded the Spingarn medal

Bethune, Thomas Greene see BLIND TOM

Bethune-Cookman College see DAYTONA BEACH, Fla

Beth-zur (-zûr'), town, Palestine, the modern Beit-sur, c 5 mi N of Hebron on the Jerusalem road It was important in the Maccabean campaigns Joshua 15 58, 1 Chron 2 45, 2 Chron 2 7, Neh 3 16 Bethsura 1 Mac 4 29, 6 31, 11 65

Betio, Gilbert Islands see TARAWA

Betonim (bĕt'ōnĭm) [Heb ,=pistachio nuts], unidentified town, E of the Jordan Joshua 13 26

betrothal see MARRIAGE

Bettendorf, city (pop 3,143), E Iowa, industrial suburb of Davenport, on the Mississippi, settled c 1840, inc as a town 1902, as a city 1922 Industrial gases are made here A suspension toll bridge spans the river

Betterton, Thomas, 1635?–1710, English actor and manager He joined Sir William D'Avenant's company at Lincoln's Inn Fields theater in 1661 and became the leading actor of his time In the role of Hamlet he was acknowledged as the greatest after Burbage, and he excelled as Mercutio in *Romeo and Juliet*, as Macbeth, and as Bosola in the *Duchess of Malfi* After D'Avenant's death (1668), he was a partner in the management of the Dorset Garden Theatre in 1671, where he played Oedipus in the play by Dryden and Lee, and Timon, Lear, Troilus, and other characters in adaptations of Shakspere by Dryden, Shadwell, Tate, and himself In 1695 he opened a theater in Little Lincoln's Inn Fields, with Congreve's *Love for Love* as his first production This theater failed, and in 1705 Betterton opened the new Haymarket Theatre, erected for him and his company by Sir John Vanbrugh, where he made his last appearance in 1710 A trip to Paris, by royal command, enabled him to make changes in his theater based on French techniques See Colley Cibber's *Apology*, Pepys's *Diary*, R W Lowe, *Thomas Betterton* (1891) His wife, **Mary Saunderson Betterton,** d 1711, was the first woman to act Shakspere's great female characters, such as Lady Macbeth, Ophelia, and Juliet She often played opposite her husband

Betto, Bernardino di see PINTURICCHIO

Betty, William Henry West, 1791–1874, English boy actor At 12 he played Romeo, Hamlet, and Prince Arthur at Dublin, by 15 he acted at Drury Lane and Covent Garden, adding Richard III and Macbeth to his repertoire, and by 17 his star faded At his peak, however, he was called "the young Roscius," and on the motion of Pitt, Parliament adjourned to see him play Hamlet

Beuckelszoon, Beuckelzoon, or **Beukels, Jan.** see JOHN OF LEIDEN

Beulah (bū'lu) [Heb ,=married, used of a woman], allegorical name for Israel Isa 62 4,5

Beust, Friedrich Ferdinand (frē'drĭkh fĕr'dĭnänt boist'), 1809–86, Saxon and Austrian statesman He held various portfolios in the Saxon ministry and served as premier (1853–66), but his opposition to Bismark forced his resignation after Saxony's defeat in the Austro-Prussian War He entered the service of Austria, becoming foreign minister (1866), prime minister (Feb , 1867), and chancellor (June, 1867) With the Hungarians Andrassy and Deak he negotiated the *Ausgleich* [compromise] of 1867 which resulted in the establishment of the AUSTRO-HUNGARIAN MONARCHY Created a count in 1868, Beust was dismissed in 1871, but later served as ambassador to London (1871–78) and Paris (1878–82) See his memoirs (Eng tr , 1887)

Beuthen (boi'tŭn) or **Bytom** (bĭ'tôm), city (pop 93,179), Upper Silesia, transferred to Polish administration in 1945 (see SILESIA) Its present population is entirely Polish A center of the KATOWICE mining region, it also manufactures metal products Beuthen was ruled successively by Poland, Bohemia, and Austria, until it passed to Prussia in 1742 The city was damaged in the Second World War

Bevan, Aneurin (unĭ'rĭn bĕ'vun), 1897–, British political leader, b Monmouthshire A coal miner and a trade unionist, he became British minister of health in 1945 and administrator of the comprehensive system of socialized medicine instituted by the Labour government.

Beveland, North, and **South Beveland** (bā'vulănt), two islands (combined area 170 sq mi), Zeeland prov , SW Netherlands, in the Scheldt estuary

They are connected by railroad with the mainland and with Walcheren Agriculture and livestock raising are the chief occupations In the Second World War the British by heavy fighting (late 1944) dislodged the Germans and thus cleared the approaches to Antwerp

beverage. From ancient times man has used natural plant fluids, such as juices or coconut milk, has steeped, boiled, fermented, or brewed plant products, and has drunk MILK, both natural and fermented Beverages are divided into two classes—alcoholic and nonalcoholic The former includes fermented fruit juices, as WINE and CIDER; FERMENTED MILKS, as kumiss, products brewed from malted cereals, as BEER and ale, distilled spirits (hard liquor), as WHISKY, GIN, BRANDY, and RUM, and LIQUEUR In the United States, beverages containing 24 percent by volume of alcohol are classed for tax purposes as distilled spirits Nonalcoholic beverages include milk, decoctions and infusions of plant products, as COFFEE, TEA, COCOA, and MATE, natural mineralized or carbonated waters; and a variety of still or carbonated soft drinks, especially popular in the United States

Beveridge, Albert Jeremiah, 1862–1927, U S. Senator (1899–1911) and historian, b Highland co, Ohio, grad DePauw Univ , 1885 He was admitted to the bar (1887) and practiced law (1887–99) in Indianapolis As U S Senator, he supported the policies of Theodore ROOSEVELT With other insurgents he opposed the PAYNE-ALDRICH TARIFF (1909), and was defeated for reelection (1911) He became (1912) an organizer of the PROGRESSIVE PARTY, ran (1912) for governor of Indiana on the party's ticket and lost Thereafter he devoted himself to writing history His thorough, sober lives of John Marshall (4 vols , 1916–19) and Abraham Lincoln (unfinished, 2 vols , 1928) were outstanding See Claude Bowers, *Beveridge and the Progressive Era* (1932)

Beveridge, William Henry, 1879–, British economist, b India, grad Balliol College, Oxford, 1902 His reputation as an authority on social problems was gained through investigations, writings, and government service (1908–19), especially as director of labor exchanges, set up largely through his efforts, and in the food ministry, where he devised wartime rationing He was knighted in 1919 Sir William was director of the London School of Economics from 1919 to 1937, when he became master of University College, Oxford *Social Insurance and Allied Services* (1942), a report prepared for the British government, proposed a social-security system "from the cradle to the grave" for all British citizens In 1944 his *Full Employment in a Free Society* advocated planned public spending, control of private investment, and other measures to assure full employment He served as a Liberal member of Parliament (1944–45) and was in 1946 made 1st Baron Beveridge of Tuggal One of his later writings is *Voluntary Action* (1948), a survey of the history and possibilities of voluntary agencies which supplement state social service

Beverley, Robert, 1673–1722, Virginia colonial historian, author of *The History and Present State of Virginia* (1705) A substantial planter and colonial official, he wrote his book after reading the manuscript by an English author on America which was full of error Vigorous, honest, and not lacking humor, his history was an immediate success. See edition by Louis B Wright (1947)

Beverley, William Roxby, 1814?–1889, English artist and scene painter He painted scenes for Vestris and Charles James Mathews at the Lyceum (1847–55), became scenic director at Covent Garden (1853), and worked at Drury Lane for more than 30 years He produced excellent dioramas and pantomime scenes

Beverley, municipal borough (pop 14,012), capital of the East Riding of Yorkshire, England, SE of York. The famous minster (13th cent , 334 ft long) is on the site of a monastery founded by St John of Beverley (d 721) and transformed by Athelstan into a college of canons It contains the Percy Shrine and the ancient "chair of peace," which gave sanctuary from the laws of man, a privilege granted by Athelstan. The town gate is of the early 15th cent , and St Mary's Church dates from the 14th cent

Beverly, town (pop. 1,171), central Alta , an east suburb of Edmonton.

Beverly. 1 City (pop 25,537), NE Mass , near Salem; settled before 1630, inc as a town 1668, as a city 1894. It had New England's first successful cotton-weaving mill (1789) The John Cabot home (1781) is preserved as a museum, other old houses remain In Beverly Farms, residential and resort section, Oliver Wendell Holmes and later his son the Associate Justice had a summer home **2** City (pop 2,691), SW N J , on the Delaware below Burlington; inc 1857 It is the site of a Civil War camp and hospital Rayon fabrics are made here

Beverly Hills, city (pop 26,823, 1914 pop 500), S Calif , planned 1906, inc 1914. A suburb of Los Angeles, it is the home of many moving-picture stars

Bevier (bŭvēr'), city (pop 1,105), N Mo , S of Kirksville, in a coal area; laid out 1858

Bevin, Ernest (bĕ'vĭn), 1881–, British foreign minister (1945–) in the Labour party cabinet. An orphan earning his own living at various jobs from the time he was a young boy, he began a long career as a trade-union official when he became secretary of the dock workers' union in 1911 He merged unions to make the powerful Transport and General Workers' Union, of which he was (1921–40) general secretary; he also served a term as chairman of the General Council of the Trades Union Congress In Winston Churchill's cabinet he was (1940–45) minister of labor, maintaining his popularity with the workers while mobilizing man power effectively to the uses of the state In 1945 in the Labour government under Clement Attlee, Bevin became foreign minister. A cardinal principle of his policy has been opposition to the USSR. See biography by Trevor Evans (1946)

Bevis of Hampton (bē'-), English metrical romance of the 13th cent which also appears in Anglo-French, French, and Italian Among other adventures, Bevis (or Beves) rescues and marries a princess and subdues a dragon

Bewick, Thomas (bū'ĭk), 1753–1828, English wood engraver Among his famous early works are his illustrations for Gay's *Fables* (1779) and *Select Fables* (1784) and for Ralph Beilby's *General History of Quadrupeds* (1790) In 1789 he engraved the *Chillingham Bull*, considered one of his finest blocks Bewick is best known for his classic illustrations of Beilby's *History of British Birds* (2 vols , 1797–1804) In addition, he made admirable illustrations for Goldsmith's *Deserted Village*, Thomson's *Seasons*, Burns's *Poems*, the fables of Aesop, and the *History of British Fishes* (unfinished when he died) There are many fine examples of Bewick's prints in the British Museum See his memoirs (1862), studies by D C Thomson (1882), Austin Dobson (1884), Rudolph Ruzicka (1943), and Graham Reynolds (1949)

Bexhill (bĕks'hĭl'), municipal borough (1931 pop 21,229; 1943 estimated pop 23,430), Sussex East, England It is a summer resort

Bexley, municipal borough (1931 pop 32,949, 1947 estimated pop 88,800), Kent, England It has electrical engineering works In the Red House here William Morris lived for several years

Bexley, residential city (pop 8,705), central Ohio, near Columbus, inc 1908 Capital Univ is here

Beyle, Marie Henri: see STENDHAL

Beyrouth or **Beirut** (both bārōōt'), city (pop 181,271), capital of Lebanon, a port on the Mediterranean at the foot of the Lebanon range A Phoenician city, it was known in ancient times as Berytus and was a trade center known from c 1500 B C It was prominent under the Seleucids but reached greater importance under the Romans It was not only a commercial town—with especially large trade in wine and linen—but also a colony with some territory In the 3d cent A D it had a famous school of Roman law It was included in the Byzantine Empire and declined after an earthquake in 551 Beyrouth was captured by the Arabs in 635 The Crusaders under Baldwin I took the city in 1110, and it was part of the Latin Kingdom of Jerusalem until 1291, despite a siege by Saladin and the Egyptians in 1182 The Druses controlled the city under the Ottoman Empire. In the 19th cent it was one of the storm centers of the revolt of Mohammed Ali of Egypt. Ibrahim Pasha took it, but in 1840 the British and French bombarded and captured the city It was taken by Allied troops in the First World War, and under the French mandate over Syria and Lebanon it was the capital of Lebanon With the proclamation of the independence of Lebanon in the Second World War its importance was enhanced. Beyrouth is the seat of a coeducational American university, which has been of importance in the Middle East since the 1860s.

Beza, Theodore (bē'zə), Fr *Théodore de Bèze* (tāôdôr' du bĕz'), 1519–1605, French reformer and Calvinist theologian In 1548 he joined John Calvin at Geneva and soon became his intimate friend and chief aid Beza was professor of Greek at Lausanne from 1549 to 1558, and he wrote then *De haereticis a civili magistratu puniendis* (1554), a defense of the conduct of Calvin and the Genevan magistrates in the notorious trial and burning of Servetus In 1558 he became professor of Greek at Geneva, and in 1564 he succeeded Calvin in the chair of theology at Geneva Beza came to be regarded as the chief advocate of all reformed congregations in France, serving with distinction at the Colloquy of POISSY in 1561 He was of great importance in aiding the edition of the Greek and Latin versions of the New Testament, and he gave Codex D or Codex Bezae, one of the most important manuscripts of the Bible, to Cambridge Univ He wrote various theological tracts and a biography of Calvin

Bezai (bē'zā) [Heb ,=victory], family in the return from captivity Ezra 2 17; Neh. 7 23, 10 18.

Bezaleel (bēzăl'ēĕl, bĕz'ŭlēl) [Heb.,=in the shadow of God] **1** The artist of the Tabernacle in the wilderness Ex. 31. 2–11, 35 30, 38.22; 1 Chron 2 20, 2 Chron 1 5 **2** Jew who had married a foreign wife Ezra 10 30.

Bèze, Théodore de. see BEZA, THEODORE.

Bezek (bē'zĕk) **1** Country or city of Adoni-bezek. Judges 1.5. **2** Bivouac of Israel. 1 Sam. 11.8.

Bezer (bē'stûr) [Heb.,=ore]. **1** Asherite. 1 Chron. 7 37. **2** Unidentified Reubenite town, E of the Jordan. Deut. 4.43; Joshua 20 8; 21.36; 1 Chron. 6.78.

Bezhitsa (bĕzhē'tsŭ), city (pop. 82,331), W European RSFSR, on the Desna river and just NW of BRYANSK. It produces locomotives and other machinery, oxygen, and electrical power

Béziers (bāzyā'), city (pop 59,894), Hérault dept , S France, in Languedoc It has an important trade in wine and spirits During the ALBIGENSIAN CRUSADE it was taken by Simon de Montfort in 1209, a horrible massacre followed

Bezruc, Petr, Czech *Bezruč* (pĕt'ûr bĕs'rōōch), pseud of **Vladimir Vasek,** Czech *Vašek* (vlă'dyĭmĭr vă'shĕk), 1867–, Czech poet, the bard of Silesia He belongs to no school, and his fame rests solely on the *Silesian Songs*, which began to appear in 1903 (latest ed , 1944) and in which he protests, often rhapsodically, against the moral and material poverty of the "lost" Slavs of the border between Silesia and Moravia. See Paul Selver, *A Century of Czech and Slovak Poetry* (1946).

Bezwada (bĭzwā'du), town (pop 86,184), NE Madras state, India, on the delta of the Kistna river. It is near a large irrigation dam A railroad junction, it is a trading center for the northern range of the Eastern Ghats The official name is VIJAYAWADA

Bhagalpur (bä'gulpōōr'), town (pop 93,254), NE Bihar state, India, on the Ganges river. It is a rail junction and a commercial center in an agricultural region.

Bhagavad-Gita (bŭg'ŭvŭd-gē'tu), Sanskrit philosophical poem incorporated in the MAHABHARATA It is an important expression of HINDUISM and has been much translated into English with the rest of the *Mahabharata* and separately (sometimes as *The Song Celestial*, as by Sir Edwin Arnold)

Bhamo (bä'mō, bŭmō'), town (pop c 7,800), NE Burma. It is the farthest point up the Irrawaddy river reached by steamers In the Second World War it was linked by the building of the Stilwell Road to Ledo in Assam Bhamo is the market town for the surrounding hill region and is also important as a center of overland trade with China Most of the people are Kachins

Bharat, an official name for the Union of India

Bhascara (bŭs'kuru), called **Acarya** (uchär'yu) [Skt ,=learned], b 1114, Hindu mathematician and astronomer According to the custom, he put his learned treatises into verse, adding, however, explanations in prose His work *Siddhantasiromani* includes chapters on arithmetic, algebra, and astronomy which have been translated into English He gives the first systematic exposition of the decimal system By mentioning such items as rates of interest and the prices of slaves he gives some indication of economic conditions in his day He was at the head of the observatory at Oudjein

Bhatgaon (bät'goun'), town (pop. c 30,000), Nepal, near Katmandu Founded in 865, it was for two centuries the country's chief town It has probably the finest pagoda in Nepal, completed in 1703 and well preserved

Bhatpara (bŭtpä'rŭ), city (pop 117,044), S West Bengal state, India, on the Hooghly river It is an old seat of Sanskrit learning Paper and jute products are the chief manufactures

Bhavnagar or **Bhaunagar** (both bounŭ'gur), town (pop 102,851), W Saurashtra state, India It is a port on the Gulf of Cambay Cotton goods are the chief export Cloth, bricks, tile, and iron products are manufactured

Bhils (bēlz), people, numbering more than 1,000,000, who inhabit portions of W central India, especially S Rajputana and N Bombay state They speak an Indo-European language, Bhili (see LANGUAGE, table), and retain a distinctive culture, much affected by, but not absorbed into, Hinduism.

Bholan Pass: see BOLAN PASS.

Bhopal (bō'päl), state (6,921 sq mi , pop 785,322), central India. The tall (c 54 ft high) Buddhist stupa at Sanchi (c 300 B C) is the greatest monument Agriculture is the main economic activity Until 1949 the predominantly Hindu population was ruled by a Mohammedan princely family The capital, **Bhopal** (pop 75,228), was founded in 1728 It is a trade center with manufactures of cotton cloth and jewelry

Bhubaneswar, India: see BHUVANESWAR.

Bhutan (bōōtän'), semi-independent state (c 18,000 sq. mi , pop c.300,000), in the E Himalayas, N of Bengal and Assam and S of Tibet The capital is Punaka. Formerly under the dual control of a spiritual and a temporal ruler, it has been since 1907 under a maharaja. The inhabitants are mostly Buddhists, though some are Hindus They farm the land where possible in this mountainous country, and they raise a breed of sturdy ponies Metalworking is expertly done Wild animals abound, especially elephants. The southern districts were ceded to the British after a war in 1864 In Aug , 1949, a treaty was concluded with India providing for the return to Bhutan of 32 sq mi. of territory and the assumption by India of Great Britain's former role in subsidising Bhutan and directing its foreign affairs.

Bhuvaneswar (bōōvänĕ'swär) or **Bhubaneswar** (bōōbä-), capital of Orissa state, India. Settle-

ments on this site date back to the reign of Asoka, and here was (5th–10th cent.) the capital of the Kesaris dynasty of Orissa. It is estimated that 7,000 shrines once surrounded its sacred lake, today there are remains of some 500, displaying many styles of Hindu and Buddhist architecture and sculpture The population of Bhuvaneswar was small until its selection in 1947 as the state capital

Bi, chemical symbol of the element BISMUTH

Biafra, Bight of (bēä'frŭ), arm of the Gulf of Guinea, W Africa It lies approximately between the Niger delta and Libreville

Bialik, Hayyim Nahman (byä'lēk), 1873–1934, Hebrew poet, publisher in Odessa, Berlin, and Tel-Aviv, b Volhynia, Russia His fame began with the publication (1903) of his poem "In the City of Slaughter," inspired by a pogrom in Kishinev Bialik's style is sometimes biblical, prophetic, and majestic, sometimes simple and lyrical, he had a great effect upon modern Hebrew literature He wrote novels, humorous songs, and sketches, some of his work is in Yiddish, but his most important writings are in Hebrew They have been translated into many languages, including English (translations of his poems were published in 1924 and 1926) Bialik translated into Hebrew Shakspere's *Julius Caesar*, Cervantes's *Don Quixote*, Schiller's *Wilhelm Tell*, and Heine's poems

Bialowieza, Pol *Bialowieza* (byäwôvyĕ'zhä), large forest, E Poland Its varied trees—with pines predominant—shelter many animals, including the AUROCHS, the boar, and the deer, and it was a favorite hunting preserve of Polish kings and later of Russian tsars In the center of the forest the Polish government in 1921 established the first Polish national park

Bialystok, Pol *Bialystok* (byäwĭs'tôk), city (pop 56,759), NE Poland Founded in 1310, it passed to Prussia (1795) and to Russia (1807) and was returned to Poland in 1921 It has textile mills and other industries In the Second World War, Bialystok suffered much damage It is the capital of Bialystok prov (c 7,700 sq mi, pop 881,094), which also contains the cities of Lomza and Suwalki A section (c 4,900 sq mi, pop 36,469) of EAST PRUSSIA was placed under the administration of the province in 1945

Biandrata, Giorgio see BLANDRATA, GIORGIO

Biard, Pierre (pyĕr' byär'), c 1567–1622, French Roman Catholic missionary in North America, a Jesuit He left a professorship of theology in Lyons to head the first Jesuit mission to Canada, coming to Port Royal (the later Annapolis Royal) in Acadia in 1611 He was one of the founders (1613) of the French settlement at Bar Harbor on MOUNT DESERT ISLAND, in the present Maine He and all the colonists were soon taken prisoners by Samuel Argall After a long captivity and tempestuous voyage Biard finally reached France There he wrote his *Relation de la Nouvelle France* (1616), of much value to later historians

Biarritz (bē'ŭrĭts, Fr byärĕts'), town (pop 20,447), Basses-Pyrénées dept, SW France, on the Bay of Biscay near the Spanish border It was a favorite residence of Napoleon III and Empress Eugénie and since then has become one of the world's most fashionable resorts

Bias (bī'ŭs), fl 6th cent B C, Greek sage, b Priene He is at best semilegendary but was called one of the SEVEN WISE MEN OF GREECE Many epigrams were attributed to him by ancient writers

Bibb, William Wyatt, 1781–1820, first governor of Alabama (1817–20), b Amelia co, Ga Graduated in medicine from the Univ of Pennsylvania (1801), he began practice in Petersburg, Ga He was a state legislator, U S Representative (1805–13), and U S Senator (1813–16) In April, 1817, President Monroe appointed him governor of the newly created territory of Alabama, and he was continued in office when the new state government was organized (1819) On his death, Thomas Bibb, a brother, succeeded him in office

Bibb City, town (pop 1,631), W Ga, on the Chattahoochee river It is a northern suburb of Columbus and is built around a fabric plant

Bibbiena, Galli da see BIBIENA, GALLI DA,

Bibescu or **Bibesco** (both bēbĕs'kō), name of a noble Rumanian family A prominent member was **George Bibescu,** 1804–73, hospodar of Walachia (1843–48) He effected important reforms but was driven from the county in the Revolution of 1848 His brother **Barbu Bibescu,** 1799–1869, was adopted by Prince Stirbei, a Rumanian magnate, whose name he assumed when he became hospodar of Walachia (1849–56)

Bibiena or **Bibbiena, Galli da** (gälē'lē dä bēbyä'nä), family of Italian artists of the 17th and 18th cent The founder, **Giovanni Maria Galli da Bibiena** (jōvän'nē märē'ä), 1625–65, was born at Bibiena, near Bologna, and took the surname Bibiena, which was used by the entire family Giovanni studied with Francesco Albani and painted chiefly altarpieces, examples of which are to be seen in the churches of Bologna. His son **Ferdinando Galli Bibiena** (fĕrdēnän'dō), 1657–1743, the most renowned of the group, studied painting and architecture and became celebrated throughout Europe for his architectural views and theatrical designs and for his magnificent decorations for public and court festivities He wrote several treatises on architecture **Francesco Galli Bibiena** (fränchĕs'kō), 1659–1739, brother of Ferdinando, is celebrated chiefly as the designer of great theaters at Nancy, Verona, Rome, and elsewhere Other members of the family include **Alessandro Galli Bibiena** (älās-sän'drō), 1687–c 1769, son of Ferdinando, a fresco painter and architect, **Giuseppe Galli Bibiena** (jōsĕp'pä), 1696–1756, second son and pupil of Ferdinando and, like him, renowned for his sumptuous decorations for court and other functions, designed principally for the courts and theaters of Vienna, Munich, Dresden, Bayreuth, and Prague, **Antonio Galli Bibiena** (antō'nyō), 1700–1774, third son of Ferdinando, an architect and designer, and **Carlo Galli Bibiena,** (kär'lō) c 1728–c 1778, the son of Giuseppe, a painter and architect employed at many of the European courts

Bible, Dana Xenophon, 1891–, American football coach, b Jefferson City, Tenn, grad Carson-Newman College, 1912 He coached at several Southern universities, at the Univ of Nebraska (1929–36), and at the Univ of Texas (after 1937)

Bible [Gr, =the books], name used by Christians for their Scriptures For the composition and the canon of the Bible, see OLD TESTAMENT, NEW TESTAMENT, APOCRYPHA, PSEUDEPIGRAPHA, articles on the several books The traditional Christian view of the Bible is that it was all written under the guidance of God and that it is, therefore, all true literally or under the veil of allegory The view of many Protestants has been influenced in recent times by the pronouncements of critics, and the chief emphasis of modern FUNDAMENTALISM has been on the inerrancy of the Bible The interpretation of the Bible is one of the cardinal points of difference between Protestants, who believe that individuals have the right to interpret the Bible as they read it, and the Roman Catholic Church, which teaches that she alone may interpret Scripture and that the individual may read the Bible only according to the interpretation of the Church, such an interpretation is provided in the notes to the text which appear in Roman Catholic Bibles These notes vary from edition to edition Celebrated extant manuscripts of the Bible include Codex Vaticanus (Greek, 4th cent), at the Vatican, Codex Sinaiticus (Greek, 4th cent), in the British Museum, discovered by TISCHENDORF on Mt Sinai, Codex Alexandrinus (Greek, 5th cent), in the British Museum, given to Charles I by Cyril Lucaris, and Codex Bezae (Greek and Latin, 6th cent), at Cambridge, England, given by Theodore Beza The first great translation of the whole Bible was the VULGATE of St JEROME, the Latin version still used by the Roman Catholic Church The Greek text generally received in the East is, for the Old Testament, that of the Septuagint, the New Testament was written in Greek In England there were current from early times vernacular versions of parts of the Bible, especially of the Gospels, since the Gospel was often read at Mass in the vernacular after its recitation in Latin John WYCLIF (d 1384) was one of the first to project the publication and distribution of the Bible in the vernacular among the English people, and two translated versions go by his name In the 15th cent the Lollards did much to extend the use of the Wycliffite translation The next name in the history of the English Bible is that of William TYNDALE (d 1536), whose translation was not from Latin, like Wyclif's, but from Hebrew and Greek Its excellence is made evident in its use as a basis of the Authorized Version Tyndale's New Testament (1525–26) was the first English translation to be printed Contemporary with Tyndale was Miles COVERDALE (d 1569) The second version of Coverdale and the translation of Thomas Matthew closely followed Tyndale In 1539 the crown issued its first Bible, in the name of Henry VIII This, the Great Bible, was done principally by Coverdale The Geneva Bible or Breeches Bible (" made themselves breeches," Gen 3 7) was a revision of the Great Bible, financed and annotated by the Calvinists of Geneva The Bishops' Bible (1568) was a recasting of Tyndale The greatest of all English translations was the Authorized Version (AV) or King James Version of 1611, made by a great committee of churchmen, led by Lancelot ANDREWES and composed of many of the finest scholars in England The beautiful English of this version has had great influence and is generally ranked in English literature with the work of Shakspere The phraseology of much of it is that of Tyndale The Douay, or Rheims-Douay, Version was published by Roman Catholic scholars at Rheims (New Testament, 1582) and Douai, France (Old Testament, 1610), it was extensively revised by Archbishop CHALLONER In the 19th cent the project of revising the Authorized Version from the original tongues was undertaken by the Church of England with the cooperation of nonconformist churches The results of this revision were the English Revised Version and the American Revised Version (pub 1880–90) Since then several independent scholars have translated the Bible into English. Translations of the Bible have often been important in the histories of other literatures besides English, thus Luther's translation is the standard of German prose, and the Gothic translation of ULFILAS is the only notable work in Gothic The Bible is the only written work in many languages English translations begun in the 20th cent include the Revised Standard Version (Protestant, United States), the Westminster Version (Roman Catholic, England), the edition of the American Roman Catholic Confraternity of Christian Doctrine, and translations of James Moffatt (1922–25, Protestant) and Ronald Knox (1946–49, Roman Catholic)

Bible Christians, denomination of Methodists in England founded by William O'Bryan They seceded (1815–19) from the WESLEYAN METHODIST CHURCH and in 1907 were merged with two other branches in the UNITED METHODIST CHURCH

Bible school, institution for religious instruction The term is sometimes applied to Sunday schools, but usually designates the daily vacation Bible schools for children The first school to provide religious teaching for young people during the summer vacation period was opened in New York city in 1901 by Dr Robert G. Boville, secretary of the Baptist City Mission The movement, which is nondenominational, spread rapidly The International Association of Daily Vacation Bible Schools is concerned with the work in the United States The World Association of Daily Vacation Bible Schools (1921) is composed of schools abroad

Bible societies, Protestant societies not limited by sectarian or ecclesiastical boundaries, for the translation, printing, and dissemination of the Holy Scriptures An early important organization of this kind was the Canstein Bible Society established in 1710 by Baron von Canstein at Halle, Germany In 1780 the Bible Society was formed in England to distribute Bibles among soldiers and sailors, the name was later changed to the Naval and Military Bible Society A pioneer and leader is the British and Foreign Bible Society founded (1804) in London, which began its work with Welsh Bibles for Thomas CHARLES With branches throughout the world, it has distributed versions of the Scriptures in hundreds of languages. In the United States the formation of Bible societies began early in the 19th cent Delegates from these associations founded (1816) the American Bible Society, which has many affiliates Through its work the Bible has been translated into many tongues and has been widely distributed In 1898 in Boscobel, Wis occurred a meeting that led to the founding of the Christian Commercial Men's Association of America, more usually known as the Gideons International Its program of placing a copy of the Bible in hotel rooms for use by commercial travelers and others has been widely realized and has made the organization internationally known In 1946 more than 20 national Bible societies formed an international association known as the United Bible Societies, with headquarters in London and in Geneva, Switzerland

Biblical Antiquities, Book of, see PSEUDEPIGRAPHA

bibliography. The listing of books is of ancient origin Lists of clay tablets have been found at Nineveh and elsewhere, the library at Alexandria had subject lists of its books Modern bibliography began only with the invention of printing and, at first, consisted of the catalogues of important libraries or "trade" bibliographies, i e, the lists of the publications of important publishing houses comparable to those in the present-day *Trade List Annual* and the British *Reference Catalogue of Current Literature* There have been efforts at universal bibliography, in 1545 at Zurich, Konrad von Gesner published his *Bibliotheca universalis*, in 1895 the International Institute of Bibliography was established at Brussels There are subject bibliographies, such as Sabin's *Dictionary of Books Relating to America*, and lists of the works of individual authors Bibliographies of rare and old books include that of J C Brunet and *Book Prices Current* *The Cumulative Book Index* is a monthly bibliography of books in the English language *The Cambridge Bibliography of English Literature* (4 vols 1941) is useful for English publications, and there is a bibliographical volume *Literary History of the United States* (1948), ed by R E Spiller and others, for American works Other special bibliographies include C P Farrar and A P Evans, *Bibliography of English Translations from Medieval Sources* (1946) See R B McKerrow, *Introduction to Bibliography* (1927), Arundell Esdaile, *A Student's Manual of Bibliography* (1931), Georg Schneider, *Theory and History of Bibliography* (1934), *Bibliographical Index* (cumulative)

Bibliothèque nationale (bēblēōtĕk' näsyônäl'), the great national library of France, in Paris It originated when early French kings made collections of writings In the 14th cent, Charles V placed a collection in the tower of the old Louvre Another early source was a library belonging to the house of Orléans at Blois Under Francis I (16th cent), these were brought together and deposited at Fontainebleau, to be transferred later to Paris by Charles IX Under Louis XIV (18th cent.), the library was enormously expanded The constantly growing departments (including nearly 5,000,000

books) are housed in a building erected (1854–75) under the direction of Henri Labrouste, it was remodeled in 1932–39

Bibracte (bĭbrăk'tē), former capital of the AEDUI, between present Nevers, Autun, and Moulins, central France Here Caesar defeated (58 B C) the Helvetii (see GALLIC WARS)

Bibulus (Marcus Calpurnius Bibulus) (bĭ'byŏŏlŭs), d 48 B C, Roman statesman The colleague in the consulship with Julius CAESAR in 59 B C, he did everything in his power to block every move made by Caesar A conservative republican, he was a strong partisan of Pompey In 51 B C he was governor of Syria and in 48 B C he wore himself to death trying to halt Caesar in the Adriatic

Bic (bēk), village (pop 1,117), E Que, on the south side of the St Lawrence and SW of Rimouski Bic Island, opposite the village, was once a headquarters for pilots guiding ships up the St Lawrence It is today chiefly a summer resort

bicameral system (bī'kăm'ərul), governmental system dividing the legislative function between two chambers, an "upper," such as the U S Senate and the British House of Lords, and a "lower," such as the U S House of Representatives and the British House of Commons Though the term *bicameral* was coined by Jeremy Bentham as recently as 1832, a division of the legislative branch of government according to function and composition is of long standing Modern critics have held that the division of the English Parliament into Lords and Commons in the period following Edward I's Model Parliament of 1295 arose simply for the sake of convenience in transacting business, however, this division came to represent the historic cleavage between nobles and commons, with the balance of power, especially after the Revolution of 1688 and the rise of cabinet government in the 18th cent, shifting more and more to the commons The power of the House of Lords over money bills was drastically reduced by the Parliament Act of 1911, and in the period after the Second World War the upper chamber was almost extinguished as an effective legislative body In the American colonies, the bicameral system replaced the earlier one-house legislature, the upper chamber, whether elective or appointive, came to represent the colony as a whole, while delegates to the lower house were attached to particular constituencies The endorsement of the bicameral system in the U S Constitution, according to modern scholars, reflected colonial practice, British example, and the widespread differences in property qualification for suffrage and office-holding purposes current at the time rather than the French philosophical influences once considered primary In France, the differences between the 18th-century theorists who favored a bicameral legislature based on British experience, such as Montesquieu, and the "natural rights" philosophers, such as Rousseau, who opposed it have been reflected in subsequent French constitutional history The present French upper chamber has an advisory function Where bicameral legislatures exist, the two chambers express different principles of representation in addition to possessing different functions The unicameral legislative system after the First World War made headway in Eastern Europe, Latin America, and parts of the British dominions The Philippine republic is a recent proponent of the unicameral legislature Nebraska, in 1937, installed a single chamber See Lord Hugh Cecil, *Second Chambers in the British Dominions and Foreign Countries in Rights of Citizenship* (1912), A W Johnson, *The Unicameral Legislature* (1938)

bicarbonate see CARBONATE

bicarbonate of soda see SODA

Bichat, Marie François Xavier (märē' frăswä' zāvyĕ' bēshä'), 1771–1802, French anatomist and physiologist, studied in Paris with Desault His study of tissues (which he classified in 21 types) was the basis of modern histology He wrote *Traité des membranes* (1800), *Recherches physiologiques sur la vie et sur la mort* (1800), *Traité d'anatomie descriptive* (5 vols, 1801–3), and *Anatomie générale* (1801)

Bichri (bĭk'rī), father of SHEBA 3, but "son of Bichri" may stand for "descendants of BECHER 1" The "Berites," supporters of Sheba, are apparently to be understood as "Bichrites" 2 Sam 20

Bickerdyke, Mary Ann Ball, 1817–1901, Union nurse in the Civil War, b Knox Co, Ohio, educated at Oberlin Generally called Mother Bickerdyke, she served throughout the war in the West and was beloved by the enlisted men, whose rights she championed As able as she was kind, she was also a favorite with Generals Grant and Sherman

Bickerstaff, Isaac, pseudonym used by Jonathan Swift and later by Richard Steele in the *Tatler*

Bickerstaffe, Isaac, c 1735–c 1812, English dramatist, b Ireland Among his sentimental comedies *The Maid of the Mill* (1765) is best known

Bickmore, Albert Smith, 1839–1914, American naturalist, b St George, Maine, grad Dartmouth (B A, 1860, M A, 1863), Ph D Hamilton College, 1869 He studied (1860–64) with Louis AGASSIZ at Harvard and aided him in making collections in Bermuda From 1865 to 1868 he visited the Malay Archipelago, the Dutch East Indies, the interior of China, and little-known parts of Japan He wrote *Travels in the East Indian Archipelago* (1868) His conception of a museum of natural history was first outlined to a group of citizens in 1868 and in 1869 With the help of Theodore Roosevelt, M K Jessup, and Benjamin H Field, the American Museum of Natural History was established in New York city, Bickmore was superintendent from 1869 to 1884, and in 1882 he became head of the department of public instruction

Bicknell, city (pop 5,110), SW Ind, NE of Vincennes A coal-mining town, it has a polyglot population A mine rescue station is operated here in the center of the coal district

Bicocca, La (lä bēkô'kä), former village, Lombardy, N Italy, now included in Milan Here, in 1522, the vicomte de Lautrec, commanding a French army and Swiss mercenaries, was defeated by the combined Milanese, Spanish, and German troops in the ITALIAN WARS

bicycle, light, two-wheeled vehicle driven by pedals Suggestions of vehicles propelled by riders date from ancient times Experimental dandy horses operated by the thrust of the rider's feet upon the ground include a *célérifère* fashionable among French dandies c 1790 Probably the first practical dandy horse was the draisine, originated c 1816 by Baron Karl Drais von Sauerbronn, chief forester of the duchy of Baden, to facilitate his inspection tours Introduced into England in 1818, it was slowly improved, and c 1839 Kirkpatrick MacMillan, a Scottish blacksmith, developed a machine mechanically propelled by foot treadles and incorporating cranks, driving rods, and handle bars In France, Ernest Michaux introduced in 1855 a heavy crank-driven bicycle perfected c 1865 by Pierre Lallement, whose velocipede, known as a boneshaker, ran on iron-tired wooden rims, the front wheel larger than the rear Major improvements followed rapidly and included a light, hollow-steel frame, ball bearings, tangential metal spokes, and solid rubber tires By the 1880s the front wheel attained a diameter up to 64 in —the larger the wheel, the greater the potential speed, but the size was limited by the length of the rider's legs The safer tricycle also attained a vogue in the '80s, especially among women and short men The safety bicycle, with approximately equal wheels and a sprocket chain drive connecting the pedals with the rear wheels, was first manufactured at Coventry, England, c 1885 by James Starley and, following the addition of the pneumatic tire developed by John Dunlop in 1888, superseded the high-wheel form Additions to safety or comfort include the freewheel, the coaster brake, popular in the United States, and the hand brake, preferred abroad, and adjustable handle bars In the '80s and '90s cycling became a fad of major proportions in the United States and Europe Bicycle clubs were formed, both sexes participated in rides into the country, often on tandem bicycles The League of American Wheelmen, organized in 1880, was a leader in the agitation for good roads In the United States especially, bicycling declined with the coming of the automobile

Biddeford (bĭd'fūrd), city (pop 19,790), SW Maine, at falls of the Saco opposite Saco, SW of Portland, inc as a town 1718, as a city 1855 This area, granted to John Oldham and Richard Vines in 1630, was first visited by Vines in 1616 for Sir Ferdinando Gorges Having water power, Biddeford became a center of manufacturing, mainly of textiles, textile machinery, and lumber products **Biddeford Pool** is a resort at the mouth of the Saco

Biddle, Clement, 1740–1814, American soldier in the American Revolution, b Philadelphia He helped to organize a company of volunteer Quakers and later rose to importance in the service of supplies He was deputy quartermaster general of the Pennsylvania and New Jersey militia, commissary general of forage under Nathanael Greene in the Carolina campaign, and then quartermaster general of the Pennsylvania militia He attracted the attention of George Washington and others in command After the war he was (1789–93) U S marshal in Pennsylvania, but he gained more note as an importing merchant of Philadelphia

Biddle, Francis Beverley, 1886–, U S Attorney General (1941–45), b Paris, France, of American parents, grad Harvard (B A, 1909, LL D, 1911) Secretary to Associate Justice O W Holmes (1912), he became (1922) a successful corporation lawyer He served as National Labor Relations Board chairman (1934–35) and as appellate judge (1939–40) before succeeding Robert H JACKSON as Solicitor General (1940) and as Attorney General Biddle was (1945–46) a U S judge for the trial of war criminals at Nuremberg

Biddle, George, 1885–, American painter, b Philadelphia He prepared for the law but instead of practicing it studied painting at the Pennsylvania Academy of the Fine Arts, at Julien's in Paris, and in Munich During the First World War he served with distinction at Saint-Mihiel and the Argonne He traveled after the war sojourning in Polynesia, Paris, New York and the Southwest, and Italy In 1932 he returned to the United States. His work betrays little of his varied experience, being rather a straightforward interpretation of American life He is represented in the Whitney Museum, New York, and in the museums of Philadelphia, Denver, and Houston and Dallas, Texas Notable frescoes are in the Dept of Justice Building, Washington, D C He wrote *An Artist's Story* (1939) and *Artist at War* (1944)

Biddle, James, 1783–1848, U S naval officer, b Philadelphia He became a midshipman in 1800 and at the beginning of the War of 1812 was first lieutenant on the *Wasp* He led the boarding party that captured the *Frolic*, but the prize was lost later when a British ship of the line appeared. Later he was in command of the sloop *Hornet* and managed to capture a superior British vessel, the *Penguin* Again a British ship of the line appeared This time in a 36-hour chase Biddle managed to get away, only to find when he reached harbor that peace had been reached Sent out in the *Ontario* in 1817, he took formal possession of the Oregon country for the United States in 1818, helping to establish a claim that later was very important Afterward he spent much time in protecting U S shipping in South American waters when the troublous times of the new Latin American republics made the rights of neutrals hard to maintain In 1846 James Biddle negotiated the first treaty between the United States and China

Biddle, John, 1615–62, founder of English Unitarianism From his examination of the Scriptures he lost belief in the doctrine of the Trinity and stated his conclusions in *Twelve Arguments Drawn Out of Scripture* When the existence of this paper was made known to the magistrates in 1645, Biddle was imprisoned, as he was frequently thereafter His *Twelve Arguments* was suppressed and burned by the hangman in 1647 Upon the publication of his *Two-fold Catechism* in 1654, he was tried for his life but received from Cromwell a sentence of banishment to the Scilly Islands Returning in 1658, Biddle taught and preached until in 1662 he was again thrown into prison, where he died His followers were called Biddelians, Socinians, or Unitarians

Biddle, Nicholas, 1750–78, American naval officer, b Philadelphia Biddle deserted the British navy in 1773 In the American Revolution, he became captain in the American navy and daringly raided British shipping off the American coast Given command (1777) of the ship *Randolph*, Biddle was killed and his ship destroyed in an encounter (1778) with the British warship *Yarmouth* off the coast of Barbados See W B Clark, *Captain Dauntless* (1949).

Biddle, Nicholas, 1786–1844, American financier, b Philadelphia, grad College of New Jersey (now Princeton Univ), 1801 After holding important posts in the American legations in France and England, he returned to the United States in 1807 and became one of the leading lights of *Port-Folio*, a literary magazine, which he edited after 1812 He was also commissioned to write the history of the Lewis and Clark expedition, but turned the job over to Paul Allen, a Philadelphia journalist, when he was elected to the state senate In 1819 President James Monroe appointed him a director of the BANK OF THE UNITED STATES He became its president in 1822 and was one of the chief targets of the shafts of the Jacksonians in their war on the evils of the Bank of the United States After the bank was disestablished and had become (1836) only the United States Bank of Pennsylvania, Biddle retained his office, resigning in 1839 See R C H Catterall, *The Second Bank of the United States* (1903)

Bideford (bĭd'ufurd), municipal borough (1931 pop 8,778, 1943 estimated pop 9,442), Devonshire, England, on the Torridge and SW of Barnstaple The river is crossed by a 16th-century 22-arch bridge Bideford is a seaport and manufactures and exports ropes and sails, leather goods, textiles, pottery, and ironware. Sir Richard Grenville, born here, appears in Kingsley's *Westward Ho!*

Bidkar, captain under Ahab and Jehu 2 Kings 9 25

Bidpai or **Bidpay** (both bĭd'pī), supposed name of the author of the fables of the PANCHATANTRA The name first appears in an Arabic version of these fables—hence they are called the fables of Bidpai It is probably Sanskrit, meaning "wise man"

Biedermeier (bē'durmīur), name applied, first in a joking spirit, to a period of culture and a style of furniture and decoration originating in Germany early in the 19th cent It is believed to have been named for the worthy, bourgeois-minded "Papa Biedermeier," a humorous character featured in a series of verses by Ludwig Eichrodt, published in *Fliegende Blätter*. The Biedermeier period found expression in comfortable, homelike furnishings, simple in design and inexpensive in material, fitting the requirement of the German people in a time, following the Napoleonic Wars, when there was little wealth Although the best Biedermeier furniture was produced between 1820 and 1830, the period is regarded as extending from 1816 to 1848. Later pieces were usually clumsy and lacking in taste The designs were simplified forms of the French Empire and Directoire styles and of some 18th-century styles of England. Cabinets and other large pieces

were severe in line and surface. Chairs and sofas show curved lines, frequently graceful, but sometimes exaggerated into swellings and contortions Black lacquer was effectively substituted for the costly ebony of Empire pieces Painted decorations reminiscent of peasant types were common The Biedermeier style has had a certain vogue among collectors and has been reproduced Much of the original furniture is still in S Germany and Austria, and a number of examples are in the United States

Biel (bēl) or **Bienne** (byĕn), town (pop 41,219), Bern canton, Switzerland, at the northeast end of the Lake of Biel A watchmaking center, it is the seat of a technical institute The Schwab museum has relics of lake dwellings found in the **Lake of Biel** or **Lake of Bienne** (15 sq mi), at the foot of the Jura mts Connected with Lake Neuchâtel by the Zihl Canal, it contains the Isle of St Pierre (now a peninsula), made famous by J J ROUSSEAU

Biel-. For some Russian names beginning thus, see BEL-

Biela, Wilhelm, Baron von (vĭl'hĕlm, fŭn bē'lu), 1782–1856, German astronomer While a captain in the Austrian army, he made in 1826 observations on the comet called by his name **Biela's comet,** when an astronometer computed its periodic time to be 6 692 years, was recognized as the same comet which had been noted in 1772, 1805, and 1818 In 1846 it was observed to split in two It has not been seen since 1852

Bielefeld (bē'lufĕlt), city (pop 132,276), in the former Westphalia prov , NW Germany Bielefeld is noted for its handmade linens Factories make silk, glassware, and sewing machines Chartered in 1250, the city was a member of the Hanseatic League Severe destruction occurred in the Second World War

Bielitz, Poland see BIELSKO

Biella (bēĕl'la), city (pop 24,328), Piedmont, NW Italy Chief wool-textile center of Italy, it also has several medieval palaces and a baptistery (10th cent) At Oropa on a mountain near by are a shrine and a monastery

Bielski, Martin, Pol *Marcin Bielski* (mar'tsēn byĕl'skĕ), c 1495 1575, Polish historian and poet He was the first to write history in the Polish language His history of Poland was completed by his son, Joachim Bielski

Bielsko (byĕl'skō), Ger *Bielitz* (bē'lĭts), town (pop 25,725), Silesia prov , W Poland It passed to Austria in 1772 and was returned to Poland in 1919 Though chiefly a trade center, Bielsko has a textile industry notable since the Middle Ages and also produces metal goods, clothing, foodstuffs, and chemicals

Bien, Jules (bĕn), 1826–1909, American map engraver, b Naumburg, Germany At Frankfurt he studied graphic arts, and after coming to the United States he engraved maps for many official publications—the census reports, geological and topographical surveys and atlases and historical records He also made maps for state geological surveys and published three atlases of his own—of Westchester co , N Y (1893), of New York state (1895), and of Pennsylvania (1900)

Bienewitz, Peter see APIANUS, PETRUS

Bienne, Switzerland see BIEL

biennial, a plant which ordinarily lives but two years, as distinguished from an ANNUAL or a PERENNIAL The first year, a biennial usually produces a fleshy root (by which the plant survives the winter) and a cluster of leaves, the second year, the flowers and seeds are produced The large roots contain an abundance of stored food, utilized when the flowers and seeds develop the next season, after which the plant dies Short-lived perennials (e g , the hollyhock) are often considered and treated as biennials, while some biennials are frequently treated as annuals (sown early for blooming the same season) Some biennials reseed themselves, and some produce offsets that perpetuate the plant indefinitely, so that it becomes essentially perennial Plants considered typical biennials include species of Canterbury bells, forget-me-not, foxglove, hollyhock, honesty, beet, and carrot See Gertrude Jekyll, *Annuals and Biennials* (1916), H S Ortloff, *A Garden Bluebook of Annuals and Biennials* (1924)

Bienville, Jean Baptiste le Moyne, sieur de (zhäⁿ' batēst' lu mwăn' syŭr' du byĕvēl'), 1680–1768, colonizer and governor of Louisiana, b Ville Marie (on the site of Montreal), Canada, son of Charles le Moyne, sieur de LONGUEUIL, and brother of Pierre le Moyne, sieur d'IBERVILLE A midshipman in the royal navy, he served gallantly in Iberville's last expedition into the Hudson Bay region in 1697 and the next year accompanied Iberville's colonizing expedition to the mouth of the Mississippi He was prominent in the preliminary explorations, ascending the Mississippi to the mouth of the Red River, and because of his facility in the Indian tongues he carried on negotiations with the tribes of the region Iberville, upon his departure, left Bienville at the Biloxi settlement as second in command to the sieur de Sauvole, and in 1701, when Sauvole died, Bienville became the real leader of the settlement He transferred the colony to Mobile Bay in 1702 and founded Mobile in 1710. After Iberville's death in 1706, only Bienville's heroic efforts kept the settlement alive in the face of famine, Indian hostility, the jealousy of Spain and Canada, and the neglect of France In 1712, when Louisiana became a monopoly of the French merchant Antoine Crozat, Bienville was superseded as governor by CADILLAC, but regained his position in 1717, the year John LAW, with his MISSISSIPPI SCHEME, took over Crozat's interest The colony grew rapidly in the next few years New Orleans, which he founded in 1718, succeeded Biloxi as Louisiana's capital in 1722 In 1719 he twice captured Pensacola from the Spanish Fearing insurrections of Negro slaves, first brought to the colony under his direction, Bienville promulgated (1724) the Code Noir Its provisions, completely regulating slave life, were humane for the times, and the Code remained in force until Louisiana became part of the United States An unsuccessful campaign in 1723 against the Natchez, whom he had previously defeated (1716), led to his recall (1725) to France Unsuccessful in defending his administration, he was relieved of the governorship Upon Louisiana's subsequent decline, he was begged to return and was warmly received on his arrival in 1733 He led strenuous but indecisive expeditions (1736, 1739–40) against the Natchez and the Chickasaw Worn out by his exertions, Bienville retired in 1743 and spent his remaining days in Paris He lived long enough to see transferred to Spain the colony which he, more than anyone else, had created for France See biography by Grace King (1892)

Bier, August (ou'gōōst bēr'), 1861–, German surgeon In 1907 he became a professor at the Univ of Berlin He advocated the use of hyperemia in treating surgical and other wounds, his treatise on the subject was translated in 1909

Bierce, Ambrose Gwinett, 1842–1914?, American journalist and author, b Meigs co , Ohio, studied at Kentucky Military Institute After distinguished Civil War service with the 9th Indiana Infantry, he turned to journalism In San Francisco he wrote for the *Argonaut* and the *News-Letter,* of which he became editor in 1868 In London, 1872–76, he wrote for the magazine *Fun* and finished three books, including his *Cobwebs from an Empty Skull* (1874) Back in San Francisco, he edited the *Wasp,* 1880–86, a column which he started in the *Argonaut* was continued in Hearst's *Sunday Examiner,* 1887–96, and made him the literary arbiter of the West Coast Later he was Washington correspondent for the *American* and a contributor to *Cosmopolitan* Some of his short stories were collected in *Tales of Soldiers and Civilians* (1891) and *Can Such Things Be?* (1893) Praise was showered on *The Monk and the Hangman's Daughter* (1892), a rewriting of a translation by G A Danziger (Adolphe de Castro) of Richard Voss's work Bierce's excellence lies in distilled satire (as in his *Fantastic Fables,* 1899) and in the savagery and horror of his short stories In 1913 he went to Mexico, where all trace of him was lost See his *Collected Works* (12 vols , 1909–12), *Collected Writings* (selected by Clifton Fadiman, 1946), and letters (ed by B C Pope, 1922), biographies by Carey McWilliams (1929) and Walter Neale (1929)

Bierman, Bernard William (Bernie Bierman), 1894–, American football coach, b Springfield, Minn , grad Univ of Minnesota, 1916 Bierman coached football at the Univ of Montana (1919–22), Tulane Univ (1923–25, 1927–32), Mississippi State College (1925–27), and the Univ of Minnesota (after 1932) He served with the U S marines in the First World War and the Second World War

Bierstadt, Albert (bēr'stat), 1830–1902, American painter of Western scenery, b Germany His canvases of the Rocky Mts and the Yosemite enjoyed wide popularity His works include *The Rocky Mountains* (Metropolitan Mus), *Indian Encampment, Shoshone Village* (N Y Public Library), *The Last of the Buffalo* (Corcoran Gall), and *Discovery of the Hudson River* and *The Settlement of California* (Capitol, Washington, D C)

Bifrost (bĭf'rŏst, bīv'–), in Norse mythology, rainbow bridge It leads from earth to heaven (Asgard) and it is guarded by HEIMDALL

bigamy (bī'gumē), crime of marrying during the continuance of a prior lawful marriage Bigamy is not committed by remarrying if the prior marriage was terminated by a DIVORCE or a decree of NULLITY OF MARRIAGE If a husband or wife was absent and unheard of for seven (or in some states five) years and not known to be alive, he is presumed dead, and remarriage by the other spouse is not bigamous Generally it is not a defense to a charge of bigamy that the offending party in good faith believed that he was divorced or that his previous marriage was not lawful The U S Supreme Court has ruled that plurality of wives, as originally permitted by the Mormon religion, is a crime and is not defensible as an exercise of religious liberty

Big Ben, the bell in the Parliament tower (Westminster Palace), London It was named for Sir Benjamin Hall, commissioner of works when the bell was installed (1856) The name is often given the huge clock in the tower

Big Bend National Park, 691,978 95 acres, W Texas, est 1944 It is a huge triangle formed by the Rio Grande, which runs south, then north in a big bend and flows through deep canyons, notably the Santa Helena Canyon The river, the desert plain, and the Chisos Mts offer sharp contrasts in wilderness scenery, and the park has archaeological treasures, some petrified trees, vestiges of prehistoric Indian cultures, and rare forms of animal and plant life It is the larger part of the projected Big Bend International Park, which will include a similar region on the Mexican side of the Rio Grande

Big Bethel, locality near Fort Monroe, Va , scene of one of the first engagements of the Civil War, June 10, 1861 Gen Ebenezer W Pierce, acting under orders of Gen B F Butler, led a Union brigade against the outposts of Gen J B Magruder's Confederate encampment and was repulsed

Big Black Mountain, 4,150 ft high, E Ky , in the Cumberlands near Lynch It is the highest peak in the state

Big Black River, rising in NE Mississippi and flowing 330 mi SW to the Mississippi river below Vicksburg

Big Dipper: see URSA MAJOR

Bigelow, Henry Jacob (bĭ'gulō), 1818–90, American physician, b Boston, M D Harvard, 1841, son of Jacob Bigelow He was associated with Harvard and with the Massachusetts General Hospital throughout his professional career He wrote the first account of W T G Morton's use of ether anesthesia (1846) and was the first in the United States to excise the hip joint and to introduce lithotrity (a method of crushing a stone in the bladder) He wrote an important monograph on the fracture and dislocation of the hip

Bigelow, Jacob, 1786–1879, American physician and botanist, b Sudbury, Mass , M D Univ of Pennsylvania, 1810, father of Henry J Bigelow He was professor of materia medica at Harvard (1815–55) and was long and prominently associated with the Massachusetts General Hospital He made an important contribution to medical theory and practice in his *Discourse on Self-limited Diseases* (1835) and to botany in his *American Medical Botany* (3 vols , 1817–20) and *Florula Bostoniensis* (1814, enlarged ed , 1824)

Bigelow, John, 1817–1911, American editor, author, and diplomat, b Malden, N Y , grad Union College, 1835 In 1838 he was admitted to the New York bar From 1848 to 1861 he shared with William Cullen BRYANT the ownership and editing of the New York *Evening Post* His antislavery and free-trade editorials were especially vigorous In 1861 he was appointed consul general at Paris, and later (1865–66) he served as U S minister to France Among American Civil War diplomats his work was second in importance only to that of Charles Francis Adams in London He is given large credit for preventing French recognition of the Confederacy His *France and the Confederate Navy* (1888) is a valuable historical work Notable among a long list of publications is his life of Benjamin Franklin (1874) and his edition of Franklin's complete works (10 vols , 1887–88) See his *Retrospections of an Active Life* (5 vols , 1909–13), biography by Margaret Clapp (1947)

Bigelow, Poultney, 1855–, American author and traveler, grad Yale, 1879, and Columbia School of Law, 1882, son of John Bigelow He was admitted to the bar in New York in 1882, but soon became a journalist and world traveler He continued the friendship he formed in childhood with William II of Germany and was well known for his sympathy with German aims Among his several books are *Prussianism and Pacifism* (1919) and his autobiography, *Seventy Summers* (1925)

Biggar, town (pop 1,799), W Sask , W of Saskatoon It is a railway center

Biggs, E Power (Edward George Power Biggs), 1906–, English-American organist, studied at the Royal Academy of Music, London His reputation was already established before he came (1930) to the United States Through many recitals and through a series of weekly broadcasts, begun in 1942, from the Germanic Museum of Harvard Univ , he has done much to make the best organ music, particularly that of the baroque period and of the 20th cent , familiar to the American public

Biggs, Hermann Michael, 1859–1923, American physician and public health administrator, b Trumansburg, N Y , M D Bellevue Hospital Medical College 1883 After studying abroad he taught from 1887 to 1923 at Bellevue In 1892 he organized and became director of the bacteriological laboratories of the New York city health department—the first of their kind in the country—and in 1894 he instituted the production and free distribution of diphtheria antitoxin His measures for the control of tuberculosis were also notable In 1914 he became state health commissioner See biography by C E A Winslow (1929)

Bigheart, Okla see BARNSDALL

Big Hole Battlefield National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Bighorn, river, 461 mi long, formed at Riverton, W central Wyo , by the confluence of the Wind and the Popo Agie It flows N between the Absaroka

Range and the Bighorn Mts. into Montana, where it receives the Little Bighorn and flows NE to the Yellowstone river. At its mouth a trading post was established in 1807. The Bighorn basin is included in the unified plans for the development of the MISSOURI RIVER BASIN PROJECT. The Riverton project and the SHOSHONE PROJECT are on tributaries of the Bighorn. The Hardin project (with Kane and Yellowtail dams) and the Bighorn project (with Boysen Dam, c 20 mi. NE of Riverton, begun in 1947) are parts of the Bureau of Reclamation plans for the Bighorn itself.

bighorn or **Rocky Mountain sheep,** wild sheep of W North America, formerly plentiful in mountains from Canada to Mexico. Indiscriminate hunting, disease, and scarcity of food have reduced its numbers and in some areas exterminated it. It is a heavy, grayish-brown animal, with a conspicuous whitish patch on its hind quarters, the male carries on its head a pair of heavy curling horns, while the female has short, straight spikes. One form lives at high altitudes in the W United States and another in desert regions. Alaskan forms are Dall's or white sheep and Stone's or black sheep.

Bighorn Mountains, part of the Rocky Mts., N central Wyo., extending N of the Mont. border E of the Bighorn river and reaching 13,165 ft. in Cloud Peak. They include the Bighorn National Forest, mainly of pine, spruce, and fir, the grazing place of many cattle, horses, and sheep.

Bigler Lake. see TAHOE, LAKE.

Big Manitou Falls (măn'ĭtōō), 165 ft. high, NW Wis., in the Black River which flows N to Lake Superior. The falls are the highest in the state.

Bignon, Louis Pierre Édouard (lwē' pyĕr' ādwär' bōnyō'), 1771–1841, French diplomat and historian. He held a number of varied posts under Napoleon, was acting minister of foreign affairs during the Hundred Days, and after Waterloo signed the surrender of Paris. A member of the chamber of deputies in the Restoration, he was briefly (1830) foreign minister under Louis Philippe who raised him to the peerage in 1837. His major historical work is the *Histoire de France sous Napoléon* (10 vols., 1829–50).

Bignonia (bĭgnō'nēə), name for a genus of plants in which the TRUMPET CREEPER is sometimes included, but often limited to a single species, the cross vine or trumpet flower, *Bignonia* (or *Anisostichus*) *capreolata*. This is a tall climber with trumpet-shaped, reddish-orange flowers, cultivated on walls and trees and in greenhouses and native to the United States from Virginia and Illinois southward. The stem in cross section reveals a crosslike design because of which sacred virtues have been attributed to the plant.

Bigod, Hugh: see NORFOLK, HUGH BIGOD, 1ST EARL OF.

Bigordi, Domenico see GHIRLANDAIO, DOMENICO.

Bigot, François (frāswä' bēgō'), d. after 1760, intendant of New France (1748–59), b. Bordeaux, France. At Louisburg, where he served (1739–45) as commissary, it has been said that he indulged in fraudulent practices which contributed to the downfall of that fort. Powerful friends in France secured for him the office of intendant of New France. Bigot arrived at Quebec in 1748 and immediately instituted a system of peculation by which every branch of the public service was laid under tribute to enrich himself and his friends. His corrupt administration reduced the colony to bankruptcy and paved the way for the English conquest. After the fall of New France, he returned to France, where he was arrested, imprisoned for nearly a year, compelled to make restitution, and then banished. The date of Bigot's death is uncertain.

Big Rapids, resort city (pop. 4,987), co. seat of Mecosta co., N Mich., at falls of the Muskegon NE of Grand Rapids, settled 1854, inc. 1869. Its extensive gas wells supply a wide area. Furniture and tools are made. Ferris Institute is in Big Rapids (see FERRIS, W. N.). A state fish hatchery is near.

Big River: see FORT GEORGE, river.

Big Sandy River. **1** River formed at Louisa, Ky., by the junction of Tug Fork and Levisa Fork. It is part of the Kentucky–West Virginia boundary and flows N to the Ohio at Catlettsburg, Ky. **2** River rising in W Tennessee, N of Lexington, and flowing generally NNE to the Kentucky Reservoir of the Tennessee river.

Big Sioux (sōō), river rising in NE South Dakota and flowing south 420 mi. through a country of lakes and farms past Watertown and Sioux Falls to the Missouri at Sioux City, Iowa. In its lower course it is part of the Iowa–South Dakota boundary.

Big Spring, city (pop. 12,604), co. seat of Howard co., W Texas, SW of Sweetwater, founded 1881 with the coming of the railroad, inc. 1907. The spring, which once fed Beal's Branch of the Colorado but is now dry, was known to the Comanche, to buffalo hunters, to cattle ranchers, and finally to cotton and grain farmers. Oil, discovered in 1928, made the city a center of industries concerned with oil. It also handles and processes meat, dairy, poultry, and clay products and has railroad shops.

Big Stone Gap, manufacturing and mining town (pop. 4,331), extreme SW Va., near the Ky. line and in the coal district of the Cumberlands, inc. 1888. It was named for the pass cut through the mountains by the Powell river. The Southwest Virginia Museum, founded in 1935 and under state control since 1946, presents the history and folk culture of SW Virginia. Natural Tunnel (100–200 ft. high, 130 ft. wide, and c. 900 ft. long) is south.

Big Stone Lake, long narrow lake on the Minn.–S. Dak. line, once the outlet of glacial Lake Agassiz. The Minnesota river has its source in the lake.

Bigtha, chamberlain of Ahasuerus. Esther 1:10.

Bigthan, chamberlain who conspired with Teresh against King Ahasuerus. Esther 2:21. He is called **Bigthana** (bĭg'thənə) in Esther 6:2.

Big Timber, city (pop. 1,533), co. seat of Sweet Grass co., S Mont., on the Yellowstone river and NE of Livingston, inc. 1902. In cattle and sheep-raising country, it has dude ranches near by.

big tree see SEQUOIA.

Bigvai (bĭg'vāī, bĭgvā'ī) **1** Signer of the covenant. Ezra 2:2, Neh. 7:7, 10:16. **2** Name of a family in the return. Ezra 2:14, Neh. 7:19.

Bihar (bēhär'), state (70,308 sq. mi., pop. 36,545,575), NW India. Patna is the capital. Bihar is bounded on the north by Nepal and on the east by Pakistan. The predominantly agricultural northern area, crossed by the Ganges river, supports the bulk of the population. Rainfall, frequently inadequate, is supplemented by extensive irrigation. Rice is grown where possible, maize, wheat, barley, sugar cane, and oil seeds are also important crops. Jute is the main cash crop of the extreme northeast. The central and southern areas are hilly. The southeastern section is one of the greatest sources of India's mineral wealth. Mica and copper are abundant. Iron, found in association with coal, is fabricated at the great Jamshedpur steelworks. The chief transportation lines run east and west, thus linking central India with the Bengal ports. The provincial population, almost entirely Hindu, is unusually homogeneous for India. They speak Bihari, an Indo-European language. Bihar was the scene of Buddha's early life. Its history after the 17th cent. was largely linked with that of Bengal from which it was separated in 1912 to become part of Bihar and Orissa prov. From 1936 to 1950 it was a province.

Bihari (bēhär'ē). Indo-European language. See LANGUAGE (table).

Bisk, RSFSR see BISK.

Bijapur or **Bejapur** (both bīja'pōōr), town (pop. 48,968), SE Bombay state, India. There are extensive remains from the period (c. 1490–1686) when it was the capital of the Moslem state of Bijapur, notably the tomb of Mahmud Shah, with a dome c. 124 ft. in diameter. Bijapur is primarily a market place and a cotton-ginning center.

Bijns, Anna (ä'nä bīns'), c. 1494–1575?, Flemish poet of Antwerp. Her three volumes (1528, 1548, 1567) of lyric verse place her among the foremost Dutch poets of her age. She excelled in robust satires passionately inveighing against the social evils of the day and attacking the Reformation. Her religious poetry is sincere and moving.

Bika, El (ĕl bĭkä' bā'kä), valley, c. 100 mi. long, Syria and Lebanon, between the Lebanon and the Anti-Lebanon ranges. The upper course of the Orontes flows in the valley, which was the heart of ancient Coele-Syria and was the scene of warfare from the dawn of history. It was included in a province of the Persian Empire and was later bitterly contested by the Seleucids and the Ptolemaic kings of Egypt. Antioch was founded by Seleucus I to dominate the region. The name also appears as El Beqa and El Bukaa.

Bikaner (bĭkunĕr') former native state (23,181 sq. mi., pop. 1,292,938), Rajputana, India. The land, almost entirely desert, chiefly supports the raising of sheep and camels. Wool is locally spun and woven. In 1949 Bikaner was joined to the state of Rajasthan. Its capital city, **Bikaner** (pop. 127,226), was founded in 1488. There are several beautiful Rajput palaces of the 16th cent. Fine blankets and carpets are manufactured.

Bikini (bēkē'nē), uninhabited atoll comprising 36 islets on a reef 25 mi. long, central Pacific, one of the Ralik Chain in the Marshall Islands. Its former inhabitants were removed in 1946 to Rongerik before U.S. atom-bomb tests were made here. Later the Bikini natives were transferred from Rongerik and were in 1949 on Kili. The atoll was formerly called Escholtz Islands.

Bilac, Olavo (ōlä'vō bĭläk'), 1865–1918, Brazilian poet. He was the chief poet of the Parnassian school in Brazil, and his writings have an enameled elegance as well as sensual richness. Some of them are gathered in *Poesias* (1888) and *Tarde* [afternoon] (1919).

Bilaspur (bēləs'pōōr'), state (453 sq. mi., pop. 110,136), NW India, in the W Himalayas. The capital is Bilaspur (pop. 2,873). The state was selected as the site of a large projected dam across the Sutlej river.

Bilbao (bĭlbä'ō), city (pop. 183,200), capital of Vizcaya prov., N Spain, in the BASQUE PROVINCES, on both banks of the Nervión river, near the Bay of Biscay. The second port of Spain since the 19th cent., it is the center of an important industrial area, with rich iron deposits in the vicinity. Steel mills and shipbuilding are the chief industries. Founded in the 14th cent. on the site of an ancient settlement, Bilbao flourished in the 15th and 16th cent. In the 19th cent. it was twice unsuccessfully besieged by the Carlists. Bilbao was the seat of the short-lived Basque autonomous government from 1936 until its capture (1937) by the Insurgents.

Bilbilis, see CALATAYUD, Spain.

Bilbo, Theodore Gilmore, 1877–1947, U.S. Senator (1935–47), b. Poplarville, Pearl River co., Miss. After study at the Univ. of Nashville (1897–1900) and Vanderbilt Univ. law school (1905–7), he was admitted (1908) to the Tennessee bar. One of the most ultraconservative of Southern Democrats, he won his political way as a demagogue upholding white supremacy and was twice governor of Mississippi (1916–20, 1928–32) before he served as U.S. Senator from that state. He died while the 80th Congress was investigating charges that he was disqualified for the Senate because of anti-Negro campaigning and accepting bribes.

Bildad, the second, and perhaps the least consoling, of Job's comforters. Job 8,18,25,42:9.

Bilderdijk, Willem (wĭl'ŭm bĭl'dərdĭk), 1756–1831, Dutch poet. A monarchist exile (1795–1806) from the Batavian Republic, he returned to the Netherlands under Louis Bonaparte, whom he tutored in Dutch. Later he conducted a small private college at Leiden. There he had great influence on his pupils, among them Isaäc da Costa and Jacob van Lennep. Bilderdijk's work is of prodigious quantity and very uneven. At its best, however, the poetry is so splendid—the poet is so much the master of his medium—that Bilderdijk is ranked as the first great Dutch poet after Vondel. His most ambitious effort is an unfinished epic, *De Ondergang der eerste Wereld* [the destruction of the first creation] (1820).

bile, alkaline fluid formed in the liver, usually yellow, yellowish brown, or green in color. It is composed chiefly of water, bile salts and acids, bile pigments derived from the decomposition of worn-out red corpuscles, cholesterol, lecithin, and inorganic salts. In man the bile is stored temporarily in the GALL BLADDER, from which it passes through the cystic and common bile ducts into the first part of the small intestine when the partially digested food reaches that portion of the alimentary canal. Not all the functions of bile have been fully investigated, but it is known to aid in the emulsification, digestion, and absorption of fats and to serve as a means of carrying off the bile pigments and certain other products to be excreted. If the flow of bile through the bile ducts is obstructed by bacteria, gall stones, or other abnormalities, digestive disturbances and frequently JAUNDICE result.

Bileam (bĭl'ēəm), the same as IBLEAM.

Bilgah (bĭl'gu) [Heb. = cheerfulness] **1** Priest. 1 Chron. 24:14. **2** Priest in the return. Neh. 12:5, 18. He is called **Bilgai** (bĭl'gāĭ, gā'ĭ) at Neh. 10:8.

Bilhah (bĭl'hu) **1** Rachel's maid and Jacob's concubine. Gen. 29:29, 30:1–8, 35:22,25, 46:25, 49:4, 1 Chron. 7:13. **2** City of Simeon, of unknown location. 1 Chron. 4:29. Baalah. Joshua 15:29. Balah. Joshua 19:3.

Bilhan (bĭl'hăn) **1** Horite. Gen. 36:27, 1 Chron. 1:42. **2** Benjamite. 1 Chron. 7:10.

biliousness, common term for symptoms caused by disorders of the liver and the gall bladder, manifested by malaise, headache, indigestion, nausea, vomiting, and possibly slight jaundice. A fat-free diet is usually recommended.

Billaud-Varenne, Jacques Nicolas (zhäk' nēkōlä' bēyō'-varĕn'), 1756–1819, French revolutionist. One of the most violent antimonarchists in the Convention, he became a member of the Committee of Public Safety, he denied that anyone was inviolable, and he secured the passage of laws against monopolies. He plotted first against DANTON and then against ROBESPIERRE. Deported to French Guiana after Robespierre's fall, he refused an amnesty offered by Napoleon Bonaparte. In 1816 he fled to Haiti, where he died.

Billerica (bĭl'rĭkə), town (pop. 7,933), NE Mass., on the Concord and S of Lowell, settled 1637, inc. 1655. It was one of the "praying Indian" towns of John ELIOT. The Manning house dates from 1696. The town has railroad shops and produces woolen and asbestos products.

billiards, game played with a tapered, leather-tipped stick called a cue and usually three ivory balls, on an oblong, cloth-covered, slate table with raised and cushioned edges. In England a table (6 ft. x 12 ft.) with six pockets is used, in America the standard table (5 ft. x 10 ft.) is pocketless, and scoring is by caroms only, i.e., by causing the three balls to strike each other in specified ways. Pool is played on a table with pockets (usually six), and 15 balls and a cue ball are used. Pocket billiards is a variant of billiards, played on a pool table; in addition to caroms, the pocketing of balls enters into the scoring. Variants of these games were popular in France in the 16th cent., and a similar game was played earlier. The country of origin is a matter of dispute. Playing billiards was popular in England in Shakspere's time, and the game has

been known in America since colonial days. Willie Hoppe, who became prominent in 1905, is generally considered to be the foremost billiards player of all time

Billings, Frank, 1854–1932, American physician, b Highland, Wis., M.D. Northwestern Univ., 1881 He taught at Northwestern from 1882 to 1898 and at Rush Medical College from 1898, becoming dean in 1900 He was an editor of the second edition (1914) and of several later editions of *Therapeusis of Internal Diseases* and with E C. Rosenow did important work on focal infection

Billings, John Shaw, 1838–1913, American surgeon and librarian, studied medicine at the Medical College of Ohio In the Civil War he was medical inspector of the Army of the Potomac After the war he was given charge of the Surgeon General's Library in Washington The catalogue entries increased, under his supervision, from 600 to 50,000 by 1873, and soon after he began the preparation of the great *Index Catalogue* Sixteen volumes appeared before his retirement In 1879 the *Index Medicus*, a monthly guide to current medical literature, was initiated by him He designed Johns Hopkins Hospital As director of the combined Astor, Lenox, and Tilden foundations in New York which were to become the New York Public Library, he consolidated the collections, planned and supervised the erection of the central library building, united the various free circulating libraries of the city, secured $5,000,000 from Carnegie for branch buildings, and in general created the New York Public Library as it now stands. See biographies by F H Garrison (1915) and H M Lydenberg (1924)

Billings, Josh, pseud of **Henry Wheeler Shaw,** 1818–85, American humorist and lecturer, b Lanesboro, Mass After a roving life as farmer, explorer, and coal miner, he settled in Poughkeepsie, N Y, as auctioneer and real-estate dealer In 1860 he began to write his humorous sketches in rural dialect and soon became also a popular lecturer See study by Cyril Clemens (1932)

Billings, William, 1746–1800, American composer, the first American professional musician, b Boston Though unschooled in music, he wrote hymns and sacred choruses of great vitality, employing a rugged sort of imitative counterpoint—hence their designation as fuguing tunes He often wrote his own texts, breaking with the colonial tradition of versified psalmody He was an innovator in the use of the pitch pipe, he also introduced the use of the cello into church services A singing class which he organized became (1780) the Stoughton Musical Society and is still in existence His publications include *The New England Psalm Singer* (1770), *The Singing Master's Assistant* (1778), and *The Continental Harmony* (1794)

Billings, city (pop 23,261), co seat of Yellowstone co, S Mont, on the Yellowstone river, inc 1885 Founded (1882) by the Northern Pacific RR and named for Frederick Billings, its president, Billings quickly became an important shipping point, with varied industries, including an oil refinery A state irrigation project of 3,000 acres is just outside the city limits The 30,000-acre Huntley project of the U S Bureau of Reclamation encircles Billings at a 30-mile radius A state normal school and ROCKY MOUNTAIN COLLEGE are here Prehistoric remains were found (1937) in near-by caves

Billingsgate (bĭl'ĭngzgĭt,-gāt), one of the old city gates of central London and hence a wharf and fish-market district below London Bridge on the north bank of the Thames The name is also applied to the coarse language prevalent here and in similar districts

Billings Polytechnic Institute see ROCKY MOUNTAIN COLLEGE

Billiton (bĕl'ĭtŏn) or **Belitong** (bĕlĭ'tŏng), island (1,866 sq mi, pop including offshore islets 73,429), Indonesia, E of Bangka Briefly occupied by the British, the island became a Dutch possession in 1824 It has valuable tin mines chiefly worked by Chinese labor

bill of exchange, written order signed by the person giving it and requiring the person to whom it is addressed to pay a third party or his order a certain sum of money on demand or at a specified time It is sometimes known as a DRAFT The bill of exchange was originally a promissory note, but it came to indicate an indebtedness incurred in one kind of money and paid in another, i e, it "exchanged" moneys of different mints It was originally devised to give credit to a customer who intended to pay in the future, but it came to be used to pay foreign debts (see FOREIGN EXCHANGE) in that it obviated the annoyance, expense, and risk of transmitting money Apparently it was used in early Babylon, Egypt, and Rome, but the earliest clear instance of its use is in Genoa c 1156 Bills of exchange are commonly drawn by sellers or exporters upon buyers or importers in FOREIGN TRADE. They are little used in trade within the United States, but more so in domestic trade in European countries. The bill is sometimes payable on demand, usually, however, it is payable a stated number of days after acceptance by the debtor. Shipping papers covering the goods sold are ordinarily attached to a bill as added security. A bill of exchange enables the exporter to obtain immediate cash for his goods, a bank will buy the bill or grant him a loan on it and then will undertake through an agent in the importer's country to collect the debt when due See A M Samuel, *The Working of the Bill of Exchange* (1929)

Bill of Rights, 1689, in British history, one of the great instruments of the constitution It registered in statutory form the results of the long 17th-century struggle between the Stuart kings and the English people. Its principles were accepted by William III and Mary II in the Declaration of Rights as a condition of ascending the throne after the revolution in which James II was dethroned (1688) The Bill of Rights stated that certain acts of James II were illegal and henceforth prohibited, that Englishmen possessed certain inviolable civil and political rights, that James had forfeited the throne by abdication and that William and Mary were lawful sovereigns, and that the succession should pass to the heirs of Mary, then to Princess Anne (later queen) and her heirs, and that no Roman Catholic could ever be sovereign of England By its provisions and implications it gave political supremacy to Parliament and was supplemented (1701) by the Act of SETTLEMENT

Bill of Rights, in U S history, see CONSTITUTION OF THE UNITED STATES

Billy the Kid, 1859–81, American outlaw, b New York city His real name was William H Bonney His family moved to Kansas and then to New Mexico when he was a child He early frequented saloons and gambling halls, and before he was 16 he had killed several men In 1878 he led a gang in the Lincoln co cattle war, killed a sheriff, and engaged in large-scale cattle rustling John S Chisum and other cattlemen secured (1880) the election of a new sheriff sworn to rid the country of the cattle thieves Billy the Kid was captured, tried, and sentenced to death He escaped but was again trapped and was shot by Sheriff Pat F Garrett See biographies by Pat F Garrett (1882, new ed, 1927), C A. Siringo (1920), and Walter Noble Burns (1926)

Biloxi (bĭlŭk'sē), city (pop 17,475), SE Miss, on a small peninsula between Mississippi Sound and Biloxi Bay, inc as a town 1838 as a city 1896 It is a popular resort and fishing and boatbuilding center and packs and ships large quantities of oysters and shrimps The first white settlement in the lower Mississippi valley was established in 1699 across the bay at Old Biloxi (now Ocean Springs) by the French under IBERVILLE In 1702 BIENVILLE transferred the settlement to the Mobile area New Biloxi, the present site of the city, was founded in 1719 and was Louisiana's seat of government until 1722, when New Orleans was made capital The city is the seat of a U S coast guard air base, a U S veterans' hospital, and Naval Reserve Park, now included in U S Keesler Field (air base) Near by is "Beauvoir" (1852–54), last home of Jefferson Davis, now a state Confederate veterans' home Ship Island a long sandy bar just off the coast, has served intermittently as a naval base

Biloxi Bay, arm of Mississippi Sound, c 17 mi long and 1 to 3 mi wide, SE Miss It receives the Biloxi river A bridge (1930) from Biloxi to Ocean Springs crosses the bay

Bilshan [Heb, =son of the tongue], one who returned with Zerubbabel Ezra 2 2, Neh 7 7

Bilston, municipal borough (1931 pop 31,225, 1947 estimated pop 32,080), Staffordshire, England There are potteries and coal mines

Bimeler, Joseph Michael (bĭ'mŭlŭr), 1778–1853, German religious leader, originally called Bäumeler A teacher of the separatists in Württemberg, in 1817 he led a group of them to America In Ohio they founded the community of ZOAR

bimetallism, name first used in 1869 by Cernuschi to describe a monetary system in which two commodities, usually gold and silver, are used as a standard and are coined without limit at a ratio fixed by legislation which also designates both of them as legally acceptable for all payments The ratio is expressed in terms of weight, as "16 oz of silver equal 1 oz of gold," which is described as a ratio of 16 to 1 As the ratio is determined by law, it has no relation to the commercial value of the metals, which fluctuates constantly Gresham's law, therefore, applies, i e, the metal that is commercially valued at less than its face value tends to be used as money, and the metal commercially valued at more than its face value tends to be used as metal, valued by weight, and hence is withdrawn from circulation as money In bimetallism the debtor tends to pay in the metal which is commercially the cheaper, thus creating a demand which is likely to bring its commercial value up to its face value Until the acts of 1798 and 1816 under which England made gold the standard currency, all countries practiced bimetallism Bimetallism was strengthened by the formation of the Latin Union in 1866, which included France, Belgium, Italy, and Switzerland, to which were joined in 1867 Greece and Rumania But in 1873 the new German Empire adopted the gold standard, and shortly thereafter the Latin union was dissolved and most modern nations abandoned bimetallism for the gold standard. In the United States bimetallism was abandoned in 1873, but the Bland-Allison Act of 1878 allowed a limited coinage of silver dollars, a "limping bimetallism," partially dependent on silver but primarily dependent on gold This policy was finally ended by the Gold Standard Act of 1900 Bimetallism was long a paramount political issue in the United States See MONEY See F A Walker, *International Bimetallism* (1904), H D Macleod, *Bimetallism* (1906) René Léon, *Money and Trade* (1937), Anatol Murad, *The Paradox of a Metal Standard* (1939)

Bimhal (bĭm'hăl) [Heb, =son of circumcision], Asherite 1 Chron 7 33

Bimini (bĭ'mĭnēz, bŭmē'nēz), island group, part of the Bahama Islands The Biminis include North Bimini, South Bimini, and surrounding cays Here legend places the fountain of youth for which Juan Ponce de León searched The islands are today known especially for the exceptionally good fishing in near-by waters

binder, for the harvesting machine see REAPER

Bindraban or **Bindrabund,** India see BRINDABAN

Binea (bĭn'ēu), descendant of Saul. 1 Chron 8 37, 9 43

Binet, Alfred (älfrĕd' bēnā'), 1857–1911, French psychologist From 1894 he was director of the psychology laboratory at the Sorbonne He is known for his research and innovation in testing human intelligence With Théodore Simon (1873–) he devised (1905–11) a series of tests which, with revisions, came into wide use in schools, industries and the army The Stanford, the Herring, and the Kuhlmann revisions are important Binet and Simon wrote *Les Enfants anormaux* (1907, Eng tr, *Mentally Defective Children*, 1914) Most of his writings were published in *Année psychologique*, a journal which he founded in 1895

Bingen (bĭng'ŭn), city (pop 15,373), W Germany, on the Rhine, above the whirlpool known as Binger Loch In former Hesse-Darmstadt, it was after 1945 included in the French-occupied Rhineland-Palatinate Bingen lies in a famous wine district Dating from pre-Roman times, it was fortified (1st cent B C) by Drusus It joined the Hanseatic League in 1254 and in 1281 came under the rule of the archbishop of Mainz Near Bingen, on a rock in the Rhine, is the famous Mauseturm [mouse tower], where, according to legend, Archbishop Hatto of Mainz was devoured by mice for wronging his subjects

Bingham, Caleb, 1757–1817, American textbook writer, b Salisbury, Conn, grad Dartmouth, 1782 He taught until 1796 then became a bookseller and publisher in Boston He wrote and published some of the earliest grammars, spelling books and geographies and was especially known for his readers *The American Preceptor* (1794) and *The Columbian Orator* (1797), which predominated in New England schools for the next quarter century

Bingham, George Caleb, 1811–79, American genre painter, b Augusta co, Va His family moved to Missouri in 1819, and Missouri was the arena of most of Bingham's activities Discovering a talent for portraiture, he made and sold likenesses of his neighbors In 1837 he studied for a short time at the Pennsylvania Academy of the Fine Arts From 1856 to 1859 Bingham traveled in Europe, studying at Düsseldorf for a time Journeys on the Mississippi and through the South resulted in such paintings as *The Jolly Flatboatmen* (1846, Mercantile Library Association, St Louis), *Daniel Boone Coming through the Cumberland Gap* (1851, Washington Univ, St Louis), and *Raftsmen Playing Cards* (City Art Mus, St Louis) Bingham entered Missouri politics with his election to the legislature in 1848 (he had been defeated in 1846), he served as state treasurer, 1862–65 (after a year in the Union army), and became state adjutant general in 1875 Such pictures as *The Verdict of the People* and *Stump Speaking* (Mercantile Library Association, St Louis) reflect his interest in politics His scenes —vigorous, interesting in composition, humorous, and faithfully representing their time and locale— were very popular in his day, and engravings from them sold widely After Bingham's death his reputation was in eclipse until the 1930s, when exhibitions of his work were held See biography by A W Christ-Janer (1940)

Bingham, Hiram, 1789–1869, American Congregationalist missionary, b Bennington, Vt, educated at Middlebury College and Andover Theological Seminary In 1819 the American Board of Missions sent him, with others, to found the first Protestant mission in the Hawaiian Islands Bingham adapted the Hawaiian language to writing, published *Elementary Lessons in Hawaiian* (1852), and, with his associates, translated the Bible into Hawaiian

Bingham, Hiram, 1831–1908, American Congregationalist missionary, b Honolulu, grad Yale, 1853, and Andover Theological Seminary, 1855, son of Hiram Bingham (1789–1869) In 1857 he founded a mission at Abaiang in the Gilbert Islands, but ill-health forced him to retire (1864) to Hawaii Bingham reduced the language of the Gilbert Islands to writing. He translated the Bible into Gilbertese

and also prepared in Gilbertese a Bible dictionary, a grammar, a hymnbook, and commentaries on the Gospels and the Acts

Bingham, Hiram, 1875–, American archaeologist, aviator, and statesman, b Honolulu, son of Hiram Bingham (1831–1908) He was educated at Yale (B A , 1898), the Univ of California (M A , 1900), and Harvard (Ph D , 1905) and later taught (1907–23) at Yale He headed expeditions sent from Yale in 1911, 1912, and 1914–15 to South America to study Inca ruins and was the discoverer of the Inca cities of Vitcos and Machu Picchu in 1911 and 1912, the road opened to Machu Picchu in 1948 was named the Hiram Bingham Highway His well-known books deal with these expeditions and with Machu Picchu—*Journal of an Expedition across Venezuela and Colombia* (1909), *Across South America* (1911), *Inca Land* (1922), *Machu Picchu, a Citadel of the Incas* (1930), and *Lost City of the Incas* (1948) In the First World War he was notable as an aviator, heading an Allied flying school in France Leaving Yale, he served as lieutenant governor (1923–24) and governor (1924–25) of Connecticut and as U S Senator (1925–33) He also wrote on the Monroe Doctrine and other state policies

Bingham, Joseph, 1668–1723, English theologian He is known for his learned work on Christian antiquities (10 vols , 1708–22)

Bingham, Robert Worth, 1871–1937, American newspaper publisher and diplomat, b Orange co , N C He attended the universities of North Carolina and Virginia and received a law degree (1897) from the Univ of Louisville After holding several public offices, he became publisher of the Louisville *Courier-Journal* and the Louisville *Times* He was important in promoting cooperative associations for tobacco growers From 1933 to 1937 he was ambassador to Great Britain

Bingham, town (pop 1,210), central Maine, on the Kennebec above Skowhegan, settled 1780, inc 1812 Wyman Dam near here in the Kennebec was built in 1929–31 Wood products are made

Bingham Canyon or **Bingham,** town (pop 2,834, alt 6,100 ft), N central Utah, in a gulch of the Oquirrh Mts SW of Salt Lake City At first (1848) a farm of the Mormons Thomas and Sanford Bingham, it became in the 1860s a roaring mining town —gold, then silver and lead, and in the 20th cent copper The open-pit mine attracts many visitors

Binghamton (bĭng'umtun), industrial city (pop 78,309), co seat of Broome co , S N Y at the confluence of the Chenango with the Susquehanna, laid out 1800, inc as a village 1813, as a city 1867 Binghamton grew mainly after the Chenango Canal connected it with Utica in 1837 It is the largest of the Triple Cities, comprising Binghamton, Endicott, and Johnson City, famous for shoes Photographic supplies paints, and furniture are also made The city has experienced several damaging floods, notably that of July, 1935 There is a state mental hospital here, and the Chenango Valley State Park is near by

Bingley, urban district (1931 pop 20,553, 1943 estimated pop 22,496), West Riding of Yorkshire, England It has woolen and silk mills and manufactures leather goods, paper, machine tools, and paint

Binney, Horace, 1780–1875, American lawyer, b Philadelphia, grad Harvard, 1797 He was admitted to the bar in 1800 and in 1809 began the publication of several volumes of Pennsylvania supreme court decisions He soon became one of the leading lawyers of his state He was appointed in 1808 a director of the Bank of the United States His first elective office was that of Congressman (1833–35) In Congress, Binney condemned President Andrew Jackson, particularly for his stand against the Bank of the United States In 1844, opposing Daniel Webster, Binney argued successfully before the U S Supreme Court that a bequest of Stephen GIRARD to Philadelphia for philanthropic purposes was lawful His argument was influential in liberalizing the American law relating to charitable bequests He wrote biographies of William Tilghman (1827), John Marshall (1835), and Bushrod Washington (1858) He also wrote *Leaders of the Old Bar of Philadelphia* (1859) See biography by C C Binney (1903)

Binns, Charles Fergus, 1857–1934, British-American potter and professor of ceramics, b Worcester, England He was connected with the royal porcelain works at Worcester from 1872 until he migrated to the United States in 1897 He was for three years principal of the Technical School of Science and Art, Trenton, N J. From 1900 until his retirement in 1931 he was director of the state college of ceramics at ALFRED UNIVERSITY He was a founder and president (1901) of the American Ceramic Society His publications are *The Story of the Potter* (1896), *Ceramic Technology* (1897), and *The Potter's Craft* (1909)

Binns, John Alexander, c 1761–1813, American agriculturist, b Loudoun co , Va He was one of the first to experiment with gypsum as a fertilizer and to convince others of its efficacy Partly through example and partly through his pamphlet, *Treatise on Practical Farming* (1803), what came to be known as the Loudoun system spread rapidly throughout Virginia and Maryland and ultimately into other districts

Binnui (-ūī) [Heb ,=building], Levitical name common in Ezra and Nehemiah The following may probably be distinguished **1** Levite with Zerubbabel Ezra 8 33, Neh 3 24, 10 9, 12 8 **Bavai** Neh 3 18 **Bani** Neh 8 7 **Bunni** Neh 9 4 **2, 3** Men married to foreign wives Ezra 10 30,38 See also BANI **4**

Binyon, Laurence, 1869–1943, English poet, keeper of prints and drawings in the British Museum, and authority on Oriental art He made a catalogue of English drawings in the British Museum (4 vols , 1898–1907) He wrote many books on art, including *Painting in the Far East* (1908), *The Court Painters of the Grand Moguls* (1921), and *The Drawings and Engravings of William Blake* (1922), numerous volumes of poetry, *Selected Poems* (1922), *The Sirens* (1927), and *Akbar* (1932), and poetic dramas, *Arthur* (1923) and *Boadicea* (1927) Well known is his ode "For the Fallen," commemorating the dead of the First World War He edited the *Golden Treasury of Modern Lyrics* (1929)

Binz, Karl (bĭnts), 1832–1912, German physician and pharmacologist As professor at Bonn he accomplished important work in experimental pharmacology and pathology, he studied and wrote on the use of quinine, of anesthetics, and of other substances

Bío-Bío (bē'ō-bē'ō), river, c 240 mi long, rising in the Andes of central Chile and flowing NW to the Pacific It is navigable only for flat-bottomed boats operating from Concepción near its mouth The province of Bío-Bío through which much of its course lies, is named for the river

biochemistry, the science which is concerned chiefly with chemical processes in living organisms and with organic products of living things Sometimes the science is called biological chemistry or physiological chemistry Biochemical processes include photosynthesis, metabolism of nutrients in plant and animal cells, digestion, absorption, and biological oxidation Biochemistry deals also with studies of the chemistry of such substances as proteins, carbohydrates fats, vitamins, hormones, enzymes, and blood and with studies of the chemistry of immunology The beginnings of the science are seen in Antoine Lavoisier's recognition of the nature of respiration, in Justus von Liebig's realization that the nutritive materials of green plants are inorganic in nature, in Friedrich Wöhler's synthesis of urea (the first synthesis of an organic product from inorganic materials), and in Pasteur's work on fermentation In the years following, biochemistry assumed increasing importance Research has revealed more and more of the chemical aspects of biological processes, and by chemical synthesis a constantly growing number of organic materials have been duplicated

biography, history of an individual, called autobiography when written by the individual himself The earliest purpose in writing biography was, apparently, to support a theory, as Plutarch did, or to teach a moral lesson, as did the writers of saints' lives In English the modern conception of biography for its own sake began in the 17th cent with such works as William Roper's *Sir Thomas More*, Izaak Walton's lives, and many biographies and autobiographies dealing with religious conversions James Boswell's famous *Life of Samuel Johnson, LL D* (1791) was the culmination of a tendency to make biography a complete portrait and history of its subject, and most modern biographical writing follows the same course Many 19th-century writers produced ponderous life-and-letters volumes, indispensable but often marred by the suppression of information thought to be improper Others, such as Leslie Stephen, did much to develop well-balanced biographical writing In the 20th cent , such intensive treatment of a few years in a man's life as Edmund Gosse's *Father and Son* and Harold Nicolson's *Byron the Last Journey* proved effective, and the highly selective works written by André Maurois, Lytton Strachey, and Gamaliel Bradford have been stimulating and have been widely imitated Biographical dictionaries, though dating from the 15th cent , did not until the 19th cent approach the status of such eminent works of this type as the *Dictionary of National Biography*, the *Allgemeine deutsche Biographie*, the *Nouvelle Biographie generale*, and the 20th-century *Dictionary of American Biography* A recent development is the handy noncritical collection of biographical facts in such a work as *Who's Who* and its various foreign counterparts Besides those mentioned, great biographies of the world include the stories of Ruth, David, and Joseph in the Old Testament, the Gospels, Plutarch's *Lives*, Tacitus' *Agricola*, Suetonius' *Lives of the Caesars*, Anthony Wood's *Athenae Oxonienses*, Thomas Fuller's *Lives of the Worthies of England*, the *Acta Sanctorum* of the Bollandists, the sire de Joinville's *St Louis IX*, Samuel Johnson's *Lives of the Poets*, J G Lockhart's *Sir Walter Scott*, John Morley's *Gladstone*, Mrs Gaskell's *Charlotte Brontë*, G H Lewes's *Goethe*, biographies of Lincoln by Lord Charnwood, Nicolay and Hay, and A. J Beveridge; G F Henderson's *Stonewall Jackson;* Ernest Renan's *Life of Jesus*, Stanley T Williams's *Washington Irving;* Amy Lowell's *John Keats*, Harvey W Cushing's *Sir William Osler*, Winston S Churchill's *Marlborough*, and Douglas S Freeman's *R E Lee* Outstanding autobiographies and memoirs include those of St Augustine, Benvenuto Cellini, Lord Herbert of Cherbury, Benjamin Franklin, Samuel Pepys (diary), Casanova, Jean Jacques Rousseau, John Quincy Adams, John Stuart Mill, Cardinal Newman, Goethe, Edward Gibbon, John Woolman, U S Grant, Henry Adams, Bismarck, Tolstoy, T E Lawrence, and W B Yeats See W C Cross, *An Outline of Biography* (1924), Harold Nicolson, *The Development of English Biography* (1928), E H O'Neill, *History of American Biography* (1935), J M Longaker, *Contemporary Biography* (1934), D A Stauffer, *The Art of Biography in 18th Century England* (1941)

biology, the science which deals with living things It is broadly divided into ZOOLOGY, the study of animal life, and BOTANY, the study of plant life Subdivisions of each of these sciences include cytology (the study of cells), histology (the study of tissues), anatomy or morphology, physiology, and embryology (the study of the development of an individual animal or plant) Also included in biological studies are ecology, the sciences of genetics and heredity, evolution, paleontology, and taxonomy or systematics Microbiology is a term applied in recent years to the science comprising the study of microscopic forms of life, including protozoa, bacteria, viruses, algae, fungi, and yeasts Evidences of early man's observations of nature are seen in prehistoric cave art Biological concepts began to develop among the early Greeks The biological works of Aristotle include his observations and classification of his large collections of animals The invention of the microscope, in the 16th cent , gave a great stimulus to biology and both broadened and deepened its scope Among the many who contributed to the science are Claude Bernard, Cuvier, Darwin, Haeckel, T H Huxley, Lamarck, Linnaeus, Mendel, and Alexander von Humboldt See also CELL and MARINE BIOLOGY See W A Locy, *Biology and Its Makers* (1908) and *The Growth of Biology* (1925), Erik Nordenskiold, *The History of Biology* (Eng tr , 1928), C J Singer, *A Short History of Biology* (1931), H G Wells and others, *The Science of Life* (1934 ed in one volume), L L Woodruff, *Foundations of Biology* (6th ed , 1941, reissued 1946)

Bion (bī'ŭn), fl 2d cent ?B C , Greek bucolic poet, an imitator of Theocritus Only a few fragments of his work survive The *Lament for Adonis*, attributed to him, was the model for Shelley's *Adonais* and was translated by Elizabeth Barrett Browning

biplane see AIRPLANE

Birch, Reginald Bathurst, 1856–1943, American illustrator, b London, studied in Munich He came to the United States in 1872 Birch worked for *St Nicholas*, *Harper's*, *Century*, and *Life* and is famous for his fine pen-and-ink illustrations for *Little Lord Fauntleroy* and other children's books

Birch, Samuel, 1813–85, English Egyptologist He wrote a dictionary of hieroglyphics and translated the Book of the Dead

birch, name for any of the numerous species of the genus *Betula*, deciduous trees or shrubs widely distributed in the Northern Hemisphere Of the several native American birches the best known are the paper or canoe birch (*Betula papyrifera*), a forest tree of Canada and the N United States which reaches 60 to 100 ft in height, and the gray birch (*B populifolia*) of E Canada and the United States which is rarely more than 35 ft high and can grow in poorer soil and farther south than the paper birch Both have white bark and that of the paper birch forms in layers The paper birch bark was used for canoes and baskets by American Indians The yellow birch (*B lutea*) is an important timber tree of the NE United States, and its wood is used for furniture and flooring Both the yellow and the sweet birch (*B lenta*) yield oil of WINTERGREEN Various birches have also yielded sugar, vinegar, a tea from the leaves, and a birch beer from the sap Oil of the white birch (*B alba*), used in tanning, imparts its odor to Russian leather

Bird, Isabella see BISHOP, ISABELLA LUCY (BIRD)

Bird, Robert Montgomery, 1806–54, American playwright and novelist, b New Castle, Del , M D Univ of Pennsylvania, 1827 He wrote four prize-winning verse plays for Edwin Forrest, the tragedian, of which the more notable were *The Gladiator* (produced 1831) and *The Broker of Bogota* (produced 1834) A financial misunderstanding led to a break between the two friends and Forrest, throughout his life, refused to release the copyrights he claimed to hold for the plays Bird, badly in need of money, turned to prose, a medium perhaps better suited to him than poetry His first popular romance, *Calavar* (1834), was enthusiastically received, and within a year the first issue was sold out and a sequel, *The Infidel* (1835), had appeared Bird, familiar with Mexican customs and the Spanish language, used Mexico as a background for both these books, *The Hawks of Hawk-Hollow* (1835) is

the first to use the American scene. *Nick of the Woods* (1837), his most popular novel, passed through many English editions, in spite of European apathy to American writers, and was translated into German It draws on Bird's travels through America and, in contrast to Cooper, paints the Indian as violent and debased His romances, although complicated in plot, are dramatic and contain vivid character portrayal Bird's reputation as a dramatist was revived in 1919 when his plays were published with the biography by C E Foust (only *The Broker of Bogota* had appeared earlier, 1917)

Bird, William see BYRD, WILLIAM (b 1542 or 1543)

bird, warm-blooded, egg-laying, vertebrate animal having its body covered with FEATHERS and its forelimbs modified into WINGS Like mammals, birds have a four-chambered heart, and there is a complete separation of oxygenated and deoxygenated blood The body temperature is from 2° to 14° higher than that of mammals Birds have a relatively large brain, keen sight, and acute hearing, but little sense of smell They are believed to have evolved from reptiles The fossil remains of Archaeopteryx and of Archaeornis of the Jurassic period, found in S Germany, show reptilian tails, jaws with teeth, and clawed wings, but feathers were well developed Birds are highly adapted for FLIGHT Their structure combines lightness and strength Body weight is reduced by the presence of a horny bill instead of heavy jaws and teeth and by the air sacs in the hollow bones as well as in other parts of the body Compactness and firmness are achieved by the fusion of bones in the pelvic region and in other parts of the skeleton The heavier parts of the body—the gizzard, intestines, flight muscles, and thigh muscles—are all strategically located for maintaining balance in flight Feathers, despite their lightness, are highly protective against cold and wet The flight feathers, especially, have great strength Feathers are renewed in the process of MOLTING Some birds such as the ostrich, the penguin, and the kiwi lack the power of flight and have a flat sternum or breastbone without the prominent keel to which the well-developed flight muscles of other birds are attached In the majority of species there are differences between male and female in plumage coloring In these birds the mate (except in the phalarope) is the most brilliant or the most distinctly marked and is the aggressor in courtship Unusual courtship displays are performed by the ruffed grouse, the bird of paradise, the crane, the pheasant, and the peacock Song reaches its highest development during the breeding season, and singing ability is usually either restricted to or superior in the male In spring and fall many birds are motivated by factors not fully understood to undertake migration These trips often involve flights of hundreds and even thousands of miles over mountains and oceans Most birds build a NEST in which to lay their eggs Some birds, such as the oriole, weave an intricate structure, while others lay their eggs directly on the ground or among a few carelessly assembled twigs Eggs vary in size, number, color, and shape Birds are of enormous value to man because of their destruction of insect pests and weed seeds Many are useful as scavengers The bills of birds are well adapted to their food habits Specialized bills are found in the crossbill, hummingbird, spoonbill, pelican, and woodpecker The game birds hunted by man for food and sport include grouse, pheasant, quail, duck, and plover The chief domestic birds are the chicken, duck, goose, turkey, and guinea fowl Parrots and many members of the finch family are kept as pets Among the periodicals devoted to the study of bird life are *Bird Lore* and the *Auk* See also MIGRATION OF ANIMALS and SONG, BIRD See William Beebe, *The Bird* (1906), A A Allen, *The Book of Bird Life* (1930), F M Chapman, *Handbook of Birds of Eastern North America* (1932), Gilbert Grosvenor and Alexander Wetmore, ed, *The Book of Birds* (2 vols, 1932), R C Murphy, *Oceanic Birds of South America* (1936), G C Aymar, *Bird Flight* (1938)

Bird Island, village (pop 1,201), S central Minn, E of Granite Falls, in farming country

bird of paradise, any of several birds of New Guinea and the adjacent islands The male birds have handsome, bright plumage with elongated tail feathers and ruffs on the wings and neck These adornments are displayed by the male in an extraordinary premuptial performance

bird sanctuary see WILDLIFE REFUGE

Birdsboro, borough (pop 3,313), SE Pa, SE of Reading, settled 1750 It manufactures metal products Many old churches and homes are here

Birdseye, Clarence, 1886-, American chemist, b Brooklyn, N Y He developed a quick-freezing process for preserving food (see REFRIGERATION)

Bird Woman see SACAJAWEA

Biren, Ernst Johann von see BIRON

Birgitta, Saint see BRIDGET OF SWEDEN, SAINT

Birkbeck, George, 1776–1841, English educator He established (1800 1804) in Glasgow a popular course of lectures for workingmen, which led to the founding of the Glasgow Mechanics' Institution in 1823 He became (1824) president of the London Mechanics' Institution and was also a founder (1827) of University College of the Univ of London He did much to further popular scientific instruction in England Birkbeck Laboratory at University College was established by gifts from his pupils See biography by J S Godard (1884)

Birkbeck, Morris, 1764–1825, English pioneer in the United States. One of the most advanced agriculturists in England, he had a huge farm in Surrey before in 1817 he emigrated to the United States He and another English traveler, George FLOWER, undertook a scheme to create a settlement in Illinois Though the two fell out, the undertaking resulted in the occupation of thousands of acres of land and the founding of Albion, Ill Birkbeck's *Notes on a Journey to the Territory of Illinois* (1818) and *Letters from Illinois* (1818) helped to bring European settlers to the fertile prairies of the Middle West and are invaluable historical sources

Birkeland, Olaf Christian (ō'lāv krīs'tyän bēr'kulän), 1867–1917, Norwegian physicist With Samuel Eyde he developed an electric-arc process (Birkeland-Eyde process) for nitrogen fixation, one of the first processes used in the large-scale manufacture of a nitrogen compound from atmospheric nitrogen From 1898 he was professor at the Univ of Oslo Birkeland, noted also for his work on magnetics, aided in establishing magnetic observatories in the arctic regions and recorded the results in *The Norwegian Aurora Polaris Expedition, 1902–1903* (Eng tr, 1909)

Birkenhead, Frederick Edwin Smith, 1st earl of (bur'kunhĕd), 1872–1930, British statesman and jurist He was called to the bar in 1899 and from 1906 to 1919 sat in the House of Commons as a Conservative He was solicitor general (1915), attorney general (1915–19), and lord chancellor (1919–22) He was created earl in 1922 He was (1924–28) secretary of state for India in Baldwin's cabinet His books include *International Law* (4th ed, 1911), *Famous Trials of History* (1927), *Law, Life, and Letters* (1927)

Birkenhead (bûr'kunhĕd), county borough (1931 pop 147,803, 1943 estimated pop 143,400), Cheshire, England, at the mouth of the Mersey opposite Liverpool, with which it is connected by the Mersey tunnel It is a milling, steel manufacturing, and shipping center The imports are largely grain and cattle, the exports, coal, flour, the by-products of milling, and machinery There are extensive docks Shipbuilding has been important since the early 19th cent The town and docks were subjected to heavy air raids in 1941

Birkhoff, George David (bûrk'hôf), 1884–1944, American mathematician, b Overisel, near Holland, Mich, B A Harvard, 1905, Ph D Univ of Chicago, 1907 He joined the faculty of Harvard in 1912, became professor of mathematics in 1919, and was dean of the Graduate School of Arts and Sciences from 1935 to 1939 He is known for his researches in dynamics and in relativity and for his conceptual theory of atomic structure

birling (bûr'lĭng), sport, popular with American lumberjacks after the middle of the 19th cent, performed on floating logs In the main event of a birling tournament a contestant tries to spill his rival into the water by superior logrolling Log-poling races and individual acrobatic performances on logs are also held National birling contests in the United States have been held from time to time since 1898

Birmingham, George A see HANNAY, JAMES OWEN

Birmingham (bûr'mĭng-um), city (1931 pop 1,002,603, 1948 estimated pop 1,096,100), Warwickshire, England, with suburbs in Worcestershire and Staffordshire The second city in size in England, it is a great industrial center in the Black Country With iron and coal in the vicinity, it is especially noted for metal manufacturing (which dates from the 16th cent) Munitions, automobiles, and steel pens are among its products Most of Britain's brass and bronze coins are minted here Birmingham was a market town before the 13th cent The city was taken and partly destroyed (1643) by Prince Rupert in the civil war, it was swept by the plague in 1665 The Reform Act of 1832 enfranchised the city, and the Greater Birmingham scheme in 1911 extended its boundaries to an area of 80 sq mi In the Second World War, Birmingham suffered several air raids (Nov, 1940, and April, 1941), resulting in many casualties and heavy damage to buildings Although in 1791 popular sentiment against Joseph PRIESTLEY led a mob to wreck his house, Birmingham has led in many political and religious reform movements Street railways and water, gas, and electrical services have long been municipal enterprises, there is a municipal bank and a city orchestra The town's noted citizens, besides Priestley, have included John Baskerville, James Watt, who with Boulton founded the Soho metalworks in the suburb Handsworth, and Joseph Chamberlain, who represented Birmingham in Parliament The oldest church is St Martin's, founded in the 13th cent, and the city has both an Anglican and a Roman Catholic cathedral The Univ of Birmingham has absorbed several smaller colleges. See T Lloyd Renshaw, *Birmingham: Its Rise and Progress* (1932)

Birmingham (bûr'mĭnghăm") **1** City (pop 267,583), co seat of Jefferson co, N central **Ala**, in the Jones Valley near the southern end of the Appalachian system It is the largest city in the state and the leading iron and steel center in the South Iron, coal, limestone, and other materials from the area supply the city's great iron- and steel-manufacturing plants and metalworking factories Textiles, chemicals, and cement are also made, and meat packing is important Birmingham was founded and incorporated in 1871, it grew swiftly, its industrial development (promoted by men like H F DE BARDELEBEN) responding mightily to the advantages of its natural resources It is also an important trading center and a port of entry On near-by Red Mt is a huge iron statue of Vulcan overlooking the city Near by are the state training schools for boys and girls Birmingham is the seat of Howard College (Baptist, coeducational, 1841), Miles College (Negro, coeducational, 1907), and a notable Negro high school **Birmingham-Southern College** (coeducational) was formed in 1918 by merging Southern Univ (chartered 1856 by Methodists, opened 1859 at Greensboro, Ala) and Birmingham College (opened 1898) The Birmingham Conservatory of Music became affiliated in 1940 **2** Residential city (pop 11,196), SE Mich, on the River Rouge and between Detroit and Pontiac, in a farm area, settled 1819, inc as a village 1864, as a city 1933 The old Saginaw Trail crossed the river here

Birnam, village, Perthshire, Scotland, on the Tay opposite Dunkeld Overlooking the village is Birnam Hill, once forested with the Birnam Wood of the witches' prophecy in *Macbeth*

Birney, James Gillespie (gĭlĕ'spē bûr'nē), 1792–1857, American abolitionist, b Danville, Ky, grad College of New Jersey (now Princeton Univ), 1810 He practiced law at Danville from 1814 to 1818, when he moved to Alabama There he served one term in the state legislature and was influential in securing the passage of several laws benefiting slaves Birney was briefly (1832–34) an agent of the AMERICAN COLONIZATION SOCIETY before becoming an abolitionist In 1832 he returned to Kentucky, freed (1834) his inherited slaves, and helped organize (1835) the Kentucky Anti-Slavery Society He was forced to move (1836) to Ohio to publish, at New Richmond, his anti-slavery weekly, the *Philanthropist*, later edited by Gamaliel BAILEY In 1837 he became executive secretary of the American Anti-Slavery Society and was a vice president of the World's Anti-Slavery Convention at London in 1840 In contrast to William Lloyd GARRISON, Birney constantly advocated political action and became the acknowledged leader of like-minded abolitionists who, forming the LIBERTY PARTY, nominated him for the presidency in 1840 and 1844 An injury sustained in 1845 took him out of public life *Letter on the Political Obligations of Abolitionists* (1839) and *The American Churches the Bulwarks of American Slavery* (1840) were his most important abolitionist writings See his letters (ed by D L Dumond, 1938), biography by his son, William Birney (1890)

Birobidzhan (bē"rŭbējän') or **Jewish Autonomous Oblast,** district (13,820 sq mi, pop 108,419), S Khabarovsk Territory, RSFSR, in SE Siberia, between the Amur, which forms the southern border with Manchuria, and the Bureya range on the north It is named for two tributaries of the Amur, the Bira and the Bidzhan The southern and eastern sections are a fertile agricultural area (wheat, oats, soybeans), in the north, lumbering and gold mining are the chief occupations, in the west, there are iron mines The oblast was formed in 1934 for the purpose of colonization by Jewish settlers from Russia and other lands, who received considerable government aid The percentage of the Jewish population by 1948 has been estimated variously as 25 percent and as more than 50 percent of the total The seat of the autonomous Jewish government is at Birobidzhan city (pop 29,654), on the Trans-Siberian RR Alternate spellings are Birobidjan and Birobijan

Biron or **Biren, Ernst Johann von** (ĕrnst' yōhan' fŭn bē'ron, bē'run), 1690–1772, duke of Courland (1737–58, 1763–72), favorite of Anna of Russia A Baltic nobleman, he rose to an all-powerful position under Anna through whose influence he was elected duke of Courland After Anna's death (1740) he was made regent for Ivan VI His unscrupulousness and insolent display earned him general hatred, and through a coup d'état he was arrested (1740) and banished (1741) In 1743 Augustus III of Poland deprived him of his duchy Peter III later recalled him and Catherine II secured the restoration of his title, but Biron never regained his former influence

Birr (bûr), urban district (pop 3,225), Co Offaly, Ireland, on the Brosna river and SW of Tullamore It is a malting center and an agricultural market The castle is the property of the earls of Rosse, descendants of Lawrence Parsons, to whom the area was granted by James I, it is the ancient seat of the O'Carrols The 3d earl of Rosse installed a noted telescope in the castle. There is a modern

Roman Catholic cathedral. Birr was formerly called Parsonstown

Birrell, Augustine (bĭr'ĕl), 1850–1933, English essayist and public official Chief secretary for Ireland (1907–16), he pursued a conciliatory course, resigning after the Easter Rebellion of 1916 His pleasant and urbane critical essays, *Obiter Dicta* (the first volume of which appeared in 1884), were followed by *More Obiter Dicta* (1924) and in 1930 by *Et Cetera* He wrote biographies of Charlotte Brontë (1887), William Hazlitt (1902), Andrew Marvell (1905), and Frederick Locker-Lampson (1920), his father-in-law

Birsha (bûr'shŭ), king of Gomorrah Gen 14 2

Birs Nimrud (bûrs' nĭmrōōd'), mound on the Euphrates, S Iraq It is believed to be the site of the ancient city Borsippa, very near Babylon It contains the ruins of a great square temple (a ziggurat), mentioned as the possible site of the Tower of Babel

birth or labor, the process by which the fetus leaves the uterus and is delivered from the maternal organism It occurs about 280 days after the last period of menstruation before conception The actual cause of onset is undetermined but is related to the irritability of the uterus There are painful contractions of the uterine muscle, at first every 15 to 30 min and later every 2 or 3 min The duration varies, being about 18 hr for a woman having her first child and 12 hr or less in subsequent births About 15 to 30 min after the child has been born, the uterus contracts again, expelling the PLACENTA In 95 percent of cases the head of the child is born first Difficult passage, hemorrhage, and rupture of the uterus are complications Following labor, PUERPERAL FEVER from infection is a serious condition See also OBSTETRICS

birth control, popular term for voluntary limitation of births Limitation of sexual intercourse, practiced in many primitive societies, and mechanical and chemical contraceptives, some of which were known in ancient civilizations, are included Although contraceptive techniques were known to a few in France and other European countries before 1800, the movement for birth control began in England, where the writings of MALTHUS (1798, 1803) stirred interest in the problem of overpopulation In 1877 Annie Besant and Charles Bradlaugh were tried for selling *The Fruits of Philosophy* (1832), a pamphlet on contraceptive methods written by Charles Knowlton, an American After their famous trial the Malthusian League was founded The first clinic was opened in 1921, largely through the efforts of Dr Marie STOPES Organized activity in the United States followed the indictment in 1915 of Margaret SANGER, a public-health nurse, for the circulation of her pamphlet *Family Limitation* A permanent clinic was opened (1923) in New York, and similar ones were established elsewhere In 1936 the Federal law prohibiting the dissemination of contraceptive ("obscene") information through the mails was modified The practice of contraception has spread rapidly in America and Europe, despite the opposition of orthodox church organizations The declining birth rate in Western countries, especially among professional and similar groups, has caused a shift in emphasis from simple contraception to "planned parenthood," with a bias toward eugenic factors Information has been introduced in countries of Asia but, outside of Japan, not generally disseminated See Dorothy Dunbar Bromley, *Birth Control Its Use and Misuse* (1936), Norman Himes, *Medical History of Contraception* (1936)

birthmark, name for either a congenital mole (nevus) or a small blood-vessel tumor of the skin (hemangioma) A mole is usually brown or black in color and flat or elevated and may be associated with the growth of hair The color is caused by a deposition of pigment in the upper layers of the skin Although most moles are benign, some types, especially those of a bluish-black color, may become malignant Moles are removed surgically or by electric cautery The small flat blood-vessel type of birthmark is pink to purple in color and is known as the "port-wine" variety This kind may be left untreated Moles which are elevated above the skin and which increase in size after birth should be treated by a physician

birth rate: see VITAL STATISTICS

birthstone: see MONTH

Birzavith (bĭrzā'–), unknown place, N Palestine 1 Chron 7 31

Bisanthe: see TEKIRDAG, Turkey

Bisayas, Philippine Islands see VISAYAN ISLANDS

Bisbee (bĭs'bē), city (pop 5,853), co seat of Cochise co, SE Ariz, near the Mexican border, inc 1900 After the still-rich copper deposits were discovered (c 1876), the city was built in two steep canyons, Mule Pass Gulch and Brewery Gulch

Biscay, Bay of, arm of the Atlantic, indenting the coast of W Europe from the island of Ushant, off Brittany, France, to Cape Ortegal, NW Spain It was named for the Basques (Viscayans) who live on part of its southern shore The bay is noted for its sudden severe storms The chief ports are Brest, Nantes, La Rochelle, and Bordeaux in France and San Sebastián, Bilbao, and Santander in Spain, The southern part of the bay is known in Spanish as the Mar Cantábrico

Bisceglie (bēshäl'yĕä), city (pop 32,552), Apulia, S Italy, a seaport on the Adriatic It exports olives, grapes, and other fruit The city flourished in the Middle Ages The duchy of Bisceglie was a fief of Alfonso of Aragon, husband of Lucrezia Borgia, and of their son Rodrigo There are a fine Apulian Romanesque cathedral, several churches of the 11th and 12th cent, and ruins of a medieval castle

Bischof, Karl Gustav (kärl' gōōs'täf bĭ'shôf), 1792–1870, German chemist and geologist From 1822 he was professor of chemistry at the Univ of Bonn He made a special study of the inflammable gases in coal mines, perfected the safety lamp, and made important contributions to knowledge of internal terrestrial heat His chief work was *Elements of Chemical and Physical Geology* (3 vols, 1847–54, Eng tr, 1854–59)

Bischoff, Theodor Ludwig Wilhelm (tā'ōdōr lōōt'vĭkh vĭl'hĕlm bĭ'shôf), 1807–82, German physiologist He was professor at the universities of Heidelberg (1836–44), Giessen (1844–54), and Munich (from 1855) He was the first to demonstrate the presence of free oxygen and carbon dioxide in the blood Among his contributions to embryology was a treatise (1844) dealing with the periodic ripening of ova in human beings and other mammals

Biscoe, John, d 1848, British navigator A British sealer in the employ of the Enderby firm of London, he in 1831–32 discovered ENDERBY LAND on the coast of Antarctica His voyage gave Great Britain the chief basis for British claims to Antarctica

Bishlam, deputy of Artaxerxes Ezra 4 7

Bishop, Sir Henry Rowley, 1786–1855, English operatic conductor, composer of 120 dramatic works He is known today for a setting of Shakspere's "Lo, here the gentle lark" and the melody of *Home, Sweet Home* from J H Payne's comic opera, *Clari, the Maid of Milan* (1823)

Bishop, Isabella Lucy (Bird), 1831–1904, English traveler and writer, first woman member of the Royal Geographical Society Before her marriage in 1881 she had traveled in the United States and Canada, Australia and New Zealand, the Sandwich Islands, and Japan and had written *The English Woman in America* (1856), *The Hawaiian Archipelago* (1875), *A Lady's Life in the Rocky Mountains* (1879), and *Unbeaten Tracks in Japan* (1880) Her later books recording travels in Asia include *Journeys in Persia and Kurdistan* (1891) and *Korea and Her Neighbors* (1898)

Bishop. 1 Town (1940 pop 1,490, 1947 special census pop 2,093), E Calif, in the Owens river valley SE of Mono Lake, in a region yielding tungsten, gold, silver, and other minerals, settled 1861, inc 1903 The town, which lies in a resort area, is a trade center for miners and cattle raisers It is the headquarters for Inyo National Forest **2** Town (1940 pop 1,329, 1947 estimated pop 3,500), S Texas, SW of Corpus Christi This oil and cotton center has benefited from the recent growth in the Corpus Christi region A chemical plant is near by

Bishop Auckland (ôk'lund), urban district (1931 pop 12,277, 1947 estimated pop 35,090), Durham, England, on the Wear It is a mining town Auckland Castle has been the seat of the bishops of Durham since c 1300

Bishop Hill, village (pop 199), NW Ill, near Galva, founded 1846, inc 1853 It was established by a group of Swedish religious dissenters under the leadership of ERIC JANSON The community was organized on a communistic basis with authoritarian control by Janson After his death (1850), the practice of celibacy was introduced and this, plus poor financial management, led to the community's dissolution See M A Mikkelsen, *The Bishop Hill Colony* (1891)

Bishop's College, University of, see LENNOXVILLE

Bishop's Falls, town (1945 pop 2,521), central N F, SW of Botwood near the falls of the same name on the Exploits river It is the site of a large pulp plant Pulp is pumped from here to the mills at Grand Falls to be made into paper

Bishops' Wars, two brief campaigns of the Scots against Charles I of England in 1639 and 1640 When Charles attempted to strengthen episcopacy in Scotland by imposing the English Book of Common Prayer, the Scots countered by pledging themselves in the National Covenant (1638) to restore Presbyterianism A general assembly of the church abolished episcopacy The first war was terminated by the Pacification of Berwick, leaving the issues to a free assembly. The assembly still supported the Covenant. In spite of the refusal of his Short Parliament to vote him money for an army, Charles managed to march against the Scots They immediately invaded England and were welcomed by the English. The king was forced to conclude the second war by the treaty made at Ripon (1640) His promise there to reimburse the expenses of the Scots necessitated his calling the Long Parliament. See PURITAN REVOLUTION.

Bishopville, town (pop 2,995), co. seat of Lee co., NE S C., ENE of Columbia, in a cotton area.

Biisk (bĕsk), city (pop. 80,190), SE Altai Territory, RSFSR, in SW Siberia. Founded in 1709, it is a center of a dairy-farming area and terminus of a branch of the Turksib RR Variant spellings are Bisk and Biysk

Biskra, town (pop. 36,347), Algeria, SW of Constantine It was the Roman military base Vescera, later was an important Moslem town, and after 1844 served as a French base for operations in S Algeria The surrounding oasis produces dates

Bisley (bĭs'lē), village, Surrey, England, near Woking It is the site of the ranges of the National Rifle Association

Bismarck, Otto von (bĭs'märk, Ger ō'tō fŭn bĭs'märk), 1815–98, German statesman Born of an old Brandenburg family, he studied at Göttingen and Berlin, and after holding minor judicial and administrative offices he was elected (1847) to the Prussian Landtag There he opposed the liberal movement, advocated unification of Germany under the aegis of Prussia, and defended the privileges of his social class, the *Junkers* As Prussian minister to the German diet at Frankfurt (1851–59), as ambassador to St Petersburg (1859–62), and as ambassador to Paris (1862), he gained the insight and the experience that determined his subsequent policy In 1862 WILLIAM I appointed Bismarck premier to secure adoption of the king's army program, which was strenuously opposed in parliament Bismarck, in direct violation of the constitution, dissolved parliament and assumed control of the government and the budget To expel Austria from the GERMAN CONFEDERATION now became Bismarck's chief aim The affair of SCHLESWIG-HOLSTEIN in 1863–64 and its sequel gave him the necessary pretext No agreement was reached on disposition of the Danish territory occupied by Prussia and Austria in 1866, and friction soon developed Bismarck accused Austria of violating the Convention of Gastein (1865) and thus precipitated the AUSTRO-PRUSSIAN WAR (1866), which ended after seven weeks with the defeat of Austria Germany was reorganized under Prussian leadership in the NORTH GERMAN CONFEDERATION, from which Austria was excluded Fear of France, skillfully propagated by Bismarck, was to bring the remaining German states into the Prussian orbit when the candidature of a Hohenzollern prince to the throne of Spain caused friction with Napoleon III To make sure that this friction would provoke war, Bismarck published the famous EMS DISPATCH In the FRANCO-PRUSSIAN WAR (1870–71) the states of S Germany rallied to the Prussian cause as Bismarck had anticipated, and in Jan 1871, William I of Prussia was proclaimed German emperor Bismarck, the creator of the empire, became its first chancellor When added to his Prussian positions (premier, foreign minister, and minister of commerce) the imperial chancellorship gave him almost complete control of foreign and domestic affairs To maintain the peace necessary for the consolidation of the empire, he proposed to advance a strong military program, to gain the friendship of Austria, to preserve British friendship by avoiding naval or colonial rivalry, and to isolate France in diplomacy so that *revanche* would be impossible Therefore, in 1872, he formed the THREE EMPERORS' LEAGUE (Germany, Austria, and Russia) and he also maintained friendly relations with Italy The Balkan rivalries of Austria and Russia and the subsequent triumph of Austria at the Congress of Berlin (see BERLIN, CONGRESS OF), over which Bismarck presided, caused a rift in Russo-German relations A defensive alliance with Austria was now concluded (1879), and this Dual Alliance became a Triple Alliance when Italy adhered in 1882 (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) Friendship with Russia was revived and maintained by a series of treaties, renewed periodically Bismarck, with his system of alignments and alliances, became the virtual arbiter of Europe and was acknowledged as its leading statesman The influence of the "iron chancellor" upon German domestic affairs was no less apparent The empire, soon after its establishment, was disturbed by the KULTURKAMPF, a fierce conflict between the state and the Roman Catholic Church, which lasted almost two decades However, the struggle lost intensity after Bismarck sensed danger from another quarter—the fusion (1875) of the Lasalle and the Marxist socialists Bismarck at first met the socialist opposition with extremely repressive measures Adopted by a newly elected Reichstag, the antisocialist law (1878) prohibited the circulation of socialist literature, empowered the police to break up socialist meetings, and put the trial and punishment of socialists under the jurisdiction of police courts This "martyrdom" of the Social Democrats only increased their number in parliament Now, partly to weaken the socialists and partly as a result of his policy of economic nationalism—adopted in place of laissez faire—Bismarck instituted a program of sweeping social reform Between 1883 and 1887, despite violent opposition, laws were passed providing for sickness, accident, and old-age insurance; limiting woman and child labor, and establishing maximum working hours Bismarck's new economic policy also resulted in the

rapid expansion of German commerce and industry and the acquisition of overseas colonies and spheres of influence (see GERMANY). The Bismarckian era closed with the death of Emperor Frederick III A struggle for supremacy between Bismarck and WILLIAM II developed immediately upon the emperor's accession in 1888 and ended with Bismarck's dismissal in 1890 Bismarck, created prince (*Fürst*) after the Franco-Prussian War, was now made duke (*Herzog*) of Lauenburg He retired and spent the remainder of his life in criticism of the emperor and his ministers See *Bismarck, the Man and the Statesman* (his reminiscences, tr by A J Butler, 1898), C G Robertson, *Bismarck* (1918), Erich Eyck, *Bismarck* (in German Vol I, 1941, Vol II, 1943)

Bismarck. 1 City (pop. 1,302), E Mo , SW of St. Louis, in a farm and timber area, laid out 1868. 2 City (pop 15,496), state capital, and co seat of Burleigh co , S central N Dak , on hills overlooking the Missouri Lewis and Clark camped (1804–5) near the site of the city, it was settled (1871–72) with the coming of the Northern Pacific (1873) Laid out in 1873 as Edwinton, near Fort Greeley, but locally called "The Crossing," it was named Bismarck (for Germany's chancellor) later in the year in the hope of attracting German investment in the Northern Pacific RR, then building The city boomed as a river and railroad center and as a supply point for the Black Hills gold mines (1874), was incorporated in 1877, and became territorial capital in 1883 Bismarck is a distributing center for a large spring-wheat country, industries stem also from the region's dairy and agricultural products The capitol, destroyed by fire in 1930, was replaced (1932) by a skyscraper The state penitentiary is near by

Bismarck Archipelago, volcanic group, area 19,200 sq mi , SW Pacific, part of the Territory of New Guinea (see NEW GUINEA, TERRITORY OF) It includes NEW BRITAIN (the largest island), NEW IRELAND, LAVONGAI, ADMIRALTY ISLANDS, DUKE OF YORK ISLANDS, and VITU ISLANDS The group is generally mountainous, and there are active volcanoes on the larger islands The chief products are copra, pearls, cacao, and some copper and gold Made a German protectorate in 1884 the group was occupied in the First World War by Australian forces and was mandated to Australia in 1920 In the Second World War it was the site of Japanese naval and air bases (Rabaul being the chief stronghold), which were neutralized in 1943-44

Bismarckhütte · see CHORZOW

Bismarck Sea, southwest arm of the Pacific Ocean NE of New Guinea and NW of New Britain In the Second World War a Japanese naval force was destroyed here (1943) by U S aircraft

bismuth (bĭz'mŭth), silvery-white, reddish-tinged, crystalline, brittle element (symbol=Bi, for physical constants, see ELEMENT, table) It does not tarnish in the air, but when heated burns to form the trioxide Bismuth expands upon solidification, an unusual property which makes it useful in type-metal alloys and for castings In the periodic system it is grouped with nitrogen, phosphorus, antimony, and arsenic, exhibiting, however, more strongly metallic properties than any of the others Its more important compounds are the trioxide, which is basic, and the trisulphide called bismuth glance, both of which serve as commercial sources of the element The sulphide is roasted, the oxide reduced, to prepare the metal Bismuth also occurs free in nature The metal and its ores are found in Europe, the United States, and South America Bismuth's principal use is in alloys of low melting point, as Wood's metal, and in casting alloys Its soluble compounds are poisonous (for antidote, see POISONING, table), but some of its insoluble compounds are used in medicine in certain gastric disorders It is employed also in the examination of the digestive tract by means of the FLUOROSCOPE It serves in the printing of cotton goods and in the manufacture of certain cosmetics Recognised as a metal by early observers, including Georg Agricola, in the 16th cent , it was, however, long held to be a kind of lead or tin until the work of Claude J Geoffroy (1753) established its real identity

bison, hoofed short-horned mammal related to domestic cattle, characterised by its high, heavily mantled shoulders which slope downward to the hindquarters There are two species of the genus *Bison* The European bison, or wisent, miscalled aurochs, is taller and longer-bodied and has a less luxuriant mantle and beard than the American species Once abundant over much of Europe it was reduced by 1948 to 97 known purebred specimens, more than half of them in Poland and Russia The American bison, commonly called buffalo, roamed in vast herds over much of North America, especially on the Great Plains Millions of the animals were slaughtered by the Indians and by the white man for food, for the hides which were made into leather, and for the furred hides which were made into buffalo robes Before the middle of the 19th cent. the bison was extinct E of the Mississippi Migrations westward, the expansion of the fur trade, and the building of the Union Pacific RR extended the slaughter until in 1900 there were but two wild herds, one in Yellowstone Park and one of wood bison in Canada Killing bison in Yellowstone was forbidden in 1894 The American Bison Society was founded in 1905 Bison are now protected on national refuges in Montana, Oklahoma, Nebraska, and North Dakota and on some state refuges

Bispham, David Scull (bĭs'pum), 1857–1921, American baritone, b Philadelphia He made his operatic debut in London in 1891 and was leading Wagnerian baritone of the Metropolitan Opera Company, New York, from 1896 to 1903 He advocated English translation of foreign operas and supported native opera in England, and in 1921 the Opera Society of Chicago established the Bispham memorial award for composers of such operas See his *Quaker Singer's Recollections* (1921)

Bissagos Islands see PORTUGUESE GUINEA

Bissau (bĭsou'), small town, capital of Portuguese Guinea It is a port on the Atlantic Ocean. The name also appears as Bissão

Bisschop, Simon see EPISCOPIUS, SIMON

Bissen, Hermann Vilhelm (hĕr'män vĭl'hĕlm bĭs'p), 1798–1868, Danish sculptor He studied in Rome under Thorvaldsen, by whose will he was commissioned to complete the master's unfinished works Returning to Copenhagen, he produced many original works, and, in 1850, he was made director of the Academy of Arts

Bistrita (bĕ'strētsu), Ger *Bistritz*, Hung *Beszterce* town (pop 15,801), N Rumania, in Transylvania It is a commercial center First mentioned in the 12th cent , it has a 13th-century church and other ancient buildings One sixth of the population is Hungarian

Bisutun, Iran see BEHISTUN

bites and stings, injuries from insects, snakes, cats, and dogs varying from a small puncture to a large WOUND The stings of bees, wasps, scorpions, centipedes spiders, and mosquitoes are relieved by application of dilute ammonia followed by soaking in plain water In the case of chiggers and ticks, it is important to remove parts left in the skin Dogs and cats suspected of being rabid should be kept for observation by officials so that vaccination of persons bitten can be started early to prevent hydrophobia All bites should be cleaned and treated to prevent infection Small injuries may be treated with tincture of iodine, some preparation of Dakin's solution is suitable for large wounds See also SNAKE BITE

Bithiah (bĭthī'ŭ) [Heb ,=daughter of God], wife of a Judahite, a Pharaoh's daughter 1 Chron 4 18

Bithron (bĭth'rŏn) [Heb ,=gully], unidentified place, E of the Jordan, probably a wadi 2 Sam 2 29

Bithynia (bĭthĭ'nēu), ancient country of NW Asia Minor, in present Turkey The original inhabitants were Thracians who established themselves as independent and were even given some autonomy after Cyrus the Great incorporated Bithynia into the Persian Empire After the death of Alexander the Great, the Bithynians took advantage of the wars of the Diadochi to secure freedom from the Seleucids Their leader, Zipoetes, was succeeded (c 280 B C) by Nicomedus I, who founded Nicomedia as the capital of his flourishing state Under him, Prusias I, Prusias II, and Nicomedus II, wars continued with the Seleucids and with Pergamum In the 1st cent B C , Mithridates V of Pontus had designs on Bithynia, which was under Nicomedus III (also called Nicomedus IV) a client of Rome When Nicomedus died (74 B C) he willed Bithynia to Rome The last of the wars with Mithridates resulted Bithynia was an important province of Rome For some time after Pompey's rearrangement of the empire it was combined with Pontus as a single colony After the time of Hadrian, Bithynia declined

Bitlis (bĭtlēs'), town (pop 10,779), NE Turkey, in Turkish Armenia There are numerous mosques and convents of dancing dervishes

Bitolj (bĕ'tôlyŭ), Macedonian *Bitola* (bĕ'tôlŭ), formerly *Monastir* (mônästēr'), city (pop 31,131), Macedonia, S Yugoslavia Founded by the Slavs, it was first mentioned in 1014 and became a bishopric in the 11th cent Having passed to the Turks in 1382, it developed as a military and commercial center Bitolj suffered heavily in the Balkan Wars and in the First World War It is noted for its numerous mosques, several churches, and a former Turkish market Near by are ruins of a Roman city, Heraclea Lyncestis

Biton (bī'tŏn), in Greek legend, brother of Cleobis (klēō'bĭs) When their mother, the priestess Cydippe, wanted to see a famous temple of HERA, the brothers dragged her chariot for many miles At the end of the journey Cydippe prayed that her sons might receive the greatest of blessings They were given a swift and painless death.

Bitonto (bētôn'tō), city (pop., 27,341), Apulia, S Italy, W of Bari The cathedral is a splendid example of Apulian Romanesque and is especially remarkable for its fine sculptures

Bitter, Karl Theodore Francis, 1867–1915, American sculptor, b. Austria Having done some decorative modeling in Austria, Bitter soon found work when he came to the United States in 1889 His work for the Chicago exposition (1893) brought him similar opportunities for ornamental sculpture at the Buffalo (1901) and St Louis (1904) expositions Many private and public buildings in New York and elsewhere are adorned by his designs, notably the reliefs in the Pennsylvania RR station, Philadelphia His best statues and memorials include a bust of Dr William Pepper (Philadelphia), the equestrian statue of Franz Sigel and the Carl Schurz Memorial (New York), the Villard Memorial (Sleepy Hollow, N Y), and the Hubbard Memorial (Montpelier, Vt) At the height of his career he was struck and killed by an automobile

Bitterfeld (bĭ'tŭrfĕlt), city (pop 32,833), in the former Prussian province of Saxony, central Germany, N of Leipzig, in a brown-coal-mining region It has manufactures of chemicals, machinery, and pottery.

bittern, migratory marsh bird of the heron family The American species, often called "stake driver" because of the male's booming call in the spring, is widely distributed in E North America Mostly nocturnal, it feeds on frogs, fish, and insects When pursued, it escapes detection by standing motionless with bill uplifted, its variegated brown and yellow coloring and striped forenock blending with the marsh grasses It is about 2 to 3 ft tall The eastern least bittern is about 13 in long, and the similar western least bittern is larger

bitternut hickory see HICKORY

Bitterroot, river rising in SW Montana and flowing N between the Bitterroot Range and the Sapphire Mts to join the Clark Fork near Missoula Hamilton is on the river

bitterroot, low perennial plant (*Lewisia rediviva*) native to W North America Bitterroot flowers were found by Lewis and Clark on their Western expedition and the genus was named for Lewis, the common name has lent itself to several Western landmarks, as the Bitterroot Mts The large pink or white cactuslike blossom became the state flower of Montana The starchy root of the plant, extremely bitter until cooked, has been an important Indian food Bitterroot, with its cluster of small narrow fleshy leaves, is suitable for rock gardens

Bitterroot Range, part of the Rocky Mts , on the Idaho-Mont border The main range, running northwest and southeast, includes Trapper Peak (10,175 ft) and El Capitan (9 936 ft) The southern part of the range is also known as the Beaverhead Mts The Bitterroot Range is sometimes said to include (in the south) the east-running spur which rises to 10,961 ft in Mt Garfield

bitters, beverages containing bitter principles, such as angostura bark, cascarilla, quassia, gentian, orange, quinine, and other flavoring agents, and prepared by infusion or distillation They are used as appetizers and digestives and frequently attain an alcoholic strength of 40 percent

bittersweet, name for two unrelated plants, both fall fruiting, occasionally used medicinally, and reported poisonous One, called also bitter or woody nightshade (*Solanum dulcamara*), has purplish, potatolike blossoms and scarlet berries It is a somewhat wood vine of the Old World, naturalized in North America The more popular bittersweet (*Celastrus scandens*) is a woody, twining vine which grows over stone walls and thickets from Maine to North Carolina and as far west as Nebraska It has small greenish flowers (male and female sometimes borne on separate plants) and clusters of orange-yellow capsules that split and show a fleshy scarlet center See also EUONYMUS

bitumen (bĭtū'mĕn), term originally used to include a number of natural mineral substances, now known to be essentially mixtures of hydrocarbons ASPHALT and PETROLEUM are bitumens Substances resembling these or containing their constituents are called bituminous See also COAL

Bitzius, Albrecht see GOTTHELF, JEREMIAS

bivalve (bī'vălv"), mollusk with two valves (i e , shells) connected by a ligament Most forms are marine but some are found in fresh water They are usually inactive Food particles in the water enter the body through one siphon and wastes are given off through the other Some bivalves, e g , the CLAM, burrow into the sand or mud, while the OYSTER is sessile, and the SCALLOP moves freely through the water

Biwa (bē'wa), lake, c 40 mi long and from 2 to 12 mi wide, S Honshu, Japan, NE of Kyoto The largest lake in Japan, it abounds in fish , A canal to Kyoto supplies hydroelectric power

Biwabik (bĭwa'bĭk, bī–), village (pop 1,304), NE Minn , on the Mesabi iron range and E of Virginia

Bixby, Horace Ezra, 1826–1912, Mississippi river steamboat captain, b Geneseo, N Y He won his pilot's license in 1846 and soon became famous for his remarkable knowledge of the ever-changing river channel It was with Bixby that Mark TWAIN in 1857 elected to study river navigation, and their subsequent adventures together are vividly recorded in *Life on the Mississippi* In the Civil War, Bixby piloted the gunboat *Benton* and for a time was chief of the Union River Service After the war he owned and captained a steamer which plied between St Louis and Fort Benton, Mont , on the Missouri, and still later was master of the *City of Baton Rouge* (on the St Louis-New Orleans run) of the Anchor Line, in which he was

financially interested. He was still on the Mississippi, as captain of the government snag boat *Wright*, in 1912

Bixby, William Herbert, 1849–1928, American military engineer, b. Charlestown, Mass., grad West Point, 1873. An authority on river and harbor improvements and on lighthouse construction, he directed such work in many states. For several years he served as head of the Mississippi River Commission. He directed (1912) the raising of the battleship *Maine*

Bixby, town (pop. 1,291), NE Okla. on the Arkansas river and SE of Tulsa, in a farm area, founded 1893, inc. 1907

Biysk, RSFSR: see Biisk

Bizerta (bĭzâr'tə, bĭzûr'tu), Fr. *Bizerte* (bēzĕrt'), city (pop. 39,327), Tunisia. It is a port and naval station strategically situated near the narrowest part of the Mediterranean. Anciently a colony of Tyre, it had a checkered career under Romans, Vandals, Arabs, Moors, Spaniards (1534–72), and Barbary pirates. The French took it in 1881, they improved and fortified the outer harbor and constructed a quay-lined canal (2,600 ft. long) to the Lake of Bizerta (area c. 50 sq. mi.), where he naval works and the military town of Ferryville. The White Russian fleet (1920) and the Spanish Republican navy (1939) were interned at Bizerta. A German base in the Second World War, it was heavily bombed by Allied forces (1943)

Bizet, Georges (zhôrzh' bēzā'), 1838–75, French operatic composer. He entered the Paris Conservatoire at nine and took the Prix de Rome in 1857. Although he enjoyed moderate success in his lifetime, he matured late and died young, thus leaving only one real masterpiece, *Carmen* (based on a novel by Mérimée), produced the year of his death. Its vivid depiction of intense emotion, its Spanish idiom, and its colorful orchestration have made it immensely popular, although it was not successful when first performed. His operas *Les Pêcheurs de perles* (1863), *La Jolie Fille de Perth* (1867), and *Djamileh* (1872) and his Symphony in C Major (1855) receive occasional performances, and his incidental music to Daudet's *Arlésienne*, in the form of two orchestral suites, is quite popular. See study by Martin Cooper (1938)

Bizjothjah (bĭzjŏth'jŭ), name in a geographical list marred by copyists. Joshua 15:28

Bizzha, chamberlain of Ahasuerus. Esther 1:10

Bjerknes, Vilhelm Friman Koren (vĭl'hĕlm frē'mən kō'run byĕrk'nēs), 1862–, Norwegian physicist. He was professor at the universities of Oslo (1907–12, 1926–32), Leipzig (1912–17), and Bergen (1917–26). His work in meteorology and on electric waves was important in the early development of wireless telegraphy. His works include *Fields of Force* (1906), he is co-author of *Dynamic Meteorology and Hydrography* (2 vols., 1910–11). He evolved a theory of cyclones known as the polar-front theory with his son **Jakob Aall Bonnevie Bjerknes** (yä'kŏp ôl'bô'nuvē), 1897–, who became a U.S. citizen in 1946. He served as professor of meteorology at the Univ. of Bergen (1931–40) and at the Univ. of California (from 1940).

Bjorneborg, Finland: see Pori

Bjornson, Bjornstjerne, Nor. *Bjørnstjerne Bjørnson* (byûrn'styĕrnu byûrn'sŏn), 1832–1910, Norwegian novelist, poet, dramatist, and social and political leader. After several years as literary and dramatic critic for various Oslo papers, he wrote, in 1857, his first drama, *Between the Battles*, and in the same year produced *Synnøve Solbakken* (first Eng. tr., 1881, *Sunny Hill*, 1932), the first of his peasant novels, which also include *Arne* (1859). In 1857 he succeeded his friend Ibsen as director of the Ole Bull Theater in Bergen and the next year wrote the drama *Lame Hulda*. From 1859 he was an influence in politics, championing the Norwegian liberals in their struggle for a parliamentary form of government, which he helped to win in 1884. Receiving in 1860 a stipend to travel, he visited the Continent. *Sigurd Slembe* (1862), one of his finest historical dramas, belongs to this period. Returning to Oslo in 1863, he was granted an annuity by the Storting for artistic effort and was director of the Oslo Theater until 1867. Some of his best works are the novel *The Fisher Girl* (1868; Eng. tr., 1871), the epic poem *Arnljot Gelline* (1870), and *The Bankrupt* (1875, Eng. tr., 1914), a modern drama which won international acclaim. At this time Bjornson left the church. During the years 1881–87 he lived abroad, in 1883 the first part of his drama *Beyond Our Power* (Eng. tr., 1913) was published. On his return to Norway he retired to his farm in Gudbrandsdal. Among his later works are a novel, *In God's Way* (1889, Eng. tr., 1890), and two dramas—*Beyond Human Might* (the second part of *Beyond Our Power*, 1895; Eng. tr., 1914) and *Paul Lange and Tora Parsberg* (1898, Eng. tr., 1899). He ranks as Norway's foremost novelist and poet and as a dramatist is second only to Ibsen. He was awarded the 1903 Nobel Prize in literature. His poem, "Ja, vi elsker dette landet" [Yes, we love this land of ours], is the Norwegian national anthem. His letters were edited by Halvdan Koht (6 vols., 1912–32). See biography by Harold Larson (1944).

Black, Greene Vardiman, 1836–1915, American dentist, b. Scott co., Ill., D.D.S. Missouri Dental College (now part of Washington Univ.), 1877. Professor at Chicago College of Dental Surgery (now part of Loyola Univ.) from 1883 to 1889 and professor (from 1891) and dean (from 1897) at Northwestern Univ. dental school, he made large contributions to dentistry as teacher, as originator of methods and instruments, and as author. His works include *Formation of Poisons by Microorganisms* (1884), *Dental Anatomy* (1891), and *Operative Dentistry* (1908). The Black method of preparing amalgam alloys for fillings is still in use

Black, Hugh, 1868–, Scottish-American theologian and author. After pastorates in Paisley and Edinburgh, he came to the United States in 1906 to enter upon his professorship of practical theology in Union Theological Seminary, New York city. His books include *Culture and Restraint* (1900), *Christ's Service of Love* (1907), *The New World* (1915), *The Adventure of Being Man* (1929), and *Christ or Caesar* (1938)

Black, Hugo LaFayette, 1886–, Associate Justice of the U.S. Supreme Court (1937–), b. Harlan, Clay co., Ala., LL.B. Univ. of Alabama, 1906. He practiced law and held local offices before he served (1927–37) in the U.S. Senate. There he ardently supported New Deal measures, conducted Senate investigations of merchant-marine subsidies (1933) and lobbying (1935), and sponsored (1937) the Wages and Hours bill. His appointment to the Supreme Court met strong opposition in the Senate and public objection on the grounds of his former membership in the Ku Klux Klan

Black, James, 1823–93, American temperance leader. A Pennsylvania lawyer, he was active in state and national temperance work. His plan for a National Publication House was adopted by the National Temperance Convention (1865). In 1872, as presidential nominee of the Prohibition party, he gained some 5,000 votes

Black, Jeremiah Sullivan, 1810–83, American cabinet officer, b. Somerset co., Pa. Admitted to the Pennsylvania bar in 1830, he became a successful lawyer. He was appointed (1842) president judge of a district court, was elected (1851) a justice of the state supreme court, and was reelected in 1854. As U.S. Attorney General (1857–60) under President Buchanan he hired Edwin M. Stanton, later his successor, to clear up the involved land-title cases in California, but was less successful in enforcing unpopular legislation concerning slavery. It was Black's opinion that though the seceding Southern states could not be coerced, measures should be taken to protect all Federal property in the South and to resist armed rebellion. He replaced (Dec., 1860) Lewis Cass as Secretary of State and succeeded in persuading Buchanan to send supplies to Fort Sumter. Buchanan appointed him to the Supreme Court in Feb., 1861, but the Senate, with both Democrats and Republicans hostile to Black, refused to confirm him. See P. G. Auchampaugh, *James Buchanan and His Cabinet on the Eve of Secession* (1926), biography by W. N. Brigance (1934)

Black, Joseph, 1728–99, Scottish chemist and physician, b. France. He was professor of medicine at Glasgow (1756–66) and at Edinburgh (from 1766). He is known especially for his theories of latent heat and specific heat and for discovering carbon dioxide (he called it "fixed air").

black and tan terrier: see TERRIER.

Blackbeard, d. 1718, English pirate. His name was probably Edward Teach, Thatch, or Thach. It is supposed that he began as a privateer in the War of the Spanish Succession and at its end turned pirate. Certainly between 1716 and 1718 he preyed with cruelty and treachery on the shipping and coastal settlements of the West Indies and the Atlantic coast of North America. His headquarters were in the Bahamas and the Carolinas, and the compliant governor of North Carolina shared some of the booty. Despite such protection Teach was killed by a British force sent by the governor of Virginia. Legend has given Blackbeard's history a romantic cast

Black Belt, term loosely applied to a broad belt dipping across central South Carolina and Georgia. The term is also used for black-soil areas in Alabama, Mississippi and other states. The Black Belt is characterized by dark, rich cotton-growing soil, a preponderance of Negroes in many of the counties, and a tendency to cling to large-scale plantation economy. Recently, diversified farming and stock raising have been introduced

blackberry, name for several species of thorny plants of the genus *Rubus*, which includes also the raspberry, dewberry, and loganberry—all of which are sometimes called brambles. Cultivated blackberries are derived from native American species and are valued for their juicy fruits, black or dark purplish when ripe, which are used fresh, cooked, or for jams and preserves. The DEWBERRY is sometimes called running blackberry. See also RASPBERRY

blackbird, name in North America of a perching bird allied to the bobolink, the meadow lark, the grackle, and the oriole. The European blackbird is a thrush. The red-winged blackbird of E North America is a familiar sight, its scarlet shoulder patches conspicuous among the tall grasses of marshes and wet meadows where it nests. It has a pleasing song which sounds like "conk-ka-ree." It compensates for the grain it eats by destroying harmful insects and weed seeds. Except during the breeding season blackbirds usually travel in flocks. The yellow-headed, the tricolored red-winged, and Brewer's blackbird are known in the West. The rusty blackbird, glossy blue black in summer when the brown which edged its feathers in winter has worn off, winters in the United States but breeds mainly farther north

Blackburn, Joseph, b. c1700, d. after 1765, American portrait painter. Little is known concerning him except that from 1750 to 1765 he painted portraits (usually signed J.B.) chiefly of members of distinguished families in Boston and Portsmouth, N.H. Examples are those of Rev. and Mrs. I. Hancock (Public Library, Lexington, Mass.), Gen. J. Winslow (Mass. Historical Society, Boston), Theodore Atkinson, Jr. (R.I. School of Design, Providence), Col. Theodore Atkinson (Worcester Art Mus.), Jonathan Simpson and his wife (Mus. of Fine Arts, Boston), Thomas and Mary Sylvester Dering and portraits of three members of the Greenleaf family (Metropolitan Mus.)

Blackburn, county borough (1931 pop. 122,697, 1947 estimated pop. 109,300), Lancashire, England, NNW of Manchester. It is a great cotton-weaving center, noted especially for calicoes. The textile industry started very early here—Blackburn checks were well known about the middle of the 17th cent. In 1764 James Hargreaves invented the spinning jenny here, and the manufacture of cotton goods received a new impetus. Chemicals, pharmaceuticals, paper, and silk textiles are also made. John Morley was born here

Black Canyon of the Gunnison National Monument: see NATIONAL PARKS AND MONUMENTS (table)

black codes: see RECONSTRUCTION

Black Country, highly industrialized region, mostly in Staffordshire, but partly in Worcestershire and Warwickshire, England. It has extensive coal mines, iron foundries, steel plants, and blast furnaces and includes the cities Birmingham, Dudley, Rowley Regis, Tipton, Walsall, Wednesbury, West Bromwich, and Wolverhampton

Black Death: see PLAGUE

Black Diamond, village (pop. 1,380), S Alta., SSW of Calgary, in a coal-mining region at the east edge of the Turner Valley oil field

Black Douglas: see DOUGLAS, SIR JAMES DE DOUGLAS, LORD OF

black earth or **chernozem** (chär'nôzĕm"), variety of soil rich in organic matter in the form of HUMUS. It is generally a modified type of LOESS. True chernozem is black in color, but there are various grades, shading off into gray and chestnut-brown soils. It is most widely distributed in Russia, where it forms a large part of the good agricultural soil, but soils similar to the Russian are also found in India and the United States

Blackett, Patrick Maynard Stuart (blă'kĭt), 1897–, English physicist. In 1937 he became professor of physics at the Univ. of Manchester. During the First World War he served with the royal navy and during the Second World War he contributed importantly to research especially to that on the atomic bomb. For his work in improving and extending the use of the Wilson cloud chamber and his discoveries concerning cosmic rays he received the 1948 Nobel Prize in Physics. He is the author of *Military and Political Consequences of Atomic Energy* (1948, rev. ed., 1949, American ed., *Fear, War, and the Bomb*, 1949).

black-eyed bean: see COWPEA

black-eyed Susan, North American wild flower (*Rudbeckia hirta*), daisylike, yellow with a dark brown center, it is called also oxeye and yellow daisy. It is a weedy biennial or annual of dry places and is the state flower of Maryland

Blackfeet Indians: see BLACKFOOT INDIANS

black fly, small vicious-biting fly of nearly world-wide distribution, with gauzy wings, short legs, and a humped back. In most species the eggs are attached to underwater vegetation or rocks and the larvae live in flowing water. When the adult hatches from the pupa case, it emerges from the water in a bubble of air. Species include the Adirondack and the white-stockinged black flies and the buffalo and the turkey gnats

Blackfoot, city (pop. 3,681), co. seat of Bingham co., SE Idaho, SSW of Idaho Falls, between the Blackfoot and the Snake near their confluence, founded 1878, inc. 1907. The area, irrigated from the Snake since early days, produces sugar beets, dairy products, and grain, and the Blackfoot river has a reservoir used for the Fort Hall irrigation project. The Eastern Idaho Fair is held annually in Blackfoot

Blackfoot Indians, North American tribes of Algonquian linguistic stock, occupying in the early 19th cent. a large range of territory around the Upper Missouri (above the Yellowstone) and the North Saskatchewan rivers W to the Rockies. There were three main tribes—the Siksika or Blackfoot proper, the Piegan, and the Blood. These were

in no way connected politically, but they were united by the sense of being one people with common enemies The Atsina Indians (related to the Arapaho) and the Athapascan-speaking Sarsi Indians were allied with the Blackfoot group To other neighboring tribes and usually to white men the Blackfoot were unremittingly hostile They had moved into the N Great Plains somewhat earlier, had acquired horses from southern tribes, and had a typical nomadic Plains culture, largely dependent on the buffalo Their only cultivated crop was tobacco, grown for ceremonial purposes With the early coming of the white man, the Blackfoot gained wealth from the rich beaver streams in their territory, but the killing out of the buffalo and the near exhaustion of fur stocks decimated the proud tribes On reservations in Alberta and Montana there are today greatly reduced numbers of Blackfoot, who continue to a small degree the rich ceremonialism that earlier marked their religion—the sun dance, the vision quest, and the elaborate paraphernalia of ritual

Black Forest, Ger *Schwarzwald* (shvärts'vält), mountain range in S Baden and Württemberg, SW Germany Covered by beautiful, dark pine forests and cut by deep valleys and small lakes, it rises to 4,903 ft in the Feldberg The chief resorts are Baden-Baden and Wildbad The Danube and Neckar rise here Lumbering is an important source of livelihood The Black Forest is famous for its clock and toy industries (cuckoo clocks, musical boxes).

Black Friday In 1868 a small group of American financial speculators, including Jay GOULD and James FISK, sought the support of Federal officials of the Grant administration in a drive to corner the gold market The attempt failed when government gold was released for sale The drive culminated in a day of panic when thousands were ruined—Friday, Sept 24, 1869, popularly called Black Friday There was great indignation against the perpetrators Several other days of financial panic have also been occasionally referred to as Black Friday

black gum, ornamental deciduous tree (*Nyssa sylvatica*) native to E North America The leaves turn bright scarlet in the fall The very tough wood has been used for wheel hubs and other purposes It is sometimes called sour gum, tupelo, and pepperidge, names also given other species of the genus

Black Hand, name and symbol often used by criminal or terroristic organizations The Black Hand flourished in Sicily in the late 19th cent and was carried from there to certain cities of the United States See CAMORRA.

black haw, name for several woody plants, particularly a VIBURNUM (*Viburnum prunifolium*) native E of the Rockies in North America and called also stagbush and sloe It has flat-topped clusters of small flowers, followed by bluish-black, edible berry-like fruits A verse of James Whitcomb Riley commends the fruit The bark has been used medicinally

Black Hawk War **1** Conflict between the Sac and Fox Indians and the United States in 1832 After the War of 1812 white settlement of the Illinois country exerted pressure on the Indians A treaty of 1804, which had no real claim to validity, provided for removal of the Sac and Fox Indians W of the Mississippi An Indian leader, Black Hawk (1767–1838), who was born in the Sac village near the site of present Rock Island, Ill, and who had fought for the British in the War of 1812, denounced the treaty and resisted removal Years of intermittent skirmishing followed In 1831 the whites used force to impose a new treaty that compelled the Indians to retire In April, 1832, Black Hawk, with some 500 braves and their families, returned to Illinois Not receiving the support he expected, he admitted defeat, but when the peaceful emissaries he sent were shot down in cold blood, the outraged Black Hawk successfully attacked a larger white force, then returned into present Wisconsin A large force of volunteers was gathered under Gen Henry ATKINSON On the Bad Axe river Black Hawk was attacked by these troops and a Sioux war party Trapped, he displayed a white flag, but this was ignored and almost all of his band, including women and children, were wiped out Black Hawk himself escaped, surrendered to the Winnebago, was turned over for imprisonment, and was released in 1833 to return to the pitiful remnant of his tribe and his family in Iowa Lorado Taft's colossal statue (1911) near Oregon, Ill, has come to be known as the Black Hawk monument See his autobiography, published in 1833 and reissued as *Life of Black Hawk* (1932) Cyrenus Cole, *I Am a Man the Indian Black Hawk* (1938) **2** Conflict between the Indians and white settlers in Utah from 1865 to 1868 Warfare supposedly broke out because a smallpox epidemic in Gunnison spread to the Ute Indians Sporadic outbreaks of trouble continued for three years in Utah's worst Indian troubles Finally the Ute chiefs, including one called Black Hawk (d 1870), agreed to a treaty of peace in 1868

blackhead or **comedo** (kŏm'fdō) [Latin, =glutton], the oily secretion and other material with which the ducts of the sebaceous glands of the skin are sometimes filled Blackheads vary from yellow to black and occur especially on the face and back Bacteria may cause infection in them Usually the skin on which they occur is oily and requires washing with soap and warm water, followed by cold water Mild astringents applied locally and general toning up through exercise and good nutrition are helpful. See also ACNE

Blackheath, common, 267-acres, in Greenwich metropolitan borough, London It was the gathering place of highwaymen and of several martial and civil groups, including the followers of Wat Tyler and Jack Cade, and of the London people who welcomed Henry V on his return from Agincourt Prehistoric subterranean caves were converted into air-raid shelters in 1939

black hellebore see CHRISTMAS ROSE

black henbane see HENBANE

Black Hills, mountains, SW S Dak and NE Wyo They comprise an area of c 6,000 sq mi, enclosed by the Belle Fourche and Cheyenne rivers, and rise from the surrounding semiarid plains to altitudes of 5,000 ft and over, with Harney Peak (7,242 ft) the highest point At the time of their discovery the mountains were heavily forested with a species of yellow pine which looked black from a distance, and hence they were called the Black Hills by white men and Indians Most of the area is within Black Hills and Harney national forests, and many of its features are preserved in Custer State Park, Wind Cave National Park, Jewel Cave and Fossil Cycad national monuments, and Mt Rushmore National Memorial When gold was discovered in the area (1874), the Indians lost their hold upon the land, white settlement advanced rapidly after 1876, chiefly in such mining towns as Custer, Deadwood, Lead, Rapid City, and Spearfish Present besides gold are silver, tungsten, mica, coal, quartz, granite, and petroleum See R J Casey, *The Black Hills* (1949)

Black Hole of Calcutta see CALCUTTA

Blackie, John Stuart, 1809–95, Scottish classical scholar Educated for the ministry, he instead became a professor of Latin at the Univ of Aberdeen and later professor of Greek at the Univ of Edinburgh He is best known for his translations of Greek, especially the dramas of Aeschylus He also translated Goethe's *Faust* See his letters (ed by his nephew Archibald Stodart Walker, 1909) and the autobiographical *Notes of a Life* (also ed by his nephew, 1910), biography by Anna M Stoddard (3d ed, 1895)

Black Isle, peninsular district, Ross and Cromarty co, Scotland, projecting into Moray Firth

black jack, card game played with an ordinary deck The game is also called twenty-one Each player receives one card face down and bets that this card plus one or more cards dealt face up will beat the dealer's hand without exceeding 21 An ace counts 1 or 11, a picture card 10, and all other cards according to their face value A score of 21 on the first two cards is the perfect hand, called black jack See R L Frey, ed, *The New Complete Hoyle* (1947)

Black Lake, town (pop 2,276), SE Que, on Lake Noir and SW of Thetford Mines It owes its existence to the asbestos mines, opened in 1884

black lead see GRAPHITE

black letter see TYPE

blackmail, in law, exaction of money from another by THREAT of exposure of crime or of disreputable conduct The term was originally used for the tribute levied until the 18th cent by bands of brigands upon the inhabitants of the Scottish border Statutes often treat blackmail as a form of EXTORTION

black market, term for the selling or buying of commodities at prices above the legal ceiling or beyond the amount allotted to a customer in countries which have placed restrictions on sales and prices Such trading was common during the Second World War wherever the demand and the means of payment exceeded the available supply Most of the warring countries attempted to equalize distribution of scarce commodities by rationing and price fixing In the United States black market transactions were carried on extensively in meat, sugar, tires, and gasoline (the last chiefly through stolen or counterfeit coupons) American soldiers in occupied countries who trafficked in cigarettes, gasoline, or other scarce commodities were severely dealt with In England, where clothing and liquor were rationed, these were popular black-market commodities In the United States rationing terminated at the end of the war, but a black market in automobiles and building materials continued while the scarcity lasted BOOTLEGGING during the prohibition era was a black-market operation under a different name

Blackmore, Richard Doddridge, 1825–1900, English novelist, grad Exeter College, Oxford He gave up practicing law and teaching and retired to devote himself to fruit farming and writing His reputation rests chiefly on his romantic novel of the 17th-century outlaws of Exmoor, *Lorna Doone* (1869), but he wrote also a number of other novels—of which the best known are perhaps *The Maid of Sker* (1872) and *Springhaven* (1887)—and several volumes of poetry

Black Mountain, resort town (pop 1,042), W N C, in the Blue Ridge just E of Asheville Near by are Montreat College (junior) for girls and Y M C A and Presbyterian assembly areas Also near by is **Black Mountain College** (nonsectarian, coeducational, opened 1933) It is an experimental school, integrating academic work with community life and student needs Students are self-responsible

Black Mountains, part of the Appalachian system, W N C, rising to 6,684 ft in Mt MITCHELL

Blackmur, Richard P, 1904– American critic and poet *The Double Agent* (1935) is a collection of his criticism, much of which was published in *Hound and Horn* while Blackmur was an associate editor Although his talent was unanimously recognized, his poems, *From Jordan's Delight* (1937), were not so well received as a second book of essays, *The Expense of Greatness* (1940)

Blackpool, county borough (1931 pop 101,553, 1947 estimated pop 152,470), Lancashire, England It is a large seaside resort on the Irish Sea and serves the Lancashire industrial region It has beaches, piers, and many mechanical amusements

Black Prince see EDWARD THE BLACK PRINCE

Black River **1** Tributary of the White River (Ark), rising in SE Missouri and flowing c 300 mi SW to Newport, Ark It is partly navigable The construction by U S army engineers of Clearwater Dam (143 ft high and 4,225 ft long) in the Black River 6 mi SW of Piedmont, Mo was completed in 1948 **2** Name often given to the short stream formed after the Tensas joins the Ouachita in NE Louisiana It flows into the Red **3** River of N New York, c 120 mi long, rising in the Adirondacks and flowing SW, NNW, and WSW to Black River Bay, an inlet of Lake Ontario W of Watertown Its falls provide power for many factories, especially paper mills From 1836 until its abandonment in 1926, a canal connected the Black River with the Erie Canal at Rome **4** River, c 160 mi long, rising in central Wisconsin near Rib Lake and winding S and W to the Mississippi at La Crosse It was important in the lumbering industry

Black River Falls, city (pop 2 539) co seat of Jackson co, central Wis, on the Black River and NE of La Crosse, settled before 1840, inc 1883 It is a farm trade center

Blacksburg **1** Town (pop 1,917), extreme N S C, near the N C line NE of Spartanburg, in a farm area **2** Town (pop 2,133), SW Va, in the Alleghenies W of Roanoke, settled 1745, inc 1871 VIRGINIA POLYTECHNIC INSTITUTE is here Near by is Mountain Lake, a resort (alt 3,874 ft)

Black Sea, inland sea (c 160,000 sq mi, maximum depth c 7,360 ft), connected with the Mediterranean by the Bosporus, the Sea of Marmara, and the Dardanelles Its largest arm is the Sea of Azov (see AZOV, SEA OF) It is enclosed by the USSR (Ukraine, RSFSR, and Georgian SSR) on the north and east, by Turkey on the south, and by Bulgaria and Rumania on the west Among the chief ports are Odessa, Batum, and Constanta, and river feeders are the Danube, the Dnieper, and the Don The Pontus Euxinus of the ancients, the Black Sea has been navigated since prehistoric times Its shores were colonized by the Greeks in antiquity and by the Genoese in the Middle Ages Of the many conquerors that occupied its banks, the Turks and the Tatars stayed longest The Tatar khanate of CRIMEA, which blocked Russian access to the sea, was annexed to Russia in 1783 After the Second World War, Russia proposed to place the Black Sea under the control of the riparian nations by revising the status of the Turkish straits (see DARDANELLES) The Black Sea is sometimes called the Euxine Sea

Blackshear, city (pop 2,010), co seat of Pierce co, SE Ga, near the Satilla river just NE of Waycross, in a coastal-plain farm and lumber area, inc 1859

black snake, nonpoisonous snake of the E United States, 5 to 6 ft long It frequents woods and meadows and likes rather open country with stone walls for sunning itself and for concealment Not a constrictor, it seizes its prey (small animals) in its mouth, pressing the animal to the ground to overcome it The young are gray, blotched with brown, becoming uniformly black on the upper surface when adult Sometimes confused with the black snake is the pilot black snake, also nonpoisonous, of the NE United States In contrast to the dull black of the flat scales of the black snake, the scales on its back are shiny and slightly keeled and sometimes show white edges It reaches a length of more than 8 ft

black snakeroot, North American woods perennial (*Cimicifuga racemosa*) It has compound leaves and small, white, rank-odored flowers along a wandlike stalk The rootstock has until recently been an official drug of the U S Pharmacopoeia Black snakeroot is also called bugbane and black cohosh, and all three names are used for other plants

Blackstone, Sir William, 1723–80, English jurist He was at first unsuccessful in legal practice and turned to scholarship and teaching He became (1758) the first Vinerian professor of law at Ox-

ford, and he inaugurated courses in English law at the British universities, which had previously confined themselves to Roman law Blackstone published his lectures as *Commentaries on the Law of England* (1765–69) This work is regarded as the most thorough treatment of the whole of English law ever produced by one man It is especially notable for its excellent style and for its reduction to order of an exceedingly complex subject Blackstone has been criticized, notably by Jeremy Bentham, for a complacent belief that in the main English law was beyond improvement and for his failure to analyse exactly the social factors underlying legal systems Blackstone's book was highly influential in England and in the United States until the end of the 19th cent and has been often republished In his later life he resumed practice and served in Parliament (1768–70) and as a judge of the Court of Common Pleas (1770–80) He was active in prison reform See Jeremy Bentham, *A Comment on the Commentaries* (ed by C. W Everett, 1928)

Blackstone. **1** Textile town (pop. 4,566), S Mass , on the Blackstone river at the R I line, settled 1662, set off from Mendon 1845. **2** Town (pop 2,699), S Va , SW of Richmond, inc 1888, reinc 1914 It is a farm trade center and tobacco market. A girls' junior college is here

Blackstone, river rising in central Massachusetts and flowing SSE to the Providence river in Rhode Island

blackthorn or **sloe,** low, spreading, thorny bush or small tree of the plum genus (*Prunus spinosa*), having black bark, white flowers, and deep blue fruits, usually rather acrid and not much larger than peas, native to Europe, Asia, and North Africa The blackthorn is cultivated for hedges, its limbs are used in Ireland for canes and cudgels, and the juice of the berries is used in making brandy, sloe gin, and preserves and as a diluent of port One of the hawthorns is sometimes called blackthorn

Black Tom, part of Jersey City, N J , called also Black Tom Island Here German saboteurs demolished (Aug , 1916) an American munition plant six months after they had destroyed the Kingsland arsenal, also in New Jersey Sued (1922) by the U S government and vindicated (1930) before an international claims commission, the German government, upon new hearings (1939) was ordered to pay (1940) $50,000,000 damages

Blackville, town (pop 1,456), SW S C , 88W of Columbia, in a farm area noted for melons and cucumbers Near by is an experiment station of Clemson Agricultural College

black walnut see WALNUT

Black Warrior, navigable river rising in N central Alabama and flowing 178 mi generally SW to the Tombigbee near Demopolis.

Black Warrior, merchant steamer that plied between New York and Mobile, usually stopping at Havana, Cuba Her seizure on Feb 28, 1854, by Spanish authorities at Havana on the grounds that she had violated customs regulations nearly caused war between the United States and Spain The South, anxious to secure Cuba, was ready for war, but the North refused to support the idea, and after the *Black Warrior* was released the excitement died down

Black Watch or **Royal Highlanders,** Scottish regiment of infantry whose name comes from their dark plaid kilts. The companies were raised in 1725 and the regiment formed in 1735 to watch the Scottish rebels and keep the peace It was for a time the 43d, but in 1751 became the 42d regiment, a distinguished one in British history

Blackwater, river of Essex, England, rising near Saffron Walden and flowing c 40 mi to the North Sea.

Blackwater, river of Ireland, rising in Co Kerry and flowing c 100 mi E through Co Cork and across a corner of Co Waterford, turning abruptly S to enter the Atlantic at Youghal Bay

Blackwater, river of Northern Ireland, rising in the southern part of Co Tyrone and flowing 50 mi east and northeast to the southwest end of Lough Neagh It forms most of Co Tyrone's southeast border with Co Monaghan (Ireland) and Co Armagh

Blackwell, Alice Stone, 1857–1950, American woman-suffragist, b East Orange, N J , grad Boston Univ , 1881; daughter of Henry Brown Blackwell and Lucy Stone She was an editor (1881–1917) of the *Woman's Journal*, first as assistant to her parents and after their death as editor in chief Among her works are *Lucy Stone, Pioneer of Woman's Rights* (1930) and anthologies of Armenian, Russian, Yiddish, Hungarian, and Spanish American poetry

Blackwell, Antoinette Louisa (Brown), 1825–1921, American Unitarian minister, b Henrietta, N.Y., grad Oberlin College, 1847, and Oberlin Theological Seminary, 1850 Ordained a Congregational minister in 1853, she later became a Unitarian She was active in the woman-suffrage movement from its early days, an abolitionist, and a temperance advocate She was the sister-in-law of Henry B Blackwell and Elizabeth Blackwell Her books include *The Sexes throughout Nature* (1875) and *The Making of the Universe* (1914).

Blackwell, Elizabeth, 1821–1910, American physician, b England, sister of Henry Brown Blackwell She was the first woman in the United States to receive a medical degree, which was granted (1849) to her by Geneva Medical College (then part of Geneva College, early name of Hobart) With her sister, Emily Blackwell (1826–1910), and Marie Zackrzewska, she founded (1857) the New York Infirmary and College for Women, outgrowth of a private dispensary which she had earlier opened In the Civil War she organized a women's association for nursing and relief and later founded the first school for nurses in the United States In 1869 Dr Blackwell settled in England, where she became (1875) professor of gynecology at the London School of Medicine for Women, which she had helped to establish She wrote *Pioneer Work in Opening the Medical Profession to Women* (1895) and many other books and papers on health and education See Rachel Baker, *First Woman Doctor* (1944), Isabel Ross, *Child of Destiny* (1949)

Blackwell, Henry Brown, 1825–1909, American reformer, b Bristol, England, brother of Elizabeth Blackwell He was an abolitionist and later, with his wife, Lucy STONE, a worker for woman suffrage Alice Stone Blackwell was their daughter

Blackwell, city (pop 8,537), N Okla , NE of Enid, in a wheat and oil-producing area, founded and inc 1893 The city has an oil refinery, a zinc smelter, a glass factory, and food-processing plants

black widow see SPIDER

Blackwood, Algernon, 1869–, English novelist A collection of his old ghost stories was published in 1906 His novels, in which terror and the supernatural predominate, include *The Empty House* (1906), *John Silence* (1908), *The Lost Valley* (1910), *The Centaur* (1911), *The Promise of Air* (1918), *The Garden of Survival* (1918) See his autobiographical *Episodes before Thirty* (1928).

blackwood see ACACIA

bladder, urinary, muscular sac situated in the pelvis. When empty or slightly distended, the organ lies within the pelvis, when filled with urine it extends upward into the abdominal cavity Urine from the kidneys enters the bladder by way of two tubes (ureters) Pressure of the collected fluid stimulates the nervous system, the sphincter is voluntarily relaxed, and the urine is conveyed out of the body by another tube (the urethra) The bladder is subject to trauma, inflammation, infection, calculus, polyps, and tumor formation Nervous disorders affect normal bladder function

bladderwort, any plant of the genus *Utricularia* and of similar related genera, insectivorous or carnivorous plants, many native to North America, where they inhabit aquatic or boggy places These are thready plants with small bladderlike organs which trap minute animal life Each bladder has a door equipped with bristles or other protuberances, these, when touched, cause the door to swing inward with a rush of water by which the prey is swept into the bladder so quickly as to defy detection by the human eye The victim, it is usually agreed, is digested Bladderworts are often grown in aquariums

Bladensburg (blā'dunzbûrg), town (pop 1,220), W central Md , on the Anacostia river and near Washington, D C , in a farming area; chartered 1742 On Aug 24, 1814, the British under Gen. Robert Ross defeated the Americans under Gen W H Winder and entered Washington Here Stephen Decatur was mortally wounded by James Barron in a duel

Blaeu, Willem Janszoon (vĭ'lum yän'sōn blou'), 1571–1638, Dutch cartographer and printer He studied astronomy under Tycho Brahe The printing establishment he founded in Amsterdam was famed for its atlases and globes, especially the great folio atlas compiled by Blaeu himself Publication was not limited to geographical works, and the shop had some claim to being the best of its time The sons and grandsons of Blaeu continued his work

Blagoveshchensk (blŭgŭvyĕsh'chĭnsk) city (pop 58,761), capital of Amur oblast, RSFSR, in extreme E Siberia, on the Amur and Zeya rivers and on a spur of the Trans-Siberian RR It is an agricultural center, has a shipbuilding industry, and is a supply point for the Zeya gold-mining basin Founded in 1856, it flourished in the late 19th cent as a center of colonization and gold mining

Blaina, England see NANTYGLO AND BLAINA

Blaine, James Gillespie (glĭ'spē blān'), 1830–93, American politician, b West Brownsville, Pa , grad Washington (now Washington and Jefferson) College, 1847. He taught school and studied law before moving in 1854 to Maine, where he became an influential newspaper editor A leader in the formation of the Republican party in Maine, Blaine was state chairman (1859–81) and was elected to three terms in the legislature In 1863 he entered Congress, serving until 1876 and holding the speakership from 1869 to 1875 His friendship with James A GARFIELD of Ohio and William B. Allison of Iowa brought him support in the West, but a slighting personal remark he made in 1866 about Roscoe CONKLING won him the lifelong enmity of that leader of the "Stalwart" Republicans. Blaine, leader of the "Half-Breed" Republicans, only slightly less conservative, was widely considered the logical Republican choice for President in 1876 Shortly before the party convention, however, a Democratic House investigating committee charged him with using his influence as speaker to secure a land grant for a railroad in Arkansas and with selling the railroad's bonds at a liberal commission. Blaine privately secured possession of the famous "Mulligan letters," which had been named as proof, before they could be placed on record, and he never surrendered them He read portions of them, out of chronological order, before the House in a dramatic defense, but there seems to have been little doubt that he was guilty as charged The episode was decisive in his career It was a factor in his defeat in the 1876 convention, when Robert G INGERSOLL, in nominating him, called him a "plumed knight" Blaine, as U S Senator (1876–81), loyally supported President Rutherford B Hayes In 1880 the Conkling faction, though unable to renominate Grant, successfully prevented Blaine's nomination The deadlock was broken by the choice of Blaine's friend, Garfield, with Chester A ARTHUR, a Conkling man, nominated for Vice President Blaine became Garfield's Secretary of State, but upon the President's assassination resigned Retiring to private life, he wrote his widely read *Twenty Years of Congress* (2 vols , 1884–86) Finally nominated for President in 1884, Blaine who had heartily endorsed the radical Republican Reconstruction program, vigorously "waved the bloody shirt" against the Democratic candidate Grover CLEVELAND Sprightly allusions to the "Mulligan letters" and to Cleveland's admitted paternity of an illegitimate child enlivened the bitter campaign However, reform Republicans (the MUGWUMPS) such as Carl SCHURZ preferred Cleveland's untainted public record to Blaine's private virtue Their defection was made the more important when a tactless New York Presbyterian clergyman, the Rev Samuel D Burchard, spoke, in Blaine's presence, of the Democrats as "the party whose antecedents are rum, Romanism, and rebellion" He thus offended the large Irish Catholic vote in New York Blaine lost that state by a scant thousand votes and lost the election In 1888 Blaine unexpectedly declined to run for President but supported Benjamin HARRISON, who, upon becoming President, made him Secretary of State again Three days before the Republican convention of 1892 Blaine resigned to seek the nomination for President, but Harrison was renominated Blaine's health afterwards failed rapidly and he died the next year As Secretary of State, Blaine was particularly energetic in fostering closer relations with the Latin American nations Though invitations to a Pan American Congress were recalled when Frederick T Frelinghuysen succeeded him under Arthur, he was able during his second period in office to bring about and preside over the first Pan American Congress (see PAN-AMERICANISM) Vital matters that Blaine hoped to discuss were avoided, but the foundation was laid for subsequent congresses, and the Pan American Union was established Blaine hoped to increase commercial relations among American nations by reciprocal tariff treaties, and though the McKinley Tariff Act prevented this, the idea of tariff "reciprocity" was his contribution He also concluded a treaty with Great Britain to submit the BERING SEA FUR-SEAL CONTROVERSY to arbitration See biographies by Edward Stanwood (1905) and D S. Muzzey (1934), A F Tyler, *The Foreign Policies of James G Blaine* (1927)

Blaine. **1** Town (pop 1,049), NE Maine, N of Houlton, inc 1874. **2** Tourist and farm-trade city (pop 1,524), NW Wash , a port of entry on the Strait of Georgia near Canada, platted c 1884. It is the site of the Peace Arch on the border

Blair, Francis Preston, 1791–1876, American journalist and politician, b Abingdon, Va , grad Transylvania Univ , 1811 His articles in the *Argus of Western America*, the Frankfort, Ky , newspaper edited by Amos KENDALL and then himself, made it supreme among the Western journals supporting Andrew Jackson. On the defection of Duff GREEN, William T BARRY suggested that Blair be invited to Washington to establish a new administration paper Thus in Dec , 1830, began the Washington *Globe*, which until 1841 was to exert tremendous political influence as the Jacksonian "court journal" Blair won Jackson's unlimited confidence, and Kendall and he were the two leading members of the KITCHEN CABINET With John C Rives, who became his partner in 1834, he also established the *Congressional Globe* (now the *Congressional Record*), in which the daily proceedings of Congress were recorded When James K Polk became President, he forced Blair, who belonged to the radical or Van Buren wing of the Democratic party, to sell his interest in the Washington *Globe* to Thomas RITCHIE, and Blair "retired" to his new country estate in near-by Silver Spring, Md Blair House (now owned by the Federal government), his famous residence in the capital, he gave (1853) to his son Montgomery Blair. Another son, Francis Preston Blair (1821–75), was to be a distinguished gen-

eral and Senator. The elder Blair's antislavery views led him to become one of the founders of the Republican party, and he presided over its first national convention at Pittsburgh in 1856 The Blairs worked hard for Lincoln's election, and the chief of this talented and politically ambitious clan was a top presidential adviser in the early years of the Civil War. In 1865 he engineered the futile HAMPTON ROADS PEACE CONFERENCE The Blairs supported Andrew Johnson's Reconstruction policy and were so bitterly opposed to the radical Republicans that they all returned to the Democratic fold See W E Smith, *The Francis Preston Blair Family in Politics* (1933); A M Schlesinger, Jr, *The Age of Jackson* (1945); B J Hendrick, *Lincoln's War Cabinet* (1946)

Blair, Francis Preston, 1821–75, American political leader and Union general in the Civil War, b Lexington, Ky, grad Princeton, 1841, son of Francis Preston Blair (1791–1876) He studied law at Transylvania Univ and in 1842 began practice with his brother, Montgomery Blair, at St Louis In the 1848 election he was the leader of the Free-Soil party in Missouri Blair was a state legislator (1852–56), a Congressman (1857–59, June, 1860, 1861–62), and in 1860 an energetic Lincoln supporter He organized in St Louis the armed "Wide Awakes," and his seizure, with Nathaniel LYON, of prosecessionist Camp Jackson and the U S arsenal early in 1861 helped to keep Missouri loyal to the Union At his request Lincoln sent John C FRÉMONT to command the Dept of the West, but a quarrel ensued between the two men, which led first to Blair's imprisonment by Frémont and then, partly through the influence of the powerful Blair family, to Frémont's dismissal Blair was an able chairman of the Committee on Military Defense in the 37th Congress before he resigned (July, 1862) to raise seven regiments of Missouri troops for the Union army Promoted major general of volunteers in Nov, 1862, he served with distinction in the Vicksburg, Chattanooga, and Atlanta campaigns Grant and Sherman considered him the ablest by far of the political generals While holding his military commission, Blair was also a member of the 38th Congress until June, 1864, when he was forced to yield his seat to the opponent who had successfully contested his election After the Civil War, Blair was denied political preferment by the radical Republicans and in 1868 ran for Vice President on the unsuccessful Democratic ticket headed by Horatio Seymour Cooperating with the Liberal Republicans, he helped overthrow the radicals in Missouri in 1870, when he was elected to the state legislature, which, in turn, sent him to the U S Senate (1871–73) See W E Smith, *The Francis Preston Blair Family in Politics* (1933), B J Hendrick, *Lincoln's War Cabinet* (1946)

Blair, James, 1656–1743, Church of England clergyman, missionary to colonial Virginia, and founder of the College of WILLIAM AND MARY, b Scotland At the request of the bishop of London, Blair came to Virginia in 1685 to revive and reform the Church in the colony In 1689 he was named deputy, or commissary, of the bishop in Virginia He traveled widely to reorganize parishes and to encourage the clergy He went to England (1691) to petition for a college, which when chartered in 1693 was named William and Mary after the monarchs Blair was made president for life In 1694 he was appointed by the king to the Virginia council, of which he was a lifelong member (except for a brief period) and its president in 1740–41 With Henry Hartwell and Edward Chilton, Blair wrote *The Present State of Virginia and the College* (1727, ed by H. D. Farish, 1940).

Blair, Montgomery, 1813–83, U S Postmaster General (1861–64), b Franklin co, Ky, grad West Point, 1835, son of Francis P Blair (1791–1876) and brother of Francis P Blair (1821–75) After serving against the Seminole Indians, he resigned (1836) from the army, studied law at Transylvania Univ, and in 1837 settled in St Louis as the legal and political protégé of Senator Thomas H Benton He became a successful lawyer and held several public offices, including the mayoralty (1842–43), before moving to Washington, D C He was the first U.S solicitor in the Court of Claims (1855–57), and as counsel for Scott in the famous DRED SCOTT CASE—one of his many appearances before the U S Supreme Court—he won a national reputation. Their free-soil views had brought all the Blairs from the Democratic into the new Republican party, and in 1860 Montgomery presided over the party's Maryland convention and was a delegate to the national convention at Chicago which nominated Lincoln In Lincoln's cabinet he was allied with Gideon Welles and other moderates in opposition to the radical Republicans, Salmon P Chase and Edwin M Stanton Although Blair ably administered the Post Office Dept, the President, to appease the radicals before the election of 1864, was forced to request his resignation Ever loyal to Lincoln and well aware of the political necessity involved, he retired gracefully and campaigned vigorously for Lincoln's reelection. After the Civil War he supported Andrew Johnson against the radicals, returned to the Democratic party, and was one of Samuel J Tilden's counsel in the disputed election of 1876 See W. E Smith, *The Francis Preston Blair Family in Politics* (1933), B J Hendrick, *Lincoln's War Cabinet* (1946).

Blair, Robert, 1699–1746, English poet and clergyman, author of *The Grave* (1743), a long blank-verse poem on death, one of the early examples of the "graveyard school" of poetry

Blair, city (pop 3,289), co seat of Washington co, E Nebr, on bluffs overlooking the Missouri N of Omaha, founded 1869 It is a farm trade center with small manufactures Dana College (founded 1886 by Danes) is here

Blair Atholl (ăth'ŭl), village, Perthshire, Scotland, at the confluence of the Garry and the Tilt Blair Castle, the seat of the duke of Atholl, dates from the 13th cent and figured in 17th-century conflicts Annually in September there is a Highland Gathering in the village

Blairmore, town (pop 1,767), SW Alta, on the Crowsnest river and SW of Calgary It is in a coal-mining area

Blairstown, unincorporated village (pop 603), NW N J, on Paulins Kill and NE of Easton, Pa It is a summer resort Blair Academy (1848), a private school for boys, is here

Blairsville, industrial borough (pop 5,002), SW Pa, on the Conemaugh and c 40 mi E of Pittsburgh, settled c 1792, laid out c 1819, inc 1825 It produces coal, clay, enamelware, and railroad cars

Blaise or **Blase, Saint** (both blāz), 4th cent, Armenian martyr, a bishop Because he is said to have saved the life of a boy who had swallowed a fishbone, he is invoked against sore throats Feast Feb 3

Blake, Frederic Columbus, 1877–, American physicist, b Decatur, Ill, grad Univ of Colorado (Ph B, 1901), Ph D Columbia, 1905 He was professor of physics at Ohio State Univ (1912–46) He is known for his research in electric waves and X rays, his spectrographic studies of crystals and alloys, and his investigation of the conductivity of metals in magnetic fields

Blake, Nicholas see DAY LEWIS, CECIL

Blake, Robert, 1599–1657, English admiral A Bristol merchant before he sat in the Short Parliament (1640), he became a land commander in the civil war, defending Bristol, Lyme, and Taunton against royalist attacks (1643–45) Appointed a general at sea (1649), he proved that naval training was not necessary for native genius by a brilliant career in his middle age In 1650 he nearly destroyed the royalist fleet under Prince RUPERT and captured a large Portuguese fleet off the Tagus In 1652 he recovered the Scilly Islands and Guernsey and Jersey In 1652 in two major engagements he defeated the Dutch In 1654 he exacted reparations from the North African states for injuries to English shipping and established British power in the Mediterranean In 1656 he destroyed a Spanish treasure fleet, and the next year he sank a Spanish naval force Made a member of the council of state in 1651 and a commissioner of the admiralty, he helped to develop the effective Commonwealth navy See his letters (ed by J R Powell, 1934), biography by R H Beadon (1935)

Blake, William, 1757–1827, English artist and poet, b London He was the son of James Blake, a hosier, who sent him, at the age of 10, to a drawing master and who encouraged his artistic tastes At 14 Blake was apprenticed to James Basire the engraver, with whom he stayed until 1778 After attending the antique class at the Royal Academy, which he felt stifled his imagination, he set up for himself as an engraver In 1782 he married Catherine Boucher, whom he taught to read and write and who learned to assist him in his work as artist and poet Blake's life, except for three years at Felpham spent preparing illustrations for an edition of Cowper, was passed quietly in London An artist as well as a poet, he was able to produce a series of unique books, and, except for *Poetical Sketches* (1783), he himself published all his books from copper plates, on which he engraved both the text of his poems and his drawings These were hand tinted either by himself or by his wife Thus he produced *Songs of Innocence* (1789), supplemented by *Songs of Experience* (1794), *The Marriage of Heaven and Hell* (1790), and the "Prophetic Books," *The Book of Thel* (1789), *America* (1793), *The Book of Urizen* (1794), *The Book of Los* (1795), *Milton* (1804), and *Jerusalem* (1804) Blake's power as an engraver lay in his mastery of design fused with a metaphysical imagination so intense he often had visions Among his notable designs are those for Edward Young's *Night Thoughts*, Robert Blair's *Grave*, the book of Job, and Dante's *Divine Comedy* and some recently discovered designs for Thomas Gray's poems He also left many remarkable water colors As a poet Blake's reputation rests on the *Songs of Innocence* and the *Songs of Experience* Among the best known of his poems are "Piping down the Valleys Wild," "Never Seek to Tell Thy Love," and "The Tiger" See *The Poetry and Prose of William Blake* (ed. by Geoffrey Keynes, 1927), biography by Alexander Gilchrist (1863, latest ed, 1942), Dennis Saurat, *Blake and Modern Thought* (1929); Mark Schorer, *William Blake* (1947), Bernard Blackstone, *English Blake* (1949)

Blakelock, Ralph Albert, 1847–1919, American landscape painter, b New York city, son of a doctor Educated for a medical career, he abandoned it for painting, in which he was largely self-taught His life was one of hardship and financial worry and he had a large family In 1899 he became insane, and although he was released from an asylum in 1916 and accorded wide recognition, he did not paint again Blakelock's landscapes are painted in great detail with strong lights and silhouetted dark masses and express a melancholy and romantic temperament Many of them contain small Indian figures He is particularly noted for his moonlight effects Among his well-known works are *Brook by Moonlight* (Toledo Mus of Art), *Indian Encampment* and *Pipe Dance* (Metropolitan Mus), and *Sunset* and *Moonrise* (National Mus, Washington, D C)

Blakely, 1 City (pop 2,774), co seat of Early co, SW Ga, near the Chattahoochee river, founded 1821 It is a trade and processing center in a lumber, pecan and peanut area Indian mounds are near by 2 Residential borough (pop 8,106), NE Pa, near Scranton, inc 1867

Blakeslee, Albert Francis, 1874–, American botanist, b Geneseo, New York He received his doctorate at Harvard (1904) and was a member of the faculty until 1907 After several years as professor at Connecticut Agricultural College (now the Univ of Connecticut), he joined the staff of the Carnegie Institution of Washington at Cold Spring Harbor, N Y, and later served as its director (1936–41) In 1943 he became director of the Smith College Genetics Experiment Station From his earliest research, the discovery of sexual reproduction in bread molds, his contributions to botany and genetics were of far-reaching significance His study of the inheritance and geographical distribution of the jimson weed, *Datura*, has provided important information concerning chromosome behavior, gene balance, and species evolution He introduced the use of the alkaloid colchicine to increase the number of chromosomes in the plant cell He is a member of the National Academy of Sciences

Blanc, Louis (lwē' blăⁿ), 1811–82, French socialist politician and journalist, b Spain In his noted *Organisation du travail* (1840, Eng tr, *Organization of Work*, 1911), he outlined his ideal of a new social order based on the principle, 'From each according to his abilities, to each according to his needs" He advocated, as a first stage in the achievement of this goal, a system of social workshops controlled by workingmen with the support of the state His attacks on the Louis Philippe government in *Histoire de dix ans* (5 vols, 1841–44, Eng tr, *The History of Ten Years*, 1830–1840, 1844–45) stirred up agitation among the workers As a member of the provisional government of 1848 he insisted on the establishment of the social workshops (*ateliers sociaux*), but the plan was sabotaged under the leadership of Pierre Thomas Alexandre MARIE Implicated in the subsequent insurrection of the workers, Blanc fled to England, where he remained until 1871 In exile, he produced the 12-volume *Histoire de la Révolution française* (1847–64) He became (1871) a member of the national assembly and was later a leader of the left in the chamber of deputies Blanc's ideas, representing a link between utopian and scientific socialism, had great influence on the thought of later men, especially Ferdinand Lassalle and the German socialists See biography by Eduard Renard (1921), D C McKay, *The National Workshops* (1933)

Blanc, Mont see MONT BLANC

Blanca Peak (blăng'kŭ), 14,363 ft high, S Colo, highest of the Sangre de Cristo Mts of the Rockies It lies in that portion of the range which is known as the Sierra Blanca

Blanchard, Jean Pierre (zhăⁿ' pyĕr' blăshär'), or **François Blanchard** (frăswä'), 1753–1809, French balloonist In 1785 he made, with Dr. John Jeffries of Boston, Mass, the first crossing by air of the English Channel He is said to have made over 50 balloon ascents, including exhibitions in Philadelphia (1793) and New York city (1796) He is the reputed inventor of the parachute (1785)

Blanchard (blăn'chŭrd), town (pop 1,139), SW central Okla, near the Canadian river SW of Oklahoma City, settled 1906, inc 1907

Blanche of Castile (kăstēl'), 1185?–1252, queen of France and regent during the minority of her son, LOUIS IX Authoritarian and capable, she checked the coalitions of the great feudal lords and in 1230 frustrated the attempt of HENRY III of England to regain his father's lands in France She was a lifelong adviser to Louis With her younger son, Alphonse, she was regent again from Louis's departure to the Holy Land (1248) until her death.

Blanchester, industrial village (pop 1,785), SW Ohio, NE of Cincinnati Pumps, clothing, and canned goods are made here

blanching, horticultural practice of depriving plants, e g, celery and endive, of light by covering with earth, paper, or boards, to keep them from form-

ing chlorophyll, the green coloring matter of plants, and to make them more palatable The term *blanching* is also used in cookery, especially to refer to the whitening of almonds when their skins are removed by scalding

Blanco, Antonio Guzmán: see GUZMÁN BLANCO

Blanco Fombona, Rufino (rōōfē'nō blăng'kō fōm-bō'nä), 1874–1944, Venezuelan poet, essayist, and novelist, one of the leaders of *modernismo* Turbulently active in Venezuelan political affairs, he was several times imprisoned He lived in exile in France and Spain for a quarter of a century and contributed much toward spreading the knowledge of Spanish American literature abroad A prolific writer, who interpreted life and poetry as action, he satirized caustically politicians, the clergy, and Yankee imperialism His poems, such as the collection *Cantos de la prisión y del destierro* [songs of prison and exile] (1911), are superior to his novels, *El hombre de hierro* [the man of iron] (1905) and *El hombre de oro* (1916, Eng tr, *Man of Gold*, 1920), but he was most distinguished in the field of the essay Well known are "La evolución política y social de Hispanoamérica" (1911) and "El modernismo y los poetas modernistas" (1929)

Bland, Richard Parks, 1835–99, American statesman, b near Hartford, Ky He taught in rural schools in Kentucky and Missouri, before he went in 1855 to the gold fields of California He was a prospector, miner, lawyer, and local official in mining towns of California, Colorado, and Nevada, and after 10 years he returned to Missouri and small-town law practice He made his home in Lebanon, Mo, after 1869 and was in 1872 elected to the House of Representatives There he served (except for 1895–97) until his death, and there he was champion of Western interests and particularly of the free coinage of silver He was the author of the original bill that, after mutilating modifications by William B Allison, became the Bland-Allison Act of 1878 Bland was not satisfied with this or the succeeding compromise, the SHERMAN SILVER PURCHASE ACT of 1890 He was a leader of the Western radicals who took over the Democratic national convention at Chicago in 1896 He was there a candidate for the presidential nomination on the first three ballots, and in the election he worked hard but vainly for the victory of William Jennings Bryan See W V Byars, *An American Commoner* (1900)

Bland-Allison Act, 1878, passed by the U S Congress to provide for freer coinage of silver The original bill offered by Representative Richard P Bland incorporated the demands of the Western radicals for free and unlimited coinage of silver This was passed by the House but was unacceptable to the conservative Senate Senator William B ALLISON offered an amended version which went only part of the way to meet Western demands The act as adopted required the U S Treasury to purchase between $2,000,000 and $4,000,000 worth of silver bullion each month at market prices, this was to be coined into silver dollars, which were made legal tender for all debts Attempts of the free-silver forces to replace the act with provision for unlimited coinage were defeated, as were attempts of the gold-standard forces to repeal it altogether It remained law until replaced by the SHERMAN SILVER PURCHASE ACT of 1890

Blanding, town (pop 1,111, alt 6,105 ft) SE Utah, S of the Abajo Mts and N of the San Juan river Mountain streams are used for irrigation Near by are Natural Bridges and Hovenweep national monuments

Blandrata or **Biandrata, Giorgio** (jôr'jō blandrä'tä, byän–), c 1515–c 1588, Italian physician, the first exponent of Unitarianism in Poland and Transylvania. His liberal views caused his exile to Geneva, where he had bitter debates with Calvin He later went to Poland and was physician to Prince John Sigismund of Transylvania, whom he converted

Blane, Sir Gilbert, 1749–1834, Scottish physician He is noted for his work for the British navy in advancing measures of sanitation and introducing the use of lime juice as a preventive of scurvy He wrote *Observations on the Diseases of Seamen* (1795) and *Elements of Medical Logic* (1819)

Blankenburg, Thuringia, Germany see BAD BLANKENBURG

blanket, sheet of heavy woolen, or partly woolen, cloth for shawls, bed coverings, or horse coverings The blanketmaking of primitive people is one of the finest remaining examples of early domestic handicrafts The blankets of Mysore in India are famous for their fine, soft texture so delicate that it is said their 18 ft of length can be rolled inside a hollow bamboo rod The loom of the American Indian, though rude and simple in construction, can produce blankets so closely woven as to be waterproof The Navaho, Zuni, Hopi, and other Southwestern tribes are noted for their distinctive, firmly woven blankets The Navahos raise their own sheep for wool, which they card by hand, spin with distaff and spindle, and weave on a suspended loom, using a stick for a shuttle The blankets are characterized by geometrical designs woven with yarns colored with vegetable dyes—gray, white, and red predominating. The ceremonial Chilcat blanket of the Tlingit Indians of the Northwest, generally woven with a warp of cedar bark and wool and a weft of goats' hair, is curved and fringed at the end.

blanketflower. see GAILLARDIA.

blank verse see PENTAMETER

Blanqui, Jérôme Adolphe (zhārōm' ädôlf' blăkē'), 1798–1854, French economist Among his works are *Résumé de l'histoire du commerce et de l'industrie* (1826) and *Histoire de l'économie politique en Europe depuis les anciens jusqu'à nos jours* (1860)

Blanqui, Louis Auguste (lwē' ōgüst'), 1805–81, French revolutionist and radical thinker While a student in Paris, he joined a branch of the Carbonari, thenceforth he was prominent in every revolutionary upheaval in France until his death His life became a series of imprisonments and exile The Central Republican Society, organized by him in 1847, was one of the most powerful clubs in the February Revolution of 1848 An exile in Brussels (1864–70), Blanqui organized the extremist opposition against Napoleon III, in whose deposition (Sept 4, 1870) he was instrumental The important part played by Blanqui and his followers when in Oct, 1870, Paris expelled its moderate government, led his opponents to compromise on a government headed by Thiers Shortly before the proclamation of the COMMUNE OF PARIS Thiers had Blanqui arrested The commune, whose temporary success was largely Blanqui's work, vainly offered Thiers all its hostages in exchange for Blanqui He was released in 1879 and elected a deputy from Bordeaux His followers, the Blanquists, were finally absorbed in the Unified Socialist party Blanqui's social theories, stressing the class struggle and the dictatorship of the proletariat, profoundly influenced Karl Marx See Blanqui's *Critique Sociale* (1869) See also Neil Stewart, *Blanqui* (1939), and R W Postgate, *Revolution from 1789–1906* (1920)

Blantyre (blăntī'ur), town (pop c 6,000), S Nyasaland, founded 1895 The mission headquarters of David Livingstone were established here in 1876, and the town was named for Livingstone's birthplace Blantyre is on a railroad to Beira Tea, tobacco, and wheat are exported

Blantyre (blăntī'ur), parish (pop 17,015), Lanarkshire, Scotland, SE of Glasgow It is in a coal-mining district, with engineering works and chemical manufacture David Livingstone was born here

Blarney, village, Co Cork, Ireland, near Cork He who kisses the Blarney stone, placed in an almost inaccessible position near the top of the thick stone wall of the 15th-century castle here, is supposed to gain marvelous powers of persuasion

Blasco Ibáñez, Vicente (vēthän'tā blä'skō ēbä'-nyāth), 1867–1928, Spanish novelist A republican and Socialist, he published in his native Valencia a radical journal, *El pueblo* His early novels laid in Valencia include *Flor de mayo* (1895, Eng tr, *The Mayflower*, 1921), *La barraca* [the cabin] (1898), *Cañas y barro* (1902, Eng tr, *Reeds and Mud*, 1928), and *La catedral* (1903, Eng tr, *The Shadow of the Cathedral*, 1909) He traveled in South America, planning to write a series of novels dealing with its countries, but at the outbreak of the First World War he returned to Spain His sensational war novel *Los cuatro jinetes del Apocalipsis* (1916, Eng tr, *The Four Horsemen of the Apocalypse*, 1918) made him world famous It was followed by *Mare Nostrum* (1918, Eng tr, 1919) Because of his political activities he died in exile

Blasdell (blāz'dul), village (pop 2,322), W N Y near Lake Erie S of Buffalo, inc 1898 Metal products are made here

Blase, Saint see BLAISE, SAINT

Blashfield, Edwin Howland, 1848–1936, American mural and genre painter b New York city, studied with Léon Bonnat in Paris He is best known for his many large decorative works including *The Evolution of Civilization* (Library of Congress) and decorations for the Appellate Courthouse, New York city, Youngstown, Ohio, courthouse, Baltimore courthouse, and the state capitols of Wisconsin, Iowa, South Dakota, and Minnesota He is the author of *Mural Painting in America* (1913) and, with his wife, of *Italian Cities* (1900, new ed, 1913) He collaborated with his wife and with A A Hopkins in an English edition of Vasari's *Lives of the Painters* (1897)

Blasket Islands, group of rock islets, off SW Ireland, in Co Kerry The lighthouse can be seen for 23 mi Only Great Blasket, the largest, is inhabited (pop c 150), here the rocks rise to 937 ft It was the stronghold of Piaras Ferriter, the last Irish chieftain to surrender to Cromwell Fishing is the main occupation, living conditions are primitive, and the population is decreasing See Maurice O'Sullivan, *Twenty Years a-Growing* (1933), Michael Cremin, *The Islandman* (1935), Robin Flower, *The Western Island* (1944)

blast furnace, structure used chiefly in smelting, i e, for the extraction of metals, such as iron and lead, from their ores The principle involved is that of the reduction of the ores by the action of carbon monoxide, i e, the removal of oxygen from the metal oxide in order to obtain the metal Blast furnaces differ in construction The one used in the production of iron consists of a chimneylike structure (usually 80–100 ft high) made of iron or steel and lined with firebrick It is narrow at the top, increasing in diameter downward, but narrowing again suddenly almost at the bottom, to form the hearth or crucible Here the fine molten products are caught. The furnace is fed from the top with definite quantities (the charge) of ore, coke, and flux Preheated compressed air is introduced at the bottom through pipes (tuyères) entering just above the crucible The air passes upward through the solid mass The coke is oxidized to carbon dioxide, which changes to carbon monoxide at the high temperatures The carbon monoxide then reduces the ores and, taking on oxygen, reverts to carbon dioxide This gas, together with unused carbon monoxide, nitrogen, and other constituents of the air originally introduced, is led off through a pipe from the top of the furnace and, being still at high temperatures, is employed to heat the stoves into which fresh air for the process is brought As the operation proceeds, the mass in the furnace becomes molten and descends into the crucible Here the iron sinks to the bottom, and the slag, being lighter, floats on top The slag is drained through a pipe in the upper portion of the crucible, while the iron is tapped from below and run into sand molds to harden The product is known as pig iron or cast iron The blast furnace used in the extraction of lead from its ores is not as tall as that used for iron Copper ore treated in a blast furnace yields a copper matte, from which only a part of the impurities are removed

blasting, the shattering, breaking, or splitting of rock or other material by the discharge of an explosive placed within or in contact with the solid mass It is a necessary part of many engineering operations An ancient method of breaking rock was carried out by heating the rock by fires and then pouring water on it, the sudden contraction resulting in shattering or cleavage Modern methods of blasting may be divided into four operations —drilling the holes to receive the charge, placing the charge, tamping the hole, and igniting or detonating the charge The location, size, and number of holes drilled depend upon local conditions and the nature of the work The holes vary from 1 to 3 in in diameter and from a few inches to 20 ft or more in depth Black-powder charges are in paper cartridges about 8 in long and are placed loosely in the hole, with sufficient length of fuse to reach from the charge to a safe and convenient distance on the surface The fuse is a waterproofed cord with a core of gunpowder After the charge is placed, the hole is tamped or packed tightly with clay or other material to prevent discharge up through the hole Most risks in firing are now eliminated by the use of a detonating cap of mercury fulminate exploded electrically Black powder is used in coal mining Other explosives used for blasting are dynamite (also used in mines) and ammonium nitrate (used in quarries and open pits)

Blastus [Gr, =sprout], Herod's chamberlain, mediator for the Tyrians and Sidonians Acts 12 20

Blatchford, Robert, 1851-1943, English journalist He converted many English workers to socialism by his newspaper writings, many in his own paper, the *Clarion* (1891–1915?), and in his books, the most famous of which was *Merrie England* (1894) See his autobiography, *My Eighty Years* (1931)

Blavatsky, Helena Petrovna (bluvät'skē), 1831 91, Russian theosophist and occultist She was the daughter of a German nobleman named Hahn who had settled in Russia and the granddaughter of Princess Dolgorouki At the age of 17 she was married to an elderly husband, whom she soon left She traveled widely in India, Canada, and the United States In 1873 she went to New York, and in collaboration with prominent persons interested in spiritism she founded (1875) the Theosophical Society In 1877 she wrote *Isis Unveiled*, which became the textbook of her followers In 1879 she went to India and made her headquarters at Madras, where she was active in theosophical organization and propaganda She demonstrated many supernormal phenomena, which were accepted as miracles by her followers, of whom there were at her death 100,000 The day of her death is celebrated as "White Lotus Day" by her disciples See bibliography under THEOSOPHY See her *Personal Memoirs* (comp by M K Neff, 1937), a harshly critical work is G M Williams, *Priestess of the Occult* (1946)

Blawnox, industrial borough (pop 2,162), SW Pa on the Allegheny and ENE of Pittsburgh, settled 1867 Steel and iron alloys are made here

Blaydon, urban district (1931 pop 32,263, 1947 estimated pop 30,620), Durham, England, on the Tyne and near Newcastle It manufactures iron and steel goods, bricks, bottles, and the by-products of coal from near-by mines

blazing star or **button snakeroot,** any plant of the genus *Liatris* (or *Lacinaria*), showy North American perennials The blossoms, rosy-purple or white are in somewhat feathery heads along a usually wandlike stalk Medicinal use has been made of a few species by both Indian and white man Some are called gay-feather, blazing star and button snakeroot are also names for other plants.

blazonry (blā'zŭnrē), science of describing or depicting armorial bearings The introduction, in the Renaissance, of artificial rules and the adoption of fanciful medieval terms and locutions, derived and corrupted from Norman French, have complicated the science, particularly in England The chief part of blazonry is the description of the ESCUTCHEON or shield, the essential part of the coat of arms. This involves the description of the color of the field on which the other devices are displayed The shield is often quartered, as when the arms of husband and wife are combined, in that case the first and fourth quarters are identical, and the second and third quarters are identical Arms are identified by their charges, most common among these are the ordinaries, marked out by lines of division, e g , a cross, a chief (a band occupying the top third of the shield), a fess (a band athwart the shield), and a bend (a band aslant the shield) Other characteristic charges are heraldic animals or flowers, e g , the lion, the fleur-de-lys, and the trefoil The arms of younger sons should, in theory, show "differences", thus a second son should display a crescent in his field The bend sinister (a band running from the upper right to the lower left of the shield) is an ordinary, not a difference, and it does not necessarily (as is popularly believed) indicate illegitimacy, which is usually blazoned by a wavy border around the shield Other elements in blazonry are the description of the CREST above the shield and of the motto The tinctures or colors used in blazonry are gold (or), white or silver (argent), red (gules), blue (azure), green (vert), purple, and black (sable) If shown in black and white, colors are indicated by conventional shadings and dots A good coat of arms should not resemble a rainbow Few persons using coats of arms are entitled to them, except in England, where blazonry remains the special study of the HERALDS' COLLEGE See also HERALDRY

bleaching, process of whitening by chemicals or by exposure to sun and air, commonly applied to textiles, paper pulp, wheat flour, petroleum products, oils and fats, straw, hair, feathers, and wood Chemical methods include oxidation, as by hypochlorites, ozone, and the per-compounds, reduction, as with sulphur dioxide, and Absorption, as by bone charcoal used to decolorize sugar solutions Textiles have always been grass bleached In Europe from the Crusades to the 18th cent the Dutch virtually monopolized the industry They perfected a technique of alternately steeping goods in alkaline solutions and grassing (crofting) them, then removing excess alkalinity in sour milk, in later times they substituted dilute sulphuric acid for the milk In 1785 the French chemist Berthollet suggested the commercial application of chlorine for bleaching, and in 1799 Charles Macintosh invented bleaching powder, or chloride of lime, the first of the modern chemical bleaches Bleaching processes vary for different fibers Cotton, naturally a grayish yellow, contains waxy and oily impurities which interfere with the action of dyes It must be scoured and boiled in huge kettles (kiers) before bleaching Linen contains more coloring and impurities than cotton Grass bleaching has been combined with or superseded by chemical methods, which are deleterious unless rigidly controlled Four degrees, ranging from quarter to full bleach, are recognized in the industry Full bleach is reputed to weaken the fiber as much as 20 percent Since chlorine bleaches react with the protein of animal fibers, silk and wool are commonly bleached with hydrogen peroxide Although sulphurous acid or sulphur fumes are also used for wool, they do not permanently whiten it For effective bleaching, wool must first be scoured and silk must be degummed Common bleaching agents used domestically are Javelle water and other chlorine mixtures

Bled, resort, Slovenia, N Yugoslavia, beautifully situated in the Julian Alps and on the small Lake of Bled In the vicinity are a medieval castle, a former royal villa, and a church on an island

bleeding, term used to denote both hemorrhage and purposeful removal of blood from the body (bloodletting, venesection, or phlebotomy) Bloodletting was formerly employed as a method of treatment for many diseases and is still occasionally practiced See also HEMOPHILIA and HEMORRHAGE

bleeding heart, perennial garden flower (*Dicentra spectabilis*), related to the Dutchman's-breeches but native to Japan In the spring it has rosy (sometimes white), drooping, heart-shaped flowers

Bleibtreu, Karl (blīp'troi), 1859–1928, German playwright and critic He was an associate of M G Conrad in the struggle for realism in German literature and was cofounder with Conrad of the *Gesellschaft*, a monthly journal He produced an important critical volume, *Der Revolution der Literatur* (1886), novels, two plays about Napoleon (1888), two about Byron, *Lord Byrons letzte Liebe* [Lord Byron's last love] (1886) and *Seine Tochter* [his daughter] (1886), *Dies Irae* (1884), a fine picture of the battle of Sedan, stories, and much controversial criticism

Blekinge, Swed. *Blekinge län* (blā'kĭng-ŭ lĕn'), county (1,173 sq. mi.; pop 146,908), SE Sweden, on the Baltic coast It is coextensive with the historical province of Blekinge, conquered from Denmark by Charles X of Sweden in 1658 The county seat is KARLSKRONA Blekinge, with its cultivated valleys, is "the garden of Sweden."

blende. see SPHALERITE

Blenheim (blĕn'ŭm), Ger *Blindheim* (blĭnt'hĭm), village, Swabia, W Bavaria, on the Danube and E of Ulm Between here and near-by Hochstädt the duke of Marlborough and Prince Eugene of Savoy defeated (Aug 13, 1704) the French and Bavarians under Marshal Tallard in one of the most important battles of the War of the Spanish Succession

Blenheim, town (pop 1,952), S Ont , SE of Chatham, first settled 1845 It is a farm center

Blenheim Park, estate, Oxfordshire, England, near Woodstock, seat of the duke of Marlborough In Queen Anne's reign a government grant was made to provide the estate and its castle (designed by Sir John Vanbrugh) for the victor of the battle of Blenheim

Blennerhasset, Harman, 1765–1831, Anglo-Irish pioneer in America, an associate of Aaron Burr, grad Trinity College, Dublin, 1790 Wealthy and gifted, he fell in love with and married his beautiful niece, Margaret Agnew The couple was ostracized, and in 1796 Blennerhasset sold his estates and emigrated to the United States, where he bought (1798) part of what came to be called Blennerhasset Island There he lived as a gentleman scholar interested in experiments in physics until Aaron Burr visited him in 1805 and won his interest in the Western schemes Blennerhasset advanced money to Burr When President Jefferson pronounced Burr a traitor, the local militia gathered threateningly Blennerhasset fled (Dec , 1806) down the river and was taken into custody He was released after the government failed to convict Aaron Burr, but his fortunes were ruined After a disastrous failure in trying to run a Mississippi plantation, he attempted a career as a lawyer in Montreal, returned to England in 1822, and died on Guernsey

Blennerhasset Island, in the Ohio river, near Petersburg, W Va , and Belpre, Ohio On it Harman Blennerhasset built at great expense a mansion and a laboratory for his study Connection with the schemes of Aaron Burr, however, brought the local militia The mansion was wrecked and later destroyed by fire See N F Schneider, *Blennerhasset Island and the Burr Conspiracy* (1938)

Blériot, Louis (lwĕ' blārō'), 1872–1936, French aviator and inventor He devoted the fortune acquired by his invention of an automobile searchlight to the invention and construction of monoplanes After making several short-distance records, he was the first to cross (July 25, 1909) the English Channel in a heavier-than-air machine He was noted also as an airplane manufacturer

Blessington, Marguerite, countess of, 1789–1849, Irish beauty and author The daughter of Edmund Power, she was married at 14 to Captain Farmer and, after the death of this cruel gentleman, married the earl of Blessington (1818) In 1822 she began a liaison with Count d'ORSAY (husband of her stepdaughter), and with him, after the earl's death, she set up a brilliant salon at Gore House, Kensington D'Israeli, Bulwer-Lytton, and Walter Savage Landor were among her friends To meet expenses, she wrote many novels and left a vivid record in her *Conversations of Lord Byron* (1834) See Michael Sadleir, *The Strange Life of Lady Blessington* (rev ed , 1947)

Blest Gana, Alberto (älbĕr'tō blĕst' gä'na), 1830–1920, Chilean novelist, generally considered the greatest of the 19th-century Spanish American realists Though he spent most of his life abroad, his novels, social and historical, all depict Chilean scenes Minute realistic description and strong character delineation mark his fictional attack on the modes and manners of the aristocracy and the upper middle class His *Aritmética en el amor* (1860) was followed by his masterpiece, *Martín Rivas* (1862, Eng tr , 1918) For 34 years when he was concerned with ambassadorial duties, he wrote little, but in 1897 he returned to the novel with a story of the Chilean revolt against Spain, *Durante la reconquista*

Blicher, Steen Steensen (stän' stän'sun blē'kûr), 1782–1848, Danish poet and novelist The first Danish realist, he was slow to gain recognition but has become one of the greatest names in Danish literature. *The Diary of a Parish Clerk* (1824), *E Bindstouw* (1842), and his collected short stories are all about the Jutland countryside, some in native dialect Some of his stories have been translated by H. A Larsen as *Twelve Stories* (1945)

Blida (blē'dä), town (pop 29,735), N Algeria, SW of Algiers It is an orange-producing center of the Tell region.

Bligh, William (blī), 1754–1817, British admiral Early in his career he was sailing master on Capt James Cook's third voyage. Bligh is chiefly remembered for the mutiny (1789) on his ship, the BOUNTY, but he later had a notable career He was a commander in the French wars, then was governor of New South Wales (1805–1808), where he was briefly imprisoned (1808) by army mutineers in the so-called Rum Rebellion Bligh was made a rear admiral in 1811 and a vice admiral in 1814 A brave and able officer, he was handicapped in dealing with men by his difficult temper See biography by George Mackaness (1931), Mackaness, *Captain William Bligh's Discoveries and Observations in Van Diemen's Land* (1943); H V Evatt, *The Rum Rebellion* (1938)

blight, name for various diseases of plants caused by bacteria, viruses, and other organisms and resulting in withering and death of the plants

blimp see AIRSHIP.

Blind, Karl (blĭnt), 1826–1907, German revolutionist He wrote on politics, history, literature, and especially Germanic folklore and ethnology Arrested for his part in the uprisings of 1848–49, he was later freed and from 1852 lived in England He was stepfather of Mathilde Blind

Blind, Mathilde (blĭnd), 1841–96, English poet and biographer Born in Mannheim, she came to London about 1849 Her poetry includes *Poems by Claude Lake* (1867), *The Prophecy of St Oran* (1881), *The Heather on Fire* (1886), and *The Ascent of Man* (1889) She wrote biographies of George Eliot (1883) and Mme Roland (1886) and made a translation (*Old Faith and New*, 1873) of D F Strauss's work and of the journal of Marie Bashkirtsev (1890)

Blind Harry or **Henry the Minstrel,** fl late 15th cent , supposed Scottish poet, traditionally a blind and humble minstrel He is said to have been the author of a largely apocryphal life in verse of Sir William WALLACE (ed by James Moir, 1889) The poem, 11,858 lines in heroic couplets, was immensely popular in Scotland and had great influence on Scottish national spirit See Moir edition (1889), W H Schofield, *Mythical Bards and the Life of William Wallace* (1920)

blindness, lack or loss of sight Blindness may be caused by trauma, pathological conditions (e g , lesions of the brain or optic nerve), Bright's disease, hemorrhage into the retina (as in diabetes), CATARACT, GLAUCOMA, and diseases of the retina COLOR BLINDNESS is an inability to distinguish colors, most commonly red and green Snow blindness is a temporary condition resulting from a burning of the cornea caused by the reflection of sunlight on snow Night blindness results from a deficiency of vitamin A See also BRAILLE SYSTEM

Blind River, town (pop 2,619), S Ont , on North Channel of Lake Huron and E of Sault Ste Marie It has a good harbor and several lumber mills

Blind Tom, d 1908, American Negro pianist, whose name was Thomas Greene Bethune Untrained and mentally unbalanced as well as blind, he was able to play correctly the most difficult compositions after hearing them once For more than 40 years he was known in vaudeville circuits See Vernon Loggins, *The Negro Author* (1931)

Bliss, Daniel, 1823–1916, American missionary, founder of Syrian Protestant College (now the American Univ) at Beyrouth, b Franklin co , Vt , grad Amherst, 1852, and Andover Theological Seminary, 1855 He went to Syria, returning in 1862 to secure funds and a charter for the college, which was opened in 1866, he was its president until 1902 See his *Reminiscences* (ed by his son, 1920) His son, **Howard Sweetser Bliss,** 1860–1920, b Syria, grad Amherst, 1882, and Union Theological Seminary, 1887, succeeded him as president and enlarged and liberalized the college

Bliss, Eleanor Albert, 1899–, American bacteriologist, b Jamestown, R I , grad Bryn Mawr (B A , 1921) and Johns Hopkins Univ (Sc D , 1925) In 1925 she became bacteriologist at Johns Hopkins and in 1940 she was appointed associate in preventive medicine there She discovered a minute hemolytic streptococcus of the serological group known as group F and is an authority on the use and mode of action of the sulfonamide compounds (sulfa drugs) With Perrin H Long she is co-author of *Clinical and Experimental Use of Sulfanilamide, Sulfapyridine, and Allied Compounds* (1939)

Bliss, Howard Sweetser · see BLISS, DANIEL

Bliss, Philip Paul, 1838–76, American evangelist and writer of gospel songs A fine baritone voice and a handsome presence aided him in his work, and his songs became tremendously popular After the publication of his *Gospel Songs* (1874) he became associated with Dwight L Moody and joined Ira D Sankey in producing a series of songbooks called *Gospel Hymns*, the first of which appeared in 1875 Among his songs are *Hold the Fort, Let the Lower Lights Be Burning*, and *Jesus Loves Me*

Bliss, Porter Cornelius, 1833–85, American explorer and adventurer His father was a missionary to the Seneca Indians on their reservation at Cattaraugus, N.Y , and Bliss was born there After graduating from Hamilton College he became (1861) private secretary to James W Webb, U S minister to Brazil, and in 1862 he went to Argentina There he explored the Gran Chaco for the Argentine government, which published his authoritative reports In 1866 he went to Paraguay as private secretary to Charles A. WASHBURN, U S. minister there. He

contracted with Francisco Solano López to write a history of Paraguay, but after López became engaged in the War of the Triple Alliance, Bliss was imprisoned and tortured for three months on suspicion of being a spy Released at the demand of the United States, he was exonerated of the charge by the House Committee on Foreign Affairs He was secretary of the American legation in Mexico (1870–74) and wrote much on the history and archaeology of that country

Bliss, Tasker Howard, 1853–1930, American army officer and statesman, b. Lewisburg, Pa., grad West Point, 1875 He was (1898) chief of staff to Gen James H Wilson in the Puerto Rico campaign of the Spanish-American War, served (1898–1902) as collector of customs in Cuba, and in 1902 negotiated the treaty of reciprocity between Cuba and the United States Several important administration appointments followed in the United States and in the Philippines, and he was appointed assistant chief (1915) and then (1917) chief of staff of the U S army He helped work out the mobilization plans followed after the U S entry in the First World War President Woodrow Wilson promoted (1917) him general and appointed him to the Allied Supreme War Council As a delegate at the Paris Peace Conference, Bliss urged the admission of Germany and the USSR in the League of Nations and advocated post-war disarmament. See biography by Frederick Palmer (1934)

Blissfield, village (pop 2,144), S Mich., on the Raisin and SW of Detroit, in a farm area, settled 1824, inc 1875 Sugar and canned goods are made.

blister rust or **white-pine blister rust,** highly destructive disease of the white pine tree caused by a parasitic fungus which, introduced from Europe, spread over the United States and Canada to the far western regions Currant and gooseberry bushes are the alternate hosts, and in order to interrupt the life cycle of the fungus the growing of these bushes near white pine is discouraged After the hyphae (branching filaments) have penetrated the tissues of the pine, whitish blisters which later discharge yellow spores are formed on the stem

Bluxen, Karen see DINESEN, ISAK

blizzard, term which probably originated in the Middle Western United States and is popularly applied in many parts of the world to any severe winter storm with a high wind, driving snow, and very low temperatures In the United States, blizzards are most frequent and intense in the N Great Plains states but occur as far south as Texas and as far east as New York

bloc, parliamentary. The term *bloc,* popularized by Clemenceau c 1899, described an alliance of deputies in the chamber and of their several parties united against the wave of reactionary and anti-republican sentiment revealed by the DREYFUS AFFAIR and its ensuing controversies The bloc has been a common device in countries whose legislatures are made up of the representatives of many parties It tends to promote the effect of bipartisan government by creating two loose groups of "left" and "right" In nominally bipartisan legislatures, such as those of the United States, blocs are smaller groups, usually promoting a specific economic or social panacea or interest, such as the farm bloc, the silver bloc, the "wet" and "dry" blocs during prohibition, and various veterans' groups See Arthur Capper, *The Agricultural Bloc* (1922), D W Brogan, *Development of Modern France, 1870–1939* (1940)

Bloch, Ernest (blŏk), 1880–, Swiss-American composer Among his teachers were Jaques-Dalcroze and Ysaye He taught at the Geneva Conservatory, 1911–15, and at the Mannes School, New York, 1917–19, he was director of the Cleveland Institute of Music, 1920–25, and of the San Francisco Conservatory, 1925–30. He later taught at the Univ of California Most of his work is filled with intense Hebraic feeling, as in the Hebrew rhapsody *Schelomo* and the Israel Symphony (both 1916) Other outstanding works are an opera, *Macbeth* (1909), a *concerto grosso,* for string orchestra and piano (1925), his America Symphony (1927), a setting of the Jewish service (New York, 1934), and *A Voice in the Wilderness,* for cello and orchestra (1937) Many prominent American composers are among his pupils. See David Ewen, *The Book of Modern Composers* (1942)

Block, Adriaen, fl 1610–24, Dutch navigator Eager to establish an Indian fur trade, Amsterdam merchants sent Block and another Dutch navigator (1613) to explore the region discovered by Henry HUDSON After wintering near Albany, Block sailed into Long Island Sound (1614), which, he may have been the first European to enter, and came through the passage which he named Hellegat (Hell Gate) He discovered the Connecticut river, sailed past and named Block Island, and explored Narragansett Bay. Block made the Figurative Map of 1614, showing details of the southern coast of New England and showing Long Island and Manhattan as separate

blockade, use of naval vessels to cut off access to a port or other place on a coast The term is rarely applied to a land siege. Blockades are used, generally in time of war, to prevent neutral shipping from reaching enemy ports In the Napoleonic Wars there were grave abuses of the right of blockade, with both France and England declaring blockades of one another's coasts although they were unable to enforce them fully Neutral ships were thus placed in constant danger of seizure The elimination of such practices was the purpose of the reforms of blockade law established (1856) by the Declaration of Paris (see PARIS, DECLARATION OF). Blockades henceforth were to be announced to all affected parties and would be legal only if they were effective and were enforced against all neutrals Ships might be seized only when actually attempting to run the blockade These laws worked effectively in the Union blockade of Confederate ports in the Civil War They proved unsuitable in both world wars and were generally disregarded The United States has always refused to recognize blockades unless they were effective.

block and tackle see PULLEY.

block book. About the middle of the 15th cent, before and after the invention of printing from movable types, some books were printed in Europe by another process, from engraved wood blocks, with one block for each page Such printing of books from engraved wood blocks was done earlier in China, and the practice has a richer history in the Orient than in the Occident, partly because the great number of characters used in Chinese writing adds to the difficulties of printing from movable types Chinese and Japanese illustrated block books are often beautifully printed in colors European block books, on the contrary, were typically crude and inexpensive The best known block book is the *Biblia pauperum* [poor man's bible]

blockhouse, small fortification, usually temporary, serving as a post for a small garrison. Blockhouses seem to have come into use in the 15th cent to prevent access to a strategically important objective such as a bridge, a ford, a pass, or a landing beach Later the term was broadened to include all detached and isolated small forts, especially those in country just captured from an enemy The typical structure came to be one of two stories with an overhanging second story, it had loopholes on all sides for gunfire In the North American colonies, blockhouses were built of timber or stone in New England and of logs banked with earth in the South and the West, they were used in frontier communities as protection against the Indians Many early communities grew around the blockhouses The frontier blockhouses were frequently surrounded by palisades and thus were technically stockaded forts In the Civil War a chain of hastily constructed blockhouses protected communications in W T Sherman's Atlanta campaign In the South African War the British used prefabricated blockhouses New materials, especially corrugated iron and concrete, came to be used, but the blockhouse sank in importance in the First World War The principal use in present-day military fortification is for defense by isolated units against rifle and machine-gun fire

Block Island, 7 mi long and 3½ mi wide, off S Rhode Island, in Newport co., at the east entrance to Long Island Sound between Point Judith, R I., and Montauk Point, N Y The surface is glaciated, with low hills and scores of ponds, it has been almost entirely deforested but has peat deposits The island is a popular summer resort, favored for yachting and fishing, and has some farming It was visited by Adriaen Block in 1614 and settled in 1661 There are two lighthouses New Shoreham town (pop 848), incorporated in 1672, is coextensive with the island.

block printing see CALICO PRINTING.

Blocksberg see BROCKEN

block-signal system. see SIGNALING

Blodgett, Katharine Burr, 1898–, American chemist, b Schenectady, N Y., B A Bryn Mawr, 1917, Ph D Cambridge Univ., 1926 In 1918 she became research physicist for the General Electric Company, where she worked with Irving Langmuir on tungsten filaments and later on monomolecular layers A specialist in surface chemistry, she coated glass with layers of barium stearate to reduce reflection and increase transmission of light, thus producing nonreflecting glass

Bloemfontein (blo͞om'fŏntān'), city (pop. 83,296), capital of the Orange Free State and judicial capital of the Union of South Africa; founded 1846. It was the capital of the former Orange Free State Republic It is a junction of rail, road, and air travel The city has a large museum specializing in archaeology and two colleges There are railroad workshops, food-processing plants, and small factories

Blois (blwä), city (pop. 21,666), capital of Loir-et-Cher dept., central France, beautifully situated on the Loire It is one of the great historical towns of France The counts of Blois emerged in the 10th cent as the most powerful feudal lords of France. Their line began with Thibaut the Cheat, who by various means acquired TOURAINE and CHARTRES, his successors added (11th-12th cent.) CHAMPAGNE, BRIE, and other lands, though in the west they were checked by the counts of ANJOU. In 1152 the count became count of Champagne, and shortly afterward Blois and Chartres passed to a cadet branch (Châtillon) through female succession. The last count of Blois, childless and heavily in debt, sold his fief to Louis, duc d'ORLÉANS, who took possession in 1397 With the accession (1498) of Louis's grandson, Louis XII, as king of France, the countship passed to the crown as part of ORLÉANAIS The famous Renaissance château at Blois was built largely by Louis XII, Francis I, and Gaston d'Orléans. Most of the 17th-century additions were designed by François MANSART. In the château Louis XII was born and several States-General of France were held, notably in 1576–77 and in 1588, Henri, duc de GUISE, was assassinated in the château during the meeting of the States-General of 1588 It was the residence of several kings and queens of France, including Mary Queen of Scots and Catherine de' Medici Blois was the birthplace of Denis Papin, inventor of a steam engine, and of the historian Augustin Thierry The **Treaties of Blois,** signed here in 1504–5 by Louis XII, were a temporary settlement of the ITALIAN WARS

Blok, Aleksandr Aleksandrovich (ŭlyĭksän'dur ŭlyĭksän'drŭvĭch blôk'), 1880–1921, Russian poet, greatest of the Russian symbolists A disciple of Vladimir Soloviev, he voiced in the cycle *Beautiful Lady* (1904), written before the 1905 revolution, the mystical yearning of the Russian people He embraced the Revolution of 1918 and wrote its epic in *The Twelve* (1918, Eng tr, 1920), a powerful poem in which Christ appears in the streets of Petrograd to lead 12 Red guardsmen toward freedom *The Scythians* (1920, Eng tr in *Russian Poetry,* 1927) is directed against the Western allies who were fighting the Bolsheviks Other works which have been translated are the Pierrot comedy *The King in the Square* (1906–7, Eng tr., 1934), *The Rose and the Cross* (1913, Eng tr in *Slavonic Review,* Vol XII, 1933–34), a poetic drama of medieval France, *The Song of Fate* (1909, Eng tr in *Poet Lore,* Vol XLIV, 1938), *The Spirit of Music* (Eng tr., 1946), and other short poems See Alexander Kaun, *Soviet Poets and Poetry* (1943)

Blomfield, Sir Reginald, 1856–1942, English architect His designs chiefly adhered to the traditions of the Renaissance and Georgian periods His London work includes the Air Force War Memorial, the Imperial War Cross, the United University Club, Carlton Club, and the Goldsmiths' College Blomfield was one of the architects associated in the new treatment of Regent St and Piccadilly Circus He built a number of war monuments including the English Memorial Church and the Menin Gate Memorial, both at Ypres, Belgium and was chief architect of the Imperial War Graves Commission Also included in the large mass of his work are new buildings for Lady Margaret Hall, Oxford, and a number of country houses Blomfield's writings include *The Formal Garden in England* (with F I Thomas, 1892), *History o Renaissance Architecture in England* (1897), and *History of French Architecture* (2 vols, 1911–21), all of which have become standard reference works

Blomidon, Cape (blŏm'ĭdun), promontory, 670 ft high, on the coast of Nova Scotia, extending into Minas Basin in the Bay of Fundy

Blondel, François (frăswä' blôdĕl'), 1617-86, French architect His noted work is the triumphal arch called the Porte Saint-Denis (1672), in Paris In 1672 he became director of the Academy of Architecture Blondel's writings, which exerted great influence, include *Cours d'architecture* (1675–83) and *Nouvelle Manière de fortifier* (1684) His nephew, **Jacques François Blondel** (zhak), 1705-74 opened in 1743 the first French private school of architecture, as a result, he became architect to the king He devised plans of civic beautification for the cities of Metz and Strasbourg and did monumental work in both, including the town hall and the Place d'Armes at Strasbourg and the west portal of the cathedral at Metz. His *L'Architecture française* (1752) is valuable for its engraved views of buildings which no longer exist

Blondel de Nesle (blŭn'dĭl du nĕl', Fr. blôdĕl' du nĕl'), fl. late 12th cent., French troubadour, a favorite of Richard I He accompanied Richard on crusade in 1190. Legend relates that after Richard was captured and imprisoned by Leopold II, margrave of Austria, in 1193, Blondel, wandering through Germany, sang a song known only to him and his lost master, until Richard answered from his prison, and Blondel was able to rescue him

Blood, Benjamin Paul, 1832–1919, American poet and philosopher He spent most of his life in or near his birthplace at Amsterdam, N Y. His philosophy found its final expression in *Pluriverse* (1920), published shortly after his death.

blood, the circulating fluid of the body, consisting of a colorless fluid, the plasma, which contains fibrinogen (see CLOTTING OF BLOOD). Contained in the blood are a variety of cells, red blood corpuscles, white blood corpuscles, and blood platelets Also circulating in the blood are hormones, products of the endocrine glands. The blood brings nutriment and oxygen to the body tissues and carries away carbon dioxide and other waste material The red cells contain hemoglobin, an iron compound, which

gives the blood its red color. The interchange of oxygen and carbon dioxide in the lungs and body tissues is a function of the red cells. The white cells are active in combating infection, and their number increases during infectious diseases. The platelets play an important role in the clotting of the blood. Four blood groups were first determined by LANDSTEINER (1909). Recognition of blood groups was of vital importance, since in giving a BLOOD TRANSFUSION the blood group of the donor must be compatible with that of the recipient. Like other tissues of the body, the blood is subject to disease, its chemistry being affected by such diseases as DIABETES and JAUNDICE.

blood clotting see CLOTTING OF BLOOD

blood feud see VENDETTA

bloodhound, hound with long, soft, low-set ears and thin, loose skin falling in folds around the head and neck. The coat may be black and tan, red and tan, or tawny. Adult dogs are usually from 25 to 27 in. high at the shoulder, and the average weight is about 90 lb. Bloodhounds are docile and affectionate. Their remarkably acute sense of smell makes them valuable for following a trail in police work and also for hunting. The bloodhound is believed to represent an ancient breed known in the Mediterranean region before the Christian era. It was known in England in the 15th or 16th cent.

Blood Indians: see BLACKFOOT INDIANS

blood letting: see BLEEDING.

blood poisoning: see SEPTICEMIA.

blood pressure, the pressure exerted by the blood upon the arterial walls. It is dependent upon the heart action, elasticity of the arteries, capillary resistance, and the volume and viscous quality of the blood. During the contraction of the heart (systole), the maximum pressure is achieved, and during relaxation of the heart (diastole), the minimum is reached. The blood pressure is measured in millimeters of mercury, by means of an instrument known as a sphygmomanometer. Systolic blood pressure in the healthy individual, depending on age, ranges normally between 100 and 140 mm. A temporary elevation of blood pressure may be caused by physical activity, nervous strain, or emotional outbursts, e.g., rage and fear. Persistent hypertension may be due to an adrenal gland tumor, in such a condition, the blood pressure is lowered only by excision of the tumor. High blood pressure is commonly found in obese individuals and is also associated with arteriosclerosis and nephritis. General symptoms of hypertension are headache, dizziness (vertigo), blurred vision, and nosebleed. The treatment usually advised is rest, low salt intake, reduction of weight in obese individuals, freedom from emotional strain and sedation. Glandular therapy has resulted in the reduction of high blood pressure, e.g., in the treatment of hypertension associated with the menopause. Surgery has, in some cases, been used to lower the blood pressure in relatively young individuals. Although the etiology of hypertension has been determined only in the case of adrenal tumor, it has been established experimentally that constriction of the blood vessels of the kidneys results in high blood pressure.

bloodroot, low, early-spring-blooming North American wild flower (*Sanguinaria canadensis*) found in woods. It has a comparatively large white blossom and a gray-green lobed leaf, which enfolds the stem until blossoming time. The perennial rootstock was until recently an official drug in the U.S. Pharmacopoeia; it contains an acrid orange-red poisonous juice used by Indians as a dye and a skin stain.

bloodstone or **heliotrope,** green CHALCEDONY spotted with red JASPER, used as a gem stone. It is obtained from India and Scotland.

blood transfusion, transfer of blood from the venous system of one person into that of another or from one animal to another of the same species. Transfusions are given, for example, when a large amount of blood has been lost as a result of injury and in certain diseases. In order for the transfusion of human blood to be successful, the blood of the donor and that of the recipient must be compatible, i.e., one must not cause clumping or agglutination of the red blood cells of the other. Such clumping (resulting in fatalities) can be caused by the agglutinating substances present either in the red blood cells or in the blood serum, and the division of the blood of humans into four major groups is based on the kinds of such substances present. These groups are designated in the Landsteiner (for Karl Landsteiner) or International classification as O, A, B, and AB and in the Jansky system as I, II, III, and IV, the Moss system differs in that group IV corresponds to group I or O, and group I corresponds to IV or AB. People having type O blood are sometimes called universal donors because the red cells of this blood are not agglutinated by the serum of the blood of any other group. Those having blood of the AB group are sometimes called universal recipients because the serum of this blood does not cause agglutination of cells of any of the other groups. However, when transfusions are given, it is considered important that the blood of donor and recipient be of the same group; the so-called universal groups are generally used with blood of a different group only when circumstances prevent closer matching. In addition to testing the blood of donor and recipient to determine the blood group, blood is usually tested also for the RH FACTOR. When plasma (liquid part of the blood minus red corpuscles) only is used, it is not necessary to determine the blood group.

Bloody Assizes: see JEFFREYS, GEORGE, 1ST BARON JEFFREYS OF WEM

Bloomer, Amelia Jenks, 1818–94, American reformer, b. Homer, N.Y. She was editor (1848–54) of the *Lily*, first published in Seneca Falls, N.Y., and devoted to woman's rights and to temperance. In 1851 she recommended and adopted the reformed dress of short skirt and full trousers introduced by Elizabeth Smith Miller. Because she advertised it in the *Lily* and wore it in her lecture work, it became universally known as the Bloomer costume. See biography by her husband, D.C. Bloomer (1935).

Bloomer, city (pop. 2,204), W. Wis., N of Eau Claire, settled before 1850, inc. 1920.

Bloomfield, Leonard, 1887–1949, American linguist, b. Chicago, grad. Harvard, 1906, Ph.D. Univ. of Chicago, 1909. He was professor at Ohio State Univ. (1921–27), at the Univ. of Chicago (1927–40), and at Yale (from 1940). Bloomfield's specialty for years was Germanic languages especially in their comparative aspects. He became interested, however, in languages from a scientific, descriptive viewpoint. His masterpiece, *Language* (1933), is a standard text. It had a profound influence on linguistics, for it was a clear statement of principles that became axiomatic, notably that language study must always be centered in the spoken language, as against documents, that the definitions used in grammar should be based on the forms of the language, not on the meanings of the forms, and that a given language at a given time is a complete system of sounds and forms which exist independently of the past—so that knowing the history of a form does not explain its actual meaning. Others of his works are *Tagalog Texts with Grammatical Analysis* (1917), *Menomini Texts* (1928), and *Linguistic Aspects of Science* (1939).

Bloomfield, Maurice, 1855–1928, American philologist, b. Bielitz, Austria (now Bielsko, Poland). He studied at the Univ. of Chicago, Furman Univ. (M.A., 1877), and Johns Hopkins (Ph.D., 1879). He taught Sanskrit and philology at Johns Hopkins, compiled *A Vedic Concordance* (1906), and wrote the standard *Religion of the Veda* (1908), as well as many monographs valuable to Orientalists.

Bloomfield, Robert, 1766–1823, English farm laborer and poet, remembered chiefly for one extremely popular poem, "The Farmer's Boy" (1800). See his works (with biographical sketch, 1824).

Bloomfield. **1** Town (pop. 4,309), N. Conn., near Hartford, settled c. 1660, inc. 1835. **2** Town (pop. 2,270), co. seat of Greene co., SW. Ind., SW of Bloomington. Furniture is manufactured here. **3** City (pop. 2,732), co. seat of Davis co., SE. Iowa, S of Ottumwa near the Mo. line, inc. 1863. It is the center of a fine grazing area, much wool is produced. The James B. Weaver homestead is preserved. Near by is Lake Wapello State Park. **4** City (pop. 1,208), co. seat of Stoddard co., SE. Mo., SW of Cape Girardeau, in a farm and timber area, settled 1824 on the site of an Indian village. **5** City (pop. 1,467), NE. Nebr., near the Missouri, W of Sioux City, Iowa, settled 1890. **6** Town (pop. 41,623), NE. N.J., adjoining NW. Newark, inc. 1900. Electrical equipment, chemicals, and industrial control devices are made here. Its Presbyterian church dates from 1796. Randolph Bourne was born here.

Bloomfield Hills, residential city (pop. 1,281), SE. Mich., near Pontiac, settled c. 1819, inc. as a village 1926, as a city 1932. It is the seat of CRANBROOK FOUNDATION.

Bloomgarden or **Blumengarten, Solomon,** pseud. **Yehoash** (*yĕhō'ash*), 1870–1927, American writer in Yiddish, b. Lithuania. He came to America in 1891 and, except for 10 years in Colorado (1900–1910), lived chiefly in New York city. Volumes of his poetry, which holds a high place in Jewish-American literature, include *Through Mist and Sunshine* (1913) and *In the Weaving* (2 vols., 1919–21). *The Feet of the Messenger* (1921) was translated into English (1923). His greatest work was the translation of the entire Old Testament from Hebrew into Yiddish. With Charles D. Spivak he compiled a Hebrew-Yiddish dictionary (1911).

Bloomingdale, borough (pop. 2,606), N.N.J., NW of Paterson, inc. 1918.

Blooming Prairie, village (pop. 1,205), SE. Minn., NW of Austin, in a farm region.

Bloomington. **1** City (pop. 32,868), co. seat of McLean co., central Ill., SE of Peoria, settled 1822, inc. 1839. It is an important rail, commercial, and industrial center in a rich farm area and near coal fields. The establishment of Illinois Wesleyan Univ. (1851), the arrival of the railroad (1854), and the founding of Illinois State Normal Univ. (1857, at adjacent Normal) stimulated the city's growth. In 1856 the first Republican state convention met here, and Abraham Lincoln made his famous "lost speech" (no copy of which is known to exist). An annual Passion play is held. **2** City (pop. 20,870), co. seat of Monroe co., S. central Ind., SW of Indianapolis, settled 1818. It is industrially important because of near-by large limestone quarries and the extensive manufacture of furniture. The city is the seat of INDIANA UNIVERSITY.

Bloomsburg, industrial town (pop. 9,799), co. seat of Columbia co., E. Pa., on the Susquehanna river and SW of Wilkes-Barre, settled 1772, laid out 1802, inc. 1870. On the site of a former Indian village, it is the only incorporated town in the state. Its industries include silk and carpet weaving. It is the seat of a state teachers college. Forts Jenkins and McClure are near by.

Bloomsbury, residential district in Holborn and St. Pancras metropolitan boroughs, W. London, England. In Bloomsbury are the British Museum and the Univ. of London. Bloomsbury contains numerous squares and gardens (including Bedford Square, Russell Square, and Bloomsbury Square, laid out on the Bedford estate in the 18th cent.). Many artists, writers, and students live in the district.

Blossburg, borough (pop. 1,955), N. Pa., N of Williamsport, settled c. 1802. Bituminous coal is mined here.

Blount, James Henderson (blŭnt), 1837–1903, American public official, b. Jones co., Ga. U.S. Representative from Georgia (1873–93), he was chosen by President Cleveland as a special commissioner to the Hawaiian Islands in 1893. There the creation of an American-fostered provisional government, under Sanford B. DOLE, in opposition to Queen LILIUOKALANI had caused a crisis. After investigation Blount declared against the provisional government, and in consequence Cleveland withdrew the treaty of annexation concluded with the provisional government, recalled the American minister, and appointed Blount U.S. minister instead.

Blount, William, 1749–1800, American statesman, b. near Windsor, N.C. He served in the American Revolution and later became a legislator in North Carolina, a member of the Continental Congress (1782–83, 1786–87), and a delegate to the Federal Constitutional Convention (1787). Washington appointed (1790) him governor of the Territory South of the River Ohio (present Tennessee), and there he also acted (1790–96) as superintendent of Indian affairs. Blount handled this dual position well until financial difficulties forced him into a plan whereby frontiersmen and Indians were to help the British conquer West Florida. Before the plan was discovered he presided over the Tennessee constitutional convention (1796) and became one of the state's first U.S. Senators. When the Florida plot was discovered he was expelled (1797) from the Senate. While impeachment proceedings (later dropped) were being instituted, Blount was elected (1797) to the Tennessee senate.

Blountstown, city (pop. 1,931), co. seat of Calhoun co., NW. Fla., on the Apalachicola river, in a timber area, founded c. 1823. It is a lumber and naval-stores center.

Blow, John, b. 1648 or 1649, d. 1708, English composer. He was organist at Westminster Abbey from 1668 to 1679, when he was succeeded by his pupil Henry Purcell. Blow returned after Purcell's death in 1695. He is remembered chiefly for his masque *Venus and Adonis* and for his church music.

Blow, Susan Elizabeth, 1843–1916, American educator, b. St. Louis. After study in New York under a disciple of FROEBEL, she opened in Carondelet (now in St. Louis) the first successful public kindergarten (1873) and a training school for kindergarten teachers (1874). Among her books are *Symbolic Education* (1894), *Educational Issues in the Kindergarten* (1908), and a translation of Froebel's *Mutter- und Kose-Lieder* (called *Mother Play*) in two volumes (1895).

blowfly, name for certain flies of the order Diptera, chiefly of the family Calliphoridae, species of which are also known as bluebottle and greenbottle flies. The larvae feed mainly on decaying flesh and other organic matter. Some are useful as scavengers, but others cause suffering and death in wild and domestic animals and man by invading living tissue through wounds. Formerly the maggots of certain species were used to cleanse wounds and to treat infections of the bone, but this practice has been generally replaced. Of similar scavenging habits are many of the related family Sarcophagidae, usually known as flesh flies. Some of these parasitize other insects.

blowgun, hollow tube from which a dart or an arrow is blown by a man's breath. Blowguns were commonly used by Indians of N. South America and are still employed by some tribes of the Amazon and Guiana regions, where the arrows blown are poisoned, often with curare. Blowguns are also known in various other parts of the world, notably in Malaya and Indonesia. Some of the Indian tribes of E. North America also used blowguns.

blowpipe, in its simplest form in the laboratory, a hollow tapering metal tube through the wide end

of which air is blown by the operator while the other end is introduced into the flame of the gas burner A jet of flame results, causing OXIDATION when the blowpipe tip is introduced into the outer portion of the gas FLAME or reduction when the portion just inside this is utilized The material to be treated usually is placed upon a block of compressed charcoal which has been hollowed out slightly to receive it The flame produced by the blowpipe is then directed upon it A bellows or other apparatus is often employed to produce a steady, continuous stream of air In the OXYHYDROGEN blowpipe a stream of hydrogen is burned in oxygen An intensely hot flame results The OXYACETYLENE TORCH involves the same principle but employs acetylene instead of hydrogen Both are employed in WELDING

Bloy, Léon (lāō' blwa'), 1846–1917, French author A Roman Catholic and a social reformer, Bloy was known for his savage attacks against society and his power of persuasion Two novels, *Le Désespéré* [the hopeless one] (1886) and *La Femme pauvre* (1897, Eng tr , *The Woman Who Was Poor*, 1939), are autobiographical His *Salut par les Juifs* (1892) is a tribute to the Jews His correspondence of which only *Lettres à la fiancée* (1922) has been translated (1937) into English, constitutes a major portion of his work See his *Pilgrim of the Absolute* (selections by Raissa Maritain, Eng tr , 1947) See study by Albert Bégum (Eng tr , 1947)

Blücher, Gebhard Leberecht von (blōō'khur, Ger gĕp'hart lā'burĕkht fŭn blū'khur), 1742–1819, Prussian general, one of the outstanding military opponents of Napoleon An officer in the army of Frederick the Great, he incurred the displeasure of the king and resigned, to return to service only after Frederick's death He was prominent in the disastrous campaign of 1806, surrendering to the French near Lübeck In the dark days that followed he helped Freiherr vom STEIN and Fürst von Hardenberg re-create the Prussian opposition to Napoleon and became a leader in the War of Liberation Although ill and subject to delusions, he won brilliant victories at Wahlstatt and Mockern and played an important part in the defeat of the French at Leipzig Crossing the Rhine, he led his army to Paris In the WATERLOO CAMPAIGN of 1815, he was defeated at Ligny but arrived at the battle of Waterloo in time to make it an overwhelming victory In 1814 he was made prince of Wahlstatt

Blücher, Vasily Konstantinovich (vŭsyĕ'lyĕ kŭnstäntyĕ'nuvĭch), b 1889, Russian general, whose real name is unknown He served in the tsarist army, joined the Bolsheviists in the Russian Revolution, rose rapidly to high command and defeated (1920) Baron Wrangel Sent to China as military adviser to the KUOMINGTANG government (1924), he served under Chiang Kai-shek until Chiang's break with the Communists He was known in China as General Galen Blücher, who enjoyed tremendous prestige, subsequently was made a marshal and was military commander in the Far Eastern Area of the USSR until 1938

Bluebeard, nickname of the chevalier Raoul in a story by Charles Perrault In the story Bluebeard's seventh wife, Fatima, yielding to curiosity, opens a locked door and discovers the bodies of her predecessors She is saved from being also slain by the timely arrival of her brothers, for whose coming her sister Anne watched in a tower Bluebeard was possibly based on the career of the seigneur de Retz, but the story occurs in the folk tales of several countries It was used in a play by George Colman, the younger, and in an opera by Offenbach

bluebell, name for several plants, particularly the HAREBELL (bluebells-of-Scotland), VIRGINIA COWSLIP (Virginia bluebell), wood hyacinth (see SQUILL), and BELLFLOWER

blueberry, plant of the large genus *Vaccinium*, shrubs (rarely small trees) of wide distribution They have small flowers and blue or black, usually edible berries that are often confused with the related HUCKLEBERRY Blueberries were a favorite food of the Indians, who ate them fresh or dried for winter use The berries have been an article of commerce since early days, but only within recent years have efforts been made to improve the wild berry by breeding and cultivation Even care of wild patches usually greatly increases the yield The high-bush blueberry (*Vaccinium corymbosum*), native to North America from Minnesota eastward, is the species most often cultivated, and improved varieties are now grown in the East and West. Several blueberries are cultivated (they require acid soil) for the brilliant foliage in the fall Various species are sometimes called bilberry or whortleberry The "huckleberry" of florists, sold for greenery, is a West Coast evergreen species, *V ovatum*, called box blueberry

bluebird, North American migratory bird of the thrush family The eastern bluebird is among the first spring arrivals in the North It is about 7 in long, with plumage on the upper parts which appears a vivid blue in bright light, a cinnamon-red breast, and white under parts The female's coloring is duller It usually nests in orchards, on the edge of woodlands, and where nesting boxes are available As a destroyer of insects it is of great value It eats some wild fruits Its cheerful call is a series of two or three notes, and its song is a soft, sweet warble Related birds are the mountain, the Western, the azure, and the chestnut-backed bluebirds The bluebird as the symbol of happiness is used by Maeterlinck in his play *The Blue Bird*

bluebonnet or buffalo clover, early-spring-blooming plant (*Lupinus subcarnosus* or *texensis*) that has been made the floral emblem of its native state, Texas, where it carpets the plains with its blue blossoms The bluebonnet has typical LUPINE flowers and leaves In Scotland the name is given to the CORNFLOWER

Blue Cross plans see HEALTH INSURANCE

Blue Earth, city (pop 3,702), co seat of Faribault co , S Minn , on the Blue Earth river near the Iowa line, platted 1856, inc 1874 It is a trade center in a diversified farm area

Bluefield, city (pop 20,641), extreme S W Va , on the Va border contiguous to Bluefield, a town (pop 3,921) in Virginia, settled 1777 It is the shipping point for the Pocahontas coal field A state teachers college for Negroes is in the West Virginia section, and Bluefield College (junior) is across the line in Virginia Pinnacle Rock State Park is near by

Bluefields, Caribbean port (1946 estimated pop 10,741), SE Nicaragua, on Bluefields Bay Nicaragua's chief eastern port, Bluefields has docks at El Bluff across the bay, import-export traffic uses the Río ESCONDIDO and the Franklin D Roosevelt Highway between the coast and Managua, the capital Chief exports are bananas, hardwoods, rubber, and gold A rendezvous for English and Dutch buccaneers in the 16th and the 17th cent Bluefields became (1678) the capital of a British protectorate over the MOSQUITO COAST Nominally returned to Nicaragua by the CLAYTON-BULWER TREATY (1850), Bluefields was finally annexed by José Santos ZELAYA in 1894 It was threatened (1910) with bombardment by a U S warship on the grounds that Nicaraguan government forces, attempting to quell a rebellion, were endangering American lives and property, during U S intervention, marines were stationed there (1912–25, 1926–33)

bluefish, stout-bodied, delicately flavored food fish (*Pomatomus saltatrix*) of the warm waters of the Atlantic and Indian oceans It is deep bluish, tinged with green above and silvery below Adult fish weigh from 10 to 25 lb , and some reach a length of 3 ft The teeth are strong Bluefish wander erratically in schools, pursuing the menhaden and other fish on which they feed They destroy far more than their requirements

bluegrass, any species of the genus *Poa*, a large and widely distributed genus of grasses of economic importance In general bluegrasses are perennial with fine-leaved foliage, in some species of a bluish-green color Most species seem to grow best in moist, fairly cool conditions The various species are important as pasture, hay, and lawn grasses One of the best known and most important is the sod-forming Kentucky bluegrass or June grass (*Poa pratensis*), usually thought to have been introduced from the Old World but now widely naturalized in the United States, Kentucky is known as the Bluegrass State because it is so prevalent there Bluegrasses are sometimes called spear grass and meadow grass

Blue Hill, town (pop 1,343), S Maine, settled 1762, inc 1789 Its principal village, Blue Hill, is a resort on the west shore of Blue Hill Bay opposite Mt Desert Island The region has yielded copper and other minerals and diatomaceous earth, and pottery is made Franz Kneisel's studio here was converted into a concert hall

Blue Island, residential and industrial city (pop 16,638), NE Ill , just S of Chicago, settled 1835, inc 1843 It has railroad yards and shops, brick and tile factories, ironworks and steelworks, and canning and packing plants

blue jay, familiar bird of central and E North America, allied to the crow, the raven, and the magpie Almost a foot long, it is handsome and conspicuous Its upper parts, including the crest, are grayish violet blue The wings and tail are bright blue with black and white markings, the neck is collared with black, and the under parts are gray and white Except during the nesting season the blue jay creates a din with raucous cries of "jaay" and with hawklike screams and other imitative sounds Less familiar are his musical, flutelike notes Some winter in their northern range, but many travel southward They feed on larger insects and other small invertebrates and on seeds and nuts (especially acorns and beechnuts), but they also eat some birds' eggs and nestlings Related southern birds are the Florida and Semple's blue jays

blue laws. This term for Puritanical legislation regulating public and private morals originated in *A General History of Connecticut* (London, 1781), by the Rev Samuel A Peters, formerly of Hebron, Conn An Anglican clergyman in a region overwhelmingly devoted to Congregationalism and a Loyalist surrounded by Sons of Liberty, he found it expedient to flee to England in 1774 In his history, hardly flattering to Connecticut but not totally unjust, he gave an account of the code of "Blue Laws," which, he claimed, was still operative there Subsequently the term came to refer specifically to the legislation of the theocratic New Haven colony in the 17th cent Today the term is somewhat loosely applied to any legislation rigorously restricting personal conduct Although Peters's account of the blue laws was highly exaggerated, it contained a large element of truth New Haven and the other Puritan colonies of New England all had rigid laws proscribing not only Sabbath-breaking, breaches in family discipline, drunkenness, and sexual transgressions, but also excesses in dress (aimed at the lower orders, who were not to ape the fashions of their betters) and harmless and even profitable diversions Such restrictive measures did not, however, originate with the New England Puritans, nor were they unique among American colonists in having them. Sabbatarian and sumptuary laws had been common on the Continent since the Middle Ages, and with the growth of Puritan sentiment in England in the reigns of James I and Charles I repressive moral legislation was widely adopted Properly speaking, however, the term "blue laws" pertains only to American legislation Laws of this sort were common to some degree in practically every American colony, though they flourished most in New England With the dissolution of the Puritan theocracies after the American Revolution, blue laws declined and disappeared Many of them lay forgotten in the statute books only to be resurrected much later to plague another generation of Americans They were not widely revived until the appearance in the 19th cent of local and state laws prohibiting the manufacture and consumption of intoxicating liquors, which culminated in the short-lived experiment of national prohibition The nation-wide contempt for the unpopular Eighteenth Amendment had a valid precedent in earlier days, for the ordinary colonial consistently violated the blue laws, as the impressive lists of convictions and punishments in ancient archives reveals With prohibition early in the 20th cent also came a host of other laws regulating private conduct Many states for a brief period even forbade the sale of cigarettes (early Connecticut had also banned the use of tobacco until the weed became important to its economy) Laws abolishing secular amusements as well as all unnecessary work on Sunday and laws providing for strict local censorship of books, plays, moving pictures, and other means of instruction or entertainment were also enacted Although much of this legislation has been softened if not repealed, there are still many areas and communities in the United States, generally those where religious fundamentalism is strongest, which retain blue laws See G A Myers, *Ye Olden Blue Laws* (1921)

Blue Mountains, wooded range, NE Oregon and SE Wash , c 6,500 ft high, in the midst of basin lands

Blue Nile, Arabic *Bahr-el-Azrak*, river, c 950 mi long, rising in Lake Tana in NW Ethiopia at an altitude of c 5,800 ft It is the chief affluent of the Nile The river flows rapidly S and W through Ethiopia, where many tributaries feed it It then follows a slow northerly course through the Anglo-Egyptian Sudan, where, at Khartoum, it joins with the White Nile to form the NILE

Blue Point, unincorporated village (pop 1,234), on S Long Island, SE N Y , on Great South Bay and near Patchogue Blue-point oysters take their name from Blue Point

blueprint, the blue and white print of an architect's or engineer's plans, used commonly as a working drawing during building or manufacturing The plan is first drawn to scale on a special paper or substance through which light can penetrate The drawing is then placed over so-called blueprint paper prepared by treating paper with a mixture of potassium ferricyanide and ammonium ferric citrate When the drawing and the blueprint paper thus attached are exposed to a strong light, the ferric salt not lying beneath the lines of the drawing, and hence unprotected, is changed to a ferrous salt which reacts with the ferricyanide to form Turnbull's blue This blue is the background of the finished print The ferric salt under the lines of the drawing, and hence protected from the light, remains unchanged and is dissolved away during the washing in water which must follow exposure As a result the lines of the original drawing appear white in the finished blueprint

Blue Rapids, city (pop 1,433), NE Kansas, at the confluence of the Little Blue and Big Blue rivers NW of Topeka, laid out 1869, inc 1872 It has a gypsum mine and plant

Blue Ridge, city (pop 1,362), co seat of Fannin co , N Ga , near the Tenn.–N.C line, in Chattahoochee National Forest, inc 1887 It is a trade and shipping center for a farm, lumber, and mine area The railroad's coming (1895) stimulated its growth

Blue Ridge, range of the Appalachian system, west of the piedmont, extending from NW Maryland just above Harpers Ferry, W Va , southwestward through Virginia and North Carolina into N Georgia The range is narrow in the north (10–12 mi. wide), broadening to a maximum width of 70

mi in the south, where it reaches altitudes of c 5,000 ft The region is noted for its scenery, especially the section along the Skyline Drive in Virginia which traverses the Shenandoah National Park. The Blue Ridge Parkway (almost completed), extending c 500 mi south from the Skyline Drive, connects the Shenandoah and Great Smoky Mountains national parks See Jean Thomas, *Blue Ridge Country* (1942)

blues, in music, a type of song with a sad or desperate text set to a slow, melancholy sort of tune Its origin was in Negro work songs, spirituals, and sorrow songs, popularized by W C Handy's *Memphis Blues* (1912) and *St Louis Blues* (1914), it has become part of modern JAZZ There are instrumental blues as well as the original vocal type For bibliography, see JAZZ

Blues and Greens, political factions in the Byzantine Empire in the 6th cent They took their names from two of the four colors worn by the circus charioteers Their clashes were intensified by religious differences The Greens represented MONOPHYSITISM, the Blues, orthodoxy In 532 the two factions joined in the *Nika* sedition against Emperor JUSTINIAN I and Empress THEODORA Thanks to Theodora's *sang-froid*, the revolt was put down by Belisarius, whose troops killed some 30 000 rebels

bluestocking, originally a derisive term applied to certain 18th-century women of intellectual pretensions In the middle of the century Mrs Elizabeth Vesey held "conversations" of groups of cultivated people, and the custom was extended by Hannah MORE, Elizabeth MONTAGU, Elizabeth CARTER, and others Boswell's *Life of Dr Johnson* says these "bluestocking clubs" were given the name because one Benjamin Stillingfleet attended in blue stockings, or ordinary, as opposed to formal, dress In time the name bluestocking was applied solely to the ladies See Hannah More's poem, "Bas Bleu, or Conversation" (1786), E R Wheeler, *Famous Bluestockings* (1910)

bluestone, slate-colored sandstone found in New York state which is used for building, flagstone paving, and when broken up into small pieces, for garden paths and roadways It was widely used for many years after quarrying was begun in 1836 The term *bluestone* is used also to describe BLUE VITRIOL

bluet (blo͞o'ĭt), **innocence,** or **quaker-ladies,** delicate little North American wild flower with a single blue (or sometimes white), four-parted and yellow-eyed blossom appearing in the spring The plant, botanically *Houstonia caerulea*, may be grown in the garden Other plants are sometimes called bluets, particularly other species of *Houstonia* and the CORNFLOWER

blue vitriol (vĭt'rĭ-ŭl) or **bluestone,** common blue crystalline substance, an important hydrous salt of copper, called cupric sulphate and less exactly copper sulphate It is a compound of copper, sulphur and oxygen, linked with five molecules of water This blue crystalline form is produced from the white anhydrous salt, also known as cupric sulphate, when this white salt crystallizes out from an aqueous solution When the blue crystals are heated the water of crystallization is driven off, and the anhydrous form is produced Blue vitriol occurs in nature in the mineral chalcanthite Commercially, copper sulphate is prepared by the action of warm dilute sulphuric acid on copper in air It is used in copperplating, as a mordant in dyeing, in batteries, in the preparation of FEHLING'S SOLUTION, BORDEAUX MIXTURE and BURGUNDY MIXTURE In very small quantities it is used to destroy certain algae in reservoirs A sandstone found in New York state is also called BLUESTONE

Bluff, borough (pop 2,059), on the south coast of South Island, New Zealand, on Foveaux Strait It is the port for Invercargill The exports are oysters, fish, granite, and quartz It was formerly called Port Macquarie

Bluffton, **1** City (pop 5,417), co seat of Wells co, NE Ind, on the Wabash and S of Fort Wayne, settled 1829, inc 1858 It is a dairying center **2** Village (pop 2,077), NW Ohio, between Lima and Findlay, in a limestone quarry area, settled 1833, inc 1861 It has a large Mennonite population and a Mennonite school, Bluffton College

Blum, Léon (lāⁿ' blo͞omˊ), 1872-1950, French Socialist statesman and writer Blum entered politics during the Dreyfus Affair and rose to party leadership In 1936 he brought about the coalition of Radical Socialists, Socialists, and Communists in the Popular Front, which won an overwhelming electoral victory The Popular Front government, headed by Blum, passed laws providing for a 40-hour week, collective bargaining and compulsory arbitration, reorganized the Bank of France, and proposed to nationalize major industries Conservative opposition to Blum's fiscal measures brought about his resignation (1937) Blum served as vice premier (1937-38) under Camille CHAUTEMPS, was briefly premier in 1938, and later voiced his opposition to the Munich Pact Arrested (1940) by the Vichy government, he was among the defendants in the abortive war guilt trial held at RIOM in 1942 Blum was transferred to German custody and was imprisoned in Austria until the end of the war After negotiating (1946) a credit agreement with the United States, he again was premier for two months in 1946–47, heading a Socialist cabinet Among French Socialists, Blum gradually came to represent the moderate wing His writings include the early work, *Marriage* (Eng tr, 1937), and *For All Mankind* (Eng tr, 1946)

Blum, Robert Frederick (blo͝om), 1857–1903, American painter, etcher, and illustrator, b Cincinnati, studied at the McMicken School of Design, Cincinnati, and at the Pennsylvania Academy of the Fine Arts Apprenticed in boyhood to a lithographer, he became a skillful etcher His versatility extended to the use of various media in painting—pastels and water colors as well as oil—and to pen-and-ink illustrating After 1879 he made frequent trips to Europe Commissioned by Scribner to illustrate Sir Edwin Arnold's *Japonica*, Blum lived in Japan, 1890–93, his later work shows the influence of this sojourn In mural decoration his friezes *Music* and *The Dance* are especially noted, painted for the Mendelssohn Music Hall, these are now in the Brooklyn Museum Other works include *The Ameya* (Metropolitan Mus) and *The Lace-Makers* (Cincinnati Art Mus) At the Cincinnati Art Museum is a special wing devoted to his work

Blume, Peter (blo͞om), 1906–, American painter, b Russia He came to the United States in 1911 and was educated in Brooklyn He later studied at the Art Students League of New York and the Beaux-Arts After working as a subway newspaper vendor, in a jewelry factory, and as a lithographer's apprentice, in 1932 he received a Guggenheim fellowship, and two years later his *South of Scranton* took first prize at the Carnegie International Exhibition Since then his work has been much discussed Variously classified as expressionist or surrealist, it is highly individual and aims at giving a picture of his own inner thoughts and dreams Blume's pictures have gayety and a rich and varied pattern His fantasies, including the antifascist *Eternal City* (1938), and *The Rock* (1949), are painted with precision and detail, in clear, brilliant colors His paintings are in the Museum of Modern Art and Whitney Museum, New York, and in the Columbus Gallery of Fine Arts

Blumenbach, Johann Friedrich (yōhänˊ frēˊdrĭkh blo͞oˊmənbäkh), 1752–1840, German naturalist and anthropologist He introduced and developed the science of comparative anatomy in Germany His *De Generis humani varietate nativa* (1775) marked the beginnings of physical anthropology and provided the five divisions of mankind which have been the basis of all subsequent racial classifications An analysis of an extensive skull collection, published as *Collectio craniorum diversarum gentium* (1790–1828), established craniometric study Other works are *Handbuch der Naturgeschichte* (1780) and *Handbuch der vergleichenden Anatomie und Physiologie* (1804)

Blumengarten, Solomon see BLOOMGARDEN, SOLOMON

Blunden, Edmund Charles, 1896–, English poet and critic From 1924 to 1927 he was professor of English literature at Tokyo Univ, and after 1931 fellow and tutor in English literature at Merton College, Oxford Besides being a poet of rural England, he is a scholarly critic and editor of John Clare Vaughan, Lamb and Coleridge and biographer of Leigh Hunt (1930), Thomas Hardy (1942), and Shelley (1946)

Blunt, George William, 1802–78 American hydrographer, son of Edmund March Blunt, a pioneer publisher of nautical books and charts in Newburyport, Mass He established himself in a similar business in New York in 1821 From 1833 until his death he was first assistant in the U S Coast Survey He served also for 42 years on the Board of Pilot Commissioners and did much to put through needed reforms in the U S Lighthouse Service His firm published the numerous editions of *Bowditch's Navigator*, *Blunt's Coast Pilot*, and nautical charts of the entire world The copperplates of these maps and the copyrights to the *Navigator* and *Coast Pilot* were later purchased by the U S Hydrographic Office when that bureau began its publication work

Blunt, James Gilpatrick (gĭl-) 1826–81, Union general in the Civil War, b Hancock co, Maine After studying medicine, he practiced in Ohio and later in Kansas, where he became associated with John Brown in antislavery activity Blunt served in the Union forces throughout the war and was made a brigadier general in 1862 The border region of Kansas, Missouri, and Arkansas was the principal scene of his activity He was victorious at Old Fort Wayne (Oct, 1862) and at Cane Hill (Nov, 1862) With Gen F J Herron, he drove back Hindman at PRAIRIE GROVE (Dec, 1862) In 1864 Blunt was instrumental in repulsing Sterling Price's raid

Blunt, Wilfrid Scawen (skōˊĭn), 1840–1922, English poet and political writer After a brief period in the diplomatic service, Blunt resigned and began a colorful career of travel and political crusading He championed Indian, Egyptian, and Irish home rule, being the first Englishman to be imprisoned for such activities in Ireland Reared a Roman Catholic, he later became deeply sympathetic with Mohammedan beliefs, though he died professing no religion His poetry includes *The Love Sonnets of Proteus* (1881) and *The Wind and the Whirlwind* (1883) See Blunt's *My Diaries* (1919–20), biography by Edith Finch (1938)

Bluntschli, Johann Kaspar (yōˊhän käsˊpär blo͝ontˊshlē) 1808–81, Swiss jurist and political scientist Trained at the Univ of Berlin, he taught law at Zurich and later at the German universities of Munich and Heidelberg He expounded the organic theory of the state in *Allgemeines Staatsrecht* (2 vols, 1851–52, partial Eng tr, 1892), carrying the theory to a complete equation of the life of a state and the life of a person In a later work, *Deutsches Privatrecht* [German private law] (2 vols, 1853–54), he glorified the Germanic as opposed to the Roman elements in German law He was also of some political importance in Baden as a spokesman of the Protestant bourgeoisie favoring unification of Germany under Prussia, and he was one of the founders of the Institute of International Law at Ghent

Blyth (blīth), municipal borough (1931 pop 31,680, 1947 estimated pop 34,110), Northumberland, England It is a coal-mining center and a seaport with fishing and shipbuilding

Blythe, David G, 1815–65, American portrait and genre painter, b East Liverpool, Ohio Most of his work is in private collections *Janvary Bulls* (Yale Univ) is characteristic in its spirited satire See Dorothy Miller, *The Life and Work of David G Blythe* (1950)

Blythe (blīth), city (1940 pop 2,355, 1946 special census pop 3,813), SE Calif, near the Colorado river, in an irrigated cotton, alfalfa, and melon area, laid out 1910, inc 1916

Blytheville (blīthˊvĭl), city (1940 pop 10,652, 1948 special census pop 15,091), a co seat of Mississippi co NE Ark, near the Mississippi river, settled c 1854, inc 1891 It is the trading and industrial center of the state's richest cotton area, soy beans and feed crops are also produced

Boabdil (bōänbədēlˊ), d 1538, last Moorish king of GRANADA in Spain (1482–92) After valiant resistance he was defeated by Ferdinand and Isabella and fled to Morocco

boa constrictor (bōˊə kənstrĭkˊtər), South American nonpoisonous constrictor snake of the same family as the ANACONDA and the PYTHON It is rarely more than 12 ft long An agile climber, it descends from trees to capture birds and mammals, which it kills by constriction before it eats them

Boadicea (bōˊədĭsēˊə), d A D 62, British queen of the Iceni (or Norfolk), also called Boudicca Her husband, Prautagus, died in A D 61, putting his family under the protection of the Roman emperor Their property confiscated by the procurator and the people oppressed by the soldiers, the Iceni revolted Boadicea led them in sacking Colchester, London, and Verulam (St Albans) Her army was crushed by the legate C Suetonius Paulinus, and Boadicea took poison

Boanerges (bōˊənûrˊjēz) [Gr, =sons of thunder] sons of Zebedee see JAMES, SAINT, and JOHN, SAINT

boar see SWINE

Boardman, Thomas Danforth, 1784–1873, American pewterer, b Litchfield, Conn, of Danforth family and training He used as a touch mark his initials or name within a rectangle or associated with a spread eagle and occasionally an X indicating first quality, following the English custom He was later associated with his brother Sherman Boardman, and the firm's mark was TD & SB Their work was of excellent craftsmanship in accordance with the best early traditions Examples are preserved in the Morgan Collection of the Wadsworth Atheneum in Hartford, Conn See Charlotte Goldthwaite, *Boardman Genealogy* (1895)

Boas, Franz (bōˊəz), 1858–1942, American anthropologist, b Minden, Germany Ph D Univ of Kiel 1881 He joined an expedition to Baffin Land in 1883 and found through observation of the Central Eskimo, the field of his future interests In 1886 he began investigations of the Indian tribes of British Columbia, an area which was long to engage his attention In 1889 he secured at Clark Univ his first post in the United States From 1892 to 1894 he served as curator of anthropology for the World's Columbian Exposition, Chicago He was associated with the American Museum of Natural History from 1895 to 1905 He began to lecture at Columbia Univ in 1896 and became, in 1899, its first professor of anthropology His retirement 37 years later did not mark the end of active service to his field No one has more greatly influenced American anthropology His approach was independent of theoretical preconceptions, and his insistence on a rigorous methodology served to establish firmly the scientific validity of his contributions He reexamined the premises of physical anthropology and pioneered in applying statistical methods to biometric study. He was an early contributor to stratigraphic archaeology in Mexico As a philologist, he emphasized the importance of lan-

guage analysis from the point of view of its internal organization In the cultural field, he maintained an empirical stand, becoming identified with no single theoretical school but affording constructive criticism to them all The number and the eminence of anthropologists who received guidance and training from Boas insure the long continuance of his influence as a teacher In addition to his many monographs, his works include *The Mind of Primitive Man* (1911), *Primitive Art* (1927), *Anthropology and Modern Life* (rev ed, 1932), he edited *General Anthropology* (1938)

boat, small, open vessel propelled by sail, oar, pole, paddle, or motor The use of the term *boat* for larger vessels, though common, is somewhat improper, but the line between boats and ships is not easy to draw A number of special types of boats are also generally referred to by their individual names rather than by the generic term, e g , the CANOE, the kayak (the Eskimo dekked canoe), and the umiak (the Eskimo open boat) Some boats may be quite large and may be useful not only for river but also for ocean traffic, as in the islands of the S Pacific and along the Asiatic coast Boats are in general known at least in the simple form of dugouts and rafts to all peoples dwelling on waterways, no matter how low their material culture, and they have been known since prehistory The ancient Egyptians had quite manageable boats made of acacia wood and held together with pegs Today wooden boats are built in three ways with fore-and-aft planks laid with edges meeting smoothly and not overlapping (carvel built), with fore-and-aft planks laid with edges overlapping like weather boarding (clinker built), and with planks running diagonally, the inside planks running in the opposite direction from the outside planks Outrigger boats are known in many parts of the world, the outrigger, intended to stabilize the boat, is usually a piece of wood which rests on the water parallel to, and some feet from, the boat, to which it is attached by projecting arms above the water The types of boats known in various parts of the world are almost infinite The Chinese junk is usually called the largest type of boat and is sometimes classified as a ship It and the sampan (a sort of skiff that usually has a mat-covered cabin with living quarters) are to be seen in all the river and coastal waters of the Far East A special, highly ornamental sampan used for ceremonial purposes is the dragon boat The energetic Arab merchants in the Middle Ages pushed their trade (and their religion) all over the shores of S Asia and E Africa in the lateen-rigged dhow, in which they covered incredible distances. The ancient GALLEY was usually propelled by oars and was a typically Mediterranean vessel The gondola, the flat-bottomed, raftlike boat of the Venetian canals is one of the more familiar local types of Mediterranean boats Because the Northern seas were stormier, the viking boats, which the Norsemen were building by the 5th cent A D , were somewhat sturdier Clinker building is supposed to have started with them These Norse boats, deckless or half-decked, with elevated stem and stern, took the piratical conquerors securely to all the coasts of Europe and across the difficult N Atlantic The later rugged whaleboat was developed from the viking type of construction Whaleboats came to be used for numerous purposes, and the fishing boats of the North Sea and the Baltic Sea, also built on the viking principles, are roughly similar to whaleboats The types adapted for being carried on ships, for harbor transport, and for pleasure are as varied as their uses, appearing in a bewildering number of forms such as the launch, the cutter, the coracle, the pinnace, the dinghy, the gig, the catboat, the punt, the scow, and the several types of collapsible boat (usually of rubber or canvas) For boat racing, see ROWING See also HOUSEBOAT, LIFEBOAT, MOTORBOAT, TUGBOAT

boating, as a sport, includes canoeing, iceboating, motorboating (see MOTORBOAT), yachting, and ROWING The CANOE dates back to prehistoric man, the rowboat (propelled by oars) to ancient times, and the iceboat (a vehicle on runners to which sails are attached) to the Norsemen Canoeing, rowboating, and iceboating did not become organized sports until the 19th and 20th cent The YACHT, however, was devised purely for pleasure and sport by the Dutch in the 16th cent Today, several international races are held to determine boating championships The most prominent races are the International Challenge Cup race, for canoeing, the Stuart International Cup race, for iceboating; the Harmsworth Trophy and the Golden Cup races, for motorboating, and the *America*'s Cup race, for yachting

Boaz (bō'ăz) [Heb ,=fleetness] **1** Ruth's husband, ancestor of David Ruth 2, 3, 4 Booz Mat 1 5, Luke 3 32 **2** Pillar of Solomon's Temple See JACHIN AND BOAZ

Boaz, town (pop 1,927), NE Ala , in the mountains NNW of Gadsden, in a farm and cotton area, settled 1878, inc 1891 A junior college is here

Bobadilla, Francisco de (fränthō'skō dā bōbädē'lyä), d. 1502, Spanish colonial governor He superseded Columbus in the West Indies (1500) and sent him home in chains. Recalled in 1502, he was drowned on the voyage to Europe.

bobbin, implement on which thread is wound, used in sewing, spinning, weaving, and lacemaking Sometimes the wooden spools of sewing thread are called bobbins The bobbin of a sewing machine is a metal cylinder, with a flange at each end, on which the lower thread is wound to be carried through the shuttle to the seam In some primitive hand weaving the weft was wound on a bobbin flanged at one end and passed or carried by it through the warp In tapestry weaving, bobbin looms are essential, as weft strands of different colors must go back and forth for the distance required by the design, somewhat in the manner of an embroidery needle darning in a pattern In making pillow lace, bobbins form an important part of the equipment, as each thread of the pattern requires a different bobbin, intricate patterns call for hundreds of bobbins to hold the fine thread in order Bobbins for lacemaking are made in various shapes and sizes, of a variety of materials, as walnut, rosewood, boxwood, and olivewood, glass, metal, ivory, coral, malachite, and bamboo, and are ornamented with carving, painting, or engraving See Gertrude Whiting, *Tools and Toys of Stitchery* (1928)

bobbin lace see LACE

Bobbio (bôb'bēō), town (pop 1,787), Emilia e Romagna, N central Italy, 25 mi SW of Piacenza St COLUMBAN founded here in 612 the oldest monastery of N Italy From the 9th to the 12th cent , under the Benedictines, it was a center of European cultural life The manuscripts of its invaluable library were dispersed in the 15th and 16th cent

bobcat, small lynx found in most parts of the United States, S Canada, and parts of Mexico It is light reddish-brown, spotted, and smaller than the more grayish Canada lynx It is a powerful, stealthy, usually nocturnal hunter It is known also as the bay lynx, red lynx, and wildcat

Bobcaygeon (-kā'jun), town (pop 1,002), S Ont , on an island between Sturgeon and Pigeon lakes and NW of Peterborough For many years a great lumber center, it is now chiefly a distributing point for the Kawartha Lakes resorts

bobolink, name in the N United States and Canada of an American songbird related to the blackbird and the oriole It is known farther south as the reed bird and the rice bird In spring the plumage of the male is black except for the white shoulders and lower back and buff nape After the breeding season the male assumes yellowish brown-streaked plumage like that of the female, and his former joyous singing is reduced to a single call note Bobolinks winter in South America In the north they are insectivorous, but as they migrate they gorge on rice in the eastern wild-rice marshes and in cultivated fields in South Carolina and Georgia and become so fat that they are hunted as game birds The bobolink is the subject of Bryant's poem "Robert of Lincoln "

Bobruisk (bŏbrōō'ĭsk), city (pop 84,107), capital of Bobruisk oblast, Belorussia, on the Berezina river It is a rail junction and has lumber, food, and clothing industries

bobsledding, winter sport in which a bobsled—an open steel-bodied vehicle, with sledlike runners, which accommodates two or four persons—hurtles down a course of snow-surfaced, steeply banked, twisting inclines The crew of a four-man bobsled is composed of a driver and three bobbers, the last one being the brakeman Bobsledding, an offspring of tobogganing, was developed at St Moritz, Switzerland, in the late 19th cent The sport has been included in the Olympic games since 1928 The Mt Van Hoevenberg run at Lake Placid, N Y , is the outstanding course in North America

bobwhite, American game bird of the same family as the pheasant and the partridge The eastern bobwhite is about 10 in long It has plumage of mixed brown, black, and white in the male and brown and buff in the female, which makes it almost invisible against the vegetation of weedy fields and edges of woodland Bobwhites feed on insects and weed seeds During much of the year they travel in coveys, sleeping at night in a compact circle, tails to the center Thus they can fly out in all directions if alarmed Each male chooses a territory in which to nest in spring when the coveys separate and whistles "bob-white" to attract a mate and to drive away other males The large brood follows the hen like chicks Bobwhites can be raised on farms and increase rapidly when protected, but suffer great destruction by hunters. They are often called quail or partridge See H L Stoddard, *The Bobwhite Quail* (1931).

Boca, La (la bō'kä), town (pop. 4,035), central Panama, near Balboa, at the Pacific end of the Panama Canal

Boca Tigris see CANTON, river

Boccaccio, Giovanni (jōvän'nē bōk-kät'chō), 1313–75, Italian poet and novelist, author of the DECAMERON, one of the world's great books. He was born in Paris, the natural son of a Tuscan merchant by a French woman. He was a contemporary of Petrarch and was born before Dante's death. His early youth was spent at the family home in Certaldo, not far from Florence, where he is buried He was sent to Naples c.1330 by his father. Here he won the friendship of Petrarch, and his genius flowered He fell in love with Maria d'Aquino, natural daughter of King Robert, and wrote (c 1340) at her instance *Filocolo*, a long romance in prose The *Teseide* is a heroic poem in the style of the Aeneid In *La Fiammetta* (written c 1344), another prose romance, Fiammetta (Maria d'Aquino) recounts her love for Panfilo (Boccaccio) and his desertion of her *Filostrato* tells in verse the story of Troilus and Cressida, it was drawn upon by Chaucer *Amorosa visione* and *Ninfale fiesolano* are allegorical works in verse The *Corbaccio*, also in verse, is a satire on women Boccaccio was recalled by his father to Tuscany in 1341 There his later works were written Boccaccio's admiration for Dante inspired him to write a biography of the poet, one of his early works In his last years he received an allowance from the city of Florence as a public expositor of the *Divine Comedy* It is as one of the world's earliest and greatest storytellers that Boccaccio lives For selections of his verse in English, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1922), and D G Rossetti, *The Early Italian Poets* (1861) See biographies by J A Symonds (1895), Catherine Carswell (1937), and Francis MacManus (1947), N E Griffin and A B Myrick, *The Filostrato of Giovanni Boccaccio* (1929), C G Osgood, *Boccaccio on Poetry* (1930)

Boccherini, Luigi (lwē'jē bōk-kĕrē'nē), 1743–1805, Italian composer He was cellist at the court of Spain from 1768 until his death and composed prolifically, mostly chamber music A delicate lyricism characterizes his work

Bocheru (bōk'ŭrōō), descendant of Saul 1 Chron 8 38, 9 44 Perhaps the name should be translated "first-born", cf BECHER **1**

Bochim (bō'kĭm) [Heb ,=weepers], unknown place. Judges 2 1,5

Bochum (bō'khōōm), city (1939 pop 305,485, 1946 pop 246,777), in the former Westphalia prov , NW Germany A center of the RUHR iron and steel industry, the city was heavily damaged in the Second World War

Bock, Fedor von (fā'dôr fŭn bôk'), 1880–1945, German field marshal In the Second World War he commanded in Poland and in the Low Countries and entered Paris in June, 1940 Commanding the central Russian front, he failed to take Moscow (1941) He was retired in 1942 He was killed, presumably, by stray Allied bullets

Bockelszoon or **Bockelson, Jan**, see JOHN OF LEIDEN

Böcklin or **Boecklin, Arnold** (both är'nôlt bŭk'lēn), 1827–1901, Swiss painter, studied in Düsseldorf, Brussels, Paris, and Rome Most of his life was spent in Germany and in Italy From 1860 to 1862 he was professor at the Weimar Academy His carefully constructed paintings are largely classical in theme but reveal a romantic sentiment and fantasy Among his well-known paintings are *The Island of the Dead* (Metropolitan Mus) and *Chase of Diana* and mythological frescoes (Basel) In later life Böcklin enjoyed a high reputation and considerable influence in Germany

Bocskay, Stephen (bôch'kĭ), Hung *Bocskay István* (ĭst'vän), 1557?–1606, Hungarian noble, voivode (1604–6) and prince (1605–6) of Transylvania Seeking to secure the independence of TRANSYLVANIA, he supported his nephew, Prince Sigismund BATHORY, first against the pro-Turkish, then against the pro-Hapsburg, faction of nobles Sigismund having abdicated (1602) in favor of the king of Hungary (Emperor Rudolf II), Stephen Bocskay in 1604 led a revolt with Turkish support against Rudolf's attempt to impose Roman Catholicism on Hungary Stephen then acknowledged the sultan as his suzerain, but refused his offer of recognition as king of Hungary In 1606 he negotiated with Archduke (later Emperor) MATTHIAS a treaty at Vienna which legalized the partition of Hungary between the Hapsburgs (as kings), the sultan, and Transylvania The old and sacred Hungarian crown of St Stephen was returned to Pressburg (now Bratislava), the capital of Hapsburg-held Hungary The importance of the treaty, which was soon afterward supplemented by a peace between Austria and Sultan AHMED I, lay in the guarantee of religious freedom for Hungary Stephen was recognized as prince of Transylvania To avoid paying tribute to the sultan, he presented him with a large gift He died as he was proposing to renew hostilities against the Hapsburgs.

Bodanzky, Artur (bōdän'skē), 1877–1939, Austrian-American conductor He was assistant to Mahler at the Vienna Opera (1903) and conducted at Mannheim from 1909 to 1915 He then became conductor of German operas at the Metropolitan Opera House, New York, succeeding Toscanini and Alfred Hertz He translated Mozart's *Don Giovanni* into German and revised (1917) Weber's *Oberon*

Bode, Johann Elert (yō'hän ä'lĕrt bō'dŭ), 1747–1826, German astronomer His interest in the heavenly bodies began in his boyhood, when he

constructed his own telescope Before he was 20, he had calculated an eclipse of the sun. From 1772 to 1825 he was astronomer of the Academy of Science, Berlin, and from 1786, director of the Berlin Observatory. He is celebrated as the founder (1774) of the *Astronomisches Jahrbuch*, but his most noted contribution to astronomy is the *Uranographia* (1801), a collection of star maps and a catalogue of 17,240 stars and nebulae, 12,000 more than had appeared in earlier charts In 1772 he devised a formula to express the relative distances of the planets from the sun The same device had been thought out earlier by J D Titius of Wittenberg, but it is known as Bode's law

Bode, Wilhelm von (vĭl'hĕlm fŏn), 1845–1929, German art critic and writer He abandoned law for art and archaeology in 1869 In 1872 he was made assistant in the Berlin Museum, in 1883, director of the department of Christian sculpture, and in 1890, director of the gallery of paintings Under his supervision the museum grew into one of the world's greatest collections From 1905 to 1920 he was director general of the royal museums of Prussia His advice was sought by museums and collectors in Germany and abroad His books include *Rembrandt* (with Hofstede de Groot, 8 vols , 1897–1900, Eng tr , 1906) and *Florentine Sculptors of the Renaissance* (1902, Eng tr , 1909)

Bodel, Jehan (zhäⁿ' bōdĕl'), b c 1165, French trouvère of Arras He is author of the first long play entirely in French, a mystery entitled *Le Jeu de Saint-Nicolas* He contracted leprosy c 1202.

Bodenbach, Czechoslovakia see PODMOKLY.

Bodensee. see CONSTANCE, LAKE OF

Bodenstein, Andreas Rudolf see CARLSTADT.

Bodh Gaya, India see BUDDH GAYA

Bodin, Jean (zhäⁿ' bōdĕ'), 1530–96, French social and political philosopher He studied at Toulouse and had a successful legal career His religious tolerance in a period of fanatic religious warfare drew upon him accusations of being a free thinker Bodin's reputation, steadily increasing in recent years, is based chiefly on *Les Six Livres de la république* (1576, Eng tr , *The Six Bookes of a Commonweale*, 1606) This may be said to be the first attempt at formulating a modern and scientific philosophy of history He foreshadowed Hobbes by stating the necessity of the absolute sovereignty of monarchs, subject only to the laws of God and nature, and he anticipated Montesquieu by insisting on the importance of environment in shaping laws, customs, beliefs, and events Bodin is also important in the development of economic theories Though he shared many views of the mercantilists, he pointed out that the rise of prices was a function not merely of the debasement of the coinage, but also of the amount of currency in circulation See Beatrice Reynolds, *Proponents of Limited Monarchy in Sixteenth Century France· Francis Hotman and Jean Bodin* (1931)

Bodleian Library (bŏd'lēŭn, bŏdlē'ŭn), at Oxford Univ The original library, destroyed in the reign of Edward VI, was replaced early in the 17th cent , chiefly through the efforts of Sir Thomas Bodley, who gave it valuable collections of books and manuscripts and in his will left a fund for maintenance Other patrons of letters soon followed his example The library receives a copy of every book published in Great Britain Besides its books, it has a collection of over 40,000 manuscripts, especially rich in biblical, rabbinical, and Arabic material A new building, started in 1937, was opened in Oct , 1946

Bodley, George Frederick (bŏd'lē), 1827–1907, English architect One of the most prominent and prolific ecclesiastical architects of his time, Bodley was a pupil of Sir George Gilbert Scott, an adherent of the Victorian Gothic revival Influenced by his friendship with William Morris and the other Pre-Raphaelites, he did much to foster good taste in the applied arts Among his many works is Queens' College Chapel at Cambridge His secular buildings include additions to Magdalen and other colleges at Oxford and the London school-board offices Besides his English work, he designed cathedrals in Tasmania, in San Francisco, and, in association with his pupil James Vaughan, the Cathedral of St Peter and St Paul in Washington, D C See B F L Clarke, *Church Builders of the Nineteenth Century* (1938)

Bodley, Sir Thomas, 1545–1613, English scholar and diplomat, organizer of the BODLEIAN LIBRARY at Oxford Univ After four years as gentleman usher and envoy of Queen Elizabeth, he spent 17 years restoring the library of Humphrey, duke of Gloucester, this later was called the Bodleian See Sir Thomas Bodley, *Letters to Thomas James, First Keeper of the Bodleian Library* (ed. by G W Wheeler, 1926)

Bodmer, Johann Jakob (yō'hän yä'kôp bōd'mûr), 1698–1783, Swiss critic, poet, and editor He was professor (1725–83) of Swiss history at Zurich He founded with Johann Jakob Breitinger the weekly critical journal, the *Diskurse der Mahlern* This review, with its new literary ideas, helped pave the way for Klopstock, Goethe, and Schiller Bodmer's poetry is of lesser importance than his critical writings, his translation of *Paradise Lost*, and his editions of the minnesingers and the *Nibelungenlied*

Bodø, Nor *Bodø* (bō'dû"), city (pop 6,344), co seat of Nordland co , NW Norway, within the Arctic Circle It is a North Sea port serving the SULITELMA mines Two thirds of Bodo were destroyed during the German invasion of Norway (1940)

Bodoni, Giambattista (jämbät-tē'stä bōdō'nē), 1740–1813, Italian printer He was the son of a printer and worked for a time at the press of the Vatican At Parma, under the patronage of the duke of Parma, he produced stately quartos and folios with impressive title pages and luxurious margins He designed many type faces and, with BASKERVILLE in England and François Ambroise DIDOT and Firmin Didot in France, was a leader in originating "modern," pseudoclassical type faces, distinguished from the "old style" of CASLON and others by emphasizing the contrast of light and heavy lines and by long, level serifs Bodoni received high honors from sovereigns, including Napoleon His books were frankly made to be admired by the affluent, not to be studied or read He was apparently indifferent as to the quality of the text he printed and as to editing and proofreading As masterpieces of typography, the place of his books has not been unchallenged William Morris, for example, found their frigid mechanical perfection a climax of modern ugliness

body snatching, the act of stealing dead bodies from graves and morgues Before cadavers were made available for dissection and study by medical students, traffic in stolen bodies was profitable Those who engaged in the illicit practice were sometimes called resurrectionists, they were active from about the early 18th cent to the early 19th cent Public opposition to any dissection of bodies was further aroused by discovery of the resurrectionists' activities, outbursts of violence occurred in Europe as well as in America Robert Knox, an eminent anatomist, became a victim of public attack because a body which he had purchased for dissection proved to be that of one of a number of victims murdered by William Hare and an accomplice named Burke for the purpose of selling the bodies, the murderers were brought to trial (1828), but although Knox was considered entirely blameless he suffered much This and other similar cases led to the passage (1832) in Great Britain of the Anatomy Act which permitted the legal acquisition by medical schools of unclaimed bodies *The Diary of a Resurrectionist* (ed by J B Bailey, 1896) is an account of body snatching In the United States dissection of the human body was practiced from the middle of the 18th cent , riots and acts of violence frequently occurred in protest against lecturers on anatomy and medical students, who reputedly dug up bodies for study Unauthorized removal of bodies later became a punishable offense, and legal provision was made for supplying the needs of medical schools

Boece, Roman philosopher see BOETHIUS

Boece (bōēs', bois) or **Boethius, Hector** (bō'thē'ŭs), c 1465–c 1536, Scottish scholar He studied at the Univ of Paris, where he knew Erasmus, and in 1498 he went to Aberdeen as the first principal of the new university He wrote two Latin works, a collection of biographies of the bishops of Mortlack and Aberdeen (1522), and his chief work, a history of Scotland (1527) The history, which is not historically accurate, was in the 16th cent translated into a metrical Scottish version by William Stewart and a better-known prose Scottish version by John Bellenden See J B Black and W D Simpson, *Quartercentenary of the Death of Hector Boece* (1937)

Boecklin, Arnold: see BÖCKLIN, ARNOLD

Boeheim, Martin see BEHAIM, MARTIN

Boehler, Peter (bō'lûr), 1712–75, missionary and bishop of the Moravian Church, b Germany, educated at the Univ of Jena In 1738 he went to Savannah, Ga , at the request of Graf von Zinzendorf, to minister to the Moravians there and to organise missions among the slaves In 1740 fear of the Spaniards prompted Boehler to guide a group of Moravians to Pennsylvania, here Nazareth and Bethlehem were founded He returned to England and organized a new company of emigrants, the "Sea Congregation," which he brought to Bethlehem in 1742 From 1747 to 1753 he was superintendent of the Moravian Church in England and was made a bishop in 1748 From 1753 to 1764 Boehler was in America, directing the founding of new Moravian settlements

Boehm, Sir Joseph Edgar (bām), 1834–90, English sculptor, b Vienna After studying in Rome and Paris he worked as a medalist in Vienna In 1862 he established himself in England There he had great success as a portrait sculptor In 1869 he made a colossal statue of Queen Victoria for Windsor Castle There are 23 of his portrait busts in the National Portrait Gallery, London He is perhaps best known for his statue of Carlyle at Chelsea and of John Bunyan at Bedford and for his tomb figures of Dean Stanley and the earl of Shaftesbury in Westminster Abbey.

Boehm, Martin (bām), 1725–1812, American evangelical preacher, b Conestoga, Pa. He was the son of a Palatinate Mennonite who settled in Lancaster co , Pa Boehm became a Mennonite preacher c 1750 and a bishop in 1759 A personal conversion resulted in dissatisfaction with the formalism of his denomination and his adoption of a more evangelistic type of preaching He was excluded from the Mennonite Church In association with Philip William OTTERBEIN, whom he met c 1768, he traveled as an evangelist through Pennsylvania, Maryland, and into Virginia, attracting large audiences, especially in the German settlements Boehm was allied with the Methodists for a time, but finally became one of the founders of the United Brethren in Christ, of which he was elected bishop at the first annual conference in 1800

Boehme or **Böhme, Jakob** (bē'mu, Ger yä'kôp bû'mu), 1575–1624, German religious mystic, a cobbler of Görlitz, in England called also Behmen He was a student of the Bible and was influenced by Paracelsus In his first work, *Aurora* (1612), he proclaims God as the origin of all creation, in all aspects of which God is manifest Evil results from the striving of single elements of Deity to become the whole, so that conflict ensues as man and nature strive to achieve God, who, in himself, contains all antithetical principles Boehme claimed divine revelation Societies of Behmenites were formed in England, and his work was well known in Germany and Holland The Quakers in England absorbed many of Boehme's followers

Boeotia (bē-ō'shu), Gr *Voiotia*, region of ancient Greece It lay N of Attica, Megaris, and the Gulf of Corinth The early inhabitants were Thessalians, and legend says they were subject to the Hellenes until CADMUS founded THEBES, which became the capital of an oligarchical republic Actually a number of small cities scattered over the rough country —mountainous in the south, hilly in the north—may have had a sort of confederacy before the Boeotian League was formed (about the 7th cent B C) Thebes dominated the region and the league from the beginning It stood on a sizable plain, as did one of its rivals, Orchomenus The other rival cities were Plataea and Thespiae The history of Boeotia is largely a record of the vain attempts of these cities to escape the domination of Thebes and the attempts of Thebes to prevent encroachments on the region by others of the great city-states Boeotia, therefore, was the scene of various important battles—PLATAEA, LEUCTRA, CORONEA, and CHAERONEA. Athens was able to break up the Boeotian League in 457 B C and attach most of the cities to the Athenian empire, but only briefly Thebes returned to power Later, after the victory of EPAMINONDAS over the Spartans, the history of Boeotia was completely swallowed in that of Thebes The Athenians taunted the Boeotians with being dull and slow-witted, they did not even make an exception for the Boeotian HESIOD but were forced to make one for the mighty PINDAR

Boer (bōōr, bôr) [Dutch,=farmer], inhabitant of South Africa of Dutch descent It is estimated that over 1,000,000 of the people of the Union of South Africa (see SOUTH AFRICA, UNION OF) are Boers The Boers first settled (1652) in what is now CAPE PROVINCE After Great Britain annexed (1806) this territory, many of the Boers departed (1835–40) on the Great Trek (see TREK) and created republics in NATAL, the ORANGE FREE STATE, and the TRANSVAAL Hostility between the Boers and the British resulted in the SOUTH AFRICAN WAR (1899–1902), after which the Boer territories were annexed and the Union of South Africa formed Afrikaans, the local form of Dutch (see LANGUAGE, table), is an official language of the Union along with English There has been some tension between the South Africans of British descent and the Boers, particularly in the times of the First and Second World Wars

Boerhaave, Hermann (bōōr'hävu), 1668–1738, Dutch physician and chemist He was the most renowned practitioner and teacher of his time From 1701 he taught medicine, botany, and chemistry at the Univ of Leiden, where he introduced the method of clinical teaching He wrote *Institutiones medicae* (1708) and *Elementa chemiae* (1732)

Boerne (bōr'nē), city (pop 1,271), co seat of Kendall co , S central Texas, on Cibolo Creek and NW of San Antonio, founded c 1850 by Germans, inc as a city 1909 It is a trade center for sheep, goat, and cattle ranches, and its clear air and rugged hills attract tourists Cascade Caverns are near by.

Boeroe, Indonesia see BURU

Boer War. see SOUTH AFRICAN WAR

Boethius, Boetius, or **Boece** (Anicius Manlius Severinus Boethius) (bō'thēus, bō'shus, bōēs'), c 475–525, Roman philosopher and statesman A notable figure in the public life of Rome, where he was consul in 510, he was honored by the people and by Theodoric, king of the Ostrogoths, whose able minister he became Late in Theodoric's reign false charges of treason were brought against Boethius, who, after imprisonment in Pavia, was sentenced without trial and put to death While in prison he wrote his greatest work, *De consolatione philosophiae*, partly in verse and partly in prose

His treatise on ancient music, *De musica*, was long studied with veneration and strongly influenced the course of musical development After his death, certain theological works that were much read were attributed, probably wrongly, to Boethius Thus he was given added repute as a theologian of the Christian faith Learned in the study of the Greek philosophers, he made translations of some of Aristotle's writings and wrote commentaries on some The *Consolation of Philosophy* was published in the original Latin in various editions, one of the best being the Peiper edition, Leipzig, 1871 It was also translated a number of times—into Anglo-Saxon by King ALFRED, into English by Chaucer and others, including, it is said, Queen Elizabeth A late translation is by H R James, 1897. See H F Stewart *Boethius* (1891), H. R. Path, *The Traditions of Boethius* (1935)

Boethius, Hector see BOECE, HECTOR

Boethus (bōĕ'thus), fl 1st half of 2d cent. B C., Greek sculptor of genre subjects and worker in silver He seems to have worked at Rhodes In the writings of Pliny and Pausanias he is mentioned as having made a bronze figure of a boy struggling with a goose and a statue of a seated boy at Olympia The boy with the goose, in the Louvre, is probably one of several existing copies of his figure, the familiar SPINARIO (boy extracting a thorn from his foot) is possibly a copy or an imitation of another statue Boethus is known to have made

Boetus, Roman philosopher see BOETHIUS

Boex, Joseph Henri Honoré, and **Séraphin Justin François Boex** see ROSNY, J H , AÎNÉ

bog, a very old lake without inlet or outlet which becomes acid and is gradually overgrown with a characteristic vegetation (see also SWAMP) Peat moss or SPHAGNUM grows about the edge of the open water of a bog (PEAT is obtained from old bogs) and out upon the surface With its continued growth, the moss forms a mat upon the water in which other bog plants find a foothold, and humus and soil are slowly built up on the body of the water Because of this formation bogs are sometimes treacherous (quaking bogs shake under the weight of a man) and have occasionally resulted in fatalities when man or animal breaks through the vegetative crust From their extreme acidity, bogs form a natural preservative and have been found a valuable reservoir of animals and plants of earlier times Typical bog plants of today include, besides sphagnum, many orchids, the pitcher plant, sun dew, and cranberry (old bogs are utilized for cranberry cultivation) Because of the reclamation of old boglands by drainage and by their natural filling in, bogs in America are becoming rare, and with them their unique flora

Bogalusa (bōgulōō'su), city (pop 14,604), SE La , near the Pearl river, founded 1906 by lumber interests, inc 1914 Paper, furniture, and tung oil are the chief manufactures There are also pine nurseries and a forestry school

Bogardus, Emory Stephen (bōgär'dus), 1882–, American sociologist, b near Belvidere, Ill., grad. Northwestern Univ (B A , 1908, M A , 1909), Ph D Univ of Chicago, 1911 After 1911 at the Univ of Southern California he organized the department of sociology and from 1923 to 1929 he headed the school of social welfare there In 1927 he became editor of the *Journal of Sociology and Social Research* His textbooks on sociology and social psychology gained great popularity. He also wrote many other works in sociology

Bogart, Ernest Ludlow (bō'gart), 1870–, American economist, b Yonkers, N Y He was head of the economics department at the Univ of Illinois and president (1931) of the American Economic Association His books include *Economic History of the American People* (1930, 4th ed , 1947)

Bogdanov, A. (bŭgdä'nŭf), pseud of **Aleksandr Aleksandrovich Malinovski** (ŭlyĭks,in'durŭlyĭksan'-drùvich mŭlyĭnôf'skĭ), 1873–1928, Russian social philosopher and economist He was a leader (1903–9) of the left wing of the Russian Social Democratic party and after 1905 an active revolutionist With the establishment of the Soviet government he became a leader in education and the "proletarian culture" movement His writings in Russian include several books on philosophy and economics

Bogert, Marston Taylor, 1868–, American organic chemist, b Flushing, N Y He taught at Columbia Univ from 1894 and became professor emeritus in 1939 He has been affiliated with many government agencies and with several government departments in both executive and advisory capacities From 1942 to 1945 he served on the War Production Board His work in the synthesis of organic compounds, particularly of the aromatic compounds, has won international recognition

Boggs, Frank Myers, 1855–1926, American marine painter, b Springfield, Ohio, pupil of Gérôme in Paris He is represented in many French public and private collections Among paintings in American galleries are *A Rough Day at Honfleur* (Mus of Fine Arts, Boston) and *On the Thames* (Metropolitan Mus)

Boggs, Lilburn W., 1792–1860, governor of Missouri, b. Lexington, Ky. After serving as state senator (first elected in 1826) and lieutenant governor (elected in 1832), he defeated (1836) William H ASHLEY for the four-year term as governor Boggs established a new state bank, pushed through the completion of a new capitol, and saw the state university chartered, but he was severely criticised for his uncompromising attitude toward the MORMONS, who were driven from Missouri He later moved to California, where, following the ouster of Mexican authorities, he was the chief civilian authority in N California until the state government was established

Boghazkeu (bō'ghäskû'ĕ), village, N central Asiatic Turkey. Here were found the principal Hittite inscriptions, and the place seems to have been the chief of the Hittite capitals It is also, by tradition, the site of Pteria, where Croesus and Cyrus the Great fought a great battle The ancient inscriptions were found (1906–7) by Hugo Winckler. The name of the village is also written Boghazkoy.

bog iron ore see LIMONITE

Bognor Regis (bŏg'nur rē'jĭs), urban district (1931 pop 13,521, 1943 estimated pop 19,890), Sussex West, England It is a seaside resort At Felpham, an adjoining village, is the cottage where William Blake lived for three years

Bogomils (bō'gŏmĭlz) original group of the CATHARI They flourished in Bulgaria and the Balkans from the 10th to the 15th cent and even reached Byzantium Their creed, adapted from the PAULICIANS and modified by other Gnostic and Manichaean sources, is attributed to Bogomil, a priest of the 10th cent The movement was intensely nationalistic and political as well as religious and reflected resentment of Byzantine culture, Slavic serfdom, and imperial authority They were known in various countries as Babuns, Phundaits, and Patarenes In the 12th cent the Patarenes were dominant in Bosnia and neighboring lands and began to proselytize in Italy From there, Cathari converted the ALBIGENSES of France Through the combined efforts of the Western and Eastern churches and of the Holy Roman and Byzantine empires, the Bogomils were weakened and suppressed They vanished in the expansion of Islam, but bits of their ideas and folklore lingered long in Slavic lands See V N Sharenkoff, *A Study of Manichaeism in Bulgaria* (1927)

Bogorodsk, RSFSR see NOGINSK

Bogotá (bōgōtä'), city (pop 325,658), central Colombia, capital and largest city of Colombia. The region was a Chibcha center before the city was founded by JIMÉNEZ DE QUESADA on Aug 6, 1538 and called by him Santa Fe de Bogotá (a name derived from the Chibcha chief, Bacatá) It is in a broad valley high (alt 8,660 ft) in the eastern cordillera of the Andes Surrounding mountains rise some 2,000 ft above this green and fertile valley, where several rivers join to make the Río Bogotá, a tributary of the Magdalena Bogotá has considerable rainfall and a cool climate Until the first commercial air transportation in South America was begun here in 1919, it was, however, accessible only by a journey of more than a week up the MAGDALENA or across the central and western cordilleras from BUENAVENTURA As capital of the colonial viceroyalty of New Granada and headquarters for the scientific investigations of José Celestino Mutis and others, as well as the site of the first astronomical observatory in South America, the city was an early intellectual center of the arts and scientific learning, Alexander von Humboldt in 1801 called it the Athens of America The tradition has been maintained, outstanding among many cultural institutions are the new national observatory and the university The intellectual force of the French Revolution was felt early in Bogotá, where Antonio NARIÑO was a forerunner of the revolt of Spanish America against Spain The actual leader of the first successful revolt in Bogotá in 1810 was José Acevedo y Gómez, and later Simón Bolívar and Santander were prominent in the city It was made capital of Greater Colombia when independence was won and after the dissolution of the union remained the capital of Colombia It has grown as the political, financial, and social but not the economic capital of the republic, while there is some industrial and considerable commercial activity, better location and more extensive resources have given BARRANQUILLA and MEDELLÍN industrial advantages Bogotá has broad modern avenues and narrow colonial streets and bright modern office buildings and handsome Spanish colonial churches In April, 1948, during the Ninth International Conference of the American States, a riot broke out after the assassination of the liberal leader, Jorge Eliécer Gaitán, and resulted in considerable damage The conference, however, continued and resulted in the founding of the Organization of American States

Bogota (bugō'tu), borough (pop 7,346), NE N J., SE of Hackensack, inc 1894 Corrugated containers are made here

Bogucice, Poland see KATOWICE.

Bohan (bō'hăn) [Heb ,=thumb], son of Reuben. Joshua 15 6, 18 17.

Bohemia, Czech *Cechy* (chĕkhĭ), westernmost province (20,102 sq mi ; pop 5,627,181) of Czechoslovakia PRAGUE is capital of both Czechoslovakia and Bohemia The SUDETES separate Bohemia from Silesia on the northeast, the ERZGEBIRGE, from Saxony on the northwest, and the BOHEMIAN FOREST, from Bavaria on the west In the south, Bohemia borders on Austria, and in the east on Moravia Bohemia is drained by the Elbe and the Moldau. Its hills and rolling plains are very fertile, producing grain, flax, fruit, and the famous hops used in the breweries of PILSEN Mining (coal, silver, copper, lead, and, at JACHYMOV, radium and uranium) and textile and glass manufactures are particularly important in the mountain districts Prague is the center of a region of heavy industries, including the city of KLADNO Bohemia is also famous for its spas and beautiful resorts, among which CARLSBAD and MARIENBAD are the most celebrated Since the expulsion, after 1945, of most of the German-speaking minority, the population is overwhelmingly Czech Bohemia is named after the Boii, a people, probably Celtic, who were displaced (1st–5th cent A D) by Slavic settlers, the Czechs Subjugated by the Avars, the Czechs freed themselves under the leadership of Samo, a Frank, who ruled them till his death (c 658) The legendary Queen Libussa and her husband, the peasant PREMYSL, founded the first Bohemian dynasty Christianity was introduced (9th cent) by SS CYRIL AND METHODIUS while Bohemia was part of the ephemeral empire of Moravia St WENCESLAUS (d 935), the first great Bohemian ruler, acknowledged himself a vassal of the Holy Roman Empire Later Premyslide rulers acquired MORAVIA and most of SILESIA German influence in Bohemia increased with the growth of the towns and the rising trade between East and West Silver, mined chiefly at KUTNA HORA, greatly added to the wealth and prestige of the dukes, who by the 12th cent began to take part in the imperial elections In 1198 OTTOCAR I was crowned king of Bohemia, and the royal title became permanently attached to the crown The conquests and acquisitions of OTTOCAR II (1253–78) brought Bohemia to the height of its power and its greatest extent (from the Oder to the Adriatic) Ottocar fostered German immigration in order to strengthen the towns against the nobles His defeat by RUDOLF I of Hapsburg cost Bohemia all his conquests After the Premyslide line became extinct (1306), JOHN OF LUXEMBURG was elected king in 1310 The reign of his son, Emperor CHARLES IV (1346–78), was the golden age of Bohemia His Golden Bull (1356) permanently established the kings of Bohemia as ELECTORS In the reigns of his successors, Emperors WENCESLAUS and SIGISMUND, religious, political, and social tensions exploded in the movement, both religious and nationalist, of the HUSSITES The resulting HUSSITE WARS led to the defeat (1434) of the radical TABORITES at the hands of the UTRAQUISTS—the moderate Hussite wing favored by the great nobles In 1436, by the so-called Compactata, the Utraquists returned to communion with the Roman Catholic Church and established Utraquism as the national religion of Bohemia Meanwhile the crown had passed to ALBERT II, a Hapsburg, and from him to LADISLAUS V of Hungary (in Bohemia Ladislaus I) GEORGE OF PODEBRAD actually ruled for Ladislaus and was elected to succeed him as king in 1458 On his death (1471) the crown reverted to the kings of Hungary—ULADISLAUS II (Ladislaus II), MATTHIAS CORVINUS, and LOUIS II The nobles profited from the disorders of the period and in 1487 secured for themselves vast privileges, reducing the peasantry to virtual serfdom The accession (1526) of Archduke Ferdinand (later Emperor FERDINAND I) began the Hapsburg domination of Bohemia which ended only in 1918 Ferdinand began the gradual process by which Bohemia was deprived of self-rule He also introduced the Jesuits in order to secure the return of Bohemia to Roman Catholicism The religious situation in Bohemia remained explosive The conservative wing of the Utraquists having become almost indistinguishable from the Roman Church, there had arisen a frankly Protestant movement, the Bohemian Brethren (see MORAVIAN CHURCH) The Brethren and their close allies, the Lutherans, had made great gains and won from Ferdinand's successor, Emperor Maximilian II, equality with the Utraquists by inducing him to declare (1567) that the Compactata no longer were the law of the land RUDOLF II was furthermore forced to grant freedom of religion by the so-called Letter of Majesty (*Majestätsbrief*) of 1609 When, in 1618, Emperor Matthias disregarded the *Majestätsbrief*, members of the Bohemian diet revolted and emphasized their position by throwing two imperial councilors out of the windows of Hradcin Castle (Defenestration of Prague, May 23, 1618) Matthias's son (later Emperor FERDINAND II) was declared deposed and FREDERICK THE WINTER KING was elected king of Bohemia Frederick and the Protestants were crushed in the battle of the WHITE MOUNTAIN (1620) by Ferdinand II The Protestants were suppressed, and in 1627 Bohemia was formally declared a Hapsburg crownland, its diet being re-

duced to a consultative role In the THIRTY YEARS WAR, which was closely connected with these events, Bohemia was laid waste, and after the Peace of Westphalia (1648) a series of ruthlessly repressive measures was enacted Forcible Germanisation, oppressive taxation, and absentee landownership reduced the Czechs, except a few favored magnates, to degradation and misery The suppression (1749) of the separate chancellery at Prague by MARIA THERESA and the introduction of German as sole official language completed the process JOSEPH II, though he freed the serfs and permitted freedom of worship, drew upon himself the hatred of the Czechs for his rigorous Germanisation of the country His successor, LEOPOLD II, tried to conciliate the Czechs, he was the last ruler to be crowned king of Bohemia (1791) The 19th cent brought a rebirth of Czech nationalism Under the leadership of PALACKY a Slavic congress assembled at Prague in the Revolution of 1848, but by 1849 absolute Austrian domination had been forcibly restored The establishment (1867) of the AUSTRO-HUNGARIAN MONARCHY thoroughly disappointed Czech aspirations Concessions were made (1879) by the Austrian minister TAAFFE, Czech delegates entered the parliament at Vienna However, full independence was now the Czech aim This was reached at the end of the First World War under the guidance of T G MASARYK, founder of CZECHOSLOVAKIA See FRANZ, Graf von Lützow, *Bohemia* (1896), Frantisek Palacky, *Geschichte von Böhmen* (5 vols, 1836–67), Adolf Bachmann, *Geschichte Böhmens* (2 vols, 1899–1905), R J Kerner, *Bohemia in the Eighteenth Century* (1932)

Bohemian Forest, Czech *Český Les* (chĕs'kē lĕs'), Ger *Böhmerwald* (bō'murvalt), mountain range along the border of Bohemia, Czechoslovakia, and Bavaria, Germany The Czech name for its southern section is *Sumava* (shōō'mävu) A thickly wooded area, it reaches its highest point in the Arber, 4,780 ft high, in Bavaria

Bohemian literature see CZECH LITERATURE

Bohemond I (bō'humŏnd), c 1056–1111, prince of Antioch (1099–1111) a leader in the First CRUSADE, elder son of ROBERT GUISCARD With his father he fought (1081–85) against the Byzantine emperor ALEXIUS I When his father's duchy of Apulia passed to his younger brother Roger, Bohemond made war and finally obtained S Apulia as a fief In 1096 he went on crusade He swore the oath of fealty to Alexius at Constantinople (1097) and in 1098 at the siege of ANTIOCH devised the stratagem by which the city was captured He subsequently made himself prince of Antioch, over the opposition of Raymond IV of Toulouse, leader of the crusade, and in defiance of his oath to Alexius Captured by the Moslems (1100), he was released in 1103, and in 1109 he was defeated by them at Harran Returning to Europe, he married the daughter of Philip I of France and secured support for a crusade against Alexius, by whom he was defeated (1108) and forced to reaffirm his vassalage He did not return to Antioch, and his relative Tancred was regent for him See biography by R B Yewdale (1925)

Böhlau, Helene (hĕlä'nu bū'lou), 1859 , German novelist Born and reared in Weimar, she wrote charming stories of Goethe's time, *Ratsmädelgeschichten* [tales of a councilor's child] (1888) and *Altweimarische Geschichten* [Old Weimar tales] (1897, 1903) She married a European who became a Moslem and spent her life in the Near East Her realistic novels, often feministic in tone, include *Das Recht der Mutter* [a mother's right] (1897) and the autobiographical *Isebrus* (1911)

Böhl de Faber, Cecilia see CABALLERO, FERNÁN.

Bohm, Max (bōm), 1868–1923, American marine, figure, and mural painter, b Cleveland, studied at the Cleveland School of Art and in Paris His earlier marine pieces, such as *Crossing the Bar* and *En Mer*, were exhibited with success at the Paris Salon For 12 years he painted and lectured in London and Paris and in 1911 produced his celebrated group portrait, *The Family* (Luxembourg Mus, Paris) *Nature and Imagination* and *The Evening Meal* are in the Metropolitan Museum He is also represented in the National Gallery, Washington, D C , Detroit and Minneapolis art galleries, the Museum of Fine Arts, Boston, and the Cleveland courthouse

Böhme, Jakob see BOEHME, JAKOB

Böhmerwald see BOHEMIAN FOREST.

Böhmisch-Leipa, see CESKA LIPA

Böhm von Bawerk, Eugen (oigän' bŏm' fŭn ba'vĕrk), 1851–1914, Austrian economist, a leader of the so-called Austrian school Rejecting the standard theory of value, he believed in a system founded on a final utility concept and held that interest results from a low valuation of future goods as compared with present goods His books, *Kapital und Kapitalzins* (2 parts, 1884–89, Eng tr , *Capital and Interest*, 1890) and *Positive Theorie des Kapitales* (1889), embodied his beliefs.

Bohol (bōhōl'), island (1,491 sq mi , 1939 pop 449,549), Philippine Islands, N of Mindanao and between Cebu and Leyte. Rice, corn, and hemp are grown, and manganese is mined

Bohr, Niels Henrik David (nēls' hän'rēk dä'vōdh bōr'), 1885–, Danish physicist, Ph D Univ of Copenhagen, 1911 He carried on research on the structure of the atom at the Cavendish Laboratory under Sir James J Thomson and at Manchester under Lord Ernest RUTHERFORD Bohr developed the concept that the atom consists of a small nucleus (in which almost the whole mass of the atom is contained) and electrons which travel in planetary orbits about the nucleus and at some distance from it He reconciled the quantum theory with this concept of atomic structure In 1916 Bohr became professor of theoretical physics at the Univ of Copenhagen, and in 1920 he was made director of the Institute of Theoretical Physics, which he was instrumental in founding He received the 1922 Nobel Prize in Physics When he visited the United States in 1938 and 1939, Bohr told American scientists of his belief, based on experiments reported by German scientists, that the uranium atom could be split into approximately equal halves This was verified by scientists at Columbia Univ Bohr returned to Denmark but fled from the Nazi-occupied country in 1943 He gave valuable assistance in the atomic-bomb research at Los Alamos, N Mex , and in 1945 again returned to Denmark His writings include *Theory of Spectra and Atomic Constitution* (1922) and *Atomic Theory and the Description of Nature* (1934) See Helge Holst and H A Kramers, *The Atom and the Bohr Theory of Its Structure* (Eng tr , 1923)

Bohrod, Aaron (bō'rŏd), 1907–, American painter, b Chicago, studied at the Art Institute of Chicago and in New York under John Sloan, Boardman Robinson, and Kenneth Hayes Miller He was awarded two Guggenheim fellowships His well-known *Landscape near Chicago* is characteristic in its portrayal of the backyards of American civilization Bohrod is represented in the Art Institute of Chicago, Univ of Chicago, and Whitney Museum, New York

Böhtlingk, Otto von (ō'tō fŭn bŭt'lĭngk), 1815–1904, German philologist He was the senior editor of an important Sanskrit lexicon (7 vols , 1855–75)

Bohun, Henry de, 1st **earl** of **Hereford** (bōon, hĕ'rufurd), 1176 1220, English nobleman, grandson of Humphrey de Bohun, founder of a great Norman family in England Although King John had granted Henry de Bohun the marcher lordship of Hereford in 1199, Henry was one of the barons who forced the king to accept the Magna Carta in 1215 and fought against him in the ensuing civil war He died on a pilgrimage to the Holy Land.

Bohun, Humphrey V de, 2d **earl of Hereford** and 1st **earl of Essex,** d 1274, English nobleman, son of Henry de Bohun A member of the household of Henry III, he inherited the earldom of Essex from a maternal uncle, and in 1242 he went with Henry III on his French campaign Later, however, he joined the baronial party (1258) and was one of 24 men appointed by the Parliament at Oxford to reform the government In the BARONS' WAR he led the barons of the Welsh Marches who returned (1263) to the side of the king against Simon de Montfort, and he was captured (1264) at Lewes. He survived to enjoy the king's favor

Bohun, Humphrey VII de, 3d **earl of Hereford** and 2d **earl of Essex,** d 1298, English nobleman He was constable of England and with Roger Bigod, earl of Norfolk, led the baronial opposition to Edward I which forced the king to sign the important confirmation of the charters (1297)

Bohun, Humphrey VIII de, 4th **earl of Hereford** and 3d **earl of Essex,** 1276 1322, English nobleman; son of Humphrey VII de Bohun One of the lords ordainers who attempted to curb Edward II (1310), he helped in the execution (1312) of the hated Piers GAVESTON He fought for Edward at Bannockburn (1314), was captured, and was exchanged He was killed at Boroughbridge fighting on the baronial side against the king and the two Hugh le Despensers

Bohuslan, Swed *Bohuslän* (bōō'hŭslĕn), historical province of SW Sweden, conquered from Denmark by Charles X of Sweden in 1658 It is now administratively part of GOTEBORG AND BOHUS CO In early times it was known as Viken, numerous prehistoric remains have been found The events described in Beowulf took place mainly in Bohuslan

Boiardo or **Bojardo, Matteo Maria** (mat-tā'ō marē'a bōyar'dō), c 1434–1494, Italian poet, count of Scandiano He was a favorite at the court of Ferrara and was governor of Modena and Reggio Besides a comedy, *Timone*, he wrote lyric verse and the famous epic, *Orlando Innamorato* The vigorous beauty of this transformation of the ROLAND story was lost in the revision of the poem by Francesco Berni which supplanted Boiardo's own work until the 20th cent Boiardo left his *Orlando* unfinished ARIOSTO continued the story in *Orlando Furioso*

Boieldieu, François Adrien (fräswä' ädrĕē' bwaldyû'), 1775–1834, French composer He had studied with the organist of the cathedral in Rouen and had composed one successful opera, *Le Calife de Bagdad* (1800), when he went to St Petersburg and conducted (1803–11) the Imperial Opera After his return to Paris his graceful, romantic *opéras comiques*—such as *Jean de Paris* (1812) and his masterpiece, *La Dame blanche* (1825)—were very popular He taught piano, and later composition, at the Paris Conservatoire

boil or furuncle, painful infection in the skin, caused by bacteria (usually *Staphylococcus aureus*) The bacteria enter by way of sebaceous glands or hair follicles Infection occurs more readily in areas subject to local irritation (e g , by a collar or a belt) and in individuals who have been weakened by diseases such as diabetes, nephritis, and typhoid fever Boils usually appear as small red elevations, tender to touch, which gradually grow larger, becoming progressively more painful The center of the boil becomes white or yellow because of the presence of pus, which will eventually discharge spontaneously It is dangerous to incise or squeeze a boil located on the face, lips, or nose because of the rapid spread of infection which may follow such treatment The application of hot, moist dressings in order to localize the infection preparatory to incision by a physician is an accepted method of treatment Autogenous vaccines have been successfully administered, especially in recurring cases

Boileau-Despréaux, Nicolas (nēkôlä' bwälō'-dāprā'ō'), 1636–1711, French literary critic and poet He is the author of *L'Art poétique* (1674), a verse treatise on poetics, *Le Lutrin* (1683), a mock epic, *Satires* (1st collected ed , 1716) and *Epîtres* (1st collected ed , 1701), after Horace, and *Les Héros de roman* (1688), a dialogue in literary criticism Boileau was the spokesman of CLASSICISM, drawing his principles from his contemporaries, especially his friends—Racine (his colleague as royal historiographer), Molière (whom he defended against defamers), and La Fontaine Later he was regarded as a literary lawgiver, revered in the 18th cent , detested by the romantics Boileau's poetic repute rests on realistic satires of manners, *Le Lutrin*, *Satire III*, *Satire VI*, and *Satire X* A master of epigram, he was a zealous polemicist, notably in quarrels with DESMARETS and PERRAULT See edition of *Les Héros de roman* by T F Crane (1902), Sister Marie Philip Haley, *Racine and the "Art poétique" of Boileau* (1938)

boiler, device for generating steam It consists of two parts, the firebox, or furnace, in which fuel is burned, and the boiler proper, an enclosed vessel in which water is heated and changed to steam A STEAM ENGINE is driven by the steam generated under pressure in a boiler The amount of steam which can be generated per hour depends upon the extent of combustion of the fuel in the firebox and upon the heating-surface area of the boiler proper Since the extent of combustion of the fuel in a firebox is largely dependent upon the quantity of air available, i e , upon the draft, a sufficient supply of air is an important consideration in boiler construction In some large installations the incoming air is preheated by the waste heat of the flue gases, and in order to increase the speed of combustion a forced draft (air at higher than atmospheric pressure) is often used Two types of boilers are most common—fire-tube boilers, containing long steel tubes through which the hot gases from the firebox pass and around which the water to be changed to steam circulates, and water-tube boilers, in which the conditions are reversed The SAFETY VALVE is used to prevent explosions by releasing steam if the pressure becomes too great The construction of boilers in the United States is governed by the American Society of Mechanical Engineers' Boiler Code, which gives specifications for materials, sizes, and parts See G F Gebhardt, *Steam Power Plant Engineering* (6th ed , 1925), T W Croft, ed , *Steam Boilers* (revised by R B Purdy, 1937)

boiling point, that temperature at which a substance changes its state from liquid to gas The change is accompanied by the characteristic bubbling commonly described as "boiling" Under standard pressure (15 lb per square inch) different chemical elements and compounds undergo this change at different temperatures, each substance having, at that pressure, a specific boiling point which is included among its properties Change in the pressure on a liquid affects the boiling point If this pressure is decreased, the boiling point is lowered For example, water will boil at a lower temperature at the top of a mountain where the atmospheric pressure on its surface is less than it will at sea level where the pressure is greater In the laboratory, liquids can be made to boil or vaporize at temperatures far below their normal boiling points by heating them in vacuum flasks under greatly reduced pressure On the other hand, if the pressure is increased the boiling point is raised, the liquid vaporizing at a higher temperature For this reason, it is customary when the boiling point of a substance is given to include the pressure at which it is observed, if that pressure is other than standard, i e , 15 lb per square inch When the temperature of a substance has been raised to its boiling point and heat is applied continuously, no further rise in temperature is observed until all the liquid has been changed to a gas, i e , until VAPORIZATION is complete The tiny bubbles first seen when the temperature of a liquid is raised are composed of the gases, such as air, that are held in solution in the liquid. Later, however, when these have been

driven off larger bubbles appear about the point at which the heat is being applied These are composed of the vapor of the substance As the pressure of the vapor increases they are able finally to overcome the downward pressure of the atmosphere and force their way upward through the liquid to escape at the surface

Boisbaudran, Paul Émile Lecoq de (pôl' āmēl' lukôk' dŭ bwäbôdrā'), 1838–1912, French discoverer of the elements GALLIUM, SAMARIUM, and DYSPROSIUM He also made contributions in the field of spectroscopy

Boisbrûlés (bwabrülā') [from Fr =burnt wood], name given the part-Indian descendants of the fur traders in W Canada, because of their dark complexion The *Bois-brûlés* or *Brulés* were in the early 19th cent an important social group in the West and were particularly notable in the Red River Settlement and in Riel's Rebellion In the later 19th cent they were absorbed into the generality of the population

Bois de Boulogne (bwä' du bōōlō'nyu), park in Paris, bordering on the western suburb of Neuilly-sur-Seine A favorite pleasure ground, it contains the race courses of Auteuil and Longchamps and many delightful promenades and bridle paths

Boise (boi'sē, -zē), city (pop 26,130), state capital, and co seat of Ada co, SW Idaho, largest city of the state, on the Boise river A gold rush to the Boise Basin and the establishment of a military post in 1863 led to the founding of Boise City, which grew as a distributing center for miners and became capital of Idaho Territory in 1864 Later, particularly with the building of Arrowrock Dam (1911–15), the region was developed for farming, and Boise drew wealth from orchards and fields rather than mines The BOISE PROJECT has increased the agricultural yield The city has creameries, mills, packing plants, and the like and is a communications center It is not on the site of the fur-trading post, Fort Boise (see BOISE, FORT)

Boise, river rising in three main forks in SW Idaho, in the mountains E of Boise The North Fork and the Middle Fork meet some miles above the junction with the South Fork, which is a few miles above Arrowrock Dam The united stream flows generally NW past Boise, Caldwell, and Parma, to join the Snake river at the Oregon border The river was first explored by the Astorian expedition under Wilson P Hunt in 1811 and was in early days called Reed's river (see BOISE, FORT) Today it is utilized in the BOISE PROJECT

Boise, Fort, fur-trading post, SW Idaho John Reed, a trader from Astoria, established near the mouth of the Boise a post at which he was killed (1814) by the Indians, consequently the Boise was in early times called Reed's river Probably near this site Donald McKenzie founded (1820) a short-lived post In 1834 the Hudson's Bay Company built Fort Boise on the Boise a few miles from its mouth to rival Fort Hall (see HALL, FORT) In 1838 it was moved to the east bank of the Snake near the mouth of the Boise It was much visited by Indians, travelers, and Oregon-bound settlers Partly destroyed by flood in 1853, it was abandoned in 1855.

Boise City, town (pop 1,144), co seat of Cimarron co, NW Okla, in the Panhandle wheat-growing and dairying area, inc 1925

Boise project, SW Idaho and E Oregon, in the Boise, Payette, and Snake river valleys Developed by the Bureau of Reclamation, it irrigates some 400,000 acres The Arrowrock division, between the Boise and Snake rivers, is supplied with water by several dams Arrowrock Dam (built 1911–15) in the Boise river, E of Boise, is 354 ft high and 1,100 ft long and forms a reservoir c 17 mi long The three Deer Flat dams create Lake Lowell near Nampa, a canal brings water from the Boise The Anderson Ranch Dam (est 1948) in the South Fork of the Boise is 456 ft high and 1,350 ft long and will supply the Arrowrock division with supplemental water and power The small Notus division, N of the Boise between Caldwell and Notus, gets water from the return flow of the Arrowrock division, from Lake Lowell, and from the Payette division The Payette division, between the Boise and the Payette, has the Black Canyon Diversion Dam (est 1924) in the Payette near Emmett, the Deadwood Dam (est 1931) in the Deadwood river, a tributary of the Payette, c 25 mi SE of Cascade, and the Cascade Dam (est 1948) in the North Fork of the Payette near Cascade The plant at Black Canyon supplies some power to the MINIDOKA PROJECT and to the OWYHEE project

Boisguilbert, Pierre le Pesant, sieur de (pyĕr' lŭ puzä' syür' dŭ bwägělbĕr'), 1646–1714, French economist and statesman A local official of Rouen after 1689, he became a national figure when he insistently forced his advice on Chamillart, controller general to Louis XIV Seeing the results of military expenditures in heavy taxation and oppression of the poor, Boisguilbert argued that consumption by the masses is as important to the national economy as their production and urged an income tax of 10 percent, particularly in *Le Detail de la France* (1695) and *Factum de la France* (1707). Chamillart had him exiled for six months in 1707. See biography by H V Roberts (1935)

Bois-le-Duc, Netherlands see 's HERTOGENBOSCH.

Boito, Arrigo (är'rēgō bō'ētō), 1842–1918, Italian composer and librettist His opera *Mefistofele* (1868; revised 1875), although a failure, is considered important as a step toward the stylistic maturity of Italian opera His masterpieces are his librettos for Verdi's *Otello* and *Falstaff* He also was librettist for Ponchielli's *Gioconda* and wrote a few novels and poems

Bojardo, Matteo Maria, see BOIARDO

Bojer, Johan (yō'han boi'ur), 1872–, Norwegian novelist and dramatist His first work, *A Procession* (1896), was well received With *The Power of a Lie* (1903, Eng tr, 1938) and *The Great Hunger* (1916, Eng tr, 1918) his reputation as a portrayer of Norwegian contemporary life was established in Europe and America In *The Last of the Vikings* (1921, Eng tr, 1923), a story of the Lofoten fishermen, and in *Folk by the Sea* (1929, Eng tr, 1931, American title, *The Everlasting Struggle*), Bojer exhibited greater depth of characterization and won the long-delayed recognition of Norwegian critics Among his later novels are *By Day and By Night* (1935, Eng tr, 1937) and *The King's Men* (1938, Eng tr, 1940) See Carl Gad, *Johan Bojer* (Eng tr, 1920)

Bok, Edward William, 1863–1930, American editor, b Helder, Netherlands He was brought to the United States in 1870 As editor, 1889–1919, he made of the *Ladies' Home Journal* one of the leading magazines in America for women, introducing many features since common in women's magazines Of his several books, his autobiographical *Americanization of Edward Bok* (1920) was most popular and won a Pulitzer Prize He gave liberally to further peace, endowed the Woodrow Wilson professorship of literature at Princeton, and underwrote broadcasts of the Philadelphia Orchestra to schools He is buried at the base of the memorial Singing Tower, Iron Mt, Fla

Boker, George Henry (bō'kur), 1823–90, American poet and playwright, b Philadelphia, grad Princeton, 1842 *Calaymos*, his first drama, was produced in London in 1849 and in Philadelphia in 1851 *The Betrothal* was given in Philadelphia in 1850 His best plays were *Leonor de Guzman* (1853) and *Francesca da Rimini* (1855), based on the story of Francesca and Paolo His sonnets rank high in American literature See his *Plays and Poems* (2 vols, 1856) and *Sonnets* (ed by E S Bradley, 1929), biography by E S Bradley (1927)

Bokhara, Uzbek SSR see BUKHARA

Boksburg (bŏks'bûrg), city (pop 53,451), S Transvaal, Union of South Africa, in the Witwatersrand It is a gold- and coal-mining center

Bol, Ferdinand (fĕr'dĭnänt bōl'), 1616–80, Dutch portrait and religious painter He studied with Rembrandt in Amsterdam, and his early work has sometimes been confused with that of his master Later, as a successful portrait painter in Amsterdam, he developed a cooler palette and more surface finish Splendid examples of his work are in many European galleries, particularly those of Germany and the Netherlands Among his well-known works are *The Women at the Sepulcher* (Copenhagen), *Regents at the Leprosy Hospital*, his masterpiece (town hall, Amsterdam), and *Regents of the Poor House* and *Portrait of Admiral de Ruyter* (Rijks Mus)

Bolan Pass or **Bholan Pass** (both bōlan'), N central Baluchistan prov, W Pakistan The pass, c 5,880 ft at its highest, is used by the railroad and the highway running from Quetta to the frontier of Afghanistan The Bolan Pass was repeatedly a route for invading India

Boldini, Giovanni (jōvän'nē bōldē'nē), 1845–1931, Italian painter His work is brilliant and sparkling and essentially Parisian His portraits of women are especially noteworthy Among his chief works are *The Dispatch Bearer* and *Gossip* (Metropolitan Mus), *Kitchen Garden, Portrait of a Lady* (Luxembourg Mus, Paris), and a portrait of Whistler (Brooklyn, N Y, Mus)

Boldrewood, Rolf see BROWNE, THOMAS ALEXANDER

bolero (bōlā'rō), national dance of Spain, introduced c 1780 by Sebastian Zerezo, or Cerezo Of Moorish origin, it resembles the FANDANGO It is in 2-4 or 3-4 time for solo or couple dancing and is performed to the accompaniment of castanets, guitar, and the voices of the dancers Ravel's *Bolero* is in this rhythm

Boleslaus I (Boleslaus the Brave) (bō'lĭslôs), Pol *Boleslaw Chrobry*, c 966–1025, Polish ruler (992–1025), the first to call himself king He succeeded his father, MIESZKO I, as duke of Poland, seized the territories left to his two brothers under their father's will, and conquered land from Bohemia, Hungary, and Pomerania In 1000 he obtained the elevation of GNIEZNO into a metropolitan see, thus emancipating the Polish church from German control After the death of Emperor Otto III, Boleslaus overran Meissen and the East Mark, when Emperor HENRY II refused to confirm him in possession of these territories, he seized Bohemia (1003) Expelled from Bohemia in 1004, Boleslaus repelled a series of invasions of Poland and under the Peace of Bautzen (1018) received Lusatia as a fief of the Holy Roman Empire. Subsequently he campaigned successfully against Kiev. Though Boleslaus failed in his attempt to unite all northern Slavs under Polish leadership, he ranks among Poland's foremost rulers He reorganized the country's administration, systematized taxation, and created a large standing army His successor was MIESZKO II

Boleslaus II (Boleslaus the Bold), Pol *Boleslaw Smialy*, c 1039–1081, Polish ruler (1058–79), king of Poland (1076–79), son and successor of Casimir I He asserted Polish power in Bohemia, Hungary, and South Russia by interfering in their civil wars As a reward for his submission to papal guidance in his foreign policy he was crowned king in 1076, however, he became involved in a sharp conflict with the Polish clergy and nobility and killed (or procured the death of) Stanislaus, bishop of Cracow Excommunicated and deprived of his title by Pope Gregory VII, he fled to Hungary, where he died in obscurity His brother, Ladislaus Herman, succeeded him

Boleslaus III, 1085–1138, king of Poland (1102–38) The kingdom had been divided by his father, Ladislaus Herman, between him and his bastard half brother Zbigniew, who was supported by the emperor and other powers, Boleslaus defeated Zbigniew and reunited the kingdom He routed (1109) Emperor Henry V at Hundsfeld and warred against Bohemia, Hungary, and Kiev Having also extended his sway over Pomerania, which MIESZKO II had lost to Denmark, Boleslaus entrusted the Christianization of its inhabitants to the bishop of Bamberg In 1135 he signed at Merseburg a treaty with Emperor Lothair II, under which he was invested with Pomerania and Rügen as fiefs of the empire Vainly seeking to prevent the disintegration of his kingdom, Boleslaus altered the law of succession of his dynasty (see PIAST) Among his sons, CASIMIR II was the most notable

Boleslawiec, Lower Silesia see BUNZLAU.

Boleyn, Anne (bōō'lĭn), 15077–1536, queen consort of HENRY VIII, his second wife and the mother of Queen Elizabeth. She was the daughter of Sir Thomas Boleyn, later earl of Wiltshire and Ormonde, and on her mother's side she was related to the Howard family. After spending some years at the French court, she returned to England and came to the English court in 1521 Soon Henry fell deeply in love with her Whether he had already determined to divorce Katharine of Aragon before he met Anne cannot be determined, but in 1527 a commission was organized to inquire into the validity of Henry's first marriage By 1532 Anne was already his acknowledged mistress, and they were secretly married in Jan, 1533 In April the convocation of the Church declared Henry's marriage to Katharine null and void, and Anne was crowned queen The marriage was extremely unpopular in England and was not recognized in Europe The birth of Anne's only child, Elizabeth, born in 1533, did nothing to revive Henry's passion for his wife, which was already cooling Determined to marry Jane Seymour, Henry had Anne brought to trial in 1536 for adultery with various men, including her brother Whether she was guilty has never been determined, but a court, headed by her uncle Thomas Howard, duke of Norfolk, condemned her, and she was beheaded Two days before her death her marriage was declared void by the Church of England See the often published love letters of Henry VIII, biography by Paul Friedman (1884), Albert F Pollard, *Henry VIII* (1902) For fiction concerning Anne, see Francis Hackett, *Queen Anne Boleyn* (1939), and a play by Maxwell Anderson, *Anne of the Thousand Days* (1948)

Bolgari. see BULGARS, EASTERN

Bolingbroke, Henry of see HENRY IV (England)

Bolingbroke, Henry St. John, Viscount. see ST JOHN, HENRY

Bolintineanu, Dmitri (dumē'trē bō"lēntēnyä'nōō), 1826–72, Rumanian novelist, playwright, and journalist He is best known for his poetry contained in *Rumanian Melodies* (1858)

Bolitho, William (bōlĭ'thō), 1890–1930, British journalist and author, b Capetown, South Africa. His real name was William Bolitho Ryall After a poverty-stricken youth, he studied at the university in Capetown, worked his way to London, fought in the British army, and became a writer for London and New York newspapers His books include political comment, such as *Italy under Mussolini* (1926), and the collected biographical studies, *Murder for Profit* (1926) and *Twelve against the Gods* (1929) A play, *Overture—1920*, was produced in New York in 1930 after his death. See biographical novel by his wife, Sybil Bolitho, *My Shadow as I Pass* (1934)

Bolívar, Simón (bōlē'vär, Span. sēmōn' bōlē'vär), 1783–1830, South American revolutionist, called the Liberator, b Caracas, of a wealthy Creole family. When the revolution against Spain broke out in 1810, he became an enthusiastic patriot, but in 1812 a combination of circumstances brought about the defeat of his force at Puerto Cabello This ill fortune strengthened discord among the revolutionists, and Bolívar was one of the men who seized and imprisoned the leader, Francisco de MIRANDA. Bolívar went to Cartagena, where he cooperated

with the forces of Antonio NARIÑO and won notable victories. The patriots were, however, scattered and crushed again in 1815 by a royalist army under Pablo MORILLO. Bolívar, escaping to the West Indies, continued the struggle and returned with a band of guerrilla fighters in Dec., 1816. He captured Margarita Island, occupied part of the lower Orinoco basin, and at Angostura (now CIUDAD BOLÍVAR) a congress elected him president of Venezuela. Here in 1819 he conceived a bold plan of splitting the royalist forces. With a large force—made up largely of *llaneros* under SANTANDER and PÁEZ—he crossed the flooded Apure valley, climbed to the bitterly cold Andean passes and defeated the surprised Spanish forces at BOYACÁ. He was elected president of Colombia or Greater Colombia (present Colombia, Venezuela, Ecuador, and Panama). In June, 1821, his victory at Carabobo sealed the freedom of the north, and Bolívar entered Caracas in triumph, but Ecuador was not taken from the Spanish until he and José Antonio de SUCRE won the battle of Pichincha in May, 1822. Bolívar then undertook to free Peru and the present Bolivia, where the forces of that other great liberator, the Argentine José de SAN MARTÍN, were already operating. At Guayaquil in July, 1822, there were secret meetings of Bolívar and San Martín. Just what occurred there is unknown, though speculation still continues after a century and a quarter. The upshot, in any case, was the withdrawal of San Martín. Bolívar was the commander in chief of the patriot forces that won at Junín in 1824. A little later the battle of AYACUCHO marked the final triumph of the revolution in South America. Bolívar was without rival as the most powerful man of the continent. The president of Greater Colombia, he also organized the government of Peru and created Bolivia. In 1826 he expanded his vision of a united Spanish America further by calling a conference of all the new republics at Panama, though little was actually accomplished, the meeting was the beginning of Pan-Americanism. There was much murmuring against his power and his somewhat highhanded methods, he was widely accused of imperial designs, and revolts and separatist movements shook the union. Bolívar declared himself dictator in 1828, and the next night, Sept. 24, 1828 ("the September night"), he barely escaped assassination by jumping from a high window and hiding. He was successful in a campaign against Peru to prevent Peruvian interference in Bolivia and Colombia, but he could not halt the crumbling of Greater Colombia. Venezuela and Ecuador seceded, and Bolívar, broken in health and disillusioned ("We have ploughed the sea," he said), resigned the presidency in 1830. Soon afterward he died of tuberculosis near Santa Marta. He died poor and bitterly hated, but it was not long before South Americans again began to pay tribute to this passionate, headstrong idealist, who is today revered as the greatest of Latin American heroes. See biographies by T. R. Ybarra (1929), Hildegarde Angell (1930), Thomas Rourke (1939), and Gerhart Masur (1948).

Bolívar (bōlē'vur). **1** City (pop. 2,636), co. seat of Polk co., SW Mo., N of Springfield, in a farm and horse-raising area of the Ozarks, inc. 1867. Southwest Baptist College (junior, coeducational) is here. In July, 1948, President Gallegos of Venezuela dedicated a statue of Simón Bolívar, for whom the city was named. **2** Village (pop. 1,344), W N.Y., near the Pa. line E of Olean, in an oil region, inc. 1882. **3** Town (pop. 1,314), co. seat of Hardeman co., W Tenn., near the Hatchie river and SSW of Jackson, in a farm and timber area, founded 1824. A state hospital for the insane is in the area.

Bolivia (bulĭ'vēu, bō-, Span. bōlē'vyä), republic (412,772 sq. mi., pop. c. 3,500,000), W South America. SUCRE is the legal capital, but LA PAZ is the political as well as the financial and commercial focus of the nation, other cities of importance are COCHABAMBA and ORURO. One of the two inland countries of South America (Paraguay, the other, has ocean shipping), Bolivia is shut from the Pacific in the west by Chile and Peru, it also borders in the east on Brazil and Paraguay and in the south on Argentina. To the traveler Bolivia seems only a mountain country and, indeed, the population is centered in the highlands and the plateaus, as are the industries and the means of communication, but actually more than half of Bolivia is tropical. The western part of the republic is Andean, but all of the east is low and hot. In the northeast the tropical jungles join the selvas of the Amazon basin, and the rivers are part of the huge Amazon system. The BENI and its tributary (the Madre de Dios), the MAMORÉ, and the GUAPORÉ (for some distance the border with Brazil) all belong to the drainage basin of the MADEIRA. These streams go through dense rain forest that was once important for wild-rubber production, but was even then unsettled and not much exploited. The region (called the YUNGAS) may be potentially fertile for agriculture, but its value is actually unknown, its population consists mostly of sparse Indian tribes still in a state of very low material culture. There is only one city of real size, SANTA CRUZ, in the south. In the southeast the low, hot land merges into the CHACO. Here are the Bolivian oil fields, and here Bolivia was involved in the last of its disastrous border wars. Most of its large claims to the Chaco have now disappeared, but there is still a good-sized Bolivian section of the semiarid, broken plains. In the west the peaks of the ANDES soar. Here the mountain system reaches its greatest width. It is divided roughly into two cordilleras, the western one tracing with its high summits and extinct volcanoes the western border with Chile, the eastern running roughly north and south in many folded and broken ranges across the center of the country. Between the two is a high plateau (the Altiplano), most of it over 12,000 ft. above sea level—bleak, barren, and windswept. It is divided by mountain spurs, and many of the sections have dry salt bases or brackish lakes for want of drainage. In the south is the extensive salt plain, the Salar de Uyuni. In the north is the great basin of Lake TITICACA, the high, cold lake that Bolivia shares with Peru. Lake POOPÓ, wholly in Bolivia, discharges into the larger lake by the DESAGUADERO. This bleak country of the Titicaca area was the home of one of the great pre-Columbian civilizations of the Americas, but it has today sunk greatly in importance. The eastern mountains hold what has proved the modern wealth of Bolivia—its minerals. Here among the complex chains (marked by three major ranges, the Cordillera Oriental, the Cordillera Real, and the Cordillera Central) are some of the richest mines of the world. Tin is the most notable product today, but silver was once the queen metal, and copper, wolframite, bismuth, antimony, zinc, lead, and gold are also taken from the rocky mountains. Some of the names of the mining towns, notably Potosí and Oruro, are world famous. The eastern mountains rise to the cold forbidding heights of the PUNA and have majestic, snow-capped peaks such as ILLAMPÚ and ILLIMANI in the Cordillera Real (both looking westward to Lake Titicaca). From the *puna* the headstreams not only of the Madeira-Mamoré system but also of the Chaco rivers, such as the Pilcomayo and the Bermejo, cut their way eastward, carving deep gorges and long fingerlike valleys. In these deep-cut valleys are some of the garden spots of Bolivia—Sucre, Cochabamba, and TARIJA. Practically all the cities of the republic are in valleys or enclosed plateaus on the edges of these eastern mountains, and in this region most of the white population is concentrated, the plateaus and valleys of the western slopes, with their Indian towns, are sometimes considered economically and socially part of the Altiplano. Although the whites and the Cholos (as mestizos are called in Bolivia) maintain economic, political, and social hegemony, more than half the population of Bolivia is pure Indian. In the eastern *yungas* there are many tribes still almost completely untouched by white culture, but in the more settled regions most of the people are at least nominally Roman Catholic and have taken over some Spanish civilization, though Indian languages and Indian customs persist. The Altiplano was a center of Indian life even before the days of the INCA, but the AYMARA had been conquered and absorbed into the Inca empire long before the Spanish Conquest began with the landing of Francisco Pizarro in Peru. Two of his brothers, Gonzalo and Hernando PIZARRO, were the leaders in the conquest of Bolivia in 1538. Uninviting though the high, cold country might seem, Bolivia, or Upper Peru as it was called, attracted the Spanish when its great mineral wealth was revealed. As early as 1545 an Indian discovered the incredibly rich silver mine Cerro de Potosí. Spanish exploiters poured in, and the dependence of Bolivia on exportation of minerals was begun. The system of social inequality was also established with the mines and *obrajes* [textile mills] owned by Spaniards and their creole descendants but worked by Indians under duress. Some great landholdings were also established with Indians as laborers, and the pastoral and agricultural Indians not included in the system were ignored in society and in government. Emphasis on the quick wealth of the mines also caused indifference to other development, even to transportation except for just sufficient means to remove the dug-up riches from the mines. Difficulties of terrain, hindering unity and preventing development, helped also to make Bolivia purely "colonial." These conditions did not alter when the region was made into the *audiencia* of CHARCAS. This was attached to the viceroyalty of Peru until 1776, when it was transferred to the viceroyalty of La Plata (or the viceroyalty of Buenos Aires). The revolution against Spanish control came early, with an uprising in Chuquisaca on May 25, 1809, but the move was abortive, and Bolivia remained under Spanish control until after the great liberating moves of José de SAN MARTÍN and Simón BOLÍVAR and was not won for the revolutionists until the victory (1824) at AYACUCHO of José Antonio de SUCRE. Independence was formally proclaimed in 1825, and Bolívar drew up in 1826 a constitution for the new republic. Upper Peru became Bolivia, and Chuquisaca became Sucre. Because the *audiencia* of Charcas had vague though extensive claims to territory, Bolivia inherited ambitions and territorial claims that proved disastrous, leading to warfare and ultimate loss. At the time of independence Bolivia had a seacoast, more extensive lands in the Amazon basin, and claims to much of the Chaco, in little more than a century all these were to go. The confused and quarrelsome internal history was well begun by the opposition to the first president, Sucre, who resigned in 1828. Conflicting personal, political, and military aspirations were to plague Bolivia steadily. President Andrés SANTA CRUZ, desiring to reunite Bolivia and Peru, invaded Peru and in 1836 established a confederation of the two countries, which was dissolved in blood on the battlefield of Yungay three years later, when he was defeated by Peruvians and Chileans. Though a number of the presidents, notably José BALLIVIÁN, made efforts to build the national strength and reform administration, the underlying conditions were such that honest reform was hard to achieve and the temptation to wholesale corruption was always strong. The nitrate deposits of ATACAMA in Bolivia's maritime province proved valuable, but the mining concessions were given to Chileans. Trouble over them in the administration of Hilarión DAZA precipitated (1879) the War of the Pacific (see PACIFIC, WAR OF THE). The result for Bolivia was the loss of Atacama to Chile. The next serious territorial loss was in the east, where the little-known region of the ACRE river became valuable because of its wild rubber. There was trouble with Brazil over this remote area, which Bolivia, under President José Manuel PANDO, yielded to Brazil in 1903 for an indemnity. Attempts at reform and reorganization (notably by Ismael MONTES) were overshadowed in the 20th cent. by military coups, rule of dictators, and bankruptcy. Recurrent lack of money led to foreign loans, such as the Nicolaus loan from North American bankers, and these sometimes cost exorbitant rates and in turn led to an increase of foreign influence, strengthened by foreign interests in the mines and the minerals (including oil concessions). The attempts to make Bolivia less "backward" did not meet with much success, though the mines did yield great fortunes (such as the fabulous wealth of Simon I. Patiño). Military adventures continued and contributed to the outbreak of another disastrous territorial war, this time with Paraguay over the Chaco. Fighting began in 1932 and ended in 1935 with both nations exhausted and Bolivia stripped of most of the territory claimed in the Chaco (by the peace treaty of 1938). The war and the consequent economic strains had left conditions much worse than before, and the rivalry of political parties, right, moderate, and left, with their programs for curing the ills were complicated by the large role played by the army in coups and counter-coups. Little was accomplished. The coming of the Second World War proved a boon to Bolivian economy by enlarging demands for tin (especially after Asiatic sources were cut off by the Japanese) and wolfram. The developing petroleum fields of SE Bolivia had already attracted considerable attention, particularly from Brazil and Argentina, and the rights of a U.S. company had been expropriated by the Bolivian government in 1937. The oil fields played a large part in the building of railroads to connect Bolivia with Brazil and Argentina. The impouring of money in the wartime was accompanied by a rise in prices that aggravated the restiveness of miners over bad working conditions. A serious crisis in Dec., 1942, came when a strike of miners at the Catavi mine was suppressed with the death of a number of workers. A series of other strikes followed in the succeeding years. The government was accused in the years before the Second World War and in the first part of the war of being strongly pro-German (there is an influential element of German descent in Bolivia), but after a new government was installed in 1940, the German minister was expelled (1941) for subversive activities. Bolivia broke relations with the Axis in 1942 and declared war in 1943. The important German-owned air service had already been expropriated. In Dec., 1943, the nationalistic and rightist MNR (*Movimento Nacional Revolucionario*) took power, but the government was not recognized by the other American nations (except Argentina) until June, 1944, after pro-Axis elements had officially been removed. Bolivia became a member of the United Nations. Extensive U.S. aid for developing Bolivia—and increasing the supply of minerals needed by the United States—in the war was continued to some extent after the war. Argentine influence, however, grew much stronger. The moderate government established in 1947 was faced with opposition from the rightists and from the extreme left. There were two serious revolutions of the MNR in 1949, and after trouble early in 1950 the Communists were banned. Strikes continued and there were Indian uprisings. Yet even the difficulties, which were far from minor, had a hopeful aspect in showing that long apathy was ended. New rail and highway communications were bringing Santa Cruz and E Bolivia into the orbit of world trade. Investigation led to plans for reducing the high rate of illiteracy (80 percent), and Indian revolts were sharpening attempts to alleviate

the Indians' lot Though minerals still account for some 90 percent of Bolivian exports, though industry and hydroelectric power are little developed (with only a few flour and textile mills and factories producing such items as alcohol, beverages, shoes, and tobacco products), movements have been begun to use the oil of Santa Cruz for Bolivian development and to enlarge Bolivian agriculture See Paul Walle, *Bolivia* (Eng tr, 1914), Herbert Kirchhoff, *Bolivia Its People and Scenery* (1944), A P Whitaker, *The United States and South America the Northern Republics* (1948)

Bollandists (bŏl'ŭdĭsts), group of Jesuits in Belgium, named for their early leader, Jean Bolland, a Flemish Jesuit of the 17th cent They were charged by the Holy See with compiling an authoritative edition of the lives of the saints, the monumental *Acta sanctorum*, which is still being constantly brought up to date

Boller, Alfred Pancoast, 1840–1912, American civil engineer, b Philadelphia He was consulting engineer for the Singer and the Metropolitan Life Insurance buildings in New York city and designed bridges crossing the Thames (at New London, Conn), the Harlem (in New York city), the Monongahela (at Pittsburgh), and the Mississippi (at St Louis)

Bolley, Henry Luke, 1865–, American plant pathologist, b Dearborn co , Ind He is noted for his work on organisms causing diseases of crop plants (including the discovery of the cause of potato scab), for his methods of preventing oat smut bunt of wheat, and other diseases, and for developing varieties of wilt-resistant flax and rust-resistant wheat

boll weevil (bōl) or **cotton boll weevil,** snout beetle probably of Mexican or Central American origin, first observed in Texas in 1892 Since then it is said to have caused losses as great as $200,000,000 a year to the cotton crop The adult is about one quarter inch long, grayish when young and black when older The eggs are laid in holes made by its long snout in the buds or developing bolls The larvae feed on the growing cotton fibers, making the boll useless Some adults survive the winter in sheltered places Control methods include dusting the cotton fields with calcium arsenate by airplanes or other means, planting an early crop, and destroying infected plants in the fall See *Cotton or Boll Weevils* (U S Dept of Agriculture, Miscellaneous Publication 484)

bollworm (bōl'–), name for two cotton pests One, the pink bollworm, is the larva of a small dark brown noctuid moth, probably native to India and found in most cotton-growing regions of the world It was introduced into Mexico in cotton seed from Egypt and was carried to Texas, where it was first observed c 1917 The larva feeds on the blossoms, the lint and the seeds In infected areas an annual loss of from 20 to 50 percent of the value of the crop results Some control is achieved by quarantine, by fumigation of gins and storage places, by burning old stalks and bolls, and by the use of arsenic compounds The corn-ear worm, another noctuid moth larva, attacks corn, tomatoes, tobacco, and cotton Often called cotton bollworm, it burrows through the bolls and causes great losses

Bologna, Giovanni da (jōvän'nē dä bōlō'nyä), 1524–1608, Flemish sculptor, whose real name was Jean Bologne or Boulogne Though born in Douai, France, he is identified chiefly with the Italian Renaissance as one of its greatest sculptors He is also called Il Fiamminga [the Fleming] His masterpiece, *Flying Mercury,* is in the Bargello, Florence Almost equally fine is *The Rape of the Sabines* (Florence), which exerted a profound influence upon late Renaissance sculpture Among his other works are the equestrian statues in Florence of the Medicis, one of Ferdinand I (see Browning's "The Statue and the Bust") and another of Cosimo I, and two fountains in the Boboli Gardens, Florence, the bronze doors of the cathedral in Pisa, a Neptune fountain in Bologna, the colossal statue *Apennines* at Pratolino, and many crucifixes and statuettes in gold and silver

Bologna (bŭlŏ'nu, Ital bōlō'nyä), city (pop 226,771), capital of Emilia e Romagna and of Bologna prov , N central Italy, at the foot of the Apennines and on the Aemilian Way It is a cultural and commercial center and an important agricultural market Of pre-Roman origin, it passed (6th cent) under Byzantine rule and (8th cent) to the papacy, but in the 12th cent a strong free commune was established The victory of Bologna over Emperor FREDERICK II at Fossalta (1249) added political power to its intellectual prestige The famous university originated with its Roman law school (founded late in the 11th cent), where IRNERIUS and ACCURSIUS taught, the medical and theological faculties and courses in the liberal arts were added in the 14th cent Medieval Bologna was one of the truly great centers of learning in Europe, it continued its tradition in the 17th and 18th cent , when Malpighi and Galvani taught here, and it is still enjoying a very high reputation Printing has flourished in Bologna In politics, the rivalry between Guelphs and Ghibellines enabled several ambitious families to seize the power (14th–15th cent) The Pepoli were succeeded by the Visconti of Milan, and—after a short period of papal domination—by the BENTIVOGLIO (1446) In 1506 Pope Julius II reestablished the papal rule, which was interrupted in 1797, when Bologna was made the capital of the Cispadane Republic, and resumed in 1815 after the Congress of Vienna In 1860 Bologna voted its union with the kingdom of Sardinia As a vital railroad center and a key to the German line of resistance in the Second World War, Bologna was heavily bombed in 1944–45 The Gothic Church of St Francis (13th cent) and the Archiginnasio, once the seat of the university, are the most serious losses Bologna has retained a marked medieval aspect Many streets are arcaded, the town hall (13th–16th cent), the palace of King Enzio (13th cent), the palace of the Podestà (13th–15th cent), the two medieval leaning towers (named Asinelli and Garisenda after two noble families), and numerous fine churches of the 13th and 14th cent are among the most notable ancient buildings of the city Bologna has a municipal museum and an art gallery in which Bolognese artists (notably FRANCIA, the CARRACCI, and GUIDO RENI) are best represented On hills near Bologna are the Renaissance Church of San Michele (in Bosco) and a former Carthusian monastery

Bologne, Jean see BOLOGNA, GIOVANNI DA

bolometer see LANGELY, SAMUEL PIERPONT

Bolsena (bôlsā'nä), village, Latium, central Italy, on a picturesque crater lake and near the site of the second VOLSINII It has an imposing castle (12th cent), a cathedral, and several medieval buildings Here occurred (c 1265) a reputed miracle—a doubting priest saw blood flow from the Host at Mass—which helped to dramatize the newly established feast of Corpus Christi

Bolshevism and Menshevism (bōl'shuvĭzm, bŏl'–, mĕn'shuvĭzm), the two main branches of Russian SOCIALISM from 1903 until the consolidation of the Bolshevik dictatorship under Lenin in the civil war of 1917–20 The Workers' Social Democratic party, secretly organized in 1898 on the lines of the cell system, was based on the doctrines of MARXISM At a convention in 1903 it split into two groups The larger group, led by LENIN, was called the *Bolsheviks* [members of the majority], it advocated the immediate overthrow of the existing regime in Russia through a social revolution and the creation of a dictatorship of the proletariat The minority group, led by PLEKHANOV, was called the *Mensheviks* [members of the minority] The Mensheviks believed that Russia could not pass from its backward stage directly to the rule of the proletariat but that instead an intermediary democratic or bourgeois regime had to be developed first, as had been the case in Western Europe Although both groups retained their respective names, the Bolsheviks did not for long retain their numerical superiority over the Mensheviks However, the two groups were by no means the only Russian revolutionary movements, among their rivals were the non-Marxist Social Revolutionaries, a terrorist group, and the Constitutional Democrats, a liberal and intellectual reform movement Nor was there a clear-cut division between Bolsheviks and Mensheviks, many Socialist leaders, such as TROTSKY, passed from one group to the other and back again The Russian Revolution of 1905 was due to a common (though not cooperative) effort of all revolutionary and reformist movements In the first Duma of 1906, which was boycotted by the Socialists, the Constitutional Democrats were the strongest party, but in 1907 the Social Democrats (in theory still a single party) took part in the elections In the First World War, when the Bolsheviks were the chief pacifist propagandists, the cleavage between Bolsheviks and Mensheviks became increasingly pronounced Lenin's revolutionary doctrines had also become clearly defined, unlike the Mensheviks, he opposed cooperation with the bourgeois parties and believed in the formation of a small and select party as a revolutionary instrument rather than in the Mensheviks' attempt to appeal to the broad masses In the RUSSIAN REVOLUTION of 1917 the Mensheviks cooperated with the Kerensky regime However, after Lenin's return to Russia, the Bolsheviks gained (Nov , 1917) the majority in the Socialist party congress and in the soviets of Petrograd and Moscow and simultaneously overthrew the Kerensky government In 1918 they broke totally with the Mensheviks and formed the Russian Communist party, which within a few years either absorbed or "liquidated" the remnants of the Mensheviks For bibliography, see COMMUNISM, MARXISM, SOCIALISM

Bolton, Herbert Eugene, 1870–, American historian, b Wilton, Monroe co , Wis , grad Univ of Wisconsin (LL B , 1895), Ph D Univ of Pennsylvania, 1899 He taught history at the Univ of Texas (1901–9), Stanford Univ (1909–11), and the Univ of California (1911–44) and became an outstanding authority on Spanish colonial days in the West He edited and translated numerous important journals of Spanish soldiers and priests, widening the printed sources immeasurably, but he is perhaps better known for such works as *Texas in the Middle Eighteenth Century* (1921), *The Spanish Borderlands* (1921), *Outpost of Empire* (1931, the story of the founding of San Francisco), and the biographies, *Rim of Christendom* (1936, on Father Eusebio Francisco Kino) and *Coronado* (1949) For these sound studies of a colorful period Bolton employed a prose that reflected his own vigorous and colorful personality He also promoted the study of the history of the Americas as a unit of human development, for this purpose he wrote a syllabus, *History of the Americas* (1928), and a survey of the colonial period, *Wider Horizons of American History* (1939) He was also director from 1916 to 1940 of the Bancroft Library at the Univ of California

Bolton, Sarah Knowles, 1841–1916, American author, b Farmington, Conn , educated at Hartford Female Seminary She is remembered for her numerous volumes of biography written for young people, which include *Poor Boys Who Became Famous* (1885), *Poor Girls Who Became Famous* (1886), and *Famous American Authors* (1905) She and her husband were prominent in the temperance movement See her autobiography (ed by her son, 1923)

Bolton or **Bolton-le-Moors** (bōl'tun-lu-mōōrz'), county borough (1931 pop 177,250, 1947 estimated pop 166,090), Lancashire, England, NW of Manchester and on a small tributary of the Irwell Very early Bolton became known for textile making (woolen weaving was introduced by the Flemings in the 14th cent), but the modern industry dates from the late 18th cent , when spinning factories were built and a canal (1791) put through to Manchester The inventions of Arkwright and Crompton, who were born here, spurred its development Besides the great textile plants (calicoes and muslins especially), there are foundries, ironworks (there is coal in the vicinity), and paper and chemical factories

Boltraffio or **Beltraffio, Giovanni Antonio** (jōvän'nē äntō'nyō bōltrŏf'fyō, bĕl), 1467–1516, Italian painter, b Milan, pupil of Leonardo da Vinci He excelled in portraiture some of his best works being the portraits in the villa on the Isola Bella, in the Lago Maggiore, in the Brera, Milan, in the Frizzoni Collection, Bergamo, and at Cracow Other paintings include *Madonna and Child* (National Gall , London), *Madonna Casio* (Louvre), and the fine *Madonna with the Vase of Flowers* (Poldi-Pezzoli Coll , Milan)

Boltwood, Bertram Borden, 1870–1927, American chemist and physicist, b Amherst, Mass , grad Sheffield Scientific School, Yale, 1892 After graduate study at Leipzig and Yale (Ph D , 1897) he taught at Yale until his death, serving from 1910 to 1927 as professor of radiochemistry An expert in laboratory technique and apparatus, he gave much of his energy to planning and supervising the building of the Sloane Physics Laboratory and the Sterling Chemistry Laboratory, both at Yale His research in the field of radioactive elements resulted in several important discoveries He discovered that radium is a disintegration product of uranium the disintegration taking place through an intermediate element which he discovered and named ionium, that the ultimate disintegration product of uranium is lead, or an isotope of lead and that ionium and thorium were elements which, when in combination, could not be separated from each other by any known process, a conclusion which led to the discovery by others of elements since called isotopes He made a table, built up after an analysis of the proportion of lead in uranium minerals from various parts of the world and various geological ages, to determine the extent of disintegration and therefore the age of geologic strata in which uranium minerals are found He ascertained that actinium is also a disintegration product of uranium, but in a different branch from the ionium-radium-lead line, a discovery which has important bearings on the question of the origin of elements

Bolzano (bōltsä'nō), Ger *Bozen* (bō'tsun), city (pop 41,722), capital of Bolzano prov , TRENTINO-ALTO ADIGE, N Italy, on the Isarco near its confluence with the Adige It is the center of the German-speaking part of S Tyrol Beautiful Alpine scenery and mild climate make Bolzano a tourist and health resort, its position on the Brenner road has made it the chief commercial center of the region since the Middle Ages, when important fairs were held here A part of the bishopric of TRENT, Bolzano and the surrounding region were ceded (1513) to the Hapsburgs and subsequently followed the fortunes of TYROL Despite the German population Bolzano was awarded to Italy in 1919 The scenic charm of the city is enhanced by its many medieval houses and its fine 14th-century cathedral

Boma (bō'mu), town (pop 11,084), W Belgian Congo, a port on the Congo It exports coffee, cacao, palm oil, and rubber

Bombay (bŏmbā'), state (132,700 sq mi , pop 29,998,126), W central India, on the Arabian Sea It contains within its borders the Portuguese colonies of Goa and Daman Rough mountains—the Western Ghats—which are rich in timber, especially teak, edge the narrow coastal strip This area, with a very heavy rainfall and fertile alluvial soil, is a major source of India's rice supply Marathi-speaking people make up its dense population The southern inland region, a part of the Deccan, sup-

plies the best Indian cotton and a heavy crop of millet Its relatively sparse population speaks Kanarese The northern inland region, with Gujerat-speaking inhabitants, produces high grades of cotton Except for manganese, building stone, and salt extracted from the sea, Bombay has no mineral resources Only a quarter of the people are engaged in industry, chiefly food processing and cotton spinning and weaving, or in trade Remains exist from the period (320–184 B C) when much of Bombay belonged to the Buddhist Maurya empire Buddhism was supplanted (c 5th cent A D) by Hinduism, which has been the major religion except during Moslem control (13th–18th cent) In the 16th cent, Portugal was the leading foreign power, but Great Britain predominated in the 17th cent and by the early 19th cent had formed approximately the present area into the Bombay presidency, which was subsequently made a province After 1947 all native states within the former provincial boundary joined Bombay, Baroda and Kolhapur were the largest **Bombay** (pop 1,489,883), the capital, on the island of Salsette just off the coast, is the only natural deepwater harbor of W India It is the seat of a university (founded 1857) The area was ceded (1534) to Portugal by the sultan of Gujerat Bombay, after it passed to Great Britain, was the headquarters (1668–1858) of the East India Company in India and during the American Civil War it expanded to meet the world demand for cotton and became the leading cotton-spinning and weaving center in all India Today it is a focus of rail systems extending throughout the country Cotton and vegetable-oil seeds are exported, and metals and machinery imported Outside the city on Salsette there are Buddhist caves The near-by small island of ELEPHANTA is noted for its antiquities

Bomoseen, Lake (bŏmūsēn'), 7½ mi long and 1½ mi wide, W Vt , largest lake wholly within Vermont Surrounded by wooded hills, it lies W of Rutland and is a popular summer resort

Bomu (bō'mōō), river rising in the southeast tip of French Equatorial Africa and flowing c 500 mi along the border of the Belgian Congo to the Ubangi river

Bon, Cape (bŏn), or **Ras Addar** (räs' ăd'ăr'), headland, NE Tunisia, projecting into the Mediterranean Sea toward Sicily The German forces in North Africa surrendered in May, 1943, to the Allies on the Cape Bon peninsula

Bona Dea (bō'nŭ dē'ŭ) [Latin, =good goddess], in Roman legend, earth-goddess worshiped only by women She is identified with Maia, Ops, DEMETER, and PERSEPHONE and has some likeness to Cybele She was called Fauna, for (according to various legends) she was the daughter, sister, or wife of FAUNUS Her name was never spoken before a man

Bonaire, Dutch West Indies see CURAÇAO

Bonanza Creek, stream of the Yukon which flows into the Klondike river at Dawson It was famous for placer mining in the days of the gold rush A stream in the Kootenay dist of British Columbia is also called Bonanza Creek

Bonaparte (bō'nŭpärt), Ital *Buonaparte* (bwōnäpär'tä), family name of NAPOLEON I, emperor of the French His father, **Carlo Buonaparte,** 1746–85, a petty Corsican nobleman, was a lawyer in Ajaccio He supported Pasquale PAOLI (1768–69), then changed sides and became one of the staunchest leaders of the pro-French party in Corsica Napoleon's mother, **Letizia** or **Laetitia Ramolino Bonaparte** (lätēt'sēä rämōlē'nō), 1750–1836, had simple virtues much admired by her son's followers At Napoleon's court she was given the title Madame Mère After the final downfall of Napoleon she found refuge in Rome The eldest of the children of Carlo and Letizia to survive infancy was **Joseph Bonaparte** (zhōzĕf'), 1768–1844 Having gained some note as French ambassador to Parma and to Rome and as a member of the Council of Five Hundred, Joseph negotiated a treaty with the United States (1800) and represented France at the peace negotiations at Lunéville (1801) and Amiens (1802). In 1806 Napoleon made him king of Naples, which Joseph administered very inefficiently, and in 1808 he was made king of Spain instead Thoroughly unsuccessful in defending his throne in the PENINSULAR WAR, he reluctantly abdicated in 1813 From 1815 to 1841 he lived mainly in the United States—at Bordentown, N J He died in Italy Napoleon I himself was born in 1769 His brother **Lucien Bonaparte** (lusyĕ'), 1775–1840, first became prominent as president of the Council of Five Hundred Joseph negotiated a treaty with the United States (1800) and represented France at the peace negotiations at Lunéville (1801) and Amiens (1802). 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sought to flee to the United States (1810) but was captured at sea by the British and interned in England He returned to Italy in 1814, was made prince of Canino by the pope, and became reconciled with Napoleon, who was then in Elba Lucien returned to France in the Hundred Days, and after Waterloo tried to secure the throne for Napoleon II He died in exile in Italy His sister **Elisa Bonaparte** (ēlēzä'), 1777–1820, married Felix Pasquale Bacciochi, an insignificant captain of infantry Napoleon made her princess of Lucca and Piombino (1805) and grand duchess of Tuscany (1809) She was a competent administrator and was admired for her intelligence After Waterloo she lived in retirement Another brother, **Louis Bonaparte** (lwē), 1778–1846, was king of Holland (1806–10) He reluctantly married (1802) Hortense de BEAUHARNAIS Napoleon forced him to abdicate because Louis, more concerned for the interests of the Dutch people than for those of France, defied the ruinous Continental System He died in Italy His sister **Pauline Bonaparte,** 1780–1825, was Napoleon's favorite sister A woman of remarkable beauty but of a vain, frivolous character, she was the subject of considerable scandal, involving even her brother She accompanied her husband, General LECLERC on the expedition to Haiti and created a deep impression by her luxurious life in a castle on that unhappy island After Leclerc's death Napoleon arranged her marriage (1803) to Camillo Borghese, a member of the highest Roman nobility They soon agreed on a separation Pauline, made princess of Guastalla in 1806, fell into temporary disfavor with her brother because of her hostility to Empress Marie Louise, but when Napoleon's fortune failed, Pauline showed herself more loyal than any of his other sisters and brothers Another sister, **Caroline Bonaparte,** 1782–1839, went to France with the family in 1793 and married General MURAT (1800) Her ambition, joined with that of her husband, made her grand duchess of Cleves and Berg and later queen of Naples (1808–14) There she did much to stimulate art and letters and encouraged the recovery of the classical treasures of Pompeii and Naples Her restless ambition was still unsatisfied, the birth of Napoleon's son destroyed her hope of succession for her own son She and Murat entered upon intrigues with Napoleon's enemies but with no positive result After the fall of Napoleon, Metternich, who was passionately in love with her, tried to save Murat's throne Murat's rashness, however, led to his execution, and Caroline fled to Austria **Jérôme Bonaparte** (zhārôm'), 1784 1860, Napoleon's youngest brother, served in the navy and was sent to the West Indies On a visit to the United States he met Elizabeth PATTERSON, whom he married (1803), although, as a minor, he lacked the necessary consent Napoleon refused to recognize the marriage and had little difficulty in changing the mind of the flighty Jérôme for whom he made a new match with Catherine of Württemberg (1807) Jérôme became king of Westphalia (1807–13), fought in the Russian campaign, and led a division at Waterloo He was more remarkable for his extravagant irresponsibility than for administrative or military skill Leaving France after Waterloo, he returned in 1847 and received honors at the court of his nephew, Napoleon III There he was known as Prince Jérôme Of the second generation of the family perhaps the most important was NAPOLEON II, the son of Napoleon and MARIE LOUISE, although the son of Louis Bonaparte, Louis Napoleon, who became emperor as NAPOLEON III exercised a much greater influence on history Other later members of the house also became prominent **Charles Lucien Jules Laurent Bonaparte** (shärl, zhul lōrä'), 1803–57, prince of Canino, son of Lucien, lived in the United States from 1824 to 1833 and was important as a naturalist, particularly as author of *American Ornithology* (4 vols , 1825–33, in English) **Pierre Napoléon Bonaparte** (pyĕr napōlāō'), 1815–81, another son of Lucien, after an adventurous career as soldier of fortune became a French politician Though a republican he welcomed the empire of Napoleon III and lost his following In 1870 he killed the journalist, Victor Noir, in the heat of a quarrel but was acquitted of murder He was notoriously immoral as was his cousin **Napoléon Joseph Charles Paul Bonaparte** (pōl) 1822–91, commonly called Prince Napoleon or, more familiarly, Plon-Plon The son of Jérôme and Catherine of Württemberg, he was named as successor to his cousin Napoleon III, in case the emperor died childless He was, however, a liberal and an opponent of the emperor's measures in the early years of the empire His marriage (1859) to Princess Clotilde, the daughter of Victor Emmanuel II, was a move in Napoleon III's Italian policy Prince Napoleon became pretender to the throne after the death of the only son of Napoleon III, **Napoléon Eugène Louis Jean Joseph Bonaparte** (ûzhĕn', zhäl'), 1856–79, the Prince Imperial, who was killed while fighting the Zulus as a member of the British army **Napoléon Victor Jérôme Frédéric Bonaparte** (vēktôr', frādārēk') (Victor Bonaparte), 1862–1926, inherited the claims of Prince Napoleon, his father The daughter of Jérôme and Catherine of Württemberg, the princess **Mathilde Bonaparte** (mätēld'), 1820–1904, was of great prominence at the court of Napoleon III By his American wife, Elizabeth Patterson, Jérôme had a son, **Jerome Napoleon Bonaparte,** 1805–70, from whom the American line is descended The most prominent of this line was Charles Joseph BONAPARTE See Frédéric Masson, *Napoléon et sa famille* (13 vols , 1897–1919), R McNair Wilson, *Napoleon's Mother* (1933), C E Macaartney and J G Dorrance, *The Bonapartes in America* (1939)

Bonaparte, Charles Joseph, 1851 1921, U S cabinet official, b Baltimore, grandson of Jérôme Bonaparte and Elizabeth Patterson A graduate of Harvard Law School, he became a lawyer and political leader in Baltimore He identified himself with reform causes, and President Theodore Roosevelt appointed him one of the commissioners to investigate conditions in the Indian Territory and in 1905 appointed him Secretary of the Navy In Dec , 1906, he shifted from this office to that of Attorney General, which he retained until the end of Roosevelt's administration He was active in suits brought against the trusts He was one of the founders, and for a time the president, of the National Municipal League See biography by J B Bishop (1922)

Bonar, Horatius (bŏn'ur), 1808–89, Scottish clergyman and hymn writer In 1837 he became minister to the North Parish, Kelso, in 1843 Bonar, with his congregation, seceded in the movement leading to the formation of the Free Church He wrote religious tracts and edited religious periodicals and collections of hymns, including *Hymns of Faith and Hope* (3 series, 1857–67) He is remembered, however, for his fine hymns, such as *I Heard the Voice of Jesus Say*

Bonar Law, Andrew see LAW, ANDREW BONAR

Bonaventure (bŏnuvĕn'chur) or **Bonaventura, Saint** (bō"năvăntōō'rä), 1221–74, scholastic theologian, cardinal of the Roman Church, Doctor of the Church, called the Seraphic Doctor, b near Viterbo, Italy His original name was Giovanni Fidanza He entered the Franciscan order, studied at the Univ of Paris under Alexander of Hales, then taught there until he was made (1257) general of his order and (1265) archbishop of Paris He died at the Second Council of Lyons, where he was a papal legate Among his early philosophic and theological works are commentaries on the *Sentences* of PETER LOMBARD and the "three little works"—*Breviloquium* (Eng tr , 1946), *The Franciscan Vision* (Eng tr , 1937) and *De reductione artium ad theologam* (Eng tr , 1939) He succeeded in assimilating Aristotle's learning to complete orthodox Augustinianism and was a proponent of strict REALISM His later mystical works bring the teachings of St BERNARD OF CLAIRVAUX and HUGH OF SAINT VICTOR to full flower He emphasized the total dependence of all things upon God, and he wrote guides to mystic contemplation He also wrote the official and much-translated life of St Francis Feast July 14 See Étienne Gilson *The Philosophy of St Bonaventure* (Eng tr , 1938)

Bonaventure (bŏnuvĕn'chur), river of E Quebec, on the Gaspé Peninsula, rising in the Shickshock Mts and flowing 75 mi S to Chaleur Bay The river has trout and salmon fishing

Bonaventure Island, 2½ mi long and ¾ mi wide, off E Quebec, in the Gulf of St Lawrence c 3 mi N of Percé Rock, forming a natural breakwater between Percé and the gulf To Capt Peter John Duval, a privateersman, George III granted the island as a reward for service Descendants of Duval still live on the island Here is the largest bird sanctuary on the N Atlantic coast, mostly herring gulls, auks, crested cormorants, sea parrots, gannets, and kittiwake gulls

Bonavista, town (1945 pop 1,399), E N F , on the south coast of Bonavista Bay and N of St John's It is an important fishing center

Bonavista Bay, N F , one of the chief indentations of the northeast coast The bay is irregular and filled with islands There are a number of fishing towns of importance on its shores Bonavista Peninsula is on the south and ends in Cape Bonavista, which marks the southern entrance to the bay and is the reputed landfall in 1497 of John Cabot, the discoverer of Newfoundland The fishing town Bonavista is on the south shore of the bay and near the end of the peninsula

Bond, Carrie Jacobs, 1862–1946, American song writer, b Janesville, Wis As a child she displayed unusual musical gifts, but received very little training Later, widowed and living in poverty, she turned to the writing of songs (both words and music), giving concerts of them and even publishing them herself Eventually the popularity of such songs as *I Love You Truly, Just a-Wearyin' for You,* and *A Perfect Day* earned her a fortune See her autobiography, *Roads of Melody* (1927)

Bond, Sir Edward Augustus, 1815–98, English librarian He was connected for 50 years with the British Museum, first in the manuscript department and later (1878–88) as principal librarian He supervised the construction of wing for prints and provided for the printing of the British Museum catalogue He was a founder of the Paleographical Society and edited many historical documents

Bond, Elizabeth Powell, 1841–1926, American educator, b Clinton, N Y First an instructor (1866–

70) in calisthenics at Vassar, she later went to Swarthmore, serving as dean from 1890 until 1906 Her work at Swarthmore was important in promoting the development of coeducation in the East See her *Words by the Way* (2 vols , 1895–1901), biography by E C Johnson, (1927)

Bond, George Phillips, 1825–65, American astronomer, b near Boston, grad Harvard, 1845 He became the assistant of his father, William Cranch Bond, and in 1859 succeeded him as director of the Harvard College Observatory Much of his work was done in conjunction with his father While they were investigating Saturn together, George in 1848 discovered its eighth satellite, Hyperion His observations led him to reject the previously held theory that the rings of Saturn were of solid structure, though his hypothesis of their being in fluid state was in turn soon discarded His memoir on the Donati comet of 1858 in the *Annals of the Harvard College Observatory*, Vol III, remains the most complete description of a great comet which has been written His revision of his father's work on the Orion nebula was published posthumously His photographs of the moon when taken to Europe in 1851 created a sensation among astronomers there He was a pioneer in the use of photography in mapping the sky, determining stellar parallax, and measuring double stars He also used photographs for determining the comparative brightness of the planets See E S Holden, *Memorials of William Cranch Bond and of His Son George Phillips Bond* (1897)

Bond, Sir Robert, 1857–1927, Newfoundland statesman, b St John's, N F , educated in England and Scotland Entering the Newfoundland assembly in 1882, he was speaker (1884), colonial secretary (1889–97), and premier (1900-1909) The Hay-Bond Treaty (1902) for reciprocal trade with the United States failed of ratification in the U S Senate

Bond, Thomas, 1712–84, American physician, b Calvert co , Md After studying medicine in Paris he settled in Philadelphia, where with Benjamin Franklin he secured funds for establishing (1752) the first hospital in the country There Bond served until his death, inaugurating in 1766 the first course of clinical lectures

Bond, William Cranch, 1789–1859, American astronomer, b Portland, Maine He early aided his father in the trades of silversmith and clockmaker in Boston He soon became an expert in the making of chronometers and by 1812 was fashioning most of the superior ones used by ships sailing out of Boston He developed a passion for astronomy, and, turning part of his home into an amateur observatory, he devoted all his free time to it In 1815 he was sent by Harvard College to Europe to visit existing observatories and gather data preliminary to the building of an observatory at Harvard In 1839 the observatory was founded, and Bond supervised its construction and became its first director. In 1847 a 15-inch telescope, then matched by but one other in the world in size, was installed With it Bond made elaborate studies of sunspots, of the Orion nebula, and of the planet Saturn, publishing his results chiefly in the *Annals of the Harvard College Observatory* Together with his sons he developed the chronograph for automatically recording the position of stars, and he was a pioneer in the use of the chronometer and telegraph for determining longitude He and his son George Phillips Bond made the first practical use in America of Daguerre's photographic process applied to astronomy See E S Holden, *Memorials of William Cranch Bond* (1897)

bond, in building, the method of tying together and giving strength to a masonry wall by overlapping adjacent masonry units, so that vertical joints of successive layers do not coincide. In brickwork, to which the term is especially applied, there are various bonds or standardized systems of breaking joints, all of which are combinations of bricks laid in two ways, stretchers (bricks laid with their length parallel to the face of the wall and exposing their long edges) and headers (laid at right angles to the face of the wall and exposing their ends) American bond, usually called common bond in the United States, is perhaps the most used, especially where appearance is unimportant, each sixth or seventh course is made up of headers, the other courses of stretchers In Flemish bond, much used for decorative purposes, each course consists of alternate headers and stretchers, each stretcher centered above and below a header In English bond the bricks are laid in alternate courses of headers and stretchers, each header centered over a stretcher or a joint Clip bond, or diagonal bond, is formed by clipping off the inner corners of the face stretchers and laying diagonal bonding bricks into the notches thus made, it presents a wall face made up wholly of stretchers Besides these four important bonds there are many variants and combinations used less often

bond, in finance, usually a formal contractual obligation issued in writing as evidence of indebtedness It bears interest and promises to pay a certain sum of money to the holder on a definite date, and security is usually pledged against it. However, bonds are sometimes given to secure performance of a variety of matters other than the payment of a sum of money at a fixed date. Bonds which represent indebtedness are issued by corporations, other businesses, and governments and are sold to those wishing conservative investment They are generally regarded as a long-term obligation on the capital of the issuing body The contract is enforceable by law against a corporate debtor but may be unenforceable against a sovereign public debtor unless immunity is relinquished The bonds must be signed and have a seal of the issuer affixed Corporation bonds which are secured are designated usually according to the priority and extent of their claim against the assets upon which they have been issued The sale of bonds was employed successfully by the U S government as a device to secure funds to finance the prosecution of both world wars Government bonds are backed by the full faith and credit of the government issuing them, including its taxing power, and sometimes also by specifically designated security Unsecured bonds are called debenture or income bonds See Lawrence Chamberlain and G W Edwards, *Principles of Bond Investment* (rev ed , 1927), Gilbert Harold, *Bond Ratings as an Investment Guide* (1938), Leo Spurrier, *Common Stocks and Bonds as Long-Term Investments* (1941)

Bondfield, Margaret Grace, 1873–, British political and trade-union leader She was a Labor member of Parliament (1923-24, 1926–31), secretary to the minister of labor (1924), and under Ramsay MacDonald was minister of labor (1929–31) She wrote and lectured extensively on labor and socialist movements

bonding see INSURANCE

Bond Street, street in London, famous for its fashionable shops Sir Thomas Bond started building it c 1686, and many well-known people, including Sterne, Boswell, Nelson, and Swift, have lived on Bond St

Bone, Henry, 1755–1834, English enamel painter He decorated china at Plymouth and Bristol and later went to London, where he was employed in making small enameled pieces and miniatures In 1780 he exhibited his first picture at the Royal Academy, a large enamel portrait of his wife, which immediately established his reputation In 1800 he was appointed enamel painter to the English court, an honor which he enjoyed for many years

Bone, Sir Muirhead (mūr'hĕd), 1876–, British etcher and painter, b Glasgow In the First World War he was official artist at the Western Front and with the fleet in the North Sea He was official artist for the admiralty from 1940 to 1943 As draughtsman and dry-point etcher he has few equals among his contemporaries *Old Spain* (2 vols , with text by his wife, Gertrude Bone) was published in a limited edition in 1936 Bone was knighted in 1937

Bône (bōn), city (pop 77,675), NE Algeria, a Mediterranean port The Carthaginians founded a colony here, and the Numidian kings made it their capital It flourished as Hippo Regius or Hippone under the Romans and was a center of early Christianity, the episcopal see of St Augustine Hippo declined after its sack (430) by the Vandals In the Moslem period it became an early center of piracy and was sacked by the Pisans and the Genoese in 1034 It was of great commercial importance in the 17th and 18th cent Under France it has become prominent for exports of iron and phosphates

bone, tissue which makes up most of the SKELETON of mammals and certain lower forms In most cases cartilage is first present, and later salts are deposited, resulting in the hard substance of bone Bones are long and thin or are flat and of various sizes Long bones are hollow and contain marrow, important in forming blood corpuscles Bones are covered with a membrane, the periosteum, from which comes the supply of blood vessels and nerves Bone, though apparently solid, is actually permeated with microscopic canals Disorders include FRACTURE, infection, RICKETS, and BOWLEGS

bone black see CHARCOAL

bone china, variety of porcelain, developed by English potters between 1750 and 1800 The clay is tempered with phosphate of lime or bone ash

bone implements are first found in the Aurignacian phase of the PALEOLITHIC PERIOD There may have been earlier examples which, because of the perishable nature of bone, have escaped preservation Since bone cannot be successfully shaped by chipping or flaking, man had first to perfect carving and abrading tools of stone in order to utilize bone A tough, nonbrittle substance, it is adaptable for many uses Awls, needles, dart points, fishhooks, knives, and knife hafts are common manufactures Among contemporary peoples, the Eskimos are skilled and artistic workers in bone Bone is often used for buttons, knitting needles, and cutlery handles

bone meal, finely ground bone used as a fertilizer for its content of phosphoric acid (20 to 25 percent) and nitrogen (2 to 4 percent) It is slow-acting and one of the safest of plant foods Bone meal is fed to farm animals to supply needed mineral food constituents

Boner or **Bonerius, Ulrich** (ōōl'rĭkh bō'nûr, bōnĕr'-ēŭs), 14th cent , Swiss fabulist, a Dominican monk He was the author of a collection of beast fables called *Der Edelstein* (c 1340), which were derived from Latin and German sources

boneset or **thoroughwort,** perennial composite-flowered North American herb (*Eupatorium perfoliatum*), having terminal clusters of small, chiefly white blossoms and pairs of leaves usually joined at their bases around the stem Indian and white man alike valued the plant for the bitter tea made from the leaves and flowers, used for treating colds, ague (whence the name agueweed), and fever, for which it was often cultivated in gardens It is still sold for medicinal purposes Other species of *Eupatorium* are often called thoroughwort and occasionally boneset, e g , the purple boneset or JOE-PYE WEED

Bonham (bŏn'ŭm), city (pop 6,349), co seat of Fannin co , E Texas, NE of Dallas and near the Red River, platted 1837 It processes and ships cheese, cotton, and truck A replica of an early trading post, Fort Inglish, is near by

Bonheur, Rosa (bŭnûr'), 1822–99, French painter of animals She won a first medal at the Salon of 1848 for her *Plowing in the Nivernais* (Luxembourg Mus , Paris) Her lifelike and conscientious pictures of animals gained her a wide popularity, particularly in England and America, where much of her best work is to be seen Among her well-known paintings may be cited *Weaning the Calves* and *Horse Fair* (both Metropolitan Mus) and *Sheep in Repose* (Wallace Coll , London)

Bon Homme Richard see JONES, JOHN PAUL

Boniface, Saint (bŏn'ĭfŭs, -fās), c 675–754', English missionary monk, called the Apostle of Germany, b Devonshire, England His English name was Winfrid He was educated in the monastery of Nursling, where he became abbot (717) In 716 he made his first trip to Friesland to aid the mission of St WILLIBRORD, but unsettled conditions forced his return In 718 he left England forever and went to Rome (719), where GREGORY II gave him the name of Boniface and blessed his mission He was consecrated bishop in 722 and archbishop in 732 For his missionary work in Thuringia, Hesse, Franconia, and Bavaria, he secured the support of CHARLES MARTEL In 741 he founded several bishoprics in these lands, which were by then strongly Christian After St Willibrord's death, Boniface appointed a bishop for Friesland In all his efforts Boniface was aided by religious and clerics whom he had consecrated Under his inspiration the monasteries of Reichenau (724), Murbach (728) and Fulda (744) were founded as centers of learning By 742 Boniface was accounted religious head of Austrasia He was consecrated archbishop of Mainz (745) He was martyred by pagans in Friesland Feast June 5

Boniface, Saint, d 1009, German missionary, known also by his lay name, Bruno of Querfurt He evangelized the Balts and died a martyr He is known as the Apostle of the Prussians Feast June 19

Boniface VIII, 1235-1303, pope (1294-1303), an Italian (b Anagni) named Benedetto Caetani, successor of St CELESTINE V and predecessor of BENEDICT XI As a cardinal he was independent of the factions in the papal court, and he opposed the election of Celestine Boniface was elected on Celestine's resignation, and his first years were bedeviled by those who had suffered from Celestine's retirement—the Neapolitans, the Colonna family, and the extreme Franciscans, among them Jacopone da Todi Boniface reigned in a time of crisis in Europe He wished to emulate St GREGORY VII and INNOCENT III, but he was no such statesman, and the times had changed He interfered in Sicily, but he was openly flouted when Frederick III and the Sicilians forced Boniface to recognize Frederick as king He brought CHARLES OF VALOIS into Italy to pacify Florence and succeeded only in stirring up more trouble Dante was exiled in this struggle of GUELPHS AND GHIBBELINES Boniface's contest with PHILIP IV of France was the principal feature of his career The pope tried to stop Philip from his illegal levies on the clergy by the bull *Clericis laicos* (1296), enunciating the principle that laymen might not tax clerics without the consent of the Holy See By Philip's maneuvers Boniface was forced to abandon his position, and by 1928 he was on publicly good terms with Philip The dispute began again in earnest in 1301 with the trial of Bernard SAISSET, and Boniface never again yielded Two of his utterances in the controversy are famous—the bull *Ausculta fili* (1301) which summoned a synod of French to meet at Rome to discuss the reformation of French affairs, and the bull *Unam sanctam* (1302), an extreme statement (not naming Philip) of the principle that Catholic princes as well as others are subject to the pope in temporal (moral) and religious matters Philip paid no attention, and in 1303 he sent Nogaret to Italy, soon proclaiming his intention of deposing the pope Nogaret found the pope at Anagni and bullied him, the pope stood firm and was slapped by Nogaret's companion, Sciarra Colonna The outraged people of Anagni there-

upon drove out the soldiery; Boniface was rescued and escorted to Rome, a sick old man He died in a month Philip pursued Boniface dead as he had alive In 1310 he forced CLEMENT V to begin a process to determine whether Boniface was not really heretical, that accusation was abandoned, but Clement consented to repudiate such of Boniface's acts as had hurt Philip Boniface, an excellent canon lawyer, planned and promulgated a new revision of the code called the *Sext* (1298) He was the first to establish (1300) a holy year See biography by T S Boase (1933)

Boniface IX, c 1345–1404, pope (1389–1404), a Neapolitan named Pietro Tomacelli, successor of URBAN VI and predecessor of Innocent VII He was contemporary with the Avignon antipopes Clement VII (ROBERT OF GENEVA) and Benedict XIII (Pedro de LUNA) By vigorously supporting Lancelot against the house of Anjou in the wars over the Neapolitan throne he brought Naples under the Roman obedience He unified organization in the Papal States, crushed the republican sentiment in Rome, and fortified the city To raise money for political ventures he greatly extended the annates and developed the granting of indulgences for money He was therefore accused of simony

Boniface (bŏn'ŭfās), d 432, Roman general He defended (413) Marseilles against the Visigoths under Ataulf, but, having supported GALLA PLACIDIA in her struggle with her brother, Emperor Honorius, fled to Africa in 422 There, as semi-independent governor, he supported (424) VALENTINIAN III against the usurper John and was rewarded with the title count of Africa Recalled in 427, he refused obedience, and a civil war between Africa and the imperial government began This struggle paved the way for the invasion of Africa by the Vandals under Gaiseric (429) A truce was patched up between Africa and Rome, and Boniface attacked the Vandals He was defeated and besieged (430) at Hippo During the siege his erstwhile friend, St Augustine, died Beaten again in 431, he was recalled to Italy by Placidia to assist her against the general AETIUS Boniface defeated Aetius (432) but died of a wound received in battle The historian Procopius, without convincing evidence, made Boniface responsible for inviting the Vandals into Africa

Bonifácio, José (zhōōzā' bōnĭfa'tsēōō), 1763?–1838, Brazilian statesman, scientist, and author His full name was José Bonifácio de Andrada e Silva He studied in Europe and gained fame as a geologist in Portugal before returning (1819) to Brazil There he was active in the movement for a constitution and for emancipation of the slaves A minister under the regency of Pedro I, he became the guiding spirit of the movement that ended with Brazilian independence (1822) He was minister of the interior and of foreign affairs in the new empire, but when he and his brothers joined the opposition he was exiled (1823–29) He was later reconciled to Pedro I and served (1831–33) as tutor to Pedro II He is generally regarded as the chief founder of independent Brazil

Bonifacio (bōnĭfa'chō), town (pop 1,755), S Corsica, France, facing Sardinia across the Strait of Bonifacio (7 mi wide) The oldest town of Corsica, it was founded (c 828) on the site of a citadel built by Boniface I, count of Tuscany It later passed to Pisa and to Genoa There is a church (12th–13th cent) in Pisan style The city, surrounded by a rampart, is medieval in character

Bonifay (bōnĭfā'), town (pop 1,924), co seat of Holmes co , NW Fla , near the Ala line just E of the Choctawhatchee, in a livestock and farm area

Bonington, Richard Parkes (bŏn'–), 1801–28, English painter In 1817 the family moved to Calais, and his first art study was with Louis Francia, who taught him water color Bonington studied in Paris at the École des Beaux-Arts and in 1820 entered the studio of Gros There he formed a close friendship with Delacroix, who inculcated in him an interest in medieval subjects Bonington was the embodiment of the close link between the English landscape painters Constable and Turner and the budding school of French romanticists He won early recognition, receiving a gold medal at the Salon of 1824, but died of tuberculosis at the early age of 27 In him, England lost a very promising painter Perhaps best known for his water colors, Bonington also brought to his oil painting a directness and dexterity unusual in his day and was a masterly lithographer Represented in the Louvre and in most important British galleries, Bonington is best seen in the Wallace Collection, London The Metropolitan Museum has two marines and a landscape See Hugh Stokes, *Girtin and Bonington* (1923)

Bonin Islands (bō'nĭn), Jap *Ogasawara-gunto*, volcanic island group (40 sq mi , 1940 pop 7,361), N Pacific, 535 nautical mi S of Tokyo The largest and most important island is Chichi-jima, site of Port Lloyd, the chief harbor of the group The principal products are sugar cane, coca, and ornamental coral The majority of the inhabitants are Japanese, there are some Koreans and Formosans Discovered in 1543 by Spaniards, the islands were claimed by Japan in 1875 and placed under the Tokyo prefecture in 1880. After the group was surrendered in 1945 to the United States with Japan's defeat in the Second World War, it was occupied by American troops

Bonivard, François de see BONNIVARD, FRANÇOIS DE

Bonn (bŏn), city (pop 94,694), in the former Rhine Prov of Prussia, NW Germany, on the Rhine Dating from Roman times, it was the residence (1263–1794) of the electors of Cologne and the scene (1346) of the coronation of Charles IV as king of the Romans It is the seat of a famous university (founded 1784, suppressed 1797, reconstituted 1818) Bonn has preserved the house in which Beethoven was born The city passed to France in 1801 and to Prussia in 1815 It suffered much destruction in the Second World War The minster (11th–13th cent) and the electoral palace, housing the university, were severely damaged In 1948–49 delegates from the parts of Germany occupied by France, Great Britain, and the United States met here to write a constitution for Western GERMANY, of which Bonn became the temporary capital

Bonnard, Pierre (pyĕr' bônär'), 1867–1947, French painter, lithographer, and illustrator He early joined the Independents and from 1891 exhibited with them regularly A postimpressionist, he is known for his luminous and decorative use of color Bonnard is famous for his intimate interiors in oil and also for his lithographs and illustrations He is represented in galleries in France and the United States See study by Charles Terrasse (1927)

Bonnat, Léon Joseph Florentin (lāôn' zhôzĕf' flôrätăn' bônä'), 1833–1922, French portrait and historical painter He enjoyed many academic honors and is best known for his portraits of famous men, including Thiers, Victor Hugo, Pasteur, and Dumas fils Bonnat is well represented in the Luxembourg Museum, Paris, and the Metropolitan Museum

Bonner, Robert, 1824–99, American newspaper editor, b Londonderry, Ireland He emigrated to America in 1839 and learned the printer's trade on the Hartford *Courant* In 1851 he purchased the *Merchants' Ledger* in New York, renaming it the *Ledger* He published much fiction, paid unheard-of prices for articles by such people as Longfellow, Tennyson, and Dickens, and used unusual advertising methods He made his profits from circulation alone, which reached nearly 500,000 His wealth went largely for race horses, and he was probably the most prominent turfman of his day

Bonners Ferry, village (pop 1,345), co seat of Boundary co , N Idaho, on the Kootenai near the Canadian boundary, inc 1894 Long a lumbering town, it is now a farm center in a well-irrigated region In May, 1948, floods forced temporary evacuation of the village

Bonner Springs, city (pop 1,837), NE Kansas, on the Kansas river and W of Kansas City, inc 1898 Cement is made here

Bonnet, Charles (shärl' bônä'), 1720–93, Swiss naturalist and philosopher He was the first to describe parthenogenesis among aphids His works on plants contain misconceptions Among his books are *Traité d'insectologie* (1745) and *Contemplation de la nature* (1764–65)

Bonnet, Georges (zhôrzh), 1889–, French politician, a Radical Socialist As financial expert he was prominent at international conferences on reparations and other economic questions He was ambassador to the United States (1937) and several times finance minister, notably in the Chautemps cabinet (1937–38) His stringent fiscal policy and his demand for extraordinary powers caused the fall of the government As foreign minister (1938–39) and minister of justice (1939–40) and as member of the Vichy National Council (1941), Bonnet helped to draft the Munich Pact and championed appeasement of, and collaboration with, Germany

Bonnet, Joseph Élie Georges Marie (zhôzĕf' ālē' zhôrzh' märē'), 1884–1944, French organist and composer, pupil of Guilmant at the Paris Conservatoire He became organist at the Church of St Eustache, Paris, in 1906 and later toured Europe, the United States, and Canada as a concert organist He compiled an anthology, *Historical Organ Recitals* (6 vols , 1917–40), and composed a number of organ pieces

Bonne Terre (bŏnтär'), city (pop 3,730), E Mo , SW of St Louis, in a lead, zinc, nickel, cobalt, and limestone region, inc 1864

Bonneville, Benjamin Louis Eulalie de (bŏn'vĭl), 1796–1878, American army officer, trader in the Far West, b France, grad West Point, 1815 Service at frontier posts acquainted him with the fur trade In 1832, having obtained leave from the army and financial backing from New York moneyed men, he led an expedition of 110 men to the Green River rendezvous of fur traders and commenced three years of trade and exploration As a trader he was a failure, but he was not forgotten as a swaggering, colorful figure who helped to open the Rocky Mt country He took the first wagon train across South Pass Bonneville was restored (1836) to the army after his overstayed leave, served in the Mexican War and at frontier posts, and retired in 1861. Washington Irving added much to Bonneville's fame by writing *The Adventures of Captain Bonneville, U S A*

Bonneville Dam, NW Oregon, in the Columbia river, c 40 mi E of Portland, built 1933–37 by U S army engineers under the authorization of Congress The river is divided by Bradford Island, and the spillway dam in the north channel has an over-all length of 1,450 ft and a crest elevation of 187 ft above the lowest bedrock In the south channel are the powerhouse and the navigation lock The dam was designed for flood control, navigation, and power Ten generators (installed 1938–43) make this a major unit in one of the most important power developments of the United States

Bonnie Prince Charlie see STUART, CHARLES EDWARD

Bonnivard or **Bonivard, François de** (frăswä' du bônēvär'), c 1493–1570, Swiss hero of Byron's "The Prisoner of Chillon " As prior of St Victor, near Geneva, he supported the revolt of GENEVA against Charles III of Savoy, who kept him prisoner from 1519 to 1521, and again, at CHILLON, from 1530 to 1536, when the Bernese stormed the castle His chronicle of Geneva was first published in 1831.

Bononcini (bōnōnchē'nē) or **Buononcini** (bwō–), musical family of Modena, Italy **Giovanni Maria Bononcini** (jōvän'nē märē'ä), 1640–78, choirmaster of the Church of San Giovanni, was a composer and the author of a treatise on practical music (1673) His son, **Giovanni Battista Bononcini** (bät-tēs'tä), c 1672–c 1750, was a composer, chiefly of operas In London he was the associate and later the rival of HANDEL The opera *Muzio Scevola* (London, 1721) was a *pasticcio* by Bononcini Filippo Mattei, and Handel, Handel's act being judged the best After failing in his operatic ventures, and charged with plagiarism, Bononcini left England, spending the rest of his life in obscure wanderings Another son, **Marc Antonio Bononcini** (äntō'nyō), 1675–1726, wrote many operas produced in Venice, and one, *Camilla* (London, 1706), influenced the English fashion for Italian opera In 1721 he became musical director to the duke of Modena

Bonpland, Aimé Jacques Alexandre (āmā' zhäk' ălĕksä'drù bōplä'), 1773–1858, French naturalist He was with HUMBOLDT on his travels in Spanish America and wrote several works on the plants of Mexico and South America which he had collected on this journey For a time he was director of Empress Josephine's gardens at Malmaison His real name was Goujaud

Bonsels, Waldemar (val'dumär bōn'zĕls), 1881–, German traveler, novelist, and poet His *Indian Journey* (1912, Eng tr , 1928), his best seller *The Adventures of Maya, the Bee* (1912, Eng tr , 1922), and *Heaven Folk* (1915, Eng tr , 1924) as well as the trilogy *Notes of a Vagabond* (1918–23, Eng tr , 1931) and the novel *Adventures of Mario* (1927, Eng tr , 1931), were popular in both Germany and the United States, although somewhat florid and sentimental He has also written plays and short stories

Bontempelli, Massimo (mäs'sēmō bōntĕmpĕl'lē), 1884–, Italian novelist and critic At one time a convert to futurism and a dramatist, he is best known for his fiction—bizarre, intellectual, and beautifully written Among his works are the novels *La vita operosa* [the active life] (1920) and *Il figlio di due madri* [the son of two mothers] (1933) For translations, see F M Guercio, *Anthology of Contemporary Italian Prose* (1931) and *The European Caravan* (ed by Samuel Putnam and others, 1931) See also Domenico Vittorini, *The Modern Italian Novel* (1930)

bonus, an extra amount in money, bonds, or goods over what is normally due The term is applied especially to payments to employees either for production (wage incentive) in excess of the normal or as a share of surplus profits The wage incentive as evolved by Frederick W Taylor was designed not only to increase production but to reward the more skillful and more energetic workers The hourly or weekly wage was to be figured as payment for a standard rate of work, and the workers who exceeded this standard were to receive a bonus However, the system fell into disfavor with labor unions because rate cutting was often resorted to when bonuses became too high Industrial engineers of the 1930s realized that definite standards of accomplishment and quality must be set to make wage incentives workable Many firms have used an annual bonus plan for distributing abnormal profits to both salaried employees and wage earners In the Second World War the War Production Board recommended a bonus to all workers in direct proportion to the increase in production In the inflation following the war many employers paid a cost-of-living bonus to make the real wage equal to what it had been before The term is also applied to payments to soldiers in addition to regular pay and insurance Veterans of the First World War lobbied to obtain a bonus for their military service In 1924 each veteran received an adjusted compensation certificate entitling him to a payment averaging $1,000 to be made in 1945 In 1932 about 15,000 unemployed veterans formed the "Bonus Expeditionary Force" and marched to Washington to demand immediate payment of these certificates President Hoover ordered troops to oust them from Federal property In 1936 Congress passed a law permitting the veterans to ex-

change their certificates for cashable bonds. Most states voted veterans' bonuses after the Second World War See W W Waters, *B E F the Whole Story of the Bonus Army* (1933), C W Lytle, *Wage Incentive Methods* (rev ed, 1942), J K Loudon, *Wage Incentives* (1944), V D Kennedy, *Union Policy and Incentive Wage Methods* (1945).

Bonvalot, Pierre Gabriel Édouard (pyĕr' gabrēĕl' ādwär' bôvalō'), 1853–1933, French explorer and author In 1880-82 he visited central Asia, explored Kohistan, and returned to France by way of Bukhara, the Caspian Sea, and the Caucasus In 1886 he made the first crossing of the Pamirs, from Ferghana to Chitral, India He crossed Tibet from Lob Nor to Tengri Nor (1889), traversed Asia from Siberia to Tonkin (1889 90), and led an official mission to Entotto, Ethiopia His works include *De Moscou en Bactriane* (1884), *De Paris au Tonkin à travers Tibet inconnu* (1892), *L'Asie inconnue* (1896), and *Marco Polo* (1925)

book The word *book* has come to have many meanings, e g , any collection of sheets of paper, wood, or other material sewed or bound together (such as a bankbook), a division of a written work (books of the Bible, books of Caesar's *Gallic War*), and an account (keeping books) The primary meaning today is, however, a written work either in manuscript or in printed form that is of substantial length A printed book is distinguished from a pamphlet in that it is larger (some would limit a book to works of more than 64 or more than 96 pages) It is distinguished from a periodical in that it is a unit and issued as such, thus an annual or yearbook may be considered either as a periodical or as a book The printed book is distinguished in size by the number of times the original large sheet of paper on which the type is printed has been folded, as folio, quarto, octavo, and duodecimo These sizes have, however, been standardized to measurements, the standard octavo book is, according to the American Library Association, not less than 20 cm and not more than 25 cm in height Books apparently did not come into existence for some time after writing was widespread, for the INSCRIPTION cannot be considered a book even under the widest definition Fragmentary early papyri represented literature in ancient Egypt and may possibly be considered as books, though it is customary to speak of the BOOK OF THE DEAD as the first of the Egyptian papyrus books The cuneiform tablets gathered into the great Assyrian library of Assur-bani-pal represented an enormous collection of works, but the book as we know it may be said to be derived from the Egyptian writings on papyrus The vast literature of the Greeks was mostly written on large sheets of papyrus, which were glued together and rolled up The rolls varied greatly in size, many of them were about 1 ft wide and about 30 ft long when unrolled The method of having the leaves held together in quires in the fashion of the modern book seems not to have originated until about the 2d cent A D The manuscripts in leaves are commonly called codices (though the term *codex* may also be loosely used for any ancient manuscript) Most of the active Roman production of books, therefore, was also in rolls From at least the early part of the 2d cent B C the more permanent vellum (a type of fine PARCHMENT) was also used for writing books, and this grew to be very popular in the Middle Ages when books were copied by monks in the scriptoria An astonishing number of copies of books were made by the method of writing by hand, and there was what might even be called a publishing industry in ancient Rome, but the production of books in great quantity had to await the introduction of printing, which was invented in China (where the first book may have been printed in the 9th cent) and was introduced to Europe in the 15th cent To a very large extent the history of the book was henceforth the history of PRINTING The development of the book and book printing was very rapid (see TYPE), and by the 16th cent the art and skill of bookmaking had reached great heights Bookselling emerged as a sizable business, which increased over the centuries with the spread of education and improvement of transportation The various forms of the book as we know them today emerged early, but developments in printing, binding, and design produced a bewildering number of variations See also LIBRARY, MANUSCRIPT, PUBLISHING, WRITING For a brief and excellent bibliography, see Hellmut Lehmann-Haupt, *One Hundred Books about Bookmaking* (1949). See R B McKerrow, *An Introduction to Bibliography for Literary Students* (1928), M Ilin, *Black on White the Story of Books* (1932), F G Kenyon, *Books and Readers in Ancient Greece and Rome* (1932), Edward Chiera, *They Wrote on Clay* (1938), Lawrence C Wroth, ed , *A History of the Printed Book* (1938), Hellmut Lehmann-Haupt and others, *The Book in America* (1939), Douglas C McMurtrie *The Book* (3d ed , 1943)

bookbinding The art and business of bookbinding began with the protection of parchment manuscripts with boards Papyrus had been in rolls, but sheets of parchment could be folded and fastened together with sewing. In the Middle Ages the practice of making fine bindings for these sewed volumes arose to great heights of skill, books were rare and precious, and some of the bindings were exquisitely beautiful The principle of folding and sewing together sheets in small lots, then combining those lots with tapes and sewing and fastening boards on the outside as protection, was the same in the medieval monastery as in the modern book bindery. The invention of PRINTING greatly increased the demand for the bookbinder's work—in fact, made it into an established business The best binding is still done by hand, the binding is made on the book In machine binding (called casing), the cover or case is made separate from the book and then glued to it The covering of the boards, usually called the binding, is usually of cloth, heavy paper, vellum, leather, or imitations of leather The preferred leathers are morocco and calfskin Calfskin bindings are sometimes decorated by marbling Tooling of the binding is either blind (i e , without metal or color) or in a color, a metal, or an imitation of a metal See Douglas Leighton, *Modern Bookbinding* (1935), Hellmut Lehmann-Haupt, ed , *Bookbinding in America* (1941), Douglas Cockerell, *Bookbinding and the Care of Books* (1948)

bookkeeping, the keeping of systematic and convenient records of money transactions, to record what the transactions were and when they took place and to reveal the amounts and sources of the losses and profits for any given period Proper bookkeeping should also reveal the nature and value of the assets and liabilities and the net worth of the business at the close of that period Such records are kept in columnar form, using separate columns for date, explanation, and value Other columns may be added In general two sets of columns are used, a money value being assigned to all assets and all liabilities of the business, the assets being placed in one set of columns and the liabilities in another set Such an arrangement is called double entry At any time the books may be "balanced" by totaling each column and subtracting the less total from the greater to give either a surplus or a deficit The result is called the net worth The process of analyzing all items into one set of columns or the other, i e , into the debit side or the credit side, is called journalizing, since the analyzed items are placed in a book called a journal or daybook, which is the book of first entry of transactions as they occur Separate accounts of persons or sections are kept in a book called a ledger The transfer of items from the journal to the ledger is called posting In large businesses the journal is at the outset broken into many sections, each concerning a separate function of the business, such as sales purchases, notes receivable, notes payable, sales return, purchases return, and cash Books from which or to which postings are made are known as principal books Books of another class are called auxiliary books Such are invoice, inventory, order, cash, sales, bill, and check books There is usually kept a "controlling account," in which all the minor accounts are totaled only, for ease in balancing At any time the state of a business may be ascertained by compiling a "balance sheet," which indicates the net worth by totaling the assets and liabilities of the business in two columns and showing a balance A profit and loss statement is the same thing in classified and detailed form and for a period between two balance sheets Single-entry bookkeeping enters all debits and credits in a single set of columns in a journal and labels each entry *Dr* (debit) or *Cr* (credit) Thus in a single entry only one element of a transaction is entered, in double entry both elements are entered Single entry fails to give detailed information as to the sources of gain or loss "Tabular" bookkeeping is a later form, using more columns, usually one for each department The "slip system" uses carbon copies of original entries to be arranged as convenient, or the slips themselves constitute the original entries and are kept in filing cases Card ledgers have each account on a separate card in a file case The slip system, card ledgers, and loose-leaf ledgers are adapted to the use of bookkeeping machines Such machines include those for registering cash sales, adding, multiplying, dividing, subtracting, card and loose-leaf ledger, order writing, billing, tabulation, and posting The Babylonians, Egyptians, Greeks, and Romans kept business records Double entry seems to have been first developed in the 14th and 15th cent by the north Italians, hence it has been called the Italian method Thence the system spread to the Netherlands, England, and elsewhere Single entry developed later In recent years bookkeeping has been greatly improved and many mechanical devices, such as those already mentioned, have been invented Vouchers, slips, and cards have taken the place of bound books, especially in large businesses See also ACCOUNTING

Book of Common Prayer, title given to the service book used in the Church of England and in other Anglican churches The first complete English Book of Common Prayer was published in 1549 under Edward VI Essentially it was a selection and translation from the BREVIARY and the MISSAL, with some additions from other sources It was made compulsory by an act of uniformity Revision, undertaken by Thomas CRANMER, resulted in the Prayer Book of 1552, which showed the influence of foreign reformers then resident in England, for it made possible a wide diversity of views regarding the Eucharist, all justified by this official service book This prayer book was in use only about eight months before Queen Mary's repeal legislation brought back the Latin rite In 1559, under Elizabeth, the Prayer Book of 1552 was restored in a slightly altered version From 1645 to 1660, under the Commonwealth and Protectorate, the prayer book was suppressed In a new revision after the Restoration, it was again declared the only legal service book for use in England by an act of uniformity (1662) Alterations in the 1662 revision were largely those making for liturgical improvement In England no further revision of importance has been adopted A revised form submitted to Parliament in 1927 was passed by the House of Lords but rejected by the House of Commons It was resubmitted (with certain modifications) in 1928 and again rejected In 1789, when the first General Convention of the Protestant Episcopal Church (see EPISCOPAL CHURCH, PROTESTANT) in the United States met, a revised version of the Book of Common Prayer was adopted, it embodied such changes as were required by the new conditions For greater flexibility in matters of worship and for conformity with present times, revised forms were prepared in 1892 and 1928 See histories of the prayer book by Percy Dearmer (1933) and Verney Johnstone, Ernest Evans, and L C Lewis (1949), J W Suter and G J Cleaveland, *The American Book of Common Prayer* (1949)

Book of Concord, name under which the collected documents of the authoritative confessions of faith of the Lutheran Church were published in 1580, the 50th anniversary of the Augsburg Confession The Apostles', Nicene, and Athanasian creeds were included with the particular confessions which had appeared from 1530 to 1580 These were the Augsburg Confession, Apology of the Augsburg Confession, Schmalkald Articles, Luther's Larger and Smaller Catechisms, and the Formula of Concord

Book of Kells see KELLS, Co Meath, Ireland

Book of the Dead, Egyptian text established in its present form in the XXVI dynasty (663-525 B C) The greater part of its charms, formulas, and other funerary literature, however, is found in pyramid inscriptions and in papyri dating from the XVIII dynasty (1580-1350 B C) It contains some account of the afterworld and many of the basic ideas of EGYPTIAN RELIGION The first English translation was by Samuel Birch, the most celebrated by Sir Peter Le Page Renouf

bookplate, a label pasted in a book to indicate ownership, called also *ex libris* [from the books of] The bookplate is usually of paper on which heraldic or other designs are engraved or printed A clay tablet (7th cent B C), reading, "Property of Assurbanipal, king of the world, king of Assyria," has been found The earliest printed bookplates date from c 1480 in Germany Dürer designed and engraved a number of bookplates In colonial America, Henry Dunster, the first president of Harvard (1640–54), had three different bookplates which he brought from England A Stephen Daye bookplate of 1642 may have been printed here, but the John Cotton plate of 1674 certainly was Paul Revere was well known for his bookplate engravings Another early American bookplate engraver was Nathaniel Hurd See J B L Warren (Lord De Tabley), *Guide to the Study of Bookplates* (1880), Walter Hamilton, *Dated Book-Plates* (1895), W G Bowdoin, *The Rise of the Book Plate* (1901)

bookworm, popular name for several insects which bore through books, e g , the drugstore beetle, the spider beetle, and the deathwatch beetle Damage is also done to books by the book louse, which is sometimes called deathwatch

Boole, George, 1815–64, English mathematician and logician He became professor at Queen's College Cork, in 1849 He wrote *An Investigation of the Laws of Thought* (1854) and works on calculus and differential equations

boomerang (bōō'murăng), missile in the form of a curved club used as a weapon The boomerang of the Australian aborigines (from whom the name is derived) is made in two types The smaller boomerang (1½ to 2 ft long) is used only for sport and is made and thrown so that it describes a circle with a diameter of 50 ft or more and returns to the thrower Using it requires great skill The larger war boomerang does not return The boomerang is best known as an Australian implement, but throwing sticks have been (and are) used by various peoples across the world, such as the Egyptians, the Assyrians, natives of India (who developed ivory and steel boomerangs), and the early Indian inhabitants of the American Southwest Some bone implements found in Western Europe are usually thought to be throwing sticks used by prehistoric man there. The throwing knife used by some African natives works on the same principle,

Boone, Daniel, 1734–1820, American frontiersman, b Oley (now Exeter) township, near Reading, Pa The Boones, English Quakers, left Pennsylvania in 1750 and settled (1751 or 1752) in the Yadkin valley of North Carolina Daniel served as a wagoner in Braddock's ill-fated expedition (1755) against Fort Duquesne (Pittsburgh) and almost certainly took part in Gen John Forbes's successful march on the same place in 1758 He made a trip to Florida after that region became British territory in 1763, but his wife, the former Rebecca Bryant, whom he married in 1756, refused to settle there Thus was one of the few times she vetoed his plans, for she was a typically courageous frontier woman who more than fulfilled one third of Daniel's prescription for happiness—possession of "a good gun, a good horse, and a good wife" Boone did a little farming and much hunting, first visiting (1767) Kentucky on one of his long hunts He had first heard of Kentucky from John Finley, veteran Indian trader, during the Braddock campaign After Finley, 14 years later, turned up in the Yadkin valley as an itinerant peddler and repeated his marvelous tales, Boone, with a small party, explored (1769–71) the region thoroughly and was delighted at its prospects Indian attacks turned back his first colonizing attempt (1773), but in March, 1775, as advance agent for Richard HENDERSON and the TRANSYLVANIA COMPANY and with an armed band of 30 men, he blazed the famous WILDERNESS ROAD and founded Boonesboro (or Boonesborough) on the Kentucky river Henderson arrived in a few weeks with additional settlers, and later in the same season Boone guided a second party, including his family When Kentucky was made a county of Virginia in 1776, he was elected a captain of militia In the American Revolution, while on a saltmaking expedition to the Blue Licks on the Licking, Boone and his party were captured (Feb, 1778) by Shawnee Indians and taken to British headquarters at Detroit Highly regarded by the Indians he was adopted into the tribe Boone deluded his captors into thinking that he would prevail on the other settlers to surrender, but, after four months of captivity, he escaped in time to prepare Boonesboro for an attack, which failed A disgruntled element charged Boone with disloyalty, and though he was promptly acquitted and elected major, he left Boonesboro and, after collecting his family, which had returned to North Carolina after his capture, founded (1779) a new settlement, Boone's Station, near what is now Athens, Ky He was made lieutenant colonel of the militia and sheriff of newly organized Fayette co and was elected to the first of several terms as representative in the Virginia legislature After the American Revolution he moved to Maysville, where he dealt in land and kept a tavern Later he lived at Point Pleasant (now W Va) and around 1795 settled in what is now Nicholas co, Ky His titles to large tracts of land were adjudged imperfect, and despite his services to Kentucky, he lost his best holdings through ejectment suits Disgusted, Rebecca and he followed (1799) a son to Missouri, where the Spanish government granted him a large tract in the Femme Osage valley and made him district magistrate When the United States assumed jurisdiction over this territory after the Louisiana Purchase (1803), his land titles were again found to be defective, but the direct intercession of Congress restored part of his acreage His adventures became well known through the so-called autobiographical account which appeared in the widely read *Discovery, Settlement, and Present State of Kentucke* (1784), by John FILSON, and Lord Byron's verses on him in *Don Juan* gave his name international prominence The best biography is John Bakeless, *Master of the Wilderness Daniel Boone* (1939) See also biographies by R G Thwaites (1902) and Stewart Edward White (1922)

Boone 1 City (pop 12,373), co seat of Boone co, central Iowa, N of Des Moines and on the Des Moines river Laid out in 1865 by the railroad, it annexed (1887) the near-by rival town of Boonesboro (founded 1851) It is a railroad, industrial, and mining center with various manufactures and deposits of coal, clay, and gravel It has a junior college Ledges State Park is near by 2 Town (pop 1,788), co seat of Watauga co, W N C, in the Blue Ridge S of Bristol, Tenn, settled in the 18th cent It is a resort in a farm and livestock area Boone lies in territory once occupied by the WATAUGA ASSOCIATION The Appalachian State Teachers College is here, and a state fish hatchery is near by

Boonesboro, locality, central Ky, on the south bank of the Kentucky river and SE of Lexington It was an early settlement, named for Daniel BOONE, who built a small fort here (1775) under orders from the TRANSYLVANIA COMPANY, organized by Richard HENDERSON. It was the seat of government of Transylvania for several years and was frequently the object of Indian attacks

Booneville. 1 City (pop 2,324), a co seat of Logan co, W Ark, in a farm area of the Ouachita foothills Near by are the state tuberculosis sanatorium and the Ouachita National Forest 2 Town (pop 1,893), co seat of Prentiss co, NE Miss, S of Corinth, in a farm area, settled 1859, inc 1869. Sheridan won a Civil War battle here (1862)

Boonsboro, town (pop 938), NW Md, SE of Hagerstown It is famous for its Crystal Grottoes

Boonton, town (pop 6,739), N N J, NNE of Morristown, settled 1760, inc 1867 Boonton had the first bakelite factory Radio communication apparatus is made here

Boonville 1 City (pop 4,526), co seat of Warrick co, SW Ind, NE of Evansville, platted 1818 Its products include coal, tobacco, and flour Scales Lake State Forest is near by 2 City (pop 6,089), co seat of Cooper co, central Mo, on the Missouri river and W of Columbia, in a grain and livestock area The region was settled in 1810, the city laid out in 1817 Corncob pipes are manufactured Kemper Military Academy (junior college, 1844) and a state training school for boys are here A Civil War battle, resulting in Union victory, was fought near by, June 17, 1861 3 Village (pop 2,076), central N Y, N of Utica, settled c 1791, inc 1855 It is a trade center for a dairy region Walter D Edmonds was born here

Boötes (bō-ō'tēz) [Gr, =plowman], northern constellation which contains the bright star Arcturus It is one of the earliest constellations recorded In old star atlases it is represented by a man's figure holding with one hand two leashed dogs and bearing a spear or staff in the other hand

Booth, name of a family prominent in the SALVATION ARMY, founded by William BOOTH His wife, Catherine Mumford Booth (1829–90), whom he married in 1855, played a leading part in the foundation and development of the Salvation Army, particularly devoting herself to the work among women and children Their eldest son, Bramwell Booth (1856–1929), succeeded his father in 1912 as general of the Salvation Army Another son, Ballington Booth (1859–1940), first was commander (1885–87) of the Army in Australia and then was commander (1887–96) in the United States, where his wife, Maud Charlesworth Ballington Booth (1865–1948), shared his labors In 1896 they withdrew from the Salvation Army and founded the VOLUNTEERS OF AMERICA A daughter of William Booth, Emma Moss Booth-Tucker (1860–1903), was in charge (1880–88) of the international training homes of the Salvation Army She and her husband, Frederick St George de Latour Booth-Tucker (1853–1929), who had resigned from the India civil service to join the Salvation Army, jointly commanded the Army in the United States from 1896 until her death in 1903, upon their marriage he had added Booth to his name See also BOOTH, EVANGELINE CORY

Booth, Barton, 1681–1733, English actor The leading tragedian of his time, he won fame as Brutus, King Lear, and Henry VIII and as the Ghost in *Hamlet* He was engaged by Betterton at Lincoln's Inn Fields, 1700–1704, accompanied him to the new Haymarket Theatre in 1705, and became, by command of Queen Anne, one of the joint managers of Drury Lane c 1713

Booth, Charles, 1840–1916, English social investigator, pioneer in developing the social survey method Aided by such notable social scientists as Octavia Hill, Beatrice Webb and Graham Balfour, he made an exhaustive statistical study of poverty in London, showing its extent causes, and location This was published as *Life and Labour of the People in London* (17 vols, 1891–1903) Booth was also active in reform groups in the interest of the poor and aged His other writings include *Old Age Pensions and the Aged Poor* (1899) and *Industrial Unrest and Trade Union Policy* (1914) See *Charles Booth a Memoir* (1918)

Booth, Edwin, 1833–93, American actor, b Tudor Hall, near Bel Air, Md The second son of Junius Brutus Booth, he made his debut at the Boston Museum (1849) as Tressel to his father's Richard III After years of tours to California, Hawaii, and Australia, he appeared in New York (1857) as Sir Giles Overreach in Massinger's *New Way to Pay Old Debts* and as Richard III, with instantaneous success He created a profound impression as Lear, Richelieu, and Shylock In 1864, he leased the Winter Garden theater, New York, where a performance of Hamlet gave him fame His magnificent Shakesperian productions at the Winter Garden terminated in 1865, when his brother John Wilkes BOOTH assassinated Lincoln Edwin Booth was forced to retire, but returned (1866) to play Hamlet to enthusiastic audiences In 1869 he built the Booth Theatre, New York, where he continued his career, presenting such stars as Salvini and Ristori in Shakspere until his bankruptcy (1873) His English tours (1861–62, 1880–82), his association with Lawrence Barrett (1887–89), and his appearances with Helena Modjeska (1889–90) all met with success In 1891 he made his last appearance at the Brooklyn Academy of Music as Hamlet The founder and first president of the Player's Club, he bequeathed his New York home to this organization Booth had grace, gentleness, and a restraint that was rare in the theater of his time He was the first great American tragedian. See Lawrence Hutton, *Edwin Booth* (1893), Richard Lockridge, *The Darling of Misfortune* (1932), E M Royle, *Edwin Booth as I Knew Him* (1933), Otis Skinner, *The Last Tragedian* (1939), Stanley Kimmel, *The Mad Booths of Maryland* (1940)

Booth, Evangeline Cory, 1865–, general of the SALVATION ARMY, b England, daughter of William Booth At the age of 17, she began evangelistic preaching She was field commissioner of the Salvation Army in London for five years, commander of the Army in Canada from 1895 to 1904, and commander in the United States from 1904 to 1934 Miss Booth was general of the international Salvation Army from 1934 to 1939 Her works include *Love Is All* (1925), *Songs of the Evangel* (1927), and *Woman* (1930) See also BOOTH, family See biography by P W Wilson (1948)

Booth, John Wilkes (wilks), 1838–65, American actor, the assassin of Abraham LINCOLN, b near Bel Air, Md, son of Junius Brutus Booth and brother of Edwin Booth He made his debut at 17 in Baltimore, toured widely, and soon became a star, winning acclaim for his Shaksperian roles Unlike the rest of his family, Booth was an ardent Confederate sympathizer He had joined (1859) the Virginia militia company which assisted in the capture of John BROWN, but did not enter Confederate service in the Civil War Instead the charming egomaniac continued with his theatrical career in the North For some six months in 1864–65 he had plans to abduct Lincoln and carry him to Richmond, a scheme which was frustrated when Lincoln failed to appear (March 20, 1865) at the spot where Booth and his six fellow conspirators lay in wait On Good Friday, April 14, 1865, Booth, having learned that Lincoln planned to attend Laura Keene's performance of *Our American Cousin* at Ford's Theater in Washington on that evening, plotted the assassination of the President (a deed he probably first had in mind only a few days before). Vice President Andrew Johnson, and Secretary of State William H Seward Lewis Thornton Powell, who called himself Payne, guided by David E Herold, seriously wounded Seward and three others at Seward's house George A Atzerodt, assigned to Johnson, lost his nerve The main act Booth naturally reserved for himself His crime was performed a little after 10 P M, when he entered the presidential box unobserved, suddenly shot Lincoln, and vaulted to the stage (breaking his left leg in the process) shouting "*Sic semper tyrannis!* The South is avenged!" He then went behind the scenes and down the back stairs to a waiting horse upon which he made his escape Not until April 26, after a hysterical two-week search by the army and secret service forces, was he discovered, hiding in a barn on Garrett's farm near Bowling Green, Caroline co, Va The barn was set afire and Booth was either shot by his pursuers or shot himself rather than surrender Although it has been said that no dead body was ever more completely identified, the myth, completely unsupported by evidence, that Booth escaped has persisted (see, for example, Izola Forrester, *This One Mad Act*, 1937) For the fate of others involved, see SURRATT, MARY EUGENIA, and MUDD SAMUEL ALEXANDER See also D M De Witt *The Assassination of Abraham Lincoln* (1909), Lloyd Lewis, *Myths after Lincoln* (1929), Francis Wilson, *John Wilkes Booth* (1929), Asia Booth Clarke Booth's sister, *The Unlocked Book* (written 1874, pub 1938), Philip Van Doren Stern, *The Man Who Killed Lincoln* (1939), G S Bryan, *The Great American Myth* (1940)

Booth, Junius Brutus, 1796–1852, English actor After experience in the provinces (1813–15), he appeared at Covent Garden, playing Iago to Edmund Kean's Othello and, in 1817, Richard III, the first role to establish him as a rival of Kean In 1821 he came to the United States, where he spent most of his remaining life He had a full, rich voice and an imposing presence, and his portrayals of Richard III Shylock, Brutus, and Sir Giles Overreach made him one of the great figures in the 19th-century theater He had three sons, Edwin Booth, who surpassed him as an actor, John Wilkes Booth, and Junius Brutus Booth, Jr See Stanley Kimmel, *The Mad Booths of Maryland* (1940)

Booth, William, 1829–1912, English religious leader, founder and first general of the SALVATION ARMY, b Nottingham Converted at 15, he entered the ministry of the Methodist New Connexion Church in 1852, but in 1861 he began independent evangelistic work In 1865, with the able help of his wife, Catherine Booth, he started the East London Revival Society (soon known as the Christian Mission) in Whitechapel, London The Christian Mission developed in 1878 into the Salvation Army General Booth, a remarkable organizer, traveled widely, extending the field of labor to other parts of the world and winning recognition wherever he went His best-known book is *In Darkest England and the Way Out* (1890) See also BOOTH, family See biographies by G S Railton (2d ed, 1912), Harold Begbie (1920), and St John Ervine (1934)

Boothbay, boatbuilding town (pop 1,370), S Maine, S of Wiscasset, settled 1630, inc 1764 It grew as a shipping, shipbuilding, and fishing center and in the 20th cent. developed as a resort and artists'

colony **Boothbay Harbor,** town (pop 2,121), was set off in 1889 A summer theater was opened in 1934 There is a Federal fish hatchery

Boothia Peninsula (bōō'thēu), N Canada, the northernmost tip of the North American mainland It is almost an island, being connected with the mainland only by the narrow Isthmus of Boothia Topographically and in climate it is like the islands of the Arctic Ocean Only a narrow strait separates it in the north from Somerset Island To the east the Gulf of Boothia separates it from Baffin Island The peninsula was discovered and explored (1829–33) by John Ross and named for a patron of the expedition, Sir Felix Booth Near the south west end the expedition of Sir John FRANKLIN ended in tragedy Roald AMUNDSEN explored the peninsula again in 1903–5 The north magnetic pole is in the peninsula

Bootle, county borough (1931 pop 76,770, 1947 estimated pop 67,480), Lancashire, England, near Liverpool and on the east bank of the Mersey It has extensive docks adjacent to those of Liverpool Besides shipping, its industries include tanning, engineering, and flour milling

bootlegging, in the United States, the illegal distribution or production of liquor and other such products First practiced when liquor taxes were high, it was instrumental in defeating attempts to regulate the liquor business by taxation After the appearance of local and state option, "dry" territories were supplied with boot-legged liquor There was also some smuggling from foreign countries in order to evade customs duties In the period of PROHIBITION these activities increased greatly, and by the end of a decade they were well organized into a large illegitimate industry Much violence was connected with it Certain areas were dominated by gangs which fought to defend or extend their territories The retail outlet in the prohibition period was the "speak-easy," though a house-to-house delivery to established customers was also well developed A high degree of organization also prevailed in international liquor smuggling The combination of graft and violence accompanying this industry, especially in areas predominantly "wet," became so intolerable that it was an important factor in the final repeal of prohibition See James Barbican, *Confessions of a Rum-Runner* (1928), F F Van de Water, *The Real McCoy* (1931), *Report on the Enforcement of the Prohibition Laws* (1931) by the National Commission on Law Observance and Enforcement (Wickersham Commission)

Booz (bō'ŏz), the same as BOAZ **1.**

Bopp, Franz (frants' bŏp'), 1791–1867, German philologist A professor at the Univ of Berlin from 1821 to 1864, he did research in many languages and earned an enormous reputation as a scholar by demonstrating the relationship of the Indo-European languages in his *Vergleichende Grammatik* [comparative grammar] (1833–52)

Bora, Katharina von see LUTHER, MARTIN

boracic acid. see BORIC ACID

Borah, William Edgar, 1865-1940, U S Senator, b near Fairfield, Ill , educated (1885–87) at the Univ of Kansas Admitted to the bar in Kansas in 1889, he became prominent after 1890 in law and politics at Boise, Idaho Shortly after election to the Senate, he in 1907 gained national attention by his prosecution of William HAYWOOD and two other I W W men who were accused of murdering (1905) ex-Governor Frank Steunenberg His long (1907–40) career in the Senate lasted until his death There he was outstanding as an orator, as an expounder of the Constitution, and as a Republican notable for his independent stands (he was sometimes called "the great opposer") He joined the Insurgent revolt against Taft and supported Theodore Roosevelt for the Republican nomination in 1912 but stopped short of joining the PROGRESSIVE PARTY Borah was one of the leaders in defeating Senate ratification of the Versailles Treaty and the League of Nations after the First World War When Woodrow Wilson's term ended and the Republicans came into power, Borah's influence grew From 1925 to 1933 he was chairman of the Senate Committee on Foreign Affairs, and his major interest was in foreign policy He early asked for recognition of the USSR, favored the collection of war debts, and opposed intervention in Latin American countries to protect U S investments An advocate of disarmament and the outlawing of war, he suggested the Washington Conference (see NAVAL CONFERENCES) of 1921–22 and the five-year naval "holiday" adopted by the Hoover administration in 1931 and promoted the Kellogg-Briand Pact, in 1939 he fought revision of the Neutrality Act. In domestic affairs, Borah staunchly favored prohibition. He spoke against economic monopoly and for enforcement of the anti-trust laws, but he was opposed to extension of governmental powers and in the administration of F D Roosevelt disapproved the NRA and many other New Deal measures The biography (1936) by C O Johnson is a sympathetic portrayal.

Borah, Mount [for William E Borah], peak, 12,655 ft high, central Idaho, in the Lost River Mts., highest known point in the state.

Boras, Swed *Borås* (bōō'rōs'), city (pop 51,651), Alvsborg co , SW Sweden, on the Viske river Incorporated in 1622, it is an important textile manufacturing center

borax [Arabic], compound of sodium, boron, and oxygen, a hydrated (see HYDRATE) crystalline salt When pure it appears as colorless or white monoclinic crystals which when heated change to a transparent glasslike substance Borax is widely and diversely used, e g , as a mild antiseptic, a cleansing agent, sometimes as a preservative, as a flux in the WELDING of metals and in soldering, in the manufacture of enamels and shellacs, in making pyrex glass, and in fixing colors on porcelain It occurs free in the United States in Nevada, Oregon, and California (Borax Lake in Death Valley) and in Tibet, where it is called tincal Practically the whole supply of borax for the United States is obtained from California, being prepared from the borates colemanite and ulexite, and by crystallization from solution In large doses borax is toxic (for antidote, see POISONING, table) In the **borax bead test** for metals in chemical analysis, borax is held in a loop of platinum wire and heated to a glassy "bead" This bead is then dipped in the substance to be tested and is heated again (oxidizing flame) The bead is colored according to the metal present, e g , if chromium is present the bead is colored green, if cobalt, blue, if copper, blue or green, if manganese, amethyst, and if nickel, brown

Borchgrevink, Carsten Egeberg (kär'stün ā'gubĕr' bôrk'grā"vĭngk), 1864–1934, Norwegian antarctic explorer He emigrated to Australia in 1888, and in 1894 he went south in a whaling vessel and at Cape Adare took part in the first landing on the continent of Antarctica In 1898 he left England in command of an expedition on the *Southern Cross* Disembarking at Cape Adare, he sent the ship back to New Zealand He and his companions were the first to spend a winter on the continent itself In the spring he explored the Ross Sea and did extensive mapping See his *First on the Antarctic Continent* (1901)

Bordeaux, Henri Charles Ferdinand Marie Dieudonné, duc de see CHAMBORD, HENRI, COMTE DE

Bordeaux, Henry (ärē' bôrdō') 1870–, French novelist, whose popular stories, witty and well written, were intended to propagate the virtues of family life They are usually laid in Bordeaux's own picturesque upper Savoy Typical of his novels is *Les Roquevillard* (1902, Eng tr , *The Will to Live*, 1915), and of his long short stories *La Visionnaire*

Bordeaux (bôrdō'), city (pop 238,653), capital of Gironde dept , on the Garonne It is the chief economic and cultural center of SW France Its active port is accessible to ocean-going ships from the Atlantic through the GIRONDE river Although Bordeaux has important shipyards and industries (particularly in machines and chemicals) its principal source of wealth is the wine trade Bordeaux WINE is the generic name of the wines grown in the Bordelais region MÉDOC (W of the Gironde), Graves and Sauternes (S of Bordeaux), and Côtes (E of the Gironde) are the collective names of the principal vineyards which furnish the entire world with superfine red and white wines The region is dotted with châteaux which give their names to many vineyards The Roman Burdigala, Bordeaux was the capital of the province of Aquitania and a prosperous commercial city, described by AUSONIUS, who was born here It became an archiepiscopal see in the 4th cent Its importance, fallen under Visigothic and Frankish domination, was revived when it became (11th cent) the seat of the dukes of AQUITAINE ELEANOR OF AQUITAINE, who was born here, precipitated through her successive marriages to Louis VII of France and Henry II of England the long struggle between the two nations which placed Bordeaux under English rule from 1152 to 1453 Its commercial importance dates from that period Reconquered by France, it became the capital of the province of GUIENNE Louis XI established the powerful PARLEMENT of Bordeaux and granted great privileges to the university founded (1441) by Pope Eugene IV The intellectual reputation of Bordeaux was made by Montaigne and by Montesquieu, who were born near by and were both magistrates in that city Bordeaux reached the height of its prosperity in the 18th cent Its relations with England were always close, many English firms exporting wine and spirits established themselves here Bordeaux was the center of the Girondists in the French Revolution and the site of the National Assembly of 1871 which established the Third Republic In 1914 and again in 1940 it was a temporary seat of the French government It suffered some damage in the Second World War, and many of the elegant 18th-century buildings (planned by Victor Louis, Jacques Gabriel, and others), which made the center of Bordeaux an architectural marvel, were injured The Gothic Cathedral of St André is undamaged. Bordeaux has several excellent art museums.

Bordeaux mixture, a FUNGICIDE made by combining bluestone (copper sulphate), lime, and water in varying proportions, widely used for spraying orchards, for seed treatment, and for dusting It was originated in France and was for a long time the most important fungicide in use According to the formula for use on most plants, 4 lb. of copper sulphate are mixed with 4 lb of lime and 50 gal of water For sal soda Bordeaux, see BURGUNDY MIXTURE

Borden, Sir Frederick William, 1847–1917, Canadian statesman, b. Cornwallis, N S , educated at King's College, N S , and Harvard Medical School. For some years he practiced medicine at Canning, N S He entered (1874) the Canadian House of Commons as a Liberal and served (1896–1911) as Laurier's minister of militia and defense Under his ministry, Canada took control from Great Britain of the naval bases at Halifax and Esquimalt Borden represented Canada on the imperial council of defense

Borden, Gail, 1801–74, American surveyor and inventor, b Norwich, N Y He was for six years a deputy surveyor in Mississippi, afterwards he joined the colony of Stephen F AUSTIN in Texas Here, besides farming, stock raising, and newspaper activities, he superintended the surveying of lands for Austin He laid out the city of Galveston and became collector of customs there In 1851 he returned to New York and spent his time working on a process of evaporating milk, which he patented in 1856 Jeremiah Milbank backed him financially, and the first evaporating plant was opened in 1858 During the Civil War his product was found to be of the greatest value for the army, and its use spread rapidly afterwards Borden subsequently also patented processes for concentrating apple juice and other fruit juices

Borden, Lizzie Andrew, 1860–1927, New England spinster, accused of killing her father and her stepmother, b Fall River, Mass Mr and Mrs Borden were hacked to death with an ax on Aug 4, 1892 Lizzie Borden was allegedly at the time in the barn, but she was accused of the murders and tried The trial (in which she did not testify) ended with a verdict of not guilty See Edmund Pearson, *The Trial of Lizzie Borden* (1937)

Borden, Sir Robert Laird, 1854–1937, Canadian statesman, b Grand Pré, N S Called to the bar in 1878 and created queen's counsel in 1891, he won a considerable reputation as a constitutional lawyer He was elected to the Canadian House of Commons for Halifax in 1896 and in 1901 succeeded Sir Charles Tupper as leader of the Conservative party He was in opposition until 1911, when with the downfall of Sir Wilfrid Laurier's government Borden became prime minister and headed a Conservative government until 1917 and a Union government until his retirement for reasons of health in 1920 He is remembered for his leadership in carrying Canada through the First World War and subsequently in defining the new status of the self-governing dominions in the British Empire Largely through his efforts the dominions were given separate representation in the League of Nations At his insistence also the peace treaties were separately ratified by the Canadian Parliament before they were signed by the king Though Borden resigned the premiership in 1920, his service to his country continued, he represented Canada at the conference in Washington (1921–22) and in the League of Nations He delivered the Rhodes Memorial Lectures at Oxford in 1927 and served (1927–31) as the first president of the Canadian Institute of International Affairs His *Canadian Constitutional Studies* (1922) and *Canada in the Commonwealth* (1929) are significant works See his memoirs (ed by Henry Borden 2 vols , 1938)

Bordentown, city (pop 4,223), W N J , on the Delaware between Trenton and Burlington and at the west end of the old Delaware and Raritan Canal, settled 1682, inc as a borough 1825, as a city 1867 In 1778 the British destroyed many buildings Joseph Bonaparte lived here (1816–39) Clara Barton's school (built 1739) was made a Red Cross memorial Among Bordentown's famous residents were Thomas Paine, Francis Hopkinson, Patience Wright, and Richard Watson Gilder The city has a state industrial school

Border, the, in British history, region about the boundary between England and Scotland From the coast near Berwick along the Tweed river through the Cheviot Hills and on to Solway Firth, the narrow, rugged country is dotted with sites of battles between Scots and English and between rival Border lords The wild country figures much in literature—in legend, in folklore, and particularly in the Border ballads

Border terrier. see TERRIER

Bordet, Jules (zhül' bôrdā'), 1870–, Belgian serologist and immunologist, M D Univ of Brussels, 1892 He became director of the Pasteur Institute in Brussels in 1901 and professor at the Univ of Brussels in 1907 With Octave Gengou he devised (1900) the technique of the complement fixation reaction (applied by Wassermann to the diagnosis of syphilis) and discovered (1906) the bacillus of whooping cough For his work in immunity he received the 1919 Nobel Prize in Medicine

Bordone, Paris (pä'rēs bôrdō'nā), 1500–1571?, Venetian painter of the Renaissance; pupil of Titian.

He excelled in portraits, but also painted mythological scenes and religious pictures *The Fisherman Presenting the Ring to the Doge*, his best-known painting, is in the Venice Academy, *Christ and the Doctors* is in the Gardner Museum, Boston, *Diana* and *Minerva at the Forge of Vulcan* are in the National Gallery of Art, Washington, D C

bore, inrush of water which advances upstream with a wavelike front It is caused by the progress of the incoming tide from a wide-mouthed estuary into its narrower portion The tidal movement tends to be slowed down as it reaches the shallower water and meets the river current and therefore piles up and forms a tidal wave In the Bristol Channel spring tides cause the water to rise to over 40 ft and produce a current of c 10 mi an hour Bores are found also in the Bay of Fundy, in Solway Firth, in the Severn, Seine, and Hooghly rivers, and in Hangchow Bay

Boreas (bō'rēus), in Greek legend, the north wind, son of ASTRAEUS and EOS

borecole see KALE

Borel, Félix Édouard Émile (fālēks' ādwär' āmāl' bôrĕl'), 1871–, French mathematician He is noted for his work in infinitesimal calculus and in the calculus of probabilities He was professor at the Univ of Paris (1904–41), director of the Henri Poincaré Institute (from 1927), and a representative in the French chamber of deputies (1924 36)

Borelli, Giovanni Alfonso (jōvän'nē alfōn'sō bôrĕlē), 1608–79, Italian physicist and astronomer He is reported to have been the first to point out the parabolic paths of comets He was professor of mathematics at both Pisa and Messina In his *De motu animalium* , a section of which was translated in 1911 as *The Flight of Birds*, he expounded his theory of the mechanics of flight

Boreman, Arthur Ingram, 1823–96, first governor of West Virginia (1863-69), b Waynesburg, Pa Admitted (1845) to the Pennsylvania bar, he moved in 1846 to Parkersburg Va (now W Va), where he became a prominent lawyer A member (1855 61) of the Virginia house of delegates, Boreman opposed secession and presided over the Wheeling Convention of June, 1861, which set up the loyal government of Virginia with Francis H PIERPONT as governor It was this government which consented to the partition of Virginia and on June 20, 1863, Boreman was inaugurated governor of the new state of West Virginia He was reelected in 1864 and 1866, but resigned in 1869 to enter the U S Senate, where he served until 1875

Borenius, Tancred, 1885 1948, art historian and teacher, b Finland He became (1922) professor of the history of art at University College, London From 1933 he directed the excavations of Clarendon Palace near Salisbury, England He was managing director of the *Burlington Magazine* from 1940 to 1945 His principal publications are *The Painters of Vicenza* (1909), *Four Early Italian Engravers* (1923), *The English Primitives* (1924), *English Medieval Painting* (with E W Tristram, 1927), *The Iconograph of St Thomas of Canterbury* (1929) *Florentine Frescoes* (1930), *English Painting in the XVIIIth Century* (1938), and *Dutch Indoor Subjects* (1946)

borer, name applied to various animals which are injurious because of their ability to penetrate plant or animal tissues Some borers among insects are beetles, e g , the flat-headed apple-tree borer, a serious pest of many shade and fruit trees, the roundheaded apple-tree borer, the bronze birch, the locust, the elm, the shot-hole, and the poplar borers Other boring insects are moths which are harmful in the larval stage, e g , the peach, the currant, the squash, the lilac, and the southern cornstalk borers and the European CORN BORER Some mollusks, e g , the SHIPWORM and the piddock, are sometimes called borers Much harm is done by the hagfish, or borer, a parasite which burrows into the bodies of other fish

Borga, Finland see PORVOO

Borger (bôr'gur), city (1940 pop 10,018, 1947 estimated pop 17,000), extreme N Texas, NE of Amarillo and near the Canadian river, in the Panhandle, inc 1926 After the discovery of oil in 1925, Borger grew as the industrial center of a vast natural-gas and oil field Here and near by are refineries, carbon-black plants, synthetic-rubber plants, and related undertakings

Borgerhout (bôr'khûrhout), suburb (pop 51,174) of Antwerp, Belgium

Borges, Jorge Luis (hôr'hā lwĕs' bôr'hās), 1899–, Argentine poet, b Buenos Aires, educated in Switzerland He was a conspicuous representative of *ultraismo*, a poetic movement later known as *vanguardismo*, which appeared in both Spain and Spanish America during the First World War It followed the decline of MODERNISMO and made use of bold images, daring metaphors, and pure poetry, divorced not only from the past but from factual reality Góngora was revived, and emotions and romanticism were banned Borges nevertheless, because of his love for his native land, often made use of creole subjects His best-known verses were collected in *Fervor de Buenos Aires* (1923) and *Luna de enfrente* (1925).

Borgese, Giuseppe Antonio (jōōzĕp'pā āntō'nyō bôrjā'zā), 1882–, Italian-American author, b near Palermo, Ph D, Univ of Florence, 1903 From 1910 to 1931 he taught at the universities of Rome and Milan An opponent of Fascism, he came to the United States in 1931 and was naturalized in 1938 He first taught at Smith College (1932–35) and then at the Univ of Chicago (from 1936) He is secretary of the Committee to Frame a World Constitution, he was the chief author of its Chicago draft (1947) All his activities— philosophic, poetic, political—are under the concept of spiritual unity or, in his word, "syntax " His works of criticism, fiction, and poetry include the novel *Rubè* (1921, Eng tr , 1923) and, written in English, *Goliath the March of Fascism* (1937), *The City of Man* (with others, 1940), and *Common Cause* (1943)

Borghese (bôrgā'zā), Roman family of ancient nobility It produced one pope, PAUL V, several cardinals, and many prominent citizens Scipione Cardinal Borghese built the fine Villa Borghese in Rome Camillo Borghese, a general under Bonaparte, married Pauline BONAPARTE

Borghese, Villa, or **Villa Umberto I** (vēl'lä ōōmbĕr'tō prē'mō), summer palace built by Scipione Cardinal Borghese outside the Porta del Popolo, Rome In 1806 it yielded much of its priceless art to Paris It is now government owned and has become the repository for many of the paintings from the Borghese Palace

Borghese Warrior, Greek statue of the 1st cent B C by Agasias It is a study of athletic form, representing a single figure on foot in the attitude of attacking a mounted opponent Discovered in the 17th cent , it was formerly in the Villa Borghese, but is now in the Louvre

Borgia (bôr'jə), Span *Borja* (bôr'ha), Spanish-Italian noble family, originally from Aragon When Alfonso de Borja, cardinal-archbishop of Valencia, was pope as Calixtus III (1455–58), several relatives followed him to Rome His nephew Rodrigo became pope as ALEXANDER VI, and Rodrigo's natural children were Cesare and Lucrezia Borgia To the Spanish branch of the family belonged St FRANCIS BORGIA and Francisco Borja (1581–1658), a Spanish general and viceroy of Peru The direct line of the family, whose senior members bore the title duke of Gandia, died out in the 18th cent

Borgia, Cesare or **Caesar** (chā'zärā), c 1476–1507, Italian soldier and politician, younger son of Pope ALEXANDER VI and an outstanding figure of the Italian Renaissance Throughout his pontificate Alexander VI used his position to aggrandize his son A cardinal at the age of 17, Cesare resigned the dignity after the death (1498) of his elder brother, the duke of Gandia, in whose murder he was probably involved He now began his political career as papal legate to France He struck an alliance with Louis XII who made him duke of Valentinois (see VALENCE), and married (1499) Charlotte d'Albret, a sister of the king of Navarre The French having overrun Italy (see ITALIAN WARS), Cesare, with his father's encouragement, subdued the cities of the ROMAGNA (1499 1500) one by one Made duke of Romagna (1501) by the pope, Cesare also seized (1502) Piombino, Elba, Camerino, and the duchy of Urbino and he crowned his achievements by artfully luring his chief enemies to the castle of Sinigaglia, where he had them strangled Cesare was struck in 1503 by the same poison (or illness) that suddenly killed his father, but he recovered His political power, however, had suffered a fatal blow By killing his enemies, packing the college of cardinals, pushing his conquests as fast as possible, and buying the loyalty of the Roman gentry, he had hoped to make his position independent of the papacy or at least to insure the election of a pope to his liking However, Pius III after a short reign was succeeded by JULIUS II, an implacable enemy of Cesare Borgia Louis XII now also turned against him Julius demanded the immediate return of what territory remained to Cesare and had him arrested Cesare escaped, first to Naples, then to Spain, and he finally found refuge (1506) at the court of the king of Navarre He died fighting for him at Viana His former possessions had passed under direct papal rule, thus, Cesare must be regarded as instrumental in the consolidation of the Papal States, even if that was not his purpose The model used by MACCHIAVELLI for his *Prince*, Cesare was cruel treacherous and unscrupulous to the highest degree, yet these qualities, according to Machiavelli, were always subordinated to his superior intelligence, reason, never passion, dictated his deeds His administration of the Romagna was far better and more just than that of his predecessors In his vices, Cesare was not an exception to his age, but he was exceptional in his systematic application of ruthless opportunism His career, as idealized by Machiavelli, foreshadowed somewhat the modern Fascist methods of government See biographies by H W Woodward (1913) and Rafael Sabatini (1923), J A. Symonds, *The Renaissance in Italy*

Borgia, Francis. see FRANCIS BORGIA, SAINT

Borgia, Lucrezia (lōōkrā'tsya), 1480–1519, famous figure of the Italian Renaissance; daughter of Pope ALEXANDER VI Her first marriage (1492) to Giovanni Sforza of Pesaro was annulled in 1497, and she was married to Alfonso of Aragon, natural son of Alfonso II of Naples Her brother, Cesare Borgia, had her second husband murdered in 1500, and in 1501 Lucrezia was married to Alfonso d'Este, who became duke of Ferrara in 1505 As duchess of Ferrara, Lucrezia at last escaped the vicious atmosphere of her family Her brilliant court attracted many artists and poets, notably Ariosto, and her beauty, kindness, and piety won her universal esteem Rumors of her participation in her family's poison plots, of incestuous relations with her father and brother, and of her supposed extravagant vices have been disproved Nevertheless, Lucrezia Borgia remains best known as portrayed in Victor Hugo's drama and Donizetti's opera, both based on these legends An excellent and scholarly biography is Ferdinand Gregorovius, *Lucrezia Borgia* (rev ed , 2 vols , 1875, in German, Eng tr , 1949)

Borgia, Rodrigo see ALEXANDER VI

Borglum, Gutzon (John Gutzon de la Mothe Borglum) (bôr'glum), 1867–1941, American sculptor, b Idaho, son of a Danish physician and rancher He studied at the San Francisco Art Academy and in Paris at Julien's academy and the École des Beaux-Arts His first commission after his return to New York in 1901 was the statue of Lincoln which stands in the rotunda of the Capitol, Washington, D C Other works of his earlier period were a statue of Henry Ward Beecher (Brooklyn), *Mares of Diomedes* (Metropolitan Mus), and figures of the apostles for the Cathedral of St John the Divine, New York city He designed and began carving (1916) a Confederate memorial on Stone Mt , Ga The work was interrupted by the First World War but was resumed in 1924 As the result of a controversy with the Stone Mountain Memorial Association, Borglum ceased working and destroyed his models His gigantic MOUNT RUSHMORE NATIONAL MEMORIAL in South Dakota was authorized by act of Congress in 1925 Borglum had finished the heads of the four Presidents (Washington, Jefferson, Lincoln, and Theodore Roosevelt) when he died The work was finished by his son Lincoln Borglum Borglum was a man of tremendous vitality and decided opinions which led him into frequent controversies His brother **Solon Hannibal Borglum,** 1868–1922, was also a sculptor noted especially for his portrayal of horses, cattle, Indians and cowboys

Borgognone (bôrgōnyō'nā) or **Bergognone** (bĕr–), fl 1450–1523, Italian painter, known also as Ambrogio Stefani da Fossano (ambrō'jō stäfä'nē dä fôs-sä'nō) His most important works are his frescoes in the Certosa of Pavia Paintings by him are in the National Gallery, London, the Louvre, the Metropolitan Museum and the National Gallery of Art, Washington, D C , but the greater number are in the churches of Bergamo, Lodi, Milan, and Pavia

Bori, Lucrezia (lōōkrā'shu bô'rē), 1887–, Spanish soprano, whose real name was Borja (Ital *Borgia*) She made her debut (1908) in Rome as Micaela in *Carmen* and so impressed Puccini that he asked her to sing in his *Manon Lescaut* opposite Caruso in Paris in 1910 She was leading soprano of the Metropolitan Opera, New York (1912–15, 1920–36) In 1935 she was made a director of the Metropolitan Opera Association Her repertoire includes American, French, Italian, German, and Russian operas

boric acid or **boracic acid** (burĭ'sĭk, bō–), white, crystalline, weakly acidic compound composed of boron, hydrogen, and oxygen It is somewhat soluble in hot water (about 1 part to 3 of water), but only slightly so in cold water In solution it is commonly used as a mild antiseptic and eye wash It is sometimes used in the glazing of pottery, in mixtures used for fireproofing, and in making enamels Its use as a preservative for foods is generally prohibited since it is poisonous It is present in small quantities in the hot vapors issuing from the ground in the MAREMMA region in Tuscany It is absorbed from these vapors by water, which upon being evaporated yields crystals of the acid Boric acid is prepared also by the action of sulphuric acid on a borax solution The term boric acid is applicable to any acid formed by boric oxide, but commonly designates the orthoboric acid to which other forms—as metaboric and tetraboric acid, formed when orthoboric acid is heated —revert in solution

Borinage (bôrēnazh'), region, S Hainaut, Belgium, surrounding Mons and extending west to the French border It is an important coal-mining district and was long known for the miserable condition of its miners

Boring, Edwin Garrigues, 1886–, American psychologist, b Philadelphia, grad Cornell Univ (M E , 1908, Ph D , 1914) He taught at Harvard from 1922 and from 1924 was director of the psychological laboratory there He wrote a *History of Experimental Psychology* (1929) and *The Physical Dimensions of Consciousness* (1933) and edited *Psychology for the Armed Services* (1945)

Boris I, d 907, ruler (khan) of Bulgaria (853–88) He was baptized (865) and introduced Christianity of the Greek rite among the Bulgarians. In 888 he

abdicated and retired into a monastery. His son was Tsar Simeon I

Boris III, 1894–1943, ruler (tsar) of Bulgaria (1918–43), son of Tsar FERDINAND, on whose abdication he succeeded to the throne He ruled constitutionally until 1934, when he set up a military dictatorship under his premier, Kimon Georgiev In 1935 he dismissed Georgiev and began his personal dictatorship He turned toward the AXIS Powers, forced Rumania in 1940 to restore S DOBRUJA to Bulgaria, and joined the Pact of Berlin in 1941 His refusal, while visiting Hitler in Berlin, to declare war on Russia as well as on England and the United States, was followed by his mysterious death shortly afterward His son, SIMEON II, succeeded under a regency Boris was famous for his favorite recreation, which was to drive railroad engines

Boris Godunov · see GODUNOV, BORIS

Borislav (bŭrĕ'slŭf), Pol *Borysław* (bôrĭs'wäf), city (pop 41,683), W Ukraine, in the Carpathian foothills It is the center of a productive oil field and of the richest ozocerite deposits in Europe Natural gas is used in Borislav industry, while the oil is piped to DROGOBYCH. A town of Galicia, Borislav passed to Austria in 1772, to Poland in 1919, and to the USSR in 1945

Borlange, Swed *Borlänge* (bôr'lĕng-u), industrial city (pop 19,809), Kopparberg co, central Sweden There are ironworks and paper and lumber mills

Born, Bertrand de see BERTRAND DE BORN

Börne, Karl Ludwig (lōōd'vĭkh bûr'nu), 1786–1837, German journalist, of Jewish origin, whose real name was Lob Baruch He studied medicine and political science and held an official post in Frankfurt until, after the fall of Napoleon, racial discrimination was restored His writings, generally satirical in tone, were directed against censorship and toward the encouragement of German liberalism He and Heine are considered the initiators of the Jewish influence in German literature

Borneo, island (286,969 sq mi, estimated pop 3,080,000), largest of the Malay Archipelago and third largest in the world, SW of the Philippine Islands and N of Java It is largely jungle, the interior is mountainous, reaching its highest point at Mt. Kinabalu (13,455 ft.) in the north The coastal area is generally swampy and fringed with mangrove forests Many of the rivers are navigable, the largest being the Kapuas in the west and the Barito in the south The climate is hot and humid, annual rainfall is more than 100 in., and there is a prolonged monsoon season There are forests of such valuable timber as sandalwood and camphor and extensive tracts of sago palm and coconut Rice and rubber are important crops The island is rich in minerals; iron, copper, and diamonds are mined, and there are deposits of gold silver, lead, and antimony There are coal mines and extensive oil fields The fauna is roughly similar to that of Sumatra and includes the elephant, rhinoceros, deer, orangutan, gibbon, and lemur The inhabitants of Borneo are chiefly Dyaks who live in the interior, some of them still practice head-hunting In the coastal areas live the Malays, Javanese, and Chinese In 1521 the Portuguese visited Borneo, they were followed by the Dutch and the English Dutch influence was established on the west coast in the early 1800s and was gradually extended to the south and east The two Dutch residencies of West Borneo and South and East Borneo were established as part of the Netherlands East Indies These former Dutch territories (208,285 sq mi, pop 2,168,661), comprising over two thirds of the island, were reorganized in 1949 as part of Indonesia and divided into the five autonomous areas of West Borneo, East Borneo, Great Dayak, Banjar, and Southeast Borneo British influence remains centered in the north and northwest in BRUNEI and the colonies of SARAWAK and NORTH BORNEO

Bornholm (bôrn'hôlm), island (227 sq mi, pop 47,185), Denmark, in the Baltic Sea, 24 mi off the Swedish coast It is a low tableland, rocky and steep on the northern and western coasts Agriculture and fishing are the chief occupations, granite and kaolin are the main exports The principal town and port is Ronne

Bornier, Henri, vicomte de (ārē' vēkōt' du bôrnyā'), 1825–1901, French poet and dramatist His one great success was the verse drama, *La Fille de Roland* [the daughter of Roland] (1875), a treatment of the motive of *Le Cid* of CORNEILLE

Bornu (bôr'nōō), former native state, NE Nigeria, extending W and S of Lake Chad It was divided between Great Britain, France, and Germany at the end of the 19th cent The German portion in 1922 went to Great Britain as part of the British Cameroons mandate of the League of Nations The former state, ruled by a sultan, first rose in the 10th cent The natives of the region which it occupied are Moslems See Sir Richard Palmer, *The Bornu Sahara and Sudan* (1936)

Borobudur or **Boroboedoer** (both bō'rōbōdōōr'), ruins of a great Buddhist monument in central Java, Indonesia It is a huge truncated pyramid covered with intricately carved blocks of volcanic stone A seated Buddha within may be seen from three platforms above the terraces encircling the pyramid Borobudur probably dates from the 8th and 9th cent

Borodin, Aleksandr Porfirevich (ŭlyĭksan'dur pûrfē'rĭvĭch bôrôdyēn'), 1833–87, Russian composer, chemist, and physician He studied at the academy of medicine in St Petersburg, where he later taught chemistry His belief in higher education for women led him to found a school of medicine for women His musical education was not extensive, consisting mainly of study with Balakirev His principal works are two symphonies, several very fine songs, an orchestral tone poem, *In the Steppes of Central Asia* (1880), and an opera, *Prince Igor*, left unfinished, which Rimsky-Korsakov and Glazunov completed It was first performed in St Petersburg in 1890 He left an unfinished symphony, later set in order and scored by Glazunov See biography by Gerald Abraham (1927), M D Calvocoressi and Gerald Abraham, *Masters of Russian Music* (1936), V I Seroff, *The Mighty Five* (1948)

Borodino (bŭrŭyēnô'), village, RSFSR, W of Mozhaisk, on the route of Napoleon's march on Moscow Here, in 1812, the Russians under Kutuzov long and heroically resisted the French The battle, which cost some 80,000 casualties, is described in Tolstoy's *War and Peace*

Boroimhe, Brian see BRIAN BORU

boron (bō'rŏn) [New Gr from *borax*], chemical element (symbol=B, for physical constants, see ELEMENT, table), appearing as either a brownish to yellow crystalline solid or a brown amorphous powder (see ALLOTROPY) Boron resists corrosion in the air under ordinary conditions, but at high temperatures it burns to form an oxide and a nitride It forms compounds, organic as well as inorganic, e g, with oxygen, the halogens, nitrogen, phosphorus, carbon (the CARBIDE is less hard only than the diamond), and sulphur The element does not occur free in nature, but in its compounds, especially the borates, as the borate of calcium (colemanite) and the borate of sodium and calcium (ulexite) It occurs also in the mineral TOURMALINE The element itself is not used commercially, but BORAX and BORIC ACID (or BORACIC acid) are important compounds Boron is prepared in the laboratory by the reduction of the oxide by an active metal, such as potassium or aluminum In 1808 it was first isolated in France by Joseph Louis Gay-Lussac and Louis Jacques Thénard, and in the same year in England by Sir Humphry Davy

Borotra, Jean (zhäʼ bôrôtra'), 1898–, French tennis player b Biarritz Borotra, called by his admirers "the Bounding Basque," became a top-ranking tennis star in the 1920s The many championships that he won include the covered court title (1922, 1924, 1926, 1927) and the national championship (1924) of France as well as the U S indoor singles title (1925, 1927) He was a member of the French Davis Cup team (with Henri Cochet and René Lacoste) that defeated the U S team in 1927 and held the trophy until 1933 He was the minister of sports (1940–42) of the Vichy government

Borough, Stephen (bŭ'ru, bŭ'rō), 1525–84, English navigator Under Richard Chancellor's direction he was master of the *Edward Bonaventure*, the first ship to round (1553) North Cape and reach Russia by the arctic route Sebastian CABOT and others who had fostered the plan formed the Muscovy Company and established profitable trade with Russia Sailing again for them, Borough in a voyage of 1556–57 reached Novaya Zemlya and discovered the strait south of it leading to the Kara Sea He later made several other voyages for them and from 1563 to his death was chief pilot of the queen's ships in the Medway

Borough, William, 1536–99, British naval officer A younger brother of Stephen Borough, William accompanied him on early voyages and was himself a captain of the Muscovy Company As a naval officer he commanded a vessel under Sir Francis Drake at Cádiz and also fought against the Spanish Armada He wrote accounts of his voyages and a treatise on the variation of the compass and compiled several charts

borough see CITY GOVERNMENT

borough-English, a rule or custom in parts of England whereby land descended typically to the youngest son in preference to his older brothers The custom applies to land held in socage tenure and is differentiated from GAVELKIND and PRIMOGENITURE It was of Anglo-Saxon origin Borough-English was abolished by law in 1925

Borowski, Félix (bôrôf'skē), 1872–, Polish-American violinist, composer, music critic, and educator, b England, studied violin, piano, and composition at the Cologne Conservatory In 1897 he came to the United States as head of the composition department of the Chicago Musical College, of which he was president from 1916 to 1925 He was professor of musicology at Northwestern Univ from 1937 until his retirement in 1942 He wrote program notes for the Chicago Symphony Orchestra from 1908 *Adoration*, for violin, is best known of his compositions, which also include a piano concerto, three organ sonatas, the operatic satire *Fernando del Nonsenseco* (1935), orchestral music, and music in smaller forms.

Borromean Islands. see MAGGIORE, LAGO

Borromeo, Charles. see CHARLES BORROMEO, SAINT.

Borromini, Francesco (frănchäʼskō bôr-rōmēʼnē), 1599–1667, Italian architect, one of the leaders and a representative talent of the baroque period He was official architect of Rome from 1644 to 1655. His façade for the Church of Sant' Agnese in the Piazza Navona ranks as his best work He collaborated with Alessandro Algardi in the decoration of St Peter's

Borrow, George Henry, 1803–81, English writer and traveler He led a nomadic life in England and on the Continent, where he was an agent for the British and Foreign Bible Society His friendship with the gypsies, whose language he learned, resulted in *The Zincali, or The Gypsies of Spain* (1841, definitive ed, 1901) His most famous book is *The Bible in Spain* (1843), and his best is probably *Lavengro* (1851), with its sequel, *The Romany Rye* (1857) These works and *Wild Wales* (1862) are all based on his wanderings His other poems, tales, and translations are little known See Norwich edition of his works (ed by C K Shorter, 1923–24), biographies by W I Knapp (1899) and C K Shorter (1920), study by Edward Thomas (1912)

Borsippa see BIRS NIMRUD and BABYLONIAN RELIGION

Borstal system, British method of dealing with delinquents between the ages of 16 and 21 It originated (1902) at Borstal Prison, Kent, England, as a substitute for the indiscriminate punishment of young offenders In Borstals they are put to work under good conditions and given physical and vocational training Those who show sufficient improvement are paroled See William Healy and B S Alper, *Criminal Youth and the Borstal System* (1941)

Bortniansky, Dmitri Stepanovich (dumēʼtrē styĭpaʼnuvĭch bûrtnyanʼskē), 1751–1825, Russian composer, studied with Galuppi in St Petersburg and Venice After producing two operas in Italy, he returned to St Petersburg, where he became director of the Imperial Chapel Choir, for which he set a high standard He composed much fine church music Tchaikovsky completed in 1882 an edition of his works, published in 10 volumes

Boru, Brian see BRIAN BORU

Boryslaw, Ukraine see BORISLAV.

Borysthenes see DNIEPER

borzoi or **Russian wolfhound,** large, graceful dog used in Russia since the early 17th cent for hunting wolves and small game The dogs average about 30 in in height at the shoulder and weigh 75 to 105 lb, the head is long and narrow, the brisket deep, the back rises at the loins, and the tail is long The silky coat is usually white marked with lemon, tan, black, or gray

Bos, Jerom see BOSCH, HIERONYMUS

Bosanquet, Bernard (bōʼzunkĭt), 1848–1923, English philosopher, educated at Oxford He lectured there (1871–81) and at St Andrews (1903–8) His major works include *A History of Aesthetic* (1892), *The Philosophical Theory of the State* (1899), and *The Value and Destiny of the Individual* (1913) Bosanquet represents the idealistic reaction to British empiricism See biography by Helen Bosanquet (1924), J H Muirhead, ed, *Bernard Bosanquet and His Friends* (1935)

Bosboom-Toussaint, Anna Louisa Geertruida (ănʼä lōōēʼzä hăʼtē ōrʼdä bōsʼbōm-tōōsēʼ), 1812–86, Dutch novelist, b Alkmaar, of an old French family named Toussaint In 1856 she married Johannes Bosboom, a painter of reputation She wrote many successful historical novels, but one of her chief works treated modern life, this epistolary novel, *Majoor Frans* (1874, Eng tr, *Major Frank*, 1886), exhibits a real appreciation of the problems of women

Boscán Almogáver, Juan (hwänʼ bōskänʼ älmōgäʼvĕr), c 1495–1542, Spanish poet A Catalan aristocrat, he was a literary figure at the court of Ferdinand V and was a friend of Garcilaso de la Vega His fame rests on his introduction of Italian poetic forms into Spanish poetry, thus revolutionizing its traditional system of metrics Among his compositions, written in different combinations of the 11-syllable line, are sonnets and *canciones* He also translated Castiglione's *Courtier* His works were first printed in 1543

Boscath, the same as BOZKATH

Boscawen, Edward (bōskōʼun), 1711–61, British admiral He distinguished himself in the naval warfare against France at Portobelo (1739), Cartagena (1741), and Cape Finisterre (1747) He had little success in command of a sea and land force in India (1748–49) and as commander in chief in American waters in 1755, but he cooperated with AMHERST in the capture of LOUISBURG (1758) and he decisively beat a French fleet in Lagos Bay in 1759

Boscawen (bōsʼkwĭn, -kuwĭn), town (pop 1,663), S N H, on the Merrimack above Concord, settled 1734, inc 1760 It included Webster until 1860 C C Coffin, author of *The History of Boscawen and Webster* (1878), J A Dix, and W P Fessenden were born in Boscawen A monument on an island in the river marks the scene of Hannah Dustin's

escape from her Indian captors The site of Daniel Webster's first law office (1805) is marked

Bosch, Carl (bôsh), 1874–1940, German chemist In 1935 he became chairman of the board of the I G Farbenindustrie He adapted the HABER PROCESS to achieve mass production of synthetic ammonia (for explosives and fertilizers) from nitrogen and hydrogen by means of high pressure For this work he shared with Friedrich Bergius the 1931 Nobel Prize in Chemistry

Bosch, Hieronymus (hĕrŏn'ĭmŭs bôs'), or **Jerom Bos** (yā'rôm bôs'), c 1460–1516, Flemish painter His family name was Van Aeken, his nickname derived from his birthplace 's Hertogenbosch, where he worked all his life Bosch is famous for the monstrous and diabolical little figures with which he peopled his pictures Men with funnels for heads, toads with men's faces, and hundreds of similar fantasies, realistically portrayed, abound in his works They delighted Philip II of Spain, and some of Bosch's best work is still in Madrid and in the Escorial *The Temptation of St Anthony* and *The Last Judgment* were favorite themes Two versions of *The Adoration of the Magi* are in Princeton Univ and the Metropolitan Museum of Art respectively See studies by Howard Daniel (1948) and Jacques Combe (1948)

Boscobel (bŏs'kŭbĕl), farm region in the eastern part of Shropshire, England The oak in which Charles II hid after the battle of Worcester was near Boscobel House, which is still standing

Boscobel, city (pop 2,008), SW Wis , on the Wisconsin and SE of La Crosse, inc 1873 Here in 1898 took place a meeting that led to the founding of the Gideons

Boscoreale (bŏs'kōrā-ä'lā), small town, Campania, S Italy, at the foot of Mt Vesuvius A celebrated collection of silverwork (1st cent A D), consisting mostly of plates and cups with relief ornamentation, was unearthed here in 1895 It is now in the Louvre

Boscovich, Ruggiero Giuseppe (rōōd-jā'rō jōōzĕp'pā bôs'kōvĭch), 1711–87, Italian mathematician, astronomer, and physicist He became a Jesuit and taught at Rome, Pavia, and Milan Later he was director of optics for the French navy An early advocate of Newton's theories, he wrote many works including one in which he introduced his molecular theory

Bose, Sir Jagadis Chandra, or **Sir Jagadis Chunder Bose** (jŭg'ŭdēs chŭn'drŭ bōs', chŭn'dŭr), 1858–1937, Indian physicist, educated in Calcutta and at Christ's College, Cambridge He was professor of physical science (1885–1915) at Presidency College, Calcutta, and founded the Bose Research Institute in Calcutta He is noted especially for his researches in plant life One of his inventions is the crescograph, a device for measuring plant growth Among his publications are *Comparative Electro-Physiology* (1907), *Researches on Irritability of Plants* (1913), *The Physiology of Photosynthesis* (1924), *The Nervous Mechanism of Plants* (1926), *The Motor Mechanism of Plants* (1928), and *Growth and Tropic Movements of Plants* (1929)

Bose, Subhas Chandra (shōōbh'ŭsh' chŭn'drŭ bōs'), 1897–1945, Indian nationalist, educated at Cambridge Leader of the left wing of the Indian National Congress party, he was in 1938 and 1939 its president In July, 1940, he was jailed by the British for his Axis sympathies in the Second World War, escaping (Jan , 1941), he fled to Germany In 1943 in Singapore, he headed a Japanese-sponsored "provisional government of India" and a "national army " He was killed in an airplane crash

Bosio, François Joseph, Baron (frŭswä' zhōzĕf' bä'rō' bōsyō'), 1769?–1845, French sculptor He was employed by Napoleon I to make the bas-reliefs for the column of the Place Vendôme and also as portraitist to the imperial family At this time he produced one of his best portrait busts—that of the Empress Josephine (Dijon) Louis XVIII made him court sculptor, and Charles X created him baron Of his larger works the most important are the equestrian statue of Louis XIV (Place des Victoires), the quadriga of the Arc de Triomphe du Carrousel, and *Hercules Struggling with a Serpent* (garden of the Tuileries)

Bosnia and Hercegovina (bŏz'nēŭ, hĕrtsŭgōvē'nŭ), Serbo-Croatian *Bosna i Hercegovina* (bŏs'nä ē hĕrtsĕg'ō'vēnä), autonomous republic (19,909 sq mi , pop 2,561,961), N Yugoslavia It consists of two component regions—Bosnia, in the north, with the cities of Sarajevo, Banja Luka, and Tuzla, and Hercegovina, in the south, with Mostar Sarajevo is the capital Mostly in the Dinaric Alps, the republic has two narrow outlets to the Adriatic Sea The Sava is the chief river Half of the area is forested, one fourth is cultivated The population, which is mainly agricultural, consists of Serbs and Croats and is divided among the Mohammedan, Roman Catholic, and Eastern Orthodox religions Bosnia was settled by Serbs in the 7th cent , it appeared as an independent country by the 12th cent but later at times acknowledged the kings of Hungary as suzerains Late in the 14th cent. it became an independent kingdom and annexed Hercegovina from Serbia The country was weakened by religious strife among Catholics, Orthodox, and BOGOMILS and in 1463 fell to the Turks The nobility and a large part of the population accepted Islam Difficult of access, the country long retained its medieval social structure Serfdom ended only in 1918 Refusal by the Porte to institute reforms led (1875) to a peasant uprising and was a factor in the Russo-Turkish War of 1877–78 The Congress of Berlin (1878) placed Bosnia and Hercegovina under Austro-Hungarian administration and occupation, though recognizing the theoretical sovereignty of the sultan When in 1908 the Austro-Hungarian foreign minister, AEHRENTHAL, fully annexed the district, Serbian nationalism was aroused The assassination (1914), by a Serbian nationalist, of Archduke Francis Ferdinand at Sarajevo precipitated the First World War In 1918 Bosnia and Hercegovina were annexed to Serbia (see YUGOSLAVIA), the Yugoslav constitution of 1946 made the region one of the six People's Republics of Yugoslavia See B E Schmitt, *The Annexation of Bosnia, 1908-1909* (1938)

Bosor (bō'sôr), the same as BEOR **1.**

Bosporus (bŏs'pŭrŭs) [Gr ,=ox ford, in reference to the story of Io], strait, 20 mi long and 1,800 ft wide at its narrowest, separating European from Asiatic Turkey and joining the Black Sea with the Sea of Marmara Istanbul is situated on the Bosporus, which is lined by many villas and ancient castles The strait has been refortified by Turkey after the Montreux Convention of 1936 (see DARDANELLES)

boss, in the United States, a powerful political leader and organizer The highly invidious meaning of the term dates from the exposure of the Tweed Ring in New York city in 1872 Until c 1850 the political boss was usually himself an officeholder Effective bosses have been frequent in American municipal government, less common in state government, and rare on the national level The growth of honest government tends to lessen the incidence and power of the bosses at all levels of politics While many bosses have had financial peculation as their aim, some have been personally disinterested or have even been in favor of honest government

Bosse, Abraham (äbrä-äm' bôs'), 1602–76, French engraver and painter He studied art in Paris and became a teacher of perspective in the Académie royale de Peinture et de Sculpture A prolific and skillful worker, he engraved more than 1,400 pieces He is best known for his faithful representation of French civil life and costumes during the period of Louis XIII Bosse wrote several valued treatises on art and perspective One of his rare paintings, *The Foolish Virgins*, is in the Cluny Museum, Paris See Georges Duplessis, *Wonders of Engraving* (1871), study by Antony Valabrègue (1892, in French)

Bosseron or **Busseron, François Riday,** 1740–91, patriot in the American Revolution, b probably Detroit He was long a merchant and a prominent figure at Vincennes and was at various times captain, major, commandant of the fort there, and mayor He is best remembered for the enormous help he gave to George Rogers CLARK in the capture of Vincennes (1779) by furnishing him with generous financial assistance, food, munitions, and military aid See M M Quaife, ed , *The Conquest of the Illinois by George Rogers Clark* (1920)

Bossi, Giuseppe (jōōzĕp'pā bôs'sē), 1777–1815, Italian painter and writer on art, author of the treatise *Del Cenacolo di Leonardo da Vinci* (1810) His cartoon of Da Vinci's *Last Supper* was used as the model for Raffaelli's famous mosaic at Vienna Bossi was secretary of the Brera Gallery, Milan, which he founded and organized

Bossi, Marco Enrico (mär'kō ānrē'ko), 1861–1925, Italian organist and composer He wrote, with G Tebaldini, *Metodo di studio per l'organo moderno* (1893) and excelled as a teacher He died at sea while returning from a successful American concert tour His most important compositions are those for organ

Bossier City (bō'zhur), town (pop 5,786), NW La , on the Red River opposite Shreveport, inc as a village 1907, as a town 1923 It has oil refineries, chemical plants, railroad shops, and cotton-processing plants The ruins of Confederate Fort Smith were made a memorial park in 1936

Bossuet, Jacques Bénigne (zhäk' bānē'nyŭ bōsüĕ'), 1627–1704, French prelate, one of the greatest orators in French history At an early age he was made a canon at Metz, he became bishop of Condom and was (1670–81) tutor to the dauphin (father of Louis XV), for whom he wrote his great *Discourse on Universal History* (1681, Eng trs , 1778, 1821), *Politics Derived from Holy Writ* (1709), and *Treatise of the Knowledge of God and One's Self* (1722) In 1681 he became bishop of Meaux Unrivaled for his eloquence, he is celebrated for his *Funeral Orations* (1689), particularly those on Henrietta of England, on her daughter, and on Condé, which are masterpieces of their kind He was also a great moralist, a magnificent stylist, and a powerful controversialist, brilliantly attacking Fénelon and the quietists, the Jesuits, and the Protestants See studies by Pierre Floquet (1864), G Lanson (1895), and Alfred Rebelliau (5th ed , 1909), biography by E K Sanders (1921)

Bostanai ben Chaninai (bōs'tanī bĕn khänēnī'), 602–660, first Jewish exilarch under Arabian rule He is the subject of many legends His first name is also spelled Bustanai

Boston, municipal borough (1931 pop 16,600, 1943 estimated pop 23,020), in the Parts of Holland, Lincolnshire, England, on the Witham and 4 mi from the Wash Once an important port, it is now a fishing center and a market for a rich lowland farm area St Botolph's Church is on the site of a 7th-century monastery, founded by St Botolph, for whom the town is named (Botolph's tun, or town) The 290-foot tower (called the Stump, because it does not come to a point) is a landmark Puritans under John COTTON sailed in 1633 from Boston to the Massachusetts Bay capital (renamed Boston) See A M Cook, *Boston* (1934)

Boston. 1 City (pop 1,099), SW Ga , E of Thomasville, in a farm, lumber, and livestock area, inc 1870 **2** City (pop 770,816), state capital, and co seat of Suffolk co , E Mass , at the head of Boston Bay This, the largest city of New England, began when the elder John Winthrop in 1630 planted here the main colony of the MASSACHUSETTS BAY COMPANY From the start a center of American Puritanism, it had notable ministers, theocratic-minded statesmen, and a vigorous intellectual life The BOSTON PUBLIC LATIN SCHOOL was established in 1635, HARVARD UNIVERSITY was founded at nearby Cambridge in 1636, a public library was started in 1653, and the first newspaper in the Thirteen Colonies, the *News-Letter*, appeared in 1704 With its excellent port it gained ascendancy over the other cities of colonial New England As the American Revolution approached, Boston merchants and workers joined to oppose the British and the conservative Loyalists (see BOSTON MASSACRE, BOSTON TEA PARTY, FANEUIL HALL, ADAMS, SAMUEL, REVERE, PAUL) The battle of Bunker Hill (June 17, 1775) was the first large-scale battle of the Revolution, and Boston was under siege until the British withdrew in March, 1776 When the short depression after the war had passed, prosperous years continued until the middle of the 19th cent and shaped the Boston tradition Ships from the town, which became a city in 1822, made Boston known around the world The old families—the Cabots, the Lowells, the Lodges, and the rest—were supported by fortunes drawn from the sea and from mills built on New England rivers to make textiles and shoes They built substantial homes in the Beacon Hill-Back Bay region and patronized learning and arts and letters, making of Boston "the Athens of America " They also backed reformers, notably the ABOLITIONISTS, despite the generally conservative tone of their culture Their influence persisted long after the growth of industry brought many immigrants (mostly Irish at first) and Boston changed from a farm-surrounded commercial city to a noisy industrial metropolis The limits expanded to include cities and towns, some with traditions as long as Boston's own—Roxbury and West Roxbury (with the Roxbury Latin School Forest Hills Cemetery, and BROOK FARM), Dorchester (where Richard Mather had been the minister), CHARLESTOWN, Brighton, and Hyde Park The spiritual mantle of Boston spreads farther, over many near-by cities and towns such as Cambridge and Brookline It is a major financial center, a leading U S port, and a market for fish and for wool Industries are highly diverse, though traditionally boots and shoes, textiles, machinery, and foodstuffs are notable Boston products The population is polyglot, with many citizens of French Canadian Irish, Russian Jewish, and Italian backgrounds Yet the heterogeneous city of today cherishes the landmarks and monuments of the past the 17th-century house in which Paul Revere lived, Old North Church, famous in his story, Old South Meetinghouse a rallying place for patriots in the Revolutionary turmoil, the old statehouse, now a museum, Boston Common, the golden-domed statehouse, with its "front" designed by Charles Bulfinch, and the red-brick houses of Louisburg Square Other Boston churches are also famous—King's Chapel, where American Unitarianism was born in 1785, the Mother Church of Christian Science, and Trinity Church (1872–77), designed by H H Richardson and decorated by John La Farge The old Massachusetts Historical Society (1791) and the Athenaeum (1807) have had their later counterparts the Boston Public Library was founded in 1852, the New England Conservatory of Music in 1867, and the Boston Symphony Orchestra in 1881 Museums include the Museum of Fine Arts and the Isabella Stewart Gardner Museum Harvard Medical School is in Boston proper, as is the New England Medical Center The Massachusetts General Hospital (founded 1811), proud of its part in the development of anesthesia and of its building designed by Bulfinch, is highly esteemed Among the other educational institutions at Boston are SIMMONS COLLEGE and Emmanuel College, for women, BOSTON UNIVERSITY, Boston College

(mainly at CHESTNUT HILL, Mass); Northeastern Univ , the Massachusetts College of Pharmacy, and Wentworth Institute (mechanical arts) Among recent books on Boston are Lucius Beebe, *Boston and the Boston Legend* (1935), Esther Forbes, *The Boston Book* (1947), Cleveland Amory, *The Proper Bostonians* (1947), A C Lyons, *Invitation to Boston* (1947), R. N Linscott, ed , *State of Mind: a Boston Reader* (1948)

Boston fern, extremely popular house FERN (*Nephrolepis exaltata bostonensis*), a variety of a tropical sword fern derived from a particularly graceful drooping form found in a shipment of sword ferns received in Boston Other forms developed from this include a very finely divided feathery type

Boston ivy or **Japanese ivy,** tall-climbing woody vine (*Parthenocissus tricuspidata*) from the Orient, one of the most popular of city wall coverings Closely related to the Virginia creeper and sometimes called AMPELOPSIS, it climbs by disk-tipped tendrils and has three-lobed leaves—vivid in the fall

Boston Massacre, 1770, a pre-Revolutionary incident growing out of the resentment against the British troops sent to Boston to maintain order and to enforce the TOWNSHEND ACTS The troops, constantly tormented by irresponsible gangs, finally (March 5, 1770) fired into a rioting crowd and killed five men—three (including Crispus Attucks) on the spot, two of wounds later The funeral of the victims was the occasion for a great patriot demonstration. The British captain and his men were tried for murder, with Robert Treat PAINE as prosecutor, John ADAMS and Josiah QUINCY as lawyers for defense. They were acquitted

Boston Mountains, NW Ark , N of the Arkansas river, part of the Ozark plateau, rising to c 2,400 ft The White River has its source here.

Boston Museum of Fine Arts: see MUSEUM OF FINE ARTS, at Boston, Mass

Boston Port Bill see INTOLERABLE ACTS

Boston Public Latin School, at Boston, for boys, opened 1635, one of the oldest free public schools in the United States Many famous men attended the school, including five signers of the Declaration of Independence and four presidents of Harvard Univ See history by Pauline Holmes (1935)

Boston Public Library, founded in 1852, chiefly through the gift of Joshua Bates Its present building on Copley Square, designed by McKim, Mead, and White, was completed in 1895 The main hall is decorated with murals by Puvis de Chavannes Other rooms have murals by Edwin Abbey and John S. Sargent. The library's special collections include the Ticknor collection of Spanish and Portuguese literature and the libraries of John Adams and Nathaniel Bowditch Albert H Wiggin in 1941 donated his painting and etching collection

Boston Symphony Orchestra, founded in 1881 by Henry Lee Higginson, who was its director and financial backer until 1918 Its outstanding conductors have been Sir George Henschel (1881–84), Wilhelm Gericke (1884–89, 1898–1906), Arthur Nikisch (1889–93), Karl Muck (1906–8, 1912–18), Pierre Monteux (1919–24), and Serge Koussevitzky (1924–49) Charles Munch was appointed (1948) to succeed Koussevitzky on his retirement One of America's oldest orchestras, the Boston Symphony is considered by many to be one of the finest in the world Symphony Hall, built for its concerts, was opened in 1900 See M A De Wolfe Howe, *The Boston Symphony Orchestra* (1931)

Boston Tea Party, 1773 In the contest between British Parliament and American colonists before the Revolution, Parliament, when repealing the TOWNSHEND ACTS, had retained the tea tax, partly as a symbol of its right to tax the colonies partly to aid the financially embarrassed East India Company The colonists tried to prevent the consignees from accepting taxed tea and were successful in New York and Philadelphia At Charleston the tea was landed but held in government warehouses At Boston, three tea ships arrived and remained unloaded but Gov Thomas Hutchinson refused to let ships leave without first paying the duties A group of indignant colonists, led by Samuel Adams, Paul Revere, and others, disguised themselves as Indians, boarded the ships on the night of Dec 16, 1773, and threw the tea into the harbor In punishment Parliament passed the Boston Port Bill (see INTOLERABLE ACTS)

Boston terrier, small, smooth-haired, nonsporting dog It was developed in Boston, Mass , from crosses between the bull terrier (itself a cross between the English bulldog and a white English terrier) and the bulldog, in 1893 the breed was recognized by the American Kennel Club In color the dog is usually brindle with white markings, the body is compact (the weight from 15 to 25 lb), the ears erect, and the tail short Its gentle disposition makes it an excellent pet. See J. Z Rine, *The Ideal Boston Terrier* (1947).

Boston University, mainly in Boston, nonsectarian, private, coeducational; chartered 1869, opened 1871 It absorbed a Methodist theological seminary (opened 1841 at a school in Newbury, Vt) Its college of physical education (Sargent) is at Cambridge The first building on the Charles river campus was dedicated in 1939.

Bostwick, Arthur Elmore, 1860–1942, American librarian, b. Litchfield, Conn., grad Yale (B A., 1881, Ph.D , 1883). After teaching and serving on the editorial staff of several reference works, he became (1895) librarian of the New York Free Circulating Library He was librarian of the Brooklyn Public Library (1899–1901) and then head of the circulation department of the newly organized New York Public Library (1901–9) From 1909 until he retired in 1938, he served as librarian of the St Louis Public Library, expanding its usefulness and increasing its reputation. Bostwick's *American Public Library*, a classic of its kind, went through four editions See his autobiography, *Life with Men and Books* (1939)

Boswell, James (bŏz'wl), 1740–95, Scottish biographer, b Edinburgh, son of a Scottish judge Boswell studied law, but turned instead to literature. He first met Samuel Johnson on a trip to London in 1763 Boswell went on to Utrecht in the same year and then traveled about the Continent, where he managed to meet Rousseau, Voltaire, and Paoli He returned to Edinburgh in 1766 and was admitted to the Scottish bar, taking the title Lord Auchinleck Literature still exerted a strong hold on him, and he wrote two minor works, published in 1767, and his *Account of Corsica* (1768) He married in 1769 but continued his friendship with Johnson on visits to London In 1773 he became a member of Johnson's club Later in the same year the two toured Scotland, a visit which Boswell described in *The Journal of a Tour of the Hebrides with Samuel Johnson, LL D* (1785, complete ed , 1936) *The Life of Samuel Johnson, LL D* appeared in 1791 Popular at publication, this biography is now acclaimed as one of the world's greatest Boswell brought to biography a new and unparalleled technique, for not only did he record Johnson's conversations, but he tempered his selections with a fine sense of critical judgment The episodes in the biography are skillfully strung together with an eye and an ear for style and for contrast Gifted with a domineering figure for a subject, Boswell easily but subtly subordinated the society around Johnson with no loss of verisimilitude Many consider it a tribute to Boswell's art that Johnson is better remembered today as the hero of the biography rather than as the author of his own works That Boswell was an artist was doubted by Macaulay and other 19th-century critics—who held the loose-moraled Boswell to be a fool riding to fame on the shoulders of a great man—but simple reading of the biography and subsequent research have set aside this opinion as fallacious Boswell's *Private Papers*, purchased in 1927 from his descendant, Lord Talbot de Malahide, by Col Ralph H Isham, were published in a limited edition (18 vols , 1928–34) and edited by Geoffrey Scott and F A Pottle A second great collection of Boswell's papers was bought from Colonel Isham by Yale Univ in 1949 See C B Tinker, *Young Boswell* (1922), C B Tinker and F A Pottle, *A New Portrait of Boswell* (1927), D B Wyndham Lewis, *The Hooded Hawk* (1947)

Boswell, borough (pop 1,711), Somerset co , SW Pa , SW of Johnstown, inc 1904

Bosworth, Francke Huntington, 1843–1925, American laryngologist, b Marietta, Ohio, M D Bellevue Hospital Medical College, 1868 He was associated with Bellevue from 1876 and became professor emeritus in 1906 His works include *Manual of the Diseases of the Throat and Nose* (1881)

Bosworth Field, Leicestershire, England, near the town of Market Bosworth It is the scene of the battle (1485) at which Richard III was killed and the crown passed to his victor, the earl of Richmond (Henry VII)

botanic garden, place in which plants are grown for display and for scientific study An arboretum is a botanic garden devoted chiefly to the growing of woody plants The plants in botanic gardens are labeled, usually with both the common and the scientific names, and they are often arranged in cultural or habitat groups, such as rock gardens, aquatic gardens, desert gardens, and tropical gardens Botanic gardens perform diversified functions, e g , the collection and cultivation of plants from all parts of the world, experimentation in plant breeding and hybridization, the maintenance of botanical libraries and herbariums, and the administration of educational programs for adults and children Among well-known botanic gardens are the Arnold Arboretum, near Boston, Mass (est 1872 as part of Harvard Univ), Brooklyn Botanic Garden, Brooklyn, N Y (est. 1910), New York Botanical Garden, Bronx Park, New York city (est 1896 and affiliated with Columbia Univ), Highland and Durand-Eastman parks, Rochester, N Y , Bartram's Gardens, Philadelphia (founded 1728), U S Botanic Garden (est 1820) and the National Arboretum (est 1927), both in Washington, D C , Fairchild Tropical Garden, Coconut Grove, Fla (est. 1938), Garfield Park Conservatory, Chicago, Ill (est. 1907), Missouri Botanical Garden, St Louis, Mo (founded c 1860), Fort Worth Botanic Garden, Fort Worth, Texas (est 1933), Rancho Santa Ana Botanical Garden, near Anaheim, Calif (est 1927), Huntington Botanical Garden, San Marino, Calif.; Santa Barbara Botanic Garden, formerly Blaksley Botanic Garden, Santa Barbara, Calif (est. 1926); Montreal Botanical Garden, Montreal, Canada (est. 1932); Dominion Arboretum and Botanic Garden, Ottawa, Canada (est. 1886), the Royal Botanic Gardens, known as Kew Gardens, London, the Jardin des Plantes, Paris; and the botanic gardens at Buitensorg, Java See also BOYCE THOMPSON INSTITUTE. See Donald Wyman, *The Arboretums and Botanical Gardens of North America* (1947)

botany (bŏ'tənē), scientific study of plant life Botany and zoology together comprise the science of BIOLOGY Man's earliest concern with plants was in their use as foods Most of the major crop plants were under cultivation in the Neolithic period Knowledge of the medicinal properties of plants also began with early man The beginnings of systems of classifying plants are found in the work of Aristotle and especially in the writings of his pupil Theophrastus Dioscorides in the 1st cent wrote a work on materia medica which was an influential source through the 16th cent Albertus Magnus, in his *De vegetabilibus*, described numerous plants and suggested a classification based on a division into leafless and leafy plants, an advance over Theophrastus' division into trees, shrubs, and herbs From the latter part of the 15th cent to about the middle of the 17th cent the HERBAL was typical of botanical writings Explorations in the new world greatly increased the number of known plant forms and made more evident the need for a workable system of naming and classifying plants, a task undertaken by numerous scientists, among them Gaspar BAUHIN The classification of plants and animals and the system of binomial nomenclature established by LINNAEUS marked the greatest progress in systematics Botany developed through the work of many other investigators including Robert BROWN, A P de CANDOLLE, Hugo de VRIES, J J DILLENIUS, Leonhard FUCHS, Asa GRAY, Nehemiah GREW, Stephen HALES, John RAY, the JUSSIEU family, LAMARCK, MENDEL, Hugo von MOHL, and Julius von SACHS See H S Reed, *A Short History of the Plant Sciences* (1942), R H Platt, *This Green World* (1942) and *Our Flowering World* (1947), W N Clute, *Useful Plants of the World* (1943), H W Rickett, *Green Earth* (1943), A D Rodgers, *American Botany, 1873–1892* (1944), F O. Bower and others, *Botany of the Living Plant* (4th ed , 1947), H N Moldenke, *Brief Course in Elementary Systematic Botany for Gardeners* (1947) and *American Wild Flowers* (1949), John Asch, *The Story of Plants* (1948), John Hutchinson and Ronald Melville, *The Story of Plants and Their Uses to Man* (1948), R. P Faulkner, *Botany for Gardeners* (1949)

Botany Bay, inlet, New South Wales, Australia, just S of Sydney It was visited in 1770 by Captain Cook, who at that time proclaimed British sovereignty over the east coast of Australia The bay was named by Cook and Sir Joseph Banks because of the interesting flora on its shores The site of the landing is marked by a monument on Inscription Point Though Australia's first penal colony was often called Botany Bay, its actual site was SYDNEY, 5 mi N on Port Jackson (Sydney Harbour)

Botev, Khristo (khrĭ'stō bō'tĕf), 1848–76, Bulgarian poet and patriot His father, a schoolmaster, sent him at 17 to Russia, where he remained until 1867 Later he lived in Rumania and there prepared himself for his part in the revolution against Turkish rule. He edited revolutionary journals, taught school, and wrote poetry When the revolt against the Turks broke out in 1876, Botev returned to Bulgaria with a band of his own organizing and fell in action His lyrics and ballads, imaginative and original, are filled with patriotic fervor

botfly, name for a number of hairy flies with parasitic larvae The horse botfly usually lays its eggs on the hair of a horse, mule, or donkey Young larvae are carried by the tongue and lips into the mouth They migrate to the stomach and attach themselves to the lining Treatment by a veterinarian is required at this stage The lip or nose botfly and the throat botfly can be prevented from laying their eggs by lip and throat protectors All of the species cause serious damage to the digestive system The ox warble flies (botflies or cattle maggots), known as the heel fly and the bomb fly, lay their eggs on cattle and some other animals Injury to the animal results from the migration of the larvae through the flesh and from their presence during the winter and spring in swellings, called warbles, which they form on the back of the animal Each larva makes an opening in the warble which reduces the value of the hide for leather Treating the backs of the animals with an insecticide containing rotenone kills the larvae. The sheep botfly or sheep gadfly attacks sheep, goats, and deer and sometimes man Painting the animal's nose with pine tar repels the adult flies. A species of botfly found in North and South America is carried to humans by mosquitoes and other insects on which it lays eggs The larvae bore into the muscle tissue of the human. See *Horse Bots and Their Control* (U S. Dept. of Agriculture, Farmers' Bul. 1503); *Cattle*

Grubs or Heel Flies with Suggestions for Their Control (U.S. Dept. of Agriculture, Farmers' Bul. 1596)

Both, Andries (än'drēēs bōt'), c.1608–c 1640, and **Jan Both** (yän), c 1618–1652, Flemish painters and etchers, brothers, pupils of their father, Dirk Both, a glass painter, and of Abraham Bloemart They went to Rome, where they often worked together, although each pursued an independent line and style Jan painted Italian landscapes in the manner of Claude Lorrain, Andries took Pieter van Laar as his model and painted animals and figures with great facility and fine coloring, sometimes introducing his figures in the landscapes of his brother with excellent effect and unity Good examples of their work are in the Madrid Museum, the Louvre, and the National Gallery, London *Italian Landscape* is in the Metropolitan Museum

Botha, Louis (bō'tu), 1862–1919, South African soldier and statesman, A Boer, he participated in the founding (1884) of the New Republic, which joined (1888) the Transvaal Although Botha had little previous military experience, he brilliantly commanded Boer troops in the South African War He besieged the British at Ladysmith and defeated their forces at Colenso. In 1900 he succeeded Joubert as commander of the Transvaal army and led its remnants in guerrilla fighting After the war (1902) he favored cooperation with the British Botha was (1907–10) premier of the Transvaal As the leader of the United South African, or Unionist, party, he was prime minister of the Union of South Africa from its organization (1910) until his death, and he was ably assisted by J C. SMUTS In the First World War, Botha declared that South Africa was a belligerent He suppressed a Boer revolt and in 1915 led the forces which conquered the German colony of South-West Africa See biography by Earl Buxton (1924), Basil Williams, *Botha, Smuts, and South Africa* (1946)

Bothnia, Gulf of see BALTIC SEA

Bothwell, James Hepburn, 4th **earl of** (hĕ'bûrn, bŏth'wul), c 1536–1578, Scottish nobleman, third husband of MARY QUEEN OF SCOTS He was a Protestant but was a strong partisan of Mary of Guise, mother of Mary Queen of Scots In 1562 Bothwell's old enemy, James HAMILTON, earl of Arran, accused Bothwell of proposing to kidnap the queen, and Bothwell was for a time imprisoned On his release he started for France, but was imprisoned for 18 months by the English He reached France and was recalled by Mary in 1565 to help her put down the rebellion by the earl of Murray, her half brother In 1566 Mary's secretary, David RIZZIO, was murdered by conspirators, among them her husband, Lord DARNLEY Thereafter she trusted only Bothwell and was with him constantly In Feb, 1567, Darnley was murdered The subsequent trial in which Bothwell was acquitted of the murder was a judicial mockery On May 15, Bothwell having divorced his latest wife, he and Mary were married The Scottish aristocracy now combined against Bothwell and attacked him, finally forcing Mary to give him up He fled to Denmark, where he was imprisoned and died insane See biography by Robert Gore-Brown (1937)

Bothwell (bŏth'wûl, bŏdh'–), parish (pop 60,660), Lanarkshire, Scotland, on the Clyde It is largely a residential district for Glasgow At Bothwell Bridge, in 1679, the Covenanters were defeated by royalists under Monmouth

Botolph, Saint (bŭtŏlf'), fl 7th cent , English abbot, for whom Boston, England, was named

bo tree [Pali,=wisdom] or **pipal** (pē'–) [Hindustani], fig tree (*Ficus religiosa*) of India held sacred by the Buddhists, who believe that Gautama received his divine powers under one of these trees, a ship of which was planted at ANURADHAPURA to become one of the oldest known trees The tree attains great size and age, the leaves, which hang from long flexible petioles, rustle in the slightest breeze Bo trees have been planted in subtropical parts of the United States

Botsford, George Willis, 1862–1917, American historian, b West Union, Iowa, grad Univ. of Nebraska (B A , 1884, M A , 1889), Ph D Cornell Univ , 1891 After some years (1895–1901) at Harvard, he taught (1901-17) ancient history at Columbia Univ He wrote monographs and scholarly works but is best remembered for his high school and college textbooks in ancient history, his *Hellenic History* (1922) was especially well received He collaborated with E G Sihler on a source book, *Hellenic Civilization* (1915)

Botta, Paul Émile (pōl' ämēl' bŏtà'), 1802–70, French archaeologist and government official He carried on his scientific researches while physician to Mohammed Ali of Egypt and later as consul successively in Alexandria, Jerusalem, and Tripoli When consular agent at Mosul he made his renowned discoveries of Assyrian inscriptions near Khorsabad He wrote *Monument de Ninive* (5 vols , 1849–50).

Böttger, Johann Friedrich (yō'hän frē'drĭkh bŭtkhûr), 1682–1719, German chemist and originator of Dresden china. When the Swedish invasion of Saxony occurred (1706), Böttger and his aids were removed from Dresden to protect the secret of the process. He developed a variety of glazes, including black and a delicate violet, later much used He made use of silver and gold in the decoration. His potteries were under royal patronage, and he was made director of the extensive works in 1708 He perfected white porcelain in 1715 The following year he was imprisoned because of an attempt to sell his secret.

Botticelli, Sandro (sän'drō bŏt'tĭchĕl'lē), c 1444–1510, Florentine painter of the Renaissance, whose real name was Alessandro di Mariano Filipepi (älĕssän'drō dē mārēä'nō fēlēpē'pē) The son of a prosperous tanner, he was apprenticed to Fra Filippo Lippi, whose influence is seen in such early works as *Adoration of the Kings* (National Gall , London) and *Chigi Madonna* (Gardner Mus , Boston) He established his reputation in 1478 with his *Adoration of the Magi* and the famous *Spring* (both in the Uffizi) and became a favorite painter of the Medici In 1481 he assisted in the fresco decorations of the Sistine Chapel Three of his biblical scenes are still there, although badly discolored On returning to Florence the following year he was at the height of his popularity and painted numerous frescoes (now lost) for Lorenzo de' Medici During the period 1481–97 he painted *Venus, Pallas and the Centaur, Mars and Venus*, his remarkable illustrations of the *Divine Comedy* in silverpoint and pen (Vatican Museum), a famous series of Madonnas including *The Magnificat* and *Madonna of the Pomegranate* (Uffizi), and two frescoes done for the Villa Tornabuoni (Louvre) The most celebrated works of his later period are *Allegory of Calumny* (Uffizi) and *Nativity* (National Gall , London). The latter is thought to show his championship of the lost cause of Savonarola, who with his two companions is shown embraced by angels in the foreground In his last years Botticelli devoted himself chiefly to religious painting and produced little, but he seems always to have enjoyed a high reputation His work, highly popular in his own day, has been variously appraised Its extreme individuality has found ardent adherents and detractors He was undoubtedly one of the greatest colorists of Florence and a master of rhythmic line The extreme refinement and poignancy of his conceptions have always found admirers Botticelli is represented in the National Gallery of Art, Washington, D C (including *Adoration of the Magi*, once in Leningrad), the Metropolitan Museum, and the Museum of Fine Arts, Boston See studies by Wilhelm Bode (Eng tr , 1925) and Lionello Venturi (1937), Yukio Yashiro, *Sandro Botticelli and the Florentine Renaissance* (1929)

Bottineau, Pierre (pyĕr' bŏtēnō'), c 1817–1895, American frontier guide, b Red River (of the North) valley He was the son of a French Canadian fur trader and an Ojibwa woman An agent of the American Fur Company, he settled on a claim now in the business section of St Paul, Minn , and later was a guide in the Red River valley, in the Montana gold mines, and in British Columbia He was the guide to the party of Isaac I Stevens and other railroad surveying groups and was a scout in the Sioux wars

Bottineau (bŏtĭnō'), city (pop 1,739), co seat of Bottineau co , N N Dak , near the Canadian boundary W of the Turtle Mts , inc 1904 The state school of forestry is here

Bottrop (bŏt'rōp), city (pop 80,724), Westphalia, NW Germany It is a center of the Ruhr coal basin

Botts, John Minor, 1802–69, U S Representative from Virginia (1839–43, 1847–49), b Prince William co , Va An old-line Henry Clay Whig, he strenuously opposed Virginia's secession and took no part in the Civil War In 1866 he headed the Virginia delegation to the convention of Southern loyalists held at Philadelphia

botulism (bŏt'ûlĭzm), food poisoning caused by a toxin produced by a bacterium (*Clostridium botulinum* or *Bacillus botulinus*) The bacillus grows profusely in sealed jars or cans (where there is no air) if the resistant spores have not been destroyed by prolonged high temperatures in the canning process Boiling canned food for 15 min before eating it destroys the toxin The *Clostridium botulinum* may also flourish in sausage Symptoms of botulism may appear from 18 to 36 hr after consumption of poisoned food Gastrointestinal symptoms are relatively mild The toxin attacks the nervous system specifically, causing muscular weakness, visual disorders, and loss of ability to speak and swallow Early use of antitoxin serum is essential, or death may follow from respiratory paralysis

Botvinnik, Mikhail (mĕkhīl'yĭl' bŏt'vēnyĭk), 1911–, Russian chess player, b St Petersburg In 1925 he won a game from Capablanca at Moscow, and in 1946 he took first prize at Groningen, Netherlands He won the world's championship at Moscow in 1948 See biography by Fred Reinfeld (1946)

Botwood, town (1945 pop 2,744), NE N F , N of Bishop's Falls and at the mouth of the Exploits river Botwood airport, 40 mi southeast, was established in 1939 It is the final refueling base for passenger and mail planes on the northern transatlantic route before they take off for Ireland

Bouchard, Henry (ärē' bōōshär'), 1875–, French sculptor. His statues and groups often represent workers, in action or at rest—*Iron-Workers, The Dockhand, The Blacksmith in Repose* (Metropolitan Mus), and *Fishermen*. In collaboration with Paul Landowski, he made the monument of the Reformation, built into the old city walls of Geneva Of an entirely different character is the fountain group, *Girl with a Gazelle*, represented in bronze in the Metropolitan Museum

Bouchardon, Edme (ĕdmä' bōōshärdō'), 1698–1762, French sculptor, pupil of Guillaume Coustou He is well known for his fountain in the Rue de Grenelle, Paris, and for numerous works at Versailles, in the Louvre, and in Saint-Sulpice, Paris He was famous for the classical purity of his style

Bouché, Louis (bōōshā'), 1896–, American painter, b New York city Much of his youth was spent in France, where he studied under Jean Paul Laurens and others He was early known as a muralist, and he decorated the Dept of Justice and Dept of the Interior buildings, Washington, D C , and the lounge of Radio City Music Hall, New York His easel paintings are in museums in Washington, D C , and Columbus, Ohio, and in the Metropolitan and Whitney museums, New York A spirited realist, Bouché also painted abstract pictures He directed a successful firm of decorators

Boucher, François (frāswä' bōōshā'), 1703–70, French painter He studied with François Le Moyne but was more influenced by Watteau At 20 he won the Grand Prix, and from 1727 to 1731 he studied in Italy On his return he rapidly became the most fashionable painter of his day and a favorite of Mme de Pompadour He produced a vast number of pictures, decorations, tapestry designs, and fine etchings and enjoyed many academic and official honors including that of director of the Gobelins factory He is best known, however, as a decorator and above all for his decorations of boudoirs The Louvre and the Wallace Collection, London, excel in fine selections of his work He is well represented in America by his *Peace and War* in the Museum of Fine Arts, Boston, his *Toilet of Venus* and *Birth and Triumph of Venus* in the Metropolitan Museum, and his *Voluptuary and Winter Scene* in the New York Historical Society Fine examples of his work are in the Frick Collection, New York

Boucher de Crèvecœur de Perthes, Jacques (shäk', du krĕvkûr' du pĕrt'), 1788–1868, French writer and archaeologist He first showed that man had existed in the Pleistocene epoch A collector of Celtic and Roman relics, he discovered a human jawbone in the quarries of Moulin-Quignon in 1863 His writings include *Antiquités celtiques et antédiluviennes* (1847–64)

Boucherville (bōō'shurvĭl), village (pop 1,047), S Que , NE of Montreal on the St Lawrence It was founded in 1668 by Pierre Boucher A manor house built by him still stands in the vicinity; it is now owned by the Jesuits

Bouches-du-Rhône (bōōsh'-dü-rōn'), department (2,026 sq mi , pop 976,241), SE France, in Provence Named for the RHONE delta, it includes the island of CAMARGUE Marseilles (its capital), Aix-en-Provence, and Arles are the chief cities

Boucicault, Dion (bōō'sĭkōlt), 1822?–1890, British playwright and actor, b Dublin At 19 he had success with his play *London Assurance* at Covent Garden, London In 1853 he came to the United States with his wife, Agnes ROBERTSON, and wrote or adapted over 300 farces, comedies, and melodramas, in which he often acted with success The most notable of these were *Grimaldi* (1855), *The Sidewalks of New York* (1857), *Dot* (1859), adapted from Dickens's *Cricket on the Hearth*, *The Octoroon* (1859), *The Colleen Bawn* (1860), *Arrah-na-Pogue* (1864), *The O'Dowd* (1873), and *The Shaughraun* (1874) His *Rip van Winkle* (1865), adapted from Washington Irving's story, was later altered by Joseph Jefferson, who appeared in it for many years The growth of the traveling company with one play is due to Boucicault's influence See his *Art of Acting* (1916)

Boucicaut (bōōsēkō'), c 1366–1421, marshal of France and crusader against the Turks, whose real name was Jean le Meingre (shä' lu mĕ'gru) Captured by Bajazet I at NIKOPOL (1396), he was ransomed, in 1399 he helped Emperor MANUEL II to defend Constantinople against Bajazet He was governor (1401–7) of Genoa, then under French protection, was captured by the English at Agincourt (1415), and ended his days in England Boucicaut was the author of several ballads and other poems

Boudin, Eugène Louis (ûzhĕn' lwē' bōōdĕ'), 1824–98, French painter, son of a pilot His little landscapes and marines of Brittany, Normandy, and the Netherlands are much prized Rather gray in tonality, they are compelling in their out-of-door clarity and frankness Boudin is represented in the Luxembourg Museum, Paris, and the Metropolitan Museum and in many private collections

Boudinot, Elias (bōō'dĭnŏt), 1740–1821, American Revolutionary statesman, b Philadelphia A lawyer of Elizabethtown (now Elizabeth), N J , he took an active interest in patriot activities and was a member of the Continental Congress both before and after the adoption of the Articles of Confederation (1777–78, 1781–84). He ardently supported the Constitution and helped secure its ratification

by New Jersey He was elected to Congress in 1789 and appointed director of the U S mint in 1795 He retired from public service in 1805 He was devoted to philanthropy, notably for the Indians, and he was first president (1816–21) of the American Bible Society He wrote a book supporting the theory that the Indians were the lost tribes of Israel See biography by J J Boudinot (1896)

Boufflers, Louis François, duc de (lwē' frāswä' duk' dŭ bōōflĕr'), 1644–1711, marshal and peer of France He served as a boy under Créqüy and Turenne His best-known exploits are his defense of Namur (1695), his defense of Lille against Marlborough and Prince Eugene (1708), and his skillful retreat from the field of Malplaquet (1709)

Boufflers, Stanislas Jean, marquis de (stänĕsläs' zhän' märkē' dŭ), 1738–1815, French author, usually called the chevalier de Boufflers His best-known work is *Aline, reine de Golconde* (1761), a romance See study by N H Webster (1916)

bougainvillaea or buginvillaea (both bōō"gŭnvĭl'ēŭ) [for L A de Bougainville], any plant of the genus *Bougainvillaea*, tropical American woody plants cultivated in the open in the South and under glass in the North Usually rampant, tall-growing vines, they have small flowers set off by showy petallike bracts mostly in shades of red or purple

Bougainville, Louis Antoine de (lwē' ätwän' dŭ bōōgĕvēl'), 1729–1811, French navigator He accompanied Montcalm to Canada as aide-de-camp and he later (1763–65) established a colony on the Falkland Islands, but had to surrender the settlement to Spain (1766) Accompanied by naturalists and astronomers, he made a voyage around the world (1767–69), visiting Tahiti, the Samoan group, and the New Hebrides, and rediscovering the Solomon Islands, the largest of which is named for him In the American Revolution he fought Admiral Hood at Martinique His name is also given to the strait between Bougainville and Choiseul Island, to a strait in the New Hebrides, and to the bougainvillaea vine Bougainville's *Description d'un voyage autour du monde* (2 vols , 1771–72, Eng tr , 1772) helped to popularize Rousseau's theories on the morality of man in his natural state and inspired Diderot to write (1772) his *Supplément au voyage de Bougainville*, a defense of sexual freedom

Bougainville (bōō'gunvĭl, Fr bōōgĕvēl'), volcanic island (3,880 sq mi , pop 50,000), S Pacific, largest of the SOLOMON ISLANDS It is NW of Guadalcanal Important harbors are at Kieta and on Empress Augusta Bay, exports are ivory nuts and tortoise shell The island was rediscovered (1768) by Bougainville and in 1884 became a German possession Occupied during the First World War by Australian forces, it was included (1920) in the Australian Mandated Territory of New Guinea (see NEW GUINEA, TERRITORY OF) The site of a large Japanese air base in the Second World War, Bougainville was the last major enemy stronghold in the Solomons

Boughton, George Henry (bô'tŭn), 1833?–1905, English-American genre and landscape painter, b England He grew up in Albany, N Y , studied in Paris, and lived mainly in London He enjoyed a long success in both London and New York Characteristic are his *Puritans Going to Church* (N Y Public Library) and *A Puritan Girl, Edict of William the Testy*, and *The Two Farewells* (all Metropolitan Mus) Boughton illustrated Irving's *Rip Van Winkle* and Knickerbocker *History* See study by A L Baldry (1904)

Bougie (bōōzhē'), city (pop 21,011), NE Algeria, a Mediterranean port E of Algiers It was a minor port in Carthaginian times and of little significance under the Romans, but Gaiseric made it the capital of the Vandals It later disappeared, but after being refounded by a Berber dynasty in the 11th cent , it became a leading port of the northern shores of Africa After Spanish occupation (1509–55) it was taken by the Turks and again declined France took it in 1833, and Bougie rose again The port has been extended, and the near-by mines developed Bougie ships not only iron and phosphates but also the agricultural produce of the hinterland of the Tell Two Berber forts and parts of the Roman and Berber walls recall the past

Bouguer, Pierre (pyĕr' bōōgĕr'), 1698–1758, French mathematician and hydrographer He made, in relation to the sun and moon, some of the first photometric measurements and invented a heliometer His works include *Traité d'optique sur la gradation de la lumière* (1729) and *La Figure de la terre* (1749).

Bouguereau, Adolphe William (adôlf', bōōgûrô'), 1825–1905, French painter Highly popular and honored in his day, he has been stigmatized as trivial and academic by many modern critics His most ambitious work is his large *Apollo and the Muses* in the foyer of the Opéra at Bordeaux Best known for his nudes, he was also popular as a painter of religious subjects His *Birth of Venus* and *Consoling Virgin* are in the Luxembourg Mus , Paris.

Bouillé, François Claude Amour, marquis de (frāswä' klōd' ämōōr' märkē' dŭ bōōyā'), 1739–1800, French general He distinguished himself in the American Revolution as commander in chief of French forces in the West Indies. Holding a command in Lorraine at the beginning of the French Revolution, he suppressed the garrison mutinies at Metz and Nancy (1790) with some severity, but was not able to restore complete discipline Bouillé was the pivotal figure in the plan for Louis XVI's escape from France, which failed (1791) at Varennes The affair is sometimes called the Conspiracy of Bouillé The general fled, and died in England His *Mémoires sur la Révolution française* were published in 1801 (Eng tr , 1797)

Bouillon, Frédéric Maurice de la Tour d'Auvergne, duc de (frādārēk' mōrēs' du la tōōr' dōvĕr'nyŭ duk' du bōōyô'), c 1605–1652, French general, son of Henri de Bouillon Brought up a Protestant, he campaigned in Holland under his uncle MAURICE OF NASSAU In 1635 he entered the service of France He rebelled against Richelieu in 1641, but after a reconciliation he was given command of the French forces in Italy (1642) Soon afterwards he was arrested in the CINQ MARS conspiracy and, in return for pardon, ceded to France the sovereign principality of Sedan, which his family had held He embraced Catholicism, went to Rome, and commanded the papal troops In 1649 he returned to France and took part in the FRONDE on the side of the princes In 1651, however, he submitted and exchanged Sedan and Rocourt, which he then held as fiefs, for other territories

Bouillon, Godfrey of see GODFREY OF BOUILLON

Bouillon, Henri de la Tour d'Auvergne, vicomte de Turenne, duc de (ärē', vēkôt', turĕn'), 1555–1623, marshal of France, diplomat, and Protestant leader He served with Henry IV against the LEAGUE but fled to Geneva when he was ordered arrested for his part in a conspiracy against the king (1603) Under Marie de' Medici he returned and entered the council of regency, from which he withdrew after a quarrel with the queen He participated in a series of pro-Calvinist intrigues but later retired to his independent duchy, which he had acquired through marriage in 1591 He founded a library and a Protestant college at Sedan Bouillon was the grandson of Anne de Montmorency and the father of TURENNE

Bouillon, town (pop 2,835), Luxembourg prov , S Belgium, in the Ardennes and near the French border Its ancient castle belonged to Godfrey of Bouillon, who sold (1095) the town to the bishop of Liége before his departure for the First Crusade Strategically situated, Bouillon often changed hands Nominally under the suzerainty of the prince-bishops of Liége, the town and environs passed (15th cent) to William de la Marck, the "Boar of the Ardennes," whose descendants assumed the titles duke of Bouillon and prince of Sedan The La Marck territories passed, through marriage, to Henri de Bouillon Bouillon was annexed to France from 1678 to 1815 The ducal title lapsed in 1732

Boulanger, Georges Ernest (zhôrzh' ĕrnĕst' bōōlāzhā'), 1837–91, French general and reactionary political adventurer After a brilliant military record in North Africa and Indo-China he played an important part in suppressing the Commune of Paris (1871) Minister of war in 1886, he became the popular leader of a nationalist movement, Boulangism, which foreshadowed modern fascism Appealing to the French desire for revenge against Germany, he gathered all the elements hostile to the Third Republic Though he was forced from his government post in 1887 and later deprived of his army command, his jingoism and his hysterical mass appeal gave him immense popularity Many royalists joined, though Boulanger saw himself as a future dictator rather than a restorer of kings He did, however, accept royalist financial contributions Such fanatic nationalists as Paul Déroulède urged the cause of "the man on horseback" Elected a deputy, Boulanger resigned in protest against the actions of the chamber and in 1889 won an overwhelming victory at the polls The time seemed ripe for a military coup d'état, but Boulanger, learning of a threatened prosecution for endangering the security of the state, suddenly lost his nerve and fled to Belgium, where he committed suicide in 1891 The Boulanger bubble burst, but the factors which had made it possible were the same that caused the Dreyfus Affair and which ultimately destroyed the Third Republic in 1940 Boulanger, "the man on horseback," is remembered in France as the symbol of a would-be Napoleon and military dictator See H S Gorman, *Brave General* (1942)

Boulanger, Gustave Rodolphe Clarence (güstav' rôdôlf' klärās'), 1824–88, French painter of Oriental scenes, studied with Delaroche He decorated the Foyer de la Danse of the Paris Opéra

Boulanger, Louis (lwē), 1806–67, French painter of the romantic school Among his best-known paintings are *Mazeppa*, *Triumph of Petrarch*, and portraits of Hugo, Balzac, and Dumas père

Boulanger, Nadia (nädyä'), 1887–, French musician, the outstanding contemporary teacher of composition, studied at the Paris Conservatoire She headed the composition department of the École normale de Musique, Paris, and of the American Conservatory, Fontainebleau In 1945 she was appointed professor at the Paris Conservatoire. As the teacher of such American composers as Walter Piston, Aaron Copland, Virgil Thomson, Roy Harris, and Marc Blitzstein, she has greatly influenced contemporary American music She has often visited the United States, as teacher, lecturer, organist, and conductor

Boulder, Australia see KALGOORLIE AND BOULDER

Boulder, city (pop 12,958, alt c 5,350 ft), co seat of Boulder co , N central Colo , NW of Denver and on Boulder Creek, laid out 1859, inc 1871 It is a summer and health resort (with mineral springs) and the rail and trade center for a mining and farming area The city is the seat of the Univ of Colorado (see COLORADO, UNIVERSITY OF)

boulder, any large, rounded mass of loose rock, whether shaped from its bed by weathering or transported from its original position by a glacier or by running water The presence of erratics—boulders transported and deposited on rock formations of a different structure and origin—is an important characteristic of DRIFT

Boulder City, town (pop c 2,500), S Nev , just W of HOOVER DAM, near Lake Mead Built as headquarters for the dam, it is a year-round tourist center

boulder clay, mixture of clay, gravel, and sand impregnated with boulders, either large or small In the Pleistocene epoch each glacier ground together the soils gathered in its progress, and the mixture was deposited where the glacier melted Boulder clay, one type of such mixture, is therefore also called ground moraine or till

Boulder Dam see HOOVER DAM

Boulle or **Buhl, André Charles** (both ädrā' shärl' bōōl'), 1642–1732, French cabinetmaker, the master of a distinctive style of furniture, much imitated, for which his name has become a synonym In 1672 he was admitted to a group of skilled artists maintained by Louis XIV in the Louvre palace, and thereafter he devoted himself to creating costly furniture and objects of art for the king and court Boulle's pieces, having in general the character of Louis XIV and Regence design, were built for the immense formal rooms of the period Boulle, a master of MARQUETRY, specialized in the inlaying of ebony with precious woods and mother-of-pearl Large areas were covered with tortoise shell, inlaid with arabesques of gilded brass He added splendid bas-relief compositions, as well as sculptured rosettes, masks, and acanthus scrolls, all in gilt bronze Superb examples of his art exist at Versailles, Fontainebleau, and the Louvre and in England at Windsor Castle and in the Wallace Collection, London The title cabinetmaker to the king passed to his four sons, Jean Philippe, Pierre Benoît, André Charles, and Charles Joseph

Bologne, Jean see BOLOGNA, GIOVANNI DA

Boulogne-sur-Mer (bōōlô'nyu-sür-mĕr'), city (pop 34,389, 1936 pop 51,011), Pas-de-Calais dept , N France, in Picardy It is an important fishing and commercial port on the English Channel From here the Romans sailed (A D 43) to conquer Britain, and here again NAPOLEON I assembled an invasion fleet (which never sailed) in 1803 5 In the Second World War it suffered more than 400 aerial bombings, the port and modern section were very badly damaged, but the old "upper city," which has preserved its medieval ramparts, was little harmed In the Cathedral of Notre Dame (built 19th cent , greatly damaged) is a replica (1875) of the famous wooden statue (burned 1793) of Our Lady of Boulogne, said to have floated into the port on a crewless bark in the 7th cent Still a great shrine of pilgrimage, the cathedral is surmounted by a huge cross and a beacon

Boulton, Matthew (bōl'tun), 1728–1809, English engineer and manufacturer In partnership with James Watt from 1775, he manufactured steam engines at the Soho ironworks near Birmingham In 1790 he patented a coining press Boulton minted copper coins for the East India Company and for several foreign governments and in 1797 established a new copper coinage for Great Britain See biography by H W Dickinson (1937)

bouncing Bet. see SOAPWORT

Boundary Peak, 13,145 ft high, SW Nev , in the White Mts near the Calif line It is the highest peak in Nevada

Bound Brook, borough (pop 7,616), N central N J , on the Raritan and NW of New Brunswick, settled 1681, inc 1891 Cornwallis defeated a colonial force here, April, 1777 Paint and chemicals are made in the borough Bound Brook has large orchid and gardenia nurseries

Bountiful, city (pop 3,357), N central Utah, N of Salt Lake City, settled 1847 by Mormons, inc 1855 This center of an irrigated farm area has an early Mormon chapel

Bounty, British naval vessel commanded by William BLIGH She set sail for the Pacific in Dec , 1787, to transport breadfruit trees from the Society Islands to the West Indies In April, 1789, a mutiny led by Fletcher Christian succeeded The commander and 18 of his crew were set adrift in a small open boat By remarkable seamanship they went c 4,000 mi and reached Timor in June There they bought another ship and proceeded to Batavia, and thence in Dutch ships to England. Some of the mutineers

were later captured and were fined in England; three were executed. Other mutineers, perhaps under Christian, settled on PITCAIRN ISLAND, where all but one were later killed by natives See fictional accounts (based on fact) in Charles Nordhoff and James Norman Hall, *Mutiny on the Bounty* (1932) and its sequels, *Men against the Sea* (1934) and *Pitcairn's Island* (1934)

bounty, premium paid by the state for the production, export, or—rarely—import of certain goods A bounty, unlike a SUBSIDY, involves payment per unit of the product in question Under the mercantilist system, bounties were given for the production or export of favored goods and occasionally, as in 18th-century England, for the importation of goods from the colonies After 1800, bounties sometimes took the place of abolished protective duties Preferential transportation charges on export goods is the modern equivalent of a bounty on exports A bounty on production equals a protective tariff in aiding the manufacturer, save that it is more conspicuous and allegedly costs the community less Its use has been checked in the United States as a violation of the constitutional principle that money raised by taxation may be used only for public purposes Bounties have been granted by states for roads, canals, railroads, and other public works Bounties were frequently used by nations as an inducement to army enlistment, and bounties in the form of prize money are still in use in the British navy State governments in the United States give bounties for the killing of destructive animals See R A Hodgson, *Introduction to International Trade and Tariffs* (1932)

Bouquet, Henry (bōōkā'), 1719–65, British army officer in the French and Indian Wars A French Swiss, he entered the British service as a lieutenant colonel in 1755 and came to America in 1756 He distinguished himself as second in command to Gen John Forbes in the successful expedition against Fort Duquesne in 1758, and in PONTIAC'S REBELLION he decisively defeated the Indians in a hotly contested battle at Bushy Run (Aug , 1763) In 1764 Bouquet, on an expedition into the Ohio country, forced the Shawnee and other Indians to lay down their arms He was brigadier general commanding the Southern Dist at his death See A C Darlington, *History of Colonel Henry Bouquet and the Western Frontiers of Pennsylvania* (1920)

Bourassa, Henri (ārē' bōōrasa'), 1868–, Canadian political leader, b Montreal, son of Napoléon Bourassa (1827–1916), Canadian author, painter, and architect, and grandson of Louis Joseph Papineau He was elected as an Independent Liberal to the Canadian House of Commons in 1896 but resigned in 1899 in protest against sending Canadian troops to the South African War; he was almost immediately reelected by his constituents A man of education, with oratorical and literary gifts, he rallied around him various groups discontented with the regime of Sir Wilfrid Laurier and welded them into a powerful opposition party in Quebec which became known as the Nationalist party because it took the stand that Canada should hold aloof from diplomatic entanglements with Great Britain and the United States Opposing (1909–11) the bill to construct a Canadian navy, Bourassa withdrew enough support from Laurier to cause the fall of the 15-year-old government Several Nationalists were named to the new Conservative government of Sir Robert Laird Borden, but Bourassa declined office In 1910 he founded, as the Nationalist journal, the *Devoir*, a Montreal daily of which he was for many years the editor. He led French Canadian opposition to participation in the First World War, denouncing in violent terms the conscription act of 1917 He was reelected to the Canadian House of Commons in 1925, 1926, and 1930 He wrote several books which stated his position as a Nationalist

Bourbaki, Charles Denis Sauter (shārl' dunē' sōtā' bōōrbākē'), 1816–97, French general of Greek ancestry He distinguished himself in the Algerian campaigns, the Crimean War, and the Italian War of 1859 In 1862 he declined an offer of the Greek throne In the FRANCO-PRUSSIAN WAR he was at first commander of the imperial guard Then, put in command of the Army of the East by the provisional government, he failed in an attempt to raise the siege of Belfort and was forced to cross into Switzerland, where his troops were disarmed and interned (Feb 2, 1871)

Bourbon (bōōrbō'), royal family, originally of France, with branches which ruled Spain, the Two Sicilies, and Parma, a cadet branch of the Capetian dynasty It takes its name from the now ruined castle of Bourbon, at Bourbon-l'Archambault, Allier dept , which was the seat of a powerful family descended from Adhémar, a noble of the 9th cent Robert of Clermont, sixth son of Louis IX of France, married (1272) Beatrice, heiress of Bourbon, and thus is considered the founder of the royal line Robert's son, Louis, was created (1327) first duke of Bourbon The ducal title remained with the descendants of his eldest son until 1527, when Charles, duc de Bourbon, died without issue Because of his treason, his extensive fiefs (Bourbonnais, Marche, Auvergne, Forez) were seized by the crown and the ducal title was discontinued. A younger son of Louis, first duke of Bourbon, gave issue to the line of Bourbon-Vendôme The marriage (1548) of Antoine de Bourbon, duke of Vendôme, with Jeanne d'Albret added vast territories in S France (see ALBRET) and the title king of Navarre to his other fiefs (Vendôme, Périgord, Rouergue) From Antoine's brother, Louis I de Condé, the houses of CONDÉ and CONTI were issued Antoine's son became (1589) the first Bourbon king of France as HENRY IV, the older branches of Louis IX's issue having become extinct (see VALOIS) He was succeeded by his son, Louis XIII, and his grandson, Louis XIV Louis XIV's descendants ruled France (except during the French Revolution and the Napoleonic era, 1792–1814) until the deposition (1830) of Charles X (see FRANCE), with the death (1883) of Henri, comte de CHAMBORD, grandson of Charles X, the senior French branch of Bourbon came to an end From Louis XIV's brother Philip the cadet branch of Bourbon-Orléans (see ORLÉANS, family) is issued, it furnished one king, Louis Philippe (1830–48) and inherited the claim to the French crown in 1883 The line of **Bourbon-Spain,** Span *Borbón* (bōrbōn'), began with the accession (1700) of PHILIP V, a grandson of Louis XIV, to the Spanish throne He was succeeded by Ferdinand VI, Charles III, Charles IV, and FERDINAND VII, Ferdinand VII altered the Salic law of succession, introduced into Spain by Philip V, in favor of his daughter, ISABELLA II Her succession was contested by the partisans of Don Carlos, second son of Charles IV, and of his descendants (see CARLISTS) In 1875 relative order was reestablished when Isabella's son was crowned as Alfonso XII His son, Alfonso XIII, was deposed in 1931 and died in exile in 1941 His marriage with Victoria Eugenie of BATTENBERG brought HEMOPHILIA into his family His first and fourth sons died of minor accidents in 1938 and 1934 respectively His second son, Jaime, early renounced his right of succession, which thus appears to belong to Alfonso's third son, Don Juan (b 1913), who is free from the disease The line of **Bourbon-Sicily** came out of the Spanish line, it was founded by Ferdinand I of the Two SICILIES, who succeeded (1759) his father as king of Naples and of Sicily when the latter became king of Spain as CHARLES III His great-grandson, Francis II, abdicated in 1861, he had issue The house of **Bourbon-Parma** was established (1748) in the duchies of PARMA and Piacenza by Philip, a younger son of Philip V of Spain and ELIZABETH FARNESE Robert (1848–1907), fifth duke of the line, was deposed in 1860 Among his 18 children are Empress ZITA of Austria, SIXTUS OF BOURBON-PARMA, and Prince René, who married Princess Margaret of Denmark René's and Margaret's daughter, Anne, married (1948) King MICHAEL of Rumania

Bourbon, Antoine de (ātwan' dŭ), 1518–62, duke of Vendôme, king of Navarre through his marriage with JEANNE D'ALBRET, father of Henry IV of France Supposedly converted to Protestantism at the same time as his brother Louis I de CONDÉ, he proved an inveterate turncoat In 1561 he reembraced Catholicism and accepted the post of royal lieutenant general He was killed fighting the Protestants at Rouen

Bourbon, Charles, duc de (shārl', dŭk' du), 1490–1527, constable of France and governor of Milan He distinguished himself at the battle of Marignano (1515) Enmity, encouraged by the queen mother, LOUISE OF SAVOY, arose between King Francis I and the duke, who went over to Emperor Charles V, after long negotiations, in 1523 He fought against the French in Italy, notably at the battle of Pavia (1525), and was killed in an attack on Rome, which was sacked by his troops See biography by Charles Hare (1911)

Bourbon (bûr'bŭn, bōōr'–), town (pop 1,145), N Ind , SE of Plymouth It is a trading center for a farming area

Bourbonnais (bōōrbōnā'), region and former province, central France, in the northern part of the Massif Central It is now administratively divided into Allier dept and part of Cher dept The chief cities are Moulins, Montluçon, and Vichy The region is a largely arid plateau, used for grazing, with extensive cattle raising in the more fertile western section The counts (later dukes) of BOURBON held the Bourbonnais as an appanage until 1527, when Francis I of France confiscated it upon the death of the constable Charles de Bourbon

Bourbon-Parma, Bourbon-Sicily, and **Bourbon-Spain** · see BOURBON, family

Bourdaloue, Louis (lwē' bōōrdalōō'), 1632–1704, French preacher A Jesuit, he was called to Paris, where he won renown as one of the greatest orators of his day After the revocation of the Edict of Nantes he was sent to Languedoc on a mission to the Huguenots

Bourdelle, Émile Antoine (āmēl' ātwān' bōōrdĕl'), 1861–1929, French sculptor, son of a cabinetmaker of Montauban He went to Paris in 1884, where he studied successively under Falguière, Dalou, and Rodin Bourdelle differed sharply from Rodin in his preoccupation with the relation of sculpture to architecture Seeking his inspiration in archaic Greece and the Gothic, he achieved his greatest success in heroic and monumental works such as *Hercules* (Luxembourg Mus , Paris), of which the Metropolitan Museum contains a replica, his colossal *Vierge d'Alsace*, his bas-reliefs for the Théâtre des Champs Élysées, and his monument to Americans who died in the First World War (Pointe de Grave) He is also noted for his monuments to General Alvear at Buenos Aires and to the soldier dead at Montauban and for his numerous portrait heads Bourdelle is recognized as one of the greatest modern sculptors He is represented in the Metropolitan and Brooklyn museums

Bourdon, Sébastien (sābastyĕ bōōdō'), 1616–71, French painter Influenced by his predecessors and by Nicolas Poussin and Claude Lorraine, Bourdon produced large historical and religious paintings, such as *The Downfall of the Magician Simon*, for the cathedral chapter house of his native Montpellier, and *Presentation to the Temple* (Louvre)

Bourg, France see BOURG-EN-BRESSE

Bourgelat, Claude (klōd' bōōrzhula'), 1712–79, French founder of organized veterinary medicine He gave up the practice of law for which he was educated He persuaded the government to establish at Lyons a school of veterinary medicine, which he directed for several years, and also a school at Alfort, which became one of the finest in the world He wrote several authoritative works, including *Éléments d'hippiatrique* (1750–53)

Bourg-en-Bresse or **Bourg** (bōōrk'-ă-brĕs'), town (pop 21,169), capital of Ain dept , E central France, the chief city of BRESSE An important agricultural market, Bourg is also a gastronomic mecca The church (late 15th cent) of nearby Brou is one of the finest in France

Bourgeois, Léon (lāō' bōōrshwā'), 1851–1925, French statesman and social philosopher He held several cabinet posts, notably the premiership (1895–96), was a delegate to the First and Second Hague Conferences, a member of the Permanent Court of Arbitration, and one of the leading proponents of the League of Nations, in which he headed the French delegation In 1920 he was awarded the Nobel Peace Prize In his influential book, *Solidarité* (1896), he advocated the intervention of public authority in order to bring about the ever more necessary solidarity within and among nations

bourgeoisie, (bōōrzhwäzē'), originally the name for the freemen in a French medieval town, extended to include the French middle class and subsequently that of other nations In the feudal social structure the bourgeoisie was known as the Third Estate Though the term dates only from the 13th cent and was not current in English until 1707, the bourgeoisie, if defined as the mercantile or trading class, has existed since the earliest recorded history, as witnessed by the trade regulations of Hammurabi's law code, c 2100 B C In the classical age, Solon, Pericles, and Demosthenes were bourgeois spokesmen in Greece, and the middle class flourished in Rome until the economic collapse of the 3d cent A D With the growth of trade at the end of the Middle Ages came the revival of bourgeois prominence In the early national monarchies of Western Europe the bourgeoisie promoted the interests of their class at the expense of the rival feudal orders of nobility and clergy In the 17th and 18th cent the bourgeoisie turned increasingly to principles of constitutionality and natural rights against the claims of divine right The English, American, and French revolutions derived largely from the desire of the bourgeoisie to rid itself of feudal trammels and royal encroachments on personal liberty and the rights of trade and property The doctrines of the modern democratic state hence have contained a strong element of bourgeois political philosophy Criticized in early stages of its growth by the satire of Boccaccio and Molière, the bourgeoisie in the 19th cent and later came under the polemical fire of socialism and communism at the same time that wars and economic dislocation were combining to render its position increasingly insecure In the United States, with its relative social mobility and resistance to class labels, the concept of the bourgeoisie has perhaps less meaning than in Europe Nevertheless, the influence of the middle class on U S economy, politics, and manners has been so strong as to approximate predominance The American middle class has been defined as consisting of farmers and small businessmen, the better paid industrial employees, and skilled individual workers, but in general is limited by no other consideration than the dictates of public opinion See F C Palm, *The Middle Classes Then and Now* (1936), A N Holcombe, *The Middle Classes in American Politics* (1940)

Bourges (bōōrzh), city (pop 41,597), capital of Cher dept , central France It manufactures clothes and arms Augustus made Bourges (then Avaricum) the Roman capital of Aquitania N of the Garonne (see GAUL), and it early became an archiepiscopal see and the capital of BERRY Charles VII, who in the first years of his reign was derisively called

"king of Bourges," resided here while most of France was in English hands In 1438 he promulgated the PRAGMATIC SANCTION of Bourges, which was revoked in 1461 by his son, Louis XI, who was born here. Louis XI founded (1463) the Univ of Bourges, where Jacques CUJAS later taught, it was abolished in the French Revolution The Cathedral of St Étienne (13th cent), one of the glories of French Gothic, is remarkable in that it has no transept Jacques CŒUR, whose splendid house still stands, and Louis Bourdaloue were born here

Bourget, Paul (pōl' bōōrzhā'), 1852–1935, French novelist His early novels were naturalistic, but *Le Disciple* (1889, Eng tr, 1901) marked a change This work attacks the scientific pretensions of naturalism as dangerous when applied to morals by recounting the disillusionment of a scientific skeptic (supposedly Taine) when he sees his favorite pupil destroyed by applying his master's theories to life Bourget from then on wrote in a Catholic and a strongly conservative tone His realistic psychological analysis and his classic style won him admiration, but the limitation of subjects (he treats only intellectuals, rich bourgeois, aristocrats) and the conservatism of his views restricted his popularity Representative of his more than 60 novels are *Cruelle Énigme* (1885, Eng tr, *Love's Cruel Enigma*, 1891), *Cosmopolis* (1893, Eng tr, 1893), *Le Démon de midi* [the noonday demon] (1914), and *Le Sens de la mort* (1915, Eng tr, *The Night Cometh*, 1916) He also wrote verse, plays, and critical essays See A L Guérard, *Five Masters of French Romance* (1916)

Bourget, Le, suburb (pop 7,327) of Paris, Seine dept, N France It has one of the airports of Paris Here Charles Lindbergh landed after his transatlantic flight (1927)

Bourget, lake, c 11 mi long, Savoie dept, E France It is famous for its scenic beauty AIX-LES-BAINS is on its shores

Bourgmont, Étienne Venyard, sieur de (ātyĕn' vāyar' syûr' du bōōrmō'), fl 1706–25, French explorer in the present United States He came to America c 1685 Because of an Indian uprising when he was acting commander in Detroit in 1706, he fled to the wilderness and traveled over the region of the lower Missouri river In 1719 the governor of New France sent Bourgmont back to France to report his discoveries, and in 1720 Bourgmont was made "commandant on the River Missouri" to block Spanish intrusion from the Southwest In 1724 he went westward and made a treaty with the Comanche somewhere in present W Kansas In 1725 he returned to France

Bourguignon, Le see COURTOIS, JACQUES

Bourignon, Antoinette (ätwanĕt' bōōrēnyō'), 1616–80, Flemish quietist In 1636 she fled from home to avoid a marriage urged by her father, spent a short time in a convent, and was in charge (1653–62) of an orphanage Believing herself divinely directed to restore the pure spirit of the Gospel, at Amsterdam (1667) she gathered a fanatical following Moving from place to place, she took her printing press with her and disseminated her quietistic teachings According to her alleged revelations, religion was a matter of internal emotion, not of faith and practice Her mystical ideas found particular favor in Scotland, where Bourignianism was declared a heresy (1711) and candidates for the ministry were required to renounce it before ordination Her autobiography was translated into English as *The Light of the World* (1696) See A R Macewen, *Antoinette Bourignon, Quietist* (1910)

Bournot, Sir John George (bōō'rĭnō"), 1837-1902, Canadian historian and political scientist, b Sydney, N S, grad Trinity College, Toronto, 1857 In 1860 he founded the Halifax *Herald* and was its editor for a time He was assistant clerk (1873–80) and chief clerk (1880–1902) of the Canadian House of Commons, but it is as an authority on the Canadian constitution and government that he is remembered His *Local Government in Canada* (1887), *Manual of the Constitutional History of Canada* (1888, rev ed, 1901), *How Canada Is Governed* (1895, revised by F Gisborne, 1918), and other books on Canadian government are still authoritative

Bourlamaque (bōōr'lumäk'), town (pop 1,545), W Que, near Val d'Or, mc 1934

Bourmont, Louis Auguste, comte de (lwē' gûst' kōt' dŭ bōōrmō'), 1773–1846, marshal of France An émigré, he fought against the French Revolution under Condé, in the VENDÉE, and as a leader of the CHOUANS Imprisoned in 1800, he escaped (1804) to Portugal, but in 1807 he was reconciled to Napoleon, whom he served in several campaigns In the Hundred Days, he deserted to the Prussians on the eve of Waterloo and joined the Bourbon standard Charles X made him minister of war (1829) and marshal (1830) He was successfully leading an army to Algeria, when the Revolution of 1830 made him an exile In 1832 he aided Caroline de BERRY in her feeble insurrection; in 1840 he returned to France under an amnesty.

Bourne, Francis (bōrn), 1861–1935, English prelate, cardinal of the Roman Church. He entered the priesthood in 1884 and later was made bishop coadjutor of Southwark (1896), bishop of Southwark (1897), archbishop of Westminster (1903), and cardinal (1911) He accomplished much by his moderate policies in avoiding difficulties between the Roman Catholic Church and the state in England

Bourne, Hugh (bōōrn), 1772–1852, English founder of the sect of Primitive Methodists In 1799 he joined the Wesleyan Methodists and became a local preacher In 1807 he began holding outdoor revival services, despite prohibitions by the Wesleyan Methodist Conference His adherents gathered around him to establish a new community, the first class of which was organized in 1810 In 1812 the name Primitive Methodists was adopted Within the lifetime of the founder the sect gained over 110,000 members In 1844–46 Bourne visited the United States, where he gathered large congregations

Bourne, Randolph Silliman (bôrn), 1886–1918, American writer, b Bloomfield, N J, grad Columbia, 1913 His two books on education, *The Gary Schools* (1916) and *Education and Living* (1917), show him as a serious and ardent disciple of John Dewey, whose pragmatism he attacked, however, when America entered the war Bourne's pacifist articles were published in the *Seven Arts* and collected posthumously as *Untimely Essays* (1919) Crippled and always fragile, he died during the influenza epidemic of 1918 *The History of a Literary Radical* (1920), edited with an introduction by Van Wyck Brooks, shows his strength as a philosopher and critic See biography by Louis Filler (1943)

Bourne (bôrn), summer resort town (pop 3,315), SE Mass, crossed by Cape Cod Canal, settled c 1640, set off from Sandwich 1884 The canal was bridged in 1935 See Betsey D Keene, *History of Bourne from 1622 to 1937* (1937)

Bournemouth (bôrn'muth), county borough (1931 pop 116,797, 1947 estimated pop 139,560), Hampshire, England, on Poole Bay It has grown since the middle of the 19th cent from a small fishing village in the pine-wooded, sheltered valley of the Bourne to a fashionable resort and fine arts center It has an excellent sandy beach, a fine climate, and numerous parks Mary Shelley is buried in the parish churchyard

Bournville, village, Worcestershire, England, SW of Birmingham, built by George Cadbury as a GARDEN CITY for employees of his chocolate plant

Bourrienne, Louis Antoine Fauvelet de (lwē' ätwan' fōvulā' du bōōrēĕn'), 1769–1834, French diplomat and writer He was a friend and for a time (1797–1802) private secretary to Napoleon, and later he supported the Bourbon restoration His memoirs (10 vols, 1829) are untrustworthy, but vivid

Boursault, Edme (ĕdmä' bōōrsō'), 1638–1701, French dramatist and critic He was the literary opponent of Boileau and Molière and author of *Le Mercure galant* (1683), a successful comedy

bourse (bōōrs), term applied to a European STOCK EXCHANGE The first international bourse was established in Antwerp in the 16th cent The Paris bourse, dating from 1720, includes both the parquet, equivalent to the stock exchange and consisting of 70 members (who must be French citizens) ruled by a committee, and the coulisse, comparable to the American CURB MARKET, dealing in securities excluded from the parquet

Boursse, Esaias (äsä'yäs bōōr'su), c 1631–c 1672, Dutch painter of domestic interiors, somewhat after the manner of Pieter de Hooch Boursse traveled in Italy and in the East Indies, but settled in Amsterdam Among his few surviving works are *Interior with Woman Spinning* (Rijks Mus) and *Woman Cooking* (Wallace Coll, London)

Boussingault, Jean Baptiste Joseph Dieudonné (zhäN' bätēst' zhōzĕf' dyûdônā' bōōsĕgō'), 1802–87, French agricultural chemist As a young man he served under General Bolívar in South America He became, after his return to France, professor of chemistry at Lyons and later professor of agricultural and analytical chemistry at the Paris Conservatoire des Arts et Métiers His *Économie rurale* (1844) was later republished as *Agronomie, chimie agricole, et physiologie* (1860–64) and translated into English and German

Boutens, Pieter Cornelis (pē'tur kôrnā'lĭs bou'tuns), 1870–1943, Dutch poet His harmonious lyric verse, contemplative and sensitive, placed him among the foremost Dutch poets He made extensive translations, notably from Greek

Boutet de Monvel, Louis Maurice (lwē' môrēs' bōōtā' du môvĕl'), 1851–1913, French painter and illustrator, studied under Cabanel, Lefebvre, and Carolus-Duran Though he was well known for his portraits and historical paintings, his fame rests chiefly on his decorative illustrations for children's books and charming water colors, e g., *Chansons et rondes pour les enfants, Chansons de France, La Vie de Jeanne d'Arc,* and *Nos Enfants* He also painted a series of decorative panels from the life of Joan of Arc for the memorial church at Domremy

Bouts, Dierick or **Thierry** (dē'rĭk bouts', tyē'rē), c.1410–1475, Netherlandish primitive painter He may have worked with the Van Eycks, and while he does not equal them in power, his luminous panels have a calm beauty, particularly in the treatment of the landscape backgrounds, which gives him a high place among the painters of his period. An altarpiece of five panels (Church of St Peter, Louvain) and two panels representing the life of Emperor Otto III (Brussels) are his best authenticated works A fine portrait in the Metropolitan Museum is attributed to Bouts

Boutwell, George Sewall (bout'-), 1818–1905, American politician, b Brookline, Mass He served seven terms in the Massachusetts legislature between 1842 and 1851, was elected governor for the years 1851–52 by a coalition of Free-Soilers and Democrats, and was an organizer (1855) of the Republican party in Massachusetts As U S Representative (1863–69), Boutwell, a leading radical Republican, was for a time chairman of the Committee on Reconstruction, was one of the managers who handled the impeachment case against President Andrew Johnson, and delivered one of the final arguments before the Senate Secretary of the Treasury (1869–73), he represented one of President Grant's many poor appointments Although he had been (1862–63) the first commissioner of internal revenue, Boutwell knew little about finance His one absorbing interest was the reduction of the national debt, and he neglected more important problems His release of government gold defeated the famous attempt to corner the gold market on BLACK FRIDAY, Sept. 24, 1869, but the conspiracy need never have proceeded so far had he acted more promptly He was a U S Senator from 1873 to 1877. See his *Reminiscences of Sixty Years in Public Affairs* (1902), Allan Nevins, *Hamilton Fish* (1936)

Bouvard or **Bouvart, Alexis** (both alĕksēs' bōōvär'), 1767–1843, French astronomer He discovered eight comets His suggestion that the irregularities in the motion of Uranus are caused by an unknown planet outside the orbit of Uranus was proved correct by the discovery of Neptune by J C Adams and U J J Leverrier

Bouvet, Marie Marguerite (bōōvā'), 1865–1915, American writer, a teacher of French, b New Orleans She is known for her popular juvenile novels laid, for the most part, in foreign settings—*Sweet William* (1890), *Bernardo & Laurette* (1901), *Clotilde* (1908), and others

Bouvier, John (bōō'vēr), 1787–1851, American writer on law, b France He came (1802) to Philadelphia with his parents and later was a lawyer and journalist in Pennsylvania His *Law Dictionary* (1839), especially compiled for American lawyers, has been steadily brought up to date to the present He also wrote *Institutes of American Law* (1851)

Bouvines (bōōvēn'), village, Nord dept, N France, SE of Lille Here in 1214 PHILIP II of France defeated the joint forces of King John of England, Emperor Otto IV, and the count of Flanders

Bovey (bŭ'vē, bōvā'), village (pop 1,355), NE Minn, on Trout Lake NE of Grand Rapids and on the Mesabi iron range, mc 1921

Bow (bō) or **Stratford le Bow**, district of Poplar metropolitan borough, E London, England, named from a 12th-century arched bridge over the Lea There are relics of Roman occupation, and a 15th-century church is on the site of an earlier chapel A French convent near by is referred to in the Prologue of Chaucer's *Canterbury Tales* Bow was noted for china manufacture in the 18th cent

Bow, N H see CONCORD

Bow (bō), river of S Alberta It rises on the eastern slope of the Continental Divide and flows southeast through some of the most magnificent mountain scenery of North America (included in Banff National Park). It flows past Banff, emerges from the mountains in the canyonlike Bow River Pass, and continues past Calgary southeastward across the plains to its junction with the Oldman river to form the South Saskatchewan From Calgary westward to near its head its mountain valley is followed by the chief transcontinental line of the Canadian Pacific Railway

bow (bō), implement used in playing instruments of the violin family Its name originated from the fact that in its early form it resembled an archer's bow It assumed its present characteristics in the years 1775–81 at the hands of François Tourte (1747–1835) He made the bow of Pernambuco wood, gave it the right curvature, and invented the device by which the horsehairs are held in place and tightened The violoncello and the bass viol are played with a bow which is shorter and heavier than the violin bow

bow and arrow. The use of bows and arrows for hunting and for war probably dates back to the Paleolithic period in both Asia and Europe. It continued to be dominant until the introduction of gunpowder There were archers in ancient Egypt and Mesopotamia, and thousands of Persian arrows have been found on the battlefield of Marathon. Though the Greek phalanx and the Roman legion depended somewhat less on the use of the bow, Cretan archers in Roman service were famous. In the Middle Ages the infantry were armed with bow and arrow, and archery, always prominent, grew more so in the 14th cent with the rise of the foot soldier. A new weapon, the cross-

bow, was developed. It consisted of a bow set on a stock, and it was much stronger than an ordinary bow; it could fire stones and metal as well as darts and arrows It was, however, slow and difficult to work; even the arbalest, a late form equipped with a type of ratchet, was clumsy and slow. At the battle of Crécy (1346), English longbowmen, firing quickly from their man's-height bows, so thoroughly outclassed Genoese crossbowmen fighting for the French that they brought the crossbow into disuse soon afterward The speed of archers kept the bow and arrow in use in warfare even after gunpowder was introduced, for the old harquebus required much time for loading. The English were particularly noted as archers, and it is not surprising that Robin Hood was a folk hero In England the yew was favored as the wood for making bows In North America the Indians used hickory very widely, but wood of the Osage orange, native to Arkansas and Oklahoma, was so prized that bows made of it were important in commerce and the tree came to be called the bowwood The arrowheads used by the Indians were of flint, chipped by percussion and by pressure without the use of heat Flint arrowheads were also used by other peoples of Neolithic culture and were still somewhat used by the Persians, though even then metal arrowheads had become more common The bow and the arrow were much used as symbols in mythology and, therefore, in poetry

Bow Bells (bō), in the church of St Mary-le-Bow (Bow Church), Cheapside, London They are in mid-London, and tradition says that only he who is born within sound of these bells is a true Londoner, a "Cockney" They were the bells, according to legend, that called Dick Whittington back to London The fine steeple, over 222 ft high, was built by Christopher Wren when he rebuilt the church after the great fire, the crypt of the original Norman church, for the arches or bows of which the church is named, still stands The church was damaged in air raids in the Second World War

Bowditch, Henry Ingersoll (bou'dĭch), 1808–92, American physician, b Salem, Mass, M D Harvard, 1832, son of Nathaniel Bowditch He studied in Paris under Pierre C A Louis, whose monographs on fever and phthisis he translated into English in 1836 He was professor of clinical medicine (1859–67) at Harvard and contributed notably to public-health measures as a member (1869–79) of the Massachusetts state board of health and as author of *Public Hygiene in America* (1877) As a specialist in diseases of the chest, he found a direct correlation between dampness and the spread of tuberculosis and advocated the open-air treatment for that disease, his *Young Stethoscopist* (1846) was long in use He was influential in organizing an ambulance service in the Civil War and was a prominent abolitionist See biography by V. Y Bowditch (2 vols, 1902)

Bowditch, Henry Pickering, 1840–1911, American physiologist, b Boston, M D Harvard, 1868, grandson of Nathaniel Bowditch He studied abroad under Claude Bernard, J M Charcot, and K F W Ludwig In 1871 he established at Harvard, with his own apparatus, the first physiological laboratory in the country He attracted students of high caliber, collaborating with many of them in written works, and carried out important investigations of the heart, functional nerve blocking, and anthropometry As dean (1883–93) of the Harvard medical faculty he radically modernized the curriculum See biography by W. B Cannon (1924)

Bowditch, Nathaniel, 1773–1838, American navigator and mathematician, b Salem, Mass, father of Henry I Bowditch He had no formal schooling after the age of 10 In 1795 he went to sea, and on five long voyages he carried out his studies in navigation and as a result corrected some 8,000 errors in Moore's *Practical Navigator*, first published in America in 1799 A new edition appeared under Bowditch's name as *The New American Practical Navigator* (1802), since 1867 it has been published by the U S Hydrographic Office Bowditch made a translation (1829–39) of Laplace's *Mécanique céleste* See studies by A B Stanford (1927) and R E Berry (1941)

Bowdler, Thomas (boud'lûr, bŏd'–), 1754–1825, English editor He is best known for his *Family Shakespeare* (10 vols, 1818), an expurgated edition for family reading which, although attacked for its prudery, was reprinted many times Bowdler also edited for family reading Gibbon's *History of the Decline and Fall of the Roman Empire* (1826) His deletions throughout these works gave rise to the term *bowdlerize*

Bowdoin, James (bō'dĭn), 1726–90, American statesman, b. Boston, grad Harvard, 1745 He was elected to the Massachusetts General Court in 1753 and served, except for brief periods of illness, until the outbreak of the American Revolution Illness prevented him (1774) from becoming a delegate to the Continental Congress, and John Hancock took his place. Bowdoin became a leading figure in the council which governed Massachusetts during the war, presided over the state constitutional convention in 1779, and in 1785 replaced Hancock as governor of the state. A conservative, he as governor played an active role in suppressing SHAYS'S REBELLION and also forwarded the movement toward a centralized national government Bowdoin College was named for him

Bowdoin College, at Brunswick, Maine, nonsectarian, for men, chartered 1794, opened 1802, named for James Bowdoin Nathaniel Hawthorne, Longfellow, Franklin Pierce, Robert E Peary, and other noted men are among the alumni

Bowdon (bou'dun), town (pop 1,024), NW Ga, W5W of Atlanta, in a farm area; settled 1830, inc. 1859

bowel see INTESTINE

Bowell, Sir Mackenzie (bō'ŭl), 1823–1917, Canadian statesman, b England He came to Canada with his parents in 1833 and later became a printer's apprentice on the *Intelligencer* of Belleville, Ont, and eventually its editor He served as a Conservative in the Canadian House of Commons (1867–92) and in the Senate (1896–1906) For two years (1894–96) he was prime minister, but in 1896 his cabinet was split by the resignation of half the ministers, and he himself was obliged to resign He was then chosen opposition leader in the Senate

Bowen, Elizabeth (bō'ĭn), 1899–, Anglo-Irish author, b Dublin In 1923 she married Alan Cameron Her subtle novels of British upper-class life include *The Hotel* (1927), *The Last September* (1929), *The Death of the Heart* (1938), and *The Heat of the Day* (1949) Also an accomplished short-story writer, she has written *Look at All Those Roses* (1941) and *Ivy Grips the Steps* (1946) *Bowen's Court* (1942) is about her family and home in Ireland

Bowen, Francis, 1811–90, American philosopher, b Charlestown, Mass, grad Harvard, 1883 He was a professor at Harvard and the proprietor and editor (1843–53) of the *North American Review* A proponent of philosophical idealism, Bowen is chiefly remembered for his *Modern Philosophy from Descartes to Schopenhauer and Hartmann* (1877)

Bowen, Henry Chandler, 1813–96, American publisher, b Woodstock, Conn, educated at Woodstock and Dudley academies A Congregationalist, he aided in establishing the *Independent*, a strong antislavery paper, and was proprietor from 1871 until his death He also owned the Brooklyn *Union* for a time

Bower, Walter (bou'ûr), d 1449, Scottish chronicler, abbot of Inchcolm monastery in the Firth of Forth He is reputed to have interpolated and continued the work of John of FORDUN The continuation (1153–1437) and the original are together known as the *Scotichronicon*, the source for much of the early history of Scotland

bower bird, any of several species of birds native to Australia and New Guinea which build, for courtship displays and as a playground, an arbor or bower of sticks or grasses Usually the males construct the bowers, some of which are large (3–8 ft high), while others are like small cabins or tents or runways The gardener bower bird makes a lawn around its bower Colored stones, shells, feathers, flowers, and other bright objects, which are replaced when they become withered or worn, are used to decorate the lawns and the bowers The satin bower bird prefers blue decorative articles The nest is built by the female away from the bower The birds are crowlike and lack the showy plumage of the related bird of paradise

Bowers, Claude Gernade (zhurnăd' bou'urz), 1878–, American journalist, historian, and diplomat, b Hamilton co, Ind After serving as editor of the Fort Wayne *Journal Gazette* (1917–23), Bowers, as editorial writer on the New York *World* (1923–31) and political columnist on the New York *Journal* (1931–33), was an influential spokesman for the Democratic party Ambassador to Spain (1933–39), Bowers remained in Madrid throughout the Spanish civil war In 1939 he became ambassador to Chile. Much of his historical writing, vigorous, well written, and deservedly popular, is frankly partisan, further praising or reappraising favorably the characters and accomplishments of Democratic leaders in the past, e g, *The Party Battles of the Jackson Period* (1922), *Jefferson and Hamilton* (1925), *The Tragic Era* (1929), *Jefferson in Power* (1936), and *The Young Jefferson, 1743–1789* (1945) He has also written biographies of John W. Kern (1918) and William M. Evarts (1928), *Beveridge and the Progressive Era* (1932), and *The Spanish Adventures of Washington Irving* (1940) and edited *The Diary of Elbridge Gerry, Jr* (1927)

Bowers, Eilley Orrum, c 1827–1903, American frontier figure, b Scotland At 16 she married a Mormon bishop and came to Nauvoo, Ill, but she divorced her husband to marry another Mormon, Alexander Cowan, with whom she went (1855) to Genoa in present Nevada When in the time of tension with the U S government all Mormons were recalled (1857) to Salt Lake City, she remained, earning her living by running a boarding house for miners. Her claim in the Comstock Lode was next to that of Lemuel Sanford Bowers, whom she later married. They were among the first to get great wealth from the lode and they erected a great mansion in Virginia City, Nev. Shortly their mine gave out, and both of them died in poverty See Swift Paine, *Eilley Orrum, Queen of the Comstock* (1929)

Bowery, the (bou'urē) [Dutch *Bouwerie*=farm], section of lower Manhattan, New York city, between Chatham Square and Astor Place E of Broadway The Bowery, the street which gives the area its name, was once a road to the farm of Governor Stuyvesant, who is buried at St Mark's-in-the-Bouwerie, an Episcopal church The mail route (est 1673) to Boston traveled the road By the 1800s and '70s it had many fine theaters Later the section became notorious for its saloons and dance halls, its swindlers and petty criminals, and finally for its derelicts See A F Harlow, *Old Bowery Days* (1931)

Bowie, James (bōō'ē), 1799–1836, hero of the Texas revolution, b Burke co, Ga He and his brother, Resin Bowie, were noted frontiersmen in the backwoods of Catahoula parish, La, before James went to Texas in 1828 There he became a leader among the American settlers in their opposition to the Mexican government, taking a conspicuous part in the trouble at Nacogdoches in 1832 When the revolution actually began in 1835, he was made a colonel and was an able commander Like William B Travis and David Crockett, he died bravely at the ALAMO Legend says the bowie knife was named after him or his brother

Bowie, William (bōō'ē), 1872–1940, American geodesist, b Annapolis Junction, Md, grad Trinity College, Hartford, Conn, 1893 He served the U S Coast and Geodetic Survey (1895–1937), directing the geodetic division from 1909 to 1936 and was president of the International Geodetic Association (1919–33) He is known also for his work in developing the theory of isostasy, which is concerned with the gravitational equilibrium of the various parts of the earth's crust He wrote *Isostasy* (1927)

Bowie (bōō'ē) **1** Town (pop 767), W central Md, between Washington, D C, and Annapolis The Bowie race track is here, and near by is a state teachers college for Negroes **2** City (1940 pop 3,470, 1947 estimated pop 5,000), N Texas, SE of Wichita Falls, founded 1882, inc 1892 The region, known for its poultry raising, also has dairy, truck, and other farms

bowlder see BOULDER

bowlegs or **genu varum** (jē'nū vā'rŭm), a deforming curvature of the legs, usually the result of RICKETS in early life The child tends to walk with the feet widely separated and the toes turned in Because of a disturbance in the calcium-phosphorus metabolism, a softening of the bones occurs, and as the child begins to walk, the weight of the body and the change of posture produce bowing of the legs In young children, it is desirable to keep the weight off the legs and to give gentle corrective manipulation several times a day In older children braces are of assistance In many cases, operative section of the bone (osteotomy) is the method employed for correction A diet rich in minerals (especially calcium and phosphorus) and vitamins (particularly vitamin D) is of primary importance

Bowles, Chester Bliss (bōlz), 1901–, U S administrator and governor of Connecticut (1949–), b Springfield, Mass, grad Yale, 1924, grandson of Samuel Bowles At first a journalist and an advertising man, Bowles was later (1942–43) state OPA director in Connecticut and then, as national OPA director (1943–46), headed control of wartime rationing, rents, and prices He served (Feb–June, 1946) as director of the Office of Economic Stabilization In 1948 he was elected governor of Connecticut

Bowles, Samuel, 1797–1851, American newspaper proprietor, b Hartford, Conn He founded the Springfield (Mass) *Republican* (1824), a weekly In 1845 it became a morning daily under the influence of his son, **Samuel Bowles,** 1826–78, b Springfield, Mass, who had joined the *Republican* at 17 At 25, when his father died, he was trained to take control His vigor, discipline, practical policies, and general editorial competence, together with the aid of an exceptional but small staff, made the Springfield *Republican* one of the half-dozen most influential newspapers in the United States Bowles, by urging the union of all antislavery groups into a single national party, opened the way for the establishment in New England of the Republican party and became one of its most ardent members He gave complete support to Lincoln and in the Reconstruction period denounced the legislation of the radicals and the carpetbaggers, favoring milder measures His condemnation of the political and financial corruption of the period approached muckraking, and he was once sued by James Fisk for libel In later life he traveled much for his health, sending letters back to his paper Those of his Western trip of 1865 were collected in *Across the Continent* (1865), and those of his sojourn in Colorado, 1868, in *The Switzerland of America* (1869). See G S Merriam, *Life and Times of Samuel Bowles* (2 vols, 1885) His son, **Samuel Bowles,** 1851–1915, b Springfield, Mass, was the third of the family to edit the *Republican* He maintained its high quality by close editorial direction, but did little writing himself.

Bowles, William Lisle, 1762–1850, English poet, cleric, and literary critic He became vicar of Bremhill, Wilts, in 1804, chaplain to the prince regent in 1818, and canon residentiary of Stratford in the cathedral church of Salisbury in 1828 His *Fourteen Sonnets* (1789), by their freshness, tenderness, and naturalness, won the admiration of Coleridge Other poetry includes *The Battle of the Nile* (1799), *The Sorrows of Switzerland* (1801), and *The Spirit of Discovery* (1804) In an edition of Pope, published in 10 volumes in 1806, Bowles included a sketch of the poet's life and strictures on his work He argued that Pope's poetry, since it did not draw its inspiration from nature, was not among the best, this led to an acrimonious controversy in which Bowles was assailed by Byron See Garland Greever, *A Wiltshire Parson and His Friends* (1926)

bowling, sport played on an indoor, regulation bowling alley The alley is constructed of polished wood and measures 62 ft 10½ in from the foul line to the edge of the pit and is between 41 and 42 in wide A ball with two or three finger holes, weighing from 10 to 16 lb , is thrown by a bowler at 10 maple pins, each of which is 15 in high, set in rows of increasing length (one through four) at the opposite end of the alley The game is therefore also called tenpins A bowling contest is divided into 10 frames, with two throws allowed a bowler in each frame Each pin knocked down counts one point A strike is scored when all the pins are knocked down on the first throw, a spare when they are all toppled over on the second A perfect game, 300 points, is made by 12 consecutive strikes Bowling originated in ancient Germany, probably as an early Christian rite The Dutch introduced the game in America, where it became popular in the 19th cent Bowling, which was played with varying numbers of pins (e g , in ninepins) throughout the ages, was standardized as a 10-pin game in 1895 when the American Bowling Congress was founded The A B C and the Woman's International Bowling Congress, founded in 1916, hold yearly championships and set the standards The games of duck pins, candle pins, and barrel pins are played on the same general principles as bowling, but much smaller balls and pins are used

Bowling Green 1 City (pop 14,585), co seat of Warren co , S Ky , on the Barren river and SSW of Louisville, founded 1780 It is a shipping and market center for an area producing tobacco, strawberries, corn, livestock, limestone, and some oil and has evaporated-milk, meat-packing, and other plants Early in the Civil War, Bowling Green was occupied by Confederates until the Federal advance under U S Grant and D C Buell forced them to retreat (1862) Western Kentucky State Teachers College (with the Kentucky Library of Folklore and a museum) and Bowling Green College of Commerce are here Near by is Lost River Cave, said to have been a hideaway for the James brothers and for Gen John Hunt Morgan To the southwest lie the ruins of a Shaker settlement established in 1800 **2** City (pop 1,975), co seat of Pike co , NE Mo , SE of Hannibal, settled 1819 Rock and limestone quarries are in the area The city has a statue of Champ Clark, who lived here **3** City (pop 7,190), co seat of Wood co , NW Ohio, S of Toledo, in a productive farm area, settled 1833, inc 1855 There are several factories **Bowling Green State University** (state supported, coeducational), chartered in 1910 as a normal school, was opened in 1914 It became a college in 1929, a university in 1935 It has colleges of business administration, education, and liberal arts

bowls, ancient sport (the *bocce* of Caesar's Rome is still played by Italians), long popular in Europe, especially in England and Scotland It is also known as lawn bowling or bowling on the green It was played in America before the American Revolution (hence Bowling Green in place names), but later declined in popularity In 1879, however, Christian Schepflin, of Dunellen, N J , formed the Dunellen Bowling Club and brought about a revival of the game The usual bowling green, about 120 ft square, is divided into six alleys or rinks, each of which is 20 ft wide and 120 ft long A small white ball, called a jack, is thrown on the alley by one of the players at some spot not less than 25 yd from the bowling mat The object of the game is to roll a ball—weighing 3½ lb. and made biased in order to swerve while rolling—as close to the jack as possible and, if necessary, to dislodge balls previously thrown by opponents The sport called CURLING, played on ice, is related to bowls

Bowman, Isaiah, 1878–1950, American geographer, b Ontario, grad Harvard (B S , 1905), Ph D Yale, 1909 He taught geography at Yale (1905–15) and then became director of the American Geographical Society He led the first Yale South American expedition (1907), served as geographer-geologist on the Yale Peruvian expedition (1911), and led the American Geographical Society expedition to the central Andes (1913) He was chief territorial adviser to President Wilson at the Versailles conference and served the Dept of State as territorial adviser in the Second World War He was a member of the executive committee of the National Research Council from 1919 to 1929 and was its chairman from 1933 to 1935 He was president of Johns Hopkins Univ from 1935 until his retirement in 1948 His work on many commissions and boards included contributions as an active officer of the Explorer's Club, the Association of American Geographers, and the Council of Foreign Relations and as president, from 1931 to 1934, of the International Geographical Union His books include *The Andes of Southern Peru* (1916) and *Desert Trails of Atacama* (1924), a standard work, *Forest Physiography* (1911), *The Pioneer Fringe* (1931), first of a series on world frontier areas, *The New World Problems in Political Geography* (1922), and *Design for Scholarship* (1936)

Bowmanville (bō'–), town (pop 4,113), S Ont , on Lake Ontario NE of Toronto It is a manufacturing center with a good harbor

Bowne, Borden Parker (boun), 1847–1910, American philosopher, b Monmouth co , N J , grad New York Univ , 1871, and studied at Halle and Göttingen In 1876 he became head of the department of philosophy at Boston Univ and later served as dean of the graduate school These positions he held until his death In his philosophy, which he called personalism, he stressed the reality and freedom of the self and insisted on the central importance of personality His masterpiece, *Metaphysics*, appeared in 1882 Other works include *The Philosophy of Herbert Spencer* (1874), *Principles of Ethics* (1892), *The Immanence of God* (1905), *Personalism* (1908), and *The Essence of Religion* (1910)

Bowring, Sir John (bou'ring), 1792–1872, British statesman and linguist An extraordinarily versatile linguist, he is remembered for his anthologies and translations of poetry from many European and Oriental languages He was the editor of the works of Jeremy Bentham, whose friend he became in 1821 and whose principles he upheld as the first editor (1824) of the radical *Westminster Review* and as a member of Parliament (1835–37, 1841–49) He went on various missions in foreign countries for the government, was consul at Canton, and in 1854 was knighted and sent as governor to Hong Kong There he precipitated a war with China by ordering the bombardment of Canton in a dispute over the right of the Chinese to remove a Chinese pirate from a Chinese ship when that ship was registered by the British His *Kingdom and People of Siam* (1857) grew from his diplomatic mission in Siam See his *Autobiographical Recollections* (with a memoir by his son Lewin Bowring, 1877), G L Nesbitt, *Benthamite Reviewing* (1934)

Bow ware (bō), English porcelain, similar to CHELSEA ware It was made at Stratford le Bow from 1730 to 1776, when its factory was absorbed by the DERBY WARE pottery

bowwood see OSAGE ORANGE

box, any of numerous species of the genus *Buxus*, evergreen trees or shrubs native to the Old World and to Central America but widely planted and especially prized for clipped hedges Boxwood is close-grained, very strong, heavy, and hard It takes a high polish and is valued as a medium for wood engraving, carving, and turning and for making musical and mathematical instruments Commercial boxwood is supplied chiefly by England The common box (*Buxus sempervirens*) has several cultivated varieties It is slow-growing and has poisonous leaves

box elder, short-lived North American maple (*Acer negundo*) with compound leaves which are easily mistaken for poison ivy It is also known as ash-leaved maple Because of its rapid growth it is often planted as a shade tree The light soft wood is considered inferior but is used for woodenware, paper pulp, furniture, and interior trim Both Indians and white men have used the sap like maple syrup

boxer, dog, short-haired, sleek, muscular, and rather stocky, descended from a number of breeds of bulldogs Although similar dogs have been known in many parts of Europe from the 16th cent , the boxer as it is now known was developed chiefly in Germany from about the middle of the 19th cent It was little known in the United States until after 1935 In color the dog is usually some shade of fawn or brindle, less often it is white marked with black, fawn, or brindle Small erect ears, a slightly domed skull, and a protruding lower jaw are characteristic Alert, courageous, intelligent, and teachable, the boxer is valued as a guardian and companion It has proved an excellent seeing-eye dog See M G Denlinger, *The Complete Boxer* (1948)

Boxer Rebellion. In the second half of the 19th cent the Western powers and Japan established wide interests in China, nearly subjugating the country Emperor KWANG HSÜ attempted to meet the threat of Westernization by adopting modern ways himself and thus strengthening China, but his attempt was frustrated (1898) by the dowager empress, TZ'U HSI She favored resistance to the foreigners and tacitly encouraged an antiforeign military organization called I Ho Ch'üan [Chinese, =righteous, harmonious fists] or, in English, the Boxers About 1899 the Boxers began violent attacks on foreigners and Christians and in June and July, 1900, occupied Peking (now Peiping) and besieged the foreigners and the Chinese Christians there The siege was lifted in August by a composite force of British, French, Russian, American, German, and Japanese troops The Boxer Rebellion thus ended The Western powers and Japan agreed—because the hostilities occurred only in NE China and were not official but had been opposed by many local Chinese officials—that China should not be charged with waging war Nevertheless China was compelled (1901) to pay an indemnity of $333,000,000, to amend commercial treaties to the advantage of the foreign nations, and to permit the stationing of foreign troops in Peiping The United States later (1908) used some of its share of the indemnity for scholarships for Chinese students See G. N Steiger, *China and the Occident* (1927), P H Clements, *An Outline of the Politics and Diplomacy of China and the Powers, 1894–1908* (1915)

Box Hill see DORKING, Surrey, England

boxing, the art of fighting with the fists, also called pugilism It is an ancient sport, mentioned by Homer and included in the original Olympic games Pugilism was popular with the Romans, who bound the fist with a knotted, and often metal-weighted, leather cestus The sport died out after the fall of Rome Royal patronage, in the form of betting on or offering prizes to the contestant, plus the ring prowess of James Figg and the first set of rules drawn up by Jack Broughton, helped revive the sport in 18th-century England, whence it spread to America Until the end of the 19th cent , bare fists were used In 1865, however, the marquess of Queensberry (see QUEENSBERRY, JOHN SHOLTO DOUGLAS, 8TH MARQUESS OF) introduced his celebrated code of boxing rules, which were more and more adopted after 1875 and became standard by 1889 This code called for boxing gloves, a limited number of three-minute rounds, the forbidding of gouging and wrestling, a count of 10 seconds before a floored man is called the loser, and various other features of modern boxing Professional boxing in the United States is governed largely by the rulings of the National Boxing Association and the New York State Athletic Commission Though boxing is conducted in Massachusetts and Maryland, those states, like New York, are not members of N B A Amateur boxing has become quite popular in recent years chiefly because of the Amateur Athletic Union and Golden Gloves tournaments Boxers today fight in a ring, or roped-off area, which is about 20 ft square Pugilists are divided into classes according to weight —flyweight (112 lb), bantamweight (118 lb), featherweight (126 lb), lightweight (135 lb), welterweight (147 lb), middleweight (160 lb), light heavyweight (175 lb), and heavyweight (over 175 lb) John L Sullivan was the bare-knuckles champion from 1882 to 1892 After the Queensberry rules were generally accepted, the recognized world's heavyweight champions were James J Corbett (1892–97), Robert Fitzsimmons (1897–99), James J Jeffries (1899–1910), Jack Johnson (1910–15), Jess Willard (1915–19), William H (Jack) Dempsey (1919–26), Gene Tunney (1926–28), Max Schmeling (1930–32), Jack Sharkey (1932–33), Primo Carnera (1933–34), Max Baer (1934–35), James J Braddock (1935–37), and Joe Louis (Joseph Louis Barrow, 1937 49) Other famous boxers include Henry Armstrong, Georges Carpentier, Benny Leonard, Battling Nelson, and Ray Robinson See Alexander Johnston, *Ten and Out* (1937), N S Fleischer, *Heavyweight Championship* (1949)

Boyacá (bōyäkä'), locality, N central Colombia, near Tunja Here on Aug 7, 1819, revolutionary forces under Simón Bolívar won the decisive engagement that assured the independence of present Colombia and Venezuela from Spain

Boyce, William, 1710–79, English composer In 1737 he was appointed conductor of the Three Choirs Festivals While earlier conductors had conducted from an instrument, usually the harpsichord, he inaugurated the modern practice of conducting without any instrument He became an organist of the Chapel Royal in 1758 His compilation *Cathedral Music* (3 vols , 1760–78) is his most important work

Boyce Thompson Institute for Plant Research, established in 1924 at Yonkers, N Y , through gifts of Col William Boyce Thompson There the institute has a large plot of ground on the hills near the Hudson river In the extensive laboratories and greenhouses, its staff of botanists, chemists, entomologists, and workers in other fields of plant science carry on experiments on various phases of plant life The institute has a fine library An arboretum of approximately 300 acres is maintained in Westchester co , and another with an area of c 1,000 acres at Superior, Ariz William CROCKER has been director of the institute since its founding

boycott, concerted economic or social ostracism of an offender (individual, group, nation) to express disapproval or effect coercion The practice was named in 1880 after Capt Charles Cunningham Boycott, an English land agent in Ireland whose ruthlessness in evicting tenants led his employees to refuse all cooperation with him and his family.

In the United States the boycott is used chiefly in labor disputes, a typical example is the refusal of aggrieved employees to purchase goods or services of their employer and their effort to induce others to withdraw patronage (secondary boycott). Consumers' and businessmen's groups also resort to the method The boycott has been used as a weapon in political and racial issues Outstanding examples are the refusal of American colonials to buy British goods after the passage of the Stamp Act (1765), the Chinese boycott of U S goods (1905) because of the poor treatment of Chinese in America, and the passive resistance of Gandhi's followers against the British in India International boycotts ("economic sanctions") against aggressor nations were urged by the League of Nations before the Second World War The legal status of the boycott differs with various governments See H W. Laidler, *Boycotts and the Labor Struggle* (1914), Evans Clark, ed , *Boycotts and Peace* (1932)

Boyd, Belle, 1843–1900, Confederate spy in the Civil War, b Martinsburg, Va (now W Va) Operating (probably unofficially) in Martinsburg and Front Royal, she provided Gen T J. (Stonewall) Jackson with valuable information on Union activities in the Shenandoah Valley in 1862 In 1864, after being twice imprisoned and released, she went to England, supposedly with secret dispatches from Jefferson Davis to Confederate agents there Although she was not particularly pretty, Belle had a figure and personality which attracted many men The first of her three husbands, a Union officer who had been her captor, followed her to England to marry her After his death she took to the English stage (1866) and on her subsequent return to the United States toured widely, especially in the Middle West, giving dramatic talks about herself and sundry episodes of the Civil War She wrote *Belle Boyd in Camp and Prison* (1865) See L A. Sigaud, *Belle Boyd, Confederate Spy* (1945)

Boyd, Ernest, 1887–1946, American critic and author, b Dublin, Ireland In the British consular service from 1913, he resigned in 1920 and settled in New York, where he soon established his reputation He contributed editorials to the New York *Evening Post* and wrote for its *Literary Review* and for the *American Mercury* and the *Bookman* criticism on European literary tendencies, particularly those of Ireland and France His works include *Contemporary Drama of Ireland* (1917), *Portraits, Real and Imaginary* (1924), *H L Mencken* (1925), *Guy de Maupassant* (1926), and *Literary Blasphemies* (1927) He was editor and translator of the complete works of Maupassant and translator of many modern French and German authors

Boyd, James, 1888–1944, American author, b Dauphin co , Pa , grad Princeton, 1910, and Trinity College, Cambridge, 1912 He saw active service as an officer in the First World War and thereafter lived on his estate at Southern Pines, N C His fine historical novels are *Drums* (1925), with a Revolutionary War background, *Marching On* (1927), about the Civil War, *Long Hunt* (1930), *Roll River* (1935), and *Bitter Creek* (1939) During the Second World War, Boyd organized the Free Company, American authors whose gratuitously written plays were broadcast to counteract enemy propaganda *Eighteen Poems* was published posthumously in 1944

Boyd, Louise Arner, 1887–, American arctic explorer, b San Rafael, Calif She led a series of explorations for scientific study of the east coast of Greenland The expedition of 1933, sponsored by the American Geographical Society, was described in her *Fiord Region of East Greenland* (1935), on those of 1937 and 1938 a submarine ridge between Bear Island and Jan Mayen was made known, that of 1941 was undertaken for the National Bureau of Standards In the Second World War she was (1942–43) a technical expert in the War Dept She also wrote *The Coast of Northeast Greenland* (1948)

Boydell, John (boi'dĕl), 1719–1804, English engraver and print publisher, originator and builder of the Boydell Shakespeare Gallery He studied engraving in London and early began to amass his fortune with the publication of his engravings of views of England and Wales It is as the publisher of works by other engravers, however, that he is better known His activities reached their zenith in 1786, when he began the publication, by subscription, of prints illustrating Shakspere's works The leading English artists were commissioned and a gallery was built by Boydell to house the 170 works, which included three pieces of sculpture He was elected lord mayor of London in 1790 He died shortly before his property was sold by lottery

Boyden, Seth, 1788–1870, American inventor, b Foxboro, Mass The son of a forge and machine-shop proprietor, he early acquired a local reputation for his mechanical skill He improved his father's invention of a leather-splitting machine and made it commercially valuable He duplicated the European production of a lacquered leather and set up the first patent-leather factory in America in 1819 After six years of experiment he also solved the European secret of malleable cast iron and was granted his patent in 1831 Concentrating in later years on the building of locomotives and steam engines, he invented the first automatic "cut-off" governor A long list of minor inventions and processes is placed to his credit He developed the famous Hilton strawberry. Most of his work was done in Newark, N J

Boyer, Jean Pierre (zhäⁿ' pyĕr' bwäyä'), 1776–1850, president of Haiti (1818–43) A free mulatto, he fought under TOUSSAINT L'OUVERTURE and then joined the abortive insurrection of André RIGAUD After two years in exile, he returned with Leclerc's French army in 1802 but subsequently joined the patriots under Alexandre PÉTION who chose him as his successor The death of Henri CHRISTOPHE (1820) and the weakness of Spanish Santo Domingo to the east enabled Boyer to win the whole island by 1822 Compulsory labor was instituted In 1825 a French fleet forced Boyer to pay an indemnity of 150,000,000 francs in return for French losses, France then recognized Haitian independence Haiti's international financial embarrassment thus began, combined with the labor policy, it brought Boyer's overthrow and permanent exile

Boyertown (boi'urtoun), industrial borough (pop 3,983), SE Pa , E of Reading, inc 1866 It manufactures leather, metal products, textiles, and coffins

Boyesen, Hjalmar Hjorth (hyäl'mär hyôrt' boi'ĕsĕn), 1848–95, American writer, b Norway, educated at the universities of Leipzig and Christiania (Ph D , 1868) He came to America in 1869 and shortly became editor of *Fremad*, a Norwegian weekly published in Chicago In 1874 he became a teacher of German at Cornell, and in 1880 he went to Columbia, eventually gaining the chair of Germanic languages and literature His work includes *Goethe and Schiller* (1879) and *Essays on Scandinavian Literature* (1895), critical studies, *Idyls of Norway* (1882), poems, four excellent books for boys on Norwegian life, *Gunnar* (1874), a romance of Norwegian life, the more realistic *Falconberg* (1879) and *The Mammon of Unrighteousness* (1891), and *Vagabond Tales* (1899), short stories *Ilka on the Hill-Top* (1881), dramatized in 1884, had a long run in New York

Boyle, Charles, 4th **earl of Orrery** see ORRERY, CHARLES BOYLE, 4TH EARL OF

Boyle, Richard, 1st **earl of Cork,** 1566–1643, Irish statesman, b England He went to Ireland in early manhood and in 1604 for a small sum acquired Sir Walter Ralegh's large landholdings around Cork, Waterford, and Tipperary His energy and success in improving the lands, building mills, establishing ironworks and manufactures, founding towns, and creating trade were remarkable and won attention in England as well as in Ireland He was appointed (1629) one of the lord justices of Ireland and in 1631 became lord high treasurer of the kingdom In this position he came into conflict with Thomas Wentworth (later 1st earl of STRAFFORD), who was appointed lord deputy of Ireland in 1633 In their long struggle Strafford at first was successful in depriving Boyle of a large part of his privileges and income, but Boyle's patient marshaling of the forces of opposition to Strafford's Irish program was an important factor in the latter's downfall The sudden Irish rebellion of 1641 found Boyle prepared, and he managed to keep Munster loyal Two of his seven sons became well known, Roger Boyle, 1st earl of ORRERY, and Robert Boyle, the scientist See Dorothea Townshend, *The Life and Letters of the Great Earl of Cork* (1904)

Boyle, Robert, 1627–91, British natural philosopher and chemist, b Ireland, son of the 1st earl of Cork He was the first to distinguish between a chemical element and a compound, and he defined clearly the nature of a chemical reaction and of chemical analysis He is especially noted for what is known as Boyle's law, which states that as the pressure on a confined gas is increased the volume of the gas decreases in proportion (the temperature being constant) See study by L T More (1944)

Boyle, Roger, Baron Broghill and **1st earl of Orrery** see ORRERY, ROGER BOYLE, 1ST EARL OF

Boylston, Zabdiel, 1679–1766, American physician, b Brookline, Mass He was privately educated in medicine and settled in Boston In an epidemic of smallpox in 1721 he was persuaded by Cotton MATHER to inoculate, thus introducing the practice into this country Beginning with his son and two slaves, he inoculated over 240 persons, of whom but six died Public sentiment, however, was against Boylston and Mather, their lives were endangered, and an attempt was made to bomb Mather's house Boylston visited England, and his *Historical Account of the Small-Pox Inoculated in New England* was published there in 1726

Boylston, town (pop 1,388), central Mass , near Wachusett Reservoir, settled 1705, set off from Shrewsbury 1786

Boyne, river of Ireland It rises in Co. Kildare in the Bog of Allen and flows 70 mi NE through Co Meath, passing Trim and Drogheda, to the Irish Sea 4 mi E of Drogheda In the battle of the Boyne, July 1, 1690, near Drogheda, the armies of William III defeated James II, who fled to France This victory is celebrated annually by Orangemen as having secured Protestantism as the state religion of Great Britain.

Boyne City, resort city (pop 2,904), N Mich , on Lake Charlevoix and S of Petoskey, inc as a village 1885, as a city 1907 It has a tannery

Boynton Beach, city (pop 1,326), SE Fla , on the Atlantic S of Palm Beach, inc 1920 It is a farm trade center and a bathing and fishing resort

Boyron, Michel see BARON, MICHEL

Boys' Clubs of America, federation of more than 300 clubs organized in 1906 in Boston as the Federated Boys' Clubs Its purpose is to provide leisure-time activities

Boy Scouts, organization of boys over 12 years old, founded in 1908 by Sir Robert BADEN-POWELL It was incorporated in 1910 in the United States, where its appearance was connected with earlier organizations—Beard's Sons of Daniel Boone (see BEARD, DANIEL CARTER) and Seton's Woodcraft Indians (see SETON, ERNEST THOMPSON) In the United States, James E West was chief scout from 1911 to 1943 From these beginnings the movement has spread throughout most of the world, with an organization and a program basically the same in every country It is nonmilitary and is without racial, religious, political, or class distinctions The unit is the troop, which is subdivided into patrols and is headed by a scoutmaster Scouts are divided into classes—tenderfoot and second- and first-class scouts The program of activities aims at a threefold development, mental, moral, and physical, it stresses outdoor knowledge and skills and embraces training in citizenship, nature lore, wood and camp craft, manual arts, lifesaving, and sports Boy Scouts have performed useful service in many civic projects, sharing in nation-wide safety-first and city-improvement campaigns, acting as assistant traffic patrols, and aiding in the prevention of forest fires During the Second World War, they salvaged waste, distributed government posters, distributed ration books, and performed other services An international gathering, called a jamboree, has been held several times since the first one at London in 1920

Boys Town, village (pop 254), E Nebr , near Omaha, inc 1936 The noted community was founded in 1917 by Mgr Edward J Flanagan (1886–1948) for homeless and abandoned boys

Bozeman, John M (bōz'mun), 1835–67, American pioneer A Georgian, he went to the Colorado gold fields in 1861 and to those in Montana in 1862 In the winter of 1862–63 he traveled with a companion from Bannack, Mont , to Colorado by a route lying E of the Bighorn Mts through lands reserved by treaty to the Indians Since the only other approaches to Montana from the east were the long, circuitous Missouri river or a trail leading N from the Overland Trail in Idaho (this route necessitated a double crossing of the Continental Divide), he was enthusiastic about his short cut, which became known as the **Bozeman Trail** Several parties, including one guided by Bozeman himself, used the trail in 1864, and in 1865–66 the Federal government built Forts Reno, Phil Kearney, and C F Smith to guard it However, after the FETTERMAN MASSACRE (Dec , 1866), the trail S and E of Fort C F Smith was abandoned In April, 1867, Bozeman was killed by Piegan Indians Bozeman Pass, where the trail crossed the Belt Mts , and Bozeman, Mont , were also named for him See G R Hebard and E A Brininstool, *The Bozeman Trail* (1922)

Bozeman, city (pop 8,665), co seat of Gallatin co , SW Mont , SE of Butte, inc 1883 Founded (1864) by John M Bozeman in the Gallatin valley, it is the center of a farming and stock-raising area Tourists stop here on the way to Yellowstone Park Montana State College (see MONTANA, UNIVERSITY OF) is in Bozeman

Bozeman Trail see BOZEMAN, JOHN M

Bozen, Tyrol see BOLZANO

Bozez (bō'zĕz) and **Seneh** (sē'nĕ) [Heb , =thorn], two cliffs, at the entrance to the ravine of Michmash (now the Wadi Suweinet) 1 Sam 14 4,5

Bozkath [Heb , =stony], place, SW Palestine Joshua 15 39 Boscath 2 Kings 22 1

Bozrah (bŏz'ru) **1** Important city of Edom, of unknown location The prophets often linked the name Bozrah with that of Edom Gen 36 33, 1 Chron 1 44, Isa 34 6, Jer 49 13,22; Amos 1 12, Micah 2 12 **2** City of Moab, of unknown location Jer 48 24 The name Bozrah should not be confused with Bosra (Bostra)

Bozzaris, Marco or **Markos** (bōzä'rĭs, -zä'lĭs, Gr bôt'särēs), c 1788–1823, Greek patriot, b Epirus He joined ALI PASHA in 1820 and later was prominent in the Greek War of Independence, notably in the defense of Missolonghi (1822–23) and at Karpenisi, where he defeated the Turks with a handful of men but died in battle He is the subject of a poem by Fitz-Greene Halleck

Br, chemical symbol of the element BROMINE

Brabant (brŭbănt', Flemish brăbant', Fr brăbäⁿ'), province (1,268 sq mi , pop 1,784,547), central Belgium. Brussels is the capital Watered by the Dyle, Senne, and Demer rivers, it has a very fertile soil. Except in Brussels, the population is overwhelmingly Flemish-speaking The province occupies the southern part of the old duchy of Brabant.

Brabant, duchy of (brubănt'), former duchy, now divided between Belgium (Brabant prov. and Antwerp prov.) and the Netherlands (see NORTH BRABANT). It emerged (12th cent.) from the duchy of Lower Lorraine. Louvain, Brussels, and Antwerp were its chief cities. Malines, though geographically in Brabant, was part of Flanders. Brabant passed (1430) to Philip the Good of Burgundy. (For the history of Brabant from the death in 1477 of Philip's son, Charles the Bold, to 1795, see NETHERLANDS, AUSTRIAN AND SPANISH.) Like the rest of the S Low Countries, Brabant owed its extraordinary prosperity during the Middle Ages to its wool and other textile industries and to the commercial enterprise of its cities. The dukes, reduced to reliance on the generosity of the towns in order to finance their wars and their luxurious life, granted the towns virtual self-government and an ever-increasing share in the government of the duchy. This trend culminated in the grant (1356) of the charter known as the *Joyeuse Entrée*, so called because all subsequent dukes had to swear to it when they made their entry into Louvain after their accession. According to the charter, the dukes could not declare war, conclude an alliance, or coin money without the consent of the delegates of the clergy, nobles, and towns, who formed an assembly later known as the Estates of Brabant. This constitution remained essentially in effect until it was abolished (1789) by Emperor Joseph II.

Brač (brăch), Serbo-Croatian *Brač* (brach), Ital. *Brazza* (brät'tsä), Adriatic island (152 sq. mi.), Croatia, Yugoslavia, in Dalmatia. The small port of Supetar (Ital. *San Pietro*) is the chief town.

Bracara Augusta see BRAGA, Portugal.

Brace, Charles Loring, 1826–90, American social reformer, b. Litchfield, Conn., grad. Yale, 1846. He founded (1853) the Children's Aid Society of New York, a pioneer organization which established modern methods in child-welfare practice. Among his books are *Short Sermons to Newsboys* (1866) and *Gesta Christi* (1882). See biography by Emma Brace (1894).

brace and bit see DRILL.

Bracebridge, town (pop. 2,341), S Ont., N of Lake Simcoe. It is the center of Muskoka dist.

Bracegirdle, Anne, 1663?–1748, English actress. The favorite of Congreve and the delight of Colley Cibber, she had success in such parts as Portia and Cordelia, but gained fame when she was the first to play the roles of Belinda in Vanbrugh's *Provok'd Wife* and Angelica in Congreve's *Love for Love*. Eclipsed by Mrs. Oldfield, she retired in 1707 but in 1710 reappeared at the benefit for Thomas Betterton, under whom she had played in 1695. See Colley Cibber's *Apology*.

Bracken, John, 1883–, Canadian educator and political leader, b. Ellisville, Ont., grad. Ontario Agricultural College, 1906. He was professor of field husbandry in the Univ. of Saskatchewan (1910–20) and president of Manitoba Agricultural College (1920–22). Elected (1922) to the Manitoba legislature, he was premier of Manitoba for 20 years (1922–42). In 1942 he was chosen to lead the Conservative party in the dominion, which he renamed Progressive Conservative. Elected in 1945 to the Canadian House of Commons, he served as leader of the opposition until 1948, when he resigned. He is the author of several agricultural textbooks.

bracken see BRAKE.

Brackenridge, Henry Marie, 1786–1871, American writer, b. Pittsburgh, Pa., son of Hugh Henry Brackenridge. Admitted to the Pennsylvania bar in 1806, he moved to St. Louis and was there a lawyer and a journalist. His *Views of Louisiana* (1814) included his *Journal of a Voyage up the Missouri River* (also published separately in 1816), which recounted a journey with the fur trader Manuel Lisa and was one of the sources of Washington Irving's *Astoria*. Brackenridge became a well-known jurist and also is notable for his suggestion in a pamphlet *South America* (1817) of a policy foreshadowing the Monroe Doctrine. He was sent to South America to study political conditions and wrote an account in his *Voyage to South America* (1819). His *Recollections of Persons and Places in the West* (1834) is a valuable historical source.

Brackenridge, Hugh Henry, 1748–1816, American jurist and author, b. Scotland, grad. Princeton. He studied theology and law and served in the Revolution as chaplain. He wrote two patriotic plays and some verse. In 1781 he moved to Pittsburgh, where he founded (1786) the city's first newspaper, the Pittsburgh *Gazette*, and helped to establish the Pittsburgh Academy (now the Univ. of Pittsburgh). A leading Pennsylvania supporter of the Federal Constitution, Brackenridge later acted as peacemaker in the WHISKY REBELLION (1794). He was also a justice of the Pennsylvania supreme court from 1799 to his death, but he is best known as an author. His satirical and picaresque novel, *Modern Chivalry* (1792–97, with additions, 1813), pictures backwoods life and expresses the moderate democratic views of Brackenridge. Its lusty writing is much admired. He also wrote an account of the Whisky Rebellion and political tracts. See C. M. Newlin, *Life and Writings of Hugh Henry Brackenridge* (1932).

Brackenridge, industrial borough (pop. 6,400), SW Pa., on the Allegheny river and NE of Pittsburgh, inc. 1901. Its industries include coal mining and the manufacture of coke, stainless steel, and glass.

brackets see PUNCTUATION.

Brackettville, town (pop. 2,653), co. seat of Kinney co., W Texas, ESE of Del Rio, inc. 1928. Here are Fort Clark, an army post founded in 1852 and deactivated in 1946, and Las Moras Springs, which feed Las Moras Creek, a small tributary of the Rio Grande. Ranches produce cattle, sheep, and goats.

Brackley, Thomas Egerton, Viscount. see ELLESMERE, THOMAS EGERTON, BARON.

Bracquemond, Félix (fālĕks' brăkmôN'), 1833–1914, French engraver, painter, and decorator of ceramics. He is best known for his many etchings, both original and reproductions of famous paintings. He was particularly successful in his portraits and in the depiction of birds and animals. Bracquemond's new method of decorating porcelain won a merited success. He worked for the Sèvres and Limoges factories and maintained a ceramics studio in Paris.

Bracton, Henry de, d. 1268, English writer on law. He was the author of *De legibus et consuetudinibus Angliae* [on the laws and customs of England], a broad, philosophic treatise that is often called the most important work on English law before Sir William Blackstone. Sir Edward COKE and others used the work in their legal arguments against the king in the Puritan Revolution. See edition of *De legibus* by G. E. Woodbine (4 vols., 1915–42) and edition of Bracton's notebook by F. W. Maitland (3 vols., 1887).

Bradbury, William Batchelder, 1816–68, American organist and composer, b. York, Maine, pupil of Lowell Mason. He organized the Juvenile Music Festivals in New York, where he was organist of the Baptist Tabernacle from 1840 until 1847, when he went to Europe for further study. He started music conventions in New Jersey. In 1854 he began the manufacture of pianos with his brother. He compiled many popular collections of Sunday-school songs, and his own tunes, such as those for *He Leadeth Me*, for *Just as I Am, without One Plea*, and for *Savior, like a Shepherd Lead Us*, are still widely used.

Braddock, Edward, 1695–1755, British general in the French and Indian Wars. Although he served 42 years (1710–53) with the Coldstream Guards (which had also been his father's regiment), he had not done much active campaigning before 1754. However, he was reputed to have a good knowledge of European military tactics and was noted as a stern disciplinarian. Braddock was promoted major general in 1754 and in Feb., 1755, arrived in Virginia as commander in chief of the king's forces in North America. His immediate objective was the French stronghold at the forks of the Ohio (see DUQUESNE, FORT). With some 700 colonial militiamen, whom he regarded rather disdainfully, and over 1,400 British regulars, he moved across the Alleghenies from Fort Cumberland (now Cumberland, Md.), building a road (the foundation of the National Road) as he went. Braddock unwisely used heavy transport instead of pack animals, and the march was so slow that he feared the French would reinforce Duquesne before he could reach there. At Little Meadows, some 30 mi. along on the expedition to cover c. 110 mi., mostly through rough country, he adopted the suggestion of one of his aides-de-camp, George Washington, and, leaving the wagons behind with one of the two British regiments, he pushed ahead with an advance force amounting to about two thirds of his total complement. While crossing the Monongahela, Braddock was met (July 9, 1755) by a force of not more than 900 men—a few French and Canadians and many Indians—under Daniel BEAUJEU, who had been apprised of the advance. The British regulars, as unfamiliar with Indian-style fighting as their commander (although both had been given fair warning by the colonials), bolted from their column formation under the steady enfilading fire from a ubiquitous enemy safely concealed in ravines and behind trees. The affair turned into a bloody rout. Since the Indians paused to collect scalps and other trophies of war, the demoralized troops were able to rejoin the rear guard and both retreated safely to Fort Cumberland. Of the 1,459 actively engaged, 977 were killed or wounded, including 63 of the 89 officers, who—unlike the soldiers—fought bravely. Braddock himself had four horses shot from under him before he was mortally wounded (the story that he was intentionally shot by a colonial has been characterized as absurd). He died four days later at Great Meadows and was buried there, near the site of Uniontown, Pa. Washington, who acquitted himself well, had the satisfaction later of serving under John FORBES when that general took an abandoned Fort Duquesne. See D. S. Freeman, *George Washington*, Vol. II (1948).

Braddock, industrial borough (pop. 18,326), W Pa., on the Monongahela and SE of Pittsburgh; settled 1742, inc. 1867. Its industries produce machinery and steel (Carnegie Steel Company). In 1755 Gen. Edward BRADDOCK was defeated on the site by the French and Indians, and on Aug. 1, 1794, thousands of men in W Pennsylvania gathered on Braddock's Field in protest against the Federal tax on whisky.

Bradenton (brā'dŭntŭn), city (pop. 7,444), co. seat of Manatee co., SW Fla., on Tampa Bay at the mouths of the Braden and Manatee rivers, founded 1878, inc. 1903. It is a popular Gulf winter resort and a shipping point for truck and fruit. Near by are the ruins of Braden Castle (1850). At Ellenton, 4 mi. northeast, is the Gamble Mansion (now a state monument), which was the post-war refuge of Judah P. Benjamin, Secretary of State of the Confederacy.

Bradford, Andrew, 1686–1742, colonial printer of Pennsylvania, b. Philadelphia, son of William Bradford (1663–1752). Andrew learned the trade in his father's shop in New York, but in 1712 went to Philadelphia, where he established his own press and also became a bookseller. In 1719 he began publication of the *American Weekly Mercury*, the first newspaper in Pennsylvania and the third in the colonies. He was imprisoned at one time for publishing criticism of the council and assembly, but defended his own case for freedom of the press with credit. In 1741 he began publication of the short-lived *American Magazine*.

Bradford, Augustus Williamson, 1806–81, Civil War governor of Maryland (1862–66), b. Bel Air, Md., grad. St. Mary's College, 1824. His election in 1861 owed much to the presence of Federal troops at the polls, as did the approval of the new constitution of 1864, which abolished slavery. See W. B. Hesseltine, *Lincoln and the War Governors* (1948).

Bradford, Edward Hickling, 1848–1926, American orthopedic surgeon, b. Boston, M.D. Harvard, 1872. He was the first professor of orthopedic surgery at Harvard (1903–12), a founder of the Boston Industrial School for Crippled and Deformed Children (1893), and a leader in the establishment of the state hospital school at Canton (1905). With R. W. Lovett he wrote *Treatise on Orthopedic Surgery* (1890).

Bradford, Gamaliel, 1863–1932, American biographer, b. Boston. Handicapped by lifelong ill-health, he wrote unsuccessful poems, novels, and plays, not until his *Lee the American* (1912) did he perfect his original method of writing "psychographs," or short "portraits" of historical figures. A series of such works followed, including *Confederate Portraits* (1914), *Union Portraits* (1916), *Damaged Souls* (1923), *Wives* (1925), *Darwin* (1926), and *Portraits and Personalities* (ed. by M. A. Bessey, 1933). The autobiographical *Life and I* (1928) and his journal (1933) and letters (1934), both edited by Van Wyck Brooks, reveal his life and the development of his methods.

Bradford, John, 1510?–1555, English Protestant martyr, burned at Smithfield as a heretic in 1555. A complete collection of his writings, edited by Aubrey Townsend, was published in 1848–53.

Bradford, John, 1749–1830, pioneer printer of Kentucky, b. Virginia. He went to Kentucky c. 1779. Though without previous practical experience, he issued at Lexington on Aug. 11, 1787, the first number of the *Kentucky Gazette*, the first newspaper in the territory, and succeeded, despite many handicaps, in making it a creditable sheet. In 1788 he printed the *Kentucke Almanac*, the first pamphlet in the West, and, in 1792, the acts of the first session of the Kentucky legislature, the first book to be published in Kentucky. He aided in founding Transylvania Univ. and was (1799–1811) first chairman of the board. In 1826 he began to publish in the *Gazette* his "Notes of Kentucky," a valuable historical source, which continued until 1829.

Bradford, Roark, 1896–1948, American novelist, b. Lauderdale co., Tenn. He took up newspaper work in Atlanta and New Orleans and with an early short story won the O. Henry Memorial Award in 1927. A collection of Bible stories as told by Negroes, *Ol' Man Adam an' His Chillun* (1928), was the basis of Marc Connelly's Pulitzer Prize-winning play *The Green Pastures* (1930). Other stories of Negroes and Negro life by Bradford include *This Side of Jordan* (1929), *Ol' King David and the Philistine Boys* (1930), *How Come Christmas* (1930), *John Henry* (1931, dramatized with music by Jacques Wolfe, 1939), and *Kingdom Coming* (1933).

Bradford, William, 1590–1657, governor of Plymouth Colony, b. Austerfield, Yorkshire, England. He early joined the separatist congregation at Scrooby and in 1609 emigrated with others to Holland, where, at Leiden, he acquired a wide acquaintance with theological literature. Bradford came to New England on the *Mayflower* in 1620 and in 1621, on the death of John CARVER, was chosen leader of the Pilgrims. He remained governor for most of his life, being reelected 30 times, in the five years he was able to beg off, he was chosen assistant. Bradford, though firm, used his large powers with discretion, and there were few complaints about his leadership. He maintained friendly relations with the Indians and struggled hard to establish fishing, trade, and agriculture. He stressed the obligations of the colonists to their London backers and was one of the eight colonial "undertakers" who in 1627 assumed Plymouth Colony's debt to the merchants adventurers. Given a monopoly of fishing and trading privileges, they finally discharged the

debt in 1648 More tolerant (though he was no Roger Williams) of other religious beliefs than were the Puritan leaders of Boston, he was largely responsible for keeping Plymouth independent of the Massachusetts Bay colony His famous *History of Plymmoth Plantation*, not published in full until 1856, forms the basis for all accounts of the Plymouth Colony It reveals on every page the high character and sincerity of its author The editions of W T Davis (1908) and W C Ford (1912) are the best See also G F Willison, *Saints and Strangers* (1945)

Bradford, William, 1663–1752, British pioneer printer in the American colonies Born in Leicestershire, he served an apprenticeship under a London printer before emigrating (1685) to Philadelphia, where he set up the first press He added a bookstore in 1688 and was in 1690 one of the founders of the first paper mill in the colonies After a quarrel with the authorities that led to his arrest, he seems to have moved to New York city in 1693 There he was royal printer and issued some 400 items in the next 50 years In 1725 he began publication of the New York *Gazette*, the first New York newspaper

Bradford, William, 1722–91, American Revolutionary printer and patriot, grandson of William Bradford (1633–1752) He learned printing under his uncle, Andrew Bradford, in Philadelphia, and in 1742 he set up his own shop He established the successful *Weekly Advertiser*, which long competed with Benjamin Franklin's newspaper, the *Pennsylvania Gazette* He also printed a number of books and published (1757–58) the *American Magazine and Monthly Chronicle* In 1754 he established the London Coffee House in Philadelphia, this became the seat of the merchants' exchange Bradford opposed the Stamp Act and took an active part in opposition to British measures, becoming a leader of the Sons of Liberty He early advocated a continental congress and became official printer to the First Continental Congress Sacrificing his business, he became a major in the Continental army and took part in the campaign in New Jersey At Princeton he was so badly wounded that his health was shattered His son, Thomas Bradford (1745–1838), carried on the business and published the *Merchants' Daily Advertiser* See J W Wallace, *An Old Philadelphian* (1884)

Bradford, William, 1823–92, American marine painter, b Fairhaven, Mass He twice accompanied arctic exploring expeditions and is best known for his coast scenes and paintings of the frozen North *Tracking a Whaler in Baffin's Bay* (New Bedford Public Library) is a characteristic work

Bradford, village (pop 1,033), S Ont, on the Holland river and NNW of Toronto

Bradford, county borough (1931 pop 298,041, 1947 estimated pop 289,280) and city, West Riding of Yorkshire, England, W of Leeds and on a small tributary of the Aire It is a center of the worsted industry, the first mill was built in 1798 Other products are rayon and leather goods, machinery, automobiles, and chemicals There are coal and iron mines and stone quarries near by Noteworthy are the memorial hall, dedicated to Edmund Cartwright, St Peter's Church (1485), now the cathedral of the diocese of Bradford, the town hall (1873), and a technical college and art galleries

Bradford. **1** Village, Iowa see NASHUA **2** Village (pop 1,775), W Ohio, W of Piqua **3** City (pop 17,691), NW Pa, SE of Jamestown, N Y, near the N Y border, settled c 1823, inc as a borough 1873, as a city 1879 The growth of the city was initiated by the discovery of oil (c 1871), which is now its chief industry Its manufactures include steel couplings, furniture, and cutlery Allegheny State Park is near by, and the region is popular for hunting and fishing **4** Town (pop 1,507), E Vt, at the junction of the Waits river with the Connecticut, settled 1765

Bradlaugh, Charles (brăd'lô), 1833–91, English social reformer and advocate of free thought, a secularist He was editor of the weekly *National Reformer* for nearly a generation and was an early champion of woman suffrage, birth control, trade unionism, and other unpopular causes Mrs Annie BESANT was his coeditor and associate for several years until his opposition to socialism caused a permanent separation He won the right to take a seat in Parliament on affirmation instead of on the Bible oath as was theretofore required He wrote *Land for the People* (1877), *The True Story of My Parliamentary Struggle* (1882), and many controversial pamphlets See H Bradlaugh Bonner, *Charles Bradlaugh* (7th ed, 1908)

Bradley, Francis Herbert, 1846–1924, English philosopher He was educated at Oxford, where he became a fellow of Merton College in 1876 His works include *Ethical Studies* (1876), *Principles of Logic* (1883), and *Appearance and Reality* (1893) Bradley was an absolute idealist, holding that true reality is perfect and changeless His *Collected Essays* (2 vols) were published in 1935 See R D Mack, *The Appeal to Immediate Experience* (1945)

Bradley, Harold Cornelius, 1878–, American physiological chemist, b Oakland, Calif, B A Univ of California, 1900; Ph D Yale, 1905. He began to teach physiological chemistry at the Univ of Wisconsin in 1906 and became research director of the marine biological laboratory at Woods Hole, Mass, in 1910

Bradley, Henry, 1845–1923, English lexicographer He became one of the editors of the *New English Dictionary* (commonly called the *Oxford English Dictionary*) in 1889 and succeeded Sir James Augustus Henry Murray as chief editor in 1915

Bradley, James, 1693–1762, English astronomer, educated at Oxford His discovery of the aberration of light, announced in 1729, gave him a foremost place among contemporary astronomers His second important discovery, the nutation, or "nodding," of the earth's axis, was not made known until 1748, when it had stood the test of careful observations over a period of nearly 19 years In 1742 Bradley became astronomer royal Under his direction the observatory at Greenwich was supplied with new instruments

Bradley, Omar Nelson, 1893–, U S general, chief of staff, b Clark, Randolph co, Mo, grad West Point, 1915 He filled army administrative and academic posts before becoming (1943) deputy to Gen George PATTON, from whom he took over (1943) command of the 2d Corps He helped to wrest (1943) North Africa and Sicily from the Axis and led (1944) the U S 1st Army in the invasion of Normandy Given command (1944) of the newly created U S 12th Army Group, Bradley by his skillful and daring plans vastly aided the swift defeat of Germany He served (1945–48) as administrator of veterans' affairs, was appointed (Jan, 1948) chief of staff to replace Gen Dwight D EISENHOWER, and was named (Aug, 1949) first permanent chairman of the joint chiefs of staff

Bradley, village (pop 3,689), E Ill, S of Chicago near Kankakee, in a farm area, organized 1892 as North Kankakee, renamed and inc 1896 Furniture and farm implements are manufactured

Bradley Beach, borough (pop 3,468), E N J, a resort on the Atlantic S of Asbury Park, settled c 1858, inc 1893

Bradley University see PEORIA, Ill

Bradshaw, George, 1801–53, English map engraver and the originator of railway guides *Bradshaw's Railway Time-Tables*, first published in 1839, became *Bradshaw's Monthly Railway Guide* (first issued 1841) He afterwards published *The Continental Railway Guide* and others

Bradshaw, Henry, 1831–86, English librarian and antiquarian at Cambridge Univ He discovered, organized, and made known its treasures of manuscripts and incunabula, especially those in Gaelic—the Book of Deer and old Celtic glossaries—and the early Waldensian records in the Piedmont MSS He was dean of King's College from 1857 to 1865

Bradshaw, John, 1602–59, English regicide judge He was made president of the parliamentary commission to try Charles I only after other lawyers had refused the post His conduct in the trial was arbitrary; he even refused the king the right to speak in his own defense. For a short time he was loaded with privileges and was (1649–53) president of the council of state, but had to retire when Oliver Cromwell dissolved the council. He died before the regicides were prosecuted in the Restoration

Bradstreet, Anne (Dudley), c 1612–1672, early American poet, b Northampton, England She came to Massachusetts in the Winthrop Puritan group in 1630 with her father, Thomas Dudley, and her husband, Simon Bradstreet, both later governors of the state She deserves an honored place in American colonial literature because, in addition to raising a large family, she was the first American woman to devote herself to writing Her *Tenth Muse Lately Sprung Up in America* (London, 1650) was followed by *Several Poems* (Boston, 1678), which contains "Contemplations," probably her best work Her writings are often derivative, remarkable chiefly as the products of so new a settlement See her works (ed by J H Ellis, 1932), biography by H S Campbell (1891)

Bradstreet, John, c 1711–1774, British army officer in the French and Indian Wars A Nova Scotian, he was captured (1744) by the French and confined at LOUISBURG After his exchange he described the weaknesses of the fortress, and in 1745 Sir William Pepperell captured the stronghold For his services in the expedition, Bradstreet was promoted captain and made lieutenant governor of St John's, Newfoundland, a post he held permanently He led (1758) the successful expedition against Fort Frontenac, thereby cutting communications between the French forces in Canada and those on the Ohio; served (1759) under Lord Jeffrey AMHERST at Ticonderoga and Crown Point, and, in PONTIAC'S REBELLION, commanded the forces which garrisoned (1764) Detroit and other Western posts

Bradstreet, Simon, 1603–97, colonial governor of Massachusetts (1679–86, 1689–92), b Lincolnshire, England, grad Emmanuel College, Cambridge, 1620. He came to New England in 1630 and was assistant in the Massachusetts Bay Company for 49 years (1630–79) and secretary (1630–36) In 1634 Bradstreet was sent with four others to the Plymouth, New Haven, and Connecticut colonies to negotiate concerning the formation of the New England Confederation and on its organization was one of two Massachusetts representatives for 33 years After the Restoration, John Norton and he went to England and succeeded in persuading Charles II to confirm the colony's charter. His first period as governor was followed by the unsuccessful royal administration of Sir Edmund ANDROS Anne BRADSTREET was his wife

Brady, Cyrus Townsend, 1861–1920, American Episcopal clergyman and author, b Allegheny, Pa, grad Annapolis, 1883 He served as a chaplain during the Spanish-American War In 1898 he began writing and, although he continued his duties as a clergyman, produced some 70 volumes This output, chiefly fiction, included a number of popular biographies, some juvenile stories, a series called *American Fights and Fighters*, and *The Conquest of the Southwest* (1905)

Brady, James Buchanan, 1856–1917, American financier and philanthropist, called "Diamond Jim" Brady, b New York city He was a bellboy and messenger and then worked for the New York Central RR in various capacities He later was employed by a railroad-supply company, and his selling ability rapidly brought him a fortune He began collecting diamonds and other jewels and amassed 30 complete sets of jewelry estimated as worth well over $1,000,000 He was famed for his appetite and elaborate meals and was one of the best-known men in New York's Broadway night life In 1912 he gave to Johns Hopkins Hospital, Baltimore, where he received treatment, funds to found the James Buchanan Brady Urological Institute His will provided additional funds to the institute and also to the New York Hospital See biography by Parker Morrell (1934)

Brady, Mathew B., 1823–96, American pioneer photographer, b Warren co, N Y He learned the daguerreotype process from S F B Morse and opened (1844) his own photographic studio in New York city, which soon won him fame He published *Gallery of Illustrious Americans* (1850) In 1855 he experimented successfully with the wet-plate process The earliest of his many photographs of Lincoln were made in 1860 when Lincoln made his Cooper Union speech in New York When the Civil War opened, Brady secured permits from the authorities to accompany the armies with his photographic equipment Largely through his efforts an elaborate photographic record of the war has been preserved Many of the pictures are of actual battle scenes taken under fire In 1875 the government purchased part of Brady's collection, but the rest passed into private hands after the photographer's financial failure See Roy Meredith, *Mr Lincoln's Camera Man* (1946)

Brady, Samuel, 1756–95, American frontiersman He fought in several battles of the American Revolution but earned his name as a scout in the Ohio country under Daniel Brodhead and Anthony Wayne His exploits were the subject of much frontier legend

Brady, city (pop 5,002), co seat of McCulloch co, central Texas, on Brady Creek and ESE of San Angelo, settled c 1876, inc 1906 The city handles and processes turkeys, cotton, milk, wool, and mohair from farms and ranches in surrounding hills

Braekeleer, Henri de (brā' dŭ bra'kŭlār"), c 1840–1888, Belgian genre painter and etcher He studied with his father and with Leys His quiet, charming interiors are best seen in the museums of Brussels and Antwerp

Braga, Teófilo (tĕō'fēlō bra'gŭ), 1843–1924, Portuguese intellectual and political leader Born at Ponta Delgada in the Azores, he managed after a poverty-stricken childhood to get to the Univ of Combra in 1861 and there was a member of the positivist circle of Antero de Quental In 1871 he began to teach at the Univ of Lisbon He wrote voluminously on many subjects and in literary criticism tried to apply the principles of Comte to the history of Portuguese literature, his much-revised general work on the subject, however, grew less positivist and more nationalist with each revision and addition A republican and an anticlerical in politics, he served (1910–11) as president of the new republic of Portugal, but the period was one of unease and disappointment His influence—especially through his teaching—had an enormous effect on Portuguese intellectual life He was also notable as a collector of, and commentator on, Portuguese folklore and popular literature

Braga, city (pop 29,875), capital of Braga dist, NW Portugal, in Minho prov The ancient Bracara Augusta, it had considerable importance in Roman days, but was of much more importance in the Middle Ages as the see of the bishop of Braga, who rivaled the bishop of Toledo in power The city is still a religious center. In the old cathedral is the tomb of Henry of Burgundy Near by is a summer resort with the well-known Church of Bom Jesus do Monte Braga has minor industries

Bragança or Braganza (both brŭgăn'zu), town (pop. 6,977), capital of Bragança dist, NE Portugal, in Tras-os-Montes prov It is of interest because of its castle, seat of the Braganza family, long the kings of Portugal.

Braganza (brugăn'zŭ), royal house that ruled over Portugal from 1640 to 1910 and over Brazil from 1822 to 1889 It took its name from the castle of Bragança or Braganza Alfonso, the natural son of John I of Portugal, was founder of the line From him and the daughter of Nun'Alvares Pereira was descended the duke of Braganza who led the movement to throw off Spanish rule and became king as John IV in 1640 His daughter was Catherine of Braganza, queen of Charles II of England When Napoleon conquered Portugal, King John VI fled (1807) to Brazil, and Rio de Janeiro became (1808) the capital of the Portuguese Empire After he had returned to Portugal, Brazil declared (1822) its independence and was ruled as an empire under Pedro I and Pedro II until a revolution made it a republic in 1889 Portugal also became a republic in 1910

Bragg, Braxton, 1817–76, Confederate general, b Warrenton, N C , grad West Point, 1837 He fought the Seminoles and in the Mexican War was promoted lieutenant colonel for distinguished service at Buena Vista Resigning from the army in 1856, Bragg lived on his Louisiana plantation until the outbreak of the Civil War, when he was appointed a Confederate brigadier general and assigned to command the coast from Pensacola to Mobile Shortly after being promoted major general (Jan , 1862), he assumed command of Gen A S Johnston's 2d Corps, leading it in the battle of Shiloh (April) With Johnston's death, Bragg was made a general and, in June, he succeeded Beauregard in command of the Army of Tennessee His invasion of Kentucky (Aug–Oct , 1862) was unsuccessful, ending in retreat to Tennessee after Gen D C BUELL caught up with him at PERRYVILLE A reorganized Union army under Gen W S ROSECRANS was then sent against him and at MURFREESBORO (Dec 31, 1862–Jan 2, 1863) forced him to withdraw again In the CHATTANOOGA CAMPAIGN, Bragg, victorious in the battle of Chickamauga, laid siege to the Union army in Chattanooga, but in Nov 1863, Grant thoroughly defeated him and forced him to retire into Georgia Gen J E JOHNSTON took over his command (Dec) and Bragg went to Richmond, where he became military adviser to Jefferson Davis, with nominal rank as commander in chief of Confederate armies Late in 1864 he unsuccessfully opposed Sherman in North Carolina After the war he was chief engineer of Alabama and later lived in Texas, where he died See biography by Don C Seitz (1924), S F Horn, *The Army of Tennessee* (1941)

Bragg, Sir William Henry, 1862–1942, English physicist, educated at King William's College, Isle of Man, and Trinity College, Cambridge He served on the faculties of the Univ of Adelaide in Australia (1886–1908), the Univ of Leeds (1909–15), and the Univ of London (1915 23) From 1923 he was Fullerian professor of chemistry in the Royal Institution and director of the Davy-Faraday research laboratory In 1915 he shared with his son W L Bragg the 1915 Nobel Prize in Physics for their studies, using the X-ray spectrometer, of X-ray spectra and of crystal structure He became a Fellow of the Royal Society in 1906 and served as president of the society from 1935 to 1940 In 1930 he was knighted Among his works are *The World of Sound* (1919), *Concerning the Nature of Things* (1925), *Introduction to Crystal Analysis* (1929), *The Universe of Light* (1933), *Chemistry and the Body Politic* (1935), and *The Story of Electromagnetism* (1942) With W L Bragg he wrote *X Rays and Crystal Structure* (1915, 4th ed , 1924)

Bragg, Sir William Lawrence, 1890–, English physicist, b Adelaide, Australia, educated in Australia and at Trinity College, Cambridge, son of W H Bragg He was professor of physics in Victoria Univ , Manchester, from 1919 to 1937 In 1938 he became professor of experimental physics at Cambridge and director of the Cavendish Laboratory He shared with his father the 1915 Nobel Prize in Physics for their studies with the X-ray spectrometer of X-ray spectra and of crystal structure In 1941 he was knighted Among his works are *The Structure of Silicates* (1930) and *The Atomic Structure of Minerals* (1937) With his father he wrote *X Rays and Crystal Structure* (1915, 4th ed , 1924)

Bragg, Fort see FAYETTEVILLE, N C

Bragi (bra'gē), Old Norse god of poetry, son of Odin and husband of Idun He was the scald of Valhalla

Brahe, Tycho (tī'kō bra'), 1546–1601, Danish astronomer, b Knudstrup, Scania (then part of Denmark) He became the most prominent astronomer of the late 16th cent By improving instruments and by his precision in fixing the position of planets and stars, he paved the way for future discoveries From Brahe's exact observations of the planets, KEPLER devised his laws of planetary motions Brahe's achievements included the study of a nova (first observed in 1572) in the constellation Cassiopeia and the discovery of a variation in the inclination of the lunar orbit and of the fourth inequality of the moon's motion He never fully accepted the Copernican system but made a compromise between it and the Ptolemaic system In the Tychonic system the earth was the immobile body around which the sun revolved and the five planets then known revolved around the sun. Brahe built on the island of Ven a castle, Uranienborg (1576–80), and an observatory, Stjarneborg (1584) Deprived of his revenues (1596), he left Ven (1597) and in 1599 settled near Prague under the patronage of the German emperor Rudolf II He published (1588) *De mundi aetheri recentioribus phaenomenis*, the second volume of a projected three-volume work on his astronomical observations, from an incomplete manuscript and notes Kepler edited Volume I, *Astronomiae instauratae progymnastica* (1602) Brahe's *Astronomiae instauratae mechanica* (1598) contained his autobiography and a description of his instruments. See biographies by J L E. Dreyer (1890) and J A Gade (1947).

Brahma, deity see HINDUISM

Brahmagupta (brä"mugōōp'tu), c 588–c 660, Hindu mathematician and astronomer He wrote in verse the *Brahma-sphuta-siddhanta* [improved system of Brahma], a standard work on astronomy containing two chapters on mathematics which were translated into English by H T Colebrooke in *Algebra from the Sanskrit of Brahmagupta* (1871) A shorter treatise, *The Khandakhadyaka* (Eng tr , 1934), expounded the astronomical system of Aryabhatta

Brahman or **Brahmin** (both brä'mŭn), member of the highest Hindu CASTE The priesthood and the task of expounding the scriptures of HINDUISM are reserved to Brahmans Brahmans also engage in other occupations where a person of lower caste might cause defilement, thus they are often cooks The intellectuals in Boston in the 19th cent , who were of the upper classes and also interested in Eastern literature, came to be called the Boston Brahmans

Brahmanism see HINDUISM

Brahmaputra (brumupōō'tru), river, c 1,800 mi long, rising in SW Tibet and flowing into India In Tibet, where it is called the Tsangpo, it runs c 700 mi generally east and is mostly navigable As the Dihang, it runs south c 150 mi in Assam, and then, turning west, with the name Brahmaputra, it flows through Assam and into East Bengal, to join the Ganges The united rivers empty through the many channels of the Ganges delta into the Bay of Bengal The river's lower course, sacred to Hindus, is an important waterway and the valley is very fertile, this section is called the Jamuna

Brahmin see BRAHMAN

Brahms, Johannes (brāmz, Ger yōhan'us brams'), 1833–97, German composer regarded as the outstanding figure of German romanticism, b Hamburg, son of an able double-bass player who gave him his early lessons At 20, a concert tour as pianist with Eduard Remenyi brought him to the notice of Joseph Joachim, who introduced him to Liszt and to the Schumanns, his lifelong friends Although his Piano Concerto in D Minor met with complete failure in Leipzig in 1859, he was later sufficiently successful to earn his living in Vienna (from 1863) by composing In his music the romantic impulse is restrained by a reverence for the spirit and forms of the past He composed in all forms except opera His earliest piano works were three sonatas (1852–53), but later he composed intermezzos, capriccios, ballades, and rhapsodies (1877–78, 1892–93) His First (1855–76), Second (1877), Third (1883), and Fourth (1884–85) symphonies are ranked among the greatest in symphonic literature Also noteworthy are his many lieder, his chamber music, *Ein deutsches Requiem* (1866) and *Schicksalslied* [song of destiny] (1868) for chorus and orchestra, the Violin Concerto in D (1878), and the Piano Concerto in B Flat (1878–81) His last works, published posthumously, were 11 chorale-preludes for organ See his letters (ed by Max Kalbeck, 1909), biographies by Walter Nieman (1929), R H Schauffler (1933), William Murdoch (1933), J L Erb (rev ed , 1934), and Karl Geiringer (rev ed , 1947), D C Mason, *The Chamber Music of Brahms* (1933)

Brahui (brä'hōōē), Dravidian language of Baluchistan See LANGUAGE (table)

Braid, James, 1795?–1860, English surgeon, writer on hypnotism and magic The first to use the term *hypnotism* instead of mesmerism or animal magnetism, he also demonstrated that it was achieved by suggestion His writings prepared the way for investigations into what was later called the unconscious mind

Braidwood, Thomas, 1715–1806, English educator, grad Univ of Edinburgh He established (1760) at Edinburgh the first school in Great Britain for deaf-mutes, moving it to London in 1783 under a royal grant

Braidwood, city (pop 1,354), NE Ill , S of Joliet, in a strip-mining area, inc 1873 John Mitchell was born here

Braila (brāē'la), city (pop 95,514), SE Rumania, in Walachia, on the lower Danube It is a commercial center and grain-shipping port Probably dating from Greek times, it was burned by the Turks (1462) and by Stephen the Great of Moldavia (1470), was taken by the Turks in 1544, and was restored to the principality of Walachia in 1828.

Braille, Louis (brāl', Fr lwē' brī'yŭ), 1809?–1852, French inventor of the Braille system of printing and writing for the blind Having become blind from an accident at the age of three, he was admitted at 10 to the Institution nationale des Jeunes Aveugles in Paris. Later he taught there In order to make his instruction easier, he chose Charles Barbier's system of writing with points, evolving from it a much simpler one He was interested in music as well and for a time played the organ in a church in Paris The **Braille system** consists of six raised points or dots in various combinations, 63 in all being possible It is in use, in modified form, for printing, writing, and musical notation for the blind See also BLINDNESS

brain, a mass of nervous tissue in the cranium. The brain is enveloped by membranes (meninges), continuous with those that surround the spinal cord Its weight is slightly over 2 percent of the body weight The cerebrum, the upper and largest portion of the brain, consists of two equal hemispheres united by a mass of white matter, the *corpus callosum* The outer layer of the cerebrum, the cortex, consists of gray matter and is convoluted The cerebrum is the center of consciousness, sensation, and voluntary actions The cerebellum, which consists of a median and two lateral lobes, is behind the cerebrum and above the *pons* It plays an important role in the regulation of muscular tone and in the coordination of muscular activity The *pons* (or *pons Varolii*) consists of transverse fibers which join the lobes of the cerebellum and of longitudinal fibers which connect the cerebellum and medulla oblongata The medulla oblongata serves as a pathway for impulses from the brain to the spinal cord, with which it is continuous It has centers for control of respiratory, cardiac, vasoconstrictor, and reflex actions

Brainard, Daniel, 1812–66, American surgeon, b Oneida Co , N Y , M D Jefferson Medical College, 1834 He was a founder and organizer of Rush Medical College, Chicago, where he was professor of surgery from 1843 He invented a bone drill and made studies of fractures and deformities He died of cholera during an epidemic in Chicago

Brainerd, David, 1718–47, missionary to the American Indians, b Haddam, Conn Licensed to preach in 1742, he spent his brief years among the Indians, first in W Connecticut and later in Pennsylvania, New York, and New Jersey His diary was widely read and influenced many to enter the mission field Parts of the diary were published during Brainerd's lifetime, and in 1749 Jonathan EDWARDS published the hitherto unprinted portion

Brainerd, Ezra, 1844–1924, American botanist He achieved an international reputation for his scientific work in plant hybridity, especially the hybridity of North American violets He was president of Middlebury College from 1885 to 1908

Brainerd, city (pop 12,071), co seat of Crow Wing co , central Minn , on the Mississippi, settled 1870 inc 1881 It is an industrial and commercial center in an area of lumbering and lake resorts The courthouse contains a historical museum Not far is the Cuyuna iron range

Braintree, urban district (1931 pop 8,912, 1943 estimated pop 14,800), Essex, England It has textile factories and steelworks

Braintree, town (pop 16,378), E Mass , SSE of Boston, settled 1634, inc 1640 It included Quincy until 1792 Shoes and rubber and petroleum products are made here On April 15, 1920, in South Braintree, occurred the holdup and murders for which Sacco and Vanzetti were executed

Brain Trust, designation for a group of close advisers to F D Roosevelt when he was governor of New York and in his first years as President The name was given them because they were drawn from academic life This informal advisory group on the NEW DEAL included Raymond MOLEY, Arthur E MORGAN, O M W SPRAGUE, and Rexford G TUGWELL It disintegrated in President Roosevelt's first administration, but the term has remained in common usage for similar groups

brake or **bracken**, tall fern of the genus *Pteris* (or *Pteridium*), having coarse, somewhat triangular-shaped fronds The common brake is widely distributed and is one of the best-known ferns, often becoming weedy It is considered poisonous to livestock when eaten in quantity, but the young shoots after cooking have been used for food, as have the rootstalks The brake has other uses as a source of tannin, for thatching, as bedding for stock, the rootstalk has been used for a beverage In plant lore, the brake is associated with the superstitions about "fern seed" (see FERN)

brake, device employed to retard or stop the motion of a mechanical body Generally friction is used to resist the motion and the kinetic energy of the body is thereby changed to heat energy Simple types of brakes consist of a block of wood or a shoe or slipper pressed against the rim of a wheel, the force being applied through a brake pedal or handle and multiplied by an arrangement of levers, a rope wound several times around an axle or a drum and pulled taut when braking is desired, and metal bands fitted around a drum attached to the wheel or the axle and controlled by a system of levers The mechanical brakes used on automobiles are of

the last type; the foot brake usually regulates semicircular bands of metal applied around the outside of a drum which is attached to the axle, and the emergency brake is attached to shoes that press outward against the inside of the drum The surfaces of the bands and shoes are lined with various kinds of material (called brake lining) which is made especially to withstand the wear caused by friction The force applied to the pedal is transmitted by a system of levers, by cables, or by an arrangement based upon the principle of the hydraulic press and consisting of a cylinder and piston Brakes on freight cars have long been applied by means of a wheel extending above the top of the car and mounted on a shaft or axle the lower end of which is set against a lever that operates the shoes, when the wheel is turned its axle is screwed down against the lever and the brakes are set The friction-plate brake consists of a series of circular plates set one on top of another and so arranged that a screw regulates the friction between them The air brake, invented by George Westinghouse, was first used on passenger trains in 1868 It is now widely used on railroad trains The fundamental principle involved is the use of compressed air acting through a piston in a cylinder to set the brakes on the wheels The action is simultaneous on the wheels of all the cars in the train The compressed air is carried through a strong hose from car to car with couplings between cars, its release to all the separate brake units at the same time is controlled by the engineer An automatic feature provides for the setting of all the brakes in event of damage to the brake hose, leakage, or damage to individual brake units The brakes are released by admitting air on the other side of the piston Air brakes are used on subway trains, trolley cars, motorbuses, and trucks The vacuum brake depends upon the use of air for its application, the brake shoes being held off the wheels by the presence of a vacuum in the cylinder and set when air is admitted (deliberately or by accident) and the vacuum destroyed The hydraulic brake used in most modern automobiles commonly involves the use of a lever handle by which the hydraulic pressure is increased or decreased (see HYDRAULIC MACHINE) For machines driven by electricity, the electric motor is often used in braking Because the inertia of a machine keeps it in motion for some time after the current has been shut off, by a special arrangement the driving motor is kept rotating (thus causing a retarding effect) and its action changed to that of a generator The current it generates is used to operate electromagnets which by their attraction set the brakes A magnetic brake operates on the principle of the electromagnet, its release being effected by shutting off the electric current, the pressure exerted depends upon the strength of the magnet

Brakelond, Jocelin de see JOCELIN DE BRAKELOND

Brakpan (brăk'păn), city (pop 83,211), S Transvaal, Union of South Africa, on the Witwatersrand It is a gold- and coal-mining center, and there are ironworks It has a college

Bramah, Joseph (brăm'u, brä'-), 1748–1814, English mechanician and inventor In 1784 he took out his first patent on a safety lock, and in 1795 he patented his HYDRAULIC PRESS, known as the Bramah press He devised a numerical printing machine for bank notes and was one of the first to suggest the practicability of screw propellers and of hydraulic transmission

Bramante, Donato d'Agnolo (dōnä'tō dänyōlō brämän'tä), 1444?–1514, Italian architect and painter, also called Lazzari He first studied painting but soon confined himself to architecture, becoming one of the greatest architects of the High Renaissance His life may be divided into two periods, the years in Milan (1472–99) and the Roman period (1499 until his death) In Milan the churches of San Satiro and Santa Maria delle Grazie show his early manner In Rome his style acquired simplicity and monumental breadth as a result of his study and measurement of classic remains He was employed by Popes Alexander VI and Julius II Among his greatest works in Rome are the Cancelleria Palace, the small but perfect circular Tempietto in the courtyard of San Pietro in Montorio, and the cloisters of Santa Maria della Pace In 1503 Bramante's plans were selected for the construction of a new St Peter's to replace the original basilica The drawing, showing a Greek-cross plan, is preserved in the Uffizi Before his death the great piers and their arches and much of the vaulting had been completed The many artists who later worked upon the structure were responsible for alterations brought to Bramante's plans At the Vatican he constructed the long corridor uniting the Belvedere with the older palace and the court of the loggia.

Bramantino (brämäntē'nō), c 1455–c 1535, Lombard painter and architect His real name was Bartolomeo Suardi, he was called Bramantino from his master Bramante, whose style he imitated He was court painter to Francesco Maria Sforza. His works are noted for their fine architectural backgrounds Characteristic examples are *Madonna and Angels* and *St Martin* (both Brera, Milan) and *Flight into Egypt* (Santa Maria del Sasso, Locarno). The Metropolitan Museum has 12 panels attributed to Bramantino, both the Metropolitan Museum and the National Gallery of Art, Washington, D C , have Madonnas

bramble, name for plants of the genus *Rubus*, which includes the BLACKBERRY, RASPBERRY, and DEWBERRY In England the name is particularly used for the common English blackberry Other thorny shrubs are sometimes called brambles

Brampton, town (pop 6,020), co seat of Peel co , S Ont , NW of Toronto Its greenhouses are noted

Bramwell, residential town (pop 1,494), S W Va., NW of Bluefield, in a coal section, inc 1888

bran, outer coat of a cereal grain—e g , wheat, rye, corn,—removed from flour and meal by bolting or sifting Wheat bran is extensively used as a feeding stuff for farm animals Bran is used as food for humans (as a cereal or mixed with flour in bread), particularly to correct constipation Bran is also used in dyeing and calico printing

Branch, Anna Hempstead, 1875–1937, American poet and social worker, b New London, Conn , grad Smith, 1897, and the American Academy of Dramatic Art Her poem "The Road 'twixt Heaven and Hell" won the *Century* prize in 1898 for poems by college graduates Her published volumes of poetry include *The Heart of the Road* (1901), *The Shore That Danced* (1905), *Rose of the Wind* (1910), and *Sonnets from a Lock Box* (1929) Ridgely Torrence edited her *Last Poems* (1944) Her social service centered around Christodora House, New York city

Branchville, town (pop 1,351), S central S C , SSE of Columbia

Branco, Rio (rē'ō brang'kō), river rising in the Guiana Highlands and flowing S through Brazil to join the Rio Negro It gives its name to the Rio Branco territory of Brazil

Brancovan, Constantine (bran-kōvan'), 1654–1714, prince of Walachia In 1711 he negotiated with Peter I of Russia an alliance against his suzerain, Sultan Ahmed III, but he later withdrew Accused of treason, he was deposed and with his four sons was beheaded at Constantinople

Brancusi, Constantin (brän'kōōsh), 1876–, Rumanian sculptor In 1904 he went to Paris, where he worked under Mercié and Rodin He soon became known as one of the leading abstract sculptors of his period *The Kiss* (1908), *Sleeping Muse* (1910), and the portrait of Mlle Pogany have been the subjects of much controversy In 1927 he won a lawsuit against the U S customs authorities of the Port of New York which led to legal changes permitting the importation of abstract art free of duty His work is notable for its extreme abstraction, organic and frequently symbolic character, and subtle modeling He is equally successful in a wide variety of materials *Bird in Space* (1925, Mus of Modern Art, New York) is a characteristic work Others are in the museums of Cleveland and Chicago

Brand, Sir John Henry, or **Jan Hendrik Brand** (yän' hĕn'drik bränt'), 1823–88, president of the Orange Free State, b Capetown He was called to the English bar in 1849 and practiced law in South Africa In 1863 he was elected president of the struggling Orange Free State and immediately made war (1864–69) on the Basutos Reelected in 1869 (and at each election until his death), he refused (1871) to become president of both the Orange Free State and the Transvaal because of the Transvaal's anti-British policy

Brand, Sebastian see BRANT, SEBASTIAN

Brande, William Thomas (brănd), 1788–1866, English chemist In 1813 he succeeded Sir Humphry Davy as professor of chemistry at the Royal Institution With Michael Faraday, Brande was coeditor (1816–36) of the *Quarterly Journal of Science and Art* He wrote a long-standard *Manual of Chemistry* (1819) and a *Dictionary of Pharmacy* (1839) and edited the *Dictionary of Science, Literature, and Art* (1842)

Brandegee, Townshend Stith (–jē), 1843–1925, American botanist, authority on the flora of the American Southwest and of N Mexico Trained as an engineer at Yale, he served in that capacity with the Hayden and other surveys, collecting botanical specimens in his spare time His collection of Western timber is now part of the Jessup Collection in the American Museum of Natural History, New York city He did especially thorough work in the biology of Lower California and the California islands Much of his work was published in the *University of California Publications* His wife, **Katherine Brandegee,** 1844–1920, was curator of the herbarium of the California Academy of Sciences and often went on his expeditions. Memoirs and bibliographies of both are in the *University of California Publications in Botany*, Vol XIII (1926)

Brandeis, Louis Dembitz (brăn'dīs), 1856–1941, American jurist, b Louisville, Ky , grad Harvard Law School, 1877 A successful Boston attorney (1879–1916), Brandeis distinguished himself by investigating insurance practices and by establishing (1907) Massachusetts savings-bank insurance, after defending (1900–1907) public interest in Boston utility cases. He served (1907–14) as counsel for the people in proceedings involving the constitutionality of wages and hours laws in Oregon, Illinois, Ohio, and California Meanwhile, he successfully argued (1910–14) before the ICC against railroad-rate increases and opposed (1907–13) monopoly of transportation in New England In 1910 he was an arbitrator of a strike of New York garment workers (mostly Jewish), became aware of the Jewish problem, and afterward was a leader of the Zionist movement He served (1916–39) as Associate Justice on the Supreme Court, and with Oliver W HOLMES, he maintained a position of judicial liberalism His noted books are *Other People's Money* (1914) and *Business, a Profession* (1914) For selections of his writings, see Osmond K Fraenkel, ed , *The Curse of Bigness* (1945), and Alfred Lief, ed , *The Social and Economic Views of Mr Justice Brandeis* (1930) See biography by Alpheus T Mason (1946)

Brandeis University see WALTHAM, Mass

Brandenburg (brăn'dənbûrg, Ger. bran'dənbōrk), former province (1939 area 14,779 sq mi , 1939 pop 3,007,933) of Prussia, N Germany After the official dissolution of Prussia (Feb , 1947), Russian-occupied Brandenburg was raised to be a German state (10,415 sq mi , pop 2,527,492), Potsdam remained the capital At the Potsdam Conference in 1945 the parts of Brandenburg lying E of the Oder were placed under the administration of POLAND, pending a final settlement Drained by the Havel Spree, and Oder rivers, Brandenburg has many lakes and pine forests The generally flat and partly sandy soil yields chiefly potatoes, vegetables, and fruit Lignite and salt are among the scant mineral resources Berlin is situated in, but is not administratively part of, Brandenburg Other cities are Frankfurt-an-der-Oder, Brandenburg, and Cottbus The SPREE FOREST, in Lower LUSATIA, is inhabited by Slavic-speaking WENDS, remnants of the population which inhabited Brandenburg at the time of its acquisition (12th cent) by ALBERT THE BEAR The Slavic principalities had been previously subdued by Charlemagne but regained their independence Henry I conquered the region and made it the North Mark, which in 1134 was bestowed on Albert the Bear Actually, however, Brandenburg became Germanized and Christianized only after its last Slavic prince bequeathed it to Albert Albert's descendants, the Ascanians, ruled Brandenburg until their extinction in 1320 Emperor Louis IV, a Wittelsbach, gave the vacant fief to members of his own house, but Emperor CHARLES IV (who confirmed the margraves of Brandenburg as ELECTORS of the Holy Roman Empire) forced the Wittelsbachs to surrender it and conferred it (1373) on his son Wenceslaus. When Wenceslaus became (1378) German king, he gave Brandenburg to his brother, later Emperor SIGISMUND, who in 1415 transferred it to FREDERICK I of the house of HOHENZOLLERN Among Frederick's early successors were ALBERT ACHILLES, who introduced the law of inheritance of the Hohenzollern family, and Joachim II (1535–71), who accepted the Reformation in 1539 In 1614 Brandenburg acquired the duchy of CLEVES and other West German territories, and in 1618 the duchy of Prussia (roughly, the later EAST PRUSSIA) Though it suffered heavily in the Thirty Years War, Brandenburg emerged as a military power under FREDERICK WILLIAM, the Great Elector, who acquired E Pomerania and freed Prussia from Polish suzerainty His son, Elector Frederick III, in 1701 took the title king of Prussia as FREDERICK I The later history of Brandenburg is that of PRUSSIA

Brandenburg, city (pop 70,632), Brandenburg, N Germany, on the Havel Its industries produce trucks, textiles, machinery, and machine tools. Dating from the 10th cent , the Slavic Brennabor was conquered (12th cent) by Albert the Bear and gave its name to the margraviate, later the province, of Brandenburg

Brandes, Carl Edvard Cohen (bran'dus), 1847–1931, Danish critic, dramatist, and political leader, brother of Georg Brandes As a dramatic critic he wrote *Danish Dramatic Art* (1880), and *Foreign Dramatic Art* (1881) Among his plays are *A Visit* (1882), *A Betrothal* (1884), and *Under a Vow* (1891). A novel, *Young Blood* (1899), was suppressed In 1880 he was elected to the Folketing, became associate editor of *Morgenblad*, a party organ, and in 1906 was elected to the Landsting In 1909 and again in 1913–20, he was minister of finance He has influenced the literature, drama, and politics of Denmark

Brandes, Georg Morris Cohen, 1842–1927, Danish literary critic Brandes exerted an invigorating influence on literature, bringing to Denmark the wide currents of contemporary European thought After finishing *Critiques and Portraits* (1870), he traveled on the Continent, met Taine, John Stuart Mill, and Renan, and on his return wrote *Main Currents in Nineteenth-Century Literature* (6 vols , 1872–90, Eng tr , 1901–5), an attack on provincialism and reaction It aroused extreme opposition as well as enthusiasm His review the *Nyttende Aarhundrede* was discontinued after three years, and Brandes went to Berlin, where he came under Nietzsche's influence. While there he wrote the

monographs *Benjamin Disraeli* (1878, Eng. tr., *Lord Beaconsfield*, 1880) and *Ferdinand Lassalle* (1881, Eng tr , 1911). He returned to Denmark in 1883, and his reputation as one of Europe's foremost critics was established with such works as *William Shakespeare* (1895–96, Eng tr , 1898), *Goethe* (1915; Eng tr , 1924), and *Voltaire* (1916, Eng tr , 1930) One of his last books was *Jesus, a Myth* (1925, Eng tr , 1926)

Brandon, Saint see BRENDAN, SAINT

Brandon, Charles. see SUFFOLK, CHARLES BRANDON, 1ST DUKE OF.

Brandon, city (pop 17,551), SW Man , on the Assiniboine river and W of Winnipeg The business center of the wheat-raising area of SW Manitoba, it has an extensive trade in farm products and machinery It is the seat of the annual provincial exhibition and of the Manitoba Winter Fair A dominion experimental farm adjoins the city Brandon College (Baptist) is here The city is named for the old Hudson's Bay Company post, Brandon House, built 17 mi farther down the river in 1794, but abandoned in 1814

Brandon. **1** Town (pop 1,184), co seat of Rankin co , S central Miss , just E of Jackson, in a truck area Near by are a natural-gas field and the state hospital for the insane (1935). **2** Town (pop 2,979), W Vt , NNW of Rutland and on Otter Creek, chartered 1761 Bog iron was discovered in 1810, and John Conant began to make cooking stoves here in 1820. Stephen A Douglas's birthplace is now a D A R headquarters Brandon is the headquarters for breeders of Ayrshire cattle The town, with its wide streets and old houses, is a resort center A state school for the feebleminded is here.

Brandt, Sebastian, see BRANT, SEBASTIAN.

brandy [for brandywine 'from Dutch, = burnt, i e , distilled, wine], strong alcoholic spirit distilled from wine or from marc, the residue of the wine press The most noted brandy is cognac, made from white grapes in the Charente district of France The label *Cognac, fine champagne* denotes the finest type of cognac, which comes from a small area about Cognac Brandy is manufactured commercially in other districts of France, notably Armagnac, and in Spain, Portugal, Australia, Italy, South Africa, and the United States Most fine brandies are distilled in pot stills constructed to retain the volatile ingredients The product is blended and flavored, then stored in casks (preferably oak), where it mellows and takes on a yellow color, it acquires a deeper tint from long storage or the addition of caramel syrup For consumption in the United States brandy must be matured in cask for at least four years Brandy made from marc is very potent and is inferior to wine brandy Liquor distilled from fermented beets, grains, or sugar cane is sometimes called brandy The term, qualified by the name of the fruit, is applied to spirits distilled from the fermented juice of fruits other than the grape, e g , peach brandy, cherry brandy, and plum brandy (*slivovitz*), which is extensively manufactured in the Balkans

Brandy Station, small trading center, Culpeper co , Va It was the scene of the greatest cavalry engagement of the Civil War (also called the battle of Fleetwood Hill), fought June 9, 1863. Alfred Pleasonton's Union cavalry surprised Jeb Stuart and gave a good account of itself before the approach of Confederate infantry forced a withdrawal across the Rappahannock This was the first clash of the GETTYSBURG CAMPAIGN

Brandywine, battle of, in the American Revolution, fought Sept. 11, 1777, along Brandywine Creek. The creek, formed by two small branches in SE Pennsylvania, flows southeast to join, near Wilmington, Del , Christina river, which empties into the Delaware The British under Sir William Howe were advancing on Philadelphia from Elkton, Md , and Washington, realizing that they would cross the stream, placed most of his army at Chadds Ford. Howe sent Knyphausen to feint an attack at Chadds Ford, while he himself, with Cornwallis, struck the American right flank, where Gen John Sullivan could not check the attack Washington ordered a retreat to Chester The British continued their advance and took Philadelphia (Sept 27, 1777) See H. S Canby, *The Brandywine* (1941)

Branford, borough (pop 2,235) in Branford town (pop 8,060), S Conn , on Long Island Sound E of New Haven, settled 1644, inc 1685 It grew as a shipping and fishing center and has small industries Some pre-Revolutionary houses remain

Brangwyn, Sir Frank (brăng'wĭn), 1867–, British painter, etcher, and designer, member of the Royal Academy of Arts In his youth he worked in the studio of William Morris and later traveled in the East and was influenced by Oriental art In addition to easel and mural paintings, he is well known for his etchings and his designs for stained glass, tapestry, and metalwork His chief works include *Modern Commerce* (Royal Exchange, London), a series of panels for Skinners' Hall, London, *King John Signing the Magna Charta*, a large mural in the courthouse, Cleveland, decorative panels for Rockefeller Center, New York, *Sweetheart Seller* (Carnegie Inst., Pittsburgh), and *Burial at Sea* (Glasgow Gall). His paintings are notable for their broad, free treatment, balanced composition, and decorative qualities. Among his best etchings are *London Bridge, Bridge of Sighs, Notre Dame, Old Houses in Ghent,* and *The Paper Mill* See W S Sparrow, *Frank Brangwyn and His Works* (1911), H E A Furst, *The Decorative Art of Frank Brangwyn* (1924)

Branksome, Roxburghshire, Scotland see HAWICK

Branly, Édouard (ādwär' brälē'), 1846–1940, French physicist and physician He was professor of physics at the Catholic Institute, Paris, from 1875 He developed (1890) a coherer for the detection of electric waves which was used by Marconi in his system of wireless telegraphy

Brannan, Charles Franklin, 1903–, U S Secretary of Agriculture (1948–), b Denver, LL B Univ of Denver, 1929 He became a specialist in irrigation and mining law In the Dept of Agriculture after 1935, Brannan, as Assistant Secretary (1944–48), improved water facilities and flood control He was also U S agricultural adviser to the UN Economic and Social Council from 1945. He succeeded Secretary Clinton ANDERSON, whose long-range farm policy he adopted

Brannan, Samuel, 1819–89, California pioneer, b Saco, Maine He was converted to Mormonism and edited a Mormon paper in New York before leading a party of Mormons who went by sea from New York to California. In 1847 he founded the first newspaper in San Francisco, the *California Star* Later he went to Sutter's Fort and got land holdings in Sacramento Again in San Francisco, he was a member of the city's first council Sam Brannan was active in the move to bring order to the lawless city and was an organizer and the first president (1851) of the Committee of Vigilance See J A. B Sherer, *The First Forty-Niner* (1925), P D Bailey, *Sam Brannan and the California Mormons* (1943), R V Scott, *Samuel Brannan and the Golden Fleece* (1944)

Branner, John Casper, 1850–1922, American geologist, b New Market, Tenn He made geological investigations in Brazil (1874–84), the results of these studies and of others made in later years were published with the first complete geological map of the country in *Outlines of the Geology of Brazil* (1919) Branner was professor of geology at Indiana Univ (1885–92), in 1887 he was appointed geologist of Arkansas, creating there a department which was a model for similar state work In his long association with Stanford, Branner was professor of geology (from 1892), vice president (1899–1913), president (1913–16), and president emeritus (from 1916) He made studies of earthquakes, both in North and South America, he was a founder and president (1910–14) of the Seismological Society of America

Branson, Edwin Bayer, 1877–, American geologist, b Belleville, Kansas, grad Univ of Kansas (B A , M A , 1903), Ph D Univ of Chicago, 1905 He taught at Oberlin College (1905–10) and from 1910 was professor and head of the department of geology at the Univ of Missouri His works include *Conodont Studies* (with others, 1933), *Stratigraphy and Paleontology of the Lower Mississippian of Missouri* (with others, 1938), and *Geology of Missouri* (1944)

Branson, resort city (pop 1,011), SW Mo , S of Springfield and near the Ark line It is in the Ozarks on Lake Taneycomo

Brant, Joseph, 1742–1807, war chief of the Mohawk Indians His Indian name is usually rendered as Thayendanegea He served under Sir William Johnson in the French and Indian War, and Johnson sent him (1761) to Eleazar Wheelock's Indian school in Lebanon, Conn Brant served (1763) under Johnson again in Pontiac's Rebellion In 1774 he became secretary to Guy JOHNSON, and in the American Revolution he did much to bind the Indians to the British and Loyalist side He fought at Oriskany (1777) in the Saratoga campaign. In 1778 he led the Indian forces when Walter BUTLER raided Cherry Valley, and the names of both were blackened by the massacre that followed He was an able leader in other raids After the Revolution, failing to get a settlement of the Indian land question in the United States, he got lands and subsidies for his people in Canada around the present Brantford, Ont He was a zealous Christian and preached Christianity, translating the Book of Common Prayer and the Gospel of Mark into the Mohawk tongue RED JACKET opposed him as a follower of the white man's ways See biography by W L Stone (1838)

Brant, Brandt, or **Brand, Sebastian** (zā'bäs'tyän brant'), 1458–1521, German didactic poet. He was born in Strasbourg and studied law at the Univ of Basel He taught there until in 1501 he returned to Strasbourg, where he became town clerk He had written various works in Latin and German when in 1494 was published the work for which he is remembered, *Das Narrenschiff* [the ship of fools], a series of satirical and moralizing poems in the vernacular Illustrated with woodcuts, it went through six editions in his lifetime and has been widely translated. See *verse translation* (with the woodcuts) by Zeydel (1944).

brant or brant goose, wild sea goose. The American brant breeds in arctic regions and winters along the Atlantic coast, rarely inland Its head, neck, and tail are black, the back brownish gray, and the under parts grayish white Hunters find the birds easy prey and their flesh good Eelgrass is their staple food, although of necessity they may seek other nourishment The Old World barnacle goose, so named because it was thought to grow out of barnacles attached to driftwood, is very similar to the brant and is an occasional visitor to North America The black brant migrates from its arctic breeding grounds to the Pacific coast White brant is a name sometimes given to the snow goose, and gray or prairie brant to the American white-fronted goose

Brantford, city (pop 31,948), co seat of Brant co , S Ont , on the Grand River and WSW of Hamilton It is one of the leading manufacturing cities of Canada, noted particularly for its large farm-implement factories Both city and county were named for the Mohawk chieftain Joseph BRANT, who led the Iroquois nations to this region after the American Revolution and who is buried in the old Mohawk Church near the city The city remains the official headquarters of the Six Nations, and an Indian Institute is here Alexander Graham Bell was living in Brantford in 1876 when he made his first successful experiment in the transmission of sound by electric wire, which resulted in the telephone A monument by W S Allward commemorates the event See F D Reville, *History of the County of Brant* (1920)

Branting, Hjalmar (yäl'mär brän'tĭng), 1860-1925, Swedish statesman A leader of the Social Democratic Labor party, he was finance minister in 1917 and premier in 1920, from 1921 to 1923, and again from 1924 until his death He supported the League of Nations and shared the 1921 Nobel Peace Prize with Christian Louis Lange

Brantley, town (pop 1,126), S Ala., on the Conecuh and S of Montgomery, in a farm and timber area, inc 1895

Brantôme, Pierre de Bourdeilles, seigneur de (pyĕr' dŭ bōōrdā'yu sānyŭr' du brätōm'), 1535?–1614, French courtier, soldier, and author of famous memoirs He accompanied Mary Stuart to Scotland, served in the Spanish army in Africa, joined the expedition of the Knights of St John against the sultan, and engaged in other errantry until an accident caused his retirement His memoirs, including *Vies des hommes illustres et grands capitaines* and his *Livre des dames* (published first in two parts as *Vies des dames illustres* and *Vies des dames galantes*, Eng tr , *Lives of Fair & Gallant Ladies*, 1933), form a racy and vivid account of his time

Branxholm, Roxburghshire, Scotland see HAWICK

Braque, Georges (zhôrzh' brak'), 1881–, French painter In 1905 he joined the fauvists and in 1908, with Picasso, launched CUBISM Since then his work has been consistently abstract in character His painting is notable for its restraint and subtlety both in color and design Braque is best known for his superb still lifes He is well represented in the Luxembourg Museum, Paris, the Art Institute of Chicago, the Museum of Modern Art, New York, and many other leading galleries See study by A E Gallatin (1943)

Bras d'Or Lakes (brä dôr'), arm of the Atlantic cutting deeply into Cape Breton Island, N S , and occupying much of the interior The district was the scene of important experiments in the early history of aviation In 1907 Alexander Graham Bell founded at Baddeck, on Big Bras d'Or Lake, the Aerial Experiment Association, and on Feb 23, 1909, J A D McCurdy piloted his airplane, the *Silver Dart*, a distance of half a mile

Brasenose College see OXFORD UNIVERSITY

Brashear, John Alfred (brăshēr'), 1840–1920, American maker of scientific instruments and educator, b Brownsville, Pa A mechanic by trade, he taught himself the art of making lenses and mirrors for telescopes Aided by the encouragement of Samuel P. Langley, he perfected his techniques From 1880 he devoted full time to the business of making astronomical instruments and became noted in the field. Active also in many civic and educational projects, he contributed to the growth of the Allegheny Observatory of the Univ of Pittsburgh and served as trustee and as chancellor (1902–4) of the university See his autobiography (1924), biography by H L Gaul and Ruby Eiseman (1940)

Brasher, Rex (brā'shûr), 1869–, American ornithologist, b Brooklyn, N Y , grad St Francis College, Brooklyn, 1884 He devoted his life to making life-size paintings of all North American birds in their natural colors The first edition of his *Birds and Trees of North America* (12 vols), with hand-colored plates, appeared in 1929

Brasidas (brā'sĭdŭs), d 422 B C , Spartan general in the PELOPONNESIAN WAR He first gained notice by saving (424 B.C) Megara from Athenian attack In that year he conducted an able campaign in Thrace, capturing Amphipolis and other cities and greatly weakening the Athenian cause In 422 he routed an Athenian army under CLEON attacking Amphipolis, but both he and Cleon were killed He was one of the greatest of Spartan commanders.

Brasov (brāshôv'), Ger *Kronstadt*, Hung. *Brassó*, city (pop. 82,984), central Rumania, in Transylvania, at the foot of the Transylvanian Alps A commercial center, it also has several industries (food processing, textiles, machinery, and lumber) Founded in the 13th cent by the Teutonic Knights, it was soon granted commercial privileges by the Walachian princes and in the 18th cent was the largest city of Transylvania, to which it had passed. Brasov has a large Gothic cathedral (14th cent) and several Lutheran and Orthodox churches (14th-15th cent.). Parts of the medieval city wall and the 17th-century citadel have remained intact Other ancient buildings are the council house (15th cent, restored 18th cent) and the 16th-century houses surrounding the market place The population includes c 18,000 Hungarians and c 8,000 Germans

brass, name for a number of alloys having copper (60–90 percent) and zinc (10–40 percent) as the essential components The alloys are harder than copper, the degree of hardness varying with the proportion of zinc. Brass can be beaten or hammered into various shapes, rolled into thin sheets, drawn into wires, and machined and cast without difficulty. It is widely used in machines, it is fashioned into utensils and ornaments, and many scientific instruments are made in whole or in part of brass The properties of the alloy vary with the proportion of the two metals present Ordinary yellow brass contains about 70 percent copper and 30 percent zinc Cartridge brass (copper, 66–70 percent, zinc, 30–33 percent) serves as the alloy for cartridge cases Dutch metal (copper, 80–85 percent, zinc, 15–20 percent) is used as a substitute for gold leaf and, in the Netherlands, especially for gilding ornaments and toys Mannheim gold (copper, 75 percent, zinc, 25 percent) resembles gold Muntz metal (copper, 60–65 percent, zinc, 35–40 percent) is employed for making machine parts Pinchbeck (copper, 85–90 percent, zinc, 10–15 percent), named for its inventor, Christopher Pinchbeck, who introduced it in 1732 for use in making watches and clocks, also resembles gold Spring brass, used for springs, is made from ordinary brass hardened by special heating or by cold working Small amounts of iron and lead are present in some brasses, manganese is sometimes used as a deoxidizer.

brasses, monumental or **sepulchral,** memorials to the dead, in use in churches on the Continent and in England in the 13th cent and for several centuries following They are usually set in the pavement, but occasionally are placed upright against a wall or stand free upon a plinth There are two types—those with the figure, border, and inscription of brass inserts on marble or stone slabs, and those wholly or partly of brass or of mixed metal (latten) tablets having incised lines, filled with an enamel often colored The engraving usually presents a figure of the deceased Historical interest centers around the contemporary costumes, armor, heraldic designs, genealogy, and paleography revealed The value of the metal caused many brasses to be destroyed or converted to use for later memorials by reversing and reengraving as a palimpsest In France, they were virtually wiped out in 16th-century and subsequent disturbances Such brasses still exist in Belgium, especially in Bruges, in the Netherlands, and in Germany, where there are some exceptional 13th-century ones In England the churches of Ipswich, Norwich, London, Bristol, and elsewhere disclose several thousand examples covering the different periods of their use The majority are of native design and craftsmanship and of the inset type, incised ones usually indicate Flemish origin A few brasses are in Glasgow and Edinburgh churches See H W Macklin, *Monumental Brasses* (2d ed, 1891), W A Gawthorp, *The Brasses of Our Homeland Churches* (1923)

brasses, ornamental. Minor forms are mentioned in ancient Egyptian writings and in the Old Testament and were made also in classical times Many early bronzes of low zinc content have been mistaken for brasses, with which their history is interwoven Brasses were early used in the Far East and in India, which still produces highly decorated objects such as Benares ware In Europe the Meuse valley became in the 11th cent the center of ornamental work in copper and its alloys Although the production spread to most of Western Europe, the work was known well into the 16th cent as *dinanderie*, after Dinant, a Belgian town long the leader in this work Early *dinanderie* included ecclesiastical objects such as fonts, tabernacles, and lecterns and domestic articles such as the characteristic aquamanale, a vessel, often in the form of an animal, used for pouring water The brass chandeliers of Norway, Sweden, and especially Holland were widely exported. The 17th and 18th cent saw a multiplicity of small objects for domestic use, such as candlesticks, utensils, and hearth equipment

Brassey, Thomas, 1805–70, English railroad contractor and civil engineer He built major lines in England, France, Italy, Holland, Spain, Prussia, India, Australia, and South America See biography by Sir Arthur Helps (1872) His son was **Thomas Brassey,** 1st **Earl Brassey,** 1836–1918 He was secretary to the admiralty (1883–85), wrote the encyclopedic *British Navy* (1881) and many other works, and instituted the *Naval Annual* in 1886 He was created baron in 1886 and earl in 1911 His wife, **Anna Brassey, Baroness Brassey,** 1839–87, wrote travel books, including the popular *A Voyage in the Sunbeam* (1878), narrating the story of a world cruise on her yacht

Brasso: see BRASOV, Rumania

Brasstown Bald, peak, 4,784 ft high, N Ga, in the Blue Ridge of the Appalachians near the N C line, highest point in Georgia

brass wind instrument see WIND INSTRUMENT

Bratenahl (brā'tənôl), village (pop 1,350), NE Ohio, near Cleveland

Brathwaite, Richard (brāth'-), c 1588–1673, English poet His *Barnabae Itinerarium* (1638) was a doggerel travelogue of provincial England written in English and Latin The book was published under the pseudonym Corymbaeus, and its true authorship was not discovered until 1818 Other works include *The English Gentleman* (1630) and *The English Gentlewoman* (1631) See M W Black, *Richard Brathwaite* (1928)

Bratianu (brŭtsē'nōō) or **Bratiano** (-nō), prominent Rumanian family **John Bratianu,** 1821–91, shared in the Revolution of 1848, secured (1866) the election of Carol I to the throne, and headed a Liberal ministry (1876–88), which declared (1878) the full independence of Rumania from Turkey His son, **John Bratianu,** 1864–1927, succeeded him as leader of the Liberals and was premier (1909–11, 1914–18) He resigned rather than accept the humiliating peace terms offered by the Central Powers but regained his position in Dec, 1918, after the general armistice Representing Rumania at the Paris Peace Conference (1919), he resigned in protest against the minority clauses of the Treaty of Trianon with Hungary and the division of the Banat with Yugoslavia From 1922 until his death Bratianu was premier again, ruling Rumania as a virtual dictator, he prevented the accession of Carol II in 1927 He was succeeded as premier by his brother, Vintila Bratianu, who in 1928 was replaced by Julius Maniu **Constantin Bratianu,** also called **Dinu Bratianu,** 1889–, another member of the family, led the Rumanian National Liberal party after 1936 He opposed both the dictatorship of Ion Antonescu and the Communist regime

Bratislava (brä'tĭslä'vä), Ger *Pressburg* (prĕs'bōōrk), Hung *Pozsony* (pō'zhōnyō), city (pop 165,134), capital of Slovakia, Czechoslovakia, on the Danube and near the Austrian and Hungarian borders It has a large river port and varied industries and is the seat of a university (founded 1919) Dating from Roman times the city was chartered in 1291 From 1526 to 1848 it was the usual meeting place of the Hungarian diet, although Buda resumed its position as Hungarian capital after its recapture (1686) from the Turks Always an important trade center, Bratislava grew rapidly after its incorporation into Czechoslovakia and nearly doubled its population after 1919 The city is remarkable for its diversity of races and languages (Slovaks, Magyars, Jews, Czechs, Austrians) It has handsome modern buildings and streets and is rich in historical relics The old castle, above the Danube, dating from the 9th cent, was rebuilt in the 13th cent From that century also date St Martin's Cathedral, the Franciscan convent and church, and the old town hall The new town hall occupies an 18th-century palace, formerly the residence of the primates of Hungary, here in 1805 the Treaty of PRESSBURG was signed

Brattleboro, town (pop 10,983), SE Vt, on the Connecticut, from which it climbs steeply, chartered 1753 It grew near Fort Dummer, established in 1724 to protect settlers from Indians The town produces pipe organs (Estey's organ works date from c 1850), optical goods, paints, grain and wood products, and textiles, and there is a printing plant Brattleboro village, having mineral springs, became known as a resort in the 19th cent, winter sports developed later Brattleboro is headquarters of the Holstein-Friesian cattle breeders' association and has a school for the deaf and a hospital for the insane Rudyard Kipling married Caroline Balestier of Brattleboro in 1892 and lived at "Naulahka," north of the village William Morris Hunt, Richard Morris Hunt, Larkin Goldsmith Mead, William Rutherford Mead, Royall Tyler, and James Fisk also lived in the town, and John Humphrey Noyes was born here

Bratt system. see LIQUOR LAWS.

Brauchitsch, Walther von (vāl'tur fŭn brou'khĭch), 1881–1948, German field marshal Of a Prussian *Junker* family, he served in the First World War with the general staff and later remained in the Reichswehr In Feb, 1938, he became commander in chief of the German army, and in the Second World War he won swift victories (1939–40) in Poland, the Low Countries, and France and was made field marshal But reverses in Russia late in 1941 caused his dismissal. He died when awaiting trial as a war criminal.

Braun, Carl Ferdinand (kärl' fĕr'dēnänt broun'), 1850–1918, German physicist He was director of the physical institute, Strasbourg, from 1895; he conducted researches in electricity (an electrometer and a cathode-ray tube are known by his name) For his pioneering work on wireless telegraphy he shared with Marconi the 1909 Nobel Prize in Physics

Braunschweig, Germany see BRUNSWICK.

Brauwer, Adriaen see BROUWER, ADRIAEN

Bravo, Nicolás (nēkōlās' brä'vō), d 1854, Mexican general He fought in the revolution against Spain, especially under Morelos y Pavón He adhered to the Plan of IGUALA but joined the revolution against the empire of Agustín de ITURBIDE A member of the provisional government of 1823–24, he was later vice president under GUADALUPE VICTORIA The revolution he led was put down by Vicente GUERRERO, and Bravo spent some time in exile, returning to aid Anastasio BUSTAMANTE in overthrowing Guerrero His later career was overshadowed by the rise of SANTA ANNA Bravo was one of the acting presidents who took power when Santa Anna withdrew in 1842, and under his guidance the centralist constitutional document, *Bases orgánicas*, was adopted in 1843

Brawley, city (pop 11,718), SE Calif, 8 of the Salton Sea, largest city in the IMPERIAL VALLEY, inc 1908 Anza Desert State Park lies to the west

Braxton, Carter, 1736–97, American Revolutionary patriot, signer of the Declaration of Independence, b King and Queen co, Va, educated at the College of William and Mary He lived (1757–60) in England, returned to America, and served in the house of burgesses (1761–71, 1775) and in the Continental Congress (1775–76, 1777–83, 1785)

Bray, Thomas, 1656–1730, English clergyman and philanthropist In 1695 he was selected by the bishop of London as his commissary to establish the Anglican church in Maryland Bray recruited missionaries and assembled parochial libraries for North America He sent out more than 30 parish libraries, which also served in many cases as circulating libraries He established similar libraries in England and Wales He founded (c 1698) the Society for Promoting Christian Knowledge to carry on his work Bray visited Maryland in 1700 and was instrumental in the passage of a revised provincial Church Act (1702) He secured the charter (1701) for the noted Society for the Propagation of the Gospel in Foreign Parts Rector of St Botolph Without, Aldgate, London, from 1706 until his death, he was interested in many religious and charitable enterprises, among which was the relief of prisoners in England, with which James Oglethorpe was also concerned In 1723 was founded "Dr Bray's Associates," a charity society, which, in 1730, was concerned in a petition for the charter of Georgia

Bray, parish, Berkshire, England, on the Thames river The ballad about the vicar of Bray, who became Catholic or Protestant according to the religion of the reigning monarch, is traditionally ascribed to the time of George I, but is often supposed to describe Simon Aleyn, vicar of Bray probably from 1540 to 1588

Bray, urban district (11,076), Co Wicklow, Ireland, on the Irish Sea and SE of Dublin It is a fishing center, seaport, and popular resort

Brazil (brəzĭl'), Port *Brasil* (brəzēl'), republic (3,288,043 sq mi, 1949 estimated pop 49,800,000), E South America, called in full the United States of Brazil The capital is RIO DE JANEIRO By far the largest of the Latin American countries, Brazil occupies nearly half the continent of South America, stretching from the Guiana Highlands in the north to the plains country of Uruguay and Paraguay in the south In the west it spreads into the jungles to border on Bolivia, Peru, and Colombia, and in the east it juts far out into the Atlantic toward Africa Its vast extent covers a great variety of land and climate, for although Brazil is mainly in the tropics (the equator crosses it in the far north and the Tropic of Capricorn crosses the south), the southern part of the great central upland is cool and yields the produce of temperate lands The people are also diverse in origin, and Brazil boasts that the new "race" of Brazilians is a successful amalgam of Indian, Negro, and European strains Most of the population is at least nominally Roman Catholic Though Portuguese is the official language, there are areas where other tongues persist—particularly German and Italian in the south and Indian languages of the Tupi or GUARANÍ family in the north The huge basin of the AMAZON river occupies all of the north and north central portions of Brazil with steaming, green jungles Though once they were famous for production of wild rubber, their hostility to man has kept them almost unexploited The chief city within the region itself is MANAUS, a seaport on the Rio Negro a thousand miles from the sea, and most of the few inhabitants are Indians of very low material culture. Most of the white settlements are on the banks of the great river itself and the margins of some of the tributaries Rubber is still gathered, and the rain forests yield exotic products (hardwoods, medicinal plants and roots, the skins of wild animals, copaiba, and Brazil nuts), but the

huge state of Amazonas and the territories of Rio Branco, Amapá, Acre, and Guaporé are of potential rather than actual economic value Transport is limited to the air and the rivers, and even some of the great tributaries of the Amazon are rendered useless for travel by their great falls This fact explains the building of the Madeira-Mamoré RR deep in the jungle at the time of the wild-rubber boom when Brazil acquired ACRE Even now some of the tributaries of the Amazon, such as the Tapajós and the Xingú, are still imperfectly known Where the Amazon reaches its delta it is choked with islands The largest of these, Marajó, splits the river into two great arms, and on the southern arm, the Pará, is the city of BELÉM, the metropolis and largest port of Amazonia. It handles all the Amazonian products, including considerable cacao, tobacco, and hides East of the Amazon mouth there is the great seaward outthrust of Brazil, the region known as the Northeast The state of MARANHÃO, with its capital at São Luís, still has some of the Amazonian character, but is noted for the many babassu palms and the tropical and subtropical agriculture of its low coastal plain, with cotton, sugar, rice, and tobacco The Northeast was the center of the great sugar culture that for centuries dominated Brazil, making it a sugar empire, still recalled by the great crumbling plantation mansions and their now ruined slave quarters The Northeast has contributed somewhat disproportionately, too, to the literature and culture of Brazil In these states—Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Sergipe, and Bahia—the general pattern is narrow coastal plain (formerly supporting the sugar plantations and now given over to growing cotton, tobacco, rice, manioc, and other diversified crops) and a semiarid interior This interior, the *sertão* (plural *sertões*), with recurrent droughts, has created a serious problem The hardship of trying to live in the dry country has in the 19th and 20th cent driven many of the settlers (as in Ceará) to abandon their farms for the better regions of SE Brazil and leave the country to cattle and sheep ranches Irrigation projects are reclaiming some of the land, but still the cities on the coastal plain, PARNAÍBA, TERESINA, FORTALEZA, NATAL, JOÃO PESSOA, RECIFE, MACEIÓ, ARACAJU, and SALVADOR, maintain their place as the important centers The "bulge" of Brazil reaches its turning point at the Cape of São Roque To the northeast lie the island and islets of Fernando de Noronha territory, far out in the Atlantic. Natal, in Rio Grande do Norte, near the eastern tip, has in recent years become of tremendous importance in air travel because of its nearness to W Africa South of the "corner" of Brazil, the dominating pattern of Brazilian geography becomes notable The narrow and interrupted coastal lowlands are ended in the west by an escarpment that in some places actually reaches the sea Above the escarpment is the great Brazilian plateau The escarpment itself appears from the sea as a mountain range, generally called the Serra do Mar [coast range], and the plateau is interrupted by mountainous regions, such as that in Bahia which separates E Bahia from the valley of the São Francisco river, with its great Paulo Afonso Falls, formerly noted for scenic beauty and now more important as a source of hydroelectric power. From Bahia southward the east coast has the typical formation of the narrow coastal plain backed by the escarpment, making the interior hard of access The coast has a number of excellent harbors VITÓRIA in Espírito Santo, NITERÓI, capital of RIO DE JANEIRO state, Rio de Janeiro, the federal capital itself in the Federal District, one of the most beautiful and most capacious harbors in the world, SANTOS, the port of SÃO PAULO and the greatest coffee port in the world, FLORIANÓPOLIS in Santa Catarina, and PÔRTO ALEGRE in Rio Grande do Sul, the southernmost of the states, where the plateau ends and is succeeded by the plains of the Río de la Plata country In the east and southeast is the populous section of Brazil—the states that have in the 19th and 20th cent attracted the bulk of the European emigrants and have taken the hegemony from the old Northeast Rio de Janeiro is not only a great port but an industrial center, and the state of Rio de Janeiro has not only the thick-settled valley of the Paraíba river, running roughly parallel to the coast, but also the most recent planned economic developments, the Cidade dos Motores and the great steel center of VOLTA REDONDA It is São Paulo, however, that has taken the lead from the capital to become the most rapidly developing of the states, and the city of SÃO PAULO on the plateau has continued the vigorous and aggressive development that marked the region in the 17th and 18th cent, when the *paulistas* went out in the famed *bandeirantes*, groups of men searching for slaves and gold and opening the difficult interior They were largely responsible for the development of the gold and diamond mines of MINAS GERAIS and for the building of the old mining center of OURO PRÊTO, now succeeded by BELO HORIZONTE as capital of the second most populous state of Brazil Minas has iron reserves thought to be some of the finest in the world as well as industrial diamonds, manganese, semiprecious stones, and other mineral wealth. Settlement from São Paulo also spread southward, particularly in the 19th and early 20th cent when coffee from São Paulo's *terra roxa* [purple soil] had become the basis of Brazilian wealth, and coffeegrowing spread to PARANÁ That state, still being developed as frontier land, is famous also for its Paraná pines Its central portion produces mate (used as a beverage in the Río de la Plata country), and in the west Paraná runs out to the "corner" where Brazil, Argentina, and Paraguay meet at the natural marvel of the IGUASSÚ FALLS Paraná has some industries, principally based on agricultural processing The more southern states of SANTA CATARINA and RIO GRANDE DO SUL, developed to a large extent by German, Italian, and Slavic immigrants, also have processing based on the cotton, the hogs, and the cattle grown there Industry is, however, most strikingly developed in the city of São Paulo itself The people of São Paulo state have also continued frontier development not only in the state itself with the development of such frontier cities as Marília but also to the northwest in MATO GROSSO That state lies almost entirely on the plateau but falls in the west to the marshy flood plain of the Paraguay river on the Paraguay border It is still largely devoted to stock raising. Mate and quebracho also are exported, and the mineral development begun with gold in the 17th cent. is being continued with the exploitation of manganese around CORUMBÁ Agriculture is still largely a matter of farms around the capital, CUIABÁ, and the other cities, and there has been some argument as to how much the soil can yield, but Mato Grosso is progressing, the railroad to Bolivia crosses the state and the frontier of settlement is being pushed W from São Paulo. No such growth is yet taking place in the neighboring GOIÁS, to the east Despite mineral wealth, that rough inland state has been largely left untouched, and the mountains cutting the plateau are in the main unpeopled. Yet, with an ambitious eye to the future, Brazilians have planned at some time to put the capital of the country in this unexploited land The aggressive development and economic planning characteristic of Brazil today is in sharp contrast to the beginnings of Brazilian history, when the vast land lay neglected Whether or not it was known to Portuguese navigators in the 15th cent is still an unsolved problem, but the coast was visited by the Spanish mariner *Vicente Yáñez* PINZÓN before the Portuguese under Pedro Alvares CABRAL in 1500 claimed the land, which came within the Portuguese sphere as defined in the Treaty of Tordesillas (1494) Little was done to support the claim, though early woodcutters gathered the brazilwood that is supposed from its red color [Port *brasa*=glowing coal] to have given the name to the country as well as to the mythical Atlantic island The first permanent settlement was not made until 1532, and that was at SÃO VICENTE in São Paulo Development of the Northeast, which was to bear the colonial economic burden, was begun about the same time under Martin Afonso de SOUSA as first royal governor, 12 captaincies were established, stretching inland from the Brazilian coast Portuguese claims, somewhat lackadaisically administered, did not go unchallenged French Huguenots established themselves on an island in Rio de Janeiro harbor and were routed by a force under Mem de SÁ in 1567 The Dutch made their first attack on Bahia in 1632, and though this was not successful, the vigorous Dutch West India Company was able after 1632 to capture and hold not only Bahia and Recife but the whole of the Northeast, which was ably governed by Maurice of Nassau No aid was forthcoming from Portugal, which had been combined with Spain in 1580 and did not regain its independence until 1640 It was a naval expedition from Rio itself that drove the Dutch forth in 1654, and the success of the colonists helped to build up self-confidence among the settlers The Spanish also had played some part in the opening of Brazil, as in the voyage of Francisco de Orellana down the Amazon, and the western boundary of Brazil was the subject of perpetual dispute The Portuguese also had ambitions to control the Banda Oriental (present Uruguay) and in the 18th cent came into conflict with the Spanish there, the matter was not completely settled even by the independence of Uruguay in 1828 Meanwhile the sugar culture had come to full flower in the Northeast, where the plantations were furnishing most of the sugar demanded by Europe The native Indians were not suited to the backbreaking labor of the cane fields, and Negro slaves were imported in large numbers. They supplied not only labor but also one of the constituent elements of modern Brazil's population Dangerous dependence on a one-crop economy was somewhat lightened by the mines of the interior, particularly of Minas Gerais, where gold was discovered late in the 17th cent Mining towns sprang up, and Rio de Janeiro became an important harbor The weight of influence began to swing south, and by 1763 Rio de Janeiro supplanted Bahia as the capital Frontier development was slow, and there was some discontent The intellectual stirrings in Europe that preceded the French Revolution and the successful American Revolution brought on an abortive plot for independence among a small group of intellectuals in Minas; the plot was discovered and the leader, José da Silva Xavier called Tiradentes [tooth puller], was put to death Independence was to wait. With the Napoleonic invasion of Portugal, the king of Portugal, JOHN VI, had to flee (1807), and on his arrival (1808) in Rio de Janeiro that city became the capital of the Portuguese Empire The ports of the colony were freed of mercantilist restrictions, and Brazil took on great importance The king returned to Portugal, leaving his son behind as regent, but the Brazilians were not content to return to colonial status When pressure was brought by Portugal, the young prince acceded to the demands voiced by José BONIFÁCIO and on Sept 27, 1822, on the banks of the little Ipiranga (or Ypiranga) river uttered the "cry" of independence He became PEDRO I, emperor of Brazil, and thus easily was independence achieved Pedro, however, continued to be concerned with Portuguese affairs, and his rule in Brazil aroused increasing dissatisfaction In 1831 he had to abdicate in favor of his son, PEDRO II The reign of this popular and dashing emperor saw the foundation of modern Brazil Ambitions directed toward the south were responsible for involving the country in the war against the Argentine dictator, Juan Manuel de Rosas, and again in the War of the Triple Alliance directed against Paraguay Brazil drew little benefit from either, and far more important were the beginnings of large-scale European immigration which was to make SE Brazil the economic heart of the nation Railroads and roads were opened, today the region has an excellent transportation net The plantation culture of the Northeast was already crumbling by the 1870s, and the growth of the movement to abolish slavery, spurred by such men as Antonio de Castro Alves and Joaquim Nabuco, threatened it more The slave trade was abolished in 1850, and a law for gradual emancipation was passed in 1871 When Pedro II was in Europe and his unpopular daughter was governing Brazil, complete abolition was adopted in 1888 The planters thereupon abandoned the empire, and the growing republican movement triumphed By a bloodless revolution of 1889 the republic was established with Deodoro da Fonseca as first president The rivalry of the states and the power of the army in government, especially under much-hated Floriano Peixoto, caused the political situation to remain uneasy The expanding market for Brazilian coffee and more particularly the wild-rubber boom brought considerable wealth as the 19th cent ended, but the dangers of dependence on a single product were shown only too clearly when the creation of rubber plantations in the Far East brought the wild-rubber boom to a halt and left the whole Amazon region to decline after 1912 Brazil took part with the Allies in the First World War, declaring war in Oct., 1917, and shared in the peace settlement, but later (1926) withdrew from the League of Nations The flood of immigration reached its crest after the First World War, and Brazil was undisputed coffee queen of the world Again the collapse of the staple crop brought disaster This was reflected in politics A revolution in 1930 ended by placing Getulio VARGAS in power By changing the constitution (notably in 1937) and establishing a type of corporative state he centralized government and began a forced development of basic industries and diversification of agriculture His dictatorial rule, however, awaked much opposition and brought revolts The Second World War brought a new boom to Brazil, which joined the Allies on Aug 22, 1942, and under the leadership of Oswaldo Aranha took a large part in inter-American affairs. Brazilian products, such as rubber and minerals, were in great demand, and U S money was advanced to hasten the development of industry and diversified agriculture This cooperation continued after the war and after Vargas was overthrown (Oct., 1945) by a military coup d'état and Gen Eurico Gaspar DUTRA was elected president See H G James, *Brazil after a Century of Independence* (1925), João Pandiá Calogeras, *A History of Brazil* (Eng tr, 1939), Donald Pierson, *Negroes in Brazil* (1942), Gilberto Freyre, *Brazil an Interpretation* (1946, lectures at Indiana Univ) and *The Masters and the Slaves* (Eng tr., 1946), P E James, *Brazil* (1946), Lawrence F Hill, ed, *Brazil* (1947), George Wythe and others, *Brazil an Expanding Economy* (1949), B H Hunnicutt, *Brazil World Frontier* (1950), Fernando de Azevedo, *Brazilian Culture* (1950)

Brazil, city (pop 8,126), co seat of Clay co, W Ind, near Terre Haute In a mining area, it produces coal, brick, and tile It is a railroad center

Brazilian literature. The Portuguese had scarcely arrived in Brazil when they sat down to describe the wonders of the new and tropic land, creating a literature about Brazil. In this sense Brazilian literature may therefore be said to have begun in the middle of the 16th cent with the works of the Jesuit José de Anchieta, who wrote descriptions of the land in Portuguese and at the same time wrote

for his Indian converts in their own tongue Other missionaries also penned descriptions and reports, and the plantation life of Brazil's Northeast was by the end of the 16th cent being enlivened with the writing of epics and satires These were modeled closely on the literary styles of peninsular Portuguese but are of interest to modern critics because of the new and local aspects, the growing "Brazilianism" in their works In the 17th cent when classicism was reigning in Portugal and the influence of the Spanish Góngora and Quevedo was strong, a young man from Bahia, Gregório de Matos Guerra, earned a name for himself by savage satiric attacks on all and sundry, and a Jesuit priest, Antonio Vieira (born in Portugal but brought to Brazil when a child) wrote so ably that he is considered by many the true master of Portuguese prose in the classic style In the 18th cent the Portuguese dramatist Antonio José da Silva, more commonly called simply O Judeu [the Jew], was born in Rio de Janeiro Late in that century a whole group of poets appeared in Minas Gerais, the most notable José Basilio da Gama, who wrote *Uruguay*, an epic on the campaign of the Portuguese against the Jesuit reductions in the Río de la Plata region, and Tomás Antonio Gonzaga, who wrote charmingly of pastoral love in his poem *Marilia de Dirceo* (1792) and bitterly of politics in *Cartas chilenas* (not published until 1845) The group also had something to do with introducing revolutionary ideas from France into Brazil, and thereafter the influence of France grew stronger and that of Portugal weaker With the coming of romanticism and its accent on nature, individual liberty, and highly personal lyrics, "Brazilianism" increased, and it is notable that the "founder" of Brazilian political independence, José Bonifácio, was also the author of romantic poems The romantic era in Brazilian letters is, however, generally dated a little later, from the appearance in 1836 of volumes of poetry by Domingos José Gonçalves de Magalhães, visconde de Araguaia, and by Manuel de Araujo Pôrto-Alegre It reached its apogee with the poetry of Antonio Gonçalves Dias, author of many lyrics (notably a much-quoted poem in praise of Brazil) and of an epic poem on the Indians A number of young poets sang sweetly (e g , Alvares de Azevedo) or vigorously (e g , Antonio de Castro Alves, who with Joaquim Nabuco led in the fight for abolition of slavery) Romanticism also brought the novel to flower José de Alencar idealized the Brazilian Indian in *O Guarani* (1857) and the later *Iracema* A somewhat more realistic note was struck by Alfredo d'Escragnolle Taunay in his noted novel *Inocência* (1872) Even more realistic was the earlier *Memórias de um sargento de milicias* (2 vols , 1854 55) by Manuel Antonio de Almeida This work was a forerunner of the realistic novels of the man generally considered the greatest of all Brazilian writers, Joaquim Maria Machado de Assis Pessimistic and yet humorous, the works of the great mulatto writer picture the evils of society without any attempt at reforming them *Iaiá Garcia* (1878), *Memorias postumas de Braz Cubas* (1881), *Quincas Borba* (1891), and *Dom Casmurro* (1900) all are generally accepted as masterpieces Contemporary with Machado de Assis were the Parnassian poets of Brazil, headed by Olavo Bilac, whose elegant word use and delicate music have kept his poems alive today The literature of the later 20th cent has dealt not with such art but with the material used by Machado de Assis, the interest has been more sociological, and the concern with Brazil and the distinctively Brazilian mixture of white, Indian, and Negro strains has been intensified The account of a pitiful uprising against the government is the basis for Euclides da Cunha's masterly picture of Brazilian problems in *Os sertões* (1902, Eng tr., *Rebellion in the Backlands*, 1944) The novels of José Pereira da Graça Aranha – the best known of them *Canaan* (1902)—also view the problems of Brazil gloomily Preoccupation with those same difficulties has distinguished the splendid sociological works of Gilberto Freyre, the judicious utterances of Ruy Barbosa, and the writings of present-day proletarian authors Jorge Amado and José Lins do Rego Even a Parisian-born art for art's sake movement called modernism, which rose in the 1920s, had a strong sociological bias The more conservative writers such as Erico Veríssimo, very well known in the United States, and the poets such as Jorge de Lima also are concerned with social questions, though political, psychological, philosophic, and religious interests make the views of Brazilian writers of today vary as widely as those of any other land See Isaac Goldberg, *Brazilian Literature* (1922), William Rex Crawford, *A Century of Latin American Thought* (1944), Erico Veríssimo, *Brazilian Literature an Outline* (1945), Samuel Putnam, *Marvelous Journey* (1948)

Brazil nut, seed of a tall, symmetrical tree of tropical America (*Bertholletia excelsa*) The tree is found especially in Brazil along the Amazon river and also grows plentifully along the Orinoco It attains a height of 100 to 120 ft and bears enormous glossy leaves The blossoms are cream colored, and the nuts are borne in a round woody seed pod as large as a man's head and so hard as to require the blow of a hammer to break it The nuts, 18 to 24 in a pod, packed radially together, are large, angular, and wrinkled, with hard, dark brown shell The meat is white, sweet, and very rich in oil

brazilwood, name given to several woods yielding a red dye, as the East Indian sapanwood (the first of the brazilwoods imported into Europe) and the South American redwoods The bright red wood takes a high polish and is used in cabinetwork and for violin bows Brazil is said to have acquired its name from a redwood resembling the Eastern brazilwood and found on the South American coast

brazing see SOLDER

Brazoria (brəzôr'ēə), town (pop c 900), S Texas, on the Brazos and SSW of Houston Founded in the 1820s, it was a thriving port in Stephen F Austin's colony and later a center of plantations in the Brazos bottom lands before it lost the county seat to Angleton and decline set in Time and hurricane ruined the old town, which was abandoned after present Brazoria was built on the railroad near by

Brazos (brä'zōs), river rising in "draws" on the Llano Estacado in E New Mexico and NW Texas The main headwater, the Double Mountain Fork, joins the Salt Fork, and the united stream is joined by the Clear Fork The general course of more than 800 mi is SE through Waco to the Gulf of Mexico at Freeport The rich "Brazos bottoms" of the Gulf Coast region supported many plantations in the early days of Texas The waters of the river and its tributaries are impounded for many municipal reservoirs In recent years the Brazos River Conservation District has developed projects for irrigation, flood control, and power, notably Possum Kingdom Dam (190 ft high and 2,740 ft long, completed 1940) near Graham and Whitney Dam near Hillsboro

Brazza, Pierre Paul François Camille Savorgnan de (pyĕr' pôl' fräswä' kämē'yu savôrnyä' du bräza'), 1852–1905, Franco-Italian explorer, whose real name was Conte Pietro Paolo Savorgnan di Brazza After a visit to the Gabun in West Africa (1873–74), he explored the Ogowe (1875) and discovered affluents of the Congo On his return to France he became naturalized, and the foreign office sent him back to Africa (1875) to establish French influence in Equatoria He founded Franceville (1880) at the confluence of the Ogowe and the Passa, reached Stanley Pool on the Congo, where he founded Brazzaville (1880), and made a treaty with Makoko, the Bateke king, over whose territory he established a French protectorate He proceeded down the Congo and met H M Stanley, who, on behalf of the International African Association, was also concluding treaties with native chiefs Brazza established a post on the Alima (1881) and, descending the Niari, returned to France (1882) In 1884 he returned to West Africa as commissioner and continued organizing France's new possessions until his recall in 1897

Brazza, island, Yugoslavia see BRAČ

Brazzaville (brä'zuvĭl, Fr brazavēl'), city (pop c 50,000), capital of French Equatorial Africa, on the Stanley Pool of the Congo It was founded in 1880 by the French explorer Brazza, for whom it is named It is opposite Leopoldville, and it is connected by rail with Pointe Noire on the coast Palm-oil products, hardwoods, and rubber are exported

Brea (brā'ə), city (pop 2,567), S Calif , SE of Los Angeles, in an oil and citrus fruit area, inc 1917

bread, universal article of food made by mixing crushed or ground grains, cereals, or other seeds with liquid and then baking The first bread may have been acorns or beechnuts crushed, mixed with water, and dried in the sun Breadmaking was an organized industry in ancient Egypt Grain was ground, mixed with water, and "breadmash" added as LEAVEN The Bible mentions leavened and unleavened bread The unleavened, or Passover, bread was, as it is today, like a plain water cracker Through the ages the importance of bread has been demonstrated by bread riots and by subjecting breadmaking to regulations, often harsh and restrictive, controlling adulteration, weight, and price Bakers' guilds were early established in Europe Breadmaking, formerly an activity of the household or the small bakery, has become, especially in the United States, a huge industry carried on in highly specialized and scientifically conducted plants In Western civilizations the staple bakery product is yeast bread made from wheat flour, either white (bolted) or entire (as in brown, graham, or whole-wheat bread) The standard white bread of the United States is made of flour, liquid, yeast, shortening, sugar, and salt Milk improves the flavor, nutritive value, and keeping qualities In the straight dough process, all ingredients are combined at one time, in the sponge and dough method, part of the flour is mixed with liquid and yeast, allowed to rise, and then combined with the remaining ingredients Nutritionists have recommended the use of whole-wheat breads, which provide valuable B vitamins and minerals, although they warn that bran may form roughage too coarse for some digestive tracts Wartime shortages gave impetus to the practice of enriching white bread with thiamine, riboflavin, niacin, iron, and sometimes milk solids and vitamin D Other flours used for bread, either alone or combined with wheat flour, include rye, barley, maize, buckwheat, sorghum, millet, potato, soybean, cassava, and rice Pumpernickel, a nourishing and somewhat acid rye bread, the staple of Westphalian peasants, is now widely made Corn meal is an ingredient of many breads, such as the Southern johnnycake and spoon bread (batter bread) and the unleavened Spanish-American *tortilla*, baked on a heated iron or stone See H C Sherman, *Modern Bread from the Viewpoint of Nutrition* (1942), L P DeGouy, *The Bread Tray* (1944), S C Prescott and B E Proctor, *Food Technology* (1937)

Breadalbane, John Campbell, 1st **earl of** see CAMPBELL, JOHN, 1ST EARL OF BREADALBANE

Breadalbane (brĕdôl'bān), picturesque, little-cultivated mountainous district, Perthshire, Scotland Its chief town is Aberfeldy

breadfruit, tropical tree (*Artocarpus communis*) and its fruit, for which it is cultivated The large, round fruits are a staple food in the tropics The cultivated kinds, generally seedless, are used in various ways, they are often baked and then they somewhat resemble bread A form with fertile seeds is called breadnut The wood, fiber, and a sticky substance of the tree are also variously utilized Breadfruit was introduced from Polynesia into the West Indies in the late 18th cent , the *Bounty* was carrying plants to Jamaica when the famous mutiny occurred

Bread Loaf Mountain, peak, 3,823 ft high, W Vt , E of Middlebury It is in a forest area belonging to Middlebury College, which holds here a summer session in writing and languages

breadroot or **Indian breadroot,** perennial plant (*Psoralea esculenta*) of the American prairies, valued by the Indians for the starchy tuberous root that was used as food The roots, sometimes recommended as a substitute for the potato, were dug in the summer and eaten raw or roasted, or they were dried for winter use in stews, puddings, and cakes The breadroot has bluish pealike blossoms and resembles in general the lupine, but usually may be distinguished by tiny dots in the foliage

Breakspear, Nicholas see ADRIAN IV

breakwater, a structure built to protect a harbor from the full force of waves and provide relatively quiet anchorage for ships The Isle of Wight forms a natural breakwater for Portsmouth and Southampton harbors Artificial breakwaters are generally of one of three types, a simple rock or concrete block mound, a rock foundation with a masonry superstructure, or a solid superstructure of masonry or concrete built straight up from the sea floor All breakwaters must be given constant attention, for a small hole rapidly becomes a large one When wood was very cheap in the United States, effective breakwaters were made on the large lakes, by floating wooden frames into a desired position and then filling them with loose rock until they sank One of the large breakwaters on the east coast of the United States is the Delaware breakwater

Bréal, Michel Jules Alfred (mēshĕl' zhül' älfrĕd' brāäl'), 1832–1915, French philologist He is best known for his *Essai de semantique* (1897), which gave great impetus to scientific interest in the field of semantics

breast, anterior aspect of the frontal portion of the chest or thorax In man and in some other mammals, mammary glands develop on the chest wall, in the female these are capable of secreting milk Mammary gland tissue is composed of from 15 to 20 lobes resembling small bunches of grapes, ducts from these lead to the nipple Up to the time of puberty the mammary tissue remains undeveloped in both sexes At the onset of menstruation with its associated production of ovarian hormones, the female breast begins to develop During pregnancy, the glandular tissue becomes greatly distended After the birth of a child, milk is secreted by the mammary glands Development of mammary glands in the male is known as gynecomastia Pathology of the breast includes abscess, inflammation, cyst formation, and tumors (both benign and malignant) Tumors of the breast demand immediate surgery

Breasted, James Henry (brĕ'stĭd), 1865–1935, American Egyptologist, b Rockford, Ill , grad North Central College, 1888, M A Yale, 1890, Ph D Univ of Berlin, 1894 He began teaching at the Univ of Chicago in 1894 and was (1905–33) professor of Egyptology and Oriental history there He was also director of the Haskell Oriental Museum and after 1919 director of the Oriental Institute of the Univ of Chicago He made archaeological discoveries of great importance in Egypt and directed researches in Mesopotamia Besides many reports and monographs, he wrote some general works, including *The Development of Religion and Thought in Ancient Egypt* (1912) and *The Dawn of Conscience* (1933) Two of his textbooks were *Ancient Times* (1916, rev ed , *The Conquest of Civilization*, 1926) and *History of Egypt from the Earliest Times to the Persian Conquest* (1905) He translated and edited Egyptian historical sources in *Ancient Records of Egypt* (5 vols., 1906–7). Breas-

ted's careful chronological system for ancient Egypt is widely accepted and is used in *The Columbia Encyclopedia*. His son, Charles Breasted, wrote a memoir of him, *Pioneer to the Past* (1943)

breathing: see RESPIRATION

Breaux Bridge (brō' brĭj), town (pop. 1,668), S La., WSW of Baton Rouge, in an area growing sugar cane, cotton, and vegetables, inc 1871 A large Negro settlement and a state park are near by

Brébeuf, Jean de (zhäⁿ' dŭ brăbûf'), 1593–1649, French Roman Catholic missionary, one of the Jesuit martyrs of North America A Norman, he was sent to Quebec in 1625 and did missionary work among the Huron Indians The warfare of Huron and Iroquois caused the abandonment of his mission in 1628, and in 1629 on the surrender of Quebec to the English he went back to France In 1633 he returned to Canada and carried on his work among the Indians, enduring great hardships In 1649 the Iroquois took the Huron village and the mission Father Brébeuf and his colleague, Father Gabriel LALEMANT, were tortured to death He is one of the Martyrs of North America, canonised in 1930 Feast, Sept 26 or (among the Jesuits) March 16 See biography by F. X. Talbot (1949).

Brèche de Roland (brĕsh' dŭ rōläⁿ'), narrow gorge, SW France, in the central Pyrenees Its altitude is 9,170 ft It leads into the Cirque de GAVARNIE. Legend has it that Roland created the breach by smiting the rock with his sword

Brechin (brĕ'kĭn, -khĭn), burgh (pop 6,840), Angus, Scotland Its cathedral, part of which dates from the 12th cent., has an earlier round tower Brechin Castle, the seat of the Maule family, was taken (1303) by Edward I after a three-week siege The burgh's industries are linen and jute weaving and whisky distilling

Brecht, Bert (Bertolt Brecht) (bĕrt' brĕkht'; bĕr'-tôlt), 1898–, German dramatist and poet. He left Germany in 1933 and went to Russia, where he edited (1936–39) the *Wort*, an anti-Nazi magazine He came to the United States in 1941 His plays include *Trommeln in der Nacht* [drums in the night] (1923), *Dreigroschenoper* (with music by Kurt Weill, 1928), an adaptation of *The Beggar's Opera* and in turn adapted into English as *The Three-Penny Opera* (1933); and *The Private Life of the Master Race* (1944), a collection of one-act plays with an essay on Brecht by E R Bentley. He has written several books of ballads, the best of which is *Hauspostille* (1927). He is considered a leading expressionist writer

Breck, George William, 1863–1920, American mural painter, b Washington, D C He studied at the Art Students League of New York and (through a scholarship) at the American Academy in Rome (1897–1902), he was later director of the academy, 1904–9 His best-known works include a replica of Raphael's *School of Athens* in the auditorium of the Univ of Virginia, three symbolical medallions for the library of Whitelaw Reid, mosaics in St Paul's Protestant Episcopal Church, Rome, and two historical murals in the Flower Memorial Library, Watertown, N Y

Breck, James Lloyd, 1818–76, American Episcopal clergyman and missionary, b. Philadelphia, grad. Univ of Pennsylvania, 1838, and General Theological Seminary, New York city, 1841 In 1841 he established a seminary at Nashotah, Wis, with which he was connected until 1850, when he turned to missionary work among the Chippewa Indians in Minnesota In 1858, with Bishop Henry B Whipple, he founded at Faribault, Minn, the Seabury Divinity School and church schools for boys and girls. See T. I. Holcombe, *An Apostle of the Wilderness* (1903)

Breckenridge, Hugh Henry, 1870–1937, American painter, b Leesburg, Va He taught for many years in the Pennsylvania Academy of the Fine Arts and was secretary of its faculty He had his own school in Gloucester, Mass Best known as a portrait painter, he also in later years painted abstractions

Breckenridge, Sophonisba Preston, 1866–1948, American pioneer social worker, educator, and author, b. Lexington, Ky, grad Wellesley, 1888, Ph.D. Univ. of Chicago, 1901 She was the first woman to be admitted (1897) to the bar in Kentucky, but abandoned the practice of law to enter social work at Hull House, Chicago, and to teach public welfare and administration at the Univ of Chicago after 1902 She was professor of social economy (1925–29) and then professor of public welfare from 1929 until her retirement in 1933. In 1934 she was president of the American Association of Schools of Social Work President Roosevelt sent her (1933) as a delegate to the Pan-American Conference at Montevideo, Uruguay, the first woman to represent the United States at an international conference Her published works include *The Delinquent Child and the Home* (with Edith Abbott, 1912), *Family Welfare in a Metropolitan Community* (1924), *Public Welfare Administration in a Metropolitan Community* (1927), and *Women in the Twentieth Century* (1933).

Breckenridge, 1 City (pop. 2,745), co. seat of Wilkin co, W Minn, on the Red River opposite Wahpeton, N.Dak., and W of Fergus Falls; laid out 1857, inc. 1908. It is a railroad center in a farm area. 2 City (1940 pop 5,826, 1947 estimated pop. 8,000), co. seat of Stephens co, N Texas, on Gonzales Creek and W of Fort Worth, settled 1876, inc. 1919 Its industries grew largely after oil and gas fields were discovered, but it is also a processing and manufacturing center for ranches and farms.

Breckinridge, John, 1760–1806, American statesman, b Augusta co, Va; grandfather of John Cabell Breckinridge John Breckinridge was educated at William and Mary College, and after he was admitted (1785) to the bar, he practiced law in Charlottesville, Va Elected (1792) to the U.S Congress, he soon resigned and removed to Lexington, Ky He was (1795–97) attorney general of the new state, and as a member (1798–1801) of the state legislature he secured (1798) the enactment of the Kentucky Resolutions (see KENTUCKY AND VIRGINIA RESOLUTIONS)—which Jefferson had drafted with Breckinridge's advice Breckinridge also prepared the stronger resolutions passed in the Kentucky legislature the next year in answer to the criticisms of the earlier resolutions. In the U S Senate (1801–5) he was a leading spokesman of Western interests and played an important role in the passage of legislation bringing about the Louisiana Purchase. He was appointed U.S. Attorney General by President Jefferson in 1805 and died in office

Breckinridge, John Cabell, 1821–75, Vice President of the United States and Confederate general, b Lexington, Ky, grad. Centre College, 1839 He studied law at Transylvania Univ and in 1845 began to practice in Lexington. Breckinridge served in the state legislature (1849–51) and in the House of Representatives (1851–55) He was chosen by the Democrats in 1856 as a Southern running mate for Buchanan As Vice President in a difficult period he distinguished himself by dignified and impartial presiding over the Senate When a division within the Democratic ranks occurred in 1860, he became the presidential candidate of the Southern faction. Breckinridge said that the territories alone had the right to determine the status of slavery within their borders Believing in secession as a right, he nevertheless disapproved of the course at that time He received 72 electoral votes in the November election. During the remainder of his term as Vice President, he attempted to secure the adoption of some compromise As Senator (elected 1859) in the special session of 1861 he consistently opposed Lincoln's war policy He failed in efforts to have Kentucky call a convention to act on secession When the state declared for the Union in Sept, 1861, Breckinridge offered his services to the Confederacy. Appointed brigadier general in Oct, 1861, he served with distinction throughout the war, mostly in the West On Feb 4, 1865, he was made secretary of war for the Confederacy When the South surrendered, Breckinridge fled to Europe via Cuba but was permitted to return in 1868 He devoted himself thereafter to private interests in Lexington See biography by Lucille Stillwell (1936)

Brecknock (brĕk'nŏk, -nuk) or **Brecon** (brĕk'un), municipal borough (pop 16,493), co seat of Brecknockshire, Wales, at the confluence of the Honddu with the Usk river and surrounded by hills It is of very early date Its castle, of which only fragments remain, was built in the 11th cent, Christ College, in the suburb Llanfaes, was founded in 1541 The priory church of St John (11th cent) became a cathedral in 1923 The city is a cattle market

Brecknockshire (brĕk'nŏkshĭr) or **Brecon** (brĕk'ŭn), inland county (733 sq mi, 1931 pop 57,775, 1948 estimated pop 53,802), S Wales The county town is Brecknock The region is mountainous, rising to its greatest height in the Brecon Beacons (2,910 ft) The river valleys (the Usk and the Wye) afford good sheep grazing, which, with dairy farming, constitutes the chief occupation of the county. Some coal and iron are mined near the southern border, and limestone is quarried There are iron and woolen manufactures The county was seized from the Welsh princes by the Normans in 1092 and was organised on the English shire system in 1536

Brecksville, village (pop 1,900), NE Ohio, S of Cleveland, in a farm area, settled c 1811, inc 1921

Brecon, Wales see BRECKNOCK; BRECKNOCKSHIRE

Breda (brädä'), municipality (pop 84,496) and town, North Brabant prov, SW Netherlands, 27 mi. SSE of Rotterdam. There are machine shops, foundries, and rayon and other manufactures. It has a 13th-century Gothic church (*Groote Kerk*) and a castle now serving as military academy and is the see of a Roman Catholic bishop Breda was besieged by the Spanish under Spinola for almost a year, the surrender (1625) of its heroic garrison was painted by Velásques.

Breda, Compromise of, 1566: see GUEUX.

Breda, Declaration of, 1660: see CHARLES II, king of England.

Breda, Treaty of, 1667. see DUTCH WARS.

Bredero, Gerbrand Adriaenszoon (hĕr'brănt ädrē-än'sōn brä'dĕrō), 1585–1618, Dutch dramatist. His masterpiece, *De Spaansche Brabander* [the Spaniard from Brabant] (1617), is a realistic comedy of Amsterdam life.

Bree, Mattheus Ignatius van (mätt'ēŏs ĭgnä'tsĭŏs vän brā'), 1773–1839, Flemish historical and portrait painter. In 1827 he became director of the Antwerp Academy. He is best known for such historical paintings as *Death of Rubens* (Antwerp).

breeding of plants and animals refers to the purposeful selection of certain parent organisms for propagation in order to improve the breed, variety, or strain. Selective breeding has been carried on by man to some extent since the domestication of plants and animals in the Neolithic period. In early Chinese civilizations rice crops were improved by selection, and in the early Indian civilizations of North and South America corn was thus improved Cattle, horses, dogs, and other useful animals were long bred by selection Breeding began to be established on a more scientific basis after the promulgation of the laws of inheritance by Gregor Mendel. Among plants, pure lines are established by self-pollinating a plant and planting the seed which it produces The choice plants are then self-pollinated and the process is repeated through a number of generations until a strain is developed which shows little variation In recent years it has been found that by making crosses between such established pure lines pure-line hybrids can be developed which have greater vigor than the pure lines and still retain uniformity of characters In the United States much of the corn is produced from pure-line hybrid seed. Animals are said to be pure bred if in the breeding strain desirable characters are transmitted through generations with a uniformity approaching that shown by pure-line plants The strains result from a series of crosses which involve considerable inbreeding. To prevent loss of vigor and reproductivity it is necessary to avoid too many crosses between very closely related animals Crosses are therefore made between strains within a breed and sometimes between certain breeds Within recent years artificial insemination has been employed, chiefly in breeding beef cattle, sheep, and hogs In this method the semen, which contains the sperm cells, is obtained from superior males, and after being diluted it can be used to inseminate many females Modern breeders of all animals select both parents with care Methods of developing new breeds and varieties of established breeds are chiefly hybridization and the breeding of individuals in which mutations occur by chance See also DOMESTICATION; GENETICS, HEREDITY.

Breed's Hill see BUNKER HILL, BATTLE OF

Breese (brēz), city (pop 2,206), S Ill, E of St Louis, in a farm and coal area, inc 1905

Bregenz (brā'gĕnts), city (pop 20,720), capital of Vorarlberg, W Austria, on the Lake of Constance It has large textile manufactures

Breisach (brī'zäkh), town (pop 2,093), S Baden, SW Germany, on the Rhine, in a wine district Fortified since Roman times and an imperial city after 1275, it long was a coveted prize because of its strategic position BERNHARD OF SAXE-WEIMAR took it in 1638 Louis XIV, who secured it for France in the Peace of Westphalia (1648), ceded it back to the emperor by the Treaty of Ryswick (1697), but built a new fort, Neuf-Brisach, on the opposite side of the Rhine The French held Breisach in 1703–14, recaptured it in 1744 and razed its fortifications, burned it in 1793, and gave it to Baden in 1805 Breisach was heavily damaged in the Second World War

Breisgau (brīs'gou), region, S Baden, SW Germany, including Freiburg and Lörrach dist After the extinction (1218) of the first house of ZÄHRINGEN, it was divided among various heirs, most of it passing to the Hapsburgs in 1368. Austria ceded it to Baden in 1805

Breit, Gregory (brīt), 1899–, American physicist, b Russia, grad Johns Hopkins, 1918 He came to the United States in 1915 and was naturalized in 1918. He taught in several universities and served with Carnegie Institution (as mathematical physicist from 1924 to 1929 and as research associate from 1929) From 1934 to 1947 he was professor of physics at the Univ of Wisconsin He took an active part in the uranium research program during the years 1940–43 and in research on the proximity fuse (1942–43) and related ballistics problems (1943–45)

Breitenfeld (brī'tunfĕlt"), village, Saxony, SE Germany, near Leipzig It gave its name to two battles in the Thirty Years War. Gustavus Adolphus of Sweden defeated the imperials under Tilly and Pappenheim in 1631, and the Swedes under Torstensson routed the imperials under Archduke Leopold William in 1642

Breithorn (brīt'hôrn), peak, 13,685 ft. high, Valais, Switzerland, in the Alps on the Italian border.

Breitmann, Hans: see LELAND, CHARLES.

Bremen (brā'mun, brĕ'-, Ger brā'mŭn), state (156 sq mi., 1948 estimated pop. 520,000), N Germany, on the North Sea about the mouth of the Weser. Its fortunes are those of its capital, the free Hansa city of **Bremen** (1948 estimated pop c 420,000), second largest port and an industrial and commercial center of Germany. Created in 825, the archdiocese under Archbishop ADALBERT (11th cent) included all Scandinavia, Iceland, and

Greenland. The archbishops held temporal sway over a large area between the Weser and the Elbe, but the city of Bremen itself was virtually independent as its importance grew It became in 1385 one of the leading members of the HANSEATIC LEAGUE, later accepted the Reformation, and in 1646 was made a free imperial city It was not affected when the archbishopric was assigned to Sweden by the Peace of Westphalia (1648) and ceded (1719) by Sweden to the elector of Hanover (George I of England). The city's trade—in later days particularly with the United States—grew and was encouraged by the founding (1827) of BREMERHAVEN and the establishment of the chief German shipping company, the Norddeutscher Lloyd. The "republic and Hansa city" of Bremen was a member of the German Empire and then of the Weimar Republic It was heavily damaged by 173 allied air raids in the Second World War Under U.S. occupation, Bremen and Bremerhaven were combined in a state, which in 1949 adhered to the West German state under the Bonn constitution Among the monuments of the city are the Gothic city hall (15th cent) and the statue of Roland, erected in 1404 as a symbol of the city's freedom, the Cathedral of Sankt Petri (begun 1043), and two partially destroyed churches—the Liebfrauenkirche (13th cent) and the Johanneskirche (14th cent). Many medieval buildings were destroyed

Bremen (brĕ'mun). **1** Industrial city (pop 1,708), NW Ga., W of Atlanta near the Ala line, inc 1883 Clothing is made here **2** Town (pop 2,179), N Ind , 88E of South Bend, in the mint-growing region **3** Village (pop 1,176), S central Ohio, on Rush Creek and E of Lancaster Glass products are made here

Bremer, Fredrika (frēdrē'ku brā'mur), 1801–65, Swedish writer, b Finland In her lifetime she was well known for her novels, but she is remembered more as a feminist, a Swedish women's organization is named after her Her early novels include *The H Family* (1829) and *The President's Daughters* (1834). Between 1849 and 1851 she traveled in America, recording her impressions in *Homes in the New World* (1853), a selection of the letters in this book was published as *America of the Fifties* (ed by A B Benson, 1924) Her later novels, such as *Hertha* (1856), deal with the emancipation of woman

Bremerhaven (brā'mūrhä'fun), city (pop 100,004), Bremen, N Germany, port on the North Sea at the mouth of the Weser Founded in 1827 by Mayor Johann Smidt of Bremen, it was the transatlantic port of Bremen and prospered in the 19th cent In 1939 it incorporated Wesermünde, to the north, which was formed in 1924 out of two cities and was in the 1930s a leading German port

Bremerton (brĕm'urtun), city (pop 15,134), NW Wash , on an arm of Puget Sound, founded 1891, inc 1901 Seat of the great Puget Sound navy yard, its population trebled during the Second World War

Bremond (brĭmŏnd'), city (pop 1,106), E central Texas, SE of Waco, in a farming area, inc 1938

Brenau College. see GAINESVILLE, Ga

Brendan, Saint, *d* 577?, Irish abbot of Clonfert, Co Galway A popular medieval story told how he traveled westward to wonderful islands—an Irish version of a widespread legend His feast is May 16 A different St Brendan (d 573) was a friend of Columba and founder of the monastery at Birr. The name is often written Brandon

Breneman, Abram Adam (brĕ'numun), 1847–1928, American chemist, b Lancaster, Pa , grad Pennsylvania State College, 1866 He was professor of chemistry at Pennsylvania State College (1869–72) and of industrial chemistry at Cornell Univ (1879–82) He discovered the Breneman process for making iron noncorrosive and was an authority on water analysis and the chemistry of ceramics

Brenham (brĕn'ŭm), city (pop 6,445), co seat of Washington co , S central Texas, NW of Houston, founded 1844 A center of rich Brazos valley plantations before the Civil War, it later became a solid German farm, dairy, and egg market with processing plants and small factories Blinn College (junior, coeducational) is here There are oil fields

Brennan, Alfred Laurens, 1853–1921, American illustrator, b Louisville, Ky He belonged to the group of highly skilled pen-and-ink artists which included Pennell, Abbey, and Blum His drawings, numbering over 7,000, are original and brilliant. See Joseph Pennell, *Pen Drawing and Pen Draughtsmen* (1920)

Brenner, Victor David, 1871–1924, American sculptor and medalist, b Russia, studied in Paris He came to the United States in 1890 The designs for the Lincoln penny, the seal of the New York Public Library, and portrait medallions of Theodore Roosevelt, Carl Schurz, and Whistler are among his works. He executed portrait tablets for Johns Hopkins Hospital, Baltimore, and for the Engineers' and the National Arts clubs, New York, portrait busts of Charles Eliot Norton for the Fogg Museum of Art, Cambridge, and of Samuel P. Avery for the Brooklyn Museum; and the Schenley Memorial Fountain, Pittsburgh.

Brenner Pass (brĕ'nŭr), Ital. *Brennero* (brĕn'nārō), Alpine pass, almost 4,500 ft high, connecting Innsbruck in Austria with Bolzano in Italy It was an important Roman route through which many invasions of Italy were made A carriage road was built in 1772, and the railroad was completed in 1867 The pass became the border between Italy and Austria after the First World War and was the scene of meetings between Hitler and Mussolini in 1940 and 1941

Brennus, fl c 389 B C , legendary Gallic leader He led his men in the pillage and siege of Rome His opponent was MANLIUS (Marcus Manlius Capitolinus) One legend of the capture of Rome tells that when the tribute the Romans had agreed to pay was being weighed a Roman complained Thereupon Brennus threw his sword on the scale, crying, "Vae victis!" [woe to the vanquished] His historical existence is dubious

Brennus, d 279 B C , Gallic leader He was in command of the band of Gauls (or Galatians) who invaded Greece in 279 B C. At first halted at Thermopylae, he later turned and took the pass He was wounded in an unsuccessful attack on Delphi and is supposed to have committed suicide on the northward retreat He is a shadowy figure

Brent, Charles Henry, 1862–1929, American Protestant Episcopal bishop, b Canada He was in 1901 consecrated first bishop of the missionary district of the Philippine Islands and was made bishop of W New York in 1918, he also served (1926–28) as bishop in charge of the American Protestant Episcopal churches in Europe Among his published works are *The Mind of Christ* (1908), *The Sixth Sense* (1911), *Prisoners of Hope* (1915), and *The Mount of Vision* (1918) See the selection by F W Kates, *Things That Matter* (1949)

Brent, Margaret, 1600–1671?, early American feminist With her two brothers and a sister, she left England to settle (1638) in St Mary's, Md , where she acquired an extensive estate, she was the first woman in Maryland to hold land in her own right Under the will of Gov Leonard Calvert, Margaret Brent was made executrix of his estates She also acted as attorney for Lord Baltimore As an important woman of affairs in the colony, she demanded (1648) a place in the colonial assembly Her claim was refused, and shortly thereafter she moved to Virginia but kept her Maryland estates See M E W Ramey, *Chronicles of Mistress Margaret Brent* (1915), E A Dexter, *Colonial Women of Affairs* (1924)

Brentano, Clemens (brĕnta'nō), 1778–1842, German poet, brother of Bettina von Arnim He lived a romantic, troubled life, both his career and his verse are in certain respects like those of Heine, who is indebted to him for the source of "Die Lorelei " A poet who cultivated the folk-song style, a dramatist, and author of fairy tales and such stories as *Geschichte vom bravem Kasperl und dem schönen Annerl* (1817, Eng tr , *Honor*, 1847), he is most important for the collaboration with his brother-in-law L J von Arnim which produced the folk-song collection *Des Knaben Wunderhorn* (1806–8) He is one of the first German romantics

Brentano, Elisabeth see ARNIM, BETTINA VON

Brentano, Franz (frants), 1838–1917, German philosopher and psychologist He was docent (1866–73) at Würzburg, where Stumpf was his student, and in 1874 he became professor of philosophy at Vienna In 1880 he retired to write and study His best-known book, *Psychologie vom empirischen Standpunkte* (1874), attempts to establish psychology as an independent science Brentano believed that mental processes were the data of psychology and were to be regarded as acts rather than as passive processes He influenced the Husserl school and Meinong

Brentano, Lujo (Ludwig Joseph Brentano) (lōō'yō, lōōt'vĭkh yō'zĕf), 1844–1931, German economist, nephew of Clemens Brentano An advocate of free trade and an economic system which would reconcile the profit motive with improved working conditions and wages for workers, he accompanied the statistician Ernst Engel to England in 1868 to study labor situations and trade unions His findings appeared in an introduction (reprinted 1870) to J T. Smith's *English Gilds* On Brentano's return to Germany he wrote a longer work on English guilds and trade unions, *Die Arbeitergilden der Gegenwart* (1871–72) From 1872 to 1917, he taught political economy successively at the universities of Breslau, Strasbourg, Vienna, Leipzig, and Munich

Brentford and Chiswick (chĭz'ĭk), municipal borough (1931 pop 62,618, 1947 estimated pop 60,160), Middlesex, England, where the Brent joins the Thames near London In 1016 Brentford was the scene of a defeat of the Danes by Edmund Ironside and, in 1642, of the royalists' victory over the parliamentarians Its industries include electrical engineering, the manufacture of pharmaceuticals, tires, and heating equipment, and shipping (the Grand Junction Canal terminates here) At Chiswick are Chiswick House, once the seat of the dukes of Devonshire, and the Church of St Nicholas, where Hogarth is buried William Morris lived and had his press here

Brentwood, urban district (pop 7,208), Essex, England It was early established in a wooded region on one of the main travel routes It has a grammar school founded in the mid-16th cent

Brentwood **1** Town (pop 2,433), W central Md , near Washington, D C , inc 1922 **2** City (pop 4,383), E Mo , west suburb of St Louis, inc 1929 **3** Residential borough (pop 7,552), W Pa., S of, and near, Pittsburgh, inc c 1915

Brescia (brĕ'shu, Ital brä'shä), city (pop 92,583), capital of Brescia prov , Lombardy, N Italy It is an industrial center with iron, steel, and machinery plants A Gallic town, it became a Roman stronghold, the seat of a Lombard duchy, and in the 12th cent an independent commune It suffered from internal and external strife, with constant change of rulers—among others, Verona, Milan, Venice, and Austria—until it united with Italy in 1860. In the 18th and 19th cent it was a revolutionary center, and in 1849 it heroically resisted the Austrians for 10 days The city has Roman remains, an 11th-century cathedral and a modern one, a medieval and a Renaissance town hall, and many baroque churches and palaces In the 16th cent there was a flourishing school of painting headed by G B MORONI and by MORETTO The city was heavily damaged during the Second World War

Breshkovsky, Catherine (brĕshkôf'skĭ), 1844–1934, Russian revolutionary, called "grandmother (*babushka*) of the Russian Revolution " The daughter of a noble family, she began on her father's estates the education of the peasants and other social reforms These, carried into a larger field, brought her over 30 years of imprisonment and of exile in Siberia Released from exile by Kerensky after the Revolution of 1917, she returned to Russia, but finding herself out of sympathy with the later Bolshevik regime, she left the country Her letters and memoirs were edited by Alice Stone Blackwell with the title *Little Grandmother* (1917) See her autobiographical *Hidden Springs of the Russian Revolution* (1931)

Breslau (brĕs'lou) or **Wrocław,** Pol *Wrocław* (vrôts'wäf), city (pop 170,656, 1939 pop 615,000), former capital of Lower Silesia, on the Oder and Ohle rivers It was transferred to Polish administration in 1945 (see SILESIA) Breslau probably was a Slavic settlement when, in the year 1000, it was made an episcopal see subordinate to the archbishop of Gniezno It became (1163) the capital of the duchy of Silesia, ruled by a branch of the Polish PIAST dynasty Sacked by the Mongols in 1241, Breslau was rebuilt by German settlers and developed as a trade center Passing (1335) to Bohemia, it came under Hapsburg rule in 1526, and went to Prussia in 1742 It grew considerably in the 19th cent , both in commercial and in industrial importance, and was the site of two large semiannual trade fairs There are metal, textile, food, and other industries Its university, founded in 1702, absorbed (1811) the university formerly at Frankfurt-an-der-Oder The city suffered heavy damage in the Second World War After 1945 the German inhabitants who had stayed behind were expelled and replaced by Poles The archiepiscopal see was left vacant after 1945 Breslau was made the capital of Wrocław prov (c 9,500 sq mi , pop 1,941,149), roughly equivalent to former Lower Silesia

Bressanone (brās-sänō'nā), Ger *Brixen* (brĭk'sun), town (pop 6,520), Trentino–Alto Adige, N Italy, on the Brenner road The town has a mixed German and Italian aspect Bressanone and its surrounding territories were ruled by prince-bishops from the 11th cent In 1803 the bishopric was secularized and passed to Austria as a part of TYROL The town passed to Italy with S Tyrol in 1919 Its many Gothic and baroque churches and monasteries give it a peculiarly religious atmosphere

Bressay (brĕs'ā), island (7,419 acres, pop 452), off N Scotland, one of the Shetland Islands It is E of Mainland island, with Bressay Sound between

Bresse (brĕs), region, E France, between the Ain and Saône rivers, now in Ain dept Bourg-en-Bresse is the capital A rich agricultural district, it is famous for its chickens and has splendid wines, e g , Moulin-à-Vent To the south is the Dombes, a district dotted with thousands of ponds, which is being gradually drained Bresse was part of the duchy of Savoy until 1601, when it was ceded to France along with Bugey (a district between the Ain and the Rhone) and the Pays de Gex All three were added to Burgundy prov

Brest, formerly **Brest-Litovsk** (brĕst'-lĭtôfsk'), Pol *Brześć nad Bugiem* (bzhĕshch' näd bōōg'yĕm), city (1931 pop 48,435), capital of Brest oblast, Belorussia, on the Western Bug It is an important rail and water transportation center Dating from at least the 11th cent , Brest passed to Russia in the third partition of Poland (1795) It had been ravaged through the centuries by Tatars, Teutonic Knights, and Swedes, but after its fortification (begun in 1831) by the Russians was considered impregnable The Germans took it in 1915 and in 1918 forced Russia to sign here the Treaty of Brest-Litovsk Brest reverted to Poland in 1921, but was ceded to the USSR in 1945 It remains

an important military center. In 1596 the union of the Polish Orthodox and the Roman Catholic churches was signed here

Brest, town (pop 62,707), Finistère dept, NW France, on an inlet of the Atlantic into the tip of Brittany. It is a port and the chief naval station of France Brest dates from Gallo-Roman times, its spacious, landlocked harbor was created (1631) by Richelieu and was fortified by Vauban In 1694 the French here repulsed the English, and in 1794 the English under Lord Howe defeated the French fleet In the Second World War the Germans made Brest a submarine base Their heavily fortified submarine pens were subjected to terrific aerial bombardment, and while the pens showed but a few cracks, the city itself was almost destroyed The German garrison, after a costly siege, which added to the damage, capitulated to U S troops on Sept 20, 1944

Brest-Litovsk, Treaty of (brĕst'-lĭtôfsk'), separate peace treaty signed by Soviet Russia and the Central Powers, March 3, 1918, at Brest-Litovsk (now Brest, Belorussia) Subsequent to the separate armistice of Dec 5, 1917, long, bitter negotiations were conducted by Leon Trotsky for Russia, Richard von Kühlmann for Germany, and Count Ottokar Czernin for Austria-Hungary Trotsky at one point suspended negotiations, but Germany resumed warfare, and the Soviets—on the insistence of Lenin—accepted the German ultimatum, which set conditions even harsher than at first Before making peace with Russia the Central Powers signed (Feb 9) a treaty with the Ukraine, set up as a separate state In the Treaty of Brest-Litovsk, Russia recognized the independence of Poland, the Baltic states, Georgia, and the Ukraine, agreed to evacuate the Ukraine and to allow Germany to occupy Belorussia, ceded Kars, Ardahan, and Batum to Turkey, and promised to pay a large indemnity The general armistice of Nov 11, 1918, forced Germany to renounce the treaty, and Russia also declared it null and void The western frontiers of Russia were later agreed upon by a series of separate treaties See J W Wheeler-Bennett, *The Forgotten Peace* (American ed, 1939)

Brethren. For Brethren in Christ, see River Brethren, for Brethren of Christ, see Christadelphians, for Church of the Brethren and for German Baptist Brethren, see Dunkards, for Hutterian Brethren, see Hutterische Community, for Moravian Brethren, see Moravian Church, for Plymouth Brethren, see Plymouth Brethren, for River Brethren and Yorker Brethren, see River Brethren

Brétigny, Treaty of (brătēnyē'), 1360, concluded by England and France at Brétigny, a village near Chartres, France It marked a low point in French fortunes in the Hundred Years War John II, set free by the English at the price of 3,000,000 gold crowns, ceded to Edward III (without exacting feudal homage) Poitou, Aunis, Saintonge, Angoumois, Guienne, Gascony, Calais, and other territories The peace did not last, and by 1373 all but the Bordeaux district had been reconquered by Du Guesclin

Breton, André (ādrā' brutō'), 1896–, French surrealist poet, novelist, and critic Espousing Dadaism, he wrote *Les Champs magnetiques* (1921), an example of unconscious writing in which he collaborated with Philippe Soupault, and a collection of essays, *Les Pas perdus* (1924) He then turned to surrealism, issuing two manifestoes (1924, 1930), and became an extreme advocate of subconscious expression *Nadya* (1928), a novel, is autobiographical He also wrote *Qu'est-ce que le surréalisme?* (1934, Eng tr, *What Is Surrealism?* 1936)

Breton, Jules Adolphe Aimé Louis (zhülĕ' adôlf' āmā' lwē'), 1827–1906, French painter of rustic scenes and peasant life Well known are *The Return of the Gleaners* and *Blessing the Fields* (Luxembourg Mus, Paris), *Song of the Lark* (Art Inst, Chicago), and *Religious Procession in Brittany* and *Peasant Girl Knitting* (Metropolitan Mus) Breton was also the author of two autobiographies See Marius Vachon, *Jules Breton* (1899, in French)

Breton, Nicholas (brĕt'ŭn), 1551?–c 1623, English poet and miscellaneous writer of great range and prolificity His *Passionate Shepherd* (1604) and his lyrics in *England's Helicon* (1600) represent his best work See *A Mad World My Masters and Other Prose Works* (ed by Ursula Kentish-Wright, 2 vols, 1929), N E Monroe, *Nicholas Breton as a Pamphleteer* (1939)

Bretón de los Herreros, Manuel (mänwäl' brătōn' dā lōs ĕr-rā'rōs), 1796–1873, Spanish playwright and poet He wrote over 300 lyrical and satirical compositions, of which the most famous was *Sátira contra las costumbres del siglo XIX* [satire on 19th-century customs], about 100 original plays, and about 70 adaptations and translations of foreign plays In 1847 he was appointed director of the Biblioteca Nacional at Madrid Some of the comedies that made him the most popular dramatist of his time are *A Madrid me vuelvo* (1828), *Marcela* (1831), *Muérete—y verás!* (1837), *La escuela de las casadas* (1842), and *La escuela del matrimonio* (1852) They are witty and humorous sketches of the middle class of Madrid.

Breton literature (brĕ'tŭn), in the Celtic language of Brittany Until the 19th cent there were three types of literature—songs, stories, and plays, all popular and mostly of now forgotten authorship The plays (with examples dating back to c 1500) are local imitations of the late medieval French miracles They survived into the 19th cent As elsewhere in Europe, serious collecting of songs and stories began in Brittany in the 19th cent The first collection of importance was Hersart de la Villemarqué, whose carefully edited *Barzaz Breiz*, an anthology of poems, was attacked as was Macpherson's Ossian The old profession of ballad singing and storytelling scarcely survived the early 20th cent A cultivated literature began in the mid-19th cent, mainly in stories and verse Auguste Brizeux, whose French provincial verse had some reputation, was the best-known poet to use his native Breton Other poets were J Guillome, Prosper Proux, and Emil Ernault In the 20th cent a strong effort developed to encourage Bretons to use their own language, which was giving way increasingly to French Part of this movement was directed, especially by François Vallée and Roparz Hémon, toward expanding the Breton vocabulary into adequacy for translating any type of work A more strictly artistic interest characterizes the works of others, including the storytellers Jakez Rion and Yves Drézen, the playwright Tanguy Malemanche, and Xavier de Langlais and Louis Le Flo'ch, poets as well as prose writers, and, in the aberrant dialect of the Vannes district, the poets J P Calloc'h and Robert Le Masson and the storytellers Louis and Louise Herrieu and Louis Héno A few Breton works have been translated into French Most of the works of Anatole Le Braz, a connoisseur of Breton life and letters, have been translated into English

Bretonneau, Pierre (pyĕr' brutônō), 1778–1862, French physician He performed (1825) the first successful tracheotomy for laryngeal diphtheria, wrote a treatise (1826) distinguishing between scarlet fever and diphtheria (which he named), described typhoid fever, and stated (1855), the germ theory of disease (later established largely as a result of Pasteur's work)

Breton Succession, War of the, 1341–64 Duke John III of Brittany died in 1341 without heirs The succession was contested by his younger brother, John de Montfort, who was backed by Edward III of England, and by Charles of Blois, who had married Jeanne de Penthièvre, a niece of the late duke Charles and Jeanne were backed by Philip VI, John II, and Charles V of France The resulting war, which was an important episode of the Hundred Years War, ended, after several truces, with the battle of Auray (1364), in which Charles of Blois was defeated and killed, despite the support of his faithful follower, Bertrand du Guesclin The Montfort heir was recognized by France as rightful ruler of Brittany An attempt (1378–79) by Charles V to confiscate Brittany for the French crown met the resistance of the Bretons, including Jeanne de Penthièvre, and failed Du Guesclin, who commanded the royal army, made no serious effort to subdue Breton resistance

Brett, Reginald Baliol, 2d **Viscount Esher** see Esher, Reginald Baliol Brett, 2d Viscount

Bretton Woods Conference, name commonly given to the United Nations Monetary and Financial Conference, held (July 1–22, 1944) at Bretton Woods, N H, in the White Mts The conference resulted in the creation of an International Monetary Fund ($8,800,000,000), to promote international monetary cooperation, and of an International Bank for Reconstruction and Development (authorized capital, $10,000,000,000) In Sept, 1946, they began operating, with 44 member states, of the larger states of the United Nations only Argentina and the USSR had failed to join

Breuer, Josef (yō'zĕf broi'ŭr), 1842–1925, Austrian physician He was the first to use (1880–82) the cathartic method to cure hysteria His therapy and theory, when developed by Freud, became psychoanalysis

Breuer, Marcel Lajos (broi'ŭr), 1902–, architect and furniture designer, b Hungary During the 1920s he was associated, both as student and as teacher, with the Bauhaus in Germany He was a practicing architect in Germany, England, and other countries from 1928 to 1937 Breuer became associate professor of architecture at Harvard Univ in 1937 and was a partner of Walter Gropius from 1937 to 1942

Breughel, family of painters see Bruegel

Brevard (brĭvärd'), town (pop 3,061), co seat of Transylvania co, W N C, in the Blue Ridge SSW of Asheville and near the S C line, inc 1867 It is a resort, with hosiery and cotton mills Brevard College (junior, coeducational) is here Pisgah National Forest is near by

breviary (brē'vēĕr"ē, brĭv'-) [Latin, =shortening], in the Roman Catholic Church, prayer book containing all that is necessary for reciting the divine office (i e, the canonical hours) throughout the year The directions for Mass are in the missal, for other sacraments and for various services, in the ritual, and for the special services of bishops, in the pontifical. The modern Roman breviary (in Latin) is the result of normalization after the Council of Trent, some religious orders have their own editions In England the Sarum breviary (i e, that of Salisbury) was formerly used widely It is from the Sarum breviary that much of the Anglican morning and evening prayer is taken The breviary is primarily for priests, who are all required to recite the office daily

Breviary of Alaric (ă'lurĭk), Visigothic code of Roman law issued (506) by King Alaric II for his Roman subjects in Spain and S Gaul It is also known as the Lex Romana Visigothorum Based largely on the Theodosian Code and accompanied by valuable commentaries, it was intended to conciliate the Roman element of the population with the Germanic element, which was under the authority of the earlier code issued by Euric Although both codes were later superseded by the Forum Judicum of King Receswinth, the Breviary remained influential in preserving Roman law in the south and east of France See Germanic laws

Brevoort, James Renwick, 1832–1918, American landscape painter, b Westchester co, N Y His landscapes are painted with fidelity to nature, particularly in the treatment of perspective and atmospheric effects Among them are *A Scene in Holland near Arnheim*, *Wild November Comes at Last*, *Storm on an English Moor*, and *New England Scene*

Brewer, Ebenezer Cobham, 1810–97, English clergyman and writer He compiled many reference works, some of which passed through several editions These include *A Guide to Scientific Knowledge* (1850), *Dictionary of Phrase and Fable* (1870), *Reader's Handbook of Famous Names in Fiction* (1880), and *Historic Note Book* (1891)

Brewer, industrial city (pop 6,510), S Maine, on the Penobscot opposite Bangor, settled 1770, inc as a town 1812, as a city 1889 It has pulp and paper mills

brewing see beer.

Brewster, Sir David, 1781–1868, Scottish physicist and natural philosopher, noted for researches into the polarization of light His dioptric system of improved lighthouse illumination was adopted by the English government He is generally credited with the invention of the kaleidoscope For 21 years he was principal of the United College of St Salvator and St Leonard, in St Andrews, Scotland, and in 1859 he became principal of the Univ of Edinburgh Brewster was a steady contributor to scientific publications Included in his numerous writings are *A Treatise on Optics* (1831), *Life of Sir Isaac Newton* (1828), *More Worlds than One* (1854), and his fuller *Memoirs of the Life, Writings, and Discoveries of Sir Isaac Newton* (1855)

Brewster, William, 1567–1644, English separatist and Plymouth colonist After studying briefly at Cambridge he became the chief member of the congregation at Scrooby which separated" from the Anglican Church in 1606, the members, after their migration to Holland in 1608, were known as Pilgrims On his press at Leiden he printed a number of religious books and tracts which were distributed throughout England Returning to England in 1617, he helped make arrangements for the Pilgrim migration to America and in 1620 embarked on the *Mayflower* with his wife, two sons, and two indentured boys Brewster, an elder of the church since Leiden days, was the sole religious leader of the Plymouth Colony until 1629, but since he was not ordained, he confined his ministry to services of prayer and praise only Although he held no lay offices, he was very influential, being one of the eight who undertook (1627) to discharge the debt to the colony's backers See G F Willison, *Saints and Strangers* (1945)

Brewster, William, 1851–1919, American ornithologist, b Wakefield, Mass His fine collection of North American birds is housed at Harvard He wrote several volumes on birds, including *Bird Migration* (1886) and *Birds of Cambridge* (1906) He kept journals of observations made at his Concord sanctuary, from these were compiled *October Farm* (1936) and *Concord River* (1937)

Brewster. **1** Resort town (pop 827), SE Mass, on Cape Cod, settled 1656, inc 1803 **2** Village (pop 1,863), SE N Y, W of Danbury, Conn, settled 1850, inc 1894 It is a trade center for a rural and summer-residential area James Kent was born near here **3** Village (pop 1,534), NE Ohio, SW of Canton

Brewton, city (pop 3,323), co seat of Escambia co, S Ala, near the Conecuh and the Fla line It is a lumbering and agricultural center Fort Crawford was established here in 1818

Brezina, Otokar, Czech *Březina* (ô'tôkăr bzhĕ'zĭna), 1868–1929, Czech lyric poet of the symbolist school, whose real name is Vaclav Jebavy The first collection of his poetry, *Mysterious Distances*, was published in 1895 Four other volumes followed, the last in 1901, and then the flow of mystic, highly imaginative verse ceased. Although he is one of the greatest of Czech poets, none of his work has been translated into English.

Brian Boru or **Brian Boroimhe** (both: brĭ'un or brēn', bŭrōō' or burō') [Irish, =Brian of the *boroma* or kine counting, from a tribute he levied], 962?–

1014, high king of Ireland. He came of the royal house of Munster and at first ruled only Co Clare and Co. Tipperary but then subjugated all Munster, extended his power over Leinster, and in 1002 became high king of Ireland by right of conquest As his power increased, relations with the Norse rulers on the Irish coast grew steadily worse Sitric, king of the Dublin Norse, formed against Brian a coalition of Norse of Ireland, the Hebrides, the Orkneys, and Iceland as well as Brian's Irish enemies On Good Friday (April 23), 1014, Brian met and annihilated the allies at Clontarf near Dublin Soon afterward he was murdered in his tent Brian's victory broke the Norse power in Ireland forever, but also destroyed the unity he had achieved

Briançon (brōsôⁿ'), town (pop 3,483), Hautes-Alpes dept, SE France, in the Dauphiné Alps near the Italian border The fortifications and the church were built (17th cent) by Vauban

Briand, Aristide (ārēstēd' brēā'), 1862–1932, French statesman A lawyer and a Socialist, he entered the chamber of deputies in 1902 Having helped to draft the law (1902) for the separation of Church and state, he was made (1906) minister of education and worship to execute it He was ejected from the Socialist party for participating in a bourgeois cabinet but clung to his convictions and in 1909 became premier for the first of 11 times His liberalism laid him open to attacks from both right and left throughout the rest of his career One of the outstanding advocates of peace, Briand nevertheless headed (1915–17) two successive coalition cabinets in the First World War until the attacks of Clemenceau prevailed After an ineffectual attempt to negotiate for peace, Briand retired, and in 1921 emerged as a leading advocate of international cooperation The cabinet he headed in 1921 fell because of his unpopular criticism of the Treaty of Versailles and his moderate demands at international conferences However, Briand always upheld the French demand for security As foreign minister from 1925 to 1932 he was the chief architect of the LOCARNO PACT (1925) and the KELLOGG-BRIAND PACT (1928), and he shared the 1926 Nobel Peace Prize with Gustav Stresemann An impressive orator, Briand was a prominent figure in the League of Nations He advocated a plan for a United States of Europe See biographies by Valentine Thomson (1930) and Georges Suarez (3 vols, 1938–39, in French)

briar see BRIER

Briarcliff Manor, residential village (pop 1,830), SE N Y, in Westchester co, near Ossining, settled 1896, inc 1902 Briarcliff Junior College (for girls) and Edgewood Park school for girls are here

Briareus (brīā'rēŭs), in Greek religion, hundred-handed monster, also called Aegaeon

bribery, corrupt tendering or receiving of anything of value in return for official action Any attempt to influence an officer in his official conduct by the offer of an award is bribery An attempt to give a bribe, even if it is not taken, and a solicitation of a bribe by an officer, even if it is not given, are both punishable as bribery At common law only a misdemeanor, bribery has been made a felony by statute in many jurisdictions of the United States It has also been extended to cover corrupt influencing of persons other than officials in the discharge of their duties or the exercise of their rights —e g, voters, witnesses, labor representatives, participants in games or sports, and business agents and employees Bribery generally differs from EXTORTION in that it requires a voluntary, not a coerced, payment and in that it requires the doing of an unlawful act

brick, universally used structural material which, in modern times, is made by pressing clay into blocks and burning them to the requisite hardness in a kiln Bricks in their most primitive form were not burned, but were hardened by being dried in the sun. In that form they were utilized during many centuries and are used even today in regions with the proper climate Bricks probably existed in times of which no record remains Examples from approximately 5,000 years ago have been discovered in the Tigris-Euphrates basin, and the ancient races occupying this region may have been the first users of brick In Babylonia there was a lack of both timber and stone, and the thick clay deposited by the overflowing rivers was the only material adapted to building The Persians and the Assyrians used sun-dried blocks of clay for walls of great thickness, facing them with a protective coating of burned bricks The Egyptians and the Greeks used bricks to only a limited extent, as they had access to plentiful supplies of stone and marble The Romans manufactured burned bricks in enormous quantities and gave them an important role as a basic structural material for both simple and sumptuous buildings all through the Roman Empire Brick played an important part in early Christian architecture until the decline of the empire Whereas the Romans had usually concealed their brickwork beneath a decorative facing of stone or marble, the Byzantines devised a technique for exposing the brick itself and giving it a full decorative expression This in the 10th cent influenced the Romanesque buildings, and the rich and versatile brick styles of the Middle Ages were thus launched, attaining especially good results in Lombardy and in Germany, with bricks molded or carved into many special shapes and arranged in immensely varied patterns With the coming of the Renaissance, brick architecture developed into great effectiveness in England Since the Middle Ages, brickwork has been in constant use everywhere, adapting itself to every sort of construction and to every change of architectural style Good bricks are practically indestructible by fire or atmospheric action and more durable than stone Bricks were being produced in the American colonies in the early years of the 17th cent, and through the 17th and 18th cent the craftsmanship in bricks and brick buildings was hardly inferior to that of the same period in England At the beginning of the 19th cent, mechanical processes began to be patented and by the latter half of the century had almost entirely replaced the ancient hand-fashioning methods Contemporary bricks are rectangular blocks with the standard dimensions of about 2¼ by 3¾ by 8 in American manufacturers produce an enormous variety for widely different purposes.

bridal wreath. see SPIRAEA

Bride, Saint. see BRIDGET, SAINT

Bridewell (brīd'wul) [for St Bride's well], parish of central London, England, between Fleet St and the Thames The Bridewell house of correction, here until 1864, was on the site of a palace built by Henry VIII and, earlier still, of a Norman tower

bridge. In ancient times and among primitive peoples a log was thrown across a stream, or two vines or woven fibrous ropes (the upper for a handhold and the lower for a footwalk) were thrown across, to serve as a bridge Later, arched structures of stone or brick were used, traces of these, built from 2000 to 4000 B C, have been found in Palestine The Romans built long arched spans, many of which are still standing In England the rather crude arched stone bridges had heavy piers (intermediate supports) which were a great obstruction to river traffic, and the roadway was often lined with small shops In the early days in the United States, since wood was abundant and cheap, the arched type of bridge did not develop Wood is now seldom used, since a wooden bridge is subject both to decay and to destruction by fire In the middle part of the 19th cent many bridges were built of cast and wrought iron Robert Stephenson designed and built the bridge across Menai Strait in North Wales (1850) Another bridge of this type is Victoria Bridge across the St Lawrence at Montreal The disadvantage of cast iron for bridges is its low tensile strength The development of the Bessemer process for converting cast iron into steel revolutionized bridgebuilding It became possible to design framed structures with greater ease and flexibility The use of the TRUSS, in various forms, soon became common practice and led to the vast structures of modern times Modern steel bridges are of many types The panel-truss bridge usually consists of a pair or more of parallel trusses, suitably braced, supporting a road on transverse beams A center-swing bridge is one which is mounted on a pier in the center of a stream or span, and can be mechanically swung in the direction of the river to allow water-borne traffic to pass through The CANTILEVER bridge has long been a favorite for long spans It is generally supported on two piers and two abutments (end supports) It has many advantages it is very rigid, the stresses in all its members can readily and definitely be determined, and it lends itself ideally to erection without the use of any temporary support One of the first and best examples of this type of construction is the bridge over the Forth at Queensferry, Scotland Two others are the Queensboro Bridge in New York and the St Lawrence River Bridge at Quebec The SUSPENSION BRIDGE is a pair of cables, or series of cables, passed across a river, securely anchored to piers at each side, and supporting a roadway A few of the larger suspension bridges in the United States are the Brooklyn, Williamsburg, and Bear Mountain bridges, the Ambassador Bridge across the Detroit river between Canada and the United States, the Delaware river bridge at Philadelphia, the GEORGE WASHINGTON BRIDGE across the Hudson river, and the GOLDEN GATE BRIDGE The steel-arch bridge is exemplified by that over the Kill Van Kull at Bayonne, N J The vertical lift bridge (see THIBOROUGH BRIDGE) consists of a simple span of the truss type, suspended between steel towers with wire ropes It is used over short spans where intermittent river traffic has to be maintained The bridge is counterweighted and raised between the towers when necessary, hoisting machinery being installed in the structure The bascule, or quadrant, bridge, also used for short spans across streams, consists of a rigid bridge of the trussed type, resting free on a pier on one side of the stream and mounted on a heavy quadrant on the other It is counterweighted and is designed to roll back on the quadrant, lifting the bridge clear of the stream A series of bridges for conveying a roadway or railroad across low-lying ground or across water is termed a VIADUCT In the transportation of men and equipment during war, where the means of crossing a stream or river is either nonexistent or has been destroyed by the enemy, military bridges play a vital part Sometimes they have been of the trestle type, built from any available material, or of the PONTOON type See also DRAWBRIDGE See Archibald Black, *The Story of Bridges* (1936).

bridge, a card game, derived from WHIST, played with 52 cards by four players who are divided into partners In the oldest form, bridge whist, now rarely played, the dealer or his partner names the trump suit or "no trumps" This form of bridge was played in the Middle East in the 19th cent and spread to Europe and America In another variation, developed by the British in India in the early 1900s, the highest bidder names trumps The game was originated for three players, but new rules and a fourth hand were added by the Bath Club and the Portland Club of London Auction bridge was extremely popular in England and America for 25 years The term *bridge* now usually means contract bridge, a form of auction bridge developed by Harold S Vanderbilt of New York in 1925 The rules encourage the player to make the best possible bid on every hand After 1927 the popularity of contract bridge, owing much to the activities of Ely CULBERTSON, was phenomenal, thousands of clubs were formed, international tournaments were held, and books and newspaper articles on the subject were read with great interest The bridge craze has since subsided somewhat, but tournaments and newspaper columns continue, and a knowledge of the game is still almost a social necessity in many circles of the English-speaking world The Whist Club of New York and the American Contract Bridge League issued a new code of laws in 1943, and new international contract bridge rules went into effect on Oct 1, 1948 See R L Frey, ed, *The New Complete Hoyle* (1947)

Bridgeburg, Ont see FORT ERIE

Bridgend (brĭd'jĕnd'), urban district (pop 10,029), Glamorganshire, Wales, on the Ogwr river It is a cattle market and manufactures electric transformers and pharmaceuticals There are remains of an ancient Norman castle and a 12th-century fortified church

Bridge of Sighs, covered stone bridge in Venice, Italy, built in the 16th cent to connect the ducal palace with the state prison The prisoners were led over the bridge directly to prison after trial in the ducal palace

Bridgeport. **1** City (pop 2,031), extreme NE Ala, on the Tennessee river, settled in the early 19th cent It has lumber and textile mills **2** City (pop 147,121), a co seat of Fairfield co, SW Conn, on Long Island Sound, settled 1639 from Fairfield and Stratford, inc 1836 Harbors are at the mouth of the Poquonock and in the Black Rock section The chief industrial city in the state, it produces ammunition, sewing machines, machinery, electrical equipment, tools, hardware, and other metal products It is a port of entry During the Civil War and the world wars it was especially important A statue in Seaside Park and the Barnum Institute of Science and History commemorate the showman who lived here and whose circus wintered here "General Tom Thumb" (Charles S Stratton) was born here The Univ of Bridgeport was organized as a junior college in 1927 In 1933 the first Socialist mayor and board of aldermen in Connecticut were elected at Bridgeport See Elsie N Danenberg, *The Story of Bridgeport* (1936) **3** City (pop 2,143), SE Ill, W of Vincennes, Ind, in a farm and oil area, inc 1865 **4** City (pop 1,520), co seat of Morrill co, W Nebr, on the North Platte below Scottsbluff It is a trade center for an irrigated grazing, alfalfa, and sugar-beet area Near by are the buttes Courthouse Rock and Jail Rock **5** Village (pop 4,853), E Ohio, on the Ohio river opposite Wheeling, W Va, laid out 1806 as Canton by Ebenezer Zane, renamed 1836 **6** Borough (pop 5,904), SE Pa, NW of Philadelphia, settled 1829, inc 1851 It has a coke plant, an ironworks, and woolen mills Dolomite is mined here for lime and flux **7** Town (pop 1,735), N Texas, on the West Fork of the Trinity and NW of Fort Worth, settled 1873, inc 1913 Coal mining was important to the town, which now has a brick plant and other minor industries Artificial Lake Bridgeport, a Fort Worth reservoir, is near **8** Cattle-shipping town (pop 1,581), N W Va, E of Clarksburg, in a grazing area, chartered 1816

Bridger, James, 1804–81, American fur trader, one of the most celebrated of the MOUNTAIN MEN, b Virginia He was working as a blacksmith in St Louis when he joined the Missouri river expedition of William H ASHLEY in 1822 From that time until the fur trade declined in the 1840s he was a trader and trapper in the mounains, getting to know most of the country N of the Spanish New Mexico and E of California He was associated with Thomas Fitzpatrick and Jedediah Smith in many of their journeys, and he is generally credited with being the first white man to see Great Salt Lake He was the guide for the party of Marcus Whitman, and in 1843 he and a partner, Louis

Vasquez, opened **Fort Bridger** on the OREGON TRAIL He there contributed greatly to the knowledge of the Oregon immigrants, but later he sold the post and was a guide, notably to Gen A S Johnston on the Mormon campaign in 1857, to an expedition to the present Yellowstone Park (a region he did much to publicize) in 1858–66, and to the surveying party of Gen G M Dodge for the Union Pacific RR He came to be famous for his talk, was a fine spinner of "tall tales," and was one of the most picturesque figures of the frontier See biographies by J Cecil Alter (1925) and Stanley Vestal (pseud of W S Campbell, 1946), Bernard De Voto, *Across the Wide Missouri* (1947)

Bridger, Fort see FORT BRIDGER STATE PARK

Bridges, Calvin Blackman, 1889–1938, American geneticist, b Schuyler Falls, N Y , grad Columbia (B S , 1912, Ph D , 1916) In his research he collaborated with T H Morgan, A H Sturtevant and H J Muller, the group which developed many of the concepts of modern genetics through their study of the fruit fly, *Drosophila* He continued with the Morgan group as a research associate of the Carnegie Institution of Washington from 1919 His contributions to modern genetics include the proof of the chromosome theory of heredity, formulation of the theory of genic balance, and the detailed study of giant salivary chromosomes in relation to the positions of genes He was co-author of *The Mechanism of Mendelian Heredity* (1915) and of a number of works on *Drosophila*

Bridges, Harry (Alfred Renton Bridges), 1900–, American labor leader, b Melbourne, Australia Arriving (1920) as an immigrant seaman in San Francisco, he became a longshoreman and militant labor organizer Bridges led (1934) the West Coast maritime workers' strike, which expanded into an abortive general strike, and in 1937 he became West Coast director of the C I O Proceedings in 1939 to deport him as a Communist alien ended when he was officially absolved of Communist affiliation The House passed (1940) a bill to deport him, but it was ruled (1945) illegal by the Supreme Court He became a citizen in 1945 He supported Henry Wallace for President in 1948 and was ousted as C I O regional head He was convicted and sentenced (1950) to a five-year term for swearing falsely at his 1945 naturalization hearing that he had never been a member of the Communist party

Bridges, Robert Seymour, 1844–1930, English poet laureate from 1913, educated at Oxford and St Bartholomew's Hospital In 1882 he abandoned medical practice to devote himself to writing, he produced short lyrics, long poems, dramas in verse, and critical studies of Milton (1893) and Keats (1895) In 1918 he published the poems of his friend Gerard Manley HOPKINS *The Testament of Beauty* (1929) is the best-known long poem by Bridges See studies by Albert Guérard, Jr (1942), and G S Gordon (1946)

Bridget, Saint, 453?–523?, Irish holy woman She is often called St Brigid, St Bride, or St Bridget of Kildare Not much certain is known of her, but she did found a great monastery at Kildare She is buried at Downpatrick with St Patrick and St Columba, and with them she is a patron of Ireland, hence her nickname Mary of the Gael St Bridget is associated notably with charity and justice Devotion to her was widespread in Great Britain before the Reformation, as witness many names, e g., Bridewell, Kilbride, Kirkbride, and McBride Feast Feb 1

Bridget of Sweden, Saint, c 1300–1373, Swedish nun She was a noblewoman of the court After she had brought up eight children, she separated amicably from her husband to devote herself to religion and founded an order (the Bridgettines) Her account of her numerous visions was widely read in the Middle Ages St Bridget is patron of Sweden She is sometimes called Birgitta Feast Oct. 8.

Bridgeton, city (pop 15,992), co seat of Cumberland co , S N J , on the Cohansey, settled 1686, inc 1864 It has glassworks and canneries Its 18th-century buildings include a Presbyterian church dating from 1792

Bridgetown, city (pop 13,345), capital of BARBADOS, British West Indies A port and a pleasant town with fine buildings and tourist attractions, it is a popular resort Sugar is refined, and molasses and rum made

Bridgetown, town (pop 1,020), N S , in the North Shore section, on the Annapolis river and NE of Annapolis Royal

Bridgeville. **1** Town (pop 1,180), SW Del , N of Seaford, inc 1871 It is a canning center in a fruit-growing region **2** Industrial borough (pop 4,459), SW Pa , SW of Pittsburgh, inc. 1901 It has a chemical plant and metal factories. Mining brought rapid growth in 1884

Bridgewater, Francis Egerton, 3d duke of, 1736–1806, pioneer in British inland navigation To facilitate transportation for his collieries he commissioned James Brindley to construct (1759–71) the first canal in England independent of any stream. It ran from Worsley to Manchester, and he later extended it to the Mersey at Liverpool.

Bridgewater, Francis Henry Egerton, 8th **earl of,** 1756–1829, English clergyman. His will left £8,000 to whoever should write a treatise on the goodness of God as manifested in the creation The executor divided the sum among eight persons, whose essays are known as *The Bridgewater Treatises* (1833–40)

Bridgewater, town (pop 3,445), SW N.S , at the head of navigation on the La Have river and W of Lunenburg Its chief industry is lumbering

Bridgewater **1** Rural and lumber town (pop 1,267), NE Maine, near the N B line N of Houlton, inc 1858 It is a port of entry **2** Industrial town (pop 8,902), SE Mass , S of Boston, settled 1650, inc 1656 Shoes, metal products, and grain feed are produced A state teachers college is here **3** Borough (pop 1,621), W Pa , near the junction of the Ohio and Beaver rivers NW of Pittsburgh, inc 1835

Bridgman, Elijah Coleman, 1801–61, first American Protestant missionary to China, b Belchertown, Mass , grad Amherst, 1826, and Andover Theological Seminary, 1829 He served as a missionary in China from 1830 until his death His *Chinese Chrestomathy* appeared in 1841, his Chinese translation of the Bible (in collaboration with M S Culbertson) was published posthumously in 1862

Bridgman, Frederic Arthur, 1847–1927, American genre and archaeological painter, b Tuskegee, Ala. He studied under Gérôme in Paris, where most of his work was done Among his best-known paintings are *Funeral of a Mummy*, *The Procession of the Bull Apis* (both Corcoran Gallery), and *Awaiting His Master* (Art Inst , Chicago)

Bridgman, Laura, 1829–89, the first blind deaf-mute to be successfully educated, b Hanover, N H. Under the guidance of Dr S G HOWE, of the Perkins Institution (now in Watertown, Mass), she learned to read and write and to sew so well that she eventually became a teacher of sewing at the school, where she remained until her death See biography by Laura E Richards (1928)

Bridgman, Percy Williams, 1882–, American physicist, b Cambridge, Mass , grad Harvard (B A , 1904, Ph D , 1908) From 1910 he taught at Harvard, as professor from 1919 He won the 1946 Nobel Prize in Physics for his work in high pressures He is known also for his studies of electrical conduction in metals and properties of crystals His works include *The Logic of Modern Physics* (1927, reissue, 1946), *Physics of High Pressure* (1931), and *Nature of Thermodynamics* (1941)

Bridgnorth, municipal borough (pop 5,151), Shropshire, England, on the Severn and SE of Shrewsbury A stone bridge gave the town its name Part of the town is on a hill The main industry is carpetmaking The castle, of which a ruined leaning tower remains, was built in 1101, a royalist stronghold in the civil war, it was destroyed by parliamentary forces in 1646 Richard Baxter was curate here, and Thomas Percy was born here

Bridgton, town (pop 3,035), SW Maine, NW of Portland, settled 1770, inc 1794 It is a resort center and produces lumber goods

Bridgwater, municipal borough (1931 pop 17,139, 1943 estimated pop 18,330), Somerset, England, a seaport on the Parrett The tides somewhat impede shipping The town's products include ham and bacon, paints, dry batteries, and bricks The site of the battle of Sedgemoor (1685) is near here

Bridlington (brĭd'lĭngtŭn, brĭdlĭng'tŭn), municipal borough (1931 pop 19,705, 1943 estimated pop 21,720), East Riding of Yorkshire, England It has a well-protected harbor on Bridlington Bay An Augustinian priory was founded in the reign of Henry I Bridlington Quay, a mile southeast, is a favorite resort, with mineral springs

Brie (brē), region, Marne and Seine-et-Marne depts , N France, E of Paris Rich in wheat and cattle, it is famous for its soft white cheese Many of its huge and nearly self-contained farms are fortress-like in their imposing architecture Meaux, Melun, and Château-Thierry are the main towns The former county of Meaux (E Brie) was combined (11th cent) with that of Troyes to form the county (later province) of CHAMPAGNE and Brie The smaller but richer western section (*Brie française*) forms part of the Île-de-France

brief, in law, the statement prepared by the counsel, for either party to a case, of the pleadings, the legal points in issue, and the evidence, among other things In Great Britain a brief is prepared by a solicitor, whose duty it is to prepare the case for trial When this is done, and the brief handed to a barrister, the party is said to have been briefed, and the case from then on is in the hands of the barrister In the United States, since the attorney serves both of the above functions, the brief is used as an abridged statement for the court and the counsel of the other party The trial brief should contain the names of the parties and the pertinent facts concerning them, the pleadings in concise form, a chronological statement of facts, a summary of the questions in issue and the evidence regarding them An appeal brief contains a statement of the legal points appealed and a summary of the argument on these points, together with the authorities and cases relied on. A brief on appeal is usually printed and furnished to the court and opposing counsel A brief of title is the same as an ABSTRACT OF TITLE

Brieg (brĕk) or **Brzeg** (bzhĕk), city (pop. 7,744, 1939 pop. 31,419), Lower Silesia, a trade center on the Oder In 1945 it was transferred to Polish administration (see SILESIA) Chartered in 1250, Brieg was (1311–1675) the seat of a principality under a branch of the PIAST family The castle (13th cent , rebuilt 16th cent), the Renaissance town hall, and a church (13th–14th cent) were damaged in the Second World War

Brienne, Étienne Charles Loménie de: see LOMÉNIE DE BRIENNE, ÉTIENNE CHARLES

Brienz (brēnts'), village (pop 2,637), Bern canton, Switzerland, on the northeast shore of the Lake of Brienz It is a center of the Swiss woodcarving industry

brier or **briar,** name sometimes given any thorny plant, more specifically the SWEETBRIER and the greenbrier (see SMILAX) French brier or briarroot is a name for the root of the European white heath (*Erica arborea*), used for making brier pipes See also SAINT-CLAUDE

Brieux, Eugène (ûzhĕn' brēû'), 1858–1932, French dramatist His first great success was the comedy *Blanchette* (1892) He also wrote plays on family life and on political or social themes *La Robe rouge* (1900, Eng tr , *The Red Robe*), *Maternité* (1903), and *L'Avocat* (1922, Eng tr , *The Accused*) are among those produced in English *Les Avariés* (1901) created a sensation in New York as *Damaged Goods*, it was novelized by Upton Sinclair Brieux was elected to the French Academy See P V Thomas, *The Plays of Eugène Brieux* (1913)

Briey (brēā'), town (pop 2,539), Meurthe-et-Moselle dept , NE France, N of Nancy It is at the center of the huge Briey iron-ore basin (see LORRAINE)

Brig (brĭk), Fr *Brigue* (brēg), town (pop 3,278), Valais canton, Switzerland, at the north entrance to the Simplon Tunnel It is a junction of the SIMPLON, LÖTSCHBERG, and FURKA rail lines

brig, two-masted sailing vessel, square-rigged on both masts Brigs have been used in the past for coastal trade in most parts of the world They vary in length between 100 and 115 ft , with tonnages up to 350 A brigantine is somewhat smaller and is a two-masted vessel, square-rigged on the foremast and with a fore-and-aft mainsail and a square topsail on the mainmast A hermaphrodite brig is similar to the brigantine except that she carries fore-and-aft sails only on the mainmast, having no topsail

Briga : see BRIOUF AND TENDE

brigandage (brĭ'gəndĭj), robbery, blackmail, kidnaping, and plundering committed by armed bands Laxity in administration, social and political demoralization, economic or political oppression, and racial or religious antagonisms may give rise to brigandage, especially if the terrain of the district provides suitable hiding places for the bandits Inhabitants of an invaded state sometimes resort to brigandage, and those held under intolerable economic subjection adopt it as a means of retaliation In such societal conditions, the bandit is protected by a sympathetic public opinion, and, like Robin Hood, may become a popular hero, the symbol of resistance to tyranny Brigandage then becomes a mixture of violent spoliation and patriotism or altruism Brigandage more frequently flourishes during the disintegration of a state (as the decline of the Roman Empire), at the conclusion of a social era (as among the robber barons at the end of the feudal ages), after a great war, in the early stages of frontier settlement (as in early California and in the Australian bush), or on national borderlands (as in the Scotch border) When a strong, centralized authority develops, when a disciplined constabulary is organized, or when public disapproval of brigandage becomes manifest, it disappears The brigand leader, in a chaotic society, may extend his jurisdiction over a wide area, and although his end is entirely selfish, he can contribute to the social well-being by establishing a recognized authority He is more often, however, a simple bandit, pursued by the state until captured and executed The lawless lives of brigands and highwaymen have always held much interest for the law-abiding Legends of gallantry and heroism have gathered about many brigands, especially those who were the victims of social or political oppression, who were rebels rather than bandits Ballads and folk tales have grown about many leaders, and the names of brigands are known to all Dick Turpin, the highwayman, Hereward the Wake; Robin Hood, Stenka Razin, the Cossack; Fra Diavolo of Italy, and Jesse James of the United States

Briggs, Charles Augustus, 1841–1913, American clergyman, theologian, and educator, b New York city, studied at the Univ of Virginia, Union Theological Seminary, and the Univ of Berlin From 1875 until his death he was a member of the faculty of Union Theological Seminary, serving as professor of Hebrew and the cognate languages until 1890, when he was appointed to the chair of biblical theology The address on the authority of Holy Scripture which he gave at that time caused his trial for heresy (1892) before the New York presbytery Although acquitted, Dr. Briggs was suspended (1893) from the Presbyterian ministry by the General Assembly; thereupon Union Theolog-

ical Seminary severed its relations with the Assembly. He later entered the Episcopal ministry Among his many books are *A Critical and Exegetical Commentary on the Book of Psalms* (2 vols , 1906) and *Hebrew and English Lexicon of the Old Testament* (with Francis Brown and S. R Driver, completed 1906)

Briggs, Clare A, 1875–1930, American cartoonist, b Reedsburg, Wis , studied at the Univ of Nebraska He won a national reputation with his contributions (1907–14) to the Chicago *Tribune* From 1914 until his death his cartoons appeared in the New York *Tribune* syndicate Among his best-known creations are "When a Feller Needs a Friend," "Ain't It a Grand and Glorious Feeling," "Somebody Is Always Taking the Joy Out of Life," "In the Days of Real Sport," and "That Guiltiest Feeling " His drawings are characterized by a simplicity of style and inoffensive humor and drollery that have been widely imitated

Briggs, Henry, 1561–1630, English mathematician He was the first professor of geometry at Gresham College, London (1596–1619), and Savilian professor of astronomy at Oxford (from 1619) After publication of Napier's work on logarithms in 1614, he suggested that the logarithms be tabulated to the base 10, and Napier agreed to the alteration Briggs wrote *Arithmetica logarithmica* (1624), a work containing logarithmic tables for 30,000 natural numbers to 14 places His logarithms are known today as common logarithms

Briggs, Le Baron Russell, 1855–1934, American educator, b Salem, Mass , grad Harvard, 1875 As a teacher at Harvard he developed, with Barrett Wendell, a prescribed and widely imitated freshman English course A number of able contemporary writers were influenced by his graduate course in creative writing He became professor of English in 1890 and of rhetoric and oratory in 1904 In 1891 he was appointed dean of the college and from 1903 to 1923 served as president of Radcliffe His works include *School, College, and Character* (1901), *Routine and Ideals* (1904), *Girls and Education* (1911), and *Men, Women, and Colleges* (1925) See R W Brown, *Dean Briggs* (1926)

Briggs, Lyman James, 1874–, American physicist, b Assyria, Mich , grad Michigan State College, 1893 He joined the Dept of Agriculture in 1896, serving the Bureau of Soils (until 1906) and the Bureau of Plant Industry (1904–6, 1912–20) From 1917 he was affiliated with the Bureau of Standards, as its director from 1933 to 1945 He has done special work in soil analysis and in aerodynamics and has studied the properties of liquids under negative pressures

Briggsville, Mass see Clarksburg

Brigham, Albert Perry, 1855–1932, American geographer, b Perry, N Y , M A Colgate Univ , 1882 After ten years in the Baptist ministry (1882–91) he became professor of geology at Colgate He published many articles and textbooks—*Geographic Influences in American History* (1903), a book which widely influenced history students and scholars, *From Trail to Railway through the Appalachians* (1907), and *Cape Cod and the Old Colony* (1920)

Brigham or **Brigham City,** city (pop 5,641), co seat of Box Elder co , N Utah, N of Ogden It was founded as Box Elder in 1851, and the name was changed to honor Brigham Young in 1856 Peach culture, begun in 1855, is the pride of the irrigated region, which is now served by the Ogden river project

Brigham Young University, at Provo, Utah, Latter-Day Saints, coeducational, opened as an academy 1875, chartered 1896, renamed 1903 It has colleges of applied science, arts and sciences, commerce, education, and fine arts, a research division, and a summer school on Mt Timpanogos

Brighouse, municipal borough (1931 pop 19,756, 1947 estimated pop 30,670), West Riding of Yorkshire, England, N of Huddersfield It is a center of woolen, cotton, and silk milling and produces carpets, leather goods, machinery, dyes, soap, and other products Stone quarries are near by

Bright, Sir Charles Tilston, 1832–88, English engineer In 1853 he laid the first cable between Ireland and Scotland, and in 1858 the first between Ireland and Newfoundland, he laid other cables in the Mediterranean and the Persian Gulf and in the West Indies He was knighted in 1858

Bright, John, 1811–89, English statesman and distinguished parliamentary orator, b Rochdale, Lancashire, son of a Quaker cotton miller He and Richard Cobden were the greatest 19th-century champions of the middle class Generally liberal, humanitarian, and antiaristocratic, Bright had a laissez-faire philosophy and opposed regulation of working hours, public support of education, and, above all, the corn laws His policies were doubtless affected by his proprietorship of a cotton mill, but he nevertheless favored the North in the American Civil War. Entering Parliament in 1843, he became a leading figure there He never held the highest offices but was president of the Board of Trade (1868–70) and chancellor of the duchy of Lancaster (1880–82) Believing peace necessary for prosperity, he incurred unpopularity by opposing the Crimean War and later (1882) resigned as chancellor of the duchy because he disapproved the bombardment of Alexandria (see Egypt) He considered free trade the best aid to peace His greatest service was his fight for repeal of the corn laws in the Anti-Corn-Law League and in Parliament He was a major force in the struggles for parliamentary reform (1860–68), for disestablishment of the Church of Ireland (1869), and for Irish land reform, though he opposed Irish Home Rule See his speeches (ed by J E Thorold Rogers, 2 vols , 1868) and public addresses (also ed by Rogers, 1879) and his diaries (ed by R A J Walling, 1930), biographies by G M Trevelyan (2d ed , 1925), M E Hirst (1945), and A S Turberville (1948), J T Mills, *John Bright and the Quakers* (2 vols , 1935)

Bright, Richard, 1789–1858, English physician In London he was the leading consultant of his time, and he contributed many important clinical observations He was the author of the significant *Report of Medical Cases* (Vol I, 1827) This contained his description of certain forms of nephritis or kidney disease known generally as Bright's disease and of dropsy resulting from kidney disease as distinct from cardiac dropsy

Bright Eyes see La Flesche, Susette

Brighton (brī'tun), municipality (pop 39,789), Victoria, Australia, SSE of Melbourne and on Port Phillip Bay It is a resort

Brighton, village (pop 1,651), S Ont , NE of Toronto and on the Murray Canal leading from the Bay of Quinte to Lake Ontario

Brighton, county borough (1931 pop 147,427, 1947 estimated pop 154,600), Sussex East, England, on the English Channel and S of London, backed by the South Downs Until c 1750 it was a small fishing village called Brighthelmstone It became a fashionable resort, patronized by the prince of Wales (later George IV), who built the Royal Pavilion This was bought by the town in 1850 The promenade along the sea front, West Pier, Palace Pier, the Dome (formerly the royal stables, now an assembly room), and the aquarium are notable features Chiefly a resort, the borough manufactures shoes, biscuits, electrical appliances, asbestos, and flour Hove is a suburb See Osbert Sitwell and Margaret Barton, *Brighton* (1935)

Brighton **1** Town (pop 1,377), central Ala , near Bessemer **2** City (pop 4,029), co seat of Adams co , N central Colo , N of Denver, inc 1887 It is a shipping and processing center in a rich farm area and has a beet-sugar plant **3** City (pop 1,353), S Mich , between Detroit and Lansing, in a farm and resort area, settled 1832, inc as a village 1867, as a city 1928 **4** Town (pop 1,754), NE Vt , a scenic region SE of Newport, chartered 1781, settled 1820, organized 1832 Island Pond is its center

Bright's disease, name applied to various forms of nephritis, both acute and chronic, described by Richard Bright (1827) Albumin is found in the urine, and sometimes blood and casts are present, edema or dropsy and hypertension are also among the symptoms characteristic of the disease There are a number of causes of the disease—some forms are produced by bacteria and other microorganisms (or by their toxins), e g , those causing scarlet fever, tuberculosis, and certain respiratory infections See W R Ohler, *The Truth about Bright's Disease* (1936), H A Christian, *Bright's Disease* (1948)

Brightwaters, village (pop 1,562), on the south shore of Long Island, SE N Y , near Bay Shore, laid out 1907, inc 1916

Brigid, Saint. see Bridget, Saint

Brigue and Tende (brēg, tād), Ital *Briga* and *Tenda*, two small districts (202 sq mi , 1936 pop 4,274), Alpes-Maritimes dept , SE France, on the French-Italian border They were ceded to France by Italy in the Treaty of Paris of 1947, along with several smaller frontier areas in the Mont Cenis and Mont Blanc regions Brigue and Tende are largely French-speaking The 1947 frontier crosses the strategic Col de Tende, a pass connecting Piedmont with the French Riviera

Brill or **Bril,** two Flemish painters and engravers, brothers **Mattys Brill** (mä'tĭs), 1550–83, early went to Rome and was employed by Gregory XIII in painting landscapes in fresco for the Vatican **Paul Brill,** 1554–1626, who studied in Rome with his brother, succeeded Mattys in the Vatican Paul became one of the finest Flemish landscape painters of his period, and his influence on the development of landscape painting was important He executed numerous works in oil and fresco in various Roman churches His colossal *Martyrdom of St. Clement* (Vatican) is among the most famous

Brill, Abraham Arden, 1874–1948, American psychiatrist, b Austria, grad New York Univ , 1901, M D Columbia, 1903 He came to the United States alone at the age of 13 After studies with C. G Jung in Switzerland, he returned to the United States in 1908 to become one of the earliest and most active exponents of psychoanalysis, being the first to translate most of the major works of Freud, as well as books by Jung He taught at New York Univ and Columbia, was a practicing psychoanalyst, and wrote *Psychoanalysis Its Theories and Practical Application* (1912) and *Fundamental Conceptions of Psychoanalysis* (1921)

Brill, Nathan Edwin, 1860–1925, American physician, b New York city, M D New York Univ , 1880 He was associated with Mt Sinai Hospital, New York, from 1893 and was professor at Columbia from 1910 Brill's disease, later identified as a mild type of typhus fever, owes its name to the fact that he first described it so clearly as to render it easily distinguishable

Brillat-Savarin, Anthelme (ätĕlm' brĕya'-savarĕ'), 1755–1826, French lawyer, economist, and gastronomist, famous for his witty treatise on the art of dining, *La Physiologie du goût* (1825) It has been frequently republished and was translated into English as *The Physiology of Taste* (1925, revised 1948) An émigré during the Reign of Terror, Brillat-Savarin spent some time in the United States

Brilliant, village (pop 1,683), E Ohio, on the Ohio river and S of Steubenville

Brillion (brĭl'yun), city (pop 1,200), E Wis , between Appleton and Manitowoc, settled 1850, inc as a village 1885, as a city 1944

Bril's disease see Brill, Nathan Edwin

Brimfield, town (pop 1,012), S Mass , E of Springfield, settled c 1706, inc 1731

Brinckle, William Draper (brĭng'klē), 1768–1862, American pomologist and physician, originator of many varieties of fruits He was one of the founders of the American Pomological Society

Brindaban (brĭn"dubŭn'), **Bindraban** (bĭn"drubŭn'), or **Bindrabund** (bĭn"drubŭnd'), town (pop 20,718), W central United Provs , India Legends about the youth of the Hindu god Krishna center about the town There are about 1,000 shrines, chiefly dating from the 16th cent , notably the elegant Red Temple of Krishna

Brindisi (brĭn'dēzē, brĭndē'zē, Ital brēn'dēzē), Latin *Brundisium*, city (pop 35,984), capital of Brindisi prov , Apulia, S Italy An Adriatic port, it has been noted since ancient times for its traffic with the Levant Its excellent harbor was a Roman naval station, a chief embarkation point for the Crusaders, and an important Italian naval base in the First World War One of the two columns marking the terminus of the Appian Way is still standing There are two Romanesque churches, a fine cloister, and a castle built by Emperor Frederick II Vergil died here

Brindley, James, 1716–72, self-taught English engineer, noted as a canal builder. His first canal (1759), built for the duke of Bridgewater, from Worsley to Manchester and later extended to Runcorn, was carried over the Irwell river by a fixed aqueduct, the first of its kind Among many others of his design was the Grand Trunk Canal connecting the Trent and Mersey rivers

Brinkley, city (pop 3,409), E Ark , near the White River, laid out c 1872 It is a cotton and lumbering center

Brinton, Daniel Garrison, 1837–99, American anthropologist, b Thornbury, Pa At the age of 50 he retired from medical practice to devote himself to anthropology He was already established as an authority on the American Indian His *Myths of the New World* (1868) asserted his opposition to the diffusion theory *The American Race* (1891) was the first comprehensive attempt at a systematic classification of the American Indian He was editor and compiler of the six-volume *Library of Aboriginal American Literature* (1882–85), which contains the celebrated *Chronicles of the Mayas* He made many significant contributions to American archaeology, linguistics, and the study of primitive religions From 1886 until his death he was professor of American archaeology and linguistics at the Univ of Pennsylvania.

Brinvilliers, Marie Madeleine d'Aubray, marquise de. see Poison Affair

Brion, Admiral de see Chabot, Philippe de

Brioscо, Andrea (ändrā'ä brōs'kō), 1470'–1532, Italian architect and sculptor, known also as Andrea Riccio [curly-headed], b Padua He designed the Church of Santa Giustina in Padua, but his fame rests chiefly on his works in bronze

briquette (brĭkĕt'), fuel made from powdered coal or coal dust, held together in a solid mass by some binding substance, as pitch, and shaped like small bricks (from which it gets its name) or in balls, lumps, or ovate form The coal dust is washed, mixed with the pitch, and molded See also peat

Brisbane, Albert (brĭz'bān), 1809–90, American social theorist and publicist, b Batavia N Y After studying with Charles Fourier in Paris, he returned to America to become an enthusiastic advocate of Fourierism His *Social Destiny of Man* (1840) aroused widespread interest, especially that of Horace Greeley, who gave him a column in the *Tribune* Brisbane was instrumental in the founding of the phalanxes at Brook Farm and Red Bank, N J The failure of most of the other phalanxes was disastrous for the Fourierist cause, but Brisbane reaffirmed his convictions in his *General Introduction to the Social Sciences* (1876) His wife edited and wrote an introduction to his autobiography, published posthumously as *Albert Brisbane a Mental Biography* (1893). Arthur Brisbane

(1864–1936), editor of the New York *Evening Journal* and other Hearst papers, was his son

Brisbane, Sir Thomas Makdougall (brĭz'bŭn, -bān), 1773–1860, British soldier, astronomer, and colonial administrator, b Scotland He is generally remembered for the Australian river and city named for him during his governorship of New South Wales From 1793 to 1814 he served in Flanders, in the West Indies, in the Peninsular War, and in Canada, rising to be a brigadier general As governor of New South Wales (1821–25) he encouraged agriculture, land reclamation, exploration, and immigration, but his poor financial sense necessitated his recall He had built (1822) at Paramatta, near Sydney, an observatory where work was done (1822–26) resulting in the "Brisbane Catalogue" of 7,385 stars Returning to Scotland, he founded an observatory at Makerstoun, where valuable observations on magnetism were started (1841), these were incorporated into three volumes in the transactions of the Royal Society of Edinburgh He was made president of the society in 1833

Brisbane (brĭz'bun), city (pop 21,391, metropolitan pop 402,030), capital of Queensland, Australia, on the Brisbane river above its mouth on Moreton Bay It is the seat of the Univ of Queensland (1909), a national art gallery (1895), and a museum (1871) There are Anglican and Roman Catholic cathedrals Brisbane has steel and textile mills, automobile plants, and railway workshops The principal exports are wool, meat, gold, sugar, and coal The area was settled in 1824 as a penal colony, and the city was named for Sir Thomas Brisbane, governor of New South Wales

Briseis (brĭsē'ĭs), in the ILIAD, daughter of Briseus of Lynnessus She was captured in the Trojan War by ACHILLES, who made her his slave AGAMEMNON, forced to return CHRYSEIS to her father, took Briseis from Achilles instead The "wrath of Achilles" was aroused, and he sulked in his tent This story is a crucial point in the narrative of the *Iliad*

Brissot de Warville, Jacques Pierre (zhăk' pyĕr' brēsō' du vārvēl'), 1754–93, French revolutionist and journalist A lawyer of humble origin, he began his career by writing numerous pamphlets and books His *Théorie des lois criminelles* (1781) was a plea for penal reform The political pamphlets that followed brought about his exile He visited the Netherlands, Switzerland, England, and the United States In 1789 he returned to France and began to edit the *Patriote français*, which later became the organ of the GIRONDISTS (at first called Brissotins) Brissot, feeling that a war would spread the principles of the Revolution abroad, did much to foment trouble with his violent diatribes against monarchs In the Legislative Assembly his great influence on the conduct of foreign affairs was largely responsible for the French declaration of war in 1792 He was interested in humanitarian schemes and founded the abolitionist Société des Amis des Noirs (c 1788) Brissot originated the phrase which Proudhon later made famous, "Property is theft," but he was not consistent in condemning property rights, and his socialism went little further than demands of work for all He admired the American republic, founded the Gallo-American Society, and wrote *Considerations on the Relative Situation of France and the United States* (1788, in English) and *The Commerce of America with Europe* (1794, in English) The Jacobin victory over the Girondists resulted in his execution See Eloise Ellery, *Brissot de Warville* (1915)

Bristol, George Digby, 2d **earl of** see BRISTOL, JOHN DIGBY, 1ST EARL OF

Bristol, John Bunyan, 1826–1909, American landscape painter, b Hillsdale, N Y He painted many scenes of Florida and New England, such as *Afternoon on the St John's River*, *View of Lake Champlain*, and *View of Mt Oxford*

Bristol, John Digby, 1st **earl of,** 1580–1653, English diplomat He spent most of the years 1611–24 at the Spanish court and as ambassador conducted the prolonged negotiations for the marriage of Prince Charles (later CHARLES I) to the Spanish infanta Digby was made earl of Bristol in 1622, but the next year during the visit of Charles and the duke of Buckingham to Madrid, he offended both young men as he tried to perform his official duties The negotiations failed, and Bristol was recalled and confined to his house until he protested before Parliament and was impeached by the king (1626) He was then imprisoned in the Tower without trial until Parliament released him in 1628 Now a parliamentary leader, he was nevertheless a moderate, and as Parliament became more extreme, he became unpopular In 1642 he was committed to the Tower by Parliament He adopted the royalist cause after the outbreak of the civil war and fought at Edgehill Later he opposed continuing the war He died in exile in Paris Of his writings the best known is his *Apology* (1647) His son was **George Digby,** 2d **earl of Bristol,** 1612–77 At first a supporter of the parliamentary party in the civil war, he later fought with some distinction in the royalist forces Afterward he served Louis XIV of France On his return to England after the Restoration, he was ineligible for office because he had been converted to Catholicism. Having served Charles I in exile as secretary of state, he had some influence at court until his attempt to impeach Clarendon for treason failed in 1663 See biography by Dorothea Townshend (1924)

Bristol (-tul), county borough (1931 pop 403,948, 1948 estimated pop 435,000), and city, Gloucestershire, England, on the Avon at the confluence of the Frome and near the mouth of the Severn The city has good shipping facilities, in addition to its own docks, there are others at Avonmouth and Portishead A tunnel under the Severn carries the railroad to Wales Trade with Canada, the United States, the West Indies, and Ireland is extensive The imports include grain, sugar, fruits, oils, tobacco, hides, and cattle The chief manufactures are chemicals, metal castings, fertilizer, flour, paper, biscuits, tiles, and leather goods Airplane factories have existed here since 1910, and the city has given its name to various types of planes In 1838 the *Great Western*, one of the first two transatlantic steamships, was built here Bristol was connected with the colonization of Newfoundland and the voyages of Sebastian and John Cabot, to whom there is a monument on Brandon Hill Bristol's early importance was largely due to commerce with Africa and America—traffic in slaves, manufactured goods, and sugar The Church of St Mary Redcliffe was built in the 13th cent and rebuilt in the 15th There is a cathedral on the site of a 12th-century Augustinian abbey Bristol's schools include the Univ of Bristol (formerly University College), a grammar school of the 16th cent, the George Müller orphanage at Ashley Down, and the technical school of the Merchant Venturers' Association Thomas Chatterton and Robert Southey were born in Bristol, and Macaulay lived here for a time The city was subjected to heavy air raids in 1940 and 1941, resulting in many casualties and considerable damage Temple and Redcliffe, across the Avon, are parts of Bristol, and CLIFTON is a suburb See C M McInnes, *A Gateway of Empire* (1939)

Bristol **1** City (pop 30,167), central Conn, on the Pequabuck and SW of Hartford, settled 1727, inc 1911, coextensive with Bristol town, inc 1785 Clockmaking dates from 1790, also made here are ball bearings, tools, and other metal products **2** Fishing town (pop 1,355), S Maine, a resort near the coast S of Damariscotta, settled c 1626, inc 1765 It includes PEMAQUID and New Harbor Bristol became one of the principal trading posts of the Maine coast It was several times the object of attack by Indians and French in the 17th and 18th cent The naval fight between the *Enterprise* and the *Boxer* took place off Monhegan island near here in 1813 **3** Town (pop 1,632), central N H, on the Pemigewasset and NNW of Concord, in a region of hills, lakes, and streams, inc 1819 See R W Musgrove, *History of the Town of Bristol, New Hampshire* (1904) **4** Industrial borough (pop 11,895), SE Pa, on the Delaware river opposite Burlington, N J, and 20 mi NE of Philadelphia, settled c 1681, laid out 1697, inc 1720 Its manufactures include paper, machinery and textiles Among old houses and churches here is the Friends Meetinghouse, built c 1710 **5** Town (pop 11,159), co seat of Bristol co, E R I, on Narragansett Bay SE of Providence, inc 1681 Mt Hope Bridge connects the town with Portsmouth Originally in Plymouth Colony, it passed to Rhode Island in 1746 A monument near Mt Hope marks the place where King Philip fell, and there is a museum of Indian relics Bristol Harbor is used for yachts and coastwise fishing boats, the famous Herreshoff boat works were established in 1863 There is also a large worsted mill The town still has pre-Revolutionary buildings, including the Bosworth house (1680) Lafayette stayed at the Reynolds house in 1778 The 1938 hurricane caused heavy damage in Bristol See W H Munro, *History of Bristol* (1880) and *Tales of an Old Seaport* (1917) **6** City (pop in Tenn, 14,004, in Va, 9,768) on the Tenn-Va line, in the mountains, settled 1749 as Sapling Grove, inc as towns (Va town as Goodson, Tenn town as Bristol) 1856, as Bristol city 1890 Today the two cities, which are separate municipalities but economically a unit, are a rail and industrial center in a timber, farm, coal, and iron region Textiles are among Bristol's varied manufactures King College and two junior colleges for women (Virginia Intermont and Sullins) are here **7** Town (pop 1,939), W Vt, in the Green Mts, NNE of Middlebury and crossed by the New Haven river, chartered 1762, permanently settled 1786 Middlebury College's summer school of German is held here **8** City on the Va-Tenn border see BRISTOL **6**

Bristol Avon see AVON **1**, river, England

Bristol Channel, inlet of the Atlantic separating Wales and SW England, stretching 85 mi from its beginning eastward to the mouth of the Severn, where Cardiff, Wales, is on one side and Weston-super-Mare, Somerset, England, on the other It is 43 mi wide between St Ann's Head, Pembrokeshire, and Hartland Point, Devonshire Its chief bays are (in Wales) Milford Haven, Caermarthen, and Swansea and (in England) Barnstaple and Bridgwater Besides the Severn, the channel receives the Taff, Tawe, Towy, and Parrett rivers Pembroke, Swansea, Cardiff, Ilfracombe, Barnstaple, and Bideford are the chief cities on the channel, and it is the approach to Newport, Bristol, and Gloucester via the Severn

Bristow, Benjamin Helm (brĭ'stō), 1832–96, American cabinet officer, b Elkton, Ky, grad Jefferson (now Washington and Jefferson) College, 1851 He was admitted (1853) to the Kentucky bar Bristow, a Union officer in the Civil War, was a state senator (1863–65), U S attorney for the Kentucky district (1866–70), and the first U S Solicitor General (1870–72) In June, 1874, President Grant appointed him Secretary of the Treasury He thoroughly reorganized the department after the scandalous administration of William A RICHARDSON and strengthened his growing reputation by a courageous and successful prosecution of the powerful WHISKY RING However, he incurred Grant's hostility and was virtually forced to resign in June, 1876 There was a strong movement in the Republican party to run Bristow for President in 1876, but the nomination ultimately went to Rutherford B Hayes Removing to New York city in 1878, he spent the remainder of his life as a distinguished and successful lawyer

Bristow, George Frederick, 1825–98, American composer and violinist, b Brooklyn, N Y He played the violin (1842–80) in the New York Philharmonic Orchestra and conducted the Harmonic Society from 1851 to 1862 His opera, *Rip van Winkle* (New York, 1855), based on Washington Irving's story, was the second American opera publicly performed He championed native composers

Bristow, city (pop 6,050), E central Okla, SW of Tulsa, in an oil and gas region, settled c 1898

Britain, conventional name applied to Great Britain of the period before the Germanic invasions in the 5th and 6th cent After that time the island is said to consist of ENGLAND, WALES, and SCOTLAND Successive waves of migration or invasion in the history of the island were conditioned by its geography In the north and the west are mountains, heavily wooded and with a damp, cool climate The west and south, in contrast, are relatively low, with fertile plateaus and river valleys, with less rainfall, more sun, and greater productivity despite the large woodland areas Lying close to Europe, the lowland plain is easy of access, and harbors on the east and south are inviting The movements of British history have been largely from south and east to north and west Information about Britain before the Roman invasions is drawn from deductions from classical writers (especially Julius CAESAR), from linguistic facts, and from archaeological discoveries Remains of a megalithic culture (perhaps brought by Iberians) exist in dolmens and barrows and in the later stone circles at Stonehenge and Avebury By the time the Romans arrived in Britain (55 B C) all the British tribes were Celtic, Celtic invasions from the Continent are thus presupposed The pre-Celtic aborigines left no trace of their language, and little is known of their civilization The Picts in the north may have been Celtic or pre-Celtic Possibly the aborigines mined tin in Cornwall and used jet and gold in their ornaments The date of the introduction of Celtic language cannot be determined At any rate, at some time before the 6th cent B C the invading Celts brought to the prevailing British Bronze Age settlements an Iron Age culture similar to that of the Hallstatt culture and settled in the southeast In the southwest, an Iron Age culture of the later, La Tène type was established by traders from Brittany, and it prevailed in Wales and north into the highlands Another wave of invaders from France conquered and left examples of their beautiful La Tène art in the East Riding of Yorkshire and north into what is now E Scotland The relations of island and Continent were close, trading was brisk between them, and the tribal organization in Britain had many of the features of that of the Celts in Gaul, including the priests of their common religion, the DRUIDS The last important invasion by continental Celts was by the Belgae from Gaul c 75 B C They brought with them the deep plow, which turned the earth rather than scratching it, and the practice of coining money Their settlements were in E Kent and around the mouth of the Thames So close were their relations with Gaul that Julius Caesar undertook his conquest of Britain to prevent the Britons from sending troops against him and providing a haven for his enemies He landed briefly in 55 B C and tried to conquer Britain in 54 B C, but it was a century before Rome took a real interest in Britain In A D 43 the Emperor CLAUDIUS led an army into Britain and, dividing his legions, subdued the country S of York and E of Wales The three generals of the 1st cent in Roman Britain were able men—Aulus Plautius, Suetonius PAULINUS, and AGRICOLA By A D 85 Rome was mistress of Britain S of the Clyde A significant example of the native attitude toward Rome may be seen in the rising led by BOADICEA A revolt of the northern British, who drove the Romans S of the Humber, brought Em-

peror HADRIAN in 122. He subdued the island and erected a northern frontier, HADRIAN'S WALL. The Wall of ANTONINUS, erected farther north at the orders of ANTONINUS PIUS in 142, was not the boundary for long—by 200 the Romans had been driven S of Hadrian's Wall, and after that they confined themselves to strengthening and holding that rampart. The fact that the unity of the Roman Empire was showing strains and weaknesses thus already affected Britain, for the defeat of the Romans in the north was caused by Claudius Albinus's bid for power against SEVERUS. Albinus withdrew much of the garrison of the wall to fight for him on the Continent. Severus himself came to Britain after the wall was rebuilt and harried the Scots and Picts north of it. The heyday of Roman civilization in Britain was the 1st half of the 3d cent., the northern frontier was best defended, the raids from the east had not begun, and the Continent still enjoyed the Pax Romana. Britain was divided into two (later more) provinces, each well garrisoned. There were several important cities, among them Londinium (London), Calleva Atrebatum (Silchester), Venta Belgarum (Winchester), Eboracum (York), Camulodunum (Colchester), Deva (Chester), and Venta Silurum (Caerwent). The gridiron plan of the towns and the architecture of the public buildings show evidence of Roman engineers and architects. The ROMAN ROADS in Britain were primarily military and seem to have radiated from London, a trade center and possibly the provincial center of government, to other cities and to legionary forts (see ERMINE STREET, FOSSE WAY, and WATLING STREET). The older, less direct roads (see ICKNIELD WAY) continued in use too. In the country were some villas owned by persons of wealth—both Romans and Britons—who farmed their land with slave labor and leased holdings to tenants. The language of the towns and of the wealthy was probably Latin. The Romans brought their worship of their pagan gods with them, but did not oppose—in fact, adopted—the worship of some of the local Celtic deities as well. Christianity was early at home in Britain, and it was a Briton, Pelagius, who in Rome late in this period gave his name to a major Christian heresy. Manichaeism was also a popular minority religion in Britain as elsewhere in the empire. In 286 or 287 a subordinate of Emperor Diocletian, CARAUSIUS, set himself up as emperor of Britain, and it was not until 296 that Diocletian's official, Constantius, restored Roman rule. He had once more to rebuild Hadrian's Wall, and he reorganized Agricola's defenses in the west against the Irish. Fully as important, against the menace of Frankish and Saxon pirates he built forts along the so-called Saxon Shore, the southeast coast from the Wash to the Isle of Wight. This Constantius was the father of the emperor Constantine I, who was in Britain with his father and who is said to have had a British mother. After Constantine's death in 337 the northern barbarians made repeated raids, until in 368 there was a three-sided invasion concerted by them with the Saxons and Irish, of serious proportions. Valentinian sent Theodosius, who rebuilt Hadrian's Wall for the last time and pacified Britain, though he found serious infiltrations of new barbarian settlements in Britain and some disaffection among peasants and the natives who were Roman soldiers. By 383 the wall was overrun again, and the raids continued. (In an early 5th-century Irish raid St PATRICK was carried off.) But the officials of Rome and the comparatively few Roman residents were powerless to defend Britain much longer, and the traditional view is that c 410 Honorius told the Romano-Britons to rule themselves. Presumably both Romans and Britons regarded this as a temporary state, and the civil and military Romano-British organizations carried on. A Roman reoccupation may have taken place between 417 and c 429. A final appeal from Britain in 446 to Aetius for aid was refused. The end of Roman occupation meant the withdrawal of officials, but the Romanized Britons remained. As the system inherited from Rome gradually broke down, warring tribal kings such as VORTIGERN took over. A period of prosperity followed, but the barbarian and Celtic influences came to the fore. The Saxon raiders were more numerous, and by the end of the 5th cent. ANGLO-SAXONS and JUTES were not only raiding but also settling in Britain (see ENGLAND). Conflicts were inevitable, and sometime before the end of the 6th cent. many Roman towns and villas were deserted, though they give no evidence of violence. Arthur of Britain may historically have been a leader of armed resistance to the invaders. In the meanwhile the Christianization of the Scots and Picts was pushed in the 5th cent. by St Ninian, the Irish were converted by St Patrick, and the Welsh had St Illud, teacher of St David. As Christianity increased in the west and north, the pressure of invaders from those directions lessened. Also in the 5th cent.—and for some obscure reason—Britons migrated in considerable numbers to Brittany. Although the Romanization of S Britain seemed to disappear before the reviving tribal Celtic culture and though Britain was cut off from contact with Rome for nearly two centuries by the Germanic invasions, a residue of Roman influence remained in place names, in architectural ruins, and in the incalculable force of tradition. See F J Haverfield, *Roman Occupation of Britain* (1923) and *Romanization of Roman Britain* (1924), R E M Wheeler, *Prehistoric and Roman Wales* (1925), R G Collingwood, *Roman Britain* (rev ed., 1934), R G Collingwood and J N L Myres, *Roman Britain and the English Settlements* (2d ed., 1937), Sir C F Fox, *The Personality of Britain* (4th ed., 1943), Jacquetta Hawkes and Christopher Hawkes, *Prehistoric Britain* (1947), H. M. Chadwick, *Early Scotland* (1949).

britannia metal, silvery-white alloy of tin with antimony and copper, sometimes also with bismuth, lead, and zinc. It is very similar in appearance to, but is harder than, pewter. It is used widely for the manufacture of table utensils—spoons, forks, dishes, and pitchers.

Britannicus (Claudius Tiberius Germanicus Britannicus) (britā'nĭkus), A D 41?–A D 55, Roman prince, son of CLAUDIUS and MESSALINA, so called in honor of Claudius' conquests in Britain. After Claudius' marriage with AGRIPPINA, mother of NERO, Britannicus was set aside as heir in favor of Nero, after whose accession Britannicus was apparently poisoned. The death of Britannicus is the subject of Racine's drama *Britannicus*.

British Cameroons: see NIGERIA and CAMEROONS.

British Columbia, province (359,279 sq. mi., with water surface 366,255 sq. mi., 1941 pop. 817,861, 1948 estimated pop. 1,082,000), W Canada. Victoria is the capital, Vancouver is the largest city and chief port. Other centers include New Westminster, Trail, North Vancouver, Prince Rupert, Nanaimo, Kamloops, and Nelson. Westernmost province of Canada, British Columbia is bounded on the east by Alberta, on the south by Montana, Idaho, and Washington, on the west by the Pacific, on the northwest by Alaska, and on the north by the Yukon and the Mackenzie dist., Northwest Territories. Off its deeply indented Pacific coast lie many islands, notably Vancouver Island and the Queen Charlotte Islands. The province is almost wholly mountainous, the Rockies, which in the southeast form the boundary with Alberta, stretch through N British Columbia, and ranges and detached mountain groups in almost parallel array, rear their heights westward to the Coast Mts. along the Pacific. Chief of the many rivers which cut valleys through the mountains is the Fraser, which with its tributaries drains much of central and S British Columbia in its course to the Pacific. In this region also are the upper Columbia, the Kootenay, and other rivers. In the north the Peace, after racing through a mountain canyon, flows eastward through fertile, rolling prairies, while the Stikine, the Nass, the Skeena, and others wind westward to the Pacific. Innumerable long, narrow lakes lie all through the interior, among them Babine, Stuart, and François in the north, Quesnel in central British Columbia, and Kootenay, the Arrow Lakes, and Okanagan in the south. Large areas of central and N British Columbia are little settled, except for mining and logging camps and for farm centers in the wheat-and-cattle country of the Peace. Fur trapping is still carried on. A portion of the Alaska Highway cuts across NE British Columbia. The population of the province is largely concentrated in the south and on Vancouver Island. Farm country, some of it under irrigation, yields apples and other tree fruits, strawberries, raspberries, and other products. Dairying is also carried on. Lumbering is a major industry of British Columbia. Mining of the extensive mineral deposits—coal, copper, lead, zinc, gold, silver, wolfram, and some uranium—and fishing (salmon and herring especially) rank high in the provincial economy. Other industries include shipbuilding, woodworking, food processing, and metal smelting. Attracted by the favorable climate and by the expansion of industry during the Second World War, many newcomers settled in the province in the 1940s. With four Canadian national parks—Glacier, Mt. Revelstoke, Yoho, and Kootenay—and with some 50 provincial parks, British Columbia is host to thousands of tourists. The scenic wonders have not been known to white men for long. Late in the 18th cent., alarmed by the presence of Russian fur traders in Alaska, Spain dispatched (1774) an expedition under Juan Pérez, who sailed along the coast but did not make a landing, in 1775 the Hezeta and Quadra expedition was sent to the coast. In 1778 Capt. James Cook, under commission by England to search for the Northwest Passage, was at NOOTKA SOUND, where later (1788) John Meares, one of the earliest English fur traders on the Northwest coast, established a post. Meares fell into difficulties with the Spanish, who were attempting to make a settlement at Nootka Sound. This led to trouble between Spain and England, resolved by the Nootka Convention in 1790, and the way was opened for the British, who sent George Vancouver to Nootka. From 1792 to 1794 he explored and surveyed along the coast. In 1793 Sir Alexander MACKENZIE made his way through British Columbia on his epoch-making journey across the continent, to be followed early in the 19th cent. by other fur traders and explorers of the North West Company who crossed the mountains and established posts in the transmontane region they called New Caledonia. Chief among them were Simon Fraser, who founded Fort McLeod in 1905, and David Thompson. After the union (1821) of the Hudson's Bay and North West companies, the region became a preserve of the great company and was under the rule of the redoubtable John McLoughlin. From 1835 to 1844 Peter Skene OGDEN headed the fur trade in New Caledonia. In 1843 Victoria was founded, and in 1849 Vancouver Island was ceded by the Hudson's Bay Company and became a crown colony, of which Sir James DOUGLAS became governor in 1851. In 1858 he also became governor of the newly created colony of British Columbia on the mainland, and the supremacy of the Hudson's Bay Company was ended. The discovery of gold brought the great gold rushes—to the Fraser and Thompson rivers in 1858 and a little later to the Cariboo region—and a rather turbulent population. The miners pushed northward. The territory about the Stikine was made a separate political division in 1862 but in 1863 was added to British Columbia. From 1864 to 1866 Vancouver Island and British Columbia had separate governments, in 1866 they were combined, and in 1871 British Columbia became a province of the dominion of Canada. Delay in fulfilling a promise made by the dominion government to link British Columbia to E Canada by a transcontinental railroad created disaffection but the secession movement failed, and in 1885 the Canadian Pacific Railway reached Vancouver. A new gold rush came to the Kootenay country in 1887, and later there were strikes in the far north. British Columbia has been involved in several troubles between Great Britain and the United States and between Canada and the United States, notably the Oregon question (see OREGON), the SAN JUAN BOUNDARY DISPUTE, the controversy over the Bering Sea fur-seal fisheries, and the Alaska boundary dispute. The region attracted many Oriental immigrants, and friction resulted. Opposition to the Orientals—Chinese, East Indian, and Japanese—caused trouble also with the dominion government, but stoppage of the immigration was achieved, and in the Second World War many Japanese were removed from the province and relocated. Dukhobors also settled in British Columbia, but the newcomers in recent years have been mostly Canadian settlers from the Prairie Provs. The Univ. of British Columbia is at Point Grey, a suburb of Vancouver. See histories of British Columbia by H. H. Bancroft (1887), A. G. Morice (3d ed., 1905), F. W. Howay (1928), and T. A. Rickard (1948), Agnes Laut, *The Cariboo Trail* (1916), W. A. Carrothers, *British Columbia Fisheries* (1941), F. W. Howay and others, *British Columbia and the United States* (1942), Agnes Rothery, *The Ports of British Columbia* (1943).

British Columbia, University of, at Vancouver, provincially supported, coeducational, chartered 1908, opened 1915. It has faculties of agriculture, arts and science (with social work and teacher training), applied science (with engineering, forestry, and nursing), and law. There are botanical gardens, a forest-products laboratory, and an ethnographical museum.

British East Africa, inclusive term for KENYA, UGANDA, NYASALAND, TANGANYIKA, and NORTHERN RHODESIA.

British East India Company. see EAST INDIA COMPANY, BRITISH.

British Empire, at its height in the late 19th and early 20th cent., the greatest empire of the ancient or modern world in area, population, and resources. During the period of discovery in the 15th and 16th cent., England acquired its first colony, Newfoundland, in 1583. The foundations of the empire were not started, however, until the early 17th cent. with the chartering of the EAST INDIA COMPANY and the consequent strife with the Dutch and Portuguese in the East. English settlements were made also in North America and the West Indies. Two forces motivating English expansion then were trade and a desire to settle in new lands. In general the pattern of development was settlement to assert trading rights followed by consolidation of several settlements into a colony by agreements or conquest, the government of the colony to be directed by the colonial office in England with more or less regard for local customs. What seems to be an orderly process occurred more or less fortuitously, for the empire was begun and carried on by individuals and small groups, all developments were slow and were made to suit each local situation, and there were many blunders in the process. In the 17th and 18th cent., England regarded the colonies as designed to provide raw materials and markets according to the theories of MERCANTILISM. English NAVIGATION ACTS implemented these theories. Scattered islands and coaling stations were acquired as necessary links on the ocean routes between England and far possessions, and the navy was strengthened to protect trade and colonies. The English Parliament made laws and imposed taxes enforced by royal governors in the colonies,

while colonial legislatures dealt only with local matters The refusal of the colonists' demands for freedom in government and trade resulted in England's loss of the Thirteen Colonies in the American Revolution The Canadian and Indian provinces conquered from the French in the SEVEN YEARS WAR remained, but it was not until the 19th cent after Lord Durham's report (1839) that the rigid colonial system was substantially changed Meanwhile, in the French Revolutionary and Napoleonic Wars British sea power had been strengthened by such conquests as Ceylon and Malta and the Dutch settlement at the Cape of Good Hope The attitude of men in England toward the colonies was changing in the 19th cent The same movement which resulted in the Reform Bill of 1832 extending the English franchise was reflected in the desire to make the colonies ever more self-governing members of the empire The slave trade was abolished in 1833, and free trade became English policy in 1842–46, giving the colonies freedom to develop economically Indeed, development rather than exploitation was the policy of men who undertook systematic emigration to Australia and New Zealand Canada, the most advanced of the colonies, set the pattern of self-government by taking over direction of Canadian foreign policy in 1859 and became a dominion in 1867 In 1858 the long history of the East India Company ended, and INDIA came to be ruled by Parliament and crown In 1877 Queen Victoria was proclaimed empress of India, and in 1885 BURMA was added, as the other conquests had been, to India In the European race for colonies in the last 20 years of the 19th cent, Great Britain increased British holdings in Africa immensely and gained power in Egypt and acquired Malaya, Borneo, and over 100 islands in the Pacific, and part of New Guinea By the end of the century Great Britain controlled nearly one quarter of the world's population and area Protection of backward peoples and rivalry with other colonial powers complicated the problems of empire New dominions were created from the old colonies—Australia (1907), New Zealand (1907), Newfoundland (1907, joined Canada, 1949), and the Union of South Africa (1910) Through the IMPERIAL CONFERENCE, begun in 1887, this loose association was held together with the United Kingdom and met the test of the First World War successfully In the stress of war Egypt was declared a protectorate, and in the settlement after the war England received mandates over Tanganyika, PALESTINE, and IRAQ (surrendered 1932). Egypt regained independence in 1923, with the British reserving control of the Suez Canal, and dominion status was granted to the Irish Free State in 1921 The organization of the empire was changed officially to the British Commonwealth of Nations in the Statute of Westminster (1931) Actually this measure belatedly recognized the status achieved by the dominions in the war, in the Treaty of Versailles, and in the League of Nations The dominions were recognized as completely independent save for nominal allegiance to the crown In 1937 Burma was separated from India, and Ireland declared its independence from the British commonwealth except in external policy In the Second World War the dominions and the empire (except Ireland) voluntarily fought beside the United Kingdom and later aided Great Britain with loans and trade agreements After the Second World War the long and troubled mandate over Palestine was relinquished in 1948, and in the same year the independent Union of Burma was set up as a republic The dominions of India, Pakistan, and Ceylon were established in 1948, and in 1949 India became a republic within the commonwealth The republic of Ireland dissociated itself from the commonwealth also in 1949 Today the dependencies of the United Kingdom administered through the colonial office are the colonies and protectorates in the Mediterranean—Cyprus, Gibraltar, and Malta, in Africa—Kenya, Tanganyika, Uganda, British Somaliland, Zanzibar, Northern Rhodesia, Nyasaland, Gambia, the Gold Coast, Nigeria, and Sierra Leone, in the Far East—Brunei, Hong Kong, Malaya, North Borneo, Sarawak, and Singapore, in the Indian Ocean—Aden, Mauritius, the Seychelles, and the Maldive Islands, in the Pacific Ocean—the British Solomon Islands, Fiji, the Gilbert and Ellice Islands, Tonga, and Pitcairn Island, in the Atlantic Ocean —Bermuda, the British West Indies, British Guiana, British Honduras, the Falkland Islands, and St Helena No two colonies are ruled by identical governments, for native traditions and institutions have in many places been used as far as possible They are governed by nominees of the government in London, that nominee assisted by a legislative council which is in some cases partially or wholly elected Southern Rhodesia is in a separate category, as a self-governing colony which has virtually attained dominion status, in all but foreign affairs and legislation concerning native affairs Protectorates have a lesser measure of self-government than Southern Rhodesia, they have no authority over foreign affairs and the acts of their governments are subject to veto by the crown. The commonwealth relations office administers three high-commission territories in Africa—Basutoland, Bechuanaland, and Swaziland. The mandates in Tanganyika, Togoland, and the Cameroons in West Africa formed after the First World War were placed under the trusteeship system of the United Nations in 1946, administered by the colonial office Great Britain is joint administrator with Egypt of the Anglo-Egyptian Sudan, with France of the New Hebrides; and with the United States of Canton Island and Enderbury Island The total population of the commonwealth, including all dependencies, is over 500,000,000, in an area of nearly 16 000,000 sq mi The true empire is in the colonial dependencies of the United Kingdom, the commonwealth association being voluntary and seemingly tenuous, but strong See Ramsay Muir, *A Short History of the British Commonwealth* (5th ed , 2 vols , 1934), *Cambridge History of the British Empire*, ed by J H Rose, A P Newton, and E A Benians (Vols I–II, IV–VIII, 1929–41), Basil Williams, *The British Empire* (2d ed , 1944), A B Keith, *The British Commonwealth of Nations* (rev ed , 1944)

British Guiana see GUIANA

British Honduras (hŏndŏō'rus, -dyŏō'-), British crown colony (8,598 sq mi , pop c 62,000), Central America The capital is BELIZE on the Belize river, and the colony is sometimes called Belize It is bounded on the north by MEXICO, on the south and west by Guatemala, and on the east by the Caribbean Generally low, with mangrove swamps on coast and cays, the land rises toward hills and mountains culminating in the Cockscomb Ridge (c 3,700 ft high) Though most of the area is heavily forested, yielding mahogany, cedar, and logwood, there are regions of fertile savannas and barren pine ridges In addition to woods, the chief products are chicle, coconuts, cohune nuts, and citrus fruits Export of bananas no longer flourishes because leaf blight has destroyed the plantations Many short rivers drain the land The people are predominantly Negro, but there are some Maya, some Carib, and Spanish Americans The status of British Honduras today is uncertain Once part of the Maya civilization, it was probably entered by Cortés on his march to Honduras in 1524–25, but the Spanish made no efforts at colonization Instead, British buccaneers began using the cays to prey on Spanish shipping, and the founding of Belize is credited to one of them, Wallace or Wallis, in the early 17th cent A few settlers began exploiting logwood, used to make dyes, and this became the principal early source of wealth Several times Spain contested British claims to sovereignty (though granting logging rights), but abandoned them after defeat in the battle of St George's Cay (1798) With independence in 1821, Guatemala claimed the territory, but signed a treaty in 1859 abrogating its sovereignty in return for adequate communications to be established by Great Britain between Belize and Petén The provisions were not carried out, nor were subsequent treaty changes effective In 1946 the dispute was brought to the attention of the United Nations See Major Sir John A Burdon, *Archives of British Honduras*, Vol I (1931), Ralph Hancock, *The Rainbow Republics* (1947)

British Isles see GREAT BRITAIN AND IRELAND

British Museum, the national repository in London for treasures in literature, science, and art It has departments of manuscripts, of printed books, of antiquities, of prints and drawings, and of coins and medals The museum was established by act of Parliament in 1753, its nuclei being the Cotton collection (see COTTON, SIR ROBERT BRUCE), the HARLEIAN LIBRARY, the Sir Hans SLOANE collections, and the royal library given (1757) by George II The institution was opened (1759) under its present name in Montague House, but the acquisition (1823) of the library of George III necessitated larger quarters, the first wing of the new building was completed in 1829, the quadrangle in 1852, and the great domed reading room in 1857 Other additions were built in 1885–87 and 1906–13 Sir Anthony PANIZZI began the printing of the library's catalogue The book collection is increased partly by the copyright law requiring the deposit of each book printed in the United Kingdom The natural history collection of the museum was transferred (1880–83) to buildings in South Kensington One of the exhibits of the Egyptian department is the basalt slab known as the ROSETTA STONE The Greek treasures include the ELGIN MARBLES In 1935 the Codex Sinaiticus, which had belonged to the tsar, was bought from the Soviet government During the Second World War valuable books and manuscripts were evacuated to a coal mine in Wales See J Penn, *For Readers Only* (1937), Arundell J K Esdaile, *The British Museum Library* (1946)

British New Guinea see PAPUA, TERRITORY OF

British North America Act, the constitution of the dominion of CANADA, sketched at the Quebec Conference of 1864 and finally passed by the British Parliament in 1867, to take effect on July 1 of that year It reverses the principle of the U S Constitution by giving only enumerated powers to the local (provincial) legislatures and the residual powers to the dominion, but its interpretation by the privy council has somewhat nullified this design by giving a very extended scope to the provincial power of "property and civil rights," and a doctrine of "emergency powers" has had to be invented in order to give the dominion the authority needed by a national government in time of war The power of amendment is still nominally vested in the British Parliament, which in practice, however, acts only on the request of the Canadian Parliament No amendments of a controversial character have yet been made The act makes both French and English official languages in Quebec and in the Parliament and courts of the dominion and guarantees separate schools, supported by taxation, for Catholics and non-Catholics in Quebec and some other provinces See W P M Kennedy, *The Constitution of Canada, 1534 to 1937* (2d ed , 1938), E M Dawson, *The Government of Canada* (1947)

British North Borneo see NORTH BORNEO

British Somaliland see SOMALILAND

British South Africa Company see RHODESIA.

British thermal unit (B T U), the unit measurement of heat quantity in the English system, specifically the amount of heat required to raise the temperature of one pound of water at its maximum density one degree Fahrenheit One B T U is approximately equivalent to the following 251 9 calories, 777 9 foot-pounds, 1055 joules, 107 5 kilogram-meters, 0 0002928 kilowatt-hours Fuels are valued according to the quantity of heat energy which they yield upon complete combustion This is commonly measured in B T U For example, a pound of good coal when burned should yield 14,000 to 15,000 B T U , a pound of gasoline or other fuel oil, approximately 19,000 B T U

British Togoland see TOGOLAND

British West Africa, inclusive term for BRITISH CAMEROONS, British TOGOLAND, GAMBIA, GOLD COAST, NIGERIA, and SIERRA LEONE

British West Indies see WEST INDIES

Britt, town (pop 1,813), N Iowa, W of Mason City, in a farm area, inc 1887 Dairy products are made here Britt is near Eagle Lake State Park

Brittany (brĭt'unē), Breton *Breiz* (brā'ĕs), Fr *Bretagne* (brută'nyu), region and former province, NW France, a peninsula between the English Channel on the north and the Bay of Biscay on the south It is now divided into five departments, Ille-et-Vilaine, Côtes-du-Nord, Finistère, Morbihan, and Loire-Inférieure The coast, particularly at the western tip, is an irregular, rocky, and indented line, with natural harbors (particularly Brest, Lorient and Saint-Malo) and numerous islands (particularly Ushant and Belle-Île-en-Mer) In the central section are the gentle hills of Brittany There are many small rivers, in the south, the Loire flows past NANTES (the largest city) to join the Atlantic at SAINT-NAZAIRE (the chief port) RENNES was the provincial capital Fishing, sailing, and agriculture are the main occupations The area, a part of ancient Armorica, was conquered by Julius Caesar in the GALLIC WARS and became part of Lugdunensis (see GAUL) It received its modern name when it was settled (c 500) by Britons whom the Anglo-Saxons had driven from Britain Breton, their Celtic language, is spoken in traditionalist Lower (i e , western) Brittany outside the cities (see BRETON LITERATURE) Breton history is a long struggle for independence—first from the Franks (5th–9th cent), then from the dukes of Normandy and the counts of Anjou (10th–12th cent), and finally from England and France In 1196 ARTHUR I, an ANGEVIN, was definitely acknowledged as duke King John of England, who presumably murdered him (1203), failed to obtain the duchy, which passed to Arthur's brother-in-law, PETER I (Peter Mauclerc) The extinction of his direct line led to the War of the BRETON SUCCESSION (1341–64) In the HUNDRED YEARS WAR, with which this conflict was enmeshed, the Breton generals DU GUESCLIN and CLISSON and, later, Duke ARTHUR III, played a vital part The unsuccessful rebellion of Duke FRANCIS II against the French crown led to the absorption of Brittany into France after the accession of his daughter, ANNE OF BRITTANY King Francis I formally incorporated the duchy into France in 1532 Its provincial PARLEMENT functioned at Rennes Never reconciled to centralized rule, Brittany was one of the early centers of revolt in 1789 However, its staunch Catholicism and conservatism soon transformed it into an antirevolutionary stronghold, the CHOUANS were never fully subdued, and in S Brittany and the neighboring VENDÉE the revolutionists resorted to ruthless reprisals (see NOYADES) Breton nationalism grew in the 19th cent and was fueled by the anticlericalism of the Third Republic The Breton autonomists, long successfully repressed by the French government, nevertheless resisted German bribes in the Second World War Brittany was liberated by U S troops in Aug , 1944, although German troops held out at Lorient and Saint-Nazaire until May, 1945 Brittany—especially the region known as CORNOUAILLE—has retained local traditions and characteristics which have made it attractive to tourists The old fishing ports and villages, the splendid

processions and pilgrimages (e.g., AURAY), and the typical Breton stone calvaries are characteristic. Formerly ascribed to the DRUIDS, many megalithic monuments dot the Breton landscape, notably at CARNAC Much of the action in ARTHURIAN LEGEND takes place in Brittany, notably in the Forest of BROCÉLIANDE See F M Gosling, *Bretons at Home* (1925), A M. Mosher, *Spell of Brittany* (1920), P F Anson, *Mariners of Brittany* (1931).

Britten, Benjamin (Edward Benjamin Britten), 1913–, English composer, grad Royal College of Music, London, 1934 He began to compose while very young, and his *Simple Symphony* (1934) is based on material from early compositions. He is known principally for the choral works *A Boy Was Born* (1934) and *A Ceremony of Carols* (1942), the orchestral *Variations on a Theme of Frank Bridge* (1936), and the operas *Peter Grimes* (London, 1945) and *The Rape of Lucretia* (1946) His *Sinfonia da Requiem* was written during a visit to the United States (1939–43). Several song cycles were composed to poems of W H Auden He has also written music for moving pictures and for the theater, concertos, and chamber music

Britton, John, 1771–1857, English antiquary and topographer The long list of his writings includes biographies, critical works on art and literature, and the descriptions of landscapes and buildings for which he is famous *The Beauties of Wiltshire* (3 vols , 1801-25) was written with E W Brayley The two friends wrote part of *Beauties of England and Wales* (18 vols in 25, 1801–15), but because of difficulties with the publishers, they did not complete the series Britton was influential in the movement to preserve ancient monuments See his *Auto-Biography* (3 parts, 1849–50)

Britton, Nathaniel Lord, 1859–1934, American botanist, grad Columbia School of Mines, 1879 He taught geology and botany at Columbia, 1879–96 He was the New York Botanical Garden's first director and until his retirement in 1929 had a major part in its growth His own contributions, chiefly in the field of tropical botany, include hundreds of thousands of specimens, many of great rarity, gathered on his trips to the tropics His chief works include *An Illustrated Flora of the Northern United States, Canada, and the British Possessions* (with Addison Brown, 1896–98), *Flora of Bermuda* (1918), *The Bahama Flora* (with C F Millspaugh, 1920), and four volumes on cacti (with J N Rose, 1919–23)

Britton. 1 City (pop 2,239), central Okla , near Oklahoma City, inc as a town 1909, as a city 1933 2 City (pop 1,500), co seat of Marshall co , NE S Dak , NE of Aberdeen near the N Dak line It is the center of a rich farming and livestock country

Brive-la-Gaillarde or **Brive** (brēv'-lä-gāyard'), town (pop 30,000), Corrèze dept , S central France, on the Corrèze river, in Limousin It is an ancient place, noted for its many medieval buildings It is an agricultural center

Brixen see BRESSANONE, Italy

Brixham (brĭk'sum), urban district (pop 8,145), Devonshire, England, seaport on Tor Bay SE of Paignton Fishing and coast trade are important A statue commemorates the landing of William of Orange here in 1688 Not far away, on Windmill Hill, is a cave containing bones of animals and flint implements of the Paleolithic period

Brizeux, Auguste (Julien Auguste Pélage Brizeux) (ōgüst' brēzü', zhülyĕ', pälazh'), 1803–58, Breton poet, who wrote in Breton and in French He was an ardent supporter of the Breton literary revival, and his collection of Breton poems, *Telen Arvor* [the harp of Armorica] (1844), was an early contribution to it In French literature he was an admirer of Lamartine, *Marie* (1832) is an idyl of Breton life *Les Bretons* (1845) also is a long poem on Brizeux's countrymen.

Brno (bŭr'nō), Ger *Brünn* (brün), city (pop 273,127), capital of Moravia, Czechoslovakia It has important textile, machinery, and arms industries Brno is the seat of the Czechoslovak supreme court, of Masaryk Univ (founded 1919), and of Benes Technical College Until the First World War it was predominantly German-speaking; after 1945 most Germans were expelled from Czechoslovakia, and Brno is now entirely a Czech city In 1229 King Ottocar I of Bohemia confirmed the ancient charter of Brno, a model of liberal town government These rights were widened by later kings, and Brno flourished in the 13th and 14th cent In the Hussite Wars it sided with the Roman Church The city was besieged (1645) by the Swedes under Torstensson and was the headquarters (1805) of Napoleon I at the battle of near-by Austerlitz In the 19th cent it became one of the foremost manufacturing towns of the Austrian empire The famous fortress on the Spielberg (Czech *Špilberk*), a hill dominating the city, was long a dreaded political prison Frans von der Trenck and Silvio Pellico (who described it in *Le mie prigioni*) were its most celebrated inmates. In the old part of the city, the cathedral (15th cent), the old and the new town halls (Gothic, Renaissance, and baroque), and several fine Gothic and baroque churches, are architecturally interesting. Between the two world wars large modern sections were created, but they suffered greatly during the Second World War

Broach or **Baroach** (both· bŭrōch'), town (pop 55,810), NW Bombay state, India, a port near the Gulf of Cambay It was an important Buddhist center in the 7th cent Under the Rajput dynasty (750–1300) it was the chief port of India Cotton is the main export and textiles the leading manufacture

Broadalbin (brôdăl'bĭn), village (pop 1,399), E central N Y , N of Amsterdam; settled 1770, inc 1924

Broadbent, Sir William Henry (brôd'bĕnt), 1835–1907, English physician, educated at Owens College and Royal School of Medicine, Manchester, and in Paris He is known for his work on paralysis and aphasia and for Broadbent's hypothesis of hemiplegia (paralysis affecting one side of the body) In 1901 he was knighted See his collected papers (1908), biography by his daughter (1909)

broadcasting, the transmission by RADIO of speech and music in programs for the public In the United States it is usually chronicled from 1920 Station WWJ in Detroit began service in August of that year and the Harding-Cox election returns were transmitted by Frank Conrad over 8XK (later KDKA) in Pittsburgh The sale of "time" to advertisers (see ADVERTISING) started two years later, and the industry, as we now know it, was thereby established Radio became increasingly attractive as an advertising medium with the coming of network operation A coast-to-coast hookup was tentatively effected early in 1924, and expansion of both audience and transmission facilities continued rapidly Two of the major networks were in existence by 1927, and the number of stations had so increased as to cause serious traffic problems Legislation (see FEDERAL COMMUNICATIONS COMMISSION) designed to meet these was enacted, and the government has since maintained some control over the technical and business activities of the industry However, commercial stations operating in the broadcast band now number nearly 2,000, and they are distributed among 107 channels at 10-kilocycle intervals from 540 to 1600 kilocycles The necessary doubling up (e g , over 100 stations transmit on 1400 kc) produces severe interference in many locations Replacement by FREQUENCY MODULATION service is doing much to relieve the crowding See also TELEVISION

Broad Church· see ENGLAND, CHURCH OF

Broad River, rising in W North Carolina, S of Asheville, and flowing southeast and then, after crossing the S C line, due south until it joins the Saluda near Columbia to form the Congaree

Broads, the, region of lakes and lagoons, extending from Lowestoft in Suffolk to NW of Yarmouth in Norfolk, England, connected by rivers (Waveney, Yare, and Bure) It is a great yachting center

Broadstairs and Saint Peter's, urban district (1931 pop 12,745, 1943 estimated pop 13,230), on the Isle of Thanet, Kent, England, on the Channel near Ramsgate It is a watering place and was once a retreat of Charles Dickens, whose residence here is now called Bleak House

Broadview, village (pop 1,457), NE Ill , residential suburb of Chicago, inc 1913 A veterans' memorial hospital is near by

Broadview Heights, village (pop 1,141), NE Ohio, S of Cleveland, inc 1926

Broadway (brôd'wā"), famous thoroughfare of New York city, one of its main arteries of traffic, and the longest street in the world It extends from Bowling Green near the foot of Manhattan island to Albany, 150 mi north Throughout its length within New York city Broadway is chiefly a commercial street At Wall St it runs through the financial center of the country, N of Union Square (14th St) it passes a clothing and merchandising section, entering the theater district at Times Square (42d St) Here it becomes the "Great White Way," illuminated at night by a garish profusion of many-hued electric signs Points of interest along Broadway are Trinity Church (Wall St), St Paul's Chapel, oldest church building in New York city (near City Hall), the Woolworth Building (at Barclay St), the Flatiron Building (23d St), Columbia Univ (116th St), the Columbia-Presbyterian Medical Center (168th St), the Broadway Temple, first skyscraper church in the city (174th St), and Van Cortlandt Park (at the north end of the city)

Broca, Paul (pôl' brôkä'), 1824–80, French pathologist, anthropologist, and pioneer in neurosurgery A professor in Paris at the Faculty of Medicine and at the Anthropological Institute, he was a founder of the Anthropological Society of Paris (1859) and of the *Revue d'anthropologie* (1872) An authority on aphasia, he localized the center for articulate speech in the convolution of Broca or Broca's area (the third convolution of the left frontal lobe of the brain). He originated methods of classifying hair and skin color and of establishing the ratio of brain to skull

brocade [from Span , from Late Latin, =embossed], rich, decorative fabric, embossed with patterns which give the effect of embroidery The ground fabric is usually of silk, the raised design of silk or of silver, gold, or silver-gilt threads. Oriental brocades have been made from antiquity Chinese records show that they were known as early as A D 230 Some of these, though richly adorned with elaborate figures in metallic threads, are not true brocade, but are made in a manner similar to TAPESTRY weaving Oriental weavers in Syria and Persia had made rich stuffs with metallic figures, and their arts came with the Moors into North Africa and S Europe In the 14th cent , weavers in Venice, Genoa, and Florence made satin heavily brocaded with threads of gold In the 17th cent , Lyons competed with Genoa and Florence in the manufacture of the rare and beautiful stuffs used in courts and palaces England imported and used brocades in the 16th cent and began their manufacture at Spitalfields in the 18th cent , competing with Lyons The modern weaving of intricate designs has been much facilitated by the JACQUARD loom Brocatel is a coarse brocade with a high relief or *repoussé* effect and an extra set of weft yarns for backing

broccoli (brŏk'ulē) [Ital =sprouts], garden vegetable, a distinct form of the CAULIFLOWER, with loose, leafy, edible flower panicles It is a long-season vegetable and may be planted for spring use in the summer or early fall where the winters are not too severe It is cultivated like cauliflower

Brocéliande, Forest of (brōsālēäd'), in ARTHURIAN LEGEND, the home of Merlin in Brittany, France Of the once vast forest only the Forest of Paimpont, SW of Rennes, remains

Brock, Sir Isaac, 1769–1812, British general, Canadian hero of the War of 1812, b Guernsey, Channel Islands He served in the West Indies, the Netherlands, and Denmark before being ordered (1802) to Canada Placed in command (1806) of Upper and Lower Canada, he strengthened defenses and made plans for a navy In 1811 he was made major general and appointed administrator of Upper Canada Upon the outbreak of war, Brock joined forces with Tecumseh on the Western frontier and, moving boldly against Detroit, induced William Hull's capitulation at that post, thus inheriting quantities of supplies and gaining control of the upper lakes For this exploit he received a knighthood and the appellation "hero of Upper Canada " From Detroit he hastened to the Niagara frontier In a gallant and successful defense of Queenston Heights, where his forces were greatly outnumbered by those commanded by Stephen Van Rensselaer, he was mortally wounded while leading a charge See biographies by his nephew, F B Tupper (2d ed , 1847), and Matilda Edgar (rev. ed , 1926)

Brock, Sir Thomas, 1847–1922, English sculptor, student of Foley Usually classed as a romanticist, Brock enjoyed a long and successful career He became an Academician in 1891 and was knighted in 1911 His work shows dignity and restraint Well known are his bust of Longfellow (Westminster Abbey), his colossal Victoria Memorial, in front of Buckingham Palace, his *Eve* (National Gall , London), and his *Black Prince* (Leeds)

Brockdorff-Rantzau, Ulrich, Graf von (ōō'lrĭkh graf' fŭn brôk'dôrf-rän'tsou), 1869–1928, German diplomat Foreign minister in 1918 and 1919, he resigned rather than accept the terms of the Treaty of Versailles From 1922 till his death he was ambassador to Moscow

Brocken (brôk'un) or **Blocksberg** (blôks'bĕrk), granite peak, 3,747 ft high, in the former Prussian province of Saxony, central Germany, highest of the Harz Mts Popular legend makes it the meeting place of the Walpurgis Night or Witches' Sabbath A scene in Goethe's *Faust* is laid here

Brockport, village (pop 3,590), W N Y , on the Barge Canal and W of Rochester, in a farming region, inc 1829 It is the seat of a state teachers college Canning is done here

Brockton, city (pop 62,343), SE Mass , S of Boston, settled c 1700, set off from Bridgewater 1821, made a city 1881 Its shoe industry, begun in the mid-19th cent , has declined, but is still important An annual fair was inaugurated in 1874

Brockville, city (pop 11,342), co seat of Leeds and Grenville counties, S Ont , on the St Lawrence below the Thousand Islands In a rich dairy region, it is a port of call for river steamers between Toronto and Montreal It is a summer resort

Brockway, Howard, 1870–, American composer, b Brooklyn, N Y , studied in Berlin He taught at the Peabody Conservatory (1903–9) and at the Juilliard School of Music (1925–41) With Lorraine Wyman he compiled folk-song collections—*Lonesome Tunes* (1916) and *Kentucky Mountain Songs* (1920) His compositions, conservative in spirit and highly melodic, include a symphony (Boston, 1907), his *Sylvan Suite* (Boston, 1901) for orchestra, and shorter choral and instrumental works

Brockway, Zebulon Reed, 1827–1920, American penologist, b Lyme, Conn As superintendent of the House of Correction at Detroit, he tried to introduce, in 1869, the indeterminate sentence for first offenders His ideas were incorporated in a Michigan statute but were nullified by the courts He had a guiding hand in New York state legisla-

tion organizing the first state reformatory for adult males, built at Elmira, and was its first superintendent (1876–1900). He introduced a system of physical training, education, and trade instruction, with merits as incentives to good behavior The success of his Elmira experiments led to the introduction of the indeterminate sentence in other states He was the author of *Fifty Years of Prison Service* (1912)

Brockway, industrial borough (pop 2,709), NNW Pa, N of Du Bois, settled 1822, inc 1883 Its manufactures include clay products, bottles, and jars Its farms yield potato crops

Brocton, village (pop 1,293), W N Y, near Lake Erie and SW of Dunkirk, in a grape region, inc 1894 An annual grape festival is held Thomas Lake Harris founded (1867) here a short-lived community of the Brotherhood of the New Life

Broderick, David Colbreth (brŏ'dərĭk), 1820–59, American politician, b Washington, D C Brought up in New York city, he was active in Tammany Hall before moving in 1849 to California He became equally active in politics there, being a member of the state constitutional convention of 1849 He was elected to the state senate in 1850 and was chosen to preside over it in 1851 Broderick, who drew his support chiefly from Northerners, and U S Senator William M Gwin, leader of the pro-slavery element, fought bitterly for control of the Democratic party in the state Both were sent to the U S Senate in 1857 under a compromise by which Broderick was to have control of the Federal patronage However, President James Buchanan and Gwin ignored the understanding, and Broderick fiercely attacked them both He was killed by Chief Justice David S Terry of the California supreme Court, a Gwin man, in a famous duel, near San Francisco The eloquent eulogy by Edward D Baker at his elaborate funeral and editorial reverberations throughout the land made him the martyr of the Union cause in California See biography by Jeremiah Lynch (1911)

Brodhead, Daniel, 1736–1809, American Revolutionary officer and Indian fighter, b probably near Albany, N Y He was taken as an infant to Pennsylvania, where he later served as deputy surveyor general (1773–75) In the Revolution he commanded a detachment of militia in the battle of Long Island, was sent (1778) to Pittsburgh, and became commandant there in 1779 In that year he led an expedition up the Allegheny against the Indians, this was linked with the expedition of John Sullivan in New York When in 1781, the Delawares broke their treaty, he invaded their lands He was removed from his command but later was brevetted brigadier general He was (1798–1809) surveyor general of Pennsylvania

Brodhead (brŏd'hĕd'), city (pop 1,750), S Wis, near the Sugar river and the Ill line S of Madison, in a dairy and fertile farm area, inc 1891

Brodie, Sir Benjamin Collins (brō'dē), 1783–1862, English surgeon He studied and practiced surgery in London His *Pathological and Surgical Observations on the Diseases of the Joints* (1818) was effective in leading to less radical treatment and thus in reducing mutilation by amputation See his autobiography (1865) His eldest son, **Sir Benjamin Collins Brodie,** 1817–80, a chemist, is known chiefly for his studies of allotropic forms of carbon and his discovery of graphitic acid

Broglie (brōl), French noble family of Piedmontese origin, who settled in France in the 17th cent **Victor Maurice, comte de Broglie** (vĕktôr' môrēs' kôt' dŭ), 1647–1727, was marshal of France and fought in the wars of Louis XIV His son **François Marie, duc de Broglie** (frăswä' mărē' dük dŭ), 1671–1745, marshal of France, fought at Malplaquet (1709), in the War of the Polish Succession, and in the War of the Austrian Succession Louis XV conferred on him the ducal title inherited by his son, **Victor François, duc de Broglie,** 1718–1804, marshal of France, who distinguished himself in the War of the Austrian Succession and the Seven Years War Emperor Francis I made him prince of the Holy Roman Empire (1757), a title which remained in the family In the French Revolution he emigrated and commanded (1792) the army of the princes against the revolutionary forces **Charles François, comte de Broglie** (shärl), 1719–81, brother of Victor François, was ambassador to Poland (1752) and later headed the "secret cabinet" of Louis XV, the king's secret organization of political advisers and spies **Achille Charles Léonce Victor, duc de Broglie** (äshēl', läôs'), 1785–1870, grandson of Victor François, was a statesman and diplomat under Napoleon I and a leader of the moderate liberals after the Restoration He occupied several cabinet posts under Louis Philippe, was appointed ambassador to London in 1847, and retired in 1848 He married a daughter of Mme de Staël His son, **Jacques Victor Albert, duc de Broglie** (zhak', älbĕr'), 1821–1901, was a historian and politician He was a member of the national assembly (1871), ambassador to London (1871–72), premier (1873–74, 1877), and a monarchist leader in the senate He wrote *Histoire de l'église et de l'empire romain au IVe siècle* (6 vols, 1860–66), an apologia for the Church as preserver of civilization in the late Roman period; *The King's Secret* (Eng tr, 2 vols, 1879), based on the career of his great-granduncle, Charles François de Broglie, *An Ambassador of the Vanquished* (Eng tr, 1896), and *Frederick the Great and Maria Theresa* (Eng tr, 1883) He also edited the memoirs of his father (Eng tr, 2 vols, 1887) Among his grandsons are the eminent scientists Maurice, duc de Broglie, and Louis Victor, prince de Broglie (see separate articles)

Broglie, Louis Victor, prince de (lwē' vĕktôr' prĕs' dŭ brōl'), 1892–, French physicist He was professor at the faculty of sciences, Univ of Paris, from 1932 An authority on quantum mechanics and on the structure of matter, he received the 1929 Nobel Prize in Physics for his theory (1924) of the wave character of electrons His works include *An Introduction to the Study of Wave Mechanics* (1930, Eng tr, 1930), *Matter and Light* (1937, Eng tr, 1939), and *Ondes, corpuscles, mécanique ondulatoire* (1945)

Broglie, Maurice, duc de (mōrēs' dük' dŭ brōl'), 1875–, French physicist, brother of Louis Victor, prince de Broglie His contributions include notable work on X rays and in atomic physics, radioactivity, and electricity He became a member of the Academy of Sciences in 1924 and of the French Academy in 1934

Broken Arrow, coal-mining city (pop 2,074), NE Okla, SE of Tulsa, founded 1903

Broken Bow **1** City (pop 2,968), co seat of Custer co, central Nebr, in the sand-hill region, NW of Grand Island, settled 1880, organized as a town 1882, inc as a city 1888 It is a shipping center for a livestock and grain area **2** Lumber and farm town (pop 2,367), extreme SE Okla, near the Red River, settled 1910, inc 1912 A state forest lookout is here, and a state park near by

Broken Hill, municipality (pop 27,059), New South Wales, Australia, ENE of Port Pirie, its port Since 1884 it has been the principal center of silver-lead mining in Australia

broker, primarily one who negotiates a sale between two persons or firms A broker of this kind conducts individual transactions only, is given no general authority by his employers, discloses the names of the principals in the transaction to each other, and leaves to them the conclusion of the deal He neither possesses the goods sold nor receives the goods procured, takes no market risks, finances no operation, and transfers no title to goods or to anything else He earns his commission, or "brokerage," when the contract of sale has been made, regardless of whether the contract is satisfactorily executed He is paid by the party with whom he first negotiates In practice, merchants and other salesmen act as brokers at times Brokers are most useful in establishing trade connections in large industries in which many producers compete for a wide market, such as soft coal, fresh fruit, grain, and vegetables They operate in strategic cities and keep in active touch with the trade needs of their localities and with one another They are important in determining prices, routing goods, and guiding production and in these functions play a part similar to the highly organized exchanges Brokers also negotiate trades in property not directly affecting production Such are stock brokers and real-estate brokers Employment agents are really brokers, as they bring together the buyers and sellers of labor Merchandise brokers arrange sales between manufacturers and wholesalers or retailers, between producers and users of raw materials, and sometimes between two manufacturers Small concerns use brokers instead of maintaining their own sales forces Insurance brokers bring together the agents of insurance companies and those who wish insurance They are most useful to those needing several types of such protection and to those whose risks must be divided Real-estate brokers negotiate sales and leases of farms, dwellings, and business property and are usually money brokers and insurance brokers for their real-estate clients also Ship brokers keep informed of the movement of vessels, of cargo space available, and of rates for shipment and sell this information to shippers They serve tramp carriers, in the main, inasmuch as ship "lines" have their own agents Such brokers also serve as port agents, in which capacity they settle bills for stores and supplies, pay the wages of the crew, and negotiate insurance for the vessel and cargo They also arrange the sale of ships In the organized markets, such as grain and stock exchanges, commission merchants and straight selling displace brokerage in large part, but between cities and where there is no active exchange, brokers in grain and other commodities are active Members of organized exchanges usually act as commission merchants or trade on their own account However, in the New York Stock Exchange a group of members called "two-dollar brokers" act as brokers and perform the actual work on the exchange floor for representatives of commission houses, taking no responsibility In England bill brokers are now discount houses, buying and selling promissory notes and acceptances In the United States note brokers are now commercial paper houses, buying promissory notes from business men and selling them to banks Traders in acceptances and foreign bills of exchange are known in the United States as acceptance dealers. Customs brokers are not real brokers; they act as agents for importers in estimating duties and clearing goods The PAWNBROKER is a private money lender See P D Converse and H. W. Huegy, *Elements of Marketing* (3d ed., 1946).

Bromberg, Poland, see Bydgoszcz

Brome, Richard, d 1652, English dramatist He was supposed to have been educated by Ben Jonson—an influence evident in the realism of Brome's works His 15 plays include comedies of manners, romantic comedies, and romantic dramas The best of his plays are *A Jovial Crew; or, The Merry Beggars* (1641) and *The City Wit, or, The Woman Wears the Breeches* (1653)

brome grass, any plant of the genus *Bromus*, chiefly large, coarse grasses of a weedy nature, some, however, are useful as forage, and others are cultivated for decoration Some of the better-known bromes are the smooth brome (sometimes called awnless or Hungarian brome), often cultivated for pasture or for holding banks, rescue grass, a forage in the Southern states, and chess or cheat, a pest of grain-fields, formerly believed by some to be degenerate wheat Many species of brome grasses develop sharp barbed fruits at maturity that are injurious to stock, some having gained the name of ripgut grass, before maturity these are often used for forage without bad effect.

bromide (brō'mīd, -ĭd) [from bromine], a compound of BROMINE and some other element (except oxygen), a salt formed from hydrobromic acid Bromides are widely distributed in nature They are formed by the direct combination of bromine with the other element or by the neutralization of hydrobromic acid They are soluble in water, with the exception of the bromides of lead, mercury, and silver The bromides of potassium and sodium, used in medicine as sedatives, are the familiar "bromides" Silver bromide is one of the silver salts used in preparing the coating for photographic films and plates It is reduced when exposed to light, turning darker in direct proportion to the quantity of light It is used also on the surface of some printing papers (see PHOTOGRAPHY), those which act more rapidly are called "bromide papers" Magnesium bromide is a source of pure bromine Hydrogen bromide, a gas somewhat similar to hydrogen chloride, when in aqueous solution is hydrobromic acid In chemical analysis the presence of a bromide may be detected, first, by treating the unknown with chlorine, which, being more active than bromine, displaces the bromine from its bromide, then, by adding carbon disulphide, which takes on a reddish tinge indicating bromine In another test concentrated sulphuric acid is used, it reacts with the bromide finally to liberate bromine

bromine (brō'mēn, -ĭn) [from Gr, =smell], active nonmetallic element (symbol=Br, for physical constants, see ELEMENT, table) At ordinary temperatures it is a brownish-red liquid which gives off a similarly colored vapor with an offensive, suffocating odor It is slightly more than three times heavier than water It is soluble in water to some extent, the aqueous solution, called bromine water, acts as an oxidizing agent It is soluble also in alcohol, ether, and carbon disulphide It solidifies at -7°C and boils at 58 8°C Bromine eats away metals and exhibits corrosive action also upon the skin, destroying the tissue It is strongly irritating to the eyes and to the membranes of the nose and throat Bromine belongs to the HALOGEN family, being less active than either fluorine or chlorine but more so than iodine It forms compounds similar to those of the other halogens (see BROMIDE) Oxides of bromine are unstable, but two acids, hypobromous acid and bromic acid, which are compounds of hydrogen, bromine, and oxygen, are known with their salts Hydrobromic acid is the aqueous solution of hydrogen bromide Bromine does not occur free in nature but in combination with other elements, notably sodium, potassium, magnesium, and silver In compounds, it is present in sea water, in mineral springs, and in common salt deposits, e g, those at Stassfurt in Germany (see FRANK, ADOLF) It occurs in the United States principally in Michigan, Ohio, and West Virginia For commercial purposes, e g, as a source of anti-knock compounds for gasoline, bromine is extracted from sea water The element is obtained pure chiefly by the treatment of bromides (in solution) with chlorine, which displaces the bromine, by oxidation of hydrobromic acid, and by the electrolysis of a bromide The element was discovered, in sea water, by Antoine Jérôme Balard in 1826

Bromley (brŭm'lē), residential municipal borough (1931 pop 45,374, 1947 estimated pop 63,640), Kent, England, SE of London The 15th-century church was destroyed in the Second World War. H G. Wells was born in Bromley

Bromptonville, town (pop 1,672), SE Que, on the St Francis river and N of Sherbrooke. It is an important lumber center

Bromwich, England see WEST BROMWICH

bronchitis (brŏng-kī'tĭs) [as if New Gr, =inflammation of the windpipe], disorder of respiration result-

ing from inflammation in the bronchus and its branches (see LUNGS) caused by bacteria infection or by irritation from gases and other substances It often follows COLDS and is accompanied by cough, soreness of the chest, and sometimes fever Rest in bed and inhalations are helpful PNEUMONIA may follow a spread of infection Repeated attacks often result in stiff, dilated bronchi This condition of chronic bronchitis is often the cause of cough with expectoration, which becomes worse with age Chronic bronchitis is prevented by proper treatment of the disease in its early stages

bronchoscope, instrument for examining the interior of the trachea and bronchi and for use in removing foreign bodies from the lungs, larynx, and gullet Gustav Killian in Freiburg, Germany, in 1895 was the first to experiment with such a device Chevalier Jackson adapted (1903) the bronchoscope to serve as an aid to the breathing of a patient during an operation and improved the system of illumination in the instrument

bronco · see MUSTANG

Brongniart, Adolphe Théodore (ădôlf' tāôdôr' brôn-nyar'), 1801–76, French botanist, son of Alexandre Brongniart He was a pioneer in the study of vegetable physiology and was author of an important work on vegetable fossils (1828–37) and of a valuable first account of pollen His classification of plants in the natural history museum at Paris was the basis of the system now used in Germany He helped establish the *Annales des sciences naturelles* and founded the Société botanique de France

Brongniart, Alexandre (alĕksā'dru), 1770–1847, French geologist, mineralogist, and chemist As director of the Sèvres porcelain factory from 1800, he created its reputation and established the principles of ceramic chemistry He is the author of *Traité des arts céramiques et des poteries* (1844) With Cuvier he studied and wrote on the geology of the Seine basin He made the notable division of reptiles into four classes

Bronson, city (pop 1,871), S Mich , S of Battle Creek, in a farm area, inc as a village 1866, as a city 1934 Metal fixtures are made The Sac Trail passed through here

Brontë, Charlotte (brŏn'tē), 1816–55, English novelist, **Emily Jane Brontë,** 1818–48, English novelist and poet, and **Anne Brontë,** 1820–49, English novelist They were the daughters of Patrick Brontë (1777–1861), an Anglican clergyman of Irish birth (the name was probably originally Brunty or Prunty), educated at Cambridge He was given a curacy of Thornton in 1815 and in 1820 became incumbent of Haworth, West Riding of Yorkshire His wife died in 1821, and her sister, Elizabeth Branwell, came to live in the parsonage but left the children much to themselves Maria and Elizabeth, the two oldest girls, were sent to a school for the daughters of poor clergymen, which later served as the model for "Lowood" in *Jane Eyre* In 1824 Charlotte and Emily were sent with them, but Maria and Elizabeth contracted tuberculosis (for which Charlotte held the school largely accountable), and they died within a few months of each other With a gift to their brother, Branwell, of wooden soldiers in 1826 the children started living in an imaginary world Their *juvenilia,* written in tiny script on small pieces of paper, continued until they were grown, these writings have been preserved and are a remarkable key to the development of literary genius in Charlotte and Emily In 1831 Charlotte was sent to Miss Wooler's school at Roe Head, where she formed two strong friendships, the only one of the sisters ever to do so She returned there as a teacher in 1835, accompanied by Emily, who, however, soon became ill and returned home In 1838 Charlotte came home to Haworth, and during the next few years the three sisters planned to establish a school. Emily and Charlotte spent 1842 at the Pensionnat Héger in Brussels, but returned home at the death of their aunt, who had willed them her small fortune Both girls were offered positions at the *pensionnat,* but only Charlotte returned in 1843, leaving the next year because, it is thought, of the jealousy of Mme Héger Charlotte's later novels *The Professor* and *Villette* reflect her experiences in Brussels Mr Brontë's failing eyesight and the steady decline of their brother, who had become a confirmed alcoholic and opium addict, saddened this period for the three sisters When Charlotte discovered Emily's poetry in 1845, Anne revealed hers, and eventually *Poems* (1846) by the three appeared under the pseudonyms Currer, Ellis, and Acton Bell. The book, published at their own expense, sold only two copies the first year, but in 1847 Emily's novel *Wuthering Heights* and Anne's *Agnes Grey* were published as a set, and although *The Professor* by Charlotte was rejected, her *Jane Eyre* (1847) was accepted and achieved tremendous success The year 1848 was marked by the deaths of Branwell (Sept) and Emily (Dec), in 1849 Anne, whose *Tenant of Wildfell Hall* had appeared in June, 1848, died at Scarborough, where she is buried. The identity of the sisters as authors was at first unknown even to their publishers, who learned it in 1848, and it was not until the publication of *Shirley* (1849)—when Charlotte's descriptions were recognised by a native of Haworth—that the identity of the Bell brothers was generally discovered At this time Charlotte made many friends in the literary world, wrote *Villette* (1853), and married (1854) her father's curate, Arthur Bell Nicholls She died after one year of happily married life *The Professor* (1857) was published posthumously A complete edition of Emily's poems from the original manuscripts, edited by C W Hatfield, appeared in 1941 See biography of Charlotte by Mrs Gaskell (2 vols , 1857), study of Emily by Romer Wilson (1928) and of the family by Clement Shorter (1908), Ernest Dimnet (1910), May Sinclair (1912), L L Hinkley (1945), and Lawrence Hanson and E M Hanson (1949), F E Ratchford, *The Brontës' Web of Childhood* (1941), for the *juvenilia,* publications of the Brontë Society

Brontosaurus (brŏntusō'rus) [Gr ,=thunder lizard], quadruped vegetarian dinosaur, probably over 70 ft long and over 30 tons in weight, with a long neck and tail It was apparently semiaquatic Bones of the Brontosaurus and other sauropods have been found in the Morrison formation of the late Jurassic or early Cretaceous in Colorado, Wyoming, and some other Western states

Bronx, the, borough (land area 41 sq mi , pop 1,394,711) of NEW YORK city, SE N Y , NE of Manhattan island and S of Westchester co , roughly identical with the southern part of the mainland peninsula rimmed by the Hudson, Harlem, and East rivers, coextensive with Bronx co Its first settlement was made (1641) for the Dutch West India Company by Jonas Bronck, a Dane Among the many bridges linking the borough to Manhattan and Queens are the Henry Hudson across Spuyten Duyvil, the Triborough to Manhattan and Queens, and the Bronx-Whitestone to Queens The Bronx, although it has some industry, is mainly a residential section Large areas are set aside for parks, notably Bronx Park (with its outstanding zoo and its botanic gardens) and Van Cortlandt and Pelham Bay parks The borough's colleges and professional schools include FORDHAM UNIVERSITY, parts of NEW YORK UNIVERSITY (with the Hall of Fame) and of HUNTER COLLEGE, MANHATTAN COLLEGE, and the New York State Maritime Academy Among other points of interest are the Yankee Stadium, the Bronx County Building, the Edgar Allen Poe cottage, and the Van Cortlandt House (1748)

Bronx, river of SE New York, c 20 mi long, issuing from Kensico Reservoir in Westchester co and flowing SSW through the borough of the Bronx, New York city, to the East River

Bronxville, residential village (pop 6,888), SE N Y , in Westchester co , N of Mt Vernon, settled 1664, inc 1898 It is part of the town of Eastchester SARAH LAWRENCE COLLEGE, Concordia Collegiate Institute (junior, coeducational), and a girls' private school are here

bronze, name for alloys of copper and tin and also for alloys of copper and certain other metals Sometimes silver, aluminum, zinc, or lead is added for increased brilliance or hardness Bronze is harder and more resistant to wear and to atmospheric and earth conditions than brass or either of its components (zinc and copper), therefore, before iron replaced it, it was used for implements, in a 7 or 9 to 1 alloy It was formerly employed for cannon and still is for gun metal, a 16 to 1 alloy The particularly sonorous quality of bronze makes it unsurpassed for bell metal, an alloy of copper and tin, used chiefly for casting bells It forms the best substance for machine bearings, pump valves, and the like and one of the most lasting for roofs, cornices, and architectural ornament and for funerary urns and caskets Above all its other uses, bronze is ideal for casting art works (the 90 to 1 alloy), it flows into all crevices of a mold, thus reproducing perfectly every detail of the most delicately modeled sculpture It is also most susceptible to the graver's tool and admirable for repoussé work Bronze, used in early times for objects later made of other materials, constitutes a record of ancient arts and life The Egyptians were familiar with bronze, cast and hammered, for utensils, armor, and statuary far in advance of the BRONZE AGE in Europe The Greeks were unexcelled in bronze sculpture Etruscan artisans in Italy were adept Examples of their work include a bronze chariot found at Monteleone (Metropolitan Museum of Art) and the Capitoline Wolf (Rome) The Romans carried off hundreds of bronze statues from Greece and made thousands themselves They employed bronze for doors and for furniture, utensils, and candelabra, of which some were recovered at Pompeii and Herculaneum Early medieval bronzes comprised chiefly utensils and domestic and ecclesiastical ornaments During the Renaissance, Italy became noted for her bronze doors, outstanding among which are the Ghiberti doors of the baptistery at Florence, and for statuary by such artists as Donatello, Verrocchio, and Cellini The work of Peter Vischer was influential in Germany France was known in the 18th cent. for gilded bronze furniture mounts Oriental artists have produced superb works from very early times Antique bronzes usually display a rich PATINA See G K Geerlings, *Metal Crafts in Architecture* (1929)

Bronze Age, period in the development of industry in which bronze was the chief metal It followed the Neolithic period and preceded the Iron Age The term is in general use, although recognized as inexact, as any name for a gradual change in human culture must be Stone did not cease to be used for implements and weapons when bronze was invented Rotary millstones, for example, were invented in the Bronze Age and are still used, many stone arrowheads have been found on the battlefield of Marathon, and stone mauls were used as weapons by Anglo-Saxons at Hastings and by Germans in the Thirty Years War Bronze was used for cannon in the 19th cent and is still much used It is true, however, that in Egypt, Europe, and SW Asia, where the development of industry has been studied most thoroughly, a fundamental change accompanied the beginning of the general use of bronze, and a like fundamental change accompanied the beginning of the general use of iron These changes occurred in different places at different times, first in Egypt and SW Asia and last in Scandinavia Egypt and SW Asia were clearly in the Bronze Age by 2500 B C Iron was first worked effectively by the Hittites c 1400 B C and did not come into general use until later The use of bronze reached Britain c 2000 B C , the use of iron, c 500 B C Ancient Crete is an example of a Bronze Age civilization After the great period of the island ended, the Cretan civilization continued in some outposts, e g , Troy The Trojan War, sometime before 1100 B C , was fought with bronze weapons, used both by Trojans and by Greeks For some purposes, e g , for plowshares, the Greeks even then used iron, the great period of Greek history was in the early Iron Age For the Greeks, the Trojan War may serve as a convenient boundary between the two ages The Bronze Age developed cities, including Babylon and the Egyptian cities, with great temples and palaces decorated by sculptors and painters The arch was a Bronze Age invention Though writing was known in the Neolithic period, its development was of the Bronze Age, when it was first extensively used, as in Babylon The wheel was a Bronze Age invention, unknown in the stone ages and unknown in the Western Hemisphere until brought by Europeans Bronze Age uses of the wheel included the chariot and the potter's wheel In the Bronze Age, oxen and horses were first used as draft animals Where the Bronze Age reached its fullest development, there was extensive commerce by land and by sea, and empires were established by warriors who used horses and bronze swords Some American Indians, as in Mexico, made use of bronze, but not extensively, there was no true Bronze Age in the Western Hemisphere In general, gold and copper were used before bronze, which is an alloy of copper and tin The term "Copper Age" is sometimes used for a period immediately preceding the Bronze Age, but the use of copper was of much less significance than the use of stone, bronze or iron The Copper Age may be included in the Neolithic period, for stone continued to be the usual material of implements and weapons See V G Childe, *The Bronze Age* (1930), Fay-Cooper Cole, *The Long Road from Savagery to Civilization* (1933), M C Quennel and C H B Quennel, *Everyday Life in the New Stone, Bronze, and Early Iron Ages* (3d ed , 1945) For the Bronze Age of mythology, see AGE

bronzing, term originally applied to the treatment of metals to simulate bronze or a bronze or copper PATINA It was extended to include wood, ivory, plaster, leather, and other materials treated to imitate bronze and is now applied also to any surface coloring of metals for decoration or protection Painting and electroplating are usually not included Mechanical bronzing may be accomplished by applying metallic powders, flakes, or leaf with a liquid size Chemical processes include immersion, rubbing, or spraying with solutions of metal salts, heating in a gaseous atmosphere to form an oxide film, and conversion of the metal surface to one of its compounds by electrolysis

Bronzino, Il (ēl brōntsē'nō), whose real name was **Agnolo di Cosimo Allori** (a'nyōlo dē kō'zēmō ălō'rē), 1502?–1572, Florentine painter, pupil of Jacopo da Pontormo He was court painter to Cosimo I de' Medici He painted the portraits of many celebrated men and women of the time, among them those of Cosimo (Metropolitan Mus) and his wife, Eleonora of Toledo (one in the Uffizi, another in the Wallace Coll , London), and of Dante, Boccaccio, and Petrarch His sacred and mythological paintings usually are greatly inferior to his portraits *Descent of Christ into Limbo,* his largest work, is in the Uffizi Other specimens of his paintings are in the Uffizi and Pitti galleries, Florence, the National Gallery, London, the Gardner Museum, Boston, and the Frick Collection, New York

Bronzino, Alessandro · see ALLORI, ALESSANDRO

Brook, Alexander, 1898–, American painter, b Brooklyn, N Y , of Russian parents In 1915 he entered

the Art Students **League of New York**, where he remained some **years, studying** longest under Kenneth Hayes Miller After 1922, when he exhibited with his wife, **Peggy** Bacon, at Brummer Gallery, his work was widely shown and received many awards He received a Guggenheim fellowship in 1941 In **1940** he was divorced from his artist wife Brook **served as** instructor at the Art Students **League and also** conducted a summer school of painting at his home in Cross River, N Y His oils include still life, portraits, figure compositions, **and landscapes** His color is subtle, and his light and **shade are** effective Delicacy, economy of **means, and** a fine reserve mark his realistic style **Brook is represented** in principal galleries throughout the country He is the author of numerous reviews and articles on art Characteristic works are *My Wife* (Corcoran Gall), *The Sentinels* (Whitney Mus , New York), *My Son Sandy* (Metropolitan Mus) See monograph by E A Jewell (1931)

Brooke, Alan Francis, 1883–, British general Educated at Woolwich, Brooke entered service in the field artillery in 1902 In the First World War he served with distinction as an officer of artillery and in the 1930s made himself a master of mechanized warfare In the Second World War he commanded the 2d Army Corps in France until the evacuation of Dunkirk and **was** (1940–41) commander in chief of the British Home Forces From Dec , 1941, to 1946 he was chief of the imperial general staff and participated in the war conferences of Churchill, Roosevelt, and Stalin He was made Baron Alanbrooke in 1945 and Viscount Alanbrooke in 1946.

Brooke, Sir Charles Johnson see BROOKE, SIR JAMES

Brooke, Sir Charles Vyner see BROOKE, SIR JAMES

Brooke, Fulke Greville, 1st **Baron**, 1554–1628, English poet, patron of letters, and statesman He was a friend of Sir Philip Sidney and a favorite of Queen Elizabeth A Christian humanist, he wrote several didactic poems on philosophical subjects He is remembered for his *Life of the Renowned Sir Philip Sidney* (1652) See *Poems and Dramas* (ed by Geoffrey Bullough, 1939, reissue 1945)

Brooke, Henry, c 1703–1783, Irish author, was educated at Trinity College, Dublin, and studied law in London In 1735 he published a poem entitled *Universal Beauty* In his novel, *The Fool of Quality* (5 vols , 1765–70), the generous impulses of the natural state of man are contrasted, according to the theory of Rousseau, with the artificiality of a corrupt civilization See biography by H M Scurr (1927)

Brooke, Sir James, 1803–68, rajah of Sarawak on Borneo, b Bengal, of English parents After active service in Burma (1825–26), he retired from the army in India (1830) and, during a voyage to the East Indies, conceived a plan to suppress piracy He sailed in his yacht for Borneo (1838), and on the west coast there he assisted Muda Hassim, uncle of the reigning sultan, to suppress rebel Dyak tribes For his services he was made rajah by the sultan (1841) and proceeded to create a government and to put down head-hunting and piracy He was given a baronetcy by the British government and entrusted with the governorship (1847–57) of Labuan Chinese traders in opium precipitated a rising (1867), in which Kuching, the capital of Sarawak, was burned He was engaged sporadically in suppressing many tribal rebellions He was succeeded by his nephew, **Sir Charles Johnson Brooke,** 1829–1917 Sir Charles extended the authority of the government to all parts of the country, and by the abolition of slavery and encouragement of habits of industry he made the country productive and the people prosperous He was succeeded by his son, **Sir Charles Vyner Brooke,** 1874– Sir Charles was forced out of Sarawak in 1942 by the Japanese invasion In spite of the fact that his nephew, Anthony W D Brooke, acted as his heir apparent and head of the provisional government during the war, Sir Charles ceded Sarawak to the British government as a crown colony in 1946 See Lady Sylvia Brooke, *Three White Rajahs* (1939)

Brooke, John Mercer, 1826–1906, American scientist **and naval** officer, b Tampa, Fla , grad Annapolis, **1847.** He served in the Coast Survey and at the **naval** observatory in Washington (1849–53) and taught at Virginia Military Institute (1865–1906) He invented a deep-sea sounding device which for the first time brought up specimens of the ocean's bottom for examination He was engaged in an exploring and surveying expedition to the Pacific Far North and in preparing its records and charts From 1858 to 1860 he made soundings on the route from California to China and surveyed parts of the east coast of Japan In 1861 he resigned from the U S navy and was made a commander in the Confederate navy Later he became chief of the Bureau of Ordnance and Hydrography His was the plan used for reconstructing the *Merrimac* into the iron-clad *Virginia* He invented the Brooke gun, one of the most successful Confederate artillery pieces

Brooke, Rupert, 1887–1915, English poet, educated at Rugby and at King's College, Cambridge He then spent several years in desultory study and travel and in 1913 went on a long journey to North America and the South Seas. He returned to England in 1914 At the outbreak of the First World War he joined the Royal Naval Division, served at Antwerp, and was in the Dardanelles expedition when he died of blood poisoning at the island of Skyros An athlete, handsome, charming, and witty, Brooke was universally sought in society His early fame and tragic death have made him an almost legendary figure Two slender volumes of poetry, *Poems* (1911) and *1914 and Other Poems* (1915), contain only a few poems, ranging from awkward *juvenilia* to rapturous sensuousness hard to match in recent poetry. See his *Collected Poems* (1915), Arthur Stringer, *Red Wine of Youth* (1948).

Brooke, Stopford Augustus, 1832–1916, English clergyman and author, b Ireland, grad Trinity College, Dublin He became a clergyman of the Church of England in 1857 and was appointed chaplain to Queen Victoria in 1872, in 1880 he became a Unitarian minister He was an admirable critic, and besides several volumes of sermons his books include *English Literature* (1876), *Poems* (1888), *The History of Early English Literature* (2 vols , 1892), and *Tennyson His Art and Relation to Modern Life* (1894) See L P Jacks, *Life and Letters of Stopford Brooke* (2 vols , 1917)

Brook Farm, an "Institute of Agriculture and Education" at West Roxbury, Mass , was an experiment in group living which flourished between 1841 and 1847 Two transcendentalists, George Ripley and his wife, Sophia, founded Brook Farm in an attempt to combine "plain living and high thinking" The 192-acre farm was owned by a joint-stock company with 24 shares of stock at $500 each Each member was to share in the manual labor which should make the group self-sufficient and in the cultural advantages provided With such members as Nathaniel Hawthorne, John S Dwight, Charles A Dana, and Isaac Hecker and such visitors as Emerson, W H Channing, Margaret Fuller, and Orestes Brownson, intellectual life was stimulating Economically, the excellent school was the most successful part of the venture, agriculture showed little profit because of the sandy soil and the inexperience of the farmers The popularity of the doctrines of Fourier led to Brook Farm's conversion to a Fourierist phalanx in 1845, but the group did not long survive the financial disaster of the burning of the uncompleted and uninsured central building (1846) The members disbanded in 1847 The *Harbinger* (1845–49), printed at Brook Farm and edited by Ripley, was rather a Fourierist weekly newspaper than exclusively the organ of Brook Farm and was continued in New York with Parke Godwin as editor after 1847 See Lindsay Swift, *Brook Farm* (1900)

Brookfield. **1** Town (pop 1,345), SW Conn , between Danbury and the Housatonic, inc 1788 **2** Village (pop 10,817), NE Ill , western suburb of Chicago, inc 1893 Near by is the Chicago Zoological Park **3** Dairying town (pop 1,393), S central Mass , WSW of Worcester, settled 1664, inc 1718 Quaboag Pond (a resort) and a pre-Revolutionary inn are in the town **4** City (pop 6,174), N central Mo , SW of Kirksville, founded 1859 It is a railroad shipping point, with division shops, in a farm and coal area Gen John J Pershing's boyhood home and a Pershing memorial park are at near-by Laclede

Brookhaven, city (pop 6,232), co seat of Lincoln co , SW Miss , SSW of Jackson, in a dairy and timber area, founded 1851 It is a dairy center A junior college for girls is here

Brookings, Robert Somers, 1850–1932, American businessman and philanthropist, b Cecil co , Md. He earned a fortune in business in St Louis, Mo , and retired in 1897 to devote himself to philanthropy As chairman of the corporation of Washington Univ from 1897 to 1914 he was primarily responsible for the rebuilding of that institution He founded the Brookings Institution in Washington, D C

Brookings, city (pop 5,346), co seat of Brookings co , E S Dak , N of Sioux Falls near the Big Sioux river, laid out 1879 A trade center in a farm area, the city is headquarters for the Cooperative Wool Growers Association It is the seat of SOUTH DAKOTA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS A bell tower equipped with aeronautical beacons serves the city's airport

Brookings Institution, at Washington, D C , founded by Robert S Brookings for research and education in the social sciences Chartered in 1927 under the present name, it comprises the Institute of Economics (founded 1922), the Institute for Government Research (founded 1916), and a research-training division (opened 1924 as a graduate school of economics and government)

Brookland, S C see WEST COLUMBIA

Brooklands, village (pop. 2,728), S Man , a suburb of Winnipeg.

Brooklawn, borough (pop 1,919), SW N J , on the Delaware near Camden, built in the First World War to house shipyard workers, inc 1924

Brookline (brŏŏk'lĭn), town (pop. 49,786), E Mass., a beautiful residential suburb of Boston It was included in Boston, as "Muddy River," before it was separately incorporated in 1705. Some old buildings remain Amy Lowell's home was here.

Brooklyn. **1** Town (pop 2,403), E Conn., ENE of Willimantic and on the Quinebaug, settled c.1703, inc. 1786. Electrical products and yarns are made here. **2** Village (pop. 2,158), SW Ill , on the Mississippi above East St Louis, inc. 1873. It is an all-Negro town. Its post office is Lovejoy. **3** Town (pop 1,408), E central Iowa, E of Des Moines, inc 1869 **4** Borough (land area 71 sq mi., pop 2,698,285) of NEW YORK city, at the southwestern extremity of Long Island, SE N Y., coextensive with Kings co Although often called the City of Homes, Brooklyn is also an important industrial region, among its products are machinery, textiles, and paper and chemical goods The borough's extensive water-front facilities, center of an important foreign and domestic commerce, include the New York Naval Shipyard, commonly called Brooklyn Navy Yard, and the docks and warehouses of the Bush Terminal Brooklyn, Manhattan, and Williamsburg bridges span the East River, and subway tunnels underlie it Hollanders and Walloons settled about Gowanus and Wallabout bays in 1636 and 1637, about nine years later Dutch farmers established the hamlet of Breuckelen, near the present borough hall Becoming Brooklyn under the English, it was incorporated as a village (Brooklyn Ferry) in 1816, the township of Brooklyn was chartered as a city in 1834 Williamsburg was absorbed in 1855 and Brooklyn became the third largest city in the country. In 1898, when it became a borough of New York city, its population was c.1,000,000 In its growth it absorbed many settlements and villages, such as FLATBUSH, New Utrecht, and Gravesend (all settled in the 17th cent), until it included all of Kings co Among its numerous educational institutions are BROOKLYN COLLEGE, Polytechnic Institute of Brooklyn (for men, 1854), PRATT INSTITUTE, SAINT JOHN'S UNIVERSITY, St Joseph's College for Women, Packer Collegiate Institute, and LONG ISLAND UNIVERSITY CONEY ISLAND and SHEEPSHEAD BAY are among its water-front resorts Floyd Bennett Field (U S navy) is on Jamaica Bay, and Fort Hamilton (built 1831 as a harbor defense) stands at the Narrows of New York Bay Near beautiful Prospect Park, the scene of fierce fighting in the Revolution (see LONG ISLAND, BATTLE OF), is the main building of the Brooklyn Public Library Also in that area are the Brooklyn Museum, the botanic gardens, and the Brooklyn Children's Museum, which, with the Brooklyn Academy of Music, are all under the direction of the BROOKLYN INSTITUTE OF ARTS AND SCIENCES Among the many structures which give the borough its appellation City of Churches are the Reformed Protestant Dutch Church of Flatbush (first structure, 1654, present building, 1796), St Ann's Episcopal Church (est 1784), and Plymouth Church, where Henry Ward Beecher preached Other points of interest include the invaluable historical library of the Long Island Historical Society, Ebbets Field (home of the Brooklyn Dodgers), and the Lefferts Homestead (1777) A noted newspaper, the Brooklyn *Daily Eagle* (begun 1841), had Walt Whitman as its editor in 1846–47 See R F Weld, *Brooklyn Village, 1816–1834* (1938) and *Brooklyn Is America* (1950), H C Syrett, *The City of Brooklyn, 1865–1898*, (1944) **5** Village (pop 1,108), NE Ohio, near Cleveland, inc 1927

Brooklyn Bridge, SE N Y , southernmost of the bridges across the East River, between lower Manhattan and Brooklyn, built 1869–83 A suspension bridge, with a 1,595-foot span, it was the achievement of J A ROEBLING and his son W A ROEBLING

Brooklyn Center, village (pop 1,870), E Minn , between Minneapolis and Anoka, inc 1911

Brooklyn College of the College of the City of New York, coeducational, opened 1930 by merging branches of City and Hunter colleges Buildings were opened in 1937 on a site in Flatbush

Brooklyn Institute of Arts and Sciences, cultural institution founded in 1824 and reorganized and incorporated in 1890 It includes the Brooklyn Museum (designed by McKim, Mead, and White and erected between 1897 and 1925), a Children's Museum, the Brooklyn Academy of Music, and a 42-acre botanical garden The museum collections include the Tissot water-color drawings illustrating the life of Christ, a large collection of water colors by John Singer Sargent, American primitives, examples of the Hudson River school, and more than 100 sculptures by Barye Courses in the drama, music, fine arts, philosophy, psychology, sociology, political science, botany, astronomy, geology, geography, and electricity are available, lectures and concerts are given, and a forum and library are maintained. The Children's Museum contains natural history and ethnological collections

Brook Park, village (pop 1,122), NE Ohio, near Cleveland

Brookport, city (pop 1,247), S Ill , on the Ohio and NW of Paducah, Ky., inc 1888. It is a farm trade center Near by is a large U S. wicket dam

Brooks, Alfred Hulse, 1871–1924, American geologist, b. Ann Arbor, Mich., B.S. Harvard, 1894; son

of Thomas Benton Brooks. He joined the U.S. Geological Survey and after 1898 served chiefly in Alaska, exploring and studying especially Alaskan mineral resources. Brooks Range is named for him

Brooks, Maria Gowen, 1795?–1845, American poet and dramatic writer, b Medford, Mass Her first collection of poems, *Judith, Esther, and Other Poems* (1820), was praised by Southey, who named her "Maria del Occidente," which she later used as a pseudonym While living in Cuba she wrote the epic *Zophiel; or, The Bride of Seven* (1833) and *Idomen, or, The Vale of Yumuri* (1843) Her poetry, especially the *Ode to the Departed* (1843), was es teemed both in America and abroad

Brooks, Noah, 1830–1903, American writer and journalist, b Castine, Maine He was joint publisher of the *Daily Appeal* in Marysville, Calif , where through contributions to the *Overland Monthly* he and Bret Harte became friends In 1862 he was the Washington correspondent of the Sacramento, Calif , *Union* and in that capacity formed a friendship with President Lincoln After the Civil War he returned to the West as managing editor of *Alta California* but in 1871 joined the staff of the New York *Tribune* and in 1876 moved to the New York *Times* From 1884 until his retirement in 1892 he edited the Newark, N J , *Daily Advertiser* Brooks wrote two first-class boys' books, *The Boy Emigrants* (1876) and *The Boy Settlers* (1891), his works also include a number of books about the life and times of Abraham Lincoln

Brooks, Phillips, 1835–93, American Episcopal bishop, b Boston, grad Harvard, 1855, and studied at the theological seminary at Alexandria, Va A gifted preacher and a man of broad and generous sympathies, fine spiritual qualities, and unusual charm, he won wide esteem After rectorships (1859–69) in Philadelphia, he entered (1869) upon his memorable ministry at Trinity Church, Boston, where a statue designed by Saint-Gaudens bears witness to Brooks's influence upon his times In 1891 he was consecrated bishop of Massachusetts His lectures at Yale were published as *Lectures on Preaching* (1877), and his Bohlen lectures in Philadelphia as *The Influence of Jesus* (1879) The Christmas hymn *O Little Town of Bethlehem* was written by him See *Life and Letters* (ed by A V G Allen, 2 vols , 1900), biography by William Lawrence (1930)

Brooks, Preston Smith, 1819–57, U S Congressman (1852–57), b Edgefield District, S C , grad South Carolina College, 1839 A lawyer and the nephew of Senator Andrew Pickens Butler, he is remembered as the man who in 1856 caned Charles SUMNER after Sumner had bitterly criticized Senator Butler The slander in Sumner's speech and the brutality in Brooks's action showed how the rift was widening between North and South Resigning, Brooks was promptly reelected

Brooks, Richard Edwin, 1865–1919, American sculptor, b Braintree, Mass , studied in Paris He attained the Salon in 1895 with his *Song of the Wave* (Metropolitan Mus) His statue of Col Thomas Cass (Public Gardens, Boston) won a gold medal at the Paris Exposition of 1900 He is represented by several portrait statues in Statuary Hall, Washington, D C , and in Seattle, Hartford, Conn , Baltimore, and other cities

Brooks, Thomas Benton, 1836–1900, American geologist, b Monroe, N Y He served on the geological survey of New Jersey (1864) and in 1865 went to work for the Iron Cliff Mine in Michigan, becoming vice president and general manager He made a noted survey of the district and devised a dial compass and dip needle for prospecting

Brooks, Van Wyck, 1886–, American critic, b Plainfield, N J , grad Harvard, 1908 His first book, *The Wine of the Puritans* (1909), presented the thesis that American culture has been profoundly influenced by the pervasion of Puritanism on the frontier and in industrial expansion The theme was developed in his subsequent books, which include *America's Coming-of-Age* (1915) and *The Ordeal of Mark Twain* (1920) His biographies of Henry James (1925) and Emerson (1932) were an innovation in criticism In 1937 he won the Pulitzer Prize in history for *The Flowering of New England* (1936) This cultural history of the United States was continued with *New England Indian Summer* (1940), *The World of Washington Irving* (1944), and *The Times of Melville and Whitman* (1947) He also wrote *Essays Old and New* (1948)

Brooks, William Keith, 1848–1908, American zoologist, b Cleveland, Ohio, grad Williams College (LL D , 1870) and Harvard (Ph D , 1875) He taught at Johns Hopkins from 1876 to 1903 His studies on the development and propagation of the oyster led to protective legislation by the state of Maryland He founded in 1878, and for some years directed, the Chesapeake Zoological Laboratory, prosecuting studies in the Chesapeake and West Indian waters His influence was probably greatest as a teacher His works include *The Foundations of Zoology* (1899)

Brooks, William Robert, 1844–1921, American astronomer, b England In 1857 he came to the United States An expert draftsman and mechanic, he applied his skill to astronomical research He often used telescopes of his own making At Red House Observatory, founded by him at Phelps, N Y , in 1874, he discovered 11 comets In 1900 he became professor of astronomy at Hobart College, Geneva His discoveries of comets reached 27 in all Brooks was also one of the pioneers in celestial photography

Brooks, town (pop 1,091), S Alta , NW of Medicine Hat, in an irrigated ranch area It has alfalfa seed processing and natural gas

Brooks Range [for Alfred H Brooks, geologist], N Alaska, separating the Yukon river basin from the watershed of the Arctic Ocean The range embraces many mountain chains (Baird, Davidson, De Long, Endicott and Melville), and averages 5,500 ft to 6,500 ft in elevation There are few settlements in the area, and transportation is almost entirely by air

Brooksville, city (pop 1,607), co seat of Hernando co , W central Fla , N of Tampa, in a dairy, fruit, and limestone area, inc as a city 1925 Near by are the Devil's Punch Bowl (an arid sink) and Weekiwachee Spring (with a rate of 100,000 gal a minute), which forms a navigable river flowing 12 mi to the Gulf of Mexico

Brookville 1 Town (pop 2,194), co seat of Franklin co , SE Ind , NW of Cincinnati and on the Whitewater river, settled 1804, platted 1808 In this farm trading center, Lew Wallace, soldier and author, was born The town has a large residential section with many old houses 2 Village (pop 1,653), SW Ohio, NW of Dayton 3 Industrial borough (pop 4,397), co seat of Jefferson co , W Pa , NE of Pittsburgh, settled 1801, laid out 1830, inc 1843 In an area yielding bituminous coal, it is a farm trading center with gas and oil industries Near it is Cook Forest, a large tract of virgin pine and hemlock

Brookwood, village, Surrey, England, near Woking It is the site of an American military cemetery where many soldiers of the First World War are buried

broom, name for plants of two closely related and similar Old World genera, *Cytisus* and *Genista*, of the pea family They are mostly twiggy shrubs with abundant yellow or white (in *Cytisus* purple also) pealike blossoms The common or Scotch broom (*Cytisus scoparius*) is naturalized in parts of North America, the tops have been much used as a diuretic The canary broom or so-called genista of florists is *Cytisus canariensis*, a yellow-flowered evergreen shrub Species of the genus *Genista* include *Genista tinctoria*, called also dyer's-weed or woodwaxen, which yields a yellow dye A sprig of broom was the badge from which GEOFFREY IV of Anjou gained the name Geoffrey Plantagenet Other plants share the name of broom

broomcorn see SORGHUM

Brophy, Truman William, 1848–1928, American dentist, b Will co , Ill , M D Rush Medical College, 1880 He was professor (from 1883) and later dean at Chicago College of (Dental Surgery (now part of Loyola Univ) He devised a widely used operation for cleft palate and harelip He wrote *Oral Surgery* (1915) and *Cleft Lip and Palate* (1923)

Brosamer, Hans (hans' brō'zämur), c 1500–1554, German portrait painter and engraver One of the Little Masters, he is remembered chiefly for his copper engravings and woodcuts

Broschi, Carlo: see FARINELLI, CARLO BROSCHI

Brosse, Salomon de (sälōmō' du brōs'), 1565–1626, French architect He is chiefly known for Luxembourg Palace, which he built (1615–20) for Marie de' Medici The hunting château (1624–26) he erected for Louis XIII was the structure around which the palace of Versailles was later developed by Louis XIV In Paris, Brosse designed the west front of Saint-Gervais, and in Rennes, the Parliament House, now the Palais de Justice

Brosses, Charles de (shärl' dŭ brōs'), 1709–77, French scholar He was a friend of Buffon and a contributor to the *Encyclopédie* He wrote also an archaeological work on Herculaneum, letters concerning Italy, *Histoire des navigations aux terres australes* (1756), in which the names Australia and Polynesia were first used with reference to lands in the South Seas, *Du culte des dieux fétiches* (1760), a study of primitive religion, and *Traité de la formation mécanique des langues* (1765) He also collected and edited the fragments of Sallust's history of the Roman republic

Brotherhood of the New Life: see HARRIS, THOMAS LAKE

Brough, John (brŭf), 1811–65, Civil War governor of Ohio (1864–65), b Marietta, Ohio, studied briefly at Ohio Univ In 1844, after publishing newspapers in Marietta and Lancaster, he became joint owner and editor of the Cincinnati *Enquirer*, which he made one of the leading Democratic organs in the West Brough served in the state legislature, and as state auditor (1839–45) he thoroughly reorganized Ohio's financial system Though a Democrat, Brough so vigorously supported the Union during the Civil War that the Republicans nominated him for governor in 1863, and he soundly defeated the Copperhead leader, Clement L VALLANDIGHAM. He was one of the more effective state leaders of the period See W B Hesseltine, *Lincoln and the War Governors* (1948)

Brougham, Henry Peter, 1st **Baron Brougham and Vaux** (brōōm, vōz, vôks), 1778–1868, British statesman, b Edinburgh As a young lawyer he helped to found (1802) the *Edinburgh Review* and wrote for it He entered Parliament in 1810, took up the fight on the slave trade, and opposed the orders in council restricting trade He won popular renown as attorney general to Queen Caroline (1820), and in the next decade he became a liberal leader in the House of Commons He not only proposed educational reforms in Parliament, but also was one of the founders of the Society for the Diffusion of Useful Knowledge and of the Univ of London As lord chancellor he effected many legal reforms to speed procedure See Arthur Aspinall, *Lord Brougham and the Whig Party* (1927), biography by G T Garratt (1935)

Broun, Heywood Campbell (brōōn), 1888–1939, American newspaper columnist and critic, b Brooklyn, N Y , studied at Harvard, 1906–10 He was with the New York *Tribune*, 1912–21, and with the New York *World*, 1921–28, where his syndicated column, "It Seems to Me," began In 1928 he transferred it to the Scripps-Howard newspapers, including the New York *World-Telegram*, where it appeared until he moved it to the New York *Post* just before his death He constantly championed the underdog and criticized social injustices He was the first and very active president of the American Newspaper Guild from 1933 until his death His books include *The A E F* (1918), *The Boy Grew Older* (1922) and *Gandle Follows His Nose* (1926), novels, and a biography of Anthony Comstock (with Margaret Leech, 1927) He also collaborated in a revue, *Shoot the Works* (1931) *It Seems to Me* (1935) and *Collected Edition* (ed by H H Broun, 1941) give the best of his column See biography by Dale Kramer (1949)

Broussais, François Joseph Victor (frāswä' shôsēf' vēktôr' brōōsā'), 1772–1838, French physician In Paris he was professor at Val-de-Grâce military hospital from 1820 and at the Faculty of Medicine from 1830 He taught that excessive stimulation caused inflammation and that disease was spread from one organ to others by gastrointestinal mucosa His method of treatment, in vogue in the early 19th cent , was starvation and the application of leeches

Broussel, Pierre (pyĕr' brōōsĕl'), b c 1570, councilor of the Parlement of Paris under Louis XIII and Louis XIV His opposition to Mazarin's program of taxation made him popular The uprising after his arrest in 1648 caused his early release and marked the beginning of the first FRONDE In July, 1652, the Parisians chose him provost of the merchants, i e , virtual mayor He resigned in September in order to facilitate the reconciliation between the citizens and the court, and he died in obscurity

Broussonnet, Pierre Marie Auguste (pyĕr' marē' ōgüst' brōōsônā'), 1761–1807, French naturalist and physician He was professor of botany at Montpellier He is said to have been the first to bring Merino sheep and Angora goats into France His chief work is *Elenchus plantarum horti montispelensis* (1805)

Brouwer or **Brauwer, Adriaen** (ädr"rēän' brou'wur), c 1605–1638, Flemish painter of genre and rustic scenes He early went to Holland, where he studied with Frans Hals He acquired much of the latter's bold and vigorous manner and also his fondness for drink and low life His favorite subjects were tavern scenes Despite a very short and dissipated life, Brouwer left a considerable number of fine paintings, beautiful in color and spirited in characterization Among the most famous are *The Smoker* (Louvre), and *The Sleeping Peasant* (Wallace Coll , London) The Metropolitan Museum has his *Head of a Man* See study by F Schmidt-Degener (1908, in French)

Broward, Napoleon Bonaparte, 1857–1910, governor of Florida (1905–9), b Duval co , Fla Becoming interested in the drainage of the EVERGLADES, he made it a major issue in his successful campaign for governor in 1904, and this great undertaking was started in his administration

Browder, Earl Russell, 1891–, American communist, b Wichita, Kansas He became converted to Marxism as a boy, and after imprisonment (1917–19) for opposing the draft he joined (1919) the Communist party Following his return from two years in China he was general secretary of the party (1930–45), the party's candidate for President (1936 1940), and editor in chief of the *Daily Worker* (1944–45) In 1940 he was convicted of passport fraud and imprisoned, but he was freed by Franklin D Roosevelt in 1942 During the Second World War, he advocated greater cooperation with capitalism and headed the Communist Political Association, which briefly replaced the Communist party Opposition to his policies (1945) resulted in his removal from all party offices and from the party (1946) Among his works are *Communism in the United States* (1935), *What Is Communism?* (1936), *The People's Front* (1938), and *War or Peace with Russia* (1947)

Browere, John Henri Isaac, 1792–1834, American sculptor, b New York city He was noted for his life masks in plaster His plaster busts include

those of John Adams, John Quincy Adams, Thomas Jefferson, James Madison, De Witt Clinton, and Dolly Madison

Brown, family of bankers in America **Alexander Brown,** 1764–1834, b Co Antrim, Ireland, moved (1800) to Baltimore There he was a cotton and tobacco exporter, and soon he became wealthy as an international banker He took his sons into partnership in the banking firm of Alexander Brown & Sons, sending **William Brown,** 1784–1864, to Liverpool, England He was knighted **John Alexander Brown,** 1788–1872, was sent to Philadelphia, and **James Brown,** 1791–1877, to New York, each establishing a branch of the firm Another son, **George Brown,** 1787–1859, remained in Baltimore, was a founder of the Baltimore & Ohio RR, and was (1827–34) the railroad's treasurer The fortunes of the Brown firm mounted rapidly, and for a generation the company, with world-wide connections, was the leading institution of its kind in America The father and all the sons were prominently identified with civic improvements and philanthropies See F R Kent, *The Story of Alexander Brown & Sons* (1925)

Brown, Aaron Venable, 1795–1859, U S Postmaster General (1857–59), b Brunswick co , Va , grad Univ of North Carolina, 1814 He became a lawyer in Tennessee, served in the state legislature and in Congress (1839–45), and was governor (1845–47) His administration of the Post Office under President Buchanan was notable for the establishment of better overland mail facilities

Brown, Alexander · see Brown, family

Brown, Alexander Ephraim, 1852–1911, American inventor b Cleveland, grad Brooklyn Polytechnic Institute, 1872 He is noted especially for the Brown hoisting and conveying machine, patented in 1880, which revolutionized the handling of ore and coal on the Great Lakes

Brown, Alice, 1857–1948, American author, b Hampton Falls, N H She is best known for her delineations of New England characters in her books of short stories, e g , *Meadow-Grass* (1895) and *Tiverton Tales* (1899), in her play *Children of Earth* (1915), and in novels, among them *The Story of Thyrza* (1909) and *The Prisoner* (1916) She also wrote biographies of Mercy Warren (1896) and of her friend Louise Imogen Guiney (1921)

Brown, Benjamin Gratz, 1826–85, U S Senator (1863–67) and governor of Missouri (1871–73), b Lexington, Ky , grad Yale, 1847 An able lawyer of St Louis, Brown was a leader in the Free-Soil movement in Missouri and later helped form the Republican party there In the memorable Missouri election of 1870 Brown and his supporters defeated the radical Republicans, and he thus became prominent in the rise of the national Liberal Republican party He was the party's candidate for Vice President on the unsuccessful ticket headed by Horace Greeley in 1872

Brown, Charles Brockden, 1771–1810, American novelist and editor, b Philadelphia, of Quaker parents He was the first professional American novelist Although he first wrote *Alcuin a Dialogue* (1798), his memorable works are his novels, in which his interest in character development and abnormal behavior tentatively foreshadowed the psychological novel His plots echo William Godwin's *Caleb Williams* In his attempt to be realistic he gives pseudoscientific explanations for his mysteries, as he uses ventriloquism in *Wieland* (1798), his most popular novel The American scene was his favorite setting, used effectively in *Edgar Huntly* (1799) Other tales are *Arthur Mervyn* (2 vols , 1799–1800), *Ormond* (1799), and *Clara Howard* (1801) To support himself after 1800 he became a merchant, but also edited successively three periodicals, wrote political pamphlets, and projected a compendium on geography See biographies by D L Clark (1923) and H R Warfel (1949)

Brown, Elmer Ellsworth, 1861–1934, American educator, b Chautauqua co , N Y , grad Illinois State Normal Univ , 1881, and studied at the Univ of Michigan and in Germany He taught education at the Univ of Michigan (1891–93) and at the Univ of California (1893–1906) After directing the reorganization of the Bureau of Education, as U S commissioner of education (1906–11), he became chancellor of New York Univ returning in 1933 He wrote *The Making of Our Middle Schools* (1903) and *A Few Remarks* (1933)

Brown, Ernest William, 1866–1938, American mathematician, b Hull, England He was professor of mathematics at Haverford College (1891–1907) and at Yale (1907–32) He made notable contributions to astronomy with his lunar theory and the compilation of new tables of the moon's motion He wrote *Treatise on the Lunar Theory* (1896), *A New Theory of the Moon's Motion* (1897–1905), and *Tables of the Motion of the Moon* (1920)

Brown, Fay Cluff, 1881–, American physicist, b Fayette co , Ohio, grad Indiana Univ (B A , 1904), Ph D Princeton, 1908 He taught at the State Univ of Iowa (1909–19), served with the Bureau of Standards (1919–27), and from 1937 to 1940 was with the Museum of Science and Industry, Chicago In 1940 he joined the staff of the Massachusetts Institute of Technology He made special studies in a number of fields, including ballistics and radioactivity

Brown, Ford Madox, 1821–93, English historical painter, b Calais, France He was educated in Bruges and in Antwerp, where he studied with Wappers Though closely affiliated with the Pre-Raphaelites in London, he never joined the brotherhood Like theirs, his paintings created a stir because of their bright color and naturalism Well-known examples are *Christ Washing Peter's Feet* (National Gall , London), *Work* (Manchester Art Gall), *The Last of England* (Birmingham Gall), his series of 12 frescoes in the town hall of Manchester, depicting the history of that city See study by his grandson, F M Ford (1896)

Brown, Francis, 1849–1916, American educator and biblical scholar, b Hanover, N H., grad Dartmouth, 1870, and Union Theological Seminary, 1877, and studied in Germany, 1877–79 In 1879 he joined the faculty of Union Theological Seminary, becoming professor of Hebrew and the cognate languages in 1890 and president in 1908 He was the first in the United States to teach Assyrian In 1907–8 he was in charge of the American School for Oriental Study and Research in Palestine Among his works are *Assyriology Its Use and Abuse in Old Testament Study* (1885) and *A Hebrew and English Lexicon of the Old Testament* (with S R Driver and C A Briggs, completed 1906)

Brown, George, U S banker see Brown, family

Brown, George, 1818–80, Canadian journalist and statesman, b Scotland In 1838 he came to the United States, but after five years in New York city, he settled in Toronto, Ont There he founded (1844) the Toronto *Globe,* which under his editorship became the most powerful political journal in Upper Canada He wholeheartedly supported Robert Baldwin and the movement for responsible government Elected in 1851 as a Reform member of the Canadian legislative assembly, Brown in time became leader of the "Clear Grits" faction, which opposed the influence of the French Canadians in the assembly He urged the secularization of the clergy reserves in Ontario, a national school system, the purchase of the Northwest Territories, and, in particular, representation by population instead of the equal representation for Quebec and Ontario as established by the Act of Union (1841) Brown played an important role in the movement for confederation Despite his personal and political hatred for Sir John A Macdonald, he joined (1864) "the great coalition" ministry and with Macdonald and others went to England in 1865 to urge Canadian confederation He resigned that year from the government because of his inability to work with Macdonald but later (1873) accepted appointment to the Canadian Senate See biographies by Alexander Mackenzie (1882) and John Lewis (rev ed , 1926)

Brown, George Douglas see Douglas, George

Brown, Henry Kirke, 1814–86, American sculptor, b Leyden, near Greenfield, Mass He studied with Chester Harding, then the leading painter of Boston, and in 1836 went to Cincinnati to become a portrait painter There he became interested in modeling and worked at various jobs in order to go to Italy to study He returned to America in 1846 and settled in New York city Some of his early works—*Ruth, Adonis, Rebecca,* and others—show the effect of the Italian neoclassicism of the period *Indian and Panther* and *Aboriginal Hunter* are the result of an interest in Western Indians In 1856 he completed his best work, the bronze equestrian Washington in Union Square, New York city Among his later works are four statues in Statuary Hall, the Capitol, Washington, D C He exerted a strong influence on his pupils, among whom was J Q A Ward

Brown, Jacob Jennings, 1775–1828, American general, b Bucks co , Pa In the War of 1812 he defeated (May, 1813) a British attempt to take Sackets Harbor and the next year became commander of the Niagara frontier Brown crossed the Niagara, took Fort Erie, and drove the British back towards York (present Toronto) On July 25, 1814, he fought the battle of Lundy's Lane, but later was forced to retreat back to Fort Erie when expected naval support from Isaac Chauncey did not materialize From 1821 to 1828 he was general in chief of the U S army

Brown, James, U S banker see Brown, family

Brown, John, 1744–80, American Revolutionary patriot, b Haverhill, Mass , grad Yale, 1771. He became a lawyer and joined the patriot cause He went (1774–75) to Canada as an agent for the Boston Committee of Correspondence in a fruitless effort to establish correspondence and to encourage the Canadians to revolt In the American Revolution, as a friend of Ethan Allen, he had a prominent part in the capture of Ticonderoga (1775), later led a small force into Canada and with Allen made a hopeless attack on Montreal before Richard Montgomery arrived, then took part in the Quebec campaign He fought against Burgoyne in the Saratoga campaign (1777), capturing Fort George In 1780 he was fighting against the Indians and Tories in the Mohawk valley when he was killed

Brown, John, 1800–1859, American abolitionist, Torrington, Conn. He spent his boyhood in Ohi His life was a succession of business failures, Ohio, Pennsylvania, Massachusetts, and New Yor before he became prominent in the 1850s A ardent abolitionist (he once kept a station the Underground Railroad at Richmond, Pa Brown in 1855 settled with five of his sons Kansas to help win the state for freedom He b came "captain" of the colony on the Osawatomi The success of the proslavery forces, particular their sack of Lawrence, aroused Brown, and order "to cause a restraining fear" he, with fo of his sons and two other men, deliberately mu dered five proslavery men living on the banks the Pottawatamie river In this he asserted he w an instrument in the hand of God His exploits a leader of an antislavery band received wide pu licity, especially in abolitionist journals, and "Old Brown of Osawatom. " he became national known Late in 1857 he began to enlist men f a project which he seems to have had in mi for some time and which took definite form at convention of his followers held at Chatham, Ont the next spring He planned to liberate the slav through armed intervention by establishing stronghold in the Southern mountains to which tl slaves and free Negroes could flee and when servile insurrections could be stirred up Early 1859 Brown rented a farm near Harpers Ferry, V (now W Va), and there collected his followers a arms On the night of Oct 16, with 21 follower he crossed the Potomac and without much resis ance captured the U S arsenal at Harpers Ferr made the inhabitants prisoners, and took gener possession of the town Strangely enough, he the merely settled down, while the aroused local milit blocked his escape That night a company of U marines, commanded by Col Robert E Lee, a rived, and in the morning they assaulted the e gine house of the armory into which Brown's for had retired Ten of Brown's men were killed in th resulting battle, and Brown himself was wounde News of the raid aroused wild fears in the Soutl and to the North it came as a great shock O Dec 2, 1859, Brown was hanged at Charles Tow His dignified conduct and the sincerity of his cau defense during the trial won him sympathy in th North and led him to be regarded as a martyr See biography by O G Villard (1910, rev ed 1943), J C Malin, *John Brown and the Legend of Fifty-Six* (1942)

Brown, John, 1810–82, Scottish essayist, grad Uni of Edinburgh He was a physician His writing w collected in *Horae Subsecivae* (3 vols , 1858–82) an included his unique picture of a dog, *Rab and H Friends* (1859), and a memoir of that gifted chil known to Walter Scott's circle as "Pet Marjorie, *Marjorie Fleming* (1863) See his letters (ed by h son and D W Forrest, 1907), biography by E T M'Laren (1901)

Brown, John Alexander, U S banker see Brown family

Brown, John Carter, 1797–1874, American book co lector and philanthropist, b Providence, R I , so of Nicholas Brown He began (c 1840) collectin books printed before 1800 relating to America 5,600-volume library of early Americana result (catalogued by J R Bartlett, 4 vols , 1865–71 Several thousand more volumes were added befor Brown's death He gave liberally to Brown Univ named for his father After the death of his son John Nicholas Brown, his library passed to Brow Univ , with funds and endowment for a speci building on the campus to house it It is know as the John Carter Brown Library

Brown, John George, 1831–1913, American genr painter, b England He is best known for h humorous studies of street urchins *His First Cigc* and *Curling in Central Park* are characteristic work His *Meditation* and *The Music Lesson* are in th Metropolitan Museum

Brown, Joseph Emerson, 1821–94, Georgia state man, b Pickens District, S C , grad Yale Law School, 1846 In 1857 he was elected governor c Georgia and was three reelected, serving through out the Civil War Brown was an ardent states rights Democrat who eagerly advocated secessior Equally persistent about states' rights in the Con federacy, he quarreled with Jefferson Davis ove the assumption of Georgia troops into the Con federate army, conscription, and the suspension c the writ of habeas corpus After the war Brow became a Republican, advocated acquiescence t Reconstruction, and gained great unpopularity He soon returned to the Democratic fold, however and in 1880 was appointed to the U S Senate sea of John B Gordon, who had resigned He wa continued in the Senate till his retirement in 1891 The triumvirate of Brown, Gordon, and Alfred H Colquitt ruled Georgia for many years See L B Hill, *Joseph E Brown and the Confederacy* (1939) B J Hendrick, *Statesmen of the Lost Cause* (1939)

Brown, Lancelot, 1715–83, English landscape gar dener and architect One of the first to break away from the formal geometric style of Lenôtre, he i considered one of the founders of the English nat uralistic school of landscape design

Brown, Mather, 1761–1831, American portrait and historical painter, b Boston He studied under Benjamin West in London and continued to work in England His portraits include those of George IV (Buckingham Palace, London), Queen Charlotte, Sir William Pepperrell, Cornwallis, and Presidents John Adams and Thomas Jefferson, a self-portrait belongs to the American Antiquarian Society, Worcester, Mass He is well represented in the National Portrait Gallery, London *Marquis Cornwallis Receiving as Hostages the Sons of Tippo Sahib* is his best-known historical work.

Brown, Moses, 1738–1836, American manufacturer and philanthropist, b Providence, R I He was associated with his brothers John, Joseph, and Nicholas Brown in the family's mercantile activities before establishing (1790), with Samuel SLATER, the first water-powered cotton mill in America. The moving of Rhode Island College, later Brown Univ , from Warren to Providence in 1770 was largely due to his influence, and he contributed generously to the college Moses Brown School in Providence, a leading preparatory institution for boys, was established (1819) by Quakers on land donated by him

Brown, Nicholas, 1769–1841, American manufacturer and philanthropist, b Providence, R I , grad Rhode Island College (renamed Brown Univ in 1804 for him), 1786 He extended the internationally known mercantile business of his father, Nicholas Brown (1729–91), and later his own firm, Brown and Ives, came to control most of the water power on the Blackstone river, where his uncle, Moses Brown, and Samuel Slater had pioneered in the cotton textile industry He was the treasurer (1796–1825) and long the benefactor of his alma mater Butler Hospital (1847) was founded by his bequest for the care of the mentally ill

Brown, Olympia, 1835–1926, American Universalist minister and woman-suffrage leader, b Prairie Ronde, Mich , grad Antioch College, 1860, and studied at the theological school of St Lawrence Univ She was the first woman in America to be ordained (1863) to the ministry For 30 years she was president of the Wisconsin Woman's Suffrage Association In 1873 she married Henry Willis, but retained her own name

Brown, Robert, 1773–1858, Scottish botanist and botanical explorer In 1801 he went as naturalist on one of Matthew Flinders's expeditions to Australia, returning (1805) to England with valuable collections In his *Prodromus florae Novae Hollandiae et Insulae Van Diemen* (1810) he described Australian flora A leading botanist of his day, he served as librarian to the Linnean Society and to Sir Joseph Banks and later as curator at the British Museum He observed BROWNIAN MOVEMENT in 1827 and discovered the cell nucleus in 1831 His studies of several plant families and of pollen were also notable

Brown, Roy, 1879–, American landscape painter He is represented in the Metropolitan Museum of Art and other leading galleries

Brown, Samuel Robbins, 1810–80, American missionary and educator, b East Windsor, Conn grad Yale, 1832, and studied at Columbia (S C) Theological Seminary and at Union Theological Seminary As missionary (1839–47) to China, he took charge of a school founded by the Morrison Educational Association When he returned (1847) to the United States, three students accompanied him, the first Chinese to come to America to be educated Brown had an important part in the founding of Elmira College From 1859 to 1879 he was a missionary to Japan

Brown, Solyman, 1790–1876, American dentist, writer, and clergyman, b Litchfield, Conn He is noted in the history of dentistry for his part in organizing the first dental associations, local and national —the Society of Surgeon Dentists of the City and State of New York and the American Society of Dental Surgeons He wrote on dentistry and was promoter and editor of the *American Journal of Dental Science*

Brown, Thomas Edward, 1830–97, British poet, b Isle of Man, educated at King William's College, Isle of Man, and at Oriel College, Oxford He was headmaster of the Crypt School, Gloucester, and for 30 years after 1864 was second master at Clifton College Brown wrote, in Manx dialect, a number of narrative and lyric poems, which are collected in the volumes *Fo'c'sle Yarns* (1881), *The Doctor and Other Poems* (1887), and *The Manx Witch and Other Poems* (1889) "My Garden" is frequently quoted His complete works appeared in 1900

Brown, Walter Folger, 1869–, American cabinet officer, b Massillon, Ohio, grad Harvard, 1892 A lawyer of Toledo, Ohio, he became prominent in Republican politics and was (1927–29) Assistant Secretary of Commerce As Postmaster General (1929–33) under President Herbert Hoover, Brown secured a reduction of air-mail rates and a consolidation of air-mail routes—policies which aided the development of commercial aviation in the United States

Brown, William, U S banker see BROWN, family,

Brown, William Hill, 1765–93, American writer; son of a celebrated Boston clockmaker, Gawen Brown. He wrote poems, essays, two plays (one of them a tragedy, *West Point Preserved*), and a short novel, *Ira and Isabella*, but he is notable only as the probable author of the first American novel, *The Power of Sympathy* (1789) Because an episode in the book reflected a scandal which involved Perez Morton and his sister-in-law Frances Theodora Apthorp, the novel was long ascribed to Sarah Wentworth MORTON, who was a neighbor of Brown The novel had little circulation, and a well-authenticated story has it that the Mortons and Apthorps, with the author's consent, bought up the copies and suppressed the book See Emily Pendleton and Milton Ellis, *Philenia the Life and Works of Sarah Wentworth Morton* (1931)

brown coal · see LIGNITE

Browne, Charles Farrar see WARD, ARTEMUS

Browne, Francis Fisher, 1843–1913, American magazine editor, b South Halifax, Vt He served in the Civil War and later studied law at the Univ of Michigan In Chicago he edited the *Lakeside Monthly*, 1869–74 The *Dial*, which he founded in 1880, was the leading literary monthly until his death, it was noted, as he was, for analytical criticism He edited several anthologies of poetry and wrote *The Everyday Life of Abraham Lincoln* (1886) and the poems *Volunteer Grain* (1895)

Browne, Hablot Knight, pseud **Phiz,** 1815–82, English illustrator Early apprenticed to the engraver Finden, Browne soon showed his preference for the freer arts of drawing and water color At 21 he was chosen by Charles Dickens to illustrate *Pickwick Papers* His success was immediate, and in due course he illustrated many of Dicken's novels as well as works of Harrison Ainsworth and Charles Lever Among his best are the illustrations for *Dombey and Son*, *A Tale of Two Cities*, *Bleak House*, and *Martin Chuzzlewit* Browne also contributed popular cartoons to *Punch* See studies by F G Kitton (1882) and D C Thomson (1884), Edgar Browne, *Phiz and Dickens* (1913)

Browne, Robert, c 1550–c 1633, English clergyman and leader of a group of early separatists popularly known as Brownists He early arrived at the belief that those who lived Christian lives made up the true church Preaching without a license, Browne advocated nonconformity, he gathered a congregation at Norwich c 1580 In 1581 he and his followers sought refuge in Holland There he published (1582) several treatises which are generally regarded as the first expression of the principles of CONGREGATIONALISM Circulation in England of these tracts was punishable by death Upon his return to England in 1584, Browne was imprisoned and later was excommunicated But by 1586 he had yielded to the terms of the Church in such wise as to be made master of the Stamford grammar school, and in 1591 he submitted to episcopal ordination and became rector of Achurch, Northamptonshire See biographies by Champlin Burrage (1906) and F J Powicke (1910)

Browne, Sir Thomas, 1605–82, English author and physician, educated at Oxford and abroad, knighted by Charles II (1671) Browne's *Religio Medici* was composed as a private confession of faith (c 1635), a pirated edition (1642) was followed by the authorized edition (1643) *Hydriotaphia, Urne-Buriall* (1658), probably his finest work, is a solemn reflection on death and immortality He also wrote *Pseudodoxia Epidemica*, commonly known as *Vulgar Errors* (1646), *The Garden of Cyrus* (published with *Hydriotaphia*), *A Letter to a Friend* (1690) and *Christian Morals* (1716) He is considered one of the greatest stylists of English prose See edition of his works (1928–31) and bibliography (1924) by Geoffrey Keynes, studies by Sir Edmund Gosse (1905), Robert Sencourt (1925), and Oliver Leroy (1931)

Browne, Thomas, d. 1825, Loyalist commander in the American Revolution A resident of Augusta, Ga , he was the victim of patriot violence in 1775, when he was tarred and feathered for ridiculing the Continental Congress Later he organized (1778) a Loyalist troop in Florida and raided settlements in S Georgia In 1780 he captured Augusta, in 1781 he was forced to surrender to Andrew Pickens and Henry Lee, and after his exchange he was a colonel in the Queen's Rangers in South Carolina, to be defeated (May, 1782) by Anthony Wayne long after the major fighting of the war had ended at Yorktown Browne, who was fiercely hated by the patriots, escaped and lived out his life in the British West Indies.

Browne, Thomas Alexander, pseud **Rolf Boldrewood,** 1826–1915 Australian author, b London His father was one of the founders of Melbourne, and Browne, brought up there, lived as a squatter, a magistrate, and a commissioner in the gold fields and produced some 30 books of adventure in Australia These included *Old Melbourne Memories* (1884), *Robbery under Arms* (1888), and *The Miner's Right* (1890).

Browne, William (William Browne of Tavistock) (tăv'lstŏk), 1591?–1645?, English poet An imitator of Spenser, he did his finest work in pastoral poetry, of which *Britannia's Pastorals* (1613–16) and *The Shepherd's Pipe* (with George Wither and others, 1614) are the best examples.

Browne, William George, 1768–1813, English traveler. He traveled in Egypt, Darfur, and Asia Minor (1792–98) and published an account in his *Travels in Africa, Egypt, and Syria* (1799) After a visit to Turkey and the Levant (1800–1802), he set out (1812) through Asia Minor and Armenia to Persia, he was murdered en route to Teheran.

Brownell, William Crary, 1851–1928, American literary critic and author, b New York city, grad Amherst, 1871 For 40 years a literary adviser to Charles Scribner's Sons, he was one of the foremost humanistic American critics of life and letters The variety of his interests is shown by his titles—*French Traits* (1889), *French Art* (1892), *Victorian Prose Masters* (1901), *American Prose Masters* (1909), *Criticism* (1914), *Standards* (1917), and *Democratic Distinction in America* (1927) See biography by his wife, Gertrude Hall Brownell (1933)

Brownfield, town (1940 pop 4,009, 1947 estimated pop 6,000), co seat of Terry co , NW Texas, SW of Lubbock and near Sulphur Draw on the Llano Estacado, inc 1926 Cattle raising, farming, processing plants large trade, and especially new chemical plants have speeded the town's growth

brown hematite · see LIMONITE

Brownian movement, the zigzag, irregular movement which minute particles of solid matter exhibit when suspended in a fluid The motion is continuous and of a vibratory nature and has no relation to disturbances outside the liquid It was first established in 1827 by Robert Brown, the botanist, after whom it was named This phenomenon is held to be a substantiation of the kinetic molecular theory of matter, which states that matter is composed of extremely minute particles (see MOLECULE) in constant vibratory motion Therefore, any particle of matter (not too big) when suspended in a fluid is buffeted by the molecules of the liquid and driven at random through the liquid The smallest particles visible under the highest power microscope exhibit such motion (see COLLOID), and the velocity of particles so held in a fluid appears to increase as their size diminishes J B Perrin has used these movements as a basis for experimentation in work on the kinetic theory

brownie, in Celtic folklore, friendly goblin of farmsteads and country dwellings The brownies helped with churning and other household labors at night Scottish legend made the brownie a "tall, dark fellow," but the children's books by Palmer Cox popularized in the United States a conception of the brownie as diminutive

Browning, Elizabeth Barrett, 1806–61, English poet, b Durham, wife of Robert BROWNING Elizabeth had been a delicate and precocious child, in her early womanhood the bursting of a blood vessel in her lungs led to years of invalidism In 1838 her first volume of poems, *The Seraphim*, was published In 1838 also the Barretts moved to 50 Wimpole St London, where Robert Browning carried on the ardent courtship which finally won Elizabeth to marry him secretly in defiance of her tyrannical father and to go with him to Italy (1846) Most of the Brownings' married life was spent in Italy, there the one son was born and there Mrs Browning threw herself into the cause of Italian liberation from Austria Their home in Florence, "Casa Guidi," is preserved as a memorial Mrs Browning's health improved in Italy, and her work gained in strength and significance Her greatest poetry, *Sonnets from the Portuguese* (1850), was inspired by her own love story *Casa Guidi Windows* (1851), on Italian liberty, and *Aurora Leigh* (1856), a novel in verse, followed See *The Letters of Robert Browning and Elizabeth Barrett Browning, 1845–46* (1899), L S Bons, *Elizabeth Barrett Browning* (1930), Rudolph Besier, *The Barretts of Wimpole Street* (1930), a dramatic version of the Brownings' love story in which Katharine Cornell played Elizabeth Barrett, Virginia Woolf, *Flush a Biography* (1933), Jeannette Marks, *The Family of the Barretts* (1938)

Browning, John Moses, 1855–1926, American inventor, b Ogden, Utah His father was a gunsmith, and Browning at 13 invented his first gun in his father's shop After obtaining a patent on a breech-loading rifle in 1879, he became a small-arms designer for the Winchester arms company Later he worked for other manufacturers, notably the Colt firm, and still later was in an independent concern. He invented a repeating rifle (1884), a box-magazine rifle (1885), and three weapons—the Browning automatic pistol, the Browning machine gun, and the Browning automatic rifle—which were standard equipment for the U S army in the First World War.

Browning, Orville Hickman, 1806–81, U S Secretary of the Interior (1866–69), b Harrison co , Ky He moved to Illinois in 1831, practiced law at Quincy, and was a Whig member of the legislature One of the organizers of the Republican party in Illinois, Browning helped secure his friend Lincoln's nomination for President in 1860, but later, as U S. Senator from Illinois (1861-63), he opposed Lincoln on the emancipation question After Lincoln's assassination Browning supported Andrew Johnson's Reconstruction policy in opposition to the radical Republicans He joined Johnson's cabinet in Sept , 1866, and was one of the

President's closest friends and advisers during the impeachment struggle. His diary, edited by T. C Pease and J G. Randall (2 vols , 1927-33), is an important and detailed source for the Lincoln and Johnson administrations.

Browning, Robert, 1812–89, English poet, son of a London bank clerk of independent means Browning's broad and sound education was primarily the work of his artistic and scholarly parents Undecided which of the arts he preferred, he was perhaps influenced by reading Shelley Browning's anonymous *Pauline* appeared in 1833 In 1834, 1838, and 1844 he visited Italy, which became his second homeland The poem *Paracelsus* (1835) is set in Italy, and his much later poem "An Italian in England" was to be a favorite with Mazzini His plays *Strafford* (1837), suggested by William Macready, and *A Blot in the 'Scutcheon* (1843) were performed with Macready acting in both They were not well adapted to the stage, although they and his other plays read well In his historical narrative poem, *Sordello* (1840), Browning attempted compression and elision to a degree which his readers found obscure In later works he developed a literary form in which he has not been surpassed, the dramatic monologue—a character reveals himself solely through his own words "Fra Lippo Lippi," "Andrea del Sarto," and "The Bishop Orders His Tomb at Saint Praxed's Church" are poems of this kind In 1846, after a romantic courtship, Browning married the poet Elizabeth Barrett (see BROWNING, ELIZABETH BARRETT) and took her to Italy for 15 happy years until her death He had written *Bells and Pomegranates* (8 parts, 1841–46) and in Italy wrote *Men and Women* (1855) *Dramatis Personae* (1864) followed His masterpiece, *The Ring and the Book* (1868–69), is a murder story presented in a series of 10 dramatic monologues, with an introduction and a conclusion in which the poet speaks Browning had gained recognition slowly, but was now acclaimed as a great poet and ethical leader His later works include *Dramatic Idyls* (2 vols , 1879–80) and *Asolando* (1889) Today he is noted for his psychological portraits in verse and his craftsmanship, though his persistent optimism seems to alienate some readers Browning died in Venice and was buried in Westminster Abbey See variously published volumes of his letters, biographical sketch by H E Scudder in the Cambridge edition (1895) of his works, standard biography by W H Griffin and H. C Minchin (rev ed , 1938), W C De Vane, *A Browning Handbook* (1935)

Browning, town (pop 1,825), NW Mont , NW of Great Falls, inc 1920 Near Glacier National Park, it has the agency of the Blackfeet Indian Reservation

Brownists see BROWNE, ROBERT

Brownlow, William Gannaway (broun'lō), 1805–77, known as the "fighting parson," governor of Tennessee (1865–69), b. Wythe co , Va He became an itinerant Methodist preacher, noted for his powers of vituperation, and won a large following in E Tennessee by his speeches on public questions He edited the Jonesboro *Whig* for 10 years and after 1849 made the Knoxville *Whig* one of the most influential papers in the state Though not opposing slavery, Parson Brownlow strongly opposed secession and shared with Andrew Johnson, whom he despised, the Unionist leadership of E Tennessee. His paper continued to express views violently hostile to the Confederacy until Oct 24, 1861, when it was suppressed Brownlow fled to the mountains, but was taken, imprisoned for a month, and afterward kept under guard until March 3, 1862, when he was sent within Union lines He then made an extensive and highly successful speaking tour of the North and also wrote his *Rise, Progress, and Decline of Secession* (1862), which contained a narrative of his experiences Early in 1865, Tennessee having been completely conquered by Union forces, he was elected governor and instituted his own version of Reconstruction. He disfranchised those who had served in the Confederate army, used the state guards against the Ku Klux Klan, and proclaimed martial law in the most turbulent areas. He was reelected in 1867, and when his term ended, Tennessee was a broken, impoverished state He was a U S Senator from 1869 to 1875. See biography by E M Coulter (1937)

Brownsburg, village (pop 3,105), S Que , NW of Lachute. Originally a lumber town, it now makes ammunition

Brownsburg, town (pop. 1,136), Hendricks co , central Ind , WNW of Indianapolis

Brown-Séquard, Charles Édouard (broun'-sākär', -sākwar'), 1817–94, physiologist, b Mauritius, of French and American parents He was professor at Harvard Univ (1864–68) and at the Collège de France (from 1878) and practiced medicine in New York city (1873–78) He was an authority on the nervous system, on animal heat, and on blood and was a pioneer in the study of internal secretions and of rejuvenation

Brownson, Orestes Augustus, 1803–76, American author and clergyman, b. Stockbridge, Vt Largely self-taught, he became a vigorous and influential writer on social and religious questions. He was a Presbyterian, but left that church to become first a Universalist and then a sort of free-lance minister, working for such socialistic schemes as the short-lived Workingmen's party Later he was a Unitarian minister until in 1836 he started his own church, the Society for Christian Union and Progress As founder and editor of the *Boston Quarterly Review* (1838–42) and as editor of the *Democratic Review* (1842–44), he condemned social inequalities At this time he was one of the transcendentalists and was so interested in Brook Farm as to send his son there He entered the Roman Catholic Church in 1844, and soon, as editor of the new *Brownson's Quarterly Review*, he not only attacked non-Catholic beliefs, but displeased many Catholics by his attempts to liberalize the social policies of the Church Among his books are *New Views of Christianity, Society, and the Church* (1836), two autobiographical novels, *Charles Elwood, or, The Infidel Converted* (1840) and *The Convert* (1857), *The American Republic* (1865) See biography by his son, H F Brownson (3 vols , 1898–1900), who also edited his works, and biographies by A M Schlesinger, Jr (1939), and Theodore Maynard (1943).

brownstone. see SANDSTONE

Brownstown. **1** Town (pop 1,860), co seat of Jackson co , S Ind , E of Bedford, laid out 1816 Jackson County State Forest is near by. **2** Borough (pop. 1,598), Cambria co , SW Pa , just W of Johnstown

Browns Valley, village (pop 1,075), W Minn , between Big Stone Lake and Lake Traverse, settled 1866 It is a farm trade center A skeleton known as the Browns Valley man was discovered near by in 1934 Some anthropologists associate it with the FOLSOM CULTURE, others deny that it is prehistoric

Brownsville. **1** Borough (pop 8,015), SW Pa , on the Monongahela and SSE of Pittsburgh, laid out 1785, inc 1815 John A Brashear and Philander C Knox were born here It was merged with South Brownsville in 1933 **2** City (pop 4,012), co seat of Haywood co , W Tenn , near the Hatchie river W of Jackson, in a farm and timber area, settled c 1810, inc 1823 The city has cotton gins and sawmills **3** City (1940 pop 22,083, 1947 estimated pop 29,000), co seat of Cameron co , extreme S Texas, on the Rio Grande Here in 1846 Gen Zachary Taylor founded Fort Taylor, which was besieged by Mexicans as the Mexican War began He fought the battles of Palo Alto and Resaca de la Palma in coming to its relief, and he renamed (1846) it for its defender, Major Jacob Brown Fort Brown was active until 1944, was held briefly by Union forces in the Civil War, and was prominent in the disturbances on the Mexican border Brownsville, laid out in 1848 and incorporated in 1850, was a cattle-shipping point in the late 19th cent and is today an important port of entry across the river from Matamoros, Mexico Many of its inhabitants are Spanish speaking Completion of a deepwater channel in 1936 made Brownsville a considerable ocean port It is also the chief city of the rich irrigated section of the lower Rio Grande valley and has many industries, especially those connected with oil and natural gas The palm-studded streets attract travelers and winter residents There is a municipal junior college

brown Swiss cattle, dairy and beef breed of CATTLE Originated in Switzerland, they were first brought to the United States in 1869 and are now found all over the country, though not in large numbers They are light to dark brown in color

brown thrush: see THRASHER

Brown University, at Providence, R I , nonsectarian, for men, chartered 1764 as Rhode Island College by Baptists at Warren, opened 1765 It moved to Providence in 1770 and was renamed for Nicholas BROWN in 1804 It has courses in liberal arts and sciences and in engineering Pembroke College for women undergraduates, organized in 1891, has its own campus The John Hay Library is especially rich in books on American, Rhode Island, and Napoleonic history, American poetry and drama, international law, and Lincoln The nucleus of the John Carter Brown Library of Americana was bequeathed by John Carter BROWN Brown has always led in freedom of teaching and curriculum reform.

Brownville, town (pop 1,914), central Maine, on both sides of Pleasant River and NNW of Bangor, between Sebec and Schoodic lakes, inc 1824 Maine's oldest roofing-slate quarries are here, wooden products and machine parts are made

Brownwood, city (1940 pop 13,398, 1947 estimated pop 21,000), co seat of Brown co , central Texas, WNW of Waco, settled 1856, inc 1876 A hustling industrial town, Brownwood has small factories, railroad shops, and plants processing peanuts, cotton, oil, and other products of the region It has two coeducational colleges, Howard Payne (Baptist) and Daniel Baker (a branch of Southern Methodist Univ) Near-by Lake Brownwood is a large reservoir used for irrigation, fishing, and boating, on its north shore a military camp was active in the Second World War.

Bruant, Libéral (lēbārāl' brüā'), c 1635–1697, best-known member of a French family of architects He is said to have made the original plans for the Place Vendôme, Paris, which later was designed by J H. Mansart. Among his works in Paris are the large asylum of La Salpêtrière and the Hôtel des Invalides, Louis XIV's vast project of a hospital for disabled soldiers. He also designed the Church of the Invalides, to which Mansart later added the Dôme des Invalides.

Bruce, celebrated Scottish family descended from an 11th-century Norman duke, Robert de Brus He aided William I in his conquest of England and was given lands in England His son was granted fiefs in Scotland, and accordingly the family rendered homage in both kingdoms In the Scottish dynastic struggle which followed the death of MARGARET MAID OF NORWAY in 1290, the Bruces claimed succession to the throne as a result of the marriage of Robert the Bruce, lord of Annandale, to Isobel, daughter of David, earl of Huntingdon, who was brother of WILLIAM THE LION of Scotland In 1290 the son of that marriage, Robert the Bruce, was a claimant to the throne, rivaled by John de BALIOL, a great-grandson of David of Huntingdon through another daughter. A son of this Robert the competitor was Robert, earl of Carrick, whose son was the famous Robert Bruce or Robert the Bruce—ROBERT I of Scotland The brother of Robert I, Edward Bruce, was crowned king of Ireland in 1316, but was killed in 1318 The young son of Robert I succeeded his father as DAVID II and was in turn succeeded by his nephew, ROBERT II, son of Robert I's daughter Marjory and the first king of Scotland of the house of STUART

Bruce, Charles Granville, 1866–1939, British mountaineer, b Wales As a British army officer he had a distinguished record in N India and was widely respected by the natives, some of whom he commanded during the First World War He led the Mt Everest expeditions of 1922 and 1924

Bruce, Sir David, 1855–1931, British bacteriologist, b Melbourne, Australia He discovered the bacterium of Malta fever (1887), and the cause and mode of transmission of nagana (a disease of horses and cattle) and of African sleeping sickness (with David N Nabarro and Sir Aldo Castellani) He was head of the Royal Society's commission to study sleeping sickness in Uganda (1903, 1908–10) and Malta fever in Malta (1904–6)

Bruce, Edward, d 1318, Scottish king of Ireland, brother of ROBERT I of Scotland He aided his brother in subduing Scotland and helped to defeat the English at Bannockburn In 1315 he was declared heir to Robert's throne in Scotland He then with Robert's approval invaded Ulster, to which he had some hereditary claim He was crowned king of Ireland in 1316 and found many Irish allies against the Anglo-Irish rulers, but he failed to consolidate his gains, even when Robert in 1317 joined him Edward was killed in battle in Oct , 1318

Bruce, James, 1730–94, Scottish explorer in Africa He examined Roman ruins in North Africa (1755) from Tunis to Tripoli and visited Crete, Rhodes, and Asia Minor In 1768 he traveled down the Red Sea as far as the straits of Bab el Mandeb From Massawa he struck inland for Gondar, then the capital of Ethiopia He rediscovered (1770) the source of the Blue Nile, which he followed (1771) to its confluence with the White Nile He wrote *Travels to Discover the Source of the Nile, 1768–73* (3d ed , 1813) For his travels in Barbary, see R L Playfair, *Travels in the Footsteps of Bruce* (1877)

Bruce, James, 8th **earl of Elgin.** see ELGIN, JAMES BRUCE, 8TH EARL OF.

Bruce, Stanley Melbourne (mĕl'burn), 1883 , Australian statesman, b Melbourne Educated at Cambridge Univ , he was called to the bar (1906) in England, then returned to Australia to become a Melbourne businessman After service in the First World War, he entered the commonwealth legislature in 1918, was treasurer (1921–23) in the cabinet of W. M Hughes, and served as prime minister (1923–29) He was notable for promoting the closest relations of Australia with the empire compatible with Australian self-government, and he also advocated international cooperation Bruce was (1921, 1932–33) Australian delegate to the League of Nations and in 1936 president of the council From 1933 to 1945 he was high commissioner for Australia in London In 1947 he was made Viscount Bruce of Melbourne

Bruce, Thomas, 7th **earl of Elgin.** see ELGIN, THOMAS BRUCE, 7TH EARL OF.

Bruce, Victor Alexander, 9th **earl of Elgin** · see ELGIN, VICTOR ALEXANDER BRUCE, 9TH EARL OF

Bruce, William Speirs, 1867–1921, Scottish explorer and authority on the polar regions He first went to the antarctic as ship's surgeon in 1892 and later did survey work in Franz Josef Land and oceanographical work in the Arctic Ocean. He led (1902–4) the Scottish National Antarctic Expedition in the *Scotia*, performing much valuable scientific research in the Weddell Sea and discovering Coats Land He edited the reports of the expedition (6 vols) and wrote *Polar Exploration* (1911). He made a number of voyages to Spitsbergen and became an authority on the islands See R. N Rudmose Brown, *A Naturalist at the Poles* (1923).

Bruce, lumber town (pop 1,385), N central Miss., on the Skuna and SSE of Oxford, inc. 1927.

Bruce-Joy, Albert, 1842–1924, Irish sculptor of portrait medallions, busts, and statues. Well known are his busts in Westminster Abbey and the House of Commons His sitters included Edward VII, Matthew Arnold, the actress Mary Anderson, Gladstone, and (in the United States) Chauncey M. Depew.

brucellosis: see CONTAGIOUS ABORTION and UNDULANT FEVER

Bruce of Melbourne, Stanley Melbourne Bruce, 1st Viscount: see BRUCE, STANLEY MELBOURNE

Bruceton, town (pop 1,003), W Tenn , NE of Jackson and on the Big Sandy River, settled 1920, inc 1925 It has railroad shops

Bruch, Max (mäks' brōōkh'), 1838–1920, German composer He conducted the Liverpool Philharmonic Orchestra, 1880–83, and taught at the Berlin Hochschule, 1892–1910 His Violin Concerto in G Minor and his variations on the *Kol Nidre* for cello and orchestra are often played

brucine: see NUX VOMICA

Bruck an der Mur (brōōk' an dĕr mōōr'), city (pop 14,467), Styria, SE central Austria, on the Mur and Mürs rivers It has a metallurgical industry

Bruckner, Anton (än'tōn brōōk'nur), 1824–96, Austrian composer While extremely proficient as an improviser at the organ, he composed mainly massive orchestral works He wrote nine symphonies, several Masses and a *Te Deum* for chorus and orchestra, and one string quintet He took great pains to acquire formal theoretic study and later taught at the Vienna Conservatory In his simple piety, he dedicated a symphony to God See studies by Werner Wolff (1942) and Dika Newlin (1947)

Brudenell, James Thomas. see CARDIGAN, JAMES THOMAS BRUDENELL, 7TH EARL OF

Bruegel, Brueghel, or **Breughel** (all brū'gŭl), famous family of Flemish genre and landscape painters The foremost, **Pieter Bruegel** (pē'tur), the elder, c 1525–1569, called Peasant Bruegel, studied in Antwerp with his future father-in-law, Pieter Coeck van Aelst, but was influenced primarily by Bosch In 1551 he became a member of the Antwerp Academy He visited Italy and undoubtedly profited from the liberating and humanistic ideas of the Renaissance However, he imitated neither the great Italians nor the Flemish mystics but employed his native powers of minute observation in depicting the whole living world of field and forest and the sturdy race of peasants at work and play therein In his lifetime he witnessed the horrors of the Inquisition Several of his pictures record them His *Massacre of the Innocents* (Brussels) is a Flemish village in the dead of winter with cavalry cutting down the simple folk His *Carrying the Cross* (Vienna) depicts the tortures applied to humble men in his own day Nevertheless all his work exhales a robust, invincible gaiety His splendid landscapes, warm in tone and vibrant in color are full of life and animation and a wholesome but compelling poetry Bruegel worked principally in Antwerp and Brussels, producing many admirable drawings and some etchings in addition to his oils Famous among the latter are *The Blind* (Naples), *Adoration of the Magi* (National Gall , London), *Peasants Dancing* (Louvre), *Winter*, and *Tower of Babel* (Vienna) The Metropolitan Museum has a large and characteristic painting, *The Harvesters* See study by Gustav Glück (1937) A son, **Pieter Bruegel,** the younger, 1564–1637, was known as Hell Bruegel because of his pictures of the infernal regions He also painted rural scenes His brother, **Jan Bruegel** (yän), called Velvet Bruegel, 1568–1625, was a better painter His work has been confused with that of his father, whose popularity he shared He was a friend of Rubens and sometimes collaborated with him There are fine landscapes in the galleries of Madrid and in the Metropolitan Museum

Bruges (brōōzh, brōō'jĭz, Fr brüzh), Flemish *Brugge* (brū'gŭ), city (pop 52,698), capital of West Flanders, NW Belgium It is a rail and canal junction connected by canal with ZEEBRUGGE Once the greatest and busiest port of N Europe, it is now a quiet city, famed for its medieval architecture, with lace manufactures, breweries, and a printing industry Bruges was first fortified in the 9th cent , it was situated on a now silted inlet of the North Sea By the late 12th cent it had become the chief port and one of the chief wool-manufacturing centers of FLANDERS Ghent and Ypres were its chief industrial—and hence also political—rivals In the 14th cent the HANSEATIC LEAGUE made Bruges its chief entrepôt, and the city became one of the great commercial hubs of the world New ports were founded to accommodate the increasing trade, notably SLUIS An early and typical COMMUNE of the Low Countries, Bruges held extensive political privileges and often played a decisive part in the chronic struggle among England, France, and the counts of Flanders Its government, first in patrician hands, gradually passed to its chief guilds, the weavers, fullers, shearers, and dyers When, in 1301, Philip IV of France annexed Flanders, Bruges led the rebellion against him. The French garrison was massacred (1302), and shortly afterward the citizens of Bruges led in defeating Philip at Courtrai in the BATTLE OF THE SPURS Despite frequent political disturbances Bruges continued to increase in prosperity until foreign competition caused the decline of the Flemish wool industry in the early 15th cent The ports of Bruges silted up, and the Hanseatic League and the English merchants adventurers moved their headquarters from Bruges to Antwerp By the beginning of the 16th cent , Antwerp had taken almost all the trade away from Bruges Bruges became the cradle of FLEMISH ART during the rule (14th–15th cent) of the Burgundian dukes in Flanders The Hospital of St John (12th cent) contains several masterpieces of Hans Memling Gérard David, Jan van Eyck, and many other masters are richly represented in the churches, public buildings, and several small museums of the city The charm of Bruges is due as much to its numerous canals, crossed by more than 50 bridges, as to the beauty of its architecture Its many Gothic buildings include the market hall, sometimes called Cloth Hall (13th cent , rebuilt 16th cent), with a famous belfry and carillon, the town hall (14th cent), the Church of Notre Dame (12th–13th cent), containing the tombs of Charles the Bold and Mary of Burgundy, the Cathedral of Saint-Sauveur, and the Chapel of the Precious Blood (12th–15th cent), a major place of pilgrimage The medieval aspect of Bruges is heightened by its ecclesiastic character, Bruges is an episcopal see and has numerous convents

Brugmann, Karl (kärl' brōōk'man), 1849–1919, German philologist A professor at Leipzig, he was one of the school holding that scientific rules of linguistics do not admit of exceptions With the help of others, notably Hermann Osthoff, Wilhelm Scherer, and Berthold Delbrück, he did much work in Indo-European linguistics and issued a large comparative grammar of Indo-European languages

Brugsch, Heinrich Karl (hīn'rĭkh kärl' brōōksh'), 1827–94, German philologist An Egyptologist, he deciphered the demotic and compiled a demotic-hieroglyphic dictionary

Brühl, Heinrich, Graf von (hīn'rĭkh gräf' fŭn brül'), 1700–1763, Saxon statesman The favorite of AUGUSTUS III, king of Poland and elector of Saxony, Brühl as prime minister (1746–63) had virtually dictatorial power in directing the disastrous policy of Saxony in the Seven Years War He amassed an immense fortune through fraud

bruise, superficial injury or contusion in which the skin is not broken, although there is an extravasation of blood from the capillaries into the subcutaneous tissues The skin is discolored, changing from bluish red to yellow because of the presence of dead red blood cells The pain and swelling accompanying a bruise are relieved by immediate cold applications, followed later by hot compresses Purpura, a condition associated with blood disease, is also characterized by extravasation of blood into the skin and mucous membrane

Brulé, Étienne (ātyĕn' brülā'), c 1592–1632, French explorer in North America He arrived (1608) in the New World with Samuel de Champlain, who sent him in 1610 into the wilderness to learn about the Indians and the land He lived with the Huron Indians and c 1612 accompanied a group of them to Georgian Bay of Lake Huron In 1612 he guided Champlain to that lake, and on the return journey they were (so far as is known) the first white men to see Lake Ontario Brulé was then sent to the headwaters of the Susquehanna and followed that river to Chesapeake Bay On his way back he was captured by the Iroquois and tortured, but escaped (1618) He once more lived with the Huron, making many explorations of which no definite record remains He probably visited Lake Superior and thus saw all the Great Lakes except Lake Michigan —the first white man to do so In 1629 he piloted the English vessels that captured his old commander, Champlain Then he retired to live an increasingly dissolute life among the Huron He was killed in an Indian quarrel, and his remains were eaten See C W Butterfield, *History of Brulé's Discoveries and Explorations, 1610–1626* (1898)

Brumaire (brümâr'), second month of the FRENCH REVOLUTIONARY CALENDAR The coup d'état of 18 (actually 18–19) Brumaire (Nov 9–10, 1799), engineered chiefly by Sieyes, overthrew the DIRECTORY and established the CONSULATE under Napoleon It nearly failed because of Napoleon's inept conduct at the Council of Five Hundred, but the situation was saved by his brother Lucien BONAPARTE

Brummagem (brŭ'mujum), [colloquial form of Birmingham, England], name given to a counterfeit coin first made in Birmingham (17th cent) Hence it is applied to anything not genuine, as to the "sham Protestants" supporting the Exclusion Bill in England in 1680

Brummell, George Bryan (brŭ'mul), 1778–1840, Englishman of wealth, called Beau Brummell After a brief career at Oxford and in the army he became known as a man of fashion especially notable for the exquisite finery of his clothes He was the intimate of the prince regent (later George IV) Reckless gambling and heavy debt caused his flight to Calais, and there he struggled on for 14 years. He then held (1830–32) a sinecure consulate at Caen, where he died in a hospital for the insane *Male and Female Costume* is a treatise on dress supposedly written by him (ed by Eleanor Parker, 1932) See biography by Willard Connely (1940).

Brunanburh, battle of (brōō'nunbŭrg), A D 937, won by ATHELSTAN, king of Wessex, over a combination of Irish, Scots, and Strathclyde Britons The site is on the west coast of England, between Chester and Dumfries. A poem in the *Anglo-Saxon Chronicle* celebrating the battle has been often translated See edition by Alistair Campbell (1938)

Brundidge, town (pop 1,909), SE Ala , SE of Montgomery near Troy, in a farm area.

Brundisium: see BRINDISI, Italy

Brunehaut: see BRUNHILDA

Brunei (brōōnī'), sultanate (c 2,225 sq mi ; pop 40,670), NW BORNEO, under British protection since 1888 Its two parts are both enclosed by Sarawak Its capital and port, also called Brunei (estimated pop 13,500), consists almost entirely of houses built on piles in the Brunei river, it has fisheries and some trade in rubber and sago

Brunel, Sir Marc Isambard (brōōnĕl'), 1769–1849, English engineer and inventor Born in France, he was a royalist refugee to America in 1793 He became chief engineer of New York city, built the old Bowery theater (burned in 1821), constructed a canal between Lake Champlain and the Hudson, and carried out other projects In 1799 he went to England, where he patented machinery for making ships' blocks He invented many other mechanical labor-saving devices In 1825 he began the construction of the Thames Tunnel (the first in which a shield was used, see TUNNEL) In 1841 he was knighted See Richard Beamish, *Memoirs of Sir Marc Isambard Brunel* (1862) In the work on the tunnel Sir Marc was assisted by his son, **Isambard Kingdom Brunel,** 1806–59, English civil engineer and an authority on railway traction and steam navigation He was engineer of the Great Western Railway, building bridges and docks Later he constructed railways in Italy and was a consulting engineer in Australia and India He is best known, however, for his designing and construction of the three ocean steamships, the *Great Western* (1838), which was the first transatlantic steam vessel, the *Great Britain* (1845), the first ocean screw steamship, and the *Great Eastern* (1858), the largest steam vessel of its time See biography by his son (1870), Celia Brunel Noble, *The Brunels Father and Son* (1938)

Brunelleschi, Filippo (fēlēp'pō brōōnĕl-lĕs'kē), 1377–1446, the first great architect of the Italian Renaissance, a Florentine by birth Trained as sculptor and bronze founder, he designed a pair of bronze doors for the Florence baptistery , his design was placed second to that of Lorenzo GHIBERTI Brunelleschi then journeyed to Rome, where, for four years, he devoted himself to the study of classical buildings The small and beautiful PAZZI chapel in Florence, which he built in 1420, exhibits the first definite emergence of the Renaissance spirit in architecture In 1420 Brunelleschi, in competition, won the commission to build the dome for the cathedral in Florence This octagonal ribbed dome is one of the most celebrated and original domical constructions in architectural history Brunelleschi's other works include the churches of San Lorenzo and Santo Spirito and the Pitti Palace, all in Florence His designs exhibit beauty of detail and elegance, as well as mastery of construction See Leader Scott, *Filippo di Ser Brunelleschi* (1901)

Brunet, Jacques Charles (zhäk' shärl' brünā'), 1780–1867, French bibliographer, author of the standard bibliographical dictionary *Manuel du libraire et de l'amateur de livres* (1st ed , 1810, 5th ed , 1860–65)

Brunetière, Ferdinand (fĕrdēnä' brünŭtyĕr'), 1849–1906, French literary critic, opponent of naturalism He developed a theory of the evolution of fixed literary forms analogous to the evolution of species. His vast learning is evident in the masterly *Manuel de l'histoire de la littérature française* (1897) and in the history of French literature from 1515, most of which was published (1904–17) posthumously from notes by his pupils He also wrote in defense of Catholicism See Elton Hocking, *Ferdinand Brunetière the Evolution of a Critic* (1936)

Brunhild (brōōn'hĭld), or **Brünnehilde** (brün'ühĭld'dŭ), or **Brynhild** (brĭn'hĭld), in Germanic mythology, mighty female warrior Stories about her vary even in the large pattern, but she is always associated with SIEGFRIED In the NIBELUNGENLIED she is the heroic queen of Iceland, whom Siegfried defeats in combat and wins for his brother-in-law, Gunther Hating Siegfried, Brunhild contrives his death at the hands of Hagen In the VOLSUNGA-SAGA, as Brynhild, she is chief of the Valkyries Sigurd saves her from an enchanted stronghold and loves her, but GUDRUN makes him forget Brynhild and takes him as her husband Sigurd then wins Brynhild for his brother-in-law, Gunnar The Valkyrie brings about Sigurd's death and destroys herself on his funeral pyre Wagner in his opera cycle, *The Ring of the Nibelungs*, in which she is Brünnehilde, makes her a Valkyrie who defies her father, the god Wotan, to help the lovers Siegmund and Sieglinde Wotan puts her sleeping on a fire-surrounded mountaintop, from which she is rescued by Siegfried He is by magic made to forget

her, and for his unfaithfulness she brings about his death, her own death on his pyre, and the burning of Valhalla

Brunhilda (brŭnhĭl'dŭ) or **Brunehaut** (brūnō'), 534?–613, Frankish queen, wife of SIGEBERT I of Austrasia; daughter of King Athanagild of Spain She was a chief participant in the bloody war (567–613) against Neustria that followed the murder of her sister Galswintha, wife of Sigebert's brother Chilperic I of Neustria, and Chilperic's marriage to his mistress Fredegunde The struggle continued between Brunhilda and Fredegunde after the deaths of Sigebert and Chilperic Throughout the reigns of her son, Childebert II, and of two grandsons, Brunhilda was the actual ruler of Austrasia and, later, of Burgundy, when that country was united with Austrasia after the death of King GUNTRAM (593) She was endowed with the gifts of a great statesman, but her unscrupulousness in the execution of her plans earned her the fierce hatred of the nobles She was finally betrayed by them to Fredegunde's son, CLOTAIRE II of Neustria, who put her to a horrible death (613)

Brünig Pass (brü'nĭkh), ancient route between the Forest Cantons and the Bernese Alps, Switzerland It is crossed by a highway and a railroad

Brüning, Heinrich (hīn'rĭkh brü'nĭng), 1885–, German statesman A leader of the Catholic Center party, he was appointed (1930) chancellor of the Reich to put German finances in order The Reichstag, which soon failed to support him, was dissolved (1930), and new elections were ordered The new Reichstag, in which the National Socialists represented a large minority, was equally unable to produce a working majority, but Brüning continued to govern by decree His drastic deflationary measures were very unpopular In 1932 Brüning dissolved Hitler's storm troops, but shortly afterward he was abruptly dismissed by President Hindenburg, who appointed Franz von Papen as the new chancellor Brüning left Germany in 1934 and in 1937 was appointed professor of political science at Harvard Univ

Brünn, Czechoslovakia see BRNO

Brünnehilde see BRUNHILD

Brunner, Arnold William, 1857-1925, American architect and expert on city planning, grad Massachusetts Institute of Technology He practiced in New York The Pennsylvania capitol building and grounds in Harrisburg, the Cleveland Civic Center, and the Albany water front were his chief group achievements The Spanish and Portuguese Synagogue in New York is one of his best individual buildings See biography by R I Aitken (1926)

Brunner, Emil (ā'mĭl brōōn'ur), 1889–, Swiss Protestant theologian, professor of theology at the Univ of Zurich In 1938-39 and again in 1946 he visited and lectured in the United States The Bible is regarded by Brunner as the source of divine revelation, thereby limiting the revelation of God to the Hebrew-Christian tradition Faith alone is the agent of revelation, and the man who has fallen from God's grace cannot redeem himself by good works Brunner's position in theological circles is closely associated with that of Karl BARTH The two men split, however, over the question of natural revelation, Brunner refusing to separate theology completely from the general process of culture His more important works include *Die Mystik und das Wort* (2d ed , 1928), *Das Gebot und die Ordnungen* (1932, Eng tr , *The Divine Imperative*, 1937), and *Wahrheit als Begegung* (1938, Eng tr , *The Divine-Human Encounter*, 1943) See Cornelius Van Til, *The New Modernism* (1946)

Bruno, Saint (Saint Bruno the Great), d 965, German churchman and statesman, brother of Emperor OTTO I He was made (953) archbishop of Cologne and held much power, both ecclesiastic and lay He served as chancellor, was his brother's chief adviser, and exercised administration over Lower Lorraine and, as archchancellor, in Italy He organized the civil service, led the revival of learning in the period, and reformed the monasteries along the lines of the reforms of Cluny

Bruno, Saint (d 1009) see BONIFACE, SAINT

Bruno, Saint, c 1030–1101, German monk, founder of the CARTHUSIANS, b Cologne He studied and taught at Rheims In 1084 he took six companions and founded a little monastery in the Alps, which became the mother house of the Carthusian order (see CHARTREUSE, GRANDE) In 1090 URBAN II, whom Bruno had taught, called him to Rome as a counselor He died in Italy in retirement at a monastery he had founded. Feast Oct 6

Bruno, Giordano (jôrdä'nō brōō'nō), 1548–1600, Italian philosopher, b Nola He entered the Dominican order in his early youth but was accused of heresy and fled (c 1576) to take up a career of study and travel He taught briefly at Toulouse, Paris, Oxford, and Wittenberg, but, personally restless and in constant opposition to the traditional schools, he found no permanent post His major metaphysical works, *De la causa, principio, et uno* and *De l'infinito, universo, et mondi* (both 1584), were published in France. Further works appeared in England and Germany. A man of considerable talent, Bruno also wrote satire and some poetry. In 1591 he returned to Venice, where he was accused of heresy by the Inquisition and, after imprisonment, was burned to death Bruno challenged all dogmatism, including that of the Copernican cosmology whose main tenets, however, he upheld He believed that our perception of the world is relative to the position in space and time from which we view it and that there are as many possible modes of viewing the world as there are possible positions Therefore we cannot postulate absolute truth or any limit to the progress of knowledge He pictured the world as composed of individual elements of being, governed by fixed laws of relationship These elements, called monads, were ultimate and irreducible and were based on a pantheistic infinite principle, or cause, or Deity, manifest in us and in all the world He was the first to state what has now become the cosmic theory Bruno's influence on later philosophy, especially that of Spinoza and Leibniz, was profound See biography by J L McIntyre (1903), A O Lovejoy, *The Dialectic of Bruno and Spinoza* (1904), W T Fontaine, *Fortune, Matter, and Providence* (1939)

Bruno the Great, Saint: see BRUNO, SAINT (d 965)

Brunswick, dukes of. see CHARLES WILLIAM FERDINAND, FERDINAND, FREDERICK WILLIAM

Brunswick (brŭnz'wĭk), Ger *Braunschweig* (broun'shvĭk), former German state (1939 area 1,379 sq mi , 1939 pop 602,873), central Germany, consisting of several separate territories surrounded by the former Prussian provinces of Saxony, Hanover, and Westphalia The larger part (1,182 sq mi , 1946 pop , 782,950) was included after 1945 in the British-occupied state of Lower Saxony , the rest, in Russian-occupied Saxony-Anhalt Brunswick (the capital), Goslar, Helmstedt, and Wolfenbüttel are the chief towns The region is situated on the North German plain and in the northern foothills of the Harz, where silver, copper, lead, and iron are mined Grain, sugar beets, and potatoes are the main crops The duchy of Brunswick emerged from the remnants of the domains of Henry the Lion, to whom Emperor Frederick I left only the territories of Brunswick and Lüneburg (roughly modern Brunswick and Hanover) The Guelphic house repeatedly divided into several branches, the main ones being Brunswick-Wolfenbüttel and Brunswick-Lüneburg In 1692 the duke of Brunswick-Lüneburg became elector of HANOVER The Brunswick-Wolfenbüttel line (itself a cadet branch of the Lüneburg line since 1634) ruled over Brunswick and had, among its dukes, the famous generals Charles William Ferdinand and Frederick William Frederick William recovered (1813) the duchy, which Napoleon I had incorporated (1806) in the kingdom of Westphalia The line became extinct in 1884, and Brunswick was ruled by regents until 1913, when Ernest Augustus, grandson of King George V of Hanover, was made duke A member of the North German Confederation after 1866 and of the German Empire after 1871, Brunswick became a republic in 1918 and then joined the Weimar Republic

Brunswick, Ger *Braunschweig*, city (pop 181,375), formerly capital of Brunswick state, central Germany, on the Oker It has iron, steel, machinery, and brewery plants and is an active trade center Chartered (12th cent) by Henry the Lion, it was (14th cent) an important member of the Hanseatic League In 1753 the residence of the dukes of Brunswick was shifted here from Wolfenbüttel The picturesque old city suffered heavy bomb damage in the Second World War The cathedral, begun (1173) by Henry the Lion, contains his tomb, it is less damaged than the churches of St Andrew and St Catherine (12th cent), the Magnikirche and the Petrikirche (13th cent), the medieval town hall, and the famous fountain (built 1408) representing Till Eulenspiegel, who lived here Many of the splendid medieval guild houses were also damaged The art museum, now in the former Richmond Palace, has several paintings by Rembrandt, Rubens, Vermeer, and Lucas van Leyden

Brunswick. **1** City (pop 15,035), co seat of Glynn co , SE Ga , on the Atlantic coast Founded in 1771–72, it was named for George III of the house of Brunswick The city is a port of entry, and its sheltered harbor is used by coastal freighters and a shrimping fleet, lumber and lumber products, canned shrimp, fertilizer, chemicals, and cotton are exported Brunswick and the coastal islands offshore (see SEA ISLANDS) are popular resorts **2** Town (pop 8,658), S Maine, on the Androscoggin and W of Bath. Settled as a trading post in 1628, it was several times raided by the Indians, and Fort Andros (1688, destroyed by Indians a few years later) and Fort George (1715, dismantled in 1737) were built for protection The town was incorporated in 1739 Brunswick is the seat of BOWDOIN COLLEGE Canning and textile (rayon) and paper milling are important The resort trade developed in the 20th cent Harriet Beecher Stowe here wrote *Uncle Tom's Cabin*, Hawthorne's first novel, *Fanshawe* (1828), was printed here A house that dates from 1808 was once the home of Longfellow. **3** Railroad town (pop 3,856), NW Md , on the Potomac and SW of Frederick; laid out c.1787 **4** City (pop 1,749), N central Mo , on the Grand River near the Missouri and W of Moberly, in a livestock & grain area It was laid out c 1837 on the Missouri river, which later changed its course Near by the site of Fort Orleans, established by the French in 1723.

Brunton, Sir Thomas Lauder, 1844–1916, Scottish physician He was a lecturer at St Bartholomew's, London, from 1875 to 1904 He specialized in the action of drugs on the heart Among his works are a *Textbook of Pharmacology* (1885), *The Action of Medicines* (1897), and *Collected Papers on the Circulation and Respiration* (1906)

Brusa, Turkey see BURSA

Brusasorci, see RICCIO, DOMENICO

Brush, Charles Francis, 1849–1929, American scientist and inventor, b Euclid, Ohio, grad. Univ of Michigan (M E , 1869) Among the many devices invented by him, the most important was the Brush electric arc light, which was widely adopted for street lighting

Brush, George de Forest, 1855–1941, American painter, b Shelbyville, Tenn , pupil of GÉRÔME in Paris. His paintings of the North American Indian attracted notice in 1883, but he later devoted himself to figure compositions of children and family groups and to portraits His wife and children were usually the models He lived for many years in Dublin, N.H Among the best known of his works are the Indian pictures, *The Broken Silence*, *The Sculptor and the King*, and *Moose Chase* (National Gall , Washington, D C), *Mother and Child* (Mus of Fine Arts, Boston), *In the Garden* and a portrait of Henry George (Metropolitan Mus), *Mother and Children* (Pa Acad of the Fine Arts), *Mother and Child* (Corcoran Gall), *The Young Violinist* (Worcester Art Mus), and *Family Group* (Art Inst of Chicago)

Brush, shipping town (pop 2,481), NE Colo , on Beaver Creek near the South Platte river and NE of Denver, in a farm area, inc 1884 A beet-sugar factory is here

brush, implement used in applying liquids or paste and for removing dirt Materials include bristles, horsehair, soft hair, wire, feathers, whalebone, nylon, and vegetable fibers About 90 percent of brushes are made from bristles, largely produced in China and Russia Bristle is especially suitable for paintbrushes because the tip has a split end (flag), with a capacity for holding paint, and is tapered, providing elasticity Artists' brushes are made of soft hair derived, except for ox hair, from fur-bearing animals Camel's-hair brushes are made from the tail hair of Siberian squirrel Vegetable fiber, used in many cleaning brushes, includes istle (or Tampico) fiber from Mexican cactus plants, palmetto and palm fibers, the Southern American bahia, and rice root from Central America Brooms are long-handled brushes, usually made by securing the bleached and sorted twigs of the broomcorn about the end of a stick, then flattening the mass and stitching it to hold it in place Brushes are classified as simple, when composed of one tuft of material, and compound, when they consist of a series of tufts Tufts may be set in a cementing material or in vulcanized rubber, they are sometimes drawn through holes in the back, and the ends secured with wire or thread or dipped in pitch and tied, or they may be inserted into a handle and held by tying or by the contraction of the previously soaked handle Also known as a brush is a device made of carbon, copper, or some other conducting material which carries an electric current to and from a commutator or other rotating part of a motor or a generator

Brusilov, Aleksey Alekseyevich (ŭlyĭksyā' ŭlyĭksyĕ'yĭvĭch brōōsē'lŭf), 1853-1926, Russian general A commander in the First World War, he won victories in Galicia In 1916 the "Brusilov offensive" successful at first, exacted a heavy toll Brusilov was briefly commander in chief under the Kerensky regime (1917) and in 1920 commanded Soviet troops against Poland

Brussa, Turkey see BURSA

Brussels (brŭ'sulz), Flemish *Brussel* (brü'sul), *Bruxelles* (brüsĕl', brŭksĕl'), city (with suburbs pop c 960,000), capital of Belgium and of Brabant prov The core of the city is the commune of Brussels (pop 187,039), the other communes include Anderlecht, Ixelles, and Schaarbeek Brussels is officially bilingual (French and Flemish) Situated on the Senne, a tributary of the Dyle, and at the junction of the Charleroi-Brussels and Willebroek canals, Brussels is an important commercial, industrial, and cultural center Among its varied manufactures that of lace is the oldest and best known Brussels has a university (founded 1834), academies of arts, science, and medicine, a famous conservatory, and splendid art collections. Enclosed walled in the 10th cent , Brussels became, by the 13th cent , a center of the wool industry and in the 15th cent was made the capital of Brabant Emperor Charles V made Brussels the seat of Spanish (after 1714 Austrian) governors of the Netherlands. In 1561 the Willebroek Canal, connecting Brussels with the sea, was completed Renowned in the Middle Ages for the luxury and gaiety of its life, Brussels became in the late 16th cent. the grim center of the duque de Alba's re

of terror. The city was repeatedly besieged and taken in the wars of the 16th, 17th, and 18th cent. that were largely fought in the Low Countries. In 1789 it became the center of rebellion against Austrian rule in the Netherlands. Brussels was taken by the French under Dumouriez in 1792, evacuated in 1793, and retaken in 1794, during the Waterloo campaign (1815) it was Wellington's headquarters. In 1819 Brussels was made, with the Hague, the alternate meeting place of the Netherlands parliament, in 1830 it became the capital of independent Belgium. Brussels was occupied by the Germans from 1914 until the armistice of 1918 and from 1940 until its liberation by British troops in Sept., 1944. In both world wars it was cruelly oppressed by the occupation forces. The heroic stand of Cardinal Mercier and the help extended by the American minister, Brand Whitlock, during the First World War will long be remembered. Physically, Brussels suffered no damage in either war. The center and historical nucleus of the city is the celebrated Grand' Place. On it are the city hall (14th–17th cent.), the *Maison du roi* or *Broodhuis* (Renaissance), meeting place of the old States-General, the royal palace (18th cent., rebuilt 1904–12), and the parliament building (*Palais de la Nation*, 18th cent.). In its ensemble the Grand' Place is one of the finest monuments of medieval and Renaissance architecture. The Gothic Church of St Gudule was founded in the 11th cent. and rebuilt, after a fire, in the 13th, 14th, and 15th cent. Most of Brussels is modern, with broad boulevards circling the city along the former successive ramparts. However, numerous Renaissance and 18th-century mansions, guild houses, and churches have survived.

Brussels carpet see CARPET AND RUGS

Brussels lace see LACE

Brussels sprouts, variety of CABBAGE producing small edible heads, or sprouts, along the stem late in the growing season. It is cultivated like cabbage and has the same insect pests.

Brut, Brute (both brōōt), or **Brutus** (brōō'tŭs), a Trojan, legendary first king of Britain, descendant of Aeneas. His story appears in NENNIUS and in GEOFFREY of MONMOUTH, and his name gives the titles to long poems by WACE and LAYAMON.

Bruttium (brŭ'tēŭm), ancient region, S Italy, roughly occupying the present CALABRIA, the "toe" of the Italian peninsula. It faces Sicily across the Strait of Messina. Inhabited in the interior by Bruttii (whose chief town was Consentia) and by the Lucani, it was settled (8th cent. B.C.) along the coast by Greek colonists. SYBARIS and CROTONA were among the most prosperous towns of MAGNA GRAECIA. The Romans conquered Bruttium in the 3d cent. B.C. RHEGIUM and VIBO VALENTIA were important Roman cities of Bruttium. The region passed later to Byzantium and came to be Calabria.

Brutus (brōō'tŭs), in ancient Rome, a surname of the Junian gens. The name is said to have been given first to **Lucius Junius Brutus,** fl. 510 B.C., who feigned idiocy to escape death at the hands of Lucius Tarquinius Superbus (see TARQUIN). Roman historians tell how he led the Romans in expelling the Tarquins after the rape of Lucrece, how he became one of the first praetors (there were no consuls), and how he executed his sons for plotting a Tarquinian restoration. He was thus the founder of the Roman republic. **Decimus Junius Brutus Gallaecus** (dĕ'sĭmŭs, gălē'kŭs), fl. 138 B.C., consul, consolidated the province of Farther Spain (now S Spain) and stopped the inroads of Lusitanian tribesmen. **Marcus Junius Brutus,** d. c. 77 B.C., was a partisan of LEPIDUS in the struggle with CATULUS; POMPEY had him murdered. His wife Servilia was half sister of Cato of Utica. Their son **Marcus Junius Brutus,** 85 B.C.–42 B.C., was the principal assassin of Julius CAESAR. He sided with Pompey, but after PHARSALA, Caesar pardoned him, made him governor of Cisalpine Gaul (46 B.C.), and, in 44 B.C., urban praetor. Nevertheless, when CASSIUS was engineering his plot, he found Brutus a willing confederate. After the murder of Caesar, Brutus went east and, in the republican cause, joined Cassius and held Macedonia with him. Late in 42 B.C., Octavian (later AUGUSTUS) and Antony arrived, and a battle was fought at Philippi. When it went against the republicans, Brutus committed suicide. Brutus' wife Portia was daughter of Cato of Utica. Brutus had a contemporary reputation as a Stoic philosopher. His admirers regard him as a second Cato, driven reluctantly to commit murder in order to save the republic. His detractors, on the other hand, consider his unsavory reputation as a money lender and his friendship with the self-seeking Cassius as indicative of his true character. A lesser member of the conspiracy was **Decimus Junius Brutus,** d. 43 B.C., a partisan of Caesar against Pompey and a favorite of the dictator. Caesar gave him command in Gaul and appointed him to be his heir in case of Octavian's death. After Caesar's death, Brutus took the legions Caesar had given him and made good his appointment by Caesar as governor of Cisalpine Gaul. In 43 B.C., Antony, to whom the senate had assigned the province, besieged Brutus at Mutina (modern Modena). He tried to escape and was killed.

Brüx, Czechoslovakia see MOST.

Bruyn, Barthel Bartholomaeus (bür'tŭl bärtōlōmā'ōōs broin'), 1493–1555, the last important German painter of the school of Cologne. His early work is in the Flemish tradition, but he later adopted an Italianate style. Among his best works are *Woman with the Necklace* and *Adoration of the Magi*. His portraits are generally preferred to his religious paintings.

Bruyn, Cornelis de (kôr'nā"lĭs dŭ), 1652–1726?, Dutch portrait painter and traveler. He painted for some years in Italy, where he was known, in Rome, as Adonis. He is remembered chiefly for the records of his extensive travels in Egypt, Persia, India, and other lands, illustrated with his own designs.

Bry, Théodore de (tāōdôr' dŭ brē', brĭ'), 1528–98, Flemish engraver and publisher, b. Liége. He spent most of his life in Frankfurt-am-Main. He visited London, where he executed a series of 12 plates, *The Procession of the Knights of the Garter*, and another of 34 plates, *The Funeral of Sir Philip Sidney*. The British geographer Hakluyt assisted him in obtaining materials for an illustrated collection of voyages and travels, *Collectiones peregrinationum* (1590–1634). Bry also published a series of portraits of famous men and illustrated the works of Thomas Hariot and J. J. Boissard. His son **John Théodore de Bry,** 1561–1623, assisted him and continued or completed several of his works.

Bryan, Charles Wayland, 1867–1945, American politician, b. Salem, Ill. Educated at the Univ. of Chicago and Illinois College, he was for many years political secretary and business agent for his brother, William Jennings Bryan. He was publisher and associate editor of the *Commoner* (1901–23), mayor of Lincoln, Nebr. (1915–17, 1935–37), and governor of Nebraska (1923–25, 1931–35). In 1924 he ran for Vice President on the Democratic ticket headed by John W. Davis.

Bryan, William Jennings, 1860–1925, American political leader, b. Salem, Ill., grad. Illinois College, 1881, and Union College of Law, Chicago, 1883. He practiced at Jacksonville, Ill., until removing, in 1887, to Lincoln, Nebr. Bryan was a U.S. Representative from 1891 to 1895 but was defeated for the U.S. Senate in 1894. The next two years he spent as editor in chief of the Omaha *World-Herald*. Having ardently identified himself with the silver forces in Congress, he became their most popular speaker in a preconvention drive to control the Democratic national convention at Chicago in 1896. There were quiet plans and hopes to nominate him for President. At the convention his famous "Cross of Gold" speech so swayed the delegates that his nomination was assured, even though he was only 36 years old. The POPULIST PARTY also nominated him, but the conservative, gold Democrats ran John M. Palmer. The chief issue of the campaign was Bryan's proposal for free and unlimited comage of silver, which he thought would remedy the economic evils then plaguing farmers and workers. Bryan in strenuous tours extending over 18,000 mi made some 600 speeches for the silver cause, but lost to the Republican William McKINLEY, whose campaign was cleverly managed by Marcus A. HANNA. He turned to the Chautauqua platform and afterwards spent a season on the road nearly every year, appealing for reforms and causes close to his heart. He controlled the Democratic convention in 1900 and saved the silver plank from removal by the East, though agreeing to put the campaign emphasis on anti-imperialism. Defeated again by McKinley, Bryan in 1901 started the *Commoner*, a weekly which was circulated and quoted widely and kept him before the people. His reduced party power in 1904 resulted in the compromise nomination of Alton B. PARKER, a conservative New Yorker, upon a platform dictated by Bryan. Parker, however, disavowed the silver plank and Bryan unwillingly acquiesced. Parker's overwhelming defeat by Theodore Roosevelt turned the Democrats again to Bryan, who in 1908 was nominated a third time. Issues were confused, and the country elevated Roosevelt's candidate, William H. TAFT, to the presidency. The last Democratic convention in which Bryan played a dominant role was that of 1912, when, because Eastern money interests supported Champ CLARK, he switched his support to Woodrow WILSON, who thereby won the nomination. Upon his election Wilson named Bryan Secretary of State. Bryan was influential in holding the Democrats together for enacting the reform measures of the first 18 months of Wilson's administration. He had little previous experience in foreign affairs but studied international questions conscientiously. With some 30 nations he negotiated treaties providing for investigation of all disputes. They featured a war-delaying plan of his own devising, which, however, was disrupted without a fair test by the First World War. He wanted the plan applied to the American dispute with Germany over the *Lusitania* incident, but Wilson, supported by the rest of his cabinet, sidetracked it as a weak policy. Anti-war leanings made Bryan more conciliatory than Wilson toward Germany. His policies in Latin America caused a good deal of friction, particularly the plans in Nicaragua. Disliking the warlike tone of the second *Lusitania* note, drafted by Wilson, he resigned on June 9, 1915, rather than sign it. However, he supported Wilson in the 1916 election and after war was declared. In the 1920 Democratic convention at San Francisco he fought in vain for a prohibition plank and in 1924 at New York city he supported William G. McAdoo against Alfred E. Smith, but he was no longer the party's leader. In his later years Bryan, a Presbyterian, devoted himself to the defense of FUNDAMENTALISM in characteristic loyalty to the religious beliefs on which he had been nurtured. His militancy was one reason for the increased popular attention given to the modernist-fundamentalist controversy, which subsided soon after his death. He addressed legislatures urging measures against teaching evolution and appeared for the prosecution in the famous SCOPES TRIAL in Tennessee, where such a law had been passed. With Clarence Darrow as attorney for the defense, the proceedings attracted nationwide attention. Five days after the trial, Bryan died in his sleep. Although the nation consistently rejected Bryan for the presidency, it eventually adopted many of the reforms he urged—the income tax, popular election of Senators, woman suffrage, public knowledge of newspaper ownership, and prohibition. In his prime a handsome man, personally charming, and with a voice that made him the greatest orator of his day, he was idolized by the masses (especially in the West), for whom he truly spoke. Conservatives held him in contempt while fearing his popular appeal. Yet he was no demagogue. He advocated only causes, whatever their merit, which he himself believed in and none other. Had it not been for this deep-rooted integrity he may well have been President. See the memoirs (1925), begun by Bryan and finished by his widow, biographies by J. C. Long (1928), M. R. Werner (1929), Paxton Hibben (1929), and W. C. Williams (1936), C. M. Rosser, *The Crusading Commoner* (1937).

Bryan. **1** City (pop. 5,404), co. seat of Williams co., NW Ohio, NNW of Defiance, in a trade and industrial area, laid out 1840, inc. as a village 1841, as a city 1941. Lubricating equipment and advertising novelties are made here. **2** City (1940 pop. 11,842, 1947 estimated pop. 17,000), co. seat of Brazos co., E central Texas, NW of Houston. Founded in 1865 in a region of big plantations, it was long a cotton center. Now alfalfa, truck, dairy, and poultry farms occupy much land. Bryan processes cotton and lumber and makes insecticides. Allen Academy, a military school for boys, is here, and College Station (with the Agricultural and Mechanical College of Texas) is near by.

Bryansk (brĭänsk'), city (pop. 87,473), capital of Bryansk oblast, W European RSFSR, on the Desna river and 210 mi SW of Moscow. It is a center of river and rail transportation and forms an important industrial district with near-by BEZHITSA. There are foundries, ironworks, sawmills, and other plants. Originally named Debryansk, the city was first mentioned in 1146. It was for a time the capital of a principality, later passed to Lithuania, and in the 16th cent. was annexed to Muscovy. In the Second World War, Bryansk and Vyazma were anchor points of a huge German "pincer movement," designed to trap several Russian armies. The operation (Oct., 1941) was only partially successful. Bryansk was retaken by Russian troops in 1943.

Bryant, William Cullen, 1794–1878, American poet and newspaper editor, b. Cummington, Mass. Admitted to the bar in 1815 after a year at Williams College and private study, he practiced law in Great Barrington, Mass., until in 1825 he went to New York. He was already known as a nature poet because of his "Thanatopsis," written in 1811 and published in the *North American Review* in 1817, his "To a Waterfowl," "Inscription for the Entrance to a Wood," and "The Yellow Violet," all written before he was 21. He became associate editor of the New York *Evening Post* in 1826, and from 1829 to his death he was part owner and editor in chief, assisted by John Bigelow, Parke Godwin, and others. His paper, famous for literary correctness, was a leading free-trade, antislavery journal. The busy editor also traveled widely, made many public speeches, and wrote such well-known poems as "The Death of the Flowers," "To the Fringed Gentian," and "The Battle-field." His blank-verse translation of the *Iliad* came out in 1870, and of the *Odyssey* in 1872. The selection from his works edited by Tremaine McDowell (1945) contains a critical bibliography. See biographies by Parke Godwin (1883), John Bigelow (1890), and W. A. Bradley (1905), Allan Nevins, *The Evening Post* (1922).

Bryaxis (brĭăk'sĭs), 4th cent. B.C., Greek sculptor. With Scopas, Leochares, and Timotheus, he was employed, c. 350 B.C., upon the sculptures of the Mausoleum at Halicarnassus. Among other works attributed to him were several statues, including one of Apollo in the grove of Daphne, near Antioch. In 1891 at Athens his signature was discovered on a base for a tripod. The base is sculptured in relief with figures of horsemen.

Bryce, David, 1803–76, Scottish architect Foremost architect of his time in Scotland, he designed important buildings in most of the larger towns His earlier works, such as the Bank of Scotland in Edinburgh, were chiefly in the Palladian manner, but he later devoted himself to that variety of the Gothic style which he naturalized under the name Scottish Baronial and in which he executed many country houses and such public buildings as Fettes College and the Royal Infirmary at Edinburgh

Bryce, James Bryce, Viscount, 1838–1922, English historian, statesman, diplomat, and jurist, b Belfast, Ireland After his education at the Univ of Glasgow and at Trinity College, Oxford, he practiced law in London for a short time before becoming professor of civil law at Oxford The breadth of his knowledge and the diversity of his interests were remarkable not only for his own but also for any time He was able to write monumental works in several fields and at the same time to live a life that was distinguished for achievements in action and for a host of rewarding friendships The first of his monumental works was his *History of the Holy Roman Empire* (1888), which synthesized a thousand years of history in one volume so competently and accurately that the book is still widely used He entered on a political career and became one of the leaders (both in thought and action) of the Liberal party He occupied a variety of posts, including the presidency of the Board of Trade and the chief secretaryship of Ireland His interest in politics ran deep into sociology and philosophy, and no better proof of his great understanding could be found than the second of his great treatises, *The American Commonwealth* (2 vols., 1888), a classic that is still read and used because the principles of democracy and the fundamental concepts of the American way of life were so clearly and judiciously set forth that the events of more than a half century have not altered their truth It is small wonder that as ambassador to the United States (1907–13) he was one of the most popular ever to be in Washington, since his knowledge of the weakness and the strength of the Americans was profound Another thoroughgoing study of modern political ideas was his *Modern Democracies* (2 vols , 1921) In law, his *Studies in History and Jurisprudence* (1901) is a major work because it also has the wide view of liberal principle Even his leisure-time activities yielded fruit, and his accounts of travel and mountain climbing, such as *Transcaucasia and Ararat* (1877), *Impressions of South Africa* (1897), and *South America* (1912), have a charm lacking in his weightier volumes See biography by H A L Fisher (1927); *Bryce's American Commonwealth Fiftieth Anniversary* (commemorative essays, 1939)

Bryce Canyon National Park. see NATIONAL PARKS AND MONUMENTS (table).

Bryhtnoth: see BYRHTNOTH

Brymner, William, 1855-1925, Canadian figure and landscape painter, b Scotland, studied in Paris He went to Canada with his parents in 1857 He was president of the Royal Canadian Academy from 1909 to 1918 and was headmaster of the Montreal Art Association Schools

Brynhild: see BRUNHILD

Bryn Mawr (brĭnmär'), unincorporated village (pop 4,777), SE Pa , a residential suburb of Philadelphia Harcum Junior College is here **Bryn Mawr College** (nonsectarian, for women, chartered 1880) was opened by Quakers in 1885 with a large bequest from Joseph W Taylor of Burlington, N J It opened with a group curriculum plan modeled on Johns Hopkins and with a pioneer graduate school for women Social economics and social research have always been stressed M. Carey THOMAS was a noted president (1894–1922)

Bryson, Lyman, 1888–, American educator, b Valentine, Nebr , grad Univ of Michigan (B A , 1910, M A , 1915) He taught there from 1913 to 1917 From 1918 to 1924 he was active in Red Cross work. He was appointed professor at Teachers College, Columbia Univ , in 1935 after serving one year as a visiting professor, and during the Second World War he worked in the Office of War Information. Consultant on public affairs for the Columbia Broadcasting System, he has been instrumental in popularizing such forms of adult education as the public forum Among his books are *Adult Education* (1936), *Which Way America?* (1939), *The New Prometheus* (1941), and *Science and Freedom* (1946)

Bryson City, town (pop 1,612), co seat of Swain co., extreme W N C , in the Great Smoky region, WSW of Asheville and on the Tuckasegee near the Tenn. line It is a tourist center, with lumbering, mining, and farming in the region

Brythonic (brĭthŏn'ĭk), group of Celtic languages of the Indo-European family It includes Welsh and Breton and the extinct Cornish. See LANGUAGE (table).

Bryusov, Valery Yakovlevich (vŭlyĕ'rē yä'kŭvlyĭvĭch brĭōō'sŭf), 1873–1924, Russian poet, novelist, critic, and translator He was the spearhead of the symbolist movement and the mentor of Bely and Blok Of his poetry, *Stephanos* (1906) is perhaps best known. *The Fiery Angel* (1903) and *Altar of Victory* (1913) are novels *The Republic of the Southern Cross and Other Stories* (1918) contains translations of some of his short stories For translations of his poems, see Babette Deutsch, *Russian Poems* (1927)

Brzeg, Silesia see BRIEG

Brzesc nad Bugiem: see BREST, Belorussia

Bubastis (bōō'băs'tĭs), ancient city, NE Egypt, near the modern Zagazig Capital of Egypt in the XXII and XXIII dynasties, it early reached its full glory under Sheshonk I Its decline became ruinous after the second Persian conquest (343 B C) Bubastis was the center of the worship of the lion-headed (or cat-headed) goddess Bast In the time of Herodotus it had an annual saturnalia As Pi-beseth, Bubastis is mentioned in Ezek 30.17. Excavations were made in 1886 and 1887.

bubonic plague · see PLAGUE

Buçaco, Portugal see BUSSACO

Bucaramanga (bōō"karamäng'gä), city (1938 pop 41,714), N central Colombia Founded in 1622 in the eastern highlands of the Andes, Bucaramanga developed after 1880 as a coffee center Cacao, tobacco, and cotton are raised in the region at lower altitudes Textiles and straw hats are manufactured A railroad to the Magdalena river and highways linking the city with the chief highland towns between Bogotá, the capital, and Venezuela have made Bucaramanga a leading commercial center

Bucareli y Ursúa, Antonio María (äntō'nyō märē'ä bōōkärā'lē ē ōōrsōō'ä), 1717–79, Spanish colonial administrator He served in the army and as governor of Cuba before succeeding the marqués de CROIX as viceroy of New Spain (1771–79) His administration, one of the most popular in Mexico, brought peace and prosperity

buccaneer: see PIRACY

Bucephalus (būsĕf'ŭlus), horse ridden by Alexander the Great Stories are told of his fire and speed and of Alexander's devotion to him Bucephalus died at the age of 30

Bucer or Butzer, Martin (bōō'sûr, bōōt'sûr), 1491–1551, German Protestant reformer His original name was Kuhhorn [cow's horn], of which Bucer is a Greek translation At 14 years of age he joined the Dominican order, and he studied at Heidelberg, where he heard (1518) Luther in his public disputation on the doctrine of free will Influenced by the reformist thought, Bucer left the order and accepted a pastorate at Landstuhl In 1523 he entered upon the work of the Reformation in Strasbourg—preaching, writing, and helping to lay the foundations of the Protestant educational system Many of his activities were devoted to attempts to reconcile the differences in regard to the Eucharist (see LORD'S SUPPER) which divided the Lutherans from the Swiss and South German reformers Bucer's position was close to that of the Swiss leader, Zwingli, and in this as in other doctrinal matters he is credited with a spiritual kinship to Calvin In spite of his desire for unity Bucer rejected the Augsburg Confession (see CREED), drawn up in 1530 in the hope of achieving religious peace It was not until a personal meeting with Luther in 1536 that, in the Wittenberg Concord, Bucer was successful in securing agreement on the Eucharist among himself, Luther, and the reformers of S Germany. When Bucer failed to subscribe to the Augsburg Interim (1548), a compromise between Catholics and Protestants proposed by Charles V, he found it expedient to accept the invitation of Cranmer and moved to England There, highly honored, he taught at Cambridge and tutored Edward VI, at whose request he wrote *De regno Christi* See Hastings Eells, *Martin Bucer* (1931), Constantin Hopf, *Martin Bucer and the English Reformation* (1946)

Buch, Christian Leopold, Freiherr von (krĭs'tyän lā'ōpōlt frī'hĕr fŭn bōōkh'), 1774–1853, German geologist and paleontologist A student of A G Werner at the mining academy in Freiberg, he became one of the most influential geologists of his age He is noted especially for his study of the role of volcanic activity in the formation of the earth's surface. He made (1826) a valuable geological map of Germany

Buchan, Alexander (bū'kun, -khun), 1829–1907, Scottish meteorologist Educated at Edinburgh, he taught from 1848 to 1860, his works include *The Handy Book of Meteorology,* (1867) In 1878 Buchan became curator of the library and museum of the Royal Society of Edinburgh He was responsible for founding the observatory on Ben Nevis (1883)

Buchan, Elspeth (Simpson), 1738–91, Scottish religious enthusiast, founder of a small sect called Buchanites Leaving her husband, Robert Buchan, in 1781, she went to Irvine, where Hugh White, a minister, and several others accepted her claims to be a prophetess and adopted (1783) her fantastic religious views In 1784 they were expelled from the town A company numbering 46, they settled on a farm at New Cample. Mrs Buchan was called "spiritual mother" and professed that she could bestow the Holy Spirit by breathing upon candidates. The last Buchanite died in 1848 See Joseph Train, *The Buchanites from First to Last* (1846).

Buchan, John, 1st Baron Tweedsmuir (twēdz'mûr), 1875–1940, Scottish author and statesman He was educated at Glasgow Univ and Oxford and became a lawyer A member of the publishing firm of Thomas Nelson & Sons and director of Reuters news service, he was director of information in the First World War, of which he wrote a four-volume history (1921–22) He wrote biographies of Montrose (1913), Scott (1923), Cromwell (1934), and Augustus (1937) and many adventure novels, including *The Thirty-nine Steps* (1915), *Greenmantle* (1916), *The Three Hostages* (1924), and *John Macnab* (1925) A member of Parliament for the Scottish universities from 1927, he was appointed governor general of Canada in 1935 and was raised to the peerage His administration was popular, and he promoted good relations with the United States He died in office See his autobiographical *Pilgrim's Way* (1940)

Buchan (bū'khun, -kun), district along the rocky coast of E Scotland, in Aberdeenshire and Banffshire, between the Deveron and the Ythan Buchan Ness is the easternmost promontory of Scotland The Bullers (boilers) of Buchan is a well-like stone formation of the coast, into which the ocean rushes with the flow of the tide and for which a near-by coast village is named

Buchanan, Franklin (būkă'nŭn), 1800–1874, American naval officer, b Baltimore Appointed a midshipman in 1815, Buchanan rose to be a commander in 1841 He was chief adviser to Secretary of the Navy George BANCROFT in planning the U S Naval Academy at Annapolis and was its first superintendent (1845–47), resigning to fight in the Mexican War He commanded the *Susquehanna,* flagship of Matthew C Perry, in the expedition to Japan (1852–54) Buchanan was a captain in the U S. navy when he resigned in April, 1861 In September he took the same rank in the Confederate navy With his flagship the ironclad *Virginia* (formerly the *Merrimac*) he attacked and destroyed two of the wooden vessels of the Union blockading squadron in Hampton Roads (March 8, 1863) He was wounded in that engagement and had no part in the epochal battle of the MONITOR AND MERRIMAC the next day Promoted admiral, Buchanan was ranking officer in the Confederate navy With the ironclad ram *Tennessee* as his flagship he fought heroically against David G FARRAGUT in the battle of Mobile Bay (Aug 5, 1864), but was finally forced to surrender After the war he was for a time president of Maryland Agricultural College See biography by C. L. Lewis (1929)

Buchanan, George, 1506–82, Scottish humanist He lectured at Bordeaux and Coimbra and, returning to Scotland in 1561, tutored Queen Mary in languages He enjoyed her favor until the murder of Darnley, when he repudiated the queen and joined the opposite party From 1570 he was tutor for James VI and also for several years was keeper of the privy seal His works include Latin poems, plays, and many treatises His most important works are *De jure regni apud Scotos* (1579) and *Rerum Scotticarum historia* (1582) See biographies by David Irving (1805) and P Hume Brown (1890)

Buchanan, James, 1791–1868, 15th President of the United States (1857–61), b near Mercersburg, Pa , grad Dickinson College, 1809 He was the only bachelor and the only Pennsylvanian to be President He read law at Lancaster, Pa , where he afterward practiced From law he went into state politics, then entered the national scene as Congressman (1821–31), and was later minister to Russia (1832–34) and Senator (1834–45) Early a Federalist, he was later a conservative mainstay of the Democratic party He served (1845–49) as Secretary of State under J K Polk, and though Polk exercised a strong personal hand in foreign affairs, Buchanan ably seconded his efforts The quarrel with Great Britain over OREGON was settled peacefully That with Mexico after the annexation of Texas led, after the failure of the mission of John SLIDELL, to the Mexican War and the Treaty of Guadalupe Hidalgo (1848) Under President Franklin Pierce, Buchanan was (1853–56) minister to Great Britain He collaborated with Pierre SOULÉ, minister to Spain, and John Y MASON, minister to France, in drawing up the OSTEND MANIFESTO (1854), which was promptly repudiated by the U S Dept of State His open advocacy of acquiring Cuba (which would presumably have come into the Union as a slave state) won him the hatred of the ABOLITIONISTS, whom he in turn despised as impractical troublemakers He was nominated as a Democratic candidate for the presidency in 1856, with John C BRECKINRIDGE as his running mate, and he won the election over John C Frémont, the candidate of the young Republican party, and Millard Fillmore, candidate of the Whig and Know-Nothing parties Buchanan did not have the majority of the popular vote, and his moderate views were disliked and mistrusted by extremists both in the North and in the South Though he attempted to keep the "sacred balance" between proslavery and antislavery factions, in his administration the United States plunged down through conflict toward the armed strife of the Civil War. Buchanan, who disapproved of slavery

as morally wrong, felt that under the Constitution slavery had to be protected where it was established and that the inhabitants of a new territory should decide whether that territory should be free or slave. He angered many in the North by renewed efforts to purchase Cuba and by favoring the pro-slavery Lecompton Constitution in KANSAS As his administration drew to a close, after the election (1860) of Abraham Lincoln to succeed him as President, Buchanan was faced with the secession of the Southern states Very learned in constitutional law, he maintained that no state had the right to secede but he held, on the other hand, that he had no power to coerce the erring states He believed that the Federal government was authorized to use force only in protecting Federal property and in collecting customs Therefore the question of the Federal forts in Southern states became of great importance Buchanan tried desperately to keep peace and promised South Carolina Congressmen that no hostile moves would be made as long as negotiations were in progress When Major Robert Anderson moved U S troops from Fort Moultrie to Fort Sumter, there was an outcry from South Carolina that the President's promise had been broken Buchanan defended Anderson but, reluctant to act, sent supplies to Fort Sumter only belatedly He was battered with criticism from North and South, and shortly after his administration ended, gunfire at Fort Sumter commenced the war All Buchanan's efforts were lost Many recent historians consider Buchanan's constitutional views as sound, and all admire his sincerity and his valiant efforts for peace The home outside Lancaster, "Wheatland," occupied by Buchanan and by his niece, Harriet Lane, who was also his White House hostess, was made a public shrine in 1937 John Bassett Moore edited his works (12 vols, 1909–11) See biography by G T Curtis (1883).

Buchanan, Robert Williams, 1841–1901, English novelist, poet, and dramatist, b Staffordshire, educated in Glasgow Although his *London Poems* (1866) established his reputation, much of his best work was in the Celtic vein of *North Coast Poems* (1868) In 1871 he attacked the pre-eminence of the Pre-Raphaelites in an article, "The Fleshly School of Poetry," but was later reconciled to Dante Gabriel Rossetti Of Buchanan's many successful plays, several were dramatizations of his novels, such as *The Shadow of the Sword* (1876)

Buchanan, 1 City (pop 4,056), SW Mich, near the Ind line, platted 1837, inc as a village 1863, as a city 1929 Automobile parts are made here Numerous Indian village sites and mounds are near by 2 Village (pop 1,600), SE N Y, in Westchester co, near Peekskill, inc 1928

Buchans, town (1945 pop 1,399), N F, in the interior, W of Grand Falls It has a large mine yielding lead, silver, zinc, and copper

Bucharest (bo͞o'kŭrĕst, bū'–), Rumanian *Bucuresti* (bo͞okō͞orĕsht'), city (pop 886,110, with suburbs 1,041,807), capital and largest city of Rumania, in Walachia, on the Dambovita, a tributary of the Danube It is the chief commercial and manufacturing center of Rumania and the seat of the patriarch of the Rumanian Orthodox Church It has a university, founded in 1864, and several academies and scientific institutes Of obscure origin, the city rose to importance in the 14th cent, when it became a residence of the Walachian princes It became the capital of Walachia in the 19th cent only Bucharest was occupied (1916–18) by the Central Powers in the First World War After the Rumanian surrender to the Allies (Aug, 1944) in the Second World War, the capital was severely bombed by German planes, Russian troops entered on Aug. 31 A city of contrasts, Bucharest was famous in the late 19th and early 20th cent for its palatial public buildings, theaters, and hotels, standing side by side with destitute hovels, and for the gilded vice that flourished amid the misery of the polyglot populace

Buchenwald (bo͞o'khənvält"), forest, Thuringia, central Germany, near Weimar It was the site of a CONCENTRATION CAMP set up by the Hitler regime

Buchholtz, Johannes, 1882–1940, Danish novelist, noted for his stories of small-town life His books include *Egholm's God* (1915), *The Saga of Frank Dover* (1933, Eng tr, 1938), and *Vanda Wenzel* (1939)

Buchman, Frank Nathan Daniel (bo͞ok'mən), 1878–, American evangelist, b Pennsburg, Pa, grad Muhlenberg College, 1899 The internationally known movement of which he is leader is variously called First Century Christian Fellowship, Oxford Group, Moral Re-Armament (often known as MRA), and Buchmanism Buchman was ordained in the Lutheran ministry in 1902 He was in charge (1905–15) of religious work at Pennsylvania State College. In 1921 Buchman, after five years of extension lecturing for the Hartford Theological Foundation, visited England There he preached "world-changing through life-changing" among the students at Oxford Univ, hence the name Oxford Group. In 1938 he instituted a campaign known as Moral Re-Armament The work of evangelism for personal and national spiritual reconstruction is conducted informally and intimately in groups gathered in educational institutions, in church congregations, or in homes "House parties" take the place of conferences, and religious experiences are shared in personal confessions The evangelists stress absolute honesty, purity, love, and unselfishness The work has spread to more than 50 countries; a world assembly for Moral Re-Armament was held in 1948 See Buchman's *Remaking the World* (1949 ed), C. I Benson, *The Eight Points of the Oxford Group* (1936); Emil Brunner, *The Church and the Oxford Group* (1937), A W Ester, *Drawing-Room Conversion* (1950)

Buchner, Eduard (ā'dōōärt bo͞okh'nûr), 1860–1917, German chemist He taught at Berlin, Breslau, and, from 1911, at Würsburg He discovered (1896) that alcoholic fermentation of sugars is caused by yeast enzymes and not by the cells themselves Zymase, part of the enzyme system causing fermentation, was discovered by him in 1903 For this work he received the 1907 Nobel Prize in Chemistry.

Büchner, Georg (gā'ôrk bükh'nûr), 1813–37, German dramatic poet He was a student of medicine and natural sciences but was concerned with political agitation Dying at 24, he left a powerful drama, *Danton's Death* (1835), a comedy, *Leonce and Lena* (1879), the fragments of a tragedy, *Wozzeck* (1879), from which Alban Berg derived his opera, and a *Novelle, Lenz* [spring], which is an analysis of his disturbed mental state His three plays were published in English in 1928

Büchner, Ludwig (lo͞ot'vĭkh), 1824–99, German philosopher and physician After being forced to leave his position as instructor at Tübingen because of his philosophical views, he devoted himself to medicine and writing His doctrine was an extreme materialism developed in protest to idealistic metaphysics Among his works were *Kraft und Stoff* (1855, Eng tr, *Force and Matter*, 1864), *Natur und Geist* [nature and spirit] (1857), and *Darwinismus und Socialismus* (1894)

Buck, Carl Darling, 1866–, American philologist, b Orlando, Maine, grad Yale (B A, 1886, Ph D, 1889) He taught at the Univ of Chicago from 1892 to 1933 His *Grammar of Oscan and Umbrian* (1904) is still authoritative

Buck, Dudley, 1839–1909, American composer, organist, and teacher, b Hartford, Conn He was organist of various churches in Hartford, Chicago, Boston, and New York He had great influence on American church music, through his organ recitals, his *Motette Collection* (1864), his technical manual, *Illustrations in Choir Accompaniment* (1877), and his compositions, effective but not difficult, including a midnight service for New Year's Eve, the 46th Psalm, cantatas, and anthems Secular choral works include *The Nun of Nidaros* (1879) and *King Olaf's Christmas* (1881), based on *The Saga of King Olaf* by Longfellow, *Scenes from the Golden Legend* (1879), also from Longfellow, and two settings from works of Washington Irving He also composed organ music and a symphonic overture (1880) to Scott's *Marmion*

Buck, Leffert Lefferts, 1837–1909, American civil engineer, b Canton, N Y, grad St Lawrence Univ, 1863 He designed many notable bridges, including the Verrugas viaduct near Lima, Peru; two bridges at Niagara Falls, the Columbia river railroad bridge at Pasco, Wash, and the Williamsburg Bridge in New York city

Buck, Pearl (Sydenstricker), 1892–, American novelist, b Hillsboro, W Va, grad. Randolph-Macon Woman's College, 1914 Until 1934 she lived largely in China, where she, her parents, and her first husband, John Lossing Buck (from whom she was later divorced), were missionaries Her first novel, *East Wind West Wind* (1930), was followed by *The Good Earth* (1931), which won the Pulitzer Prize *The Exile* (1936) and *Fighting Angel* (1936) are biographies of her mother and her father In 1935 she married Richard J Walsh Recipient of the 1938 Nobel Prize in Literature, she has continued writing novels, such as *The Patriot* (1939), *Dragon Seed* (1942), and *Peony* (1948) Her work has contributed to racial tolerance and Western understanding of Oriental customs and problems See biography by Cornelia Spencer, *The Exile's Daughter* (1944)

bucket shop, primarily an organization posing as a commission brokerage house, dealing in stocks, grain, cotton, and similar commodities, the trades ostensibly made are not actually executed, and prices charged and payments made are based only on current quoted prices It is thus strictly a gambling institution Unlike reputable firms, the bucket shop keeps the total amount of the interest it charges customers for purchases on margin, avoids the cost of agents or representatives on the floor of the exchange, and may also manipulate purchase and sale prices to its advantage in various ways "Bucketing" was especially prevalent in the depression of 1921–22, but has largely disappeared with increased regulation of stock-exchange practices. See S S Huebner, *The Stock Market* (1939)

Buckeye, town (pop 1,305), S central Ariz, W of Phoenix, in an irrigated farm area, inc 1929

buckeye, any of several trees or shrubs of the genus *Aesculus*, native to the Northern Hemisphere Although the leaves and seeds are poisonous, the large, round, eyelike nuts were used for food by Indians after thorough roasting or leaching A buckeye nut is still carried by some rural people as a good-luck charm or a folk cure for certain ailments The wood is light, weak, and soft, but is used for many purposes, including woodenware, pulp, and lumber Ohio is called the Buckeye State from the prevalence of the Ohio buckeye, *Aesculus glabra*. Buckeyes usually have five leaflets, as distinguished from the closely related horse chestnut, which normally has seven

Buckhannon (bŭk"hăn'un), city (pop 4,450), co seat of Upshur co, N W Va, on the Buckhannon river and S of Clarksburg, in a cattle and mineral region, settled 1770 West Virginia Wesleyan College (coeducational) is here

Buckholdt, Johann: see JOHN OF LEIDEN

Buckie, burgh (pop 8,689), Banffshire, Scotland, on the south shore of Moray firth W of Banff It is an important fishing center, especially for herring

Buckingham, dukes of (Stafford line) see STAFFORD

Buckingham, George Nugent Temple Grenville, 1st **marquess of** see GRENVILLE

Buckingham, George Villiers, 1st **duke of** (vĭl'yûrz bŭ'kĭng-um), 1592–1628, English nobleman He arrived at the English court (1614) as James I was tiring of his favorite, Robert Carr, earl of Somerset Villiers was made a gentleman of the bedchamber (1615) and after Somerset's disgrace rose rapidly, becoming earl of Buckingham (1617), marquess (1618), and lord high admiral (1619) In 1620 he married Lady Katherine Manners, who was daughter of the earl of Rutland and was inclined to Roman Catholicism By this time Buckingham dispensed the king's patronage, when Parliament in 1621 protested the abuses of monopolies by his brothers and followers, Buckingham agreed in the censure but prevented possible punishment—a service he was unable to perform for his friend Francis BACON When negotiations dragged for the proposed marriage of Charles, prince of Wales, and the Infanta Maria of Spain, Buckingham, who favored the match, went to Spain with the prince incognito There they found Spanish demands impossible to meet, and on their return Buckingham was a hero in England for having prevented the unpopular marriage and was made a duke He promoted war with Spain and persuaded James to disregard Parliament's religious restrictions on the proposed match of Charles with Henrietta Maria, sister of Louis XIII of France In support of FREDERICK THE WINTER KING, he hired Graf von Mansfeld to lead troops against the emperor in the Palatinate in the Thirty Years War, but then did not supply him adequately and was held responsible for the expedition's utter failure After the accession of Charles I, Buckingham was still the favorite, and the virtual dictator of English affairs Parliament resented his power, and after the complete failure of an expedition against Cádiz, Buckingham was impeached, and Charles dissolved Parliament to prevent his trial After the disastrous failure (1627) of Buckingham's attempted relief of the Huguenots on the Isle of Ré off La Rochelle, Charles had to prorogue his 1628 Parliament to still the remonstrance against the duke Buckingham was at Portsmouth preparing to sail again for La Rochelle when he was killed by John Felton, a discontented naval officer The romantic aspects of the duke's career figure largely in Alexander Dumas's historical novel, *The Three Musketeers* See biographies by C R Cammell (1939) and Hugh Ross Williamson (1940)

Buckingham, George Villiers, 2d **duke of,** 1628–87, English courtier, son of the 1st duke Brought up with the royal family and educated at Cambridge, he was a strong royalist in the civil war He took part in the royalist rising of 1648 and escaped to the Continent, where he was a privy councilor of the exiled Charles II. He fought for the king in the defeat at Worcester (1651) but later intrigues with Cromwell's government estranged him from Charles Buckingham's estates were confiscated in 1651 In 1657 he returned to England and married Mary, the daughter of the Puritan lord and general, Thomas FAIRFAX, and was consequently imprisoned until 1659 He served with Fairfax against John Lambert in 1660, but after the Restoration he regained the favor of Charles II and was one of the most powerful courtiers of the reign His career was still adventurous and troubled, disturbed by his own quarrelsome temper, recklessness, and dissoluteness of life He was a member of the CABAL (1667–73), was furious when he was kept in ignorance of the secret provisions of the Treaty of Dover (1670) with Louis XIV, and was even more offended by the loss of his military command in 1673 Parliament reprimanded him for his open liaison with the countess of Shrewsbury, and in 1674 Charles dismissed him He opposed the duke of York (later James II) and joined vigorously in the cry against the Catholic victims of the Titus Oates plot (though he had earlier been much in favor of religious tolerance), but he managed not to vote for exclusion of the duke of York from succession to the throne and in 1684 was restored to favor He showed the good

as well as the bad aspects of the Restoration courtier· he patronized science and learning, had exquisitely refined tastes, and wrote poetry, religious tracts, and plays He was the chief author of a celebrated satire on heroic drama, *The Rehearsal* (1671, ed by Montague Summers, 1914), directed in its later version against John Dryden See biography by Lord Burghclere (1903)

Buckingham (bŭ'kĭnghăm, bŭ'kĭng-ŭm), town (pop 4,516), SW Que , on the Lièvre river and E of Ottawa.

Buckingham (bŭ'kĭng-ŭm), municipal borough (pop 3,083), Buckinghamshire, England Stowe School (1923), a public school for boys, occupies the seat of the former dukes of Buckingham

Buckingham Palace (bŭ'kĭng-um), London residence of British sovereigns from 1837, adjacent to St James's Park Built (1703) by the duke of Buckingham on the site of a mulberry grove, it was purchased (1761) by George III and was remodeled (1825) by John Nash, the eastern façade was added by Edward Blore in 1847 The great ballroom was added in 1856, and in 1913 Sir Aston Webb designed a new front The palace contains a collection of paintings, including many royal portraits, by noted artists Damage was done by air raids in 1940-41 and by a robot bomb in 1944

Buckinghamshire (bŭ'kĭng-ŭmshĭr), **Buckingham,** or **Bucks,** inland county (749 sq mi , 1931 pop 271,586, 1948 estimated pop 372,085), S central England The county town is Aylesbury The chief rivers are the Thames, which forms the southern boundary, the Ouse, and the Thame In the southern part of the county are the chalky Chiltern Hills with their beech forests, and to the north lies the fertile Vale of Aylesbury The region is chiefly agricultural Cattle and sheep are raised There are miscellaneous small manufactures Roman and pre-Roman remains are extensive, the ancient Icknield Street and Watling Street crossed the county The region was part of the Anglo-Saxon kingdom of Mercia, but the boundaries of the modern shire were definitely established by the time of the Norman Conquest There are numerous literary associations at Stoke Poges, Thomas Gray is buried in the country churchyard that inspired his "Elegy," Milton had a cottage for a time at Chalfont St Giles, and William Cowper lived for many years at Olney See the *Victoria History of Buckinghamshire* (4 vols , 1905–27), Arthur Mee, *Buckinghamshire* (1940)

Buckland, Francis Trevelyan, 1826–80, English naturalist, son of William Buckland An authority on fish culture, he was inspector of fisheries in England and Scotland (1867–80) and installed a collection in the South Kensington Museum He wrote on various branches of natural history

Buckland, William, 1784 1856, English geologist He was dean of Westminster from 1845 He was the first to note in England the action on rocks of glacial ice, and his researches did much to bring physical and natural science into high repute He wrote *Reliquiae Diluvianae* (1823) and *Geology and Mineralogy Considered with Reference to Natural Theology* (1836) Francis T Buckland was his son

Buckland, town (pop 1,527), NW Mass , in hills W of Greenfield, inc 1779 Mary Lyon was born in Buckland and taught school here

Buckle, Henry Thomas, 1821–62, English historian He used his inherited wealth for wide travel on the Continent and for intensive self-education Contemptuous of the history writing of his day with its intense concern with politics, wars, and heroes, he undertook the breathtakingly ambitious plan of writing a history of civilization, of all men in their relation with each other and with the natural world about them At the time of his early death he had completed only two volumes of his panoramic *History of Civilization in England* (1857–61, new ed in one volume, 1904) These were only introductory, but they caused a sensation, thoroughly disturbing the dovecotes of the historians Trying to make history a genuine science, Buckle by an inductive process arrived at various "laws" of history. It is easy to point out that these "laws"—e g , the law of climate, by which he demonstrated that only in Europe could men reach high levels of civilization—were to a large extent only rationalisations of his own progressive and liberal views Yet the effect that the book had in shaping English liberal thought was immediate and huge More important still were its long-range effects in historiography; it profoundly influenced later scientific historians, and it helped to fasten attention on masses rather than individuals, on the wide levels of all life rather than on politics, and on the interrelations of man and nature rather than man and morals

Buckley, James Monroe, 1836–1920, American Methodist clergyman, b Rahway, N J For 32 years, beginning in 1880, he was editor of the *Christian Advocate* His numerous writings include a history of the Methodist Church (1912)

Buckley, town (pop 1,170), W Wash , near the White River E of Tacoma, in a farming, mining, and lumbering region, settled 1888, inc 1890.

Bucknell University see LEWISBURG, Pa

Buckner, Simon Bolivar, 1823–1914, Confederate general, b Hart co , Ky , grad West Point, 1844 After serving in the Mexican War, he resigned from the army (1855) and entered business, ultimately settling in Louisville In 1860 Buckner, fearing war, prepared and secured the passage of a bill creating a large Kentucky militia and, as inspector general, trained it When Kentucky announced its neutrality in May, 1861, Buckner stationed the troops to prevent invasion and unsuccessfully tried to get Lincoln to recognize the neutrality declaration The legislature became strongly Unionist and assumed control of the state's military affairs, so Buckner resigned and in Sept , 1861, was commissioned a Confederate brigadier general At Fort DONELSON (Feb , 1862), he surrendered to Grant and was taken prisoner Soon exchanged and promoted major general, he commanded a division in Bragg's invasion of Kentucky and fought at Perryville (Oct , 1862) He fortified Mobile (Dec , 1862–April, 1863), commanded the Dept of East Tennessee (May-Aug , 1864), fought around Chattanooga (Sept , 1863), and from 1864 until the end of the war commanded in Louisiana Returning to Kentucky in 1868, Buckner became editor of the Louisville *Courier* and was later governor of the state (1887–91) See biography by Arndt M Stickles (1940)

Bucks, England see BUCKINGHAMSHIRE

Bucksport, town (pop 2,927), S Maine, on the Penobscot below Bangor, settled 1762, inc 1792 Bucksport grew as a port The Old Jed Prouty Tavern dates from 1804 The British burned part of Bucksport in 1779 and again in the War of 1812 A large paper mill was built in 1930 The granite walls of Fort Knox (1846) are across the river

buckthorn, name for shrubs and small trees of the genus *Rhamnus* They are often thorny, and some species are evergreen The common buckthorn (*R cathartica*) is a hedge plant native to Europe and Asia but naturalized in E North America It has medicinal properties and yields a yellow dye CASCARA SAGRADA is obtained from *R purshiana*, a Western buckthorn Coffee berry, Indian cherry, redberry, and Avignon berry are other names for some species of *Rhamnus*

buckwheat, tender annual plant (*Fagopyrum esculentum*), native to Asia and grown in Europe from the Middle Ages for its three-cornered fruit Buckwheat is used as a feed for poultry and stock and as forage for bees It makes a good cleaning crop for hard and weedy lands In the United States buckwheat flour is used for pancakes Three varieties of the grain common in the United States are the Japanese, Silver Hull, and common gray Tartarian buckwheat is a related species

bucolics (būkŏl'ĭks) [Gr ,=belonging to the herdsman's life], PASTORAL poems, from which bucolics are not really distinguishable by definition The name was used of the *Eclogues* of VERGIL, modeled after the *Idylls* of THEOCRITUS

Bucyrus (būsī'rŭs), city (pop 9,727), co seat of Crawford co , N central Ohio, on the Sandusky river and NE of Marion, settled 1819, laid out 1822 It is a trade and industrial center and has varied manufactures, including highway-construction machinery and copper kettles

bud, in the lower plants and animals a protuberance from which a new organism develops, in seed plants, a growing point containing the rudiments of flowers, of leaves and shoots, or of all three Most trees and shrubs of colder climates have bud scales which protect the tender young bud The buds of each species of tree are nearly always characteristic enough to provide a means of identification in the winter, particularly those at the tips of the branches, called terminal buds Buds are utilized in bud grafting or BUDDING and in propagating by a CUTTING—it is a bud which grows into the new plant The "eyes" of an Irish potato are undeveloped buds and from them practically all food potato plants have been grown

Budaeus see BUDÉ, GUILLAUME

Budapest (bōō'dupĕst'), city (pop 1,164,963), N central Hungary, the national capital, on both banks of the Danube It was formed in 1873 by the union of Buda (Ger *Ofen*) and Obuda (Hung *Óbuda*, Ger *Alt-Ofen*) on the right bank with Pest on the left bank The Roman capital of Lower Pannonia, Aquincum, was near the modern Obuda, and Pest developed about another Roman town Both cities were destroyed by Mongols in 1241, but in the 13th cent King Bela IV built a fortress (Buda) on a hill here, and in the 14th cent Emperor Sigismund built a palace for the Hungarian rulers Under MATTHIAS CORVINUS, Buda was an intellectual center of Central Europe Buda and Pest fell in 1541 to the Turks, who held them until 1686, when Charles V of Lorraine conquered them for the Hapsburgs Because they had lost most of the original population they were resettled, Pest with Serbs, Buda with Germans Buda, a free royal town after 1703, had a renaissance under Maria Theresa, who built a royal palace and in 1777 transferred to Buda the university founded in 1635 by Peter Pazmany at Nagyszombat The university was moved in 1784 to Pest, which in the 19th cent, throve with commerce and was, after the flood of 1838, rebuilt on modern lines Buda became the residential sector The united city was by 1917 the leading center of grain trade and flour milling in Europe, already ringed by industrial suburbs After the First World War, industries increased, notably in machines, chemicals, and textiles Budapest was not only a metropolis but a beautiful city famed for its literary, theatrical, and musical life, it attracted tourists by its mineral springs, its historic buildings, and its parks, notably the large municipal park and the show place of Margaret Island (Hung *Margit Sziget*), in the Danube, where St Margaret, daughter of Bela IV, had lived in a convent Budapest suffered greatly in the Second World War Hitlerian German domination reduced the number of Jews from 200,000 to c 116,000 Later air raids and a 14-week siege by the Russians wrought devastation Almost 70 percent of Buda was destroyed or heavily damaged, including the royal palace and the Romanesque Coronation Church All seven bridges between Buda and Pest were struck, including the Szechenyi suspension bridge (built 1840-49) In Pest the Corso (promenade) along the Danube was damaged and the buildings in Calvin Square and the art gallery in the municipal park were destroyed

Budaun (budoun'), town (pop 52,077), W central United Provs , India It was an important northern military post under the Mogul empire The Great Mosque (the Jama Masjid) here dates from 1223 There is much trade in grain

Buddha (bōō'dŭ) [Sanskrit,=the enlightened one], usual title given to the Indian religious leader who founded BUDDHISM The story of his life is incrusted with legend, but it is generally said that he was born c 563 B C and died in 483 B C He was of noble family of the Kshatrvia caste, son of a wealthy ruler of a territory north of the present Benares, near Nepal His family name was Gautama (or Gotama), his given name Siddhartha He led a sheltered life of ease and had married and fathered a son before, at the age of 29, he learned of human misery Renouncing his luxury he became a hermit and a wanderer Under a bo tree (i e , a pipal tree) at Buddh Gaya he was rewarded for his holy asceticism by "the great enlightenment" There he learned the principles on which Buddhism is based He became a teacher, gathered disciples, who were the first Buddhist monks, and spread the results of his vision abroad His old age is said to have been disturbed by a quarrel with his cousin Devadatta, which he surmounted by the holy detachment which had caused him to be called Bhagava [Sanskrit,=lord], Tathagata [Sanskrit,=he who has come], and the Buddha Near the spot traditionally called his birthplace a commemorative stele was found in 1896, and an urn was found in 1898 Both come from before 250 B C , and the urn purportedly contains his relics

Buddh Gaya or **Bodh Gaya** (both bōōd' gu'yu), village, W central Bihar state, India Buddha according to tradition received enlightenment under a pipal tree (bo tree) here There are extensive relics of Buddhist sculpture, dating from the 8th to the 12th cent A D

Buddhism (bōō'dĭzm, bŭ'dĭzm), philosophy and system of ethics, one of the great Oriental religions Today it numbers many millions of adherents in Ceylon, Nepal, China, Japan, Tibet Thailand, Burma, and Indo-China Buddhism arose from the teachings of the BUDDHA in India in the 6th and 5th cent B C The lines of caste at that time were becoming fixed, agriculture and political life were more or less static, and though Brahmanism was officially supported, in the villages and remote areas "salvation" religions arose Of these the greatest was Buddhism, another was JAINISM Buddhism was in its foundations closely related to Brahman beliefs (see HINDUISM) It taught that sufferings is inherent in life and that the greatest good is release from life and suffering The individual man is only a link in the chain of being, made up of parts that have always been existent, and his death is the separation of those parts, which may be united again in a somewhat similar way (see TRANSMIGRATION OF SOULS) What happens after his death is determined in part by what he has done in all his previous existence—by his *karma* [Sanskrit,=making] Since all existence is bound up with pain, the ultimate end of religious man is to escape into blissful nonexistence—nirvana (nĭrvu'nŭ) [Sanskrit,=annihilation] There are various stages of the approach to nirvana To attain a higher stage one must live by the teachings of the Buddha. The "four noble truths" revealed to the Buddha in "the great enlightenment" are that existence is suffering, that the origin of suffering is desire, that suffering ceases when desire ceases, and that the way to attain cessation of desire is "the noble eightfold path" This "noble eightfold path" comprises right belief, right resolve (to renounce sensual pleasure, to harm no living creature, and ultimately to reach nirvana), right speech, right conduct, right occupation of living, right effort (to keep the mind free from evil and devoted to good), right contemplation or right-mindedness, and right ecstasy (to achieve by trancelike meditation selfless contemplation) The emphasis was on gentleness, self-denial, and compassion Under the Mogul empire,

Buddhism reached a great height in India with the reigns of Asoka (3d cent B C) and his son Mahendra, who introduced Buddhism to Ceylon. It later was established in central Asia but disappeared, as it did in India proper It entered China in the 1st cent A D, and from China spread (c 552) to Japan through Korea In Tibet it developed into Lamaism In Ceylon and in Burma it persisted in its purer, simpler form, the Hinayana [Sanskrit, =small vehicle], but in the north (notably in China and Japan) it developed into the Mahayana [Sanskrit, =great vehicle] The doctrine of reincarnation and the belief that a holy man might by self-sanctification become a Buddha made possible the acceptance of a number of Buddhas and bodhisattvas (potential Buddhas), and Northern or Later Buddhism developed a whole galaxy of divine beings and borrowed heavily from local religions Many small, but not conflicting, sects of Buddhism grew up with hierarchical priesthoods and elaborate monasticism It is out of this welter of beliefs that most of what we know as Buddhist art and iconography grew, with such elaborate symbolism as that of the lotus The classic early writings of Buddhism are the great works of Pali literature The three *Pitakas* [Sanskrit *pitaka*=basket] are compilations—the *Suttapitaka*, parables, sermons, and discourses of the Buddha, written down, according to tradition, by the Buddha's disciple Ananda, the *Vinayapitaka*, monastic rules, with an account of their formulation, and the *Abhidhammapitaka*, commentaries on doctrine The jatakas are also in Pali, and there are other important works in the large body of Buddhist scriptures including the *Dhammapada* (a sort of abstract of the *Pitakas*) and the *Avadana* (stories to illustrate karma) The writings of Northern Buddhism are mainly in Sanskrit The story of Buddha came to the medieval West dimly through the story of Barlaam and Josaphat See T W Rhys Davids, *Buddhism Its History and Literature*, C N E Eliot, *Hinduism and Buddhism* (3 vols, 1921) and *Japanese Buddhism* (1935), A B Keith, *Buddhist Philosophy in India and Ceylon* (1923), Alice Getty, *Gods of Northern Buddhism* (2d ed, 1928), C A Davids, *Outlines of Buddhism* (1937), J G Jennings, ed, *Vedantic Buddhism of the Buddha* (1947)

budding, type of grafting, in which a plant bud is inserted under the bark of the stock (usually not more than a year old) It is best done when the bark will peel easily and the buds are mature, as in spring, late summer, or early autumn Budding is a common means of propagating roses and most fruit trees in nurseries

Budé, Guillaume (gēvōm' büdā'), 1467–1540, French scholar, known also by the Latinized form of his name, Budaeus (büdē'us) One of the greatest of humanists and one of the greatest French scholars of all time, he was a towering figure of the Renaissance He was secretary to Francis I, was busy about royal affairs, and persuaded the king to found the Collège de France His commentaries on the Pandects virtually introduced textual criticism in the study of Roman law His treatises on linguistics helped to establish the discipline of philology He translated and commented on Greek literature and fostered the revival of Greek learning in France Budé's voluminous writings also dealt with Greek and Roman numismatics, with political and economic theories, and with various other subjects

Bude (büd), town (pop 1,207), SW Miss, ESE of Natchez and on the Homochitto, in a timber area, inc 1912

Budejovice, Czechoslovakia see Budweis

Budenny, Semyon Mikhailovich (bōōdĕn'ĭ, Russ sĭmyôn' mēkhī'luvĭch bōōdyô'nĭ), 1883–, Russian general A Don Cossack and a sergeant in the tsarist army, he joined the Communist party in 1919, organized the Red Cavalry, and won dashing victories over the counterrevolutionists in the civil war Made a marshal, he held a command in the war against Finland (1940) In the Second World War he commanded (July–Oct, 1941) in the south against the Germans, was severely defeated at Kiev, and was shifted to the rear to train new armies

Bude-Stratton (büd'–), urban district (1931 pop 3,836, 1943 estimated pop 5,598), Cornwall, England Stratton village, with a 14th-century church, is near the scene of a parliamentarian defeat in the Puritan Revolution

Budge, Sir Ernest Alfred Wallis, 1857–1934, English archaeologist, an authority on ancient Egypt and Assyria He was keeper (1893–1924) of Egyptian and Assyrian antiquities at the British Museum

Budge, John Donald (Don Budge), 1915–, American tennis player, b Oakland, Calif He was the American and British champion (1937–38) and a member of the U S team that won (1937) the Davis Cup from Great Britain In 1938 he scored the "grand slam" of tennis by winning the American, Australian, French, and British singles championships. He turned professional in 1939 He wrote *How Lawn Tennis Is Played* (1937) and *On Tennis* (1939)

Budgell, Eustace (büj'ĕl), 1686–1737, English essayist and pamphleteer He was a cousin of Addison, through whose aid he obtained several public offices Budgell contributed to the *Tatler*, the *Spectator*, the *Guardian*, and afterwards the *Craftsman* He lost a fortune in the collapse of the South Sea Bubble and later was accused of forging a will He is mentioned in Pope's *Dunciad*.

budget, inclusive list of proposed expenditures and expected receipts of any person, enterprise, or government, for a definite period, usually one year Budget estimates are based on the expenditures and receipts of a similar previous period, modified by any expected changes The governmental budget originated in England In the United States, the President annually submits to Congress a budget which shows the condition of the Treasury at the end of the last completed fiscal year, its estimated condition at the end of the current fiscal year, and its estimated condition at the end of the ensuing year if the budget proposals are carried out, the revenues and expenditures during the last completed year and the estimates thereof for the current year, recommendations of provisions for meeting the revenue and expenditure for the ensuing year, and any other data considered helpful to Congress in its determination of the government's financial policy No other administrative officer is allowed to make revenue recommendations unless asked to do so by Congress or one of its houses To help the President, the Bureau of the Budget was created (1921), under the Treasury Dept, to receive, compile, and criticize estimates of expenditure needs submitted by the various governmental services and to study in detail all government services and recommend to the President any changes therein that will increase their economy and efficiency The bureau was transferred in 1939 to the executive office of the President All the states have some form of budget system See A E Buck, *Public Budgeting* (1929), F A Bland, *Budget Control* (4th ed, 1946)

Budweis (büd'wīs, Ger bōōt'vīs), Czech *Ceské Budějovice* (chĕs'kĕ bōō'dyĕyôvĭtsĕ), city (pop 38,194), SW Bohemia, Czechoslovakia, on the Moldau Beer is its best-known product, but its pencils and enamelware are economically more important Founded in the 13th cent, Budweis has kept its old inner city, with an arcaded square, as well as an old castle

Buel, Jesse (bū'ĕl), 1778–1839, American journalist and agriculturist, b Coventry, Conn He published the Kingston *Plebeian* (1803–14) and the Albany *Argus* (1813–20) He wrote tirelessly on agriculture, in his newspapers, in his reports as secretary of the state board of agriculture, and, after 1834, as editor of the *Cultivator*, one of the earliest farm journals to become widely popular In the sandy land near Albany after 1821 he developed by scientific practices a model farm which yielded him large financial returns He served several terms in the legislature, where he worked for a state agricultural school He was defeated for governor by William L Marcy in 1836 His *Farmer's Companion* (1847), passed through many editions See *Jesse Buel, Agricultural Reformer Selections from His Writings* (ed by H J Carman, 1947)

Buell, Abel (bū'ĕl), 1742–1822, American silversmith, engraver, and type founder, b Killingworth, Conn He engraved a number of maps, including maps of the Florida coast and a large wall map of the United States, the first produced in America after the Treaty of Paris in 1783 He experimented in type founding, cast the first font of native-made American type (1769), and later supplied type to Connecticut printers He invented machinery for cutting and polishing precious stones, invented a machine for coining money and for a period produced copper coins for the state, established in 1795, at New Haven, one of the first cotton mills in the country, which, however, soon failed, and was interested in many other projects All this time he was producing silver and jewelry See L C Wroth, *Abel Buell of Connecticut* (1926)

Buell, Don Carlos, 1818–98, Union general in the Civil War, b near Marietta, Ohio, grad West Point, 1841 Before the outbreak of the Civil War, he had served with distinction in the Seminole and Mexican wars Buell was appointed brigadier general of volunteers (May, 1861), helped to organize the Army of the Potomac, and was placed in command of the Dept of the Ohio (Nov, 1861) When Grant moved up the Tennessee and Cumberland rivers, Buell supported him by marching on Bowling Green, and after the fall of Fort Donelson he pursued the retreating Confederates to Nashville In March, 1862, he was placed under Gen H W Halleck and made major general, commanding the Army of the Ohio Halleck ordered him to advance on Savannah, Tenn, and Buell came up just in time to save the day at Shiloh After accompanying Halleck to Corinth, he was ordered to proceed with four divisions to Chattanooga, but Braxton Bragg reached there before him When Buell concentrated his forces at Murfreesboro, Bragg marched around his left and headed for Louisville Buell's rapid marching and Bragg's delay enabled the Union general to reach Louisville first He fought Bragg at Perryville on Oct 8, 1862, and on the next day the Confederates retreated from Kentucky Buell advanced to Nashville, but the administration, dissatisfied with his campaign, removed him in favor of Gen W S Rosecrans A military investigation was held (Nov, 1862–May, 1863), and, after a year, Buell was discharged as major general of volunteers He thereupon resigned his regular commission and withdrew from the war See James B Fry, *The Army under Buell* (1886)

Buenaventura (bwā"nävĕntōō'rä), city (pop 14,515), W Colombia, a port on the Pacific Founded c 1540, it was burned by the Indians at the end of the 16th cent The present port on Cascajal Island in Buenaventura Bay was more recently settled It is the port of the Cauca valley, and since the completion (1914) of the railroad to Cali and the opening of the Panama Canal, it has become increasingly important, exporting coffee, platinum, gold, and hides

Buena Vista (bwā'nŭ vĭs'tŭ), locality just S of Saltillo, Coahuila, where a battle of the Mexican War was fought, Feb 22–23, 1847 Gen Zachary Taylor, disobeying orders from the U S government, had advanced here Santa Anna, having gathered a Mexican army, came north by heroic marches and, attacking Taylor's forces furiously, outflanked them The fighting was hard and at the end of the second day seemed a drawn battle, but on the night of Feb 23 the Mexican army withdrew, leaving Taylor in control of the north of Mexico Among the U S officers Gen John E Wool distinguished himself by his command at Buena Vista

Buena Vista (bŭ'nŭ vĭs'tŭ) **1** City (pop 1,161), co seat of Marion co, W Ga, SE of Columbus, in a farm and lumber area, settled 1830 **2** City (pop 4,335), western Va, in the Blue Ridge E of Lexington, founded 1889, inc 1891 It has silk and paper mills and brick kilns A girls' junior college is here Buena Vista is at the edge of the George Washington National Forest

Buen Ayre, Dutch West Indies see Curaçao

Buenos Aires (bwā'nŭs ī'rēz, â'rēs, Span bwā'nōs ī'räs), city (pop 3,000,371), capital of Argentina, in the federal district, N Argentina, on the right bank of the Río de la Plata The largest city of Latin America, Buenos Aires is the chief port and the financial, industrial, and social center of the republic, on the eastern edge of the Pampa, it is also the distributing center for that vast region A city of great wealth, it is modern and well built, with spacious parks, excellent buildings, and some fine streets, such as the Avenida de Mayo Among the numerous educational, scientific, and cultural institutions are the Univ of Buenos Aires and the National Library Buenos Aires was first founded in 1536 by Pedro de Mendoza, but the settlement was abandoned in 1541 by order of Domingo Martínez de Irala, the colonists moving to Asunción A permanent settlement was planted in 1580 by Juan de Garay, but it did not become of paramount importance until the latter part of the colonial period The growth of Buenos Aires, however, was greatly enhanced by the development of trade, much of it contraband In 1617, at the instance of Hernando Arias de Saavedra, the province of Buenos Aires or Río de la Plata was separated from the administration of Asunción, with Buenos Aires as the seat of the new provincial government It became the capital of the viceroyalty of the Río de la Plata in 1776 and shortly afterward was made an open port by Charles III From that time on it had the hegemony of S South America In 1806 the city was captured by British troops and was recaptured by Jacques de Liniers, in 1807 a second British attack was repulsed The British invasion was significant in its effect on the peoples of Buenos Aires, it helped to prepare the way for the revolt against Spain, in which Buenos Aires played an important part In May, 1810, the *cabildo* deposed the viceroy and established a junta The winning of independence was followed by a period of confusion and strife in Argentina The unitarians, strongest in Buenos Aires prov, advocated a centralized government dominated by the city of Buenos Aires, the federalists supported provincial autonomy and resented the economic and political dominance of the city and the province of Buenos Aires over the other provinces. A long conflict was waged between the two forces The dictator Juan Manuel de Rosas ostensibly rejected the unitarian system, but he maintained the dominance of Buenos Aires and in effect his regime was centralistic. Although an attempt was made by Justo José de Urquiza to establish a federal government, it was under Bartolomé Mitre, the champion of the city, that national political unity was finally achieved The bitterness between Buenos Aires and the province continued, however, until 1880, when the city was detached from the province and federalized The spectacular economic rise of Argentina in the second half of the 19th cent attracted to Buenos Aires capital and immigration from all over the world. The improvement of the harbor and the construction of extensive port facilities aided development, and the port became one of the busiest in the world, exporting chiefly the Pampa yield—meat, meat products, and grain Industry developed on the basis of processing those products—

meat packing, grain milling, preparation of dairy products—and then expanded to include many other plants Not only are most of the industrial plants of the nation located in Buenos Aires, but the city also has trade facilities of great value It developed into an important publishing center during the civil war in Spain The province of Buenos Aires (118,752 sq mi., pop 4,408,373) is the richest and most populous of Argentina It forms a part of the Pampa and is essentially an agricultural and pastoral country, with beef, mutton, wheat, corn, flax, oats, and barley as the principal products The capital is LA PLATA, other important cities are Avellaneda, Bahía Blanca, Chivilcoy, Mar del Plata, and Tandil Dairying is carried on, and fruits and vegetables are grown near the city of Buenos Aires The chief industries are meat packing and grain milling In the south several low mountain ranges are an important source of granite, quartzite, and limestone

Buer, Germany see GELSENKIRCHEN

Buffalo. **1** Village (pop 1,695), co seat of Wright co, E Minn, WNW of Minneapolis, in a lake region, settled c 1855, inc 1887 **2** City (pop 575,901), co seat of Erie co, W N Y, on Lake Erie and the Niagara river It is a port of entry and one of the principal Great Lakes ports Joseph Ellicott laid out a village here for the HOLLAND LAND COMPANY in 1803 Almost destroyed by fire (1813) in the War of 1812, Buffalo was slow in rebuilding until the opening of the Erie Canal in 1825, when it began growing rapidly and by 1832 was incorporated as a city Transportation was the primary factor in its early growth, and it became one of the largest grain-distributing ports in the United States and an important railroad focus Among its many important industries are flour milling, iron and steel manufacture, meat packing, the production of rubber, linseed oil, and gypsum goods, and the operation of automotive and aviation plants Its educational institutions include the Univ of Buffalo (see BUFFALO, UNIVERSITY OF), a state teachers college, Canisius College (Jesuit, mainly for men, 1870), and D'Youville College (for women) The Grosvenor Library is an important reference library In Delaware Park are the Albright Art Gallery and a zoo Humboldt Park has a science museum and botanical gardens Notable buildings include the city hall (1932), the Prudential Building (1894) designed by Louis Sullivan, and the Larkin office building designed by Frank Lloyd Wright A state mental hospital and a state institute for the study of malignant diseases are here Grover Cleveland became mayor of Buffalo in 1881 Here in 1901 McKinley was assassinated at the time of the Pan-American Exposition, and Theodore Roosevelt took the presidential oath Millard Fillmore's home was in Buffalo **3** Town (pop 1,209), co seat of Harper co, NW Okla, in a farm and stock-raising area, founded 1907, inc 1908 **4** City (pop 2,302), co seat of Johnson co, N Wyo, SSE of Sheridan and on Clear Creek, founded c 1879, inc 1884 Eastern gateway to the Bighorn National Forest, it is the trade center for a ranch, farm, and resort area Near by is the soldiers' and sailors' home, and to the north lies Lake De Smet

buffalo, name commonly applied to the American BISON, but correctly restricted to certain related oxlike mammals of Asia and Africa The Asiatic water Buffalo or Indian buffalo stands 5 ft or more at the shoulder Its widely spread horns project from the sides of the head and curve backward For many centuries it has been domesticated as a draft animal and as a source of milk, but wild forms still exist The anoa or pygmy buffalo is the wild ox of the Celebes The fierce Cape buffalo is found in South Africa

Buffalo, University of, at Buffalo, N Y, nonsectarian, private, coeducational, chartered and opened 1846 A medical school until 1886, it is now a general university

buffalo berry, hardy North American shrub (*Shepherdia argentea*), somewhat thorny, having silvery foliage and, on the female plants, profuse yellow or scarlet berries used in making tart-flavored jellies and conserves Another species, the Canadian buffalo berry, is thornless with unpalatable fruits Both are sometimes cultivated The name comes from the Indian custom of eating the berries with buffalo meat

Buffalo Bill, 1846–1917, American plainsman, scout, and showman, b near Davenport, Iowa. His real name was William Frederick Cody His family moved (1854) to Kansas, and on the death of his father (1857) he set out to earn the family living, working for supply trains and a freighting company. In 1859 he went to the Colorado gold fields, and in the Civil War he was an army scout on the Western border His adventures then and later as a buffalo hunter for railroad construction camps on the Great Plains were the basis for the stories later told of him Ned BUNTLINE in 1872 persuaded him to appear on the stage, and except for a brief period of scouting against the Sioux in 1876, he was thereafter connected with show business. In 1883 he organized Buffalo Bill's Wild West Show, and he toured with it over America and Europe for many years. It was imitated by many other wild West shows. Wyoming granted him a stock ranch, on which the town of Cody was laid out. He died in Denver and was buried on Lookout Mt near Golden, Colo. The exploits attributed to him in the dime novels of Buntline and Prentice Ingraham are only slightly more imaginative than his own autobiography (1920) See R. J Walsh and M S Salsbury, *The Making of Buffalo Bill* (1928), biography by D S Garst (1948), Dan Muller, *My Life with Buffalo Bill* (1948)

buffalo bur, straggly, prickly weed (*Solanum rostratum*), related to the potato and once serving as the food of the COLORADO POTATO BEETLE before the advent of the cultivated potato in its vicinity The plant, an annual, bears yellow flowers and burlike fruits It is sometimes called SANDBUR.

buffalo clover see BLUEBONNET

buffalo fish, name for several fish of the sucker family found chiefly in the rivers and lakes of the Mississippi valley Although the flesh is generally bony and coarse, the fish are commercially important as food They are often 3 ft long Included in the group are the bigmouth or common buffalo fish, the smallmouth buffalo fish, and the black or mongrel buffalo fish

buffalo grass, low perennial grass (*Buchloë dactyloides*) of the plains regions, sod forming and one of the most important range grasses Other grasses, such as grama, are sometimes called buffalo grass

Buffalo National Park, 197 5 sq mi, E Alta, near Wainwright, a dominion government enclosure, est 1908 It was formerly the home of the dominion government buffalo herd of more than 5,000, but the animal population was withdrawn, chiefly to Elk Island National Park, and the area was used largely for military purposes during the Second World War In 1947 the park was abolished

Buffon, Georges Louis Leclerc, comte de (zhôrzh' lwē' lukl'rk' kôt' du bŭfô'), 1707–88, French naturalist and author From 1739 he was keeper of the Jardin du Roi (now the Jardin des Plantes) in Paris He devoted his life to his monumental *Histoire naturelle* (44 vols, 1749–1804), a popular and brilliantly written compendium of data on natural history interspersed with Buffon's own speculations and theories (some of which foreshadow Darwin) Of this work, two volumes—*Théorie de la terre* (1749) and *Époques de la nature* (1779)—are of especial interest Buffon's famous *Discours sur le style* was delivered (1753) on his reception into the French Academy

buffoon. see FOOL.

Buford, John (bū'furd), 1826–63, Union general in the Civil War, b Woodford co, Ky, grad West Point, 1848 His operations in the GETTYSBURG CAMPAIGN were particularly notable

Buford, city (pop. 4,191), N Ga, NE of Atlanta, in a farm area, inc 1872 It has a tannery, established in 1873

Bug (bo͞og, bŭg, Rus bo͞ok), river, 487 mi long, rising E of Lvov, flowing north along the Polish-Ukrainian border past Brest, then northwestward through Poland to join the Narew It is largely navigable and connected by canal with the Dnieper It is sometimes called the Western Bug

Bug or **Southern Bug,** Rus *Yuzhny Bug* (yo͞o'zhnē bo͞ok'), river, 520 mi long, in the Ukraine, known to the ancients as Hypanis It rises NW of Proskurov, which it passes, and flows SE past Vinnitsa, Pervomaisk, and Nikolayev into the Black Sea It is navigable (March–Dec.) for 65 mi. and is used for grain transport

bug, name applied correctly only to insects of the order Hemiptera A beaklike structure on the front of the head is adapted for piercing and sucking Those having wings have two pairs The metamorphosis is gradual, the young resembling the adults when they hatch from the egg Included in the group are the leaf bug, the flower bug, the assassin bug, the squash bug, the bedbug, the water strider, the giant water bug, and the water boatman

Buganda see UGANDA

Bugayev, Boris Nikolayevich see BELY, ANDREI

bugbane: see BLACK SNAKEROOT

Bugeaud de la Piconnerie, Thomas Robert (tômä' rôbĕr' bŭshô' dù là pēkônurē'), 1784–1849, marshal of France, duke of Isly, general and administrator in Algeria He served in Napoleon's Imperial Guard and in 1815 retired to devote himself to scientific agriculture, but after the Revolution of 1830 he returned to public life, becoming a deputy In 1836 he undertook the pacification of Algeria, which proved a long and difficult task. His military skill finally enabled him to break the power of ABDU-L-KADIR and to win a celebrated victory at Isly (1844) As governor general of Algeria (1840–47), he attempted to cooperate with the Arabs and promote military colonization and encouraged large-scale immigration of French settlers He wrote on subjects of colonial, military, and economic import

Bugenhagen, Johann (yō'hän bo͞o'gunhä'gun), 1485–58, German Protestant reformer. Born in Pomerania, he is sometimes called Dr Pomeranus. An ordained priest, he was attracted to the reform movement by Martin Luther's writings. In 1521 he went to Wittenberg and entered upon a lasting friendship with Luther and Melanchthon; he officiated at Luther's marriage and preached Luther's funeral sermon. He was a lecturer in the university and pastor of the principal church in Wittenberg Much of Bugenhagen's attention was devoted to ecclesiastical and educational organization in Brunswick, Hamburg, Lübeck, Pomerania, and Denmark Bugenhagen helped Luther in his translation of the Bible Of his own literary works the most important is *Interpretatio in librum Psalmorum* (1523) See biography by W. M Ruccius (1924).

Bugge, Sophus (sō'fo͞os bo͞o'gu), 1833–1907, Norwegian philologist He made a notable edition of the Old Norse runes, and his was the first critical edition (1881–89, 2d series, 1896) of the poems of the *Eddas*

buginvillaea: see BOUGAINVILLAEA

bugle, brass wind musical instrument consisting of a conical tube coiled once upon itself, capable of producing five or six harmonics It is usually in B flat Its principal use is for naval and military bugle calls, such as taps, reveille, and mess, and, in earlier times, for hunting calls In the 19th cent, keyed bugles and then valve bugles, of greater compass than ordinary bugles, were made The term *bugle* is occasionally used for a family of instruments which includes the tuba and the ophicleide

Buhl, André Charles: see BOULLE, ANDRÉ CHARLES

Buhl (būl) **1** City (pop 2,414), S Idaho, near the Snake river, W of Twin Falls, in a reclaimed farming and dairying area, founded 1906, inc 1909 In 1937 a landslip created a great hole near by **2** Village (pop 1,600), NE Minn, between Virginia and Hibbing on the Mesabi iron range

buhrstone (bûr'–), any hard, rough-surfaced, porous, siliceous rock which can be shaped and used as a millstone for grinding cereals, paint pigments, or other materials. The finest variety is a cellular quartz from the Tertiary strata near Paris, coarser buhrstones are quarried in the E United States

building, in architecture, the practical activities connected with furnishing structural materials and assembling them into a completed unit conforming to the plans and directions of architect or engineer The architect was not always distinct from the builder, prior to the 18th cent the two merged in the person of the "master builder," who exercised the creative as well as the practical functions in even the most complex structures, such as the medieval cathedrals The history of building extends as far back as that of civilization itself Behind the essential need for shelter has always been the basic factor of available structural materials, and the history of building is only an account of the processes, activities, and techniques developed to convert these raw materials into structures of maximum utility Where there have been facilities for transporting materials from a distance (e g, the use of the Nile for transporting granite blocks), the range of structural possibilities has been that much expanded, modern transportation has all but eliminated any restrictions imposed by remoteness of materials Primitive building required practically no implements and depended upon the mere piling up of stones or sun-dried bricks for walls and the weaving of branches for roofs The invention of flint axes permitted the hewing of stones and cutting of timbers The later use of finer tools, with the transition to bronze, is marked by the Egyptian pyramids and temples, while the coming of the Iron Age brought implements which made possible the fine and accurate stonecutting of Hellenic architecture and the development of CARPENTRY Most of the building of antiquity was based upon the trabeated (or column and beam) method of construction The Romans adopted and developed the systems of the Greeks and the Etruscans and the vaults and domes of the East and added to these their own distinctive materials (such as concrete) and numerous mechanical inventions Their structures anticipated the intricacy of modern building both in their efficient organizing and in the wide variety of materials called into play After the decline of Rome there was a halt in the development of building until Western Europe emerged from the Dark Ages to resume construction in stone GOTHIC ARCHITECTURE brought to the arts of building an amazing vitality, producing masterworks in all the countries of the West Building was in the hands of organized guilds of highly skilled craftsmen, who, with their slow, conscientious industry, reared great edifices into which went the cooperation and pride of whole communities The Renaissance epoch chiefly produced architectural and decorative effects in which the craft of building showed little creative vitality of its own. The early 19th cent ushered in new materials, and the middle of the century, with the use of steam and electricity, saw profound changes in the entire range of building Iron was being used as a structural material by 1840, and the steel skeleton was first used in the erection of the 10-story building for the Home Insurance Company in Chicago in 1883 The first cement in the United States was manufactured in 1818, and by 1900 American engineers had developed the technique of reinforced concrete, the material which is the distinctive contribution of the 20th cent. to building. Each new invention has given birth to still others, and there has been an

ever-increasing need to integrate into an economical and perfected system the many elements of new labor conditions, hosts of new materials, changed technique, and insistent demand for speed of operation The modern building is designed by an architect who calls to his assistance consulting and technical services for the various mechanical and engineering factors which must enter into it. The builder chosen for the construction work enters, in most cases, into a contract undertaking the entire operation at a fixed cost with completion of the structure assured for a certain date. The builders of skyscrapers and other enormous contemporary projects are highly organized firms which purchase materials, employ labor, and control contributing trades and services under one centralized unit, from the signing of the contract till the delivery of the finished building to the owner Both the design and the construction processes are subject, in most American communities, to a variety of legal ordinances which have power to enforce the safety, sanitation, and stability of each separate structure Taken as a whole, modern building constitutes an imposing and vital element of national industry with almost numberless ramifications Now that numerous technical problems of 20th-century construction have been solved, the great problem and opportunity still ahead of building is properly to align its resources with the vital aspects of community life and to help satisfy such urgent social needs as minimum-cost housing and the elimination of excessive city congestion

Buisson, Ferdinand Édouard (fĕrdēnā' ādwär' büēsō'), 1841–1932, French educator He studied at the Sorbonne and later taught (1866–70) in Switzerland After 1870 he served in the department of education, first as an inspector of schools and later as a director, resigning in 1886 to become professor of pedagogy at the Sorbonne He produced the *Dictionnaire de pédagogie* (1882–93) From 1902 to 1914 and again from 1919 to 1924, he was a member of the chamber of deputies and was also active in working for civil rights An ardent pacifist, he attended (1867) the first congress of the International Peace League, with Ludwig Quidde he received the 1927 Nobel Peace Prize

Buitenzorg (bo͞i'tənsôrkh) [Dutch, =free from care], Malay *Bogor*, town (pop 65,431), on W Java, Indonesia, S of Batavia At the foot of two volcanoes, it is a summer resort, known chiefly for its magnificent botanical gardens (laid out 1817) Tea is grown in the surrounding highlands, automobile tires and textiles are manufactured

Bukhara (bo͞okä'rù), city (pop 50,382), capital of Bukhara oblast, W Uzbek SSR The name is also spelled Bokhara Processing of karakul and spinning of silk are among the industries, and Bokhara rugs are named after the city Dating from the early centuries A D , it was long capital of the emirate of Bukhara and a center of Islamic culture, there are splendid mosques and palaces dating from the 9th to the 17th cent When in the 19th cent a spur of the Trans-Caspian RR reached Bukhara, the station, by request of the emir, was built at a distance (8 mi to the southeast) from the city Around the station grew New Bukhara, renamed (c 1930) Kagan Kagan (pop c 10,000) produces cotton textiles and cottonseed oil

Bukhara, emirate of, former state, central Asia, in TURKISTAN It bordered in the south on Afghanistan Ancient Sogdiana, the region was conquered (4th cent B C) by Alexander the Great, came under Arab rule (7th-9th cent A D), flourished (10th cent) under the Samanid princes of Khurasan, passed (12th cent) to the rulers of Khiva, and was conquered by Jenghis Khan (1220) and Tamerlane Early in the 16th cent the Usbeks occupied the territory The rule of the emirs was spectacularly cruel and oppressive Russian arms forced (1868) the emir to recognize Russian suzerainty, but his power remained absolute until his deposition and flight in 1920 At first a Soviet republic, the region was divided (1924) among Uzbekistan, Tadzhikistan, and Turkmenistan

Bukhari (Mohammed ibn Ismail al-Bukhari) (bo͞okhär'ē'), d 870, Arabic scholar and Moslem saint, b Bukhara He traveled widely over Moslem lands and made a tremendous collection of the traditional sayings of the Prophet It is regarded in ISLAM as the commentary par excellence and the law book second only to the Koran

Bukharin, Nikolai Ivanovich (nyĭkülī' ēvä'nuvĭch bo͞okhä'rĭn), 1888–1938, Russian Communist. In 1916 he edited in New York the revolutionary paper *Novy Mir* Joining Lenin in the Bolshevist Revolution, he became, after Lenin's death, the chief party theoretician, member of the Politburo, and editor of *Izvestia*. Implicated by testimony in the public treason trial of 1936, he was exonerated, but he was arrested in 1937, confessed to counter-revolutionary plots in the treason trial of 1938, and was executed He wrote and translated numerous works on economics and political science.

Bukki (bŭk'ī) [Heb , =wasting from God]. 1 Descendant of Aaron 1 Chron. 6 5,51; Ezra 7.4 2 Danite. Num. 34 22

Bukkiah (bŭkī'ù) [Heb , =wasting from God], Levite. 1 Chron. 25.4,13.

Bukovina (bo͞okōvē'nù), Rumanian *Bucovina*, region, E Europe, in W Ukraine and NE Rumania Traversed by the Carpathians and by the upper Pruth and Sereth rivers, it is heavily forested and produces timber as well as grain and livestock Chernovtsy, in the Ukraine, is the chief center The population includes Rumanians, Ukrainians, Russians, Hungarians, Jews, and Germans. Bukovina was the nucleus of the old principality of Moldavia, which had its first capital at Suceava, in Bukovina Ceded (1775) by the Ottoman Empire to Austria, it was at first a district of Galicia, but in 1848 it was made an autonomous province It was transferred to Rumania in 1919 By a treaty of June, 1940, Rumania ceded, along with Bessarabia, the northern part of Bukovina (1,708 sq mi , pop c 600,000) to Russia From 1941 to 1944 Rumanian troops again occupied all Bukovina, but the Rumanian peace treaty of 1947 confirmed N Bukovina in possession of the USSR The remainder (2,322 sq mi , pop 300,751) forms one of the historical provinces of Rumania

Bulawayo (bo͞olùwä'yō), city (pop 62,737), W Southern Rhodesia, founded 1893 It is the main railroad center of the country, and it is linked by rail with Capetown, Salisbury, and Beira There are light manufactures, and food products are traded

bulb [Gr], thickened, fleshy plant bud, usually formed under the surface of the soil, which carries the plant over from one blooming season to another In form it may be either layered, as in the onion and hyacinth, or scaly, as in some lilies Many popular outdoor and house plants, such as the tulip, the narcissus, the scilla, and the Madonna lily, are grown from bulbs, some of them out of their usual season by forcing Not true bulbs, but often so called, are the CORM of the crocus and the gladiolus, the TUBER of the dahlia and the potato, and the RHIZOME of certain irises and other plants See J H McFarland, R M Hatton, and D S Foley, *Garden Bulbs in Color* (1938), F F Rockwell, *The Book of Bulbs* (rev ed , reissue, 1946), C H Mueller, *Bulbs for Beauty* (1947)

bulbul (bo͞ol'bo͞ol) [Persian, =nightingale], name for a number of species of thrushlike birds of Africa and Asia The bulbul of Persian poetry was probably a nightingale

Bulfinch, Charles, 1763–1844, American architect, b Boston A member of the Boston board of selectmen in 1791, he was chosen chairman in 1799—an office equivalent to mayor and held by Bulfinch for 19 years Of the numerous structures which he designed in Boston, the greater number have long been demolished, including the Federal Street Theater (1794), the first theater in New England His chief monumental works remain—the statehouse in Boston (1799), University Hall at Harvard Univ (1815), and the Massachusetts General Hospital (1820) From 1818 to 1830 Bulfinch carried to completion the CAPITOL at Washington, of his own contributions there remains the west portico, with the terraces and steps forming the approach to it In this work and in the Massachusetts statehouse he evolved an architectural composition which has been used for state capitols throughout the country He designed a memorial column on Beacon Hill (1789), Massachusetts State Prison (1803), a number of Massachusetts courthouses, and Franklin Crescent in Boston (1793) The last was a long curved row of 16 residences, inspired by the continuous block of houses which had been erected by Robert Adam and others in England The First Church of Christ in Lancaster, Mass (1816–17), one of the few remaining churches of the many which he designed, is one of his finest productions While Bulfinch's works fall into the general category of "early American" architecture, they yet bear a distinctive stamp of his own Their elegance, repose, and refinement of detail rank them among the best products of the nation's early years See C A Place, *Charles Bulfinch* (1925)

Bulfinch, Thomas, 1796–1867, American author, b Newton, Mass , grad Harvard, 1814 He wrote a series of works popularizing fable and legend—*The Age of Fable* (1855), *The Age of Chivalry* (1858), *Legends of Charlemagne* (1863), and *Oregon and Eldorado* (1866)

Bulgakov, Mikhail Afanasyevich (mĕkhīl' ĭfŭnä'syĭvĭch bo͞olga'kŭf), 1891–1940, Russian novelist and playwright He was the author of satirical stories (*The Devilsad*, 1925) and comedies (*Zoe's Apartment*, 1926) and of the long novel *The White Guard* (1925), in which a Kievan family hostile to the revolution is sympathetically portrayed This was dramatized as *The Days of the Turbins* (1926, Eng tr., 1934)

Bulgari: see BULGARS, EASTERN

Bulgaria (bŭlgâ'rēù), republic (42,795 sq mi , pop 7,022,206), SE Europe, on the Balkan Peninsula. It is bounded on the east by the Black Sea, on the north by Rumania, on the west by Yugoslavia, on the south by Greece, and in the southeast by European Turkey The capital is SOFIA, and other cities are Plovdiv, Varna (main port of Bulgaria), and Ruse. Traversed by ranges of the BALKANS, Bulgaria is a land of slopes and of fertile valleys The Danube, the Maritsa, and the Struma are the principal rivers Bulgaria is largely agricultural, yielding grain, tobacco, and roses, and the chief industrial products are cotton textiles and tobacco Production of attar of roses, once the distinctive industry of Bulgaria, has greatly declined since c 1930 From the many mineral deposits only coal, iron, and salt are mined in considerable quantity. The population consists chiefly of Bulgars (88 percent) and of Turks (8 percent); 85 percent belong to the Orthodox Eastern Church, and 13 percent are Moslems Ancient THRACE and MOESIA, which modern Bulgaria occupies, were settled (6th cent A D) by Slavic tribes These were subjugated (660) by the Bulgars, a nomadic, probably Finnic, people (for the Bulgars of the Volga, see BULGARS, EASTERN) The Bulgar khan Krum in 809 captured Sofia from the Byzantines, defeated (811) Emperor Nicephorus I, besieged Constantinople, and withdrew only after obtaining yearly tribute from the Byzantines BORIS I introduced (865) Christianity His son, SIMEON I, vastly increased Bulgarian territories and took the title tsar The Bulgars had in the meantime merged with the Slavs and adopted their speech OLD SLAVONIC LITERATURE began to flourish under Simeon I, and at the same time the heresy of the BOGOMILS began to spread from Bulgaria In the 10th cent , Bulgaria crumbled under the attacks of a reinvigorated Byzantium, and in 1018 it was annexed by Emperor BASIL II Byzantine domination was weakened by the invasions of the PECHENEGS and CUMANS and by internal disorders at Constantinople In 1186 a new Bulgarian empire rose when Ivan Asen (Ivan I) was crowned tsar at TRNOVO His son, Kaloyan, crowned in 1204 with the approval of the pope, defeated (1205) Emperor Baldwin I of Constantinople The height of Bulgar power was reached under IVAN II (Ivan Asen), whose rule extended over nearly the whole Balkan Peninsula save Greece, but it soon collapsed In 1330 Bulgaria became tributary to Serbia and after the battles of KOSSOVO (1389) and NIKOPOL (1396) was absorbed into the Ottoman Empire Turkish rule was particularly oppressive in Bulgaria, and rebellions were frequent After many centuries the administration (1864–69) of MIDHAT PASHA made Bulgaria briefly a model province, but by then Bulgarian nationalism was powerful, it was increased by the unpopular hold of the PHANARIOTS over the Bulgarian church In 1875 a rebellion, led by Stefan STAMBULOV, broke out The subsequent Turkish reprisals, famous as the "Bulgarian atrocities," served as occasion for the Russians to liberate (1877–78) their Slavic brothers (see RUSSO-TURKISH WARS) The Treaty of SAN STEFANO was so favorable to Bulgaria that a European congress was called for its revision (see BERLIN, CONGRESS OF) By the revised terms, N Bulgaria became a tributary principality under Turkish suzerainty, while S Bulgaria—then called Eastern Rumelia—and MACEDONIA remained under direct Turkish rule ALEXANDER (Alexander of Battenberg), first prince of Bulgaria, annexed (1885) E RUMELIA and repulsed a consequent Serbian attack His successor, Prince FERDINAND of Saxe-Coburg-Gotha, profiting from the revolution of the Young Turks in 1908, proclaimed Bulgaria independent with himself as tsar Bulgarian claims to Macedonia precipitated the BALKAN WARS of 1912–13, in which Bulgaria at first won and ultimately lost wide conquests In 1915 Bulgaria entered the First World War on the side of Germany and Austria-Hungary, and with the war's end the government collapsed, Ferdinand fled, and BORIS III succeeded (1918) In the peace (see NEUILLY, TREATY OF) Bulgaria lost its outlet to the Aegean Sea to Greece, S DOBRUJA to Rumania, and some territory to Yugoslavia The Agrarian party cabinet established (1919) by Premier STAMBULISKI held power until overthrown (1923) by a militarist coup d'état A more liberal regime succeeded in 1926 and ended in 1934, when Kimon Georgiev became premier with the help of the army In 1935 Boris III established his personal dictatorship Bulgaria saw in the Second World War an opportunity to satisfy its territorial claims In 1940 Rumania was forced to restore S Dobruja In 1941 Bulgaria joined the AXIS, allowed German troops to enter its territory, occupied parts of Yugoslavia and Greece, and declared war on England and the United States—but not on Russia On the mysterious death (1943) of Boris III, the infant SIMEON II succeeded Russia declared war on Bulgaria in Sept , 1944, and the opposition forces (Communists, Agrarians, and the pro-Russian army officers), headed by Kimon Georgiev, seized power immediately. An armistice followed, after Bulgaria declared war on Germany Soon the Communists succeeded, by maneuvers which were fruitlessly protested by the Western powers, in taking over the government The monarchy was abolished, and Georgi DIMITROV became premier in 1946 Industry was nationalized, resistance to collectivization of farms was broken by the execution (1947) of the Agrarian leader, Nikola Petkov, and one-party government was imposed in 1948. The peace treaty with Bulgaria, ratified in 1947, allowed Bulgaria to keep S

Dobruja Bulgaria adhered strictly to the COMINFORM in its quarrel with Yugoslavia See W S Monroe, *Bulgaria and Her People* (1914), F Schevill, *History of the Balkan Peninsula* (1922)

Bulgarian, Slavic language (Indo-European) See LANGUAGE (table).

Bulgarian literature. For early ecclesiastical writings, see OLD SLAVONIC LITERATURE Modern Bulgarian literature stems from the work of Father Paisi, who in 1762 began his history of the Slav Bulgarians, written to inspire national feeling and to stimulate the use of the Bulgarian language There was not at that time even a printing press in Bulgaria His imitators continued the effort to make Bulgarian a literary language, but the period of struggle (1840–75) for political and ecclesiastical independence saw the real beginnings of a literature To this time belonged the poets Sava Rakovski (1821–67) and Petko Rachev Slaveykov (1827–95), the story writer Lyuben Karavelov (1837–79), the dramatist Vasil Drumev (1841–1901), and the great national poet Khristo Botev, who died fighting the Turks Ivan Vazov was the first to make literature his profession After Bulgaria's liberation from Turkish rule in 1876, its literature became less didactic and revolutionary A group of regional writers of the late 19th cent included Todor Genchov Vlaykov (1865–), Georgi P Stamatov (1869–), Anton Strashimirov (1872–), the satirist Stoyan Mikhaylovski (1850–1927), and Aleko Konstantinov (1863–97), whose humorous *Bay-Ganyu* is one of the most popular of Bulgarian novels The poet Pencho Slaveykov (1866–1912), a son of P R Slaveykov, led in introducing other European literatures and literary trends into Bulgaria, his *Song of Blood* (1911–13) is an epic of the struggle against the Turks in 1876 Others of his period were the symbolist poet Peyo Kracholov Yavorov (1878–1914), the poet and dramatist Petko Y Todorov (1879–1916) and the story writer Elin Pelin (1878–) Bulgaria's losses in the Balkan Wars and the First World War gave rise to a poetry whose chief characteristic was mysticism, these poets include Ivan Grozev (1872–), Nikolay Raynov (1888–), Todor Trayanov (1882–), Nikolay Liliev (1885–), Dora Gabe (1886–), Elisaveta Bagryana, and especially Dimcho Debelyanov (1887–1916), a victim of the First World War Among the prose writers of the 20th cent are the novelists of peasant life Iordan Iovkov (1884–1938) and Dobri Nemirov (1892–) and the psychological novelist Georgi Raychev (1882–) The leading literary journals in Bulgaria of long standing are *Hyperion* and *Golden Horn* See Dimitri Shushmanov, *A Survey of Bulgarian Literature* (Eng tr, 1932)

Bulgarin, Faddey Venediktovich (fŭdyā'vĭnyudyēk'tûvĭch bōōlgā'rēn), 1789–1859, Russian journalist and novelist He was born Tadeusz Bulharyn, a Pole With Nicholas Grech in 1825 he founded the influential political daily the *Northern Bee*, which he employed against other and more inspired writers than himself, notably Pushkin He was the author of several historical novels, of which *Ivan Vyzhigin* (1830) is available in English (1831)

Bulgars, Eastern, people, probably speaking a Finnic language, who possessed a powerful state (8th–13th cent.) at the confluence of the Volga and the Kama, E European Russia Another branch of the same people moved west into present Bulgaria, where they merged with the Slavs The Eastern Bulgars accepted Islam in the 10th cent They were conquered by the Mongols in 1236 Their capital, Bulgari or Bolgari, was near Kazan The modern Chuvash, who now occupy the region, may be descended from the Eastern Bulgars

Bulge, Battle of the see BATTLE OF THE BULGE

Bulkley, Lucius Duncan, 1845–1928, American dermatologist, b New York city, M D College of Physicians and Surgeons, 1869 He was a founder and faculty member of the New York Post-Graduate Medical School, a founder of the New York Skin and Cancer Hospital, and author of a standard *Manual of Diseases of the Skin* (1882) and several works on cancer In his later years he became a crusader for the nonsurgical treatment of cancer He founded and edited the *Archives of Dermatology* and the journal *Cancer* See his autobiography, *Ebeneser Notes on a Busy Life* (1926)

Bulkley, river of central British Columbia, 120 mi long, a tributary of the Skeena river

Bull, Ephraim Wales, 1806–95, American horticulturist At his vineyard in Concord, Mass, he originated several grape varieties, including, in 1849, the Concord, which became the dominant grape in the E United States

Bull, Ole Bornemann (ō'lŭ bôr'numan), 1810–80, Norwegian violinist After his debut in Paris (1832) he toured in Europe and in America, playing mostly his own compositions and Norwegian folk music Very nationalistic, he founded a theater for national drama at Bergen (1850), and he attempted to found a Norwegian settlement in Pennsylvania See biography by Mortimer Smith (1943).

Bull, the see TAURUS

bull [Latin *bulla*=leaden seal], solemn official pronouncement of the pope Formerly the word was used for analogous edicts by other persons (e g, various Golden Bulls) The papal bull is the most solemn kind of pontifical utterance It was formerly sealed with lead, and it begins with the name of the pope and his title as *servus servorum Dei* [servant of the servants of God]. It is distinguished formally from an encyclical (ĕnsĭk'lĭkŭl), a letter to all the bishops in the world (rarely, the bishops of a country), and from a brief, a short letter, but the distinction tends to be blurred in practice All papal edicts are normally known by their first word or words Famous papal bulls, briefs, and encyclicals include *Laudabiliter*, c 1156, by ADRIAN IV (perhaps spurious), *Clericis laicos*, 1296, *Auscultа fili*, 1301, and *Unam sanctam*, 1302, all by BONIFACE VIII against PHILIP IV of France, the Bull of Demarcation, 1493, by ALEXANDER VI, *Exsurge Domine*, 1520, by LEO X against MARTIN LUTHER, *Unigenitus*, 1713, by CLEMENT XI against JANSENISM, *Dominus ac Redemptor*, 1773, by CLEMENT XIV, suppressing the Jesuits, *Mirari vos*, 1832, by GREGORY XVI, against LAMENNAIS, *Quanta cura*, 1864, by PIUS IX, introducing the *Syllabus errorum*, *Pastor aeternus*, 1871, by PIUS IX, on papal infallibility, a whole series of encyclicals by LEO XIII reorienting Catholic life in the modern world, among them *Aeterni Patris*, 1879, *Immortale Dei*, 1885, and *Rerum novarum*, 1891, *Pascendi*, 1907, by PIUS X on MODERNISM, *Quadragesimo anno* [in the 40th year, i e, since *Rerum novarum*], 1931, by PIUS XI, and two by Pius XI not written in Latin—*Non abbiamo bisogno*, 1931, against Italian Fascism, and *Mit brennender Sorge*, 1937, against the National Socialist regime in Germany Pius XII continued the practice of Leo XIII and Pius XI of using the encyclical form for important sermons to the Catholic world

Bullard, Robert Lee (bo͝ol'ûrd), 1861–1947, American general, b Alabama, studied at Alabama Agricultural and Mechanical College (now Alabama Polytechnic Institute), grad West Point, 1885 He saw varied military service—against the Apaches, in the Spanish-American War, and in the Philippines—and in the First World War was a major general commanding in France He retired in 1925 Bullard wrote *American Soldiers Also Fought* (with Earl Reeves, 1944)

bullbaiting, 17th-century amusement, particularly popular in England, in which trained dogs (bulldogs) attacked a tethered bull John Evelyn described (1670) it in his diary as a "rude and dirty pastime" Bullbaiting, along with bull-running (in which the bull was run down and killed by humans), bearbaiting, cockfighting, and dogfighting, was prohibited in England by an act of Parliament in 1835

bull bat. see NIGHTHAWK

bull bay see MAGNOLIA

bulldog, smooth-haired dog which probably originated in the British Isles The English bulldog has a heavy, low-slung body, broad chest, large skull, undershot jaw, and wrinkled face The front legs, which are shorter than the hind legs, give the appearance of being bowed, but the bones should not be curved In color the dog may be brindle, solid white, solid red, fawn, or piebald It developed into a dog of great courage and ferocity as a result of centuries of being bred for bullbaiting (until 1835, when bullbaiting and dogfighting became illegal) Afterward it was bred to eliminate the ferociousness, and the present breed is generally good-natured, gentle, and courageous The French bulldog, an intelligent and affectionate pet, is believed to have originated from crosses of a small variety of English bulldog with some other breeds It is a smaller dog (weighing from 19 lb to a maximum of 28 lb), its sleek coat may be brindle, fawn, white, or brindle and white The skull is flat between the ears and somewhat domed between the eyes, the ears are of a form known as bat ears, being broad at the base, elongated, and rounded at the top, and they are held erect See Enno Meyer, *The Bulldog* (1948)

Bullen, Anne: see BOLEYN, ANNE

Buller, Charles (bo͝ol'ûr), 1806–48, British statesman, b Calcutta, studied at Edinburgh under Thomas Carlyle and at Cambridge (B A Trinity College, 1828) He was a member of Parliament from 1830 until his death In 1838 he was secretary to Lord Durham, governor general of Canada, and he is credited by some with having drawn up Durham's report on the condition of the colony and the need for responsible government See E M Wrong, *Charles Buller and Responsible Government* (1926)

Buller, Sir Redvers Henry, 1839–1908, British general His military career began in China, and he later took part in campaigns against the Kafirs (1878–79), the Zulus (1879), the Boers (1881), and the Mahdists (1884–85) He served in Ireland and was quartermaster general and commander at Aldershot, before he took command of troops in the South African War in 1899 There his failure to relieve Ladysmith caused him to be superseded by Lord Roberts of Kandahar See memoir by Lewis Butler (1907), biography by Charles Henderson Melville (2 vols, 1923)

Bullet, Pierre (pyĕr' bülā'), 1639–1716, French architect, assistant to François Blondel in the construction of the Porte Saint-Denis, Paris (1672). His works in Paris include the Porte Saint-Martin (1674), the Church of St Thomas d'Aquin (1682), the high altar of the church of the Sorbonne (1675), and a number of private houses. He published a plan of the city in 1676

bullfighting, the national sport of Spain, popular also in Mexico and other parts of Latin America. A bullfight is conducted in a *plaza de toros*, an arena into which, on the occasion of a fight, comes a gorgeous procession of those who are to take part in it —matadors (who are to kill the bulls), *banderilleros* (who carry bright-streamered barbed darts with which to enrage the bull), picadors (who, riding worthless horses, are to infuriate the bull with lances), and *toreros* (who are to distract the bull by waving red flags) The matador to be successful must have enormous skill as well as great daring, there is a whole vocabulary of terms to describe the technical maneuvers of the skilled bullfighter There is grace and poetry as well as blood and sand in the arena Popular and successful matadors such as Juan Belmonte and Manolete also reap immense rewards of praise and money When the first bull has been dragged out, the arena is prepared for the second, and the process is repeated, five or six bulls, and perhaps twice as many horses, being killed during an afternoon The bulls are specially bred and are carefully selected for their strength and spirit A type of bullfighting was practiced by the Minoans, the Greeks, and the Romans The sport was introduced into Spain probably by the Moors It has never been popular in modern times except in Spanish-speaking countries and has been generally rejected as brutal In Portugal there developed a type of bullfighting in which the bulls are not killed See Ernest Hemingway, *Death in the Afternoon* (1932), Tom Lea, *The Brave Bulls* (1949), a novel

bullfinch, any of several European songbirds of the FINCH family, often caged The common species is a woodland bird, with plumage of blue gray above and tile red below It can be taught to whistle tunes Cassin's bullfinch occasionally visits Alaska

bullfrog, largest North American frog, an aquatic form with fully webbed toes The common bullfrog is found in the United States E of the Rocky Mts It utters deep bass croaks and sometimes a piercing cry It can close its nostrils and lie at the bottom of a pond for some time Bullfrog tadpoles require two or three years to become adults Of the edible frogs, the legs of the bullfrog are the only ones marketed in quantity in the United States

bullhead, name for several species of the genus *Ameiurus* of the catfish family, found in sluggish waters The brown bullhead or horned pout is the commonest It is usually not more than a foot long but may reach 18 in Others are the black and the yellow bullheads They eat animal and vegetable matter Also called bullheads are some species of the sculpin family, a group of large-headed, toothed fish with naked or partially scaled bodies There are some marine and some fresh-water forms in both hemispheres

Bullinger, Heinrich (hīn'rĭkh bo͝ol'lĭngur), 1504–75 Swiss Protestant reformer After the death of Zwingli in 1531, Bullinger became pastor of the principal church in Zurich and a leader of the reformed party in Switzerland He played an important part in compiling the first Helvetic Confession (1536), a creed based largely on Zwingli's theological views as distinct from Lutheran doctrine In 1549 the Consensus Tigurinus, drawn up by Bullinger and Calvin, marked the departure of Swiss theology from Zwinglian to Calvinist theory His later views were embodied in the second Helvetic Confession (1566), which was accepted in Switzerland, France, Scotland, and Hungary and became one of the most generally accepted creeds of the reformed churches He wrote a life of Zwingli and edited the great reformer's complete works

Bullitt, William Christian (bo͝ol'ĭt), 1891–, American diplomat, b Philadelphia, grad Yale, 1912 A newspaperman, he was made a member of the peace delegation at the end of the First World War and was sent on a secret mission to the USSR He resigned from service when his report favoring recognition of Russia was disregarded After 12 years of private life, he was made special assistant to Cordell Hull and served (1933–36) as first U S ambassador to the USSR Later he was ambassador to France (1936–41), ambassador at large in the Middle East (1941–42), and special assistant to the Secretary of the Navy (1942–43) He enlisted in the French army and served (1944–45) as a major

Bull Moose party see PROGRESSIVE PARTY

Bulloch, James Dunwoody (bo͝ol'uk), 1823–1901, Confederate naval agent in Europe, b near Savannah, Ga A former officer in the U S navy, Bulloch superintended the building, equipping, and dispatching of the *Florida*, the *Alabama*, and most of the other CONFEDERATE CRUISERS He was the author of *The Secret Service of the Confederate States in Europe* (1883).

Bullock, William A. (bo͝ol'uk), 1813–67, American inventor, b Greenville, N Y He became an expert mechanic and patented various implements before 1850, when he began working on the printing press that bore his name It was the first to feed auto-

matically from a continuous roll of paper, to print both sides of the sheet in the same operation, and to cut the paper at proper intervals It revolutionized the printing and journalism

Bull Run, small stream, NE Va , c 30 mi SW of Washington, D C Here were fought two important battles of the Civil War, July 21, 1861, and Aug. 29–30, 1862 The **first battle of Bull Run** (or first battle of Manassas) was the first major engagement of the war On July 16, 1861, the Union army under Gen Irvin McDowell began to move on the Confederate force under Gen P G T Beauregard at Manassas Junction Gen Robert Patterson's force at Martinsburg, which was to prevent the Confederate army under Gen J E Johnston at Winchester from uniting with Beauregard, failed, and by July 20 part of Johnston's army had reached Manassas On July 21 McDowell, turning Beauregard's left, attacked the Confederates near the stone bridge over Bull Run and drove them back to the Henry House Hill There Confederate resistance, with Gen T J Jackson standing "like a stone wall," checked the Union advance, and the arrival of Gen E Kirby Smith's brigade turned the tide against the Federal forces The retreat of the unseasoned Union volunteers became a rout, they fled to the defenses of Washington The equally inexperienced Confederates were in no condition to make an effective pursuit The South rejoiced at the result, while the North was spurred to greater efforts to win the war The **second battle of Bull Run** (or second battle of Manassas) was also a victory for the Confederates In July, 1862, the Union Army of Virginia under Gen John Pope threatened Gordonsville, a railroad junction between Richmond and the Shenandoah Valley Gen R E Lee sent Stonewall Jackson to protect the town, and on Aug 9, 1862, Jackson defeated N P Banks's corps, the vanguard of Pope's army, in the battle of Cedar Mt (or Cedar Run) When McClellan's army was gradually withdrawn from Harrison's Landing on the James river (where it had remained after the Seven Days battles) to reinforce Pope, Lee concentrated his whole army at Gordonsville He planned to strike before Pope could be reinforced Pope withdrew to the north side of the Rappahannock river Lee followed to the south side and on Aug 25 boldly divided his army By Aug 28 Jackson had marched to the Union right and rear, destroyed Union communications and supplies, and stationed his troops just west of the first Bull Run battlefield, where he awaited the arrival of James Longstreet with the rest of Lee's army Pope was attacking Jackson when Longstreet came up on Aug 29 The attack was repulsed, but Pope, mistaking a re-formation of Jackson's lines for a retreat renewed it the next day After the Federals were again driven back, Lee ordered Longstreet to counterattack That general, supported by Jackson, swept Pope from the field The Union forces retreated across Bull Run, badly defeated Lee's pursuit ended at Chantilly, where the Federals stopped Jackson on Sept 1, 1862 Pope then withdrew to Washington Both battlefields are included in Manassas National Battlefield Park (1,604 57 acres, est 1940)

bulls and bears. In speculative markets, a "bear" is a speculator who sells what he does not own in the hope that, before he has to deliver, he will be able to buy back at a lower price, thus making a profit He thus sells in the hope that prices will fall Though the risks are great, the profits are often great, because stocks tend to decrease in value faster than they rise in value, a falling market spreads fear, and hope is less suddenly contagious than fear A "bull" is the opposite of a bear A bull tries to force prices up, a bear to force them down, hence, it is said, the names—a bull tossing his victim up, a bear knocking him down.

bull terrier see terrier

Bulnes, Manuel (manwĕl' bo͞ol'nās), 1799–1866, president of Chile (1841–51) He served in the revolt against Spain and commanded the victorious Chilean forces at the battle of Yungay (1839), where the Peru-Bolivian confederation of Andrés Santa Cruz was destroyed Bulnes, a conservative, was elected president and, through stern and repressive measures, fostered economic and educational progress

Bülow, Bernhard Heinrich Martin, Fürst von (bĕrn'hart hĭn'rĭkh mär'tĭn fürst' fŏn bü'lō), 1849–1929, German statesman He held many diplomatic posts before he became, through the influence of Friedrich August von Holstein, foreign minister in 1897 and succeeded Hohenlohe-Schillingsfürst as chancellor in 1900 By his failure to gain the friendship of England and by his aggressive foreign policy, especially toward France in the Moroccan crisis and toward Russia in the Bosnian crisis of 1908, he increased German isolation and strengthened the Triple Entente (see Triple Alliance and Triple Entente) Having lost the confidence of Emperor William II and the majority of the Reichstag, he resigned in 1909 He later (1914–15) was ambassador to Italy. See his memoirs (Eng tr , 4 vols , 1931–32)

Bülow, Friedrich Wilhelm, Freiherr von (frē'drĭkh vĭl'hĕlm frī'hĕr), 1755–1816, Prussian general in the Napoleonic Wars. After his victories (1813) over the French under Marshal Ney at Gross Beeren and Dennewitz he was created count of Dennewitz In 1815 he played a conspicuous part in the Waterloo campaign

Bülow, Hans Guido von (hăns' go͞o'dō), 1830–94, German pianist and conductor Upon hearing *Lohengrin* in 1850 at Weimar under Liszt's direction, he abandoned his legal education for a musical one, studied piano with Liszt, and later conducted the premières of several of Wagner's operas. In 1857 he married Liszt's daughter Cosima, who left him in 1869 and later became the wife of Wagner While retaining his admiration for Wagner's music, Bülow became Brahms's most ardent champion, the most persistent of his aphorisms was his exaltation of Bach, Beethoven, and Brahms as the three B's of music *Possessing a prodigious memory* and a vast repertoire, Bülow was one of the first 19th-century pianists to play Bach's *Well-tempered Clavier* He made critical and interpretive editions of the works of many composers The first of the modern virtuoso conductors, he achieved his greatest distinction as conductor (1880–85) of the ducal orchestra at Meiningen

Bülow, Karl von, 1846–1921, German field marshal In 1914 he commanded an army in France and Belgium

bulrush, any sedge of the genus *Scirpus*, widely distributed grasslike or rushlike plants with terminal scaly clusters of small flowers (spikelets) Some bulrushes have grasslike leaves, in others the leaves are reduced until they are not recognizable as leaves Bulrushes grow in shallow water or wet soil and are sometimes cultivated in aquatic gardens Certain bulrushes are woven for chair seats and mats Bulrushes are often called club rush, other somewhat similar plants are sometimes called bulrush The bulrush in which the infant Moses was hidden (Ex 2 3) was the papyrus

Bulwer, Sir Henry (William Henry Lytton Earle Bulwer) (bo͞ol'wur, lĭ'tun), 1801–72, English author and diplomat, eldest brother of the novelist Edward Bulwer-Lytton Though he sat in Parliament for some years (1830–37, 1868–71), most of his long life was spent in diplomatic work, interspersed with writing As secretary of the embassy in Constantinople (1837–38) he secured a commercial treaty with Turkey When he was ambassador to Spain (1843–45), he negotiated peace between Spain and Morocco, but offended the dictator, Ramón Narváez, and was ordered to leave, his conduct was endorsed in England As minister to Washington (1849–52) he concluded the important Clayton-Bulwer Treaty of 1850 Among his later diplomatic posts were Florence and Bucharest In Constantinople again (1858–65), he carried out Palmerston's Near Eastern policy In 1871 he was created Baron Dalling and Bulwer His rather pleasant writings include *An Autumn in Greece* (1826), *France Social, Literary, and Political* (1834–36), *Historical Characters* (1867), and biographies of Byron (1835) and Palmerston (1870–74, unfinished).

Bulwer-Lytton, Edward George Earle Lytton, 1st **Baron Lytton,** 1803–73, English novelist and dramatist, grad Trinity College, Cambridge, 1826, son of Gen William Bulwer and Elizabeth Barbara Lytton Known earlier as Bulwer, he assumed the name Bulwer-Lytton in 1843 when he inherited the Lytton estate "Knebworth " He was created Baron Lytton of Knebworth in 1866 Bulwer's marriage in 1827 to Rosina Wheeler displeased his mother, who cut off his allowance He turned to writing for an income, and his novels rapidly won popularity His prolific output of the next few years included *Falkland* (1827), *Pelham* (1828), a novel in which contemporary figures appear thinly disguised, *Paul Clifford* (1830), *Eugene Aram* (1832), and *The Last Days of Pompeii* (1834) and *Rienzi* (1835), the most popular of his historical novels He was editor (1831–32) of the *New Monthly* Bulwer's marriage became increasingly unhappy, and he and his wife were legally separated in 1836 During his early political career (he was a member of Parliament, 1831–41) Bulwer was a reformer, but he was returned to Parliament in 1852 as a conservative In 1858 he was appointed colonial secretary The best known of Bulwer-Lytton's plays (*The Duchesse de la Vallière*, 1836, *The Lady of Lyons*, 1838, *Richelieu*, 1838, *Money*, a comedy, 1840) have been often revived Among the later novels still read are *The Last of the Barons* (1843), *Harold* (1848), *The Caxtons* (1849), and *Kenelm Chillingly* (1873) See biography by T H S Escott (1910), Michael Sadleir, *Bulwer and His Wife* (1933, issued as *Bulwer a Panorama*, Part I, 1931)

Bulwer-Lytton, Edward Robert, 1st **earl of Lytton,** pseud **Owen Meredith,** 1831–91, English diplomat and poet, son of the novelist, Bulwer-Lytton He was in the diplomatic service from 1850 to 1875, when Disraeli appointed him viceroy of India, for his services in the Afghan wars he was created an earl (1880). He was ambassador to France from 1887 His poems, written under his pseudonym, include *Clytemnestra and Other Poems* (1855), *The Wanderer* (1858), *Lucile* (1860), a popular novel in verse, *Chronicles and Characters* (1868), *Fables in Song* (1874); *After Paradise* (1887), and *King Poppy* (1892). He also wrote a biography of his father (2 vols , 1883) See his *Selected Poems* (1906) and *Letters to Robert and Elizabeth Barrett Browning* (ed by A B and J L Harlan, 1937), Lady Betty Balfour, *Lord Lytton's Indian Administration* (1899), A B Harlan, *Owen Meredith* (1940)

bumblebee, see bee

Buna (bo͞o'nä), town on SE New Guinea, in the Territory of Papua, NE of Port Moresby In the Second World War the Japanese air base here was taken in 1942 by Allied forces, near-by Buna Mission was taken in 1943

Bunah (bo͞o'nu) [Heb , =discretion], Judahite. 1 Chron 2 25

Buna rubber see rubber, synthetic

Bunau-Varilla, Philippe Jean (fēlēp' zhăⁿ' bünōvärēyä'), 1859–1940, French engineer, prominent in the Panama Canal controversy An engineer after 1884 in the original French company for building the canal, he was chief engineer before the company went bankrupt in 1889 and was the organizer and promoter of the new company that took over the rights of the old in 1894 Unable to develop his plans in France, he undertook to sell the company to the United States The attention of the U S government had been riveted on the alternative canal route through Nicaragua, but Bunau-Varilla, arriving in 1901, soon had converted Mark Hanna and President McKinley to the Panama scheme He persuaded the French directors to reduce the price of the company to $40,000,000 President Theodore Roosevelt was converted to Panama When difficulties arose with the Colombian government, the resourceful Bunau-Varilla conspired with insurrectionists in Panama and touched off (1903) the revolution The revolution was successful (see Panama Canal), and Bunau-Varilla as minister from the new republic to the United States negotiated the Hay–Bunau-Varilla Treaty, which gave the United States control of the Panama Canal He wrote *Panama the Creation, Destruction, and Resurrection* (1913) and *From Panama to Verdun* (1940)

Bunce, Oliver Bell, 1828–90, American author and publisher, b New York city Of his several successful plays which were produced, the best was *Love in '76*, of Revolutionary times, played by Laura Keene at her New York theater in 1857 But dramatic success brought him no money, and he turned to publishing At D Appleton & Company he edited *Appleton's Journal* and produced a series of very profitable illustrated books edited by William Cullen Bryant—*Picturesque America* (1872–74) *Picturesque Europe* (1875–79), and *Picturesque Palestine* (1881–84) *The Opinions and Disputations of Bachelor Bluff* (1882) was the best known of his own later books

Bunce, William Gedney, 1840–1916, American landscape painter, b Hartford, Conn , studied in New York, Düsseldorf, and Antwerp He is known especially for his decorative Venetian scenes Among his best-known pictures are *Evening View in Venice* and *Early Morning* (Metropolitan Mus); *Venice* (Montclair, N J , Art Mus), *Venetian Landscape* (Osborne House, England), and *On the Lagoon* (R I School of Design, Providence)

bunchberry or **dwarf cornel,** low North American and Asiatic perennial wild flower (*Cornus canadensis* or *Chamaepericlymenum canadense*), related to the dogwood The small flowers are encircled by white, petallike bracts simulating a single blossom above the whorl of leaves The bunched red berrylike fruits are edible

Bunche, Ralph Johnson, 1904–, American government official and United Nations mediator, b Detroit, grad Univ of California, 1927, and Harvard (M A , 1928, Ph D , 1934) After study at Northwestern Univ and the London School of Economics, he did world-wide research in colonial administration and race relations and taught at Howard Univ after 1928 In government service after 1941, he worked under the joint chiefs of staff and became chief research analyst in the OSS (1942–44) The first Negro to be a division head in the Dept of State (July–Oct , 1945), he entered the United Nations in 1946 as director of the Trusteeship Division He became (Dec , 1947) principal secretary of the UN Palestine Commission and helped to bring peace to the Holy Land.

bungalow [Anglo-Indian from Hindu, =Bengaleso (house)], dwelling built in a style developed from that of a form of rural house in India The original bungalow typically has one story, few rooms, and a maximum of cross drafts, with high ceilings, unusually large window and door openings, and verandas on all sides to shade the rooms from the intense light and tropical heat The verandas are included under the slope of the one roof, which is generally constructed of bamboo and covered with a thick thatch of woven maize The heavy walls are of masonry, and, because of the destructiveness of termites, the use of wood is avoided wherever possible The kitchen, servants' quarters, and other adjuncts occupy a detached building in a space enclosed by a wall and known as the compound Dwellings of this general type became popular in S California, with numerous differences in

plan and materials, and were termed bungalows. The word thus came to be used for a cottage or for any small house with verandas covered by low, wide eaves

Bunin, Ivan Alekseyevich (bo͞o'nĭn, Rus ĭvan' ŭlyĭksyā'yĭvĭch bo͞o'nyĭn), 1870–, Russian novelist, short-story writer, and poet He was awarded the 1933 Nobel Prize in Literature In his youth he belonged to Gorki's group of young realists but avoided political activities His early works were poems and translations, among the latter one of *Hiawatha* He attracted notice in 1910 with *The Village* (Eng tr , 1923), a novel in the Turgenev tradition depicting the ugliness of peasant life before the 1905 revolution Many other works, prose and verse, followed in the same vein, of which the story "Dry Valley" (1911–12) is available in English (in *The Elaghin Affair*, 1935). Although a poet of distinction, Bunin is perhaps best known for his short stories, especially "The Man from San Francisco" (1916, Eng tr in *The Man from San Francisco and Other Stories*, 1923), and for his autobiographical novel *The Well of Days* (1930, Eng tr., 1933), a work Tolstoyan in stature Bunin opposed the revolution and after 1919 resided abroad

bunion (bŭn'yŭn), an enlargement of the metatarsal joint of the large or small toe caused by pressure on the FOOT in such a way that the bursae in these regions become inflamed Later there are changes in the bone Corrective shoes and, in some cases, operation may be used to treat bunions Bunions may be painful from the joint changes or because of the presence of a CORN Correct footwear is the method of prevention

Bunker Hill, city (pop 1,082), SW Ill , NE of Alton, inc. 1857 A tornado in March, 1948, destroyed much of the town.

Bunker Hill, battle of, in the American Revolution, June 17, 1775. Detachments of colonial militia under Artemas WARD, Nathanael GREENE, John STARK, and Israel PUTNAM laid siege to Boston shortly after the battles of Lexington and Concord, but Thomas GAGE, British commander in the city, made no attempt to break it until he was reinforced (in May) by troops led by William Howe, Sir Henry Clinton, and John Burgoyne The Continental forces learned of the British plan to take the heights of Dorchester and Charlestown, and William Prescott was sent to occupy Bunker Hill outside Charlestown. Prescott instead chose the neighboring Breed's Hill to the southeast The fight which ensued is often called the battle of Bunker Hill Howe was ordered to take the position, and after two slaughterous failures a third charge dislodged the Americans, who had run out of powder The British victory failed to break the siege, and gallant American defense heightened the colonial morale and resistance In March, 1776, Washington ordered Dorchester Heights fortified, and Howe's position became so untenable that he evacuated (March 17, 1776) his troops and many Loyalists from Boston to Halifax See John Jennings, *Boston, Cradle of Liberty* (1947)

Bunkie, town (pop 3,575), central La , SE of Alexandria, in a cotton and sugar-cane area, founded 1882

Bunnell, town (pop 1,030), co seat of Flagler co , NE Fla , S of St Augustine, in a timber and potato area

Bunner, Henry Cuyler, 1855–96, American journalist, poet, and story writer, b Oswego, N Y He became famous as the editor of *Puck*, 1877–96, and as a writer of *vers de société* in *Puck* He collected some of his poems in *Airs from Arcady and Elsewhere* (1884), and his popular short stories were collected in *Zadok Pine* (1891), *Short Sixes* (1891), and other volumes His novels were less successful See biography by G E Jensen (1940)

Bunni (bŭn'ī), Levitical name mentioned in confusing passages. Neh 10 15, 11.15 Once the name seems to be an alternative of BINNUI 1.

Bunsen, Christian Karl Josias, Baron von (krĭs'tyan kärl' yōsĕ'ĭas bärōn' fŭn bo͞on'sun), 1791–1860, Prussian diplomat and scholar, usually called the Chevalier von Bunsen He was resident minister (1827–38) at Rome, then ambassador at Berne (1839–41) He carried on an intimate correspondence with Frederick William IV and urged liberal ideas upon him In 1841 he negotiated an agreement about an Anglo-Prussian bishopric at Jerusalem. Bunsen was appointed to the London embassy, where he made a great reputation He was very learned and wrote on language, literature, history, law, and religion

Bunsen, Robert Wilhelm (bŭn'sŭn, Ger rō'bĕrt vĭl'hĕlm bo͞on'sun), 1811–99, German scientist, educated at the Univ of Göttingen, where he received his doctorate in 1830. He served on the faculties of several universities and was at Heidelberg from 1852 to 1889 His investigation of certain organic compounds of arsenic brought his first important contribution to chemistry. He studied the gases issuing from the blast furnace and evolved a method of gas analysis. Using the SPECTROSCOPE, in association with Kirchhoff at Heidelberg, he discovered the elements cesium and rubidium by spectrum analysis He invented an electric CELL, the Bunsen cell. With Roscoe, he did important work in photochemistry. Besides many articles he wrote *Gasometrische Methoden* (1857) and, with Kirchhoff, *Chemische Analyse durch Spektralbeobachtungen* (1861). He is known for his invention (1855) of the **Bunsen burner,** a gas burner commonly used in scientific laboratories. The principle involved is also applied to common gas stoves and lamps, it consists essentially of a hollow, cylindrical tube which is fitted vertically around the flame and which has an opening at the base to admit air A smokeless, nonluminous flame of high temperature is produced

bunt see SMUT

bunting, small, plump bird of the FINCH family Among the American buntings are the INDIGO BUNTING, the painted bunting or nonpareil, a red, blue, and green bird, the snow bunting, and the dickcissel The vesper sparrow is called the bay-winged bunting European buntings include the corn bunting, the snow bunting, the yellowhammer the cirl bunting, and the ortolan

Buntline, Ned, pseud of **Edward Zane Carroll Judson,** b 1822 or 1823, d 1886, American adventurer and writer Little is known of his early life except that he was born in either Stamford, N Y , or Philadelphia He ran away to sea as a boy, served as a midshipman, and resigned *Ned Buntline's Own*, a sensational magazine he founded in Nashville in 1845, was interrupted in 1846 when he was lynched for a murder, but he was secretly cut down alive and released, the magazine was resumed in New York There he led a mob in the Astor Place riot of 1849 against the English actor Macready and was fined and imprisoned He turned up in St Louis in the '50s as an organizer of the Know-Nothing movement. In 1864 he was dishonorably discharged from the Union army After the war he met W F Cody (Buffalo Bill) and persuaded him to act in a Buntline play, *The Scouts of the Plains* (1872), and so started Cody on his stage career Since 1846 Buntline had been writing trashy novels, forerunners of the worst sort of dime novels, among them *Cruisings Afloat and Ashore* (1848), *The Mysteries and Miseries of New York* (1848), and *Stella Delorme, or, The Comanche's Dream* (1860) See biography by F. E Pond (1919)

bunya-bunya (bŭn'yŭ), large coniferous tree (*Araucaria bidwillii*) of Australia with seeds used by native tribes as a staple food Each tribe and each family own a certain number of trees by inheritance, and they return to them, sometimes from long distances, when the trees bear in abundance, which occurs every three years In other countries the tree is grown as an ornamental pot plant

Bunyan, John, 1628–88, English author, b Elstow, Bedfordshire, son of a tinker After a brief period at the village free school, Bunyan was set to learn the tinker's trade, which he followed intermittently throughout the rest of his life Drafted into the parliamentary army in 1644, he served until 1647 and then married The reading of several pious books owned by his wife awakened Bunyan's religious sense, constant study of the Bible completed his conversion, and in 1653 he began acting as lay preacher for a congregation of Baptists in Bedford In this capacity he came into conflict with the Quakers led by George Fox and turned to writing in defense of his beliefs In 1660 agents of the restored monarchy arrested him for unlicensed preaching, and he remained in prison for the next 12 years During this period he wrote nine books, the most famous of which is *Grace Abounding to the Chief of Sinners* (1666), a fervent spiritual autobiography Soon after his release in 1672 he was reimprisoned briefly and wrote the first part of *The Pilgrim's Progress from This World to That Which Is to Come*, published in 1678 This allegory recounts how Christian journeyed from the City of Destruction through the Slough of Despond, the Valley of Humiliation, the Valley of the Shadow of Death, Vanity Fair, the Delectable Mountains, the House Beautiful, and Beulah Land to the Celestial City A second part—describing the way in which Christian's wife, Christiana, makes the same pilgrimage—appeared in 1684 *Pilgrim's Progress* is remarkable for its simple, biblical style, for its vivid presentation of character and incident, and for its universal applicability It is one of the world's great books and has been translated into many languages By the time Bunyan was released from his second imprisonment, he had become a hero to the members of his sect, and he continued preaching and writing until his death The principal works of these latter years are *The Life and Death of Mr Badman* (1680) and *The Holy War or, The Losing and Taking Again of the Town of Mansoul* (1682), allegorical works well characterized by their titles Bunyan's great and continued popularity rests on the spiritual fervor which permeates his works and on the compelling style in which they are written, his prose unites the eloquence of the Bible and the vigorous realism of common speech. See John Brown, *John Bunyan. His Life, Times, and Work* (revised by F M. Harrison, 1928); W. Y. Tindall, *John Bunyan, Mechanick Preacher* (1934).

Bunyan, Paul, in American lumber-camp legend, hero of a series of "tall tales" current through the timber country from Michigan westward. He is said to have ruled his Gargantuan lumber camp between the winter of the blue snow and the spring that came up from China. His prized possession was Babe the Blue Ox, which measured 42 ax handles and a plug of tobacco between the horns Paul Bunyan may have been based on a doughty fighter of the Papineau rebellion in Canada in 1837 The stories have been set down in Esther Shephard, *Paul Bunyan* (1924), James Stevens, *Paul Bunyan* (1925) and *The Saginaw Paul Bunyan* (1932), Glen Rounds, *Ol' Paul, the Mighty Logger* (1936), and Wallace Wadsworth, *Paul Bunyan and His Great Blue Ox* (1926, school ed , 1937) Tony Beaver is the legendary figure of Southern lumber camps See M P Montague, *Up Eel River* (1928).

Bunzlau (bo͞on'tslou) or **Bolesławiec,** Pol *Bolesławiec* (bôlĕswä'vyĕts), town (pop 3,145, 1939 pop 22,455), Lower Silesia, on the Bober It was transferred to Polish administration in 1945 (see SILESIA) Bunzlau was the scene (1813) of a Prussian victory over the French, and it was the birthplace of the poet Martin Opitz Chiefly a trade center, Bunzlau also produces pottery

Buonaparte. see BONAPARTE and NAPOLEON I

Buoninsegna, Duccio di see DUCCIO DI BUONINSEGNA

Buononcini, Italian musicians see BONONCINI

buoy (boi, bo͞o'ĭ), **float** anchored in navigable waters to mark channels and indicate dangers to navigation (isolated rocks, mine fields, cables, and the like) A buoy (mooring buoy) may also be used for the anchoring of ships The shape, the color, the number, and the marking of the buoy are significant, but unfortunately the significance varies in different countries, and the system devised by the International Maritime Conference at Washington in 1889 and based on color was not adopted Generally large buoys are of steel or iron, though the spar buoys (upright posts) used in northern latitudes are of wood Nun buoys have conical tops, can buoys flat tops Buoys may be fitted with bells or whistles (usually operated by motion of the waves) and light buoys (equipped with electric batteries) are much used, radio buoys came into use in 1939

bur, popular name for fruits that have barbed, pointed, or rough outgrowths, by clinging to the fur or hair of animals and the clothing of man they are transported from the parent plant Some common burs include those of the chestnut, burdock, bur marigold, and cocklebur Burs are particularly obnoxious to sheep growers because of the difficulty of removing them from wool

Burano (bo͞ora'nō), village, NE Italy, built on four islets in the lagoon of Venice It has been famous for its lace since the 15th cent

Burbage, James (bûr'bĭj), d 1597, English actor One of the earl of Leicester's players in 1574, he leased land in Finsbury Fields in 1576 and erected the first permanent theater in London, called The Theatre The structure of this theater was removed to Bankside, c 1598, and set up as the GLOBE THEATRE, which burned down in 1613 Burbage was a builder and an owner of the Blackfriars Theatre in 1596

Burbage, Richard, 1567?–1619, English actor The son of James Burbage, he inherited a share in the Blackfriars Theatre and an interest in the Globe, where, in 1603, he was with Shakspere in the Lord Chamberlain's company Unrivaled at either theater, he appeared in many of the original productions of Beaumont and Fletcher, Jonson, and Shakspere His most celebrated roles were Richard III, Hamlet, Lear, and Othello, and he played leading parts in Jonson's *Sejanus* and *Every Man in His Humour* He had an excellent talent as a painter, and the Felton portrait of Shakspere, in oils, is attributed to his hand

Burbank, Luther, 1849–1926, American plant breeder, b Lancaster, Mass. He experimented with thousands of varieties of plants and developed many new ones, including new varieties of prunes, plums, raspberries, blackberries, apples, peaches, and nectarines Besides the Burbank potato, he produced new tomato, corn, squash, pea, and asparagus forms, a spineless cactus useful in cattle feeding, and many new flowers, especially lilies and the famous Shasta daisy His methods and results are described in his books—*How Plants Are Trained to Work for Man* (8 vols , 1921) and, with Wilbur Hall, *Harvest of the Years* (1927), and *Partner of Nature* (1939)—and in his descriptive catalogues, *New Creations*. After 1875 his work was done at Santa Rosa, Calif See D S Jordan and Vernon Kellogg, *The Scientific Aspects of Luther Burbank's Work* (1909), E B Beeson, *The Early Life and Letters of Luther Burbank* (1927), W L Howard, *Luther Burbank* (1945)

Burbank, city (1940 pop. 34,337, 1947 special census pop 72,588), in Glendale township, S Calif , N of Los Angeles, laid out 1887, inc 1911. Its industries include moving-picture production and aircraft manufacture

Burchell, William John (bûr'chŭl), 1782?–1863, English explorer and scientist He was schoolmaster (under the East India Company) at St. Helena (1805–10), whence he sailed for South Africa. His journey (1811–15) across the Karroo desert to

Griqualand and Bechuanaland is described in his *Travels in the Interior of Southern Africa* (1822–24). His African collections comprised 63,000 natural objects and much astronomical and meteorological material He traveled in Brazil (1825–29), visiting São Paulo Many animal and plant species discovered by him bear his name

Burchfield, Charles, 1893–, American water-color painter, b Ashtabula Harbor, Ohio After high school he became an accountant, but in 1912 won a scholarship and went to the Cleveland School of Art His work was exhibited in New York in 1916, but he developed his characteristic style only after some months in an army training camp in 1918 He is widely known as a painter of Victorian mansions, false-front stores, and other relics of the late 19th cent still prominent in the Middle Western landscape These somber subjects are painted with a slightly ironic realism, clarity, and vigor Burchfield's color is subtle, cool, and luminous From 1921 to 1929 he worked also as a wallpaper designer He won awards in water-color exhibits in Cleveland and Philadelphia, and his work is to be seen in many prominent American galleries His *False Front* (Metropolitan Mus) and *Freight Cars under a Bridge* (Detroit Inst of Arts) are characteristic water colors He paints also in oil and gouache

Burckhardt, Jacob Christoph (yä'kôp krīs'tôf bo͝ork'härt), 1818–97, Swiss historian, one of the founders of cultural history He studied under Ranke at the Univ of Berlin and taught (1844–53, 1858–93) history and art history at the university of his native Basel, refusing the offer (1872) to succeed Ranke in his chair at Berlin His best-known work is *Die Kultur der Renaissance in Italien* (1860, *The Civilization of the Renaissance in Italy*, available in several English editions) It remains one of the great classics on the subject, although its primarily esthetic view of the Renaissance period, which Burckhardt considered the product of conscious creativeness, has been attacked by later historians Burckhardt profoundly influenced his friend Nietzsche, who taught at Basel at the same time, J A Symonds acknowledged his debt to Burckhardt He also wrote *Die Zeit Konstantins des Grossen* (1852, Eng tr , *The Age of Constantine the Great*, 1949), a work of profound scholarship and great literary merit, *Cicerone* (1855), a guide to Italian art, and other works on history and art His *Weltgeschichtliche Betrachtungen* (Eng tr , *Force and Freedom Reflections on History*, 1943) and his *Griechische Kulturgeschichte* [history of Greek culture] were published posthumously Burckhardt foresaw, with apprehension, that the spiritual and esthetic values of man were doomed to be eclipsed by the increasing requirements of the state, by large-scale wars, and by industrialization

Burckhardt, John Lewis (bûrkhärt), 1784–1817, explorer,b Switzerland, educated in Germany He was supported in exploration by an English association for promoting African discovery He traveled in Syria and Egypt (1809–13), rediscovered PETRA (1812), then, posing as a learned Moslem, was the first Christian to reach Medina A notable description of Mecca is included in his *Travels in Arabia* (1829) He died while preparing to set out from Upper Egypt for his original goal, the Niger His journals, published by the African Association, include *Travels in Nubia* (1819), *Travels in Syria and the Holy Land* (1822), *Notes on the Bedouin and Wahábys* (1830), and *Arabic Proverbs* (1830)

Burckmair, Hans see BURGKMAIR, HANS

Burdett-Coutts, Angela Georgina Burdett-Coutts, Baroness (bûrdet'-kōōts'), 1814–1906 English philanthropist Her multitudinous charitable works ranged from the building of model tenements in London to the endowment of colonial bishoprics She became famous for her benevolence, hospitality, and fortune and in 1871 was made a peeress by Queen Victoria Among her many noted friends was Charles Dickens, whose letters to her have been published

Burdette, Robert Jones, 1844–1914, American humorist, b Greensboro, Pa He became famous for his humorous column in the Burlington, Iowa, *Daily Hawkeye* In *The Rise and Fall of the Moustache and Other Hawkeyetems* (1877) are reprinted some of his popular columns and his lectures After 1888 he became a well-known Baptist preacher See biography by C B Burdette (1922)

burdock, any plant of the genus *Arctium*, coarse Old World biennials, mostly weedy in North America They have composite flowers, usually purple, followed by roundish, many-seeded burs The great burdock (*Arctium lappa*) has been used medicinally and (in Japan) cultivated as a vegetable called gobo The common burdock is *Arctium minus* The cocklebur is sometimes confused with burdock

Burdwan or Bardwan (both bûrdwän'), town (pop 62,910), S West Bengal state, India A group of 108 Siva linga temples (1788) is near by. Vegetable oils and cutlery are manufactured.

bureaucracy, widely speaking, the body of officeholders of the executive arm of government The term usually carries a suggestion of reprobation and implies incompetency and parasitism among the functionaries Bureaucracy existed in imperial Rome and China and in the national monarchies of Europe The revolutions of the 17th and 18th cent emphasized the rule of the national legislatures, but in modern states complex industrial and social legislation has called for a vast growth of administrative functions of government The power of permanent and nonelective officials to apply and even initiate measures of control over the national administration and economy has raised the bureaucracy to critical importance in the life of the state Modern governments are usually administered by honest and capable experts, but critics object that bureaucracy is dangerously powerful and largely unresponsive to control by the people's elected representatives See CIVIL SERVICE See J D Kingsley, *Representative Bureaucracy an Interpretation of the British Civil Service* (1944)

Bureya (bo͝orā'ä), mountain range, SW Khabarovsk Territory, RSFSR, in E Siberia, extending into N China as the Lesser KHINGAN range It rises to 7,275 ft and yields gold, tungsten, molybdenum, iron, and coal The Bureya river, 480 mi long, rises in the N Bureya range and flows southwest to join the Amur at Blagoveshchensk

Burgas (bo͝or'gəs'), city (pop 43,684), E Bulgaria, a Black Sea port There are manufactures of foodstuffs, cotton textiles, machinery, and radios

Burgaw (bûr'gô), town (pop 1,476), co seat of Pender co , SE N C , N of Wilmington, in a diversified farm area noted for strawberries

Burgdorf (bo͝ork'dôrf), Fr *Berthoud* (bĕrtōō'), town (pop 10,197), Bern canton, Switzerland, on the Emme river It has an old castle in which Pestalozzi held his first school (1799–1804) There is diversified industry

Burgenland (bûr'gənländ, Ger bo͝or'gənlänt), autonomous province or *Bundesland* (1,526 sq mi , pop 274,078), E Austria It is a long, narrow, hilly area bordering on Hungary and indented by the NEUSIEDLER LAKE The capital is Eisenstadt Winegrowing is the chief occupation The territory was transferred from Hungary by the treaties of Saint-Germain (1919) and Trianon (1920) SOPRON, its leading town, was returned (1921) to Hungary after a plebiscite

Bürger, Gottfried August (gôt'frēt ou'gōōst bûr'gûr), 1747–94, German poet, best known for his revival of the German ballad His most famous work in this form, *Lenore* (1773), was translated into English and other languages and had a far-reaching influence He edited and wrote for the Göttingen *Musenalmanach* and was one of the Göttingen poetical brotherhood For a time he was considered the author of the Munchausen stories, which he translated into German from the English edition of 1786 His irregular and unhappy life was embittered at the end by Schiller's severe criticism Among his other better-known works is the ballad "The Wild Huntsman" (1786) For a list of translations, see Bayard Q Morgan, *Critical Bibliography of German Literature in English* (1938)

Burges, William (bûr'jĭs), 1827–81, English architect An ardent devotee of medievalism, he was prominent in the Gothic revival He is known for his design of Cork Cathedral (1862), the rebuilding of Cardiff Castle (1865), and his writings and designs in the decorative arts

Burgess, Charles Frederick (bûr'jĭs), 1873–1945, American chemical engineer, b Oshkosh, Wis , grad Univ of Wisconsin, 1895 He was on the faculty at the Univ of Wisconsin from 1895 to 1913 He developed various iron alloys and invented a process for the electrolytic purification of iron and made improved types of dry cells

Burgess, Gelett (Frank Gelett Burgess), 1866–, American humorist, b Boston, grad Massachusetts Institute of Technology, 1887 His ability as an illustrator led him into magazine work, and he was soon writing humorous articles and stories to accompany his illustrations His poem "The Purple Cow" brought him instant fame Among his books some of the better known are *Goops and How to Be Them* (1900), *Are You a Bromide?* (1907), *The Maxims of Methuselah* (1907), and *Why Men Hate Women* (1927)

Burgess, George Kimball, 1874–1932, American physicist, b Newton, Mass , grad Massachusetts Institute of Technology, 1896 An authority on metallurgy and pyrometry, he was with the Bureau of Standards from 1903 (as director from 1923)

Burgess, John William, 1844–1931, American educator and political scientist, b middle Tennessee He served in the Union army in the Civil War and after the war graduated at Amherst (1867) He was admitted to the Massachusetts bar in 1869, but did not practice That same year he joined the faculty of Knox College In 1871 he went to Germany, where he studied at the universities of Göttingen, Leipsig, and Berlin He returned in 1873 to teach history and political science at Amherst In 1876 began his long connection with Columbia Univ (then Columbia College), he was professor of political science and constitutional law until 1912 Burgess, with Nicholas Murray BUTLER, was a major influence in the creation (1880) of a faculty and school of political science, the first faculty organized for graduate work in the country and the chief step in changing Columbia College into a university. He was dean of the Faculty of Political Science from 1890 until his retirement. In 1905–6 he served as first Roosevelt professor at the Univ of Berlin Burgess's fundamental political philosophy was expressed in *Political Science and Comparative Constitutional Law* (1890–91), the more permanently valuable portions of which were republished as *The Foundations of Political Science* (1933) In line with his theories there set forth, he interpreted American history in *The Middle Period, 1817–1858, The Civil War and the Constitution, 1859–1865*, and *Reconstruction and the Constitution, 1866–1876*, a trilogy published between 1897 and 1902, to which was added *The Administration of Rutherford B Hayes* (1915) In *Recent Changes in American Constitutional Theory* (1923) he protested against the encroachment of the Federal government upon state and individual rights and immunities He founded the *Political Science Quarterly* See his autobiography, *The Reminiscences of an American Scholar* (1934)

Burgettstown (bûr'jĭts–), borough (pop 2,497), SW Pa , near the W Va border W of Pittsburgh, laid out 1795, inc 1881

Burgh, Hubert de see HUBERT DE BURGH

Burgh, Ulick de, earl and marquess of Clanricarde. see CLANRICARDE, ULICK DE BURGH, 5TH EARL OF

Burghers (bûr'gurs), a party of the Secession Church of Scotland, or Associate Synod, resulting from one of the "breaches" in the history of Presbyterianism To qualify as a burgess in certain burghs one was required to take an oath accepting the "true religion presently professed within this realm" Opinion differed as to whether this referred to Protestant religion in general or to the Established Church Those in the Secession Church who understood the oath in the latter sense refused to take it and were called "Anti-Burghers" Theirs was the General Associate Synod Opposed to them were the "Burghers," of the Associate Synod The two bodies mutually excluded each other in 1747 By the end of the century both divisions were further split apart into "Old Light Anti-Burghers"and "Old Light Burghers" and "New Lights" in each division, over questions of civil magistracy In 1820 Old Lights and New Lights were brought together again in the United Secession Church

Burghley or **Burleigh, William Cecil, 1st Baron** (both bûr'lē), 1520–98, English statesman He first rose to power in 1548 when Edward Seymour, duke of Somerset, was protector, and he served as secretary of state (1550–53) during the duke of Northumberland's ascendancy He was not in the favor of Mary I, but was reappointed to office by Elizabeth, whom he served faithfully for 40 years He became her principal adviser and one of the most powerful men in the kingdom In 1572 he was made lord high treasurer His was the policy of national aggrandizement that helped growing industry and commerce Cautious, as was Elizabeth, he could, nevertheless, act with decision He took the responsibility for the execution of Mary Queen of Scots and was largely responsible for the solidification of Protestantism in England Burghley's advice was not always followed, but his hand can be seen in most important policies of Elizabeth's reign He was as ruthless in destroying personal enemies as he was in smiting enemies of the state See biographies by M A Hume (1898) and Alan Smith (1935)

Burgis, William (bûr'jĭs), fl 1717–31, American engraver and publisher of maps and views, b London His name appears as publisher on the views *South Prospect of ye Flourishing City of New York* (1717, copy, N Y Historical Society), *The New Dutch Church in New York City, A Prospect of the Colledges in Cambridge in New England* (only known copy, Massachusetts Historical Society, Boston), *A South East View of the Great Town of Boston*, and *Plan of Boston in New England* (copy, Library of Congress, Washington, D C) The mezzotint *The Boston Light House* is the only plate which contains Burgis's name as engraver (copy, U S Lighthouse Board, Washington, D C)

Burgkmair or **Burckmair, Hans** (both hänz' bo͝ork'mûr), 1473–1531, German engraver and painter of Augsburg His work shows the influence of his friend Dürer, whose enthusiasm for the Italian Renaissance he shared Among his well-known paintings are *Coronation of the Virgin* (cathedral, Augsburg) and the portrait of himself and his wife (Vienna) Burgkmair also produced some 700 wood engravings of great originality Famous examples of these include *Triumphs of Maximilian I* (a series of 57 prints), *Death the Exterminator*, and *Seven Deadly Sins*

burglary, according to common-law definition, the breaking and entering of a dwelling house of another at night with the intent to commit a FELONY, whether the intent is carried out or not This definition has been generally adopted with some modifications in the criminal law of the various states of the United States At common law burglary is an offense primarily against the security of habitation, not against the property as such, but today by statute burglary usually includes breaking into places other than dwellings Breaking as well as entering is essential to commission of the crime; to constitute a breaking, the use of physical force is

necessary and sufficient, though the use of force may be slight, e g , turning a key, opening an entirely closed window, pushing out a window pane Entry through FRAUD (as by posing as a guest), through THREAT, or through CONSPIRACY with servants is deemed by the law equivalent to breaking and is called "constructive breaking" By statute most states do not restrict burglary to action at night, as the common law does Burglary under common law requires that the intent be to commit a felony, but some statutes declare that the intent need only be "to commit some crime "

Bürglen (burk'lən), village (pop 2,527), Uri canton, Switzerland, near Altdorf It is the legendary birthplace of William Tell

Burgos (bōōr'gōs), city (pop 51,177), capital of Burgos prov , N Spain, in Old Castile, on a mountainous plateau Founded c 885, it was the seat of the county of Castile under the kings of Leon and became the capital of the kingdom of Castile under Ferdinand I (1035) The royal residence was moved (1087) to Toledo, and Burgos lost some of its cultural and economic importance The Cid lived and is buried here In the civil war of 1936–39 Burgos was the capital of Franco's regime The cathedral of white limestone, founded in 1221, is one of the finest Gothic buildings in S Europe Other landmarks are the castle, the Gothic Church of San Estebán, and the Arco de Santa Maria, a 16th-century gateway

Burgoyne, John (bûrgoin'), 1722–92, British general and statesman In the Seven Years War, his victory over the Spanish in storming Valencia de Alcántara in Portugal (1762) made him the toast of London He was elected to Parliament (1768) and helped to reform the East India Company's rule of India As the American Revolution was beginning, he arrived (1775) with the reinforcement sent to General Gage at Boston Burgoyne witnessed the battle of Bunker Hill and returned home in disgust (Nov , 1775) He joined (1776) Sir Guy CARLETON in Canada and served at Crown Point, but, critical of Sir Guy's inaction, Burgoyne returned to England to join Lord George Germain in laying the plans that resulted in the SARATOGA CAMPAIGN Burgoyne began (June, 1777) the ill-fated expedition with an army poorly equipped, untrained for frontier fighting, and numbering far less than he had requested After minor initial success, stiffened American resistance coupled with the failure of Barry St LEGER and Sir William HOWE to reach Albany led to his surrender at Saratoga (Oct 17, 1777) He returned to England, was given (1782) a command in Ireland, and managed the impeachment of Warren HASTINGS Burgoyne wrote several plays, of which *The Heiress* (1786) is best known See F J Hudleston, *Gentleman Johnny Burgoyne* (1927)

bur grass · see SANDBUR

Burgundians, in French medieval history see ARMAGNACS AND BURGUNDIANS

Burgundii · see BURGUNDY

Burgundy (bûr'gundē), Fr *Bourgogne* (bōōrgô'nyu), region, E France The name also applied to two successive kingdoms and to a duchy, all of which embraced large territories outside the present region, which is identical with the province of Burgundy of the 17th and 18th cent Burgundy is now administratively divided into four departments—Yonne, Côte-d'Or, Saône-et-Loire, and Ain Burgundy W of the Saône river is generally hilly, in the southeast it includes the southern spurs of the Jura mts , the center is a lowland, extending south almost to the junction of the Saône and Rhone rivers (see BRESSE) A rich agricultural country, Burgundy is especially famous for the WINE grown in the CHABLIS region, the mountains of the CÔTE-D'OR, and the SAÔNE and RHONE valleys DIJON is the historical capital, other cities are Autun, Auxerre, Beaune, Bourg-en-Bresse, Chalon-sur-Saône, and Mâcon The territory, conquered by Julius Caesar in the GALLIC WARS, was divided among the Roman provinces of Upper Germany, Lugdunensis, and Narbonensis (see GAUL) In the 5th cent the Burgundii, a Germanic tribe, settled here peacefully, accepted Christianity, and soon established the **First Kingdom of Burgundy,** which comprised SE France and reached as far south as Arles and W Switzerland Conquered (534) by the FRANKS, it was throughout the Merovingian era subjected to numerous partitions It nevertheless survived as a political concept, and after the partitions of the Carolingian empire, two new Burgundian kingdoms were founded, Cisjurane Burgundy or PROVENCE in the south (879) and Transjurane Burgundy in the north (888) These two were united (933) in the **Second Kingdom of Burgundy** (see ARLES, KINGDOM OF) A smaller area, corresponding roughly to present Burgundy, was created as the **duchy of Burgundy** by Emperor Charles II in 877 Early in the 11th cent King Robert II of France made good his claim to the duchy, but his son, Henry I, gave it as a fief to his brother Robert Robert's line died out in 1361. The golden age of Burgundy began when (1363) JOHN II of France bestowed the fief on his son, PHILIP THE BOLD Philip and his successors, JOHN THE FEARLESS, PHILIP THE GOOD, and CHARLES THE BOLD, acquired—by conquest, treaty, and marriage—vast territories including most of the present Netherlands and Belgium, the then extensive duchy of Luxembourg, Picardy, Artois, Lorraine, S Baden and Alsace, the FRANCHE-COMTÉ, Nivernais, and Charolais In the early 15th cent the dukes of Burgundy, through their partisans in France, dominated French politics (see ARMAGNACS AND BURGUNDIANS) England, at first supported by Burgundy in the HUNDRED YEARS WAR, suffered a crucial setback when Philip the Good withdrew that support in the Treaty of Arras (1435) A great power, Burgundy at that time had the most important trade, industries, and agriculture of Western Europe Its court, a center of the arts, was second to none Yet the ambitions of Charles the Bold, opposed by the determination and resourcefulness of Louis XI of France, came crashing down with his defeats by the Swiss at Grandson, Morat, and Nancy (1476–77) At Nancy, Charles lost his life His daughter, MARY OF BURGUNDY, by marrying Emperor Maximilian I, brought most of the Burgundian possessions (but not the French duchy) to the house of Hapsburg The duchy itself was seized by Louis XI, who incorporated it in the French crownlands as a province, to which Gex, Bresse, and Charolais were added later by Henry IV and Louis XIV See Arthur Kleinclausz, *Histoire de Bourgogne* (1909), Otto Cartellieri, *The Court of Burgundy* (1929)

Burgundy, Free County of see FRANCHE-COMTÉ

Burgundy Gate: see BELFORT, France

Burgundy mixture or **sal soda Bordeaux** (bôr'dō'), colorless copper FUNGICIDE used where LIME SULPHUR or BORDEAUX MIXTURE would leave a stain or sediment It is useful in spraying small fruits and other vegetation resistant to its burning action It is made of copper sulphate, sal soda (sodium carbonate), and water

Burgundy pitch, reddish or yellowish-brown, hard, brittle, resinous substance with an aromatic odor, obtained from the stem of the Norway spruce (*Picea excelsa* or *P abies*) It is used in preparing pitch plaster, a counterirritant

Burhanpur (bûr'hənpōōr'), town (pop 53,987), W Madhya Pradesh, India, founded 1400 There is a partly ruined palace (c 1610) of Akbar The town was formerly noted for brocades and gold- and silver-wire ornaments Today cotton is the chief article of commerce

burial. Methods of disposing of a corpse are many, ranging from its simple discard, as among the Masai of Africa, to cremation and disposal of its ashes Burial, however, is usually in a GRAVE Secondary burial frequently occurs to terminate a socially observed period of mourning and the obligations toward the deceased Tree burials, wherein the body is suspended rolled in a mat or hammock, occurred in ancient times and among the North American Indians, and commonly preceded later interment Sea burials are known in Oceania Communal burials may indicate that retainers or members of the family were slain to accompany the deceased or simply that pits or ossuaries were unsealed for later accommodation The disposition of the spirit rather than of the corpse is more often the major concern of peoples, as evidenced in their FUNERAL CUSTOMS Since patterns of burial are distinctive for each society, their study is highly significant to the ethnologist and the archaeologist

Buriat-Mongolia see BURYAT-MONGOL AUTONOMOUS SOVIET SOCIALIST REPUBLIC

Buridan, Jean (byōō'rĭdun, Fr zhā' bürēdā'), fl 1328, French scholastic philosopher Rector of the Univ of Paris, he was a follower of William of Occam and a nominalist His theory of the will was that choice is determined by the greater good and that the freedom man possesses is the power to suspend choice and reconsider motives for action Traditionally but almost certainly erroneously he is supposed to have used the simile of "Buridan's ass"—an unfortunate animal midway between two identical bundles of hay and starving to death for want of power to choose between them

Burin (bû'rĭn), town, S N F , on the southwest coast of Placentia Bay Burin Peninsula lies between Fortune Bay and Placentia Bay

Burkburnett (bûrkburnĕt'), city (pop 2,814), N Texas, N of Wichita Falls and near the Red River, settled 1907, inc 1913 An oil strike in 1918 brought a boom that was one of the wildest, roughest, and richest of them all The city also handles farm produce and cattle

Burke, Edmund, 1729–97, British statesman and political writer, b Dublin, grad Trinity College at Dublin, 1748 The son of a Protestant father and a Catholic mother and himself a Protestant, he never ceased to criticize the stupidity of the Irish administration and the galling discriminations against Catholics He began the study of law in London but abandoned it for the life of letters His satirical *Vindication of Natural Society* (1756) confuted Viscount Bolingbroke's political rationalism, and his *Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1756) was a study in the aesthetics of romanticism In 1759 he started the *Annual Register,* to which he contributed until 1788. Burke was a member of Samuel Johnson's intimate circle His real political career began in 1765 when he became secretary to the marquess of Rockingham (prime minister, 1765–66) and formed a lifelong friendship with that Whig leader He was elected to Parliament in 1766 and there defended Rockingham's repeal of the Stamp Act (1766) and strove for a wiser treatment of the American colonies The Whig party was split into two factions, and when William Pitt, earl of Chatham, became prime minister, Burke was the most influential member of the Whig opposition. His famous speeches on American taxation (1774) and on conciliation with the colonies (1775) were only the best known of his efforts to oppose the king's course in America Burke aimed at limiting the patronage of the crown by his economic-reform bill, which was passed in the short Whig ministry of Rockingham in 1782, and by the India bill, drafted by Burke and presented by Charles James Fox, which did not pass Under the Tory ascendancy of William Pitt the younger, Burke instigated the impeachment and long trial (1785–94) of Warren HASTINGS, and though Hastings was not convicted, Burke's speeches made for an awareness of the responsibilities of empire and the injustices in India unknown before in England Though he championed many liberal and reform causes, Burke believed that political, social, and religious institutions represented the wisdom of the ages, he feared political reform beyond limiting the power of the crown Consequently, his *Reflections on the Revolution in France* (1790) made him the spokesman of European conservatives His stand on the French Revolution—and, by implication, against parliamentary reform—caused him to break with Fox and his Whigs in 1791 Burke's *Appeal from the New to the Old Whigs* (1791) shows how closely he allied himself with Pitt's Tory position As an advocate of practical reforms, Burke foreshadowed Jeremy Bentham He withdrew from political life in 1795, broken in spirit by the death of his son Richard See biographies by Sir James Prior (1824), John Morley (1867, 1879), A P I Samuels (1923), R H Murray (1931), and P M Magnus (1939), John MacCunn, *The Political Philosophy of Burke* (1913), A A Baumann, *Burke the Founder of Conservatism* (1929), T W Copeland, *Our Eminent Friend Edmund Burke* (1949)

Burke, John, 1787–1848, Irish genealogist After trying literary work in London, he in 1826 issued *A Genealogical and Heraldic Dictionary of the Peerage and Baronetage of the United Kingdom* He published this guide irregularly until 1847, since then it has been an annual, commonly called *Burke's Peerage* This was edited from 1847 to 1892 by his son, **Sir John Bernard Burke,** 1814–92, who was made Ulster king-of-arms, knighted (1854), and appointed (1855) keeper of the state papers in Ireland As a companion to *Burke's Peerage,* he established the regular issuance of another work begun by his father, commonly called *Burke's Landed Gentry* Sir Bernard wrote other works, including *The Romance of the Aristocracy* (1855) and *Vicissitudes of Families* (1883)

Burke, Robert O'Hara, 1820–61, Irish explorer of Australia After service in the Belgian and Austrian armies he went as inspector of police to Melbourne (1853) In 1860, with W J Wills and eight other whites, he left Menindee, on the Darling river, to cross the continent Dissensions broke up the party, but the leaders reached the estuary of the Flinders river, in the Gulf of Carpentaria On the return journey both Burke and Wills died from famine and exposure Though the geographical achievements of the expedition were few, relief parties seeking it added much to the knowledge of central Australia See C G D Roberts, *Discoveries and Explorations in the Century* (1906)

Burke, Victor, 1882–, American bacteriologist, b Kent, Wash , grad Stanford (B A , 1907) He taught at Washington State College from 1921 (as professor and head of the department of bacteriology from 1925) He was editor of bacteriology of *Webster's New International Dictionary* (2d ed 1934)

Burkesville, city (pop 1,092), co seat of Cumberland co , S Ky , on the Cumberland river and near the Tenn line, inc as a town 1810, as a city 1926 It is a resort in the Cumberland foothills Near by is the site of an early oil well, accidentally tapped (while drilling for salt) in 1829

Burlamaqui, Jean Jacques (zhā' zhāk' burlămakē'), 1694–1748, Swiss jurist His chief works are *Principes du droit naturel* [principles of natural law] (1747) and *Principes du droit politique* [principles of political law] (1751) He attempted to demonstrate the reality of natural law by tracing its existence in God's rule and in human reason and moral instinct He believed that both international and domestic law were adumbrations of natural law in their separate fields.

Burleigh, Harry Thacker (bûr'lē), 1866–1949, American Negro baritone and composer, b Erie, Pa , pupil of Dvorak at the National Conservatory, New York, where he later taught He was soloist at St George's Church, New York, from 1894 to 1946 and also at Temple Emanu-El for 25 years. His concert arrangements of Negro spirituals such as

Deep River, employing chromatic harmonies in the style of art songs, are widely used

Burleigh, William Cecil, 1st **Baron**. see BURGHLEY.

Burleson, Albert Sidney (bûr'lusun), 1863–1937, U S Postmaster General (1913–21), b San Marcos, Texas, grad Baylor Univ, 1881, and Univ of Texas law school, 1884 A grandson of Edward Burleson, he was a lawyer of Austin, Texas, and a member of the House of Representatives (1899–1913) before resigning to take a cabinet post under President Wilson His methods of administering communications in the First World War waked the ire of businessmen, who charged him with inefficiency and interference with private business, of labor unions, because he forbade strikes of postal employees, and of liberals, whose anti-war periodicals he banned from the mails Burleson continued to exercise strict control and to advocate government ownership of communications His political experience was of value to Wilson

Burleson, Edward, 1798–1851, pioneer of Texas, b Buncombe co, N C After living in Tennessee and serving under Andrew Jackson in the war against the Creek Indians (1813–14), he moved to Texas He distinguished himself in the Texas Revolution and was later (1840) successful commander in the warfare against the Cherokee in East Texas He was a senator, then vice president of the Texas republic, but was defeated for the presidency in 1844 He also served in the Mexican War

burlesque (bûrlĕsk') [Ital ,=mockery], form of entertainment differing from comedy or farce in that it achieves its effects through caricature, ridicule, and distortion It differs from satire in that it is devoid of any ethical element The word first came into use in the 16th cent in an opera of the Italian Francesco Berni, who called his work *burlesche* Chaucer's *Rhyme of Sir Thopas*, Butler's *Hudibras*, Beaumont and Fletcher's *Knight of the Burning Pestle*, Gay's *Beggar's Opera*, Fielding's *Shamela*, and Sheridan's *Critic* may be classed as literary and dramatic burlesque Cervantes's *Don Quixote* is a burlesque on chivalry and knighthood American stage burlesque is a variety show which is characterized by vulgar dialogue and broad comedy Burlesque theaters in New York city were refused a renewal of their licenses in 1937 and were closed by fiat For history of the literary burlesque, see R P Bond, *English Burlesque Poetry, 1700–1750* (1932), and A B Shepperson, *The Novel in Motley* (1936)

Burley, city (pop 5,329), co seat of Cassia co, S Idaho, on the Snake, founded 1905, inc 1906 Burley, in the MINIDOKA PROJECT, is a center of irrigated farms and has beet-sugar, alfalfa-meal, and potato-flour mills It is the headquarters of Minidoka National Forest

Burlin, Natalie Curtis, 1875–1921, American writer and musician, b New York city, studied music in France and Germany She was one of the leading transcribers of the primitive music of America and Africa, and it was through her efforts that Indian music was encouraged, rather than forbidden by law, in government schools She visited the Navaho, Zuñi, Hopi, and other Indian tribes, recording words and music with fidelity Songs of African tribes and American Negroes are also included in her works—*Songs of Ancient America* (1905), *The Indians' Book* (1907), *Hampton Series Negro Folk-Songs* (4 vols, 1918–19), and *Songs and Tales from the Dark Continent* (1920)

Burlingame, Anson (bûr'ling-gām), 1820–70, American diplomat, b New Berlin, N Y, grad Univ of Michigan After studying law at Harvard, he became a lawyer in Boston and later (1855–61) a Congressman Defeated for reelection, he was made (1861) minister to China By his tact and understanding of Chinese opposition to the autocratic methods of foreigners in the treaty ports, he won a place as adviser to the Chinese government China sent (1867) him as head of a mission to visit foreign lands in order to secure information and sign treaties of amity He visited Washington, London, and capitals on the Continent One result was a treaty between China and the United States, supplementary to the 1858 treaty This, usually called the **Burlingame Treaty**, was signed in 1868 It was a treaty of friendship based on Western principles of international law One clause encouraged Chinese immigration—laborers were then much in demand in the West, later the heavy influx of Chinese under its provisions caused friction on the West Coast and led to the exclusion of Chinese immigrants (see CHINESE EXCLUSION). See biography by F W Williams (1912)

Burlingame, Edward Livermore, 1848–1922, American editor, b Boston, grad Univ of Heidelberg (Ph D, 1869) He was secretary to his father, Anson Burlingame, when the latter was minister to China and, later, ambassador extraordinary of China In 1879 the son became literary adviser to Charles Scribner's Sons, and when *Scribner's Magazine* was started in 1886, he edited it until 1914. *Art Life and Theories of Richard Wagner* (1875), the first book on Wagner published in America, was translated by Burlingame

Burlingame. **1** Residential city (pop. 15,940), W Calif., on San Francisco Bay and S of San Francisco, founded 1868, inc 1908 **2** City (pop 1,019), NE Kansas, SSW of Topeka, founded 1855 as Council City, inc 1861

Burlingame Treaty see BURLINGAME, ANSON

Burlington, town (pop 3,815), S Ont, on Lake Ontario NE of Hamilton, in a fruitgrowing area

Burlington. **1** Town (pop 1,280), co seat of Kit Carson co, E Colo, near the Kansas line, in a grain area, inc 1888 **2** Town (pop 1,246), central Conn, W of Hartford, settled 1740, inc 1806 It has a state trout hatchery **3** City (pop 25,832), co seat of Des Moines co, SE Iowa, on four hills overlooking the Mississippi (spanned here by a toll bridge) Platted in 1833, on the sites of an Indian village (Sho-quo-quon, 1820) and a trading post (1829), it was named Burlington in 1834, incorporated as a town in 1838, and chartered as a city in 1838 It is a shipping and manufacturing center with railroad shops, docks, basket factories, and manufactures of wood In the Second World War a huge munitions plant was built Burlington was the temporary capital of Wisconsin Territory (1837) and of Iowa Territory (1838–40) One of the oldest newspapers in the state, the Burlington *Hawkeye*, is still published The city has a junior college and is the site of the Tri-State Fair (held in August) Near by is Flint Hills State Park In 1942 there was an explosion in the munitions plant **4** City (pop 2,379), co seat of Coffey co, E Kansas, S of Topeka, inc 1870 It is the trade center of a farming and dairying region **5** Rural town (pop 2,275), E Mass, NW of Boston, settled 1641, inc 1799 Its pre-Revolutionary meetinghouse, remodeled, still stands **6** City (pop 10,905), W N J, on the Delaware between Trenton and Camden, settled 1677 by Friends, inc 1733 It grew mainly as a port, it was capital of West Jersey from 1681 until the union of East and West Jersey (1702), and thereafter until 1790 alternate capital with Perth Amboy It was on a Philadelphia–New York coach line, and railroad tracks were laid down Broad St in 1834 G W Doane, long rector of old St Mary's (built 1703), founded St Mary's Hall for girls here (1837) The newer St Mary's church was designed by Richard Upjohn Burlington is the birthplace of James Fenimore Cooper and of James Lawrence The first colonial money was printed here by Benjamin Franklin in 1726, and the first newspaper in New Jersey appeared in 1777 The Friends' school (1792, now the Y W C A) and meetinghouse (1784) still exist Typewriter and iron products are made here **7** Industrial city (1940 pop 12,198, 1944 special census pop 21,830), N N C E of Greensboro and on the Haw river, inc 1887 It manufactures tobacco, textiles and wood products Elon College (coeducational, 1889) is near by **8** City (pop 27,686), co seat of Chittenden co, NW Vt, largest city in the state, overlooking Lake Champlain, chartered by New Hampshire 1763, settled 1773 It is the seat of the Univ of Vermont (see VERMONT, UNIVERSITY OF) and of Trinity College (Roman Catholic) for women After the Revolution it became an important lake port, shipping mainly lumber and potash It is today a port of entry Ira Allen built ironworks, a shipyard, and a sawmill in this vicinity Ethan Allen spent his last years N of Burlington village (part of his farm is included in Ethan Allen Park), and he is buried in Greenmount Cemetery The Burlington *Free Press*, founded in 1827 and made a daily in 1848, was Vermont's first daily paper The first Unitarian church (1810) was organized here, and the first Roman Catholic church in the state was built here (1831) J Q A Ward designed the Lafayette statue in University Park Industries include the making of wood and metal products, tools, and textiles and of maple syrup and other food products John Dewey was born in Burlington See Elin L Anderson, *We Americans* (1938) **9** Trading city (pop 1,632), NW Wash, SE of Bellingham, in a rich farm area, settled 1882, inc 1902 **10** City (pop 4,414), SE Wis, WSW of Racine and on the Fox, settled 1835, inc as a village 1896, as a city 1900 Dairy products are made A Mormon colony was near here (1844–49)

Burma, Union of, republic (260,000 sq mi, pop 16,823,796), SE Asia, on the Indo-Chinese peninsula The capital is RANGOON Burma is bounded on the west by the Bay of Bengal, Bengal, and Assam, on the north by Tibet, and on the east by Yunnan prov (China), Laos, and Thailand The most densely populated part of the country—Burma proper—is the valley of the Irrawaddy river with its vast delta, one of the main rice-growing areas of the world The valley is surrounded by a chain of mountains stemming from the Eastern Himalayas and spreading roughly in the shape of a giant horseshoe, the ranges and the river valleys of the Chindwin, the Sittang, and the Salween trend from north to south In the high mountains N of Myitkyina (rising more than 19,000 ft) and along the India-Burma frontier (from 8,000 to 10,000 ft) live various Mongoloid tribes, of which the most important are the Nagas, who still practice headhunting, the Kachins (in KACHIN STATE), and the Chins (in the CHIN HILLS) These tribes raise rice and millet and cut teak in the forests Gems (notably rubies and sapphires) are found near Mogok, and since the 13th cent, Burma has exported to China the jade that is mined in the Hukawng valley and in the Jade Mines Tract (a central mountain range) Arakan, a narrow coastal plain between the Bay of Bengal and the hills of the Arakan Yoma, produces rice and rubber, it centers around the port and capital, Akyab To the east on the Shan Plateau is the SHAN STATE, the home of the Shans (Thai race closely linked to the Siamese) The Bawdwin mines near Lashio, worked by the Chinese since the 15th cent, produce much iron, as well as lead, silver, and zinc South of the Shan States is the mountainous KARENNI STATE, the KARENS are of Thai-Chinese origin, and many are converts to Christianity The Mawchu mines there are an important source of tin and wolfram Cut off from Karenni by the Salween river is TENASSERIM The Dry Zone (annual rainfall 20–40 in) lies north of the hills of Pegu and is centered around MANDALAY and the Irrawaddy river It is the home of the Burmese proper, a Mongoloid race who came down from Tibet before the 9th cent and settled in the fertile plains which today produce rice (one third of the area is under paddy), groundnuts, cotton, tobacco, and sesamum Out of a total of 8,500,000 Burmese, 4,500,000 are found here Most of them are farmers Their early history was mainly the story of their struggle with the Mons or Talaings (of Mon-Khmer origin, now assimilated) In 1044 Anawratha established Burmese supremacy over the Irrawaddy delta and Thaton (capital of the Talaing kingdom) He introduced Hinayana Buddhism, which is today the prevalent religion Pagodas, monasteries, and temples are to be found in most communities, and Buddhism has made the rate of literacy high Anawratha's capital PAGAN, "the city of a thousand temples," was the seat of his dynasty until the Mongol invasion of 1287 After the Mongols withdrew, Burma split into petty states ruled by Shan chieftains The Shans were gradually displaced by new Burmese dynasties, the chief having their seats at Ava, Pegu, and Toungoo In the 16th cent the country was again reunited under the Toungoo dynasty (which, however, fixed its seat at Pegu and later at Ava) and began a series of wars against Siam, which came to an end only in the 19th cent In the 18th cent the Talaings of the Irrawaddy delta threw off the rule of Ava and even invaded the Dry Zone, by 1760 Alaungpaya, founder of the last line of Burmese kings, had crushed the Talaings for good Besides extending his rule over Tenasserim and Tavoy, Alaungpaya carried raids into India, so did his successors, of whom one took Arakan (1784), bringing the Burmese kingdom to its greatest extent The first Europeans to come to Burma in any number were Portuguese traders and adventurers in the 16th cent They were followed (17th cent) by English and Dutch merchants In the 18th cent the French and British were rivals for Burmese trade, but the British abandoned official relations with Burma in 1760, and the French gave up their activities not long afterward The expansionism of the Alaungpaya dynasty brought Burma into frontier conflicts with the British The first Anglo-Burmese war (1824–26) resulted in the annexation by the British East India Company of Arakan and Tenasserim, in the second (1852), the British took the province of Pegu (Lower Burma), in the third (1885), Upper Burma was annexed Under the British the natural resources of the country were developed The rice crop in the delta was increased to a point where 7,000,000 tons were grown yearly and over 3 000,000 tons were exported, mainly through Rangoon Rubber, sugar cane, and cotton were introduced Over 2,000 mi of railroads were built Exploitation of the rich oil deposits of Yenangyaung in central Burma began in 1871 Burma was administered as a part of India till 1937, when it obtained, as far as internal affairs were concerned, the equivalent of dominion status In the Second World War, the country was invaded and occupied early in 1942 by the Japanese who set up an "independent" Burmese regime In the north British and U S troops raided enemy lines (see STILWELL, JOSEPH WARREN), and in Dec 1944, four allied armies, including Chinese forces, started a drive down the central plains, and in May, 1945, they captured Rangoon After the war, Burma obtained complete independence from Britain On Jan 4, 1948, the Union of Burma was set up as a republic with a president and a bicameral legislature, less-developed areas outside Burma proper were made autonomous states (with representatives in parliament) and national territories The strongly socialistic Anti-Fascist People's Freedom League, which maintained a precarious hold on the government in a confused political situation, was soon faced with armed risings of the Communists and of the Karen tribesmen In 1949 the Karen rebels forced the government to offer a larger degree of autonomy See R T Kelly, *Burma* (2d ed., 1933), J S Furnivall, *An Introduction to the Political Economy of Burma* (1937) and *Colonial Policy and Practice* (1948), J L Christian, *Modern Burma* (1942), *Burma Handbook* (1943), D G E Hall, *Europe and Burma* (1945), F. T. Jesse, *The Story of Burma* (1946),

G E Harvey, *British Rule in Burma, 1824–1942* (1946), J Russell Andrus, *Burmese Economic Life* (1947), E J Jacoby, *Agrarian Unrest in Southeast Asia* (1949)

Burman or **Burmese,** Indo-Chinese language. See LANGUAGE (table).

bur marigold or **sticktight,** any species of *Bidens,* a genus of chiefly weedy American plants with two- to four-pronged burlike fruits (achenes) that have gained various species such additional names as beggar-ticks, Spanish needles, tickseed, and bootjacks The plants are composite flowered, a few showy yellow ones are occasionally cultivated

Burma Road, from Lashio, Burma, to Kunming, Yünnan prov , China Its construction through extremely rough mountain country was a remarkable engineering feat Undertaken by the Chinese after the outbreak of the Sino-Japanese war in 1937 and completed in 1938, it carried war supplies landed at Rangoon and shipped by railroad to Lashio This traffic increased in importance to China after the Japanese took effective control of the Chinese coast and of Indo-China. It was interrupted briefly in 1940 (July 17–Oct 17), when Japanese pressure compelled the British to close the road, and again in 1942–45, while the Japanese occupied Burma in the Second World War The Ledo Road (later called the Stilwell Road) was begun in Dec , 1942, from Ledo, India, into Burma In 1944, after the N Burma campaign of Chinese and American troops under Stilwell, the Ledo Road reached Myitkyina and was joined to the Burma Road Supplies began to move over this route in Jan , 1945 The end of the war substantially reduced the importance of the road

Burmese or **Burman,** Indo-Chinese language See LANGUAGE (table)

Burne-Jones, Sir Edward, 1833–98, English painter and decorator, b Birmingham Intended for the church, he went to Exeter College, Oxford, where he met his lifelong friend, William Morris He left Oxford to study painting with Rossetti in London His early work shows Rossetti's strong influence, which is replaced in his later work by that of Botticelli Burne-Jones and Rossetti in their choice of medieval and fantastic subjects were not following the precepts of Pre-Raphaelitism, of which, however, they were leading exponents Burne-Jones rose to success in 1877 with the opening of the Grosvenor Gallery, where he displayed his *Mirror of Venus, Days of Creation,* and *Beguiling of Merlin* Other well-known paintings are *King Cophetua and the Beggar Maid* (Tate Gall , London), *Depths of the Sea,* and *Star of Bethlehem* (Birmingham Gall) His designs for stained glass, executed by Morris and Company, may be seen in churches throughout England His popularity has waned, although many still admire his delicate and poetic work See Lady Burne-Jones, *Memorial of Edward Burne-Jones* (1904)

Burnes, Sir Alexander, 1805–41, British traveler in India As an army officer in India, he studied Oriental languages In 1832 he left Lahore in Afghan dress and traveled via Peshawar and Kabul across the Hindu Kush to Balkh and thence by Bukhara, Asterabad, and Teheran to Bushire On his return to England (1833) he was honored In 1839 he was appointed political resident at Kabul, where he was assassinated two years later See his *Narrative of a Visit to the Court of Scinde* (1830), *Travels into Bokhara* (1834), and *Cabool* (1842)

Burnet, David Gouverneur (bûr'nĭt, burnēt'), 1788–1870, provisional president of Texas (1836), b Newark, N J , son of William Burnet (1730–91) A Cincinnati lawyer, he joined the expedition (1806) of Francisco de Miranda against the Spanish in Venezuela, and later (c 1817) he went to Texas His law training enabled him there to speak for the American settlers as trouble with the Mexican government grew He drew up the petition (1833) asking that the consolidation of Texas with Coahuila be dissolved Though appointed (1834) a district judge, he opposed the measures of the Mexican president, SANTA ANNA, was gradually led to favor the independence of Texas from Mexico, and drew up (1836) the declaration of independence at the convention at Washington-on-the-Brazos, where he was made president ad interim of Texas His eight-month administration in the chaotic times during and after the revolution (see TEXAS) was not effective He quarreled bitterly with Sam HOUSTON and thereafter opposed him in politics Burnet was vice president under Mirabeau B LAMAR, was defeated by Houston for the presidency in 1841, was secretary of state (1846–47) after Texas had been annexed to the United States, and was chosen in 1866 (because he had opposed secession) U S Senator from Texas in the Reconstruction era but was denied his seat

Burnet, Gilbert (bûr'nĭt), 1643–1715, British bishop and writer He studied abroad, held (1665–69) the living of Saltoun in Scotland, and was appointed (1669) professor of divinity at Glasgow Univ (1669) In London in 1673 he was well received by Charles II and was lecturer at St. Clements until his defense of his friend Lord William Russell made it unsafe for him in England after the Rye House Plot executions During James II's reign Burnet's anti-Catholic writing and preaching kept him from court, and he found favor and friendship with William of Orange at The Hague Accompanying William to England, he was a trusted adviser to William III and Mary (and later to Queen Anne) and was made bishop of Salisbury His celebrated *History of My Own Times* (published only in 1723–24, ed by M J Routh, 6 vols , 1833) is partisan, fiercely biased against James II, but it is also the most informative contemporary source for the period Burnet made a translation of Sir Thomas More's *Utopia* He also wrote a *History of the Reformation in England* (3 vols , 1679–1714, abridged ed , 1719) and many lesser works on history and theology William Burnet, the colonial American governor, was one of his sons See biography by T E S Clarke and H C Foxcroft (1907)

Burnet, John, 1863–1928, Scottish scholar, b Edinburgh His works on Greek philosophy are standard and include *Early Greek Philosophy* (1892), *Greek Philosophy Thales to Plato* (1914), and an edition (1899) of Aristotle's *Ethics*

Burnet, William, 1688–1729, British colonial governor in America, son of Gilbert Burnet As governor of New York and New Jersey (1720–28), he advocated extending the trade with the Indians, seeking to bind the Iroquois to the British and keep them from French influence—a move which was to be of great significance in the French and Indian Wars He had the first English fort on the Great Lakes built at Oswego His efforts to regulate the trade were opposed by Albany merchants who made great profit in selling English goods to French traders Burnet was embroiled with the assembly in arguments over policies and finance After he dissolved the assembly in 1728, he was transferred to govern Massachusetts and New Hampshire

Burnet, William, 1730–91, American Revolutionary patriot, b near the present Elizabeth, N J , grad College of New Jersey (now Princeton), 1749, father of David G Burnet A doctor of Newark, Burnet was chairman of the Revolutionary committee of safety there He set up (1775) a military hospital and helped to furnish troops and supplies for the patriot forces He became surgeon general of the army for the eastern district and was also a member of the Continental Congress

Burnet (bûr'nĭt), town (pop 1,945), co seat of Burnet co , central Texas, NW of Austin, inc 1885 It grew about Fort Croghan, a frontier military post established in 1849 The courthouse and other buildings are made of the granite for which the county is famous (see MARBLE FALLS) Burnet has limestone quarries, ships wool and mohair and cattle, and has a tourist trade, enhanced by the reservoirs made by near-by Buchanan Dam and Roy Inks Dam in the Colorado river Longhorn Cavern is also a tourist attraction

burnet (bûr'nĭt), hardy perennial herb of temperate regions, usually with white or greenish flowers The European species are sometimes cultivated for the leaves, which are used in salads and for flavoring They were formerly applied to wounds in an effort to stop the bleeding, hence the botanical name, *Sanguisorba* [from Latin,=sucking in blood]

Burnett, Frances Eliza Hodgson (-nĕt'), 1849–1924, American author, b Manchester, England She came to Knoxville, Tenn , in 1865 with her family In 1898 she divorced Dr Swan M Burnett and in 1900 married Dr Stephen Townsend, retaining her former husband's name for professional use She is famous for her children's books, particularly *Little Lord Fauntleroy* (1886), which used her youngest son as a model and which she dramatized in 1888 Other stories for children are *Sara Crewe* (1888) and *The Secret Garden* (1909) See her autobiography, *The One I Knew Best of All* (1893), Vivian Burnett, *The Romantick Lady* (1927)

Burnett, James see MONBODDO, JAMES BURNETT, LORD

Burney, Charles, 1726–1814, English musician His *General History of Music* (4 vols , 1776–89) and Sir John Hawkins's *General History of the Science and Practice of Music* (5 vols , 1776) were the first important histories of music in English He was a friend of the principal literary figures of his day His daughter Frances wrote his biography (3 vols , 1832) See P A Scholes, *The Great Dr Burney* (2 vols , 1948)

Burney, Frances (Fanny Burney), later **Madame D'Arblay** (därblā'), 1752–1840, English novelist, daughter of Charles Burney Her first novel, *Evelina, or, The History of a Young Lady's Entrance into the World* (1778), was published anonymously When it was well received, she acknowledged it and was welcomed into the society of Johnson, Burke, Garrick, and Reynolds *Evelina* was followed by *Cecilia* (1782) and *Camilla* (1796), also novels of the social scene Miss Burney's novels are celebrated for acuteness of characterization and even caricature She spent five unhappy years (1786–91) as a member of Queen Charlotte's household In 1793 she married General D'Arblay, a French émigré Her diary and letters provide invaluable information about the history of English culture and society from 1768 to 1840 See A. B Tourtellot, *Be Loved No More* (1938), Emily Hahn, *A Degree of Prudery, a Biography of Fanny Burney* (1950)

Burnham, Clara Louise (Root) (bûrn'əm), 1854–1927, American novelist, b. Newton, Mass Her work, important for its Christian Scientist's point of view, includes *The Right Princess* (1902), *The Inner Flame* (1912), and *The Lavarons* (1925)

Burnham, Daniel Hudson, 1846–1912, American architect and city planner, b Henderson, N.Y , d. Heidelberg, Germany. He was trained in architects' offices in Chicago. With John W Root he established in Chicago a partnership to which were assigned many of the most important architectural commissions of the day. The Chicago works included the Monadnock Building, the 20-story Masonic Temple Building (1892), the first important skeleton skyscraper, and the "Rookery" offices, the first suitably planned modern office building Other works were the Flatiron Building and the Wanamaker store in New York, the Union Passenger Station in Washington, and buildings in Cleveland, Buffalo, and San Francisco Burnham and Root designed the general plan for the Columbian Exposition at Chicago (1893), exerting through it an enormous influence upon contemporaneous civic design In 1901 Burnham served with C F McKim, F L. Olmsted, Jr , and Augustus Saint-Gaudens on the Senate Park Commission in planning for the future beautification of Washington, D C With E H Bennett he created a civic improvement plan of great importance for Chicago (1907), much of which has since been put into execution. He also prepared plans for Baltimore, Duluth, and San Francisco and was commissioned by the U S government to design plans for Manila and for other cities in the Philippines, including Baguio, the summer capital.

Burnham, Sherburne Wesley, 1838–1921, American astronomer, b Thetford, Vt. After serving as observer at Dearborn Observatory, Chicago (1877–81, 1882–84), and as astronomer at Lick Observatory (1888–92), he was from 1893 astronomer at Yerkes Observatory and professor of astronomy at the Univ of Chicago Although his interest in astronomy had begun with amateur observations, he became outstanding in the field, especially through his discoveries of double stars He wrote *General Catalogue of Double Stars* (1906) and *Measures of Proper Motion Stars* (1913)

Burnham, borough (pop 2,997), S central Pa , a suburb of Lewistown, inc 1911 Metal products are made here

burning bush or **wahoo,** handsome deciduous shrub (*Euonymus atropurpureus*) It is a North American EUONYMUS, reported poisonous, with roots that have been used medicinally, yellow autumnal foliage, and four-lobed smooth purple pods with scarlet centers Other plants are sometimes called burning bush The related *Euonymus americanus,* a similar but red- and warty-fruited shrub, is sometimes called burning bush but more often strawberry bush The scriptural burning bush not consumed by fire (Ex 3 2) is sometimes associated with a bramble or thorn and was adopted by the Presbyterian Church as an emblem of its early persecution

Burnley, county borough (1931 pop 98,258, 1947 estimated pop 84,390), Lancashire, England, near the junction of the Brun or Burn with the Calder N of Manchester It is a manufacturing place for metal and textiles, with cotton factories, iron foundries, and engineering works There are coal mines in the vicinity

Burns, John, 1858–1943, British socialist and member of Parliament He began working in a factory when he was 10 He worked as an engineer and spent a year in West Africa as foreman of an engineering project His education was chiefly from his reading and that led him to socialism He became one of the most popular of socialist orators, having a fine voice and ready wit Several times arrested and accused of inciting mobs to violence, he was usually acquitted In 1889 he was leader, with Ben Tillett and Tom Mann, of the London dock strike He was a Radical member of Parliament (1892–1918) and a cabinet member (1903–14) but retired from the cabinet at the outbreak of the First World War. See biography by G D H Cole (1943).

Burns, Otway, c 1775–1850, American privateer, b Onslow co , N C. At the outbreak of the War of 1812, he outfitted the Baltimore clipper *Snap-Dragon* as a privateer and began one of the most spectacular privateering careers in American history He destroyed and captured millions of dollars worth of British shipping and had a $50,000 price set on his head by the crown After the war, Burns turned to shipbuilding and later served (1821–35) in the North Carolina legislature. See biography by W. F Burns (1905)

Burns, Robert, 1759–96, Scottish poet He was born at Alloway, near Ayr, the son of an unusually intelligent and overworked farmer Burns was the oldest of seven children, all of whom had to help in the work on the farm—work so arduous that it left Burns with a permanently damaged heart which eventually caused his death. Although always hard pressed financially, the elder Burns, until his death in 1784, found time to help his sons with their education. As a result of this paternal interest, Burns as a boy not only read the Scottish

poetry of Ramsay and the collections compiled by Hailes and Herd, but also the works of Pope, Locke, and Shakspere By 1781 Burns had tried his hand at several agricultural jobs, and, a success at none of them, he had already begun to indulge in the habits of loose living which were to earn him so much censure He had begun writing, and his poems were circulated widely in manuscript None were published, however, until 1786 Then, discouraged, poor, and involved simultaneously with Elizabeth Patron, Mary Campbell, and Jean Armour, he decided to marry Mary Campbell, and migrate to Jamaica To help finance the journey, he published at Kilmarnock *Poems, Chiefly in the Scottish Dialect*, (1786), which was an immediate success Mary Campbell died, and Burns changed his mind about migration, he toured the Highlands, brought out a second edition of his poems at Edinburgh in 1787, and for two winters was a figure of social prominence in the Scottish city Probably in 1788 he married Jean Armour, who had borne him four children, and retired to a farm at Ellisland By 1791 Burns had failed as a farmer, and he moved to near-by Dumfries, where he held a position as an exciseman He died at 37 Burns is supreme in songs such as "Flow Gently, Sweet Afton," "My Heart's in the Highlands," and "John Anderson My Jo" Two collections contain 268 of his songs— George Thomson's *Select Collection of Original Scottish Airs for the Voice* (6 vols , 1793–1811) and James Johnson's *Scots Musical Museum* (5 vols , 1787–1803) Some of these, such as "Auld Lang Syne" and 'Comin thro' the Rye," are among the most familiar and best-loved poems in the English language But his talent was not confined to song, and two descriptive pieces, "Tam o' Shanter" and "The Jolly Beggars," are among his masterpieces Burns had a fine sense of humor which he used with equal skill for satire, description, and plain wild fun His great popularity with the Scots lies in his ability to depict with loving accuracy the life of his fellow rural Scots, as he did in "The Cotter's Saturday Night" Burns's use of dialect brought a stimulating, much needed freshness and raciness into English poetry, but Burns's greatness extends beyond the limits of dialect His poems are written about Scots, but, in tune with the rising humanitarianism of his day, they apply to man's universal problems In its simplicity, its genuine emotion, and its spontaneity, Burns's poetry bears the hallmark of great art See his poems (ed by C S Dougall, 1927) and letters (ed by DeLancey Ferguson, 2 vols , 1931), biography by F B Snyder (1932)

Burns, city (pop 2,566), co seat of Harney co , SE Oregon, SE of Bend, inc 1899 The livestock center of Oregon, it also has lumber mills and is the seat of Harney Branch Experiment Station of Oregon State College

burns and scalds Burns may be caused by electricity, X-ray irradiation, chemicals (e g , acids and alkalis), and fire or heat Scalds are caused by moist heat Burns are classified, according to depth of damage to tissues, as first-, second-, and third-degree burns Third-degree burns are the most severe Systemic reactions include shock, extreme pain, loss of fluid from the blood into the tissues around the burned area, and loss of body heat Toxemia may result Because of the destruction of the protective layer of skin, bacteria may easily invade the underlying tissues, causing infection, a serious complication The basic pattern for the treatment of burns includes the use of morphine to alleviate pain, transfusions of plasma or blood to overcome shock, drugs and tetanus antitoxin to prevent infection, and rest Skin grafts from other portions of the patient's body are used to replace deeply scarred areas Former methods of treatment, e g , debridement (scraping away of sloughed tissue), and the use of local application of ointments have been generally discarded See also BURNBURN

Burnside, Ambrose Everett, 1824–81, Union general in the Civil War, b Liberty, Ind , grad West Point, 1847 He saw brief service in the Mexican War and remained in the army until 1853, when he entered business in Rhode Island In the Civil War, Burnside commanded a brigade at the first battle of Bull Run and was made (Aug , 1861) a brigadier general of volunteers His expedition to the North Carolina coast (1862), resulting in the capture of Roanoke Island, New Bern, Beaufort, and Fort Macon, won him a major generalcy and much prestige He commanded under G B McClellan in the ANTIETAM CAMPAIGN and shortly afterwards succeeded that general in command of the Army of the Potomac After his bad defeat at the battle of Fredericksburg (see FREDERICKSBURG, BATTLE OF) in Dec , 1862, Burnside asked the President either to sustain him in dismissing several generals who opposed his plans or to remove Burnside himself Lincoln, relieved him in favor of Joseph HOOKER As commander of the Dept of the Ohio (March–Dec , 1863), he occupied E Tennessee, took Knoxville, and repulsed Longstreet's attempt to recapture the town In 1864 he commanded under Meade and Grant in Virginia Held partially responsible for the mine fiasco at PETERSBURG, he was relieved Burnside was elected governor of Rhode Island in 1866 and was reelected in 1867 and 1868 From 1875 to his death he was a U S Senator See biography by B P Poore (1882)

Burntisland (bûrntĭ'lănd, brûntĭ'–), burgh (pop 5,389), Fifeshire, Scotland, on the Firth of Forth opposite Edinburgh It is a seaport and resort Historic Rossend Castle is here

Burr, Aaron, 1756–1836, American political leader, b Newark, N J , grad College of New Jersey (now Princeton Univ), 1772 After making a stunningly brilliant record at college, he studied law but interrupted his study to serve the patriot cause in the American Revolution He proved himself an able soldier on the disastrous Quebec campaign, in the battle of Long Island, through the winter of Valley Forge, and in the battle of Monmouth In 1779 ill-health forced him to resign from the army He continued the study of law, and in 1782 he was admitted to the bar In that same year he married Theodosia Bartow Prevost Settling (1783) in New York, the handsome and gifted Burr was soon a leading lawyer and politician He served as state attorney general (1789–91), U S Senator (1791–97), and a member (1797–99) of the New York assembly. He was defeated for reelection largely because of popular disapproval of the establishment of a bank under the charter of the Manhattan Company—the second bank in New York city He set about organizing the Republican (see DEMOCRATIC PARTY) element in New York city for the election of 1800 with a thoroughness never previously employed in political campaigns, for the first time making use of the Tammany Society for political purposes The result was an unexpected victory for the Republicans, who gained control of the state legislature Since the legislature named the presidential electors and New York was the pivotal state, Burr's victory insured the election of a Republican President The intention of the party was to make Jefferson President and Burr Vice President, but confusion in the electoral college resulted in a tie vote This threw the election into the House of Representatives, where the Federalists, led by Alexander HAMILTON, dictated the result Burr made no attempt to bargain to secure election, and on the 36th ballot Jefferson was chosen, Burr becoming Vice President Jefferson's suspicions that Burr had intrigued for the presidency were never allayed, and they motivated his subsequent mistrust and opposition to Burr The latter presided over the Senate with a dignity and impartiality that won commendation from both sides His friends nominated him for the governorship of New York in 1804, but he had lost much of his old support, and Hamilton's control of the Federalist vote prevented Burr from winning Hamilton had particularly aroused Burr's anger by several letters in which he called Burr "a dangerous man" and one of whom he entertained "a still more despicable opinion" Burr demanded an explanation and, when Hamilton answered evasively, challenged him to a duel They met at 10 paces at Weehawken, N J , and Hamilton was mortally wounded The killing of the Federalist leader brought Burr's political career to an end After presiding over the impeachment proceedings against Justice Samuel Chase in the Senate, he left Washington on a journey down the Ohio and the Mississippi to New Orleans, his active mind busy with new projects and possibilities To everyone in the Southwest war with Spain seemed impending, and Burr wished to be on hand With Gen James WILKINSON he made plans for that eventuality, Burr did not know Wilkinson was in the pay of Spain He finally settled on a colonization plan and with money secured from Harman BLENNERHASSETT made the first payments on the Bastrop grant on Washita river He then began to assemble colonists to undertake its settlement In case of war the settlers could at once be led into Spanish territory The rendezvous was at Blennerhassett Island in the Ohio, and others joined at various points until the expedition numbered about 60 men Burr's previous trip down the river had aroused suspicion, and the air was filled with rumors Wilkinson, now commander in Louisiana, turned against Burr, fanned the rumors, and sent accusations of treason to the government at Washington Burr was arrested He was tried on charge of treason in the U S Circuit Court at Richmond, Va , Chief Justice John MARSHALL presiding Though Burr was found not guilty, popular opinion condemned him To escape from odium and from numerous creditors, he left for England. He remained abroad from 1808 to 1812, busy with fruitless schemes to recoup his finances and with new plans for expeditions to foment revolution in Mexico His daughter, Theodosia Burr, exerted herself to make possible his return from exile The relations between father and daughter were very tender, and Burr never recovered from grief over her loss at sea He practiced law in New York In 1835 he married the wealthy Mme JUMEL, but they soon separated See letters of Aaron and Theodosia Burr (ed by Mark Van Doren, 1929); biographies by S. H Wandell and Meade Minnigerode (1925), Holmes Alexander (1937), and Nathan Schachner (1937)

Burr, Theodosia, 1783–1813, beautiful and accomplished daughter of Aaron Burr, b Albany, N Y She was educated under her father's strict and competent tutelage and after her mother's death became the admired social mistress of the Burr home at Richmond Hill on Manhattan island In 1801 she married Joseph Alston, a prominent South Carolinian She made frequent visits to her father's home in the North, and when his name was under a cloud after the duel with Hamilton she stood loyally by him. She smoothed the way for his return from exile in Europe, but the ship on which she took passage from Charleston northward to meet him was never again heard from See Gamaliel Bradford, *Wives* (1925), biography by Anne Colver (1941)

Burr, William Hubert, 1851–1934, American civil engineer, b Watertown, Conn , grad Rensselaer Polytechnic Institute, 1872 Professor of civil engineering at Columbia Univ (1893–1916), he served on many important engineering commissions, including those for the Isthmian Canal (see PANAMA CANAL) and for the Port of New York Authority His works include *Ancient and Modern Engineering and the Isthmian Canal* (1902) and *Suspension Bridges, Arch Ribs, and Cantilevers* (1913)

Burra (bûr'u), town (pop 1,520), South Australia, N of Adelaide, in a pastoral and agricultural area Marble and mineral pigments are obtained in the vicinity It was the mining center (1844–78) of the Burra Burra copper field

Burrell, George Arthur (bû'rul), 1882–, American chemical engineer, b Cleveland, Ohio, grad Ohio State Univ (Chem E , 1918) A specialist in petroleum engineering and the discoverer of helium in Texas, he invented the Burrell gas detector and the Burrell pipette and wrote *Handbook of Gasoline* (1917) and *Extraction of Gasoline from Natural Gas* (1925)

Burrill, Thomas Jonathan (bûr'ĭl), 1839–1916, American botanist, horticulturist, and one of the first of the modern microscopists He was a pioneer in the study of bacterial diseases of crop plants For an appraisal of his work, see E F Smith, *Bacterial Diseases of Plants* (1920)

Burrillville, town (pop 8,185), N W R I , N of Gloucester, set off from Gloucester and inc 1806 There are several small mill villages, Harrisville is administrative center The state tuberculosis sanatorium is near by The town's woolen industry began c 1800

Burritt, Elihu, 1810–79, American worker for world peace, "the learned blacksmith," b New Britain, Conn While an apprentice and workman at the forge, he studied mathematics, languages, and geography and amassed a great store of knowledge Profoundly idealistic, he supported many reform causes—antislavery, temperance, and self-education—and he pleaded for them when he edited (1844–51) the weekly *Christian Citizen* at Worcester, Mass Most of all, however, he worked for the promotion of peace and the abolition of war He aided Anglo-American friendship in the days of the Oregon crisis, and he tried to avert the Civil War by a scheme of compensated emancipation Burritt organized the League of Universal Brotherhood in 1846, brought about the peace congress at Brussels in 1848, supported William LADD in his plans for international organization, and was an officer of the American Peace Society He argued for cheaper international postal rates and greater intellectual exchange among nations Among his much-read books were *Sparks from the Anvil* (1846)and *Ten Minute Talks* (1873) See Merle Curti, *The Learned Blacksmith* (1937).

burro: see ASS

Burroughs, John (bûr'ōz), 1837–1921, American naturalist and author, b Roxbury, N Y , son of a farmer He became in turn a journalist, a treasury clerk in Washington, and a bank examiner and in 1874 settled on a farm near Esopus, N Y , where he devoted his time to fruit culture and literature In his first book, *Walt Whitman, Poet and Person* (1867), he was the first to give adequate recognition to the genius of his poet friend In the bulk of his prose he made widely popular the type of nature essay which Thoreau had written His best-known books are *Wake Robin* (1871), *Locusts and Wild Honey* (1879), *Fresh Fields*, a travel book (1884), *Signs and Seasons* (1886), and his one volume of poems, *Bird and Bough* (1906) A growing interest in philosophy and in science is evident in *Time and Change* (1912), *The Summit of the Years* (1913), *The Breath of Life* (1915), and *Accepting the Universe* (1922) "The Sage of Slabside" became the friend of John Muir, Theodore Roosevelt, Edison, Ford, and other important men of his day Though attached to his farm home, he traveled to the Pacific coast, the South, the West Indies, Europe, and (with the Harriman expedition) Alaska, observing natural phenomena everywhere and recording them in simple, expressive prose See Clara Barrus, *The Life and Letters of John Burroughs* (1925)

Burrows, Julius Caesar, 1837–1915, American legislator, b Erie co , Pa He taught school before becoming (1861) a lawyer at Kalamazoo, Mich. In the Civil War he served as an infantry captain A Republican member of Congress (1873–75, 1879–83, and 1885–95), Burrows was in 1894 elected U S

Senator, serving until defeated for reelection in 1910 See W D Orcutt, *Burrows of Michigan* (1917)

burrstone see BURRSTONE

Bursa (bo͝or'sä), city (pop 85,919), NW Turkey, S of Mudania, its port on the Sea of Marmara Founded by King Prusias, ancient Prusa was a flourishing city of Bithynia It rose again to temporary importance under the Ottoman Turks, whose capital it was from its capture by Orkhan in 1326 until the transfer of the capital to Adrianople (1423) Tamerlane sacked it in 1402 Bursa is noted for its silks and carpets There are several fine mosques and the tombs of the early sultans The name appears also as Brusa or Brussa

Burschenschaft (bo͝or'shənshäft), student organization in the German universities The first was founded at Jena in 1815 to foster patriotism and to improve student morals, and the idea spread rapidly to other universities Soon the nationalist ideals of Friedrich JAHN became the creed of the Burschenschaften At the Wartburg festival (Oct 18, 1817), delegates of 14 universities created a united national organization, the Allgemeine Deutsche Burschenschaft, and adopted as their colors the black, red, and gold of the Holy Roman Empire After the murder (1819) of KOTZEBUE by a student, the Burschenschaften were dissolved by the CARLSBAD DECREES Although they were reorganized as secret nationalistic societies, their influence on the Revolution of 1848 was minor By 1849 all government restrictions had been lifted The Burschenschaften continued as purely social organizations, devoted for the most part to dueling, drinking, and other "manly" pursuits They were dissolved in 1935 Burschenschaften also existed in Austria

Bursaem (bûrz'ləm), part (since 1910) of STOKE-ON-TRENT, Staffordshire, England, in the Potteries district It is the birthplace of Josiah Wedgwood and the site of the Wedgwood Institute

Burt, John, 1814–86, American surveyor, son of William A Burt Trained by his father, he surveyed the northern peninsula of Michigan and was influential in developing the iron mines, ironworking, lumbering, and other industries of N Michigan

Burt, William Austin, 1792–1858, American surveyor and inventor, b Petersham, Mass He settled in Michigan Territory in 1824 From 1833 to 1855 he was U S deputy surveyor, spending much of his time on the frontiers, surveying in Iowa, Wisconsin, and the Upper Peninsula of Michigan He completed the geological survey of the Upper Peninsula started by Douglass Houghton and was the discoverer of iron ore in the region He was the inventor (1836) of the solar compass His typographer, patented in 1829, was America's first writing machine, ancestor of the American typewriter Later he invented the equatorial sextant He wrote *Key to the Solar Compass* (8th ed , 1909) Of five sons whom he trained as surveyors, John Burt became the most famous

Burton, Ernest DeWitt, 1856–1925, American biblical scholar, b Granville, Ohio, grad Denison Univ , 1876, and Rochester Theological Seminary, 1882 From 1892 to 1923 he served as professor of New Testament literature and interpretation at the Univ of Chicago, of which he became president in 1923 Burton was editor or associate editor (1892–1920) of the *Biblical World* and managing editor (1907–15) of the *American Journal of Theology* He wrote *A Short Introduction to the Gospels* (revised by H R Willoughby, 1926), with E J Goodspeed, *Harmony of the Synoptic Gospels* (1917) and *Harmony of the Synoptic Gospels in Greek* (1920), and, with Shailer Mathews, *The Life of Christ* (rev ed , 1927) See biography by T W Goodspeed (1926).

Burton, Frederick Russell, 1861–1909, American composer and musicologist, b Jonesville, Mich He composed the cantatas *Hiawatha* (1882–98) and *The Legend of Sleepy Hollow* (1900) and an ode for President McKinley's inauguration (1901), more important, however, is his book *American Primitive Music* (pub 1909), containing the results of his researches in Indian music He also was a journalist and wrote several novels

Burton, Harold Hitz, 1888–, Associate Justice of the U S Supreme Court (1945–), b Jamaica Plain (now part of Boston), grad Bowdoin College, 1909, and Harvard Law School, 1912 A prosperous Cleveland lawyer and a law instructor (1923–25) at Western Reserve Univ , he served as a representative (1929–31) in Ohio and as reform mayor (1935–40) of Cleveland He was (1941–45) U S Senator before he succeeded Owen J Roberts on the Supreme Court bench

Burton, Sir Richard Francis, 1821–90, English explorer, writer, and linguist He joined (1842) the service of the East India Company and, while stationed in India, acquired a thorough knowledge of the Persian, Afghan, Hindustani, and Arabic languages In 1853, in various Moslem disguises, he made a famous journey to Mecca and Medina, about which he wrote the vivid *Personal Narrative of a Pilgrimage to El-Medinah and Meccah* (3 vols , 1855–56) With John Speke he took a party to Somaliland, he alone, disguised as an Arab merchant, made the journey to Harar, Ethiopia, where he talked with the local ruler. In 1856 he went with Speke to E central Africa to discover the source of the Nile, he found Lake Tanganyika (1858), but abandoned the attempt to reach Lake Nyasa While Burton rested at Tabora, Speke pushed northward and found the Victoria Nyanza After a visit to America, Burton published an account of the Mormon settlement at Utah in his *City of the Saints* (1861) While consul (1861–65) at Fernando Po, off W Africa, he explored the Bight of Biafra and conducted a mission to Dahomey, Benin, and the Gold Coast He explored Santos, in Brazil, while consul (1865) there, and after crossing the continent wrote *Explorations of the Highlands of the Brazil* (1869) After a short period (1869–71) as consul at Damascus he was consul (1872–90) at Trieste, where he died. His last years were devoted chiefly to literature He published remarkable literal translations of Camões and of the *Arabian Nights* (16 vols , 1885–88) See biographies by Lady Burton (1893), G M Stisted (1896), and Seton Dearden (1937) and biography of his wife by Jean Burton (1941)

Burton, Robert, 1577–1640, English clergyman and scholar, whose great work, *The Anatomy of Melancholy,* appeared in 1621 under the pen name Democritus Junior Several times enlarged and revised before his death, this treatise ranges over a wide field of life and thought, citing a wealth of quotations from many literatures Steine, Lamb, Milton, and other writers have been indebted to it See *The Anatomy* (ed by A R Shilleto, 1893, by Floyd Dell and P Jordan-Smith, 1927), Bergen Evans and G J Mohr, *The Psychiatry of Robert Burton* (1944)

Burton, Theodore Elijah, 1851–1929, American statesman, b Jefferson, Ohio, grad Oberlin (B A , 1872, M A , 1875) A Cleveland lawyer and Republican leader, he was a U S Representative (1889–91, 1895–1909), a Senator (1909–15), and once more a Representative (1921–29) He was elected to the Senate again in 1928 and was also appointed to fill (1928–29) a seat left vacant by death Deeply devoted to the causes of peace, international cooperation, and disarmament, he was president of the American Peace Society (1911–15, 1925–29) Burton was an authority on monetary matters He wrote several books, among them a biography of John Sherman (1906) and *The Constitution of the United States* (1923)

Burton-on-Trent, county borough (1931 pop 49,486, 1947 estimated pop 49,200), Staffordshire, England It is known for its breweries There are remains of a Benedictine abbey founded in 1002

Burton-Opitz, Russell (-ō'pĭts), 1875–, American physiologist, b Fort Wayne, Ind , M D Rush Medical College, 1895 He was associated with Columbia Univ from 1902 His special studies included viscosity of the blood, blood pressure, and vasomotor nerves He wrote *Text Book of Physiology* (1920) and *Elementary Manual of Physiology* (5th ed , 1936)

Buru or **Boeroe** (both bo͞o'ro͞o), island (3,668 sq mi , pop 19,625), East Indonesia, in the Moluccas It is W of Ceram The terrain is wooded and mountainous, rising to 7,874 ft in the northwest Cajuput oil, resin, and copra are products

Burujird or **Burujerd** (both bo͞or'o͞ojĕrd'), city (1947 estimated pop 45,715), W Iran Capital of the former province of Luristan, it is now included in the Sixth Prov The Trans-Iranian RR passes through near-by Dorood Burujird has a textile industry

Burwell, village (pop 1,412), co seat of Garfield co , central Nebr , NNW of Grand Island, in grazing country, platted 1883

Bury, John Bagnell (bāg'nŭl bĕ'rē), 1861–1927, Irish historian, one of the foremost modern authorities on the East Roman Empire He was professor at the Univ of Dublin from 1893 to 1902 and at Cambridge from 1902 Among his chief works on late Roman and Byzantine history are *History of the Later Roman Empire from Arcadius to Irene, 395 A D to 800 A D* (2 vols , 1889), *History of the Eastern Empire from the Fall of Irene to the Accession of Basil I, A D 802–867* (1912), *History of the Later Roman Empire from the Death of Theodosius I to the Death of Justinian, A D 395 to A D 565* (2 vols , 1923), and his masterly edition of Gibbon's *Decline and Fall* Bury also wrote authoritatively on ancient Greece in his *History of Greece to the Death of Alexander the Great* (rev ed , 1913) and *Ancient Greek Historians* (1909) His interests ranged widely, and he left a *History of Freedom of Thought* (1913), *The Idea of Progress* (1920), and a scholarly *Life of St Patrick* (1905) He also edited Pindar's Nemean and Isthmian odes

Bury, Richard de see RICHARD DE BURY

Bury (bĕ'rē), county borough (1931 pop 56,182, 1947 estimated pop 56,740), Lancashire, England, on the Irwell and connected by canal with Bolton and Manchester A textile city since the time of Edward III, when wool weaving was introduced by the Flemings, it now has factories for the spinning, weaving, and bleaching of cotton Sir Robert Peel and John Kay were born here

Buryat-Mongol Autonomous Soviet Socialist Republic (bo͞oryät'-mông'gōl, -gul), autonomous republic (135,290 sq mi , pop 542,170), RSFSR, in SE Siberia. It is a largely mountainous and heavily forested area N of Mongolia, and it extends E from Lake Baikal to the Yablonovy range Towns, industries, and cultivation are largely concentrated in the valley of the Selenga, which empties into Lake Baikal. The Trans-Siberian RR crosses the Selenga at ULAN-UDE, the capital of the republic The mountains are rich in rare metals (tungsten, molybdenum, gold, silver) and also in tin, mercury, and iron Livestock raising (horses, cattle, sheep) is an important occupation among the Buryat-Mongols (see MONGOLS), who form about half the population, the rest being Russians Annexed by Russia in the 17th cent , Buryat-Mongolia was formed into an autonomous republic in 1923 In 1937 two small districts—now constituted as the Aga Buryat-Mongol National Okrug (9,380 sq mi , pop c 30,000) and the Ust-Ordyn Buryat-Mongol National Okrug—were detached from the autonomous republic and incorporated with Chita oblast, RSFSR The name also appears as Buriat-Mongolia

Bury Saint Edmunds, municipal borough (pop 16,708), Suffolk West, England It is a center for the surrounding rich farming region In 903 the remains of King Edmund were interred here in a monastery, founded c 630, which later became a famous shrine and Benedictine abbey

bus [from *omnibus,* Latin, =for all], public conveyance A horse-drawn urban omnibus was introduced in Paris in 1662 by Blaise Pascal and his associates, but it was operated for only a few years The omnibus reappeared c 1812 in Bordeaux, France, and in Paris c 1827, London in 1829, and New York in 1830 It often carried passengers both inside and on the roof Buses were motorized early in the 20th cent , motorbus transportation increased rapidly and is now used in most countries A number of railroad companies operate subsidiary lines A network of bus lines links all parts of the United States In 1928 the first bus from Los Angeles to New York made the trip of 3,433 mi in 5 days and 14 hr , in the same year, in England, a bus equipped with berths made the first overnight run of its kind from London to Liverpool Buses are used also for vacation and sight-seeing tours and for transporting children to and from school See *Bus Facts,* issued annually by the National Association of Motor Bus Operators, M D Winn, *The Macadam Trail* (1931)

Busaco, Portugal see BUSSACO

Busch, Adolf (ä'dôlf bo͝osh'), 1891–, German-Swiss violinist, studied at the Cologne Conservatory In 1919 he organized the Busch string quartet, and in 1935 the Busch Chamber Players, both outstanding in the performance of chamber music He toured the United States with Toscanini in 1931 With his brother Hermann Busch (hĕr'man), cellist, and his son-in-law Rudolf Serkin, pianist, he has given many trio recitals Early in his career he toured with his friend Max Reger, whose influence may be noted in his compositions, which are numerous and in various forms Another brother, **Fritz Busch,** 1890–, is an outstanding conductor He was musical director of the opera in Stuttgart (1918–22) and in Dresden (1922–28), afterward conducting in Stockholm, Buenos Aires, New York, and Copenhagen and at the Glyndebourne Festivals in England

Busch, Wilhelm (vĭl'hĕlm bo͝osh'), 1832–1908, German cartoonist, painter, and poet After studying at the academies of Antwerp, Düsseldorf, and Munich, he joined the staff of the *Fliegende Blätter,* to which he contributed highly popular humorous drawings from 1858 to 1871 Busch invented the comic strip and remains one of its most famous protagonists His humorous, illustrated poems for children, such as *Max and Moritz* (1865, Eng tr by Christopher Morley, 1932), are classics

Büsching, Anton Friedrich (an'tôn frē'drĭkh büshing), 1724–93, German geographer and educator He was professor of philosophy in Gottingen, was a Protestant minister, and was director of a Gymnasium in Berlin The most important of his many works is *Neue Erdbeschreibung* (10 vols , 1754–92, Vol XI was written after his death), six volumes of which, describing the geography of Europe, were translated into English as *A New System of Geography* (1762)

Bush, Vannevar, 1890–, American electrical engineer and physicist, b Everett, Mass , grad Tufts College (B S , 1913) He went to Massachusetts Institute of Technology in 1919, there he was professor (1923–32) and vice president and dean of engineering (1932–38) In 1939 he became president of the Carnegie Institution, and in 1941 he was made director of the Office of Scientific Research and Development He designed calculating devices, including a differential analyzer, conducted work in power transmission, and wrote *Principles of Electrical Engineering* (with W H Timbie, 1922) and *Operational Circuit Analysis* (1929)

bushido (bo͝o'shĕdō, bo͝oshĕdō') [way of the warrior], the code of honor and conduct of Japanese nobility It grew out of the old feudal bond, which required unwavering loyalty on the part of the vassal even to giving up wife, child, and life to protect the honor of the obligation. It was not in early days touched

with religious significance, nor was it in very early times even called bushido Thus feudal ideal (honored sometimes more in the breach than in the observance) of the SAMURAI was in the 17th and 18th cent formulated into a full code of conduct, which emphasized the military virtues but applied to all nobility It borrowed heavily from Confucianism and Zen Buddhism The emphasis was upon loyalty, honor dependent on loyalty, and self-sacrifice for one's superior and for one's honor After the Meiji restoration, it was the basis of the intense loyalty to the emperor cultivated in modern Japan

Bushire (bŏŏshēr'), city (1947 estimated pop 19,045), SW Iran, W of Shiraz A port on the Persian Gulf, it was in the 19th cent very prosperous, but it has a shallow, roadstead and has sunk somewhat in importance The climate is hot and humid The name formerly sometimes appeared as Abushehr

bushmaster, largest venomous snake of the New World, member of the pit VIPER family, found in the tropics of Central and South America Unlike the related rattlesnakes, it lays eggs It reaches a length of from 8 to 12 ft

Bushmen, a people of the southern part of Africa related to the Pygmies and speaking a language related to that of the HOTTENTOTS Bushmen of pure blood are seldom over 5 ft in height, are yellowish brown in color, and have broad noses, flat ears, bulging foreheads, prominent cheekbones, and small cranial capacity They are nomadic hunters, their favorite weapon being the poisoned arrow The social unit is the small hunting band, larger organizations are loose and temporary Caves and rock shelters are used as dwellings Though the Bushmen are in some ways among the most primitive of men, they have a rich folklore, are skilled in drawing, and have a remarkably complex language See D F Bleek, *Naron a Bushman Tribe of Central Kalahari* (1928) and *Comparative Vocabularies of Bushman Languages* (1929), A L Kroeber, *Anthropology* (rev ed, 1948)

Bushnell, Horace (bŏŏsh'nul), 1802–76, American Congregational minister b Bantam, Conn, grad Yale, 1827 He became (1833) pastor of the North Church, Hartford, Conn He wrote *Christian Nurture* (1847) and *God in Christ* (1849) Because of certain views of the Trinity which he was alleged to have expressed in the latter, unsuccessful attempts were made to bring him to trial for heresy Bushnell's dignified reply was made in *Christ in Theology* (1851) His views concerning the austerity of Calvinism, the importance of intuition in theological knowledge, and the presence of the divine in humanity and nature had profound influence in shaping modern religious thought Ill-health obliged him to retire from the active ministry in 1859, but he continued to write His works include *The Vicarious Sacrifice* (1866), *Sermons on Living Subjects* (1872), and *Forgiveness and Law* (1874) See the *Life and Letters* (ed by his daughter, Mrs M B Cheney, 1902), biography by T T Munger (1899), A J W Myers, *Horace Bushnell and Religious Education* (1937)

Bushnell, city (pop 2,900), W Ill, WSW of Peoria, inc 1865 It is a rail center in a farm and stock-raising area

bushrangers, men following lawful or unlawful pursuits in the wild lands of Australia, but more particularly bandits who terrorized rural areas in the 19th cent The first bushrangers (c 1806–1844) were mainly escaped convicts who fled to the bush and soon organized gangs Their crimes were checked effectively by various Bushranging Acts passed after 1830 With the discovery of gold, however, bushrangers of a new type appeared and flourished (c 1850 1870)—largely free-born adventurers who attacked gold convoys The last of the bushrangers were the men of the Kelly gang This band of desperados was exterminated in 1880, when three members were killed defending a hotel at Glenrowan, Victoria, and Edward (Ned) Kelly was hanged at Melbourne

business cycle see CRISIS, ECONOMIC

Buskerud (bŏŏs'kurŏŏd), county (5,728 sq mi, pop 149,948), SE Norway It comprises the agricultural valleys, Numedal and Hallingdal, in the northwest and is forested in the southeast Drammen, at the head of the Drammen river, is the county seat

Busoni, Ferruccio Benvenuto (fĕr-rōōt'chō bānvānnōō'tō bōōzō'nē), 1866–1924, Italian pianist and composer, pupil of his mother At the age of nine he gave a concert in Vienna, which was followed by many appearances as a child prodigy His style of playing was similar to that of Liszt, whom he greatly admired He taught at the conservatories in Helsinki and Moscow and from 1891 to 1894 at the New England Conservatory of Music He transcribed for piano many of the organ works of Bach His own compositions, in a neoclassic, Mozartian style, include piano pieces, a piano concerto, a violin concerto, and operas, his greatest work was his unfinished opera *Doktor Faust*, completed by his pupil Jarnach and performed in Dresden in 1925. See his letters to his wife (Eng tr, 1938), biography by E J. Dent (1933).

Busra, Iraq see BASRA.

Bussaco or **Busaco,** Port *Buçaco* (all bōōsa'kō), locality, W Portugal, near Coimbra and around Bussaco Mt It was a place of seclusion and penitence for monks, and there are many small chapels, mostly ruined The area is now a summer resort Here British and Portuguese troops under Wellington decisively defeated (1810) the French under Masséna in the Peninsula War.

Bussora, Iraq see BASRA

Bustamante, Anastasio (anasta'syō bōōstamān'tā), 1780–1853, Mexican general and president (1830–32, 1837–41) He served in the royalist army against HIDALGO y COSTILLA and MORELOS y PAVÓN, but in 1821 adhered to the Plan of IGUALA in support of Agustín de ITURBIDE Vice president under Vicente GUERRERO, he engineered a successful revolution (1829–30) with the help of SANTA ANNA, but fell from power himself through a revolution (1832) led by his erstwhile confederate He returned from exile after the failure to crush the Texas Revolution had destroyed Santa Anna's power temporarily, and was again president His reactionary administration was hampered by revolutions, by trouble with France—the so-called Pastry War and the blockade of Veracruz (1838)—and by the recovery of popularity by Santa Anna Bustamante later served in the Mexican War

Bustamante, Antonio Sánchez de (antō'nyō sān'chās dā), 1865–, Cuban authority on international law Professor of international law at the Univ of Havana, he was a member of the Hague Tribunal (Permanent Court of Arbitration), a delegate to the Paris Peace Conference, and president of the Pan American Congress in 1928 His project of a code of international private law was approved by the Pan American Congress

Bustanai ben Chaninai see BOSTANAI BEN CHANINAI

Busto Arsizio (bōōs'stō ärsē'tsyō), city (pop 32,820), Varese prov, Lombardy, N Italy It is an important center of the Italian cotton industry The Church of Santa Maria in Piazza was designed by Bramante

Busuanga (bōōswang'a), island (343 sq mi, 1939 pop 10,109), largest of the Calamian Islands, Philippines, SW of Mindoro Manganese is mined

Butades of Sicyon (bū'tudēz, sĭ'shēŏn), c 600 B C, Greek sculptor, supposed to have been the first to model in clay

Buteritari, Gilbert Islands see MAKIN

Butcher, Samuel Henry, 1850–1910, British classical scholar, b Dublin, grad Cambridge Univ He taught at Oxford and for 21 years at the Univ of Edinburgh Among his standard works on Greek civilization are a translation of the *Odyssey* (with Andrew Lang, 1879), *Aristotle's Theory of Poetry and Fine Art* (with a critical text and a translation, 1895), and *Some Aspects of Greek Genius* (1891)

butcher bird: see SHRIKE

Bute, John Stuart, 3d earl of (būt), 1713–92, English prime minister He succeeded his father, the 2d earl, in 1723 and lived in Scotland until 1745, when he went to England His friendship with Frederick, prince of Wales, began in 1747, and he soon became a favorite at the prince's court After Frederick's death his importance as a friend of the princess and of her son increased The young prince of Wales trusted Bute exclusively and, when he had become George III, elevated Bute to the rank of privy councilor and first gentleman of the bedchamber George III's policies of destroying the Whig monopoly of political power, of making the monarch supreme over Parliament, and of ending the war with France were also Bute's After the forced resignation of William Pitt in 1761, Bute was made prime minister His already great unpopularity was increased when he had to declare war on Spain in 1762 and swelled more when he failed (1763) to secure in the Treaty of Paris the advantages the English expected He forced approval of the treaty in Commons by bribery He resigned in April, 1763, and despite rumors of later backstairs influence, his personal friendship with the king seems to have ended in 1765, in the ministry of his successor, George Grenville See biography by J A Lovat Fraser (1912), Romney Sedgewick, ed, *Letters from George III to Lord Bute, 1756–1766* (1936)

Bute, island and county, Scotland see BUTESHIRE

Bute Inlet (būt), arm of the Strait of Georgia, SW British Columbia It extends over 50 mi from the north end of the strait

Butenandt, Adolf (ä'dôlf bōō'tunänt), 1903–, German biochemist He determined the chemical structure of the female sex hormone progestin and later, in 1931, isolated and named the male sex hormone androsterone Because of a Nazi decree he declined the 1939 Nobel Prize in Chemistry awarded to him jointly with Leopold Ruzicka

Buteshire (būt'shĭr) or **Bute** (būt), insular county (218 sq mi, 1931 pop 18,823, 1948 estimated pop 19,974), W Scotland, in the Firth of Clyde ARRAN and Bute are the largest islands Bute, though the smaller of the two, is the more important and has the county town, Rothesay Agriculture (potatoes, oats, and barley), the chief occupation of the county, is chiefly concentrated in the less hilly southern and central portions of Bute Cattle and sheep are raised, and fishing (herring and whitefish) is of some importance The islands are popular with tourists for their scenery and for the bracing climate

Butler, Alban, 1710–73, English Roman Catholic priest, educated at Douai He was president of the English seminary at Saint-Omer His monumental work, *The Lives of the Fathers, Martyrs, and Principal Saints* (4 vols in 7, 1756–59), is a good popular reference work See the much-enlarged recent edition, *The Lives of the Saints* (ed by Herbert Thurston, S J, Donald Attwater, and Nora Leeson, 12 vols, 1926–38)

Butler, Benjamin Franklin, 1795–1858, American political leader and cabinet officer, b Columbia Co, N Y Butler, like his former law partner, Martin VAN BUREN, was a member of the ALBANY REGENCY, and he devoted himself and his considerable power to reform politics He was Attorney General (1833–38) and Secretary of War (1836–37) under Andrew Jackson and Attorney General (1837) under Van Buren but refused later cabinet appointments He helped to revise (1825) the New York state statutes and organized what is today the law school of New York Univ

Butler, Benjamin Franklin, 1818–93, American politician and Union general in the Civil War, b Deerfield, N H, grad Waterville (now Colby) College, 1838 He moved to Lowell, Mass, when a youth and later practiced law there and in Boston Butler was a Democrat but a strong Unionist At the beginning of the Civil War his contingent of Massachusetts militia was one of the first to reach Washington He restored order (May, 1861) in secessionist Baltimore and was given command at Fort Monroe A force under his general command was defeated by J B Magruder at BIG BETHEL in June, but Butler successfully led a combined naval and land force against the forts of the Hatteras Inlet, N C, in August He commanded the troops that accompanied Admiral Farragut in taking New Orleans and was made military governor of the city There his highhanded rule (May–Dec, 1862) infuriated the people of New Orleans and the South The government, severely criticized both at home and abroad for his actions, finally removed him in May, 1864, as commander of the Army of the James. Butler advanced on Richmond while Grant engaged Lee in the Wilderness campaign Beauregard defeated him at DRÉWRYS BLUFF and then had him bottled up at Bermuda Hundred until Grant crossed the James in June After he failed to take FORT FISHER in Dec, 1864, he was relieved of further active command From 1867 to 1875 Butler, now a rabid radical Republican, was in Congress He was one of the House managers who conducted the impeachment proceedings against President Johnson, and he ardently advocated the party's Reconstruction policy He was said to have great influence with Grant Butler was (1877–79) an independent Greenbacker in Congress After several unsuccessful attempts to secure the governorship of Massachusetts, he was elected by the Greenbackers and Democrats in 1882 In 1884 he received the nominations of the Antimonopoly and Greenback parties for President An unprincipled demagogue of great ability, Butler aroused intense antagonisms and was nearly always in controversy See his autobiography, *Butler's Book* (1892)

Butler, Charles, 1750–1832, English Roman Catholic polemicist, nephew of Alban Butler The first Catholic admitted (1791) to the bar in England after 1688, he strongly defended his faith and worked for the Catholic Emancipation He also wrote biographies and legal works

Butler, Elbis Parker, 1869–1937, American humorist, b Muscatine, Iowa He is famous for his sketch, *Pigs Is Pigs* (1906)

Butler, Howard Crosby, 1872–1922, American archaeologist, b near Brewster, N Y, grad Princeton, 1892 He was professor of art and archaeology at Princeton from 1901 to 1922 His archaeological investigations in Syria were described in part in *Architecture and Other Arts* (1903), and his excavations at Sardis were recorded in his elaborate volumes *Sardis the Excavations* (1922) and *The Temple of Artemis* (1925) See the memorial volume, *Howard Crosby Butler* (1923), which contains a biography and complete bibliography

Butler, James see ORMONDE, JAMES BUTLER, 12TH EARL AND 1ST DUKE OF

Butler, John, 1728–96, Loyalist commander in the American Revolution, b New London, Conn He served in the French and Indian War and distinguished himself especially by leading the Indians in the successful British attack (1759) under Sir William Johnson against Niagara Electing the British side after the Revolution broke out, he became a deputy to Guy Johnson at Niagara and worked to keep the Indians friendly to the British In the Saratoga campaign (1777) he and Indian troops accompanied Gen Barry St Leger in the unsuccessful expedition down the Mohawk valley Later he organized a Loyalist troop called Butler's Rangers, and with them he and his son, Walter BUTLER, attacked the frontier settlements John Butler in 1778 raided the Wyoming Valley, defeated Zebulon BUTLER took Forty Fort, and then was unable to keep his Indian allies from perpe-

trating the Wyoming Valley massacre. Later that year Walter Butler and Joseph Brant led a similar raid on Cherry Valley, and this also ended in a massacre The name of Butler was thereafter anathema to the patriots John Butler was defeated (1779) by the expedition of Gen John SULLIVAN at Newtown near the present Elmira, N Y, and later in the war he joined with Sir John JOHNSON in frontier raids See Howard Swiggett, *War Out of Niagara* (1933)

Butler, Joseph, 1692–1752, English bishop and theologian He was preacher (1719–26) at the Rolls Chapel, London, his tenure there produced the noted *Fifteen Sermons* (1726). While rector of Stanhope (1725–40) he was also prebendary of Salisbury and, later, of Rochester In 1738 he was made bishop of Bristol and in 1740 became dean of St Paul's In 1750 he was translated to the see of Durham, one of the richest in England He also served as clerk of the closet to Queen Caroline and later to King George II Bishop Butler did not devote to his own use the benefits he received as a pluralist but gave generously It is as a writer that he is chiefly remembered His great book, *The Analogy of Religion, Natural and Revealed, to the Constitution and Course of Nature* (1736), was aimed to combat the influence of deism in England Of the editions of Butler's works, that published by W E Gladstone (2 vols, 1896) is noteworthy See also E C Mossner, *Bishop Butler and the Age of Reason* (1936), W J Norton, *Bishop Butler, Moralist and Divine* (1940)

Butler, Josephine Elizabeth (Grey), 1828–1906, English social reformer With the help of her husband, George Butler, she began rescue work for prostitutes, establishing a home in Liverpool for them In 1869 she began to agitate for the repeal of the "contagious diseases acts" which legalized and quarantined brothels, the acts were condemned by Parliament in 1883 and repealed in 1886 Mrs Butler, with the aid of W T Stead, also secured action (1885) for the repression of white-slave traffic Among her numerous publications devoted to the causes of vice control and of education for women are *The Constitution Violated* (1871) and *Personal Reminiscences of a Great Crusade* (1896) See biographies by W T Stead (1888) and M G Fawcett and E M Turner (1928)

Butler, Matthew Calbraith, 1836–1909, Confederate general and U S Senator, b near Greenville, S C When the Civil War began he became a cavalry captain in the Hampton Legion and later earned distinction as a cavalry commander in many battles and was promoted major general in 1864 He had a foot shot off (1863) in the battle of Brandy Station After the war he was prominent in Reconstruction politics in South Carolina, at first as a "fusion" man, cooperating with the pro-Union forces, but in the days of "radical Reconstruction" after 1870 as a Democrat His star rose with that of Wade HAMPTON, and he served in the U S Senate from 1877 until 1895, when he, like Hampton, was ousted by the forces of Benjamin TILLMAN Butler was a major general of volunteers in the Spanish-American War See U R Brooks, *Butler and His Cavalry* (1909)

Butler, Nicholas Murray, 1862–1947, American educator, president of COLUMBIA UNIVERSITY (1902–45), b Elizabeth N J, grad Columbia (B A, 1882, Ph D, 1884) Holding a Columbia fellowship, he studied at Paris and Berlin, specializing in philosophy He was made successively assistant, tutor, and adjunct professor in philosophy at Columbia He became (1886) president of the Industrial Education Association, reshaped it into what is today Teachers College of Columbia Univ, and was (1889–91) the institution's first president He was intimately associated with John W BURGESS in the struggle to integrate a university organization and was largely responsible for the expansion of Columbia College into Columbia Univ In 1890 he became professor of education and dean of the Faculty of Philosophy and in 1901 acting president of Columbia The next year he formally succeeded Seth Low He instituted the Summer Session, University Extension (now the School of General Studies), the School of Journalism, the Medical Center, and other units which have contributed to the magnitude of present-day Columbia An advocate of peace through education, he helped to establish the Carnegie Endowment for International Peace, of which he was a trustee and later (1925–45) president His efforts in behalf of disarmament and international peace won him international prestige, and he shared with Jane Addams the 1931 Nobel Peace Prize. Prominent in national, state, and New York city politics, he remained a regular Republican party member despite differences with its platforms. Though a close friend of Theodore Roosevelt, he refused to join the Progressive movement of 1912 and that year received the Republican electoral votes for Vice President after the death of the regularly nominated candidate He later was the leading Republican advocate of the repeal of the Eighteenth Amendment, urged economy in government, and supported local reform movements Honors and decorations were bestowed on him by many governments He was (1928–41) president of the American Academy of Arts and Letters His books include *Education in the United States* (1910), *The International Mind* (1913), *The Meaning of Education* (rev ed, 1915), *Scholarship and Service* (1921), *The Faith of a Liberal* (1924), *The Path to Peace* (1930), *Looking Forward* (1932), *Between Two Worlds* (1934), and *The World Today* (1946) See his autobiography, *Across the Busy Years* (1939); see also *Bibliography of Nicholas Murray Butler, 1872–1932* (1934)

Butler, Pierce, 1866–1939, Associate Justice of the U S Supreme Court (1923–39), b Dakota co, Minn, grad Carleton College, 1887 Admitted (1888) to the bar, he practiced in St Paul, specialized in railroad law, and became an expert in railroad-valuation cases, serving (1913–22) both the U S and Canadian governments His opinions in the Supreme Court generally opposed New Deal legislation

Butler, Samuel, 1612–80, English poet and satirist, b Strensham, Worcestershire During the Puritan Revolution, Butler served in the family of Sir Samuel Luke, a Puritan and a lieutenant of Cromwell, but after the Restoration he enjoyed some court patronage Butler achieved permanent fame by his long mock romance *Hudibras* (1663–78), a satire on the hypocrisy of the Puritans, in which Sir Hudibras is modeled on Sir Samuel Luke Many of its biting, octosyllabic couplets are as quotable as proverbs A R Waller edited *Hudibras* in 1905 See E A Richards, *Hudibras in the Burlesque Tradition* (1937)

Butler, Samuel, 1835–1902, English author, grad St John's College, Cambridge, 1858, son and grandson of eminent clergymen Refusing to be ordained, in 1859 he went to New Zealand, where he established a sheep farm and in a few years made a modest fortune While there he began contributing articles to the press After his return to England in 1864, he devoted himself to art, music, biology, and literature Besides exhibiting (1868–76) at the Royal Academy, he composed several works in collaboration with Henry Festing Jones, among them the Handelian *Narcissus a Dramatic Cantata* (1888) His version of Utopia is *Erewhon, or, Over the Range* (1872), a "nowhere" (though the scenes resemble New Zealand), where crime is a disease to be cured and disease a crime to be punished *Erewhon Revisited* came in 1901 He opposed his friend Darwin's explanation of evolution, although not the theory itself, in his *Evolution Old and New* (1879), *Unconscious Memory* (1880), and *Luck or Cunning as the Main Means of Organic Modification?* (1887) In his single novel, *The Way of All Flesh* (1903), an attack upon the Victorian pattern of life, the hero Ernest Pontifex, like Butler himself, rebels against the ecclesiastical environment in which he is reared His other works are *Alps and Sanctuaries of Piedmont* (1881) and a biography of his grandfather (1896) His notebooks were published in 1912 See biographical and critical studies by H F Jones (1919), C E M Joad (1924), C G Stillman (1932), Malcolm Muggeridge (1936), and G D H Cole (1947), bibliography by A J Hoppé (1925)

Butler, Smedley Darlington, 1881–1940, U S Marine Corps general, b West Chester, Pa He entered the Marine Corps in 1899 and served in the U S occupation of VERACRUZ, Mexico, in 1914 and with the marines in Haiti, and in most other marine campaigns He was a commander in France in the First World War and retired in 1931 as a major general He was out of the service nearly a year to direct the cleanup of vice in Philadelphia (1924) General Butler was notable for his violent opinions and flamboyant quarrels and, after his retirement, for his campaign against war and for isolationism His autobiography, *Old Gimlet Eye*, as told to Lowell Thomas, appeared in 1933.

Butler, Thomas: see OSSORY, THOMAS BUTLER, EARL OF

Butler, Walter, 1752?–1781, Loyalist officer in the American Revolution, b New York state; son of John BUTLER "Young Walter Butler," as he is called to distinguish him from his grandfather, a patrician pioneer, was an officer in his father's Loyalist troops, Butler's Rangers He was captured (1777) by the patriots and sentenced to death, but the sentence was commuted He escaped, and in 1778 he led the Rangers in a raid This ended with the Cherry Valley massacre (1778), for which his Indian commander, Joseph BRANT, blamed Butler Walter Butler was killed by a patriot troop under Marinus Willett See Howard Swiggett, *War Out of Niagara* (1933).

Butler, William Orlando, 1791–1880, American general and political leader, b Carrollton, Ky, grad Transylvania Univ, 1812 He served in the War of 1812, was wounded at the battle on Raisin river, served under Andrew Jackson in the taking of Pensacola, and distinguished himself in the battle of New Orleans His career as lawyer and officeholder—he was a Congressman from 1839 to 1843—was interrupted by the Mexican War. He was a major general of volunteers and was second in command to Zachary Taylor at Monterrey, where he was wounded. After the fighting was over he succeeded Winfield Scott as commander in chief and superintended the evacuation of the U. S soldiers from Mexico In 1848 he was vice presidential candidate on the unsuccessful ticket with Lewis Cass Though a slaveholder, he opposed secession and supported the Union cause in the Civil War

Butler, Zebulon, 1731–95, American colonial leader, b Ipswich, Mass After serving in the French and Indian Wars, Butler led a group of Connecticut settlers to the WYOMING VALLEY in N Pennsylvania He was military leader of the Connecticut settlers in the PENNAMITE WARS and served as director of the SUSQUEHANNA COMPANY Butler represented (1774–76) the Wyoming Valley in the Connecticut assembly A colonel in the Revolution, he was defeated (1778) by Loyalists under John Butler and fled to Forty Fort, the Wyoming Valley massacre followed Butler escaped and later was military commandant of the region

Butler. **1** Town (pop 1,093), co seat of Taylor co, W central Ga., SW of Macon, in a farm area, inc 1854 **2** Town (pop 1,794), NE Ind, near Auburn It is a rural trading center **3** City (pop 2,958), co seat of Bates co, W Mo, NE of Fort Scott, Kansas, founded in the 1850s It is known for its livestock auctions and annual horse show **4** Borough (pop 3,351), N N J, NW of Paterson, settled 1695, inc 1901 St Anthony's Monastery (Franciscan) is here The chief industry is a factory for rubber products **5** City (pop 24,477), co seat of Butler co, W Pa, N of Pittsburgh, settled c 1800, inc as a borough 1803, as a city 1917 Rich in coal, gas, oil, and limestone, its manufactures include glass, metal products, and automobile trailers

Butler University, at Indianapolis, coeducational, chartered 1850, opened 1855 by the Disciples of Christ Church. The Arthur Jordan Conservatory of Music and the John Herron Art Institute are affiliated

Buto (bū'tō), ancient city, N Egypt, in the Nile delta The precise location is unknown Capital of Lower Egypt in prehistoric times (before 3400 B C), it had a temple dedicated to the goddess Buto

Bütschli, Otto (ō'tō büch'lē), 1848–1920, German zoologist He was professor of zoology at the Univ of Heidelberg His researches on invertebrate animals advanced knowledge of the development of gastropod mollusks, insects, and some other forms, the structure of nematode worms, and processes of division of the nucleus and cell A significant contribution was his theory (1878) of the structure of protoplasm, which suggested that it is alveolar or foamlike, he helped to establish that it is fluid in nature

Butt, Dame Clara, 1873–1936, English contralto, of rich and powerful voice She made her debut (1892) as Orpheus in the opera by Gluck, but was principally heard in concerts and oratorios She was made Dame of the Empire in 1920. See biography by Winifred Ponder (1928)

Butte (būt), city (pop 37,081, alt 5,775 ft), co seat of Silver Bow co, SW Mont, largest city in the state, founded 1864, laid out 1867, inc 1879 First a gold-mining town, then a silver-boom center, Butte gained its real importance when copper was discovered (c 1880) and Marcus Daly with his Anaconda Copper Mining Company began to exploit what was boastfully called the "richest hill on earth" Butte, which acquired a reputation as a wide-open town, has ever since been dominated by the mining industry (zinc, silver, manganese, gold, lead, and arsenic, as well as copper) with consequent periods of prosperity and depression and labor troubles Columbia Gardens recreational area was given to the city by William A Clark The Montana School of Mines is here

butte, an isolated hill with steep sides and a flat top, left by the more rapid erosion of the surrounding areas. Buttes are characteristic of the plains of the W United States and are common in the Badlands

butter, dairy product obtained by agitating cream or milk to unite the fat globules In America and England the milk of cows is generally the basis, but elsewhere that of goats, sheep, and mares has been used Butter was known by 2,000 B C, though it was anciently used less as a food than as an ointment for the bath, a medicine, or an illuminating oil At first it was rudely churned from milk in skin pouches thrown back and forth or swung over the backs of trotting horses. Later, as butter became a staple food, various sorts of hand churns were devised, including rotating, swinging, and rocking barrels or boxes and cylindrical vessels operated by dashers or plungers Buttermaking requires immaculate cleanliness of all utensils and a cool temperature, often provided on the farm by a milk house with a spring or running water Formerly the daily milk was set to cool in pans, and the cream, rising to the top because of the low specific gravity of the fat globules, was skimmed off, left to ripen by natural fermentation, and churned until small granules of butter appeared. The BUTTERMILK was drained off and the butter washed, usually salted, and worked into a smooth mass with wooden paddles. Exclusively farm made until c.1850, butter has become increasingly a factory product. The

centrifugal cream SEPARATOR, introduced into the United States c.1880, and a method, devised in 1890 by S M BABCOCK, to determine the butterfat content of milk and cream gave impetus to large-scale production. The application of principles of chemistry and bacteriology facilitates the making of butter of uniform quality. Most cream is inoculated with a starter culture of bacteria which convert lactose to lactic acid and of other organisms which attack citric acid to produce volatile oils and diacetyl for imparting desirable butter flavors. The percentage of fat extraction and the time required for churning depend on the composition of the butterfat (see FATS AND OILS), the temperature, acidity, richness, and viscosity of the cream, the speed and motion of the churn, and the size of the fat globules. Butter should contain at least 80 percent of fat and not more than 15 percent of water, the body should be close, firm, and waxy; the color uniform. Sweet-cream butter is made from cream to which no starter was added. Sweet, or unsalted, butter is favored in Europe, but other markets prefer at least 2 percent salt. Renovated or process butter is made from rancid or inferior butter, melted and refined, then rechurned. Whey butter, made from cream separated from whey, is usually oily and of inferior quality. The natural color of butter, derived from the carotene of green plant fodder, ranges from pale yellow to deep gold. Artificial coloring, commonly the oil of the annatto seed, carotene extract, or harmless coal-tar derivatives, is used to keep the tint uniform throughout the year. Butter made from pasteurized cream may be stored for several months with little deterioration, thus augmenting the winter supply with butter made around the peak season (June in the Northern Hemisphere). The United States, Russia, Denmark, Australia, Canada, New Zealand, and Belgium are the leading producers, Denmark, New Zealand, and Australia, the chief exporters, and the United Kingdom, a heavy importer. Although butter is made in every state of the United States, production centers in the northern Middle West, especially Minnesota, Iowa, and Wisconsin. Clarified butter, butterfat separated by heat, is useful in cooking and has good keeping qualities. It is made in quantity in Egypt and in India, where it is known as GHEE. The high dietary value of butter is due to its large proportion of easily digested fat and to its vitamin A content. See C. C. Totman and others, *Butter* (4th ed., 1939), C. H. Eckles and others, *Milk and Milk Products* (3d ed., 1943).

butter-and-eggs or **toadflax**, perennial wayside plant (*Linaria vulgaris*), introduced from Eurasia and now weedy. It has small snapdragonlike flowers of yellow and orange that bloom through the summer. A decoction was formerly used as a fly poison. Other similarly colored plants have been called butter-and-eggs.

buttercup or **crowfoot**, any of a number of species of the genus *Ranunculus*, plants widely distributed and in the wild mostly characterized by glossy yellow flowers and deeply cut leaves. Buttercups are often of a weedy nature and contain an acrid juice which makes some of them unpalatable for livestock and in some cases poisonous (unless dried or boiled), the poisonous species (e.g., *Ranunculus acris*) are capable of raising blisters. Some buttercups, however, are cultivated for garden and cut flowers, particularly the Persian or turban buttercup, valued for the variety of colors and large double blossoms. Another species sometimes cultivated is the creeping buttercup. There are also aquatic buttercups.

Butterfield, John, 1801–69, American stagecoach proprietor and expressman, b. near Albany, N.Y. Beginning as a stage driver out of Albany, he rose to ownership of a large network of stage lines. He helped to merge his express company with others to form the American Express Company. In 1857, when Congress established the overland mail route to Los Angeles, Butterfield was given the mail contract. He organized the service on the 2,800-mile southern route efficiently and continued it until 1861, when the stages were moved to the central route. He also promoted the development of telegraph lines and railroads, and in 1865 he was elected mayor of Utica, N.Y.

butterfly, any of a large group of insects found in all parts of the world which, with the MOTH group, comprises the order Lepidoptera. Members of this order have broad, membranous wings covered with scales which come off as dust if the insect is handled. Red, yellow, black, and white pigments are found in the scales. Blues, greens, and the metallic, iridescent hues, found especially in the tropical species, are caused chiefly by refraction. Butterflies can be distinguished from moths in several ways: the antennae of the butterfly are enlarged at the tip, while those of the moth almost never have terminal knobs but are often threadlike or feathery; the butterfly is chiefly diurnal, the moth largely nocturnal; when at rest most butterflies hold the wings vertically, most moths hold them horizontally; the body of a butterfly is more slender and usually smoother than that of the moth. The life history is divided into four stages, egg, larva, pupa, and adult. The eggs, which hatch in from 2 to 30 days, are usually laid on a plant which the larva (caterpillar) uses for food. After the last of several molts the butterfly larva forms the pupa case, or chrysalis, inside which its body changes to the adult form. Except in those species which winter in the pupa stage, the adult usually emerges from the chrysalis in two or three weeks. Some winter in the egg stage, others as larvae or as adults. Those which migrate usually travel toward the equator in the fall and away from it in the spring. Examples of MIMICRY and of protective coloration are found among butterflies. Among the most beautiful are the swallowtails, which are found all over the world, the North American monarch, and the peacock and the tortoise-shell butterflies. See W. J. Holland, *The Butterfly Book* (1931).

butterfly flower, fringeflower, or **poor-man's-orchid**, any of the showy plants of the genus *Schizanthus*, native to Chile but grown elsewhere as garden or greenhouse annuals. The flowers resemble butterflies and come in a variety of colors, usually mottled.

butterfly weed or **pleurisy root**, handsome MILKWEED (*Asclepias tuberosa*) native to the United States and sometimes cultivated. Through the summer it bears mostly terminal clusters of bright orange flowers particularly attractive to butterflies. The root, once an official diaphoretic and expectorant but now seldom used, was eaten for lung and throat ailments and was applied to wounds by the Indians, who also utilized the plant for fiber and food, although it is reported toxic.

Butterick, Ebenezer, 1826–1903, American inventor of standardized paper patterns for dressmaking, b. Sterling, Mass. He was a tailor and shirtmaker, and c. 1859 he or his wife conceived the idea of graded shirt patterns to simplify their work, making it possible to cut the garments on a large scale. In 1863 the first pattern, cut from stiff paper, was placed on the market. Patterns for children's clothes and later for women's followed. Beginning in 1864 these were made of tissue paper. In 1869 a factory was established in Brooklyn and a fashion magazine, later the *Delineator*, was started. Branches were established in London, Paris, Berlin, and Vienna.

buttermilk, milk or cream from which butter has been removed by churning. Milk solids and lactic acid give it a high food value. About 1½ lb. are produced for each pound of butter. Formerly wasted or used as livestock feed, it is increasingly condensed or dried for use in chick rations and in the preparation of food, especially ice cream and bakery products. The so-called cultured buttermilk is a FERMENTED MILK.

butternut see WALNUT.

Butterworth, Hezekiah, 1839–1905, American poet, editor, and writer of juvenile stories, b. Warren, R.I. He was editor (1870–94) of the *Youth's Companion*, making it a leading juvenile periodical. Besides three volumes of poetry, he wrote popular books for children. *The Story of the Hymns* (1875) won him a prize.

buttons, knoblike appendages used on wearing apparel either for ornament or for fastening. In China they are worn on the hat as a sign of rank. Although sometimes used by Greeks and Romans as fasteners, they first became important when fitted garments came into use in the 10th cent., and their use has varied with the changes in fashion. In the 16th cent. they became magnificent and were classed among the vanities, many Puritans fastening their clothing with hooks and eyes, as the Amish people still do. Buttons have been made of a large variety of materials—metal, porcelain, paste, wood, ivory, horn, bone, pearl, glass, fabric, paper, composition, jewels, and coins. They became important to English industry in Elizabeth's reign. There are two main types, those made with holes and those with shanks. The former, of bone, pearl, wood, and the like, are cut with a tubular saw, and the holes are pierced. The shank buttons, of metal, composition, and glass, have a loop of metal let in through a hole or soldered into place. Fresh-water-pearl button making began in the United States in 1891 with the discovery of suitable shells in the Mississippi river at Muscatine, Iowa. The increasing popularity of the button-collecting hobby has resulted in a multiplicity of clubs, shows, and books. See P. D. S. Crummett, *Button Collecting* (1939).

button snakeroot see BLAZING STAR.

buttonwood see PLANE TREE.

buttress, mass of masonry built against a wall to add strength to the wall itself or to counteract the pressure from a vault or an arch bearing upon the wall at that particular location. The especial need for buttresses exists in a structural system based upon vaulting, and consequently the ancient architectures which used pier-and-lintel construction show no examples of them. The Romans were the first to employ buttresses, which sometimes projected from the exteriors of the walls and were then left as mere piles of masonry, without architectural treatment. But in the large structures, such as basilicas and baths, the buttresses which received the thrusts from the main vaulting were confined to the interior of the building, where they served also as partition walls. The basilica of Constantine in Rome (A.D. 312) exemplifies this arrangement. In the medieval church, the groined vaults, concentrating their great lateral thrusts at points along the exterior walls, required buttresses as an essential element to achieve stability. Beginning with Romanesque architecture about A.D. 1000, a steady evolution of buttresses can be traced, from the simple, slightly projecting piers of the 11th cent. to the bold and complex Gothic examples of the 13th, 14th, and 15th cent. Builders in England, Germany, and N. France achieved striking architectural effects. They devised the flying buttress, an arch of masonry abutting against the wall of the nave, the thrust of the nave vault could thus be received and transferred to the vertical buttress built against the outside walls of the side aisles. These flying arches, at first concealed beneath the roofs, began to be exposed outside the roofs in the mid-12th cent. Later they were enriched with gables, stone tracery, and sculpture and were topped with pinnacles to give them extra weight. They constitute, especially in such French cathedrals as Amiens, Beauvais, and Notre Dame de Paris, the true expression upon the exterior of the building of the elasticity and equilibrium which were the basic principles of the Gothic structural system.

Butyl rubber: see RUBBER, SYNTHETIC.

Butzer, Martin see BUCER, MARTIN.

Buxar or **Baxar** (both bŭksär'), village, W. Bihar state, India. Here in 1764 a British victory over the Nawab of Oudh assured British control of the Bengal area.

Buxtehude, Dietrich (dē'trĭkh bo͝oks"to͞oə'dŭ), 1637–1707, Swedish organist of St. Mary's Church in Lübeck. There his *Abendmusiken* attracted many musicians, among them J. S. Bach, who journeyed afoot to hear him play. He composed organ music in various forms and sacred cantatas.

Buxton, Sydney Charles, 1st **Earl Buxton** (bŭk'stŭn), 1853–1934, British statesman, grandson of Sir Thomas Fowell Buxton. He entered Parliament in 1883 as a Liberal and was undersecretary for the colonies (1892–95). When postmaster general (1905–10) he introduced penny-postage exchange with the United States. He was president of the Board of Trade (1910–14) and, receiving an earldom (1914), became governor general of the Union of South Africa (1914–20). He wrote books on current political questions and a biography of Louis Botha (1924).

Buxton, Sir Thomas Fowell, 1786–1845, English social reformer. As a member of Parliament (1818–37) he began his reform activities immediately with the publication of *An Inquiry Whether Crime and Misery Are Produced or Prevented by Our Present System of Prison Discipline*, this led to the establishing of the Society for the Reformation of Prison Discipline. An abolitionist, Buxton succeeded William Wilberforce as leader of the anti-slavery group. His efforts resulted in the passage of an act (1833) abolishing slavery in the British colonies. He wrote *The African Slave Trade* (1839) and *The Remedy* (1840). See his memoirs (ed. by his son Charles Buxton, 1872).

Buxton, municipal borough (1931 pop. 15,349, 1943 estimated pop. 17,118), Derbyshire, England, on the Wye and in the Peak district. It is c. 1,000 ft. high, and the "old town" is on a hill above it. Buxton is a year-round resort, with mineral springs and baths, and is the site of the Devonshire Hospital. Poole's Hall, a stalactite cave, is near.

Buxton, town (pop. 1,708), SW Maine, near the Saco and W of Portland, settled 1740, inc. 1772.

Buxtorf, Johann (yō'hän bo͝oks'tôrf), the elder, 1564–1629, German Hebraist, first of a celebrated family of scholars who through four generations occupied the chair of Hebrew at the Univ. of Basel. He entered his professorship there in 1591 and was recognized as the foremost student of rabbinical literature among Protestants. He defended the original text of the Old Testament as the most reliable authority. Among his works was a great rabbinical Bible. Two others, left unfinished, were a concordance to the Hebrew Bible and a Chaldaic, Talmudic, and Rabbinic lexicon, both afterward completed and edited by his son, **Johann Buxtorf,** the younger, 1599–1664, Orientalist. He succeeded his father at Basel in 1630 and from 1654 held in addition the chair of Old Testament exegesis. Besides editing and publishing some of his father's writings, he produced several controversial treatises and other learned works.

Buys-Ballot, Christoph Heinrich Diedrich (krĭs'tôf hīn'rĭkh dē'drĭkh bois'-bŭlō'), 1817–90, Dutch meteorologist. He was after 1854 director of the Dutch Royal Meteorological Institute. He strove to organize and standardize a system for representing meteorological findings and formulated Buys-Ballot's law: if one stands with his back to the wind, the area of low pressure is to his left. This is true in the Northern Hemisphere, the reverse is true in the Southern Hemisphere. The explanation lies in the deflection, caused by the earth's rotation, in the movement of air from areas of high to areas of lower pressure. Ferrel's law (see FERREL, WILLIAM) is related.

Buysse, Cyriel (sīrēl' boi'sŭ), 1859–1932, Flemish novelist. He first wrote naturalistic novels and

later (and more successfully) sketches and stories With Vermeylen he was a leader in the literary revival In 1932 he was made Baron van Deurle

Buz (bŭz) [Heb ,=contempt] **1** Son of Nahor and Milcah Gen 22 21 He was apparently eponym of an Arabian tribe Jer 25 23 The term Buzite is probably derived from his name Job 32 2 **2** Gadite 1 Chron 5 14

Buzau (bōzŭ'ōō), town (pop 43,365), SE Rumania, in Walachia, on the Buzau river, an affluent of the Siret There are oil refineries, foundries, and flour mills Long the residence of an Orthodox bishop, it has a 16th-century church, restored in 1740

Buzi (bū'zī), father of Ezekiel Ezek 1 3

buzzard, name applied to a number of hawks and vultures The turkey VULTURE or turkey buzzard and the black vulture or black buzzard are found in the S United States The red-tailed, the red-shouldered, and the broad-winged hawks are called buzzards In the Old World are the common buzzard of the genus *Buteo* and the honey buzzard of the genus *Pernis*, which feeds on insects, the larvae of wasps and bumblebees, and small reptiles

Buzzards Bay, inlet of the Atlantic, 30 mi long and 5 to 10 mi wide, SE Mass , connected with Cape Cod Bay by the Cape Cod Canal and bounded on the southeast by the Elizabeth Islands Its shores are very irregular New Bedford is near the head of one of the larger inlets The village of **Buzzards Bay** (pop 993), seat of Cape Cod Canal administration, is in Bourne town

By, John, 1781-1836, British military engineer, educated at the Royal Military Academy, Woolwich He was stationed in Canada from 1802 to 1811 and was sent there as a colonel in 1826 to construct the RIDEAU CANAL A village grew up around his headquarters which was called Bytown and is now Ottawa By returned to England in 1832

Byblos (bĭb'lŭs), ancient city, Phoenicia, a port not far from the present Beyrouth, Syria The principal city of Phoenicia in the centuries of the 2d millennium B C , it retained its importance as a port under the Persians Byblos was the chief center of the worship of Adonis It also because of its papyri, was the source of the Greek word for book and, hence, of the name of the Bible Ruins of the city have been studied, especially after 1922 The name of the modern town Jebail preserves the form Gebal, the name given the city in the Old Testament Ezek 27 9 The inhabitants are called Gibhites Joshua 13 5 The Gebal of Ps 83 7 is almost certainly not the same city, it is otherwise unknown

Bydgoszcz (bĭd'gôshch), Ger *Bromberg* (brōm'bĕrk), city (pop 134,614), capital of Pomorze prov , NW Poland, on the Brda, a tributary of the Vistula It passed to Prussia in 1772 and was restored to Poland in 1919 During the Second World War, in which it suffered relatively little damage, Bydgoszcz was annexed to Germany It is chiefly a trade center shipping much timber There are lignite deposits and salt domes in the vicinity The Bydgoszcz Canal (constructed 1773-74), which begins at Bydgoszcz, connects the Brda and Notec rivers and is part of the Vistula-Oder waterway

Byelo-. For some Russian names beginning thus, see BELO-

Byesville (bīz'vĭl), village (pop 2,418), E Ohio, near Cambridge Coal mining is its chief industry

Byles, Mather, 1707-88, American clergyman, poet, and wit, b Boston, grad Harvard (B A , 1725, M A , 1728) Famous minister of the Hollis St Congregational Church, Boston, from 1732, he was dismissed after the British evacuation of Boston for his Tory sympathies From his uncle, Cotton Mather, he inherited a curious and valuable library and was a collector himself His poetry, imitative but witty, appeared in *Poems on Several Occasions* (1744) and other volumes, his prose includes sermons and *The Flourish of Annual Spring* (1741) See A W H Eaton, *The Famous Mather Byles* (1914)

bylina (bĭlē'nē) [Russ ,=those that have been], Russian term applied to the great body of narrative and heroic poems which, after being handed down in Russia by word of mouth for centuries (some from the 11th cent), finally in the 18th cent began to be collected and studied Before this time the first to write down a poem of the *bylina* type was an Englishman, Richard James, in 1619, while serving as a chaplain in Moscow The *bylina* occur in cycles, the largest of which is that originating around Kiev and having for its hero Prince Vladimir, the Little Sun Here the favorite character is the Old Cossack warrior Ilya of Murom Of importance also is the Novgorod cycle, concerned with the adventures of the merchant-prince Sadko and Vasily Buslayevich To a third cycle of Older Heroes belongs the strong plowman Mikula The characters of the *bylina* all possess supernatural powers Though modified by foreign borrowings—Scandinavian, Byzantine, Oriental—*bylina* are typically and strikingly Russian and have had an enriching influence on Russian literature, music, and art See N K Chadwick, *Russian Heroic Poetry* (1932), Helen Muchnic, *Introduction to Russian Literature* (1947)

Byng, George see TORRINGTON, GEORGE BYNG, VISCOUNT

Byng, John, 1704-57, British admiral, son of George Byng, Viscount Torrington When he was sent (1756) to relieve the British garrison at Minorca, he was defeated by the French and abandoned his task He was court-martialed, convicted of neglect of duty, and shot The severe, though lawful, sentence awoke popular indignation See *Byng Papers* (ed by Brian Tunstall, 1931).

Byng, Julian Hedworth George, 1st **Viscount Byng of Vimy,** 1862-1935, British general He served in India and South Africa and had several commands in the First World War The Canadians in April, 1917, stormed Vimy Ridge under his orders For his distinguished service he was made a baron and, in 1926, a viscount He was governor general of Canada from 1921 to 1926

Bynkershoek, Cornelius van (kôrnā'lĭŭs văn bĭng'-kŭnshōōk), 1673-1743, Dutch writer on international law *De dominio maris* (1702, Eng tr , 1923) is a classic on maritime law, and he also wrote on diplomatic rights and, in *Quaestiones juris publici* (1737), on public law He was the judge presiding over the court of appeals of Holland, Zeeland, and West Friesland from 1724 to 1743

Bynner, Witter (bĭ'nŭr), 1881-, American poet, b Brooklyn, N Y , grad Harvard, 1902 His first significant book of verse was *Grenstone Poems* (1917), followed by the equally lyric *Canticle of Pan* (1920) A musician as well as a poet, Bynner has a remarkable facility in catching the cadences of other writers and cultures Under the pseudonym Emanuel Morgan he collaborated with Arthur Davison Ficke in writing *Spectra* (1916), a satiric literary hoax *The Jade Mountain* (1929) is a translation with Kiang Kang-hu of 300 Chinese poems He reproduced the quality of Southwestern primitive life in *Indian Earth* (1929) Other volumes include several plays, essays, *Selected Poems* (ed by Robert Hunt, 1943), and later poems in *Take Away the Darkness* (1947)

Byrd, Harry Flood (bûrd), 1887-, U S Senator from Virginia (1933), b Martinsburg, W Va , brother of Richard E Byrd Educated at Shenandoah Academy in Winchester, Va , he became publisher of the Winchester *Star* and was a figure in state politics His administration as governor (1926-30) was marked by development of the state highway system As Senator in succession to Claude A Swanson, Byrd took the lead among conservative Democrats, opposed the New Deal, and advocated government economy He also is the owner of very large apple orchards

Byrd, Richard Evelyn, 1888-, American aviator and polar explorer, b Winchester, Va , grad Annapolis, 1912 He took up aviation in 1917, and after the First World War he gained great note in the air he commanded the naval air unit with the arctic expedition of D B MACMILLAN in 1925, he and Floyd BENNETT flew from Spitsbergen to the North Pole and back in 1926, and in 1927 he and three companions made one of the spectacular flights across the Atlantic His record of flight was presented in *Skyward* (1928) Two years later he led a well-equipped and efficiently organized expedition to Antarctica Establishing a base at LITTLE AMERICA, he discovered the Rockefeller Range and Marie Byrd Land, and late in 1929 he and Bernt BALCHEN flew to the South Pole and back The large party gathered much scientific information In 1930 Byrd was promoted rear admiral, and his *Little America* was published His second large expedition was organized in 1933, and headquarters were established at Little America again As winter approached, he established an advance base 123 mi closer to the South Pole and there stayed alone for several months making observations *Discovery* (1935) and *Alone* (1938) were records of this fruitful expedition In 1939-40 he was again in the antarctic commanding a government expedition, and in 1946-47 he headed the U S navy expedition, the largest yet sent to the region (see ANTARCTICA) *Exploring with Byrd* (1937) is made up of selections from his first three books

Byrd, Byrde, or **Bird, William** (all bûrd), b 1542 or 1543, d 1623, English composer, organist at Lincoln Cathedral and, jointly with Tallis, at the Chapel Royal Although Roman Catholic, he composed English anthems and services in addition to his great Roman Masses and Latin motets He was highly esteemed by his contemporaries and was favored by Queen Elizabeth, who, in 1575, granted to Byrd and Tallis a patent for the exclusive printing and selling of music Byrd also composed music for the virginal and other instruments See E H Fellowes, *William Byrd* (1936)

Byrd, William, 1652-1704, British planter in early Virginia He came to America as a youth and took up lands he inherited on both sides of the James, including the site of later Richmond In 1691 he moved to "Westover," long famous as the Byrd family home His landed fortune was increased by his interest in trade, and wealth, culture, and character made him almost the ideal tidewater aristocrat He was the father of William Byrd (1674-1744). J S Bassett edited his writings (1901).

Byrd, William, 1674-1744, American colonial writer, planter, and government official, son of William Byrd (1652-1704) He served in the house of burgesses and was made auditor (1702) and receiver general (1706) of Virginia Twice he spent years (1697-1705, 1715-26) in England as colonial agent From 1709 to his death he was a member of the council William Byrd of Westover, as he is often styled, increased the lands (he ultimately owned 179,000 acres) and the wealth he inherited from his father and was the able spokesman of the large planters against Gov Alexander SPOTSWOOD, who tried to reduce their power On one of his estates he caused (1737) the city of Richmond to be laid out His service in 1728 as one of the commissioners to survey the boundary between North Carolina and Virginia and his many trips into the backwoods provided the material for his writings, *A History of the Dividing Line, A Journey to the Land of Eden,* and *A Progress to the Mines,* all based on his diaries These were extracted in 1841 from the collection called the Westover MSS Since that time they have been much republished, and admiration for the limpid prose, the crisp wit, and the almost incongruously urbane tone he displays have won more and more admirers He is generally considered one of the foremost of colonial authors He wrote secret diaries in shorthand, of which two have been deciphered and published (1941, 1942), they offer intimate glimpses of early Virginia Byrd's wide intellectual and artistic interests were also shown in his library of more than 4,000 volumes and his collection of paintings See biography by R C Beatty (1932)

Byrde, William see BYRD, WILLIAM (b 1542 or 1543)

Byrhtnoth (bĭrkht'nōth) or **Bryhtnoth** (brĭkht'nōth), d 991, alderman of the East Saxons Leader of the English forces in the battle of MALDON, he was killed in the battle, and was buried at Ely

Byrne, Donn (Brian Oswald Donn-Byrne) (bûrn), 1889-1928, Irish-American novelist and short-story writer, b Brooklyn, N Y , grad University College Dublin He was living in New York when his novel *Messer Marco Polo* (1921) had its great success He wrote other romantic Irish tales—including *Blind Raftery* (1924) and *Hangman's House* (1926)—and also several volumes of short stories—*Stories without Women* (1915), *The Changelings* (1923), *Destiny Bay* (1928), and others See study by Thurston Macauley (1929)

Byrnes, James Francis, 1879-, U S Secretary of State (July, 1945 Jan 1947), b Charleston, S C He studied law while working (1900-1908) as court reporter, owned and edited a newspaper in Aiken S C , and represented (1911-25) South Carolina in the House As Senator (1931-41), Byrnes, a Southern Democrat, became budgetary expert for the New Deal He served (1941-42) as Associate Justice of the Supreme Court but resigned and became director of economic stabilization (1942) and later (1943) director of war mobilization As Secretary of State, he tried to mend post-war differences with the USSR He was succeeded by George C MARSHALL Byrnes is the author of *Speaking Frankly* (1947)

Byrom, John, 1692-1763, English shorthand expert and poet, educated at Trinity College, Cambridge He devised an early shorthand system and taught it in Manchester *The Universal English Shorthand* was posthumously published He was a great admirer of William Law, and much information about Law is found in Byrom's *Private Journal and Literary Remains* (1854-57) He wrote *Seasonably Alarming and Humbuling Truths in a Metrical Version of Certain Select Passages Taken from the Works of William Law* (1774) and other facilely rhyming, rather eccentric religious verse

Byron, George Gordon Noel Byron, 6th **Baron** (bī'-rŭn), 1788-1824, English poet, son of "Mad Jack" Byron and Catherine Gordon of Gight His father died in 1791 and Byron, lame from birth, was alternately subjected to the excessive tenderness and to the violent temper of his mother His contempt for her was in later years directed toward all women In 1798, after years of poverty, Byron succeeded to the title and took up residence at the family seat, Newstead Abbey. He subsequently attended Dulwich school and Harrow (1801-5) and then matriculated at Trinity College, Cambridge His first volume, *Fugitive Pieces* (1806), was suppressed, revised and expanded, it appeared in 1807 as *Poems on Various Occasions* This was followed by *Hours of Idleness* (1807), which provoked such severe criticism from the *Edinburgh Review* that Byron replied with *English Bards and Scotch Reviewers* (1809), a satire in heroic couplets which immediately shot him to fame He left England this same year for a grand tour through Spain, Portugal, Italy, and the Balkans He returned in 1811 with Cantos I and II of *Childe Harold* (1812), which made him the social lion of London. It was followed by the verse tales *The Giaour* (1813), *The Bride of Abydos* (1813), *The Corsair* (1814), *Lara* (1814), *The Siege of Corinth* (1816), and *Parisina* (1816) Byron's name at this time was linked with those of several ladies, notably, Lady Caroline Lamb, in 1815 he married Anne Isabella Milbanke In 1816, however, she secured a separation for obscure reasons A theory advanced by Harriet Beecher Stowe was that Lady Byron discovered the exist-

ence of improper relations between Byron and his half sister, Mrs. Augusta Leigh. At any rate, Byron, a social outcast, left England and passed some time with Shelley in Switzerland, writing Canto III of *Childe Harold* and *The Prisoner of Chillon*. Settling in Venice (1817), he led, for a time, a life of dissipation, but produced Canto IV of *Childe Harold* (1818), *Beppo* (1818), and *Mazeppa* (1819) and began *Don Juan*. In 1819 he formed a liaison with the Countess Teresa Guiccioli, who remained his acknowledged mistress for the rest of his life. In 1823 Byron was induced to interest himself in the cause of the Greeks. He accordingly sailed for Missolonghi, where he arrived in 1824. He worked unsparingly with Mavrocordatos to unify the divergent Greek forces, but died as a result of exposure. Byron's poetry covers a wide range. In *English Bards and Scotch Reviewers* and in *The Vision of Judgment* (1822), his counterblast to Southey's adulatory poem on George III), he wrote true 18th-century satire. He created the 'Byronic hero" who appears in the Faustian tragedy *Manfred* (1817)—a mysterious, lonely, defiant figure whose past hides some great crime. *Cain* (1821) raised a storm of abuse for its skeptical attitude towards religion. The verse tale *Beppo* is in the *ottava rima* which Byron later used for his acknowledged masterpiece *Don Juan* (1819–24), an epic-satire combining Byron's art as a storyteller, his lyricism, his cynicism, and his detestation of convention. See biographies by Harold Nicolson (1924), E. C. Mayne (1924), John Drinkwater (1925), André Maurois (1930), and Peter Quennell (1935, 1941).

Byron, John, 1723–86, British vice admiral and explorer. Sailing in 1740 with Admiral George Anson on a voyage around the world, he was shipwrecked off Chile. His *Narrative of Great Distresses on the Shores of Patagonia* (1768) is said to have been used by his grandson, the poet Byron, in writing *Don Juan*. His own circumnavigation of the globe (1764–66) resulted in the British claim to the Falkland Islands. Byron served (1769–72) as governor of Newfoundland. After being appointed (1778) to command a squadron he lost his only major engagement, to Admiral d'Estaing off Grenada (1779).

Byron, city (pop. 1,114), N Ill., SW of Rockford, in a farm area, founded 1835, inc. 1904.

Bystrom, John Niklas (bü'strŭm), 1783–1848, Swedish sculptor. He spent part of his life in Rome. He made colossal statues of kings of Sweden for Stockholm, but he was most successful in portraying women and children.

Bytom, Upper Silesia: see BEUTHEN.

Bytown, Ont.: see OTTAWA.

Byzantine architecture, (bĭ'zuntēn, -tīn, bĭgăn'tĭn), style of building which grew up in the Mediterranean area from Italy eastward after Constantine had made Byzantium (Constantinople) the capital of the Roman Empire (A.D. 330). Crystallizing in Ravenna and Constantinople, it spread through Greece and the Balkans to Asia Minor, Armenia, parts of Syria, and ultimately to Russia, Italy, Sicily, and even more distant regions. In general the style was the product of Roman methods of construction modified by new aesthetic theories expressed in strikingly colorful materials and methods of adornment, which, though often considered Eastern, are in fact the logical outgrowth of trends already apparent in Roman imperial buildings of the first three centuries A.D. Though the changes throughout this evolution were gradual, a distinct style of building had emerged within two centuries after the reign of Constantine to a point where any obvious similarity to Roman architecture had largely disappeared. Under the reign of Justinian (527–65), the Byzantine architectural vocabulary attained its first definitive expression in a number of great buildings, chief among them the octagonal Church of San Vitale at Ravenna and the world-renowned HAGIA SOPHIA (532–37), the masterpiece of the first phase of the style, designed as the cathedral church of the imperial capital. In true Roman fashion, the Byzantines formed their walls and vaults of thin bricks laid with mortar joints as thick as the bricks themselves. A powerful carcass or shell was thus created, upon the interior of which richly colored materials were incrusted as a frankly decorative veneer. Ornamental carving was in low, flat relief, its pattern achieved by incision rather than by the relief modeling of classical ornament and its special character depending on the use of the drill rather than the chisel. Structurally these buildings show a distinctive system of thrusts, acting one against another and concentrated upon selected points in the plan, much as in the great vaulted basilicas and baths of the pagan Roman period. Like the latter, also, their exteriors exhibit broad wall surfaces, rarely broken by moldings or detail but diversified above by the boldly swelling shapes of vaults and domes roofed with sheets of lead. The second or middle phase of Byzantine architecture, in which Eastern influences became apparent, is represented by SAINT MARK'S CHURCH at Venice, completed c.1071 but modified and embellished in succeeding centuries and generally considered the greatest achievement of the style after Hagia Sophia. In its final stylistic phase, realized in the 13th and following centuries in Greece, Constantinople, S Italy, the Balkans, and Russia, Byzantine architecture assumed more ornate and exotic forms of design and decoration, particularly on exteriors, and the churches themselves became progressively smaller. The preferred plan is that of a cross inscribed in a square, the crossing crowned by a dome on an elaborate towerlike cylindrical drum pierced by narrow arched windows, with similar subordinate domes grouped around it picturesquely at lower levels. To the present day this is the accepted style of the Greek Church. Among examples in Greece is the tiny metropolitan cathedral at Athens (13th cent.) and the Church of the Holy Apostles at Salonica, the latter noted for its beautifully patterned exterior brickwork. In Armenia at this time and earlier a distinctly local interpretation was developed, with cut stone used as the chief material instead of brick. In Russia also, Byzantine factors were remolded to a national manner, e.g., in the cathedrals of Moscow, Kiev, and Novgorod, where the exterior false domes assume a pointed bulbous form, and interior decoration—as in most late Byzantine churches—is realized largely in fresco. Aside from churches, remaining examples of Byzantine architecture are chiefly monasteries, e.g., the Meteora and Mt. Athos, a few ruined castles and town sites, e.g., Malvasia and Mistra (all the foregoing in Greece), baptisteries, and city gates and walls, as at Constantinople. Little is left to testify to minor and domestic work.

Byzantine art, an art blended of Hellenistic and Oriental traditions which flourished in Constantinople and Alexandria throughout the course of the Byzantine Empire. Having begun its development in the 2d and 3d cent. A.D., it reached its first Golden Age c.330. In the pre-Justinian and Justinian periods experimentation with a new style culminated in a characteristic Byzantine art. The iconoclastic period, set in motion by Emperor Leo III (717–40), caused an almost complete artistic standstill. The ban on pictorial and sculptural representation of religious subjects (see ICONOCLASM) drove many Byzantine artists to Italy and N France. It is due to this exodus that Byzantine characteristics are found in the pre-Renaissance art of Europe. Iconoclasm ended in the majority of Michael III and with the Macedonian dynasty. Byzantine art entered its second Golden Age, which lasted until the sack (1204) of Constantinople. During this period a twofold art was in evidence, monastic on the one hand, secular and imperialistic on the other, the increasing dominance of the monastic party introduced further Christian iconography. The last period of Byzantine art, from the restoration until the fall (1453) of Constantinople, was one of decline and deterioration. Having found their way into the Balkans and Russia, elements of the Byzantine style survived there into the 20th cent. From the Orient, Byzantine art took its emphasis on decorativeness and dazzling ornamentation as well as its neglect of plasticity in favor of flat-line harmony. Christianity having become the official religion in 325, these principles were applied to Christian iconography. Mosaics, composed of glass tesserae, were at their highest point in the first Golden Age. Examples may be found in the cathedrals at Ravenna, dating from the 6th cent. Gold, silver, and purple predominate in these brightly colorful representations of saints and rulers. In the second Golden Age mosaics became more emotional and religious, by the 14th cent. they all but disappeared. Sculpture was at all times characterized by even, flat relief, concentrating more on producing decorative effects of light and dark than on achieving realistic gradations of shading. Much of the sculpture of the first Golden Age was destroyed during the iconoclastic period, and only a few tomb ornamentations remain. These are very much in the Hellenistic tradition. The second Golden Age and the 14th cent. produced almost no sculpture. Stone carving in Byzantine art was always more prevalent in capitals and pilasters rather than in round figures. Such carvings existed in all periods and are of a delicate, lacy design, taking their models from fruits and flowers. Carving in ivory was also a popular art. During the first Golden Age little ivory diptychs were produced to tell such news as the election of a new consul. In the second Golden Age ivory carving was done on boxes and caskets, a few frescoes remain from this period. The illustration of manuscripts with miniature paintings, which was already much practiced in the first Golden Age, reached a new elaborateness in the second Golden Age. Among the minor arts, enameled icons and gold ornaments again exhibit the decorative, dainty workmanship characteristic of Byzantine art. After the introduction of silk weaving into the Byzantine Empire in the 6th cent., tapestries were also produced. See O. M. Dalton, *Byzantine Art and Archaeology* (1911), Hayford Peirce and Royall Tyler, *Byzantine Art* (1926), David Talbot Rice, *Byzantine Art* (1935), Parker Lesley, *Early Christian, Byzantine, and Romanesque Art* (1939).

Byzantine Empire, successor state to the Roman Empire (see under ROME), also called Eastern Empire and East Roman Empire. It was named after Byzantium, which Emperor CONSTANTINE I rebuilt (A.D. 330) as CONSTANTINOPLE and made the capital of the entire Roman Empire. A division into Eastern and Western empires became permanent after the accession (395) of HONORIUS in the West and ARCADIUS in the East, but the permanent split was not foreseen at the time. Throughout the eleven and a half centuries of its existence the Byzantine Empire was subject to important changes of its ill-defined boundaries. The core of the empire consisted of the Balkan Peninsula (i.e., THRACE, MACEDONIA, EPIRUS, GREECE proper, the Greek isles, and ILLYRIA) and of Asia Minor. Greek was the prevalent language but Latin long continued in official use. The characteristic Oriental influence began with Constantine I, who also introduced Christianity. Orthodoxy triumphed over ARIANISM under Arcadius' predecessor, THEODOSIUS I, but violent religious controversy was chronic until the end of the empire. The reigns (395–527) of Arcadius, THEODOSIUS II, MARCIAN, LEO I, Leo II, ZENO, ANASTASIUS I, and JUSTIN I were marked by the invasions of the Visigoths under ALARIC I, of the Huns under ATTILA, and of the AVARS, the SLAVS, the Bulgars (see BULGARIA), and the Persians. Italy, Gaul, and Spain were, after the Western Empire fell (476) to ODOACER, theoretically united under Zeno but actually dominated by, respectively, the Ostrogoths, the Franks, and the Visigoths, while Africa was under the Vandals. In the same period arose the heresies of NESTORIANISM and MONOPHYSITISM and the political parties of BLUES AND GREENS to divide the Byzantines. Yet under the rule (527–65) of JUSTINIAN I and THEODORA, Byzantine power experienced an amazing revival. Their two great generals, BELISARIUS and NARSES, checked the Persians, repressed political factions, and recovered Italy and Africa, while TRIBONIAN helped the emperor to codify ROMAN LAW. During Justinian's reign a great revival of Hellenism took place in literature, Byzantine art and Byzantine architecture entered their most glorious period. Much was lost again under his successors. The LOMBARDS conquered most of Italy. However, Ravenna and the PENTAPOLIS, Rome, Sardinia, Corsica, Liguria, and the coasts of S Italy and Sicily long remained under Byzantine rule, and the exarchs governed until 751 at RAVENNA. The Persians, under KHOSRU I, made great gains, though Emperor MAURICE temporarily checked them in 591. HERACLIUS I (610–41) defeated the Persians but was barely able to save Constantinople from the AVARS. Moslem conquests soon afterward wrested SYRIA, Palestine, Egypt, Africa, and Sicily from the empire. Heraclius' attempt to reconcile Monophysitism and Orthodoxy merely led to the new heresy of MONOTHELETISM. CONSTANS II (642–68) reorganized the administration of the provinces (*themes*) on a military basis, and CONSTANTINE IV (668–85) saved Constantinople from Arab attack. The 7th cent. was marked by increasing Hellenization of the empire, outwardly symbolized by the adoption of the Greek title Basileus by the emperors. The church, under the PATRIARCH of Constantinople, assumed increasing importance in public affairs. Theology, cultivated by emperors and monks alike, was pushed to extremes of subtlety; literature and art became chiefly religious. Under JUSTINIAN II and his self-made successors the empire was again menaced by Arabs and Bulgars, but the Isaurian emperors LEO III (717–40) and CONSTANTINE V stopped the Arab advance and recovered Asia Minor. The grave issue of ICONOCLASM, which they precipitated, led to the loss of Rome. In 800, during the reign of IRENE, the Frank CHARLEMAGNE was crowned emperor of the West at Rome. Thus ended even the theoretical primacy of Byzantium over Europe. The political division of East and West was paralleled by the religious schism, originating with the patriarch PHOTIUS, between the Roman and the ORTHODOX EASTERN CHURCH. In all aspects the Byzantine Empire, having lost its claim to universality, became definitely an Oriental state, though Constantinople was the repository of Greek and Roman civilization. Compared with its savants, artists, writers, and artisans, those of Western Europe were crude and barbarous, though more vigorous and original. Yet Byzantine court history is a story of absolute despotism and barbarous cruelty not exceeded at any Asiatic court. Rulers acceded to the throne by blinding or murdering their predecessors, often their closest blood relations. Treason, intrigue, and violence were normal political instruments. Eunuchs and slaves became generals and ministers, court ceremonial was an almost religious rite, vice, corruption, and perversion had lost the power to shock. Yet moral decay did not prevent such emperors as BASIL I, founder of the Macedonian dynasty, and his successors (notably LEO VI, ROMANUS I, CONSTANTINE VII, NICEPHORUS II, JOHN I, and BASIL II) from giving the empire a period of splendor and power (867–1025). The eastern frontier was pushed to the Euphrates, the Bulgars subjugated, and the Balkan Peninsula recovered. Russia, converted to Christianity, became an outpost of Byzantine culture.

In the unceasing struggle between the great landowners and the small peasantry the emperors consistently favored the peasants Economic prosperity was paralleled by a new golden age in science, philosophy, and architecture With the rule of Zoë (1028–55) anarchy and decline set in The Seljuk Turks began their attacks, and with the defeat (1071) of Romanus IV at Manzikert most of Asia Minor was permanently lost The Normans under Robert Guiscard and Bohemond seized S Italy and attacked the Balkans, Venice ruled the Adriatic, and the Bulgars and Serbs reasserted their independence Alexius I (1081–1118) took advantage of the First Crusade (see under Crusades) to recover some territory in Asia Minor and to restore Byzantine prestige, but his successors of the Comnenus dynasty were able at best to postpone the disintegration of the empire After the death (1185) of Manuel I the Angelus dynasty precipitated the cataclysm of the Fourth Crusade In 1204, the crusaders and the Venetians sacked Constantinople and set up a new empire (see Constantinople, Latin Empire of) in Thrace, Macedonia, and Greece The remainder of the empire broke into independent states, notably the empires of Nicaea and of Trebizond and the despotat of Epirus The Nicaean emperor Michael VIII in 1261 conquered most of the tottering Latin empire and reestablished the Byzantine Empire under the Palaeologus family (1261–1453) The reconstructed empire was soon attacked from all sides, notably by Charles I of Naples, by Venice, by the Ottoman Turks, by the new kingdoms of Serbia and Bulgaria, and by Catalonian adventurers under Roger de Flor The Turks eventually encircled the empire and reduced it to Constantinople and its environs Manuel II and John VIII vainly asked the West for aid, and in 1453 Constantinople fell to Sultan Mohammed II after a last desperate defense under Constantine XI This is one of the dates conventionally accepted as the beginning of the modern age The collapse of the empire opened the way for the expansion of the Ottoman Empire to the gates of Vienna and also enabled Ivan III of Russia, son-in-law of Constantine XI, to claim a theoretical succession to the imperial title Among the many excellent Byzantine historians were Procopius, Emperor Constantine VII, Princess Anna Comnena, Nicetas Acominatus, John Cinnamus, George Acropolita, and Emperor John VI. The classic work on Byzantine history is Gibbon's *Decline and Fall*. More recent standard works are those of J B. Bury, Charles Diehl, and A A Vasiliev See also *Cambridge Mediaeval History*, Vols II and IV

Byzantine music was long thought to be only a further development of ancient Greek musical practice In the 20th cent, however, it has come to be regarded as an independent musical culture, with elements derived from Syrian and Hebrew as well as Greek sources Its beginnings are dated by some scholars as in the 4th cent, after the founding of the Eastern Empire by Constantine I The Greek kithara and aulos were used, but the principal instrument of Byzantium was the organ No purely instrumental music is extant, however, and the exact nature of the instrumental accompaniment of vocal music is not certain The eight *echoi* correspond roughly to the eight modes (see mode) of plain song, but were melody types, rather than scale patterns The Byzantine music which survives is all sacred, with the exception of some acclamations for the emperor Byzantine chant was monodic, in free rhythm, and often attempted to depict melodically the meaning of the words. The language was Greek The Byzantine hymn, of which there were three types, was the greatest contribution of this culture The *troparion* was inserted between the verses of the Psalms, and eventually the *troparia* overshadowed the Psalms. The *kontakion* was important in the 6th and 9th cent Its origin is ascribed to Romanus, active during the reign of Anastasius I It consists of 18 or 24 strophes all in similar meter, with a contrasting introductory strophe The subject matter is usually biblical Often an acrostic is formed from the first letter of each stanza The time of Romanus and of Sergius (fl. early 7th cent.) is called the golden age of Byzantine music. In the 8th cent. the outstanding hymn writer was St. John of Damascus, and the chief type of hymn was the *kanon*, a series of odes, theoretically nine but often only eight in number, referring to the nine canticles of the Old and New Testaments. Until the 9th cent., poet and composer were always one; later, hymns were set to already existing melodies With the codification of the Greek liturgy in the 11th cent there was a general decline in hymnody Musical activity ceased with the fall of Constantinople (1453). Russian chant, the chant of the modern Greek Orthodox Church, and to a smaller extent Gregorian chant all owe something to Byzantine chant Byzantine notation was originally only a system of *ekphonetic* symbols serving to remind a singer of a melody he already knew. Neumes derived from the ekphonetic notation were in use from c 950 until 1200 From 1110 to 1450 a staffless notation indicating the *echos*, starting note, and subsequent intervals of a melody was in use It is largely decipherable today Signs were added to it in the centuries which followed, but the modern notation used in the Greek church today was devised in the 19th cent by Chrysanthus, a Greek archimandrite, because of the confusion in deciphering the manuscripts of early Byzantine music See H J W Tillyard *Byzantine Music and Hymnography* (1923), Gustave Reese, *Music in the Middle Ages* (1940), Egon Wellesz, *A History of Byzantine Music and Hymnography* (1949).

Byzantium (bĭsăn'shēŭm, -shum, -tēum), ancient city, on the site of the present Istanbul Founded by Greeks from Megara in 658 B C , it early rose to importance because of its position on the Bosporus In the Peloponnesian War it was captured and recaptured In A D 196 it was taken by Roman Emperor Severus Constantine I in A D 330 ordered a new city built here, this was Constantinople, later the capital of the Byzantine Empire and now the city of Istanbul in Turkey

C

C, third letter of the alphabet In position and form, but not in meaning, it corresponds to Greek gamma (see G) In English it is used variously, e g , in *can, cent, church*, and *loch* In musical notation it symbolizes a note in the scale In chemistry it represents the element carbon It is the Roman numeral for 100

Ca, chemical symbol of the element calcium.

Caaba: see Kaaba

Cabal (kŭbăl'), secret group of advisers of Charles II of England Their initials form the word (which is, however, of older origin)—Clifford of Chudleigh, Ashley (Lord Shaftesbury), Buckingham (George Villiers), Arlington (Henry Bennet), and Lauderdale (John Maitland). Although they were never a working ministry, one or more of this group dominated court policy from 1667 to 1674

cabala or **cabbala** (both kă'bŭlu), esoteric system of interpretation of the Scriptures based on the assumption that every word, letter, number, and even accent in them has an occult meaning The system, oral at first, claimed great antiquity, but was really the product of the Middle Ages, arising in the 7th cent and lasting into the 18th It was popular chiefly among Jews, but spread to Christians as well In origin it was an attempt to spiritualize the religion of Judaism which had become formal, rigid, and legalistic It incorporated Neoplatonic elements, elaborately blended with Judaistic theology It taught that God is the source from which emanates the entire objective world Evil is the result of the distance of certain of the emanations from their divine source, the distance causing them to lose their divine qualities Man's soul exists from eternity and is independent of the body, its entrance into a body is a misfortune, if pure it has supremacy over evil forces and may penetrate mysteries and foretell the future If impure it must undergo metempsychosis All the writings of the Scriptures contain hidden divine mysteries, especially the names of God, which are agencies by which to do miracles Each letter of the divine name was believed to be potent, and cabalistic signs and writings were used as amulets The cabala was supposed to contain some Christian doctrines, such as that of the Trinity and the atonement, so it was taken up by Christian scholars in the 15th cent. In reality it contained pagan elements which were contradictory to the spirit of both Judaism and Christianity, and it gradually degenerated into juggling with letters and formulas, the basis of much medieval magic The system still has a few adherents among the Jews of Central Europe and in the older settlements in Palestine The two principal sources of the cabalists are the *Sefer Yezirah* (Eng tr., *Book of Creation*, 1877) and the *Zohar*. The first evolves, in a series of monologues supposedly delivered by Abraham, a system of numerical interpretation and the doctrine of emanation It was probably written in the 6th cent The *Zohar* (the "Cabalistic Bible") develops further the doctrines set forth in the *Sefer Yezirah* in the form of a mystical commentary on the Pentateuch This book was written by Moses de Leon (13th cent) but attributed by him to Simon ben Yohai, the great scholar of the 2d cent. See Bernhard Pick, *The Cabala Its Influence on Judaism and Christianity* (1913), S A Hirsch, *The Cabbalists* (1922)

Caballero, Fernán (fĕrnän' käbälyā'rō), pseud. of **Cecilia Böhl de Faber**, 1796–1877, Spanish novelist and folklorist The daughter of a German who was a Spanish scholar, Johan Nikolas Bohl von Faber, she was born in Switzerland but spent most of her adult life in Andalusia, which is the setting for her stories Her novels, very sentimental, are interesting for their regional quality The first, *La Gaviota* [the sea gull], was written in French and translated (1849) into Spanish Others are *La familia de Alvareda* (1856), *Lágrimas* (tears) (1858), and *Clemencia* (1862) Some of her Andalusian folk tales were translated as *Spanish Fairy Tales* (1920)

Cabanel, Alexandre (alĕksā'dru käbänĕl'), 1823–89, French painter, popular in his day He is represented in the Luxembourg, Corcoran, and Metropolitan museums

Cabanis, Pierre Jean Georges (pyĕr' zhă' zhôrzh' kabanēs'), 1757–1808, French physician and philosopher He was professor of hygiene, legal medicine, and medical history in Paris Active in politics as a revolutionist, he was a member of the Council of Five Hundred He wrote *Rapports du physique et du moral de l'homme* (1802). See study by François Labrousse (1903, in French)

Cabano (käbänō'), village (pop 2,031), E Que , on the shore of Lake Temiscouata near the mouth of the Cabano river and E of Rivière du Loup

Cabat, Louis (lwē' kabä'), 1812–93, French painter, one of the earliest realistic landscape painters in France Characteristic are his *Pool of Ville d'Avray* and *Autumn Evening*, both in the Louvre Cabat became director of the Académie de France à Rome in 1879.

cabbage, leafy garden vegetable of many widely dissimilar varieties, all probably descended from the wild, or sea, cabbage (*Brassica oleracea*) of the coasts of Europe. It is used for food for man and stock. Well-known varieties include the common white and red cabbage, borecole or kale, Brussels sprouts, cauliflower, broccoli, and kohlrabi. See W W. Robbins, *The Botany of Crop Plants* (1931 ed)

cabbage palm, popular name for several species of palm yielding edible central buds, which are cooked as vegetables They include the cocoo palm, the royal palm, and the Sabal palmetto palm.

cabbala: see cabala

Cabbon (kăb'ŏn), town, SW Palestine Joshua 15 40

Cabell, Branch (James Branch Cabell (kă'bul), 1879–, American novelist, b Richmond, Va A graduate of William and Mary College, in 1896–97 he was an instructor there in French and Greek After various experiences in journalism and in the coal mines of West Virginia, he began writing fiction of a highly individual kind Early novels in which he derided conventional history were *Gallantry* (1907), *Chivalry* (1909), and *The Rivet in Grandfather's Neck* (1915) He invented a country of medieval fantasy called Poictesme and there set many of his novels, the best known of which is *Jurgen* (1919), others are *The Cream of the Jest* (1917) and *The Silver Stallion* (1926) After 1930 he wrote as Branch Cabell and continued his ironic novels as late as 1940 with *Hamlet Had an Uncle* His nonfictional writing includes *Beyond Life* (1919), *Straws and Prayer-Books* (1924), *The St Johns* (with A. J Hanna, "Rivers of America" series, 1943), and *Here Let Me Lie* (1947) See Carl Van Doren, *James Branch Cabell* (rev ed , 1932)

Cabell, Joseph Carrington, 1778–1856, promoter of education in Virginia, b Nelson co , Va , grad William and Mary, 1798 A member of the house of burgesses (1808–10, 1831–35) and of the state senate (1810–29), he vigorously supported all measures to further popular education He also helped through legislation and fund raising to found the Univ. of Virginia

Cabet, Étienne (ātyĕn' kabā'), 1788–1856, French utopian socialist and reformer He was elected deputy in 1831, but his bitter attacks on the government resulted in exile (1834–39) In England he was influenced by Robert Owen, and there he developed his communism as expressed in the famous *Voyage en Icarie* (1840), this described an ideal society in which an elected government controlled all economic activity and supervised social affairs, the family remaining the only other independent unit The book was extremely popular, and Cabet gathered many disciples. A group of them attempted unsuccessfully to found an Icarian community on the Red River in Texas (1848). The next year Cabet established a temporary colony at the old Mormon town of Nauvoo, Ill , but serious dissension arose in 1856, and he was not reelected president He died soon after in St Louis Most of the Icarians moved to lands they had bought near Corning, Iowa, where branch communities survived until 1898. Works by Cabet include *Histoire populaire de la Révolution française* (4 vols , 1839–40), *Colonie icarienne aux États-Unis d'Amérique* (1856), and *Le Vrai Christianisme suivant Jésus Christ* (1846). See Albert Shaw, *Icaria, a Chapter in the History of Communism* (1884); Jules Prudhommeaux, *Icarie et son fondateur* (1907, in French).

Cabeza de Vaca, Álvar Núñez (äl'vär nōō'nyāth käbä'thä dā vä'kä), c.1490–c.1557, Spanish explorer in the American Southwest Cabeza de Vaca [cow's head] was not truly a surname but a title hereditary in his mother's family; he is frequently called simply Álvar Núñez. He came to the New World as treasurer in the expedition of Pánfilo de Narváez that left Spain in 1527 and reached Florida (probably Tampa Bay) in 1528 When that expedition was dissolved by hardship and Indian hostility, Cabeza de Vaca was one of the survivors whose barges were shipwrecked on an island on the Texas coast Later scholars have argued much over the identification of that island, but Galveston Island and Mustang Island are popular candidates Cleve Hallenbeck, who in his *Álvar Núñez Cabeza de Vaca the Journal and Route of the First European to Cross the Continent of North America, 1534–1536* (1940) gives a concise summary of various theories and arguments about the place of the final shipwreck and the route of the later journey, favors Galveston Island The story is one of the most remarkable in the annals of exploration After much suffering as slaves of the Indians, Cabeza de Vaca and three other survivors escaped and started a long journey overland His companions were Alonso del Castillo Maldonado, Andrés Dorantes, and Estevanico (an Arab or possibly a Negro) They gained great repute among the Indians as healers since remarkable cures were attributed to their Christian prayers The route that they followed westward is disputed as much as the island of the shipwreck, but after much wandering they did get to W Texas, probably into New Mexico and Arizona, and possibly (some argue) even to California before, turning south, they emerged into the full glare of history again as they told their story to Spaniards in Culiacán in Mexico They were almost certainly the first white men to see the buffalo, and their stories about the Pueblo Indians gave rise to the legend of the Seven Cities of Cíbola, later magnified by Fray Marcos de Niza, and brought explorers in search of El Dorado Cabeza de Vaca's own account, *Los naufragios* [the shipwrecked men] (1542), is the chief document of the startling adventures of his party This has been translated into English by Thomas Buckingham Smith (1851, reedited by J G Shea, 1871, republished with notes in F W Hodge, *Spanish Explorers in the Southwestern United States*, 1907) and by Fanny Bandelier (1905) After returning to Spain, Cabeza de Vaca was appointed governor of the Río de la Plata region and reached Asunción after an overland journey from the Brazilian coast in 1542 His South American career was sadly different from that in North America He got into much trouble with the popular Domingo Martínez de Irala After he returned from a journey up the Paraná river to Bolivia, he was arrested, accused of highhanded practices, imprisoned for two years, and sent back to Spain There he was found guilty but was pardoned by the king North American historians tend to exonerate him, South American historians tend to blame him Cabeza de Vaca wrote his own account of South American events in his *Comentarios* (1555) Hamel Long's *Interlinear to Cabeza de Vaca* (1936, later reprinted as *Power within Us*) is primarily a study of the cures worked by Cabeza de Vaca and his companions See the book of Hallenbeck cited above, Morris Bishop, *The Odyssey of Cabeza de Vaca* (1933)

cabildo (käbēl'dō), municipal corporation, lowest administrative unit in Spanish government In the American colonies it was the only institution in which creoles could participate Composed usually of councilors and magistrates, the *cabildo* distributed lands, imposed taxes, provided police service, and the like In discussions of major importance the *cabildo abierto* [open cabildo] was formed by including prominent citizens In theory, membership in the *cabildo* was elective, in practice, it became appointive, proprietary, and hereditary Corruption and inefficiency were common The degree of local autonomy at first granted by the crown was soon hedged in by increasing centralization of power in higher authorities Nevertheless, when the movement toward independence took root, the *cabildo* was the only self-perpetuating institution around which new forces could rally The *cabildo* could in case of emergency choose a governor, lieutenant governor, or captain general (e g , Hernán Cortés) The first *cabildo* in the Americas was that of Asunción, founded by Domingo Martínez de Irala

Cabinda (kŭbĭn'dŭ, kŭbēn'dŭ), region, 2,920 sq mi., W Africa, detached from, but part of, Angola, on the Atlantic Ocean. It lies between Belgian Congo and French Equatorial Africa There are exports of hardwoods, rubber, cacao, coffee, and palm-oil products The name formerly sometimes appeared as Kabinda

cabinet, group of advisers to the head of the state who themselves are usually the heads of the administrative government departments Its nature differs widely in various countries In Great Britain, where the cabinet system originated, it was at first a committee of the privy council and rose to its present status only after parliamentary sovereignty had been clearly established by the Revolution of 1688 and the emergence of party governments in the 18th cent Since the time of Robert Walpole the British cabinet has usually been a body of ministers drawn from the party possessing a majority in the House of Commons, responsible to the House for the conduct of the administration The cabinet is chosen by the prime minister, who is guided by the necessity of choosing a group that will represent the disparate elements in his party and who must fill certain posts with commoners rather than peers Overthrow of the cabinet follows a division of the House of Commons or a general election adverse to the administration In France and other continental countries the selection of cabinet members from the legislature is less the rule, and cabinet members may speak in either legislative house In the United States the members of the cabinet are not members of either house of Congress and are responsible, individually and not as a body, solely to the President, who appoints them with the approval of the Senate and may remove them at will The United States cabinet member may not speak in Congress, though he is often called before Congressional committees The order of seniority in the U S cabinet is according to the creation of the respective government departments, beginning with the Dept of State and followed by the Secretaries of the Treasury and War (until 1948), the Attorney General, the Postmaster General, and the Secretaries of the Navy (until 1948), the Interior, Agriculture, Commerce, Labor, and Defense (1948) In case of the death or disability of both the President and the Vice President, the succession to the presidency falls to the speaker of the House of Representatives rather than, as before 1947, to the Secretary of State See W I Jennings, *Cabinet Government* (1936)

cabinetmaking, the production of fine woodwork, differentiated from carpentry by more expert workmanship In the United States the term includes not only the making of furniture, both mobiliary and built-in, and the finer sorts of interior wall paneling and wood trim, but also the interior wood finish of boats, railway cars, and airships The harder woods such as mahogany, walnut, and oak are chiefly used Pieces are joined by gluing and by mortise-and-tenon, tongue-and-groove, mitered, and dovetailed joints, rather than by butt-joining and nailing as in carpentry Cabinetmaking includes the processes involved in marquetry, inlaying, wood carving, veneering, and finishing Since the latter part of the 19th cent , machinery has been used for practically all operations Prior to that time, however, cabinetmaking was purely a craft, with notably high traditions of workmanship It has in all periods produced fine furniture and in its best manifestations has approached the level of a fine art In the 18th cent , considered the golden age of cabinetmaking in Europe and America, master craftsmen such as Thomas Chippendale in England, J H Riesener in France, and Duncan Phyfe in America produced pieces which were triumphs of design and technique Many leading craftsmen of the period signed their pieces and some deeply influenced contemporary taste

Cabira see Sivas, Turkey

Cabiri (kubē'rī), in Greek religion, beneficent nature deities, possibly of Phrygian origin Knowledge of their legends is scant and confused They were connected with fertility rites and were particularly worshiped at Samothrace with mysteries Sometimes in late legend they are linked with Demeter, Hephaestus, or Hermes and are then like the Corybantes and Curetes They were also patrons of navigation and, again in late legend, are sometimes fused with the Dioscuri

Cable, George Washington, 1844–1925, American author, b New Orleans A Confederate soldier in the Civil War, he studied engineering and was a warehouse clerk when he first wrote for the New Orleans *Picayune* His short stories began to appear in *Scribner's Monthly* in 1873, and their collection in *Old Creole Days* (1879) established him as the recorder of the romantic atmosphere of New Orleans culture *The Grandissimes* (1880) is his best novel of Louisiana and was followed by *Madame Delphine* (1881) He lived in Northampton, Mass , after 1884, his fiction declined in vividness, and he devoted himself to social reform See biography by L L Cable Bikle (1928), M Cable Dennis, *The Tail of the Comet* (1937)

cable. Originally the word was used for a fibrous rope The term has come to be used in several ways—for a cablegram or message transmitted across the ocean by telegraph, for a line with an insulated and protected core of several strands of wire twisted together, used for the transmission of messages by telephone and telegraph, for the chain, heavy rope, or group of twisted wires used to anchor or moor a ship or for a towing, for the twisted wire rope used in engineering for many purposes, such as the support of a suspension bridge, and for the usually insulated wire conveyor of electricity for power or light from source to consumer. In 1845 France and England were first successfully connected by marine telegraphic cable The first permanent transatlantic cable was laid in 1866 by Cyrus West Field, although successful demonstrations had been made in 1858 A coaxial cable was first installed in 1935 between New York city and Philadelphia, and in 1936 the first transmission of a telephone message was made over it The coaxial cable consists of a copper tube through the center of which extends a copper wire held in place by insulating disks spaced a few inches apart A number of such conducting units are held together by a covering of insulating material By means of the coaxial cable, telegraph and telephone messages and television images can be transmitted A large number of signals can be transmitted simultaneously over each cable

Cabochiens (kabōshyĕ'), popular faction in Paris in the early 15th cent Composed largely of small tradespeople and members of the butchers' and skinners' guilds, it was named after one of the leaders, Simon Lecoustellier, called Caboche, a skinner Chafing at the ruinous and corrupt fiscal practices of the government and the extravagance of the court, they espoused the cause of John the Fearless of Burgundy in the civil war (1411–13) between Armagnacs and Burgundians In 1413 they got out of control, seized the government of Paris, and promulgated the so-called *ordonnance cabochienne*, containing radical reforms They were soon suppressed by the victorious Armagnacs

Cabool (kŭbōōl'), city (pop 1,069), S Mo , ESE of Springfield, in a farm and timber area, inc 1906 A state poultry experiment station is near by

Cabot, George (kă'but), 1752–1823, American merchant and politician, b Salem, Mass , educated at Harvard He went to sea and became captain of one of the ships owned by his brothers John and Andrew Cabot of Beverley, who in 1777 took him into their firm Cabot also helped develop the family's cotton mills in Beverley A Federalist, he was (1791–96) one of Alexander Hamilton's most trusted followers in the U S Senate Made a director of the Bank of the United States in 1793, he became president of its Boston branch in 1803 In the Federalist discontent at the beginning of the 19th cent , Cabot was a leader of the Essex Junto and presided over the Hartford Convention See biography by his grandson, Henry Cabot Lodge (1877)

Cabot, John, fl 1461–98, English explorer, probably b Genoa, Italy He became a naturalized citizen of Venice in 1476 and engaged in the Eastern trade of that city This experience, it is assumed, was the stimulus of his later explorations Like Columbus (though there is no evidence either influenced the other), he apparently believed the riches of the Far East might be more easily reached by sailing west He went to England, probably in the 1480s, and resided chiefly at Bristol, a port then promising as a base for discovery Under a patent granted by Henry VII (March 5, 1496), Cabot sailed from Bristol in 1497 and discovered the North American coast at a point usually thought to be Cape Breton Island In 1498 he again sailed for America to explore the coast The fate of the expedition is unknown, though there is presumptive evidence it reached America and some of its members returned The English claims in North America were based on his discovery His son was Sebastian Cabot See H Harrisse, *John Cabot, the Discoverer of North-America, and Sebastian, His Son* (1896), G P Winship, *Cabot Bibliography* (1900), H P Biggar, *The Precursors of Jacques Cartier* (1911), J A Williamson, *The Voyages of the Cabots* (1929)

Cabot, Richard Clarke, 1868–1939, American physician and educator, b Brookline, Mass , M D Harvard, 1892 He was associated with the Massachusetts General Hospital (1898–1921) and with Harvard, where he taught in the medical school (1899–1933) and was professor of social ethics (1920–34) His works include *Physical Diagnosis* (with F D Adams, 1901, 13th ed , 1942), *Social Service and the Art of Healing* (1909), *Differential Diagnosis* (2 vols , 1911–15), *Social Work* (1919), *Adventures on the Borderlands of Ethics* (1926), and *Christianity and Sex* (1937)

Cabot, Sebastian, b 1483–86?, d 1557?, explorer in Spanish service, son of John Cabot It is unknown whether or not he accompanied his father on the 1497 or the 1498 voyage For several centuries Sebastian was given the credit for his father's achievements, but 19th-century scholars, finding discrepancies in the Sebastian stories, branded him an impostor and usurper and applied his accounts to the 1498 voyage of John Cabot Recent research indicates that the Sebastian narratives relate to a later voyage made by him, probably in 1508–9, in search of the Northwest Passage He may have reached Hudson Bay. In 1512 he entered the Spanish service and in 1518 was appointed chief pilot After the return of Magellan's ship *Victoria*, he sailed (1526) from Sanlúcar de Barrameda with the ostensible purpose of loading spices in the Moluccas, but probably bearing secret instructions from Emperor Charles V to explore the Río de la Plata country He spent several years along the Plata and Paraná rivers, but the hostility of the Indians and the scarcity of food forced him to

leave the country He returned to Spain in 1530, distrusted and discredited He carried on his duties as chief pilot, however, until 1548, when he reentered the English service In 1553 he became governor of a joint-stock company, later known as the MUSCOVY COMPANY, which was organized to seek a Northeast Passage and open trade with India Under his instructions an expedition under Stephen Borough sailed the same year and reached the White Sea A commercial treaty was negotiated with Russia This, breaking the Hanseatic League's monopoly, was a substantial achievement See H. Harrisse, *John Cabot, the Discoverer of North-America, and Sebastian, His Son* (1896), G P Winship, *Cabot Bibliography* (1900), J T Medina, *El veneciano Sebastián Caboto* (1908); J. A. Williamson, *The Voyages of the Cabots* (1929)

Cabral, Pedro Alvares (pā'drō äl'vŭrĭsh kubrahl'), c 1460–1526?, Portuguese navigator A friend of Vasco da Gama, he was sent out by Manuel I as head of a fleet destined for India in 1500 Bartholomew Dias was one of his officers Cabral went far west of his course and reached the coast of Brazil, which he claimed for Portugal Proceeding onward, he reached Madagascar and Mozambique At Calicut, he got into great trouble over establishing a post for trade and for converting the Mohammedans and ended by arousing all the natives against him He bombarded the city and had to leave to get his East Indian cargo elsewhere The ships came back to Portugal with rich cargoes, but his methods of diplomacy were severely criticized The old story was that Cabral discovered Brazil because he had been driven off his course to avoid storms This has been much questioned in recent days, and it has been urged that even before the Spanish Vicente Yáñez Pinzon saw the Brazilian coast Portuguese navigators had been there and that Portugal, wishing to obtain the land, had managed to secure a revision of the pope's original demarcation of the world into Spanish and Portuguese zones of exploration Certainly the Treaty of Tordesillas (1594) did adjust the former line and put Brazil in the Portuguese zone, but the truth of the matter is still being argued

Cabrera, Manuel Estrada see ESTRADA CABRERA

Cabrera, Ramón (rämōn' kubrā'ra), 1810?–77, Spanish Carlist general, count of Morella He was noted for valor and for his extreme cruelty in the war against the royalists Refusing to accept the Carlist defeat in 1839, he continued the war in Valencia and Catalonia until driven into France in 1840 After a brief reappearance as Carlist leader in Catalonia in 1847, he returned to France and then went to England. In 1875 he recognized Alfonso XII as king

Cabrillo, Juan Rodríguez (hwan rōdhrē'gāth kabrē'lyō), Port *João Rodrigues Cabrilho*, d 1543, Spanish conquistador and discoverer of California, b Portugal In 1520 he landed in Mexico with Pánfilo de Narváez and joined in the conquests of Mexico and Guatemala Accompanying Pedro de ALVARADO up the west coast of Mexico, he assumed command of the expedition and continued the voyage after Alvarado's death He discovered San Diego Bay (Sept 28, 1542), landing at Point Loma Head, now in Cabrillo National Monument He then sailed on to Northwest Cape beyond San Francisco Bay, which he did not find Returning to winter on San Miguel Island off the Santa Barbara coast, he died Jan 3,1543, probably from an infection contracted after breaking an arm three weeks earlier

Cabrillo National Monument see NATIONAL PARKS AND MONUMENTS (table)

Cabrini, Saint Frances Xavier (zä'vyur kubrē'nē), 1850–1917, American nun, founder of the Missionary Sisters of the Sacred Heart of Jesus, b near Lodi, Italy In Italy she founded her order, an association for charitable and religious work among the very poor She came to America in 1889 and lived mainly in New York and Chicago, directing the establishment of hospitals, orphanages, nurseries, and schools in the United States and in Latin America. Her sanctity, highly regarded in her lifetime, became famous after her death She was beatified by Pope Pius XI in 1938 and canonized in 1946 by Pius XII. Mother Cabrini was the first U S. citizen to be canonized Her principal shrine is the Mother Cabrini High School, New York city, where she is buried Feast Dec 22

Cabul (kä'bŭl), town, NW Palestine, SE of Acre Joshua 19 27, 1 Kings 9 13.

ca' canny: see SABOTAGE

cacao (kukä'ō), tropical tree (*Theobroma cacao*), moderate in size, with large undivided leaves and pinkish-yellow flowers It bears directly from the axes of old leaf scars on trunk and larger branches a cucumber-shaped fruit or pod with a thick, ridged rind This pod encloses five rows of almond-shaped seeds or "beans" embedded in a light-colored sweetish pulp These are the cocoa beans of commerce The tree is native to the tropical parts of America, where it is extensively cultivated, cocoa beans were articles of commerce among pre-Columbian Indians It has been introduced into some parts of Asia and Africa When under cultivation, the trees are kept at a height of 15 to 20 ft They begin to bear in 4 or 5 years, attain full vigor in 12 years, and yield two crops a year. Two pounds of cocoa per tree per annum is estimated to be an average crop Methods of preparing the cacao fruit for market vary somewhat in different localities, but the essential stages are alike. The pods are cut from the trees with knives mounted on bamboo poles, cut open, and the seeds removed. The seeds are fermented to eliminate their bitter, astringent quality They are then carefully dried on a brick or cement floor or, in the more primitive factories, on coconut fiber or wooden platforms The seeds are screened, roasted, and skinned, and the clean kernels are known as cocoa nibs The shells may be infused like tea for a beverage and are sold for that purpose and to flavor cattle food The nibs are manufactured into various products As they are over 50 percent fat, much of this may be removed by pressure and sold as cocoa butter, a pale yellow solid fat, in demand for fine soap and cosmetics and in medicine for emollients and suppositories The residue of the nib, ground and boxed, is known as cocoa and is made, with milk or water, into a beverage CHOCOLATE is a product in bar form with the cocoa butter retained Cacao is exported mainly from British West Africa, South and Central America, and the West Indies, and the greatest markets are at New York, Hamburg, London, and Liverpool Cacao products have a high food value because of the large proportion of fat, carbohydrates, and protein

Caccini, Giulio (jōō'lyō kat-chē'nē), c 1558–c 1618, Italian composer and singer He and PERI were the composers of *Dafne* (c 1597), the first actual opera on record He also composed a setting of Ottavio Rinuccini's *Euridice* (1600), the earliest opera of which the music is extant *Nuove musiche* (1601), a collection of his madrigals and arias, contains the earliest extant examples of monodic style

Cáceres, Andrés Avelino (ändrās' ävālē'nō ka'sārās), 1836?–1923, president of Peru (1886–90, 1894) He was a commander in the war with Chile (see PACIFIC, WAR OF THE) and continued to wage guerrilla warfare long after Peru had been conquered Bitterly opposed to the peace made by the government of Manuel IGLESIAS, Cáceres attempted to seize control in 1884, but failed Gathering more troops, he entered Lima in 1885 and forced Iglesias to hold an election Cáceres was chosen president His administration was a time of ruin and reconstruction In 1894 his party forced congress to elect him president, but Nicolás de PIÉROLA soon overthrew the new government Cáceres later held important diplomatic posts

Cáceres (kä'thārās), city (27,463), capital of Cáceres prov, W Spain, in Estremadura It manufactures cork and leather goods The medieval town, atop a hill, has walls, gates, and towers of Roman and Arabic origin, a Gothic church, and several 16th-century palaces The new town lies below Limestone is mined in the vicinity and is shipped from Cáceres

Cache (kăsh), river, 213 mi long, rising in the hills of SE Missouri and flowing SE into E central Arkansas, where it joins the White River at Clarendon

Cache Bay, town (pop 1,004), S Ont, on Lake Nipissing and W of North Bay It is a lumbering and fishing center

Cachin, Marcel (marsĕl' kăshē'), 1869–, French Communist leader Long the leader of the Communist party in the chamber of deputies and editor of the Communist daily *Humanité*, he was elected a senator in 1935 and after 1944 resumed active politics His opposition to French participation in the Second World War created a stir

cactus, any plant of the family Cactaceae, a large group of succulents found almost entirely in the New World A cactus plant is conspicuous for its fleshy green stem, which performs the functions of leaves (commonly insignificant or absent), and for the spines (not always present) of various colors, shapes, and arrangements Cactus flowers are notably delicate in appearance though usually large and showy, they are commonly yellow, white, or shades of red Fruits of cacti, often colorful, are frequently edible, as are the stems (see PRICKLY PEAR) Cacti are sometimes used as a substitute for wood, as stock feed, and for hedges The plants vary from small round globes to epiphytes, vines, and large treelike forms The reduced leaf surface and the enlarged fleshy stem, which is well fitted to store water and to retain it, make the plant peculiarly adapted to regions of high temperature and long dry periods. Cacti are not restricted to desert regions, however, for in America they range from the tropics into Canada. A cactus plant appears on the coat of arms of Mexico, and the giant cactus or saguaro blossom is the state flower of Arizona In horticulture cacti are propagated by seeds, cuttings, and grafts Grafting is used also for producing novelty forms Some of the better-known cacti include the prickly pear, NIGHT-BLOOMING CEREUS, Christmas cactus (a popular house plant), cholla (used in making souvenirs), PEYOTE, and nopal (formerly cultivated as a host for the cochineal) The Cactus and Succulent Society of America promotes the cultivation of the plants See E B. Higgins, *Our Native Cacti* (1931), S. E Haselton, *Cacti for the Amateur* (1938).

Cadalso Vázquez, José de (hōsā' dā kädhäl'sō väth'käth), 1741–82, Spanish poet, critic, and satirist At the death of his beloved, the actress María Ignacia Ibáñez, his despair drove him to try to disinter her body. He is considered a precursor of the Spanish romantic movement for his book of poems, *Noches lugubres* (1798), adapted from Edward Young's *Night Thoughts* He is best known, however, for his prose works, *Los eruditos a la violeta* (1772), a satire on pedantry, and *Cartas marruecas* [Moroccan letters] (1793), an analysis of Spanish psychology He died in the battle of Gibraltar

Cadamosto or **Cada Mosto, Luigi da** (lwē'jē dä kadamō'stō), 1432?–1480?, Venetian navigator in the service of Prince Henry the Navigator of Portugal He seems to have entered Portuguese service in 1454, and he left a record of a voyage in 1455 which is valuable for the information it gives concerning Portuguese activity in the Canary Islands He and the Genoese, Antonio de Noli, also in Prince Henry's service, went down the African coast to the Gambia river In 1456 or 1457 Cadamosto reached the Cape Verde Islands, but the question of discovery of the islands is not settled They may have been sighted by the Portuguese years before, they may have been discovered just a year before, they may have been first visited by Cadamosto His name also appears as Alvise da Cadamosto

Cadbury, Dame Elizabeth Mary (Taylor), 1858–1935, English social worker and philanthropist, studied in France and Germany, wife of George Cadbury Becoming interested in social service, especially education, housing, and peace, she was active in many organizations working for improvement in these fields She served on the Birmingham Education Committee after 1911, was a member of the International Council of Women, a president of the National Union of Women Workers, city councilor of Birmingham (1919–24), president (1925) of the National Council of Evangelical Free Churches, and a justice of the peace (1926) In 1918 she was awarded the Order of the British Empire and in 1934 was made Dame Commander of the Order in recognition of her services as a social worker

Cadbury, George, 1839–1922, English manufacturer and social reformer In 1861 Cadbury and his brother Richard assumed control of their father's Birmingham cocoa factory Interested in housing problems, Cadbury moved the plant in 1879 to Bournville, where he laid out a garden village The successful venture influenced European model housing and town-planning projects Agitation for national old-age pensions and insurance was financed by Cadbury, who also attempted to rid industry of sweated labor See biography by A G Gardiner (1923)

Caddo (kă'dō), North American Indian tribe, one of a number speaking Caddoan languages The tribe gave its name not only to the linguistic stock but also to the Caddo confederacy, a loose federation of tribes occupying lands from the Red River valley in Louisiana to the Brazos valley in Texas and N into Arkansas and Kansas The Wichita, the Caddo themselves, and the Waco were the best-known members Some of the others were the Anadarko, the Nacogdoches, and the Nachitoches The culture of the various tribes was similar They were generally sedentary, living in villages of conical huts, though they were also raisers of horses They practiced tatooing and nose piercing and had distinctive feather mantles for ritual They were bound together by religious rather than political ties

Caddoan (kă'dōun), linguistic family of North American Indians (see LANGUAGE, table) It included the Arikara in the north, the Pawnee in Kansas and Nebraska, and the Wichita, the Caddo, and many others in the south It has been suggested that the family is related to the Iroquoian See also HOKAN

Cade, Jack, d 1450, English rebel Of his life very little is known. He may have been of Irish birth, he himself claimed the name of John Mortimer and cousinship to Richard, duke of York In 1450 he appeared as the leader of a well-organized uprising in the south of England, principally in Kent, known usually as Jack Cade's Rebellion The protests were mainly political, not social, although the Statute of Laborers was among the grievances Others were the loss of royal lands in France, the extravagance of the court, the corruption of favorites, and the breakdown of the administration of justice The rebels defeated the royal army at Sevenoaks, entered London, executed the ex-minister accused of responsibility for the losses in France, and sacked several houses The government then offered pardon to Cade's men and so dispersed them Cade himself was captured and executed See George Kriehn, *The English Uprising in 1450* (1892)

cadence, in music, the close of a phrase, section, or composition. In the 14th and 15th cent a cadence consisted of a melodic formula, of which there were several types. With the development of harmony, the cadence became a chord formula. Final ca-

dences, those ending with the tonic chord, are called authentic if the dominant chord precedes the tonic Cadences which give a feeling of suspension rather than finality are called deceptive if the dominant leads to some chord other than the expected tonic, the semicadence is the progression of the tonic chord to the dominant See Alfredo Casella, *The Evolution of Music throughout the History of the Perfect Cadence* (1924)

Cader Idris (kă'dûr ĭ'drĭs) [chair of Idris], mountain ridge, 2,927 ft high and c 7 mi long, Merionethshire, Wales, near Dolgelley

cadi; see KADI

Cadillac, Antoine de la Mothe (kă'dĭlăk, Fr ătwän' dû lă môt' kădêyăk'), c 1658–1730, French colonial governor in North America, founder of DETROIT Of the minor Gascon nobility, he came to America in 1683 to seek his fortune and lived for a time at Port Royal (now Annapolis Royal, N S) and then on a grant of land in present Maine He became a favorite of the governor of New France, Frontenac, and in 1694 he was placed in charge of the frontier post at MACKINAC In 1699 Cadillac went to France to push plans for a post on the Detroit river, which he felt would offer a better strategic position against the English than Mackinac Receiving a grant of land, trade privileges, and command of the new post, he set out with a band of colonists Detroit was founded in 1701 Cadillac attracted many of the Western Indian tribes to settle near the new colony In 1711 he was appointed to the governorship of the vast territory of Louisiana He reached his new post in 1713 to begin an administration that was remarkable only for the frequency and fierceness of internal quarrels He was recalled in 1716 and spent his last years in Gascony See biography by Agnes C Laut (1931)

Cadillac (kă'dĭlăk), resort city (pop 9,855), co seat of Wexford co., N Mich , SE of Traverse City and on Lake Cadillac, in a farm area, settled c 1871, inc as a village 1875, as a city 1877 A trading post was established here by Antoine de la Mothe Cadillac Varied products of the city include rubber goods and heating equipment Cadillac is headquarters of the Manistee and Huron national forests There are Indian mounds near by To the west is a winter sports area

Cádiz (kă'dĭz, kudĭz', Span kä'dēth), city (pop 87,630), capital of Cádiz prov , SW Spain, in Andalusia, on the Bay of Cádiz Picturesquely situated on a promontory (joined to the Isla de Leon, just off the mainland), it is a fortress, a naval base, and the main Atlantic port of S Spain, exporting wine, olive oil, fruit, fish, and minerals The Phoenicians founded (c 1100 B C) here the port of Gadir which became a market for the tin of the Cassiterides and the silver of Tarshish It was taken (c 500 B C) by the Carthaginians and passed late in the 3d cent B C to the Romans, who called it Gades It flourished until the fall of Rome, but suffered from the barbarian invasions and declined further under the Moors After its conquest (1262) by Alfonso X of Castile, its fortifications were rebuilt The discovery of America revived its prosperity In 1587 Sir Francis Drake burnt a Spanish fleet in its harbor, and in 1596 Essex attacked and partly destroyed the city Cádiz prospered again after 1718 when its port was opened to traffic with the New World, but the loss of the American colonies ruined it once more, and it never recovered its former importance During the siege by the French—which Cádiz resisted for two years (1810–12) until relieved by Wellington—the Cortes assembled here and issued the famous liberal constitution for Spain (March, 1812) The city has few old buildings The 13th-century cathedral, originally Gothic, was rebuilt in Renaissance style The new cathedral dates from 1722 There are several museums, the church of the former Capuchin convent contains the *Marriage of St Catherine* by Murillo, who was at work on this painting when he fell from a scaffold to his death

Cadiz 1 (kă'dĭz) City (pop 1,228), co seat of Trigg co , S Ky , W of Hopkinsville near the Cumberland river It is a trade and shipping center for a tobacco, grain, livestock, and timber area Near by are the Brelsford Caves and a national wildlife refuge 2 (kăd'ĭz, kă'dĭz) Village (pop 2,808), co , seat of Harrison co , E Ohio, SW of Steubenville, laid out 1803–4, inc 1818 It is the trading and marketing center of a farm area

Cadman, Charles Wakefield, 1881–1946, American composer, b Johnstown, Pa Although he is known to the public principally for two songs—*From the Land of the Sky-blue Water*, based on an Indian theme, and *At Dawning* (1906)—he has composed much in larger forms Outstanding are his Indian operas *Shanewis* (New York, 1918) and *The Sunset Trail* (Denver, 1925) and his most successful opera, *A Witch of Salem* (Chicago, 1926), orchestral music, including *Hollywood Suite* (1932) and *Dark Dancers of the Mardi Gras* (1937), and piano music He gave many lecture-recitals on Indian culture

Cadman, Samuel Parkes (pärks), 1864–1936, American Congregational minister, b England From 1901 he was pastor of the Central Congregational Church, Brooklyn, N Y. In 1928 he was chosen as the official radio minister of the Federal Council of Churches of Christ in America. The broadcasting of his sermons and addresses made him nationally known He wrote a number of books on religious subjects

cadmium (kăd'mĭum) [from *cadmia*, a Latin name for *calamine*, with which cadmium is found associated], metallic element (symbol=Cd, for physical constants, see ELEMENT, table) White, lustrous, very malleable, and ductile, in physical properties it is somewhat like tin but is harder, in chemical properties it resembles zinc When ignited, it burns in the air, forming the oxide. It is grouped with magnesium, calcium, zinc, barium, mercury, and radium in the periodic system It forms a brownish oxide, a hydroxide, a carbonate, a chloride, and a sulphide, the last is used as a pigment (cadmium yellow) The element itself is employed in making certain alloys of low melting point, as Wood's metal Cadmium does not occur free in nature, but in compounds, such as greenockite (a rare sulphide of cadmium), and in zinc ores in the form of a carbonate or a sulphide It is obtained as a by-product in the extraction of zinc from its ores The cadmium is distilled off first, since it is more volatile The element was discovered in 1817, Friedrich Stromeyer was the principal pioneer student of cadmium

Cadmus, in Greek legend, son of Agenor and founder of Thebes, honored also as the inventor of the alphabet Misfortune followed his family because he killed a dragon sacred to ARES Cadmus sowed the dragon's teeth, and from these sprang the warring men who were the ancestors of the Thebans He was the father by HARMONIA of Polydorus, SEMELE, Agave, INO, and AUTONOË

Cadogan, William Cadogan, 1st **Earl** (kudû'gun), 1675 1726, British general and diplomat, remembered chiefly as the faithful friend and brilliant subordinate of the duke of MARLBOROUGH The able commander of the dragoons called Cadogan's Horse, he took distinguished part in the many victories of Marlborough in the War of the SPANISH SUCCESSION His early political career was also hinged to that of Marlborough, and he fell when the duke fell in 1711 In exile in the Netherlands he conducted dealings with Hanover for the English Whigs, and after George I ascended (1714) the British throne, he won new commands and honors He helped to suppress the JACOBITES in 1715, was created earl in 1718, and was made commander in chief of the army after Marlborough's death in 1722 He also had high diplomatic duties in the resettlements among Great Britain, France, the Netherlands, the Holy Roman Empire, and Spain in the years 1714–20

Cadorna, Luigi (lwē'jē kadôr'na), 1850 1928, Italian field marshal His father, Raffaele Cadorna, was a general in the wars of the Risorgimento and took Rome in 1870 Luigi Cadorna, a count, had a brilliant career and became the head of the army general staff He reorganized the Italian army before the First World War, during which he was in fact commander of military operations, King Victor Emmanuel III being nominally commander in chief Cadorna took Gorizia in 1916, but after the rout at Caporetto he was replaced (1917) by Armando Diaz He wrote two military works on the First World War and a biography of his father

Cadoudal, Georges (zhôrzh' kadôdal'), 1771–1804, French royalist conspirator A commander of the CHOUANS, he was perhaps the most capable leader of the counterrevolutionists in the VENDÉE He fled to England in 1801 but returned in 1803 in a plot, financed by England, to drive Napoleon Bonaparte from power and restore the French monarchy General PICHEGRU participated in the plot, and Gen Jean Victor MOREAU at least knew of it Insurrections were planned in Paris and in the provinces, but the conspiracy was uncovered in time by FOUCHÉ Cadoudal was executed, and the duc d'ENGHIEN, unjustifiably linked with the plot, was kidnaped and summarily shot The conspiracy was exaggerated in report and was used as a pretext for making the Consulate into Napoleon's empire

caduceus (kudû'sēûs), wing-topped staff, with two snakes winding about it, carried by HERMES, given to him (according to one legend) by Apollo The symbol of two intertwined snakes appeared early in Babylonia and is related to other serpent symbols of fertility, of sun-gods, of wisdom, and of healing This staff of Hermes was carried by Greek heralds and ambassadors and became a Roman symbol for truce, neutrality, and noncombatant status By regulation, it has since 1902 been the insignia of all personnel of the medical branch of the U S army The caduceus is much used as a symbol of commerce, postal service, and ambassadorial positions and has since the 16th cent replaced the one-snake symbol of Asclepius as a symbol of medicine

Cadwaladr or **Cadwallader** (both kădwä'lûdur), semilegendary British king, leader against the Anglo-Saxons in the 7th cent Later bards made him a national hero, and Welsh tradition deems him the last king of the Cymry to wear the crown of Britain.

Cædmon (kăd'mŏn), fl 670, first English Christian poet and first English poet whose name is known He was a herdsman and became a lay brother in the abbey of Whitby Bede in his *Ecclesiastical History* tells how Cædmon composed his first work, a brief hymn, by divine inspiration, he gives a Latin version of this poem and describes others composed by Cædmon Nothing further is known of the poet In 1655 Francis us Junius, a Dutch scholar, published the text of Old English poems which agreed with Bede's description and which Junius believed to be by Cædmon These are the poems "Genesis," "Exodus," "Daniel," and "Christ and Satan" Linguistic evidence proves that they are not of Cædmon's region and that they are of later date, but they are believed to have some connection with his work, at least to have been in part inspired by it See translation of the Cædmon poems by C W Kennedy (1916), *The Junius Manuscript* (ed by G P Krapp, 1931), E V K Dobbie, *Cædmon's Hymn and Bede's Death Song* (1937)

Caelian Hill: see *Rome before Augustus* under ROME

Caelius (Marcus Caelius Rufus) (sē'lĭus), 82 B C – 48 B C , Roman politician He was an intimate friend of CICERO, in whose collected correspondence many of Caelius' letters are preserved In 56 B C Caelius' mistress, Clodia, sister of CLODIUS, accused him of attempting to murder her He was acquitted by Cicero's defense in one of the better-known orations, *Pro Caelio* In the civil war Caelius sided with Julius CAESAR, who made him peregrine praetor in 48 B C Later that year, dissatisfied with Caesar's moderate measures to clear debts, MILO and Caelius made a suicidal attempt at revolt in S Italy Caelius was apparently a close friend of CATULLUS, who was an earlier lover of Clodia

Caen (kā), town (pop 47,835), capital of Calvados dept , N France, in Normandy, on the Orne It is the commercial center of the rich CALVADOS region and has a large textile industry (especially lacemaking) Its importance dates from the time when William I of England (William the Conqueror) made it a favorite residence The town, an architectural gem, was largely destroyed in the fighting which raged around it (June–July, 1944) during the NORMANDY CAMPAIGN of the Second World War The Abbaye aux Hommes [men's abbey], burial place of William the Conqueror, who founded it, was preserved, so were the Abbaye aux Dames [women's abbey], founded by Queen Matilda, and the church of St Nicholas All three are outstanding examples of 11th-century NORMAN ARCHITECTURE The 14th-century Church of St Peter's lost its famous spire (255 ft high) The castle of William the Conqueror, the university (founded 1432), and the town hall (17th cent) were destroyed beyond repair

Caere (sē'rē), ancient city of Etruria, c 30 mi N of Rome There seems to have been a city there before the Etruscans made it and its connecting port Agylla a center of very prosperous trade The cemeteries have been excavated, and the monumental tumuli have revealed much about Etruscan civilization and yielded vases, pottery, and other art objects The modern town here is called Cerveteri

Caerleon (kärlē'un), urban district (1931 pop 2,327, 1943 estimated pop 3,449), Monmouthshire, England, on the Usk river and NE of Newport At Caerleon are extensive remains of the Roman fortress Isca, including an amphitheater, soldiers' quarters, walls, and baths Numerous articles have been collected in a museum The village is also famed for its connection with the ARTHURIAN LEGEND, it is often identified with CAMELOT

Caermarthen or **Carmarthen** (both kurmär'dhun) municipal borough (1931 pop 10,310, 1943 estimated pop 10,950), co seat of Caermarthenshire, Wales, on the right bank of the Towy near its mouth on Caermarthen Bay, one of the largest of the Bristol Channel bays It is the site of the Roman town Maridunum The old castle was the headquarters of Welsh chieftains and was because of its key position the object of several sieges The parish church of St Peter is noteworthy Caermarthen is a cattle market and dairy center, with flour mills and farm-machinery works

Caermarthenshire or **Carmarthenshire**, maritime county (920 sq mi , 1931 pop 179,100, 1948 estimated pop 170,200), S Wales The county town is Caermarthen, site of the Roman town and road center of Maridunum Largest of the Welsh counties, it is mostly hilly, with lower land along the coast (Caermarthen Bay, off the Bristol Channel) and in the fertile valley of the Towy The county is generally devoted to agriculture and grazing, but the industrial S Wales coal fields extend into the southeast corner of the county around Llanelly Coal, iron, copper, and lead are mined Metals and textiles are manufactured The shire was given its modern boundaries in 1536 See J. E Lloyd, *History of Caermarthenshire* (1935)

Caernarvon or **Carnarvon** (both kurnär'vun, kär–), municipal borough (pop 8,469), county town of Caernarvonshire, Wales It is a seaport on Menai Strait with slate exports It has woolen mills and manufactures chemicals and farm machinery The castle, begun by Edward I c 1284, is a fine example

of a medieval fortress The prince of Wales is invested here The site of the Roman Segontium is near by

Caernarvonshire or **Carnarvonshire**, maritime county (569 sq. mi., 1931 pop. 120,829, 1948 estimated pop. 124,607), NW Wales The county town is Caernarvon The region is largely mountainous except for the Lleyn peninsula which forms the northern boundary of Cardigan Bay Snowdon (3,560 ft.) is the highest mountain in England and Wales. The Conway, chief river of the county, flows along Caernarvonshire's eastern boundary, separating it from Denbighshire Agriculture (sheep farming), quarrying (granite and the fine Penrhyn slate), and mining (lead, zinc, and manganese) are the chief industries Historical remains include evidences of considerable Roman occupation. The county has been important from medieval times as a route to Ireland It was organized as a shire by Edward I of England

Caerphilly (kärfĭ'lē), urban district (1931 pop. 35,768, 1947 estimated pop 32,580), Glamorganshire, Wales In a coal area, it is also a market center and is noted for its cheese Its 13th-century castle is the largest in Wales

Caer Went see WINCHESTER, Hampshire, England

Caerwent (karwĕnt'), town, Monmouthshire, England It is the site of the Roman city Venta Silurum, of which there remain walls, gates, hypocausts, and parts of an amphitheater and temple

Caesalpinus, Andreas (ăn'drēəs sēsălpī'nus), Latinized from **Andrea Cesalpino** (andrā'ä chāzälpē'nō), 1519–1603, Italian botanist and physiologist He was physician to Pope Clement VIII He described, in part and as a theory only, the circulation of the blood His chief work, *De plantis* (1583), contains the first classification of plants according to their fruits, based on a comparative study of his large collection Linnaeus considered him the first true systematist

Caesar (sē'zur), ancient Roman patrician family of the Julian gens There are separate articles on its two most distinguished members, Julius Caesar and Augustus Another distinguished member of the family was **Lucius Julius Caesar** (lo͞o'shəs), d 87 B C, consul (90 B C) He proposed a law extending Roman citizenship to Roman allies which had not joined in the Social War against Rome (90 B C) He was killed in the beginning of the civil war by partisans of MARIUS His brother **Caius Julius Caesar Strabo Vopiscus** (strā'bō vŏpĭ'skŭs), d 87 B C, is mentioned as an orator in Cicero's *De oratore* He fell with his brother The son of L Julius Caesar was **Lucius Julius Caesar,** d after 43 B C, one of Julius Caesar's legates in Gaul (52 B C) He accompanied the dictator into Italy in the civil war After the assassination of Julius Caesar he was allied with Marc ANTONY, whose mother, Julia, was his sister In 43 B C he and Antony fell out, and only the pleas of Julia to her son saved her brother in the proscription When Octavius (AUGUSTUS) was adopted into the Julian gens (44 B C), he took the name Caesar, and his successors as emperors took the name Caesar until HADRIAN, who kept the title Augustus for the emperor and allowed the heir apparent to be called Caesar Thus became the custom afterwards The imperial use of the name Caesar was perpetuated in the German *Kaiser* and the Russian *tsar*

Caesar, Julius (Caius Julius Caesar), 102? B C – 44 B C, Roman statesman and general He is one of the most controversial characters of history His admirers from his own day to the present have seen in him the defender of his own rights and the rights of the people against an oligarchy determined to keep power His detractors have seen him as an ambitious demagogue, bribing, smiling, and forcing his way to dictatorial powers and becoming the destroyer of the republic. That he was gifted there can be little doubt. He was extraordinarily versatile He excelled in war, in politics, in statesmanship, in letters, in oratory, and in social grace. He was born of the Julian gens, one of the oldest families in Rome, but Caesar was always a member of the democratic or popular party, probably as a result of the example and patronage of the husband of his father's sister, Caius MARIUS. He made the most of this relationship, strengthening its political implications when he married the wealthy Cornelia, daughter of Lucius Cornelius CINNA, Marius' colleague (83 B C) He had already come into the public eye through his appointment by Marius as *flamen Dialis* [priest of Jove] in 87 B C In 82 B.C., Lucius Cornelius SULLA, in power again, ordered Caesar to divorce Cornelia. When he refused, he was proscribed, his property was confiscated, Cornelia's dowry was taken, and he was shorn of his priesthood. He fled Rome The vestal virgins obtained his pardon, but Caesar, knowing that Rome was not safe, went to serve in the army in Asia (81 B C.). On Sulla's death Caesar returned to Rome and began his political career (78 B C) One of his first acts was to prosecute Cn Cornelius Dolabella, a senatorial governor, for extortion in Macedonia The cause was unsuccessful, but it gained Caesar popularity with his party and great repute for oratory Soon after this (76 B.C) he went to Rhodes to study oratory. In 74 B C. he went into Asia to repulse a Cappadocian army His part now was that of the rising young statesman, agitating for the reform of the government on popular lines and helping Pompey, who had become virtual head of the popular party Caesar was made military tribune before 70 B C In 67 B C or 68 B.C., when he was quaestor, Caesar lost his aunt and his wife At the funerals his orations were panegyrics of Marius, the Julian gens, and Cinna In 64 B C or 65 B C, when he was curule aedile, Caesar had the trophies and statue of Marius set up secretly one night in the Capitol. These two incidents made him the darling of the people and earned him the hatred of the senate Meanwhile Caesar had been, as quaestor, in Farther Spain and had made himself even more helpful to Pompey, by aiding him to get the supreme command for the war in the East He continued to support the enactment of popular measures and to prosecute senatorial extortionists, and in Pompey's absence he was becoming recognized head of the popular party In 63 B C he was elected pontifex maximus, allegedly by heavy bribes He then undertook the reform of the CALENDAR with the help of Sosigenes, the result was one of his greatest contributions to history, the Julian calendar. In Dec., 63 B C, Caesar advocated mercy for CATILINE and the conspirators and thus increased the enmity of the senatorial party and its leaders, CATO THE YOUNGER and Q Lutatius Catulus (see CATULUS, family) In 62 B C, Clodius (P Clodius Pulcher) and Caesar's second wife, Pompeia, were involved in a scandal concerning the violation of the secret rites of Bona Dea, and Caesar obtained a divorce, saying, "Caesar's wife must be above suspicion" In 59 B C he married the admirable CALPURNIA He was praetor in that year The next year in Farther Spain he was successful in putting down guerrilla warfare and banditry He returned to Rome in 60 B C, ambitious for the consulate Against senatorial opposition he achieved a brilliant stroke—he organized the First Triumvirate, made up of POMPEY, commander in chief of the army, M Licinius Crassus, richest man in Rome, and Caesar himself Pompey and Crassus were jealous of each other, but Caesar by force of personality kept the arrangement going As consul in 59 B C he secured passage of an agrarian law providing Campanian lands for 20,000 poor citizens and veterans, in spite of the opposition of his senatorial colleague, M Calpurnius BIBULUS Caesar also helped the capitalistic equites to get a reduction in their tax contracts in Asia This made him the guiding power in a coalition between people and plutocrats, headed by Pompey and Crassus He got himself assigned the rule of Cisalpine and Transalpine Gaul and Illyricum with four legions for five years (58 B C–54 B C) The divergence of Pompey and Crassus grew, and Caesar again (56 B C) moved to patch matters up, arriving at an agreement that the two should be consuls in 55 B C and that their proconsular provinces should be Spain and Syria respectively From the arrangement he drew an extension of his command in Gaul to 49 B C In the years 58 B C – 49 B C, he firmly established his reputation in the GALLIC WARS He started by compelling the Helvetii to abandon the plans of their leader, Orgetorix, defeating them soundly at Bibracte Then at the summons of the Aedui he drove Ariovistus out of Gaul He investigated Britain in 55 B C and invaded the island the next year, defeating Cassivellaunus and establishing Roman power in Britain He then put down the revolt of Vercingetorix and had all Gaul reduced to Roman control These campaigns proved him one of the greatest commanders of all time; in them he revealed his consummate military genius, characterized by a quick, sure judgment and an indomitable energy. His campaigns also developed the most significant element in his later career, the personal devotion of the legions to Caesar His charm and ready sympathy, his personal interest in the men (he knew them all by name), his willingness to undergo every hardship, his bravery in battle, all made him the idol of the army In 54 B C, occurred the death of Caesar's daughter Julia, Pompey's wife since 59 B C., she had been the principal personal tie between them. As the years had passed with Caesar in Gaul, Pompey had been gradually tending more and more toward the senatorial party The tribunate of CLODIUS (58 B C,) had aggravated conditions in Rome; Pompey's real sympathies were never with the popular party, and Caesar's military successes could hardly fail to arouse Pompey's jealousy. Crassus' death in Parthia set Pompey and Caesar face to face (53 B.C.). The senate began to take interest in Pompey, and in 52 B C he was made sole consul. Caesar's term was to expire at the end of 49 B.C. He had become a military hero as well as champion of the people. The senate feared him—with some reason—and wished him to give up his army, knowing that he hoped to be consul In Dec., 50 B C., Caesar, who was in quarters in Ravenna (the town nearest Rome in the province), wrote the senate that he would give up his army if Pompey, also a proconsular governor, would give up his The senate heard the letter with fury and at the instance of Q. Caecilius Metellus Pius Scipio (see SCIPIO, family) demanded that Caesar disband his army at once or be declared an enemy of the people— an illegal bill, for Caesar was entitled to keep his army until his term was up Two tribunes faithful to Caesar, Marc ANTONY and CASSIUS (Q Cassius Longinus), vetoed the bill and were expelled quickly from the senate They fled to Caesar, who assembled his army and asked for the support of the soldiers against the senate The army called for action, and on Jan. 19, 49 B C., Caesar crossed the Rubicon, the stream bounding his province, to enter Italy. Civil war had begun. His march to Rome was a triumphal progress The senate fled to Capua Caesar stopped to besiege, capture, and pardon some members of the senatorial party and proceeded to Brundisium, where he besieged Pompey until Pompey escaped with a fleet to Greece (March, 49 B C) Caesar set out at once for Spain, which Pompey's legates were holding, and pacified that province Pompey, having collected troops and money in Africa, went to Greece Caesar held the dictatorship for 11 days in 49 B C, long enough to get himself elected consul, and set out in December for Greece He had collected a small army and fleet at Brundisium—so small, in fact, that Bibulus, waiting with a much larger fleet to prevent his crossing to Epirus, did not bother to watch him, and Caesar slipped across the strait Caesar set out to take the coast of Epirus and met Pompey at Dyrrhachium, but was forced to fall back He began a long retreat southward, with Pompey in pursuit At the plain of PHARSALA in Thessaly, he camped in one of the most favorable positions in the peninsula Pompey with a far larger army attacked Caesar and was routed Pompey fled to Egypt and was killed. Caesar, having pursued Pompey to Egypt, remained there for some time, living with CLEOPATRA, taking her part against her brother and husband Ptolemy XII, and establishing her firmly on the throne From Egypt he went to Syria and Pontus, where he defeated Pharnaces II with such ease that he reported his victory in the words "Veni, vidi, vici" [I came, I saw, I conquered] In the same year he put down, singlehanded, a mutiny of his army and set out for Africa to end the senatorial opposition under Cato On his return to Rome, where he was now tribune of the people for life and dictator, he had four great triumphs, distributed largess, and pardoned all his enemies He was master of Rome It should be noted that he had, however, destroyed an oligarchy, not a democracy, to establish his dictatorship In 44 B C he refused the title of king He set about reforming the social condition of the people by agrarian laws and by building in the city He also drew up the elaborate plans (which Augustus later used) for consolidating the empire and establishing it securely In the winter of 46 B C–45 B C he was in Spain putting down the last of the senatorial party under Pompey's son He returned to Rome in Sept., 45 B C He was elected to his fifth consulship and dictatorship in 44 B C, and he set about planning a campaign against Parthia, the only real menace to Rome's borders. His dictatorial powers had, however, awakened great resentment. He was bitterly criticised by his enemies, who accused him of all manner of vices and made much of his supposed epilepsy. When a conspiracy was formed against him, however, it was made up of his friends and protégés, among them Cimber, Casca, CASSIUS (C Cassius Longinus), and M. Junius BRUTUS On the eve of his departure, on March 15 (the Ides of March), 44 B.C., he was stabbed to death in the senate house His will left everything to his 18-year-old grand-nephew Octavius (later Augustus), who had not known his fortune It is a curious fact that Caesar probably knew of the conspiracy against him and made no attempt to defend himself Caesar made the Roman Empire possible by uniting the state after a century of disorder, by establishing an autocracy instead of the oligarchy, and by pacifying Italy and the provinces. His success in his dealings with other persons is a testimony to his social gifts, and Cicero (who hated Caesar) said that he would rather spend an evening in conversation with Caesar than in any other way Caesar's literary works are highly esteemed. Of them his commentaries on the Gallic Wars (seven books) and on the civil war (three books) survive They are masterpieces of clear, beautiful, concise Latin, and they are among the most reliable histories of antiquity They are also classic military documents. His lost works included one on the Latin language, one on astronomy, and collections of poems and two dramas He was indefatigable in his reading and writing, whether at home or on campaign A literary classic on Caesar is Shakspere's tragedy, *Julius Caesar*. Plutarch is the most famous ancient source For bibliography, see *Rome before Augustus* under ROME. See biographies by G. W. Botsford (1918), John Buchan (1932), and Guglielmo Ferrero (Eng. tr., 1933), C. W. C. Oman, *Seven Roman Statesmen* (1934).

Caesar, Lucius Julius: see CAESAR, family.

Caesarea (sĕsûrē'ŭ, sēzû-, sēzŭ-), ancient city of Mauretania. In later Roman days it was a large and very handsome city, with flourishing trade and arts. It declined after sack by the Vandals in the 5th cent. The modern Cherchel, Algeria, is here.

Caesarea Libani, ancient city of Lebanon: see ARKITE.

Caesarea Mazaca (măz'zŭkŭ), ancient city of Asia Minor, called also Caesarea of Cappadocia. As Mazaca it was the residence of the Cappadocian kings. It has continued down the ages as a trade center and is today KAYSERI, Turkey.

Caesarean section or **Cesarean section** (both sēzā'rēŭn), in surgery, the removal of the child from the uterus through an abdominal incision when normal birth is impossible. The operation is of ancient origin, a Roman law having permitted the fetus to be delivered in this way if the mother died in the last four weeks of pregnancy. The story that Julius Caesar was born thus is probably legendary. The possibility of saving the mother by such an operation was slight until the improved technique of Eduardo Porro, Max Sänger, and others was evolved in the late 19th cent. Caesarean section can be performed more than once on the same patient. Need for the operation is sometimes indicated if the pelvis is abnormally small, if pelvic tumors are present, in case of accident causing hemorrhage, and in cases where there is doubt as to survival of the infant.

Caesarea Palestinae (sĕsurē'u păl'ĭstī'nē, sēzû-, sēzŭ-), old city, S Palestine, c 20 mi. S of Mt. Carmel. It was taken by Alexander Jannaeus, leader of the Maccabees, and later was the capital of Herod the Great. The Jewish citizens were massacred by the Romans in A.D. 66. In recent years it has been made into a Jewish colony of Israel, especially for fishing.

Caesarea Philippi (fĭlĭp'pī), former city, N Palestine, at the foot of Mt. Hermon. It was built by Philip the Tetrarch. Jesus was once in the vicinity (Mat. 16:13). It is perhaps the same as Baal-gad.

Caesarion: see PTOLEMY XV.

Caesarius of Arles, Saint (sēzā'rēus, ărl), 470?–543?, theologian, bishop of Arles from 530. He was concerned for his diocese, which was recently converted, and he was known for simple, appealing sermons, which still survive. His rules for the monastic life formed the basis for subsequent ones. He fought Semi-Pelagianism, and he was head of the synod of Orange (529). Feast, Aug. 27.

caesium see CESIUM.

cafeteria see RESTAURANT.

Caffa, RSFSR: see FEODOSIYA.

caffeine, colorless, crystalline substance composed of the elements carbon, hydrogen, oxygen, and nitrogen. It is an alkaloid found in coffee, in tea (when it is known as theine), in the kola nut, and, in small amounts, in cocoa. It can be prepared synthetically from uric acid. Caffeine is a stimulant to the nervous system and a diuretic. When used in moderation it is generally believed to be harmless to adults unless they have certain diseases or idiosyncracies. Tea leaves have a higher caffeine content than have coffee beans, but the beverages usually contain about the same percentage since more coffee is used to make a beverage.

Caffery, Jefferson (kă'fûrē), 1886–, American diplomat, b. Lafayette, La., educated at Catholic Univ. A lawyer, he entered on a diplomatic career in 1911 and held many posts over the world, notably in Latin America. In the administration of F. D. Roosevelt, Caffery served as Assistant Secretary of State for a time, was a delegate to the Pan American Conference at Montevideo in 1933, replaced Sumner WELLES as U.S. Dept. of State observer in Cuba in 1933, and became ambassador there in 1934. He was appointed ambassador to Brazil in 1937 and ambassador to France in 1944. He has been much criticized by his opponents as a representative of capitalists, much praised by his admirers for his astute and flexible diplomacy.

Caffieri (Fr. kăfyārē', Ital. kăf-fyā'rē), French family of artists. Philippe Caffieri (1634–1716) left Italy to enter the service of Louis XIV at the Gobelin plant. He and a son, Jacques Caffieri (1678–1755), were employed by the architect Le Brun to make metal adornments for the palace and gardens at Versailles. Jacques's superb creations were chiefly in the rococo style. His son, Philippe Caffieri III (1714–74), who worked with him, adopted in his later years the Louis XVI manner. Father and son produced an immense volume of metalwork, including sumptuous ormolu mountings for furniture, adornments for several of the royal palaces, e.g., Fontainebleau and Choisy, and casings for clocks—notably a celebrated astronomical clock presented to Louis XV. Another son of Jacques, Jean Jacques Caffieri (1725–92), was a sculptor noted for statues and portrait busts.

Caffin, Charles Henry, 1854–1918, Anglo-American writer on art, b. England. After some years of educational and theatrical work he came to the United States in 1892 and was engaged by the decoration department at the Chicago exposition. In 1897 he settled in New York, becoming art critic successively on *Harper's Weekly,* the *Evening Post,* the *Sun,* the *American,* and the *International Studio.* He also wrote many popular books on art.

Cagayan (kăgī'ŭn, kăgāyăn') or **Rio Grande de Cagayan,** river rising in central Luzon, Philippine Islands, and flowing 220 mi. N to the Pacific at Aparri. It is navigable by small sea-going vessels for 13 mi.

Cagliari (kă'lyārē), city (pop. 78,632), capital of Sardinia and of Cagliari prov., Italy, a port on a bay on the south coast of the island. A Carthaginian and later a Roman town, it was a Pisan stronghold during the wars with Genoa (11th–14th cent.). There are Roman remains and a medieval castle. Minerals and salt are the chief exports. The port was heavily bombarded in the Second World War.

Cagliostro, Alessandro, Conte (älĕs-sän'drō kōn'tā kälyŏ'strō), 1743–95, famous Italian adventurer, magician, and alchemist, whose real name was Giuseppe Balsamo. After early misadventures in Italy he traveled in Greece, Arabia, Persia, and Egypt. Back in Italy, he married Lorenza Feliciani, who became his assistant on his trips to the cities of Europe, where he posed as a physician, alchemist, mesmerist, necromancer, and Freemason. He claimed the secret of the philosopher's stone and of miraculous philters and potions. As the Grand Copt of the order of Egyptian Masonry he organized many lodges. His reputation was amazing, particularly at the court of Louis XVI. Implicated in the Affair of the DIAMOND NECKLACE, he was acquitted but banished. Cagliostro returned to Rome in 1789, where the Inquisition charged him with heresy and sorcery and condemned him to die. The sentence was commuted to life imprisonment, and he died in a dungeon. Cagliostro has fascinated later generations as well as his contemporaries, and he appears in many works of literature. See biographies by W. R. H. Trowbridge (1910) and Frank King (1929).

Cagniard de la Tour, Charles (shärl' kanyär' du la tōōr'), 1777–1859, French physicist. He was the inventor of a *sirène* used in determining the frequency of sound waves.

Caguas (kä'gwäs, kä'wəs), city (pop. 24,377), E Puerto Rico. Largest of the inland cities, it leads in dairy products and produces sugar and tobacco.

Cahaba (kuhō'bŭ), deserted village, SW central Ala., near the Cahaba river 10 mi. SW of Selma. It was the state capital from 1819 to 1826.

Cahaba, river rising in the mountains NE of Birmingham, Ala., and flowing c. 200 mi. SW and S to the Alabama river near Selma.

Cahan, Abraham (kän), 1860–, American journalist, Socialist leader, and author, b. Vilna. He came to New York city in 1882, entered journalism, and helped found (1897) the *Jewish Daily Forward,* of which he was editor in chief after 1902, making it the most influential Jewish daily in America. He was a founder of the Social Democratic party in 1897 and since 1902 has been a supporter of the Socialist party. Active in spreading socialist teachings among Jewish workers, he encouraged the unionization of East Side garment workers and supported them in their strikes. His writings in English, particularly *Yekl a Tale of the New York Ghetto* (1896), *The Imported Bridegroom and Other Stories* (1898), and *The Rise of David Levinsky* (1917), have a high place in immigrant literature. He also wrote, in Yiddish, *Blätter von mein Leben* (5 vols., 1926–31), an autobiography.

Cahokia (kuhō'kēu), village (pop. 465), SW Ill., on the Mississippi just below East St. Louis, inc. 1927. The first permanent settlement in the state, it was named for a tribe of the ILLINOIS INDIANS who, with the kindred Tamaroa, were served by a French mission established here in 1699. Around the mission grew a fur-trading post, and Cahokia became, with Kaskaskia, one of the chief centers of French influence in the upper Mississippi valley. It was taken by the British in 1765 and by American troops in 1778 under George Rogers Clark. The town has several buildings dating from the 18th cent. See C. W. Alvord, ed., *Cahokia Records, 1778–1790* (1907) and *The Illinois Country, 1673–1818* (1920).

Cahokia Mounds, Indian earthworks near East St. Louis, Ill. There are more than 85 mounds, of which the largest is Monks' Mound (so called from Trappist monks who were settled here early in the 19th cent.), which is 100 ft. high and has a base covering some 17 acres. Considerable excavation has still not settled all questions about the mound builders who constructed these. They were village dwellers and probably made the mounds as bases for temples and the houses of the chiefs. They belonged to the Middle Mississippi culture (c. 1300–c. 1700), and it is probable that the largest mounds were erected after Columbus had reached America.

Cahors (kăôr'), city (pop. 12,706), capital of Lot dept., S central France, on the Lot river. It was an important town under the Romans and early became an episcopal see. Ruled by its bishops until the 14th cent., Cahors was the capital of QUERCY. Ecclesiastic rule did not prevent medieval Cahors from being one of the major banking centers of Europe. The Cahorsin money lenders rivaled the Jews and the Lombards. The university of Cahors, founded in 1322 by Pope John XXII (who was born here), was united in 1751 with that of Toulouse. The old part of Cahors is of great architectural interest. Part of the medieval fortifications, including a fortified bridge, still stand. The Cathedral of St. Étienne (12th–13th cent.), with Byzantine cupolas, and the palace of John XXII are among its numerous historic buildings. Clément Marot and Gambetta were born here.

Caiaphas (Joseph Caiaphas) (kā'yufus), high priest of the Jews from before A.D. 26 until A.D. 36 or 37, a Sadducee, son-in-law of Annas. He presided at the council which condemned Jesus to death. Later he joined in the examination of Peter and John (Mat. 26:57–68, John 11:47–54, 18:24, Acts 4:6). See also Mark 14:53–65 and Luke 22:66–71.

Caibarién (kībärĭyān'), city (pop. 19,815), N central Cuba. A seaport, it is a shipping point for the agricultural products of the region, chiefly sugar.

Caicos Islands see TURKS AND CAICOS ISLANDS.

Caillaux, Joseph (zhōzĕf' kāyō'), 1863–1944, French statesman. He became finance minister in the Waldeck-Rousseau cabinet (1899) and in the Clemenceau cabinet (1906), winning considerable unpopularity by introducing the income tax. As premier in 1911, he reached a peaceful settlement of the crisis over Morocco with Germany. However, he was so severely attacked by the nationalists that his cabinet fell in 1912. In 1913 he again became minister of finance. He resigned in 1914 after his wife had shot dead Gaston Calmette, editor of the *Figaro,* who had attacked his private life. Mme Caillaux was acquitted. Caillaux freely expressed his pacifist sentiments during the First World War, was arrested (1917) for conspiracy with the enemy, and sentenced (1920) to three years imprisonment for correspondence with the enemy. Restored to citizenship in 1924 under the general amnesty, he reentered politics and served as finance minister under Painlevé (1925) and Briand (1926). Both times, a hostile chamber of deputies forced his resignation. He was subsequently elected to the senate. He left several apologetic writings.

Caillié, René (runā' kāyā'), 1799–1838, French explorer in Africa. He was the first white man to visit Timbuktu and survive. The son of poor French peasants, he was obsessed by the idea of seeing Timbuktu and spent 11 years preparing for the journey. Successfully disguising himself as a Moslem trader, he reached the desert city and remained there two weeks. See Galbraith Welch, *The Unveiling of Timbuctoo the Astounding Adventures of Caillié* (1938).

Cain. 1 Eldest son of Adam and Eve, a tiller of the soil. In jealousy, he killed his brother Abel and became a fugitive (Gen. 4). **2** City, W Palestine (Joshua 15:57).

Cainan (kā'năn), in the Gospel genealogy. **1** The same as KENAN. **2** Son of Arphaxad (Luke 3:36).

Caine, Hall (Sir Thomas Henry Hall Caine), 1853–1931, British novelist. After a boyhood on the Isle of Man, he studied architecture and later joined the staff of the Liverpool *Mercury.* Caine lived with Dante Gabriel Rossetti from 1881 until the poet's death and wrote *Recollections of Rossetti* (1882). His novels, some of Manx life, others on biblical themes, include *The Shadow of a Crime* (1885), *A Son of Hagar* (1887), *The Deemster* (1887), *The Manxman* (1894), *The Christian* (1897), *The Prodigal Son* (1904), and *The Master of Man* (1921), his *Life of Christ* (1938) was published posthumously. See his autobiography, *My Story* (1908).

cairn, a pile of stones, usually conical in shape, raised as a landmark or a memorial. In prehistoric times they were often over a burial. A BARROW built primarily of stone is often called a cairn.

Cairnes, John Elliot (kārnz), 1823–75, Irish economist, a follower of John Stuart Mill. His *Slave Power* (1862), a defense of the North in the American Civil War, made a great impression in England. Among his works are *The Character and Logical Method of Political Economy* (1857) and *Some Leading Principles of Political Economy Newly Expounded* (1874).

Cairngorm, group of mountains forming part of the Grampians, Scotland, on the southwestern border of Aberdeenshire and of Banffshire and the eastern border of Inverness-shire and between the Dee and the upper Spey. The name cairngorm is given to an ornamental yellow or brown quartz found in the mountains. The group includes the peaks Ben Macdhui (4,296 ft.), Braeriach (4,248 ft.), and Cairngorm (4,084 ft.).

Cairns, city (pop. 16,641), Queensland, Australia, on Trinity Bay. It is the principal sugar port of Australia.

Cairn terrier see TERRIER.

Cairo (kī'rō), Arabic *El Kahirah* [the victorious], city (pop. 2,100,486), capital of Egypt. It is on the Nile at the head of the delta. Near this site was the Roman fortress city of Babylon, and almost directly across the river was Memphis, an ancient Egyptian capital. Cairo, now the largest city of Africa, was founded in 969 by the Fatimite general Jauhar to be the capital of Egypt in place of nearby Fostat. In the 12th cent. it was unsuccessfully attacked by Crusaders, and c.1179, to defend the city, Saladin erected the citadel, which still stands.

Cairo throve under the MAMELUKES (13th–early 16th cent), who added many buildings, but the period (1517–1798) of Ottoman rule saw a decline Napoleon occupied the city from 1798 to 1801 In the 19th cent it grew in size and commercial importance The British occupation began in 1882 and did not end until 1936, when Egypt was restored to full independence Part of Cairo is a modern city laid out in wide streets, but it is in the older sections—Arab, Jewish, and Coptic—that the famed mosques, palaces, and city gates are found. The mosques of Amur (7th cent), Ibn Tulun (9th cent), Hasan (1356), and Kait Bey (15th cent) are especially noted for bold design The Mosque of El Azhar houses what is deemed the most important orthodox Moslem university in the world, founded in 972 and now having some 10,000 students Khedive Ismail's palace on Gezira Island is a noted 19th-century structure Cairo has a museum of antiquities devoted to objects from the ancient period, an Arab museum, and the royal library with a large collection of valuable manuscripts of the Koran The Nilometer, a graduated column used for over a century to measure the Nile water level, is on Roda Island, where the infant Moses is believed to have been found in the bulrushes Cairo is the business center of Egypt, and most of its wealth is derived from the transit trade along the Nile and along the railroad, which parallels the river to Aswan The city's manufactures include clothing and processed foods See Stanley Lane-Poole, *Cairo* (1902)

Cairo (kā'rō, kā'rō) **1** City (pop 4,653), co seat of Grady co, SW Ga, near the Fla line and 15 mi W of Thomasville, in a fertile farm area, settled 1866, inc 1870 It ships quantities of cane sugar and syrup and also processes or ships the area's yield of tung nuts, tobacco, pecans, and truck **2** Residential and industrial city (pop 14,407), co seat of Alexander co, extreme S Ill, on a levee-protected tongue of land between the Mississippi and Ohio rivers, inc 1818, reinc 1837 A center for shipping by rail, highway, and river, it is the distributing point for a large farm area, popularly called Egypt because of the fertility of the soil and the delta-like geographical similarity Among Cairo's manufactures are cottonseed products, lumber, drugs, and soft drinks It was a strategic point during the Civil War and was used as a depot by the Federal government MOUND CITY, 5 mi to the north, was a naval base The Ohio River Highway Bridge connects Cairo with Kentucky, and the Mississippi Highway Bridge extends to Missouri The city has often been endangered by floods

Cairo Conference, Nov 22–25, 1943, meeting of U S President F D Roosevelt, British Prime Minister Winston Churchill and Generalissimo Chiang Kai-shek of China at Cairo, Egypt, during the Second World War A joint declaration pledged continuation of the war against Japan until unconditional Japanese surrender, forswore any territorial gains, and promised to strip Japan of all territory acquired since 1895, notably Korea, which was to receive independence "in due course" The TEHERAN CONFERENCE followed immediately after the Cairo Conference.

Cairoli, Benedetto (bānādĕt'tō kīrō'lē), 1826–89, Italian patriot and statesman, one of five brothers all noted as heroes of the Risorgimento The only brother to survive the wars, Benedetto took part in the expedition of GARIBALDI to Sicily in 1860 and later became a leftist member of parliament, advocating, with Mazzini, the occupation of Rome He held several important posts and was premier in 1878 and 1879–81

caisson (kā'sun, -sŏn) [Fr, =big box], in engineering, a chamber, usually of steel but sometimes of wood or reinforced concrete, used in the construction of foundations or piers in or near a body of water There are several types The open caisson is a cylinder or box of size and shape to suit the projected foundation, with a cutting edge around the bottom Thus is sunk by its own weight and by excavation and then filled with concrete Pneumatic caissons are usually used in river-bed work or where quicksand is present In this type the cylinder or box has an airtight deck high enough above the cutting edge to permit men to work underneath The air in this chamber beneath the deck is kept under pressure great enough to prevent the entrance of water Shafts through the deck permit the passage of men, equipment, and excavated material between the bottom and the surface At the top of each shaft is an air lock to permit communication with the outside without altering the air pressure in the working chamber As the working chamber moves down, the caisson above the deck and about the shafts is filled with concrete, and when a sufficient depth or bed rock is reached, the working chamber itself is filled, so that there is a solid block of concrete from base to top A type of caisson often called a camel, used to raise sunken vessels, consists of a cylinder filled with water This is sunk, attached to the vessel, and emptied by pump or compressed air, so that its buoyancy assists in raising the vessel Caissons are also sometimes used for closing the entrance to dry docks or instead of gates in canal locks Workers leaving a caisson after hours of labor under high pressure are given special treatment to accustom them to the lower atmospheric pressure and thus to prevent caisson disease.

caisson disease. Men engaged in work under water or underground in a chamber where the pressure is three to four times that of the atmosphere suffer from various disturbances when they return to normal or atmospheric pressure The condition is also called the bends particularly when it affects the joints and muscles Dizziness, difficulty in breathing, and paralysis often occur, and death may follow The disturbances last from hours to weeks and are owing to the injury to tissue by bubbles of nitrogen gas which are released from solution by the pressure change. Divers may suffer in the same way Preventive treatment consists in placing the workers in a decompression chamber where the pressure is gradually reduced to that of the atmosphere If symptoms have developed, the worker should be put in a chamber of increased pressure and later subjected to gradual decrease in pressure

Caithness (kāth'nĕs, kāthnĕs'), county (686 sq mi; 1931 pop 25,656, 1948 estimated pop 23,664), N Scotland, northernmost county of the mainland The county town is Wick, an important center for herring fishing The coast line is rocky, and much of the area of the county is treeless moorland Relatively little of the land is cultivated There are evidences of Pictish, Norse, and Danish occupation of the county

Caius, John (kē'z), 1510–73, English physician, studied at Gonville Hall, Cambridge, and at Padua He practiced in London, where he was court physician After returning to Cambridge he enlarged and endowed Gonville, renaming it Gonville and Caius College He promoted the study of anatomy See his works (with memoir by John Venn, 1912) and *A Boke or Counsell against the Disease Called the Sweate* (1552, facsimile ed, 1937)

Cajal, Santiago Ramón y see RAMÓN Y CAJAL

Cajamarca (kähnämär'kä), city (pop 15,553), N Peru At an altitude of 9,022 ft, Cajamarca has a cool, dry climate Grains and alfalfa are raised in the region, and from neighboring mines come gold, silver, and copper Local industries produce straw hats, textiles, and leather goods The town was important in Inca times, and it was here Francisco Pizarro captured ATAHUALPA and broke the power of the Inca

Cajetan (kā'jutăn, ka"ē'tun') [Latin, =from Gaeta], 1470–1534, Italian prelate, cardinal of the Roman Church, b Gaeta His original name was Giacomo de Vio He joined the Dominicans (c 1486), became general of his order (1508), and was given (1517) the red hat As papal legate in Germany in 1518 and 1519 he attempted unsuccessfully to compose the differences of Martin Luther with the Church He also strongly opposed the divorce of Henry VIII of England from KATHARINE OF ARAGON Cardinal Cajetan was thus opposed to the reformers who separated from the Church though he ardently desired reform within the Church Always a student, he translated parts of the Bible, and his commentaries are published with the *Summa* of St THOMAS AQUINAS in the pontifical edition of that theological masterpiece

Cajuns see ACADIA

Cakchiquel see QUICHÉ

cake, originally a small mass of dough baked by turning, in present usage a dessert or sweet made of flour, sugar, shortening (preferably butter), eggs, seasonings, and usually some leavening and liquid besides the eggs The early method of making sweet cake or "fancy bread" was by adding other ingredients to a portion of bread dough Some cakes, such as fruitcake or poundcake, called for many eggs and for wine, brandy, or sack, these ingredients supplying the leavening agent Modern cakes are generally raised with baking powder or with baking soda or beaten eggs Cakes are classed as butter cakes or as cakes made without shortening and depending mainly on beaten eggs for leavening (e g, spongecake and angel cake)

Calabar (kălubär', kă'lubur), town (pop 16,653), SE Nigeria There is palm-oil processing

calabash see PIPE, TOBACCO

Calabrese, Il (ēl kalabrā'zā), 1613–99, Neapolitan painter, whose real name was Mattia Preti He studied in Rome and with Guercino at Cento and won a reputation by his decorations for public buildings in Venice and Bologna He painted the frescoes of St John the Baptist in the cathedral at Malta, for which he was knighted by Pope Urban VIII His best-known works are the frescoes in Sant' Andrea della Valle, Rome, *Christ Blessing the Children* (Brera, Milan), *Martyrdom of St. Andrew* (Louvre), and *Return of the Prodigal Son* (Naples)

Calabria (kulā'brēu, Ital. kälä'brēä), region (5,828 sq mi.; pop. 1,771,651), S Italy A mountainous peninsula projecting between the Tyrrhenian Sea and the Ionian Sea, it forms the "toe" of the Italian boot Reggio di Calabria is the capital The southern tip of Calabria is separated from Sicily by the narrow Strait of Messina. Calabria is divided into the provinces of Catanzaro, Cosenza, and Reggio di Calabria, named after their chief cities Agriculture, grazing, fruitgrowing, and the cultivation of silkworms are the chief occupations There are several large hydroelectric plants The ancient BRUTTIUM, the region came to be named Calabria in the early Middle Ages (under the Romans, Calabria designated the present S APULIA) Conquered (11th cent) by ROBERT GUISCARD, Calabria became part of the Norman kingdom of Sicily and (after 1282) of the kingdom of Naples (see NAPLES, KINGDOM OF) It was conquered by Garibaldi in 1860 Feudal landholding conditions prevailed until modern times These, added to malaria, frequent earthquakes, droughts, and poor communications, have encouraged large-scale emigration and have held up the social and economic development of the region Reforms and public works have been in progress since the beginning of the 20th cent

caladium (kulā'dēŭm), name for certain tropical American plants with thin leaves of various colors Two species are commonly cultivated in the United States, only in the far South can they be grown out of doors The commoner species *Caladium bicolor* appears in many varied patterns and colors and is known by a number of different names The almost transparent leaves have spots or other markings of white, purple, rose, and other colors *Caladium picturatum* is similar but appears in less variety Sometimes the caladiums are confused with the species *Colocasia* (see TARO), a common name for *Colocasia* is elephant's-ear, and this name too, is often mistakenly applied to the caladiums

Calah (kā'lu) or **Kalakh** (kā'lukh), ancient city of Assyria, S of Nineveh and therefore S of present Mosul, Iraq It was long the Assyrian capital, it seems in very early times to have been superseded by Nineveh and was restored (c 880) to its old position by Ashurnasirpal III, whose great palace there has been excavated It continued to be a royal residence even after Assur and Nineveh became the political capitals It contained inscriptions of Tiglath-pileser III and Esar-Haddon Calah is mentioned in Gen 10 11,12

Calahorra (kälaô'rä), city (pop 12,647), Logroño prov, NE Spain, in Old Castile It is an agricultural center in a region noted for its pimiento Here, in ancient Calagurris, Pompey unsuccessfully besieged the rebel Sertorius in 76 B C There are a few Roman ruins and an 11th-century cathedral Quintilian was born here

Calais (kă'lā, kălā', Fr kalĕ'), city (1936 pop 59,102, 1946 pop 41,536), Pas-de-Calais dept, N France, in Picardy, a seaport opposite Dover on the Strait of Dover A fishing village until the 10th cent it was fortified (13th cent) by the counts of Boulogne In 1347, after a siege of 11 months, Calais fell to Edward III of England A bronze group by Auguste RODIN commemorates the famous sacrifice of the six burghers of Calais, as related in Froissart's chronicle Edward III had promised to spare the town if six prominent citizens offered their lives, the mayor, Eustache de Saint-Pierre, and five other burghers voluntarily appeared before the king, barefoot, in shirts, and with halters around their necks, but Edward spared them and the city when his queen, Philippa, interceded Calais remained in English hands until it was recovered by the French under François de Guise in 1558 It was the scene of much fighting (1940, 1944) in the Second World War and was partly destroyed

Calais (kā'lis), city (pop 5,161), SE Maine, on the St Croix opposite St Stephen, N B, with which it forms practically a single community, inc as a town 1809, as a city 1850 On St Croix, or Dochet, Island in the St Croix below Calais the sieur de Monts and Champlain planted a settlement in 1604 Permanent settlement was made in 1779 The city is a port of entry, and woodworking and fruit and dairy processing are carried on

calamander wood (kăl'-), extensively used cabinet wood procured from a tree of the ebony family, of the same genus as the persimmon—*Diospyros* It is native to India and Ceylon The wood is brown striped with black, or of varied shades of brown The name "variegated ebony" is also sometimes given to calamander wood

Calamatta, Luigi (lwē'jē kalamat'tä), 1802–69, Italian engraver He went to Paris in 1822, studied with Ingres, and became one of the leading engravers in France He was appointed professor of the École des Beaux-Arts, Brussels, in 1837 and subsequently taught at Brera Academy, Milan Calamatta's principal works include *Bayazet and the Shepherd, The Death Mask of Napoleon* after the mask by Dr Antommarchi, Napoleon's physician; *Madonna di Foligno* after Raphael, *The Vow of Louis XIII*, and portraits of Ingres and Paganini after Ingres

Calame, Alexandre (alĕksä'dru kalam'), 1810–64, Swiss landscape painter. His best work depicts Alpine scenery. Good examples are *The Four Seasons* (Geneva), *Lake of the Four Cantons* (Victoria and Albert Mus.); and *Wetterhorn* (Basel). Among his lithographs are *Landscapes of the Alps* and *Views of Lauterbrunnen.*

Calamian Islands (kälämyän′) or **Calamianes** (kalämyä′näs), Philippines, between Mindoro and Palawan BUSUANGA and CULION are the largest islands

Calamis (kă′lumĭs), 5th cent B C , Greek sculptor of Athens in the period of transition from archaic sculpture to that of Phidias

Calamity Jane, c 1852–1903, American frontier character, b Princeton, Mo Her maiden name was Martha Jane Canary, and the origin of her nickname is obscure Little is known of her early life beyond the fact that she moved with her parents to Virginia City, Mont , in 1865 and that she grew up in mining camps and rough frontier communities In 1876 she appeared in Deadwood, S Dak , dressed in men's clothes, boasting of her marksmanship and of her exploits as a pony-express rider and as a scout with Custer's forces In her later years she toured the West in a burlesque show and appeared at the Pan-American Exposition in Buffalo, N Y She peddled her autobiography and portraits of herself, but she died in poverty and obscurity in Deadwood, where she is buried beside Wild Bill Hickok See biographies by Duncan Aikman (1927) and Ethel Hueston (1937), R J Casey, *The Black Hills and Their Incredible Characters* (1949)

calamus · see SWEET FLAG

Calamy, Edmund (kă′lumĭ), 1600–1666, English Presbyterian preacher For 10 years he was lecturer at Bury St Edmunds until in 1636 his opposition to the observance of certain church ceremonies forced him to withdraw and so identify himself with the Puritan party He was pastor (1639–62) of the Church of St Mary Aldermanbury, London A leader among the Presbyterians, Calamy was a member of the Westminster Assembly (1643) and one of the five authors whose initials compose *Smectymnuus*, the name under which answer was made to Bishop Joseph Hall's assertion of the divine right of episcopacy Opposed to the execution of Charles I, Calamy was among those sent to meet Charles II in Holland At the Restoration, he was made a chaplain to the king, but declined a bishopric Ejected under the Act of Uniformity (1662), he was imprisoned for a short time for having preached after ejection A number of his sermons were published His grandson, **Edmund Calamy,** 1671–1732, nonconformist minister in London, also published many sermons, but he is particularly remembered for his *Account of the Ministers Ejected by the Act for Uniformity* (1702), edited by A G Matthews as *Calamy Revised* (1934) His autobiography appeared in 1829

Calan, Abraham see CALOVIUS, ABRAHAM

Calatayud (kä″latīyōdh′), city (pop 15,116), Saragossa prov , NE Spain, in Aragon It is today an agricultural center with important sugar refineries Founded (8th cent) by the Moors and conquered (1120) by Alfonso I of Aragon, it retains a Moorish castle and the collegiate Church of Santo Sepulcro, once the main church of the Knights Templars in Spain Near Calatayud stood ancient Bilbilis, birthplace of Martial There are cave dwellings in the vicinity

Calatrava (käläträ′vä), ruined village, Ciudad Real prov , central Spain, in New Castile It gave its name to, and was the original seat of, the **Knights of Calatrava,** oldest Spanish military order Founded by the Cistercians in 1158 as a defense against the Moors, the order was very powerful and held large possessions until the 13th cent , but later declined The title of grand master passed (1499) to the Castilian and thence to the Spanish crown

Calcar, Kalkar, or **Kalcker, Jan Stephen von** (all fŭn käl′kär), 1499–c 1546, Italian painter, b Kalkar, Germany He was a pupil of Titian and is chiefly noted for his successful imitations of the portraits of Titian and Raphael, difficult to distinguish from the originals He illustrated Vesalius' *De humani corporis fabrica* (1543)

calcareous rock · see LIMESTONE and MARBLE

calcareous soils, formed largely of the skeletons of marine animals—shells and bones crumbled to powder ages ago They usually contain chalk, marl, and limestone and frequently a large amount of phosphates They are often very fertile, as in the case of the buckshot soils of the South Sometimes they are flinty, thin, and dry They often form a large part of the soil of deserts, which may appear sterile, but which prove very fertile when sufficient moisture for crops is applied

Calcasieu (kăl′kusō͞), river rising in W central Louisiana and flowing S through Lake Charles and the large Calcasieu Lake (20 mi long) to the Gulf of Mexico It is partly navigable and connects with the Intracoastal Waterway

calceolaria (kăl″sēōlâr′ēu) [Latin,=slipperlike] or **slipperwort,** any of several South American species of the genus *Calceolaria*, herbs and shrubby plants valued for their profusion of showy, usually spotted, pouch-shaped flowers They are grown in conservatories and are considered difficult to cultivate

Calchas (kăl′kăs), in Greek legend, priest whose prophecies aided the Greeks in the TROJAN WAR In medieval romances, he is the father of Cressida

calcination (kălsĭnā′shŭn), in metallurgy, heating a substance to a high temperature in a furnace or kiln, an important first step in the preparation of many metals from their ores It may result in the loss of moisture or of volatile substances or in oxidation or reduction When oxidation occurs the process is called roasting The term *calcination* was applied originally to the method by which lime was obtained from limestone by treating it with heat and driving off carbon dioxide

calcite (kăl′sīt), very widely distributed mineral, commonly white or colorless, but appearing in a great variety of colors owing to impurities Chemically it is calcium carbonate, but it frequently contains manganese, iron, or magnesium in place of the calcium It crystallizes in the hexagonal system, its crystals being characterized by highly perfect cleavage Calcite also occurs in a number of massive forms, in which it may be coarsely to finely granular (as in marble), compact (as in limestone), powdery (as in chalk), or fibrous One crystalline form, called dogtooth spar because of its dogtooth appearance, exhibits faces of perfect scalene triangles Another form, satin spar, is finely fibrous and has a satin luster ICELAND SPAR is nearly pure calcite Other important forms of the mineral are LIMESTONE, MARBLE, CHALK, MARL, STALACTITE AND STALAGMITE formations, TRAVERTINE, and Oriental ALABASTER Among the places where calcite is mined are New York and Missouri in the United States, Guanajuato, Mexico, Iceland, Andreasburg, Germany, and the counties of Cumberland, Derbyshire, Devonshire, Durham, and Lancashire in England

calcium (kăl′sēum) [from Latin,=lime], silvery-white, relatively soft metallic element (symbol= Ca, for physical constants, see ELEMENT, table) In chemical activity it resembles strontium and barium and is classed with these two as a metal of the ALKALINE EARTHS Calcium is an active element It tarnishes rapidly when exposed to air and burns with a bright flame when heated It reacts directly with water, forming the hydroxide It combines with several elements, e g , with oxygen, carbon, hydrogen, chlorine, fluorine, arsenic, phosphorus, and sulphur, forming numerous compounds Although calcium metal is of little commercial importance, calcium compounds are widely and diversely used The element is a constituent in LIME, bleaching powder or CHLORIDE OF LIME, MORTAR, plaster, CEMENT, CONCRETE, WHITING, putty, precipitated CHALK, GYPSUM, and plaster of Paris Calcium carbide, a compound of the element and carbon, is used to prepare ACETYLENE and also calcium cyanamide, which is employed as a fertilizer The phosphate (composed of calcium, phosphorus, and oxygen) is a major constituent of bone ash The arsenate (composed of calcium, arsenic, and oxygen) and the cyanide (composed of calcium, carbon, and nitrogen) are used as insecticides Calcium does not occur by itself in nature, but is found in its widely distributed compounds, e g , ICELAND SPAR, MARBLE, LIMESTONE, FELDSPAR, APATITE, CALCITE, DOLOMITE, FLUORITE, GARNET, and LABRADORITE It is a constituent of most plant and animal matter Calcium is essential to the formation and maintenance of strong bones and teeth In the human adult the bone calcium is chiefly in the form of the carbonate and phosphate salts A sufficient store of vitamin D in the body is necessary to the proper utilization of the calcium Calcium also functions in the regulation of the heart beat and in the conversion of prothrombin to thrombin, a necessary step in the clotting of blood As the CARBONATE it is a cause of temporary hardness in water, and as the sulphate, of permanent hardness Calcium metal is usually prepared by the electrolysis of a salt, usually the chloride Sir Humphry Davy is credited with its discovery in 1808 Calcium compounds, in general, when held in the Bunsen burner flame, show an orange or yellow-red color

Calcol (kăl′kŏl), Judahite 1 Chron 2 6 Chalcol 1 Kings 4 31

calculating machine, device for performing various kinds of mathematical processes Early devices used by man to aid calculation include the ABACUS and the counting rods or "bones" of John NAPIER Much used for simple calculations is the SLIDE RULE Blaise Pascal in 1642 devised models, probably the first, of a simple adding machine using geared wheels An improved mechanism for performing multiplication by the process of repeated addition was devised (c 1672) by G W von Leibniz This type of mechanism, sometimes known as the stepped drum or stepped wheel, is still used in some machines, although it has been modified to reduce its bulk The stepped drum is a cylinder with nine teeth parallel to the long axis, the length of the teeth is graduated in proportion to the numbers from 1 to 9 By means of a cogwheel arrangement the desired number of teeth on the drum are engaged and the adding wheel is rotated through a corresponding number of places, thus adding each number to the one before it. A machine using the Leibniz mechanism was the first to be successfully produced on a commercial scale Devised (1820) by C X Thomas of Colmar, it could be used for adding, subtracting, multiplying, and dividing A mechanism permitting construction of a more compact machine than the stepped drum was incorporated in a machine patented by F S Baldwin in the United States in latter part of the 19th cent , later the machine was redesigned by Baldwin and W J R Monroe W T Odhner of Russia constructed a machine using the same device as Baldwin's at about the same time This mechanism is commonly used in modern machines of the barrel or cylinder type and consists of a wheel with nine retractable pins or teeth In the cover plate of the barrel are nine curved slots, each numbered from 1 to 9 The end of a setting lever projects from the wheel through each curved slot The lever, set at the desired number, causes a corresponding number of teeth to project from the wheel within the machine, and a series of gear actions results in the turning of a number wheel through the required rotations Some adding machines have, instead of the setting levers, a keyboard with nine rows of keys, in each column numbered from 1 to 9, in the simpler forms there are only 10 keys, numbered from 0 to 9 Adding machines can be used also to perform multiplication, division, and subtraction Some machines are operated by hand levers and others by electricity Machines that perform the calculation and record the items and the result on paper are constructed around what is known as a key-set mechanism, after the keys are pressed a second motion—operating a handle or setting the motor in operation—causes the numbers to be recorded Those that perform the calculation without recording it on paper have a key-driven mechanism which requires only the one motion of pressing the keys The first key-driven machine was patented in 1850, and in 1887 D E Felt patented a key-driven calculator which developed into the comptometer In 1888 W S Burroughs was granted a patent on a key-set adding machine with a crank In recent years great advances have been made in the development of machines for performing long and highly complex calculations Forerunner of these was one which Charles Babbage designed in the 1830s, although he worked on it for years he was unable to complete it because certain materials and skills essential to its construction were not developed until the 20th cent A mechanically operated differential analyzer was designed by Vannevar Bush and completed by him in 1930, a later machine, completed in 1942, could be operated either mechanically or electrically A machine known as the Complex Computer, based on the principle of the telephone switchboard, was completed in 1940, other machines were fashioned after the same principle and used by government agencies during the Second World War Also among the early complex machines were the Automatic Sequence-Controlled Calculator, completed in 1944, the Electronic Numerical Integrator and Calculator, completed in 1946, the first to use electronic tubes for calculating, and the Selective Sequence Electronic Calculator, completed in 1947 In addition to performing ordinary mathematical calculations in small fractions of seconds, electronic machines can perform long sequences of operations Instructions are given to the machines in various ways, e g , by means of cards or tape with punched holes representing certain information, by setting dial switches, or by means of a teletypewriter keyboard on which a human operator types the information and directions Within the machines are thousands of electronic tubes, relays, and many miles of wire Over the circuits travel the messages in the form of numbers, directions, and signals Of great importance is a part of the machine which provides for storing information, the system varying in different machines, in some it makes possible the holding in reserve of many thousands of words or numbers (representing intermediate results in a calculation) which can be picked up and used according to the directions given to the machine In some machines the solutions obtained as a result of the operations are typed on sheets by electric typewriters, and some record the results on punch cards or tapes Uses for calculating machines are constantly increasing in many fields of research and industry See E C Berkeley, *Giant Brains* (1949), D R Hartree, *Calculating Instruments and Machines* (1949)

calculus (kăl′kyulus) [Latin,=a pebble used in counting and computing], in higher mathematics, any advanced method, using a system of notation peculiar to itself, for solving various problems The two most familiar calculi are differential and integral, they are sometimes referred to as infinitesimal calculus The differential calculus provides a means of computing the rate at which a FUNCTION is changing with respect to its independent variable This is done by working with the increment (difference between two succeeding values) of the independent variable and the corresponding increment of the function When the increment of the independent variable is made to approach zero, the ratio of the increment of the function to the increment of the variable approaches a constant figure This constant value is called the derivative of the function and is, of course, its rate of change or, so to speak, speed Formulas are thus worked

out for obtaining the derivatives of various commonly occurring functions The process is called differentiation With the derivatives obtained one may find tangents, minimum and maximum values, and the like The integral calculus is the opposite Through integration one starts with a given derivative and finds its function (the integral) Integration has been found useful in computing the area of irregular figures, volume, pressure, moment, and the like See E T Bell, *The Development of Mathematics* (1940), Edward Kasner and James Newman, *Mathematics and the Imagination* (1940), W A Granville and others, *Elements of the Differential and Integral Calculus* (rev ed , 1941), Moses Richardson, *Fundamentals of Mathematics* (1941)

calculus or stone, in medicine, accumulation of mineral salts deposited in various parts of the body in the form of a hard concretion of stone Common sites for such stony deposits are the gall bladder, kidney, urinary bladder, joints, and salivary ducts Gall stones are composed of varying amounts of calcium salts, bile pigments, and cholesterin, they vary in size and number Stones forming in the gall bladder may cause inflammation of the bladder wall, infection, increased secretion of bile, and obstruction of the duct Blockage of the bile duct may result in acute attacks of COLIC and JAUNDICE, in addition to indigestion Small stones may pass through the bile ducts into the digestive tract, surgery is indicated, however, in the case of larger concretions Accumulations of small stones (gravel) in the kidney may cause extreme pain when passing through the ureter Vesical (urinary bladder) calculi may form as a result of urinary retention and infection Dental calculus (tartar) is usually deposited around the necks of the teeth, pulp stones are often found in the pulp chambers of the teeth

Calcutta (kălkŭ'tŭ), city (pop 2,070,619), capital of West Bengal state, India It is a port on the Hooghly river 86 mi from the Bay of Bengal Calcutta was founded (1690) by the British East India Company, and within a century it assumed its present position as the chief port of E India In 1756 the nawab of Bengal, Siraj-ud-daula, captured Calcutta and killed most of the garrison by imprisoning it overnight in a small, stifling room, the notorious "black hole " Robert Clive retook the city in 1757 From 1772 to 1911 it was the capital of India Calcutta, which constitutes, with the neighboring cities (especially Howrah), one of the major manufacturing areas of India, produces textiles and finished jute It exports the products of E India, including rice, vegetable oil, jute, and shellac, and it imports manufactured goods It contains the Univ of Calcutta, several unaffiliated colleges, and the Indian Museum, which has one of the world's outstanding natural history collections The Maidan, a large river-front park surrounded by government buildings, is the most attractive section A gigantic banyan tree with foliage extending some 300 ft in diameter is in another park

Caldecott, Randolph (kôl'dŭkut), 1846–86, English artist and illustrator He is famous for his drawings of contemporary English country life and for his charming and humorous illustrations, including those for Washington Irving's *Old Christmas* and *Bracebridge Hall*, Blackburn's *Breton Folk*, and *Some of Aesop's Fables with Modern Instances* Perhaps his best are the colored illustrations for a series of 16 children's picture books, including *John Gilpin* and *The Grand Panjandrum Himself* See study by Mary Gould Davis (1946)

Calder, Alexander Stirling (kôl'dur), 1870–1945, American sculptor He contributed the *Triumph of Energy* and other large groups to the Panama-Pacific Exposition, where he was acting chief sculptor In buildings, parks, and gardens in many parts of the country his decorative sculptures may be seen, and his work is in various museums Notable examples in Philadelphia are the heroic figures on the Presbyterian Building, the Lea Memorial, Laurel Cemetery, the Shakspere memorial, *Tragedy and Comedy*, and the Swann Memorial He is further represented by a group in relief on the Washington Arch, New York, and by the Depew Fountain (Indianapolis), *The Man Cub* (Metropolitan Mus), and the *Dancing Naiad* His son, **Alexander Calder,** 1898–, abstract sculptor, was educated as an engineer His ingenious and entertaining figures, which he calls "mobiles" and "stabiles," are made of wire or twisted metal See study by J J Sweeney (1944)

Calder, Sir Robert, 1745–1818, British admiral In command of a blockading squadron in the Napoleonic Wars, he intercepted (1805) French and Spanish ships under Admiral Villeneuve at Cape Finisterre, but after an indecisive battle let him escape Court-martialed for not continuing the battle, he was censured, but was exonerated of charges of cowardice

Calderon, Philip Hermogenes, 1833–98, English historical and genre painter, b Poitiers, France, of Spanish descent Among Calderon's best-known works are the popular *Broken Vows*, *After the Battle*, *Her Most High, Noble, and Puissant Grace* (Leeds), and his masterpiece, *The Renunciation* (Tate Gall , London)

Calderón Bridge (käldārōn'), site of the decisive battle in the Mexican revolution against Spain, fought on the Lerma river E of Guadalajara, Jalisco, MEXICO On Jan 17, 1811, insurgents commanded by HIDALGO Y COSTILLA met the royalists under CALLEJA DEL REY On the point of victory, Hidalgo's men were stampeded by the explosion of an ammunition wagon, which set fire to a field of dry grass Their flight led to collapse of the independence movement under Hidalgo

Calderón de la Barca, Pedro (pā'dhrō käldārōn' dā la bar'kä), 1600–1681, Spanish dramatist, last important figure of the Golden Age, b Madrid Educated at a Jesuit school and the Univ of Salamanca, he turned from theology to poetry and was a court poet from 1622 His plays were carefully contrived, subtle, and rhetorical, the earlier ones, of the cloak-and-sword school, include *La dama duende* [the lady fairy] and *Casa con dos puertas mala es de guardar* [the house with two doors is impossible to guard] He excelled in a series of *autos sacramentales* (one-act religious plays), among which the most famous are *El divino Orfeo*, *Pequis y Cupido*, and *A Dios por razón de estado* [to God for reasons of state] Of his philosophical dramas the best known are *El mágico prodigioso* [the wonderful magician], *El alcalde de Zalamea*, and *La vida es sueño* [life is a dream], one of the masterpieces of the Spanish theater Calderón took holy orders in 1651 and thereafter wrote few plays except the *autos*, of which he supplied two a year for the Corpus Christi festival Eight of his plays were translated by Edward Fitzgerald (new ed , 1906) See study by E J Hasell (1912); Salvador Madariaga, *Shelley and Calderón* (1935).

Caldwell, Erskine (kôld'wul), 1903–, American author, b White Oak, Ga His realistic novels of the rural South include *Tobacco Road* (1932, a dramatized version ran for over seven years on Broadway), *God's Little Acre* (1933), *Tragic Ground* (1944), and *This Very Earth* (1948) *Jackpot* (1940) is a collection of stories He collaborated on several books with the photographer, Margaret Bourke-White, who was his wife from 1939 to 1942

Caldwell 1 City (pop 7,272), co seat of Canyon co , SW Idaho, on the Boise river and W of Boise, founded 1883, inc 1889 On the site of an Oregon Trail camping ground, the city is now a shipping point for a farm, dairy, and livestock area in the BOISE PROJECT Its producers' and consumers' cooperatives are notable The College of Idaho (1891), Caxton Printers, Ltd , and an agricultural experiment station are here 2 City (pop 1,962), S Kansas, S of Wichita near the Okla line, in an agricultural and grazing area and near oil fields, laid out 1871, inc 1879 An important point on the old Chisholm Trail, it boomed in the 1880s 3 Borough (pop 4,932), NE N J , near Montclair, settled before 1785, inc 1892 Airplane propellers are made here The Presbyterian parsonage in which Grover Cleveland was born is preserved 4 Village (pop 1,705), co seat of Noble co , SE Ohio, on Duck Creek and S of Cambridge, laid out 1857. Coal mining is its chief industry 5 Town (pop 2,165), co seat of Burleson co , S central Texas, ENE of Austin, in a farm area

Caleb (kā'lĕb) [Heb , =dog], principal spy sent into Canaan He is characterized in the narrative by his faithfulness to God, a virtue for which he was rewarded. Num 13 6, 14, 32 12, Joshua 14 6–14 The name is mentioned elsewhere frequently, apparently connected with a tribe inhabiting S Palestine 1 Sam 30 14, 1 Chron 2 18,19,42,46,48,49 Chelubai 1 Chron 2 9 The name **Caleb-ephratah** (ĕf'rutu) at 1 Chron 2 24 is due undoubtedly to a textual error

Caledonia (kă'lĭdō'nēŭ), Roman name for that part of the island of Britain which lies N of the Firths of Clyde and Forth The name occurs in the works of Lucan (1st cent A D) and is still used rhetorically, usually to mean all of Scotland.

Caledonia, village (pop 1,401), S Ont , on the Grand River and SSW of Hamilton, founded 1843 It is an industrial and mining (gypsum) center

Caledonia. 1 Village (pop 1,985), co seat of Houston co , extreme SE Minn , near the Iowa line, settled c 1855. It is a trade and manufacturing center in a farm area A federal soil conservation project is here 2 Village (pop. 1,226), W central N Y , SW of Rochester, in a farm and dairy region, inc 1887 A large state fish hatchery and gypsum and limestone quarries are here Farm machinery is made

Caledonian Canal, waterway, 60½ mi long, cutting across Scotland from Moray Firth to Loch Linnhe and following the Great Glen of Scotland It is formed by 23 mi of artificial canal and Lochs Ness, Oich, and Lochy Begun by Thomas Telford in 1803, it was finally opened in 1847 Owing to the small capacity of the 29 locks, the canal is little used now.

Calef, Robert (kă'luf), 1648–1719, author of *More Wonders of the Invisible World* (1700). A Boston cloth merchant, probably born in England, he bitterly attacked Cotton MATHER for his part in the witchcraft delusion. The book, published in London because no Boston printer would accept it, generally condemned the view of witchcraft then prevailing and had a salutary effect throughout New England It is reprinted in G. L Burr, ed., *Narratives of the Witchcraft Cases, 1648–1706* (1914)

calendar [Latin, from Kalends], system of reckoning time, devised especially to make the naming of a day possible and convenient There are two obvious recurrent cycles in nature the cycle of the seasons (i e , of the sun) and the cycle of the moon The earth completes its orbit in 365 days 5 hr 48 min 46 sec , the length of the solar year. The moon passes through its phases in about 29½ days, so that 12 lunar months (called a lunar year) come to more than 354 days 8 hr 48 min The problem of the calendar has usually been to harmonize solar and lunar reckonings The fact that months and years cannot be divided exactly by days and that years cannot be divided exactly by months has led to the device of intercalation In its simplest form this is seen in the frequent series of months in ancient calendars alternating 29 and 30 days, because the mean month is about 29½ days, hence two months of 30 and 29 days equal two mean months of 29½ days Similarly the year of about 365¼ days, if taken four times, will give the same as three years of 365 days and one of 366, hence the leap year with an intercalary day The surplus of the solar over the lunar year (365 over 354) can be somewhat rectified in three years by adding a month of 33 days This is an intercalary month The development of the calendar was accurate in Mesopotamia but reached a high point in ancient Egypt, with its 12 months of 30 days each and 5 extra days a year and an extra day every four years The calendar now most widely used is an evolution of the Roman calendar In its most primitive form this apparently had 10 months, which were (using the English forms where possible) March (31), April (29), May (31), June (29), Quintilis (31), Sextilis (29), September (29), October (31), November (29), December (29) To fill out the year a blank number of days or occasional intercalary months were used Later, January (29) and February (28) were added to the end of the year In the early republic the year of Numa was used, probably in an effort to harmonize the Roman calendar with the Greek calendars This provided a cycle of four years The first year had four months of 31 days and seven of 29, February having 28, in the second year February had 23 days, and an intercalary month of 27 days was inserted, the third year of the cycle was like the first, the fourth year was intercalary like the second except that February had 24 days The chief trouble with this system was that in a four-year cycle there were four days too many What was worse, the pontifex maximus was given the power (soon after 200 B C) to regulate the calendar, and the practice grew up of using the intercalations for political ends to lengthen or shorten an official's term By the time of Julius CAESAR the calendar had been so abused that January was falling in autumn, and by his authority as pontifex maximus, with the advice of the astronomer Sosigenes, he borrowed from the methods of the Egyptian calendar and added to the year 46 B C 90 days (67 between November and December and 23 at the end of February) This caused the spring of 45 B C to begin in March, to retain the correct position he reformed the length of the months by adding 2 days each to January, to Sextilis (subsequently named August for AUGUSTUS), and to December, giving them 31 days apiece, and one day each to April, June, September, and November, giving them 30 days, February was 28 days long, except that in every fourth year a day was inserted between the 23d and 24th of the month. March, May, Quintilis (subsequently named July for Caesar), and October he left as they were. There is another account given of alterations in the lengths of months to suit Augustus' vanity, but it is probably legendary This reform created the Julian calendar, still in use under a slight modification, made by GREGORY XIII, hence the rectified Julian calendar is called the Gregorian calendar The Julian year is 365 days 6 hr , hence a little too long By the 16th cent the accumulation of the surplus had displaced the vernal equinox to March 11 from the date in the 4th cent. (March 21) Gregory suppressed 10 days in 1582 and ordained that thereafter the years ending in hundreds should not be leap years unless they are divisible by 400 The Gregorian reform was accepted in most Roman Catholic countries, but only gradually by Protestants. The year 1600 was a leap year under both systems, but 1700, 1800, and 1900 were leap years only in the unreformed calendar It was not until 1752, when England was 11 days different from the Continent, that England adopted the reformed calendar. The Gregorian is called the New Style (N S), and the Julian the Old Style (O S.) New Style years begin Jan 1, but Old Style years began usually March 25 Thus Feb 22, 1732 (N S), Washington's birthday, is Feb. 11, 1731 (O.S), since 1732 began March 25 A usual method of writing the date to show this Old Style and New Style variation is 1731/32 or 1731/2 In the Eastern Church the Julian was retained unchanged until the 20th cent , but now the reform has been generally adopted. The technical

name of the Julian intercalary year is bissextile In the Roman computation in the month three days were used to count from the Kalends (first day of the month), the Nones (the seventh day in March, May, July, and October, the fifth in other months), and the Ides (the 15th day in March, May, July, and October, the 13th day in other months) The days were counted before, not after, the Kalends, Nones, or Ides, e g , Jan 10 was the fourth day before the Ides of January, or the fourth of the Ides of January, because the Romans counted inclusively, Jan 25 was the eighth of the Kalends of February, Feb 3 was the third of the Nones of February, and Feb 23 was the seventh of the Kalends of March Now Feb 23 was always the seventh of the Kalends of March, in spite of intercalations, hence in leap year, when a day was inserted between Feb 23 and Feb 24, there were two days counted as the sixth of the Kalends of March The leap year is thus bissextile [Latin,= twice sixth] The ecclesiastical calendar of Christianity is an interesting example of a harmony of several different systems The key to it is the reconciliation of the seven-day week with the Roman calendar The resurrection of Jesus was always reckoned as having taken place on a Sunday (first day of the week), hence its annual memorial (EASTER) should fall on Sunday Since the Jewish Passover is on the evening of the 14th (eve of the 15th) Nisan, it may fall on any day of the week, hence Easter must fall on a Sunday near the 14th Nisan Anciently some Eastern Christians held Easter on the 14th Nisan, these were called *Quartodecimans* [Latin,=fourteenth] In 325 the First Council of Nicæa determined that Easter should fall on the Sunday following the full moon next after the vernal equinox, the full moon being theoretically the 14th day, and Nisan beginning with a new moon in March The vernal equinox was considered by the Church to fall on March 21. The paschal, or Easter, moon is the moon the 14th day of which falls next after (not on) March 21 Today Easter is calculated mathematically according to a system not taking all factors in the lunar period into consideration, hence it nearly always varies somewhat from what it should be according to true astronomical calculation There have been several different systems used for determining Easter, thus, some Eastern churches use a different one from that of the West In the 6th and 7th cent in England there was a great dispute between Christians who derived their rite from the Celts and those who had been converted by the mission of St AUGUSTINE The dispute over Easter arose because the Celts retained a computation for Easter based on a lunar cycle of 84 years, while the Romans had given up the 84-year cycle in the 5th cent for a 532-year cycle The dispute was settled at the Synod of Whitby in favor of the Roman system For a conventional means of computing Easter, see the Book of Common Prayer and other prayer books The Jewish calendar is today an adjustment of a lunar calendar to the solar year The months are Tishri (30), Marheshvan (29 or 30), Kislev (29 or 30), Tebet (29), Sebat or Shebat (30), Adar (29), Nisan (30), Iyar (29), Sivan (30), Tammuz (29), Ab (30), and Elul (29) The intercalary month of 30 days is added after Adar, Nisan being anciently the first month The intercalation is arranged to take place seven times in 19 years The Jewish year begins about the autumnal equinox The Moslem calendar is the only widely used purely lunar calendar, its year varying from 354 to 355 days Hence the seasons and months have no connection, and there are about 33 Moslem years to every 32 of ours The months are Muharram (30), Safar (29), 1st Rabia (30), 2d Rabia (29), 1st Jumada (30), 2d Jumada (29), Rajab (30), Shaban (29), Ramadan (the fast, 30), Shawwal (29), Dhu-l-Kada (30), and Dhu-l-Hijja (month of the pilgrimage, 29 or 30) The Chinese calendar was devised to have six 60-day cycles, each cycle having 10-day periods and three such periods going to make up a month By the 5th cent B C the solar year was calculated at 365 2444 solar days and the solar month at 29 5.3059 days The difference between solar time and the cycles was adjusted by intercalary months and shorter intercalary periods The years were arranged in major cycles of 60 years with minor cycles of 5 years each An interesting calendar is that of the MAYA, who used a year of 365 days divided into 18 20-day periods, with a 5-day period at the end A recurrent series of 20 days was used also, like our week A remarkable feature was that the year was never readjusted to the error in its length, instead, the feasts and dates were adjusted to the calendar The Aztec calendar was very similar Many attempts have been made to devise new calendars, adjusting the months more regularly to the solar year, discarding the week, making the months equal in length, and the like, but they have never been widely adopted The most celebrated is the FRENCH REVOLUTIONARY CALENDAR In the 20th cent the movement toward calendar reform has been strong, the aim being not to abandon but to refine the intercalary system of the Julian-Gregorian calendar. For the method of computing years from a fixed point (e g , the birth of Christ and the hegira), see ERA The adoption of such era systems has made computation of time much easier The Athenian system of identifying years by archons, the Roman system of identifying them by the consuls, and the system used both earlier and later of reckoning by the year of the reign of certain kings offers enormous difficulties, and the establishment of chronology is one of the major problems in ancient and medieval history The classic work on chronology is that of the Benedictines, first published in 1750, *L'Art de vérifier les dates des faits historiques* See M P Nilsson, *Primitive Time Reckoning* (Eng tr , 1920), Reginald L Poole, *Studies in Chronology and History* (1934), P W. Wilson, *The Romance of the Calendar* (1937)

calendering, a finishing process by which paper, rubber, or textiles are smoothed, glazed, polished, or given a *moiré* or embossed surface The material is passed through a series of cylinders, usually of metal or of compressed paper or cotton The resulting surface depends on the pressure exerted by the cylinders, their temperature, composition, and surface designs and the type of coating or glaze previously applied to the material to be calendered

calendula (kulĕn'dūlu), any species of the genus *Calendula*, composite-flowered Old World plants The common calendula, annual, with yellow to deep orange flower heads produced through a long blooming season, was a popular garden flower in Shakspere's time—his marigold The dried florets of this have been used as a coloring and flavoring for foodstuffs, whence the name pot marigold; they have also been long used medicinally

Calera (kulĕr'ŭ), rural town (pop 1,092), central Ala , S of Birmingham, settled in the mid-19th cent It has lime kilns

Calexico (kulĕk'sĭkō), city (pop 5,415), SE Calif , opposite Mexicali, Mexico, S of the Salton Sea; inc 1908 It is a port of entry in the IMPERIAL VALLEY

calf, golden, idol erected by the Israelites on several occasions Aaron made one while Moses was on Mt Sinai Ex 32 Jeroboam placed one at Bethel and another at Dan 1 Kings 12 26–32 Hosea denounced one in Samaria Hosea 8 5,6 The calf (or bull) probably represented God The use of such a cult recalls Apis in Egypt and the Minotaur in Crete

Calgary (kăl'gurē), city (1941 pop 88,904, 1946 pop 100,044), S Alta , on the Bow river and near the foothills of the Rocky Mts Calgary is a wholesale center for a wide region of plains and mountain valleys A provincial normal school and an institute of technology and art are here The city began (1875) as a fort of the Northwest Mounted Police, named after a town in Scotland

Calhoun, John Caldwell (kălʹhōōnʹ), 1782–1850, American statesman and political philosopher, b near Abbeville, S C , grad Yale, 1804 He studied law under Tapping Reeve at Litchfield, Conn , and began (1808) his public career in the South Carolina legislature Frontier born, he acquired a large plantation by marrying (1811) his cousin, Floride Calhoun Later he came to represent the interests of the Southern planter aristocracy A Congressman (1811–17) and acting chairman of the House Committee on Foreign Affairs, Calhoun was one of the leading "war hawks," who whipped up enthusiasm for the War of 1812 He remained a nationalist for some time after the war, speaking for a strong army and navy, for encouragement of manufacturing, for internal improvements, and for a national bank, many of these causes he later opposed Calhoun was an efficient Secretary of War (1817–25) under President James Monroe and was Vice President (1825–29) under John Quincy ADAMS Throughout Adams's administration he opposed the President and supported the measures advocated by Andrew JACKSON An able constitutional lawyer, he made an imposing figure skillfully presiding over the Senate When the Jacksonians finally triumphed in 1828, Calhoun was again elected Vice President, and it was widely assumed that he would succeed Jackson in office But relations between the two men soon cooled Calhoun, largely prodded by his wife, and his supporters offended the President in the Eaton affair (see O'NEILL, MARGARET) The NULLIFICATION issue further irritated Jackson, who finally became furious when he discovered that years before Calhoun had privately denounced Jackson's conduct in Florida while publicly giving the impression that he had supported the general Primarily, however, Jackson and Calhoun had come to disagree on the nature of the Union As the preeminent spokesman for the South, Calhoun tried to reconcile the preservation of the Union with the fact that under the Union the South's dominant agricultural economy was being neglected and even injured at the expense of the ever-increasing commercial and industrial power of the North When a still higher tariff replaced (1832) the Tariff of Abominations of 1828, Calhoun maintained that the Constitution, rightly interpreted, gave a state the power to nullify Federal legislation inimical to its interests He returned to South Carolina, had a state convention called, and directed the passage of the famous ordinance of nullification. In Dec , 1832, he quit the vice presidency after being elected to the Senate and there eloquently defended his STATES' RIGHTS principles in dramatic debates with Daniel WEBSTER The firmness of Andrew Jackson and the compromise tariff proposed by Henry CLAY resolved the nullification crisis in 1833, but the larger issue of states' rights persisted, leading ultimately to SECESSION and the Civil War Meanwhile, Martin VAN BUREN, Calhoun's bitter political enemy, held the vice presidency in Jackson's second term and went on to succeed Jackson in the office Calhoun had long coveted As the abolitionists grew stronger in the North, Calhoun became an outspoken apologist for slavery and bent every effort to maintain the delicate balance between North and South in the Senate by opposing the prohibition of slavery in newly admitted states Thus serving briefly (1844–45) as Secretary of State under John Tyler, he completed negotiations for the admission of Texas as a slave state, but later tried to avert war with Mexico Again (1845–50) in the Senate, he advocated compromise in the Oregon boundary dispute but opposed the admission of California as a free state in the debates over the COMPROMISE OF 1850 In rejecting the WILMOT PROVISO, Calhoun set forth the theory that all territories were held in common by the states and that the Federal government merely served as a trustee of the lands His *Disquisition on Government* and *Discourse on the Constitution and Government of the United States*, both published posthumously, crystallized his political philosophy The Constitution, he stated, established a government of concurrent majorities composed of two elements —the state governments and the Federal government Hence the states enjoy the power of veto, or nullification, and the right of secession results necessarily from the origin of the Union as a compact among the sovereign parties His theories attempted to formulate democracy in terms of protection for a minority, specifically, the South, and they were later embodied in the Confederate constitution Because they are associated with an institution—slavery—offensive to the idealism of most Americans, Calhoun has never been a popular figure in U S history He was, however, the intellectual giant of political life in his day, and although many of his contemporaries found him arrogant and overbearing, he was not lacking in warm, human qualities Calhoun's plantation, with his house, Fort Hill, is now the campus of Clemson (S C) Agricultural College See his works (ed by R K Crallé, 6 vols , 1851–55), C M Wiltse, *John C Calhoun Nationalist, 1782–1828* (1944) and *John C Calhoun Nullifier, 1829–1839* (1949), Margaret L Coit, *John C Calhoun American Portrait* (1950)

Calhoun, city (pop 2,955), co seat of Gordon co , NW Ga , NNW of Atlanta, on the Oostanaula river, inc 1852 It was destroyed by General Sherman in the Civil War Near by is a bronze statue of Sequoyah, near the site of New Echota, once the capital of the Cherokee

Calhoun City, rail and lumber town (pop 1,171), N central Miss , NW of Columbus, inc 1905

Calhoun Falls, textile-mill town (pop 1,832), W S C , near the Savannah S of Anderson

Cali (kaʹlē), city (pop 88,366), W Colombia Founded by Benalcázar in 1536 in the upper Cauca valley, Cali (alt c 3,200 ft) has become the commercial center of the entire region A railroad connects it with BUENAVENTURA, rail lines and highways tie it with the cities of the cordilleras to the northeast and with Quito (Ecuador) to the south It ships out livestock, minerals, lumber, and farm products In the revolution against Spain, Cali was patriot in sympathy and was of some prominence

Caliari, Paolo see VERONESE, PAOLO

calico The cotton cloth of India was mentioned by historians before the Christian era and praised by early travelers for its fine texture and beautiful colors Block-printed cottons from Calicut imported into England c 1630 were called calicuts The name calico was soon applied to all Oriental cottons having an equal number of warp and weft threads, then to all plain-weave cottons In the United States the term is now applied specifically to narrow-width, inferior cottons mainly used for house dresses and aprons

calico printing, general term including the various processes by which fabrics are printed in colored designs Although the time and place of origin are uncertain, examples of Egyptian block-printed fabrics of the 10th cent B C and of Javanese batik of c 1200 B C are extant India exported block prints to the Mediterranean region in the 5th cent B C , and Indian CHINTZ was imported into Europe during the Renaissance and widely imitated France became a leading center and was noted especially for her *toile de Jouy* manufactured at Jouy from 1760 to 1811 Early forms of calico printing are stencil work, highly developed by Japanese artists and much used today on sisal and kraft fiber rugs, and block printing In this method a block of wood, copper, or other material bearing a design in intaglio with the dye paste applied to the surface is pressed on the fabric and struck with a mallet A separate block is used for each color, and pitch

pins at the corners guide the placing of the blocks to assure accurate repeating of the pattern The process is still employed where freedom of expression and avoidance of mechanical perfection are desirable In cylinder or roller printing, invented in 1785 by Thomas Bell of Lancaster, the fabric is carried on a rotating central cylinder and pressed by one to 16 rollers each bearing one color The design is engraved on the copper rollers by hand or machine pressure or etched by pantograph or photoengraving methods, and the color paste is applied through feed rollers rotating in a color box to the copper rollers, from the smooth portion of which the color is scraped off with knives Modern machines turn out as much as 100 yd per minute New printing processes include screen printing, a hand method especially suitable for large patterns with soft outlines, in which screens, one for each color, are placed on the fabric and the color paste pressed through by a wooden squeegee, spray printing, in which a spray gun forces the color through a screen, and electrocoating, used to apply a patterned pile Color may be applied by the various processes directly, by the discharge method, which uses chemicals to destroy a portion of a previously dyed ground, or by the resist, or reserve, method, which prevents the development of a subsequently applied color to a portion of the fabric treated with a chemical or with a mechanical resist such as the wax used for BATIK See Zelma Bendure and Gladys Pfeiffer, *America's Fabrics* (1947)

Calicut (kă'lĭkŭt", -kŭt), city (pop 126,352), W Madras state, India, a port on the Arabian Sea It was (1498) Vasco de Gama's first Indian port of call Mysore ceded it to Great Britain in 1792 Pepper, timber, and rubber are exported The term *calico* was first applied to Calicut cotton cloth, which is still an important manufacture

California (kălĭfôr'nyu), state (156,803 sq mi , 1940 pop 6,907,387, 1949 estimated pop 10,665,000), W United States, admitted 1850 as the 31st state (a free state) The capital is SACRAMENTO The largest cities and major seaports are LOS ANGELES, SAN FRANCISCO, OAKLAND, and SAN DIEGO California is bounded on the north by Oregon, on the east by Nevada and Arizona, from which it is separated by the Colorado river, on the south by Mexico, and on the west by the Pacific Ocean Second largest of the states, it has diversified topography and climate Along the 1,300-mile coast extends a series of low mountains known loosely as the Coast Range, a region which from San Francisco south is subject to tremors and sometimes to severe earthquakes caused by the San Andreas fault Receiving heavy rainfall in the north, where the giant cathedral-like redwood forests prevail, the Coast Range is considerably drier in S California, and S of the Golden Gate no major rivers reach the ocean Behind the coastal ranges lie the long alluvial valleys of central California, the Central Valley, meaning properly the area drained by the Sacramento and San Joaquin rivers, is sometimes used to mean all the intermontane region In the south lie vast wastes, notably the MOJAVE DESERT Rising as an almost impenetrable granite barrier E of the Central Valley and S of the Cascade Range in the northeast is the SIERRA NEVADA range, within which are Mt Whitney, SEQUOIA NATIONAL PARK, and YOSEMITE NATIONAL PARK East of the S Sierra Nevada is DEATH VALLEY NATIONAL MONUMENT The coastal region, with a dense but relatively backward native population and no immediate lure of gold, did not attract the conquistadors The first voyage to Alta California [Upper California], as the region N of Baja California [Lower California] came to be known, was that commanded by Juan Rodríguez CABRILLO in 1542 His report stirred little interest, but the voyage of Sir Francis Drake in 1579 forced the Spanish crown to take notice of the British threat to its claim Still, it was not until 1602 that another voyage, under Sebastián VIZCAÍNO, was made More than 160 years later the encroachments of England and Russia stirred up Spanish colonizing expeditions, the first that of Gaspar de PORTOLÁ in 1769 Portolá reached San Francisco Bay There a presidio was built (1776) after the coming of Juan Bautista de ANZA Already Father Junípero SERRA and other Franciscans had founded a string of missions, some of these are today historic shrines The early colonists, called the Californios, lived a fairly easy, pastoral life They were not much molested by the central government of New Spain and later of Mexico, but they did indulge in strenuous local politics and in quarrels with the governors (see ALVARADO, JUAN BAUTISTA) Many of the Indians were gathered about the missions, but these were broken up under the Mexican republic, and degradation of the Indians began, culminating, after the Americans came, in the abuses pictured by Helen Hunt Jackson in her novel *Ramona* The Californians offered little opposition to the infiltration of the early Yankee traders or the penetration of the Russians as far south as Fort Ross (1812), though official disapproval of the foreigners did develop after Jedediah S. Smith and other fur traders penetrated California from the east More settlers came across the mountains to join the Yankees who had already come from the coast Outstanding was John Augustus SUTTER, who on a vast tract in the Sacramento valley established his "kingdom" of New Helvetia He did much for the overland American immigrants, who began to arrive in large numbers in 1841 Events moved swiftly in the next few years After briefly asserting the independence of California in 1836, the Californios drove out the last Mexican governor in 1845 Under the influence of John C FRÉMONT the Americans set up (1846) a republic at Sonoma under the Bear Flag The news of war between the United States and Mexico reached California soon afterward On July 7 Commodore John D Sloat captured Monterey, the capital, and claimed California for the United States, in 1847 Stephen W Kearny defeated the Californios in the south By the treaty of Guadalupe Hidalgo (1848) Mexico formally ceded the territory The most significant event in California history occurred also in that year while establishing a sawmill for Sutter near Coloma, James W Marshall discovered gold and touched off the California gold rush The forty-niners came in droves, a few met success, a few like the DONNER PARTY found suffering and tragedy The fabulous riches of the MOTHER LODE brought to the roaring camps such writers as Bret Harte and Mark Twain San Francisco grew fast as a boom city, and its roisterous and lawless Barbary Coast caused the rise of the VIGILANTES In 1849 the battle for statehood was begun, and after heated debate California came into the Union by the COMPROMISE OF 1850 By 1854 the great bonanza had slackened, and the economy of the new state was shakily founded as the first transcontinental railroad was completed to tie California firmly to the Atlantic seaboard Chinese were brought in for the railroad work, and later, under the Burlingame Treaty, became much more numerous They and the Japanese became a conspicuous part of the California population. Considerable opposition to the Orientals led to the acts for Chinese exclusion and to much friction A new wave of overland immigrants began with the railroad-rate war of 1884, and in 1885 promoters fostered a boom in real estate After another collapse, the economy took root again, and in the first decade of the 20th cent another influx of people was attracted by the development of petroleum, citrus fruits, hydroelectric power, and industrial expansion Successive waves of immigration came—settlers brought by the real-estate boom of the 1920s, the Dust Bowl emigrants (1936-38) whose aimless wandering as migratory workers caused profound dislocation in the economy, and well over 1,000,000 warworkers and service personnel in the Second World War (many of them later settlers) The agricultural and industrial economy, the resources, the water supply, and transportation, public utilities, and educational facilities could not be developed at a pace to keep up with the staggering increase of inhabitants The basic industry is still farming, most of the produce is from small farms, but the characteristic of California agriculture is the big-business handling, mostly through cooperative associations, of the fruits, grains, wine, nuts, dairy products, and truck The labor of gathering and packing the produce is done to a large extent by the seasonal migrant farm worker, and one of the major California social problems is improvement of his condition Much of the state's manufacturing depends upon the processing of the farm produce (milling, canning, and packing) and some depends on other natural resources—petroleum, metals, borax, quarries, and forests In recent years more diversified and heavier industry has increased astoundingly—notably in metalwork, aircraft, machinery, and textiles In the manufacture of moving pictures California leads the world Most acute of the state's problems is the need for, and control of, water supply The once fertile Owens valley is now arid, its waters tapped by Los Angeles 175 mi away, and water is brought to the coast from the Colorado river 200 mi across the Mojave In the IMPERIAL VALLEY, irrigation is controlled by the All-American Canal, also drawing water from the Colorado Far to the north in the Central Valley the problem is not one of too little water but of bad distribution—an imbalance being lessened by the vast CENTRAL VALLEY PROJECT The state flourished after the Second World War, and the most important item in the consideration of the economy and welfare remained the continuing abnormal increase in population California has a great many institutions of higher learning Among the more prominent are the Univ of California at Berkeley and the Univ of California at Los Angeles, the Univ of Southern California, Stanford Univ , the California Institute of Technology, Mills College, and Claremont College See C E Chapman, *History of California the Spanish Period* (1921), and R G Cleland, *History of California. the American Period* (1922), Cleland, *From Wilderness to Empire* (1944) and *California in Our Time, 1900-1940* (1947), Federal Writers Project, *California. a Guide to the Golden State* (1939).

California. **1** City (pop 2,525), co seat of Monteau co , central Mo , WNW of Jefferson City, founded 1845, inc. 1857. Stock, dairy, and grain farms are in the area **2** Borough (pop. 2,614), SW Pa., S of Pittsburgh, laid out c 1850, inc c 1863 A state teachers college is here.

California, Gulf of, arm of the Pacific, c 700 mi long and c 100 mi wide, NW Mexico It separates the peninsula of Lower California on the west from Sonora and Sinaloa on the east The Colorado river flows in at the head of the gulf, and several large rivers empty into it from W Mexico Because the gulf has the largest tidal bore in the Pacific and the winds are tricky, exploration and shipping have been risky Among early adventurers in the dangerous waters were Francisco de ULLOA and Hernando de Alarcón Pearl fishing is important on the shores, and the gulf has some of the finest deep-sea fishing in NE Pacific coastal waters

California, Lower. see LOWER CALIFORNIA

California, University of, mainly at Berkeley and Los Angeles, with branches at San Francisco and elsewhere, land-grant and state supported, coeducational It was chartered in 1868 and opened in 1869 as successor to the private College of California The Univ of California at Los Angeles, founded in 1881 as a normal school, was incorporated in 1919 At various sites are colleges of applied arts, agriculture, business administration, chemistry, commerce, dentistry, engineering, law (Hastings), letters and science, mining, and pharmacy, schools of architecture, education, jurisprudence, librarianship, nursing, medicine (with a hospital and Hooper Foundation), and veterinary medicine, and curriculums in optometry, public health, and social service The California School of Fine Arts at San Francisco is affiliated The agricultural college has forestry work, an agricultural economics foundation, a school of tropical agriculture, and an institute of animal husbandry There are bureaus of governmental research, international relations, and public administration, institutes of biology, child welfare, and social sciences, museums of anthropology, paleontology, and vertebrate zoology, a herbarium, valuable art collections, a large film library, a university press, a U S Bureau of Mines experiment station, Lick Observatory, and Scripps Institution of Oceanography The libraries have notable collections in art, English, French, and German literature, Jewish history, Oriental documents, Spanish and Western American history (see BANCROFT, HUBERT H), and viticulture

California Institute of Technology, at Pasadena, nonsectarian, for men, chartered and opened 1891 by Amos G Throop as Throop Polytechnic Institute, called Throop College of Technology 1913-20 A technical school of university grade, it emphasizes research and has divisions of engineering, humanities, industrial design, and science It uses the residential college plan A marine biological laboratory is near by The astrophysics department, with Mt Palomar Observatory, cooperates with Mt Wilson Observatory Arthur A Noyes and Robert A Millikan helped to establish the reputation of the school

California Joe, 1829-76, American frontiersman and scout, whose real name was Moses Embree Milner, b Stanford, Ky He went to California in the gold rush, later moving into the Oregon country He was a sharpshooter during the Civil War, after which he became a scout in the Indian campaigns, serving under George A Custer and Philip H Sheridan, both of whom commended him in reports Custer once appointed him chief of scouts, but California Joe got so drunk within a few hours that he had to be demoted In 1875 he guided the government expedition led by W P Jenny to investigate the mineral resources of the Black Hills He was shot in a private quarrel See J E. Milner and E. R Forrest, *California Joe* (1935)

California laurel, beautiful evergreen tree (*Umbellularia californica*) native to the moister regions of California, where it is very abundant It has fragrant flowers, pungent and aromatic leaves, and an aromatic and volatile essential oil The thin-shelled and nearly spherical kernels of the fruit were used generally by the Indians for food—either raw or roasted and eaten with clover The leaves were used medicinally in various ways and for flavoring soups and puddings The wood is employed in boatbuilding, etc , and branches are sometimes used for warding off insects— as in chicken houses, where the poles are said to keep away fleas Other names for this tree are California bay, pepperwood, and Oregon myrtle

California poppy or **eschscholtzia** (ĕsh-shōl'tsēu) [for J F von Eschscholtz], perennial wild flower (*Eschscholtzia californica*) of the West Coast, cultivated elsewhere usually as an annual and naturalized in parts of the Old World The finely cut gray-green leaves have been used medicinally and were cooked for greens by the Indians The blossom, commonly yellow and similar to the related poppy, is the state flower of California Other plants, particularly of the same genus, are also called California poppy

Caligula (kŭlĭg'yōōlu), A D 12-A D 41, Roman emperor (A D. 37-A D 41) His real name was Caius Caesar Germanicus, and he was the son of GERMANICUS and AGRIPPINA When he was a small child with his parents on the Rhine he wore mili-

tary boots, whence his nickname [*caligula*=little boots] After the death of his brother, Drusus, he and Tiberius' grandson, Tiberius Gemellus, were the heirs apparent On the death of TIBERIUS the army helped make Caligula emperor He had a severe illness, and there is a widely accepted belief that he was thereafter insane At any rate he earned a name for ruthless and cruel autocracy Torture and execution were the order of the day One story has it that he said he regretted that all the people had not one neck, which he could sever with a single blow He is also reported to have made his horse a consul and a member of a priestly college The nightmare of his reign ended when the tribune of a Praetorian cohort, Chaerea, assassinated him CLAUDIUS I succeeded

Calpatria (kălpāt'rēu), city (pop 1,799), SE Calif, SE of the Salton Sea in the IMPERIAL VALLEY, inc 1919

caliphate (kā'lĭfāt", -ĭt), the headship of ISLAM Islam is, theoretically, a theocracy, and its caliph the vicegerent of God When Mohammed the Prophet died, a caliph [Arabic, =successor] was chosen to rule in his place This was ABU BAKR He was succeeded by OMAR, OTHMAN, and ALI These are the Orthodox caliphs After Ali's death there was a division in Islam The members of the OMAYYAD dynasty became caliphs, chiefly by force of arms Their capital was Damascus But the SHIITE sect continued to recognize the descendants of Ali and in 750 won the caliphate for them, massacring the members of the Omayyad family These caliphs were of the ABBASID family Their caliphate is sometimes called the Caliphate of Baghdad One Omayyad escaped the general massacre of his family and fled to Spain, there the emirate of Córdoba was set up in 780 This later became the Caliphate of Córdoba or the Western Caliphate and persisted until 1031 A third contemporaneous caliphate was established by the Fatimites (see FATIMITE) in Africa and lasted from 909 to 1171 After the fall of Baghdad to the Mongols in 1258, the Abbasids fled to Egypt From this date the caliphate was virtually ended, since the Abbasids in Egypt had not the slightest power The Ottomans captured Egypt in 1517, Selim I assumed the title of caliph (by a very flimsy right) The Ottoman sultans then kept the title until the last, Mohammed VI, was deposed Briefly he was succeeded by a cousin, but in 1924 the caliphate was abolished altogether See Sir William Muir, *The Caliphate* (2d ed, 1915), Alfred von Kremer, *Orient under the Caliphs* (Eng tr, 1920), T W Arnold, *The Caliphate* (1924), Philip K Hitti, *History of the Arabs* (3d ed, 1943)

Calippus of Cyzicus see CALLIPPUS OF CYZICUS

calisthenics see GYMNASTICS

Calistoga (kălstō'gu), city (pop 1,124), W Calif, at the head of the Napa valley N of San Francisco, laid out 1859 by Samuel Brannan, inc as a town 1886, as a city 1937 Grapes, prunes, and walnuts are grown in the area The city is a health resort with hot mineral springs and geysers near Mt St Helena and a petrified redwood forest are also near by

Calixtines see UTRAQUISTS

Calixtus I, Callixtus I (both kulĭk'stus), or **Callistus I, Saint** (kull'stus), c 160–c 222, pope (c 217–c 222), a Roman, successor of St Zephyrinus and predecessor of St Urban I As archdeacon to Zephyrinus he established the famous Calixtus Cemetery, where all the popes of the 3d cent except Calixtus himself are buried His election to the papacy was opposed by HIPPOLYTUS (later antipope), who accused him of monarchianism and of laxness in disciplining repentant sinners The decree of Calixtus on penance, which completely rejected Montanism, clarified the doctrine of absolution for his successors Calixtus died in the reign of Alexander Severus and is accounted a martyr Feast Oct 14

Calixtus II, Callixtus II, or **Callistus II,** d 1124, pope (1119–24), a Burgundian named Guy, successor of GELASIUS II and predecessor of HONORIUS II He was made archbishop of Vienne (1088), and he convened at Vienne a synod (1112) to excommunicate the emperor HENRY V for his treatment of PASCHAL II in the INVESTITURE controversy To oppose Gelasius, Henry raised up an antipope, Gregory VIII Calixtus, going to Rome after his election as pope, captured and imprisoned Gregory He came to agreement with Henry in the Concordat of Worms (1122, see WORMS, CONCORDAT OF) In 1123 Calixtus convoked the First LATERAN COUNCIL (ecumenical), which confirmed the concordat

Calixtus III, Callixtus III, or **Callistus III,** 1378–1458, pope (1455–58), a Spaniard (b Játiva) named Alonso de Borja (Ital *Alfonso Borgia*), successor of Nicholas V and predecessor of Pius II He acted as arbitrator between his friend Alfonso V of Aragon and the papacy, and for this he received the red hat (1444) Calixtus was elected soon after the fall of Constantinople, and he promptly proclaimed a crusade against the Turks He spared nothing to aid John HUNYADI, who won a victory with St JOHN CAPISTRAN at Belgrade (1456) In 1457 Calixtus turned to SCANDERBEG, in Albania, sent him money, and named him captain general of the crusade Calixtus' reign was embittered by a quarrel with Alfonso, who expected returns, notably the march of Ancona, for his friendship The pope would not give away church lands and resented Alfonso's failure to help the crusade Calixtus' nepotism gave the Borgia family its position in Italy Calixtus was, like other Borgias, an able administrator

Calixtus, Georgius (jôr'jĕus), 1586–1656, German theologian, whose original name was Georg Callisen He extended the influence of MELANCHTHON, advocating syncretism, he sought a basis, such as the Apostles' Creed, for uniting Christian churches Because he tended to minimize the differences in doctrine and to emphasize the importance of Christian living, he was charged by some of the Lutherans with favoring Roman Catholic dogmas and by others with pro-Calvinism He failed to win the Lutherans to his support at the Conference of Thorn (1645)

Call, Richard Keith, 1791–1862, territorial governor of Florida (1836–39, 1841–44), b Prince George co, Va He moved to Kentucky as a youth and served with Andrew Jackson at Pensacola and New Orleans in the War of 1812 Resigning from the army in 1821, he studied law, began practice in Pensacola, and in 1823 was sent to Congress as territorial delegate In his first term as governor Call led the campaign against the SEMINOLE INDIANS, commanding at the battles of Wahoo Swamp in Nov, 1836 A dispute with the War Dept led to his being superseded in command and to his losing the governorship He then turned Whig and, aiding greatly in the election of W H Harrison, was rewarded by being appointed governor again Call was a leader in the movement for statehood, but was defeated for the governorship in 1845 Although a slaveholder he bitterly opposed secession

call In banking, "call money" is money deposited with a bank or loaned by it and, in either case, returnable when called for With reference to stocks, call money may be an installment of capital for a new concern whose stock has not yet been fully paid up or may be capital for an old concern to cover part of a new issue of shares Call money may also be a contribution by the shareholders demanded by the person who is liquidating a concern or an option to buy certain stocks at a certain price at a certain date In this latter sense a "call" is a contract by which one person promises to buy these stocks, while a "put" is a similar promise to sell A "straddle" or "spread eagle" is a combined option of both calling and putting Financial call loans are made for an undefined period and are returnable on the demand of the lender To secure such loans, collateral is usually required Most of such loans are made to brokers to enable them to pay for stock which they have bought on margin for customers Domestic banks use call money for secondary reserves, foreign banks for the employment of international balances, and corporations for investing surplus cash Thus to a lender call money is a way of employing funds temporarily idle, while still having the money available for other uses, to a borrower it is a way of adjusting his indebtedness to the daily fluctuations in his needs for funds New York is the largest call-money market See R N Owens and C O Hardy, *Interest Rates and Stock Speculation* (1925)

calla (kăl'u), any plant of the genus *Zantedeschia*, South African tender perennials of the arum family The small true flowers are enclosed in a showy spathe —white in the common calla or calla lily, yellow or pink in others The **wild calla** or water arum (*Calla palustris*) is a perennial of bogs in the North Temperate Zone It resembles a small calla lily and belongs to the same family

Callao (kīyou'), port, W Peru, just W of Lima It is a department in itself (14 sq mi, pop 84,434) One of the best Pacific anchorages in South America, it became a port when Francisco Pizarro founded Lima Natural protection from prevailing southwesterly winds and waves is afforded by an island and small peninsula, modern dock facilities are sheltered by breakwaters The key to Lima, Callao has frequently been attacked from the time of the buccaneers, including Sir Francis Drake, through the revolution against Spain, to later foreign wars It was severely damaged by earthquake in 1940

Calleja del Rey, Félix María (fā'lēks mārē'ä kälyä'hä dĕl rā'), 1750–1828?, Spanish general, viceroy of New Spain (1813–16), conde de Calderón In command of the post of San Luis Potosí when the revolution under HIDALGO Y COSTILLA broke out, he led a large force into the field and defeated Hidalgo at Aculco and at Calderón Bridge and besieged MORELOS Y PAVÓN in Cuautla (1812) As viceroy Calleja continued to repress revolution, and when he left Mexico most of the insurrectionists were defeated After his return to Spain he held several high posts

Calles, Plutarco Elías (plōō'tär'kō älē'äs kä'yäs), 1877–1945, Mexican statesman, president (1924–28) One of the outstanding figures in Mexico after the revolution of 1910, he emerged in 1913 from the obscurity of schoolteaching to fight with Álvaro OBREGÓN and Venustiano CARRANZA against Victoriano HUERTA In 1920 he joined Obregón and Adolfo de la HUERTA in the revolution that overthrew Carranza Calles, as minister of government under Obregón, displayed ability and great force of character and was chosen as the presidential nominee of the administration Adolfo de la Huerta, disgruntled, revolted (Dec, 1923), but in the spring of 1924 Obregón and Calles established their supremacy by force Calles became president His administration was firm, and revolutionary reforms were advanced apace Agrarian reform was prosecuted with vigor The organization of labor was encouraged and fostered The spread of education was given special attention Material improvements and public works, such as irrigation projects and roads, were undertaken The struggle between Church and state reached a new extreme of bitterness, culminating in open warfare in 1926–27 Land and petroleum legislation caused a serious dispute with the United States, but relations between the two countries improved greatly when Dwight W MORROW was appointed ambassador and the oil question was temporarily settled Calles, even before he became president, had commenced to create a national army and to destroy the private armies that menaced internal peace Above all, his contribution to the revolution was the establishment of order, not only in unifying the government and defining the objectives to be gained, but also in molding the National Revolutionary party into the dominant force of Mexican politics Obregón was reelected to succeed Calles but was assassinated before taking office, and PORTES GIL was chosen provisional president Calles announced his intention of permanent retirement but later returned to public affairs at various times With the passing years, as the poor schoolteacher developed into the landowner and financier, he lost more and more his radical tinge The administrations of Portes Gil, ORTIZ RUBIO, and Abelardo RODRIGUEZ were increasingly conservative, and Calles, as the champion of conservatism, supported them and openly opposed the radical policies of LÁZARO CÁRDENAS in 1935 but was defeated in the contest and in 1936 was exiled He was allowed to return under an amnesty in 1941

Calleva Atrebatum see SILCHESTER, England

Callias (kă'lēus), fl 449 B C, Athenian statesman He was sent to Susa to negotiate for peace (449 B C The result of his work was an agreement usually called the Peace or Treaty of Callias, by it ARTAXERXES I agreed to respect the independence of the Delian League and its members and to send no warships into Greek waters, in return Athens agreed not to interfere with Persian "influence" in Asia Minor and Cyprus Some doubt has been cast on the historicity of this treaty If it did exist, it was one of the most fortunate arrangements ever made by a Greek city, for peace between the Great King and the cities of Greece lasted until the end of the century According to ancient historians, when Callias returned to Athens, he was fined 50 talents for betraying the city

Callias, d c 370 B C, Athenian leader, one of the generals of the Peloponnesian War He was one of the ambassadors sent to Sparta to arrive at a peace treaty in 371 B C The resultant treaty is sometimes called the Treaty of Callias or Peace of Callias It was ineffective because trouble between EPAMINONDAS of Thebes and AGESILAUS II of Sparta became acute Callistratus was Callias' colleague

Callicrates (kullĭ'krutēz), 5th cent B C, Greek architect In association with Ictinus he built the Parthenon at Athens (447–432 B C) At Athens also he designed the Temple of the Wingless Victory (438 B C)

Callimachus (kullĭm'ukus), 2d half of 5th cent B C, Greek sculptor of Athens, disciple of Calamis He was famous as the maker of the gold lamp in the Erechtheum He reputedly originated the Corinthian capital and invented the running drill used for simulating the folds of drapery in marble

Callimachus, b 330? B C, Hellenistic Greek poet and critic, b Cyrene He was educated at Athens and taught school at Eleusis, a suburb of Alexandria, before obtaining work in the Alexandrian library He drew up a catalogue, with such copious notes that it was a full literary history He also wrote criticism and other works in prose, but is most notable as a poet His works were extraordinarily numerous, it is said that he wrote more than 800 Of these six hymns (meant only for reading, with no religious use), a number of epigrams, and fragments of other poems survive His greatest work was the *Aetia*, a collection of legends strung together Other longer poems of which fragments survive are *The Lock of Berenice*, *Hecale*, and *Tambi* His poetry is notable for polish, wit, learning, and inventiveness in form His literary quarrel with his former pupil, Apollonius of Rhodes, is famous

Callinus (kŭlī'nŭs), fl 7th cent B C, Greek poet He is the earliest of known elegiac poets An excerpt from a patriot exhortation to his fellow Ephesians survives

Calliope (kullī'ōpē) [Gr, =beautiful of voice], in Greek mythology, greatest of the MUSES, patron of epic poetry and eloquence. She was the mother of ORPHEUS by APOLLO

calliope (kulĭ'ŭpē, kă'lēōp; of the Muse's name), in music, an instrument sometimes called steam organ or steam piano in which steam is forced through a series of whistles controlled by a keyboard It is usually played mechanically, and its harsh music is a familiar accompaniment of circus parades

calliopsis· see COREOPSIS

Callippus of Cyzicus (sĭ'zĭkus), fl c 330 B C , Greek astronomer For the Metonic cycle (19 years) he substituted a cycle of 76 years, known as the Callippic cycle, formed by quadrupling the Metonic cycle and subtracting one day His name is also spelled Calippus

Callirrhoë (kulĭr'ŏē), in Greek legend, daughter of ACHELOUS and wife of ALCMAEON She wanted the robe and necklace of HARMONIA, and in trying to obtain these treasures her husband was killed

Callisthenes (kălĭs'thĭnēz), c 360 B C –c 328 B C , Greek historian of Olynthus, relative of Aristotle He accompanied ALEXANDER THE GREAT into Asia, but, having become one of his principal critics for the Orientalizing manners of the court, he was suspected of complicity in a conspiracy against Alexander and put to death. His histories of contemporary affairs in Greece are lost Callisthenes' fame rests largely on a work of much later date that was attributed to him It was the standard biography of Alexander in medieval times.

Callisto (kulĭ'stō), in Greek legend, an attendant of Artemis. She bore a son, Arcas, to Zeus She was transformed into a bear, either by Artemis as punishment for her unchastity or by Hera out of jealousy Arcas was out hunting and about to kill her when Zeus intervened and transferred them both to the heavens, Callisto becoming Ursa Major [great bear] and Arcas becoming Arcturus

Callistratus (kulĭ'strutus), d c 360 B C , Athenian statesman and orator Believing Thebes to be more dangerous to Athens than Sparta, he favored a peace with Sparta He and CALLIAS were the delegates who negotiated an ineffective peace. His failure to check Thebes led to his impeachment in 366 B C , but his brilliant defense saved him—an oration that is supposed to have inspired Demosthenes to study rhetoric Later with new failure he fled Athens and was condemned in his absence for having urged Athens to allow Thebes to occupy Oropus When he returned, he was put to death

Callistus· see CALIXTUS.

Callixtus: see CALIXTUS

Calloc'h, Jean Pierre (zhäʼ pyĕr' kălôkhʼ), 1888–1917, Breton poet, a native of Groix, small island of fishermen S of Lorient He was killed in action in the First World War His poetry and literary prose (in Breton of the Vannes dialect) reveal a peculiar association of innocent simplicity with a sense of artistic form. His foremost idea is of Brittany revived, but his burning piety is never far away The love of the sea and the fascination of death are strong forces in the poetry of Calloc'h, regarded by some as Brittany's finest poet His poems, collected posthumously, have been translated into French and studied by L. Palaux

Callot, Jacques (zhäk' kălōʼ), 1592–1635, French engraver and etcher, b Nancy At the age of 12 he was already drawing and he attempted to run away to Italy At 16 he was permitted to go to Rome, where he studied engraving Soon, however, he abandoned this technique for the more rapid and congenial process of etching, at which he became a master He was the first etcher to use hard grounds, a technique still much favored For some years he was in the service of Cosimo II de' Medici in Florence On Cosimo's death he returned to Nancy and under the patronage of the ducal court achieved a wide reputation He was commissioned by the Infanta Isabella of Brussels to engrave the siege of Rochelle and the island of Ré Famous also are his series *Vues of Paris* executed for Louis XIII Too independent for court favor and deeply impressed by the scenes of carnage he had witnessed in the service of the great, he retired to Nancy, where he produced his splendid series *Misères of War*. Callot produced over 1,500 plates, the best of which are etchings He was unsurpassed in his ability to group a large number of people in a small space, giving life and character to each. See study by Édouard Méaume (1860, in French)

Calmar, Sweden· see KALMAR

Calmet, Augustin (ôgüstăʼ kälmāʼ), 1672–1757, French biblical scholar, a Benedictine abbot at Nancy and Senones. His critical commentaries were much studied until the higher criticism changed the technique of biblical criticism in the 19th cent He also wrote a valuable history of Lorraine

Calmette, Léon Charles Albert (lāōʼ shärl' ălbĕr' kälmĕtʼ), 1863–1933, French physician and bacteriologist He was founder and director of the Pasteur institutes at Saigon and at Lille From 1917 he was affiliated with the Pasteur Institute in Paris He discovered a serum for snake bite, studied bubonic plague at Oporto, and with Alphonse Guérin introduced a vaccine (B-C-G) which is a preventive for tuberculosis. He wrote *Recherches expérimentales sur la tuberculose* (1907–14), *Tuberculose chez l'homme et chez les animaux* (1920, Eng. tr., 1923), and *La Vaccination preventive . par le BCG* (1927)

Calneh (kălʼnē) **1** Place, perhaps in lower Mesopotamia Gen 10 10 **2** Unidentified city, named with places of N Syria. Amos 6 2 This is perhaps the same as **Calno** (kălʼnō), named with Carchemish Isa 10 9 Some identify it with Canneh

calomel (kăʼlumĕl", –mūl), white crystalline substance or powder Chemically it is mercurous chloride, a compound of mercury and chlorine having one atom of each element in its molecule It is used in medicine as a purgative and in the elimination of parasitic worms It has a stimulating effect upon organs which yield secretions (e g , the liver) It is usually prepared by sublimation from a mixture of mercury, mercuric sulphate, and common salt or by heating a mixture of mercury and the extremely poisonous corrosive sublimate (bichloride of mercury) Calomel gradually reverts to the poisonous sublimate upon exposure to sunlight

Calonne, Charles Alexandre de (shärl' ălĕksăʼdrù du kălōnʼ), 1734–1802, French statesman, controller general of finances (1783–87) Faced with a huge public debt and with a steadily deteriorating financial situation, Calonne adopted a spending policy to inspire the confidence needed to obtain new loans A short prosperity was followed by a ruinous collapse The only escape seemed to lie in a revision of taxes and the end of the privileges of the nobles and clergy Calonne had King Louis XVI call an Assembly of Notables with this end in view, but the Assembly (1787) refused to consider his proposals and criticized him bitterly Dismissed and replaced by LOMÉNIE DE BRIENNE, Calonne fled to England (1787), where he stayed until 1802 Many of Calonne's official papers have been published and two general works on politics have been translated into English, *Considerations on the Present and Future State of France* (1791) and *The Political State of Europe* (1796).

calorie, the unit measurement of heat quantity in the metric system The small calorie, called also the gram-calorie or therm, is the quantity of heat required to raise the temperature of one gram of water at its maximum density one degree centigrade The large calorie, or kilogram-calorie (1000 small calories), is the quantity of heat required to raise the temperature of one kilogram of water at the temperature of maximum density one degree centigrade In physics and chemistry, the term *calorie* is generally employed to indicate the small calorie or gram-calorie The quantity of heat (given in calories) required to raise the temperature of one gram of any substance one degree centigrade is called the specific heat of that substance The specific heat of water is, therefore, 1 Since the specific heat of water varies slightly at different temperatures, the calorie is often more accurately defined in terms of the exact temperature rise, e g , when the measurement represents the amount of heat required to raise the temperature of one gram of water from 15°C to 16°C , it is called the 15° calorie In food chemistry, the kilogram-calorie (large calorie) is often used for convenience The heat content of food, i e , the amount of heat energy which a specific food can yield, is stated as being so many calories or kilogram-calories The value is easily calculated since the amount of heat given up by food when burned as a fuel is the same as the amount of heat evolved by it when undergoing OXIDATION in the body Calorie values of foods are important in dietetics One 15° calorie is equivalent to the following 0 003968 B T U , 4 185 joules, 3 087 foot-pounds (value varies inversely with value of acceleration of gravity), $1\ 162 \times 10^{-6}$ kilowatt-hours The apparatus used to determine the amount of heat (in calories) given off by a substance in combustion or in some other chemical reaction is called a **calorimeter** (kălurĭ'mutŭr) Commonly, it depends for the measurement it gives upon the number of degrees in temperature that a given quantity of water (or other liquid) is raised by the heat generated in the activity under observation, since the amount of heat required to raise one gram of water one degree centigrade is one calorie (and that required for any other liquid is a definite fraction of a calorie). The amount of heat given off by the combustion of a fuel can be determined very accurately in the so-called bomb calorimeter, which consists essentially of a combustion chamber (bomb) set in another chamber filled with water Upon combustion, the fuel generates heat which is transmitted to the water, raising its temperature The temperature rise of the water indicates the number of calories given off by the combustion, since the amount of water affected is accurately known. The calorie content of food is tested in this way Some calorimeters are based upon the principle that ice requires a specific quantity of heat per gram to melt it and are called consequently ice calorimeters. The respiration calorimeter measures the amount of heat generated in animal respiration

Calovius, Abraham (kŭlōʼvēŭs), 1612–86, German Lutheran theologian, whose original name was Kalau or Calau He was (1637–43) a professor of theology at Königsberg, then pastor at Danzig, and after 1650 teacher, general superintendent, and finally dean of the theological faculty at Wittenberg In his many tracts he defended the strict orthodox party against Catholic, Socinian, Arminian, and other views. He particularly attacked the syncretistic doctrines of Georgius CALIXTUS

Calpe (kălʼpē), ancient name, possibly Phoenician in origin, of GIBRALTAR It is one of the Pillars of Hercules, at the east end of the Strait of Gibraltar.

Calpurnia (kălpûrʼnēŭ), d after 44 B C Roman matron The daughter of Piso (L Calpurnius Piso Caesoninus), she was married to Julius Caesar in 59 B C. She was loyal to him despite his many infidelities and his neglect The picture of her in Shakspere's *Julius Caesar* is drawn mainly from Plutarch

Calpurnius (Titus Calpurnius Siculus) (kălpûrʼnēŭs), fl 1st cent A D , Roman poet His *Eclogues* (seven pastorals) imitate Vergil with grace and charm

Caltagirone (kălʼtäjērōʼnā), rural city (pop 31,028), S Sicily, Italy, of ancient origin It has been noted for its majolica since the Arab occupation, terra cotta figures also are made here

Caltanissetta (kălʼtänēs-sĕtʼtä), city (pop 37,463), capital of Caltanissetta prov , central Sicily, Italy. It is the most important center of the sulphur industry in the island

Calumet (kălʼūmĕt), village (pop 1,460), Keweenaw peninsula, extreme N Mich , in a copper region, inc 1875 as Red Jacket, renamed 1929 It grew mainly after the development of the Calumet and Hecla copper mine (see AGASSIZ, ALEXANDER) A state park is near by

calumet [Fr , =reed], the "peace pipe," a long, feathered stem, with or without pipe bowl, which figured in numerous North American Indian ceremonials Such shafts possessed the highest sacred powers, offering media of communion with the animate powers of the universe and embodying the honor and the source of power of the tribe who possessed them Every item of their fashioning and decoration was symbolic and varied from tribe to tribe They were particularly used at the conclusion of peace treaties and in ceremonies of adoption They served as ambassadors' credentials and were passports of safe-conduct wherever recognized They were principally used by the Siouan and Algonquian peoples of the Great Plains and in the SE United States Among the Iroquois, their function was supplanted by wampum The concept of the "peace pipe" properly belongs to calumet-using groups However, pipes were used through most of North America, and communal smoking, wherever found, usually carried the guarantees of amity, granted with food sharing In the Middle West PIPESTONE was much used in making them

Calumet City, city (pop 13,241), NE Ill , south suburb of Chicago near the Ind line, in an industrial area; inc 1911 Its name was changed from West Hammond in 1924 Lake Calumet, just north, is connected with Lake Michigan

Calumet Park, village (pop 1,593), NE Ill , south suburb of Chicago, inc 1912 Its name was changed from Burr Oak in 1925

Calvados (kalvadōsʼ), department (2,198 sq mi , pop 400,026), N France, on the English Channel It is the most fertile part of NORMANDY and home of Camembert cheese and Calvados apple brandy The best-known towns are CAEN (the capital), DEAUVILLE, and BAYEUX The region was hard hit by the NORMANDY CAMPAIGN of 1944

Calvaert, Denis (kälʼvart), 1540–1619, Flemish painter in Italy, where he was known as Il Fiammingo He studied in Antwerp and later in Bologna under Prospero Fontana While a student he assisted in the execution of frescoes in the Vatican. On returning to Bologna he established a school, counting among his pupils Guido Reni and Domenichino Most of his work remains in the churches of Bologna The Uffizi contains his *Assumption*.

Calvary (kălʼvurē) [Latin, =a skull] or **Golgotha** (gōlʼgŭthu) [Heb , =a skull], place, where Jesus was crucified, outside the wall of Jerusalem. Its location is not certainly known Mat 27 33, Mark 15 22, Luke 23 33, John 19.17–20 For the Crucifixion, see JESUS and GOOD THIEF The traditional identification of the site of Calvary was made by St Helena, when she found the supposed relic of the Cross (see CROSS) The spot is within the Church of the Holy Sepulchre In the 19th cent a spot near the Damascus Gate was proposed, notably by Charles G. Gordon, as the site, this is called the Garden Tomb or Gordon's Calvary

Calvé, Emma (kalvāʼ), 1866–1942, French operatic soprano, pupil of Mme Marchesi She sang in the principal opera houses of Europe and between 1893 and 1904 sang often at the Metropolitan Opera, New York, where her portrayal of Carmen was especially acclaimed See her autobiography (1922)

Calverley, Charles Stuart, 1831–84, English barrister, poet, and wit Expelled from Oxford for minor offenses, Calverley took a distinguished degree from Christ's College, Cambridge He became famous for the wit and erudition of his light verse, particularly parodies His published works include *Verses and Translations* (1862), *Translations into English and Latin* (1866), *Theocritus Translated into English Verse* (1869), and *Fly Leaves* (1872).

Calvert, Cecilius, 2d **Baron Baltimore** (kăl'vûrt), c.1605–1675, proprietor of the colony of MARYLAND. He received the province in 1632 as a grant from the king, in place of his father, George Calvert, who died as the charter was being issued. Cecilius Calvert never visited the province himself, but governed it by deputies until his death, his last deputy being his only son, Charles Calvert. See C. C. Hall, *The Lords Baltimore and the Maryland Palatinate* (1902).

Calvert, Charles, 3d **Baron Baltimore,** 1637–1715, proprietor of Maryland. He was sent over as deputy governor of that province in 1661 by his father, Cecilius Calvert, and at his father's death in 1675 succeeded to the proprietorship. A Catholic faced by an overwhelming Protestant population, he ruled arbitrarily, restricting the suffrage, and filling the offices with his partisans. At the time of BACON'S REBELLION in Virginia there was a similar rebellion in Maryland, which was quickly suppressed. He became involved in a bitter dispute with William PENN over the northern boundary of his grant and in 1684 went to England to defend himself in the controversy. He never returned. His charter was overthrown by a Protestant revolt in 1689, and in 1692 a royal government was established. See C. C. Hall, *The Lords Baltimore and the Maryland Palatinate* (1902).

Calvert, Edward, 1799–1883, English painter and engraver. He was a great admirer of William Blake, to whose work Calvert's has been likened. Among his works are the woodcuts *Christian Ploughing the Last Furrow of Life* and *Cider Press*.

Calvert, George, 1st **Baron Baltimore,** c.1580–1632, colonizer, grad. Trinity College, Oxford, 1597. In 1606 he became private secretary to Sir Robert Cecil, then a secretary of state. His advance was rapid. In 1609 he became a member of Parliament, in 1613 clerk of the privy council, and in 1619 secretary of state and a member of the privy council. He defended the measures of James I in Parliament until his resignation in 1625, when he announced himself a Catholic. The king then created him Baron Baltimore. Calvert had been a member of the Virginia Company and a member of the council of the New England Company, but, wishing to found his own colony, he was granted in 1623 the peninsula of Avalon in Newfoundland. He spent much money on a colony which was established there, but it did not prosper, and in 1629 Baltimore petitioned for a grant farther south where the weather was less severe. In 1632 the king granted him the territory N of the Potomac river which became the province of Maryland. Baltimore prepared the charter of his proposed colony, but died before it could be accepted. The grant passed to his son, Cecilius Calvert. See C. C. Hall, *The Lords Baltimore and the Maryland Palatinate* (1902).

Calvert, city (pop. 2,366), E central Texas, in the Brazos valley and SE of Waco. This center of bottomlands farming and grazing was settled near by c.1840, removed to the railroad and renamed in 1869, and incorporated in 1896. It early adopted the commission form of government.

Calvin, John, 1509–64, French Protestant theologian of the Reformation, b. Noyon, Picardy. Calvin's early education was in theology, he was given at 12 a chaplaincy to an altar in the cathedral of Noyon (1521), and later he obtained positions at St. Martin de Martheville (1527) and at Pont l'Evêque (1529). His opinions gradually turned to disagreement with the Roman position, and a demonstrated ability at disputation led him, at his father's instance, to study law at Orléans and Bourges. After his father's death in 1531 he went to Paris, where he indulged in deep study of the classics and Hebrew and became interested in the growing rebellion against conservative theology. In 1533 he underwent what he termed a "sudden conversion." Leaving behind the influences of classical and Catholic training, he turned to the cause of the Reformation. As a persecuted Protestant, Calvin found it necessary to travel from place to place, and at Angoulême in 1534 he began the work of systematizing Protestant thought in his *Institutes of the Christian Religion*, one of the great theological works of all time. Completed in 1536 and later frequently revised and supplemented, the original work contained the basic Calvinist theology. In the *Institutes* Calvin diverged from Catholic doctrine in the rejection of papal authority and in acceptance of justification by faith alone, but many of his other positions, including the fundamental doctrine of predestination, had been foreshadowed by Catholic reformers and by the Protestant thought of Martin Luther and Martin Bucer. In 1536 Calvin was persuaded by Guillaume Farel to devote himself to the work of the Reformation at Geneva, and there Calvin instituted the most thoroughgoing development of his doctrine. At first the Genevans were unable to accept the austere reforms and departures from established church customs, and in 1538 the Libertines were successful in banishing Farel and Calvin from the city. Calvin went to Basel and then to Strasbourg, where he spent three fruitful years preaching and writing. By 1541 the Genevans welcomed Calvin, and he immediately set himself to the task of constructing a government based on the subordination of the state to the Church. Once the Bible is accepted as the sole source of God's law, the duty of man is to interpret it and preserve the orderly world which God has ordained. This end Calvin set out to achieve through the establishment of ecclesiastical discipline, in which the magistrates had the task of enforcing the religious teachings of the Church as set forth by the synod. The Genevan laws and constitution were recodified, regulation of conduct was extended to all areas of life. Ecclesiastical discipline was supplemented by a systematized theology, with the sacraments of baptism and the Lord's Supper given to unite man into the fellowship of Christ. On all these theological matters Calvin wrote extensively in powerful and well-modulated prose. Among many controversies were his violent opposition to the Anabaptists, his disagreement with the Lutherans over the LORD'S SUPPER, which resulted in the separation of the Evangelical Church into Lutheran and Reformed, and his condemnation of the anti-Trinitarian views of Michael SERVETUS, which ended in the notorious trial and burning of Servetus in 1553. The extension of Calvinism to all spheres of human activity was extremely important to a world emerging from agrarian, medieval economy into a commercial, industrial era. Unlike Luther, who desired a return to primitive simplicity, Calvin accepted the newborn capitalism and encouraged trade and production, at the same time rigorously suppressing the abuses of exploitation and self-indulgence. The development of a successful industrial economy was stimulated by the Christian virtues of thrift, industry, sobriety, and responsibility which Calvin preached as essential to the achievement of the reign of God on earth. The influence of Calvinism spread throughout the entire Western world, realizing its purest forms through the influence of John KNOX in Scotland and through the clergymen and laymen of the Puritan Revolution in England and the Puritan moralists in New England. See R. H. Tawney, *Religion and the Rise of Capitalism* (1922), Georgia Harkness, *John Calvin the Man and His Ethics* (1931), Stephen Zweig, *The Right to Heresy* (1936), W. C. Northcott, *John Calvin* (1946), A. T. Davies, *John Calvin and the Influence of Protestantism on National Life and Character* (1946).

Calvin College see GRAND RAPIDS, Mich.

Calvinism, term used in several different senses. It may indicate the teachings expressed by John Calvin himself, it may be extended to include all that developed from his doctrine and practice in Protestant countries in social, political, and ethical as well as theological aspects of life and thought, or it may be employed as the name of that system of doctrine accepted by "the Reformed churches" (see PRESBYTERIANISM), i.e., the Protestant churches called Reformed in distinction from those professing Lutheran doctrines. Calvinism differs theologically from Lutheranism chiefly in the doctrine of PREDESTINATION and from Catholicism in its whole treatment of GRACE (see also ATONEMENT). Man's redemption, in Calvin's view, must be accomplished through regeneration by the work of the spirit of God "in the souls of the elect and of them alone." A free gift of God's grace is made to those predestined to receive it, and if unmerited by them, it cannot be won by good works. These are, rather, the result and fruition of grace. The doctrines of Calvinism, founded in part upon those of Augustine, became an essential factor in the life of the Covenanters of Scotland, where John KNOX implanted them, the Puritans of England, and the Huguenots of France. Through all of these and other Protestants from Holland, Calvinism passed to North America, where Jonathan EDWARDS was one of the exponents of a modified form known as the New England theology.

Calvinistic Methodist Church, Protestant Christian denomination, closely allied to PRESBYTERIANISM. It originated in Wales (1735–36) with the evangelistic preaching of Howell Harris, Daniel Rowlands, and others. In Wales it is considered to be the only denomination distinctly Welsh in origin, and it has developed into the most important of the Welsh nonconformist churches. The "Methodist" societies which evolved under the Welsh revivalists were so organized as to prevent any break with the Established Church. They were for a time associated with the Methodists of England, for some six years, from c.1742, George WHITEFIELD was the leader of the Welsh Calvinists. Those in England who accepted his views, as opposed to the Arminian doctrines taught by John WESLEY, either remained within the Church of England, joined the "Connexion" of the countess of HUNTINGDON, or in time became affiliated with the Congregationalists or Independents. The Welsh Calvinistic Methodists, however, held their own vigorously and grew in numbers. Thomas CHARLES of Bala, who joined them in 1784, was a leader of wide influence in religious and educational work. In 1811 they separated from the Established Church and set up a new church, Presbyterian in polity. In 1823 a confession of faith was adopted. Later, theological schools were founded at Bala and at Trevecca. The Calvinistic Methodist Church was introduced (c. 1826) in the United States by Welsh settlers in central New York state, in 1920 it united with the Presbyterian Church in the United States of America.

Calvo, Carlos (kär'lōs käl'vō), 1824–1906, Argentine diplomat and historian. He spent much of his life in diplomatic service abroad. He edited a collection of Latin American treaties and did other historical work but was most important as a writer on international law, and although influenced by Henry WHEATON, his development of international doctrines broke new paths. His best-known work is *Derecho internacional teórico y práctico de Europa y América* (Paris, 1868, greatly expanded in subsequent editions, which were published in French). In this he expressed the principle known as the **Calvo Doctrine,** which would prohibit diplomatic intervention as a method for enforcing private claims before local remedies have been exhausted. It is wider in scope than the DRAGO DOCTRINE, which grew out of it. The **Calvo Clause,** found in constitutions, treaties, statutes, and contracts, is the concrete application of the doctrine. Used chiefly in concession contracts, the clause attempts to give local courts final jurisdiction and to obviate any appeal to diplomatic intervention.

Calvus: see LICINIUS.

Calydon (kăl'ĭdŏn), ancient city of S Aetolia, Greece, near the Evenus river and the Gulf of Calydon (Gulf of Patras). It is famous as the scene of the legendary **Calydonian hunt** (kăl'ĭdō'nēun), led by MELEAGER, prince of Calydon, against a wild boar sent by ARTEMIS to destroy the city for the neglect of a sacrifice. Among those who joined the hunt were JASON, CASTOR AND POLLUX, THESEUS, PELEUS, NESTOR, and ATALANTA. Meleager succeeded in killing the boar.

Calymna, island: see KALYMNOS.

Calypso (kŭlĭp'sō), nymph, in Homer's *Odyssey*. She lived on the island Ogygia and there entertained Odysseus for seven years. She offered to make him immortal if he would remain, but he spurned the offer and continued his journey.

calyx (kā'lĭks), the outer ring of parts in a typical flower. It is composed of sepals, these are sometimes leaflike and separate, sometimes united into a tube. The calyx is commonly green, but when the COROLLA is missing it is usually colored (e.g., the buttercup), sometimes both calyx and corolla are indistinguishable except by position, as in the tulip. In composite flowers (see FLOWER) the series of green bracts is not a calyx.

Cam or **Granta,** river rising in Essex, England, and flowing c.40 mi. northward, E past Cambridge, then NE to the Ouse S of Ely. It is called the Granta until it is joined by the Rhee above Cambridge.

cam, mechanical device for producing a reciprocating motion, usually from a rotating shaft. A simple form of cam is a circular disk which is set eccentrically on a shaft in order to induce (when the shaft rotates) a rising and falling motion in a rod or some other moving part held against its edge. There are cams of many diverse shapes, such as oval, elliptical, and scalloped-edged. Each is designed to induce some particular kind of motion required in a moving part, and they are widely used in many different kinds of machines.

Camacho, Manuel Ávila. see ÁVILA CAMACHO, MANUEL.

Camagüey (kamägwā', kämäwā'), city (pop. 78,458), E central Cuba. Formerly called Puerto Príncipe, it is an important commercial crossroads on the main east-west and north-south railroads and highways. The rich agricultural region surrounding Camagüey produces cattle and sugar cane. Still a sleepy, tropical city, it has retained much of its Spanish colonial atmosphere.

Camargue (kamärg'), island, SE France, in the Rhone delta. Once a sterile marshland, it has been reclaimed and now is used for intensive cattle raising. The Camargue is the nearest French equivalent to the ranches of the W United States.

Camas (kăm'ŭs), city (pop. 4,433), SW Wash., on the Columbia and E of Vancouver, inc. 1906. Large lumber and paper mills are here.

camass or **camas** (both kăm'ŭs), any species of the genus *Camassia* (or *Quamasia*), hardy plants chiefly of moist places in the Far West, where their abundance has given rise to various place names. Often cultivated in gardens, camass has a stalk of several blue (sometimes white) blossoms and usually narrow leaves. The bulbs of the common camass (*Camassia quamash*) were a staple food of Northwestern Indians. An eastern camass is called wild hyacinth. The poisonous death camass (*Zygadenus venenosus*), with whitish flowers, is similar in appearance but distinguishable by its three styles.

Cambacérès, Jean Jacques Régis de (zhäN'zhäk' räshĕs' du kôbäsārĕs'), 1753–1824, French revolutionist, primarily important as a legislator. He held moderate opinions and was chiefly interested in developing the principles of revolutionary jurisprudence while he acted as deputy to the National Convention, president of the Committee of Public Safety, member of the Council of Five Hundred, second consul under Napoleon (1799–1804), and archchancellor of the empire. He played a major

part in the preparation of the CODE NAPOLÉON In 1808 Cambacérès was made duke of Parma Minister of justice in the Hundred Days (1815), he was exiled in the Restoration until 1818

Cambay (kămbā′), town (pop 34,941), NW Bombay state, India Silting of the harbor has made the once great port useless Agate, carnelian, and onyx carvings are made The town was the capital of the former native state of Cambay which joined Bombay in 1948 The Gulf of Cambay, an arm of the Arabian Sea, lies between Bombay state and Saurashtra

Cambert, Robert (rôbĕr′ käbĕr′), c 1628–1677, French composer His *Pomone* (1671) was the first French opera

Camberwell (kăm′bur wul, -wĕl), metropolitan borough (1931 pop 251,294, 1948 estimated pop 178,200) of S London, England, S of the Thames It is largely a residential and park section The South London Art Gallery is here

Cambiaso, Luca (lōō′kä kämbyä′zō), 1527–85, Italian painter and sculptor of the Genoese school, known also as Luchetto da Genova, son and pupil of Giovanni Cambiaso, a fresco painter His inventiveness and facile execution in both oil and fresco won him early recognition His best works are in churches and palaces of Genoa and vicinity In 1583 he went to Spain, where he painted the colossal and celebrated *Paradise*, in the Escorial

Cambio, Arnolfo di see ARNOLFO DI CAMBIO

cambium (kăm′bēum), thin layer of tissue lying between the bark and the WOOD of a stem, best developed in trees The cambium, by producing new layers of bark on the outside and wood on the inside, is responsible for the increase in diameter of plant stems The annual rings seen in a cross section of wood are due to the contrast between the large wood elements produced in the spring and the smaller ones formed in summer The destruction of the cambium when a tree is "ringed" causes the death of the tree

Cambodia (kămbō′dēu), Fr *Cambodge* (käbôj′), state (c 67,000 sq mi, pop c 3,700,000), Indo-China The capital is PNOM PENH A saucer-shaped alluvial plain drained by the Mekong river, it is shut off by mountain ranges from Thailand (Siam) on the west and north, Laos on the north, and Annam on the east To the southeast it merges into the plain of Cochin China, to the south is the Gulf of Siam The northeast and southwest monsoons govern the dry and the wet seasons, respectively The vegetation is tropical, in the jungles are found elephants, tigers, and buffaloes Near Pnom Penh the Mekong receives the waters of the Great Lake or TONLE SAP, important for its fisheries West of the lake is a fertile RICE-growing area Pepper is grown on the southern coastal plains, cotton and tobacco on the banks of the Mekong Most of the Cambodians are farmers, the only industries are sericulture and the weaving of silk and cotton Besides the Cambodians, the population includes large minorities of Chinese and Annamese, plus Chams, Malays, and hill tribesmen The official religion is Buddhism, popular beliefs take in, besides, elements of Hinduism and worship of local gods Dominant in Indo-China during the period of the KHMER EMPIRE, Cambodia from the 15th cent was the prey of stronger neighbors To pressure from Siam on the western frontier was added in the 17th cent pressure from ANNAM on the east, the kings of Siam and the lords of Hué alike asserted overlordship and claims to tribute In the 18th cent Cambodia lost three western provinces to Siam and the provinces of present-day COCHIN CHINA to the Annamese Intrigue and wars on Cambodian soil continued into the 19th cent, and in 1854 the king of Cambodia appealed for French intervention A French protectorate was formally established in 1863, and French influence was consolidated by a treaty of 1884 Cambodia became part of the Union of Indo-China in 1887 In 1907 a French-Siamese treaty restored Cambodia's western provinces In the Second World War, under Japanese occupation, Cambodia again briefly lost these provinces to Siam After the war, France granted Cambodia a greater degree of self-government within the Federation of Indo-China There were minor disturbances, but widespread resistance to French rule (like the Annamese struggle over the independence of VIET NAM) did not appear

Cambodian art. Little is known of the pre-Khmer period (before the 7th cent), but remains of shrines at Sambor and Kompong Thom and such sculpture as the *Harihara* of Andet, in the Musée Albert Sarraut, Pnom Penh, reveal marked influence of Indian Gupta art With the establishment of the autonomous Khmer kingdom, Cambodian art assumed a national character in its classical period (8th-13th cent) A highly symbolic art was evolved, in which Hindu and Buddhist iconography was modified in terms of native cults based on deification of the king and his royal ancestors Extensive ruins of great temple complexes at Angkor Wat and Angkor Thom represent the highest achievement of the culture The temples comprised an accretion of shrines and courts, joined by narrow corridors, in step-pyramid arrangement. Both the architectural plan and the profuse decorative sculpture were involved in symbolisation of the "world mountain" Characteristic of the sculpture was a sensuous subtlety of modeling and a suggestion of individualization of features in the cult images, which were traditionally represented with closed or half-closed eyes and full broad lips set in a slow smile of distinctive sweetness After the decline of the Khmer kingdom in the 14th cent, Cambodian culture became absorbed by that of Siam Distinctive national forms survived, however, in music, dance, and the minor arts See A K Coomaraswamy, *History of Indian and Indonesian Art* (1927)

Cambon, Jules Martin (zhul′ martăⁿ′ käbōⁿ′), 1845–1935, French diplomat, brother of Pierre Paul Cambon In 1897 he was made ambassador at Washington, where he mediated the peace preliminaries of the Spanish-American War He was ambassador at Madrid (1902–7) and at Berlin (1907–14), and from 1920 to 1922 he was chairman of the Council of Ambassadors He wrote *France and the United States* (1903), *The Diplomatist* (1931), and other political works See biography by Geneviève Tabouis (Eng tr, 1938)

Cambon, Pierre Joseph (pyĕr′ zhôzĕf′), 1756–1820, French financier and revolutionist A merchant of Montpellier, he became a member of the Legislative Assembly and the Convention, and he guided the financial policy of the Revolution from Oct, 1791, to April, 1795 He consolidated the old debt with the new, converting the floating debt into a funded debt Advocating war to "free" Europe, Cambon favored the policy of exploiting conquered territory His fiscal program, which failed to halt inflation, was attacked by Robespierre, whose fall was partly caused by Cambon's countercharges Cambon was distrusted by the Thermidorians, and his career ended after a brief triumph He was exiled after the Bourbon restoration

Cambon, Pierre Paul (pôl), 1843–1924, French diplomat, brother of Jules Martin Cambon As ambassador to England (1898–1920) he helped to create the Entente Cordiale (1904) and the Anglo-Russian agreement of 1907, and he encouraged England to enter the First World War (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) He was one of the ablest diplomats France ever had

Camborne-Redruth (kăm′bôrn,-bûrn,rĕd′rōōth), urban district (1931 pop 24,064, 1947 estimated pop 35,080), Cornwall, England The former urban districts of Camborne (1931 pop 14,160) and Redruth (1931 pop 9,904), situated 3 mi apart and midway between Truro and Penzance, were combined in the early 1930s Camborne mines tin, copper, tungsten, and arsenic and is the site of Dolcoath Mine, once the largest in Cornwall but now idle Redruth mines tin and copper John Wesley preached to outdoor gatherings near the present mines At the summit of Carn Brea hill are prehistoric remains

Cambrai (kämbrā′, Fr käbrĕ′), city (pop 24,558), Nord dept, N France, on the Escaut (Scheldt) river It has long been known for its fine textiles and has given its name to cambric, first manufactured here An episcopal see since the 4th cent and seat of an archdiocese since the 16th cent, Cambrai and the surrounding county of Cambrésis were ruled by the bishops under the Holy Roman Empire until they were seized by Spain (1595) and by France (1677) Fénelon was archbishop of Cambrai from 1695 to 1715 The original cathedral was destroyed in 1793 Cambrai suffered devastation in both world wars

Cambrai, League of, 1508–10, alliance formed by Emperor Maximilian I, Louis XII of France, Pope Julius II, Ferdinand V of Aragon, and Ferrara, Mantua, and others against Venice to check its territorial expansion The republic was soon on the verge of ruin Its army was defeated by the French at Agnadello (1509), most of the territories it had occupied were lost, and Maximilian entered Venetia The republic had to make concessions to the pope and to Ferdinand In 1510 the pope became reconciled to Venice and began forming the HOLY LEAGUE against France The republic emerged from the war having suffered serious losses, but by no means crushed

Cambrai, Treaty of, called the **Ladies' Peace,** treaty negotiated and signed in 1529 by Louise of Savoy, representing her son Francis I of France, and Margaret of Austria, representing her nephew Emperor Charles V The treaty renewed the Treaty of Madrid (see FRANCIS I), but it did not exact the surrender of Burgundy to Charles

Cambreleng, Churchill Caldom (kăm′burlĕng), 1786–1862, U S Representative (1821–39), b Washington, N C He moved to New York city in 1802 and became a highly successful businessman, though later, as a Congressman, he was opposed by the mercantile interests Under Presidents Andrew Jackson and Martin Van Buren, Cambreleng was an influential administration leader in the House, particularly able on economic questions Defeated for reelection in 1838, he went abroad and by appointment of his close friend Van Buren served as minister to Russia (1840–41) He was prominent in the New York constitutional convention of 1846 and in 1847 presided over the state convention of the BARNBURNERS See A M. Schlesinger, Jr, *The Age of Jackson* (1945)

Cambria (kăm′brēu) [from Welsh *Cymry*=Welshmen], ancient name of Wales

Cambrian Mountains, name sometimes given the mountain system of Wales

Cambrian period (kăm′brēun, kām′-) [from Wales (*Cambria*), where Cambrian beds were early identified, named by Adam SEDGWICK], first period of the PALEOZOIC ERA of geologic time During the Cambrian period large areas of North America, Europe, and Asia lay under shallow seas, and the Cambrian rocks are predominantly sedimentary—conglomerate, sandstone, shale, and limestone In the United States, Lower Cambrian or Waucobian formations are found chiefly in the Appalachian and Cordilleran regions, which were then arms of the sea, the most notable deposits being the sandstone near Waucoba Springs, S Calif, and the conglomerate and sandstone of Georgia, Tennessee, and North Carolina, from 9,000 to 13,000 ft thick Middle Cambrian or Albertan or Acadian formations are rare in the Appalachian region, which was above water in the Middle Cambrian, though they are found near Braintree, Mass, in New Brunswick, and throughout the Cordilleran region In the Upper Cambrian or Croixian epoch, the shallow seas spread over a great part of the continent, depositing, among other formations, the St Croix sandstone of Wisconsin and the upper Mississippi valley, some of the Arbuckle limestone of Oklahoma, and the Potsdam sandstone on the northern slope of the Adirondacks and elsewhere The Cambrian rocks are notable as being the first to contain many easily recognizable fossils The known Cambrian fauna—all marine—includes representatives of every phylum of invertebrates, and the possibility of definitely vertebrate fossils being found cannot be excluded The dominant animal was the TRILOBITE, of which genera are so numerous that the various rock series can be distinguished according to the type of trilobite they contain Brachiopods, snails, and sponges were also common The seemingly abrupt appearance of such a highly developed and diversified fauna can best be explained by the assumption that more primitive forms, lower in the scale of evolution, flourished during the interval between the close of the PROTEROZOIC ERA and the beginning of the Cambrian, of which all geologic record has been destroyed by erosion

Cambridge (kām′-), municipal borough (1931 pop 66,789, 1943 estimated pop 77,000), co seat of Cambridgeshire, England, on the Cam (or Granta) river It is an ancient market town, famous as the seat of CAMBRIDGE UNIVERSITY Originally a Roman fort (Camboritum), it became the Grantebrycge of the Saxons, the Cantebrigge (Latin *Cantabrigia*) of the Normans, and the Cambridge of the later English, finally evolving its present name Here William the Conqueror built a castle, which has now disappeared, the town's importance grew with the advent of monks from near-by Ely, who gave it a scholastic and ecclesiastical reputation in the 12th cent and who formed the nucleus of the university foundations The present town still maintains much of its medieval atmosphere and appearance There are many old inns, hostels, and houses and winding streets and narrow passages which have not altered greatly with time Cambridge abounds in medieval churches, the most important of which are St Benedict's, the oldest, dating back to the Saxon 10th cent, St Edward's (13th cent), where Latimer preached, and the Church of the Holy Sepulchre, one of the four Norman round churches in England The guildhall, of modern construction, looks down upon the old market square, which attracts many farmers from the surrounding countryside on market days

Cambridge 1 Village (pop 1,312), co seat of Henry co, NW Ill, SE of Rock Island, in a farm area, inc 1861 **2** Town (pop 10,102), co seat of Dorchester co, Eastern Shore, Md, on the Choptank river, across Chesapeake Bay, SE of Annapolis, in a farming area, founded 1684 The town is a port of entry, a fishing and yachting port, and a canning center for sea food and vegetables Oysters, terrapin, muskrat pelts, and crabs are its leading exports A state hospital is near by **3** City (pop 110,879), a co seat of Middlesex co, E Mass, on the Charles and NW of Boston, settled 1630 as New Towne, inc as a town 1636, as a city 1846 It is the seat of HARVARD UNIVERSITY, RADCLIFFE COLLEGE, and MASSACHUSETTS INSTITUTE OF TECHNOLOGY It was the birthplace and home of James Russell Lowell Longfellow's home is a memorial Cambridge was a gathering place for colonial troops, here, July 3, 1775, Washington took command Longfellow, Lowell, Phillips Brooks, and many other notable people are buried in Mt Auburn Cemetery The first printing press in America was established here by Stephen DAYE An industrial as well as an educational center, Cambridge manufactures machinery, chemicals, and rubber A city manager–council government was adopted in 1942 **4** Village (pop 1,592), co seat of Isanti co, E Minn, N of Minneapolis and on the Rum river, in a farm area A colony for epileptics was opened

here in 1925 **5** Village (pop 1,084), S Nebr , on the Republican and SW of Kearney, in a grazing area, founded 1874 **6** Village (pop 1,572), E N Y , E of Saratoga Springs and near the Vt line, settled c 1761, inc 1866 Its weekly *Washington County Post* was founded in 1787 Cambridge is a farm trade center, and hinges and silk underwear are manufactured **7** Industrial city (pop 15,044), co seat of Guernsey co , E central Ohio, NE of Zanesville, in a coal, gas, and clay area, settled 1798, laid out 1806, inc 1837 Its chief industries include steel, glass, plastics, and pottery **8** Town (pop 1,383), N Vt , NW of Mt Mansfield, on the Lamoille in the western foothills of the Green Mts , settled 1783 The town early became a maple-sugar producing center

Cambridge Bay, Canadian government post and weather station, on the southeast shore of Victoria Island, Northwest Territories In the arctic military training maneuvers of 1946 Cambridge Bay was the northernmost point involved

Cambridge City, town (pop 2,207), SE Ind , on the Whitewater river and W of Richmond. Prehistoric earthworks have been found here

Cambridge Platform, declaration of principles of church government and discipline, forming in fact a constitution of the Congregational churches It was adopted (1648) by a church synod at Cambridge, Mass , and remains the basis of the temporal government of the churches It had little to do with matters of doctrine and belief The Congregationalists of Connecticut later subscribed (1708) in the Saybrook Platform to a more centralized church government, resembling Presbyterianism See also CONGREGATIONALISM

Cambridge Platonists, school of philosophy, centered at Cambridge Univ in the latter half of the 17th cent In reaction to the mechanical philosophy of Hobbes this school revived the Platonic theory of ideas and particularly the belief that moral ideas are innate in men Although the intuitive derivation of morals tended to mysticism, the Cambridge Platonists stressed the importance of reason, maintaining that faith and reason differ only in degree Robert Grenville is credited with being the forerunner of this school, and Ralph CUDWORTH, Henry More, and John Norris were closely associated with it See F J Powicke, *The Cambridge Platonists* (1925)

Cambridgeshire or **Cambridge,** inland county (492 sq mi , excluding the Isle of Ely, 1931 pop 140,004, 1948 estimated pop 165,940, 864 sq mi , including the Isle of Ely, 1931 pop 217,702, 1948 estimated pop 253,553), E England The county town is Cambridge The northern section of Cambridgeshire is known as the Isle of Ely and is an administratively separate county Most of the area is alluvial fenland, rising to the low chalky East Anglian range in the south, with the Gogmagog Hills near Cambridge their most conspicuous feature The main rivers are the Ouse, the Cam or Granta, the Lark, and the Nene Efforts to reclaim the fens date back, apparently, to the days of Roman occupation, but in the subsequent periods of invasions by Danes, Saxons, and Normans the efforts were abandoned Cornelius Vermuyden, a Dutchman, completed a vast drainage project in 1653 Since that time the region has been known primarily for its agriculture (fruits, grain, and vegetables) Ely, with its famous cathedral, has been important as an ecclesiastical center from Anglo-Saxon days, when the county was disputed territory between East Anglia and Mercia and the city was isolated and secure among the fens Cambridge Univ , famous for its beautiful buildings as well as its scholars, dates from the early 12th cent See the *Victoria History of Cambridgeshire and the Isle of Ely* (2 vols , 1938–49), Arthur Mee, *Cambridgeshire* (1939)

Cambridge Springs, borough (pop 1,807), NW Pa , c 20 mi from Lake Erie It is a farming and resort center Alliance College is here

Cambridge University, at Cambridge, England, one of the two ancient universities of England Although legends place it earlier, it probably had its beginnings in the 12th cent It is mentioned in a writ of Henry III in 1231 By the end of the 13th cent it had attained what is an essential feature of both Cambridge and Oxford, the residences, presided over by a principal The residences or colleges came to be named for the church to which they were attached or for the saint to which they were dedicated They are, with their dates of founding, Peterhouse or St Peter's College (1284), Clare (1326), Pembroke (1347), Gonville and Caius (1348), Trinity Hall (1350), Corpus Christi (1352), King's (1441), Queens' (1448), St Catharine's (1473), Jesus (1496), Christ's (1505), St John's (1511), Magdalene (1542, pronounced môd'lĭn), Trinity (1546), Emmanuel (1584), Sidney Sussex (1596), and the modern colleges, Downing (1800) and Selwyn (1882) The two colleges for women are Girton (1869) and Newnham (1873), women students were not, however, admitted to a full degree until 1947. The university has faculties of classics, divinity, English, fine arts, modern and medieval languages, Oriental languages, music, economics and politics, history, law, moral science, engineering, geography and geology, mathematics, physics and chemistry, agriculture, archaeology and anthropology, biology, and medicine Cambridge has led in the fields of science and modern literature Its famous Cavendish Laboratory of experimental physics was opened in 1873, although the Cavendish professorship had been established two years earlier The Cavendish professors have been outstanding names in physics, they are James Clerk Maxwell (1871–79), Lord Rayleigh (1879–84), Sir Joseph John Thomson (1884–1919), Ernest Rutherford (1919–37), Sir William Lawrence Bragg (1938), James Chadwick was at the Cavendish Laboratory when he discovered the neutron The University Library, the Fitzwilliam Museum, and the botanic gardens are notable features of the university The Cambridge Univ Press dates from the early 16th cent Like OXFORD UNIVERSITY, Cambridge has a system of instruction by lecturers and tutors, at Cambridge, however, the tutors are called supervisors The B A degree is awarded upon passing the tripos examination (equivalent to the honors examination at Oxford) after nine terms of continuous residence The university has its own two representatives in Parliament See M A R Tuker, *Cambridge* (1907), Hastings Rashdall, *The Universities of Europe in the Middle Ages* (new ed , 3 vols , 1936), Alexander Wood, *The Cavendish Laboratory* (1946), J W Clark, *A Concise Guide to the Town and University of Cambridge* (1947), F A Keynes, *By-Ways of Cambridge History* (1947), *Universities Yearbook*

Cambronne, Pierre Jacques Étienne (pyĕr' zhak' äty*e*n' käbrôn'), 1770–1842, French general A commander of the Old Guard at Waterloo (1815), he reportedly answered a British invitation to surrender with a vulgarism, which later became famous as the *mot de Cambronne* According to an expurgated version, he replied, "The Old Guard dies, but never surrenders " Wounded and captured, he returned from England and was exonerated by a court-martial (1816)

Cambuluc, China see PEIPING

Cambuskenneth, abbey, Stirlingshire, Scotland, near Stirling It was founded in 1147 by David I and was once one of the richest abbeys in Scotland James III and Margaret of Denmark are buried here, a monument to them was erected by Queen Victoria

Cambuslang, parish (pop 27,129), Lanarkshire, Scotland, near the Clyde river It is a southeastern suburb of Glasgow and owes its development to the coal mines and steel industry of the region

Cambyses (kămbī'sēz), d 521 B C , king of ancient Persia (529–521 B C), son and successor of CYRUS THE GREAT He disposed of his brother Smerdis to have unchallenged rule He invaded Egypt, defeating (525 B C) Psamtik at Pelusium and sacking Memphis He planned further expeditions in Africa, but they ran into difficulty, and at home an imposter claiming to be SMERDIS raised a revolt Cambyses died, possibly by suicide, when he was putting down the insurrection Darius I succeeded

Camden, Charles Pratt, 1st earl of. see PRATT, CHARLES

Camden, William, 1551–1623, English scholar He was the chief historian and antiquary of Elizabethan times His two chief works are *Britannia* (1586) and *Annales rerum Anglicarum et Hibernicarum regnante Elizabetha* [annals of affairs in England and Ireland in the reign of Elizabeth] He was a conscientious scholar in writing history, in editing old manuscripts, and in collecting materials of antiquarian interest He was also a teacher (1575–97) and head master (1593–97) at Westminster School and helped to revive the study of Anglo-Saxon He also wrote a Greek grammar long popular in English secondary schools He aided Sir Robert Cotton in collecting materials The Camden Society, organized for the publication of historical documents, was named in his honor

Camden. 1 City (pop 8,975), co seat of Ouachita co , S Ark , on the Ouachita river, settled 1824, inc 1847 A rail and river shipping point, it has furniture, paper, and pottery manufactures **2** Resort town (pop 3,554), S Maine, in a beautiful hilly country bordered on the east by Penobscot Bay, settled 1769, inc 1791 Woolen and sport clothes and boats are made here **3** City (pop 117,536), co seat of Camden co , W N J , on the Delaware (here crossed by a bridge, 1926, designed by Modjeski) opposite Philadelphia, settled 1681, laid out 1773, inc 1828 The Camden and Amboy RR was built in 1834, and the city developed as a commercial, shipbuilding, and manufacturing center Richard Esterbrook in 1858 opened a steel-pen factory, the Campbell canned-foods company originated in 1869, later phonograph and radio making became important The city preserves Walt Whitman's home, and the poet is buried in the city where he lived from 1873 The Joseph Cooper House (1726) forms part of the county historical society establishment See Paul F Cranston, *Camden County, 1681–1931* (1931) **4** Village (pop 2,021), central N Y , NW of Rome, in a farm and dairy area, inc 1834 Furniture and copper wire are made **5** City (pop 5,747), co seat of Kershaw co , N central S C , near the Wateree NE of Columbia, settled c 1735, inc 1791. In a longleaf pine and farm area, it is a trade and processing center, with textile and lumber mills Since the 1880s Camden has become a winter resort, it has beautiful estates and is well known for hunting, polo, and riding An annual cotton festival is held There are a number of fine antebellum houses In the CAROLINA CAMPAIGN of the American Revolution, the battles of Camden (Aug 16, 1780) and Hobkirks Hill (April 25, 1781) were fought in the neighborhood The city was practically destroyed by fire when the British evacuated it on May 8, 1781 In the Civil War, when it was taken (Feb 24, 1865) by a part of Sherman's army, it was again partially burned See T J Kirkland and R M Kennedy, *Historic Camden* (1905)

camel, hoofed mammal of the family Camelidae There are two genera, the true camels, genus *Camelus* of Asia, and the South American genus *Lama*, which includes the wild guanaco and vicuña and the domesticated alpaca and llama The two species of camel are the single-humped Arabian camel or dromedary, *Camelus dromedarius*, a domesticated animal used in Arabia and North Africa, and the Bactrian two-humped camel (*C bactrianus*) of central Asia Some wild Bactrian camels exist in Turkistan and Mongolia The humps are storage places for fat Camels range in color from dirty white to dark brown and have long necks, small ears, tough-skinned lips and powerful teeth, some of which are sharply pointed The camel uses the mouth in fighting Adaptations to desert life include broad, flat, thick-soled cloven hoofs which do not sink into the sand, the ability to go without drinking for several days, and for longer if juicy plants are available, and valvular nostrils lined with hairs for protection against flying sand Horny pads help to protect the chest, knees, and thigh joints against injury from the hard surfaces on which the camel sleeps Strong camels usually carry about 500 to 600 lb and cover c 30 mi a day Some Bactrian camels can transport 1,000 lb A light, fleet breed of the Arabian camel or dromedary is used for riding and not for bearing heavy loads The name dromedary was formerly applied to any swift riding camel Geologic findings indicate that the camel originated in North America, that one group migrated to Asia and the other to South America, and that both became extinct in North America probably after the glacial period

Camelford, rural district (pop 7,550) and village, Cornwall, England, on the Camel river and SE of Tintagel Head Like several other places, it has been identified with CAMELOT

camellia (–mēl'–, –mĕ'–) [for G J Kamel, S J], name for several Asiatic evergreen trees or shrubs of the genus *Camellia* (or *Thea*), cultivated outdoors in the S United States or in greenhouses farther north Camellia blossoms are white or shades of red, single or double, and sometimes fragrant, they are occasionally gardenialike but have alternate rather than opposite leaves The leaves are usually glossy dark green, as in the common species (*Camellia japonica*) sometimes called japonica Camellias are closely related to the tea plant, and *Camellia sasanqua* yields tea-seed oil The Azalea and Camellia Society of America has headquarters at Macon, Ga

Camelot (kăm'ulŏt), in ARTHURIAN LEGEND, the seat of King Arthur's court It has been variously located at Cadbury Camp, Somerset, WINCHESTER, CAMELFORD, Cornwall, and CAERLEON, Wales

Camembert cheese (kă'mŭmbâr, Fr kamäbĕr'), unpressed rennet cheese, drained on straw mats and mold-ripened to a creamy consistency Made since the late 18th cent near Camembert village, NW France, it is exported in considerable quantity

Camenae (kumē'nē), in Roman religion, water nymphs, gifted in prophecy, identified with the Muses

cameo (kă'mēō), small relief carving, usually on striated precious or semiprecious stones or on shell The design, often a portrait head, is commonly cut in the light-colored vein, and the dark one is left as the background Glass of two colors in layers may be cameo-cut, a famous Roman example is the PORTLAND VASE The art originated in Asia as a decoration on the reverse of seals The Greeks were noted for their exquisite designs and cutting on jewelry and on decorations for jewel caskets, vases, cups, and candelabra The Romans were adept cutters, and Rome remains a center of artist experts The art was revived during the Renaissance, and cameo jewelry was a vogue of the Victorian era Antique pieces are sought by collectors

camera, in PHOTOGRAPHY, a light-proof container holding a lens which focuses the image of an object upon either a photographic plate or a film enclosed within A shutter when opened permits the entrance of light which exposes the photographic film One of the simplest forms is the box camera, consisting of a simple boxlike container, a single lens, a single-speed shutter, a finder, and a diaphragm (adjustable in some cameras) Roll film is usually employed in the box camera Many variations are

possible in the size, shape, and construction of the parts and attachments of the camera The folding roll-film camera is usually equipped with an extensible bellows or other means of adjusting the lens position The miniature or candid camera usually utilizes 35-millimeter film in cartridges and contains a high-speed lens A hand camera fitted with ground-glass focusing and a coupled range-finder and direct-vision finder is often used by press photographers It is usually equipped with a synchronizer for timing the flash of the flash lamp to the opening of the shutter A view camera, which has a long bellows extension and is designed for use on a tripod, and a camera similar to the view camera but larger and heavier are generally used by professional photographers A pinhole camera consists of an opaque box in which a tiny aperture takes the place of a lens In the usual moving-picture camera the film moves intermittently from one spool to another in such a way that the film is at rest during the actual exposure A rotating shutter exposes the film The **camera lucida** (lōō'sĭdŭ) is an optical instrument which causes a virtual image of an external object to appear upon a plane surface, so that the outline may be traced It is usually used with the microscope, as an attachment to the eyepiece The **camera obscura** (ŏbskyōō'rŭ) consists of a light-tight box or chamber with a convex lens at one end and a screen, on which an image is produced, at the other It is sometimes used for making drawings and is the prototype of the modern photographic camera

Camerarius, Rudolph Jacob (kămŭrâ'rēŭs, Ger rōō'dôlf yä'kôp kamŭra'rĕōōs), 1665-1721, German botanist, a physician The first to present a clear and definite picture of sex in plants, he based his conclusions on careful experiments and observations In his account of the work he described the stamen as the male organ and the ovary as the female organ and emphasized their relationship to the formation of seeds He became a professor at the Univ of Tübingen in 1688

Cameron, Andrew Carr, 1834-90, American labor leader, b Berwick-on-Tweed, England He worked as a printer in Chicago, where he became interested in the labor movement In the *Workingmen's Advocate*, which he edited from 1864 to 1877, he strongly advocated independent political action by labor He helped found the National Labor Union in 1866 and was its delegate to the convention of the International Workingmen's Association in Basel in 1869 He was president of the Chicago Trade Association, the Grand Eight Hour League, and the Illinois State Labor Association

Cameron, Sir David Young, 1865-1945, Scottish artist, best known for his paintings and etchings of the Scottish Highlands He is represented in the National Galleries of Scotland and Ottawa His *Sunrise on Badenoch Hills* is in the Metropolitan Museum He was knighted in 1924

Cameron, Donald, c 1695-1748, Scottish chieftain, known as the Gentle Lochiel He assisted Charles Edward Stuart, the Young Pretender, in the unsuccessful rising of the Jacobites in 1745 and was wounded at Falkirk and Culloden He is remembered because his humanity mitigated the savagery of the insurgents

Cameron, Sir Ewen or **Evan,** 1629-1719, chief of the highland clan of Cameron after 1647, called the Cameron of Lochiel or just Lochiel On behalf of Charles II he led his clan against the parliamentarians in 1653, and only in 1658 did he submit to the Puritan general, George Monck He accompanied Monck to London in 1660 and was knighted by Charles II at the Restoration A supporter of James II and later one of the leading Jacobites, he brought his clan to the aid of John Graham, Viscount Dundee, in the royalist victory at Killiecrankie (1690) and sent it again to aid the Jacobite rebellion of 1715 Lochiel was a romantic warrior of great strength, and from one of his feats Sir Walter Scott drew his description of the fight between Roderick Dhu and Fitz James in *The Lady of the Lake*

Cameron, James Donald, 1833-1918, American politician and capitalist, b Middletown, Pa, educated at Princeton (B A, 1852, M A, 1855) He entered business, gradually taking over the interests of his father, Simon CAMERON In 1867 he managed his father's successful campaign for U S Senator His father influenced Grant to appoint "Don" Secretary of War in 1876, but Hayes refused to retain him Simon Cameron then resigned from the Senate, and his son inherited both his seat (1877-97) and his Pennsylvania Republican machine

Cameron, John, c 1579-1625, Scottish scholar and theologian As teacher, lecturer, and preacher at Bordeaux, Saumur, and other cities on the Continent, he became celebrated for his learning and ability In 1622 he was appointed by James I of England principal of the Univ of Glasgow, but his belief in the divine right of kings and his stand for passive obedience made it impossible for him to remain long Returning to France after less than a year, he became (1624) professor of divinity at Montauban, but not long afterward he was injured by an enemy of the doctrine of passive obedience and died as a result of the attack

"Walking library" is the title bestowed upon Cameron by Sir Thomas Urquhart. His writings, in Latin and French, were largely concerned with his views on man's free will and the grace of God Those who held the same opinions are sometimes known as Cameronites Theirs was a moderate form of Calvinism Cameron's collected works were published in 1642, with a memoir by Louis Cappel

Cameron, Richard, d 1680, Scottish leader of the COVENANTERS Converted by the field preachers, he was licensed as one of them and became known for his eloquence After about two years in Holland, he returned (1680), he opposed the measures aimed at reestablishing the Episcopal Church in Scotland and took the lead of a small company who, in the Sanquhar Declaration, disowned the royal authority of Charles II A price was set on his head, within a short time he and a little band of supporters were overtaken by royal troops Cameron and many of his group were killed Later (1743) the Cameronians, growing in numbers, formed a presbytery, taking the name Reformed Presbyterians This denomination is still represented by congregations in Scotland, the north of Ireland, and North America, but the greater number united (1876) with the Free Church of Scotland A body of Cameronians formed the nucleus (1689) of the celebrated Cameronian regiment of the British army See biography by John Herkless (1896)

Cameron, Simon, 1799-1889, American politician and capitalist, b Lancaster co, Pa He began his career as a printer's apprentice, rose to be a newspaper publisher, and branched out into canal and road construction, railroad promotion, banking, and iron and steel manufacturing All these private interests were admirably served by his talent for politics, and, in fact, they were responsible for the only principle that Cameron was ever known to advocate sincerely and consistently—the protective tariff At first a Democrat, he was long associated in Pennsylvania with James Buchanan, who later called him "an unprincipled rascal" Cameron was elected (1845) to Buchanan's vacated seat in the U S Senate but, defeated for reelection, served only until 1849 In 1856, having joined the new Republican party, he was returned to the Senate when three Democratic legislators also voted for him To Cameron is attributed that famous definition of an "honest politician" as one who, "when bought, stays bought" At the Republican national convention in Chicago in 1860 he was a candidate for the nomination for President, but after the first ballot supported Abraham Lincoln, first exacting from Lincoln's managers, however, the promise of a cabinet post Lincoln reluctantly recognized the bargain, made without his knowledge, and Cameron resigned from the Senate to serve (March, 1861-Jan, 1862) as Secretary of War The President's worst fears were realized as notorious corruption in army contracts and appointments aroused the nation Lincoln eased him out gracefully by appointing him minister to Russia, but Cameron resigned that post in Nov, 1862 The House of Representatives passed (April, 1862) a resolution of censure against him, but Cameron, never a sensitive man, bounded back in 1867, when, in defeating Andrew H Curtin for the Senate, he became absolute Republican boss of Pennsylvania Although he retired from the Senate and from active participation in politics in 1877, the machine he created, later run by his son, James Donald CAMERON, Matthew S QUAY, Boies PENROSE, William S VARE, and Joseph R Grundy successively, so dominated Pennsylvania that it was not until Franklin D Roosevelt's victory in 1936 that the Democrats carried the state in a national election See L F Crippen, *Simon Cameron: Ante-Bellum Years* (1942), B J Hendrick, *Lincoln's War Cabinet* (1946)

Cameron, Thomas Fairfax, 3d **Baron Fairfax of:** see FAIRFAX, THOMAS

Cameron, Verney Lovett, 1844-94, British traveler in Africa A naval officer, he served in the British expedition (1868) against Ethiopia and assisted in the suppression of the East African slave trade He was sent (1873) by the Royal Geographical Society to relieve Livingstone but, finding him dead, recovered his papers, explored and mapped Lake Tanganyika, and proceeded to the Atlantic, the first European to cross equatorial Africa His expedition was recorded in *Across Africa* (1877) In 1882 he explored the Gold Coast with Sir Richard Burton and was co-author with him of *To the Gold Coast for Gold* (1883)

Cameron. 1 City (pop 3,615), NW Mo, E of St Joseph, platted 1855 It is a railroad and trade center in a farm region 2 City (pop 5,040), co seat of Milam co, E central Texas, S of Waco, in a diversified farming area, founded 1846, inc. 1888 3 City (pop 1,998), W Va, in the Northern Panhandle SE of Moundsville, in a rich farm area, settled 1788.

Cameroon Mountain (kă'mûrōōn), volcanic peak, 13,353 ft high, British Cameroons; the greatest elevation of W Africa The first ascent was made (1861) by Richard Burton

Cameroons, Fr. *Cameroun*, Ger *Kamerun*, former German colony, W Africa, on the Gulf of Guinea and extending N to Lake Chad It is bordered by Nigeria on the west, by French Equatorial Africa on the east and south, and by Spanish Sahara on the south Germany's penetration of the area started c.1885, and by 1902 its possession was recognized. Territory of French Equatorial Africa was added in 1911 In the First World War, French and British troops occupied the Cameroons After the war the territory ceded in 1911 was rejoined to French Equatorial Africa, and in 1919 the remainder of Cameroons was divided into French and British zones, which became mandates under the League of Nations In 1946 the mandates were made trust territories of the United Nations **British Cameroons** (31,150 sq mi, pop. 778,352) consists of two detached sections lying on the eastern border of Nigeria, the more southerly extends to the coast This territory is administered with NIGERIA **French Cameroons** (166,489 sq mi, pop 2,816,000) is administered as a separate territory with the capital at Yaoundé It is mainly a low plateau Along the coast there are mangroves, and in the interior are savannas The leading products and exports are peanuts, cacao, coffee, palm oil, and cotton See Harry Rudin, *Germans in the Cameroons* (1938)

Camiguin (kämēgēn'), island (96 sq mi, 1939 pop 40,805), N of Mindanao, in the Philippine Islands Its central volcano (4,370 ft high), dormant for 75 years, erupted violently in 1948, forcing the entire population to leave the island

Camilla (kumĭl'u), city (pop 2,588), co seat of Mitchell co, SW Ga, S of Albany, in a farm and lumber area, inc 1858

Camille (kumēl'), title given the English translation of the play *La Dame aux camélias* by Alexander Dumas fils The play, made from a novel by the same title, was first presented in Paris in 1852 It was presented in English (1853) in New York city as *Camille, or, The Fate of a Coquette* It has been variously adapted, and its popularity was long continued The part of Marguerite was a favorite vehicle of many great actresses, including Modjeska, Bernhardt, and Duse

Camillus (Marcus Furius Camillus) (kumĭ'lŭs), d 365? B C, Roman hero He was a patrician who, the Roman historians say, was elected dictator five times (396, 390, 386, 368, and 367 B C) and on each occasion won a signal victory He captured Veii, saved Rome from the Gauls, defeated the Aequi and Volsci, took Praeneste, and defeated the Gauls at Alba Longa Modern historians do not accept in full the traditional account of Camillus' victories

Camillus, village (pop 1,133), central N Y, W of Syracuse, in a farm and dairy area, inc 1852 Pocket knives and cutlery are made

Caminha, Pedro Vaz de (pā'drō vazh' du kumē'nyu), fl 1500, Portuguese explorer He sailed in the expedition of Pedro Alvares Cabral and wrote a letter to King Manuel I giving a detailed account of the voyage

Camisards (kămēsar, kăm'ĭsärdz), Protestant peasants of the Cévennes region of France who in 1702 rebelled against the persecutions which followed the revocation (1685) of the Edict of Nantes (see NANTES, EDICT OF) The name was probably given them because of the shirts which they wore in night raids Led by the young Jean CAVALIER and Roland LAPORTE, the Camisards met the ravages of the royal army with guerrilla methods and withstood superior forces in several battles In 1704 Marshal Villars, the royal commander, offered Cavalier vague concessions to the Protestants and the promise of a command Cavalier's acceptance broke the revolt, though some Camisards, including Roland Laporte, refused to submit, and scattered fighting went on until 1710 See A E Bray, *The Revolt of the Protestants of the Cévennes* (1870), H M Baird, *Huguenots and the Revocation of the Edict of Nantes* (1895)

Cammaerts, Émile (ämēl' kă'märts), 1878-, Belgian poet In 1908 he settled in England, becoming a professor at the Univ of London in 1933 He began his literary work by translating the works of Ruskin into French and by 1917 had produced two plays, *Les Deux Bossus* and *La Veillée de Noël* He is best known for his poetry of the First World War, which appeared in French in periodicals and was translated and collected in *Belgian Poems* (1915) and *New Belgian Poems* (1916) Later works, in English, include *Upon This Rock* (1943), a poignant character sketch of the son killed in the war, *The Flower of Grass* (1944), and *Flemish Painting* (1945)

Camões or **Camoens, Luís de** (both lōōēsh' dû kûmõ'ĭsh), 1524?-1580, Portuguese poet, unquestionably the greatest figure of Portuguese literature Born of a poor family of the minor nobility, he studied at the Univ of Coimbra and gained wide familiarity with classic literature He left, however, without finishing, and his life was turbulent In Lisbon he fell deeply in love—probably with one of the queen's ladies in waiting, Dona Caterina de Ataíde—and wrote for his beloved love poems that are fiery and almost flawless Some offense,

probably born of his impetuosity, caused him to be banished from court in 1546 The next year he served as an ordinary soldier in a campaign against Ceuta in Africa and lost an eye Back in Lisbon, he led a riotous life that ended with imprisonment (1552) for wounding a court official He was released in 1553 with the understanding that he would go to serve in India To India he went, over the same route that Vasco da Gama had traveled Apparently he had already begun his most celebrated work, *The Lusiads* [Port *Os Lusiadas*=sons of Lusus, i e , the Portuguese], but this journey may have caused him to make the voyage of Vasco da Gama the central theme of his epic In India he fought in the incessant wars, and then he was given an official post at Macao in China On his way there he spent more than a year in the Moluccas, and after he reached Macao he was in trouble again In 1558 charges were brought against him for maladministration, and he was put aboard a vessel for Goa in India He was shipwrecked but reached Goa in 1561 and was imprisoned briefly He was later again imprisoned for a little while for debt In 1567 he was on his way back to Portugal, but stopped at Mozambique for some time, arriving in Portugal only in 1570—and with the help of friends He brought back with him the manuscript of *The Lusiads*, published in 1572 This won him a royal pension, which was meager and sometimes long delayed in payment His last years were impoverished and were saddened by the fate of King Sebastian In 1580 he died in obscurity His epic had, however, begun to enjoy world-wide fame By 1655 it had appeared in English in a version by Sir Richard Fanshawe Modeled on Vergil and showing the influence of Ariosto, it is deeply indebted to neither and is one of the few great epics of world literature The noble beauty of its poetry is enlivened by vigorous and realistic narrative that embraces not only the voyage of Vasco da Gama but also most of the familiar episodes of Portuguese history, there is a fanciful section describing the reception of Gama and his men on Venus' Isle of Love Apart from *The Lusiads*, however, his sonnets and lyrics would have won him lasting fame J D M Ford edited *The Lusiads* with excellent English notes to accompany the Portuguese text (1946) Many translations of the epic have been made from Fanshawe down through Sir Richard Burton and beyond Camões's exquisite and subtly musical lyrics have, however, largely defied translation

camomile or **chamomile** (both kăm'ümil) [Gr ,= ground apple], name for various related plants, especially the European perennial *Anthemis nobilis*, the English or Roman camomile It has an apple-like aroma and resembles the feverfew, sometimes it has yellow flower heads "Camomile tea," made from the dried flower heads which also contain a volatile oil, has long been valued medicinally, particularly as a tonic, it is now most commonly used as a hair rinse German or wild camomile (*Matricaria chamomilla*), a similar but annual European plant, has had much the same use as the English camomile, both are cultivated for ornament, the *Anthemis* also as a ground cover

Camon (kä'mŏn) [Heb ,=standing place], unidentified place Judges 10 5

Camorra (kumô'ru), Italian secret criminal association in Naples and Sicily Of controversial, probably Spanish, origin, it first came to light in 1830 Its activities were extended by intimidation, blackmail, and bribery until Naples was completely controlled by the organization In 1901 Neapolitan citizens formed an Honest Government League and succeeded in breaking the power of the Camorra, which was finally dissolved after the trial and conviction of 40 members in 1911 Up to that time the Camorra had frequently terrorized Italian immigrants in the United States

camouflage (kă'müflăsh), in warfare, the disguising of objects with artificial aids, especially for the purpose of making them blend into their surroundings or of deceiving the observer as to the location of strategic points The principle, of course, is very old, men crossing sandy deserts or snowy wastes have long known the practice of wearing white or light colors for concealment The development of scientific camouflage was, however, largely a product of the First World War The French, in particular, began using elaborate devices to conceal not only forts but also industrial plants and other military objectives Wire screens were used as a foundation for foliage, and whole false landscapes were created, great care being taken to avoid suspicious shadows that would show in photographs Ships were dazzle-painted to deceive the eyes of the observer as to their course by distortion of perspective In the Second World War these principles were further developed, and camouflage was used on a very large scale by all the major countries at war. The extensive use of aerial bombing made it particularly important to conceal industrial plants, airfields, and military installations All the devices of modern science were employed to conceal real objectives and to create decoy airfields and dummy towns, to make factories look from the air like grainfields, and to make open fields look like factories. There could be, of course, no real calculation of waste of bombs on false objectives when the German air force was attacking Great Britain and when the Allied air forces attacked Germany, but the loss has been estimated as very large The extent of camouflage may be gauged from the report that U S army experts in camouflage spent more than $22,000,000 to camouflage 37 war plants The use of old devices such as dummy guns and protective coloration was also carried to great lengths and reputedly played a large part in some of the major actions of the war

Camp, Walter Chauncey, 1859–1925, American football expert, b New Britain, Conn , grad Yale, 1880 He was a prominent athlete at Yale, where he was football coach after 1888 He later became athletic director Often called the father of American football, Camp had a leading role in developing the game and shaping its rules He originated (1889) the practice of choosing an All-American football team In the First World War he adapted for use in training camps the calisthenics known as the daily dozen He wrote *Foot-Ball How to Coach a Team* (1886), *American Football* (1891), *Training for Sports* (1921), *The Daily Dozen* (1925), and books for boys See biography by H W H Powel (1926)

Campagna di Roma (kämpä'nyä dē rō'ma), lowlying region surrounding the city of Rome, central Italy Mostly abandoned for centuries because of its malarial climate and the lack of water for cultivation, the area has greatly benefited from reclamation works in the 19th and 20th cent Flocks of grazing sheep are a familiar sight, remains of Roman aqueducts and tombs give the landscape a special charm

Campagnola, Domenico (dōmā'nēkō kämpanyō'la), c 1490–c 1564, Italian painter and engraver He was a pupil of Giulio Campagnola and of Titian, whom he assisted in the decorating of the Scuola del Santo, Padua He painted chiefly in the churches of Padua His best-known works are three frescoes in the Scuola del Carmine of Padua, *Four Prophets* (Venice Acad), and *Holy Family* (Pitti Palace) Campagnola is celebrated also for his engravings, woodcuts, and masterly pen-and-ink drawings, which resemble Titian's Examples are in the Uffizi and in the British Museum

Campagnola, Giulio (jōō'lyō), b c 1482, d after 1513, Italian painter and engraver He painted miniatures and altarpieces, but is best known for his finely executed engravings, many of them after the works of Giovanni Bellini and Giorgione

campaign, political, organized effort to secure nomination and election of candidates for government offices or to obtain specific political, economic, or social reforms In the United States, political campaigns center about the nomination and election of candidates for the offices of President and Vice President In each political party such nominations are made every four years at a national CONVENTION preceding the presidential election The contending parties are organized with a national chairman at the top of an elaborate system of national, state, and local committees The size and diversity within each of the two major American parties make the campaign for the presidency the chief effective function of each party, and the campaign manager of the successful candidate is usually Postmaster General in the subsequent cabinet Every available means of publicity is enlisted on behalf of a presidential candidate, with radio and, in 1948, television coverage of the candidate's chief speeches Financial contributions by corporations, individuals, and Federal officeholders are restricted by law Presidential campaigns overshadow and in part determine the outcome of concurrent state and local elections to lesser offices Local campaigns are administered and waged along the same general lines as the presidential In England, the nature of parliamentary government permits the overthrow of the cabinet at any time and necessitates a stronger permanent party organization, since an imminent election is always theoretically possible English parliamentary and local elections are never held concurrently, campaigns are short and intensive, and party expenditures are very moderate and are fixed by law Political campaigns for specific reforms have also been common outside the framework of parties Examples of such campaigns are the agitation for the repeal of the CORN LAWS in 19th-century Britain and the prohibitionist movement in the United States While seeking to bring pressure on political parties, such movements depend primarily on widespread propaganda to bring about a change in public opinion in favor of the desired reform See F R Kent, *The Great Game of Politics* (1930), E M Sait, *American Parties and Elections* (1942)

Campan, Jeanne Louise Henriette (Genest) (zhän' lwēz' ärēĕt' kāpä'), 1752–1822, French educator and author She served as a reader to Louis XV's daughters and as lady in waiting to Marie Antoinette. In 1792 she founded a school for girls at Saint-Germain, which Hortense de Beauharnais attended, and directed it until her appointment (1806) as principal of the academy established by Napoleon at Écouen. She retired in 1814 Among her works, published posthumously, are *Mémoires sur la vie privée de Marie Antoinette* (1823), *Journal anecdotique* (1824), and *Correspondance inédite avec la reine Hortense* (1835).

Campaña, Pedro. see KEMPENER, PIETER DE.

Campanella, Tommaso (tōm-ma'zo kampänĕl'lä), 1568–1639, Italian Renaissance philosopher and poet He entered the Dominican order at the age of 15, and though he was frequently in trouble with the authorities, he never left the Church Imprisoned in 1599 on the grounds that he was plotting against the Spanish rule of Naples, he was released in 1626 on the representation of the pope His best-known work is *Civitas solis* (1623, Eng tr , *The City of the Sun*), an account of a communistic utopian society which closely follows the pattern of Plato's *Republic* Though he retained much of scholasticism and insisted on the preeminence of faith in matters of theology, he emphasized perception and experiment as the media of science His importance, like that of Francis Bacon and Bruno, depends largely on his anticipation of what came to be the scientific attitude of empiricism For his *Civitas solis*, see Henry Morley, ed , *Ideal Commonwealths* (1890)

Campania (kämpa'nya), region (5,250 sq mi , pop 3,696,632), S Italy, extending between the Apennines and the Tyrrhenian Sea from the Garigliano river to the Gulf of Policastro Naples is the capital Including several small islands, the region is divided into the provinces of Avellino, Benevento, Caserta, Naples, and Salerno, all named after their chief cities The coast, mostly high and rocky, is broken by the Bay of Naples and the Gulf of Salerno The plains of Campania have been famous since ancient times for their fertility the hills are covered with vineyards and orange, lemon, and olive groves Industries are on a small scale and are mostly centered around Naples They include tomato and fish canneries and the manufacture of macaroni, soap, chemicals, leather goods, and musical instruments The tourist industry is important about the Bay of Naples Various Italic tribes, Greek colonists, Etruscans, and Samnites lived here before the Roman conquest (4th-2d cent B C) After the fall of Rome the Goths and Byzantines occupied the region, which later became part of the Lombard duchy of Benevento (except Naples and Amalfi) In the 11th cent the Normans conquered it, and in the 12th it became part of the kingdom of Sicily Naples soon rose to prominence, and after the Sicilian Vespers (1282) became the capital of a separate kingdom For the later history of Campania under this regime, see NAPLES, KINGDOM OF

campanile (kämpunē'lē, Ital kampänē'lā) [Ital from Late Latin,= bell tower], Italian form of bell tower, constructed chiefly during the Middle Ages Built in connection with a church or a town hall, it served as a belfry and watch tower and often functioned as a civic or commemorative monument The campanile generally stands as a detached unit At the top is the bell platform, where is concentrated the main architectural emphasis, generally a group of arched openings Originating in the 6th cent , the campaniles were the earliest church towers in Europe and were generally circular in shape, examples of this type remain at Ravenna Beginning with the 8th cent , the square plan became the most usual, being constructed in all parts of Italy The Lombardy section produced the richest development of the campanile Brick is the material most used, often combined with stone for the cornices and string courses, the latter surrounding the tower at each story level in the Roman examples The celebrated campanile of Florence, known as Giotto's campanile (1334), is entirely faced in marble and ornamented with sculptures Also of marble is the leaning tower at PISA The campanile of St. Mark's in Venice, originally built in 888, collapsed in 1902 and was rebuilt in 1905 according to its original design

campanula see BELLFLOWER

Campbell, Alexander (kăm'bul), 1788–1866, clergyman, cofounder with his father, Thomas Campbell (1763–1854), of the DISCIPLES OF CHRIST OF Scotch lineage, both were born in Ireland and educated at the Univ of Glasgow Both were Anti-Burgher Presbyterians, a division opposed to the arbitrary discipline of the main church In 1807 the father went to America, where he was welcomed among the Scotch-Irish in SW Pennsylvania His habit of asking all Presbyterians to join his church members in the communion service was contrary to a ruling of the Anti-Burgher synod in which he was preaching, and his action was condemned by his prebytery Although his synod upheld him, the atmosphere remained so hostile that he and his followers, who were popularly called Campbellites (kăm'bŭlīts, kă'mu-), withdrew In 1809 they formed the Christian Association of Washington, Pa , setting forth its purposes in a "Declaration and Address" which is considered the most important document of the Disciples body In that year Campbell was joined in America by his son, Alexander, and the other members of his family. In 1813, having accepted the doctrine of immersion, the Campbells and their followers were invited to

join the Baptists, until 1830 they were nominally Baptists, but there were differences which caused trouble. Alexander Campbell, who had by this time assumed the leadership, advocated a return to scriptural simplicity in organization and doctrine; his followers became known as Reformers. He founded the *Christian Baptist* (1823) to promote his views and traveled throughout the new Western states, addressing large audiences He edited the *Millennial Harbinger* (from 1830), wrote *The Christian System* (1839), and in 1840 founded Bethany College in West Virginia and became its president Meanwhile, the Reformers had seceded or been forced out of many Baptist churches, and Campbell suggested that they form congregations and call themselves Disciples of Christ Many of the "Christians," led chiefly by Barton Warren STONE, joined congregations of the Disciples, in 1832 the two leaders agreed to unite their efforts See Robert Richardson, *Memoirs of Alexander Campbell* (2 vols , 1868–70)

Campbell, Archibald, 1st **duke of Argyll,** d 1703, Scottish nobleman, eldest son of the 9th earl of Argyll To recover his father's forfeited estates, he supported first James II (even to the point of embracing Catholicism) and later William III He is chiefly remembered for his part in instigating, organizing, and carrying out (under John Campbell, earl of Breadalbane) the horrible massacre of the Macdonalds at Glencoe (1692) He was given several offices and made a duke (1701)

Campbell, Archibald, 3d **duke of Argyll,** 1682–1761, Scottish nobleman As lord high treasurer of Scotland (1705) and commissioner for the union (1706), he aided in joining the kingdoms and was created earl of Islay (1705) He also succeeded his brother John as duke of Argyll and served as a Scottish peer in the united Parliament until his death Unlike his brother, he supported Robert Walpole He held high offices in Scotland and promoted consistently the trade, industry, and schools of his native land

Campbell, Archibald, 5th **earl of Argyll,** 1530–73, Scottish statesman He and Lord James Stuart (later 1st earl of Murray, the half brother of Mary Queen of Scots) became followers of John Knox in 1556 and led troops of the Scottish reformers against those of the regent, Mary of Guise Won by Mary Queen of Scots when she arrived in Scotland (1561), he turned from Knox to her until she proposed marrying Lord Darnley He then tried to enlist Queen Elizabeth's aid against Mary Failing, he returned to Mary's party and is thought to have had some part in the murder of Darnley He was in command of Mary's soldiers when they were defeated at Langside in 1568 by the soldiers under Murray, now regent, but he was reconciled with Murray the next year Becoming a supporter of James VI, he was rewarded with the office of lord high chancellor in 1572

Campbell, Archibald, 8th **earl of Argyll** and 1st **marquess of Argyll,** 1607–61, Scottish statesman He became chief of his powerful clan at his father's death (1638). Charles I attempted to win his support, but he stood firmly for Presbyterianism, and at the Pacification of Berwick (1639) he insisted that the "lords of the articles" be chosen by the estates, not by the king This greatly increased the influence of the Scottish Parliament Still eager for his support, Charles made him a marquess in 1641, but in the civil war Argyll took the field with the Covenanters and was defeated (1645) by royalists under James Graham, 5th earl of Montrose, at Inverlochy and Kilsyth After Montrose's defeat a few months later and after the surrender of Charles to the Scots (1646), Argyll was the mediator between the king and the two Parliaments, attempting to secure a Presbyterian settlement in England He later supported Oliver Cromwell but suffered a serious loss of influence because of the revulsion of feeling in Scotland at the king's execution Hoping that Charles II could be restored as a Presbyterian king, he turned from Cromwell and crowned (1651) Charles II in Scotland, but Scottish opinion was so at odds about his action that Argyll lost all real power He was executed for treason at the Restoration The most powerful Presbyterian leader in Scotland, he pursued, like Cromwell, a practical, if not wholly consistent policy. His *Instructions to a Son* (1661) were written during his imprisonment See biography by John Willcocks (1903)

Campbell, Archibald, 9th **earl of Argyll,** 1629?–1685, Scottish nobleman, son of the 8th earl An ardent and active royalist and a Protestant, he opposed extreme measures against the COVENANTERS and so incurred the enmity of the duke of York (later James II), who was in 1680 high commissioner of Scotland Argyll was accused of treason and sentenced to death in 1681 He escaped to Holland, was a leader of the rebellion in favor of the duke of MONMOUTH, was captured, and was beheaded

Campbell, Colin, Baron Clyde, 1792–1863, British general He fought in the Peninsular Wars, commanded troops in various parts of the empire, and was prominent in the Crimean War. For his services as commander in chief in India in suppressing the Sepoy Rebellion he was created baron in 1858 He was made a field marshal in 1862 See biography by Lawrence Shadwell (2 vols , 1881)

Campbell, George Washington, 1817–98, American horticulturist and grape breeder, living most of his life at Delaware, Ohio Though he did not originate the Delaware grape, he rediscovered its worth and was so influential in disseminating it that it received its present name He originated many grape varieties, including the important Campbell early grape His lectures and papers had a marked influence on the development of viticulture in the United States

Campbell, John, 2d **duke of Argyll** and **duke of Greenwich** (grĭn'ĭj), 1678–1743, Scottish general He entered the army at 16 and became (1703) colonel of the Scottish house guards For his ardent support of the union of England and Scotland he was created (1705) earl of Greenwich He served under Marlborough in the War of the Spanish Succession, in spite of his jealousy of his superior, and rose to be commander in chief in Spain in 1711 On his return to Scotland he actively supported the succession of George I, commanded the army in Scotland which put down the rebellion of the JACOBITES in 1715, and was made duke of Greenwich in 1719 His ambitions brought him high political offices, but he was tactless and too forthright, and his later career was uneven

Campbell, John, 1st **earl of Breadalbane** (brudôl'bĭn, brĕd–), c 1635–1717, Scottish chieftain He took part in the royalist rising of 1654 and helped General Monck to further the Restoration In 1689 he took the oath to William III and was authorized to receive the submission of the clans The Macdonalds of Glencoe were unavoidably detained in taking the oath, and Campbell, with the authorization of Sir John Dalrymple, used the delay as a pretext for the brutal massacre at Glencoe (1692), destroying that clan to wipe out old scores under the cloak of official action He was elected to the united Parliament in 1713, but joined in the Jacobite rebellion of 1715

Campbell, John, 1st **earl of Loudoun** (lou'dun), 1598–1663, Scottish statesman A member of the moderate covenanting party (see COVENANTERS), he supported Alexander HENDERSON at the general assembly of 1638 He was lord chancellor of Scotland (1641–60) and was in 1653 defeated by General Monck in the royalist rising

Campbell, John, 4th **earl of Loudoun,** 1705–82, British general He was commander in chief in America (1756–58) and was censured for withdrawing (1757) without attack on an expedition against Louisburg in the French and Indian Wars He was probably lucky to escape from the larger French naval force without disaster

Campbell, John, 1st **Baron Campbell,** 1779–1861, English jurist and statesman He became lord chief justice (1850) and lord chancellor (1859) As head of the Real Property Commission he made valuable reports on the real estate laws of England, and he sat in Parliament as a Whig from 1830 to 1849 It was partly upon his advice that England recognized the Confederacy as a belligerent in the American Civil War He wrote *Lives of the Lord Chancellors* (1845–47) and *Lives of the Chief Justices* (1849–57)

Campbell, John, 1653–1728, American editor, b Scotland Emigrating to Boston, he became postmaster of the city in 1702 and began writing newsletters for regular patrons In 1704 he started printing these as a weekly half sheet, devoted mostly to foreign news, entitled the Boston *News-Letter* Sold to Bartholomew Green in 1722, it was the first successfully established paper in America in spite of a small circulation

Campbell, John Archibald, 1811–89, American jurist, b Washington, Ga After graduating at 14 from Franklin College (now the Univ of Georgia), he studied at West Point but had to leave after his father's death and at 18 was, with Robert Toombs, admitted to the bar by special act of the legislature He moved to Alabama, gained a reputation as a lawyer, was a conspicuous figure in the Nashville Convention (1850), and was in 1853 appointed an Associate Justice of the U S Supreme Court, where he generally favored strict construction of the Constitution He was anxious to avoid the outbreak of the Civil War and dealt, on behalf of Secretary of War William H Seward, with the Confederate commissioners, assuring them of what he thought was the truth—that the Federal troops would evacuate Fort Sumter When, instead, it was provisioned, he was accused of bad faith He resigned in 1862, was a Southern delegate at the unsuccessful Hampton Roads Peace Conference, and was an official in the Confederate government He was imprisoned for four months after the war, then went to New Orleans and reestablished his reputation as a lawyer there He was one of the lawyers in the SLAUGHTERHOUSE CASES See biography by Henry G Conner (1920)

Campbell, John Charles, 1867–1919, American educator, b La Porte, Ind , grad Williams, 1892. He taught in mountain communities of the South and for many years was director of the Southern Highlands division of the Russell Sage Foundation He wrote *The Southern Highlander and His Homeland* (1921) Campbell cherished the idea of folk schools for Southern mountaineers modeled after the Danish FOLK SCHOOL After his death, his wife, **Olive Dame Campbell,** 1882–, visited Denmark to study the folk schools there and in 1925, with Marguerite Butler, founded at Brasstown, SW N C , the John C Campbell Folk School, on a mountain farm given by a member of the community There are no credits or examinations, emphasis being placed on the education of the individual student (18–30 years old) and the development of the community The school admits both day and boarding students and is nondenominational It has been active in the development of cooperative enterprises, including a farmer's association, a creamery, a savings and loan association, a craft guild, and a public-health nursing service Mrs Campbell wrote *The Danish Folk School* (1928) and, in collaboration with Cecil SHARP, collected a book of *English Folk Songs from the Southern Appalachians* (1932)

Campbell, John Francis, 1822–85, Scottish Gaelic scholar He is known for *Popular Tales of the West Highlands* (4 vols , 1860–62) and *Leabhar na Feinne* [book of the Feinians] (1872), a collection of native Ossianic songs A meteorologist also, he invented an instrument to record the intensity of sunshine

Campbell, Sir Malcolm, 1885–1949, English automobile racer, b Kent A racing enthusiast from boyhood, Campbell set many speed records driving motorcycles, airplanes, and automobiles and in 1931 was knighted for his accomplishments. Driving his famed automobile *Bluebird* at Bonneville Flats, Utah, in 1935, Sir Malcolm was the first to reach the 300 mi per hour mark Four years later he topped the existing speedboat record

Campbell, Olive Dame. see CAMPBELL, JOHN CHARLES

Campbell, Mrs Patrick, 1865–1940, English actress, whose maiden name was Beatrice Stella Tanner She made a London debut in 1888 but achieved her first success in 1893 in the title role of Pinero's *Second Mrs Tanqueray* She appeared with Beerbohm Tree (1894–95) in Ibsen's *Little Eyolf* and with Forbes-Robertson (1895–98) as Juliet, Lady Macbeth, and Ophelia In 1901 she made the first of her numerous tours to the United States, playing Pinero roles and Sudermann's *Magda* In 1904 she gave memorable performances as Mélisande to the Pelléas of Sarah Bernhardt in Maeterlinck's play, and in 1912 she was a great success when she created the role of Eliza Doolittle in Shaw's *Pygmalion* See her *My Life and Some Letters* (1922)

Campbell, Reginald John, 1867–, English clergyman At first a Congregationalist, he was pastor (1903–15) of the City Temple, London Wide discussion followed his *New Theology* (1907) Leaving the Congregational ministry, he was ordained (1916) a priest in the Church of England He was chancellor of Chichester Cathedral from 1930 to 1946 Among his many publications are *A Faith for Today* (1900), *Christianity and the Social Order* (1908), *The Call of Christ* (1933), and *The Peace of God* (1936)

Campbell, Robert· see ROB ROY

Campbell, Robert, 1804–79, American fur trader and merchant, one of the mountain men, b Ireland He came to the United States c 1824 and settled in St Louis Having been advised to lead an outdoor life on account of his lungs, he joined William Henry Ashley's fur trapping expedition of 1825 He trapped and traded in the Rocky Mts in association with Thomas Fitzpatrick, Jedediah Smith, James Bridger, and the Sublette brothers until 1832, when he and William Sublette formed a partnership, which offered competition to the American Fur Company Sublette and Campbell suffered reverses, after which they confined their activities to the mountain territory The partnership was dissolved in 1842, and Campbell returned to St Louis, where he amassed a fortune in merchandising, real estate, and banking In 1851 and again in 1869 he served as Indian commissioner

Campbell, Robert, 1808–94, Canadian fur trader and explorer, b Scotland In 1832 he was employed by the Hudson's Bay Company, which sent him in 1834 to the Mackenzie river region, where he remained until 1852 He discovered the Pelly river in 1840, descending it in 1843 to its confluence with the Lewes to form the Yukon Here he established Fort Selkirk Later (1850–51) he followed the Yukon to its junction with the Porcupine at Fort Yukon In 1852 he went to London to assist in preparing maps of the Canadian Northwest, afterward returning to Canada, serving as chief factor of the Saskatchewan district until his retirement in 1870 He wrote *The Discovery and Exploration of the Pelly River* (1883)

Campbell, Roy, 1901–, British poet, b South Africa, studied at Oxford His first volume of poetry, *The Flaming Terrapin* (1924), was sensationally successful, later ones, including the satires *Wayzgoose* (1928) and *The Georgiad* (1931), did not equal it An avowed fascist, he lived in Spain and fought with Franco's army in the Spanish civil war, writing meanwhile *Mithraic Emblems* (1936) and *Flowering Rifle* (1936) He was in the British army in the Second World War Among his later works is

Talking Bronco (1946) See his autobiography, *Broken Record* (1934)

Campbell, Thomas, 1763–1854, American clergyman, a founder of the DISCIPLES OF CHRIST See CAMPBELL, ALEXANDER, his more famous son

Campbell, Thomas, 1777–1844, Scottish poet *The Pleasures of Hope* (1799), a didactic poem, established his reputation, which was great in his life but later declined sharply Among his other poems were "Lord Ullin's Daughter," "Hohenlinden," "The Battle of the Baltic," "Ye Mariners of England," and the verse tales *Gertrude of Wyoming* (1809) and *Theodric* (1824) From his works come many familiar lines for example, "distance lends enchantment to the view" (*Pleasures of Hope*) and "coming events cast their shadows before" ("Lochiel's Warning") Campbell edited *Specimens of the British Poets* (7 vols , 1819) He was editor (1820–30) of the *New Monthly Magazine* and one of the founders of the Univ of London

Campbell, Wilfred (William Wilfred Campbell), 1861?–1918, Canadian author, b Berlin (now Kitchener), Ont , educated at the Univ of Toronto and Harvard He entered the Episcopal ministry in 1885 but resigned six years later and thereafter was a civil servant in the dominion archives bureau at Ottawa Although he wrote several historical novels and poetic dramas and published several volumes of verse, his fame rests mainly on his *Lake Lyrics* (1889), a volume of nature poetry His *Collected Poems* appeared in 1905 He also edited the *Oxford Book of Canadian Verse* (1913) See *The Poetical Works of Wilfred Campbell* (with a memoir by W J Sykes, 1923), study by C F Klinck (1942)

Campbell, William, 1745 81, patriot officer in the American Revolution, b Augusta co , Va , brother-in-law of Patrick Henry He fought in Lord Dunmore's War (1774) and helped expel the royal governor from Williamsburg in 1776 Campbell and his group of Virginia riflemen in 1780 joined Sevier and Shelby at Kings Mt (see CAROLINA CAMPAIGNS), where he was in command Later Campbell saw action at Guilford Courthouse, at Eutaw Springs, and in the Yorktown campaign

Campbell, William Wallace, 1862–1938, American astronomer From 1891 to 1930 he was at Lick Observatory, Mt Hamilton, Calif , of which he became director in 1901 From 1923 until his retirement in 1930 he was president of the Univ of California His works include *Stellar Motions* (1913)

Campbell 1 City (pop 1,786), SE Mo , SE of Poplar Bluff near the Ark line, inc 1900 It has cotton gins and a sawmill **2** City (pop 13,785), NE Ohio, near Youngstown, called East Youngstown until 1926, when it was incorporated as a city Steel is made here

Campbell-Bannerman, Sir Henry, 1836–1908, British statesman He entered Parliament as a Liberal (1868) was secretary of state for Ireland (1880–85), and was knighted (1895) He was secretary of state for war (1886, 1892–95) and became party leader (1898) in succession to Sir William Harcourt In 1905 on the resignation of Arthur Balfour, Conservative, he became prime minister Before ill-health caused his retirement in 1908 he had furthered many Liberal measures, including that of autonomy for the Transvaal and the Orange Free State

Campbellford, town (pop 3,018), S Ont , in the valley of the Trent river and NW of Belleville

Campbellites see CAMPBELL, ALEXANDER, and DISCIPLES OF CHRIST

Campbellsport, village (pop 1,094), E Wis , SE of Fond du Lac, inc 1902

Campbellsville (kăm'bulzvĬl), city (pop 2,488), co seat of Taylor co , central Ky , SSW of Lexington, in an area of farms, timber, and limestone A junior college (coeducational) is here

Campbellton (kăm'bultŭn), town (pop 6,748), N N B , on the Restigouche river near the head of Chaleur Bay It is a starting point for canoe, fishing (salmon and trout), and hunting trips into the forested interior Across the river, at Mission Point, is Micmac village

Campbeltown (kăm'bultun, -toun), burgh (pop 6,309), Argyllshire, Scotland, on the eastern side of S Kintyre peninsula Having a fine harbor, it early became an important seaport and fishing center It has whisky distilleries There is a 12th-century granite cross

Camp Borden, largest military training establishment in Canada, S Ont , NNW of Toronto It covers an area of 20,000 acres and has also an armored-vehicle range at Meaford, 60 mi to the northwest

Campeche (kămpā'chĕ, Span kampā'chā), state (19,672 sq mi , 1946 estimated pop 106,498), SE Mexico, on the Gulf of Campeche Comprising most of the western half of the YUCATAN peninsula, it lies in hot, humid, and unhealthful lowlands Rainfall in the southwestern sector is heavy Much of the state is extensively forested, and logwood (called *campeche* in Spanish) is one of the chief exports Agriculture (especially the growing of henequen) and stock raising are important, and some minerals are exploited From Campeche as a base Francisco de MONTEJO led (1531–35) expeditions against the Maya The coast was a hide-out for pirates from the 17th cent to the 19th The principal ports are Campeche and Carmen (pop 7,687) which is on an island at the entrance to the Laguna de Términos **Campeche,** the capital (pop 23,277), was founded (1540) by the younger Montejo Backed by low hills, it is picturesque, with many impressive colonial ruins It was sacked several times by English buccaneers The port is shallow, and vessels anchor far out, but some logwood, cotton, hides, tobacco, salt, and cigars are exported Crossing the state from north to south, a single rail line connects the capital with Mérida, Yucatan, and the eastern panhandle of Tabasco

Campeggio, Lorenzo (lōrĕnt'sō kampĕ'djō), 1472–1539, Italian churchman and diplomat, cardinal of the Roman Church He had wide repute as a jurist when the death of his wife turned him to the Church (c 1510) In 1512 he became bishop of Feltre, and in 1513 cardinal He was chosen as legate for the most delicate missions In 1518 he went to England to secure the adherence of HENRY VIII to an alliance against Turkey He did not succeed, but he received (1524) the bishopric of Salisbury from Henry, which he held *in absentia* until 1534 In 1528 Cardinal Campeggio went again to England to act with Cardinal WOLSEY as judge in the divorce of KATHARINE OF ARAGON He followed his instructions to temporize and adjourned the hearing Cardinal Campeggio was sent to Germany in 1524 to attempt a pacification of the Lutherans, but except for a promise from Charles V to enforce the Edict of Worms he obtained nothing He was ardently desirous for the reformation of the Church, especially of the papal court and of all the organs of central administration at the Holy See

Camperdown (kăm'purdoun"), Dutch *Kamperduin* (kăm'purdoin") [Dutch,=the dune of Kamp], locality near the village of Kamp, North Holland prov , NW Netherlands, on the North Sea Here in 1797 the British defeated the Dutch, then allies of the French, in a naval battle

Camp Fire Girls, American organization for girls from 7 to 18 years old It was founded (1910) by Luther Halsey Gulick (1865 1918) and other educators "to perpetuate the spiritual ideals of the home" and "to stimulate and aid in the formation of habits making for health and character" The seven crafts of its program are those of the home, the creative arts, the outdoors, frontiers (of science), business, sports and games, and citizenship The Camp Fire members are divided into three age groups—Blue Birds (7 to 10), Camp Fire Girls (10 to 15), and Horizon Clubs (15 to 18) The official organ of the organization is the *Camp Fire Girl* (a monthly magazine)

Camphausen, Ludolf (lōō'dōlf kamp'houzun), 1803–90, Prussian statesman He headed the liberal ministry of 1848 and was an important figure at the Frankfurt Parliament

Camphausen, Wilhelm (vĬl'hĕlm), 1818–85, German painter, etcher, and illustrator He is best known for his popular pictures of episodes from military history His work shows great fidelity to detail Camphausen also painted portraits of numerous German celebrities

Camp Hill 1 Town (pop 1,147) E central Ala , NE of Montgomery, in a farm area, inc 1907 **2** Residential borough (pop 3,630), S Pa , across the Susquehanna from Harrisburg, founded 1756 It has a state industrial school

camphor, white, crystalline solid with a characteristic odor and taste, a compound of carbon, hydrogen and oxygen, melting at 176°C and boiling at 204°C The natural variety, Japan camphor, is obtained by distillation (using steam) of the wood of the camphor tree (*Cinnamomum camphora*) native to China, Japan, and Formosa (its chief source) It is also prepared synthetically from oil of turpentine. Camphor is used in the manufacture of celluloid, being mixed with pyroxylin, of some perfumes, of disinfectants, of explosives, of some lacquers, and as a moth preventive It is used in medicine as a stimulant, a diaphoretic, and an inhalant Camphor ice is a mixture, containing principally camphor and wax, used for external application Camphor is practically insoluble in water but soluble in alcohol, ether, chloroform, and other solvents The alcoholic solution is known as spirits of camphor The camphor tree is now cultivated in the S United States

Camphuysen, Dirk Rafelszoon (dĬrk' ra'fĕlsōn kămp"hoi'zŭn), 1586–1627, Dutch painter and poet, author of short religious poems of great merit A preacher, he was dismissed and persecuted as a Remonstrant Most of the small, exquisitely drawn and colored interiors and landscapes hitherto ascribed to him are now believed to have been painted by his nephew, **Raphael Camphuysen** (ra'faĕl), 1598–1657, and his son, **Govert Camphuysen** (gō'vĬrt), 1624–1674?, who was a court painter at Stockholm and executed landscapes with animals in the style of Paul Potter

Campi, Giulio (jōō'lyō kăm'pē), c 1500–c 1572, Italian painter and architect, founder of a school of painters at Cremona He was a pupil of his father, Galeazzo Campi (c 1475-1536), a well-known painter, and of Giulio Romano and studied the works of Correggio and Raphael Giulio produced many excellent altarpieces and frescoes in Milan, Mantua, and Cremona, the frescoes in the Church of Santa Margherita, Cremona, being entirely his work Among his pupils were his two brothers, **Cavaliere Antonio Campi** (kävalyā'rā ăntō'nyō), b before 1536, d 1591, painter, architect, and historian of Cremona, and **Vincenzo Campi** (vēnchān'tsō), 1532–91, whose works consist principally of portraits and still life Another brother was **Bernardino Campi** (bĕrnärdē'nō), 1522–c 1590, a painter of great skill with a vigorous and original style, excelling in fresco painting and portraiture Bernardino's most important work is the series of biblical frescoes in the cupola of San Sigismondo, Cremona, a work of colossal dimensions admirably executed

Campian, Thomas see CAMPION, THOMAS

Campin, Robert (kăm'pĬn), 1375–1444, Flemish painter of the school of Tournay He is usually identified with the Master of Flémalle, whose *Annunciation* (Brussels) and *Good Thief* (a fragment from an altarpiece in the Stadel Inst , Frankfurt) are famous Also attributed to Campin are *Virgin and Child* (National Gall , London), *God Manifesting the Dead Christ, Virgin and Child with Angels* (Metropolitan Mus), two heads (Johnson Coll , Philadelphia), and two panels representing *Heinrich Werle* and *St Barbara* respectively (Prado) The work of Campin has only recently been distinguished from that of his celebrated pupil, Roger van der Weyden

Campina (kŭm'pēnä), town (pop 16,963), S central Rumania, in Walachia, NW of Ploesti It is a major petroleum center

Campinas (kămpē'nŭsh), city (pop 77 779), E São Paulo, Brazil Not long ago one of the greatest coffee centers of the world, Campinas suffered from depletion of the soil in the surrounding area and from the falling price of coffee Now the region has diversified farming which produces cotton, fruit, sugar, and dairy products and has processing plants, including cotton and silk mills There is an agricultural experiment station The musician Antonio Carlos Gomes was born here

Campine (kămpēn', Fr kāpēn'), Flemish *Kempen* (kĕm'pun), region in Limburg prov and Antwerp prov , NE Belgium, and in North Brabant prov , S Netherlands It is a coal-mining area Once covered by moors and marshes, it has been partially reclaimed Turnhout and Hasselt are the chief towns

Campion, Edmund (kăm'pĕun), c 1540–1581, English Jesuit martyr, educated at St Paul's School and St John's College, Oxford As a fellow at Oxford he earned the admiration of his colleagues and his students and the favor of Queen Elizabeth by his brilliance and oratorical ability He went (1569) to Dublin to help in the proposed restoration of the university there Though he had reluctantly taken orders as a Protestant, he had open Roman Catholic leanings and fled in disguise (1571) to England and then to the Continent, where he studied at Douai, joined (1573) the Society of Jesus, and was ordained (1578) In 1580 he and another Jesuit, Robert PERSONS, were sent as Jesuit missionaries to England Campion's travels were marked by many conversions and did much to guarantee the persistence of Roman Catholicism in England Copies of his secretly printed pamphlet, *Decem rationes* [10 reasons] against the Protestants, appeared at Oxford in 1581 The long pursuit by the government ended (July, 1581) with the taking of Campion He was racked three times, but though his body was broken he conducted debates with Protestant theologians brilliantly and won more converts He defended himself ably against trumped-up charges of sedition but was nevertheless condemned and hanged, drawn, and quartered He was beatified in 1886 See biography by Evelyn Waugh (1935)

Campion or **Campian, Thomas,** 1567–1620, English poet, composer, and lutanist, a physician by profession He wrote Latin poetry and masques for the English court, but he is most important for his fresh, varied lute songs, published in *A Book of Ayres* (1601) and in four similar collections He also wrote *Observations of the Art of English Poesie* (1602), in which he developed the practice of rhyming, and *A New Way of Making Fowre Parts in Counterpoint* (1613)

camp meeting, outdoor religious meeting held usually in the summer and lasting for several days The camp meeting was a prominent institution of the American frontier It originated under the preaching of James McGREADY in Kentucky early in the course of a religious revival (c 1800) and spread into the West as that movement extended its influence Either no meetinghouses existed or they were too small to hold the immense crowds that flocked to hear the noted revivalist preachers People from a distance brought bedding and provisions in order to camp on the grounds As the meetings developed they were directed by a number of preachers who relieved each other in carrying on the services or who preached simultaneously in different parts of the camp grounds Shouting,

shaking, and rolling upon the ground frequently accompanied the tremendous emotional release which followed upon "conversion," though these extravagances were opposed and discouraged by conservative ministers Camp meetings were usually held by evangelical sects, such as the Methodists and Baptists, and by the Cumberland Presbyterians, Christians, and other newer denominations which developed out of the religious revival In modified form they continued to be a feature of social and religious life in the region between the Alleghenies and the Mississippi river until comparatively recent times, in a sense, they survive in summer conferences and assemblies, such as the Chautauqua Institution and the Ocean Grove Camp Meeting Association

Campoamor, Ramón de (ramōn' dā kämpōämōr'), 1817–1901, Spanish poet One of the most popular poets of his time in Spain and Spanish America, he created types of short poems exemplified in the titles *Doloras* (1846), *Pequeños poemas* (1872–74), and *Humoradas* (1886–88) They are written in simple language and are sentimental and humorous His somewhat prosaic approach to poetry, embodied in his poems, is expressed also in his *Poética* (1883) Less known are his two long poems, *Colón* [Columbus] (1853) and *El drama universal* (1869) Some of his poems are translated in Thomas Walsh, *Hispanic Anthology* (1919), and James Fitzmaurice-Kelly, *Some Masters of Spanish Verse* (1924)

Campobasso (käm"pōbas'sō), town (pop 17,043), capital of Campobasso prov, Abruzzi e Molise region, S central Italy, in Molise It is an agricultural center with cement, soap, and cutlery manufactures There is a medieval castle

Campobello (käm"pōbĕ'lō), island (pop 1,181), c 8 mi long and 3 mi wide, in Passamaquoddy Bay, between Maine and New Brunswick The village of Campobello on the island's west coast is only 3 mi E of Eastport, Maine The island passed to Canada by the Convention of 1817 It was originally granted by Governor Campbell of Nova Scotia to Admiral William Owen in 1767 and was held by his descendants till 1880 A syndicate of Boston and New York businessmen then purchased it and made it into a summer resort James Roosevelt, father of President Franklin D Roosevelt, was one of the first to build a summer cottage there The shores are irregular, rocky, and picturesque, and the interior is covered with a dense forest of fir and spruce In May, 1866, the island was attacked by some hundreds of Fenians under Gen Dorian Killian, but the attempt was frustrated by British and American war vessels

Campo Formio, Treaty of (kam'pō fôr'myō), Oct, 1797, peace treaty between France and Austria, signed near Campo Formio, a village near Udine, NE Italy, then in Venetia It generally ratified the preliminary Peace of Leoben, signed at the conclusion of Bonaparte's Italian campaign (see NAPOLEON I) Bonaparte signed for France, Count Cobenzl for Austria Austria ceded its possessions in the Low Countries (the modern Belgium) to France and secretly promised the left bank of the Rhine The republic of Venice, invaded despite its attempts to maintain neutrality, was dissolved and partitioned all Venetia E of the Adige, Istria, and Dalmatia passed to Austria, the present provinces of Bergamo and Brescia went to the newly founded CISALPINE REPUBLIC, the IONIAN ISLANDS went to France Emperor Francis II undertook to summon a congress at RASTATT to settle the affairs of the Holy Roman Empire

Campomanes, Pedro Rodríguez de (pā'dhrō rōdhrĕ'gäth dā kämpōmä'nās), 1723–1802, Spanish statesman, economist, and author As minister under Charles III he introduced administrative, social, and economic reforms. He wrote on the revival of industry and on the professional education of the working classes.

Campos, Arsenio Martínez de see MARTÍNEZ DE CAMPOS, ARSENIO

Campos (käm'pōsh), city (pop 51,663), NE Rio de Janeiro state, Brazil, on the Paraíba near its mouth A center of rail and highway communications, it is the commercial center of a highly developed agricultural region It has processing plants for refining sugar, distilling alcohol and brandy, preserving fruits, and the like as well as an aluminum plant Though the city was founded in the 17th cent, its importance is of fairly recent date

Campos Salles, Manuel Ferraz de (mänwĕl' furush' dā käm'pōsh säl'lĕsh), 1841–1913, Brazilian statesman, governor of São Paulo (1896–98), president of Brazil (1898–1904)

Camp Point, village (pop. 1,084), W Ill, ENE of Quincy, inc 1857

Campti, village (pop 1,004), NW La, near the Red River SE of Shreveport, inc 1903

Campton, resort town (pop 1,130), central N H, in the White Mts N of Plymouth, settled and inc 1760–70

Campu-Lung (kŭmpōō-lōōng'), town (pop. 11,041), NE Rumania, in Bukovina It is a commercial city and a summer resort

Campulung (kŭmpōōlōōng'), town (pop. 18,174), S central Rumania, in Walachia. It is a trading center and summer resort on the southern slope of the Transylvanian Alps The earliest capital of Walachia, it has several churches dating from the 13th and 14th cent (restored 17th–19th cent)

Campus Martius: see *Roman Empire* and *Renaissance and Modern Rome* under ROME

Camrose, town (pop 2,967), central Alta, SE of Edmonton It is in a mixed farming district, with eight radiating railroad lines A provincial normal school and a Scandinavian Lutheran college are in Camrose

Camuccini, Vincenzo (vēnchän'tsō kämōōt-chē'nē), 1771–1844, Italian historical and portrait painter, leading figure in the classical movement in Italy Characteristic works are his *Romulus and Remus* (St Luke's Acad., Rome), *St Thomas*, a mosaic (St Peter's, Rome), and portraits of the king and queen of Naples, of Thorvaldsen, and of Pope Pius VII (Venice Acad) Camuccini enjoyed academic honors and was conservator of the papal museums

Camulodunum · see COLCHESTER, England

Camus, Albert (albĕr' kämü'), 1913–, French writer His first published work was *Noces* (1939), sketches of his native Algiers In the Second World War he was one of those responsible for *Combat*, a newspaper of the resistance Influenced by Kafka, Camus's later works have much in common with existentialism, although he does not identify himself with this group *Le Mythe de Sisyphe* (1942) is a philosophic essay, his novels *L'Étranger* (1942, Eng tr, *The Stranger*, 1946) and *La Peste* (1947, Eng tr, *The Plague*, 1948) express the contemporary feeling of the absurdity of human life As a journalist he is lucid and courageous Of his plays, *Caligula* (1944) and *Le Malentendu* (1944) appeared in English translation as *Caligula and Cross Purpose* (1948)

Cana (kā'nŭ), ancient town of Galilee Here Jesus performed His first miracle by turning water into wine at a wedding John 2 1,11, 4 46,54, 21 2 Two modern towns claim to be the Old Cana—Kefr Kenna, NE of, and close to, Nazareth, and Kana-el-Jelil, N of Nazareth

Canaan (kā'nun) **1** Son of Ham and the eponymous ancestor of the Canaanites Gen 9 20–27, 10 6,15, 19 **2** Name given by the Hebrews to Palestine before they occupied it It is the country lying between the Jordan, the Dead Sea, and the Mediterranean It was the promised land of the Israelites, and after their delivery from Egypt they subjugated it Gen 12 5, Ex 3 8, Num 13 17,29, 14 45, 21 3, Joshua 22 11,32 Judges 1 The Canaanites are the inhabitants of Canaan except in Mark 3 18, where the name signifies one of the ZEALOTS Chanaan is a variant of Canaan

Canaan **1** Unincorporated village (pop 1,215) in North Canaan town, NW Conn, in the Taconics It is the shopping center and railroad station of a large resort area The village of East Canaan has magnesium deposits The town of Canaan lying south includes Falls Village at the falls of the Housatonic **2** Town (pop 1,377), W central N H, E of Lebanon, settled 1766, inc 1770 A resort, it also produces lumber

Canachus (kā'nŭkŭs), fl 6th cent B C, Greek sculptor of Sicyon, known for his great statues of Apollo He executed one in bronze for Miletus and one in cedar for Thebes

Canada (kā'nŭdu), nation (3,847,597 sq mi, 1950 estimated pop 13,707,000), N North America, member of the British Commonwealth of Nations The population in 1941 (excluding Newfoundland) was 11,506,655 The capital is OTTAWA Canada occupies all the continent N of the United States except for the U S -owned Alaska in the far northwest and the tiny French islands of St Pierre and Miquelon in the Atlantic It consists of 10 provinces —NEWFOUNDLAND (which voted only in 1948 to join Canada), NOVA SCOTIA, NEW BRUNSWICK, PRINCE EDWARD ISLAND, QUEBEC, ONTARIO, MANITOBA, SASKATCHEWAN, ALBERTA, and BRITISH COLUMBIA—and includes the NORTHWEST TERRITORIES and the territory of YUKON The provinces form a union that controls the territories Canada is an entirely autonomous political unit, although the nominal head of its government is the king of Great Britain and Northern Ireland, his official acts regarding Canada and those of his representative, the governor general, are completely determined by the Canadian ministers, who are responsible to the Canadian Parliament The government draws its authority from the British North America Act of 1867, which is the Canadian constitution, it is in general outline much like the Constitution of the United States, the most striking difference being that in Canada the powers not expressly granted to the provincial governments are reserved to the government of the confederation of provinces The provinces have power to administer and legislate on matters of property and civil rights, education, and local affairs generally The Canadian Parliament, consisting of a House of Commons and a Senate, has the general powers of legislation and government The nation is commonly called the dominion of Canada, but the title is not official or even quite correct, and since the Statute of Westminster set up the British Commonwealth of Nations, the term *dominion* has tended to fall into disuse. The huge nation sprawls across the continent from the Atlantic, where it is deeply indented by the Gulf of St Lawrence, to the Pacific, where the mountains run into the sea. In the south it is separated from the United States by a long-stretching border, the line marked in part by the Great Lakes, but for most of its length a land border, much adjusted in the past Canada fronts in the north on the long coast of the Arctic Ocean from the border of Alaska eastward Boothia Peninsula and the forbidding islands of the ARCTIC ARCHIPELAGO thrust far into the Arctic, and Canada has at least nominal sovereignty to the North Pole in this quadrant In the east Ellesmere Island all but touches the coast of Greenland high in the arctic regions The north coast of Canada is deeply cut by gigantic Hudson Bay, which offers the shortest route to the great interior of the continent, but not an easy way because the bay and rivers are ice-locked for much of the year The extreme northeast edge of the continent is also very cold, where the Labrador Current sweeps down along the inhospitable shore of Labrador Just to the south it meets and mingles with the warm Gulf Stream, giving birth to the incessant fogs of Newfoundland The provinces about the Gulf of St Lawrence and on the coast south to the international boundary with Maine—the Maritime Provs of Nova Scotia (with Cape Breton Island), Prince Edward Island, and New Brunswick—have the narrowing northern end of the Atlantic coastal plain of North America Here too in the mountains of New Brunswick and the Gaspé Peninsula (of Quebec prov) the Appalachian Mts end S of the St Lawrence river The Maritime Provs with their forests, their deep-cut coves, and the many rivers of a rainy land offer entrancing scenery that has grown more famous with the passing of time The old standard occupation of the region is fishing, and it is possible that Europeans were coming to the Grand Banks of Newfoundland—one of the most notable fisheries of the world—before Columbus reached America Fishing was later supplemented by lumbering, and today the forest yields also the pulp for paper mills The rivers have been harnessed for hydroelectric power, and projects have been advanced for using the phenomenally high tides of the Bay of Fundy (between Nova Scotia and New Brunswick) for practical purposes HALIFAX is one of the great ports of the Atlantic seaboard, and SAINT JOHN, N B, has been of some prominence particularly for shipbuilding The minerals of the Maritime Provs have also been put to some use, and farming has been productive in limited areas since first the French settled ACADIA The heart of Old Canada (or rather of New France) was, however, farther to the west in the present province of Quebec Here the St Lawrence river opens a way from the Atlantic to the huge North American central plains E of, and about, the Great Lakes, which lie on the border with the United States Here in S Quebec and in SE Ontario the French established their habitant civilization, with settled farmsteads under the feudalistic seigneurial regime on the St Lawrence Here are the two great cities of Quebec prov, QUEBEC itself and MONTREAL, from which once fur traders and adventurers went out to pierce the continent and to which now the rich produce of the interior comes to the sea Quebec prov is still the home and fortress of the French Canadians, while Ontario shows more the mark of the long British heritage The cities of Ontario, like those of Quebec, have developed much industry TORONTO, HAMILTON, LONDON, and WINDSOR, in the region of the E Great Lakes, are tied together and tied to the West by rail and road and are busy with commerce and with industries, ranging from simple food processing to the manufacture of automobiles and heavy machinery Like S Quebec, SE Ontario also has much diversified agriculture, including orchards, tobacco fields, and dairy farms At the western end of the Great Lakes are the twin lake ports of Port Arthur and Fort William, for shipment of produce from the Western prairies Settlement in the provinces of Quebec and Ontario is, however, concentrated in the south, for N of the St. Lawrence and its tributary, the Ottawa, rises the Laurentian Plateau (also called the Pre-Cambrian Shield or the Canadian Shield), a great barrier stretching from the Atlantic around Hudson Bay and its deeper indentation, James Bay, westward across Ontario and into the Prairie Provs of Manitoba and Saskatchewan It comes down to the St Lawrence at the Thousand Islands, and the lower St Lawrence is held between it and the Appalachian highlands The plateau is a land of rocks, small mountain ranges, and rolling country reaching in the north to the BARREN GROUNDS It is in large part heavily forested and is interrupted by many lakes and streams. To a large extent this north country is still a land of the fur trader, and the old ports of Rupert House, Fort Albany, York Factory, Port Nelson, and Churchill persist, in the southern part there are regions attracting the sportsman and the vacationer Especially of late its mineral possibilities have been explored (aluminum, nickel, gold, silver, copper, and platinum), and its forests have yielded lumber. A strip of clay soil S of James Bay

has proved of agricultural value. To the west of the Great Lakes lie the Prairie Provs, Manitoba, Saskatchewan, and Alberta. They are one of the great wheatgrowing regions of the world. The plains, separated from those of the United States only by an imaginary line, rise more or less rapidly to the Great Plains and then through foothills to the great barrier of the Rocky Mts, which separates Alberta from British Columbia. The provinces have many lakes and rivers. Those in the east, such as Lake Winnipeg, Lake Manitoba, and the others linked with them, the Red River of the North, the Saskatchewan, and the Hayes, Nelson, and Churchill rivers, are connected with Hudson Bay, those of NW Alberta, notably the Athabaska and the Peace, are connected through Lake Athabaska, the Slave river, and Great Slave Lake with the northern system of the Mackenzie. A few in the south are part of the Missouri drainage. The first agricultural settlement in the Prairie Provs was the RED RIVER SETTLEMENT in the region where the metropolis, WINNIPEG, now stands. Real development came to this domain of the fur trader only after the Canadian Pacific Railway reached the area. Cattle raising was superseded by wheat farming, which is still dominant, though the hard times of the droughts caused a recession in the late 1920s and the 1930s and now there is more of a trend to diversified farming with some cattle raising. Settlement has been centered in the south (with the notable exception of the Peace river valley), and the larger cities (Winnipeg, REGINA, SASKATOON, EDMONTON, and CALGARY) are in the south half. Agricultural production in this "breadbasket of the world" is supplemented by other resources. Alberta has vast coal reserves (now being exploited) and booming oil fields. The cities in this part of the Canadian West have in recent years, particularly in the Second World War, seen a tremendous increase in industrial plants devoted to food processing and oil refining with some metalworking and machinery plants. The Rockies of Alberta are notable for majestic beauty and have much-frequented beauty spots. These are, however, but summer resorts. Across the mountains in S British Columbia the mild climate has helped to draw many year-round residents, not a few from the Prairie Provs themselves. British Columbia for the most part is a land of peaks and of tumbling mountain rivers. The Rockies seam most of the east, and in the south the young Columbia river loops around the Selkirk Mts. In the west the Coast Mts come down to the sea in slopes of breath-taking but inaccessible beauty. Not only the Columbia but other systems have headwaters in British Columbia—the Mackenzie (especially in the Peace) and the Yukon (in the Lewes)—and there are various rivers running directly to the Pacific (among them the Fraser). Yet, though most of the state is wooded wilderness, in the south and more particularly in the southwest around the coast and on Vancouver Island there is one of the heaviest concentrations of population in Canada. The Pacific fisheries, lumbering, agriculture (notably fruit orchards), and mining have all contributed to the wealth of the region. Its cities, VANCOUVER, VICTORIA, and NEW WESTMINSTER, have developed industries on the basis of these resources. In the north fur trappers still gather pelts and Indians lead their relatively undisturbed lives. This region is not unlike that of neighboring Yukon, which is still largely undeveloped mountain country though its name (and that of the river draining it) has been world known since the Klondike gold strike of 1896. The few settlements are on the rivers, and transportation—as in most of the north country—depends on the airplane, though Yukon has one railroad (White Horse to Skagway) and is reached by the Alaska Highway. Another highway was built in the period of abortive oil development in the 1940s. The Northwest Territories are seeing the long-delayed beginnings of development. The westernmost of its three districts, Mackenzie district (named for the great river that drains its western part) has oil wells and a refinery at Norman and has pitchblende silver mines on one of its two enormous lakes, Great Bear Lake (the other is Great Slave Lake), since pitchblende yields uranium, its importance in the atomic age is obvious. The region is, however, still not thoroughly explored. This is particularly true of the arctic tundra and the mountains, although a trader, Samuel Hearne, had crossed overland to the Coppermine river as early as 1771. The situation is perhaps still more true of Keewatin district to the east and Franklin district to the north (the arctic islands). All this region is still frontier, with scattered posts and with the forces of law represented by the Royal Canadian Mounted Police, known extensively if inaccurately through moving pictures. The climate of Canada shows as wide a range as its topography, though because of the latitude the winters are generally cold; the central plains have a continental climate with very cold winters and very hot summers, the north, of course, belongs to the ARCTIC REGIONS, and about the Great Lakes the winters are temperate. The peoples of Canada show less variation but the problems of adjustment of varying cultures have been enormous. The Indians have had a more potent effect on the culture in Canada than in the United States, partly because, despite the vigorous part they took in early Indian wars, the Canadian settlers were less ruthless in destroying the native peoples than were the U S settlers. The natives of Canada varied greatly from the Algonquian-speaking peoples of E and central Canada (including the Micmac, the Abnaki, the Ottawa, the Ojibwa, the Cree, and other well-known tribes) to the Athapascan-speaking peoples of W Canada (including the Chipewyan among others) and the variegated tribes of the Pacific coast. In the northern sections there are also many Eskimo. From the very beginning of the activities of the white man (if the somewhat shadowy activities of the vikings after A D 1000 are ignored), the signs of imperial rivalry appeared—a rivalry that was to dominate the history of Canada until 1760. The man who made the Canadian coast widely known to Europe was John CABOT, who in British service reached the coast in 1497. In 1534 the Frenchman Jacques CARTIER planted a cross on the Gaspé Peninsula. The first settlement, founded in 1604 by the sieur de Monts and Samuel Champlain, was soon removed to Port Royal (Annapolis Royal, N S), and a little later Champlain founded (1608) Quebec. The pattern of French conquest of Canada was quite unlike that of British conquest of the present United States, the British were hemmed in by the mountains, but the St Lawrence beckoned the French inland, with its connecting waterways that made it possible, with only short portages, to reach all the Great Lakes and the heart of the continent. Within a few years Étienne Brulé had seen all the Great Lakes except Lake Michigan, which was seen by Jean Nicolet in 1634, just a few years after Massachusetts Bay colony was founded. The temptation to the French was to establish an enormous but thinly settled empire, as opposed to the relatively dense settlements of the British on the Atlantic coast to the south. Champlain also established the French policy of supporting the Huron Indians against their traditional enemies, the Iroquois—a policy that almost brought the French colony to extinction when later in the 17th cent the Iroquois demolished the Huron and almost demolished the French with them. Before that time, however, the English had moved to support their claims under Cabot's discoveries. Sir Samuel Argall had attacked the Port Royal settlement in 1614 (New State), and in 1629 the English captured Quebec and Champlain. Quebec was restored in 1632, and the French administration under the Company of One Hundred Associates (established 1627) sought to exploit the fur trade and establish settlements. Exploration went on, and the missionary efforts of French Catholic priests among the Indians were involved in the Huron-Iroquois warfare. Isaac Jogues, Jean de Brébeuf, and other Jesuits were martyred, but the firm foundation of the Church in Canada came only later when French settlement advanced. The unsuccessful rule of the Company of One Hundred Associates ended in 1663, and French royal government was established. The three important rulers of the colony under this system were the royal governor, the intendant, and the bishop. The force that these three officers had may be seen in the careers of the man who was perhaps the greatest of the colonial governors, Louis de Buade, comte de FRONTENAC, of the first and greatest of the intendants, Jean TALON, and of the overpowering first bishop of Quebec, François Xavier de LAVAL. There was constant trouble among the rulers, particularly over the treatment of the Indians, the religious viewed them as possible converts, the governor saw them as means of trade. Meanwhile both missionaries, such as Jacques MARQUETTE, and traders, such as RADISSON and Groseilliers, were widening the scope of French knowledge and influence. They sometimes went hand in hand, as Louis JOLLIET with Marquette and Father HENNEPIN with Michel Aco. The greatest of all the empire builders in the West was Robert Cavelier, sieur de LA SALLE, who went to the mouth of the Mississippi and envisioned the great empire in the West that was made a reality by men like DULUTH, BIENVILLE, IBERVILLE, and CADILLAC and by the many *coureurs de bois* and diligent missionaries. New France with Louisiana was a vast colony. The French did not, however, go unchallenged in possession. The British kept returning to claims on Acadia (the British Nova Scotia), and the Hudson's Bay Company in 1670 began from its posts on Hudson Bay to vie for the lucrative fur trade of the West. When the long series of wars between Britain and France broke out in Europe, it was paralleled in North America by the FRENCH AND INDIAN WARS. The French settlers in Acadia with their diked lands and the French seigneuries on the St Lawrence were constantly threatened. The virtues of the seigneurial system, first established in Canada in 1598, are debatable. Under it large grants were made to seigneurs, who made other grants to settlers, the actual farmers owed some quasi-feudal dues and could sell the property only by paying a large duty to the seigneur. By the middle of the 18th cent the St Lawrence valley was well settled and was a prize for British conquerors, but perhaps even more alluring was the trade of the interior. Knowledge of the lands to the west and the far north had been expanded by explorations such as those of the French LA VÉRENDRYE family and Englishmen such as Henry KELSEY, and many of its riches as well as its limitations were known. The imperial contest came to an end after Gen James WOLFE defeated MONTCALM on the Plains of Abraham, bringing about the fall of Quebec in 1759. Montreal fell the next year, and the Treaty of Paris in 1763 ended New France and established British rule. The resultant conflict between the deep-rooted and Roman Catholic French Canadians and the newly come Protestant British was to leave a legacy of antagonism that has persisted, though in diminishing force, to the present day. It was one of the causes of PONTIAC'S REBELLION, and it brought on the great resentment occasioned by the Proclamation of 1763, which relegated all the West to the Indians. Under the influence of Sir Guy CARLETON the administrative act was replaced by the Quebec Act of 1774, which granted large concessions to the French and infuriated the residents of the Thirteen Colonies, who were soon to revolt and become the United States. In the American Revolution, despite persistent wooing by the patriots, the Canadians remained loyal to the British crown, and the effort to take Canada by arms for the revolutionary cause failed dismally in the QUEBEC CAMPAIGN. Loyalists from the colonies in revolt (see UNITED EMPIRE LOYALISTS) fled to Canada and did much to advance Canada—especially in the Maritime Provs but also farther to the west. The period was one of expansion marked by such signal events as the journey of Alexander Mackenzie to the Arctic Ocean and his epoch-making overland voyage to the Pacific in 1793. Mariners were also reaching the Pacific Northwest and such men as Capt James COOK, John MEARES, and George VANCOUVER secured for Britain a firm hold on what is now British Columbia. The rivalry of the North West Company and the Hudson's Bay Company for the Western fur trade grew, and the enterprising Nor'westers, exemplified in Simon Fraser, David Thompson, and Alexander Henry, came also into rivalry with the American John Jacob Astor's traders on the Pacific. (see ASTORIA, Oregon) and came off successful, partly because of the War of 1812. That war, in which the Canadians and the British soldiers in Canada acquitted themselves with great credit, did not change the general situation but did permanently settle the U S -Canadian boundary about the Great Lakes. The New Brunswick boundary (see AROOSTOOK WAR) and the boundary to the west of the Great Lakes were to be subjected to long dispute, but since the War of 1812, except for minor flurries, the long Canadian-U S border has been a line of peace. The internal struggle for control between the North West Company and the Hudson's Bay Company rose to bloodshed in the Red River Settlement and was settled by amalgamation of the companies in 1821. The Hudson's Bay Company then held undisputed sway over RUPERT'S LAND, and the Canadian Pacific West under such men as Dr John MCLOUGHLIN, Sir George SIMPSON, and Sir James DOUGLAS, until U S immigrants challenged the British hold over OREGON and obtained the present boundary line. In the east the Canada Act of 1791 had divided Lower Canada (present Quebec) from Upper Canada (present Ontario). Both, as well as the Maritime Provs, enjoyed much growth from the increase of immigration after 1815, most of the newcomers were from the British Isles—Scots and Irishmen. The currents of democracy began to flow strong, and the 1830s saw a strong move toward responsible government (i e, democratic control of the colonial governments by the colonials) and the overthrow of the ruling groups (the Family Compacts). In Nova Scotia the movement led by Joseph HOWE gained some initial success, and in New Brunswick also concessions were made, but in the two Canadas it was not until the groups led by Louis J PAPINEAU in Lower Canada and William Lyon MACKENZIE in Upper Canada had reached separate futile rebellions in 1837–38 that the British government acted. The earl of DURHAM was sent to Canada in 1838 and made a report in which he urged the granting of responsible government. He also urged the union of the two Canadas for the express purpose of making the French Canadians a minority and Anglicizing them. Responsible government was not won effectively until 1849 after strenuous efforts by leaders in the different provinces, notably Robert BALDWIN and Louis H LAFONTAINE in the Canadas. There was, however, no nation, only a string of provinces in the East and the Hudson's Bay Company domain (Rupert's Land, British Columbia, and Vancouver Island) in the West. The movement for confederation was forwarded in the 1860s by the need for common defense (the Northerners in the U S Civil War were naturally anti-British and made threatening gestures), the desire for some common

government to forward railroads and other transportation, and the necessity for some new solution in the two Canadas (now Canada East and Canada West) where rival parties led by John A MACDONALD and George BROWN had reached an impasse The rival leaders in 1864 agreed to seek confederation of the provinces, which would allow local separation of the Canadas under a common dominion government Already the Maritime Provs were seeking union among themselves Their Charlottetown Conference in 1864 was broadened to admit delegates from the Canadas Two more conferences convened—the Quebec Conference later in 1864 and the London Conference held in 1866 in the mother country—before the British North America Act in 1867 made confederation a fact There was much opposition, and Nova Scotia and New Brunswick were brought to accept the union only through the efforts of Sir Charles TUPPER and Sir Samuel L TILLEY and the fear and indignation roused by the invasion of Canada by Fenians from the United States in 1866 Prince Edward Island did not join until 1873, Newfoundland did not enter until after the election of 1948 The new nation gained Rupert's Land from the Hudson's Bay Company in 1869, and in 1871 British Columbia agreed to come into the Union largely on the promise of a transcontinental railroad Pushing through the CANADIAN PACIFIC RAILWAY was one of the main achievements of the long administration of Macdonald and his Conservative administration (to 1891, with an interruption from 1873 to 1878 when the Reform party was in power) Objection in the West to being summarily taken over by the East led to two rebellions led by Louis RIEL in 1869–70 and 1885, but the West was opened Manitoba was made a province in 1870 Macdonald in 1879 adopted what was called the National Policy, a program for building up Canada, partly through protective tariffs Under the long administration (1896 1911) of the Liberal party under Wilfrid LAURIER, immigration to the Prairie Provs, already begun, was greatly forwarded by Clifford Sifton, who was minister of the interior from 1896 to 1905, the newcomers were drawn from many lands, and W Canada today shows the contributions of peoples from Central and Eastern Europe (notably Germans and Ukrainians) as well as smaller somewhat more exotic groups, such as Japanese and Chinese (who had come to the Pacific coast earlier), Icelanders, and Sikhs The prairie agricultural empire bloomed Saskatchewan and Alberta were made provinces in 1905 Mining also changed the West, for the Klondike discovery in 1896 loosed in 1897–98 one of the wildest gold rushes of all time Other mines were opened also, notably in the Laurentian Plateau Large-scale development of hydroelectric resources helped to forward the growth of industry and urbanization Laurier's fall in 1911 was at least partly due to his proposed reciprocal trade treaty with the United States which many thought would destroy their newly built industries These as well as the man power and resources of Canada were of immense aid to the Allies as Canada under the premiership of Robert L Borden joined the British side in the First World War Canada won a place on the imperial war council, and the war contributions of the dominions helped bring about the declaration of equality of the members of the British Commonwealth in the Statute of Westminster of 1931 The war, however, had one very serious effect in Canada, for the struggle over military conscription deepened the cleavage between French Canadians and other Canadians The development of air transportation and roads helped to weld Canada together after the war, and the nation had strength to withstand the assaults of the depression beginning in 1929 and the droughts that shriveled the wheat fields The farmers, who had resorted to political means in the short depression immediately after the war, now developed huge cooperatives (very thoroughgoing in Nova Scotia, very large scale in the Prairie Provs) and also took to radical political means—notably SOCIAL CREDIT and the Socialistic CO-OPERATIVE COMMONWEALTH FEDERATION The nation was again of vital importance in the Second World War, when under the premiership of W L Mackenzie KING, Canada took the side of the Allies in 1939 The war caused strains, though the struggle over conscription was not so severe as in the First World War, strict control over resources, prices, and wages was instituted Despite the difficulties, Canada emerged from the war with enhanced prestige as one of the major nations of the world, actively concerned in the affairs of the United Nations and taking part in all the confusing problems of the peace Classic works on early Canada are those of Francis PARKMAN Three large works on Canadian history are *Canada and Its Provinces* (ed by Adam Shortt and A G Doughty, 23 vols, 1913–17), *Chronicles of Canada* (ed by G M Wrong, 32 vols, 1914–16), and *Makers of Canada* (ed by W L Grant under the direction of A G Doughty, new ed, 12 vols, 1926) See G M Wrong, *The Rise and Fall of New France* (1928) and *The Canadians* (1938), George W. Brown, *Building the Canadian Nation* (1942), Donald G Creighton, *Dominion of the North* (1944), J Bart Brebner, *The North Atlantic Triangle* (1945), A R M Lower, *Colony to Nation* (1946), Mason Wade, *The French-Canadian Outlook* (1946), Edgar McInnis, *Canada a Political and Social History* (1947), George W Brown, ed, *Canada* (1950)

Canada, Lower see QUEBEC, province

Canada balsam (bôl'sum), yellow, oily, resinous exudation from the balsam fir (*Abies balsamea*) of Canada and the NE United States It is an oleoresin and a true turpentine, having a pleasant odor but a bitter taste It is transparent and adhesive when fluid and retains these properties upon solidification, which occurs when it is exposed to the air It is used in the preparation of slides for microscopic work to cement the glass covering the specimen to the slide upon which that material has been fixed It is used also in paints and polishes

Canada Company, founded by the novelist, John GALT, and chartered in England in 1826 for the purpose of making settlements Its lands were along the Lake Huron side of the S Ontario peninsula, and its headquarters at GUELPH The type of immigrant obtained by Galt was high, and the company's prices were reasonable, although the directors were reluctant to invest money in improvements The first road from Lake Ontario across the Huron tract to Lake Huron was, however, built by the company, and in general the Canada Company was one of the most successful colonizing schemes of the period See Robina Lizars and K L Lizars, *In the Days of the Canada Company* (1896)

Canada First movement, party that appeared in Canada soon after confederation (1867) The purpose was to encourage the growth of nonpartisan loyalty to the new dominion of Canada In Toronto, in 1874, it founded the *Nation* and the National Club and entered the political field as the Canadian National Association Although its official career was short-lived, the party's ideals were expressed by Canadian poets and other writers and were absorbed by the older political parties In this way the Canada First movement had an effect on the development of Canadian nationalism

Canada jay see JAY

Canada rice see WILD RICE

Canadian, town (pop 2,151), co seat of Hemphill co, extreme N Texas, on the Canadian river and NE of Amarillo, inc 1908 Founded with the coming of the railroad to this ranching country in 1887, it was, and still is, primarily a railroad and cattle town

Canadian, river rising in E New Mexico in the high plains and flowing E across the Texas Panhandle and most of Oklahoma It is joined by the North Canadian in E Oklahoma near Eufaula and enters the Arkansas a little farther northeast

Canadian art An outstanding early colonial art was French-Canadian wood carving, chiefly of saints and retables for the churches This art flourished from 1675 (when Mgr Laval established an École des Arts et Métiers) until c 1850 The art perhaps reached its height after the separation from France when, freed from the French Renaissance tradition, it developed a local character beautifully exemplified in such work as that in the Church of the Sainte Famille on Orléans Island and in the Musée provinciale at Quebec Before 1880 almost the only paintings and drawings produced in Canada were those of the colonial topographers many of them English army officers While much of this work is purely documentary, a few men produced interesting and imaginative scenes Paul Kane, who painted Indians, and Cornelius Kreighoff, who depicted the life of the habitants, were the earliest genre painters J A Fraser, known for his views of the Rockies, was instrumental in founding (1876) the Ontario College of Art, at Toronto In 1880 the Royal Canadian Academy of Arts (at Montreal) and the National Gallery of Canada (at Ottawa) were founded The National Gallery has since 1910 played an active part in Canadian life through its traveling exhibits Its collection is the finest in Canada Today there are art schools and galleries in Montreal, Quebec, Ottawa, Toronto, Hamilton, Edmonton, Winnipeg Vancouver, and other cities In the late 19th cent the outstanding names were those of the landscapists Daniel Fowler, F M Bell-Smith, and Robert Hagen, the portrait painter Robert Harris, and two great cartoonists, J W Bengough and Henri Julien They were followed by numerous fine painters, including George A Reid, Franklin Brownell, Henry Sandham, Robert Holmes, Edmund Morris, Florence Carlyle, F McG Knowles, Horatio Walker, Homer Watson, A De Lévy Suzor-Coté, William Brymner, Mortimer Lamb, Tom Thomson, and J W Morrice, who is perhaps the most celebrated of Canadian landscapists In 1919 Frank Carmichael, Lawren Harris, A Y Jackson, Franz H Johnston, Arthur Lismer, J E H MacDonald, and F Horsman Varley formed the Group of Seven, dedicated to painting the Canadian scene, and traveled and painted all over the dominion Their movement did much to awaken the interest of the country at large, and while their school of painting with its emphasis on flat design eventually tended toward the posterlike, they did some excellent work After the decline of the French-Canadian wood carver, little sculpture was produced until 1900 Louis Philippe Hébert, Suzor-Coté, Alfred Laliberté, Phimister Proctor, Tait McKenzie, and Walter Allward are well-known sculptors Among the later sculptors, Emanuel Hahn, Elizabeth Wyn Wood, and Henri Hébert are notable See A H Robson, *Canadian Landscape Painters* (1932), Graham McInnes, *A Short History of Canadian Art* (1939)

Canadian literature, English, although it began as an imitative colonial literature, has steadily developed into a regional but independent branch of American letters Because of the huge immigrations, first of New England Puritans from 1760 on and later of American Loyalists during the Revolution, Canadian literature followed that of the United States almost until the confederation in 1867 Until after 1800 the rigors of pioneering left little time for writing, and the only notable works were journals, such as that of Jacob Bailey, and the recorded travels of explorers, such as Samuel Hearne and Sir Alexander Mackenzie The first novelist was John Richardson, whose *Wacousta* (1832) popularized the genre of the national historical novel In 1836 with *The Clockmaker* T C Haliburton began his humorous series on Sam Slick the Yankee peddler Important historical novelists writing c 1900 included William Kirby, author of *The Golden Dog* (1877), and Sir Gilbert Parker, author of *The Seats of the Mighty* (1896) Sara Jeannette Duncan's novels such as *A Social Departure* (1890) contained both satire and humor, and *Anne of Green Gables* (1908) became the most famous of the novels for girls by L M Montgomery The Rev C W Gordon (Ralph Connor) began with *Black Rock* (1898) a series of novels on pioneer life in W Canada Animal stories became popular in the works of Sir C G D Roberts, Ernest Thompson Seton, and Margaret Marshall Saunders Since 1900 Canadian novels have tended toward stricter realism but have remained predominantly regional Among the most prominent authors have been Mazo de la Roche, well known for her series on the Whiteoaks of Jalna, Frederick P Grove, author of *Settlers of the Marsh* (1925), novel of farm life, and Laura Salverson and Nellie McClung, novelists of immigrant and rural life in W Canada Popular younger novelists are Morley Callaghan, Gwethalyn Graham (*Earth and High Heaven*, 1944), and Hugh Maclennan (*Two Solitudes*, 1945, and *The Precipice*, 1948) Stephen Leacock has been a perennial favorite for his humorous essays as well as a respected scholar, other notable essayists include Sir Andrew Macphail, Archibald MacMechan, and Lorne Pierce Genuinely Canadian poetry was late in developing In the 18th cent Puritan hymnists such as Henry Alline and refugee Tory satirists such as Jonathan Odell took their models from American colonial or English neoclassical literature Until after the confederation of 1867 the only poets of note were Charles Sangster, the first to make use of native material, and Charles Heavysege, whose long poetic drama *Saul* stirred the admiration of contemporary American poets Starting c 1880, the "Confederation school"—C G D Roberts, Archibald Lampman, Bliss Carman, and Duncan Campbell Scott—began producing a large body of romantic poetry, describing natural landscapes and rural life In 1905, long after her death in 1887, Isabella V Crawford was recognized as a genuine poet and was followed by Emily Pauline Johnson and Marjorie Pickthall Other poets of the early part of the century included Wilfred Campbell, W H Drummond, Francis Sherman, John McCrae, and, less skillful and more popular, Robert W Service In 1926 Edwin J Pratt began his imaginative, heroic poems Among many recent poets following the strong, native tradition of Pratt have been Kenneth Leslie, Earle Birney, W W E Ross, Dorothy Livesay, and Anne Marriott Others sharing the modern cosmopolitan tradition of America and Western Europe have been F R Scott, L A MacLean, A J M Smith, A M Klein, and R K Page See R P Baker, *History of English-Canadian Literature to the Confederation* (1920), J D Logan and D G French, *Highways of Canadian Literature* (1924), V B Rhodenizer, *Handbook of Canadian Literature* (1930), Clara Thomas, *Canadian Novelists, 1920–1945* (1946), E K Brown, *On Canadian Poetry* (2d ed revised, 1945), A J M Smith, ed, *The Book of Canadian Poetry* (rev ed, 1948)

Canadian literature, French Except for the narratives of French explorers and missionaries, no notable writing was produced before the conquest of 1759 Since that time the inspiration of almost all Canadian writing in French has been the passionate concern of French Canadians to preserve their identity in a country which is dominated by the English language and cultural tradition and by the Protestant religion There has been little contact between the two literatures The French literature has found its models mainly in writers of France and its themes in nationalism, the simple lives and folkways of the habitants, the devotion to the Catholic Church, and the tie to mother France.

This "racial" impulse was slow in being articulated, however, and its first artistic expression was F X Garneau's *Histoire du Canada* (1845–48, 2d ed, with added material, 1852) Still the classic of French Canadian nationalism, it was reprinted in 1946 It inspired the first nationalist poet, Octave Crémazie, and the Quebec school of poets, novelists, and historians who began a deliberate effort in 1801 to create a national literature, with such French authors as Hugo and Lamartine as their chief models The group included Philippe Aubert de Gaspé, J B A Ferland, L H Fréchette, Léon Le May, H R Casgrain, Antoine Gérin-Lajoie, and Benjamin Sulte There developed c 1900 a new group of writers, chiefly in Montreal, who tried to achieve the stricter technique and keener artistic perceptions of their models, the Parnassians of France Some poets such as Émile Nelligan and Paul Morin abandoned the national note and chose exotic subjects, others such as Albert Lozeau and Albert Ferland found inspiration in Canadian nature Also about this time men of letters such as Adjutor Rivard began a movement to preserve the purity of the French language in Canada The poet Gonsalve Desaulniers was one of many who celebrated the loyalty to old France Félicité Angers (Laure Conan) set her fiction in the early Quebec settlements A more realistic fiction took its impetus from Louis Hémon's *Maria Chapdelaine* (1913), a study of the peasants in the Lake St John country There has followed a stream of fiction, much of it excellent, on habitant life in the backwoods, on the farms, and in the villages, by such native Canadians as Robert Choquette, F A Savard, Roger Lemelin, Gabrielle Roy, and Germaine Guèvremont Although some novels have been set in cities and a notable author such as Robert Charbonneau has explored the psychological defeatism of his characters, the realistic regional novel about the simple Catholic community has persisted strongly Some of the important poets since 1914 include Clément Marchand, whose inspiration is often religious, Alfred DesRochers, who writes of the life of the soil, and Robert Choquette and Roger Brien, whose lyrics are in the romantic tradition but eloquently individualistic Lionel Groulx has done much research into the sufferings of the people of Quebec in the early days of the British regime and has turned his material to a nationalist purpose with great eloquence Maurice Barbeau has written many volumes on the folklore and traditions of both French and Indian Canada Édouard Montpetit, primarily an economist, has written eloquent essays on social subjects See annual reviews of current French Canadian literature in the *University of Toronto Quarterly*, Ian F Fraser, *The Spirit of French Canada* (1939), Berthelot Brunet, *La Littérature canadienne-française* (1946), Guy Sylvestre *Anthologie de la poésie canadienne d'expression française* (1913), J Paul-Crouzet, *Poesie au Canada* (1946)

Canadian Mounted Police see ROYAL CANADIAN MOUNTED POLICE

Canadian National Railways, government owned and operated transportation system in Canada, extending from coast to coast with many branch lines in each province The system is an amalgamation of several separate enterprises The Intercolonial Railway, always a government property, was opened in 1876, to link the Maritime Provs with the St Lawrence The Grand Trunk Railway, the oldest large system in Canada, extending from Portland, Maine, to Sarnia, Ont, remained in private hands until it was acquired by the dominion government by arbitration in 1921, its extensions, the Grand Trunk Pacific and National Transcontinental, having been already taken over The Canadian Northern Railway another privately owned transcontinental line, which had been built in sections from 1896 to 1914, was taken over in 1917 Except for the original Grand Trunk, these privately owned lines were almost wholly financed by government-guaranteed bond issues and were never able to meet their interest charges They were unified in 1923 under a single management, and a considerable part of the original mileage was abandoned See L T Fournier, *Railway Nationalization in Canada* (1935)

Canadian Pacific Railway, transcontinental transportation system in Canada and extending into the United States, privately owned and operated in competition with the Canadian National Railways The construction of a railroad crossing the continent in Canadian territory was one of the conditions on which British Columbia entered the confederation in 1871 After many difficulties and a political scandal, the contracts were awarded in 1880, and the line from Montreal to the Pacific coast was completed on Nov 7, 1885 See J M Gibbon, *Steel of Empire* (1935)

Canadian Shield see LAURENTIAN PLATEAU

canaigre see DOCK

Canajoharie (kăˌnəjōhăˈrē, -hăˈlē), village (pop 2,577), E central N Y, on the Mohawk and the Barge Canal and W of Amsterdam, settled c 1730 by Dutch and Germans, inc 1829 The Van Alstyne House (1749) contains historical papers and relics Food packing is the chief industry

Canal, Antonio: see CANALETTO

canal. Canals were dug for irrigation probably almost as long ago as agriculture began, traces of them have been found in Egypt and in other regions of ancient civilization The Indians of SW North America irrigated their fields by canals, parts of which still exist in Arizona and New Mexico Canals for transportation came somewhat later and for long were level or provided with inclines up which barges or boats had to be hauled from one level to the next, locks (see LOCK, CANAL) were first built in Europe, in Italy or Holland The Grand Canal of China (completed 1289) is the most notable of the early canals The countries of France, Belgium, Holland, and Germany developed inland waterway systems, connecting their rivers by canals, and thereby furthered their economic and commercial progress Russia built canals to connect the Baltic with the Black and Caspian seas by a great system of rivers, lakes, and canals, and the Soviet Union built a canal between the White Sea and the Baltic England, before the building of railroads, had an elaborate network of much-used canals, in the United States the ERIE CANAL was important A sea voyage often can be shortened or made less dangerous by the building of a canal for this purpose the SUEZ CANAL, the PANAMA CANAL, and the KIEL CANAL were built When falls interrupt transportation, as in the Columbia, the Niagara (see WELLAND SHIP CANAL), and the Congo, or when there are shoals a canal may be built Drainage may be accomplished by means of a canal—a notable example is the Chicago Drainage Canal (see CHICAGO, river), reclamation of land through drainage canals has been practiced in many countries, as in the drainage of the Florida swamps, the fens of England, and the Zuider Zee in the Netherlands See T C Bridges, *Great Canals* (1930)

Canale, Antonio see CANALETTO

Canalejas y Méndez, José (hōsāˈ kənälēˈhəs ē mānˈdāth), 1854-1912, Spanish statesman He was a member of the Cortes held several cabinet posts, and was premier from 1910 to 1912, when he was assassinated He founded a more democratic group within the liberal party and advocated curbing the power of the religious orders and breaking up the large estates He was also a notable jurist

Canaletto (kənälăˈtō), 1697-1768 Venetian painter, whose real name was Antonio Canale or Canal He studied with his father Bernardo Canale, a scene painter, and spent several years in Rome Returning to Venice, he devoted himself to the painting of the Venetian scenes upon which his fame chiefly rests From 1746 to 1753 he lived in England and produced many fine landscapes, notably those of Eton College Examples of his works are in most of the large European collections as well as in the National Gallery of Art, Washington D C, the Art Institute of Chicago the Museum of Fine Arts in Boston, and the Metropolitan Museum Canaletto is unsurpassed as an architectural painter Among his best works are *View on the Grand Canal* and *Regatta on the Grand Canal* (National Gall London), *Church of Santa Maria della Salute* (Louvre), *View of Venice* (Uffizi), and *The Piazzetta, Venice* (Metropolitan Mus) His nephew and pupil Bernardo Bellotto (bĕrnärˈdō bāl-lōtˈtō) (c 1724–1780), Venetian architectural and landscape painter was also called Canaletto His paintings, resembling those of Antonio though inferior in quality, are very numerous and may be seen in most of the leading European galleries They usually depict scenes in the cities in which Bellotto resided In 1747 he was appointed court painter at Dresden, and in 1770 painter to Stanislaus II at Warsaw

Canal Fulton, village (pop 1,115), NE Ohio, on the Tuscarawas and NW of Canton It is a trading center for a wheat and dairying area

Canal Winchester, village (pop 1,046), S central Ohio, on the Ohio and Erie Canal and SE of Columbus Glass products are made here

Canal Zone see PANAMA CANAL ZONE

Cananean (kănumēˈən), epithet of St SIMON

Canandaigua (kănəndāˈgwə), city (pop 8,321), co seat of Ontario co, W central N Y, in the Finger Lakes region, at the north end of Canandaigua Lake and SL of Rochester, settled 1789, inc 1813 It is a resort and farm trade center with various industries The Pickering treaty with the Six Nations was signed (1794) here The county historical society museum contains valuable historical documents The courthouse was the scene of the trial (1873) of Susan B Anthony for voting There is a U S veterans' hospital here

Canandaigua Lake, 15 mi long, W central N Y, one of the FINGER LAKES Squaw Island in the lake is a state reservation

Canarese (kănurēzˈ), variant spelling of Kanarese, which is a language of the Dravidian family See LANGUAGE (table)

Canaris or **Kanaris, Constantine** (both kənaˈrēs), 1790-1877, Greek admiral He distinguished himself in the Greek war for independence, notably by destroying (1822) the flagship of the Turkish admiral In 1862 he was a leader in the revolution which put George I on the Greek throne He was twice premier (1864-65, 1877)

Canaris, Wilhelm (känäˈrĭs), d 1944, German admiral, of Greek origin He was one of the chief figures in the German intelligence service in the First World War, and in the Second World War he headed the Abwehr (the espionage and counter-espionage system of the regular armed forces) An anti-Nazi, he was in touch with the Allies and was a key figure in the plot of 1944 on Hitler's life When that failed, he was put to death

Canarsee Indians (kənarˈsē), North American Indian tribe of Algonquian linguistic stock They occupied the western part of Long Island, N Y, and sold the site of Brooklyn to the Dutch They paid tribute to the Mohawk, and when they stopped paying and defied the Mohawk, they were almost wiped out They were probably not included in the Manhattan Indians

canary, familiar bird of the FINCH family introduced into Europe in the late 15th or early 16th cent and descended from either the wild serin finch or from the very similar wild canary, both native to the Canary Islands, Madeira, and the Azores The wild birds are chiefly gray or green Breeders have developed both plain and variegated birds, with yellow and buff the principal colors, although some are greenish Scientific training to perfect singing ability has long been carried on in Germany, where the finest singers, the Harzer and the St Andreasberg canaries, originated The birds are trained by listening to selected birds of superior ability or to musical instruments The song of the roller canaries is a series of "tours," a complex set of rolling trills delivered with the bill almost closed Choppers sing with the bill open Canaries breed readily in captivity and may live 15 years or more

Canary Islands, Span *Islas Canarias*, group of seven islands (2,807 sq mi, pop 680,294), off Spanish Sahara, in the Atlantic Ocean They comprise two provinces of Spain Santa Cruz de Tenerife (1,329 sq mi, pop 359,770) includes Tenerife, Palma, Gomera, and Hierro Las Palmas (1,565 sq mi, pop 320,524) includes Grand Canary, Lanzarote, and Fuerteventura The islands, of volcanic origin, are rugged, the highest point is Mt Teide (12,190 ft) on Tenerife Pliny mentions an expedition to the Canaries in c 40 B C, and they may have been the Fortunate Islands of later classical writers They were occasionally visited by Arabs and by European travelers in the Middle Ages Jean de Béthencourt, a Norman, settled at Lanzarote in 1402 and, with the support of Castile, became its king in 1404 The Guanches, the native inhabitants of the islands, were conquered by 1496, and Spanish dominion was recognized The Canaries were frequently raided by pirates and privateers Las Palmas beat off Francis Drake in 1595, but it was ravaged by the Dutch in 1599 In the French Revolutionary Wars, Horatio Nelson was repulsed in 1797 at Santa Cruz Wine was the main export of the Canaries until the grape blight of 1853 Its place was taken by cochineal until aniline dyes came into general use, sugar cane then became the chief commercial crop The leading exports are now bananas, tomatoes, and potatoes, grown where irrigation is possible Fishing on the open sea employs many The ports are of great importance as coaling stations See A S Brown, *Madeira, Canary Islands, and Azores* (14th rev ed, 1932)

canary wood or **canary whitewood,** name applied to the timber of the TULIP TREE in some parts of the United States and to an Australian eucalyptus, the Indian mulberry, and two species of *Persea*

canasta see RUMMY

Canastota (kănəstōˈtə), village (pop 4,150), central N Y, ENE of Syracuse, in a farm region, inc 1835 Silverware is made here

Canaveral, Cape (kənăvˈərəl), E Fla, on the Atlantic coast, SE of Titusville There has been a lighthouse here since 1854

Canberra (kănˈbərə), city (pop 15,156), capital of the Commonwealth of Australia in the Australian Capital Territory, SW of Sydney and W of Jervis Bay It is the seat of the Duntroon Military College, Canberra University College (1929), and the National Museum of Australian Zoology The site of the city was chosen in 1908 Founded in 1913 Canberra became the second capital (succeeding Melbourne) of the commonwealth, the Parliament first met here in 1927 During the Second World War the capital was temporarily shifted back to Melbourne The city was planned by Walter Burley Griffin of Chicago

Canby, Edward Richard Sprigg, 1817-73, Union general in the Civil War, b Kentucky, grad West Point, 1839 He fought in the Seminole War and was twice brevetted for gallantry in the Mexican War In the Civil War, Canby commanded the Dept of New Mexico, where he thoroughly repelled the Confederate invasion led by Gen Hopkins H Sibley (1862) He was made a brigadier general of volunteers in March, 1862, and was on special duty in the War Dept in Washington from Jan, 1863 to March, 1864, except for four months as the efficient commander of New York city during the DRAFT RIOTS of 1863 Canby was promoted major general in May, 1864, and assigned to command the Military Division of West Mississippi

He captured Mobile in April, 1865, and in May received the surrender of the last Confederate armies After the war Canby held various commands in the South until 1870, when he was sent to the Dept of the Columbia on the Pacific coast He was killed when he went on a peaceable mission to the Modoc Indians

Canby, Henry Seidel, 1878 -, American editor and critic, b. Wilmington, Del , grad Yale, 1899 He taught at Yale from 1900, achieving professorial rank in 1922 He established and edited (1920–24) the *Literary Review* of the New York *Evening Post*, afterwards joining with others to found and edit (1924–36) the *Saturday Review of Literature;* his *Seven Years' Harvest* (1936) is an intellectual diary culled from its files His critical and literary works include *Definitions* (1st series, 1922; 2d series, 1924) and *Classic Americans* (1931) His biography of Thoreau appeared in 1939 *American Memoirs* (1947), which contains condensations of *The Age of Confidence* (1934) and *Alma Mater* (1936), is a personal, but not strictly autobiographical, memoir

Canby, city (pop 2,099), SW Minn , W of Granite Falls near the S Dak line, platted 1876, inc as a village 1879, as a city 1905 It is a trade center for farm cooperatives

Cancer [Latin, = the crab], in astronomy, a northern constellation which contains the star cluster Præsepe (sometimes known as the "bee hive" and the "manger") The Tropic of Cancer takes its name from this constellation, which marks the northernmost point of the ecliptic and therefore the time of the summer solstice in the Northern Hemisphere Cancer, the Crab, is the fourth sign of the zodiac, and the constellation is a zodiacal constellation

cancer or **carcinoma** (kärsinō'mu), malignant growth of epithelial cells, a malignant tumor The disease attacks not only man and animals, but also plant life The cause is unknown Epithelial cells undergo a pathologic change, growing wildly, extending into surrounding tissues, and spreading by way of the lymphatics and blood stream to other parts of the body The separation of malignant cells from the original growth and their distribution to other parts of the body, where they form new growths, is known as metastasis, a characteristic of malignancy (see TUMOR) Although all cancer arises from epithelial cells, tumors differ in the site of origin (e g , skin, glands, or ducts of glands), in pigmentation, and in the rapidity of metastasis Certain factors seem to influence the onset of some malignant tumors, e g , chemical irritation (by means of coal-tar products), irritating chronic inflammation (as in erosion of the cervix), or mechanical irritation (as in cancer of the lip in pipe smokers) The first sign of cancer is a slight thickening of the tissue, which may be palpated Cancer of the gastrointestinal tract is more difficult to diagnose in the early stages Certain signs, however, may be indicative of pathology, e g , alternating diarrhea and constipation, tarry stool, and loss of weight from an obscure cause Later, bleeding from the rectum occurs, this may be mistaken for bleeding from hemorrhoids Other conditions, e g , sores or ulcers which fail to heal, bleeding from the nipple, or unusual menstrual bleeding, warrant examination by a physician Pain is not an early symptom Any lump, ulcer, or post-menopausal bleedings should be examined to rule out cancer The diagnosis of suspected malignancy is based on a thorough examination of the patient which includes a careful history and, depending upon location of the lesion, X-ray and fluoroscopic examination, laboratory analyses of blood, urine, and vaginal secretions, and biopsy of suspected tissue Treatment consists of surgery, the use of X ray or radium, and a combination of surgery and radiation Information about cancer is offered by the American Society for the Prevention of Cancer. Cancer-prevention clinics now exist in many cities.

Candace (kăn'dusē, kăndā'sē), name of several queens of ancient Ethiopia One of them made war (c 22 B C) on the Roman governor of Egypt, who defeated her and destroyed Napata, her capital Another Candace is mentioned in the Bible as the queen of the eunuch converted by Philip. Acts 8.27–39

Candahar, Afghanistan see KANDAHAR

candelabrum (kăn"dulā'brŭm) [Latin], primarily a support for candles, designed in the form of a turned baluster or a tapered column, also a branched CANDLESTICK or a lampstand Though most used and developed during the Renaissance, its origins are from Etruria and Rome Candelabra of bronze are found in Etruscan and Pompeian ruins From ancient Rome, also, are the tall and monumental candelabra of bronze or marble terminating in a bowl, used for holding illuminating oil or incense With these as inspiration, Italian Renaissance artists produced numbers of superb candelabra in richest materials for altars, chapels, and processions In this period the distinctive form of the candelabrum came also to be a ubiquitous decorative motive, used freely in architectural ornament, tapestry borders, stained glass windows, and furniture It was even converted, especially in Lombardy, into a definite architectural element, taking the place of a column or colonette, as in windows of the Certosa at Pavia. See F W Robins, *The Story of the Lamp* (*and the Candle*) (1939)

Candia (kăn'dēŭ), Gr *Herakleion* (ērā'klēōn), city (pop 42,557), on the island of Crete, Greece It is a port on the Gulf of Candia, an arm of the Aegean Sea, and is the largest city of the island, which formerly was also called Candia Founded (9th cent) by the Saracens, it was conquered (961) by the Byzantine emperor Nicephorus II and in the 13th cent became a Venetian colony The Venetians fortified the city and improved the port In 1669, after a long siege, they were forced to abandon Candia to the Turks In the Second World War, Candia suffered heavy damage The city has a unique museum of Minoan antiquities, which were discovered at ancient Cnossus, just outside Candia Among its historic monuments are a cathedral, several mosques, and remains of old walls and fortifications

Candish, Thomas. see CAVENDISH, THOMAS

candle. The evidence of ancient writings is not conclusive as to the history of the candle, words translated "candle" may have meant "torch" or "lamp" and the "candlestick" was probably a stand for one of these lights The candle probably evolved from wood, rushes, or cords dipped in fat or pitch It competed with the lamp in Roman times and was more commonly used in Western civilizations during the Middle Ages Tallow, beeswax, and vegetable wax such as bayberry in the American colonies, candleberry in the East, and waxberry in South America were supplemented by spermaceti in the late 18th cent , by stearine c 1825, and by paraffin c 1850 Twisted strands for wicks were replaced by the plaited wick invented c 1825 Candles were commonly made by repeated dipping in melted tallow, by pouring tallow or wax into molds, or by pouring beeswax over the wicks Most modern candles are machine-made by a molding process In literature, art, and religion the candle has had a wide range of symbolism, it commonly represents joy, reverence for the divine, and sacrifice (since the candle spends itself) Candles are used in rites especially of the Roman Catholic Church and are blessed on Candlemas Day The very large paschal candle stands at the Gospel side of the altar, it is blessed and lighted during the Exsultet in the vigil of Easter and is relighted at important ceremonies until Ascension Day See F W Robins, *The Story of the Lamp* (*and the Candle*) (1939), W W Klenke, *Candlemaking* (1946)

candleberry see BAYBERRY

candlefish, fish of the smelt family found on the Pacific coast from Oregon to Alaska Large catches are made when the fish migrate from the sea to the mouths of rivers and streams to spawn in late winter and early spring The flesh is delicately flavored It was named candlefish because the oily body when dried and equipped with a wick will burn It is also called eulachon

Candlemas, Feb 2, in the Roman Catholic and the Anglican churches the feast of the Purification of the Blessed Virgin In the Eastern Church it is called the feast of the Presentation of Christ in the Temple The name Candlemas is derived from the procession of candles, inspired by the words of Simeon "a light to lighten the Gentiles" (Luke 2 3) In the Roman Catholic Church the candles for use in the ensuing year are blessed on this day An old superstition claims that the weather is foretold by the ground hog (see WOODCHUCK) on Candlemas

candle power see PHOTOMETRY

candlestick, support for one or more candles, often with a rim or cup to catch the drip In early forms such as the Etrurian, the candle was held on a spike or pricket, but the Romans generally used a socket support When the use of candles was revived in the Middle Ages, the pricket holder was developed in several forms— the single candlestick, the CANDELABRUM, and the corona, a wheellike holder supported on a stand or suspended from the ceiling The socket candlestick became common in the 16th cent except in churches, some of which still use pricket holders, as do many Eastern nations The symbolical holder with seven branches probably originated as the Jewish tabernacle lampstand of Bible times and was represented as a candelabrum on the Arch of Titus in Rome. Candles passed into the Christian service and symbolism, and the church candleholder became an elaborate and richly wrought device The chandelier, a suspended multiple holder, was derived from the medieval corona Wall candlesticks include brackets and sconces

Candlewood Lake, large artificial body of water, W Conn , N of Danbury Made in 1926 by a power dam in the Rocky River near its mouth in the Housatonic, it is 15 mi long and covers 6,000 acres

Candlish, Robert Smith, 1806–73, Scottish theologian and preacher, one of the founders of the Free Church of Scotland He was minister (1834–73) of St. George's, Edinburgh, and had a leading part in the movement within the Established Church which resulted in the disruption of 1843, after which he was associated with Thomas CHALMERS in organizing the Free Church. Upon the death of Dr Chalmers in 1847, Candlish was the real leader in the movement. In 1862 he was chosen principal of New College, Edinburgh.

Cando (kăn'dō), city (pop 1,282), co seat of Towner co , NE N Dak , NW of Devils Lake, named 1884, inc 1901. It is a trade center in a farm area

Candolle, Augustin Pyramus de (ōgustē' pērămŭs' du kădôl'), 1778–1841, Swiss botanist, who materially advanced the natural system of classification by his *Théorie élémentaire de la botanique* (1813) He was the author of a number of papers and did much of his work in France He started the *Prodromus systematis naturalis* which was finished after his death by others, among them his son, **Alphonse Louis Pierre Pyramus de Candolle** (alfōs' lwē' pyĕr'), 1806–93

Candy, Ceylon see KANDY

candy see CONFECTIONERY

candytuft, any plant of the genus *Iberis*, low-growing plants of the Old World A number of half-hardy annuals and evergreen perennials are cultivated—chiefly in borders and rock gardens—for the flat-topped or elongated clusters of flowers of various colors

cane, name for the hollow or woody, usually slender and jointed stems of plants (particularly RATTAN) and for various tall grasses, e g , SUGAR CANE, sorghum, and also other grasses used in the S United States for fodder The large or giant cane (*Arundinaria macrosperma* or *gigantea*), a bamboo grass native to the United States, often forms impenetrable thickets 15 to 25 ft high—the canebrakes of the South The stalks are used locally for fishing poles and other purposes, and the young shoots are sometimes eaten as a potherb

Canea (kunē'ä), ancient Gr *Cydonia* (sīdō'nēu), modern Gr *Khania* (khānyä'), city (pop 28,213), on the island of Crete, Greece In W Crete, it is the capital of Crete and a port on the Gulf of Canea, an arm of the Aegean Sea One of the oldest Cretan cities, it was conquered (69 B C) by the Romans, and in A D 826 fell under Arab rule Reconquered (961) by the Byzantines, it became (13th cent) a Venetian colony. The Turks took it in 1645 Canea suffered from air and naval bombardments in the Second World War The city has a cathedral and several mosques Among its historic sights is the old Venetian arsenal

canella (kunĕl'u) [ultimately from Late Latin, = little cane, cinnamon], small ornamental evergreen tree (*Canella winterana*), growing in the West Indies and S Florida, sometimes called wild cinnamon It reaches a height of 10 to 50 ft , with a straight stem branching at the top The leaves are laurellike, shining, and thick, the small flowers extremely fragrant The canella of commerce is the inner bark of young shoots, dried in long quills and sometimes called whitewood bark or white cinnamon It is a light yellowish brown, with a fragrance between cinnamon and cloves and with a warm, pungent taste It has stimulant qualities, was formerly considered a cure for scurvy, and is now used mainly with other drugs

cane sugar. see SUCROSE

Caney (kā'nē), city (pop 2,629), SE Kansas, W of Coffeyville at the Okla line, near oil fields, founded 1871, inc 1887

Caney, El (ĕl kanā'), mountain village, SE Cuba, NE of Santiago de Cuba It was the scene of a hard-fought attack (July, 1898) in the Spanish-American War, in which U S and Cuban troops dislodged the Spanish

Canfield, Dorothy see FISHER, DOROTHY CANFIELD

Canfield, Richard Albert, 1855–1914, American gambler, b New Bedford, Mass A well-known gambling operator in Providence, R I , Dick Canfield in the 1880s came to New York, where his gambling establishment became famous The place was closed in 1904 largely through the efforts of District Attorney W T JEROME. Canfield was a noted art collector The solitaire game Canfield was named for him See biography by Alexander Gardiner (1930)

Canfield, village (pop 1,141), NE Ohio, SW of Youngstown, surveyed 1798 It is a trade center for a mine, farm, and timber area

Can Grande della Scala. see SCALA, CAN FRANCESCO DELLA.

Canicatti (känēkät'tē), city (pop 28,775), S Sicily, Italy It is an agricultural center with sulphur mines near by.

Canisius, Peter see PETER CANISIUS, SAINT

Canisius College see BUFFALO, N Y

Canisteo (kănĭstē'ō), village (pop 2,550), S N Y , at the junction of the Canisteo river and Bennett Creek SE of Hornell, in a farm area, settled before 1790, inc 1873

cankerworm, name for the destructive larvae, also called *measuring worms*, of two geometrid moths Both species (fall and spring cankerworms) pupate in the ground In the fall cankerworm the majority of the adult moths emerge in the fall or winter, those of the spring cankerworm usually hatch in the late winter or spring The wingless females lay their eggs on the bark of trees, on the leaves of which the larvae feed. Spraying the trees

soon after the leaves appear and putting sticky bands on the tree trunks are methods of control See *Cankerworms* (U S Dept of Agriculture, Leaflet 183).

Canlaon, Mount (känläōn'), or **Malaspina** (mäläspē'nä), active volcano, 8,088 ft high, on N central Negros, Philippine Islands

canna [Latin, =cane], any plant of the genus *Canna*, tropical and subtropical perennials, grown in temperate regions in parks and gardens for the large foliage and spikelike, usually red or yellow blossoms Most cultivated cannas are hybrids, but two species are found wild in the S United States, one called Indian shot because of the hard shotlike seeds *Canna edulis* is cultivated in the tropics for its rootstalk, which yields *tous-les-mois*, a commercial arrowroot starch

Cannabis: see HEMP and MARIJUANA

Cannae (kăn'ē), ancient village, Apulia, S Italy, scene in 216 B C of Hannibal's crushing defeat of the Romans.

Cannanore (kănənōr'), town (pop 34,649), W Madras prov, India, a port on the Arabian Sea The Portuguese, who established (1505) a fort here, were succeeded (1656) by the Dutch, and the Dutch were succeeded (1784) by the British Cotton is exported

Canneh (kăn'ē), unidentified city, apparently in N Syria Ezek 27 23 See CALNEH 2

cannel coal see COAL

Cannelton (kăn'ultun), city (pop 2,240), co seat of Perry co, S Ind, on the Ohio and E of Evansville, laid out 1835 Coal mining is done on an extensive scale here The area also yields clay

Cannes (kănz, kän, Fr kän), town (pop 36,647), Alpes-Maritimes dept, SE France It is a fashionable resort on the French RIVIERA and is known for its lavish carnival (Mardi Gras) season, particularly the traditional "battle of flowers" Napoleon I landed near by on his return (1815) from Elba

cannibalism (kă'nĭbulĭzm) [Span *canibal*, referring to the Carib Indians] The practice of eating the flesh of one's own species is generally condemned as abhorrent, but it has persisted in many parts of the world from earliest times Split marrow bones of humans, found in the caves of *Sinanthropus*, may indicate that cannibalism existed among precursors of modern man Stories of *anthropophagi*, or "man-eaters," are recorded by ancient writers who viewed such peoples as human monsters Starvation is probably the least common motivation for the practice, although frontier history has many tales and some recorded instances of men driven by hunger to eat human flesh Most widespread is ritual cannibalism, wherein partaking of human flesh or of blood is held to be supernaturally significant It may afford gain of power or prestige, provide a spiritual bond among those sharing the experience, or simply be the means of ingesting magic In Tibet, Micronesia, and elsewhere, the dead are honored by eating part of the corpse Cannibalism may also serve merely to satisfy an acquired appetite

Canning, Charles John Canning, Earl, 1812–62, British statesman, third son of George CANNING Succeeding to the peerage conferred on his mother, he took his seat as Viscount Canning in the House of Lords (1837) and served as Robert Peel's undersecretary of state for foreign affairs (1841–46) and the earl of Aberdeen's postmaster general (1853) Governor general of India in the SEPOY REBELLION, he was nicknamed "Clemency Canning" for his efforts to restrain retribution against the natives In 1858 he became India's first viceroy, after the power of government was transferred from the East India Company to the crown, was created earl in 1859, and retired in 1862 See H S Cunningham, *Earl Canning and the Transfer of India* (1892)

Canning, Elizabeth, 1734–73, London servant girl, subject of a famous mystery She disappeared Jan 1, 1753, and returned home, cold, dirty, and half starved, after 28 days She said she had been seized and confined in a garret A gypsy woman was identified as one of her captors and was sentenced to hang At the second trial, Elizabeth herself was accused of perjury and was banished to America, but her conviction was debated throughout England See B R Wellington, *The Mystery of Elizabeth Canning* (1940), Lillian de la Torre, *Elizabeth Is Missing* (1945).

Canning, George, 1770–1827, English statesman Canning was converted to Toryism by the French Revolution, became a disciple of William Pitt, and was his undersecretary for foreign affairs (1796–99). To bring ridicule upon English radicals and liberals he managed the publication of the *Anti-Jacobin* (1797–98) During the war against Napoleon I he served as treasurer of the navy (1804–6) and was foreign minister (1807–9) He greatly influenced military affairs, planned the seizure of the Danish fleet at Copenhagen (1807), and supported the Peninsular War He resigned (1809) when he fought a duel with Robert Stewart, Viscount CASTLEREAGH, because of political disagreement and charges of deception He undertook (1814) a special mission to Lisbon, and from 1816 to 1820 he was president of the board of control for India A friend of Queen Caroline, he resigned when the government attacked her status. He was about to take up the governor generalship of India, when he was recalled, after Castlereagh's suicide, to take over (1822) the foreign office Recognizing England's advantage in the free trade of small independent states, Canning refused to cooperate in the suppression of European revolutions He protested at the decisions of the Congress of Verona (1822), opposed French intervention in Spain, foiled joint intervention in Portugal, and by recognizing the independence of the Spanish colonies in America made possible the promulgation of the MONROE DOCTRINE He arranged the French-Russian-British agreement, which, after his death, resulted in Greek independence In domestic affairs Canning favored Catholic Emancipation and relaxation of trade restrictions After the death of Lord Liverpool, he was prime minister (April–Aug, 1827) See biographies by H W V Temperley (1905), Dorothy Marshall (1938), and C A Petrie (2d ed, 1946); J A R Marriott, *George Canning and His Times* (1903)

Canning, Stratford see STRATFORD DE REDCLIFFE, STRATFORD CANNING, VISCOUNT

canning The process of hermetically sealing cooked food for future use was discovered about the beginning of the 19th cent by a Frenchman, Nicolas APPERT The process proved moderately successful and was put into practice in France, England, and Ireland A patent was taken out in New England c 1815 by Ezra Daggett for the canning of oysters, salmon, lobsters, pickles, jams, and sauces In 1820 a Boston firm made pickles, jellies, and jam and canned some quinces, currants, and cranberries About 1847 a large quantity of tomatoes were put up for the use of students at Lafayette College, Easton, Pa During the Civil War considerable amounts of canned meat and of canned tomatoes and other vegetables were in use The canning of sea food at Eastport, Maine, began in 1843 Salmon was canned on the Columbia river in 1866 and in Alaska in 1872 Today a great variety of fish products are packed, Maine, Massachusetts, Washington, Oregon, California, and Alaska lead in this branch of the industry Highly specialized machinery, knowledge of bacteriology and food chemistry, and more efficient processes of cooking now combine to make the commercial canning of food an important feature of modern life The range of products preserved has increased enormously and may be grouped as meat and poultry, fruits and vegetables, fish, oysters, clams, and other shell fish, milk, and preserves, jams, jellies, pickles, and sauces To these might be added another large class of miscellaneous edibles, such as steamed puddings and brown bread, cooked spaghetti, and the like, the demand for which arises from the phenomenal increase of the small apartment and of part-time housewifery The emphasis given to the vitamin and other valuable qualities of fruit and some vegetable juices has led to extensive canning The general principles of commercial and domestic canning are the same, but in the factory more accurate control of procedures is practiced and highly specialized machinery is available Successful canning requires rapid handling of sound, clean raw material to prevent loss of vitamins, bacterial spoilage, and enzyme changes causing deterioration in the appearance, flavor, and texture of foods Some foods, especially vegetables, are blanched (scalded) to remove respiratory gases from cell tissue and to facilitate packing By the hot-seal method or by mechanical means the air is exhausted from the containers, which are then sealed and processed for the time and at the temperature required to cook the food and to attain commercial sterility (destruction of all microorganisms except for some spores) Glass containers were used at first but proved bulky, costly, and brittle Peter Durand, an Englishman, patented in 1810 the first tin canister, and in 1825 the first American patent was obtained Early canmaking was slow and expensive, sheets of tin were cut with shears, bent around a block, and the seams heavily soldered A good tinsmith made only about 100 cans a day The industry began to assume importance with the invention in 1847 of the stamp can A machine for shaping and soldering was exhibited in 1876 at the Centennial Exposition at Philadelphia The open-top can of the 20th cent with a soldered lock seam and double-seamed ends permits easy cleaning and filling Body blanks are stamped from tin-plated steel Cans used for foods which react with metals, causing discoloration (usually harmless), may be coated with a lacquer film The belief that food must not be left in an opened can is a fallacy Distension of the ends of cans may indicate dangerous bacterial food spoilage or may result from chemical or physical causes such as improper filling See A W Bitting, *Appertizing; or, The Art of Canning* (1937), E C May, *The Canning Clan* (1937), J G Baumgartner, *Canned Food* (2d ed, 1946)

Canning Dam, SW Western Australia, in the Canning river, SE of Perth It is 218 ft high, with a reservoir 24 mi in circumference

Canizzaro, Stanislao (stänēsla'ō kan-nēt-tsä'rō), 1826–1910, Italian chemist From 1861 he was professor at Palermo and from 1871 at Rome, where he was also a member of the senate and of the council of public instruction He is known for his discovery of cyanamide, for carrying forward the work of Avogadro in distinguishing between molecular and atomic weights, and for obtaining alcohols from aldehydes, by Cannizzaro's reaction

Cannock, urban district (1931 pop 34,585, 1947 estimated pop 40,260), Staffordshire, England, NNW of Birmingham It is a mining town dependent upon the rich coal deposits of Cannock Chase, an infertile moorland near here

Cannon, Annie Jump, 1863–1941, American astronomer, b Dover, Del, grad Wellesley (B S 1884, M A, 1907) In 1897 she became an assistant in the Harvard College Observatory, where from 1911 to 1938 she was astronomer and curator of astronomical photographs In the course of her photographic work she discovered 300 variable stars, five new stars, one spectroscopic binary, and many stars with bright lines or variable spectra She made a bibliography of variable stars which includes about 200,000 references and completed a catalogue of some 300,000 stellar spectra, besides preparing many papers on the subject

Cannon, George Quayle 1827–1901, Mormon apostle, b Liverpool, England He and his parents were converted to Mormonism in 1840, two years later they emigrated to Nauvoo, Ill, and in 1847 to Utah In 1850 Cannon founded a Mormon mission in Hawaii He became an apostle in 1859 and was assigned to England, where for four years he edited the *Millennial Star* and supervised missionary work He served as a member of the Utah territorial council and as private secretary to Brigham Young, of whose will he was an executor In 1867 he became editor of the influential *Deseret News* Cannon was elected (1872) territorial delegate from Utah to Congress, but in 1882 he was refused his seat, under the Edmunds antipolygamy law, later he suffered imprisonment as a violator of the law From 1880 he was first councilor in the Council of Apostles

Cannon, Joseph Gurney, 1836–1926, speaker of the U S House of Representatives (1903–11), b Guilford co, N C He moved to Indiana as a boy, attended Cincinnati Law School, and was admitted to the Illinois bar in 1858 Danville, Ill, ultimately became his home town Cannon served in Congress from 1873 to 1923, except for the years 1891–93 and 1913–15, when first the Populists and then the Progressives turned him out As speaker he carried the traditional power of his office to appoint all legislative committees to its ultimate arbitrary extremes, dictatorially ruling the House in the interest of his fellow "Old Guard" Republicans and suppressing minority groups In March, 1910, insurgent Republicans, led by George W NORRIS and supported by all the Democrats, passed a resolution which, by providing that the House itself should appoint the important Committee on Rules with the speaker ineligible for membership, broke Cannon's power See C R Atkinson, *The Committee on Rules and the Overthrow of Speaker Cannon* (1911), L W Busbey, *Uncle Joe Cannon* (1927)

Cannon, Walter Bradford, 1871–1945, American physician and physiologist, b Prairie du Chien, Wis, M D Harvard, 1900 He was professor of physiology at Harvard from 1906 to 1942 He studied the mechanics of digestion (by means of X rays) and the relation of hormones to emotions Among his works are *Bodily Changes in Pain, Hunger, Fear, and Rage* (1915, rev ed, 1929), *Traumatic Shock* (1923), *Digestion and Health* (1936), *Autonomic Neuro-effector Systems* (with Arturo Rosenblueth, 1937), and *The Way of an Investigator* (1945) His wife, **Cornelia James Cannon,** 1876–, has written novels and books for boys and girls.

Cannon Falls, city (pop 1,544), SE Minn, at falls of the Cannon and S of Hastings It is a farm trade center

Cano, Alonso (dōn'sō ka'nō), 1601 67, Spanish painter, sculptor, and architect He served as court painter and architect to Philip IV and as canon and chief architect of the cathedral at Granada, the façade of which was his architectural masterpiece For his monumental altarpieces he executed the carvings and sculptures as well as the paintings His best paintings are in the cathedral at Granada, the Prado, and the Louvre *Christ Blessing the Children* is in the Metropolitan Museum Cano's sculptures are both vigorous in treatment and delicate, among them are various statuettes and busts in Granada in the cathedral

Cano, Juan Sebastián del (hwän' sāvästyän' dĕl), d 1526, Spanish navigator, the first to circumnavigate the globe Under Magellan he commanded the *Conception* and after Magellan's death in the Philippines took command of the expedition. From the Philippines to the Moluccas islands, Cano sailed new waters, arriving in Spain with the *Victoria* and 18 men Sept 6, 1522 He set out on a second voyage to the Moluccas by Magellan's route in 1525, but died while crossing the Pacific

canoe (kunōō') The canoe is the craft of most primitive peoples using waterways and varies in material according to locality and in design accord-

ing to the use which is to be made of it In North America, where the natives were without horses and where the interlocking river systems were unusually favorable, the canoe in its various types was highly developed Where large logs were available, it took the form of the hollowed-out log or dugout This type was used especially on the N Pacific coast, where immense trees grew at the water's edge, where an intricate archipelago invited navigation in ocean waters, and where the tribes came to depend to a large extent upon sea life for their food supply A semiseafaring culture developed here, and the great canoes of the Haida and Tlingit tribes, with high, decorated prows, capable of carrying 30 to 50 Indians, began to resemble in appearance the boats of the viking culture On the northern fringe of the American forest where smaller tree trunks were found and where the rapid rivers and many portages favored a lighter craft, the bark canoe dominated, reaching its highest development in the birch-bark canoe Indians living outside the birch belt used inferior kinds of bark Seams and holes were gummed with melted rosin White cedar was most satisfactory for the frame, and cedar also often provided the sewing fibers At portages such light canoes could be lifted on one's shoulders and easily transported A third type of canoe is that made from skins, found where trees are lacking The bullboat of the Plains Indian, little more than a round tub, made of buffalo hides stretched over a circular frame, was its crudest form A much finer form is the kayak of the Eskimo, made of sealskin stretched over a frame constructed of driftwood or whalebone It is comparatively small and light and is completely covered over except for the "well" or manhole in which the single paddler sits He wears a waterproof skin shirt which fits down over the manhole and makes the boat waterproof even if turned over In these boats the Eskimo make journeys of hundreds of miles in the ocean Dugouts are still much used on the Amazon and were used on other rivers of South America by Indians in earlier days Other types of canoes were also used in South America In the South Seas canoes were developed for use on long voyages from island to island across the open sea Some of these large canoes were very beautiful The carvings in Maori war canoes were particularly noteworthy In the South Seas also ingenious outriggers were developed to give stabilization to the canoe The natives of Africa also used canoes for journeys far out from shore and developed elaborate forms The canoe has continued in use in backlands until the present day, although now its usefulness in remote lands has been somewhat impaired by the airplane The French in North America were peculiarly fortunate not only in arriving where the St Lawrence river opened a wide waterway into the continent but also in finding there Indians who knew the use of the birch-bark canoe It was the canoe that carried such men as Marquette and Alexander Mackenzie and David Thompson on their journeys, and it was the canoe that carried fur traders out with their goods for the Indians and back with furs, thus it played an important part in early history With thickening of settlement, canoeing became less of a means of travel and more of a sport in the better-settled regions The sport was extremely popular in the late 19th and early 20th cent , and many canoeing clubs were founded The popularity waned somewhat later, but wherever possible today summer camps lay emphasis on canoeing A sort of combination of sport and necessity is the use of canoes by guides in the north woods for taking sportsmen to hunt and fish Vacation trips in canoes are especially popular in N Maine, the Adirondack region, N Wisconsin, and N Minnesota, but in any town on a favorable river there are likely to be enthusiastic canoeists The double-bladed paddle—used among North American natives only by the Eskimo—has come into use and shows certain advantages on wide bodies of water affected by wind and tide The substitution of canvas for birch bark in making canoes is credited to the Oldtown or Penobscot Indians in Maine, and the type is sometimes called the Oldtown canoe All-wood canoes made of basswood or cedar, very popular in Canada, are sometimes called Peterborough canoes after a canoe-making center

canon (kă'nun), in Christendom, term of several meanings Decrees of church councils are usually called canons, since the Council of Trent the expression is especially reserved to dogmatic pronouncements of ecumenical councils The body of ratified conciliar canons are a large part of the legislation of CANON LAW A canon is also an official list, as in canonization, i e , enrollment among the saints, and in the names of books of the Bible accepted by the Church (see OLD TESTAMENT, NEW TESTAMENT, APOCRYPHA, PSEUDEPIGRAPHA) The central mainly invariable part of the MASS is the canon The term is also applied in the Western Church to certain persons There are canons regular, priests living in community under a rule but not cloistered like monks, the Austin, or Augustinian, canons and the Premonstratensians are the best known of these The priests attached to a cathedral or large church are sometimes organized into a group, or college, and called canons secular, a church having such a group is a collegiate church Cathedral canons often have diocesan charges or pastoral duties apart from the cathedral Canons of the Church of England are mostly cathedral canons

canon, in music, a type of counterpoint employing the strictest form of imitation All the voices of a canon have the same melody, beginning at different times Successive entrances may be all at the same pitch or at different pitches One of the earliest known canons is SUMER IS ICUMEN IN In the 14th and 15th cent , retrograde motion was employed to make what is known as crab canon, or canon cancrizans, wherein the original melody is turned backward to become the second voice Mensuration canons were frequently written in the 15th and 16th cent The voices begin at tonic and dominant intervals, usually as in a fugue Each voice has the same melodic pattern written in different note values Canons of the 17th cent , especially those of the Elizabethan composers, often had several possible solutions Bach made noteworthy use of canon, particularly in *The Art of the Fugue* Beethoven, Mozart, Haydn, Schumann, and Brahms wrote canons, and Franck used the device in the last movement of his violin sonata. A simple, popular type of canon is the ROUND

Canonchet see PHILIP (King Philip)

Canon City (kăn'yun), city (pop 6,690, alt c 5,300 ft), co seat of Fremont Co , S central Colo , on the Arkansas river above Pueblo, in a fruitgrowing area, laid out 1859 at the site of a blockhouse built (1807) by Zebulon M PIKE, inc 1872 Coal and gold mines are near by The city has a museum of archaeology and natural history and is the seat of the state penitentiary Canon City is at the entrance to the ROYAL GORGE

Canonge, Louis Placide (lwē' plasēd' kanōzh'), 1822 93, Creole journalist and playwright, b New Orleans, educated in Paris He wrote essays and criticism for French papers in Paris and New Orleans and had several of his romantic plays produced He was a lawyer, a state official, and a professor of French at the Univ of Louisiana

Canoncus (kunō'nĭkus), c 1565–1647, American Indian chief, who ruled the Narragansett tribe when the Pilgrims landed in New England He later granted Rhode Island to Roger WILLIAMS and because of Williams's influence remained friendly to the whites, despite their aggressive ways See H M Chapin, *Sachems of the Narragansetts* (1931)

canonization (kă"nunīzā'shun), in the Roman Catholic Church, process by which the name of a person is enrolled among the saints It is now performed at Rome alone, although in the Middle Ages and earlier bishops everywhere used to canonize Canonization is not necessary for martyrs, who are considered to be enrolled among the saints on their death, but in recent years the Church has approved the cult of canonized persons only The process of canonization is a trial (or cause), at which the saint is said to be defended by the Church, a prosecutor is appointed to attack all evidence alleged in favor of canonization The prosecutor is popularly called *advocatus diaboli* [devil's advocate], his opponent the *advocatus Dei* [God's advocate] This evidence consists primarily of the proof of four miracles attributable to the saint and proof that the saint's life was exemplary Beatification, by which a person is called blessed and his cult is approved for localities and orders, requires two miracles Miracles attributed to saints are considered probable or pious opinions, and Catholics are not required to believe in them Beatification is generally a step to canonization, but canonization by no means necessarily follows The fact that a person has not been formally canonized is no argument he was not a saint, some of the greatest of the saints have never received formal canonization A great deal of time does not need to elapse between the death of a saint and canonization, e g , St Theresa of LISIEUX, St Bernadette, and St Frances Xavier Cabrini The first solemn canonization seems to have been that of St Ulrich late in the 10th cent The method of formal canonization was set by the enactments of Urban VIII that came into force in 1634

canon law (kă'nun), in the Roman Catholic Church, the body of law based on the legislation of the councils (both ecumenical and local) and the popes, as well as the bishops (for diocesan matters) It is the law of the church courts and is to be distinguished from other parts of ecclesiastical law, such as liturgical law However, when liturgical law overlaps with canon law, the great body of canon law, promulgated in the *Codex juris canonici* [code of canon law] in 1917 (and effective since 1918), prevails, though exceptions to this rule are noted in the code The code itself, the culmination of centuries of legal growth, consists of 2,414 canons, with an analytical index (at the beginning) and nine appended documents, it superseded all previous compilations It does not contain all of canon law, which is a living organism, but it is the base of the present-day law, and the study of canon law consists mainly in mastering the code and its application It lays down rules for the governance and regulation of the clergy and the Church, including such matters as the qualifications, duties, and discipline of the clergy and the administration of the sacraments (more particularly the laws regarding holy orders and the sacrament of marriage) Canon law embraces both general laws applicable in the church universal, such as those on requirements for the priesthood and those on marriage, and local laws applicable only in certain dioceses The early law grew particularly from the letters of the bishop of Rome that settled matters of ecclesiastical government and discipline from the end of the 1st cent. A D Such papal letters and pronouncements are the decretals Joined to them are the canons of the councils of the Church regarding church discipline and governance From the 4th cent this legislation grew profuse, and attempts to collect and correlate the laws began early These collections were not authorized and were sometimes not genuine, as in the case of the FALSE DECRETALS It was not until the middle of the 12th cent that the great genius of the common law, GRATIAN, following after Ivo of Chartres, applied the methods of Roman law in bringing order out of the chaos of conflicting and uncoordinated legislation His *Concordantia discordantantium canonum* (c 1140) or *Decretum Gratiani*, called in English *Gratian's Decree*, became the basis for future compilations of the law Important among the later additional works were the collections of decretals under Gregory IX, called the *Extravagantes* or *Extra* because they were outside *Gratian's Decree*, the collection issued (1298) by Boniface VIII and called *Liber sextus* [the sixth book] because it added to the five books of decretals promulgated by Gregory, the collection promulgated (1317) by John XXII, drawn mostly from the constitutions of Clement V at the Council of Vienne and called the *Clementinae*, the work commonly called *Corpus juris canonici*, which in 1500 combined all the preceding with the *Extravagantes* of John XXII and the *Extravagantes communes* (decretals from Boniface VIII through Sixtus IV) and was to be the fundamental work in canon law for centuries The Council of Trent (1545–63, with interruptions) by its decrees concerning the Church and church discipline was a landmark in canon law Legislation in the Church went on later and arrived again at considerable confusion, which was resolved in 1904 when Pius X announced the undertaking of the *Codex juris canonici* This was drafted by a commission of cardinals headed by Cardinal Gasparri, all the resources of the Church were used to produce the *Codex juris canonici* In 1917, when the code was finished, a permanent commission of cardinals was set up to interpret it Study of canon law is based on the code and the interpretations issued by the commission, the *Canon Law Digest* brings decisions up to date Canon law has had profound influence not only among the faithful but also in the law of countries where the Roman Catholic Church has been the state church In the Middle Ages the church courts had very wide jurisdiction—e g , in England, control of the law of personal property—and because they were well regulated, they tended to attract many borderline cases that might have been the business of developing royal courts (see BENEFIT OF CLERGY) This conflict of courts was one of the major causes of dispute between HENRY II of England and Thomas à Becket The term "canon law" is also used for ecclesiastical law in the Anglican and Protestant Episcopal churches The Anglican *Constitutions and Canons Ecclesiastical* (1603) was a collection of ecclesiastical rulings, not based on the old canon law, but given equal force with the canon law See T Lincoln Bouscaren and Adam C Ellis, *Canon Law* (1946), A G Cicognani, *Canon Law* (rev ed , 1949)

Canonsburg, borough (pop 12,599), SW Pa , SW of Pittsburgh, settled 1773, laid out 1787, inc 1802 It is a coal-mining center with metal plants and potteries A gram of radium produced here was presented to Mme Curie in 1921, and the town was visited by her Log Academy (1780), oldest school building W of the Alleghenies, is here Black Horse Tavern (1794) was the site of the precipitation of the Whisky Rebellion Roberts House (1804) is an example of the W Pennsylvania manor type

Canopus (kunō'pŭs), ancient city, N Egypt, of which there are ruins near the modern ABOUKIR The Canopic (westernmost) mouth of the Nile, named for the city, has long been silted up Canopus, the pilot of Menelaus, is supposed to have been buried here Vases capped with the figure of a human head, called Canopic vases, were used to hold the viscera of embalmed bodies The Decree of Canopus, issued here and found at Tanis, was of value in promoting modern study of the ancient Egyptian language

Canopus, second brightest star in the heavens It is the brightest star in Carina, a part of a Southern Hemisphere constellation called Argo Navis, and is known as Alpha Carinae or Alpha Argus The star is not visible north of lat 37° N Only Sirius is brighter than Canopus, but since Canopus is many times more distant it is probably thousands of times greater in mass.

Canora, town (pop 1,205), E Sask , ESE of Saskatoon and near the Whitesand river

Canosa di Puglia (känō'sä dē pōō'lyä), Latin *Canusium*, rural city (pop 28,163), Apulia, S Italy It flourished under the Romans and was noted for its wool and its fine vases, many of which were found in tombs near by The Roman army fled to Canusium after the disastrous defeat at Cannae (216 B C) There are remains of Roman walls, of an amphitheater, and of a gate The 11th-century cathedral has fine sculptured bronze doors and contains the tomb of Bohemond

Canossa (kunō'sa, Ital känō'sä), hamlet, N central Italy, near Reggio nell' Emilia, in the Apennines There are ruins of the castle of the powerful feudal family which took its name from the place In the 10th and 11th cent they ruled over much of Tuscany and Emilia MATILDA, countess of Tuscany, was the last of the family In Jan 1077, the castle was the scene of penance done by Emperor HENRY IV to obtain from Pope Gregory VII the withdrawal of the excommunication against him The pope was Matilda's guest at the castle, and Henry is said to have stood three days barefoot in the snow before being admitted to the pope's presence Henry was absolved, but peace between him and the pope was short-lived This episode had wide political implications Bismarck coined the phrase "to go to Canossa" (i e , to submit to the demands of the Roman Catholic Church) in the Kulturkampf

Canova, Antonio (äntō'nyō känō'va), 1757–1822, Italian sculptor He is regarded as the leader of the classical revival in Italy His influence upon the art of his time was extensive, and his numerous works are graceful and polished He received commissions from other European countries and from the United States In France he made statues of Napoleon and his family His statue of George Washington for the statehouse at Raleigh, N C (destroyed by fire in 1831), was dressed in Roman armor and had an Italian inscription Among his best-known works are two groups of *Cupid and Psyche* (Louvre), a statue of Pauline Borghese (Borghese Villa, Rome), *Perseus with the Head of Medusa* (Vatican), *Three Graces* (Hermitage, Leningrad), and monuments to Clement XIII and Clement XIV in Rome

Cánovas del Castillo, Antonio (äntō'nyō kä'nōvas dĕl kästē'lyō), 1828–97, Spanish conservative statesman, historian, and man of letters After the restoration of Alfonso XII, which he had strongly advocated, he was repeatedly premier and introduced, with the liberal leader Sagasta, the system of 'turns'' of the conservative and liberal parties in the government He was assassinated by an anarchist The editor of *Historia general de España* (18 vols , 1891–99), he also wrote several historical and critical works

Canrobert, François Certain (frāswȧ' sĕrtē' kärôbĕr'), 1809-95, marshal of France After service in Africa, he returned (1850) to Paris and aided in the coup d'état of Louis Napoleon (1851) He served in the Crimean War, for a time in command, distinguished himself at Magenta in the Italian War of 1859, and participated with honor in the battle of Gravelotte in the Franco-Prussian War He also held political and diplomatic posts, becoming a senator of the republic

Canso, fishing town (pop 1,418), E N S , near the entrance to Chedabucto Bay and near Cape Canso, the easternmost point of Nova Scotia peninsula proper Canso is the western terminus of a number of ocean cables The harbor was much used by fishing fleets in colonial times and was fortified by the British in 1720 The Gut, or Strait, of Canso, scarcely a mile wide in places, separates Nova Scotia peninsula proper from the large island of Cape Breton The strait is much used by sailing vessels and coast steamers There are fishing villages along its hilly, wooded shores

Cantabrian Mountains (käntā'brēən), N Spain, extending c 300 mi along the Bay of Biscay from the Pyrenees to Cape Finisterre The highest peaks are the Peña de Cerredo (8,687 ft) and the Peña Vieja (8,573 ft) in the Europa group in the central section The mountains are rich in minerals, especially coal and iron

Cantabriga. see CAMBRIDGE, England

Cantacuzene (kăn"tăkōōzē'nō), or **Cantacuzino** (kăn"tăkōōzē'nō), noble Rumanian family of Greek origin, tracing its descent from the Byzantine emperor JOHN VI (John Cantacuzene) Under Ottoman rule members of the family were among the PHANARIOTS who governed Walachia and Moldavia, late in the 16th cent one branch settled in Walachia A Russian branch of the family held high positions in the army and as governors of Bessarabia **Serban Cantacuzene,** 1640–88, hospodar of Walachia (1679–88), took part in the Turkish siege of Vienna (1683), he probably was poisoned because of his open pro-Austrian feelings During his rule Rumanian was substituted for Slavonic as the liturgical language, and the first Rumanian Bible was printed (1688) under his auspices **George Cantacuzene,** 1837–1913, was head of the Rumanian conservatives and was (1905–7) premier.

Cantacuzene, John see JOHN VI, emperor.

Cantal (käntäl'), department (2,231 sq mi , pop 186, 843), SE central France, in AUVERGNE Aurillac is the capital The **Plomb du Cantal** (plō" dü käntäl'), an extinct volcano, is the highest peak (6,096 ft) of the Cantal mountain group

cantaloupe see MELON.

Cantarini, Simone (sēmō'nā käntärē'nē), 1612–48, Italian painter and etcher, called Il Pesarese and Simone da Pesaro His principal paintings include *Transfiguration* (Brera, Milan), *Assumption* and a portrait of Guido Reni (Bologna), and *Magdalene* (Pesaro)

cantata (kuntä'tŭ) [Ital ,=sung], composite musical form which grew up in Italy in the baroque period alongside the opera and, somewhat later, the oratorio It was a short dramatic composition in monodic style, originally consisting of strophic variations on a recurrent bass By the middle of the 17th cent it was beginning to take the form of recitative and aria The secular or chamber cantata was the earlier form and was more prevalent in Italy and France In Germany the church cantata prevailed, and the form became more elaborate with the addition of choral and instrumental sections Buxtehude wrote a great many cantatas for all the seasons of the church year, as did J S Bach, who also adopted the practice of employing chorale melodies and texts in his sacred cantatas After Bach the cantata became, in general, a diminutive form of the oratorio

Canterbury, county borough (1931 pop 24,446, 1947 estimated pop 24,850), Kent, England, on the Stour river at the foot of the North Downs It was the Durovernum of the Romans and the Cantwaraburh (O E ,=fort of the Kentish militia) of the Saxons It has long been the spiritual center of England In 597 St Augustine arrived from Rome to convert the island peoples to Christianity He was consecrated at Arles as "bishop of the English," founded an abbey at Canterbury, and became the first archbishop of Canterbury and primate of all England The early cathedral was several times burned and rebuilt (1011, 1067, 1174) After the murder of THOMAS À BECKET (1170) and the penance of Henry II, Canterbury became famous throughout Europe as the object of great pilgrimage, and the *Canterbury Tales* of CHAUCER are based upon the stories of these travelers The present cathedral is a magnificent structure, its architecture embodying the work of several periods and various men (notably Lanfranc and Anselm) Notable are the great 15th-century tower (235 ft high), the long transepts, the screen separating the raised choir from the Perpendicular nave, the east chapel (called the Corona or Becket's Crown), which contains the marble chair in which the archbishops are enthroned, Trinity Chapel, where the shrine of St Thomas was until 1538, when Henry VIII ordered it destroyed and the accumulated wealth confiscated, the chapel in which French Protestants worshiped in the 16th cent and where services are still held in the French tongue, the northwestern transept (where a plaque commemorates the exact site of Thomas à Becket's murder), and the tombs of Henry IV and Edward the Black Prince In the Second World War the cathedral was the object of severe German reprisal raids (June, 1942), which resulted in the destruction of the comparatively new library and many other surrounding buildings, but the cathedral itself received no direct hits The city of Canterbury is also of great historical interest, having remains of the ancient city walls and gate, St Martin's Church (established before St Augustine's arrival and known as the Mother Church of England), St Augustine's Abbey (on the site of the original monastery), and the old pilgrims' hostel called the Hospital of St Thomas, as well as several fine old inns Christopher Marlowe was born at Canterbury and was educated at King's School here (of very ancient origin) before going to Cambridge

Canterbury, farming town (pop 992), E Conn , on the Quinebaug, settled c 1690, inc 1703 The site of Moses Cleaveland's birthplace is marked Prudence CRANDALL had a school for Negro girls here

Canterbury bells see BELLFLOWER

cantharides (kănthă'rudēz) or **Spanish fly,** bright green or bluish beetle, *Lytta* (formerly *Cantharis*) *vesicatoria*, found chiefly in S Europe and sometimes in England This insect and others of the same family are often called blister beetles because of the irritating effect they have on the skin By crushing the dried bodies of the beetles the drug **cantharidin** is obtained It is sometimes used in plasters as an external irritant Taken internally, cantharidin may cause fatal poisoning, in even minute quantities it causes severe inflammation and great distress

Canticles, another name of the SONG OF SOLOMON

Cantigny (kätēnyĕ'), village (pop 102), Somme dept , N France, W of Noyon Captured by the 1st Division of the U S army in May, 1918, Cantigny is the site of a monument commemorating the first offensive operation by American forces in the First World War See J C Wise, *The Turn of the Tide* (1920).

cantilever (kăn'tĭlēvur), a beam supported rigidly at one end to carry a load along the free arm or at the free end. A slanting beam fixed at the base is often used to support the free end, as in a common bracket The diving board is a simple cantilever beam and the cantilever design is often used for canopies, for balconies, for the sidewalks outside the trusses of bridges, and for large cranes such as those used in shipyards By the use of cantilever trusses, obstructing columns are eliminated in theaters Sometimes the great steel BRIDGE of modern times is constructed on the cantilever principle

Cantinflas (kän'tēnflas"), 1911–, Mexican moving-picture actor, whose real name is MARIO MORENO Called Mexico's Charlie Chaplin, he has appeared in such comedies as *Ni sangre ni arena*, *Agente desconocido*, *Los tres mosqueteros*, and *Romeo y Julieta*

Cantire, Argyllshire, Scotland see KINTYRE

Canton, John, 1718–72, English physicist He is known for his experiments in magnetism and electricity (verifying Franklin's results) and for producing Canton's phosphorus (phosphorescent calcium sulphide), obtained by calcining oyster shells with sulphur

Canton (kăn"tŏn', kän'tŏn"), Mandarin *Kuangchou*, city (pop 1,413,460), capital of Kwangtung prov , China, on the Canton delta of the Canton river It became a part of China in the 3d cent B C Foreign trade has been carried on here for more than a thousand years Early Arab traders built a mosque and minaret which still stand In 1511 Portugal secured a trade monopoly, but the British, French, and Dutch were later admitted also Trading, however, was under onerous restrictions until 1834 The Treaty of Nanking ending the Opium War made the city a treaty port Following a disturbance, French and British forces occupied Canton in 1856 Later the island of Shameen was ceded to them for business and residential purposes, and this reclaimed sandbank with its broad avenues, gardens, and fine buildings is now one of the most attractive sections, it was wholly restored to China in 1946 In 1921 the city walls of Canton were torn down and replaced by wide boulevards The river is crowded with boats housing much of the population Canton was the seat of the revolutionary movement in 1911 While it is now eclipsed in commercial importance by Shanghai, as the terminus of the Canton-Hankow RR it is still the main collecting and distributing point of S China Canton is a determined but still unsuccessful rival of Hong Kong for the foreign trade of the region It is the educational center of the south There are various industries, including food processing, ebony and ivory carving, pottery making, and silk weaving Canton was captured by the Japanese Oct 21, 1938, and held by them until the end of the Second World War It fell to the Communists in Oct , 1949

Canton **1** Town (pop 2,769), N central Conn , NW of Hartford, settled 1737, inc 1806 Its edge-toolmaking industry dates from 1826. **2** Industrial town (pop 2,651), co seat of Cherokee co , N Ga , N of Atlanta and on the Etowah river, in an area of farms and marble quarries, inc 1833 **3** City (pop 11,577), W central Ill , SW of Peoria, in the Illinois corn belt, founded 1825, inc 1849 It is a trade and industrial center for a coal and farm area Among its manufactures are agricultural implements and lumber products **4** Textile town (pop 6,381), E Mass , SSW of Boston, inc 1797 Paul Revere operated a copper and brass foundry here A state hospital school for the physically handicapped is here **5** City (pop 6,011), co seat of Madison co , W central Miss , NNE of Jackson, inc 1836 It is a trade and processing center in a cotton, truck, and timber area There are a number of fine old ante-bellum houses **6** City (pop 2,125), NE Mo , on the Mississippi above Hannibal, settled 1827 It is the seat of CULVER-STOCKTON COLLEGE A U S dam and lock are near by **7** Village (pop 3,018), co seat of St Lawrence co , N N Y , on the Grass river and SE of Ogdensburg, settled 1799, inc 1845 It is the seat of St Lawrence Univ (coeducational, 1856) and of a state agricultural school Frederic Remington was born here **8** Industrial town (pop 5,017), W N C , SW of Asheville In a lumber area, it has pulp and paper mills **9** City (pop 108,401), co seat of Stark co , NE Ohio, on Nimishillen Creek and E of Massillon, laid out 1806, inc as a town 1822, as a city 1854 In an important iron and steel area, the city's varied products include roller bearings and chemicals William McKinley lived and was buried here **10** Industrial borough (pop 2,040), NE Pa , SW of Towanda, settled c 1796, inc 1864 Its manufactures include machinery, paper boxes, and clothes hangers **11** City (pop 2,518), co seat of Lincoln co , SE S Dak , on the Big Sioux river and S of Sioux Falls, founded 1860 It is a trade center and shipping point for a farm region

Canton, river, Kwangtung prov , S China, of which the Tung river is an eastern tributary The Canton flows past the cities of Canton and Whampoa The estuary is Boca Tigris Although short, the river is one of the most important waterways of China The Chinese name is Chu-kiang or Chukong, Mandarin *Chu-chang* [all=pearl river]

Canton Island, atoll (3 5 sq mi , pop 81), central Pacific, one of the Phoenix Islands. It is c 2,000

mi SW of Honolulu Canton was claimed for the United States by American guano companies under the terms of the Guano Act (1856) In 1937 the British also claimed it and built a radio station here In 1938 the island was formally claimed by the United States and placed under the Dept of the Interior. In that year, both British and American colonists were brought to Canton. Because of the island's importance as a transoceanic air base, the two countries agreed (1939) on joint control of Canton and near-by ENDERBURY ISLAND for a period of 50 years

Cantor, Georg (gä'ôrk kän'tôr), 1845–1918, German mathematician, b St Petersburg He studied under Karl Weierstrass and was professor (1869–1913) at the Univ of Halle He is known for his work on the theory of numbers and for introducing the term "transfinite numbers," on which he wrote three memoirs translated under the title *Transfinite Numbers* (1941)

Cantor, Moritz Benedikt (mô'rĭts bā'nädĭkt), 1829–1920, German mathematician He taught (1863–1913) at the Univ of Heidelberg and was author of a four-volume history of mathematics (1880–1908)

cantor [Latin, = singer], a singer or chanter, especially one who performs the solo chants of a church service The office of cantor, at first an honorary one, originated in the Jewish synagogues, in which it was early the custom to appoint a lay member to represent the congregation in prayer The cantillation of prayers, and later of parts of the scriptures, was transmitted by oral tradition, which early became rigid among Oriental Jews. The notation of the chants was forbidden The cantor's musical position became more important, as did the quality of his voice, preferably a tenor, the professional cantor appeared about the 6th cent The early Christian church adopted the idea of the cantor See also PRECENTOR

Canusium: see CANOSA DI PUGLIA.

Canute (kənōōt', kənūt'), c 995–1035, king of England, Norway, and Denmark The younger son of SWEYN of Denmark, Canute accompanied his father in the invasion of England in 1013 which forced ÆTHELRED to take refuge in Normandy When Sweyn died (1014), the Danes in England swore fealty to Canute, but he withdrew with them to Denmark, where his older brother, Harold, was king With allies Canute invaded England in 1015, conquered most of Wessex, harried the Danelaw, and conquered Northumbria When EDMUND IRONSIDE succeeded (1016) his father, Æthelred, he reconquered Wessex, but failed to regain London, and after the battle of Assandun, the kings divided England When Edmund died, later that year, Canute was accepted as sole king He gave England peace and strove to continue English traditions by restoring the Church to high place and codifying English law To forestall dynastic quarrels he put away his wife Ælfgifu (whose son was Sweyn) and married Emma, the widow of Æthelred His son by Emma was Harthacanute He maintained a military household of his followers and gave English lands to many Danes, among them Godwin of Wessex and Siward of Northumbria In 1018 he succeeded to the throne of Denmark and was forced to lead several expeditions to assert his rights there and in the Danish provinces in Norway In 1026 he won a signal victory, and in 1028 he drove out Olaf II of Norway, thus becoming ruler of the three kingdoms He made his son Harthacanute king of Denmark, and in 1029 he made his son Sweyn king of Norway, with Sweyn's mother, Ælfgifu as regent Ælfgifu never was a successful ruler, she and Sweyn were driven out by 1035, and Olaf's son, Magnus, ruled Norway Canute established friendly relations with the Holy Roman Empire and attended the coronation of Conrad II in Rome in 1027 At the end of his reign Canute led an army into Scotland to stop Scottish invasions under Malcolm II Canute was succeeded by Ælfgifu's son, Harold Harefoot, then by Harthacanute See biography by L M Larson (1912)

Canute the Saint, d 1086, king (1080–86) and patron saint of Denmark He built churches and cathedrals and raised the bishops to the rank of princes In 1085 he attempted, unsuccessfully, to invade England Feast Day Jan 19

canvas, strong, coarse cloth of cotton, flax, hemp, or other fibers, early used as SAILCLOTH Made in natural color, bleached, or dyed, it has a wide variety of uses, as for game, duffel, sport, mail and nose bags, tennis shoes, covers, tents, and awnings Waterproofed with tar, paint, or the like it is called tarpaulin and used to protect boats, hatches, and machinery Duck is a fine light quality used for summer clothing, awnings, and sails Artists' canvas is a light, smooth, single-warp texture, specially treated to receive paint. Art or embroidery canvas is an open-mesh type, usually linen, for working in crewels and for needlepoint

canvasback see DUCK

Canyon, city (pop 2,622), co seat of Randall co., extreme N Texas, S of Amarillo in the Panhandle; settled 1892, inc 1906. Near Canyon, Palo Duro Creek and Tierra Blanca Creek form the Prairie Dog Fork of the Red River just above Palo Duro Canyon The canyon itself, a brilliant gash in the dun plateau of the Llano Estacado, today is viewed by many visitors It was probably seen by Coronado and was known centuries later to Charles GOODNIGHT and other cattlemen. Canyon is proud of its past as a cow town and handles cattle and wheat today West Texas State College (coeducational, 1910) has a museum featuring relics of the ranching past.

Canyon de Chelly National Monument. see NATIONAL PARKS AND MONUMENTS (table)

canzone (känzō'nā) or **canzona** (känzō'nä), in literature, oldest form of Italian lyric, developed in the 13th cent, probably from Provençal sources Petrarch wrote in this form, and in the 19th and 20th cent canzoni have been written by Giacomo Leopardi, GIOSUÈ Carducci, and D'Annunzio

canzone or canzona, in music, instrumental form of musical composition created in the late 15th cent by the Flemish school in imitation of the polyphonic French chanson It was often called *canzone francese* The organists of the Venetian school in the 16th cent. adopted the form, first as highly ornamented transcriptions of vocal chansons and then as independent compositions having contrasted contrapuntal and chordal sections with a middle section in triple meter This type of canzone was the forerunner of the ensemble *canzone da sonar* of the late 16th and 17th cent and led to the baroque sonata The more highly contrapuntal organ canzone was a forerunner of the fugue See H E Ulrich, *Chamber Music* (1948)

caoutchouc see RUBBER

cap, close-fitting head covering, usually distinguished from a HAT by having no brim It preceded the hat, being worn in early times by royalty and dignitaries, with variations in shape and material to indicate rank or profession The cap has come to have ceremonial and symbolic meanings It was the earliest headgear of British women as well as men and boys Called a bonnet in Scotland, it is traditionally worn there by men Early caps of the nobility were made of rich material lined with fur A 16th-century gold coin of Scotland, the bonnet piece, shows James V wearing a cap instead of a crown The cap of maintenance, also called the cap of dignity, indicating high rank, figures in heraldry and was used ceremonially in coronations of English sovereigns The judge in some courts puts on his cap before pronouncing the death sentence The forked cap of ecclesiastical dignity is the miter The biretta is worn by clergy and by some advocates The college cap, or mortarboard, is an evolution from an early soft square cap, called in Scottish universities the John Knox cap A cap may have a lay religious significance, as the FEZ of the Turk The Romans gave a conical cap to their emancipated slaves, the pointed cap with bells is the emblem of the FOOL or jester An English law of 1571, passed for the benefit of the cappers' trade, required males over six years old, unless of the higher classes, to wear on holidays the cloth "statute" cap which came to indicate a tradesman The Phrygian cap, with the point bent forward and with long flaps, was adopted by Byzantine officers and by the doges of Venice

Capablanca, José Raoul (hōsä' räōōl käpäblang'kä), 1888–1942, Cuban chess player, b Havana Champion of Cuba at the age of 12, he won the world's championship from Emanuel LASKER in 1921, retaining his title until he was defeated by ALEKHINE in 1927 His game was almost free from false interpretations of position, and his technique, though facile, was highly refined See his *My Chess Career* (1920) and *Chess Fundamentals* (1931); *Capablanca's Hundred Best Games*, (ed by H Golombek, with a memoir by J Du Mont, 1947)

Capaneus (käpunē'ŭs), in Greek legend, one of the SEVEN AGAINST THEBES He defied ZEUS to prevent him from scaling the wall of the city, and Zeus killed him with a bolt of lightning

Cap Chat (käp' shä'), town (pop 1,329), E Que , on the north shore of the Gaspé Peninsula and N of Campbellton

Cap de la Madeleine (käp' dù lä mädlĕn'), city (pop. 11,961), S Que , on the north bank of the St Lawrence river just N of TROIS RIVIÈRES It has large industries

Cape Breton Island (brĕ'tun), c 3,600 sq mi , forming the northeastern part of Nova Scotia prov and separated from the main part of the province by the Gut of CANSO. The easternmost point is called Cape Breton The center of the island is occupied by the Bras d'Or salt lakes. Gently sloping in the south, the island rises to rugged hills (Ingonish Mt , 1,392 ft) in the wilder northern part. The inhabitants are mainly of Scottish Highlander descent. There are many summer resorts on the lakes and fishing villages on the coast In the northeast are the extensive Sydney coal fields on which the important steelworks are dependent. The Cabot Trail, a road for motorists, commemorates the traditional discovery of Cape Breton Island in 1497 by John Cabot By the Peace of Utrecht (1713) the French retained Cape Breton, and many Acadians migrated here from Nova Scotia, which was ceded to the English. They renamed the island Ile Royale and at LOUISBURG established their strong fortress. With the final cession of Canada to the British (1763), Cape Breton was attached to Nova Scotia. It was again independent from 1784 to 1820, with Sydney as its capital Cape Breton Highlands National Park (some 390 sq mi) was established in 1936 See Arthur Walworth, *Cape Breton* (1948)

Cape Charles, town (pop 2,299), E Va , a port of entry on Chesapeake Bay near the tip of the Eastern Shore peninsula, founded 1884 in a region settled much earlier, inc. 1886 It was occupied by Federal forces in the Civil War

Cape Coast, town (pop 23,061), capital of the Gold Coast, a port on the Gulf of Guinea. In the 17th cent it was occupied successively by Portugal, Sweden, Denmark, Holland, and Great Britain There are fisheries

Cape Cod, sandy peninsula of glacial origin, 65 mi long and 1 to 20 mi. wide, SE Mass , comprising Barnstable co. It is bounded by Cape Cod Bay, the Atlantic, Nantucket and Vineyard sounds, and Buzzards Bay. Its soil is sandy, and huge quantities of cranberries are produced, fishing and the summer trade are other sources of income Its towns include Provincetown, Barnstable, Falmouth, and Bourne The name Cape Cod is attributed to Gosnold, who visited these shores in 1602 The Pilgrims put in at the site of Provincetown in Nov , 1620 Fishing towns were founded, and shipping, whaling, and saltmaking were practiced The 8-mile-long Cape Cod Canal, built in 1909–14 and improved by the Federal government in 1927, connects Cape Cod Bay and Buzzards Bay, crossing Bourne town Much has been written of the people, history, lore, and scenery of the cape See Thoreau, *Cape Cod* (1865), the many works of Joseph C Lincoln, H C Kittredge, *Cape Cod* (1930), Katharine Dos Passos and Edith Shay, *Down Cape Cod* (rev ed , 1947)

Cape Colony see CAPE PROVINCE

Cape Elizabeth, farming and resort town (pop 3,172), SW Maine, S of Portland, along SW Casco Bay, settled c 1630, set off from Falmouth 1765

Cape Fear River, formed in central North Carolina by the junction of the Deep and Haw rivers and flowing southeasterly across the piedmont and coastal plains to the Atlantic immediately N of Cape Fear Wilmington is at the head of its estuary, and Southport at its mouth Elizabethtown and Fayetteville are on the river

Cape Girardeau (jĭrär'dō, jĕrurdō'), city (pop 19,426), SE Mo , SSE of St Louis and overlooking the Mississippi, founded 1793 as a trading post, chartered 1843 Its position on the river, near the confluence of the Ohio, early made it an important port During the Civil War it was a fort Today an industrial and trade center, it produces and ships shoes, cement, and tobacco and lumber products The city is connected with Illinois by a highway bridge Southeast Missouri State College is here Fort D (1861) and other old buildings are among the points of interest

Cape jasmine, see GARDENIA

Capek, Josef, Czech *Čapek* (chä'pĕk), 1887–1945, Czech dramatist and painter He collaborated with his brother Karel on the drama *Adam the Creator* (1927, Eng tr , 1929) and *The Insect Play* (1921, Eng tr , 1923), a satire produced as *The World We Live In*, and wrote a play of his own, *The Land of Many Names* (1923, Eng tr., 1926) His moving *Poems from a Concentration Camp* (1946) were composed in the notorious Belsen camp He illustrated some of his brother's books As a painter he developed a style of primitiveness

Capek, Karel, Czech *Čapek*, 1890–1938, Czech playwright, novelist, and essayist He is best known as the author of two brilliant satirical plays—*R U R (Rossum's Universal Robots*, 1921, Eng tr , 1923), which introduced the word *robot* into the English language, and, written with his brother Josef, *The Insect Play* (1921, Eng tr , 1923, pub in the United States as *The World We Live In*). Also noted are the plays *The Makropoulos Secret* (1923, Eng tr , 1925), an inquiry on the desirability of longevity, and *Power and Glory* (1937, Eng tr , 1938), in which dictators are held up to condemnation He also wrote travel sketches (e g , *Travels in the North*, Eng tr , 1939), fanciful romances such as *The Absolute at Large* (1922, Eng tr , 1927) and *Krakatit* (1924, Eng tr , 1925), and essays (*Letters from England*, 1923, Eng tr , 1925) His three volumes of conversations with Thomas G. Masaryk (1928–35, Eng tr , 1934, 1938) form an outstanding biography, and the three psychological novels *Hordubal* (1934, Eng tr , 1934), *Meteor* (1934, Eng tr., 1935), and *An Ordinary Life* (1935, Eng tr , 1936) are a worthy climax to a notable career Capek died on the eve of the occupation of his country by Germany before the Second World War. Almost all of his works are available in English

Capell, Edward (kă'pl), 1713–81, English Shakesperian scholar. His 10-volume edition of Shakspere (1768) was the first to incorporate exact collations of all available old texts. He followed this with a commentary, *Notes and Various Readings to Shakespeare* (1775–83) He was also the editor of a collection of old English ballads and poems, *Prolusions* (1760).

Capella, Martianus (märshĕă'nŭs kŭpĕ'lŭ), fl. 5th cent.?, Latin writer, b Carthage. His one famous work, *The Marriage of Mercury and Philology*, called also the *Satyricon* and *Dissplinae*, is a long allegory about the liberal arts. Philology as here presented is love of learning, and the allegory surveys the seven branches of medieval learning (the seven bridesmaids in the allegory) grammar, dialectic, and rhetoric (the trivium) and geometry, arithmetic, astronomy, and music (the quadrivium). Its popularity in medieval schools was universal. The author is known also as Felix Capella and may have lived in the 4th cent.

Capelle, Eduard von (ā'dōōärt fŭn kăpĕ'lu), 1855–1931, German admiral. As secretary for the navy (1916–18) he inaugurated (1917) unrestricted submarine warfare.

Capello, Bianca (byäng'kä käpĕl'lō), 1548–87, grand duchess of Tuscany. Of a noble Venetian family, she eloped (1563) with the Florentine, Pietro Bonaventuri. She later became first the mistress, then (1579) the wife, of Francesco de' MEDICI. After a banquet the grand duke and his duchess died suddenly, supposedly of poison.

Cape May, city (pop 2,583), S N J., at the end of Cape May peninsula, settled in the 17th cent., inc. 1869. It became a popular resort in the mid-19th cent. **Cape May,** southern extremity of New Jersey, has a lighthouse on the point at the entrance to Delaware Bay, c 3 mi. above the point the cape is bisected by a canal 12 ft. deep and 100 ft. wide constructed by the Federal government in 1942–43 as a war emergency measure to eliminate the longer and hazardous route around the cape. The canal is part of the projected New Jersey Intracoastal Waterway. **Cape May Court House,** NNE of Cape May city, laid out in 1703, is the county seat of Cape May co. and site of a historical museum.

Cape of Good Hope Province see CAPE PROVINCE.

Cape Province, officially **Cape of Good Hope Province** (277,169 sq. mi., pop. 4,045,805), Union of South Africa, on the Atlantic Ocean and the Indian Ocean. The capital is Capetown. Cape Prov. is bordered on the north by South-West Africa, Bechuanaland, and Basutoland, and it occupies the southern tip of Africa, including the Cape of Good Hope, the south spur (840 ft. high) of Table Mt., for which it is named. Elevations increase rapidly away from the coast, and irregular hills and mountains occupy most of the province, especially KAFFRARIA in the east. Parts of the interior (e.g., the KARROO) are, however, quite level and are used for sheep raising, one of the chief activities of the province. Crops are raised wherever river water is available to supplement the inadequate rainfall, notably in the basin of the Orange River. Grains, citrus fruits, tobacco, and grapes (for wine) are grown. The mining of diamonds, copper, and coal brings much wealth. Industries include automobile assembly and textile manufacture. Cape Prov. is served by an excellent road net and by several rail lines which connect its ports, including Capetown, Port Elizabeth, and East London, with the interior. Before European penetration, South Africa was inhabited mainly by Bushmen and Hottentots. The search for a sea route to the East brought the region to European notice. Bartholomew Diaz, a Portuguese navigator, was the first to round the Cape of Good Hope; the complete journey to India by that route was first made (1497–99) by his countryman Vasco da Gama. A Dutch victualing station, established in 1652 at Table Bay (near the Cape) by Jan van Riebeeck was the earliest permanent settlement, it grew into Capetown. In the late 17th cent. there was extensive migration of French Huguenots, besides more Dutch settlers. Great Britain temporarily (1795–1803) occupied the Dutch settlements in South Africa, and in 1806 it annexed the territory. Opposition to British rule led many of the Boer (Dutch) farmers to migrate north (see TREK). Today the population is predominantly British in origin. In the South African War important engagements were fought in the colony at Kimberley and Mafeking, and toward the end of the war there was much guerrilla activity. The colony became a province with the establishment (1910) of the Union of South Africa.

caper, straggling white-flowered shrub (*Capparis spinosa*) of the Mediterranean region. It is cultivated in S Europe for the flower buds—capers—which are pickled and used in flavoring meat sauces and salads. The plant is occasionally grown in the United States.

Cape River: see SEGOVIA, river.

Capernaum (kupûr'nāŭm) or **Capharnaum** (kŭfär'nāŭm), town, NE Palestine, on the Sea of Galilee, closely associated with Jesus' ministry. See John 2.12, 6 59, Mat. 11 23; 8, 9, Mark 1; 2, Luke 4, 5. Capernaum has been located W of the Jordan river near the sea. An interesting 2d-century synagogue has been excavated and partially restored.

Cape Sable Island (sā'bŭl), 7 mi. long and 3 mi. wide, SW Nova Scotia, SW of Shelburne and separated from the mainland by Barrington Passage. Clarkes Harbour (pop. 887), a fishing port, is on the west coast.

Capetians (kŭpē'shŭnz), royal house of FRANCE, which ruled continuously from 987 to 1328. The first historical ancestor was ROBERT THE STRONG, count of Anjou and of Blois. His son, EUDES, count of Paris, was elected (888) king after the deposition of Charles III (Charles the Fat). From 893 to 987 the crown passed back and forth between CAROLINGIANS and Capetians. Eudes's brother, ROBERT I, was chosen king in 922, but died in 923. The title, waived by his son, HUGH THE GREAT, passed to Robert's son-in-law, RAOUL, duke of Burgundy. In 987 Hugh's son, HUGH CAPET (kā'plt, kă'plt), whose nickname gave the house its appellation, became king. His direct descendants remained on the throne till the death (1328) of Charles IV, when it passed to the related house of VALOIS. The successors of Hugh Capet were Robert II, Henry I, Philip I, Louis VI, Louis VII, Philip II, Louis VIII, Louis IX, Philip III, Philip IV, Louis X, John I, Philip V, and Charles IV. After the fall of the monarchy (1792), Louis XVI and Marie Antoinette were called Capet (Citizen Capet and Widow Capet). See F. Funck-Brentano, *Earliest Times* (Vol. I of *National History of France*).

Capetown or **Cape Town,** city (pop. 383, 891), Cape Prov., legislative capital of the Union of South Africa, a port on the Atlantic Ocean. The city is beautifully situated at the foot of Table Mt. and overlooking Table Bay. Its large port has extensive docking facilities and accommodates much shipping. The railroad on which Capetown is situated is intended as a link in the projected Cape-to-Cairo line. The city was founded in 1652 by Jan van Riebeeck as a victualing station for Dutch ships traveling between Europe and the East. It was temporarily occupied (1795–1803) by the British, who seized it from the Dutch in 1806. Its development was especially rapid in the late 19th cent. and in the 20th cent. Capetown still retains many of the qualities of a Dutch city. It is a warm-weather resort with an equable climate and fine beaches. Perhaps the leading cultural center of South Africa, it has art galleries, three colleges, and a university. Distinguished structures include the Parliament building (enlarged 1910) and the Cecil Rhodes memorial on the slopes of Table Mt.

Cape Verde Islands (vûrd), Port. *Ilhas do Cabo Verde,* archipelago (1,557 sq. mi., pop. 181,286), in the Atlantic Ocean c 375 mi. W of Dakar, French West Africa. It is a Portuguese possession. The capital is Praia. The possession comprises 10 main islands, of which the largest are Santo Antão and São Tiago. The islands (especially São Vicente) are used as coaling stations. Tropical crops, including coffee, oranges, and sugar cane, are grown. Portugal acquired the islands in the late 15th cent., probably on the basis of discovery (see CADAMOSTO, LUIGI DA).

Cape Vincent, village (pop. 931), N N Y., on the St. Lawrence and NW of Watertown, inc. 1853. It is a port of entry and a center for the Thousand Islands resort area. There is a U S. fish hatchery.

Cape York Peninsula, N Queensland, Australia, between the Gulf of Carpentaria and the Coral Sea. It is largely tropical jungle.

Capgrave, John (kăp'grāv), 1393–1464, English Augustinian friar, a man of unusual erudition for his time. The work that made him famous, *Nova legenda Angliae* [new legends of England], is really a rewriting of a work by a monk of Tynemouth. It is, at any rate, the first notable collection of lives of English saints. Other well-known works he wrote were *De illustribus Henricis* [on illustrious men named Henry] and a chronicle of England.

Cap-Haïtien (käp"-hā'shun, -hā'tēun, Fr. käpāĕsyĕ'), city (pop. c 25,000), N Haiti. It is an important port, the second largest city in Haiti, and the metropolis of the north. Founded by the French in 1670, it was until 1770 the capital of colonial Haiti, owing its eminence to a good harbor and the development of large sugar plantations in the surrounding lowlands—the Plaine-du-Nord. Le Cap was also the capital of the kingdom ruled by HENRI CHRISTOPHE. In spite of earthquakes (especially severe in 1842), bombardments, and almost continual civil strife, it retains some picturesque colonial charm. Cap-Haïtien is a commercial and distributing center and exports coffee, cacao, sugar, woods, and sisal.

Capharnaum (kufär'nāum), the same as CAPERNAUM.

Caphtor (kă'fˈtôr), home of the Philistines before they came to Canaan. Its inhabitants are called Caphtorims. Some identify Caphtor with Crete, some with Cilicia. Gen. 10 4, Deut. 2 23, 1 Chron. 1 12, Jer. 47 4, Amos 9 7.

capillarity (kăpulă'rĭtē), causes that part of the liquid's surface in contact with a solid to be elevated above or depressed below that part of the surface not in contact with the solid. For example, the surface of water in a glass jar is seen to be not level but slightly higher around the edges where the water and the glass are in contact. The reverse is true of mercury, the edges of the surface being depressed. This phenomenon receives its name from the fact that when one end of an open tube of extremely small diameter (called a capillary tube from the Latin *capillus* meaning a hair) is placed perpendicularly in a liquid, the liquid rises in the tube to a level above the level outside (as in the case of water) or is depressed (as in the case of mercury). The forces acting to bring about this elevation of the surface in seeming contradiction to the law of gravity are adhesion, since the liquid rises only if it wets, i.e., sticks or adheres to, the solid, but is depressed if it does not wet, cohesion, for the liquid does not break apart, and SURFACE TENSION. One of the causes for the rise of water upward in the soil is capillarity.

capillary (kă'pŭlĕ"rē), unit of the blood circulatory system. Capillaries are minute vessels, connecting the arterioles (smallest arteries) and venules (smallest veins), found in the form of a network throughout the body. The oxygen of the red blood cells, the nutriment of the blood, and the white blood corpuscles pass through the thin walls of the capillaries into the body tissues, and the tissues discharge carbon dioxide and other waste products into the capillaries.

Capistrano, John of. see JOHN CAPISTRAN, SAINT.

capital [Latin, = of the head], the crowning member of a column, pilaster, or pier. It acts as the bearing member beneath the lintel or arch supported by the shaft and has a spreading contour appropriate to its function. The most primitive type, of which examples were found in the Beni Hassan tombs, Egypt, consisted of a square block. In later forms the capital had three well-defined parts, the necking, where it joins the shaft, the echinus, or spreading member above it, and the abacus, or block at the top. In Egypt such types were developed as early as 1500 B C. papyrus buds, the lotus, and the palm leaf were used as motives of ornamentation. The Greeks perfected three types belonging to three separate orders of architecture—the Doric, the Ionic, and the Corinthian. The simplest is the Doric, characterized by its spreading cushionlike echinus. The Ionic has the scroll shape, probably derived from special forms in nature (nautilus shell or horns of a ram). The Corinthian has the inverted bell shape, with ornaments deriving from the acanthus leaves. These three general types were adopted and later modified by the Romans. The Roman Doric and Corinthian, in turn, inspired Romanesque and Gothic designers, who used, however, a new and rich variety of forms, such as grotesque heads, birds, and animals. The architects of the Renaissance returned to the ancient Roman capitals as basic inspiration for their own free and graceful designs. They are currently found in the classic phases of traditional architecture.

capital As originally used in business, capital denoted money that bears interest, but the word now includes the entire stock of goods from which an income is derived. Tools, machines, stores of merchandise, houses, means of transportation, lands, and such paper as stocks and bonds—any materials used to extract, transport, create, or alter goods—can be called capital. Marketable intangibles, as credits, good will, promises, patents, and franchises, are also included by some economists. Capital goods provide for future wants, while consumers' goods provide only for the present. Distinction is also made between capital stocks or circulating capital (raw materials, goods in process, finished goods, and sometimes wages) and capital instruments or fixed capital (machines, tools, railways, factories). Capital may be classed as specialized, such as railway equipment, or unspecialized, such as raw materials having many uses. Capital is thought to arise and accumulate from savings from incomes, scarcity of natural materials, presence of monopolies, previous profits, speculation, and recapitalization. A revolutionary new concept was offered by Karl Marx in *Das Kapital.* For more conservative views, see Irving Fisher, *Nature of Capital and Income* (1906), H. G. Moulton, *The Formation of Capital* (1935), J. R. Hicks, *Value and Capital* (1939), F. A. von Hayek, *The Pure Theory of Capital* (1941).

capitalism, the economic system characterized by private ownership of property, production of goods for profit, and the institution of bank credit. The vagueness of the term is increased by the ethical aspect of socialist criticism. Capitalism has existed in at least partial form in the economies of all civilizations, but its modern importance dates from the Industrial Revolution of the 18th cent., when bankers, merchants, and industrialists began to displace landowners in social, political, and economic importance, particularly in Great Britain. Capitalism stresses freedom of individual economic enterprise, but even when, as in the early 19th cent., the economy was least restricted, the ultimate right of the state to supervise and regulate industry and trade was questioned by few. In the 19th and the early 20th cent. the profit motive called into being vast credit, manufacturing, and distributing institutions, and the social and economic effects of capitalism largely transformed world culture, but in the 20th cent., social and industrial reforms in democratic states and the action of totalitarian governments circumscribed the previously free capitalist system. See J. A. Schumpeter, *Capitalism, Socialism, and Democracy* (1942).

capital levy, form of taxation by which the state takes part of the capital of any person or business, as distinguished from a tax which takes a part of personal or business income. It is usually applied

to all capital above a certain minimum and may be set aside for a specific purpose, such as the sinking of the public debt. It was used by several European nations in financial contingencies arising from the armaments race and the First World War and has been advocated as a measure of social welfare and a deterrent to war profits Opponents of the capital levy stress the implied penalty to saving. In the Second World War, Great Britain and the United States resorted to tremendous direct taxation to accomplish many of the aims of the capital levy See Hugh Dalton, *The Capital Levy Explained* (1923).

capital punishment, putting to death by the state Originally used to appease an offended deity because of a grave religious offense, it was later imposed for homicide, treason, heresy, robbery, and even petty crimes Since the 18th cent , when such men as Beccaria pleaded against it, use of the death penalty has decreased It has been practically abolished in some countries in accordance with modern treatment of criminals, which stresses rehabilitation rather than punishment, in other countries only murder and treason are punished by death Modern methods of capital punishment include hanging, electrocution, gassing, shooting, and guillotining See also CORPORAL PUNISHMENT See E C Calvert, *Capital Punishment in the Twentieth Century* (5th ed , 1936), J E Johnsen, comp , *Capital Punishment* (1939)

Capito, Wolfgang Fabricius (kă'pĭtō, Ger vôlf'gang fäbrē'tsyōōs kă'pētō), 1479–1541, German Lutheran reformer, whose original family name was Köpfel As a well-known humanist, he brought about communication between Erasmus and Luther Capito worked with Martin Bucer in an attempt to unify the Evangelical churches of Germany, France, and Switzerland

Capitol, seat of the U S government at Washington, D C It is the city's dominating monument, built on an elevated site which was chosen by George Washington in consultation with Major L'Enfant The building as it now stands took many years in erection and is the result of the work of several architects In 1792 a competition was held to select an architect, but William Thornton gained the President's approval with a plan separately submitted and was appointed In 1793 the President set the cornerstone, with Masonic rites, and the building was begun Later three additional architects were employed—E S Hallet, George Hadfield, and James Hoban In 1814 the uncompleted building was burned by the British, and B H Latrobe, who had been appointed (1803) surveyor of public buildings, undertook its restoration He was succeeded in 1818 by Charles Bulfinch, who brought the design to completion in 1830 The building proved inadequate and was greatly enlarged (1851-65) by T U Walter, who added the extensive House and Senate wings at either end and the imposing dome, c 288 ft in height, which dominates the composition The building proper is over 725 ft long and c 185 ft wide See I T Frary, *They Built the Capitol* (1940)

Capitol, in Rome see Capitoline Hill

Capitol Heights, town (pop 2,036), W central Md , a surburb of Washington, D C

Capitoline Hill or **Capitol**, highest of the seven hills of ancient Rome, historic and religious center of the city The great temple of Jupiter Capitolinus, on its southern summit, was dedicated in 509 B C , it was foremost among the temples and altars of Rome Its main cella was consecrated to Jupiter, the two lateral cellae were devoted to the cult of Juno and of Minerva Twice destroyed by fire, it was last rebuilt by Domitian On the northern summit of the Capitol was the citadel (arx) On the side overlooking the Forum stood the Tabularium, where the state archives were kept From the Tarpeian Rock, on the steep south face of the hill, state criminals were hurled to their death until the 1st cent A D In the Middle Ages the Capitol remained the political center of Rome The senatorial palace, built over the Tabularium, was the seat of the senators and a true fortress, the center of municipal government in Rome is still on the same location In the 16th cent Michelangelo designed the present plan A flight of steps leads to the fine square on top of the hill, on one side of the square is the Palazzo dei Conservatori, on the other, the Capitoline Museum Both buildings now house collections of antiquities In the center of the square is the ancient equestrian bronze statue of Emperor Marcus Aurelius

Capitol Reef National Monument see NATIONAL PARKS AND MONUMENTS (table)

capitularies (kupĭ'chōōlĕ"rēz), decrees and written commands of the Merovingian and Carolingian kings of the Franks Both legislative and administrative, they were the chief written instrument of royal authority The ordinances were issued sometimes by the king alone, sometimes by the king and his counselors Additions to, and alterations of, the customary Germanic laws required the consent of the tribes concerned or of their representatives Several capitularies—such as the exemplary *Capitulare de villis*—dealt with the administration of the royal domains, others dealt with the Church. Most important were those which Charlemagne addressed to his officers, the *missi dominici*. These contained instructions for the administration of the empire and instituted far-reaching reforms. Capitularies issued in the late Carolingian period foreshadowed the feudal system. The name capitularies is also applied to similar documents in other fields The recognized modern edition is in the *Monumenta Germaniae historica*

Capiz (kä'pēs), municipality (1948 pop. 32,353), capital of Capiz prov , N Panay, Philippine Islands It has rice and sugar mills

Capo d'Istria, Giovanni Antonio, Count (kä"pō dē'strēä), Gr *Joannes Antonios Capodistrias* or *Kapodistrias*, 1776–1831, Greek and Russian statesman, b Corfu After administrative work in the Ionian Islands he entered (1809) the Russian service and was Russian foreign minister (1820–22) He refused leadership of the Greek uprising in 1821 but brought Russian influence to bear in favor of the Greeks In 1827 the Greek national assembly elected him president of Greece. His preference for the aristocratic class and his Russian affiliations caused popular resentment and led to his assassination

Capodistria (käpudl'strēä, Ital käpōdē'strēä), town (pop 7,105), Free Territory of Trieste, on a small island in the Gulf of Trieste It is joined to the mainland by a bridge From the 13th cent until 1797 it was the capital of Istria under Venetian rule, it preserves the typical aspect of a Venetian town In the main square are the Romanesque cathedral (restored 16th cent) and campanile, a Gothic loggia, and the pinnacled town hall

cap of maintenance see CAP

Capone, Al (Alfonso or Alphonse Capone) (kŭpō'-nē), 1899–1947, American gang leader, b Naples, Italy Al Capone was reared in New York city, where he became connected with organized crime and was twice involved in murder investigations In 1920 he moved to Chicago and became a lieutenant to John Torrio, one of the most feared gangsters of the city They established numerous "speakeasies" in Chicago in the prohibition era and expanded their operations After several of his enemies were murdered and Torrio fled the city, "Scarface" Capone took control He became implicated in brutal murders and was known to have received tribute from businessmen and politicians His crime syndicate—which terrorized Chicago in the 1920s and controlled gambling and vice there—was estimated by the Federal Bureau of Internal Revenue to have taken in $105,000,000 in 1927 alone Capone was indicted (1931) by a Federal grand jury for evasion of income-tax payments and was sentenced to an 11-year prison term In 1939, physically and mentally shattered, Capone was released See biography by F D Pasley (1930)

Caporetto (käpurĕ'tō, Ital käpōrāt'tō), village of Slovenia, NW Yugoslavia, on the Isonzo river Until 1945 it was in Italy Here in 1917 the Italians were severely defeated by the Austrians

Cappadocia (käpŭdō'shŭ), ancient region of Asia Minor, watered by the Halys river (the modern Kizil Irmak), in present E central Asiatic Turkey The name was applied at various times to territories of varying size At its greatest extent it stretched from the Halys valley E to the Euphrates, from the Black (Euxine) Sea in the north to the heights of the Taurus and Anti-Taurus ranges in the south Mostly a high plateau, interrupted by mountains and isolated in winter by snow in the mountain passes, it was largely devoted to grazing and was famous for its horses and its fat-tailed sheep The inhabitants were sometimes called White Syrians Aided by the inaccessibility of the land, they maintained a good deal of independence Cappadocia was conquered by the Persians, and an Iranian ruling class was installed but did not have all local power Cappadocia did not yield fully to the conquest of Alexander the Great, and after his time it gradually developed as an independent kingdom in the 3d cent B C Pontus, which had been first cut off in Persian times, now became completely separated from Cappadocia The kings had their capital at Mazaca (later Caesarea Mazaca), the only other important cities were Tyana and Melitene, though Iconium was at times in Cappadocian In the 2d cent and 1st cent B C the Cappadocian dynasty maintained itself largely by siding with Rome The king was, however, disloyal to Rome in the Parthian invasion, at the time of Julius Caesar Later Rome installed a new king, then in A D 17 annexed the region as a province Cappadocia became prosperous Christianity was introduced early (1st cent A D), and the name appears in the Bible, though its importance as a separate region was already declining and later disappeared.

Cappel, Switzerland see Kappel.

Capper, Arthur, 1865–, American journalist and political leader, b Garnett, Kansas He did reporting on Kansas and New York city newspapers and later became publisher of the Topeka *Daily Capital* and directed several farm journals He was (1915–19) governor of Kansas and from 1919 until he retired in 1949 he served in the U S. Senate An important member of the Republican party and a leader of the farm bloc, Capper fathered much legislation beneficial to the farmer, was a staunch isolationist, and generally opposed the New Deal. He wrote *The Agricultural Bloc* (1922)

Capponi, Gino (jē'nō käp-pō'nē), 1792–1876, Italian historian, a marquis He played an important part in the spiritual movement of the Risorgimento. He was for a short time president of the constitutional government in Tuscany (1848) and became a senator after the annexation (1860) of Tuscany to the kingdom of Sardinia Of his writings, the *Storia della repubblica di Firenze* (1875) is the most important

Capponi, Piero (pyä'rō), c 1446–1496, Florentine nobleman and diplomat He served Lorenzo and Piero de' Medici and later the Florentine republic. His firm and courageous attitude toward Charles VIII of France, who wanted to impose harsh terms on the republic, induced the king to grant more equitable conditions (1494)

Capra, Frank (kă'pru), 1897–, American moving-picture director, b Palermo, Sicily He entered the moving-picture industry in 1921 and worked for Mack Sennett Gently witty and satirical, his later films include *It Happened One Night*, *Mr. Deeds Goes to Town*, *Lost Horizon*, *You Can't Take it with You*, and *Mr Smith Goes to Washington*. Capra directed the *Why We Fight* series for the U S army in 1943

Capreol, town (pop 1,641), S Ont , N of Sudbury.

Caprera (kaprā'ra), small island, off the northeast coast of Sardinia, Italy, in the Strait of Bonifacio It was the residence of Garibaldi, who is buried here

Capri (kä'prē), Latin *Capreae*, small, rocky island (pop 7,984), S Italy, near the entrance to the Bay of Naples It is celebrated for its striking scenery, delightful climate, and luxurious vegetation The Blue Grotto is the most famous of the many caves along its high, precipitous coast Monte Solaro, the highest point (1,932 ft), commands a magnificent view The Roman emperors Augustus and Tiberius built here fine villas, of which there are remains The local architecture has Roman, Norman, and Moorish features There are two small towns, Capri and Anacapri, both much-visited tourist centers A dry white wine is produced on the island

Capricornus (kăprĭkō'nus) [Latin,=goat horn], in astronomy, an inconspicuous constellation of the Southern Hemisphere lying between Sagittarius and Aquarius It has been depicted from earliest times either as a goat or as a figure with its fore part like that of a goat and its hind part like the tail of a fish The Tropic of Capricorn takes its name from this constellation, which marks the southernmost part of the ecliptic and therefore the winter solstice in the Northern Hemisphere Capricornus is the name of the 10th sign of the zodiac, the Goat, and the constellation is one of the zodiacal constellations

caprific see FIG

Caprivi, Leo, Graf von (lā'ō gräf' fŭn kaprē'vē), 1831–99, German statesman, whose full name was Georg Leo, Graf von Caprivi de Caprara de Montecuculi He succeeded (1890) Bismarck as chancellor Favoring industrial over agrarian interests, he negotiated (1892–94) a series of reciprocal trade agreements Agrarian opposition caused his dismissal (1894) Prince Hohenlohe-Schillingsfürst succeeded as chancellor

Caprivi Zipfel (kaprē'vē tslp' ful) [Ger *Zipfel*=tip, point] or **Caprivi Strip**, territory, 300 mi long and 50 mi wide, extending along the northern border of Bechuanaland W to the Zambezi river A part of South-West Africa, it is named for the German chancellor Graf von Caprivi, who obtained it from Great Britain to give the former German colony access to the Zambezi

Capron, Horace (kā'prŭn), 1804–85, American agriculturist and scientific farmer b Attleboro, Mass He held several government offices in the United States and was appointed adviser in agriculture to the Japanese government, in which capacity he introduced scientific farming methods in Japan While commissioner (1867–71) of the U S Dept of Agriculture, he established a system of exchanging seeds with foreign countries.

Capsian culture see Gafsa

Captivity, Exile, or **Babylonian captivity**, in the history of Israel, the period from the fall of Jerusalem (586 B C) to the foundation in Palestine of a new Hebrew organization After the capture of the city some thousands were deported to Mesopotamia, probably selected for their prosperity and importance Such deportations were commonplace in Assyrian and Babylonian policy. The exiles kept up close connections with their kinsmen at home, as is clear from Ezekiel, the prophet of the early years of the Exile In 538 B.C , Cyrus, the new master of the empire, brought in a new attitude toward the nations and decreed the restoration of worship at Jerusalem The century following this decree was critical in the history of the Jews, for it is the time of their reintegration into a national and religious unit For parts of the period, Ezra and Nehemiah are the best sources The prophesied 70 years of captivity were fulfilled when the new Tem-

ple was completed in 516 B C. Jer. 25 11, Dan 9.2; Zech 7 5 For the "Babylonian captivity" of the popes at Avignon, see PAPACY

Capua (kă'pūu, Ital kä'pwä), town (pop 10,128), Campania, S Italy, on the Volturno river. It occupies the site of ancient CASILINUM Ancient Capua (which was 3 mi to the southeast, where Santa Maria Capua Vetere now stands) was a strategic Roman town on the Appian Way In 216 B C it opened its gates to Hannibal, retaken by the Romans, it became the most important center of S Italy There are remains of an amphitheater and of a triumphal arch Capua was destroyed (841) by the Arabs, the inhabitants moved to Casilinum and founded modern Capua Strongly fortified to defend Naples, Capua suffered various sieges, the last one by the Piedmontese (1860) The ancient cathedral was severely damaged in the Second World War

Capuana, Luigi (lwē'jē käpwa'nä), 1839–1915, Italian critic and novelist. He led a full and varied life, his activities including teaching, scientific study, and politics He wrote in almost every genre, but his reputation rests upon his naturalistic novels and his excellent criticism Among his best works are the short stories in *Paesane* [peasants] (1894), the novel *Il marchese di Roccaverdina* (1901), and his *Studi sulla letteratura contemporanea* (1879–82) His stories for children which have appeared in English are *Nimble Legs* (1903, Eng tr, 1927) and *Once upon a Time* (1882, Eng tr, 1892)

Capuchins (kă'pūchĭnz) [Ital, =hooded ones], Roman Catholic religious order of friars, one of the independent orders of FRANCISCANS, officially the Friars Minor Capuchin It was founded (1525–28) in central Italy as a reform within the Observants, led by Matteo di Bascio It is one of the largest orders Born, like the Jesuits, at the beginning of the Catholic Reform, the Capuchins became a key feature in church activity, especially in preaching and missions With the Jesuits they did much to revive Catholicism among populations of Europe in which Protestantism had prevailed The Capuchins have been very important in foreign missions, they were early in French Canada They are conspicuous among Roman Catholic clergy for their beards See Father Cuthbert, *The Capuchins* (1928)

Capulin Mountain National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Capus, Alfred (älfrĕd' käpü'), 1858–1922, French journalist, novelist, and playwright Most successful at comedy, he also wrote problem plays

capybara (kăpĭbä'ru), mammal of Central and much of South America It is the largest living member of the order of rodents, reaching a length of 4 ft and a weight of 75 to 100 lb Its brownish hair flecked with yellow is coarse and scanty, and its tail rudimentary The feet are partially webbed, and there are four thick-nailed toes on the front feet and three on the hind feet It is semiaquatic, an expert swimmer and diver It eats vegetation and sometimes damages crops It is hunted for food, its hide is made into gloves, and its bristles are used in brushes It is also called water hog and carpincho

caracal (kă'rukal) or **Persian lynx**, mammal of the cat family, native to Asia and Africa By some it is considered a link between the true cats and the true lynxes It is reddish brown with black-tufted ears From the nose to the tip of the tail it is about 3¼ ft It preys on small deer, hares, birds, and other animals and in some regions is trained to capture such game for man

Caracalla (kărukă'lu), 188-217, Roman emperor (211–17), son of Septimius SEVERUS His real name was Marcus Aurelius Antoninus, and he was called Caracalla because he wore a Gallic tunic He was made Caesar in 196 and Augustus in 198, but he resented having to share these honors with his brother Geta and he early showed his true character by bringing about the downfall of his father-in-law, the political leader Plautianus, through false reports After Septimius Severus died, leaving the empire to his two sons, Caracalla murdered (212) the much more popular Geta and had a general massacre of Geta's followers and sympathizers (including the jurist Papinian) He thus ushered in a reign infamous for cruelty and blood Caracalla, however, pacified the German frontier He extended Roman citizenship to all free inhabitants of the empire, not presumably out of generosity but to increase his income from taxes to meet staggering expenses Part of his money went to shower gifts on the soldiers He tried to buy popularity with them and planned an ambitious campaign to extend his father's conquests into old Persia When he was leading an expedition in Asia he was murdered by MACRINUS, who succeeded him but was in turn shortly succeeded by Heliogabalus. Caracalla's name is familiar because of the famous Baths of Caracalla, erected in his reign

Caracas (kŭrä'kŭs, kŭrä'–, Span, kärä'käs), city (pop. 269,030), N Venezuela, the capital and largest city of Venezuela, in a mountain valley near the Caribbean. It was founded in 1567 as Santiago de León de Caracas by Diego de Losada With an elevation of c 3,100 ft, Caracas has a healthful and pleasant climate, a factor that made it rather than VALENCIA the economic and political center of Spanish colonization in Venezuela. The older parts of the city are picturesque, the newer sections developed in the recent rapid expansion are modern and prosperous With air, rail, and highway connections to La GUAIRA, to W Venezuela, and S to Ciudad Bolívar by road and air, Caracas is the commercial center for much of the country's produce. Industrial activities include cotton mills, breweries, shoe and cigarette factories, sugar refineries, and dairy and meat-packing plants Key to control of Venezuela, Caracas assumed a leading role in the revolution against Spain Here independence was advocated in April, 1810, and formally declared in July, 1811 Its almost complete destruction by earthquake on March 26, 1812, did much to blight the revolution led by Francisco de MIRANDA In Aug, 1813, Simón BOLÍVAR recaptured Caracas, but abandoned it after a crushing defeat in June, 1814 Finally, after his victory at Carabobo (1821), he made a triumphal entry in June, 1821

Caracci, family of Italian painters see CARRACCI

Caracciolo, Francesco (frănchä'skō kärät'chōlō), 1752–99, Neapolitan admiral He served with the British in the American Revolution He fled with King Ferdinand IV of Naples to Sicily in Dec, 1798, but soon returned and took command of the small fleet of the French-sponsored Parthenopean Republic When the Bourbons recaptured Naples (1799), Lord Nelson ordered his immediate execution

Caractacus (kurăk'tukus) or **Caradoc** (kură'duk), fl A D 50, British chieftain, son of Cymbeline He fought for nine years against the Romans, was captured, and was taken to Rome for a triumph Claudius, admiring his courage, spared his life

Caragiali, Ion Luca (yōn' lōōkä' käräjä'lē), 1853–1912, Rumanian author and theatrical manager After the production of several of his own comedies, he became (1888) director of the Bucharest National Theater Among his comedies satirizing Rumanian society are *The Lost Letter* (1884) and *Carnival Adventures* (1885) *False Accusation* (1889) is a tragedy Caragiali also wrote short stories and novels

Caraglio, Giovanni Jacopo (jōvän'nē yä'kōpō karal'yō), c 1500–c 1570, Italian engraver and designer, known also as Jacobus Parmensis and Jacobus Veronensis He was a pupil of Raimondi and achieved distinction as an engraver on copper and, later, as a designer of medals and engraver of gems His plates, about 70 in number, are chiefly reproductions of works of the great Italian masters—Raphael, Titian, Michelangelo, and others.

Caraites see KARAITES

Caraman, Turkey see KARAMAN

Caran d'Ache (karä' dăsh'), pseud of **Emmanuel Poiré** (ĕmänüĕl' pwarä'), 1858–1909, French caricaturist and illustrator The work which best shows his humor and originality appears in *Album Caran d'Ache*, *Bric-à-brac*, and other albums

Carausius (kurô'shēus), d 293, Gallo-Roman military commander He was stationed in Gaul, but Emperor Maximian, suspecting him of conspiracies with the Germans, condemned him to death Carausius fled to Britain and established his rule there, defying attempts to conquer him Diocletian and Maximian finally (c 289) recognized him as coemperor, and he established his rule in NE Gaul as well as in Britain In 293, however, Constantius (later Constantius I) defeated him, and he was murdered by one of his own men

Caravaca (karäva'kä), city (pop 9,629), Murcia prov, SE Spain, in Murcia, on the Caravaca river It is an agricultural center and has liquor and textile manufactures The miraculous Cross of Caravaca was formerly kept in the Church of the Most Holy Cross (1617)

Caravaggio, Michelangelo Amerighi da (mēkälän'jälō ämärē'gē da karavvid'jō), or **Merighi da Caravaggio** (märē'gē da), 1565–1609, Italian painter His surname Caravaggio came from his birthplace After studies in Milan and Venice he achieved an overwhelming success as the founder of the naturalistic school in Rome, but his violent nature involved him in constant broils which forced him to flee to Naples and later to Sicily and Malta and led eventually to his early death Caravaggio abandoned the idealized types of the preceding Italian masters, emphasizing the character of his models, often taken from the lowest walks of life He was one of the earliest masters of that extreme form of chiaroscuro in which the subject is seen in violent light and shade against a dark background, a manner which he transmitted to Ribera and the Spanish school. Often somewhat brutally emphatic, he retained the traditional forms of monumental composition and achieved an art of great dramatic power Among his early genre paintings, *The Card Players* and *Gypsy Fortune Teller* are famous His large and celebrated religious compositions include *The Entombment* (Vatican), *The Supper at Emmaus* (National Gall, London), and *Martyrdom of St Sebastian* (Capitol, Rome) In the Louvre are his portrait of the grand master of the Knights of Malta and his *Death of the Virgin*

Caravaggio, Polidoro Caldara da (pōlēdō'rō käldä'rä), c 1492–1543, Italian painter His surname, Caravaggio, came from his birthplace As apprentice to Raphael he executed notable friezes in the Vatican and assisted in producing façade decorations in sgraffito for Roman palaces Today these works are known only through engravings His best-known surviving painting is the celebrated *Christ Bearing the Cross* (Naples)

caravan, group of travelers or merchants banded together and organized for mutual assistance and defense while traveling long distances through unsettled or hostile country Caravan trade is associated with the history of the Near East as far back as records of ancient civilizations extend and seems to have been well developed before sea commerce began It is evident that all trade from one fertile area to another in this region had to be organized from the first, since long distances of desert trail separated settled parts and since local governments could not guarantee protection against barbaric tribes eager to loot and pillage Caravans were always tempting because the conditions of the trade, demanding the highest value in proportion to weight, required that they be richly laden Such small but valuable wares as jewels, spices, perfumes, dyes, metals, rare woods, ivory, oils, and textiles are associated with the trade Camels were the chief beasts of burden from Egypt to Mesopotamia and throughout the Arabian peninsula They were introduced into North Africa and the Sahara region in the 3d cent A D Donkeys were used in Asia Minor Trade naturally prospered in the period of the great empires when the caravan routes could be controlled and protected, and it was to secure control of such routes that many wars were fought and conquests made in ancient times An empire provided for the establishment of caravansaries for the accommodation of travelers along the way Such improvements facilitated the movement of troops to protect the routes Cities rose and fell in ancient times in proportion to the rise and fall in the trade of the caravan routes upon which they were located Basically the trade underwent little change until challenged in modern times by the motor truck and the airplane Travelers having occasion to cross the desert spaces usually accompanied merchant caravans Since the advent of Islam, the pilgrimage of the devout to Mecca has given rise to the long pilgrim caravans which are a feature of the pilgrimage season each year The closest approach to caravan trade in the New World was the wagon-train commerce which developed over the Santa Fe Trail See Mikhail Rostovtzev, *Caravan Cities* (1932), E W Bovill, *Caravans of the Old Sahara* (1933)

caravel (kă'rŭvĕl") or **carvel** (kär'vul), sailing ship, generally square-rigged, with three masts It usually had a roundish hull with high bow and stern and was a light ship with small displacement The term "carvel-built" (see BOAT) was derived from this construction The change from bulkier ships to caravels enabled the Portuguese in the 15th cent to make much more rapid progress in opening up the African coast to the Western World Thus, the caravel was of primary importance in the era of expansion and exploration The *Santa María*, the celebrated flagship of Christopher Columbus, was a typical caravel

caraway (kăr'uwā), biennial plant (*Carum carvi*), growing in N and central Europe and Asia and cultivated in Europe and America for its aromatic seeds It has a tapering fleshy root, a branching stem 1 to 2 ft high, finely divided leaves, and close heads of white or pinkish flowers The fruits or seeds are small and ovate, with a pleasant spicy flavor, and are used as a condiment, as seasoning of cakes, sweetmeats, and some kinds of cheese and bread and as flavoring for certain liqueurs (as kummel) In medicine the volatile oil expressed from the seeds is a stimulant and a carminative

Carberry Hill, near Edinburgh, Scotland, scene of an encounter on June 15, 1567, between the troops of MARY QUEEN OF SCOTS and those of the rebel Scottish lords Mary surrendered here and remained a virtual prisoner the rest of her life

carbide, any one of a group of compounds consisting of carbon and one other element, either a metal or a nonmetal (However, a compound composed only of carbon and hydrogen is known as a HYDROCARBON and one composed only of carbon and oxygen is an OXIDE) In general, carbides are produced in the electric furnace, calcium carbide and SILICON CARBIDE, which is known commonly as carborundum, are two important examples They are formed when carbon, at the extremely high temperatures obtained, combines separately with the elements of the oxide to give the carbide and carbon monoxide Although some carbides, e g, chromium carbide and silicon carbide, are not affected by water, many are decomposed by it and yield a gas For example, calcium carbide produces acetylene and is an important commercial source of this gas Barium carbide also yields acetylene On the other hand, aluminum carbide reacts to form methane, which is used in treating certain steels Iron car-

bide is present in steel, cast iron, and some other iron alloys

Carbo, Cneius Papirius (nē'ŭs pŭpēr'ēŭs kär'bō), d 82 B C , Roman political leader. He was consul in 85 B.C , 84 B C , and 82 B C He was one of the leaders of the party of MARIUS, and after the death of Marius he and his colleague, CINNA, gathered an army to oppose SULLA in Italy in 84 B C. After the murder of Cinna, Carbo was chief commander Sulla gathered strength as he came slowly N through Italy, and much of Carbo's force deserted He was defeated at Faventia (modern Faenza) by Q. Caecilius Metellus Pius (see METELLUS, family) and fled to Africa He later crossed to Sicily, where he was captured, condemned, and executed by Pompey

carbohydrate (kärbōhī'drāt), any one of a number of organic compounds of carbon, hydrogen, and oxygen, having (in general) the hydrogen and oxygen in the same atomic ratio as in water (2 1) The carbohydrates are an important group of foods, they supply heat energy and are involved in fat production In various forms, the carbohydrates are used in industry and commerce Three main subdivisions of the group are recognized The monosaccharides include the sugars FRUCTOSE and GLUCOSE The disaccharides include LACTOSE, MALTOSE, and sucrose or cane sugar (see SUGAR) The polysaccharides are represented by such substances as CELLULOSE, DEXTRIN, GLYCOGEN, and STARCH

carbolic acid or **phenol** (fē'–), colorless (when pure), crystalline solid, melting at 41°C and boiling at 182°C , a compound of carbon, hydrogen, and the hydroxyl (OH) radical Although it resembles the alcohols in structure and forms esters with acid anhydrides, it exhibits weak ACID properties With strong alkalies, salts called phenolates are formed Carbolic acid dissolves in many organic solvents such as alcohol and ether, but in water it is only moderately soluble It is corrosive and poisonous (for antidote and treatment, see POISONING, table) In medicine it is used as an antiseptic and disinfectant In industry it is important in the production of certain artificial resins such as BAKELITE, explosives such as PICRIC ACID, and certain dyes It is prepared by the distillation of coal tar and also from wood alcohol (methyl) by oxidation Carbolic acid is the simplest member of a group of compounds called phenols which are derived from such aromatic hydrocarbons as benzene Those derived from toluene are called cresols and are used in commercial antiseptics

carboloy (kär'bŭloi) [portmanteau word from carbon and alloy], an alloy containing cobalt, tungsten, and carbon The tungsten is first combined with the carbon to form the carbide and the cobalt is then added This alloy is extremely hard, harder than steel, it is used to cut steel, porcelain, quartz, and other materials Its hardness is not affected by great heat, it retains a sharp cutting edge even at red heat

carbon, nonmetallic element (symbol=C, for physical constants, see ELEMENT, table), one of the most widely distributed and abundant of all the elements The DIAMOND and GRAPHITE are two crystalline forms (see ALLOTROPY) In the so-called amorphous carbon, such as CHARCOAL (including both the animal charcoal, or bone black, and wood charcoal), COAL, COKE, lampblack, PEAT, and LIGNITE, it is partly free and partly combined It is a constituent of all organic material (Organic chemistry is the study of carbon compounds found in natural matter and also those produced synthetically) Combined with hydrogen, the element forms the extensive class of HYDROCARBON compounds, with oxygen and hydrogen together, CARBOHYDRATE compounds Perfumes, drugs, animal and plant secretions, foods, textiles, wood, paper, and many other common things contain carbon Fuels (e.g , natural gas), marsh gas, and the gases resulting from the combustion of fuels (e g , CARBON MONOXIDE and CARBON DIOXIDE) are compounds of carbon With oxygen and a metallic element, carbon forms many important carbonates, such as calcium carbonate (limestone) and sodium carbonate (soda). It is combined with other elements singly in the carbides When carbon is added to iron, STEEL is produced Carbon electrodes are widely used in electrical apparatus The "lead" of the ordinary lead pencil is graphitic carbon The great variety of uses to which the element is put is seen in the great number and variety of its useful compounds

Carbon, Mount, peak, 14,259 ft high, W central Colo , highest summit in the Elk Mts of the Rockies It is sometimes referred to as Castle Peak

Carbonari (kärbōnä'rē) [Ital , =charcoal burners], members of a secret society which flourished in Italy, Spain, and France early in the 19th cent Possibly derived from Freemasonry, the society originated in the kingdom of Naples in the reign of Murat and drew its members from all stations of life, particularly from the army It was closely organized, with a ritual, a symbolic language, and a hierarchy Beyond advocacy of political freedom its aims were vague The Carbonari were partially responsible for uprisings in Spain (1820), Naples (1820), and Piedmont (1821) After 1830 the Italian Carbonari gradually were absorbed by the Risorgimento movement, elsewhere they disappeared.

carbonate, any one of a group of chemical compounds, either a salt of carbonic acid or, in the case of the organic carbonates, an ester of this acid The carbonate RADICAL consists of one atom of carbon and three of oxygen ($-CO_3$) Normal carbonates are formed when equivalent amounts of carbonic acid and a base react The majority are precipitated since, except for ammonium, potassium, and sodium carbonates, they are all insoluble in water This property serves as a test for carbonates as well as for carbon dioxide When heated, most carbonates decompose to yield carbon dioxide and the oxide of the metal They react also with dilute acids to form, as final products, carbon dioxide and water With carbonic acid, they turn to bicarbonates, or acid carbonates These compounds do not, however, behave as acids but are weakly alkaline, being called acid carbonates only because of their formation when an excess of carbonic acid is used Carbonates occur widely distributed in nature Some are barium carbonate, commonly called witherite, which is used for the preparation of other barium compounds, calcium carbonate, which occurs in the shells of animals and as ICELAND SPAR, LIMESTONE, and MARBLE and in commerce as whiting and putty, iron carbonate, a ferrous compound, known as SIDERITE, which is the important source of iron in England, Scotland, and Wales, and magnesium carbonate, occurring as MAGNESITE and, when combined with calcium carbonate, as DOLOMITE Potassium carbonate constitutes POTASH or pearlash Sodium carbonate, or SODA, is found in nature, but is usually prepared for commercial use by the SOLVAY PROCESS which has replaced the LEBLANC PROCESS in the United States Other carbonates are strontium carbonate and zinc carbonate, which is the ore of zinc known as smithsonite Lead carbonate in combination with lead hydroxide, the whole being known as basic lead carbonate, is the WHITE LEAD of paints, a basic carbonate of copper is the mineral MALACHITE Of the bicarbonates, calcium bicarbonate, which causes "hardness" in water and which by changing to the insoluble calcium carbonate produces the STALACTITE AND STALAGMITE formations of limestone caves, and sodium bicarbonate (baking soda or bicarbonate of soda) are especially important

Carbondale. 1 City (pop 8,550), S Ill , N of Cairo, in a coal-mining and farm area, founded 1852, inc 1869 It is a railroad division point with shops and is the seat of Southern Illinois Univ (coeducational) Giant City State Park, in the Illinois extension of the Ozarks, lies to the south **2** Industrial city (pop 19,371), NE Pa , on the Lackawanna river and c 15 mi NE of Scranton, inc 1851. Its important activities are anthracite mining and railroad tank car and glass manufactures Terence Powderly, labor leader, was born here.

carbon dioxide, colorless, almost odorless, gaseous compound of carbon and oxygen, an oxide of carbon, the molecule consisting of one atom of carbon and two atoms of oxygen Carbon dioxide is one and one-half times heavier than air, it neither burns nor supports combustion, is soluble in water volume for volume, and can be liquefied without difficulty under pressure (critical temperature= 31 1°C) Because its aqueous solution exhibits weak acid properties (CARBONIC ACID), the gas is often known in commerce as carbonic acid gas DRY ICE, called also carbon dioxide snow, is carbon dioxide in the solid, or "frozen" state The chokedamp (see DAMP) of mines, pits, or old, unused wells (as well as afterdamp) is largely this gas Carbon dioxide occurs free in nature It is a constituent of the ATMOSPHERE, being usually more abundant in the air of cities than in that of the country It results from the combustion of carbon or carbonaceous materials such as coal, wood, and fuel oil The hydrocarbons, used widely as fuels, burn in air, yielding carbon dioxide and water. Carbon dioxide is produced also when a CARBONATE is decomposed by heat or acids The gas is a product of respiration in animals and plants, and it is given off in some other processes such as alcoholic FERMENTATION brought about by the action of yeast It is used by green plants in PHOTOSYNTHESIS In various parts of the world, as in Italy, Java, and the Yellowstone National Park in the United States, it is formed in the ground and issues from fissures Dissolved in water under pressure, it gives the "sparkle," or effervescence, to natural mineral waters, such as Vichy water When the pressure is released, the excess gas collects in bubbles and passes upward through the water. The same condition obtains in the common "charged" water of the soda fountain. Carbon dioxide finds varied use. Formed by the action of yeast or BAKING POWDER, it causes the rising of bread dough Certain fire extinguishers depend for their effectiveness upon the production of carbon dioxide, which is expelled from a nozzle and, settling upon the flame, smothers it In one kind of apparatus, the gas is produced by the action of an acid, e.g., sulphuric, upon a carbonate, the two being brought into contact by inverting the extinguisher Another method produces a foam in which bubbles of carbon dioxide gas are caught and held to prevent diffusion. The gas is used in the SOLVAY PROCESS for the preparation of sodium bicarbonate. The standard test for carbon dioxide is given in its action with limewater (calcium hydroxide) which, in its presence, becomes cloudy, because of the formation of an insoluble carbonate

Carbonear (kärbŭnēr'), town (1945 pop. 3,468), E N F , on the west coast of Conception Bay, W of St. John's. It is the commercial center of the region In 1762 the town was captured by the French, it was later recaptured by the English.

Carbon Hill, city (pop 2,555), NW Ala , NW of Birmingham, in a coal area, inc 1891.

carbonic acid, weak acid known only in solution, formed when carbon dioxide is dissolved in water Its molecule is composed of two atoms of hydrogen and the carbonate radical, which consists of an atom of carbon and three of oxygen ($-CO_3$), the salts of this acid (see CARBONATE) contain this radical Carbonic acid contributes the sharp taste to a carbonated beverage.

carbonic acid gas. see CARBON DIOXIDE

Carboniferous period (kärbŭnĭ'fŭrŭs) [Latin,=coal making], fifth period of the PALEOZOIC ERA of geologic time The Carboniferous period saw the formation of the greater part of the world's supply of COAL and the beginning of a succession of changes in the earth's surface which, continuing into the PERMIAN PERIOD, were to bring the Paleozoic to a close The events of the Carboniferous fall naturally into two divisions; in America the break in sequence is so sharp that each division is considered by most geologists as an independent period In the Lower Carboniferous or Mississippian period, the interior of North America was several times submerged by shallow seas, and the interior formations are limestone, shale, and sandstone In the Appalachian region, especially in Pennsylvania, great deposits of sandstone and shale were laid down by the erosion of sand and gravel from the eastern coastal highlands In the Far West the Rocky Mt region was covered by a flood which deposited the Madison limestone and the Redwall limestone of the Grand Canyon The Lower Carboniferous in Europe, as in America, was a period of submergence In the British Isles and adjacent areas the mountain limestone was formed, E of the Rhine, the culm shale, sandstone, and conglomerate, in Russia, the Coal Measures characteristic of the Upper Carboniferous in Western Europe and in North America The close of the Lower Carboniferous was marked by mountain making in New Brunswick, Nova Scotia, the southern Appalachian region, the SW United States, and Europe The Lower Carboniferous was a time of great volcanic activity. In the Upper Carboniferous or Pennsylvanian period, there was at least one great flood, the sea level, however, oscillated, and conditions were favorable to the formation of great marshes in which grew extensive vegetation, later to be transformed by chemical action into coal The early Pennsylvanian in the E United States saw the formation of great deltas of sediments, now represented by the Pottsville conglomerate In Kansas, Nebraska, Arkansas, and Texas, the Pennsylvanian flood deposited chiefly shale and sandstone, with coal, over the Cordilleran region, marine limestone, with little coal, on the Pacific coast from California to Alaska, limestone and shale The Carboniferous coal fields of North America are as follows the anthracite field of E Pennsylvania, the Appalachian field, from Pennsylvania to Alabama, the Michigan field, the eastern interior field of Indiana, Illinois, Kentucky, the western interior and southwestern field, stretching from Iowa to Texas, the Rhode Island field, and the Acadian field of SE Canada In the Upper Carboniferous of Western Europe, the Millstone Grit, equivalent to the Pottsville conglomerate, is followed by the Coal Measures, which include the Welsh, English, Belgian, Westphalian, and Saar Basin fields In the Mediterranean region and in Russia, the Upper Carboniferous resembles that of W North America The Upper Carboniferous was a period of marked earth disturbances In Europe the Paleozoic Alps were thrust up, in Asia, the Altai and Tien Shan, in North America, the Arbuckle and Wichita mts and the ancestral southern Rockies. The plant life of the Carboniferous was extensive and luxuriant, especially in the Pennsylvanian It included fern and fernlike trees, giant horsetails, called calamites, club mosses or lycopods, such as LEPIDODENDRON and SIGILLARIA, seed ferns, and cordaites or primitive conifers Land animals included primitive amphibians, reptiles (which first appeared in the Upper Carboniferous), spiders, thousand-legs, land snails, scorpions, enormous dragonflies, and over 800 kinds of cockroaches The land waters were inhabited by fishes, clams, and various crustaceans, the oceans by mollusks, crinoids, sea urchins, and one-celled limemaking Foraminifera.

carbonite see COKE

carbon monoxide, poisonous, colorless, odorless, tasteless, gaseous compound of carbon and oxygen. It is an oxide of carbon, the molecule consisting of one atom of carbon and one of oxygen. Carbon

monoxide is lighter than air, is practically insoluble in water, and, under normal pressure, liquefies at −190°C and solidifies at −207°C. It burns in air with a characteristic blue flame, forming carbon dioxide. It is used as a fuel, being a constituent of both PRODUCER GAS and WATER GAS Carbon monoxide is an unstable compound combining readily with oxygen to form carbon dioxide It removes oxygen from many compounds and is used consequently in industry as a reducing agent in obtaining certain metals, such as iron (see BLAST FURNACE), from their ores The gas is formed by the combustion of carbon or carbonaceous substances in an insufficient supply of air (incomplete combustion). It is present in the exhaust of gasoline engines (as in automobiles), is a constituent of illuminating gas, and is generated in ordinary coal stoves and furnaces when there is insufficient air owing to faulty draft Its common occurrence and its poisonous properties—it is fatal to man in even extremely small quantities—make it dangerous, especially since its presence cannot easily be detected Poisoning may occur from the exhaust fumes of an automobile or other fuel engine running in a closed room or from coal gas released by a furnace Carbon monoxide when inhaled combines with the red coloring matter (hemoglobin) of the blood and prevents it from taking up and distributing oxygen The nervous system is quickly affected, causing paralysis, a failure of the respiratory apparatus, and sickness or death Providing fresh air and performing artificial respiration are first-aid measures

Carborundum. see SILICON CARBIDE

carbuncle, in geology see GARNET

carbuncle (kär'bŭng-kul), in medicine, inflammatory skin reaction to invading bacteria, usually *Staphylococcus aureus* Carbuncles may become extremely dangerous, especially in individuals suffering from diabetes and nephritis Early treatment, employing incision and drainage, is indicated Antiseptic solutions, e g , Dakin's solution, are employed to aid in the separation of sloughs

carburetor (kär'byurātur) **1** An essential part of a gasoline engine, a device in which liquid fuel is converted into a vapor and mixed with a regulated amount of air for combustion in the cylinders The earlier surface type of carburetor, in which air is led across the surface of oil in a chamber, has been superseded by the spray type In this carburetor there are two chambers, the float chamber and the mixing chamber The gasoline enters the float chamber through a needle valve which opens and closes as a float rises and falls with the level of the liquid The gasoline passes from the float chamber through a tube and is sprayed into the mixing chamber Here it is vaporized upon being mixed with air drawn into the chamber through another opening The mixture of gasoline vapor and air then passes over the throttle —a valve which is regulated by the accelerator of the automobile and controls the amount of explosive mixture leaving the carburetor—and into the intake manifold of the cylinders (see INTERNAL-COMBUSTION ENGINE) **2** Another type of carburetor is used to enrich coal gas and water gas It varies in size from 4 to 11 ft in diameter and from 14 to 18 ft in height and is lined with brick In it oil or other mixtures of hydrocarbons are mixed with the gas until the desired richness is obtained The illuminating power of the gas is increased by this carburetion

Carcas (kär'kŭs), king's chamberlain Esther 1 10

Carcassonne (kärkasôn'), city (pop 31,752), capital of Aude dept , S France, in Languedoc It is one of the architectural marvels of Europe The old city, atop a hill and divided from the new city by the Aude river, is a medieval walled city, entirely restored by VIOLLET-LE-DUC A stronghold of the ALBIGENSES, it was taken by Simon de Montfort in 1209 The "new city," a trade center manufacturing clothes, was founded in the 13th cent

Carchemish (kär'kĭmĭsh, kärkē'mĭsh), city of ancient Syria, NE of the modern Alep It was the great southern city of the Hittites before it was taken (early 15th cent. B C) by the Egyptians, who held it for some time It may possibly have succeeded Boghaskeui as Hittite capital, and after the fall of the Hittite state, Carchemish became the head of one of the successor states and was prominent from the late 12th cent through the 9th cent B C. It was absorbed by the Assyrian Empire, but Carchemish continued important as a trade center Here in 605 B.C , Nebuchadnezzar defeated Necho 2 Chron 35 20, Jer 46 2, Isa 10 9. The name also appears as Charchemish

carcinoma: see CANCER

cardamom (kär'dŭmŏm"), plant (*Elettaria cardamomum*) native to India and Ceylon, having a seed with a strong, spicy, and aromatic odor due to the constituents of an essential oil which it contains These seeds, when ground, are used extensively in the East for spices and curries and are also often chewed with betel nuts. In Europe they are sometimes used in place of cinnamon or as condiments A tincture is used in medicine to relieve flatulence and as a stimulant. Minute quantities are sometimes mixed in eau de Cologne.

Cardamom Hills, range, Travancore-Cochin, India, named from the cardamom growing on its slopes Tea is the chief product.

Cardano, Geronimo (jārō'nēmō kärdä'nō), 1501–76, Italian physician, mathematician, and astrologer His works in mathematics include treatises on arithmetic and algebra He also wrote the encyclopedic *De subtilitate rerum* (1550) and *De rerum varietate* (1557) and the autobiographical *De propria vita* (1575, Eng tr , 1930) See study by Henry Morley (1854)

Cárdenas, García López de (gärthä'ē lō'pĕth dā kär'dänäs), fl 1540, Spanish explorer in the Southwest A member of the 1540 expedition, he was selected by Francisco Vásques de CORONADO to lead a party from Cibola (the Zuni country in New Mexico) to find the river of which the Indians had spoken After 20 days' march they came upon (1540) the GRAND CANYON of the Colorado and were the first white men to see it A few months earlier Hernando de ALARCÓN had discovered the lower river They then returned to Coronado Later he is said to have returned to Spain

Cárdenas, Lázaro (lä'särō kär'dänäs), 1895–, president of Mexico (1934–40) He joined the revolutionary forces in 1913 and rose to become a general He was governor (1928–32) of his native state, Michoacán, and held other political posts before he was, with the support of Plutarco E CALLES, elected president Cárdenas, in a test of political strength in 1935, forced Calles into exile and organized a vigorous campaign of reform based on the constitution of 1917 Large land holdings were broken up and distributed on the EJIDO system to small farmers, many foreign-owned properties were expropriated, and modernization of Mexico was begun Himself a mestizo, he won the love of the Indians and was a hero of the Mexican working classes He relinquished his office at the end of his term—thus acting in consonance with his desire for democratic and orderly constitutional processes and thus paving the way for his successors, Manuel ÁVILA CAMACHO and Miguel ALEMÁN Cárdenas was recalled to public service as minister of national defense (1942–45)

Cárdenas, city (pop 37,059), W Cuba, a port on Cárdenas Bay It processes and exports sugar and sisal and has a fishing fleet The old city has relics of its colonial past Narciso López landed here on his filibustering expedition of 1850

Cardiff (kär'dĭf), county borough (1931 pop 223,589, 1947 estimated pop 234,580) and city, co seat of Glamorganshire, Wales, on the Taff 2 mi from its mouth on Bristol Channel One of the greatest coal-shipping ports in the world, Cardiff has grown largely since the construction of docks by the 2d marquess of Bute in 1839 There are now more than 5 mi of quays, the port of Cardiff includes the docks at Penarth and Barry Rail connections with the interior (especially the coal fields) are excellent, and there is a canal to Merthyr Tydfil, with a branch to Aberdare Besides the export of immense quantities of coal, Cardiff has important ironworks and steelworks, flour mills, and a fishing industry Cardiff Castle, now the residence of the marquess of Bute, was built in 1090 on the site of a Roman fort—Cardiff's strategic situation was early of importance Robert II, duke of Normandy, was imprisoned (1108–34) in the castle Owen Glendower partly destroyed it in 1404 In Cathays Park the group of public buildings includes the Welsh National Museum, the law courts, the city hall, the University College of South Wales and Monmouthshire (one of the four constituent colleges of the Univ of Wales), and Glamorgan county hall The parish church of St John dates partly from the 13th and partly from the 15th cent The city and suburbs suffered damage in concentrated air raids in 1941 See A M Thompson, *Cardiff* (1930)

Cardigan, James Thomas Brudenell, 7th **earl of** (kär'dĭgun), 1797–1868, British general In the Crimean War he led the disastrous cavalry charge at Balaklava (1854) which Tennyson immortalized in *The Charge of the Light Brigade* The charge was made on a misunderstood order, and the brigade was destroyed Quarrels with his officers showed him a vain and contentious man The cardigan jacket was named for him

Cardigan (kär'dĭgun), municipal borough (pop 3,069), county town of Cardiganshire, Wales, on the Teifi river near its mouth on Cardigan Bay There are ruins of a castle Farm machinery is manufactured

Cardiganshire or **Cardigan,** maritime county (677 sq mi , 1931 pop 55,184, 1948 estimated pop 53,632), SW Wales, on Cardigan Bay, off St George's Channel. The county town is Cardigan, but Aberystwyth is of greater importance The region is largely one of pleasant, rolling hills, with fertile valleys and a narrow coastal plain The chief rivers are the Teifi and the Ystwyth The principal industries are agriculture (notably cattle raising), lead mining, and some manufacture of woolen articles The county long resisted English influence, and the Welsh language and Welsh customs are preserved here to a large degree. The modern boundaries were established in 1536.

Cardinal, village (pop 1,645, S Ont , on the St Lawrence at the foot of the Galops rapids and S of Ottawa.

cardinal [Latin, =belonging to the hinge], in the Roman Catholic Church, a member of the highest body of the Church below the pope This, the sacred college of cardinals of the Holy Roman Church, is the electoral college of the PAPACY Its members are appointed by the pope to a maximum of 70, a number rarely attained There are three classes Cardinal bishops (maximum now 6) are the bishops of seven sees around Rome (Ostia, Velletri, Porto and Santa Rufina, Albano, Frascati, Palestrina, and Sabina), the first of these in order of creation is dean of the college and ex officio bishop of Ostia in addition to his other see Cardinal priests (maximum now 50) are mostly archbishops outside the Roman province, the title "cardinal archbishop"—often applied to these men—simply represents the union of the two dignities in one man Cardinal deacons (maximum now 14) are priests with functions in the papal government Cardinal priests and cardinal deacons have titles corresponding to churches of the Roman diocese A cardinal's insignia resemble those of a bishop, except for the characteristic red, broad-brimmed, tasseled hat which is conferred by the pope but not subsequently worn Cardinals are styled "Eminence" Apart from papal elections, the cardinals have great importance as the privy council of the pope Hence those who are not bishops away from Rome must live at Rome They meet with the pope in consistories, public and secret, but most of the business they transact is done in their various jurisdictional capacities Thus the cardinals in residence at Rome make up a cabinet for the pope, directing the work of the Curia Romana, as the papal administration is called This is made up of standing committees and courts, the departments of administration divided among them Since there is no division of powers in the headship of the Church, most organs of the Curia have power to judge, to command, and to legislate The acts of these bodies are validated by papal approbation, and they therefore bind Roman Catholics as direct pontifical acts Only the pope himself can speak finally in matters of faith and morals (see INFALLIBILITY) The Curia may be divided into Roman congregations, Roman tribunals, curial offices, and secretariats A Roman congregation consists of a group of cardinals, headed by a prefect, together with two staffs which transact most of the business—the *congresso* of major officials and a staff of minor officials chosen by competitive examination and assigned to less important affairs The congregation proper, i e , the cardinals, makes all major decisions The following are the Roman congregations (founded by Sixtus V in 1588 and reorganized by Pius X in 1908) Congregation of the Holy Office (see INQUISITION **3**), of which the pope is prefect, Congregation of the Consistory, of which the pope is prefect, for the preparation of agenda for consistories and the regulation of dioceses of the Western Church not under the Propaganda, Congregation of the Sacraments, for legislation on administration of the sacraments and for dispensations concerning them, Congregation of the Council, for the regulation of councils and of benefices, properties, and the like, for dispensations from the commandments of the Church, and for the maintenance of the shrine of Loreto; Congregation of Religious, for all concerns of all seculars and regulars, of both sexes, Congregation for the Propagation of the Faith (the Propaganda), for all concerns of the MISSIONS of the Latin rite, Congregation of the Eastern Church, for all concerns of the Oriental rites in communion with the pope and of every person involved, except for the Russian Catholics, who are under a separate commission, Congregation of Sacred Rites, for all public worship of the Latin rite, for canonizations, liturgical books, and the like, Congregation of the Ceremonial, for liturgical ceremonies involving the pope and the sacred college, Congregation for Extraordinary Ecclesiastical Affairs, virtually a board of assistants to the secretariat of state, Congregation of Studies, for the administration of education, of seminaries, and of ecclesiastical research, Congregation of the Fabric, for the maintenance of St Peter's Church Of the Roman congregations, the two whose influence is felt most deeply throughout the Church are probably the Holy Office and the Propaganda The Roman tribunals are three secret courts, the highest of the Church, each is headed by a cardinal, and its work is handled by trained canonists They are the Apostolic Penitentiaria, for all cases of conscience appealed by any Catholic to the pope and for the regulation of indulgences, the Apostolic Signatura, the court of final appeal of the Church, considering only cases involving the members of, or appealed from, the Rota, the Sacred Roman Rota, the court of appeal from diocesan courts and the lower court of Vatican City, hearing all cases requiring trial and evidence, except cases of conscience, cases of canonization, and cases involving sovereigns of states (reserved to the pope in person) The curial offices are now to a large extent unimportant and honorary. They are the Apostolic Chancery, to issue

bulls of foundations and the like, the Apostolic Datarıa, to handle matter concerning candidates for papal benefices, pensions, and the like, the Apostolic Camera, headed by the chamberlain of the Holy Roman Church, to administer the property (except revenue) of the Holy See, notably in the vacancy of the papal see The secretariats are the secretariat of state, headed by the cardinal secretary of state, who has charge of all matters involving relations with political governments and has for his aid a large staff and the Congregation of Extraordinary Ecclesiastical Affairs, and the secretariat of briefs, in charge of the official Latin correspondence of the pope Besides these permanent departments there are always some special commissions of cardinals, e g , for the Russian Church, for the revision of the Vulgate, for biblical study, and for sacred art The term *cardinal* was formerly applied to important clergymen of all sorts and countries, but in the Middle Ages it was officially restricted to the Roman province The college of cardinals is the modern derivative of the advisory board of clergymen of the diocese of Rome, used by the pope for advice and transaction of detail, similar advisory boards have always been used by bishops This papal council long consisted of the pastors of the Roman churches and of the deacons (overseers of the poor) of the various districts of the city The local functioning of the cardinals is recalled by the titles of the cardinal priests and cardinal deacons The decisive event in fixing the number and organization of the college was the act of Nicholas II in 1059, restricting to the cardinals alone the right to elect the pope (see PAPAL ELECTION) This necessitated the determination of rules, qualifications for membership, and close organization of the group The numbers and duties of the cardinals have varied greatly since then, the most important recent legislation is the fixing by Sixtus V of the full complement at 70 See Michael Williams and Julia Kernan, *The Catholic Church in Action* (1934), for a non-Catholic point of view, George Seldes, *The Vatican* (1934)

cardinal or **redbird**, North American songbird of the FINCH family The eastern cardinal has the most northerly range, from the Gulf Coast to New York and west to Iowa. The male is a bright scarlet, with black throat and face, the female is brown with patches of red Both sexes have stout, conical red bills, and crested heads The song is rich and melodious Other cardinals—the Arizona, the gray-tailed, the Louisiana, and the San Lucas—frequent the S United States and Mexico

cardinal flower see LOBELIA

carding, process by which fibers are opened, cleaned, and straightened preparatory to spinning The fingers were first used, then a tool of wood or bone shaped like a hand, then two flat pieces of wood (cards) covered with skin set with thorns or teeth Primitive cards, rubber covered and toothed with bent wires, are still employed by Navaho women Modern carding dates from the use of revolving cylinders patented in 1748 by Lewis Paul A mechanical apron feed was devised in 1772, and Richard Arkwright added a funnel which contracted the carded fiber into a continuous sliver See COMBING

Cardington, village (pop 1,304), central Ohio, SE of Marion; founded 1822

Cardozo, Benjamin Nathan (kärdō'zō), 1870–1938, American jurist, Associate Justice of the U S Supreme Court (1932–38), b New York city, grad Columbia (B A , 1889, M A , 1890) He was admitted to the bar (1891) and practiced law until he was elected (1913) to the New York supreme court on the Fusion ticket Cardozo was appointed (1914) to the court of appeals, was elected (1914) for a 14-year term, and in 1916 was elected chief justice of the court He was prominent in the efforts of the American Law Institute to restate and simplify the law, and he advocated a permanent agency to function between the courts and legislatures to aid in framing effective legislation He was active in a number of Jewish movements He was appointed by President Hoover to the Supreme Court to succeed Oliver Wendell Holmes Cardozo's approach to law was from the view of its effects on society rather than from hair-splitting logic. His books, *The Nature of the Judicial Process* (1921), *The Growth of Law* (1924), and *The Paradoxes of Legal Science* (1928), dynamically analyse the fundamentals in legal philosophy and practice See Beryl H Levy, ed , *Cardozo and Frontiers of Legal Thinking* (1938), biographies by J P Pollard (1935) and G S Hellman (1940)

cards, playing: see PLAYING CARDS

Cardston, town (pop 2,334), SW Alta , SW of Lethbridge and near the U S boundary It was established in the middle of the 19th cent by Mormons from Utah under the leadership of Charles Ora Card, son-in-law of Brigham Young The chief Mormon temple of Canada is here There are coal mines and stone quarries in the vicinity

Carducci or **Carducho, Bartolomeo** (bärtōlōmā'ō kärdōōt'chē, kärdōō'kō), 1560–1608, Italian painter, sculptor, and architect in Spain He studied with Federigo Zuccaro, whom he accompanied to the court of Madrid He assisted Tibaldi in decorating the library ceiling of the Escorial and executed some of the cloister frescoes. His masterpiece, *Descent from the Cross*, is in San Felipe el Real, Madrid His brother **Vincenzo Carducci** (vēnchän'tsō), c 1578–1633, succeeded him as court painter to Philip III In Madrid are his 54 paintings of the *Life of St Bruno* (National Mus) and his scenes from the *Life of the Virgin* (Prado). He is the author of the famous *Dialogos de las excelencias de la pintura* (1633)

Carducci, Giosuè (jōsōō'ā'), 1835–1907, Italian poet He was professor of literature at the Univ of Bologna from 1860 to 1904 He was a scholar, an editor, an orator, a critic, and a patriot, although his defection from republicanism brought him into disfavor even with his students He was awarded the 1906 Nobel Prize in Literature Carducci ranks with the greatest Italian poets, his verse is classic in design, with a deep and wide range of emotion His chief works include *Rime* (1857), *Inno a Satano* (hymn to Satan) (1865), *Decennali* (1971), *Nuove poesie* (1873), *Odi barbari* (1877, 1882, 1889), and *Rime nuove* (1889, Eng tr , *New Rhymes*, 1916) For translations, see G L Bickersteth, *Carducci a Selection of His Poems* (1913), Lorna de' Lucchi, *An Anthology of Italian Poems* (1922), Maud Holland, *Poems by Giosuè Carducci* (1927) For biography and criticism, see Orlo Williams, *Giosuè Carducci* (1914), R S Phelps, *Italian Silhouettes* (1924), John Bailey, *Carducci* (1926)

Carducho, Bartolomeo. see CARDUCCI, BARTOLOMEO

Cardwell, Edward Cardwell, Viscount, 1813–86, British statesman He entered Parliament as a supporter of Robert Peel (1842), under whom he was secretary of the treasury (1845) and president of the Board of Trade (1852–55) Under Palmerston he was Irish secretary (1859–61) and chancellor of the duchy of Lancaster (1861–64), while colonial secretary (1864–66) he worked toward federation in Canada As war secretary (1868–74) under Gladstone, he reformed the British army, abolishing the purchase of commissions, shortening the term of enlistment, and creating a reserve.

Careah (kâr'ē'ù), variant of KAREAH

Carême, Marie Antoine (mȧrē' ätwan' karĕm'), 1784–1833, celebrated French cook and gastronomist He was chef of Talleyrand, Tsar Alexander I, George IV, and Baron Rothschild His writings on the culinary art include *La Cuisine française* (1833)

Carew, George, Baron Carew of Clopton and earl of Totnes (kurōō', klŏp'tun, tŏt'nĭs), 1555-1629, English statesman Variously a military and naval officer in Ireland and diplomat for Queen Elizabeth, he was (1600) as lord president of Munster a great aid to the lord lieutenant, Lord Montjoy, in defeating Hugh O'Neill, earl of Tyrone Under James I, Carew was unable to save his friend, Sir Walter Ralegh, but himself received honors, including his earldom in 1626 An antiquarian, he collected material on the history of Ireland, used later by his secretary, Sir Thomas Stafford, to prepare the important *Pacata Hibernia, or, A History of the Late Wars in Ireland* (1633).

Carew, Thomas (kurōō'), 1595?–1639?, English poet He was educated at Merton College, Oxford, and after a short diplomatic career on the Continent, he returned to England and became a favorite of Charles I and a court official Ben Jonson was his friend, and John Donne's works greatly influenced Carew's writings His masque, *Coelum Britannicum* (1634), his "Elegy on the Death of Dr Donne," and even the daring and finely wrought love poem, "A Rapture," are not so well known as his courtly, amorous lyrics, such as "Ask me no more where Jove bestows" and "He that loves a rosy cheek " The most consciously artistic of the CAVALIER POETS, Carew has a permanent place in the history of English poetry

Carey, Henry, c 1690–1743, English poet and musician He was a writer of burlesques and farces, and his most successful production was *Chrononhotonthologos* (1734), which he characterized as "the most tragical tragedy that was ever tragedized " *The Dragon of Wantley* (1737), a comic opera, was also successful, but Carey is most familiar as the author of the words and music of *Sally in Our Alley*

Carey, Henry Charles, 1793–1879, American economist, son of Mathew CAREY In 1835 he retired from publishing, where he had done notable work, to devote himself to economics His *Principles of Political Economy* (3 vols , 1837–40) and *Principles of Social Science* (3 vols , 1858–59) were among the first important American works in the field Carey opposed the dominant English political economy of the day, particularly the "pessimism" of Ricardo and Malthus, and led in the theoretical development of American economic nationalism He advocated the protective tariff but believed generally in laissez faire See study by A D H Kaplan (1931)

Carey, Joseph Maull, 1845–1924, American legislator, b Milton, Del , grad Univ of Pennsylvania (LL.B , 1864) Admitted (1867) to the bar, Carey practiced law in Philadelphia and after he removed (1869) to Wyoming became a cattleman and real-estate agent He served as U S. attorney (1869–71) of Wyoming Territory and as mayor (1881–85) of Cheyenne before he was (1885–90) territorial delegate to the U.S Congress. He promoted extensive irrigation projects in Wyoming, and as Republican Senator (1890–95) from the newly created state, he was author of the CAREY LAND ACT He then resumed law practice and in 1910 was elected governor of Wyoming. He was influential in the Progressive movement in 1912 His son, **Robert Davis Carey,** 1878–1937, b Cheyenne, Wyo , grad Yale, 1900, was governor (1919–23) of Wyoming and served (1930–36) in the U S Senate.

Carey, Lucius see FALKLAND, LUCIUS CARY, 2D VISCOUNT.

Carey, Mathew, 1760–1839, American publisher, bookseller, and economist, b. Dublin After spending a month in Newgate prison for his attacks on Parliament in his Dublin journal, Carey emigrated to Philadelphia in 1784 There a gift from Lafayette enabled him to establish (1785) the *Pennsylvania Herald* From Jan , 1787, to Dec , 1792, he edited and published the *American Museum*, making it the leading American magazine of the period Carey began his career as bookseller and publisher on a large scale c 1790 Through his publication of many American authors and through his wide distribution of books, he stimulated the growth of American letters Although many of his own political pamphlets were controversial, the most famous, *The Olive Branch* (1814), was written during the War of 1812 in an effort to unite the Republican and Federalist parties in support of the war His copious writings advocating the American protective system were influential and are valuable documents in American economic history The economist Henry Charles CAREY was his son See E L. Bradsher, *Mathew Carey* (1912)

Carey, Robert Davis see CAREY, JOSEPH MAULL.

Carey, William, 1761–1834, English Baptist missionary and Orientalist, one of the first Protestant missionaries to India He helped found the Baptist Missionary Society in 1792 and shortly thereafter went to India Carey did most of the work in publishing the Bible in many Indian vernaculars, he wrote grammars of the vernaculars and several dictionaries He became a professor of Sanskrit at Fort William College, Calcutta See biography by S P Carey (8th ed , revised, 1934)

Carey, village (pop 2,984), NW Ohio, near Upper Sandusky, platted 1843, inc 1858 It is a trade and shipping center for a truck-farming area Chemicals and rubber products are made The Shrine of Our Lady of Consolation is in the village.

Carey Land Act, written by Sen Joseph M CAREY and passed by the U S Congress in 1894 The act provided for the donation of U S -owned desert lands to Western states on condition they be irrigated Settlers were permitted to buy up to 160 acres of this land at 50 cents an acre plus the cost of water rights

Cargill, Donald (kär'gĭl), 1619?–1681, Scottish Covenanter He was a minister in Glasgow from c 1655 to 1662, when he was expelled for denouncing the Restoration and resisting the establishment of the episcopacy in Scotland After escaping wounded from the battle of Bothwell Bridge (1679), he joined Richard Cameron in the Sanquhar Declaration (1680) against Charles II Cargill, having excommunicated the king, the duke of York, and others, was arrested and executed

Caria (kā'rēu), ancient region of SW Asia Minor, S of the Maeander river (the modern Menderes), which separated it from Lydia The territory is in present SW Asiatic Turkey Native princes governed a thriving state from their capital at Halicarnassus until Caria was absorbed in the growth of Lydia and was later taken by the Persian Empire The relations with the Ionian Greeks were strong, for Caria had both Dorian and Ionian colonies Cnidus, Caunus, and Miletus were in the region, and Caria was a center of the Ionian revolt which in the early 5th cent B C was a prelude to the Persian Wars Some of the communities joined the Delian League In the 4th cent the region was again united under a dynasty of princes, of whom the most celebrated was Mausolus Alexander the Great conquered the region, which changed hands often in the wars after his death It was made a Roman province (part of the province of Asia) in 125 B C

Carías Andino, Tiburcio (tēbōōr'syō kärē'as ändē'nō), 1876–, president of Honduras (1933–48). The national congress twice extended his term, and he ruled as a strong-handed dictator Some improvements were made in communication and education, and holdings by foreign companies increased In 1948 Carías Andino announced his intention of retiring In the elections that autumn —widely denounced by the opponents of the government—the government-backed candidate, Juan Manuel Gálves, won He took office on Jan. 1, 1949.

Caribbean Sea (kă"rĭbē'ăn, kŭrl' bēun), part of the Atlantic Ocean It is closed on the west and the south by Central America and N South America and marked off on the north and east from the Gulf of Mexico and the Atlantic proper by the Yucatan peninsula of Mexico and the chain of islands of the West Indies.

Caribbees (kă'rĭbēz), name sometimes applied to the islands of the Caribbean or even to all the West Indies More specifically the Caribbees are the Lesser Antilles and include the LEEWARD ISLANDS, the WINDWARD ISLANDS, and the VIRGIN ISLANDS

Carib Indians (kă'rĭb), native people formerly inhabiting the Lesser Antilles, West Indies They seem to have overrun the Lesser Antilles and to have driven out the ARAWAK about a century before the arrival of Columbus The original name, Calinago or Caino, was corrupted by Columbus to Caribales and is the origin of the English word *cannibal* Extremely warlike and ferocious, they practiced cannibalism and took pride in scarification and fasting Fishing, agriculture, and basket-making were the chief domestic activities, they were expert sailors in their pirogues and small canoes. After European colonization began in the 17th cent, they were all but exterminated A group remaining on St Vincent mingled with Negro slaves who escaped from a shipwreck in 1675 This group was transferred (1795) by the British to Roatán island off the coast of Honduras They have gradually migrated north along the coast into Guatemala A few Caribs survive in a reservation on Dominica The Carib, or Cariban, languages are a separate family They have spread since the arrival of the Spanish and are found in N Honduras, British Honduras, and N South America In the past they extended even to Florida. The languages are thought to have begun expansion from a region between the Xingú and Tapajós rivers in Brazil In their spreading the Cariban languages seem to have been accompanied by Arawakan languages, which are an unrelated stock

Cariboo Mountains (kă'rĭbōō), range, 200 mi long, E British Columbia Its axis is northwest-southeast, roughly parallel with the main Rocky Mt range to the northeast, from which it is separated by the Rocky Mt trench, here occupied by the Fraser river It reaches its greatest altitude probably in Mt Titan (c 11,750 ft) In the foothills to the westward is the Cariboo dist, scene of the famous Cariboo gold rush of 1860 Many camps sprang up in the region and in the next six years about $20,000,000 in gold was taken out, but afterwards the diggings declined Many stayed on in the region, and today there are several thousand who make their living by a combination of mining, hunting, and farming The Cariboo wagon road, built (1862–65) by the government, facilitated the settlement of the interior of the province It started from Yale on the Fraser, at the head of navigation, and ended in the Cariboo dist nearly 400 mi to the north See Agnes Laut, *The Cariboo Trail* (1916)

Caribou (kă'rĭbōō), town (pop 8,218), NE Maine, on the Aroostook and N of Presque Isle, inc 1859 It is a port of entry for planes, a center for winter sports, and the shipping point of a potato-growing region There are minor manufactures

caribou (kă'rĭbōō), name in America for a mammal of the deer family found in arctic and subarctic regions It belongs to the genus (*Rangifer*) of the Old World REINDEER, the only genus in which both sexes of some forms have antlers The broad hoofs support the animal on boggy land or snow and have sharp edges which enable it to traverse rocks and frozen or slushy surfaces In North America there are two main types, the barren-ground caribou of Alaska and N Canada, which are the most migratory, and the larger woodland caribou found in coniferous forests and in bogs from Newfoundland to British Columbia

caricature, an exaggerated or satirical drawing, plastic representation or description which makes its subject appear ridiculous It is probably as old as art Modern caricature in drawing goes back to the 16th cent when Holbein, Breughel, Bosch, and the school of the Carracci were notable exponents of the art It was expanded to include political and social, as well as personal, satire, and its tradition was continued by such masters as Callot, Hogarth, Rowlandson, Goya, Daumier, Gillray, and Cruikshank The first American caricaturist of note, William Charles, lampooned England in 1812 The next, Thomas Nast, pilloried Tammany and the Tweed Ring, inventing the symbols of the tiger and the donkey which persist to this day Periodicals of caricature, such as *Charivari* (which appeared in France in 1832), were followed by *Punch* in England and *Puck*, *Life*, and *Judge* in the United States Boardman Robinson, Art Young, Rollin Kirby, J N (Ding) Darling, Daniel Fitzpatrick, John T McCutcheon, and others have developed caricature in the American daily press, while James Thurber, Peter Arno, William Steig, and others have enlivened the pages of the *New Yorker* See also CARTOON

Carignan-Salières regiment (karēnyă-salyĕr'), French regiment, the largest body of troops ever sent to New France The regiment, which arrived in Canada in 1665, was over 1,000 strong and had a distinguished record, it was charged with the task of rendering the lower St. Lawrence valley safe from Indian raids With its mission completed, it was ordered back to France several years later, but about half its members, persuaded by offers of land, remained as settlers near Montreal

carillon, in music see BELL

Carillon, Fort: see TICONDEROGA

Carinthia (kurĭn'thēŭ), Ger *Kärnten* (kĕrn'tun), autonomous province or *Bundesland* (3,681 sq mi, pop 482,886), S Austria In the north, at the Tyrol frontier, rises the highest point in Austria, the Grossglockner Predominantly a mountainous region, Carinthia has well-developed mines (lead, iron, and zinc) and an active tourist trade Klagenfurt, the capital, lies in the fertile Drava plain In 976 Carinthia, which then included ISTRIA, CARNIOLA, and STYRIA, was detached from BAVARIA and created an independent duchy Acquired (1269) by Ottocar II of Bohemia, it fell to RUDOLF I of Hapsburg in 1276 and became an Austrian crownland After 1919 it lost some minor territories to Italy and Yugoslavia There is a Slovene minority in S Carinthia

Carinus (Marcus Aurelius Carinus) (kurī'nŭs), d. 285, Roman emperor (283-85) He was the son of CARUS, who left Carinus as ruler in the West when he went to the East on a campaign against the Parthians On the death of Carus, Carinus succeeded in the West, his brother Numerianus succeeded in the East After the murder of Numerianus, DIOCLETIAN was chosen by the soldiers emperor in the East Carinus set out to defeat the new claimant and met him in battle At the moment of victory, however, Carinus was murdered by one of his own soldiers, and Diocletian became sole emperor

Carisbrooke (kă'rĭzbrŏōk), village, on the Isle of Wight, England, near Newport There are vestiges of Roman settlement and ruins of a castle in which Charles I and his children were imprisoned

Carissimi, Giacomo (jä'kōmō karēs'sēmē), 1605–74, Italian composer His Latin oratorios are the earliest examples of true oratorio extant and set the style for later composers He also wrote cantatas and excelled in choral composition

Carlen, Emilie Smith Flygare- see FLYGARE-CARLEN

Carleton. see COFFIN, CHARLES CARLETON

Carleton, Guy, 1st Baron Dorchester, 1724–1808, governor of Quebec and British commander in the American Revolution He came to America in 1758 and gave distinguished service in the French and Indian War, at Louisburg and Quebec, and in the attack on Havana After 1766, as lieutenant governor, acting governor, and governor of Quebec, he proved to be a very able administrator He is given major credit for the QUEBEC ACT of 1774, which was designed to better relations between the British and the French Canadians and was successful, the loyalty of the French Canadians to the British in the American Revolution was at least partly the result of it On the other hand, it infuriated the colonists in the present United States and helped bring on the war When Thomas GAGE resigned as commander in chief of British forces in America, the command was divided, Sir Guy Carleton had command in Canada, and Sir William Howe had command farther south When the patriots in the American Revolution launched their QUEBEC CAMPAIGN, Carleton had few men and had to abandon Montreal, which fell to the forces under Richard Montgomery Withdrawing to Quebec, Carleton there threw back (Dec 31, 1774) an attack led by Montgomery and Benedict Arnold and withstood a long winter siege British reinforcements in the spring enabled him to push the American forces out of Canada to Crown Point, which he took in the autumn of 1776 Disagreements with Lord George Germain led to his being replaced as commander by Gen John Burgoyne in 1777 Carleton resigned as governor, but he could not leave Canada until 1778, when he was succeeded by Sir Frederick Haldimand In Feb, 1782, after the Yorktown campaign had already effectively ended the American Revolution, Carleton replaced Sir Henry Clinton as commander in chief of the British forces His delicate task was to suspend hostilities, withdraw the forces from the New York and Vermont frontiers, and protect the Loyalists—both those who were emigrating to Canada and those who were attempting to reestablish themselves in their old homes His tact, persistence, firmness, and ability to mingle threat with promise accomplished more than seemed possible He was again governor of Quebec from 1786 to 1796 High-principled, gentlemanly, and able, Carleton was perhaps the most admirable British colonial commander in America in his time

Carleton, Mark Alfred, 1866–1925, American botanist, b Monroe co, Ohio He was a graduate of Kansas State College of Agriculture His later experiments on grain rusts at the agricultural experiment station there won attention and resulted in his being placed in charge of grain investigations of the U S Bureau of Plant Industry in 1894 His world-wide search for drought-resisting and rust-resisting wheats led to the introduction of many new varieties, of which the Kubanka durum wheat and the red Kharkov winter wheat, both from Russia, proved exceptionally hardy and found wide favor with Western farmers

Carleton, Will, 1845–1912, American poet, b Hudson, Mich, grad Hillsdale College, 1869 He is best known for his poems of rural life, his most famous being "Over the Hill to the Poorhouse" Among his works are *Farm Ballads* (1873), *Farm Legends* (1875), and *City Ballads* (1885) See biography by A E Corning (1917)

Carleton, William, 1794–1869, Irish novelist His native country was his material, and *Traits and Stories of Irish Peasantry* (5 vols, 1830–33) portrays his own rural youth This was followed by *Tales of Ireland* (1834), *Fardorougha the Miser* (1839), and *The Black Prophet* (1847) See Rose Shaw, *Carleton's Country* (1930)

Carleton College, at Northfield, Minn, coeducational, chartered 1866 It emphasizes individualized study The Kellogg Foundation (international relations) and Goodsell Observatory are here

Carleton Place, town (pop 4,305), S Ont, on the Mississippi (tributary of the Ottawa) and SW of Ottawa It is a junction, with railway shops

Carlile, Richard (-īl'), 1790–1843, English journalist, reformer, and freethinker For his radical writings and efforts to secure the freedom of the press, he spent over nine years in prison He republished suppressed works by Southey, William Hone, and others, brought out his own *Political Litany* (1817), and while he was imprisoned kept his weekly, the *Republican*, going (1819–26) with the help of his wife and sister See biography by C A Aldred (1923), T C Campbell, *The Battle of the Press* (1899)

Carlinville, city (pop 4,965), co seat of Macoupin co, S central Ill, SW of Springfield, in a coal, natural-gas, and farm area, settled c 1829, inc 1837 It has an elaborate courthouse built in 1867–70 and is the seat of Blackburn College (junior, coeducational, opened 1855)

Carlisle, Charles Howard, 1st earl of see HOWARD, CHARLES

Carlisle, Frederick Howard, 5th earl of see HOWARD, FREDERICK

Carlisle, John Griffin (kärlīl'), 1835–1910, American statesman, b Campbell (now Kenton) co, Ky Admitted to the bar in 1858, he began practice at Covington, served in both houses of the Kentucky legislature, and was (1871–75) lieutenant governor In 1877 he entered the U S House of Representatives and was one of its few great speakers (1883–89) Carlisle was a prominent tariff reformer and strongly championed the Mills Bill in 1888 He resigned from the House in 1890 to serve (1890–93) in the U S Senate In 1893 he became Secretary of the Treasury, holding office throughout Grover Cleveland's second term, made difficult by the Panic of 1893 and the falling gold reserve Carlisle's measures to replenish the reserve made him, like the President, unpopular among silver Democrats, who had once counted him one of their own In 1896 he supported John M Palmer, presidential candidate of the gold Democrats He later practiced law in New York city See biography by J A Barnes (1931)

Carlisle (kärlīl'), county borough (1931 pop 57,304, 1943 estimated pop 60,220) and city, Cumberland, England, near the junction of the Caldew, Eden, and Petteril rivers and near the Scottish border It is an important rail center with textile factories and other industries The Roman station Luguvallum (near Hadrian's Wall) which was here was destroyed by the Danes in 875 The Carlisle castle, built by William Rufus in 1092, withstood siege by Robert the Bruce, was taken by the parliamentarians in the civil wars, was again besieged in 1745, and is now used as a barracks Mary Queen of Scots was imprisoned here in 1568 The cathedral was founded early in the 12th cent and was preceded by an Augustinian priory church

Carlisle (kärlīl', kă'līl) **1** Town (pop 1,080), central Ark, E of Little Rock, in an area producing rice, cotton, and dairy goods, founded 1871 A large cheese plant is here **2** City (pop 1,414), co seat of Nicholas co (formed 1799), N Ky, NE of Lexington, in a tobacco region **3** Industrial borough (pop 13,984), co seat of Cumberland co, S Pa, SW of Harrisburg, settled by Scotch-Irish, laid out c 1751, inc 1782 Its manufactures include leather goods, clothing, furniture, and carpets The Pennsylvania Turnpike begins here Molly PITCHER, heroine of the battle of Monmouth, is buried in the Old Graveyard here In the French and Indian War the Forbes (1758) and Bouquet (1763) expeditions were organized at Carlisle A munitions depot during the Revolution, the borough was a headquarters for Washington during the Whisky Rebellion It was a stop on the Underground Railroad and was attacked in the Civil War by Gen Fitzhugh Lee It became the seat of a military medical station in the First World War DICKINSON COLLEGE is here, as was the **Carlisle Indian School** (Federal) from 1879 to 1918, when it closed It was successful until the retirement in 1904 of its founder, Richard Henry PRATT

Carlists, partisans of Don CARLOS (1788–1855) and his successors, who claimed the Spanish throne under the SALIC LAW of succession, introduced (1713) by Philip V The law (forced on Philip by the War of the Spanish Succession to avoid a union of the French and Spanish crowns) was abrogated by Ferdinand VII in favor of his daughter, who

succeeded him (1833) as ISABELLA II Ferdinand's brother, Don Carlos, refused to recognise Isabella and claimed the throne A civil war followed, and in the hope of autonomy most of the Basque Provs and Catalonia supported Carlos The Carlists' reactionary and clericalist tendencies gave the originally dynastic conflict a political character, and the war was marked by extreme cruelty on both sides In 1839 the Carlist commander yielded to Isabella's general, ESPARTERO, but in Catalonia the Carlists under Ramón CABRERA continued the struggle until 1840 In 1860 Don Carlos's son, Don Carlos, conde de Montemolín (1818–61), attempting a rising, landed in Catalonia but failed and renounced his claims These were revived by his nephew, Don Carlos, duque de Madrid (1848–1909), after the deposition (1868) of Isabella Two insurrections (1869, 1872) failed, but after the abdication (1873) of King AMADEUS and the proclamation of the Spanish republic, the Carlists seized the Basque Provs , Catalonia, and parts of Aragon and Valencia The ensuing chaos and brutal warfare ended in 1876, a year after ALFONSO XII, son of Isabella, was proclaimed king Don Carlos escaped to France His claim passed to his son, Don Jaime (1870–1931), who renounced it in favor of Alfonso XIII At Jaime's death, however, some members of the house of BOURBON disavowed his renunciation The Carlists, essentially an ultra-reactionary political group, embraced the Insurgent cause in the Spanish civil war of 1936–39 but no longer found support among the Basques and Catalans

Carl Junction, city (pop. 1,039), SW Mo , near Joplin Explosives are made here

Carloman, 751–71, younger brother of CHARLEMAGNE

Carloman (kär'lōmän″), d 880, king of Bavaria, Carinthia, Pannonia, and Moravia (876–79) and of Italy (877–79), son of LOUIS THE GERMAN and father of Emperor Arnulf He failed (875) to prevent the assumption of the imperial crown by his uncle, Charles II (Charles the Bald) In 879 he was incapacitated by a paralytic stroke and transferred his realm to his brothers Carloman was the first German king to become king of Italy

Carloman, d 884, French king, son of LOUIS II (Louis the Stammerer) He became joint ruler with his brother Louis III in 879 His reign was disturbed by revolts in Burgundy and Provence and by an invasion of the Normans Defeated by Louis at Saucourt (881), the Normans returned to France after Louis's death, but Carloman checked them at the Aisne, they had agreed to withdraw when he died. He was succeeded as French king by Emperor Charles III (Charles the Fat)

Carloman, d 754, mayor of the palace in the kingdom of Austrasia after the death (741) of his father, Charles Martel With his brother, PEPIN THE SHORT, he carried on successful wars against Hunald of Aquitaine, the Saxons, the Swabians, and the Bavarians and reorganized the Frankish church In 747 he retired into a monastery

Carlos For Spanish and Portuguese kings thus named, see CHARLES

Carlos, 1545–68, prince of the Asturias, son of Philip II of Spain and Maria of Portugal Don Carlos, who seems to have been mentally unbalanced, was imprisoned by his father in 1568, on the eve of a projected flight into the Netherlands He died shortly afterward Friedrich von Schiller deliberately idealized his character in his tragedy, *Don Carlos*, making him a champion of liberalism and unhappily in love with his stepmother, ELIZABETH OF VALOIS

Carlos (Carlos María Isidoro de Borbón), 1788–1855, second son of Charles IV of Spain He was the first Carlist pretender After his father's abdication he was, with the rest of his family, held a prisoner in France until 1814 A conservative and a devout Catholic, he was supported by the clerical party when he refused to recognize Isabella, daughter of his brother, King FERDINAND VII, as successor to the Spanish throne When his niece became queen (1833) as ISABELLA II, Don Carlos took up arms Defeated in 1839, he escaped to France and renounced his claim in favor of his son, Don Carlos, conde de Montemolín See CARLISTS

Carlotta (kärlō'tä) Span *Carlota* (kärlō'ta), 1840–1927, empress of Mexico, daughter of Leopold I of Belgium, christened Marie Charlotte Amélie She married MAXIMILIAN, archduke of Austria, on July 27, 1857, and accompanied him when he went to Mexico as emperor (1864) After Napoleon III decided to withdraw the French troops from Mexico and the fate of the empire became apparent, she went to Europe (1866) and sought the aid of Napoleon III and the pope Her pleas were in vain, and her overwrought mind gave way under the strain. The Mexican empire ended with the execution of Maximilian in 1867, but the unhappy empress survived it 60 years

Carlow (kar'lō), inland county (346 sq mi , pop 34,081), Leinster prov , Ireland. The chief towns are Carlow, the county town, Bagenalstown, on the Barrow, which forms much of the western boundary of the county, and Tullow, on the Slaney, which crosses the county from north to south. The granitic uplands of the southeast are a conspicuous feature in an otherwise fertile lowland region Cattle raising, farming, and dairying are the occupations of the region There are some coal deposits in the west Organized as a county in the early 13th cent , Carlow was strategically situated on the southern edge of the English Pale. These are remains of medieval castles and ecclesiastical establishments.

Carlow, urban district (pop 7,465), county town of Co Carlow, Ireland, on the Barrow river and SW of Dublin It is an agricultural market in a dairy region with sugar refining, flour milling, brewing, and shoe manufacturing It has a 12th-century castle and is the seat of the Roman Catholic cathedral of the diocese of Kildare and Leighlin Of strategic importance, Carlow was burned in 1405 and in 1577, in 1778 it saw a fierce street battle fought by insurgent United Irishmen

Carlsbad or **Karlsbad** (both kärls'bäd, Ger. kärls'bät), Czech *Karlovy Vary* (kär'lôvĭ vä'rĭ), city (pop 17,187), NW Bohemia, Czechoslovakia, one of the most-visited watering places of Europe Its hot mineral water is taken particularly for digestive diseases The city was chartered in the 14th cent by Emperor Charles IV, who is said to have discovered its springs

Carlsbad (kärls'bäd), city (pop 7,116), co seat of Eddy co , SE N Mex , on the Pecos river, settled 1888, organized 1889 The region has grazing lands and irrigated farms that produce cotton and alfalfa The Carlsbad U S reclamation project serves more than 20,000 acres. Mining and refining of potash began in 1931 In the Second World War, Carlsbad expanded greatly and in 1946 had an estimated population of 17,000 Near by is Carlsbad Caverns National Park

Carlsbad Caverns National Park, 45,526 59 acres, SE N Mex , in the foothills of the Guadalupe Mts , est as a national monument 1923, as a national park 1930 These limestone caves, with remarkable stalactite and stalagmite formations and tremendous chambers, were discovered in 1901 and have been only partially explored Three main levels have been found, the lowest is 1,100 ft. below the surface Seven miles of trail are electrically lighted The Big Room, 4,000 ft long and 625 ft wide, is reached by elevator as well as by the natural entrance Millions of bats inhabit the caves, supplying guano, valuable for fertilizer The park is open all year

Carlsbad Decrees, 1819, resolutions of a conference of the ministers of German states, convened and dominated by Prince METTERNICH, the occasion being the murder of KOTZEBUE They provided for uniform press censorship and close supervision of the universities, with the aim of suppressing all liberal agitation against the reactionary governments of Germany, particularly in the student organizations (see BURSCHENSCHAFT) The resolutions, ratified by the diet of the German Confederation, remained in force until 1848

Carlscrona, Sweden see KARLSKRONA

Carlsen, Emil, 1853–1932, American painter, b Copenhagen He came to the United States in 1872 Carlsen is best known as a luminous colorist whose landscapes and marines won him many awards He is represented in leading museums throughout the country His *Open Sea* (Metropolitan Mus) is characteristic

Carlson, Evans Fordyce, 1896–1947, American marine officer, b Delaware co., N Y Enlisting at 16 in the army, he served in the Philippines, in Hawaii, and in France In the U S Marine Corps after 1922, he saw service in Cuba, Nicaragua, Japan, and especially China, where in 1937 he studied guerrilla warfare intensively Angered by censorship of his reports, he resigned, but in 1941 he applied for recommissioning After Pearl Harbor he organized and commanded Carlson's Raiders In 1946 he was promoted brigadier general and retired from service He wrote *The Chinese Army* (1940) and *Twin Stars of China* (1940)

Carlsruhe, Germany see KARLSRUHE

Carlstadt, Karlstadt (both karl'shtät), or **Karolostadt** (kä'rôlōshtät″), c 1480–1541, German Protestant reformer, whose original name was Andreas Rudolf Bodenstein As early as 1516 Carlstadt presented theses denying the doctrine of free will and asserting the doctrine of salvation by divine grace alone In 1518 he supported Luther against the attacks of Johann Maier von ECK by maintaining the supremacy of the Holy Scriptures, and in 1519 he appeared against ECK in the public disputation at Leipzig While Luther was in retirement at the Wartburg (1521–22), Carlstadt became the Protestant leader at Wittenberg, where he exhibited iconoclastic fervor in the abolition of accepted practices Upon Luther's return the practices were restored, and Carlstadt was in disfavor In 1524 he obtained a pastorate, only to incur removal by Elector Frederick III (Frederick the Wise) of Saxony when he instituted such reforms as abolition of the sacraments and the Mass When accused of participation in the PEASANTS' WAR, he fled to Switzerland, where he found protection and work through the intercession of the Zurich preachers. He became professor of theology at Basel.

Carlstadt (kärl'stät), industrial borough (pop, 5,644), NE N.J., NE of Newark; inc. 1894

Carlton, urban district (1931 pop 22,325, 1947 estimated pop 33,650), Nottinghamshire, England Home of a Conservative organization, Carlton Club in London (damaged in an air raid in 1940) was named after Carlton House, built here by Lord Carlton in 1709 Once the residence of George IV while he was prince of Wales, the house was destroyed early in the 19th cent

Carlyle, Jane Baillie Welsh, 1801–66, wife of Thomas Carlyle, whom she met through her tutor, Edward IRVING, and married in 1826. She possessed a genius for letter writing, manifest in the volumes of her published correspondence edited by J. A Froude (3 vols , 1883), D G Ritchie (1899), Alexander Carlyle and Sir J Crichton-Browne (1903), Alexander Carlyle (1909), Leonard Huxley (1924), and Townsend Scudder (1931). See biographies by E. A Drew (1928) and Townsend Scudder (1939)

Carlyle, Thomas, 1795–1881, British man of letters, b Ecclefechan, Scotland He studied (1809–14) at the Univ of Edinburgh, but left when his doubts became too strong for him to continue preparing for the ministry. After teaching mathematics at Annan and Kirkcaldy, he returned to Edinburgh to study law, with no income but his savings and earnings from tutoring and hack writing Law gave way to reading in German literature and transcendental philosophy, which in turn led to his "conversion" of 1822, really a revulsion from 18th-century rationalism, to belief in the immanent and friendly God of an orderly universe, postulated by Kant, Goethe, and Fichte Carlyle set about interpreting German romantic thought to English readers with his *Life of Schiller* (in the *London Magazine*, 1823–24) and his translation (1824) of Goethe's *Wilhelm Meister*, both written while he was acting as tutor (1822–24) to the Buller family In 1826 he married Jane Baillie Welsh, to whom his friend Edward Irving had introduced him in 1821, it was a marriage of equal minds, differing temperaments, and great devotion, made difficult by Carlyle's ill-health and bouts of overwork To economize they moved to Jane's farm at Craigenputtock in 1828, where he continued writing for periodicals There he wrote *Sartor Resartus* (*Fraser's Magazine*, 1833–34, book form, 1838), in which, under the name Herr Diogenes Teufelsdröckh, he had his spiritual autobiography, his literary figure of the material world as mere clothing for the spiritual one was taken from Jonathan Swift's *Tale of a Tub*, but his social criticism and his transcendental philosophy were Carlyle's own In 1832 Ralph Waldo Emerson came to Craigenputtock and began the friendship continued in their famous correspondence In 1834 the Carlyles, urged by their friend John Stuart Mill, moved to London to be near necessary works of reference for the projected *French Revolution* The first volume, completed in 1835, was accidentally destroyed while in the hands of Mill's friend Mrs Taylor Finally completed in Jan , 1837, the book was rewarded with tremendous popularity It is not a factual history, but conveys the spirit of its subject, it is vivid, dramatic, and grimly satiric and warns unmistakably that English social reforms were overdue Carlyle's impatience with laissez-faire theories and his belief in the necessity for strong, paternalistic government had their roots in his intense pity for the wrongs of the poor and his conviction that society does change and must do so intelligently, directed by its best men, its "heroes " The last of a series of lectures he gave on his beliefs was published as *On Heroes, Hero-Worship, and the Heroic in History* (1841), and his other works expanded his thesis—*Chartism* (1840), *Past and Present* (1843), contrasting the disorder of modern society with the feudal order of 12th-century England, *Oliver Cromwell's Letters and Speeches* (1845), *Latter-Day Pamphlets* (1850), and a massive biography of a hero-king, Frederick the Great, on which he spent the years 1852–65 In 1851 he had written the most important of his noncontroversial works, the restrained and sympathetic *Life of John Sterling* (1851) In 1866 his wife died, and the loss saddened the rest of his life The leading social critic of his day, Carlyle influenced also men of a younger generation, among them Matthew Arnold and Ruskin His style, one of the most tortuous yet effective in English literature, was a compound of biblical phrases, colloquialisms, Teutonic twists, and his own comings, arranged in unexpected sequences. See his *Reminiscences* (ed by J A Froude, 1881) and numerous collections of his letters and his wife's, biographies by J A Froude (1882, 1884), D A Wilson (6 vols , 1923–34, Vol VI finished by D W. MacArthur), and Emery Neff (1932)

Carlyle, city (pop. 2,591), co seat of Clinton co , S Ill , on the Kaskaskia river and E of St Louis, in a farm and coal area, laid out 1818, inc 1837. A state fish hatchery is near by.

Carmagnola, Francesco Bussone da (franchäs'kō bōōs-sō'nā dä kärmänyō'lä), c 1380?–1432, Italian *condottiere*. He rendered conspicuous services to Filippo Maria Visconti, duke of Milan, but later fell out with him, entered the service of Venice, and assumed (1425) command of Florentine and Vene-

tian forces against Milan. His irresolute conduct of the war led the Venetians to suspect him of treason. He was summoned to Venice, tried by the Council of Ten, and executed

Carman, Bliss (kär'mun), 1861–1929, Canadian poet and journalist, b Fredericton, N B He studied at the universities of New Brunswick and Edinburgh and at Harvard While at Harvard (1886–88) he began to write poetry, and his friendship there with Richard Hovey later resulted in their joint publication of the series *Songs from Vagabondia* (1894, 1896, 1901) Among numerous volumes of his verse are *Behind the Arras* (1895), the series *Pipes of Pan* (1902–5), and *Echoes from Vagabondia* (1912) The best of these and other poems are collected in *Later Poems* (1921) and *Ballads and Lyrics* (1923) Meanwhile he had edited *The Chap-Book* (1894–98) and supported himself by other editorial work and by his popular lectures in the United States and Canada. His *Talks on Poetry and Life*, lectures on Canadian literature, was published in 1926 Although he was recognized as a major Canadian poet, he maintained his home in New Canaan, Conn Carman's reputation rests on the melodic quality of his verse and his sensuous pleasure in nature See biography by Odell Shepard (1924), James Cappon, *Bliss Carman and the Literary Currents and Influences of His Time* (1930)

Carman, Harry James, 1884–, American historian and educator, b Greenfield, Saratoga co , N Y , grad Syracuse Univ (Ph B , 1909, M A and Pd B , 1914), Ph D Columbia, 1919 He was a grade school teacher and a high school principal before becoming an instructor and then an assistant professor at Syracuse Univ (1914–17) In 1918 he came to Columbia Univ , where he attained professorial rank in 1931 From 1925 to 1931 he was assistant to the dean of Columbia College, and from 1943 to 1950 he was dean He was appointed a member of the Board of Higher Education of New York city in 1938 and of the New York State Board of Mediation in 1941 Among other works he has written *Social and Economic History of the United States* (2 vols , 1930–32), his most important work, *A History of the United States* (with Samuel McKee, Jr , 1931), and *Lincoln and the Patronage* (with Reinhard H Luthin, 1943) He has also edited several works concerning early American agriculture, on which he is a leading authority—Jared Eliot's *Essays upon Field Husbandry in New England* (with Rexford G Tugwell, 1934), *American Husbandry* (1939), and *Jesse Buel, Agricultural Reformer. Selections from His Writings* (1947) Carman is editor, with Herbert J Lahne, of the "Labor in Twentieth Century America" series

Carman, town (pop 1,555) S Man , on the Boyne river and SW of Winnipeg It is the center of a farm area

Carmania, region of ancient Persia: see KERMAN, Iran

Carmarthen, Wales see CAERMARTHEN

Carmathians see KARMATHIANS

Carmel, unincorporated resort village (pop 1,315), co seat of Putnam co , SE N Y , NE of Peekskill Daniel Drew, born in Carmel, founded Drew Seminary (for girls) here

Carmel, Mount [Heb ,=garden land], mountain, NW Israel It extends c 12 mi NW from the plain of Esdraelon to the Mediterranean Sea, where it ends in a promontory marking the southern limit of the Bay of Acre It is one of the most striking physical features of the country and was long an object of veneration In biblical times it was associated with the lives of the prophets Elijah and Elisha Isa 35 2, Amos 9 3, 1 Kings 18 From the mountainside vineyards comes the renowned Mt Carmel wine On its slopes are situated a Bahaist garden shrine with the tombs of Bab-ed-din and of Abdul Baha and a 19th-century Carmelite monastery

Carmel-by-the-Sea or **Carmel** (kärmĕl'), city (pop 2,837), S Calif , on Carmel Bay and S of Monterey, inc 1916 It is an art, literary, and recreation center. The bay was named in 1602 Mission San Carlos Borromeo, where Father Junípero Serra is buried, is near by

Carmelites (kär'mulīts), Roman Catholic order of mendicant friars They first appear as hermits on Mt Carmel, Palestine, they were apparently Europeans when their supervision was taken over (c 1150) by St Berthold In 1238 they moved to Cyprus, and thence to Western Europe St Simon Stock (d 1265), an Englishman, was their second founder, he transformed them into an order of friars resembling Dominicans and Franciscans and founded convents at Oxford, Cambridge, Paris, and Bologna They rapidly became prominent in university life An enclosed order of Carmelite nuns was established. The Carmelites, like other orders, decayed in the 15th cent They were revived by St THERESA (of Ávila) and St JOHN OF THE CROSS in 16th-century Spain These great contemplatives gave the order a special orientation toward mysticism. Their reformed branch is the Discalced (or Barefoot) Carmelites; it is now more numerous than the Carmelites of the Old Observance A famous modern Carmelite is St Theresa of Lisieux. In the United States there have been Carmelites since 1790, when Bishop Carroll sponsored a convent of nuns near Port Tobacco, Md , they moved to Baltimore in 1831 There are several communities of women Carmelite tertiaries in the Church Carmelites are called White Friars, the habit is brown with a white mantle. See E Allison Peers, *Spanish Mysticism* (1924), Titus Brandsma, *Carmelite Mysticism* (1936)

Carmen Sylva: see ELIZABETH, queen of Rumania

Carmi (kär'mī) 1 Father of Achan Joshua 7 1,18, 1 Chron 2 7 In spite of textual difficulties this is probably the Carmi of 1 Chron 4 1 2 Reuben's son Gen 46 9, Ex 6 14, Num 26 6, 1 Chron 5 3

Carmi (kär'mī), city (pop 4,098), co seat of White co , SE Ill , on the Little Wabash, platted 1816, inc 1819 It is a rail and trade center in a farm area

carmina burana see GOLIARDIC SONGS

Carmona, Antonio Oscar de Fragoso (antô'nyô ôshkär' du frägô'sô karmô'nu), 1868–, Portuguese marshal and political leader He entered the army at 19 and won a reputation as an able soldier, rising to the rank of general When Gen Manuel de Oliveira Gomes da Costa led a successful revolution in 1926, Carmona was made foreign minister in the new government A little more than a month later he overthrew Gomes da Costa In Nov , 1926, he was elected interim president, in 1928 president He was reelected in 1935, 1942, and 1949 The regime he established was dictatorial, dominated after 1928 by Antonio de Oliveira SALAZAR

Carmona (kärmô'nä), city (pop 21,037), Seville prov , SW Spain, in Andalusia There are imposing ruins of an alcazar and a Moorish and a Renaissance city gate A Roman necropolis was discovered near by in 1881 Ferdinand III of Castile took Carmona from the Moors in 1247 It is now an agricultural center

Carnac (kärnäk'), village (pop 1,754), Morbihan dept , NW France, in Brittany, at the foot of the Quiberon peninsula It is the site of remarkable MEGALITHIC MONUMENTS, particularly MENHIRS The menhirs, some of them 20 ft high, extend along the coast in 11 parallel rows 1,100 yd long They probably antedate the DRUIDS, to whom they were formerly ascribed

Carnaim (kär'nāĭm), the same as ASHTEROTH KARNAIM

Carnarvon, George Edward Stanhope Molyneux Herbert, 5th **earl of** (kärnä'vŭn), 1866–1923, English Egyptologist His excavations in the Valley of the Kings with Howard Carter, from 1906 to 1922, resulted in the discovery of many important tombs of the XII and XVIII dynasties The final and most famous of the discoveries was the tomb of Tut-ankh-amen Lord Carnarvon died before it was thoroughly explored He was collaborator in the report *Five Years' Explorations at Thebes* (1912)

Carnarvon, Henry Howard Molyneux Herbert, 4th **earl of,** 1831–90, British statesman As colonial secretary (1866–67) under the earl of Derby he promoted the bill for confederation of the North American colonies and in the same office (1874–78) under Disraeli attempted federation in South Africa He was lord lieutenant of Ireland (1885–86) but resigned after a dispute with Parnell

Carnarvon, Wales see CAERNARVON

Carnatic (kärnă'tĭk), region, SE India, extending c 600 mi between the Eastern Ghats and the Malabar coast The earliest European settlements in India, those of Portugal, were established here During the 18th cent Great Britain defeated the French forces in the Carnatic after a long struggle

carnation, a species of PINK (*Dianthus caryophyllus*), in America cultivated in greenhouses and valued for the spicy fragrance of most kinds, in Europe it is grown as a garden flower In over 2,000 years of cultivation the carnation has given rise to about 2,000 varieties, all derived from the single-flowered, flesh-colored clove pink, known in Elizabethan times as the gillyflower and formerly added to wine and beer as a flavoring The double-flowered forms of carnation are the most common, with white and shades of red the prevailing colors The red carnation is the state flower of Ohio The American Carnation Society promotes cultivation of the plant

Carnavalet (kärnävälā'), municipal museum of Paris, housed in a mansion built by Bullant and by Goujon, who sculptured its beautiful façade Situated in the once fashionable Marais, the mansion was bought (1578) by a Breton named Kernevenoy, whose name was corrupted into Carnavalet It later was the home of Mme de Sévigné

Carneades (kärnē'ŭdēz), 213–129 B C , Greek philosopher, b Cyrene He studied at Athens under Diogenes the STOIC, but reacted from Stoicism and joined the ACADEMY, where he taught a skepticism similar to that of Pyrrho He held that truth is unattainable, for every proof demands another proof of the validity of the premises, and so we have an infinite regress Hence for the philosopher the proper attitude is suspense of judgment This being impossible in practice, we must act upon probability, of which he recognized three degrees, according to the extent to which an idea might be found congruent with all relevant experience

Carnegie, Andrew (kärnā'gē), 1835–1919, American industrialist and philanthropist, b Dunfermline, Scotland His father, a weaver, finding it increasingly difficult to get work in Scottish factories, brought (1848) his family to Allegheny (now Pittsburgh), Pa Andrew first worked in a cotton mill as a bobbin boy, then advanced himself as a telegrapher, and became (1859) a superintendent for the Pennsylvania RR He resigned (1865) his railroad position to give personal attention to the investments he had made (1864) in iron manufactures By 1873, recognizing America's need for steel, he concentrated on steel production He controlled firms which were later consolidated into the Carnegie Steel Company Carnegie's success was due in part to efficient business methods, to his able lieutenants, and to close alliances with railroads. Another factor was his partnership with Henry C FRICK The HOMESTEAD STRIKE of 1892 evidenced their uncompromising hostility to labor unions Carnegie further expanded his plants and consolidated his hold in the depression of 1893–97 By 1900 the Carnegie Steel Company was producing one quarter of all the steel in the United States and controlled iron mines, coke ovens, ore ships, and railroads It was in these circumstances that the U S Steel Corp was formed to buy Carnegie out He had long been willing to sell—at his own price—and in 1901 he transferred possession for $250,000,000 in bonds and retired from business He lived a large part of each year after 1887 in Scotland on his great estate on Dornoch Firth His essay "The Gospel of Wealth" (1889) set forth his idea that rich men are "trustees" of their wealth and should administer it for the good of the public His benefactions totaled about $350,000,000 Most of it was given for Carnegie Hall (1892) in New York city, the Carnegie Institution of Washington (1902), the Carnegie Hero Fund Commission (1904), the Carnegie Foundation for the Advancement of Teaching (1905), the Carnegie Endowment for International Peace (1910), and for over 2,800 libraries See his autobiography (1920), biography by Burton J Hendrick (1932), *A Manual of the Public Benefactions of Andrew Carnegie* (1919)

Carnegie, 1 (kär'nĭgē) Town (pop 1,740), SW Okla , on the Washita river and SW of Oklahoma City 2 (kärnā'gē) Industrial borough (pop 12,663), SW Pa , SW of Pittsburgh, inc 1894 A steel town, it also manufactures metal products, bedding, and beer The Neville House was the home of Gen John Neville, an officer in the French and Indian and Revolutionary wars The borough was named for Andrew Carnegie

Carnegie Corporation, established 1911 under the laws of New York state It was the chief depository of Andrew Carnegie's wealth, expected by him to continue his gifts after his death He gave it $125,000 000 outright and left it his residuary estate It spends only its income and is governed by a self-perpetuating board of 15 trustees, five of whom are presidents of other Carnegie foundations Until the Second World War the recipients of grants were chiefly educational institutions and libraries During the war large grants were made to the Red Cross and other agencies devoted to the welfare of the armed services See R M Lester, *Forty Years of Carnegie Giving* (1942)

Carnegie Endowment for International Peace, established 1910 by a gift of $10,000,000 from Andrew Carnegie Its purpose is to promote international peace It has financed international undertakings and the publication and distribution of books

Carnegie Foundation for the Advancement of Teaching, established 1905 by an endowment of $10,000,000 from Andrew Carnegie and chartered by Congress in 1906 An additional endowment of $17,000,000 was made subsequently The chief purpose of the foundation has been the establishment of retirement allowances for teachers in nonsectarian institutions of higher learning in the United States and Canada In 1913 Carnegie added a division for educational research

Carnegie Institute of Technology, at Pittsburgh, nonsectarian, partly coeducational, opened 1905 with funds from Andrew Carnegie, chartered 1912 It has colleges of fine arts (with architecture) and of engineering and science, Margaret Morrison Carnegie College (for women, includes social work), a library school (opened 1901 as part of Carnegie Library), and a division of general studies It had the first collegiate department of drama (opened 1914) and pioneered also in social relations courses for engineers There are coal and metals research laboratories

Carnegie Institution of Washington, D C , chartered 1902 and 1904, organized 1904, endowed by Andrew Carnegie and the Carnegie Corp to encourage investigation, research, and discovery Its projects directed by eminent scientists, include astronomy (with Mt Wilson Observatory), terrestrial and biological sciences, and historical research It has units at Baltimore, Boston, Cold Spring Harbor, N Y , and Stanford Univ., Calif

carnelian (kärnē'lyun) or **cornelian** (kôr-, kur-), variety of red CHALCEDONY, used as a gem It is distinguished from SARD by the shade of red, carnelian being bright red and sard brownish The red coloring is apparently caused by iron oxide

Carniola (kärnēō'lù), Croatian *Kranj* (kra'nyù), Ger. *Krain* (krīn), region, Slovenia, NW Yugoslavia, formerly an Austrian crownland (3,845 sq mi , 1910 pop 525,995) It is a mountainous and little productive area with an overwhelmingly Slovenian population Ljubljana is the chief city The march or margraviate of Carniola was established in the 10th cent and was later raised to a duchy It passed (13th cent) to Ottocar II of Bohemia, then to the Hapsburgs After the First World War it was divided between Italy and Yugoslavia, but the Italian part passed to Yugoslavia in 1947

Carnion (kär'nēōn), the same as ASHTEROTH KARNAIM

carnivorous plants. see BLADDERWORT, PITCHER PLANT, VENUS'S-FLYTRAP

Carnot, Hippolyte (ēpôlēt' kärnō'), 1801–88, French statesman, son of Lazare Carnot He shared his father's exile after 1815 and returned to France in 1823 Imbued with the teachings of Claude Henri de Saint-Simon, he took part in the radical agitation that led to the Revolution of 1848 and became minister of education in the provisional government In 1864 he entered the *corps législatif* and took part in the liberal opposition to Napoleon III, after whose downfall he became a member of the constituent assembly (1871) and then a senator for life

Carnot, Lazare Nicolas Marguerite (lazär' nēkôlä' märgurēt'), 1753–1823, French revolutionist, called the great Carnot A military engineer by training, Carnot became the military genius of the Revolution and was chiefly responsible for the success of the French in the FRENCH REVOLUTIONARY WARS A member of the Legislative Assembly, the Convention, and the Committee of Public Safety, he made himself almost indispensable through his military knowledge After the fall of Robespierre he managed to avoid punishment for his own part in the Terror and became a member of the DIRECTORY As a director he urged the appointment of Napoleon to command the army in Italy The coup d'état of 18 Fructidor (1797) caused Carnot to flee abroad He returned in 1799 and served as minister of war (1800) and in the Tribunate under Napoleon In the early years of the century he wrote several works on mathematics and military engineering, in 1810 appeared his masterpiece, *De la défense des places fortes*, long considered the classic work on fortification Carnot was the best-known advocate of the principle of active defense In the disastrous year of 1814 he returned to active service and conducted the defense of Antwerp In the Hundred Days he served as minister of the interior and after the second Restoration he was exiled See Huntley Dupre, *Lazare Carnot, Republican Patriot* (1940)

Carnot, Nicolas Léonard Sadi (nēkôlä' lāônär' sädē'), 1796-1832, French physicist, a founder of modern thermodynamics, son of Lazare N M Carnot His famous work on the motive power of heat (*Réflexions sur la puissance motrice du feu*, 1824) is concerned with the relation between heat and mechanical energy Carnot devised an ideal engine in which a gas is allowed to expand to do work, absorbing heat in the process, and is expanded again without transfer of heat but with a temperature drop The gas is then compressed, heat being given off, and finally it is returned to its original condition by another compression, accompanied by a rise in temperature This series of operations he termed a cycle (Carnot's cycle) He also proved that the cycle was reversible His work anticipated that of Joule, Kelvin, and others

Carnot, Sadi, 1837–94, French statesman, third president of the Third Republic (1887–94), son of Hippolyte Carnot Although he was minister of public works from 1880 to 1885 and of finance (1886), he was untainted by the financial scandals of the time His presidency was disturbed by the agitation for General Boulanger and by the Panama Canal scandal He was assassinated by an Italian anarchist

Caro, Annibale (än-nē'bälā ka'rō), 1507–66, Italian poet, friend of Cellini, Varchi, and Bembo He is best known for his translation of the *Aeneid* and for his sonnet on the death of Charles V, one of the finest of Italian poems A translation of it is given by Richard Garnett in *A History of Italian Literature* (1898).

Caro or Karo, Joseph ben Ephraim, 1488–1575, eminent Jewish codifier of law, b. Toledo, Spain, d Safed, Palestine His literary works rank among the masterpieces of rabbinical literature. Chief among them are *Bet Yosef* [house of Joseph] and *Shulhan Aruk* [the table set], parts of which are still used as the authoritative code for orthodox religious and legal disputes This code owes its fame and popularity as much to the opposition it aroused and the many commentaries it inspired as it does to its merits

Caro (kā'rō), village (pop 3,070), co seat of Tuscola co , S Mich , 8E of Bay City and on the Cass river; settled 1867, inc 1871 It is a farm trade center and produces beet sugar and canned goods

carob (kā'rub), leguminous evergreen tree (*Ceratonia siliqua*) native to Mediterranean regions but cultivated in other warm climates including Florida and California It is called also algaroba and St -John's-bread, the latter from the belief that it may have been the "locust" eaten by John the Baptist in the wilderness (Mark 1 6) The large red pods have been used for food for animal and man since prehistoric times It has been claimed that the seeds were the original of the carat, weight of measure for precious jewels and metals

Carol I, 1839–1914, prince (1866–81) and first king (1881–1914) of Rumania, of the house of Hohenzollern-Sigmaringen He is also called Charles I After service as a Prussian officer, he was elected to succeed the deposed Alexander John Cuza as prince of Rumania He reformed the Rumanian constitution and, siding with Russia in the war of 1877–78 against Turkey, obtained at the Congress of Berlin (see BERLIN, CONGRESS OF) full independence for Rumania, which he declared a kingdom in 1881 Exploitation of Rumanian oil fields began in his reign In 1869 Carol married Princess ELIZABETH of Wied He was succeeded by his nephew, Ferdinand

Carol II, 1893–, king of Rumania, son of King Ferdinand. While crown prince, he contracted a morganatic marriage with Mme Zizi Labrino but divorced her to marry (1921) Princess Helen of Greece He soon formed a liaison with Mme Magda LUPESCU, with whom he lived in Paris after being forced (1925) to renounce his right of succession Thus, on the death (1927) of King Ferdinand, Carol's son MICHAEL became king, but Carol, having divorced Queen Helen in 1928, returned to Rumania in 1930, supplanted his son, and had himself proclaimed king *de jure* since 1927 A turbulent period began (see RUMANIA) In 1938, when Carol did not get the results he desired from elections, he constituted a royal dictatorship on the basis of an oral and hasty plebiscite A contest between the king and the Fascist Iron Guard was then fought out by assassinations and massacres on both sides Forced at last to call on Ion ANTONESCU to form a government (1940), Carol was deposed and fled abroad with Mme Lupescu Michael once more became king In 1947, in Brazil, Carol married Mme Lupescu He is sometimes called Charles II

carol, popular hymn, of joyful nature, in celebration of an occasion such as May Day, Easter, or especially Christmas The earliest date from the 15th cent Carols exist in all Christian nations, many may be from pagan sources Despite the folk-song character of true carols, many Christmas hymns composed in the 19th cent have been called carols The oldest printed carol is the *Boar's Head Carol*, printed in 1521 by Wynkyn de Worde Carols of French origin are called also noels See Edmonstoune Duncan, *The Story of the Carol* (1911), Percy Dearmer, Ralph Vaughan Williams, and Martin Shaw, *The Oxford Book of Carols* (1928), R L Greene, *The Early English Carols* (1936)

Carolan, Turlough see O'CAROLAN, TURLOUGH

Carolina, North and South see NORTH CAROLINA and SOUTH CAROLINA

Carolina campaign, 1780–81, of the American Revolution After Sir Henry Clinton had captured CHARLESTON, he returned to New York, leaving a British force under Cornwallis to subordinate the Carolinas to British control Cornwallis swept north and capped his success in the battle of Camden on Aug 16, 1780 The American force was completely routed, the gallant Baron de Kalb was mortally wounded, and the American commander, Horatio Gates, fled from the field, outdistancing officers and men in retreat Patriot defense was broken in the Carolinas, where only the swift and secretly moving guerrilla bands of Francis Marion, Thomas Sumter, and Andrew Pickens harassed the invaders The American cause spurted upward, however, with the remarkable battle of Kings Mt (Oct 7, 1780), where bands of frontier riflemen under Isaac Shelby, John Sevier, and William Campbell surrounded a British raiding party under Patrick Ferguson, the British commander fell, and his men surrendered This victory prefaced the campaign fought in North Carolina by Gen Nathanael Greene (who had been appointed to succeed Gates) and his lieutenants, notably Light-Horse Harry Lee and Daniel Morgan It was Morgan who at the head of a raiding party met and all but annihilated Cornwallis's raiders under Banastre Tarleton at Cowpens (Jan 17, 1781) Cornwallis pushed north and at Guilford Courthouse (March 15, 1781) won over Greene a Pyrrhic victory, the British had technically won but had to retreat to British-held Wilmington, N C , and then to Virginia Greene then joined the guerrilla leaders in freeing South Carolina Again the Americans were defeated—by Lord Rawdon at Hobkirks Hill (April 25, 1781) and by Col Alexander Stewart at Eutaw Springs (Sept 8, 1781)—and again the British had to retreat, returning to Charleston The campaign was a British failure and was the more a triumph for the patriots because it set the stage for the YORKTOWN CAMPAIGN

Carolina jasmine: see JASMINE.

Caroline, Fort, settlement near the mouth of the St Johns river, Fla., established by French Huguenots under René de LANDONNIÈRE in 1564 On Sept 21, 1565, Pedro MENÉNDEZ DE AVILÉS attacked the fort and killed most of the colonists This slaughter and Menéndes's subsequent massacre of Jean RIBAUT and his men was avenged in 1568 by Dominique de GOURGUES, who wiped out the garrison of San Mateo (as the Spanish had renamed Fort Caroline)

Caroline Affair. In 1837 a group of men led by William Lyon MACKENZIE broke into rebellion in Upper Canada (now Ontario), demanding a more democratic government There was much sympathy for their cause in the United States, and a small steamer, the *Caroline*, owned by U S citizens, carried men and supplies from the U S side of the Niagara river to the Canadian rebels on Naval Island just above Niagara Falls On the night of Dec 29, 1837, a small group of British and Canadians loyal to the Upper Canadian government crossed the river to the U S side where the *Caroline* was moored, loosed her, set fire to her, and sent her over the falls One American was killed in the incident Americans on the border were filled with intense anti-British feeling, and soldiers under Gen Winfield Scott were rushed to the scene to prevent violent American action The affair passed over, though it had an aftermath, when one of the men who had taken part in the attack boasted of that fact when he was in the United States and was arrested as a criminal That matter, too, was smoothed over, but the Caroline Affair and the Aroostook War helped to make relations with Great Britain very tense in the years before the Webster-Ashburton Treaty

Caroline Islands, group (525 sq mi , pop 35,190), W Pacific, 2,500 mi SW of Honolulu, included in 1947 in the U S Trust Territory of the Pacific Islands under United Nations trusteeship The group comprises two single volcanic islands (Kusaie and PONAPE), three major island groups (PALAU, TRUK, and YAP), some 30 atolls, and numerous islets The islands are fertile and produce coconuts, sugar cane, and tapioca There are deposits of phosphate, bauxite, and iron The chief exports are dried bonito, copra, and tapioca Most of the natives are Micronesians, and a few are Polynesians Discovered by Spaniards in 1526, the islands were under Spanish rule from 1886 to 1899, when they were sold to Germany In 1914 they were occupied by the Japanese, who in 1922 were given a mandate over them Japan claimed sovereignty over the group in 1935 In the Second World War the large naval and air bases on Palau, Truk, and Yap were heavily bombed by U S forces, but Palau and ULITHI, taken in 1944, were the only strongholds to be invaded

Caroline of Anspach (ans'pak), 1683–1737, queen consort of George II of England, daughter of the margrave of Brandenburg-Ansbach She married George in 1705 while he was electoral prince of Hanover and bore him three sons and five daughters After his accession she gave active support to Robert Walpole Her influence over the king lasted until her death See biographies by R L Arkell (1939) and Peter Quennell (1940)

Caroline of Brunswick, 1768–1821, consort of GEORGE IV of England She was the daughter of Charles William Ferdinand, duke of Brunswick, and her marriage to George (then prince of Wales) in 1795 forced him to put away Mrs Fitzherbert, his first wife and a commoner The princess bore him one daughter (Charlotte, 1796–1818), but the couple separated in 1796, and Caroline, deprived of her child, lived in retirement for several years and spent some years abroad Reports to her discredit occasioned a commission of inquiry (1806), which found her innocent but imprudent On the accession of George IV (1820) she refused to abdicate her rights as queen, and the government instituted proceedings against her in the House of Lords for divorce on the grounds of adultery Though she was frivolous and unstable, her persecution by a profligate husband aroused popular sympathy for her, and the bill was dropped See biographies by E A Parry (1930) and H S Coxe (1939), W D Bowman, *The Divorce Case of Queen Caroline* (1930).

Carolingians (kărulĭn'jĭnz), dynasty of Frankish rulers, founded in the 7th cent by PEPIN OF LANDEN, who, as mayor of the palace, ruled Austrasia for Dagobert I His descendants, PEPIN OF HÉRISTAL, CHARLES MARTEL, CARLOMAN, and PEPIN THE SHORT, continued to govern the territories united under the nominal kingship of the MEROVINGIANS In 751 Pepin the Short deposed Childeric III and became sole Frankish king The family was at its height when represented by Pepin's son, CHARLEMAGNE, who was crowned emperor in 800 His empire was divided by the Treaty of Verdun (843) after the death of his son, Emperor LOUIS I, among Louis's three sons LOTHAIR I inherited the imperial title and the middle part of the empire LOUIS THE GERMAN founded a dynasty that ruled in Germany till 911, his successors being CHARLES III (Charles the Fat), ARNULF, and LOUIS THE CHILD. Louis's third son, CHARLES II (Charles

the Bald), founded the French Carolingian dynasty, which ruled, with interruptions, till 987. Rulers were LOUIS II (Louis the Stammerer), LOUIS III, CARLOMAN, CHARLES III (Charles the Simple), LOUIS IV (Louis d'Outremer), LOTHAIR, and LOUIS V. See F. Funck-Brentano, *Earliest Times* (Vol I of *National History of France*)

Carolus-Duran (kärôlüs'-dürä'), whose real name was **Charles Auguste Émile Durand** (shärl' ôgüst' āmēl' dürā'), 1838?–1917, French portrait and genre painter, b Lille He studied in Lille and Paris and in 1861 won a pension and traveled in Italy and Spain His first great success was *The Assassinated* (Lille), but he is best known for his portraits His *Lady with the Glove* (Luxembourg Mus, Paris) is an excellent example of his portraiture Carolus-Duran was the teacher of many famous painters. He became director of the Académie de France à Rome in 1905

Carondelet, Francisco Luis Hector, barón de (kurôndulēt', Span fränthē'skō lwēs' ĕktôr bärōn' dā kärôndālāt'), c 1748–1807, governor of Louisiana and West Florida (1791–97), b Noyelles, Flanders He married into the Las Casas family, prominent in Spanish colonial affairs He came to New Orleans from the governorship of Salvador and was unfortunately not well informed as to Louisiana problems Rumors of American hostility were given too great weight, and Carondelet became convinced in 1792 that the Americans were planning to invade Louisiana With unwarranted aggressiveness, he stirred up the Indians of the Southwest, concluding an alliance with the four great tribes and establishing Spanish posts in their territory He revived intrigues with Kentucky frontiersmen looking toward the establishment of an independent state in the West Relations between Spain and the United States were severely taxed After Carondelet was replaced by Manuel GAYOSO DE LEMOS, he was made president of the *audiencia* and governor general of Quito See A P Whitaker, *The Spanish-American Frontier, 1783–1795* (1927)

Carossa, Hans (hans' kärô'sä), 1878–, German poet and novelist The grace and clarity of his style make delightful reading in his autobiographical *Childhood* (1922, Eng tr, 1930), its sequel *Boyhood and Youth* (1928, Eng tr, 1930), and *A Roumanian Diary* (1924, Eng tr, 1929) His novel *Doctor Gion* (1931, Eng tr, 1933) studies some post-war lives His collected poems (*Gesammelte Gedichte*, 1938) are also of high quality

Caroto or **Carotto, Giovanni Francesco** (jōvan'nē frānchās'kō kärō'tō, karōt'tō), c 1480–c 1555, Italian painter of the Veronese school, pupil of Liberale da Verona and of Mantegna in Mantua He was a skillful imitator of the works of Leonardo da Vinci, Raphael, and Mantegna Among his best works in Verona are the frescoes *History of Tobias* (Santa Eufemia), the altarpiece *Virgin with St Anne and Saints* (San Fermo Maggiore), and *St Ursula* (San Giorgio in Braida) Other examples are in the Uffizi and Pitti galleries and in the Castello, Milan His brother **Giovanni Caroto,** 1488–c 1555, with whom he is sometimes confused, was a painter and architect

carp, hardy fresh-water fish native to Asia and introduced into Europe and America The common American carp (*Cyprinus carpio*) is the European carp, of which many variations in color and form have developed There are four barbels around the mouth, and the thick-scaled body is dark greenish or brown, sometimes yellowish or silvery, with red on some of the fins Carp reach more than 3 ft in length and 25 lb in weight They feed chiefly on aquatic plants but also on insects and other small animals A large female (15 to 20 lb) may produce 2,000,000 eggs In Europe, where the carp is more valued as food than in America, it is bred and raised in ponds In America it sometimes becomes a pest by destroying vegetation and stirring up the mud, making the water unsuitable for native game fish

Carpaccio, Vittore (vēt-tō'rā karpät'chō), c 1450–c 1522, Venetian painter, pupil of Lazaro Bastiani and follower of Giovanni Bellini His fanciful, narrative paintings reflect the pageantry of 15th-century Venice They are notable for their rich color, luminosity, and wealth of detail Among the best are the series of nine paintings of the life of St Ursula, the *Presentation in the Temple*, and the St George series (Venice Acad), four paintings of the life of St Stephen (Milan Mus and Louvre), *Supper at Emmaus* (Church of St Salvatore, Venice), *Meditation on the Passion* (Metropolitan Mus), *A Lady Reading* (National Gall of Art, Washington, D C) See biography by P G Molmenti and Gustave Ludwig (Eng tr, 1907)

Carpathian Russia see RUTHENIA.

Carpathians (kärpā'thēünz) or **Carpathian Mountains,** chain of Central Europe, forming an arc, c 900 mi long, which encloses the Danubian plain in the north and the east The foothills (Little Carpathians and White Carpathians) rise in Slovakia, N of the Danube at Bratislava, and extend northeast to the Polish-Czechoslovak border The Northern Carpathians, comprising the BESKIDS and the TATRA, run east along the Polish-Czechoslovak frontier and southeast through RUTHENIA; in Rumania and TRANSYLVANIA they are continued by the Southern Carpathians The Transylvanian Alps prolong the chain, extending SE to the Danube at the Iron Gate The highest peaks are the Stalin Peak (8,735 ft.) in the Tatra and Mt Negoiul (8,346 ft) in the Transylvanian Alps Heavily wooded, the Carpathians are rich in minerals and mineral spas

Carpathian Ukraine see RUTHENIA

Carpathus: see KARPATHOS

Carpeaux, Jean Baptiste (shā' batēst' kärpō'), 1827–75, French sculptor, son of a mason He studied with François Rude, won the PRIX DE ROME, and rose to fame with his *Ugolino* (Tuileries), done in Italy under the inspiration of Michelangelo A favorite of the Second Empire, he received many commissions Best known is *The Dance* on the façade of the Opéra, Paris His *Neapolitan Shell-Fisher* and his portrait busts of Napoleon III, Dumas fils, Gérôme, and Empress Eugenie are in the Louvre The work of Carpeaux has freedom, grace, and a quivering life and movement which save it from the banality of his period

Carpentaria, Gulf of (karpuntā'rēu), arm of the Arafura Sea, indenting the north coast of Australia, between Arnhem Land peninsula and Cape York Peninsula It has an average length of 350 mi

Carpenter, Edward, 1844–1929, English author, educated at Cambridge In 1869 he was ordained, but renounced all religion in 1874 He called himself a Fabian socialist for the rest of his life and lectured, traveled, and lived among the working people of English industrial cities A friendly, unconventional man, he attracted many admirers Among his works on social reform are *Towards Democracy* (1883–1902), a long unrhymed poem revealing the influence of his friend Walt Whitman, *England's Ideal* (1887), *Civilization Its Cause and Cure* (1889), and *Love's Coming of Age* (1896) See the autobiographical *My Days and Dreams* (1916), study by Tom Swan (1929 ed), *Edward Carpenter in Appreciation* (ed by Gilbert Beith, 1931)

Carpenter, Francis Bicknell, 1830–1900, American portrait painter, b Homer, N Y He painted portraits of Presidents Fillmore, Pierce, and Lincoln and of Horace Greeley Carpenter lived at the White House while he painted *The Emancipation Proclamation* (Capitol, Washington, D C) See his *Six Months at the White House* (1866)

Carpenter, George Rice, 1864–1909, American educator, b Labrador, grad Harvard, 1886 After study abroad, he returned to teach at Harvard (1888–90) and Massachusetts Institute of Technology (1890–93) From 1893 he was professor of rhetoric at Columbia Univ He wrote a number of textbooks on literature and rhetoric and biographies of Longfellow, Whittier, and Walt Whitman

Carpenter, John Alden, 1876–, American composer, b Park Ridge, Ill, pupil of J K Paine at Harvard and of Elgar His music, refined and skillfully written, influenced by French impressionism, often depicts the spirit and the scenes of American life, in such works as the orchestral suite *Adventures in a Perambulator* (1914) and the ballets *Krazy Kat* (Chicago, 1921) and *Skyscrapers* (New York, 1926) A Spanish flavor and jazz, frequently elements in his music, are both found in *Patterns* (1932) for orchestra Other important compositions are his ballet *The Birthday of the Infanta* (Chicago, 1919), a violin concerto (1937), a concertino for piano and orchestra (1915), as well as songs, symphonies, and chamber music

Carpenter, Mary, 1807–77, English educator She devoted her life to the establishment of schools and institutions and the promotion of educational reforms In 1835 she organized the Working and Visiting Society, in 1846 opened a "ragged school," and in 1852 founded a juvenile reformatory (see her *Juvenile Delinquents Their Condition and Treatment*, 1852) Her agitation for reformatory and industrial schools contributed to the passage of the Youthful Offenders Act (1854) and of the Industrial Schools Act (1857) and furthered the movement for free day schools She made four visits to India after 1866, interesting herself in Indian education, and also lectured in the United States See J E Carpenter, *The Life and Works of Mary Carpenter* (1879)

carpenter's square see SQUARE, STEEL

Carpentersville, village (pop 1,289), NE Ill, on the Fox river and NW of Chicago, settled 1834, platted 1851, inc 1887 Iron products are made here

Carpentras (kärpätrās'), town (pop 11,044), Vaucluse dept, SE France, NE of Avignon. It was an episcopal see from the third cent until the French Revolution and the capital of the Comtat VENAISSIN from 1229 until 1791 At Carpentras met the long conclave which elected Pope JOHN XXII

carpentry, the trade concerned with constructing either a wood building or the wooden portions of any building It comprises the larger and more structural aspects of woodwork, rather than the delicate assembling which is the field of cabinetmaking and joinery The craft dates from the earliest use of tools Though no actual examples of carpentry survive from antiquity, many remains of the earliest known stone architecture exhibit forms which are undoubtedly imitative of still earlier constructions in wood This is especially apparent in most Asiatic architecture, and certain details of Greek temples are suggestive of carpentry prototypes Some monumental wood buildings of the 7th cent. still stand in Japan, a country where intricate and beautiful carpentry has prevailed throughout its history In the United States, expert carpentry has existed ever since the construction of dwellings by the colonists in the first half of the 17th century Rough carpentry refers to the "framing" of a wood building, namely, the erection of the structural frame or skeleton composed of the vertical members or studs, the horizontal members of foundation sills, floor joists, and the like, the inclined members or rafters for the roof, and the diagonal members for bracing Finished carpentry is the setting in place, over the rough frame, of all finishing members both of exterior and interior, such as sheathing, siding, stairs, the casings of doors and windows, flooring, wainscoting, and trim In the United States the two traditional types of house framing, frequently combined into one, are the braced frame and balloon frame The latter, which is the most used, employs continuous vertical studs running from the foundation to the roof plate, is assembled entirely with nails, and can be erected rapidly The braced frame is the older method In it the studs are only one story in height, the corners are braced everywhere, and the fitting together is done by mortising and pinning, after which whole sections are raised into place See also CENTERING See Gilbert Townsend, *Carpentry* (2d ed, 1945)

carpet and rugs, thick fabrics, usually woolen, mainly for floor coverings They were formerly woven to protect the body from cold, to spread on a dais or before a seat of honor, to cover a table, couch, or wall, or to form the curtains of a tent All carpet divides into two classes—handmade and machine made There is considerable evidence of the existence of hand-woven carpets in antiquity On the rock tombs of Beni Hassan, Egypt, of c 2500 B C, men are depicted with the implements of rug weaving Other evidence of the early use of rugs is seen in the drawings on the ancient palace walls of Nineveh In that mountainous region of the East stretching from Turkey through Persia and central Asia into China where the fleece of the sheep and the hair of the camel and goat grow long and fine, the art of carpet weaving reached its height early in the 16th cent The Oriental artist works on a rude hand loom consisting essentially of two horizontal beams on which the warp is stretched, on the lower one the finished carpet is rolled, while the warp unrolls from the upper one The yarn for the pile, spun and dyed by hand, is cut in lengths of about 2 in and is knotted about the warp threads, one tuft at a time, after one of the two established ways of tying called the Ghiordes, or Turkish, knot and the Senna, or Persian, knot When a row of knots has been placed across the width of the loom, two or more weft threads of cotton or flax are woven in and beaten into place with a heavy beater or comb The tufts or pile thus appears only on the face of the fabric, which when completed is sheared to perfect smoothness The wool of the sheep, the camel, and the goat was used in the weaving of Oriental rugs, but at least half the warps and wefts and a very large percentage of the pile were of sheep's wool Beautiful silk rugs interwoven with gold thread were made in the 16th and 17th cent The quality of the carpet depends on the materials used and the number of knots to the square inch of surface, which may vary from 40 to 1,000 In America the Navahos and other Indian tribes have for generations produced substantial rugs, without pile, woven somewhat in the manner of TAPESTRY on primitive hand looms In the palaces of Montezuma were found remarkable floor coverings which utilized the plumage of birds The primitive use of rushes or straw has survived in the form of Chinese and Japanese mattings In 1608 King Henry IV of France established weavers in the Louvre In 1631 an old soap works, the Savonnerie, near Paris, was converted to carpet weaving, and its name remains attached to one of the finest handmade carpets now made at the Gobelin works Tapestries for walls and floors were made at Aubusson at an early date In 1685 the revocation of the Edict of Nantes scattered skilled carpetmakers (mostly Protestants) over Europe Centers of weaving were established in England, first at Kidderminster (1735), then at Wilton and Axminster Cheaper, more easily manufactured floor covering soon came into demand, and the making of ingrain began at Kidderminster The weavers of Flanders had made a loom which produced a pile by looping the worsted warp threads, and this loom, although guarded, was copied by a Kidderminster weaver, soon many looms in England were making Brussels carpet Axminster was England's headquarters for imitation Oriental or tufted-pile carpet Up to 1839 all carpets were made on hand looms with such devices and improvements as could be operated by hand or foot power, then Erastus Bigelow's power loom

(first used in 1841) revolutionized the industry and made the carpet a commodity for the many instead of the few. A few distinctive types include all carpets both antique and modern—Oriental, European hand-woven, Brussels, Wilton, velvet, Axminster, chenille, ingrain, rag, hooked, straw, fiber To the first class belong not only the genuine antique Orientals now rare, but also the modern reproductions These are dyed with aniline instead of vegetable dyes, much of the yarn being spun and dyed in Europe and shipped to the East to be woven Many are washed in chlorine solutions to give an effect of age or in glycerine to simulate the luster of fine wool Commercial methods have somewhat standardized and debased the characteristic ancient patterns, but the modern Orientals are commercially important Some of the traditional beauties still remain—the deep, rich color and intricate patterns of Persia, the brighter hues and conventionalized figures of Asiatic Turkey, the naïve designs and primitive colorings of Turkistan and the Caucasus, and the symbolic ornament of China European hand-woven carpets, both Aubussons (tapestry) and Savonneries (pile), are now made in the major Western countries, mostly to special order Modern commercial carpets are woven on complex and highly specialized machines, a development from Bigelow's power loom Brussels carpet has a warp and weft of linen, with a pile of worsted yarn drawn into loops by means of wires It is called 3, 4, or 5 "frame" depending on the number of bobbins carrying different colored warp threads, which make the pattern Tapestry Brussels is a cheap single-frame sort, either yarn printed or piece printed Wilton is made on the same principle, except that the loops which form the pile are cut as they are woven into place Velvet is an equivalent of tapestry Brussels with the pile cut Axminster (formerly called moquette), similar in effect to Oriental, uses unlimited colors in design made on machines which loop the tufts, one color at a time, and then interlock the weft about them Chenille, or chenille Axminster, is made in two stages, first the chenille thread or "fur" is made and then is folded and ironed so that the woolen fibers are like a fringe along a cotton or linen chain This "fur" is then woven into a strong backing of linen with the nap on the surface Chenille has a pile often ⅝ of an inch deep and woven up to 30 ft in width Ingrain, no longer widely used, is a plain-weave fabric, of two- or three-ply woolen weft on a concealed cotton warp Rag carpet, first made on household looms, of used rags sewn together for warp, became commercially important in the last years of the 19th cent Hooked rugs are made of narrow strips of woolen cloth drawn by a pointed hook through a canvas foundation on which a design is indicated Carpetmaking began in the United States in the colonial period The first important factory was started at Philadelphia in 1791 In 1804 another was opened at Worcester, Mass, followed by others in New York and New Jersey See G Griffin Lewis, *The Practical Book of Oriental Rugs* (1920), W A Hawley, *Oriental Rugs, Antique and Modern* (1913), M P Taylor, *How to Make Hooked Rugs* (1930), A M Hicks, *The Craft of Handmade Rugs* (1936)

carpetbaggers, epithet used in the South after the Civil War to describe the Northern adventurers who flocked to the South to make money and seize political power in the RECONSTRUCTION period A few of them were substantial citizens bent on settling in the community, but most were men of the unstable future symbolized by the carpetbags in which they carried their possessions They came as agents of the FREEDMEN'S BUREAU and other Reconstruction organizations, or they individually sought speculative and commercial openings. After the disenfranchisement of the ex-Confederates, the carpetbaggers, in collusion with their Southern counterparts, the scalawags, dominated the Republican state governments through their control of the Negro vote Their record of large-scale, open-faced political corruption has rarely been equaled in U S history

Carpini, Giovanni de Piano (jōvän'nē dā pyä'nō kärpē'nē), 13th cent, Italian traveler and Franciscan monk In 1245 he was sent by Pope Innocent IV to the court of the great khan of Tartary. With a Pole, Friar Benedict, as interpreter he started from Lyons, went to Kiev, then across the Dnieper to the Don and the Volga and across central Asia to Karakorum in Mongolia; a journey of c 3,000 mi was accomplished on horseback in about 100 days The importance of Carpini's journey lies in the information he brought of the countries and peoples visited His account is known as *Liber Tartarorum* See C R Beazley, ed., *The Texts and Versions of John de Plano Carpini and William de Rubruquis* (1903)

Carpinteria (kär'pĭntûrē'ù), unincorporated town (pop 1,389), S Calif, on the coast E of Santa Barbara It was established in 1863, on the site of an Indian village visited by Gaspar de Portolá in 1769 It is in a lemon-producing area.

Carpocrates (kärpŏk'rùtēz), fl. c.130–c 150, Alexandrian philosopher, founder with his son Epiphanes of a Hellenistic sect related to Gnosticism. Epiphanes wrote a treatise, *On Justice*, which advocated communal ownership of property, including women, he died, aged 17, at Cephalonia and was long worshiped as a deity there The Carpocratians believed that men had formerly been united with the Absolute, had been corrupted, and would, by despising creation, be saved in this life or else later through successive transmigrations Jesus, they held, was but one of several wise men who had achieved deliverance The sect was notoriously immoral

Carpus [Gr, =fruit], man of Troas 2 Tim 4 13.

Carr, Emma Perry, 1880–, American chemist, b Holmes co, Ohio, grad Univ of Chicago (B.S, 1905) She taught chemistry at Mt. Holyoke from 1905 to 1946 (as professor from 1913) She has made significant absorption-spectra studies on the structure of organic molecules, especially of the hydrocarbons, and studies of the energy relationships of the hydrocarbons

Carr, Eugene Asa, 1830–1910, American general, b Concord, Erie co, N Y, grad West Point, 1850 In the Civil War he distinguished himself at Wilson Creek (1861) and Pea Ridge (1862), was made (March, 1862) a brigadier general of volunteers, and fought in the campaigns against Vicksburg (1863) and Mobile (1865) After the war Carr was a well-known cavalry leader and Indian fighter in the West Promoted brigadier general in 1892, he was retired in 1893

Carr, Robert see SOMERSET, ROBERT CARR, EARL OF

Carrabelle, city (pop 1,019), NW Fla, on the Gulf coast and SSW of Tallahassee It is a port of entry and a resort and fishing center, shipping shrimp, oysters, and fish

Carracci or **Caracci** (kärät'chē), family of Italian painters of the Bolognese school, founders of the Eclectic school of painting **Lodovico Carracci** (lōdōvē'kō), 1555–1619, a pupil of Tintoretto in Venice, was influenced by Correggio and Titian He studied also in Bologna, Padua, and Parma With his nephews, Agostino and Annibale, and with Anthony de la Tour he established in Bologna an academy of painting which sought to unite in one system the preeminent characteristics of each of the great masters The Eclectic school rapidly became one of the outstanding schools in Italy, Lodovico remaining at its head until his death Its noted pupils include Guido Reni, Francesco Albani, and Domenichino Excelling as a teacher, Lodovico was also a painter of talent and energy Excellent examples of his art abound in the churches of Bologna and elsewhere Among the best are *Sermon of John the Baptist* (Pinacoteca, Bologna) and *Vision of St Hyacinth* (Louvre) His nephew **Agostino Carracci** (ägōstē'nō), 1557–1602, left the goldsmith's trade and studied painting with Prospero Fontana and engraving, in which he excelled and to which he devoted most of his time, with Domenico Tibaldi and Cornelis Cort After several years' study in Parma and Venice, he joined his uncle and his brother in the founding of the Eclectic school and in the execution of numerous joint painting commissions In 1600 he went to Rome and collaborated with Annibale in the decorating of the gallery of the Farnese Palace, Agostino painting the admirable frescoes *Triumph of Galatea* and *Rape of Cephalus* (cartoons in the National Gall London) He died in Parma just after completing his great work, *Celestial, Terrestrial, and Venal Love*, in the Casino Other notable examples of his art are *The Last Communion of St Jerome* (Pinacoteca, Bologna), *Adulteress before Christ*, and the masterly engraving of Tintoretto's *Crucifixion* His brother **Annibale Carracci** (an-nē'bälā), 1560–1609, a pupil of his uncle, Lodovico Carracci, was a painter of unusual skill and versatility He spent seven years studying the works of the masters, particularly those of Correggio and Parmigiano, in Venice and Parma Returning to Bologna, he aided in the conducting of the Eclectic school until 1600, when he went to Rome to assist in the decorating of the Farnese gallery Among his paintings there are *Juno before Jupiter*, *The Triumph of Bacchus*, and *Diana and Endymion*, which show his fine technique and color Well known among his numerous works are *Christ and the Woman of Samaria* (Brera, Milan), *The Dead Christ* (Louvre), and *The Temptation of St Anthony* (National Gall, London).

carrageen see IRISH MOSS

Carrantuohill (kä'runtōō'ul), mountain, 3,414 ft high, Co. Kerry, Ireland, in Macgillicuddy's Reeks; highest peak in Ireland

Carranza, Venustiano (kürän'zù, Span. vānōōstyä'nō kärän'sä), 1859–1920, Mexican statesman. He supported Francisco I MADERO in the revolution against Porfirio DÍAZ (1911). When Victoriano HUERTA overthrew (1913) Madero, Carranza promptly took the field against Huerta He was joined by other revolutionists in the north, notably Francisco VILLA and Álvaro OBREGÓN; in the south the revolt was led by Emiliano ZAPATA Soon the entire country was aflame. The United States and A.B.C. Powers attempted to bring order to Mexico, but Carranza refused mediation. Huerta was forced to resign (July, 1914), and Carranza took over the executive power (Aug., 1914). Chaos now took hold of the nation. Obregón and Villa fell out Villa and Zapata refused to recognize Carranza, and Zapata forced (Nov., 1914) Carranza to retire to Veracruz. Zapata and Villa were driven (Jan., 1915) from Mexico city by Carranza's ally, Obregón, but Zapata again held (March–July, 1915) the capital until forced out by Carranza and again occupied it later (July–Aug., 1915). The United States recognized the Carranza regime in Oct, 1915 The Villa raids caused Wilson to send a punitive expedition into Mexico, much friction between the two governments resulted Carranza's hostility to the United States was apparent in Mexico's sympathy toward Germany in the First World War The dominant feature in internal affairs was the reform program enunciated by Carranza in Dec, 1914, and embodied in the constitution of 1917 The provision affirming national ownership of subsoil deposits (affecting oil and mineral holdings) and that restoring the EJIDO (affecting landowners) were fruitful of trouble with the United States and other powers Ecclesiastical reforms brought Church and government into conflict The labor provisions theoretically marked a radical advance; actually, Carranza repressed labor reforms The constitution was never really in force, and there was little pretense of democratic control. In 1920, when Carranza attempted to prevent Obregón from succeeding as president, Obregón revolted Carranza was defeated and was murdered.

Carranza de Miranda, Bartolomé de (bärtōlōmä' dā kärän'thā dā mērän'dä), 1503–76, Spanish churchman He joined the Dominicans (1520) and taught at Valladolid. He was investigated by the Spanish Inquisition c 1530, but he was later its censor In 1540 he declined episcopal honors He was active in the first part of the Council of Trent, where he distinguished himself for his vigorous support of the rule that bishops must be resident in their sees In 1554 Philip II of Spain sent him to England to aid in the restoration of Catholicism In 1558 he was made archbishop of Toledo (primate of Spain), the same year he attended the dying Charles V His commentary on the catechism appeared in 1558, and it was apparently from passages in this that he was accused of heresy He was arrested in 1558 (with King Philip's permission), his case dragged on in Spain until 1564, when the archbishop appealed to Rome, where there was more delay At length, in 1576, he was found not guilty of heresy but was compelled to abjure certain propositions

Carrara (kurä'ru, Ital kär-rä'rä), city (pop. 25,259), Tuscany, central Italy, 4 mi from the Ligurian Sea It is the center of the Italian marble industry The famous Carrara MARBLE is quarried in the near-by Alpi Apuane There are over 400 quarries, and one third of the population is occupied in the industry With MASSA, the city constituted the duchy of Massa and Carrara Carrara has a fine 12th-century cathedral, the former ducal palace now houses the Fine Arts Academy.

Carrboro (kär'buru), textile-mill town (pop 1,455), central N C, just W of Chapel Hill

Carrel, Alexis (kä'rul), 1873–1944, American surgeon and experimental biologist, b near Lyons, France, M D Univ of Lyons, 1900 Coming to the United States in 1905, he joined the staff of the Rockefeller Institute in 1906 and served as a member from 1912 to 1939 For his work in suturing blood vessels, in transfusion, and in transplantation of organs, he received the 1912 Nobel Prize in Physiology and Medicine In the First World War he developed with Dakin a method of treating wounds by irrigation with a sodium hypochlorite solution With Charles A Lindbergh he invented an artificial, or mechanical, heart—a sterile glass chamber through which is pumped a fluid containing food materials and oxygen—by means of which he kept alive a number of different kinds of tissue and organs He kept alive for 32 years bits of tissue from a chicken's heart In 1939 he returned to France He wrote *Man the Unknown* (1935) and, with Lindbergh, *The Culture of Organs* (1938)

Carreño, Teresa (tārā'sä kärä'nyō), 1853–1917, Venezuelan pianist, pupil of L M Gottschalk and Anton Rubinstein Her debut was made in New York in 1862 She appeared as an opera singer for a brief period, but, returning to the piano in 1889, she became known as the greatest woman pianist of her time She composed a festival hymn for the Bolívar centenary, 1883 She was married to Eugen d'Albert, 1892–95. See biography by Marta Milinowski (1940)

Carreño de Miranda, Juan (hwän' kärä'nyō dā mērän'dä), 1614–85, Spanish painter. He was a protégé of Velázquez, whom he succeeded as painter to the Spanish court. He is best known for his admirable portraits, of which that of the queen mother, Marie Anne (Prado), is a fine example Carreño also painted numerous religious pictures and frescoes for the churches and palaces of Madrid, Segovia, and Toledo

Carrera, José Miguel (hōsā' mēgĕl' kärä' rä), 1785–1821, Chilean revolutionist. With his brothers, Juan José and Luis, he overthrew the revolutionary

junta headed by Martínez de Rosas and dominated Chile until replaced by Bernardo O'Higgins in 1813. He again seized control in 1814, precipitating a civil war which facilitated Spanish reconquest of Chile. Later he was forbidden by José de San Martín to reenter Chile San Martín and O'Higgins ordered the execution at Mendoza of his brothers. Involving Argentina in civil turmoil, Carrera was on the point of invading Chile when he too was captured and beheaded at Mendoza.

Carrera, Rafael (räfäĕl'), 1814–65, president of Guatemala, a *caudillo* He led the revolution against the anticlerical liberal government of Guatemala, and his ultimate success in 1840 helped to destroy completely the Central American Federation. Illiterate and of mixed blood, he received unquestioned support from the Indian masses, a conservative devoted to the Church, he recalled the Jesuits and restored the power of the Church in the state. Until his death Carrera dominated Guatemala and was the most powerful figure in Central America, intervening to strengthen, restore, or install conservative governments in the other Central American countries

Carrera Andrade, Jorge (hôr'hä kärä'rä ändrä'dhā), 1903–, Ecuadorean poet His early neo-Indian poems reflected his interest in the social revolution in his country, but as he matured, his poetry became more purely esthetic He employs free verse and, at times, surrealist technique, and he achieves unity through a great variety of image associations Among his works are *Latitudes* (1934, essays), *Registro del mundo* (1940), and *Rol de la manzana* (1935) The volume *Three Spanish American Poets* (1942) has translations by Lloyd Mallan, and *12 Spanish American Poets* (1943) by H R Hays

Carrère, John Merven (kŭrâr'), 1858–1911, American architect, b Rio de Janeiro After graduating from the École des Beaux-Arts, Paris, he worked under McKim, Mead, and White in New York, and from 1886 until his death he practiced in partnership with Thomas Hastings The best-known works of Carrère and Hastings are the New York Public Library (completed 1911), which they were awarded in a competition, the Century Theater and the architectural approaches of the Manhattan Bridge, New York, and the office buildings of the Senate and the House and the Carnegie Institution, Washington, D C

Carrhae (kä'rē), Roman name for the ancient Mesopotamian city of Haran The name Carrhae is best known because of the battle of Carrhae in 53 B C. M Licinius Crassus (see Crassus, family) was defeated by the Parthians, who by their archery routed the Roman force

carriage, a wheeled vehicle, in modern usage restricted to passenger vehicles Carriages date from the Bronze Age, early forms include the two-wheel cart and four-wheel wagon for goods The early passenger carriage was a chariot, but Roman road-building activity encouraged the development of other forms From the fall of Rome, horses and litters were used exclusively until the 12th cent, when goods carts and wagons were gradually reintroduced The coach, a closed four-wheel carriage with two inside seats and an elevated outside seat for the driver, is believed to have been developed in Hungary and to have spread among the royalty and nobility of Europe in the 16th cent The hackney coach was introduced in London c.1605 During the 17th cent, coaches became lighter and less ornate and in England the public stagecoach became common France developed the two-wheel forerunner of the chaise, the sulky, and the Cuban *volante* A variety of forms developed in the 18th cent, include the chariot, a closed carriage with one seat, the landau, a coach whose top folded back from the center in two sections, the barouche coach with a folding hood fixed at the back, and the phaeton, usually with low sides The hansom cab, patented by J. A Hansom in 1834, was a closed carriage with an elevated driver's seat in back Lord Brougham based the carriage known by his name on the hansom The victoria, popular after 1850, was similar to the phaeton but had only one seat for passengers In the American colonies few carriages were used because of the poor roads The carriage-building trade became firmly established in the United States after the War of 1812, the most distinctive model was a light four-wheel buggy with open sides and a folding top Solid rubber tires were used in the late 1880s See Ralph Straus, *Carriages and Coaches* (1912), James Reid, *The Evolution of Horse-drawn Vehicles* (1933)

Carrickfergus (kărĭkfûr'gŭs), urban district (pop 4,399), Co. Antrim, Northern Ireland, a fishing port on the north shore of Belfast Lough NE of Belfast It has linen and rayon mills, and rock salt is mined There are remains of a 12th-century castle, of the walls of the old town, a gateway is still standing John Paul Jones fought (1778) a victorious battle offshore from Carrickfergus The father of Andrew Jackson emigrated from here

Carrick-on-Shannon, town (pop. c.1,000), county town of Co. Leitrim, Ireland It is a farm market.

Carrick-on-Suir (shŏr), urban district (pop. 4,851), Co. Tipperary, Ireland, E of Clonmel and on the Suir, here crossed by a very old bridge. It is a market town and has a castle built in 1309 and remains of a 14th-century abbey.

Carrier, Jean Baptiste (zhäʼ bätēstʼ kärēäʼ), 1756–94, French revolutionist An extreme Jacobin, he demanded the establishment of a revolutionary tribunal and made himself notorious in the Reign of Terror. Sent as a revolutionary representative to Nantes, he instituted noyades and committed other atrocities Though he was denounced to the Convention and recalled to Paris, he temporarily escaped punishment through the fall of Robespierre (July, 1794), but was arrested in November and executed.

Carriera, Rosalba (rōzälʼbä kär-rēäʼrä), 1675–1757, Italian portrait and miniature painter, one of the greatest of her day At 24 she had achieved a reputation throughout Italy and abroad for her miniatures and crayon portraits In 1703 she was elected to the Academy of St Luke (Rome), the Academy of Bologna, and Florence Academy In 1720 she visited Paris, where she painted the portraits of the young Louis XV, the regent, and other court figures Returning to Italy, she visited the courts of Modena, Parma, and Vienna, receiving honors and commissions wherever she went Her portraits are delicate in color and vivacious, but sometimes marred by defective drawing. She is well represented in most of the European galleries *Muse Crowned with Laurel* is in the Louvre

Carrière, Eugène (ûzhôn' käryĕr'), 1849–1906, French painter and lithographer, b Gournay He was best known for his spiritual interpretations of maternity and family life A student of Cabanel, he developed a highly personal style His figures and heads are shrouded in a grayish penumbra from which only the expression (usually one of deep melancholy) seems to emerge Characteristic are his *Young Mother* (Avignon) and *Crucifixion* and *Maternity* (both Luxembourg Mus, Paris) He also painted some large canvases for the Sorbonne and the Hôtel de Ville, Paris, and was the author of many notable portraits See studies (in French) by Gabriel Séailles (rev ed, 1911) and Gustave Geffroy (rev ed, 1911)

Carrier Mills, coal-mining village (pop 2,360), S Ill, SW of Harrisburg, inc 1894

carriers of disease. see disease carrier

carrier wave' see radio

Carrington, Henry Beebee, 1824–1912, U S army officer and historian, b Wallingford, Conn, grad Yale, 1845, and afterwards studied at Yale Law School He became a prominent lawyer and Republican leader in Columbus, Ohio Carrington ably reorganized the Ohio state militia and subsequently became adjutant general In the Civil War he helped to save West Virginia for the Union by sending Ohio militia there He was made (May, 1861) a colonel in the regular army and was commissioned (Nov., 1862) a brigadier general of volunteers As chief mustering officer of Indiana, he sent over 100,000 men to the war and was instrumental in quelling the operations of the Sons of Liberty, a secret society of Southern sympathizers After the war, as commander of the Mountain Dist of the Dept of the Platte, he led the force which in 1866 attempted to open and guard the Bozeman Trail route to Montana. He planned and built Forts C F Smith and Phil Kearney on this route He was blamed for the Fetterman massacre but was later exonerated Retired from the army in 1870, he was (1869–78) professor of military science at Wabash College His *Battles of the American Revolution* (1878), supplemented by a volume of maps (1881), is a standard work *Ab-sa-ra-ka, Home of the Crows* (1868, 3d ed, revised and enlarged, 1878), written by his first wife, deals with his life on the Plains

Carrington, Richard Christopher, 1826–75, English astronomer After spending several years as observer at the Univ of Durham, he established a private observatory at Redhill, Surrey Some of the results of his labors are recorded in *A Catalogue of 3735 Circumpolar Stars Observed at Redhill* (1857) and *Observations of the Spots on the Sun from 1853 to 1861* (1863)

Carrington, city (pop 1,850), co seat of Foster co, E central N Dak, NNW of Jamestown, in a farm and dairy region, laid out 1882, inc 1900

Carrizo Springs (kərēʼsō, -rīʼsō), city (pop 2,494), co seat of Dimmit co, SW Texas, SW of San Antonio, settled 1862, inc 1910 Formerly a cow town, it is now the center of an irrigated winter-garden area producing spinach and other truck

Carrizozo (kărĭsōʼsō), town (pop 1,457, alt 5,425 ft.), co seat of Lincoln co, S central N Mex, WNW of Roswell, laid out 1899 It is a railroad division point, with shops, and the trade and shipping center of a livestock and farm area

Carroll, Anna Ella, 1815–93, alleged adviser to Abraham Lincoln in the Civil War A member of the Protestant branch of the Carroll family of Maryland, she was a press agent for the Know-Nothing movement in the 1850s In *My Dear Lady* (1940), Marjorie Barstow Greenbie says that Miss Carroll was the "great, unrecognized member of Lincoln's Cabinet," responsible, it is said, for the successful Union strategy of the early Western campaigns and for numerous other decisions on high policy She is also the subject of Hollister Noble's novel, *Woman with a Sword* (1948)

Carroll, Charles, 1737–1832, American Revolutionary patriot, signer of the Declaration of Independence, b Annapolis, Md After completing his education in France and England, he returned (1765) and his father gave him a large estate near Frederick, Md., known as Carrollton Manor, he was afterwards styled Charles Carroll of Carrollton As leader of the Roman Catholic element, he attacked support of the established Anglican church in a series of articles written for the *Maryland Gazette* He threw himself boldly into revolutionary activities, though he was an extremely wealthy man. In 1776 the Continental Congress appointed him, together with Benjamin Franklin and Samuel Chase, to obtain Canadian support for the Continental cause His journal is one of chief sources of information on this vain mission Carroll served (1776–78) in the Continental Congress, and although he supported the Constitution he refused to attend the Federal Constitution Convention (1787) He was, however, one of Maryland's first U S Senators, serving from 1789 until 1792 Carroll, the last surviving signer of the Declaration of Independence, played an active role in early canal and railroad building See biographies by K. M Rowland (1898), Joseph Gurn (1932), and Ellen Hart Smith (1942)

Carroll, James, 1854–1907, American bacteriologist and army surgeon, b Woolwich, England, M D Univ of Maryland, 1891 He went to Canada at 15 and later joined the U S army A member of the Yellow Fever Commission under Walter Reed, he voluntarily submitted to the bite of an infected mosquito, contracted yellow fever, and recovered This was the first experimental case of the disease, and the mosquito was thus shown to be the carrier Carroll also proved that the infectious agent is a filterable virus

Carroll, John, 1735–1815, American Roman Catholic churchman, b Maryland He studied as a child with Jesuits at Bohemia, Md, later at Saint-Omer in Flanders, since Catholic secondary education was not allowed in Maryland He joined the Jesuits in 1753, studied at Liége, and was ordained in 1769 After the suppression of the Jesuits he returned to America and traveled about, ministering to the scattered Catholics He had a private chapel, for Catholic churches were forbidden by law. He ardently supported the American Revolution and accompanied Benjamin Franklin (always his good friend) on the vain mission to Quebec (1776) to persuade the Canadians to join the Revolutionary cause Seeing that American Roman Catholics should be free of supervision by the vicar apostolic of London, he led in petitioning Rome for the appointment of a priest with some episcopal powers In 1784 Father Carroll was made superior of the missions in the United States In the same year he published a controversial pamphlet, *An Address to the Roman Catholics of the United States of America*, to combat a paper impugning the loyalty of Catholics In 1790 he was consecrated bishop of Baltimore He invited the Sulpicians, who opened a seminary at Baltimore, and he founded Georgetown University He encouraged many communities and patronized schools throughout his diocese In 1808 he became archbishop, with suffragans at Boston, New York, Philadelphia, and Bardstown, Ky His last years were somewhat clouded by misunderstandings with the Catholics in Philadelphia and New York. See John G Shea, *Life and Times of the Most Rev John Carroll* (1888)

Carroll, John, 1892–, American painter, b Wichita, Kansas, where his parents were stopping en route to California. He studied engineering at the Univ. of California and art under Duveneck in Cincinnati. He served in the navy during the First World War After some years of varied occupations he won a prize at the Pennsylvania Academy of the Fine Arts in 1924 and went to Europe On his return he taught at the Art Students League of New York In 1927 he returned to Europe as a Guggenheim fellow and in 1930 became head of the department of painting of the Society of Arts and Crafts, Detroit He is best known for his imaginative and delicate interpretations of young women

Carroll, Lewis, pseud of **Charles Lutwidge Dodgson,** 1832–98, English writer and mathematician, b Daresbury, Cheshire Educated at Christ Church College, Oxford, he lectured in mathematics there until 1881; he was ordained a deacon in 1861 Among his mathematical works, now almost forgotten, is *Euclid and His Modern Rivals* (1879). He is now remembered as the author of *Alice's Adventures in Wonderland* (1865) and *Through the Looking-Glass and What Alice Found There* (1872) Both of these, together known popularly as *Alice in Wonderland*, were published under his pseudonym and both were illustrated by Sir John Tenniel Developed from stories told to the children of Dean Liddell, one of whom was named Alice, they were from the beginning popular children's books, and the mingling of fantastic absurdity with familiar details of everyday life has made Alice a perennial delight to adults. Many of the characters—the Mad Hatter, the March Hare, the White Rab-

but, the Red Queen, and the White Queen—have become familiar figures in literature and speech; numerous satiric and serious meanings can be read into the ludicrous chronicle, but the true value of the book is independent of these Also as Lewis Carroll, Dodgson wrote humorous verses—the most popular of them being *The Hunting of the Snark* (1876)—and several less important works His collected verse was published in 1932 See S H Williams and Falconer Madan, *A Handbook of the Literature of the Rev. C L Dodgson (Lewis Carroll)* (1931; supplement, 1935); selected letters (ed. by E. M Hatch, 1933), biography, with letters, by S D Collingwood (1898), Walter de la Mare, *Lewis Carroll* (1932), H M Ayres, *Carroll's Alice* (1936), biography by F B Lennon, *Victoria through the Looking-Glass* (1945)

Carroll, city (pop 5,389), co seat of Carroll co , W Iowa, W of Boone, inc 1869 Farm equipment is manufactured Carroll has a Franciscan hospital. Swan Lake State Park is near

Carroll College · see HELENA, Mont

Carrollton. 1 City (pop 6,214), co seat of Carroll co , NW Ga , WSW of Atlanta and on the Little Tallapoosa river It is a trade center for a fertile farm area and has textile mills A state junior college is near by. 2 City (pop 2,285), co seat of Greene co , W Ill , NW of Alton, settled 1818, laid out 1821, inc 1861 It is a farm trade center 3 City (pop 2,910), co. seat of Carroll co , N Ky , on the Ohio at the mouth of the Kentucky and NE of Louisville, in a farm area, inc 1794 The city has tobacco storehouses and a distillery. A state park named in honor of Gen William O Butler is near by 4 City (pop 4,070), co seat of Carroll co , N central Mo , ENE of Kansas City, in a farm area, settled 1818, inc. 1833 There is a monument to Gen James SHIELDS A state children's home is near by 5 Village (pop 2,548), co seat of Carroll co , NE Ohio, SE of Canton, laid out 1815 It was the home of the "fighting McCooks" of Civil War fame

Carrolltown, agricultural borough (pop 1,289), SW central Pa , in the Alleghenies NW of Altoona, laid out 1840, inc 1858. Potatoes and cabbage are the chief crops

Carron, village, Stirlingshire, Scotland, NE of Falkirk It has long-established ironworks (c 1760), and electrical equipment is made The village gives its name to the carronade naval gun, formerly made here, and to carron oil

carron oil, a creamy oil emulsion composed of equal parts of linseed oil and limewater, formerly much used in the treatment of burns and scalds, but now largely replaced by other substances Carron oil was first applied at the ironworks at Carron, Scotland

carrot, biennial plant (*Daucus carota*), considered to have been derived from the WILD CARROT, but with the root developed under cultivation into a valuable fleshy vegetable The carrot has been cultivated for over 2,000 years, it became popular in England in the 16th cent but was long used mainly as an ingredient of soups and stews. Lately it has come to be considered one of the most important vegetable foods because of its sugar, mineral salts, and vitamin content It also contains pectin Carrots make a good livestock feed, although they are not as cheap to grow as some other root crops Butter coloring is sometimes made from carrots

Carrucci, Jacopo see PONTORMO, JACOPO DA

Carryl, Guy Wetmore, 1873–1904, American humorist and editor, b New York city, studied at Columbia He was on the editorial staff of *Munsey's Magazine* (1895–96) From 1897 to 1902 he lived in Paris and contributed light verse to *Life* and *Collier's* His work includes *Fables for the Frivolous* (1898) and *Mother Goose for Grown-Ups* (1900)

Carshena (-shē'-), counselor of Ahasuerus Esther 1 14

Carso, Yugoslavia see KARST

Carson, Edward Henry Carson, Baron, 1854–1935, North Irish politician, b Dublin He was a member of Parliament (1892–1921), a prominent trial lawyer, and solicitor general (1900–1905) He had long opposed home rule for Ireland, and in 1911 he organized military resistance in Ulster against an English attempt to impose it He was diverted only by the First World War, in which he served in two coalition governments He was made baron in 1921 He violently denounced the creation of the Irish Free State in 1921 but approved the new government of Northern Ireland. See biography by Edward Marjoribanks and Ian Colvin (3 vols , 1932–37)

Carson, Kit (Christopher Carson), 1809–68, American frontiersman and guide, b Madison co , Ky. In 1811 he moved with his family to the Missouri frontier Orphaned at an early age, he was apprenticed to a saddler in Old Franklin, an outfitting point on the Santa Fe Trail, but in 1826 he ran away, joining a caravan for Santa Fe and continuing on to Taos, N Mex , which became his home and his headquarters For the next 14 years he made his living as a teamster, cook, guide, and hunter for exploring parties, notably those of Ewing Young to California and Thomas Fitzpatrick to the Rocky Mts From 1840 to 1842 he was employed as a hunter to supply meat to Bent's Fort In 1842, while returning from St. Louis by boat up the Missouri, he met J. C. Frémont, who employed him as a guide for his Western expeditions of 1842, 1843–44, and 1845. He became famous as a result of Frémont's reports of his skill and courage, and in the Mexican War after the taking of Los Angeles in 1846, he was ordered to Washington with dispatches. In New Mexico he met Gen Stephen Kearny's troops, and Kearny commanded him to guide his forces to California When Kearny's men were surrounded in California, Carson, E F Beale, and an Indian made their way by night through enemy lines to secure aid from San Diego In 1847 and again in 1848, Carson was sent east with dispatches He determined to retire to a sheep ranch near Taos, but depredations by Indians compelled him to continue as an Indian fighter In 1853 he was appointed U S. Indian agent, with headquarters at Taos, a position he filled with notable success. At the outbreak of the Civil War he helped organize and commanded the 1st New Mexican Volunteers, who engaged in campaigns against the Apache, Navaho, and Comanche Indians in New Mexico and Texas At the end of the war he was made a brigadier general, in command (1866–67) of Fort Garland, Colo. See his autobiography (ed by Blanche C Grant, 1926, ed by M M. Quaife, 1935), biography by Stanley Vestal (1928), E L Sabin, *Kit Carson Days* (rev ed , 1935)

Carson City. 1 Village (pop. 1,112), S Mich , on Fish Creek and NW of Lansing, in a farm area, settled 1854, inc 1887 2 [for Kit CARSON] City (pop 2,478), state capital, and co seat of Ormsby co , W Nev , in the Carson valley S of Reno, inc 1875 Laid out in 1858 on the site of Eagle Station, a trading post established (1851) on the emigrant trail from Salt Lake City to California, it served as a supply station for miners in the valley, achieved importance with the discovery (1859) of the COMSTOCK LODE, and later became the terminus of the railroad carrying ore In 1861, when the Territory of Nevada was created, the city was made the capital and in 1867 became the seat of a U S mint—both largely through the efforts of William Morris STEWART State and Federal offices and the headquarters of the Carson Indian Agency are here

Carson-Newman College · see JEFFERSON CITY, Tenn

Carson Sink, swampy area, c 100 sq mi , W Nev , NE of Fallon It is a remnant of ancient Lake Lahontan, and in it the Carson river is dispersed The river's course was followed by California-bound travelers in the 1850s and 1860s Lahontan Dam (completed 1915) now conserves most of the river's flow in Lahontan Reservoir for the NEWLANDS PROJECT

Carstares or **Carstairs, William,** 1649–1715, Scottish statesman and divine While studying theology at Utrecht, he became a friend of William of Orange He was imprisoned in Edinburgh (1675–79) for alleged co-authorship of *An Account of Scotland's Grievances* and imprisoned and tortured in London (1682) as a suspect in the RYE HOUSE PLOT Shortly before 1688 he was made chaplain to William of Orange (WILLIAM III), later accompanied him to England, and became so powerful in his efforts to reconcile the new king and the Scottish church and to frustrate the Episcopalian Jacobites that he was nicknamed "the Cardinal" His influence continued under Queen Anne as he worked for the union of England and Scotland, served as principal of the Univ of Edinburgh from 1703, and was four times moderator of the assembly of the Church of Scotland See biography by R H Story (1874)

Carstens, Asmus Jacob (äs'mōōs yä'kōp kär'stuns), 1754–98, Danish historical painter and engraver, b Schleswig, studied in Copenhagen and in Italy. He was influenced by the work of Giulio Romano Carstens lived chiefly in Rome and in Germany, where he was a popular professor at the Berlin Academy (1787). Through such pupils as Peter von Cornelius he had a great influence on German historical painting *Homer Singing* is a characteristic work

Carstensz, Mount (kär'stūnz), group of peaks in the Nassau Mts , on W central New Guinea, in Netherlands New Guinea The highest peak, c 16,400 ft , is the highest on the island

Cartagena (kärtŭjĕ'nŭ, Span kärtähä'nä), city (pop 73,190), N Colombia, a Caribbean port Founded in 1533 by Pedro de Heredia on an excellent harbor, which had been visited by the Spanish much earlier, Cartagena became the treasure city of the Spanish Main, where precious stones and minerals brought down the Magdalena awaited transshipment to Spain The harbor was guarded by 29 stone forts, and the city was encircled by a high wall of coral. Nevertheless, buccaneers swooped down on the city, which was sacked in 1544, 1560, and 1586 (this time by Sir Francis Drake). In 1741, in the War of the Austrian Succession, Cartagena heroically withstood a three-month siege commanded by the British under Edward Vernon, who was forced to retire after heavy losses from fighting and disease With the coming of independence, Cartagena was the first of the cities of Colombia and Venezuela to declare (Nov. 11, 1811) absolute independence from Spain. The republic of Cartagena captured SANTA MARTA in 1813, but lost it to royalist forces toward the end of the year. In 1815 it was besieged by the Spanish under Pablo MORILLO and, after a magnificent 106-day defense, surrendered A large part of the population died from the warfare, starvation, and disease. Many more fled After proclaiming an amnesty, Morillo executed hundreds of the survivors. The city was recaptured by patriot forces on Oct 1, 1821 The revolution cost Cartagena its supremacy Later a natural side channel of the Magdalena, the Canal de Dique, silted up, and river traffic began to go to BARRANQUILLA. Some of the former importance was regained by Cartagena in the 20th cent. when a railroad was built to Calamar on the river and an oil pipeline laid to the fields in the Magdalena basin Considerable trade comes from the ATRATO valley Besides oil, exports include gold, platinum, and tagua nuts Sugar, cotton, and cattle are raised in the district E of Cartagena

Cartagena (kärtŭjĕ'nŭ, Span kärtähä'nä), Latin *Carthago Nova,* city (pop 43,104), Murcia prov , SE Spain, on the Mediterranean An important seaport and naval base, it has a fine natural harbor, protected by forts, and has a naval arsenal. There are cordage, liquor, and other manufactures Lead, iron, and zinc are mined near by, though the rich silver mines exploited by Carthaginians and Romans are now practically exhausted Founded by Hasdrubal c 225 B C , the city soon became the chief Carthaginian base in Spain and a flourishing port Captured (209 B C.) by Scipio Africanus Major, it continued to flourish under the Romans The Moors, who took it in the 8th cent , later included it in MURCIA Cartagena was sacked (1585) by Sir Francis Drake and figured later in wars with the British No traces remain of the ancient city The medieval Castillo de la Concepción commands a fine view

Cartago (kärtä'gō), city (1944 estimated pop 12,933), central Costa Rica. Founded in 1563 at the eastern extremity of the central plateau, in a rich coffee-growing region, Cartago was the political center of Costa Rica until liberal dominance after 1821 established SAN JOSÉ as capital Cartago remained a conservative stronghold Destroyed by an eruption (1723) of IRAZÚ volcano, it was also severely damaged by earthquakes in 1822, 1841, and 1910 To withstand shock most buildings are low and massive Cartago's principal church is the scene of annual pilgrimages Although many colonial traditions survive in the gracious old city, Cartago's former glory has vanished

Carte, Richard D'Oyly (dō'lĭ kärt'), 1844–1901, English impresario In 1875 he produced *Trial by Jury,* the first operetta of Sir William Schwenck GILBERT and Sir Arthur Sullivan, and subsequently produced all their other works In 1881 he built the Savoy Theatre, which the operettas made famous

cartel, national or international organization of manufacturers or traders allied by agreement to fix prices, limit supply, divide markets, or fix quotas for sales, manufacture, or division of profits among the member firms In that it may have international scope the cartel is broader than the TRUST, and in that it carries on manufacture it differs from the speculative CORNER or ring Of German origin, the cartel achieved prominence in the world depression of the 1870s, which coincided with the unification of Germany and the growth of its economy The existence of cartels is in opposition to classic theories of economic competition and the free market, and they are forbidden by law in many nations In Germany, however, by the outset of the Second World War nearly all industry was controlled by cartels closely supervised by the government Participation by American firms in German cartel agreements has been prosecuted by the U. S government as constituting restraint of trade Foes of cartels have alleged that they have driven competing firms out of existence, reduced volume of trade, operated to harm consumers, and benefited German aggression by furnishing markets, profits, and technical data to Germany before the Second World War Apologists for cartels claim that they protect the weaker participating firms, do away to an extent with limitations on trade resulting from high tariffs, distribute risks and profits equitably, stabilize markets, reduce costs, and hence protect consumers The U S government legalized export associations in 1918 and has itself participated in agreements regulating production and international trade in foodstuffs, rubber, and other commodities. The International Trade Organization formed at the end of the Second World War has opposed cartels, but many factors limit its authority Because they infer the agreement of several governments, cartels in international trade are usually felt to be less harmful than those which tend to establish monopolies in the domestic market for participants. See TRUST See Joseph Borkin and C. A. Welsh, *Germany's Master Plan* (1943); E S. Mason, *Controlling World Trade, Cartels, and Commodity Agreements* (1946), G. W. Stocking and M. W. Watkins, *Cartels or Competition?* (1948).

Carter, Elizabeth, 1717–1806, English poet and translator; daughter of a clergyman. Under the pen name Eliza she contributed for years to the *Gentleman's Magazine*. Known as a Greek scholar, she translated Epictetus (1758). She was a friend of Johnson, friend and correspondent of Richardson, Burke, Reynolds, Richard Savage, and Horace Walpole, and one of the BLUESTOCKINGS. Her *Poems upon Particular Occasions* appeared in 1738, *Sir Isaac Newton's Philosophy Explained for the Use of the Ladies*, a translation of Algarotti, in 1739, in 1762 she brought out a new volume of *Poems on Several Occasions*. See her memoirs (1807) and *Letters to Mrs Montagu* (1817), Alice C C Gaussen, *A Woman of Wit and Wisdom* (1906)

Carter, Henry Rose, 1852–1925, American sanitarian, b Caroline co, Va, M D Univ of Maryland, 1879. He entered the Marine Hospital Service, and in the campaign to keep yellow fever out of the Southern states he completely reorganized the Federal quarantine service. He organized similar departments in Cuba after the Spanish-American War and in the Panama Canal Zone in 1904. His *Yellow Fever* was posthumously published in 1931

Carter, Howard, 1873–1939, English Egyptologist. His early experience was gained under Flinders Petrie, Édouard Naville, and Gaston Maspero. He served with the Egyptian Exploration Fund and as inspector general of the antiquities department of Egypt. He later helped to reorganize the antiquities administration of Upper Egypt. During his association (1906–23) with Lord Carnarvon, he excavated many fine tombs in the Valley of the Kings before the amazing discovery of the sepulcher of Tut-ankh-amen in 1922. Included in his writings is *The Tomb of Tut-ankh-amen* (Vols I–II, 1923, Vol III, 1933)

Carter, Mrs. Leslie, 1862–1937, American actress, b Lexington, Ky. Her maiden name was Caroline Louise Dudley. After she was divorced by her first husband, Leslie Carter, she went on the stage. Trained by Belasco, she was presented by him in 1890 in *The Ugly Duckling*. Her real recognition came with his *Heart of Maryland* (1895), and afterwards he successfully adapted *Zaza* (1899) and *Du Barry* (1901) for her. Their association reached a peak with *Adrea* (1905) and ended with Mrs Carter's second marriage in 1906, after which her stage popularity somewhat diminished

Carter, Nick, a fictional detective character in dime novels said to have been created by J R Coryell in the 1880s. The firm of Street & Smith, New York, published over 1,000 stories about Nick Carter, written variously by F V R Dey, E T Sawyer, G C Jenks, and others. The name Nicholas Carter was used as a pseudonym by many authors of dime novels

Carter, Samuel Powhatan, 1819–91, American naval officer and Union general in the Civil War, b Elizabethton, Tenn, grad Annapolis, 1846. In the Civil War he was transferred from the navy to the War Dept, sent to organize Union troops in East Tennessee, made brigadier general of volunteers (May, 1862), and given command of the cavalry division of the Army of the Ohio. Mustered out as brevet major general (1866), he returned to the navy. In 1882 he was made a rear admiral on the retired list. Carter is said to have been the only American who was both a major general and a rear admiral

Carteret, Sir George (kär'tərĭt, -rĕt), c 1610–1680, proprietor of East Jersey (see NEW JERSEY). He served in the British navy, fought for the royalists, and became (1643) lieutenant governor of his native island of Jersey. In 1663, with several others, he was granted the proprietorship of Carolina and in 1664, in conjunction with Lord Berkeley, was granted part of New Jersey. His widow sold his claim to 12 purchasers who joined with 12 others as the 24 proprietors of East New Jersey

Carteret, John. see GRANVILLE, JOHN CARTERET, 1ST EARL OF

Carteret, Philip, 1639–82, first colonial governor of NEW JERSEY. Carteret arrived in the province in 1665 and soon was faced with rebellion against quitrents and confused land titles. After the division of New Jersey in 1676, he was made governor of East Jersey. Mounting difficulties with Sir Edmund ANDROS over the right to collect customs duties led to Carteret's imprisonment by Andros and his eventual restoration by the duke of York (later JAMES II)

Carteret, Philip, d 1796, English admiral. He commanded the *Swallow* (under Samuel Wallis, commanding the *Dolphin*) in a voyage around the world (1766–69). After the vessels became separated near the Straits of Magellan, Carteret discovered Pitcairn Island, rediscovered the Santa Cruz group, and arrived at New Britain (near which he found New Ireland), passing thence by the Admiralty Islands to the East Indies.

Carteret (kärtûrĕt'), borough (pop 11,976), NE N.J., on Arthur Kill opposite Staten Island; inc 1906. It has metal industries and machinery manufacture

Cartersville, city (pop 6,141), co seat of Bartow co., NW Ga., NW of Atlanta and on the Etowah river, in a piedmont mining area; inc. 1850. Rubber products are made here. Artifacts and other archaeological items of interest have been excavated from the near-by Etowah Indian mounds.

Carterville. 1 City (pop 2,893), S Ill, SW of Herrin, in a farm and coal area; inc 1892. 2 City (pop 1,582), SW Mo, near Joplin, laid out 1875. Its lead-mining activities have declined

Cartesian coordinates (kärtē'zhən) [for René Descartes], values representing the location of a point in relation to two straight lines. The two straight lines are known as axes, the horizontal can be called the x axis and the vertical the y axis, and the point is located by measuring its distance from each line along a parallel to the other line. In terms of present-day mathematics Descartes used both rectangular (perpendicular) and oblique axes. This work on analytic geometry, or the application of algebra to geometry, was embodied in his *La Géométrie*, one of three sections appended to his essays on the method of science (1637). His was the first published presentation of the fact that a curve can be represented by means of an equation giving the relation between the coordinates (x, y) of a point on the curve. Descartes advanced generality in mathematics by showing that an infinity of curves can be referred to one system of coordinates. Others, including Pierre de Fermat and Thomas Harriot, developed similar concepts. A common application of coordinate geometry is in the making of graphs. See Descartes's *Geometry* (Eng tr by D E Smith and M L Latham, 1924)

Cartesian philosophy. see DESCARTES, RENÉ

Carthage (kär'thĭj), ancient city, on the northern shore of Africa, on a peninsula in the Bay of Tunis and near modern Tunis. The Latin name, Carthago or Cartago, was derived from the Phoenician name, which meant "new city" (the old city being Utica). It was founded (traditionally by DIDO) from Tyre in the 9th cent B C, the date is usually conventionally set at either 850 B C or 814 B C. The city-state built up trade and in the 6th and 5th cent B C began to acquire dominance in the W Mediterranean. Merchants and explorers went out across the seas. HANNO in the early 5th cent is supposed to have gone down the African coast as far as Sierra Leone. The wide net of trade brought back great wealth to Carthage. The state was tightly built under an aristocracy of nobles and wealthy merchants. Though a council and a popular assembly existed, these early lost power to oligarchical institutions, and practical power was in the hands of the judges and two elected magistrates. The greatest weakness of Carthage lay in the rivalry of the leading families, who traditionally backed opposing policies. The most important division was between those favoring land expansion and those favoring sea power. The maritime faction was generally in control and about the beginning of the 5th cent B C the Carthaginians established themselves on Sardinia, Malta, and the Balearic Islands, while MAGO arrived at treaties with the Etruscans, the Romans, and some of the Greeks. Sicily, however, which lay almost at the front door of Carthage, was never brought completely under Carthaginian control. The move against the island, begun by settlements in W Sicily, was brought to a halt when the Carthaginian leader, Hamilcar (a name which recurred in the powerful Carthaginian family usually called the Barcas), was defeated by Gelon, tyrant of Syracuse, in the battle of Himera (480 B C), and the Greek city-states of Magna Graecia were preserved. The Carthaginian threat continued, however, and grew with the steadily increasing power of Carthage. Hamilcar's grandson, Hannibal (another name much used in the family), and his colleague, Himilco, destroyed Acragas (see AGRIGENTO) c 406 B C. SYRACUSE resisted the conquerors, and a century later its tyrant AGATHOCLES even took (310–307? B C) the warfare to the shores of Africa, but after his death (289 B C) Carthage had practically complete control over all the W Mediterranean. Rome challenged that control in the 3d cent B C in the PUNIC WARS (so called after the Roman name for the Carthaginians, Poeni, i.e., Phoenicians). The first of these (264–241 B C) cost Carthage all hold on Sicily. Though Rome and Carthage still seemed more or less evenly matched, the dependence on mercenary troops and the fatal division in the state were shown clearly when the actions of another HANNO, a rival of the Barcas, brought on a great uprising of the mercenaries (240–238 B C) soon after the war. HAMILCAR BARCA put down the revolt and compensated for the Sicilian losses by undertaking conquest in Spain, a conquest continued by Hasdrubal. This growth of power again activated trouble with Rome, and the second of the Punic Wars took place from 218 to 201 B.C. Though the Carthaginian general was HANNIBAL, one of the greatest commanders the world has ever seen, Carthage was gloriously defeated, partly by the Roman generals, FABIUS and especially SCIPIO AFRICANUS MAJOR, and partly by the fatal division in Carthage itself, which prevented Hannibal from receiving proper supplies. After Scipio had won (202 B.C.) the battle of Zama, Carthage sued for peace and lost all its warships and its possessions outside Africa but was allowed to continue and expand the lucrative commerce. Even this, however, Rome (and particularly CATO THE ELDER) felt to be a threat, and the third of the Punic Wars (149–146 B C) ended with the total destruction of Carthaginian power and the razing of the city itself by SCIPIO AFRICANUS MINOR. Romans later undertook to build a new city on the spot in 122 B.C., but the project failed. Julius Caesar did found a new city, which under Augustus became an important center of Roman administration. Carthage was later (A D 439–533) the capital of the Vandals and was briefly recovered (533) for the Byzantine Empire by Belisarius. The Arab Hasan ibn Numan practically destroyed the city in 698, though the place was populated for many centuries afterward. There are few remains of the ancient Carthage; those which are found are of the Roman city, including a large aqueduct of Hadrian. Louis IX of France (St Louis) died here when on crusade. A chapel in his honor stands on the hill which is traditionally identified as Byrsa Hill, site of the ancient citadel. The Lavigerie Museum is also here. Carthage today, a suburb of Tunis, is chiefly important for this religious connection

Carthage 1 City (pop 2,575), co seat of Hancock co, W Ill, near the Mississippi and E of Keokuk, Iowa, laid out 1833, inc 1837. It is a farm trade center. Carthage College (Lutheran, coeducational, 1870) is here. In 1844 Joseph Smith, Mormon leader, and his brother were killed in the city jail by a mob. The old jail, now the property of the Mormon church, is regarded as a shrine by the many Mormons who annually visit it. 2 Town (pop 1,766), co seat of Leake co, central Miss., near the Pearl NE of Jackson, in a farm and timber area, named Leakville until 1834. 3 City (pop. 10,585), co seat of Jasper co, SW Mo, on the Spring river and near Joplin, in a lead, zinc, and marble area, founded 1842, inc 1873. It is a shipping center for farm and dairy products. Shoes and clothing are among the city's manufactures. Carthage was the scene of a Confederate victory in the Civil War, July 5, 1861. George Washington Carver was born at near-by Diamond. 4 Village (pop 4,207), N N.Y., on the Black River and E of Watertown, settled before 1801, inc 1841. Paper milling is the chief industry. 5 Town (pop 1,381), co seat of Moore co, central N C, SW of Raleigh, in a farm and tobacco area, settled in the 18th cent. 6 Town (pop 1,512), co seat of Smith co, central Tenn, on the Cumberland river and E of Nashville, founded 1804. It is a tobacco center and produces cheese. The Cordell Hull Bridge crosses the river here. 7 City (pop 2,178), co seat of Panola co, E Texas, SW of Shreveport, La, near the Sabine, founded 1848. The pine-woods region yields natural gas, oil, and lumber and has diversified farms

Carthusians (kärthōō'zhənz), small order of monks of the Roman Catholic Church. They were founded by St BRUNO at La Grande CHARTREUSE in France in 1084. The Carthusians are peculiar among orders of Western MONASTICISM in cultivating a nearly eremitical life each monk lives by himself with cell and garden and, apart from their public worship, scarcely meets the others. No order is more austere. The Carthusian enclosure is called charterhouse in English, and its architecture differs necessarily from that of the Benedictine ABBEY. The Charterhouse of London was famous, and the Certosa at Pavia, Italy, is an architectural monument. The Carthusians are devoted mainly to contemplation and had influence on religious life in medieval England. The chief sources of revenue of the order is derived from the sale of chartreuse, a liqueur made from a secret formula

Cartier, Sir Georges Étienne (sôrsh'ätyĕn'kärtyā'), 1814–73, Canadian statesman, b Quebec prov. He was called to the bar of Lower Canada (now Quebec) in 1835. A man of fiery and impetuous temperament, he took part in the rebellion of 1837 and was forced to flee to the United States, but he returned to Canada in 1838. In 1848 he was elected to the legislative assembly of Canada, where he became a leader of the French Canadians. With Sir John A. MACDONALD, his ally in Upper Canada, he formed the Macdonald-Cartier ministry (1857–62). He was the leading French Canadian advocate of confederation, played a prominent role in the Charlottetown Conference and Quebec Conference of 1864, and was mainly influential in persuading his compatriots to accept the federation proposals. On the other hand, in order to protect the French Canadians, he had insisted on a federal system as against a more centralized form of government. As one of Macdonald's most trusted colleagues, Cartier became minister of militia in the first dominion government. In 1868 he went to England with William McDougall to arrange for the purchase of the Hudson's Bay Company territory, and he was created baronet that year. He also had an important part in the projection of the Grand Trunk and Canadian Pacific railroads. See biographies by John Boyd (1914) and A. D. DeCelles (in "Makers of Canada" series, Vol. V, 1926).

Cartier, Jacques (zhäk), 1491–1557, French navigator, first explorer of the Gulf of St Lawrence and

discoverer of the St. Lawrence river. He made three voyages to the region, the first two (1534, 1535–36) directly at the command of Francis I and the third (1541–42) under the sieur de Roberval in a colonization scheme that failed On the first voyage he entered by the Strait of Belle Isle, skirted its barren north coast for a way, and then coasted along the west shore of Newfoundland to Cape Anguille From there he discovered the Magdalen Islands and Prince Edward Island and, going to the coast of New Brunswick, explored Chaleur Bay, continued around the Gaspé Peninsula, and landed at Gaspé to take possession for France Continuing to Anticosti island, he turned back with the approach of autumn storms. Hitherto the region had been considered cold and forbidding, interesting only because of the Labrador and Newfoundland fisheries, but Cartier's reports of a warmer, more fertile region in New Brunswick and on the Gaspé and of an inlet of unknown extent stimulated the king to dispatch him on a second expedition On this voyage he ascended the river to the site of modern Quebec and, leaving part of his men to prepare winter quarters, continued to the Indian village of Hochelaga, on the site of the present city of Montreal, and there climbed Mt Royal to survey the fertile valley and see the Lachine Rapids and Ottawa river On his return he explored Cabot Strait, ascertaining Newfoundland to be an island. His *Bref Récit et succinte narration* (1545), a description of this voyage, was his only account to be published during his life On his third trip he penetrated again to the Lachine Rapids and wintered in the same region, but gained little new geographical information Roberval did not appear until Cartier was on his way home, and Cartier refused to join him Although Cartier's discoveries were of major geographical importance and the claims of the French to the St Lawrence valley were based on them, he failed in his primary object, the discovery of the Northwest Passage and natural resources, and the region remained virtually untouched until the time of Champlain The best edition of the voyages is H. P. Biggar, *The Voyages of Jacques Cartier* (1924)

cartilage (kär'tĭlĭj), firm, elastic material of pearly appearance that forms part of the supporting system or SKELETON It is present in the fetus before bone is formed In many of the bones it remains in the growing ends until after puberty Cartilage is present in the adult on the surfaces of joints and in the nose, larynx, and windpipe It is a connective tissue of solid fibrous material, in which he cartilage cells Cartilage is subject to injury and is involved in diseases of the joints

cartoon, a full-size preliminary drawing for a decorative work such as stained glass, mosaic, mural painting, or tapestry Glass and mosaic are cut exactly by the patterns taken from the cartoons In tapestry the cartoon is inserted beneath the warp to serve as a guide In fresco painting the lines of the cartoon are perforated and transferred to the plaster by pouncing. In every case it is essential that the dimensions of the cartoon should be the same as those of the completed work The Italian Renaissance painters developed their designs for fresco and tapestry in full detail in the cartoons, and such works as Raphael's cartoons for the tapestries of the Sistine Chapel (Victoria and Albert Mus.) are treasured masterpieces The term is also used of a wide variety of satirical and humorous drawings, or caricatures, characteristically employing distortion for emphasis, particularly those appearing in newspapers and periodicals Great artists, including Goya, Hogarth, Daumier, and Rowlandson, have produced such works, and Thomas Nast, John Leech, Wilhelm Busch, Sir John Tenniel, Art Young, Charles Dana Gibson, and George Gross are a few of the many famous draughtsmen who contributed to the art The cartoon has often had far-reaching social and political importance A late 19th-century development of the cartoon, now an outstanding feature of the modern newspaper, is the comic strip in which stories of every kind are told in a sequence of drawings and are continued from day to day Sidney Smith, Percy Crosby, Clare Briggs, Chester Gould, and Fontaine Fox are a few among the many comic strip artists who have delighted the American public. The ANIMATED CARTOON of the film, as perfected by Walt DISNEY, has delighted the entire world

Cartouche (kärtōōsh'), 1693–1721, nickname of Louis Dominique Bourguignon, French criminal His band terrorized the Paris region until his capture He was broken on the wheel. Cartouche's daring exploits have been celebrated in stories, dramas, ballads, and popular prints.

Cartwright, Edmund, 1743–1823, English inventor and clergyman He was the inventor of an imperfect power loom which, when finally patented (1785), became the parent of the modern loom. It was the first machine to make practical the weaving of wide cotton cloth. A few of Cartwright's many other inventions were a wool-combing machine (1789), a machine for ropemaking (1792), and a fuel alcohol engine (1797). He cooperated with Fulton on his experiments with steam navigation. For 37 years he was prebendary of Lincoln Cathedral

Cartwright, John, 1740–1824, English reformer and pamphleteer; brother of Edmund Cartwright, inventor of the power loom. Cartwright had an early career in the navy (1758–70). He declined to fight the American colonists and wrote *American Independence: the Glory and Interest of Great Britain* (1774) A major in the Nottinghamshire militia (1775–92), he was deprived of his commission in the hysteria at the time of the French Revolutionary Wars He came to be called the father of reform for his advocacy of vote by ballot, parliamentary reform, abolition of slavery, and army reform In 1820 he was fined for sedition.

Cartwright, Peter, 1785–1872, American Methodist preacher, b. Virginia. He was a circuit rider in Kentucky, Tennessee, Indiana, Ohio, and Illinois for nearly 50 years In 1846 he was defeated for Congress by Abraham Lincoln An interest in education led Cartwright to aid in founding Illinois Wesleyan Univ. and Illinois Conference Female Academy (now MacMurray College for Women). The methods and experiences of the pioneer preacher are vividly recorded in his autobiography (1857) and other books See biography by H H Grant (1931)

Cartwright, Sir Richard John, 1835–1912, Canadian politician, b Kingston, Ont., educated at Trinity College, Dublin He was elected as a Conservative to the legislative assembly of Canada (1863) and to the first dominion House of Commons (1867), but he later joined the Liberals He was minister of finance (1873–78) in Alexander Mackenzie's administration As minister of trade and finance (1896–1911) in Sir Wilfrid Laurier's government, Cartwright was acting prime minister on several occasions He entered the Senate in 1904 A noted public speaker, he was the Liberal party's spokesman on financial matters and an earnest advocate of trade reciprocity with the United States See his reminiscences (1912)

Cartwright, William, 1611?–1643, English author, a royalist divine Educated at Christ Church, Oxford (M A , 1635), he was appointed succentor at Salisbury (1642) and a proctor of the university (1643) Cartwright was one of the followers of Ben Jonson and in his day had a high reputation both as preacher and as author Several of his works appeared in his life, but they are known chiefly through the collected edition of 1651 Of his plays, the best known are *The Ordinary*, a comedy, and *The Royal Slave* His poems, which had a lower place in the estimation of the day, are now almost entirely forgotten

Carty, John Joseph, 1861–1932, American electrical engineer, b Cambridge, Mass Associated with the Bell Telephone system from 1879, he was the inventor of numerous improvements in telephony

Carucci, Jacopo. see PONTORMO, JACOPO DA

Carus (Marcus Aurelius Carus) (kā'rus), d 283, Roman emperor (282–83) Praetorian prefect under PROBUS, he was made emperor by the soldiers after the murder of Probus. Leaving his son CARINUS in command of the West, Carus and another son, Numerianus, went on a campaign in the East He defeated the Sarmatians, successfully attacked the Parthians, and took Ctesiphon Soon afterward he died mysteriously

Carus, Paul, 1852–1919, American philosopher, born and educated in Germany For many years he was editor of the *Open Court* and the *Monist*, periodicals devoted to philosophy and religion His philosophy was monistic, seeking to establish religion on a scientific basis Among his many works were *Fundamental Problems* (1889), *The Religion of Science* (1893), *The Gospel of Buddha* (1900), *The History of the Devil* (1900), and *The Principle of Relativity* (1913)

Caruso, Enrico (kurōō'sō, Ital. ānrē'kō karōō'sō), 1873–1921, Italian operatic tenor His Italian debut was in 1895 He made his debuts in London (1902) and New York (1903) as the duke in *Rigoletto*, after which he appeared regularly at the Metropolitan Opera, New York, until his death His repertoire included over 50 roles in such operas as *La Bohème*, *Rigoletto*, and *Pagliacci*, roles both serious and comic The unusual quality and range of his voice made him world famous See biographies by P. van R. Key and Bruno Zirato (1922) and D. B. Caruso (1945)

Caruthersville (kŭrŭ'dhŭrsvĭl), city (pop 6,612), co seat of Pemiscot co , extreme SE Mo , on the Mississippi, in a cotton, farm, and timber area, laid out 1857 It is a cotton-ginning and shipping point, its products include shoes and sand and gravel

Carvajal, Francisco de (fränthē'skō dā kärvähäl'), 1464?–1548, Spanish conquistador For 40 years he fought in European wars before going to Mexico and subsequently to Peru, where he aided Francisco Pizarro. He grew rich from the tributary labor of Indians, thousands of whom died in his mines at Potosí He supported (1542) VACA DE CASTRO against the revolt of Diego de Almagro the younger, but when the New Laws to protect the Indians were promulgated in Peru (1544), he joined the revolt of Gonsalo PIZARRO. He was captured with Gonsalo Pizarro and was executed.

carvel: see CARAVEL and BOAT.

Carver, George Washington, 1864?–1943, American Negro agricultural chemist, b. near Carthage, Mo., grad. Iowa State College (B.S., 1894) He went, in 1896, to Tuskegee Institute, where his work in agricultural research won him international repute. His efforts to improve the economy of the South included the teaching of soil improvement and of diversification of crops. He discovered hundreds of uses for the peanut, the sweet potato, and the soybean and thus stimulated the culture of these crops He devised many products from cotton waste and extracted blue, purple, and red pigments from local clay. From 1935 he was a collaborator of the Bureau of Plant Industry. Carver contributed his life savings to a foundation for research at Tuskegee See studies by Rackham Holt (1943) and Shirley Graham and G. D Lipscomb (1944).

Carver, John, c.1576–1621, first governor of Plymouth Colony. A native of either Nottinghamshire or Derbyshire, he won considerable wealth as a London merchant. In 1609 he emigrated to Holland, where he soon joined the Pilgrims at Leiden His excellent character and his fortune, of which he gave liberally to the congregation, made him a leader. Carver, the chief figure in arranging for the Pilgrim migration to America, secured the backing of merchant friends in London, enlisted a number of capable settlers who came directly from England, and hired and provisioned the *Mayflower* for the journey After the signing of the Mayflower Compact he was elected (1620) governor for one year and was probably responsible for the choice of the site at Plymouth On his death, William BRADFORD succeeded him See G F. Willison, *Saints and Strangers* (1945)

Carver, Jonathan, 1710–80, American explorer, b Weymouth, Mass He served in the French and Indian War and in 1766 was hired by Robert ROGERS, then commanding at Mackinac, to undertake a journey to some of the Western tribes for promoting the fur trade, increasing geographical knowledge, and extending the influence of the English He journeyed by the Fox-Wisconsin route to the Mississippi and up that river to a point several days' journey above the present site of Minneapolis He wintered among the Sioux on the Minnesota river, learning much of their language and customs In the spring of 1767 he returned to Prairie du Chien, where by Rogers's orders he joined the expedition to search out the "Western Ocean." Their journey northwestward by the upper Mississippi being prevented by war between the Sioux and Chippewa, they ascended the Chippewa river and crossed to Lake Superior, the coast of which they followed to the Grand Portage Carver went to London in 1769 with the intention of publishing a narrative of his travels and of pressing claims for compensation for his services, for Rogers, having exceeded his authority in employing Carver, could not pay him After nine years of struggle and poverty, Carver in 1778 published the first edition of his *Travels through the Interior Parts of North America in the Years 1766, 1767, and 1768* (1778). The popularity of this book, the first English account of the upper Great Lakes and Mississippi region, is attested by the 32 editions, or more, through which it passed

Carver, rural town (pop 1,469), SE Mass , SW of Plymouth, settled c 1660, inc 1790

Carville, town SE La , on the Mississippi between Baton Rouge and New Orleans. Carville is the site of the National Leprosarium

carving, the art of cutting or abrading designs or figures in relief or in the round in stone (see CAMEO), wood, metal, bone, ivory, and other materials The tools commonly used in carving include a wide variety of gouges, drills, points, hammers, chisels, and saws. Carving is to be clearly distinguished from such other techniques of the sculptor as modeling or casting, which presuppose a readily malleable material or one which can be liquefied True carving is always a process of subtraction

Cary, Alice, 1820–71, and **Phoebe Cary,** 1824–71, American poets, sisters Both were born near Cincinnati Their first success came with *Poems of Alice and Phoebe Cary* (1849), after which they moved to New York and became popular in the circle of Horace Greeley Alice wrote prose as well as verse, including *Clovernook Papers* (1852), *Clovernook Children* (1855), and *Snow-Berries* (1867) Phoebe's poems were published as *Poems and Parodies* (1854) and *Poems of Faith, Hope, and Love* (1868) Among her hymns is the well-known "One Sweetly Solemn Thought"

Cary, Henry Francis, 1772–1844, English writer, a clergyman He made many good translations of classic works. His blank-verse rendering (1814) of Dante's *Divine Comedy* is a standard translation

Cary, Lucius: see FALKLAND, LUCIUS CARY, 2D VISCOUNT.

Cary, Phoebe: see CARY, ALICE.

Cary, town (pop. 1,141), central N C , W of Raleigh, in a farm area, founded 1852, inc. 1870. It is the birthplace of Walter Hines Page. The state fairgrounds are near.

caryatid (kărēă'tĭd) [Gr.,=maid of Caryae, 15 mi. N of Sparta; i e., dancer at Artemis' shrine there], a sculptured female figure serving as an ornamental support in place of a column or pilaster. It was a frequently used motive in architecture, furniture, and garden sculpture during the Renaissance, the 18th cent., and, notably, the CLASSIC REVIVAL of the 19th cent, when caryatids were popular as mantelpiece supports The motive appeared in Egyptian and Greek architecture; the most celebrated example extant is the Porch of the Caryatids, forming part of the ERECHTHEUM Here six beautifully sculptured figures, acting as columns, support an entablature on their heads They are considered the only faultless examples of a form which ranks as somewhat questionable architecturally Caryatids were used also in two small treasuries (6th cent B C) at Delphi.

Casa, Giovanni della (jōvän'nē dĕl'lä kä'sä), 1503–56, Italian cleric and poet He was archbishop of Benevento and papal nuncio to Venice. He wrote lyric verse, a life of Bembo, and a treatise on etiquette, the *Galateo* (1560, Eng tr , 1576). His verse is often of great dignity and formal beauty See Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

casaba melon: see MELON

Casablanca, Louis (kä"sublĕng'ku, kä"zu–, Span kä"säblăng'kä), Arabic *Dar el Beida*, city (pop 551,322), French Morocco, a port on the Atlantic Ocean It is on the site of Anfa, a prosperous town which the Portuguese destroyed in 1468; they resettled it briefly in 1515 under its present name Almost destroyed by an earthquake in 1755, Casablanca was rebuilt by Mohammed XVI, who fostered its commerce By 1900 it was one of the most important ports of North Africa, and it was occupied by the French in 1907 (see MOROCCO) The port, its facilities greatly improved, handles over two thirds of Morocco's commerce It exports cereals, leather, wool, and phosphates, and it shelters large fishing fleets In the Second World War it was the scene of one of the three major allied landings in North Africa (Nov , 1942) and of a conference between Winston Churchill and F D Roosevelt (Jan , 1943) About one fifth of the population is European

Casablanca Conference, Jan 14–26, 1943, meeting of U S President F D Roosevelt and British Prime Minister Winston Churchill at Casablanca, French Morocco It resulted in the declaration that the Second World War would end only with the unconditional surrender of the Axis states Through the mediation of Churchill and Roosevelt the rival French generals, Henri H Giraud and Charles de Gaulle, also met at Casablanca and agreed to unite their forces

Casadesus, Robert (kasädāsüs'), 1899–, French pianist, studied at the Paris Conservatoire He became director of the American Conservatory at Fontainebleau in 1935, the year of his first visit to the United States, where he took up residence in 1940 A highly distinguished pianist, particularly as a player of French music, he is the composer of concertos, piano pieces, and symphonies He has often appeared in two-piano recitals with his wife, Gaby Casadesus, a fellow student of the Conservatoire whom he married in 1922

Casa Fuerte, Juan de Acuña, marqués de see ACUÑA, JUAN DE

Casa Grande (kä'sä grän'dā), town (1940 pop 1,545, 1946 special census pop 2,706), S Ariz , near the Casa Grande Mts SSE of Phoenix It is an irrigated farming community and is named for the excavated Indian pueblo (see NATIONAL PARKS AND MONUMENTS, table), some 20 mi east, near the town of Coolidge The U S resettlement community, Casa Grande Farms, is also near Coolidge

Casal, Julián del (hōōlyän' dĕl käsäl'), 1863–93, Cuban poet, a friend of Rubén Darío and a leader in *modernismo* He was thoroughly imbued with the French Parnassian movement Afflicted with a painful form of tuberculosis, he wrote verse expressing deep pessimism, but he escaped reality by choosing subjects from antiquity and far-off lands, especially Japan His best-known collections are *Hojas al viento* [leaves in the wind] (1890) and *Bustos y rimas* [busts and rimes] (1893)

Casale or **Casale Monferrato** (käsä'lā mônfĕr-rä'tō), city (pop 25,485), Piedmont, NW Italy, on the Po It became the capital of the marquisate of MONTFERRAT in 1435 and was strongly fortified. In 1703 it passed to the house of Savoy The 15th-century citadel is now a barracks Much wine is produced in the region and there are important cement industries

Casals, Pablo (pä'blō käsäls'), 1876–, Spanish cellist and conductor He began his career as a cellist in 1898 and as a conductor in 1920, when the Orquestra Pau Casals, Barcelona, gave its first concert. He often played trios with Jacques Thibaud and Alfred Cortot. In 1897 he joined the faculty of the Barcelona Conservatory, and after 1901 he made many concert appearances in the United States. See biography by Lillian Littlehales (rev ed , 1948).

Casanova, Giovanni Battista (jōvän'nē bät-tēs'tä käsänō'vä), c 1722–1795, Italian painter, studied in Dresden In 1752 he went to Rome, where as a co-worker of Anton Mengs he became known as a draughtsman of exceptional ability He is remembered principally for his designs for Winckelmann's work on ancient monuments In 1764 he was appointed a professor and later director of the Dresden Academy His brother **Francesco Giuseppe Casanova** (fränchās'kō jōōzĕp'pā), 1727–c 1802, b London, was a painter and engraver He studied in Venice, in Dresden, and in Paris, where he exhibited regularly at the Académie royale de Peinture et de Sculpture until his return to Italy in 1783

Casanova de Seingalt, Giovanni Giacomo (käsänō'vä, Ital jōvän'nē jä'kōmō käsänō'vä dă sängält'), 1725–98, Venetian adventurer and author His first name also appears as Jacopo He studied for the church but was expelled from school for immorality A life of adventure took him over Europe from Constantinople to Madrid and London He supported himself by gambling, spying, writing, and, especially, by his power to seduce women, and his personal charm affected the foremost persons of his time Arrested (1755) in Venice, he accomplished the notable feat of escaping from the "leaden roofs" of the state prison (1756) In Paris, where he enjoyed the favor of Marie Antoinette, he became director of the lottery After 1774 Casanova retired to the castle of Dux, Bohemia, where his friend, Count Waldstein, employed him as librarian A man of learning and taste, with interests ranging from theology, mathematics, poetry and literary and musical criticism to commercial and political projects, Casanova left behind a large number of writings His memoirs, written in French (1st ed , 12 vols , 1826–38), became world-famous Accurate as to history, they probably contain much invented personal matter Other papers, in prose and verse, were released in 1930 See biographies by Édouard Maynial (Eng tr , 1911) and Guy Endore (1929), Stefan Zweig, *Adepts in Self-Portraiture* (Eng tr , 1928)

Casas, Bartolomé de las see LAS CASAS

Casaubon, Isaac (ēzăk' käzōbō'), 1559–1614, French classical scholar and theologian, b Geneva He became professor of Greek at Geneva and at Montpellier and attracted by his learning the notice of Henry IV, who made him royal librarian Both Catholics and Protestants sought to win Casaubon's support, and both denounced him when he joined the Church of England In 1610 James I of England made him prebendary at Canterbury and Westminster He spent the rest of his life in England and was buried in Westminster Abbey Casaubon's great works are his editions of the classics, particularly Athenaeus and the *Characters* of Theophrastus Casaubon's diary, *Ephemerides*, was edited by his son, **Florence Étienne Méric Casaubon** (flōrās' ātyĕn' mārĕk'), 1599–1671, who was also a classical scholar

Casca (Publius Servilius Casca Longus) (kă'sku), d c 42 B C , Roman politician, one of the assassins of Julius CAESAR While Cimber grasped Caesar, Casca was the first to stab him in the back He died (presumably by suicide) soon after the battle of Philippi

Cascade. 1 Village (pop 1,029), co seat of Valley co , W Idaho, on the North Fork of the Payette and N of Boise, founded 1912–13 by combination of three settlements, inc 1917 Cascade Dam of the BOISE PROJECT is here 2 Town (pop 1,376), E Iowa, on the North Fork of the Maquoketa river and SW of Dubuque, in a fertile farm area, settled 1834, platted 1842, inc 1881.

Cascade Range, northern continuation of the Sierra Nevada extending c 500 mi through N California, Oregon, and Washington into British Columbia, paralleling the Pacific coast (and the Coast Ranges) 100 to 150 mi inland The range shows evidence of volcanic activity in the later geological periods, and all the highest summits are volcanic cones covered with snow fields and glaciers Some of the most magnificent and better-known peaks are Mt Shasta (Calif), Mt Thielsen, Mt Jefferson, and Mt Hood (Oregon), Mt St Helens, Mt Adams, Mt Rainier—the highest, with an altitude of 14,408 ft —and Mt Baker (Wash) The slopes are clothed with fir, pine, and cedar forests, large areas of which are held as national reserves Three rivers, the Klamath, the Columbia, and the Fraser, cut across the range to the Pacific See R O Case and Victoria Case, *Last Mountains* (1945), Roderick Peattie, ed , *The Cascades* (1949)

cascara sagrada (käskä'rä sŭgrä'du), dried bark of a buckthorn (*Rhamnus purshiana*) native to North America from S British Columbia to N California and Montana The extract prepared from the cured bark is used in medicine both as a laxative and as a tonic.

Casco Bay (käs'kō), inlet of the Atlantic, S Maine, with its principal harbor at Portland. Its shores and many islands are irregular in outline, hilly, and beautifully wooded; hundreds of summer estates and resorts are here.

case, in Latin INFLECTION, one of the several possible forms of a given noun Theoretically each noun has 10 cases, five singular and five plural, each singular form having a corresponding plural The five are called NOMINATIVE, GENITIVE, DATIVE, ACCUSATIVE, and ABLATIVE Some nouns have a sixth singular case, the VOCATIVE Each Latin noun or adjective must occur in some case The term *case* is used in many languages for Latinlike phenomena, it is especially useful in many languages of the Indo-European, Semitic, and Finno-Ugric families The meanings of the cases in one language have no sure correspondence with the meanings in another, and the use of similar terminology has often obscured differences Indo-European languages at an early stage had eight cases, nominative, accusative, INSTRUMENTAL, dative, ablative, genitive, LOCATIVE, and vocative Many English nouns have two cases, e g , *man* and *man's*, and a few pronouns have three, e.g., *he, him, his.*

casehardening see HARDENING

casein (kā'sēĭn), the chief PROTEIN of milk, constituting about 80 per cent of its total protein content Casein is a complex substance containing besides the protein material a phosphorus compound and is known, therefore, as a phosphoprotein It constitutes the curd of milk and is precipitated by the action of rennin, an enzyme. It is important in cheese making and is used in certain paints and glues and in making woolen fabrics Hardened by the action of formaldehyde, it is employed in the waterproofing of paper receptacles. Many articles are commonly manufactured from plastics prepared by this reaction of casein and formaldehyde

Case Institute of Technology, at Cleveland, nonsectarian, for men, chartered 1880, opened 1881 with a bequest from Leonard Case, called Case School of Applied Science until 1947 It is a school of science and engineering of university grade Warner and Swasey Observatory is here

Casella, Alfredo (älfrā'dō käsĕl'lä), 1883–1947, Italian composer, pianist, conductor, and writer on music, pupil of Faure at the Paris Conservatoire He taught piano at the Paris Conservatoire (1911–15) and at the St Cecilia Conservatory, Rome (1916–23) In 1917 he organized a society, reorganized (1923) with Malipiero and D'Annunzio as Corporazione delle Nuove Musiche, to promote the recognition of contemporary music He is the author of *L'evoluzione della musica a traverso la storia della cadenza perfetta* (1919) His best-known compositions are the ballets *Il convento veneziano* (1912) and *La Giara* (New York, 1925) Other works are piano pieces, songs, chamber music, orchestral works, and concertos

Casement, Roger David, 1864–1916, Irish rebel. In the course of British consular service (1895–1913) he exposed the atrocious conditions imposed on gatherers of wild rubber in the Congo and in the Putumayo river district in South America and was knighted (1911) for his services Though his background was Ulster Protestantism, Casement was an ardent Irish nationalist He went to Germany to gain aid for the rebellion of 1916 in Ireland He was arrested on his return to Ireland when he landed from a German submarine He was convicted in London of high treason, deprived of his knighthood, and hanged He is regarded by the Irish as a martyr patriot See biographies by Denis Gwynn (1930) and Geoffrey Parmiter (1936)

Caserta (kazĕr'ta), city (pop 30,910), capital of Caserta prov , Campania, S Italy It is noted for its sumptuous royal palace (built 1752–74) and **park**, called the Versailles of Naples The surrender of German forces in Italy to the Allies was signed here on April 29, 1945

Case School of Applied Science see CASE INSTITUTE OF TECHNOLOGY

Casey (kā'sē, kăs'ē), city (pop 2,543), E Ill , SW of Terre Haute, Ind , in a farm area, inc 1896

Casgrain, Henri Raymond (ärē' rämō' käsgrĭ'), 1831–1904, French Canadian historian, a priest educated at the Quebec seminary Ordained in 1856, he devoted himself to literature after 1874 His *Légendes canadiennes* in 1861 had won him an audience He was an enthusiast, fired by Garneau's history of the French Canadians and by the writers of French romanticism His *Pélerinage au pays d'Evangeline* (1887) was crowned by the French Academy *Histoire de la Mère Marie de l'Incarnation* (1864), *Les Promoters canadiens* (1876), *Montcalm et Lévis* (1891), and *Montcalm and Wolfe* ("Makers of Canada" series, 1905, rev ed , 1926) are selected titles of a long list, for he was an indefatigable worker Casgrain also collected and edited Lévis's papers (12 vols , 1889–96) He helped found the French Canadian periodicals *Les Soirées canadiennes* (1861) and *Le Foyer canadien* (1863).

cash, popular term for ready MONEY In commerce and banking the term is used in contradistinction to commercial paper To "cash" such paper means to convert it into currency In bookkeeping terms like petty cash and cashbook, the word has the same meaning "Cash payment" is opposed to

"credit," though cash payment may be made in coin, in notes, or by check

Cashel (kă'shŭl) [Irish, =castle], urban district (pop. 3,072), Co Tipperary, Ireland, ENE of Tipperary An agricultural market now, it was the ancient capital of the kings of Munster and was the stronghold of Brian Boru The Rock of Cashel, rising 300 ft in the center of the town, has the ruins of the 14th-century St Patrick's Cathedral, a round tower (10th cent.), an ancient cross, and Cormac's Chapel (12th cent.). Below the Rock are the ruins of Hore Abbey (1272) Cashel is the seat of a Roman Catholic archbishop and of an Anglican bishop

cashew (kŭshōō', kăsh'ōō), tropical American tree (*Anacardium occidentale*), valued chiefly for the cashew nut of commerce The tree is of spreading growth, reaching a height of 20 to 40 ft, and is characterized by a white, acrid juice, which turns black on exposure to the air and is used in making a varnish that protects woodwork and books from insects The fruit is kidney-shaped, about an inch in length, and has a double shell The kernel, which is sweet, oily, and nutritious, is much used for food in the tropics after being roasted to destroy the caustic juice It yields a light-colored oil said to be the equal of olive oil and is utilized in various culinary ways by the natives In the West Indies it is used to flavor wine, particularly Madeira, and is imported into Great Britain for this purpose The nut grows on the end of a fleshy, pear-shaped stalk, called the cashew apple, which is white, yellow, or red, juicy and slightly acid, and is eaten by the native people or fermented to make wine

Cashmere, India see KASHMIR

Cashmere, farm trading town (pop 1,465), central Wash., on the Wenatchee river and near Wenatchee, settled 1889, inc 1904

cashmere see SHAWL

Casilear, John William (kăs'ĭlēr'), 1811–93, American engraver and painter, b New York city, studied with A B Durand and in Europe His *Sibyl* is a masterpiece of line engraving His landscapes in oil, in their minute and careful finish, reflect his training as an engraver Among his best-known pictures are *Distant View of the Catskills* and *Lake George* (Metropolitan Mus.), *River Scene, Catskill* (N Y Public Library), *Scene in New Hampshire,* and *Genesee Meadows*

Casilinum (kăsĭlī'nŭm), ancient town, Campania, S Italy Founded (c 600 B C) probably by the Etruscans, it became (5th cent B C) the capital of the Samnites. Under the Romans it was an important military station controlling the bridge of the Appian Way over the Volturno river It was destroyed by the Saracens in the 9th cent, the inhabitants of near-by CAPUA moved here soon after and changed its name from Casilinum to Capua

Casimir I (Casimir the Restorer) (kă'sĭmēr), Pol *Kazimierz Odnowiciel,* c 1015–1058, Polish ruler, duke of Poland (1040–58), son of MIESZKO II He extricated Poland from the chaos of his father's reign but was never crowned king His son and successor was Boleslaus II

Casimir II, 1138–94, Polish ruler (1177–94), youngest son of Boleslaus III He drove his brother, Mieszko III, from power at Cracow in 1177, thus gaining the principal of the four duchies created by their father and the throne of Poland, which went with it At the Congress of Leczyca (1180) the nobility and clergy, in return for privileges he had granted them, vested hereditary rights as rulers of Cracow in Casimir's descendants (see PIAST) Casimir II himself was never crowned king

Casimir III (Casimir the Great), Pol *Kazimierz Wielki,* 1310–70, king of Poland (1333–70), son of Ladislaus I and last of the PIAST dynasty He brought comparative peace to Poland In 1335 he recognized the suzerainty of John of Luxemburg, king of Bohemia, over the Silesian branch of the Piasts, in return, John renounced his claim to the Polish throne. By the Treaty of Kalisz (1343) with the Teutonic Knights, Casimir consolidated his territories, and later he acquired most of the duchy of Galich-Vladimir (see GALICH) Casimir strengthened the royal power at the expense of the nobles and the clergy, codified Polish law in the Statute of Wislica, alleviating the lot of the peasants (hence he was called "king of the peasants"), improved the condition of the Jews, encouraged industry, commerce, and agriculture, and founded the Univ of Cracow Casimir was succeeded by his nephew, King Louis I of Hungary

Casimir IV, 1427–92, king of Poland (1447–92) He succeeded his brother LADISLAUS III as ruler of Poland and Lithuania The two nations he united more closely by placing them on an equal footing With the Second Peace of TORUN (1466) he ended a 14-year war with the Teutonic Knights His successors were his sons John I (1492–1501), Alexander I (1501–5), and Sigismund I (1506–48).

Casimir-Perier (kăzēmēr'-pĕryā'), name assumed after 1873 by **Auguste Casimir Victor Laurent Périer** (ōgüst', vĕktōr' lōrā'), 1811–78, French statesman, son of Casimir PÉRIER He was minister of the interior (1871–72) His son **Jean Paul Pierre Casimir-Perier** (zhă' pōl' pyĕr'), 1847–1907, succeeded (1894) Sadi Carnot as president of France. A moderate republican, he was attacked by the increasingly important left-wing parties and resigned early in 1895 Félix Faure succeeded him.

casino or **cassino** (both kŭsē'nō), card game played with a full deck by two to four players. Four cards are dealt to each player, and four open cards are dealt to the table A player takes in cards by matching his cards with cards of corresponding indices on the table or by "building"—adding two or more cards to total the index value of one in the hand. One may also "build" in the same value, e g, by putting a 4 on a 4 and picking both up with a third 4 Aces count as one, face cards only have matching value The game ends after all the cards of the deck are dealt in successive hands of four cards each The object is to take the greatest number of cards (counting 3 points) and the greatest number of spades (1 point), the 10 of diamonds or big casino (2 points), the 2 of spades or little casino (1 point), and the aces (counting 1 point each) Casino probably originated in Italy See R L Frey, ed., *The New Complete Hoyle* (1947).

Casiphia (kăsĭf'ēu, kăsĭfī'ŭ), place, on the way from Babylon to Jerusalem Ezra 8 17

Casiquiare (käsēkyä'rā), river, c 100 mi long, S Venezuela Also called the Canal Casiquiare or BRAZOS Casiquiare, it is formed by a dividing in the course of the Orinoco It flows SW to the Río Negro, thus linking the Orinoco and Amazon basins

Casket Letters see MARY QUEEN OF SCOTS

Caskets or **Casquets,** group of dangerous rocky isles in the English Channel near Alderney

Caslon, William (kăz'lun), 1692–1766, English type founder He worked first in London as an engraver of gunlocks The use of the "old-style" types designed by him was discontinued for many years while "modern" types of John BASKERVILLE and others were preferred, but the merits of Caslon's types were rediscovered, and their standing is registered in the printers' maxim, "When in doubt, use Caslon" The individual letters are less impressive than those of Baskerville and Giambattista BODONI, but they have the merit of combining marvelously into legible words and pages in which no detail of line or variation in "color" distracts a reader's attention from an author's meaning In Caslon's "old-style" type, the contrast of light and heavy lines is not stressed as in "modern" type, and the serifs are inconspicuous, and at the tops of roman lowercase letters they are sloping, they are not decorations, but are mere aids to the eye in recognizing the letters

Casluhim (kăs'lūhĭm, kăslū'–), ancient unidentified tribe Gen 10 14, 1 Chron 1 12

Caspar. see WISE MEN OF THE EAST

Casper, city (pop 17,964), co seat of Natrona co, E central Wyo, on the North Platte river, founded 1888 with the coming of the railroad, inc 1889 It is a rail, distributing, and processing center in an oil and livestock area The first well was tapped at Salt Creek field (1890), the Teapot Dome and Big Muddy fields followed, and Casper boomed Wells in the Lost Soldier field of Sweetwater co brought another boom in 1948 The city is also the center of a large wool-shipping district At this fording place on the Oregon Trail the Mormons in 1847 established a ferry, which was in the 1850s superseded by Platte Bridge A junior college and a state home for dependent children are here Near by are Hell's Half Acre, an eroded area Independence Rock, a granite landmark on the Oregon Trail, the site of old Fort Caspar (a clerk's error accounts for the later spelling of the name), and Casper Mt, c 8,000 ft high, with a recreational area Near Casper the Kendrick project of the Bureau of Reclamation comprises 66,000 acres The project has two dams in the North Platte—Seminoe Dam (est 1939), 295 ft high and 525 ft long, with a power plant and storage reservoir, and Alcova Dam (est 1938), 265 ft high and 763 ft long—and also uses water from Pathfinder Reservoir (see NORTH PLATTE PROJECT) Kortes Dam (begun 1946), between Seminoe and Pathfinder, is part of the MISSOURI RIVER BASIN PROJECT See A J Mokler, *History of Natrona County, Wyoming, 1888 1923* (1922)

Caspian, village (pop 1,797), SW Upper Peninsula, N Mich., near the Wis line and S of L'Anse, in a lake region, inc 1918

Caspian dialects, related Western Iranian dialects of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Caspian Gates see DERBENT, RSFSR

Caspian Sea, Latin *Mare Caspium* or *Mare Hyrcanum,* salt lake, area c 163,800 sq mi, USSR and Iran, between Europe and Asia, the largest inland body of water in the world. The larger part lies in Soviet territory, only the southern shore belongs to Iran The Caspian Sea is at 92 ft. below sea level, it reaches its maximum depth (c 3,200 ft) in the south The Caucasus rises from its southwestern shore, and the Elburz mts, parallel its southern coast It receives the Volga, Ural, Kura, and Terek rivers, but it has no outlet. Evaporation has a particularly high rate in the eastern inlet called KARA-BOGAZ-GOL, which is exploited for its salt. Variation in evaporation accounts for the great changes in the size of the sea in the course of history. Large projects are under way for raising its level, which has sunk 7 ft since 1936. The chief ports on the Caspian are BAKU, the oil center, and ASTRAKHAN, at the mouth of the Volga. Oil is shipped across the Caspian from Baku to Astrakhan, from where it continues on the Volga. The Caspian is also of great importance for its fisheries and sealeries The northern part of the sea is the chief source of black caviar

Casquets, in the English Channel see CASKETS

Cass, Lewis, 1782–1866, American statesman, b Exeter, N.H He established (1802) himself as a lawyer in Zanesville, Ohio, and was U.S marshal for Ohio from 1807 to 1812 In the War of 1812 Cass's command was included against his will in the forces which Gen William HULL surrendered to the British at Detroit in Aug., 1812 He was made a colonel in the regular army and a major general of volunteers before his release from parole in Jan., 1813, and fought with distinction at the battle of the Thames (Oct 5, 1813) Left in command at Detroit, Cass was also appointed governor of Michigan Territory, a post he filled ably for 18 years (1813–31). Made Secretary of War in 1831, he favored removal of the Indians beyond the Mississippi and supported President Andrew Jackson in the nullification crisis He was minister to France (1836–42) and U S Senator from Michigan (1845–48, 1849–57) Cass was the Democratic candidate for President in 1848, but because of the defection of the antislavery Democrats led by Martin Van Buren, who became the candidate of the Free-Soil party, he lost the election to the Whig candidate, Zachary Taylor President James Buchanan made Cass his Secretary of State, but Cass resigned in Dec., 1860, in protest against the decision not to reinforce the forts of Charleston, S C It is said that he was willing to withdraw his resignation, but Buchanan let it stand See biography by A C McLaughlin (1891), P C Auchampaugh, *James Buchanan and His Cabinet on the Eve of Secession* (1926)

Cassaba see KASSABA

Cassander (kŭsăn'dur), 354?–297 B C, king of Macedon, one of the chief figures in the wars of the DIADOCHI The son of Antipater, he was an officer under Alexander the Great, but there was ill feeling between them Cassander engaged after his father's death in vigorous warfare against Antipater's successor as regent, Polyperchon He was successful and by 318 B C had a preponderant influence in Macedonia and Greece Alexander's mother, Olympias, challenged this, putting Cassander's brother and many of his friends to death Cassander pursued her, crushed her army, and killed her (316 B C) Later, to strengthen his claim to the throne, he married Alexander's half sister, Thessalonica, and in 311 he murdered Alexander's widow, Roxana, and Alexander's son He resisted the efforts of Antigonus I to rebuild the empire and was one of the coalition that defeated Antigonus and Demetrius at Ipsus in 301 B C Thereafter he was secure in his possession of Macedon Potidaea was refounded by him and was renamed Cassandreia

Cassandra (kusăn'dru), in Greek legend, Trojan princess, daughter of PRIAM and HECUBA She learned the art of prophecy from Apollo, but because she would not accept him as a lover, her knowledge was changed to a curse—she was never believed She was violated by the Locrian AJAX and after the Trojan War was the slave of AGAMEMNON, whose wife, CLYTEMNESTRA, killed her

Cassandre, Adolphe Mouron (ädôlf' mōōrō' kăsă'drŭ), 1901–, French poster artist, b Russia Though he studied in the academic art schools of Paris, he considers himself self-taught His first poster was published in 1922, by 1923 he was well known as the artist of *Bûcheron* [woodcutter], a poster made for a cabinetmaker Later posters included designs for tennis matches, fairs, magazines, wines, shoes, horse races, steamships, and railways Cassandre's originality and clarity have made his designs classics of advertising and have influenced the development of the graphic arts.

Cassandreia, Greece see POTIDAEA

Cassano d'Adda (kăsă-sä'nō dad'dä), village, N Italy, 16 mi. NE of Milan and on the Adda. Here the French under Vendôme defeated the imperialists under Eugene of Savoy in 1705 (see SPANISH SUCCESSION, WAR OF THE) It was also the site of the victory (1799) of the French general Moreau over the Russians under Suvarov.

Cassatt, Alexander Johnston (kusăt'), 1839–1906, American railroad executive, b Pittsburgh, grad Rensselaer Polytechnic Institute, 1859. He entered (1861) the service of the Pennsylvania RR as a rodman and served (1880–82) as first vice president before he retired Recalled (1899) to the railroad as president, A J. Cassatt sponsored the "community of interest" plan, by which railway companies bought enough stock from one another to coordinate management against competitive rebate and the domination of big shipping firms Cassatt's administration was one of successful expansion, and he began the tunnel under the Hudson river and the terminal in New York city which brought the Pennsylvania RR to the heart of the city He was the brother of Mary Cassatt.

Cassatt, Mary (kŭsăt'), 1845–1926, American figure painter and etcher, b. Pittsburgh Most of her life was spent in France, where she was greatly influenced by her great French contemporaries, particularly Manet and Degas, whose friendship and esteem she enjoyed She early allied herself with the impressionists Motherhood was her favorite subject Her pictures are notable for their simplicity and originality, firm and vigorous treatment, and pleasing color She excelled also as a pastelist and etcher, and her dry points and color prints are greatly admired She is well represented in the public and private galleries of the United States Her best-known works include *The Young Mother*, a pastel (Luxembourg Mus., Paris), several versions of *Mother and Child* (in the Metropolitan Mus., Mus of Fine Arts, Boston, Worcester, Mass., Art Mus), *Lady at the Tea-Table* (Metropolitan Mus), *Modern Women*, a mural painted for the Women's Building of the Chicago exposition, and a fine portrait of the artist's mother See Forbes Watson, *Mary Cassatt* (1932)

cassava (kŭsä'vŭ) or **manioc** (mă'nēŏk), any plant of the genus *Manihot* having roots which yield cassava starch, a much-used nutritious food In South America it is roasted, boiled, baked into bread, fermented to an intoxicating beverage, or fed to animals, elsewhere it is used chiefly in the form of TAPIOCA or Brazilian arrowroot There are two kinds of cassava—the bitter and the sweet The bitter cassava, most commonly used, contains hydrocyanic acid in sufficient quantities to be deadly poisonous This poison is dispelled by heat, so that the roots are edible after cooking and are often prepared as a starch or flour The sweet cassava contains such a small quantity of the poison as to be edible when raw and is often used for fodder, for which it is grown in subtropical regions of the United States In Brazil, where it is native, cassava has long been a staple food In the tropics it is a shrubby perennial, easily cultivated and similar in appearance to the castor-oil plant, with clusters of large roots

Cass City, village (pop 1,362), S Mich, E of Bay City and on the Cass river, settled 1866, inc 1883 It is a farm trade center

Cassel, Gustav (gōs'tăf kä'sul), 1866–1945, Swedish economist, an authority on international financial problems He was a delegate to many world economic conferences, concerning himself especially with problems of reparations and the gold standard His books include *The Theory of Social Economy* (1918; Eng tr, 1923), *Money and Foreign Exchange after 1914* (1922), *Fundamental Thoughts on Economics* (1925), and *On Quantitative Thinking in Economics* (1935)

Cassel (kăsĕl'), town (pop 1,794), Nord dept, N France, near Dunkirk Here in 1328 PHILIP VI of France defeated the Flemings Here also the French defeated (1677) William of Orange (later William III of England) in the Dutch Wars

Cassel, Germany see KASSEL

Casselman, village (pop 1,021), SE Ont, on the South Nation river and SE of Ottawa

Casselton, city (pop 1,358), SE N Dak, W of Fargo, inc 1883 It is a commercial center in a grain-raising and dairy region

cassia see CINNAMON

Cassian (kă'shun), 360–435, leader in monasticism in the West, named John Cassian He settled at Marseilles (415) and established religious houses for men and for women He was attacked for Semi-Pelagianism (see PELAGIANISM), but he was trusted in Rome His *Collations*, spiritual writings for monks, had critical influence on the thought of St Benedict, St Gregory, and hence on all Benedictines, in matters touching ascetic and mystical life

Cassiar Mountains, range, N British Columbia, at the head of the Stikine river

Cassin, John, 1813–69, American ornithologist, b near Media, Pa He studied ornithology at the Academy of Natural Sciences, Philadelphia Though occupied with engraving and lithography, he arranged and identified, with the use of the Academy library, 26,000 specimens which Dr Thomas B Wilson had collected His classification and description of the Du Chaillu West African collection, appearing in the *Proceedings* of the Academy, was one of his most significant publications. He also wrote *Illustrations of the Birds of California, Texas, Oregon, British and Russian America* (1856) and, with others, *The Birds of North America* (1860)

Cassini (kăs-sē'nē), family of French astronomers and topographers, of Italian origin Four generations in succession were heads of the observatory at Paris, their combined periods in office covering 122 years **Giovanni Domenico Cassini** (jōvan'nē dōmā'nēkō), 1625–1712, b near Nice, was called by Louis XIV to take charge of the new observatory Naturalized soon after he took up his labors there in 1671, he organized the activities of the observatory He discovered four of the satellites of Saturn and described the structure of Saturn's ring and noted the division in the ring, determined the rotation of Mars; cooperated in determining the solar parallax; and is claimed to have made the earliest systematic observation of zodiacal light. **His son, Jacques Cassini** (shăk), 1677–1756, succeeded him in charge of the Paris Observatory in 1712 He had early achieved distinction in scientific circles The results of his principal labors are given in his published works, *Traité de la grandeur et de la figure de la terre* (1720) and *Éléments d'astronomie* (1740) His son, **César François Cassini** (sāzăr' frăswă'), known as Cassini de Thury, 1714–84, followed him as the head of the observatory In 1771 this ceased to be a dependency of the Academy of Sciences, and the post of director was created The most important works of César François are *Description géométrique de la terre* (1775) and *Description géométrique de la France* (1784). In 1744 he undertook the construction of a 'great topographical map of France which was completed by his son, **Jacques Dominique, comte de Cassini** (dōmēnēk' kōt' du), 1748–1845, his successor in the directorship of the observatory Opposed by the National Assembly, he resigned his post in 1793.

Cassino (kăs-sē'nō), town (1936 pop 9,208), Latium, central Italy, in the Apennines, on the Rapido river At the end of 1943 the town and the abbey of MONTE CASSINO on a near-by hill were the key defenses of the Germans blocking the Allied advance to Rome Despite repeated concentrated ground attacks started in Jan, 1944, despite the Allied attempt to divert German troops from here by landings at ANZIO, and despite the virtual destruction of town and abbey through aerial and ground shelling in February, the German positions held out until May 18, 1944

cassino see CASINO

Cassiodorus (Flavius Magnus Aurelius Cassiodorus Senator) (kăshōdō'rus), c 480–c 575, Roman statesman and author He held high office under Theodoric the Great and the succeeding Gothic rulers of Italy, who charged him with putting into appropriate official Latin their state papers and correspondence These he later collected as *Variae epistolae* Having retired to his estate, he founded two monasteries In one of these the leisure time of the monks was devoted to the copying of old manuscripts, which were thus preserved from otherwise certain loss Among his works were his *History of the Goths*, preserved in the abridgment of JORDANES, and a treatise on orthography His *Variae epistolae* have been condensed and translated by Thomas Hodgkin (1886)

Cassiopeia, in Greek legend see ANDROMEDA

Cassiopeia, in astronomy, a prominent northern constellation, visible above the horizon throughout the night Five bright stars in the constellation form a rough W in the sky Some see in this formation the shape of a chair known as Cassiopeia's Chair

Cassirer, Ernst (ĕrnst' kasĕr'ŭr), 1874–1945, German philosopher He was a professor at the Univ of Hamburg from 1919 until 1933, when he became a lecturer at Oxford Univ Cassirer was regarded as the leading representative of the Neo-Kantian Marburg school His detailed study of science and its relation to philosophy has extended the inquiries in both fields *Substanzbegriff und Funktionsbegriff* (1910), his best-known work, and *Zur Einstein'schen Relativitätstheorie* (1921) appeared in English as *Substance and Function and Einstein's Theory of Relativity* (1923) He has also written *Philosophie der symbolischen Formen* (1923–29), *Sprache und Mythos* (1925, Eng tr, *Language and Myth*, 1946), and *The Myth of the State* (1946), written in English

Cassius (kă'shus), Roman gens There were a number of well-known members **Spurius Cassius Viscellinus** (spyōō'rēus, vĭsul'nus), d c 485 B C, seems to have been consul several times In 493 B C he negotiated a treaty between Rome and the Latin cities on terms of equality In 486 B C he proposed that land be distributed equally among the Roman and the Latin poor (see AGRARIAN LAWS). It is said that the patricians, outraged at the suggestion, accused Cassius of royal aspirations and had him executed There are many legends concerning the man A descendant, **Quintus Cassius Longinus** (kwĭn'tus, lŏnjī'nus), d 45 B C, won a reputation for greed and corruption when a quaestor in Spain in 54 B C Five years later he was a tribune He and ANTONY, also a tribune, vetoed the attempts of the senate to deprive Julius CAESAR of his army When the senate overrode the tribunes on Jan 7, 49 B C, Cassius and Antony fled to Caesar, who crossed the Rubicon and commenced the civil war After Caesar's triumph, Cassius was given (47 B C) a post in Farther Spain There was a rebellion against him, and Caesar had to come from Italy to put it down. Cassius died in a shipwreck Best known of all was **Caius Cassius Longinus** (kā'ŭs, kī'ŭs), d 42 B C, leader in the successful conspiracy to assassinate Julius Caesar He fought as quaestor under M. Licinius Crassus (see CRASSUS, family) at CARRHAE in 53 B.C., saving what was left of the army after the battle He supported Pompey against Caesar, but was pardoned after the battle of PHARSALA He was made (44 B C) peregrine praetor, and Caesar had promised to make him governor of Syria. Before the premise could be fulfilled Cassius was a ringleader in the plot to kill Caesar. The plot involved more than 60 men (including M. Junius Brutus, Decimus Junius Brutus, C Cassius Parmensis, P. Servilius Casca, L Tillius Cimber, and C. Tribonius) and was successfully accomplished in the senate on the Ides of March in 44 B.C. When the people had been roused by Antony against the conspirators, Cassius went to Syria He managed to capture DOLABELLA at Laodicea and coordinated his own movements with those of Brutus Antony and Octavian (later AUGUSTUS) met them in battle at Philippi In the first engagement Cassius, thinking the battle lost, committed suicide In the second engagement Brutus was thoroughly defeated Another of the conspirators was **Caius Cassius Parmensis** (pärmĕn'sĭs), d 30 B C, a close relative of C Cassius Longinus He fought at Philippi and later with Sextus Pompeius After the defeat of Sextus Pompeius, Cassius remained away from Rome He later sided with Antony at Actium and was killed by order of Octavian

Cassius Dio Cocceianus, see DION CASSIUS

Cassivellaunus (kă"sĭvĭlō'nŭs), fl 54 B C, British chief, recognized as leader in the struggle against the invasion of Julius Caesar in 54 B C Caesar crossed the Thames into Cassivellaunus' home country, and, aided by the defection of certain British tribes (especially the Trinobantes), he attacked Cassivellaunus in his strong fort in the marshes and drove the Britons out with heavy losses After an unsuccessful attack against the Roman ship camp, Cassivellaunus sued for peace, which Caesar granted in return for hostages and annual tribute

Cass Lake, village (pop 1,904), N central Minn, on the west shore of Cass Lake, in a lumbering, dairying, and lake resort region, inc 1899 It was named for Lewis Cass, who explored this region in 1820 The Ojibwa Indian agency is here A forest experiment station and tree nursery are near by

cassone (kas-sō'nā), the Italian term for CHEST or coffer, usually a bridal or dower chest, highly ornate and given prominence in the home No piece of furniture of the Middle Ages and the Renaissance received more lavish decoration, the talent of such great artists as Donatello and Botticelli being freely employed for the carving and the painting which made the cassone a real work of art This chest was often of such size that two or three persons could conceal themselves in it

Cassopolis (kŭsŏ'pulĭs), resort village (pop 1,488), co seat of Cass co, SW Mich, on Stone Lake and NE of South Bend, Ind, in a farm area, settled 1831, inc 1863 The vicinity has Indian garden beds and mounds

cassowary (kăs'uwär"ē), flightless, swift-running, pugnacious forest bird of Australia and the Malay Archipelago, smaller than the related ostrich and emu The plumage is dark and glossy and the head and neck unfeathered, wattled, and brilliantly colored, with variations in the coloring in different species The head bears a horny protrusion

Cassville, city (pop 1,214), co seat of Barry co, SW Mo, SE of Joplin, platted 1845 A resort and fishing center in the Ozarks, it is also a shipping point for the fruits, dairy products, and poultry of the region

Castagno, Andrea del (ändrā'a dĕl kästä'nyō), d c 1457, Florentine painter His frescoes, best seen in the monastery of Sant' Apollonia, Florence, reveal him as one of the best of the Florentine realists of his period The equestrian portrait in fresco of Niccolò da Tolentino (cathedral, Florence), remarkable for its use of perspective and foreshortening, is one of his last works.

Castaigne, André (ädrā' kästăn'), 1861–, French illustrator and painter In 1890 he visited the United States, became director of an art school in Baltimore, and made many fine illustrations of Western subjects for *Century*, *Scribner's*, and other periodicals

Castaldi, Pamfilo (pämfē'lō kästal'dē), c 1398–c 1490, Italian humanist He is credited by some, on insufficient evidence, with the invention of printing See GUTENBERG, JOHANN

Castalia (kästā'lyu), spring near DELPHI, on the slopes of Mt PARNASSUS, sacred to Apollo and the Muses Consultants of the oracle had to wash in the spring

Castalion or **Castellio, Sébastien** (kästāl'yun, kăstĕl'yō), 1515–63, French Protestant theologian Castalion was with Calvin at Strasbourg and Geneva until, after doctrinal conflicts, he moved to Basel He obtained a chair of Greek literature in the university there Castalion is known for his defense of religious toleration in the preface to his Latin translation of the Bible (1551) An anonymous work on the execution of Servetus, *Concerning Heretics*, often attributed to Castalion, has appeared in English translation (1935) The name also appears as Castellion and Châtillon See Stefan Zweig, *Right to Heresy* (1936).

castanets, percussion instruments known to the ancient Egyptians and Greeks, possibly of Oriental origin They consist of two small concave pieces of hard wood or ivory, attached with strings to the fingers of the player and beaten together between the palm and the fingers. They are generally

used in pairs (one in each hand) to accompany Spanish dances and music.

Castaños, Francisco Javier (fränthĕ'skō hävyĕr' kästä'nyōs), 1756–1852, Spanish general. In the Peninsular War he defeated (1808) the French at BAILÉN and was created duke of Bailén

caste, a hereditary social class The caste is a closed group whose members are severely restricted in their choice of occupation and in degree of social participation Marriage outside the caste is prohibited. Social status is determined by the caste of one's birth and may not be transcended, as it may among social classes Certain religious minorities may voluntarily constitute a quasi-class within a society, less apt to be characterized by cultural distinctiveness than by their self-imposed social segregation A specialized labor group may operate as a caste within a society otherwise free of such distinctions In general, caste functions as a mechanism for maintaining *status quo* in a society Nowhere is caste better exemplified by degree of complexity and systematic operation than in India There are four chief castes (each having many subdivisions and its own rites and rules) the Brahmans, or priests, said, in the Vedas, to have sprung from the head of Brahma, the Kshatriyas, or soldiers, from his arms, the Vaisyas, farmers and merchants, from his belly, and the Sudras, or laborers, from his feet The PARIAH is of very low caste The castes are rigidly differentiated and reinforced by rituals and taboos pervading all thought and conduct. So widely do castes at social extremes differ in habits of everyday life and of worship, that only the close intergrading of intervening castes and the intercaste language communities serve to hold them within the single framework of Indian society The explanation that Indian castes were originally based on color lines to preserve the racial and cultural purity of conquering groups is inadequate historically to account for the physical and cultural variety of such groups Castes may reflect distinctiveness of religious practice, occupation, locale, culture status, or tribal affiliation, either exclusively or in part Divergence within a caste on any of these lines will tend to produce a subcaste which in time may form a separate caste Every type of social group as it appears may be fitted into this system of organizing society The introduction of new trades in recent times has in particular added to the increasing segmentation of Indian society On the other hand, there are strong leveling tendencies in modern India, derived from its growing Westernization and from the reform leadership of such men as Gandhi See J H Hutton, *Caste in India* (1946)

Castelar y Ripoll, Emilio (ämē'lyō kästälär' ē rēpō'lyu), 1832–99, Spanish statesman and author. A professor of history and philosophy at the Univ of Madrid and an active republican leader, he was foreign minister (1873–74) in the short-lived republic that followed the abdication of King Amadeus Under Alfonso XII he was a member of the Cortes He left historical, political, and literary works

Castel Gandolfo (kästĕl' gändōl'fō), village, Latium, central Italy, in the Alban Hills and 12 mi SE of Rome Overlooking Lake Albano, it possibly occupies the site of ancient Alba Longa Castel Gandolfo is the papal summer residence The papal palace (17th cent), its magnificent gardens, and the Villa Barberini enjoy extraterritorial rights

Castellammare di Stabia (kästĕl'lämä'rā dē stä'bya), city (pop 36,469), Campania, S Italy, beautifully situated on the Bay of Naples It has mineral springs used since Roman times and is also a commercial and industrial center, with navy yards founded in 1783 Ancient Stabiae, near here, was a favorite resort of the Romans, it was buried in the eruption of Mt. Vesuvius in A.D 79 The royal villa, Quisisana, built in 1310 and rebuilt in 1820, is now a hotel

Castellani, Sir Aldo, 1877–, British-Italian bacteriologist, b Florence, Italy He demonstrated the cause and mode of transmission of sleeping sickness (with Sir David Bruce and David Nabarro, 1903), discovered the spirochete of yaws (1905), and did other original work in bacteriology and in parasitic diseases of the skin He also lectured in tropical medicine in London and Ceylon, organized the school of tropical medicine at Tulane Univ and at Louisiana State Univ, and founded in Rome the Royal Institute for Tropical Diseases With A J Chalmers he wrote a standard history of tropical medicine. He was knighted in 1928

Castellio or Castellion, Sébastien: see CASTALION, SÉBASTIEN.

Castello or Castelli, Bernardo (bĕrnär'dō kästĕl'lō, -tĕl'lē), 1557–1629, Italian painter of the Genoese school, pupil of Cambiaso, whose style he imitated He was the friend of Tasso and made the designs for *Jerusalem Delivered*, some of which were subsequently engraved by Agostino Carracci Castello executed numerous works in the churches of Genoa His son, **Valerio Castello** (välär'yō), 1625–69, painter of historical scenes, was influenced by Procaccini and Correggio, but created a fine style of his own, particularly in the painting of battle scenes. He also executed many frescoes of high merit for the churches and monasteries of Genoa His best-known painting is *The Rape of the Sabines* (Palazzo Brignole, Genoa). *Moses Striking the Rock* is in the Louvre

Castello, Giovanni Battista (jōvän'nē bät-tēs'tä kästĕl'lō), c.1500–c 1569, Italian historical painter and architect of the Genoese school He was born near Bergamo and hence was called *Il Bergamasco* In 1567 he was summoned to Spain by Philip II and assisted in building the Escorial

Castello, Valerio: see CASTELLO, BERNARDO.

Castello-Branco, Camillo. see CASTELO BRANCO, CAMILO

Castellón de la Plana (kästĕlyōn' dā lä plä'nä), city (pop 42,324), capital of Castellón de la Plana prov, E Spain, in Valencia, 3 mi from its Mediterranean port of Grao Great quantities of oranges, lemons, grain, and wine are exported

Castelnau, Michel de (mēshĕl' du kastĕlnō'), c 1520–1592, French diplomat and soldier He early attracted the favorable notice of the cardinal of Lorraine (Charles de Guise) and performed important services for Anne, duc de Montmorency, and King Henry II In the religious wars he went on missions to England, Scotland, the Netherlands, and Savoy, and fought in the royal army, from 1575 to 1585 he served as ambassador to England Upon his return he fell out with the Guises and rendered valuable services against the LEAGUE to Henry III and Henry IV Although a Catholic, he favored a policy of moderation toward the Huguenots He left valuable memoirs

Castelo Branco, Camilo (kämē'lō kästĕ'lō bräng'kō), 1825–90, Portuguese novelist His tempestuous life was filled with incidents almost as improbable as those in his profuse, sentimental novels His highly colored, romantic stories are saved from being worthless by the singular poetic purity of his style Among the numerous books typical are *Os mysterios de Lisboa* (1854), *Romance de um homen rico* (1861), *Amor de perdiçao* (1862), and *Amor de salvaçâo* (1864). They were extremely popular. He spelled his name in the old form Camillo Castello-Branco, and he was vis onde de Correia Botelho

Castel Sant' Angelo (kästĕl' santän'jĕlō), **Hadrian's Mausoleum**, or **Hadrian's Mole**, massive construction on the right bank of the Tiber in Rome Originally built (A D 135–39) by Emperor Hadrian as a MAUSOLEUM for himself and his successors, it was completely changed through the centuries Frequently a place of refuge for the popes, it was connected to the Vatican by a secret passage It was used as a fortress and prison until 1870

Castiglione, Baldassare, Conte (bäldus-sä'rā kōn'tā kastĕlyō'nā), 1478–1529, Italian statesman attached to the court of the duke of Milan and later in the service of the duke of Urbino His famous *Libro del cortegiano* (1518, Eng tr, *The Courtier*, 1561), a treatise on etiquette, social problems, and intellectual accomplishments, is one of the great books of its time It gives a picture of 15th- and 16th-century court life See Ralph Roeder, *The Man of the Renaissance* (1933)

Castiglione, Giovanni Benedetto (jōvän'nē bänädĕt'tō), 1616–70, Italian painter and engraver of the Genoese school, called Il Grechetto or Il Benedetto He ranks as the greatest animal painter of Italy after Bassano In his later years Castiglione was court painter at Mantua He is best known for his landscapes and rural scenes with animals, but he also painted portraits and religious works, such as the *Nativity* (Genoa) His pictures are full of life and movement, the color rich and glowing Notable examples are *Noah and the Animals Entering the Ark*, a favorite subject (versions in Vienna and in the Uffizi), *A Caravan*; *Jacob with His Herds* (Madrid), and *Expulsion from the Temple* (Louvre) Castiglione's etchings, numbering about 70 and reflecting the influence of Rembrandt, are among the best produced in Italy during his century. The treatment of light and shade, as in his paintings, is particularly fine.

Castiglione delle Stiviere (kastĕlyō'nā dĕl'lā stēvyä'rā), small town, N Italy, 22 mi. NW of Mantua. Here Napoleon Bonaparte defeated the Austrians in 1796

Castile (kästēl'), Span *Castilla* (kastē'lya), region and former kingdom, central and N Spain, traditionally divided into Old Castile (Span. *Castilla la Vieja*), in the north, and New Castile (Span *Castilla la Nueva*), in the south. Old Castile (19,390 sq mi, pop 1,577,135) comprises the provinces of Ávila, Burgos, Logroño, Santander, Segovia, and Soria, named after their chief cities New Castile (27,933 sq mi; pop 3,129,270) comprises the provinces and cities of Ciudad Real, Cuenca, Guadalajara, Madrid, and Toledo In Castile is most of the high plateau of central Spain, while the Sierra de Gredos and the Sierra Guadarrama separate the two parts of the region The upper Duero, the Tagus, and the Guadiana rivers form the chief basins The soil of Castile is poor, and the climate severe Old Castile is given over to grain growing and sheep raising, and the bare, arid tableland has deteriorated much in use In more fertile areas, especially in New Castile, olive oil and grapes are produced. Agricultural methods are primitive, and irrigation, begun by the Moors, has made little progress since their time. Of the industries which flourished in the 14th and 15th cent. (particularly wool and silk manufactures) few have survived Mineral resources, however, include the rich mercury mines of ALMADÉN and coal and lead deposits The name Castile is derived from the numerous castles built here by the Christian nobles early in the reconquest from the Moors (8th–9th cent) Old Castile at first was a county of the kingdom of LEON, with Burgos its capital. Its independent-minded nobles, notably FERNÁN GONZÁLEZ, secured virtual autonomy by the 10th cent Sancho III of Navarre, who briefly annexed the county, made it into a kingdom for his son, FERDINAND I, in 1035 Leon was first united with Castile in 1037, but complex dynastic conflicts delayed the permanent union of the two realms, which was achieved under FERDINAND III in 1230 The Castilian kings played a leading role in the fight against the Moors, from whom they wrested New Castile At the same time they had to struggle against the turbulent nobles and were involved in dynastic disputes which plunged the country into civil war (see ALFONSO X and PETER I) Peter I limited the vast privileges of the nobles, but they were permanently curbed only late in the 15th cent. In 1479, after ISABELLA I had defeated the dynastic pretensions of JUANA LA BELTRANEJA, a personal union of Castile and Aragon was established under Isabella and her husband, Ferdinand II of Aragon (FERDINAND V of Castile). The union was made permanent with the accession (1516) of their grandson, Charles I (later Emperor Charles V), to the Spanish kingdoms Charles, who nominally shared the rule of Castile with his insane mother, JOANNA, until her death in 1555, suppressed the uprisings of the COMUNIDADES of Castile (1519–21, see CHARLES V, emperor). Castile became the core of the Spanish monarchy, centralized in Madrid, its capital after the 16th cent Its dialect became the standard literary language of Spain, and its history was merged with that of Spain

Castilla, Ramón (rämōn' kastē'ya), 1797–1867, president of Peru (1845–51, 1855–62) He fought under Antonio José de Sucre in the revolution against Spain (1821–24) in Peru and took part in the civil wars that followed An army general, energetic and resolute, he twice eliminated his rivals by armed force to become president He developed the guano, saltpeter, and nitrate industries, helped to reorganize finances, abolished slavery in Peru, and promulgated (1860) a new constitution which became the basis of future Peruvian government Although he overlooked considerable administrative corruption, Castilla brought unwonted order and a measure of prosperity to the republic

Castillejo, Cristóbal de (krēstō'bal dā kastēlya'hō), c 1490–1550, Spanish poet of the Renaissance As secretary to the king of Bohemia, brother of Emperor Charles V, he visited Vienna and other European cities His poems are grouped under the titles *Obras de amores* [works of love] and *Obras morales y de devoción* [moral and devotional works] He is considered the champion of the traditional Spanish as against the Italian verse form

Castillo de San Marcos National Monument: see SAINT AUGUSTINE, Fla

Castillon (kästēyō'), town (pop 2,737), Gironde dept, SW France, E of Bordeaux Here in 1453 the French defeated the English in the final great battle of the Hundred Years War

Castine (kästēn'), town (pop 662), S Maine, on a peninsula in Penobscot Bay, inc 1796 It includes Castine and North Castine villages Plymouth Colony had a trading post near the present Castine village after 1626, a few years later the French, who had had a mission here, seized the post, and thereafter the valuable site, known as Penobscot, changed hands several times between French, British, Dutch, and Americans A French adventurer called Baron Jean Vincent St Castin or Castine "ruled" it for 30 years after 1667. The British, whose permanent settlement began in 1760, held it in the Revolution and in the War of 1812. Part of the British-built Fort George (1779) is preserved, the site of the French Fort Pentagoet is marked, Fort Madison (1811, rebuilt in the Civil War) still stands, and there are interesting old houses. Wilson Museum has good collections

casting see FOUNDING and PLASTER CASTING

cast iron: see IRON

Castle, Vernon, 1887–1918, English dancer and aviator, whose real name was Vernon Castle Blythe. He studied civil engineering, but turned to the stage and made his debut in 1907. In 1911 he married Irene Foote (1893–, b New Rochelle, N.Y.), and in Paris (1912) their versions of such dances as the "Texas Tommy" and the "Grizzly Bear" brought them fame. The team originated the "Castle walk," the one-step, and "hesitation" waltzing, and Mrs Castle introduced bobbed hair and the slim, boyish figure to the ballroom and the world of fashion Vernon Castle was killed in an airplane accident while instructing a Canadian flying-corps contingent stationed in Texas

castle, type of fortified dwelling characteristic of the Middle Ages. Its twofold function of residence

and fortress developed because of the conditions of medieval life, in which war was endemic. The site of the castle was preferably a defensible eminence England and France, in general, did not afford such inaccessible locations as did the Rhine valley in Germany. The castle of Western Europe was a Norman creation, an outgrowth of the 10th- and 11th-century mound castle, which consisted of a great artificial mound of earth, the *motte*, surrounded by a dry ditch, or *fosse*, and surmounted by a wooden blockhouse and its encircling palisade With such structures the Normans repelled the Hungarian invasion and also maintained their supremacy in England Until well into the 12th cent, the only English development was the occasional substitution of a massive masonry keep inside the palisade—a form typified in the Tower of London Great changes soon took place as the science of siegecraft was evolved, provisions were made for an aggressive defense A type which became the model for many English and Norman castles was the formidable castle built at Arques in Normandy by William, uncle of the Conqueror A square donjon, or keep, was set against the strong outer walls of masonry; the entrance was protected by a double gate, two flanking round towers, and advanced earthworks The place enclosed by the outer circuit of walls was divided into two courts, or baileys, by a palisade Subterranean passages made detection of mining operations easy Before the close of the 12th cent the influence of the Crusaders was felt throughout the Continent and the British Isles In the East the Crusaders had discovered the value of double circuits of outer walls, the superiority of curved walls, and the advantages of flanking towers, preferably round, to protect each section of wall Thus early in the 13th cent the medieval castle, a mixture of Norman, English, and Byzantine elements, reached its full flower, as typified in the Château Gaillard on the Seine in France and Alnwick and the Conisborough in England In general, the castle was planned for security, the living quarters being rude, poorly lighted, and without provisions for comfort The keep contained the living quarters of the lord and his family, the rooms of state, and the prison cells Two independent systems of walls, each a fortress in itself, extended around the keep, the sections of the walls were flanked by towers, usually round, and the principal entrance was protected by strong gate towers, the massive gateway, with its portcullis and drawbridge, and the barbican, or advanced outwork The defenders operated from galleries at the tops of walls and from the flat roofs of towers, whose battlements were provided with embrasures and machicolations for shooting and dropping missiles on the attackers The fully developed castle was thus marked by successive series of defenses, the fall of the outer works did not necessarily mean the loss of the entire castle With the perfection of artillery and more settled political conditions, the castle lost its military importance The manor house replaced the castle as the residence of the wealthy landowner, but the architectural influence of the castle has persisted even to the present day, when crenelations and towers are still found in country houses See Eugène Viollet-le-Duc, *An Essay on Military Architecture of the Middle Ages* (Eng tr, 1860); G T Clark, *Medieval Military Architecture of England* (1884), C W C Oman, *The Art of War in the Middle Ages* (1885); Hugh Brown, *The English Castle* (1936)

Castlebar, Irish *Caisleán an Bharraigh*, urban district (pop 4,939), co seat of Co Mayo, Ireland It is the market for a cattle-raising and potato-growing area. Battles were fought here in 1641 and 1798

Castlebay, village, on Barra, Outer Hebrides, Scotland It is a fishing center

Castle Garden: see BATTERY, THE

Castlemaine, Barbara Villiers, countess of: see CLEVELAND, BARBARA VILLIERS, DUCHESS OF.

Castlemon, Harry: see FOSDICK, CHARLES AUSTIN.

Castle Peak see CARBON, MOUNT

Castle Pinckney, fortification at the harbor entrance of Charleston, S C Built in 1797 when war with France seemed imminent, it was named for Charles Cotesworth Pinckney In 1924 it was made a national monument (3 5 acres)

Castlereagh, Robert Stewart, 2d **Viscount** (kă'sŭlrā), 1769–1822, British statesman, b Dublin. Entering the Irish Parliament in 1791 and the British Parliament in 1793, he was made chief secretary for Ireland by the Tory leader, William Pitt, in 1797 In Ireland he was largely responsible for suppressing the rebellion of 1793 despite French aid to the rebels Having worked for the Act of Union of England and Ireland (1800) he resigned with Pitt in 1801 when George III refused to allow Catholic Emancipation President of the India board of control after 1802, he was later (1805, 1807–9) secretary of war. In that office during the crisis of Great Britain's struggle with Napoleon I, he planned the reorganization of the army, the Peninsular War against the French, and the effective coordination of British land and sea power, and after early disasters he succeeded in putting Arthur Wellesley (later duke of Wellington) in command. Differences with his colleague, George CANNING, flared into a serious political betrayal by Canning which Castlereagh discovered just after an ineptly commanded expedition against Walcheren had failed. They fought a duel in which Canning was wounded, and both resigned As foreign secretary (1812–22) under Lord Liverpool, Castlereagh helped to organize the successful coalition against Napoleon I, partly by secret treaties promising territorial changes Going himself to Chaumont (1814), he obtained that "concert of Europe" later confirmed by the QUADRUPLE ALLIANCE (1815) He was the constant advocate of moderate terms for France at the peace conference in Paris (1815) and in the Congress of Vienna (see VIENNA, CONGRESS OF) and agreed with Prince Metternich's policy of maintaining a balance of power and the ascendancy of conservative governments as the best way to assure peace, which he regarded as the most immediate necessity Though his main concern was still with foreign affairs, he was chiefly blamed for repressive measures used to put down unrest in England He attempted in 1818 (at the conference held in Aachen) and later to curb the desire of the reactionary powers to intervene in the domestic affairs of other nations to prevent revolutions, and he was about to go to the Congress at Verona to protest again when he committed suicide He became 2d marquess of Londonderry on his father's death in 1821 One of the foremost statesmen of his time, Castlereagh was cold in personality and lacked ability as an orator, he never gained easy popularity Only since the end of the First World War has his importance as a European diplomat been fully and generally recognized See biography by J D R Marriott (1936)

Castle Rock, farm trade town (pop 1,182), SW Wash, on the Cowlitz river and N of Longview, settled in the 1880s, inc 1890

Castle Shannon, borough (pop 3,970), SW Pa, c 5 mi S of Pittsburgh, inc 1919

Castleton, village, Derbyshire, England, in the Peak district On a near-by hill is the Castle of the Peak, or Peveril Castle, built by William Peveril, natural son of William the Conqueror The castle is the scene of part of Scott's *Peveril of the Peak* The Norman village church contains an old library In the vicinity are Peak Cavern, Speedwell Mine, the Blue John Mine (in which fluor spar is obtained), and other caverns

Castleton, town (pop 1,601), W Vt, W of Rutland in the Lake Bomoseen summer resort area, chartered 1761, settled 1770 Zadock Remington came in 1770, at his tavern the Ticonderoga recruits of Ethan Allen and Seth Warner met in 1775 The town is the seat of a state teachers college

Castleton-on-Hudson, village (pop 1,515), E N Y, on the east bank of the Hudson and S of Albany, settled c 1630 by Dutch, inc 1827 Paper boxes are made here

Castletown, seaport, on the southeast coast of the Isle of Man, Great Britain It is an old town, formerly capital of the island, and is the site of a 14th-century castle and of King William's College

Castor and Pollux, in Greek and Roman religion, twin heroes called the Dioscuri [Gr, =youths of Zeus] Pollux is a Latin form of the Greek name Polydeuces They were the sons of LEDA by Zeus or by Tyndareus, one legend makes Castor the son of Tyndareus and Pollux the son of Zeus The two were gigantic and gifted in battle When Theseus carried off their sister Helen, they recovered her They took part in the CALYDONIAN HUNT and in the ARGONAUT expedition When Castor was killed, Zeus made the brothers into the constellation GEMINI According to the story that Pollux alone was the son of Zeus, Pollux asked that Castor share his immortality, and the request was granted, the brothers being allowed to spend half their time below the earth, half the time above They were said to appear in battle to aid the side they had chosen, the most famous apparition being in aid of the Romans against the Latins in the battle of Lake Regillus (traditionally c 496 B C) They were highly honored in Rome especially by the knights (the equites). Castor was particularly notable for training horses, Pollux as a boxer They were together patrons of sailors, and the phenomenon of St Elmo's fire was known to ancients and still sometimes today, particularly if double, as Castor and Pollux

castor oil, oil expressed from the seed of the castor bean or castor oil plant (*Ricinus communis*), probably native to tropical Africa The plant now grows both wild and under cultivation in most temperate and tropical regions In the tropics it is treelike, but in colder areas it is an annual often grown for its decorative effect The leaves are palmately compound with from 5 to 12 dentate or serrated lobes The oil content of the seeds varies from about 25 to 50 percent After the hulls are removed the seeds are cold-pressed Medicinal castor oil is prepared from the yield of the first pressing Oil obtained from the second pressing and by solvent extraction is used as a lubricant for airplane motors and other machinery, as a softening agent in making artificial leather, in the dressing of genuine leather, in brake fluids, in the production of Turkey-red oil, in paint, and in a plastic material The seeds contain a poison, ricin Formerly the oil meal could be used only for fertilizer, but the discovery of a process for removing the poison makes the residue usable as cattle feed

Castracani, Castruccio (kästrōōt'chō kästräkä'nē), 1281–1328, duke of Lucca His early life was spent in exile After his return he was made captain (1316) then lord of Lucca for life He was the leader of the Ghibellines of all Tuscany, waged long wars against Florence, and conquered Volterra, Pistoia, and the Lunigiana Emperor Louis IV recognized him as duke of Lucca (1327) After recovering Pistoia, which had rebelled, he was threatening Florence itself when he died. His principality disappeared with him

Castren, Matthias Alexander, Swed *Castrén* (mätt'äs älĕksän'dûr kästrān'), 1813–52, Finnish philologist, one of the first scholars to study the Finno-Ugric languages He was long a professor at the Univ of Helsingfors (now Helsinki)

Castries (kä'strēz, kä'strēs, kästrē'), town (pop c 7,000), capital of SAINT LUCIA, British West Indies It has an excellent landlocked harbor.

Castriota, George. see SCANDERBEG

Castro, Cipriano (sēprēn'nō kä'strō), 1858?–1924, president of Venezuela (1901–8), called by his followers the Lion of the Andes In 1899 he overthrew President Andrade and set up his own government Castro's administration is notable because of the financial claims (see VENEZUELA CLAIMS) made by several foreign powers and his defiance of them A stern and arbitrary *caudillo* acting for his own advantage, Castro yet worked for the material advancement of his country Briefly in 1906 he retired because of ill-health in favor of Vice President Juan Vicente GÓMEZ, but after differences of opinion Castro again assumed power In 1908 he went to Europe for medical attention Hardly had he set sail before congress deposed him and Gómez took control Castro died in exile

Castro, Inés de, or **Inez de Castro** (both I'nĕs dŭ kä'strō, Port ēnāsh' dŭ käsh'trō), d 1355, Galician noblewoman, chief character in a romantic tragedy of real life She was celebrated for her beauty and was called *Colo de Garça* [heron throat] for her grace She came (1340) to Portugal as a lady in waiting to Constance of Castile, who was married to the heir to the Portuguese throne, Dom Pedro (later PETER I) He fell in love with her Though his father, Alfonso IV, banished her from court, the prince continued to see her After Constance died (1345), he established a household with her at Coimbra, where they lived an idyllic life, and she bore him four children Her brothers, however, gained political influence through the prince and awakened the opposition of powerful advisers of Alfonso IV Three of those advisers persuaded the king that Inés must be removed It is said that the king himself went with the purpose of destroying her but was moved by the pleas of her children (the king's grandchildren) The three advisers, unmoved, later shook the king's determination and with his permission returned and murdered Inés The prince was overcome with grief and anger and led a rebellion Peace was restored, and the prince promised to forgive the murderers, but when he became king (1357), he set out to hunt them down Two he recovered from Castile and executed horribly, the third escaped He announced that he had been secretly married to Inés and had two tombs made and installed at Alcobaça showing the life story of Inés in marble It is probably not true that he had her disinterred and crowned as queen, but that story was immortalized in a drama of Juan Ruiz de Alarcón The romantic story of the love affair has been a favorite theme of Portuguese writers and has been much used by Spanish and other writers also

Castro, Vaca de see VACA DE CASTRO, CRISTÓBAL

Castro, Greece see KASTRON

Castrogiovanni, Italy see ENNA

Castroville, unincorporated town (pop c 700), SW Texas, W of San Antonio Settled in 1844 by Alsatians and other Europeans brought by Henry Castro (Henri, comte de Castro), it is remarkable for preserving Old World customs and architecture

Castro y Bellvís, Guillén de (gōlyän' dā kas'trō ē bĕlvēs'), 1569–1631, Spanish dramatist, best known of the Valencian group of playwrights of the Golden Age Some of his plays are *El Narciso en su opinión*, *Los malcasados de Valencia*, *La fuerza de la costumbre*, *Pagar en propia moneda*, and *La piedad en la justicia* *Las mocedades del Cid*, considered his masterpiece, is a historical drama which furnished Corneille with the material for his play *Le Cid* An edition of his comedies was published in 1618, there may have been an earlier one in 1614

casuistry (kăzh'ōōistrē), application of general moral rules to particular problems, especially when the decision to be made involves a conflict of rules Strictly, any thoughtful ethical decision exemplifies casuistry However, the conflict of rules sometimes leads to involved legalisms and subtleties, with consequent apparent hairsplitting and rationalization Where laws, ethical or civil, are codified

and interpreted by a specially-designated group of persons, complicated schools of interpretation are almost sure to develop. Those who hold that the individual conscience is the major arbiter of ethics frequently exhibit scorn for the practice of casuistry

cat, small domestic carnivorous mammal, related to the lion, tiger, leopard, jaguar, and puma Retractile claws and acute senses—including eyesight which functions in very dim light—are important in its success as a destroyer of rats and mice, its small size, cleanliness, and amiability contribute to its popularity as a pet Cat breeds may be classified as long-haired and short-haired, the short-haired being in general slenderer and more active than the long-haired Black, white, blue, red, cream, smoke, chinchilla, and shaded silver cats are known, as well as red, brown, or silver tabbies—marked with darker stripes, as in watered silk—and tortoise-shells, with patches of red, black, and yellow Some colors are commoner among short-haired than among long-haired cats, or among males than among females, or vice versa Among long-haired cats raised in Europe and America, Persians and Angoras were long distinguished, but interbreeding has made such distinctions unsafe, and the name Persian is now the generally accepted one The Manx cat is a tailless, short-haired cat, coming in historic times from the Isle of Man, but perhaps originating, as a legend has it, in the East, where there are other tailless cats The Siamese cat is a fawn-colored short-haired breed with seal brown or blue markings Among other breeds are the sacred cat of Burma and the Tibetan temple cat (both long-haired), Abyssinian (short-haired), Paraguayan (extremely small), and Mexican hairless (rare) The common short-haired cat probably counts the tame cat of ancient Egypt and European wildcats among its forebears Long-haired cats seem to have originated in Asia See Evelyn Buckworth-Herne-Soame, *Cats* (1934), E B Simmons, *Cats* (1935), Carl van Vechten, *The Tiger in the House* (new ed , 1936), I M Mellen, *A Practical Cat Book* (1939) and *The Science and Mystery of the Cat* (1940), Doris Bryant, *Care and Handling of Cats* (1944 ed), L H Fairchild and H G Fairchild, *Cats and All about Them* (rev ed , 1947), M G Delinger, *Complete Book of the Cat* (1948)

catacombs (kăt'-), burial places of the early Christians, arranged in extensive subterranean vaults and galleries They served incidentally for refuge from persecution and for religious services Catacombs exist at Rome, Naples, Chiusi, Syracuse, and Paris, at Alexandria and Susa in N Africa, and in Asia Minor and other areas inhabited by the early Christians Those at Rome are the most important and extensive Though among Greeks and Romans cremation was the rule, there was no bar against burial for Christians, and the catacombs were not constructed in secrecy Ordinances forbade interment within the city precincts, and all the Roman catacombs consequently are outside the city gates They lie from 22 to 65 ft beneath ground level and occupy a space estimated at more than 600 acres, though much of this is in several levels, one above another The oldest remains date from the 1st cent A D , and construction continued till the early 5th cent Excavated exclusively in those places where the subsoil tufa or soft rock possessed the suitable granular structure, they consisted primarily of narrow passages, generally about 3 ft. wide Excavated from the rock, and lining the walls of these passages, are the *loculi*, or recesses, of the proper depth to contain the bodies These niches, arranged one above another in tiers, were sealed after the burials with slabs of marble or terra cotta which bore painted or incised inscriptions Some passages gave access to separate chambers or *cubicula*, usually about 12 ft square but sometimes circular or polygonal, which were privately owned family vaults or contained the tomb of a martyr In these the bodies were often in carved sarcophagi which stood within arched niches, and the rooms were used for the liturgy, that is, they became underground churches The walls and ceilings were plastered, and sometimes open shafts for lighting extended to the ground above In some catacombs are seen larger rooms and even rooms arranged in groups, in the catacombs of Sant' Agnese such a group forms a miniature church In addition, the intricate underground corridors undoubtedly served as the best possible refuges from anti-Christian violence. The spreading of the catacombs, the joining together of separate areas, and the cutting of passages, one above the other, in as many as five successive levels, eventually produced burial places of labyrinthine character The walls and ceilings of plaster were customarily painted with fresco decorations, and in these can be studied the actual beginnings of Christian art. Religious subjects started to appear in the 2d cent , and the earlier frescoes confined themselves to the use of symbols. In Rome the remains of Jewish catacombs also are found Even after official recognition of Christianity in 313 burials continued, through a desire for interment near the martyrs, in addition the catacombs became shrines of pilgrimage The invasions of Goths, Vandals, Lombards, and Saracens meant the plundering of the catacombs and the robbing of their graves for the bones of saints. Several popes worked at restoring these sacred places and revived worship at the tombs of the martyrs, but by the 8th cent the bodies had been mainly transferred to churches; by the 10th cent the catacombs, filled with debris, were well forgotten. In 1578 they were rediscovered Their preservation and maintenance have since been under control of the papacy In the Roman liturgy the requirement that Mass be said in the presence of lighted candles and over martyrs' relics is a conscious reminiscence of worship in the catacombs Exhaustive publications on the catacombs were produced by the archaeologist G B de Rossi (d 1894)

Catalan art. In Catalonia and the territories of the counts of Barcelona, art flowered early in the Middle Ages and continued to flourish through the Renaissance Some of the finest surviving altar-panel paintings of the Romanesque period are Catalan Many of these are preserved in the Museo del Parque, Barcelona, together with numerous frescoes transferred from the apses of Romanesque churches The small churches, often bare of sculptural ornament, were elaborately painted throughout, although usually only the decoration of the apse has survived A fine example from Santa María del Mar, Barcelona, is in the Museum of Fine Arts, Boston Superb examples of architectural sculpture also exist in many Catalan churches of the period Also Romanesque is the famous illuminated Bible from the abbey of Farfa, now in the Vatican Catalan art shares most of the characteristics of the international Romanesque style. A more obviously regional character is found in the Catalan painting of the 14th cent. and in the work of Ferrer Bassa and Jaime Serra, although Sienese influence is noteworthy With the 15th cent particularly in the paintings of Jaime Huguet, of Jaime, Rafael, and Pablo Vergós, and of other masters, the school reached its maturity in a profuse and highly decorative religious art of great beauty Only with Luis Dalmáu in the middle of the century did direct Flemish influence appear, and it never gained ascendancy The great period of Catalan painting as such closed with the 15th cent , although the province has never ceased to produce great individual artists See Chandler R Post, *A History of Spanish Painting* (9 vols in 14 parts, 1930–47), Vol VII

Catalan language, one of the Romanic languages of the Italic subgroup of Indo-European languages See LANGUAGE (table)

catalepsy (kă'tŭlĕpsē) [Gr , =seizure], neurosis characterized by a psychogenic fit Voluntary motion and sensibility are suspended, the muscles become rigid, the body is cold and pale, the respiration and pulse are slow, and the individual is speechless, the corneal reflex, however, remains active Attacks are of varying duration, from several minutes to days

Catalina Island: see SANTA CATALINA

catalogue, descriptive list of names or items, such as an alphabetical list on cards or in a book of the books in a library Assur-bani-pal's library at Nineveh was catalogued on shelves of slate The first known subject catalogue was compiled by Callimachus at the Alexandrian Library in the 3d cent B C The library at Pergamum also had a catalogue Early in the 9th cent A D the catalogues of the libraries of the monastery at Reichenau and of the abbey at Saint-Riquier, N France, had summaries of works catalogued In 1472 the monastic library at Clairvaux was recatalogued and one of the earliest union catalogues was made —of the contents of 160 Franciscan monastery libraries in England In 1475 the Vatican librarian, Platina, catalogued that library's 2,527 volumes About 1660 Clement, librarian of the Bibliothèque du Roi under Louis XV, compiled a subject catalogue and inventory of manuscripts The printing of the British Museum catalogue was begun by Panizzi as keeper (1837–56) of the printed books Charles A Cutter devised the modern dictionary catalogue (with author, title, and subject arranged in one alphabet) for the Boston Athenaeum library In 1901 the Library of Congress began the practice of printing their catalogue on cards 3 by 5 in and distributing them for a small amount Although many schemes have been proposed for cooperative cataloguing, this service has been more successful than any other. Many treatises on the technique of cataloguing have been issued See American Library Association, *Catalog Rules* (2d ed , 1941), Margaret Mann, *Introduction to Cataloging and the Classification of Books* (2d ed., 1943).

Catalonia (kătulō'nēu), Span *Cataluña* (kätälōō'nyä), region (12,332 sq mi , pop. 2,890,974), NE Spain, stretching from the Pyrenees at the French border southward along the Mediterranean It comprises four provinces, named after their capitals, BARCELONA, GERONA, LÉRIDA, and TARRAGONA. Barcelona is the historical capital Mostly hilly, the region produces cereals, olive oil, and one third of the wines of Spain The hydroelectric power furnished by the Ebro, Segre, and Cinca rivers have helped to industrialize Barcelona and Gerona provs. Textiles are the chief industrial products. Trade has been active along the Catalan coast since Greek and Roman times. The history of medieval Catalonia (which took its name from its many castles) is that of the counts of Barcelona, who emerged (9th cent.) as the chief lords in the Spanish March founded by Charlemagne United (1137) with ARAGON through the marriage of Count RAYMOND BERENGAR IV with Petronella of Aragon, Catalonia nevertheless preserved its own laws, its cortes, and its own language (akin to Provençal) CATALAN ART flourished in the Middle Ages In the cities, notably Barcelona, the burgher and merchant classes grew very powerful Catalan traders rivaled those of Genoa and Venice, and their maritime code was widely used in the 14th cent. Catalan merchants, and adventurers such as Roger de FLOR, were largely responsible for the expansion of the house of ARAGON up to the 15th cent Catalonia failed in its rebellion (1461–72) against JOHN II of Aragon, and after the union (1479) of Aragon and Castile, Catalonia declined because of the centralizing policy of the Spanish kings, the shifting of trade routes, and the expulsion of the Jews Agitation for autonomy was always strong In the Thirty Years War, Catalonia rose with French help against PHILIP IV, and in the War of the Spanish Succession it sided with Archduke Charles against Philip V, who in reprisal deprived it of all its privileges In the 19th and 20th cent it consistently supported the CARLISTS and all other movements which opposed the central government After the Spanish revolution of 1931 the Catalans established a separate government, first under Francisco MACIA, then under Luis COMPANYS, which in 1932 won autonomy from the Spanish Cortes. A revolution (1934) for complete independence failed, but in 1936 autonomy was restored In the civil war of 1936–39 Catalonia sided with the Loyalists and suffered heavily Barcelona was for a time the Loyalist capital The fall of Catalonia to Francisco Franco was ended by Feb , 1939, and it was fully incorporated into his centralized state

catalpa (kŭtă'lpu), name for any species of the genus *Catalpa* Two very similar species of catalpa are native to the United States, one to the South and one to the Middle West, but both have been widely planted and naturalized The frilly white blossoms are borne in the spring in large clusters and make the tree valued as an ornamental as well as a shade tree. The leaves are large and heart shaped, and the fruits are long, slender beanlike pods that have gained the tree the additional names of Indian bean, cigar tree, and Indian cigar tree Catalpa wood is resistant to decay and hence is used for fence posts, poles, and railroad ties

catalysis (kută'lŭsĭs), the changing of the speed of a chemical reaction The change is brought about by the introduction of some substance, called variously the **catalyst,** catalytic agent, or contact agent Positive catalysts increase the speed of a reaction and negative catalysts decrease the speed It is now believed that the catalyst takes some part in the chemical reaction, but after the reaction is completed the catalyst can be recovered unchanged chemically, although its physical properties may be somewhat altered Water acts in some cases as a catalyst since many substances, which when dry do not react, will enter into chemical reaction when in solution The temperature at which a reaction takes place can be lowered by the use of a catalyst When potassium chlorate is heated to its melting point, oxygen is not evolved, but when a catalyst, manganese dioxide, is introduced, oxygen is immediately and plentifully given off In the contact process, a commercial process for the preparation of sulphuric acid, a catalyst (usually either finely divided platinum or ferric oxide) is used to speed up the reactions involved Platinum (gauze) is used as a catalyst in the preparation of nitric acid by the oxidation of ammonia Hydrogen and nitrogen are combined to form ammonia in the Haber process using finely divided iron as a catalyst Various other substances, such as copper and nickel, exhibit catalytic action in other processes Enzymes act as catalysts in the digestion of food and in other processes, causing chemical changes to take place in their presence Certain poisons apparently retard a reaction, acting as negative catalysts Other substances prevent the decomposition of compounds at ordinary temperatures, acting thus as negative catalysts The exact way in which catalysts act is little understood

Catamarca (kätämär'kä), city (estimated pop 22,000), NW Argentina. Founded in 1683, it is an agricultural (wine, alfalfa, figs, and cotton), stock-raising, and mining center The city has a well-known shrine to Our Lady.

catamount: see PUMA

Catanduanes (katandwä'näs), island (552 sq mi , 1939 pop 99,976), off SE Luzon, in the Philippines Hemp and coconuts are grown, and there are manganese and copper mines The capital is Virac

Catania (kută'nēä, Ital kätä'nyä), city (pop 241,462), capital of Catania prov., E Sicily, Italy. It is a seaport and the second largest city of the island It lies at the foot of Mt Etna, in the plain of

Catania, a fertile agricultural region. Founded (8th cent. B.C.) by Chalcidian colonists, it was a flourishing Greek town and later a Roman colony. Catania suffered from several eruptions of Mt. Etna (especially in 1669, when the city was ringed by lava) and from earthquakes (notably in 1169 and in 1693), but it survived and is now a busy port and an important commercial and industrial center (flour mills, sulphur refineries, asphalt factories) It was heavily damaged in the Second World War Greek and Roman remains are few. There is a fine cathedral (12th and 18th cent.), a castle built by Emperor Frederick II, a university (founded 1444), and an observatory

Catanzaro (kätändzä'rō), city (pop 27,907), Calabria, S Italy, beautifully situated on a hill 12 mi from the Ionian Sea Founded (10th cent) by the Byzantines, it was famous until the 17th cent for its velvets and damasks

catapult (kă'tupŭlt″), machine used in medieval warfare It was in effect a giant crossbow operated by a windlass, and in the siege of castles, walled cities, or other fortifications it was employed to throw large stones against the walls or over them Another similar machine, the ballista, was used to throw smaller stones a greater distance Arrows could also be shot in rapid succession from a type of catapult (see BOW AND ARROW), and flaming arrows could be used to do great damage Catapults were also used in the ancient world at least as early as the 5th cent B C They passed into disuse after the use of gunpowder became common, and artillery was developed

cataract, in medicine Any condition that leads to opacity of the lens of the eye or of its capsule results in a cataract The cause may be faulty development before birth, mechanical injuries, heat, infections, toxic states (i e , ergot poisoning and diabetes), or senility The senile type usually affects both eyes There is gradual loss of vision The treatment consists of surgical removal of the lens and the use of strong glasses to compensate for the absence of the lens

Catargiu, Lascar (kätärjōō'), 1823–99, Rumanian statesman, of an ancient Walachian family He was unsuccessful as Conservative candidate (1859) against Alexander John Cuza for the rule of Moldavia and became leader of the opposition He was twice premier of Rumania (1871–76, 1891–95) and effected financial and agrarian reforms

catarrh (kutär'), inflammation of the mucous membranes accompanied by discharge It affects especially the respiratory tract, alimentary canal, genitourinary organs, and the conjunctiva Irritation by gases, dusts, or a mild degree of bacterial infection produces catarrh

Catasauqua (kătusô'kwu), borough (pop 4,764), E Pa , on the Lehigh river and near Allentown; inc c 1853 In 1914 the 75th anniversary of the use of anthracite in iron furnaces was celebrated here

catastrophism (kutăs'trŏfĭzm), in geology, the doctrine that at intervals in the earth's history all living things have been destroyed by cataclysms, e g , floods or earthquakes, and replaced by an entirely different population The theory, popularly accepted from the earliest times, was attacked in the 18th cent , notably by James Hutton, who may be regarded as the precursor of the opposite doctrine of uniformism Catastrophism, however, was more easily correlated with religious doctrines, e g , the Mosaic account of the Flood, and remained for some time the interpretation of the earth's history accepted by the great majority of geologists It was systematized and defended by Cuvier, whose position as the greatest geologist of his day easily overbore all opposition In the 19th cent. it was attacked by George Poulett Scrope and especially by Sir Charles Lyell, under whose influence the contrary doctrine gradually became more popular

Catatumbo (kätätōōm'bō) river flowing from the Colombian Andes E across NW Venezuela to Lake MARACAIBO Navigable in its lower course and with a railroad from the head of navigation to CÚCUTA, it is the chief outlet for the upper Maracaibo basin and NE Colombia Numerous oil wells are along the river

Catawba, river see WATEREE, river

Catawba Indians (kŭtô'bŭ), North American Indian tribe of Siouan stock, occupying a region in South Carolina A large and powerful group, they waged incessant but unsuccessful war against the Cherokee and the tribes of the Ohio river valley, sending war parties great distances Fighting and epidemics of smallpox reduced them to a small group in the 18th cent A few survivors are on a reservation in South Carolina

Catawissa (kătŭwĭs'ŭ), industrial borough (pop 2,053), E Pa , near the Susquehanna river S of Bloomsburg, laid out 1787, inc 1892 Shoes and textiles are made here

catbird, common North American bird related to the mockingbird It is slate gray, with black on the crown and tail and chestnut under tail coverts. It nests in briar tangles and shrubbery. Although it eats small fruits, it is of benefit in destroying insects. It is an expert singer and mimic. When alarmed or angry it utters a harsh mew. Its sly progress through bushes is also catlike. Some Australian bower birds are called catbirds

catch crop, any quick-growing crop sown between seasons of regular planting to make use of temporary idleness of the soil or to compensate for the failure of a main crop It may be such rapid-maturing vegetables as radishes, onions grown from sets, or spinach (planted between rows of slower-growing crops) or an annual legume, such as the soybean, which is valuable as fodder or, when plowed under, increases the soil's fertility and improves its physical condition See also COVER CROP

catchment area or **drainage basin**, area drained by a stream or other body of water The limits of a given catchment area are the heights of land—often called watersheds—separating it from neighboring drainage systems The amount of water reaching the river, reservoir, or lake from its catchment area depends upon the size of the area, the amount of precipitation, and the loss through evaporation (determined by temperature, winds, and other factors and varying with the season) and through absorption by the earth or by vegetation, absorption is greater, of course, when the soil or rock is permeable than when it is impermeable A permeable layer over an impermeable layer may act as a natural reservoir, supplying the river or lake in very dry seasons The catchment area is one of the primary considerations in the planning of a reservoir for water-supply purposes

Cateau, Le (lŭ kătō'), town (pop 7,682), Nord dept., N France It was formerly known as Le Cateau-Cambrésis In the First World War the town was the scene of heavy fighting during the British retreat from Mons in 1914, and again in 1918, when American, British, and French forces drove the Germans from strongly fortified posts

Cateau-Cambrésis, Treaty of (kătō'-kābrāsē'), 1559, concluded at Le Cateau, France, by representatives of HENRY II of France, PHILIP II of Spain, and ELIZABETH of England It put an end to the 60-year conflict between France and Spain begun with the ITALIAN WARS, in which HENRY VIII and later MARY I of England had intermittently sided against France The terms were a triumph for Spain France restored Savoy, except Saluzzo, to Duke EMMANUEL PHILIBERT, acknowledged Spanish hegemony over Italy, and consented to a rectification of its border with the Spanish Netherlands CALAIS, however, was confirmed in French possession by England Henry II's sister, Margaret, was given in marriage to Emmanuel Philibert of Savoy, Henry's daughter, Elisabeth of Valois, was given to Philip II of Spain

catechism (kă'tŭkĭzm) [Gr , =oral instruction], a series of questions and answers written for the purpose of teaching a religious system, especially to the young Among the earliest catechisms were those of Martin Luther (1520 and 1529), for the use of the people The greatest Calvinistic catechism was the Heidelberg Catechism (1563), revised at Dort (1619), used in the Dutch and German Reformed churches Other Calvinistic catechisms are the Longer and Shorter Catechisms of 1647 and 1648, drawn up to supplement the Westminster Confession, they are used in the Presbyterian churches The Anglican catechism in the Book of Common Prayer is comparatively short A catechism long in use in the Roman Catholic Church was that prepared by the Jesuit Peter Canisius, it appeared in 1556 The catechism of the Council of Trent, a document of high authority issued in 1566, is not really a catechism but a manual of instruction for use by the clergy The best-known Catholic catechism in England is the Penny Catechism, adopted by the bishops of England and Wales, that in the United States is the Baltimore Catechism

catechu (kă'tŭchōō) or **cutch**, extract from *Acacia catechu*, a native tree of India and Burma, containing catechutannic acid, catechuic acid, and decomposition products of these materials Black catechu is obtained by boiling wood chips from the tree into a thick syrup, which is evaporated and cast into solid blocks It appears as a dark solid, lustrous, very brittle, and having a sweet astringent taste It is soluble in caustic, alcohol, and boiling water Pale catechu, the terra japonica or gambier of commerce, is an extract from the leaves of a Malayan plant, *Uncaria gambier*, and is obtained by boiling the leaves and treating the resulting juice as in the preparation of black catechu This makes blocks of yellow or pale brown Both varieties are used in dyeing, giving brown and olive colors, in tanning, and to treat fishing lines and nets which are to be exposed to salt water. Sail canvas so treated is called tanned canvas Both varieties, because of their astringent properties, are used in medicine in certain intestinal disorders and hemorrhage

categorical imperative. see KANT, IMMANUEL

category, in formal logic, the basis of predication Thus an object may be described under various categories, as size, color, causality Aristotle set up 10 categories as determinations of being. Kant postulated 12 categories of understanding—ways in which mind grasps the phenomenal world. Other philosophers have used other organizations. Since a system of categories is the way in which a particular philosopher organizes what he believes to be knowledge, the formulation of that system varies from man to man and from period to period.

Catena, Vincenzo di Biagio (vēnchän'tsō dē byä'jō kătä'nä), c 1470–1531, Venetian painter. His earlier work reflects the influence of Giovanni Bellini —the *Madonna and Child* (Walker Gall , Liverpool) and *Madonna with Saints* (Venice Acad). In his later period Catena followed closely the style of Giorgione. With Giorgione and Titian, he was ranked by his contemporaries as one of the three great painters of the day The best works of this period are *Knight Adoring the Christ Child* (National Gall , London), *The Doge Leonardo Loredan Kneeling before the Madonna* (ducal palace, Venice); his masterpiece, *The Martyrdom of St Christina* (Church of Santa Maria Mater Domini, Venice), *Christ Giving the Keys to St Peter* (Gardner Mus , Boston), and two portraits and *Christ and the Samaritan Woman* (National Gall of Art, Washington, D C)

Caterham and Warlingham (kă'turum, wôr'lĭngum), urban district (1931 pop 19,512, 1943 estimated pop 27,100), Surrey, England, S of London. It has a military station

caterpillar see LARVA

catfish, fish characterized generally by having barbels around the mouth, an adipose fin, and a tough, scaleless skin which in some South American forms contains bony plates There are a number of Old and New World families Most of the larger species are good food fish. The largest in North America is the blue or Mississippi catfish, which usually weighs about 20 lb but sometimes reaches 150 lb. Stings can be inflicted by some forms, e g , the stone and tadpole catfishes and the mad tom, by means of a pectoral spine with a poison gland The wels or sheatfish of Central and Eastern Europe sometimes reaches a weight of 400 lb. An African form produces electricity (see ELECTRIC FISH) Some catfish make nests for their eggs, some males carry the developing eggs in their mouths, and in others the eggs become embedded in the underside of the female During dry seasons in the tropics catfish may burrow underground or make overland journeys in search of water They produce sounds with the aid of the air bladder Omnivorous feeders, they are valuable as scavengers

catgut or **gut**, cord made from the intestines of various animals (sheep and horses especially, but not cats) The membrane is chemically treated, and slender strands are woven together into cords of great strength, which are used for stringing musical instruments (such as the violin and the harp). Roman strings, imported from Italy, are considered the best for musical instruments Catgut is used also for stringing tennis rackets and for some surgical sutures

Cathari (kă'thurī) [Gr , =pure], generic name for the widespread dualistic religious movement of the Middle Ages Carried from the Balkans to Western Europe, it flourished in the 11th and the 12th cent. as far north as England, and it was known by various names and in various forms, e g , the BOGOMILS and the ALBIGENSES Catharism was descended from GNOSTICISM and MANICHAEISM and echoed many of the ideas of MARCION The Cathari tended to reject not only the outward symbols of Catholicism, such as the sacraments and the hierarchy, but also the basic relationship between God and man as taught by CHRISTIANITY. Instead, the Cathari believed in a dualistic universe, in which the God of the New Testament who reigned over spiritual things was in conflict with the evil god (or Satan) who ruled over matter Asceticism, absolute surrender of the flesh to the spirit, was to be cultivated as the means to perfection There were two classes of the Cathari, the believers and the Perfect. The believers passed to the ranks of the Perfect on acceptance of the *consolamentum* Thus, a sort of sacrament, was a laying on of hands The Catharist concept of Jesus resembled modalistic MONARCHIANISM in the West and ADOPTIONISM in the East Persecution, such as that by the INQUISITION, and the efforts of popes like Innocent III wiped out Catharism by the 15th cent

Cathay (kăthā'), medieval name for China, derived from the Khitai, the founders of the Liao dynasty. It was first used by Marco Polo and usually applied only to China N of the Yangtse river

Cathcart, William Schaw Cathcart, 1st **Earl**, 1755–1843, British general and diplomat. He served in both the American Revolution and the French Revolutionary Wars He performed his greatest service, as ambassador to Russia (1813–21), in organizing the last coalition against Napoleon (1813) He was created earl in 1814. It has been thought by some that he was involved in the alleged withdrawal of Alexander I at the time the emperor is supposed to have died

cathedral (–thē'drl) [Gr , =seat, i e , episcopal throne], the church in which a bishop presides The designation is not dependent upon the size or magnificence of a church edifice but is entirely a matter of its assignment as the church in which the bishop shall officiate The movement for cathedral construction had its inception in France, but was practically simultaneous over all of Europe, reaching a

peak in the early 13th cent. The great structures of the 13th and 14th cent. are the culminating expression of GOTHIC ARCHITECTURE By its mass and its lofty towers, the cathedral was often the most conspicuous structure of a city, and it served as a center, not only for the religious life, but in many cases for the more important matters of secular life. Great cathedrals have been built in modern times, modern in their planning and construction but generally adhering closely to medieval styles of architecture Among these are the Cathedral of St. John the Divine, New York city, originally designed by G. L. Heins and C. Grant La Farge, but redesigned in the Gothic style by Ralph Adams Cram, St Patrick's Cathedral, New York city, designed by James Renwick, the cathedral in Washington, D C., by Frohman, Robb, and Little, and the cathedral in Liverpool, England, by Sir Giles Gilbert Scott Among the most important medieval cathedrals are the following *France.* Amiens, Beauvais, Bourges, Chartres, Le Mans, Paris, Rouen, Rheims, Strasbourg, *England* Canterbury, Durham, Ely, Lincoln, Peterborough, Salisbury, Wells, Westminster Abbey, Winchester, York; *Germany* Bonn, Cologne, Ulm, Worms, *Belgium:* Antwerp, Brussels, Louvain, Ypres, *Italy:* Como, Florence, Milan, Monreale, Orvieto, Pisa, Siena; *Spain* Avila, Burgos, Barcelona, Salamanca, Seville, Toledo, *Sweden* Lund, Uppsala See Sartell Prentice, *The Heritage of the Cathedral* (1936); Harry Batsford and Charles Fry, *The Greater English Church of the Middle Ages* (1940).

Cathelineau, Jacques (shäk' kätulēnō'), 1759–93, French counterrevolutionary general, one of the leaders of the Catholic and royalist insurrection in the VENDÉE A capable commander, he gained several notable successes but was killed when making an entry into Nantes

Cather, Willa Sibert (kă'thûr), 1876–1947, American writer, b Winchester, Va., grad Univ of Nebraska, 1895 Successively newspaperwoman and English teacher in Pittsburgh, she traveled in France in her vacations She went to New York in 1904 and was an editor of *McClure's Magazine* from 1906 to 1912. *April Twilights* (1903, 1923), poems, and *The Troll Garden* (1905), short stories, were relatively unnoticed, and she first won attention with *O Pioneers!* (1913) This and other novels of Midwestern prairie life—*The Song of the Lark* (1915) and *My Ántonia* (1918)—and *A Lost Lady* (1923) are perhaps her most notable works, written with deceptively simple artistry and profound understanding Three short novels, vivid evocations of brief intervals in history, are *Death Comes for the Archbishop* (1927), priestly pioneers in New Mexico, *Shadows on the Rock* (1931), 17th-century Quebec, and *Sapphira and the Slave Girl* (1940), Virginia in the 1850s Among her other novels are *One of Ours* (1922), awarded the Pulitzer Prize although it is not one of her best works, and *The Professor's House* (1925) *Youth and the Bright Medusa* (1920), *Obscure Destinies* (1932), and the posthumous *The Old Beauty and Others* (1948) contain distinguished short stories *Not under Forty* (1936) is a book of essays on literary affairs and people Miss Cather's works were collected in a limited edition (13 vols, 1937–41)

Catherine: see also KATHARINE. There are other spellings of the name, such as Catharine, Katherine, and Kathryn.

Catherine, Saint, 4th cent ?, Alexandrian virgin martyr Nothing certain is known of her According to tradition she was learned Condemned to die on the wheel and miraculously saved, she was beheaded Her principal shrine is the great monastery of Mt Sinai. Attributes sword, crown, palm, wheel, and book The marriage of St Catherine with Christ, popular with Renaissance artists, represents symbolically the dedication of her virginity Feast Nov. 25

Catherine I, 1684?–1727, empress and tsarina of Russia (1725–27). Of Lavonian peasant origin, Martha Skavronskaya was a domestic when she was captured (1702) by Russian soldiers As mistress of Aleksandr D. MENSHIKOV she met Emperor Peter the Great, who made her his mistress After her conversion from the Lutheran to the Orthodox Church (when she changed her name from Martha to Catherine), Peter, who had divorced his first wife, married her (1711) In 1724 he had her crowned empress and joint ruler Her loyalty and devotion to her difficult husband were remarkable When Peter died without naming a successor, Menshikov and the guards raised Catherine to the throne. Her policy, dominated by Menshikov, was pacific and conciliatory. Peter II succeeded her, her daughter Elizabeth became empress in 1741.

Catherine II or **Catherine the Great,** 1729–96, empress and tsarina of Russia (1762–96), daughter of Christian Augustus, prince of Anhalt-Zerbst. She emerged from the obscurity of her relatively modest background when, in 1744, Empress Elizabeth of Russia, partly on the recommendation of Frederick II of Prussia, chose her as the wife of the future PETER III Accepting the Orthodox faith, she changed her original name, Sophie, to Catherine. Her successful effort to become completely Russian made her as popular as her eccentric husband was detested. Neglected by the tsarevich, Catherine read widely, especially in Voltaire and Montesquieu, informed herself of Russian conditions, and secretly headed a court faction aimed at the displacement of Peter in favor of her son, Paul. In Jan., 1762, however, Peter succeeded to the throne, of which he immediately proved himself utterly unworthy. In June, 1762, a group of conspirators headed by Grigori ORLOV, Catherine's lover, proclaimed Catherine autocrat, and shortly afterward Peter died in dubious circumstances. Catherine's internal policy began with great projects of reform. She drew up a document (*Instruction*), based largely on the writings of BECCARIA and Montesquieu, to serve as guide for a new and enlightened code of laws, the code, however, was never completed. The formidable peasant revolt under PUGACHEV (1773–75) turned Catherine toward greater conservatism, and the French Revolution made her an outspoken reactionary Relying heavily on her bureaucracy, she reorganized (1775) the provincial administration, creating a large number of "governments" or provinces, subdivided into circles—a system which endured until 1917. A charter issued (1785) to the nobility recognized it, as a corporate body, immune from taxation and gave the nobles ownership over their land and absolute power over their peasantry Another charter, issued to the towns, proved of little value to them Thus Catherine, despite her enlightened philosophy, left the serfs in worse condition than she found them and increased social inequalities in Russia Her foreign policy was decidedly imperialistic After placing (1763) her lover, Stanislaus Poniatowski, on the Polish throne as STANISLAUS II, she established a virtual protectorate over Poland Eventually, she secured the lion's share in the successive partitions of Poland among Russia, Prussia, and Austria (1772, 1793, 1795, see POLAND, PARTITIONS OF). Her ambition to break up the Ottoman Empire met with only partial success Her first war with Turkey (1768–74; see RUSSO-TURKISH WARS) ended with the Treaty of Kuchuk Kainarji, which established Russia as the chief power in the Near East (see ABDU-L-HAMID I) In 1783 she annexed the Crimea, and in 1787 she began her triumphal tour of S Russia, accompanied by POTEMKIN, her favorite and chief instrument in her Eastern policy This provoked Turkey into renewing warfare (1787–92); Emperor Joseph II joined Catherine as ally in 1788 The Treaty of Jassy (1792) confirmed that of Kuchuk Kainarji as well as the annexation of the Crimea In dealing with the Western powers Catherine, virtually unaided, planned and carried out a skillfully diplomatic foreign policy Her main interest was in the East, and she kept out of the wars that accompanied the American and French revolutions From Catherine's reign also dates the Russian colonization of ALASKA Much of Catherine's glorious reputation was due to the adulation bestowed on her by Voltaire, with whom she corresponded copiously She herself wrote extensively (memoirs, comedies, and stories), mainly in French but also in Russian, and greatly furthered RUSSIAN LITERATURE Diderot spent some time at her court Catherine's morals were extremely lax However, though her lovers were legion, only Orlov and Potemkin had any appreciable influence on her One of the most remarkable rulers of modern times, Catherine immensely increased the outward prestige of Russia She was succeeded by her son, Paul I See biographies by Kazimierz Waliszewski (Eng tr, 1894) and Katharine Anthony (1925).

Catherine de' Medici (dĭ mĕd'ĭchē, dā mā'dēchē), 1519–89, queen of France, daughter of Lorenzo II de' Medici She was married (1533) to the duke of Orléans, later King Henry II Neglected during the reign of her husband and that of her eldest son, Francis II, she became regent for her second son, Charles IX, in 1560 In the conflicts of the time, with the aid of her chancellor Michel de L'HÔPITAL, she at first adopted a conciliatory policy towards the Huguenots The outbreak of the Wars of RELIGION (1562) led her to an alliance with the Catholic party under François de Guise and to negotiations with Philip II of Spain. When the growing influence of COLIGNY over Charles IX began to threaten her power, she plotted Coligny's assassination. The attempt having failed, she took part in planning the massacre of SAINT BARTHOLOMEW'S DAY (1572) After the accession of her third son, HENRY III, she vainly tried to revive her old conciliatory policy See Edith Sichel, *Catherine de' Medici and the French Reformation* (1905) and *The Later Years of Catherine de' Medici* (1908); Paul Van Dyke, *Catherine de Médicis* (1922); Ralph Roeder, *Catherine de' Medici and the Lost Revolution* (1937).

Catherine Howard, queen of England: see HOWARD, CATHERINE

Catherine of Braganza (brŭgăn'zŭ), 1638–1705, queen consort of Charles II of England, daughter of John IV of Portugal. She was married to Charles II in 1662. As part of her dowry England secured Bombay and Tangier. She lived apart from the court, alienated by the king's infidelities and thwarted by her childlessness. In 1678 she was accused by Titus OATES of a plot to poison the king, but was protected by Charles himself. After William III's accession she returned to Portugal, where she supported the commercial Treaty of Methuen with England, and in 1704 she acted as regent for her brother, Peter II. See M. B. Jones, *Restoration Carnival* (1937).

Catherine of Siena, Saint (sē'nȧ), 1347–80, Italian mystic and diplomat, a member of the third order of the Dominicans The daughter of a Sienese dyer, Giacomo Benincasa, Catherine from early childhood had mystic visions and practiced austerities; she also showed the self-sacrificing devotion to others and the winning and sanctified charm that were to characterize her life When she was about 19, Catherine devoted herself to the poor and the sick, not sparing her own frail health in her efforts to help others In 1370, in response to a vision, she began to take part in the public life of her time, sending letters to the great of the day She went to Avignon and, though a powerless, modest nun, exerted the decisive influence in inducing Pope GREGORY XI to end the "Babylonian captivity" of the papacy and return to Rome in 1376. As papal ambassador to Florence, she succeeded in bringing about peace between Florence and the Holy See In the Great Schism, she adhered to the Roman claimant and helped to advance his cause. Her life was one of great pain, which she bore with great rejoicing In 1375 the stigmata appeared upon her She was the center of a spiritual revival about Siena. Her mysticism has much of overwhelming love for humanity as well as love for God. Though she never learned to write, she dictated hundreds of letters and a notable mystic work, commonly called in English *The Dialogue of Saint Catherine of Siena* or *A Treatise on Divine Providence* (or both as title and subtitle), which has been much used in devotional literature She was unquestionably one of the greatest figures of the Middle Ages Feast April 30 The accounts of her life gathered by her followers were used in the biography by Fra Raimondo da Capua (1398) See *Saint Catherine as Seen in Her Letters* (ed by Vida D. Scudder, 1905), biographies by E G Gardiner (1907), Robert Fawtier (1921–30, in French), and Johannes Jorgenson (Eng. tr., 1938)

Catherine of Valois (vȧl'wȧ, Fr vȧlwȧ'), 1401–37, queen consort of Henry V of England She is also called Catherine of France She was the daughter of Charles VI of France She was married in 1420 and bore to Henry a son who was to be HENRY VI Catherine later married the Welsh Owen TUDOR From them the Tudor kings of England were descended

Catherine Parr, queen of England: see PARR, CATHERINE

Catherine Tekakwitha (tĕk"ȧkwĭth'ȧ), 1656–80, American Indian holy woman, b Auriesville, N Y Her name is sometimes given as Kateri She was a Mohawk and was a Roman Catholic from childhood Piety led her to the severest asceticism In the 1930s a movement was begun toward her beatification, and data was collected concerning her life and virtues and supposed miracles attributed to her intercession.

Catherine the Great see CATHERINE II.

Catherwood, Mary Hartwell (kă'thûrwo͝od), 1847–1902, American novelist, b Licking co, Ohio, grad Granville Female College, 1868 Her books, historically accurate, reveal an intimate knowledge of French Canadian life and French Middle Western pioneers She wrote *The Romance of Dollard* (1889), *Old Kaskaskia* (1893), and *Heroes of the Middle West* (1898).

cathode. see ELECTRODE

cathode ray: see ELECTRON and X RAY.

Catholic Apostolic Church, religious community originating in England c 1831 and extending later to Germany and the United States. It was founded under the influence of Edward IRVING, its members are sometimes called Irvingites Because of their prophetic gifts, 12 apostles (including Henry Drummond) were in 1835 set aside as officers, the last of them died in 1901 Over each congregation is an angel, or bishop, assisted by elders, deacons, and others The ministry is not professional Symbolism and mystery of worship characterize the elaborate liturgy Much emphasis is given to the second coming of Christ See P. E. Shaw, *The Catholic Apostolic Church* (1946).

Catholic Church, the universal and established body of Christians, living and dead, considered as an organization It is common for Christian groups to identify their particular churches (exclusively or not) as the Catholic Church. In speaking of the time before the Reformation, Catholic is technically used to mean orthodox (i.e., those accepting the decrees of Leo I and the Council of Chalcedon) Today in English it usually means the Roman Catholic Church. See ORTHODOX EASTERN CHURCH, ENGLAND, CHURCH OF; OXFORD MOVEMENT. OLD CATHOLICS

Catholic Emancipation, term applied to the process by which Roman Catholics in the British Isles were relieved in the late 18th and early 19th cent. of the civil disabilities. They had been under oppressive regulations placed by various statutes dating as far back as the time of Henry VIII (see PENAL LAWS). This process of removing the disabilities culmi-

nated in the Catholic Emancipation Act of 1829 (and some subsequent provisions), but it had begun a number of years before. In 1778 English Catholics were relieved of the restrictions on land inheritance and purchase, and in general priest hunting came to an end A savage reaction to these concessions produced the Gordon riots (see GORDON, LORD GEORGE) of 1780, and the whole history of Catholic Emancipation is one of struggle against great resistance. In 1791 the Roman Catholic Relief Act repealed most of the disabilities in Great Britain, provided Catholics took an oath of loyalty, and in 1793 the army, the NAVY, the universities, and the judiciary were opened to Catholics, though seats in Parliament and some offices were still denied The attempt of William PITT to secure a general repeal of the Penal Laws was thwarted by George III Pope Pius VII consented to a royal veto on episcopal nominations if the Penal Laws were repealed, but the move failed. In Ireland relief from the penal land restrictions (see IRISH LAND QUESTION) began in 1771, the compulsory oath was dropped in 1774, and the repeal of POYNINGS'S LAW (1782) was followed by an act (1792) of the Irish Parliament relaxing the marriage and education laws and an act (1793) allowing Catholics to vote and hold most offices The threat to English and Protestant domination from growing agitation in Ireland caused the Act of Union (1800) whereby the Irish Parliament was destroyed and Ireland given representation in the English Parliament Irish agitation, headed by Daniel O'CONNELL and his Catholic Association, now worked to secure the admission of Catholics to Parliament In 1828 the TEST ACT was repealed, and O'Connell, though still ineligible to sit, secured his election to Parliament from Co Clare Alarmed by the growing tension in Ireland, the duke of WELLINGTON, the prime minister, allowed the Catholic Emancipation Bill, sponsored by Sir Robert PEEL, to pass (1829) Catholics were now on the same footing as Protestants except for a few restrictions, most of which were removed in 1866, 1891, and 1926 The Act of SETTLEMENT is still in force, however, and Catholics are excluded from the throne, from the offices of regent, lord chancellor, and keeper of the great seal, from offices connected with the Established Church, and from a few university places See E H Burton, *The Life and Times of Bishop Challoner, 1691–1781* (2 vols, 1909), Bernard Ward, *The Eve of Catholic Emancipation* (3 vols, 1911), Denis Gwynn, *The Struggle for Catholic Emancipation, 1750–1829* (1928) and *A Hundred Years of Catholic Emancipation, 1829–1929* (1929)

Catholic League, in French history see LEAGUE

Catholic University of America, at Washington, D C, controlled by the Catholic hierarchy, the only U S pontifical university, for men and women, chartered 1887, opened 1889 It is supported by contributions from all parishes It includes a college of arts and sciences, schools of canon law, engineering and architecture, law, nursing education, philosophy, sacred theology, and social science, the Catholic Sisters College, and the National Catholic School of Social Service There are institutes for Christian Oriental research and of Ibero-American studies

Catiline (Lucius Sergius Catilina) (kă'tĭlĭn), c 108 B C–62 B C, Roman politician and conspirator At first a conservative and a partisan of SULLA, he was praetor in 68 B C and governor of Africa in 67 B C. The next year he was barred from candidacy for the consulship by accusations of malfeasance in office, charges which later proved false Feeling with some justice that he had been cheated, he got up a harebrained plot to murder the consuls He and the other conspirators were acquitted (65 B C) Catiline became more bitter than ever against the conservatives and began to advocate popular demagogic proposals So, when in 63 B C he ran again for consul, he found CICERO, the incumbent, and the conservative party ready to prevent his election at any cost Catiline was defeated, but this time he decided to try for the consulship by force. He sent money for troops in Etruria and spread lavish promises in Rome Cicero became alarmed and on Nov 8, with facts gained from Catiline's mistress, accused him in the senate (*First Oration against Catiline*). Catiline fled. The conspirators remaining in the city did not cease activities, but even approached the ambassadors of the Allobroges The ambassadors reported the whole plot to Cicero, who arrested the conspirators and arraigned them in the senate on Dec. 3. On Dec. 5 they were condemned to death and executed, in spite of a most eloquent appeal from Julius CAESAR to use moderation Cicero's haste and summary behavior was illegal, and it was on a charge (by CLODIUS) of executing these Roman citizens without due process of law that he was exiled. Catiline did not surrender, he fell in battle at Pistoia a month later. It is to be borne in mind that the prime sources for Catiline's conspiracy are Cicero's four orations against him and Sallust's biography of him. Both of these are prejudiced and unreliable. Catiline's treason may be partly explained, though not condoned, by the ruthless and devious means used against him. The affair did little credit to any concerned, except for the honest and patriotic Cato the Younger and possibly for Julius Caesar, who made a daring plea to a vindictive and ruthless majority that hated him on behalf of a group of wretches whom he scorned See E S. Beesly, *Catiline, Clodius, and Tiberius* (1878); E G Hardy, *The Catilinarian Conspiracy* (1924); William Bolitho, *Twelve against the Gods* (1929)

Catinat, Nicolas (nēkōlä' kătēnä'), 1637–1712, marshal of France The son of a magistrate, he was conspicuous in his age for winning promotion by merit rather than by wealth or descent In the War of the Grand Alliance he commanded against Victor Amadeus II of Savoy, whom he defeated in N Italy at Staffarda (1690) and at Marsaglia (1693) Early in the War of the Spanish Succession, he opposed Prince Eugene in Italy, but after reverses he was replaced by Villeroi

Cat Island, one of the BAHAMA ISLANDS It was formerly thought to be SAN SALVADOR, the island on which Christopher Columbus landed in 1492

Catlettsburg, city (pop 4,524), co seat of Boyd co, E Ky, on the Ohio at the mouth of the Big Sandy and near Ashland It was settled as a trading post in 1808

Catlin, George, 1796–1872, American traveler and artist, b Wilkes-Barre, Pa He was educated as a lawyer and practiced in Philadelphia for two years but turned to art study and became a portrait painter in New York city In 1832 he went west to study and paint the Indians, and after executing numerous portraits and tribal scenes he took his collection to Europe in 1840 The following year he published *Manners, Customs, and Condition of the North American Indians*, in two volumes, with about 300 engravings In 1844 he published 25 plates, entitled *Catlin's North American Indian Portfolio*, and, in 1848, *Eight Years' Travels and Residence in Europe*. From 1852 to 1857 he traveled through South and Central America and later returned for further exploration in the Far West The record of these later years is contained in *Last Rambles amongst the Indians of the Rocky Mountains and the Andes* (1868) and *My Life among the Indians*. Of his 470 full-length portraits of Indians and tribal scenes, the greater part constitutes the Catlin Gallery of the National Museum, Washington, D C, while some 700 sketches are in the American Museum of Natural History, New York city His medical training helped him in his observations of the Indians He was the first white man to see the Minnesota pipestone quarries, and pipestone is also called catlinite See Lloyd Haberly, *Pursuit of the Horizon* (1948)

catlinite see PIPESTONE

catmint or **catmint,** strong-scented perennial mint (*Nepeta cataria*) native to Europe and Asia but naturalized in the United States Catmint has scallop-margined leaves and clusters of small whitish or pale purple flowers A tea of the leaves has long been a domestic remedy for various ailments Catmint is best known for its attraction for cats

Cato, Dionysius (dīŏnĭ'shŭs kā'tō), supposed author of a collection of precepts This, the *De moribus* [on customs], was very popular as a school book in the Middle Ages It may date from the 3d cent

Catoche, Cape (kătō'chā), extremity of Yucatan peninsula, SE Mexico It was the first Mexican land seen by the Spanish (1517).

Cato Street Conspiracy. see THISTLEWOOD, ARTHUR

Cato the Elder (kā'tō) or **Cato the Censor,** Latin *Cato Major* or *Cato Censorius*, 234–149 B C, Roman statesman and moralist, whose full name was Marcus Porcius Cato He fought in the Second Punic War and later went through the course of honors, serving as quaestor (204 B C), aedile (199 B C), praetor (198 B C), consul (195 B C), and censor (184 B C) He was renowned for his devotion to the old Roman ideals—simplicity of life, honesty, unflinching courage, loyalty to family and to Rome, sexual morality, and ability to endure hardship He inveighed against luxury, extravagance, and new customs He was thus both conservative and puritanical, but his policy was not designed at repression but at reform and rebuilding of Roman life He sought to put down luxury and to restrict seats in the senate to the worthy, and he undertook much building, including repair of the city sewers Sent on an official visit to Carthage in his old age, he returned stern with disapproval of Carthaginian ways, and he ended every speech he made in the senate with the words, "Carthage must be destroyed!" He thus helped to bring on the Third Punic War, in which Carthage was destroyed Probably his detestation of luxury and "cultivated" ways inspired the deep hatred he had for the Scipio family. He himself deliberately affected a rustic appearance and rustic manners to emphasize his belief in austerity and simplicity Cato thus exemplified the old Roman virtues It must be admitted that he also exemplified some of the old Roman shortcomings. His complacent acceptance of class division led him to cruel harshness toward his servants, and his hatred of extravagance made him miserly He wrote many works, most of them now lost. Probably the most influential was his history of early Rome, the first Roman historical work worthy of the name. His *De agri cultura* or *De re rustica*, translated as *On Farming*, is a practical treatise which offers valuable information on agricultural methods and country life in his day

Cato the Younger or **Cato of Utica,** Latin *Cato Minor* or *Cato Uticensis*, 95 B C–46 B C, Roman statesman, whose full name was Marcus Porcius Cato, great-grandson of Cato the Elder He was brought up by his uncle M Livius DRUSUS and early showed intransigent devotion to the austere piety of the early republic. He had one of the greatest reputations for honesty and incorruptibility of any man in ancient times His Stoicism put him above the graft and bribery of his day. He was, however, deep in politics as one of the more reactionary of the conservative senators His reputation and his stiff-necked refusal to compromise made him not too popular with his colleagues. He was from the first a violent opponent of Julius CAESAR and, outdoing CICERO in vituperation of the conspiracy of CATILINE, tried to implicate Caesar in that plot, though maintaining his fairness to all He and his party supported POMPEY after the break with Caesar He accompanied Pompey across the Adriatic and held Dyrrhachium (modern Durazzo) for him until after the defeat at Pharsala. Then he and Q C Metellus Pius Scipio (see SCIPIO, family) went to Africa and continued the struggle against Caesar there. Cato was in command at Utica After Caesar crushed (46 B C) Scipio at THAPSUS, Cato committed suicide, bidding his people make their peace with Caesar Cicero and M, Junius BRUTUS (Cato's son-in-law) wrote eulogies of him, and the noble tragedy of his death has been the subject of many dramas. He became the symbol of probity in public life

Cats, Jacob (yä'kŏp käts'), 1577–1660, Dutch poet He was a lawyer and held important magistracies His poems are didactic and moralising and deal with aspects of home life, from the ethics of marriage to table manners He has little repute as a poet, but he has enjoyed a great popularity as teacher and spokesman of Dutch Calvinistic culture, in the Netherlands he is familiarly called Father Cats

cat's-eye, name given to two different green gem stones, both characterized, when properly cut, by a line of light running across the stone This effect, called chatoyancy, is caused by the presence in the stone of a number of light-reflecting parallel fibers similar to those of asbestos The harder, more valuable cat's-eye is a variety of CHRYSOBERYL, found chiefly in Ceylon, and the less valuable is a variety of QUARTZ

Catskill (kăt'skĭl), village (pop 5,429), co seat of Greene co, SE N Y, on the Hudson at the mouth of Catskill Creek and S of Albany, settled in the 17th cent by Dutch, inc 1806 Connected with Hudson, N Y, by the Rip Van Winkle Bridge, it is a gateway to Catskill Mt resorts and to the Catskill Forest Preserve Its manufactures include liqueurs and cement products

Catskill Aqueduct, SE N Y, carrying water to New York city from the Esopus and Schoharie watersheds in the Catskill Mts It was planned in 1905, and the first part of the project was completed in 1917 The waters of Schoharie Creek (impounded at Schoharie Reservoir by Gilboa Dam) are sent via the 18-mile Shandaken Tunnel (opened 1924) to Esopus Creek Some 15 mi below the south end of the tunnel, at Ashokan Reservoir (created by Olive Bridge Dam in Esopus Creek), the 92-mile Catskill Aqueduct begins It delivers water to Kensico Reservoir near White Plains and to Hillview Reservoir in Yonkers, whence it is distributed to the boroughs of New York through tunnels cut in solid rock Kensico and Hillview reservoirs also receive water from the Delaware river project, which was started in 1937 and placed (1944) in partial emergency use The Catskill Aqueduct passes under the Hudson river at Storm King mt at a depth of 1,114 ft The Narrows of New York Bay are crossed by a steel pipe to Silver Lake, Staten Island, a distance of 120 mi from the beginning of the aqueduct at Ashokan Reservoir

Catskill Mountains, range of the Appalachian Mts, SE N Y, chiefly in Greene and Ulster counties and just W of the Hudson, to which they descend abruptly in places The region, which is well wooded and rolling, with some deep gorges and many beautiful waterfalls, is drained by the headstreams of the Delaware river and Esopus, Schoharie, and Catskill creeks The summits are generally c 3,000 ft above sea level, Slide Mt (4,204 ft) and Hunter Mt (4,025 ft) are the highest Accessible to New York city, the area is a popular summer and winter resort Ashokan Reservoir here is a source of the metropolitan area's water supply Catskill Forest Preserve (232,423 acres) embraces some of the finest scenery of the range, including the region of the Rip Van Winkle legend

Catt, Carrie (Lane) Chapman, 1859–1947, American suffragist and peace advocate, b Ripon, Wis, grad Iowa State College, 1880. She was superintendent of schools, Mason City, Iowa, in 1883–84 In 1885 she married Lee Chapman, a journalist (d. 1886), and in 1890, George Catt, an engineer

(d 1905). From 1890 to 1900 an organizer for the National American Woman Suffrage Association, she became its president in 1900, being chosen by Susan B Anthony as her successor. She led the campaign to win suffrage through a Federal amendment to the Constitution rather than state by state After the ratification of the Nineteenth Amendment (1920), she organized the League of Women Voters for the education of women in politics At the Berlin convocation of the International Council of Women she helped organize the International Woman Suffrage Alliance, of which she was president from 1904 to 1923 After 1923 she devoted her efforts chiefly to the peace movement. With Nettie R Shuler she wrote *Woman Suffrage and Politics* (1923) See biography by M G Peck (1944)

cattail or **reed mace,** any plant of the genus *Typha*, widely distributed marsh perennials characterized by a creeping rootstock, long, narrow leaves, and a brown cylindrical spike of flowers on a tall, stout stem The plant has been variously utilized, the leaves woven into chair seats and the young shoots eaten like asparagus, while the starchy rootstock was ground into meal by the Indians, who are said to have applied the down of the seeds to wounds Cattails, sometimes called club rush, are cultivated around ponds, though they often become weedy, the flowering spikes are used in winter bouquets

Cattaraugus (kătŭrô'gŭs), village (pop 1,145), W N Y , SE of Buffalo, settled 1851 with the coming of the Erie RR, inc 1882 The Cattaraugus Indian Reservation is near by

Cattaro, Yugoslavia see KOTOR

Cattell, James McKeen (kutĕl'), 1860–1944, American psychologist, b Easton, Pa , grad Lafayette College, 1880 He studied with Wilhelm Wundt at Leipsig and was professor of psychology at the Univ of Pennsylvania (1888–91) and at Columbia Univ (1891–1917), he was a pioneer in many branches of psychological research His dismissal in 1917 for alleged unpatriotic statements aroused widespread protest Besides writing numerous books and articles, Cattell established and edited the *Psychological Review* (founded with J M Baldwin), *American Men of Science*, and *Leaders in Education*, he edited the *American Naturalist* (from 1907) and *School and Society* (from 1915) and was owner and editor of *Science* (from 1894) and *Scientific Monthly* (from 1900)

Cattermole, George, 1800-1868, English watercolor painter and illustrator He painted a wide variety of subjects with notable success and was equally successful as an illustrator He was a close friend of Dickens, Thackeray, and Browning Cattermole is represented in most of the important British galleries.

cattle, domestic animals of the bovine genus probably descended from the AUROCHS, which is believed to have been first domesticated in Asia It is thought that in ancient times in Europe crosses between the aurochs and a smaller breed produced cattle from which modern breeds originated Cattle were first brought to the Western Hemisphere by Columbus on his second voyage They are closely related to the bison, buffalo, and yak Wealth has sometimes consisted chiefly of cattle and has been measured by them, the word *pecuniary* is derived from the Latin *pecus*, cattle, and the words *cattle*, *chattel*, and *capital* are related Breeding for improvement of beef, dairy, and dual-purpose breeds has been notably successful since the middle of the 18th cent The principal beef breeds include the ABERDEEN ANGUS and HEREFORD The principal dairy breeds include the AYRSHIRE, BROWN SWISS, DUTCH BELTED, GUERNSEY, HOLSTEIN-FRIESIAN, and JERSEY The principal dual-purpose breeds include the DEVON, POLLED DURHAM, RED POLLED, and SHORTHORN Associations have been formed by breeders interested in improving the various breeds See also BEEF and DAIRYING See publications of the U S Dept of Agriculture, P I Wellman, *The Story of the Cattle Range in America the Trampling Herd* (1939)

cattle plague. see RINDERPEST

Catullus (Caius Valerius Catullus) (kŭtŭ'lŭs), 84? B C –54? B C , Roman poet, b Verona He is generally considered one of the greatest lyric poets of all time. A wealthy young man, he went (c 62 B C) from Transpadane Gaul to Rome, where he entered literary and fashionable circles He fell deeply in love, probably with CLODIA, and wrote to his beloved, addressed as Lesbia (to recall Sappho of Lesbos), a series of superb little poems that run from early passion and tenderness to the hatred and disillusionment that overwhelmed him after his mistress was faithless. Of the 116 extant poems attributed to him, three are almost certainly spurious They include, besides the Lesbia poems, epigrams, ranging from the genial to the obscenely derisive, elegies, a few long poems (notably *Attis* and an epithalamium on Thetis and Peleus), and various short pieces His satire is vigorous and flexible, his light poems gay and full-bodied He was influenced by the Alexandrians and drew much on the Greeks for form and meter, but his genius outran all models Many of his poems are well loved today by those who know them, two of the most popular being the 10-line poem, touching and simple, which ends, "frater ave atque vale" [hail, brother, and farewell], and "On the Death of Lesbia's Sparrow " See Tenney Frank, *Catullus and Horace* (1928); E A Havelock, *The Lyric Genius of Catullus* (1939).

Catulus (kă'chōlŭs), family of ancient Rome, of the Lutatian gens **Caius Lutatius Catulus** (kā'ŭs, kt'ŭs, lōtā'shus) was consul in 242 B C. He won the great Roman naval victory over Carthage off the Aegates (modern Aegadian Isles) that ended the First Punic War **Quintus Lutatius Catulus** (kwĭn'tŭs), d 87 B C , was consul in 102 B C His colleague in the consulship was MARIUS, and the two of them went north to oppose a Germanic invasion He had to retreat before the Cimbri until Marius returned from Gaul. The two then defeated the Cimbri at the Raudine Fields (just S of Vercelli) in 101 B C He later opposed Marius in the Social War and favored Sulla Proscribed by the Marians, he either committed suicide or was killed He was the patron of a literary circle and was himself a writer and a philosopher Cicero praises his oratory His son, also **Quintus Lutatius Catulus,** d c 60 B C , was consul in 78 B C. He opposed the constitutional changes sought by his colleague, LEPIDUS, and when Lepidus, disgruntled, led a revolt, Catulus and Appius CLAUDIUS defeated him Catulus was censor in 65 B C He was the leader of the arch conservative group He led the minority opposing the conferring of unusual powers on Pompey by the Manilian Law in 66 B C , and he was one of the bitterest opponents of Julius Caesar

Cauca (kou'kä), river, c 600 mi long, rising near Popayán, W Colombia, and flowing N to the Magdalena through the Colombian Andes It is navigable in its lower course and drains a fertile valley, a superb agricultural region, which also has minerals

Caucasia see CAUCASUS

Caucasian: see RACE

Caucasian Gates see DARYAL

Caucasus (kô'kŭsŭs), Rus *Kavkaz* (kŭfkäs'), mountain system, USSR, between Europe and Asia It extends c 750 mi from the mouth of the Kuban river on the Black Sea SE to the Apsheron peninsula on the Caspian Sea The main range, called the Greater Caucasus, is a majestic chain of snow-capped peaks, including Mt ELBRUS (18,481 ft), the Dykh-Tau (17,050 ft), and Mt KAZBEK (16,541 ft) The Greater Caucasus is crossed by several passes, notably the MAMISON and the DARYAL, and by the GEORGIAN MILITARY ROAD and the OSSETIAN MILITARY ROAD, which connect North Caucasia with Transcaucasia, as the region S of the Greater Caucasus is called The only rail lines connecting Transcaucasia with the rest of the USSR follow the coasts of the Black Sea and the Caspian The valleys of the KURA and RION rivers have for centuries served as the main thoroughfare of Transcaucasia, between the Black Sea and the Caspian, and they are now followed by a rail line To the south of the Kura rises the Lesser Caucasus, which is an extension of the Iranian Plateau North Caucasia, which slopes down to the Kuban steppe and the MANYCH DEPRESSION, is part of the RSFSR The main administrative divisions are the KRASNODAR TERRITORY (including the ADYGE AUTONOMOUS OBLAST), the STAVROPOL TERRITORY (including the CHERKESS AUTONOMOUS OBLAST), the KABARDIAN ASSR, the North Ossetian ASSR (see OSSETIA), GROZNY oblast, and the DAGESTAN ASSR Transcaucasia is occupied by the GEORGIAN SSR (including the ABKHAZ ASSR, the ADZHAR ASSR, and the South Ossetian Autonomous Oblast), the AZERBAIJAN SSR (including the NAKHICHEVAN ASSR and the MOUNTAIN-KARABAKH Autonomous Oblast), and the ARMENIAN SSR. The administrative complexity of Caucasia reflects the diversity of its ethnic composition Caucasia possesses very rich mineral resources, notably oil at Baku, Grozny, and Maikop and manganese at Chiatura Stock raising is the chief occupation in the higher reaches, agriculture, fruitgrowing, and vineyards predominate in the valleys The mountain slopes are covered with dense pine and deciduous forests, and there is plentiful game Among the numerous health and mineral resorts, particularly in the N Caucasus, are PYATIGORSK and KISLOVODSK Among the most important cities are DZAUDZHIKAU (formerly Vladikavkas), TIFLIS, ERIVAN, BAKU, Kirovabad, Leninakan, Batum, and Kutais The Caucasus was known to the ancient Greeks, in whose legends it is mentioned, it was on a Caucasian mountain that Prometheus was chained, and Jason and his Argonauts sought the Golden Fleece in COLCHIS The numerous invasions and migrations that swept over the Caucasus have resulted in its ethnic and linguistic complexity There are four unconnected language families the North Caucasian, which includes CHECHEN, Ingush, Adyge, Kabardin, and Abkhasian, the South Caucasian or Kartvelian, which includes Georgian, Mingrelian, and Svanetian, the Indo-European, represented chiefly by Ossetic, and the Turkic, represented by the Azerbaijani Turks. Christianity is the chief religion in Georgia and Armenia; Islam, in Azerbaijan, Dagestan, and the historic region of CIRCASSIA. Many of the Moslem mountain people stubbornly resisted the Russian penetration of the Caucasus in the 19th cent. and were pacified only after the collapse of the SHAMYL uprising. The romantic beauty of the Caucasus has inspired many Russian poets and writers, notably LERMONTOV and Tolstoy. Tolstoy's novels *The Cossacks* and *Hadji Murad* contain probably the most masterly descriptions of life on the Caucasian frontier in the 19th cent

Caucasus Indicus: see HINDU KUSH.

Cauchon, Pierre (pyĕr' kōshō'), d 1442, bishop of Beauvais, France, president of the ecclesiastic court that convicted JOAN OF ARC at Rouen (1431). His violent partisanship for the English made a fair trial impossible His procedure was repudiated by the Church in the rehabilitation trial (1456) of Joan. See W P Barrett, *The Trial of Jeanne d'Arc* (1931)

Cauchy, Augustin Louis, Baron (ôgŭstĕ' lwē' bărō' kōshē'), 1789–1857, French mathematician. He was professor simultaneously (1816–30) at the École polytechnique, the Sorbonne, and the Collège de France in Paris While a political exile (1830–38) he taught at the Univ of Turin. He returned to the Sorbonne in 1848 Besides his influential work in every branch of mathematics (especially the theory of functions, integral and differential calculus, and algebraic analysis) he contributed to astronomy, optics, hydrodynamics, and other fields Among his nearly 800 publications are works on the theory of waves (1815), algebraic analysis (1821), infinitesimal calculus (1823, 1826–28), differential calculus (1827), and the dispersion of light (1836)

caucus, political party gathering or standing party organization The word is of New England origin, deriving perhaps either from an Algonquian word meaning "to talk" or from "caulkers," who were of Revolutionary sympathies in New England and in whose place of business one of the Boston Revolutionary committees held meetings in colonial times In the United States, legislative caucuses at one time nominated presidential and other candidates for office, but this practice gave way, with the rise of popular government and an increased franchise, to the nominating convention and primary William Harris Crawford was the last presidential nominee of the congressional caucus (1824) The caucus has continued, in Congress and other legislative bodies, as an instrument to aid in the formulation of policy by a political party and to make the party's nominations for committee posts In Great Britain the term was applied to a standing party organization, such as that developed by the Radical Joseph Chamberlain in the 1870s, and has usually carried an opprobrious connotation In Australia the term refers to groups of Labour members in federal and state parliaments who cooperate with trade councils to control the government when the Labour party is in power In New Zealand and France it is applied to meetings of any legislative group

Cauda see CLAUDA

caudillo (kôdēl'yō, Span koudhē'yō, -dhē'lyō), term applied to a type of Hispanic American political leader who arose with the wars of independence Though *caudillos* have varied greatly in character, methods, and aims, certain characteristics generally predominate The *caudillo* is usually a mestizo, whose political platform is of little consequence but whose sentimental appeal and strong personality command the blind allegiance of the Indian and mestizo masses He is unusually daring and skilled in military matters, possesses traditional virtues, and identifies himself with his followers in leading a simple existence The bond between him and his people is personal and patriarchal and has nothing to do with ideologies Although he eventually becomes an oligarch himself, he usually champions the rights of the masses by opposing the entrenched wealthy white classes and generally also the power of the Church He is regarded as almost messianic, capable of all manner of unusual accomplishments for his people Although he rules with an iron hand and imposes strict discipline, his only law is that of his own making and has nothing to do with constitutional rights Among the more famous *caudillos* have been Juan Manuel de Rosas and Facundo Quiroga of Argentina, Francisco Solano López of Paraguay, Rafael Carrera of Guatemala, Porfirio Díaz of Mexico, Juan Vicente Gómes of Venezuela, and Gabriel García Moreno of Ecuador.

Caudine Forks (kô'dīn), narrow passes in the Apennines, S Italy, on the road from Capua to Beneventо Here in 321 B C the Samnites routed a Roman army and forced it to pass under a yoke

Caughnawaga (kă'nawā"gŭ), village, S Que , on the St Lawrence opposite Lachine. It was founded (1667) as a refuge for the Iroquois converts to the Christian faith It is still an Iroquois village, though in 1890 it abandoned government by tribal chief in favor of municipal law

Caulaincourt, Armand Augustin Louis, marquis de (ärmä' ôgŭstĕ' lwē' märkē' dŭ kōlăkōōr'), b 1772 or 1773, d. 1827, French diplomat and general, created duke of Vicenza by Napoleon As ambassador to Russia (1807–11), he opposed Napoleon's

war policy. He accompanied the emperor as aide-de-camp in the Russian campaign and on his two-week dash from Russia to Paris (1812). Caulaincourt was foreign minister when Napoleon abdicated in 1814 and again during the Hundred Days His remarkable memoirs of the years 1812–15 were first published in 1933 and appeared in English as *With Napoleon in Russia* (1935) and *No Peace with Napoleon!* (1936)

cauliflower (kô'lĭ–), variety of CABBAGE, with an edible head of condensed flowers and flower stems In cultivation it is the most exacting cabbage variety, but a profitable garden crop Cooperative marketing by such organizations as the Long Island Cauliflower Growers' Association and the California Vegetable Growers' Union has facilitated commercial handling

Caupolicán (koupōlēkän'), d 1558, leader of the Araucanian Indians who fiercely resisted the Spanish conquest of Chile. He attempted to carry on the reconquest begun by LAUTARO and won a victory over Pedro de Valdivia After a magnificently heroic but futile battle to keep the Spanish from recapturing ruined Concepción, Caupolicán was forced to retreat into the forest Here he was surprised, captured, tortured, and killed His fame rests partly on *La Araucana*, the epic poem of Ercilla y Zúñiga

Caus or **Caux, Salomon de** (both sälōmō' du kō'), 1576–1626, French engineer and physicist, educated in England From 1614 to 1620 he was engineer to the Elector Palatine Frederick at Heidelberg Because of his *Les Raisons des forces mouvantes avec diverses machines* (1615), an early exposition of the principle of steam motivation, he has been considered the originator of the steam engine

causality, relationship between the cause and its effect The scientific conception that given stimuli under controlled conditions must inevitably produce standard results is generally accepted by philosophers Systems vary, however, in the degree of emphasis which they place on the role of chance in changing a situation Hume felt that in causal relations we have no evidence of any power exerted by the cause on the effect Kant thought the notion of cause a fundamental category of understanding, while others argue a strictly mechanical theory of causality A modern interpretation is that cause and effect are parts of the same field of force, and their relation is dynamic rather than strictly causal

Causapscal (kōsapskäl'), village (pop 1,545), E Que , SW of Lake Matapedia

caustic, substance which acts upon organic material, burning or corroding it Caustic SODA (sodium hydroxide), as well as caustic POTASH (potassium hydroxide), is a caustic ALKALI Silver nitrate, called caustic silver or lunar caustic, is commonly used in medicine

Cauterets (kōturā'), mountain resort (permanent pop 1,012), Hautes-Pyrénées dept , SW France It has celebrated hot sulphur springs

Cautley, Sir Proby Thomas (kôt'lē), 1802–71, English engineer and paleontologist He was chief engineer of the Doab and the Ganges canals in India, and he collected fossils in the Siwalik Hills there He wrote many works on canal engineering and paleontology

Cauvery or **Kavery** (both kô'vurē) river, c 475 mi long, rising in Coorg, India, in the Western Ghats It is a sacred river Scenic falls near Sivasamudram, Mysore, furnish hydroelectric power Below Srirangam, Madras, the river divides into several channels (most important the Coleroon), which empty into the Bay of Bengal

Caux, Salomon de. see CAUS, SALOMON DE

Cavaignac, Jacques Marie Eugène Godefroy (shäk' mərē' üzhĕn' gôdfrwä' kavänyäk'), 1853–1905, French minister of war (1895–98), son of Louis Eugène Cavaignac He played a decisive role in convicting Dreyfus (see DREYFUS AFFAIR)

Cavaignac, Louis Eugène (lwē'), 1802–57, French general In Algeria he held Tlemcen and Cherchel against the Arabs and was promoted (1840) colonel of the Zouaves After the outbreak of revolution in Feb , 1848, he became governor general Elected to the assembly, he returned to Paris and was appointed minister of war He used his dictatorial powers to quell the threatened rising of the working classes in a fierce 70-hour struggle known as the JUNE DAYS In the presidential election he was badly defeated by Louis Napoleon (later Napoleon III) Arrested after the coup d'état of 1851, he was soon released but, refusing to swear allegiance to Napoleon III, held no further office

Cavalcanti, Guido (gwē'dō kavalkän'tē), d 1300, Italian poet, friend of Dante He belonged to the White faction in the struggle of the Guelphs in Florence and was exiled to Sarzana. There he fell ill and died soon after his recall Much of his best verse is in the *Canzone d'amore* [songs of love] For translations, see his *Sonnets and Ballate*, tr. by Ezra Pound (1912) and Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

Cavalcaselle, Giovanni Battista (jōvän'nē bät-tēs'tä kävälkäsël'lä), 1820–97, Italian art critic and writer. He studied painting at the Academy of Venice and in Munich and traveled extensively through Tuscany studying its art treasures. He participated in the Revolution of 1848 and escaped to England, where he remained for several years While in England, he produced in collaboration with Joseph A. Crowe their first joint work, *Early Flemish Painters* (1857). Cavalcaselle returned to Italy in 1857 and subsequently served as inspector of the National Museum in Florence and director general of fine arts in Rome The writings of Crowe and Cavalcaselle include the monumental *History of Painting in Italy* (5 vols , 1864–71), several times revised.

Cavalier, Jean (zhäⁿ' kävēlyā'), 1679?–1740, a leader of the CAMISARDS From his home in the Cévennes region, France, he fled to Geneva (1701) when persecution of the Protestants became intolerable, but he returned when he knew that the Protestants were about to rebel As chief leader of the Camisards, he showed remarkable military genius and successfully withstood the French commanders sent to subdue the uprising In 1704 he made peace with Marshal Villars and received from Louis XIV a commission as colonel and a pension, the peace was repudiated by his followers Distrustful of the king, Cavalier fled from France He fought for the duke of Savoy and later for England in Spain against the French His later years were spent in Great Britain, where he was given a pension, made major general, and appointed governor of the isle of Jersey The *Memoirs of the Wars of the Cévennes*, published in 1726 and dedicated to Lord Carteret, is attributed to Cavalier

Cavalier (kăvulēr'), city (pop 1,105), co seat of Pembina co , extreme NE N Dak , NNW of Grand Forks, in a farm area, founded 1875, inc 1885

cavalier, in general, an armed horseman In the English civil war the supporters of Charles I were called Cavaliers in contradistinction to the ROUNDHEADS, the followers of Parliament The royalists used the designation until it was replaced by TORY

Cavaliere, Emilio del (āmē'lyō dĕl kävälyā'rā), c 1550–1602, Italian composer of *La rappresentazione di anima e di corpo* (Rome, 1600), a sacred dramatic work, a forerunner of oratorio His recitatives were the first monodies His name also appears as Emilio de' Cavalieri

Cavalieri, Francesco Bonaventura (fränchā'skō bōnävəntōō'rä kävälyā'rē), 1598–1647, Italian mathematician, a Jesuit priest Professor at Bologna from 1629, he invented the method of indivisibles (1635) which foreshadowed integral calculus

Cavalieri, Lina (lē'nä), 1874–1944, Italian operatic soprano After her debut in Lisbon in 1900 she achieved great success throughout Europe and in the United States in the lyric French and Italian roles, renowned as much for her great beauty and fiery temperament as for her light pleasant voice She sang with the Metropolitan Opera Company (1906–8) and with Oscar Hammerstein's Manhattan Opera Company (1909–10)

Cavalier poets, group of secular poets at the court of Charles I Perfectionists in matters of form, they wrote finely finished verses on courtly themes Beauty, love, and loyalty expressed with wit characterized their poetry In his poems, Robert Herrick, the finest artist of the group, showed the debt of the Cavalier poets to Jonson Richard Lovelace, Sir John Suckling, and Thomas Carew were the other leading writers of the group

Cavalli, Pietro Francesco (pyā'trō fränchā'skō kaval'lē), 1602–76, Italian composer, whose real name was Caletti-Bruni, pupil of Monteverdi, whom he succeeded as choirmaster of St Mark's, Venice His 42 operas were very popular—especially *Dulone* (1641), in which the *bel canto* aria is fully developed He also composed church music

Cavallini, Pietro (pyā'trō kavəl-lē'nē), c 1250–c 1330, Italian painter, mosaicist, and sculptor His influence on Cimabue and Giotto was important He is known to have executed several frescoes for the Church of St Francis in Assisi Notable frescoes by Cavallini, in the Church of Santa Cecilia in Trastevere, Rome, were uncovered in 1901

Cavallotti, Felice (flē'chā kävälôt'tē), 1842–98, Italian politician and dramatist He fought under Garibaldi, was a deputy to the parliament, and persistently attacked the government in fiery speeches and writings

cavalry (kă'vulrē), mounted troops trained to fight from horseback Cavalry was used by the ancient Egyptians, but it was more extensively employed by the ancient Assyrians, Babylonians, and Persians Some of the Greek city-states had mounted troops as early as the 8th cent B C , but the typical Greek force was the phalanx Since saddles were not introduced until the time of Constantine I and stirrups seem to have been a contribution of the Franks, cavalry was at a disadvantage against well-disciplined infantry at the time when Rome reached the height of greatness, though the Romans did use regiments of horsemen Cavalry was particularly useful in scouting and in pursuing a routed enemy The first wide and expert use of cavalry in Europe was that of the invaders from the East, the Huns, Avars, Magyars, Cumans, and Mongols In medieval Europe the mounted knight became the typical warrior, and cavalry dominated in the incessant small wars. Armor was developed not only for the knight himself but also for his horse Mobility was the chief advantage of the mounted fighters With the reintroduction of mass fighting, infantry came to the fore again, notably in the trained companies of English bowmen such as those who won at Crécy in 1346 The use of gunpowder and hand firearms did much more to enhance the importance of infantry Cavalry, however, was still of great value because of its mobility, its rapid striking power, and its usefulness in clearing the field of a beaten enemy The mounted infantrymen also became prominent, such forces as the dragoons used horses for mobility but fought on foot Cavalry was prominent in the armies of Louis XIV and of Frederick II (Frederick the Great), and particularly with Napoleon the cavalryman became the elite of the fighting forces, though actual reliance in fighting was rather upon the infantry Gaily uniformed cuirassiers, dragoons, hussars, lancers, and the like were features of European armies of the 19th cent , and most of these forces were recruited from the nobility and the better families They were of great value in the fighting on imperial frontiers, as in India and in Africa, but were of steadily diminishing worth on the battlefields of Europe Cavalry was also the indispensable arm for the U S frontier, where mobility was essential in fighting the Indians, and as Indian fighters cavalrymen were paramount to the end of the 19th cent when those wars ended Cavalry was much used in the American Civil War, and some of the best known of the commanders were cavalrymen, notably Philip H Sheridan, J E B Stuart, and N B Forrest Their value was, however, on the wane, and it is an ironic fact that the Rough Riders of the Spanish-American War did their fighting on foot In the First World War cavalry was again useful in the open fighting on the plains of Eastern Europe and in Palestine, but was not usable in the major theaters, where trench warfare prevailed The development of motorized, mechanized, and armored forces and of air warfare had made cavalry obsolete by the time of the Second World War, as was abundantly proved by the pitiful showing of the Polish cavalry in the brief campaign of Sept , 1939 The Russians did make some efficient use of cavalry in small movements in winter, when the heavy snows stalled mechanized units, but the cavalry forces on the plains of the Ukraine fared badly, and victory depended rather on foot soldiers, artillerymen, and airplanes The tank and the armored car had definitely replaced the horse in warfare In 1946 the U S army abolished cavalry as a separate arm of service, merging what remained of it into the armored forces

Cavan (kă'vun), inland county (730 sq mi , pop 70,323), Ulster prov , Ireland The county town is Cavan It is a hilly region of lakes (Lough Oughter chief among them) and bogs, and the climate is extremely damp and cool Most of the soil is clay The Erne is the principal river, and the Shannon has its source in Cavan Although agriculture is the chief occupation, less than a third of the area is under cultivation, and that mostly in very small farms Manufactures are negligible Cavan was organized as a shire of Ulster in 1584

Cavan, urban district (pop 3,479), co seat of Co Cavan, Ireland It is a farm market and the seat of the Roman Catholic bishop of Kilmore

Cavazzola (kavät-tswô'la) or **Cavazzuola** (kavat-tswô'-lä), 1486–1522, Italian painter He decorated many churches in Verona with his frescoes His five scenes from the Passion (Verona) are well known His real name was Paolo Morando

Cave, Edward, 1691–1754, English editor and publisher He was the founder of the *Gentleman's Magazine* This was the first magazine in the present sense of the word and the first to give the miscellaneous writer an honest literary opportunity Samuel Johnson published his parliamentary reports, "Debates in the Senate of Magna Lilliputia," in this periodical (1741–44)

cave, a hollow, either above or below ground. Caves may be formed by the chemical and mechanical action of a stream upon soluble or soft rock, of rain water seeping through soluble rock to the groundwater level, or of waves dashed against a rocky shore Volcanic action (either through the formation of gas pockets in lava or through the melting of ice under lava) and earthquakes or other earth movements are also sources of cave formation Limestone regions almost invariably have caves, some of these are notable for their beauty of STALACTITE and STALAGMITE formation or for their magnitude and strangeness Some caves were the means of preserving both the remains of prehistoric man and animals and indications of man's early culture Special scientific studies of the living plants and animals in caves contribute to knowledge of adaptation and evolution Some cave animals lack sight, and both plants and animals living where light is excluded show loss of pigment Famous caves are those in CARLSBAD CAVERNS NATIONAL PARK (N Mex), MAMMOTH CAVE NATIONAL PARK (Ky), and Wind Cave National Park (Black Hills, S Dak), LURAY CAVERNS (Va); and

WYANDOTTE CAVE (Ind.). In Europe there are celebrated caves in Belgium, in the Pyrenees (see ALTAMIRA and AURIGNAC), in the DORDOGNE, in Dalmatia, Gibraltar, and Sicily, at POSTOJNA, and in England (KENT'S CAVERN and Kirkdale), FINGAL'S CAVE in the basalt of the Hebrides off Scotland is one of the many caves about which there are legends The caves of Iceland and Hawaii are volcanic. See also CAVE DWELLER

cave art. Cave paintings and engravings have been preserved since Paleolithic times The earliest beginnings of the art are unknown, but by the Upper Paleolithic, during the Magdalenian phase, its techniques were highly perfected Paintings show a vigorous realism, combining an economy of line with effective polychrome techniques The early cave artists were also competent users of foreshortening and shadowing Engraving is common, and some cave surfaces were utilised to show relief Animals are the chief subject matter, the accuracy of portrayal in such details as hoofs and trunk lobation have provided invaluable evidence for paleozoologists. Brushes apparently were used Colors were derived from iron and manganese oxides and iron carbonates, burnt bone provided black The motivations for this art were not aesthetic, but most probably magico-religious Many paintings are found in nearly inaccessible passages where the artist could have worked only under most awkward conditions by inadequate artificial illumination The subject matter suggests that these drawings served to induce sympathetic magic as an aid in hunting The first discovery of Paleolithic paintings was made in 1879 when the celebrated bulls on the walls of the Altamira caves in Spain were brought to light Many famous examples have later been found in the Dordogne regions, in the central Pyrenees, and in lower Italy Traces of a Neolithic cave art in North Africa show strong resemblances to the Bushman rock paintings of recent times The murals of the Ajanta caves of Hyderabad in India, dating from 200 B C to A D 600, are among the most striking examples of Buddhist art

Cave City, town (pop 960), S Ky , NE of Bowling Green It is a center for visitors to the famous limestone cave region of the state Mammoth Cave National Park, the Diamond Caverns, and other caves are near by

Cavedone, Jacopo (yä'kōpō kavādō'nā), 1577–1660, Italian painter, of the Bolognese school He assisted Guido Reni in Rome, but his reputation as a master of color and composition was won through his paintings in the churches of Bologna.

cave dweller. Caves and rock shelters, wherever found, are apt to be utilized by man, but they have not been widely used for human habitation either in prehistoric times or among primitive peoples of today Cave sites favor the preservation of human remains and have provided most of the known data on man during the PALEOLITHIC PERIOD These indicate most frequent occupation during periods of severe climate, such as the Mousterian, when Neanderthal man flourished The need to hunt animals in the Alpine region was probably an important factor in the choice of many such sites They are widespread in Europe, the Dordogne region of France, the Pyrenees, and S Italy contain many famous caves with notable examples of the Paleolithic CAVE ART Stone-using peoples were not the only ones to exploit caves, not until the 2d and 3d cent A D , during the Iron Age, did cave dwelling find its greatest development in Britain The troglodytes, known to classical writers, are assumed to have dwelt in caves along the Red Sea

Cavell, Edith (kă'vŭl), 1865–1915, British nurse She was matron of the Berkendael Medical Institute in Brussels, which became a Red Cross Hospital upon the outbreak of the First World War Nurse Cavell was arrested by the German authorities and pleaded guilty to a charge of harboring and aiding Allied prisoners and assisting some 130 to cross the Dutch frontier She was shot Oct. 11, 1915, despite the efforts of Brand Whitlock, U S minister to Belgium, to secure a reprieve. See biography by Helen Judson (1941).

Cavendish (kă'vŭndĭsh), pseud of **Henry Jones,** 1831–99, English card-game expert, b London Jones studied medicine, practiced in London, and retired in 1868. He became a leading authority on card games and was the first man to formulate a system of playing whist He was the author of *Principles of Whist: Stated and Explained by "Cavendish"* (1862) and later wrote books on billiards, lawn tennis, and croquet

Cavendish, George, 1500–1561?, English writer, gentleman-usher to Cardinal Wolsey His biography of Wolsey, written in 1557, remained in manuscript until 1641 and first appeared in entirety in Christopher Wordsworth's *Ecclesiastical Biography* (1810). One of the great books of the English Renaissance, this work was long attributed to Cavendish's brother William, but in 1814 Joseph Hunter clearly established its authorship. See S. W. Singer, ed , *The Life of Cardinal Wolsey* (1825).

Cavendish, Henry, 1731–1810, English physicist and chemist, b Nice. He was the son of Lord Charles Cavendish and grandson of the 2d duke of Devonshire. A recluse, whose writings were published chiefly after his death, his great contributions to science are found in the results of his many and accurate experiments in divers fields. His conclusions were remarkably original. His chief researches were on heat, in which he determined the specific heats for a number of substances (although these heat constants were not recognised or so called until later), on the composition of air, on the nature and properties of a gas which he isolated and described as "inflammable air" and which was later called by LAVOISIER HYDROGEN, and on the composition of water, which he showed to consist of oxygen and his "inflammable air" In his *Electrical Researches* (pub 1879) he anticipated some of the discoveries of Coulomb and Faraday His experiments to determine the density of the earth led him to give it a value stated as 5 448 times that of water His *Scientific Papers* were collected in two volumes (*Electrical Researches* and *Chemical and Dynamical*) in 1921.

Cavendish or **Candish, Thomas,** 1555?–1592, English navigator He commanded a ship in the flotilla under Sir Richard Grenville sent (1585) by Sir Walter Ralegh to establish the first colony in Virginia In command of three vessels he sailed from England (1586) on a voyage round the world (the third to be made), crossing from the coast of W Africa to Patagonia, where he discovered a fine harbor he named Port Desire (after his own ship) He ravaged Spanish towns and shipping on the west coast of South America and thence continued his journey by way of the Marianas, East Indies, and Cape of Good Hope, returning to England in 1588 after a voyage of two years and 50 days A second circumnavigation which commenced in 1591 ended disastrously; his fleet of five ships was dispersed, and he died at sea.

Cavendish, William: see NEWCASTLE, WILLIAM CAVENDISH, DUKE OF

Cavendish, town (pop 1,398), SE Vt , E of Ludlow, crossed by the Black River, settled 1769 on the Crown Point military road It includes PROCTORSVILLE and Cavendish villages

Cavendish Laboratory: see CAMBRIDGE UNIVERSITY

Caventou, Joseph Bienaimé (shôsôf' byĕnāmā' kävätōō'), 1795–1877, French chemist He was professor at the École de Pharmacie, Paris With P J Pelletier he isolated strychnine, brucine, and quinine (from cinchona bark)

caviar or **caviare** (kă'vēär) [Turkish], the roe of various species of sturgeon prepared as a piquant table delicacy, especially in Russia The ovaries, when removed from the fish, are beaten to loosen the eggs, which are then freed from fibers, fat, and membrane by being passed through a sieve The liquor is pressed off, and the eggs are salted and sealed in small tins or kegs "Fresh" caviar made in winter from high-grade eggs, mildly salted, is scarce and expensive Less choice varieties are cured with 10 percent salt The eggs, black, green, brown, and the rare yellow or gray, may be tiny grains or the size of peas The Russian caviar comes from the vicinity of the Black and Caspian seas, from the Danube provinces, and elsewhere In the United States an imitation of sturgeon caviar is produced from the roe of other fish, such as paddlefish, whitefish, and cod

Cavite (kävē'tä), city (1948 pop 35,052), on SW Luzon, capital of Cavite prov , Philippine Islands, SW of Manila on a narrow peninsula in Manila Bay After the Spanish-American War in 1898, the United States established a major naval base at Sangley Point just opposite the city proper It was agreed in 1947 that the United States would retain the base as a limited operational area

Cavour, Camillo Benso, conte di (kämēl'lō bān'sō kōn'tā dē kävōōr'), 1810–61, Italian statesman, premier of Sardinia (1852–59, 1860–61). The active force behind KING VICTOR EMMANUEL II, he was more than any other man responsible for the unification of Italy under the house of Savoy (see RISORGIMENTO) Of noble Piedmontese family, he early entered the army but resigned in 1831 and devoted himself to politics In 1847 he founded the Liberal daily, *Risorgimento,* in which he pressed King Charles Albert to grant a constitution and to make war on Austria A member of parliament after 1848, he became minister of agriculture and commerce and (1852) premier. He reorganized the administration and finances, reformed the army, and won for Sardinia a place among the powers through participation in the CRIMEAN WAR In 1858, by an agreement reached at Plombières, he won the support of Napoleon III for a war against Austria, promising in exchange to cede Savoy and Nice to France Austria was maneuvered into declaring war (1859), but Cavour refused to accept the separate armistice of VILLAFRANCA DI VERONA between France and Austria and resigned He returned to office in 1860 In that year Tuscany, Parma, Modena, and the Romagna voted for annexation to Sardinia, and Giuseppe GARIBALDI overran the Two Sicilies. Cavour met the delicate situation boldly and by his superior statesmanship avoided foreign intervention in favor of the dispossessed dukes and of the pope. Sardinian troops were sent into the Papal States, which, with the exception of Latium and Rome, were annexed to Sardinia. With the abdication (1861) of Francis II of the Two Sicilies the annexation (1860) of that kingdom was consummated. Cavour's labors were crowned two months before his death, when the kingdom of Italy was proclaimed under Victor Emmanuel II. See Pietro Orsi, *Cavour and the Making of Modern Italy* (1914); W. R. Thayer, *The Life and Times of Cavour* (2 vols., 1911).

cavy (kā'vē), name of the GUINEA PIG and of a number of related South American rodents The wild cavies are generally of uniform color, usually some shade of brown, and are without tails. They are herbivorous. One of the large species is the Patagonian cavy, a long-legged, harelike animal which reaches a length of about 2½ ft. Other forms are the Bolivian cavy, the Peruvian cavy (said to have been domesticated by the Incas), the restless cavy of Brasil, and the CAPYBARA. Some cavies are hunted for food in South America.

Cawdor (kô'dur), parish (pop. 767), Nairnshire, Scotland, SW of Nairn Cawdor Castle, built in 1454 and later, is represented by Shakspere, following tradition, as the scene of the slaying of Duncan by Macbeth, which occurred in 1040.

Cawnpore (kôn'pôr"), city (pop 487,324), SW United Provs , India, on the Ganges river It was a village until its cession (1801) to the British by the Nawab of Oudh During the Sepoy Rebellion (1857), Nana Sahib, whose claim to a pension had been rejected, slaughtered the entire British garrison, including women and children. Cawnpore today is a rail junction and great distributing and manufacturing center Sugar, woolens, and cotton thread and cloth are its main products.

Caxton, William, c 1421–1491, English printer. He served apprenticeship as a mercer, became a member of the Company of Mercers of London, and from 1463 to 1469 was at Bruges as governor of the Merchants Adventurers in the Low Countries He learned printing in Cologne in 1471–72, and at Bruges in 1475 he and Colard Mansion printed *The Recuyell of the Historyes of Troye,* the first book printed in English In 1476 he returned to England, and at Westminster in 1477 he printed *Dictes or Sayengis of the Philosophres,* the first dated book printed in England He printed three books in Bruges and many in Westminster He was the translator, from French, Latin, and Dutch, of some of the books that he printed, and for some he wrote original prologues, epilogues, and additions One of the type faces used by Caxton is the original Old English type The size of this type of Caxton's (14 point) is known as English WYNKYN DE WORDE, his successor as a printer, was his assistant at Westminster, and the printers Richard Pynson and Robert Copland refer to Caxton (possibly figuratively) as their master See William Blades, *The Biography and Typography of William Caxton* (1877), H R Plomer, *William Caxton, 1424–1491* (1925), N S Aurner, *Caxton* (1926), G P Winship, *William Caxton and His Work* (1938)

Cayce, town (pop 1,476), central S C , just S of Columbia, in a cotton and corn area

Cayenne (kīĕn',kän'), city (pop 11,704), capital of French GUIANA, at the mouth of the Cayenne river Cayenne was founded by the French as early as 1643, but was wiped out by an Indian massacre and not permanently settled until 1664 Built on Cayenne island, it has a shallow harbor, and deep-draft ships must anchor some distance out The chief export is gold Long the center of French penal settlements in Guiana, it has a population partially made up of descendants of prisoners It gave its name to Cayenne pepper, a very sharp condiment made from the fruit of plants of the genus *Capsicum,* which flourishes on the island in profusion

Cayes, Haiti see AUX CAYES

Cayey (kīā'), town (pop 5,622), SE Puerto Rico It is a sugar center, and outside the town is the U S. military reservation, Henry Barracks. The mountain chain, Sierra de Cayey (syĕ'rä dā), makes the climate cool and pleasant

Cayley, Arthur (kā'lē), 1821–95, English mathematician. He was called to the bar in 1849 In 1863 he was appointed first Sadlerian professor of mathematics at Cambridge. His researches, which covered the field of pure mathematics, included especially the theory of matrices and the theory of invariants. His collected papers were published in 14 volumes (1889–98)

Caylus, Anne Claude Philippe de Tubières, comte de (än' klōd' fēlĕp' du tübyĕr' kōt' du kälüs'), 1692–1765, French archaeologist and collector of antiquities He traveled in Europe and Asia and became known as an etcher and as a patron of the arts His collections are in the Louvre. Among his writings is *Recueil d'antiquities égyptiennes, étrusques, grecques, romaines, et gauloises* (7 vols , 1752–67) He claimed that he had rediscovered the method of encaustic painting on WAX.

Caylus, Marie Marguerite Le Valois de Villette de Murçay, comtesse de (märē' märgürĕt' lû välwä' dû vēlĕt' dû mürsā' kōtĕs' du), 1673–1729, French writer; niece of Mme de Maintenon. She was a notable beauty. Her *Souvenirs,* first edited by Voltaire in 1770, is a series of vivid portraits of

figures at the court of Louis XIV. Racine wrote for her a special prologue to his tragedy *Esther*, in which she acted at Saint-Cyr

Cayman Islands (kā'mən, kīmān'), archipelago (c 90 sq. mi.; estimated pop 9,625), British West Indies, NW of Jamaica. They are a dependency of Jamaica and consist of three islands, Grand Cayman, Little Cayman, and Cayman Brac. The population is largely Negro. The islanders build ships for local use and export such items as green turtles and turtle shells and shark skins.

Cayuga (kīyōō'gə), town (pop 1,126), Vermilion co., W Ind., N of Terre Haute

Cayuga Indians: see IROQUOIS INDIANS

Cayuga Lake (kīyōō'gə, kĭ-, kū-), 38 mi. long and 1 to 3½ mi. wide, W central N.Y., longest of the FINGER LAKES. The lake is connected by canal and the Seneca river with the Barge Canal to the north. Cornell Univ. and Wells College overlook Cayuga with its clifflike banks, near the southern end are Taughannock Falls, 215 ft. high

cayuse: see MUSTANG

Cayuse Indians (kīōōs'), North American Indian tribe, occupying W Oregon and W Washington. They were of Waulatpuan linguistic stock, and the mission established among them by Marcus WHITMAN was called Waiilatpu. In 1847 the Cayuse, apparently blaming the missionaries for an outbreak of smallpox, attacked the mission and killed the Whitmans and their helpers. The white settlers then declared war and subdued the Cayuse. They were placed on reservation in 1855. A small horse bred by them gave the name cayuse to all Indian ponies

Cazenovia (kăzənō'vēə), resort village (pop 1,689), central N.Y., on Cazenovia Lake SE of Syracuse, settled 1793, inc. 1810. It is the seat of Cazenovia Junior College (1824)

Cazin, Jean Charles (zhäN' shärl' käzĕ'), 1841–1901, French painter, noted for his figure compositions in landscape, pupil of Lecoq de Boisbaudran. An ardent student of the old masters, he made many journeys to Italy and the Low Countries. In England he painted several portraits and earned his living as a ceramist. Not until 1876 did he begin to show at the salons, where his *Ismaël* (Luxembourg Mus., Paris) received a first medal and was acquired by the state. Characteristic works depict a quiet, humble countryside in evening light with figures also suggesting melancholy and repose. In his biblical scenes the characters are dressed in the French peasant costumes of his day. He is well represented in the Luxembourg, Art Institute of Chicago, and Metropolitan Museum. See study by Léonce Bénédite (1902, in French)

Cb, chemical symbol of the element columbium (see NIOBIUM)

C battery see BATTERY, ELECTRIC

Cd, chemical symbol of the element CADMIUM

Ce, chemical symbol of the element CERIUM

Ceán Bermúdez, Juan Agustín (hwän' āgōōstēn' thāän' bĕrmōō'dāth), 1749–1829, Spanish art historian and painter. He is esteemed chiefly for his important contributions to the history of Spanish art. These include *Diccionario histórico de los más ilustres profesores de las bellas artes en España* (6 vols., 1800), *Descripción artística de la catedral de Sevilla* (1804), and other works on architecture, painting, and Roman antiquities in Spain. Bermúdez was almost the first to apply critical methods to the history of Spanish art and his *Diccionario* is still a valuable source of biographical material. He was a member of two royal academies and founder of an academy of fine arts in Seville

Ceará (sēōrä'), state (59,168 sq. mi., 1940 pop. 2,091,032, 1949 estimated pop. 2,524,266), NE Brazil. FORTALEZA, formerly sometimes also called Ceará, is the capital. Like other states of NE Brazil, Ceará has an Atlantic coastal plain producing cotton, sugar, coffee, and some rice. The semiarid uplands of the interior (the *sertão*) are usable only for raising cattle and goats, with some agriculture under irrigation. The droughts of the interior have been extremely severe, and after the disastrous seasons of 1877–79, there was an exodus of the population to Amazonia, which increased in the following years with the Amazon rubber boom. Many others went to SE Brazil. Some of the people of the interior spend the dry season on the coast. Recently the government has made vigorous efforts to reclaim the interior by irrigation projects. Ceará was part of the region occupied by the Dutch in the 17th cent. It shared in the Brazilian sugar-growing hegemony, and much of the population is descended from Negroes brought in as slaves. Slavery was abolished here, however, long before national emancipation

Ceará, city, Brazil: see FORTALEZA

Cebu (sābōō'), island (1,702 sq. mi.; 1939 pop. 947,309), one of the Visayan Islands, in the Philippine Islands. It is between Leyte and Negros. Primarily agricultural, it produces corn, coconuts, sugar cane, hemp, and tobacco. Coal and oil are exploited. The capital and chief port is Cebu (1948 pop. 167,503) on the east coast, with a harbor sheltered by Mactan island. Founded by López de Legaspi in 1565 as San Miguel, Cebu was the capital of the Philippine Islands until 1571. It has a bishop's palace and a cathedral, and its principal exports are hemp and copra. The city was severely damaged in the Second World War

Cecco d'Ascoli (chāk'kō dä'shkōlē), 1257–1327, Italian astrologer, mathematician, and poet, a physician, whose real name was Francesco degli Stabili, b. Ascoli. A teacher of astrology at several institutions in Italy, he was professor of mathematics and astrology at the Univ. of Bologna (1322–24). Accused of heresy, largely because of an attack on Dante's *Divine Comedy*, he was burned at the stake. His chief work was *L'acerba*, an allegorical didactic poem of encyclopedic range

Cecere, Gaetano (chĕchĕ'rē), 1894–, American sculptor, b. New York city, studied at the American Academy in Rome. His works include the John Stevens monument, Summit, Mont., war memorials in Astoria, L.I., Princeton, N.J., Plainfield, N.J., and Audenarde, Belgium, and medals for Princeton Univ. and the U.S. army.

Čech, Svatopluk, Czech *Čech* (svä'tôplŏōk chĕkh'), 1846–1908, Czech poet and novelist. Because of his strong Pan-Slavonic feeling, inspired by Kollar's *Daughter of Slava*, he was the most popular poet of his day. This feeling animates all his writings, from *The Adamites* (1874) and *Slavia* (1882) to the *Songs of a Slave* (1897). He wrote lyrics (e.g., *In the Shade of the Linden Tree*, 1879), epics based on Czech history (*Zizka*, 1879, *Vaclav of Michalovce*, 1880) and on Czech country life (*The Smith of Lesetin*, 1889), and satirical novels, including the various "Excursions of Mr. Broucek" (*To the Moon* and *To the Fifteenth Century*, both 1888). See Paul Selver, *Anthology of Czechoslovak Literature* (1929)

Cecil, Edgar Algernon Robert, 1st **Viscount Cecil of Chelwood** (sĭ'səl), 1864–, British statesman, known in his earlier life as Lord Robert Cecil, third son of the 3d marquess of Salisbury. A Conservative who held several ministerial posts, Cecil gained fame largely through untiring advocacy of internationalism. He collaborated with President Woodrow Wilson and Gen. J. C. Smuts in drafting the League of Nations Covenant. His efforts for international peace were recognized by the 1937 Nobel Peace Prize. See his autobiography, *A Great Experiment* (1941)

Cecil, Robert: see SALISBURY, ROBERT CECIL, 1ST EARL OF

Cecil, Robert Arthur Talbot Gascoyne-: see SALISBURY, ROBERT ARTHUR TALBOT GASCOYNE-CECIL, 3D MARQUESS OF

Cecil, William: see BURGHLEY, WILLIAM CECIL, 1ST BARON

Cecilia, Saint, 2d or 3d cent., Roman virgin martyr. She is remembered daily in the Mass. An ancient and famous account of her life is factually valueless. As patroness of music she is represented at the organ. St. Cecilia is the subject of one of the *Canterbury Tales*, of a song by Dryden, and of an ode by Pope. Cecily is an English form of her name. Feast: Nov. 22

Cecrops (sē'krŏps), in Greek mythology, first king of Athens. He was half man and half serpent (the serpent was an ancient symbol of the life-giving earth). He established monogamy and the first principles of law and religion

Cedar, river rising in SE Minnesota and flowing c. 300 mi. southeast across Iowa to join the Iowa river at Columbus Junction. It drains a fertile agricultural region, passing Charles City, Cedar Falls, Waterloo, and Cedar Rapids

cedar, name for a number of trees, mostly coniferous evergreens. For the northern white cedar and the western red cedar, see ARBORVITAE, for the red cedar, see JUNIPER. The southern white cedar (*Chamaecyparis thyoides*) is native to the Atlantic and Gulf coastal swamps from Maine to Florida and Louisiana. It resembles the northern white cedar in appearance and in wood, which is light, soft, and weak, but resistant to decay. It is used mostly for making boats, woodenware, railway ties, and posts. The cedar of Lebanon (*Cedrus libani*), a native to Asia Minor and North Africa, is famous for the historic grove on Mt. LEBANON and is frequently mentioned in the Bible. The wood used in building the Temple and the house of Solomon (I Kings 5, 6, and 7) may, however, have been that of a similar and closely related tree, the deodar cedar (*Cedrus deodara*), native to the Himalayas but cultivated elsewhere. It has fragrant wood, durable and fine grained, and is venerated by the Hindus, who call it Tree of God

Cedar Breaks National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Cedarburg, city (pop 2,245), E Wis., N of Milwaukee and on the Milwaukee river, settled 1842, inc. 1885. It is a farm trade center

Cedar City, town (pop 4,695, alt 5,805 ft.), SW Utah, on Dry Coal Creek near the Iron Mts., inc. 1868. Founded in 1851 by the Mormon "iron mission" sent to develop coal and iron deposits, it later became a center of ranching and of tourist trade. Zion National Park, Bryce Canyon National Park, and Cedar Breaks National Monument are near by. Cedar City has a junior branch of the Utah State Agricultural College

Cedar Creek, small tributary of the North Fork of the Shenandoah river and N of Strasburg, Va. It was the scene of a Civil War battle (Oct. 19, 1864) in which P. H. SHERIDAN defeated J. A. EARLY

Cedar Crest College: see ALLENTOWN, Pa.

Cedar Falls, city (pop 9,349), NE Iowa, on the Cedar river just above Waterloo, settled 1845, laid out 1851, inc. 1857. With the coming of the railroad (1861), it developed as a milling center. It manufactures pumps, machines, barn equipment, and wool. It is the seat of Iowa State Teachers College (1876) and of the Evangelical Campgrounds, scene of annual assemblies, including the Interdenominational Bible Conference.

Cedar Grove. **1** Township (pop. 5,208), NE N.J., in the Watchung Mts. N of Montclair. A rural community, it is about 50 min. from New York city. A hospital for the insane is here. **2** Town (pop. 1,411), S W Va., on the Kanawha river and SE of Charleston, in a coal-mining region, settled 1773. The site of Booker T. Washington's boyhood home is near by

Cedarhurst, residential village (pop 5,463), on SW Long Island, SE N.Y., SE of Jamaica, inc. 1910

Cedar Key, city (pop 988), NW Fla., off the Gulf coast near the mouth of the Suwannee. Now a fishing center, it was a busy port and railroad station in the mid-19th cent., and in the late 19th cent. there were several cedar mills here

Cedar Mountain: see BULL RUN, SECOND BATTLE OF

Cedar Rapids, city (pop 62,120), co. seat of Linn co., E Iowa, on the Cedar river and NW of Davenport, settled 1838, laid out 1841 as Rapids City, renamed and inc. as a town 1849, as a city 1856. One of the state's principal commercial and industrial cities, it is a distributing and rail center for an extensive agricultural area. The city has railroad shops, is supplied with power by the Cedar river, and has manufactures of cereals (particularly "Quaker Oats"), starch, meat products, and radio equipment. Coe College (coeducational, 1881), a large Masonic library (1844), an art gallery (with paintings by Grant Wood), and the landscaped Municipal Island (site of the courthouse and a neoclassic war memorial building) are here. Czechs came early (1852) to the city and compose about one-third of its population

Cedar Springs, village (pop 1,101), S Mich., NE of Grand Rapids, settled 1859, inc. 1871. It is a farm and resort trade center

Cedartown, industrial city (pop 9,025), co. seat of Polk co., NW Ga., WNW of Atlanta near the Ala. line, in the piedmont region, inc. 1854. A Cherokee settlement was here earlier. Cedartown's main industrial growth stems from the establishment of textile and tire-cordage plants here in the 1920s. Chemicals are also made

Cedarville, village (pop 1,034), SW Ohio, near Xenia, settled 1805. It is a college town, seat of Cedarville College

cedar waxwing: see WAXWING

Cedron (sē'-) **1** Same as KIDRON. **2** Place, near Jamnia, fortified against the Maccabees. 1 Mac. 15:39–41, 16:9

Cefalù (chäfälōō'), town (pop. 9,654), N Sicily, Italy, on the Tyrrhenian coast. Its famous cathedral, started in 1131 by Roger II, king of Sicily, is one of the finest examples of Norman architecture in Sicily

Cegled, Hung. *Cegléd* (tsā'glād), city (pop. 38,872) central Hungary, SE of Budapest. It is a trading center for grain and fruit. The name formerly was Czegled

Ceiba, La (lä sā'bä), city (pop. 12,185), N Honduras, a port on the Caribbean. Headquarters of the Standard Fruit and Steamship Company in Honduras, La Ceiba exports bananas and also some hides, coconuts, and rubber.

ceiling, the overhead enclosing surface of a room. It may consist of the actual structural members supporting a room or roof above and left exposed, or it may be a covering formed in plaster, wood, or other finishing material. In modern ceilings there is customarily no exposed construction. A universal type is the "hung" ceiling, generally consisting of plaster applied to a surface of metal lath which is suspended from the structural beams. This permits concealment of all rough structure and also provides space for pipes, wiring, and ducts. Before the Renaissance the ceiling of exposed structure was the prevailing type. In ancient architecture the members were embellished either with color, as in the polychromed stone lintels and coffers of Egyptian and Greek temples, or with reliefs, as in the Roman masonry vaults with their modeled stucco embellishments of figures, foliage, and conventional pattern, of which fine examples remain at Pompeii. BYZANTINE ARCHITECTURE produced the vaulted ceiling entirely veneered with glass mosaics, as in the church of St. Mark's, Venice, the ceiling composed of wood or plaster stalactites was a feature of Moslem architecture. In medieval ceilings the structural members in themselves were exploited for maximum effect, in both their forms and their arrangement. Of wood construction were the Spanish and Italian elaborately polychromed beamed ceilings, as well as the English open-timber roofs richly carved with angel figures and Gothic tracery. In masonry the development of the organic support-

ing rib led to decorative vaults of many compartments and ultimately to the intricate traceried FAN VAULT of English Gothic With the Renaissance, the ceiling, whether flat or vaulted, became a field for pure adornment, concealing the structure and designed independently of it. Wood carving, gilding, and fresco painting were all coordinated for bold and gorgeous effects in the lofty rooms of the Renaissance and baroque periods in Italy The paintings were often executed by such masters as Michelangelo, Raphael, and Pinturicchio Inigo Jones and Christopher Wren introduced into England plaster ceilings of bold panel work and high-relief ornament Robert and James Adam, however, banished these in the late 18th cent by popularizing low-relief classic ornament of extreme delicacy, laid out in oval, circular, and fan patterns These were inspired by the Pompeian plaster vaults and came into wide imitation especially in American colonial interiors

Celaenae (sĭlē'nē), ancient city of Asia Minor, in Phrygia, near the headwaters of the Maeander river (now the Menderes) in present W central Asiatic Turkey In the time of the Persian Empire, Cyrus the Great had a palace here and Xerxes I built a fort Alexander the Great conquered it in 333 B C Seleucus I removed the inhabitants to neighboring Apanoa Modern Dinar is on the site

Celaeno (sĭlē'nō), in Greek religion 1 One of the PLEIADES 2 A HARPY

Celakovsky, Frantisek, Czech *František Čelakovský* (frän'tĭshĕk chĕ'lakôfskĭ), 1799–1852, Czech folklorist and poet A disciple of Herder and a romantic Pan-Slavist, he collected (1822–27) Slavic popular poetry and later imitated this in his own verses, *Echoes of Russian Song* (1829) and *Echoes of Czech Song* (1830) He held from 1841 at Breslau the first professorship of Slavic languages in a Central European university

celandine (sĕl'ĭndĭn) [ultimately from Gr ,=of the swallow], Old World biennial plant (*Chelidonium majus*), naturalized in E North America and called also greater celandine, swallowwort, and wartweed It was formerly considered efficacious in removing warts and in restoring failing eyesight (swallows were said to cure their blinded young with this plant) It contains an irritant, is related to the poppy, and has small yellow flowers The lesser celandine and a celandine poppy native to North America belong to other genera

Celano, Thomas of: see THOMAS OF CELANO

Celaya (sälī'yä), city (pop 22,760), Guanajuato, central Mexico Founded as Zelaya in 1570, it is on a depressed plain near the Laja river and is surrounded by good farming country There are numerous industries A native son, Francisco Eduardo de Tresguerras, built (1803–7) the Church of Nuestra Señora del Carmen [Our Lady of Mt Carmel], an unusual structure showing Persian influence, the interior he decorated with his own murals and sculpture Often involved in Mexican wars, Celaya was the first city to be captured (Sept 28, 1810) by insurrectionary forces under HIDALGO Y COSTILLA In 1915 Francisco VILLA, defeated at Celaya by Álvaro OBREGÓN, began his long retreat northward

Celebes (sĕ'lubēz), island (71,695 sq mi , pop including offshore islands 3,996,679), largest island of East Indonesia, E of Borneo, from which it is separated by Macassar Strait Extremely irregular in shape, it is comprised of four large peninsulas separated by three gulfs—Tomini on the northeast, Tolo on the southeast, and Boni on the south The terrain is almost wholly mountainous, with the highest peak Mt Rantemario (11,286 ft) on the south peninsula There are numerous lakes, of which Towuti (30 mi long and 15 mi wide) is the largest, and Tondano, with its waterfall, the most beautiful In the interior are large forests of valuable timber Animals include the babirusa (resembling swine) and the small wild ox called anoa, found only in the Celebes Among the natural resources are gold, silver, diamonds, coal, nickel, and iron There are trepang and mother-of-pearl fisheries, and in the coastal areas are grown copra, coffee, and sago Timber is the chief export The inhabitants are Malayan, except for the semicivilized tribes (sometimes called Alfuros) in the interior, who have certain Negroid characteristics Among the Malayan tribes are the Bugis, who are known as seafaring traders, and the Macassars, both groups are Moslem In the north are the Minahassa, who are Christians The Portuguese first visited the Celebes in 1512 and settled in Macassar in 1625 In 1660 they were expelled by the Dutch, who governed the island as part of the Netherlands East Indies until 1946, when the state of East Indonesia (including Celebes) was founded, with the capital at Macassar The **Celebes Sea** is north of the island, between it and the Philippine Islands

Céleron de Blainville, Jean Baptiste (zhäN'bätēst' sälurôN' dù blĕvēl'), 1693–1759, French Canadian soldier, b Montreal He was commandant at Michilimackinac (1734–42), Detroit (1742–43, 1750–53), Niagara (1744–46), and Crown Point (1746–47) In 1739–40 he led a detachment south to what is now Tennessee to cooperate with BIENVILLE in a campaign against the Chickasaw Indians and was decorated for his conduct. His most famous service was as leader of the expedition sent by the governor of New France in 1749 to take official possession of the Ohio valley and warn English traders to leave An English translation of his Ohio journal is in the *Collections* of the State Historical Society of Wisconsin, XVIII (1908), 36–58.

celery [Ital from Gr ,=parsley], biennial plant (*Apium graveolens*) of wide distribution in the wild state throughout the north temperate Old World and much cultivated as a salad plant By BLANCHING and cultivation, the acridity of the stalks is reduced and they are made more tender and delicate Celeriac is a variety cultivated chiefly in N Europe for the large edible, turniplike root Celery is closely related to the parsnip, carrot, dill, and caraway

celesta (sĭlĕ'stù), keyboard musical instrument patented in 1886 by Auguste Mustel of Paris It consists of a set of steel bars fastened over resonators The bars are struck by hammers operated from a keyboard The compass is four octaves upward from middle C Its tone is delicate and ethereal Tchaikovsky, in his *Nutcracker Suite*, was one of the first composers to write for it, Richard Strauss made effective use of it with wood winds in *Der Rosenkavalier*

Celestina, La (la thälästĕ'nä), Spanish novel written in dramatic form It is known to have been published in 1499 as *Comedia de Calisto y Melibea* but was probably first published earlier Later it came to be called *La Celestina*, the name of the principal character, an old woman whose artful devices make it possible for Calisto and Melibea to meet against the will of the girl's parents Although for a long time only part of the novel was ascribed to Fernando de ROJAS, he is now usually recognized as the author of the whole book It was translated into English c 1527 by James Rastell and in 1631 by James Mabbe The book is a relentless picture of human passion and weakness

Celestine I, Saint (sĕ'lustĭn), d 432, pope (422–32), an Italian, successor of St Boniface I and predecessor of St Sixtus III The opposition of St CYRIL of Alexandria to NESTORIANISM inspired both sides to write to the pope, who judged that Nestorius should be excommunicated if he refused to retract To the Council of Ephesus Celestine sent legates with orders not to discuss, but to judge Celestine also advanced orthodoxy in the West by suppressing semi-Pelagianism in Gaul and by sending GERMANUS OF AUXERRE to Britain Feast July 27

Celestine III, 1106?–1198, pope (1191–98), a Roman named Giacinto Bobone, successor of Clement III and predecessor of INNOCENT III He was the first member of the Orsini family to become pope Celestine was 85 when elected and could not cope with the ambitious emperor, HENRY VI Henry paid no attention whatever to the claims of the Church, treating bishops as he would and ravaging Italy in annexing Sicily Celestine tried to secure the release of RICHARD I of England but was unwilling to use strong measures Innocent III, who succeeded him, was his complete antithesis

Celestine V, Saint, 1215–96, pope (elected July 5, resigned Dec 13, 1294), an Italian (b Isernia) named Pietro del Murrone, successor of Nicholas IV and predecessor of BONIFACE VIII From youth he was an ascetic, dwelling in the mountains of the Abruzzi About him there gradually collected a number of monks, whom Pietro governed These, later called Celestines, were part of a great visionary movement popularizing millenarian ideas and spreading ascetic practices From before 1290 Pietro lived as a hermit deep in the mountains After the death of Nicholas (1292) there was a two-year delay in holding an election because of faction and intrigue among the cardinals, at length, in desperation, they elected Pietro, knowing his popularity and confident of their ability to control him The election was not favored by Cardinal Caetani, the only cardinal independent of the main factions Pietro was at Aquila and was promptly attended by Charles II of Naples, who took over the government of the Church For months the old man was a puppet, then, as he was going into an Advent retreat, he abdicated rather than name a regency, as Charles suggested The independent Caetani was promptly elected, as Boniface VIII, and Celestine showed awareness of his failure by asking Boniface to cancel most of his (Celestine's) papal acts The disappointed ruler of Naples and the extremist monks and friars spread rumors for years alleging fraud, illegality, even heresy against Boniface. There is no lack of evidence about Celestine's intentions, and no cogent argument has ever been advanced that a pope may not resign Boniface kept Celestine in custody because of the danger of schism should the former pope fall into the hands of the Neapolitans. St. Celestine's canonization by Clement V (1313) was promoted by Philip IV as a gesture of hatred against Boniface, but it was acceptable to the Church because of Celestine's exemplary life —he was canonized under his Christian, not his regnal, name. Feast: May 19.

celestite (sĕ'lustīt) **or celestine** (sĕ'lustĭn, -tēn), a mineral appearing in blue-tinged or white orthorhombic crystals or in fibrous masses. The natural sulphate of strontium, it is important as a source of strontium and of certain of its compounds, e g , strontium hydroxide, used in refining beet sugar, and strontium nitrate, used in red signal flares. It occurs in England, in Sicily, and in the United States on islands in Lake Erie and also in Pennsylvania

celibacy (sĕ'lĭbusē), voluntary refusal to enter the married state, with abstinence from sexual activity It is one of the typically Christian forms of ASCETICISM In ancient Rome the VESTAL virgins were celibates, and successful MONASTICISM has everywhere been accompanied by celibacy as an ideal Among ancient Jews the ESSENES were celibates. In the Judaism of postexilic times sexual activity in the married state was lawful and good; otherwise it was unlawful This rule remained in Christianity But Christian tradition from the start has interpreted the Gospels and Epistles as teaching that voluntary celibacy, especially virginity, is peculiarly meritorious. 1 Cor 7 In the Eastern churches, monks and nuns are celibates, but the ordinary parish clergy are married, generally they must be married to be ordained and may not remarry Eastern bishops are widowers or celibates, hence they are usually from monasteries rather than parishes In the West, celibacy has been common among the parish clergy since the 3d cent , and as time passed, the Holy See became the bulwark of celibacy of the secular clergy The chief problem of reformers in the early Middle Ages was to end concubinage among them—marriage of the clergy had fallen into disrepute, and violations were of the laws of chastity rather than of marriage In the 11th cent the most stringent laws were made, and by the time of the Reformation popular opinion tolerated neither concubinage nor marriage in the clergy The Roman Catholic Church in the Roman rite allows no sacerdotal marriage, but the clergy of Eastern rites united with the pope are often married before ordination Protestants have rejected voluntary celibacy as an ideal A standard apologetic explanation of the Western discipline of celibacy for parish priests is that marriage would prevent the priest from giving his complete attention to his parish

Celina (sulī'nu), village (pop 4,841), co seat of Mercer co , W Ohio, SW of Lima, settled 1834 Furniture is manufactured

Céline, Louis Ferdinand (lwē' fĕrdēnā' sālēn'), 1894–, French author, whose real name is Louis Ferdinand Destouches A practicing physician, Céline wrote sensationally misanthropic novels, the first of which, *Voyage au bout de la nuit* (1932, Eng tr , *Journey to the End of Night*, 1934), was followed by *Mort à crédit* (1936, Eng tr , *Death on the Installment Plan*, 1938) *Mea Culpa* (1937, Eng tr , 1937) is his refutation of Communism His later works were all fascistic

Celje (tsĕ'lyĕ), city (pop 22,048), Slovenia, NW Yugoslavia Founded (1st cent A D) by Emperor Claudius, it was the seat (1333–1456) of the powerful Slovenian counts of Celje (or Cilli) A castle and ruins of an earlier castle remain The city now has a light-metal industry, ceramics manufacture, and breweries

cell, in biology, the unit of structure and function of which animals and plants are composed Cells are microscopic although some of the largest can be detected with the naked eye The living matter of the cell, the PROTOPLASM, is differentiated into the nucleus and the cytoplasm Within the nucleus of nearly all cells is a nucleolus, a small, rounded mass of dense material On the outer boundary of the cytoplasm a delicate plasma membrane develops Plant cells are surrounded in addition to the membrane by a cell wall usually composed chiefly of cellulose secreted by the cytoplasm In both plant and animal cells the nucleus plays a major role in the process of cell division. Embedded in the nuclear sap, the fluid within the nucleus, is a network of material known as the reticulum The thinner portion of this is sometimes called the linin, and the dark-staining portion is the chromatin During cell division this chromatin forms the chromosomes (see MITOSIS) The functions of the cell, other than reproduction, are performed by the cytoplasm, but are controlled by the nucleus There are a number of cell inclusions or differentiated portions of the cytoplasm Of particular importance are the chloroplasts of plant cells (see CHLOROPHYLL and PHOTOSYNTHESIS) Other plastids are the chromoplasts, which contain pigments producing most of the red and yellow colors in plants. In typical mature plant cells a vacuole containing cell sap (water with sugars, organic acids, and other materials in solution) fills most of the central part of the cell, this fluid helps to maintain turgidity of the cell. Most purple and blue colors in plants are caused by pigments dissolved in the cell sap In cells containing such large vacuoles the cytoplasm forms a thin layer between the vacuole and the cell wall and sometimes extends in strands through the cell. In typical animal cells the cytoplasm fills most of the

cell, and in some, e.g., the amoeba, the cytoplasm includes a clear portion, the ectoplasm, near the boundary of the cell and a more granular inner portion, the endoplasm. Other cytoplasmic bodies include the centrosome, which is involved in cell division, and the Golgi bodies and chondriosomes the functions of which are not definitely determined. In unicellular plants and animals all the essential life functions are performed by a single cell In some colonial forms of unicellular individuals each cell functions separately, while in others there is some specialization of certain cells for particular functions Multicellular plants and animals are composed of specialized cells which are united to form various tissues Among those who contributed to early knowledge of cells are Anton von Leeuwenhoek, Robert HOOKE, Robert BROWN, Nehemiah Grew, Marcello Malpighi, Matthias J SCHLEIDEN, Theodor SCHWANN, Max J. S Schultze, and Hugo von Mohl The science of the study of the cell is cytology See E. B Wilson, *The Cell in Development and Heredity* (3d ed , 1925), L. W Sharp, *Fundamentals of Cytology* (1943).

cell, in electricity, a source of electric current, in which the flow of current is caused by chemical action resulting in the conversion of chemical energy to electrical energy A cell consists essentially of two dissimilar substances (a positive ELECTRODE and a negative electrode) which conduct electricity and a third substance (an ELECTROLYTE) which acts chemically upon one of the electrodes A group of several such cells connected together is called a battery. One simple form of cell consists of a glass jar (battery jar) containing a dilute solution of sulphuric acid into which are introduced the electrodes of the cell, here a strip of copper and a strip of zinc When the two electrodes are connected externally by a conductor, such as a piece of copper wire, a current of electricity flows through the wire The explanation of this phenomenon lies in the activity within the cell The sulphuric acid and zinc react, the zinc plate diminishing in size as the action proceeds, the copper is unaffected, but clinging to it and escaping into the air around it are bubbles of a gas (hydrogen). The bubbles, collecting rapidly in great numbers, form a protective covering over the copper plate and interfere with the cell's action—a condition called polarisation In the chemical action, the hydrogen of the acid is displaced by the zinc, negative charges (see ELECTRON) being left on the zinc plate The hydrogen ions migrate to the copper plate, where, each ION receiving an electron, they become atoms and join in pairs to form the hydrogen molecules given off The electrons received by the hydrogen ions at the copper plate have traveled through the external conductor (the wire) from the zinc to the copper It is apparent, then, that the electrons flow through the wire from the negative (zinc) plate to the positive (copper) plate or in a direction opposite to that of the conventional "electric current" There are several kinds of cells differing in electrode material and electrolyte The voltage or electromotive force (abbreviated emf) depends upon the activity of the substances used, but is not affected by the size of electrode or quantity of electrolyte The cells made by Alessandro Volta and by Galvani are of historic significance The Bunsen cell is a double-fluid cell having electrodes of zinc (-) and carbon (+), solutions of sulphuric acid and fuming nitric acid, and an emf of 1 94 volts The chromate cell (double fluid also) uses zinc (-) and carbon (+) for electrodes, a solution of sulphuric acid and one of potassium dichromate and sulphuric acid, and an emf of 2 volts The Daniell cell (double fluid) has zinc (-) and copper (+) electrodes, a solution of sulphuric acid and a saturated solution of copper sulphate, and an emf of 1 06 volts (variations in voltage are obtainable with other solutions) The Grove cell (one type) uses zinc (-) and platinum (+) electrodes, a solution of sulphuric acid and one of fuming nitric acid, and an emf of 1 93 volts (other types range down to 1 61 volts) The Leclanché cell is a single-fluid cell having zinc (-) and carbon (+) electrodes, a solution of ammonium chloride, and an emf of 1 46 volts Similar to the Leclanché cell is the common dry cell, so called because the electrolyte is in the form of a paste The cell consists of a zinc (-) cylinder closed at one end and lined throughout with a layer of absorbent material, a central core of carbon (+), and a closely packed mixture of carbon granules and manganese dioxide, which is saturated with a solution of ammonium chloride (sal ammoniac) The open end of the zinc cylinder is sealed off with pitch The emf of the cell is about 1 5 volts The Weston normal cell is the legal standard of emf. It consists of an electrode of cadmium amalgam (-) in a saturated cadmium sulphate solution and a mercury electrode (+) in a paste of mercurous sulphate and cadmium sulphate It has an emf of 1.0183 volts at 20° C. See also ELECTRIC CIRCUIT

cella (sĕ'lə), that portion of a Roman temple which was enclosed within walls, as distinct from the open colonnaded porticoes which formed the rest of it. It corresponds to the NAOS in Greek temples. The cella housed the statue of the deity to whom the temple was dedicated and was also used as a treasury Sometimes it extended the whole width of the building, instead of being kept entirely within free-standing colonnades The cella was generally a single chamber, but there were sometimes two chambers, or even three, as in the temple of Jupiter, on the Capitoline Hill

Celle (tsĕ'lə), city (pop 52,281), in the former Hanover prov , N Germany, on the Aller river. It has oil refineries and manufactures machinery and soap Celle was chartered in 1294 Its castle was the residence of the dukes of Brunswick-Lüneburg until 1705 The modern section of the city was damaged in the Second World War

Cellini, Benvenuto (chĕlē'nē, Ital bānvānōō'tō chāl-lē'nē), 1500-1571, Italian sculptor, metalworker, and author. His remarkable autobiography reveals one of the most spectacular and singular careers in the history of art Possessed of great talent and vast energy, he produced a prodigious number of beautiful objects, despite a lifetime of escapades and enmities and repeated banishments He was born in Florence, the son of a musician, he studied music until his 15th year, when he was apprenticed to a goldsmith Banished from Florence after fighting a duel, he went from town to town working for local goldsmiths and in 1519 went to Rome Under the patronage of Pope Clement VII he became known as the most skillful worker in metals of his day, producing medals, jewel settings, caskets, vases, candlesticks, metal plates, and ornaments Imprisoned on false charges, on his release he worked at the court of Francis I at Paris He returned to Florence in 1545 and remained until his death in 1571 The decorative quality of his work, its intricate and exquisite detail and workmanship, are typical of the best of the period Unfortunately, most of his works have perished The famous gold and enamel saltcellar of Francis I and the gold medallion of *Leda and the Swan* (both in the Vienna Mus) and two gold cups in the Metropolitan Museum are perhaps the best examples of those remaining His sculptures, most of them executed in the later Florentine period, include the colossal bronze bust of Cosimo I (Bargello), the bronze bust of Altoviti (Gardner Mus , Boston), the *Nymph of Fontainebleau* (Louvre), the life-size *Crucifixion*, a white marble Christ on a black cross (Escorial), and the renowned *Perseus with the Head of Medusa* (Loggia dei Lanzi, Florence), a beautifully wrought bronze statue surmounting a marble pedestal lavishly adorned with statuettes and carvings See translation of the autobiography by J A Symonds (1888, many later editions)

cello or **'cello**: see VIOLONCELLO

cellophane (sĕ'ləfān), proprietary name for the thin, transparent, flexible sheeting used for wrapping a great variety of articles It is a CELLULOSE product made by the VISCOSE PROCESS A glycerin bath imparts flexibility, a dye bath, color, if desired Cellophane is not poisonous, is moistureproof, is not more inflammable than paper, and exhibits transparency to ultraviolet light The process for its manufacture was discovered (c 1900) by J E Brandenberger, a French textile worker, but was not perfected for several years

celluloid [from *cellulose*], transparent, colorless substance made synthetically by treating cellulose nitrate with camphor and alcohol The paste thus obtained is rolled into sheets of any desired thickness or molded into any form and is often colored Celluloid is employed widely as a substitute for more expensive substances, as ivory, amber, horn, and tortoise shell It is used to make combs, brush handles, soap dishes, and other toilet articles, billiard balls, knife handles, ornaments, toys, transparent rulers, eye shades, buttons, and other useful and common things It is used also for photographic film, but its inflammability represents a danger Celluloid was formerly called xylonite

cellulose, a firm substance, chemically a carbohydrate, which is formed by the cytoplasm of plant cells and makes up the bulk of the cell wall It appears almost pure as absorbent cotton, jute, linen (flax), and the filter paper used commonly in laboratories It constitutes the greater part of paper, wood, and wood pulp Cellulose is insoluble in water and other ordinary solvents but exhibits marked properties of absorption It is very inert chemically When treated with strong acids, however, its behavior is that of an alcohol, i e , esters are formed For example, a mixture of sulphuric and nitric acids reacts with cotton to form nitrocellulose (cellulose trinitrate), an ester, commonly called guncotton A mixture of cellulose nitrates (called pyroxylin) treated with camphor yields celluloid When dissolved in alcohol and ether, this mixture produces collodion. Cellulose acetate results from the reaction of cellulose and acetic acid and is used in the manufacture of certain plastics and lacquers Noninflammable photographic film is made from it The manufacture of artificial silk or RAYON from cellulose esters, or directly from cellulose itself, is of great importance in the textile industry (see VISCOSE PROCESS). CELLOPHANE is a cellulose product. See Mark Plunguian, *Celluloses Chemistry* (1943); Emil Heuser, *Chemistry of Celluloses* (1944); Emil Ott, ed , *Cellulose and Cellulose Derivatives* (2d revised printing, 1947).

Celman, Miguel Juárez. see JUÁREZ CELMAN.

Celoron, village (pop 1,349), W N Y , on Chautauqua Lake near Jamestown, inc 1896.

Celsius, Anders (ăn'dûrs sĕl'sēûs), 1701–44, Swedish astronomer While professor of astronomy in the Univ. of Uppsala (1730–44), he traveled through Germany, France, and Italy, visiting great observatories At Nuremberg in 1733 he published a collection of 316 observations of the aurora borealis which had been made by himself and others While in Paris he was instrumental in bringing about an expedition organized by the French Academy for the measurement of an arc of the meridian in Lapland, in 1736 Celsius was a member of the expedition He supervised the building of an observatory at Uppsala in 1740 and became its director In 1742 he invented the centigrade (or Celsius) thermometer His works include *De observationibus pro figura telluris determinanda* (1738)

Celsius, Olaf (ō'lăf), 1670–1756, Swedish botanist and Orientalist He wrote a two-volume work, *Hierobotanicon*, on the plants of the Bible (many of which, to his day, had been known only by their Hebrew names), and compiled a catalogue of the plants of Sweden His greatest contribution to science, perhaps, was the aid and encouragement he gave Linnaeus Anders Celsius was his nephew

Celsus (sĕl'sŭs), 2d cent , Roman philosopher, an aggressive antagonist of Christianity His works have been lost, but the substance of his *True Discourse* is given by Origen in his *Against Celsus* Celsus cynically offers a scandalous story as a substitute for the Incarnation He suggests that Jesus' reputation as a wonder-worker was due to his having learned the art of jugglery in Egypt He ridicules the idea that God has, as it were, awakened but lately from sleep and resolved to save a few of mankind, while the majority go down to hell He urges that all that is worth while in Christianity is found already in the pagan philosophers See J A Froude, *Origen and Celsus* (1883)

Celsus, Aulus Cornelius, fl A D 147, Latin encyclopedist His only extant work consists of eight books on medicine, *De re medicina*, believed to have been written A D c 30 Pope Nicholas V rediscovered the manuscript, and it was printed in Florence in 1478 The work was translated by James Grieve in 1756 and by W G Spencer in 1935 Celsus' first name is also spelled Aurelius

Celt (sĕlt) or **Kelt** (kĕlt) **1** One who speaks a Celtic language or who derives his ancestry from an area where a Celtic language is, or recently was, spoken, i e , one from Ireland, the Scottish Hebrides and Highlands, the Isle of Man, Wales, Cornwall, or Brittany See LANGUAGE (table) **2** A member of a group of peoples first identified early in the 2d millennium B C in SW Germany and E France They appear to be a fusion of diverse stocks, united probably by a common language and by mastery of bronze-working techniques By 1200 B C , they had grown in power, and within a few centuries they spread across Central Europe in a broad band that reached Denmark and Britain, and they crowded the Iberian and Italic tribes to the southern peninsulas They were quick to adopt the newly developed iron industries, and their wealth from trade and from raiding helped to maintain their dominance of Central Europe during the Iron Age The LA TÈNE culture is almost entirely Celtic The secondary Celtic expansion, from c 700 to c 400 B C , completed their conquest of Gaul and the central Danube valley, threatened Italy, penetrated Spain, and brought another invasion to Britain Greek influences which stimulated Celtic culture included the introduction of the chariot and, somewhat later, of writing Art flourished in richly ornamented styles The Celts lived in semifortified villages, with a tribal organization that became increasingly hierarchical as wealth was acquired Priests, nobles, craftsmen, and peasants were clearly distinguished, and the powers of the chief became kinglike They believed in a daemonic universe, recognizing no idols, but relying on the ministry of the DRUIDS The colorful Western European folklore is derived mainly from the Celts By the 4th cent B C , they could no longer withstand the encroaching Germanic tribes, and they lost most of their holdings in the north and in W Germany From this time on, Celtic history becomes confused with that of the many unsettled tribes in Europe Celtic language and culture were variously dispersed among peoples of little historical identity, and both ancient and modern writers have obscured the very important differences among these groups by merely naming them Celts More confusion has resulted from the designation of a Celtic subrace This type of light-eyed, dark-haired or red-haired, longheaded individual is most common in Celtic speaking countries, but markedly more common among the non-Celtic speakers in those areas It is assumed that this physical type came to the British Isles by sea from the W Mediterranean or from Spain, perhaps as early as 2000 B C The later Celtic invasions left far less effect on the actual population

than on British culture. "Celtic" is a misnomer except to imply a cultural continuum maintained through many centuries of common history within the same general area It has served to unify the traditions of a people proud to call themselves Celts See Henri Hubert, *The Rise of the Celts* (1934).

Celtes (tsĕl'tēs), pseud of **Konrad Pickel** (kŏn'rät pĭ'kŭl), 1459–1508, German scholar and humanist He traveled from place to place preaching the importance of the classics, lectured at various universities, and established several humanist societies He was created (1487) the first poet laureate of Germany and was professor of rhetoric and poetry at Ingolstadt (1492–97) and Vienna (1497–1508) and librarian to Maximilian I. Celtes discovered the works of the nun HROSWITHA He wrote of his travels and amorous experiences in elegiac verses imitating the *Amores* of Ovid.

Celtic languages, subfamily of the Indo-European languages, spoken on the British Isles and in Brittany See LANGUAGE (table).

Cement, town (pop 1,039), SW Okla , S of the Washita river, in hill country

cement, a powder composed of lime, silica, and aluminum heated at a high temperature It is mixed with water and gravel or sand to form CONCRETE In ancient Rome a volcanic product found at Pozzuoli on the Bay of Naples (hence called pozzuolana) was used in building, notably in the Pantheon Cement was little used in building in the Middle Ages In the 18th cent John Smeaton in rebuilding the Eddystone lighthouse found that pure limestone was not as good for a building that must stand in water as limestone mixed with clay. Both Joseph Packer in 1791 and Edgar Dobbs in 1810 were granted patents in England for manufacturing cement made of lime and clay. The invention of PORTLAND CEMENT by Joseph Aspdin c 1820 led to a much greater use of concrete for hydraulic structures, such as dams and bridges. A few years later, on the Rondout Creek, New York, a limestone was discovered which made a cement even stronger than Portland. This Rosendale cement was made and shipped from kilns near Kingston for many years; it was used in building the Brooklyn Bridge and the Croton Dam The quicker drying quality of Portland cement finally killed the demand for Rosendale Bituminous cements are made from natural asphalt or bituminous distillation residues When mixed with small stones they afford a very durable paving and road material Adhesive cements are numerous and varied Gypsum cement or plaster of Paris is commonly employed in making casts and in the interior of buildings. Various forms of cement have been used since very ancient times

cemetery, place for burying the dead Most societies set apart such a place. With the rise of the settled, urban populations, it became expedient to designate tracts of ground outside city walls or limits for this purpose The word *cemetery* was first applied to the early Christian burials in the Roman catacombs and found general usage in the 15th cent Belief in resurrection made consecrated ground desirable for burials, but the overcrowding of chapel crypts and churchyards made such places seem doubtfully permanent repositories, except for the elite Guarantees of perpetual care and the surroundings provided by modern cemetery associations fulfill, for the most part, the religious and the sentimental requirements of people today Ancient as well as contemporary cemeteries often reflect the familial and class groupings of their living society Among the many beautiful and historic cemeteries of Europe are the Père-Lachaise of Paris and the Campo Santo of Pisa in Italy Noteworthy American cemeteries are Arlington Cemetery, outside Washington, D C , which contains the Tomb of the Unknown Soldier, Mt Auburn in Cambridge, Mass , one of the earliest municipal cemeteries in the United States, and the elaborately designed Forest Lawn Memorial Park of Glendale, Calif See also BURIAL and GRAVE

Cenchrea (sĕn'krēu) or **Cenchreae** (–krē-ē'), port of Corinth, on the Saronic Gulf ESE of Corinth Acts 18 18; Rom 16.1

Cenci, Beatrice (bāntrē'chā chän'chē), 1577–99, Italian noblewoman, tragic figure of the late Renaissance. Her father, Francesco Cenci (1549–98), was a Roman noble noted for his viciousness In 1595 he imprisoned Beatrice and her stepmother Lucrezia in a lonely castle, his cruel treatment finally led Beatrice, with the complicity of her stepmother, her brothers, and her lover, to procure his murder. After a famous trial (1599) the conspirators were put to death This tragedy, often cited as an example of the corruption of 16th-century Rome, is the subject of, among other works, Guerrazzi's novel *Beatrice Cenci* and Shelley's tragedy *The Cenci*. In the Barberini Palace, Rome, is a picture by Guido Reni said to represent her. See Corrado Ricci, *Beatrice Cenci* (Eng. tr., 1925).

Cenis, Mont (mō sānē'), Ital *Moncenisio* (mōnchānē'zyō), Alpine pass, 6,835 ft. high, on the French-Italian border, one of the great invasion routes in Italian history. Napoleon I built a new road here in 1810. The railroad tunnel (e.8 mi. long) was built in 1871 and connects Turin, Italy, with Chambéry, France, via Modane, France; though 13 mi. southwest of the pass, it is usually called the Mont Cenis Tunnel.

Cennini, Cennino (chän-nē'nō chän-nē'nē), c 1365–1440, Florentine painter. His book, *Trattato della pittura* (written 1437, pub. 1821; Eng tr , *A Treatise on Painting*, 1844), preserves a record of the technical processes of the immediate followers of Giotto.

Cenozoic era (sēnūsō'ĭk, sē–) [Gr , =recent life], fifth grand division of geologic time. As a result of the disturbances of the late MESOZOIC ERA, the geography of North America at the beginning of the CENOZOIC was substantially the same as in historic times, the only areas liable to marine flooding being the Atlantic and Gulf coasts and a small area on the Pacific coast. The events of the Cenozoic era include all those of human history The life of the Cenozoic has been dominated by the mammals, but they were most numerous in the TERTIARY PERIOD and have declined, with the exception of a few specialized types, in the QUATERNARY PERIOD. The elapsed portion of the Cenozoic is about 60,000,000 years, less than half the estimated duration of the Mesozoic See also GEOLOGY

censor (sĕn'sûr), title of two magistrates of ancient Rome (from c 443 B C to the time of the emperors). They took the census, by which they assessed taxation, they regulated public behavior, and they filled vacancies among the senators and knights. A *nota censoria* on the roll of citizens was a mark against the name of a citizen failing to maintain a standard of civic duty They gave out tax-collecting rights to the tax farmers (the publicans) and had charge of public works. CATO THE ELDER was the most famous of all the censors.

Censorinus (sĕnsōrī'nŭs), fl c 238, Roman grammarian He wrote *De die natali* [on the day of birth], an essay partly astrological, partly chronological, which affords much information on ancient ways of reckoning time

censorship, official restriction of any public expression believed to threaten the governing authority or the social and moral order Censorship has been applied to the press, the drama, the mails, speech, dress, art, photography, and the moving picture. Censorship falls under two general classifications, preventive and punitive, according to whether it is exercised before or after the issuance of the material in question Censorship of writings was practiced in Greece and later in Rome Church censorship, beginning in the 1stcent of the Christian era, became more strict after the invention of printing, and the first INDEX of prohibited books was made at the time of the Catholic Reform (16th cent Protestant nations also instituted censorship in the Reformation era Totalitarian governments generally have censored the press on political grounds, but in democracies government censorship has largely ceased, save on moral grounds or during wartime In the United States a few editors were jailed under the Sedition Act of 1798, and Southern postmasters exercised effective censorship of abolitionist literature before the Civil War The usual restraints imposed by the laws of libel apply. Obscene literature and art are barred from the mails, several states have provisions against indecent publications Moving pictures are censored by trade organizations and by state and Federal authorities. The drama in most countries usually falls under local police censorship, whether preventive or punitive in effect In England plays are censored by the lord chamberlain, but a movement is under way to deprive him of this power See M. L Ernst and Alexander Lindey, *The Censor Marches On* (1940)

census, periodical official count of the numbers of persons and the resources of a country In ancient times, as with the Jews and Romans, such enumeration was mainly for taxation and conscription purposes The introduction of the modern census — a periodic and thorough statistical review — is variously claimed by French Canada (1665), Sweden (1749), the United States (1790), and others. The first English census was taken in 1801. The Belgian census of 1846, directed by QUETELET, was the most influential in its time Most Westernized countries now take one every 5 or every 10 years Scientific census taking in the United States began with the decennial census of 1850, when the scope and methods were greatly improved. In 1902 the permanent Bureau of the Census was established in the Dept. of Commerce

centaur (sĕn'tôr), in Greek religion, descendant of IXION, a creature half man and half horse. Centaurs were uncouth and savage, but some, like CHIRON became friends and teachers of men. Their home was in Thessaly, especially on Mt. Pelion They were followers of DIONYSUS.

Centaurus (sĕntô'rŭs), constellation of the Southern Hemisphere It is known especially for its star Alpha Centauri, which is visually the third brightest star in the sky (only Sirius and Canopus are brighter). Alpha Centauri is one of the two stars nearest to our solar system. Its distance is about 4.3 light-years. Proxima Centauri, a faint star in Centaurus, is about the same distance away.

Centenary College of Louisiana: see SHREVEPORT.

Centennial Exposition, International, held in Philadelphia from May to Nov., 1876, to celebrate the 100th anniversary of the Declaration of Independence. The buildings, in Fairmount Park, included the Main Building, covering 20 acres, Machinery Hall, Agricultural Hall, Horticultural Hall, and Memorial Hall, many state buildings, and buildings of 37 foreign countries The total number of those attending in 159 days was 9,910,966 This was the first of a series of world's fairs which the United States was to hold, and it set a high standard. Particularly did it exhibit in graphic manner the technical advances and industrial growth of the nation Memorial Hall, a Renaissance structure of granite, became part of the Pennsylvania Museum of Art

Center. 1 Town (pop. 1,515; alt c.7,600 ft), S Colo , NW of Alamosa, in a farm area, inc. 1907 2 City (pop. 3,010), co seat of Shelby co , E Texas, NE of Nacogdoches and near the Sabine; founded 1866, inc. as a city 1903. In the pine woods, it has lumber mills

center, in politics, a party following a middle course The term was first used in France in 1789, when the moderates of the National Assembly sat in the center of the hall. The Catholic group in Prussia assumed the name Center in 1859, also because of the location of its seats, and a similar Center party was formed after the foundation of the German Empire in 1871.

Centerdale, R I . see NORTH PROVIDENCE.

centering, the framework of wood or of wood and steel built to support a masonry arch or vault during its construction It is removed after the mortar has hardened and the arch or vault has thus become self-sustaining. Arches of steep rise may sometimes be built without centering; Brunelleschi is said to have dispensed with it in constructing the steep dome of the cathedral at Florence (1420) The Romans built vast domes and vaults of concrete with the aid of wood centerings and of integral brick ribs within the vault itself The Romanesque and Gothic builders employed stone ribs in vaults, both to break the vault surfaces into more manageable areas and to support the temporary wood centering Centering is constructed of equally spaced supporting ribs conforming in contour to the proposed under face of the vault with planking laid over them to form the supporting surface for the masonry—stone, brick, concrete, or tile The centering itself must be rigidly supported, either by posts from the ground or by trusses when piers are available to receive their ends. After the centering is built, the setting of the masonry proceeds equally from the separate ends or sides toward the central point, where the keystone of the arch or the crowning blocks of the vault are wedged into position

Center Line, residential city (pop 3,198), SE Mich , near Detroit; inc as a village 1925, as a city 1935

Centerville. 1 Residential town (pop 1,162), E Ind , W of Richmond It has pre-Civil War homes 2 City (pop 8,413), co. seat of Appanoose co , S Iowa, SW of Ottumwa, in a coal area, platted 1846, inc 1855 It has varied manufactures A junior college is here Near by is Sharon Bluffs State Park 3 Town (pop 1,141), co seat of Queen Annes co , Eastern Shore, Md , S of Chestertown, in an agricultural area, laid out 1792. There are several vegetable canneries here 4 Agricultural borough (pop 6,317), SW Pa , on the Monongahela and S of Pittsburgh, settled 1766, laid out 1821, inc 1895 Coal mining is done here 5 City (pop 1,046), SE S Dak , on the Vermillion river, SSW of Sioux Falls, founded 1883 It is a farm trade and shipping center 6 Town (pop 1,030), co. seat of Hickman co , central Tenn , on the Duck river and SW of Nashville, in a farm and phosphate-mining area

centigrade scale: see TEMPERATURE

centipede (sĕn'tŭpēd) [Latin, =hundred-footed (creature)], flattened, segmented, wormlike, chiefly nocturnal animal of the phylum Arthropoda and related to the insects. It has long antennae and numerous, but not 100, jointed legs, one pair on each segment The first pair has poison claws with which it paralyses its prey of insects and worms Most centipedes are 1 to 8 in long, but some tropical species may reach 18 in and can inflict painful bites. The majority are found outdoors in damp places The house centipede eats roaches, clothes moths, and other insects Unlike the MILLIPEDE, the centipede does not eat plants.

Centlivre, Susannah (sĕntlĭv'ûr, –lē'–), 1667?–1723, English actress and dramatist. Born Freeman, she married, in 1706, Joseph Centlivre, Queen Anne's cook, who was her third husband. After a brief career as an actress, she turned to playwriting and wrote 18 plays, chiefly comedies, which include *The Busybody* (1709), *The Wonder! A Woman Keeps a Secret* (1714), one of Garrick's best comedy parts, and *A Bold Stroke for a Wife* (1718).

Central. 1 Unincorporated village (pop. 1,764), SW N.Mex , near Silver City, in a mine area. Fort Bayard U S. veterans' hospital is near by. 2 Town (pop 1,496), NW S.C , WSW of Greenville, in a farming area. Wesleyan Methodist College (junior) is here.

Central America, narrow strip of land between North America proper and the Isthmus of Panama,

which separates the continent from South America. Central America lies between the Isthmus of Tehuantepec and the Isthmus of Panama. Though geographically it includes the Mexican states Campeche, Chiapas, Tabasco, Yucatan, and the territory Quintana Roo, the term generally applies to five republics, COSTA RICA, GUATEMALA, HONDURAS, NICARAGUA, SALVADOR, and one colony, BRITISH HONDURAS, PANAMA is often included.

Central American Federation or **Central American Union**, political confederation (1825–38) of the republics of Central America—Costa Rica, Guatemala, Honduras, Nicaragua, and Salvador United under a captaincy general in Spanish colonial times, they gained independence in 1821 and were briefly annexed to the Mexican empire formed by Agustín de ITURBIDE. Subsequently they joined in a loose federal state, appointing as first president (1825–29) Manuel José ARCE, who was succeeded by the liberal leader, Francisco MORAZÁN (1830–38) Political and personal rivalries between liberals and conservatives, poor communication, and the fear of the hegemony of one state over another led to dissolution of the congress (1838) and the defeat (1839) of Morazán's forces by Rafael CARRERA In 1842 Morazán made an abortive attempt to reestablish the federation from Costa Rica Later efforts by Nicaragua, Honduras, and Salvador failed. The attempts of Justo Rufino BARRIOS (1885) and José Santos ZELAYA (1895) only increased existing enmities At the Central American Conference of 1922–23 the U S recommendation of a union was not favorably received, partly because of earlier U S policies in Panama and Nicaragua. Nevertheless, geography, history, and practical expedience are factors that constantly foster the plan of union.

Central Asiatic Railroad: see TRANS-CASPIAN RAILROAD.

Central Australia see NORTHERN TERRITORY

central bank. Although the term was hardly known before 1900, the concept of central banking is at least 200 years older The BANK OF ENGLAND, founded in 1694, gradually became the prototype of later central banks Another early central bank was the Swedish Riksbank The weakness of state banks in the United States after the lapse of the BANK OF THE UNITED STATES gradually caused the evolution of central banking practices here The National Banking Act of 1863 led to the abolition of note issues of state banks, the FEDERAL RESERVE SYSTEM established in 1914 forced uniform practices on member banks and furnished a central reserve Every civilized nation today possesses the equivalent of a central bank with the general purpose of acting as fiscal agent of the government and of constituting the "lender of last resort" for the banking system of the country Among the subsidiary functions of central banks are the creation of money and the regulation of its use and volume, regulation of the discount rate and advances to commercial banks, purchase and sale of government obligations, check clearances among the member banks, regulation of the ratio of reserves to deposits in member banks, partial or total monopoly of note issue and correspondence with central banks of other nations The Federal Reserve System's governing board is charged with regulation of the rate of margin in stock-market trading, it may exert considerable control over the extension of consumer credit by commercial banks Generally, central banks do not exercise the usual functions of commercial banks towards depositors See M H de Kock, *Central Banking* (1939)

Central City. **1** Town (pop 706, alt c 8,560 ft), co seat of Gilpin co., N central Colo, in Clear Creek Canyon W of Denver, inc 1886 It boomed after the discovery of gold in 1859 Now a "ghost town," it annually revives the past with a summer play and music festival in the stone opera house (opened 1878, owned since 1931 by the Univ of Denver), where in its heyday nearly every noted player of the time appeared The Teller House (1872), famous frontier hostelry, is next door **2** Town (pop 1,562), S Ill, E of St Louis and adjoining Centralia, inc 1857 **3** Town (pop 4,199), W Ky, S of Owensboro, settled as Morehead's Horse Mill, renamed after 1870 with the arrival of the railroad. It is the trade center of a coal, oil, timber, and farm area **4** City (pop. 2,460), co seat of Merrick co., E central Nebr., on the Platte and WNW of Lincoln; platted 1864 Near by was the site, in 1858, of Lone Tree Ranch, stopping place on the Overland Trail **5** Borough (pop 2,083), SW Pa., SE of Johnstown, inc. 1918

Central College: see FAYETTE, Mo

Central Falls, industrial city (pop 25,248), NE R I, on the Blackstone and adjoining Pawtucket; inc 1895. Glass, textiles, and wire are among its products Many of its citizens are of French Canadian descent.

Centralia (sĕntrā'lēə). **1** City (pop 16,343), S Ill., E of St Louis; platted 1853, inc. 1859 It is an industrial and shipping center of a fruit, farm, coal, and oil area. The city has railroad repair shops, meat-packing plants, and a foundry; its manufactures include metal and food products A junior college is here. A mine explosion (1947), with the loss of 111 lives, led to state and national investigations in an attempt to fix responsibility for the disaster. Certain mines were declared unsafe. **2** City (pop. 1,996), N central Mo, SE of Moberly; laid out 1857 Grain is the principal crop of the area **3** Borough (pop 2,449), E Pa, S of Bloomsburg, inc 1866 Anthracite is mined here **4** City (pop. 7,414), SW Wash., near the Chehalis river, settled 1866, inc 1886 It is a railroad junction and farm trading center with large lumber industries A junior college and the county fairgrounds are in Centralia A violent clash between organized lumber workers and townspeople occurred here, Nov 11, 1919

centralization, the administration of a local political unit by the larger political unit which includes it, or the closer union under a central authority of a confederation of semi-independent states The centralized government of Rome gave way to extreme DECENTRALIZATION during the Middle Ages Centralization was revived with the struggle for nationhood The Industrial Revolution, with its tendency toward organization in larger units, made for increased centralization in the 19th and 20th cent, though in France, most centralized of modern democratic states, the process of centralization was completed before the Industrial Revolution In England the Parliament only occasionally concerned itself with local affairs until the passage of the Municipal Corporation Act of 1835 In the United States there has been a twofold movement toward centralization—that of the Federal government at the expense of the states and that of the states at the expense of local government The first was strengthened by the adoption of the Federal Constitution, by the series of Supreme Court decisions centering about John Marshall, by continued broad interpretation of the Constitution, and by the Fourteenth, Sixteenth, and Eighteenth amendments State centralization began after the Civil War The enactment of economic and social legislation on a nation-wide scale in recent years has increased the tendency towards centralization See U S Library of Congress *List of References on Centralization* (1920), Walter Thompson, *Federal Centralization* (1923)

Central Park, 840 acres, largest park on Manhattan island, New York city, between 59th and 110th streets and Fifth and Eighth avenues The land was acquired by the city in 1856 and improved after the plans of F L Olmsted and Calvert Vaux, 185 acres were devoted to lakes and ponds, extensive planting was done, and bridle paths, walks, and roads were laid out There are a number of playgrounds and other recreational facilities The Metropolitan Museum of Art stands in the park, other points of interest include the formal conservatory garden, a zoo, an Egyptian obelisk popularly known as "Cleopatra's Needle," the Mall (where concerts are given by Edwin Franko Goldman's band), the arsenal (built 1848 and now park department headquarters), the reservoir, and a blockhouse dating from the War of 1812

Central Powers, in the First WORLD WAR, the coalition of Germany, Austria-Hungary, Bulgaria, and the Ottoman Empire

Central Provinces and Berar. see MADHYA PRADESH

Central Valley project, central Calif., for utilization of water resources of the region State engineers had entered upon plans earlier, but the program of the U S Bureau of Reclamation was initiated after congressional authorization in 1935 The general scheme is to use the abundant waters of the Sacramento river in the north to benefit the abundant farmlands of the San Joaquin Valley in the south The program has as its purposes flood control, improvement of navigation, development of hydroelectric power, irrigation, supply of water for cities and industries, and protection of lands in the Sacramento delta region from the seawater that threatens to make them useless for farms Among the items in the initial stage of the program are SHASTA DAM and the smaller Keswick Dam in the Sacramento, FRIANT DAM and its reservoir, Millerton Lake, in the San Joaquin, the Madera Canal (in operation along its entire length in 1945) northward 36 mi from Friant Dam, the Friant-Kern Canal (construction begun in 1945) southward c 150 mi from Friant Dam, the Delta Cross Channel, to use the water of the Sacramento to fight soil salinity in the delta, the Contra Costa Canal (completed 1947) taking Sacramento water 48 mi to a reservoir at Martinez and supplying water to the farms and industries of Contra Costa co in the delta, a pumping plant at Tracy to take water from the Delta Cross Channel and supply the Delta-Mendota Canal, the Delta-Mendota Canal to take the water c 120 mi roughly parallel to the San Joaquin and supply to that river at the Mendota pool; and a steam power plant at Antioch The program in its entirety embraces other numerous dams, reservoirs, and power plants, not yet constructed The U S Corps of Engineers has contributed much to development by such units as the Pine Flat Dam (commenced 1947) on Kings river in the southern part of the Central Valley. See Robert de Roos, *The Thirsty Land* (1949)

Centre, town (pop. 1,012), co seat of Cherokee co., NE Ala., NE of Gadsden, in a farm region, settled c 1840

Centre College of Kentucky: see DANVILLE

Centreville, town (pop. 1,163), SW Miss., just N of the La. line, inc 1880

centrifugal force and centripetal force: see FORCE.

centrifuge (sĕn'trufūj), device based upon the principle of centrifugal FORCE It is used commonly for the separation of substances of different density, e g, two liquids of different weight or a liquid and a solid It consists of a base or frame and a rotating part in which the mixture is placed and which is turned by means of a crank or motor One type is widely used for the separation of the solid and the liquid parts of blood The blood is put in test tubes which are then set in the rotating part in holders so arranged that when the rotary motion begins the test tubes can swing into a horizontal position with the open ends toward the inside, the heavier solid part of the blood is thrown into the bottom of the tube and the lighter liquid part comes to the top In the same way other mixtures of substances of different weights, including mixtures in which the differences are very small, can be separated into their components Another common type of centrifuge is the cream SEPARATOR

centumviri (sĕntŭm'vĭrī) [Latin,=a hundred men], in ancient Rome, a court of a varying number of men which heard civil cases having to do with land and land claims Each Roman tribe was represented in it Under the empire the centumviri had chiefly to deal with inheritance.

century plant. see AGAVE

Ceos. see KEOS

cephalic index (sufā'lĭk) [Gr.,=head], the numerical ratio of the breadth of the head to its length Expressed as a percental number, it provides the simplest description of the geometric relation of two dimensions The index is obtained by dividing the maximum width of the cranium by its maximum length and multiplying by 100 In ANTHROPOMETRY, the cephalic index has been the favored measurement and has sometimes been overvalued, particularly when used as a basis for race classification It has been shown that the physical and mechanical conditions which control the relationship of the parts measured are not in themselves stable, and the significance of cephalic indexes must depend on correlation with other factors An index up to 74 9 is considered dolicocephalic or long-headed, while 80 or more indicates the broad-headed or brachycephalic type The middle range is termed mesocephalic The cranial index is a ratio of the length of the skull to its width

Cephalonia (sĕfŭlō'nyu), Gr *Kephallenia* (kĕfälēnē'a), island (289 sq mi, pop 57,384), Greece, the largest of the IONIAN ISLANDS It has an irregular coastline and is largely mountainous, rising to 5,314 ft in Mt Aenos, which was formerly crowned by a temple to Zeus Argostoli, a port, is its chief town and exports the local products—currants, wine, and olive oil Sheep raising and fishing are important occupations An ally of Athens in the Peloponnesian War and later a member of the Aetolian League, it passed under Roman rule in 189 B C After the division of the Roman Empire, Cephalonia was held by Byzantium until its occupation (1126) by Venice It subsequently was ruled by various Italian families, was seized by the Turks (1479), and was ceded (1499) to Venice, which held it until the Treaty of Campo Formio (1797) Its subsequent history is that of the Ionian Islands There are many ancient ruins

cephalopod see MOLLUSK

Cephas (sē'fəs), Jesus' nickname for St PETER

Cepheus (sē'fūs), in Greek legend, king of Ethiopia, husband of Cassiopeia and father of ANDROMEDA

Cepheus, in astronomy, constellation of the Northern Hemisphere, lying partly in the Milky Way on the side of the pole star diametrically opposite Ursa Major It is an inconspicuous constellation, lines connecting the principal stars would form a rough square and an isosceles triangle with one side of the square as its base Notable stars in the constellation are a deep red star called by Sir William Herschel the "garnet" star and two double stars, one of which is also a variable star. From this variable star (visible to the naked eye) a class of stars, the Cepheid variables, derive their name

Cephisodotus (sĕfĭsō'dutus), fl 4th cent B C, two Greek sculptors The elder, the master and probably the father or the brother of Praxiteles, is noted for a statue, *Irene and Plutus* (*Peace and Wealth*) The original was erected in Athens, c 370 B C, presumably to mark the peace following the battle of Naxos in 376 B C A Megalopolis group, c 370 B C, is attributed to the younger, who was probably the son of Praxiteles

Cephissus (sĭfĭ'səs), Gr *Kephisos* (kĕfēsŏs'), name of Greek rivers **1** Rising in the Parnassus and flowing 75 mi ESE through central Greece into the N Euboic Gulf **2** Rising in Mt. Pentelikon and flowing S through central Greece past Athens into the Saronic Gulf

Ceram (sĕrăm'), island (7,191 sq mi, pop. including offshore islands 100,029), East Indonesia, one of the Moluccas It is W of New Guinea. Traversed

by a central mountain range rising to more than 10,000 ft, the island is 210 mi long and 40 mi wide Its inhabitants are like those of the Celebes. Copra and resin are the major commercial products. Oil is exploited in the northeast, and sago is grown extensively. Variants of the name are Seran and Serang.

Ceramic Gulf: see CERAMICUS SINUS.

ceramics (sûrà'mĭks) includes all forms of POTTERY, from crude EARTHENWARE to the finest PORCELAIN The term is especially used for handmade objects, such as figurines, animals, or flowers

Ceramicus Sinus (sĕrŭmĭ'kŭs sĭ'nŭs) or **Ceramic Gulf** (surà'mĭk), ancient name of the Gulf of Kos or of Kerme, SW Turkey, an inlet of the Aegean Sea On it was the celebrated city of Halicarnassus, capital of Cappadocia

Ceraunian Mountains (sĭrô'nĭăn), coastal range, S Albania, in Epirus It rises to c 4,800 ft and ends in ACROCERAUNIA, a cape, the whole range is sometimes called the Acroceraunian Mts

Cerberus (sûr'bŭrŭs), in Greek religion, many-headed dog with a mane and a tail of snakes, offspring of TYPHON and Echidna He watched the gate of Hades The honey cake which the Greeks buried with the dead was intended to quiet Cerberus One of the 12 labors of HERCULES was to capture him

Cerdic (kûr'dĭk, sûr'–), d. 534?, traditional founder of the kingdom of Wessex A Saxon, he and his son Cynry are said to have landed on the southern border of Hampshire and Wiltshire in 495 Little is certain about him save that later West Saxon kings traced their descent from him through his son Cynry and his grandson Ceawlin.

cereal, any GRAIN that is used for food, either whole or ground up into flour or meal In the United States the word is often used to mean any one of the breakfast foods made from grain

Cerealia: see CERIALIS

cerebellum see BRAIN

cerebrospinal meningitis: see MENINGITIS

cerebrum see BRAIN

Ceredo (sĕr'ĭdō), town (pop 1,212), W W Va, near Huntington, in a farm area, founded 1857

Ceres (sĕr'ēz), in Roman religion, goddess of grain and agriculture, daughter of Saturn and Ops She was identified by the Romans with the Greek DEMETER Her worship was connected with that of Tellus Mater, the earth-goddess, and involved not only fertility rites but also rites for the dead Her chief festival was the Cerealia, celebrated on April 19, and her most famous cult was that of the temple on the Aventine Hill, where she was associated with LIBER and Libera There is much argument about the origins and nature of her cults

Ceres (sĕr'ēz), city (1940 pop 1,332, 1947 special census pop 2,293), central Calif, near Modesto, in a fruitgrowing area, inc 1918

cereus, night-blooming see NIGHT-BLOOMING CEREUS

Cerialis or **Cerealis** (Petilius Cerialis or Petilius Cerealis) (both sĭrēăl'ĭs), fl A D 70, Roman general, a partisan of Vespasian against Vitellius Vespasian sent him in A D 70 to put down the revolt of Gauls and Germans under CIVILIS In 71 he went to Britain as governor

Cerignola (chārēnyō'lä), town (pop 37,163), Apulia, S Italy. Near by, in 1503, the Spanish under Gonzalo Fernández de Córdoba defeated the French under Louis XII (see ITALIAN WARS)

Cerinthus (sĭrĭn'thŭs), fl A D c 100?, an Ephesian religious leader, possibly of Jewish origin He held tenets influenced by Gnosticism and similar to those of the Ebionites He taught that the Christ descended into Jesus at His baptism and left Him again before the Passion

cerium (sĕr'ĭŭm) [for the planetoid Ceres], one of the more common metallic elements of the RARE EARTHS (symbol=Ce, for physical constants, see ELEMENT, table) resembling iron in color but much less hard It is ductile and malleable It does not tarnish in dry air, but is affected by moisture When heated it burns with a brilliant flame to form the oxide (ceria) which exhibits incandescence and is used in making lamp mantles (see WELSBACH MANTLE). Certain compounds of cerium are used in medicine, e g, cerium oxalate, which is commonly employed as an antiemetic in seasickness The element forms alloys with other metals, the alloy of cerium (70 percent) and iron (30 percent), for example, being used in cigar and gas lighters Minute particles of this alloy ignite in the air when scratched from the surface of the larger mass The element is prepared by the electrolysis of the chloride Recognized in 1803 in the oxide (ceria) as a new metal by M H Klaproth and by J J Berzelius and Wilhelm Hisinger, it was obtained in a very impure state by C G Mosander and by Friedrich Wöhler some 30 years later, and not until 1875 was the nearly pure metal obtained by W F Hillebrand and T H Norton.

Cernauti: see CHERNOVTSY, Ukraine

Cernuschi, Henri (chĕrnōō'skē), 1821–96, Italian politician and economist A strong republican, he led in the revolt of 1848 in Milan and supported Garibaldi In 1850 he went to France, where he became a director of the Bank of France Cernuschi vigorously advocated bimetallism and is said to have coined the word. He wrote many pamphlets on the subject, notably *Silver Vindicated* (1876).

Cerré, Jean Gabriel (shä' gäbrēĕl' sĕrā'), 1734–1805, frontiersman and trader in the American Midwest, b Montreal, Canada. By 1755 he had established a fur-trading post at Kaskaskia, Ill, where for many years he was a prominent and powerful figure. He outfitted many traders and hunters for the Missouri region and maintained close relations with the Indians The British made efforts to gain his support in the American Revolution, but he allied himself with the patriots and gave George Rogers Clark provisions and financial aid Later he moved to St Louis, where his influence was maintained until his death One of his daughters married Auguste CHOUTEAU.

Cerro de Pasco (sĕ'rō dā pä'skō, Span sĕ'rô dā pa'skô), city (pop 19,187), central Peru Cerro de Pasco, at an altitude of 13,973 ft, is one of the highest cities in the world It is as bleak and unattractive as its barren environs, but the fabulous silver mines, discovered according to tradition in 1630, have made it world renowned When silver deposits declined late in the 19th cent, the exploitation of other minerals, especially copper, again made Cerro de Pasco Peru's leading mining center From the near-by Minasraga mines, over 16,500 ft high, comes about 80 percent of the world's supply of vanadium Almost incredible obstacles had to be overcome in building the highway and the railroad (built by Henry MEIGGS) to connect the city with Lima.

Cerro Gordo, village (pop 1,016), central Ill, E of Decatur, in a farm area, inc 1873

Cerro Gordo (sĕ'rō gôr'dhō), mountain pass, E Mexico, on the road between Veracruz and Jalapa Here was fought, April 17–18, 1847, a decisive battle of the Mexican War Santa Anna, having established himself firmly at and behind the pass, attempted to halt the advance of Gen Winfield SCOTT from Veracruz to Mexico city Though the Mexicans thought their position impregnable, the Americans were able to turn the unfortified left flank and take the pass from the rear The Mexicans were routed and Jalapa occupied Taking part in the battle were Capt R E Lee (who scouted out a route for the flanking movement) and Lt U S Grant In the hard fighting to take the hill El Telégrafo, William S Harney particularly distinguished himself

Certosa di Pavia (chārtō'zä dē pavē'ä) [Ital, =Carthusian monastery of Pavia, like La Grande Chartreuse], former Carthusian abbey One of the most magnificent of all monastic structures, it has been maintained as a national monument since 1866 The church forming its nucleus was begun in the style of the Italian Gothic in 1396 by Gian Galeazzo Visconti, duke of Milan Hardly more than the nave was executed in this style, since the Renaissance, diffusing its new taste, quickly dominated the design of the edifice The façade seems to have been commenced in 1481 by a group of architects and sculptors, under the leadership of Giovanni Antonio Amadeo, it was finished early in the 16th cent Built of rich marbles and profusely ornamented with fine sculptural decorations, it is one of the masterpieces of Renaissance decorative design The two large arcaded cloisters are of richly ornamented terra cotta, the design of Rinaldo di Stauris

cerussite (sĕr'ŭsīt), colorless to white or gray mineral, sometimes yellowish or greenish, transparent to opaque, very brittle, crystallizing in the orthorhombic system and occurring also in granular and massive form It is a carbonate of lead formed by the action of carbonate and bicarbonate solutions on galena It is an important ore of lead widely distributed throughout Europe and the United States and found associated with galena and other lead minerals

Cervantes Saavedra, Miguel de (sûrvăn'tēz, Span mēgĕl' dā thĕrvän'tās sa"ävē'dhrä), 1547–1616, Spanish novelist, dramatist, and poet, b Alcalá de Henares, of a family which came from Córdoba Little is known of his youth or education. He went to Italy in 1569, served for a time in the household of Cardinal Aquaviva and in 1570 enlisted in the army as a private At the battle of Lepanto (1571) he was wounded and as a result lost the use of his left arm Returning to Spain on leave, Cervantes was captured (1575) by Moors and taken to Algiers as a slave In the five years of his captivity he aided others to escape and tried to escape himself but was retaken In 1580, ransomed by his family to their financial ruin, he returned to Spain After seeing service in Portugal, he retired from the army in 1582 He married in 1584 His life was a struggle against debt, for which he was sometimes imprisoned His first published work was *La Galatea* (1585), a pastoral romance in prose and verse Between 1585 and 1588 he wrote and produced more than 20 plays, of which only two survive, *La Numancia* and *El trato de Argel*. His longest poem is the *Viaje del Parnaso* (1614). Cervantes was 58 years old when the first part was published of his masterpiece, DON QUIXOTE DE LA MANCHA (1605) Part II appeared in 1615, a year after the publication of a spurious sequel to the first part. He wrote two other works of fiction in his last years—*Novelas ejemplares* (1613) and *Los trabajos de Persiles y Sigismunda* (1617). Cervantes, unselfish and brave, never prospering, has been compared to his own great hero. See biographies by A F Calvert (1905), James Fitzmaurice-Kelly (1913), Rudolph Schevill (1919), and Aubrey F G Bell (1947).

Cervera y Topete, Pascual (päskwäl' thĕrvā'rä ē tōpā'tā), 1839–1909, Spanish admiral At the outbreak of the SPANISH-AMERICAN WAR (1898) he was given command of the Atlantic fleet. He reached the harbor of Santiago de Cuba, where he was blockaded by the American fleet under Admiral Sampson and Commodore Schley from May until July 3. Then, in an attempt to run the blockade, he was utterly defeated and captured

Cervetri, Italy see CAERE.

Cervin, Mont, or **Monte Cervino:** see MATTERHORN

Cerynean hind (sĕrĭnē'ŭn), in Greek mythology, golden-horned hind sacred to ARTEMIS One of the 12 labors of HERCULES was to capture the hind

Cesalpino, Andrea see CAESALPINUS, ANDREAS.

Cesarean section: see CAESAREAN SECTION

Cesari, Giuseppe, Cavaliere d'Arpino (jōōzĕp'pā chä'zärē kävälyā'rā därpē'nō), 1568?–1640, Italian painter (Cesari's best works are the frescoes in the Capitol and in the Borghese Chapel, Church of Santa Maria Maggiore, Rome Other works are *Adam and Eve Expelled from Paradise* (Louvre), a self-portrait (Uffizi); and *Perseus and Andromeda* (Metropolitan Mus)

Cesena (chāzā'nä), city (pop 20,043), Emilia-Romagna, N central Italy, in Romagna, 17 mi NW of Rimini It flourished under the Malatesta family (1379–1465) who built the beautiful library (now containing almost 400 manuscripts) and the cathedral

Cesis (tsä'sĭs, –sēs), Ger *Wenden* (vĕn'dŭn), town (1935 pop 8,748), N Latvia It is an agricultural center with paper mills Long the seat of the LIVONIAN KNIGHTS, it passed to combined Lithuania-Poland in 1561 Attacked (1577) by Ivan the Terrible, the fortress was blown up by its own garrison Cesis went to Sweden in 1629, to Russia in 1721 Here, in 1919, the Latvians defeated a German free corps under Rüdiger von der Goltz Ancient castles give the town a romantic air Variant spellings are Tsesis and Zehsis

cesium (sĕ'zĭŭm) [from Latin, =bluish-gray], rare, silver-white, soft-as-wax, metallic element (symbol =Cs, for physical constants, see ELEMENT, table), most active of the metals It tarnishes so quickly and actively in air that it must be kept in kerosene It is a member of the ALKALI METALS, resembling especially rubidium and potassium and forming similar compounds—with bromine, chlorine, and iodine and with the sulphate, carbonate, and nitrate radicals It reacts with water to form a hydroxide which is a very strong BASE Because of its chemical activity, cesium is never found free in nature but is always combined with other elements in compounds It is a constituent of pollux, or pollucite, a rare mineral occurring in the United States in Maine and on the island of Elba Combined with chlorine as a chloride, it is widely distributed—but in minute quantities—in mineral springs The element is prepared by electrolysis and from the hydroxide and the chloride It is used in radio tubes and the electric eye In 1860 Bunsen and Kirchhoff discovered the element (the first to be discovered by the use of the SPECTROSCOPE) and named it for the two bright blue lines of its spectrum

Ceska Lipa, Czech *Česká Lípa* (chĕ'ska lē'pä), Ger *Böhmisch-Leipa* (bû'mĭsh-lī'pä), town (pop 11,991), N Bohemia, Czechoslovakia There are textile, metalworking, and woodworking industries

Ceske Budejovice, Czechoslovakia see BUDWEIS.

Céspedes, Carlos Manuel de (kär'lōs manwĕl' dā sā'spädhās), 1819–74, Cuban revolutionist, b Bayamo He completed his education in Spain and there took part (1843) in a revolution led by Juan Prim On returning to Cuba he raised the standard of revolt by proclaiming the demands of Cuban liberals in the so-called *grito de Yara* (1868) The TEN YEARS WAR followed He was elected president by the revolutionists (1869), but other leaders, notably Ignacio Agramonte, disagreed with him, discontent increased, and he was deposed (1873) He was killed, probably by Spanish soldiers

Céspedes, Carlos Manuel de, 1871–1939, president of Cuba (1933), b New York city, son of Carlos Manuel de Céspedes (1819–74) He actively participated in the revolution of 1895 and the Spanish-American War and subsequently held numerous diplomatic and governmental posts He was minister to the United States (1913–22). When Gerardo MACHADO was overthrown in Aug, 1933, Céspedes became provisional president, but was forced to resign after a coup (Sept 5) by a student junta supporting Ramón GRAU SAN MARTÍN

Céspedes, Pablo de (pä'blō dā thäs'pädhās), 1538–1608, Spanish artist, poet, and scholar, in Italy called Cedaspe. He studied for the priesthood and subsequently studied painting with Federigo Zuccaro in Rome. There he spent some 20 years and won a considerable reputation as painter, architect, and sculptor. On his return to Spain he was ap-

pointed canon of the Córdoba Cathedral, where the best of his surviving works remain, including his famous *Last Supper*. Céspedes was noted for his proficiency in Oriental and classical languages. He was the author of a comparison of ancient and modern painting, of a work on the Córdoba Cathedral, and of treatises on perspective He also wrote a notable poem (only partly preserved) on the art of painting

cesspool, a cistern dug or built to receive sewage. Cesspools may be of watertight construction or of the leaching type and in either case should be emptied frequently When watertight they should not be located nearer than 150 ft from any surface well or spring or less than 60 ft from any cistern or drinking-water supply The vault or pit should be kept as dark as possible, and the sides should extend sufficiently above the ground to prevent the access of vermin or small animals It should also be flyproof Cesspools are sometimes connected with a drain through which the liquid is dispersed in the adjoining ground, while the solid sewage is retained A leaching cesspool is constructed so that the sides, ends, and bottom readily allow the liquid material to soak through Leaching cesspools always represent a danger where wells are used for the water supply

cestus or **caestus**: see BOXING

Cetatea-Alba see BELGOROD-DNESTROVSKI, Ukraine

Cetewayo, Cetywayo (both sĕtĭwā'ō, -wī'ō, kĕ-), or **Ketchwayo** (kĕchwī'ō), c 1836–1884, king of the Zulu Cetewayo gained ascendancy in 1856, when he defeated in battle and killed his younger brother, who was the favorite of their father, Umpanda. On his father's death in 1872 Cetewayo assumed rule directly He was determined to resist European advances in his territory, and in Dec , 1878, he rejected a demand of Sir Henry Frere, the British high commissioner for South Africa, that he disband his troops The British attacked in 1879, and after losing two engagements they utterly defeated Cetewayo After a period of exile he was reinstated in rule over part of his former territory

Cetinje (tsĕ'tĭnyĕ), small town, Montenegro, Yugoslavia, near the Adriatic It grew around a monastery founded in 1485, and it was until 1916 the capital of Montenegro The monastery, the burial place of the Montenegrin princes, and the former royal palace (now a museum) remain

Ceto (sē'tō), Greek sea-goddess, daughter of Gaea and Pontus, wife of Phorcus, and mother of the Gorgon monsters, the Graeae, Scylla, and the dragon who guarded the apples of the Hesperides

Cette, France see SÈTE

Cetywayo see CETTWAYO

Ceuta (sōō'tu, Span thāōō'tä), city (pop 59,115), Spanish Morocco, on the Mediterranean coast almost opposite Gibraltar It is administered as part of the Spanish province of Cádiz Beyond it extends a headland, Jebel Musa, one of the PILLARS OF HERCULES Built on the site of a Phoenician colony, the city was held successively by Romans, Vandals, Byzantines, and Arabs (711) Taken by Portugal (the first permanent European conquest in Africa, 1415), it passed (1580) to Spain and has remained Spanish despite several attacks, notably a prolonged siege (1694–1720) by the Sultan Moulay Ismail Ceuta, with its large harbor and ample wharves, is an important port of call and a fishing port

Cévennes (sāvĕn'), mountain range, S France, limiting the Massif Central toward the south and east The Cévennes proper occupy the central section of a mountainous arc (average height 3,000 ft), swinging generally NE from the Montagne Noire (NE of Toulouse) to Mont Pilat in VIVARAIS (SW of Lyons) Between the Cévennes proper and the Montagne Noire are the Causses—barren limestone plateaus intersected by deep chasms and ravines The Loire, Allier, Lot, Tarn, Avevron, Hérault, Gard, and Ardèche rivers all radiate from the Cévennes or the Causses Mont Lozère (5,584 ft) is the highest peak of the Cévennes proper, Mont Mézenc, in Vivarais, rises to 5,755 ft The cultivation of silkworms, silk manufacture, and, in the Alès basin, coal mining are the chief industries along the southern slope, which has a Mediterranean climate Intensive sheep raising in the interior has worsened erosion There are no large towns The population of the Cévennes, then largely Protestant, long resisted the revocation (1685) of the Edict of Nantes (see CAMISARDS)

Ceylon (sēlŏn'), anc. *Taprobane*, island (25,332 sq mi , pop 6,657,339), in the Indian Ocean, SE of India It is a dominion of the British Commonwealth of Nations with its capital at Colombo and an official name, Lanka More or less pear-shaped, Ceylon lies close to India, to which it is almost connected by ADAM'S BRIDGE, a chain of shoals The island comprises a level low-lying plain, which occupies the north and a broad band around the entire coast, and a mountainous section (with large deposits of semiprecious stones) in the south Ceylon has a subtropical climate Rain, largely carried by the monsoon, is adequate without irrigation except in the north. Coconuts are cultivated along the coast, rice in the level inland sections, and rubber and tea on the arable hill slopes. The economy of Ceylon depends primarily upon the export of agricultural products in exchange for finished goods. Although coastal lagoons provide many sheltered harbors, only S Ceylon lies on the main world shipping routes, and its port of Colombo, on which the country's railroads and, to some extent, its road system, converge, handles most of the foreign trade The most ancient of the inhabitants of Ceylon may have been the ancestors of the Veddas, a primitive folk now living in remote mountainous areas They were conquered in the 6th cent B C by the Singhalese, who were originally from N India. About two thirds of the inhabitants (mainly those who are Buddhists) claim descent from this group The Singhalese established (437 B C) their capital at ANURADHAPURA, which with the introduction of Buddhism from India in the 3d cent B C became one of the chief centers of that religion in the world The Chola of S India for a short time in the 11th cent subjugated the Singhalese, who, however, from their center at POLLONARRUA continued resistance There were numerous invasions from S India, and, as a consequence, today one fifth of the population (the Tamils) is Hindu Another strain was contributed by the Moslem Arab traders, who before European penetration of the Far East controlled most of Ceylon's overseas trade. Portugal, attracted by the island's rich spice crop (especially its cinnamon), conquered the coastal areas in the early 16th cent and implanted the Roman Catholic religion The Dutch East India Company coveted the island, and by the mid-17th cent the Dutch had wrested away the Portuguese possessions The British expelled the Dutch in 1795 Great Britain was the first foreign power to conquer the whole island, and in 1833 the central area, previously under the rule of the king of KANDY, was joined into one colony with the coastal possessions Under the British, Ceylon was modernized and an educational system developed, including a university There was discontent, especially in the 20th cent , as well as demands that the British grant the colony self-rule In response to the repeated insistence that the people of Ceylon would not be satisfied if their representatives were confined to little more than a consultative role without full administrative and legislative powers, Great Britain agreed to form the dominion of Ceylon The new state, with a cabinet government and a two-chamber parliament, was formally constituted on Feb 4, 1948 See C M Enriquez, *Ceylon Past and Present* (1927), L A Mills, *Ceylon under British Rule, 1795–1932* (1933)

Ceylon moss see AGAR

Ceyx, see HALCYONE

Cézanne, Paul (pôl' sāzan'), 1839–1906, French painter, an outstanding figure in modern French art, b Aix, in Provence, son of a banker He studied at the École suisse with Pissarro Cézanne's earliest work shows the influence of Delacroix and of the old Italian masters, particularly Tintoretto, and exhibits few of the distinctive features of his later style From Pissarro he received his first methodical training, particularly in the study of nature, and through him too came in contact with Manet and the impressionists He exhibited at the impressionist show of 1874, but became dissatisfied with both the academicians and the impressionists He divided his time between Provence and the environs of Paris until his retirement to Aix in 1899 He developed a highly original style which has had a profound influence upon later artists, although Cézanne's importance as an innovator and leader was not definitely established until the exhibition of his works in 1904 The main characteristics of his painting are the use of very vivid color, but with a striving for depth in shadows and outlines, and an attempt to unite the best tendencies of impressionism with the noble art of the past He worked in oil and water color with equal success and excelled both in landscapes (particularly of his native Provence, many with nudes, admirably executed) and in still lifes, which in color and feeling have rarely been surpassed, his portraits are forceful and masterly Fine specimens of Cézanne's work are to be found in the Louvre Some excellent examples also are in the Metropolitan Museum See biographies by Ambroise Vollard (Eng tr , 1923), Julius Meier-Graefe (Eng tr , 1927), Roger Fry (1927), and Gerstle Mack (1935)

Chabanel, Noël (St Noël Chabanel) (nôĕl' shäbänĕl'), 1613–49, French missionary in North America, a Jesuit He entered the Society of Jesus in 1630, came as a missionary to New France in 1643, and labored among the Huron Indians He was captured by the Iroquois and put to death. Chabanel was with other missionaries (including Isaac Jogues and Jean de Brébeuf) and laymen canonized in 1930 They are as a group known as the Martyrs of North America Feast Sept 26 or (among the Jesuits) March 16

Chabannes, Antoine de, comte de Dammartin (ätwän' dù shäbän' kôt' dù dämmärtăn'), c 1411–1488, French general in the Hundred Years War, brother of Jacques de Chabannes He served with Joan of Arc, fought as a captain of ÉCORCHEURS, and took part in the PRAGUERIE revolt (1440) Pardoned by Charles VII, he was appointed to various offices and presided over the committee that procured the conviction of Jacques CŒUR After the accession of Louis XI (1461) he was imprisoned He escaped and joined (1465) the League of the Public Weal against LOUIS XI, but was pardoned once more and became one of the king's most trusted officers

Chabannes, Jacques de (shäk), c 1400–1453, French general in the Hundred Years War. With his brother, Antoine de Chabannes, he served under Joan of Arc and took part in the PRAGUERIE revolt (1440) Pardoned by Charles VII, he distinguished himself in the expulsion of the English from Normandy and Guienne.

Chabas, Paul Émile (pôl' ämēl' shäbäs'), 1869–1937, French painter He is remembered chiefly for his nude, *September Morn*, which created a sensation when it was exhibited in 1912 It was sold to a Russian, hidden during the Russian Revolution, and in 1935 rediscovered in a private collection in Paris

Chablis (shäblē'), village (pop. 1,748), Yonne dept , central France, near Auxerre, famous for the white Burgundy WINE of the region There is a remarkable early Gothic church (12th cent).

Chabot, Philippe de (fēlēp' du shäbō'), also known as **Admiral de Brion** (ädmērăl' du brĕō), 1480–1543, count of Charny and of Buzançois, admiral of France After a successful campaign in Savoy (1536), he was, through the intrigues of Anne, duc de MONTMORENCY, accused and convicted (1541) of misconduct in office but was pardoned by King Francis I Chabot is credited with having originated the project of a French colony in Canada

Chabrias (kā'brēus), d 357 B C , Athenian general, one of the principal commanders of the Delian League He saw service not only for Athens, but also for Evagoras of Cyprus and the kings of Egypt in their wars on the Persians He was, however, particularly notable for a naval victory of the Athenians over Sparta at Naxos in 376 B C He was involved with Callistratus in the negotiations allowing the Thebans to occupy the Athenian city Oropus, but he was acquitted of blame in 366 B C , though rumors of bribery were rife He was killed on the punitive expedition sent against Chios when Chios tried to withdraw from the Delian League

Chabrier, Alexis Emmanuel (älĕksēs' ĕmänüĕl' shäbrēā'), 1841–94, French composer, largely self-taught His best-known works are an opera, *Le Roi malgre lui* (1887) an orchestral rhapsody, *España*, and numerous piano pieces He strongly influenced later composers

Chaco (chä'kō) or **Gran Chaco** (grän), extensive lowland plain, central S America, sparsely populated, divided among Paraguay, Bolivia, and Argentina Some of the highest temperatures in the southern continent are reached here. To the north of the Pilcomayo river and to the west of the Paraguay is the section known as the Chaco Boreal, most of which belongs to Paraguay This is arid desert land, dotted with swamps in the rainy season and with stretches of dense forest in which the QUEBRACHO abounds The Chaco Central, in Argentina S of the Pilcomayo, has much the same aspect The plains grow increasingly arid toward the west, but the eastern part—the Chaco Austral and the region W of the Paraguay river—is the only habitable section of the Chaco The discovery of oil in a narrow strip of the barren section of the Chaco Boreal, at the foot of the Bolivian Andes, precipitated the **Chaco War**, 1932–35, between Bolivia and Paraguay This territory of the Chaco had been disputed since 1810 Technically the Chaco was intended to be part of Bolivia since it had been part of the *audiencia* of Charcas, but Bolivia paid little attention to this wasteland and Paraguayan settlers opened up the region while Paraguayan soldiers pushed back the wild Indians Thousands of Paraguayan colonists brought wealth to Paraguay by gathering quebracho and raising cattle Paraguay was not disposed to give up the lands, and Bolivia needed access to the Paraguay river to ship oil to the sea, a clash was inevitable and disastrous A million lives were lost, and the war was concluded in 1935 only when both sides were exhausted After three years of negotiation following the end of hostilities, the six mediating nations (Argentina, Brazil, Chile, Peru, Uruguay, and the United States) presented a treaty which was signed by Paraguay and Bolivia in 1938 Three quarters of the disputed Chaco Boreal went to Paraguay, at the same time Bolivia was granted a corridor to the Paraguay river, the privilege of using Puerto Casado, and the right to construct a Bolivian port

Chaco Canyon National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Chaco War: see CHACO

Chad, French overseas territory: see FRENCH EQUATORIAL AFRICA

Chad, Lake (chăd, chäd), central Africa It is bordered by French Equatorial Africa, French West Africa, the French Cameroons, and Nigeria The size varies from 5,000 to 9,000 sq mi according to season, but the lake was formerly much larger

It was known by report to the ancient Greeks, but it was not reached by Europeans until the early 19th cent. The Shari river is the chief affluent of Lake Chad, which has no outlets.

Chadbourn, town (pop 1,576), S N C, near the S.C. line W of Wilmington, inc 1883 It is noted for its strawberries and makes berry crates

Chadderton, urban district (1931 pop 27,450, 1947 estimated pop 31,490), Lancashire, England In the cotton-mill district, it also manufactures pharmaceuticals.

Chadds Ford. see BRANDYWINE, BATTLE OF

Chadron (shă'drŭn), city (pop 4,262), co seat of Dawes co, NW Nebr, near the S Dak line, in livestock and grain country in the Great Plains region, founded 1885 It is a railroad division point and has factories A state teachers college is here

Chadwick, Sir Edwin, 1800–1890, English social reformer For many years an assistant to Jeremy Bentham, Chadwick applied his utilitarianism to the reform (1834) of the Poor Law and, with more success, to the development of public health measures He was largely responsible for the passage of the Public Health Act of 1848 which established a board of health His chief writings have been collected and edited by B W Richardson as *The Health of Nations* (2 vols, 1887) See biography by D D Jones (1931)

Chadwick, French Ensor, 1844–1919, U S naval officer and historian, b Morgantown, Va (now W Va) After graduating from the U S Naval Academy (then at Newport, R I) in 1864, he saw varied service both at sea and ashore before serving (1882–89) as naval attaché (the first American so designated) at London His investigations into European naval practices as a representative of the new Office of Naval Intelligence were influential in the rebuilding of the U S navy He commanded the cruiser *Yorktown* (1889–91) and was chief of the Office of Naval Intelligence (1892–93) and of the Bureau of Equipment (1893–97) Made commander of the cruiser *New York* in 1897, Chadwick, as chief of staff to Capt William T SAMPSON, commander in chief of the N Atlantic squadron, was cited for his conduct in the battle of Santiago in the Spanish-American War He was president of the Naval War College (1900–1903), was promoted rear admiral in 1903, and became commander in chief of the S Atlantic squadron in 1905 Most important of the historical writings he produced after his retirement in 1906 are *Causes of the Civil War, 1859–1861* ("American Nation" series, 1906) and *Relations of the United States with Spain* (3 vols., 1909–11)

Chadwick, George Whitefield, 1854–1931, American composer, b Lowell, Mass, studied with Horatio Parker and in Europe In 1882 he joined the faculty of the New England Conservatory of Music, of which he was director from 1897 until his death His chief compositions are the overtures *The Miller's Daughter* (1884) and *Rip Van Winkle* (1879), a symphonic ballad, *Tam O'Shanter* (1917), and the opera *Judith* (1901)

Chadwick, Sir James, 1891–, English physicist, grad Manchester Univ, 1908 He worked at Manchester under Ernest Rutherford on radioactivity. He was assistant director of radioactive research in the Cavendish Laboratory, Cambridge (1923–35), and became professor of physics at the Univ. of Liverpool in 1935 For his discovery of the NEUTRON in 1932 he received the 1935 Nobel Prize in Physics In 1945 he was knighted

Chaeronea (kĕrŭnē'ŭ), ancient town of Boeotia, Greece, in the Cephissus river valley and WNW of Thebes. It was the birthplace of Plutarch In 338 B.C the Athenians and Boeotians were defeated here by the Macedonians under Philip II and his son, Alexander the Great The colossal lion placed on the battlefield as a monument to the Boeotians and mentioned by Pausanias has been reerected. Here in 86 B C., Sulla defeated the army of Mithridates VI of Pontus under Archelaus

Chaffee, Adna Romanza (chă'fē), 1842–1914, U S army officer, b. Orwell, Ohio. In 1861 he enlisted in the 6th Cavalry of the regular army and served with it through the Civil War, becoming a first lieutenant There followed more than 20 years of service with this same unit in garrison duty and Indian campaigns in the Southwest By 1897 Chaffee had risen to be lieutenant colonel of cavalry At the opening of the Spanish-American War he was advanced to brigadier general of volunteers and sent to Cuba with a brigade of H W Lawton's division In the attack on El Caney, Chaffee's command bore the brunt of the action and distinguished itself. He became a major general of volunteers and chief of staff of the military governor of Cuba, holding this position until May, 1900 He then led the American contingent of the joint expedition against Peking in the BOXER REBELLION and afterward commanded in the Philippines. In 1904 he was advanced to lieutenant general and made chief of staff of the army. He retired in 1906. His son, Adna Romansa Chaffee (1884–1941), served in the cavalry in the First World War and did outstanding work organizing mechanized units during defense preparations before the Second World War. He rose to be a major general. See biography of the elder Chaffee by W. H. Carter (1917)

Chaffee (chă'fē), city (pop 3,049), SE Mo, SW of Cape Girardeau, laid out 1837, inc 1906 It is a trade center, with small industries, in a farm and timber area.

chaffinch (chăf'ĭnch), European songbird of the FINCH family, often caged for its clear, melodious song. The male has a bluish-gray crown, a chestnut back, reddish under parts, black tail, and almost black wings with white markings.

Chagall, Marc (märk' shŭgäl'), 1889–, Russian painter, whose name is also spelled Shagall. In 1907 he left his native Vitebsk for St. Petersburg, where he studied under L. N Bakst Going to Paris in 1910, he began to assimilate several cubist characteristics into his expressionistic style. He is considered the forerunner of surrealism After serving in the First World War he was for a time minister of arts of Vitebsk prov His main subject matter is drawn from Jewish life and folklore, in his pictures he employs flower and animal symbols He came to the United States in 1941 Among his better-known works are *I and My Village* (1911, Mus of Modern Art, New York) and *The Rabbi of Vitebsk* (Art Inst, Chicago) He designed the sets for the ballets *Aleko* and *Firebird* His autobiography, *Ma Vie* (1930), was published in Paris See studies by Lionello Venturi (1945) and J. J. Sweeney (1946).

Chagres (chä'grŭs, chă'–, Span chä'grās), small river of Panama, used to make Gatun Lake for the Panama Canal

Chagrin Falls (shŭgrĭn', shăg'rĭn), residential village (pop 2,505), NE Ohio, on the Chagrin river and SE of Cleveland Pharmaceuticals are made here

Chahar (chä'här), Mandarin *Ch'a-ha-erh*, province (109,527 sq mi, pop 2,035,957), N China It is bordered on the north and the west by the Mongolian People's Republic The capital is Changkiakow Chahar was a part of Inner MONGOLIA The Chinese, who constitute a majority of the population, are concentrated in the southern tip of the province, which contains the capital and lies between two sections of the Great Wall This area, economically the most important, includes the eastern terminus of the main motor road to the Mongolian People's Republic and is connected by rail with Peiping and Tientsin Kaoliang, wheat, and corn are raised in its fertile loess soil The rest of the province, mainly inhabited by Mongolian nomads, is a high, almost barren plateau, where livestock raising and animal trapping are the chief economic activities, horses, hides, fur, and wool are exported

Chaillé-Long, Charles (shāyā'-lông'), 1842–1917, American soldier and African explorer, b Princess Anne, Md He served in the Civil War and in 1869 received an appointment in the Egyptian army under Gen C G GORDON Because of his explorations on the Victoria Nile, he was awarded a medal by the American Geographical Society In 1875 he explored the Congo-Nile divide and crossed over to the Bahr-el-Ghazal region. He returned to America, graduated from the Columbia Law School (1880), and was consul general and secretary to the legation in Korea (1887–89) His travel narratives in English include *The Three Prophets* (1884), *My Life in Four Continents* (1912), and *Central Africa Naked Truths of Naked People* (1876) He also wrote in French—*Les Sources du Nile* (1891), *L'Egypte et ses provinces perdues* (1892), and *La Corée ou Chosen* (1894)

Chaillu, Paul Belloni du see DU CHAILLU

Chain, Ernst Boris, 1906–, English biochemist, b Germany In 1933 he left Germany and went to England, where he carried on research at Cambridge from 1933 to 1935 and at Oxford from 1935 For his work on PENICILLIN he shared with Sir Alexander Fleming and Sir Howard Florey the 1945 Nobel Prize in Physiology and Medicine.

chain. Chains are classed as open-link and stud-link In the stud-link chain a stud, or bar, crosses the link and tends to prevent the chain from kinking Chains for the transmission of power usually consist of a series of rollers mounted on bushings and secured by rivets The spacing (pitch) of the rollers is adjusted to the teeth of the sprocket wheel over which they operate Block chains, suitable for light machine drives, are formed of steel blocks connected by side links, or plates. Chains for commercial uses are generally made of wrought iron, mild steel, or cast steel A Gunter's chain (surveyor's chain), a measure of length, is 66 ft long. An engineer's chain consists of 100 links, each link a foot long

chain gang: see CONVICT LABOR.

chain store. see STORE

chair. Until the Renaissance, chairs were reserved for lords and dignitaries—a use from which arose such terms as *chairman, addressing the chair,* and *the chair of* (a professorship). Benches and stools were the common seats Egyptian chairs of rectilinear construction, some with seats and backs curved to fit the figure, have been preserved. Curving lines were characteristic of Greek chairs. Imperial Rome used massive forms in marble and bronze. The Roman curule chair was the ancestor of the folding chair, highly developed in Italy during the Renaissance. Gothic chairs had very high backs, often canopied, and were intricately carved The variety of chairs was much increased during the 17th cent; upholstery replaced loose cushions, chairs without arms became common. In England the curved lines, cabriole legs, and splat backs of the Queen Anne style were followed in the 18th cent. by a succession of fashions set by designers and cabinetmakers CHIPPENDALE used square contours and decorative openwork backs; the Adam brothers introduced classicism, HEPPLEWHITE favored curvilinear backs, and SHERATON emphasized straight lines and delicate reedings The neoclassicism of the 19th cent resulted in chairs based more or less freely on Greek and Roman models In America, English designs were followed throughout the 17th and 18th cent Especially popular was the Windsor chair, whose many variants include the bow-back and comb-back types The rocking chair, an exclusively American form known from c 1760, was made at first from the straight chair by the addition of rockers From c.1800 a number of rocking chairs were designed as such, e.g., the Boston rocker In chairs of contemporary design, ornament has been laid aside and emphasis placed on simple structural masses and functional form See W A Dyer and E S Fraser, *The Rocking Chair* (1928), Carl Drepperd, *Handbook of Antique Chairs* (1948)

Chalcedon (kăl'sĭdŏn, –dŭn, kălsē'dŭn), ancient Greek city of Asia Minor, on the Bosporus It was founded on the shore opposite Byzantium in 685 B C Taken by the Persians and recovered by the Greeks, it was later a possession of the kings of Bithynia, from whom it passed (74 B C) to Rome The Council of Chalcedon was held here in A D 451 The site is now occupied by suburbs of Istanbul

Chalcedon, Council of, fourth ecumenical council, convened in 451 by Pulcheria and Marcian, empress and emperor of the East, to settle the scandal of the Robber Synod and to discuss Eutychianism (see EUTYCHES) It deposed the principals in the Robber Synod and destroyed the Eutychian party *Its great work,* however, was its *Definition,* the last pronouncement of the Catholic Christological position Jesus Christ, second Person of the Trinity, is both true God and true man, his divine and human natures are distinct without confusion and inseparably united to concur in one person The *Definition,* which has been called an elaboration of the Nicene Creed, is essentially the statement which Pope St LEO I made in his famous *Tome* and crowned his efforts to unify Christendom The Roman Catholic Church has, however, never admitted a decree of the council that made the patriarch of Constantinople single head of the Church in Eastern Europe

chalcedony (kălsĕ'dŭnē, kălsŭdō'nē) [from Chalcedon], a form of quartz the crystals of which are so minute that its crystalline structure cannot be seen except with the aid of a microscope Chalcedony has a waxy luster and is translucent to transparent. The name chalcedony is applied more specifically to white, gray, blue, and brown varieties Some varieties differing in color because of the presence of impurities are AGATE, BLOODSTONE, CARNELIAN, CHRYSOPRASE, JASPER, ONYX, SARD, and SARDONYX

Chalcidice (kălsĭ'dĭsē, Gr *Chalkidike* or *Khalkidiki* (both khälkēdhē'kē), peninsula, NE Greece, projecting into the Aegean Sea from SE Macedonia Its southern extremity terminates in three peninsulas—Kassandra (anc Gr *Pallene*) in the west, Sithonia in the middle, and ATHOS in the east The Athos peninsula was cut by a canal built by Xerxes I, of which evidences remain OLYNTHUS and POTIDAEA were the chief towns in antiquity, Polygyros is the present administrative center The region is largely mountainous, dry, and agricultural Olive oil, wine, wheat, and tobacco are its chief products In antiquity it was famous for its timber. It was named for Chalcis, which established colonies here in the 7th and 6th cent B C In the 4th cent B C it was conquered by Philip II of Macedon, and in the 2d cent B C by Rome The subsequent history of Chalcidice is essentially that of the city of SALONICA

Chalcis (kăl'sĭs), Gr *Chalkis* or *Khalkis* (both khälkēs'), city (pop 21,820), Greece, on the island of EUBOEA opposite the mainland The port trades in local products The chief city of ancient Euboea, it established (8th–7th cent B C) colonies in Sicily and in Chalcidice Chalcis led the revolt of Euboea against Athens in 446 B C., was defeated, and was made tributary to Athens till 411 In 338 B.C it came under Macedonian domination. Aristotle died here. In the Middle Ages it was named Negropont by the Venetians There are several medieval buildings erected by the Venetians and the Turks

Chalcol (kăl'kŏl), same as CALCOL

chalcopyrite (kăl'kŭpĭ'rīt, kăl'kōpĭ'rīt) or **copper pyrites** (pĭrĭ'tēz, pū–), brass-yellow mineral with iridescent and black streaks. It is a sulphide of copper and iron, sometimes containing gold and

silver and also selenium and thallium. It crystallises in the tetragonal system but is usually found in the massive form. Chalcopyrite is of primary origin and occurs in igneous and metamorphic rock. It is an important ore of copper and is widely distributed in the United States, Canada, South America, Africa, and Europe

Chaldaea or **Chaldea** (both: kăldē'ŭ), properly the southernmost portion of the valley of the Tigris and the Euphrates Sometimes it is extended to include Babylonia and thus comprises all S Mesopotamia, as in the Bible (e.g., Gen 11 28, Jer. 50 10) The name is derived from the people who invaded the region in the 11th cent. B.C., and the restored kingdom of Babylonia is sometimes called the Chaldaean Empire (see BABYLONIA). The study of astrology was much developed in this period, and Chaldaean came to mean simply "astrologer," as in Dan 1 4 and among the Romans. The term is also understood in the Bible to mean Aramaean

Chaldee (kăldē'), Biblical Aramaic language, in the Aramaic group of Semitic languages. For related groups, see LANGUAGE (table)

chalet (shălā', shă'lē), [Fr.], the type of indigenous dwelling of timber construction found in the Alpine regions of Europe Examples over 300 years old are found there. The traditions of chalet building originated, however, earlier and are continued to the present. The earlier chalets were of ponderous construction, their walls being of tree trunks laid horizontally, one upon the other, and notched together at the corners, as in the early American log cabins However, the characteristic chalet is of lighter construction, with a framework of vertical posts and horizontal floor beams, covered externally with heavy planks The most conspicuous feature of the chalet is the single, large roof which spans not only the entire dwelling, but sometimes also the barns and stables Its pitch is usually low, so that the winter snows may accumulate and act as insulation from the cold The upper floors generally project beyond the lower wall and are supported by elaborate brackets Balconies are numerous, occurring either at the ends or at the sides In the latter case they are protected by the enormous projection of the roof eaves, which sometimes overhang as much as 10 ft The chalet shows its medieval origin both in the carved enrichments which retain a Romanesque character and in its thoroughly organic use of timbers Posts, braces, floor beams, and roof supports are all openly emphasized and produce in themselves, with the aid of ornamental carvings, the decorative scheme for the building In the adornment of the wood-sheathed walls of the chalet interiors, the arts of carving and color decoration are utilized The various districts of the Alps exhibit local styles of chalet design See W. S B Dana, *Swiss Chalet Book* (1913).

Chaleur Bay (shulōr'), inlet of the Gulf of St Lawrence, between New Brunswick and the Gaspé Peninsula It is c 85 mi long and 15 to 25 mi wide and is a submerged valley of the Restigouche river, which enters at its head The bay is a famous fishing ground—cod, herring, mackerel, and salmon—and there are many Acadian fishing villages on both coasts The headlands are high and bold and the scenery is romantic The bay was discovered and named by Cartier in 1534

Chalfant, borough (pop 1,372), SW Pa., near Pittsburgh

Chalfont (chă'fŭnt, chăl'fŭnt), borough (pop 670), SE Pa., near Doylestown It is the traditional burial place of the Delaware Indian chief Tamanend or Tammany

Chalfont Saint Giles (chăl'fŭnt sānt jīlz', chă'fŭnt), village, Buckinghamshire, England, N of Beaconsfield Here are the cottage in which Milton lived at the time of the great plague and, in a Quaker cemetery, the grave of William Penn

Chalgrin, Jean François (shă' frāswa' shălgrē'), 1739–1811, French architect He studied under Servandoni and in Italy as a winner of the Grand Prix de Rome (1758). He rebuilt (1777) part of the Church of St Sulpice in Paris, built the Church of St Philippe-du-Roule, reintroducing a basilica plan to French ecclesiastical architecture, enlarged the buildings of the Collège de France, and altered the palace of the Luxembourg, after the Revolution, to serve as headquarters for the Directory In 1806 he was commissioned by Napoleon to design a commemorative arch to the victorious armies of France, and the executed scheme for the ARC DE TRIOMPHE DE L'ÉTOILE was chiefly Chalgrin's, though he died soon after the actual construction was started

Chalgrove (chăl'grōv), village, Oxfordshire, England The royalists under Prince Rupert here defeated the parliamentarians (1643) John Hampden was mortally wounded in this battle

Chaliapin, Feodor Ivanovich (fyô'dŭr ēvă'nuvĭch shŭlyă'pēn), 1873–1938, Russian bass, studied and sang in Russia until 1901. He sang at the Metropolitan Opera, New York, in 1907 and from 1921 until 1929 He was an excellent actor, his most famous characterizations were the title roles in Boito's *Mefistofele*, Moussorgsky's *Boris Godunov*, and Rimsky-Korsakov's *Ivan the Terrible* See his autobiographies, *Pages from My Life* (Eng.tr., 1927) and *Man and Mask* (Eng. tr., 1935).

chalice (chă'lĭs) [Latin, =cup], ancient name for a drinking cup, retained for the eucharistic or Communion cup. Early chalices were of vase-shaped form with two handles. Celebrated examples are the Great Chalice of Antioch (Syriac), of embossed silver, excavated there in 1910 and attributed to the first century, and an elaborately ornamented chalice found in 1868 at Ardagh, Ireland, and believed to be Celtic work of the 9th or 10th cent The chalice was gradually modified in form and became a standing cup with straight or flared sides, usually undecorated, on a baluster stem rising from a broad base. In the Roman Catholic Church the cup must be of gold or silver, or if of baser metal, with the cup gilded inside See GRAIL, HOLY

chalk, a calcium carbonate mineral, similar in composition to limestone, but softer It is characteristically a marine formation and sometimes occurs in great thickness, the chief constituents of these chalk deposits are the shells of minute foraminifera Chalk has been laid down in all periods of geologic time, but most of the best-known deposits, e.g., the cliffs of the English Channel, date from the Cretaceous period Chalk is used in the manufacture of putty, plaster, cement, quicklime, mortar, and rubber goods and also for blackboard crayons Harder forms are used as building stones Soils containing an excessive proportion of clay are frequently dressed with chalk

Chalkley, Thomas (chô'klē), 1675–1741, Quaker mariner and missionary preacher, b England He made his home after 1701 in Philadelphia, Pa., but was absent much of the time on trading voyages or missionary tours He traded chiefly with the West Indies, navigating his own ship Between times he made preaching tours up and down the colonies from New England to the Carolinas and through England, Scotland, and Wales as well His journal (1747), simple in style and elevated in thought, was widely read by many generations of Quakers.

Chalk River, government research establishment, S Ont., on the south shore of the Ottawa river and W of Ottawa It is operated by the National Research Council of Canada for the Atomic Energy Control Board Its chief feature, a large heavy-water atomic pile, was brought into operation in 1947

Challener, Frederick Sproston (chă'lĭnûr), 1869–, Canadian painter, b England He emigrated to Canada in 1883, studied at the Ontario College of Arts (where he afterwards taught) and with G A Reid in Toronto, and later went abroad His mural decorations are in the Russell Theatre, Ottawa; the King Edward Hotel and the Royal Alexandra Theatre, Toronto, the Savoy Theatre, Hamilton, Ont; and the Princess Theatre, Montreal *Departure of Convoy 1st Contingent C E F from Gaspé Bay, 1914* was painted for the Canadian War Memorials Challener is represented by *Workers of the Fields* and *A Song at Twilight* in the National Gallery, Ottawa, by *The Milkmaid* and *When Lights Are Low* in the Provincial Art Gallery, Toronto, and by *Fathers of the Confederation* in the Ontario Parliament buildings, Toronto Challener became a member of the Royal Canadian Academy in 1899

Challenger expedition, 1872–76, British scientific expedition in charge of Professor C Wyville Thomson In the corvette *Challenger* it cruised 68,900 nautical mi., making physical and biological surveys of the Atlantic and Pacific oceans The results were published in 50 volumes of *Reports* (1880–95) See H N Moseley, *A Naturalist on the "Challenger"* (1879), Sir C Wyville Thomson, *Voyage of the "Challenger"* (1877)

Challoner, Richard (chă'lŭnûr), 1691–1781, English Roman Catholic prelate Brought up a Protestant, he became a Roman Catholic in his teens He was ordained in 1716. In 1730 he returned from Douai to England, where he worked among his coreligionists and was widely known for the number of conversions he made In 1738 he had to leave England because he published an open reply to an anti-Catholic pamphlet by an Anglican In 1739 Challoner was appointed coadjutor of the vicar apostolic in London He was consecrated bishop of Debra *in partibus infidelium* in 1741 The rest of his life he spent working among his people (after 1758 as vicar apostolic) in the face of great difficulties From 1765 to 1780 a series of efforts was set afoot to molest English Catholics, and Bishop Challoner was involved; he succeeded in obtaining the release of one of his priests sentenced to life imprisonment for being a priest, but in the Gordon riots (1780) he had to flee London for his life He was an indefatigable writer He revised the Douay version of the Bible, his revision being the one chiefly used by English-speaking Catholics since His chief learned works are on English Catholicism since the Reformation; they did much to preserve the memory of English Catholics *Memoirs of Missionary Priests* and *Britannia Sancta* Best known is his *Garden of the Soul*, a manual of devotion. His first work, *Think Well on't*, and his *Meditations* were also very popular devotional works Bishop Challoner's translations of Thomas à Kempis's *Imitation of Christ* and of the Catechism of the Council of Trent were standard. His name has been highly revered by English Catholics.

Chalmers, Thomas (chă'mûrs, chô–), 1780–1847, Scottish preacher, theologian, and philanthropist, leader of the Free Church of Scotland His preaching and his interest in philanthropic work during his ministry (1815–23) in Glasgow brought wide recognition In 1823 Chalmers became professor of moral philosophy at St Andrews Univ., in 1828, professor of theology at Edinburgh. His Bridgewater treatise (1833) *On the Adaptation of External Nature to the Moral and Intellectual Constitution of Man* brought him a number of honors. Chalmers took a leading part (1843) in organizing the Free Church of Scotland, formed when, after much friction between Church and state and trouble over patronage, 470 clergymen withdrew from the Established Church His foresight had planned for the rapid organizing of the Free Church of Scotland, of which he was the first moderator He was principal (1843–47) of the New College (Free Church) at Edinburgh His published works fill 34 volumes See biographies by M O. W Oliphant (1893), Adam Philip (1929), and Hugh Watt (1943)

Chalmette National Historical Park: see NATIONAL PARKS AND MONUMENTS (table)

Châlons-sur-Marne (shălō'-sûr-märn'), town (pop 28,251), capital of Marne dept., NE France, in Champagne, on the Marne river Here the Huns under Attila were defeated by Aetius in 451 Châlons, an industrial center processing wool, wine, and beer, was badly damaged in the Second World War

Chalon-sur-Saône (–sōn'), town (pop 29,851), Saône-et-Loire dept., E central France, on the Saône and the Canal Central It is an inland shipping center with a large wine and grain trade and with machine manufactures Dating from pre-Roman times, it was the capital of King Guntram of Burgundy (6th cent.) and the scene of several church councils, notably the council convoked by Charlemagne in 813

chalybite · see SIDERITE

Cham (kăm), pseud of **Amédée, comte de Noé** (ämādā' kōt dŭ nō'), 1819–79, French caricaturist and lithographer Abandoning a military career for art, he studied under Delaroche and Charlet He contributed to *Le Charivari* and produced during his lifetime a vast number of caricatures and sketches of French and Algerian life and political cartoons, most of them under the pseudonym Cham His vivacity, wit, and talent for the grotesque made his works popular

Chamalhari (chamălhă'rē, –hŭ'rē) or **Chomo Lhari** (chŏmōlhŭ'rē, chōmulhă'rē), peak, 23,930 ft high, on the border of Bhutan and Tibet, in the Himalayas

Chamavi: see GERMANS

Chambal (chŭm'bul), river, c 650 mi long, rising in Madhya Bharat, India It flows northeast and then southwest to join the Jumna

Chambellan, René Paul (chăm'bĕlŋ), 1893–, American architectural sculptor, b West Hoboken, N J., studied with Gutzon Borglum and at Julien's academy, Paris Among his many sculptured decorations of public buildings are those for the theater foyer at Radio City, New York, the *News* building, New York, New York state office buildings, Buffalo, *Tribune* building, Chicago, and state building, Nashville, Tenn

chambered nautilus. see NAUTILUS

Chamberlain, Arthur Neville: see CHAMBERLAIN, NEVILLE

Chamberlain, Sir Austen (Sir Joseph Austen Chamberlain), 1863–1937, English statesman, son of Joseph CHAMBERLAIN and half brother of Neville CHAMBERLAIN He entered upon a 45-year parliamentary career in 1892 He was chancellor of the exchequer (1903–6), secretary of state for India (1915–17), a member of the war cabinet (from April, 1918), and again (1919–21) chancellor of the exchequer During his tenure in the latter office he secured parliamentary assent to the policy of imperial tariff preference first advocated by his father He succeeded Bonar Law as conservative leader in 1921 and helped negotiate the treaty with the Irish Free State From 1924 to 1929 he held his most important post, as foreign secretary The Locarno Pact of 1925, which provided, among other things, German admittance to the League of Nations, was largely his work The same year (in conjunction with Charles G Dawes) he was awarded the Nobel Peace Prize He last held a cabinet position in 1931, but continued influential in Commons until his death. See his *Down the Years* (1935), *Politics from Inside* (1936), and *Seen in Passing* (1937), Sir Charles Petrie, *Life and Letters of Sir Austen Chamberlain* (1939–40)

Chamberlain, Charles Joseph, 1863–1943, American botanist, b Sullivan, Ohio, grad Oberlin (B.A., 1888) and Univ of Chicago (Ph D., 1897). From 1911 until 1929 he taught at the Univ of Chicago He is the author of *The Living Cycads* (1919), *Methods in Plant Histology* (5th ed, 1932), *Elements of Plant Science* (1930), *Gymnosperms Structure and Evolution* (1935), and, with J M. Coulter, *Morphology of Gymnosperms* (rev ed, 1917)

Chamberlain, George Earle, 1854–1928, American legislator, b near Natchez, Miss, grad. Washington and Lee Univ, 1876 He removed (1876) to Oregon, was admitted (1878) to the bar, and

served as U S. attorney (1884–86, 1900–1902) and as state attorney general (1891–94) He was (1903–9) governor of Oregon, and as U S Senator (1909–21) Chamberlain, a Democrat, was chairman of the Committee on Public Lands and of the Committee on Military Affairs He played a major role in pushing measures for selective service, war appropriations, and food control through Congress in the First World War He later was appointed (1920) to the U S Shipping Board, retired (1923) to law practice, and was counsel for the state of Oregon

Chamberlain, Houston Stewart, 1855–1927, Anglo-German writer Born in England the son of a British admiral, he was educated in France and Germany and settled in Germany, marrying Richard Wagner's daughter and becoming a German citizen His chief work is *Die Grundlagen des neunzehnten Jahrhunderts* (1899, Eng tr , *Foundations of the Nineteenth Century*, 1910), one of the important documents of racist doctrine, a glorification of the achievements of the Teutons, to whom he attributed all modern achievements. He was strongly aristocratic and violently anti-Semitic His insistence upon "race" won him many followers, and his ideas gained much currency, culminating in their use by Adolf Hitler and the National Socialists

Chamberlain, Joseph, 1836–1914, British imperialist statesman After a successful business career, he entered local politics and won distinction as reform mayor of Birmingham (1873–76) He served under Gladstone as a Liberal president of the Board of Trade (1880–85), but in 1886 he resigned and joined the Liberal-Unionists who opposed Home Rule for Ireland In 1887 as commissioner to the United States, he settled the fisheries dispute between that country and Canada He became leader of the Liberal-Unionists in the House of Commons in 1891 Here and as colonial secretary (1895–1903) he advocated social reforms at home and in the colonies and a vigorous colonial policy aimed at expansion of empire, cooperation, and consolidation His negotiations with President Kruger of the Transvaal republic failed, and he was unjustly blamed for the aggressive acts that precipitated the South African War (1899–1902) He was foremost in reconciling the Boers after the war, even going to Africa for that purpose Since England's ancient commercial monopoly had been destroyed mainly by German and American competition, Chamberlain advocated a tariff giving preference to imperial products. He resigned in 1903 to spend three years trying, through the Tariff Reform League, to "educate" England His proposal to abandon England's traditional free trade split his Liberal-Unionist-Conservative bloc, resulting in its defeat in the elections of 1906 Ill-health ended his public life in 1906, but his tariff policy was adopted (1919 and 1932) within the lifetime of his sons Austen and Neville See E E Gulley, *Joseph Chamberlain and English Social Politics* (1926), biography by J L Gawin (3 vols , 1932–34, to 1900 only), W L Strauss, *Joseph Chamberlain and the Theory of Imperialism* (1942)

Chamberlain, Sir Joseph Austen · see CHAMBERLAIN, SIR AUSTEN

Chamberlain, Joshua Lawrence, 1828–1914, Union general in the Civil War, b Brewer, Maine, grad Bowdoin, 1852, and Bangor Theological Seminary, 1855 He taught at Bowdoin from 1855 to 1862, when he became lieutenant colonel in the 20th Maine Infantry. Chamberlain was awarded the Congressional Medal of Honor for his defense of Little Round Top at Gettysburg (1863), and in June, 1864, Grant promoted him brigadier general of volunteers on the field for his gallantry before Petersburg He was governor of Maine (1867–71) and president of Bowdoin (1873–81) He wrote *The Passing of the Armies* (1915), which deals with the final campaigns in the East.

Chamberlain, Neville (Arthur Neville Chamberlain), 1869–1940, English statesman, son of Joseph CHAMBERLAIN and half brother of Sir Austen CHAMBERLAIN He studied commerce, metallurgy, and engineering design as a young man, and after seven years on his father's sisal plantation in the Bahamas, he returned to Birmingham to enter upon a business career In 1911 he was elected to the Birmingham city council and during the First World War served for a time as director general of labor recruiting In 1918, in his 50th year, he was elected to the House of Commons. In 1923 he became chancellor of the exchequer and later (1924–29) served as minister of health. In the crisis of 1931 he resumed his position as chancellor of the exchequer, a position he held until he succeeded Stanley Baldwin as prime minister on May 28, 1937 The period of "appeasement" of the Axis Powers which followed became symbolized by Chamberlain and his ever-present umbrella That policy reached its apogee on Sept 30, 1938, when, after long negotiations, he signed the MUNICH PACT. Continued German aggression and the invasion of Czechoslovakia the following March brought a stiffening of British policy. Chamberlain continued in office after the outbreak of war, but the British debacle in Norway in April, 1940, forced Chamberlain, who was confronted with increasing Conservative and unanimous Labour opposition, to resign (May 10) He continued in Winston Churchill's government as lord president of the council until ill-health forced his resignation on Oct 3. He died a few weeks thereafter. See biography by Keith Feiling (1946)

Chamberlain, William Isaac, 1837–1920, American agriculturist, b Sharon, Conn. He helped Ohio agriculture by organizing farmers' institutes and issuing monthly crop reports, and he obtained the passing of a fertiliser law. He wrote *Tile Drainage* (1891) and many contributions to agricultural journals based on his own experience

Chamberlain, city (pop 1,626), co seat of Brule co , S S Dak , SE of Pierre and on the Missouri; platted 1880, inc 1881 An early ferrying point for passengers and freight on the river, the city has become a trade center in a farm area.

Chamberlin, Thomas Chrowder, 1843–1928, American geologist, b Mattoon, Ill , grad Beloit College, 1866 He was professor at Beloit (1873–82), president of the Univ of Wisconsin (1887–92), and professor at the Univ of Chicago (1892–1919) He also served the geological survey of Wisconsin (1873–82) and the U S Geological Survey (1882–1907) He founded the *Journal of Geology* His study of glaciation and of climates in past geologic time brought his attention to defects in Laplace's NEBULAR HYPOTHESIS and led him to formulate, with F R Moulton, the PLANETESIMAL HYPOTHESIS Chamberlin wrote *The Geology of Wisconsin* (1873–82), *A Contribution to the Theory of Glacial Motion* (1904), *A General Treatise on Geology* (with Rollin D Salisbury, 1906), *The Origin of the Earth* (1916), and *Two Solar Families* (1928) *The General Treatise*, in various editions and abridgments, is standard in schools and colleges His son, **Rollin Thomas Chamberlin,** 1881–1948, geologist, made a special study of gases in rocks, and he was an authority on structural and dynamic geology He taught at the Univ of Chicago from 1912 to 1947, when he became professor emeritus From 1928 he edited the *Journal of Geology*

chamber music, ensemble music for small groups of instruments, with only one player to each part Such music was originally performed by amateurs, in courts or aristocratic circles, and because of its intimate nature is less effective when played in a large hall Concerts of chamber music by professional musicians were an innovation of the 19th cent In a broad sense, chamber music was cultivated in the Middle Ages, although until the 17th cent it was usually music wherein the voice and various instruments were freely substituted for one another Music for small instrumental ensembles was composed in the early 17th cent , and the later baroque period developed the trio sonata, usually in four movements, for three instruments, one of which was usually a keyboard instrument In the compositions of Haydn and Mozart, the string quartet became the principal chamber-music form In this form Beethoven wrote some of his greatest music Of great importance also are the quartets of Schubert and Brahms The quartet, from its conception until the present has been employed in the expression of every style of composition Its limited coloristic possibilities and its clarity of texture make it an ideal medium for absolute music See W W Cobbett, *Cyclopedic Survey of Chamber Music* (1929–30), D F Tovey, *Essays in Musical Analysis Chamber Music* (1944), H E Ulrich, *Chamber Music* (1948)

chamber of commerce, local association of businessmen organized to promote the welfare of their community, especially its commercial interests Usually each chamber of commerce has a board of directors elected by the members, and work is done through committees Among the activities frequently carried on by these committees are industrial surveys and efforts to attract new industries to the city, housing surveys, efforts to provide parking space and promote safety, and advertising the advantages of the city to tourists and to organizations for possible conventions The *chambre de commerce* of Marseilles (1599) was the first organization to use the name, the idea spread through France in the 17th and 18th cent The first to be formed in Great Britain was on the island of Jersey in 1768 In America the first was the Chamber of Commerce of the State of New York, organized in 1768 By 1870 there were 40 in U S cities The local chambers are federated in the Chamber of Commerce of the United States (founded 1912), which maintains at its Washington, D C., headquarters a technical staff and lobbies in the interests of its member organizations Its organ is the *Nation's Business* The International Chamber of Commerce has its headquarters at Paris. See also TRADE ASSOCIATION.

Chambers, Sir Edmund Kerchever, 1866–, English literary critic, educated at Oxford For many years he was in the Education Dept of the government. He is famous as a Shakesperian scholar and for his useful books *The Mediaeval Stage* (1903), *The Elizabethan Stage* (1923), and *Arthur of Britain* (1927) Among his other works are studies of S. T. Coleridge and Matthew Arnold.

Chambers, Ephraim, c.1680–1740, English encyclopedist, whose *Cyclopedia* (2 vols., 1728) in French translation inspired the French encyclopedists. See ENCYCLOPEDIA.

Chambers, Robert: see CHAMBERS, WILLIAM.

Chambers, Sir William, 1726–96, English architect, b. Stockholm. He traveled extensively in the East Indies and in China, where he made many drawings of gardens and buildings, afterwards published He studied architecture in Italy and France and in 1755 established himself in England He designed decorative architecture for Kew Gardens and achieved a reputation by his *Treatise on the Decorative Part of Civil Architecture* (1759), which became a standard and influential work on classic design The foremost English architect of his day, he was a proponent of the Inigo JONES traditions of Palladian design. His chief work is Somerset House, commenced in 1776, an extensive block of government offices. He also had charge of various alterations at Trinity College, Dublin, and designed additions to Blenheim Palace, the observatory in Richmond Park, and casinos in many of the parks of the nobility. He became private architect to King George III and in 1782 was made surveyor general Chambers was interred in Westminster Abbey See biography by A T Edwards (1924)

Chambers, William, 1800–1883, and **Robert Chambers,** 1802–71, Scottish authors and publishers Their firm of W and R Chambers is best known for *Chambers's Edinburgh Journal*, which William started in 1832 and for which both brothers wrote, and *Chambers's Encyclopaedia* (10 vols , 1859–68, new ed , 1922–27) Robert wrote several books on history and geology, including the anonymous *Vestiges of Creation* (1844), a forerunner of Darwin's *Origin of Species* William, always interested in public improvement, was lord provost of Edinburgh, 1865–69 See his *Memoir of Robert Chambers with Autobiographic Reminiscences* (1872, enl ed , 1884)

Chambersburg, industrial borough (pop 14,852), co seat of Franklin co , S Pa , SW of Harrisburg, settled 1730, laid out 1764, inc 1803 A trading center for a fertile agricultural area, it manufactures silk and woolen goods Caledonia State Park is near by Chambersburg was the headquarters of the militant abolitionist John Brown in 1859, and the town was burned by the Confederates under Harry GILMOR (1864) It is the seat of Penn Hall Junior College (for women) and Wilson College (Presbyterian, for women, 1869)

Chambéry (shäbārē'), city (pop 26,641), capital of Savoie dept , E France, the historical capital of Savoy and an archiepiscopal see It was damaged in the Second World War Near by is the house (the Charmettes) made famous by the sojourn of J J Rousseau and Mme de Warens

Chambezi, river see CONGO

Chambiges (shäbēzh'), family of French architects or master masons of the 15th and 16th cent **Martin Chambiges** (märtē'), d 1532, took part in the designing of three great cathedrals—Sens (from 1489 to 1499), Troyes (its west front), and Beauvais, where he was employed on the choir (1506), remaining in charge of its construction until his death In these works he was assisted by his son, **Pierre Chambiges** (pyĕr'), d 1544, whose most important work is the château of Saint-Germain-en-Laye Pierre also worked upon the Hôtel de Ville, Paris (1533–34), assisted in the construction of the château of Fontainebleau, and was employed in rebuilding the château of Chantilly

Chamblee (chămblē'), city (pop 1,081), NW Ga., N of Atlanta, inc as a city 1922

Chambly (shäblē'), group of villages, S Que , on the Richelieu river and E of Montreal It comprises three separate municipalities, Chambly Bassin (pop 1,423), Chambly Canton (pop 1,185), and the parish of Chambly (pop 1,132) First built in 1665, **Fort Chambly** became a strategic point in the defense of New France against the English and the Iroquois It was captured by the invading Americans in 1775 and burned when they retired in 1776 In 1880 the Canadian government undertook its restoration

Chambord, Henri Charles Ferdinand Marie Dieudonné, comte de (ärē' shärl' fĕrdēnä' märē' dyŭdônā' kōt' də shäbôr'), 1820–83, claimant to the French throne, posthumous son of Charles Ferdinand, duc de BERRY His original title was duke of Bordeaux His grandfather, Charles X, abdicated in his favor in 1830, and he is known to the legitimists as Henry V, though he never held the throne He accompanied Charles into exile and spent most of the rest of his life at Frohsdorf, Austria In 1832 his mother, Caroline de BERRY, made an unsuccessful attempt to overthrow Louis Philippe Efforts to reconcile his claims with those of the Orleanist pretender, Louis Philippe Albert d'ORLÉANS, after the Revolution of 1848, met with little success In 1871, after the fall of the Second Empire, Chambord's prospects improved, and in 1873 the Orleanist pretender relinquished his claims in Chambord's favor. However, his stubborn adherence to the Bourbon flag and to ultraroyalist principles destroyed his chance of recognition. He died without issue, and his claims passed to the house of Bourbon-Orléans

Chambord (shäbôr'), village (pop. 1,029), S Que., on the south shore of Lake St. John and W of Chicoutimi.

Chambord, village, Loir-et-Cher dept., N central France, on the Cosson, a tributary of the Loire, between Blois and Orléans. Its huge Renaissance château was built by Francis I. Particularly remarkable is the central stairway, built in two separate overlapping spirals so that a person mounting the stairs would not meet a person descending them. The château was used by Louis XIV and by Stanislaus I of Poland. Louis XV gave it in gratitude to Maurice de Saxe, and Napoleon I gave it to Marshal Berthier. In 1821 Chambord was presented, by national subscription, to the duke of Bordeaux, who later took the title count of Chambord. In 1932 it was bought back by the state.

chameleon (kumē'lyun), small, slow-moving, arboreal lizard of Africa and S Asia. Changes in the color of its skin are not governed by the color of its background but largely by its feelings and by variations in light intensity and temperature. These factors cause changes in the arrangement of pigment in dermal skin cells either by direct action or indirectly through hormones and nerves. Chameleons are covered with granular scales, the tail is prehensile, and the digits are opposable so that the feet are efficient grasping organs. The sticky tongue can be shot far out to catch passing insects. The eyes can move independently and are covered with thick lids with a small opening to see through. The American chameleon is a much smaller lizard of another family which can change its skin color.

Chamfort, Sébastien Roch Nicolas (säbästyē' rôk' nēkôlä' shäfôr'), 1740–94, French writer of maxims and epigrams, whose real name was Sébastien Roch Nicolas. His acute observations on literature, morals, and politics made him popular at court and gained him a pension. Although a republican of long standing, in the Reign of Terror he was denounced, and committed suicide.

Chamillard, Michel (mēshēl' shamēyär'), 1651–1721, French statesman. He was named controller general of finances (1699), minister of state (1700), and minister of war (1701). To raise funds Chamillard resorted to the sale of offices and titles, loans, lotteries, manipulation of the currency, and anticipation of revenues. To these means he added a wartime capitation tax, imposed in 1695–98 and again after 1701, but he could not meet the mounting expenses of the government, especially after the War of the Spanish Succession began. The deficit and the national debt grew huge, and Vauban censured the disorder of the tax system. Chamillard resigned the finances to Nicolas Desmarets in 1708 and gave up his post as the minister of war in 1709.

Chaminade, Cécile Louise Stéphanie (sāsēl' lwēz' stāfānē' shamēnäd'), 1857?–1944, French composer and pianist, pupil of Godard in composition. She composed graceful, pleasant songs and piano pieces (e.g., the *Scarf Dance*) and a highly successful ballet, *Callirrhoé* (Marseilles, 1888).

Chamisso, Adelbert von (Louis Charles Adelaide de Chamisso) (a'dulbĕrt fŭn shä'mēsō, shumē'sō), 1781–1838, German poet and botanist, b. France. His parents fled to Germany on the outbreak of the French Revolution. Chamisso served as page to William II and in the Prussian army and was later keeper of the royal botanical collections at Berlin. He became famous as a lyric poet, his cycle *Frauenliebe und Leben* was set to music by Schumann. His symbolical tale of the man who sold his shadow, *Peter Schlemihls wunderbare Geschichte* (1814), is known everywhere and has virtually passed into legend.

chamois (shä'mē), hollow-horned hoofed mammal related to the antelope and found in the mountains of Europe and the E Mediterranean countries. It is about the size of a large goat, is light brown in color, and has a black tail, a black back stripe, and black markings on its face. The erect horns have terminal hooks pointed backward. Its hoofs cling to rocky surfaces, and it leaps with agility. It ranges to the snow line in summer. The skin was the original chamois leather, but the name is now also applied to leather made from the skins of other animals. The chamois has been introduced into New Zealand.

chamomile, see CAMOMILE.

Chamonix (shämônē'), village (pop. 2,654), Haute-Savoie dept., E France, at the foot of Mont Blanc, in the beautiful Chamonix valley. It is the principal base for the ascent of Mont Blanc and for visiting the Mer de Glace and is a popular summer and winter resort.

Chamorro, Emiliano (ämēlyä'nō chämô'rô), 1871–, president of Nicaragua (1917–20, 1926). A conservative and an army chief, Chamorro supported the revolution (1909) against José Santos Zelaya. The United States was unfriendly to his candidacy for the presidency in 1913, and he was unsuccessful, but he secured the office in 1917. He was a signer of the Bryan-Chamorro Treaty (1916) granting the United States an option on the Nicaragua Canal. His political career continued stormy. He opposed all the liberal regimes, including that of Anastasio Somosa.

Champa, the kingdom of the Chams, which flourished in Indo-China from the 2d cent. A.D. till the 17th cent. At its greatest extent it occupied present-day Annam as far north as the Porte d'Annam. Its capital was first Indrapura, in the neighborhood of Hué, and the later capital was Vijaya, farther south. Champa repeatedly made war on its stronger neighbor, Annam, it was sometimes allied and sometimes opposed to the Khmer Empire. In the 12th cent. the Chams invaded Cambodia and sacked Angkor; subsequently they fell for a time under Khmer rule. Decisively defeated by the Annamese in 1472, the Chams were forced to yield most of their territory N of Tourane. In the 17th cent. the rest of the Cham kingdom fell to the Annamese, and the remnants of the people were scattered. Chams still form small, impoverished minorities in Annam, Cochin China, and Cambodia. Although most of those in Annam worship Hindu gods, those of Cambodia are Mohammedans. The culture of Champa showed strong Indian influence. Ruins of Cham temples, adorned with bas-reliefs and with statues, are found in S Annam.

Champagne (shämpän', Fr. shäpä'nyu), region, NE France, consisting mainly of the departments Aube, Marne, Haute-Marne, Ardennes, and part of Yonne. The region is almost, but not fully, coextensive with the former province of Champagne and Brie. Abutting in the west on the Paris basin, Champagne is a generally arid, chalky plateau, cut by the Aisne, Marne, Seine, Aube, and Yonne rivers. Agriculture, except in the Ardennes dept., is mostly confined to the valleys. The plateau is cut from northwest to southeast by crests into several areas. Farthest east, bordering on Lorraine, is the so-called Champagne Humide [wet Champagne], largely agricultural, and the Langres Plateau. In the center is the Champagne Pouilleuse (Champagne badlands), a bleak and eroded plain, traditionally used for sheep grazing. Troyes and Châlons-sur-Marne, its principal towns, are located in fertile valleys and are centers of the wool industry. A narrow strip along the westernmost crest is extremely fertile, and the small area around Rheims and Épernay furnishes virtually all the champagne wine exported by France. Other fertile districts are around Rethel and Sens. The central and open situation of Champagne has made it a major European battlefield from the invasion by Attila's Huns, whom Aetius defeated at Châlons in 451, to the First World War, which left vast areas scorched. Yet the same geographic position gave the towns of Champagne a commercial prosperity in direct contrast to the bleakness of the countryside. The county of Champagne passed to the counts of Blois in the 11th cent. After 1152 the main branch of the house held Champagne, which had been considerably increased, upon the counts large parts of France, including Blois, Touraine, and Chartres, were dependent. In 1234 Thibaut IV inherited the crown of Navarre from his uncle Sancho VII, Navarre remained in the family until the death (1305) of Joan of Navarre, who married King Philip IV of France in 1286. Her son, who inherited Champagne, incorporated it into the royal domain in 1314, when he became king of France as Louis X. The bishoprics of Rheims and Langres were added later. During the rule of the counts Champagne was a virtually independent state. At the Fairs of Champagne, held at Troyes, Provins, Lagny-sur-Marne, and Bar-sur-Aube, merchants from England, the Low Countries, France, Burgundy, and Italy met six times each year. Special laws regulated the trade and had a profound influence on later commercial customs throughout Europe—the troy weight for precious metals still is used. Prosperity in the capital, Troyes, and the other towns, was accompanied by cultural brilliance, culminating in the work of Chrestien de Troyes and in the cathedral at Rheims. With its incorporation into France, Champagne declined in prosperity, but the sudden and continuing popularity of its sparkling wine, which began in the 18th cent., restored it somewhat. More recently efforts have been made to reforest the area and to reclaim it from erosion.

champagne (shämpän'), celebrated sparkling white wine made from grapes grown in the old French province of Champagne. The best champagne is from that part of the Marne valley whose apex is Rheims, the center of the industry. Champagne was reputedly developed by a monk, Dom Pérignon, in the 17th cent. It is a blend of grapes from different vineyards, hence is named for the vintners and shippers responsible for each blend. The small, slightly acid grapes are laboriously cultivated. After the first fermentation the wine is blended; it undergoes a secondary fermentation, then is drawn off into bottles reinforced to withstand high internal pressure, and is sweetened to induce further fermentation. The carbonic acid retained in the bottle after the final fermentation renders champagne sparkling. The wine is matured in the labyrinthine tunnels of the old chalk quarries of Rheims. The sediment formed is collected on the cork by tilting the bottle neck downward and frequently rotating it by hand. The wine in the neck of each bottle is then frozen, the cork removed, and the sediment, in a small piece of ice, is blown out. The space left is filled with the proper "dosage" of cane sugar dissolved in wine and usually fortified with cognac. *Brut* champagne is theoretically not sweetened, extra dry champagne, very lightly. Dry champagne is served as a dinner wine, the sweet, as a dessert wine.

Champaign (shämpän'), city (pop. 23,302), E central Ill., ENE of Springfield and adjoining Urbana, with which it is an economic and social unit, founded 1854, inc. 1861. It is a railroad (with repair shops), commercial, and industrial center in a rich farm area. The campus of the Univ. of Illinois (see Illinois, University of) lies between Champaign and Urbana, adding distinction to both.

Champaigne or **Champagne, Philippe de** (both fēlēp' du shäpä'nyu), 1602–74, French painter, b. Brussels, of Flemish parents. In 1621 he went to Paris, where he worked with Poussin on the Luxembourg Palace. In 1628 he became painter to the queen, Marie de' Medici. For her and for Richelieu he executed many religious paintings, still to be seen in French churches, and numerous fine portraits. From 1640 on he became absorbed in religion and has been called the painter of Port-Royal. His work is characterized by sober realism, simplicity, and piety. His best-known paintings include his frescoes at Vincennes and in the Tuileries and his portrait of his daughter, a nun at Port-Royal, and that of Richelieu (both in the Louvre). The New York Historical Society and the Museum of Fine Arts, Boston, contain examples of his work.

Champ-de-Mars (shä-du-märs'), former parade ground of Paris, between the École militaire and the Seine. Here, at the Fête de la Fédération (July 14, 1790), Louis XVI took an oath to uphold the new constitution. On its vast grounds several expositions were held, notably that of 1889, when the Eiffel Tower was erected here.

Champeaux, William of, see William of Champeaux.

champion, team or individual recognized as the best in any sport or game by a certified supervisory body. Champions generally obtain their titles by eliminating all rival claimants either in successive individual contests or in general elimination tournaments. In some sports a time limit is placed on the championship title (e.g., professional baseball), while in others (e.g., professional boxing) a champion is under obligations to defend his title against any qualified challenger. For the medieval institution of the champion in trial by battle, see ordeal.

Championnet, Jean Étienne (zhä' ätyĕn' shāpyônā'), 1762–1800, French general in the French Revolutionary Wars. In command of the Army of Rome, he captured Naples from the Second Coalition in 1799 and set up the Parthenopean Republic. However, he got into trouble with the Directory and was recalled in disgrace. Subsequently he commanded the Army of the Alps, unable to win success with this badly organized group, he resigned and a little later died.

Champlain, Samuel de (shämplän', Fr. sämüĕl' du shāplē'), 1567–1635, French explorer, the chief founder of New France. After serving in France under Henry of Navarre (King Henry IV) in the religious wars of the period, he was given command of a Spanish fleet sailing to the West Indies, Mexico, and the Isthmus of Panama. He described this three-year tour to the French king in a *Bref Discours* (first published in 1859). In 1603 he made his first voyage to New France as a member of a fur-trading expedition. With a pinnace he explored the St. Lawrence river as far as the rapids at Lachine, and after his return to France he described his voyage in *Des sauvages* (1603). With the sieur de Monts, who had a monopoly of the trade of the region, Champlain returned in 1604 to found a colony, which was landed at the mouth of the St. Croix river. In 1605 the colony transferred across the Bay of Fundy to Port Royal (now Annapolis Royal, N.S.), and in the next three years Champlain explored the New England coast S to Martha's Vineyard, discovering Mt. Desert Island and most of the larger rivers of Maine, he for the first time charted the coast in detail. With the revocation of the sieur de Monts's privileges, the colony had to be abandoned, and through the efforts of Champlain a new one was established on the St. Lawrence river. In 1608, in the ship *Le Don de Dieu*, he brought his colonists to the site of Quebec, where they started what was to be the capital of a great colony. In the spring of 1609 accompanying a war party of Huron Indians against the Iroquois, Champlain discovered the lake which bears his name, and near Crown Point, N.Y., the Iroquois were met and routed by French firearms. This incident is believed responsible for the later hatred of the French by the Iroquois. In 1612 he returned to France, where he received a new grant of the fur-trade monopoly. Returning in 1613, he set off on a journey to the Western lakes. He reached only Allumette Island in the Ottawa river that year, but in 1615 he went with Étienne Brulé and a party of Huron Indians to Georgian Bay on Lake Huron, returning southeastward by way of Lake Ontario. Accompanying another Huron war party to an attack on an

Onondaga village in present New York, Champlain was wounded and forced to spend the winter with the Indians. Thereafter he made no more explorations, but devoted all his time to the welfare of the colony, of which he was the virtual governor He helped to persuade Richelieu to found the Company of One Hundred Associates, which was to take over the interests of the colony In 1629 Quebec was suddenly captured by the English, and Champlain was carried away to four years of exile in England, there he prepared the third edition of his *Voyages de la Nouvelle France* (1632) When New France was restored to France in 1632, Champlain returned In 1634 he sent Jean Nicolet into the West, thus extending the French explorations and claims as far as Wisconsin. He died on Christmas Day, 1635, and was buried in Quebec His works were issued by the Champlain Society (1922–27) with English and French texts See C W Colby, *The Founder of New France* (1915); biographies by Ralph Flenley (1924), L. H. Sharp (1944), and Morris Bishop (1948)

Champlain (shămplān'), village (pop. 1,354), extreme NE N Y , near Lake Champlain, settled 1789, inc. 1873 Close to the Quebec line, it is a port of entry.

Champlain, Lake, 107 mi long and ½ mi to 14 mi wide, forming part of the N Y –Vt. border and extending into Quebec It lies in a broad valley between the Adirondacks and the Green Mts A link in the Hudson–St Lawrence waterway, the lake is connected with the Hudson (at Fort Edward) by the Champlain division of the Barge Canal, the Richelieu river connects the lake with the St Lawrence Lake George drains into it through a narrow channel, and many islands dot its surface, including Grand Isle, Isle La Motte, and Valcour Island The region is noted for its beautiful scenery and has many resorts, Plattsburg, N Y , and Burlington, Vt , are the largest cities on the lake's shores. The lake, discovered by Samuel de Champlain in 1609, was the scene of battles in the French and Indian War and the American Revolution at Crown Point and Ticonderoga, of a naval engagement in 1776, and of the important American victory of Thomas Macdonough in 1814 See Walter Hill Crockett, *A History of Lake Champlain a Record of More than Three Centuries, 1609–1930* (1937), Frederic F Van de Water, *Lake Champlain and Lake George* (1946)

Champney, Benjamin, 1817–1907, American landscape painter, b New Ipswich, N H , studied in Boston, Paris, and Italy His colossal panorama of the Rhine, widely exhibited, was destroyed in the Crystal Palace fire in New York Champney's best-known pictures are scenes from Switzerland and the White Mts He lived at North Conway, N H , after 1850

Champney, James Wells, 1843–1903, American painter, illustrator, and engraver, b Boston His illustrations include a series of over 500 for Edward King's *Great South* (1875) He painted portraits in pastel of John Bigelow, H M Stanley, and others

Champollion, Jean François (shā' frăswā' shāpôlyō'), 1790–1832, French Egyptologist Though he died while still young, he accomplished much and is considered the founder of the science of Egyptology. When he was 24 his two-volume work on the geography of ancient Egypt appeared In 1821 by use of the Rosetta stone he established the principles for deciphering the Egyptian hieroglyphics He became director of the Egyptian museum at the Louvre and professor of the Collège de France He is sometimes called Champollion le Jeune to distinguish him from his elder brother, who gave him his early training **Jean Jacques Champollion-Figeac** (shāk', -fēshak'), 1778–1867, was an archaeologist, a professor at Grenoble, a curator of manuscripts at the Bibliothèque nationale, a professor of paleography at the École des Chartes, and librarian at the Palace of Fontainebleau.

Champs Elysées (shā zālēzā'), avenue of Paris, leading from the Place de la Concorde to the Arc de Triomphe It is celebrated for its tree-lined beauty, its commodious breadth, the elegance of its cafés, theaters, and shops, and the fountain display at its center The avenue, built and named by Louis XV, led through open country until the early 19th cent

Chanaan (kā'ən), variant of Canaan 2

Chanakkale (khănäk'kälā), town and fort (pop 22,869), NW Turkey, on the Asiatic shore of the Dardanelles. It was formerly called Kale Sultamiye and Chanak Here Xerxes I crossed to Greece on a bridge of boats. The fort was bombarded by the British in the attack on Gallipoli in 1915. The town is known for its pottery. The name also appears as Canakkale

chance, in mathematics. see probability.

chancel [Latin, =latticework], primarily that part of the church close to the altar and used by the officiating clergy. In the early churches it was separated from the nave by a low parapet or open railing (*cancellus*), its name being thus derived. San Clemente at Rome is one of the few preserved examples With the development of the choir, additional space was taken, between the sanctuary and the nave, for the accommodation of the canons and singers The chancel rail was moved forward, and the entire space then became known as the choir, though it is also termed the chancel; there is no strict differentiation in the usage of the two words. In the Middle Ages the chancel rail was replaced by lofty choir screens, especially in English cathedrals and in monastic churches.

Chancellor, Richard, d. 1556, English navigator. When, largely under the inspiration of Sebastian Cabot, a group of men in England undertook to finance a search for the Northeast Passage to Asia, Chancellor was chosen as one of the commanders of the three ships sent out, he seems to have been senior commander, the others being Sir Hugh Willoughby and Stephen Borough They sailed in 1553, and Borough and Chancellor managed to get through dangerous arctic waters to the White Sea Chancellor then traveled overland across Russia to Moscow at the invitation of Ivan IV His negotiations prepared the way for trade with Russia, but he was shipwrecked and perished off the coast of Scotland on his way back to England Since Willoughby had earlier come to grief, it was Stephen Borough who continued the work of opening the northern route to Russia for the Muscovy Company.

Chancellorsville, battle of, in the Civil War, May 2–4, 1863 Late in April, 1863, Joseph Hooker, commanding the Army of the Potomac, moved against R E Lee, whose Army of Northern Virginia (less than half the size of Hooker's) had remained entrenched on the S side of the Rappahannock river after the battle of Fredericksburg Hooker, with four corps, crossed the river above Fredericksburg and advanced beyond Chancellorsville, a locality 10 mi W of Fredericksburg, John Sedgwick, with two corps, crossed below Fredericksburg Although outflanked, Lee did not retreat but, leaving 10,000 men under Jubal A Early to watch Sedgwick, moved on Hooker, who fell back to a strong defensive position in the Wilderness around Chancellorsville. Lee attacked on May 2 T J (Stonewall) Jackson led his 2d Corps on a brilliant 15-mile flanking movement against the Union right, while Lee, with his small remaining force, feinted along the rest of the line. Jackson fell upon and routed the surprised Federals but, unfortunately for the South, was mortally wounded The next day the Confederate wings united (J E.B Stuart succeeded Jackson) and drove Hooker back further Hooker called for Sedgwick, who drove Early from Marye's Heights (May 3) and reached Salem Church, 5 mi W of Fredericksburg There part of Lee's force joined Early and repulsed Sedgwick, May 3–4 Sedgwick and Hooker then withdrew across the river Chancellorsville, Lee's last great victory, led to his invasion of the North in the Gettysburg campaign. See John Bigelow, *The Campaign of Chancellorsville* (1910)

chancery. see equity

Chanchan (chän'chän'), ruins of an ancient Indian city near Trujillo, N Peru The city was probably begun in the period A D. 800–1000, and it is estimated that it once contained 200,000 people Chanchan is accepted generally as the capital of the Chimu, a pre-Inca civilization It is on a large plain of the coastal desert, which was made arable by ambitious and extensive irrigation works Covering c 11 sq mi. and built largely of adobe brick, the city comprised at least 10 self-contained, walled-in units

chancre see syphilis

Chandernagor (chŭn"durnugôr'), town (pop 38,284), India, a port on the Hooghly river and N of Calcutta A French possession, it was of great commercial importance until the 19th cent In July, 1949, it was announced that Chandernagor was to be ceded by the French and incorporated into West Bengal state, India

Chandler, Albert Benjamin, 1898–, U S baseball commissioner (1945–), b Corydon, Henderson co , Ky , grad Transylvania College, 1921, and Univ of Kentucky law school, 1924 A lawyer of Versailles, Ky , "Happy" Chandler went into politics and served as lieutenant governor (1931–35), governor (1935–39), and U.S Senator (1939–45).

Chandler, Charles Frederick, 1836–1925, American chemist, b Lancaster, Mass , educated at Harvard and at the Univ of Göttingen (Ph D , 1856). He was professor of chemistry at Union College, Schenectady (1857–64) In 1864, with Thomas Egleston, he established the Columbia Univ. School of Mines, serving there as professor of chemistry (until 1911) and as dean (1864–97) Chandler was also associated with the College of Pharmacy of the City of New York, serving as vice president (1894–99, 1904–22) and president (1900–1904), and with the College of Physicians and Surgeons (professor, 1876–97). A founder and twice president of the American Chemical Society, he was one of America's first great industrial chemists and was a specialist in sugar refining and petroleum refining As the first public-health chemist of the New York city board of health (1867–73) and as president of the board (1873–83) he inaugurated far-reaching reforms Chandler was influential in establishing the state board of health

Chandler, Raymond Thornton, 1888–, American detective-story writer, b. Chicago, educated in England. He fought with the Canadian forces in the First World War and in 1919 returned to the United States. He engaged in several businesses in California and wrote for magazines before the publication of *The Big Sleep* (1939). With *Farewell, My Lovely* (1940) he was recognised as the originator of a new type of "tough" detective fiction, well written and shrewdly plotted. After *The High Window* (1942) and *The Lady in the Lake* (1943) he wrote moving-picture scenarios for several years *The Little Sister* (1949) was somewhat less successful than his earlier stories. The private detective Philip Marlowe appears in all.

Chandler, William Eaton, 1835–1917, American politician, b. Concord, N.H., grad. Harvard Law School, 1854 He practiced law at Concord and was a state legislator before becoming solicitor and judge advocate general of the Dept. of the Navy in March, 1865 Chandler was First Assistant Secretary of the Treasury (1865–67), served as secretary of the Republican National Committee in U S Grant's successful presidential campaigns of 1868 and 1872, and had a large hand in Rutherford B Hayes's accession to the presidency after the disputed election of 1876 He was Secretary of the Navy (1882–85) under President Chester A Arthur and U S Senator from New Hampshire (1887–1901). See biography by L. B. Richardson (1940)

Chandler, Zachariah, 1813–79, U S. Senator from Michigan (1857–75) and Secretary of the Interior (1875–77), b Bedford, N H He moved to Detroit in 1833 and through merchandising, land speculation, and banking became a millionaire Mayor of Detroit (1851–52), he helped organize and was long the boss of the Republican party in Michigan Old Zack, as he was called, was an able and uncompromising abolitionist, also distinguished for his uncouth manners. A leading radical Republican, most closely associated with Benjamin F Wade, he was a member of the congressional committee on the conduct of the war and violently opposed Lincoln's Reconstruction program, later adopted by Andrew Johnson With the radicals victorious over Johnson, he remained a powerful figure in the Senate until he was turned out by the Democratic landslide of 1874 He then entered the cabinet, a typical Grant appointee, and was also chairman of the Republican National Committee in the disputed election of 1876 See biography by W C Harris (1917); T H Williams, *Lincoln and the Radicals* (1941), B J Hendrick, *Lincoln's War Cabinet* (1946)

Chandler, village (pop 1,858), E Que , on the Gaspé Peninsula at the mouth of the Grand Pabos

Chandler. 1 Town (pop 1,239), S central Ariz , in the Salt River Valley, inc 1920 2 City (pop 2,738), co seat of Lincoln co , central Okla , NE of Oklahoma City, settled 1891 It is a trade center for a farm area noted especially for pecans; cottonseed oil is made here

Chandos, Sir John, d. 1370, English soldier and administrator of English territories in France A friend of Edward the Black Prince, he won distinction in the Hundred Years War by his performance at Poitiers (1356) and by his capture (1364) of Bertrand du Guesclin at Auray In the Spanish campaign of the Black Prince he again defeated and captured (1367) Du Guesclin at Navarete He was mortally wounded in a battle with Gascon nobles at Lussac

Chandragupta, name of two Indian emperors See Sandracottus and Gupta

Chaney, Lon (chā'nē), 1883–1930, American moving-picture actor, b Colorado Springs, Colo Some of the many horror films in which he demonstrated his mastery of the art of make-up were *The Hunchback of Notre Dame*, *The Monster*, *The Phantom of the Opera*, and *London after Midnight*

Changan, China· see Sian

Changarnier, Nicolas (nēkôlä' shägärnyā'), 1793–1877, French general and politician He served in Algeria and was made (1848) governor general of Algeria, succeeding Cavaignac Elected to the national assembly, he very shortly resigned his governorship to take command of the national guard after the June Days of 1848 A moderate republican, he at first supported Louis Napoleon, but differences soon arose and Changarnier was exiled after the coup d'état of 1851 He returned in 1859 and took part in the defense of Metz (1870) in the Franco-Prussian War. Elected to the national assembly in 1871, he opposed a republic He was made a senator in 1875.

Changchun or **Ch'ang-ch'un** (both. chäng'-chōōn'), city (pop 605,276), SW Kirin prov , China It is a railroad junction, with manufacture and export of soy-bean products As Hsinking [Chinese, =new capital], the city was the capital of the former state of Manchukuo (1932–45)

changeling, in popular superstition, a fairy child, left in place of a stolen human baby. The changeling was peevish and sickly. Babies that had been baptized could not be stolen by fairies.

change of life: see menopause.

change ringing: see bell.

Chang Hsueh-liang (chäng' shüē'-lyäng'), 1898–, Chinese general. On the death (1928) of his father, Chang Tso-lin, he succeeded as military governor

of Manchuria. He was then called Chang Hsiao-liang but later changed his name He supported the central government against a rebellious northern army in 1929–30 and was made vice commander in chief of all Chinese forces and a member of the central political council Ousted by the Japanese from Manchuria, he suffered loss of prestige In 1936 Chang had Generalissimo Chiang kidnaped at Sian, allegedly to compel cooperation between the Kuomintang and the Communists and to force a declaration of war against Japan The generalissimo was released unconditionally a few weeks later Chang was deprived of his rank and positions and dropped from notice

Changkiakow (chäng'jyä'kou'), Mandarin *Chang-chia-k'ou*, city (pop 151,234), capital of Chahar prov , N China It is in the southern part of the province, near a section of the Great Wall Changkiakow, connected by rail with Peiping and situated on the main motor road to Mongolia, is a major commercial center Flour, rubber products, varnish, and porcelain are important manufactures The city is also known by its Mongolian name Kalgan Wanchuan was its former Chinese name

Changkufeng (chängkōō'fĕng'), hill, USSR, near the intersection of borders of the Mongolian People's Republic, China, and Korea, also called *Zaozernaya* Hill It was the scene of heavy border fights between Japanese and Russians in 1938–39

Changpai or **Ch'ang-pai** (both chäng'bī'), mountain range, NE Antung prov , China, near the Korean border The tallest peaks reach an altitude of some 8,000 ft

Changsha or **Ch'ang-sha** (both chäng'shä'), city (pop 421,616), capital of Hunan prov , China, on the Siang river An important stop on the Peiping-Canton RR, it was a major military objective in the Second World War and was captured by the Japanese in 1942 In the civil strife after the war it fell to the Communists in Aug , 1949

Changteh or **Ch'ang-tê** (both chäng'dŭ'), city and county (pop 554,988), N Hunan prov , China The city is a trading center on the Yuan river

Chang Tso-lin (chäng' tsō'-lĭn', jäng'), 1873–1928, Chinese general Chang was of humble birth As the leader of a group of Manchurian brigands, he assisted (1904–5) the Japanese in the Russo-Japanese War He occupied various military posts under the Chinese republic From his appointment (1918) as inspector general of Manchuria to his death he controlled Manchuria, and from 1920 on he constantly warred to extend his rule southward, his most formidable rival for power was Wu Pei-fu Chang died when the train in which he was retreating to Mukden before the Kuomintang army was bombed His son, CHANG HSUEH-LIANG, succeeded to control of Manchuria

Chankiang (chän'jyäng'), Mandarin *Chan-chiang*, official Chinese name for the former French territory of Kwangchowan (325 sq mi , pop 220,000) on Kwangchow Bay, S Kwangtung prov , China It was leased from China in 1898 for 99 years but was returned in 1945

Channel, town (1945 pop 1,309), SW N F , on the coast near the southwestern extremity of the island and on the harbor with Port aux Basques

Channel Islands or **Norman Isles**, Fr *Îles Normandes*, archipelago (75 sq mi , 1931 pop 93,205, 1949 estimated pop 105,000), off the coast of Normandy, France, in the English Channel The main islands are JERSEY, GUERNSEY, ALDERNEY and SARK, and there are a number of smaller islands, including Herm and Jethou, all belonging (except the small French Minquiers and the Chausey group) to Great Britain They are divided into two administrative bailiwicks One of them, Jersey, has more than half the total population and the chief town of the islands, St Helier The other, Guernsey, includes all the islands except Jersey Each bailiwick has its own lieutenant governor appointed by the crown, its own chief magistrate, and its own judicature The inhabitants are mostly of Norman descent, but in Alderney the stock is mainly English The English language is spoken everywhere and is coming to supersede French as the official language A Norman patois and Norman customs are still maintained by the natives Christianization took place in the 6th cent , largely through the efforts of St Helier and St Sampson In the 10th cent, the isles were granted to the duke of Normandy At the Norman Conquest they were joined to the English crown and remained loyal to King John and England in 1204 when Philip II of France confiscated the duchy of Normandy The French made unsuccessful attempts to reestablish control in the 14th cent and later The mild and sunny climate (35–40 in rainfall a year) and the fertile soil have made the islands chiefly agricultural and pastoral. Large quantities of vegetables, fruits, and flowers are shipped to English markets. The famous breeds of cattle are kept pure by local laws The islands are a favorite resort of tourists and vacationers In the Second World War, after the evacuation of some 10,000 military and civilian personnel, the islands were occupied (June, 1940) by German forces, who surrendered to the British after the end of the war on May 9, 1945.

Channel Islands National Monument, Calif.: see NATIONAL PARKS AND MONUMENTS (table).

Channing, Edward, 1856–1931, American historian, b Dorchester, Mass ; son of William Ellery Channing (1818–1901). Educated at Harvard (B A , 1878, Ph D., 1880), he was a notable teacher there from 1883 until his retirement in 1929, holding a professor's rank from 1897 Channing wrote *English History for American Readers* (with Thomas W Higginson, 1893); *The United States of America, 1765–1865* (1896; 2d ed , 1930, reprinted 1941), *Guide to the Study and Reading of American History* (with Albert B. Hart, 1896; revised and augmented ed by Channing, Hart, and Frederick J Turner, 1912), an excellent brief bibliography of American history; *Students' History of the United States* (1898, 5th ed , revised, 1924), and *The Jeffersonian System, 1801–1811* ("American Nation" series, 1906) Most of these books were, however, either incidental to, or preparation for, the great work to which Channing devoted most of his life—*A History of the United States* (6 vols , 1905–25), embracing the years from 1000 to 1865. Based throughout on the author's extensive knowledge of the sources, remarkably accurate in fact, and excellently written, it is generally considered the finest history of the United States ever produced by one man

Channing, William Ellery, 1780–1842, American Unitarian minister and author, b Newport, R I , grad Harvard, 1798, and later studied theology there At 23 he was ordained minister of the Federal St Congregational Church in Boston, which he served until his death He was a leader among those who were turning from Calvinism, and his sermon at Jared Sparks's ordination in Baltimore (1819) earned him the name "the apostle of Unitarianism " In 1820 he organized the Berry St Conference of Ministers, which in 1825 formed the American Unitarian Association Channing's plea was for humanitarianism and tolerance in religion rather than for a new creed Not only a great preacher but a lucid writer, Channing influenced many American authors, including Emerson and other transcendentalists and Holmes and Bryant Channing was not by nature a controversialist and never allied himself with the abolitionists, but his writings on slavery helped prepare for emancipation In his denunciations of war, his discussion of labor problems, and his views on education, he was in advance of his time His works (6 vols , 1841–43) passed through at least 17 editions See his *Life ... with Extracts from His Correspondence* (ed by W H Channing, 3 vols , 1848), biography by J W Chadwick (1903)

Channing, William Ellery, 1818–1901, American author and poet, b Boston, son of Dr Walter Channing and nephew of the more famous William Ellery Channing After deserting college for a log hut in Illinois, he returned to journalism in the East, married Margaret Fuller's sister, and lived in Concord He was a friend of Hawthorne and Thoreau and a contributor to the *Dial* His poems, which Thoreau characterized as "sublimo-slipshod," were published in *Poems* (1843), *The Woodman* (1849), *John Brown* (1886), and other volumes, but perhaps his most successful work was the biography *Thoreau, the Poet-Naturalist* (1873)

Channing, William Henry, 1810–84, American Unitarian clergyman and author, b Boston, grad Harvard, 1829, son of Francis Dana Channing and nephew of William Ellery Channing (1780–1842) His chief work is the biography of his uncle (3 vols , 1848) Idealistic and impractical, he tried one scheme of social or religious reform after another, including Brook Farm In the 1840s he was a prominent Fourierite and edited two socialist papers The latter part of his life, after 1854, he spent as a Unitarian minister in England See memoir by O B Frothingham (1886)

chansons de geste (shäsō' du shĕst') [Fr , =songs of deeds], a group of epic poems of medieval France which flourished from the 11th to the 13th cent Varying in length from 1,000 to 20,000 lines, assonanced or (in the 13th cent) rhymed, the poems were composed by trouvères and were grouped in cycles about some great central figure such as Charlemagne Although the chansons passed as real history to their medieval listeners, most of the material was legendary The origin of the form is still in dispute, but probably the first chansons were composed after the year 1000 by the joint efforts of clerks and jongleurs (see JONGLEUR) to attract pilgrims to shrines where heroes of the chansons were supposedly buried Sung by the wandering jongleurs to the accompaniment of a primitive violin, they spread to England, Germany, Italy, and Iceland The oldest extant chanson, as well as the best and most famous, is the *Chanson de Roland* (c 1098–1100, see ROLAND), others are *Raoul de Cambrai*, *Huon de Bordeaux*, *Aliscans*, and *Renaud de Montauban* See U T Holmes, *A History of Old French Literature* (1937)

chant, sacred song in which one tone may sustain any number of syllables The chant of Roman Catholic and Orthodox Christianity is called PLAIN SONG. Anglican chant developed during the English Reformation. It first consisted of Gregorian melodies adapted to English texts and harmonized The texts are from the Book of Common Prayer, and the rhythm of the chant is that of the spoken word Many Protestant churches use Anglican chant, and Anglican churches make some use of plain song See Winfred Douglas, *Church Music in History and Practice* (1937)

Chantaburi (chän"tŭbōō'rē') or **Chantabun** (chän"tŭbōō'n'), town (pop 6,711), SE Thailand, on the Gulf of Siam It was formerly a center of gem mining and is still an important market town for gems and other products The chief crops of the area are pepper and rice Chantaburi was occupied by French forces from 1893 to 1905

chanter see BAGPIPE.

chantey or **shanty** (both shăn'tē), work song with marked rhythm, particularly one sung by a group of sailors while pulling ropes or pushing the capstan Often it has stanzas sung by a leader, with a chorus repeated after each by the whole group Similar songs are also sung by shore gangs and lumbermen See R R Terry, *The Shanty Book* (1921–26), D W Bone, *Capstan Bars* (1932), J C Colcord, *Songs of American Sailormen* (1938)

Chantilly (shäntĭ'lē', Fr shätēvē'), town (pop 5,105), Oise dept , N France, NE of Paris It has famous lace manufactures The château, rebuilt in the 19th cent , contains an art museum Chantilly is a fashionable horse-racing center

Chantilly (shăntĭ'lē), locality, NE Va , scene of a Civil War battle (Sept 1, 1862), in which Union troops, retreating after the second battle of BULL RUN, checked Stonewall Jackson

Chantrey, Sir Francis Legatt, 1781–1841, English sculptor, famous for his portrait busts and statues Among his many well-known works are equestrian statues of Wellington and George IV (London), statues of George Washington (statehouse, Boston), George III, and Pitt, and an exquisite tomb *The Sleeping Children* (Lichfield Cathedral) He bequeathed to the Royal Academy £150,000 for the purchase of works of art done in Great Britain See biography by A J Raymond (1904)

Chanukah see HANUKKAH

Chanute, Octave (shōōnōt'), 1832–1910, American civil engineer, pioneer glider experimenter, b Paris He was brought to America in 1838 and received a secondary education in New York city He entered railroad construction work, becoming an iron-bridge builder of note After 1889 he devoted himself to scientific study and experimentation in gliding He found a five-plane glider of his own design more trustworthy than the Lilienthal glider His later biplane design with the new principle of shifting surfaces instead of weight was used by the Wright brothers, whom he helped both personally and by reason of his pioneer studies in air-current strengths He published *Aerial Navigation* (1891) *Progress in Flying Machines* (1894), and "Recent Progress in Aviation" (in *Annual Report of the Smithsonian Institution*, 1910)

Chanute, city (pop 10,142), SE Kansas, on the Neosho and WNW of Pittsburg, settled c 1870, formed by the consolidation of four contiguous towns and inc 1872 A market center in a rich agricultural region, it has railway repair shops, oil refineries, and cement works Near by is the site of a mission (1824–29), the first in Kansas

Chany (chŭnē'), salt water lake, 1,280 sq mi , RSFSR, in the Baraba Steppe, SW Siberia It abounds with fish and plankton

Chanzy, Antoine Eugène Alfred (ätwän' ŭzhĕn' älfrĕd' shäzē'), 1823–83, French general After service in Algeria, Italy, and Syria, he was refused the command of a brigade in the FRANCO-PRUSSIAN WAR, but soon after the downfall of the empire he was put in command of the Army of the Loire and opposed the Prussians with much skill He was elected to the national assembly Captured by the Commune of Paris in 1871, he had to be ransomed by the government He was governor general of Algeria from 1873 until 1879 and ambassador to Russia for two years (1880–81) Chanzy was made senator for life in 1875 and received a large vote in the presidential election of 1879 though nominated without his own approval

Chaoan or **Ch'ao-an** (both chou'än'), city (pop 59,486), Kwangtung prov , China, on the Han river, 20 mi N of Swatow It was formerly Chaochow Pottery is an important manufacture

Chaochow, China see CHAOAN

Chaos (kā'ŏs), in Greek religion, originally a vacant, unfathomable space out of which arose all things, earthly and divine Later the word came to mean an abyss with a confusion of matter from which a supreme being created all life From Chaos came GAEA, Tartarus (see HELL), and EROS

Chapais, Jean Charles (zhă' shärl' shäpā'), 1811–85, Canadian statesman, b Quebec prov , educated at Nicolet College and the Quebec seminary He entered the Canadian legislative assembly in 1851 A firm believer in Canadian union, he attended the Quebec Conference on confederation in 1864 and served (1864–67) as commissioner of public works in the coalition government In the first dominion government under Sir John Macdonald, Chapais was minister of agriculture (1867–69) and receiver general (1868–73), in 1868 he was appointed to the Canadian Senate Sir Thomas Chapais was his son

Chapais, Sir Thomas, 1858–1946, Canadian politician and historian, b Quebec prov, grad Laval Univ; son of Jean Charles Chapais Thomas Chapais became professor of history at Laval Univ. He was appointed to the legislative council of Quebec in 1892, becoming speaker in 1895 In 1896 he was president of the executive council In 1919 he was appointed to the Canadian Senate, and in 1930 he represented Canada in the Assembly of the League of Nations He was a leader in the newer school of French Canadian historians, his most notable works being his biographies *L'Intendant Talon* (1904), *The Great Intendant* ("Chronicles of Canada" series, 1914), and *Montcalm* (1911), and his *Cours d'histoire du Canada* (8 vols, 1919–34) He was knighted in 1935

Chapala (chäpä'lä), lake, c 50 mi long and 8 mi wide, W Mexico, mostly in Jalisco but partly in Michoacán It is the largest lake in the country Set in a huge land depression, Lake Chapala is fed by the Lerma river, which flows into it from the east, and is drained by the Santiago, which flows out by the northeastern corner It is a popular scenic resort Fishing is an important native occupation

chaparral (chăpûrăl'), type of plant community in which shrubs are dominant It occurs usually in regions having from 10 to 20 in of rainfall annually and is therefore drier than forest regions and less dry than deserts Generally chaparral country has most of its rainfall in the winter Where the rate of evaporation is high, chaparral is found sometimes where the rainfall is well above 20 in The vegetation includes both evergreen and deciduous forms, the dominant species varying in different areas Chaparral is well exemplified in parts of the W and SW United States, although similar growth is found in many parts of the world Climax areas see ECOLOGY) are well represented by the largely deciduous growths in Colorado, E Utah, and N New Mexico A subclimax area extends from South Dakota to Texas and through part of the Great Basin Among the chief species of plants in these regions are Gambel oak (*Quercus utahensis*), mountain mahogany (*Cercocarpus parvifolius*), the squawbush (*Rhus trilobata*), the western chokeberry (*Prunus demissa*), the western serviceberry (*Amelanchier alnifolia*), and mesquite (*Prosopis glandulosa*) Evergreen shrubs are characteristic of the chaparral found in the southern half of California, especially near the coast, and extending into Nevada and Arizona Among the dominant forms are several species of buckthorn (*Ceanothus*), manzanita (*Arctostaphylos tomentosa* and *A pungens*), and the holly-leaved cherry (*Prunus ilicifolia*) A species of scrub oak (*Quercus dumosa*) is the chief deciduous form Chaparral growth is sometimes so dense that it is almost impenetrable

chapbook, one of the pamphlets formerly sold in Europe and America by itinerant agents, or "chapmen" The price of a chapbook was low—in England often a penny Like the broadside, the chapbook was usually anonymous and undated The text commonly was addressed to such readers as those who purchase tabloid newspapers Students of the popular taste of the 16th, 17th, and 18th cent find source material in the chapbooks

Chapei. see SHANGHAI

chapel, subsidiary place of worship It is either an alcove or chamber within a church, a separate building, or a room set apart for the purpose in a secular building A movable shrine containing the *cappa*, or cloak, of St Martin was first called a *cappella*, hence a sanctuary which could not be called a church Though the churches of the early Middle Ages possessed only the single altar of the apse, chapels became necessary with the increase of relics and of devotions at altars sacred to numerous saints At first they appeared as minor apses, flanking the main apse and terminating the side aisles After the 10th cent, the side aisle was continued back of the high altar to form a processional aisle, with a series of radiating chapels projecting from it. These formed the *chevet* of the great continental cathedrals, especially notable in France In the 13th cent, side chapels were added, projecting from the side-aisle bays of choir and nave In England the strongly projecting transepts provided the favored space for a relatively small number of chapels In France the Lady Chapel (dedicated to the Virgin) is the central chapel of the *chevet* and is sometimes larger than the others, while in England it occurs directly behind the high altar. Peculiar to English cathedrals are the small chantry chapels, mostly of the 14th and 15th cent, either built and endowed by individuals for their private Masses or serving to enclose the tombs of bishops and other churchmen From earliest times, the right to an independent private chapel was possessed by royalty. Such are the separate building of the Sainte-Chapelle, Paris, St. George's Chapel at Windsor, and Henry VII's magnificent chapel at Westminster, London In addition, there were royal mortuary chapels, the most celebrated being that of Charlemagne (796–814), at Aachen, since converted into a cathedral. Numerous lords of medieval castles and manor houses established private chapels, over which episcopal jurisdiction was enforced as completely as possible. The two main chapels at the Vatican are the Pauline Chapel (1540), designed by Sangallo for Paul III, and the Sistine Chapel (1473), built by Sixtus IV and celebrated for its great fresco decorations by Michelangelo and other masters

Chapelain, Jean (shă' shäplē'), 1595–1674, French poet His *Pucelle* (1656) was a poem on Joan of Arc He was a founding member of the French Academy, for which he composed the paper attacking *Le Cid* of Pierre Corneille

Chapel Hill, university town (pop 3,654), central N C, NW of Raleigh, at the edge of the piedmont, founded 1792 It is the seat of the Univ of North Carolina (see North Carolina, University of).

Chapin, Roy Dikeman (chă'pĭn), 1880–1936, U S Secretary of Commerce (1932–33), b Lansing, Mich He was identified with automobile business after 1901 Chapin was appointed to the cabinet by President Hoover

Chaplin, Charles Spencer (Charlie Chaplin), 1889–, American moving-picture actor, director, writer, and producer, b London, England At an early age he appeared in London music halls and in 1910 joined Fred Karno's pantomime troupe, where he performed in such skits as *A Night in an English Music Hall* Karno's troupe toured the United States in 1913, and Chaplin's skill at pantomime attracted the attention of Mack Sennett, who was then directing films for the Keystone Company It was in such Keystone films as *Kid's Auto Races* and *Tillie's Punctured Romance* that the famous figure with the trick derby, minute mustache, baggy trousers, oversized shoes, awkward walk, and bamboo cane first became known With Essanay Films (1915–16) he made *The Tramp* and *Carmen*, and with Mutual Films (1916–17) *The Count*, *Easy Street*, *The Cure*, and *The Immigrant* In 1918 Chaplin entered independent production and under the imprint of First National Films acted in *A Dog's Life*, *Shoulder Arms*, and *The Kid*, all of which he wrote and directed In 1923 he was a cofounder of United Artists, there he produced *A Woman of Paris*, which he directed but did not appear in, *The Gold Rush*, *The Circus*, *City Lights*, *Modern Times*, *The Great Dictator*, the first film in which he spoke, and *Monsieur Verdoux* Chaplin's art is the most universal that the moving picture has elicited See his book, *My Trip Abroad* (1922), Gerith von Ulm, *Charlie Chaplin* (1940), Parker Tyler, *Chaplin, Last of the Clowns* (1948)

Chapman, Alvan Wentworth, 1809–99, American botanist and physician His *Flora of the Southern United States* (1860) was long the standard manual for that region

Chapman, Frank Michler, 1864–1945, American ornithologist, b Englewood, N J At the American Museum of Natural History, where he was associate curator of ornithology and mammalogy (1888–1908) and curator of ornithology (from 1908), he created a new type of bird habitat display He wrote *Handbook of Birds of Eastern North America* (1895) and many other books on birds and was a founder and editor of *Bird Lore* See his *Autobiography of a Bird-Lover* (1933)

Chapman, George, 1559?–1634, English dramatist and poet Little is known of his life His great poetic version of the *Iliad* was completed in 1612, and of the *Odyssey* in 1614–15 Although they follow perhaps more his spirit than the letter of Homer, Chapman's translations have become English classics (see Keats's sonnet, "On First Looking into Chapman's Homer") Chapman translated other Greek and Latin poets, finished Marlowe's poem *Hero and Leander* (1598), and wrote metaphysical poetry, beginning with *The Shadow of Night* (1594) Among Chapman's best plays are the tragedies *Bussy D'Ambois* (1607) and *The Revenge of Bussy D'Ambois* (1613) and the comedies *All Fools* (1605) and *Eastward Ho!* (1605), the last written with Ben Jonson and John Marston See Chapman's poems (ed by P B Bartlett, 1941), study by Havelock Ellis (1934)

Chapman, John, 1774–1847, American pioneer, more familiarly known as Johnny Appleseed, b Massachusetts From Pennsylvania—where he had sold or given saplings and apple seeds to families migrating westward—he descended (1806) the Ohio river with two canoes filled with bags of apple seeds and stopped at inviting places in the wilderness to plant orchards For 40 years Johnny Appleseed continued to wander up and down in Ohio, Indiana, and Illinois visiting his forest nurseries to prune and care for them and to aid hundreds of settlers to establish orchards of their own His ragged dress, eccentric ways, and religious turn of mind attracted attention, and he became a familiar figure to settlers Scores of legends were told of him after he died. However, it was verified that in the War of 1812 he sped 30 mi to summon American troops to Mansfield, Ohio, thus forestalling a raid by Indian tribes who were allied with the British. He died near Fort Wayne, Ind. See H. A Pershing, *Johnny Appleseed and His Time* (1930).

Chapman, John Gadsby, 1808–89, American painter, illustrator, and wood engraver, b. Alexandria, Va., studied at the Pennsylvania Academy of the Fine Arts and later in Rome and Florence *The Baptism of Pocahontas* is in the rotunda of the Capitol, Washington, D.C. His fine *American Drawing Book* (1847) went through many editions

Chapman, John Jay, 1862–1933, American essayist and poet, b New York city, grad. Harvard He was admitted to the bar in 1888 but after 10 years abandoned law for literature. A friend of William James and other Boston intellectuals of the time, Chapman was a fiery and pertinent observer of his environment He wrote *Emerson and Other Essays* (1898), *Memories and Milestones* (1915), *Greek Genius and Other Essays* (1915), *Songs and Poems* (1919), and *New Horizons in American Life* (1932) He also edited (1917) the letters of his son, Victor Chapman See biography by M A DeW Howe (1937)

Chapman, Maria (Weston), 1806–85, American abolitionist, b. Weymouth, Mass In 1834 she became a close associate of William Lloyd Garrison and for several years was treasurer of the Massachusetts Anti-Slavery Society She edited (1877) the autobiography of Harriet Martineau, a friend of long standing

Chapman, Victor Emmanuel, 1890–1916, American aviator b. New York city, son of John Jay Chapman He was a pilot of the Lafayette Escadrille In *Victor Chapman's Letters from France* (with memoir by his father, 1917), his flights and aerial combats are vividly and poetically described Going to the aid of three companions caught by German planes, June 23, 1916, he met his death

Chapman, town (pop 1,167), S central Ala., SSW of Montgomery, in a farm area

Chappaqua (chă'pukwô), unincorporated suburban village (pop 2,286), SE N Y, in Westchester co, N of White Plains Paper and twine are made here

Chappe, Claude (klōd' shăp'), 1763–1805, French engineer He was the inventor of an ocular telegraph first put into use between Paris and Lille in 1794, it was the immediate predecessor of the modern telegraph

Chappell (chă'pûl), village (pop 1,093), co seat of Deuel co, W Nebr, on a tributary of the South Platte, in a wheat-growing Great Plains area, platted 1884 It has a memorial art gallery

Chaptal, Jean Antoine (zhă' ătwăn' shătal'), 1756–1832, French chemist, statesman, and economist Professor of chemistry at Montpellier, he was minister of the interior (1800–1809) and director general of commerce and manufactures under Napoleon I, who created him the comte de Chanteloup He established the first French trade school, constructed an important network of canals and roads, and pioneered in the application of chemistry to industry

chapter house, a building in which the chapter of the clergy meets Its plan varies, the simplest being a mere rectangle At Worcester, the Norman builders created a circular chapter house (c 1100), with vaulting springing from a central pillar Subsequent examples, adopting this central support for their vaulted roofs and frequently polygonal in plan, are among the most distinctive achievements of the English Gothic builders Those at Salisbury, Wells, and Westminster Abbey (1250) are octagonal, while that at Lincoln is decagonal At York, the octagonal room (c 1300) exhibits a departure in that it dispenses with the central column and is covered with a vaulted wooden roof

Chapu, Henri (ărē' shapü'), 1833–91, French sculptor His style combines a fine realism with the repose of classic art He is best known for a kneeling *Joan of Arc*, in the Luxembourg, Paris, and a figure, *Youth*, on his monument to Henri Regnault

Chapultepec (chăpōōl"tāpĕk') [Aztec, =grasshopper hill], rocky eminence S of Mexico city It was occupied by Indians in early days, and in Aztec times aqueducts carried water from Chapultepec to supply Tenochtitlán The hill was developed as a playground for the last Aztec emperors, and late in the 18th cent a castle was built on the summit to serve as a summer home for the Spanish viceroys It became a regular residence of the rulers of Mexico It was also fortified and was the scene of spectacular fighting in the Mexican War Peace discussions after the American victory at Contreras had fallen through before Gen Winfield Scott ordered the storming of the Chapultepec stronghold on Sept. 12, 1847, in his advance on Mexico city The siege ended on Sept 13 with the fall of the fortress Santa Anna's blundering tantrums had hastened the bitter end of the hard fighting, but the war had been already almost lost The defeat became for Mexicans a symbol of glory because of the heroic courage of the defenders, particularly the "boy heroes" from the adjoining military college, who chose to die rather than surrender The way was then open for the conquerors to enter the capital on Sept 14 Chapultepec became a favorite residence of Emperor Maximilian, who beautified the grounds with formal gardens and furnished the castle in gilt elegance. A heavier elegance of the late 19th cent was introduced with the lavish alterations by Porfirio Díaz. In 1937 by decree of President Cárdenas the castle ceased being

the presidential palace and became a museum of colonial history and ethnography. The Inter-American Conference on the Problems of War and Peace, which met in Mexico city in 1945, is commonly called the Chapultepec Conference (see PAN-AMERICANISM).

Chapultepec, Act of: see PAN-AMERICANISM.

char: see TROUT

charade (shŭrād'), verbal, written, or acted representation of the syllables of a word from which a whole word is to be guessed Winthrop M. PRAED wrote many well-known charades, and a good description of the acted type is found in Thackeray's *Vanity Fair* In the United States a type of charade acted in dumb show (usually called simply "the game") had considerable popularity in the 1930s and 1940s

Charashim (kăr'ŭ-) [Heb ,=craftsmen, of Neh 11 35], unidentified valley, Palestine, probably near Lydda. 1 Chron 4 14

Charcas (chăr'kăs), Spanish colonial *audiencia* and presidency in South America, known also as Upper Peru and Chuquisaca Charcas roughly corresponded to modern Bolivia, but included parts of present Argentina, Chile, Peru, and Paraguay, a territorial jurisdiction leading to disputes and wars after independence had been won It was established in 1559 and was attached to the viceroyalty of Peru until joined (1776) to the newly created vice royalty of La Plata The city of SUCRE was sometimes called Charcas

Charchemish, ancient city see CARCHEMISH

charcoal, substance obtained by the destructive DISTILLATION chiefly of wood, but also of animal matter and sugar It is largely pure CARBON The most common variety, wood charcoal, was formerly obtained by piling wood into stacks, covering it with earth or turf, and setting it on fire, by this process the non-carbonaceous elements in the wood passed off as vapors into the air, some of the carbon was utilized as fuel, and the remaining carbon was converted into charcoal In factories the wood is raised to a high temperature in an iron retort, and the industrially important by-products —among them METHYL ALCOHOL, ACETONE, and ACETIC ACID— are saved, though synthetic production of acetic acid and methyl alcohol has largely replaced the distillation method Charcoal obtained from bones is called bone black, animal black, or animal charcoal Being almost pure carbon, charcoal yields a larger amount of heat in proportion to its volume than the corresponding amount of wood would yield, as a fuel, it has the further advantage of being smokeless It is used also in the manufacture of gunpowder Charcoal's porous structure makes it a highly efficient agent for the ABSORPTION of solids from solution and of gases, it is used in sugar refining, in water purification, and in the purification of factory air It is also useful in gas masks By special heating processes the adsorptive property can be greatly increased, charcoal so treated is known as activated charcoal

Charcot, Jean Baptiste (zhă' bătēst' sharkō'), 1867–1936, French explorer in the antarctic regions, son of Jean Martin Charcot In two voyages (1903–7, 1908–10) he surveyed the coast of Antarctica from Palmer Peninsula to Charcot Land, obtaining valuable scientific data He was exploring in the arctic when he went down with his ship, the *Pourquois Pas?*, off the coast of Iceland His antarctic voyages were recorded in his *Le Pourquois Pas? dans l'antarctique* (1910, Eng tr , *The Voyage of the Why Not? in the Antarctic*, 1911).

Charcot, Jean Martin (mārtē'), 1825–93, French neurologist. He developed at the Salpêtrière in Paris the greatest clinic of his time for diseases of the nervous system He made many important observations on these diseases, described the characteristics of the condition known as *tabes dorsalis*, differentiated multiple sclerosis and *paralysis agitans*, and wrote on many neurological subjects Charcot's insight into the nature of hysteria is credited by Sigmund Freud, his pupil, as having contributed to the early psychoanalytic formulations on the subject

chard. see ARTICHOKE and BEET

Chardin, Jean Baptiste (shă' bătēst' shărdĕ'), 1699–1779, French painter He is famous for the still lifes and domestic interiors which he painted directly from his own immediate surroundings Content with a modest success and a tranquil, bourgeois existence, Chardin nevertheless ranks as one of the greatest French colorists Well-known examples of his work are *The Buffet* and *Le Bénédicité* (both Louvre). He is represented in the National Gallery, London, the National Gallery of Art, Washington, D C , the Metropolitan Museum of Art, and the Museum of Fine Arts, Boston

Chardon (shăr'dŭn), village (pop 2,001), co seat of Geauga co , NE Ohio, NE of Cleveland, laid out c.1808 It is a maple syrup and sugar center.

Chardzhou (chŭrjŏō'), city (pop 54,739), capital of Chardzhou oblast, Turkmen SSR, on the Trans-Caspian RR and the Amu Darya river. It is an inland port and an industrial center with cotton, silk, and other manufactures.

Charente (shărăt'), department (2,306 sq mi ; pop. 311,137), W France. ANGOULÊME (the capital) and COGNAC are the chief cities

Charente, river rising W of Limoges, France, and winding 220 mi W to the Atlantic past Angoulême, Cognac, Saintes, and Rochefort Along its western course are the celebrated vineyards from which cognac is made

Charente-Maritime (-mărētēm'), department (2,-792 sq mi , pop 416,187), W France, on the Atlantic coast, formerly Charente-Inférieure It occupies the former provinces of SAINTONGE and AUNIS La Rochelle is the capital

Chares (kā'rēz, kă'-), 3d cent B C , Greek worker in bronze of Lindus, Rhodes, pupil of Lysippus He was sculptor of the COLOSSUS OF RHODES, and is said to have been founder of the Rhodian school of sculpture

Charette de la Contrie, François Athanase (frāswä' ătänäz' shărĕt' du là kōtrē'), 1763–96, French royalist and counterrevolutionary general in the VENDÉE Charette served with Cathelineau and La Rochejaquelein and was chief commander against the army of the republic He was captured by the republicans and shot

chargé d'affaires: see DIPLOMATIC SERVICE

Charing Cross (chăr'ĭng, chār'-), open space at the west end of the Strand, London, near Trafalgar Square One of the Eleanor Crosses (see ELEANOR OF CASTILE) was erected here Charing Cross station is one of London's busiest terminals Charing Cross Hospital is near by

chariot (chă'rēut), the earliest and simplest type of carriage and the chief vehicle of the ancients It was known among the Babylonians before the introduction of horses c 2000 B C , being drawn by asses in the early period The chariot and horse introduced into Egypt c 1700 B C by the Hyksos invaders doubtless contributed to their military success Simultaneously the use of the chariot spread over the Near East, chiefly, at first, as a war machine The Assyrians are charged with introducing chariots with scythes mounted on the wheels as weapons, a type later adopted by the Persians In Greece and Rome the chariot was never used to any extent in war, possibly because of generally unfavorable topography It was, however, prominent in games and processions, becoming in Rome the inevitable carriage of the triumphal procession Here also the chariot races of the circus were developed The ancient chariot was a very light vehicle, drawn by two or more horses hitched side by side The car was little else than a floor with a waist-high semicircular guard in front British chariots were open in front, had a curved wall behind, often had seats, and sometimes had scythes on the wheels

Charis (kā'rĭs) [Gr ,=grace], in Greek religion, beautiful goddess, wife of Hephaestus In late myths the **Charites** (kăr'ītēz) personify beauty and charm (see GRACES)

Charlton (shă'rltŭn), city (pop 5,754), co seat of Lucas co , S Iowa, W of Ottumwa, inc 1857 It is a farm trade and coal-mining center with railroad shops and various manufacturing plants Its public utilities are city owned Red Haw Hill State Park is near by

charity, public, organized relief of human disease, poverty, and misery Among the Greeks and Romans public charity was devoted chiefly to the citizens It was early connected with religion, as among the Hebrews and, from them, among the Christians and later the Mohammedans The Christian Church was the main dispenser of charity in the Middle Ages, supplemented by the guilds Later, national and lesser governmental agencies, as well as many private agencies, took over much of the charitable activity of the Church First of the state efforts was the Elizabethan POOR LAW of 1601, which attempted to classify dependents and provide special treatment for each group During the Industrial Revolution the entrepreneurs opposed state charity, while the rise of democracy favored it The charity organization movement was formed primarily to oppose state charity In 1909 the report of the British Poor Law Commission favored greater state administration of charity as a proper part of the state's functions In the United States public charity has come more and more under state and Federal control, although philanthropic agencies still play a major role in its distribution (see SOCIAL WORK) Modern charities may be listed as the care of destitute adults, the treatment of the defective, insane, feeble-minded, and criminal, the care of the sick in hospitals and dispensaries and through visiting nurses, the care of destitute, neglected, and delinquent children, the care and relief of needy families, and supervisory, educational, preventive, and constructive activity After the Second World War the care of REFUGEES was a burden assumed by international relief agencies such as the RED CROSS and especially by the Jewish welfare agencies See A C. Millspaugh, *Public Welfare Organization* (1935).

charity organization society, private, civic association for the relief and cure of poverty, also called associated charities, bureau of charities, and united charities. Developed out of the organized relief societies and the associations for improving the condition of the poor, such societies do not stress the giving of relief so much as the organization of relief in a plan which includes the work of all the relief societies in a city in order to prevent overlapping, duplication, and neglect. The first such society, formed in London in 1869, was known as the Society for Organizing Charitable Relief and Suppressing Mendicancy The first in the United States was organized at Buffalo in 1877

Charlemagne (shär'lumān) (Charles the Great or Charles I) [O Fr ,=Charles the great], 742–814, emperor of the West (800–814), Frankish king (768–814) The elder son of PEPIN THE SHORT and grandson of Charles Martel, he shared with his brother Carloman in the succession of his father's kingdom At Carloman's death (771), Charles was proclaimed sole king of the Franks War breaking out between DESIDERIUS, king of the Lombards, who had been persuaded to support the claims of Carloman's two young sons, and Pope ADRIAN I, who had refused support, Charles intervened on the side of the pope (773) At Rome, he received the title patrician of the Romans from the pope, and confirmed his father's donation to the Holy See Shortly afterwards he took Pavia and assumed the iron crowns of the Lombard kings In 778 he invaded Spain, he was repulsed by the Moors at Saragossa but kept Navarre and the "Spanish March," including Pamplona and Barcelona Charles's struggle with the pagan Saxons, whose greatest leader was WIDUKIND, lasted from 772 till 804 By dint of forced conversions, wholesale massacres, and the transportation of thousands of Saxons to the interior of the Frankish kingdom, Charles made his domination over Saxony complete He also warred successfully against the Avars and the Slavs, advancing as far east as Pomerania Meanwhile the new pope, LEO III, was threatened with deposition by the Romans and appealed to Charles (799). Charles hastened to Rome to support Leo, and on Christmas day, 800, was crowned emperor by the pope The pretext for his coronation was his refusal to recognize IRENE as empress of the East However, when he received *de facto* recognition of his imperial dignity from Emperor Michael I of the East (812), he implicitly recognized the division of the empire The occasion of the mutual recognition was the cession of Venice and Dalmatia to Charles The end of Charles's reign was troubled by the raids of Norse and Danish pirates (see NORSEMEN), and Charles took vigorous measures for the construction of a fleet, which his successors neglected His land frontiers he had already protected by the creation of marches In his government he continued and systematized the administrative machinery of his predecessors He left conquered peoples in possession of their own laws, which he codified when possible, and he issued many CAPITULARIES (gathered in the MONUMENTA GERMANIAE HISTORICA) A noteworthy achievement was the creation of a system by which he might personally supervise his administrators in even the most distant lands, his *missi dominici* were personal representatives with wide powers who regularly inspected their assigned districts His preoccupation with the welfare of the poor and the prevention of abuses is evident in numerous letters and instructions Charlemagne also held general consultative assemblies at least once a year and called religious councils to settle theological controversies He tried to purify the church and made his consent necessary to the election of bishops Military obligation he based on ownership of land, furthermore, he taxed movable goods and benefices Many were forced into bondage to escape this burden, which he later modified He stimulated foreign trade and entertained friendly relations with England and with Harun ar-Rashid In 813 Charlemagne designated his son LOUIS I as his imperial consort and successor and crowned him at Aachen, thus founding the Carolingian dynasty (see CAROLINGIANS) Charlemagne's court at AACHEN was the center of a considerable intellectual quickening The palace school, under the leadership of ALCUIN, became particularly famous, but of greater significance were the numerous schools established throughout the empire during Charles's reign for the instruction of children of all classes The preservation of classical literature was due almost entirely to his initiative Among the prominent figures of the Carolingian renaissance, other than Alcuin, were PAUL THE DEACON, EINHARD, and Peter of Pisa Charlemagne himself, though scarcely to be considered educated by later standards, showed great taste for learning and strove for purity in his Latin In his daily life, he affected the simple manners of his Frankish forebears, wore Frankish clothes, and led a frugal existence, except for his habit of keeping several wives and concubines He was beatified after his death and in some churches has been honored as a saint His physical appearance probably differed vastly from the bearded and patriarchal figure of the legend Indeed, Charlemagne's actual achievements and prestige were of such magnitude that later generations enlarged them to fantastic proportions. Surrounded by his legendary twelve peers, he became the central figure of a

cycle of romance At first, legend pictured him as the champion of Christendom, later he appeared as a vacillating old man, almost a comic figure. His characterization in the *Chanson de Roland* (see ROLAND) has impressed itself indelibly on the imagination of the Western world The vogue of the Charlemagne epic ebbed somewhat after the Renaissance, but was revived again in the 19th cent by Victor Hugo and other members of the Romantic school Charlemagne's creation (or re-creation) of an empire was the basis of the theory of the HOLY ROMAN EMPIRE, it was his example that Napoleon I had in mind when he tried to assume his succession in 1804 See the biography by Einhard, F Funck-Brentano, *Earliest Times* (Vol I of *National History of France*), Thomas Hodgkin, *Charles the Great* (1877) For the literary aspect, see Thomas Bulfinch, *Legends of Charlemagne* (1863), and J L Weston, *The Romance Cycle of Charlemagne and His Peers* (1901)

Charlemagne, village (pop 1,150), S Que, on the west shore of the St Lawrence N of Montreal

Charleroi (shärlûrwä'), town (pop 27,401), Hainaut prov, S central Belgium, on the Sambre river and on the Charleroi-Brussels Canal Today a coal-mining and steel-milling center, it was a village in the Middle Ages, but proximity to France gave it military importance; the Spanish fortified it in 1666, and it was prominent in the warfare of the 17th and 18th cent Here the Germans won a victory (1914) in the First World War

Charleroi (shärlûroi', shär'luroi), borough (pop 10,784), SW Pa, S of Pittsburgh and on the Monongahela; laid out 1890, inc 1892 It has glass-works and ironworks, and coal mining is done here

Charles I, emperor and Frankish king see CHARLEMAGNE.

Charles II or **Charles the Bald,** 823–77, emperor (875–77), king of the West Franks (843–77), son of Emperor LOUIS I by a second marriage The efforts of Louis to create a kingdom for Charles were responsible for the repeated revolts of Louis's elder sons which disturbed the latter part of his reign When LOTHAIR I attempted to reunite the empire after Louis's death, Charles and LOUIS THE GERMAN marched against their brother and defeated him at Fontenoy (841) Reaffirming their alliance in 842 (see STRASBOURG, OATH OF), they signed (843) with Lothar the Treaty of Verdun, dividing the empire into three parts The part roughly corresponding to modern France fell to Charles He was almost continuously at war with his brothers and their sons, with the Normans, and with rebellious subjects When Charles's nephew LOTHAIR, king of Lotharingia, died in 869, Charles seized his kingdom, but was forced by the Treaty of Mersen (870) to divide it with Louis the German In 875, at the death of his nephew Emperor Louis II, Charles secured the imperial crown His reign witnessed the growth of the power of the nobles at the expense of the royal power and thus marked the rise of feudalism Charles's chief adviser was Archbishop HINCMAR

Charles III or **Charles the Fat,** 839–88, emperor (881–87), king of Italy (879–87), king of France (885–87), son of LOUIS THE GERMAN, at whose death he inherited Swabia (876) In 886, when he went to relieve Paris, which was besieged by the Normans, he ransomed the city instead of fighting and allowed the Normans to ravage Burgundy He was deposed in 887 and was succeeded in France by EUDES and in Germany by ARNULF, while Italy remained in a state of anarchy

Charles IV, 1316–78, emperor (1355–78) and German king (1346–78), king of Bohemia (1346–78). The son of JOHN OF LUXEMBURG, he was educated at the French court and fought the English at Crécy, where his father's heroic death made him king of Bohemia Pope CLEMENT VI, to whom he had promised far-reaching concessions, helped secure his election (1346) as antiking to Emperor LOUIS IV Louis's death (1347), the popular desire for peace, which was fostered by the ravages of the Black Death, and the absence of a strong leader to unite the opposition enabled Charles to make good his claim to the crown by 1349 Germany being restored to peace (1354), he was crowned emperor in Rome on Easter Sunday, in 1355, by the papal legate (the pope was then residing at Avignon) In 1356 he promulgated the Golden Bull (see ELECTORS), by which the method of electing an emperor was fixed Charles rounded out his family possessions by acquiring, through skillful diplomacy, the margraviate of Brandenburg (1373) and by adding to his territories in Silesia and Lusatia Though he had virtually renounced imperial pretensions in Italy through his treaty with Clement VI, Charles supported the plans of Urban V to return the papacy from Avignon to Rome His intervention in Italy (1368), however, was chiefly a pretext for extorting tribute from the cities in exchange for their freedom To strengthen his dynasty, he had his son WENCESLAUS elected German king (1376) The election necessitated considerable bribing of the electors, contrary to the provisions of Charles's own Golden Bull, and led to a revolt of the Swabian cities, but Charles finally obtained peace by granting them large concessions Bohemia reached its greatest flowering under Charles's rule. He greatly embellished his capital, Prague, where many landmarks bear his name, founded (1348) the university at Prague (the oldest in Central Europe), and rebuilt the Cathedral of St Vitus. By introducing new agricultural methods and by expanding industries, he fostered the economic life in his crownlands He drew up a code of laws, the *Maiestas Carolina* (1350)—which was, however, rejected by the nobles—and he protected the lower classes by giving them courts in which to sue their overlords With the Church he always sought to maintain friendly relations As Holy Roman emperor, his reputation rests mainly on the Golden Bull, which, though it confirmed the weakness of the imperial power, provided a stable constitutional foundation for its exercise See biographies by G G Walsh (1924) and Bede Jarrett (with a translation of Charles's autobiography, 1935)

Charles V, 1500–1558, emperor (1519–58), and, as Charles I, king of Spain (1516–56), son of PHILIP I and JOANNA of Castile, grandson of Ferdinand V of Aragon, Isabella of Castile, Emperor Maximilian I, and Mary of Burgundy He inherited an empire on which "the sun never set" The Netherlands, Luxembourg, Artois, and Franche-Comté came to him on the death (1506) of his father Aragon, Navarre, Granada, Naples, Sicily, Sardinia, Spanish America, and joint kingship with his insane mother over Castile devolved upon him at the death (1516) of Ferdinand V, from his accession the Spanish kingdoms remained united On the death (1519) of Maximilian I he inherited the Hapsburg lands and was elected emperor Born and raised at Ghent, Charles was brought up as a Fleming His aunt, MARGARET OF AUSTRIA, was regent for him in the Netherlands She and his tutor, Adrian of Utrecht (later Pope ADRIAN VI), were the chief influences on the youth Arriving in Spain in 1517, Charles was distrusted as a foreigner His brusque dismissal of Cardinal JIMÉNEZ, his hasty appointments of Flemish favorites to high offices, and his departure (1520) for Germany to be crowned and to undertake his imperial duties heightened the resentment Moreover, Charles was beset from the start by financial difficulties In the imperial elections he had defeated his chief rivals, Francis I of France and Henry VIII of England, through the aid of the Swabian League and the Augsburg banking houses of FUGGER and WELSER, their enormous loans had enabled him to bribe the electors Shortly after his election he began his lifelong struggle with France (see FRANCIS I and HENRY II of France and ITALIAN WARS), which required immense expenditures In 1520 he signed with HENRY VIII the Treaty of Gravelines, which undid the results of the meeting on the FIELD OF THE CLOTH OF GOLD, and in 1521 he invaded N Italy, then controlled by France The fiscal onus rested on Spain and provoked violent reaction Toledo, Segovia, and other Castilian cities revolted in the brief war of the *comunidades* (1520–21) A bold program for limiting the royal power and violent class warfare marked the rising, which was put down by the battle of Villalar and by the execution of Juan de PADILLA and other leaders Charles later won the reliable loyalty of his Spanish subjects, whose national traits and religious zeal became his own In Germany, at the fateful Diet of WORMS (1521), Charles secured a satisfactory compromise regarding the REICHSREGIMENT, but unyieldingly opposed the doctrines of Martin LUTHER In his written opinion he declared himself ready to stake his dominions, friends, blood, life, and soul on the extinction of heresy Late in May, 1521, he signed the Edict of Worms, outlawing Luther and his followers, and entered a secret alliance with Pope LEO X In Italy, Charles seemed triumphant when Francis I, captured (1525) at Pavia, signed the humiliating Treaty of Madrid (1526) When Francis repudiated it and persuaded Pope CLEMENT VII to join the anti-imperial League of Cognac, Charles sent a German army, composed mostly of Lutherans, to Italy Its first commander, FRUNDSBERG, was succeeded by Charles de BOURBON, who led the semi-mutinous host to Rome (1527) The ensuing sack of Rome (the "German Fury") was disavowed by the emperor, who nevertheless profited from the outrage by extorting large sums from the pope The Treaty of CAMBRAI with France and the Peace of Barcelona with the pope (both in 1529) confirmed Charles's position in Italy and secured his coronation as emperor at Bologna (1530) Charles was the last German emperor to be crowned by the pope His brother Ferdinand, king of Bohemia and Hungary (later Emperor FERDINAND I), was elected king of the Romans in 1531 Charles, who had awarded him the Austrian duchies in 1521, delegated increasing authority to him in Germany, then torn by religious and social struggles The rebellion (1522–23) of Franz von SICKINGEN was followed by the more serious PEASANTS' WAR (1524–25), and the Swabian League in 1531 made way for the Lutheran SCHMALKALDIC LEAGUE. The REFORMATION progressed, and the breach between Catholics and Protestants widened. Before dealing with the religious problem, Charles had to make peace abroad. Francis I, allied with Sultan SULEIMAN I, having renewed warfare, Charles allied himself (1543) with Henry VIII and in 1544 forced Francis to make peace at CRÉPY. A truce with Turkey, however humiliating, gave Charles and Ferdinand some respite. At last the way opened for the Catholic REFORM, ardently desired by Charles and forwarded by St. Ignatius of Loyola, when the Council of Trent (see TRENT, COUNCIL OF) convened in 1545. Turning on the Protestant princes of Germany, Charles split their ranks by winning over MAURICE of Saxony and others, attacked the Schmalkaldic League in 1546, defeated JOHN FREDERICK of Saxony at Mühlberg (1547), and captured PHILIP OF HESSE He was at the summit of his power. At the Diet of Augsburg (1547) he secured the incorporation of the Netherlands into the Hapsburg hereditary possessions and forced through the Augsburg Interim (1548), the compromise profession of doctrine he now tried to impose on the Protestants with the help of Spanish troops In 1552 Maurice of Saxony changed sides again, called in Henry II of France, and even attempted to capture Charles at Innsbruck Balked in his efforts to recapture METZ from the French, and realising the necessity of compromising with Protestantism, Charles preferred to empower Ferdinand to treat and left Germany, never to return Ferdinand negotiated the religious Peace of AUGSBURG, but war with France ended only after Charles's death, with the Treaty of CATEAU-CAMBRÉSIS (1559), a triumph for Spain Charles now began a series of abdications which left the Hapsburg dominions divided between Austria and Spain In 1554 he gave Naples and Milan to his son Philip, whom he married to Queen MARY of England; in 1555 he turned over the Netherlands to Philip, and in 1556 he made him king of Spain and Sicily as Philip II In 1556 also he practically surrendered the empire to Ferdinand, and in 1558 he formally abdicated as emperor Though he retired (1556) to the monastery of Yuste, he took an active interest in politics until his death Two of his natural children were Don JOHN OF AUSTRIA and MARGARET OF PARMA During Charles's rule the Spanish Empire was tremendously expanded by the conquest of Mexico by CORTÉS and of Peru by Francisco PIZZARO and by the expeditions of DE SOTO, CORONADO, PONCE DE LEÓN, and Sebastian CABOT MAGELLAN circumnavigated the globe under Charles's auspices In Italy, Spanish power had become paramount Even England seemed about to fall to Spain through Philip's marriage, and Charles's own marriage with Isabella of Portugal brought the Portuguese crown to Philip in 1580 Yet in his chief purpose, the return of the Protestants to the Church, he failed utterly, and in the glory he brought to Spain the germs of its decay, through depopulation and a superabundance of gold, were concealed Charles's integrity, strength of will, and sense of duty were conspicuous His appearance has been made familiar by two portraits by TITIAN See biographies by W R Robertson (3 vols, 1857), Edward Armstrong (2 vols, 1902) and Karl Brandi (Eng tr, 1940), R B Merriman, *Rise of the Spanish Empire*, Vol III (1926)

Charles VI, 1685–1740, emperor (1711–40), king of Bohemia and, as Charles III, king of Hungary, brother and successor of Emperor Joseph I, last emperor of the direct Hapsburg line Before his accession he claimed the succession of CHARLES II of Spain, thus embroiling the empire in the War of the SPANISH SUCCESSION The treaties (1713–14) of Utrecht, Rastatt, and Baden (see UTRECHT, PEACE OF) gave Austria most of the Spanish possessions in the Low Countries and in Italy, but Spain itself remained with Charles's rival, PHILIP V Philip's attempts to overthrow the settlement resulted (1718) in the formation of the Quadruple Alliance of England, France, the Netherlands, and the emperor The Treaty of the Hague (1720) repeated the terms of 1713–14, except that Charles obtained Sicily from SAVOY in exchange for Sardinia The War of the POLISH SUCCESSION again involved Charles in war with France and Spain. The Treaty of Vienna (1738), in a complex exchange of territories, gave Sicily and Naples to Spain, Parma and Piacenza to the house of Austria, and Tuscany to Francis, duke of Lorraine (later Emperor FRANCIS I), who had married (1736) Charles's daughter, MARIA THERESA. Without male issue, Charles made his own succession the chief of his many dynastic preoccupations. His last years were consumed by efforts to secure European recognition of the PRAGMATIC SANCTION of 1724, by which he sought to insure the succession of his daughter to the Hapsburg lands Though the Pragmatic Sanction was guaranteed by the Treaty of Vienna, the succession was contested on his death (see AUSTRIAN SUCCESSION, WAR OF THE) In his early wars, Charles was well served by Prince EUGENE OF SAVOY. By the Treaty of Passarowitz (1718) Eugene won for Hungary the Banat and N Serbia from the Turks A less well-conducted campaign, begun in alliance with Russia in 1737, ended with the separate

Treaty of Belgrade (1739), which restored most of Eugene's conquest to the sultan. Charles was a patron of learning and the arts, particularly of music.

Charles VII, 1697–1745, emperor (1742–45) and, as Charles Albert, elector of Bavaria (1726–45). Having married a daughter of Emperor Joseph I, he refused to recognise the PRAGMATIC SANCTION by which Emperor Charles VI (his wife's uncle) reserved the succession to the Hapsburg lands for his daughter, MARIA THERESA On Charles VI's death (1740) he advanced his own claim and joined with Frederick II (of Prussia), France, Spain, and Saxony to attack Maria Theresa (see AUSTRIAN SUCCESSION, WAR OF THE) In 1742 he was elected emperor, but Bavaria was overrun by Austrian troops Shortly before his death he regained his territories Francis I, husband of Maria Theresa, was elected emperor to succeed him

Charles I, 1887–1922, last emperor of Austria and, as Charles IV, king of Hungary (1916–18), son of Archduke Otto and grandnephew and successor of Francis Joseph He married ZITA of Bourbon-Parma. The death (1914) of his uncle, FRANCIS FERDINAND, made Charles heir to the throne He showed skill as a commander in the First World War After his accession he put out peace feelers His correspondence with his brother-in-law, Prince SIXTUS OF BOURBON-PARMA, when published by the Allies, caused friction between Austria and Germany and diminished Charles's popularity Charles vainly tried to save the AUSTRO-HUNGARIAN MONARCHY by proclaiming (Oct 16, 1918) an Austrian federative state Within a few days Hungary and Czechoslovakia declared their independence, and on Nov 3 Charles had to consent to the unconditional surrender in the armistice concluded with General Armando DIAZ On Nov 11 Charles abdicated as emperor of AUSTRIA, and on Nov 13 as king of HUNGARY, early in 1919 he and his family went into exile in Switzerland The triumph of the monarchists in Hungary in 1920 encouraged him to attempt to regain that throne He arrived in Hungary in March, 1921, but he left again when the regent, HORTHY, and the premier, Stephen BETHLEN, refused their support In Oct, 1921, Charles tried again, landing in an airplane at Sopron and leading a small improvised force on Budapest Yugoslavia and Czechoslovakia ordered mobilization, and Horthy had Charles arrested Charles was exiled to Madeira, where he died of pneumonia His son, Archduke OTTO, inherited his claim to the throne See biography by Herbert Vivian (1932)

Charles I, 1600–1649 king of England, Scotland, and Ireland (1625–49), second son of James I and Anne of Denmark, b Dunfermline He was made the duke of Albany, became heir to the throne on the death of his brother Henry (1612), and was made prince of Wales in 1616 The negotiations for his marriage to the Spanish infanta were unpopular in England, and Charles himself turned against Spain after his unhappy visit to Madrid, in the company of George Villiers, duke of BUCKINGHAM (1623), when he tried to arrange the affair personally Aside from these negotiations, he took little part in politics before he succeeded his father as king (1625) He was popular at that time, but immediately offended English opinion by his marriage to the Catholic Henrietta Maria, sister of Louis XIII of France This French and Catholic influence not only brought him the ill will of his Protestant subjects, but probably contributed to the religious problems of his sons, Charles II and James II Charles's favorite, Buckingham, was unpopular, and the foreign ventures under Buckingham's guidance were unfortunate, particularly the unsuccessful expedition to Cádiz (1625) and the attempt to aid the French Protestants by sending a fleet to Ré (1627–28) Nor would Parliament willingly grant money for Charles's sister, Elizabeth of Bohemia, and the Protestants in the Thirty Years War The reign quickly resolved itself into the bitter struggle for supremacy between the king and Parliament that is called the PURITAN REVOLUTION (though religion was but one element in the controversy) The House of Commons, mainly representing wealthy merchants and country gentlemen, was largely Calvinist in sympathy, and many of the lords also were Puritans Charles was an advocate of episcopacy and supported his bishops Parliament had the whip hand in its control of money grants to the king, who was in his turn responsible for the defense of the realm and foreign relations, and Parliament refused grants until its grievances were redressed The Parliament of 1625 refused money, demanded ministers it could trust, and was soon dissolved by Charles That of 1626 was dissolved when it started impeachment proceedings against Buckingham Charles, to meet his needs for money, resorted to quartering troops upon the people and to a forced loan, which he attempted to collect by arbitrary prosecutions and imprisonments. Forced to call Parliament again in 1628, he was compelled to agree to the PETITION OF RIGHT, one of the most important of English constitutional documents. In violation of its spirit, Charles continued to collect taxes called tonnage and poundage, unauthorised by Parliament Although Buckingham was assassinated (1628), the parliamentary session of 1629 was bitter. It closed dramatically with a resolution condemning unauthorised taxation as well as attempts to change the existing church practices Charles then governed personally without Parliament for 11 years, which were marked by popular opposition to strict enforcement of the practices of the Established Church by Archbishop William LAUD and to the ingenious devices employed by the government to obtain funds Because of the royally controlled courts of high commission and Star Chamber, civil and religious liberties were at a low point, and large emigrations to America, of both Catholics and Puritans, took place. The trial (1637–38) of John HAMPDEN for refusal to pay ship money greatly increased public indignation. Meanwhile Charles's lieutenant in Ireland, Thomas Wentworth, earl of STRAFFORD, was pursuing his oppressive policy of "Thorough" Conditions in England reached a crisis when Charles attempted to force episcopacy upon the Scots, an attempt which was violently opposed by the COVENANTERS and which resulted in the first Bishops' War Unable to make war effectively, Charles summoned (1640) the so-called Short Parliament This body demanded redress of grievances before granting funds and was dissolved Another attempt to wage war without Parliament failed, in spite of vigorous efforts by Charles and Strafford, and the famous Long Parliament was summoned (1640) Under the leadership of John PYM, John Hampden, and Sir Henry VANE, Parliament secured itself against dissolution without its own consent and brought about the death of Strafford, the abolition of the courts of high commission and Star Chamber, and the end of arbitrary taxation In 1641 the Grand Remonstrance, aimed at religious and administrative reforms, was presented to the king Charles professed to accept the revolutionary legislation, but his queen was implicated in the army plot to get rid of Parliament, and Charles was, quite unjustly, suspected of complicity in the Irish massacre (1641) of Protestants in Ulster Hysterical fear of a militarist-royalist-Catholic reign of terror seems to have swept England, and Charles's unsuccessful attempt to seize five opposition members of Parliament in violation of traditional privilege was the fatal blunder that precipitated civil war There were no decisive victories until he was defeated at Marston Moor (1644) and Naseby (1645) In 1646 Charles gave himself up to the Scottish army and in 1647, left behind in England, fell into the hands of Parliament He ultimately was taken over by the English army leaders, who were now highly suspicious of both king and Parliament He escaped once to Carisbrooke, Isle of Wight, but was treated as a prisoner rather than king there His attempted coalition between royalists and Presbyterians was broken by the army He was tried by a high court of justice (see REGICIDES), specially constituted by the Rump Parliament for the purpose and controlled by his most powerful enemies, and was convicted of treason for levying war against Parliament He was beheaded, Jan 30, 1649 To the royalists he became the martyred king who wrote the EIKON BASILIKE By his opponents he was considered a double-dealing tyrant He had, however, lived in a period of intense religious passions and rapid political development which he proved unable to control Whether or not a straightforward and liberal policy toward Parliament and Puritans would have prevented the war, certainly such a policy was temperamentally impossible for Charles. His judgment and will were too feeble to protect him against unwise advice and dangerous halfway measures that undermined confidence in him His political necessities led him to violate a concept of constitutional government that was rapidly gaining ground in the minds of a powerful group of his subjects, although his own view of the constitution was by no means so indefensible as the 19th-century historians maintained See S. R Gardiner, *History of England*, 1603–1642 (10 vols, 1883–84) and *History of the Great Civil War* (4 vols, 1893); G. M Trevelyan, *England under the Stuarts* (rev ed, 1930), Geoffrey Davies, *The Early Stuarts* (1937).

Charles II, 1630–85, king of England, Scotland, and Ireland (1660–85), second son of Charles I and Henrietta Maria He was brought up in the care of several courtiers At the time of the Puritan Revolution, Charles was sent (1645) to the west of England with his council, which included Edward Hyde and Thomas Wriothesley, earl of Southampton. In 1646 Charles was forced to escape to France, where he stayed with his mother and was tutored by the philosopher Thomas Hobbes. In 1649 Charles vainly attempted to save his father by presenting to Parliament a signed sheet of paper for whatever terms might be put thereon After his father's execution (1649), Charles was proclaimed king in Scotland and in parts of England and Ireland He accepted the terms of the Scottish Covenanters and went to Scotland (1650), where he was crowned (1651), after agreeing to support Presbyterianism in England as well as in Scotland. Charles in 1651 marched into England but was defeated by Oliver Cromwell at the battle of Worcester, after which Charles made an adventurous escape to France There he lived in comparative poverty. The Anglo-French negotiations of 1654 forced Charles into Germany, but he removed to the Spanish Netherlands after he had concluded a treaty with Spain (1656) In 1660 the restoration of the king, engineered by General MONCK and aided by Charles's conciliatory Declaration of Breda, was effected Edward Hyde, the king's companion in exile, was created earl of CLARENDON and made first minister The REGICIDES, despite Charles's desire for leniency, were prosecuted Episcopacy was restored and nonconformity in religion was greatly weakened by the CLARENDON CODE. The foreign policy enacted by the Commonwealth government in the Navigation Act of 1651 was confirmed by Charles's government in its NAVIGATION ACTS of 1661 and 1662. The king's leanings toward Roman Catholicism led him to favor religious toleration, but this was strongly opposed, with the consequent branching-off of the nonconformists and dissenters, who formed an opposition that was later to develop into the WHIG party In 1662 he married Catherine of Braganza The year 1664 saw the outbreak of the second DUTCH WAR, followed by the great London plague of 1665 and the fire of 1666 The Dutch War ended indecisively with the Treaty of Breda in 1667, the year that saw the fall of Clarendon and the rise of the CABAL ministry Charles placed England in the Triple Alliance with Holland and Sweden (1668), although he sought the support of Louis XIV of France, with whom he negotiated the secret Treaty of Dover (1670), by this Charles was to adopt Catholicism and wage war against the Dutch, for which Louis was to advance £150,000 and 6,000 men The impending third Dutch War began in 1672, and though it established English naval supremacy, it proved unpopular at home Charles was forced to rescind his declaration of indulgence (1672) toward nonconformists, to approve the TEST ACT, and to make peace (1674) with the Dutch Thomas Osborne, earl of DANBY, became chief minister, and Charles, unable to secure supplies from Parliament, agreed (1676), in consideration of a large subsidy, not to contract foreign alliances without the consent of Louis XIV, although Charles feigned sympathy with the anti-French movement at home His alliance with Louis, however, was broken by the marriage of his niece Mary to William of Orange (later WILLIAM III) Charles intervened in the Popish Plot (see OATES, TITUS) affair only when the queen was accused The Exclusion Bill to bar the Catholic duke of York (later JAMES II) from the throne in favor of James Scott, duke of MONMOUTH, was brought forward by Anthony Cooper, earl of SHAFTESBURY, but was blocked by Charles's dissolution of Parliament (1681) Thenceforth Charles's rule was absolute Opposition Whigs unsuccessfully attempted to seize the king in the RYE HOUSE PLOT two years before Charles, professing the Roman Catholic faith, died and was succeeded by his brother James He had no legitimate offspring but several natural children by his various mistresses, who included Lucy WALTER, Barbara Villiers, duchess of CLEVELAND, Louise Keroualle, duchess of PORTSMOUTH, and Nell GWYNN His reign was marked by a gradual increase in parliamentary power, the rise of the great political parties, the advance of colonization and trade in India, America, and the East Indies, and the great progress of England as a sea power The pleasure-loving and immoral character of the king, as opposed to his political wisdom, set the tone of the brilliant RESTORATION period See contemporary accounts by Gilbert Burnet, John Evelyn, and Samuel Pepys, biographies by Osmund Airy (1904), Arthur Bryant (1931), and John Hayward (1933), G N Clark, *The Later Stuarts* (1934), David Ogg, *England in the Reign of Charles II* (2 vols, 1935).

Charles I, Frankish king see CHARLEMAGNE

Charles II, French king see CHARLES II, emperor

Charles III or **Charles the Fat,** French king see CHARLES III, emperor.

Charles III (Charles the Simple), 879–929, French king (893–923), son of Louis II (Louis the Stammerer) He was excluded from the succession at the death of Carloman (884) and at the deposition (887) of Emperor CHARLES III (Charles the Fat), but he was crowned by a party of nobles in 893 and became sole king at the death of EUDES in 898 He put an end to the Norse raids by ceding to the Norse leader Rollo part of the territory later known as Normandy in the Treaty of Saint-Clair-sur-Epte (911) In the same year he acquired Lorraine In 922 some of the barons revolted and crowned ROBERT I, brother of Eudes, king In 923, at the battle of Soissons, Robert was killed, but Charles was defeated Subsequently RAOUL of Burgundy was elected king, and Charles was imprisoned

Charles IV (Charles the Fair), 1294–1328, king of France, youngest son of Philip IV, brother and successor (1322) of Philip V. He continued his immediate predecessor's work of strengthening the

royal power and increased the royal revenues, notably by tampering with the coinage. In 1324 Pope John XXII, having declared Emperor Louis IV deposed, offered to support Charles for emperor, but the plan came to nothing. In 1324 Charles invaded Guienne, a possession of the English king, and in 1327 compelled England to cede to France the districts around Agen and Bazas and to pay a large indemnity. Charles, the last king of the Capetian dynasty, was succeeded by Louis VIII, of the Valois line.

Charles V (Charles the Wise), 1337–80, king of France (1364–80). During the captivity of his father, JOHN II, in England (1356–60, 1364), he was forced, as regent, to deal with the JACQUERIE, with the intrigues of CHARLES II of Navarre, and with the popular movement headed by Étienne MARCEL. Becoming king in 1364, he restored the stability of the coinage and took steps to rid France of the "free companies" (*écorcheurs*) of demobilized soldiers. With the aid of his great general, Bertrand DU GUESCLIN, Charles almost succeeded in driving the English from France. Charles and his ministers, the MARMOUSETS, strengthened the royal authority, replaced feudal military service with a standing army, built a powerful navy, and instituted fiscal reforms. A patron of the arts and of learning, he established the royal library, built the Bastille, and interested himself in the embellishment of the Louvre and the construction of the palace of Saint-Pol. However, his love of pomp and lack of economy put a severe economic burden on the country throughout his reign. His son, Charles VI, succeeded him.

Charles VI (Charles the Mad or Charles the Well Beloved), 1368–1422, king of France (1380–1422), son and successor of Charles V. He married ISABEAU OF BAVARIA. During his minority he was under the tutelage of his uncles, whose policies emptied the royal treasury and provoked popular uprisings in France and Flanders. Charles freed himself of this influence in 1388, took as his counselor his brother Louis, duc d'ORLÉANS, and recalled his father's ministers, the MARMOUSETS. After 1392 Charles was subject to frequent attacks of insanity and was not active in the government. The royal princes returned to power, and the Marmousets were dismissed. Charles's reign was disturbed by the war between ARMAGNACS AND BURGUNDIANS and the invasion of France by Henry V of England. It ended two years after he had signed the ignominious Treaty of TROYES, recognizing Henry as his successor.

Charles VII (Charles the Victorious or Charles the Well Served), 1403–61, king of France (1422–61), son and successor of Charles VI. During his reign the HUNDRED YEARS WAR ended, and the English were expelled from France. Charles had been excluded from the throne by the Treaty of TROYES, but he took the royal title after his father's death (1422) and ruled south of the Loire, while Henry VI of England controlled the north and Guienne. Vacillating in disposition and subject to the influence of corrupt favorites, he waged only perfunctory warfare against the English until he was prodded into action by such energetic followers as JOAN OF ARC, ARTHUR III, duke of Brittany, DUNOIS, and LA HIRE. After the capture of Orléans, Charles was crowned at Rheims (1429). In 1435, by the Treaty of ARRAS, he won Burgundy as an ally, in 1440 the PRAGUERIE was put down, and in 1444 a truce was signed with England. By the battle of Formigny and the capture of Cherbourg (1450) the English were expelled from Normandy, and the battle of Castillon (1453) resulted in their withdrawal from Guienne. In his later years Charles, though dominated by his mistress, Agnès SOREL, proved an able administrator. He reorganized the army, upheld justice, and restored French finances by an orderly and moderate fiscal policy. Charles issued the PRAGMATIC SANCTION of Bourges in 1438. In his reign French commerce was expanded by the enterprise of Jacques CŒUR. His last years were disturbed by the constant revolts of the dauphin, who later succeeded to the throne as LOUIS XI.

Charles VIII, 1470–98, king of France (1483–98), son and successor of Louis XI. He first ruled under the regency of his sister ANNE DE BEAUJEU. Soon after his marriage to ANNE OF BRITTANY (1491), he freed himself from the influence of his sister and her husband and began to prepare for the project of conquering Naples, to which his father had acquired a claim as heir of the last surviving descendant of Louis II of Naples. Urged by Lodovico SFORZA, he invaded Italy in 1494; after a triumphal march through Pavia, Florence, and Rome, he took Naples (Feb., 1495). A league being formed against him by Milan, Venice, Ferdinand V of Spain, Emperor Maximilian I, and Pope Alexander VI (March, 1495), he was forced to a hasty retreat, in the course of which he distinguished himself against odds at the battle of Fornovo (July, 1495). The troops he had left behind in Naples were defeated, but he was forming new plans of conquest at the time of his death. He had no male issue and was succeeded by his cousin Louis XII. The conflict of France and Spain in Italy marked the beginning of the ITALIAN WARS. Charles's expedition had the positive result of introducing the Italian Renaissance into France. The history of his reign has been recorded by his contemporary, COMINES. See also J. S. C. Bridge, *A History of France from the Death of Louis XI*, Vols. I–II (1922–24).

Charles IX, 1550–74, king of France. He succeeded (1560) his brother Francis II under the regency of his mother, CATHERINE DE' MEDICI. Turning from his mother's influence, he began to follow the advice of COLIGNY. His temperament, however, was so unstable that he was easily swayed to take part in the massacre of SAINT BARTHOLOMEW'S DAY. He was the patron of the PLÉIADE. Charles IX was succeeded by his brother Henry III.

Charles X, 1757–1836, king of France (1824–30), brother of Louis XVI and of Louis XVIII, whom he succeeded. As count of Artois he headed the reactionary faction at the court of Louis XVI, left France (July, 1789) at the outbreak of the French Revolution, and became a leading spirit of the ÉMIGRÉ party in England. After his lamentable failure to aid the VENDÉE insurrection, he stayed in England until the Bourbon restoration (1814). During the reign of LOUIS XVIII he headed the ultraroyalist opposition, which triumphed after the assassination (1820) of Charles's son, the duc de BERRY. The event caused the fall of the DECAZES ministry and the advent of VILLÈLE, who continued as chief minister after Charles's accession. Among the many attempts of Charles and Villèle to reestablish the *ancien régime*, the law (1825) indemnifying the émigrés for lands confiscated during the French Revolution met particular disapproval, especially because the middle class was hit by the consequent reduction of interest on government bonds. The rising capitalist forces and the liberal press joined in attacking the Villèle cabinet, which resigned in 1827. Its successor, under MARTIGNAC, vainly tried to steer a middle course, and in 1829 Charles appointed an uncompromising reactionary, Jules Armand de POLIGNAC, as chief minister. To divert attention from internal affairs Polignac initiated the French venture in ALGERIA. However, his dissolution (March, 1830) of the liberal chamber of deputies and his drastic July Ordinances resulted in the JULY REVOLUTION. Charles abdicated in favor of his grandson, the comte de CHAMBORD, but the duc d'Orléans, whom Charles appointed lieutenant general of France, was chosen "king of the French" as LOUIS PHILIPPE. Charles X lived out his life in England and Scotland. During his reign French romanticism reached its full flower.

Charles I (Charles Robert of Anjou), 1288–1342, king of Hungary (1308–42), grandson of Charles II of Naples, who had married a daughter of Stephen V of Hungary. He founded the ANGEVIN dynasty of Hungary. On the death (1301) of Andrew III, last of the Arpad dynasty, Charles was the candidate of Pope Boniface VIII for the crown of St. Stephen, but Wenceslaus III of Bohemia and Otto of Bavaria were elected (1301, 1305), in 1308 the Hungarian diet at last chose Charles, who was crowned in 1310. He reorganized the army on a feudal basis and imposed a direct land tax to pay military expenses. Silver and gold mines became state monopolies, and in 1338 gold became the accepted currency. Charles encouraged trade and increased the privileges of the cities. His foreign policy was dynastic, he married his second son to Joanna I of Naples and took as his second wife Elizabeth, daughter of King Ladislaus I of Poland. In 1339 he secured the succession to Casimir III of Poland for his eldest son, later also Louis I of Hungary.

Charles II, king of Hungary: see CHARLES III, king of Naples.

Charles III, king of Hungary: see CHARLES VI, emperor.

Charles IV, king of Hungary: see CHARLES I, emperor of Austria.

Charles I (Charles of Anjou), 1226–1285, king of Naples and Sicily (1266–85), count of Anjou and Provence, youngest brother of King Louis IX of France. He took part in Louis's crusades to Egypt (1248) and Tunisia (1270). After obtaining Provence by marriage (1246), he extended his influence into Piedmont. He became senator of Rome (1263, 1265–78) and undertook to champion the papal cause against MANFRED in the kingdom of Naples and Sicily. In reward, he was crowned (1266) by Pope Clement IV. Charles defeated Manfred (1266) at Benevento and defeated and executed CONRADIN in 1268. As leader of the Guelphs he gained political hegemony in Italy and won suzerainty over several cities in Tuscany, Piedmont, and Lombardy, but his intention of imitating the Hohenstaufen's policies led to a cooling of his relations with the papacy. Planning to conquer the Byzantine Empire, he allied himself with the deposed emperor, BALDWIN II, against MICHAEL VIII and fought for years in the Balkans. Corfu, Epirus, and Albania were taken. The crushing tax burden imposed by his wars and the appointment of arrogant French officials led in Sicily to the SICILIAN VESPERS (1282). The ensuing war against the rebels and PETER III of Aragon, whom they had chosen as king of Sicily, continued under his son and successor, Charles II. Charles I was the founder of the first ANGEVIN dynasty in Naples.

Charles II (Charles the Lame), 1248–1309, king of Naples (1285–1309), count of Anjou and Provence, son and successor of Charles I. In the war that followed the SICILIAN VESPERS he was captured (1284) in a naval battle by ROGER OF LORIA, but he was released a few years later and crowned (1289) king of Naples by Pope Nicholas IV. The war in Sicily against James, son and successor of Peter III, continued until James became king of Aragon as JAMES II and returned Sicily to the pope, recognising Charles II as king (1295). The Sicilians, however, set up James's brother, FREDERICK II, as king, and war was resumed. An expedition to Sicily under CHARLES OF VALOIS led to the Peace of Caltabellotta (1302), Charles II and Pope Boniface VIII agreed that Frederick II would remain king, but Sicily was to go to Charles or his heir on Frederick's death.

Charles III (Charles of Durazzo), 1345–86, king of Naples (1381–86) and, as Charles II, of Hungary (1385–86), great-grandson of Charles II of Naples. He was adopted as a child by JOANNA I of Naples and later lived at the court of Louis I of Hungary. In 1380 Pope Urban VI summoned Charles to dethrone Joanna, who supported Clement VII, the antipope, and Joanna repudiated Charles in favor of Louis of Anjou (see LOUIS I, king of Naples). Charles conquered Naples, was crowned (1381) by the pope, imprisoned Joanna, and probably had her killed the following year. He repulsed the attacks of Louis of Anjou. In 1385 he was elected king of Hungary over the claims of SIGISMUND, he was crowned but was assassinated shortly afterward. Charles was succeeded in Naples by his son, Lancelot, and in Hungary by Sigismund.

Charles II (Charles the Bad), 1332–87, king of Navarre (1349–87), count of Évreux. He carried on a long feud with his father-in-law, John II, king of France, procuring the assassination of John's favorite, Charles de la Cerda (1354), and forming an alliance with Edward III of England. In 1356 Charles was treacherously seized by John and imprisoned, but he was rescued after the capture of John at Poitiers. He helped to suppress the JACQUERIE (1358) and was chosen by Étienne MARCEL to defend Paris against the dauphin (later Charles V), only to betray his trust. He was involved until his death in quarrels with Charles V and with Castile and in intrigues with England.

Charles III (Charles the Good), 1361–1425, king of Navarre (1387–1425), count of Évreux, son and successor of Charles II. He settled (1404) his inherited differences with France and later tried to negotiate between the Armagnacs and Burgundians. His reign was peaceful and beneficent. His daughter Blanche and her husband John, later John II of Aragon, succeeded him.

Charles I, 1863–1908, king of Portugal (1889–1908), son and successor of Louis I. He came to the throne at a time when political stagnation and financial troubles inherited from the long civil wars made the problems of government excessively difficult. Republicanism and socialism had been steadily growing. A cultured and urbane man, accomplished in painting and music and learned in language and oceanography, Charles had little opportunity to display any gifts of administration. A crisis arose over the African empire, where Portuguese and British ambitions clashed, and on Jan. 11, 1890, Great Britain sent a memorandum, known to the Portuguese as the Ultimatum, demanding that Portugal cease all attempts to establish further influence on the borders of Mozambique and Angola. The Portuguese had to yield, but there was a strong burst of feeling against the British, the government, and the king. Affairs with Great Britain were patched up, but the position of Charles declined. Financial affairs went from bad to worse, and Germany sought to take advantage of them to get part of the Portuguese African empire. The attempt of the king to foster a dictatorship under João Franco, head of the Regenerator party, caused violent reaction. A revolution in Jan., 1908, failed, but before the end of the month the first regicide in Portuguese history took place. Charles and the heir apparent were shot in a public square in Lisbon. Manuel II succeeded to the throne.

Charles I and **Charles II**, kings of Rumania: see CAROL I and CAROL II.

Charles I, king of Spain: see CHARLES V, emperor.

Charles II, 1661–1700, king of Spain, Naples, and Sicily (1665–1700), son and successor of Philip IV. He was the last of the Spanish Hapsburgs. His mother, Mariana of Austria, was regent for him and continued to rule after his majority until forced into exile by Charles's illegitimate brother, JOHN OF AUSTRIA (1629–79). After John's death she regained much of her power. During Charles's reign Spain was weakened by the War of DEVOLUTION and the War of the GRAND ALLIANCE. Charles was childless. Negotiations regarding his successor did not prevent the outbreak of war after his death (see SPANISH SUCCESSION, WAR OF THE). The Bourbon candidate was allowed to accept the throne after the war when Philip V became king.

Charles III, 1716–88, king of Spain (1759–88) and of Naples and Sicily (1735–59), son of Philip V and Elizabeth Farnese. Recognised as duke of Parma and Piacenza in 1731, he relinquished the duchies to Austria after conquering (1734) Naples and Sicily in the War of the Polish Succession His reign in Naples was beneficent In 1759 he succeeded his half brother Ferdinand VI to the Spanish throne, Naples and Sicily passing to his third son, Ferdinand (later Ferdinand I of the Two Sicilies). Charles at first was neutral in the Seven Years War, but after concluding the Family Compact of 1761 with France he was drawn into the conflict By the Treaty of Paris of 1763 he ceded Florida to England but received Louisiana from France Territorial disputes with Portugal in the Río de la Plata region were settled by the Treaty of San Ildefonso (1777) with the help of Charles's chief minister, Floridablanca In the American Revolution, Charles entered (1779) the war on the American side and by the Treaty of Paris of 1783 regained Florida and Minorca Spain prospered during the reign of Charles, who is regarded as the greatest Bourbon king of Spain and one of the "enlightened despots" He expelled the Jesuits in 1767 His son, Charles IV, succeeded him

Charles IV, 1748–1819, king of Spain (1788–1808), second son of Charles III, whom he succeeded in place of his imbecile elder brother Unlike his father, Charles IV was reactionary and ineffective and in 1792 virtually surrendered the government to Godoy, his chief minister and the lover of Queen María Luisa Spain entered the French Revolutionary Wars in 1793, but in 1795 was forced by France, in the second Treaty of Basel, to withdraw from the First Coalition The Treaty of San Ildefonso (1796) allied Spain with France Having declared war on England late in 1804, Spain shared (1805) in the disaster of Trafalgar The convention of Fontainebleau (1806) precipitated the events leading to the Peninsular War French troops entered Spain in 1807 Discontent with Charles's disastrous policy led to the coup d'état at Aranjuez, the king was forced to abdicate in favor of his son, Ferdinand VII Napoleon I tricked both father and son into a meeting with him at Bayonne, France, and forced them to abdicate in turn The royal family was held captive in France until 1814, while Joseph Bonaparte was king of Spain Charles IV and his family have been pitilessly portrayed by Goya, who enjoyed their favor

Charles IX, 1550–1611, king of Sweden (1604–11), youngest son of Gustavus I He was duke of Södermanland, Narke, and Värmland before his accession During the reign of his brother, John III (1568–92), he opposed John's leanings toward Catholicism After John's death he acted as regent, summoned (1592) the Riksdag to Uppsala, and had it establish Lutheranism as the state religion This measure was passed in anticipation of the arrival (1594) of John III's Catholic son and heir, King Sigismund III of Poland, who was obliged to pledge himself to uphold Protestantism in Sweden Sigismund having left Sweden in the same year, Charles again summoned the Riksdag, was made regent against the king's wishes, and ousted all Catholic officials The Swedish nobles were loyal to Sigismund, but the people supported Charles Sigismund landed an army at Kalmar (1598), was defeated by Charles at Stångebro, and was deposed by the Riksdag in 1599 Charles accepted the Swedish throne only after Sigismund's brother, John, had renounced it (1604) As regent, Charles took severe measures against the nobility In 1600 he invaded Livonia and thus began the long Polish-Swedish wars which ended only with the Peace of Oliva in 1660 Charles's claim to Lapland involved him in the unsuccessful Kalmar War (1611–13) with Christian IV of Denmark He died before the conclusion of the war and was succeeded by his son, Gustavus II

Charles X (Charles Gustavus), 1622–60, king of Sweden (1654–60), nephew of Gustavus II (Gustavus Adolphus) The son of John Casimir, count palatine of Zweibrücken, he brought the house of Wittelsbach to the Swedish throne when his cousin, Queen Christina, abdicated in his favor Before his accession, Charles had gained both military and diplomatic experience, fighting under Torstensson in the Thirty Years War and serving under Chancellor Oxenstierna As king, Charles remedied Christina's alienation of crownlands by securing their restitution at the Riksdag of 1655 He reopened hostilities with Poland, taking Warsaw and Cracow in 1655, but Polish resistance became formidable after the miracle at Czestochowa Charles's position worsened quickly Tsar Alexis of Russia invaded Livonia, Frederick III of Denmark declared war (1657), and Frederick William of Brandenburg deserted his alliance with Sweden Charles hastened to Denmark, crossed the frozen sea to threaten Copenhagen, and forced the Danes to make peace By the Treaty of Roskilde (1658) Denmark ceded to Sweden the provinces of Skåne, Halland, Blekinge, and Bohuslän in S Sweden as well as Bornholm and part of Norway. Refusal of Denmark to renounce an alliance with the Netherlands caused Charles to resume the war in 1658. England, the Netherlands, and France intervened in favor of Denmark Charles, after concluding a truce with Russia (1658), began to negotiate for a general peace. He died suddenly before the negotiations were ended and was succeeded by his son, Charles XI. His wars were settled to the advantage of Sweden The Treaty of Copenhagen (1660) with Denmark left Sweden in possession of its four southern provinces (For the settlement with Poland, see Oliva, Peace of.) During Charles's reign Sweden lost New Sweden to the Dutch

Charles XI, 1655–97, king of Sweden (1660–97), son and successor of Charles X During his minority a regency successfully liquidated the wars with Poland and Denmark by the Treaty of Copenhagen and the Peace of Oliva (1660) and made peace with Russia (1661) on the basis of the *status quo* At home, the regency mismanaged affairs, but upon reaching his majority, Charles obtained from the Riksdag the restitution of alienated crownlands Sweden was involved in the third of the Dutch Wars as an ally of Louis XIV Charles was defeated at Fehrbellin (1675) by Frederick William of Brandenburg, who overran Swedish Pomerania Against Denmark, Charles was successful on land, particularly at Landskrona (1677) At the Treaty of Saint-Germain (1679) with Brandenburg, Charles —through the influence of Louis XIV—regained Pomerania The Peace of Lund (1679) with Denmark drew the Scandinavian nations closer together, and in 1680 Charles married Princess Ulrika of Denmark Turning to internal affairs, Charles set about increasing the royal power at the expense of the nobles The Riksdag of 1682 gave him absolute power, which he used efficiently He was succeeded by his son, Charles XII

Charles XII, 1682–1718, king of Sweden (1697–1718), son and successor of Charles XI The regency under which he succeeded was abolished in 1697 at the request of the Riksdag At the coronation Charles omitted the usual oath and crowned himself with his own hands The youth and inexperience of the king invited the coalition (1699) of Peter I of Russia, Augustus II of Poland and Saxony, and Frederick IV of Denmark against Sweden In the Northern War the allies soon were undeceived as to Charles's abilities In one of the most brilliant campaigns in history, Charles forced Denmark to make peace (Aug., 1700), defeated Peter I at the Narva (Nov., 1700), subjugated Courland (1701), invaded Poland, declared Augustus dethroned, and secured the election (1704) of Stanislaus I as Polish king In 1706 he invaded Saxony and forced Augustus to recognize Stanislaus as king of Poland, to end his alliance with Russia, and to surrender his adviser Patkul, whom Charles had broken on the wheel Charles now turned on his chief enemy, Peter I Securing the alliance of the Cossack hetman Mazeppa, he invaded Russia in 1708 But in June, 1709, he was disastrously defeated at Poltava and fled to Turkey, where he persuaded Sultan Ahmed III to declare war on Russia (1710) After the Peace of the Pruth (1711) between Russia and Turkey, Charles, who had taken residence near Bender in Bessarabia, became an increasingly unwelcome guest Requested to leave Turkey, Charles refused with the utmost obstinacy A whole Turkish army was ordered to dislodge him from his house (1713) Charles defended it with a handful of men for several hours until he was forced, by fire, to make a sortie Taken prisoner and detained near Adrianople, he simulated sickness for more than a year. Late in 1714 he unexpectedly arrived at Stralsund, which he defended against the Prussians and the Danes until 1715 At its fall he escaped to Sweden and proceeded (1716) to invade Norway While besieging the fortress of Fredriksten, Charles was killed in the Swedish trenches He was succeeded by his sister, Ulrica Leonora, during whose reign the Northern War came to an end in 1721 (For later successors, see Sweden.) Charles's amazing military ability, his grandiose ambitions, and his perseverance throughout the greatest hardships have made him one of the heroes of modern times His failure cost Sweden its rank as a great power The classic biography is Voltaire's *History of Charles XII* See also biographies by R N Bain (1895) and J A Gade (1916).

Charles XIII, 1748–1818, king of Sweden (1809–18) and Norway (1814–18) He became regent at the assassination of his brother Gustavus III (1792) He introduced some liberal policies, but these were abandoned at the end of his regency (1796) Called to the throne at the abdication of his nephew, Gustavus IV (1809), he accepted the new constitution which limited the monarch's power and signed the treaty ceding Finland to Russia and treaties with Denmark and France In 1810 he adopted the French marshal, Bernadotte (later King Charles XIV), as his heir, and thereafter left all affairs in his hands.

Charles XIV (Charles John; Jean Baptiste Jules Bernadotte) (shärl' bätēst' shül' bĕrnädôt'), 1764–1844, king of Sweden and Norway (1818–1844), French revolutionary general, b Pau, France Bernadotte rose from the ranks, served brilliantly under Bonaparte in the Italian campaign (1796–97), was French ambassador at Vienna (1798), and was minister of war (1799) His part in the victory of Austerlitz (1805) was prominent, and in 1806 Napoleon made him marshal of the empire and prince of Ponte Corvo His relations with the emperor were, however, cool While commanding in N Germany he had occasion to negotiate with the Swedes, who were impressed by the generous and manly conduct of their able adversary In 1809 Gustavus IV of Sweden abdicated and was then succeeded by his aged and childless uncle, Charles XIII Casting about for a suitable successor to Charles, the Swedish government turned to Bernadotte After receiving the support of Napoleon and joining the Lutheran Church the marshal accepted He was elected by the Riksdag and adopted by Charles XIII as Charles John The infirmity of the old king and the dissensions in the council of state put the reins of government in the hands of the crown prince He favored the acquisition of Norway from Denmark rather than the reconquest of Finland from Russia, and thus he threw his lot with Russia and England against Napoleon and Denmark His Swedish contingent played an important part in the battle of Leipzig (1813), and in 1814 the crown prince, having marched his army into Denmark, forced the Danes to cede Norway in the Treaty of Kiel Norway, which had declared its independence, was subdued, and by a majority vote of the Norwegian Storting (1814) the country was united with Sweden under a single king The Congress of Vienna confirmed the union but restored Ponte Corvo to the pope. Succeeding to the throne in 1818, Charles XIV maintained peace throughout his reign, which was marked by internal improvements, notably the completion of the Göta Canal and a reform of the school system However, his increasing opposition to the liberals made him unpopular toward the end of his reign The founder of the present Swedish dynasty, he was succeeded by his son, Oscar I See D P Barton, *Bernadotte the First Phase* (1914), *Bernadotte and Napoleon* (1920), and *Bernadotte, Prince and King* (1925), F D Scott, *Bernadotte and the Fall of Napoleon* (1935)

Charles XV, 1826–72, king of Sweden and Norway (1859–72), son and successor of Oscar I A liberal and popular ruler, he consented to many reforms, including the creation of a bicameral parliament He was succeeded by Oscar II

Charles (Charles Louis), 1771–1847, archduke of Austria, brother of Emperor Francis II He was the ablest Austrian commander in the French Revolutionary and Napoleonic wars, but he was handicapped by epilepsy and, in the early years, by unwise decisions imposed on him from Vienna Made minister of war in 1805, he reorganised the Austrian forces and headed the patriotic faction at court In 1809 he defeated Napoleon I at Aspern (May), but was beaten at Wagram (July) In both battles he exacted a heavy toll from the French Shortly afterward he retired because of political differences with Francis

Charles I, 953–92, duke of Lower Lorraine (977–91), younger son of Louis IV of France He claimed the French throne when his nephew, Louis V of France, died without issue (987), but he was set aside in favor of Hugh Capet Charles seized Laon (988) and Rheims (989), but was captured by treachery (991) and died in prison He was the last Carolingian claimant to the French crown.

Charles IV, 1604–75, duke of Lorraine He succeeded to the duchy in 1624 but was to lose it several times because of his anti-French policy. In 1633 French troops invaded Lorraine in retaliation for Charles's support of Gaston d'Orléans. Forced to make humiliating concessions to France, he abdicated (1634) in favor of his brother and entered the imperial service in the Thirty Years War He briefly recovered his lands in 1641 and 1644, but he was excluded from the Peace of Westphalia (1648) Though he joined the Spanish during the Fronde, he communicated with the French government and as a result was imprisoned by the Spanish (1654–59) In 1661, at the price of heavy concessions to Louis XIV, Charles recovered Lorraine and Bar Expelled once more by the French in 1670, Charles later helped to instigate the alliance of Spain and the emperor with the Dutch in the third of the Dutch Wars In 1675 he defeated Créquy at Konser Bruck

Charles V (Charles Leopold), 1643–90, duke of Lorraine, nephew of Charles IV Deprived of the rights of succession to the duchy, he was banished from France and entered the service of the emperor He was twice a candidate for the Polish crown (1669 and 1674) Although he took the ducal title in 1675, France still held Lorraine He was commander of the imperialist forces in the Dutch War At Nijmegen he refused (1678) to accept Lorraine on Louis XIV's terms. He took part in the defense of Vienna (1683) and in expelling the Turks from Hungary Charles V married Eleanora Maria, sister of Emperor Leopold I (1678)

Charles, Jacques Alexandre César (shärk' ălĕksä'drə sāzar' shärl'), 1746–1823, French physicist He confirmed Franklin's electrical experiments, became interested in aeronautics, and was the first

to use hydrogen gas in balloons. In this type of balloon, known as the *Charlière*, he made an ascent in 1783 of almost 2 mi He became professor of physics at the Conservatoire des Arts et Métiers, Paris. Inventor of a thermometric hydrometer, he also improved various devices, the Gravesande heliostat and Fahrenheit's aerometer among others, and anticipated Gay-Lussac's law of the expansion of gases For Charles's law, see GAS.

Charles, Thomas, 1755–1814, Welsh nonconformist preacher. Ordained a priest in the Church of England, he resigned his curacies in Somersetshire and returned to Bala, Wales, where in 1784 he joined the Calvinistic Methodists Gifted in working with children, he began (1785) to establish Welsh "circulating" schools and Sunday schools. He secured and distributed thousands of Welsh Bibles and helped to found the British and Foreign Bible Society (see BIBLE SOCIETIES) At Bala in 1803 Charles established a printing press for Welsh textbooks. See William Hughes, ed , *Life and Letters of the Rev. Thomas Charles* (1881)

Charles, William, 1776–1820, American etcher, engraver, and caricaturist, b Edinburgh, Scotland He worked in New York and Philadelphia It is believed that he came to America to avoid prosecution for his caricature *A Fallen Pillar of the Kirk* His best-known works are etched caricatures on the War of 1812 and on political subjects From his print shop in Philadelphia he issued an edition of Rowlandson's *Tour of Dr Syntax in Search of the Picturesque* and his *Vicar of Wakefield*

Charles, short river rising in E Massachusetts and winding its way past Cambridge and Boston to Boston Bay On it Harvard boat races take place. See A B Tourtellot, *The Charles* (1941)

Charles, Cape, E Va , the southern point of the Eastern Shore, which separates Chesapeake Bay from the ocean. Cape Charles is opposite Cape Henry at the entrance to the bay and has ferries to the Virginia mainland

Charles, Lake, SW La The CALCASIEU river is its inlet and its outlet The deepwater port LAKE CHARLES is on its shores and is connected by way of the Calcasieu with the Intracoastal Waterway and with the Gulf of Mexico.

Charles Albert, 1798–1849, king of Sardinia (1831–49), first king of the Savoy-Carignano line (see SAVOY, HOUSE OF) VICTOR EMMANUEL I, when deposed by the uprising of 1821, designated him regent pending the arrival of the new king, Charles Felix As a liberal and a nationalist, Charles Albert was expected by the leaders of the uprising (especially SANTAROSA) to uphold their cause, however, the regent obeyed the new king, a reactionary, and retired to Novara. After his accession, Charles Albert issued a new code and, to forestall a revolution, granted (1848) a constitution which was not formally abrogated till 1947. He twice declared war on Austria, fighting two campaigns (1848, 1849) of the RISORGIMENTO, Successful at first, he was routed (1849) at Novara and abdicated in favor of his son, Victor Emmanuel II

Charles Alexander, 1712–80, prince of Lorraine, younger brother of Emperor Francis I. He was governor of the Austrian Netherlands (1744–80) and a general in the War of the Austrian Succession and the Seven Years War

Charles Augustus, 1757–1828, duke and, after 1815, grand duke of Saxe-Weimar, friend and patron of GOETHE Though his duchy was small, he was important in German politics, helped FREDERICK II of Prussia form (1785) the *Fürstenbund*, fought with the Prussians in the French Revolutionary Wars, and held out against Napoleon I until 1806 In his rule Goethe made WEIMAR a center of literature, science, art, and liberal political thought

Charles Borromeo, Saint (bŏrŏmā'ō), 1538–84, Italian churchman, b near Lago Maggiore His uncle, PIUS IV, summoned Charles, a student at Pavia, to Rome (1560). He was made cardinal, administrator of the Papal States and of the archdiocese of Milan, and papal secretary of state. He was most zealous in encouraging reform in the Church and was largely responsible for reopening the Council of TRENT, of which he was the guiding spirit. He inclined toward asceticism, and despite a great private fortune he lived in rigorous simplicity. In 1563 he was ordained priest, consecrated bishop, and then received the pallium for the see of Milan, but he was unable to make his residence there until 1566, when he completed his affairs at Rome (he was 28 years old). At Milan he prosecuted vigorous reforms, especially in education. He was exceedingly strict with the clergy In 1569 some disaffected men tried to assassinate him He worked untiringly in the plague to alleviate suffering There is a huge statue of him near Lago Maggiore, and there is a monument to him in the cathedral at Milan, which he had completely redecorated. His feast· Nov. 4

Charlesbourg (shärl'bŏrg), village (pop. 2,789), S Que., overlooking the St. Charles river just N of Quebec city. One of the oldest parishes in Quebec, it comprises part of the seigniory first granted to the Jesuits in 1626 and was first settled in 1659. Its earlier name was Bourg Royal

Charles City, city (pop. 8,681), co. seat of Floyd co., NE Iowa, on the Cedar and NNW of Waterloo; settled 1850, inc. 1869. Farm machinery is made. Near-by Indian mounds have been excavated.

Charles Edward Stuart: see STUART, CHARLES EDWARD.

Charles Emmanuel I, 1562–1630, duke of Savoy (1580–1630), son and successor of Emmanuel Philibert In 1601 he tried, unsuccessfully, to reconquer Geneva by a surprise attack. However, he recovered Saluzzo from the French by the Treaty of Lyons (1601), giving up, in exchange, Bresse, Bugey, Gex, and Pinerolo He oscillated in his alliances between France and Spain and fought against Genoa and in the war involving the succession to MONTFERRAT. At the time of his death, his duchy was invaded by the French. He was succeeded by his son, Victor Amadeus I Though Charles Emmanuel was called the Great, his reign was less noteworthy for his deeds than for those of St FRANCIS OF SALES

Charles Martel (märtĕl') [O Fr ,=Charles the Hammer], 688?–741, Frankish ruler, natural son of PEPIN OF HÉRISTAL and grandfather of Charlemagne After the death of his father (714) he became mayor of the palace in Austrasia and Neustria, having previously crushed all opposition He extended his rule to Burgundy, Aquitaine, and Provence Having subjugated many of the German tribes across the Rhine, he encouraged the activities of St Boniface and other missionaries among them Charles Martel halted the Moslem invasion of Europe by his victory over the Moors of Spain in the battle of Tours or Poitiers (732), one of the decisive battles of the world's history Although he never assumed the title of king, he divided the Frankish lands, like a king, between his sons Pepin the Short and Carloman See F. Funck-Brentano, *Earliest Times* (Vol I of *National History of France*)

Charles Mound, hill, 1,241 ft. high, NW Ill , not far from Galena, highest point in the state

Charles of Blois (Charles of Châtillon) (blwä, shätēyô'), c.1319–1364, duke of Brittany, nephew of Philip VI of France. One of the chief participants in the War of the BRETON SUCCESSION, he was killed at the battle of Auray He has been beatified

Charles of Lorraine, see CHARLES ALEXANDER

Charles of Valois (välwä'), 1270–1325, French prince and military leader, third son of Philip III and father of Philip VI He was the dominating figure in France during the reign of his nephew, Louis X Charles married Margaret, a daughter of Charles II of Naples. On the excommunication (1283) of PETER III of Aragon, Pope Martin IV made Charles of Valois king of Aragon and Sicily Charles, however, was defeated and in 1291 had to renounce his claim He subsequently sought, unsuccessfully, to obtain the crowns of the Byzantine and the Holy Roman empires, of France, and of Arles Campaigning for Pope Boniface VIII in Italy, he took Florence (1301) and exiled Dante, who in return placed Charles in Purgatory

Charles of Viana (vēän'nä), 1421–61, Spanish prince, heir of Navarre, son of Blanche of Navarre and John (later JOHN II) of Aragon After his mother's death he ruled Navarre for his father, but serious differences between the two soon plunged the country into civil war He was twice imprisoned by his father and died shortly after an uprising in Catalonia had forced John to recognise him as his heir

Charles Robert of Anjou· see CHARLES I, king of Hungary

Charles the Bad. see CHARLES II, king of Navarre

Charles the Bold, Fr *Charles le Téméraire*, 1433–77, last reigning duke of Burgundy (1467–77), son and successor of PHILIP THE GOOD As the count of Charolais before his accession, he opposed LOUIS XI of France, whose program of unification he began to combat by joining the League of the Public Weal (1465) In 1468 he had Louis arrested during their interview at Péronne, compelled him to help in subduing Liége, where Louis had incited a revolt, and allied himself with England by marrying Margaret, the sister of Edward IV Master of the Low Countries and Luxembourg, in addition to the duchy of Burgundy and Franche-Comté, Charles dreamed of reestablishing the kingdom of Lotharingia and of securing the imperial crown In 1473 he met Emperor Frederick III at Trier to arrange a marriage between his daughter Mary and Frederick's son, the future Maximilian I, Charles was to have been crowned king of the Romans. Secretly won over by Louis's diplomacy, however, the emperor suddenly broke off negotiations, the marriage did not take place till after Charles's death, in 1477. Meanwhile, Charles continued to conquer the lands which separated his various possessions. His struggles with the Alsatian towns and his seizure of Lorraine (1475) alienated the Swiss cantons, which were allied with France Late in 1475 Charles attacked the Swiss, who routed him at Grandson and Morat (1476) An invasion of France by his ally, Edward IV, was bought off by Louis in 1475 Finally, at Nancy, Charles was utterly defeated and killed in battle by the Swiss and the Lorrainers. His heiress, MARY OF BURGUNDY, lost part of her possessions to France, the rest passing to the Hapsburgs through her marriage with Maximilian. Powerful Burgundy had ceased to exist as a state. Charles, who earned his surname through his impetuous gallantry, was a capable, though harsh, ruler; however, his plans were too fantastic to succeed against so expert a diplomat as Louis XI. See the chronicles of COMINES; biographies by J. F. Kirk (3 vols., 1864–68) and Ruth Putnam (1908).

Charles the Great, Frankish king, emperor: see CHARLEMAGNE.

Charleston. 1 City (pop. 8,197), co. seat of Coles co., E Ill., 8E of Decatur; inc. 1839. It is an industrial, rail, and trade center in an agricultural area Its manufactures include brooms, lumber, and shoes. A Lincoln-Douglas debate was held here, Sept. 8, 1858 Eastern Illinois State College is here Lincoln Log Cabin State Park (the site of Thomas Lincoln's farmhouse) lies to the south. 2 City (pop. 2,100), a co seat of Tallahatchie co., NW Miss , NNE of Greenwood, in a cotton, timber, and livestock area. 3 City (pop. 5,182), co seat of Mississippi co., SE Mo., SW of Cairo, Ill.; laid out 1837 In a farm and timber region, it is a cotton center and has shoe and stave factories 4 City (pop 71,275), co. seat of Charleston co., SE S.C., oldest and largest city in the state and one of the chief ports of entry in the SE United States It lies on a low, narrow peninsula between the Ashley and Cooper rivers at the head of the bay (c 7 mi long) formed by their confluence Bordering or in the bay are Sullivans Island, site of Fort Moultrie (see MOULTRIE, FORT), James Island, with a U.S. quarantine station, Morris Island, with a lighthouse, Fort Sumter (see SUMTER, FORT), and CASTLE PINCKNEY Many transportation lines converge at Charleston, and through its excellent, almost landlocked harbor an extensive coastwise and foreign trade is carried on. The region about the city is devoted largely to truck farming, and the adjacent waters abound in sea food Among its varied industries are large fertilizer and cigar factories, asbestos, paper and pulp, and chemical plants, and textile and steel mills Charleston is headquarters for the sixth naval district (there is a large navy yard here) and the southeast division of the U S Corps of Engineers The city dates from 1670, when the English under William Sayle settled at Albemarle Point, on the west bank of the Ashley river, c 7 mi from modern Charleston In 1680 the colonists moved to Oyster Point, where their capital, Charles Town, as it was first called, had been laid out The city, surviving Spanish and Indian threats, became the leading center of wealth and culture in the South Non-English immigrants, among whom the French Huguenots were most prominent, added a cosmopolitan touch In the American Revolution, after being successfully defended (1776, 1779) by William MOULTRIE, Charleston was surrendered (May 12, 1780) by Benjamin LINCOLN to the British under Sir Henry CLINTON, who held it until Dec. 14, 1782 The city, incorporated as Charleston in 1783, ceased to be the capital in 1788 after Columbia had been designated (1786) the seat of government The South Carolina ordinance of secession (Dec., 1860) was passed in Charleston, and the first hostile act of the Civil War, the firing on Fort Sumter (April 12, 1861), occurred here Under virtual siege by Union forces (1863–65), the city suffered partial destruction, but did not fall until Feb , 1865, after it had been isolated by Sherman's army. A violent earthquake on Aug 31, 1886, took many lives and made thousands homeless, and periodic hurricanes and tornadoes (one in 1938 was particularly severe) have also caused great damage. Despite these repeated devastations many of the charming colonial buildings survive, outstanding among them are St Michael's Episcopal Church (begun 1752), noted for its chimes, and the Miles Brewton, or Pringle, house The water front, called the Battery, and the Grace Memorial Bridge over the Cooper river are famous Charleston landmarks The old buildings and the history associated with them together with the climate, beaches, and beautiful gardens near by (especially Middleton Place, Magnolia Gardens, and Cypress Gardens) yearly attract thousands of visitors The annual azalea festival is an important event The city's many schools include The CITADEL and the Medical College of the State of South Carolina (opened 1824, coeducational since 1931) The College of Charleston (coeducational since 1918), chartered in 1785, was opened in 1790 and in 1837 became the first municipal college in the country See Mrs St Julien Ravenel, *Charleston: the Place and the People* (1906); Robert G Rhett, *Charleston: an Epic of Carolina* (1940), Robert Molloy, *Charleston a Gracious Heritage* (1947) 5 City (pop 67,914), state capital, and co seat of Kanawha co., W central W.Va., on the Kanawha river at the mouth of the Elk It is an important railroad and trading center for many adjacent "company towns" which manufacture chemicals, glass, and metal products The city grew up around the site of Fort Lee and was chartered as Charles Town in 1794. The capital was moved to Charleston from Wheeling in 1870 and returned to Wheeling in 1875. As the result of an election (1877) Charleston became permanent capital in 1885, Morris Harvey College and

Mason College are here. Near by is West Virginia State College.

Charlestown, town (pop. 1,437), on Nevis, British West Indies. It is a port, shipping its products to SAINT KITTS. Alexander Hamilton was born here

Charles Town, city (pop 2,926), co. seat of Jefferson co., W.Va., in the Eastern Panhandle SW of Harpers Ferry Charles Town was laid out in 1786 by George Washington's brother Charles, whose home, later called "Mordington," still stands. Charles Town is the trading center for the contiguous industrial town, Ranson, and for a farming and horse-breeding area Racing meets are held here John Brown was tried (1859) at the Jefferson co. courthouse and was hanged here. "Harewood," where Dolly Madison was married, is near the town.

Charlestown, 1 Town (pop 939), S Ind , NE of Jeffersonville; laid out 1808 It has large explosive works 2 Part of BOSTON, Mass , between the Mystic and Charles rivers It was settled in 1629 and included in Boston in 1874 The battle of Bunker Hill was fought here, June 17, 1775 3 Town (pop 1,753), SW N H , on the Connecticut and S of Claremont, settled 1740, inc 1753. It was defended by Phineas Stevens against French and Indians The broad elm-shaded main street has many colonial houses. 4 (chärlz'tŭn) Town (pop 1,199), SW R I , between Westerly and South Kingstown, in a farm and resort area; inc 1738 An Indian burial ground is preserved, and a bird sanctuary and game reservation are near by. The 1938 hurricane took many lives here

Charles University see PRAGUE, UNIVERSITY OF

Charles William Ferdinand, 1735-1806, duke of Brunswick (1780-1806), Prussian field marshal in the Seven Years War and commander in chief (1792-94) of the Austro-Prussian armies in the FRENCH REVOLUTIONARY WARS His arrogant manifesto (Aug , 1792), threatening the French with dire punishment if they failed to assist the invading armies, enraged the revolutionists and led to the arrest of Louis XVI and Marie Antoinette He was defeated at Valmy (1792), but in 1793 he routed the French at Kaiserslautern and Pirmasens Commanding the Prussian armies in 1806, he was defeated by Davout at Auerstedt He was blinded in the battle and died soon afterward His son was FREDERICK WILLIAM, duke of Brunswick

Charlet, Nicolas Toussaint (nēkôlä' tōōsĕ' shärlā'), 1792-1845, French lithographer and painter, famous for his lithographs depicting episodes from the Napoleonic Wars His lithographs number over 2,000, but he also worked successfully in oil, sepia, and water color

Charleville (shärlüvēl'), town (pop 19,454), Ardennes dept , NE France, on the Meuse opposite MÉZIÈRES (the two are twin cities) Charleville was founded by, and named for, Charles de Gonzague, duke of RETHEL It has important manufactures of firearms and metal goods

Charlevoix, Pierre François Xavier de (pyĕr' frāswä' zāvyā' du shärlûvwa'), 1682-1761, French Jesuit traveler and historian, educated at the Collège Louis le Grand in Paris From 1705 to 1709 he was in New France as professor of rhetoric at the Jesuit college at Quebec. In 1709 he returned to teach at the Collège Louis le Grand and later became prefect of the college In 1720 he set out again for America to explore the West and visit the Jesuit missions He voyaged up the St Lawrence, through the Great Lakes, and via the Illinois river to the Mississippi, which he descended to New Orleans After experiencing shipwreck in the Gulf of Mexico, he returned to France and resumed his teaching In 1744 he issued his *Histoire de la Nouvelle France* (Eng tr , 6 vols , 1900), which in an appendix contains a detailed journal of his trip, the only full account of the interior of America in the first third of the 18th cent

Charlevoix (shär'lĕvoi), city (pop 2,299), co. seat of Charlevoix co , N Mich , on Lake Michigan and NE of Traverse City, settled 1852, inc as a village 1879, as a city 1905 It is a summer resort, with fishing on Lake Charlevoix and other smaller lakes and a winter sports center A U S fish hatchery is here The vicinity is rich in Indian remains.

charlock: see MUSTARD.

Charlot, Jean (shä' shärlō'), 1898–, American painter, writer, and lithographer, b France He worked from 1921 to 1926 in Mexico, where his murals in the ministry of education and the preparatory school of Mexico city are well known Many of his expressive easel paintings, water colors, and lithographs portray the life of the Mexican Indian. After an archaeological expedition to Chichén Itzá (1926), he came to the United States He taught at the Art Students League of New York and later at the Univ of Georgia, where he decorated the fine arts and journalism buildings with large frescoes Charlot is also known for his illustrations and for his book *From the Mayans to Disney* (1939). He became an American citizen in 1939 See *The Charlot Murals in Georgia* (1945).

Charlotte (Charlotte Sophia), 1744–1818, queen consort of George III of England The niece of Frederick, duke of Mecklenburg-Strelitz, she was married to King George in 1761 and bore him 15 children. On the occasions of the king's mental illness in 1788 and 1810, she was given charge of his person and his household

Charlotte. 1 (shärlŏt', shärlōt') City (pop 5,544), co. seat of Eaton co , S Mich , SW of Lansing, settled before 1840, inc as a village 1863, as a city 1871 It manufactures radios, furniture, and electronic equipment. The Kellogg Foundation's county unit is in the city Indian trails crossed here 2 (shär'lŭt) City (pop 100,809), co. seat of Mecklenburg co , S N C , near the S C line, largest city of the state and the foremost commercial and industrial center of the piedmont region. It is a railroad hub and the market for a large area producing cotton, tobacco, and other farm crops With bountiful hydroelectric power from the Catawba river, the city has numerous textile mills and cottonseed-oil, chemical, and other industrial plants Charlotte was settled c 1750 and chartered in 1768 The citizens of the county were among the most outspoken in their opposition to the British government, and it was at Charlotte that the MECKLENBURG DECLARATION OF INDEPENDENCE was signed in May, 1775 In his brief occupation of the city (Sept.–Oct., 1780), Cornwallis gave it the appellative "hornets' nest" It is the seat of Queens College (Presbyterian, for women, 1857) and Johnson C Smith Univ (Negro, Presbyterian, coeducational, 1867) 3 (shär'lŭt) Town (pop 1,082), NW Vt , S of Burlington, bordered on the west by Lake Champlain, permanently settled 1784 It is a summer resort and fruitgrowing area

Charlotte Amalie (ämäl'yu), town (pop 9,801), capital of the VIRGIN ISLANDS OF THE UNITED STATES, on St Thomas Island Founded in 1673, Charlotte Amalie was a center of Danish colonial life It became important as a trading center during the American Civil War It was renamed St Thomas in 1921, but the former Danish name was restored in 1936 With an excellent, well-protected harbor, which has been developed as a naval base, it is the commercial center of the islands

Charlotte Elizabeth see ELIZABETH CHARLOTTE OF BAVARIA

Charlotte Harbor, large inlet of the Gulf of Mexico, SW Fla , with a string of islands extending across its mouth It receives the Myakka and Peace rivers.

Charlottenburg see BERLIN, Germany

Charlottesville (shär'lutsvĭl), city (pop 19,400), central Va , on the Rivanna river, in a piedmont farm region noted for its apples, founded 1762, chartered as a town 1851, as a city 1888 The courthouse of Albemarle co is here The city has textile mills and is the seat of the Univ of Virginia (see VIRGINIA, UNIVERSITY OF) Burgoyne's captured army was quartered near here in 1779–80, and in 1781 Tarleton raided the town Near by are MONTICELLO, home of Jefferson, "Ash Lawn," home of James Monroe, the birthplaces of Meriwether Lewis and George Rogers Clark, and a state hospital for the tubercular

Charlottetown, capital (pop 14,821), only city, and chief port of Prince Edward Island, on the south coast It has regular steamship service to Pictou, N S , to St John's, N F , to Montreal, and to small ports on the island itself It is the seat of the chief educational institution of the island, Prince of Wales College (1860), affiliated with Dalhousie Univ North of the city is St Dunstan's Univ , affiliated with Laval Univ There was, in the French period, a fort and settlement across the harbor, known as Port la Joie Charlottetown was laid out in 1768 and named for Queen Charlotte, consort of George III Its growth was slow until the middle of the 19th cent , when it became noted for the sailing vessels it built for fishing and lumber transport The **Charlottetown Conference** of the Maritime Provs (1864) was the first move in the direction of Canadian federation

Charlton, rural town (pop 2,557), S Mass , SW of Worcester, settled c 1735, inc 1755 Woolen goods are made here

charm, magical formula or INCANTATION, spoken or sung, for the purpose of securing blessing, good fortune, or immunity from evil It presupposes a belief in demons or malignant spirits The formula was frequently inscribed upon an AMULET, talisman, or trinket to be worn for protection

Charnwood, Godfrey Rathbone Benson, 1st **Baron,** 1864-1945, English biographer. An Oxford man, he served in Parliament (1892–95), was mayor of Lichfield (1909–11), and in 1911 was elevated to the peerage for his services to the Liberal party He wrote a well-known biography of Abraham Lincoln (1916) and one of Theodore Roosevelt (1923).

Charnwood Forest, wooded region, NW Leicestershire, England. There are coal mines and granite quarries

Charny (shär'nē), town (pop 2,831), S Que , S of Quebec city.

Charolais (shärôlā'), small region, E central France, named after Charolles, a small town now in Saône-et-Loire dept There is intensive cattle breeding The countship of Charolais was acquired (1390) by Duke Philip the Bold of Burgundy, and CHARLES THE BOLD was known as the count of Charolais before he became duke In 1477 the county passed to the Hapsburgs and from then on shared the fortunes of FRANCHE-COMTÉ until it was acquired from Spain by Louis XIV and incorporated into the province of Burgundy

Charon (kā'rŏn), in Greek mythology, ferryman of Hades, who bore the newly arrived dead across the STYX. In Greece the coin placed in the dead man's mouth was said to be Charon's fee He is usually represented as a brutal, avaricious old man The Etruscan form of Charon, very frequent on tombs, was that of a bestial man with tusks

Charondas (kərŏn'dus), 6th cent B C , Sicilian lawgiver, a native of Catana His laws were used by the cities of Chalcidian foundation in Sicily and Italy Aristotle admired them.

Charpentier, Gustave (güstav' shärpätyā'), 1860–, French composer, pupil of Massenet at the Paris Conservatoire His opera *Louise* (1900), reflecting Parisian bourgeois life, has been very popular He is known also for his orchestral suites, especially *Impressions d'Italie* (1892)

Charran (kär'ăn), variant of HARAN, the place Acts 7 2,4

Charron, Pierre (pyĕr' shärō'), 1541–1603, French theologian and philosopher, a Roman Catholic After practicing law for several years, he took orders and soon gained a reputation as an eloquent preacher He became chaplain to Marguerite, wife of Henry IV His *Traité des trois vérités* (1594) set forth proofs, first, that there is a God and that a true religion exists, second, that no other religion than that of the Christians is true, and, third, that in the Roman Catholic Church alone is salvation found. In 1600 he published a collection of 16 sermons In his most famous work, the *Traité de la sagesse* (1604), the influence of Montaigne appears In this he argued that man, in himself incapable of discerning the truth, must accept and endure his own limitations and that, basing his conduct upon a morality founded in reason, he should yield to the guidance of authority and seek to know what he can of himself and of God. The skepticism of this work awoke criticism and later a summary and apology, *Petit traité de la sagesse*, was published

chart, marine MAP representing some or all (according to its scale and specific purposes) of the following details useful to the navigator outline and nature of coast, with landmarks, true and magnetic directions, currents and undercurrents (both direction and force), winds; tides, location and type of lighthouses, buoys, beacons, and lightships, position of rocks, bars, reefs, shoals, wrecks, or other dangers; contour and nature of bottom (mud, sand, rock, or gravel), and depth The last, very important, is secured by SOUNDING and is indicated in great detail and very carefully in charts of harbors and shallow and intricate waterways Much of the other information is secured by ordinary methods of SURVEYING Most national governments publish charts of their coasts and harbors, the British admiralty has done the most work along these lines In the United States the Coast and Geodetic Survey and the Hydrographic Office of the Dept of the Navy issue charts

charter, document issued by a central government, especially a monarch, to a person, group of persons, corporation, municipality, local government, or entire population granting specific administrative, judicial, or legislative rights. The term can be widely and vaguely applied to various royal grants of rights in the Middle Ages The most famous political charters were the Great Charter or MAGNA CARTA of England and the Charter of 1814 issued by Louis XVIII of France Early American colonial charters established the first legislative assemblies, nourished feelings of political independence from British parliamentary control, and influenced American political thought towards a written rather than an informal constitution

chartered companies. Though the modern corporation receives its charter from the state, the term "chartered company" is now usually applied to a kind of association for foreign trade, (and for colonization schemes) which appeared with the formation of the European national states and their overseas expansion The association received its charter from the state and sometimes had state support In such a charter the rules of trading were prescribed, and the merchant members might use their capital separately or pool their resources. The long, expensive journeys, the large permanent investment, and the force of strong states finally made for the issuance of joint stock in such companies They were given a monopoly of trade or colonization in a certain region and customarily exercised lawmaking, military, and treaty-making functions, subject to the home government, besides other privileges The English Merchants Adventurers (1359) was more of a guild organization but foreshadowed such companies as the British Eastland (1404), Muscovy (1555), Levant (1581), British East India (1600, "the John Company," perhaps the greatest of them all), Hudson's Bay (1670), and Dutch East India companies Such colonizing companies as the Virginia Company (1606), the Massachusetts Bay Company (1629), the French Royal West Indian Company (1664–74), the Santo

Domingo Company (1698), and the Dutch West India Company were more quickly taken over by the government The later 19th-century colonizing and trading companies, such as the British North Borneo (1881), Royal Niger (1886), British South African (1888), and German East African (1884), did not last long and had more restricted powers, but the continuing significance of the chartered company was seen in them and in the South Manchurian Railway Company

Charterhouse (chär'turhous) [Fr =Chartreuse], in London, once a Carthusian monastery (founded 1371), later a hospital for old men and a school for boys, endowed by Thomas Sutton in 1611 The school, which became a large public school, was removed (1872) to Godalming, Surrey Thackeray, a pupil at the school, describes it in *The Newcomes*

Charter Oak, white oak tree which until 1856 stood in Hartford, Conn , and was thought to be 1,000 years old There is a tradition that when Sir Edmund Andros, as governor general of New England, demanded (1687) that the charter of Connecticut be surrendered by the colonists at Hartford, the document was hidden in a hollow of the tree

Charters Towers, city (pop 7,567), Queensland, Australia, SW of Townsville It is in a mining area producing copper, silver, and gold With the discovery of gold here in 1871–72, it was an important gold-mining town

Chartier, Alain (älĕ' shartyā'), b c 1385, d 1433 or before, French poet, secretary to Charles VII The conventional love poem *La Belle Dame sans mercy* (1424) provided Keats with a title An anti-English political pamphlet in prose, *Le Quadrilogue invectif* (1422), is his most original work

Chartism, workingmen's reform movement in Great Britain, 1838–48 The failure of the Reform Bill of 1832 to extend the vote to the laboring classes and the prevailing economic depression induced wide popular approval of the "People's Charter," a document drafted by William Lovett and Francis PLACE, advocating universal manhood suffrage and other political reforms The movement, which had the support of the trade unions and such leaders as Feargus O'CONNOR, represented the first attempt of the British working classes to gain political power During the period of its influence, some rioting occurred in industrial centers, the general strike was also used Though a number of parliamentary reforms were stimulated by Chartist activities, the movement died out, partly because of a schism between moderate and extreme factions and partly as a result of increasing general prosperity See Mark Hovell, *The Chartist Movement* (new ed , 1925), J L LeB Hammond and Barbara Hammond, *The Age of the Chartists* (1930), G D H Cole, *Chartist Portraits* (1941)

Chartres, Robert d'Orléans, duc de. see ORLÉANS, family

Chartres (shär'trŭ), city (pop 23,509), capital of Eure-et-Loire dept , N France, on the Eure river and SW of Paris Of great antiquity, Chartres was the probable site of the great assemblies of the DRUIDS The region, a county in the 10th cent , passed to the counts of Blois, who in 1286 sold it to the French crown, it became part of Orléanais prov Louis XIV gave Chartres as an appanage to his brother, Philippe I, duc d'Orléans, and made it a duchy Hence members of the house of Bourbon-Orléans have carried the title The fame of Chartres is due to its magnificent Cathedral of Notre Dame (12th–13th cent), remarkable for its two spires (375 ft and 350 ft), its STAINED GLASS windows, and its sculpture Henry Adams, in *Mont-Saint-Michel and Chartres*, made it a symbol of the medieval spirit Here St Bernard of Clairvaux preached the Second Crusade (1146), and Henry IV was crowned king of France (1594) The church of St Pierre (11th–13th cent) contains enamel paintings of the twelve apostles by Léonard Limousin Among buildings damaged in the Second World War was the 17th-century town hall, but many medieval and Renaissance houses survived Chartres is the grain-trading center of the Beauce region

chartreuse (shärtrûz', –trüz'), a LIQUEUR made exclusively by Carthusians at their monastery, La Grande Chartreuse, until their expulsion from France in 1903. The French distillery and trademark were sold, and the order set up a new plant in Tarragona, Spain The monks' product is identified by the name *Laqueur des Pères Chartreux* Readmitted to France in 1938, the Carthusians resumed manufacture there. Green chartreuse contains about 57 percent alcohol, the sweeter yellow variety, about 43 percent

Chartreuse, Grande (grād' shärtrûz'), mountainous massif (highest point 6,847 ft), SE France, in the Dauphiné Alps, N of Grenoble Here in a high valley St BRUNO founded (1084) the famous monastery, La Grande Chartreuse, the principal seat of the CARTHUSIANS until 1903, when the order was expelled from France and its seat transferred to Tarragona, Spain The convent was several times destroyed, the present buildings (now a museum) date mainly from the 17th cent

Charybdis (kŭrĭb'dĭs), in Greek legend, whirlpool inhabited by a greedy monster, near the rock of SCYLLA

Chase, Mary Ellen, 1887–, American educator and novelist, b Blue Hill, Maine, grad Univ. of Maine, 1909 She taught (1918–26) English at the Univ of Minnesota, where she received her Ph D in 1922, and went to Smith College in 1926 Her works set in Maine, excellent for their regional fidelity, include the novels *Mary Peters* (1934), *Silas Crockett* (1935), and *Windswept* (1941) and a biography, *Jonathan Fisher* (1948) *The Plum Tree*, a short novel of a home for the aged, was published in 1949 See her autobiographical *A Goodly Heritage* (1932) and *A Goodly Fellowship* (1939)

Chase, Philander, 1775–1852, American Episcopal bishop, b Cornish, N H., grad Dartmouth, 1796 After experience as a missionary in the West, he was elected (1818) first bishop of Ohio, where he founded Kenyon College in 1824 with funds which he secured largely in England In 1835 Chase became bishop of Illinois, from 1843 he was presiding bishop of the Church See his *Reminiscences* (1848), biography by L C Smith (1903)

Chase, Pliny Earle, 1820–86, American scientist, b Worcester, Mass , grad Harvard, 1839 From 1871 he was professor at Haverford College Besides arithmetic texts which were widely used for a generation, he wrote *Elements of Meteorology* (1884) and papers on meteorological, physical, and philosophical subjects

Chase, Salmon Portland, 1808–73, American statesman, b Cornish, N H For three years before entering the junior class at Dartmouth (grad 1826), he lived with his uncle, Philander Chase, first Episcopal bishop of Ohio He himself was also deeply religious, even puritanical In Washington, D C (1826–29), while running a "select classical seminary," he studied law under William Wirt, and after being admitted to the bar in 1829, he returned to Cincinnati to practice He defended runaway Negroes so often that he became known as "attorney general for fugitive slaves " Chase, prominent in the Liberty party and later in the Free-Soil party, was elected by a coalition of Free-Soilers and antislavery Democrats to the U S Senate, where (1849–55) he eloquently opposed such proslavery measures as the Compromise of 1850 and the Kansas-Nebraska Bill As zealous for public office as he was in the antislavery cause, Chase was elected governor of Ohio in 1855 by still another political combination, in which the Know-Nothings were dominant, but by 1857, when he was reelected, he was a leading member of the new Republican party Chase was a splendid figure of a man, a "sculptor's ideal of a President," and few Americans have ever gone after that high office with more determination —or less success He sought the Republican nomination in 1860, but since he lacked the full support of even his own state's delegation and since many considered him an extreme abolitionist, his chance passed quickly Again elected to the Senate, he served only two days in March, 1861, before resigning to become Lincoln's Secretary of the Treasury In that difficult position he took part in framing for Congress the new fiscal legislation necessitated by the Civil War, collected new taxes, placed unprecedentedly large loans with reluctant investors, and directed vast expenditures To assist in government financing and also to improve the status of the currency, he proposed the national bank system (established in Feb , 1863), which is generally considered his greatest achievement Although Lincoln had a high regard for his obvious abilities, Chase somewhat resented the President and completely disliked the idea of occupying a position second to William H SEWARD, the Secretary of State He and Secretary of War Edwin M STANTON had close relations with the anti-Lincoln radical Republicans of Congress. Meanwhile, with the large patronage at his disposal, he was busily at work to secure the presidential nomination in 1864 At least four times Chase had, for various reasons, offered his resignation, which was never accepted, and he thus considered himself indispensable to Lincoln But his next offer, made (June 29, 1864) after the President had overruled him on an important appointment, was promptly accepted, much to his astonishment and chagrin His campaign for the presidential nomination also collapsed Chase was still, however, an important national figure, and on Dec 6, 1864, after the death of Roger B Taney, Lincoln appointed him Chief Justice of the U S Supreme Court. He took a moderate stand in most of the important Reconstruction cases. His dissenting opinion in the SLAUGHTERHOUSE CASES subsequently became the accepted position of the courts as to the restrictive force of the Fourteenth Amendment. On the other hand, his decision (1870) in *Hepburn vs Griswold* (see LEGAL TENDER CASES) was soon reversed For his fairness in presiding over the Senate in the impeachment trial of President Andrew Johnson, he was furiously denounced by his old radical friends Chase, abetted by the beautiful and talented Katherine Chase Sprague, his devoted daughter by the second of his three wives (all of whom were short-lived), persisted in seeking the presidential will-o'-the-wisp. His daughter, a shrewd politician herself, worked hard, but neither the Democrats in 1868 nor the Liberal Republicans in 1872 were interested in her father See his diary and correspondence (1903), biography by A B. Hart (1899); D V Smith, *Chase and Civil War Politics* (1931); T H Williams, *Lincoln and the Radicals* (1941); B J Hendrick, *Lincoln's War Cabinet* (1946).

Chase, Samuel, 1741–1811, American Revolutionary patriot, signer of the Declaration of Independence, Associate Justice of the U S. Supreme Court, b. Somerset co , Md He studied law (1759–61) in Annapolis, became active in pre-Revolutionary activities, and was a delegate to the First and Second Continental Congresses. In 1776 he was appointed, together with Benjamin Franklin and Charles Carroll of Carrollton, to win Canada to the Revolution, but the plan failed Chase helped to swing Maryland to support of independence from Great Britain Although he vigorously opposed adoption of the U S Constitution, he later became a Federalist and in 1796 was appointed to the U S Supreme Court A series of brilliant and influential decisions established his leadership in the court until he was eclipsed by the rising genius of John Marshall The failure (1804) to convict him when he was impeached for alleged political partiality against Jeffersonians discouraged attempts to impeach justices for purely political reasons

Chase, Stuart, 1888–, American economist, b Somersworth, N H , studied (1907–8) at Massachusetts Institute of Technology, grad Harvard, 1910 He was a certified public accountant (1910–17) and later (1917–22) investigated the meat-packing industry for the Federal Trade Commission From 1922 to 1939 he was associated with Labor Bureau, Inc , as a research economist, and he served as a consultant with the National Resources Committee (1934), the Resettlement Administration (1935), the Securities Exchange Commission (1939), and the Tennessee Valley Authority (1940–41) He is the author of many articles and books on economics which have contributed greatly to a popular understanding of the "economy of abundance " Among his best-known works are *The Tragedy of Waste* (1925), *Your Money's Worth* (with F J Schlink, 1927), *Men and Machines* (1929), *Mexico a Study of Two Americas* (with Marian Tyler, 1931), *The Economy of Abundance* (1934), *Rich Land, Poor Land* (1936), *The Tyranny of Words* (1938), *Idle Money, Idle Men* (1940), and *The Proper Study of Mankind* (1948)

Chase, William Merritt, 1849–1916, American painter, b Williamsburg, Ind , studied in Indianapolis and in Munich under Piloty In 1878 he began his long career as an inspiring teacher at the Art Students League of New York and later established his own summer school of landscape painting in the Shinnecock Hills, L I Proficient in many media, Chase is best known for his spirited portraits and still lifes in oil His *Carmencita, Lady in Black*, and portrait of Whistler (all Metropolitan Mus) and *My Daughter Alice* (Cleveland Mus) are characteristic He was president of the Society of American Artists for 10 years and a member of the National Academy of Design Recipient of numerous awards, Chase is represented in many leading American galleries See K M Roof, *Life and Art of William M Chase* (1917)

Chase City, town (pop 1,896), S Va , SW of Petersburg between the Meherrin and Roanoke rivers, inc 1873 It is a tobacco market and trade center for a farm area

chasing, the art, employed from very ancient times, of ornamenting metal surfaces with indented lines formed by chasing tools struck with a flat-headed chasing hammer *Repoussé* work is usually finished with chasing on the face of the metal The Greeks excelled in chasing armor, jewelry, and the drapery on statuettes The goldsmiths of the Italian Renaissance were especially adept A fine example is Cellini's Rospighosi cup in the Metropolitan Museum of Art The term *chasing* is applied also to touching up a casting to remove roughness

Chaska (chăs'ku), city (pop 1,927), co seat of Carver co , E Minn , on the Minnesota and SW of Minneapolis, settled 1853, inc as a village 1871, as a city 1891 It is a shipping center for a farm and dairy area and has a beet-sugar factory In the city park are Indian mounds

Chaskoi: see ISTANBUL, Turkey.

Chassepot, Antoine Alphonse (ătwän' älfôs' shäspō'), 1833–1905, French inventor. He invented the Chassepot breech-loading rifle adopted by the French army in 1866 and used in the Franco-Prussian War.

Chassériau, Théodore (tāōdôr' shäsārēō'), 1819–56, French painter, b Santo Domingo, studied with Ingres in Rome At the age of 17 he gained immediate recognition with the exhibition of his *Cain, Cursed* and *Return of the Prodigal* These early works showed the classical influence of his master, but Chassériau soon developed a highly original style of great freedom Such works as *Two Sisters*, the portrait of Lacordaire, *Arabian Challenge*, and *Tepidarum* (all Louvre) brought him lasting fame as one of the great painters of his century. Even more important, perhaps, were his

mural decorations for the Church of St. Méry, Paris, and above all those for the Palais d'Orsay. The latter have been destroyed save for a few fragments preserved in the Louvre His untimely death cut short one of the most brilliant careers in the history of French painting.

Chassidim · see HASIDIM.

Chastelard, Pierre de Boscosel de (pyĕr' dŭ bôscōsĕl' dŭ shătŭlär'), c 1540–1563, French minor poet, famed for his connection with Mary Queen of Scots He accompanied Henri, comte de Damville (later duc de Montmorency), in Mary's cortege to Scotland in 1561 Madly in love with the queen, who exchanged verses with him, he hid in her bedchamber and was discovered and forgiven When he repeated the offense, he was executed This story is the subject of a drama by Algernon Charles Swinburne.

Chastellain, Georges (zhôrzh' shatŭlĕ'), c 1405–1475, French chronicler, historiographer to the dukes of Burgundy His *Grande Chronique*, covering the years 1419–70, is a valuable source

Chastellux, François Jean, marquis de (frăswä' zhă' markĕ' dŭ shătŭlŭ'), 1734–88, French author and soldier in the Seven Years War and the American Revolution He is chiefly known for his *Travels in North America in 1780, 1781, and 1782* (2 vols, 1786, Eng tr, 1787), a vivid and fairly accurate account of life in the United States He was elected to the French Academy in 1775 See J G Simcoe, *Remarks on the Travels of the Marquis of Chastellux* (1931)

chat, largest of the American warblers The yellow-breasted chat is a shy bird, nesting in dense thickets of the E United States and wintering in Mexico and Central America Its upper parts are olive green and its throat and breast bright yellow, fading to white below The eyes are rimmed with white, and the bill is large Its song of varied, imitative sounds is jerky and unmelodious In W North America is found the long-tailed chat In Europe the name chat is applied to several birds—the wheater, the whinchat, and the stonechat

château (shătō', Fr shatō'), royal or seigniorial residence and stronghold of medieval France—the counterpart of the English CASTLE of the period In such a fastness peasants of the surrounding country took refuge in time of war The early fortified château, called a *château-fort*, reached its culmination in the late 15th cent, when the magnificent feudal Pierrefonds was built near Compiègne The 16th-century château, with its gardens and outbuildings, was usually surrounded by a moat, but was only lightly fortified Notable châteaux of the transition period between the military château and the later country estate with extensive landed property are those of the Loire, Indre, and Cher valleys, such as Amboise, Blois, Chenonceaux, Azay-le-Rideau, and Chaumont

Chateaubriand, François René, vicomte de (frăswa' runä' vēkōt' du shătōbrē'), 1768–1848, French writer, b Saint-Malo He visited the United States in 1791 and afterward pretended to have searched for the Northwest Passage, although he apparently did not go beyond Niagara Falls He returned to France, but became an émigré and lived in England until 1800 In England he published his first book, *Essai historique, politique, et moral sur les révolutions* (1797) *The Genius of Christianity* (1802, Eng tr, 1856) and two extracts from it, *Atala* (1801, Eng tr, 1814) and *René* (1802), made him the most important author of his time in France In 1803 Napoleon appointed him secretary of the legation to Rome and minister to Valais, but in 1804, upon the execution of the duc d'Enghien, he resigned these posts and became a bitter anti-Bonapartist In 1806 he visited Greece, Jerusalem, and Spain He supported the Bourbons and became a peer in 1815, minister plenipotentiary at the Congress of Verona (1822), ambassador to London (1822), and minister of foreign affairs (1823–24), but in 1830 he abandoned political affairs He was for many years the friend of Mme Récamier His other works include *The Martyrs* (1809, Eng tr, 1812, 1859), which celebrated the victory of Christianity over paganism, *Itinéraire de Paris à Jerusalem* (1811); and *Les Aventures du dernier Abencérage* (1826), which has been compared, for its description of the Alhambra, with Washington Irving He devoted his last years to his *Mémoires d'outre-tombe*[memoirs from beyond the tomb] (1849–50) Chateaubriand was the true founder of romanticism in France, and his prose enriched the language His accounts of travel were plagiaristic and partly imaginary, but rich, noble, and moving See biographies by André Maurois (1938, Eng tr, 1938) and Joan Evans (1939).

Château d'If (shătō" dēf'), castle built in 1524 on the small rocky isle of If, off Marseilles, SW France Long used as a state prison, it has been made famous by Alexandre Dumas in his *Count of Monte Cristo*.

Château Gaillard (shătō' glär') [Fr, =castle saucy], fortress built (1196) by RICHARD I of England, in defiance of his treaty obligations, to protect Normandy from Philip II of France. Its ruins stand on a crag above the Seine near Les Andelys, France. It is one of the finest examples of medieval military architecture. Philip II, after a long siege, took it by assault in 1204 DAVID II of Scotland took refuge here in 1334, and it was the prison of CHARLES II of Navarre in 1356. In 1591 Henry IV of France had it dismantled.

Chateauguay (shă"tugā', shă"tugä'), village (pop 1,183), N N Y, NE of Malone; settled 1796, inc 1869 Near the Quebec line, it is a port of entry

Chateauguay, Fr *Châteauguay*, river rising in Chateaugay Lake in the Adirondacks, NE N Y, and flowing through Quebec to empty into the St Lawrence c 14 mi above Montreal and opposite the mouth of the Ottawa river In the War of 1812 the battle of Chateauguay was fought (1813) on this river in Quebec between an American invading force of 7,000 under Wade Hampton and some 750 Canadians and Indians The Americans, attempting to join the forces of Gen James Wilkinson, met with defeat, and the contemplated attack on Montreal was abandoned

Châteauguay (shatōgā'), town (pop 1,425), S Que, on the Châteauguay river and SW of Montreal

Château-Renault, François Louis Rousselet, marquis de (frăswa' lwē' rōōsulā' markĕ' du shătō'-runō'), 1637–1716, French vice admiral, marshal of France He escorted James II to Ireland (1689), fought at Beachy Head (1690), and commanded the Franco-Spanish fleet at VIGO (1702)

Châteauroux (shătōrōō'), town (pop 31,195), capital of Indre dept, central France, on the Indre river It has textile, metal, and tobacco manufactures

Château-Thierry (shătō-tyĕrē'), town (pop 7,283), Aisne dept, N France, in Champagne, on the Marne During the second battle of the Marne (1918), in which the last German offensive was stopped mainly by U S troops, Château-Thierry as well as the near-by town of La Fère-en-Tardenois, to the west, and BELLEAU WOOD, to the east, were focal points The imposing monument to the Americans, just outside the town, remained undamaged in the Second World War, but the monument to the U S 3d Division, in Château-Thierry, was destroyed The house where La Fontaine was born is now a museum

Châtelet, marquise du see DU CHÂTELET-LOMONT

Châtellerault (shatĕlrō'), town (pop 19,216), Vienne dept, W central France, on the Vienne river It has important manufactures of firearms and cutlery

Chatfield, farm trade city (pop 1,640), SE Minn, SE of Rochester, founded before 1856

Chatham, William Pitt, 1st **earl of** (chă'tum), 1708–78, English statesman He was the younger son of a country squire whose family wealth had been made in India Educated at Eton and at Oxford, he entered Parliament in 1735 Immediately he opposed the weak foreign policy of the Whig prime minister, Sir Robert Walpole, and supported the opposition party of Frederick, prince of Wales, against King George II His criticism of Walpole's conduct of the war with Spain (the War of the Austrian Succession) was largely responsible for Walpole's downfall in 1742 Though George II detested Pitt and the court circle distrusted him, the early disasters in the SEVEN YEARS WAR gave the Great Commoner such an opportunity to denounce government policies in his eloquent speeches that in 1756 Pitt was made a secretary of state and the next year he headed a coalition ministry with Thomas Pelham Holles, duke of Newcastle His subsidies to Frederick II of Prussia, his efficient handling of military supplies, his shrewd choice of commanders, his frankness, and his ability to raise English morale resulted in crushing the French power in India and in capturing the French provinces in Canada George III on coming to the throne (1760) forced him to resign, and as a result Pitt was to see some of the war's gains thrown away in the Treaty of Paris (1763) He joined the opposition in attacking the harsh American policy of the "king's friends" In 1766 he was recalled to office as lord privy seal and created earl of Chatham Soon forced out of public life (1767) by mental disorder, he returned in 1768 In his rare speeches in the House of Lords thereafter, he urged conciliation of the colonies, and after the outbreak of the American Revolution he favored any peace settlement short of granting the colonies independence On this issue he broke with the Whigs, and his last speech was a plea against the disruption of the empire he had done so much to build At its conclusion he collapsed and was carried home to die. Proud, dramatic, patriotic, Pitt excelled as a war minister, an orator, and a politician By his honest reports on the war to the nation when he was prime minister and by his demands for electoral reform and his insistence on the constitutional rights of Englishmen, he advanced England's progress toward democracy—an advance his son, William Pitt, was to carry on See biographies by Basil Williams (2 vols, 1913) and W. C. B. Tunstall (1938); C G Robertson, *Chatham and the British Empire* (new ed, 1948)

Chatham. **1** Town (pop 4,082), E N B, on the estuary of the Miramichi river. It has an excellent harbor with steamer communication to other river and coast points and has shipyards, pulp mills, and a large lumber trade; it is also a major fishing center There is a Roman Catholic cathedral The population is mainly Acadian French **2** City (pop 17,369), S Ont, E of Detroit, Mich, on the Thames river, which gives it connection with Lake St Clair and thus with the Great Lakes It is an industrial center, in a rich mixed farming and fruit-raising region The site was selected by Lieutenant Governor Simcoe in 1795, but settlement dates from c 1835

Chatham, municipal borough (1931 pop 42,999, 1947 estimated pop 41,360), Kent, England, on the Medway above its junction with the mouth of the Thames It is a great naval station, with a 3-mile river front, extensive well-equipped dockyards, dry docks, and shipbuilding and repairing equipment The borough is contiguous to ROCHESTER There are indications of Roman settlement The first dockyard here was established by Elizabeth in 1588

Chatham. **1** Resort and fishing town (pop 2,136), SE Mass, on S Cape Cod, settled 1665, inc 1712 The town has a lighthouse and a U S coast guard station Some 18th-century buildings remain **2** Residential suburban borough (pop 4,888), NE N J, on the Passaic and W of Newark, settled 1749, inc 1897 It has a pre-Revolutionary inn **3** Village (pop 2,254), E N Y, SE of Albany, inc 1869 It is a railroad junction with small manufactures **4** Town (pop 1,230), SW Va, N of Danville in the Blue Ridge foothills, inc 1852 The courthouse of Pittsylvania co is here Preparatory schools for girls and boys are in the town

Chatham Island · see SAVAII

Chatham Islands, group (373 sq mi, pop 505), S Pacific, c 400 mi E of New Zealand, to which it belongs The two largest islands are Chatham Island, containing a large central lagoon, and Pitt Island The inhabitants engage in sheep raising The islands were discovered in 1790 by the British

Châtillon, Sébastien, see CASTALION, SÉBASTIEN

Châtillon-sur-Seine (shătēyō'-sür-sĕn'), town (pop 1,857), Côte-d'Or dept, E France, on the Seine A residence of the early dukes of Burgundy, it has a 10th-century church The town was damaged in the Second World War Here Napoleon I and his opponents unsuccessfully sought a peace settlement (Feb–March, 1814)

Chatrian, Alexandre see ERCKMANN-CHATRIAN

Chatsworth, seat of the dukes of Devonshire, in Derbyshire, England, near the Derwent The famous Chatsworth House, on the site of a house built in the middle of the 16th cent, dates from 1688 Its gardens, libraries, picture galleries, and collections of sculpture are noted

Chatsworth. **1** City (pop 1,001), co seat of Murray co, NW Ga, near the Tenn line NE of Rome It is the center of a talc-mining area Near by are Fort Mountain State Park and the site of a Moravian mission (1802–33) **2** Farm town (pop 1,036), N central Ill, NE of Bloomington, laid out 1858, inc 1867

Chattahoochee (chătuhōō'chē), river rising in N Georgia, flowing generally south c 420 mi, and meeting the Flint at the Fla line to form the Apalachicola It is navigable to Columbus It forms part of the Georgia-Alabama and Georgia-Florida boundaries

Chattanooga (chătŭnōō'gu), city (pop 128,163), co seat of Hamilton co, E Tenn, on Moccasin Bend of the Tennessee near the Ga line, inc as a town 1841, as a city 1851 It is almost surrounded by mountains, including Missionary Ridge, Signal Mt, and Lookout Mt Settled in 1815 as a trading post called Ross's Landing, it was laid out in 1837 as Chattanooga A center first of salt shipping and then of cotton shipping on the river, the city expanded with the arrival of the railroads in the 1840s and '50s It was of great strategic importance in the Civil War (see CHATTANOOGA CAMPAIGN) Southeast and southwest of the city lies Chickamauga and Chattanooga National Military Park (in two distinct parts, 6,277 4 acres in Georgia, 1,849 76 acres in Tennessee, est 1890), embracing the battlefields of the campaign Adjacent to the southeast section of the park, in Georgia, is Fort Oglethorpe, a military post In the city itself are a Confederate cemetery and a national cemetery Chattanooga is now a port of entry and an important industrial, railroad, market, and resort center for a widespread area yielding coal and iron, farm produce, and timber The city's diversified manufactures include textiles, hosiery, chemicals, and iron and steel products Electric power, augmented in recent years by the TVA project, has played an important role in the city's development—Chickamauga Dam is near by—and various other factors have multiplied greatly the population of the metropolitan district (193,215 in 1940) The Univ of Chattanooga (Methodist, coeducational, 1889) and Chattanooga College of Law are in the city Adolph S Ochs owned the Chattanooga *Times* from 1878 until his death

Chattanooga campaign, Aug–Nov, 1863 In the Civil War, Chattanooga, which commanded Confederate communications between the East and the Mississippi river and was also the key to loyal East Tennessee, became an important Union objective as early as 1862 (see BUELL, DON CARLOS).

In 1863 ROSECRANS, commanding the Army of the Cumberland, obliged Braxton BRAGG to withdraw his Confederate army from middle Tennessee (June–Aug) and maneuvered him out of Chattanooga (Aug. 16–Sept 8) Bragg withdrew to Lafayette, Ga , c.24 mi south, and with reinforcements marched back and attacked Rosecrans at Chickamauga Creek, c 12 mi S of Chattanooga In the battle of Chickamauga (Sept 19–20), the Confederates routed the Union right but could not crush the left under George H THOMAS, who held off the enemy until Rosecrans ordered him to withdraw to Chattanooga Bragg then took up a position extending along Missionary Ridge across Chattanooga Valley to Lookout Mt and laid siege to the town An alarmed Federal administration at Washington called for U S GRANT, who arrived at Chattanooga on Oct 23, 1863. Generals W F SMITH and Joseph HOOKER executed a coup (Oct 26–29) that restored a sorely needed supply line on the Tennessee river, so Grant was ready to move by late November Sherman, who had brought up reinforcements from Vicksburg, commanded the right, Thomas, the center, and Hooker, with two corps from the Army of the Potomac, the left On Nov 24, Hooker drove the Confederates from Lookout Mt in the Battle above the Clouds On Nov 25, Sherman could make no headway against Missionary Ridge from its northern end, so Grant ordered the center to advance Thomas's men proceeded to carry Bragg's position at the top, where Hooker's forces joined them in routing the Confederates By nightfall Bragg was in full retreat to Georgia The victory left Chattanooga in Union hands for the rest of the war

chattel (chă'tŭl), in law, any property other than a FREEHOLD estate in land A chattel is treated as personal property rather than real property regardless of whether it is movable or immovable (see PROPERTY). Certain uses of the term (e g , chattel mortgage) refer only to movable property Otherwise the term also includes chattels real, i e , those estates in land which do not constitute a freehold

Chatterton, Thomas, 1752–70, English poet, posthumous son of a Bristol writing master At 12 Chatterton was already composing the "Rowley Poems," saying they were copies of 15th-century manuscripts at the Church of St. Mary Redcliffe, Bristol, where his grandfather had been sexton. In 1769 he sent some of these forgeries to Walpole, who was enthusiastic about them When he discovered the age of his correspondent, Walpole returned the poems to Chatterton—a crushing blow to the sensitive boy. Chatterton went to London in 1770. After four months of trying, with small success, to sell his poems to various magazines, he was on the point of starvation Too proud to borrow or beg, he poisoned himself and died at the age of 17 An original genius as well as an adept forger, Chatterton used 15th-century vocabulary, but his rhythms and his approach to poetry were much more modern The "Rowley Poems" were soon recognized as forgeries, but the vigor and medieval beauty of such poems as "Mynstrelles Songe" and "Bristowe Tragedy" established Chatterton as a precocious genius and later made him a hero to the romantic and Pre-Raphaelite poets. See his works (ed by H. D. Roberts, 2 vols , 1906), biography by W M Dixon (1930)

Chaucer, Geoffrey (jĕf'rē), c 1340–1400, English poet He is the most important figure in English literature before Shakspere The known facts of Chaucer's life are fragmentary and are based chiefly on official records He was born in London between 1340 and 1345, the son of John Chaucer, a vintner In 1357–58 he was a page in the household of Prince Lionel, and later he seems to have been in the service of John of Gaunt In 1359–60 he was with the army of Edward III in France, where he was captured by the French but ransomed In 1367 he is described as a valet of the king's household, and by this year he was firmly established in a career at court. In 1366 or earlier he had married Philippa (de Roet?), a lady-in-waiting to Queen Philippa. During the years 1370–78 Chaucer was frequently employed on diplomatic missions to the Continent, visiting Italy in 1372–73 and again in 1378. From 1374 on, he held a number of official positions, comptroller of the customs on wool and hides at the port of London (1374–86), comptroller of petty customs (1382–86), knight of the shire for Kent (1386), clerk of the king's works (1389–91). The traditional date of his death is Oct 25, 1400 Chaucer's literary activity can be divided into three periods. (1) From the beginning to c 1375, during which time his work was based on French models, primarily on the *Roman de la Rose* and Guillaume de Machaut Chaucer's chief works of this period are a partial translation of the ROMAN DE LA ROSE and the *Book of the Duchesse*, written on the death of Blanche, wife of John of Gaunt, in 1369. (2) From the time of Chaucer's introduction to Italian literature (through his two visits to Italy) until c.1385. The chief works of this period are the *House of Fame* and the *Parliament of Fowls*, in both of which the influence of Dante was strong, and the translation of Boethius' *De consolatione philosophiae*. (3) The period of Chaucer's full artistic power. *Troilus and Criseyde*, a poem in five books, based on Giovanni Boccaccio's story *Filostrato* (see TROILUS AND CRESSIDA), was written probably in 1385–86 The *Legend of Good Women*, a collection of stories of historic women noted for their constancy, with a charming prologue, was begun c.1385 but never finished, the poet's interest soon being absorbed by the *Canterbury Tales* The *Canterbury Tales* are a collection of stories represented as being told by the members of a pilgrims' party going from London to the shrine of St Thomas at Canterbury This narrative frame, presented in detail in the Prologue to the *Tales*, is similar to that of Boccaccio's *Decameron* and was a frequent device in medieval literature The *Canterbury Tales*, begun probably c 1387 and left unfinished at the poet's death, present a splendid pageant of English life in the Middle Ages Written mainly in heroic couplets, the whole work is about 17,000 lines long Probably between 1387 and 1391 Chaucer wrote his prose fragment *The Treatise on the Astrolabe* for his son Lewis Although Chaucer was by no means the "father of English poetry," as he has been called, a primary result of his work was to reestablish the prestige of the English language as a vehicle for literary expression His poetry is also a landmark in the history of English versification He was the first English poet to use the iambic PENTAMETER, since then a fundamental part of the equipment of English poets, and he introduced a number of elaborate stanza forms, chief of which was the seven-line stanza later called rhyme royal In the use of rhythmical variation within the line, he anticipated Spenser and later poets, Because of the changes which took place in the English language after 1400, Chaucer did not have the immediate influence he deserved upon English poetry, his metrical technique being incomprehensible to his successors, and though his fame as a narrative artist has always been secure, it is only in quite recent times that he has been recognized as one of the greatest of English metrists In the 15th and 16th cent it was only in Scottish literature that his genius was really understood and his influence properly felt The best editions of all the works are those by F N Robinson (1933) and W W Skeat (7 vols , 1894–1900), of the *Canterbury Tales* alone, those by J M Manly (1928) and J M Manly and Edith Rickert (8 vols , 1940) Important also is *The Sources and Analogues of Chaucer's Canterbury Tales*, edited by W F Bryan and Germaine Dempster (1941) There is a prose translation of the complete works by J S. P Tatlock and Percy MacKaye (1912), of the *Canterbury Tales* by R M. Lumiansky (1948), and a verse translation of *Troilus and Criseyde* by G P Krapp (1932) See also W W Skeat, *The Chaucer Canon* (1900), G L Kittredge, *Chaucer and His Poetry* (1915), J M Manly, *Some New Light on Chaucer* (1926), R D French, *A Chaucer Handbook* (1929), J L Lowes, *Geoffrey Chaucer and the Development of His Genius* (1934), H R Patch, *On Rereading Chaucer* (1939), biography by Marcette Chute (1946) For background see G C Coulton, *Chaucer and His England* (3d ed , 1921), Edith Rickert and others, *Chaucer's World* (1948),

Chaudière (shōdyĕr'), river, c 120 mi long, rising in SE Quebec immediately N of the Maine-Que boundary and flowing NW to the St Lawrence just above the city of Quebec It drains the east half of the so-called "Eastern Counties" of Quebec

Chaudière Falls, in the Ottawa river in the heart of the city of Ottawa, Ont The river is narrowed by rocky cliffs to a width of but 200 ft and drops about 50 ft Several bridges cross the river here, passing over the falls

Chauliac, Guy de (gē' du shōlyăk'), c 1300–c 1370, French surgeon Most of his life was spent at Avignon, where he was physician to Pope Clement VI and to two of his successors His *Chirurgia magna* (1363, pub 1478) was used as a manual by physicians for three centuries

chaulmoogra oil (chălmōō'gru), volatile oil from the seeds of an Asiatic tree, *Taraktogenos* (or *Hydnocarpus*) *kurzii*, which has been found efficacious in the treatment of leprosy and other skin diseases Derivatives, chiefly esters, of the oil are generally given by intramuscular injection The curative properties of chaulmoogra oil have long been known to natives of India and SE Asia, but not until recently was it used in Western medicine as a remedy for leprosy

Chaumette, Pierre Gaspard (pyĕr' gäspär' shōmĕt'), 1763–94, French revolutionist, an extremist and an agitator. A member of the CORDELIERS, he collaborated with HÉBERT in attempting to stamp out all royalists and in introducing (1793) the worship of Reason Chaumette was general prosecutor (1792–94) and principal leader of the Paris commune Though he instituted social and moral reforms in the city, his private life is reputed to have been not above reproach. When Robespierre turned upon the Hébertists, Chaumette vainly tried to escape execution by renouncing Hébert

Chaumonot, Joseph Marie (shōzĕf' mărē' shōmō-nō'), 1611–93, French Roman Catholic missionary to New France, a Jesuit. He arrived in 1639 in Quebec. He worked first with Brébeuf among the Huron near Georgian Bay until the massacres and destruction by the Iroquois (1649); he escaped and led 400 Huron to the reservation appointed for them on the Ile d'Orléans at Quebec He next went into central New York to preach to the Iroquois (1655–58) and then returned to Quebec, where he remained His autobiography is important, and his Huron grammar is unique.

Chaumont (shōmō'), town (pop. 15,068), capital of Haute-Marne dept , NE France, in Champagne It manufactures linen and cutlery, and there are quarries near by In the First World War, Chaumont served as American field headquarters. For the Treaty of Chaumont (1814), see QUADRUPLE ALLIANCE.

Chaun Bay (shōōn'), inlet of the Arctic Ocean, RSFSR, in NE Siberia, at lat 69° N It receives the Chaun river (c 100 mi. long).

Chauncey, Isaac, 1772–1840, American naval officer, b Black Rock, Conn He entered the navy (1799) and served in the hostilities with France and in the Tripolitan War. In the War of 1812 he was given command of Lake Erie and Ontario and established his headquarters at Sackets Harbor Chauncey assembled a formidable fleet In 1813 he defeated a British squadron under Sir James Yeo at York Bay and aided the army in taking York (now Toronto) and Fort George The next year he failed to support Gen. Jacob Brown in his York campaign and was relieved of his command He later (1816–18) commanded the Mediterranean squadron

Chauncey, village (pop 1,234), SE Ohio, N of Athens, in a coal-mining area

Chauncy, Charles, 1705–87, American Congregational clergyman, b Boston, grad Harvard (B.A , 1721, M A , 1724). He was ordained minister of the First Church, Boston, in 1727 and remained in this pulpit for 60 years Next to Jonathan EDWARDS, his great opponent, Chauncy was probably the most influential clergyman of his times in New England. As an intellectual he distrusted emotionalism and opposed the revivalist preaching of the GREAT AWAKENING in his *Seasonable Thoughts on the State of Religion in New England* (1743) and other pamphlets He became the chief leader of the "Old Lights" or liberals in theology in the doctrinal disputes following the Great Awakening He was also the leader in the opposition to the establishment of an Anglican bishopric in the American colonies, writing his *Compleat View of Episcopacy* (1771) and other works on the subject A firm believer in the patriot cause, he clearly set forth the political philosophy of the American Revolution in sermons and pamphlets during the period After the war he came out boldly as a Universalist in his *Salvation for All Men* (1782) and *The Mystery Hid from Ages and Generations* (1784). See Williston Walker, *Ten New England Leaders* (1901)

Chautauqua (shutôk'wu), resort village (pop c 300), W N Y , on the west shore of Chautauqua Lake Here is the site of the Chautauqua Institution, which since 1874 has offered popular summer lectures and concerts

Chautauqua Lake, 18 mi long and 1 to 3 mi wide, W N Y , near Lake Erie, in a resort area It lies at an altitude of 1,308 ft , in a region producing grapes and other fruits

Chautauqua movement, development in adult education somewhat similar to the LYCEUM movement It derives its name from the institution at Chautauqua, N Y There in 1873 John Heyl VINCENT and Lewis Miller proposed to the Methodist Episcopal camp meeting they were attending that secular as well as religious instruction be included in the summer Sunday-school institute. Established on that basis in 1874, the institute developed into an eight-week summer program, offering courses in arts, science, and humanities Thousands attend the institution each year For those who cannot attend, there are courses for home study groups, and lecturers are sent out to supplement the material furnished from the organization's publishing house Other communities were inspired to form local Chautauquas, and possibly two or three hundred were organized, though few were so successful as the original To lecture to their members these local groups brought authors, explorers, musicians, and political leaders, and a variety of entertainment was furnished The Chautauquas had something of the spirit of the revival meeting and something of the county fair In 1912 the movement was organized commercially, and lecturers and entertainers were furnished to local groups on a contract basis This commercial endeavor was extremely successful, persisting until c.1924, soon after that the circuits ended, although the assembly at Chautauqua continued. See J H Vincent, *The Chautauqua Movement* (1886), A E. Bestor, *Chautauqua Publications* (1934); Gay MacLaren, *Morally We Roll Along* (1938); Rebecca Richmond, *Chautauqua: an American Place* (1943), Victoria Case and R O Case, *We Called It Culture. the Story of Chautauqua* (1948).

Chautemps, Camille (kämē'yŭ shōtă'), 1885–, French politician, a Radical Socialist leader. He held numerous cabinet posts and was premier in 1930 and in 1933–39, when the STAVISKY AFFAIR (in which he was not directly implicated) caused

his resignation. **Chautemps was a member of the** first Popular Front cabinet under Léon Blum (1936–37) and headed the second, less radical, Popular Front cabinet (1937–38). In 1940 Chautemps came to the United States on a mission for the Vichy government, but he did not return and abandoned politics. In 1947 he was tried and convicted *in absentia* for his connection with the Vichy regime The fairness of the trial has been questioned

Chauveau, Pierre Joseph Olivier (pyĕr' shōzō' ōlēvyā' shōvō'), 1820–90, French Canadian politician, educator, and author, b Quebec, educated at the Quebec seminary In 1841 he was called to the bar He sat in the Canadian legislative assembly from 1844 to 1855 (serving as solicitor general and provincial secretary in the Hincks-Morin ministry and as provincial secretary in the MacNab-Morin ministry), but resigned (1855) to become superintendent of education in Lower Canada During his tenure of this post, normal schools were established and separate schools were created for English-speaking and French-speaking students With the achievement of confederation (1867) Chauveau became the first prime minister of the province of Quebec He remained premier until 1873 (holding the portfolios of minister of education and provincial secretary), when he was appointed to the Canadian Senate, of which he was speaker (1873–74) In 1878 he became professor of Roman law at Laval Univ Chauveau wrote the novel *Charles Guérin* (1852), several biographies, poetry, and essays, including *L'Instruction publique du Canada* (1876)

Chauveau-Lagarde, Claude François (klōd' frāswā' shōvō'-lägärd'), 1756–1841, French lawyer Having defended Brissot, Charlotte Corday, Marie Antoinette, and others before the Revolutionary Tribunal, he was imprisoned under the Terror but was saved through the overthrow of Robespierre (1794)

Chauvenet, William (shōvūnā'), 1820–70, American mathematician and astronomer, b Pike co , Pa , grad Yale, 1840 He held the post of professor of mathematics in the U S navy from 1841 to 1859 He was active in the establishment of the Naval Academy at Annapolis and became director of its observatory In 1859 he went to St Louis, Mo , as professor of mathematics and astronomy in Washington Univ , where he later became chancellor. His works include the *Treatise on Plane and Spherical Trigonometry* (1850) and *Manual of Spherical and Practical Astronomy* (1863)

Chauve-Souris see Baliieff, Nikita

chauvinism (shō'vŭnĭzm), word derived from the name of Nicolas Chauvin, a soldier of the First French Empire Used first for a passionate admiration of Napoleon, it now expresses exaggerated and aggressive nationalism As a social phenomenon, chauvinism is essentially modern, becoming marked in the era of acute national rivalries and imperialism during the 19th cent It has been fed by mass media of communication, originally the cheap newspaper Chauvinism exalts consciousness of nationality, spreads hatred of minorities and other nations, and is associated with militarism, imperialism, and racism The constant state of international crisis in the 20th cent has tended to make chauvinism endemic among large numbers in all nations See J. A Hobson, *Psychology of Jingoism* (1901)

Chaux-de-Fonds, La (lä shō-dŭ-fō'), town (pop 30,943), Neuchâtel canton, Switzerland A watchmaking industry was begun here c 1700

Chavannes, Puvis de see Puvis de Chavannes

Chávez, Carlos (kär'lōs chā'vās), 1899–, Mexican composer and conductor He established (1928) and was conductor of the Symphony Orchestra of Mexico and was director (1928–34) of the National Conservatory of Music, where he radically reformed the curriculum He has done much research in native Indian music and used Indian instruments in his *Xochipili Macuilxochitl* (1940). His works are strongly national and employ incisive rhythms In some the influence of Stravinsky is evident Important works are the ballet *El fuego nuevo* (1921), the first work of his mature period; the ballet-symphony *H P.* [horsepower] (1926–27); *Sinfonía Antígona* (1933), for Cocteau's version of Sophocles' drama; *Sinfonía india* (1935–36), composed in the United States, *La paloma azul* (1940), for chorus and orchestra, and a piano concerto (1941) His philosophy of music is presented in his book, *Toward a New Music* (Eng tr , 1937) See Aaron Copland, *Our New Music* (1941).

Chaykovsky, Nikolai Vasilyevich (nyĭkulī' vŭsē'lyŭvĭch chĭkŏf'skē), 1850–1926, Russian revolutionist Studying at St Petersburg, he helped to found the Chaykovsky circle, an idealistic socialist group which subsequently developed into the *Narodniki* [populists] movement He emigrated to the United States and established (1875) an agricultural communistic settlement in Kansas; the aim of its members was to "seek God in themselves " The experiment failed after two years Chaykovsky settled (1880) in London, but in 1905 returned to Russia, where he was a leader of the People's Socialist party. He opposed the Bolshevik Revolution of 1917, headed (1918–19) the counterrevolutionary government at Archangel under the auspices of the Allied expeditionary force, and joined (1920) General Denikin in the Crimea When the Bolsheviks gained full victory, he fled to Paris, where he died. The name may also be spelled Tchaikovsky.

Chazars: see Khazars.

Cheaha (chē'hô), peak, 2,407 ft. high, E Ala., in the Talladega Mts S of Anniston, highest point in Alabama. It is included in a state park

Cheapside [O E *cēap*=bargain], street in the City of London, the most important market center of medieval London It runs from St Paul's churchyard to the Bank of England Tournaments and occasionally executions took place here Some of its ancient guildhalls were destroyed or damaged in the Second World War. The Mermaid Tavern was in the district

Cheat, river formed at Parsons, N W Va., by the Shavers and Black forks and flowing c 78 mi. N to the Monongahela at Point Marion, Pa

Cheb, Czechoslovakia see Eger

Chebar (kĕ'bär), canal of Mesopotamia, on which captive Jews were settled. Ezek. 1 1,3; 3.15

Chebeague Island see Great Chebeague Island.

Cheboksary (chŏbŭksä'rē), city (pop 12,246), capital of Chuvash Autonomous SSR, E European RSFSR, on the Volga It is the center of an agricultural region and the site of a projected hydroelectric plant Founded in 1556, it has a 16th-century monastery, a 17th-century cathedral, and a Chuvash museum Its schools include an agricultural college and a teachers college

Cheboygan (shĭboi'gŭn), city (pop 5,673), co. seat of Cheboygan co , N Mich , on the south channel of the Straits of Mackinac at the mouth of the Cheboygan, settled 1857, inc as a village 1871, as a city 1889 Once an important lumber town, it is now a resort, farm trade center, commercial fishing port, and port of entry Among its manufactures are tissue paper and other wood products Near by is a large biological station of the state university.

Cheboygan, river rising in N Michigan, draining Mullett Lake, and flowing into Lake Huron at Cheboygan, on the Straits of Mackinac It was important during the lumbering era

Chechen (chĭchĕn'), Moslem people native to the northern slopes of the central Greater Caucasus, SE European RSFSR They speak a North Caucasian tongue (see Caucasus) During the first half of the 19th cent , particularly during the Shamyl rebellion, the Chechen fought ferociously against the Russian forces until 1859 In 1934 the Chechen, numbering c 400,000, and the closely related Ingush (c 90,000) were merged to form an autonomous oblast, made an autonomous republic (6,100 sq mi , pop 697,408) in 1936 In the Second World War the Chechen and Ingush collaborated with the German invaders. As a result the republic was dissolved (1944), most of it becoming part of Groźny oblast, the rest passing to Dagestan, the North Ossetian Autonomous SSR, and Georgia The Chechen and the Ingush were resettled elsewhere in Russia

check or cheque, a Bill of exchange drawn upon a bank or trust company or broker connected with a clearing house It calls for the payment to the bearer or to a specified person of a certain amount of cash on presentation to the bank or other drawee, payment to be made from the funds of the maker or drawer on deposit with the drawee It is intended for prompt presentation, rather than for use as a continuing currency When the check is presented, the drawee pays the designated sum to the holder and cancels the check, which is then returned to the drawer as his receipt To prevent fraud, checks are usually of tinted paper and are filled in with ink, the figures may be punched out of the paper or embossed But a check is good even if written in lead pencil on any kind of paper Many business houses use the check as their sole receipt Whether or not the check will be paid by the banker depends upon his recognition of the drawer's signature and upon the banker's confidence in the person presenting the check for payment A bank becomes primarily liable for payment only when it "certifies" on a check that the necessary funds are in the bank to the credit of the drawer However, a bank is usually responsible to its depositor for paying forged checks All checks accepted by a bank are turned over daily to a clearing house, which cancels checks due from and to all banks of a given neighborhood, the balances alone being paid in cash. Instead of cashing their incoming checks, business houses usually deposit them as received and draw their own checks for payment of their debts Checks were probably used in Italy in the 15th cent and in Holland in the 16th, whence their use spread to England and the American colonies in the 17th cent Their use to first place as a medium of exchange in industrialized nations took place in the 19th cent , their importance varying with differences in banking facilities, the density of population, and commercial activity. About 90 percent of all transactions in the United States and England are said to be effected by checks.

See W. E Spahr, *The Clearing and Collection of Checks* (1926).

checkerberry: see wintergreen

checkers, game for two players, known in England as draughts It is played on a square board, divided into 64 alternately colored—usually red and black or white and black—square spaces, identical with a chessboard Each player is provided with 12 pieces (in the form of disks) of his own color, and all play is conducted on the black squares Players sit on opposite sides of the board and move their pieces diagonally in a forward direction Upon reaching the last rank of the board, pieces are "crowned," and the kings may move both backwards and forwards diagonally. The object is to trap or eliminate from play the opponent's pieces by "jumping" them. The game has been played in Europe since the 16th cent , and a similar game was certainly known to the ancients See Edward Lasker, *Chess and Checkers the Way to Mastership* (1948)

Checotah (shŭkō'tŭ), city (pop. 2,126), E Okla., SW of Muskogee, settled 1872 It is the trade center of a farm and livestock area

Cheddar (chĕ'dur), village, Somerset, England, near the Mendip Hills SW of Bristol There is a famous gorge near, with cliffs, stalactite caves, and vestiges of prehistoric settlement

Cheddar cheese, hard rennet cheese For over two centuries a noted product of the vicinity of Cheddar, it was probably the first to be made by an exact recipe The method has been widely adopted especially in the United States, Canada, and Australia

Chedorlaomer (kĕd'urlā'ŏmur, -lāō'-), king of Elam With him were allied Amraphel, king of Shinar, Arioch, king of Ellasar, and Tidal, "king of nations." They attacked the Cities of the Plain and were pursued and slain by Abraham Gen 14 1–16

cheese, food known from ancient times and consisting of the curd of milk separated from the whey The milk of mares and goats was used by the ancient Greeks, camel's milk by the early Egyptians, the reindeer's by the Laplanders Sheep's milk and goat's milk are still used in Europe and Asia, in the Western Hemisphere cow's milk is most common The milk may be raw or pasteurized, sweet or sour, whole, skimmed, or with added cream The chief milk protein, casein, is curdled or coagulated by the enzyme action of rennet or pepsin, by lactic acid produced by bacterial action, or by a combination of both The draining off of the whey (milk serum) may be facilitated by heating, cutting, and pressing the curd The yield of cheese ranges from 8 to 16 lb per 100 lb of milk and is higher for the soft cheeses, which retain more moisture The numerous cheeses (often named for their place of origin) are of about 18 varieties and depend for their distinctive qualities on the kind and condition of the milk used, the processes of making, and the method and extent of curing They may be divided into two classes, hard cheeses, which improve with keeping under suitable conditions, and soft cheeses, intended for immediate consumption Hard cheeses include the very hard Cheddar, Edam and Gouda (Dutch), Emmental or Gruyère (Swiss), and Parmesan and the semihard Stilton, Roquefort, Gorgonzola, and American brick Soft cheeses are cottage cheese, cream cheese, Neufchâtel (French), and ripened Camembert, Brie, and Limburger (which originated in Belgium) Microorganisms introduced or permitted to develop in cheese, especially during the ripening process, impart distinctive flavors and textures Roquefort, Stilton, and Gorgonzola owe their bluish marbling to molds, Emmental and brick are ripened by bacteria which produce gas, entrapped in the curd to form holes; Limburger attains a creamy consistency through bacteria-ripening During the curing period the casein is broken down into more soluble and digestible form by enzyme action Cheese is valuable in the diet as a source of complete protein, fat, insoluble minerals (calcium, phosphorus, sulphur, and iron), and, when made from whole milk, vitamin A American cheddar, process cheese, and cottage cheese lead in the U S market, which also consumes considerable quantities of domestic Limburger, Roquefort (called blue cheese), cream, Neufchâtel, Swiss, brick, and Camembert, as well as some imported cheeses Process cheese is a blend of young and ripened cheeses or of different varieties, ground, heated with water and up to 3 percent of emulsifying salts, and poured into molds, usually loaf-shaped It is often homogenized and pasteurized Cheese, especially in the United States, is increasingly made in the factory by application of the principles of microbiology and chemistry Jesse Williams is credited with establishing in 1851 a cheesery in Oneida co , N Y Wisconsin has displaced New York state as the largest producer Whey, a by-product of cheese making, consists of water, lactose, albumin, soluble minerals, fats, and proteins Formerly wasted or used in livestock feeding, whey is now used for the preparation of milk sugar, lactic acid, glycerin, and alcohol, or is condensed and added to process cheese, or spray-dried. It may be made into cheese

such as the Scandinavian primost and mysost. See H C Sherman, *Food Products* (1933); A L Simon, *Catechism concerning Cheeses* (1936), C H. Eckles and others, *Milk and Milk Products* (2d ed , 1943).

cheetah (chē'tŭ) or **hunting leopard**, member of the cat family, native to Asia and Africa From early times it was tamed and used to hunt game, especially antelopes The common African cheetah (*Acinonyx jubatus*) is about the size of a leopard and has long legs and a tawny coat with round black spots. In India the cheetah is almost extinct

Chefoo, China see YENTAI

Chehalis (chĭhā'lĭs), city (pop 4,857), co seat of Lewis co , SW Wash , on the Chehalis river, inc 1890 Lumbering, food processing, and coal mining are carried on A state park and a state school for boys are here

Chehalis, river, c 115 mi long, rising in SW Washington near the Willapa Hills and flowing NW to Grays Harbor

Cheju (chĕ'jōō'), Jap *Saishu*, island (713 sq mi ; 1949 pop 254,589), Korea, in the East China Sea. It is an extinct volcano which rises to 6,398 ft There is agriculture, cattle raising, and fishing. It was formerly called Quelpart.

Cheka · see SECRET POLICE

Chekhov, Anton Pavlovich (chĕ'kôf, Rus ŭntôn' pāv'lŭvĭch chĕ'khŭf), 1860–1904, Russian short-story writer and dramatist His natural talent for writing found an outlet first in the comic magazines, for which as a university student he wrote quantities of brilliant, if trifling, potboilers He began serious writing in 1886 with the story "Mass for the Dead," published in the St Petersburg daily *New Times* In this as in all his hundreds of stories, the prevailing theme is man's essential loneliness and inevitable frustration A typical story is "The Chorus Girl" (1884, Eng tr in *Tales from Chekhov*, Vol VIII, 1920) Chekhov's style is simple and clear, his attitude toward his characters sympathetic yet realistic He never indulges in social criticism, yet none has portrayed with greater fidelity the dullness and stagnation of Russian life in his day In 1887 he turned to the drama with *Ivanov* (Eng tr , 1912) His success as a dramatist dates from the Moscow Art Theatre's performance in 1898 of a previously unsuccessful play, *The Sea Gull* (Eng tr , 1905) Many of Chekhov's stories and dramas have been translated, especially the short, humorous sketches and *Uncle Vanya* (1899), *The Three Sisters* (1901), and his masterpiece, *The Cherry Orchard* (1904), all of which were made available in 1923, at the time of the Moscow Art Theatre's visit to the United States See his *Letters to His Family and Friends* (Eng tr , 1920) and *Personal Papers* (Eng tr , 1948), Maxim Gorky, *Reminiscences of Tolstoy, Chekhov, and Andreev* (Eng tr , 1934), W H Bruford, *Chekhov and His Russia* (1948), biographies by W A Gerhardi (1923) and N. A. Toumanova (1937)

Chekiang (chĕ'kyäng'), Mandarin *Cheh-chiang*, province (39,632 sq mi , pop 21,157,009), SE China, on the China Sea The capital is Hangchow The province includes many islands, notably the Chusan Archipelago The coast is heavily indented, but the mountainous hinterland allows only a few breaks to the interior, chiefly at Ningpo and Wenchow There is extensive fishing Chekiang is fertile, particularly in the Yangtze delta plain in the north, where beans, rice, cotton, hemp, jute, and mulberry trees (for silk culture) are raised Tea is grown on the hill slopes The only important mineral resource is alum Manufactures of silk thread and satin cloth, chiefly at Hangchow, are the chief industries The Chientang and Wu rivers are the main communication routes

Chelal (kē'lăl) [Heb ,=perfection], Israelite of the return Ezra 10 30

Chelan (chĭlăn'), trading and tourist town (pop 1,738), central Wash , at the outlet of Lake Chelan near the Columbia, settled 1892, inc. 1902

Chelan, Lake, c 50 mi long and from ½ to 1½ mi. wide, in Chelan co , N central Wash , fed by streams from the Cascade Range Several resorts are here The **Chelan Mountains,** an eastern branch of the Cascades, run parallel to the lake on the west

Cheliuh (kē'lĭ'ŭ), Jew who had married a foreign wife Ezra 10 35

Chelm, Pol *Chełm* (khĕ'ŏŏm), Rus *Kholm* (khôlm), city (pop 23,329), SE Poland, E of Lublin Chiefly a trade center, it also has a metal industry Chelm became (13th cent) a bishopric of the Orthodox Eastern Church and is noted for its cathedral. It passed to Austria in 1795 and to the Russian Empire in 1815 and reverted to Poland in 1921 After the Second World War some of Chelm's Ukrainian population was evacuated to the USSR.

Chelmno, Pol. *Chełmno* (khĕ'ŏŏmnô), Ger. *Kulm* (kōōlm), town (pop 11,634), Pomorze prov , W Poland, near the Vistula Dating from the 10th cent , Chelmno was transferred (13th cent) to the Teutonic Knights, passed to Poland (15th cent), was included in Prussia (1772), and reverted to Poland in 1919 Mainly a trade center, it also produces foodstuffs Some historical structures remain. Napoleon I was defeated (1813) near by

Chelmsford, Frederic John Napier Thesiger, 1st Viscount (nā'pēur, thĕ'sĭjŭr, chĕms'fûrd), 1868–1933, British viceroy of India. After being governor of the states of Queensland and New South Wales in Australia (1905–13), he went to India, becoming viceroy in 1916. His regime was noteworthy for the Montagu-Chelmsford Report, which brought about a large measure of self-government for the Indians. The limitations of the reforms, however, were opposed by Mohandas GANDHI, and the resulting disorders culminated in serious disturbances at AMRITSAR. Lord Chelmsford returned to England in 1921 He served as first lord of the admiralty in the Labour government of 1924

Chelmsford, municipal borough (1931 pop 26,537; 1947 estimated pop 35,680), county town of Essex, England, at the junction of the Cann and the Chelmer, near the coast ENE of London It has a grammar school founded by Edward VI The town is a commercial and minor manufacturing center for an agricultural region

Chelmsford (chĕms'furd, chĕlms'-), town (pop. 8,077), NE Mass , SW of Lowell, settled 1633, inc. 1655 It has wool-processing plants

Chelsea (chĕl'sē), metropolitan borough (1931 pop 59,031, 1948 estimated pop 50,890) of W London, England, N of the Thames A literary and artistic quarter of London, Chelsea has associations with many famous persons, including Sir Thomas More, Carlyle, D G Rossetti, Whistler, Dickens, Charles Kingsley, and Oscar Wilde The district suffered great damage in the air raids of 1940–41 Chelsea Old Church, founded in the 12th cent , was completely destroyed, and the Royal Hospital for veteran soldiers, built (1682–92) by Wren, was badly damaged CHELSEA WARE was made here

Chelsea. **1** Town (pop 2,280), SW Maine, SE of Augusta, inc 1850 It is the site of a U S home for disabled soldiers **2** City (pop 41,259), E Mass , northeastern industrial and residential suburb of Boston, settled 1624, inc as a town 1739, as a city 1857 Textiles, shoes, and chemicals are among its products Chelsea has a naval hospital and a soldiers' home On April 12, 1908, fire destroyed much of the city **3** Village (pop 2,246), S Mich , near Ann Arbor, in a rich farm area, settled c 1850, inc before 1870, reinc 1889 Its products include hardware and flour **4** Oil city (pop 1,642), NE Okla , NE of Tulsa **5** Town (pop 1,013), co seat of Orange co , central Vt , SSE of Barre, crossed by the First Branch of the White River As Gageborough, it was granted by New York c 1770, in 1781 Bela Turner and others secured a Vermont charter to "Turnersburgh", the town was settled in 1784 and renamed in 1788

Chelsea ware, made in the early 18th cent at a factory in Chelsea, London, reputedly by John DWIGHT Up to 1745 the potter's mark was a triangle with the word *Chelsea* and the date The factory then came under the direction of Nicholas Spermont, who developed the finest ware made in England—the inspiration for the Sèvres porcelain in France. Spermont's mark was an anchor, sometimes with a dagger Besides a deep blue, gold-decorated type, there were characteristic figure subjects, miniatures for curtain tiebacks, scent bottles, dressing-table accessories, and toys The soft paste of which the china was made lent itself to both modeling and painting The plant was merged with the DERBY factory in 1770, and Chelsea ware is a collector's favorite

Cheltenham (chĕl'tnŭm), municipal borough (1931 pop 49,418, 1947 estimated pop 62,420), Gloucestershire, England, on the Chelt, a tributary of the Severn, and near the Cotswolds It has been a resort since 1716, when mineral springs were discovered here It is a hunting center Cheltenham College (for boys, 1841) is a well-known public school, Cheltenham Ladies' College was founded in 1853

Chelub (kē'lŭb) **1** Judahite 1 Chron 4 11. **2** Father of David's officer Ezri 1 Chron. 27 26

Chelubai (kĕlū'bī), same as CALEB.

Chelyabinsk (chĭlyä'bĭnsk), city (1926 pop 59,307; 1939 pop 273,127, 1946 est pop 450,000), capital of Chelyabinsk oblast, RSFSR, in W Siberia, in the southern foothills of the Urals and on the Miass river It is a rail center on the Trans-Siberian RR and one of the major metallurgical and industrial centers of the USSR It produces steel, pig iron, tractors, aircraft, agricultural machinery, and chemicals, and it processes zinc and bauxite Founded in 1658 as a Russian frontier stronghold, it was chartered in 1745 and developed as an agricultural and coal-trading town In the 19th cent Chelyabinsk became a major resettlement center for emigrants to Siberia Its industrial growth began (1928) with the building of its first metallurgical plant and was greatly stimulated in the Second World War because of the general relocation of Russian industries

Chelyuskin, Cape (chĭlyōō'skĭn), northernmost point (lat 77° 41′ N) of the Asiatic continent and of Taimyr peninsula, Krasnoyarsk Territory, RSFSR, in Siberia, named after an 18th-century Russian navigator, It is the site of a communications and observation post and an airfield Cape Severovostochny [northeast cape] is another name.

Chemarims (kĕm'ŭ-), Gentile priests, a term left untranslated at Zeph. 1.4 only.

chemical affinity: see CHEMICAL REACTION.

chemical engineering: see ENGINEERING.

chemical reaction. Changes in matter involving the internal structure of the molecule of a substance are classed as chemical changes; the action taking place in such a change is called a chemical reaction When, for example, water is decomposed, its molecules, each of which consists of one atom of oxygen and two of hydrogen, are broken down, the hydrogen atoms then combining in pairs to form hydrogen molecules and the oxygen atoms to form oxygen molecules In a chemical reaction, substances lose their characteristic properties Water, for example, a liquid which neither burns nor supports combustion, is decomposed to yield inflammable hydrogen and combustion-supporting oxygen In a chemical reaction there are also energy changes. For example, in some reactions heat is given off (exothermic reactions) and in others heat is absorbed (endothermic reactions) Furthermore, the new substances formed differ from the original substances in the energy they contain Chemical reactions are classified according to the kind of change that takes place When a compound substance is broken down into its constituents, the reaction is called simple decomposition When two compounds react with one another to form two new compounds, the reaction is one of double decomposition In so-called replacement reactions the place of one of the elements in a compound is taken by another element reacting with the compound When elements combine to form a compound, the reaction is termed chemical combination (see SYNTHESIS) OXIDATION AND REDUCTION reactions are extremely important Reversible reactions are those in which the chemical change taking place may be paralleled by another change back to the original substances The rates at which chemical reactions proceed depend upon various factors, e g , upon temperature, pressure, and the concentration of the substances involved and, sometimes, upon the use of a catalyst (see CATALYSIS) In some chemical reactions, as that for photographic film, light is an important factor The changes taking place in a chemical reaction are represented by an EQUATION The attractive force exerted between atoms (i e , the tendency of one element to react with another) causing them to enter into and remain in combination is called chemical affinity Elements differ from each other in this characteristic, and the atoms of a single element show varying degrees of affinity toward atoms of different elements

chemical warfare, in its widest sense, the application of chemical knowledge for offensive or defensive purposes in hostilities It has, however, been commonly used in recent times to refer primarily to the use of poison gases and the development of protection against them Chemical knowledge was, of course, employed in fighting long before there was any really organized study of chemistry Crude devices were used by the ancient Greeks and Romans, many of them dependent on fire (e g , the fumes from burning straw and fire from heated oil), and the use of Greek fire was reasonably extensive in flame-throwing devices among the Byzantines and among the Chinese The development of gunpowder was in itself an achievement of chemistry, and the principle of propulsion of a missile by the action of gases was learned in chemical experimentation Thus, chemistry is basic to the most fundamental factor in modern warfare Its wide effects in the modern world in general (e g , the creation of new processes and the development of synthetic substances) have also been felt constantly in warfare—increasingly so, as the days of nitrogen fixation and such products as synthetic rubber advance By the mid-19th cent the possibility of the use of poison gas as a weapon was already envisaged and was viewed by most men with a peculiar horror—a feeling that has persisted The Hague Conference in 1899 adopted regulations against its employment The first effective use of poison gas came in the First World War on April 22, 1915, when the Germans released chlorine gas against the Allies in the Ypres sector of the Western Front The success was immediate, but the attackers seemed to be as startled as the attacked and did not exploit their advantage Shortly afterward protective measures were introduced as both sides used gas more extensively and employed different types (see POISON GAS). The gas shell (much more usable than wind-blown gas) was introduced by the French Gas did not, however, have any dominant influence on the course of the war, though it did seem to point toward wide-scale use in future hostilities Despite the arguments of some scientists, popular horror of gas warfare persisted, and by the Geneva Convention of 1925 the major nations of the world agreed to ban its use That prohibition held, except for some employment of gas by the Italians in the war against Ethiopia in 1935–36 and by the Japanese against Chinese guerrillas. Despite the guarantee, most of the major nations had sections of their armed forces devoted to the study and development of chemicals in warfare, with emphasis on gas and protection against it. The U.S chemical warfare service was founded in 1920, and as the Second World War approached,

the activities at Edgewood Arsenal in Maryland and at other centers increased greatly. In the war the major combatants all had large stocks of poison gas but none was used—at least partially out of fear of retribution. In the war the Germans developed a new gas that reputedly is most effective in attacking the nerves of the victims, but the fears of the people of the world (reflected in wholesale distribution of gas masks to the civilian population) were not realized. Even more of a Sunday-supplement scare was the possibility of biological warfare—the spreading of deadly germs among the enemy population. This also did not come to pass, though it was revealed after the war that a deadly botulinus toxin had actually been prepared in minute quantities by the United States. Other aspects of chemical warfare, however, saw great developments in actual use. Flame throwers, used somewhat in the First World War, were much more commonly employed in the Second World War, and several types of thickened gasoline were devised for use in them. A chemical mortar was developed by the United States and effectively used. New types of incendiary bombs were devised. Most important of all was the use of nuclear fission and the invention of the atomic bomb. Atomic warfare does not preclude the use of poison gas, germs, and other chemical means in a new war, particularly if the warfare should be stationary like the First World War rather than mobile like the Second World War. The fear of such means has grown rather than diminished among the general public. A little ironically, however, the development of chemical warfare has had some indisputably beneficial results, not only in medicine (e.g., the use of BAL, the British-developed protection against the gas lewisite, to save patients afflicted with mercurial or other heavy-metal poisoning), but in various homely ways (e.g., development of insecticides, rat poisons, and weed killers).

Chemin des Dames (shmē dā dám'), road running along a crest between the Aisne and Ailette rivers, Aisne dept., N France. It was hotly contested in the First World War. The Germans, who commanded the road after 1914, were dislodged by the Allies in battles of 1917–18.

chemistry, the science dealing with the nature and composition of all kinds of matter and the changes which matter constantly undergoes. The characteristic appearance and behavior of the various substances are described in their physical and chemical properties, the changes which take place when substances react with one another are indicated by chemical equations. Matter is divided into two general categories—elements which are represented by symbols and compounds of which the composition is described by formulas. Some substances are mixtures of elements or compounds or both. The composition of compound substances is determined by analysis—the determination of the elements present (qualitative analysis) and the proportionate amount of each by weight (quantitative analysis). Some compounds are prepared by synthesis, the combination of the constituent elements according to their correct proportion by weight. The study of the carbon compounds is known as organic chemistry, and the study of elements and compounds of elements other than carbon (but including a few simple oxides of carbon and metallic carbonates) comprises inorganic chemistry. Each branch of applied chemistry is a specialized study of some specific part of the field. Industrial chemistry, chemical engineering, biochemistry, electrochemistry, and physical chemistry are among these branches. The study of the nature, composition, and activity of the various substances was pursued by the ancients. See also ALCHEMY and BIOCHEMISTRY. Among the more famous contributors to chemistry are DEMOCRITUS, Georg AGRICOLA, J. R. GLAUBER, Robert BOYLE, Joseph BLACK, Henry CAVENDISH, K. W. SCHEELE, Joseph PRIESTLEY, Antoine LAVOISIER, C. L. BERTHOLLET, John DALTON, J. L. GAY-LUSSAC, Amadeo AVOGADRO, Sir Humphry DAVY, J. J. BERZELIUS, D. I. MENDELEJEFF, R. W. BUNSEN, Lord RAYLEIGH, Sir William RAMSAY, A. H. ARRHENIUS, A. E. BECQUEREL, Marie CURIE, Sir Ernest RUTHERFORD, J. J. THOMSON, C. T. R. WILSON, W. H. BRAGG and W. L. BRAGG, Henry MOSELEY, and Friedrich WÖHLER. See Sir W. A. Tilden, *Famous Chemists* (1928) and *Chemical Discovery and Invention* (rev. ed., 1936), A. F. Collins, *The March of Chemistry* (1936), William Foster, *The Romance of Chemistry* (2d ed., 1936), E. E. Slosson, *Creative Chemistry* (rev. ed., 1942), J. N. Shreve, *Chemical Process Industries* (1945), S. S. Sadtler, *The Chemistry of Familiar Things* (8th ed., 1946), J. R. Partington, *Everyday Chemistry* (2d ed., 1947) and *A Short History of Chemistry* (2d ed., 1948); Alexander Findlay, *A Hundred Years of Chemistry* (2d ed., 1948); Bernard Jaffe, *Crucibles: the Story of Chemistry* (rev. ed., 1948); H. L. Riegel, *Industrial Chemistry* (rev. ed., 1949).

Chemnitz or **Kemnitz, Martin** (both kĕm'nĭts), 1522–86, German Lutheran theologian. He accepted and defended Lutheran doctrine, both in lecturing and in writing. Largely through his endeavors the Formula of Concord, one of the nine creeds of the Book of Concord, was adopted by the Lutherans of Saxony and Swabia. He wrote various polemical works.

Chemnitz (kĕm'nĭts), city (1939 pop. 337,657, 1947 pop. 250,188), Saxony, SE Germany, on the Chemnitz river. Near one of the world's largest open-pit lignite mines, Chemnitz is the leading industrial center of Saxony, with manufactures of machine tools, machinery, chemicals, and textiles. Of Wendish origin, it was chartered in 1143, when it was also granted a linen-weaving monopoly. It was devastated in the Thirty Years War, but the introduction (17th cent.) of cotton weaving restored its prosperity. Chemnitz was heavily bombed in the Second World War.

Chemosh (kē'mŏsh), god of the Moabites. Solomon erected an altar to him at Jerusalem, Josiah destroyed it. Num. 21:29, 1 Kings 11:7, 2 Kings 23:13, Jer. 48:7,13,46. See MILCOM.

Chemulpo (chă'mōōl'pŏ'), Jap. *Jinsen*, city (1946 pop. 215,784), S Korea, a port on the Yellow Sea with an ice-free harbor. It was opened to foreign trade in 1883. Steel, textiles, and flour are manufactured.

Chemung (shĭmŭng'), river formed in S New York by the junction of the Cohocton and Tioga rivers near Corning and flowing c.45 mi. SE past Elmira to the Susquehanna near Sayre, Pa. The Chemung valley was the scene of fighting in the Revolutionary campaign of John SULLIVAN, the battle of Newtown occurred in 1779 near the site of Elmira.

chemurgy (kĕ'mûrjē), branch of applied chemistry concerned with the preparation of industrial materials from agricultural products. Among such materials are BAKELITE, CELLULOSE, FURFURAL, and SOYBEAN products. See W. J. Hale, *Farmward March. Chemurgy Takes Command* (1939), Christy Borth, *Pioneers of Plenty* (1942 ed.).

Chenaanah (kēnā'ənŭ, –nā-ă'–) **1** Benjamite. 1 Chron. 7:10. **2** Father of Zedekiah, Ahab's false prophet. 1 Kings 22:11,24, 2 Chron. 18:10,23.

Chenab (chĕnŭb'), river, c.675 mi. long, rising in Punjab state, India, and flowing through Himachal Pradesh and Kashmir to join the SUTLEJ river in Punjab prov., Pakistan. The Chenab is one of the five rivers of the Punjab. It supplies water to important irrigation works.

Chenango (shĭnăng'gō), river rising in central New York SW of Utica and flowing c.90 mi. S and SW to the Susquehanna at Binghamton. It receives the Tioughnioga (tĭōōk"nēō'gŭ) at Chenango Forks.

Chenani (kēnā'nī), Levite. Neh. 9:4.

Chenaniah (kĕnənī'ə), Levite. 1 Chron. 15:22,26:29.

Cheney, John (chē'nē), 1801–85, American engraver and illustrator, b. Hartford co., Conn. He practiced engraving in Hartford and Boston and in 1830 went to Paris to study, supporting himself by engraving for American publishers. He was in great demand as an illustrator of annuals, his engravings, usually small, ranked high in his day for their delicacy, simplicity, and careful workmanship. The Pennsylvania Academy of the Fine Arts and the Museum of Fine Arts, Boston, possess collections of his works. See biography by E. D. Cheney (1889). His brother, **Seth Wells Cheney**, 1810–56, American engraver and crayon artist, b. Hartford co., Conn., studied painting with E. L. G. Isabey and Delaroche in Paris and practiced engraving with considerable success. *Mother and Child*, after Washington Allston, is his finest plate. After 1840, in his Boston studio, he won renown with his crayon portraits. Among his sitters were Theodore Parker, William Cullen Bryant, Ephraim Peabody, and James Russell Lowell. See biography by E. D. Cheney (1881); S. R. Koehler, *Catalogue of the Engraved and Lithographed Works of John Cheney and Seth Wells Cheney* (1891).

Cheney, John Vance (chē'nē), 1848–1922, American author, b. Groveland, N.Y. He was librarian of the San Francisco Public Library and later of the Newberry Library in Chicago. His writings comprise books of verse and several volumes of critical essays, notably *The Golden Guess* (1892) and *That Dome in Air* (1895).

Cheney, Seth Wells: see CHENEY, JOHN.

Cheney, city (pop. 1,551), E Wash., SW of Spokane, founded 1880, inc. 1883. A state teachers college is in Cheney.

cheng, Chinese stringed instrument similar to the zither. See also SHENG, for which the spelling *cheng* is occasionally used.

Chengchow, China: see CHENGHSIEN.

Chenghsien or **Cheng-hsien** (both chŭng'shyĕn), city and county (pop. 197,187), N Honan prov., China, on the Yellow River. The city is the junction of the Lung-Hai RR with the Peiping-Hankow RR. It is thus one of the chief rail centers of China. The city was formerly named Chengchow.

Chengteh or **Chêng-tê** (both chŭng'dŭ'), city (pop. 162,195), capital of Jehol prov., NE China, near the Lwan river. Chengteh is N of Peiping, with which it is connected by rail. The summer capital of the Ch'ing dynasty (1644–1911), Chengteh is surrounded by large parks with lakes, palaces, and pavilions. The most notable building is a Lamaist temple duplicating the main shrine in Lhassa, Tibet. Chengteh was formerly called Jehol. See Sven Hedin, *Jehol, City of Emperors* (1933).

Chengtu or **Ch'eng-tu** (both chŭng'dōō'), city (pop. 647,877), capital of Szechwan prov., SW China, a port on the Min river. It is the commercial center of the Chengtu plain, the main farming area of Szechwan.

Chénier, André Marie de (ādrā' mārē' dŭ shānyā'), 1762–94, French poet, by some critics considered the greatest in 18th-century France. He was born of a Greek mother at Constantinople, where his father was consul general, and was educated in France. From 1787 to 1790 he was attached to the French embassy in London. Horrified by Jacobin excesses in 1792, he contributed denunciatory pamphlets to the *Journal de Paris*, organ of moderate royalism. He was arrested in March, 1794, by order of Robespierre, and was guillotined only three days before the end of the Terror. Chénier vivified the old French classical tradition in his *Élegies* and *Bucoliques*. The *Iambes* are stirring political satires in verse. Most of his works were published after his death, *La Jeune Captive*, one of his most beautiful poems, appearing in 1795 and the first collected edition of his works in 1819. He inspired the opera *Andrea Chénier* by Umberto Giordano.

Chénier, Marie Joseph de (mārē' zhōzĕf'), 1764–1811, French poet and dramatist, b. Constantinople, brother of André de Chénier. A member of the Convention, the Council of Five Hundred, and the Tribunate, he also wrote a number of political and historical plays. Of these, *Charles IX* (1789) created the greatest stir and is still played. Besides the comprehensive *Tableau historique de l'état et des progrès de la littérature française depuis 1789* (1816), he is famous for his songs of the Revolutionary epoch, particularly the *Chant du départ*.

Chennault, Claire Lee (shĕ'nôlt"), 1890–, American general, b. Commerce, Texas, grad. Louisiana State Normal School. A high school teacher at first, he was commissioned in the First World War and pioneered in air pursuit tactics. Retired (1937) from the army, he went to China and organized air defenses for Chiang Kai-shek. He formed (1941) the American Volunteer Group (the "Flying Tigers"). Recalled (1942) to duty, he headed the U.S. air task force in China and retired (1945) as a major general.

Chenoa (shĭnō'ə), city (pop. 1,401), N central Ill., NE of Bloomington, in a fertile farm area, laid out 1856, inc. 1865.

Chenonceaux (shunōnsō'), village, central France, in Touraine, near Amboise. It is famous for its château, the residence of Diane de Poitiers and Catherine de' Medici. Philibert Delorme in 1560 added a wing which bridges the Cher river (about 200 ft. wide). Its style inclines toward classic simplicity.

Cheops: see KHUFU.

Chepachet, R.I.: see GLOCESTER.

Chephar-haammonai (kĕ'fär-hăăm'ənī) [Heb., =village of the Ammonites], town of Benjamin. Joshua 18:24.

Chephirah (kēfī'rə) [Heb., =village], town of Benjamin, now called Kefireh, WNW of Jerusalem. Joshua 9:17, 18:26, Ezra 2:25, Neh. 7:29.

Chephren: see KHAFRE.

Chepping Wycombe, England: see HIGH WYCOMBE.

Chepstow (chĕp'stō), urban district (pop. 4,302), Monmouthshire, England, a river port on the Wye near its influx into the Severn. The structure of the channel causes an unusually high tide or bore here. On a hill above the river are the ruins of a very old castle. Because of its location Chepstow was the site of forts throughout early English history. It is the scene of spring racing meets.

Chequamegon Bay (shĭkwa'məgun), arm of Lake Superior, N Wis. Ashland and Washburn are on the bay, which was visited by French explorers in the 17th cent. On its shore Father Allouez founded a mission in 1665.

cheque: see CHECK.

Cher (shĕr), department (2,820 sq. mi., pop. 286,070), central France, in BERRY, traversed by the Cher river. Bourges is the capital.

Cher, river, 200 mi. long, rising in the Massif Central and swinging N and NW across central France to join the Loire below Tours.

Cheran (kē'rän), Hosite. Gen. 36:26, 1 Chron. 1:41.

Cheraw (chĕ'rô), town (pop. 4,497), NE S.C., on the Pee Dee river and NE of Columbia, in a fertile farm area, settled in the mid-18th cent. by Welsh. Notable among the old buildings is St. David's Episcopal Church (1770–73).

Cherbourg (shĕrbōōr'), town (pop. 34,034), Manche dept., NW France, in Normandy, a seaport on the English Channel, at the tip of the Cotentin peninsula. Though dating from Roman times, it was insignificant until Louis XIV established a fortified naval station there. After the First World War it developed as a major transatlantic port. In the Second World War the German garrison added (1940–44) to the fortifications, but it capitulated to U.S. troops after a siege (June, 1944).

Cherbuliez, Victor (vĕktôr' shĕrbülyā'), 1829–99, French novelist and miscellaneous writer, b. Geneva. He contributed to the *Revue des Deux Mondes* from 1864 and wrote essays on politics, art, and literature, some under the pseudonym G. Valbert, as well as a long series of novels. He also wrote art

criticism for the *Tempa*. His fictional works have been praised for delicate humor and psychological insight. They include *Le Comte Kostia* (1863, Eng. tr., 1873), *Le Roman d'une honnête femme* (1866, Eng tr , *The Story of a Good Woman*, 1874), *Méta Holdenis* (1873; Eng tr , 1877), and *Samuel Brohl et Cie* (1877; Eng tr , 1888). In 1881 he was elected to the French Academy, which had crowned his novel *Samuel Brohl et Cie*

Cherchel or **Cherchell** (both shĕrshĕl'), town (1948 pop. 7,263), Algeria, a port of the Mediterranean W of Algiers. Early settled by Carthaginians, it became the capital of Mauretania before and during Roman times and was named Caesarea in 25 B.C It remained an important military and commercial port under the Romans. Taken by Barbarossa (1516), it became a corsair refuge Cherchel is rich in relics, especially of the Roman period.

Cheremiss, RSFSR. see MARI AUTONOMOUS SOVIET SOCIALIST REPUBLIC.

Cheremkhovo (chĕrĭmkô'vŭ), industrial city (pop. 65,907), RSFSR, in SE Siberia, 80 mi NW of Irkutsk, on the Trans-Siberian RR. Machinery, chemicals, flour and bricks are made, and meats are packed The city, of recent growth, is the center of the Cheremkhovo coal basin, a rich deposit extending 300 mi. NW from Lake Baikal

Cherepovets (chĕrĭpŭvyĕts', chĕrĭpô'vyĭts), city (pop 21,783), NW European RSFSR, on the Rybinsk Reservoir It is a rail and water transportation center of the MARIINSK SYSTEM, with a new steel industry being developed

Chéret, Jules (shūl' shārā'), 1836–1932, French painter and draughtsman He was the originator of the modern poster.

Cherethims (kĕr'ŭ-), the same as the Cherethites

Cherethites and Pelethites (kĕr'ŭthīts, pĕl'ŭthīts), David's praetorian guard 2 Sam. 8 18, 15 18, 20 7,23; 1 Kings 1.38,44, 1 Chron 18 17 The Cherethites, or Cherethims, are mentioned alone in 1 Sam. 30 14, Ezek 25 16, and Zeph 2 5 One theory makes them foreign mercenaries, the Cherethites connected possibly with Crete, the Pelethites with the Philistines.

Cheribon (chĕrĭbŏn'), town (pop 54,079), on N Java, Indonesia, a port on the Java Sea. Its exports are sugar, copra, and rice, textiles, chemicals, and cigars are manufactured. Southwest of Cheribon is the resort village of Langgajata, where in 1946 was drafted the Dutch-Indonesian agreement providing for the eventual establishment of the United States of Indonesia under the Dutch crown. The so-called Cheribon Agreement was signed a year later in Batavia

Cherith (kĕ'rĭth), wadi, where Elijah hid 1 Kings 17 3,5. Nothing is known of its location

Cherkassy (chĭrkä'sē), city (pop 39,511), central Ukraine, on the Dnieper ; it has sugar refineries, lumber mills, and other industries. It was the seat of the hetmans of the UKRAINE in the first half of the 17th cent

Cherkess Autonomous Oblast (chĭrkĕs'), district (c 1,600 sq mi ; pop c.150,000), SW Stavropol Territory, RSFSR, on the northern slopes of the Greater Caucasus Cherkessk is the capital. Drained by the Kuban, it is largely agricultural. The population is mainly Circassian (see CIRCASSIA), partly Turko-Tatar Created in 1928, the autonomous oblast absorbed (1944) parts of the former Karachai Autonomous Oblast

Cherkessk (chĭrkĕsk'), city (pop 78,646), capital of Cherkess Autonomous Oblast, Stavropol Territory, SE European RSFSR, on the Kuban river Founded in 1825 as Batalpashinsk, it has metalworking, chemical, and food-processing industries

Chernigov (chĭrnyĕ'gŭf), city (pop 67,356), capital of Chernigov oblast, N Ukraine, on the Desna river An agricultural center and a river port, it is one of the oldest cities of Russia and was (11th–12th cent) the capital of a powerful duchy. In the Second World War it was occupied by the Germans, who destroyed most of its ancient monuments, one was the Spaski Sobor, a Byzantine cathedral built in 1024, which was the oldest building in the USSR Near Chernigov there are numerous tumuli dating from the 10th cent

Chernov, Viktor (vĕk'tŭr chĭrnôf'), 1876–, Russian revolutionist One of the founders of the Socialist Revolutionary party, he served as minister of agriculture under Kerensky in 1917 He was president of the short-lived all-Russian constituent assembly at Samara (1918); after its fall he fled abroad. Chernov wrote *The Great Russian Revolution* (Eng tr , 1936)

Chernovtsy (chĭrnôf'tsĕ), Ger. *Czernowitz*, Rumanian *Cernauti*, city (1930 pop 112,427), W Ukraine, former capital of BUKOVINA, on the Pruth It rose to importance in the period after 1775 when under Austria Until recently, about half the population of this center of trade and industry were Germans and Jews, the surrounding population being largely Ukrainian

chernozem· see BLACK EARTH.

Chernyakhovsk, RSFSR· see INSTERBURG.

Chernyshevsky, Nikolai Gavrilovich (nyĭkŭlī' gŭvrē'lŭvĭch chĕrnĭshĕf'skĭ), 1828–89, Russian publicist. He was the leading disciple of Belinsky inside Russia, as Herzen was outside. From 1853 to 1857 he wrote for the radical journal *Contemporary*, instructing his readers in the principles laid down by Belinsky He himself expanded these principles Although powerfully influenced from abroad, he was an original thinker He advocated enlightenment and the strengthening of the village community, but unlike the Slavophiles, he did not overidealize this community. In 1862 he was imprisoned and later sent to Siberia. In prison he formulated his ideas in a novel, *What Is to Be Done?* (1863, Eng. tr., 1886) His name, once proscribed in Russia, is today revered there. See David Hecht, *Russian Radicals Look to America* (1947).

Cherokee (chĕr'ŭkē, chĕr'ŭkē'). 1 City (pop. 7,469), co seat of Cherokee co , NW Iowa, on the Little Sioux river and ENE of Sioux City; founded 1870, inc. 1873. It is a rail, trade, and industrial center for a farm, dairy, and livestock area A state hospital for the insane is here Near by is Pilot Rock, a large glacial boulder, which served as a landmark to the early settlers 2 City (pop 1,101), SE Kansas, SW of Pittsburg, laid out 1870, inc. 1874 3 City (pop. 2,553), co seat of Alfalfa co , NW Okla It is the trading and milling center for an area growing wheat, corn, alfalfa, and sorghum. The GREAT SALT PLAINS DAM, which is a Federal project, and a state fish hatchery are near

Cherokee Indians (chĕr'ŭkē), largest and most important single tribe in the SE United States, formerly occupying the mountain areas of North and South Carolina, Georgia, Alabama, and Tennessee The Cherokee language is of the Iroquoian family, and by the 16th cent they had a settled, advanced culture based on agriculture De Soto visited them in 1540 They were frequently at war with the Iroquois tribes of New York, but generally sided with the British against the French and proved valuable allies Soon after 1750, when they were at their height, they suffered a severe smallpox epidemic which destroyed almost half the tribe Formerly friendly with the Carolina settlers, the Cherokee in 1760 were provoked into war with the colonists, and two years of warfare followed before the Cherokee sued for peace In 1820 they adopted a form of government patterned after that of the whites and in 1827 established themselves as the Cherokee Nation under a constitution This instrument provided for an elective principal chief, a senate, and a house of representatives Much of their progress was due to the invention of a Cherokee syllabary or syllabic alphabet by SEQUOYAH, also known as George Guess Its 85 characters represented all the sounds in the Cherokee language and permitted the keeping of tribal records and, later, the publication of newspapers in the native tongue The discovery of gold in Cherokee territory resulted in pressure by the whites to obtain their lands A treaty was extracted from a small part of the tribe, which bound the whole tribe to remove beyond the Mississippi within three years Although the tribe overwhelmingly repudiated this document and the U.S Supreme Court upheld the nation's autonomy, the state of Georgia secured through Judge Augustine S. Clayton, of the superior court in Georgia, an order for their removal, which was accomplished by military force President Andrew Jackson refused to intervene, and in 1838 the tribe was deported to the Indian Territory (later in Oklahoma). Their leader at this time and until 1861 was Chief John Ross. Thousands died on the march or from subsequent hardships. They made their capital at Tahlequah, instituted a public school system, published newspapers, and were the most important of the Five Civilized Tribes In the Civil War their allegiance was divided between North and South, large contingents serving on each side By a new treaty at the close of the war they freed their Negro slaves and admitted them to tribal citizenship. In 1892 they sold their western territorial extension, known as the Cherokee Strip, and in 1906 disbanded as a tribe, becoming then U S citizens A small number of Cherokees are still in W North Carolina, the descendants of a few who successfully resisted removal or returned after the removal. See C. C Royce, *The Cherokee Nation*, 5th Annual Report of the Bureau of American Ethnology (1888), Grant Foreman, *Indian Removal* (1932) and *The Five Civilized Tribes* (1934), M L Wardell, *Political History of the Cherokee Nation, 1838–1907* (1938); M. L. Starkey, *The Cherokee Nation* (1946).

cheroot· see CIGAR AND CIGARETTE.

Cherrapunji (chĕr"ŭpôn'jē'), village (pop. under 5,000), W Assam state, India Its rainfall (c.500 in a year) is said to be the heaviest in the world.

cherry, name for several species of trees or shrubs of the genus *Prunus* (a few sometimes classed as *Padus*) and their fruits The cherry is one of the most commonly grown home-orchard fruits About 600 varieties are cultivated, practically all derived from two Old World species—*Prunus avium* (sweet cherries) and *Prunus cerasus* (sour cherries). Sour cherries are hardier and more easily grown than sweet cherries and are mostly self-fertile, while many sweet cherries must be cross-pollinated to bear well. Of the sour cherries there are two main kinds—amarelles and morellos; familiar varieties are the Early Richmond, a bright red early cherry, and the English Morello, late and dark red. Sweet cherries are of three types—massards, geans, and bigarreaus, dukes are usually considered hybrids. The fruit is popular raw, in preserves, and in pies, cherry cider and liqueurs (see MARASCHINO) are also made. Several species of the flowering cherry are cultivated as weeping or erect trees for their beautiful usually double flowers The Japanese make a national festival of cherry-blossom time; the city of Tokyo presented a number of trees to Washington, D.C , where they have become a popular spring attraction. The species of American wild cherry include the chokecherry, pin cherry, and wild black cherry These have smaller fruits than the cultivated kinds and are seldom used except for jelly The foliage of a number of native American cherries has been found to be poisonous to livestock under certain conditions, e.g., when wilted Wood of the wild black cherry, usually reddish in color, is fine grained. It takes a high polish and is prized for cabinetwork. See U. P. Hedrick, *Cherries of New York* (1915).

Cherryfield, town (pop. 1,046), SE Maine, between Machias and Ellsworth, settled c 1757, inc. 1816 It is a shipping point for blueberries.

cherry laurel· see LAUREL.

Cherryvale, city (pop 3,185), SE Kansas, NE of Independence, in an agricultural region; laid out 1871 by the railroad, inc 1880

Cherry Valley, village (pop. 704), E central N Y., W of Albany, in a farm region, settled c 1740, inc 1812. Chairs are made here. On Nov 11, 1778, Tories and Indians led by Walter Butler and Joseph Brant burned most of the village and massacred over 40 people. See Howard Swiggett, *War Out of Niagara* (1933).

Cherryville, town (pop 3,225), W N C , NW of Charlotte near the S C line, in a farm area.

Chersiphron (kûr'sĭfrŭn), Cretan architect. He was the traditional builder of the original archaic Ionic temple of Artemis (Diana) at Ephesus in Asia Minor (550 B C.). The temple was burned, restored or rebuilt, and then burned again in 356 B C The new temple, which was then built upon the site in 330 B C., ranked as one of the seven wonders of the ancient world

Cherso (kĕr'sô), Serbo-Croatian *Cres* (tsurĕs'), island, c 150 sq. mi , in the Adriatic, off Croatia, Yugoslavia It was ceded by Italy in 1947 Agriculture, fishing, and sheep raising are the chief occupations

Cherson· see SEVASTOPOL, RSFSR.

Chersonese (kûrsŏnēs') or **Chersonesus** (-nē'sus) [Gr ,=peninsula], name applied to several regions See CRIMEA (Chersonesus Taurica or Scythica), GALLIPOLI PENINSULA (Chersonesus Thracica), MALAY PENINSULA (Chersonesus Aurea), JUTLAND (Chersonesus Cimbrica)

Chertsey (chûrt'sē), urban district (1931 pop 17,133, 1943 estimated pop 22,500), Surrey, England, near the Thames, which is here crossed by a seven-arched bridge There is a 7th-century monastery. Charles James Fox lived near here The proximity to London has caused market gardening to develop

cherub (chĕr'ŭb), plural **cherubim** (-ŭbĭm), kind of ANGEL Cherubim were probably thought of, anciently, as composite creatures like the winged creatures of Assyria In Jewish tradition, they were usually beautiful young men, but late Christian art made plump children of them, as in Raphael's *Sistine Madonna* With the seraphim (see SERAPH) they are said to be in the very presence of God The color surrounding them is traditionally blue See Gen 3 24, Ex 25 18–22, 37.6–9, 1 Kings 6 23–28, Pss. 18 10, 80 1, Ezek 10.

Cherubini, Maria Luigi Carlo Zenobio Salvatore (märē'ä lwē'jē kärlō tsänō'byō salvätō'rā kärōbē'nē), 1760–1842, Italian composer, who lived in Paris after 1788. Before he was 16 he wrote Masses and other sacred works in the polyphonic Italian tradition. In Paris he composed many operas, among them *Les Deux Journées* (1800). The overtures to *Médée* (1797) and *Anacreon* (1803) are occasionally performed. His last important opera was produced in 1806 In 1809 he returned to the composition of church music He became professor of composition at the Paris Conservatoire in 1816 and was its director, 1821–41.

Chesalon (kĕs'ŭlŏn), town of Judah, called also Mt Jearim, probably the modern Kesla, W of Jerusalem. Joshua 15 10.

Chesaning (chĕs'ŭnĭng), village (pop. 1,807), S Mich., on the Shiawassee and SW of Saginaw The area was an Indian reservation from 1819 to 1837

Chesapeake (chĕs'ŭpēk), village (pop. 1,068), extreme S Ohio, on the Ohio river opposite Huntington, W Va ; inc 1908.

Chesapeake, U.S. frigate, famous for her role in the *Chesapeake* affair (June 22, 1807) and for her battle with the British ship *Shannon* (June 1, 1813) The *Chesapeake* cleared Norfolk for the Mediterranean under the command of James BARRON in June, 1807 Just outside of American territorial waters the British ship *Leopard* stopped her and demanded the right to search her for British deserters. Barron refused to allow this, and shortly afterwards the *Leopard* opened fire. Unprepared for action,

Barron was forced to submit and allow the impressment of four of his crew (two of which were American born). The incident caused intense indignation when the *Chesapeake* limped into port and war seemed imminent Britain disavowed the act in 1811 In this war the refitted *Chesapeake*, commanded by James LAWRENCE, engaged (June 1, 1813) the British ship *Shannon* outside Boston harbor. Lawrence lost control and became entangled with the enemy ship. He was mortally wounded, and his last command is reportedly the famous "Don't give up the ship!" The *Chesapeake* was, however, captured and sold in England.

Chesapeake and Delaware Canal, 19 mi long, connecting the head of Chesapeake Bay with the Delaware river below Delaware City Chesapeake City, Md , is at the western end The present canal (built 1824–29, another route, begun in 1804, had been abandoned) was bought by the Federal government in 1919 and was later enlarged and modernized.

Chesapeake and Ohio Canal, former waterway, c 185 mi. long, from Washington, D C , to Cumberland, Md , running along the left bank of the Potomac river The canal was originally planned by George Washington, and work was started by 1828, but financial difficulties proved so great that it was not completed to Cumberland until 1850 Much of its freight was coal from the mines near Cumberland, but the canal could not meet the competition of the Baltimore & Ohio RR Its busiest days were in the 1860s, but traffic was maintained until the canal was damaged by floods in 1924 It was purchased in 1938 by the U S government and is now included in the National Capital Parks

Chesapeake & Ohio Railway, U S transportation company, having 5,062 mi of railroad lines in six states, in Washington, D C , and in the province of Ontario, Canada Incorporated in 1878 under the laws of Virginia, the Chesapeake & Ohio Railway expanded its holdings over a period of years and in 1947 merged with the Pere Marquette Railway Company, to become one of the largest railroads in the United States

Chesapeake Bay, inlet of the Atlantic, 200 mi long and from 4 to 40 mi wide, cutting off the Eastern Shore of Maryland and a part of E Virginia It is entered from the Atlantic through a 12-mile gap between Cape Henry and Cape Charles, Va Six important rivers (Susquehanna, Patuxent, Potomac, Rappahannock, York, James), plus numerous smaller rivers and estuaries, enter it The important ports of Baltimore and Norfolk and the naval base at Hampton Roads are on its shores Chesapeake Bay is an important fishing ground famous for its oysters and crabs

Chesapeake City, town (pop 1,094), NE Md , S of Elkton It is the Maryland terminus of the CHESAPEAKE AND DELAWARE CANAL

Chesed (kē'–), nephew of Abraham Gen 22 22

Cheselden, William (chĕs'ŭldĭn), 1688–1752, English surgeon From 1718 he was a surgeon at St Thomas's Hospital, London, he was also affiliated with St George's and with Chelsea Hospital He is noted especially for his improved method of operation for kidney stone and for his treatises on anatomy (1713) and osteology (1733)

Chesha Bay (chĕ'shŭ), Rus *Cheshskaya Guba*, inlet, 70 mi. wide and 65 mi long, of the Barents Sea, Nenets National Okrug, RSFSR, E of Kanin peninsula It receives the small Chesha river

Cheshire (chĕ'shŭr) or **Chester,** maritime county (1,014 sq mi , 1931 pop 1,087,655, 1948 estimated pop 1,223,480), W central England. The county town is Chester, site of an important Roman camp and a city rich in medieval architectural survivals The county is generally low, flat, and fertile Its chief rivers are the Mersey, which forms the boundary between Cheshire and Lancashire, and the Dee, which separates Cheshire from Wales The estuaries of these two rivers as they flow into the Irish Sea form the sandy Wirral peninsula The county is important agriculturally and industrially It engages extensively in dairy farming, its most famous product being the Cheshire cheese The chief industries are salt mining (Northwich and elsewhere), coal mining (Macclesfield), shipbuilding (Birkenhead), and manufacture of railroad cars (Crewe) and of textiles and chemicals (Stockport) Communication by road, rail, canal (the Manchester Ship Canal) is excellent Cheshire was anciently under the sway of Northumbria and was added to Mercia by Egbert in the 9th cent , when it was already organized on a shire basis. It was made a palatinate by William I and maintained some of its privileges as such until the time of Henry VIII The numerous black-and-white-timbered manor houses point to the county's prosperity in the 16th and 17th cent In the last century the population of the county greatly increased with the growth of the Midlands industrial area. See Arthur Mee, *Cheshire* (1938).

Cheshire. **1** Town (pop 4,352), S central Conn., N of New Haven, settled before 1700, inc 1780 Metal products are made here. Cheshire Academy for boys was founded in 1794. A state reformatory is here. **2** Rural town (pop 1,708), NW Mass., on the Hoosic and NNE of Pittsfield; settled 1766, inc. 1793 Cheese and other dairy products have been made here from earliest times.

Cheshunt (chĕs'ŭnt), urban district (1931 pop 14,656; 1943 estimated pop 18,000), Hertfordshire, England. Near London, it has market gardens Cheshunt College, founded by the countess of Huntingdon in 1768, was here from 1792 to 1905, when it was transferred to Cambridge.

Chesil (kē'–), same as BETHEL 2.

Chesley, town (pop 1,701), S Ont , on the south branch of the Saugeen river and SSW of Owen Sound It was founded in 1859

Chesney, Francis Rawdon, 1789–1872, British soldier and explorer in Asia His examination of the route of the Suez Canal (1829) demonstrated its feasibility. In 1835 he commanded an expedition to survey N Syria and the Euphrates and Tigris He proved the navigability of the rivers and urged the adoption of a Euphrates route to India In 1856 and 1862 he was associated with the Euphrates valley railroad project, but the scheme fell through His works include *The Expedition for the Survey of the Rivers Euphrates and Tigris* (1850) and *Narrative of the Euphrates Expedition* (1868) See biography by his wife and his daughter (ed by Stanley Lane-Poole, 1885)

Chesnutt, Charles Waddell, 1858–1932, American Negro author, b Cleveland, Ohio He received most of his schooling in North Carolina In 1887 he was admitted to the Ohio bar. His *Conjure Woman* (1899) was probably the best work of fiction by a Negro writer in America up to that time It was made up of seven short stories, some of which had appeared in the *Atlantic Monthly*. He also wrote other and less good studies of Negro problems, a biography of Frederick Douglass (1899), and a few sociological essays See Vernon Loggins, *The Negro Author* (1931)

chess [from Persian *shah*=king], game for two players played on a square board, composed of 64 square spaces, alternately dark-colored and light in color The board is placed so that a light-colored square is in the corner to the right of each player, who is provided with 16 pieces, or chessmen, of his own color In the horizontal row of squares nearest each player, eight pieces, at the outset of the game, are set down, two rooks (or castles) in the corner squares, two knights in the adjoining squares, two bishops next to the knights, the queen on the remaining square which corresponds to her color, and the king on the other remaining center square One pawn is placed immediately in front of each of these pieces Each type of piece is moved according to specific rules and is removed from the board when it is displaced by the move of one of the opposing pieces into its square The object in chess is to trap, or checkmate, the opponent's king Chess has fascinated men for centuries, and there is evidence that a game similar to modern chess was played in the 6th and 7th cent It probably originated in India, spread to Persia, thence to the Levant, and may have been introduced into Europe by the Moslems By the 13th cent it was played all over Western Europe and had undergone little change from the game as played by the Persians The modern game of chess dates from the 15th cent The first modern international chess tournament was held in London in 1851, and since then these tournaments have been held annually The world champions of chess were 1851–58 and 1862–66, Adolph Anderssen of Germany, 1858–62, Paul C. Morphy of the United States, 1866–94, William Steinitz of Austria, 1894–1921, Emanuel Lasker of Germany; 1921–27, José R Capablanca of Cuba, 1927–35 and 1937–46, Alexander A Alekhine of the USSR, 1935–37, Max Euwe of the Netherlands, 1948–49, Mikhail Botvinnik of the USSR Chess has an extensive literature A good book for beginners is Capablanca's *A Primer of Chess* (1935) Lasker's *Manual of Chess* (1927) was written for more advanced players See H J R Murray, *The History of Chess* (1915), Jerome Salzmann, ed , *The Chess Reader* (1949).

chest, in anatomy see THORAX

chest, originally a large box with a hinged top, one of the earliest of furnishings, used for the storage and transportation of goods, as a seat, and sometimes as table or bed Household chests were commonly ornamented with paint, carving, or inlay, of these the most elaborate was the CASSONE of the Italian Renaissance period The accoutrement of knights was stored in the tilting chest, pirates hoarded their loot in metal-bound treasure chests The bahut had an arched top; the hutch usually had doors and often served as a food cupboard Reminiscent of the painted peasant chest is the Pennsylvania German dower chest The modern chest is often cedar lined as a protection against moths. Small chests were used as caskets for valuables and as writing boxes and Bible boxes. By the addition of drawers, doors, or stands, the chest gave rise to credences, cabinets, secretaries, and writing desks The Italian *cassapanca*, a chest with back and arms, was the prototype of the settle The tall chest of drawers raised on a high base became known as a highboy in America, where it attained its greatest popularity. The chest-on-chest generally consists of a smaller chest fitted above a larger one. The lowboy is a small raised chest used as a dressing table High chests are called tallboys, especially in England. The bureau, which became fashionable in the 19th cent , usually had a mirror as an integral part

Chester, county borough (1931 pop. 41,440; 1943 estimated pop 47,863) and city, Cheshire, England, on a sandstone height above the right bank of the Dee, SE of Liverpool It was occupied by the early Britons and is the Devana Castra or Deva of the Romans, the headquarters of the Roman 20th legion It was ravaged by Æthelfrith of Northumbria in 613 and by Danes in 894, was rebuilt by Æthelred and Æthelflæd of Mercia early in the 10th cent , and was taken by William the Conqueror in 1070 (the last place in England to surrender) when he made Hugh Lupus earl of Chester and the government of Cheshire became palatinate Parliamentarians took the town after a long siege in 1646. The modern Chester is of medieval aspect Interesting features are the red sandstone wall with a walk along the top, Caesar's Tower, which remains of the castle of Lupus, 16th-century timbered houses; the cathedral, with architecture of styles from Norman to Late Perpendicular, on the site of an abbey of St Werburgh; King's School, adjacent to the cathedral, St John's Church (formerly a cathedral), Grosvenor Museum; Grosvenor Park, and, across the Dee, Eaton Hall, the residence of the duke of Westminster. Characteristic of Chester are the Rows, formed by the projection of the second stories of the buildings along the main streets, in arcade fashion The Chester Plays (see MIRACLE PLAY) originated here.

Chester. **1** Town (pop 1,676), S Conn , on the Connecticut, settled 1692, inc 1836 **2** City (pop 5,110), co seat of Randolph co , S Ill , on the Mississippi below St Louis, founded 1819, inc 1835 It is a shipping center for a mine and quarry area Shoes, flour, and hosiery are made in Chester A branch of the state penitentiary is here Near by are Fort Kaskaskia State Park, the site of the old community of KASKASKIA, and Fort Chartres State Park **3** Town (pop 1,284), W Mass , in the Berkshires NW of Westfield; settled 1760, inc 1765 Emery and other minerals are produced here **4** Village (pop 1,140), SE N Y , SW of Newburgh, in a farm and horse-breeding region; inc 1892 HAMBLETONIAN was foaled here **5** City (pop 59,285), SE Pa , on the Delaware river and SW of Philadelphia; settled c 1644, laid out 1686, inc as a borough 1795, as a city 1866, reinc as a city 1889 Called Uppland by the Swedes at the time of settlement, it was renamed by William Penn for the home of one of his companions in England Chester is the oldest city in the state It is a port of entry and has a large shipbuilding industry, which began in 1872 Manufacturing plants include steel, paper, and glass factories and oil refineries William Penn convened the first assembly of the province at Chester in 1682 Penn's house, built in 1683, is still standing The courthouse was erected in 1724 Crozer Theological Seminary is here, as is Pennsylvania Military College **6** City (pop 6,392), co seat of Chester co , N S C , NNW of Columbia, settled in the late 18th cent , inc as a town 1849, as a city 1893 It has textile mills and is the processing center of a cotton and livestock area **7** Town (pop 1,740), Windsor co , SE Vt , on the Williams and W of Springfield It is a resort **8** Residential city (pop 3,805), W Va , in the industrial Northern Panhandle, on the Ohio river and N of Weirton, laid out 1896 Pottery is made

Chesterfield, Philip Dormer Stanhope, 4th **earl of,** 1694–1773, English statesman, orator, and author After a public career as ambassador to The Hague, lord high steward, lord lieutenant of Ireland, and secretary of state, he resigned in 1748 His literary reputation rests upon his letters to his natural son, Philip Stanhope, published under the title *Letters to His Son* (1774), and upon *Letters to His Godson* (ed by the earl of Carnarvon and pub 1890), which are filled with wit and worldly wisdom Johnson's letter to Chesterfield on the latter's belated tribute to the *Dictionary* is a masterpiece of rebuke See edition of his letters by Bonamy Dobrée (6 vols , 1932) and additional letters ed by S. L Gulick, Jr (1938), studies by Roger Coxon (1925) and Samuel Shellabarger (1935)

Chesterfield, municipal borough (1931 pop 64,160, 1947 estimated pop 68,100), Derbyshire, England It is the site of Stephenson Memorial Hall, of a 16th-century grammar school, and of a 14th-century church Its products include coal, iron, machinery, textiles, and pottery

Chesterfield, town (pop 1,263), co seat of Chesterfield co , NE S C , NE of Columbia and near the N C line, in a farm and timber area. The Craig House was built in 1798

Chesterfield Inlet, Canadian government post in the Keewatin dist , Northwest Territories, at the mouth of Chesterfield Inlet of Hudson Bay.

Chester-le-Street (-lē-), urban district (1931 pop 16,640, 1943 estimated pop. 17,100), Durham, England, N of Durham near the Wear It is in a region of coal and iron mining It was the site of a Roman station and was once the seat of the bishop of Bernicia.

Chester Plays: see MIRACLE PLAY.

Chesterton, Gilbert Keith, 1874–1936, English essayist and novelist, b London, educated at St. Paul's He was a convert to Roman Catholicism and its champion Chesterton has been called the "prince of paradox," and his works have a surface brilliance which often distracts from their basic idea He wrote studies of Browning (1903) and Dickens (1906); *The Man Who Was Thursday* (1908) and other novels, including crime fiction with the much-loved Father Brown as detective, many poems, collected in 1927, and his famous essays, collected in *Tremendous Trifles* (1909), *Come to Think of It* (1930), and other volumes He was a contributor to the *Illustrated London News* from 1905 to 1930 and the editor of *G K's Weekly*, an organ of the Distributist League, which advocated the small-holding system An amusing artist, he illustrated books by Hilaire BELLOC See his autobiography (1936), biography by Maisie Ward (1943).

Chesterton, town (pop 2,470), Porter co , NW Ind , E of Gary

Chestertown, town (pop 2,760), co. seat of Kent co , Eastern Shore, Md , on the Chester river, across Chesapeake Bay NE of Annapolis, laid out 1706 It is a trading center for a resort area and has canneries and fertilizer and clothing factories Washington College (coeducational; 1782) is here.

Chesterville, village (pop 1,067), SE Ont , SE of Ottawa.

chestnut, name for any species of the genus *Castanea*, deciduous trees widely distributed in the Northern Hemisphere They are characterised by thin-shelled, sweet, edible nuts borne in a bristly bur The common American chestnut is *Castanea dentata*, native E of the Mississippi but now nearly extinct because of the chestnut blight—a disease caused by the fungus *Endothia parasitica* Efforts are being made to breed a type resistant to the disease and suitable to replace the old chestnut forests, some of which are still standing as dead or "ghost" forests Chestnut wood is porous, but it is very durable in soil and has been popular for fence posts, railway ties, and beams, the tree is rich in tannin The CHINQUAPIN belongs to the same genus

Chestnut Hill, suburb of Boston, Mass , in Brookline and Newton towns, main seat of Boston College (Catholic, Jesuit, partly coeducational, 1863)

Chesulloth (kĕsŭl'ŏth) [Heb ,=loins], town, N Palestine, probably the same as CHISLOTH-TABOR Joshua 19 18

Chesuncook Lake (chĭsŭn'kŏk), 22 mi long and 1 to 4 mi wide, N central Maine, NE of Greenville The West Branch of the Penobscot flows through the lake, which is in a noted hunting and fishing region

Cheswick, residential borough (pop 1,241), SW Pa , on the Allegheny river and NE of Pittsburgh; inc 1902

Chetek (shūtĕk'), city (pop 1,227), NW Wis., on Chetek Lake and the Cedar river and N of Eau Claire, settled 1863, inc 1891

Chetopa (shĭtō'pŭ), city (pop 1,606), extreme SE Kansas, near the Okla line, settled 1857 on the site of an old Osage village, laid out 1868, inc 1870

Chevalier, Albert (shuvăl'yā, shă"vulēr'), 1861–1923, English actor and music-hall singer In 1877 he appeared under the Bancrofts at the Prince of Wales Theatre, London, and later played Pinero and Barrie roles He made his first great success in 1891 at the Pavilion Music Hall with his singing of dialect songs, the best of which were *My Dear Old Dutch*, *The Future Mrs 'Awkins*, and *The Coster's Serenade* The humor and pathos of his songs and sketches claimed the memory of several generations He appeared in the United States in 1896 See his reminiscences, *Before I Forget* (1901) and *Unmutated* (1906).

Chevalier, Guillaume Sulpice: see GAVARNI

Chevalier, Maurice (shuvăl'yā, Fr mōrēs' shuvălyā'), 1888–, French singer and comedian. He made his debut (1900) singing and dancing at the Casino de Tourelles, Paris As the dancing partner of Mistinguette at the Casino de Paris and in the Elsie Janis revue *Hello, America*, he won great success, and by 1928 his reputation was international Some of the films in which he has appeared are *The Innocents of Paris*, *Love Parade*, *The Smiling Lieutenant*, and *The Merry Widow* In 1947 he acted in a one-man show in New York, where he sang such favorites as *Valentine* and *Ma Pomme*

Chevalier, Michel (mēshĕl'), 1806–79, French economist. As a young man he was a Saint-Simonian He advocated and wrote on the development of industrialism and free trade and with Richard Cobden negotiated the Anglo-French trade treaty of 1860 His *Lettres sur l'Amérique du Nord* (1836) extols the United States.

Cheverus, Jean Louis Anne Madeleine Lefebvre de (shă' lwē' ăn' mădûlĕn' lûfĕvr' dŭ shûvrûs'), 1768–1836, French churchman, first Roman Catholic bishop of Boston (1810–23). He was ordained in France, and had to flee in the Revolution (1792). In England he lived by teaching until 1796, when he went to Boston He worked all over New England and was known for his labors with Indians in Maine. He was also highly esteemed as a physician. In 1810 he was consecrated bishop of Boston. At length his health began to fail, and he asked for a transfer to France. Catholics and Protestants in America begged him to remain, but he accepted translation to the see of Montauban (1823). In 1826 he became archbishop of Bordeaux and in 1835 cardinal He did much to extend the toleration of Roman Catholicism in America

Cheves, Langdon (chĭ'vĭs), 1776–1857, American statesman, b Abbeville District (now Abbeville co), S C Admitted to the bar in 1797, he became one of the leading lawyers of Charleston In the U S House of Representatives (1810–15) he was one of the "war hawks" who agitated for hostilities with Britain He also served as chairman of the ways and means committee and in 1814 succeeded Henry Clay as speaker In this capacity Cheves cast the deciding vote against Alexander J. Dallas's bill for establishing the Second Bank of the United States, but it was chartered anyway in 1816 The bank was badly mismanaged until Cheves, elected a director and president in 1819, restored its credit On his resignation in 1822, Nicholas Biddle took over the bank. Cheves had been a justice of the South Carolina court of appeals from 1816 to 1819, and in 1829 he returned to his native state A Unionist, he devoted his considerable oratorical talents to opposing the nullification movement

chevet (shuvĕ') (O Fr ,=head), eastern end of a Gothic church It represents the ultimate development from the simple apse termination of the early Christian basilica, by the addition of several vaulted bays between the apse and transept, continuing the one or more vaulted aisles of the nave around the choir, and projecting several chapels off the outer aisles to form a vast architectural complex rivaling the nave of the church in extent It is predominantly found in French cathedrals, as in Notre Dame de Paris and in the cathedrals of Amiens and Rheims

Cheviot (shĭv'ĕŭt, shĕv'-), city (pop 9,043), extreme SW Ohio, W of Cincinnati

Cheviot Hills (chĕv'ĕut, chĕv'-), range on the Scotland-England border, extending 35 mi northeast-southwest The highest point is the Cheviot (2,676 ft) The Tyne, the Coquet, and branches of the Tweed rise here The Cheviots have been the scene of much border strife They are celebrated in the ballad *Chevy Chase* A fine type of sheep is bred in this area

Chevreul, Michel Eugène (mēshĕl' ûzhĕn' shûvrûl'), 1786–1889, French chemist He studied under L N Vauquelin, was director of the Gobelin tapestry works, and from 1830 was professor, and from 1860 to 1879 director, at the natural history museum at Paris Noted for his researches in the composition of animal fats (by which he contributed to the development of the soap and candle industry), he discovered and named olein and stearin and wrote *Recherches sur les corps gras d'origine animale* (1823) He also worked and wrote on color contrasts

Chevreuse, Marie de Rohan-Montbazon, duchesse de (marē' du rōă'-mōbăzō' dushĕs' du shûvrûz'), 1600–1679, French beauty and politician, an intimate of Anne of Austria (queen of France) Her intrigues and her opposition to Richelieu caused her to be repeatedly banished from the court and to be twice exiled (1626–28, 1645–49) During her exiles she visited Spain, England, and Flanders In the FRONDE she at first opposed, but later became the ally of, Cardinal Mazarin

Chew, Benjamin, 1722–1810, American jurist, b Anne Arundel co., Md He read law in Philadelphia under Andrew Hamilton and was admitted (1746) to the bar After practicing law at New Castle and Dover, Del , Chew returned to Philadelphia, where he held several public offices and was attorney general (1755–69) He was chief justice of the Pennsylvania supreme court from 1774 until the outbreak of the American Revolution, when he was suspected of Loyalist sympathies. After his arrest he was soon discharged He later was (1791–1808) president of the high court of errors and appeals of Pennsylvania. See biography by B A Konkle (1932)

Chewelah (chĕwē'lu), industrial town (pop. 1,565), NE Wash , NW of Spokane, in a mining district, inc 1903

chewing gum. Prehistoric man is believed to have chewed resins Spruce resin was chewed as a thirst quencher by Indians, from whom American pioneers adopted the custom Later, refined paraffin was used and then chicle, which was probably first imported into the United States by the Mexican general Santa Anna A chicle gum was patented in 1869 by William and Semple In the modern factory, blocks of chicle are ground, melted, cleared in a whirling vat, sterilized, and beaten with sugar or corn syrup and flavorings, usually volatile mint oils, licorice, or fruits The gum is rolled through sheeting machinery and chopped into sticks or formed into candy-coated pellets. Insoluble plastics may be mixed with, or substituted for, the chicle. Although the United States is the major producer, exporter, and consumer, the industry has been established in Japan, Egypt, and Germany.

Cheyenne (shīăn', -ĕn'). **1** Town (pop. 1,070), co. seat of Roger Mills co., W Okla., near the Texas border; settled c.1892. The battle of the WASHITA took place near by. **2** City (pop 22,474, alt. c 6,000 ft), state capital, and co seat of Laramie co., SE Wyo , near the Colo. and Nebr. lines The Union Pacific RR selected this site for a division point in 1867. The city sprang up, was incorporated that year, and was made territorial capital in 1869. In the 1870s the development of the area as a cattle-ranching section and the opening of the Black Hills gold fields stimulated the city's growth Today it is a market for sheep and cattle ranches and a shipping center with railroad shops and yards and good air and highway connections Cheyenne revives its past annually with a Frontier Days celebration, first held in 1897 Landmarks include the state capitol and the supreme court building, housing the state historical museum and library. Near by are Fort Francis E Warren, U.S military post, a veterans' hospital, and a U S. horticultural station

Cheyenne, river, 527 mi long, rising in E Wyoming and flowing NE to the Missouri in central South Dakota, above Pierre The Belle Fourche is a tributary The Cheyenne basin is part of the MISSOURI RIVER BASIN PROJECT The Bureau of Reclamation has already established in the Cheyenne valley a project on the Belle Fourche, the Rapid Valley project near Rapid City, and Angostura Dam (begun 1946) on the Cheyenne itself

Cheyenne Indians, North American Indian tribe of the Algonquian linguistic family From territory that later became Minnesota, where they were found in the 17th cent , they migrated W along the Cheyenne river, stopped for several generations near the Black Hills, and then moved to the headwaters of the Platte river Here they divided (c 1830) into two bands, the northern Cheyenne, who are in Montana, and the southern Cheyenne, now in Oklahoma There is still much intercourse between the bands, and they are fully conscious of their close relationship In the early 19th cent they had a typical Plains culture Generally friendly to the whites up to 1861, the southern band that year began hostilities because treaties made by the United States had been continually violated The indiscriminate massacre (1864) of warriors, women, and children on Sandy Creek, Colo , by the U S army, aroused the Cheyenne to fury, and one of the bitterest Indian wars in the West followed In 1868 Custer attacked Black Kettle's camp on the Washita river and completely destroyed it, ending the war The northern Cheyenne took no part in these hostilities The Cheyenne speech is closer to the central Algonquian dialects than is that of the Blackfoot or the Arapaho (see LANGUAGE, table) See G B Grinnell, *The Fighting Cheyenne* (1915) and *The Cheyenne Indians* (2 vols , 1923), K N Llewellyn and E A Hoebel, *The Cheyenne Way* (1941)

Cheyne, Thomas Kelly (chā'nē), 1841–1915, English clergyman and biblical critic, educated at Oxford. While studying at Göttingen, he was influenced by Georg Ewald and gained a view of biblical criticism little known at the time in England From 1885 to 1908 he was Oriel professor of the interpretation of Scripture at Oxford as well as canon of Rochester He was the author of many books of biblical criticism, his most celebrated work was on the Major Prophets and on the Psalms He also wrote *Jewish Religious Life after the Exile* (1898) and *The Reconciliation of Races and Religions* (1914). With J. S. Black, Cheyne edited *Encyclopaedia Biblica* (4 vols , 1899–1903)

Chezib (kē'–), probably the same as ACHZIB **2**

Chiabrera, Gabriello (gabrē-ĕl'lō kyäbrā'rä), 1552–1637, Italian poet He was notable for his adaptation of the classic forms to Italian verse At 80 he wrote an autobiography

Chiang Kai-shek (chĕäng" kī"-shĕk', jyang"), 1886–, Chinese generalissimo and statesman Chiang studied at the Japanese academy for military cadets in 1907 In the revolution of 1911 he was a principal aide of Sun Yat-sen He was a banker in Shanghai from 1915 until 1923, when he became prominent in the Kuomintang party and led its victorious army northward from Canton, capturing Hankow, Shanghai, and Nanking. Chiang's original policy was to cooperate with the Chinese Communists and to accept Russian aid, but in 1927 he dramatically reversed himself, initiating the long civil war of the Kuomintang and the Communists. In 1928 he became chairman of the Nationalist government and commander in chief of all Chinese forces. Thereafter, under various titles and offices, he exercised virtually uninterrupted dictatorial power until 1948 In Dec , 1936, General CHANG HSUEH-LIANG kidnaped him at Sian, supposedly to force a declaration of war against Japan and the readmission of the Communists to the Kuomintang, but he was soon released unconditionally During the active fighting against Japan (1937–45) Chiang united most of China in resistance to Japan after entering upon a partial rapprochement with the Communists He was one of the most prominent of leaders in the Second World War and attended the Cairo Conference (1943) with F D. Roosevelt and Winston Churchill He and his wife, who had been Mei-ling or Mayling Soong (see SOONG, family),

were the international symbols of China at war, but Chiang was bitterly criticised by officers of the forces of his allies, notably Joseph W. Stilwell, and argument raged as to his internal policies and his conduct of the war After the war ended he did not achieve any settlement with the Communists, and civil war continued Chiang succeeded Lin Sen as provisional president in 1943, and in 1948 he was elected first constitutional president The new constitution, however, had little chance to function Chiang resigned after a few months but soon resumed leadership of the Kuomintang to oppose the Communists, who were sweeping into S China in strong military force and reducing the territories held by the Nationalists until, in late April, 1950, they retained only the island of Formosa Some of his speeches have appeared in English in *Collected Wartime Messages* (1946) and *China's Destiny* (1946) See biographies by H K Tong (1937) and Sven Hedin (1940), T H White and Annalee Jacoby, *Thunder Out of China* (1947)

Chiang Mai or **Chiengmai** (both chĕĕng'mī'), city (pop 26,062), N Thailand, on the Meping river near the Burmese border It is connected by rail with Bangkok The population is mostly Lao From the 11th cent, Chiang Mai was the center of a Lao kingdom, dominated in turn after the 14th cent by the Burmese and Siamese The Burmese invasions ceased in the 19th cent, and Chiang Mai was fully incorporated into Thailand

Chianti, Monti (mōn'tē kyän'tē), small range of the Apennines, Tuscany, central Italy, S of the Arno The celebrated wine produced on the slopes is called Chianti

Chiapas (chēä'päs), state (28,732 sq mi, 1946 estimated pop 769,406), S Mexico, on the Pacific, between the Isthmus of Tehuantepec and Guatemala Chiapas is crossed by a series of mountain ranges rising from the isthmus and extending SE into Guatemala They are separated by low, subtropical valleys Paralleling the tropical coastal plain is the Sierra Madre, a range reaching its greatest height in TACANÁ volcano The principal river valley of Chiapas is the GRIJALVA, and northeast of it lie the central highlands, populated predominantly by Indians of Mayan stock Again to the northeast, in the region known as El Desierto [the wilderness], are lower ranges, lakes, and valleys, falling away toward the USUMACINTA river and the jungle plains of Tabasco, almost uninhabited, but containing superb forests of dyewoods and hardwoods and many relics of the Maya (notably PALENQUE), the area is the retreat of the Lacandones, a gradually disappearing Indian group that lives much like the ancient Maya Rainfall, which is heavy, comes only during the wet season (June to Nov), except in the highlands the temperature becomes excessively high Subsistence crops are grown, and coffee, cattle, cacao, rubber, and henequen are of some importance in the economy In general, exploitation of the state's natural resources has been retarded because of remoteness and lack of communication, but there is a coastal railway from Veracruz to Tapachula, and airlines and the new INTER-AMERICAN HIGHWAY are linking the capital, TUXTLA, to the highland towns and opening the country Conquered with difficulty by the Spanish, Chiapas, as it was then called, was attached to the captain generalcy of Guatemala In early Spanish days Bartolomé de las Casas was bishop here Never ethnologically, geographically or politically a part of colonial Mexico, Chiapas nevertheless in the political anarchy following the collapse (1823) of the empire of ITURBIDE maintained a quasi-independence that separated it from the Central American states and oriented it toward Mexico

Chiarini, Giuseppe (jōōzĕp'pā kyärē'nē), 1833–1908, Italian poet, critic, and editor He translated Heine, edited the works of Foscolo and Carducci, and encouraged the young D'Annunzio Among his best poems are elegies on his son's death

chiaroscuro (kyärōskō'rō) [Ital, =light and dark], term once applied to an early method of printing woodcuts from several blocks and also to works in black and white or monotone Today it is used loosely to refer to the distribution of light and dark in painting Often, however, it refers more specifically to modeling in light and shade and to the design of the mass and shape produced by such modeling in a picture

Chiasso (kyä'sō) town (pop 5,625), Ticino canton, Switzerland A St Gotthard rail station on the Italian frontier, it has trade in wine and produces foodstuffs and tobacco

Chiatura (chēätōō'rä), city (pop c 10,000), W central Georgia, USSR It is the center of production of manganese, which is shipped by rail to Poti and Batum

Chiavenna (kyävĕn'nä), town (pop 3,803), Sondrio prov, Lombardy, N Italy. It has been historically a key point since it commands both the SPLÜGEN and MALOJA passes between Italy and Switzerland.

Chiba (chē'bä), city (1940 pop 92,061, 1947 pop. 122,066), capital of Chiba prefecture, central Honshu, Japan, on Tokyo Bay. It is a manufacturing center and has an 8th-century Buddhist temple

Chibcha (chĭb'chù), group of Indian tribes of the eastern cordillera of the Andes of Colombia. The two most important were those subject to the Zipa at Bogotá and to the Zaque at Tunja. Although trade with neighboring tribes was common, the Chibcha seem to have evolved their culture in comparative isolation. They were the most highly developed of the Colombian Indians, practicing agriculture (chiefly raising maize and potatoes), melting and casting gold and copper ornaments, mining emeralds, weaving textiles, and making pottery They evolved a stratified matrilineal society of overlords and vassals, in which private property was probably recognized and human sacrifice was practiced by the priesthood Probably because of the custom of gilding a new ruler, the source of the legend of EL DORADO is attributed to them The Chibcha were conquered by JIMÉNEZ DE QUESADA between 1536 and 1541 The Chibchan languages, a separate family, are spoken in Colombia and probably as far north as Nicaragua

Chicago (shĭkä'gō, shĭkô'gō), city (pop 3,396,808), co seat of Cook co, NE Ill, on the southwest shore of Lake Michigan Second among U S cities in size and importance, it is, in the words of Carl Sandburg,

> Hog Butcher for the World
> Tool Maker, Stacker of Wheat,
> Player with Railroads and the
> Nation's Freight Handler

A lake port and port of entry, it is more important as the hub of the railroads, air lines, and highways It stretches more than 20 mi on the lake front and is continued in the north by Evanston and other residential cities and in the south by industrial suburbs to the border of Indiana and beyond Its products are diverse Besides the meat-packing plants—the most famous in the world—and the huge grain mills and elevators, there are factories of all sorts, making, among other things, electric equipment, furniture, farm machinery, clothing, railroad cars and supplies (e g, in Pullman), iron and steel products, and musical instruments The city sprawls inland to the west, covering more than 200 sq mi Its vastness is tied together with boulevards built especially for speedy automobile communication and with a system of elevated railways (part of it a subway) The elevated lines come into the heart of the city to make a huge rectangle for convenience in transfer This is the celebrated Loop, which gives its name to the downtown section In or near the center of the city are the Chicago Public Library, housing a collection of more than 2,500,000 volumes, started by a gift from England after the great fire of 1871, the John Crerar Library of scientific books, the Chicago Board of Trade Building, and the Chicago Civic Opera La Salle St is the financial center, State St is known for its shops, and Randolph St has been celebrated for its theaters On the lake front (much of it man-made) is Grant Park, with the ART INSTITUTE OF CHICAGO, a planetarium, the Chicago Natural History Museum (formerly the Field Museum), and the John G Shedd Aquarium Near by is the huge stadium of Soldier Field To the north along the lake front runs Michigan Boulevard, going out of the region of towering skyscrapers past the rich hotels of the "gold coast" into the residential district of the north In this section lies Lincoln Park with the Chicago Historical Society building, the Chicago Academy of Sciences, the Chicago Natural History Museum, a zoological garden, a conservatory, and sculpture including the noted standing figure of Abraham Lincoln by Augustus Saint-Gaudens (1887) and the John P Altgeld memorial monument by Gutzon Borglum (1915) In the north there are a number of institutions of higher learning The largest of the universities is, however, on the south side This is the Univ of Chicago, with its imposing Gothic buildings and attractive spaciousness With nearby Jackson Park (with the Museum of Science and Industry) it is the center of a distinct and most attractive district that inherited some of the air of the great World's Columbian Exposition Most of the south side is, however, given over to industries and to poor residential areas including the homes of Chicago's large Negro population The Union Stock Yards, founded in 1865, are in the south, and the southern edge of the city is smoky with the enormous ironworks and steelworks The west side extends over a vast territory and is usually spoken of as a region of nationalities because there are many groups that live lives more or less isolated culturally, though crowded next to each other physically These neighborhoods grew up rapidly in the late 19th and early 20th cent In the west, too, are large industrial areas and two well-known parks, Garfield Park and Humboldt Park Here, too, is Hull House, the famous settlement house founded (1889) by Jane ADDAMS when immigration was reaching its peak The west runs out to a series of suburbs, both poor and well-to-do Other points of interest in Chicago are the Auditorium (designed by Louis H. Sullivan), St. Patrick's Church (dedicated 1856), and the ugly but beloved water tower that survived the great fire. Notable as dividing lines in the city are the two branches of the Chicago river. This was once a shallow prairie stream that flowed into the lake (now canalized, it flows away from the lake) In early days it was of great value because the narrow watershed between it and the DES PLAINES river (draining into the Mississippi through the Illinois river) offered an easy portage that led explorers, fur traders, and missionaries to the great central plains Here came Father Marquette and Louis Jolliet in 1673, and the spot was well known for a century before Jean Baptiste Point Sable (or Point du Sable) set up a trading post at the mouth of the river John Kinzie, who succeeded him as a trader, is usually called the father of Chicago The military post, Fort DEARBORN, was established in 1803 In the War of 1812 its garrison perished in one of the most famous tragedies of Western history Fort Dearborn was rebuilt in 1816, and the building of the Erie Canal in the next decade speeded the settling of the Middle West, and Chicago began to grow, it was platted in 1830 and incorporated as a village in 1833 Harbor improvements, lake traffic, and the peopling of the prairie farmlands boomed the town, which became a city in 1837 The Illinois and Michigan Canal was authorized by Congress in 1827 and was completed in 1848, just a few years before the railroads began to make canal traffic more or less obsolete By 1860 a number of lines connected Chicago with the rest of the nation, and the city was launched on its career as the great mid-continent shipping center Gurdon S Hubbard had also long since started it on a career as meat packer Grain and livestock created a huge, shambling city built of wood The great fire of 1871 (which legend says was started by MRS O'LEARY's cow, when she kicked over a lantern) wiped out that ill-built city One of the great disasters of U S history, the fire destroyed some $200,000,000 worth of property and killed several hundred people When the city was rebuilt, it was a place of stone and steel Industries sprang up, and the great inflow of immigrants started and climbed steadily Many nations have contributed to the modern city, including Germans, Scandinavians, Irish, Jews, Italians, Poles, Czechs, Lithuanians, Croats, Greeks, and Chinese With industry came troubles over labor that were highlighted by the HAYMARKET SQUARE RIOT of 1886 and the great strike at Pullman in 1894 (see DEBS, EUGENE V, and ALTGELD, JOHN P) The city was already proud of its reputation for brawling lustiness, but quietly it was also the center of Middle Western culture Theodore Thomas and his orchestra founded a great musical tradition Writing flourished, although it was not until the 20th cent that Chicago actually became a major leader in literature Such men as Eugene Field, Carl Sandburg, Edgar Lee Masters, Theodore Dreiser, and James T Farrell have given a considerable literary luster to Chicago's name Most notable in the development of American thought and taste in art was the WORLD'S COLUMBIAN EXPOSITION of 1893, the world's fair par excellence One of the architects at the exposition was the notable Louis H Sullivan, who together with D H Burnham, John W Root, and others made Chicago a leader in architecture It was in the prairie city that one of the distinctive U S contributions to architecture, the skyscraper, came into being Chicagoans have been from the beginning conscious of educational needs, and the city has many colleges and universities, including, besides the Univ of Chicago, De Paul Univ (Catholic, Vincentian, coeducational, 1898), George Williams College, ILLINOIS INSTITUTE OF TECHNOLOGY, LOYOLA UNIVERSITY, Mundelein College (Catholic; for women, 1929), parts of NORTHWESTERN UNIVERSITY, Roosevelt College, St Francis Xavier College for Women, and parts of the Univ of Illinois (see ILLINOIS, UNIVERSITY OF). There are a number of theological seminaries, schools of music, art, and law, and three junior colleges The first decade of the 20th cent saw the development of many agencies concerned with civic improvement, among them the City Club (1903), the Chicago Association of Commerce (1908), and the City Plan Commission (1909), which directs the development of the city The city between the First World War and 1933, however, earned an unenviable renown as the home grounds of gangsters, Al Capone and his ilk, and the reputation for gangster warfare still clings, long after the event. Despite the world-wide depression Chicago's new world fair, the Century of Progress Exposition (1933–34), proved how greatly Chicago had prospered and progressed In the Second World War all of the city's resources were taxed to the utmost in service to the nation, and the metropolitan area experienced considerable growth. See Lloyd Lewis and H J Smith, *Chicago the History of Its Reputation* (1929), H R Hamilton, *The Epic of Chicago* (1932), Milo M Quaife, *Chicagou from Indian Wigwam to Modern City, 1673–1835* (1933), B. L. Pierce, *A History of Chicago* (Vol. I, 1937, Vol. II, 1940), Harry Hansen, *The Chicago* (1942); Ernest Poole, *Giants Gone Men Who Made Chicago* (1942)

Chicago, river of NE Illinois formed in Chicago by the junction of its North and South branches and formerly flowing into Lake Michigan (first by its

original course, later by a channel to the north) The river now flows from the lake instead of into it; the current was reversed—and Chicago sewage taken away from the lake and carried to the Mississippi—when the Chicago Drainage Canal (built 1892–1900), later called the Chicago Sanitary and Ship Canal, was joined to the Des Plaines river at Lockport The Des Plaines and the Illinois have been improved and with the Chicago river and the canal are part of the Great Lakes to Gulf of Mexico waterway The old Illinois and Michigan Canal (completed 1848) to La Salle was the earlier shipping link and ran parallel to the present waterway

Chicago, Art Institute of: see ART INSTITUTE OF CHICAGO.

Chicago, University of, in Chicago, nonsectarian, private, coeducational, chartered 1891 (Baptist), opened 1892 with gifts from John D Rockefeller (see GATES, FREDERICK T.) It includes a degree-granting junior college, four divisions (humanities and biological, physical, and social sciences), and schools of business, divinity (with two affiliated theological schools), law, library science (graduate), social service administration, and medicine The noted education department (with laboratory schools) is now under the divisions Two observatories (Yerkes, at Williams Bay, Wis , and McDonald, with the Univ of Texas, at Mt Locke, Texas), the Oriental Institute, with a large archaeological museum, and the Institute for Nuclear Studies are notable There are paleontology and geography museums, a U S weather bureau, a seismograph, an art gallery, a radio station, a film library, a social settlement, a public-administration center, and psychiatric and other research institutes The library is especially rich in Lincolniana and American drama The campus is on the South Side, adjoining Jackson Park From its first years Chicago has been outstanding in research and graduate work. Its innovations include extension work, the quarter system, the junior college, and "general education." William R HARPER and Robert M HUTCHINS are among noted presidents The Univ of Chicago Press (1891), with its own printing plant, is one of the pioneers in the field See C. S. Boucher, *The Chicago College Plan* (1940 ed)

Chicago Heights, industrial city (pop 22,461), NE Ill , S of Chicago, settled in the 1830s, inc 1901 Its manufactures include iron and steel, railroad equipment, glass, chemicals, textiles, and paint

Chicago Natural History Museum, at Chicago, Ill , founded in 1893 through gifts of Marshall Field and others Chartered as the Columbian Museum of Chicago, it occupied until 1921 the fine arts building of the World's Columbian Exposition Soon after it was founded the name of the museum was changed to the Field Columbian Museum and later to the Field Museum of Natural History, the name by which it was known until 1943, when it became the Chicago Natural History Museum Especially notable are the lifelike exhibits of animals in their natural settings (largely the result of Carl Akeley's development of special methods of taxidermy and of preparation of habitat groups), the displays of plant life, and the anthropological and geological collections. The many expeditions sponsored by the museum have contributed largely to its collections Works of sculpture include Malvina Hoffman's portrayal of the races of mankind and Carl Akeley's group of African natives spearing lions and his fighting elephants Many educational opportunities are offered by the museum's library, the school-service department, and special programs

chicha (chē'chä), term commonly applied to any of various intoxicants made by South American Indians, particularly in Peru and Bolivia To make it, grains or berries are masticated and then allowed to ferment In the pre-Columbian period it was usually drunk in conjunction with religious ceremonies The ancient Inca government strictly controlled its use, but today consumption is unregulated.

Chichagof Island (chĭ'chŭgŏf), off SE Alaska, in the ALEXANDER ARCHIPELAGO Lying N of Baranof Island, it has fish canneries, gold mining, and wolfram deposits

Chichén Itzá (chēchān' ētsä'), city of the ancient MAYA, N central Yucatan, Mexico According to one system of dating it was founded A.D. c 514, probably by the ITZÁ, was abandoned in 692, was reoccupied c 928, and then at some time between 968 and 987 was chosen by Kulkulcán (see QUETZALCOATL) as his capital. After being defeated by Mayapán in 1194, the Itzá abandoned it for the last time. Spanning two great periods of Maya civilization, Chichén Itzá shows both Old Empire and New Empire architectural styles. The Old Empire style is massive, with heavy decorative sculpture and cramped interiors. The later buildings have plainer, more austere lines, and the sculpture (based on the Mexican feathered-serpent motif and columns) becomes more incidental and enhances architectural design Rare among Maya buildings is the round tower (41 ft high) called the Caracol [snail shell], built in the New Empire; it was probably an astronomical observatory. Into Chichén Itzá's sacred well, mecca of countless pilgrimages from Central America and the Mexican plateau, were thrown jade and metal offerings. Humans were also sacrificed.

Chicherin, Georgi Vasilyevich (gôôr'gē vŭsē'lyŭvĭch chĭchä'rĭn), 1872–1936, Russian statesman. Of noble origin, he entered the Russian foreign office but soon resigned after joining the Social Democratic party He was in London during the October Revolution of 1917 and was arrested by the British authorities, but he was released in exchange for the British ambassador to Russia. In 1918 he succeeded Trotsky as foreign commissar An able diplomat, Chicherin successfully prepared the recognition of Soviet Russia by the Great Powers, notably by the Treaty of Rapallo (see RAPALLO, TREATIES OF, and GENOA, CONFERENCE OF) in 1922. At the Conference of Lausanne (see LAUSANNE, CONFERENCE OF) in 1922, Chicherin refused to sign the convention concerning the Dardanelles Illness caused his resignation in 1930 Maxim Litvinov, long his assistant, succeeded him

Chichester (chĭ'chĭstûr), municipal borough (1931 pop 13,912; 1943 estimated pop 19,944) and city, Sussex West, England, on a plain between the South Downs and the sea The Regnum of the Romans, it was conquered by Ælla and his sons, who landed near by at Selsey in 477 and founded the kingdom of the South Saxons, they renamed the town Cissaceaster or Cissanceaster, after Ælla's son Cissa There is a promenade along the ancient city walls A Roman amphitheater was discovered outside the walls in 1935 The cathedral (12th–13th cent) has unusual features in its detached bell tower and its aisles The main streets of the town meet at a market cross (1500)

Chichucastenango (chē"chēkästĕnäng'gō), town (pop 1,167), SW Guatemala. In the heart of the highlands, Chichicastenango became the spiritual center of the QUICHÉ after their defeat by Pedro de ALVARADO Today the religious practices of the Quiché are a blend of Christian and pagan ceremony. The town's market is colorful and crowded

Chichu-jima (chĭchōō'-jē'mä'), volcanic island (9 5 sq mi , pop c 4,000), N Pacific, S of Tokyo, largest of the Bonin Islands. Omura, chief town of the Bonin Islands, is on Chichi-jima The island produces sugar cane, cocoa, and ornamental coral. In the Second World War the island was the site of a Japanese naval base at Port Lloyd (Futami-minato) Chichi-jima was formerly called Peel Island

Chichimec (chēchēmĕk') generic term applied to the culture and peoples of the Valley of Mexico between the Toltec ascendancy and the Aztec Before the TOLTEC abandoned Teotihuacán, about the 11th cent , the Chichimec were nomadic tribes on the northern fringes of the valley The AZTEC, wandering south about a century later, were linguistically and culturally related to the Chichimec, and the latter name is sometimes applied to them before they gained preeminence over other cities The Chichimec period (c 950–1300) was one of intertribal warfare and political confusion among the city-states of the valley, but it prepared the way for the unified culture of the Aztec.

chickadee (chĭk'ŭdē"), small North American bird related to the titmouse The black-capped chickadee is fearless, lively, and sociable and is a permanent resident over most of its range in E North America Both sexes have similar plumage, disheveled but attractive, with black caps, gray back and wings, and white to buff under parts Agile little gymnasts, they are often seen swinging on branches Insect pests form more than half of their diet They have a pleasing song and a call note like "phee-bee" in addition to the one which gives the bird its name There are several western species, one southern species, and a brown-capped northeastern species

Chickahominy (chĭkuhō'mĭnē), river of E Virginia, rising NW of Richmond and flowing southeast c 90 mi to the James In the Civil War there was heavy fighting along its banks (see PENINSULAR CAMPAIGN and SEVEN DAYS BATTLES)

Chickahominy Indians, North American Indian tribe of Algonquian linguistic stock. The tribe was a member of the Powhatan Confederacy and one of the first Indian peoples with whom the English settlers in Virginia were acquainted

Chickamauga (chĭk'ŭmô'gŭ), city (pop 1,665), NW Ga., S of Chattanooga, Tenn , inc 1891 It was the scene of a Civil War battle in the CHATTANOOGA CAMPAIGN. Chickamauga and Chattanooga National Military Park (in two distinct parts; 6,277.4 acres in Georgia, 1,849 76 acres in Tennessee, est. 1890) and Fort Oglethorpe (1903), U.S army post, are near.

Chickasaw Indians (chĭk'ŭsô), North American Indian tribe of Natchez-Muskogean linguistic stock, occupying N Mississippi. They were closely related in language and culture to the Choctaw. They warred constantly with the Choctaw and the related Creek Indians and were formidable opponents of the French After 1834 they moved, according to treaty arrangements, to Oklahoma, where they constituted one of the Five Civilized Tribes.

Chickasha (chĭk'ŭshä), city (pop. 14,111), co. seat of Grady co., SW central Okla., on the Washita river and SW of Oklahoma City, in a rich farm and ranch area which also produces oil and natural gas. The trade and processing of cotton (especially cottonseed oil), grain, poultry, and dairy goods are important. Oklahoma College for Women is here

chicken: see POULTRY.

chicken pox or **varicella** (vărĭsĕ'lŭ), contagious infectious disease of childhood, caused by a filterable virus. Two or three weeks after exposure to a case there is fever, and then a skin rash appears, starting on the trunk and spreading in successive crops for three or four days The red spots become blisters, and eventually dry, leaving a crust which falls off and is sometimes followed by a slight scar The disease is usually not serious, but infection may follow scratching The patient should be isolated until every sign of the active disease has disappeared Chicken pox may be confused with a mild case of smallpox

chick-pea, annual plant (*Cicer arietinum*), cultivated since antiquity for the somewhat pealike seeds much used as food in India, Italy, France, and Spanish-speaking countries The seeds are boiled or roasted and have been substituted for coffee Other names are *garbanzo*, *cece*, and gram.

chickweed, name for various plants, particularly those of the genus *Alsine* (or *Stellaria*), which are usually low herbs with white star-shaped flowers They are relished by birds The common chickweed, a weed often in bloom in winter, has been used for greens and for poultices The mouse-ear chickweeds, similar, are species of *Cerastium*.

Chiclayo (chēklä'yō), city (pop 32,646), NW Peru On the coastal desert between the Andes and the Pacific, Chiclayo for years at a time has no rainfall However, by utilizing short Andean streams to irrigate the alluvial fans, Chiclayo raises considerable sugar cane and a major part of the republic's rice

chicle (chĭ'kŭl), name for the gum obtained from the latex of the sapodilla tree, a tropical evergreen (*Achras sapota*, *A zapota*, or *Manikara zapotilla*) The tree, native to parts of Mexico and Central and South America, is also known as nasseberry and as sapodilla plum It is widely cultivated in tropical regions, including S Florida, for its fruit Chicle is yielded only during the rainy season and is obtained chiefly from wild trees Natives, called *chicleros*, cut zigzag gashes in the tree trunk and collect the sap in bags The collected material is boiled and when it reaches the correct thickness is poured off and molded into blocks These are exported, chiefly to the United States, for use in making CHEWING GUM

Chico (chē'kō), city (pop 9,287), N Calif , N of Sacramento, laid out 1860 by Gen John Bidwell, inc 1872 It lies in a fertile agricultural area, yielding fruits, almonds, alfalfa, and grain The city has flour mills, canneries, plants for drying and packing fruits, and railroad shops It is the seat of Chico State College (coeducational, 1887) and a Federal plant introduction station Lassen Volcanic National Park lies to the northeast

Chicopee (chĭ'kupē), industrial city (pop 41,664), SW Mass , at the confluence of the Chicopee and Connecticut rivers near Springfield, settled 1652, set off from Springfield 1848, inc as a city 1890 It includes the villages Chicopee, Chicopee Falls, and Willimansett Electrical apparatus, tires, and firearms are among its products The city has an important military air base Edward Bellamy was born and lived most of his life in Chicopee Falls The College of Our Lady of the Elms is in Chicopee

chicory or **succory,** European herb (*Cichorium intybus*), naturalized in North America, where the tall stalks of usually blue flowers are common along waysides and are known as blue-sailors It is extensively grown in Europe for its root, which, roasted and powdered, is used as a coffee substitute and adulterant Chicory is also used as a potherb and salad plant, the common type blanched for salads being called witloof or French endive True endive belongs to the same genus

Chicoutimi (shĭkōō'tĭmē"), city (pop 16,040), S Que , on the south bank of the Saguenay at the head of navigation and at the mouth of the Chicoutimi A Jesuit mission was established here in 1670, and the city is now the seat of a Roman Catholic bishop, with a cathedral, a seminary (affiliated with Laval Univ.), schools, and convents It has large pulp and lumber mills and furniture and other woodworking factories

Chicoutimi, river of S Quebec, rising in the Laurentian highlands and flowing N into Lake Kenogami, thence E into the Saguenay, dropping almost 500 ft in the last 18 mi with a 50-foot fall just above the city of Chicoutimi Its drainage area is heavily wooded and generally unsettled

Chidambaram (chĭdŭm'bŭrŭm"), town (pop. 26,212), SE Madras state, India Its temples, among the oldest examples of Dravidian art, include one to the dancing Siva which covers 39 acres.

Chidley, Cape, headland on the north coast of Labrador at the entrance to Hudson Strait, named by the explorer John Davis in 1587.

Chidon (kĭ'dŏn): see PEREZ-UZZA.

chief, a leader of a clan or tribe. A tribe may possess several chiefs, among whom the social, religious, and war functions are divided, or the group

may form a council of clan heads. Inherent qualities of leadership may help a man to attain chiefship, or he may succeed through the display of powers considered supernatural Hereditary chiefship is most common and helps to prevent the period of social disruption caused by suspension of authority before a successor is found for a dead chief. Among Scottish clans, the chief is considered the representative of the founder of the clan, "the sacred embodiment of the race".

Chiemsee (kēm'zā), lake, area 31 sq mi , Bavaria, SE of Munich. It is the largest lake in Bavaria On the largest of three islands is a palace built by Louis II in imitation of Versailles.

Chieng Mai, Thailand: see CHIANGMAI.

Ch'ien Lung (chyĕn' lôông'), 1711–99, fourth emperor (1736–96) of the Ch'ing dynasty, whose original name was Hung-li. During his vigorous reign, China attained its maximum territorial expanse. He resisted attempted Western encroachments and for a time forbade Christian missionary activity. He was a prolific, though ungifted, writer, and his court was a center for artists and scholars

Chientang: see TSIENTANG

Chiesa, Francesco (frănchĕs'skō kēā'zä), 1871–, Italian Swiss author. Born in the canton of Ticino, he wrote in Italian His novels and stories have little plot but are noted for their literary style and psychological insight, they include the stories *Istorie e favole* (1913) and *Racconti puerili* (1920) and the novels *Tempo di Marzo* (1925), *Valladorna* (1928), and *Racconti del mio orto* (1929). His poetry is marked by perfection of form

Chieti (kyā'tē), city (pop 17,575), capital of Chieti prov , Abruzzi e Molise, central Italy, near the Adriatic It occupies the site of the Roman Teate, of which ruins remain Chieti was in the duchy of Benevento (7th cent), fell to the Normans (1078), and thereafter was in the kingdom of Sicily and of Naples The order of the Theatine Brothers (founded 1524) takes its name from ancient Teate Chieti has a fine Romanesque cathedral (11th cent) and a noted music school

chigger, name for the minute, six-legged, reddish larvae of the harvest mite or red bug, found more abundantly in the S United States than in the North It has eight legs when adult and is an arachnid It attacks man and other warm-blooded animals as they pass the underbrush which it frequents Attaching itself to the skin, it gorges with blood It causes severe itching and sometimes fever, but it is much less harmful than the CHIGOE with which it is sometimes confused

Chigirin (chĭgĭrēn'), town (pop 7,954), W Ukraine Founded (1589) as a fortress, it rose to importance in the 17th cent when Bohdan Chmielnicki made it the capital of the Ukraine

Chignecto (shĭgnĕk'tō), isthmus connecting Nova Scotia with the Canadian mainland It is c 17 mi across at its narrowest point near Amherst, chief city of the isthmus See W R Bird, *A Century a Chignecto* (1928), J. C Webster, *The Forts of Chignecto* (1930)

Chignecto Bay, northernmost of two large arms of the Bay of Fundy It separates New Brunswick from Chignecto isthmus, N S

chigoe (chĭ'gō) or **jigger**, small flea of tropical America and the S United States, the female of which bores into the flesh, usually the feet or legs, of humans and of many wild and domestic animals The insect's abdomen swells to form a bladder or sack in which the eggs develop Sores which result from this irritation in the host's flesh are painful and may become seriously infected if untreated

Chigwell, village, Essex, England, near Woodford, and near Hainault Forest King's Head Inn is the Maypole Inn of Dickens's *Barnaby Rudge* William Penn attended the grammar school, which was founded in 1629

Chihli, China: see HOPEH.

Chihli, Gulf of: see POHAI.

Chihuahua (chĕwa'wä), state (94,831 sq. mi.; 1946 estimated pop, 737,768), N Mexico, S of New Mexico and SW of Texas. The capital is Chihuahua city. Largest of the Mexican states, Chihuahua is divided into two regions—the mountains of the Sierra Madre Occidental to the west and the vast, hot, cactus-and-greasewood desert basins, broken by scattered barren ranges, to the north and east. In extreme E Chihuahua and W Coahuila is a desolate basin, the Bolsón de Mapimí The mines of the Sierra Madre, such as those in the region of HIDALGO DEL PARRAL, yield silver, gold, copper, lead, and manganese and are the most valuable Chihuahuan industry. Cattle raising was increasingly important on the wide plains until it was halted by the depredations of Francisco VILLA, only in recent times has it revived. Long considered unsuitable for agriculture, the state has seen reclamation of river valleys—of the CONCHOS and of the rivers flowing from the Sierra Madre N to the Casas Grandes desert basin and W to Sinaloa. The newly irrigated areas and upland mountain valleys produce grains, cotton, sugar cane, and tropical fruits. Some timber is cut in the mountains. Chihuahua was first known to the Spanish through CABEZA DE VACA. After the settlement of Durango in 1562 by Francisco de IBARRA, Chihuahua and Durango were called Nueva Vizcaya. Chihuahua became a state after the revolution against Spain In the 19th cent , until mounting feeling caused their expulsion, many Chinese immigrated into Chihuahua. The Apache kept the inhabitants in a recurrent state of terror. Of considerable importance to its economic and political development was the westward expansion of the United States, during the 19th and early 20th cent foreign investment was considerable, with the border city of JUÁREZ as the commercial link. Chihuahua was occupied by American forces in the Mexican War and played a prominent part in the turbulent years following the revolution in 1910. Chihuahua, the capital (pop 56,805), lies near the center of the state in a valley almost encircled by hills. Founded in the early 18th cent., it prospered in spite of Indian raids. Agriculture is important, but the city depends chiefly on near-by mines It is the only large rail and commercial center of a vast northern area There are many American inhabitants Minor industries include smelting and other mining processes, breweries, and furniture making In Chihuahua the revolutionary HIDALGO Y COSTILLA was executed in 1911 It was occupied briefly by U S forces in 1846 and was for a time the headquarters of Benito JUÁREZ until taken by the French in 1865

Chihuahua, toy dog believed to have been developed from a breed prized as a pet by ancient Toltec tribes and later by the Aztec The modern Chihuahua, known for its intelligence and alertness, weighs from 1 to 6 lb The skull is rounded, the dark eyes set well apart, and the ears are large and erect There are smooth-haired and long-haired varieties In color they range from white, through shades of tan, to black, some are solid-colored and others are mixed

Chikamatsu, Monzaemon (mônzä'ämô chĭkä'mätsōō), 1653–1724, great Japanese dramatist, who wrote primarily for the puppet stage in the Tokugawa shogunate He vastly improved the *jorurı* (dramatic ballad) and in many ways influenced the development of the modern Japanese theater Among his best-known works is the *Kokusenyakassen*, which tells the adventures of a pirate captain See *Masterpieces of Chikamatsu* (tr. by Asataro Miyamori, 1926)

chilblains: see FROSTBITE

Chilcotin (chĭlkō'tĭn), river, 146 mi long, S British Columbia It is a tributary of the Fraser.

Child, Francis James, 1825–96, American scholar, b Boston, grad Harvard, 1846. Except for two years' study in Germany, 1849–51, he taught at Harvard the rest of his life, first as Boylston professor of rhetoric and oratory and after 1876 as professor of English literature He was an exemplary and inspiring teacher His great collection, *English and Scottish Popular Ballads* (5 vols in 10 parts, 1883–98), is famous, but also for years his edition of the *Poetical Works of Edmund Spenser* (5 vols , 1855) was standard, and his "Observations on the Language of Chaucer" in the *Memoirs of the American Academy of Arts and Sciences* (Vol VIII, 1863) led to modern methods of Chaucer study See his *Scholar's Letters to a Young Lady* (1920), Gamaliel Bradford, "Portrait of a Scholar," in *As God Made Them* (1929)

Child, Sir John, d. 1690, British governor of Bombay He was probably the first man given authority over most of British India, for the East India Company Opinions differ as to his success and title. In his wars and diplomacy against the natives he was supported by the chairman and virtual ruler of the company, his brother, **Sir Josiah Child**, 1630–99 A very wealthy man, Sir Josiah wrote on economics, his most famous work being *A New Discourse of Trade* (final form, 1693)

Child, Lydia Maria (Francis), 1802–80, American author and abolitionist, b Medford, Mass She edited (1826–34) the *Juvenile Miscellany*, a children's periodical She and her husband (David Lee Child, whom she married in 1828) were devoted to the antislavery cause, and Mrs Child wrote widely read pamphlets on the subject in addition to editing (1841–49) the *National Anti-Slavery Standard*, a New York weekly newspaper. Other writings include several historical novels and an unusually tolerant book on the history of religions Her *Frugal Housewife* (1829) went through many editions See her letters (with introduction by Whittier, 1883)

child. For child in law, see PARENT AND CHILD See also ADOLESCENCE, CHILD LABOR; CHILD WELFARE, INFANT. Useful books on children include L B Hohman, *As the Twig Is Bent* (1940), A T. Jersild, *Child Psychology* (1940), K C Garrison, *The Psychology of Exceptional Children* (revised printing, 1943); Arnold L Gesell and others, *The Infant and Child in the Culture of Today* (1943) and *The Child from Five to Ten* (1946), Angelo Patri, *How to Help Your Child Grow Up* (1948).

childbirth: see BIRTH.

Childebert I (chĭl'dŭbûrt), d. 558, Frankish king, son of CLOVIS I. His capital was at Paris. With his brothers CLOTAIRE I and THEODORIC I he divided their brother Clodomer's kingdom (524), with Clotaire he shared Burgundy and Provence (534) and fought unsuccessfully in Spain (542).

Childebert II, 570–96, Frankish king, son of Sigebert I and BRUNHILDA, king of Austrasia (575–96) and Burgundy (593–96) His mother actually ruled for him, and he was a mere pawn.

Childeric I (chĭl'dürĭk), c.436–481, Merovingian king of the Salian Franks (c 457–481), son of Meroveus and father of Clovis I Information on him is mostly legendary He fought the Visigoths (463) as an ally of the Roman general Aegidius, subsequently he defeated the Saxons and the Alemanni His tomb, filled with armor and ornaments, was discovered in 1653 near Tournai, Belgium

Childersburg (chĭl'dürsbûrg), town, N central Ala , on the Coosa and SE of Birmingham. Its 1940 population (515) was multiplied by the establishment (1941) here of a huge U S powder plant, sold after the Second World War to private interests. A newsprint mill was established in 1948

child labor, originally a term including only labor of very young children in English factories, but now used also of any labor even of older children. Child labor was first recognized as a social problem with the introduction of the factory system in late 18th-century England In the Eastern and Midwestern United States, child labor became a recognized problem after the Civil War, and in the South after 1910 Children had formerly been apprenticed or had worked in the family, but in the factory their employment soon constituted virtual slavery, especially among English orphans This was mitigated in England by acts of Parliament in 1802 and later Similar legislation followed on the Continent as countries became industrialized Legislation concerning child labor in other than industrial pursuits, e g , in agriculture, has lagged Nearly all member countries of the International Labor Office regulate the employment of children in industry, most also regulate commercial work, some, work in the street trades and public amusements, and a few, agricultural and household work By 1940 almost all European nations had laws limiting the working day for children to 6–8 hr. In the United States all but two states have adopted an age minimum of at least 14 for full-time employment in industry, and usually in some if not all other occupations, with 14 states prohibiting employment of children under 16 during school hours Congressional child labor laws were declared unconstitutional by the Supreme Court in 1918 and 1922 A constitutional amendment was passed in Congress in 1924 but was not approved by a sufficient number of the states In 1936 a conference of 20 American nations at Santiago supported a U S proposal for a 16-year age limit for the employment of children In 1937 in the United States, attempts were made to secure the adoption of a revised version of the 1924 constitutional amendment and to ban interstate commerce in goods produced by child labor, while the New York assembly prohibited the sale of such goods in the state Inspections and investigations are carried out by the Children's Bureau of the Dept of Labor The Fair Labor Standards Act of 1938 set a basic 16-year minimum age for employment of children producing for interstate or foreign commerce, with the exception of 14- and 15-year-olds engaged in non-mining and nonmanufacturing occupations, where such work does not interfere with their health and education The retroactive terms of the act also applied to children of 16 to 18 employed in hazardous occupations In 1941 the Supreme Court sustained the constitutionality of the act See U S. Children's Bureau, *Child Labor Facts and Figures* (1930), C D Lumpkin and D W. Douglas, *Child Workers in America* (1937), Grace Abbott, *The Child and the State* (1938)

Children, John George, 1777–1852, English scientist An authority on minerals, he discovered a way of extracting silver from ores without using mercury His experiments with a gigantic galvanic battery with plates 32 ft square won him the medal of the Royal Institution, London For 25 years he was librarian in the departments of antiquities and zoology of the British Museum He was a founder of the Entomological Society.

children, delinquent: see JUVENILE DELINQUENCY

children, dependent. Until the end of feudalism religious organizations provided the only care for children orphaned, deserted, or neglected by their parents (see FOUNDLING HOSPITAL) or born into such poverty that their parents could not support them In England the poor law (1601) of Elizabeth's reign recognized the state's obligation to the needy Under this law overseers of the poor could apprentice older children and provide for younger ones by farming them out, putting them in poorhouses, or giving outdoor relief. Until about the end of the 18th cent in both England and the English colonies in America, the chief methods were still indenture (binding the child out to a master who expected a return in labor for anything expended) or placing them in almshouses Children were sometimes indentured as mere infants and were not free until they were 21 years old or more. In poorhouses they were not separated from the adult inmates, some of whom were insane, and often no schooling was provided. About 1800 several philanthropic women

in New York organized an orphanage, the first of many in the United States, most of them under church auspices Although only a small percentage of these institutions have ever been publicly administered, they came later under city regulation In the 1850s the Children's Aid Society of New York began sending dependent children from Eastern cities to homes in the West One criticism of this emigration work—that it separated children permanently from their relatives—was later met by the foster-home system, in such homes can be placed children whose parents are temporarily unable to care for them, as well as children who are orphaned or deserted The tendency in orphanages has for some time been away from regimentation and institutionalism The newer ones are of the cottage type, in which comparatively few children are cared for under a housemother Ideally, the children are treated as individuals and allowed the freedom they would have in a good home Since the Missouri legislature in 1911 passed a law authorizing payments to needy mothers, many countries and most states of the United States have enacted such legislation The Social Security Act (1935) provided for Federal payments to match state aid for dependent children See U S Children's Bureau, *Foster-Home Care for Dependent Children* (1924), H W Thurston, *The Dependent Child* (1930), M B Sayles, *Substitute Parents* (1936), J W Polier, *Everyone's Children, Nobody's Child* (1941), Eva Burmeister, *Forty-Five in the Family* (1949)

children, diseases of. Diseases in children, especially up to seven years, differ in some important respects from those in adults The temperature is unstable and disturbances of the nervous system are common The physician must rely on the parents' observations concerning the changes in appetite, digestion, bowel action, evidence of pain, drowsiness, sweating, and convulsions Malformation before birth and injury at birth constitute some disorders of childhood Common malfunctions are digestive disturbances from errors in diet or from infection with bacteria, causing dysentery Pneumonia, kidney infection, and otitis media (middle-ear infection) are also common Older children are especially susceptible to the acute infectious diseases, such as MEASLES, SCARLET FEVER, DIPHTHERIA, and PNEUMONIA They are also subject to POLIOMYELITIS and epidemic MENINGITIS Infestation with worms is common Heart disease often starts in childhood Eczema and ringworm are the chief skin diseases See L E. Holt and John Howland, *The Diseases of Infancy and Childhood*, revised by L E Holt, Jr , and Rustin McIntosh (latest ed).

children's books · see JUVENILE LITERATURE.

Children's Crusade · see CRUSADES

Childress (chĭl'drĭs, chīl'-), city (1940 pop 6,464; 1947 estimated pop 9,500), extreme N Texas, SE of Amarillo in the Panhandle, inc 1888 A railroad division point in old ranching country, the town is a prosperous market and processing center for an area producing wheat, cotton, poultry, and milk

child welfare. Foundling asylums for orphans and abandoned children were the earliest institutions for child care, usually under religious auspices Only in fairly recent times has there been an attempt to provide more than minimum subsistence In the late 18th cent a movement began to treat children as being something different from "small adults," and such educators as Rousseau, Pestalozzi, and Froebel were discussing children's special needs at the same time that the Industrial Revolution was exploiting CHILD LABOR In the 19th cent many institutions were organized, either under religious auspices or through private charity, to take care of children who were orphaned, or destitute (see CHILDREN, DEPENDENT), or handicapped The theory that it was the responsibility of the community to provide for children the advantages which their parents could not supply is a 20th-century development In this category are school lunches (often free), medical, dental, and psychiatric service and child guidance clinics in schools, playgrounds, children's courts, and special schools for handicapped children, and foster care in families for children of broken homes Infant and child clinics are often provided by municipalities Many welfare agencies finance summer camps both for healthy and for handicapped children In child-welfare legislation the British Children's Charter Act of 1908 and the Ohio Children's Code Commission of 1911 marked a new era In 1912 the Children's Bureau was established as part of the U S Dept. of Commerce and Labor (it is now under the Federal Security Agency), and since 1909 decennial child-welfare conferences have been held at the White House Under the Social Security Act (1935), the Federal government makes grants to states with approved plans of assistance to dependent children The UN International Children's Emergency Fund was established in 1946 to alleviate malnutrition and to help reestablish children's services destroyed in the war See Phyllis Blanchard, *The Child and Society* (1928); Grace Abbott, *The Child and the State* (1938), Hazel Fredericksen, *The Child and His Welfare* (1948); publications of the U.S. Children's Bureau, the Child Welfare League of America, and the National Child Labor Committee.

Chile (chĭ'lē, Span. chĕ'lā), republic (286,396 sq. mi ; pop 5,023,539), S South America, west of the continental divide of the Andes The capital is SANTIAGO Chile is a narrow strip of land, at no point more than 250 mi wide, between the Andes and the Pacific It stretches from about lat 16° S to Cape Horn, including at its southern extremity all of the Strait of Magellan (see MAGELLAN, STRAIT OF) and more than half of TIERRA DEL FUEGO. Outlying and well off the coast in the Pacific are EASTER ISLAND and the JUAN FERNÁNDEZ islands Chile has also recently asserted claims to the Falkland Islands and in Antarctica Continental Chile has several contrasting topographical and climatic zones In the far north are the heat-baked deserts, notably ATACAMA. In them are fabulously rich deposits of sodium nitrate and copper, exported from ANTAFOGASTA and ARICA Despite its bleak harshness the desert land has contributed much to Chile Between this and central Chile are semiarid lands that yield to irrigation and can be utilized for pasture In central Chile itself between the Andes and a low coastal range is a long central valley broken by rolling hills Here the population (about 65 percent predominantly Spanish mestizo, 30 percent pure white, and 5 percent pure Indian) is concentrated It is a relatively homogeneous group This central region, which stretches from COQUIMBO S to the Bío-Bío river, also has on the coast the important ports of VALPARAISO and VIÑA DEL MAR In the south the Andes approach the sea and finally enter into it, forming large islands and broken archipelagoes This coastland is very wet and heavily wooded—a complete contrast to the north MAGALLANES prov and its capital, PUNTA ARENAS, far to the south, are the centers of interest The Andes rise as they go northward, but still in the South they embrace a lovely and alpine area, the lake district between PUERTO MONTT and TEMUCO The lakes and neighboring mountains make this one of the finest vacation regions of the world The section has also been economically developed, to a good extent by German immigrants Farther north the Andes become an almost impassable barrier, a row of peaks on the Argentine border that are surpassed in height only by the Himalayas Greatest of them all is ACONCAGUA There are only a few routes across the bare, snow-capped mountains The most famous is USPALLATA PASS, used by the Transandine Railway There are in the north a number of extinct volcanoes, and in the south there are active ones The south also has many glaciers to feed the lakes that are cradled among the peaks Most of Chile is subject to earthquakes which have at times been very disastrous The land was not attractive to the conquistadors because the great barren deserts shut the Spanish in Peru away from the attractive central valley of Chile Furthermore, the inhabitants were the fierce and warlike ARAUCANIAN INDIANS, who offered extremely stout resistance to the conqueror Nevertheless, the conquest was undertaken early The first attempt by Diego de ALMAGRO in 1536 was a total failure, but in a few years a new attempt was made, this time (1540) by Pedro de VALDIVIA He founded Santiago in 1541 and later established La SERENA, Valparaíso, CONCEPCIÓN, and VALDIVIA Despite discouragement and the incessant warfare with the Indians the Spanish persevered and succeeded The Indians were pacified but not subdued, the Araucanians in fact remained hostile until near the end of the 19th cent Finding little of the precious metals they sought (the great copper deposits were discovered much later), the Spanish developed a pastoral society based on large haciendas worked by Indian labor During the long colonial era, the mestizos became a tenant-farmer class, called the *inquilinos* Though technically free, they lived so close to complete poverty that they became in practice generally bound to the soil These conditions persisted, and to some extent still persist, though the great hacienda has tended to disappear gradually, and some of the *inquilinos* have made the transition to become small independent farmers. A large part of the land is still given over to stock raising. While about one tenth is planted to wheat and other cereals, vegetables, and vineyards, the remainder lies fallow or is sown to alfalfa Dependence on minerals (which are found in central Chile as well as the north) and cattle made it necessary for Chile to import foodstuffs. During most of the colonial period Chile was a captaincy general dependent upon the viceroyalty of Peru, but in 1778 it became a separate division The territorial limits of the *audiencia* established at Santiago in 1565 and of the captaincy general were ill-defined and caused after independence was won long-drawn boundary disputes with Peru, Bolivia, and Argentina The movement toward independence began in 1810, notably under the leadership of Juan MARTÍNEZ DE ROSAS and Bernardo O'HIGGINS. The first phase (1810-14) ended in defeat at RANCAGUA, largely because of the rivalry of O'Higgins with José Miguel CARRERA and his brothers. In 1817 José de SAN MARTÍN, one of the great South American liberators, brought an army with incredible hardship over the Andes from Argentina to invade Chile. The following year he won the decisive battle of MAIPÚ. O'Higgins, who had been chosen supreme director, formally proclaimed Chile's independence Feb 12, 1818, at Talca and established a military autocracy that characterized the republic's politics until 1833. During this time the British Lord Cochrane, placed in command of the Chilean navy, cleared (1819–20) the coast of Spanish war vessels and shipping, and in 1826 Ramón Freire, then supreme director, drove the royalists from their last foothold (Chiloé island) on Chilean soil The revolutionary movement, led by the creole oligarchy, had accentuated a respect for force Of the three influential elements in this society—the colonial aristocracy, the clergy, and the army—the first two had been discredited by royalist actions in the war The army, then, plus a few intellectuals, was left to establish a government where colonial society was not adapted to democratic forms Yet with the strongly centralistic constitution of 1833, fashioned largely by Diego PORTALES on Chile's particular needs rather than being modeled from others, a foundation was laid for the gradual emergence of parliamentary government Between 1841 and 1861 (the administrations of Manuel BULNES and Manuel MONTT) the country experienced governmental reform and material progress In the war between Peru and Spain, which involved Chile, Valparaíso was bombarded by a Spanish squadron, an act that led the republic to fortify its coast and build a navy Chile had begun to demonstrate the busy enterprise which has made the fortunes of the country from its natural resources Chileans obtained the right to work nitrate fields in the desert lands which then belonged to Bolivia Trouble over the concessions led in 1879 to actual war (see PACIFIC, WAR OF THE) Chilean arms triumphed, and Chile was enlarged with new and valuable territories A long-standing quarrel also resulted, the TACNA-ARICA CONTROVERSY Chile was also involved in border troubles with Argentina because the crest of the Andes and the continental watershed did not agree It was as a sign and symbol of the end of this trouble that the CHRIST OF THE ANDES was dedicated in 1904 In the meantime the internal struggle between the executive and legislative branches of the government became intensified and resulted (1891) in the overthrow of President José BALMACEDA A congressional dictatorship replaced presidential dominance and continued almost uninterruptedly to hamstring executive action until the constitution of 1925 Nevertheless, with the exploitation of nitrate and copper by foreign capital, chiefly from the United States, material advancement and national prosperity continued The Transandine Railway was completed (1910), and many others were being built, another line across the Andes was begun in 1905 and completed in 1948 Industrialization, which has raised Chile to third place among South American nations, was begun Although mineral production—nitrates and the chemical by-products (iodine, nitrogen, and explosives), some gold, silver, and coal (Chile leads South America in actual production)—has dominated Chilean economy, there has recently been considerable industrial diversification Manufactures include newsprint and pulp, industrial alcohol, oil refining, textiles (cotton, wool, silk, rayon, and hemp and cordage), iron and steel products, food processing (flour, wines, meats, fruits, vegetables, fish, and dairy products), brewing, sugar refining, lumber, ceramics, tanning, and shoes Use of hydroelectric power is extensive Industrial growth, however, brought its own evils and danger The country, with its importation of food and its need to export minerals, became thoroughly dependent on world markets The population had continued to increase and was largely absorbed into work in the mines or the factories Therefore, when world economic depressions came, Chile was very hard hit Trouble was serious in the collapse after the First World War of the copper and nitrate markets, which brought large-scale unemployment The rise of the laboring class had been marked by unionization, and there were many advocates of thoroughgoing social reform after the Marxist pattern The struggle between the radical forces and the old conservative powers has led to a series of social experiments and to counter-attempts to suppress the radicals (especially the Communists) by force. A law of 1924 established a sort of national syndicalism, and President Arturo ALESSANDRI, elected for his second term after the great depression that began in 1929 had brought unparalleled suffering and discontent, sought to better working conditions and institute a sort of state capitalism, but he returned to repressive measures A democratic-leftist combination, the Popular Front, took power after the elections of 1938. Efforts to solve the problem of the industrial workers and farm laborers have continued. Economic stability, some nearer approach to self-sufficiency, betterment of labor conditions, and settlement or control of the Communist dif-

ficulties were the chief aims of the coalition administration of Gabriel Gonsáles Videla, who was elected president in 1946. Fascistic groups have also been active in Chile, which remained neutral in the Second World War. Nationalism of several brands has prospered. Chile is a member of the United Nations and active in international affairs. See Agustin Edwards, *My Native Land* (1928), *Peoples of Old* (1929), and *The Dawn* (1931); E. P. Hanson, *Chile: Land of Progress* (1941); Luis Galdames, *A History of Chile* (Eng. tr., 1941); J. R. Stevenson, *The Chilean Popular Front* (1942); Erna Fergusson, *Chile* (1943); Benjamin Subercaseaux, *Chile: Geographic Extravaganza* (Eng tr., 1943); P T Ellsworth, *Chile an Economy in Transition* (1945).

Chileab (kĭl'ēăb), son of David and Abigail. 2 Sam. 3.3. Daniel: 1 Chron 3 1.

chiliasm: see MILLENNIUM.

chili con carne (chĭ'lē kŏn kär'nē) [Span.,=chili with meat; chili is a Mexican word]. Mexican dish popular in the SW United States and now manufactured and canned commercially It consists mainly of beef, beans, chilies, garlic, and spices, though the ingredients may be varied

Chilion (kĭl'yŏn) [Heb.,=sickly], Ruth's brother-in-law Ruth 1 2,5, 4.9

Chilkoot Pass, c 3,500 ft. high, in the Coast Mts on the British Columbia–Alaska boundary The route through the pass between the Yukon river valley and the coast was long a monopoly of the Chilkoot Indians, and the first white man passed through it in 1878 After the great Klondike gold strike in 1896 the pass was crowded with gold seekers going from Skagway on Chilkoot Inlet to the Yukon, they suffered much from the difficulties of the route The alternative way to the gold fields was by way of WHITE PASS

chill, in medicine, a sudden trembling of the body, often accompanied by chattering of the teeth, caused by rhythmic contraction of voluntary muscles It is accompanied by a sensation of cold, described as chilliness and distinct from the chill. Chill results from exposure to cold or may be associated with fever, as in the onset of PNEUMONIA or during MALARIA and sepsis Gallstone colic may be accompanied by chills Warmth from external heat often gives relief, but the underlying cause must be treated

Chillán (chēyän'), city (pop 42,817), S central Chile, founded c 1580 In Chile's central valley, Chillán is a leading agricultural and commercial center It was destroyed by a combination of earthquake and flood (from the Chillán river) in 1751, but was rebuilt and played a prominent role in the revolution against Spain Bernardo O'Higgins was born here Destroyed with a loss of at least 10,000 lives by the earthquake of 1939, one of the world's worst recorded quakes, Chillán has again been rebuilt

chill hardening. see HARDENING

Chillicothe (chĭl"ĭkŏ'thē) **1** City (pop 2,303), N central Ill , on the Illinois river above Peoria, in a farm area, inc 1861 **2** City (pop 8,012), co seat of LIVINGSTON co , N Mo , near the Grand River NE of Kansas City; founded 1837 It is the trade center of a farm area, its manufactures include gloves and wood products A large business college and a state industrial school for girls are here **3** City (pop 20,129), co seat of Ross co , S central Ohio, on the Scioto river and Paint Creek and S of Columbus, settled 1796, inc 1802 In a productive farm area, it is a trade, shipping, and industrial center with several paper mills Shoes, canned goods, and furniture are also made It became the capital of the Northwest Territory in 1800 and was twice the capital of Ohio (1803–10, 1812–16, Zanesville was capital 1810–12) Near by are the Mound City Group (see NATIONAL PARKS AND MONUMENTS, table), a U S industrial reformatory, and a U S veterans' hospital **4** Town (pop 1,423), N Texas, WNW of Wichita Falls, settled 1886, inc 1907. It is S of the Red River in a wheat and cotton area. An agricultural experiment station is near by

Chillingworth, William, 1602–44, English theologian. He was converted to Roman Catholicism and went in 1630 to Douai to study Under the influence of his godfather, William Laud, he adjured that faith in 1634, he took holy orders (1638) in the Church of England In 1638 he published *The Religion of Protestants a Safe Way to Salvation*, a defense of the Protestant view that the Bible is the sole authority in matters of religion and that the right of interpretation is reserved to the individual. He served as chaplain in the king's army in the civil war, was taken prisoner (1643), and died in detention

Chilliwack (chĭl'ĭwăk), city (pop 3,675), SW British Columbia, on the south side of the Fraser river and E of New Westminster It is an agricultural, dairying, and logging center.

Chillon (shēlôn', shĭl'lŭn, Fr shēyō'), castle at the eastern end of the Lake of Geneva, built between the 9th and the 13th cent. The prison of François de BONNIVARD, it has frequently appeared in literature and art, notably in Byron's *Prisoner of Chillon*. It is now a museum.

Chilmad (kĭl'măd), city or state having relations with Tyre. Ezek 27.23. Nothing is known of it

Chiloé (chēlōā'), island, area 3,241 sq. mi., off S Chile. It is the largest of the Chilean islands. Because rainfall is so excessive that the dense evergreen forests cannot be burned off to provide acreage for tillage, it has little importance. The sparse population is scattered around the towns of Ancud and Castro. Wrested from the Indians by the Spanish in 1567, Chiloé was the last foothold of Spanish royalists in Chilé after the revolution, they were not driven out until 1826 Chiloé prov., which includes the island, is named after it.

Chilon (kī'lŏn), 6th cent. B C , one of the Seven Wise Men of Greece. He was a Spartan and is said to have founded the office of ephor and to have brought greater strictness to Spartan training He is also said to have died of joy when his son won at Olympia

Chilpancingo (chēl"pänsēng'gō), city (pop 8,834), capital of Guerrero, SW Mexico. Neighboring aboriginal ruins show that the town was once the center of a culture higher than that of the Aztec Its full name is Chilpancingo de los Bravos, in honor of its heroes of the war against Spain—three brothers, of whom Nicolás BRAVO was most prominent During the war the Congress of Chilpancingo, convened (1813) by MORELOS Y PAVÓN, briefly established a constitutional republic based on the reforms of HIDALGO Y COSTILLA

Chilperic I (chĭl'pûrĭk), d 584, Frankish king of Neustria (561–84), son of Clotaire I He attacked his brother SIGEBERT I, who had inherited Austrasia, their struggle became savage after Chilperic and his mistress and future wife, FREDEGUNDE, murdered (567) his wife, Galswintha Sigebert's wife, BRUNHILDA, was Galswintha's sister The feud was inherited by Chilperic's son and successor, CLOTAIRE II.

Chiltern Hills, range of chalk hills, 15 to 20 mi wide and 45 mi long, NW of London, England, extending NE from the Thames at Goring through Oxford, Buckingham, Bedford, and S Hertford counties to the Suffolk border. Its highest elevation is Coombe Hill (852 ft), SE of Aylesbury Roman works have been found in the hills See H. J Massingham, *The Chiltern Country* (1941)

Chiltern Hundreds, the administrative districts, or "hundreds," of Stoke, Burnham, and Desborough in Buckinghamshire, England The stewardship of the Chiltern Hundreds is an obsolete office with only a nominal salary It is, however, legally an office of profit under the crown and, as such, may not be held by a member of Parliament. Since members of Parliament may not resign, "applying for the Chiltern Hundreds" is the method by which a member gives up his seat Upon occasion the post has been granted to two persons successively on the same day

Chilton, city (pop 2,203), co seat of Calumet co , E Wis , E of Lake Winnebago and on a branch of the Manitowoc, settled 1847, inc 1877 It is a trade and processing center for a dairy and farm area

Chimay, princesse de. see TALLIEN, THÉRÉSA CABARRUS

Chimayó (chēmēō'), unincorporated town, N N Mex , N of Santa Fe The Tsimayó pueblo was here or near here Chimayó became notable as a center of weaving, especially in the early 19th cent The blankets were famous for their Indian designs and fine workmanship There is a small shrine (El Santuário) built in 1816

Chimborazo (chēmbōrä'sō), inactive volcano, 20,577 ft high, central Ecuador, the highest in the Ecuadorian Andes The peak is always capped with snow Alexander von Humboldt climbed it in 1802. Its name is frequently linked with that of COTOPAXI

chime, in music see BELL

Chimera (kīmēr'ə), in Greek legend, a monster, offspring of TYPHON and ECHIDNA It was part lion, part goat, and part dragon The Chimera was killed by BELLEROPHON.

Chimham (kĭm'-) [Heb.,=longing], Barzillai's son 2 Sam 19 37,38,40. The "habitation of Chimham" was a place near Bethlehem Jer 41 17

Chimkent (chĭmkyĕnt'), city (pop 74,185), capital of South Kazakhstan oblast, Kazakh SSR, on the Turksib RR, in a region growing cotton and fruit Industries include a large lead and zinc refinery, a chemical plant, and textile mills The old citadel was stormed by the Russians in 1864 Chimkent was once an important caravan center

Chimmesyan Indians see TSIMSHIAN INDIANS

chimney. In medieval Europe the burning woodpile in the center of the room with aperture or smoke louver in the roof was the ordinary means of heating until about the 12th cent , when the fireplace against a wall, a hood, and a hollow flue to the outer air were provided As fireplaces developed and multiplied, the visible portion of the chimney gradually became an important architectural feature In France, the 13th-century form—a simple hollow shaft of stone—grew larger and more elaborate as several flues were grouped together, until in the 15th cent. the chimney was often a massive and richly ornamented structure On the roofs of the châteaux of the Francis I period a complexity of chimneys, rich with cornices, pilasters, and heraldic devices, mingled with equally ornate dormers and turrets. In houses of Tudor England, as at Hampton Court, a distinctive type was developed —a cluster of shafts, treated in terra cotta, stone, or brick, molded, diapered, and twisted in fantastic forms, resting on a simple rectangular base. In the neoclassic styles, the chimney usually became an inconspicuous rectangular structure, although Georgian types were often decorated with brickwork panels, pilasters, and arches The early New England house was often literally built around the chimney, a great central clay-mortared mass with numerous fireplace openings which served as a support for the framework of the house Theoretically the action of the chimney depends upon the inequality in weight between a column of heated air and an equal column of cooler air, heated air will be forced upward by the pressure of the surrounding cooler air, forming an ascending current or draft, the velocity of flow varies with the square root of the chimney height In general, the requirements of good draft are met by a tall, straight, tight flue, smooth inside and extending well above adjoining roofs In modern practice, a separate flue, sheathed inside with a fire-clay lining of rectangular or round cross section, is provided for each combustor The area of a fireplace flue is commonly made at least 1/8 that of the fireplace opening

chimney swallow: see SWIFT

chimpanzee, anthropoid ape of the equatorial forests of central and W Africa Like the gorilla it is more manlike than the other apes It is generally considered the most intelligent and the most teachable ape After reaching maturity in captivity it often becomes savage Much smaller than the gorilla, the male adult chimpanzee measures between 4 and 5 ft and weighs about 150 to 200 lb Chimpanzees swing from branch to branch through the forest but do not leap On the ground they are quadrupedal

Chimu (chē'mōō), ancient Indian civilization on the desert coast of N Peru It may be divided into three periods—Mochica or Early Chimu (A D c 500–800), Middle Period, and Chimu or Late Chimu Mochica was highly developed, with an advanced social and political organization The people were skilled in ceramics, weaving, metallurgy, and irrigation Particularly in figure-modeled ceramics—stirrup jars and portrait jars—was individuality expressed in fantasy, humor, realism, and naturalism in men and animals, astonishing fidelity to human expression was achieved As the Mochica period declined, it was replaced by a transitional phase about which little is known but which shows marked TIAHAUNACO influence From this emerged (c 1200?) the Chimu, which in turn was affected by and ultimately absorbed into the civilization of the Inca, who conquered the Chimu in the 15th cent Chimu has left a monument to its culture in such cities as CHANCHAN

Ch'in (chĭn), dynasty of China, which ruled from 221 to 207 B C In 318 B C the border people of Ch'in moved into the rich plain of Szechwan from the northwest By 221 B C the army of Prince Cheng had forged an empire He became emperor and took the title Shih Hwang-ti [first emperor] He extended his empire from the GREAT WALL (which he built to keep out the Hsiung Nu or Huns) to the region of Fukien, Kwangtung, Kwansi, and Tongking He also built a canal which made transportation possible from the Yangtse to the Yellow River To create a unified culture he established the pyramidal governmental system which lasted till the 20th cent and tried to destroy all the literature of the past except for scientific works and his own genealogy He died in 210 His inept son was overthrown after three years

Chin, dynasty of China (265–420) see TSIN.

China, Mandarin *Chung Hua Min Kuo* [central glorious people's country, i e , republic], republic (3,290,926 sq mi , pop 462,277,637), E Asia The coast (c 2,150 mi long) fronts on the Yellow Sea, the East China Sea, and the South China Sea, and China is elsewhere bounded on the east by the USSR and Korea, on the north by the USSR and the Mongolian People's Republic, on the west by the USSR, and on the south by India, Tibet, Burma, and Indo-China China comprises 35 provinces (including Formosa) The greatest population density is in the coastal provinces of Kwangtung, Fukien, Chekiang, Kiangsu (with Nanking, the regular national capital), Shantung, and Hopeh They include the immensely fertile Yangtse and Canton river deltas The ports, Canton, Foochow, Shanghai (the largest), Tsingtao, and Tientsin handle a huge overseas trade Kiangsu prov may also be classed among the provinces of the E Yangtse valley with Anhwei and Hupeh, these three, with good rail and water communications, have considerable industry, especially in Shanghai, Wuchang, Hankow, and Hanyang Honan, Shensi, and Shansi provs are largely loess plateaus. Chahar, Suiyuan, and Ningsia provs , which comprise Inner Mongolia, and Kansu prov are mostly high barren wastes Tsinghai and Sikang provs contain sections of the Himalayas Yünnan, Kwangsi, and Kweichow provs have large aboriginal populations Szechwan, with the metropolis of Chungking, is the most prosperous province of W China Hunan

and Kiangsi provs supply the bulk of the country's mineral production. MANCHURIA, composed of Antung, Liaoning, Lisopei, Kirin, Nunkiang, Hinganan, Heilunkiang, Hokiang, and Sungkiang provs, constitutes, with Jehol prov, an area distinct from the rest of China. Foreign trade through the ports of Talien (or Dairen) and Port Arthur, agriculture in the Manchurian plain, mining in the southwest, and industry in Mukden, Harbin, and Changchun are well integrated by an extensive railroad system. SINKIANG prov in the far west is also a distinct region, with ethnic and economic affiliations with central Asia. TIBET, designated a "special area" of China, actually is independent. Farmers make up perhaps 80 percent of China's working force, and China may be divided approximately along the Yangtse river into a northern and southern agricultural zone. The south, with heavy rainfall and a subtropical or mild climate, raises two or more crops of rice a year. The north, with uncertain rainfall and winters frosty to severe, produces at most two crops, chiefly wheat, maize, millet, and soybeans. Extensive rough terrain and large arid areas (especially in the west and the northwest) limit cultivation to a quarter of the land surface. The needs of the dense population are not entirely met by maximal cultivation even if loss by soil depletion, erosion, and destruction of forests is not taken into account. The excess of workers and, except in Manchuria, the near-absence of agricultural machinery result in low labor productivity. Cereals, the most nutritious of foods, occupy about 90 percent of the acreage; fruits, tea, cotton, and mulberry trees (for silk culture) are important. Stock raising is practiced only where crops cannot be grown. Pigs and chickens are the chief domestic animals. Except for antimony and tungsten, which supply most of the world demand, China lacks metallic minerals. Coal and salt deposits are adequate for national needs. Cotton textiles and processed foods are the principal manufactures, though traditionally China is known for silks and porcelain. Modern industry occupies only about one percent of the working force. Insufficient transportation, except in the industrial zones, hinders commercial development and exposes N and W China to the threat of famine. Heavy food imports and the restricted classes of exports (chiefly minerals and soybean products) create a growing unfavorable trade balance, and China's continually worsening economy drives many emigrants to SE Asia and Indonesia. The life expectancy of the population, often poorly nourished and housed in unsanitary mud huts, is very low. In this ancient agricultural society, a strong patriarchal social organization persists outside the large cities. The extended family, with females subordinate and the oldest male its unquestioned head, is the unit of economy and village government. The continuity of the family line is reflected in the Chinese religious veneration of ancestors. Confucianism, Buddhism, and Taoism are the chief religions of China. They are generally practiced in an eclectic mixture, making varying appeals, thus, intellectuals may follow an elevated ethical system, while the uneducated peasant worships a pantheon of miracle-working local and nature deities. Islam, chiefly found in the southwest, is the largest monotheistic sect of China. Only c 3,000,000 Chinese are Christians (mostly Catholics), but missionaries who operate many schools (Yenching Univ at Peiping is notable) have contributed greatly to education. Despite its poverty, the national government has sponsored modern education on all levels. Increased elementary instruction and mass-education schemes, such as that of James YEN, have somewhat reduced China's widespread illiteracy, which results largely from the complex ancient system of ideographic characters. A movement to spell Chinese phonetically according to the official Mandarin pronunciation has failed. It fits the northern dialects closely and approximates those of central China, but it is useless in the south, where Cantonese, Hakka, Fukienese, and numerous tribal languages are spoken.

China to the Founding of the Ch'ing Dynasty. The fossils of *Sinanthropus pekinensis* (see MAN, PRIMITIVE) found in N China are the earliest discovered protohuman remains in NE Asia. About 20,000 years ago, after the last glacial period, modern man appeared in the Ordos desert region. Since the 2d millennium B.C. a fairly uniform culture has spread over almost the whole area of the Chinese republic. The substantial linguistic and ethnological diversity of the south and the far west result from their having been infrequently under the control of central government. China's history is traditionally viewed as a continuous development with certain repetitive tendencies. The area under political control tends to expand from the E Yellow and Yangtse river basins, the heart of Chinese culture, and then, under outside military pressure, to shrink back. Conquering barbarians from the north and the west supplant native dynasties, take over Chinese culture, and are expelled in a revulsion of national feeling. Following a disordered and anarchic period a new dynasty may arise. Its predecessor, by failing to keep up public works, engaging in excessive warfare, and tolerating corruption, has forfeited the right to rule—in the traditional view, has lost "the mandate of Heaven." Central authority is reestablished, public works constructed, taxation modified and equalised, and land redistributed. After a prosperous period disintegration reappears, inviting barbarian intervention or native revolt. Although traditionally supposed to have been preceded by the semilegendary HSIA dynasty, the SHANG dynasty (c.1523–c 1027 B.C.) is the first in documented Chinese history. During the succeeding, often turbulent, CHOU dynasty (c 1027–256 B.C.), CONFUCIUS, LAO-TZU, and MENCIUS lived, and the literature which until recently formed the basis of Chinese education was written. The use of iron was the main material advance. The semibarbarous CH'IN dynasty (221–207 B.C.) first established the centralized imperial system which was to govern China during stable periods. The native HAN dynasty period (202 B.C.–A.D. 220), traditionally deemed China's imperial age, is notable for long peaceable rule and great artistic achievement. The THREE KINGDOMS period (A.D. 220–65) opened four centuries of warfare among petty states and of invasions of the north by the barbarian Hsiung-nu (Huns). In this inauspicious time China experienced rapid cultural development. Buddhism, which had earlier entered from India, and Taoism, a native cult, grew and seriously endangered Confucianism. Indian advances in medicine, mathematics, astronomy, and architecture were adopted. Art, particularly figure painting and decoration of Buddhist grottoes, flourished. Feudalism partly revived under the TSIN dynasty (265-420) with the decay of central authority. Under the SUI (581–618) and the T'ANG (618–906) a vast domain, much of which had first been assimilated to Chinese culture in the preceding period, was unified. The civil-service-examination system based on the Chinese classics and a renascence of Confucianism were important accomplishments of this brilliant era. Its fresh and vigorous poetry is especially noted. The end of the T'ang was marked by a withdrawal from conquered border regions to the center of Chinese culture. The period of the Five Dynasties and the Ten Independent States (906–60) was chaotic and depraved. Authentication of the Confucian literary canon and the improvement of printing with movable types were advances. The SUNG dynasty (960–1279) was a time of scholarly studies and artistic progress. Its poetry was derivative, but a new popular literary form, the novel, first appeared. Neo-Confucianism developed systematically. While the Sung ruled central China, barbarians—the Khitai, the Jurchen, and the Tangut—created northern empires which were swept away by the MONGOLS under JENGHIZ KHAN. His grandson KUBLAI KHAN, founder of the YÜAN dynasty (1260–1368), tolerated Chinese institutions. The great realm of Kublai was described in all its richness by one of the most celebrated of all travelers, Marco Polo. Improved roads and canals were the dynasty's main contribution to China. The MING dynasty (1368–1644) set out to restore Chinese culture by a study of Sung life. Its initial territorial expansion was largely lost by the early 15th cent. European trade and European infiltration began with Portuguese settlement of Macao in 1557 but immediately ran into official Chinese antiforeign policy. Meanwhile the MANCHU peoples advanced steadily south in the 16th and the 17th cent. and ended with complete conquest of China by 1644 and with establishment of the CH'ING dynasty (1644–1912). K'ang HSI (emperor 1662–1722) and CH'IEN LUNG (emperor 1736–95) sponsored reforms, and China was perhaps at its most powerful.

Foreign Intervention in China. The Ch'ing opposition to foreign trade, at first even severer than the Ming, relaxed ultimately, and in 1834 Canton was opened to limited overseas trade. Great Britain, dissatisfied, provoked the OPIUM WAR (1839–42), obtained commercial concessions, and established EXTERRITORIALITY. Soon France, Germany, and Russia successfully put forward similar demands. The Ch'ing regime, weakened by European intervention, was more enfeebled by the TAI-PING REBELLION (1848–65) and Japan's success in the First Chino-Japanese War (1894–95). The United States promoted the Open Door policy—that all nations enjoy equal access to China's trade instead of seeking separate zones of influence; this was generally adopted by the foreign powers and may have saved the country from dismemberment, but Chinese resentment of foreigners was strong, and the BOXER REBELLION (1900), encouraged by Empress TZ'U HSI, was a last desperate effort to expel foreign influence. Long plotting, chiefly by SUN YAT-SEN, led in 1911 to a republican revolution and to the emperor's abdication in 1912. Sun, the first president, resigned early that year in favor of YUAN SHIH-KAI, who established a repressive military rule, which led Sun's followers to revolt sporadically. The Japanese threat to China, initiated by the First Chino-Japanese War, grew steadily larger. Early in the First World War, Japan presented the Twenty-one Demands—designed to make China a virtual protectorate, but the move was frustrated. The chief advantage that China obtained from entering (1917) the First World War on the Allied side was that Japan had to return the former German concession in SHANTUNG, which had been seized by the Japanese. China's international position was also improved by the Nine-Power Treaty, signed at the Washington Conference (1921–22), guaranteeing Chinese territorial integrity and the Open Door policy. After 1919 civil war raged between Sun's party, the Kuomintang, based in the south, and the national government with its "war lords" (semi-independent military commanders) in the north. The KUOMINTANG, under the virtual dictatorship of CHIANG KAI-SHEK, established (1928) a government in Nanking which obtained foreign recognition. Shortly before, a split had developed between the Kuomintang and its Communist wing. Soon the Communists were forced to retreat northward. Japan, taking advantage of China's dissension, renewed pressure on China and moved forward into the Second CHINO-JAPANESE WAR by occupying (1931) Manchuria and constituting (1932) it the puppet state of MANCHUKUO. While Japan moved southward Chiang preferred to campaign against the Communists. Early in 1937 Chiang and the Communists reached an agreement and thereafter cooperated against the Japanese, but the political truce was always somewhat shaky. Japanese creation of a puppet regime under WANG CHING-WEI in E China, however, did not gain popular support. When Japan's attack on U.S. and British bases (1941) merged the war in China with the Second World War, China received U.S. and British aid but not in sufficient quantity to prevent the Chinese losses to the Japanese from continuing. China was much weakened at the war's close. The abolition of exterritoriality and the erasing of the Japanese threat did not bring peace to China. The Russian occupation of Manchuria was prolonged, and the rift between Nationalists and Communists grew wide. The United States, alarmed at the prospect of full civil war and Communist advance, arranged through Ambassadors Patrick J. Hurley and George C. Marshall for conferences between Chiang and the Communist leader, MAO TSE-TUNG, but the breach was not healed. When the Russians evacuated Manchuria, the Communists took control. Civil war, barely interrupted by the efforts of the U.S. truce makers, raged through 1946. Late that year a national assembly, boycotted by the Communists, adopted a democratic constitution which was to go into effect late in 1947. Chiang's Nationalists were, with U.S. supplies, generally successful against the Communists through 1947, and early in 1948 the first elected legislature met, composed largely of Kuomintang members and including no Communists at all. Chiang Kai-shek was chosen as China's first constitutional president. The executive Yuan (the cabinet) for the first time since 1928 included minority party members. In the pressure of circumstances, however, democracy did not operate for long. The Communists had gained the upper hand in the fighting. Chiang was given emergency powers. In Aug., 1949, when little of the Chinese mainland remained to Chiang, the U.S. Dept. of State announced that no further aid would be given to his government. The Communists, from their capital at Peiping, proclaimed rule over all of China in September and proceeded to reorganize the provinces. By Jan., 1950, recognition had been extended to them by the USSR, Great Britain, India, and other nations. It was, however, refused by the United States, and U.S. protests were lodged about treatment of American diplomatic personnel and the seizure of consular property. In the United Nations, the demand of the USSR early in 1950 that Communists be seated in place of the Nationalists was rejected, and the USSR boycotted the meetings of agencies (including the Security Council) having Nationalist delegates. In late April, 1950, Chiang had only the island of Formosa in his possession and seemed doomed. For aspects of Chinese culture not treated in this article, see CHINESE ARCHITECTURE, CHINESE ART, CHINESE LITERATURE, CHINESE MUSIC. See G. B. Cressey, *China's Geographic Foundations* (1934), C. P. Fitzgerald, *China a Short Cultural History* (1935), Lin Yutang, *My Country and My People* (1935), H. G. Creel, *The Birth of China* (1936), L. Carrington Goodrich, *A Short History of the Chinese* (1943), K. S. Latourette, *The Chinese Their History and Culture* (3d ed., 1946), Martin C. Yang, *Chinese Village* (1946), F. L. K. Hsu, *Under the Ancestor's Shadow* (1948).

China, resort town (pop 1,252), S Maine, SE of Waterville, settled 1774, inc. 1818. It includes the little villages China and South China at opposite ends of China Lake.

China, Great Wall of, fortifications, c.1,500 mi. long, winding continuously across N China, from Kansu prov. to Chinwangtao, Hopeh prov. The wall, running mostly along the southern edge of the Mongolian plain, was erected to protect China from northern barbarians. It was first constructed in the Ch'in dynasty by Shih Hwang-ti (reigned 246–209 B.C.) but in its present form substantially dates from the Ming dynasty (A.D. 1368–1644). It averages 25 ft. in height and is 15 to 30 ft. wide

at the base, sloping to 12 ft. at the top. Guard stations and watchtowers are placed at regular intervals. In the eastern reaches the wall is built of earth and stone faced with brick, but in the west it is merely an earthen mound. Successive invasions of China from the north demonstrated that the Great Wall had little military utility.

China aster: see ASTER

china clay, one of the purest of the clays, composed chiefly of the mineral KAOLINITE Usage of the terms *china clay* and *kaolin* (kā'lĭn) is not well defined; sometimes they are used synonymously for a group of similar clays, and sometimes kaolin refers to those obtained in the United States and china clay to those that are imported Some authorities term as china clays only the more plastic of the kaolins China clays are much used in the ceramic industry, especially in fine porcelains, because they can be easily molded, have a fine texture, and are white when fired These clays are also used as a filler in making paper In the United States, deposits are found in Georgia, North Carolina, and Pennsylvania and in smaller quantities in some other states, in Europe they are found especially in England (in Cornwall) and in France.

China grass: see RAMIE

China Grove, textile-mill town (pop 1,567), W central N C , NNE of Charlotte

china marks, potter's trade-mark or signature, incised in the plastic clay before firing or printed before glazing on the bottom of the piece to identify it as his product The practice was adopted by pewterers and silversmiths for establishing the genuineness of their wares Books on pottery or porcelain usually include a list of the china marks of the important factories

China Sea, western part of the Pacific ocean. It is divided by the Formosa strait into the EAST CHINA SEA and the SOUTH CHINA SEA

chinaware, hard, white, translucent POTTERY with soft GLAZE, known as PORCELAIN It originated in China but is now produced in various countries. Its composition is of kaolin and petuntse

chinch bug, small hemipterous insect native to North America *Blissus leucopterus* causes great crop losses in the United States, especially in the valleys of the Mississippi, Missouri, and Ohio rivers It feeds on the sap of small grains, corn, and other grasses The adult has a black body about ⅛ in long, black and white wings, and reddish legs There are two generations a year Adults of the second generation winter in sheltered places, frequently in dry grasses At the time when the insects migrate on foot from one crop to another, creosote barriers and deep holes can be used to trap them The hairy chinch bug, *Blissus hirtus*, is a lawn pest in the NE United States See *How to Fight the Chinch Bug* (U S Dept of Agriculture, Farmers' Bul 1780)

chinchilla (chĭnchĭl'lu), small rodent of South America, where it lives in rocky burrows in the Andes of Bolivia, Chile, and Peru One of the costliest of all furs, its soft gray pelt has been valued since the days of the Incas The wild chinchilla was nearly exterminated before protective laws were passed (c 1920) Chinchillas are raised on farms in South America and the United States

Chinchón, Luis Jerónimo Fernández de Cabrera Bobadilla Cerda y Mendoza, conde de (lwēs' hārō'nē-mō fĕrnan'dās dā kăbrā'rä bōbädē'yä sĕr'dä ē mēndō'sa kōn'dā dā chēnchōn'), d 1647, viceroy of Peru (1629–39). He sent Cristóbal de ACUÑA on the Teixeira expedition down the Amazon Chinchón's wife, suffering from persistent fever, was treated with a native remedy, made from cunaquina bark. So became known to Europe the febrifuge qualities of quinine Linnaeus called the genus of quinine-producing trees *Cinchona* in her memory

chinchona: see CINCHONA.

Chincoteague (chĭng'kutēg), town (pop 2,142), on Chincoteague Island, E Va , inc 1908 The island, in the Atlantic Ocean near the Maryland line, is connected with the Eastern Shore peninsula by causeway and bridge It is noted for its wild ponies and its fisheries and is a popular hunting and fishing resort An azalea garden attracts visitors in the spring An annual "penning," or roundup, of the wild ponies is held, followed by an auction Chincoteague Bay, an inlet of the Atlantic, extends northward, separating Chincoteague and other islands from the Virginia-Maryland coast

Chindaswinth (chĭn'duswĭnth), d 653, Visigothic king of Spain (642–53) He began the compilation of the *Forum judicum*, which was completed by his son and successor, RECESWINTH

Chindwin (chĭn'dwĭn), river, c 550 mi long, rising in the northern hills of Burma and flowing into the Irrawaddy (of which it is the chief tributary) below Mandalay. The lower reaches are navigable during the rainy season.

Chinese architecture. As a result of wars and invasions, there are few existing buildings in China earlier than the Ming dynasty (1368–1644). The Horiuji temple in Japan, a work of the 7th cent , when Japanese architecture reflected the Chinese methods of the preceding century, evidences the antiquity of the Chinese use of wood, a material which still dominates. The indigenous aspect of China's architectural style has been steadily maintained through the varying religious influences of Buddhism and Mohammedanism Between religious and secular architecture no distinction is made; all follow a single fundamental type, being seldom higher than one story and consisting of a rectangular chamber elevated upon a stone platform as protection from dampness and covered by a single roof of richly colored glazed tiles or by several roofs, one above the other, producing height and adding horizontal emphasis Effects are created not by a single building but by various buildings and gateways so grouped as to combine with landscape and sculpture into reposeful spatial compositions Complete symmetry is achieved almost invariably The outside walls of the Chinese building have no supporting function and serve merely as enclosing screens The columns, arranged in bays in the interior, stand independent in the interior, stand independent of the walls and support a roof framing which is totally different in type from European construction Instead of utilizing diagonal members to form braced trusses, the roof loads transfer at various points to vertical uprights, which in turn rest upon horizontal crossbeams, these framing members being generally held together by wood tenons Such square-framed roofs have retained rigidity in structures centuries old At the eaves the roof, supported by carved and painted brackets, projects far beyond the face of the outside wall and is usually curved sharply upward to form a concave outline This protects the building against intense sunlight and heavy rains without darkening the rooms It is thought that the main features of Chinese architecture were fully developed as early as the Han period (202 B C–A D. 220) The introduction of Buddhism caused great building activity, but from the centuries between the Han and the T'ang periods only a few pagodas and cave temples remain The T'ang dynasty (A D 618–906) is China's classical period in building and in the arts, its downfall is considered the starting point for the modern period Few of the works of the Yuan period survive. The Ming period may be thought of as having the characteristics of the European baroque style. Little remains of the imperial palaces at Nanking, the capital of the Ming dynasty until 1421 Peking then became the capital, and its group of imperial buildings, known as the Forbidden City, remains a remarkable achievement Around its main courtyard and many smaller courts are grouped splendid halls, galleries, terraces, and gateways White marble, wall facings of glazed terra cotta, roofs of glazed and colored tiles, and woodwork finished with paint, lacquer, and gilding unite to form an exceptional richness Notable among these buildings is the group comprising the Temple of Heaven, including the Hall of the Annual Prayers (A D 1420), a circular structure on a triple platform, surmounted by a roof in three tiers covered with tiles of an intense blue glaze. The typical Chinese temple consists of three buildings parallel to each other and approached by monumental steps, gateways, and bridges The Buddhist temples have successive open courts and porticoes and include kitchens, refectories, and cells for the priests The PAGODA, the most distinctive Chinese structure, survives in great numbers The pailou, a memorial arch, is a post-and-lintel composition, usually of wood in the north, of stone in the south, in the form of a gateway with one or three openings, the lintels bearing inscriptions and the whole surmounted by upturned tile roofs supported on brackets Chinese dwelling houses, built chiefly of wood, brick, and tile, are enclosed and subdivided by wooden partitions and wood, marble, and silk screens Both the dimensions and the number of columns which may be used are governed by ancient regulations The more important town houses are groupings of pavilions laid out around numerous courts, often enclosing gardens or opening on the extensive surrounding gardens See D G Mirams, *A Brief History of Chinese Architecture* (1940)

Chinese art has its origins in remote antiquity Excavations in Kansu and Honan have revealed a Neolithic culture with painted pottery clearly related to some of that of the Shang dynasty Our knowledge of ancient Chinese art is largely limited to works in pottery, bronze, bone, and jade The founding of the Shang dynasty (c 1523 B C), possibly marks the transition from Stone Age to Bronze Age and the appearance of the first of the cast bronze ritual vessels which were used for religious rituals This art, utilising the sand-cast form of the cire-perdue method, reached an extreme elaboration and refinement, It constitutes the clearest extant record of stylistic development for the Shang, Chou, and Early Han dynasties It has been intensively studied by scholars, who have deciphered the ideographic inscriptions with which certain of the vessels are decorated, thus making it possible to date some of them. Over the long period of their development the decoration of the bronzes varies from the most meager incision to the most ornate plastic embellishment and from the most severely abstract to some naturalistic representation. The 1st cent A.D. marks the end of the development of this art, although highly decorated bronze continues in many minor arts, often with the addition of inlays of other metals and stone. Gradually the advent of Buddhism brought the need for arts of a different character Sculpture and painting (particularly in grottoes) and, later, architecture were used to serve the faith The human figure which appeared rarely and late in ancient Chinese art now became most important Sculpture as an isolated art prior to Buddhism survives chiefly in tomb carvings and monumental tomb guardians in stone and stucco With Buddhism, the representation of the Buddha and of bodhisattvas becomes the great theme of sculpture The forms of these figures came to China from the west, but in the 6th cent. A.D. the Chinese artists succeeded in developing a national style in sculpture This style reached its maximum clarity early in the T'ang dynasty Figures, beautiful in proportion and graceful in gesture, show great precision in rendering form and a predominance of linear rhythms. For about 600 years the art of Buddhist sculpture continued to flourish Gradually the restraint of the 7th cent gave way to more dramatic works. In the Ming dynasty, sculpture ceased to develop in style The origins of Chinese paintings are lost Centuries of development preceded the earliest extant work A tomb painting on brick in the Museum of Fine Arts, Boston, dating from the 1st cent A D shows an already highly developed art, but it is only from the 5th cent that we can trace a clear historical development In Tun-huang over a hundred caves contain Buddhist frescoes and scrolls dating from about the 5th to the 13th cent. They show, first, growing mastery of form and clarity, and, later, preoccupation with spatial unity. While Chinese painting never consistently followed the rigid laws of Western perspective, a highly organized system of representing objects together in space was evolved Representation of natural effects of light and shade are almost wholly absent in this art, which relies rather on its incomparable mastery of line and silhouette. The classic period of figure painting is the T'ang dynasty Little if anything remains of the work of such famous masters as Yen Li-pen and Wu Tao-tsu But such paintings of this period as survive show the perfection and clarity of form seen in the contemporary sculpture. The T'ang dynasty also saw the rise of the great art of Chinese landscape painting, Wang Wei and Li Ssu-hsün were notable In the Sung dynasty, landscape painting reached its peak Masterpieces were painted in Chinese ink, sometimes with white and color added, sometimes in monotone, on scrolls of absorbent silk or paper—the vertical hanging scroll (the *chih*) and the horizontal, panoramic scroll (the *heng*) With limited technical means a unique art of infinite suggestion was created Hundreds of painters, among them Ma Yüan, Ma Lin, Hsia Kuei, Li Ti, and Kuo Hsi, contributed to its glory This art is largely secular in subject, Buddhist and Taoist in spirit After the 12th cent more intimate subjects appear, and often a single bamboo spray or flower suffices Some of the quality of Sung painting persisted, but with the Ming dynasty a more worldly spirit appears Minute observation of natural detail is found in the work of Shih Jui (who influenced the Japanese Kano Motonobu, founder of the Kano school), Chou Ch'en, and others In this period works of highly decorative quality abound Innumerable artists of great proficiency flourished, and virtuosity reached its highest peak Under the Ch'ing dynasty a high level of technical competence was maintained, particularly in the applied arts, up to the 19th cent , when the output became much more limited But there was little in the way of new development in painting The famous four Wangs imitated the great Sung masters The fine art of Chinese pottery may be said to have followed somewhat the development of painting, reaching its highest perfection in the Sung dynasty and its extreme technical elaboration and decorative style in the Ming. The world owes an incalculable debt to China in almost all of the applied arts as well as the fine arts However great the influence of Western arts on contemporary China, it can hardly surpass the great and growing influence of her own arts on the West See Osvald Siren, *A History of Early Chinese Art* (4 vols , 1929–30), R L Binyon, *Chinese Art and Buddhism* (1937), Phyllis Ackerman, *Ritual Bronzes of Ancient China* (1945), Ludwig Bachofer, *A Short History of Chinese Art* (1946), Arnold Silcock, *Introduction to Chinese Art and History* (rev ed , 1948)

Chinese Eastern Railroad, 1,078 mi long (including its branches), extending across central Manchuria from Lupin to Suifen It is also the southern branch of the TRANS-SIBERIAN RAILROAD Financed by Russia, the Chinese Eastern RR was opened in 1903 A section which connects Changchun with Port Arthur was acquired by Japan after the Russo-Japanese War (1904–5) and became part of the South Manchuria RR Besides the termini, the chief cities served are Hailar,

Tsitsihar, and Harbin Manchukuo bought the rest of the line from the USSR in 1935, and at the end of the Second World War it was expropriated by China.

Chinese exclusion. Immediately after the United States acquired California, there began a large inflow of Chinese into the state Their coming was at first encouraged because of the need of cheap labor on the Pacific coast By 1867 there were some 50,000 Chinese in the state, most of them manual laborers They contributed largely to the building of the railroads, notably the Union Pacific When in 1868 Anson Burlingame signed a treaty with China, it included a clause recognizing the "inalienable right of man to change his home and allegiance" and thus guaranteed the right of Chinese immigration It did not, however, grant the right of naturalization In the following decades a great deal of feeling against the Chinese arose in California, and there were ugly incidents and a great outcry in favor of banning Chinese immigration altogether In 1876 a joint committee of both houses of Congress visited California The majority report favored restriction of Chinese immigration, and in 1878 Congress passed a bill to that effect. This President Rutherford B Hayes vetoed as contrary to the Burlingame Treaty In 1880 a new treaty was concluded, China yielded and allowed the United States some right to restrict, but not to prohibit, Chinese immigration The Chinese exclusion act in 1882 did, however, ban immigration of Chinese laborers for 10 years Some of the later acts (1888 and 1892) were flat violations of the 1880 treaty In 1894 a new treaty was signed, by which China agreed to exclusion of Chinese laborers for 10 years When that period was up, Congress continued the exclusion unilaterally until the new immigration arrangements in 1924 made the control automatic The question presented not only a serious problem in diplomacy but also a bitterly fought domestic issue in the United States

Chinese language, most important and most widely spoken of the Sino-Tibetan or Indo-Chinese languages See LANGUAGE (table).

Chinese literature. It is not known when the current system of writing Chinese first developed The oldest written records date from the Shang dynasty (c 1523–c 1027 B C), but the elaborate system of notation used even then argues an earlier origin From short inscriptions of a religious nature on tortoise shell and bronze, characters standing for individual words have been deciphered and are traceable through many mutations to modern forms The oldest surviving works of literature were probably not written until the later centuries of the Chou dynasty (c 1027–256 B C.) At this time was written most of what scholars of the Han dynasty (202 B C –A D 220) made into the canonical literature of CONFUCIANISM, although some authorities believe that the current versions of these works, traditionally classified as the *Wu Ching* [five classics] and the *Shih Shu* [four books], contain later interpolations The *Wu Ching*, traditionally attributed to CONFUCIUS either as author or compiler, comprises diverse books The *Shu Ching* [classic of history] records ancient traditions The *Ch'un Ch'iu* [spring and autumn annals] is an unadorned chronology of Lu, Confucius's native state The *I Ching* [classic of changes] explains, often in a mystifying way, a system of divination based upon the study of 64 hexagrams of whole and broken lines. The *Li Chi* [record of rites] describes ceremonials and a utopian state While some of these works contain verse, the main collection of poetry in the *Wu Ching* is the *Shih Ching* [classic of odes], comprising 305 poems supposedly selected by Confucius from some 1,000 Written in simple rhyming stanzas, they tell of the peasant's life and the wars of feudal states The *Shih Shu*, somewhat later than the *Wu Ching*, are early statements of Confucian doctrines They comprise the *Lun Yü* [analects of Confucius], the *Ta Hsüeh* [great learning], the *Chung Yung* [doctrine of the mean], and the *Book of Mencius* (see MENCIUS) Other important early books include the *Tao-teh-king* (mid-3d cent. B C), ascribed to LAO-TZE, and the work of CHUANG-TZE The early Chinese books originally appeared in the cumbersome form of strips of bamboo Silk was substituted as a writing material in the 2d cent B C , and the invention of paper (A D 105) was responsible for a great increase in books. In the 8th cent the method of printing whole pages from wooden blocks was devised, it permitted an enormous increase in the number of copies available of any book. In time the literary and vernacular languages diverged sharply Literary style was exceedingly concise, and it observed rigid antithesis Historical and literary allusions abounded and finally special dictionaries were required for their elucidation. In poetry, the freedom of the Chou period was followed by minutely prescribed forms The lines which rhymed had to be matched syllable by syllable in part of speech and in intonation In the T'ang dynasty (618–906) the prosodic rules still suited the spoken structure of the language; later they continued to be observed despite changes in pronunciation. It is generally agreed that most of China's great poetry was written in the T'ang dynasty. WANG WEI, LI PO, PO CHÜ-I, and TU FU are the masters of this period In the succeeding Sung dynasty (960–1279) SU TUNG-PO was the supreme poet. Translations of T'ang and Sung poetry have strongly influenced the modern imagist school in English Chinese poems are generally very short, unemphatic and quiet in manner, and limited to suggesting a mood or a scene by a few touches rather than painting a detailed picture Intellectual themes and narratives are comparatively rare Many varieties of learned prose have been written in China Notable for accuracy and objectivity are the series of dynastic histories produced since Han times, the earliest of these works is by Ssu-ma Ch'ien (1st cent B C) Chinese lexicography developed in response to the multiplication of characters The last of a great series of dictionaries (still standard) was produced in the reign of Kang Hsi (1662–1722). So-called encyclopedias, actually voluminous extracts from various books, have been occasionally produced, one such work of the Ming dynasty (1368–1664) ran to nearly 24,000 short volumes and appeared in three manuscript copies While the literati were cultivating polite literature, books of a popular character continually appeared They were written either in easy prose or in jingling couplets. Scholars regarded them with scorn; consequently no effort was made to preserve them and few prior to the Sung dynasty have survived The *San Kuo* [tale of three kingdoms] (13th cent ?) recounts the chivalrous and high-minded warfare of the Three Kingdoms period. *All Men Are Brothers* (Eng. tr , 1933) is a picaresque tale of men forced by the venality of officials to become bandits. *The Dream of the Red Chamber* (partial Eng. tr , 1929) tells of the economic decline of a gentle family It is superior in plot construction to earlier novels, and its method of characterization has been compared with Proust's *Remembrance of Things Past* Dramatic literature was also a popular art It included *ku shih* [drum songs], long narrative poems recited to the beating of a drum, as well as plays The Yüan dynasty (1260–1368) probably witnessed the establishment of the drama Chinese plays generally are sentimental stories of conflicting loyalties, e g , filial piety opposed to patriotism Performers (until the late 19th cent only men) are trained from early childhood in the highly stylized mummery, singing, dancing, and acrobatics which the play comprises There is no curtain, nor is any illusional effect sought Props are purely symbolic, e g , a flag represents an army Since the republican revolution of 1911 there has been a revulsion from the classical modes of composition, and many writers (notably HU SHIH and LUSIN) have advocated writing in the vernacular The change in Chinese education from preoccupation with the classic literature to scientific and technological subjects has reduced mastery of the traditional literary skills The use of characters instead of an alphabet has persisted, however, since it makes older writings accessible and permits the Chinese, who speak widely different dialects (even different languages), to communicate with one another. Translations of Western books frequently appear in China, and it seems likely that the tendency of Chinese writers to adopt Western genres will continue Among the distinguished translators of classical Chinese literature are Herbert Giles, James Legge, Ezra Pound, and Arthur Waley Anthologies of Chinese poetry include Arthur Waley, *Translations from the Chinese* (1941), Witter Bynner and Kiang Kang-hu, *The Jade Mountain* (1929); and Robert Payne, ed , *The White Pony* (1947). See Herbert Giles, *A History of Chinese Literature* (1901); R. F Johnston, *The Chinese Drama* (1921), Pearl Buck, *The Chinese Novel* (1939)

Chinese music can be traced back as far as the Shang dynasty Manuscripts and instruments from the early periods of its history are not extant, however, because in 212 B C Shih Hwang-ti of the Ch'in dynasty caused all the books and instruments to be destroyed and the practice of music to be stopped Certain outlines of ancient Chinese music can nevertheless be ascertained The single tone is of greater significance than melody, the tone is an important attribute of the substance which produces it Hence musical instruments are separated into eight classes according to the materials from which they are made—gourd (SHENG), bamboo (PANPIPES), wood (*chu*, a trough-shaped percussion instrument); silk (various types of zither, with silk strings), clay (globular flute), metal (bell), stone (sonorous stone), and skin (drum). Music was believed to have power over the elements Its cosmological and ethical connotations are comparable to those of Greek music The failure of a dynasty was ascribed to its inability to find the proper *huang chung*, or tone of absolute pitch The *huang chung* was produced by a bamboo pipe which roughly approximated the normal pitch of a man's voice. Other pipes were cut, their length bearing a definite mathematical ratio to it. Their tones were divided into two groups—six male tones and six female. These were the *lüs*, and their relationship approximated the Pythagorean cycle of fifths. Legend ascribes their origin to the song of a bird, six from the male and six from the female, and the tones of the two sets were always kept separate The *lüs* did not constitute a scale, however. The scale of Chinese music is pentatonic, roughly represented by the black keys on a piano From it several modes may be derived, by starting on different notes The melody of vocal music is limited by the fact that melodic inflection influences the meaning of a word Likewise quantitative rhythms are not easily adaptable to the Chinese language Several types of notation were used Singers used the syllabic symbols for the five notes of the pentatonic scale, as did players of pipes Players of the stone and bell chimes, which were tuned to the *lüs*, used symbols which represented the pitch names of the *lüs* Players of flutes and zithers used a kind of tablature. None of this notation indicated rhythms. The ancient Chinese hymns were slow and solemn and were accompanied by very large orchestras Chamber music was a highly developed art Chinese opera originated in the 14th cent as a serious and refined art Today little of the ancient musical practice survives Folk song, the music of religious ceremonies, Western jazz, and some small amount of European classical music constitute the principal musical practice of modern China See Curt Sachs, *The Rise of Music in the Ancient World* (1943)

Chinese Turkistan see SINKIANG

Chinese white: see ZINC WHITE

Ch'ing (chĭng) or **Manchu** (măn″chōō′, măn′chōō″), dynasty of China, which ruled from 1644 to 1912 It was established by the MANCHU, a people of N China, on their capture of Peking (now Peiping) All China was occupied and the remnants of the Ming dynasty destroyed by 1659, but disorders in the south were not finally suppressed until 1683 The Manchu introduced few important changes in China Notable, however, was the banning of Ming costume and the much-resented requirement that men shave most of the head and wear the remaining hair in a queue Under Emperor CH'IEN LUNG (reigned 1736–96) China attained its maximum territorial expanse In the north it extended beyond the Amur river, and it reached W to Turkistan and S through Indo-China Mongolia, Tibet, Nepal, and Burma were vassals China's known wealth and its luxury goods (notably silks and porcelains) soon attracted the notice of the European maritime powers, but the dynasty at first strongly maintained the traditional Chinese opposition to sea-borne foreign trade The Netherlands dispatched (1655–57) an unsuccessful trade mission, and Great Britain experienced (1793, 1816) like frustrations after its overtures In 1834, however, Canton was opened to overseas trade, but under restrictions which so irked the British that they precipitated the OPIUM WAR (1839–42) China's defeat resulted in the cession of Hong Kong, the opening of treaty ports, and the establishment of EXTERRITORIALITY for European nations. The country's weakness in the face of Western military power was aggravated by the domestic unrest which followed a partial collapse of the administrative system, especially by the TAIPING REBELLION (1850–65), which nearly brought the dynasty to an end European nations seized the opportunity to annex outlying parts of the country RUSSIA took over much of Turkistan and part of what is the present Maritime Prov of the RSFSR, France conquered Annam and Tonkin, and Great Britain took Burma and made Nepal a protectorate. The First Chino-Japanese War (1895) deprived China of its control over Korea, and it was followed by the establishment of foreign spheres of influence in the territory remaining to the dynasty The general agreement was that Great Britain should predominate in the Yangtze valley, France in the extreme south, and Russia in Manchuria After the Russo-Japanese War (1904–5), Japan assumed Russia's position The dismemberment of China was perhaps averted by the adoption of the Open Door policy recommended by the United States—i e , that all nations should participate equally in China's trade Desperately the dynasty strove to introduce reforms which would strengthen its position The efforts of Emperor KWANG HSÜ, however, were frustrated by the dowager empress TZ'U HSI, who supported the BOXER REBELLION (1900) in the vain hope of dislodging the foreign powers and reestablishing the imperial strength Opposition within the country, led by SUN YAT-SEN, eventuated in a successful revolution in 1911 and the emperor's abdication in 1912 With the Ch'ing collapse China permanently abandoned the monarchical system under which the country had been ruled since at least the 16th cent. B.C.

Ching, lake see TSING

Chingford, municipal borough (1931 pop. 22,053; 1943 estimated pop 45,000), Essex, England, near Epping Forest. A timbered house here is called Queen Elizabeth's Hunting Lodge.

Chinghai, province, China. see TSINGHAI.

Chin Hills (chĭn), mountain range, W Burma, along the boundary between Burma and Assam The Chin Hills district (10,377 sq. mi , pop 186,405) is inhabited by Chin tribes and before 1948 was ruled directly by a British governor. Since 1948 the Chins have had a large degree of autonomy, with a minister in the Burmese cabinet.

Chinnampo (chĕn'năm'pō'), city (1944 pop 82,162), N Korea, a port on Korea Bay Gold, iron, and magnesium are refined and rice and wheat are milled.

Chinnereth or **Chinneroth** (both kĭn'-, -rŏth) 1 See GALILEE, SEA OF 2 Unidentified town, near the Sea of Galilee Deut 3.17, Joshua 11 2; 19 35 Cinneroth 1 Kings 15 20

Chino (chē'nō), city (1940 pop 4,204, 1948 special census pop 5,452), S Calif , E of Los Angeles; founded 1887, inc 1910 It is the business and processing center of a diversified farming area Walnuts are raised in the region A state prison is here, and fine state game-bird farms are near by

chinoiserie (shēnwäzrē') [Fr , = Chinese things], decorative work produced under the influence of Chinese art, applied particularly to the more fanciful and extravagant manifestations Intimations of Eastern art reached Europe in the Middle Ages in the porcelains brought by returning travelers, Eastern trade was maintained during the intervening centuries, and the East India trading companies of the 17th and 18th cent imported Chinese lacquers and porcelains Holland, in her ceramics, quickly showed the influence of Chinese blue-and-white porcelains In the middle of the 18th cent the enthusiasm for Chinese objects affected practically every decorative art applied to interiors, furniture, tapestries, and *bibelots* and supplied craftsmen with fanciful motifs of scenery, human figures, pagodas, intricate lattices, and exotic birds and flowers In France the Louis XV style gave especial opportunities to *chinoiserie*, as it blended well with the established ROCOCO Whole rooms, such as those at Chantilly, were painted with compositions in *chinoiserie*, and Watteau and other artists brought consummate craftsmanship to the style Thomas Chippendale, its chief exponent in England, turned it to the production of a unique and decorative type of furniture The craze early reached the American colonies Chinese objects, particularly the fine wallpapers, played an important role in the adornment of rooms, and especially in Philadelphia the style had a pronounced effect upon design

Chino-Japanese War, First, 1894–95 CHINA and JAPAN were rivals for control of KOREA in the late 19th cent They agreed in 1885 that Chinese suzerainty over Korea should continue and that neither China nor Japan should station troops in Korea Nevertheless when a Korean revolt erupted in 1894 both did send troops, and Japan induced the Korean king to abrogate his recognition of Chinese overlordship The fighting which ensued between Chinese and Japanese forces ended with an easy victory for the better-equipped and better-trained Japanese army The Treaty of SHIMONOSEKI (1895) made Korea nominally independent and provided for the cession of Formosa, the Pescadores Islands, and the Liaotung peninsula by China to Japan China also had to pay an indemnity The war is also called the First Sino-Japanese War See Zenone Volpicelli, *The China-Japan War* (1896)

Chino-Japanese War, Second, 1931–45 The long-standing desire of Japan to dominate E Asia was advanced by the First Chino-Japanese War (1894–95), the RUSSO-JAPANESE WAR (1904–5), and the TWENTY-ONE DEMANDS on China in the First World War. That desire was not stilled, and the weakened condition of China, which was still suffering the effects of revolution and civil war, made possible a new Japanese advance Disorders in Manchuria led to reinforcement (1931) of the garrison Japan maintained ostensibly to protect Japanese property there Bombing of a Japanese troop train near Mukden led to prompt Japanese occupation of all Manchuria and the setting up of the puppet state of MANCHUKUO Japanese forces also attacked Shanghai and seized Jehol prov The Western powers generally refused to recognize Japan's position in Manchuria and when the League of Nations found (1932) that Japan had waged aggressive warfare, Japan resigned from the League In 1935 the Japanese occupied parts of Chahar and Hopeh. The situation was tense, and in 1937 incidents commenced full war A clash (July, 1937) between the soldiers of the Japanese garrison at Peiping and Chinese forces was the pretext for Japanese occupation of Peiping and Tientsin. The next month the killing of two Japanese at Shanghai precipitated war in earnest After a protracted struggle Shanghai and the national capital, Nanking, fell In 1938 Soochow, Amoy, Hankow, and Canton were taken Japanese strategy was aimed at taking the cities, the roads, and the railroads, gaining a net of control Thus, although the Japanese by 1940 had swept over the eastern coastal area, guerrilla fighting still went on in the conquered regions. Japanese efforts to take Changsha, an important station on the Peiping-Canton RR, were thwarted in 1939 and 1941 but succeeded early in 1942. The Chinese, driven back to a temporary capital at Chungking, struggled on with little help from outside Chinese resources were not adequate, and the supplies sent over the BURMA ROAD were not much more than a trickle The Chinese cause continued to decline despite vast and bloody fighting The Japanese bombing of Pearl Harbor merged the Chino-Japanese in the Second World War as China declared war on Japan, Germany, and Italy American and British loans and supplies, the establishment of military air bases in China, and the aid of an increasing number of U S and British officers and finally troops helped to reinforce the relief of China as Japan diverted armies elsewhere Nevertheless China's military position continued to deteriorate until April, 1945 In May the Chinese launched a successful offensive at Chihkiang, this lasted until Japanese capitulation on Aug 14 The Japanese troops in China formally surrendered Sept 9, 1945 The war is also called the Second Sino-Japanese War

Chinon (shēnō'), town (pop 4,312), Indre-et-Loire dept , central France, in Touraine Its castle, towering on a high rock over the Vienne river, is an oblong complex of buildings, actually three castles —the Château Saint-Georges, of which a few fortifications (13th cent) survive, the Château du Milieu (12th–15th cent), and the Château du Coudray, with a dungeon (13th cent) and several towers (12th–13th cent) There are also underground works It was a favorite residence of Henry II of England and Eleanor of Aquitaine, its strength resisted Philip II of France for a year (1204–5), and it saw JOAN OF ARC present herself to Charles VII surrounded by his court In La Devinière, a near-by hamlet, stands the house where Rabelais was born

Chinook (shĭnōōk'), town (pop 2,051), co seat of Blaine co , N Mont , on the Milk river and NE of Great Falls, inc 1901 Irrigated farms of the Milk river project supply sugar beets for a refinery

chinook (shĭnōōk', chĭ-), a warm, dry wind descending the eastern slopes of the Rocky Mts , so called by the early settlers because it blew from the direction of the Chinook Indian camps

Chinook Indians (shĭnōōk', chĭ-), North American Indian tribe of the Chinook linguistic stock Other tribes speaking Chinook languages are the Clatsop, Wasco, Wishram, and Clackama, all were in the Columbia river valley The Chinook themselves were on the lower extremity of the river and, with the Clatsop, comprised the Lower Chinook branch of the linguistic stock, now extinct (for relationships with other languages, see LANGUAGE, table, and PENUTIAN). The village was their chief social unit, though a wealthy chief might control several They lived in plank houses, were skilled with canoes, were noted traders, and practiced the custom of potlatch They lacked the totemic art and the secret societies of their neighbors They were well known to the traders on the Pacific coast in the late 18th cent

Chinook jargon, lingua franca of early traders on the Northwest Coast of the United States and Canada It included Chinook, Nootka, English, and French words, with various borrowings, and was a crude medium of communication.

chinquapin (chĭng'kupĭn) [Algonquian], name for certain species of the CHESTNUT genus and for a related species The common chinquapin is *Castanea pumila*, native to the E United States It has a sweet, edible nut borne in a bristly bur and sometimes marketed The wood is hard and strong, used for fences and railway ties The bush chinquapin is *C alnifolia* found in the S United States The golden-leaved chestnut or chinquapin is *Castanopsis chrysophylla*, which has evergreen foliage and is native to the West Coast of the United States Its fruit resembles that of the common chinquapin

chintz (chĭnts) [probably Hindustani, = variegated], originally a painted or stained calico from India. Esteemed for its gay colors and designs, it was used in Europe for bedcovers and draperies Reproductions of Indian designs and also original patterns were soon produced Especially noted was *toile de Jouy*, manufactured from 1700 to 1843 at Jouy, near Paris Both flower motifs and characteristic pictorial scenes are prized by collectors and imitated in modern prints Recent chintz fabrics, usually glazed, show great freedom of color and design and are popular for interior decoration

Chinwangtao (chĭn'wäng'dou'), Mandarin *Ch'in-huang-tao*, city, NE Hopeh prov , China, a port on the Pohai Coal is the chief export

Chioggia (kyōd'jä), city (pop 23,577), Venetia, NE Italy, on a small island in the Adriatic at the southern end of the Venetian lagoons It is connected with the mainland by a bridge The most important fishing port of Italy, it has a character all its own with its old houses and churches, canals, and sailboats. In 1378–80 several naval battles were fought off Chioggia in the war between Venice and Genoa. The liberation of the town from the Genoese turned the war in favor of Venice

Chios or **Khios** (both: kī'ŏs), island (322 sq. mi., pop 72,729), Greece, in the Aegean Sea, 5 mi. W of Asia Minor. It is mountainous, rising to 4,157 ft in Mt. Elias, and is famous for its scenic beauty and good climate It produces excellent wine, figs, citrus fruit, almonds, wheat, and MASTIC and has marble quarries, lignite deposits, and sulphur springs Colonized by Ionians, the island was held (494–479 B C) by the Persians, but recovered its independence Though repeatedly allied with Athens, it rebelled several times against Athenian ascendancy. Friendly toward Rome, it remained a free city of the Roman Empire until the reign of Vespasian From the Byzantine Empire, Chios passed (1204) to the Latin emperors of Constantinople and (1261) to the Genoese Turkey conquered it in 1566 and held it until the First Balkan War (1912), when it was taken by Greece An anti-Turkish rebellion resulted (1822) in a ruthless massacre of Chian Christians Chios claims to be the birthplace of Homer. The capital, **Chios**, is the chief town (pop 26,617) and seaport It is also called Kastro

Chipewyan (chĭpuwī'ŭn), trading post, NE Alta , at the west end of Lake Athabaska, famous in the history of NW Canada The old Fort Chipewyan, on the south shore (the present post is on the north shore), was built at the instigation of Alexander MACKENZIE in 1788 and formed the base from which Mackenzie set out on his expedition (1789) down the Mackenzie river to the Arctic Ocean and in 1792 across the mountains to the Pacific Ocean It was a collecting center for the Mackenzie river fur trade from that time forward

Chipewyan Indians, North American Indian people of Athapascan linguistic stock Scattered Chipewyan tribes ranged W Canada between Great Slave Lake and the Churchill river They were nomadic hunters in rivalry with the woodlands Cree Typical Chipewyan tribes were the Athabaska and the Yellowknife They are not to be confused with the Chippewa or OJIBWA INDIANS

Chipley, town (pop 2,167), co seat of Washington co , NW Fla , WNW of Tallahassee, founded 1882 with the railroad's coming It is a trade and shipping center for a farm and timber area Near by is the Florida national egg-laying experiment station

chipmunk, rodent of the squirrel family The chipmunk of the E United States and SE Canada is of the genus *Tamias* The body of the common Eastern chipmunk (*Tamias striatus*) is about 5 or 6 in long, the upper parts reddish brown or grayish brown with a median black stripe and two black stripes separated by a whitish band along each side The 4- or 5-inch tail is hairy and flattened Food is transported in the expansible cheek pouches Chipmunks make underground burrows, often with concealed entrances beneath stone walls or trees In its northern range the chipmunk goes underground about the end of October, but sleeps deeply only during the coldest period Food for the winter is stored in the burrow Chipmunks eat nuts, seeds, berries, and insects The chipmunks of W North America belong, like those of E Asia, to the genus *Eutamias*

Chippawa (chĭ'puwô), village (pop 1,385), S Ont , just above Niagara Falls It was first settled in 1794 and was the scene of a battle (1814) between the British and Americans in the War of 1812

Chippendale, Thomas, 1718–79, celebrated English cabinetmaker His designs were so widely followed that a whole general category of 18th-century English furniture is commonly grouped under his name He was the son of John Chippendale, a joiner, with whom in 1749 he opened his first workshop in London In 1753 he moved to St Martin's Lane, where until his death he remained in business, first with James Rannie as partner and later with Thomas Haig Chippendale's *Gentleman and Cabinet-Maker's Director*, an illustrated trade catalogue first published in 1754, was widely influential in England and America Among the numerous pieces stamped with his style, it is possible to assign unquestionably to his own workshop only those for which the original bills still remain, as in the case of Harewood House and Nostell Priory, whose furnishings were created by him While he based his work upon the general Queen Anne and Georgian characteristics of sober design and thoroughly fine construction, retaining many of the early 18th-century details, Chippendale's distinction was to introduce many fresh forms For these he used three outside inspirations—Chinese, Gothic, and contemporaneous French ROCOCO The first two resulted naturally from the general mid-18th-century enthusiasms for CHINOISERIE decoration and pseudo-Gothic architecture Chippendale's name is emphatically identified with the extensive variety of chair types which he developed, their geometrical, Chinese, lattice, or sumptuously carved and interlaced openwork backs replacing the comparatively simple splat and pierced backs of the early 18th cent , while the legs varied from a simple square type to a boldly curved cabriole covered with rich *rocaille* carving Chippendale's varied output also included desks, mirror frames, hanging bookshelves, settees, with which he was especially successful, china cabinets and bookcases, frequently with fretted cornices and latticework glazed doors, and tables with delicately fretted galleries and distinctive cluster-column legs of Gothic inspiration

His material was almost exclusively dark mahogany, always without inlays Chippendale's style, quickly imported to America, was followed by a number of expert cabinetmakers, including Gillingham in Philadelphia and Rivington in New York It also was reflected in ceiling ornamentation by plaster relief and the carvings of mantelpieces and overmantels Thomas Chippendale, 2d, one of Chippendale's 11 children, maintained his father's business and traditions at the St Martin's Lane workshop for many years, in partnership with Haig. See study by Oliver Brackett (1924).

Chippewa (chĭ'pəwā), river rising in several forks in the lake region of N Wisconsin and flowing S and SW to the Mississippi, which it enters at the foot of Lake Pepin Eau Claire, Chippewa Falls, and Durand are on its banks It was once important in the lumbering industry

Chippewa Falls, city (pop 10,368), co. seat of Chippewa co., W central Wis., on the Chippewa just NE of Eau Claire, in a lake region, settled 1837, inc as a village 1853, as a city 1869 It grew as a lumber town, it is now a commercial center for a dairy and farm area, with several industries The city's hydroelectric plant supplies power to a large area The state branch of the Farmers Union is at Chippewa Falls

Chippewa Indians: see OJIBWA INDIANS.

Chiputneticook Lakes (chĭpŏ'tnĕ'tĕkōōk'), chain on the Maine–N B border, forming the international boundary for 28 mi It includes North, Grand, Spednik, and Palfrey lakes It is the source of the St Croix river

Chiricahua Indians: see APACHE INDIANS

Chiricahua National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Chirico, Giorgio de (jôr'jō dā kē'rē-kō), 1888–, Italian painter, b Volos, Greece He worked and exhibited in Paris from 1911 to 1915 His work of this period is characterized by the use of distorted perspective, mannequin figures, empty space, and forms used out of context to create an atmosphere of mystery and loneliness It exercised a considerable influence on early surrealist painting and has often been associated with that school In the late 1920s, however, Chirico broke with surrealism, and his subsequent work is more studied and less imaginative Chirico is known also as a stage designer and as the author of *Hebdomeros* (1929) and of some art criticism He is represented in leading modern galleries in Rome, Moscow, Chicago, Buffalo, and New York See J T Soby, *The Early Chirico* (1941)

Chirikov, Aleksey Ilich (ălyĭksyā'ĭ ĭl'yĭch chĭ'rĭkŭf), d 1748, Russian explorer He was the lieutenant of Vitus BERING on the notable voyage that led to the discovery of Alaska

Chiron (kī'rŏn), in Greek religion, a CENTAUR, son of the Titan CRONUS, ancestor of ACHILLES and AJAX He was a famous teacher, among his pupils were JASON, ASCLEPIUS, HERCULES, and Achilles When he received an incurable wound, he gave his immortality to PROMETHEUS He became the constellation SAGITTARIUS, the archer

chiropractic (kī"rŭprăk'tĭk) [Gr., =doing by hand], system of therapeutics based upon the theory that disease is caused by interference with nerve function The purpose of the treatments is to try to restore normal function of the nerve system by manipulation and treatment of the structures of the human body, especially those of the spinal column The method was originated by Daniel David Palmer in 1895 His system of treatment and his teachings were carried on by his son Bartlett Joshua Palmer There are a number of institutions for training students in the profession, which is legally recognized in the United States, in Alaska, in parts of Canada, and in some foreign countries See B J Palmer, *Text Book on the Palmer Technique of Chiropractic* (1920)

chisel, tool with a cutting edge at the end of a blade, used chiefly for making small or odd-shaped cuts and pushed by hand or struck with a mallet It is made in a variety of forms adapted to wood, stone, or metal and includes wood-carving tools and gouges (concave forms with a curved cutting edge) The chisel, like the SPADE, evolved from primitive stone and soft-metal tools pushed by hand and commonly used on wood which was first charred The PLANE is derived from the chisel See Thomas Hibben, *The Carpenter's Tool Chest* (1933), A P Morgan, *Tools* (1948).

Chishima: see KURILE ISLANDS

Chisholm (chĭz'ŭm), city (pop 7,487), NE Minn., on the Mesabi iron range and NE of Hibbing, settled 1898, inc 1901.

Chisholm Trail, route over which vast herds of cattle were driven from Texas to the railheads in Kansas after the Civil War It took its name from Jesse Chisholm, a half-breed Cherokee Indian trader who, in the spring of 1866, drove his wagon, heavily loaded with buffalo hides, through Indian territory which is now Oklahoma to his trading post near Wichita, Kansas, the wheels cutting deep ruts in the prairie These marked a route followed for almost two decades by traders and by drovers bringing cattle to shipping points and markets in Kansas Hundreds of thousands of Texas longhorns were driven over the trail annually, and it became celebrated in frontier lore and cowboy ballads. With the development of railroads and the introduction of wire fencing, the trail fell into disuse, although traces of it can still be seen along the line of the Santa Fe RR.

Chismaio, Italian Somaliland see KISMAYU.

Chisinau: see KISHINEV, Moldavian SSR.

Chision (kĭs'ĭŏn), Benjamite Num. 34 21.

Chisloth-tabor (kĭs'lŏth-tā'-) [Heb., =loins of Tabor], town, N Palestine, plausibly identified with Iksal, W of Mt. Tabor. Joshua 19.12. See also CHESULLOTH

Chistopol (chĕstô'pŭl), city (1939 estimated pop. 32,000), central Tatar ASSR, E European RSFSR, c 65 mi SE of Kazan and on the Kama river It is a grain-trading center, chartered in 1781

Chisum, John Simpson (chĭ'sum), 1824–84, American cattleman, b. Tennessee. In 1837 he moved with his family to Texas He had no formal education, but worked as a builder and contractor, building the first courthouse in Paris, Texas In 1854 he entered the cattle business, beginning in 1866, in partnership with Charles Goodnight, he drove herds into New Mexico, Colorado, and Wyoming, selling them to government food contractors for Indian reservations When, in 1883, he established his ranch near Roswell, N Mex., he became one of the first cattlemen in that region, and his became one of the largest herds Here he was a prominent figure in the Lincoln co. cattle war, and at one time Billy the Kid was in his employ, he cooperated with the authorities, however, to end lawlessness in the cattle business.

Chiswick, England see BRENTFORD AND CHISWICK

Chiswick Press. see WHITTINGHAM, CHARLES

Chita (chĕtä'), city (pop 102,555), capital of Chita oblast, RSFSR, in SE Siberia, on the Trans-Siberian RR and the Chita river It is a transportation and industrial center of a region rich in rare metals (tungsten, molybdenum, gold), as well as tin, iron, coal, lumber and cattle Founded in 1653, Chita has a regional museum and several technical schools

Chittagong (chĭ'tugông), town (pop 92,301), SE East Bengal prov., the principal port of Pakistan on the Bay of Bengal It imports piece goods, salt, and fuel oil and exports rice, tea, and hides

Chittenden, Hiram Martin (chĭ'tundŭn), 1858–1917, American civil engineer and historian, b Yorkshire, Cattaraugus co., N Y., grad West Point, 1884 He became an expert in water-control projects and wrote several books in the field, including *Flood Control* (1915) As engineer on road-construction projects in Yellowstone National Park (1891–93, 1899–1906), he became interested in the West and wrote *Yellowstone National Park* (1895) His masterpiece of Western history was *The American Fur Trade of the Far West* (3 vols., 1902, new ed., 1932) He also wrote *Early Steamboat Navigation on the Missouri River* (1903) and *The Life, Letters, and Travels of Father Pierre Jean de Smet* (with A T Richardson, 3 vols., 1905) He served as an engineer during the Spanish-American War

Chittenden, Russell Henry, 1856–1943, American physiological chemist, b New Haven, Conn., grad Yale (Ph B., 1875; Ph D., 1880) He was associated with Yale from 1874, as professor (1882–1922) and as director of the Sheffield Scientific School (1898–1922) He lectured at Columbia Univ (1898–1903) A specialist in the physiology of nutrition, he conducted important researches and wrote *The Nutrition of Man* (1907) and *Development of Physiological Chemistry in the United States* (1930)

Chittenden, Thomas, 1730–97, governor of Vermont, b East Guilford, Conn After moving to Vermont in 1774, he was active in the Windsor Convention, which declared (1777) Vermont independent He and Ira ALLEN drew up the constitution, and Chittenden was elected (1778) first governor He was steadily a member of the Allen party, and he held office (except 1789–90) through Vermont's period of independence and early statehood until a few weeks before his death

Chittim (kĭt'ĭm), variant of KITTIM

Chiun (kī'un), idol worshiped by the Hebrews in the wilderness Amos 5 26 Remphan Acts 7 43

Chiusi (kyōō'sē), Latin *Clusium*, Etruscan *Camars*, town (pop 2,534), Tuscany, central Italy, in the Apennines It was a powerful Etruscan town, its king LARS PORSENA marched from here against Rome Many Etruscan tombs (5th cent B C) were discovered here, some of the interesting objects found in them are housed in the municipal museum. There are also catacombs.

chivalry: see KNIGHTHOOD AND CHIVALRY

chive, hardy Eurasian bulbous herb of the same genus as the leek and the onion It has slender tubular leaves used for seasoning various foods, such as salads and stews. Chives are often planted in decorative borders for their low clusters of leaves and globular heads of lavender flowers

Chivers, Thomas Holley (chĭ'vûrs), 1809–58, American poet, b Washington, Ga., M.D Transylvania Univ, 1830 Through his association with Poe and their similarity of style he was accused of plagiarism. *The Lost Pleiad* (1845) is his best collection of poetry. See study by S F Damon (1930).

Chkalov (chkä'lŭf), *formerly* **Orenburg** (ô'rŭnbôrk, Rus. ŭryĭnbôrk'), city (pop. 172,925), capital of Chkalov oblast, E European RSFSR, on the right bank of the Ural river. It is a major flour-milling and agricultural-processing center and a railroad junction at the northern terminus of the Trans-Caspian RR. Founded in 1735 as a fortress against the Bashkirs and the Kazakhs, Orenburg resisted (1773–74) a siege by Pugachev It became the chief center for the Russian barter trade with the Kazakhs and a terminus of caravan routes to central Asia After the building (1905) of the Trans-Caspian RR, Orenburg expanded considerably It changed hands several times in the Russian civil war between 1917 and 1919, when it definitely fell to the Red Army. In 1938 the city was renamed for a Russian aviator

Chladni, Ernst Florens Friedrich (ĕrnst' flō'rĕns frā'drĭkh klad'nē), 1756–1827, German physicist An authority on acoustics, he made studies of the transmission of sound in various gases and of vibrating plates of glass and metal covered with sand, on which were formed the so-called Chladni figures or acoustic figures He invented a musical instrument which he called the euphonium

Chloe (klō'ē) [Gr., =tender herb], Corinthian woman in whose house there were Christians 1 Cor 1 11

Chloë: see DAPHNIS AND CHLOË

chloral, oily, colorless liquid, a compound of carbon, chlorine, hydrogen, and oxygen It results when absolute ethyl alcohol is treated with chlorine It reacts with water to form chloral hydrate, a habit-forming drug, white and crystalline, used in medicine to produce sleep

chlorate, any SALT of CHLORIC ACID, a compound of a metal and the chlorate radical The chlorates are all soluble in water in varying degrees Potassium chlorate (chlorate of potash) and sodium chlorate (chlorate of soda) are the most important and are representative of the group Potassium chlorate is a colorless, crystalline substance with a salty taste, has a density of 2 34 grams per cubic centimeter at about 20°C, and melts at 368°C It is an oxidizing agent, used in the manufacture of matches, fireworks, and explosives, especially in detonators Great care must be taken when working with it, since it is explosive when mixed with certain chemicals In the laboratory it serves as a source of oxygen, yielding this element when heated, the reaction takes place more actively and at lower temperatures in the presence of a catalyst It is prepared, as other chlorates are, in several ways by heating the hypochlorite to yield the chlorate and the chloride, the reaction being one of reduction and oxidation, by treating the base of the metal with chlorine, and, commercially, by the electrolysis of the chloride in solution

chloric acid, an acid appearing only as a colorless solution It is a compound of hydrogen, chlorine, and oxygen, which ionizes to hydrogen and the chlorate radical (one atom of chlorine and three of oxygen, $-ClO_3$) It is only moderately stable, not allowing a too concentrated solution and decomposing when heated over 40°C to form chlorine dioxide (an explosive gas) and perchloric acid (a colorless liquid violently explosive when hot and concentrated) Chloric acid is a strong oxidizing agent It is formed when a chlorate such as barium chlorate or potassium chlorate reacts with an acid such as sulphuric acid A salt of chloric acid is called a CHLORATE

chloride, compound of chlorine and some other element or radical It is a SALT formed either by the direct union of chlorine and the other element or by the reaction of hydrochloric acid with a base, a metal, or an oxide Common salt (sodium chloride) is an example, potassium chloride is very similar to it in appearance and chemical activity Most chlorides are easily soluble in water, exceptions are mercurous chloride (CALOMEL), silver chloride, and lead chloride, which, however, is soluble in hot water Certain other chlorides, e g, antimony and bismuth chloride, decompose in water, forming oxychlorides When heated, many chlorides fuse without decomposition The chlorides of gold and platinum are two important exceptions In solution or when fused, most chlorides conduct electricity and are decomposed (see ELECTROLYSIS) Chlorides find extensive use Calcium chloride is used as a drying agent and in refrigeration Zinc chloride is used as a drying agent also and to deter decomposition in wood exposed to the elements, as in railway ties The chloride of sulphur is used in vulcanizing caoutchouc Silver chloride is used in photography and, with barium and iron chlorides, in the laboratory Cobalt chloride is used as an indicator of the presence of moisture, which turns it from blue to pink Mercuric chloride (CORROSIVE SUBLIMATE), ammonium chloride (SAL AMMONIAC), carbon tetrachloride, ethyl chloride (see ETHYL), and methyl chloride (see METHYL) are important Hydrogen chloride, a colorless, irritating gas, extremely soluble in water, is called, when in aqueous solution, HYDROCHLORIC ACID. The presence of a chloride in some solution of unknown composition is tested by the addition of silver nitrate, the formation of a white precipitate (silver chloride) giving positive indication.

chloride of lime, white powder prepared by treating slaked lime with chlorine It is a strong bleaching agent and disinfectant, used in the preparation of bleaching powder and JAVELLE WATER. See lime under POISONING, table.

chlorine (klô'rēn, -rĭn) [Gr., =green], very active nonmetallic element (symbol=Cl, for physical constants, see ELEMENT, table) At ordinary temperatures it is a greenish-yellow poisonous gas with a disagreeable, suffocating odor, approximately two and one half times heavier than air It belongs to the HALOGEN family of elements, and only fluorine among the nonmetals is more active Chlorine is soluble in water, its aqueous solution is called chlorine water and consists of a mixture of chlorine, hydrochloric acid, and hypochloric acid, since only a part of the chlorine introduced actually goes into solution, the major part reacting chemically with the water Chlorine water has strong oxidising properties owing to the oxygen set free upon the breaking down of the unstable hypochlorous acid Chlorine unites with the hydrogen of compounds other than water to form hydrochloric acid, e g , with that of the carbon-hydrogen compound, turpentine It combines directly in the presence of moisture with certain metals, such as copper and iron, to form chlorides With metals and oxygen, chlorine forms several chlorates, and it combines also with many nonmetals and certain radicals SAL AMMONIAC is a compound of the ammonium radical and chlorine Because of its activity chlorine does not occur by itself in nature, but its compounds are numerous and abundant Sodium chloride (common salt) is present in sea water, in salt wells, and in large salt deposits Other chlorides are often found in association The chief commercial source of chlorine is sodium chloride, from which it is prepared by ELECTROLYSIS Other chlorides are sometimes employed It can also be prepared from hydrochloric acid by oxidation of hydrogen chloride (Deacon's process) and from bleaching powder Chlorine is used in water purification, as a DISINFECTANT and as an antiseptic (CORROSIVE SUBLIMATE), in the manufacture of bleaching powder (CHLORIDE OF LIME), of cleaning fluids such as carbon tetrachloride, of dyes, of fire extinguishers, and of explosives It is an important constituent of many poison gases It is used in medicine in such compounds as CALOMEL, CHLOROFORM, and CHLORAL HYDRATE Chlorine, discovered in 1774 by Scheele, was identified as an element by Davy in 1810

chloroform (klô'rŭfôrm) [quasi-abbreviation of *chlorine* and *formyl*], volatile, colorless, nonin-flammable liquid with a sweet taste and a pleasant odor A compound of carbon, hydrogen, and chlorine, it is known chemically as trichloromethane It is used as a general and local anesthetic and as a solvent for numerous organic compounds such as resins, fats, and wax It is a valuable antidote in cases of strychnine poisoning It is derived from methane by the action of chlorine in the presence of sunlight A substitution reaction occurs in which some hydrogen is replaced by chlorine to yield chloroform The compound is classed, therefore, among the halogen derivatives of the hydrocarbons It is obtained also by the reduction of carbon tetrachloride by hydrogen, by the action of alkali upon chloral hydrate, and commercially by the action of bleaching powder upon ethyl (grain) alcohol The discovery of chloroform (1831) is variously credited to Justus von Liebig, Eugene Soubeiran, and Samuel Guthrie It was first used as an anesthetic by Sir James Simpson in 1848

chloromycetin: see ANTIBIOTIC SUBSTANCES

chlorophyll (klô'rŭfĭl), substance that gives plants their green color and enables them to carry on the process of PHOTOSYNTHESIS Chemically, chlorophyll consists of two components designated as chlorophyll *a* and chlorophyll *b*, both contain carbon, hydrogen, oxygen, nitrogen, and magnesium but differ slightly in their proportions of hydrogen and oxygen, and both are very similar to the hemoglobin of blood except that they contain magnesium rather than the iron of blood Within the cells of plants the chlorophyll is contained in chloroplasts, small rounded or oval protoplasmic bodies Also associated with the chlorophyll in the chloroplasts are two yellow pigments or carotinoids called carotene and xanthophyll The two forms of chlorophyll and the carotinoids were first identified by Richard Willstatter Sunlight appears to be essential to the formation of chlorophyll; the pigment usually develops only in the parts of a plant which sunlight can reach, and blanching occurs in plants deprived of sunlight In variegated leaves the chlorophyll is sometimes masked by red pigments Plants which completely lack chlorophyll must obtain organic food by living either as parasites or saprophytes; among the plants without chlorophyll are bacteria, yeast, molds, and some other fungi and also a few higher plants, e g., Indian pipe. Chlorophyll is sometimes used medicinally in treating infections and has long been useful for coloring foods and drugs.

chloroplast: see CHLOROPHYLL.

chloroprene: see RUBBER, SYNTHETIC.

Chmielnicki or Khmelnitsky, Bohdan (both: bŭkhdän' khmĕlnĭt'skĭ), 1593–1657, hetman of the Ukraine The persecutions he suffered from the Polish nobility caused him to stir the Cossacks to revolt against the suzerainty of Poland (1648) Successful at first, he was defeated by King John II of Poland in 1651 and was forced to appeal to Tsar Alexis of Russia In 1654, at Pereyaslavl (recently renamed Pereyaslavl-Khmelnitski), the union of the Ukraine and Russia was voted His chief ambition, an independent Ukraine, remained thus unfulfilled. See G V. Vernadsky, *Bohdan, Hetman of Ukraine* (1941)

Choanes, river see KARKHEH

Choate, Joseph Hodges (chōt), 1832–1917, American lawyer and diplomat, b Salem, Mass , grad Harvard Law School, 1854; nephew of Rufus Choate He was admitted (1855) to the bar and removed to New York city in 1856 His legal career lasted over 50 years and included many famous cases, his brilliant presentation of cases won for him an unrivaled reputation Choate twice helped to arouse New York city to defeat Tammany Hall—in 1871, when the Tweed Ring was exposed, and again in 1894 In 1899 President William McKinley appointed him ambassador to Great Britain, and he served for six years with distinction, helping to promote Anglo-American friendship Not only did he settle boundary disputes between Canada and the United States, but he also aided in the negotiations of the HAY-PAUNCEFOTE TREATY, and he forwarded the Open Door policy in China In 1907 he headed the American delegation to the Second Hague Conference See his autobiography, *Boyhood and Youth* (1917), biographies by T G Strong (1917) and by E. S Martin (1920)

Choate, Rufus, 1799–1859, American lawyer and Congressman, b Essex, Mass , grad Dartmouth, 1819, uncle of Joseph Hodges Choate Admitted to the bar in 1822, Rufus Choate practiced law in Danvers, Mass , before he moved to Salem (1828) and to Boston (1834) He gained national reputation as a lawyer and as an orator He served (1830–34) in the U S House of Representatives and sat (1841–45) in the U S Senate, completing the unexpired term of Daniel Webster See biography by C M Fuess (1928)

Chocano, José Santos (hōsĕ' sän'tōs chōkä'nō), 1875–1934, Peruvian poet, one of the leaders of *modernismo* He gave an *indianista* (pro-Indian) slant to modernism, and his most popular volume, *Alma América* [the soul of America] (1906), led Rubén Darío himself to develop American themes Chocano was a revolutionist, he defended the Indian, exalted Spain, and protested against "Yankee imperialism " His poem *¿Quién sabe?* (1913) was a significant literary landmark in the systematic *indianista* movement Chocano, vigorous, eloquent, at times bombastic, did not restrict himself to *modernista* forms Well-known collections of his poetry are *Fiat Lux* (1908) and *Primicias de oro de Indias* [first fruits of gold from the Indies] (1934)

chocolate, preparation made from the seeds of the CACAO or chocolate tree and used for either a beverage or a sweet The flavor of chocolate depends not only on the quality of the cocoa nibs and the flavorings used but also on a complex process of grinding, heating, and blending The chocolate liquor formed in an intermediate stage may be used in the confectionery trade, or the process may be continued and the resulting smooth mass of chocolate molded, cooled, and packaged It should be hard enough to snap when broken, have a bland mellow flow when melting, be free from all signs of gritty particles, and have a rich, dark color and aromatic smell and flavor The making of chocolate confectionery is in itself a well-developed industry of considerable commercial importance, employing highly specialised processes and machinery A chocolate beverage was known to the Aztecs and through Spanish explorers found its way into Europe. In 1657 a shop was opened in London where chocolate was sold at luxury prices, sometimes as high as 15s a pound It became a fashionable drink, many shops sprang up to become centers of political discussion and grew into famous clubs, such as the Cocoa Tree Chocolate was first manufactured in the United States at Milton Lower Mills, near Dorchester, Mass , in 1765 About 1876, M D Peter of Vevey, Switzerland, perfected a process of making chocolate for eating by combining the cocoa nib, sugar, fat, and condensed milk Put up in cakes, chocolate is a valuable emergency food It is a popular ingredient in custards, puddings, pastry, cakes, mousses, ice creams, and sauces as well as in confectionery

Chocorua (shōkôr'ōōu), peak, 3,475 ft high, E N H , in the White Mountain National Forest, N of Lake Winnipesaukee Chocorua village is in Tamworth town, and Lake Chocorua is near by

Choctaw Indians (chŏk'tô), North American Indian tribe of Natchez-Muskogean linguistic stock, formerly occupying central and S Mississippi with some outlying groups in Alabama and Georgia Some migration took place in the 18th cent., with some tribes settling in Louisiana. Their culture was similar to that of the Creek Indians, with whom they warred The Choctaw were peacefully removed (1832) to the Indian Territory (now in Oklahoma) and were one of the Five Civilized Tribes

Chodowiecki, Daniel Nikolaus (dä'nyĕl nē'kōlous khôdôvyĕts'kē), 1726–1801, German painter and engraver, b Danzig He was the most popular illustrator of his day in Prussia His miniatures include the series *History of the Life of Christ*, which established his reputation *The Departure of Jean Calas* is his best-known painting In 1797 he was appointed director of the Berlin Academy It is as an engraver, however, that Chodowiecki is best known His book illustrations include designs for Schiller's *Räuber*, Cervantes's *Don Quixote*, Goldsmith's *Vicar of Wakefield*, Shakspere's works, and many others His plates number over 2,000 See Austin Dobson, *Eighteenth Century Vignettes* (1894).

Choerilus (kē'rĭlus), fl 500 B C , Athenian tragic poet, an older rival of Aeschylus

choir (kwīr) [O Fr] **1** A chorus, especially one organized for the performance of sacred music, usually in a church According to the *Motu proprio* (1903) of Pope Pius X, the only authorized liturgical choir of the Roman Catholic Church is composed of men and boys Choirs in Protestant churches generally include both men and women **2** That division of an organ usually used to accompany the singers, played from the lowest manual on the console **3** The instruments of any one type in the orchestra, as brass choir, wood wind choir **4** That part of a church reserved for the singers and the officiating clergy see STALL

choir stall: see STALL

Choiseul, César, comte du Plessis-Praslin, duc de (sāzär' kôt' dü plĕsē'-pralĕ dük' du shwäzûl'), 1598–1675, marshal of France and diplomat In the Fronde he sided with Mazarin and defeated Turenne at Rethel (1650) He negotiated the Anglo-French alliance of 1665

Choiseul, Étienne François, duc de (ātyĕn' frāswä'), 1719–85, French statesman After successful service in the army, he entered diplomacy. He favored the Austrian alliance and as minister of foreign affairs after 1758 negotiated the FAMILY COMPACT and the Treaty of Paris at the end of the Seven Years War, he annexed Lorraine (1766) and Corsica (1768) As minister of war and of finds navy (1761–70) he reorganized the fighting forces and introduced important reforms He supported the publication of the *Encyclopédie* and aided in the suppression of the Jesuits Choiseul owed his rise to Mme de POMPADOUR and his downfall to Mme du Barry See biography by R. H Soltau (1909)

chokecherry · see CHERRY.

chokedamp see DAMP

choking, strangulation resulting from a blocking of the windpipe Among the common causes are irritating fumes or gases and mechanical obstruction of the windpipe, either external or internal Foreign bodies in the air passage may be removed by the fingers or with the aid of special instruments (e g , the bronchoscope) A foreign body in the windpipe of a child may sometimes be dislodged by turning the child upside down In order to establish an airway in cases of suffocation which do not respond to ordinary treatment, surgical opening of the windpipe (tracheotomy) is an emergency procedure in order to prevent ASPHYXIA and death

Chola (chō'lä), ancient Tamil kingdom (c 600 B C – A D c 1200), S India Its chief capitals were at Trichinopoly, Conjeeveram, Arcot, and Tanjore The greatest architectural monument is a temple (1011) at TANJORE celebrating a military victory

cholera (kŏ'lĕrə) or **Asiatic cholera,** acute infectious disease *Vibrio cholerae* (or *V comma*), first isolated by Robert Koch, is the causative organism. The disease is transmitted by water or food polluted by cholera organisms from the excreta of cholera victims Symptoms are a watery diarrhea, vomiting, and collapse Loss of fluid is treated by intravenous injections of salt solution, and the acidosis and uremia by intravenous injections of sodium bicarbonate Administration of certain sulfa drugs kills the germs As a preventive measure in epidemics, vaccination is essential Hot foods and boiled water only are advisable since heat kills the vibrios Care must be taken to avoid contamination of the food and water after they have cooled Cholera, which often occurs in epidemic form in Asia, has appeared on the eastern coast of the United States and in the Mississippi valley The death rate is high See J S Chambers, *The Conquest of Cholera* (1938)

cholera infantum (ĭnfăn'tŭm) [Latin, =children's cholera], a condition in infants which appears to be caused by an overwhelming infection of the intestine with bacteria, rather than by one special bacterium It starts with severe vomiting and diarrhea The stools later resemble rice water, as in true cholera Because of the extreme loss of fluid and the absorption of toxic substances, there is shock or collapse, and there may be acidosis Enemas, to irrigate the intestine and remove the toxic substances, should be used early. Sterile alkaline solutions are given by hypodermic injec-

tion, as it is usually impossible to feed by mouth because of vomiting. Although there may be fever, the skin is cold, and the usual treatment of shock should be followed.

Cholet (shôlā'), town (pop 23,214), Maine-et-Loire dept, W France, S of Angers Destroyed during the wars of the Vendée (1793–95), it was rebuilt and now has large linen- and cotton-textile manufactures Here in 1793 the Vendeans suffered a bloody defeat

Cholon (shôlô'), city, Cochin China, on the right bank of the Saigon river, a tributary of the Dong Nai Founded in the late 18th cent by Chinese seeking to escape the civil disorders of Annam, it is still largely a Chinese city It forms part of metropolitan SAIGON

Cholula (chôlōō'lä), town (pop 8,424), Puebla, E central Mexico Site of a pre-Columbian pyramid of great antiquity, the town was an old Toltec city and, when the Spanish came, was an Aztec sacred city, devoted to the worship of QUETZALCOATL On suspicion of native insurrection, Cortés destroyed it A church was built on top of the pyramid With its own churches and many more dotting the surrounding valley, Cholula remains a place of pilgrimage

Chomutov (khô'mōōtôf), Ger *Komotau* (kō'mōtou), city (pop 26,697), N Bohemia, Czechoslovakia. There are ironworks and other industries

Chone (chō'nā), city (1944 estimated pop 21,834), W Ecuador, on the equatorial lowlands. Not far from the sea, to which it has access by rail, Chone is the leading Ecuadorian city in the manufacture of Panama hats. From the surrounding region come tagua nuts and some cacao for export

Chongjin or **Chungjin** (both chŭng'jĭn'), Jap. *Seishin*, city (1944 pop 184,301), N Korea, a port on the Sea of Japan There are fisheries and ironworks and steelworks

Choniates, Michael. see ACOMINATUS, MICHAEL

Choniates, Nicetas see ACOMINATUS, NICETAS

Chopin, Frédéric François (frādārēk' frāswa' shôpĕ'), 1810–49, composer for the piano, b near Warsaw, of French and Polish parentage After appearances as concert pianist in Munich and Vienna, he settled in Paris in 1831, where he lived the rest of his life There he knew most of the principal composers, artists, and literary figures of the time, and there, in 1836, he met George Sand, his unfortunate affair with her lasted until 1847 His art was inseparable from the piano, his only important compositions not for piano solo were the piano concertos in E minor (1833) and in F minor (1836), wherein the orchestra is completely dominated by the piano Polish nationalism is evident in his 15 polonaises and 55 mazurkas Chopin had a marked gift for improvisation, and many of his compositions have an improvisatory character Because of their extremely romantic quality, some of his works have become known by descriptive titles which he did not give them They were published simply as nocturnes, scherzos, ballades, waltzes, impromptus, fantasies, and the like Larger works include the sonatas in B flat minor (1840) and B minor (1845). The 24 preludes (1839), one in each major and each minor key, are short pieces, some of which are among his finest compositions Two sets of 12 études (1833, 1837) are more than technical studies, they are among his major works Chopin died of tuberculosis when he was only 39 See biographies by Frederick Niecks (1888), Franz Liszt (Eng tr, 1865), J G Huneker (1900), William Murdoch (1935), and Herbert Weinstock (1949)

Chopin, Kate O'Flaherty (shô'flăhĕrtē, pän'), 1851–1904, American author, b St Louis, grad Sacred Heart Convent, 1868 She wrote Creole stories, including *Bayou Folk* (1894), *A Night in Acadie* (1897), and *The Awakening* (1899) See biography by D S. Rankin (1932)

choragic monuments (kŭrăj'ĭk,-rā'jĭk, kō-) [Gr, = of the choragus, the chorus leader], small decorative structures erected in ancient Greece to commemorate the victory of the leader of a chorus in the competitive choral dances, an entire street in Athens having been lined with them Upon such a monument the prize, a tripod, was placed, and the date and the name of the performer were usually inscribed. The best known are that of Lysicrates (c 335 B C), still standing in Athens, a graceful circular structure showing one of the early uses of Corinthian columns, and that of Thrasyllus, on the slope of the Acropolis at Athens, also still standing in part

chorale or **choral** (both kŏrăl'), term used to denote a part of the Roman Mass, usually of biblical text, sung by more than one voice, or, more often, a Protestant congregational hymn of stately tempo, which developed in Germany at the time of the Reformation. It is of more varied and less regular structure than the English hymn.

Chor-ashan (kôr'-ă'shăn) [Heb, =furnace of smoke], one of David's haunts 1 Sam 30 30. See ASHAN.

Chorazin (kōrā'zĭn), vanished town of Palestine, denounced by Jesus Mat. 11 21, Luke 10 13

chord, in music, a group of tones of different pitch sounding simultaneously. The simplest chord is composed of three notes and is called a triad. See also HARMONY.

chorea (kōrē'ă, kŭ-) or **Saint Vitus's dance,** disease of the nervous system accompanied by involuntary and jerking movements, irritability, depression, and emotional instability. The condition affects females more often than males and is most commonly observed in children from 7 to 14 years of age, it rarely occurs after puberty. Chorea is a serious condition because of its relation to rheumatic heart disease Children with chorea should be removed from school and never punished or ridiculed Bed rest is important in the treatment of the disease, fever therapy has often been successful Huntington's chorea, a hereditary disease affecting adults, is not to be confused with St. Vitus's dance

Chorley, municipal borough (1931 pop. 30,796, 1947 estimated pop 32,090), Lancashire, England Its industries include cotton spinning and weaving, tanning, and flour milling Duxbury Hall is the birthplace of Miles Standish

Chorotega (chōrōtā'gä), ancient Indians of Honduras and Nicaragua The absence of large ruined cities and the destructive nature of the tropical climate have revealed little of the Chorotegans Contemporaneous with the Maya to the northwest, they inhabited principally the ULÚA river valley and the MOSQUITO COAST With other tribes to the south and the CHIBCHA of Colombia, they formed a cultural link between the peoples of the Andean area and those of Mexico Existing artifacts give evidence of fine craftsmanship and individualistic treatment

chorus. **1** Any group of singers who sing together In this sense the terms *chorus* and CHOIR are synonymous The group of performers who sing or dance together in a musical comedy is called a chorus Numerous choral societies grew up in England and the United States in the 18th and 19th cent A popular form in England is the GLEE club Festival choruses and such groups as the Huddersfield Choral Society (founded 1836) flourish in England today for the performance of the finest of choral music Of such groups in the United States, the oldest was founded by William BILLINGS, and an outstanding one is the BACH CHOIR of Bethlehem, Pa **2** In ancient Greece, the dithyrambic chorus became the dramatic chorus when Thespis, in the 6th cent B C, introduced the actor Aeschylus began with a chorus of 50, but the number was soon decreased to 12, Sophocles used a chorus of 15 In the 3d cent B C the comic chorus was only seven persons, and only four in the 2d cent B C, the tragic chorus having disappeared altogether The chorus had ceased to have a vital part in the drama, Euripides assigned to it lyrics not necessarily having anything to do with the action Some writers of comedy indicated points at which the chorus was to sing or dance, but wrote no specific part for it, ultimately it was dispensed with The chorus chanted its lines and also performed dances

Chorzow, Pol *Chorzów* (hô'zhôōf), formerly Pol *Królewska Huta* (krôōlĕf'ska hōō'ta), Ger. *Königshütte* (kû"nĭkhs-hü'tŭ), city (pop 110,675), Silesia prov, SW Poland It is a center of the KATOWICE mining and industrial region It passed from Germany to Poland in 1921 Hajduki Wielkie (Ger *Bismarckhütte*) is a suburb

Chosen, see KOREA

Choshi (chō'shē), city (1947 pop 69,543), Chiba prefecture, central Honshu, Japan, a fishing port on the Pacific at the mouth of the Tone river.

Chosroes. see KHOSRU

Choteau (shō'tō) [for Pierre Chouteau], city (pop 1,181), co seat of Teton co, N Mont, on the Teton river and NW of Great Falls, inc 1913 Primarily a center of a stock-raising area, the town also became the seat of an experiment in unified county planning in the 1920s

Chou (chou), dynasty of China, which ruled, according to traditional dates, from 1122 to c 256 B C or, according to some modern scholars, from c 1027 to 256 B C About 1027 B C the pastoral Chou moved into the Wei valley from the northwest (modern Shansi and Kansu) Their capital was near modern Sian At its height their empire extended from S Manchuria in the north to parts of the Yangtze valley in the south and from E Kansu in the west to the seacoast on the east The Chou rulers created feudal fiefs, and the nobles became strong enough to establish (c 800 B C) themselves in separate states, especially in the north and at the mouth of the Yangtze in the southwest Later the state of Ch'u came to control the lower Yangtze valley, while the border state of Ch'in grew in the northwest The Chou era was the classical age of China CONFUCIUS, Mo-ti, Yang Chu, LAO-TZE, and Chuang-tze lived then. Contemporary writings (especially *The Book of Odes*) and archaeological evidence picture the Chou culture. The use of iron implements was introduced from W and central Asia, oxen (water buffalo) were used in plowing. At the end of this era the house of Ch'in conquered the feudal states.

Chouans (shōō'uns, shwă) [from Norman French, =owls], peasants of Normandy and Brittany who rose against the French revolutionary government in 1793 Their first leader is said to have been Jean Cottereau (d.1794), traditionally nicknamed Jean Chouan, marquis de la Rouerie [John the Owl, marquess of Mischief], and they supposedly used the hoot of an owl as a signal. The movement, called Chouannerie, was rather disorganized and more religious than royalist in feeling, it became merged with the counterrevolutionary rising in the VENDÉE, but the name was preserved to describe the fierce guerrilla warfare that continued until it was quelled by Napoleon. Even then the so-called Petite Chouannerie persisted until 1815, and Napoleon was forced to divert troops from Waterloo to put it down Balsac's novel *Les Chouans* pictures the conditions of warfare vividly

Chou En-lai (jō' ĕn'-lī', chou'), 1898–, Chinese Communist leader. His youthful participation in radical movements brought him a year's imprisonment in Tientsin in 1919 After his release he studied (1920–24) in France and organized an overseas branch of the Communist movement among Chinese students. Chou returned (1924) to China and threw himself into the united struggle of the Kuomintang and the Communists to conquer the country He had little military experience, but in 1927 he carried out his assignment to organize an insurrection in Shanghai, which permitted Chiang Kai-shek to take the city Chou participated in the fighting (1927–33) against Chiang and in the "long march" (1934–36) of the Communist army to NW China During the partial Communist-Kuomintang rapprochement (1936–46) he was the chief Communist negotiator. In 1949, with the establishment of the People's Republic of China at Peiping, he became premier and foreign minister.

Chouteau, Auguste Pierre (ōgüst' pyĕr' shōōtō', shōtō'), 1786–1838, American fur trader, b St Louis, grad. West Point, 1806, son of Jean Pierre Chouteau He resigned from the army the following year to aid in the family fur trade and in 1809 became one of the members of the St Louis Missouri Fur Company, taking part in several of its expeditions In the War of 1812 he served as captain of the territorial militia While on a trading expedition to the upper Arkansas in 1817, he was captured by the Spanish and imprisoned at Santa Fe for several months After his release, he continued to trade with the Osage Indians He made his home at the present Salina, Okla, where he entertained many distinguished guests In 1832 he led a party, including Washington Irving from St Louis to his post, a journey described in Irving's *Tour of the Prairies* (1835)

Chouteau, Jean Pierre (zhă), 1758–1849, American fur trader, b New Orleans He came to St Louis in 1764 with his mother and entered the family business He traded chiefly with the Osage Indians, and he and René Auguste CHOUTEAU had a monopoly of their trade for some years When the monopoly expired, he sought a new post and visited (apparently in 1796) the site of the present Salina Okla There he established a post in 1802, and he persuaded many Osage Indians to move to that locality He had great influence over the Indians and was U S Indian agent In 1809 he was a member of the expedition up the Missouri river to return to his tribe a Mandan chief who had accompanied Lewis and Clark down the river, and in that same year he joined with Manuel LISA and others to form the St Louis Missouri Fur Company When this company was dissolved, he continued as an independent fur trader, with the aid of his son, Auguste Pierre Chouteau

Chouteau, Pierre, 1789–1865, American fur trader, merchant, and financier, b St Louis, son of Jean Pierre Chouteau He early entered his father's business as a clerk, accompanying him on several trading expeditions until 1813, when he with a partner engaged in general merchandising and trading In 1831 he became a member of Bernard Pratte and Company, which had the Western agency of the AMERICAN FUR COMPANY. He was one of the most powerful men in the West of that day. With the withdrawal of John Jacob Astor from the American Fur Company in 1834, Pratte, Chouteau, and Company bought all the Missouri river interests of the old company Reorganized (1838) as Pierre Chouteau, Jr, and Company, it carried on a tremendous business, extending from the Mississippi to the Rocky Mts and from Minnesota to Texas, until its dissolution in 1861 Chouteau's business activities expanded to include railroads, a rolling mill, and other industries, and he became one of the leading financiers of his time, living most of his later years in New York.

Chouteau, René Auguste (runā'), 1749–1829, American fur trader and a founder of St Louis, b New Orleans. Despite his youth, he in 1763 accompanied Pierre LACLEDE, a partner in the fur-trading firm of Maxent, Laclede, and Company, to establish a trading post in the Illinois country The site chosen was on the west bank of the Mississippi, below the mouth of the Missouri, where Chouteau was left (1764) with a party of men to build the post, which became the city of SAINT LOUIS He continued to serve as aide to Laclede until the latter's death in 1778, when he succeeded to the management of the business and, with his brother, Jean Pierre Chouteau, extended and developed it.

When Louisiana was added to the United States, he became a justice of the territorial court, and when St Louis was incorporated in 1809, he was chairman of the board of trustees He was so successful in dealing with the Indians that his aid was sought after the War of 1812 in negotiating treaties with several Indian tribes

chow or **chowchow** (chou'chou'), dog known from antiquity in the Orient, where it was long the chief hunting dog Its origin is not determined—by some it is considered one of the basic breeds and ancestor to the Eskimo dog, Samoyed, and some other related types, and by others it is thought to have been developed from crossing the Tibetan mastiff with the Samoyed It is a rather large, compact dog with a massive head, flat skull, broad, short muzzle, and small, pointed ears The tongue and the inside of the mouth are blue black The dense, rather coarse coat is of a solid color, usually reddish brown, black, or a slaty blue, the undercoat is soft and woolly. The ruffed neck gives the dog a somewhat lionlike appearance

Chowchilla (chouchil'ă), city (1940 pop 1,957, 1947 special census pop 3,393), central Calif , NW of Fresno in the San Joaquin Valley, inc 1923 It is a processing center in a farm area

chowder, a stew of fish or shellfish with potatoes, onions, and pork (usually salt pork), thickened with crumbled hard bread It has probably been known in some form to most fishing communities The name chowder seems to have originated from the Breton expression *faire la chaudière* The name was probably carried to the French Canadian coasts, from which it traveled to New England (noted for its clam chowder), and thence south Each locality on the eastern coast of the United States has its favorite recipe, based on the kinds of fish and vegetables available The name is extended to include a mixture of vegetables only

Chozeba (kōzē'-) see ACHZIB 2

Chrestien de Troyes or **Chrétien de Troyes** (both krătyĕ' dŭ trwă'), fl 1164, French poet, author of the first great literary treatments of the ARTHURIAN LEGEND His poetical romances were of a type popular in the polite circles of France and England His surviving works were first an imitation of Ovid and a sort of popular tale, *Guillaume d'Angleterre*, then followed the series of Arthurian poems—*Erec et Enide* (c 1160), *Cligès* (c 1164), *Lancelot, ou, Le Chevalier de la charette, Yvain, ou, Le Chevalier au lion* (Eng tr , *The Knight of the Lion*), and *Perceval; ou, Le Conte del Graal*, unfinished (see PARSIFAL) Chrestien died probably before 1190 All the Arthurian romances but *Perceval* appear in the translation of W W Comfort, *Arthurian Romances* (1913) See R S Loomis, *Arthurian Tradition & Chrétien de Troyes* (1949)

Chrisman (krĭs'mun), city (pop 1,112), E Ill , S of Danville, platted 1872, inc 1900 It is a farm trade center

Christ see JESUS

Christ, Wilhelm von (vĭl'hĕlm fŭn krĭst), 1831–1906, German Greek scholar A professor at the Univ of Munich, he wrote one of the best standard histories of Greek literature (1888)

Christadelphians (krĭs"tŭdĕl'fēunz) [Gr ,=brothers of Christ], name of a religious denomination founded in the late 1840s by John Thomas, an Englishman who had settled in the United States Their aim is to revive the simple apostolic faith of the 1st cent They believe the Scriptures infallible and hold that no others than themselves interpret them truly They expect the second coming of Christ on earth to establish a theocracy with its center at Jerusalem They believe that none but those who share their beliefs will rise from the dead and enjoy immortal life after judgment There is no ordained ministry Immersion is required for membership

Christchurch, municipal borough (1931 pop 9,190, 1943 estimated pop 16,408), Hampshire, England It is at the head of the Avon and Stour estuary, which forms a small harbor The Augustinian priory church (dating from the 11th cent) gave the town its name

Christchurch, city (pop 112,681, metropolitan pop 150,047), on the east coast of South Island, New Zealand, at the base of Banks Peninsula, founded 1850 Canterbury College (1873), the School of Arts (1882), and the Roman Catholic and Anglican cathedrals are here Hagley Park is the most extensive of its parks There are tanneries and meat-packing plants Its port, Lyttelton, is northwest Frances Alda was born at Christchurch

Christ Church College: see OXFORD UNIVERSITY.

christening: see BAPTISM

Christian I, 1426–81, king of Denmark (1448–81), of Norway (1450–81), and of Sweden (1457–64), count of Oldenburg, and founder of the Oldenburg dynasty of Danish kings In 1460 he also succeeded to Schleswig and Holstein A weak monarch despite the vastness of his lands, he made large concessions to the nobles, particularly in his German dominions, and had but a precarious hold over Sweden (see KALMAR UNION) His attempts to subdue Sweden ended in 1471 with his defeat at Brunkeberg, near Stockholm, by Sten STURE (the elder). He was succeeded by his son John.

Christian II, 1481–1559, king of Denmark and Norway (1513–23) and of Sweden (1520–23), son and successor of King John After several unsuccessful attempts, he asserted his claim to Sweden by arms However, his wholesale massacre of Swedish nobles at Stockholm (1520) alienated the Swedes, who raised Gustavus Vasa to the throne as GUSTAVUS I, thus ending the KALMAR UNION In Denmark, Christian won the hatred of the nobles and high clergy by thorough reforms in favor of the lower and middle classes, by calling Lutheran preachers to Copenhagen, and by placing Sigbrit, mother of his Dutch mistress, in charge of the finances of the realm In 1523 the nobles rebelled (particularly in Jutland), deposed Christian, and chose his uncle, Frederick I, as king Christian fled, but in 1532 he was captured while attempting to recover his throne He was imprisoned till his death A gifted and educated ruler, despite his despotic methods, Christian II did much to advance learning in Denmark

Christian III, 1503–59, king of Denmark and Norway (1534–59) He was elected king of Denmark one year after the death (1533) of his father, Frederick I With the help of Gustavus I of Sweden, Christian took possession of his lands in 1536 after defeating the forces of Lübeck, which had invaded Denmark His victory broke the power of the Hanseatic League and made the Danish fleet supreme in northern waters Christian established (1536) Lutheranism in Denmark and imposed it on Norway Never elected king by the Norwegians, he declared Norway a dependency of Denmark His son, Frederick II, succeeded him

Christian IV, 1577–1648, king of Denmark and Norway (1588–1648), son and successor of Frederick II After assuming (1596) personal rule, he devoted himself with energy to the upbuilding of the navy, industry, and commerce He rebuilt OSLO and renamed it Christiania. Aroused when CHARLES IX of Sweden asserted authority over Lapland, he made war on Sweden (the so-called KALMAR WAR, 1611–13) and largely dictated the peace In the THIRTY YEARS WAR, urged on by England, France, and the Netherlands, he invaded (1625) Germany as the champion of the Protestant cause Defeated (1626) by Tilly at Lutter, he was driven back in 1627 Schleswig, Holstein, and Jutland were overrun and Stralsund besieged by the imperial troops under WALLENSTEIN Christian, with the help of Gustavus II of Sweden, raised the siege of Stralsund, but in 1629 he signed a separate peace with the emperor His anti-Swedish policy brought on war with Sweden (1643–45), in which Christian lost the Norwegian provinces of Jamtland and Harjedalen His son Frederick III succeeded him

Christian V, 1646–99, king of Denmark and Norway (1670–99), son and successor of Frederick III His minister, GRIFFENFELD, who dominated Christian's reign until his fall (1676), made the monarchy absolute Christian fought an unsuccessful war with CHARLES XI of Sweden (1675–79) He was succeeded by his son Frederick IV

Christian VII, 1749–1808, king of Denmark and Norway (1766–1808), son and successor of Frederick V Shortly after his accession his mental illness made him dependent on his physician STRUENSEE, who in 1770 caused the fall of Johann Hartwig Ernst BERNSTORFF and in 1771 became all-powerful minister After the disgrace of Struensee (1772), Christian annulled his marriage with Caroline Matilda, sister of George III of England Andreas Peter BERNSTORFF was chief minister from 1773, and after 1784 Christian's son and successor, Frederick VI, acted as regent

Christian VIII, 1786–1848, king of Denmark (1839–48), nephew of Christian VII, successor of Frederick VI Earlier he had been governor and (May-Oct , 1814) king of Norway His reign brought prosperity to Denmark In 1846 he proclaimed SCHLESWIG-HOLSTEIN a part of Denmark, thus precipitating the war of 1848 His son Frederick VII, succeeded

Christian IX, 1818–1906, king of Denmark (1863–1906) Issued from the cadet line of Sonderburg-Glücksburg, he succeeded Frederick VII, last of the direct line of Oldenburg The London Conference of 1852 had settled on him the contested succession to the duchies of SCHLESWIG-HOLSTEIN, but Christian in 1863 annexed Schleswig to the Danish crown This precipitated (1864) the war with Prussia and Austria, in which Christian lost Schleswig, Holstein, and Lauenburg In 1866 the Danish constitution was revised, granting the upper chamber more power than the lower Liberal agitation for a more democratic constitution was constant during Christian's reign He was succeeded by his son Frederick VIII A younger son became king of Greece as George I

Christian X, 1870–1947, king of Denmark (1912–47) and of Iceland (1912–44), son and successor of Frederick VIII, brother of King Haakon VII of Norway He granted (1915) a new constitution, which included the enfranchisement of women During the German occupation (1940–45) of Denmark, the king chose self-imposed seclusion rather than yield to the German authorities, he became the symbol of national resistance. In 1944 the people of Iceland decided in a referendum to sever all ties with the Danish crown Christian X was succeeded by his son Frederick IX

Christiana, borough (pop 1,062), SE Pa., SE of Lancaster, settled 1691, laid out 1833, inc 1894. It produces canned goods and textiles It was a stop on the Underground Railroad, and antislavery riots occurred here in 1851

Christian Catholic Apostolic Church in Zion, religious organization founded (1896) by John Alexander DOWIE Its members are sometimes known as Zionites The church had its center in Chicago until ZION, Ill , was laid out Part of Dowie's teaching was belief in the healing of disease by prayer In addition to religious and educational activities in Zion, the founder started various industries on a cooperative basis, an undertaking that was built up by Wilbur Glenn Voliva, who became general overseer upon the deposition of Dowie in 1905 See Rolvix Harlan, *John Alexander Dowie and the Christian Catholic Apostolic Church in Zion* (1906)

Christian Church see CONGREGATIONALISM and DISCIPLES OF CHRIST

Christian Endeavor, an association for strengthening spiritual life and promoting Christian activities among young people The first Young People's Society of Christian Endeavor was started in 1881 by Dr Francis E CLARK in Portland, Maine Within a few years the organization had become not only interdenominational but international, and a world union was formed in 1895, with Clark as president Many denominations are represented in the association's membership

Christiania, Norway see OSLO.

Christianity, religion following Jesus Christ Among religions Christianity is unusual in its penchant for organization Christian groups, or churches, are of two types—"traditional," having an unbroken tradition since ancient times, and "reformed," aiming to restore a primitive state of Christianity (see CHURCH and CATHOLIC CHURCH) Of the first type are the two largest churches, the ROMAN CATHOLIC CHURCH and ORTHODOX EASTERN CHURCH, as well as the ARMENIAN CHURCH, Coptic Church (see COPT), JACOBITE CHURCH, and NESTORIAN CHURCH Most of the "reformed" churches originated in Western Christendom (see PROTESTANTISM), an Eastern example is the DUKHOBORS For the first three centuries of Christianity, history is dependent on apologetic and religious writings, there are no descriptions or chronicles (see PATRISTIC LITERATURE) Historians differ greatly on how far back the 4th-century picture of the Church (which is quite clear) can be projected, especially respecting organization by bishops (each bishop a monarch in the church of his city), celebration of a LITURGY entailing a sacrament and a sacrifice, and claims by the bishop of Rome to be head of all the churches (see PAPACY) There is evidence for these features in the 2d cent A first problem for Christians was how to resist attempts to interpret the new beliefs in old pagan terms (e g , Gnosticism) or to incorporate them in some inclusive system (e g , Manichaeism) The earliest sectarian deviations were those of Marcion and of Montanism (2d cent) They were handled resolutely by the Church, the teachers of novelty were expelled (excommunicated) For 250 years it was a martyrs' church, the persecutions were official, legally motivated by refusal of Christians to worship the state and emperor and by their claim to exclusive truth The chief persecutions were under Nero, Domitian, Trajan and the other Antonines, Maximin, Decius, Valerian, and Diocletian and Galerius In 313 Constantine I and Licinius announced toleration of Christianity in the Edict of Milan In the East the Church passed from persecution directly to imperial control (caesaropapism), inaugurated by Constantine, enshrined later in Justinian's laws, and always a curse for the Orthodox churches In the West the Church remained independent because of the weakness of the emperor and the well-established authority of the bishop of Rome For 300 years after A D 275 the Church in the East was occupied with controversies, Arianism, Nestorianism, Monophysitism, and Monotheletism They concerned the relation of Jesus Christ to God and to man, and the issue was Does a given new statement fit in with the teaching of the apostles as handed down? If yes, it was orthodox, if no, it was heretical Decisions were made at a series of general councils of bishops (see COUNCIL, ECUMENICAL), at them was composed the Nicene Creed, the official orthodox summary (see CREED) These centuries saw a series of Christian writers of unequaled influence (the Fathers of the Church) Origen, St Athanasius, St Basil the Great, St Gregory of Nyssa, St Gregory Nazianzen, St John Chrysostom, and Theodoret, writing in Greek, St Ambrose, St. Jerome, and St Augustine writing in Latin Origen and St Jerome had a special role in the Church's work of determining and preserving the text of the Bible From the 3d cent an element was MONASTICISM, first well organized by St. Basil In the West it was a central feature in the missionary work of St Martin (Gaul, 4th cent) and St Patrick (Ireland, 5th cent), and it received definitive shape from St. Benedict and St Gregory

the Great, who thereby generated an activity ever vital in the Roman Catholic Church. German invasions slowed the conversion of Western Europe (e g , that of England was recommenced in the 6th cent.). All the first invaders were Arian, but the Franks (with Clovis) adopted Catholicism, a fact which probably helped to consolidate their rule Out of this kingdom came Pepin and Charlemagne, who, by alliance with the papacy and proclamation of an empire (800), charted an ideal of the Middle Ages. In the 7th and 8th cent the Eastern Church lost to Islam all Asia except Asia Minor. Alienation from the West was encouraged by the bitter struggle over ICONOCLASM, ecclesiastical animosity between Rome and Constantinople came to a head in the schism of the 9th cent, and attained a sort of legal permanence in 1054 (see LEO IX, SAINT) Eastern and Western Christendom were already in the 9th cent two different cultures, their one common tie was the Christian doctrine—even worship and practices were very different From this time it is customary to distinguish Christian history in its Eastern and Western streams as that of the Orthodox Eastern and the Roman Catholic churches See Philip Hughes, *A History of the Church* (1935–, Roman Catholic), K S Latourette, *A History of the Expansion of Christianity* (1937–), Hans Lietzmann, *The Beginnings of the Christian Church* (Eng tr. by B L. Woolf, 1937), James Moffatt, *The First Five Centuries of the Church* (1939), Jules Lebreton and Jacques Zeiller, *The History of the Primitive Church* (Eng tr by E S Messenger, 1949, Roman Catholic)

Christian of Brunswick, 1599–1626, Protestant leader in the THIRTY YEARS WAR, titular bishop of Halberstadt (1616–23) The first important ally of Frederick the Winter King, he took up arms in defense of the Palatinate in 1621 Defeated by TILLY (1622), he went to the Netherlands, where he served with Maurice of Nassau Christian later advanced into Germany but was forced to retreat, and Tilly turned the retreat into a rout at Stadtlohn (1623) While serving with CHRISTIAN IV of Denmark, he was defeated a third time (1626)

Christian Reformed Church, denomination originating in a secession from the REFORMED CHURCH IN AMERICA in Michigan in 1857 Colonists from Holland who began settling in Michigan in 1846 generally became members of the Reformed (Dutch) church there A number of these immigrants, dissatisfied with the teachings and practices of that church, separated from it in 1857 and united in a new congregation at Holland, Mich. Later other congregations of this "True Holland Reformed Church" were formed in neighboring states Missionary work in Holland led many Dutch immigrants to join this church upon their arrival in the United States In 1882, by a new secession movement in the Reformed Church in America, caused by the General Synod's refusal to condemn FREEMASONRY, a considerable addition to the church was made In 1890 it adopted the name Christian Reformed Church, in that year it was joined by the True Reformed Dutch Church (1822) of New York and New Jersey Its constitution is an adaptation of that approved by the Synod of Dort in 1619 Its doctrines are mainly those of the Reformed Church in Holland

Christians, name taken by the followers of several evangelical preachers on the American frontier, notably James O'Kelley, Abner Jones, and Barton W STONE, all of whom were antisectarian The majority joined the DISCIPLES OF CHRIST, a body with a similar emphasis founded by Thomas and Alexander CAMPBELL, and the name Christians continued to be applied often to members of the Disciples' church Other congregations of Christians united as a separate body which ultimately took the name Christian Church, this was merged in 1931 with the Congregational Churches (see CONGREGATIONALISM) See also CHRISTIANITY

Christiansand, Norway see KRISTIANSAND.

Christiansburg, town (pop 2,299), SW Va., WSW of Roanoke, founded 1792, inc 1916 It has stockyards and processes vegetables and lumber The courthouse of Montgomery co is here

Christian Science, a religion founded upon principles and divine laws expressed in the acts and sayings of Jesus Christ as discovered and formulated by Mary Baker EDDY and practiced by the Church of Christ, Scientist. The occasion of Mrs. Eddy's discovery was her immediate recovery of life and health when in 1866 she read an account of healing by Jesus in the New Testament In 1875 her *Science and Health* (later published as *Science and Health, with Key to the Scriptures*), the only authorized textbook of Christian Science, was published. In 1879 Mrs Eddy established the Church of Christ, Scientist. In Boston in 1892 was organized the First Church of Christ, Scientist—the Mother Church, of which Christian Science churches over the world are branches. Each individual church is self-governing and self-supporting, but all accept the tenets framed by Mrs Eddy and incorporated in the *Church Manual*. Upon the passing of Mrs Eddy in 1910, the administrative power was assumed, as conferred in the *Manual*, by the Christian Science Board of Directors. During her life the founder had been the originator and guide of every step in the church's development Of the numerous publications issued the most important include the *Christian Science Monitor*, a daily newspaper; the *Christian Science Quarterly*; the *Christian Science Sentinel*; and the *Christian Science Journal* These are published by the Christian Science Publishing Society Other activities are conducted by a board of education and a board of lectureship Mrs Eddy was ordained "pastor" of the Mother Church, but hers was a spiritual pastorship The churches have no individual pastors Services are conducted by two readers, one reading from the Scriptures, the other from *Science and Health* All churches use the same lessons at the same time The teachings are drawn from the life and words of Jesus Christ "The starting-point of divine Science," Mrs Eddy states, "is that God, Spirit, is All-in-all, and that there is no other might nor Mind" "Spirit is immortal Truth, matter is mortal error Spirit is God, and man is his image and likeness. Therefore, man is not material, he is spiritual" All that is Eternal, indestructible, true, is real, all that is contrary to the nature of God, unreal Making application of the principle of Christian Science to all problems of human existence, its followers are working toward the salvation of mankind through the overthrowing of the temporary and unreal—evil, disease, death The healing of sin is required even more urgently than the healing of sickness To accomplish the aims in view, there must be unceasing prayer, with "the understanding of Truth and Love," and faith resting upon the assurance that no evil comes from God, who is infinite Good See *Science and Health;* Sibyl Wilbur, *Life of Mary Baker Eddy* (1929 ed)

Christiansen, Sigurd (sē'gōr krēs'tyänsŭn), 1891–1947, Norwegian novelist and dramatist. His novel *Two Living and One Dead* (1931; Eng. tr , 1932) received the grand prize in a 1931 Scandinavian competition Other books are *Our Own Life* (1917) and the drama *A Journey in the Night* (1930).

Christian socialism, term used in Great Britain and the United States for a kind of socialism growing out of the clash between Christian ideals and the effects of predatory business On the continent of Europe, it usually refers to a party or trade union directed by religious leaders in opposition to socialist unions and parties. The movement was begun in England in 1848, after the failure of Chartism Influenced by Carlyle, Southey, Coleridge, and the Fourierists, rather than by Marx, such men as John Ludlow, Frederick Denison MAURICE, and Charles KINGSLEY sought to encourage the laboring masses and the church to cooperate against ruthless capitalism They published periodicals and tracts, promoted workingmen's associations, founded (1854) a workingmen's college, and helped achieve some general reforms. Though their experiments in producers' cooperation finally failed, their traditions were carried on by the Fabian Society, by adherents of guild socialism, and by several Catholic groups The movement in the United States was organized with the formation (1889) of the Society of Christian Socialists, although there had been earlier activity, notably by Washington GLADDEN, Richard Theodore ELY, and George Davis HERRON Other church groups joined or aided the socialist movement, but within the churches the movement was concerned more with the application of social gospel to immediate industrial and social problems than with political socialism See C. E. Raven, *Christian Socialism, 1848–1854* (1920), James Dombrowski, *Early Days of Christian Socialism in America* (1935)

Christians of Saint John: see MANDAEANS

Christiansted (krĭs'chŭnstĕd"), town (pop. 4,495), on St. Croix island, a port of the VIRGIN ISLANDS OF THE UNITED STATES

Christiansund, Norway see KRISTIANSUND

Christie, Agatha (ā'gŭthu krĭ'stē), English detective-story writer Since the publication of *The Mysterious Affair at Styles* (1920), she has written many volumes, most of them featuring the same detective, Hercule Poirot Among these are *The Murder of Roger Ackrayd* (1926), famous for its unexpected ending, *Peril at End House* (1932), *Murder in the Calais Coach* (1934), *And Then There Were None* (1940), and *The Crooked House* (1949).

Christie, Sir William Henry Mahoney, 1845–1922, English astronomer. After serving under Sir George B. Airy as chief assistant at the Royal Observatory, Greenwich, from 1870, Christie succeeded him as astronomer royal in 1881 and served in that office until 1910. Under his direction a new building and improved apparatus were erected, and the work was enlarged. Important additions were the photographic and spectroscopic divisions His studies included observations of sunspots, the measurement of double stars, and observations of the planetoid Eros with the object of determining solar-system distances. His papers include several on the solar eclipses observed in Japan (1896), India (1898), and Portugal (1900). In 1875 his *Manual of Elementary Astronomy* was published.

Christie's, English firm of art auctioneers and appraisers, one of the largest clearinghouses in the world for art objects of all kinds. Since its founding in 1766 by James Christie, its name has been a symbol of luxury in the English-speaking world See M. C. Marillier, *Christie's, 1766–1925* (1926).

Christina, 1626–89, queen of Sweden, daughter and successor of Gustavus II (Gustavus Adolphus). From her father's death (1632) until 1644 she was under a regency headed by Chancellor Axel OXENSTIERNA. Her early devotion to state affairs soon gave place to other interests, especially a zeal for learning. She attracted many foreign artists and scholars—notably Descartes—to her court. On her favorites she lavished titles, lands, and money, and by the end of her reign, half of the crownlands had been given away. Her distaste for marriage caused her to designate her cousin Charles (later Charles X) as her successor. Weary of her duties and the growing unpopularity of her reign and attracted to Catholicism, Christina abdicated in 1654 She left Sweden attired as a man, was received into the Catholic Church at Innsbruck in 1655, and settled at Rome She visited Paris in 1656 and 1657 Her eccentricity and financial incompetence kept her affairs in continual disorder. On the death (1660) of Charles X, Christina returned to Sweden, she hoped to regain her throne but failed. She again went to Sweden in 1667 but was refused entrance into Stockholm because of her religion. She died in Rome and was buried at St Peter's. See biographies by F W Bain (1890), A M Harrison (1929), and Alfred Neumann (Eng. tr , 1935), M. L Goldsmith, *Christina of Sweden* (1933), a psychological study.

Christine de Pisan: see PISAN, CHRISTINE DE

Christmas [Christ's Mass], in the Christian calendar, feast of the nativity of Our Lord (Dec. 25). In liturgical importance it ranks after Easter, Pentecost, and Epiphany (Jan 6) The observance is not older than A D 200. The date was undoubtedly chosen for its nearness to Epiphany Christmas as the great popular festival of Western Europe dates from the Middle Ages In England after the Reformation the observance became a crux between Anglicans and other Protestants, and Christmas was suppressed in Scotland and not permitted in much of New England until the 19th cent The Yule log [*Yule*, from O E , = Christmas], the boar's head, the goose (in America the turkey), decoration with holly, hawthorn, and mistletoe, and the singing of carols (especially by WAITS) are all typically English (see CAROL) Gifts at Christmas are also English, elsewhere they are given at other times, as at Epiphany in Spain Christmas cards first appeared c 1846 Santa Claus first was popular in New York (see NICHOLAS, SAINT). Other American innovations are firecrackers and eggnog in the South. The Christmas tree was already a tradition in the German Middle Ages The crib (*crèche*) with the scene at Bethlehem was popularized by the Franciscans The light in the window, found widespread, probably came to America with the Irish Of the religious observances, one of the best loved is the Mass at midnight in Roman Catholic churches See ADVENT and TWELFTH NIGHT See *Book of Christmas* (ed. by H W Mabie, 1924)

Christmasberry or **toyon** (tō'yŏn), evergreen tree or shrub (*Heteromeles arbutifolia*) of the apple family, found in the Sierra Nevada Its white flowers are followed by bright red berries Also called California holly, it is used on the Pacific coast as a Christmas green.

Christmas Island (c.60 sq mi , pop 823), in the Indian Ocean, c.200 mi S of Java and belonging to the colony of Singapore The majority of the inhabitants are Chinese and Malays who work the extensive deposits of phosphate of lime

Christmas Island, largest atoll in the Pacific, area 95 sq. mi , near the equator, one of the Line Islands Discovered (1777) by Capt James Cook, it was claimed by the United States under the Guano Act (1856). In 1919 Great Britain added the island to the Gilbert and Ellice Islands colony

Christmas rose or **black hellebore** (hĕl'ŭ–), a HELLEBORE (*Helleborus niger*) popular for its evergreen leaves and often winter-blooming flowers that are chiefly white and wild-roselike It has long been used medicinally but is highly toxic

Christ of the Andes, statue of Christ commemorating a series of peace and boundary treaties between Argentina and Chile. Dedicated March 13, 1904, it stands in USPALLATA Pass, high in the Andes, on the Argentine-Chilean boundary A tablet (added in 1937) bears in Spanish the words· "Sooner shall these mountains crumble into dust than Argentines and Chileans break the peace sworn at the feet of Christ the Redeemer"

Christophe, Henri (ĭrē' krēstōf'), 1767–1820, Negro king of Haiti A freed slave, he aided TOUSSAINT L'OUVERTURE in the liberation of Haiti and was army chief under DESSALINES. He took part in the plot against the emperor and after his death (1806) was elected president of the republic. There followed a bitter and inconclusive struggle with Alexandre PÉTION, who retained control in the south In 1811 Christophe declared himself king as Henri I and entered upon an energetic but tyrannical reign, characterized by an expensive and sometimes ludicrous magnificence. Compulsory-labor laws en-

riched his kingdom. The pomp and splendor of his reign are still shown in the ruins of his great citadel of La Ferrière and the palace of Sans Souci at CAPE HAITIEN, his capital. In 1820, when he was suffering from partial paralysis, revolts broke out. In despair, Christophe committed suicide. See J. W. Vandercook, *Black Majesty* (1928).

Christopher, Saint [Gr ,=Christ bearer], 3d cent.?, martyr of Asia Minor. His characteristic legend is that one day when he was carrying a little child over a river, he felt the child's weight almost too great to bear The child was Jesus, and He carried the world in His hands Hence St Christopher is usually represented as a giant, with the Holy Child on his shoulder; he leans on a staff He is the patron of travelers, hence the popular use of his medal in automobiles Feast July 25

Christopher, city (pop 3,833), S Ill , N of Herrin, in a coal area, inc 1910

Christophsen, Pieter· see CHRISTUS, PETRUS.

Christopoulos, Athanasios (äthänē'sēŏs khrēstŏpŏō'-lŏs), 1772–1847, Greek poet and jurist, author of Anacreontic poems popular in Greece He codified the law of Walachia (Rumania), translated much from ancient into modern Greek, and composed a grammar of his language

Christ's College: see CAMBRIDGE UNIVERSITY

Christ's Hospital, originally a hospital founded in 1553 by Edward VI and housed in the monastery buildings of the Grey Friars, London It developed into a school, popularly known as the "bluecoat school" from the habit of the boys It was enlarged to include a school for girls and in 1902 was moved to Horsham, Sussex

Christ's-thorn, name for several Old World plants popularly said to have composed the crown of thorns, but most often applied to the Jerusalem thorn (*Paliurus spina-christi*), a spiny shrub or small tree with curious fruit resembling a miniature head with a wide-brimmed hat, and to a JUJUBE

Christus or **Christus, Petrus** (both pē'trŭs krĭ'stŭs), c 1400–1473, Flemish painter, known also as Pieter Christophsen (pē'tûr krĭ'stufsun), a follower and probably a pupil of the Van Eycks He became a free citizen of Bruges in 1444 and was admitted to the Guild of St Luke Among the paintings ascribed to him are the portrait of Edward Grimstone (Earl of Verulam Coll , England), *The Nativity* (National Gall of Art, Washington D C), *Pietà* (Brussels), *Deposition from the Cross* (Metropolitan Mus), and the portrait of Marco Barberigo (National Gall , London)

Christy, Edwin P., 1815–62, American showman, b Philadelphia He established c 1842 in Buffalo, N Y , a company of Negro minstrels which came to be known as Christy's Minstrels By no means the first to present this form of entertainment, Christy's company crystallized the characteristics which were expected of the minstrel show—the interlocutor, the semicircular arrangement of white performers in blackface, the end men, and the variety act For over 10 years he had great success all over the United States, and in England his minstrels had such a vogue that many English imitators appeared After he retired in 1854, the troupe continued under the direction of George N Harrington, who assumed the name Christy Some of the songs of Stephen Collins FOSTER were published with Christy as author and composer

Christy, Henry, 1810–65, British ethnologist With Edward Lartet he pioneered in the scientific exploration of the caves in the Périgord region of France His *Reliquiae Aquitanicae* (1865) gave significant impetus to the study of the Paleolithic period in Europe

Christy, Howard Chandler, 1873–, American illustrator and portrait painter, b Morgan co , Ohio, studied in New York at the National Academy of Design and the Art Students League The "Christy girl" of posters and magazine illustrations first brought him renown After 1921 he painted portraits of many celebrities His *Signing of the United States Constitution* (commissioned 1939) was hung in the Capitol in 1941

chromatic scale, in music see SCALE

chromium (krō'mēum) [New Latin from Gr ,=color], gray-white metallic element discovered by L N Vauquelin in 1797 (symbol=Cr, for physical constants, see ELEMENT, table), crystalline and very hard It is exceeded in hardness only by the elements carbon (diamond) and boron It does not tarnish in the air, but burns when heated, forming the green chromic oxide Combined with oxygen, besides yielding chromic oxide, which is used as a pigment, it forms chromic anhydride (the red trioxide and anhydride of chromic acid) With other metallic elements, e g , lead and potassium, together with oxygen, it forms the chromates and dichromates These compounds are salts of chromic acid and are used as pigments in paints, in dyeing, and in the tanning of leather Chrome yellow, a pigment, consists largely of lead chromate Other chrome colors are black, red, orange, and green In one process (chrome process) for tanning leather, a dichromate is used and chromium hydroxide, a basic compound of chromium, hydrogen, and oxygen, is precipitated and held in the leather The hydroxide is used also as a MORDANT in dyeing cloth. As a powerful agent for cleaning laboratory glassware, a mixture of potassium dichromate and sulphuric acid is used Chromium is a comparatively rare element, never occurring by itself in nature but always in compounds. Its chief source is the mineral chromite which is composed of iron, chromium, and oxygen and is found principally in Africa in Rhodesia, in the East Indies, and in the United States in California, Maryland, and Oregon The element, in the form of chromic oxide, gives the greenish tint to the emerald and the aquamarine Metallic chromium is prepared by reduction of the oxide by aluminum or by carbon It is used in PLATING other metals, because of its hardness and nontarnishing properties Its most important use is in the steel industry, where it is a constituent in several alloy steels, e g , chromium steel or chrome steel It is present sometimes as an impurity in ordinary steel It constitutes from 10 to 20 percent of stainless steel

chromosome (krō'mūsōm") [Gr ,=color body], form assumed by chromatin material of a cell nucleus during certain stages in its life In a resting cell the chromatin granules are scattered through the nucleus, but during the various stages of meiosis and MITOSIS the chromosomes appear in the form and number characteristic of the species Sometimes the chromosomes are slender filaments, at other times, e g , during the metaphase and anaphase of mitosis, they are more compact and somewhat cylindrical Chromosomes contain genes, the factors which determine the hereditary characteristics, and are therefore of primary importance in heredity, evolution, and mutation and in their controlling influence over the structural development and the multiplication of plants and animals A certain number of chromosomes is characteristic of each species of animal and plant, e g , humans have 48 chromosomes, and the fruit fly *Drosophila* has 8 Very large chromosomes found in the salivary glands of the fruit fly and some other insects furnish valuable material for study The numbers found most commonly among plants are 12, 14, 16, 18, and 24 All of these chromosome numbers are the so-called diploid numbers, i e , the numbers found in all the body cells except the sex cells Mature sex cells have, as a result of the process of meiosis or reduction division, the haploid number (one half the diploid) of chromosomes, when two sex cells unite in the process of fertilization, the number characteristic of the species is restored Determination of SEX is related to the chromosomes

chromosphere (krō'mŏs-) [Gr ,=color sphere], extensive layer or envelope of gases of slight density surrounding the body of the sun and lying outside the apparent surface of the sun, the PHOTOSPHERE At the base of the chromosphere is a layer c 100 or 200 mi thick known as the reversing layer The chromosphere, which has a thickness of from 5,000 to 7,500 mi (and during an eclipse may extend much farther) radiates a scarlet light This light, as well as that of the yet more rarefied corona extending beyond the chromosphere, is overwhelmed by the far greater brilliance of the photosphere above which they lie, until that is obscured by the moon during a total eclipse The red color is attributed to hydrogen, one of the principal gases composing the layer The other two chief components are helium and calcium Observers of total eclipses in the 18th cent noted scarlet streamers or projections fringing the rim of brightness seen around the lunar disk In 1860 these were shown to be connected with the sun, and in 1868 it became evident that they were caused by moving gases. They are called prominences and ordinarily can only be seen, even through the telescope, during total eclipse and then only along the margin of the sun A method of observing them by means of the spectroscope at any time when the sun is visible was discovered (1868) independently by P J C Janssen and Sir J N Lockyer Eruptive prominences burst from the surface of the chromosphere in great flaming jets and masses, as if caused by explosions Quiescent prominences occur on the sun's surface from one pole to the other In appearance they are cloudlike, and they often seem to remain almost unchanged for days

Chronicles or **Paralipomenon** (păr"ulĭpŏm'ĭnŏn) [Gr , =things left out], books of the Old Testament, a single work in the Hebrew canon, called 1 and 2 Chronicles in AV, where they occupy the 13th and the 14th place, and called 1 and 2 Paralipomenon in Greek versions and the Western canon The books are a history of the kingdom of David, i e , the reigns of David (1 Chron 10–29) and Solomon (2 Chron 1–9), and of the southern kingdom in its apostasies and reforms (2 Chron 10–36) They commence with a collection of genealogies (1 Chron 1–9) and end with the decree of Cyrus restoring the Jews (2 Chron 36 22–23) The historical material parallels (and supplements) part of the narrative of Samuel and Kings, but from the point of view of one who adheres strictly to the house of David and to the worship in the Temple Like Kings these books quote their sources constantly Chronicles may at first have formed one book with Ezra and Nehemiah For views of the higher criticism, see OLD TESTAMENT.

chronology: see CALENDAR and TIME.

chrysalis: see PUPA.

chrysanthemum (krĭsăn'thŭmŭm), name for a large number of annual or perennial horticultural plants of the genus *Chrysanthemum*, some cultivated in the Orient for at least 2,000 years A chrysanthemum is the floral emblem of the imperial family of Japan and, sharing the honor with the cherry blossom, the flower of Japan as well, where the highest officials are honored by orders of the chrysanthemum The Chrysanthemum Society of America encourages the culture of the plant The flower heads, mostly late blooming and of various colors except blue or purple, are composite in form and range from single daisylike to large rounded or shaggy heads Florists' varieties have been derived chiefly from the Asiatic *Chrysanthemum indicum* and *morifolium* The pyrethrum, feverfew, marguerite, and daisy belong to the same genus. See Alex Cumming, *Hardy Chrysanthemums* (1939)

Chrysaor (krĭsā'ôr) [Gr ,=gold-bearer], in Greek legend, son of Medusa and Poseidon, brother of Pegasus, and father of the monsters Echidna and Geryon

Chryseis (krĭsē'ĭs), in the *Iliad*, girl captured by Agamemnon. When ransom efforts failed, her father, the priest Chryses, appealed to Apollo, who promptly sent a plague to terrorize the Greek army, it continued until Chryseis was given up Agamemnon took BRISEIS from Achilles to replace Chryseis

chrysoberyl (krĭ'sōbĕr"ĭl) [Gr ,=golden beryl], a beryllium aluminate used as a gem It has a vitreous luster and is transparent to translucent The more valuable CAT'S EYE is a variety of chrysoberyl Another variety, alexandrite, was first discovered in the Ural Mts of Russia, on the birthday of Tsar Alexander II, for whom it was named It is remarkable in that it is green by daylight and raspberry red under artificial light It was popular in imperial Russia, both because of its association with the tsar and because red and green were the colors of the empire It is now found chiefly in Ceylon Yellow-green chrysoberyl from Ceylon and Brazil is commonly sold as CHRYSOLITE, another gem

chrysolite (krĭ'sulīt), yellowish-green to bottle-green mineral, known also, in its different varieties, as olivine and peridot The transparent chrysolite is used as a gem The name is sometimes applied to yellow-green CHRYSOBERYL

Chrysoloras, Manuel (krĭsŏlō'rŭs), c 1355–1415, Greek teacher and writer He introduced Greek literature into Florence and other Italian cities Among his works were a Greek grammar and translations of Plato and Homer

chrysoprase (krĭ'sŭprāz) [Gr ,=golden leek], apple-green variety of CHALCEDONY, used as a gem The color is caused by the presence of nickel oxide Silesia was long the chief source of chrysoprase More recently it has been obtained in California and Oregon

Chrysorrhoas see JOHN OF DAMASCUS, SAINT

Chrysostom· see JOHN CHRYSOSTOM, SAINT

Chuang-tze (chōōäng'-tsä'), fl 4th cent B C , Chinese philosopher He was a follower of Lao-tsu, whose doctrines he expounded in an original way with remarkable skill and charm An idealist and mystic, he opposed the more utilitarian teaching of Confucius Only 33 chapters of his work are preserved, and some of these are probably spurious His book is nevertheless one of the rarest of Chinese classics See TAOISM

Chub (chŭb), an African people Ezek 30 5 This may be a textual error for Lub (i e , LUBIM)

Chubut (chōōbōōt'), river, c 500 mi long, rising in the Andes of S Argentina and flowing E across Chubut territory to the Atlantic It is not navigable, but is used for irrigation

chuck-will's-widow, bird of the S United States allied to the nighthawk and the whippoorwill Its call has the sound of its name

Chufut-Kale (chōōfōōt'-kälyĕ') [Turkish, =Jews' city], ruined fortress and town, RSFSR, near Bakhchisarai, in S Crimea It was until the 18th cent the center of the Jewish sect of KARAITES Jewish inscriptions date back to 1203, and it is supposed that the region was the last refuge of the Crimean KHAZARS

Chugach Mountains (chōō'găk), continuation of the St Elias Mts , S Alaska, rising to more than 13,000 ft They border the north shore of Prince William Sound The Richardson Highway crosses them

Chukchi Peninsula (chōōk'chē), Rus *Chukotski Poluostrov* (chōōkōt'skĕ pŭlōōô'strŭf), northeastern extremity of Asia, Khabarovsk Territory, RSFSR, in NE Siberia, at the eastern end of the Anadyr range The name also occurs as Chukotsk It terminates in EAST CAPE It is included in the **Chukchi National Okrug** (274,520 sq mi , pop c 20,000), formed in 1930 The inhabitants are largely Chukchis, of the Hyperborean linguistic family (see LANGUAGE, table), with some Eskimo The area has tundra vegetation, and the means of livelihood are reindeer raising, fishing, and hunting for fur Coal is mined on the Anadyr Gulf.

Chu-kiang or **Chu-kong.** see CANTON, river.

Chukotsk: see CHUKCHI PENINSULA

Chulalongkorn (chōō'lälông'kôrn) or **Rama V** (rä'mä), 1853–1910, king of Siam (1868–1910) Educated in part by an English governess and an English tutor, he greatly advanced the Westernization of Siam begun by his father, King Mongkut He departed from tradition by traveling abroad—to Singapore, Java, and India in 1871and to Europe in 1897 He abolished slavery, simplified court etiquette, initiated the practice of sending young Siamese abroad for training, set up schools, reorganized the administration of justice, laid the foundations of a sound financial policy, and built public works He also was responsible for the centralization of Siamese administration that checked the independence of the hereditary provincial chieftains (1892) The total effect of Chulalongkorn's reforms and of the foreign policy he directed was to preserve Siam as an independent state at a time when the rest of SE Asia was falling subject to France and Great Britain

Chula Vista (chōō'lä), city (1940 pop 5,138, 1944 special census pop 11,081), S Calif , S of San Diego on San Diego Bay, inc 1911 The region produces citrus fruits, vegetables, and poultry

Chulym (chōōlĭm'), river, c 1,000 mi long, Krasnoyarsk Territory, RSFSR, in central Siberia It rises in the Kuznetski Ala-Tau at 6,500 ft and flows N and W into the Ob Its lower course is navigable Another Chulym river, 140 mi long, in SW Siberia, feeds Lake CHANY

Chumashan Indians (chōō'măshŭn), North American Indian group, formerly on the Pacific coast about Santa Barbara, Calif , and on the neighboring islands Their canoes were unique in the area, and their sea culture brought them prosperity Spanish missions were established among them in the late 18th cent Their deliberately practiced abortion added to the usual causes of decline under white rule, and they are now extinct except for a few of mixed blood They were sometimes called the Santa Barbara Indians See HOKAN.

Chun (kŭn), in the Bible see BEROTHAI

Chungjin, Korea, see CHONGJIN

Chungking (chōōng'king'), Mandarin *Ch'ung-ch'ing*, city (pop 1,000,101), in, but independent of, Szechwan prov , SW China, at the junction of the Kialing with the Yangtze river The commercial center of W China, it commands a large river trade Chungking was opened as a TREATY PORT in 1891 In Nov , 1938, just before the Japanese capture of Nanking in the Second World War, the capital of China was transferred to Chungking and remained there until the end of hostilities

Chuquicamata (chōō'kēkämä'tä), town (pop c 15,000), N Chile, on the western slopes of the Andes. At an elevation of 10,000 ft , Chuquicamata has the world's largest copper mines

Chuquisaca: see SUCRE, Bolivia

Chur (kōōr, Ger kōōr), Fr *Coire* (kwär), town (pop 17,060), capital of Grisons canton, Switzerland, on the Plessur river A Roman settlement (Curia Rhaetorum), it very early became an episcopal see The temporal power of its prince-bishops was limited c 1464 and ended altogether when the Reformation was accepted (1524–26) Outstanding buildings are a restored 8th-century church, the episcopal court, the cathedral (12th–13th cent), and the Rhaetian museum The town produces foodstuffs and metal goods The people are mainly German-speaking and Protestant

Church, Sir Arthur Herbert, 1834–1915, English chemist He was professor of chemistry (1879–1911) at the Royal Academy of Arts The mineral churchite, which he discovered, was named for him

Church, Benjamin, 1639–1718, New England colonial soldier in King Philip's War, b Plymouth He took a leading part in the Great Swamp Fight (Dec , 1675), W of Kingston, R I , and finally hunted PHILIP to death in Aug , 1676

Church, Frederick Edwin, 1826–1900, American landscape painter of the Hudson River school, b Hartford, Conn , studied with Thomas Cole at Catskill, N Y He traveled and painted in North and South America and Europe and excelled in panoramic scenes Church is represented in the Metropolitan Museum, the New York Public Library, the National Academy of Design, New York, and the Corcoran Gallery His *Niagara* (Corcoran Gall) is characteristic

Church, Frederick Stuart, 1842–1923, American painter, illustrator, and etcher, b Grand Rapids, Mich., studied at the National Academy of Design, New York. He first made a reputation with his illustrations and drawings of animals for *Harper's Magazine* As a painter he is best known for his decorative water colors such as *Moonrise* (Metropolitan Mus.).

Church, George Earl, 1835–1910, American civil engineer and explorer, b New Bedford, Mass. He helped build the Madeira-Mamoré RR on the Bolivia-Brazil boundary and spent many years exploring the Amazon He is the author of *Aborigines of South America* (1912)

Church, Sir Richard, 1784–1873, British army officer He fought with Greek troops in the Ionian Islands (1812–15), served as general in the Neapolitan army (1820), and in 1827 was made generalissimo of the Greek insurgents in the Greek War of Independence. He subsequently took part in the politics of Greece, where he died

Church, Richard William, 1815–90, English clergyman and author Born in Lisbon, Church spent his youth in S Europe and was educated at Oxford, where he became a follower of J H Newman and a friend of H P Liddon As dean of St Paul's (1871–90) he did much to disseminate High Church doctrine His *History of the Oxford Movement* (1851) was long the authoritative work on the subject See his life and letters (ed by his daughter, 1894).

Church [probably Gr ,=divine], aggregation of Christian believers The traditional belief concerning the Church held by Roman Catholics, Orthodox, and some others is that it is the community of believers, living and dead, headed by Jesus Christ, who founded it in the apostles This is the doctrine of the mystical body of Christ (Eph. 1 22–23) A famous division speaks of the church militant (the living), the church suffering (the dead in purgatory), and the church triumphant (the saints of heaven) The visible Church (i e , the society of the living) is said to be recognizable by four marks (as in the Nicene Creed) it is one (united), holy (producing holy lives), catholic (universal, supranational), and apostolic (having continuity with the apostles) In the old churches crucial importance attaches to the unbroken tradition, as handed down in purity through the help of the Holy Ghost, with the doctrine goes the apostolic power to administer grace through the sacraments (see SACRAMENT) The men of the Reformation rejected the idea that the Holy Ghost was protecting the Roman Catholic Church In fact, they swept away all the tradition but the Bible, from which they sought to discern the primitive state of Christianity, in order to reconstruct it Among Protestants, when the term is not referring to a certain denomination, "the Church" usually means the generality of believers in Christ See CATHOLIC CHURCH, CHRISTIANITY, ORTHODOX EASTERN CHURCH, PROTESTANTISM, ROMAN CATHOLIC CHURCH

church, in architecture, a building for Christian worship The earliest churches date from the late 3d cent , before that Christians, because of persecutions, worshiped in secret, especially in private homes In Rome and some other cities Christians worshiped at the martyrs' tombs in the underground cemeteries, or CATACOMBS The catacomb chapel influenced the furnishing of churches somewhat, but not the shape of the buildings In the West the normal type was the basilica, in the East this gave way to the square church of BYZANTINE ARCHITECTURE In all the Eastern churches the Byzantine style has prevailed The interior of the Eastern church is characterized by an image screen (*iconostasis*) rendering the sanctuary invisible to the lay worshipers, except that the ALTAR may be seen through the doors of the screen In the West, ramifications of the basilica developed in ROMANESQUE ARCHITECTURE and in GOTHIC ARCHITECTURE, which has been revived in the 20th cent The BAROQUE architecture was important in the 16th and 17th cent In America, Colonial architecture developed an especially beautiful type of church Churches differ in importance according to their constitution and the importance of their clergy The CATHEDRAL is the bishop's church, the ordinary church is that of the parish See also CHAPEL, ABBEY, articles on various important churches

Church and state The existence among the same Christian people of two institutions both claiming the people's loyalty seems bound to develop friction, especially when the spheres in which each claims loyalty overlap In the United States there is a minimum of friction between Church and state because of the sedulous avoidance of any but secular considerations in public life and because of the anxiety of the churches to escape conflict, yet the Society of Friends (Quakers) ignores the claims of the state when it makes war, and some of the more evangelistic sects have got into difficulty with state authorities concerning health regulations There have been several phases in the relationship between the Christian Church and the state. The uncompromising refusal of the Christians to accord the Roman emperor divine honors was the chief cause of the imperial persecutions of the Church The Church, if kept underground by the persecutions, had the satisfaction of maintaining sole control over itself This liberty it maintained for some time after CONSTANTINE I gave the Church official status, but during the 4th cent the emperor began to become more and more important in religious affairs In the East this tendency had its fruit in the 6th cent in Justinian, who was ruler of Church and state equally The ORTHODOX EASTERN CHURCH in the Byzantine Empire was thereafter in confirmed subservience to the wishes of the state. This domination of state over Church is called Erastianism after the theologian ERASTUS. When the empire began to fall apart, the power of the state in the Church declined; under the Ottoman sultans the patriarchs of Constantinople were given political power over the laymen of their churches. This delegation of political powers by the Sublime Porte to the religious heads of Christian groups is unique in the history of Christianity. In Russia the Orthodox Church was quite dominated by the state. In the West different factors were in play. After 400 there was no central imperial power in the West, but there was a central ecclesiastical power, the see of Rome, which had claimed primacy from the earliest times and had generally been accorded obedience by Western Europe at least since 300. The barbarian invasions and the ensuing anarchy resulted in the tremendous growth of power of the PAPACY. With the appearance of strong political powers in Europe, particularly the HOLY ROMAN EMPIRE and the kingdom of FRANCE, a struggle ensued between the papacy and the temporal rulers, complicated by the fact that the pope was also a temporal ruler himself The principal subject of contention was INVESTITURE, but underlying it was the violent disagreement as to the proper distribution of power, theories ranged from the belief that emperor or king, as ruling by divine right, should control Church as well as state (a theory sometimes called caesaropapism) to the belief that the pope, as vicar of God on earth, should have the right of supervision over the state The centuries-long struggle was high-lighted by such bitter conflicts as those of Pope Gregory VII against Emperor Henry IV, Pope Innocent III against Emperor Frederick II and King Philip II of France, and Pope Boniface VIII against King Philip IV of France The conflict of GUELPHS AND GHIBELLINES was in its beginning simply a part of the imperial-papal opposition The nearest the papacy ever came to Erastianism was in the Babylonian captivity of the popes at Avignon, beginning with CLEMENT V, during which the popes were virtually at the beck and call of the French king After the return of the papacy to Rome the pope generally maintained independence of temporal powers, though on occasion was either influenced or coerced by king or emperor The contest in England was perhaps no less bitter than on the Continent, but it was more sporadic LANFRANC and ANSELM contended against King WILLIAM II, St THOMAS À BECKET against HENRY II The REFORMATION introduced a great number of complicated factors into the situation of Church and state, especially by the multiplication of sects Different solutions have been found, few of them satisfactory to all In many countries a system of state financial aid to all churches but establishment of none was developed (as in modern Germany) Elsewhere particular churches were established by the state The most extreme form of Erastianism is to be seen in the Church of England (see ENGLAND, CHURCH OF) in which the king is supreme head of the Church It is notable that though some English dissenters wished to end the Established Church, most wished instead to capture it, and disestablishment was not one of the aims of the PURITAN REVOLUTION After the Stuart monarchs were restored in 1660, measures were taken against dissenters, but gradually the state took less and less interest in supervising the Church The connection is, however, still very real, e g , revisions of the BOOK OF COMMON PRAYER must be approved by the House of Commons John CALVIN tended to a view contrary to that of the reforming English monarchs, in Geneva he set up a virtual theocracy with the state subordinate to the Church The Presbyterian churches have, therefore, maintained a stand for freedom of the Church, and the Church of Scotland (see SCOTLAND, CHURCH OF) is much less under state control than is the Church of England The Presbyterians in the British North American colonies helped in the struggle against the institution of an established church, particularly in Virginia More important, however, was the broad principle of religious toleration forwarded by Roger WILLIAMS and others This principle fitted the heterogeneity of the colonies, where the possibility of removing to free lands elsewhere enabled a settler to exert his religious independence This principle ultimately triumphed against both the virtual theocracy of the New England Puritans and the conservative Established Church of the Southern colonists The American idea of separation of Church and state emerged—complete noninterference on both sides Therefore today even slight, local, and unofficial influence of a church in affairs of state causes in the United States a tremendous outcry, as does the attempt of a state to suppress religious schools. The regulations of a municipality interfering with the full rights of evangelists to proselytize become a matter of importance In Europe and in Latin America the concept of separation of Church and state is different, particularly in predominantly Catholic countries The wars of the Reformation produced in the Peace of Augsburg a formula of *cujus regio, cujus religio* [whoever has the rule determines the religion of a state], thus, the people under a prince had willy-nilly the religion of the prince. This compromise, curiously contrary to the idea of a universal Christian Church, even more curiously corresponded to the principle practiced in Asia (e.g., the Buddhism of Asoka) It more or less prevailed in Europe after the Thirty Years War and the Peace of Westphalia (1648). Religion thus in a certain sense became a national affair, par-

ticularly in Protestant countries. The internationalism of the Roman Catholic Church, however, prevented nationalization in Catholic countries, despite such movements as GALLICANISM in France. The Church, when recognized as the state church, exercised considerable influence on the government of the state More important, perhaps, was the fact that the Church and its religious orders owned much property and exerted considerable economic influence The CONCORDAT was used as a means of regulating the relation of Church and state and delimiting the spheres of respective influence. Of the modern concordats perhaps the most famous was Napoleon's Concordat of 1801 The opponents of clerical influence in the state, the anticlericals, in the 19th cent agitated for the removal of clerical influence To them the separation of Church and state meant the ending of the establishment of the Church and complete noninterference of the Church in affairs of state but not noninterference of the state in such matters as church property and religious education The clerical parties, on the other hand, fought to maintain establishment and property and (to some extent) the enforcement of ecclesiastical law by the civil arm One of the most bitter of these contests took place in France, where ultimately the anticlericals triumphed, notably in the *Lois des associations* (1905), which in effect placed the Church under subjection to the state The contests were also bitter in Latin America, particularly in Mexico, where the Church wielded an enormous influence This struggle led under Plutarco E Calles to the practical abolition of the Church in Mexico and the harrying of priests in the 1920s, since that time adjustments have been made, tending to an approximation of the complete noninterference rule prevalent in the United States In Germany the relations of Church and state reached a crucial point in the KULTURKAMPF of Otto von BISMARCK Adolf Hitler, though he signed a concordat, undertook to reduce both Catholic and Protestant churches to instruments of the National Socialist government In Italy, the LATERAN TREATY, agreed to by PIUS XI in 1929, ended the so-called Roman Question and secured recognition of the pope as a sovereign apart from the Italian government In the USSR the hostility of Karl MARX to religion in any form has had great influence, and particularly in the early days of the Soviet Union the Communist party fostered much antireligious propaganda A large percentage of the churches were closed The Constitution of 1936, however, guaranteed freedom of religious worship, and the Russian Orthodox Church has been revived In practice, this seems to be the limit of religious toleration, since practically all other Christian churches have been abolished Allegedly the Russian Church is under strong state influence The patterns of relation between Church and state are thus a living issue in today's society, and the final settlement rests upon the strength of Christian churches today and the strength of antireligious movements

Churches of Christ, conservative body of Protestant Christians with polity and doctrine similar to that of the DISCIPLES OF CHRIST, from which body they gradually withdrew They were first listed as a separate group in the U S census of religious bodies of 1906

Churches of God in North America, evangelical and orthodox Christian bodies, Arminian in faith, with certain Baptist doctrines Each local church has a council consisting of the pastor and of elders elected by the congregation Baptism by immersion and the Lord's Supper, with the attendant ceremony of foot washing, are the principal ordinances The Bible is the sole rule of faith and practice The movement originated during revivals held by John WINEBRENNER, of Harrisburg, Pa Opposition to his evangelistic methods led to his eventual exclusion in 1828 from the German Reformed Church In 1830 the General Eldership of the Church of God was organized by the independent congregations of Winebrenner's founding Later this became the General Eldership of the Churches of God in North America Originally in Maryland and Pennsylvania, the churches are now found elsewhere in the United States

Churchill, Charles, 1731–64, English poet and satirist. He took orders but soon gave up his curacy. His first poem, *The Rosciad* (1761), an immediate success, is a satire on the leading actors and actresses of the day, it remains his best work His other works include *An Epistle to William Hogarth* (1763), attacking Hogarth for his heartless portrait of John Wilkes, *Gotham* (1764), and many contributions to Wilkes's *North Briton* See W H Miner, *Charles Churchill, Vagabond Poet* (1907)

Churchill, John: see MARLBOROUGH, JOHN CHURCHILL, 1ST DUKE OF.

Churchill, Lord Randolph Henry Spencer, 1849–95, British statesman; son of John Churchill, 7th duke of Marlborough He entered the House of Commons as a Conservative in 1874 and there sought to create a democratic Tory party which would ask social and political reforms While he was secretary for Burma (1885–86), Burma was annexed. In 1886 he was chancellor of the exchequer and leader in the House of Commons, but resigned unexpectedly within a few months because he opposed high military expenditures and thereafter played only a minor part in politics. His wife, the American Jennie Jerome, whom he married in 1874, was a leader in London society. She was the author of *Reminiscences* (1908) and two plays, *Borrowed Plumes* (1909) and *The Bill* (1912) She died in 1921 See biography of Lord Randolph Churchill by their son, Winston L S Churchill (2d ed , 1907), René Kraus, *Young Lady Randolph* (1943)

Churchill, Winston, 1871–1947, American novelist, b St Louis, grad Annapolis, 1894 He wrote several popular historical novels, *Richard Carvel* (1899), concerning the American Revolution, *The Crisis* (1901), of the Civil War, and *The Crossing* (1904), of the Kentucky pioneers Later books reflect the interest in social problems which he showed as a member of the New Hampshire legislature in 1903 and 1905 and in his attacks on political bosses—*Coniston* (1906), *A Modern Chronicle* (1910), *The Inside of the Cup* (1913), *A Far Country* (1915), and *The Dwelling Place of Light* (1917) *The Uncharted Way* (1940), his last work, is a study of Christianity

Churchill, Winston Leonard Spencer, 1874–, British statesman, soldier, and author, son of Lord Randolph CHURCHILL Educated at Harrow and Sandhurst, he first saw active military service for the Spanish in Cuba in 1895 After two campaigns in the North-West Frontier Prov in India, he fought in 1898 at the battle of Omdurman, in the Sudan, under Kitchener While correspondent for the London *Morning Post* in the South African War, he was captured by the Boers and, escaping from Pretoria, became a combatant officer He was elected to Parliament as a Conservative in 1900 In 1906, having transferred his allegiance to the Liberal party, he was appointed under secretary for the colonies in the cabinet of Sir Henry Campbell-Bannerman He was president of the Board of Trade (1908–10), home secretary (1910–11), and first lord of the admiralty (1911–15) when the First World War broke out He accompanied a naval force in an ineffectual attempt to save Antwerp from the Germans Discredited by the failure of the Dardanelles campaign, which he had championed, he lost his cabinet post and served for a time with the army in France, but he returned to power in the government under David Lloyd George, serving as minister of munitions (1917) and secretary of state for war and for air (1918–21) Again as a Conservative he served as colonial secretary (1921) and, after two defeats at the polls, returned to the House of Commons and served (1924–29) as chancellor of the exchequer He held no cabinet position for the following 10 years, but his influence as a constant opponent of the "appeasement" of Germany forced Neville CHAMBERLAIN to appoint him (Sept 3, 1939) first lord of the admiralty on the outbreak of the Second World War The following May, when Chamberlain was forced to resign, Churchill became prime minister, undertaking the task, in one of his stirring speeches, with a promise only of "blood, toil, tears, and sweat" His position was threatened after the setbacks of 1941 and 1942, but he maintained the loyalty of the British people and became the symbol of their dogged resistance He met President Roosevelt at sea (see ATLANTIC CHARTER) before the entry of the United States into the war, twice addressed the U S Congress (Dec , 1941, May, 1942), twice went to Moscow (Aug , 1942, May, 1944), visited various battle fronts, and attended a long series of international conferences (see CASABLANCA CONFERENCE, QUEBEC CONFERENCE, CAIRO CONFERENCE, YALTA CONFERENCE, TEHERAN CONFERENCE, POTSDAM CONFERENCE) The nation supported the vigorous program of his coalition cabinet until after the surrender of Germany in May, 1945, when he reconstituted his cabinet without Labour party representatives and called for general elections in July Churchill maintained his popularity despite his pre-war reputation of antilabor sentiment but the Conservative party and its "slow" policies were roundly rejected at the polls Churchill returned from the Potsdam Conference, resigned as prime minister in favor of Clement Attlee, and became leader of the opposition in the House of Commons In 1946, on a visit to the United States, Churchill made a controversial speech at Westminster College, Fulton, Mo , suggesting a close fraternal alliance between the United States and England and decrying the expansive tendencies of the USSR Thereafter in England and on the Continent he called for a union of Western Europe His Conservative party showed increased strength at the polls in the general election of Feb , 1950, but failed narrowly to secure a majority He is a prolific writer. Among his more important early books are *Lord Randolph Churchill* (1906), *Roving Commission: My Early Life* (1930), and his thorough biography of his ancestor, *Marlborough* (4 vols , 1933–38). *World Crisis* (4 vols., 1923–29) is his story of the First World War The series is continued in volumes with the general title *The Second World War* and the subtitles *The Gathering Storm* (1948), *Their Finest Hour* (1949), and *The Grand Alliance* (1950) *Blood, Sweat, and Tears* (1941) is one of a number of volumes of collected speeches He also wrote *Painting as a Pastime* (1950) See biographies by René Kraus (1940), Philip Guedalla (1942), Lewis Broad (1945), and E C Wingfield-Stratford (1948)

Churchill, Man see CHURCHILL, river

Churchill, river issuing from Methy Lake, NW Sask , and flowing c 1,000 mi SE, E, and NE across N Saskatchewan and N Manitoba to Hudson Bay at Churchill Known to the natives as the Missinipi, the river courses through a wilderness region and traverses many lakes, among them Peter Pond, Churchill, and Snake in Saskatchewan and Granville and Southern Indian in Manitoba A famous route in fur-trade days, the Churchill was discovered in 1619 by Jens Munck, a Scandinavian sent out by Christian IV to hunt for the Northwest Passage He sailed up its estuary a few miles and planted cannon there At that spot the Hudson's Bay Company attempted in 1689 to found a trading post, and Henry Kelsey sought for Indian trade in the near-by barren grounds, but the fort was destroyed by fire during its construction, and the company abandoned its undertaking It was not until 1717 that the post was refounded by James Knight, Hudson's Bay Company governor of the Hudson Bay area Called Fort Churchill for the river, which was named for John Churchill (better known to history as the duke of Marlborough), the post soon came to be known as Fort Prince of Wales It was abandoned shortly after 1732, when the Hudson's Bay Company began construction (at the west side of the entrance to the Churchill river) of a massive stone fort, mounting 40 cannon, which was long the British stronghold of the region, though it was captured by the French under La Pérouse and held for a short time in 1782 After its return by the French the name Fort Churchill was permanently attached to the post, whose ruins are preserved in a national historic park Exploration of the upper reaches of the river was carried on by the Frobishers Peter Pond, and Alexander Henry, all of the North West Company The modern port of **Churchill,** at the mouth of the river on Hudson Bay, was selected (1927) as the terminus of the Hudson Bay Railway, and the line was completed in 1929 Here in the short summer navigation season, grain is shipped abroad The village is also the site of a military post, which tests Canadian army equipment under extreme cold-weather conditions See William McInnes *The Basins of Nelson and Churchill Rivers* (1913), *The Founding of Churchill* (the journal of James Knight, ed by J F Kenney, 1932)

Churchill Downs see LOUISVILLE, Ky

church music, music intended for performance as a part of services of worship For the forms which it includes, see ANTHEM, ANTIPHON, CANTATA, CAROL, CHANT, CHORALE, HYMN, MASS, MOTET, ORATORIO, PLAIN SONG See Edward Dickinson, *Music in the History of the Western Church* (1902), A T Davison, *Protestant Church Music in America* (1933), H W Davies and Harvey Grace, *Music and Worship* (1935), Winfred Douglas, *Church Music in History and Practice* (1937), J N Ashton, *Music and Worship* (1943), C H Phillips, *The Singing Church* (1945), E H Fellowes, *English Cathedral Music* (rev ed , 1946)

Church of Christ, Scientist see CHRISTIAN SCIENCE

Church of England. see ENGLAND, CHURCH OF.

Church of God see ADVENTISTS

Church of the Brethren see DUNKARDS

Church Point, town (pop 1,892), SW La , W of Baton Rouge, in rice-growing country

Churchyard, Thomas, 1520?–1604, English poet and miscellaneous writer In his youth he served the earl of Surrey, later took part in wars in Scotland and Ireland and on the Continent, and vainly sought preferment at court His works include various pieces in *A Mirrour for Magistrates* (2d quarto, 1563), *Wofull Warres in Flaundres* (1578), *A Generall Rehearsal of Warres* (1579), and *The Worthiness of Wales* (1587).

churn see BUTTER

Churriguera, José (chûr"ĭgär'ə, hōsā' chōōr-rēgā'rə), 1650–1725, Spanish architect and sculptor, foremost designer of the late Spanish baroque period A native of Salamanca, he went to Madrid in 1688 and won fame by his design of the great catafalque for Queen Maria Luisa His important architectural works include a portal of the Church of Santo Gayetano and the palace of Don Juan de Goyeneche, he also executed various altars and other works of sculpture Associated with him were his sons Geronimo and Nicolas The term **Churrigueresque** (chûr"ĭgurĕsk') describes the architecture of the late 17th and early 18th cent in Spain, marked by extravagance of design and capricious use of Renaissance motives, the architects of the period, which owes its name to Churriguera, used architectural forms to produce free and theatrical contrasts of line and surface with extreme richness and exuberance The façade of the cathedral at Murcia illustrates the style's full expression The Churrigueresque manner was an important influence on the Spanish colonial work in the SW United States and in Mexico, where the mission

buildings are frequently naïve examples of that style, much modified by lack of trained workmen.

Churubusco (chōōrōōbōōs'kō), residential town (pop 1,122), Whitley co., NE Ind., NNW of Fort Wayne

Churubusco, battle: see CONTRERAS

Chusan Archipelago (chōō'sän'), Mandarin *Choushan*, NE Chekiang prov., China, in the China Sea, named after the largest island in the group. The chief commercial activity is fishing. The best known of the islands is Puto or P'u-t'o, a sacred center of Buddhism, with many ancient temples

Chushan-rishathaim (kŭ'shän-rĭshŭthā'ĭm), Mesopotamian king, conqueror and oppressor of Israel. Judges 3 8–10

Chusovaya (chōōsŭvē'ŭ, chōōsō'vĭŭ), river, c 480 mi long, rising in the central Urals, RSFSR, and flowing northwest through a major industrial region to join the Kama at Molotov (Perm). It is navigable for c.250 mi

Chu Teh (jōō' dŭ'), 1886?–, Chinese Communist soldier. He was graduated (1911) from the Yünnan military academy and served in various positions with armies loyal to Sun Yat-sen. Chu's interest in Communism was first aroused in 1921. He was sent by his party to Germany, where he studied (1922–26) military tactics. In 1927, when Chiang Kai-shek purged the Communists from the Kuomintang, Chu led an uprising in Nanchang and fled with troops to S Kiangsi prov. He joined forces there with MAO TSE-TUNG. When the Communist position became untenable, Chu led his troops (1935–36) on the "long march" to Shensi and Shansi provs. In the Second Chino-Japanese War he was commander in chief of all Communist forces, a position he retained after the establishment (Sept., 1949) of the People's Republic of China in Peiping.

Chuvash Autonomous Soviet Socialist Republic (chōōväsh'), autonomous republic (7,100 sq mi., pop 1,077,614), E European RSFSR, in the middle Volga valley. Cheboksary, the capital, and Alatyr are the main cities. With a humid continental climate, it is chiefly agricultural. There also are extensive forests. The population consists of the Chuvash (80 percent), Russians (16 percent), Mordvinians, and Tatars. The Chuvash are a people of Finnic language and of Russian Orthodox religion. They were dominated by the Eastern BULGARS (8th–10th cent.) and by the Golden Horde (13th–15th cent.) and were colonized by the Russians in the 16th cent. The autonomous republic was created in 1925.

Chuzenji (chōōzān'jē), mountain lake, central Honshu, Japan, near Nikko. It is noted for its scenic beauty and its ancient Buddhist temple

Chuzu (kŭ'zu), steward of Herod Antipas. Luke 8 3.

Cialdini, Enrico (ānrē'kō chäldē'nē), 1811–92, Italian general and diplomat. In Sardinian service, he fought in the campaigns of 1848–49 and 1859 against Austria and, invading the Papal States in 1860, won at Castelfidardo. He led the siege of Gaeta and, after the surrender of Francis II of Naples in 1861, was made duke of Gaeta. Cialdini was civil and military commissioner of the former kingdom of Naples (1861–62), became a senator (1864), fought in Venetia (1866), and was ambassador to France (1876–81) until his retirement.

Ciano, Galeazzo (gälāät'tsō chä'nō), 1903–44, Italian politician and Fascist leader, son of Admiral Costanzo Ciano, who was created count of Cortellazzo. He entered on a diplomatic career after marrying Mussolini's daughter Edda (1930), Count Ciano quickly rose to prominence and became foreign minister in 1936. He helped to create the Rome-Berlin Axis and the military pact with Germany and was in part responsible for the attack on Greece in 1940. In 1943 he was dismissed and made ambassador to the Vatican. Ciano voted against Mussolini at the meeting of the Fascist Grand Council which was followed by Mussolini's fall (1943). He was arrested by the Germans, transferred to the Fascist authorities in N Italy, convicted of high treason, and executed. His diaries, first published in an American periodical in 1945, are a remarkable document of the Fascist era.

Cibber or **Cibert, Caius Gabriel** (both sĭ'bûr), 1630–1700, Danish-English sculptor. Son of the king's cabinetmaker, he was appointed carver to the king's closet for his services to William of Orange. He is best known for his statues *Melancholy* and *Raving Madness*, both in London. He also executed sculptures (destroyed) for the Royal Exchange and other works now at Chatsworth.

Cibber, Colley, 1671–1757, English actor and playwright, son of Caius Gabriel Cibber. In 1690 he joined the company at the Theatre Royal. A failure in tragedy, Cibber had success in comic roles (1692–94) and later was a leading actor of eccentric characters (1697–1732). His first play, *Love's Last Shift* (1696), is a landmark in the history of the theater and is regarded as the first sentimental comedy. Of his 30 dramas, *She Wou'd and She Wou'd Not* (1702), *The Careless Husband* (1704), and *The Nonjuror* (1717) are the most notable. From 1710 to 1740 he was manager of Drury Lane. He was appointed poet laureate in 1730 and was bitterly attacked by Pope, who made him the hero of the final version of *The Dunciad*. Cibber's *Apology* (1740) is a mine of information about the theater of this period. See R. H. Barker, *Mr. Cibber of Drury Lane* (1939). His son, **Theophilus Cibber,** 1703–58, was an actor, playing at the Haymarket and other theaters. He excelled as Pistol in *Henry IV* and appeared in many of his father's plays. The wife of Theophilus, **Susannah Maria (Arne) Cibber,** 1714–66, an actress and singer, sister of the composer Thomas Augustine Arne, sang in opera and appeared with great success in tragic roles. She played such Shaksperian characters as Lady Macbeth, Desdemona, and Ophelia and was Juliet to Spranger Barry's Romeo in a theatrical duel with Garrick and George Anne Bellamy. She was a favorite of Handel, who wrote for her the contralto arias in his *Messiah* and the part of Micah in *Samson*. She is buried in Westminster Abbey.

Cibola: see MARCOS DE NIZA and CORONADO, FRANCISCO VÁSQUEZ DE.

cicada (sĭkā'dŭ, sĭkä'dŭ), name for a homopterous insect with a wide, blunt head, prominent eyes, a rather large body, and two pairs of membranous wings. A widely known species is the periodical or 17-year (13-year in the South) cicada, often miscalled locust. Eggs are laid in twigs of trees which are punctured and sometimes seriously damaged in the process. In about six weeks the nymph hatches and buries itself in the ground where it feeds, for the number of years characteristic of the species, on the sap of roots. At the end of this period it digs its way out of the ground and sheds its skin, emerging as an adult which lives for a few weeks. Different broods mature at regular intervals so that one or more appear somewhere in the United States nearly every year. The dog-day cicada, or harvest fly, is also a common North American species. Male cicadas have a shrill song produced by the vibration of membranes near the abdomen

cicely: see SWEET CICELY.

Cicero (Marcus Tullius Cicero) (sĭ'sûrō) or **Tully,** 106 B.C.–43 B.C., greatest Roman orator, famous also as a politician and a philosopher. He studied law and philosophy at Rome, Athens, and Rhodes, one of his teachers was Molon. He was curule aedile (69 B.C.), praetor (66 B.C.), and consul (63 B.C.). He was always a member of the senatorial party, and as party leader he prosecuted CATILINE in his consulship. Cicero was entirely successful in his process, but later he was unable to prove that he had legal sanction to execute five members of Catiline's group, and on the charge of illegality he was in 58 B.C. exiled by his personal enemy, CLODIUS. He was recalled by Pompey the next year and was hailed as a hero. Strongly opposed to Julius CAESAR, Cicero was a leader of the party that threatened Caesar and caused him to convene (56 B.C.) the triumvirate at Lucca. In 51 B.C. he was governor of Cilicia, and on his return he joined Pompey against Caesar. Caesar received Cicero well after the civil war, and Cicero lived in honor at Rome under the dictatorship. He was not privy to the assassination, but he applauded it. He and Marc ANTONY bitterly hated each other, and Antony attacked him in the senate. Cicero replied in the *First Philippic* and the *Second Philippic* and sought to re-create the republic. When Octavian (later AUGUSTUS) took Rome, he allowed Antony to put Cicero's name among the proscriptions, and Cicero was put to death on Dec. 7, 43 B.C. To the modern reader probably the most interesting of Cicero's voluminous writings are his letters to Atticus, his best friend, to Quintus, his brother, to Brutus, the conspirator, to Caelius, another dear friend, and to miscellaneous persons. They reveal to us more of Roman life and political manners of the period than does any other source. His philosophical works, which make him appear more or less of a Stoic, include *De amicitia* [on friendship], his most delightful treatise, *De officiis* [on duty], a Stoic ethical essay; *De senectute* [on old age] or *Cato Major*, a dialogue in which Cato praises and discourses on age; *De finibus* [on ends], a dialogue on the good, *The Tusculan Disputations*, a Stoic treatise, and *De deorum natura* [on the nature of the gods], an attack on various philosophies, especially Epicureanism. His rhetorical works are of less general interest. *De oratore*, addressed to his brother, is a kind of handbook for the young orator, *Brutus* is an account of Roman oratory, and *Orator* is a discussion of the ideal orator. The most widely read of Cicero's works are his orations, which have become the standard of Latin. The most famous of these are the *Orations against Catiline*, on the occasion of the conspiracy, and the *Philippics* against Antony. Other famous speeches were *Against Verres*, *On the Manilian Law*, *On Behalf of Archias*, *On Behalf of Balbus*, and *On Behalf of Roscius*. His literary and oratorical style is of the greatest purity, and Cicero's reputation as the great master of Latin prose has never waned. In the Renaissance it was very strong, and every learned man spent much of his time imitating Cicero. See biographies and studies by J. L. Strachan-Davidson (1894), E. G. Sihler (1914), J. C. Rolfe (1923), H. J. Haskell (1942), and F. R. Cowell (1948).

Cicero, Quintus Tullius, c.102 B.C.–43 B.C., Roman general; brother of Cicero the orator. After service in Asia he accompanied Julius Caesar to Britain (55 B.C.); wintered in Gaul (54 B.C.), where he beat off the attacks of Ambiorix; and went to Cilicia (51 B.C.) as legate with his brother. He fought for Pompey in the battle of Pharsala. He was proscribed and killed with his brother.

Cicero, industrial town (pop. 64,712), NE Ill., contiguous to Chicago; founded 1857, inc. 1867. Among the products of its numerous industrial plants are electrical equipment, forgings, and building materials. Morton Junior College (coeducational) is in Cicero.

Cicognara, Leopoldo, Conte (lāōpō'ldō kōn'tā chēkōnyä'rä), 1767–1834, Italian archaeologist, diplomatist, and writer on art. He studied at Modena and Rome and traveled through Italy, gathering a remarkable knowledge of art and archaeology and acquiring a fine art library (now in the Vatican Library). He served as ambassador of the Cisalpine Republic to Turin and as councilor of state. In 1818 he became president of the Academy of Fine Arts in Venice. Cicognara is the author of several valuable works on art, including a history of sculpture.

Cid or **Cid Campeador** (sĭd' kămp'ēōdôr') [Span., = lord conqueror], d. 1099, Spanish soldier and national hero, whose real name was Rodrigo (or Ruy) Díaz de Vivar. A warrior of Burgos, he distinguished himself under Ferdinand I and Sancho II of Castile but was banished (1081) by Alfonso VI. Passing to the service of the Moorish king of Saragossa (a course not unusual among Castilian nobles of his time), he fought against Moors and Christians alike. In 1094 he conquered Valencia, which he ruled until his death. His widow Jimena held out against the Moors until 1102. The Cid's chivalry, courtesy, and generosity have made him a prototype of the noble Castilian warrior of the reconquest. His exploits, much romanticized, have been a favorite literary theme. *The Song of the Cid*, an anonymous Old Spanish work of the 12th cent., has served as basis for numerous treatments, notably the plays by Guillén de Castro (c 1612-13) and Pierre Corneille (1637).

Cidade dos Motores (sēdäd'dŭ dōzh mōtō'rĭsh) [Port., =city of motors], projected model city in Rio de Janeiro state, SE Brazil, not far from Rio de Janeiro. The land was acquired by the government in 1941, the swamps were drained, and construction began on a modern industrial city to be built according to scientific and artistic principles.

cider, in Europe, the fermented juice of apples; in the United States, unfermented apple juice, unless qualified as "hard" cider. Selected apples are grated in a mill, the juice expressed and, for hard cider, fermented and filtered. The commercial product is usually pasteurized or treated with preservatives and is frequently blended to balance the chief constituents, sugar, malic acid, and tannin. Sweet cider is in New England the beverage traditionally served with Thanksgiving dinner. In France cider is made principally in Normandy and Brittany and is there the "wine of the country." It is at its best after a year or two in cask. English cider from the southern and western counties is noted and rivals beer as a popular alcoholic beverage. Cider is popular also in Germany, Spain, and Switzerland. Perry is a similar beverage made from pears.

Ciego de Ávila (syā'gō dā ä'vēlä), city (pop. 29,130), central Cuba. Halfway between Santiago de Cuba and Havana, it is a commercial crossroads of importance in rail and highway transport. The region produces sugar.

Ciénaga (sēā'nägä), city (pop. 22,783), N Colombia, a Caribbean banana port S of Santa Marta.

Cienfuegos (syĕnfwā'gōs), city (pop. 49,452), central Cuba, a port on the Caribbean. Cienfuegos Bay is a large and beautiful harbor almost entirely enclosed. Sugar is the chief product.

Cierva, Juan de la (hwän' dā lä thyĕr'vä), 1895–1936, Spanish aeronautical engineer, inventor of the AUTOGIRO. He flew his first autogiro in 1923 and crossed the English Channel in an improved model in 1928. See his *Wings of Tomorrow* (1931).

Cieszyn: see TESCHEN.

Cieza de León, Pedro de (pā'dhrō dā thā'thā dā lāōn'), 1518?–1560, Spanish soldier and explorer in South America. His *Chronicle of Peru*, drawn from his experiences in the Spanish Conquest, is a valuable source.

cigar and cigarette. In pre-Columbian times, Indians of the West Indies and parts of Central and South America smoked TOBACCO and other plant products in the form of rolls similar to the modern cigar or cigarette. Spaniards carried the habit to Spain, whence it spread to other European countries. Spanish words such as *claro*, *colorado*, *maduro*, *panetela*, and *perfecto* are used to describe the color, shape, and quality of cigars. Cigars consist of filler leaves held in shape by binder leaves and covered with wrapper leaves applied spirally. Havana cigars made of fine Cuban leaf are highly esteemed. The United States and other countries also have large cigar industries. The stogie (stō'gē), a slender roll usually made without binder, is named for

Conestoga, Pa., or for the Conestoga wagon and is especially popular in Pittsburgh and Wheeling. The cheroot (shərōōt'), originally made in India and Manila, is of uniform thickness with both ends clipped. Cigars, except for very fine grades, have been made by machine since c 1902, cigarettes, since c 1876. The cigarette industry has increased phenomenally in the 20th cent, especially since the First World War Most American cigarettes are blends of about 50 percent flue-cured tobacco, 33 percent Burley, and some Oriental and Maryland, often sprayed with such flavorings as licorice and sugar. The shredded tobacco is usually rolled in flax paper or hemp paper which has replaced commercially the cornhusk wrappers of Indian cigarettes Turkish and Egyptian cigarettes are usually of oval cross section The Egyptian cigarette, originally manufactured in Egypt from imported Oriental leaf, is widely imitated

Cignani, Carlo, Conte (kär'lō kōn'tā chēnyä'nē), 1628–1719, Italian historical painter of the Bolognese school, pupil of Francesco Albani The influence of Guido Reni, Carracci, and particularly of Correggio is apparent in much of his fresco work His most important paintings are *The Entry of Paul III into Bologna* (painted for the palace at Bologna), *Pera and Cimon* (Vienna), *The Power of Love* (ducal palace, Parma), and his masterpiece, the remarkable *Assumption of the Virgin*, in the dome of the cathedral at Forlì On this colossal painting Cignani worked for 20 years

Cignaroli, Giovanni Bettino (jōvän'nē bĕt-tē'nō chēnyärō'lē), 1706–70, Italian historical painter, one of the best of the modern Venetian school He was a founder and director (1769) of Verona Academy Outstanding examples of his work are *Transfiguration* (cathedral, Verona), *Assumption of the Virgin* (Madrid), *Madonna with Saints* (Vienna), *Death of Rachel* (Venice), and his greatest painting, *The Flight into Egypt* (Parma)

Cilicia (sĭlĭsh'shə), region of SE Asia Minor, now in S Asiatic Turkey, between the Mediterranean and the Taurus range It included a high and unproductive plateau, Cilicia Trachea or Cilicia Trachea, and a very fertile plain, Cilicia Pedias. The area was under the domination of the Assyrian Empire before it became part of the Persian Empire Greek settlement on the coast was early, and Cilicia was much Hellenized In the Hellenistic period the region was disputed by the Seleucid kings of Syria and the Ptolemaic kings of Egypt Tarsus and Seleucia (not to be confused with the port of Antioch) were the principal cities They throve after the region became part of the Roman Empire (the first portion in 102 B C, but most of it only after Pompey's campaign against the pirates here in 67 B C) Later Cilicia was included in the Byzantine Empire and was in the 8th cent. invaded by the Arabs. In 1080 Prince Reuben set up an Armenian state here, which became a kingdom in 1098 and is generally called Little Armenia The Armenians cooperated with the rulers of the neighboring Latin Kingdom of Jerusalem They maintained themselves against the Turks until 1375, when the Mamelukes conquered them In later centuries, particularly in the 20th cent, the Armenians suffered greatly at the hands of the Turks, and most of them as well as the Greeks in Cilicia emigrated Cilicia is mentioned in the Bible, e g, Acts 6 9, 21 39, 22 3, Gal 1 21

Cilician Gates (sĭlĭ'shun), mountain pass, S Turkey, leading across the Taurus range Known to the ancients as the Pylae Ciliciae and in modern times as Gulek Bogaz, it is crossed by an ancient highway from Cappadocia to Cilicia

Cima, Giovanni Battista (jōvän'nē bat-tē'stä chē'mä), c 1459–c 1517, Venetian painter, called Cima da Conegliano His earlier work reflects the influence of Giovanni Bellini, whose pupil he supposedly was, his later work, that of Giorgione Many excellent Madonnas by Cima are in the leading European galleries, including the superb *Virgin and Child with Saints* (Parma) Other notable specimens of his work are *David and Jonathan* (National Gall, London), *Tobias with the Angels* (Venice), *The Baptist with Four Saints* (Santa Maria dell' Orte, Venice), and his masterpiece, *The Glorification of St Peter, Martyr* (Milan). See Bernhard Berenson, *The Venetian Painters of the Renaissance* (1894)

Cimabue, Giovanni (jōvän'nē chēmäbōō'ā), d c 1302, Florentine painter, whose real name was Cenni di Pepo He was master of mosaics at the cathedral in Pisa where a *St John* is attributed to him. Other attributions include a fresco, *Madonna with Saints and Angels* (lower church of St Francis in Assisi), frescoes representing the four evangelists, scenes from the lives of the Virgin and St Peter, scenes from the Apocalypse, and the Crucifixion (all in the upper church of St Francis in Assisi), and *Madonna Enthroned* (Uffizi). The works with which his name is associated constitute a transition in painting from the strictly formalized Byzantine style, hitherto prevalent in Italy, to the freer expression of the 14th cent. Cimabue retained most of the old conventions but introduced a little naturalism in his treatment of heads and faces and a new religious sentiment.

Cimarosa, Domenico (dōmä'nēkō chēmärō'zä), 1749–1801, Italian operatic composer; pupil of Sacchini His operas were good examples of pure *opera buffa*, of which *Il matrimonio segreto* (Vienna, 1792) is the best. He also wrote serious operas, church music, and instrumental music

Cimarron (sĭm"ərŏn'), city (pop 1,004), co seat of Gray co, SW Kansas, on the Arkansas river just W of Dodge City, in a Great Plains farm area, inc 1885

Cimarron, river, 692 mi. long, rising in NE New Mexico It flows generally eastward as it barely touches the Oklahoma Panhandle and SE Colorado and, entering Kansas, crosses and recrosses the Oklahoma line Finally it swings SE and E across Oklahoma to the Arkansas river, just W of Tulsa.

Cimarron, Territory of, now the Panhandle of Oklahoma It was proposed that the area should be a separate territory in 1887 It was settled by cattle ranchers, many of whom were squatters, and to protect their claims they attempted (1887) to create at Beaver, Okla., a territorial government Subsequent efforts in the U S Congress to establish the Territory of Cimarron failed, and in 1890 it became part of the Oklahoma Territory

Cimber (Lucius Tullius Cimber), d after 44 B.C., one of the assassins of Julius CAESAR He presented the petition used as a pretext to approach Caesar and held his hands or his toga as CASCA stabbed.

Cimbri: see GERMANS.

Cimmerians (sĭmēr'ēənz), ancient people of whom little is actually known. They are mentioned by Homer, but they emerge into history only in the 8th cent B C, when they left their former home in Crimea and came to the region around Lake Van In the early 7th cent B C they swept across Asia Minor, plundering Lydia and breaking the power of Phrygia They may be intended by the biblical GOMER, and they are mentioned in the inscriptions of the Assyrians, with whom they warred

Cimon (sī'mun), d 449 B.C, Athenian general and statesman, son of Miltiades He fought at Salamis and shared command (with Aristides) of the fleet sent to rescue Asiatic Greek cities from Persian domination He conquered Scyros, subdued Asia Minor, and defeated the Persian sea and land forces up the Eurymedon, in Pamphylia, in 468 B C He led the Athenian aristocratic and pro-Spartan party on the death of Aristides and was its chief statesman in succession to Themistocles He was later sent into exile, from which he was recalled (451 B C) to conclude a peace with Lacedaemon He died while besieging Citium, in Cyprus

cinchona (sĭngkō'nə) or **chinchona** (chĭngkō'nə), name for species of the genus *Cinchona*, evergreen trees native to the Andes of South America but cultivated elsewhere for the commercially valuable "Peruvian bark," the source of QUININE Several species yield quinine The trees were named in honor of the condesa de Chinchón who, in 1638, was cured of a fever by a preparation of the bark At her instigation the bark was collected for malaria sufferers and later exported to Spain Indians, however, had long used it for medicinal purposes It is sometimes called Jesuits' bark because of the part the Jesuits played in its dispersal So successful were the Dutch and English in transplanting cinchona to Java and India that until the Second World War these countries, and especially Java, grew practically the entire commercial supply of the bark South America is utilizing its wild trees and starting plantations, although a synthetic drug may largely take the place of the natural one Cinchonas are also the source of cinchonine and other alkaloids besides quinine See M L. Duran-Reynals, *The Fever Bark Tree* (1946)

Cincinnati (sĭnsĭnă'tē, -nă'tē), industrial city (pop 455,610), co seat of Hamilton co, extreme SW Ohio, on the Ohio opposite the mouth of the Licking, inc as a village 1802, as a city 1819 The second largest city in Ohio, it is the commercial and cultural center for an extensive area including numerous suburbs in Ohio and Kentucky It is a port of entry With a large river front and good transportation facilities (river, rail, highway, air), the city is an important manufacturing center Its industries include soapmaking, meat packing, and the manufacture of men's and boys' clothing, machine tools, printing inks, sheet iron, copper and tin, airplane engines, beer, shoes, chemicals, and paper Benjamin Stites and John Cleves Symmes founded (1788) the town as Losantiville, and in 1790 Arthur St. Clair renamed the place Cincinnati for the society of Revolutionary officers A busy transshipping center for early settlers, it developed as a shipping point for farm produce and meat after the opening of the Miami and Erie Canal. Settlers from strife-torn Germany (who made a definite impression on the life and culture of the city) and from famine stricken Ireland came here in the 1840s. It was an early abolitionist center and Underground Railroad station In the 1880s the city suffered greatly. a flood (1884) did much damage, a crime wave, the result of corrupt politics and lax law enforcement, provoked the Cincinnati riot (March 28–31, 1884), and G. B. Cox, political boss, gained firm control of the city. A reform movement culminated in the establishment (1924) of a city-manager government (see DYKSTRA, CLARENCE A, and SHERRILL, CLARENCE O) In 1937 Cincinnati had another disastrous flood It is the seat of the Univ of Cincinnati (see CINCINNATI, UNIVERSITY OF), Xavier Univ (Catholic, for men, 1831), Hebrew Union College, Mt St Mary of the West (at Norwood), the Cincinnati Conservatory of Music, the College of Music of Cincinnati, the College of Pharmacy, the Y M C A schools, Our Lady of Cincinnati College, and a Catholic teachers college The May Music Festival and Cincinnati Symphony Orchestra concerts are held in the Music Hall and Exposition Building William Howard Taft was born in Cincinnati, and the Taft family has long been prominent in the city Among the many landmarks here are the Taft House Museum; the large public library; Eden Park, with the city art museum and art academy, the Rookwood Potteries, the Ohio Mechanics Institute building, with an industrial and a natural-history museum, the zoological garden, in which summer opera is held, the Procter & Gamble Company plant, and numerous churches and cathedrals See C L de Chambrun, *Cincinnati: Story of the Queen City* (1939)

Cincinnati, Society of the [Latin plural of *Cincinnatus*], formed (1783) by officers of the Continental army just before their disbanding after the American Revolution The organization, with a constitution drafted by Gen Henry KNOX, was founded for fraternal, patriotic, and allegedly nonpolitical purposes George Washington was made president of the national society, and auxiliary state societies were organized Membership was limited to officers of the Continental army and their eldest male descendants The society provoked much opposition among the zealous Republicans of the time, who attacked it as the beginning of an aristocratic military nobility. The Tammany societies of New York, Philadelphia, and other cities were founded partly in opposition to it Beginning in 1893 a successful revival of many of the defunct state organizations was made, and the society is still active See W. S Thomas, *The Society of the Cincinnati, 1783–1935* (1935), E E Hume, ed., *General Washington's Correspondence concerning the Society of the Cincinnati* (1941)

Cincinnati, University of, at Cincinnati, municipal, coeducational, chartered 1870, opened 1873 The College of Engineering and Commerce, with the Institute of Scientific Research, pioneered in a work and study plan There are colleges of applied arts, business administration, engineering, home economics, law, liberal arts (McMicken), and medicine, a teachers college, and graduate schools of nursing and health and of arts and sciences Archaeological excavations by the university have been made at Troy The library has Americana collections and includes the library of the Historical and Philosophical Society of Ohio The College of Music of Cincinnati and the Cincinnati Conservatory of Music are affiliated

Cincinnatus (Lucius or Titus Quinctius Cincinnatus) (sĭnsĭnā'tŭs, -nă'tŭs), 5th cent B.C., Roman legendary patriot He was consul in 460 B C and dictator twice (458 and 439 B C) In his first dictatorship he came from his farm to defeat the Aequi and Volsci, who were threatening the city from the east and southeast He returned from battle, resigned his dictatorship, and went home to his farm In 439 B C he came out of retirement to put down the plebeians The separation of legend from history in Cincinnatus' story is impossible.

Cinderella, the poor drudge who is saved by a good fairy from her wicked stepmother and married to a prince She is found in the folklore of most peoples Both Charles Perrault and the Grimm brothers included the story in their collections.

cinema. see MOVING PICTURES

cineraria (sĭn"ərâr'-), pot plant popular for the compact daisylike heads of flowers borne in dense clusters above the large leaves Many horticultural kinds, in various colors, have been derived from the parent plant, a *Senecio* native to the Canary Islands. The name is occasionally used for related species, a genus of South African plants is called *Cineraria*

Cinna (Lucius Cornelius Cinna) (sĭ'nə), d 84 B C., Roman politician, consul (87 B C–84 B C), and leader of the popular party Shortly after Cinna's first election SULLA left Rome to fight against Mithridates VI of Pontus, having received from both consuls a promise to maintain his reforms When Sulla was safely out of Italy, Cinna revived the anti-Sullan proposal to apportion the new voters equally among the tribes of Rome As the result would be (the voting being by tribes) a complete and permanent overthrow of the conservatives, they opposed Cinna to the point of expelling him from the city Cinna promptly collected Roman soldiers and Italians in S Italy, called MARIUS from Africa, and returned to Rome, where a great slaughter of Sulla's followers took place After Marius' death Cinna remained consul, with various colleagues Sulla defeated Mithridates and set out for Rome, and Cinna and Cn Papirius CARBO raised an army to oppose him, but

before the civil war began, Cinna was murdered in a mutiny at Ancona. His daughter Cornelia was the first wife of Julius Caesar, who married her (83 B C) rather than a rich heiress and refused to divorce her at Sulla's express command For this defiance he lost his property and had to flee the city Only the pleas of his powerful relatives and of the vestal virgins to Sulla saved him from death Cinna's son, **Lucius Cornelius Cinna,** fl 44 B C , was praetor at the time of Caesar's assassination He was one of the conspirators against Caesar

Cinna (Caius Helvius Cinna), d 44 B C , Roman tribune At the funeral of Julius Caesar the mob mistook him for L Cornelius Cinna and killed him He was probably the same as the minor poet Cinna, a friend of Catullus and author of an epic *Smyrna* (of which fragments survive)

cinnabar (sĭ'nŭbär), a mineral, the sulphide of mercury Deep red in color, it is used as a pigment (see VERMILION), but principally it is a source of the metal mercury It occurs in Spain, Italy, and other European countries and in the United States in California The mercury is obtained from it by roasting, the sulphur combining with oxygen and passing off as sulphur dioxide

cinnamon, name for species of the genus *Cinnamomum,* tropical and semitropical trees and shrubs, and for their aromatic bark of commercial value Cinnamon is obtained chiefly from the Ceylon cinnamon (*Cinnamomum zeylanicum*), an evergreen shrub or small tree native to Ceylon and also cultivated elsewhere in the tropics It has glossy leaves and inconspicuous yellow flowers The plants are cut back to produce a large number of shoots, which are cut when two or three years old The thin central part of the bark is taken from between the inner and outer barks and, in layers, dried and marketed as stick cinnamon, a fragrant flavoring. The waste and other parts are used for oil of cinnamon, a stimulant, carminative, astringent, and flavoring Ceylon is still considered the center of cinnamon production, but other kinds are grown elsewhere Cassia, cassia bark, or Chinese cinnamon is a species of the genus said to have been in use long before true cinnamon but is usually considered an inferior substitute for cinnamon Cinnamon and cassia (often confused) have been favorite spices since biblical times, used also as perfume and incense Cinnamon trade successively passed (with Ceylon) to the Portuguese, Dutch, and British *Cinnamomum camphora* yields camphor

cinnamon vine see YAM

Cinnamus, John (sĭ'numus), fl 12th cent , Byzantine historian His chronicle deals with the reigns of emperors John II and Manuel I to the year 1176.

Cinnereth (sĭn'rŏth) see CHINNERETH 2

Cino da Pistoia (chē'nō dä pēstō'ya), 1270-1337?, Italian jurist and poet, whose full name is Guittoncino dei Sinibaldi He was a friend of Dante and Petrarch, both of whom mention him in their verse, and was the author of numerous lyrics and of various treatises on jurisprudence His verse, musical, tender, and of striking imagery, foreshadows the work of Petrarch For translations, see D G Rossetti, *The Early Italian Poets* (1904 ed), Lorna de'Lucchi, *An Anthology of Italian Poems* (1922)

Cinq Mars, Henri Coeffier, marquis de (ärē' kŏcfyā' märs', dŭ sămär'), 1620-42, French conspirator, called Ruzé d'Effiat (ruzā'dĕfyä') Introduced at court by Richelieu at the age of 18, Cinq Mars rapidly rose in Louis XIII's favor He joined in a conspiracy with Frédéric Maurice de BOUILLON and Gaston d'ORLÉANS against the cardinal The discovery of a secret treaty they had signed with Spain led to their arrest, and Cinq Mars and his friend, François de Thou, were executed The conspiracy forms the basis of Alfred de Vigny's novel *Cinq-Mars*

cinquefoil (sĭngk'-) [O Fr ,=five leaves], name for any plant of the widely distributed genus *Potentilla* and for somewhat similar and related genera Most cinquefoils are perennial, many but not all of them having leaves of five leaflets, for which they are also called five-finger The flowers are most often yellow Some species have been used for domestic remedies, e g , the tormentil The shrubby cinquefoil (*Dasiphora* or *Potentilla fruticosa*) is weedy in New England but it is cultivated in gardens elsewhere; a number of other species are cultivated, frequently in rock gardens

Cinque Ports (sĭngk) [O Fr ,=five ports], name applied to a group of maritime towns of Sussex and Kent, England. Originally they numbered five, Hastings, Romney, Hythe, Dover, and Sandwich, to these Winchelsea and Rye were added under Richard I as "ancient towns," with similar duties and privileges Later, neighboring places were added to the group as "limbs" or "members " The Cinque Ports were chartered by Edward the Confessor and were reorganized into an almost independent governmental division under William the Conqueror The highest officer was the lord warden of the Cinque Ports, who had extensive and important civil, military, and naval powers The main duty of the ports (until the time of Henry VII) was provision of ships and men for protection against invasion, before England had a permanent navy In return they were allowed various privileges, such as exemption from taxation and independence from certain laws governing other municipalities. From 1688 their importance declined, and their privileges were gradually taken away The office of lord warden still exists, but no great power or heavy duties are attached to it The official residence was established at Walmer Castle, near Deal Distinguished men have held the post of lord warden, including the duke of Wellington (1829–52) and Winston Churchill (1941-) Dover Castle was the scene of some of the meetings of the courts of the Cinque Ports Cases of salvaging came before the court in later times See K M E Murray, *The Constitutional History of the Cinque Ports* (1935)

Cinthio see GIRALDI, GIOVANNI BATTISTA

Cinto, Monte (mōn'tā chōn'tō), peak, 8,982 ft high, Corsica, France, NW of Corte It is the highest point on Corsica

Cintra, Port *Sintra* (sēn'tru), town (pop 6,307), Portugal, in old Estramadura prov , a few miles NW of Lisbon The region has orange groves and vineyards, and there are marble quarries, but Cintra is known less for its products than for the beauty of the mountain on which the picturesque town is placed The view is superb, and Cintra has been rapturously described not only by Portuguese writers but also by foreigners. It flourished as a Moorish city, and there are still ruins of a Moorish fortress It was permanently won by Alfonso I with Lisbon in 1147 and was thereafter a favorite residence of the Portuguese monarchs Cintra has an old royal palace and an old monastery surrounded by a lovely park Near here in the Peninsular War the Convention of Cintra was agreed upon (1808) by the French, British, and Portuguese, under its terms the French troops under Junot were permitted to withdraw from Portugal

Cinzio. see GIRALDI, GIOVANNI BATTISTA

C.I.O. see CONGRESS OF INDUSTRIAL ORGANIZATIONS

Cione, Andrea di see ORCAGNA.

cipher see CRYPTOGRAPHY

Cipriani, Giovanni Battista (jōvän'nē bat-tē'sta chēprēä'nē), 1727-85, Italian painter, draughtsman, and engraver, who worked in London He painted historical pictures and mural decorations for Buckingham Palace and Somerset House, but is best known for his pen-and-ink drawings, most of them engraved by Bartolozzi Fine collections are in the British Museum and the Victoria and Albert Museum Cipriani was himself a distinguished engraver and was one of the original members of the Royal Academy

Circassia (sŭrkă'shŭ), general term formerly used for the region comprised between the Black Sea, the Kuban river, and the Greater Caucasus, now largely the KRASNODAR TERRITORY of the RSFSR The Circassians are a Moslem people speaking North Caucasian dialects, they are identical with the Adyge and the Cherkess who inhabit the ADYGE AUTONOMOUS OBLAST and the CHERKESS AUTONOMOUS OBLAST Though Christianized at an early period, the Circassians accepted Islam in the 17th cent Circassia was a dependency of the Ottoman Empire until it was ceded (1829) to Russia in the Treaty of Adrianople The Russians, however, were able to occupy only the Black Sea coast, while they met desperate resistance inland The Russian conquest of Circassia was completed only in 1864 and was followed by the emigration of hundreds of thousands of Circassians to Turkey The men were warlike, proud, and handsome, the women were famous for their beauty, and many were sold into slavery in Turkey

Circe (sûr'sē), in Greek legend, celebrated enchantress, daughter of Helios and sister of Aeëtes and Pasiphaë She changed the companions of Odysseus into swine, but he forced her to break the spell A late legend says that she bore him a son, TELEGONUS

circle, a closed plane curve every point of which is equally distant from a point within called the center A circle is also defined as a CONIC SECTION cut by a plane perpendicular to the axis of the CONE The surface within the curve is also called a circle and the curve itself the circumference of the circle A line segment with both ends on the circumference is a chord A diameter is a chord through the center Any line segment joining the center to a point on the circumference is a radius The area bounded by a circle is π (see PI) times the square of the radius ($A=\pi r^2$) A tangent is a straight line touching the circle at only one point, called the point of contact or tangency The tangent to a circle is always perpendicular to the radius drawn to the point of contact Two or more circles are tangent when they all touch at only one point A circle is inscribed in a polygon if each side of the polygon is tangent to the circle, a circle is circumscribed about a polygon if all the vertexes of the polygon are on the circumference The circle figures importantly in many cultures In religion and art it frequently symbolizes heaven or eternity, perhaps because it has perfect symmetry and unvarying curvature The Greek ruler-and-compass geometry, which might well be called line-and-circle geometry, left many unsolved problems about circles These included the Three-Circle Problem of Apollonius of Perga, which was solved in the late 19th cent., and the impossible problem of squaring the circle This problem demands that one construct, in a finite number of steps, a square equal in area to a circle by using only a ruler and compass Mathematicians in the late 19th cent proved this to be impossible by proving that it was not possible to solve the equivalent algebraic problem, i e , to solve the equation $x^2=\pi$ using only certain kinds of numbers. In modern mathematics the circle is the basis for such theories as inversive geometry and examples of non-Euclidean geometries Applications of this curve in practical life are evident

Circleville, city (pop 7,982), co seat of Pickaway co , S central Ohio, on the Ohio and Erie Canal and the Scioto river and S of Columbus, inc 1853 It was laid out in 1810 within the remains of a circular fort erected by the mound builders Its manufactures include canned foods, strawboard, and grain products Pumpkin exhibits are held annually Near by are several historic sites

circuit, electric see ELECTRIC CIRCUIT

circuit rider, itinerant preacher of the Methodist denomination who served a "circuit" consisting usually of 20 to 40 "appointments " The circuit system, devised by John Wesley for his English societies in their formative period and developed in America by Francis Asbury, proved especially adapted to the conditions of the American frontier and came into its own in the trans-Allegheny region Its success was a factor in establishing Methodism in America The circuit rider, traveling usually on horseback because it was economical and suited to the forest pathways, preached nearly every day and twice on Sundays, thus covering his circuit every four or five weeks His appointments were usually in pioneer cabins, schoolhouses, or tavern barrooms Often his educational equipment was limited, but he knew his particular message well, delivered it effectively, and exemplified it in his own devout and self-sacrificing life His was a life of adventure and hardship, and he has become one of the picturesque types in American history and literature See E K Nottingham, *Methodism and the Frontier* (1941)

circulation of the blood, continuous passage of the blood from the heart through the arteries, capillaries, and veins back to the heart There are two main divisions of the circulatory system, the systemic circulation serves the body as a whole except for the lungs, and the pulmonary circulation carries the blood to and from the lungs In the systemic circulation the oxygenated blood is forced from the left ventricle of the heart, by contraction of its muscular walls, through the semilunar aortic valves into the aorta (the main vessel of the arterial system), from which other arteries branch throughout the body The smallest branches terminate in a network of capillaries, which unite with the smallest veins These in turn join larger veins which finally merge to form the inferior *vena cava*, which returns blood from the trunk and legs, and the superior *vena cava*, which returns blood from the head, neck, and arms The two *venae cavae* return the deoxygenated blood to the right auricle of the heart, which contracts and sends the blood through the tricuspid valve into the right ventricle Contraction of the right ventricle forces the blood through the semilunar pulmonary valves into the pulmonary arteries (the only arteries carrying deoxygenated blood) In the lungs carbon dioxide is eliminated from the blood and oxygen is secured The oxygenated blood then returns through the pulmonary veins to the left auricle of the heart and passes through the bicuspid valve into the left ventricle, which again sends it into the aorta The circulating blood distributes food as well as oxygen to all parts of the body The food enters the blood in the process of absorption (see INTESTINE) For the lymphatic circulation, see LYMPHATIC SYSTEM

circumcision (sûrkumsi'zhun) Cutting off the foreskin of males is a religious practice of unknown antiquity The custom was known in Egypt before it was introduced among the Hebrews by Abraham It is best known as prevalent among the Jews and the Mohammedans, but it has been practiced by peoples native to all of the continents. Explanations of the origin of circumcision are entirely conjectural It is related to rites of initiation. That Christians were not obliged to practice circumcision is recorded in Acts 15, there was never, however, a prohibition of circumcision, and it is practiced by Coptic Christians It is widely practiced in modern times also as a sanitary measure Circumcision of females is known in Islam and in certain African tribes

circus [Latin,=circle, e g , in Piccadilly], associated historically with the horse and chariot races and various contests known in ancient Rome as the Circensian games The Roman circus was a round or elliptical structure with tiers of seats for spectators, enclosing a space in which the races, games, and gladiatorial combats took place Underneath were dressing rooms, dens for wild beasts, and rooms where properties were stored The Circus Maximus, built in the reign of Tarquin I (c 616–c 578), was rebuilt by Julius Caesar and is said to have had a seating capacity of 350,000. Other

famous circuses of Rome were the Circus Flaminius (220 B C.); the circus of Nero, where many Christians perished; and the Circus Maxentius Outside of Rome are those of Arles and Orange, in S France The circus of Septimius Severus at Constantinople and many others were often scenes of riot and bloodshed between factions of charioteers The games, aside from races, were brutal and bloody, and for this reason the Greeks, even under Roman domination, never accepted the circus The modern circus, which dates from the closing years of the 18th cent., is a tent show with wild animals, acrobats, freaks, and clowns Even before 1830, traveling circuses were common in the United States and in England Philip Astley and George Sanger were famous English circus managers The most celebrated circus in America was the "Greatest Show on Earth" of P T Barnum This was succeeded by Barnum and Bailey's and finally became Ringling's See M W Disher, *Clowns and Pantomimes* (1925) and *Greatest Show on Earth* (1937), R E. Sherwood, *Here We Are Again* (1926), E. C May, *The Circus from Rome to Ringling* (1932), D. W Fellows and A A Freeman, *This Way to the Big Show* (1936)

Cirencester (sĭs'tur, sī'runsĕstûr), urban district (1931 pop 7,209, 1943 estimated pop 8,200), Gloucestershire, England It is the site of the ancient Corinium, of which there are vestiges Of interest are Cirencester Park (seat of the earl of Bathurst), the 15th-century parish church, the remains of an abbey (1117), and the Royal Agricultural College

Cirey (sērā'), town (pop 2,178), Meurthe-et-Moselle dept, NE France, in Lorraine Its official name is Cirey-sur-Vezouze The château was the residence of Voltaire and Mme du Châtelet from 1734 to 1749.

Cirrha (sĭr'ŭ), ancient city of Greece, in Phocis, on the Gulf of Crisa (an inlet of the Gulf of Corinth) Cirrha levied tolls on the pilgrims to Delphi, and the Great Amphictyony declared a sacred war in which Cirrha was destroyed (c 590 B C), the citizens went to Crisa Cirrha seems to have been refounded in 339 B C, but Philip II of Macedon forced its abandonment

cirrus see CLOUD

Cirta see CONSTANTINE, Algeria

Cis (sĭs), same as KISH 1

Cisalpine Republic (sĭsăl'pĭn), Italian state created by Napoleon Bonaparte in 1797 by uniting the Cispadane and Transpadane republics, which he had established (1796) N and S of the Po The Cisalpine Republic included the former duchies of Milan, Parma, and Modena, the legations of Bologna and Ferrara, and the Romagna By the Treaty of Campo Formio the Venetian territories to the Adige, the duchy of Mantua, and the formerly Swiss Valtellina were added The republic was in theory an independent state, in fact, it was subject to France Its constitution was based on the French model. In 1799 the Austro-Russian armies occupied it, but Bonaparte recovered it in 1800 By the Treaty of Lunéville (1801) its nominal autonomy was restored In 1802 it became the Italian Republic and in 1805, with the addition of Venetia, the Napoleonic kingdom of Italy

Cisco (sĭs'kō), city (1940 pop 4,868, 1947 estimated pop 7,000), N central Texas, WSW of Fort Worth; settled 1851, inc 1919 It boomed as an oil town soon after Ranger, but is today primarily a town of processing plants and small factories There is a municipal junior college Near-by artificial Lake Cisco attracts fishermen

Cisleithania: see AUSTRO-HUNGARIAN MONARCHY

Cisneros, Francisco Jiménez de see JIMÉNEZ DE CISNEROS, FRANCISCO

Cispadane Republic see CISALPINE REPUBLIC

Cistercians (sĭstûr'shŭnz), monks of a Roman Catholic religious order founded (1098) by St Stephen Harding in Cîteaux, Côte-d'Or dept., France They are called White Monks St Bernard of Clairvaux was their "second founder" The Cistercians attempted to reinstate the life of the first Benedictines, in so doing they were reformers, opposing the pomp and worldliness of the Cluniac order They had phenomenal expansion, especially in St Bernard's lifetime, at the end of the 12th cent there were 530 Cistercian abbeys Part of the popularity was due to Cistercian enthusiastic emphasis on the love of God and of Jesus Christ, including cheerful practice of extreme austerities The Cistercians restored farming as a chief occupation of monks and became leaders in the development of new agricultural techniques in Europe Thus, the English Cistercians were a serious factor in the growth of English wool culture The White Monks' farm system was aided by numerous lay brothers—laymen who lived in the abbeys under their own and less ascetic discipline In the 13th cent the role of chief reforming organism in the Church below the papacy passed from the Cistercians to the new orders of friars (especially Dominicans and Franciscans) Decline in numbers and fervor did not ruin the Cistercians, but they ceased before 1400 to have a prominent place in Europe. Most important of later reform movements was that begun at La Trappe, France; those who accepted the new reform are called Trappists. In the 20th cent., apart from two small congregations, most Cistercians belonged to two independent units—the Common Observance and the Stricter Observance (the Trappists) They do not differ greatly in austerity The unit of Cistercian life is the abbey, its members composing a permanent communal entity, but the abbeys join in close federation. Cistercian nuns (founded in the 12th cent) have rules and customs paralleling those of the monks, they lead contemplative lives in complete seclusion from the world A 17th-century reform of Cistercian nuns produced the remarkable development of Port-Royal Famous Cistercian abbeys include Cîteaux, Clairvaux, Fountains, Rievaulx, and Alcobaça See MONASTICISM See A J Luddy, *The Order of Cîteaux* (1942) For Cistercian mysticism, see É H Gilson, *The Mystical Theology of St Bernard* (1940)

Citadel, The—The Military College of South Carolina, at Charleston, state supported, for men, chartered 1842, opened 1843 Legally the South Carolina Military Academy until 1910, it was always called The Citadel It has liberal arts and engineering courses See O J Bond, *The Story of The Citadel* (1936)

Cîteaux, France see CISTERCIANS

Cithaeron (sĭthē'rŭn), Gr *Kithairon* (kēthī'rôn'), mountain ridge, c 10 mi long, central Greece, between Boeotia in the north and Attica and Megaris in the south It rises to 4,623 ft The ridge was the scene of many events in Greek mythology and was especially sacred to Dionysus

cithara see KITHARA

cithern. see CITTERN

Citium (sĭ'shēum), ancient city of Cyprus, on the southeast coast, on the site of Larnaca Founded by the Phoenicians, it was a major port and had valuable saltworks It is apparently identical with the biblical Kittim Zeno was born here

citizens, subjects of a government who enjoy the most privileged type of NATIONALITY Citizens are at the furthest extreme from nonnationals resident in a state, (i e, ALIENS), and in former times they were distinguished from subjects with a servile status (e g, slaves and serfs) In ancient Greece property owners in the CITY-STATES were citizens and as such might vote and were subject to taxation and military service In the Roman Empire citizenship, at first limited to residents of the city of Rome, was extended by A D 212 to all free inhabitants of the empire Under feudalism the concept of national citizenship disappeared in Europe. In time, however, burgesses purchased the immunity of their cities from feudal dues and thereby achieved a privileged position and a power in local government, these rights were akin to citizenship and supplied much of the content of later legislation respecting citizenship Today each country determines what class of persons are its citizens In some countries citizenship is according to the *jus sanguinis* [Latin,=law of blood], whereby a child if legitimate takes its citizenship from its father and if illegitimate from its mother In other countries the *jus soli* [Latin,=law of the soil] governs, and citizenship is determined by the place of birth The Constitution of the United States nowhere defined the term *citizen*, although in Article 1, section 8, it empowered Congress to enact uniform NATURALIZATION laws Congress may also regulate the IMMIGRATION to the United States of persons who wish to become citizens The Fourteenth Amendment (adopted 1868) provided that "All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State where they reside" Former Negro slaves thereby were made citizens Until the 1940s the United States recognized several classes of nationals who were not citizens e g, Filipinos and Puerto Ricans Today there is no status of national other than citizen in the United States (For the rights of U S citizens, see FOURTEENTH AMENDMENT) As the Fourteenth Amendment indicates, the United States generally follows the *jus soli* It also observes the *jus sanguinis* in that children born of American citizens abroad are citizens during their minority and retain citizenship if they reside in the United States before majority or at majority declare their intention to be citizens The United States recognizes the right of voluntary EXPATRIATION, (i e, renunciation of citizenship), but since 1922 has not viewed the marriage of a woman to a noncitizen as such renunciation *per se*

citrange (sĭt'rĭj), citrus-fruit hybrid of several varieties resulting from a cross between sweet and trifoliate oranges The tree is ornamental and hardier than the orange, being cultivated in parts of the Cotton Belt Its fruit, more acid than the orange, is used for beverages

citric acid (sĭt'rĭk), white, crystalline substance with a tart but not unpleasant taste, a compound of carbon, hydrogen, oxygen, and one molecule of water It is an organic acid found in nature in such fruits as lemons (from which it was first obtained by K. W Scheele in 1784), citrons, oranges, limes, pineapples, and gooseberries It is soluble in water and in alcohol. When heated, it loses its water of crystallization and at higher temperatures (over its melting point, 153°C) undergoes decomposition With the alkaline earths and alkali metals, it forms salts known as citrates In medicine these are common as laxatives and cathartics, the acid itself is employed as an antalkali It is used also in calico printing and as a substitute for lemon juice in certain soft drinks For commercial use it is prepared from lemon juice This is first strained, then treated with slaked lime (calcium hydroxide) to yield calcium citrate, which with sulphuric acids reacts to form citric acid It is prepared also by the fermentation of glucose

Citrine, Walter McLennan Citrine, Baron (sĭtrēn'), 1887–, English trade-union leader, b Liverpool An electrician, he became district secretary of the electrical trade union in 1914 and rose to be general secretary of the Trades Union Congress in 1926, president of the International Federation of Trades Unions in 1928, and president of the World Trade Union Conference in 1945. He led the conservative wing in labor and became powerful in the Labour government of Clement Attlee He was made a baron in 1946, was a member of the national coal board (1946–47), and was made chairman of the British Electricity Authority in 1947 His writings include *My Finnish Diary* (1941), *My American Diary* (1941), *In Russia Now* (1942), and *British Trade Unions* (1942)

citron (sĭ'trun), tree (*Citrus medica*), native to tropical Asia and related to other citrus trees and shrubs It is cultivated in the Mediterranean regions and to some extent in the West Indies, Florida, and California The tree is a small evergreen about 10 ft in height, with spiny, irregular branches, large leaves, and purplish blossoms The fruit is large, lemon shaped, from 6 to 10 in long, with a rough, furrowed surface and a thin outer rind of yellowish-green color The inner rind is thick, white, and tender, and the pulp small and acid The juice is sometimes used as a beverage or syrup The rind, candied and preserved, is used in confectionery and cookery Before being candied, the rinds are treated or preserved in sea water or brine, which produces a degree of fermentation, and much of the Mediterranean product is shipped in brine to the United States and there candied The name is also applied to a small variety of watermelon with a thick rind, used to make preserves

Citronelle (sĭt"runĕl'), town (pop 1,057), SW Ala., NNW of Mobile, in a farm and timber area. The tung-oil industry was developed in 1906.

citrus fruits (sĭ'trus), widely used edible fruits of tropical evergreen trees and shrubs belonging to the genus *Citrus* Included are the ORANGE, TANGERINE, LEMON, GRAPEFRUIT, LIME, CITRON, CITRANGE, and tangelo More than 900 varieties have been developed from about a half dozen natives of tropical Asia and the Malay Archipelago The KUMQUAT, though closely related to this group, is now considered to be in another genus Citrus fruits were introduced into Florida and S California by early Spanish settlers Commercially they are the most important group of tropical and subtropical fruits in the world Their vitamin C content makes them of value in the human diet See H H Hume, *The Cultivation of Citrus Fruits* (1926, reissue, 1937), H J Webber and L D Batchelor, ed, *The Citrus Industry* (Vol. I, 1943, Vol II, 1948)

Città Vecchia (chĕt-ta' vĕk'kyā) [Ital.,=old city], **Città Notabile** (nōtä'bēlā), or **Mdina** (umdē'nā), town (pop 1,384), central Malta Former capital of Malta, it was supplanted by Valetta It contains a large cathedral and the old palace of the grand masters of the Knights of Malta (Knights Hospitalers)

cittern (sĭ'turn), stringed musical instrument having an oval body, a flat back, and a fretted neck Its strings, made of wire and usually nine in number, were plucked It was first made in the Middle Ages and then usually called citole The name cittern was given it in the 16th cent in England, where it became very popular in the 18th cent It has also been called cister, cistre, cithern, cither, cithara, and gittern

city, concentration of persons which is not economically self-contained. Cities have appeared in diverse cultures, e g, among the Aztec, Maya, and Inca, in China and India, and in the twin cradles of Western European culture, Mesopotamia and Egypt In all these civilizations the cities were the centers of internal change and development Thus the history of ancient Europe is that of the Greek cities and of Rome (See also CITY-STATE) From the decline of Rome the cities were in eclipse, and in Western Europe their role as centers of learning and the arts passed to the monasteries, which were not urban but subsistent units The 11th cent saw the resurgence of vigorous cities in Italy, and by the 13th cent the dynamic life of the Middle Ages was centered in the cities From this time dates the importance of great modern cities, e g, Milan, London, Paris, and the Hanseatic cities The giant modern city is a product of the Industrial Revolution, which introduced large-scale manufacturing Sheer bulk now made old problems of urban life acute, some of these, e g, sanitation, utilities, and distribution, have been better solved than others, such as HOUSING

and transport. As urban life came to furnish more remunerative and colorful opportunities, rural populations began to be attracted, and by the 20th cent. some nations were faced with actual shortage in producers of food on the land. Among movements to reform urban life some aim really at abolishing cities as known today, this is the tradition exemplified by William Blake, Thoreau, William Morris, Eric Gill, and Lewis Mumford. There are also less radical designs, like CITY PLANNING, the garden city, and the encouragement of rapid transit to distant suburbs, in England after the Second World War much thought was given to decentralization and avoiding congestion in rebuilding the cities. There are many reforms aimed at restoring community life to the rootless strangers so frequent in modern cities, such is a common function of settlement houses, community centers, church centers, city missions, union centers, boys' clubs, athletic clubs, political clubs, women's clubs, fraternal lodges, and other philanthropic and cooperative enterprises. The aerial bombardments of the Second World War brought up new problems of city defense. Statistical study of cities is difficult because figures are usually given by political units, and rarely is an entire urban area a single, exclusive political unit. Cities are often complex, with suburbs within them, e.g., the Newark area inside the New York metropolis. See CITY GOVERNMENT and LOCAL GOVERNMENT. See also Gustave Glotz, *The Greek City and Its Institutions* (Eng. tr., 1929), Henri Pirenne, *Medieval Cities* (Eng. tr., 1939), National Resources Committee, *Our Cities: Their Role in the National Economy* (1937), Lewis Mumford, *The Culture of Cities* (1938) and *City Development* (1945).

City College of the College of the City of New York, mainly for men; chartered 1847, opened 1849, through the efforts of Townsend Harris, as the Free Academy. It granted degrees after 1854 and was called the College of the City of New York from 1866 to 1929. After this the name was applied to the group of municipal colleges. City College includes a college of liberal arts and science, schools of business and civic administration, education, and technology, a public-service training division, an educational clinic. The Lewisohn Stadium, designed by Arnold W. Brunner, is used for summer musical performances.

city government, political administration of urban areas. The English tradition of incorporating urban units (cities, boroughs, villages, towns) and allowing them freedom in most local matters is general in America (see CITY and LOCAL GOVERNMENT). The traditional city government had a mayor and council, whose members (aldermen) represented districts (wards). As the complexity of urban life increased in the 19th cent., the old system became less efficient, there were also overlapping of old offices with new, bad methods of accounting and taxation, and much blatant graft. Hence arose movements for municipal reform, which have become a recurrent feature of American political life. They have familiarized Americans with a gallery of city political figures—Tweed, Penrose, Quay, Thompson of Chicago, Pendergast of Kansas City, and many more. They have also obscured the fact that corruption is found extensively in other than city politics and is not uniquely American. Reform brought two new types of government. The commission form has a board both legislative and administrative, usually elected nonpartisan and at large, many cities have adopted it, e.g., Galveston (1901), Des Moines, and Jersey City. The city-manager plan gives the administration to one professional nonpolitical director. The system has gained steadily in popularity, notable trials have been in Staunton, Va., the first (1908), in Dayton and Cincinnati, Ohio, and in Kansas City, Mo. A perennial problem of U.S. urban government is the division of urban areas among several independent city governments, survivals of old separate communities. The Eastern metropolises all provide examples, aggravated in some (e.g., New York and Philadelphia), where state lines run through the heart of the metropolitan area. Attempts at efficiency have produced some new forms, e.g., the PORT OF NEW YORK AUTHORITY, a corporation set up by joint state action and assigned specific powers formerly held by local governments. In the rest of the English-speaking world and wherever else there is much local self-government, American forms and problems are paralleled. Elsewhere, as typically in France, the local officers, albeit elected mayor and councilors, are figureheads, serving mainly to carry out the regulations of the central bureaucracy. See W. B. Munro, *The Government of European Cities* (rev. ed., 1927), H. A. Stone, D. K. Price, and K. H. M. Stone, *City Manager Government in the United States* (1940); C. M. Kneier, *City Government in the United States* (rev. ed., 1947).

city manager: see CITY GOVERNMENT.

City of David, epithet of BETHLEHEM, the birthplace of David, and of JERUSALEM, his capital.

city of refuge: see SANCTUARY.

city planning, art of planning for the growth of urban centers in order to secure healthful living conditions, convenient communication, and beauty. The plan which also includes outlying communities and highways is termed regional planning. Many ancient cities were built from definite plans. The fundamental feature of the plans of Babylon, Nineveh, and the cities of ancient Greece and of 12th-century China was the construction of main streets running north and south and east and west, with a forum in the center. This gridiron plan was also carried out in Roman towns, such as Lincoln and Chester in England, in all their towns the Romans emphasized drainage and water supply and practiced zoning. In medieval cities, built for military security, with their extremely narrow streets, the monumental groupings of buildings with open spaces formed the only relief. The living conditions of the poorer citizens were given little attention. With the Renaissance came truly monumental conceptions—wide avenues and long approaches creating vistas of handsome buildings. The new aim is seen first in special sections of a city, such as Michelangelo's grouping on the Capitoline at Rome and Bernini's piazza of St. Peter's. In most European cities, through the 17th and 18th cent. there was fragmentary replanning of medieval streets. After the fire of 1666 in London, Sir Christopher WREN devised a superb plan for a complete rebuilding of the city, but this unfortunately was not put into execution. In the 18th cent., Mannheim and Karlsruhe, Germany, were laid out geometrically, Emmanuel Héré planned Nancy, France, John Wood produced grand architectural streets and squares at Bath, and the new part of Edinburgh was laid out. In the early 19th cent. John Nash planned certain sections of London, central Vienna was improved, and Baron HAUSSMANN remodeled Paris to produce the celebrated boulevard system. Legislation which enabled cities to make and carry out planning designs was enacted earlier in Europe than in the United States. Such laws were passed in Italy in 1865, in Sweden in 1874, and in Prussia and England in 1875. Planning in Great Britain was especially concerned with slum elimination, its greatest exponent was Sir Patrick GEDDES. At the turn of the century Sir Ebenezer HOWARD was the founder of the modern garden-city movement. The first English GARDEN CITY, Letchworth, was begun in 1903. In America early New England towns, formally disposed along wide elm-lined central roadways or commons, exhibit a conscious planning. Annapolis, Md., Philadelphia, and Paterson, N.J., were built after plans; but America's especially celebrated example is the city of Washington, laid out in plans from bare land by L'ENFANT, in 1791, under the supervision of Washington and Jefferson—a rectangular plan with diagonal main thoroughfares superimposed and with the Capitol as the central feature. In the 19th cent. Frederick L. Olmsted was a pioneer in city planning, especially in developing parks. State legislation enabling cities to appoint planning commissions and in some cases giving them authority to carry out the plans began in Pennsylvania in 1891. The work of D. H. Burnham for the World's Columbian Exposition, Chicago, 1893, was a stimulus to city planning, and Burnham, with E. H. Bennett, drew up a plan for Chicago, much of which has been put into execution. In 1901 a commission composed of Burnham, C. F. McKim, and F. L. Olmsted, Jr., devised a scheme for the modern development and beautification of Washington, D.C., adhering to L'Enfant's original plan as a basis for all new operations. A wide influence has been exerted by the ZONING laws of New York city (1916), which control the uses of each district of the city, the areas and heights of buildings as related to street widths, and many other factors of public well-being. The important Regional Survey of New York and Environs, completed in 1929, took into consideration legal and social factors, as well as internal transit problems and the various modes of approach to the metropolitan area. Governmental efforts to provide employment during the depression of the 1930s led to the building (under the Federal Resettlement Administration) of three experimental model communities—Greenbelt, Md., Greendale, Wis., and Greenhills, Ohio. The increase of traffic and the crowding together of tall buildings have crippled the street plans of many cities—especially American cities which have been handicapped by their rectangular or checkerboard layouts. In the larger cities everywhere, three processes are concurrently at work: decentralization, the enforced movement of industries and homes away from high rents and congestion; amelioration of conditions at the congested centers by utilizing new devices for the liberating of traffic, such as vehicular tunnels and elevated highways, with the future possibility of streets built on several levels, and addition of low-cost HOUSING projects and elimination of slum areas. In the plan for the modern city, communications must be integrated into a single, smoothly functioning mechanism—the approaches by land, water, and air, with their passenger and freight terminals, the street plan; and the internal transit system. For these elements all distances must be viewed in terms of the time spent in transit. See works of Lewis Mumford, a disciple of Sir Patrick Geddes, especially his *Sticks and Stones* (1934) and *City Development* (1945), Werner Hegemann, *City Planning: Housing*, Vol. I (1936); Ludwig Hilberseimer, *The New City* (1944); H. S. Churchill, *The City Is the People* (1945); Percival Goodman and Paul Goodman, *Communitas* (1947).

City Point, Va.: see HOPEWELL.

city-state. From the beginning of Greek history to its climax in the 5th and 4th cent. B.C., the Greeks were organized in autonomous neighborhoods now known as city-states. Aristotle analyzed the constitutions of 154 of them. One Greek word, *polis*, meant both city and city-state. The city-state is not peculiar to Greece or to ancient times, but the Greek city-state is typical and has been well studied. Plato and Aristotle did not doubt that Greece owed its leadership in civilization to its form of government. Both were clear that the form was not possible to a large or populous state. In the *Laws*, Plato gave 5,040 households as the ideal population. Aristotle thought this number obviously too large. The object of the state was "the good life" for the individual, the state, they held, must not be so large that the individual could not be known and utilized. Since the city-state was autonomous, different states and the same state at different times varied through all degrees from absolute monarchy to pure democracy, the state might be ruled as it wished and might change at will. Economic self-sufficiency was an ideal, though some states, as Athens, had relatively large commercial interests, in Sparta, commerce was forbidden. Households commonly were supported directly by their little farms. Unemployment was unknown, and extremes of wealth and poverty were exceptional and speedily remedied. The good life was held to be hindered by excess in material possessions as by other excess. Various city-states have appeared in the history of other lands (see COMMUNE). The Greek city-state is well interpreted by A. E. Zimmern, *The Greek Commonwealth* (1931), and Gustave Glotz, *The Greek City and Its Institutions* (ed. by N. Mallinson, 1930).

Ciudad (Span. thyōōdhädh', in Latin America usually syōōdhädh') [Span., =city]. For cities whose names begin thus but are not so listed, see under the following name, e.g., for Ciudad Juárez, see JUÁREZ.

Ciudad Bolívar (syōōdhädh' bōlē'vär), city (pop. 19,789), E Venezuela, a port well inland on the ORINOCO river. Founded in 1764 and called Angostura, it was renamed for the liberator, Simón BOLÍVAR. The congress of Angostura on Feb. 15, 1819, made Bolívar president of Venezuela and on Dec. 17, 1819, decreed the formation of the republic of Greater Colombia with Bolívar president and Francisco Antonio ZEA vice president. Ciudad Bolívar is the commercial center of the eastern llanos, the Orinoco basin, and the GUIANA HIGHLANDS. Exports include balata, hides, cattle, egret plumes, tonka beans, and gold.

Ciudad Guzmán, Mexico: see GUZMÁN.

Ciudad Juárez, Mexico, see JUÁREZ.

Ciudad Porfirio Díaz, Mexico: see PIEDRAS NEGRAS.

Ciudad Real (thyōōdhädh' rāäl'), city (pop. 30,015), capital of Ciudad Real prov., central Spain, in New Castile. It was founded (13th cent.) by Alfonso X of Castile. The medieval walls and the late Gothic cathedral are noteworthy. In 1809 the French defeated the Spanish near here.

Ciudad Rodrigo (thyōōdhädh' rōdhrē'gō), city (pop. 3,872), Salamanca prov., central Spain, in Leon. It is an important fortress near the Portuguese border. The Roman settlement was abandoned, and the place was resettled in the 12th cent. In the Peninsular War it fell to the French (1810), but in 1812 was taken by Wellington. There is a 12th-century cathedral.

Ciudad Vieja (syōōdhädh' vyä'hä) [Span., =old city], small town (pop. 6,011), at the foot of the volcano AGUA, S central Guatemala. Founded in 1527 by Jorge Alvarado, brother of Pedro de ALVARADO, the town, called Santiago de los Caballeros de Guatemala, was the first permanent capital of the captaincy general. In 1541, during the governorship of Doña Beatriz de la CUEVA, it was destroyed by flood and earthquake. The survivors founded a new capital at ANTIGUA.

civet (sĭ'vĭt) or **civet cat,** mammal of the family Viverridae, related to the cats and native to Asia and Africa. The fur is dark gray with streaks or spots of black, and the face resembles that of the weasel more than the cat. It is chiefly nocturnal. The civet is hunted and also kept in semi-captivity for a fatty yellow secretion found in a double pouch near the genital organs. This material can be removed with a spoon usually every 14 to 20 days. It is used in the Orient as a perfume base. The fur of the Indian civet of India and SE Asia, called in the trade Chinese civet, is used to trim cloth coats. The little spotted skunk of North America is incorrectly called civet cat.

civics, branch of learning that treats of the activity of the citizen in his relation to society and the state, originally called civil government. With the large immigration into the United States in the latter half of the 19th cent., civics became a subject in the

secondary schools and colleges through the influence of the National Education Association, the American Political Science Association, the American Historical Association, the National Municipal League, and the U S. Bureau of Education See J M. Gathany, *Civics of Society* (1927), E. A Ross. *Civil Sociology* (rev. ed , 1932).

Civil Aeronautics Board: see AIR, LAW OF THE.

civil engineering: see ENGINEERING

Civilian Conservation Corps (CCC), established in 1933 by the U S Congress as a measure of the New Deal program Created in a period of severe depression, the CCC provided useful work and vocational training for unemployed single young men through conserving and developing the country's natural resources Membership was voluntary, and enrollees received a base pay of $30 a month, of which the greater part went to their families if they were on relief At its peak in 1935, the organization had more than 500,000 members in over 2,600 camps The CCC added to the nation's material wealth through forest and wildlife protection, flood control, soil conservation, development of new state parks, and similar activities Camps were usually operated by the War Dept , but the men were not subject to military control The CCC was in 1939 made part of the Federal Security Agency Beginning in 1940, greater emphasis was placed on projects aiding national defense Against President F D Roosevelt's request Congress abolished the CCC in 1942

Civilis (Claudius or Julius Civilis) (sĭvī'lĭs), fl. A D 70, Batavian chief who chose the unsettled period at the fall of NERO to raise a revolt in Germany, which quickly spread to Gaul (69–70) Its chief effect was to remove from VITELLIUS, who was struggling with VESPASIAN, any real support from Gaul After Vespasian had become emperor, he sent Cerealis to put down the revolt The rebels were treated with the greatest consideration and Civilis entered the Roman service It has been suspected, reasonably, that Civilis had been encouraged by Vespasian at the beginning Tacitus' last two books are almost an encomium on Civilis

civil law, As used in this article, the term "civil law" signifies a modern legal system based upon ROMAN LAW In common usage, however, it also means the rules which govern private legal affairs; in this sense civil law contrasts with public law and criminal law With a few exceptions, the countries on the continent of Europe, the countries which were former colonies of such continental powers (e g , the Latin American countries), and other countries which have recently adopted Western legal systems (e g , Japan and China) follow civil law It is also the foundation for the law of Quebec prov and of Louisiana Modern countries which do not adhere to the civil law (this includes all of the United States except Louisiana) for the most part were founded by England and apply the system of common law prevailing there The law which had been in force throughout the Roman Empire when it controlled most of Europe and the Near East was to some extent supplanted by GERMANIC LAWS during the period when Germanic tribes carried out their great conquests The principle of personal (as opposed to territorial) law was observed by the barbarians, and the former Roman subjects and their descendants were permitted to follow the Roman law (*leges romanorum*) in their affairs with one another The great CORPUS JURIS CIVILIS of Justinian, compiled in the 6th cent and in use in the Byzantine Empire, served also to keep the old law alive Barbarian law, although at first adequate, did not have legal concepts which suited the commercial requirements of the late Middle Ages, and there was then heavy borrowing of Roman ideas As part of a concurrent revival of interest in classical culture the late 11th cent. and the 12th cent saw the resumption of systematic study of Roman law, chiefly in N Italy (notably at Bologna), in S France, and in Spain Extensive glosses and commentaries on the *Corpus Juris Civilis* and on other classical texts were produced Through the agency of scholars and of judges whom they trained, Roman law principles (though strongly modified) came to be observed in national courts in all classes of legal disputes, although for a long time courts of local jurisdiction continued to enforce customary law The revived legal principles, however, initially were not formulated in precise terms for the most part, but instead gave general guidance to the judiciary. The next step, emulating the systematizing of Justinian, was to state these principles in exact, ordered form, i e , as a CODE The CODE NAPOLÉON (1804), the earliest of such works, had many successors The tendency of civil law is to create unified legal systems by working out with the maximum exactness the conclusions to be drawn from basic principles The judge is not permitted to develop new doctrines to meet unforeseen problems, but in all cases must base his decision squarely on the terms of the code. In this respect civil law may be contrasted with COMMON LAW, which is largely the product of judges' decisions and which has developed empirically (and sometimes in contradictory directions) in response to newly arisen legal situations

civil liberty: see LIBERTY.

civil rights, the rights which a state's inhabitants enjoy by law The term is broader than "political rights," which refer only to rights devolving from the franchise and which are held usually only by citizens. Unlike "natural rights," civil rights have a legal as well as a philosophical basis In American history the **Civil Rights Acts** refer to legislation passed in 1866, 1870, and 1875 to grant Negroes a legal and political status equal to that of the whites The first act, passed over President Johnson's veto, was of dubious constitutionality and was reenacted in 1870 only after the passage of the FOURTEENTH AMENDMENT. These acts bestowed on the Negro such common freedoms as the right to sue and be sued, to give evidence, and to hold real and personal property. The third Civil Rights Act attempted to guarantee to the Negro the social rights still withheld It penalized innkeepers, proprietors of public establishments, and owners of railroads and other carriers for discriminating against the Negro in accommodations, but was largely voided by the decision of the Supreme Court in the chief of the Civil Rights Cases in 1883 on the ground that these were not properly civil rights and hence not a field for Federal legislation The 1883 decisions seemed to leave the way open for state action, and civil rights laws were subsequently passed by many states

civil service, entire body of those employed in the civil administration, excluding the military forces and elected officials The term was used in designating the British administration of India and was first applied elsewhere in 1854 in England The extent and power of the civil service has varied throughout history according to the greater or lesser complexity of government In the modern period civil service grew with the rise of the national monarchies and the increase of state functions It has historically been the domain of the middle class and has acquired importance as modern governments have increasingly taken over functions formerly in private hands The growth of the Federal civil service of the United States illustrates modern trends The institution and growth of government commissions and agencies, especially in periods of depression or war, have multiplied the personnel and functions Owing doubtless in part to the spoils system so strongly established in the Jacksonian era, the United States lagged far behind other nations in standards of civil service competence and probity Agitation for reform began shortly after the Civil War In 1871 Congress authorized the President to prescribe regulations for admission to the public service and to appoint the Civil Service Commission, which lasted only a few years The scandals of the GRANT administration lent weight to the arguments of the reformers George W CURTIS, Dorman B EATON, and Carl SCHURZ President Hayes sympathized with reform and began to use competitive examination as a basis for appointment to office The assassination of President Garfield in 1881 by a disappointed office seeker finally precipitated the passage of the Pendleton Act of 1883, reestablishing the Civil Service Commission after a nine-year lapse The commission draws up the rules governing examinations for those positions which Congress places in the classified civil service All Presidents since Cleveland have expanded the classified list, and the great majority of Federal employees during peacetime are now classified In 1939 the merit system was extended to state service receiving Federal grants The Hatch Act of 1940 forbade campaign contributions by officeholders and hence tended to divorce the civil service from politics The appointive power is shared by the President, who appoints the heads of all government departments and may remove any appointee at will, by Congress, which controls its own employees, and by the Civil Service Commission and departmental appointing officers, in whose charge are vacancies in the classified service On national and state levels where classification does not exist, the civil service still provides an important source of political patronage Of the world's civil services, the most outstanding on several counts is still the British, extremely powerful because of its permanency, its extensive grants of power from Parliament, and its reputation for absolute honesty, though it is criticized for a lack of flexibility and for class exclusiveness in its upper ranges A Civil Service Commission and the beginnings of a system of competitive examinations were established in Great Britain in 1855, and the influential Whitley Councils, representing both government employees and administrators in questions dealing with service conditions, were set up after the First World War British civil servants are strictly excluded from politics In totalitarian nations, on the other hand, the official party and the civil service tend to interpenetrate. The secretariat of the League of Nations and of the United Nations are possible precursors of an international civil service See J D Kingsley, *Representative Bureaucracy and Interpretation of the British Civil Service* (1944); Leonard White and others, *The Civil Service in Wartime* (1945).

civil war, in English history. see PURITAN REVOLUTION and ROSES, WARS OF THE.

civil war, in Roman history: see MARIUS and SULLA; POMPEY and CAESAR

Civil War, in U S history, the conflict (1861–65) between the Northern states (the Union) and the Southern states which seceded from the Union (see CONFEDERACY) It is generally known in the South as the War between the States and is also called the War of the Rebellion (the official Union designation), the War of Secession, and the War for Southern Independence The name Civil War, although much criticized as inexact, is most widely accepted Actually this name is somewhat misleading, for the war was not a class struggle, but a sectional combat having its roots in such complex political, economic, social, and psychological elements that historians still do not agree as to its basic causes It has been characterized, in the words of William H SEWARD, as the "irrepressible conflict." In another judgment, the Civil War was criminally stupid, an unnecessary bloodletting brought on by arrogant extremists and blundering statesmen Both views accept the fact that in 1861 there existed a situation which, rightly or wrongly, had come to be regarded as insoluble by peaceful means Earlier, in the days of the American Revolution and of the adoption of the Constitution, differences between North and South were dwarfed by their common interest in establishing a new nation But sectionalism steadily grew stronger In the 19th cent the South remained almost completely agricultural, with an economy and a social order largely founded on Negro SLAVERY and the plantation These mutually dependent institutions produced the staples, especially cotton, from which the South derived its wealth The North had its own great agricultural resources, was always more advanced commercially, and was also expanding industrially Hostility between the two sections grew perceptibly after 1820, the year of the MISSOURI COMPROMISE, which was intended as a permanent solution of the issue in which that hostility was most clearly expressed—the question of the extension or prohibition of slavery in the Federal territories of the West Difficulties over the tariff (which led John C CALHOUN and SOUTH CAROLINA to NULLIFICATION and to an extreme STATES' RIGHTS stand) and troubles over internal improvements were also involved, but the territorial issue nearly always loomed largest In the North an increasingly high moral tone was injected into the quarrel with the rise of the ABOLITIONISTS in the 1830s Since Negro slavery was unadaptable to much of the territorial lands, which eventually would be admitted as free states, the South became more anxious about maintaining its position as an equal in the Union Southerners thus strongly supported the annexation of Texas (sure to be a slave state) and the Mexican War and even agitated for the annexation of Cuba (see OSTEND MANIFESTO). The COMPROMISE OF 1850 marked the end of the period which might be called the era of compromise Henry CLAY and Daniel WEBSTER were succeeded by more intransigently sectional leaders, such as Seward, Charles SUMNER, and Salmon P CHASE in the North and Jefferson DAVIS and Robert TOOMBS in the South With the KANSAS-NEBRASKA BILL (1854) and the consequent struggle over "bleeding" KANSAS the factions first resorted to shooting The South was ever alert to protect its "peculiar institution," even though many Southerners recognized slavery as an anachronism in a supposedly enlightened age Passions aroused by arguments over the FUGITIVE SLAVE LAWS (see also DRED SCOTT CASE) and over slavery in general were hardly tempered by the activities of the Northern abolitionist John BROWN or by the vigorous proslavery utterances of William L YANCEY, one of the leading Southern FIRE-EATERS The "wedges of separation" caused by slavery split large Protestant sects into Northern and Southern branches and dissolved the WHIG PARTY Most Southern Whigs joined the DEMOCRATIC PARTY, one of the few remaining, if shaky, nation-wide institutions. The new REPUBLICAN PARTY, heir to the FREE-SOIL PARTY and to the LIBERTY PARTY, was a strictly Northern phenomenon The crucial point was reached in the presidential election of 1860, in which the Republican candidate, Abraham LINCOLN, defeated three opponents—Stephen A DOUGLAS, (Northern Democrat,) John C BRECKINRIDGE, (Southern Democrat), and John BELL of the CONSTITUTIONAL UNION PARTY Lincoln's victory was the signal for the SECESSION of South Carolina (Dec 20, 1860), and that state was followed out of the Union by the six other states of the Lower South—Mississippi, Florida, Alabama, Georgia, Louisiana, and Texas Immediately the question of Federal property in these states became important, especially the forts in the harbor of Charleston, S.C. (see SUMTER, FORT) The outgoing President, James BUCHANAN, a Northern Democrat who either was truckling to the Southern, proslavery wing of his party or was sincerely attempting to avert war, pursued a vacillating course At any rate the question of the forts was still unsettled when Lincoln was inaugurated, and meanwhile there had been several futile efforts to reunite the sections, notably the Crittenden Com-

promise (see CRITTENDEN, JOHN JORDAN). Lincoln resolved to hold Sumter The new Confederate government under President Jefferson DAVIS and South Carolina were equally determined to oust the Federals

Sumter to Gettysburg When, on April 12, 1861, the Confederate commander P G T BEAUREGARD, acting on instructions, ordered the firing on Fort Sumter, hostilities officially began Lincoln immediately called for troops to be used against the seven seceding states, which were soon joined by Arkansas, North Carolina, Virginia, and Tennessee to complete the 11-state Confederacy In the first important military campaign of the war untrained Union troops under Irvin MCDOWELL, advancing on RICHMOND, now the Confederate capital, were routed by equally inexperienced Confederate soldiers led by Beauregard and Joseph E JOHNSTON in the first battle of BULL RUN (July 21, 1861) This fiasco led Lincoln to bring up George B MCCLELLAN (1826–85), fresh from his successes in western Virginia (admitted as the new state of WEST VIRGINIA in 1863) After the retirement of Winfield SCOTT in Nov , 1861, McClellan was for a few months the chief Northern commander The able organizer of the Army of the Potomac, he nevertheless failed in his PENINSULAR CAMPAIGN (April-July, 1862), in which Robert E LEE succeeded the wounded Johnston as commander of the Confederate Army of Northern Virginia Lee planned the diversion in the Shenandoah Valley, which, brilliantly executed by Thomas J (Stonewall) JACKSON, worked perfectly Next to Lee himself Jackson, with his famous "foot cavalry," was the South's greatest general Lee then went on to save Richmond in the SEVEN DAYS BATTLES (June 26-July 2) and continued his winning way in the second battle of Bull Run (Aug 29-30), thoroughly trouncing John POPE However, he also failed in his first invasion of enemy territory In September, McClellan, whom Lincoln had restored to the command of the Army of the Potomac, checked Lee in Maryland (see ANTIETAM CAMPAIGN) When McClellan failed to attack the Confederates as they retreated, Lincoln removed him again, permanently Two subsequent Union advances on Richmond, the first led by Ambrose E BURNSIDE (see FREDERICKSBURG, BATTLE OF) and the second by Joseph HOOKER (see CHANCELLORSVILLE, BATTLE OF), ended in resounding defeats (Dec 13, 1862, and May 2–4, 1863) Although Lee lost Jackson at Chancellorsville, the victory prompted him to try another invasion of the North With his lieutenants Richard S EWELL, James LONGSTREET, Ambrose P HILL, and J E B (Jeb) STUART, he moved via the Shenandoah Valley into S Pennsylvania There the Army of the Potomac, under still another new chief, George G MEADE, rallied to stop him again in the greatest battle (July 1-3, 1863) of the war (see GETTYSBURG CAMPAIGN) In the meantime, with the vastly superior sea power built up by Secretary of the Navy Gideon WELLES, the Union had established a blockade of the Southern coast, which, though by no means completely effective, nevertheless limited the South's foreign trade to the uncertain prospects of blockade-running In cooperation with the army the Union navy also attacked along the coasts The forts guarding New Orleans, largest Confederate port, fell (April 28, 1862) to a fleet under David G FARRAGUT, and the city was occupied by troops commanded by Benjamin F BUTLER (1818–93) The introduction of the ironclad warship (see ERICSSON, JOHN, and MONITOR AND MERRIMAC) had revolutionized naval warfare, to the ultimate advantage of the industrial North On the other hand, CONFEDERATE CRUISERS, built or bought in England (see ALABAMA CLAIMS) and captained by men such as Raphael SEMMES, destroyed or chased from the seas much of the U S merchant marine Britain never formally recognized the Confederacy (neither did France) and maintained peaceful relations with the Union despite the provocation late in 1861 of the TRENT AFFAIR, which was adroitly handled by Secretary of State Seward Charles Francis ADAMS (1807–86) at London and John BIGELOW at Paris were able diplomats, but probably more important in winning popular support for the Union in England and France was the EMANCIPATION PROCLAMATION, which Lincoln issued after Antietam This act also appeased for a time the anti-Lincoln radical Republicans in Congress, among them Benjamin F WADE, Zachariah CHANDLER, Thaddeus STEVENS, and Henry W DAVIS, with whom Secretary of the Treasury Salmon P Chase and Secretary of War Edwin M STANTON were allied Not all Unionists were abolitionists, however, and the Emancipation Proclamation did not apply to the border slave states —Delaware, Maryland, Kentucky, and Missouri— which had remained loyal For Lincoln and kindred moderates, such as Postmaster General Montgomery BLAIR, the restoration of the Union, not the abolition of slavery, remained the principal objective of the war The Union victories at Gettysburg and Vicksburg in July, 1863, marked a definite turning point in the war Both sides now had seasoned, equally valiant soldiers, and in Lee and Ulysses S. GRANT each had a superior general. But the North, more populous and with its comparatively enormous industry, enjoyed a tremendous material advantage Both sides also had resorted to conscription, which was more effective in the North, even though it met some resistance (see DRAFT RIOTS) Again, under Stanton, successor to Simon CAMERON, the over-all administration of the Union army was more efficient

Grant and Sherman Lead to Victory That the "war was won in the West" has become axiomatic Here the rivers, conveniently flowing either north (the Cumberland and the Tennessee) or south (the Mississippi), invited Union penetration, as they did not in Virginia In Feb , 1862, the Union gunboats of Andrew H FOOTE forced the Confederates to retire from their post on the Tennessee (see HENRY, FORT) to their stronghold on the Cumberland (see DONELSON, FORT) There, on Feb 16, 1862, Grant, commanding the Army of the Tennessee, won the first great Union victory of the war, and Nashville promptly fell without a struggle Farther down the Tennessee, Grant was lucky to escape defeat in a bloody contest (April 6–7) with Albert S JOHNSTON and BEAUREGARD (see SHILOH, BATTLE OF) Minor Union successes at IUKA (Sept 19) and CORINTH (Oct 3-4) followed, while the counterinvasion by the Confederate Army of Tennessee under Braxton BRAGG was stopped by Don Carlos BUELL at PERRYVILLE, KY (Oct 8, 1862) William S ROSECRANS, Buell's successor, then stalked Bragg through Tennessee, fought him to a standoff at MURFREESBORO (Dec 31, 1862–Jan 2, 1863), and finally, by outmaneuvering him, forced the Confederate general to withdraw S of Chattanooga Union gunboats had cleared the upper Mississippi (see ISLAND NO 10 and PILLOW, FORT), leading to the fall of Memphis on June 6, 1862 Grant's VICKSBURG CAMPAIGN, at first stalled by the raids of Confederate cavalrymen Nathan B FORREST and Earl VAN DORN, was pressed to a victorious end in a brilliant movement in which the navy, represented by David D PORTER, also had a hand The Union now controlled the whole Mississippi, and the trans-Mississippi West was severed from the rest of the Confederacy The fighting in that area (see WILSON CREEK, PEA RIDGE, PRAIRIE GROVE, ARKANSAS POST) had held Missouri for the Union and led to the partial conquest of Arkansas, but after the fall of Vicksburg, the war here, except for the unsuccessful Union Red River expedition of Nathaniel P BANKS and a last desperate Confederate raid into Missouri by Sterling PRICE (both in 1864), was largely confined to guerrilla activity Back on the Georgia-Tennessee line in Sept , 1863, Bragg, done for the moment with retreating, severely jolted the Federals, who were saved from a complete rout by the magnificent stand of George H THOMAS, the Rock of Chickamauga (see CHATTANOOGA CAMPAIGN) Grant, newly appointed supreme commander in the West, hurried to the scene and with William T SHERMAN, Hooker, and Thomas's fearless troops drove Bragg back to Georgia (Nov 25) Since Knoxville, occupied in September, withstood Longstreet's siege (Nov - Dec), all E Tennessee, hotbed of Unionism, was now safely restored to the Union In March, 1864, Lincoln, long an admirer of Grant, made him commander in chief Leaving the West in Sherman's capable hands, Grant came east, took personal charge of Meade's Army of the Potomac, and engaged Lee in the WILDERNESS CAMPAIGN (May-June, 1864) Outnumbered but still spirited, the Army of Northern Virginia was slowly and painfully forced back towards Richmond, and in July the dogged Grant began the long siege of PETERSBURG Although Jubal A EARLY won at MONOCACY (July 8), giving Washington a fright, the Confederates were unable to repeat Jackson's successful diversion of 1862, and Philip H SHERIDAN, victorious in the grand manner at Cedar Creek (Oct 19), virtually ended Early's activities in the Shenandoah Valley For his part, Sherman, opposed first by the wily Joe Johnston and then by John B HOOD, won the ATLANTA CAMPAIGN (May-Sept , 1864) On the political front, a movement within the Republican party to shelve Lincoln had collapsed, and, with Andrew JOHNSON, his own choice for Vice President over the incumbent Hannibal HAMLIN, the President was renominated in June, 1864 The Democrats nominated McClellan, who still had a strong popular following, on an ambiguous peace platform (largely dictated by Clement L VALLANDIGHAM, leader of the COPPERHEADS), which the ex-general repudiated Even so Lincoln was easily reelected After the fall of Atlanta, which had contributed to Lincoln's victory, Sherman "bummers" had a lark in their destructive march through Georgia Hood had failed to draw him back by invading Union-held Tennessee, and after the battle of Franklin (Nov 30) Hood's army was almost completely annihilated by Thomas at Nashville (Dec 15–16, 1864) Sherman presented Lincoln with the Christmas gift of Savannah, Ga., and then moved N through the Carolinas Farragut's victory at Mobile Bay (Aug. 5, 1864) had effectively closed that port, and on Jan 15, 1865, Wilmington, N.C , was also cut off (see FISHER, FORT). After Sheridan's victory at FIVE FORKS (April 1), the Petersburg lines were breached and the Confederates evacuated Richmond (April 3) With his retreat blocked by Sheridan, the noble Lee, wisely giving up the futile contest, surrendered to Grant at APPOMATTOX COURTHOUSE on April 9, 1865 The surviving Confederate armies also yielded when they heard of Lee's capitulation.

The New Nation The long war was over, but for the victors the peace was marred by the assassination of Abraham Lincoln, the great statesman of the war The ex-Confederate states, after enduring the further unpleasantness of RECONSTRUCTION with its corruption and vindictiveness, were readmitted to the Union, which had been saved and in which slavery was now abolished The Civil War brought death to more Americans than did any other war, including the Second World War Photographs by Matthew B. BRADY and others reveal some of the horror behind the statistics The war cost untold billions and nourished rather than canceled the hatreds and intolerance which persisted for decades It established many of the patterns, especially a strong central government, which are now taken for granted in our national life As the most important single epoch in U S history up to that time and for a long time afterwards, it has continued to fascinate Americans and even foreigners, notably the British Virtually every battlefield, with its graves, is either a national or a state park Monuments commemorating Civil War figures and events are conspicuous in almost all sizable Northern towns and are unavoidable in the Upper South Unfortunately, most of the artistic creations it inspired are unworthy of their subjects The reams of fiction written about the Civil War are mostly of the romantic type There are, however, some realistic pictures of the war in Stephen Crane's *Red Badge of Courage* (1896) and Margaret Mitchell's *Gone with the Wind* (1936) and one outstanding work in verse—Stephen Vincent Benét's *John Brown's Body* (1928) The quantity of historical literature on the Civil War is staggering to contemplate, and there is no single, adequate bibliographical guide For a useful, brief bibliography, see J G Randall, *The Civil War and Reconstruction* (1937), the best short study of the period in all its complexities On the causes of, and events leading up to, the war, see A C Cole, *The Irrepressible Conflict, 1850–1865* ("History of American Life" series, Vol VII, 1934), G F Milton, *The Eve of Conflict* (1934), A O Craven, *The Coming of the Civil War* (1942), Allan Nevins, *Ordeal of the Union* (Vols I and II, 1947) The most valuable published sources on the war itself are U S War Dept , *The War of the Rebellion a Compilation of the Official Records of the Union and Confederate Armies* (4 series, 70 vols in 128 vols , 1880–1901) and U S Dept of the Navy, *Official Records of the Union and Confederate Navies in the War of the Rebellion* (2 series, 30 vols , 1894–1922) Standard, older works on the military phase are Comte de Paris, *History of the Civil War in America* (Eng tr , 4 vols , 1875–88), C C Buel and R U Johnson, ed , *Battles and Leaders of the Civil War* (4 vols , 1877), J C Ropes, *The Story of the Civil War* (2 vols , 1898–99, completed by W R Livermore, 2 vols , 1913), and Sir Frederick Maurice, *Statesmen and Soldiers of the Civil War* (1926) *R E Lee a Biography* (4 vols , 1934–35) and *Lee's Lieutenants* (3 vols , 1942–44), both by Douglas Southall Freeman, and *Lincoln Finds a General* (Vols I and II, 1949), by Kenneth P Williams, are definitive in their respective fields See also T L Livermore, *Numbers and Losses in the Civil War in America, 1861–1865* (1901), Gamaliel Bradford, *Union Portraits* (1916), J F Rhodes, *History of the Civil War, 1861–1865* (1917); J B McMaster, *A History of the People of the United States during Lincoln's Administration* (1927), E C Smith, *The Borderland in the Civil War* (1927), R S Henry, *The Story of the Confederacy* (1931, new and rev ed , 1936), C R Fish, *The American Civil War an Interpretation* (1937), J B Egan and A W Desmond, *The Civil War Its Photographic History* (1941) See also the appropriate articles for memoirs, biographies, and special works on the personalities, questions, and events of the Civil War

Civitali, Matteo (mät-tä'ō chēvētä'lē), 1436–1501, Italian sculptor and architect, born and worked in Lucca He was a leader in the early Renaissance He is represented in the churches of Lucca. His *Angel of the Annunciation* is in the Metropolitan Museum

Civitavecchia (chē'vētä-vĕk'kēä), city (pop 24,822), Latium, central Italy, on the Tyrrhenian Sea The harbor was favored by Trajan, and the city still is the chief port of Rome, it also handles traffic for the industrial area of Terni and is the main point for communications with Sardinia The arsenal was built by Bernini, and the powerful citadel by Bramante and Michelangelo

Cl, chemical symbol of the element CHLORINE

Clackmannan (klăkmă'nŭn), parish (pop. 2,585), county town of Clackmannanshire, Scotland, near the north bank of the Forth. It has a tower of the Bruce family and an old market cross.

Clackmannanshire (klăkmă'nŭnshĭr) or **Clackmannan**, county (55 sq. mi., 1931 pop. 31,948, 1948 estimated pop. 36,186), S Scotland, situated at the head of the Firth of Forth. Clackmannan is the county seat, but near-by ALLOA is of greater importance. Clackmannanshire is the smallest county of Scotland. The land is largely cultivated, oats being the chief crop. Some coal is mined. Manufactures include textiles, ale, and whisky. See T. C. Gordon, *The History of Clackmannan* (1936).

Clacton, urban district (1931 pop. 15,848, 1943 estimated pop. 25,000), Essex, England, SE of Colchester. It is a seaside resort. Remains of a 12th-century abbey are near by.

Claflin, Tennessee, 1845–1923, lecturer on woman's suffrage, sister of Victoria WOODHULL. She married Sir Francis Cook in 1885.

Claiborne, William (klā'bŭrn), c 1587–c 1677, Virginia colonist, b. Westmorland co., England. He came to Virginia in 1621 as official surveyor and then served as secretary of state (1626–37, 1652–60) of that colony. He traded with the Indians, explored toward the head of Chesapeake Bay, and established a fort and settlement on Kent Island in the Chesapeake. He opposed the grant of Maryland to Lord Baltimore, and after Baltimore's order (1634) for his arrest, Claiborne undertook armed resistance from his stronghold. Claiborne went (1637) to England to justify his conduct, but the issue was decided in favor of Lord Baltimore. In 1642 Claiborne was made treasurer of Virginia, and several years later, claiming the authority of Parliament, he invaded Maryland and drove out the governor, Leonard Calvert. He controlled Maryland for several years and was a member (1652–57) of its governing commission.

Claiborne, William Charles Coles, 1775–1817, governor of Louisiana, b. Sussex co., Va. After studying law, he began practice in Sullivan co., Tenn., and was appointed a judge of the state supreme court in 1796. As a Congressman (1797–1801) he supported Jefferson, and in 1801 the President made him governor of Mississippi Territory. In 1803 Claiborne was one of the commissioners appointed to receive Louisiana from France after the Louisiana Purchase, and he was governor (1804–12) of the newly organized Territory of Orleans. He had a difficult time. American government was not well received by the Creoles, and Claiborne had many quarrels with legislators and others. He was also criticized for his apparent approval of the questionable activities of Gen. James WILKINSON. However, when the Territory of Orleans was admitted to the Union in 1812 as the state of Louisiana, Claiborne was elected governor and served till 1816. In 1817 he was elected to the U.S. Senate but died before he could take his seat. See Dunbar Rowland, ed., *Official Letterbooks of W. C. C. Claiborne, 1801–1816* (6 vols., 1917).

Clair, René (ŭnā' klăr'), 1898–, French moving-picture director. His films include *Sous les toits de Paris*, *À nous la liberté*, *Le Million*, *Le Dernier Milliardaire*, *The Ghost Goes West*, and *The Southerner*. Clair's films are filled with sophisticated wit and fantastic satire.

Clairaut, Alexis Claude (ălĕksēs' klōd' klĕrō'), 1713–65, French mathematician. He assisted P. L. M. de Maupertuis in measuring (1736) a degree of an arc of a meridian in Lapland. He is noted for his work on differential equations and on curves and for formulating Clairaut's theorem dealing with geodesic lines on the surface of an ellipsoid.

Clairon, Mademoiselle (klărôN), 1723–1803, French actress, whose real name was Claire Josèphe Hippolyte Léris de la Tude. She began in opera, appearing first at the Académie royale de Musique in 1743, before she played at the Comédie Française. Here, as a protégée of Voltaire, she acted with great success in his tragedies and in Racine's *Phèdre* and was associated with the innovator Lekain in reforming artificial costuming and technique. See her reminiscences, *Mémoires d'Hippolyte Clairon et réflexions sur la déclamation théâtrale* (1799).

Clairton, city (pop. 16,381), SW Pa., on the Monongahela and SE of Pittsburgh, inc. as a borough 1903, as a city 1922. Its manufactures include glass, brick, steel, chemicals, and coke by-products. Peters Creek Burying Ground has many pioneer graves.

Clairvaux (klărvō'), former abbey, Aube dept., NE France. It was founded by St. BERNARD OF CLAIRVAUX (1115) and became the real center of the CISTERCIANS. The abbey was suppressed in the French Revolution. Clairvaux was much studied for the architecture of medieval abbeys until Napoleon established a prison here.

clairvoyance (klărvoi'ŭns) [Fr., =clear seeing], power to perceive, as though visually, objects or persons not discernible through the ordinary sense channels. The word is used in connection with TELEPATHY, SPIRITISM, and PSYCHICAL RESEARCH and sometimes, loosely, to include all types of supernormal perception, such as SECOND SIGHT, and prophetic "visions" and "dreams." Clairvoyance may occur in a supposedly normal state (second sight) or more generally in a trance induced by various agencies, such as drugs, fasting, illness, hyperesthesia, or CRYSTAL GAZING.

Clallam Indians (klă'lŭm), North American Indian tribe of Salishan linguistic stock. They occupied the south shore of Puget Sound, in the present Washington.

clam, bivalve mollusk with a tough muscular foot with which it burrows into sand or mud. The hinged valves of the shell are closed by two large muscles and are marked by concentric rings of growth. The shell is a secretion of the mantle or fold of skin which covers the body. Respiration is carried on by the mantle and gills. The cilia of the gills create a current which carries water containing oxygen and food in through one siphon and water with wastes out through the other. The hard or round clam found from the Gulf of St. Lawrence to Texas is widely used for food. It was named quahog by the American Indians, who used the purple portion inside the shell as WAMPUM. When young, this species of clam is known as the little neck or cherry stone. The common edible soft or long clam is found from the arctic to Cape Hatteras. The common razor clam is found in mud flats and shallow water from Labrador to W. Florida. Often used for bait is the surf or sea clam. The giant clam found near tropical islands in the Indian and Pacific oceans sometimes weighs 500 lb. The name clam is applied to some fresh-water mussels.

clambake, form of seashore PICNIC peculiar to the United States. The custom was originally derived from the Indians who lived near the New England coast. As a repast, a clambake consists of a quantity of clams baked on a bed of hot stones in a hole in the ground. Often the clams are covered by a layer of potatoes, Indian corn, or fish. Over the food to be baked is placed a thick covering of seaweed, or some substitute, to retain heat. The clambake, a survival of primitive cookery, is well suited to political rallies and other large public gatherings.

clan, social grouping based on the common, unilateral descent of its members. It provides a pattern of relationship within the larger tribal or community organization and includes a number of family groupings. It differs from the family in tracing descent exclusively through one parent, male or female. Within the clan, family relations are extended beyond biological lines, and among many tribes which are organized as clans, marriage to a member of the same clan, is either prohibited or discouraged. Mutual duties and obligations among clan members are observed for life. Clans are found among peoples of every continent. They are useful in carrying out the social functions of the FAMILY, the clan, a larger group with common obligations and relations, is a framework for putting the family ideals into social action, for attaining social solidarity.

Clanricarde, Ulick de Burgh, 5th **earl of** (u'lĭk du bûrg', klănrĭ'kurd), 1604–57, Catholic Irish nobleman. He assisted the lord deputy, James Butler, 12th earl of ORMONDE, in his attempt, during the Puritan Revolution, to unite Catholics and Protestant royalists and hold Ireland loyal to Charles I. When Ormonde left Ireland (1650), he named Clanricarde his deputy. The earl made peace with Oliver Cromwell (1652) at the request of Charles II.

Clanton, town (pop. 3,982), co. seat of Chilton co., central Ala., NW of Montgomery, in a farm area, inc. 1873. A textile mill is here, and power dams are on the near-by Coosa river.

clapboard, board used for the exterior finish of a wood-framed building and attached horizontally to the wood studs. The word, in its original and strict use, refers to a product of New England, boards of similar type made elsewhere are termed siding. Clapboards are particularly characteristic of the United States, having been steadily used since the earliest years of the colonial settlements. They vary in width, but average 6 to 8 in., and taper from ⅝ inch thickness at the butt end, which is laid downward, to ⅛ inch thickness at the top. Each clapboard overlaps the one below it, leaving about 4½ in. exposed to the weather. White pine is considered the best wood for clapboards, cedar, cypress, and spruce are also used.

Clapham (klăp'ŭm), residential district of Wandsworth metropolitan borough, SW London, England.

Clapperton, Hugh, 1788–1827, Scottish explorer. After serving with the British navy in the East Indies and in Canada, he made two journeys of exploration into Nigeria (1822–25, 1825–27). Accompanied by Richard Lander, he reached (1827) the Niger river. After Clapperton's death at Sokoto, Lander returned to the coast with Clapperton's records, which were published (1829) as *Journals of a Second Expedition into the Interior of Africa*.

Clare or **Clara, Saint,** 1193?–1253, Italian nun of Assisi, devoted from her youth to St. FRANCIS, to whom she took a vow of poverty. She led a life of great austerity. Her companions she formed into the Franciscan nuns or Poor Clares. She struggled a long time for the preservation of the primitive poverty of her order. Her feast: Aug. 12.

Clare, John, 1793–1864, English poet, called the English Burns. *Poems Descriptive of Rural Life* (1820) made him famous, but Clare, essentially a peasant, did not utilize his opportunities. Other volumes, including *The Village Minstrel* (1821) and *Rural Muse* (1835), showed talent but were not so well received. In 1837 he became insane. See his *Poems* (ed. by J. W. Tibble, 1935) and autobiographical *Sketches* (ed. by Edmund Blunden, 1931), biography by J. W. Tibble and Anne Tibble (1932).

Clare, John Fitzgibbon, 1st **earl of,** 1749–1802, Irish statesman. He was called to the bar in 1772, was appointed attorney general of Ireland in 1783, and was made lord chancellor in 1789. He opposed James Napper TANDY, initiated legislation to suppress the WHITEBOYS, and bitterly opposed Catholic Emancipation. He was one of the earliest advocates of the union of Great Britain and Ireland and was so violently hated by the Irish people that a mob broke up his funeral.

Clare, Richard de see PEMBROKE, RICHARD DE CLARE, 2D EARL OF.

Clare, maritime county (1,231 sq. mi., pop. 85,064), Munster prov., Ireland, between Galway Bay and the Shannon. The county town is Ennis. The surface is broken and hilly, with many bogs and lakes, and the coastline is especially rugged. Much of the land is completely barren. The chief river is the Fergus. Fishing and farming (sheep, cattle, pigs, poultry, and the cultivation of oats and potatoes) are the chief occupations. The population has declined steadily for the last hundred years. There are a number of round towers and other relics of ancient occupation. Once part of the Irish subkingdom of Thomond, the region came under the control of the Anglo-Norman family of Clare in the 13th cent.

Clare, city (pop. 1,844), N Mich., NW of Bay City and on the Tobacco river, inc. as a village 1879, as a city 1891. It is in an area of lakes and streams, dairy farms, and gas and oil wells.

Clare College see CAMBRIDGE UNIVERSITY.

Clare Island, 4 mi. long and up to 2 mi. wide, off W Ireland, in Co. Mayo, S of Achill and at the entrance to Clew Bay. A lighthouse is on the northeast coast. There are ruins of a 13th-century Carmelite abbey and of the 16th-century castle of Grana or Grace O'Malley, queen of the island.

Claremont 1 City (pop. 3,057), in San Jose township, S Calif., E of Los Angeles, inc. 1907. It is a packing and shipping point in a citrus-fruit region. CLAREMONT COLLEGE is here. 2 Town (pop. 12,144), SW N.H., on the Sugar river near its junction with the Connecticut and S of Lebanon, settled 1762, inc. 1764. Its water power, used from c 1790, helps produce the city's mining and milling machinery, textiles, paper, and shoes. The oldest Roman Catholic church in the state (begun 1823) is here, and in near-by West Claremont is Union Church, the state's oldest Episcopal church (begun 1773). Constance Fenimore Woolson was born in the town, and Albert Ball lived here.

Claremont College, at Claremont, Calif., nonsectarian, coeducational, chartered 1925 as Claremont Colleges, renamed 1944. The graduate school maintains a central library and museum and shares the joint activities of its associated colleges: Claremont Men's College (opened 1946), emphasizing business and public administration, Pomona College (coeducational, chartered 1887, opened 1888 by Congregationalists), and Scripps College (for women, chartered 1926, opened 1927), which pioneered with humanities courses. The students may interchange courses.

Claremore, city (pop. 4,134), co. seat of Rogers co., NE Okla., NE of Tulsa, settled in the late 19th cent. on the site of an Indian town, inc. as a town 1896 as a city 1908. Will Rogers was born near by and lived in Claremore, a memorial to him was dedicated in 1938. A U.S. Indian hospital and a state military academy are here. The site of a famous Indian battle (1817) is outside the city.

Clarence, George, duke of (klă'rŭns), 1449–78, son of Richard, duke of York. In defiance of his brother, Edward IV, Clarence married Isabella Neville and joined her father, Richard, earl of WARWICK, in rebellions against the king in 1469–70. He deserted this party in 1471, however, and was pardoned by the king. In 1478, exasperated by Clarence's continued factiousness, Edward had him arrested for treason and thrown into the Tower. Before sentence could be passed he was killed. Legend declares that he was drowned in a butt of malmsey wine. He is one of the prominent characters in Shakspere's *Richard III*.

Clarence, Lionel, duke of (lī'ŭnul), 1338–68, third son of EDWARD III of England, b. Antwerp. His marriage (1352) to Elizabeth de Burgh gained him the title and lands of the earl of Ulster. Governor of Ireland from 1361 to 1367, he presided at the assembly where the notorious Statute of Kilkenny was adopted, forbidding all dealings between the English in Ireland and the Irish. He died soon after his later marriage to Violante Visconti of Milan. His daughter, Philippa, married Edmund Mortimer, earl of March. Their granddaughter, Anne Mortimer, married Richard, earl of Cambridge (d. 1415), and their son, Richard, duke of

York, derived his claim to the throne through his descent from Lionel

Clarence, city (pop. 1,157), NE Mo , NE of Moberly; founded 1857. It is a grain-shipping point

Clarendon, Edward Hyde, 1st earl of (klă'rŭndŭn), 1609–74, English statesman and historian He entered Parliament in 1640 and there supported the impeachment of the king's powerful minister, Thomas Wentworth, earl of Strafford He believed in a constitutional monarchy, however, and aided Charles I by drafting a reply to the Grand Remonstrance and by attempting to secure money for him from Parliament At the end (1645) of the civil war he represented the king in negotiations Hyde followed Prince Charles (later Charles II) into exile in 1646 and was one of his chief advisers Pursuing Hyde's policy, Charles awaited the appearance of a strong and friendly faction in England and successfully negotiated his own restoration Hyde was created Baron Hyde in 1660 and earl of Clarendon in 1661 Also in 1660 his daughter Anne was married to James, duke of York (later James II). As lord chancellor (1660–67) he worked to obtain a lenient religious settlement for non-Anglicans Overborne in this by Parliament (he opposed the adoption of the Clarendon Code), unsuccessful in his diplomacy with Holland (see Dutch War 2), and unpopular with the licentious court, he was removed (1667) from office Although his impeachment failed, he fled England and lived the remainder of his life in exile As a statesman he was consistent and moderate, in sharp contrast to most of his contemporaries at court. His famed *History of the Rebellion* (3 vols , 1702–4), written partly from memory and partly from documents, is an indispensable account on the civil war See his autobiography (1759), biography by T H Lister (3 vols , 1838), study by C. H Firth (1909)

Clarendon, George William Frederick Villiers, 4th earl of, 1800–1870, English statesman His numerous early missions abroad included intervention (1833–35) in the Spanish civil wars, and he was (1839–41) lord privy seal As lord lieutenant of Ireland (1847–52), he made efforts to ease disorder and distress during the famine He was foreign secretary (1853–58) during the Crimean War, kept together the French Alliance with England, and was one of the negotiators of the Peace of Paris (1856) He was twice again foreign secretary (1865–66, 1868–70), and in his second administration the Alabama claims of the United States were settled See biography by H. E. Maxwell (2 vols., 1913); George Villiers, *Vanished Victorian* (1938)

Clarendon. 1 Shipping city (pop 2,551), co seat of Monroe co , E Ark , at the junction of the White and Cache rivers, in a rich farm and fishing area, settled c 1819 A state game refuge is near by 2 City (pop 2,431), co seat of Donley co , extreme N Texas, ESE of Amarillo in the Panhandle, inc 1901. Settled by ministers and intellectuals in the golden days of cattle ranching in the 1870s, it was known to the cowboys as "Saints' Roost " In 1887 it was moved to the railroad and now is the shipping and processing point for the cattle, grain, and cotton of the area There is a junior college

Clarendon, Constitutions of, 16 articles signed in 1164 at Clarendon Park, Wiltshire, England, by the Great Council of Henry II They are important in the development of English law because they extended the jurisdiction of the king's (the civil) courts at the expense of the church courts Henry claimed that the constitutions were based on the customs of the kingdom, especially those established in the reign of Henry I Thomas à Becket, archbishop of Canterbury, agreed to the constitutions under pressure, but later with papal permission repudiated them, and his quarrel with Henry ended only with Becket's murder in 1170

Clarendon Code, English statutes adopted by the Cavalier Parliament between 1661 and 1665 to strengthen the position of the Established Church There were four The Corporation Act (1661) required all officers of incorporated municipalities to take the sacrament according to the rites of the Church of England and to abjure the Solemn League and Covenant (Presbyterian) The Act of Uniformity (1662) required all ministers in England and Wales to use and subscribe to the Book of Common Prayer; over 2,000 ministers were forced to resign by this act The Conventicle Act (1664) forbade the assembling of five or more persons for religious worship other than Anglican. The Five-Mile Act (1665) forbade any nonconforming preacher or teacher to come within 5 mi of a corporate town or any place where he had served as minister. These laws, named after Edward Hyde, earl of Clarendon, chief minister of Charles II at the time of their passage, decreased the following of numerous dissenting sects, especially the Presbyterians Clarendon himself opposed their enactment, but after their passage labored for their enforcement. Charles II, to court popularity with dissenters and to ease the position of the Catholics (with whom he was in sympathy), attempted to interfere with the operation of these laws by his unsuccessful Declaration of Indulgences in 1662 and 1672. As a political device to weaken the Whigs, the Clarendon Code was largely superseded by the Test Act of 1673, although some of the statutes, in modified form, remained in force for some time.

Clarendon Hills, village (pop. 1,281), NE Ill., western suburb of Chicago, inc. 1924.

Clarens (klärĕ'), village, Switzerland, on the Lake of Geneva near Montreux It is a resort and was a residence of Byron, its vicinity is described in Rousseau's *Nouvelle Héloïse*

Claresholm, town (pop. 1,306), S Alta., S of Calgary and N of Macleod It is in a mixed farming and ranching district

claret see wines.

Claretie, Jules (shül' klärtē'), pseud of **Arsène Arnaud** (ärsĕn' ärnō'), 1840–1913, French journalist and author A correspondent in the Franco-Prussian War, he was known for his excellence of reporting In 1885 he became director of the Comédie Française and in 1888 was elected to the French Academy His novels *Un Assassin* (1866) and *Monsieur le ministre* (1881, Eng tr , 1882) were extremely successful, as were his plays of the Revolution, *Les Muscadins* (1874), *Le Régiment de Champagne* (1877), and *Les Mirabeau* (1879). It is his history and criticism, however, which are particularly outstanding, especially *Histoire de la révolution de 1870–1871* (1875–76) and *La Vie moderne au théâtre* (1869–75)

Clarinda (klurĭn'dù), city (pop 4,905), co seat of Page co , SW Iowa, on the Middle Nodaway river near the Mo line, inc 1866 Dairy products are made here It is the seat of a state hospital for the insane

clarinet (klărunĕt'), in music, wind instrument of cylindrical bore employing a single beating reed The clarinet family comprises all single-reed instruments, including the saxophone and several obsolete instruments A simple clarinet was made of cane by the ancient Egyptians The predecessor of the modern clarinet was the French chalumeau, parts for which appear in the opera scores of Gluck and Rameau Keys were added by J C Denner of Nuremberg in 1690, and his son, in 1720, made other improvements In 1732 it was called the clarinet Mozart made extensive use of it Improvements in the 19th cent , employing the principles of Theobald Boehm, were slow to gain acceptance because additional keys necessitated new systems of fingering The clarinet in B flat is the standard orchestral one of today, and the gentler one in A is often used in chamber music, the shrillier ones in C and E flat have been used mainly in military bands Various others have had limited use in certain periods All except the one in C are transposing instruments See Adam Carse, *Musical Wind Instruments* (1939)

Clarion. 1 City (pop 2,971), co seat of Wright co., N central Iowa, SW of Mason City, inc 1881. 2 Borough (pop 3,798), co. seat of Clarion co , W Pa , on the Clarion river (a tributary of the Allegheny) and SE of Franklin, laid out 1840, inc 1841 The area yields natural gas, bituminous coal, and clay A state teachers college is here

Clark, Abraham, 1726–94, American patriot, signer of the Declaration of Independence, b Elizabethtown (now Elizabeth), N J After holding several local offices, Clark became, at the beginning of the American Revolution, a member and later secretary of the New Jersey committee of safety He was a member (1775) of the New Jersey provincial congress, which appointed him (1776) delegate to the Continental Congress Clark served three further terms in Congress, and in the interim periods he served in the New Jersey legislature

Clark, Alvan, 1804–87, American astronomer and maker of astronomical lenses, b Ashfield, Mass The firm of Alvan Clark & Sons was established at Cambridgeport, Mass , it became famous as the manufactory of the largest and finest telescope lenses The first achromatic lenses made in the United States were produced there Clark's son, **Alvan Graham Clark,** 1832–97, b Fall River, Mass , became a partner in the business Among lenses made under his direction are the 26-inch lens at the U S Naval Observatory, Washington, D C , the 36-inch lens at Lick Observatory, and the 40-inch lens at Yerkes Observatory The younger Clark discovered a number of double stars as well as the companion star of Sirius

Clark, Austin Hobart, 1880–, American biologist, b. Wellesley, Mass., grad. Harvard, 1903 He made various scientific expeditions to Venezuela (1901), to the Lesser Antilles (1903–5), and elsewhere and conducted research in marine biology, ornithology, entomology, and oceanography. His works include *Animals of Land and Sea* (1925), *Nature Narratives* (2 vols., 1929–31), and *The New Evolution* (1930)

Clark, Bennett Champ, 1890–, U S Senator from Missouri (1933–45), b Bowling Green, Mo , grad Univ. of Missouri, 1913, LL.B. George Washington Univ., 1914, son of Champ Clark. He wrote a biography of John Quincy Adams (1932). In 1945 he became a justice of the Federal court of appeals in the District of Columbia.

Clark, Champ, 1850–1921, American legislator, b. near Lawrenceburg, Ky., educated at the Cincinnati Law School. His full name was James Beauchamp Clark. After a career as lawyer, newspaper editor, and politician in Missouri, he was a member of the House of Representatives (1893–95, 1897–1921). In 1907 he became Democratic leader in the House, and in 1910 he led the successful fight to curtail the powers of Joseph G Cannon as speaker He was speaker himself (1911–19) in the busy years of Woodrow Wilson's first administration and in the First World War. In 1912 he was a leading candidate for the Democratic nomination for President but lost out after W J Bryan shifted his support to Wilson. See his autobiographical *My Quarter Century of American Politics* (1920)

Clark, Charles Edgar, 1843–1922, U S admiral, b Bradford, Vt , grad Annapolis, 1863 As an ensign he took part in David G Farragut's victory at Mobile Bay in the Civil War In 1898 as commander of the *Oregon*, he received (March 19) the order to join the Atlantic fleet and arrived off Florida (May 24) after a 14,000-mile voyage around Cape Horn in time to take part in the blockade of Santiago de Cuba and the defeat and destruction of Admiral Cervera's Spanish fleet He was promoted rear admiral in 1902 and retired in 1905. See his autobiographical *My Fifty Years in the Navy* (1917)

Clark, Charles Heber, 1847–1915, American author, b Berlin, Md A successful journalist in Philadelphia, he wrote books under the pen name Max Adeler His first and most popular book was *Out of the Hurly Burly* (1874), farcical stories of suburban life He wrote several serious novels, among them *The Quakeress* (1905).

Clark, Francis Edward, 1851–1927, American Congregational clergyman, founder of Christian Endeavor. He was born of American parentage in Aylmer, Que , and was graduated from Dartmouth College in 1873 While serving as pastor of the Williston Congregational Church, Portland, Maine, he organized (1881) the first Young People's Society of Christian Endeavor He was a lifelong leader in this movement

Clark, George Rogers, 1752–1818, American Revolutionary general, conqueror of the Old Northwest, b near Charlottesville, Va , brother of William Clark. A surveyor, he was interested in Western lands, served (1774) in Lord Dunmore's War, and later went to Kentucky for the Ohio Company In 1776, after the Revolution was well begun, he went as representative of the settlers and secured Virginia's assertion of sovereignty over the region and the framework of local government He returned in time to repel British and Indian attacks on Harrodsburg, Ky , and other posts In 1778 he made plans for aggressive action against the British in the Old Northwest and, going to Virginia, persuaded Gov Patrick Henry and his council to send an expedition At its head, he swept into the Illinois country and took the British-held settlements of Kaskaskia, Cahokia, and Vincennes The British under Gen Henry Hamilton advanced from Detroit and retook Vincennes after Clark had left Winter and Ohio floods halted Hamilton there, but Clark and his men, defying cruel conditions of cold and hardship, braved the flooded bottom lands to come back With the heroic aid of Francis Vigo, François Bosseron, and Father Gibault, he struck at the British fort and surprised and captured Hamilton and the garrison in Feb , 1779 After this, the greatest of his exploits, Clark hoped to capture Detroit, but adequate supplies never came from Virginia to the fort he had built (Fort Nelson, where Louisville now stands), and he remained inactive In 1780 he blocked a British plan to take St Louis and in the present Ohio defeated a party of Shawnee Two years later, after the British and Indians had disastrously defeated the Kentuckians in the battle of Blue Licks, Clark, who had not taken part in the battle, led another expedition northward against the Indians and again demonstrated control of the region His services had been rewarded by the rank of brigadier general in the Virginia militia, and he was made an Indian commissioner In 1786 he led another expedition against the Indians in Ohio. His own narrative of the capture of Vincennes is in Milo M Quaife, ed., *The Capture of Old Vincennes* (1927). See biography by James A James (1928).

Clark, Henry James, 1826–73, American botanist and zoologist, b. Easton, Mass., grad Univ. of the City of New York (now New York Univ), 1848 He studied under Asa Gray at Harvard and there met Louis Agassiz, whom he assisted in preparing parts of his *Contributions to the Natural History of the United States of America* (4 vols , 1857–62) He taught zoology at Harvard (1860–65). Clark contributed to the cell theory and to knowledge of the histology of the Porifera and Coelenterata.

Clark, John, 1766–1832, governor of Georgia (1819–22), b. Edgecomb co., N C. As a boy he served with his father, Elijah Clarke, in the American Revolution and afterwards won distinction as an Indian fighter He became the hero and leader of the democratic frontiersmen of Georgia in their political struggle with the planters of the coast and the wealthy farmers of the uplands, led by George M. Troup and William H. Crawford.

Clark, John Bates, 1847–1938, American economist, b. Providence, R.I., Ph D. Amherst, 1890, studied in Germany. He was on the Columbia Univ. faculty from 1895 to 1923. He criticized, extended, and refined many concepts in the tradition of classical economics and was the chief exponent of marginal utility in the United States In his most distinguished work, *The Distribution of Wealth* (1899), he attempted to find laws controlling the distribution of wealth in an unchanging or static (as opposed to dynamic) society He was also concerned with the ethical bases of economics His influence was enormous in his time His other writings include *The Philosophy of Wealth* (1885) and *The Essentials of Economic Theory* (1907) See *John Bates Clark a Memorial* (1938), published by his children His son, **John Maurice Clark,** 1884–, b Northampton, Mass , is also an economist A graduate of Amherst (1905), he received his Ph D (1910) from Columbia and has been professor of economics there since 1926 He has also been a consultant for several government agencies Departing from the orthodox economics of his father, J M Clark has sought to widen the scope of the discipline by considering the psychological and social factors of economic life and analysing the institutional background In *Studies in the Economics of Overhead Costs* (1923), *Social Control of Business* (1926, 2d ed , 1939), and *Strategic Factors in Business Cycles* (1934) he has made original contributions Among his other works are *Preface to Social Economics* (1937) and *Alternative to Serfdom* (1948), in the latter he advocates social and economic planning

Clark, Jonas Gilman, 1815–1900, founder of Clark Univ , b Hubbardston, Mass After a long career in business and finance, he became interested in higher education, making extended trips of observation abroad and interviewing American college presidents In 1880 he moved to Worcester, Mass , and in 1887 announced the founding there of Clark Univ with an endowment of $1 000,000, to which, by will, was added his residuary estate for the establishment of Clark College, the undergraduate school

Clark, Joshua Reuben, Jr., 1871–, American diplomat, b Grantsville, Utah, grad Columbia School of Law, 1906 J Reuben Clark rose in the service in the Dept of State and was (1928–29) Undersecretary of State before serving (1930–33) as ambassador to Mexico He gave a nonintervention interpretation to the Monroe Doctrine and helped to smooth out troubles between the United States and Mexico

Clark, Josiah Latimer, 1822–98, English engineer and electrician He is known for his standard Clark cell While chief engineer of the Electric and International Telegraph Company he made a special study of electrical measurements With his partner, Sir Charles Tilston Bright, he invented an insulated covering for submarine cables and later assisted in laying the first S Atlantic cable, from Pernambuco to Senegal He invented a pneumatic dispatch tube and a stereoscopic single-lens camera and was a leader in the movement for the systematization of electrical standards He wrote *An Elementary Treatise on Electrical Measurement* (1868), *Dictionary of Metric Measures* (1891), and (with Robert Sabine) *Electrical Tables and Formulae* (1871) His brother, Edwin Clark (1814–94), invented the Clark hydraulic-lift graving dock

Clark, Lewis Gaylord, 1808–73, American editor, b near Syracuse, N Y , grad Onondaga Academy He edited (1834–60) the *Knickerbocker Magazine*, and made it the leading literary publication of its day He wrote *Knickerbocker Sketch-Book* (1845) and *Knick-Knacks from an Editor's Table* (1852) See *The Letters of Willis Gaylord Clark and Lewis Gaylord Clark* (ed by L W Dunlop, 1940).

Clark, Mark Wayne, 1896–, American general, b Madison Barracks, N Y , grad West Point, 1917 A captain in the First World War, he rose to become (1940) army ground forces chief of staff During the Second World War, he commanded (1943–44) the U S 5th Army in North Africa and in Italy, became (1944) Allied commander in Italy, and was promoted (1945) full general He served (1945–47) as head of the U S occupation forces in Austria

Clark, Tom Campbell, 1899–, Associate Justice of the U S. Supreme Court (appointed Aug , 1949), b Dallas, Texas, grad Univ of Texas (B A , 1921, LL B , 1922) A protégé of Tom Connally, Clark became (1937) special assistant to the Attorney General, coordinated (1942) war relocation of the West Coast Japanese, and headed the antitrust division (1943) and the criminal division (1945) of the Dept of Justice As Attorney General (1945–49) he was noted for suits against trusts and disloyal groups. He succeeded Frank Murphy on the Supreme Court bench

Clark, Walter, 1846–1924, American jurist, b. Halifax co , N C., grad Univ. of North Carolina, 1864 He entered the Confederate army at 15 and was commended for gallantry at Antietam and Fredericksburg. After the war, Clark was graduated (1867) from the Columbia School of Law, was appointed judge of the superior court (1885) and later (1889) of the supreme court of North Carolina. He gained a national reputation for his independent decisions He supported many progressive causes in addresses and articles Clark prepared an *Annotated Code of Civil Procedure* and *Supreme Court Reports* (164 annotated volumes), edited 16 volumes of the *North Carolina Records*, and did other writing and translating See biography by Aubrey L Brooks (1944).

Clark, William, 1770–1838, American explorer, one of the leaders of the LEWIS AND CLARK EXPEDITION, b Caroline co , Va , brother of George Rogers Clark He was an army officer (1792–96), serving in a number of Indian engagements In 1803 he was chosen by his friend Meriwether Lewis to accompany the overland expedition to the Pacific He contributed greatly to the success of the expedition through his interest in natural history and through his journals and maps, which provided valuable records In 1807, after the expedition had returned, he was appointed superintendent of Indian affairs, with headquarters at St Louis, and from 1813 to 1821 he was governor of Missouri Territory In 1814, during the War of 1812, he led an expedition against the British and Indians in the upper Mississippi valley, upon reaching Prairie du Chien, Wis , he built Fort Shelby Later, with Auguste Chouteau, he negotiated a number of important treaties with the Indians and aided in suppressing the Winnebago and Black Hawk uprisings He was again superintendent of Indian affairs from 1821 until his death

Clark, William Andrews, 1839–1925, U S Senator and copper magnate, b Fayette co , Pa He moved to Montana, where he amassed a large fortune from the development of the copper mines He wielded immense power and had a long feud with Marcus DALY for control of the copper deposits and of political forces—virtually of Montana Clark had political ambitions and was president of the Montana constitutional conventions of 1884 and 1889 but was defeated in the race of 1888 to be territorial delegate to Congress Daly blocked Clark's moves skillfully, and though Clark claimed election as one of Montana's first Senators, the Senate instead seated his Republican opponent In 1893 the state legislature was deadlocked, and Montana was left with only one Senator In 1899 there was another deadlock, and Clark was declared elected only to resign in face of a Senate investigation and a pending resolution to void his election In 1901 he was duly elected and this time served his term and retired He tied the exploitation of copper to Eastern capital, winning over such brilliant rivals as F Augustus Heinze, and was powerful in copper development in Arizona as well as in Montana

Clark, William Smith, 1826–86, American educator, b Ashfield, Mass , grad Amherst, 1848, and studied chemistry and botany at Gottingen (Ph D , 1852) He taught at Amherst until the Civil War, fought in many battles, and emerged from the struggle a brigadier general He was elected to the Massachusetts General Court in 1864, 1865, and 1867 and while there secured the location at Amherst of the Massachusetts Agricultural College (which is the present-day Univ of Massachusetts) He was president of this institution from 1867 to 1879, helped organize its work, and taught botany and horticulture He went to Japan (1876–77) to establish the Imperial College of Agriculture at Sapporo

Clark, Willis Gaylord, 1808–41, American editor and poet, twin brother of Lewis Gaylord CLARK At one time an editor of the *New-York Mirror*, he became editor and owner of the Philadelphia *Gazette* His *Literary Remains* (1844) includes the sketches and verse which he contributed to the New York *Knickerbocker Magazine*

Clark, city (pop 1,291), co seat of Clark co , E S Dak , W of Watertown, founded 1882 It is the trade center of a grain and stock-raising area.

Clark College, at Atlanta, Ga , Negro, Methodist, coeducational, opened 1870, chartered 1877, named for a donor It cooperates with the Atlanta Univ System

Clarkdale, unincorporated town (pop 1,684), central Ariz , on the Verde river and NE of Prescott It was founded to smelt (after 1915) copper mined at Jerome Many Verde valley Indian ruins are near by, including those of Tuzigoot

Clarke, Sir Caspar Purdon, 1846–1911, English art connoisseur and architect, studied in France and England He made the plans for remodeling the houses of Parliament and served under the royal commission at the Paris exposition of 1878 He became director of South Kensington Museum, London, and while in India collecting art works he supervised plans for the Colonial and Indian Exhibition of 1885 He was director of the Metropolitan Museum, New York, 1905–10

Clarke, Charles Cowden, 1787–1877, English schoolmaster, friend of Keats (who was a pupil of Clarke's father) and of other eminent men of letters His lectures on Shakspere were published as *Shakespeare Characters* (1863). With his wife, **Mary Victoria (Novello) Cowden Clarke,** 1809–98, he wrote *Recollections of Writers* (1878) and *The Shakespeare Key* (1879) Mrs Clarke compiled *The Complete Concordance to Shakespeare* (1844–45) See R. D Altick, *The Cowden Clarkes* (1949)

Clarke, Edward Daniel, 1769–1822, English traveler and mineralogist He was appointed professor of mineralogy (1808) and librarian (1817) at Cambridge He collected valuable relics in Egypt and the Near East, writing accounts of his finds and of his journeys See biography by Bishop William Otter (1825)

Clarke, Helen Archibald, 1860–1926, American author, editor, and musician, b Philadelphia, grad Music School, Univ of Pennsylvania, 1883 She edited the works of Robert and Elizabeth Barrett Browning and the First Folio edition of Shakspere and with Charlotte Porter founded the magazine *Poet Lore* (1888) Her works include *Browning's Italy* (1907), *The Poet's New England* (1911), and *Browning and His Century* (1912)

Clarke, James Freeman, 1810–88, American Unitarian clergyman and author, b Hanover, N.H , grad Harvard, 1829, and Harvard Divinity School, 1833 While in charge of the Unitarian church in Louisville, Ky , 1833–40, he was for three years editor of the *Western Messenger* He helped found the Church of the Disciples in Boston in 1841 and was its pastor until 1888, except the years 1850–54, and was a nonresident professor in the Harvard Divinity School, 1867–71 The Transcendental Club, with such members as Bronson Alcott and Emerson, included Clarke, and he was active in the antislavery, woman-suffrage, and other reform movements Among his books, influential in their day, were *Ten Great Religions* (2 vols , 1871–83), *Orthodoxy Its Truths and Errors* (1866), and *Essentials and Non-Essentials in Religion* (1878). See biography by E E Hale (1891), which includes a fragmentary autobiography

Clarke, John, 1609–76, one of the founders of Rhode Island, b Westhorpe, Suffolk, England He came to Boston in 1637 Sympathetic to Anne HUTCHINSON in the antinomian controversy, he joined her and William CODDINGTON in founding Portsmouth on Aquidneck (Rhode Island) in 1638 Clarke supported Coddington in his contest with the Hutchinson-Gorton party and in 1639 withdrew with him to found Newport He was both physician and Baptist pastor at Newport. Unlike Coddington, Clarke favored the union in 1647 of the Aquidneck settlements with Providence and Warwick and in 1651 went with Roger WILLIAMS to England There they succeeded in having revoked the Coddington commission Clarke remained in England as colonial agent and was the most influential figure in securing from Charles II the liberal charter of 1663 On his return he served (1664–69) in the general assembly and was thrice deputy governor His *Ill Newes from New England* (1652) was an arraignment of Massachusetts authorities for their hostility to religious liberty

Clarke, John Hessin, 1857–1945, American jurist and writer on international affairs, b Lisbon, Ohio, grad Western Reserve Univ (B A , 1877, M A , 1880) A lawyer in Lisbon, then in Youngstown then in Cleveland, he associated himself with the reform group around Tom L JOHNSON and in 1893 was the reform candidate unsuccessfully opposing Mark Hanna for the U S Senate He was a Federal judge in Ohio before he was appointed (1916) an Associate Justice of the Supreme Court by President Wilson He resigned to devote himself to the cause of world peace and was a strong advocate of U S entrance into the League of Nations He wrote *America and World Peace* (1925)

Clarke, John Mason, 1857–1925, American paleontologist, b Canandaigua, N Y , grad Amherst, 1877 He studied abroad, taught at Smith (1881–84), and was (from 1894) professor of geology at Rensselaer Polytechnic Institute He was associated with the paleontological and geological surveys of New York state from 1886, succeeding James Hall in 1898, and from 1904 was state geologist and director of the state museum at Albany He was an authority on the Devonian period and wrote many books and papers on geology and paleontology

Clarke, Marcus Andrew Hislop, 1846–81, Australian author, b London He emigrated to Australia in 1863 He wrote a number of plays and novels, including that classic of Australian fiction, *For the Term of His Natural Life* (London, 1874), a somber and powerful story of life in a penal settlement.

Clarke, Mary Victoria (Novello) Cowden: see CLARKE, CHARLES COWDEN

Clarke, Richard W . see DEADWOOD DICK

Clarke, Samuel, 1675 1729, English philosopher and divine He held various rectorships, was chaplain in ordinary to Queen Anne, translated Greek and Latin classics, and wrote on scientific, philosophical, and religious subjects He supported the theories of Newton and argued with Leibniz in defense of the existence of absolute space Clarke maintained that ethical law is as constant as mathematical law His published works include many translations, lectures, sermons, and commentaries. His treatise *The Scripture Doctrine of Unity* appeared in 1712 The Leibniz correspondence was published in 1717.

Clarke, Thomas Shields, 1860–1920, American painter and sculptor, b Pittsburgh, studied at the Art Students League of New York and in Paris and Italy He painted *A Fool's Fool* (Pa Acad of the Fine Arts) and *Night Market in Morocco* (Philadelphia Art Club) His sculptures include *The Cider Press,* Golden Gate Park, San Francisco, the caryatids of the *Four Seasons* on the Appellate Courthouse, New York, and *Alma Mater,* Princeton Univ

Clarke, Walter, c 1638–1714, colonial governor of Rhode Island, b Newport, R I He was deputy governor (1679–86, 1700–1714) and was three times governor (1676–77, 1686, 1696–98) of Rhode Island He is chiefly remembered for his refusal to surrender the Rhode Island charter upon the demand of Sir Edmund Andros

Clarke, William Branwhite, 1798–1878, English geologist and clergyman He made 15 geological trips to the European continent before going, in 1839, to New South Wales, where he had a church for 25 years He discovered gold, tin, and diamonds and developed the coal fields in Australia

Clarke College see DUBUQUE, Iowa.

Clark Fork [for William Clark], river, c 360 mi long, part of the Columbia river system, rising in SW Montana near Butte and flowing N to Deer Lodge and then NW past Missoula and on to Pend Oreille Lake in the Idaho Panhandle The PEND OREILLE river, which flows westward from the lake, is sometimes called a continuation of Clark Fork The early headwater near Butte is Silver Bow Creek, and parts of its course are also called Hell Gate and Missoula Its chief tributary is the Bitterroot

Clarksburg. 1 Textile town (pop 1,317), NW Mass, near the Vt line, settled 1769, inc 1798 Briggsville is the population center 2 City (pop 30,579), co seat of HARRISON co, N W Va, SSE of Wheeling at the confluence of Elk Creek and the West Fork of the Monongahela, chartered 1785 It is an industrial city producing glass, toy marbles, chemicals, tin plate, food products, and building blocks and is the trading center for an area of coal mines, oil and gas fields, and grazing lands It was an important Union supply base during the Civil War Stonewall Jackson was born here

Clarksdale, city (pop 12,168), co seat of Coahoma co, NW Miss, on the Sunflower and SSE of Memphis, Tenn, in a rich cotton area, settled 1848 on the site of an Indian fortification, inc 1882 It has a notable public library and holds an annual cotton festival

Clarkson, Thomas, 1760–1846, English abolitionist He devoted most of his life to agitating against slavery and the slave trade, doing a great amount of investigation With William WILBERFORCE, he shares the chief credit for the act of 1807 abolishing British slave trade His best-known books are *History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave Trade by the British Parliament* (2 vols, 1808) and *Memoirs of the Private and Public Life of William Penn* (2 vols, 1813) See E L Griggs, *Thomas Clarkson, the Friend of Slaves* (1936)

Clarkson College of Technology see POTSDAM, N Y.

Clarks Summit, residential borough (pop 2,691), NE Pa, NW of Scranton, settled 1799, inc 1911

Clarkston, city (pop 3,116), SE Wash, on the Snake river at the Idaho border, in a grain, fruit, and livestock area, inc 1902

Clarksville. 1 City (pop 3,118), co seat of Johnson co, NW Ark, near the Arkansas river E of Fort Smith, in a region producing peaches, coal, and natural gas The College of the Ozarks (Presbyterian, coeducational, 1891) is here 2 Town (pop 2,386), S Ind, on the Ohio and near Louisville, Ky, laid out 1783 3 Town (pop 1,240), NE Iowa, on the Shell Rock River and NW of Waterloo, inc 1874. Heery Woods State Park is near 4 City (pop. 11,831), co seat of Montgomery co, N Tenn, on the Cumberland at the mouth of the Red River and NW of Nashville, platted 1784. It is an important dark-tobacco center, other products include flour and rubber Austin Peay State College and an experiment station of the Univ of Tennessee College of Agriculture are here Near by is Dunbar Cave. 5 City (pop 4,095), co seat of Red River co., E Texas, NE of Dallas, settled 1828, inc 1837 The area has blackland farms, livestock raising, and lumbering

Clark University, at Worcester, Mass; nonsectarian, coeducational, chartered 1887, opened 1889 (see CLARK, JONAS GILMAN) Under G Stanley Hall, the first president, it became one of the pioneer graduate schools, specializing in education and psychology It now has a school of geography and the undergraduate Clark College

clary: see SAGE

classicism, in literature and art, originally the tendency to look to the cultures of Greece and Rome for models of balance, proportion, elegance, and simplicity As principles were derived from the rules of the ancients and their works of art, classicism came to mean adherence to ancient academic canons, as, for instance, in 17th-century French tragedy, where Aristotle's *Poetics* furnished rules for playwrights and critics alike. In a wider application of the term, classicism means clearness, elegance, symmetry and repose, produced by attention to traditional and recognized forms In music it is objectivity of conception, emphasis on balance of structure, and absence of violent passions The late 18th cent is the modern classical period in music, in which the so-called Viennese classicists—Haydn, Mozart, Beethoven, and, in some respects, Schubert—were the leading composers Classic qualities exist in the works of Bach and Handel and may be found side by side with romanticism in every age Incidentally, musical use is a good example of the loose usage of *popular* as opposed to *classical* The term *classicism* is often applied to the purely literary aspects of HUMANISM An important extreme form of classicism was the Ciceronianism of 15th- and 16th-century Europe In French literature, Ronsard and others of the PLÉIADE attempted to write on classical lines Boileau-Despréaux was the critical genius of French classicism, and Racine and Corneille its principal poets In Germany, Lessing and Winckelmann advocated classic principles in art, but the stream of classicism was deflected by STURM UND DRANG until the years at the end of the 18th cent when Goethe and Schiller produced great classic drama In England the tendencies of 18th-century writers such as Pope and Dryden is called NEOCLASSICISM In 20th-century England and America there has been a renewal of interest in Greek literature, and classical models have been somewhat revived in free verse Classicism is to be contrasted with ROMANTICISM, for they are fundamentally different, but romanticism is also more than a reaction against another school See CHINESE LITERATURE, CLASSIC REVIVAL, articles on literature of European nations, such as FRENCH LITERATURE, those on art, such as RENAISSANCE ART, and RENAISSANCE See Gilbert Highet, *The Classical Tradition* (1949)

classic revival, widely diffused phase of taste (known as neoclassic) which influenced architecture and the arts in Europe and the United States during the last years of the 18th and the first half of the 19th cent The era was characterized by enthusiasm for classical antiquity and for archaeological knowledge, stimulated by the excavations of Roman remains at Pompeii and Herculaneum and by the commencement of archaeological investigation in Greece by James Stuart and Nicholas Revett in 1751 The results were embodied in their joint work, *Antiquities of Athens,* of which the first volume (1762) is considered to have been more responsible than any other single factor for a changed direction in taste Stuart's garden temple in Greek Doric style at Hagley, England, was the first example of Greek design in Western Europe, but the utilizing of Greek material was delayed until the latter part of the revival, and the earlier phase confined itself to Roman models In France the imitation of ancient Rome predominated in the crystallizing of the Empire style sponsored by Napoleon In the United States, after the Revolution, this same spirit served in the formation of a style for public buildings The Palladian system of design lost popularity, and Thomas Jefferson's design for the Virginia state capitol (1785) at Richmond marks the return to the monumental Roman temple for inspiration The Church of the Madeleine, Paris (1804), is the first of the Roman temple reproductions in Europe In America the Greek phase, known as neo-Greco Greek revival, achieved its first expression, and an exceedingly influential one, in the Bank of Pennsylvania, Philadelphia (1799), by Benjamin H Latrobe, designed to imitate a Greek Ionic temple The Roman and the Greek aspects of the classic revival eventually allied themselves in a Greco-Roman form, bringing the entire movement to a height of popularity c 1820, the Greek forms attained their chief diffusion after this date and until c 1850. The influence of the revival was felt everywhere in Europe, and particularly in Great Britain But in no country did it dominate as in the United States, where classic colonnades were appended to state capitols and to modest farm houses throughout the land After the Civil War its dry and literal later phase was extinguished by the romanticist styles of the Victorian period Among the important buildings of the American classic revival are the Washington monument, Baltimore (1815), by Robert Mills, Bank of the United States, Philadelphia (1819–24), by B H Latrobe, campus buildings, Univ of Virginia (1817–26), by Thomas JEFFERSON, Merchants' Exchange, Philadelphia (1834), by William Strickland, main building, Girard College, Philadelphia (1833–47), by T. U. Walter, Subtreasury, New York (1834), by Town and Davis, and dome and wings of the Capitol at Washington (1851–65), by T. U Walter See Talbot Hamlin, *Greek Revival Architecture in America* (1944)

Clatsop Indians, North American Indian tribe of the Chinook linguistic stock They lived on the Northwest Coast S of the Columbia river

Clauda (klô'dù) or **Cauda** (kô'dù), modern Gr. *Gavdos* (gäv'dhôs, gäv'dhô), small Mediterranean island, Greece, c.40 mi S of Crete. Acts 27.16.

Claude, Jean (zhäⁿ klōd'), 1619–87, French Protestant theologian. He was Protestant pastor at Paris. Although inferior as a controversialist to the contemporary Catholic apologist Jacques Bossuet, Claude received considerable attention for his disagreements with Bossuet, Pierre Nicole, and the Jansenist Antoine Arnauld He was expelled from France after the revocation of the Edict of Nantes

Claudel, Paul Louis Charles (pōl' lwē' shärl' klôdĕl'), 1868–, French diplomat, poet, and dramatist He held diplomatic posts in the United States, South America, China, Japan, Italy, and Belgium Though a disciple of Rimbaud, Claudel admired particularly the symbolism of Catholic theologians Excellent examples of his lyric poetry may be found in *Cinq Grandes Odes* (1910), *Corona Benignitatis Anni Dei* (1914, Eng tr, *Coronal,* 1943), and *La Messe là-bas* (1919) His plays include *Tête d'or* (1890), *Le Partage de midi* (1906), and *L'Annonce faite à Marie* (1912, Eng tr, *Tidings Brought to Mary,* 1916) The last two are considered his masterpieces He composed an enormous play in four cycles, *Le Soulier de satin* (1928–29; Eng tr, *The Satin Slipper,* 1931) In spite of its length, it was performed successfully in France during the Nazi occupation His views on art and aesthetics are found in *L'Œil écoute* (1946). A group of essays called *Contacts et circonstances* appeared in 1940

Claude Lorrain (klōd' lôrăⁿ'), whose real name was **Claude Gelée** or **Gellée** (zhulā'), 1600–1682, French landscape painter, b Lorraine At the age of 12 he worked for his brother, a wood engraver in Freiburg im Breisgau Later he went to Rome, where he worked with the landscape painter Augustino Tassi In 1625 he visited Venice and then returned to France, where he was assistant to Claude de Ruet, painter to the duke of Lorraine In 1627 he settled in Rome and under the patronage of Pope Urban VIII rapidly rose to fame He kept a book with tinted drawings of his paintings and names of the purchasers (Duke of Devonshire Coll, Chatsworth) Claude's landscapes, usually painted against the light, but wholly luminous, are in the best classical tradition and exercised a lasting influence on the art of landscape painting Examples of his work are to be found in the National Gallery, London, the Doria Palace, Rome, the Louvre, the Prado, and the Metropolitan Museum His etchings are also highly prized See studies by M F Sweetser (1878) and Lady Dilke (1884, in French), both with catalogues of paintings

Claude Michel see CLODION

Claudia, Christian who sent greetings to Timothy 2 Tim 4 21

Claudian (Claudius Claudianus) (klô'dēun), d 408?, last Latin classic poet Probably born in Alexandria, he flourished at court under Arcadius and Honorius Besides panegyrics, idyls, epigrams, and occasional poems, he wrote several epics, the most ambitious of which is the *Rape of Proserpine,* perhaps inferior to his epic attack upon Rufinus He has been highly regarded as a writer vigorous, skillful, and imaginative See T Hodgkin, *Claudian, the Last of the Roman Poets* (1875)

Claudius I (Tiberius Claudius Drusus Nero Germanicus) (klô'dēus), 10 B C–A D 54, Roman emperor (A.D 41–A D 54), son of the elder Drusus and thus nephew of TIBERIUS When CALIGULA was murdered, the soldiers found Claudius, who had been of utterly no importance, hiding behind a curtain in the palace in abject terror They hauled him forth, and the Praetorians proclaimed him emperor This act offended the senators, who never forgave Claudius It also made him favor the army He annexed Mauretania and landed in A D. 43 in Britain, which he made a province Agrippa's kingdom of Judaea and the kingdom of Thrace were reabsorbed into the empire, and the authority of provincial procurators was extended He caused MESSALINA, his third wife, to be executed and was in turn supposedly poisoned by her successor, AGRIPPINA II (his niece), after she had led him to pass over his son BRITANNICUS as heir in favor of NERO, her son by a former husband. Claudius was much reviled by his enemies and accused of being a tool in the hands of his freedmen-secretaries and his wives, but he actually seems to have had considerable ability. Claudius' literary works are lost He is the chief figure in two novels by Robert Graves, *I, Claudius* (1934) and *Claudius the God* (1935).

Claudius II (Marcus Aurelius Claudius), d 270, Roman emperor (268–70), called Gothicus. He had been a successful general under Valerian, and he put down the revolt in which GALLIENUS was killed. Claudius succeeded Gallienus and went to the East to resist the Goths who were overrunning the empire In 269 Claudius overwhelmed the barbarians at Naissus (now Nish or Nis, Yugoslavia). He was succeeded by AURELIAN

Claudius, famous Roman gens **Appius Claudius Sabinus Inregillensis** or **Regillensis** (ă'pēus, sŭb'-nŭs In"rĕjĭlĕ'nus, rĕjĭlĕn'sĭs) formed a tribe in Rome (c 504 B C) and, while consul (495 B C), caused withdrawal of the plebeians to the sacred mount because of his severe interpretation of the laws of debt. **Appius Claudius Crassus** (kră'sŭs) was consul (471 and 451 B C.) and decemvir (451–449 B.C.). He seems to have sought to placate the plebeians and was known as a lawgiver, but his

career ended in failure. Legend says that his attempt to rape VIRGINIA caused a revolt, in which he was killed. **Appius Claudius Caecus** (sē'kus), while censor (312–308 B C), disregarded the political disabilities of freedmen and landless citizens He was consul (307 and 296 B C) and later led the opposition to the invasion of PYRRHUS He constructed the first Roman aqueduct and began construction of the Appian Way. **Publius Claudius Pulcher** (pŭ'blēŭs, pŭl'kur), while consul (249 B C), attacked the Carthaginian fleet at Drepanum and was defeated because (it was believed) he threw the sacred chickens into the sea. **Appius Claudius Pulcher,** d c 48 B C, campaigned in Asia (72 B C), he became praetor (57 B C), proprietor in Sardinia (56 B C), consul (54 B C), and proconsul of Cilicia (53 B C) He had to seek through Pompey the assistance of his rival Cicero to secure his acquittal from impeachment He joined Pompey in the civil war and died in Euboea For Publius Claudius Pulcher, see CLODIUS

Claudius Lysias (lĭs'ĭŭs), official at Jerusalem who saved Paul from the mob Acts 21–23

Claus, Émile (āmēl' klous'), 1849–1924, Belgian landscape and genre painter, studied at the Antwerp Academy Most of his work was done in his studio at Astène, Belgium Views along the Thames and landscapes of the Belgian country and river scenery, painted in the impressionistic manner, are in the Luxembourg Museum, Paris, and in the galleries of Brussels, Antwerp, Ghent, and Liége

Clausel or **Clauzel, Bertrand** (bĕrtrā' klōzĕl'), 1772–1842, marshal of France Having served in the French Revolutionary Wars and in the Napoleonic campaigns, particularly in the Peninsular War, he was created count (1813) He joined Napoleon in the Hundred Days (1815) and after the Restoration spent some time in exile in the United States returning to France to become a deputy of the opposition After the July Revolution he was sent as commander in chief to Algeria (1830–31) and was made marshal (1831) Again commander in chief and governor general in Algeria (1835–37), he was blamed for French reverses there

Clausen, Sir George (klô'sun), 1852–1944 English figure and landscape painter He studied in Paris with Bouguereau, but his mature style is rather suggestive of Bastien-Lepage His *Girl at the Gate* and *Gleaners Returning* (Tate Gall) are characteristic He enjoyed many honors, and his lectures as professor of painting at the Royal Academy were published under the titles *Lectures on Painting* (1904) and *Aims and Ideals in Art* (1906)

Clausewitz, Karl von (karl' fŭn klou'zuvĭts), 1780–1831, Prussian general and writer on military strategy, of Polish descent He served in the Rhine campaigns (1793–94), won the regard of Scharnhorst at the Berlin Military Academy, and served in the wars against Napoleon In the service of Russia from 1812 until 1814, he helped negotiate the convention of Tauroggen (1812), which removed YORCK VON WARTENBURG and his Prussians from the service of Napoleon and marked the beginning of the War of Liberation Later he reentered the Prussian army, fought at Waterloo, and was appointed director of the German War School (1818) His masterpiece, *On War*, was unfinished and was published after his death The doctrines expounded in it, including that of total war (that all of the citizens, territory, and property of the enemy nation should be attacked in every way possible), had an enormous effect on military strategy and tactics

Clausius, Rudolf Julius Emanuel (rōō'dôlf yōō'lyōōs ämä'nōōĕl klou'zyōōs), 1822–88, German mathematical physicist A pioneer in the science of thermodynamics, he introduced the concept of entropy and restated the second law of thermodynamics heat cannot of itself pass from a colder to a hotter body He applied his researches on heat, electricity, and molecular physics to the development of the kinetic theory of gases and in formulating a theory of electrolysis wherein he states that electric forces are merely directing agents in the interchange of ions A professor at the Polytechnic Institute, Zurich (1855–67), and at the universities of Würzburg (1867–69) and Bonn (from 1869), he wrote *Die Potentialfunktion und das Potential* (1859) and *Die mechanische Warmetheorie* (1864–67, Eng tr, *The Mechanical Theory of Heat*, 1879)

Clausthal-Zellerfeld (klous'tal-tsĕ'lurfĕlt), town (pop 14,904), in the former Hanover prov, N Germany, in the Harz mts An old mining center (copper and lead, formerly silver), it also is a resort

Clauzel, Bertrand see CLAUSEL, BERTRAND

Claverack, unincorporated residential village (pop c 400), E N Y, near Hudson Among its fine old houses are the Van Rensselaer manor house and the first courthouse of Columbia co

Claverhouse, John Graham of: see DUNDEE, JOHN GRAHAM OF CLAVERHOUSE, 1ST VISCOUNT

clavichord (klă'vĭkôrd), keyboard musical instrument invented in the Middle Ages. It consists of a small rectangular wooden box containing a sounding board and a set of strings Keys caused the strings to be struck with small wedges of metal called tangents, which not only set the string into vibration but determined its vibrating length, thus one string sufficed for about four keys. Early in the 18th cent, clavichords were built with a string for each key; such instruments were more expensive and harder to tune but gradually supplanted the older ones. The clavichord became musically important in the 16th cent and remained popular until the end of the 18th cent It is a drawing-room instrument with a delicate, expressive tone

Clavière, Étienne (ātyĕn' klávyĕr'), 1735–93, French financier A merchant and banker of Geneva, he participated (1782) in the popular revolution at Geneva and was forced to leave Switzerland when the aristocrats returned to power in the same year He was an adviser of Mirabeau on financial policy and became the financial bulwark of the French Revolutionists and finance minister (1792–93) Clavière fell with the Girondists and committed suicide rather than face the Revolutionary Tribunal He wrote *Of France and of the United States* (1787, Eng tr, 1787)

Clavijero, Francisco Javier (fransĕ'skō hávvĕr' klavvēhā'rō), 1731–87, Mexican scholar and historian Becoming a Jesuit (1748), he taught in Jesuit colleges in Mexico until the expulsion of the order (1767) From his refuge in Italy he wrote several works on the history of Mexico His most important work, *The History of Mexico* (Eng tr, 1787), shows an immense knowledge of Indian languages, customs, and history

Clavijo y Fajardo, José (hōsā' klavē'hō ē fähar'dhō), 1730?–1806, Spanish journalist, b Canary Islands He visited France, where he met Buffon and Voltaire and became a Gallicist and follower of the Encyclopedists His writings after 1762 in the newspaper the *Pensador* attacked Spanish traditionalism Clavijo's duel with Beaumarchais is the basis of Goethe's play, *Clavijo*

Clawson, city (pop 4,006), SE Mich, near Detroit, inc 1920 There are machine shops here

Claxton, Philander Priestly, 1862–1939, American educator, b Bedford co, Tenn, grad Univ of Tennessee (B A, 1882, M A, 1887) and studied at Johns Hopkins and in Germany After several years' experience as a superintendent of schools in North Carolina, he taught at the North Carolina State Normal and Industrial College (1894–1902) and later was professor of education at the Univ of Tennessee (1902–11) He served (1911–21) as U S commissioner of education, his administration being distinguished by marked expansion of the activities of the Bureau of Education in civic, industrial, agricultural, and Negro education He was afterwards provost (1921–23) of the Univ of Alabama and superintendent of schools (1923–29), Tulsa, Okla, and from 1930 was president of the Austin Peay Normal School, Clarksville, Tenn

Claxton, city (pop 1 808), co seat of Evans co, SE Ga, W of Savannah and on the Canoochee river, in the coastal plain

Clay, Cassius Marcellus, 1810–1903, American abolitionist and diplomat, b Madison co, Ky, grad Yale, 1832 In 1845 he established at Lexington, Ky, the *True American*, an abolitionist paper In his absence his enemies moved his press to Cincinnati, and he continued its publication there and at Louisville He served as a captain in the Mexican War, was captured, and was for a time imprisoned In 1849 Clay was an unsuccessful candidate for governor of Kentucky on an anti-slavery ticket He was minister to Russia (1861–62, 1863–69) and served briefly (1862–63) in the Civil War as a major general of volunteers

Clay, Clement Claiborne, 1816–82, U S Senator (1853–61), b Huntsville, Ala, grad Univ of Alabama, 1834 A legislator and then a judge in his native state, he was twice elected to the U S Senate and became an ardent defender of the states' rights doctrine He left the Senate upon Alabama's secession and entered the Confederate senate, refusing the appointment as Secretary of War in the Confederacy In 1864 he was sent by Jefferson DAVIS with two others on a diplomatic mission to Canada, which was intended to open peace negotiations with the Federal government Lincoln finally decided not to see them, and after a year in Canada, Clay returned to the South After the assassination of Lincoln, he was accused of having taken part in a conspiracy, hatched in Canada, upon Lincoln's life and also of having planned raids across the border, and a reward was offered for him He gave himself up and was confined in Fortress Monroe almost a year without trial, then was freed His wife, Virginia Clay-Clopton, wrote a description—which appeared as *A Belle of the Fifties* (1904)—of their Washington home when it was a gathering place of capital society

Clay, Henry, 1777–1852, American statesman, b Hanover co, Va His father died in 1781, and Henry Clay's formal schooling was limited to three years His stepfather secured (1792) for him a clerk's position in the Virginia high court of chancery Here he gained the regard of George WYTHE, who directed his reading. He also read law under Robert Brooke, attorney general of Virginia, and was licensed (1797) to practice. He moved (1797) to Lexington, Ky, and quickly gained wide reputation as a lawyer and orator He served (1803–6) in the Kentucky legislature and was professor of law (1805) at Transylvania Univ Having spent the short session of 1806-7 in the U S Senate, he was returned (1807) to the state legislature, became (1809) speaker, and remained there until he was chosen to fill an unexpired term (1810–11) in the U S Senate In 1811 he was elected to the U S House of Representatives and served (1811–14) as speaker As spokesman of Western expansionist interests and leader of the "war hawks," he stirred up enthusiasm for war with Great Britain and helped bring on the War of 1812 He resigned (1814) from Congress to aid in peace negotiations leading to the Treaty of Ghent He again served (1815–21) in the House, again was speaker (1815–20), and began to formulate his American system, a national program including internal improvements, rechartering of the BANK OF THE UNITED STATES, and tariff protection of American industries In 1821 Clay, to pacify sectional interests, pushed the MISSOURI COMPROMISE through the House In the House for the last time (1823–25), he once more became (1823) speaker—an office in which he did much to set precedent In this session he secured the western extension of the NATIONAL ROAD and the rechartering of the bank, and against much opposition he eloquently carried through the Tariff of 1824 As a candidate for the presidency in 1824, Clay stood fourth in electoral votes, and, with no candidate having a majority, the election went to the House, where the three highest were to be voted upon It became Clay's duty to vote for one of his rivals Despite Andrew Jackson's Western interests and despite the instructions of Kentucky to vote for him, Clay's dislike for the military hero was so intense that he voted for John Quincy Adams When Adams appointed Clay Secretary of State, Jackson's friends charged Clay with political collusion Evidence has not been found to prove this, but the accusation impeded Clay's future political fortunes As Secretary of State (1825–29), he secured congressional approval—which came too late for the American delegates to attend—of U S participation in the Pan American Congress of 1826 In 1828 Clay again supported Adams for President, and Jackson's success bitterly disappointed him He refused appointment to the Supreme Court and intended to retire from politics He was heartened, however, by his constituents and by his friend John J CRITTENDEN Clay was elected (1831) to the U S Senate and now led the National Republicans, who were coming to call themselves Whigs He was prepared to run for President in 1832 and directed Senate legislation to oppose President Jackson Yet when the election came Jackson won overwhelmingly Clay's chagrin was buried in the crisis developing over the tariff The Compromise Tariff of 1833 was largely his work, South Carolina's NULLIFICATION of the tariffs of 1828 and 1832 as well as Jackson's threats of armed invasion of that state forced Clay to conciliate the two sides and to modify his own protectionist views Clay opposed the Jackson regime at every turn, particularly on the bank issue When the latter had the deposits removed (1833) from the Bank of the United States to his "pet banks," Clay secured in the Senate passage of a resolution—later (1837) expunged from the record—censuring the President for his act Refusing to run for President in 1836, Clay continued his opposition tactics against Van Buren's administration and fought the subtreasury system in vain In 1840 Clay lost the Whig nomination to William H Harrison, mainly because of Thurlow Weed's adroit politics He supported Harrison and, when Harrison was elected, was offered the post of Secretary of State, but he chose to stay in the Senate He now planned to reestablish the Bank of the United States, but the unexpected accession of John TYLER to the presidency and his vetoes of Clay's bills caused Clay to resign his Senate seat In 1844 he ran against James K POLK, an avowed expansionist Earlier publicly opposed to the annexation of TEXAS, Clay restated his position in the "Alabama letters," agreeing to annexation if it could be accomplished with the common consent of the Union and without war This maneuver probably lost him New York state, with which he could have won the election His failure was crushing for him and for the Whig party In 1848 his party refused him its nomination, feeling that he had no chance, so that his presidential aspirations were never fulfilled. He reentered (1849) the Senate when the country faced the slavery question in the territory newly acquired by the Mexican War Clay denounced the extremists in both North and South, asserted the superior claims of the Union, and was chiefly instrumental in shaping the COMPROMISE OF 1850. It was the third time that he saved the Union in a crisis, and thus he has been called the Great Pacificator and the Great Compromiser See his works (7 vols, 1896), biographies by Carl Schurz (1887), Bernard Mayo (1937), and Glyndon Van Deusen (1937).

Clay, Lucius DuBignon, 1897–, American general, b Marietta, Ga., grad. West Point, 1918. An en-

gineering officer, he held many army administrative posts and became (1944) deputy director of the office of War Mobilization and Reconversion Clay was (1945–47) deputy chief of U S Military Government in Germany before he directed operations in the Berlin blockade as U S military governor (1947–49). He was made full general upon retirement (May, 1949) from the U S. army He wrote *Decision in Germany* (1950).

Clay, town (pop 1,429), W Ky , NE of Paducah, in a farm, coal, and timber area

clay [Old Eng], name applied in common usage to certain fine-grained, earthy materials which are mixtures of hydrous aluminum silicates with small amounts of oxides and carbonates and are usually somewhat colloidal In general clays are plastic when wet, are therefore easily molded into a form which they retain when dry, and become hard and lose their plasticity when subjected to heat Clays are divided into two classes, residual clay, found in the place of origin, and transported clay, also known as sedimentary clay, removed from the place of origin by an agent of erosion and deposited in a new and possibly distant position Residual clays are most commonly formed by surface weathering, which gives rise to clay in three ways— by the chemical decomposition of rocks, such as granite, containing silica and alumina, by the solution of rocks, such as limestone, containing clayey impurities, which, being insoluble, are deposited as clay; and by the disintegration and solution of shale One of the commonest processes of clay formation is the chemical decomposition of FELDSPAR. In chemical composition clays vary, but many, especially those derived from feldspar, approximate the composition of KAOLINITE Practically all clays contain, as impurities, various compounds of iron, lime, potassium, sodium, and magnesium. The extent and nature of these impurities in each individual clay affect its usefulness as a raw material for manufacturing From prehistoric times, clay has been indispensable in architecture, in industry, and in agriculture As a building material, it is used in the form of BRICK, either sundried (ADOBE) or fired Clays are also of great industrial importance, e g , the manufacture of TILE for wall and floor coverings, of porcelain, china, earthenware, and of pipe for drainage and sewage Properties of the clays to be used in such products which must be taken into consideration include *plasticity, shrinkage* under firing and under air drying, fineness of grain, color after firing, hardness, cohesion, and capacity of the surface to take decoration On the basis of such qualities clays are variously divided into classes or groups, products are generally made from mixtures of clays and other substances The purest clays are the china clays and kaolins (see CHINA CLAY) Ball clay is a name for a group of plastic, refractory clays used with other clays to improve their plasticity and to increase their strength Bentonites are clays composed of very fine particles derived usually from volcanic ash They are composed chiefly of the hydrous magnesium-calcium-aluminum silicate called montmorillonite Much of the highly absorbent bentonite is used in foundry work for facing the molds and preparing the molding sands for casting metals The less absorbent bentonites are used chiefly in the oil industry, e g , as a filtering and deodorizing agent in the refining of petroleum and, mixed with other materials, as drilling muds to protect the cutting bit while drilling Other uses are in the making of fillers, sizings, and dressings in construction, in clarifying water and wine, in purifying sewage, and in the paper, ceramics, plastics, and rubber industries Clay to the farmer is one of the three principal types of soil, the other two being sand and loam A certain amount of clay is a desirable constituent of soil, since it binds other kinds of particles together and makes the whole retentive of water. Excessively clayey soils, however, are exceedingly difficult to cultivate Their stiffness presents resistance to implements, impedes the growth of the plants, and prevents free circulation of air around the roots They are cold and sticky in wet weather, while in dry weather they bake hard and crack Clods form very often in clayey soils Clays can be improved by the addition of lime, chalk, or organic matter, sodium nitrate, however, intensifies the injurious effects. In spite of their disadvantages, the richness of clay soils makes them favorable to the growth of crops that have first been started in other soil See also FULLER'S EARTH See Heinrich Ries, *Clays: Their Occurrence, Properties, and Uses* (3d ed , 1927), A. B Searle, *Clays and Other Ceramic Materials* (2d ed , 1933); C W Parmelee, *Clays and Some Other Ceramic Materials* (6th ed., 1937)

Clay, Mount: see PRESIDENTIAL RANGE

Clay Center, city (pop 4,518), co seat of Clay co., NE Kansas, on the Republican river and NW of Manhattan, laid out 1862, inc. 1875 The city is a shipping center for an area producing wheat, corn, poultry, and dairy products

Clay City. 1 Village (pop 1,136), SE Ill , S of Mattoon, settled as Maysville in the early 1830s, inc. 1869. It is a trade and shipping center for a farm area. Oil was struck near by in 1937. **2** Town (pop. 1,117), W Ind., SE of Terre Haute; settled 1873, inc 1888 Clay and coal are obtained from this area

Claymont, unincorporated town (pop 3,736), NE Del , near Wilmington Oil-refining and chemical plants are near by and a state industrial school for girls is here

Clays, Paul Jean (pôl' zhā' klā'ēs), 1819–1900, Belgian marine painter Clays is best known for his pictures of the waters of Belgium and Holland, including *The Port of Antwerp* and *Bay of Ostend* (Brussels), *The Meuse at Dordrecht* (Antwerp), *Dutch Boats in the Blushing Roads* (National Gall., London), *Marine* (Metropolitan Mus), and *Dutch Shipping* (N Y Public Library)

Clayton, Henry De Lamar, 1857–1929, U S Congressman, b. Barbour co , Ala., grad Univ of Alabama (B A , 1877, LL B , 1878) An Alabama lawyer and a Democratic politician, he was a member of the House of Representatives from 1897 to 1915 and later a Federal district judge He is chiefly remembered as the author of the CLAYTON ANTI-TRUST ACT

Clayton, Henry Helm, 1861–1946, American meteorologist, b Murfreesboro, Tenn He was twice on the staff of the Blue Hill Observatory (1886–91, 1894–1909) His invention of a box kite for use in sounding the atmosphere was widely adopted, and he was important in the development of the science of aerology Clayton served (1910–19) as meteorologist in Argentina He wrote *World Weather* (1923) and, for the Smithsonian Institution, *Solar Radiation and Weather* (1925), *Solar Activity* (1926), and *Atmosphere and the Sun* (1930)

Clayton, John, c 1685–1773, American botanist, b England He made a collection of plants of Virginia which was the basis for the *Flora Virginica* (1739–43, rev ed , 1762) of John Frederick Gronovius

Clayton, John Middleton, 1796–1856, American statesman, b Sussex co , Del , grad Yale, 1815 Admitted (1819) to the bar, he practiced at Dover, Del , held many state offices, and was twice (1826, 1845) elected to the U S Senate In the presidential election of 1848 he gave his support to Zachary Taylor and was rewarded with the position of Secretary of State, which office he held until Taylor's death in 1850 As Secretary of State he negotiated the CLAYTON-BULWER TREATY, which checked British expansion in Central America and temporarily settled a rivalry which was bringing England and the United States to hostilities He reentered the Senate in 1852 He carefully supervised his estate near New Castle, Del , and won fame as a scientific agriculturalist

Clayton. 1 Town (pop 1,813), a co seat of Barbour co , SE Ala , E of Troy, in a cotton and lumber area **2** City (pop 1,088), co , seat of Rabun co , extreme NE Ga , in the Blue Ridge and in Chattahoochee National Forest, inc 1821 It is a resort near lakes **3** Village (pop 1,028), W Ill , ENE of Quincy, inc 1837 **4** Suburban city (pop 13,069), co seat of St Louis co , E Mo , near St Louis **5** Borough (pop 2,320), SW N J , S of Glassboro, settled c 1775, inc 1924 **6** Town (pop 3,188), co seat of Union co , NE N Mex , near the Texas and Okla lines, laid out 1887, inc 1908 It is a trade and shipping center for a ranch and farm area **7** Resort village (pop 1,999), N N Y , a port of entry on the St Lawrence and NW of Watertown, in the Thousand Islands region, inc 1872 Sailing races are held during the summer Snowplow manufacturing is the chief industry. **8** Town (pop 1,711), central N C , SE of Raleigh It has lumber and cotton mills

Clayton Anti-Trust Act, 1914, passed by the U S Congress as an amendment to clarify and supplement the SHERMAN ANTI-TRUST ACT of 1890 It was drafted by Henry De Lamar Clayton The act prohibited exclusive sales contracts, local price cutting to freeze out competitors, rebates, interlocking directorates in corporations capitalized at $1,000,000 or more in the same field of business, and intercorporate stock holdings Labor unions and agricultural cooperatives were excluded from the forbidden combinations in the restraint of trade The act restricted the use of the injunction against labor, and it legalized peaceful strikes, picketing, and boycotts It declared that "the labor of a human being is not a commodity or article of commerce " The Clayton Anti-Trust Act was the basis for a great many important and much-publicized suits against large corporations

Clayton-Bulwer Treaty (–bo͝ol'wur), concluded (April 19, 1850) at Washington, D C , between the United States, represented by Secretary of State John M Clayton, and Great Britain, represented by the British plenipotentiary Sir Henry Bulwer. American and British rivalries in Central America, particularly over a proposed isthmian canal, led to the treaty Its most important article provided "that neither . . . will ever obtain or maintain for itself any exclusive control over the said ship canal . . . that neither will ever erect or maintain any fortifications commanding the same . . . or occupy, or fortify, or colonize or assume, or exercise any dominion over Nicaragua, Costa Rica, the Mosquito coast, or any part of Central America." Although the treaty was soon ratified by the Senate, it was one of the most unpopular in U.S history, viewed by some as a betrayal of the Monroe Doctrine. In the long run it was a compromise against the best interests of the United States. Successive Secretaries of State tried in vain to secure modifications which would enable the United States to build its own canal and exercise, under restrictions, political control over it, but it was not until 1901, with the HAY-PAUNCEFOTE TREATY, that this end was finally achieved See M. W Williams, *Anglo-American Isthmian Diplomacy, 1815–1915* (1916)

Clazomenae (klŭzŏ'mĭnē), ancient city of W Asia Minor, some 20 mi from the present Smyrna, Turkey. It was one of the 12 Ionian cities of Asia Minor, but the later inhabitants were not Ionians. The city was founded on the mainland but was later moved to a small island, and Alexander the Great built a causeway to it The town continued to flourish through the Hellenistic and Roman periods It was the birthplace of Anaxagoras and was famous for its terra-cotta sarcophagi

Cleanthes (klēăn'thēz), 3d cent B.C , Greek philosopher, head of the Stoic school following Zeno

Clearchus (klēär'kŭs), d. 401 B C , Spartan officer Sent in 410 B C to govern Byzantium, he made himself unpopular by his harsh discipline, and ALCIBIADES took the city in 408 B C Clearchus later returned and made himself virtual ruler, thereby incurring Spartan anger He had to leave and became a supporter of Cyrus the Younger, recruiting the Greek force to support the Persian claimant At CUNAXA, Clearchus fought boldly, but it is said that his refusal to help Cyrus in the center of the line brought on the defeat. After the battle he led the Greek force (the Ten Thousand) in retreat, but was lured into a conference by TISSAPHERNES and treacherously murdered The story of the retreat is told by XENOPHON in the ANABASIS

Clearfield. 1 Borough (pop 9,372), co seat of Clearfield co , W central Pa , on the West Branch of the Susquehanna and in the Alleghenies N of Altoona, laid out 1805, inc 1840 The area yields coal and clay Airplane and marine instruments and leather goods are made here It is at the southeastern edge of the Moshannon State Forest **2** Town (pop 1,053), N Utah, S of Ogden, in an irrigated farm area The Ogden Ordnance Depot is near by

clearing, in banking, the periodic settling of bankers' claims against each other For this purpose banks form clearinghouse associations Clearinghouses are said to have existed in Florence by A D 800, they were certainly perfected in Lyons by 1463 Their use was widespread in 18th-century Europe The first modern clearinghouse was either at Edinburgh (1760) or at London (1773), clearinghouses were then established in Dublin (1846), New York (1853), Paris (1872), and Berlin (1883) Before the introduction of clearinghouses, each bank periodically sent runners to other banks For this practice, the clearinghouse substitutes meetings of representatives of all banks in a given area to adjust claims The New York Clearing House, for example, clears five times daily Each bank sends a delivery clerk and a settling clerk to the house, they bring with them bundles of checks and other obligations due their banks from other banks, each bank being represented by a separate package Lists of these obligations are handed to an inspector before clearing begins, the total of the lists is the total amount to be settled that day When clearing begins, each delivery clerk passes from one desk to another, depositing on each his bank's claims upon the bank represented at that desk When a settling clerk at any one desk has received all his packages, he draws up a statement of the demands made upon his bank, as shown by the totals of the packages He sends this to the manager of the clearinghouse, along with the total that his bank is owed When all settling clerks have done this, the accounts are examined and proved, and the manager certifies the amounts that each bank owes to and is entitled to receive from the other banks A settlement in cash or credit is then made or received by each bank Thus settlements are effected without the transfer of cash or by the transfer of a much smaller amount than would otherwise be needed All packages of claims are accepted at the clearinghouse desks without examination, they are later carried back to the banks receiving them and are there examined If any claims are found invalid, the banks concerned rectify the error without using the clearinghouse. Obviously, the clearinghouse is a major labor-saving device From $500,000,000 to $700,000,000 have been cleared daily by the New York Clearing House without the transfer of cash Dues, usually in proportion to the number of checks presented by each bank per year, support the clearinghouse. Clearinghouses, because of the demand for their facilities, have been able to regulate certain practices of banks in their areas With the consent of the clearing association, nonmembers may be permitted to clear through members. Intercity balances in the United States are settled on the books of the Federal reserve

banks daily by telegraphic transfers Clearing is practiced also by stock and commodity exchanges Railroad clearinghouses enable the use of through tickets over many lines In international exchange, foreign bills have long been cleared by settlement in London, thus reducing the transfer of gold from country to country.

Clear Island, 3 mi long and 1 mi wide (pop 704), off SW Ireland, in Co Cork, SW of Skibbereen At the southern end is Cape Clear, with a lighthouse

Clear Lake, city (pop 3,764), N Iowa, on Clear Lake just W of Mason City, inc 1871 It is in a popular resort area near Clear Lake State Park

Clear Lake, c 30 mi long, W Calif, in wooded hills NNW of San Francisco It is a fishing resort Mt Konocchti rises nearly 3,000 ft on the west shore

clearstory: see CLERESTORY

Clearwater, residential city (pop 10,136), co seat of Pinellas co, W Fla, on the Gulf W of Tampa, on a high coastal eminence It was settled after the establishment of Fort Harrison here in 1841 and incorporated in 1891 The city has numerous packing and canning plants which serve near-by fruit areas A causeway extends across Clearwater Bay to a sandy spit, Clearwater Beach, a popular resort Many fine homes are here

Clearwater, river rising in several branches in N Idaho, in the Bitterroot Range near the Mont line It flows west to join the Snake at Lewiston near the Washington line Gold was discovered on the South Fork in 1860 Mining camps were established, and the gold-mining era in Idaho was begun

cleavage of rocks, the tendency of certain varieties of metamorphic ROCK to split easily into thin layers, usually not parallel to the planes of deposition of the rock Cleavage has been produced by the pressure exerted upon the earth's crust in the process of deformation Under this pressure the mineral particles of the rock tended to become flattened and rearranged, so that their longer axes were perpendicular to the direction of the pressure, and the new particles which were crystallized set themselves in the same position The fact that some of the component minerals already had a tendency to split longitudinally accentuated the condition thus developed Since the bedding planes of rock are in general horizontal and since the pressure which caused metamorphism was usually exerted horizontally, planes of cleavage bear no fixed relation to the bedding planes but are commonly at highly inclined or right angles to them Cleavage of rocks may be slaty (see SLATE) or schistose (see SCHIST)

Cleaveland, Moses, 1754–1806, American pioneer, b. Canterbury, Conn, grad Yale, 1777 After serving (1777–81) in the American Revolution, he practiced law in his native town and entered (1787) the state legislature When the Connecticut Land Company purchased (1795) land in the WESTERN RESERVE region of Ohio, Cleaveland was chosen one of the directors and surveyors of the company In 1796 he led a party of men to the mouth of the Cuyahoga, where he determined to develop the main settlement The surveyors named the place Cleaveland, which name it bore until c 1830, when it became Cleveland Cleaveland resumed his law practice and political interests in Connecticut

Cleaveland, Parker, 1780–1858, American geologist and educator, b Byfield, Mass, grad Harvard, 1799 In 1805 he became professor of mathematics and natural philosophy at Bowdoin College His *Elementary Treatise on Mineralogy and Geology* (1816) was the first work of its kind in the United States From 1807 to 1858 he kept meteorological data which later appeared in the Smithsonian *Contributions to Knowledge*, Vol XVI (1870)

Cleburne, Patrick Ronayne (klē'burn), 1828–64, Confederate general, b Co Cork, Ireland He came to America in 1849 and was practicing law in Helena, Ark., when the Civil War broke out Cleburne, who had served in the British army, was made a brigadier general in March, 1862 He commanded a brigade at Shiloh (April) and a division at Richmond (Aug) and Perryville, Ky (Oct) Promoted major general (Dec), he distinguished himself further at Murfreesboro and in the campaigns around Chattanooga and Atlanta His last service was under Gen. J B Hood in the Tennessee campaign of 1864; he was killed at the battle of Franklin (Nov.). Cleburne was one of the ablest Confederate division commanders See Ella Lonn, *Foreigners in the Confederacy* (1940)

Cleburne (klē'bŭrn), city (1940 pop 10,558; 1947 estimated pop 16,000), co seat of Johnson co, N Texas, 8 of Fort Worth; founded 1867, inc as a city 1907. Weathered houses and many trees keep the old farm-town atmosphere in a city busy with small industries Blackland cotton is handled in gins, compresses, cottonseed-oil mills, and garment and mattress factories, dairies supply the creameries, limestone is processed; and there are railroad shops and small plants.

Cleef, Cornelis van: see CLEEF, JOOS VAN

Cleef, Jan van (yän' vän klāf'), 1646–1716, Flemish painter; pupil of De Crayer, whose style he followed with notable success. His religious paintings adorn the churches of Ghent. The most famous is in the Convent of the Black Nuns and depicts the sisters succoring victims of the plague

Cleef or Cleve, Joos van (yōs' vän klāf', klā'vu), c 1485–1540, early Flemish portrait painter Much of his life was spent in Antwerp His portraits of Henry VIII (Hampton Court) and Francis I (Johnson Coll., Philadelphia) are beautiful examples of his work. He has been customarily confused with his son **Cornelis van Cleef** (kôr'nā"lĭs), c.1520–1567?, who was called Zotte van Cleef because he went mad He painted religious pictures in an Italianate style His *Saints Cosmo and Damian* (cathedral, Antwerp) is characteristic. He was also a successful portrait painter His *Artist and Wife* (Windsor Castle) is a well-known portrait

Cle Elum (klē" ĕl'um), coal-mining city (pop 2,230), central Wash, on the Yakima river near the influx of the Cle Elum, founded c 1885, inc 1904

Cle Elum, river rising in the Cascade Range, central Wash, and flowing south c 28 mi through Cle Elum Lake to the Yakima

Cleethorpes (klē'thôrps), urban district (1931 pop 28,621, 1947 estimated pop 29,690), in the Parts of Lindsey, Lincolnshire, England, on the Humber estuary and near Grimsby It is a resort

clef, in music see MUSICAL NOTATION

Cleisthenes (klīs'thĭnēz, klīs'–), fl 582 B C, tyrant of Sicyon He was a leader in the sacred war that brought the destruction of Cirrha. He was famed for wisdom, moderation of rule, and interest in the arts He was the grandfather of the Athenian statesman Cleisthenes The name also appears as Clisthenes.

Cleisthenes, fl. 510 B C, Athenian statesman, grandson of Cleisthenes, tyrant of Sicyon He was the head of his family, the ALCMAEONIDAE, after the exile of Hippias, and by 506 B C he had with Spartan help made himself undisputed ruler of the city He reorganized the social and political constitution on so stable a basis that civil war disappeared from Athenian life The Alcmaeonidae thus became leaders of a democratic party, a reorientation making them anti-Spartan instead of pro-Spartan as earlier An attempt of his rival, Isagoras, to overturn the reforms of Cleisthenes after Cleisthenes had been sent into exile failed, and Cleisthenes was recalled Sparta aided Isagoras, and Spartan hatred of the Alcmaeonidae began with Cleisthenes. The name also appears as Clisthenes.

Cleveland, John: see CLEVELAND, JOHN

clematis (klĕm'–), any plant of the large genus *Clematis* (sometimes divided into three genera, *Clematis*, *Atragene*, and *Viorna*), widely distributed herbs or vines, many of them native The vines are the more popular and are usually profuse bloomers, some have an irritating juice, leafstalks serving as tendrils, and small dry fruits with a feathery tail-like appendage There are roughly three types of flowers of various colors small and clustered, bell or vase shaped, and large and anemonelike The most popular in North America are the large purple Jackman clematis and the Japanese clematis (*Clematis panculata*) with small white flowers Some clematises are called virgin's-bower, traveler's-joy, and old-man's-beard. See Ernest Markham, *Clematis* (1935)

Clemenceau, Georges (shôrsh' klāmăsō'), 1841–1929, French statesman, twice premier (1906–9, 1917–19), called "the Tiger" He began a medical career, but his republicanism brought him into conflict with the government of Napoleon III, and he went (1865) to the United States, where he spent several years as a teacher and a journalist Returning to France in 1869, he aided GAMBETTA in overthrowing the empire (1870) His political career, beginning in the tumult of revolution, continued to be a stormy one, punctuated by duels As a Socialist he opposed the opportunist Gambetta, drove Jules FERRY from power, first supported, then bitterly opposed, General BOULANGER, and was a passionate defender of Dreyfus in the DREYFUS AFFAIR A member of the chamber of deputies (1876–93) and a senator from 1902, he became (1906) minister of the interior and premier In his tenure the first crisis over MOROCCO was settled, the alliance with England strengthened, and the separation of Church and state carried out Clemenceau's severe measures against strikers caused the fall (1909) of his cabinet and his final breach with the Socialists Aristide BRIAND became premier The next years Clemenceau spent attacking Germany in the press and urging military preparedness His paper *L'Homme libre* (after its suppression in 1914, *L'Homme enchaîné*) attacked the government for its lack of vigor even after the outbreak of the First World War In Nov, 1917, Clemenceau succeeded Paul PAINLEVÉ as premier and set up a coalition ("Sacred Union") cabinet which pushed the war vigorously until the final victory At the Paris Peace Conference, Clemenceau was the main antagonist of Woodrow WILSON, he regarded the Versailles Treaty as inadequate in guaranteeing the security of France Ironically, he was defeated in the 1919 elections because of what was regarded as his moderation toward Germany Alexandre Millerand succeeded him as premier. Clemenceau retired to his native Vendée, where he wrote *Grandeur and Misery of Victory* (Eng tr, 1930) and *In the Evening of My Thought* (Eng tr, 1929) Other works include a novel, *The Strongest* (Eng. tr, 1920) and *American Reconstruction* (Eng. tr, 1928) See biographies by George Adam (1930), Jean Martet (Eng. tr., 1930), Léon Daudet (Eng tr, 1940), Geoffrey Bruun (1943), and J H Jackson (1946), Wythe Williams, *Conversations with Clemenceau* (1949)

Clemens, Samuel Langhorne: see TWAIN, MARK.

Clement I, Saint, or **Clement of Rome**, pope (A D 88?–A D 97?), martyr, successor of St Cletus and predecessor of St Evaristus He was highly honored even in the 2d cent, and a letter he wrote was considered canonical by some in the 4th cent Thus, the Epistle of St Clement to the Corinthians, was written by him c 96 to bid the church at Corinth, which was torn by faction, cease its quarrels The most remarkable feature is the tone of authority he takes, as bishop of Rome, in reproving the erring Corinthians and in enjoining the need for order in the Church St Clement was the first Christian writer to use the myth of the phoenix as an allegory of the Resurrection Many writings have been wrongly attributed to St Clement, particularly the so-called Second Epistle of St Clement to the Corinthians There are half a dozen other spurious epistles of St Clement of the general type of the PSEUDEPIGRAPHA He is represented in frescoes in the Church of San Clemente, Rome Feast Nov 23 See J A Kleist, tr, *The Epistles of St Clement of Rome and St Ignatius of Antioch* (1946)

Clement III, antipope see GUIBERT OF RAVENNA.

Clement IV, d 1268, pope (1265–68), a Frenchman named Guy Foulkes or, in Italian, Guido Fulcodi, successor of URBAN IV and predecessor of GREGORY X He was a lay adviser of Louis IX, but after his wife's death he entered the Church He was made bishop of Le Puy (1257) archbishop of Narbonne (1259), and cardinal (1261) He was elected pope after a long, uncertain conclave He continued the struggle against the Hohenstaufen by confirming the agreement with CHARLES I (Charles of Anjou) giving Charles the crown of Naples, by raising an army for him, and by investing him with the kingdom When CONRADIN attacked Charles, Clement had a crusade preached against him He was a strong opponent of nepotism, and he was the patron of Roger BACON.

Clement V, 1264–1314, pope (1305–14), a Frenchman named Bertrand de Got, successor of BENEDICT XI and predecessor of JOHN XXII He was made archbishop of Bordeaux by BONIFACE VIII, who trusted him, surprisingly, he was also in some favor at the court of PHILIP IV After the death of Benedict XI the conclave lasted 11 months, and Bertrand was elected because of his French sympathies He was crowned at Lyons in Philip's presence and lived the rest of his life in France In 1309 he settled at Avignon, beginning the long residency of the PAPACY there The pontificate of Clement is one long chronicle of dictation by the French king In at least two matters Clement effectively delayed doing Philip's bidding, these were the effort of Philip to have Boniface posthumously condemned and Philip's enmity to Emperor HENRY VII, whom Clement supported Clement's behavior in the proceedings against the Knights Templars was disgraceful The Council of Vienne (1312) would not find the Templars guilty of the charges, and Clement, to satisfy Philip, dissolved the order as a matter of policy, not because of any proven guilt The property of the order was assigned to the Knights Hospitalers He issued (1313) the *Constitutiones Clementinae*, important in canon law Clement enriched his family at the expense of the Church

Clement VI, 1291–1352, pope (1342–52), a Frenchman named Pierre Roger successor of Benedict XII and predecessor of INNOCENT VI He lived at Avignon He had been archbishop of Sens, archbishop of Rouen, and cardinal (1338) The principal event of the pontificate was the Black Death (1348–50), Clement did what he could for sufferers He tried to stem the wave of anti-Semitism brought on by the plague, and he did much to protect the Jews In Roman affairs he at first favored RIENZI, then helped to defeat him He had a quarrel with Emperor Louis IV over the annulment of Margaret Maultasch's marriage, the struggle was aggravated by enmity between the pope and the German archbishops, caused by the erection of Prague into an archbishopric, detaching it from Mainz The years before the Black Death were the heyday of papal Avignon, which Clement purchased (1348) Clement spent extravagantly, had an elegant court, patronized the arts, and vastly favored his relatives He was completely pro-French

Clement VII, antipope (1378–94) see ROBERT OF GENEVA.

Clement VII, 1478–1534, pope (1523–34), a Florentine named Giulio de' Medici, successor of ADRIAN VI and predecessor of PAUL III He was the son of Giuliano de' Medici, who was the younger brother of Lorenzo de' Medici, Clement was therefore first cousin of Pope LEO X In 1513 he became a cardinal and, as archbishop of Florence, was noted

as a reformer. He was a chief supporter and adviser of Adrian As pope, he showed himself vacillating and unaware of the menace of Lutheranism to the Church, certainly not the man for the opening battles of the REFORMATION His relations with Emperor CHARLES V were never very good, for Clement allied himself with FRANCIS I of France in the League of Cognac (1526) As a result of his hostility to the empire, the imperial troops under Charles de Bourbon attacked Rome in 1527, sacked the city, and held the pope for some months Eventually (1529) peace was patched up between Clement and Charles V, and he crowned Charles emperor About 1527 the first stage of the struggle of HENRY VIII against the Church began Clement's behavior in the matter of the divorce and the dispensations for a new marriage has been called vacillating, but when the situation became critical, he put the irreproachable CAMPEGGIO in charge of the case with Cardinal Wolsey Later canon lawyers have steadily maintained that, whether he was influenced by Charles V or not, Clement followed the only course possible on legal grounds He patronized Raphael, Michelangelo, and Benvenuto Cellini He was a man of exemplary life

Clement VIII, 1536–1605, pope (1592–1605), a Florentine named Ippolito Aldobrandini, successor of Innocent IX and predecessor of Leo XI He reversed the policy of his predecessors by allying the Holy See with France rather than with Spain, which had assumed a dictatorial attitude over the papacy Clement absolved HENRY IV after his abjuration of Protestantism, and the two rulers were thereafter on most friendly terms Henry prevented the Spanish from interfering when Clement desired to annex Ferrara, on the failure of the ducal family Clement was distinguished for his piety, and he labored for the improvement of the clergy and of the charitable institutions of Rome His confessors were St PHILIP NERI and BARONIUS, whom he created cardinal

Clement XI, 1649–1721, pope (1700–1721), an Italian (b Urbino) named Giovanni Francesco Albani, successor of INNOCENT XII and predecessor of Innocent XIII He was known in his youth for his prodigious learning and brilliance, and he was patronized by Queen Christina, he became cardinal in 1690 As pope he was involved in the struggle between France and Austria over the throne of Spain, he recognised PHILIP V but later was forced into recognising Charles of Hapsburg, the other claimant The chief spiritual concern of his pontificate was the Jansenist problem, which arose acutely in 1702 with a declaration of the principle that the pope's infallibility does not extend to matters of fact, i e , the pope may condemn a proposition as heretical, but he cannot say infallibly that a certain statement or book contains that proposition The brief *Vineam Domini* (1705) condemned the idea In 1713 he issued the bull *Unigenitus*, which condemned certain propositions of JANSENISM

Clement XIV, 1705–74, pope (1769–74), an Italian (b near Rimini) named Lorenzo Ganganelli, successor of Clement XIII and predecessor of PIUS VI He was prominent for many years in pontifical affairs at Rome, and he was created cardinal in 1759 He was a Conventual Franciscan He inherited from his predecessor the hostility of every state of Catholic Europe The ecclesiastical question of the day was the fate of the Jesuits, and the courts of France and Spain were leading in a demand for their suppression (see JESUS, SOCIETY OF) By 1772 Maria Theresa and the German Catholic princes were detached from supporting the Jesuits, and in 1773 the pope published the brief *Dominus ac Redemptor* suppressing the order and disposing of its property The suppression was ignored and the Jesuits were given refuge by Frederick the Great and Catherine the Great Clement XIV's part in the suppression has been greatly discussed, he was probably bullied into it The suppression removed the pope's only independent support and put the Church wholly into the hands of the princes

Clement, one of Paul's co-workers Philip 4 3 He is traditionally identified with St Clement

Clément, Jacques (shāk' klāmā'), 1567–89, French Dominican monk, assassin of HENRY III of France An adherent of the LEAGUE, he thought Henry a danger to the Church because of his recognition of a Protestant successor He was killed by the king's attendants immediately after the stabbing

Clementi, Muzio (mōō'tsēō klāmĕn'tē), 1752–1832, Italian piano virtuoso, composer, and conductor He gave definitive form to the sonata and was the first to compose in a style for piano rather than harpsichord His studies, *Gradus ad Parnassum* (1817), and his many sonatas are widely used From the disordered manuscripts of his symphonies, four were reconstructed, 1934–36, by Alfredo Casella Clementi taught John Field and J. B Cramer.

Clement of Alexandria (Titus Flavius Clemens), d. c 215, Greek theologian Born in Athens, he traveled widely and was converted to Christianity He studied and taught at the catechetical school in Alexandria, where ORIGEN was his pupil, until the persecution of 202. He probably died in Caesarea, Cappadocia He was one of the first to attempt a synthesis of Platonic and Christian thought, in this his successors in the Alexandrian school were more successful Only a few works survive. The *Address to the Greeks* (*Protrepticus*) sets forth the inferiority of Greek thought to Christianity. Appended to the *Tutor* (*Pedagogus*) are two hymns, among the earliest Christian poems A little essay, *Who Is the Rich Man? Who Is Saved?* is a well-written fragment The *Miscellanies* (*Stromateis*) is a collection of notes on contemporary thought In it he attacked Gnosticism, with which he himself was tinged, for he held that intellectual knowledge of divine things sets one above the mass of Christians Nevertheless, he was convinced of the whole truth of Christianity, and he was not a compromiser with pagan doctrine Photius believed Clement a heretic, his contentions caused Clement's name to be removed from the Roman Martyrology

Clement of Rome see CLEMENT I, SAINT

Clementon, borough (pop 2,866), SW N J , SE of Camden, inc 1925 Its charcoal industry was begun in 1879

Clements, Frederic Edward, 1874–1945, American plant ecologist, b Lincoln, Nebr , grad Univ of Nebraska, 1894 From 1917 to 1941 he was in charge of ecological research at the Carnegie Institution, Washington Among his works are *Research Methods in Ecology* (1905), *Plant Succession* (1916), *Flower Families and Ancestors* (with Edith Clements, 1928), and *Plant Ecology* (with J E Weaver, 1929)

Clemson Agricultural College, at Clemson, S C , near Anderson, land-grant and state supported, for men, chartered 1889, opened 1893 with a bequest from Thomas G Clemson It has schools of agriculture, arts and sciences, chemistry, engineering, textiles, and vocational education The campus was formerly John C Calhoun's plantation

Clendenin (klĕndĕn'ĭn), oil town (pop. 1,200), W central W Va , on the Elk river and NE of Charleston, in the Blue Creek oil fields, inc 1904

Cleobis. see BITON

Cleobulus (klēōbū'lus), fl 6th cent ? B C , one of the Seven Wise Men of Greece, tyrant of Lindus on Rhodes, and a writer of verse He was said to have first put riddles in literary form His daughter Cleobuline wrote riddles also

Cleomedes (klē"ōmē'dēz, klē"ō-), 2d cent ?, Greek astronomer In a treatise on the circular theory of heavenly bodies, he recorded several hypotheses established by later scientists, e g , the earth's spherical form and the moon's revolutions

Cleomenes I (klēō'mĭnēz), d c 489 B C , king of Sparta after 518 B C In accordance with Sparta's policy of helping oligarchies in other states at the expense of tyrants or people, Cleomenes joined the Athenians in ousting the tyrant Hippias but to Cleomenes' dismay CLEISTHENES, the principal aristocrat, sided with the people and took the power (510 B C) Twice Cleomenes attacked democratic Athens The first time he expelled Cleisthenes, who was, however, recalled and ended Spartan influence The second time Corinth checkmated Sparta by refusing to help in an attack which would disturb the balance of power Cleomenes owed his reputation for ruthlessness chiefly to a battle in which he slaughtered 6,000 Argives—an exploit giving Sparta the hegemony in S Greece for many years

Cleomenes III, d 219 B C , king of Sparta (235–c 221 B C) He was probably the most energetic king Sparta ever had, a conscious imitator of AGIS III In his determined effort to restore the prestige of the city he fought with the ACHAEAN LEAGUE, and in two battles he was successful (c 227 B C and c 224 B C) At home his reforms were revolutionary the kingship was made the supreme power, the ephorate was abolished, and the citizenship was widely extended, apparently to decrease the danger of discontent and to ally the people with the king Cleomenes came to his downfall suddenly in 222 (or possibly 221) when the Achaean League, allied with ANTIGONUS III of Macedon, routed the Spartan army Cleomenes fled to Egypt and died there, apparently by suicide

Cleon (klē'ŏn), d 422 B C , Athenian political leader The son of a tanner with little education, he was, nevertheless, a gifted speaker He began his political career with a series of relentless attacks on PERICLES, He was antagonistic to Sparta and successfully opposed a treaty (425 B C) In the same year he was given command of the Athenian force blockading Sphacteria (an island in the Ionian Sea) and was brilliantly successful against the Spartans Three years later he was given another command against the Spartan BRASIDAS at Amphipolis, but he failed and was killed in action His later reputation as a vulgar and unprincipled demagogue was forwarded by his enemies Thucydides and Aristophanes

Cleona, borough (pop 1,108), Lebanon co , SE Pa , near Lebanon

Cleopas (klē'ōpŭs), one of the two who met the risen Jesus on the way to Emmaus Luke 24.18 Perhaps the same as CLEOPHAS

Cleopatra (klēŭpā'trŭ, -pă'trŭ, -pă'trŭ), 69 B.C.–30 B.C , queen of Egypt, one of the great romantic heroines of all time. She bore a name much used in the Ptolemaic family; there were many earlier Cleopatras The daughter of Ptolemy XI, she was at 17 married (as was the family custom) to her younger brother PTOLEMY XII The force and character in the royal pair was, however, concentrated in the alluring (though apparently not beautiful) and ambitious queen. She led a revolt against her brother, and, obtaining the aid of Julius Caesar, she won the kingdom Her young brother-husband was accidentally drowned in the Nile She then married her still younger brother PTOLEMY XIII, but she was the mistress of Caesar and followed him to Rome and bore a son, Caesarion (later PTOLEMY XIV), who was said to be his Back in Egypt after the murder of Caesar and the battle of PHILIPPI she was visited by Marc ANTONY, who came to demand an account of her actions He fell hopelessly in love with her, and Cleopatra, conscious of her royalty and even her claims to divinity as the Pharaoh's daughter, seems to have hoped to use Antony to reestablish the Egyptian throne in real power Most of the Romans feared and hated her, and Octavian (later AUGUSTUS) undertook to destroy the two lovers Antony and Cleopatra were defeated at Actium in 31 B C and sought to defend themselves in Egypt They were defeated again at Alexandria, and Antony committed suicide by falling on his sword Cleopatra, faced by the cold and unmoved Octavian, also killed herself by having an asp bite her Her great schemes had failed, but her ambition, capability, and remarkable charm have left an impress on history that has not been erased Shakspere's *Antony and Cleopatra*, based on Plutarch, describes the tragic end of the queen's career, and Dryden's *All for Love* is a reworking of Shakspere *Caesar and Cleopatra*, the crisp and ironic comedy by G B Shaw, deals instead with the early years of her story

Cleopatra's Needles, name in popular use for two obelisks of red granite from Egypt Originally erected at Heliopolis (c 1475 B C) by Thutmose III, they were carried to Alexandria (c 14 B C) under Augustus and in the 19th cent were sent as gifts of Ismail Pasha to England (1878) and the United States (1880) The British OBELISK, 68½ ft high, stands on the Thames embankment, London The American one, 69½ ft high, is in Central Park, New York The hieroglyphic inscriptions of Thutmose III and Ramses II covering its sides have suffered more from erosion, because of weather changes, in the few years since the stone came to the Western world than in the many centuries before it left Egypt

Cleophas (klē'ōfus), husband of one of the Marys who stood at the foot of the Cross John 19 25 This is apparently Mary the mother of St James the Less Mat 27 56, Mark 15 40 But the father of James the Less is Alphaeus Mat 10 3, Mark 3 18, Luke 6 15 An explanation is that Cleophas is the Aramaic, and Alphaeus the Greek, form of the same name Some identify CLEOPAS with Cleophas

clepsydra (klĕp'sĭdrŭ) or **water clock,** ancient device for measuring time by means of the flow of water from a container A simple form of clepsydra consisted of an earthenware vessel with a small opening through which the water dripped, if the size of the container and the hole were such that the water passed through at a steady rate in 24 hr and if the bowl was marked off into 24 divisions, it served to measure time fairly accurately More elaborate clepsydras were later developed. Some were double vessels, with the larger one below containing a float which rose with the water and marked the hours on a scale A form more closely foreshadowing the clock had a cord fastened to the float so that it turned a wheel, the movement of which indicated the time A further step was the use of gear wheels and a turning pointer. It is believed that clepsydras were used in Egypt c 2000 B C , from Egypt they were introduced into Greece and later from there into Rome

clerestory or **clearstory** (both klēr'stōr"ē), a part of a building whose walls rise higher than the roofs of adjoining parts of the structure It is chiefly a device for obtaining extra light It had an early use in certain Egyptian temples, as at Karnak, and was used later in the great halls of Roman basilicas It became a characteristic element of medieval churches, receiving its fullest development in churches of the Gothic period

clergy : see MINISTRY, MONASTICISM, ORDERS, HOLY

clergy, benefit of: see BENEFIT OF CLERGY

Clergy Reserves, those lands set apart in Upper and Lower Canada under the Constitutional Act of 1791 "for the support and maintenance of a Protestant clergy" "Protestant clergy" was interpreted to mean the clergy of the Church of England This interpretation was fiercely upheld by John STRACHAN and others, but dissatisfied other Protestant denominations and became an issue in the Rebellion of 1837 The method of allotting reserves (interspersed with crown lands) kept discontinuous plots out of cultivation and prevented settlement and the expansion of roads. In 1840 the assembly of Upper Canada passed an act providing for the sale of the Clergy Reserves and

distribution of their proceeds among the chief Protestant denominations, but this act was disallowed by the British government It was not until 1854 that the government succeeded in passing a law for the secularization of the reserves, but the Anglican and Presbyterian churches retained the endowments that had been granted them.

Clericus, Johannes. see LE CLERC, JEAN

Clerk, Sir Dugald (klärk), 1854–1932, British engineer and inventor He invented and patented (1877) a gas engine, a later two-stroke cycle engine (patented 1881) was called the Clerk-cycle gas engine In 1917 he was knighted An authority on internal-combustion engines, he wrote, besides many technical papers, *The Gas Engine* (1886, rev ed , *The Gas, Petrol, and Oil Engine*, 1909–13)

Clerke, Agnes Mary (klärk), 1842–1907, British astronomer, b Ireland Her astronomical observations included those made in 1888 at the Cape of Good Hope, South Africa, and in 1890 from a yacht on the Baltic Sea Among her works are *A Popular History of Astronomy during the 19th Century* (1885), *The System of the Stars* (1890), *The Herschels and Modern Astronomy* (1895), and *Problems in Astrophysics* (1903)

Clerkenwell (klär'kŭnwŭl, -wĕl), district of Finsbury metropolitan borough, London, England, named from a well near which the London parish clerks held performances of miracle plays There are many shops of jewelers, watchmakers, and opticians

Clerk-Maxwell, James. see MAXWELL, JAMES CLERK

Clermont, city (pop 1,631), central Fla , near Lake Apopka, in a farm area Diatomite is found near by

Clermont-Ferrand (klĕrmō'-fĕrä'), city (pop 93,695), capital of Puy-de-Dôme dept , SE France It is an industrial center, the seat of the Michelin and other tire factories The capital of the former province of Auvergne, it was formed in 1731 by the merger of Clermont and Montferrand (pop c 7,000) Clermont was built in Roman times near the site of Gergovia, which Vercingetorix held against Julius Caesar in 52 B C and which was later dismantled An episcopal see since the 3d cent , it was the site of several church councils, notably that of 1095, where Pope Urban II preached the First Crusade (see CRUSADES) The city is picturesquely situated near the Puy de Dôme peak Its old section is built largely of the dark volcanic rock of the region The Romanesque Church of Notre Dame (12th cent) and the Gothic cathedral (12th–15th cent) are among the many notable buildings, Montferrand is remarkable for its Gothic and Renaissance houses Clermont-Ferrand has a university (founded 1854) and several museums Gregory of Tours and Blaise Pascal were born here

Cletus (klē'tus) or **Anacletus, Saint** (ănŭklē'tus), pope (A D 76?–A D 88?), martyr, a Roman, successor of St LINUS and predecessor of St CLEMENT I Nothing is known of him Feast April 26

Cleve, Joos van see CLEEF, JOOS VAN

Cleve, Germany see CLEVES

Clevedon (klĕv'dŭn), urban district (1931 pop 7 029, 1943 estimated pop 8,000), Somerset, England, on the Severn estuary near the Bristol Channel It is a seaside resort "Clevedon Court," built in the 14th cent , is the "Castlewood" of Thackeray's *Henry Esmond* Arthur Hallam is buried in the parish church of St Andrew

Cleveland, Barbara Villiers, duchess of (vĭ'lĭurz, vĭl'vûrz), 1641–1709, mistress of Charles II of England The king made her husband, Roger Palmer, earl of Castlemaine Lady Castlemaine was the archenemy of Edward Hyde, earl of Clarendon, the lord chancellor, and Pepys records in his diary her glee at the downfall of the minister She was made duchess in 1670 and by 1674 was supplanted in Charles's affections by Louise de Kérouaille She had borne the king several children See Margaret Gilmour, *The Great Lady* (1944)

Cleveland, Frederick Albert, 1865–1946, American economist, b Sterling, Ill , studied at DePauw Univ and the Univ of Chicago, Ph D Univ of Pennsylvania, 1900 He taught at the Univ of Pennsylvania (1900–1903) and was professor of finance at New York Univ (1903–5) He was a leader in budget reform and a member of several committees investigating public finances, serving as director (1907–17) of the bureau of municipal research in New York and Philadelphia, as financial adviser (1910–13) to President Taft, and as financial adviser (1929–35) to the Chinese government From 1919 until his retirement in 1939 he was professor of U S citizenship at Boston Univ He wrote many books on finance and government, including *Funds and Their Uses* (rev ed , 1922), *American Citizenship* (1927), and *Modern Scientific Knowledge* (1929).

Cleveland, Grover (Stephen Grover Cleveland), 1837–1908, 22d President of the United States (two terms, 1885–89, 1893–97), b Caldwell, N J , son of a Presbyterian clergyman A lawyer in Buffalo, he became (1881) the "veto mayor" who drove corruption from the city administration. He won the attention of Daniel MANNING and the reform Democrats and was elected governor of New York. He further built his reputation as an enemy of machine politics by breaking violently with the Tammany leader, John KELLY, and supporting the bills prepared by Theodore ROOSEVELT to improve the government of New York city By 1884 he was a national figure, and he was nominated as Democratic "clean-government" candidate for President to oppose James G BLAINE Cleveland, hated by Tammany and favored by political reformers, got the votes of many reform Republicans—the "mugwumps," who voted against their party The campaign was notably bitter and was marked by the "Rum, Romanism, and Rebellion" speech of a Blaine supporter, which deeply offended Roman Catholics and may have swung the vote to Cleveland in the key state of New York Cleveland as President continued his independent, reformist, but conservative course He did not go far enough in civil service reform to satisfy the zealots, but at the same time by keeping Republican government employees who were not "offensive partisans" he offended the Democratic spoilsmen He vetoed many individual pension bills and also turned down (1887) the general pension for relief to all disabled veterans (including those not disabled in army service) The surplus revenue accumulating in the treasury largely because high Civil War tariffs were still in force fostered much "pork barrel" legislation Cleveland vetoed such laws and argued for a lower tariff, devoting the whole of his annual message to Congress in 1887 to the question The tariff was a major issue in the 1888 election Cleveland received a popular majority but lost the electoral majority to his Republican opponent, Benjamin HARRISON A romantic note in his first administration was his marriage (1886) in the White House to his former ward, Frances Folsom In 1889 he retired to private life as a New York city lawyer, but opposition to measures of the Republican administration, notably the McKinley Tariff Act of 1890, brought him new following In 1892 he was again elected President The panic of 1893 struck a hard blow at his administration Though the more radical Democrats saw salvation in free coinage of silver, the independent President sought to improve the economic situation by securing repeal of the SHERMAN SILVER PURCHASE ACT with the help of conservative Republicans The best opportunity for a lowered tariff had passed, since the treasury now had a deficit rather than a surplus The Wilson Bill, embodying Cleveland's tariff ideas, passed the House of Representatives but was so altered by Senator A P GORMAN and other protectionist Democrats that Cleveland, in disgust, allowed it to become law without his signature The rift between the President and the radical Democrats widened, especially over the gold standard, which Cleveland upheld In the Pullman strike in 1894, Cleveland, on the grounds that the movement of U S mail was being halted by the strikers under Eugene V DEBS, sent troops into the area over the protest of Gov J P ALTGELD The strike was broken by the use of Federal injunctions and the arrest of the strike leaders In foreign affairs both of Cleveland's administrations were marked by a strong stand on the VENEZUELA BOUNDARY DISPUTE, which called forth a statement greatly enlarging the scope of the Monroe Doctrine He refused to recognize the government set up in Hawaii by a revolution which was engineered by Americans expecting speedy annexation to the United States, and he tried to discourage help to the revolutionists in Cuba The more radical wing of the Democrats—the silver Democrats—got control of the party in 1896 and nominated William Jennings Bryan, repudiating Cleveland His strong second term had put him at odds with many, and his *Presidential Problems* (1904) was mainly a defense of his own attitude on some of the major issues See biographies by Robert McElroy (1923) and Allan Nevins (1932)

Cleveland or **Cleiveland, John,** 1613–58, English poet One of the most popular poets of his day, he was a satirist for the royalists His poetry originally went through 20 editions, but he is remembered chiefly for "Fuscara" and "Mark Anthony " See edition of his poems by J M Berdan (1911)

Cleveland. 1 City (pop 4,189), a co seat of Bolivar co , NW Miss , NE of Greenville, in a rich cotton area It has a state teachers college 2 City (pop 878,336), co seat of Cuyahoga co , NE Ohio, a port of entry on Lake Erie at the mouth of the Cuyahoga river It is Ohio's largest city and in 1940 was sixth in size in the United States Accessible to the coal fields of Pennsylvania and (by the Great Lakes) to the Minnesota iron mines, Cleveland became one of the great ore ports and an important center of iron and steel production Other leading industries are chemical factories and various metalworking establishments Among its products are paints and varnishes, electrical appliances, men's and women's clothing, and aircraft engines The town was laid out in 1796 by Moses CLEAVELAND, it was chartered as a city in 1836, and Ohio City (across the river) was annexed in 1854 It developed rapidly after completion here of the Ohio and Erie Canal (1832) and the arrival of the railroad (1851) Iron production was begun in the 1850s, developed under the demands of the Civil War, and expanded in the latter half of the century Large rail, oil, and electrical ventures helped boom industry Rockefeller began his oil dynasty, Mark Hanna built his fortune here Civic evils attending the city's growth were checked by progressive men, such as Mayor Tom L Johnson, who inaugurated many reforms Schools in the city are the CASE INSTITUTE OF TECHNOLOGY, Fenn College (Y M C A , coeducational, 1881), WESTERN RESERVE UNIVERSITY, Ursuline College for Women, John Carroll Univ (see UNIVERSITY HEIGHTS), the Cleveland Institute of Music, the Cleveland Law School, Schauffler College of Religious and Social Work, and St John College Its numerous places of interest include the Mall (civic center), the museum of natural history, the Western Reserve Historical Society Museum, Wade Park, with the CLEVELAND MUSEUM OF ART and the Fine Arts Garden, Rockefeller Park, enclosing the Cleveland Cultural Gardens, Severance Hall, where concerts of the Cleveland Symphony Orchestra are performed, the Cleveland Play House, and the zoological gardens The Cleveland Public Library is known as one of the best in the country Near by is Nela Park, research laboratory headquarters of the General Electric Company In 1936–37 the city held an elaborate Great Lakes Exposition, celebrating its centenary 3 City (pop 2,510), NE central Okla , on the Arkansas river and NW of Tulsa, in an oil-producing region, founded 1893 4 City (pop 11,351), co seat of Bradley co , E Tenn , ENE of Chattanooga, inc 1838 Woodworking is among its industries The city is headquarters of a branch of the Church of God (a fundamentalist group), as well as of the Cherokee National Forest 5 City (pop 1,783), E Texas, near the San Jacinto and NNE of Houston, in a lumber and farm area, inc 1929

Cleveland Heights, city (pop 54,992), NE Ohio, eastern residential suburb of Cleveland, inc as a village 1905, as a city 1921

Cleveland Museum of Art, at Cleveland, Ohio, founded and incorporated in 1913 It is supported by a large endowment and by annual subscriptions The building, in Greek style, designed by the firm of Hubbell and Benes of Cleveland, was opened in 1916 Among important collections of the museum are the John Huntington and the Horace Kelley bequests, upon both of which the permanent collection is founded, in 1944 the Elizabeth Severance Prentiss collection was left to the museum Among the museum's outstanding acquisitions are works by Holbein, Rembrandt, Andrea del Sarto, Ingres, Watteau, and Constable

Clevenger, Shobal Vail (klĕv'jĭur), 1812–43, American sculptor, b Middletown, Ohio Apprenticed to a stonecutter in Cincinnati, he won the interest of Nicholas Longworth, who later (1840) sent him to Italy to study His figure of a North American Indian, executed at Rome in 1840, was described as the "first distinctively American sculpture" His portrait busts were good likenesses, especially that of Daniel Webster, which was reproduced on a postage stamp, other examples are the busts of Henry Clay (Metropolitan Mus) and Washington Allston (Pa Acad of the Fine Arts)

Cleves (klēvz), Ger *Kleve* or *Cleve* (both klā'vu), city (pop 23,152), in the former Rhine Prov of Prussia, NW Germany, historical capital of the duchy of Cleves In the Second World War it suffered much damage The collegiate church (14th–15th cent), containing the tombs of the dukes of Cleves, and the 11th-century Schwanenburg [swans' castle], associated with the legend of Lohengrin, were almost completely destroyed

Cleves (klēvz), village (pop 1,871), SW Ohio, W of Cincinnati and on the Great Miami near the Ohio, platted 1818

Cleves, duchy of, former state, NW Germany, on both sides of the lower Rhine, bordering on the United Netherlands Cleves was the capital A county from late Carolingian times, it was raised to a duchy in the 15th cent The dukes of Cleves acquired extensive territories on both sides of the Rhine besides the county of Mark, in Westphalia (acquired in the 14th cent), Duke John III of Cleves inherited (1524) the duchies of JÜLICH and BERG and the county of RAVENSBURG His daughter, ANNE OF CLEVES, was married to Henry VIII of England In 1609 the male line became extinct, and a complicated dynastic quarrel for the succession followed Brandenburg acquired (1614) Cleves, Mark, and Ravensburg, the Palatinate-Neuburg line of the house of WITTELSBACH took Jülich and Berg The succession was not finally settled until 1666, when the Treaty of Cleves confirmed the division

Clew Bay, inlet, 15 mi long, on the west coast of Co Mayo, Ireland There are numerous cultivated islets Clare Island is at the entrance

Clewiston, city (pop 1,338), S central Fla , on the south shore of Lake Okeechobee, founded 1921 It is a resort in a farm area producing sugar cane

cliff dwellers, Indian builders of the ancient cliff dwellings found in the canyons and on the mesas of the U S Southwest, principally on the tributaries of the Colorado and the Rio Grande rivers in New Mexico, Arizona, Utah, and Colorado. It was once thought that these ruins were the work of an extinct

aboriginal people, but it has been established that they were built by the ancestors of the present PUEBLO INDIANS The dwellings were large communal habitations built on ledges in the canyon walls and on the flat tops of the mesas They were very difficult of access and were thus highly defensible against nomadic predatory tribes such as the Navaho. The cliff dwellers were sedentary agriculturists with fields of crops in the river valleys below their high-perched houses They were experts at irrigating the fields Their lives were highly organized on the communal pattern, and the many kivas (ceremonial rooms) show that their religious ceremonies were like those of the Pueblo Indians today Many of the dwellings are now in national parks and monuments and are much visited by tourists Some of the better-known ones are those of the Mesa Verde National Park, in Colorado, where there are more than 300 dwellings, Yucca House, also in Colorado, Hovenweep, in Utah, and Casa Grande, Montezuma Castle, and Wupatki, in Arizona There is a large literature on the cliff dwellers Their form of life has been admirably described by Adolph Bandelier in *The Delight Makers* (1890)

Clifford, Sir Hugh, 1866–1941, British colonial governor and author, b London Among distinguished offices he held was that of high commissioner (1927–29) of the Malay States, and he wrote novels and stories of Malay life His wife, **Elizabeth Lydia Rosabelle Bonham, Lady Clifford,** 1866–1945, was formerly Mrs Henry de la Pasture Under that name she is known for several pleasant novels, including *Peter's Mother* (1905), successfully dramatised, and *The Lonely Lady of Grosvenor Square* (1907) Lady Clifford was the mother of E M Delafield

Clifford, Lucy Lane, d 1929, English novelist and dramatist, b Barbados, wife of William Kingdon Clifford She wrote *Mrs Keith's Crime* (1885), *Love Letters of a Worldly Woman* (rov ed , 1913), and *Miss Fingal* (1919) Her plays include *The Likeness of the Night* (produced 1901) and *A Woman Alone* (produced 1914)

Clifford, Nathan, 1803–81, American jurist, b Rumney, Grafton co , N.H. Admitted to the bar in 1827, he began law practice at Newfield, Maine Clifford, a Jacksonian Democrat, was a state legislator (1830–34), attorney general of Maine (1834–38), a U.S Representative (1839–43), and U S Attorney General (1846–48) under President James K. Polk With Ambrose H. Sevier he was sent to Mexico in 1848 to secure signature of the amended treaty of peace and remained there some months as minister plenipotentiary From 1858 until his death he was an associate justice of the U S Supreme Court. Presiding over the Hayes-Tilden electoral commission in 1877, he advocated going behind the state returns, but was overruled He refused to enter the White House while it was occupied by Hayes, whom he regarded as a usurper See biography by P G Clifford (1922)

Clifford, Rosamond: see ROSAMOND, d 1176?

Clifford, William Kingdon, 1845–79, English mathematician and philosopher, husband of Lucy Lane Clifford. From 1871 he was professor of mathematics and mechanics at University College, London. Especially notable are his papers on biquaternions and on the dissection of a Riemann's surface, both reprinted in his *Mathematical Papers* (1882) His works include also *Elements of Dynamic* (1878–87) and the posthumously published *Lectures and Essays* (1879) and *The Common Sense of the Exact Sciences* (completed by Karl Pearson, 1885)

Clifford of Chudleigh, Thomas Clifford, 1st **Baron** (chŭd'lē), 1630–73, English statesman Member (1666–73) of the CABAL at Charles II's court, he held numerous offices, rising to be acting secretary of state and lord treasurer (1672) He was in 1672 created Baron Clifford Henry Bennet, earl of Arlington, and Clifford, both Catholics, knew of the secret clauses of the Treaty of Dover (1670) which provided for the reestablishment of Roman Catholicism in England. He was forced to resign by passage of the Test Act (1673), which excluded Catholics from office, and he committed suicide

Cliffside Park, suburban borough (pop 16,892), NE N J., NE of Jersey City near the Hudson, inc 1895

Clifton, Chalmers, 1889–, American conductor, b Jackson, Miss , studied at the Cincinnati Conservatory, at Harvard, and with D'Indy in Paris He was director of the American Orchestral Society in New York from 1922 to 1930 In 1935 he organized the Federal Music Project in New York and was its director from 1937 to 1939

Clifton, resort and residential suburb of Bristol, England, high above the Avon gorge, crossed by I K Brunel's suspension bridge It is the seat of Clifton College, a boys' public school.

Clifton. 1 Town (pop 2,668), co seat of Greenlee co , E Ariz , on the San Francisco river near the N. Mex line, settled 1872 In a mining region, it has a copper smelter Hot springs bubble up near the town's center 2 Former city, Ky · see NEWPORT 3 Industrial city (pop 48,827), NE N.J , near Passaic; inc. 1917 Rubber products and airplane propellers are made here 4 City (pop 1,732), central Texas, on the Bosque and NW of Waco; inc. 1902. Cattle and oats and other grains are handled. There is a Lutheran junior college

Clifton Forge, city (pop 6,461), western Va., N of Roanoke, in the Jackson river valley; settled 1880, inc. 1884 It has railroad shops and an iron industry A state park is near by

Clifton Heights, borough (pop 4,921), SE Pa , W of Philadelphia; settled c 1850, inc. 1885 It has several large textile mills

Clifton Springs, village (pop 1,413), W central N.Y., SE of Rochester, inc 1859. There are mineral springs and a sanatorium

climacteric. see MENOPAUSE.

climate, the sum total of the weather elements, including averages and extremes over a long period of time of temperature, precipitation (see RAIN), HUMIDITY, WIND, barometric pressure, and other items The major influences governing the climate of a region is its latitude, and thus is modified by one or more secondary influences including position relative to land and water areas, altitude, TOPOGRAPHY, prevailing winds, OCEAN CURRENTS, and prevalence of cyclonic storms A broad latitudinal division of the earth's surface into climatic zones includes the equatorial zone or DOLDRUMS, characterised by high temperatures with small seasonal and diurnal change and heavy rainfall, subtropical, including the trade-wind belts and the HORSE LATITUDES, a dry region with uniformly mild temperatures, intermediate, the region of the prevailing westerlies which, due to several secondary influences, displays wide temperature ranges and marked changeableness of weather, and polar, a region of short summers and long winters, where the ground is perpetually frozen except for a thin surface layer The transition belt between the subtropical and intermediate zones, known as the Mediterranean type, is found on the west coasts of continents and is characterized by mild temperatures with moderate rainfall in winter under the influence of the moisture-laden prevailing westerlies and dry summers under the influence of the horse latitudes or of the trade winds Climatic types combining the basic factor of latitude with one or more secondary influences include the continental, which, except in the equatorial region, is marked by dry sunny weather with low humidity and seasonal extremes in temperature, noteworthy examples being the Sahara Desert (with the highest temperature on record, 136°F , at Tripoli) and Siberia (with the lowest recorded surface temperature of −93 6°F at Verkhoyansk), and the marine, which is characterized by small annual and diurnal temperature variation and by copious rainfall on the windward side of mountainous islands, exemplified in the mean annual precipitation of 451 in at Mt Waialeale, Kauai, Hawaii The coastal or littoral climate is one in which the direction of the prevailing winds plays a dominant role, the east coasts having generally the heavier rainfall in the trade-wind belts, and the west coasts, in westerly belts, both have a climate resembling the continental during the season when the wind is blowing from the interior of the continent An instance of the coastal type, in which the precipitation is accentuated by the nearness of a mountain barrier, is the west coast of North America from Alaska to Oregon, where the mean annual precipitation averages 80 to 100 in , practically all of it falling during the winter months Also included are the mountain and plateau climates, where elevation is the controlling factor (the temperature decreasing 3° per 1,000 ft of ascent on an average, and rainfall increasing up to c 6,000 ft , then decreasing with further elevation) Climatology, the study or science of climate and its relation to plant and animal life, is gaining increased recognition in many fields, notably in agriculture, aviation, medicine, botany, zoology, geology, and geography The effect of climate on man is evident when one considers that the highest types of civilization have thus far developed in lands of variable climate, usually in middle latitudes, where there is a productive soil and an annual temperature range conducive to both mental and physical activity Changes in climate affect the plant and animal life of a given area Fossils of animals discovered in North America, Greenland, and Siberia and the presence of coal beds in North America and Europe, on one hand, and evidence of glaciation in these same areas, on the other, indicate that they must have experienced alternately warmer and colder climates than they now possess Despite yearly fluctuations of climatic elements, there has been, apparently, little over-all change during the period of recorded history Climatic cycles (variations in weather elements which recur with considerable regularity) have been claimed to exist—the 35-year cycle of Brückner was well investigated in Europe, and an 11-year sunspot cycle has been advanced. There is some evidence that temperatures in the central and eastern portions of the United States have had a general upward trend during the past 50 years. See Julius Hann and R DeC Ward, *Handbook of Climatology* (1903), Ellsworth Huntington, *Civilization and Climate* (1915); R DeC Ward, *The Climates of the United States* (1925); G. T. Trewartha, *An Introduction to Weather and Climate* (1943); S. F. Markham, *Climate and the Energy of Nations* (2d ed., 1947).

Climax, Saint John: see JOHN CLIMAX, SAINT.

climbing lily: see GLORY LILY.

climbing perch, spiny-finned, perchlike, walking fish, genus *Anabas*, found in quiet fresh waters of India and SE Asia. The adult is dark brown and reaches about 10 in. in length It has a blunt, hard head and a body covering of thick skin and scales. By movements of the fins and tail and aided by the spines on the fins and gill covers it can progress awkwardly over land and can climb up banks and tree trunks It has a supplementary breathing apparatus which enables it to use atmospheric oxygen, and it will die if not allowed to rise to the surface for air.

climbing plant, any plant that in growing to a height requires some support. Climbing plants may clamber over a support (climbing rose), twine up a slender support (hop, honeysuckle), or grasp the support by special processes such as adventitious aerial roots (English ivy, poison ivy, trumpet creeper), tendrils (see TENDRIL), or hook-tipped leaves (glory lily, rattan) Some climbing plants when not supported become trailing plants (English ivy). Climbing plants are to be found in nearly every type of plant, as the ferns (climbing fern), palms (rattan), grasses (some bamboos), lilies (glory lily), and cacti (night-blooming cereus) Tropical kinds—usually called lianas—are particularly abundant A sturdy vine may strangle a supporting tree See Charles Darwin, *The Movements and Habits of Climbing Plants* (1864), A C Hottes, *A Little Book of Climbing Plants* (1924)

Clinch, river, c.300 mi long, formed by the junction of two forks in Tazewell co in the western part of Virginia and flowing generally SW across E Tennessee to the Tennessee river at Kingston Its waters and those of its tributary, the Powell, are used to make the giant reservoir at Norris Dam, and the Clinch again becomes a reservoir at its mouth, it is thus an important part of the system of the TENNESSEE VALLEY AUTHORITY. In late colonial days the Clinch was one of the routes for settlers going to Tennessee, and it is celebrated in an old folk song

Clinedinst, Benjamin West (klīn'dĭnst), 1860–1931 American illustrator and portrait and genre painter, b Woodstock, Va., studied at the École des Beaux-Arts and with Cabanel and Bonnat in Paris He is best known as an illustrator for popular magazines and of books by Hawthorne, Stevenson, Mark Twain, Bret Harte, and others Among his portraits are those of Theodore Roosevelt, Gen E W Nichols, and Admiral Peary He became a member of the National Academy in 1898

clinic (klĭ'nĭk), name for a number of kinds of institutions providing medical diagnosis and treatment for ambulatory patients Present-day clinics include those maintained by hospitals and various public and private organizations, as well as private clinics operated by groups of physicians Originally the clinic served only those who could not afford to pay a fee, and its chief function was the dispensing of free drugs, such institutions, called dispensaries, were the forerunners of modern clinics Dispensaries began to be established in London near the close of the 17th cent In the United States the first free dispensary was founded (1786) in Philadelphia through the efforts of Benjamin Rush, a dispensary was founded in New York in 1791, and one in Boston in 1796. Home care was often provided for by the early dispensaries, but later the clinic evolved as a place for treatment of those who could visit the institution. As the clinic movement grew, facilities for providing diagnosis and treatment improved In the 20th cent there has been much progress in the establishment of preventive clinics, many of which provide for vaccination and other measures against the spread of disease, some are established to promote and maintain the health of babies and mothers, and others to facilitate the early diagnosis of tuberculosis and other diseases by means of the X ray and other methods In some areas mobile units travel from place to place providing various kinds of medical and dental care Many clinics are connected with hospitals and medical schools, and these in addition to affording certain advantages to the patient have educational value for the students and doctors. Some clinics are maintained by schools, business offices, and industrial plants for treating their own personnel Many clinics cooperate with other social agencies in order to improve, when necessary, not only the patient's physical health but also his environment and mental health Of the clinics maintained by organizations some are free, some charge a nominal fee, and in others the fee is voluntary or in proportion to the ability to pay See M. M. Davis, *Clinics, Hospitals, and Health Centers* (1927), and, with Anna Richardson, *New Clinics for Old* (1927), Franz Goldmann, *Public Medical Care* (1945); L I Bigley, *Community Clinics* (1947).

Clink, former district, seat of the famous prison in Southwark, London, England, on the Bankside, near the palace of the Winchester bishops.

Clinton, De Witt, 1769–1828, American statesman, b New Windsor, near Newburgh, N.Y., grad Columbia, 1786; son of James CLINTON. He was admitted (1790) to the New York bar, but soon became secretary to his uncle, George CLINTON, first governor of the state, and in that position (1790–95) gained considerable political experience and influence at an early age. In 1797 he entered the state legislature. Chosen (1801) for the state council of appointment, he helped overthrow the custom of allowing the governor to propose all names and instituted a general replacement of Federalist officeholders by Republicans. As U S Senator (1802–3) Clinton introduced the Twelfth Amendment to the Constitution and opposed sentiment for hostilities against Spain. In 1803 he became mayor of New York city, and in 10 annual terms, between 1803 and 1815, he promoted public education, city planning, city fortifications, public sanitation, and relief of the poor. While mayor he was successful in dictating the nomination of two governors and he also held office as state senator (1806–11) and lieutenant governor (1811–13). He advocated removal of the political disabilities of Roman Catholics, abolition of slavery, and amelioration of severe punishment for debt and misdemeanors. He ran unsuccessfully for President against James Madison in 1812, with support both from Federalists, who recognized his insurgency, and from Republicans. As canal commissioner after 1810 he sponsored the ERIE CANAL and the Champlain-Hudson Canal, and in 1816 the legislature adopted his plan. From 1817 to 1821 he was governor and gave constant support to the canal projects. However, partly because of his reluctance to call a badly needed state constitutional convention, Clinton suffered temporary political reverses and through the opposition of the ALBANY REGENCY and TAMMANY was deprived in 1824 even of his post as canal commissioner. Again governor from 1825 until his death, he celebrated the completion of the canals and promoted public and normal schools, manufacturing, and legal reform. Clinton was genuinely interested in art and natural science, to which he made valuable contributions. He was also concerned with education, actively sponsoring the system of Joseph Lancaster. He was a founder and president (1817) of the New York Historical Society. See biography by Dorothie Bobbé (1933), H L McBain, *De Witt Clinton and the Spoils System* (1907), Dixon Ryan Fox, *Decline of Aristocracy in the Politics of New York* (1918).

Clinton, George, 1739–1812, American statesman, b Little Britain, Ulster co (his birthplace is now in Orange co), N Y. Before he was 20 he served on a privateer and accompanied the regiment of his father, Charles Clinton, in the expedition against Fort Frontenac led by John BRADSTREET. After studying law in New York city he began practice in Ulster co and was elected (1768) to the provincial assembly, where he became a leader of the patriot party. In 1775 Clinton was elected one of the state's delegates to the Second Continental Congress. Military duties prevented his signing the Declaration of Independence. His courageous but unskillful defense of the Hudson, as brigadier general in the Continental army, resulted in the capture of Fort Clinton and Fort Montgomery by the British general, Sir Henry CLINTON. Under the new state constitution, which Clinton helped to frame, he was elected (June, 1777) the first governor of New York. His energy and leadership as governor for SIX successive terms (1777–95) led to his being called the father of New York state. He managed trade and public welfare problems ably and successfully, settled the Indian troubles in W New York. He advanced New York's claims to the NEW HAMPSHIRE GRANTS (now Vermont), initiated action on building canals (later realized by his nephew, De Witt CLINTON), and unsuccessfully fought the transfer from New York to the United States of the right to collect duties at the port of New York. An advocate of state sovereignty, Clinton was one of the chief opponents of the Federal Constitution, writing seven letters, signed Cato, in the New York *Journal* against ratification. These were answered by Alexander HAMILTON in his letters signed Caesar in the *Daily Advertiser*. Clinton presided over the convention at Poughkeepsie which did ratify the Constitution, but not until enough other states had acted to insure its operation. His views on the Constitution were opposed by a rapidly growing party, the Federalists, under the leadership of John JAY. Jay lost the election of 1792 only by a questionable manipulation of returns on the part of the Clintonians, and in 1795 Jay won with ease, Clinton having declined to become a candidate. As a result of his alliance with the Livingstons and Aaron BURR, he became governor for a seventh term in the Republican triumph of 1800. In 1804 he was elected Vice President. He sought the presidency in 1808, having received some support for that office in previous elections, but again he received only the vice presidency. As presiding officer of the U.S. Senate he cast the determining vote against the bill to recharter the Bank of the United States (1811). He died in office. See his *Public Papers* (ed. by Hugh Hastings and J. A. Holden, 10 vols., 1899–1914), biography by E. W. Spaulding (1938).

Clinton, Sir Henry, 1738?–1795, British general in the American Revolution, b Newfoundland, son of George Clinton, colonial governor of Newfoundland and later of New York. He was an officer in the New York militia and then in the Coldstream Guards. He had distinguished himself in America by service in the French and Indian War long before he arrived in 1775 with reinforcements for Gov. Thomas Gage in Boston. He took part in the battle of Bunker Hill, commanded (1776) an unsuccessful expedition against Charleston, S C., and served under Sir William HOWE in the battle of Long Island, in the occupation of New York, and at White Plains. In 1777 he was efficient in heading the British occupation of Rhode Island. When Howe moved on Philadelphia, Clinton assumed the command of New York. He did not fulfill the part expected of the New York command in the British plan that ended with the SARATOGA CAMPAIGN, he advanced up the Hudson valley, capturing the patriot strongholds—Fort Clinton (strongly defended by James Clinton) and Fort Montgomery—but after burning Kingston, he turned back. Sir Henry Clinton (knighted 1777) succeeded Howe in the supreme command in America in 1778. Acting on orders from London, he evacuated Philadelphia and, after Washington's attempt to halt him (see MONMOUTH, BATTLE OF) failed, reached New York. He complained that Lord George Germain did not answer his requests for supplies and twice tried to resign. In Dec., 1779, he left Baron KNYPHAUSEN in command in New York and redeemed his failure of 1776 by capturing Charleston (1780). After placing Cornwallis in command in the Carolinas, he returned to New York. In 1781 he remained there too long, expecting Washington to attack, and failed to aid Cornwallis in the YORKTOWN CAMPAIGN. He resigned and was succeeded by Sir Guy CARLETON. He was later (1794–95) governor of Gibraltar. He wrote an account of his campaigns, and his headquarters papers are in the William L. Clements Library at Ann Arbor, Mich.

Clinton, James, 1733–1812, American Revolutionary general, b Orange co, N Y., brother of George Clinton and father of De Witt Clinton. He served in the French and Indian War, and early in the Revolution he took part in the disastrous Quebec campaign. His most noted exploit was his heroic defense of Fort Clinton (near Kingston, N Y.) against the British drive up the Hudson valley under Sir Henry CLINTON in 1777. James Clinton later fought (1779) with Gen. John SULLIVAN against the Indians and served at Yorktown (1781).

Clinton, town (pop. 1,896), S Ont., SE of Goderich at the junction of the old London and Huron roads. It is a manufacturing center with salt wells near by.

Clinton. **1** Resort town (pop. 1,791), S Conn., on Long Island Sound E of New Haven, settled 1663, set off from Killingworth 1838. Cosmetics are made here. **2** City (pop. 6,331), co. seat of De Witt co., central Ill., N of Decatur, in a farm area, settled 1836, inc. 1855. It has railroad shops. Clinton was on the circuit of the eighth judicial district, and Abraham Lincoln frequently argued cases here. **3** City (pop. 7,092), W Ind., on the Wabash and 15 mi. N of Terre Haute, settled 1818, laid out 1829. Bituminous coal is mined here on a large scale. The site of Fort William Henry Harrison is near by. **4** City (pop. 26,270), co. seat of Clinton co., E Iowa, on the Mississippi and NE of Davenport, laid out 1838, replatted 1855, inc. 1857. It is an industrial and rail center in a rich agricultural area and grew as an important lumber-producing city in the 1880s. Flour, cellophane, and millwork products are made. Mt. St. Clare Junior College (for girls) is here. **5** Town (pop. 1,540), co. seat of Hickman co., SW Ky., near the Mississippi. SW of Paducah, platted 1826, inc. 1831. It is a shipping point for corn and cotton. Columbus-Belmont Battlefield State Park is near by; it is on the old site of the city of Columbus (now moved to higher ground), scene of early settlement and a Confederate stronghold early in the Civil War. **6** Town (pop. 1,436), S Maine, on the Sebasticook and NE of Waterville, settled c.1775, inc. 1795. It has varied small industries. **7** Industrial town (pop. 12,440), central Mass., near Wachusett Reservoir, settled 1654, inc. 1850. Its products include steel goods. **8** Village (pop. 1,126), S Mich., on the Jackson Branch of the Raisin and SW of Detroit, in a rich farm region, inc. 1838. Wool and flour are made here. Indian mounds are in the vicinity. **9** Town (pop. 916), W central Miss., just W of Jackson, settled c.1823 on the site of an early Indian agency, inc. 1830. Mississippi College (Baptist, coeducational, 1826) is here. **10** City (pop. 6,041), co. seat of Henry co., W Mo., SE of Kansas City, in a dairy, poultry, grain, and coal area. **11** Town (pop. 1,066), W N J., ESE of Phillipsburg, settled in the mid-18th cent., inc. 1865. **12** Village (pop. 1,478), central N Y., SW of Utica, inc. 1843. Sweaters are made here. Clinton is the birthplace of Elihu Root and the seat of HAMILTON COLLEGE. **13** Town (pop. 3,557), co. seat of Sampson co., E central N.C., SSE of Raleigh; laid out 1818. It is in a lumber and farm area noted for huckleberries. **14** City (pop. 6,736), W Okla., on the Washita river, founded 1903. A shipping center for a wheat and livestock area, it is also the seat of a U S. soil conservation camp, a state hospital, and a state tuberculosis sanatorium. **15** Town (pop. 5,704), NW S C., S of Spartanburg, in a cotton area. It is the seat of Presbyterian College and an orphanage. Near by is the state school for the feeble-minded. **16** Town (pop. 2,761), co. seat of Anderson co., E Tenn., near the Clinch river and NW of Knoxville, in a farm area. Its name was changed from Burrville to Clinton in 1809. Near by is OAK RIDGE.

Clintonville, industrial city (pop. 4,134), central Wis., WNW of Green Bay and on the Embarrass river, in a farm area, settled 1855, inc. 1887. Trucks and cheese are made.

Clintwood, town (pop. 1,106), extreme SW Va., in the Cumberlands, inc. 1894. The courthouse of Dickenson co. is here.

Clio. see MUSES.

Clio (klī'ō), city (pop. 1,711), S Mich., N of Flint, inc. as a village 1873, as a city 1928.

clipper, type of sailing SHIP, designed for speed. Long and narrow, they had the greatest beam aft of the center, the clipper bow cleaved the waves, and the ship carried, besides topgallant and royal sails, skysails and moonrakers, a veritable "cloud" of sails. The clipper was therefore the fastest of all sailing ships. The type originated in the United States. The Baltimore clippers were only forerunners of the real clipper, which may be said to have begun with the *Ann McKim*, completed in Baltimore in 1832. The type was brought to perfection by Donald McKAY of Boston, who built such vessels as the *Flying Cloud*, the *Glory of the Seas*, and the *Lightning*. The clippers dominated commerce to far places of the world, to China and Australia, and from the U S. Atlantic coast around the Horn to California in the days of the gold rush. They steadily cut the time needed for these long voyages and had famous races. The clipper came into being only after its finally successful rival, the steamship, was engaging in transoceanic voyages, but in the early days the clipper easily outran the plodding steam vessel. In the 1860s the improved steamship began to forge ahead, and though some of the most beautiful and the fastest of the clippers were built after 1860, the days of the clipper and of the sailing ship died slowly away. See O T Howe and F C Matthews, *American Clipper Ships, 1835–1858* (1927), Hawthorne Daniel, *The Clipper Ship* (1928), H I Chapelle, *The Baltimore Clipper* (1930), Helen La Grange, *Clipper Ships of America and Britain, 1833–1869* (1936), A B Lubbock, *The Romance of the Clipper Ships* (1939, new ed., 1949), A K Laing, *Clipper Ship Men* (1944).

Clipperton Island, in the Pacific, SW of Mexico. It was used as a base by John Clipperton, an English pirate. The French claimed it in 1858, the Americans held it for a time in the Spanish-American War, and Mexican troops occupied it in 1897. The conflict between France and Mexico was referred to the king of Italy for arbitration in 1908. The award was made (1931) in favor of France, and Mexico surrendered the island in 1932.

Clisson, Olivier de (ōlēvyā' du klēsôN'), 1336–1407, constable of France, b Brittany. He was involved in the War of the BRETON SUCCESSION but entered the French service (1370) as companion in arms to Bertrand du Guesclin. He defeated the insurgents of Ghent under Philip van ARTEVELDE at Roosebeke (1382). Clisson, one of the MARMOUSETS, made use of his position to satisfy his boundless avidity, he was one of the few millionaires of his time. After Charles VI became insane (1392), he retired into Brittany.

Clisthenes see CLEISTHENES.

Clive, Catherine (Kitty Clive) (klīv), 1711–85, English singer and actress, of an Irish family named Raftor. She made her debut at Drury Lane under the management of Cibber, Wilks, and Booth c.1728, playing a minor part in Nathaniel Lee's *Mithridates*. Her wit and vivacity, linked with a fine singing voice, brought her great success in such comedies as Colley Cibber's *Love in a Riddle*, Henry Fielding's *Lottery*, Gay's *Beggar's Opera* and, especially, Charles Coffey's *The Devil to Pay*. A favorite with Handel (she sang in the first production of *Samson* in 1742), she was a friend of Samuel Johnson, of Fielding, in whose plays and adaptations she appeared, and of Horace Walpole, who pensioned her. See Walpole's *Letters*, E M Gagey, *Ballad Opera* (1937).

Clive, Robert, Baron Clive of Plassey (plā'sē), 1725–74, British soldier and statesman. After a turbulent youth in England, he went (1743) to India as a clerk in the employ of the East India Company, but entered the military service of the company in 1744 and distinguished himself (1748) at Pondicherry against the French under Dupleix. With a handful of Europeans sent to relieve Trichinopoly (1751), he captured Arcot, capital of the Carnatic, and held it against great odds. This exploit gave him a wide reputation. Made governor of Fort St. David near Madras, he recovered (1756) CALCUTTA from Siraj-ud-daula, who was supported by the French, and avenged the outrage of

the Black Hole of Calcutta. After his victory at Plassey (1757) he supplanted Siraj-ud-daula with Mir Jafar, the British candidate, as nawab of Bengal. In Madras and Bengal, as governor, he proved a great administrator. In 1760 he returned to England and was given an Irish peerage as Baron Clive of Plassey in 1762. Disorder and corruption, however, appeared in India, and he resumed his duties as governor of Bengal in 1765, in which year he also brought Behar and Orissa under British control. Despite a vigorous and honest administration, he was attacked on his return to England (1767) on charges that he had formerly accepted large presents, and after a long investigation he was acquitted and commended for his services. Broken in health, he committed suicide. Besides destroying French power in India by his military genius, Clive reformed corrupt practices in administration and instituted administrative and economic reforms. He believed that the British government should take over the interests of the East India Company. See the famous *Essay on Clive* by T. B. Macaulay, biographies by A. J. Arbuthnot (1899), G. W. Forrest (1918), and A. M. Davies (1939).

clock, instrument for measuring and indicating time. Predecessors of the clock were the SUNDIAL, the HOURGLASS, and the CLEPSYDRA. When the first mechanical clocks were invented is not definitely known. Some authorities attribute the first wheel clock to Boethius in the 6th cent. and the first weight-driven clock to Pacificus, archdeacon of Verona, in the 9th cent. Gerbert, a learned monk who became Pope Sylvester II, is often credited with the invention of a mechanical clock, c. 996. It is recorded that in 1232 the sultan of Egypt sent to Frederick II of Germany a horologium operated by weights and wheels. Mechanical figures which struck a bell on the hour were installed in St. Paul's Cathedral, London, in 1286, a dial was added to the clock in the 14th cent. Clocks were placed in a clock tower at Westminster Hall, London, in 1288 and in the cathedral at Canterbury in 1292. In France, Rouen was especially noted for the skill of her clockmakers and watchmakers. One of the most famous clocks is in the cathedral of Strasbourg, the clock was first placed in the cathedral in 1352, and in the 16th cent. it was reconstructed. In the 19th cent. a new astronomical clock similar to the first two clocks was constructed. Its elaborate mechanical devices include the Twelve Apostles, a crowing cock, a revolving celestial globe, and an automatic calendar dial. Probably closest of the early clocks to the modern ones was that constructed in the 14th cent. for the tower of the palace (later the Palais de Justice) of Charles V of France by Henry de Vick (Vic, Wieck, Wyck) of Württemburg. Until the 17th cent. few mechanical clocks were found outside of cathedral towers, monasteries, abbeys, and public squares. The early clocks driven by hanging weights were bulky and heavy. When the coiled spring came into use (c. 1500), it made possible the construction of the smaller and lighter-weight types. Christiaan Huygens by applying Galileo's law of the pendulum invented (1656 or 1657) a pendulum clock, probably the first. Early clocks used in dwellings in the 17th cent. were variously known as lantern clocks, bird-cage clocks, and sheep's-head clocks; they were of brass, sometimes ornate, with a gong bell at the top supported by a frame. Before the pendulum was introduced, they were spring-driven or weight-driven, those driven by weights had to be placed on a wall bracket to allow space for the falling weights. These clocks, probably obtained chiefly from England and Holland, were used in the Virginia and New England colonies. Clocks with long cases to conceal the long pendulums and weights came into use after the mid-17th cent.; these were the forerunners of the grandfather clocks. With the development of the craft of cabinetmaking, more attention was concentrated on the clock case. In France the tall cabinet clocks or grandfather clocks were often of oak elaborately ornamented with brass and gilt. Those made in England were at first of oak and later of walnut and mahogany, simpler in style, their chief decoration was inlay work. Among the well-known clocks of the world are the clock in the tower next to Westminster Bridge in the British Houses of Parliament, with its 13½-ton bell known as Big Ben, and the tower clock in the Metropolitan Life Insurance Company building, New York city, which has four dials each 26½ ft. in diameter. Electric clocks were made in the second half of the 19th cent. but were not used extensively in homes until after c.1930. Until the 19th cent. the clock-making industry centered chiefly in France and England, it was later in developing in Germany. From the 19th cent. the United States was a leading producer of clocks. See N. Hudson Moore, *The Old Clock Book* (1911, new ed., 1936), F. J. Britten, *Old Clocks and Watches and Their Makers* (6th ed., 1933), Herbert Cescinsky, *Old English Master Clockmakers and Their Clocks, 1670–1820* (1938), M. Ilin (pseud.), *What Time Is It?* (1941), C. W. Dreppard, *American Clocks and Clockmakers* (1947), G. F. C. Gordon, *Clockmaking, Past and Present* (2d ed., 1949); S. F. Philpott, *Modern Electric Clocks* (4th ed., 1949).

Clodia (klō'dēə), fl. 1st cent. B.C., sister of Publius CLODIUS, famous among the ancient Romans for her beauty. She was suspected of murdering her husband, Q. Caecilius Metellus Celer (see METELLUS, family), and she accused her lover, M. Caelius Rufus (see CAELIUS, family), of trying to murder her. Among her many lovers was the poet CATULLUS, who has immortalized her as Lesbia.

Clodion or **Claude Michel** (klōdēō', klōd' mēshĕl'), 1738–1814, French sculptor. He executed several important commissions under Louis XVI, but is best remembered for his bas-reliefs and little figure groups in bronze and terra cotta representing fauns, nymphs, and children. He is represented in the Louvre and in the Metropolitan.

Clodius (Publius Clodius Pulcher) (klō'dēəs), d. 52 B.C., Roman politician. He belonged to the Claudian gens (see CLAUDIUS), and his name is also written as P. Claudius Pulcher; he was brother of Appius Claudius Pulcher and of the notorious Clodia. In 62 B.C. he created a tremendous scandal by entering the house of Julius CAESAR, disguised as a woman, at the time of the women's mysteries of Bona Dea. CICERO prosecuted him for sacrilege, but Clodius, probably by heavy bribery, won an acquittal. The results were that Caesar divorced his wife POMPEIA, and Cicero earned Clodius' unswerving hatred. In 58 B.C., Clodius was tribune of the people, put into office by the First Triumvirate (Caesar, Crassus, and Pompey) probably under the mistaken impression that he would be a tool. Instead, he proved himself a demagogue, seeking popularity in every way. He exiled Cicero on specious charges arising from the conspiracy of Catiline, and he sent Cato the Younger to Cyprus. Clodius spent much of his money in organizing gangs of bullies to intimidate the city. Pompey and MILO organized a conservative gang, and Rome was plagued with bloody rioting until Clodius was killed by Milo's gang. His irresponsible actions had prepared the way for more trouble and for the civil war of Caesar and Pompey.

Clogher (klŏkh'ur), village (pop. 903), Co. Tyrone, Northern Ireland, on the Blackwater. It has been a religious center since the time of St. Patrick. The seat of the Protestant bishop is here, the cathedral was rebuilt in the 18th cent. The cathedral of the Roman Catholic bishop of Clogher is at Monaghan, Ireland.

cloisonné (kloizunā', -sunā'), method of decorating metal surfaces, such as vases, plaques, jewel boxes, and cigarette cases. It consists in attaching to the surface metal filaments (which form the *cloisons* or separating elements) at right angles to it, outlining the design to be used. These miniature compartments are filled with colored enamel in paste form, and the object is then heated in order to fuse the enamel to the surface and develop its transparency and permanent colors. When finished, the enamel and *cloisons* are closely joined in a smooth, even surface showing the pattern in various colors defined by the metal partitions which prevented their fusing with one another. Cloisonné has been highly perfected by the Chinese, the Japanese, and the French, from whom is borrowed the name applied to both the work and the object so decorated. Fine cloisonné is much prized.

cloister, unroofed space forming part of a religious establishment and surrounded by the various buildings or by enclosing walls. Generally it is provided on all sides with a vaulted passageway consisting of continuous colonnades or arcades opening to a court. The cloister is a characteristic part of monastic institutions (see ABBEY), serving both as sheltered access to the various units of the group and for the recreation and social intercourse of the monks. The first cloisters were built in the 11th cent., a period marked by active monastery building all over Europe. They were not limited to monastic houses, but were built in some English colleges, as at Oxford and Eton, and in some churches, mostly in England and Spain. In N. France many of the original cloisters have disappeared, but superb Romanesque cloisters remain in S. France, Italy and Sicily, and Spain. In the typical ones the arches are supported by delicate columns, generally coupled, the elaborate capitals of the paired columns sometimes being interlaced. The 13th-century cloisters of two Roman churches, St. John Lateran and St. Paul's without the Walls, are notable Romanesque examples, distinguished by twin spiral columns inlaid with rich glass mosaics. Of the Gothic period, the English cloisters are especially fine, as at Salisbury, Wells, and Westminster Abbey. The Renaissance cloisters are confined chiefly to Italy and Spain. In the New World from the 16th cent. the Spanish colonists built simple cloisters, generally arcaded, in Mexico, Cuba, and California.

Cloisters, the, museum of medieval art, at Fort Tryon Park, New York city, overlooking the Hudson. A branch of the Metropolitan Museum of Art, it was opened to the public in May, 1938. The building includes five French cloisters, a 12th-century Romanesque chapel, and a chapter house. The core of the collection it houses consists of six or seven hundred examples of medieval painting, sculpture, and other forms of art gathered in France by George Grey BARNARD. This collection was bought by John D. Rockefeller, Jr., in 1925 and presented to the Metropolitan Museum. Later additions to it include a series of 15th-century tapestries, *Hunt of the Unicorn*.

Clonakilty (klŏnŭkil'tē), urban district (pop. 2,824), Co. Cork, Ireland, at the head of Clonakilty Bay, an inlet of the Atlantic SW of Cork. In an English-Irish battle in 1641 the town was nearly destroyed. There are castles at Galley Head, Dunmycove, and Dunowen. Clonakilty is an agricultural market, with slate quarries. Michael Collins was born here.

Clones (klōnz), urban district (pop. 2,092), Co. Monaghan, Ireland, WSW of Monaghan. It has the remains of a 6th-century abbey with a round tower. A rail center, it is a market for farm produce and manufactures lace and clothing.

Clonmacnoise (klŏnmăknoiz'), historic religious center, Co. Offaly, Ireland, on the Shannon and S. of Athlone. There are ruins of an abbey founded in 541 by St. Kieran, the Seven Churches of Clonmacnoise, a castle, a bishop's palace, two round towers, and several crosses. Inscribed stones are preserved in the abbey. An annual feast of St. Kieran is held at Clonmacnoise.

Clonmel (klŏnmĕl'), Irish *Cluain Meala*, urban district (pop. 9,861), county town of Co. Tipperary, Ireland, on the Suir river. It is a farm market and a tourist, salmon-fishing, and hunting center. It was chartered by Edward I. In 1516 Clonmel was besieged by the British and in 1650 by Cromwell. Laurence Sterne was born here.

Clontarf (klŏntarf'), suburb of Dublin, Co. Dublin, Ireland. It was the scene of a decisive defeat (1014) of the Danes by the Irish under Brian Boru.

Clootz, Anacharsis (anakarsēs' klōts'), 1755–94, agitator in the French Revolution, self-styled Orator of the Human Race. Born near Cleves into a family of the lesser German nobility and originally called Jean Baptiste, he discarded his name in favor of Anacharsis when he became fanatically devoted to republican and humanitarian ideas. He traveled about, spending his large fortune for the advancement of these ideas. Coming to France after the outbreak of the Revolution, he headed a delegation of alleged foreigners as ambassadors of the human race to the National Assembly, became a French citizen, and was elected to the Convention. His influence was seen in the abolition of titles of nobility. Robespierre distrusted the rich leveler, and Anacharsis Clootz was executed with the Hébertists.

Cloquet (klōkā'), city (pop. 7,304), NE Minn., on the St. Louis river and W. of Duluth, settled 1879, inc. as a village 1880, as a city 1904. A wood-products and paper-mill town, it was almost destroyed by forest fire in 1918 and was rebuilt with state aid. The state university has a forest experiment station near here.

closed shop and open shop. The term "closed shop," or sometimes "union shop," is used to signify an establishment which employs only members of a labor union. An open shop, strictly speaking, is one which does not restrict its employees to union members. The medieval trade guilds acted as closed shops, as did the 18th-century trade clubs. Among European workers the issue of the closed shop has not been so sharply fought as in the United States, where since c. 1840 the closed-shop policy has been adopted by most labor unions. The railroad brotherhoods are an outstanding exception, but they nevertheless have exclusive bargaining rights with the railroads. Judicial decisions from 1850 to 1898 usually went against the closed shop. It was further obstructed by the decision of the anthracite coal strike commission of 1902 and the Panic of 1907. After the passage of the Wagner Act (see NATIONAL LABOR RELATIONS BOARD) in 1935, decisions of the Federal courts tended to uphold the legality of the closed shop. Many states, however, either by legislation or by court decision, banned the closed shop, among these are New Jersey, California, Florida, and Georgia. It is argued in favor of the closed shop that unions can win a fair return for their labor only through solidarity, since there is always—except in wartime—an oversupply of labor, that all employees of a plant share in the advantages won through collective bargaining and therefore all should contribute to union funds, and that freedom from the necessity for organizing activities relieves both employees and employers. Arguments in favor of the open shop are that forcing unwilling workers to pay union dues is an infringement of their rights, that union membership is sometimes closed to certain workers or the initiation fee may be so high as to be an effective bar to membership, that in some cases union funds are mismanaged, and that employers are deprived of the privilege of hiring competent workers or firing incompetent ones. The closed shop is generally considered most successful where union membership is open to all and where the employer can hire any worker with the proviso that he must join the union which has bargaining power in that plant. See C. R.

Daugherty, *Labor Problems in American Industry* (5th ed , 1941), J E. Johnsen, comp , *The Closed Shop* (1942), a summary of the arguments on both sides

Closter (klŏs'tûr), borough (pop 2,603), NE N J , near the Hudson NE of Paterson, inc 1903

Clotaire I (klōtâr'), d 561, Frankish king, son of CLOVIS I His capital was at Soissons In 524 he divided with his brothers, THEODORIC I and CHILDEBERT I, the kingdom of his deceased brother Clodomer, whose children they murdered With Theodoric he conquered Thuringia In 534 Clotaire and Childebert seized and divided the First Kingdom of Burgundy, and in 542 they attacked the Visigoths of Spain but were repulsed before Saragossa The deaths of Theodebald, Theodoric's grandson (555), and of Childebert (558) made Clotaire sole king of the Franks His sons, Chilperic I and Sigebert I, inherited Neustria and Austrasia respectively

Clotaire II, 584–629?, Frankish king, son of CHILPERIC I and FREDEGUNDE He succeeded (584) his father as king of Neustria and became king of all the Franks after the deaths of his cousins Theodebert II and Theodoric II (613) He put BRUNHILDA to death, restored peace with the help of the nobility, and drew up a charter granting far-reaching privileges to the nobles and the clergy (614) His son, DAGOBERT I, succeeded him

clotbur see COCKLEBUR

clothes moth, name for several species of moths of the family Tineidae, the larvae of which feed on wool, furs, feathers, upholstery, and a variety of animal products Clothes moths are of Old World origin Those commonest in North America are the case-bearing clothes moth and the webbing clothes moth The adults are yellowish or buff moths, often called millers, with a wingspread of about ½ in They eat no fabrics, but lay 100 to 150 eggs on the material which provides food for the larva The life cycle is completed most rapidly at average room temperature and about 75 percent humidity The tapestry or carpet moth attacks upholstery Fumigation, sunning, cleaning, brushing, and cold storage help to prevent damage

clothing, inclusive term for all articles of dress, considered from a practical, economic, or industrial point of view, rather than in the sense of costume Modern clothing is characterized by an enormous increase in the number and variety of garments worn, by increased emphasis on a superficial, standardized fashion, and by a decline, generally, in quality of material and workmanship The apportionment for clothing in the family budget, although it varies greatly according to conditions, is traditionally about 15 percent The remarkable development of clothing manufacture, together with all related enterprises, such as fashion designing, shows, publications patterns, and advertising, has stimulated the desire for fashionable, though standardized, dress The mass production of clothes to suit the means, taste, and figures of various types of people is one of the notable business developments of the 20th cent Causes contributing to the rapid advance of the industry are the specialization of machinery and factory organization, increased earnings (particularly by women), cheap transportation, intensive advertising, and the spread of democratic ideas Women's ready-to-wear garments are supposed to have originated in Germany, where a few shopkeepers began, c 1850, to display stock sizes of cloaks, in order to use up the surplus of the textile mills, which were then beginning to flourish In 1830 a Paris tailor made army clothing In America (1815–30), New Bedford and Boston tailors attempted to supply sailors with slops Later, factories in the South made garments for slaves and, after 1849, for miners The Civil War stimulated the business, and uniforms were made by contract The advent of the SEWING MACHINE was of revolutionary importance to the development of the industry, especially when power was applied to it The knife machine, designed to cut many layers of cloth, and the specialized pressing machine, together with high division of labor, have given great impetus to mass production During and after the Civil War the contract system was in operation, from 1882 to 1892, much of the labor was done in sweatshops Public opinion being aroused, many of the abuses were ended, and the modern factory is in general well conducted Various organizations, such as the Consumers' League and the Woman's Trade Union League, have pioneered in safeguarding the interests of the public, the workers, and the employers Clothing unions, notably the International Ladies Garment Workers Union and the Amalgamated Clothing Workers, cooperating with employers on the basis of a protocol of 1910, have improved wages, hours, and sanitary conditions in the industry and have led in collective bargaining and welfare activities.

Clotho: see FATES.

cloth of gold. From remote times gold has been used as material for weaving either alone or with other fibers. In India tapestries were made from gold threads as fine as silk Cloth of gold was woven on Byzantine looms from the 7th to the 9th cent and on those of Sicily, Cyprus, Lucca, and Venice in the 10th cent Some narrow webs were woven in England, as well as palls of gold and silver cloth Cloths of estate were magnificent gold tissues used to canopy or cover thrones Baldachin, or fine cloth with gold warp and silk weft, was used ceremonially and also for rich clothing The use of gold textiles and embroideries in the Middle Ages was symbolized by the meeting at the FIELD OF THE CLOTH OF GOLD (1520) Gold thread for weaving and embroidery is still made in India, Delhi alone producing many miles per annum, working in the ancient manner Gold or silver gilt wire is drawn through holes, successively smaller, in a specially devised metal plate, and is used either round or flattened In many early Asiatic fabrics strips of metal were used The Sicilian, Cyprian, and Italian weavers used thin metal, either alone or wrapped round a silk or linen thread The Saracens used a strip of gilded parchment Catgut gilded was sometimes employed Modern metallic cloth is commonly made of a core yarn wound with a thin strip of metal (lamé) or metal coated See H C Candee, *Weaves and Draperies* (1930)

Clotilda, Saint, d 545, Frankish queen A Burgundian princess, she was married (493) to CLOVIS I, in whose conversion to Christianity she was instrumental She ended her life in religious works Feast June 3

clotting of blood, process of the coagulation of blood in which red and white corpuscles and blood platelets are caught in a network of fibrils The fibrils consist of fibrin which forms whenever there is a wound or a break in the skin Explanations of the manner in which clot formation occurs differ, W H Howell's theory of blood clotting is most generally accepted The blood stream contains a ferment (thrombin) and two anticoagulants (heparin and prothrombin), these prevent clotting within the blood vessels When blood is shed, a substance known as thromboplastin or thrombokinase is released from the injured tissues and the blood platelets This substance, aided by calcium ions in the blood, converts prothrombin to thrombin, fibrinogen is then activated by the thrombin, forming fibrin Blood coagulates normally in about 4 min In hemophiliacs or "bleeders," the coagulation time is greatly prolonged (see HEMOPHILIA) In blood transfusions, in operations upon blood vessels, and in cases of thrombosis, certain anticoagulants have been used to prevent clotting of the blood Heparin, first obtained from liver, now known to be present in spleen, heart, thymus, and muscle tissue, will prevent the clotting of blood or prolong the coagulation time when injected intravenously Dicoumarin (dicoumarol), a more recent preparation, is used for the same purpose

Cloud, Saint see SAINT-CLOUD

cloud, aggregation of minute drops of water or particles of ice suspended in the air Clouds are formed when air containing water vapor is cooled below the dew point, the moisture condensing into droplets on microscopic dust particles (condensation nuclei) in the atmosphere The process normally involved is dynamic cooling produced by expansion resulting from the upward movement of air, however clouds are occasionally produced by a reduction of pressure aloft or by the mixing of warmer and cooler air currents Upward flow of air in the atmosphere may be caused by convection resulting from intense heating of the ground, by a cold wedge of air near the ground, causing a flow of warm air to be forced aloft, or by a mountain range at an angle to the flow of air A classification of cloud forms was first made by Lamarck (1801) The one in use today is based upon Luke Howard's classification (1803) and was proposed by the International Meteorological Commission (1929) It comprises four main divisions high clouds, 20,000 ft and above, middle clouds, 6,500 to 20,000 ft , low clouds, near ground level to 6,500 ft , and clouds with vertical development, 1,600 ft to over 20,000 ft High cloud forms include *cirrus,* detached clouds of delicate and fibrous appearance, without shading, generally white in color, often resembling tufts or featherlike plumes, and composed entirely of ice crystals, *cirrocumulus* (mackerel sky), composed of small white flakes or very small globular masses, arranged in groups, lines, or ripples, and *cirrostratus,* a thin whitish veil, sometimes giving the entire sky a milky appearance, which does not blur the outline of the sun or moon but frequently gives rise to a halo Middle clouds include *altocumulus,* a layer or patches composed of flattened globular masses, arranged in groups, lines, or waves, with individual clouds sometimes so close together that their edges join, and *altostratus,* resembling thick cirrostratus, without halo phenomena, more or less like a gray veil, through which the sun or the moon shows vaguely or is sometimes completely hidden Low clouds include *stratocumulus,* a cloud layer or patches composed of fairly large globular masses or flakes, soft and gray, with darker parts, arranged in groups, lines, or rolls, often with the rolls so close together that their edges join, *stratus,* a uniform layer resembling fog but not resting on the ground, and *nimbostratus,* a nearly uniform, dark gray layer, amorphous in character and usually producing continuous precipitation in the form of RAIN OR SNOW Clouds with vertical development are *cumulus,* a thick, detached cloud, generally associated with fair weather, usually with horizontal base, whose upper surface is dome shaped and exhibits protuberances, which frequently resemble a head of cauliflower, with strong contrasts of light and shadow resulting when the sun illuminates these clouds from the side, and *cumulonimbus,* the thunderstorm cloud, heavy masses of great vertical development, whose summits rise in the form of mountains or towers, the upper parts having a fibrous texture and often spreading out in the shape of an anvil Cumulonimbus generally produces showers of rain, snow, or hail or thunderstorms Cloudiness (or proportion of the sky covered by any form of cloud), measured in tenths, is one of the elements of CLIMATE WEATHER is called clear when the sky is less than $^2/_{10}$ clouded, partly cloudy when it is $^3/_{10}$ to $^7/_{10}$ clouded, and cloudy when it is more than $^7/_{10}$ clouded, the extremes are cloudless and overcast The cloudiness of the United States averages somewhat less than 50 percent (i e , the country receives somewhat more than 50 percent of the possible sunshine), the Great Lakes region and the coast of Washington and Oregon are most cloudy (60–70 percent), and the SW United States —Arizona and adjacent areas—are least cloudy (10–30 percent) In aviation, the base of any cloud layer is often termed the *ceiling* Information about clouds may be secured from the U S Weather Bureau, Washington, D C See also W J Humphreys, *Fogs, Clouds, and Aviation* (1943)

cloud chamber see WILSON CLOUD CHAMBER

Cloud Peak, 13,165 ft high, N Wyo , in the Bighorn Mts W of Buffalo, highest of the Bighorns It has a notable glacier

Clouet, Jean (zhäⁿ' klōō-ā'), called **Janet** or **Jehannet,** c 1485–c 1541, portrait and miniature painter He was court painter and *valet de chambre* to the French king, Francis I He is thought to have been Flemish and may have been related to Jehan Cloët, painter to the duke of Burgundy in the late 15th cent None of the work attributed to Jean Clouet can be proved to have been by his hand, but it is of the highest quality It includes portraits of Francis I (Louvre), the dauphin Francis (Antwerp), and Charles de Cossé (Metropolitan Mus), seven miniature portraits (Bibliothèque nationale), and a large number of portrait drawings His son, **François Clouet** (frāswä'), c 1516–c 1572, also called Janet or Jehannet, inherited his father's talent and position, serving as court painter successively under Francis I Henry II, Francis II and Charles IX He enjoyed a high reputation and was patronized by all the notables of the court Attributed to him are portraits of Francis (one in the Uffizi, the other in the Louvre), portraits of Catherine de' Medici (Versailles) and Elizabeth of Austria (Louvre), and a large number of portrait drawings preserved in Chantilly and in the Bibliothèque nationale and the Cabinet des Estampes, Paris The work of the two Clouets is very similar They are unsurpassed in the clarity and precision of their draughtsmanship At a time when Italian influence was gaining the ascendancy in France they successfully upheld the Flemish tradition See Louis Dimier, *French Painting in the Sixteenth Century* (Eng tr , 1904), Alphonse Germain, *Les Clouet* (1907, in French), Étienne Moreau-Nélaton, *Les Clouet et leurs émules* (1924, in French)

Clough, Anne Jemima (klŭf), 1820–92, English educator, sister of Arthur Hugh Clough She was the first principal of Newnham College, Cambridge, and was a pioneer and leader in the education of women She established and taught schools in London and in Ambleside, where one of her pupils was Mary Arnold (Mrs Humphry Ward)

Clough, Arthur Hugh, 1819–61, English poet He was taken as a small child to Charleston, S C , but returned to England to be educated at Chester, Rugby, and Balliol College, Oxford At Balliol he numbered among his friends Matthew Arnold and Benjamin Jowett After graduation (1841) he was fellow and tutor of Oriel, but resigned both positions when the reexamination of his religious beliefs forced on him by the Tractarian movement drove him into skepticism (1848) He subsequently translated Plutarch and was an examiner in the Education Office *The Bothie of Toper-na-Fuosich,* later called *The Bothie of Tober-na-Vuolich,* which in spite of occasional humorous touches is essentially preoccupied with social problems, was published in 1848, and *Ambarvalia,* a collection of lyrics, in 1849 His posthumous poems, collected by F T Palgrave (1862), included "Amours de voyage", "Dipsychus," a series of verse dialogues between a man and a spirit akin to Goethe's Mephistopheles, "Mari Magno," tales, and short lyrics Clough is best known through his lyric, "Say not the struggle naught availeth," and through Arnold's "*Thyrsis,*" a monody on his death See biography by Goldie Levy (1938)

clove, name for a symmetrically pyramidal evergreen tree (*Eugenia aromatica* or *caryophyllata* or *Caryophyllus aromaticus*) and for its unopened flower bud, an important spice. The plant grows from 15 to 40 ft high and produces terminal clusters

of small red flowers The flower buds, nailike in shape, are gathered before opening and dried The Chinese (c 3d cent. B C) and the Romans made use of the spicy fragrance and warm aromatic taste of cloves, although it was not until the Portuguese discovered the Spice Islands that the tree was found growing wild. The Portuguese and later the Dutch held the clove trade in monopoly until about 1770, when the French established clove trees on some of their islands The trees are now cultivated elsewhere in the tropics Cloves for culinary purposes are used either whole or ground for flavoring relishes, pastries, confections, and ham Cloves contain about 18 percent of a volatile oil—clove oil—which is obtained by distillation It is antiseptic and stimulative, in medicine used particularly as a local anesthetic for toothache and as a flavoring for other medicinal preparations It is also utilized in perfuming or flavoring toilet preparations, in making an artificial vanilla, and in microtechnique Mother clove is obtained from the less aromatic dried fruits of the clove tree

Clovelly (klŏv'ĕlĭ'), village, Devonshire, England, on Barnstaple Bay WSW of Bideford On a steep hillside rising 400 ft above the bay and surrounded by woods, it is much visited by tourists The main street is a cobbled, winding staircase leading up from the quay Clovelly Dykes, an ancient British encampment, is near

Clover, town (pop 3,067), N S C, near the N C line ENE of Spartanburg, in a farm area. Kings Mountain National Military Park is near by

clover, leguminous forage and hay plant and cover crop of about 300 species, characterized by three-lobed leaves Most species are native to the north temperate regions Clover has long been known to all north European peoples, as is shown by the similarity of names in the various languages All American cultivated forms come from Europe, including the red, crimson, white, and alsike or Swedish clovers, all of the genus *Trifolium* There are four native species in the United States, and over 50 others introduced on the Pacific coast Other plants not of the same genus but called clovers are sweet clover, Japan clover, prairie clover, and Mexican clover The clover was used by the Greeks in garlands and other decorations The druids held it sacred It is said to have been the early emblem of Ireland from which the shamrock is derived, and it is an emblem of the Trinity English and American poets have celebrated it The four-leaved clover is thought to be a portent of good fortune The dried flowers and seed heads of the common white or Dutch clover have been used for bread in famine times in Ireland The leaves are eaten as a salad in some parts of the United States The clovers are excellent honey plants "To be in clover" is a synonym for abundance The red clover is the state flower of Vermont See bulletins of the U S Dept of Agriculture and state experiment stations

Cloverport, city (pop 1,402), W Ky, on the Ohio and NE of Owensboro, in a farm area, founded 1808

Clovio, Giorgio Giulio (jôr'jō jōō'lyō klō'vyō), 1498–1578, Italian illuminator, miniaturist, and painter, also called Macedo or Il Macedone because of his supposedly Macedonian origin He studied at Rome with Giulio Romano and at Verona under Girolamo de' Libri, from whom he learned illuminating, and was greatly influenced by Michelangelo and Raphael He is regarded as one of the greatest Italian miniaturists and illuminators, a masterly technician and colorist Clovio was employed by Louis II of Hungary, Cardinal Farnese at Rome, and other princely patrons Among the best known of the many works ascribed to him are the illuminations for the Book of the Hours of the Blessed Virgin, his masterpiece, containing 26 miniatures upon which he labored for nine years; the manuscript biography of Frederick, duke of Urbino (Vatican Library); the poems by Eurialo da Ascoli (imperial library, Vienna), Cardinal Grimani's *Commentary on the Epistle to the Romans* (Sloane Mus., London), *The Victories of Emperor Charles V* (12 miniatures, British Mus), and *Crucifixion* (Uffizi)

Clovis I (klō'vĭs), c 466–511, Frankish king (481–511), son of Childeric I and founder of the Frankish monarchy Originally little more than a tribal chieftain, he became sole leader of the Salian Franks by dint of perseverance and by murdering a number of relatives. In 486 he defeated the Roman legions under Syagrius at Soissons, thus ending Roman influence in Gaul After his marriage (493) to the Burgundian princess, Clotilda, he had his children baptized but was not immediately converted himself In 496, while locked in battle with the Alemanni, he vowed to become a Christian if he gained the victory Clovis defeated the Alemanni and was baptized, with 3,000 of his followers, by St Remi, who spoke the well-known words, "Adore what thou hast burned, and burn what thou hast adored" Thereafter Clovis was the champion of orthodox Christianity He defeated the Burgundians (500) at Dijon and the Visigoths (507) under Alaric II at Vouillé. When he died, he was master of most of Gaul, except Burgundy, Gascony, Provence, and Septimania, and of SW Germany. Shortly before his death he probably had the Salian Law revised and put into writing Having united all Franks under his rule and extended his conquests into Germany, Clovis laid the foundation, which even 400 years of chaos and misrule could not destroy, of the French monarchy and foreshadowed the conquests of Charlemagne He was succeeded by his four sons, Theodoric I, Clodomer, Childebert I, and Clotaire I See the history of Gregory of Tours, F Funck-Brentano, *Earliest Times* (Vol I of *National History of France*), Michael Fessier, *Clovis* (1948)

Clovis 1 City (1940 pop 1,626, 1948 special census pop 2,650), S central Calif, near Fresno in the San Joaquin Valley, inc 1912 It is a trade center in a farm and vineyard area. 2 City (pop 10,065), co seat of Curry co, E N Mex, on the Llano Estacado near the Texas line, settled 1907, inc 1909 An important railroad division point, it is a food-processing and commercial center in an agricultural and cattle area Artifacts of the Folsom period (see Folsom culture) have been found near here

clown, a jester or buffoon, in a circus or a pantomime see fool

Cloyne, town, Co Cork, Ireland, E of Cork The 14th-century cathedral dedicated to St Colman, who founded a bishopric here in the 6th cent, contains a memorial to George Berkeley, bishop of Cloyne (1734–53) A round tower is opposite the cathedral, and limestone caves are near

clubfoot or **talipes** (tā'lĭpēz), deformity of the foot resulting from changes in the ankle joint and also in the smaller joints At first there is some muscle defect from faulty development, injury, or paralysis If this is not treated early, the ligaments of the joints change and eventually there may be changes in the bone The foot may turn in or out, up or down, or there may be a combination of two conditions Manipulation, splints, and other mechanical means often overcome the muscle defect if applied early, later, surgical operation is necessary.

club moss, name for any plant of the genera *Lycopodium* and *Selaginella*, related to the ferns but with small needle or scalelike leaves Early geologic predecessors of club mosses were often treelike and contributed to coal deposits Today they more nearly resemble mosses Species of *Lycopodium* are usually low, either creeping or erect, evergreen plants, which in North America frequent wooded regions, in many the leaves are so arranged as to give the branches a cylindrical appearance The spores (commonly borne on terminal club-shaped spikes or in the axils of the leaves), particularly those of *Lycopodium clavatum*, are sold as lycopodium powder or vegetable sulphur, a highly inflammable, smooth, yellow powder used for various pharmaceutical purposes (e g, as an absorptive powder), and sometimes in fireworks Some species of *Lycopodium* are called ground pine, especially those that resemble miniature hemlocks with flattened fan-shaped branches, and have been used extensively for Christmas decorations Species of *Selaginella*, often incorrectly called *Lycopodium*, are in general tropical, but some are native to North America and many are cultivated in conservatories and greenhouses In these the branches typically appear flat because of the leaf arrangement One of the best known is a resurrection plant

clubroot, disease of cabbages, turnips, radishes, and other plants of the mustard family It is induced by a slime mold which attacks the roots, causing, in the cabbage, undeveloped heads or a failure to head at all The disease can be partially or in some cases completely controlled by the application of lime (if the soil is acid), by rotation of crops, and by soil sterilization It is also called finger and toe disease from the shape it gives to roots

club rush. see bulrush and cattail

Cluj (klōzh), Ger *Klausenburg* (klou'zŭnbŏŏrk), Hung *Kolozsvár* (kô'lôzhvär), city (pop 117,915, of whom 67,977 are Hungarians), W Rumania, chief city of Transylvania It is an important commercial center, with a large metallurgical industry and various manufactures Possibly dating from Roman times, it was first mentioned in the 12th cent, and in 1405 it was made a free city It became the chief cultural, artistic, and religious center of Transylvania Stephen Bathory founded here (1581) a Jesuit academy; there now are a university and several academies Among the many interesting buildings are a 14th-century Gothic church, the house in which Matthias Corvinus was born, many houses dating from the 16th, 17th, and 18th cent., and the ruins of an 11th-century church

Cluniac order, medieval organization of Benedictine monks centered in the abbey of Cluny, France This abbey was founded in 910 and soon became the heart of an expansive reform of religious life, directed by a series of zealous abbots (the second was St Odo of Cluny) Men flocked to Cluny, new priories were opened, and established abbeys adopted the reform, some of them even joining the Cluniac obedience. Domestically the reform affected especially worship and learning: churches were built, the liturgy was beautified, schools were opened, and scriptoria were greatly expanded. Outside the monastery the Cluniac monks worked for reform of Christian life and ecclesiastic independence, they stoutly supported the papacy, notably the reform of Hildebrand (Pope St Gregory VII). From c 950 to c 1130 Cluny was the principal religious force in the West after the pope There were hundreds of Cluniac houses, located in every country. Their influence was enhanced by a unique constitutional feature—exemption from local jurisdiction, guaranteed (1016) by the popes Rivalry with princes and bishops became critical in the 12th cent, when primitive zeal had waned and popularity was passing to the Cistercians. Recruits fell off, and the Cluniacs faded slowly into a group of undistinguished French monasteries The abbey of Cluny was wrecked by the French Revolution The autocratic and centralized organization of Cluny was a source of strength in its heyday, but it set Cluny apart from Benedictine life with its tradition of the permanent autonomous community The Cluniac system was used by later religious orders (e g, the Jesuits) See monasticism

Cluny (klōō'nē, Fr klünē'), former abbey, E France, in the present Saône-et-Loire dept, founded (910) by St Berno, a Burgundian monk He and his successors, all vigorous reformers, made their abbey the center of the Cluniac order, Cluny became one of the chief religious and cultural centers of Europe The abbey remains now house a national school of arts and trades, damaged in the Second World War The abbey church (10th cent in part), once the largest church in the world, and the churches of Notre Dame (13th cent) and of St Marcellus (12th cent) were likewise damaged

Cluny lace see lace

Cluny Museum, 14th- and 15th-century Gothic and Renaissance structure in Paris, built by Pierre de Chaslus, abbot of Cluny, and rebuilt by Jacques d'Ambroise The site is that of the ancient Roman baths of Emperor Julian Acquired by the nation after the Revolution, it was subsequently purchased by the antiquarian Du Sommerard, who installed his collection of art objects of the Middle Ages and the Renaissance, especially French The city of Paris purchased the entire property at his death (1842) and presented it to the state

Clusium: see Chiusi, Italy

cluster, in astronomy, a group of stars resembling each other in certain characteristics which suggest a common origin for the group Stars in the same cluster are at almost equal distances from the earth, and they move at the same rate and in the same direction The number of stars in a cluster ranges from a few stars to many thousands Clusters are of two kinds—open clusters, also called galactic clusters because so many are in the Milky Way region, and globular clusters More than 300 open clusters have been catalogued, most of which can be seen only with the telescope Among those which can be detected with the unaided eye are the Hyades cluster in Taurus (the nearest of the clusters, about 120 light years distant), the Coma Berenices cluster, the Pleiades cluster, and the Praesepe cluster The stars in the open clusters are loosely scattered as compared with the symmetrical, nearly spherical, globular clusters Globular clusters are composed of many thousands of stars which, in photographs taken through a telescope, are so densely massed in the central region as to appear to be touching (Actually, even in the densest part, they are said to be a light year apart) Two of the globular clusters visible to the naked eye were at first taken for stars, they are Omega Centauri and Tucanae, both of the southern skies These, the nearest of the globular clusters, are about 20,000 light years away In Hercules is a large cluster faintly visible to the unaided eye in the middle northern latitudes Barely visible without a telescope are two clusters in Sagittarius, one in Serpens, and one in Canes Venatici In all, about 100 globular clusters are known

clutch, mechanical device for controlling the transmission of power from a drive shaft to another shaft It must be capable of rapid connection and disconnection, usually without interfering with the continued rotation of the drive shaft In an automobile, the motive power is transmitted from the engine to the wheels through a clutch which is engaged or disengaged without stopping the motor The clutch often consists of friction plates held together by springs and may be of the dry or wet (oil-bath) type In the less common cone clutch, a cone fits into the end of a flywheel in the driven member The band clutch (or expanding-segment clutch) and the magnetic fluid clutch are in limited use. The clutch is also commonly used in automatic machinery In a simple type often used on large power shafts in mills, power is transmitted through friction produced by the contact of sets of thin plates on the shafts.

Clute, Willard Nelson (klōōt), 1869–, American botanist, b Painted Post, N.Y., studied at the Univ of Chicago. After teaching high school biology (1903–28) he served as instructor in botany and director of the botanical gardens at Butler Univ. (1928–38). An authority on ecological and economic botany, ferns, agronomy, and plant names, he founded and published the periodicals

Plant World, Bryologist, Fern Bulletin, and *American Botanist.* His works include *Our Ferns in Their Haunts* (1901; 2d ed., *Our Ferns Their Haunts, Habits, and Folklore,* 1938), *The Useful Plants of the World* (1928), and *Common Names of Plants and Their Meanings* (1931, 2d ed., 1942)

Clwyd (klōō'id), river of Denbighshire, Wales. The Clwydian Hills (highest point, 1,820 ft.) are east of the river, in Flintshire and Denbighshire. There are traces of ancient British camps and of Roman workings in quarries and lead mines.

Clyde, Colin Campbell, Baron: see CAMPBELL, COLIN.

Clyde, 1 City (pop. 1,060), N Kansas, on the Republican river and NW of Manhattan, laid out 1866, inc. 1869. 2 Village (pop. 2,356), W central N.Y., on the Barge Canal between Rochester and Syracuse, in a farm area, inc. 1835. Shoe counters are made here. 3 Village (pop. 3,174), N Ohio, SE of Fremont, in a farm area, settled c. 1820. Its products include canned fruits and vegetables, cutlery, and electric refrigerators.

Clyde, river of SW Scotland. It rises in S Lanarkshire (the longer headstream is the Daer) and flows 106 mi. first generally north and then northwest to the firth. Near Lanark are four series of falls—Bonnington, Corra, Dundaff, and Stonebyres. Below this is Scotland's most important industrial region, with Glasgow as the head of navigation for large vessels. Its shipyards and factories were heavily bombed in 1940–41. The Clydesdale HORSE, a leading draft breed, originated in the Clyde valley. See George Blake, *Down to the Sea* (1937).

The Firth of Clyde, 64 mi. long from Dumbarton to Ailsa Craig, is from 1 to 37 mi. wide. On its shores are ports of commercial and industrial importance and many small resorts. Arran, Bute, and the Cumbraes are the chief islands.

Clydebank, burgh (1931 pop. 46,952, 1948 estimated pop. 38,330), Dumbartonshire, Scotland, on the north bank of the Clyde below Glasgow. Its chief industry is shipbuilding. The *Queen Mary* and the *Queen Elizabeth* were built here. Clydebank suffered severe damage from air raids in 1940–41.

Clydesdale horse: see HORSE.

Clymene (klī'mənē), in Greek mythology. 1 Daughter of the Titan Oceanus. The wife of Iapetus, she bore him Atlas, Prometheus, Epimetheus, and Menoetius. 2 Nymph, wife of Helios and mother of Phaëthon.

Clymer, George (klī'mur), 1739–1813, American patriot, signer of the Declaration of Independence, b. Philadelphia. As his uncle's partner, Clymer became a prosperous merchant. He ardently supported the colonial cause before the American Revolution and served (1775–76) as one of the first two Continental treasurers. In 1776 he served as delegate to the Continental Congress, where he signed the Declaration of Independence. He was sent (1776) as one of the two inspectors of the Northern Army and in 1777 helped to investigate conditions in Washington's commissariat, in the same year he was sent to treat with the Indians and investigate charges of treason at Fort Pitt. He was again (1780–85) a delegate to Congress. Clymer was the first president of the pioneering Bank of Philadelphia, and he helped to organize the Bank of North America. While in the Pennsylvania legislature (1785–88), he wrote a report leading to penal code reforms. Clymer was also a delegate to the Federal Convention. In 1788 he was elected a member of the first U.S. Congress.

Clymer, borough (pop. 3,082), W Pa., NE of Indiana, Pa., inc. 1905. It produces coal and clay.

Clytemnestra (klī"təmnĕ'strə), in Greek legend, the daughter of LEDA and Tyndareus. She was thus the half sister of HELEN. Clytemnestra married AGAMEMNON and was the mother of ELECTRA, ORESTES, and IPHIGENIA. While Agamemnon was off fighting in the Trojan War, Clytemnestra betrayed him with Aegisthus. When the husband returned, the lovers plotted and brought about his murder. Orestes, compelled to avenge his father's death, killed his own mother as well as Aegisthus.

Cm, chemical symbol of the element CURIUM.

Cnidus or **Cnidos** (both nī'dəs), ancient Greek city of Caria, SW Asia Minor, on Cape Krio, in present SW Asiatic Turkey. It was one of the cities of the Dorian Hexapolis and sought to maintain independence but fell under Persian rule. The city was partly on an island made by cutting through the peninsula, partly on the peninsula itself. It had a large trade, particularly in wine, and was also noted for its medical school and other institutions of learning. Here was one of the most famous statues of the ancient world, that of Aphrodite by Praxiteles. In the waters off Cnidus the Athenians under Conon defeated the Spartans under Pisander in 394 B.C. Cnidus retained its importance in Roman times and is mentioned in the Bible. Acts 27:7; 1 Mac. 15:23.

Cnossus or **Knossos** (both· nŏ'səs), ancient city of Crete, near the sea on the north coast and near modern Candia. The site was occupied long before 3000 B.C., and it was the center of an important Bronze Age culture. It is from a study of the great palace (which seems to have been destroyed twice, possibly by earthquake, before 1500 B.C.) that knowledge of the MINOAN CIVILIZATION is drawn. Another destruction occurred c. 1400 B.C., and another phase of the Minoan culture followed, this was the last. Cnossus later became an ordinary but flourishing Greek city, and it continued in existence through the Roman period until the 4th cent. A.D. In Greek legend, it was the capital of King MINOS and the site of the Labyrinth. The name also appears as Cnosus and Knossus. See Sir A. J. Evans, *Palace of Minos* (4 vols., 1921–35), J. D. S. Pendlebury, *Archaeology of Crete* (1939).

Co, chemical symbol of the element COBALT.

coach see CARRIAGE and STAGECOACH.

coach dog, see DALMATIAN DOG.

Coachella Valley (kō"əchĕl'ə), arid region, SE Calif., N of the Salton Sea. Irrigation by artesian wells since the 1890s and the Coachella Main Canal, completed in 1948 to bring water from the ALL-AMERICAN CANAL, has made it produce dates, citrus fruits, truck, and alfalfa. Indio and Coachella are in the valley.

coagulation (kōăg"yəlā'shən), the collecting into a mass of the minute particles of one substance which are dispersed throughout another substance and their subsequent PRECIPITATION or separation from that other substance. Since the particles in a colloidal solution have the same electric charge and consequently repel each other, when the charges are neutralized the particles, upon collision, remain together and form a precipitate—i.e., they coagulate. For example, the coagulation of casein results when acetic acid is added to warm milk. In a similar manner milk taken in liquid form undergoes coagulation in the stomach through the action of the gastric juice. For the coagulation of blood, see CLOTTING OF BLOOD.

Coahuila (kōäwē'lä), state (58,067 sq. mi., 1946 estimated pop. 681,773), N Mexico, on the northward bulge of the Rio Grande, S of Texas. SALTILLO is the capital. In the eastern part of the state, where peaks of the Sierra Madre Oriental rise, are quantities of largely unexploited minerals—silver, copper, lead, iron, and zinc. Coahuila is the largest coal-producing state of Mexico. Lumber is important, and northeast of the mountains, in the drainage area of the Rio Grande, there is considerable cattle raising. Across W Coahuila and E Chihuahua lie vast arid plains broken by barren mountains, most notable of these plains is the Bolsón de Mapimí (extending into Chihuahua), which was inhabited by Tarahumaran Indians prior to the Spanish Conquest. South of the Bolsón is a fertile lake region, center of a tremendous inland basin, which absorbs rivers with no outlet to the sea. Metropolis of the LAGUNA DISTRICT here is TORREÓN. Coahuila produces cotton, corn, grapes, and most temperate grains and tropical fruits; a dye is extracted from desert weeds. Railroads and highways link the border city, PIEDRAS NEGRAS, with NUEVA ROSITA, PARRAS, and Saltillo. Exploration of the territory, principally by Francisco de Urdiñola and his son, was begun in the middle of the 16th cent. After playing some part in the war against Spain, Coahuila was combined (1830) with Texas, a proceeding that led to dissatisfaction among the American minority and helped contribute to the Texas Revolution (1835–36). During the Mexican War, Saltillo was of strategic importance, and the battle of BUENA VISTA was fought near by. Although joined with Nuevo León by the constitution of 1857, Coahuila regained its independence in 1868. To the revolution that began in 1910 the state gave two important leaders, Francisco I. MADERO and Venustiano CARRANZA.

coal, fuel substance of plant origin, largely or almost entirely composed of carbon with varying amounts of mineral matter. There is a complete series of carbonaceous fuels, which differ from each other in the relative amounts of moisture, volatile matter, and fixed carbon they contain. Of the carbonaceous fuels, those containing the largest amounts of fixed carbon and the smallest amounts of moisture and volatile matter are the most useful to man. The lowest in carbon content, PEAT, is followed in ascending order by LIGNITE and the various forms of coal—subbituminous coal or black lignite (a slightly higher grade than lignite), bituminous coal, semibituminous (a high-grade bituminous coal), semianthracite (a low-grade anthracite), and anthracite. Lignite and subbituminous coal, because of the high percentage of moisture they contain, tend to crumble on exposure to the air. Bituminous coal, being more consolidated, does not crumble easily, it is a deep black in color, breaks with a conchoidal fracture, burns readily, and is used extensively as fuel in industries and on railroads and in making COKE. Anthracite, which is nearly pure carbon, is very hard, black, and lustrous, breaks with a conchoidal fracture, and is extensively used as a domestic fuel. Cannel coal, a dull, homogeneous variety of bituminous coal, is composed of pollen grains, spores, and other particles of plant origin. It ignites and burns easily, with a candlelike flame, but its fuel value is low. Coal is found in beds or seams interstratified with shales, clays, sandstones, or (rarely) limestones. It is usually underlaid by an underclay (a layer of clay containing roots of plants). The vegetable origin of coal is supported by the presence in coal of carbonized fibers, stems, leaves, and seeds of plants, which can be detected with the naked eye in the softer varieties and with the microscope in harder coal. Sometimes carbonized tree stumps have been found standing in layers of coal. The general interpretation of these facts is that coal originated in swamps similar to present-day peat bogs and in lagoons, probably partly from plants growing in the area and partly from plant material carried in by water and wind. From the thickness of coal seams, it is assumed that the coal swamps were located near sea level and were subject to repeated submergence, so that a great quantity of vegetable matter accumulated over a long period of time. The initial processes of disintegration and decomposition of the organic matter were brought about by the action of bacteria and other microorganisms. Peat, the first product formed, is altered to form lignite and coal through metamorphism. The pressure of the accumulated layers of overlying sediments and rock upon the submerged plant matter forced out much of the water and caused some of the volatile substances to escape and the nonvolatile carbon material to form a more compact mass. The greater the stress exerted in the process of metamorphism, the higher was the grade of coal produced. Cannel coal was probably formed in ponds, rather than in lagoons or swamps, as it occurs in lenticular masses and is frequently found to contain fossil fish. Coal was formed chiefly in the CARBONIFEROUS PERIOD of geologic time, but valuable deposits date also from the Permian, Triassic, Jurassic, Cretaceous, and Tertiary. The chief coal fields of the United States are the Appalachian (from N Pennsylvania into Alabama), the Eastern Interior (Illinois, Kentucky, and Indiana), the Northern Interior (Michigan), the Western Interior (Iowa, Kansas, Missouri, Oklahoma, and Arkansas), the Rocky Mountain (Colorado, Wyoming, Utah, New Mexico, Montana, and North Dakota), the Pacific (Washington), and the Gulf Coast (Texas, Arkansas, and Louisiana). In Europe the chief coal-producing countries are Germany, Great Britain, Russia, Poland, France, and Belgium. There are valuable coal fields in China, India, South Africa, and Australia but few in South America. See W. A. Bone and G. W. Himus, *Coal: Its Constitution and Uses* (1936), E. S. Moore, *Coal* (2d ed., 1940), D. H. Rowlands, *Coal* (1949).

Coalbrookdale, district of Wenlock municipal borough, Shropshire, England, near the Severn SE of Shrewsbury. Here, at works founded by Abraham Darby in 1709, pig iron was smelted by the use of coke for the first time in England.

Coal City, city (pop. 1,852), NE Ill., SW of Joliet, in a coal area, founded 1875, inc. 1881.

Coal Creek, Tenn. see LAKE CITY.

Coaldale, anthracite-mining borough (pop. 6,163), E central Pa., NE of Pottsville, settled 1868, inc. 1871. Clothing is made here.

coal gas, a gas obtained in the destructive distillation of soft coal, as a by-product in the preparation of coke. Its composition varies, but in general it is made up largely of hydrogen and methane with small amounts of other hydrocarbons, carbon monoxide, carbon dioxide, and nitrogen. It is used as a fuel and illuminant. Alone or mixed with WATER GAS, it is a component of illuminating gas.

Coalgate, city (pop. 2,118), co. seat of Coal co., SE Okla., NE of Ardmore. A former coal-mining center, it is now a farm supply point.

Coal Grove, village (pop. 2,351), S Ohio, on the Ohio river and S of Ironton.

Coal Hill, town (pop. 1,040), NW Ark., near the Arkansas river E of Fort Smith. Convict coal miners won a strike here in 1886.

Coalinga (kō"əling'gə), city (pop. 5,026), S central Calif., NW of Bakersfield in the San Joaquin Valley, inc. 1906. It is the processing and trade center of an oil and dairy area.

Coalport, borough (pop. 1,121), W central Pa., in the Allegheny Mts. NW of Altoona, inc. 1883. Coal is mined here.

coal tar, product of the destructive DISTILLATION of coal. Coal tar can be fractionally distilled into many portions, yielding a variety of organic products, among the most important of which are benzene, toluene, xylene, naphthalene, anthracene, and phenanthrene. These substances, called the coal-tar crudes, form the starting point for the synthesis of numerous products including dyes, drugs, explosives, flavorings, perfumes, preservatives, synthetic resins, and paints and stains. The residual pitch, left from the fractional distillation, is used for paving, roofing, waterproofing, and insulation.

Coalville, urban district (1931 pop. 21,880, 1943 estimated pop. 25,000), Leicestershire, England, NW of Leicester. Of modern growth, it has coal mines, ironworks, and brick factories.

coast, land bordering an ocean or other large body of water. Sometimes the words *coast* and *shore* are used synonymously, but often *shore* is interpreted to mean only the zone between the shore line at high tide and the shore line at low tide, and *coast* indicates a strip of land of indefinite width back of

the shore. On a basis of relative movements of the land and the level of the sea within fairly recent geologic time, shore lines are generally designated as submergent or emergent. Sometimes two other groups are recognized, i e., those that show evidence of both emergence and submergence and those that show no visible evidence of either. Coasts are also divided according to the extent to which they have been modified by agents of erosion as either young (or primary) coasts or mature (or secondary) coasts. Young submerged coasts usually are irregular and have deep water offshore and many good harbors, either bays (formed from drowned river valleys, e g , New York harbor and San Francisco Bay) or estuaries (drowned river mouths). Much of the coast of New England and most of the Atlantic coast of Europe are young submerged coasts. Gradually the submerged coast, subjected to erosive attacks of the ocean and other agents, becomes mature. Headlands are worn back to form cliffs, at the base of which deposits of eroded material accumulate as fringing beaches, spits and bars also grow up from the part of this material which is carried by currents and deposited in deeper water. Finally the shore line is called mature when it is smooth, the headlands having been cut away and the bays either filled up or closed off by spits. Emergent shore lines are usually characterized by having shallow water for some distance offshore. Such shore lines are exemplified in the Atlantic coast of the SE United States and part of the coast of Argentina near the Río de la Plata. The Pacific and Gulf coasts of North America, like the Atlantic coast, show evidence of both submergence and emergence. Other factors affecting the character of coasts are volcanic activity, glaciation, faulting, and the building up of coral reefs and atolls. The nature of the coast line of a country or a state is, because of its obvious relations to overseas commerce, to fishing, and to recreation, an important factor in its economic development.

coast guard, special naval force assigned to seaboard duties. Those duties consist mainly of suppressing contraband trade, assisting vessels in distress and rescuing persons from trouble off the coast, and maintaining protection and aid for maritime commerce and air commerce over the sea. In the United States the coast guard unit was formed in 1915 when an act of Congress combined the Revenue Cutter Service with the Life Saving Service. The cutter service was established by Congress in 1790 at the suggestion of Alexander Hamilton to prevent smuggling. For some years it was the only U S armed service afloat until the navy was created. The Life Saving Service developed later (see LIFESAVING). The coast guardsmen are charged with varied duties. In enforcing the laws on the high seas and navigable waters, they not only operate against smugglers but also enforce the measures designed to protect the fisheries, the navigation rules, and various other regulations; it is also in their province to put down mutinies at sea. In saving life and property, they not only aid ships and aircraft in distress but also offer flood relief (as in the great Mississippi flood of 1927). The maintenance of weather-observation service and of ice observation and ice patrol in the N Atlantic are regular duties. In 1939 the Lighthouse Service was consolidated with the coast guard, which has many lights, lighthouses, stations, buoys, and the like to warn vessels of dangers. It also maintains a system of Loran aid and has all of the other recently developed aids for navigation. These are extended to airplanes as well as to ships. In 1942 the Bureau of Marine Inspection and Navigation was joined to the service, which now has supervision of the regulations concerning the construction and equipment of merchant ships, the transportation of dangerous cargoes, and navigation practices. It also carries on investigations of marine disasters and controls licenses and certificates (for motorboats as well as ships). The Coast Guard Academy for training officers is near Groton, Conn., and there are several training stations. In peacetime the coast guard is under the Treasury Dept , in wartime and for such other periods as the President may direct it is under the control of the navy. Coast guardsmen offered much and good service in the First World War and the Second World War. A special woman's reserve, called the SPARS was created in the Second World War, the name was derived from the Latin motto of the service, "Semper Paratus" [always ready.] The British coast guard originated in a service established to prevent smuggling just after the Napoleonic Wars. The Coast Guard Act of 1856 put this under the direction of the admiralty. It was reorganized later and performs coast-watching and lifesaving duties.

coast protection. Means of preservation of valuable lands and buildings from the encroachment of the sea include sea walls (e g , that of Galveston), dikes or levees, and groins. Sea walls are usually of masonry, extending below the low-water mark, and are most effective in breaking the force of the waves if the front is slanted or concave and built so that the wave is deflected back into the sea. Often an apron is laid down in front of the wall, to prevent scouring and undermining by backwash. Groins are low walls extending at right angles from the shore into the water, and are used either in conjunction with sea walls or independently. They are usually built of wood and serve to slow up the current of water and cause the deposition of whatever detritus the water carries, as well as to reinforce the accumulation which affords protection to the land behind it. They usually extend from low-water level to high-water level. Sometimes sand is piled up as a temporary protection.

Coast Ranges, series of mountain ranges along the Pacific coast of North America, extending from the St. Elias Mts. in Alaska southward through British Columbia, Washington, Oregon, and California to a point c 500 mi. S of the U S.–Mexico boundary. In the United States they are usually considered to include the Olympic Mts. in Washington, the Coast Range in Oregon, and many ranges in California, some of which are the Diablo Range, the Santa Lucia Range, the San Rafael Range, the San Gabriel Mts., the Santa Monica Range, the San Bernardino Mts., the San Jacinto Mts., and the north portion of the Peninsular Range. The Coast Ranges are rugged and in most parts well wooded. They are geologically young mountains, formed by upheaval and composed mainly of granitic rock. See Roderick Peattie, ed., *The Pacific Coast Ranges* (1946).

Coatbridge, burgh (pop 43,050), Lanarkshire, Scotland, near Glasgow, in an industrial region.

Coates, Albert, 1882–, Russian-English conductor and composer, b St. Petersburg, studied at the Leipzig Conservatory under Nikisch. After conducting in Germany (1906–8), he returned to Russia and conducted there until the revolution. He then toured extensively, mostly in England, where he introduced modern Russian music, and in America. Among his compositions are the operas *Samuel Pepys* (1929) and *Pickwick* (1936).

Coates, Florence Earle, 1850–1927, American poet, b Philadelphia, grad Convent of the Sacred Heart, Paris. She contributed to magazines and wrote *Poems* (1898), *Lyrics of Life* (1909), *The Unconquered Air and Other Poems* (1912), *Poems* (2 vols., 1916), and *Pro Patria* (1917).

Coatesville, city (pop 14,006), SE Pa., on Brandywine Creek and c 35 mi. W of Philadelphia; settled c 1717, inc as a borough 1867, as a city 1915. It is a steel center. Joseph Heidesheimer wrote of this region in *The Three Black Pennys*. A U S veterans' hospital is here.

Coaticook (kōā'tĭkōōk), town (pop 4,414), SE Que., on the Coaticook river and S of Sherbrooke. The trading center for a thickly populated agricultural district, it also has textile manufactures.

coat of arms see BLAZONRY and HERALDRY.

Coatzacoalcos (kwätsäkwäl'kōs) [Nahuatl,=serpent sanctuary], city (pop 13,740), Veracruz, E Mexico, a port on the Gulf of Campeche, formerly called Puerto México. It is at the mouth of the Coatzacoalcos river (navigable for c 125 mi.) and is the northern terminus of rail traffic across the Isthmus of Tehuantepec. Since the opening of the Panama Canal, its transcontinental trade has declined, but oil and timber are still exported. Harbor facilities have been improved.

coaxial cable see CABLE.

Cobalt (kō'bôlt), town (pop 2,376), E Ont., NE of Sudbury and on a steep hillside above Cobalt Lake. It is the center of one of the world's richest silver districts, there are a score of large mines in the immediate vicinity. Valuable cobalt ores, found in association with silver ores, gave the town its name. Discovered in 1903, the mines reached their maximum c 1911, each census since 1911 has shown a decline in population, in 1946, however, both silver and cobalt mines began to be worked again. Many of the businessmen live at near-by Haileybury on Lake Timiskaming.

cobalt [Ger.,=goblin], metallic element, silvery white, lustrous, magnetic, and very similar to iron and nickel (symbol=Co, for physical constants, see ELEMENT, table). The element is active chemically, forming many compounds, e g , the series of cobaltous and cobaltic salts and the extremely complex cobaltammines which are derived from cobaltic salts and ammonia. Cobalt yellow, green, and blue are pigments of high quality which contain cobalt. Another blue pigment, smalt, is made by powdering a fused mixture of cobalt oxide, potassium carbonate, and sand, although once widely used, it is being replaced by cobalt blue. A compound of cobalt and chlorine called cobalt chloride is used in an invisible ink. Being almost colorless in dilute solution, when applied to paper and heated it turns blue, undergoing dehydration. It loses this blueness when the heat is removed and water is taken up into the molecule again. The element occurs by itself in nature but rarely, it is found in meteoric metal. It is a constituent of COBALTITE, SMALTITE, and other ores usually in association with other metals. The pure metal is prepared by reduction of a compound by aluminum (the Goldschmidt process), by carbon, or by hydrogen. Cobalt was discovered by Georg Brandt in 1735. It acquired its name because its ores, being mistaken for those of copper and iron, did not yield the expected metals upon smelting. This failure was attributed to the work of a demon or goblin. For a long time cobalt metal had no commercial use. Today it is a component of certain STEEL alloys, called high-speed steels, from which very hard cutting tools are made. Carboloy contains cobalt.

cobaltite (kō'bôltīt, kōbôl'tīt), opaque, silver-white, sometimes reddish or grayish mineral of the pyrite group, a compound of cobalt, arsenic, and sulphur. It occurs in crystals of the cubic system, also in compact to granular masses. It is an important ore of cobalt, found chiefly in Sweden, Norway, Cornwall (England), and Ontario (Canada).

Cobb, Frank Irving, 1869–1923, American journalist, b Shawnee co., Kansas. At first a newspaperman in Grand Rapids, Mich., he was invited by Joseph Pulitzer in 1904 to join the New York *World* as an editorial writer. By 1911 Cobb was editor in chief and had great influence as a leader of independent Democrats. He supported Woodrow Wilson and his administration steadily from the time of his nomination in 1912. See *Cobb of "The World"* (ed by J. L. Heaton, 1924).

Cobb, Howell, 1815–68, American statesman, b Jefferson co., Ga., grad Univ. of Georgia, 1834. In 1837 he became solicitor general of the western judicial circuit of Georgia, a district populated largely by small farmers of Unionist sentiments. He championed their cause and from 1843 to 1851 represented them in the House of Representatives. He was elected floor leader of the Democrats in 1848 and speaker in 1849. Cobb united with the Whigs in Georgia to get the Compromise of 1850 approved. His followers and the Whigs formed the short-lived Constitutional Union party, which elected him to the governorship (1851–53). Cobb was returned to Congress in 1855, and in 1857 President Buchanan appointed him Secretary of the Treasury. After Lincoln's election he resigned, advocated secession, and was chairman of the convention in Montgomery which organized the Confederacy. In the Civil War he rose to the rank of major general (1863), but saw little active fighting. See B. J. Hendrick, *Statesmen of the Lost Cause* (1939).

Cobb, Irvin Shrewsbury, 1876–1944, American humorist, b Paducah, Ky. He had little formal education. In 1905 he became staff humorist on the New York *World*, and he was war correspondent for the *Saturday Evening Post* during the greater part of the First World War. His best-known books, such as *Old Judge Priest* (1915), use a Kentucky background. Other works include *Speaking of Operations* (1916), *Red Lakker* (1929), and *Roll Call* (1942). *Exit Laughing* (1941) is autobiographical. See biographies by F. G. Neuman (1938) and Elizabeth Cobb (1945).

Cobb, Thomas Reade Rootes, 1823–62, American lawyer, b Jefferson co., Ga., grad Univ. of Georgia, brother of Howell Cobb. He edited 20 volumes of the Georgia supreme court reports (1849–57), prepared *A Digest of the Statute Laws of the State of Georgia* (1851), and compiled (1858–61) a new state criminal code. A militant secessionist, Cobb in the Georgia secession convention was chairman of the committee which wrote a new state constitution (1861) and was later a delegate to the convention in Montgomery. In the Civil War he organized and led Cobb's Legion. Promoted brigadier general in Nov., 1862, he was killed at Fredericksburg.

Cobb, Tyrus Raymond (Ty Cobb), 1886–, American baseball player. In 1905 he joined the Detroit Tigers as center fielder and in his 24 years in the American League was one of the most spectacular and brilliant players of the game. Cobb, called the "Georgia Peach" by his admirers, had a .367 lifetime batting average, made 4,191 major-league hits, stole 892 bases, and made other records. He was (1920–26) manager of the Detroit team, played (1927–28) with the Philadelphia Athletics, and then retired from baseball. In 1936 he was elected to the National Baseball Hall of Fame.

Cobbett, William (kŏb'bĭt), 1763?–1835, British journalist and reformer. Born on a farm in Surrey, he ran away at 14 and later joined the British army. He resigned in order to expose abuses in the military service of the day, but, unable to produce his proofs, fled to France to escape suit and thence went to the United States. In America his intense British patriotism led him to champion the Federalists against the Republican (Jeffersonian) friends of France, and he wrote pamphlet after pamphlet savagely attacking the pro-French party. His writings, violent, sarcastic, and witty in turn, were tremendously effective. Threats of mobs and libel suits failed to stop him, and he opened a bookstore in Philadelphia and published *Porcupine's Gazette*. He also wrote the autobiographical *Life and Adventures of Peter Porcupine* (1798). Benjamin RUSH secured a verdict of $5,000 against him for libel in 1799, and soon afterward Cobbett returned to England. At first a Tory and a friend of Pitt, he gradually became a radical, and by 1807 he opposed both Tories and Whigs and supported parliamentary and economic reforms. His *Political Register*, begun in 1802 and continued until his death, became the most influential reform paper in

the country In 1805 he purchased a farm at Boley and, seeing there the misery of the dispossessed rural laborers, became himself the great apostle of agrarianism and one of the most influential leaders of the working classes As a writer of pointed controversial prose he was probably unexcelled in his era, and at one time he was imprisoned for two years for his fearless attacks His paper was not silenced, but he was financially ruined and forced to sell his other publishing businesses, including the *Parliamentary Debates*, bought and continued by his printer, Hansard The Gagging Bills passed in 1817 to suppress radicalism caused him to flee again to the United States Thus time he settled as a farmer on Long Island and wrote there his famous *Grammar of the English Language* (1818) and *Journal of a Year's Residence in the United States* (1819) He returned to England to become a central figure in the agitation for parliamentary reform until the passage of the Reform Bill of 1832, but found time to write many books, of which *Cottage Economy* (1822), *Advice to Young Men* (1829), and his most famous work, *Rural Rides* (1830), show his graphic style, his wide information, and his interest in the situation of the rural workers When the Reform Bill was finally passed in 1832, Cobbett was elected to Parliament, but he there remained a member of the radical minority See G D H Cole, *William Cobbett* (1925), G K Chesterton, *William Cobbett* (1926), Marjorie Bowen, *Peter Porcupine* (1936)

Cobden, Richard (kŏb'dun), 1804–65, English statesman, a major influence in securing the repeal of the CORN LAWS He made a fortune as a calico printer and after 1838 devoted himself to the work of the ANTI-CORN LAW LEAGUE In Parliament after 1841, he worked in the House and, more effectively, outside for repeal He, John BRIGHT, Sir Robert PEEL, and Lord John RUSSELL largely carried the policy Cobden opposed factory laws as an invasion of individual rights, though he disapproved of child labor After 1849 he was a great exponent of peace and international conferences, became unpopular for his opposition to the Crimean War, and helped keep England out of the Schleswig-Holstein affair in 1864 In 1859 60 he converted Napoleon III to a measure of free trade and negotiated the Cobden Treaty" for reciprocal tariffs with France Like Bright, he favored the North in the Civil War in the United States (which he had twice visited) His many speeches, letters, and pamphlets have been published See biographies by John Morley (1882, new ed , 1908) and J A Hobson (1919), W H Dawson, *Richard Cobden and Foreign Policy* (1926)

Cobden, village (pop 1,098), S Ill , N of Cairo, in an agricultural area, inc 1875

Cobequid see TRURO, N S

Cōbh (kōv) [Irish,=cove], urban district (pop 5,615), Co Cork, Ireland, a seaport on the south shore of Great Island in Cork Harbour, ESE of the city of Cork The town was called Cove of Cork before a visit of Queen Victoria in 1849, when its name was changed to Queenstown The name Cōbh was resumed in 1922 It is an important port of call for U S mail steamers and has large docks and stations of naval stores Situated on slopes above the harbor and having a fine climate, it has become a seaside resort It is the headquarters of the Royal Cork Yacht Club, the oldest yacht club in the world (founded in the early 18th cent), there is an annual regatta Cōbh is the seat of the Roman Catholic diocese of Cloyne Haulbowline, Spike Island, and Rocky Island are in the harbor near the town

Cobham, John Oldcastle, Lord: see OLDCASTLE, JOHN

Coblentz, William Weber (kō'blĕnts), 1873–, American physicist, b North Lima, Ohio, grad Case School of Applied Science (B S , 1900), Ph D Cornell, 1903 From 1905 to 1945 he was physicist of the National Bureau of Standards, he conducted valuable researches on infrared and ultraviolet radiation, the measurement of stellar radiation and planetary temperatures, and the optical properties of iodine

Coblenz or Koblenz (both kō'blĕnts), city (1946 pop 52,414, 1939 pop 91,098), W Germany, at the confluence of the Rhine and the Moselle It is an important trade center for Rhine wines, with manufactures of machines, furniture, and pianos Formerly the capital of the Rhine Prov of Prussia, it was, after 1945, the provisional capital of the French-occupied Rhineland-Palatinate It was founded (1st cent B C) by Drusus as Confluentes and was an important city of the Carolingian empire In the 11th cent it passed to the archbishop of Trier Coblenz was taken by the French in 1794 and passed to Prussia in 1815 It was occupied by the U S 3d Army (1919–23) and by French troops (1923–29) and was the seat of the Interallied High Commission for the Rhineland Heavily damaged in the Second World War, it was captured (March, 1945) by the U S 3d Army Among the ancient buildings of Coblenz the oldest is the Church of St. Castor, founded in the 9th cent The fortress of EHRENBREITSTEIN, across the Rhine, has been part of the city since 1937

Cobleskill (kō'bŭlskĭl'), village (pop. 2,617), E central N Y , W of Albany, in a truck-farm region, settled 1752, inc 1868 Pancake flour and refrigerator equipment are produced A state school of agriculture is here Howe Caverns are near by

Cobourg (kō'bûrg), town (pop 5,973), S Ont , on Lake Ontario E of Toronto A manufacturing town, it has an excellent harbor and has steamship connections with other lake ports It is a popular summer resort and serves a rich farming, dairying, and apple-raising country

Cobourg Peninsula, c 50 mi long and 25 mi wide, Northern Territory, Australia, opposite Melville Island across Dundas Strait It is a reserve for native flora and fauna The name is sometimes spelled Coburg

cobra (kō'bru), highly poisonous snake native to Africa and Asia The common cobra of India and the Egyptian cobra are often displayed by snake charmers The hood of the Indian cobra has a spectacle-like pattern The Asiatic king cobra or hamadryad, which attains a length of from 14 to 18 ft , has an unmarked hood which it spreads, as does the common cobra, when angered or startled Several of the seven African species can eject a spray of venom to a distance of at least 6 ft The poison of the spitting cobra of the southern regions of Africa usually strikes the victim's eyes, causing great pain If not washed out promptly it causes temporary blindness The Asiatic krait, the African mamba, the Australian tiger snake and "death adder," and the coral snakes of the New World are related to the cobra

Cobre, El (ĕl kō'brā), town (pop 1,990), SE Cuba, in the Sierra Maestra, just W of Santiago de Cuba Its rich copper mines are among the most productive in Cuba

Coburg (kō'bûrg, Ger kō'bo͝ork), city (pop 42,390), Upper Franconia, N Bavaria, on the Itz river It manufactures precision instruments and ceramics First mentioned in 1056, Coburg came to the house of WETTIN in 1353, became the capital of Saxe-Coburg-Gotha in 1826, and joined Bavaria in 1920 The imposing ducal castle, residence of Martin Luther in 1530, is now a museum

Coburg Peninsula, Australia see COBOURG PENINSULA

Coburn, Charles Douville, 1877–, American actor, b Savannah, Ga He began as a program seller in a Savannah theater in 1891, eventually becoming its manager In 1906 he married Ivah Wills and together they organized the Coburn players, their work composed largely of Shaksperian productions directed toward cultivated audiences One of the plays in which they were consistently popular was George C Hazelton's *Yellow Jacket* In 1935, with Dixon Ryan Fox, the Coburns founded the Mohawk Drama Festival at Union College, Schenectady, N Y After the death of Mrs Coburn in 1937, Coburn won distinction for his numerous roles in moving pictures

coca, name for South American shrubs of the genus *Erythroxylon*, particularly *Erythroxylon coca* from which most of the COCAINE is derived The dried, tealike leaves of this plant when chewed have an effect similar to that of tobacco The plant was cultivated by South American Indians before the Spanish occupation Use of the plant as a drug is generally strictly regulated Coca is cultivated chiefly in South America, to a lesser extent in the Old World tropics Coca should not be confused with cacao, the cocoa plant

cocaine (kōkān', kō'kān), an alkaloid, a compound of carbon, hydrogen, nitrogen, and oxygen Prepared from the leaves of the COCA shrub, it is used medicinally as a local anesthetic and, illegally, as a NARCOTIC In small doses it has a stimulating effect and increases physical energy It is habit forming, and its continued usage leads to debility of the nervous system and even to insanity Other local anesthetics have, to some extent, replaced it

Cocanada (kōkunu'dă), town (pop 75,140), NE Madras state, India, a port on the Bay of Bengal and on the delta of the Godavari It was ceded to the British in 1825 Its chief exports are cotton, oil seeds, sugar, and tobacco

Cocceius, Johannes (kŏksē'us), 1603-69, Dutch theologian, whose surname was originally Koch or Koken He was professor at Bremen and later at Leiden He produced many learned writings, among which is his great dictionary of the Hebrew language (1669), often reprinted Coccеius held a theory of life based upon the Bible The central idea of his theology was a covenant between God and man In his examination of the Old Testament he found Jesus Christ prefigured through it all His followers, Coccеians, perpetuated and emphasized his teachings

cocco. see TARO

Cochabamba (kōchăbăm'bă), city (1948 estimated pop 83,000, alt c 8,400 ft), capital of Cochabamba dept , W central Bolivia, second largest city in Bolivia Founded in 1570 but not begun until 1574, Cochabamba is on the eastern watershed of the Andes and has a mild, pleasant climate The long valley of which it is the commercial center is an agricultural region long known to the Indians, and grains, fruits, and cattle are shipped to La Paz and other cities of the barren highlands Industries include canneries, a flour mill, and a tobacco plant An attractive city, Cochabamba has fine buildings and luxuriant gardens

Cochet, Henri (ärē' kŏshā'), 1901–, French tennis player, b Lyons Cochet, who came into prominence as a tennis player in 1922, was a member of the French team that won the Davis Cup in 1927 and held it for five years He also was winner of the U S (1928) and the British (1927, 1929) tennis championships

Cochin, Charles Nicolas (shärl' nēkôlä' kŏshĕ'), 1715–90, French engraver, designer, writer on art, and painter to the French court His works, more than 1,500 in number, include historical subjects, such as the *Marriage of the Dauphin*, vignettes and frontispieces, book illustrations, and pencil and crayon portraits One of the best is the drawing of the *bal masqué* at Versailles (Louvre, Paris)

Cochin (kō'chĭn') former native state (1,493 sq mi , pop 1,422,875), SW India, bordering the Arabian Sea Its coastal lagoons afford safe passage for small vessels While agriculture is the chief economic activity, much timber is cut in the eastern hills In 1949 Cochin joined Travancore-Cochin

Cochin, town (pop 26,320), its port (governed by Madras state), is one of the busiest on the Malabar Coast, it handles agricultural produce After Vasco da Gama visited it (1502), a Portuguese settlement was established under Afonso de Albuquerque The Dutch captured Cochin in 1663, and the British took it in 1795 At adjoining Mattancheri (pop 53,346) there is a community composed of descendants of Jews expelled from Portugal in the 16th cent

Cochin China (kō'chĭn, kŏ'–), Fr *Cochinchine* (kŏshĕshēn'), southernmost state (25,000 sq mi , pop c 5,000,000), INDO-CHINA It is bounded by Cambodia on the north, Annam on the northeast, the China Sea on the east and the south, and the Gulf of Siam on the west The capital is SAIGON Apart from the south spurs of the Annamese cordillera in the northeast, where French colonists cultivate rubber, oil palms, and sugar cane, Cochin China is a flat alluvial plain drained by the MEKONG river, which, with the Vaico and smaller streams, forms a means of communication and irrigates one of the world's great rice-growing regions Some 2,000,000 tons of rice are grown yearly, as well as coconuts, pepper, betel nuts, and cotton Only the *Plaine des Jones* [reed plain] and the mangrove-covered Ca Mau peninsula are not cultivated Next to agriculture, the chief occupation is fishing The native population is largely Annamese, other groups are Cambodians, Chams, and Chinese (c 400,000) Industry is mostly processing of natural resources — rice milling, fish curing, and spinning of silk and cotton In early times Cochin China formed part of the KHMER EMPIRE The name of Cochin China was applied by the Portuguese (16th cent) to the east coast of Indo-China in general and by Europeans thereafter to the Annamese lands ruled from Hué (see ANNAM) In the late 17th and early 18th cent the Annamese took by colonization and conquest the six provinces of Cambodia bordering the China Sea and extending up the Gulf of Siam, thus these provinces became Lower Cochin China Of these six provinces, the three to the west, including Saigon, were ceded by Annam to France in 1862, and the three to the east in 1867, the territory was thereafter ruled as the French colony of Cochin China After the Second World War its status became a major issue in the relations between France and VIET NAM Constituted (1946) as an independent republic within the Federation of Indo-China, Cochin China was later (1949) permitted by the French government to join with Annam and Tonkin in Viet Nam

cochineal (kŏchĭnēl', kŏ'chĭnēl), natural dye obtained from an extract of the bodies of the females of a scale insect (*Coccus cacti*) found on certain species of cactus, especially *Nopalea coccinellifera*, native to Mexico and Central America Formerly widely used to produce a scarlet-red color in wool and silk, the dye has been largely replaced by synthetic products The insects' bodies contain the pigment called carminic acid, which was obtained by subjecting a mass of the crushed insects to steam or dry heat, such large numbers of the insects are needed to produce a small amount of dye that the cost is high

Cochise (kōchēs', kŏchē'să), c 1815–1874, Apache Indian chief of the Chiricahua band in Arizona He was noted for his courage, integrity, and military skill In 1860, when the Apache were at war with U S forces and Cochise had been the victim of treachery, he made a pact with T J Jeffords, who had the contract to carry mail from Silver City to Yuma, that his mail riders would not be molested Cochise kept his word in spite of intense provocation In 1872 President Grant sent Gen O O Howard to make a peace treaty with Cochise, and his tribe was restricted to reservation lands, the treaty was kept until after the chief's death. A county and a mountain in Arizona are named for Cochise

Cochran (kŏ'krŭn), city (pop 2,464), co. seat of Bleckley co., central Ga , SSE of Macon, in a farm

area, inc 1870. It has varied industries. Near by is a state junior college.

Cochrane, Thomas: see DUNDONALD, THOMAS COCHRANE, 10TH EARL OF

Cochrane (kŏ'krŭn), town (pop 2,844), E Ont It is the commercial center of E Ontario and W Quebec and the outfitting point for prospecting and hunting parties. Its tributary area includes the Porcupine gold-mining district, discovered in 1896 There are several pulp and paper mills Founded in 1908, the town was named for Francis Cochrane, minister of lands, forests, and mines in Ontario

Cock or Kock, Hieronymus (both hē"rō'nĭmŭs kŏk'), 1510–70, Flemish painter and engraver While in Rome he is said to have helped Vasari with his biographies of Dutch engravers In Antwerp he was the first great publisher of prints and made numerous plates after Bruegel, Bosch, and Floris

Cockaigne or **Cockayne, Land of** (both kŏkān'), legendary country described in medieval tales, where delicacies of food and drink were to be had for the taking The word *cockney* is sometimes mistakenly thought to be derived from cockaigne *The Land of Cockaygne* is a 13th-century English poem satirizing monastic life

cockatoo, name for various crested parrots, native to Australia and the near-by regions It is a gregarious woodland bird which usually eats seeds and insects There is a pink cockatoo, and some species are white with yellow or scarlet on the crests, while others have dark plumage The great black or palm cockatoo can crack kanari nuts, which usually require a hammer blow to break them

Cockburn, Alicia or **Alison,** 1712?–1794, Scottish poet She wrote a famous song, based on an ancient Border ballad and called *The Flowers of the Forest*

Cockburn, Sir George, 1772–1853, British admiral He served in the Mediterranean, and in the War of 1812, in which he participated in the Chesapeake Bay expeditions and in the burning of Washington He conveyed Napoleon in the *Northumberland* to St. Helena, remaining there as governor (1815–16)

Cockerell, Charles Robert (kŏk'ŭrul), 1788–1863, English architect, archaeologist, and writer While excavating at Bassae, Aegina, and other places in Italy, Greece, and Asia Minor, he studied the remains of ancient architecture and designed restorations for the temple of Zeus at Agrigento, Sicily In 1819 he was appointed surveyor of St Paul's Cathedral, London, and in 1833 he became chief architect of the Bank of England, designing the buildings at Bristol, Liverpool, and Manchester and making alterations in the one in London From 1840 to 1857 he served as professor of architecture in the Royal Academy and during 1860–61 was president of the Royal Institute of British Architects His works include the Taylor buildings, Oxford; Hanover Chapel, London, and the National Monument, Edinburgh. He completed the interior of St George's Hall, Liverpool Most of Cockerell's works bear the stamp of the classic revival, of which he was a notable exponent

Cockerell, Theodore Dru Alison, 1866–1948, American zoologist, b England, studied at the Middlesex Hospital Medical School, London In 1887 he came to the United States and from 1904 taught at the Univ of Colorado (professor emeritus, 1934) He wrote on the geographic distribution of life, on variation and other problems of evolution, on the natural history of various regions, and on fossil insects and plants.

Cockermouth (kŏk'urmouth, -muth), urban district (1931 pop 4,789, 1943 estimated pop 5,114), Cumberland, England, on the small Cocker river at its confluence with the Derwent It has textile and shoe factories There are an 11th-century ruined castle (prison of Mary Stuart and dismantled by parliamentarians), Pap Castle (with remains of a Roman camp), the tumulus of Toot's Hill, and Wordsworth's birthplace

cockfighting, the sport of pitting gamecocks against each other. Popular in Asia, in Latin America, and, although illegal, in some areas of the United States, it is an ancient form of amusement, having been practiced in Persia, Greece, and Rome In England, cockfighting enjoyed royal patronage for many centuries, but in 1849 an act of Parliament penalized any person having a connection with the sport. There are several forms of cockfighting, including the single battle and the round-robin tournament. The jousts are usually held on a small circular stage upon which the gamecocks—specially bred and trained for fighting—are placed beak to beak by their handlers and then released. Local rules prevail, and a combatant is defeated when he refuses to fight, is unable to fight, or is killed Metal spurs are sometimes attached to the shanks of the animals to make action deadlier

cockle, marine bivalve mollusk. The shell is marked with ridges which radiate from near the hinge From the hinge end it appears heart shaped. It lives in sand or mud and feeds on microscopic sea life Some species move about in the water, others dig below the bottom surface by means of a muscular foot The majority of the numerous species are found in tropical and subtropical waters. Several are found in Atlantic waters One species (*Cardium edule*) is commonly used for food in Europe. The scallop shell formerly known as a cockle has been frequently used as an emblem.

cocklebur or **clotbur,** any species of the genus *Xanthium*, widely distributed coarse annual plants They are often persistent weeds; the two-seeded oval burs are particularly troublesome to sheep growers and the very young plants are poisonous to livestock Cockleburs are often confused with burdock See *Cockleburs as Poisonous Plants* (U S Dept of Agriculture, Dept Bul 1274)

cock of the plains: see SAGE GROUSE

Cockran, William Bourke, 1854–1923, American political leader, b Co Sligo, Ireland He emigrated to New York city at the age of 17 and in 1876 was admitted to the bar At first opposed to Tammany Hall, W Bourke Cockran later joined (1883) the organization, although he subsequently remained independent in action As a member (1887–89, 1891–95, 1904–9, and 1921–23) of the U S. House of Representatives, Cockran was a supporter of organized labor and an opponent of restrictions on immigration He defended Thomas J Mooney in 1918 See biography by James McGurrin (1948)

Cockrell, Francis Marion, 1834–1915, Confederate general and U S Senator, b Johnson co., Mo., grad Chapel Hill College, 1853 He studied law and began practice in Warrensburg, Mo., in 1855 Enlisting as a private with Confederate forces in the Civil War, he became a brigadier general in 1863 Cockrell's Brigade was a famous unit in the Western fighting After the war Cockrell entered politics, and in 1874 Missouri elected him to the U S Senate He served there until 1905, failing of reelection for a sixth term Though a Democrat he was immediately appointed by Roosevelt to the Interstate Commerce Commission, on which he served till 1910

Cockrell Hill, city (pop 1,246), N Texas, near Dallas

cockroach, orthopterous insect of which there are about 1,200 species, of world-wide distribution but most numerous in the tropics. Cockroaches have flat, oval, usually brownish bodies with long antennae and large eyes Their unpleasant odor is produced by a glandular secretion. They are omnivorous feeders, are found both outdoors and indoors, especially in damp places, and are chiefly nocturnal In the United States the CROTON BUG is found in the northeastern part, the wood cockroach in the eastern regions The Oriental cockroach, or black beetle, and the American cockroach, often transported on ships, now inhabit most mild and tropical areas Dusting with sodium fluoride is a method of control Borax, pyrethrum, sulphur, and phosphorus paste are also useful The cockroach was abundant in the CARBONIFEROUS PERIOD See *Cockroaches and Their Control* (U S Dept of Agriculture, Leaflet 144)

cockscomb, cultivated variety (*Celosia argentea cristata*) of a tropical plant related to the amaranth, usually grown as a tender garden annual but sometimes as a pot plant It is popular for its showy dense spikes of small flowers, commonly red or gold and in various forms, as fan shaped or ruffled, rounded (also called Chinese woolflower), or plumelike Cockscomb is used as an EVERLASTING

cocksfoot. see ORCHARD GRASS

cocktail, a short mixed drink originating in the United States and served as an appetizer. It generally has a basis of gin, whisky, rum, or brandy combined with vermouth or fruit juices and often flavored with bitters or grenadine It is blended by stirring or shaking in a vessel containing cracked ice The term is applied to nonalcoholic beverages served as appetizers, e g, tomato juice cocktail, and also to mixed, cut-up fruits and to shellfish and oysters served with a sharp sauce

Coco, river see SEGOVIA.

Cocoa, city (pop 4,098), E Fla., on Indian River and ESE of Orlando, inc 1895 It is a citrus-shipping center and a resort

cocoa, cocoa butter, and **cocoa nibs:** see CACAO

coconut, fruit of the coco palm (*Cocos nucifera*), a tree widely distributed through tropical regions The seed is peculiarly adapted to dispersal by water since the large pod holding the nut is buoyant and impervious to moisture The trees therefore establish themselves naturally on small islands and low shores bordering the tropic seas The tree grows to a height of from 60 to 100 ft., with a smooth cylindrical stem marked by the ringlike scars of former leaves It bears at the top a crown of frondlike leaves and yellow or white blossoms, growing in inflorescences surrounded by a spathe The number of nuts varies, well-cared-for trees may yield 75 to 200 or more annually The mature fruit as it comes from the tree is encased in a thick, brown fibrous husk The nut itself has a hard woody shell, with three round scars at one end, the embryo lies against the largest scar and emerges through it as a developing plant. Through this easily punctured spot the milk of the young coconut may be drained. Usually the trees bear in the sixth or seventh year, and they may continue to bear to an age of from 60 to 80 years. Its constantly growing commercial value has led to extensive cultivation of the coconut, especially in the Malay Archipelago, Ceylon, and India. A few are found in the southern extremity of Florida The coco palm is probably the most useful tree in existence, every part of it having some value The fruit, either ripe or unripe, raw or cooked, is a staple food, the terminal bud, called palm cabbage, is considered a delicacy, and the inner part of young stems is also eaten, the oil has been used from ancient times The milk of the young nut is a nutritious drink A sweet liquid obtained from the flower buds ferments readily and is used as a beverage, both when fresh and when distilled to make arrack, it may be boiled down to make a sugar called jaggery The leaves are used for making fans, baskets, and thatch The coir (coarse fibers obtained from the husk) is made into bagging, matting, door mats, brushes, sails, ropes, and cables, it becomes more buoyant and elastic than hemp in salt water The hard shell and the husk are used for fuel The fibrous center of the old trunk is also used for ropes, and the timber, known as porcupine wood, is hard and fine grained and takes a high polish From the nutshells are made containers of various kinds—cups, ladles, and bowls—often highly polished and ornamentally carved The root is chewed as a narcotic Commercially the greatest value of the coconut lies in the oil, which is extracted from the dried kernels of the fruit The nuts when ripe are apt to spoil or become rancid Therefore when they are gathered they are broken open and the flesh is dried and exported under the name of copra The oil content of copra ranges from 50 to 70 per cent depending upon the method of drying Coconut oil is used in making vegetable margarines and cooking fats, soap, and other products Primitive methods of drying and expressing the copra are giving way to modern machinery, such as rotary driers and hydraulic presses Usually two pressings are required to remove the oil, but some machines complete the extraction in one pressing The residue, known as coco cake, makes excellent cattle food, as it usually contains a remnant of from 6 to 10 percent of oil Large quantities of shredded or desiccated coconut made from copra and many whole coconuts are exported for use chiefly in the making of cakes, desserts, and confectionery

cocoon see PUPA

Cocopa Indians (kōkō'pŭ), a tribe belonging to the Yuman linguistic stock They formerly lived near the mouth of the Colorado river and in the mountains of Lower California Today some are on a reservation in California, and some in Mexico, where they are known as the Cucupá

Cocos Islands (kō'kŏs) or **Keeling Islands,** group of 27 coral islets (pop 1,811), in the Indian Ocean, SW of Java First settled in 1827 by John C Ross, a Scottish captain, the group was claimed by Great Britain in 1857 Since 1946 the islands have been part of the colony of Singapore Copra is the only export

Cocteau, Jean (zhā' kôktō'), 1891–, French poet and dramatist He was leader of the younger literary group in France before the First World War and continued to be spokesman for literary modernism and for surrealism He wrote successful novels, e g, *Le Grand Ecart* (1923, Eng tr, 1925) and *Les Enfants terribles* (1929, Eng tr, 1930), and with Stravinsky composed the book (later translated into Latin) for the opera-oratorio *Oedipus Rex* (1927) His versatility is further displayed by his surrealistic moving pictures, *The Blood of a Poet* (1933) and *Beauty and the Beast* (1947), and his accomplished drawings, many of which have been collected in book form

Cocz, Gonzales. see COQUES, GONZALES

cod, common food fish most abundant in the N Atlantic and also found in the N Pacific It usually ranges from 10 to 35 lb, rarely over 75 lb Smaller fish and other marine life are devoured by cod The pelagic eggs are usually laid in mid-ocean Important centers for the codfishing industry are in Norway, in Newfoundland, and in Massachusetts, where since colonial days it has been a vital factor in the state's economic and social history The flaky, white, rather tasteless flesh is an important food in America and Europe It is sold fresh, salted, dried, and canned Oil from the liver is used when crude in tanning leather, in tempering steel, and in making poor grades of soap When refined the cod-liver oil is used medicinally as a source of vitamins

Cod, Cape· see CAPE COD.

Coddington, William, 1601–78, one of the founders of Rhode Island, probably b Boston, England He came to America in 1630 as an officer of the Massachusetts Bay Company and was treasurer of it from 1634 to 1636 He was bold enough to support Anne HUTCHINSON in the antinomian controversy With her, John CLARKE, and other Puritan exiles, he purchased the island of Aquidneck (Rhode Island) from the Narragansett Indian friends of Roger WILLIAMS and founded Portsmouth (1638). Deposed as leader of the settlement by Mrs. Hutchinson and Samuel GORTON in 1639, Coddington, with Clarke, withdrew and founded NEWPORT. The two towns were joined under Coddington's governorship in 1640. He opposed, how-

ever, the union with the mainland settlements of Providence and Warwick, which took place in 1647 under Roger Williams's patent of 1644 The commission he received in 1651 to govern Aquidneck and neighboring Conanicut Island for life was denounced by the island people, and Williams and Clarke succeeded in having it revoked in 1652 Coddington, a wealthy and prominent Quaker, remained influential in Newport affairs and was governor of the united colony of Rhode Island and Providence Plantations in 1674, 1675, and 1678.

code, in communication: see CRYPTOGRAPHY, MORSE CODE; SIGNALING.

code, in law In its widest sense a code is any body of legal rules expressed in fixed and authoritative written form A STATUTE thus may be termed a code Codes contrast with customary law (including common law), which is susceptible of various nonbinding formulations, as in the legal opinions of judges The earliest codes (e g , the Roman TWELVE TABLES) met the popular demand that regulations which were formerly oral be written down so that legal chicanery might be prevented In later Roman law, however, the term *code* acquired its modern meaning of a precisely formulated statement of the principles underlying some branch of law (e.g., contracts) or an entire legal system One of the greatest codes was the Roman CORPUS JURIS CIVILIS In Europe, in the late 18th cent., after the general adoption of CIVIL LAW by the continental countries, jurists asserted that similar codes were needed, and the parent modern European codification, the CODE NAPOLÉON, appeared (1804) and was followed by many others The civil law code is an attempt to determine in advance what legal exigencies will arise and to furnish the means for meeting them. Basic legal principles (e g , that contracts express the will of the parties) are worked out in systematic detail and great attention is given to consistency The movement for codification, however, has been largely unsuccessful in countries where COMMON LAW prevails, such as the United States, despite the argument that the principles of common law are sometimes uncertain and often contradict one another Advocates of the common law assert that civil law makes possibly futile attempts to predict and control the course of developments In the United States the term *code* is sometimes also applied to the statutes of a state or of the Federal government edited so as to eliminate duplication and inconsistencies and arranged under appropriate headings

Code Civil see CODE NAPOLÉON.

codeine (kō'dēn), alkaloid found in opium It is a poisonous and bitter-tasting sedative used to reduce sensibility to pain It is often used in the form of the salts, codeine phosphate and codeine sulphate

Code Napoléon (kōd' năpōlĕō') or **Code Civil** (sēvēl'), first modern CODE of France, promulgated by Napoleon I in 1804 The work of J J Cambacérès and that of a commission of four appointed by Napoleon I in 1800 were important in making the final draft The Code Napoléon embodied the private law of France and, as modified by amendments, it is still in force in that country It states the modern ROMAN LAW, i e , the CIVIL LAW, which prevailed generally on the Continent It shows, of course, many specific French modifications, some based on the Germanic law which had been in effect in N France The code follows the Institutes of the Roman CORPUS JURIS CIVILIS in dividing civil law into personal status (e g , marriage), property (e g , easements), and the acquisition of property (e.g , wills), and it may be regarded as the first modern analogue to the Roman work Not only was it applied by Napoleon to the territories under his control—N Italy, the Low Countries, and some of the German states—but it exerted a strong influence on Spain (and ultimately on the Latin American countries) and on all European countries except England It was the forerunner, in France and elsewhere, of codifications of the other branches of law, including civil procedure, commercial law, and criminal law. Quebec prov and the state of Louisiana owe much of their law to the Code Napoléon.

codling moth (kŏd'-) or **codlin moth,** small moth, the larva of which is the apple worm, the cause of enormous damage to the apple crop every year Believed to have come to America from Europe c 1750, it is now found wherever apples are grown and also attacks other fruits. There are often two or three generations a year The eggs are usually laid on the surface of the developing fruit The larva eats into the apple and remains there until mature Spraying the trees with an arsenate of lead solution after the blossoms fall is a method of control.

cod-liver oil, yellowish fixed oil with a high content of vitamins A and D, procured from the liver of the codfish It has been used in a number of diseases, e g , tuberculosis, catarrh, conjunctivitis, and anemia. The vitamin D factor in cod-liver oil is effective in the prevention and treatment of RICKETS. Synthetic vitamin A and D compounds have replaced cod-liver oil to a great extent.

Codreanu, Corneliu Zelea (kôrnā'lyōō zā'lyä kō"drēä'nōō), c.1899–1938, Rumanian political leader and anti-Semitic terrorist He founded and led the IRON GUARD until his conviction for treason in 1938. He shot and killed the prefect of Jassy in 1924 and instigated the murder of Premier Ion Duca in 1933. Both times he was acquitted Shortly after his imprisonment in 1938 he and several of his followers were killed "while trying to escape"

Codrington, Sir Edward (kŏd'rĭngtun), 1770–1851, British admiral He held commands in the French Revolutionary Wars, in the War of 1812, and in the Mediterranean and took an important part at Trafalgar (1805). He commanded the combined British, French, and Russian fleet which in 1827 destroyed the Turkish and Egyptian fleets at Navarino, thus making possible the success of the Greek war of independence.

Cody, William Frederick: see BUFFALO BILL.

Cody (kō'dē), town (pop 2,536), co seat of Park co , NW Wyo , on the Shoshone river, in a livestock, farm, and dude-ranch area, platted c 1895, inc 1901 Oil is refined here Named for Col William F Cody (Buffalo Bill), the town has a Cody museum and a statue and celebrates Buffalo Bill's birthday It is tourist center for Yellowstone National Park (to the west) and headquarters for Shoshone National Forest Shoshone Cavern National Monument and SHOSHONE PROJECT are near by

Coe College: see CEDAR RAPIDS, Iowa.

coeducation, instruction of both sexes in the same classes It is generally practiced in the public school systems of the United States The great economies effected by joint classes and the increasing participation of women in industrial, professional, and political activities have been strongly influential in stimulating the spread of coeducation Opposition to coeducation generally stresses the distracting effect of mixed classes and sometimes alleges difference in intelligence between the sexes. There were scattered examples of coeducation in the late 17th cent in Scotland and in the American colonies, but there was no general trend until the great expansion of public education between 1830 and 1845 in the developing W United States There the distance between schools and the small number of pupils caused elementary schools to admit girls The movement spread naturally to the secondary schools during the reorganization of public education after the Civil War Oberlin College gave degrees to women in 1837, but it was the development of state universities as part of the public educational system which standardized collegiate coeducation See Willystine Goodsell, *The Education of Women* (1923), Thomas Woody, *A History of Women's Education in the United States* (1929), J H Newsom, *The Education of Girls* (1948)

coefficient, in algebra, a number, a letter, a group of letters, or a combination of numbers and letters which precedes another letter and by which that letter is to be multiplied For example, in the expressions $2xy$ and ab, the number 2 is the coefficient of x, and $2x$ is the coefficient of y, and a is the coefficient of b Fractional coefficients are also used, as in the expression $\frac{1}{2}x$, which is x divided by two, i e , $x/2$. In the same way, $\frac{3}{4}x$ may be written $3x/4$ In the addition and subtraction of simple expressions, the numerical coefficients are added or subtracted only when the letters of the expressions are identical, e g , $2xy+3xy=5xy$ and $6ab-2ab=4ab$ On the other hand, when $2xy$ and $6ab$ are added or subtracted, the operation may be indicated, as $6ab+2xy$ or $6ab-2xy$, but the two terms may not be combined in one term to represent the sum or difference (see ALGEBRA) In the multiplication of simple expressions, as $2xy$ times $6ab$, the product may be expressed in one term, $12abxy$, in which the numerical coefficients 2 and 6 have been combined in 12 In the division of simple expressions, the numerical coefficients may be combined if possible, as, when $6xy$ is divided by $2ab$, the result of the operation may be written $3xy/ab$ For coefficients of expansion and friction in physics, see EXPANSION and FRICTION

Coehoorn, Menno van (mĕ'nō vän kō'hôrn), 1641–1704, Dutch military engineer and nobleman, of Swedish extraction He invented a portable bronze siege mortar called the coehorn He was also in his day considered a rival of VAUBAN in the construction of fortresses He served (1701–3) in the army of the duke of Marlborough in the War of the Spanish Succession. The name also appears as Coehorn or Cohorn

Coele-Syria: see BIKA, EL

Coello, Alonso Sánchez (älōn'thō sän'chäth kōāl'yō), c 1531–c 1588, Spanish portrait painter He was a follower of Antonio Moro, whom he succeeded as court painter to Philip II His portraits of Philip (National Gall , London) and of the Infantes Carlos and Isabella (Prado) are among his best-known surviving works Their somber dignity reflects the character of the Spanish court of the period Coello also painted numerous religious pictures, including *San Sebastian* (San Jerónimo, Madrid) and *Marriage of St. Catherine* (Prado).

Coello, Claudio (klou'dyō), c 1630–1693, Spanish fresco painter With José Donoso he painted the vestry of the cathedral in Toledo, and as court painter to Charles II he decorated many churches and public buildings of Madrid His most famous work is the monumental altarpiece for the sacristy of the Escorial containing over 50 life-sized portraits Coello's work is characteristic of the ornate decorative painting of the Spanish baroque

coercion, in law, the unlawful act of compelling a person to do, or to abstain from doing, something by depriving him of the exercise of his free will, particularly by use or threat of physical or moral force It has recently played a large part in questions of labor-management relations and in testamentary law In many states of the United States statutes declare a person guilty of a misdemeanor if he, by violence or injury to another's person, family, or property, or by depriving him of his clothing or any tool or implement, or by intimidating him with THREAT of force, compels that other to perform some act which the other is not legally bound to perform Coercion may involve other crimes, such as ASSAULT In the law of contracts, coercion which affects the obligations of the parties is DURESS

Cœur, Jacques (zhäk' kûr'), c 1395–1456, French merchant prince and chief adviser of Charles VII, who made him chief of finances and sent him on important diplomatic missions His reforms restored order to the confused financial situation brought about by the Hundred Years War Cœur was the founder of French trade in the Levant, he employed agents throughout the Orient, owned factories and mines in France and abroad, and rivaled the great Italian merchant republics Through his monopolies he amassed a fabulous fortune, but he spent a large part of it to finance the campaigns which ultimately drove the English from France In 1451 he was arrested on the charge, concocted by his debtors and enemies, of having poisoned Agnès SOREL He was sentenced (1453), after an unfair trial, to imprisonment and a fine of several million dollars In 1454–55 he escaped to Rome. He died in Chios while leading a papal fleet against the Turks His house in Bourges, which still stands, is one of the finest examples of secular medieval architecture See A B Kerr, *Jacques Cœur* (1927)

Coeur d'Alene (kûrdulān'), city (pop 10,049), co seat of Kootenai co., N Idaho, on Coeur d'Alene Lake, W of the Coeur d'Alene Mts and E of Spokane, Wash , inc as a city 1906 Gold (1860) and rich silver and lead lodes (1882) were discovered in the region, and in 1884 the area was the scene of a mining boom To mining and lumbering have been added farming and dairying The city is the headquarters of Coeur d'Alene National Forest, a beautiful summer resort and winter sports section To the northwest is the Rathdrum Prairie irrigation project, where water was delivered in 1946

Coeur d'Alene Indians, North American Indian tribe of Salishan linguistic stock They occupied N Idaho Approximately 400 remained on their reservation in 1942, just a century after Father Pierre Jean de Smet established the first mission among them

Coeur d'Alene Lake, N Idaho, E of Spokane, Wash It is fed by the Coeur d'Alene and St Joe rivers, which rise in the Coeur d'Alene Mts to the east, and it is drained by the Spokane river

Cœur de Lion: see RICHARD I, king of England

Coeus (sē'ŭs), in Greek religion, Titan, husband of Phoebe and father of Leto and Asteria.

coffee, a tree, its seeds, and the beverage made from them The Arabian coffee tree (*Coffea arabica*) is an evergreen shrub or small tree of the family Rubiaceae It is believed to be native to Ethiopia but was early introduced into Arabia, probably during the 15th cent Borne in the axils of the smooth, ovate leaves are clusters of fragrant white flowers which mature into deep red fruits about ½ in long. The fruit is a drupe, sometimes called a cherry, and usually contains two seeds, the coffee beans Sometimes only one seed develops, the fruit is then called a peaberry Varieties of Arabian coffee have long provided the bulk of the world's supply Coffee requires a hot, moist climate with a rainfall of at least 50 in and a rich soil, it thrives on well-drained slopes, particularly where the soil is of volcanic origin It can be grown from sea level to c 6,000 ft The better grades are generally produced above 1,500 ft Frost is injurious The plants are propagated from seed Other taller vegetation is usually planted to control the amount of sunlight reaching the coffee trees and to protect them from the elements A coffee tree produces its maximum yield sometime between the 5th and the 10th year and continues to bear for about the next 30 years Other species of some commercial importance are Liberian coffee (*C liberica*) and Congo coffee (*C robusta*) Both are now grown in the tropics of both hemispheres. They are more vigorous and more blight resistant than Arabian coffee Wide variations in production and demand have caused frequent surpluses disastrous to planters, laborers, and the national economy of producing countries. Experiments designed to employ the surplus for industrial purposes have shown the

possibility of making such coffee derivatives as cattle fodder, alcohol, fusel oil, caffeine, and glycerin A plant in São Paulo, Brazil, manufactures a plastic, caffelite A coffee quota agreement (1940), administered by the Inter-American Coffee Board (1941), attempts to stabilize the market by allocating the U S importation of coffee from Latin America A considerable quantity of coffee is exported as parchment coffee (seeds within the husklike covering, from which the outer pulp has been removed) to be finally cleaned and roasted at points of distribution Heat acts upon the essential oils, developing the aroma and flavor Roasts range from light brown to the very dark, almost charred, Italian roast A wide variety of machines and theories for coffee making all aim to preserve the aroma Whatever the method used the prime requirements are properly roasted, freshly ground coffee, freshly boiling water, and absolute cleanliness of utensils, as coffee is easily contaminated by foreign odors "Turkish" coffee, finely powdered and heavily sweetened, is drunk unfiltered by most Eastern peoples Westerners favor clear coffee The French use for breakfast *café au lait*, coffee combined with scalded milk The unique mocha from the Yemen region of Arabia and some Sumatra, Java, and Colombian coffees are prized by connoisseurs Various adulterants, including CHICORY, carrots, parsnips, iris root, beans, rice, and cereals, roasted and ground, may usually be detected by soaking in cold water, which is not discolored by genuine coffee beans Opinion has differed as to the value of coffee It has become a popular beverage because of its aroma and the exhilarating and fatigue-allaying properties of its CAFFEINE constituent, to which is attributed a medicinal value in cases of shock, pneumonia, and poisoning Taken in excess it is said to cause irritability, depression, and indigestion The early history of coffee is shrouded in legend Known in Ethiopia before A D 1000, it is believed to have been used first as a food, a ball of the crushed fruit molded with fat was a day's ration for certain African nomads Later, wine was made from the fermented husks and pulps Coffee made from the ground and roasted beans was used in Arabia by the 15th cent and spread to Egypt and Turkey Despite early suppression on religious and political grounds, it rapidly became a universal beverage of Mohammedans At first opposed by Italian churchmen as an infidel drink, it was Christianized by Pope Clement VIII and by the mid-17th cent it had reached most of Europe Although introduced in North America c 1668, coffee took first place as the staple American beverage only after tea had met with popular disapproval following the Boston Tea Party See W H Ukers, *All about Coffee* (2d ed , 1938) **Coffeehouses** dispensed coffee before it was made in the home in Mohammedan countries and in Europe and America and were known as centers for gossip, gambling, and literary and political discussions Periodically government restrictions were imposed in the belief that coffeehouses were meeting places of political malcontents Will's Coffee House in London was famous as a resort of wits and poets Johnson, Addison, Steele, Sheridan, Dryden, Swift, Goldsmith, Hogarth, and other notables were the centers of coteries in the houses they frequented In France also the spread of the coffeehouse was rapid and influenced the development of literature and of the stage The coffeehouse was the forerunner of the *modern club*

cofferdam, a temporary barrier against water, made of wood or steel sheeting and used for protective purposes in the construction of dams and bridges and in similar work The sheeting is sometimes a single, sometimes a double, barrier, if double, the space between the two walls is usually packed with clay and gravel When great strain or pressure is likely to occur, the cofferdam is not usually employed, in water more than 30 ft deep the pneumatic CAISSON is generally used Cofferdams are also used, to save the expense of dry dock, for repairing ships and also in battleships for emergency protection of vital parts of the engine See Lazarus White and E A Prentis, *Cofferdams* (1940)

Coffeyville, city (pop 17,355), SE Kansas, on the Verdigris near the Okla. line, settled 1869, inc 1872 With the coming of the railroad (1870), it grew as a cattle-shipping point It is a trading and distributing center for a farm region and boomed with the discovery (1902) of oil and natural gas in the area. It has farm-produce processing plants, oil refineries, railroad shops, and paint manufacture In 1892 the notorious Dalton gang was shot down, here, in an attempted bank robbery

Coffin, Charles Carleton, 1823–96, American journalist, b Boscawen, N H., educated at the village school During the Civil War he was correspondent for the Boston *Journal*, using the pseudonym Carleton, he served in the same capacity in the Austro-Prussian War He wrote *My Days and Nights on the Battlefield* (1864), *Following the Flag* (1865), and *Four Years of Fighting* (1866, republished as *The Boys of '61*) He also wrote several books for boys, including *The Boys of '76* (1876). See biography by W E. Griffis (1898).

Coffin, Henry Sloane, 1877–, American Presbyterian clergyman, b New York city, studied at Yale (B A 1897, M A , 1900), in Edinburgh (1897–99) and in Marburg (1899), and at Union Theological Seminary (B D , 1900) He was pastor of the Madison Ave Church, New York city (1905–26), lecturer at Union Theological Seminary (1904–9), associate professor of pastoral theology there (1909–26), and its president (1926–45) He was moderator of the Presbyterian Church in the United States (1934–44) Dr Coffin's publications include *The Meaning of the Cross* (1931), *What Men Are Asking* (1933), *God's Turn* (1934), and *Religion Yesterday and Today* (1940)

Coffin, James Henry, 1806–73, American mathematician and meteorologist, b Williamsburg, Mass , grad Amherst, 1828 He was professor of mathematics and natural philosophy at Lafayette College from 1846 In an observatory which he built on Mt Greylock, he developed a self-registering anemometer He wrote *Winds of the Northern Hemisphere* (1853), *Psychometrical Tables* (1856), and *The Orbit and Phenomena of a Meteoric Fire Ball* (1869)

Coffin, Levi, 1789–1877, American abolitionist, b North Carolina. In 1826 he moved to the Quaker settlement of Newport (now Fountain City), Ind , where he kept a store until 1847 His home became a leading depot of the UNDERGROUND RAILROAD, of which he was stylod "president" See his *Reminiscences* (1876)

Coffin, Robert Peter Tristram, 1892–, American author, b Brunswick, Maine, grad Bowdoin, 1915, M.A Princeton, 1916, B Lit Oxford Univ , 1921. At Oxford he was a Rhodes scholar He has written verse, essays, biographies, and novels, most of them about Maine *Strange Holiness* (1935) won for him the 1936 Pulitzer Prize in poetry A revised and enlarged edition of his *Collected Poems* (1939) appeared in 1948 Among his more recent works is *Maine Doings* (1950), essays

Coffin, William Anderson, 1855–1925, American painter and art critic, b in Pennsylvania, studied at the Yale School of Fine Arts and under Léon Bonnat in Paris He served as art critic on the New York *Evening Post*, the *Nation*, and the New York *Sun;* as art director of the Buffalo, N Y , Pan-American Exposition, 1901, and on the advisory board of the Panama-Pacific Exposition, San Francisco, 1915 In 1919 the French government appointed him president of a commission to arrange an exhibition of American art at the Luxembourg Museum He is best known for his landscapes, many of Pennsylvania scenes, and is represented in the Metropolitan Museum, Brooklyn Museum, Albright Art Gallery, Buffalo, and other public collections

coffin, closed receptacle for a corpse Its purpose is usually to protect and to aid preservation of the body, but some have believed that it may confine the spirit of the deceased An early prototype is the stone-lined cist grave of Neolithic times Hollowed oak coffins have been preserved in Bronze Age barrows The Chaldeans and the early Greeks enclosed a corpse in clay, sealing the coffin by firing it. The largest known stone coffins (see SARCOPHAGUS) are Egyptian These were ingeniously locked and inscribed with attractive descriptions of the afterlife—to dissuade the spirit from returning to mingle with the living Wood and papier mâché were also used in Egypt for mummy chests. Metal-lined coffins, usually of lead, came into use in the Middle Ages Today copper and bronze are common linings.

Coghlan, Charles (kŏg'lun), 1841–99, American actor, b Paris He came to the United States in 1876, joined Augustin Daly's Fifth Avenue Company, and later appeared at the Union Square Theater in *A Celebrated Case*, which had a long run and made his reputation He supported Mrs Langtry on her tours (1885–91) and created the role of Alec d'Urbervilles in Mrs Fiske's production of *Tess of the d'Urbervilles* His sister, **Rose Coghlan,** 1851?–1932, came to the United States in 1872 She was a leading lady in Wallack's Company (1878–89), where she appeared with great success in the first American production of *Diplomacy* in 1878 and gave a memorable portrayal of Stephanie in Merivale's *Forget-me-not* in 1880 She appeared in many plays by Herne and Belasco

Cognac (kōnyăk'), town (pop 16,106), Charente dept , W France, in Angoumois, on the Charente river It has been since the 18th cent the most famous distillery and export center for French brandy, to which it has given its name It was the birthplace of FRANCIS I, who in 1526 formed here an alliance against Emperor Charles V Cognac was a Huguenot stronghold in the 16th cent

Cogswell, Joseph Green, 1786–1871, American librarian and bibliographer, b Ipswich, Mass , grad Harvard and studied, with his friends Edward Everett and George Ticknor, at Göttingen Univ He taught mineralogy and geology at Harvard and became librarian in 1821. With George Bancroft he founded (1823) the Round Hill School at Northampton, Mass He aided in founding the Astor Library in New York city (now part of New York Public Library) and was librarian from 1848 to 1861 and trustee to 1864 Sent abroad to purchase books, he spent 14 years in rounding out the Astor collection He prepared for the library an alphabetical and analytic catalogue which, printed at his own expense, was the basis for the later card catalogue See biography by A. E Ticknor (1874)

Cohan, George Michael (kō'hăn, kōhăn', kō'ŭn), 1878–1942, American playwright, producer, and actor, b Providence, R I He appeared originally in vaudeville as one of "The Four Cohans," a well-known variety and musical-comedy group including his father, mother, and sister, Josephine Cohan's first New York play, *The Governor's Son* (1901), although not very successful, set new standards in musical comedy for speed, fewer encores, and a laugh on the final curtain His first successful play, *Little Johnny Jones* (1904), opened on Broadway, and Cohan's preoccupation with this thoroughfare and with flag waving is seen in his titles for both plays and songs—*Forty-five Minutes from Broadway* (1906) and *Broadway Jones* (1912), *I'm a Yankee Doodle Dandy* and *It's a Grand Old Flag* In 1913, already a recognized dancer, Cohan revolutionized the mystery farce with his dramatization of Earl Derr Biggers's novel *Seven Keys to Baldpate* Inspired by the entry of the United States into the First World War, he wrote the words and music to the now classic *Over There* and in 1933 was recognized for his acting in Eugene O'Neill's *Ah, Wilderness!* His last appearances were as President Roosevelt in *I'd Rather Be Right* (1937) and in his own play *Return of the Vagabond* (1940) See his *Twenty Years on Broadway* (1925); biography by Ward Morehouse (1943)

Cohasset (kōhăs'ĭt), resort town (pop 3,111), E Mass , on the South Shore of Massachusetts Bay, settled c 1647, inc 1770 It has a summer theater A lighthouse has been maintained off the shore here since 1850, and Cohasset had the first U S. lifeboat service

Cohen, Hermann, 1842–1918, German philosopher He was a member of the Neo-Kantian Marburg school and was known for his commentaries on Kant His own works include *Logik der reinen Erkenntnus* (1902), *Ethik des reinen Willens* (1904), and *Aesthethik des Gefühls* (1912)

Cohen, Morris Raphael, 1880–1947, American philosopher, b Russia, grad College of the City of New York, 1900, Ph D Harvard, 1906 He came to the United States in 1892 At first an instructor in mathematics at the College of the City of New York, Cohen transferred to the department of philosophy, where he taught from 1912 until 1938, becoming famous for his use of Socratic irony He then taught at the Univ of Chicago until 1942 His influence, through his students and his books, has been far-reaching, and he is rated as one of the most important American philosophers since William James Cohen's most important books are *Reason and Nature* (1931) and *Law and the Social Order* (1933) Other works include *Preface to Logic* (1944), *The Faith of a Liberal* (1945), and *Reason and Law* (1950) See his autobiography, *A Dreamer's Journey* (1949)

Cohn, Ferdinand (fĕr'dēnănt kōn'), 1828–98, German botanist He is considered a founder of the science of bacteriology From his early studies of microscopic life he developed theories of the bacterial causes of infectious disease and recognized bacteria as plants He aided Robert Koch in preparing his famous work on anthrax Cohn's writings cover such diverse subjects as fungi, algae, insect epidemics, and plant diseases

Cohoes (kuhōz'), industrial city (pop 21,955), E N Y , N of Albany, at the confluence of the Mohawk with the Hudson and on the Barge Canal, settled by Dutch, inc 1869 Knitted goods, paper products, and shoddy are made The Van Schaick mansion (1735) contains historical relics

cohosh (kōhŏsh'), name for several plants, among them BANEBERRY and BLACK SNAKEROOT (black cohosh)

coil see INDUCTION

Coimbatore (kwĭmbutôr'), town (pop 130,348), W Madras state, India Commanding the approach to the Palghat Gap, it was important in the wars of Hyder Ali and Tippoo Sahib The British obtained undisputed possession in 1799 It is a junction of rail lines connecting the east and west coasts Cotton thread and cloth, fertilizer, and sugar are important products.

Coimbra (kwēm'brŭ), city (pop, 35,437), capital of Coimbra dept , W central Portugal, on the Mondego river The old capital of Beira, it is a market center with small industries but is known chiefly for its history and for the famous university, which was founded by King Dinis in Lisbon but was moved to Coimbra in 1306. Coimbra, then known as Conimbriga, was an important town in Roman days It continued to flourish down through Moorish times and after its reconquest (1047) by Ferdinand I of Leon It became the capital of Alfonso I, first king of Portugal, and continued as an important royal residence after the capital was transferred to Lisbon in the 13th cent. There is a fine 12th-century cathedral. The romantic heroine, Inés de Castro, was murdered here.

coin, a piece of metal, usually a disk of gold, silver, nickel, bronze, or copper, stamped by authority of a government as a guaranty of its value and used as MONEY. Coinage was probably invented independently in Lydia or in the Aegean Islands and in China before 700 B C and in India in the 4th cent B.C. The earliest known example is an electrum coin (c.700 B.C) of Lydia. Roman coinage dates from about the 4th cent B C. The first coins struck in the American colonies were issued by the Massachusetts Bay colony (see HULL, JOHN) The first U S. MINT was established in 1792 Mottoes used on many U.S coins are "E Pluribus Unum" (1795) and "In God We Trust" (1864) Early coins were die-struck by hand and showed many individual variations Standardized coins date from the use (in the 17th cent) of a mill and screw machine (invented c 1561) Coins are usually stamped from rolled metal blanks, are milled, and have a design impressed upon them between the upper and lower dies of a coining press Milled or lettered edges have been used since the 17th cent to discourage the removal of slivers of metal, especially from gold or silver coins See also NUMISMATICS See Sir John Lubbock, *A Short History of Coins and Currency* (1902), Joseph Coffin, *Our American Money* (1940)

Coire, Switzerland see CHUR.

Cokato (kŏk'utō), village (pop 1,175), central Minn , W of Minneapolis, platted 1869, inc 1878 It is the trade center of a farming and poultry-raising area settled mainly by Swedes and Finns

Coke, Sir Edward (kōōk), 1552–1634, English jurist, one of the most eminent in the history of English law He was elected to Parliament and rose rapidly, becoming solicitor general and speaker of the House of Commons In 1593 he was made attorney general, his rival for that office being Sir Francis Bacon, one of Coke's bitterest enemies He prosecuted noted men and earned a name as a severe prosecutor The accession of James did not affect Coke's favorable position at court In 1606 he was made chief justice of the common pleas In this position Coke became the champion of Parliament against the king, attacking the royal prerogative and declaring royal proclamations contrary to law null and void He upheld the supremacy of common law and enunciated doctrines of individual liberty that were to have a profound effect on history Though his historical arguments were frequently based on false interpretations of early documents, as in the case of the Magna Carta, his reasoning was brilliant and his conclusions impressive His constant disputes with the king and the numerous enmities he developed—especially that with Thomas Egerton, Baron ELLESMERE, the chancellor—brought about his fall Bacon was one of the foremost figures in engineering his dismissal in 1616 By personal and political influence, Coke got himself back on the privy council and was elected (1620) to Parliament, where he became a leader of the popular party in opposition to James I and Charles I He was important in the drafting of the Petition of Right (1628) Coke was the greatest of all English common lawyers Of his writings the most important is his *Institutes*, which includes his commentaries on Littleton's *Tenures* See W H. Lyon and Herman Block, *Edward Coke* (1929)

Coke, Richard (kōk), 1829–97, governor of Texas (1874–76) and U S Senator (1876–95), b. Williamsburg, Va , grad William and Mary, 1849 After being admitted to the bar he moved (1850) to Waco, Texas, and became prominent in his profession there He was a member of the Texas secession convention and was a Confederate captain in the Civil War. Coke was an associate justice of the state supreme court from 1866 to 1867, when he was removed by Gen. Philip H. Sheridan as "an impediment" to Reconstruction. In 1873, with Coke as their gubernatorial candidate, the Democrats thoroughly defeated the radical Republicans The Republican governor, Edmund J Davis, protested the result, but when President U S Grant refused to come to his aid, Coke was inaugurated and Reconstruction in Texas was ended Coke restored order on the frontier, where lawlessness had reigned, and rehabilitated the state's financial and political systems (the present constitution was ratified in 1876) Reelected in 1876, he resigned to enter the Senate See C. W. Ramsdell, *Reconstruction in Texas* (1910).

Coke, Thomas (kōōk, kōk), 1747–1814, English clergyman and early bishop of the Methodist Episcopal Church in America After taking orders (1777) in the Church of England, he openly allied himself with the Methodists He was president of the Irish conference in 1782 and two years later was designated as superintendent for America by John WESLEY When Coke was styled bishop shortly after the American conference of 1784, the change was not approved by Wesley Nine times Coke visited America, the last time in 1803. He was always deeply interested in Methodist missionary work To extend the field to India, he sought (1813) an appointment by the government as bishop of India, agreeing to return to the Established Church. As the request was not granted, he himself secured funds for a Methodist mission, but died on the way to Ceylon See biography by W. A Candler (1923).

Coke, Thomas William: see LEICESTER OF HOLKHAM, THOMAS WILLIAM COKE, EARL OF.

coke, fuel prepared by the destructive DISTILLATION of bituminous COAL, much used when a porous fuel with few impurities and high carbon content is desired, as in the BLAST FURNACE It is used also in the manufacture of WATER GAS Coke bears the same relation to coal as does charcoal to wood The preparation of coke in beehive ovens results in the loss of volatile by-products Only a small amount is still made by this method For industrial purposes, it is now prepared in retorts or ovens of silica brick, and the by-products, of which the chief are ammonia, coal tar, and illuminating gas, are saved Natural coke or carbonite is formed by METAMORPHISM from bituminous coal when intrusive igneous rock cuts across a vein of coal

Cokeburg, industrial borough (pop 1,415), SW Pa , S of Pittsburgh, inc 1906

cola. see KOLA

Colberg, Pomerania see KOLBERG

Colbert, Charles (sharl' kôlbĕr'), 1625–96, French diplomat, brother of Jean Baptiste Colbert He represented France at the conference of Aix-la-Chapelle (1668), was in charge of the preliminary negotiations of the Treaty of Dover (1670), and in 1679 became secretary of state for foreign affairs Louis XIV created him marquis of Croissy

Colbert, Jean Baptiste (zhäⁿ' batēst'), 1619–83, French statesman The son of a draper, he was trained in business and was hired by Mazarin to look after his financial affairs On his deathbed, Mazarin recommended Colbert to Louis XIV, who made him his chief minister Colbert had been aware of the mismanagement of Nicolas FOUQUET and helped to procure Fouquet's conviction for fraud He scaled down the public debt by repudiating some obligations and reducing the value of others and set up a rigid system of accounts in order to keep the government within its income His efforts to reform taxation so as to eliminate injustices had little success Financial reform was only a part of Colbert's aim, which was to make France economically self-sufficient He was one of the most successful exponents of MERCANTILISM, he encouraged the growth of industry through subsidies and tariff protection, rigidly regulated the qualities and prices of manufactured and agricultural products, tried to break down trade barriers within France, initiated a vigorous road-building program, and restricted the use of natural resources Given control of shipping (1669), he constructed shipyards, arsenals, and harbors, among them Brest and Rochefort, and began the construction of a large navy as a first step in the development of commerce and colonization He also protected the arts and aided the French Academy and the Academy of Sciences His efforts at economy were soon menaced by the extravagance of the king, and the opening of Louis XIV's wars began the decline of Colbert's power and the ascendancy of LOUVOIS To meet the military expenses, Colbert was obliged to resort to increased taxation, the sale of offices, borrowing, and the anticipation of future revenues, his new taxes caused serious disturbances Despite his unpopularity at the time of his death, he was later ranked among the greatest of French statesmen See C W Cole, *Colbert and a Century of French Mercantilism* (1939)

Colbert, Jean Baptiste, marquis de Seignelay (markē' dŭ sānvulā'), 1651–90, eldest son of Jean Baptiste Colbert He collaborated with his father in developing the French navy

Colbert, Jean Baptiste, marquis de Torcy (tôrsē'), 1665–1746, leading French diplomat in the War of the Spanish Succession, son of Charles Colbert. He negotiated the peace of UTRECHT

Colborne, John. see SEATON, JOHN COLBORNE, BARON

Colby, Bainbridge, 1869–1950, 'U S Secretary of State (1920–21), b St Louis, grad Williams, 1890 After studying law at Columbia Univ and New York Law School, he was after 1892 a successful New York lawyer In politics he was a Republican assemblyman (1901–2), a follower of Theodore Roosevelt, and, as one of the leaders of the PROGRESSIVE PARTY, a candidate for the U S Senate in 1914 and 1916 In the presidential campaign of 1916 he swung his support to Woodrow WILSON Colby was commissioner of the U S Shipping Board and a member of the Emergency Fleet Corporation in the First World War and was chosen to succeed Robert LANSING as Secretary of State Very close to the failing President in the last year of the administration, Colby was later briefly Wilson's law partner His marriage to the novelist Nathalie Sedgwick Colby ended in divorce

Colby, Frank Moore, 1865–1925, American editor, essayist, and educator, b Washington, D C , grad Columbia (B A , 1888, M A , 1889). He taught at Columbia and at New York Univ Later, succeeding Harry Thurston Peck, he became editor of *The New International Encyclopaedia* and of *The New International Year Book*. Works which show him as a distinguished critic are *Imaginary Obligations* (1904) and *Constrained Attitudes* (1910) See *The Colby Essays* (ed by Clarence Day, Jr., 1926)

Colby, city (pop 2,458), co seat of Thomas co , NW Kansas, inc 1886 It is a shipping and trade center for a wheat-growing area An agricultural experiment station is near by

Colby College. see WATERVILLE, Maine

Colchester (kōl'chĭstŭr, -chĕs"tur), municipal borough (1931 pop. 48,701, 1947 estimated pop 50,710), Essex, England, on the Colne, in an agricultural region Here was one of the great cities of pre-Roman Britain, the capital of the leader Cymbeline The Romans after their conquest built its successor, Camulodunum, an important Roman colony and the particular object of attack (A D 61) by Boadicea. To the Anglo-Saxons the place was known as Colnecoaster. The witenagemot met here in 931 Of interest are the Roman walls (more complete than elsewhere in England) and the massive Norman castle, part of which houses a museum of Roman antiquities St Botolph's priory and other buildings contain Roman brickwork The town was taken (1648) after a long siege by parliamentarians under Fairfax The oyster fisheries of the Colne are important, an annual event is the October oyster feast The government maintains a permanent military station at Colchester Other industries are chemical engineering, flour milling, and the making of boilers, shoes, and farm machinery.

Colchester. **1** Town (pop 2,338), E central Conn E of Middletown, settled and inc 1699 It includes Westchester village and Colchester borough (pop 1,234, chartered 1824) Leather goods are made here The old Comstock covered bridge became state property in 1934 **2** City (pop 1,426), W Ill , E of Keokuk, Iowa, in a farm area, inc 1867 **3** Rural town (pop 3,031), NW Vt , near Burlington and Winooski, chartered 1763 Ira Allen and Remember Baker were early settlers, Allen built mills and an iron forge in the area after 1783 Winooski was set off from Colchester in 1922

colchicine (kōl'chĭsēn, -sĭn, kōl'kĭ-), alkaloid obtained from the meadow saffron or autumn crocus, *Colchicum*, used in plant and animal experimentation When sprayed on the surface of plant tissues or injected into them, the drug interferes with the separation of daughter nuclei at cell division, resulting in cells with chromosome numbers which are multiples of those present in untreated tissue Sometimes colchicine is used in medicine, chiefly for relieving pain in gout and rheumatism

Colchis (kōl'kĭs), ancient country on the eastern shore of the Black Sea and in the Caucasus region It corresponds to modern Mingrelia in the Georgian SSR Colchis centered about the fertile valley of the Phasis river (the modern Rion) and was also noted for forest products In Greek legend it was the home of Aeetes and MEDEA, the land where the Golden Fleece was sought by JASON and the Argonauts Greek trading posts were established in Colchis, but the land remained independent until conquered (c 100 B C) and held briefly by Mithridates VI of Pontus After the time of Trajan to the end of the Roman Empire, Rome exerted considerable influence on the region

Colden, Cadwallader (kōl'dun), 1688–1776, colonial scholar and political leader of New York, b Ireland, of Scottish parents, grad Univ of Edinburgh, 1705 After studying medicine in London, Colden arrived (1710) in Philadelphia to practice He removed (1718) to New York, where he was appointed (1720) surveyor general He was chosen (1721) to the governor's council and became influential during the administration of George Clinton (1686–1761), whose official papers and addresses Colden in large part prepared After 1761 he was lieutenant governor of New York, and he became more and more unpopular among the radicals opposed to the British measures In his 55 years of active public life, Colden was able to make himself one of the most learned men in the colonies He studied Newton's principles and wrote his own critique, *The Principles of Action in Matter* (1751) He became a botanist of the new Linnaean system of classifying flora (as did his daughter, Jane Colden) and made significant contributions to the medical literature of the colonies He also published his *History of the Five Indian Nations* (1727), a valuable source on the Iroquois tribes His letter books (1877–78) and letters and papers (7 vols , 1918–23) were published by the New York Historical Society See biography by A M Keys (1906)

Colden, Jane, 1724–66, American botanist, daughter of Cadwallader Colden She mastered the Linnaean system of botanical classification and prepared an illustrated work on the flora of New York state Her scientific descriptions ranked with those of leading botanists of her day. Among her correspondents were Alexander Garden and John Bartram In 1759 she married William Farquhar

cold frame, sun-heated board frame covered with a removable top of glass or other transparent material and sunk into the ground Its greatest value is in providing a means of starting seeds in early spring while the outdoor temperature is still cold Most seeds may be sown in a cold frame from four to six weeks before the average frost-free date. It may

also be used as a propagating bed for cuttings, for wintering plants not hardy enough to remain in the open ground, and for hardening plants from the greenhouse or hotbed preparatory to setting them outside. A cold frame which is heated becomes a HOTBED Experiment stations issue directions for construction

Cold Harbor, Old, and **New Cold Harbor,** two localities, c 10 mi NE of Richmond, Va In the Civil War the battle of Gaines's Mill in the SEVEN DAYS BATTLES (1862) was fought near Old Cold Harbor, New Cold Harbor was the scene of the last battle of Grant's bloody WILDERNESS CAMPAIGN in 1864

colds, infections of the upper respiratory tract involving the mucous membrane of nose, throat, or larynx. Colds occur especially at the change of seasons and in some persons are associated with chilling No one bacterium is known to be the cause, there is some evidence that the cause is a virus In addition to the nasal discharge, obstruction to breathing, loss of sense of smell and taste, and loss of voice if the larynx is affected, there is some degree of toxemia, evidenced by fatigue, and there may be fever A cold usually clears up in from 3 to 10 days There may be a spread of infection to the sinuses, bronchi, lungs, and (in children) to the middle ear and the mastoid cells. The infection may be spread by coughing, and sneezing, isolation is therefore advisable Rest, especially in the early stages, inhalation of steam from water containing tincture of benzoin, and the intake of ascorbic acid (vitamin C) and fluids, e g , water and fruit juices at frequent intervals, are effective in treatment Also helpful are local applications of argyrol and nose drops containing either penicillin or epinephrine

cold sores, fever blisters, and **herpes** (hûr'pēz) The occurrence of single or grouped blisters on mucous membranes of the mouth, nose, and genitals or on the skin is often associated with infections of the respiratory tract, such as COLDS and PNEUMONIA, and also with epidemic MENINGITIS and MALARIA In some persons there are recurrent attacks, possibly caused by an unsuspected focus, such as sinus infection, while in others the sores are attributed to digestive upsets They usually ulcerate and a scab forms which falls off in from 7 to 10 days, leaving no scar Astringents are soothing, or the sores may be protected with collodion, but when they are ulcerated, zinc oxide ointment is advised See also SHINGLES.

Cold Spring, 1 Village (pop 1,427), central Minn , SW of St Cloud and on the Sauk, in a region of farms and granite quarries **2** Residential village (pop 1,897), SE N Y , on the east bank of the Hudson and S of Beacon, in a dairy region, settled before the Revolution, inc 1846

Cold Spring Harbor, unincorporated village, on the north shore of Long Island, SE N Y , on Cold Spring Harbor It is included in the town of Huntington. In the early and middle 19th cent it was a whaling port, with several industries connected with whaling A noted marine biological station (part of the Long Island Biological Association), the department of genetics of Carnegie Institution, and a state fish hatchery are here

cold storage · see REFRIGERATION

Coldstream, burgh (pop 1,233), Berwickshire, Scotland, near the Tweed General Monck (later duke of Albemarle) here raised troops in 1659–60 for his march into England, which resulted in the restoration of Charles II to the throne The regiment became known as the Coldstream Guards, one of the regiments of guards of the royal household

Coldwater, 1 City (pop 1,214), co seat of Comanche co , S Kansas, SE of Dodge City near the Oklahma line, inc 1884 It is a trade center for a wheat area **2** Industrial city (pop 7,343), co seat of Branch co., S Mich., SSE of Battle Creek and on the Coldwater tributary of the St Joseph, settled 1830, inc as a village 1837, as a city 1861 It is a farm trade center in a lake region The old Sac Trail crossed here. The city's varied products include cement and plastics The Coldwater State Home and Training School is in the city 3 Village (pop 2,019), W Ohio, SW of Lima. Farm implements are made here

Coldwell, Major James, 1888–, Canadian political leader, b. England He went to Canada in 1910, and after teaching in rural schools in Alberta and Saskatchewan, he became (1919) principal of a school in Regina. He served (1921–32) as alderman in Regina. As a CO-OPERATIVE COMMONWEALTH FEDERATION candidate, Coldwell was elected (1935) to the Canadian House of Commons He became parliamentary leader of the party in 1940 and its national leader in 1942, upon the death of J. S. Woodsworth His *Left Turn, Canada* (1945) discusses the objectives of the Co-operative Commonwealth Federation.

Cole, Arthur Charles, 1886–, American historian, b. Ann Arbor, Mich , educated at the Univ. of Michigan (B.A., 1907; M.A., 1908) and the Univ. of Pennsylvania (Ph D , 1911). He taught at Michigan (1907–8) and at the Univ. of Illinois (1912–20) before becoming professor of history at Ohio State Univ. (1920–30) and at Western Reserve Univ. (1930–44). In 1944 he became professor of history at Brooklyn College. Among his works are *The Era of the Civil War, 1848–1870* (1919; Vol. III of *Centennial History of Illinois*), *The Irrepressible Conflict, 1850–1865* ("History of American Life" series, Vol VII, 1934), and *A Hundred Years of Mount Holyoke College* (1940).

Cole, Charles Woolsey, 1906–, American historian and educator, b Montclair, N.J., grad Amherst (B A., 1927) and Columbia (M.A., 1928; Ph D , 1931) He was an instructor (1929–35) and professor (1940–46) of history at Columbia and associate professor (1935–37) and professor (1937–40) of economics at Amherst In 1946 he became president of Amherst He wrote *French Mercantilist Doctrines before Colbert* (1931), *Colbert and a Century of French Mercantilism* (1939), *Economic History of Europe* (with Shepard B. Clough, 1941, rev ed , 1946), *French Mercantilism, 1683–1700* (1943), and *History of Europe since 1500* (with Carleton J H Hayes and Marshall J Baldwin, 1949)

Cole, George Douglas Howard, 1889–, English economist and novelist He was educated at Oxford and was a university reader in economics (1925–44) A leading exponent, for many years, of GUILD SOCIALISM, he later returned to his original Fabianism, acting as chairman of the FABIAN SOCIETY from 1939 to 1946 He has written a vast number of books, including *Self-Government in Industry* (1917), *Guild Socialism Restated* (1920), *Principles of Economic Planning* (1935), *Socialism in Evolution* (1938), *Local and Regional Government* (1947), and *World in Transition* (1949) His wife, **Margaret Isabel (Postgate) Cole,** 1893–, collaborated with him in writing *The Intelligent Man's Review of Europe Today* (1933) and other political works and over 30 detective stories Mrs Cole has lectured at Cambridge and is the author of *Marriage Past and Present* (1938), *Beatrice Webb a Memoir* (1945), *Growing Up into Revolution* (1949), and other works

Cole, Sir Henry, 1808–82, British official and art critic He shared in establishing the Record Office and was an organizer of the Great Exhibition of 1851 He was a founder of the South Kensington Museum, London, and of the National Training School, from which developed the Royal College of Music, London

Cole, King, in British tradition, a king of the 3d cent A false etymology connected him with Colchester His latter-day fame he owes to a nursery rhyme, "Old King Cole was a merry old soul "

Cole, Margaret Isabel (Postgate): see COLE, GEORGE DOUGLAS HOWARD

Cole, Thomas, 1801–48, American landscape painter, b England His large allegorical paintings, such as *The Expulsion from Eden* (Metropolitan Mus), were popular, but he is best known as a pioneer of the Hudson River school, whose landscapes of New York state and New England may be seen in many leading collections

Cole, Timothy, 1852–1931, American wood engraver, b London In 1875 he settled in New York and entered the employ of the *Century Magazine* (then *Scribner's*) For 29 years, before the advent of photoengraving destroyed the popularity of the wood engraving as a reproduction process, his reproductions of the great paintings of Europe appeared in that magazine and won for him wide recognition at home and abroad His tonal treatment of the woodengraving reproduction represented a final stage in the development of the process His work was published in book form—*Old Italian Masters* (1892), *Dutch and Flemish Masters* (1901), *English Masters* (1902), and *French Masters* (1910) He also wrote *Wood Engraving* (1916) and *The Magic Line* (1917) See R C Smith, *Wood Engraved Work of Timothy Cole* (1925), A P Cole, *Timothy Cole, Wood Engraver* (1936)

Colebrook, 1 Town (pop 547), NW Conn. It was settled in 1765 and incorporated in 1779 and includes the little villages of Colebrook, North Colebrook, Colebrook River, Mill Brook, and Robertsville Colebrook village still has 18th-century houses, notably that of the younger Jonathan Edwards, pastor here from 1795 to 1799 The town had ironworks c 1800 A beautiful region of hills and streams, it is favored as a summer resort. **2** Agricultural town (pop 2,096), NW N H , on the Connecticut at the confluence of the Mohawk and W of Dixville Notch, granted 1770 to Sir George Colebrook and others, inc 1795 Beloit, Wis., was settled from Colebrook

Coleman, Charles Caryl, 1840–1928, American painter of landscapes and religious subjects, b Buffalo, where he was a pupil of William Beard He finally settled in Capri, where he painted Vesuvius in many phases, one painting of an eruption is now in the Brooklyn Museum.

Coleman, Glenn, 1887–1932, American painter and lithographer, b. Springfield, Ohio. He studied at the Indianapolis Industrial Art School and at the New York School of Art under Henri and Shinn He is famous for his paintings and lithographs of New York street scenes and spent most of his life in the poorer sections of lower Manhattan. Often obliged to support himself by other work, he continued to paint and late in life achieved a high reputation. He is represented in the museums of Brooklyn, Newark, and Washington, D C., the Metropolitan Museum, and the Luxembourg Museum, Paris. *Speakeasy, Minetta Lane at Night,* and *Downtown Street* are among his well-known paintings See monograph by C. A Glassgold (1932).

Coleman, town (pop 1,809), SW Alta , on Crowsnest river and SSW of Calgary It is in a coalmining, ranching, and lumbering district

Coleman, city (1940 pop 6,054; 1947 estimated pop 7,800), co seat of Coleman co , W central Texas, NW of Brownwood; founded 1876, inc 1877. The city, with stone houses and wide streets, is the market and processing center of a region yielding oats and other grains, cotton, oil and gas, cattle, sheep, and turkeys Lake Scarborough, the city reservoir, and a newly projected reservoir near by are included in plans for the Colorado river

Colepepper, John: see CULPEPPER, JOHN CULPEPPER, 1ST BARON

Coleraine (kōlrān'), municipal borough (pop 9,180), Co Londonderry, Northern Ireland, on the Bann river 4 mi from its mouth It is a port with an improved harbor Coleraine's industries include distilling, linen milling, the curing of ham and bacon, bog iron mining, and salmon fishing. The site of the town was given (1613) to the corporations of the City of London by James I There is a stone bridge across the Bann to Waterside

Coleraine (kō"lūrān'), village (pop 1,325), NE Minn , on Trout Lake NE of Grand Rapids and on the Mesabi iron range, in a region of farms, woods, and lakes It was built by a mining company for its employees

Coleridge, Hartley (kōl'rĭj), 1796–1849, English author, eldest son of Samuel Taylor Coleridge Reared in the household of the poet Southey after the estrangement of his parents, Hartley Coleridge went to Oxford and gained a fellowship at Oriel, but was removed because of intemperance Shy and introspective, he tried teaching in London, at which he was a failure His *Biographia Borealis,* a series of critical biographies, appeared in 1833, as well as a volume of poems Coleridge retired to the Lake District, where he remained until his death In 1840 he edited Massinger and Ford, with biographies His brother Derwent published several volumes of his verse and prose in 1851 See his letters (ed by E L Griggs and G E Griggs, 1937), biography by E L Griggs (1927)

Coleridge, Samuel Taylor, 1772–1834, English poet, critic, and philosopher, b Ottery St Mary, Devonshire As a charity pupil at Christ's Hospital, London, he was a friend of Charles Lamb His early interest in the classics, medicine, metaphysics, and finally poetry displayed precocity and imagination, but his instability appeared when in 1793 he interrupted his Cambridge career (1791–94) with a short interval in the army as Silas Tomkyn Comberback With his friend Robert Southey he projected in 1794 a utopian scheme in America called pantisocracy, which came to nothing In 1795 Coleridge married Sara Fricker, sister of Southey's fiancée He started an unsuccessful periodical, the *Watchman* (1796), and collected his *Poems on Various Occasions* (1796) Shortly after he took his family to live at Nether Stowey, William Wordsworth and his sister Dorothy settled near by (1797) In the stimulating discussions which followed, Wordsworth and Coleridge planned their joint volume, *Lyrical Ballads* (1798), both for its preface and for its poems a seminal book in the romantic movement in English literature Coleridge's chief contribution was "The Rime of the Ancient Mariner" By the end of 1798 he had written also "Christabel," Part I, and "Kubla Khan" (pub 1816) After Coleridge had spent a year (1799–1800) in Germany, where he made his excellent translation of Schiller's *Wallenstein,* he and his family settled in the Lake Country with the Southeys There Coleridge wrote the rest of his better poetry—"Christabel," Part II, "Dejection an Ode," and "The Pains of Sleep" His drug habit, begun with laudanum c 1796, was fixed by 1802, and a year in Malta (1804–5) failed to restore his health Returning to England, he gave several series of lectures on literature By 1808 he was completely estranged from his family He conducted another ill-fated periodical, the *Friend* (1809–10), and his drama *Remorse* was successfully produced in London (1813) Finally, in an attempt to cure his opium addiction, he went in 1816 to live under the care of Dr James Gillman at Highgate, and remained the rest of his life In 1817 his *Sybilline Leaves,* poetry, and *Biographia Literaria,* a platonic dialogue on imagination, both appeared, and in 1818 he gave another series of lectures to popularise his ideas of rules for judgments of imaginative works. His later publications include *Aids to Reflection* (1825) and an *Essay on Church and State* (1830) In the growth of the romantic spirit in English literature, Coleridge was an important philosophic leader. He was a valuable literary critic, a fascinating conversationalist, and a poet whose power to produce musical verse tinged with the supernatural places him among the great figures of literature. *Specimens of the Table-Talk* (2 vols., 1835), *Literary Remains* (4 vols.,

1836–39), and *Confessions of an Enquiring Spirit* (1840) were edited by his nephew, H N. Coleridge, and *Biographia Literaria* (1847) by him and S. T. Coleridge's daughter Sara. Besides editions of his poetic works, see *Anima Poetae* (ed by E H Coleridge, 1895); *Shakespearean Criticism* (1930) and *Miscellaneous Criticism* (1936), both ed by T. M Raysor; collections of letters ed. by E H. Coleridge (1895), E. A. Turnbull (1911), and E. L Griggs (1932), R. W. Armour and R F Howes, *Coleridge the Talker* (1939) See J L Lowes, *The Road to Xanadu* (enl ed , 1930); biographies by J D. Campbell (1894), H I'A Fausset (1926), E K Chambers (1938), and Lawrence Hanson (1939), studies by J H Murhead (1930), I. A Richards (1935), and C. R Sanders (1942) His daughter, **Sara Coleridge**, 1802–52, has literary standing in her own right Her translation of *An Account of the Abipones* (1822) shows unusual feeling for both Latin and English. Her best work is *Phantasmion* (1837), a fairy tale which is still read See *Memoir and Letters* (1873), biography by E L Griggs (1941)

Coleridge-Taylor, Samuel, 1875–1912, English composer, son of a Negro physician of Sierra Leone and an Englishwoman He studied violin and composition at the Royal College of Music in London He wrote many songs and some chamber music but is best known for his cantatas—the Hiawatha trilogy (1898–1900) and *A Tale of Old Japan* (1911) See J F Coleridge-Taylor, *Genius and Musician* (1943)

Coleroon, river, India see CAUVERY

Colet, John (kŏ'lĭt), 1467?–1519, English humanist After his graduation from Oxford, he studied in Italy and France Returning, he won renown by his exegetical lectures (1497–1504) at Oxford on Pauline theology He was one of a group of humanists which included Grocyn, Thomas Linacre, Sir Thomas More, and Colet's friend, Erasmus In 1505 Colet became dean of St Paul's, London, and in 1509 he planned the new St Paul's School, which he refounded and endowed from his private fortune With William Lyly, the school's first headmaster, and Erasmus, he collaborated on a Latin grammar which was later called the Eton grammar and used by generations of schoolboys Colet died before the Reformation was fairly begun, and his relation to it has been disputed It is true that he criticized abuses in the Church and called upon individual men, especially churchmen, to reform, but so did many others who remained staunch Catholics in the Reformation In the spread of humanism his writings were less important than his influence See Frederick Seebohm, *The Oxford Reformers of 1498* (1867), biographies by J H Lupton (rev ed , 1909) and J A R Marriott (1933)

Colet, Louise Révoil (lwēz' rāvwal' kōlā'), 1810–76, French poet and novelist She was the hostess of a salon, to which the intellectuals of the time, Victor Cousin, Gustave Flaubert, and others, resorted She is best known for the publication of the correspondence of Mme Récamier with Benjamin Constant (1849) and for *Lui, roman contemporain* (1859), a fictionized account of her relations with Flaubert

Colette (Sidonie Gabrielle Claudine Colette) (sēdônē' gäbrēĕl' klôdēn' kôlĕt'), 1873–, French novelist Her first novels, the famous *Claudine* stories, were published in collaboration with her first husband Willy (pseud of Henri Gauthier-Villars) They include *Claudine à l'école* (1900, Eng tr , *Claudine at School*, 1930), *Claudine à Paris* (1901, Eng tr , *Young Lady of Paris*, 1931), and *Claudine s'en va* (1903, Eng tr , *The Innocent Wife*, 1934) Her analytical studies of women have made her famous, and among the many which have been translated into English are *Chéri* (1920, Eng tr , 1929) and *La Chatte* (1933, Eng tr , *The Cat*, 1936) In 1910 she married Henri de Jouvenel

Colfax, Schuyler (skī'lur kōl'făks), 1823–85, Vice President of the United States (1869–73), b New York city He moved in boyhood to Indiana First a Whig editor, he later helped to organize the Republican party in Indiana He served in the U S. House of Representatives (1855–69), being speaker from 1863 to 1869 In 1868 he was elected Vice President under Ulysses S Grant Colfax was involved in the CRÉDIT MOBILIER OF AMERICA scandal, which effectually ended his political career. See biography by O J Hollister (1887)

Colfax. **1** City (pop 2,252), central Iowa, on Skunk river and E of Des Moines, in a coal-mining area, inc 1875 It developed with the exploitation of mineral wells **2** Town (pop 1,354), parish seat of Grant parish, central La , on the Red River, founded c.1870, inc 1878 It was a busy port in the early steamboat days The Colfax riot occurred here in April, 1873, when Negroes, claiming they had been elected, tried to assume parish offices, many Negroes and three whites were killed **3** City (pop 2,853), co seat of Whitman co., SE Wash , on the Palouse river and S of Spokane, in a rich farm area; settled 1870, inc 1878

Colgate, William (kōl'gāt), 1783–1857, American manufacturer and philanthropist, b. Kent, England. Arriving in the United States in 1795, Colgate learned candlemaking in Baltimore and New York. In 1806 he set up a tallow factory in New York, and later engaged in soapmaking. In 1847 he moved his factory to Jersey City, and by 1850 Colgate began producing fancy soaps and toilet preparations He helped organize several Bible societies and a nonsectarian religious society and contributed amply to the institution later called Colgate Univ

Colgate University, at Hamilton, N Y ; nonsectarian, for men; chartered 1819, opened as a Baptist seminary 1820, called Madison Univ 1846, renamed for William COLGATE 1890 The university is a pioneer in individualized education and survey courses

Colhozeh (kōlhō'zĕ) [Heb ,=all seeing], Judahite of Nehemiah's time Neh 3 15, 11 5

colic (kŏ'lĭk), intense pain caused by spasmodic contraction of one of the hollow organs, e g , the stomach, intestines, gall bladder, and ureter It may last from a minute to hours and may be accompanied by nausea and vomiting and by spasmodic movements of the legs Intestinal colic may be caused by gas or by irritant food This type in infants may follow a sudden large feeding, improper feeding, or constipation The local application of heat, oil of peppermint by mouth, and enemas give relief from the attack To prevent attacks, the diet must be regulated and constipation treated The presence of a calculus or stone within an organ may cause colic See also LEAD POISONING

Coligny, Gaspard de (gaspär' dŭ kōlēnyē'), 1519–72, Huguenot leader A nephew of Anne, duc de MONTMORENCY, he made an early appearance at the French court He distinguished himself at Ceresole (1544) in the Italian Wars, was promoted colonel general of infantry, and in 1552 became admiral of France He defended Saint-Quentin against Emmanuel Philibert of Savoy (1557), but was taken prisoner and was not released until 1559 In the same year he made public profession of his conversion to Protestantism He was called in by CATHERINE DE' MEDICI as an adviser or hostage at the time of the conspiracy of AMBOISE (1560) He and Louis I de CONDÉ commanded the Huguenots after the massacre at Vassy (1562) and also in the second of the wars of RELIGION (1567–68) An unsuccessful attempt to capture Coligny and Condé at Noyers (1568) brought on the third war, in which Coligny became sole leader, nominally as adviser to the young Henry of Navarre (later HENRY IV of France) Defeated at Moncontour, he was victor at Arnay-le-Duc (1570) and negotiated the Peace of St Germain (1570) Reconciled with Catherine and CHARLES IX (1571), he became the king's favorite adviser To circumvent Spain he invaded the Low Countries but the plan was broken by the defeat at Mons On Aug 22, 1572, he escaped the assassination ordered by Catherine and by François de GUISE because of Coligny's increasing influence over Charles, two days later he was the first victim to perish in the massacre of SAINT BARTHOLOMEW'S DAY See Sir Walter Besant, *Gaspard de Coligny* (1879), Eugène Bersier, *Coligny the Earlier Life of the Great Huguenot* (1884)

Colima (kōlē'mä), state (2,010 sq mi ; 1946 estimated pop 91,546), W Mexico, on the Pacific One of the smallest in area and the smallest in population of the Mexican states, Colima is wedged between Jalisco, which nearly surrounds it, and Michoacán It includes the islands of Revilla Gigedo off the coast On the mainland coast tropical plains produce cotton, sugar, and rice Most of the state is within the cool highlands of the Sierra Madre Occidental The smoking volcano, Colima (12,631 ft high), and the neighboring peak, Nevado de Colima (14,235 ft high), are just across the state line in Jalisco On the mountain slopes grows some of Mexico's finest coffee Iron, copper, and some gold are mined, and cattle are raised The port is MANZANILLO The largest city is **Colima** (pop 22,601), the capital, founded in 1523 by Gonsalo de Sandoval It has a pleasant semitropical atmosphere. Frequent and severe earthquakes, the most recent in 1941, have caused recurrent and serious damage

Colin, Alexander: see COLINS, ALEXANDER

Colines, Simon de (sēmôN' dŭ kōlēn'), d 1546, Parisian printer. He was associated with the elder Henri ESTIENNE and continued his work Colines used beautiful roman and italic types and a Greek type, with accents, that was better than its predecessors He is believed to have designed some of his types, some were designed by Geofroy TORY His books, often in small formats, show excellent taste and craftsmanship

Colins, Colin, or **Colyn, Alexander** (ălĭksän'drŭ kōlĭn'), c 1527–1612, Flemish sculptor He executed most of the reliefs in marble on the tomb of Maximilian I at Innsbruck

Coliseum: see COLOSSEUM.

Coll, island (pop. 322), off W Scotland, in Argyllshire, one of the Inner Hebrides It is NW of Mull

collar. Torques (metal circlets, usually twisted) date from the Bronze Age and are worn by primitive peoples Livery collars were neck chains introduced in the 14th cent as badges of alliance or fealty Neck chains are also worn as insignia of European orders of knighthood, such as the Order of the Garter. A medieval forerunner of the collar as a dress adjunct was the gorget, which enveloped the throat and is now seen in the dress of nuns. The 16th and 17th cent. saw the ruff, at first a circular fluted collar of fine starched material, become a winglike extension often made of fine lace or embroidery and rising above the coiffure This gave way to the broad, falling collar Later, neckcloths and cravats led the fashion for men, while women's collars have varied widely from fichus to the high, tight structures of the 1890s In armor the neckpiece was called the gorget A band of metal forged about the throat has figured as a symbol of the enslaved See K. M Lester and B V Oerke, *Illustrated History of Accessories of Dress* (1940)

collateral, something of value given or pledged as security for payment of a loan Collateral consists usually of financial instruments, such as stocks, bonds, and negotiable paper, rather than physical goods, although the latter may also be accepted as such In case of default, the creditor may sell the collateral and apply the money thus acquired to payment of the debt, charging the debtor with any deficiency or crediting him with any surplus The borrower may usually substitute other collateral for that held by the lender if it is acceptable to the latter Such a privilege is particularly useful to borrowers who buy and sell securities Merchandise collateral—such as negotiable warehouse receipts, bills of lading, and trust receipts—is also used, as is personal collateral, including deeds, mortgages, leases, and other rights in real estate Other good collateral may include bills of sale of movable goods, such as crops, machinery, furniture, livestock, and savings-bank passbooks

collect (kŏl'ĕkt) [Late Latin,=meeting], in Western liturgies, short prayer proper to an occasion, often asking a particular favor The collect is said, typically, at MASS just before the epistle and at vespers It occurs correspondingly in the Anglican offices Many collects are very ancient, especially those of the Sundays and great old feasts. Their language is very terse

collective bargaining, process of discussion and negotiation between two parties as to the terms or conditions under which a continuing service is to be performed In labor relations it is a procedure by which an employer or employers agree upon the conditions of work by bargaining with representatives of a labor organization appointed by the union The purpose is to secure higher wages, shorter hours, better working conditions, and job security The merits of collective bargaining have been argued by both opponents and proponents of the process, the former maintain that it deprives the worker of his individual liberty to dispose of his service, while the latter point out that without the union's protection the worker would be subject to the dictation of the employer Juridically speaking, the refusal by the employer to bargain collectively with the representatives of his employees was made an unfair labor practice by the National Labor Relations Act of 1935, and the same restraint was imposed upon labor unions by the Taft-Hartley Act of 1947 See W H Hutt, *The Theory of Collective Bargaining* (1930), Z G Dickinson, *Collective Wage Determinant* (1941); L. J. Smith, *Collective Bargaining* (1946).

college: see UNIVERSITY

Collège de France (kôlĕsh' dŭ frās'), institution founded in Paris c 1530 by Francis I primarily for the encouragement of humanism It has always been independent of any university and free from supervision Its lectures are open to the public without matriculation or any fee, it gives no examinations, and it grants no certificates or degrees The range of its studies has broadened, and its distinguished faculty has increased in number

College of Physicians and Surgeons. see COLUMBIA UNIVERSITY

College of the City of New York: see NEW YORK, COLLEGE OF THE CITY OF, and CITY COLLEGE

College Park. **1** City (pop 8,213), NW Ga , southern suburb of Atlanta, inc 1891 **2** Unincorporated town, W central Md , NE of, and near, Washington, D C It is the seat of part of the Univ of Maryland (see MARYLAND, UNIVERSITY OF)

Colleges of the Seneca, The, at Geneva, N Y , since 1943 the corporate title of Hobart College (affiliated Episcopalian, for men) and William Smith College (nonsectarian, for women, opened 1908) Hobart College, chartered in 1822, was called Geneva College until 1852 A pioneer medical school was transferred to Syracuse Univ. in 1872 Citizenship education is stressed Benjamin HALL was president of Hobart from 1836 to 1858.

College Station, city (pop 2,184), E central Texas, near Bryan; inc 1938 The Agricultural and Mechanical College of Texas (see TEXAS, AGRICULTURAL AND MECHANICAL COLLEGE OF) is here

Collegeville, borough (pop 976), SE Pa , NW of Philadelphia near Norristown It is the seat of Ursinus College (coeducational; 1869)

Colleoni, Bartolomeo (bärtōlōmā'ō kōl-lāō'nē), 1400–1475, Italian soldier of fortune He fought in the wars of Venice and Milan, changing sides so often that he came to be distrusted by both In 1454 he deserted Milan for the last time and became

generalissimo of Venice, a post he held till his death Two works of art are associated with him—the Cappella Colleoni in his native city, Bergamo, and the celebrated equestrian statue by Verrocchio in Venice

Colles, Christopher (kŏls), 1738–1816, American engineer, b Ireland He came to the United States possessed of a good scientific education He was an instructor in artillery in the Continental army, one of the first to propose and plan a waterworks system for New York city, an ardent advocate of canals, roads, and other forms of internal improvements, an inventor and manufacturer of ingenious devices, and, in his later years, superintendent of the American Academy of Fine Arts His *Survey of Roads of the United States* (1789) and *The Geographical Ledger and Systematized Atlas* (1794) have historical value His *Proposals for the Settlement of Western New York* (1785) contains one of the first proposals for a canal across the state

Collett, Camilla (Wergeland) (kämē'la vĕr'gulän kŏl'lĕt), 1813–95, Norwegian novelist, sister of Henrik Wergeland She wrote a series of novels which were predecessors of the social and feminist dramas of Henrik Ibsen Among them are *Daughters of the County Magistrate* (1853–55), *In the Long Nights* (1863), *Last Leaves* (1868–72), and *Against the Stream* (1879) Oslo has a statue to her memory

Colletta, Pietro (pyā'trō kōl-lĕt'ta), 1775–1831, Neapolitan general and historian Though he held important posts under King Joachim Murat, he was made commander of Salerno after the Bourbon restoration He took part in the unsuccessful revolution of 1820 and was exiled He retired to Tuscany, where he took up writing His major work is *History of the Kingdom of Naples, 1734–1825* (1834, Eng tr , 2 vols , 1858)

collie, dog bred originally as a shepherd dog, probably first in Scotland From the latter part of the 19th cent it has been known as a show dog and a pet Of the two varieties the rough-coated or long-haired collie is more common than the smooth-coated Except for the difference in length of hair they are very similar It is believed that in early times the rough-coated collie herded the sheep and that the smooth-coated drove animals to market The collie has a flat skull, tapering muzzle, and small ears Males stand from about 22 to 24 in at the shoulder The rough-coated variety has an abundant mane and frill but the face is smooth In color the collies are usually mixtures of some shade of brown or tawny with white or black or are all white

Collier, Arthur, 1680–1732, English philosopher His *Clavis Universalis, or, A New Inquiry after Truth* (1713) sets forth the idea that reality lies in imagination and sense perception, varying degrees of the same phenomenon, and that the imitation of sensation occurs through the operation of a divine power By this and by his denial of the reality of the external world, Collier's speculations, which are established as independent, coincide remarkably with the subjective idealism of Berkeley

Collier, Jeremy, 1650–1726, English clergyman He was imprisoned as a nonjuror and later was outlawed (1690) because of his action in absolving on the scaffold two of those involved in the assassination plot against William III Collier's principal fame comes from his *Short View of the Immorality and Profaneness of the English Stage* (1698), which caused much bitterness in theatrical quarters In 1713 he was ordained a nonjuring bishop

Collier, John, 1884–, American social worker and author, commissioner of Indian Affairs (1933–45), educated at Columbia and the Collège de France He was civic secretary (1909–19) of the People's Institute, New York city, and in 1910 he helped found the National Board of Review for Motion Pictures, of which he was secretary until 1914 From 1915 to 1919 he was director of the National Training School for Community Centers, then director of community organizations (1919–20) for the state of California He was director of social science training (1921–22) at the State Teachers College, San Francisco, but in 1922 he became executive secretary of the American Indian Defense Association, Inc , and in 1926 editor of the magazine *American Indian Life*, holding both positions until 1933 In 1941 he became director of the National Indian Institute, U S A , and in 1945 he retired He became professor of sociology, however, at the College of the City of New York in 1947 In addition to works in verse, he is author of *Indians of the Americas* (1947) and *Patterns and Ceremonials of the Indians of the Southwest* (1949)

Collier, John Payne, 1789–1883, English critic, editor, and forger, b London As librarian to the duke of Devonshire, he was able to forge marginalia and signatures on so many original documents, especially Shakesperian ones, that his writings on them must be used warily

Collier, Peter, 1835–96, American agricultural chemist and research worker, b. Chittenango, N Y. His investigation of sorghum was the first important chemical research problem worked out in the U S Dept of Agriculture As director of the Geneva experiment station in New York state, he influenced scientific investigations toward practical applications

Collierville, town (pop 1,042), SW Tenn , ESE of Memphis, in a cotton, dairy, and livestock area.

Collingdale, borough (pop 8,162), SE Pa , near Philadelphia, inc 1891

Collingswood, borough (pop 12,685), SW N J , near Camden, settled 1682, inc 1888

Collingwood, Cuthbert Collingwood, Baron (kŭth'bŭrt kŏ'lĭng-wo͝od), 1750–1810, British vice admiral He commanded his ship brilliantly at Cape St Vincent in 1797 and in other engagements. Vice admiral at the battle of Trafalgar (1805), Collingwood had command after Admiral Horatio Nelson was fatally wounded He became commander in the Mediterranean in 1807 See biography by Geoffrey Murray (1936)

Collingwood, municipality (pop 29,789), northeast suburb of Melbourne, Victoria, Australia There are woolen and hosiery mills

Collingwood, town (pop 6,270), S Ont , at the south end of Georgian Bay With a well-protected harbor, it has one of the largest shipbuilding plants and one of the largest dry docks in Canada, many of the lake freighters are constructed here There is also a government fish hatchery The town is named for Baron COLLINGWOOD

Collins, Anthony, 1676–1729, English theologian, friend of John Locke He set forth the position of the deists and defended the cause of rational theology His *Discourse on Free Thinking* (1713) was answered by many divines and was satirized by Jonathan Swift His *Inquiry Concerning Human Freedom* (1715) is an admirable statement of the necessitarian standpoint

Collins, Archie Frederick, 1869–, American electrical physicist, b South Bend, Ind He invented a wireless telephone (1899) and a rotating oscillation arc (1909) and discovered the effect of electric waves on brain cells His writings include *Wireless Telegraphy* (1905)

Collins, Edward Trowbridge, 1887–, American baseball player, b Millerton, N Y He played at second base with the Philadelphia Athletics (1906–14, 1927–30) and the Chicago White Sox (1915–26) in the American League He made over 3,300 base hits, maintained a lifetime batting average of .333, and stole over 740 bases during his major-league career He was elected (1939) to the National Baseball Hall of Fame

Collins, Frank Shipley, 1848–1920, American botanist, b Charlestown, Mass An authority on algae, in his work *The Green Algae of North America* (1909) and other studies he made important contributions to the biological theories of sex

Collins, James Franklin, 1863–1940, American botanist, b North Anson, Maine He taught at Brown (1899–1911, 1913–38) and was curator of the herbarium there (1894–1911, 1924–38) From 1911 to 1933 he was a pathologist of the U S Dept of Agriculture With H W Preston he wrote *Key to New England Trees* (1909) and *Illustrated Key to Trees of Northeastern United States and Adjacent Canada* (1912)

Collins, Michael, 1890–1922, Irish leader of the SINN FEIN He spent the years from 1907 to 1916 in England, during which period he joined the Irish Republican Brotherhood (Fenians) and the National Volunteers He took part, under Patrick Pearse, in the Easter Rebellion in Dublin in 1916 and was imprisoned the rest of the year His leadership in Sinn Fein began when he was one of the few rebels to escape the general arrest of June, 1918 Thereafter he organized alone the battle which resulted in the breakdown of British government in Ireland and eventually forced the British to sue for peace He organized the loan which raised £400,000 in Ireland and supervised the guerrilla warfare In 1921 he went to London and signed the treaty, returning to join Arthur GRIFFITH in setting up the Free State Ten days after Griffith's sudden death Collins was assassinated Collins's success was due not only to his energy and imagination, but also to a brilliant personal magnetism and to daring exploits See biographies by Piaras Béaslaí (1926) and Frank O'Connor (1937)

Collins, Wilkie (William Wilkie Collins), 1824–89, English novelist, son of the painter William Collins His first published work was a biography of his father (1848) The author of some 30 novels, Collins is best known for two mystery stories, *The Woman in White* (1860) and *The Moonstone* (1868), which is considered the first full-length detective story in English and one of the best of its genre Wilkie Collins was an intimate friend of Dickens, in whose various periodicals many of Collins's novels first appeared, they collaborated on two plays, *A Message from the Sea* (1861) and *No Thoroughfare* (1867) See *Letters of Charles Dickens* (1880), S M Ellis, *Wilkie Collins, Le Fanu, and Others* (1931)

Collins, William, 1721–59, English poet, educated at Oxford His *Persian Eclogues* (1742), published when he was 17, show his precocity and lyric vein. He had written less than 2,000 lines when insanity overtook him, but he had established himself as one of the earliest romantic poets Among his odes are "To Evening," "To Simplicity," and the "Ode Written in 1746," beginning "How sleep the brave " See biographies by H. W. Garrod (1928) and E. G. Ainsworth, Jr (1937).

Collins, town (pop 1,100), co seat of Covington co., S central Miss., NW of Hattiesburg, in a farm area

Collinsville. 1 City (pop 9,767), SW Ill., NE of St Louis, in a coal and farm area, settled 1817, inc as a village 1855, as a city 1872. Chemicals, food products, and bricks are among its manufactures **2** City (pop 1,927), NE Okla , NE of Tulsa, in an agricultural area producing also livestock and some oil and gas

Collodi, Carlo (kär'lō kōl-lō'dē), pseud of **Carlo Lorenzini** (lōrĕntsē'nē), 1826–90, Italian author A prolific journalist, he wrote didactic tales for children, the most famous being *Pinocchio the Story of a Puppet* First written in 1880 for the *Giornale dei bambini*, the story appeared in book form in 1883 and soon became one of the most read of all juvenile classics Collodi, however, received little for it Of the book Benedetto Croce said, "The wood out of which Pinocchio is carved is humanity itself " Since the first English translation (1892) there have been several others in innumerable editions, perhaps the best is that by May M Sweet (1927) *Pinocchio* was filmed by Walt Disney in 1939

collodion (kulō'dēun), a solution of PYROXYLIN in a mixture of alcohol (one part by volume) and ether (three parts) Upon exposure to air, the mixed solvents evaporate, leaving a thin, colorless, elastic film covering the surface upon which the collodion has previously been spread It has been used extensively in photography in preparing dry plates, it acts as the carrying agent for the salts affected by light In medicine, it is employed to supply a protective covering for open cuts, but only in those cases where infection has not set in, since it is not antiseptic

colloid (kŏ'loid) A substance which is dispersed in a solvent in particles larger than molecules, but still too small to be seen is called a colloid, and its mixture with the solvent, a colloidal solution Colloidal solutions are not true solutions, for in a true SOLUTION the particles are considered to be of molecular fineness They differ from true solutions in other ways colloidal particles do not pass through certain membranes, whereas the particles of a true solution do (see DIALYSIS), the presence of colloidal particles in a liquid affects only slightly, if at all, the freezing and boiling points of that liquid, although the colloidal particles cannot be seen, yet by the use of the ultramicroscope (see MICROSCOPE) they appear, owing to reflection, as dancing points of light, an effect not observed in a true solution A colloidal solution is not a SUSPENSION, for colloidal particles, besides being ordinarily invisible, do not settle upon standing There is no definitely marked point of division, however, between colloidal solutions and true solutions and between colloidal solutions and suspensions Various common substances are colloids, e g , milk, mayonnaise, blood, solutions of starch, soap, and gelatin, and certain other substances Water dispersed in air in the form of fog and solid particles dispersed in air as smoke are other examples Foam is the dispersion of a gas in a liquid Upon the addition of certain agents to a colloidal solution, the colloidal particles collect in masses and are precipitated (see COAGULATION) Protective colloids are colloids which when added to another colloid, prevent its precipitation Gels are the gelatinous substances resulting when certain colloidal solutions are cooled or evaporated They are important in jelly making ABSORPTION is characteristic of colloids, since, because of the fineness of division, a large surface of the colloidal substance is exposed See G G Hawley, *Small Wonder the Story of Colloids* (1947)

Collot d'Herbois, Jean Marie (zhäⁿ' marē' kŏlō' dĕrbwa'), 1750–96, French revolutionist, originally an actor and playwright At first he favored a constitutional monarchy, his *Almanach du Père Gérard* (1791), though it won a prize from the Jacobins for its patriotism, was criticized for its royalist tinge But he became more and more radical Elected to the Convention, he supported Robespierre, persecuted the Girondists, and suppressed the counter-revolutionary attempt in Lyons in a blood bath Although he turned against Robespierre on 9 Thermidor (1794), he fell in the Thermidorian reaction and was deported to Guiana

collotype: see PRINTING

collusion, conspiracy to defraud a person of his legal rights or to obtain some illegal objective by misusing the forms of law In suits for divorce, collusion is a conspiracy between the husband and the wife, or one or both of these and a third party, to obtain a DIVORCE on manufactured testimony, usually on pretense of adultery Such a conspiracy is a bar to divorce

Collyer, Robert, 1823–1912, American Unitarian clergyman, b. England. At 14 he became a blacksmith He became a Methodist preacher in 1849 and, emigrating in 1850 to the United States, he settled near Philadelphia, where for a time he combined his labors as a blacksmith with preaching In 1859 Collyer turned to Unitarianism; in Chicago, he founded the Unity Church, where he

served as pastor (1860–79) with marked success In 1879 he became minister of the Church of the Messiah, New York city He was widely known as a lecturer *Clear Grit* (1913) contains some of his lectures, addresses, and poems Among his many other works are *The Life That Now Is* (1871) and *Father Taylor* (1906) See biography by J H Holmes (2 vols , 1917).

Colman, Saint, c 605–676, Irish abbot of Lindisfarne (from 661) He founded the monastery-diocese of Mayo He had been trained at Iona, and at Whitby he led those who favored the Celtic date of EASTER Feast Feb 15 and, in Ireland, Aug 8

Colman, George, the elder, 1732–94, English dramatist and manager He was manager of the Covent Garden theater from 1767 to 1774 and of the Haymarket theater from 1777 to 1789 A friend of Garrick, he collaborated with him in *The Clandestine Marriage* (1766) and was the author or adapter of about 30 dramatic works, including *Polly Honeycombe* (1760) and *The Jealous Wife* (1761), an adaptation of Fielding's *Tom Jones* See biography by E R Page (1935) His son, **George Colman**, the younger, 1762–1836, succeeded him as manager of the Haymarket and wrote or adapted many dramatic works, including *Inkle and Yarico* (1787), *The Heir at Law* (1797), *John Bull* (1803), and *Who Wants a Guinea?* (1805) See his autobiography, *Random Records* (1830), biography by J F Bagster-Collins, (1946)

Colman, Norman Jay, 1827–1911, American agriculturist and lawyer, b near Richfield Springs, N Y , grad Univ of Louisville law school, 1851 He promoted the passage of the Hatch Act (1887), which authorized the creation of agricultural experiment stations As commissioner of agriculture (1885–89) he was influential in causing the Dept of Agriculture to be made an executive department (1889) represented in the cabinet, he was the first Secretary of Agriculture He established (1865) and edited *Colman's Rural World*, a Missouri farm paper

Colman, Samuel, 1832–1920, American landscape painter, b Portland, Maine He was first president of the American Water Color Society His early works belong to the Hudson River school, but his later oils and water colors are in a broader manner Colman is represented in the Metropolitan Museum and the Art Institute of Chicago His *Tow Boats in the Highlands, Hudson River* (Union League Club, New York) is characteristic

Colmar or **Kolmar** (both kôl'mär), city (pop 43,514), capital of Haut-Rhin dept , E France, in Alsace It has textile manufactures Made a free imperial city in the 13th cent , Colmar was annexed by Louis XIV in 1673 It was the seat of a provincial PARLEMENT The old section of Colmar has kept its medieval architecture St Martin's Church (13th cent) contains the *Madonna of the Rose Arbor* by Martin SCHONGAUER, who lived here all his life The museum, housed in a 13th century convent, is one of the most remarkable in Europe, it contains the Isenheim altarpiece by Mathias GRÜNEWALD and numerous masterpieces of the Rhenish school of the 15th cent

Colmar Manor, town (pop 1,480), W central Md , near Washington, D C , inc 1927

Colne (kōn, kōln), municipal borough (1931 pop 23,791, 1943 estimated pop 21,960), Lancashire, England, N of Manchester and ENE of Preston There are textile factories and tanneries Relics of Roman habitation have been found near here

Cologne (kŭlōn'), Ger *Köln* or *Köln am Rhein* (kûln ăm rīn), city (1946 pop 491,380, 1939 pop 772,221), in the former Rhine Prov of Prussia, NW Germany, on the Rhine, a historical, religious, and commercial center Though largely destroyed in the Second World War, it continues to be an important rail junction and river port, with manufactures of iron, steel, heavy machinery, chemicals, textiles, and EAU DE COLOGNE In A D 50 a Roman colony was established here by Emperor Claudius and was named Colonia Agrippinensis for his wife The episcopal see, established in the 4th cent , was made an archdiocese under Charlemagne The archbishops, who ruled a strip of land on the west bank of the Rhine as princes of the Holy Roman Empire, acquired great power and ranked third among the ELECTORS Their constant feuds with the citizens resulted in the transfer of their residence to near-by Brühl and later (1263) to Bonn Cologne became a free imperial city in 1474 and, as a member of the Hanseatic League, flourished as a commercial center until the 16th cent Its decline was hastened by the expulsion of the Jews (15th cent) and restrictions imposed on Protestants (16th cent) Cologne was seized by the French in 1794, and the archbishopric was secularized officially in 1801 After the annexation (1814) of the RHINE PROVINCE by Prussia, the archdiocese was reorganized in 1824 Cologne recovered in the 19th cent and became the main transit port and depot of NW Germany The industrial town of Deutz, on the right bank of the Rhine, was united with Old Cologne, on the left bank In the Second World War, Cologne was the first major target of Allied air raids American troops took it in March, 1945 Among the least damaged buildings is the famous Gothic cathedral, containing the relics of the WISE MEN OF THE EAST It was begun c 1248 on the site of an older church, but the nave and the two spires (515 ft high) were built only in 1842–80, after the original plans The choir is a replica of that of the Amiens cathedral The Church of St URSULA also suffered only slight damage Of the many remarkable Romanesque churches are those of St Maria im Kapitol (11th cent), of St Gereon, and of the Holy Apostles, all heavily damaged The Gothic and Renaissance city hall and the *Gürzenich* (built c 1450), meeting place of the imperial diet, were gutted As the center of north German Catholicism, Cologne has long been famous for its impressive religious processions and for its exuberant Mardi Gras celebrations The city figures prominently in German romantic literature The university, established in 1388 and later discontinued, was resumed in 1919.

Coloma, unincorporated town (pop c 500), N central Calif , on the American river and NE of Sacramento Gold was discovered at Sutter's Mill here by James W Marshall in 1848 Marshall State Historic Monument commemorates the event

Colomb or **Colombe, Michel** (both mēshĕl' kôlō'), c 1430–1512, French sculptor, one of the masters of the early French Renaissance Among his few surviving works are the sculpture for the tomb of Francis II, duke of Brittany (Nantes), and a relief, *St George and the Dragon* (Louvre)

Colombia (kulŭm'bēu, Span kōlōm'byä), republic (439,828 sq mi , 1950 estimated pop 11,259,730), NW South America The capital is BOGOTÁ. The only South American country with both an Atlantic and a Pacific coast line, it is bounded on the northwest by Panama (part of Colombia until 1903) and on the northeast and east by Venezuela The Amazon basin skirts its southeastern boundary with Brazil In the south, where it borders on Ecuador and Peru, Colombia is crossed by the equator The republic also includes tiny San Andrés y Providencia archipelago in the Caribbean c 115 mi E of Nicaragua Truly a land of contrasts, Colombia rises from disease-infected jungles to majestic Andean peaks, some over 18,000 ft high and perpetually snow-capped Varied topography and the consequent difficulty in communications have had a determining effect on Colombian economy and history By far the most prominent physical factor are the three great Andean chains which fan N from the Ecuadorian line near the volcano Galeras, though they occupy only about a quarter of the country, they have virtually dominated its social and economic life To the east of the Andes lies more than half of Colombia's territory, a vast lowland, rich in natural resources, but harassed by an excessively tropical climate The plains are crossed by navigable rivers, tributary to the Orinoco and Amazon systems This region's northern section consists of savannas (the LLANOS), which are devoted to a large extent to cattle and sheep grazing Villavilencio has developed, particularly since the Second World War, into a flourishing trading town for the rich region, which promises to become Colombia's expanding frontier The densely forested transandean southern half of the eastern region (see SELVAS), though interesting for its colorful fauna and flora, is of negligible economic importance, except for some balata and rubber gathered by primitive Indians Leticia, the country's southernmost town and only port on the Amazon (also a military outpost), was returned (1934) to Colombia after border troubles with Peru Somewhat similar in physiography is the land of the Pacific west, which is featured by a low range, the Serranía de Baudó Soaked by rains all year round, this western area has little agriculture and lives on its mines—platinum (Colombia is among the world's leading producers of that precious metal) and gold (placer) These are chiefly in the valleys of the Atrato and San Juan rivers The rain forests, as in the alluvial north, yield dye- and hardwoods, tonka beans, tagua nuts (vegetable ivory), vanilla, kapok, palm fibers for Panama hats, balsam, resins, and other forest products These are exported through BUENAVENTURA and Tumaco, the principal Pacific ports, which also ship coffee and cacao from the slopes of the cordilleras A fine deep-sea port, Buenaventura is linked by rail with the interior upland towns, notably Cali, Armenia, and Manizales But Colombia's chief transoceanic ports lie in the Caribbean north There the Spanish conquistadors made their first settlements—SANTA MARTA, CARTAGENA, and BARRANQUILLA The main Caribbean exports (coffee, petroleum, forest products, gold, and hides) go predominantly to the United States Barranquilla is now the leading commercial center and the largest coastal city and has substantial processing industries Situated on the all-important MAGDALENA river, it has since the recent dredging of the Boca de Ceniza also been opened to deep-draft vessels, and its rail link to Puerto Colombia has become obsolete Historic Cartagena, once the first port of colonial South America, is connected with the Magdalena by the Canal del Dique (long unnavigable but now again opened) and by a railroad to Calamar At adjacent Mamonal is the terminus of the long pipe line from the rich Barranca Bermeja oil field. Colombia's petroleum industry is second only to Venezuela's in South America Santa Marta formerly drew much wealth from the near-by extensive banana plantations, but exports have declined in recent years because of plant disease The Caribbean coastlands also yield rice, cacao, and sugar cane Magnificent Sierra Nevada de Santa Marta, which rises near the ocean abruptly from a triangular base to the highest elevation in the country (Cristóbal Colón Peak reaches 18,950 ft), presents on a smaller scale the vertical vegetation pattern of the interior highlands, above the tropical *tierra caliente* is the semitropical coffee belt, higher, up to 10,000 ft , is a grain- and potato-growing zone, still higher are the bleak, tundralike *páramos* (used only for grazing), which finally yield to the perpetual snow fields In all the coastal regions the Negro element predominates Only the isolated regions—the Sierra Nevada de Santa Marta, the Guajira peninsula (where pearl fishing is carried on), and the Serranía de Motilones along the Venezuelan border—retain large uncivilized Indian tribes The more healthful Andean interior is the white man's country, as it was in pre-Columbian days the country of the highly advanced CHIBCHA, with whom the Europeans intermarried Here is the largest concentration of population, and Colombia's chief crop, coffee, is grown on large scale, accounting sometimes for 80 percent (in volume) of the exports Colombia ranks next to Brazil as producer of coffee, and the high quality of its mild variety is distinctively Colombian and keeps the prices high The main areas of cultivation are the lower slopes of the mountains of the Cauca and Magdalena valleys Of the three principal Andean ranges, which run roughly north and south, the Western Cordillera (the *Cordillera Occidental*) is of the least economic consequence, especially N of CALI, an important airport and the chief center of the sugar-growing south The Central Cordillera (the *Cordillera Central*) has a towering chain of volcanoes (e g , Tolima) and is the divide between the valleys of the Magdalena and the Cauca It was until the late 19th cent a backward region, but with better transportation, the introduction of coffee culture, the exploitation of high-grade coal reserves, and an enormous increase of the white population, its cities, MEDELLÍN and MANIZALES, have become the economic and industrial core of the republic Only here does the white creole population control trade and industries, which in other parts has fallen into the hands of Germans and Syrians The Eastern Cordillera (the *Cordillera Oriental*) is the largest chain, forking at the Venezuela border, the northward branch becomes the Sierra de Perijá, and the eastward runs into the Sierra de Merida and the Venezuelan coastal range The western slopes yield coffee, and the intermontane basins yield wheat, corn, barley, potatoes, and cattle Best known of these basins is the Sabana de Bogotá, it was the original home of the Chibcha and the nucleus of Spanish culture in N South America It also produces the world's largest quantity of emeralds from the famed Muzo mines Salt works are at Zipaquira Among the leading cities of the plateaus are TUNJA, BUCARAMANGA, CUCUTA, and above all Bogotá, the country's political and cultural focus, seat of an old university (founded 1572) and next to Medellín the principal manufacturing center There is a steelmill at Paz del Río Colombia's industrial activity made great strides in the 1930s and 1940s While processing of the chief exports is the most important activity, consumer industries, such as the milling of cotton textiles, food processing, liquor distilling, and manufacture of cement, clothing, chemicals, and pharmaceuticals, have been increasingly important, profiting from hydroelectric power projects and improved communications Communications still offer difficulties, passenger and cargo traffic still depend largely on the Magdalena, which is, because of rapids, far from satisfactory as a lifeline of transport Goods have to be transferred to railroads to go around the falls, as at Girardot, Honda, and La Dorada Most transport follows a combined rail, river, and muletrail route Railroads are few and expensive, but are pushed energetically Apart from a short mountain stretch, traversed by highway, Bogotá is now linked by rail with Buenaventura on the Pacific and with most of the cities of the interior Airplanes serve the country widely A continuous highway from Caracas (Venezuela) to Guayaquil (Ecuador) traverses the Andean region In Colombia one of the first commercial airlines was operated, and air transport is of the utmost importance After the Spanish Conquest the country formed the nucleus of New Granada (for European discoveries and the colonial period, see NEW GRANADA) The struggle for independence was, as in all Spanish-American possessions, precipitated by the Napoleonic invasion of Spain It was, however, foreshadowed by the rising of the COMUNEROS Prominent among the first revolutionary leaders was Antonio NARIÑO, who took part in the uprising at Bogotá on July 20, 1810 The revolution was to last nine years before Simón BOLÍVAR by the decisive victory at BOYACÁ (1819) secured the independence of Greater

Colombia (Spanish, *Gran Colombia*), the new state he created to include present-day Venezuela, Panama, and (after 1822) Ecuador, as well as Colombia Cucutá was chosen as capital While Bolívar, who had been named president, headed campaigns in Ecuador and Peru, his able vice president, Francisco de Paula SANTANDER, administered the new nation. Political factions soon crystallized. Santander advocated a union of federal sovereign states, while Bolívar championed a centralized republic. Though Bolívar's authority prevailed by and large in the constitutional assembly, Greater Colombia soon fell apart Yet the concept of a federation of N South America was not to die and has been revived in recent times In 1830 Venezuela under José Antonio PÁEZ and Ecuador under Juan José FLORES became separate nations. The remaining territory emerged as the republic of New Granada Through the 19th cent and into the 20th cent political unrest reappeared constantly Strong parties, following more or less the principles of either Bolívar or Santander, developed along conservative and liberal lines, the conservatives favored centralism and participation by the Church in government and education, the liberals supported federalism, anticlericalism, and some measure of social legislation and fiscal reforms Partly because of an even balance in political groups backed by differing regional and economic interests, conditions were unfavorable to the rise of a strong man (*caudillo*) As in the United States (the Constitution of the United States was a perennial inspiration to Colombians), a two-party system became the norm During the 19th cent three statesmen stand out—Tomás Cipriano de MOSQUERA, Rafael NÚÑEZ, and Rafael REYES While Mosquera was president, a treaty was concluded (1846) granting the United States transit rights across the Isthmus of Panama. A new constitution in 1858 created the confederation of Granadina, which consisted of nine states Three years later (1861) under Mosquera, the country's name was changed to the United States of New Granada, only to revert with the adoption of a new constitution in 1863 to the United States of Colombia Then Mosquera was again elected president The antifederalist revolution of 1885 led one year later in the presidency of Núñez to the formation of the republic of Colombia, and the conservatives were in control After the United States had acquired the right (though the agreement was later rejected by the Colombian congress) to complete the PANAMA CANAL, the republic of Panama declared (1903) independence and with U.S. support achieved it During the Reyes administration (1904–9), closest of any of the administrations to being a dictatorship, the country's trade and productivity was vigorously expanded. Reyes, nevertheless, had to resign because of public discontent over his handling of the Panama issue Soon afterward Colombia recognized (1914) Panama's independence in exchange of their rights in the Canal Zone Until the disturbances after the Second World War the country then enjoyed stable, democratic government It settled (1917) its boundary disputes with Ecuador A border clash with Peru over the Leticia Trapezium was settled (1934) by the League of Nations in Colombia's favor Under the enlightened leadership of Olaya Herrera and Alfonso López, Colombia embarked upon a sober and progressive course Foreign immigration was, however, during the 19th cent and the first half of the 20th cent negligible Colombia entered the war on the Allied side in 1943. A merchant fleet, jointly owned by Colombia, Ecuador, and Venezuela, was set up and the Quito Charter promised (1948) to establish an economic, social, and cultural union among the former members of Greater Colombia Colombia adhered to Western Hemisphere loyalty, as was demonstrated in the Inter American Conference held (1948) in Bogotá During the session, however, violent street riots broke out, following the assassination of the liberal leader Jorge Gaitán While the internal political situation deteriorated, the conservative party, in power after 1946, increased its foothold The conservative president-elect in 1950 was Laureano Gómez See William McFee, *Sunlight in New Granada* (1925); J F Rippy, *Capitalists and Colombia* (1931); E T Parks, *Colombia and the United States* (1935); J M Henao and Gerardo Arrubla, *History of Colombia* (Eng tr, 1938); Kathleen Romoli, *Colombia, Gateway to South America* (1941)

Colombo (kŭlŭm'bō), city (pop 355,374), capital of Ceylon, a port on the Indian Ocean Before the opening of Ceylon to trade with Europe, Colombo, on the southwest coast, was relatively unimportant, because it was not easily accessible to ships from India It lay directly on the trade routes from Europe, however, and in 1565 the Portuguese established headquarters here and built a fort. The city was successively the capital of the Dutch rule of the island and British rule and since 1948 has been the capital of the dominion of Ceylon The port is on the shore of a small open bay protected by breakwaters The focus of the rail and, to a less extent, the road systems of Ceylon, Colombo has by far the largest foreign trade of any port in the country Rubber, coconut fiber, copra, and tea are among the exports. The city has expanded so much in recent years that little remains of the Portuguese and Dutch settlements.

Colón (kōlōn') [Span., =Columbus], city (pop 44,393), Panama, at the Caribbean end of the Panama Canal Originally named Aspinwall, after William Henry ASPINWALL, one of the founders of the Panama RR, Colón, although surrounded by the Panama Canal Zone, is not part of it The adjacent town, CRISTOBAL, within the zone, is the American residential section Colón is a thriving commercial center, exporting tropical fruits and woods The city has a wet climate and was often scourged by yellow fever until American sanitary work was begun under W. C GORGAS.

colon, in anatomy see INTESTINE.

colon, in writing see PUNCTUATION.

Colonia (kōlō'nyä), city (pop c.7,700), capital of Colonia dept., S Uruguay, on the Río de la Plata The city was founded by the Portuguese in 1680 and was the center of bitter fighting between the Portuguese and the Spanish before it ultimately was secured by the Spanish. It was moved to its present location in 1797 A small port in a rich agricultural district, it is more important as a resort Its name in full is Colonia del Sacramento.

Colonial architecture. see AMERICAN ARCHITECTURE

Colonial Beach, resort town (pop 1,105), E Va., on the Potomac and E of Fredericksburg, inc 1892

Colonial Conference, British: see IMPERIAL CONFERENCE

Colonial Heights, town (pop 3,194), SE Va, a suburb of Petersburg; inc 1926

Colonial National Historical Park, SE Va., mainly on the peninsula between the York and James rivers, created 1930 as Colonial National Monument, renamed 1936 The park embraces a historic area of 7,129 acres which includes YORKTOWN, JAMESTOWN, WILLIAMSBURG, and Cape Henry (added in 1939, see HENRY, CAPE), the Colonial Parkway, part of the park, links the three old towns A research program includes archaeological and historical studies and restoration and reconstruction of old places of interest

colonial preference, term used when the import or export duties of a colony are lower for products of the mother country than for those of other countries There are three main policies which colonial powers may adopt towards their colonies, the Open Door policy, whereby the mother country concedes to other nations free access to the colonial market, a system of preferential tariffs for intra-imperial trade, or the extension of the home country's tariffs to colonial borders Certain colonial powers, such as the United States and Great Britain, use all three systems with regard to different parts of their possessions. In the period after 1875 Great Britain and her colonies installed a system of empire preference in regard to tariffs on raw materials and manufactured products, though British colonial preference rates were among the world's lowest, they were important because of the volume of empire trade Imperial preference was reinforced by a series of agreements, notably the Ottawa Agreements of 1932, but though imperial preference has benefited certain colonial activities such as the raising of tobacco, it has never approximated Joseph Chamberlain's dream of empire free trade within one tariff wall and has been increasingly subordinated to the economic autonomy of the component colonies Since the Second World War, economic thinking has increasingly favored free trade on a world basis Colonial preference may include nontariff preferences such as preferential access to capital markets In addition to colonial preference there are regional preference and customs-union agreements such as link nations in Scandinavia, Western Europe, or the Americas. See CUSTOMS, TARIFF, PROTECTION

Colonie, village (pop 1,407), E N Y, near Albany; inc 1921

colonization. Colonization implies the extension of political control over an area by the state whose nationals have occupied it and connotes the settlement of a district by a people whose material culture or world political power is superior to that of the natives It may consist in an extensive migration of nationals to an outlying district, or it may be the assumption of control over the territory by military or civil representatives of the dominant power Overpopulation and social unrest are causes of colonization, but imperialism, economic distress, aggressive humanitarianism, and desire for adventure or individual improvement may also be dynamics Colonization may be official, or it may be a private project sponsored by chartered corporations or by associations and individuals Before colonization can be effected, the natives may be subjected or wiped out, confined to reserved areas, assimilated or converted to the culture of the colonists, otherwise, a *modus vivendi* must be established by the imposition of a treaty or alliance Colonization has been an effective means of spreading cultures. The Phoenicians founded trading posts throughout the Mediterranean area and later exercised political dominion over these commercial colonies The Greeks, because of political difficulties, began the great colonization movement which stimulated trade and disseminated Hellenic culture. Their colonies were founded in Crimea, Asia Minor, North Africa, Italy, Sicily, and Gaul. Greek colonies were patterned after the parent state and were at first subject to its jurisdiction in external affairs The early Romans, unlike the Phoenicians and Greeks, were not a great trading people, but many of their colonies were essentially commercial With the development of the empire, colonization received impetus from imperialism The Roman colony was an integral part of the empire, was coordinated with it by a remarkable system of communication and transportation, and received its political directions from Rome In their colonization, the Romans usually did not completely destroy native culture, and in some instances they bestowed Roman citizenship upon the natives Venetian and Genoan colonization consisted in the establishment of commercial colonies along trade routes Over these the city-states exercised the strictest supervision. The Portuguese and Spanish became great colonizing nations at the close of the Middle Ages Portuguese colonization, which began with the establishment of trading ports in Africa and the East, received impetus with the discovery of improved methods of navigation, and Emperor Charles V sought to create an empire in America Both the Spanish and Portuguese exercised strict governmental control over their colonies and used them merely as a basis for a lucrative trade with the parent government The Iberian powers not only failed to develop the agricultural resources of their colonies, but, like other nations adhering to the mercantilist theory, discouraged them from becoming industrially self-sufficient. The internecine strife between native and foreign-born colonists (see CREOLE) and between lay and clerical officials further obstructed Spanish and Portuguese colonial development Though the French adhered to the mercantilist theory in establishing their colonies, there was some attempt, especially with chartered companies, to settle occupied districts The Dutch introduced the great private trading companies, which founded an extensive colonial empire tributary to the corporations The English colonists in North America were, in many respects, virtually independent of the parent country, the most serious restriction being the establishment of a trade monopoly by the home government with the Navigation Acts Because their territory was suitable for settlement, rather than exploitation, the residence of the British colonists tended to be permanent The INDUSTRIAL REVOLUTION stimulated colonization and made England the greatest colonial power The French, stripped of one colonial empire in the colonial wars of the 18th cent, founded another in the 19th century Germany, after emerging as an industrial empire, found the colonies of other powers closed to German products She, therefore, embarked upon colonial ventures and was followed by Japan, also recently industrialized These ambitions helped to bring about the First World War and the Second World War Germany was stripped of colonies after the first conflict, Japan was stripped of colonies after the second Meanwhile, the settlement of Siberia by Russia and of the trans-Mississippi region by the United States presented another phase of colonization Modern colonization, frequently preceded by an era in which missionaries and traders were active, has been largely exploitative, securing markets for consumers' goods evolved into an effort to Europeanize colonies by the introduction of producers' goods, or to secure an unrestricted supply of necessary raw materials While colonization may result in a monopolization of privileges in a certain locality, it is usually not directly lucrative, for it involves a heavy drain upon the treasury of the home government. Colonization may result not only in a loss of population and capital by the parent nation, but may cause the development of competitive industries See IMPERIALISM, MANDATES, TRUSTEESHIP, TERRITORIAL For a brief note on the present state of colonization, see COLONY See David Hannay, *The Great Chartered Companies* (1926), Ramsay Muir, *The Expansion of Europe* (6th ed., 1939), M E Townsend and C H. Peake, *European Colonial Expansion since 1871* (1941), M F Perham, *Colonial Government* (1950).

Colonna (kōlōn'nä), noble Roman family, which played a leading part in the history of Rome from the 12th to the 16th cent They were hereditary enemies of the ORSINI family and generally sided with the Ghibellines against the popes. **Sciarra Colonna** (shär'rä), d 1329, a bitter enemy of Pope BONIFACE VIII, was excommunicated, fled to the court of Philip IV of France, and led, with Chancellor Nogaret, the French expedition that captured (1303) Boniface He slapped the pope's face. Later, as senator of Rome, Sciarra supported Emperor LOUIS IV during his Italian expedition, but was forced into exile after Louis's departure. Despite its antipapal attitude, the family produced in Pope MARTIN V (Oddone Colonna) one of the most successful advocates of papal authority. **Fabrizio Colonna** (fäbrē'tsyō), d 1520, was a general of the Holy League against Louis XII of France. His daughter was Vittoria Colonna (see separate ar-

ticle). **Prospero Colonna** (prō'spārō), 1452–1523, Fabrizio's cousin, also fought the French in the Italian Wars and defeated them (1522) at La Bicocca. **Marcantonio Colonna** (märkäntō'nyō), 1535–84, commanded the papal forces in the battle of Lepanto (1571). Numerous other members of the family distinguished themselves in the service of the Holy See and of Spain. Three lines of the family, all of princely rank, are still in existence. The Colonna Palace in Rome was begun by Martin V.

Colonna, Vittoria, marchesa di Pescara (vēt-tō'rēä kōlōn'nä märkä'zä dē päskä'rä), 1492–1547, Italian poet; daughter of Fabrizio Colonna. The death (1525) of her soldier husband, to whom she was greatly devoted, was the inspiration of much of her verse, which deals also with religious themes. Much admired for her character as well as for her poetry, she was a friend of Michelangelo, who wrote sonnets to her. For a translation of her verse, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1922).

colonnade (kŏlŭnād'), columns arranged in a straight or curved row and supporting an ENTABLATURE. Though colonnades have been largely used as purely decorative elements beginning with Roman architecture, their function is primarily structural. The colonnade is the finished expression of trabeated construction, of which a row of wood posts supporting a horizontal wood beam would be the rudimentary form which must have preceded the use of stone. The Egyptians were the first to develop the architectural possibilities of colonnades in the HYPOSTYLE halls of their temples. In Greek architecture, colonnades were the dominant feature, the greatest study being given to proportioning the columns, to their spacings (intercolumniation), and to all details which would yield maximum harmony. The rectangular chamber (NAOS) of Greek temples was surrounded on all sides by free-standing colonnades, those at front and rear forming the porticoes, while in Roman construction the side colonnades were generally attached to the walls of the CELLA as "engaged" columns. The use of colonnades continued through the Renaissance and the 18th and 19th cent. In the CLASSIC REVIVAL in America they came to be the popular feature throughout the country. In recent times they are less employed.

Colonne, Édouard (ādōōär' kōlōn'), 1838–1910, French conductor and violinist, studied at the Paris Conservatoire. He appeared as a conductor in Europe and England and was leading violinist of the Paris Opéra until 1873. In that year he founded in Paris the Concert National, which later became known as the Colonne Concerts.

Colonsay (kōl'unsā), island (area with Oronsay 11,076 acres, pop. with Oronsay 238), off W Scotland, in Argyllshire, one of the Inner Hebrides.

colony. In common usage, any noncontiguous territory of a state subject to its jurisdiction is considered a colony, although the term specifically applies either to a distant settlement of nationals which retains political connections with the parent state or to a group of nationals residing in, and under the jurisdiction of, a foreign state. A settlement colony is usually founded in an uninhabited region or one sparsely inhabited by people of a lower material culture. The colonists generally duplicate the essential features of the home government, yet may greatly modify them to suit new conditions. Such colonies early secure autonomy and may become dominions or independent states. An exploitation colony is established for the purpose of exploiting a region rich in resources, or with commercial possibilities, where the inhabitants may or may not possess a high level of culture. Such colonies, furthermore, may have dense native populations. Colonists in an exploitation colony will chiefly consist of military and administrative officers, and commercial and financial representatives. A variation of the exploitation settlement, the culture colony, is found in tropical countries where the plantation system prevails. Frequently slavery and forced labor are employed in the cultivation of specialized agricultural products. After the conquest or occupation of a colony, authority usually passes from military officials to civil representatives of the sovereign. In an exploitation colony the government tends to be highly centralized and is frequently upheld by the presence of a strong police force, in a settlement colony there is generally a rapid evolution from a purely military or autocratic government to autonomy or incorporation within the parent state. As their colonial empires expand, nations establish colonial offices to formulate definite policies and to integrate colonial administration. The tendency of Great Britain to grant some measure of autonomy led to the dominion system and ultimately to the formation of the British Commonwealth of Nations (for a brief account, see BRITISH EMPIRE). In the mid-20th cent. the forces working toward independence of colonies in Asia and Africa has had very profound results, notably in India, Burma, Ceylon, Indo-China, and Indonesia. The organization of the French Empire was changed profoundly with the creation of the FRENCH UNION in 1946. The emergence of Indonesia reduced the great imperial possessions of the Netherlands to a shadow. Thus, the status (and even nature) of the colony in general has altered and promises to change even more in the future as the old types of exploitation and culture colony tend to disappear altogether in well-settled and developed areas, leaving only the islands and undeveloped areas in true colonial status, and even the administration of these is changing with the times. For bibliography, see COLONIZATION.

colophon [Gr.]. Before the use of printing in Western Europe a manuscript often ended with a statement about the author, the scribe, or the illuminator. The first printed book to have a comparable concluding statement was the Mainz Psalter, the last paragraph of which gives the information that the book was printed in 1457 by Fust and Schöffer. After this, a printed book commonly ended with a statement of the kind, now called a colophon, until the information came to be given on the title page—the usual practice after c 1520. The name colophon is applied also to a like statement near the beginning of a book and to a printer's mark or a publisher's device on a title page or elsewhere. A colophon of some kind is customary in limited and de luxe editions.

color. Light transmitted from an object to the human eye causes the different color cones of the retina to react, thus making possible perception of different color phenomena in the objects. When sunlight passes through a glass prism, dispersion takes place and a band of color called the solar spectrum is produced. Since the colors which compose sunlight or white light have different wave lengths, they travel at different speeds through the glass. The colors of the visible spectrum are red, orange, yellow, green, blue, indigo, and violet, the red light has the longest wave length and travels more rapidly through the glass than the blue light, which has a shorter wave length. Color is therefore a property of light which depends upon wave length. When light falls upon an object, some of it is absorbed. That which is not absorbed is reflected, and the apparent color of an object depends upon the wave length of the light that it reflects, e.g., a red object observed in daylight appears red because it reflects only the long waves producing red light. The color of a transparent object depends upon the wave length of the light that it transmits. An opaque object that reflects all wave lengths appears white, and one that absorbs all wave lengths appears black. Black and white are not generally considered true colors, black is said to result from the absence of color, and white from the presence of all colors mixed together. Certain colors are sometimes called primary colors since they can, as a result of various combinations, produce all the color sensations. According to some investigators the primary colors of light or spectral colors are red, green, and blue (or blue-violet, or violet). The process of combining these colors is said to be an "additive" one, i.e., the sensations produced by different wave lengths of light are added together. White can be produced by combining all three primary colors. Any two colors which together produce white are called complementary colors, e.g., yellow and blue or red and bluish-green. When pigments are mixed, however, the resulting sensations differ from those of the spectral colors, the method in this case being a "subtractive" one, since subtraction or absorption of some of the wave lengths of light occurs. Red, yellow, and blue are called the primary pigments. A mixture of blue and yellow pigments yields green because green is the only color not absorbed by one pigment or the other. A mixture of the three primary pigments produces black. Color has long been used to represent affiliations and loyalties and as a symbol of various moods and qualities. A well-known use of the symbolism of color is in the liturgical colors of the Western Church, according to which the color of the vestments varies through the ecclesiastical calendar, e.g., purple (i.e., violet) is the color of Advent and Lent, white of Easter, and red of the feasts of the martyrs. See also LIGHT, PAINTING, PROTECTIVE COLORATION, SPECTRUM, VISION. See R. M. Evans, *Introduction to Color* (1948).

Colorado (kŏlŭrä'dō, -rä'dō, -rä'dō), state (104,247 sq. mi., 1940 pop. 1,123,296; 1949 estimated pop. 1,215,000), W United States, one of the Rocky Mt. states, admitted 1876 as the 38th state (and therefore known as the Centennial State). DENVER is the capital, by far the largest city, and the center of state activity. Colorado is in the center of the vast western area between the Mississippi river and the Pacific Ocean, midway between the Canadian and Mexican borders. It is bounded on the north by Wyoming and Nebraska, on the east by Nebraska and Kansas, on the south by Oklahoma and New Mexico, and on the west by Utah. The plains of the eastern section, part of the high Great Plains, still retain the characteristics of the tidal flats that they once were. Gentle slopes rise to foothills, and beyond tower the pinnacles of the Front Range, the most famous of them PIKE'S PEAK. Westward a series of well-watered amphitheaters lie—the natural parklands of Colorado, including the North Park, the Middle Park, the South Park, and the San Luis Park. Beyond rise other complex ranges of the Rockies with high, snow-capped peaks. Among them winds the Continental Divide. In this area of basins and mountains are some of the most famous scenic spots in the United States, including Rocky Mountain National Park, Estes National Park, the Great Sand Dunes National Monument, and Wheeler National Monument. To the southwest of the Continental Divide lies a formidable but beautiful country of mesa and canyon, once the home of the cliff dwellers. In the northwest part of the state are the remote canyons of the Yampa river and the Green River, formerly used by cattle thieves and highwaymen, still a favorite hunting ground for deer, bear, and mountain lion. Colorado, with a mean elevation of c.6,800 ft. and with 51 of the 80 peaks of North America over 14,000 ft., lays claim to the name "top of the world." Down from these vast heights rush the melting snows which have gathered on the peaks, radiating out to form important river systems and nourish the water-hungry lands beyond. The broad timber belt, largely coniferous and mostly protected as national forest reserves, acts as a huge reservoir. The mighty COLORADO river originates in Rocky Mountain National Park, and the headwaters of the PLATTE, the ARKANSAS, and the RIO GRANDE also gather in Colorado's mountains. By irrigation this state, where the average yearly rainfall is only 16.62 inches, has been able to develop otherwise unusable land, and it ranks second only to California in acres of irrigated land. Farming is the major industry, and the rudimentary cultivation of the Indian has been succeeded by a well-developed agricultural system with diversified crops, including sugar beets, potatoes, melons, fruits, and feed crops, while canneries and sugar refineries are an industrial outgrowth of this agricultural production. The fuel resources of the state are considerable, for Colorado ranks first among the states in coal reserves and 11th in potential water power and has valuable oil fields and oil reserves. Gold, the lure to exploration and settlement, was the first of over 200 useful minerals to be discovered, 35 of them are now being mined. Important among these are molybdenum, silver, copper, vanadium, zinc, and uranium, as well as large deposits of valuable stones. The milling and smelting of these minerals initiated Colorado's manufacturing industry, and the processing of minerals and the production of machinery and metal products continues to be important. Except for primitive cultivation of the soil, the early inhabitants of Colorado left these resources untouched. The Basket Makers, earliest-known Indians, settled in the mesa country around the beginning of the Christian era. When white men entered Colorado, they found the Ute Indians in the mountain areas, while the Comanche, the Cheyenne, the Arapaho, and the Kiowa roamed the Great Plains. Intertribal warfare between plains and mountain Indians was intermittent, and on the plains the nomadic tribes carried on ceaseless raids. The Ute attacked the whites in mountains and foothills until a Ute chief, Ouray, brought peace in 1873. The Ute Consolidated Agency in SW Colorado is today the only Indian reservation in the state. On the plains the four nations combined forces in 1840 to combat the invasion of their homelands and hunting grounds, and the settlement of Colorado by the Americans was accompanied by massacres, lootings, and subsequent reprisals. Efforts by the Federal government failed to achieve peace, and the warfare culminated in victory for the white men after the Indian Wars (1861–69) and the Buffalo War (1873–74). Behind them the Indians left permanent traces in the place names—Ouray, Arapahoe, Cheyenne—just as did the Spanish and the French, the miners and the cattlemen. Probably a Spanish conquistador was the first white man to enter Colorado, although the French *voyageurs* and trappers were exploring the area early in the 18th cent. The search for gold lured Juan María Rivera into the San Juan valley in 1765, and later (1776) Silvestre Vélez de Escalante journeyed through part of the state. This region was practically virgin territory to the white man when the United States bought the area N of the Arkansas and E of the Rockies in the Louisiana Purchase of 1803. The achievements of expeditionary parties sent out by the Federal government under Zebulon M. PIKE (1906), Stephen H. LONG (1819–20), and John C. FRÉMONT (1842–43 and 1845) were considerable, they gathered much scientific information and made routes well known. Those routes had already been opened, however, by fur traders, the famous mountain men, including William H. ASHLEY, James BRIDGER, Thomas FITZPATRICK, Jedediah S. SMITH, Kit CARSON, "Uncle Dick" Wooton, and the Bent brothers. BENT'S FORT, in Colorado, was indeed one of the best known of all Western trading posts. Settlement did not begin, however, until the United States had acquired the remainder of present Colorado after the Mexican War by cession from MEXICO in 1848 (with Texas yielding some territory in 1850). It

was not until the cry "Pike's Peak or Bust" swept the nation that any substantial number of people entered Colorado In 1859 John Gregory made his "lucky strike" on the site of present Central City, and the lusty, lawless days of the mining boom began Many cities, including Denver, were founded in 1859, and as early as 1858 the first comers, self-styled the Argonauts, organized the gold fields as Arapahoe co of Kansas Territory The region was divided into districts, and miners' and people's courts were set up to provide quick justice After the voters rejected a move toward statehood in 1859, the illegal Territory of Jefferson was formed and operated until the bill for territorial status was passed by Congress in 1861 William Gilpin, the first governor, chose the name Colorado [Span ,= red or colored] After being vetoed by Andrew Johnson in 1867, the congressional measure for statehood passed in 1876, and Denver became the capital with J L Routt the first governor Before this time, in the middle '60s, the surface gold had been extracted, and mining areas were, and in many cases remain, studded with ghost towns—the machinery abandoned and shacks deserted Other towns, such as Central City with its famous opera house to remind it of its days of opulence, managed to keep going Later booms also left their ghost towns The lean mining years were partially counterbalanced by the development of huge ranches, and the extension of farming was stimulated by increasing railway construction The fortunate discovery (1875) of lead ore bearing silver marked the beginning of a new era, and boom days were on again Population increased almost five-fold between 1870 and 1880, and Colorado, education-conscious since its early mining days, established institutionsof higherlearning—Colorado Seminary, now the Univ of Denver, the Colorado Agricultural and Mechanical College at Fort Collins, the School of Mines at Golden, Colorado College at Colorado Springs, and the Univ of Colorado at Boulder Prosperity was short-lived, for while the '90s brought a rich silver strike at Creede and the discovery of the state's richest gold field at Cripple Creek, it also brought the collapse of the silver market, industrial strife, disputes over railway franchises, and warfare between sheep and cattle interests Many of labor's battles were fought in the mines of Colorado, continuing into the 20th cent , and the lawlessness and ruthlessness of both employers and miners were reminiscent of days of Indian warfare and of the early mining camps A system of state industrial control was instituted (1896) with the state board of arbitration and has since been supplemented by legislative enactments When the silver market broke, Colorado turned politically to a fusion Populist-Democratic ticket on the platform of return to bimetallism The move was unsuccessful, but by 1910, with the improvement of national conditions, Colorado had settled down to a predominantly agricultural economy The establishment of large national parks in the early 1900s provided an additional source of revenue through the tourist trade In the First World War the price of silver soared again, and the total economy prospered The stock crash of 1929 and the droughts of 1935 and 1937 brought hardship to many, but Colorado survived to provide food and valuable minerals and metal products for the Second World War While the natural beauties and healthful air of this mountain state continue to attract visitors from all over the world, modern Colorado, through the projection of large irrigation and power developments, moves toward a greater utilization of its natural wealth See M L Baggs, *Colorado Queen Jewel of the Rockies* (1918), J H Baker and Le Roy Hafen, *History of Colorado* (1927), George F Willison, *Here They Dug the Gold* (1931), Le Roy Hafen, *Colorado the Story of a Western Commonwealth* (1933); Percy Stanley Frits, *Colorado, the Centennial State* (1941), Federal Writers' Project, *Colorado a Guide to the Highest State* (1941), *Colorado. Short Studies of Its Past and Present* (1927).

Colorado (kŏlōrä'dhō), river, 534 mi long, rising from tributaries in the Andes and flowing SE across S central Argentina to the Atlantic It is considered as marking the northern limit of Patagonia

Colorado, 1 (kŏlurä'dō, -rä'dō) River rising in Colorado at the Continental Divide and flowing roughly SW through Colorado, Utah, and Arizona, then between Nevada and Arizona and between Arizona and California, and into Mexico to empty into the Gulf of California. It is the great river of the SW United States, c.1,400 mi long and draining about 8 percent of the area of the United States The Gunnison river joins it at Grand Junction, Colo , the Green (coming from Wyoming) joins it in Utah, the San Juan and the Little Colorado join it above the GRAND CANYON The chief tributary of the lower reaches is the Gila. The mouth of the river was seen (1539) by Francisco de Ulloa, the lower part explored (1540) by Hernando de Alarcón Later it was much used for navigation in the lower part It has canyons, most spectacularly the Grand Canyon, which challenged explorers and scientists It is used for power and irrigation, especially by means of HOOVER DAM, Davis Dam (main structure completed 1950), the ALL-AMERICAN CANAL, and PARKER DAM The river above the entrance of the Green is sometimes called Grand River See U S Bureau of Reclamation, *The Colorado River* (1946) **2** (kŭlurä'dŭ) River rising in NW Texas in the Llano Estacado and fed by "draws" in E New Mexico It flows more than 600 mi generally southeastward through Austin to Matagorda Bay Destructive floods which prevented private development of power led the state legislature to set up boards to undertake projects for flood control, power plants, and some irrigation Of these, the Lower Colorado River Authority since its founding in 1934 has been especially active, with Federal assistance, the most important results have been Buchanan Dam near Burnet, the Roy Inks Dam a few miles further downstream, the Marshall Ford Dam or Mansfield Dam, which impounds Lake Travis, and the Tom Miller Dam, which impounds Lake Austin These projects have been of immense benefit to Austin and a large part of the Southwest The Upper Colorado River Authority and the Middle Colorado River Authority have also initiated projects, and the waters of the river and its tributaries are used for various municipal reservoirs and power plants All such uses are coordinated in the over-all plan

Colorado, University of (kŏlurä'dŭ,-rä'dō,-rä'dō), mainly at Boulder, state supported, coeducational, chartered 1861, opened 1877 It has colleges of arts and sciences (with education and journalism), engineering, music, and pharmacy and schools of medicine (at Denver, with a nursing school and general and psychopathic hospitals), business, and law The buildings include an auditorium, a noted science museum, and a large, modern library.

Colorado Agricultural and Mechanical College, at Fort Collins, with land-grant support, coeducational, chartered 1870, opened 1879 as an agricultural college, renamed 1935 It has divisions of agriculture, engineering, forestry and range conservation, home economics, science and arts, and veterinary medicine The FORT LEWIS School near Durango is a branch

Colorado-Big Thompson project, proposed by the Federal government to divert water from the headstreams of the Colorado river E across the Continental Divide to irrigate lands in NE Colorado and to supply power The water is to be diverted by several dams, notably Granby Dam, 295 ft high and 885 ft long, in the Colorado and Green Mountain Dam (est 1943), 309 ft high and 1,150 ft long, in the Blue River It is to be stored in Granby Reservoir, Shadow Mountain Lake, and Grand Lake before it is pumped through the Alva B Adams Tunnel (est 1947), 13 1 mi long, to fall down the eastern slope and flow into the Big Thompson river, a tributary of the South Platte Dams near Fort Collins and Estes Park divert the water for use, and plants at Green Mountain Dam and at Estes Park generate power

Colorado City (kŭlurä'dŭ), city (1940 pop 5,213, 1947 estimated pop 7,300), co seat of Mitchell co , W Texas, on the Colorado and WSW of Sweetwater It got wealth from shipping cattle in the late 19th cent and increased it later by processing cotton and by refining oil It is now the center for dairying and for farms growing grains, peanuts, hairy vetch, and other crops as well as cotton

Colorado College (kŏlurä'dŭ,-rä'dō,-rä'dō), at Colorado Springs, nonsectarian, coeducational, chartered and opened 1874, a pioneer in this region Research on Western history and on tuberculosis is carried on here

Colorado National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Colorado potato beetle or **potato bug,** black-and-yellow-striped beetle, destructive in both the adult and larva stages chiefly to the potato plant The adults winter underground and emerge in spring to lay the orange-yellow eggs on the underside of the leaves The larvae are reddish and spotted with black. In 1824 the insect was discovered in the E Rocky Mt region It fed on BUFFALO BUR and other wild relatives of the potato Potato culture provided it with more desirable food It began to spread eastward from Colorado in the late 1850s and reached the Atlantic coast by 1874 During the First World War it was carried to Europe Spraying the plants with poison is the usual method of control The first general use of Paris green was against this insect Later arsenic compounds were also used In 1939, when the beetle threatened the potato crop in Switzerland, DDT, which had just been rediscovered, was found effective

Colorado School of Mines, at Golden, state supported, mainly for men, chartered 1874 It is a pioneer mining and engineering school of university grade It owns an experimental mine, a field laboratory, and an experimental plant

Colorado Springs, city (pop 36,789, alt c 6,000 ft), co seat of El Paso co , central Colo , on Monument and Fountain creeks and S of Denver, at the foot of Pikes Peak; founded 1871, inc 1886 It is a residential city and health resort near mineral springs (at Manitou Springs) In the city are COLORADO COLLEGE, the Fountain Valley School, the fine arts center, the state school for the deaf and the blind, and the city museum The Garden of the Gods adjoins the city on the northwest, and near by are the Will Rogers Shrine and several noted private sanatoriums The city is headquarters for Pike National Forest, to the west

coloration, protective see PROTECTIVE COLORATION.

color blindness or **Daltonism,** usually a congenital defect resulting in the inability to recognize colors, especially red and green The vision is otherwise normal, usually both eyes are affected The defect occurs in from 5 to 10 percent of men and in less than 1 percent of women There is also color blindness caused by actual disease of the optic nerve from infection, intoxication, or atrophy Recognition of the importance of detecting the condition in candidates for certain occupations, e g , railroad engineer, airplane pilot, and a driver of any motor vehicle, led to the devising of tests Used in diagnosis are mosaic patterns of dots in which the color-blind person cannot correctly identify a partially concealed figure, number, or pattern and color-matching tests using wools and, more recently, enameled chips

color photography. see PHOTOGRAPHY.

color printing see PRINTING

Colossae (kulŏ'sē), ancient city of SW Phrygia, Asia Minor, S of the Maeander (modern Menderes), now in W Asiatic Turkey It flourished as a trading town until eclipsed by neighboring Laodicea It was the congregation of the early Christian Church here to whom St Paul addressed the epistle to the COLOSSIANS

Colosseum or **Coliseum** (both kŏlŭsē'um), common name of the Flavian Amphitheater in Rome, near the southeast end of the Forum, between the Palatine Hill and the Esquiline Hill Begun by Vespasian in A D 72 and completed by Titus of the Flavian family in A D 80, it is the most imposing of existing Roman antiquities The vast four-storied oval (617 ft x 512 ft), much of which is still standing, had tier on tier of marble seats accommodating c 50,000 spectators It encloses an arena (250 ft x 151 ft) where gladiatorial combats were held (see GLADIATORS) According to tradition persecuted Christians were thrown here to beasts

Colossians (-lŏsh'-), epistle of the New Testament, the 12th book in the usual order It was written to the Christians of Colossae and Laodicea (1 1, 4 16) by St PAUL, probably under the same circumstances as those under which he wrote EPHESIANS The writing was provoked, apparently, by the appearance in the churches addressed of some sort of gnostic doctrine involving angels (2 18) Colossians is like Ephesians in tone, especially in the emphasis on the doctrine of the mystical body of Christ (1 15–20, 1 24–25, 2 9–10) This little book contains several well-known passages, on the apostleship of St Paul (1 24–29), on baptism (2 12–15), on death and resurrection "with Christ" (2 20–3 4)

colossus (kulŏ'sus), name given, in antiquity, to a statue of very great size In Egypt were many colossi, 50 to 60 ft high The Pallas Athene on the Acropolis at Athens and the Zeus in the temple at Olympia in Greece were other examples The **Colossus of Rhodes,** one of the SEVEN WONDERS OF THE WORLD, was a large bronze statue of the sun god, Helios, in the harbor of Rhodes It was built wholly or in part by Chares of Lindus (Rhodes) between 292 and 280 B C Its height probably was something over 100 ft The cost was defrayed by the sale of armaments left by DEMETRIUS I It fell in an earthquake in 224 B C , and its huge fragments lay about for several centuries A modern legend says that ships could pass between its legs Among colossi of later times the Great Buddha at Kamakura, Japan, and the Bartholdi Statue of Liberty in New York harbor are notable Of two colossal figures of Christ in South America, one is at Rio de Janeiro, and the other, the Christ of the Andes, between Argentina and Chile

Colquhoun, Patrick (kŏhōōn'), 1745–1820, British economist and statistician, b Scotland Active in Glasgow (where he founded the chamber of commerce) and London civic affairs, he became known for his *Treatise on the Police of the Metropolis* (1795, 7th ed , 1806), an exposé The most noted of his works is *Treatise on the Population, Wealth, and Resources of the British Empire* (1814), in which he set forth statistical estimates of the distribution of national income His figures, demonstrating the exploitation of the working classes, long influenced social and economic reformers.

Colquitt, city (pop 1,416), co seat of Miller co , SW Ga , on Spring Creek and WNW of Thomasville, inc. 1860 It is a farm trade center

Colrain (kŏlrān'), textile town (pop 1,497), NW Mass , in the Berkshires NW of Greenfield, settled 1735, inc 1761

Colt, Samuel, 1814–62, American inventor, b. Hartford, Conn In 1835 he patented a revolving-breech pistol and founded at Paterson, N.J , the Patent Arms Company, which failed in 1842 An order for 1,000 revolvers from the U.S. government in 1847 in the Mexican War made possible the reestablishment of the manufacturing business. He later

built the Colt's Patent Fire-Arms Manufacturing Company factory at Hartford He also invented a submarine battery used in harbor defense and a submarine telegraph cable. So popular did his revolving-breech pistol become that today the word Colt is frequently used as a generic term for the revolver. See Jack Rohan, *Yankee Arms Maker* (1935)

Colter, John (kōl'tur), c 1775–1813, American trapper and guide, b. Virginia In 1803 he enlisted in the Lewis and Clark expedition and in 1806, on the return trip, was granted a discharge to join a party of trappers The following year, on his way to St Louis, he met the expedition of Manuel Lisa and was engaged to guide the party to the mouth of the Big Horn, where a post was built Lisa sent Colter on a mission to the Crow Indians His exact route is not certain, but he is believed to have crossed, alone and on foot, the Wind River Mts and the Teton range, and he may have been the first white man to see the region which he traversed—now included in Yellowstone National Park He was severely wounded in a battle between the Crow and Blackfoot Indians, but he escaped and made his way back to the post In 1809 he guided an expedition of the St Louis Missouri Fur Company to the Three Forks of the Missouri, returning to St Louis in 1810 He furnished valuable data to Clark, who was compiling maps for the report of the Lewis and Clark expedition See biography by Stallo Vinton (1926)

Colton, Walter (kōl'tun), 1797–1851, American journalist and clergyman, b Rutland co , Vt , grad Yale, 1822, and Andover Theological Seminary, 1825 He became a naval chaplain in 1831, *Ship and Shore* (1835), *A Visit to Constantinople and Athens* (1836), and *Deck and Port* (1850) are the results of this experience In 1846 he was appointed alcalde of Monterey and founded the *Californian*, California's first newspaper *Three Years in California* (1850) is an excellent historical account of this period His *Sea and the Sailor* (1851) has a memoir by H T Cheever

Colton (kōl'tun), city (1940 pop 9,686, 1946 special census pop 12,717), S Calif , near San Bernardino, inc 1887 It processes and ships citrus fruits and has railroad shops

coltsfoot, Eurasian perennial herb (*Tussilago farfara*), naturalized in North America The scaly flower stalk bears a yellow flower head and downy fruits somewhat dandelionlike The leaves—appearing after the flowers—are large and vaguely heart shaped Coltsfoot is a weed in many places but is sometimes cultivated in gardens It was long a popular cough remedy Other plants are sometimes called coltsfoot, e g , the winter heliotrope or sweet coltsfoot, similar but with clustered purple or lilac flower heads

Colum, Padraic (pa'drĭk kō'lum), 1881–, Irish-American poet and dramatist, b Longford, Ireland Interested in the Irish literary renaissance, he wrote several plays produced by the Irish National Theatre In 1914 he came to the United States, where he has remained, lecturing and writing His use of Ireland for source material has familiarized Americans with Irish mythology and literary trends His volumes of verse include *Wild Earth* (1907) and *The Story of Lowry Maen* (1937) He also wrote *The Road round Ireland* (1926) His wife is **Mary (Maguire) Colum,** Irish-American critic, b Sligo, Ireland Her first book, *From These Roots* (1937), was not as popular as *Life and the Dream* (1947), her literary autobiography, read for its succinct portraits and evaluations of figures in Irish and American literary circles

Columba, Saint [Latin, =dove], or **Saint Columcille** (kŏlumkĭl'ē) [Irish, =dove of the church], 521–97, Irish missionary to Scotland, called the Apostle of Caledonia A prince of the O'Donnells of Donegal, he was educated at Moville and Clonard In Ireland he founded the monastery schools of Derry (545), Durrow (553), and Kells (c 554) In 563 Columba and several companions sailed to evangelize Scotland They landed at IONA and established their center there Thence they went about the Highlands and the northern Lowlands spreading the gospel Before Columba's death N Scotland was entirely Christian St Columba ranks with St Patrick and St Bridget as one of the three patron saints of the Gael, he was buried with them at Downpatrick A life of him was written by St ADAMNAN Feast June 9 See Hugh De Blacam, *The Saints of Ireland* (1942)

Columban, Saint (kŭlŭm'bun), c 540–615, Irish missionary to the continent of Europe, also called Columbanus He was trained in the abbey at Bangor He and 12 companions, including St Gall, sailed to France (c 585), where they set out to eradicate the general impiety that had grown up under the successors of Clovis He went into seclusion in the Vosges, and in 590 he founded the abbey at LUXEUIL St Columban apparently fell out with ecclesiastical and civil powers soon after his arrival, involved in the hostility between Queen Brunhilda and the Frankish bishops and generally feared by them all, he was exiled He went to Switzerland and to Bregenz, reestablished Christianity in the whole of the region, and in 612 arrived at Milan At BOBBIO he set up an abbey. There he died and lies buried St Columban was a considerable scholar, and all his foundations became known for their learning He composed a rule for monks, which was later completely replaced by the longer and less austere rule of St Benedict Feast Nov 21 and, in Ireland, Nov 24 See the classic work of Montalembert, *The Monks of the West,* Dom Louis Gougaud, *Christianity in Celtic Lands* (1932)

Columbia, 1 Town (pop 853), E Conn , W of Willimantic Its villages are Columbia, Hop River, and Chestnut Hill The town, organized in 1804, was originally part of Lebanon, it was settled probably c 1695 It is a scenic region of hills and streams, at Columbia Lake (375 acres), northwest of the village, is a resort In the town Eleazar WHEELOCK established the school for Indians which became Dartmouth College **2** City (pop 1,871), SW Ill , near the Mississippi below East St Louis, inc 1859 Limestone quarries are in the area **3** Town (pop 1,372), co seat of Adair co , S Ky , SSE of Louisville, settled c 1793 It produces lumber and flour Lindsey Wilson Junior College (coeducational) is here **4** City (pop 6,064), co seat of Marion co , S Miss , W of Hattiesburg and on the Pearl It was formerly a lumber center (naval stores are still produced) in an area now primarily engaged in agriculture Columbia was state capital for part of 1821 The state industrial and training school is near by **5** City (pop 18,399), co seat of Boone co , central Mo , NNW of Jefferson City, laid out 1821, inc 1826 Trade center of a farm and coal area, with some small industries, it is best known as the seat of the Univ of Missouri (see MISSOURI, UNIVERSITY OF), STEPHENS COLLEGE, and Christian College (junior, for women) The state cancer hospital is here There are several houses dating from the 1820s **6** Town (pop 1,090), co seat of Tyrrell co , NE N C , in the fertile tidewater area, on the Scuppernong just S of Albemarle Sound The town was a trading post before 1700, its name was changed several times before it became Columbia in 1810 **7** Industrial borough (pop 11,547), SE Pa , on the Susquehanna below Harrisburg and W of Lancaster, settled 1730, laid out 1788, inc 1814 It produces tobacco, textiles, and metal products John Wright, a Quaker, came to preach to the Indians here in 1726 **8** City (pop 62,396), state capital, and co seat of Richland co , central S C , at the head of navigation on the Congaree It is in the heart of a rich farm area and has many large textile mills and fertilizer, cottonseed-oil, printing, and farm-produce plants A trading post flourished near by in the early 18th cent In 1786 the site was chosen for the new capital, the legislature first met in its new quarters in 1790 In the Civil War most of the city was burned on the night of Feb 17, 1865, the day it was entered by Sherman's army Columbia is a cultural center the Univ of South Carolina (see SOUTH CAROLINA, UNIVERSITY OF), Allen Univ (Negro, Methodist Episcopal, coeducational, 1871), and Benedict College (Negro, Baptist, coeducational, 1871) are here Also in the city are the state penitentiary, the state hospital, and a U S veterans' hospital Notable buildings include the statehouse (begun 1851), Woodrow Wilson's boyhood home, and several fine ante-bellum houses Near by are U S Fort Jackson and Lake Murray (formed by the dammed Saluda) Important annual events are Columbia include state fairs and the Columbia Music Festival See H K Henning, *Columbia, Capital City of South Carolina, 1786 1936* (1936) **9** City (pop 10,579), co seat of Maury co , central Tenn , on the Duck river and SSW of Nashville, settled 1807, inc 1817 It is a noted mule market and the trade and processing center of a fertile farm area which also has phosphate mines The James K Polk home is here, other fine old houses are in the area Near by are Columbia Military Academy and an experiment station of the Univ of Tennessee College of Agriculture In Feb , 1946, the city was the scene of a race riot, the subsequent trials attracted wide interest

Columbia, river, c 1,210 mi long, rising in Columbia Lake, SE British Columbia It flows first northwest, then hooks sharply about the Selkirk Mts to flow S through Upper Arrow Lake and Lower Arrow Lake and receive the Kootenai (spelled Kootenay in Canada) and enter the United States after a course of some 400 mi It continues S through Washington, receives the waters of the Clark Fork—Pend Oreille system from the Rockies and just below the mouth of the Spokane is forced by lava beds to make a great bend westward before veering south again, running the while entrenched in a narrow valley through the Columbia plateau Its greatest tributary, the Snake, joins it just before it turns west again and acts as the boundary between Oregon and Washington on its way to the Pacific It has created regal gorges by cutting through the Cascades and the Coastal Range, and it is enriched by the Cowlitz and Willamette rivers, which drain the Puget Trough between those ranges This river, commanding one of the great drainage basins of the United States, was discovered by Robert GRAY in 1792 and is named for his vessel, the *Columbia* It was first actually entered by a British naval officer, William R. Broughton, later that same year Long before this time the Indians were busy fishing salmon in season from the river, and today the fisheries are of great importance, though the heavy settlement along it and its tributaries and the human use have reduced the salmon runs The first whites to arrive overland were the LEWIS AND CLARK EXPEDITION and the fur traders, notably DAVID THOMPSON of the North West Company and the founders of Astoria The river was the focus of the American settlement that created OREGON, and the river was itself sometimes called the Oregon and the River of the West Irrigation began early, and the waters of some tributaries were used to build agriculture and orchards, as in, e g , the valleys of the Yakima and the Wenatchee After 1932 plans gradually developed to use the Columbia to its ultimate possibility The goals have been to establish flood control, which would alleviate the destruction seen in the Columbia's greatest flood, that of 1894, and somewhat lesser but damaging floods, such as that of 1948, to improve navigation, which has always been significant and may be regulated even up the Snake above Lewiston, Idaho, to extend irrigation, to make optimum use of the water of the Columbia and its tributaries, and to produce hydroelectric power to supply industries and homes of the Pacific Northwest The first big dams on the Columbia proper were BONNEVILLE DAM, GRAND COULEE DAM (which created Franklin Delano Roosevelt Reservoir, with the water of the Okanogan, the Spokane, and other streams), and the privately owned Rock Island Dam Projects on the river and its tributaries, some constructed, some authorized by Congress, and some merely proposed by the Bureau of Reclamation or the U S Army Corps of Engineers, numbered more than 200 in 1950 and included the MCNARY DAM, irrigation projects on the Snake and flood controls and irrigation projects on the Willamette, projects to use the JOHN DAY and the Deschutes, the VALE project, and expansion of the use of the YAKIMA The power development already proved its industrial worth in the Second World War, and afterward it promised to change the whole economic pattern of the Pacific Northwest See W D Lyman, *The Columbia River* (3d ed , 1918), U S Dept of the Interior, Bureau of Reclamation, *The Columbia River* (1947), Murray Morgan, *The Columbia, Powerhouse of the West* (1949)

Columbia, District of see DISTRICT OF COLUMBIA

Columbia City, city (pop 4,219), co seat of Whitley co , NE Ind , WNW of Fort Wayne Automotive and aircraft products are made here

Columbia College see COLUMBIA UNIVERSITY, EAU CLAIRE, S C , LORAS COLLEGE

Columbia Heights, city (pop 6,035), E Minn , northern suburb of Minneapolis, inc 1921

Columbiana (-bēăn'ŭ) **1** Town (pop 1,197), co seat of Shelby co , central Ala , SSE of Birmingham, in a farm area, founded c 1825 **2** Village (pop 2,687), NE Ohio, near the Pa line S of Youngstown, in a coal area, settled 1802, inc 1837, reinc 1857 Boilers, machinery, and furniture are made here

Columbian Exposition see WORLD'S COLUMBIAN EXPOSITION

Columbia University, in New York city, founded 1754 as King's College by grant of King George II Its first president was Samuel JOHNSON The administration of his successor, Myles COOPER, was interrupted by the Revolution, the college was closed but was reopened as Columbia College (1784) Title was at first vested in the regents of the Univ of the State of New York but in 1787 was transferred to the trustees of the college, who elected William Samuel JOHNSON president Presidents in the 19th cent included Charles King, F A P Barnard, and Seth Low, in whose administration the college moved to Morningside Heights There under President Nicholas Murray BUTLER (1902–45) it was greatly expanded In 1948 Gen Dwight D EISENHOWER became president The gradual addition of professional and graduate schools resulted in assumption of the name Columbia Univ in 1896, in 1912 the name became Columbia Univ in the City of New York Columbia College remained the undergraduate school Of the other schools, the oldest (est 1767) is that of medicine, which was absorbed into the independent College of Physicians and Surgeons (chartered 1807) and with that body reabsorbed by Columbia in 1891 In 1945 the Faculty of Medicine became responsible also for the educational programs of the School of Dental and Oral Surgery, founded (1916) as the School of Dentistry and merged (1923) with the College of Dental and Oral Surgery of New York (founded 1905), the School of Public Health (1921), and the School of Nursing Other schools and faculties, with their dates of founding, include School of Law (1858), School of Engineering (est 1864 as School of Mines, divided 1896 into schools of Mines, Engineering, Chemistry, and Architecture, School of Architecture separated 1902, other three united 1929 as School of

Engineering), Faculty (earlier School) of Political Science (1880); Faculty of Philosophy (1890), Faculty of Pure Science (1892), Graduate School of Journalism (est. 1912 as School of Journalism and endowed by Joseph PULITZER, present standing, 1935); School of Architecture (in Faculty of Applied Science, 1896–1902, combined with Dept of Music, 1906–14, separate status, 1914), Graduate School of Business (est 1916, present standing, 1949); School of Library Service (1926), a merger of the New York State Library School and the Library School of the New York Public Library, School of International Affairs (1946), School of General Studies (1947), founded in 1910 as University Extension; School of Dramatic Arts (1948), and School of Painting and Sculpture (1948). The Russian Institute was established in 1946, and the East Asian Institute in 1948 Independent corporations forming part of the university educational system include Barnard College, the undergraduate college for women (1889, obtained present standing in the university, 1900), Teachers College (1888, present standing, 1898), College of Pharmacy (1829, present standing, 1904), and New York School of Social Work (1940) There is a reciprocal educational relationship with UNION THEOLOGICAL SEMINARY The School of Tropical Medicine of the Univ of Puerto Rico is maintained in part by Columbia Univ The university has a large cyclotron at "Nevis," an estate near Irvington Columbia Univ Press was organized in 1893, primarily for publishing the results of original research See *A History of Columbia University, 1754–1904* (1904), *The Rise of a University* (excerpts from the annual reports of F. A P Barnard and N M Butler, 2 vols , 1937)

Columbine (kŏ'lumbĭn), a stock character derived from the harlequinade or pantomime of the Italian *commedia dell' arte*, who also appeared in early Italian and French comic opera She was usually the daughter of Pantaloon and the beloved of Harlequin Columbine was witty, bright, and given to intrigue and is the forerunner of the soubrette See Allardyce Nicoll, *Masks, Mimes, and Miracles* (1931)

columbine, any of the plants of the genus *Aquilegia* (ăk''wĭlē'jŭ), perennials popular both as wild flowers and as garden flowers Columbines have delicate and attractive foliage and in spring or early summer long-spurred, usually pendent blossoms. The common Eastern red-and-yellow-flowered wild columbine (*Aquilegia canadensis*), frequenting rocky places, is also called rockbell, it is a favorite of hummingbirds, and the Indians made an infusion of the seeds for headache and fever The blue-and-white-flowered *Aquilegia coerulea* of the Rockies is the state flower of Colorado The common European columbine (*Aquilegia vulgaris*), blue, white, or purple flowered and escaped from gardens in the United States, has been the source of many of the garden kinds—some double and of various soft colors

Columbium see NIOBIUM

Columbus, Christopher, Ital *Cristoforo Colombo* (krēstô'fôrô kôlôm'bô), Span *Cristobal Colón* (krēstô'bäl kôlōn'), 1451?–1506, discoverer of America, b. (almost certainly) Genoa, Italy He spent some of his early years at his father's trade of weaver and some years at sea He voyaged to the E Mediterranean in 1475 and was probably in England in 1476, the story of his visiting Iceland in the same year is possibly true, but not generally accepted In 1477 he settled in Lisbon, marrying the daughter of a Portuguese navigator and living in the atmosphere of the great period of Portuguese exploration Recently discovered documents disclose that as a sugar buyer for a large Genoese mercantile house in the Portuguese islands off Africa (the Azores, Cape Verde, and Madeira groups), he met pilots and navigators who believed in the existence of islands farther west His younger brother, Bartholomew, was an expert chart maker in Lisbon and possibly accompanied Bartholomew Dias on his voyage to the Cape of Good Hope His influence on his older brother is thought by some to have been very great, as was also, possibly, that of Martín Alonso PINZÓN, the pilot who commanded the *Pinta* on the first voyage Columbus was but one among many who believed in these western lands and his uniqueness lay rather in the persistence of his dream in the face of repeated rebuffs and disappointments The story of his failure to secure support at the court of John II of Portugal and of his eight years of supplication at the court of Spain until, after the conquest of Granada, Ferdinand and Isabella decided to risk the enterprise, is a familiar one. On Aug 3, 1492, he sailed from Palos, Spain, with three small ships, the *Santa María*, commanded by Columbus himself, the *Pinta* under Martín Pinzón, and the *Niña* under Vicente Yáñez PINZÓN After halting at the Canary Islands, he sailed due west from Sept 6 until Oct 7, when, at Martín Pinzón's instigation, he changed his course to the southwest On Oct 10 a small mutiny was quelled, and on Oct 12 he landed on a small island (Watling Island, see SAN SALVADOR) in the Bahama group He took possession for Spain and, with impressed natives aboard, discovered other islands in the neighborhood. On Oct. 27 he sighted Cuba and on Dec. 5 reached Hispaniola. On Christmas Eve the *Santa María* was wrecked on the north coast of Hispaniola, and Columbus, leaving men there to found a colony, hurried back to Spain on the *Niña* in an effort to return before Martín Pinzón, who had become his rival His reception was all he could wish; according to his contract with the Spanish sovereigns he was made "admiral of the ocean sea" and viceroy and governor general of all new lands he had discovered or should discover, and he was fitted out with a large fleet of 17 ships, with 1,500 colonists aboard, for his second expedition in Oct , 1493. Sailing from Cádiz, he made his landfall this time in the Lesser Antilles, and his new discoveries included the Leeward Islands, St. Kitts, the Virgin Islands, and Puerto Rico He arrived at Haiti to find the first colony destroyed by the Indians, founded a new colony near by, then sailed off to explore the southern coast of Cuba and discovered Jamaica. Before his return to Spain he ordered the site of the colony changed to Santo Domingo Upon his third voyage, not until 1498 as the novelty of the New World was wearing off, Columbus sailed still farther south and made his landfall on Trinidad. He discovered the mouth of the Orinoco in Venezuela (in the region of the later colony of New Granada) and realized that he saw a continent, but without further exploration he hurried back to Haiti to administer his colony In 1500 an independent governor arrived, sent by Isabella and Ferdinand as the result of reports on the wretched conditions in the Haitian colony, and he sent Columbus back to Spain in chains The admiral was immediately released, but his favor was on the wane, other navigators, including Amerigo VESPUCCI, had been in the New World and established much of the coast line of NE South America It was 1502 before Columbus finally gathered together four poorly equipped ships for a fourth expedition by which he hoped to reestablish his reputation If he could sail past the islands and far enough west he hoped he might still find lands answering to the description of Asia or Japan He struck the coast of Honduras in Central America and coasted southward along an inhospitable shore, suffering terrible hardships, until he reached the Gulf of Darien, where he was forced to abandon his hopes and return to Spain It is true the Vikings (see LEIF ERICSSON and THORFINN KARLSEFNI) had previously discovered America (c 1000), but their knowledge had been converted into saga so that Columbus was no less a discoverer Although his voyage was of great importance and the beginning of American history, Columbus died in neglect, almost forgotten Historians have disputed for centuries his skill as a navigator, but it has been recently proved that with only dead reckoning Columbus was unsurpassed in charting and finding his way about unknown seas *The Voyages of Christopher Columbus* (tr and ed by Cecil Jane, 1930) is a modern edition of his journal and other documents See biographies by Washington Irving (1827–28), C R Markham (1892), J B Thacher (1903–4), and Filson Young (1906), S E Morison, *Admiral of the Ocean Sea* (2 vols., 1942), which can be regarded as the most authoritative work

Columbus 1 City (pop 53,280), co seat of Muscogee co , W Ga , at the head of navigation on the Chattahoochee and WSW of Macon, on the fall line It is an important industrial and shipping center with textile mills (the first was established in 1838), ironworking plants, and farm-product processing plants Founded in 1828 as a trading post on the site of a Creek Indian village, it was a busy river port until the arrival of railroads in the 1850s During the Indian war of 1836, the Mexican War, and the Civil War, Columbus was an important supply point The city was taken by Federals in April, 1865 With the development of hydroelectric power plants in the early 20th cent its industrial growth was given added impetus Fort Benning, a large army training post, is 9 mi south 2 City (pop 11,738), co seat of Bartholomew co , SE Ind , on the East Fork of the White River and c 40 mi SE of Indianapolis, settled c 1819 Its manufactures include automobile accessories and parts and household appliances Tipton Knoll, one of the largest prehistoric Indian mounds in the state, is here 3 City (pop 3,402), co seat of Cherokee co , extreme SE Kansas, SSW of Pittsburg, laid out 1868, inc 1871 It is a trade center for a farming area In the region are coal, zinc, and lead deposits 4 City, SW Ky see CLINTON 5 City (pop 13,645), co seat of Lowndes co , NE Miss , on the Tombigbee near the Ala line, settled 1817, inc 1821. It is the shipping and industrial center for a cotton, livestock, and timber area Franklin Academy, the first free school in the state, now part of the public school system, was opened in 1821 MISSISSIPPI STATE COLLEGE FOR WOMEN is here. There are a number of fine ante-bellum houses. 6 City (pop. 7,632), co seat of Platte co., E Nebr., in a prairie region, at the junction of the Loup with the Platte W of Omaha, founded 1856 It is a railroad, manufacturing, and trade center for a livestock, dairying, and grain area and is the headquarters for the Loup river power project. 7 City (pop. 306,087), state capital, and co. seat of Franklin co , central Ohio, on the Scioto and Olentangy rivers, inc as a borough 1816, as a city 1834. Laid out as state capital in 1812, Columbus actually took over the government from Chillicothe in 1816 An industrial, railroad, air, and trade center of a rich farm area, it produces such varied goods as fire-fighting apparatus, airplanes, foundry and machine-shop and other iron and steel products, shoes, glass, stoves, and packed meat It is a port of entry Transportation facilities stimulated its growth in 1831 a feeder canal was opened to the Ohio and Erie Canal, by 1833 the National Road reached here; and in 1850 the first railroad arrived The city is the seat of OHIO STATE UNIVERSITY, Capital Univ (at Bexley), St. Mary of the Springs College, and Franklin Univ. Its numerous landmarks include the state capitol, the Columbus Gallery of Fine Arts (1931); state institutions for the deaf, the blind, the feebleminded, and the insane, a state penitentiary, Battelle Memorial Institute (for industrial research in metallurgy, graphic arts, ceramics, and other fields), the Ohio State Office Building, with the state library, the state fairgrounds, Fort Hayes, U.S. army post, the library and museum of the state archaeological and historical society, and a Confederate cemetery with the graves of soldiers who died in a Civil War prison camp here Near by are the municipal airport and the zoo. 8 City (pop 2,422), co seat of Colorado co , S Texas, on the Colorado and W of Houston, founded 1823, inc 1928 The old city has wide, oak-bordered streets and yards but also has gravel pits and small industries It has the thriving trade of a diversified farm area 9 City (pop 2,760), central Wis., NE of Madison and on the Crawfish river, in a farm and dairy region, settled c 1840, inc 1874 Louis H. Sullivan designed a local bank building.

Columbus Day, celebrated Oct 12 in 34 states of the United States and in Puerto Rico It is also observed in several of the Latin American republics and in certain Spanish and Italian cities. It commemorates the discovery of America

Columbus Grove, village (pop 1,727), NW Ohio, N of Lima It has small manufactures

Columcille, Saint see COLUMBA, SAINT

Columella (Lucius Junius Moderatus Columella) (kŏlūmĕ'lu), fl 1st cent A D , Latin writer on agriculture, b Gades (now Cádiz, Spain) Of his work there remains a 12-book *De re rustica*, treating general husbandry, the care of domestic animals, and farm management The 10th book, modeled on Vergil, is in hexameters . A little essay on trees also survives Columella's Latin is facile and elegant, and his information is surprisingly accurate

column, vertical architectural support, circular or polygonal in plan as distinguished from a pier which is square or rectangular, and widely variable as to proportions and adornment Columns arranged in a row form a COLONNADE In the trabeated or post-and-lintel system of construction the column is the perfected form given to the supporting element The columns of classic architecture represent the attempt to design proportionings and details which would create maximum structural harmony It is in the Greek temples of the Hellenic period (700–146 B C) that these ideals reached their perfect fulfillment In Greek, Roman, and Renaissance architecture the various column types, taken together with the entablatures which they support, form the classic ORDERS OF ARCHITECTURE The classic column has the three fundamental elements of base, shaft, and capital. The shaft has a gradual upward tapering (entasis), and the capital which crowns it provides a decorative transition between the circular column and the rectangular entablature Early forms of masonry columns can be seen in the rock-cut tombs at Beni Hassan in Egypt, with their polygonal shafts and block capitals In fully developed Egyptian architecture the columns were of gigantic size, spaced very closely together, and were reserved for inner courtyards and halls In the Aegean area, in pre-Hellenic times, the only column type known to have been used is one with a cushionlike cap and with its shaft tapering downwards Subsequent order types were the archaic forms of Doric, developed by the Dorians after their coming (before 1000 B C) into the region By the 7th cent B C this Greek Doric had been established in its design After this time, the Doric, Ionic, and Corinthian column types advanced toward perfect proportions and details and formed the basis for the columnar architecture of the Romans Though Greek columns always had vertical channels or flutes cut in their shafts, those of the Romans were often without them In Greek buildings the columns were always structurally indispensable, but the Romans and later the Renaissance and modern architects used them largely as a decorative feature, mostly following fixed rules of proportions The columns of Romanesque, Byzantine, and Gothic buildings were organically structural elements and were without canons of proportioning. The columns of Chinese and Japanese architecture are

circular or polygonal wood posts, with bases but without capitals, having instead an ornamented projecting bracket. In Indian architecture columns exhibit great variety of detail· shafts, bases, and capitals are intricately ornamented. In modern fireproof construction the word *column* designates the vertical structural members of steel See CORINTHIAN ORDER; DORIC ORDER, IONIC ORDER

columnist, newspaper, a journalist who conducts a column in the daily press. Although originally humorous in character, the column in many cases has supplanted the editorial for authoritative opinions on world problems. Independent of the policy of his paper, the columnist is allowed to attack political and social institutions as well as individuals Among well-known American columnists are Eugene Field, George Ade, Bert Leston Taylor (B L T), Finley Peter Dunne, Don Marquis, Heywood Broun, Ernie Pyle, and the contemporary writers F P Adams (F P A) and Walter Winchell See Charles Fisher, *The Columnists* (1944).

Colusa (kŭlō'sŭ), town (pop. 2,285), co seat of Colusa co, N central Calif, on the Sacramento river and NW of Sacramento, in an irrigated farm area; inc 1870.

Colville (kŏl'vĭl), city (pop. 2,418), co seat of Stevens co, NE Wash, on the Colville river, and NW of Spokane, founded 1826 as a Hudson's Bay Company post, inc 1890.

Colville Indians, North American tribe, one of the largest divisions of the Salishan linguistic stock Reduced to a few hundreds by 1872, they were placed on a reservation in NE Washington, since that time their numbers have markedly increased

Colvin, Sir Sidney (kŏl'-), 1845–1927, English man of letters Slade professor of fine arts at Cambridge and keeper of prints at the British Museum, he was a friend of Stevenson, whose works and letters he edited. Besides many articles on literature and art, he wrote studies of Landor (1881) and Keats (1887), as well as *A Florentine Picture Chronicle* (1898), *Early Engraving and Engravers in England* (1905), and *Memories and Notes of Persons and Places* (1921) See E V Lucas, *The Colvins and Their Friends* (1928)

Colwyn (kŏl'wĭn), borough (pop 2,202), SE Pa, near Philadelphia

Colwyn Bay (kŏl'wĭn), municipal borough (1931 pop 20,886, 1943 estimated pop 24,873), Denbighshire, Wales It is a popular seaside resort, with a promenade and good bathing

Colyn, Alexander. see COLINS, ALEXANDER

coma (kō'mŭ) Deep loss of consciousness from which a person cannot be roused may result from APOPLEXY or other brain injury, EPILEPSY, DIABETES, uremia, alcoholic intoxication, morphine poisoning, SHOCK, SUNSTROKE, or HEMORRHAGE Each condition requires special treatment In the period before the physician's arrival any apparent cause of trouble should be treated It is important to distinguish between a condition which requires stimulation, such as shock and morphine poisoning, and one which requires absolute rest, such as apoplexy

Coman, Charlotte Buell, 1833–1924, American landscape painter, b Waterville, N Y Her works include *A French Village, Near Fontainebleau, Early Summer* (National Gall, Washington, D C), and *Clearing Off* (Metropolitan Mus)

Comanche (kōmăn'chē) **1** City (pop 1,533), S Okla, NW of Ardmore, in a farm, ranch, and oil region, founded 1892 on the site of an Indian village **2** Town (pop 3,209), central Texas, SW of Fort Worth, founded 1858, inc 1873 Long a cow town, Comanche keeps an Old West air though its business is processing peanuts, pecans, and dairy products and dressing and hatching poultry There are small industries

Comanche Indians, North American Indian tribe belonging to the Shoshonean group of the Uto-Aztecan linguistic stock They were a nomadic people with a typical Plain culture They separated from the Shoshone of Wyoming relatively recently and then appeared (c 1680) in the region around the Texas Panhandle and W Oklahoma This region became their regular habitat, though they were excellent horsemen and inveterate raiders, often pushing far S into Mexico They were extremely warlike and effectively prevented white men from passing safely through their territory for more than a century. They are said to have killed more whites in proportion to their own numbers than any other Indian tribe They were associated with the Kiowa, the Cheyenne, and the Arapaho in a loose confederacy They considered themselves superior to their associates, and their language served as trade language for the area They did not adopt the sun dance but probably did introduce the peyote ritual to the Plains tribes Never a large tribe despite their wide range, they were greatly reduced by warfare and disease. They numbered c.1,500 when they were attached to the Kiowa agency in present Oklahoma in 1904 They have since increased somewhat in numbers.

Comayagua (kōmäyä'wä), town (pop. 4,828), W central Honduras. Founded in 1540 on the Comayagua river, an important tributary of the ULÚA, Comayagua was the most important city of colonial Honduras, but with independence from Spain (1821) came bitter rivalry between it, as a Conservative stronghold, and the Liberal city, TEGUCIGALPA. In the political struggles following independence, the cities alternated as capital of the republic, but in 1880 Tegucigalpa became permanent capital. Today Comayagua is the center of an agricultural and mining region, but little remains of its former wealth

Comayagüela (kōmäyägwā'lä), town, S central Honduras Twin city of the capital, TEGUCIGALPA, across the Choluteca river, Comayagüela is expanding rapidly

comb, a toothed implement for arranging, confining, or ornamenting the hair Specimens have been found among the relics of lake dwellers and among Egyptian, Greek, and Roman antiquities Wood, bone, horn, ivory, stiff fibers of bamboo and cocoanut, tortoise shell, or metal combs, ornamented with carving, inlay, and inset work, jewels, and colored glass, have been a feature of headdress in different periods and places The old process of combmaking was to form a plate of the material chosen and then cut out the teeth with a double saw. By the modern method, a plate of a size sufficient for two combs is cut (usually with a die) so that the teeth of one comb are formed by the interstices of the other India rubber is first molded, then vulcanized Metal is cut, celluloid and other compositions may be either molded or cut The name is also given to tools for graining painted work, for pressing home the weft in a primitive loom, and for carding or combing fibers in preparation for spinning

Combaconam or **Combaconum,** India see KUMBAKONAM

Combe, George (kōōm, kōm), 1788–1858, Scottish phrenologist He practiced law for a time before becoming actively interested in phrenology He was responsible for the founding of the Phrenological Society and the *Phrenological Journal* and traveled and lectured in America and Europe He wrote on a wide range of subjects, including education, social reforms, and, in his later life, the relation between science and religion He is chiefly remembered for his *Constitution of Man* (1828), which was very popular in his day

Combe, William, 1741–1823, English satirist and miscellaneous writer As he was heavily in debt most of his life, his writing was mainly hack work, issued anonymously to avoid seizure of the proceeds by his creditors Combe is chiefly remembered for the "Dr Syntax" series, for which he wrote doggerel verse to accompany the illustrations of Thomas ROWLANDSON *The Tour of Dr Syntax in Search of the Picturesque* appeared in 1812, the second volume (*in Search of Consolation*), 1820, the third volume (*in Search of a Wife*), 1821

Combes, Émile (āmēl' kōb'), 1835–1921, French statesman An able politician of the left democratic group, he was minister of education under Léon Bourgeois (1895–96) and, succeeding Waldeck-Rousseau, was premier (1902–5) Anticlericalism, growing out of the DREYFUS AFFAIR, was at a peak, and Combes initiated the separation of Church and state in France Under the law of 1901 requiring religious associations to seek government authorization he abolished religious education Abrogation of the CONCORDAT OF 1801 was formalized by law in 1905 Combes was a member of the Briand cabinet of 1915–17

Combin, Grand (grā kōbē'), peak, 14,164 ft high, Valais, Switzerland, in the Alps near the Italian border

combination, in business see TRUST

combine, harvesting machine see REAPER

combing, a process which follows CARDING in the preparation of fibers for spinning, lays the fibers parallel, and removes noils (short fibers) The modern combing machine is a specialized carding machine Combing produces a fine sliver suitable for drawing out and spinning into strong, smooth yarn The process, used for long staple cottons and worsted yarn, is expensive, since up to 25 per cent of the card sliver is eliminated. Hackling is a form of combing, often by hand, used for linen See W E Morton, *An Introduction to the Study of Spinning* (1937)

combining weight of an element is computed by dividing the atomic weight of the element by its valence It is also defined as the proportion by weight in which an element combines, with hydrogen as equal to one or oxygen as equal to eight usually taken as a standard

combustion, commonly called burning, is the rapid OXIDATION of a substance with characteristic liberation of heat and light. In some cases, however, chemical reactions not involving oxygen exhibit similar characteristics, e g., hydrogen burns in chlorine with the liberation of heat and light, the two gases combining to form hydrogen chloride The PHLOGISTON THEORY advanced in the late 17th cent. by G E. Stahl to explain the combustion of substances in air received wide support until finally LAVOISIER succeeded in demonstrating the true nature of the phenomenon Before a substance will burn or undergo combustion, its temperature must be raised to a point called its kindling TEMPERATURE Factors such as the presence of a CATALYST, the air pressure, and the amount of oxygen in the air mixture affect the kindling temperature. A substance will begin to burn at a lower temperature when finely divided than when in large lumps or masses **Spontaneous combustion** (a name applied before its nature was understood) is a phenomenon in which a substance bursts into flame "spontaneously" without apparent cause It occurs sometimes in haystacks, in the holds of ships carrying coal, and in closets or boxes where oily rags have been allowed to collect When a substance undergoes slow oxidation and the heat evolved in the reaction is not lost (e g., when oil on a rag oxidizes and the folds of cloth keep in the heat), the temperature of the substance gradually rises until finally its kindling point is reached, and it bursts into flame The **heat of combustion** of a fuel is the total amount of heat evolved when a given amount of the fuel is burned This is used as a basis for comparing the heating value of fuels.

Comédie Française (kōmādē' frāsĕz') **or Théâtre Français** (tāä'trŭ frāsĕ'), state theater of France on the Rue de Richelieu in Paris. It was officially established by a royal decree of 1680 which merged the two French companies of comedians at Paris, the troupe of the Hôtel Guénégaud (see MOLIÈRE and BÉJART) and the troupe of the Hôtel de Bourgogne The following year an annual grant of 12,000 livres was allotted from the royal treasury, and a new theater was built for the company. In the Revolution its actors were scattered and the theater closed By decree of Napoleon in 1803 the institution was revived, and the company was given the organization it still maintains The system has no stars, all the permanent members, called *sociétaires* or associates, enjoy the same status, roles being apportioned by common agreement. In 1900 fire destroyed the historic building, but most of the works of art and all of the archives were saved, and the theater was rebuilt

comedo see BLACKHEAD

comedy, a light and amusing play or any literary work so presented as to leave a pleasant or happy impression European comedy originated in the ancient boisterous choruses and dialogue of the fertility rites at the feasts of Dionysus in Greece These celebrations with their broad jests developed into dramas designed to arouse mirth. comedy thus was the antithesis of TRAGEDY. What became known to historians as Old Comedy in Greece satirized real persons under their own names, the chorus was the mouthpiece of the author and in the usual interval in the middle of the play addressed political comments to the audience The plays of Aristophanes are the greatest examples of Old Comedy In New Comedy, which is generally considered to have begun in the mid-4th cent B C, the real characters, the chorus, and the political comment disappeared, only the story of events happening to imaginary figures and still designed to amuse remained, and the plays were more literary and decent, usually less satirical Menander was the most famous writer of New Comedy and was closely imitated by the Latin dramatists Plautus and Terence After the Middle Ages, when the drama developed from Christian liturgy (see THEATER), there were comic elements in the MIRACLE PLAY and the morality play and in the INTERLUDE In England the tradition of the interlude blended with that of the Latin classic comedies in the 16th-century plays by Nicholas Udall and others and in the later work of John Lyly The romantic comedy of the Elizabethans culminated in the great plays of Shakspere, whose comedies ranged from farcical to tragicomic, the latter called comedy only because the denouement is not tragic In France after the Middle Ages, the classical influence was stronger than in England, and it was combined with that of the Italian COMMEDIA DELL' ARTE by the greatest comic and satiric writer of France, Molière His work shaped that of the English Restoration playwrights—the comedy of manners written by Dryden, Wycherley, Congreve, and others. The moral tone of Restoration comedy was so low that the reaction against it started by Richard Steele resulted in the sentimental comedy written by him and by Richard Cumberland Meanwhile broad FARCE flourished The later 18th cent saw a resurgence of brilliant satirical character comedies in the plays of Goldsmith, Sheridan, and the two George Colmans Royall Tyler, one of America's earliest playwrights, was an imitator of this school The comedy of manners was carried on in the 19th cent by Oscar Wilde, and the modern social comedy was worked out by Pinero, Henry Arthur Jones, G B Shaw, Noel Coward, Galsworthy, and Maugham in England and by Howells and Clyde Fitch among others in the United States. Barrie and Milne may be said to have continued sentimental comedy The BALLAD OPERA of the 18th cent was one ancestor of English comic opera, made famous in the 19th cent. by W S Gilbert and A S Sullivan, and of 20th-century musical comedies, some of the best of which were written by the American G M Cohan See A H. Thorndike, *English Comedy* (1929), C. M Gayley, *Representative English Comedies* (3 vols, 1912), H. T. E.

Perry, *Masters of Dramatic Comedy* (1939). See also bibliography under THEATER

Comenius, John Amos (kŏmē'nēŭs), Czech *Jan Amos Komenský*, 1592–1670, Moravian churchman and educator, last of the Moravian bishops Comenius advocated relating education to everyday life by emphasizing contact with objects in the environment and systematizing all knowledge Teaching was to be in the vernacular rather than in Latin, and languages were to be learned by the conversational method He worked for a universal system of education offering equal opportunities to women His *Didactica magna* (1628–32, Eng tr by M W Keatinge in *Comenius*, 1931) contains an exposition of these principles He also wrote *Janua linguarum reserata* (1631, Eng tr , *The Gate of Tongues Unlocked*, 1659) and *Orbis sensualium pictus* (1658, Eng tr , *The Visible World*, 1659), one of the earliest illustrated books for children His collected works were first published in 1867 See S S Laurie, *John Amos Comenius* (1893), Will S Monroe, *Comenius and the Beginnings of Educational Reform* (1900)

comet (kŏ'mĭt) [ultimately Gr , = long haired], one of a number of heavenly bodies, nebulous in character, traveling in paths around the sun and sometimes visible on earth for a time varying from a few days to several months. Comets were for ages regarded with awe and sometimes with terror Many had been noted and recorded, but never had the return of one been predicted before 1682 At that time Edmund Halley concluded that the comet then under his observation must be the same as those which had been described in 1531 and 1607, and he predicted the date for its next appearance as the end of 1758 or early in 1759 Its actual arrival was in the spring of 1759, and it was observed again in 1835 and in 1910 Most periodic comets have orbits of elongated ellipses, and others appear to move in hyperbolic orbits The periods required for covering the known orbits range from 3 3 years (for Encke's comet) to several thousand years Donati's comet, with a period of c 2,000 years, was first observed by Donati in 1858 In earlier times it was thought that comets came into the solar system from some region beyond, but they are now considered to belong permanently to the system Ordinarily a comet has a head of cloudy brightness, within which a bright nucleus, or sometimes two or more nuclei, usually may be seen Sweeping from the head curves the tail, which sometimes extends to a length of over 100,000,000 mi , sometimes, however, the tail is short The head seems to be made up of widely distributed particles of rock or sand with gaseous matter between Materials appear to be thrown out from the nucleus; these, acted upon by the radiation pressure of the sun's light, which is strong enough to overcome the attractive force of the sun, are driven off in a direction opposite to the sun and spread along the heavens, forming the comet's tail So tenuous are comets that it requires no very great disturbing force to overcome the attraction holding their particles together Although some comets are commonly known by the name of the discoverer, in astronomical catalogues each is designated by the year in which it passes perihelion (i e , is closest to the sun) followed by a Roman numeral indicating its order of passage A newly discovered comet is temporarily designated by the year of its discovery followed by a small letter indicating the order of discovery, e g , comet 1911b would indicate the second comet to be discovered in 1911 See G F. Chambers, *The Story of Comets* (1909), Charles P Olivier, *Comets* (1930), F G Watson, *Between the Planets* (1941), B F Griffith, *Historic Stars & Comets an Outline in Pictures* (1948)

Comfort, unincorporated town (pop c 1,000), S central Texas, in the Guadalupe river valley and NW of San Antonio; founded 1854 by Germans A center of sheep and goat ranches, it also attracts campers and tourists

comic strip, combination of caricature with a story line, laid out in a series of pictures across a page and concerning the same character or set of characters. It grew out of the cartoon popular in the late 19th cent and developed as a circulation builder for newspapers The first advance toward the present form was *The Yellow Kid* (New York *World*, 1896) by R F Outcault This little boy, wearing a bright yellow nightshirtlike garment, appeared in a single cartoon and found such favor that he was established as a cartoon character Soon words began to appear on his shirt, the first time that a caption appeared inside the frame *The Katzenjammer Kids* (New York *American*, 1897) originated by Rudolph Dirks, started with one picture at a time and soon developed into a four-panel square describing consequent actions and using balloons for dialogue The enormous influence of comic strips on the reading public, later repeated with Al Capp's *Li'l Abner* (1934), was first demonstrated by Outcault's *Buster Brown* (1902), a refined but wicked small boy who owned a talking dog named Tige and who swamped America with Buster Brown fashions in the early 20th cent Before Bud Fisher's *Mutt and Jeff* (1907), comic strips did not appear regularly nor were they laid out with the panels in a line. By this time newspapers were featuring comics regularly, commonly in black and white during the week and in full color on Sunday Among the best known of the humorous strips were *Foxy Grandpa* (1900), by Charles E. Schultze, *Krazy Kat* (c 1910), by George Herriman, *Bringing Up Father* (1913), by George McManus, *Barney Google* (1919), by Fred Laswell, and *Boob McNutt* (1924), by Rube Goldberg With *Polly and Her Pals* (1912), by Cliff Sterrett, a pretty girl became the heroine, and new formulas of adventure, romance, and family life soon gained immense popularity The best known of the family strips are *Mr and Mrs* (c 1915), originated by Clare Briggs, *The Gumps* (1917), by Sidney Smith, *Gasoline Alley* (1919), by Frank King, and *Blondie* (1930), by Chic Young Among the most popular of the adventure strips are *Dick Tracy* (1931), by Chester Gould, and *Superman* (1938), by Jerry Siegel and Joe Shuster See Sheridan Martin, *Comics and Their Creators* (1942), Coulton Waugh, *The Comics* (1947)

Comines, Commines, or **Commynes, Philippe de** (all fēlēp' dŭ kōmēn'), c 1447–c 1511, French historian, courtier, and diplomat He left the service of Charles the Bold of Burgundy in 1472 to enter that of Louis XI of France, who rewarded him richly. After Louis's death he plotted against Charles VIII and was banished from court, but he later regained favor, accompanied Charles to Italy, and was briefly ambassador to Venice His *Mémoires sur les règnes de Louis XI et de Charles VIII* (available in many editions and translations) is a historical and literary work of the highest rank It contains striking portraits of Charles of Burgundy, Louis XI, and Charles VIII and is remarkable for its penetrating analysis of men and motives

Cominform (kŏ'mĭnfôrm), abbreviated name of the Communist Information Bureau, set up in 1947 by the Communist parties of the USSR, Bulgaria, Czechoslovakia, France, Hungary, Italy, Poland, Rumania, and Yugoslavia Its stated aim is to facilitate the exchange of experience of the parties and, if necessary, their cooperation Although its decisions are not binding (as were those of the Comintern), and although membership in the Cominform is not obligatory for Communist parties, the Cominform is a powerful instrument in the shaping of Communist policy and tactics throughout the world The first headquarters of the Cominform was at Belgrade, Yugoslavia, but it was moved to Bucharest, Rumania, in 1948 after the Cominform's denunciation of the Yugoslav Communist party, which was expelled from the organization

Comintern (kŏ'mĭntûrn) [from Communist International] or **Third International,** organization founded at Moscow in 1919 with the purpose of furthering the establishment of Marxist socialism in the world It originally consisted only of the Russian and German Communist parties—the only ones then in existence—and a number of left-wing Socialist splinter groups from other countries The Comintern thus was instrumental during the early 1920s in the formation of Communist parties out of the extremist groups that seceded from the more moderate elements of the world's Socialist parties The Comintern included all Communist parties, which met in Communist world congresses at Moscow and coordinated their policies by permanent committees Thus Communists anywhere were actually members of a single world-wide organization Asserting that they wished to protect the world against the Third International, Germany and Japan concluded, for their own purposes, the so-called Anti-Comintern Pact of 1936, which became closely coordinated with the Rome-Berlin AXIS Renewed in 1941, the Anti-Comintern Pact included Bulgaria, Croatia, Denmark, Finland, Germany, Italy, Hungary, Japan, Manchukuo (Manchuria), Rumania, Slovakia, Spain, and the Japanese-controlled Nanking government in China In 1943, in order to allay the misgivings of its allies in the Second World War, the government of the USSR brought about the dissolution of the Comintern The Cominform, created in 1947, is in theory at least, not a successor to the Comintern, for it does not include all the Communist parties in the world and it possesses no policy-making authority

comma see PUNCTUATION

Commagene (kŏmăjē'nē), district of ancient N Syria, on the Euphrates river and S of the Taurus range, now in SE Asiatic Turkey Its metropolis was Samosata The fertile agricultural district was made part of the Assyrian Empire and later of the Persian Empire In the period after Alexander the Great, it gradually assumed independence under the Seleucid kings of Syria and revolted, declaring absolute independence, early in the 2d cent B C. The ruling dynasty was related to the Seleucids The king in 64 B C. had his territory enlarged by Pompey as a Roman ally, but the kings later aided the Parthians and were in trouble with Rome Vespasian finally (A D 72) annexed it to the province of Syria

Commager, Henry Steele (kŏ'mĭjûr), 1902–, American historian, b Pittsburgh, Pa , educated at the Univ. of Chicago (Ph B , 1923, M.A , 1924; Ph.D , 1928) and at the Univ of Copenhagen (1924–25). He taught history at New York Univ from 1926 to 1938 and in 1938 became a professor of American history at Columbia Univ. His writings, often in collaboration with other historians, are extensive. Among them are *The Growth of the American Republic* (with Samuel E Morison, 1930, 3d ed , revised and enlarged, 2 vols , 1942), *Theodore Parker* (1936; 2d ed , 1947), *Our Nation* (with Eugene C Barker, 1941), *Majority Rule and Minority Rights* (1943), and *The American Mind* (1950) He edited *Documents of American History* (1934, 5th ed , 1949), *The Heritage of America* (with Allan Nevins, 1939, revised and enlarged ed , 1949), *Readings in American History* (with Allan Nevins, 1939), *America in Perspective the United States through Foreign Eyes* (1947), and *The St Nicholas Anthology* (1948) Commager also contributed (especially book reviews) to various magazines and periodicals and was made editor of "The Rise of the American Nation" series (40 vols.; in process in 1950)

Commander Islands: see KOMANDORSKI ISLANDS

Commandments, Ten see TEN COMMANDMENTS

commando, small military raiding unit of a type first used by the Boers in the South African War Commando forces were organized (1940) by the British in the Second World War They were at first under the command of Admiral Sir Roger J. B Keyes and later under Lord Louis Mountbatten Specially trained for dangerous work, they carried raids and scouting missions into enemy-held territory The most celebrated of their raids were at Dieppe in 1942 and on the Lofoten Islands off Norway They also did excellent service in preparing the way for attacks, especially in sabotage work The U S army ranger units were somewhat similar and were also popularly called commandos See *Combined Operations the Official Story of the Commandos* (1943)

commedia dell' arte (kōm-mā'dēa dĕl-lar'tā), a popular form of comedy employing improvised dialogue and masked characters which flourished in 16th-century Italy It may have derived from the Byzantine mimes of the Eastern Roman Empire or have been a continuation of the *Fabulae Atellanae* of the Oscans and Romans, but the most widely accepted view is that it was an imitation of the Greek and Roman mimes *Commedia dell' arte* presented satiric songs, dancing, and farces It gave rise to the traditional characters of pantomime, Harlequin, Clown, Pantaloon, Scaramouche, and Columbine, which such performers as the ANDREINI made famous Of great importance in the history of the theater, it admitted women to the stage and freed the theater from the artificialities of early Italian drama See P L Duchartre, *The Italian Comedy* (Eng. tr , 1928), Winifred Smith, *Italian Actors of the Renaissance* (1930), Allardyce Nicoll, *Masks, Mimes, and Miracles* (1931), K M Lea, *The Italian Popular Comedy* (1934)

Commerce 1 City (pop 3,294), NE Ga , NE of Atlanta, in a farm area, inc 1883 2 City (pop 2,422), extreme NE Okla , in a region of lead and zinc mining 3 City (pop 4,699), E Texas, NE of Dallas, settled 1874 A cotton center in the northeast corner of the state, it is the seat of East Texas State Teachers College

commerce, traffic in goods, usually conceived as other than domestic trade Engaged in by all peoples from earliest times, it has been carried on in some areas and by some peoples more than others, because of special advantages or aptness The Egyptians, the Sumerians and later inhabitants of Mesopotamia, the Cretans, the Syrians, the Phoenicians, the Greeks, the Arabs, and the Western Europeans have thus excelled, tapping the resources of the East, Oceania, the Americas, and Africa Thus the center of commerce has changed from the Mediterranean to the North Sea and the Atlantic The Crusades did much to widen European trade horizons and prefaced the passing of trade superiority from Constantinople to Venice and other cities of N Italy In the 15th and 16th cent with the sudden expansion of Portugal and Spain the so-called commercial revolution reached a climax In N and central Europe, the earlier supremacy of the Hanseatic League, the Rhenish cities, and the cities of N France and Flanders was eclipsed by the rise of national states Antwerp began its long career of glory when the Spanish were losing hegemony, and the Dutch briefly triumphed in the race for world commerce in the 17th cent The Dutch in turn lost to British-French rivalry which by 1815 left Britain paramount The Industrial Revolution of the 18th and the 19th cent further aided the development of commerce The rise of the CHARTERED COMPANY under the auspices of the national state had much to do with this expansion of trade, as did the modern corporation, which later displaced the chartered company World commerce was also aided materially by the invention of the astrolabe, the mariner's compass, and the sextant; by the development of iron and steel construction, by the application of steam to both land and water transport, and by the more recent development of

communication devices such as the telephone, telegraph, cable, and radio and of new inventions such as refrigeration, the gasoline engine, the electric motor, and the airplane The theory of commerce as imposed by the national state has varied from the MERCANTILISM of the 17th and 18th cent and the protective tariff of the 19th and 20th cent, to the free trade which Britain long upheld The **United States Department of Commerce** was organized in 1903 as the Dept of Commerce and Labor Before 1903 its work had been handled mainly by the Treasury Dept In 1913 the Dept of Labor and the Dept of Commerce were separated The latter includes the Bureau of the Census, the Coast and Geodetic Survey, the Bureau of Foreign and Domestic Commerce (including the work of commercial agents and attachés at home and abroad), the Inland Waterways Corp, the National Bureau of Standards, the Weather Bureau, the Patent Office, and the Civil Aeronautics Administration The Interstate Commerce Commission and the Federal Trade Commission are separate government agencies See Clive Day, *A History of Commerce* (4th ed, 1938), M A Heilperin, *The Trade of Nations* (1947).

commercial law. In modern usage the term "commercial law" is generally confined to the laws which govern business transactions, except those relating to the carriage of goods (see MARITIME LAW) Commercial law as a distinct body of jurisprudence is probably coeval with the beginning of large-scale trade Formal documents and other evidences of regularized trade practices are known from Egypt and Babylonia In many parts of the ancient world foreign merchants were allowed to regulate their affairs without interference and were settled in special sections of commercial cities where they might follow their own religions and customs ROMAN LAW incorporated features of the already-developed commercial law, which, however, was no longer segregated for handling in special courts but was treated simply as part of the whole legal system The barbarian invasions of Europe caused much social disruption and a consequent decline in trade When, in the late Middle Ages, long-range commerce again became possible in Europe, merchants were once more able to determine the rules under which they would function In the cities of N Italy and S France the merchant class frequently dominated the state and could enact the needed rules as legislation In other parts of Europe associations of merchants bought protection from powerful lords or kings who permitted them to conduct fairs and to establish regulations and methods of enforcement (usually ostracizing infringers) Both classes of merchants established special courts where summary judgment was granted without regard for the technicalities of procedure and doctrine in the regular courts and without the use of lawyers The term "law merchant" was applied to the substantive principles which eventually emerged from this judicial activity The law merchant developed later in England than on the Continent, and it was perhaps not fully established there until the mid-16th cent, when English trade with the New World became important In England the law was administered by special courts having jurisdiction only over those engaged in trade, these were the courts of piepoudre [Fr *pied poudré*=dusty foot, an allusion to the dusty shoes of merchant judges who perhaps had been trudging the roads] The royal courts in early days refused to hear merchants' suits, but in the 17th cent they reversed this position and obtained exclusive jurisdiction At first, however, the litigants were required to present proof of the law merchant in each case The uncertainty and delay which resulted from this requirement demanded reform, and in the 18th cent Lord Chief Justice Mansfield made the law merchant a part of the common law and abolished the requirement of special proof In the United States the principles prevailing in England in the late 18th cent were adopted In distinction to the United States and England, on the continent of Europe commercial law remains a separate subject matter with its special courts. It has been argued that the continental system is superior in that it distinguishes the business affairs of formally established enterprises from those entered into casually by private persons The Anglo-American system, on the other hand, has been defended as affording no favoritism to any form of business activity In the United States, however, the extensive use of commercial arbitration is comparable to the former private courts of merchants The American states to an unusual degree have adopted uniform commercial statutes, which considerably facilitate the flow of trade throughout the nation

commercial paper, comprehensive term for all kinds of short-term negotiable instruments which call for the payment of money and which may be used as COLLATERAL The term is sometimes loosely applied to contracts and agreements More strictly it includes only those instruments that are used in commerce in place of money, as distinguished from paper used in investment, personal, estate, speculative, and public transactions. It includes short-term notes, drafts, bills of exchange, checks, acceptances, bills of lading, warehouse receipts, orders for the delivery of goods, and express orders By borrowing on bills of lading or warehouse receipts (receipts from a transportation company or a warehouse showing that specified goods have been delivered to it), wholesale merchants are enabled to handle goods greatly in excess of their capital The salability of commercial notes is based on the financial strength of the borrower, as they are not backed by collateral Express orders are issued by express companies for small amounts, payable at any office of the company They may also be banked like checks See A O Greef, *The Commercial Paper House in the United States* (1939)

commissar (kŏ'mĭsär), in the USSR, the head of an administration or commissariat, approximating the minister of Western Europe The Council of Peoples' Commissariats of the Soviet Union, appointed by and in theory responsible to the Supreme Soviet, is in effect a cabinet administering the government departments and supervising the economy of the Soviet Union A parallel system prevails in the constituent and autonomous republics of the USSR, though the acts of the local commissars may be overruled by those of the central council Political commissars in the Russian Revolution were agents of the Petrograd Soviet attached to the various military commands and having a strong political and propagandistic mission This system, based on French Revolutionary practice, was also in use in the armies of the Spanish republic, but was abolished in the Russian forces during the Second World War

commission government see CITY GOVERNMENT

committee, one or more persons appointed from a superior body to take action for them Thus, the guardianship of a lunatic or of his estate is entrusted by old English law to 'committees" of various kinds Legislative committees of varying function have assumed much of the work of legislatures in many nations Standing committees are appointed in both houses of the U S Congress at the beginning of every session to deal with bills in the different specific classes Important congressional committees include those on ways and means, appropriations, interstate commerce, and military, naval, and foreign affairs The number, but not the scope, of the committees was much reduced in 1946 Members of committees are in effect elected by caucuses of the two major parties in Congress, the majority party is given the chairmanship and a majority on each committee, and chairmanships are gained by seniority The presiding officer of either house may appoint special committees, including those of investigation, which have the power to summon witnesses and compel the submission of evidence The presiding officers also appoint committees of conference to obtain agreement between the two houses on the content of bills of the same general character To expedite business, the House of Representatives, emulating British practice, frequently converts itself into a committee of the whole, including the entire membership At such times the speaker calls on another member to act as chairman, and ordinary procedure is speeded up by special rules The American legislative committee system conducts most congressional business and is in some sense a check on the executive through its powers of scrutiny and investigation of government departments In France committees of the legislature are even more powerful in the conduct of government, but in Britain, though devices such as committees of the whole and of ways and means are used in the consideration of money bills and though large standing committees of the House of Commons exist, legislative committees are not as important in the system of government

Committee for Industrial Organization see CONGRESS OF INDUSTRIAL ORGANIZATIONS

Commodus (Lucius Aelius Aurelius Commodus) (kŏ'mōdŭs), 161–92, Roman emperor (180–92), son and successor of MARCUS AURELIUS He was a licentious prodigal who vaunted his strength in gladiatorial combats and decreed that he should be worshiped as Hercules Romanus He changed his own name to Marcus Commodus Antoninus and wished to rename the city of Rome after himself Many plots to assassinate him failed, but eventually he was strangled by a wrestler PERTINAX succeeded him

common, in agriculture, an unenclosed tract of land to uses of which a community or the members of a group are entitled In primitive communities, ownership of the soil typically has been communal When individual ownership has developed, common rights are rights that hold against the landlord's ownership of the soil In England before the Norman Conquest, the citizens of a neighborhood or town had common rights in at least some of the uses of land After the Conquest, what was left of these rights, as against those of the lord of the manor who had title to the soil, was the right of common The commons were then usually not arable but pasture or waste, and the rights of common concerned such matters as pasturage and heather or peat for fuel In various ways, especially through acts of INCLOSURE, landlords encroached more and more on rights of common until the middle of the 19th cent Many communities in England, however, managed to preserve their ancient commons, which today serve principally as city or village parks In the United States the commons of villages have even more usually become parks Boston Common, for example, retains the old name, and many New England villages have greens that are old common lands preserved See N S B Gras, *A History of Agriculture in Europe and America* (2d ed, 1940)

common law, in the widest sense, the legal system which first developed in England and was adopted by the countries which England colonized In more precise use, the term signifies only that portion of the system which has not been reduced to statutory formulation and which did not arise out of EQUITY, maritime law, or other special branches of practice The narrower meaning of common law epitomizes the method and history of the system In method it is law created by judges to meet the problems presented by actual cases, hence, unlike modern CIVIL LAW, it is not based upon the legislatively enacted STATUTE and CODE In its early historical development common law is largely a product of three English courts—King's Bench, Exchequer, and the Court of Common Pleas—which competed with other courts for jurisdiction and developed a distinctive body of doctrine Common law was originally (13th cent) so called because it was common to all England and, unlike the older customary law, was not limited to particular localities The application of a single system of law to England was among the chief methods used to consolidate royal power Early common law was somewhat inflexible It would not adjudicate a case which did not fall precisely under the purview of a particular WRIT, and except for a few types of lawsuit in which the object was to recover real or personal property, the only remedy which it provided was money damages Equity was created partly to overcome these deficiencies Until comparatively recent times there was a sharp division between common law (or legal jurisprudence) and equity (or equitable jurisprudence) Common law usually displayed a mixture of conservatism and progress On the one hand, the doctrine of *stare decens* [Latin,=stand by the decided matter] required that a court follow exactly the principles it had previously enounced, on the other, a constantly expanding body of precedents would permit the selection within limits of legal propositions to adjust doctrine to changing necessity In many instances, however, the courts failed to keep pace with social developments, and it was necessary to enact statutes to bring about needed changes Statutes, indeed, in recent years have superseded much of common law, notably in the fields of commercial law and criminal law Typically, however, in statutory interpretation courts have recourse to the doctrines of common law Increased legislation thus has limited but has not ended judicial supremacy, i e, the power of the courts to make a final determination of the law All Canada except Quebec and all of the United States except Louisiana, Puerto Rico, and the Virgin Islands follow common law American statutes usually provide that the common law, equity, and statutes in effect in England before the American Revolution shall be deemed part of the law of the jurisdiction See O W Holmes, *The Common Law* (1881), Sir Frederick Pollock and F W Maitland, *The History of English Law before the Time of Edward I* (1895), Sir Frederick Pollock, *The Expansion of the Common Law* (1904), T F Plucknett, *Concise History of the Common Law* (2d ed, 1936)

Commons, John Rogers, 1862–1945, American economist, b Hollansburg, Ohio, grad Oberlin, 1888 He also studied at Johns Hopkins and taught for many years (1904–32) at the Univ of Wisconsin Influenced by the other social sciences, Commons tried to broaden the scope of economics, especially in his noted *Legal Foundations of Capitalism* (1924) and *Institutional Economics* (1934) He was also interested in immediate social problems, chiefly those dealing with labor, and served on many government commissions which influenced legislation His other works include *Principles of Labor Legislation* (with J B Andrews, 1916, 4th ed, 1936) and *Industrial Government* (1921) He was one of the editors of *A Documentary History of American Industrial Society* (10 vols, 1910–11) and *History of Labor in the United States* (4 vols, 1919–35) See his autobiography, *Myself* (1934)

Commons, House of see PARLIAMENT

commonwealth, form of administration signifying government by the people and generally applied to self-governing bodies which are part of a whole Certain states of the American Union are known as commonwealths (Massachusetts, Pennsylvania, Virginia, and Kentucky), and the federated states of the dominion of Australia are known collectively as the Commonwealth of Australia In the same sense, the self-governing components of the British Empire are described as the British Commonwealth

of Nations The **Commonwealth** in English history was the government set up by the victorious army power in 1649 The monarch, Charles I, was beheaded and the Commonwealth was dominated from the first by Oliver Cromwell, who was by the Instrument of Government in 1653 made lord protector of the Commonwealth The subsequent government is usually known as the PROTECTORATE See A N. Holcombe, *Foundations of the Modern Commonwealth* (1928)

Commonwealth Fund, established in 1918 by Mrs Stephen V Harkness "for the welfare of mankind " Its headquarters are in New York city Contributing in its first 20 years to the early development of child guidance clinics and the strengthening of rural hospitals and health departments, the Fund later emphasized the broadening and integration of medical education, experimental health services, and medical research The Commonwealth Fund fellowships are offered to graduate students and civil servants from the British Commonwealth for study in the United States, and fellowships for advanced training in medicine and allied fields are given to aid teaching and research here The Fund publishes an annual report and books and pamphlets growing out of work which it helps to support

Commonwealth of Australia, British dominion including continental AUSTRALIA and TASMANIA

commune (kŏ'mūn), in medieval history, any town which grew up in continental Europe after the fall of the Roman Empire More particularly, a commune was a city to which charters of liberties were granted by the sovereign or the feudal overlord To build defenses, regulate and improve trade, raise taxes, and maintain order, organization was necessary The earliest attempts at united action of the burghers involved an oath binding them together in a personal bond By the late 12th cent., when cities were well established, all who chose to live in them had to take an oath acknowledging the authority of the commune As part of the demesne of a lay or ecclesiastic suzerain or of a king or emperor (see FEUDALISM), the town owed allegiance to its lord and paid him tribute and, in wartime, service As sources of wealth, the communes were often favored by their suzerains, who confirmed their rights in liberal charters Disputes, however, often arose between communes and their overlords In the struggle between kings and nobles, the kings usually strengthened the communes and sought alliance with them By the 16th and 17th cent , when European states (notably France and Spain) became centralized, the privileges of the communes were gradually withdrawn The extent of their liberties and the details of their organization varied widely A common feature was the presence of elected councils The magistrates were usually called consuls, *podestàs*, and *capitouls* in Italy and S France, *échevins* and *jurés* in N France and the Low Countries, senators and *Ratsherren* in Germany Guilds and corporations gained a prominent share in the government Militia insured the defense The earliest communes arose in N Italy In the struggle between emperors and popes, the communes forming the LOMBARD LEAGUE gained virtual independence, later usurped by local tyrants The commune of ROME was established by Arnold of Brescia in 1144 The movement spread north In Germany, cities such as FRANKFURT, COLOGNE, NUREMBERG, AUGSBURG, and LÜBECK became republics immediately subject to the emperor (imperial and free imperial cities) Others, such as MAGDEBURG, held charters that became models for numerous towns in N Germany, Bohemia, and Moravia. In the Low Countries, e g , in FLANDERS, communes arose very early and enjoyed very wide privileges. In S France, ARLES and TOULOUSE were outstanding examples of self-governed communes, such in Spain was BARCELONA In Western Europe, notably France and England, rural communes were also formed to protect the common interests of villagers; these persisted in modified forms In modern usage the word *commune* thus usually denotes a rural administrative division

Commune of Paris. In times of conflict or anarchy, Paris, like many other cities of Western Europe, has tended to revert to a communal form of government. This happened in the Hundred Years War (see MARCEL, ÉTIENNE), during the FRONDE, and in later revolutions. In the FRENCH REVOLUTION, the Commune of Paris, led by Marat, Chaumette, and Hébert, represented the will of the urban proletariat pressing upon the central government and the provinces In the Revolution of 1848, tension between the Parisian proletariat and the conservative provinces was shown in the JUNE DAYS At the end of the FRANCO-PRUSSIAN WAR, in 1871, the Parisians opposed the national government headed by Adolphe THIERS and the national assembly at Versailles as too conservative and too ready to accept a humiliating peace with Prussia Thiers, after failing to disarm the Parisian national guard, fled (March, 1871) to Versailles, the Parisians set up a communal government, and reconciliation between *communards* and *Versaillais* became impossible, while the victorious Prussians looked on with neutral eye. The *Versaillais* troops began a **siege** (the second siege of Paris in three months) Though the *communards*, by no means all communists, represented many shades of political opinion (followers of BLANQUI, of PROUDHON, and of the First International as well as neo-Jacobins such as DELESCLUZE), they fell, as the long siege drew to an end, under the sway of the extremists, who shot hostages (including the archbishop of Paris) and burned the Tuileries palace, the city hall, and the palace of justice On May 28 the Versaillais forces under MacMahon and Gallifet entered the city. Severe reprisals followed, with more than 17,000 people executed, including women and children Communes had also been formed and suppressed in other cities, notably Saint-Étienne, Le Creusot, Marseilles, and Toulouse See Frank Jellinck, *The Paris Commune of 1871* (1937)

communicable diseases, those diseases caused by minute living organisms and transmissable from an infected person or animal to another person or animal. Formerly those diseases transmitted by direct contact with an infected person or animal or his infected secretions were commonly called contagious diseases, but the tendency today is to refer to all transmissible infections as infectious or communicable diseases. Among those that are usually spread by direct contact are some caused by bacteria (e g , diphtheria, scarlet fever, and acute infectious conjunctivitis) and some caused by viruses (e g , chickenpox, measles, mumps, smallpox, influenza, and the common cold) Infectious diseases which are usually contracted indirectly through milk, water, or other food substances taken into the body include typhoid fever and cholera, both caused by bacteria Infectious diseases spread by insect carriers include yellow fever, caused by a virus, and malaria, caused by a protozoan (a one-celled animal) Rabies is caused by a virus, and the disease is contracted through the bite of an infected dog or certain other mammals Tetanus is an infectious disease usually contracted through contamination of a wound with soil or other material containing the causative bacteria Rocky Mountain spotted fever is caused by a rickettsial organism (a microorganism similar to a bacterium) and is transmitted by the bite of certain ticks Other communicable diseases of which the mode of transmission is not fully understood include poliomyelitis and encephalitis lethargica or sleeping sickness Programs for the reduction of communicable diseases in a community include education of the public to the need for building up the resistance of all individuals through proper diet and other means and stressing the necessity for vaccination and for inoculations *against* diphtheria and other diseases to which immunity can be acquired The attending doctor reports certain communicable diseases to the health department, for some of these isolation of the patient is required until the period of communicability is thought to be ended Those who have been exposed to a readily transmissible disease are usually quarantined until the incubation period for the particular disease has passed Fumigation as a means of destroying germs after an illness is no longer considered of value Of great importance in preventing the spread of a disease to others in a household is the constant disinfection or sterilization of all utensils, clothing, bedding, and other articles which have been in contact with the patient and the thorough cleansing of the room with soap and water See H L Mustard, *An Introduction to Public Health* (2d ed , 1944), T L Waterman, *Nursing for Community Health* (1944)

communication, the transfer of thoughts and messages, as contrasted with transportation, the transfer of goods and persons The basic forms of communication are by signs (sight) and by sounds (hearing, see LANGUAGE) The reduction of communication to WRITING was a fundamental step in the evolution of society for, besides being useful in situations where speech is not possible, it permits the preservation of communications, or records, from the past It marks the beginning of recorded history Except for certain devices of limited application (e g , wigwagging, smoke signals, the heliograph by day and lights or fires at night, sounds such as bugles or firearms, and the use of carrier pigeons), messages before the invention of the telegraph could be carried only as fast as a man could travel Improvements in traveling facilities were thus improvements in communication But with the invention of the TELEGRAPH the two were divorced The TELEPHONE and RADIO extended the field of practically instantaneous communication which electricity made possible The revolution which instantaneous communication has worked in human society is profound It made possible greater centralization in business and government, and it widened the horizons of every community. It tends to produce an amalgamation of cultures, arts, techniques, and languages In the United States, radio and television communication are controlled by the FEDERAL COMMUNICATIONS COMMISSION The international phases of transport and communications are under the direction of the Office of Transport and Communications of the Dept. of State. An International Telegraph Union was established at a convention in Paris in 1865, and in 1885 provision was made for regulation of international telephone services. In 1906 the first international radiotelegraph conference was held in Berlin. A convention in Madrid (1932) provided for the fusion of the International Telegraph Union and the International Radio-Telegraph Union into a single organization, the International Telecommunications Union In 1947 the Madrid convention was revised by a plenipotentiary conference at Atlantic City, N J. See Keith Clark, *International Communications* (1931), D. O Woodbury, *Communication* (1941), M M. Willey and S A. Rice, *Communication Agencies and Social Life* (1933), Alfred Still, *Communication through the Ages* (1946)

communion see EUCHARIST

communism. Even before the vague misuse of the word *communism* in recent years by some persons to mean any radical or even liberal policy of social reform, it was somewhat loose in meaning Fundamentally, communism is the system of society in which property (especially real property and the means of production) is held in common, i e , by all members of the society and not by individuals Thus, the EJIDO of the Mexican Indians and the property-and-work system of the INCA were both communist, though the one was a matter of more or less independent communities cultivating their own lands in common and the other a type of community organization within a highly organized empire headed by an emperor (the Inca) and nobles Usually the term is defined to include such types of community living as that of the Jesuit REDUCTIONS in Paraguay and occasionally is extended to mean even the communal life instituted in MONASTICISM There is evidence that the life of the early Germans at least had communal aspects, and in the 19th cent and early 20th cent there was fierce argument as to whether or not "primitive" society in Europe was essentially communist This dispute, when the academic dust had settled, was left unresolved, its effect, however, was far reaching There is some question as to whether it is possible to speak of any concept of property (except immediate personal property) among nomadic tribes, and a proper distinction between tribal organization and communal property holding is not easy to draw The idea of the Golden Age, which appeared very early among the Greeks, is a concept of a pristine and paradisiacal world of communal bliss and harmony without the institution of private property Communism as a theory of government and social reform may be said, in a limited sense, to have begun with this Greek vision of the Golden Age and particularly with Plato, who in the *Republic* outlined a society with communal holding of property, but also with a hierarchic social system including slavery, this has by some been called "aristocratic communism " The Neoplatonists revived the idea of common property, which was also strong in some religious groups such as the Jewish ESSENES and certain early Christian communities These religious opponents of private property held that property holding is evil as being worldly and that God had created the world for the use of all mankind The first of these ideas was particularly strong among Manichaean and Gnostic heretics, such as the Bogomils, the Cathari, and the Albigenses, but both were known among both the orthodox and the heretical (e g , the Franciscans and the Waldenses) Paradoxically feudalism, which had as its base the ubiquity of private ownership of land (no land without a lord) also had on the lower level of the MANORIAL SYSTEM common cultivation of the fields and communal use of the village commons, which might be vigorously defended against the lord It was partly on the basis of these common rights that the rebellious peasants headed by Wat Tyler in 14th-century England and the insurgents of the great Peasants' War in 16th-century Germany advocated common ownership of land and of the means of production. The older religious elements were, however, also powerful, the Anabaptists under Thomas Münzer were the real upholders of communism in the Peasants' War, and they were savagely punished for their beliefs This same mixture of religious enthusiasm and economic reform was shown in 17th-century England by the Levellers, and more particularly by the tiny sect of the Diggers, headed by Gerrard Winstanley The Diggers actually sought to put their theories into practice on expropriated land, thus undertaking unimportant but significant action in protest against the inclosures of land In general, however, the religions that came into being with the Reformation offered (according to the theories of Max Weber and R. H Tawney) a favorable climate for the development of capitalism Capitalism, reinforced by the Industrial Revolution, which began in the 18th cent , brought about the conditions that gave rise to modern communism. The living conditions of the workers in the new industrial factories were by the beginning of the 19th cent. so appalling that even highly conservative humanitarians saw the necessity of some relief and favored such measures as the

early factory acts in England The less conservative evolved more drastic schemes to cure this evil and the bad situation of the workers on the land. On the Continent the thinkers of the Enlightenment challenged accepted beliefs and prepared the way for the French Revolution Jean Jacques Rousseau incorporated the idea of the primitive Golden Age into his theory of government, and in Germany Immanuel Kant attacked the institution of private property The French Revolution itself established principles of social and political liberty and social equality, but it was in the end a victory for the property-conscious bourgeoisie The voice of BABEUF was, indeed, raised against economic inequality and the power of private property, and in some ways he may properly be considered the first modern communist Though he was guillotined, his movement (Babouvism) lived on, and the organization of his secret revolutionary society on the "cell" system was to be developed later as a means of militant revolution In the early 19th cent ardent opponents of the waxing industrial society of soot and smoke created all sorts of protest theories, most extreme among them the idealistic anarchy typified by the young poet Shelley Already what is generally known as utopian communism had been well launched by the comte de Saint-Simon Others took up the idealistic movement called after the literary idealism expressed in the 16th and 17th cent by such works as Sir Thomas More's *Utopia*, Tommaso Campanella's *City of the Sun*, and James Harrington's *Oceana* In the 19th cent the idealists were not content with literary expression They gathered followers, founded small cults, and attempted to launch COMMUNISTIC SETTLEMENTS, particularly in the United States Most notable among such men were Étienne CABET and Charles FOURIER Pierre Joseph PROUDHON, though he did not adopt the principle of common ownership, exercised great influence by his attacks on the evils of private property holding in his day A host of critics and idealistic revolutionists arose in Germany More important was the survival or revival of Babouvism in secret revolutionary societies in France and Italy, intent on overthrowing the established governments and establishing a new, propertyless world It was among them that the words *communism* and *socialism* took root The terms were used vaguely and more or less interchangeably, although there was an ill-marked tendency to call those who stressed a strong state as the owner of all means of production socialists and those who stressed the abolition of all private property (except immediate personal goods) communists Among the chief leaders of such men were the Frenchmen Louis BLANC and the far more radical Louis Auguste BLANQUI They had great influence on the Revolution of 1848 In the epoch-making year of 1848 appeared also *The Communist Manifesto* of Karl MARX and Friedrich ENGELS. With it the radical movement took a completely new turn, for very soon Marxian theories and programs (see MARXISM) dominated left-wing thought Although the party (founded 1847) for which the manifesto was written was called the Communist League, the whole movement which went forward with the founding of the First INTERNATIONAL and of Social Democratic parties in the various countries of the Western world is generally called SOCIALISM and is sketched under that heading The modern form of Communism (written with a capital C) began its development with the split in 1903 within the Russian Social Democratic party (founded by Plekhanov in 1898) The more radical wing, the Bolsheviks, were led by LENIN and advocated immediate and violent revolution instead of gradual and constitutional means of bringing about the downfall of capitalism and the establishment of an international socialist state across the world (see BOLSHEVISM AND MENSHEVISM) The triumph of the Bolsheviks within the Russian party and even more their triumph in the RUSSIAN REVOLUTION of 1917 gave them the leadership in socialist action They constituted the Communist party in 1918 Meanwhile the First World War had shaken the socialist movement as a whole by splitting those who cooperated with the governments in waging the war from those who maintained a stand for revolution against all capitalist government Chief among the stalwart revolutionists were the Communist party in Russia and the SPARTACUS PARTY in Germany These radicals were far more active and tended to attract the more fiery reformers across the world The success of the revolution and the establishment of a working socialist state in the USSR tended to give Russia leadership and Leninism grew stronger Communist revolts immediately after the war failed in Germany and the attempt of the Spartacus party to seize control of the German republic was put down in Jan , 1919. The briefly successful Communist state under Bela KUN in Hungary was also repressed with great bloodshed. The active Leninist group withdrew totally from other Socialists; with the German Communist party and various splinter groups of left-wing Socialists the Russians founded the Third International or COMINTERN in 1920. Henceforth, the term Communism meant the beliefs of the adherents to the parties founded under the aegis of the Comintern; the more moderate and less active older parties are generally meant by the term Socialism. The program of the Leninists—and, therefore, of all the Communist parties—called for uniting all the workers of the world for the coming world revolution, which would be followed by establishment of the dictatorship of the proletariat and state socialism, as the ends of the revolution were achieved a classless society would develop, the state would wither away, and there would emerge a universal, international Communism, with work and plenty for all and never-ending peace The parties were organized on a hierarchic basis with secret and active cells of believers as the broad base; there was established the rule of iron discipline, and not even the least individual or group deviation from the established policy of the party was tolerated The party is made up only of the elite, only those approved by the higher members of the party as being reliable, active, and subject completely to party rule Thus, although the party in practice has the full weight of political power in Russia, it constitutes only a relatively small number of people (for a brief description, see UNION OF SOVIET SOCIALIST REPUBLICS) Communist parties were organized in the countries of the world and were most active, particularly in trying to win control of labor unions and in fomenting labor strife so as to bring about sooner the downfall of capitalism Naturally the Communist program as well as the international character of the Comintern and the secrecy of the organization caused violent reaction in the other countries of the world, heightened by fears of the bloodshed that had accompanied the Russian Revolution and the experiment in Hungary (though the bloodletting by the counterrevolutionists was not much publicized) Violent antipathy has led occasionally in the democracies to fierce and hysterical "Red hunts," which have unfortunately claimed as their victims a great many non-Communist liberals as well as the Communists, who in their theory anticipate such reactions and by their actions provoke them The Communist parties because of Russian success became more and more tightly bound to the USSR, and all Soviet government policies became a part of the party "line" The local parties continued to have a hand in purely local matters, and because the Moscow influence is so patent at times of international political crisis, non-Communists perhaps tend to exaggerate that influence greatly and fail to appreciate the coordination of the action of the individual (obliged to accept party ruling without question), the cell, and the party as a whole The death of Lenin (1924) brought on a struggle for power in the USSR which was ideological as well as practical After the triumph of STALIN, his rival TROTSKY in exile created a Fourth or Trotskyist International, with the idea of "permanent revolution" as its fundamental doctrine, this form of Communism had a considerable number of followers for a time but ultimately did not flourish Stalin's program of building Russia as the model and base of Communism in the world had the effect of tying Communist and Russian policy even more closely together, an effect intensified by the "monolithic unity" produced by the "purges" of members accused of disidence in the USSR Another effect was even more increase in the power of the state, which showed no signs of withering away Except for the inconsiderable Mongolian People's Republic no other Communist state was created before the Second World War, when the Baltic republics were absorbed after the war had begun, they were incorporated into the Soviet Union Though in the 1920s the Communist push in China was not successful, in the 1930s it was resumed and gained great power in N China In the Second Chino-Japanese War there was some cooperation of the Communists and the Chinese Nationalists against the Japanese invader, but the cooperation was halting and unsatisfactory In several Western countries in the 1930s, the Communists adopted a policy of coordinating their efforts with those of other leftist and liberal parties for liberal legislation and government though without compromising their own beliefs. Notable fruits of this move were the Popular Front governments in France and Chile There were never any formal alliances and there was always a tendency to return to the older Communist policy of unqualified political opposition—a return which became fixed soon after the end of the Second World War in 1945 In the war the USSR perforce was made an ally of the Western capitalist nations by the German attack in 1941 As part of cooperation with the Allies, the USSR brought about (1943) the dissolution of the Comintern, and in many quarters great hopes were entertained of continued cooperation, hopes that were intrinsic in the formation of the United Nations. Those hopes were dashed by the widening rift between the USSR and the Western democracies, especially the United States. Communism had been vastly strengthened by the winning of many new nations in the zone of Soviet influence and strength in E and E central Europe Governments strictly modeled on the Russian Communist plan were installed in the "satellite" states—Poland, Czechoslovakia, Hungary, Rumania, and Bulgaria A Communist government was also created under Marshal TITO in Yugoslavia, and Yugoslavia was a member of the COMINFORM, the coordinating international Communist body, but trouble between Tito and the other Communist countries led (1948) to the expulsion of Yugoslavia from the Cominform and the branding of Titoism as deviationist and not true Communism In Greece a prolonged struggle between the non-Communist government and Communist-dominated rebels came to a halt in 1949 with the government still in control It should be noted that, although there had been at some time in the past a Communist movement of more or less strength in each of these countries, there had been a Communist majority in none In China, however, the movement had grown increasingly strong in the war, and open warfare between the Communists and the Nationalists under CHIANG KAI-SHEK led to the failure of Chiang's divided administration and the consequent Communist victory in 1949 In May, 1950, they held all of China except Formosa Thus two of the three most populous nations of the world (India is the other) are Communist A Communist administration was also installed in N Korea and in effect a Communist regime was set up in the Russian Occupation Zone of Germany. The guerrilla forces in Indo-China have set up a Communist government in opposition to the established one, and rebels in the Philippine Islands have a quasi-government of Communist stamp The other Communist parties of the world vigorously and actively support the unified policies of these established Communist governments—policies which are commonly viewed by non-Communists as being Russian-dictated The party is particularly strong in Italy and in some Latin American countries (particularly in the labor unions) It also commands considerable strength in France and has at least some following in the other countries of the world, even those (e g , Spain) where Communist activities are strictly banned See also COMMUNIST PARTY See *Bolshevism, Fascism, and Capitalism* (a symposium, 1932), Sidney and Beatrice Webb, *Soviet Communism* (2d ed , 1941), Harold J Laski, *Faith, Reason, and Civilization* (1944), E H Carr, *The Soviet Impact on the Western World* (1947)

communistic settlements, communities practicing common ownership of goods Communistic settlements were known in ancient and medieval times, but the flowering of such groups occurred in 19th-century America Here a number of German pietistic sects established such communities as the AMANA SOCIETY, Iowa, Harmony, Pa (see HARMONY SOCIETY), ZOAR, Ohio, and AURORA, Oregon Similar settlements were founded by the Shakers, Mormons, Mennonites, Dukhobors, and Jansonites (see BISHOP HILL) Unique religious settlements were the ONEIDA COMMUNITY, HOPEDALE, Mass , and the Brotherhood of the New Life (see HARRIS, THOMAS LAKE) Another group were non-Christian, often antireligious, and utopian The leading communities in this group were of two types, those founded by the followers of Robert OWEN (including NEW HARMONY and NASHOBA) and the numerous "phalanxes" (notably BROOK FARM) formed on the principles of Charles FOURIER Belonging to neither of these groups were the Icarian settlements, led by Étienne CABET, the anarchistic villages of Josiah WARREN, and various other communities, some of which still exist The religious groups, unified by strong faith and authority, tended to prosper and outlive the secular groups, the latter, however, often attracting brilliant and original personalities, provided a ferment of new thought The chief recent attempts at setting up such colonies have been made in Palestine, where there are a number of successful agricultural collectives See W A. Hinds, *American Communities* (2d ed , 1908), Charles Gide, *Communist and Cooperative Colonies* (1928, Eng tr , 1930), V F Calverton, *Where Angels Dared to Tread* (1941)

Communist party, in the United States, a part of the world-wide political movement of Communism which has Karl Marx and Lenin as its prophets and Joseph Stalin as its mentor It had its beginnings in 1919 when at least three Communist factions, overwhelmingly foreign-born in origin, were organized by dissident left-wing elements of the American SOCIALIST PARTY They were almost immediately driven underground in the hysterical anti-Red drive of U S Attorney General A. Mitchell PALMER. The two most important underground groups merged in May, 1920, and in Dec , 1921, several other factions joined them in a political organization which bore the official name Workers' (Communist) party for most of the 1920s. The party was under the aegis of the Third (Communist) International or COMINTERN. With the decline of the INDUSTRIAL WORKERS OF THE WORLD, the party became the leading revolutionary organ-

nation in the United States, having as its avowed aim the overthrow of capitalism and the establishment of a dictatorship of the proletariat in a Soviet America. Trade unions offered the most fruitful field for its activities, and Communists provided the leadership in many industrial strikes in the 1920s, notably the strike of furriers in New York city and the strike of textile workers in Passaic, N J. in 1926 Not particularly successful at first in capturing established trade unions, it followed from 1929 to 1935 an equally unsuccessful policy of setting up its own rival unions Meanwhile it exploited the weaknesses of American democracy and played a large part in making *causes célèbres* out of the SACCO-VANZETTI CASE, the SCOTTSBORO CASE, and the imprisonment of Thomas J MOONEY (in the last two cases the Communists were accused of diverting defense funds to party purposes) In 1935, following the new line laid down at the Seventh World Congress of the Comintern of that year, the U S Communist party began "cooperating" with liberal groups It set up, or infiltrated into, all sorts of organizations concerned with various aspects of American life These, ostensibly directed and supported mostly by nonparty members, including those called "fellow travelers," who were in complete sympathy with Stalinism, came to be known as "Communist fronts" The party's Trojan-horse technique of boring from within brought many trade unions under its control, and Communists were the invaluable allies of John L Lewis in establishing the CONGRESS OF INDUSTRIAL ORGANIZATION (in 1949–50 the C I O. expelled most of its Communist-dominated unions) Vociferously anti-fascist, the party recruited American volunteers (the Abraham Lincoln Brigade) for service in the Loyalist cause in the Spanish civil war However, its ceaseless attacks on Nazi Germany ended abruptly with the signing of the Hitler-Stalin nonaggression pact in Aug., 1939, and the Second World War, which immediately followed, was denounced as an "imperialist" war on the part of Great Britain and France. American defense preparations and aid to the Western democracies were vigorously opposed as "war-mongering," and Communist-dominated unions struck often and long in 1939–41 In Dec , 1940, the party severed its affiliation with the Comintern in order to avoid penalties under new Federal laws which required foreign-controlled organizations to register with the Federal government The party nevertheless continued to follow the Comintern line, and in June, 1941, when the Nazis attacked Russia, the character of the war, for Communists, was changed overnight from "imperialist" to "democratic" The party now went all out in its support of the war and faithfully echoed the Stalinist demand for a second front One year after the Comintern was formally dissolved in May, 1943, the U S Communist party "disbanded" as a political party to become the Communist Political Association, which adopted a resolution deprecating class war and announced that it favored cooperation with "progressive" capitalism With the end of the war, however, the Communists returned to their traditional Marxist-Leninist program Earl R BROWDER, Communist chief accused (April, 1945) of "right deviationism" by Jacques Duclos, French Communist leader, was summarily deposed and later expelled from the party, which was reconstituted in July, 1945 After the "cold war" with Russia set in, the party came under increasing attack in the United States In March, 1947, President Harry S Truman barred Communists or those aiding or sympathetic to Communism (and fascism) from employment in the executive branch of the Federal government, prescribed certain standards of loyalty for employees in that branch, and appointed the Loyalty Review Board For its part, Congress passed in the same year, over the President's veto, the TAFT-HARTLEY LABOR ACT, which, among other provisions, denies the facilities of the National Labor Relations Board to unions which fail to file affidavits avowing that their officers are not Communists The confessions of ex-Communists such as Louis Budenz and Whittaker Chambers (see HISS, ALGER) and increasing evidence of Communist espionage led to highly publicized investigations by Congress (especially by the House Un-American Activities Committee), the Federal Bureau of Investigation, and Federal grand juries On Oct 14, 1949, 11 top Communist leaders, including Eugene Dennis, the party's general secretary (its chief officer), were convicted on charges of conspiring to overthrow the U S government after a hectic nine-month trial before Federal Judge Harold R Medina in New York city Sentences of five years in prison and fines of $10,000 each were imposed on 10, the 11th was given three years and also fined. The Communist party's well-disciplined membership has always been small, and its frequent changes of political belief in accordance with every change in the political policy of the USSR have been stigmatized as contemptible or ludicrous, thus causing a lessening of its influence, which is strongest among the groups that are victims of discrimination in U S society, idealists (especially young idealists) who wish to eliminate the evils of industrial society, and direct-action trade unionists. The party made its best showing in the depression year of 1932, when its presidential candidate, William Z FOSTER, polled slightly over 100,000 votes However, its political influence extends beyond the number of enrolled party members Communists have been prominent in the AMERICAN LABOR PARTY of New York state since its founding in 1936, and in the 1944 primary a Communist-led faction won control of that party Communists also took credit for and enthusiastically supported the presidential candidacy of Henry A WALLACE in 1948 (see also PROGRESSIVE PARTY) *The Communist Party: a Manual on Organization* (1935), an official party pamphlet by one J Peters, has frequently been cited as evidence of its subversive aims See Eugene Lyons, *The Red Decade the Stalinist Penetration of America* (1941), James Oneal and G A Werner, *American Communism a Critical Analysis of Its Origins, Development, and Programs* (new and rev ed , 1947)

community chest, cooperative organization of citizens and social welfare agencies in a city. It has two purposes, to raise funds through an annual campaign for its member agencies and to budget the funds raised The chest is administered by a community welfare council or a council of social agencies, to represent the idea of administering, as well as collecting, the funds, the national association in 1927 took the name Community Chests and Councils The idea of cooperative collecting for charitable purposes originated in Liverpool, England, in 1873 and, in the United States, in Denver in 1887 In 1900 the Cleveland chamber of commerce went a step further and assumed responsibility for endorsing the agencies seeking funds, as a result Cleveland in 1913 brought almost all its welfare organizations together in the Cleveland Welfare Council

commutation of sentence, in law, reduction of a sentence for crime by action of the executive head of the government Like PARDON, commutation of sentence is a matter of grace, not of right, it is distinguished from pardon, however, in that the conviction of crime is not nullified The commutation, hence, may be granted on condition that the criminal observe certain restrictions for the balance of his original sentence

Comnenus (kŏmnē'nus), family name of the Byzantine emperors ISAAC I (1057–59), ALEXIUS I, JOHN II, MANUEL I, ALEXIUS II, and ANDRONICUS I (1183–85) and of the historian, Princess ANNA COMNENA Though unable to turn back the forces which made for the eventual downfall of the BYZANTINE EMPIRE, they temporarily reestablished the imperial authority and were generally able rulers Their reign saw a revival of Hellenism and great intellectual ferment A branch of the family founded the empire of Trebizond (see TREBIZOND, EMPIRE OF) after the fall of Constantinople in 1204

Como (kō'mō), city (pop 42,569), capital of Como prov , Lombardy, N Italy, at the southwestern end of Lake Como, N of Milan, near the Swiss border First a Roman colony, it became an independent commune in the 11th cent and was frequently at war with, and ruled by, Milan Later under Spanish and Austrian domination, it was liberated when Garibaldi entered the city in 1859 In the Middle Ages and Renaissance, craftsmen, architects, and sculptors from Como were much appreciated throughout Italy The city is a tourist center and manufactures silk It has a remarkable cathedral (14th–18th cent), a town hall (1215), and several Romanesque churches

Como, Lake, Ital *Lago di Como* or *Lario*, c 30 mi long and from ½ to 2½ mi wide, Lombardy, N Italy, in the foothills of the Alps It is formed by the Adda river, which enters it near Colico and leaves it at Lecco, and is shaped like a reversed Y A road along its eastern shore connects Milan with the Engadine (Switzerland) The lake is famous for its beauty Handsome villas line its shores, especially at the resorts of Tremezzo, Cadenabbia, Menaggio, Bellagio, and Varenna

Comodoro Rivadavia (kōmōdhō'rō rēvädhä'vyä), town (estimated pop 22,000), SE Argentina, on the Gulf of San Jorge It is an important center of oil production Wool and hides are also shipped

Comonfort, Ignacio (ēgnä'syō kōmônfôrt'), 1812–63, Mexican general and president (1855–58) He was one of the leaders in the liberal Revolution of AYUTLA, which in 1855 overthrew SANTA ANNA and installed Juan ÁLVAREZ in the presidency Comonfort became acting president upon the resignation of Álvarez, with his cabinet, particularly Benito JUÁREZ and Miguel LERDO DE TEJADA, he continued the anticlerical liberal program and embodied it in the constitution of 1857 In Dec , 1857, Comonfort took office as president, elected under the new constitution The reform program created a furor and awoke rebellion. Comonfort—a paltering, half-hearted liberal—attempted to moderate and was deserted by the liberals He allowed the reactionaries to seize power, then turned against them Unsupported by either party and opposed by public opinion, he resigned and fled (Jan , 1858) to the United States. He returned to fight against the French invaders and was killed in battle

Comoro Islands (kŏ'mûrō), French overseas territory (c 650 sq mi , pop 141,754), an archipelago in the Indian Ocean, between Madagascar and Mosambique. The capital is Dzaoudzi. The islands (Grande Comoro, Mayotte, and Anjouan are the largest) are an archipelago of volcanic origin. They grow and export coffee, vanilla, and cacao France acquired the islands in 1886, and from 1914 to 1946 they were administered with Madagascar The Comoros are represented in the French parliament

Compactata · see UTRAQUISTS

companies, chartered: see CHARTERED COMPANIES

Companys, Luis (lwēs' kômpä'nēs), 1873–1940, Catalan statesman After the Spanish revolution of 1931 he proclaimed Catalan autonomy within the Spanish republic, and in 1933 he was elected president of CATALONIA Pressed by extremists, he declared (1934) Catalonia fully independent, but the subsequent revolt failed, and he was jailed The leftist electoral victory of 1936 brought him back to power, and he headed the Catalan government until Francisco Franco's victory in 1939. He was executed

company union: see UNION, LABOR

compass. 1 In mathematics, an instrument for making circles and measuring distances Frequently called a pair of compasses, it consists of two legs which are attached to a pivot and are pointed at the free ends, usually a pen or pencil may be substituted for one of the points **2** In navigation, an instrument for determining direction The mariner's compass consists of a magnetic needle freely suspended so that in the earth's magnetic field it indicates the north and south poles Use of the compass by the early Chinese is probably legendary The first known reference in European literature dates from the 12th cent "Boxing the compass" is naming the 32 points in order starting from north (N, N by E, NNE, etc) A compass first used on airplanes during the Second World War is known as a flux-gate compass or gyro flux-gate compass It contains a gyroscopic stabilizer to keep it in a horizontal plane despite the movements of the airplane and a set of coils which are sensitive to the earth's magnetic field The magnetic currents are converted to electrical impulses which operate a hand on a dial This type of compass can be used much nearer to the poles than can the ordinary magnetic compass See also GYROSCOPE

compass plant or rosinweed, large, coarse North American perennial plant (*Silphium laciniatum*) with resinous juice, sunflowerlike blossoms, and deeply cut leaves that tend to point north and south It has been used medicinally and is sometimes cultivated Other plants of similar leaf arrangement are sometimes called compass plants

compensation, workmen's · see WORKMEN'S COMPENSATION

competition, in economics, rivalry in supplying an economic demand or in acquiring an economic service or good Sellers compete with other sellers, and buyers with other buyers In ancient times competition among merchants in foreign trade was common, but that among retail dealers and among producers is largely modern, a characteristic of mercantile and industrial expansion after the Middle Ages By the 19th cent economic competition, at least within the national state, had come to be regarded as the total of the particular forces causing the buyer to buy and the seller to sell, the prices being fixed by SUPPLY AND DEMAND Early capitalist economists, such as the Manchester school, argued that these forces worked better without any effort at regulation or control Perfect competition supposed conditions of absolute freedom of trade, widespread knowledge of market conditions, easy access of buyers to sellers, and the absence of all action restraining trade by agencies of the state After c 1850 practical limitations to perfect competition became evident, as industrial and commercial combinations, cooperatives, and trades unions arose to hamper it Some governments attempted to impose competition by legislation, e g , the SHERMAN ANTI-TRUST ACT of 1890, but the litigation involved in enforcing such legislation proved cumbersome and uncertain A later development was the acceptance of the fact of industrial and commercial combination by governments, together with an effort to apply regulation, whether administered by the state or by the activity concerned, such a theory was inherent in the development of cartels in Germany and in the American National Industrial Recovery Act of 1933 Governments have also accepted the existence of practical monopolies in the field of public utilities, where competition has proved wasteful, and have regulated and sometimes administered such services in the public interest. See A R Burns, *Decline of Competition* (1936).

Compiègne (kōpyĕn'nyu), town (pop 15,392), Oise dept , N France, NE of Paris Dating from Roman times, it was a royal residence from the Merovingian period The château, rebuilt for Louis XV by J. A Gabriel, was used by Louis XVI, Napoleon I,

and Napoleon III The town hall is a handsome early Renaissance structure. Compiègne was the scene (1430) of Joan of Arc's capture by the Burgundians In a railroad car in the nearby Forest of Compiègne the armistice of Nov 11, 1918, was signed; in 1940, Hitler forced the French to sign the armistice of June 22 in the same car Taken to Germany, the car disappeared The national monument was destroyed by the Germans

complex, term commonly used to indicate a group or system of ideas which originates in the mind of an individual as the result of an experience or set of experiences of high emotional content Repressed from the conscious mind, it continues, nevertheless, to show its presence through the subsequent mental activity and behavior of that individual The more or less complete dominance of a group of ideas making up a complex over the mental activity of an individual gives to a complex its abnormal or pathological significance See INFERIORITY COMPLEX and OEDIPUS COMPLEX

composite order see CORINTHIAN ORDER

composition, in primitive and medieval law, prevention of retribution for acts of violence by payment of money to the injured person or his family Failure to make the payment may justify retaliation in kind against the offender or his family In many societies the amount paid varied according to the rank of the person injured or slain Composition reflects a transition from a system of feuds or blood revenge (see VENDETTA) to one where socially dangerous acts are primarily a concern of the state rather than of private persons and their families alone The exaction of the payment still recognizes the outrage to the person and the family as the prime offense, but it tends to discourage disorder by providing a substitute for retributive killing or other violence When, in addition to composition, a fine must be paid to the state, the dangerous act approaches the modern conception of a crime (see CRIMINAL LAW) One of the most striking instances of composition is wergild [Old Eng , =man's price], the payment made by a murderer to the family of a murdered person This institution was known in all Germanic cultures and was widespread in many parts of the world

compost (kŏm'pōst), material mostly of organic origin which may act as a FERTILIZER for the field or garden but which is applied mainly to increase the HUMUS content of the soil, thereby improving its physical condition It is usually made by collecting animal MANURE and vegetable wastes mixed with a small proportion of soil and storing the mixture in heaps or bins until it has decayed Clippings from the lawn, plant prunings—except diseased parts which should be destroyed and woody material which is resistant to quick decay—fallen leaves, vegetable tops, and most garbage (except fats) can be profitably used for compost for the garden

Compostela, Santiago de, Spain see SANTIAGO DE COMPOSTELA

compound, any substance composed of two or more elements in chemical combination and having a definite composition by weight A compound is homogeneous, i e., each MOLECULE of it is like any other molecule For example, water is a compound of hydrogen and oxygen, its molecule contains two atoms of hydrogen in chemical combination with one of oxygen A compound has certain definite properties which are peculiar to itself and are distinct from the properties of its constituents Table salt, for example, although composed of the metal sodium and the greenish gas chlorine, exhibits properties peculiar to itself and does not resemble either of its constituents In general, compounds can be decomposed by heat and by CHEMICAL REACTION with certain other compounds or elements A compound is indicated in chemistry by a formula which is a collection of the symbols of all the elements constituting it For example, NaCl is the formula for common table salt and indicates that one atom (wt =23) of sodium (chemical symbol=Na) combined with one atom (wt =35 5) of chlorine (chemical symbol=Cl) constitutes sodium chloride or salt The molecular weight is the sum of the atomic weights From such a formula, then, the constituents of a compound and the number of parts by weight of each can be determined by inspection Mixtures differ from compounds in that their components are not chemically combined and can therefore be separated by mechanical means Furthermore, the components of a mixture retain their own properties and are not present in any definite proportion by weight

compress (kŏm'prĕs), pad of gauze used either dry or wet In case of bleeding a dry compress is used for pressure Wet compresses may be cold or hot; the cold are made by saturating pads of gauze in ice water or in cold solutions of antiseptics and are used in headache, fever, and hemorrhage beneath the skin and to ease pain They lessen congestion in the part to which they are applied. Any wet compress covered with a waterproof material becomes warm. This, or a hot compress made by wetting gauze with hot solutions, is used to stimulate tissues, to relieve muscle spasm and local inflammation (as in arthritis or lumbago), and to induce sweating.

compressed air. Air is compressed for commercial use by a wide variety of compressors ranging from hand pumps to large compressors driven by steam, gasoline, or electric motor (see PUMP) Formerly it was sometimes obtained by the use of natural water power Compressed air was first used commercially on a large scale in building the Cenis Tunnel, which was opened in 1871. Today it is used in innumerable ways as motive power One of its greatest advantages is the ease with which it can be stored and transported, it can be carried for long distances through pipes with relatively small loss of power It is not dangerous to use in conditions where other forms of power might be, as in the manufacturing of explosives It is much used in mining, tunneling, and hundreds of diverse operations It is put to a great many uses in PNEUMATIC APPLIANCES See W L Saunders, *Compressed Air Data* (2d ed , 1924)

compression, the application of pressure to a substance, causing a decrease in volume Gases can be compressed easily, liquids and solids with great difficulty and to a very small degree, if at all Water, for example, is practically incompressible According to the kinetic molecular theory, when the molecules of a gas are brought close enough together by compression, the gas (under certain conditions of temperature) undergoes LIQUEFACTION BOYLE'S LAW deals with the decrease in the volume of a GAS in relation to the increase of pressure upon it In the gasoline engine, the compression stroke compresses the mixture of air and gasoline vapor and raises its temperature preparatory to combustion In the Diesel engine, the heat generated by the compression of the air in the cylinder is so great (800°F or over) that the crude oil is instantly ignited when it is sprayed into the cylinder

Compromise of 1850. The annexation of Texas to the United States and the gain of new territory by the Treaty of GUADALUPE HIDALGO at the close of the MEXICAN WAR (1848) aggravated the growing hostility between North and South concerning the question of the extension of SLAVERY into the territories The antislavery forces favored the proposal made in the WILMOT PROVISO to exclude slavery from all the lands acquired from Mexico. This, naturally, met with violent Southern opposition When California sought admittance to the Union as a free state (1849), a grave crisis approached Other questions also caused friction The boundary claims of Texas (which extended far westward into territory claimed by the United States) were hotly contested The questions of the slave trade and the FUGITIVE SLAVE LAWS had long been vexing There was some fear lest, in the event of strong antislavery legislation, the Southern states might withdraw from the Union altogether The possibility of a crash of the Union was deprecated by many but was alarming to some, among them Henry CLAY, who emerged from retirement to enter the Senate again President Zachary Taylor was among those who did not feel that the Union was threatened, he favored admission of California as a free state, encouragement of New Mexico to enter as a free state, and coercion of Texas These sentiments were voiced in Congress by William H SEWARD John C CALHOUN and other Southerners, particularly Jefferson DAVIS, maintained that the South should be given guarantees of equal position in the territories, of the execution of fugitive slave laws, and of protection against the ABOLITIONISTS Clay proposed the compromise measures, which had largely originated with Stephen A DOUGLAS They were the admission of California as a free state, the organization of New Mexico and Utah territories without mention of slavery, the status of that institution to be determined by the territories themselves when they were ready to be admitted as states (this formula came to be known as SQUATTER SOVEREIGNTY), the settlement of Texas boundary claims by payment of $10,000,000 on the debt contracted by the republic of Texas, the prohibition of the slave trade in the District of Columbia, and a more stringent fugitive slave law These proposals faced great opposition, but Daniel WEBSTER virtually assured their acceptance in his famous speech on March 7, 1850 As a result of favoring the compromise he lost the support of all his antislavery constituents Taylor's death and the consequent accession of conservative Millard FILLMORE to the presidency made the task of the compromisers easier, and after long debates Congress passed the measures as separate bills in Sept , 1850. Most people, North and South, hailed the compromise as a final solution to the national menace, the question of slavery in the territories, but the same old issue cropped up again in 1854 (see KANSAS-NEBRASKA BILL), and seven years later the sections were fighting the CIVIL WAR See Allan NEVINS, *Ordeal of the Union* (Vols I and II, 1947)

Compton, Arthur Holly, 1892–, American physicist, b Wooster, Ohio, grad College of Wooster (B S , 1913), Ph D. Princeton, 1916 He was professor and head of the department of physics at Washington Univ , St. Louis (1920–23), and professor of physics at the Univ of Chicago (1923–45). In 1945 he returned to Washington Univ. as chancellor For his discovery of the COMPTON EFFECT he shared with C T R Wilson the 1927 Nobel Prize in Physics In addition to his work on X rays he has made valuable studies of cosmic rays and was associated with the development of the atomic bomb His writings include *X-Rays and Electrons* (1926; 2d ed , with S K Allison, *X-Rays in Theory and Experiment*, 1935) and *Human Meaning of Science* (1940)

Compton, Karl Taylor, 1887–, American physicist, b Wooster, Ohio, grad College of Wooster (Ph B , 1908), Ph D Princeton, 1912, brother of A H. Compton He taught at Princeton from 1915 to 1930 (as professor from 1919) and was president of the Massachusetts Institute of Technology from 1930 to 1948 From 1948 to 1949 he was chairman of the research and development board of the National Military Establishment He has done notable research on photoelectricity, radar, ionization of gases, ultraviolet spectroscopy, and electric arcs

Compton, city (1940 pop 16,198; 1948 special census pop 42,789), S Calif , S of Los Angeles, settled 1867, inc 1888 An industrial center in an oil and farm area, it manufactures oil-well equipment and various products

Compton effect [for A H Compton], an increase in the wave length of X rays resulting from a scattering of the energy quanta (believed to make up the X rays) upon collision with electrons of atoms of elements having low atomic weights

compurgation, in medieval law, legal defense by oath of the person accused, supported by the oaths of a required number of persons that they believed he swore truthfully Compurgation, also called wager of law, was found in early Germanic law and in English ecclesiastical law until the 17th cent In common law it was substantially abolished as a defense in felonies by the Constitutions of Clarendon (1164) Compurgation was still permitted in civil actions for debt, however, and vestiges of it survived until its final abolition in 1833 It is not probable that compurgation ever existed among the Indian tribes of America.

Comstock, Ada Louise, 1876–, American educator, b Moorhead, Minn , grad Smith 1897, M A Columbia, 1899 Until 1912 she taught and served as dean of women at the Univ of Minnesota, then was dean at Smith College (1912–23) and president of Radcliffe College (1923–43) In 1943 she married Wallace Notestein, professor of English history at Yale She was the only woman member of the Wickersham Commission (1929) on law observance and enforcement

Comstock, Anna Botsford, 1854–1930, American naturalist and wood engraver, b Cattaraugus co , N Y , grad Cornell Univ , 1878 A teacher of nature study at Cornell from 1913, she wrote *Handbook of Nature-Study* (1911, 24th ed , 1939) *A Manual on the Study of Insects* (1895, 22d ed , 1938) was written in collaboration with her husband, **John Henry Comstock,** 1849–1931, an American entomologist, b Janesville, Wis , grad Cornell (B A , 1874) He too was a teacher at Cornell (1875–1914) He wrote several books on insects, including *An Introduction to Entomology* (1888, 9th ed , 1940)

Comstock, Anthony, 1844–1915, American moral crusader, b New Canaan, Conn He served with the Union army in the Civil War and later was active in advocating the suppression of obscene literature He was the author of the comprehensive New York state statute (1868) forbidding immoral works, and he secured stricter Federal legislation against obscene matter in 1873. That same year he organized the New York Society for the Suppression of Vice As secretary of the society until his death, Comstock was responsible for the destruction of 160 tons of literature and pictures He became for his liberal enemies the symbol of licensed bigotry and for his supporters the symbol of stalwart defense of conventional morals Comstock also inspired the Watch and Ward Society of Boston See biography by Heywood Broun and Margaret Leech (1927)

Comstock, Daniel Frost, 1883–, American physicist, b Newport, R I , grad Massachusetts Institute of Technology, 1904, Ph D , Univ of Basel, 1906. From 1904 to 1917 he taught at the Massachusetts Institute of Technology He is known for his share in the invention and development of the technicolor process for moving pictures and for his researches in theoretical physics, electricity, and refrigeration

Comstock, George Cary, 1855–1934, American astronomer, b Madison, Wis , grad Univ of Michigan, 1877 He was professor of astronomy at the Univ of Wisconsin (1887–1922), director of Washburn Observatory (1889–1922), and director and dean of the graduate school of the Univ of Wisconsin (1906–20) His works include *A Text-Book of Field Astronomy for Engineers* (1902).

Comstock, Henry Tompkins Paige: see COMSTOCK LODE.

Comstock, John Henry: see COMSTOCK, ANNA BOTSFORD

Comstock, John Lee, 1789–1858, American physician and textbook writer, b Lyme, Conn. After serving as assistant surgeon in the War of 1812,

practiced medicine in Hartford until 1830 He wrote and illustrated elementary textbooks on astronomy, chemistry, history, natural history, physical geography, and physiology, which went into countless editions from 1830 to 1860 and were used by most Americans schooled in that period His *System of Natural Philosophy* (1831), translated into several languages, is said to have sold 900,000 copies The *Introduction to Mineralogy* became the handbook of early miners of the Far West.

Comstock Lode, richest known silver deposit, W Nev., on Mt. Davidson in the Virginia Range It was discovered in 1857 by Ethan Allen Grosh and Hosea Ballou Grosh, sons of a Pennsylvania minister, miners from the California gold fields who died under tragic circumstances before their claims were recorded News of the discovery was not made public, however, until 1859, when Henry Tompkins Paige Comstock, known as Old Pancake, laid claim to the lode which bears his name He was a sheepherder and prospector who had taken possession of the Grosh brothers' cabin and supposedly found their records. He later disposed of his holdings for insignificant sums News of the discovery spread rapidly, attracting promoters and traders as well as miners, and the lode was the scene of feverish activity Among early arrivals who became wealthiest were Eilley Orrum Bowers and her husband and William Morris Stewart Camps and trading posts in the area became important supply centers, and VIRGINIA CITY, a mining camp on the mountain, was for several decades the "capital" of the lode and a center of fabulous wealth and luxury Great fortunes were made, notably by the "silver kings," John W Mackay, James Graham Fair, James C. Flood, and William S O'Brien, and by Adolph Sutro. Silver determined the economy and development of the state until exhaustion of the mines by wasteful methods of mining and the demonetization of silver started a decline in the 1870s. By 1898 the Comstock was virtually abandoned See C B Glasscock, *Big Bonanza* (1931), Nevada State Bureau of Mines, *The History of the Comstock Lode, 1850–1920* (1943), G. D Lyman, *The Saga of the Comstock Lode* (1944).

Comtat Venaissin. see VENAISSIN

Comte, Auguste (ōgüst' kōt'), 1798–1857, French philosopher, founder of the positivist school, educated in Paris From 1818 to 1824 he contributed to the publications of Saint-Simon, and the direction of much of Comte's future work may be attributed to this association Comte was primarily a social reformer His aim in life was to reorganize society so that both individuals and nations could live and grow in harmony and comfort His system for achieving this aim is presented in his *Cours de philosophie positive* (1830–42, Eng tr , *The Course of Positive Philosophy*, 1853) In these volumes Comte analyses social evolution and social dynamics He sees intellectual development in what is called the Law of the Three Stages—theological, largely attributing cause to supernatural forces, metaphysical, in which metaphysical abstractions were viewed as causes, positive, when phenomena are explained through observation, hypotheses, and experimentation The sciences themselves, so essential to the promotion of the positivist position, are classified on the basis of increasing complexity and decreasing generality of application, in the order mathematics, astronomy, physics, chemistry, biology, and sociology Each science depends, in part at least, on the science preceding it, each may be valued for its contribution to sociology (a name which Comte himself originated), the science ranked at the top of the hierarchy Positivism in sociology would supply the means for achieving the ends of harmony and well-being which Comte desired. Another series, called *Le Système de politique positive* (1851–54, Eng tr , *System of Positive Polity*, 1875–77), instituted religion as the highest science, shorn, however, of metaphysical implications, with humanity as the object of worship and an elaborate ritual and priesthood Important among his other writings are *Catechisme positiviste* (1852, Eng tr , 1858) and *Synthèse subjective* (1856) Published posthumously were his *Testament* (1884) and *Lettres* (1902–5) See POSITIVISM. See R L Hawkins, *Auguste Comte and the United States, 1816–1853* (1936) and *Positivism in the United States, 1853–1861* (1938), F S Marvin, *Comte, the Founder of Sociology* (1937)

comuneros (kōmōonā'rōs), in Spain and Spanish America, citizens of a city or cities when organized to defend their rights against arbitrary encroachment of government The first great revolt of *comuneros* in Spain was the uprising (1520–21) of the *comunidades* (autonomous cities) of Castile against the measures of CHARLES V In Spanish America, the revolt of the *comuneros* of Paraguay, led by ANTEQUERA against Gov. Diego de los Reyes Balmaseda and continuing against viceregal and Jesuit opposition from 1723 to 1735, was one of the first considerable democratic uprisings of Latin America In the *comunero* insurrection of New Granada (1780–81), Juan Francisco Berbeo was the leader, 60 *cabildos* rejected new taxes and sought reforms.

Comus (kō'mŭs), Greek god of mirth, represented as a winged youth bearing a torch and a drinking cup He was, like a SATYR, a lover of song, dance, and wine and a follower of Dionysus See Milton's poetic masque, *Comus*

Comyn, John (kŭ'mĭn), d c 1300, Scottish noble. Known as the Black Comyn, he became, in 1286, one of the six guardians of the realm. In 1289 he was one of the signers of the treaty by which MARGARET MAID OF NORWAY was to marry the eldest son of Edward I of England After Margaret's death, he became a claimant for the vacant throne, but eventually he submitted to Edward I and received—along with the other "guardians" of Scotland—a new commission of regency Meanwhile he pushed the claim of his brother-in-law, John de BALIOL, to the throne. His endeavors were successful, and in Nov , 1292, Baliol was named king and Comyn's seven-year regency came to an end. The name also appears as Cumming.

Comyn, John, d 1306, Scottish statesman. He was called the Red Comyn, to distinguish him from his father, the Black Comyn Aiding his uncle, John de BALIOL, in the struggle against Edward I, he was for a time held hostage by the English. After the battle of Falkirk (1298) he was appointed by the Scots guardian of the realm to succeed Sir William WALLACE He renewed the struggle with Edward, but surrendered to Edward on condition that he should retain his lands He was murdered at Dumfries either by Robert Bruce (later ROBERT I) or his followers probably because Robert feared him as a rival claimant to the throne. The name also appears as Cumming

Conakry (kŏ'nŭkrē, Fr kônākrē'), city (pop c 8,000), capital of French Guinea, a port on the Atlantic Ocean Bananas, palm-oil products, and hides are exported The name also appears as Konakry

Conaniah (kŏn"ŭnī'ŭ) [Heb ,=God has established], Levite of Josiah's time 2 Chron. 35 9

Conanicut Island: see JAMESTOWN, R I

Conant, Alban Jasper (kō'nŭnt), 1821–1915, American portrait painter and archaeologist, b. Chelsea, Vt He executed numerous portraits of distinguished Americans, among them Lincoln, Sherman, Henry Ward Beecher, and Bishop Potter His portrait of James McCosh, president of Princeton Univ , is in the Metropolitan Museum He wrote *Archaeology of Missouri* (1876) and *Footprints of Vanished Races in the Mississippi Valley* (1879)

Conant, James Bryant, 1893–, American educator and chemist, b Dorchester, Mass , grad. Harvard (B A , 1913, Ph D , 1916). Except for his army service (1917–19), he taught chemistry at Harvard from 1916, being Sheldon Emery professor of organic chemistry (1929–33) and chairman of the department (1931–33) In 1933, he was elected president of Harvard One of the nation's leading chemists, Conant has conducted outstanding research in the field of organic chemistry and is the author of *Organic Chemistry* (1928), *Chemistry of Organic Compounds* (1933), and *Growth of the Experimental Sciences* (1949) He was chairman (1941–46) of the National Defense Research Committee In Conant's administration of Harvard the number of scholarships has been increased, and the trend has been toward greater democracy Conant's educational writings include *General Education in a Free Society* (1945) and *Education in a Divided World* (1948)

Conant, Roger, 1592–1679, one of the founders of Massachusetts, b East Budleigh, Devonshire, England. He was a salter in London before he came to Plymouth in 1623. Conant lived at Nantasket from 1624 to 1625, when he was appointed to manage the Dorchester Company's settlement on Cape Ann In 1626, with c 20 settlers, he founded Salem (Naumkeag) and later was the leading citizen of Beverly, which was incorporated (1668) largely because of his efforts See biography by C K Shipton (1944)

Conant, Thomas Jefferson, 1802–91, American biblical scholar and editor of many translations of books of the Bible He aided in the English revision of the Old Testament, completed in 1881

concentration camp After Hitler's rise to power in 1933, prison camps were set up throughout Germany for detaining persons considered undesirable by the Nazis, especially Jews and Communists No legal procedure was required for commitment to the camps Inmates performed hard labor under the supervision of SS guards (see NATIONAL SOCIALISM) notorious for their brutality In the Second World War, concentration camps mushroomed throughout German-occupied Europe Of the millions of slave laborers of many nationalities detained in them, a large proportion died of mistreatment, malnutrition, and disease Several camps were equipped as "extermination camps." In the best-known of these—Majdanek, Treblinka, and Oswiecim, in Poland—more than 6,000,000 men, women, and children (mostly Jews and Poles) were killed in gas chambers. Documented proof of these horrors, used in later war-crimes trials, includes unmentionable details of sadism, sometimes perpetrated under pretext of "medical experiments." Among the most notorious camps liberated by American and English troops in 1945 were Buchenwald, Dachau, and Belsen Occasionally, though erroneously, the term "concentration camp" is also used for forced-labor camps in which political prisoners are confined, such as those in the USSR.

Concepción (kônsĕpsyōn'), city (pop. 85,818), capital of Concepción prov , 8 central Chile, near the mouth of the Bío-Bío. Founded in 1550 by Pedro de VALDIVIA, Concepción is one of the largest of Chile's cities and is a major shipping center through its port, TALCAHUANO Its industries include tanneries, shoe factories, and textile mills; their manufactured products plus the agricultural produce of the hinterland (wine and grains) constitute its chief exports. During its first years after its founding, Concepción maintained a precarious existence against attacks of the Araucanian Indians. In 1570, 1730, and 1751 it was completely destroyed by earthquakes In 1939 all the cities of the region, notably CHILLÁN, were leveled by an earthquake, and Concepción had to be almost completely rebuilt It is modern and advanced in plan and architectural development

Concepción del Uruguay (dĕl ōōrōōgwī'), city (1945 estimated pop. 30,037), NE Argentina, on the Uruguay river It grew rapidly with the development of the Argentine Mesopotamia and is one of the commercial capitals of that beef and grain country. It is served by railroad and river steamer

conceptualism (kŭnsĕp'tŭlĭzm), in SCHOLASTICISM, position midway between realism and nominalism The realists, like Plato, taught that universals (general concepts) possess a reality independent of the particular objects to which they refer The nominalists insisted that only particulars exist and that the terms whereby their common qualities are designated are only words (*nomina*) Conceptualism agrees that only particular objects exist outside the mind, but admits the reality of universals in the mind, as concepts

concert, in music, public performance of a group of musical compositions Originally the word referred simply to a group of musicians playing together. concerts by a solo performer are more properly called recitals The earliest recorded public concerts were organized by a London violinist, John Banister, in 1672 Many orchestral concerts were given in the 18th cent , and early in the 19th cent , which saw great development of concert life, public concerts of chamber music were given The solo recital grew popular in the time of Liszt and Clara Schumann Paganini was the model for the traveling virtuoso In the American colonies, the first concert on record took place in Boston in 1731

concertina (-tē'nŭ), musical instrument whose tone is produced by free reeds. It was invented by Sir Charles Wheatstone in 1829 It is similar to the ACCORDION, but its bellows are attached to hexagonal blocks having handles and buttons, and it is smaller Its artistic possibilities are greater than those of the accordion, and more music has been composed for it, however, it is mainly associated with popular music and salon music

concerto (kunchâr'tō), musical form which originated in the early baroque period The *concerto grosso*, in which a small group of solo instruments alternated with a larger ensemble, became standardized in the works of Corelli and VIVALDI in the late 17th cent Giuseppe Torelli in the same period gave the concerto its three-movement form Bach's Brandenburg concertos brought the form to its artistic height The form of the classical concerto —three movements, the first of which is in sonata form as in the symphony, for solo instrument and orchestra—was established in the works of Mozart See D F Tovey, *Essays in Musical Analysis: Concertos* (1937), Abraham Veinus, *The Concerto* (1944)

conch (kŏngk), name applied to certain marine mollusks with spiral univalve shells, especially to those of the families Strombidae and Cassididae. Some are called cameo or helmet shells Conches are scavengers, but they eat live animal food too Although the shells are heavy the animals can leap and jump quickly through the water In color the shells range from white to red Those of tropical waters are especially beautiful They are made into buttons, cut into cameos, and carved as ornaments Some shells are ground up as a source of lime In parts of America the shells are used as horns. The queen conch, the largest gastropod of the Atlantic coast, has a shell about one foot long It is found commonly near the Florida Keys and the West Indies and is one of the species on which the poorer people of those regions depend so much for food that they are called "conchs " Univalve mollusks of the genus *Buccinum* are commonly known as whelks Some Atlantic coast forms of the genus *Busycon* (or *Fulgur*), such as the knobbed whelk and the channeled whelk, are also called conchs Egg cases of these whelks are often washed up on the seashore. They are parchmentlike flattened capsules attached to a common cord.

Conchos (kŏn'chōs), river rising in the southern and southwestern mountains of Chihuahua, N Mexico. It flows east and is joined by the Florido, then runs N and NE to the Río Grande. Dams in its middle course provide water for extensive irrigation and hydroelectric power for mining.

conciliation: see MEDIATION.

Concini, Concino (kŏnchē'nō kŏnchē'nō), d. 1617, Florentine adventurer and favorite of MARIE DE' MEDICI, who made him marshal of France (1613). He exerted great influence after Henry IV's death and succeeded Sully as minister. His greed and his spy system won him the hatred of all classes, but a revolt of noblemen, led by Henri II de CONDÉ (1615), was unsuccessful. In 1617 Louis XIII had Concini assassinated He was marquis d'Ancre His wife, Leonora Galigai (1571?–1617), lady in waiting and favorite of the queen, was beheaded and burned for sorcery

Concord. 1 (kŏng'kûrd) Town (1940 pop. 1,373, 1948 special census pop 6,009), W Calif , NE of San Francisco and S of Suisun Bay, in an oil and farm area, inc. 1905 2 (kŏng'kûrd) Town (pop 7,972), E Mass , on the Concord river and NW of Boston; settled 1635 The site of the Revolutionary battle of Concord on April 19, 1775 (see LEXINGTON AND CONCORD, BATTLES OF), is marked by Daniel Chester French's bronze *Minuteman* Concord has many fine old houses, some preserved as memorials to noted occupants—Emerson, the Alcotts, Hawthorne, Thoreau, Sanborn (see his *Sixty Years in Concord*), and other writers and philosophers who lived here The Old Manse, made a public shrine in 1939, was built by Emerson's grandfather in 1765 In Sleepy Hollow Cemetery are the graves of many illustrious Concord residents Walden Pond, celebrated by Thoreau, is 1¼ mi south of the village Ephraim Bull developed the Concord grape in the town 3 (kŏng'kûrd) City (pop 27,171), state capital (since 1808), and co seat of Merrimack co , S N H on the Merrimack above Manchester, settled 1725–27 The town, long disputed between Massachusetts and New Hampshire, was incorporated as Rumford in 1733 (Count RUMFORD later took his title from this name) and was renamed in 1765, it became a city in 1853 The building of the Middlesex Canal (1815) and the coming of the railroad from Boston (1842) aided Concord's growth Its granite gave Concord fame Printing is an important industry Concord is the seat of the noted St Paul's preparatory school (Episcopal, for boys, chartered 1855, opened 1856) Among Concord buildings, the granite and marble capitol is outstanding The historical society's fine collections include portraits by Samuel F B Morse The society's museum occupies the Franklin Pierce home and law office, remodeled in 1923 Several state institutions are in Concord Mary Baker Eddy was born a few miles away, at Bow 4 (kŏn'kôrd') City (pop 15,572), co seat of Cabarrus co , W central N C , NE of Charlotte and near the edge of the piedmont; settled 1796, inc 1837 It has textile, lumber, and flour mills and is the seat of Barber-Scotia College (for Negro women) 5 (kŏng'kûrd) Town (pop 923), NE Vt , E of St Johnsbury, chartered 1781, settled 1788 In 1823 Samuel R Hall opened here one of the first normal schools

Concord, river, E Mass , short tributary of the Merrimack, which it joins at Lowell Thoreau's first book, *A Week on the Concord and Merrimack Rivers* (1849), records a boat trip with his brother

concordat (kônkôr'dăt), agreement, specifically between the pope, in his spiritual capacity, and the temporal authority of a state Its juridical status is now generally accepted as being a contract between CHURCH AND STATE The term *concordat* was also applied to other agreements, thus, in the Swiss Confederation before 1848 federal decisions were called concordats The fundamental antithesis between Church and state found particularly violent expression in the quarrels over INVESTITURE during the Middle Ages and gave rise to the practice of concluding concordats The earliest agreement called concordat (see WORMS, CONCORDAT OF, 1122) was a dual proclamation rather than a bilateral act. The Concordat of 1516 between Pope Leo X and Francis I of France, which abolished the Pragmatic Sanction of Bourges (see PRAGMATIC SANCTION) gave the king the right to nominate bishops, abbots, and priors, but reserved to the pope the right of confirmation and special rights of appointment. This was revoked at the States-General of Orléans in 1561, and the struggle between GALLICANISM and ULTRAMONTANISM was resumed to last till the French Revolution The Concordat of 1801 (see separate article), most famous of all concordats, regulated the status of the Church in France for a century. In the 19th and 20th cent. numerous concordats were concluded. The appointment of bishops still remained an important issue, but the advance of secularism gave increasing importance to the status of religious education, monastic orders, and church property and to the seemingly conflicting loyalties of Catholics to the state and to the Church In the Catholic countries of Latin America the conflicts and adjustments between Church and state gave rise to a number of concordats The concordat of 1855 with Austria gave vast rights to the Church, but was abrogated by Austria upon the proclamation of papal infallibility. The KULTURKAMPF between Bismarck and the papacy ended (1887) with a *modus vivendi*, which was not called a concordat. The threat of National Socialism to the Roman Catholic Church prompted the concordat of 1933 with Hitler, who violated it from the start In Spain, where Francisco Franco had abrogated the concordat of 1931, a provisional agreement with the Vatican over the appointment of bishops was reached in 1941 After the Second World War a number of concordats (notably that with Poland) were abrogated by Communist regimes The status of the papacy in Italy was regulated in 1929 by the LATERAN TREATY

Concordat of 1801, agreement between Napoleon Bonaparte and Pope Pius VII which reestablished the Roman Catholic Church in France after its disruption by the French Revolution Bishops were to be nominated by the government, but the pope was to confer the office Parish priests were to be appointed by the bishops, subject to government approval Confiscated church property which had been sold to private persons was not to be restored, but the government was to provide adequate support for the clergy Napoleon issued (1802) the so-called Organic Articles to implement the concordat, these restated the liberties of the Gallican church, but they were not considered by the pope as obligatory in any sense A century later anticlericalism, intensified by the Dreyfus Affair, led to severe restrictions imposed on the Church by Émile COMBES and culminated in 1905 in the repudiation of the concordat and the separation of CHURCH AND STATE In ALSACE and Lorraine the Concordat of 1801 remained valid even after their recovery (1918), from Germany by France

Concorde, Place de la (plăs' dû lă kôkôrd'), large square of Paris. It lies between the Tuileries gardens, the Pont de la Concorde (a monumental bridge across the Seine leading to the chamber of deputies), and the Champs Élysées, the fourth side is closed by the vista of the MADELEINE church and by palatial buildings occupied by ministries. The square was designed by J A. GABRIEL The OBELISK of Luxor and the two monumental fountains, by J I Hittorf, were later placed in its center. Originally named Place Louis XV, the square was used for public executions during the French Revolution

Concordia (kŏng-kôr'dhyă), city (1945 estimated pop. 40,012), NE Argentina, a port on the Uruguay river opposite SALTO, Uruguay One of the chief towns in the Argentine Mesopotamia, it exports preserved meat, mate, quebracho, and grain and is the distributing center of an agricultural and stock-raising district.

Concordia (kônkôr'dēă) 1 City (pop 6,255), co seat of Cloud co , N Kansas, on the Republican and N of Salina, founded 1870, inc 1872 It is an agricultural trade center, and dairy products are made 2 City (pop 1,077), W Mo , ESE of Kansas City, in a farm area, platted 1868 St Paul's College (junior, Lutheran, for men) is here

concrete, structural masonry material made by mixing broken stone or gravel with sand, CEMENT, and water and letting the mixture harden into a solid mass The cement is its chemically active element, called the matrix, while the sand and stone are the inert elements, called the aggregate The use of artificial masonry similar to modern concrete dates from a remote period, but was never part of a definite structural technique until the Romans employed it for roads, immense buildings, and engineering works after the 2d cent B.C This so-called concrete of the Romans, formed by pozzuolana—a volcanic earth—combined with lime, broken stones, bricks, and volcanic tuff, was easily available and had great durability, as seen in the Pantheon of Rome and the Baths of Caracalla It also required only unskilled labor It proved suitable for temples, basilicas, the forum, and baths, as enormous spaces could be roofed with vaults cast in a rigid homogeneous mass without lateral thrusts Scientifically proportioned concrete formed with cement is purely an invention of modern times, the name not being used until c 1830 Concrete was unknown for centuries after the fall of Rome In 1756 John Smeaton rediscovered hydraulic cement Portland cement, patented in England in 1824 by Joseph Aspdin and first manufactured in the United States in 1871, has revolutionized the production and potentialities of concrete and has superseded the natural cements, to which it is vastly superior Reinforced concrete or ferroconcrete is plain concrete in which a metal framework is embedded This form of construction was patented in 1857 by its French inventor, F Joseph Monier, and a private house at Portchester, N Y , in 1875 demonstrated its first scientific use in the United States Exact rules (based upon the fact that the compressive stresses are sustained by the concrete and the tensile stresses resisted by the steel of the framework) have been formulated and developed for properly and economically designing reinforced concrete structures The fact that the two materials have practically equivalent rates of expansion and contraction under temperature changes causes them to act efficiently in combination. The component materials of concrete are mixed in varying proportions, dependent upon the strength required and the function to be fulfilled. The ideal mixture is that which solidifies with the minimum of voids, the mortar and the small particles of aggregate filling all interstices A statement of proportioning is 1 2 5, indicating one part of cement, two parts of sand, and five parts of broken stone or gravel, with the proper amount of water for a pouring consistency The important mixing process is now done largely by concrete-mixing machines For hardening into the required shape, the mixture is poured into wood or steel molds, called forms Among the advantages of concrete as a building material are its adaptability to numberless modern structural needs, its practically universal availability, its excellent fire resistance, and the ease with which it can be used The perfecting of reinforced concrete has exerted a profound influence throughout the world, both upon the structural technique of modern building and upon the evolution of new architectural forms See *Plain Concrete for Farm Use* (U.S Dept of Agriculture, Farmers' Bul. 1279) and *Small Concrete Construction on the Farm* (Farmers' Bul 1480), E E Bauer, *Plain Concrete* (2d ed , 1936), H L Childe, *Concrete Products and Cast Stone* (7th ed , 1940).

concretion (kŏn-krē'shŭn), nodule or rounded mass of mineral matter, spherical, ellipsoidal, or irregular in shape, occurring in sedimentary rock and differing from it in composition About a center (such as a fossil) in the enveloping rock some minor constituent of the rock is slowly deposited and forms a solid mass—a concretion. Concretions range in diameter from a fraction of an inch to many feet The best-known are the flint nodules found in chalk Concretions marked by radiating cracks in which foreign matter is deposited are called septaria

Condamine, La see MONACO

Condé (kôdā'), family name of a cadet branch of the French royal house of BOURBON The name was first borne by **Louis I de Bourbon, prince de Condé** (lwē' dŭ bôrbō'), 1530–69, Protestant leader and general He fought the Spanish at Metz (1552) and Saint-Quentin (1557) but won little favor at court After his conversion to Protestantism he became involved in the conspiracy of AMBOISE (1560) and escaped execution only through King Francis II's premature death He was restored to favor by Catherine de' Medici, but took command of the Huguenots in the Wars of RELIGION and was captured at Dreux (1562) Released in 1563, he once more took up arms in 1567 and was killed at the battle of Jarnac His son, **Henri I de Bourbon, prince de Condé** (ārē'), 1552–88, was also a Huguenot general **Henri II de Bourbon, prince de Condé,** 1588–1646, French political leader, son of Henri I. was forced to leave France (1609) because of the attentions paid his wife by King Henry IV In 1615 he formed a conspiracy against CONCINI, but he was bought off and later imprisoned (1616–19). He later made his peace with the government, fought against the Protestants in the religious wars, and in 1643 became a member of the council of regency for Louis XIV His elder son, Louis II de Bourbon, prince de Condé (see separate article), was known as the Great Condé Another son, Armand, founded the cadet branch of CONTI. Both sons and a daughter, Mme de LONGUEVILLE, were leaders in the FRONDE Louis II's great-grandson, **Louis Joseph de Bourbon, prince de Condé** (shôzĕf'), 1736–1818, fought with distinction in the Seven Years War At the beginning of the French Revolution, he emigrated and formed a corps known as the army of Condé, which he allied with the Austrians In 1797 he offered his services to Russia, in 1800 he entered English pay, but he was obliged to dissolve his army in 1801 He returned to France at the Restoration His son, **Louis Henri Joseph de Bourbon, prince de Condé,** 1756–1830, followed his father into exile, fought in his army, and headed an unsuccessful revolt in the Vendée during the Hundred Days He died, probably by suicide His son was the ill-fated Louis Antoine Henri de Bourbon-Condé, duc d'ENGHIEN See H E P L d'Aumale, *History of the Princes de Condé in the XVIth and XVIIth Centuries* (Eng tr , 1872)

Condé, Louis II de Bourbon, prince de, 1621–86, celebrated French general, called the Great Condé, son of Henri II de Condé Among his early victories in the Thirty Years War were those of Rocroi (1643), Freiburg (1644), Nördlingen (1645), and Lens (1648) In the FRONDE he was at first loyal to the court, but his intrigues and ambitions caused his arrest in 1650 Released (1651), he led the rebellious army of the princes and allied himself with Spain against France At the end of the Fronde (1653), he fled to Spain and was made generalissimo of the Spanish armies He was repeatedly defeated by TURENNE, notably in the Battle of the DUNES (1658) After the Peace of the Pyrenees (1659), he was pardoned and returned to court He fought in the Dutch War for Louis XIV, defeating William of Orange at Seneff (1674) and forcing Montecuccoli to retreat from the Rhine (1675) His last years were spent in retirement at Chantilly See Walter FitzPatrick, *The Great Condé* (2 vols., 1873).

Condell, Henry, d 1627, English actor in Shakspere's company A partner in the Globe and Blackfriars theaters, he edited, with John Heming, the First Folio of Shakspere's plays in 1623

condensation, in physics, the change of a substance from the gaseous (vapor) state to the liquid state In DISTILLATION the vapor is condensed by cooling Many marine steam engines are equipped with a condenser which changes the exhaust steam back into water so that it may be used again in the boiler The explanation of condensation is found in the kinetic molecular theory The velocity and the distance between the molecules of a substance in the form of a gas are decreased by the withdrawal of heat to such an extent that the substance becomes a liquid, or condenses Condensation is the reverse of VAPORIZATION In some cases a gas changes directly to a solid (see SUBLIMATION) Certain natural phenomena, such as dew, fog, mist, and clouds, are the result of the condensation of water vapor in the atmosphere The formation of DEW illustrates well the fundamental principles involved in such phenomena For the condensation and rarefaction of sound waves, see SOUND

condensed milk see MILK

condenser, in electricity, a device to increase the capacity of a conductor for electricity, i e , for receiving and holding a greater charge The LEYDEN JAR is a simple condenser. Another type of condenser consists of several conductors in the form of plates, separated by an insulator (called the dielectric) such as glass, paraffin, or mica The principle involved is that of INDUCTION The capacity of the conducting plates is increased by an increase in their size, by a decrease in the distance between them, and by the nature of the insulator Condensers are used in various electrical instruments, such as the telephone and the radio A condenser (variable condenser) found commonly in radio sets is composed of two sets of semicircular plates, one set fixed and one movable, arranged so that the plates of one set can be moved between or away from the plates of the other, by these movements either increasing or decreasing the surface exposed to the fixed plates In this way the capacity is increased or decreased at will The GRID condenser is also important in radio A condenser is used in the IGNITION system of automobiles to intensify the spark That part of a DISTILLATION apparatus or other apparatus which causes the CONDENSATION of a gas is also called a condenser

Conder, Charles, 1868–1909, English decorative painter. He is known for his paintings on silk and his lithographs See John Rothenstein, *The Life and Death of Conder* (1941)

Condillac, Étienne Bonnot de (ātyĕn' bônō' du kôdēyak'), 1715–80, French philosopher, who developed the theory of sensationalism He took holy orders, and in 1768 he became a member of the French Academy of Sciences His major works were *Essai sur l'origine des connaissances humaines* (1746) and *Traité des sensations* (1754) In these he tried to simplify Locke's theory of knowledge by arguing that all conscious experience is simply the result of passive sensations He sought to eliminate every form of activity from psychology but nevertheless retained a Cartesian dualism of soul and body He attempted to harmonize his deterministic psychology with his religious profession See Z Q Schaupp, *The Naturalism of Condillac* (1926)

Condon, Thomas (kŏn'dŭn), 1822–1907, American clergyman and geologist, b Ireland He came to the United States in 1833 Having graduated from Auburn Theological Seminary in 1852, he went in the same year by boat to the Oregon Territory, where he spent the remainder of his life as a missionary He studied and recorded the geology of Oregon and taught at the Univ of Oregon, later specializing in paleontology there He discovered a number of fossil remains and combined his earlier writings in *The Two Islands and What Came of Them* (1902; revised as *Oregon Geology*, 1910) See biography by E C. McCormack (1928)

condor (kŏn'dûr, -dôr), vulture native to South America On the high peaks of the Andes it nests and raises its young, which do not fly until they are about a year old. In North America among the western coastal ranges is found the related and now very rare California condor or California vulture Largest of the birds of prey, condors are nearly 50 in. long with a wingspread of from 9 to 10 ft They have black plumage with white patches on the wings The unfeathered neck and head are reddish or orange Carrion is their chief food

Condorcet, Marie Jean Antoine Nicolas Caritat, marquis de (marē' zhā' ātwăn' nēkôlà' karētà' märkē' dŭ kôdôrsā'), **1743–94,** French mathematician, philosopher, and political leader, educated at Rheims and Paris He became a member of the Academy of Sciences in 1769 and of the French Academy in 1782. His work on the theory of probability (1785) was a valuable contribution to mathematics Condorcet took part in the Revolution, but, opposing the extremes of the Jacobins, he was condemned and died in prison. His best-known work is *Esquisse d'un tableau historique des progrès de l'esprit humain*, which was posthumously published (1801–4) In that work Condorcet traced human development through nine epochs to the French Revolution and predicted in the 10th epoch the ultimate perfection of man See A E Burlingame, *Condorcet, the Torch Bearer of the French Revolution* (1930), J S Shapiro, *Condorcet and the Rise of Liberalism* (1934)

condottiere (kôndôt-tyā'rā) [Ital., =leader], leader of mercenary soldiers in Italy in the 14th and 15th cent , when wars were almost incessant there The condottieri hired and paid the bands who fought under them, they dealt directly with the cities or states which requested their services and were responsible solely to them. They fought for the highest bidders, passing easily from one lord to another, this game proved dangerous and even fatal to more than one Some condottieri had small states of their own, either inherited or acquired The most famous were the Attendolos, founders of the SFORZA family, COLLEONI, CARMAGNOLA, and Sir John de HAWKWOOD

Condouriotis, Paul see KONDOURIOTIS, PAUL

conducting, in music, the art of unifying the efforts of a number of musicians simultaneously engaged in musical performance In the Middle Ages and Renaissance the conductor was primarily a time-beater, using a roll of music as a baton, keeping together all the parts in complex polyphonic music During the baroque era the harpsichordist, playing the *basso continuo*, was the conductor When the *continuo* disappeared, the first violinist, even today called concertmeister, became the leader or shared the function with a keyboard player A few 18th-century conductors, such as Johann Stamitz (1717–57), of the Mannheim orchestra, later praised by Mozart, achieved a high standard of performance With the accession of the non-playing conductor in the early 19th cent came the gradual return of the baton, used by Beethoven, Mendelssohn, and Spohr In his classic treatise *Über das Dirigieren*, Wagner laid down the principles of modern conducting, and under his influence Hans von Bülow became the first of the virtuoso conductors Although a fairly conventional set of gestures is used for time-beating, modern conducting is highly individual and requires greater knowledge and technical proficiency than any other type of performance See Felix Weingartner, *On Conducting* (Eng tr , 1906), Adrian Boult, *A Handbook on the Technic of Conducting* (1920), Hermann Scherchen, *Handbook of Conducting* (Eng tr , 1933), Lazare Saminsky, *Music of Our Day* (rev ed , 1939)

conduction. **1** Conduction of HEAT is the transfer of heat energy from one part of a substance to an adjoining part farther from the source of heat It is explained by the molecular theory (see MOLECULE), e g , when a rod of iron is held with one end in a flame, the heat (or kinetic) energy is said to be passed on from molecule to molecule, thus being transferred from the part of the rod in the flame along its length to the other end Substances which transfer heat readily are called conductors, and those which transfer it very slowly are known as insulators The metals in general, such as silver, copper, gold, aluminum, and iron, are good conductors, the nonmetals such as wood, glass, and many others are poor conductors and, therefore, good insulators The rate at which a body conducts heat depends also, in addition to the nature of the substance of which the body is composed, upon the difference in the temperature of the two points between which heat is transferred and upon the thickness or area of cross section Liquids and gases are poor conductors **2** Some substances will carry a charge of ELECTRICITY readily from one point to another (conductors) and others will not (insulators) In general, the metals which are good conductors of heat are also good conductors of electricity Many of the nonmetals such as rubber, paraffin, and glass are such poor conductors of electricity that they are used as insulators Such substances are called dielectrics The property of electrical conductivity is a relative one, for most substances will conduct electricity to some degree When a current of electricity is flowing along a conductor, the charge is found to be entirely on the surface of the conductor, and for this reason electric wires are insulated to prevent the escape of the charge

Condylis, George see KONDYLIS, GEORGE

cone, characteristic fruit of most conifers (members of the order Coniferales) Usually the staminate (male) and the ovulate (female) cones are borne on the same tree Scales of the staminate cones have pollen-producing structures, and scales of the ovulate cones bear ovules in which the egg cells are produced The staminate cones are generally small and short-lived Their pollen is carried by the wind and some of it reaches the ovulate cones and effects fertilization The ovulate cones are the ones commonly observed In a few the scales are fleshy at maturity but the majority are hard and woody The cones of a number of species are between 1 and 6 in. long and among the largest are the 10- to 20-inch cones of the sugar pine (*Pinus lambertiana*) of the W United States

cone or conical surface, in mathematics, the surface generated by a moving line (the generator) which passes through a given fixed point (the vertex) and continually intersects a given fixed curve (the directrix) An element of a cone is the generator in any of its positions Half of a regular conical surface is called a nappe of the cone. The solid bounded by a conical surface and a plane (the base) whose intersection with the conical surface is a closed curve is also called a cone The altitude of a cone is the perpendicular distance from its vertex to its base The volume is equal to one third the product of the altitude and the area of the base The lateral area is the area of its conical surface The frustum is the solid bounded by the conical surface and two planes parallel to the base of the cone. A right circular cone is one in which the base is a circle and the line drawn from the vertex to the center of the base is perpendicular to the base

Conecuh, river see ESCAMBIA, river

coneflower. see RUDBECKIA

Conegliano, Cima da. see CIMA, GIOVANNI BATTISTA

Conemaugh (kŏn'umô''), river of SW Pennsylvania rising in the Alleghenies and flowing northwest to a branch of the Allegheny river A Federal dam and reservoir for flood control are under construction at the lower end of the Conemaugh A similar project has been completed on Loyalhanna Creek, a tributary

Conestoga Indians (kŏnustō'gu), North American tribe of Iroquoian linguistic stock They lived in the 17th cent on the lower reaches of the Susquehanna river and about the head of Chesapeake Bay and were sometimes called Susquehannocks From this area they were driven southward and westward by the Iroquois Confederacy Survivors of this warfare were massacred by whites when Indian wars had broken out on the Pennsylvania frontier in 1763

Conestoga wagon, heavy freight-carrying vehicle of distinctive type which originated in the Conestoga region of Pennsylvania c 1725 It was used by the farmers to carry heavy loads long distances before there were railroads to convey produce to markets Later it was used to carry manufactured goods across the Alleghenies to frontier stores and settlements and to bring back the frontier produce This developed into a major business employing thousands of wagons before the railroads crossed the mountains c 1850 (see WAGON TRAIN) The larger Conestoga wagons, usually drawn by six horses, carried loads up to eight tons The bottom of the wagon box was curved, rising at both ends, so that in going up and down hills the goods would shift less easily and the endgate be subjected to less strain The same curve was carried out in the white hood, at first made of hempen homespun and later of canvas, which rose up and out at each end, covering the front and rear openings with a poke-bonnet effect and keeping out sun, rain, and dust The wagons were striking and graceful vehicles as they moved over the hills and were not undeserving of the appellation "ships of inland commerce," which was frequently given them An arch of bells was fastened to the hames of each horse The drivers usually rode the left wheel horse and are credited with originating the American custom of turning out to the right The PRAIRIE SCHOONER was a modification of the Conestoga wagon

coney see CONY

Coney Island (kō'nē), beach resort and amusement center of S Brooklyn borough of New York city, SE N Y , on the Atlantic The tidal creek once separating the island from the mainland has been filled in, so that the area is now a peninsula Over a million persons throng to Coney Island on hot Sundays and holidays, attracted by the beach, the 2-mile boardwalk, and the many entertainment devices, eating places, and souvenir stands. The resort is more than a hundred years old See O R Pilat and Jo Ranson, *Sodom by the Sea* (1941)

confectionery, delicacies or sweetmeats which have sugar as a principal ingredient, combined with coloring matter and flavoring and often with fruit or nuts In America it is usually called candy, and in England sweets or boiled sweets Sweetmeats, long known to the Orient, were at first preserved or candied fruits, probably made with honey One of the earliest functions of candy was to disguise unpleasant medicine Medieval physicians often used for this purpose sugarplate, a sweetmeat made of gum dragon, white sugar, and rosewater beaten into a paste One of the earliest confections still surviving is marchpane or marsipan, which seems to have been known throughout Europe It is made of almonds, pistachios, or other nuts, pounded to a paste, blended with sugar and white of egg In the Middle Ages it was sometimes molded into fancy shapes and stamped with epigrams Sugarplums, made of boiled sugar, were known in England in the 17th cent , but it was not until the 19th cent. that candymaking became extensive. The display of English boiled sweets at the exhibition of 1851 stimulated manufacture in other countries, especially in France In the United States in the middle of the 19th cent. about 380 small factories were making lozenges, jujube paste, and stick candy, but most fine candy was imported With the development of modern machinery and

the increasing abundance of sugar, confectionery making became an important industry. Candy is roughly divided into two classes, hard and soft, the distinction being based on the fact that sugar when boiled with water passes through definite stages during the process of crystallization. Fondant, or sugar cooked to the soft stage, is the basis of most fancy candies, such as chocolate creams Modern chemistry has made noticeable changes in the ingredients used, for instance, glucose and invert sugar often replace sucrose See A H Austin, *The Romance of Candy* (1938)

Confederacy, name commonly given to the **Confederate States of America** (1861–65), the government established by the Southern states of the United States after their SECESSION from the Union (For the events leading up to secession and for the military operations of the Confederacy in the conflict between North and South which followed, see CIVIL WAR) South Carolina, the first Southern state to secede (Dec 20, 1860) after the election of the Republican President Abraham LINCOLN, was soon followed out of the Union by six more states of the Lower South—Mississippi, Florida, Alabama, Georgia, Louisiana, and Texas On Feb 4, 1861, delegates from these states (except the Texans, who were delayed) met at Montgomery, Ala , and organized a provisional government Jefferson DAVIS of Mississippi and Alexander H. STEPHENS of Georgia were elected (Feb 9) president and vice president respectively The convention also drafted a constitution (adopted on March 11) and functioned as a provisional legislature pending regular elections The constitution closely resembled the Constitution of the United States, even repeating much of its language, but naturally had STATES' RIGHTS provisions, which were modeled on the old Articles of Confederation (see CONFEDERATION, ARTICLES OF) Slavery was "recognized and protected," but the importation of slaves "from any foreign country other than the slave-holding States or Territories of the United States of America" was prohibited Protective tariffs and appropriations for internal improvements were also forbidden There were other, less important, departures from the U S Constitution, e g , the president and vice president were to be elected for six years, but the president was not "reëligible", members of the president's cabinet might be granted seats in either house of the Confederate congress to discuss legislation affecting their departments, and amendment to the constitution (by two thirds of the states, with congress having no voice) was made easier The new government seized or pressed its claims for U S property within its domain, especially forts and arsenals (see SUMTER, FORT), and, when the Union declined to surrender Fort Sumter, ordered the firing (April 12–13) which formally began the hostilities Lincoln's immediate call for troops brought four more Southern states—Arkansas, North Carolina, Virginia, and Tennessee—into the Confederacy, which now was composed of 11 states. Large sections of the population in the border slave states of Maryland, Kentucky, and Missouri were pro-Confederate, but those states were held for the Union In May it was decided to transfer the capital from Montgomery to Richmond, Va , because of Virginia's prestige, a move, which, considering Richmond's proximity to the North, has generally been held to have been a serious mistake The new constitution was ratified (the approval of only five states was needed), general elections for congress and for presidential electors (as under the Federal Constitution) were held in Nov , 1861, and on Washington's birthday in 1862, the "permanent" government, headed by Davis and Stephens, who had been chosen without opposition, was inaugurated at Richmond Judah P BENJAMIN, successively attorney general, secretary of war, and secretary of state, was the most important figure in Davis's cabinet Only two other men remained in the cabinet for its entire brief existence—Stephen R MALLORY, secretary of the navy, and John H REAGAN, postmaster general The story of the Confederacy is essentially the story of the loss of the Civil War Even with its early military triumphs, the Confederacy experienced trying days For one thing, it never won recognition as an independent government, although Southerners had been confident that "king cotton" would bring this about In 1861 they instituted an embargo on the export of cotton and voluntarily limited cultivation of the staple on the theory that these self-imposed and unofficial restrictions would make a cotton-hungry England eager to acknowledge the new nation which could supply in abundance the most important raw material in Britain's industrial system But, as it turned out, the British were well provided with cotton from previous boom years and when their stocks finally became depleted, other sources of supply were soon available Furthermore, Lincoln's EMANCIPATION PROCLAMATION enhanced the Union cause in the eyes of the average Briton, and the British government, no matter how pro-Confederate most of its individual members were, was not disposed to fly in the face of popular opinion. The CONFEDERATE CRUISERS built or bought in England were a scourge to the U S merchant marine, and Great Britain was later adjudged partly responsible for their depredations (see ALABAMA CLAIMS), but beyond this the Confederate missions of James M MASON, John SLIDELL, William L YANCEY, and others in Europe achieved little Napoleon III would have been only too happy to follow Britain in recognizing the Confederacy, but not even the Confederate offer to recognize the French-dominated government of Maximilian in Mexico could induce the emperor to go off on this diplomatic venture alone On the other hand, both the British and French recognized the blockade of the South, which the Union had proclaimed at the beginning of the war This was particularly galling to Southerners because at first the blockade was not very effective, it is estimated that not more than a tenth of the ships running the blockade in 1861 were captured But as the war progressed the blockade became more powerful, and by 1865, one of every two blockade runners was being taken When, in Oct , 1863, Davis expelled the British consuls who had remained in the South, the Confederacy had about resigned itself to European nonrecognition, which was mostly influenced by the rising tide of Union successes in the war The Confederate army early found that volunteers alone were insufficient, and the first conscription law was passed in April, 1862 By a later act (Feb , 1864), white men within the ages of 17 and 50 were drafted into military service Provisions permitting the hiring of substitutes and exempting one owner or overseer for each 20 Negroes were highly unpopular among the yeomanry, who grumbled about "a rich man's war and a poor man's fight" Joseph E BROWN and Zebulon B VANCE, the governors of Georgia and North Carolina, led the denunciation of conscription and further berated Davis for the assumption of state troops into the Confederate army, the suspension of the writ of habeas corpus, and the Confederate tax program Their extreme states' rights views represented a logical development of the theory which had led the Southern states to secede, but their insistence on maintaining them at a time when unity was imperative was an added factor in the Confederate defeat The fact that Brown, Vance, and others like them were able men and no less set on victory than was Davis only points up this glaring deficiency in the nature of the Confederacy From the very beginning, the Confederacy, lacking in both specie and banks, was in bad financial condition It had difficulty in negotiating loans and was forced to finance its operations through issues of paper money, which by 1864 reached $1,000,000,000 in face value, more than twice that of the greenbacks issued by the Union The decline in gold value of these notes, from 90 in 1861 to 6 3 in late 1863 and finally to 1 7 early in 1865, tells a story in itself Christopher G MEMMINGER, secretary of the treasury, was forced to resign in 1864, but the situation was beyond the abilities of any man With the men at war, the women of the Confederacy, those supposedly frail, delicate creatures of the Southern chivalric legend, bravely carried on at home, working hard on the plantations and supporting the cause as best they could They did not face wholesale death as did the soldiers in the field, but all the other horrors of war were brought to them in the mighty Union invasion of 1864 65 Already lacking the bare necessities of life—shoes, iron goods, paper, clothing—because the South was nonindustrial (the armies were kept supplied with ammunition, but beyond that industry was negligible) and also felt the pinch of the blockade, they now saw their country devastated by the Sherman and the Sheridans Many, both men and women, cried for peace, but the Union price was too great (see HAMPTON ROADS PEACE CONFERENCE) and most Southerners hung on grimly Benjamin's proposal that Negroes who willingly enlisted in the fight be freed indicates how desperate affairs were Not long after that came the collapse That the Confederacy was able to continue the war as long as it did is a tribute to its stout soldiers and a few brilliant commanders, notably Robert E LEE For the South, largely made up of scattered agricultural communities less populous than the North, there could have been no other result but defeat That so much intelligence, courage, and ordinary human worth should have been expended in a struggle largely arising out of defense of a vicious institution—slavery—made it all the more a tragedy Yet the South still reveres the "lost cause" of the Confederacy as its greatest tradition, though perhaps not so strongly as in the late 19th cent See Jefferson DAVIS, *The Rise and Fall of the Confederate Government* (1881), J T Scharf, *History of the Confederate States Navy* (1887), John Bigelow, *France and the Confederate Navy, 1862–1868* (1888), C A. Evans, ed , *Confederate Military History* (12 vols , 1899); J M. Callahan, *The Diplomatic History of the Southern Confederacy* (1901), J. L M Curry, *Civil History of the Government of the Confederate States* (1901), Gamaliel Bradford, *Confederate Portraits* (1914), A B Moore, *Conscription and Conflict in the Confederacy* (1924), F L. Owsley, *State Rights in the Confederacy* (1925) and *King Cotton Diplomacy* (1931), R S. Henry, *The Story of the Confederacy* (1931, new and revised ed , 1936), G L Tatum, *Disloyalty in the Confederacy* (1934), J G Randall, *The Civil War and Reconstruction* (1937), C H Wesley, *The Collapse of the Confederacy* (1937), A J Hanna, *Flight into Oblivion* (1938), D S Freeman, *The South to Posterity* (1939), B J Hendrick, *Statesmen of the Lost Cause* (1939), Ella Lonn, *Foreigners in the Confederacy* (1940), B I Wiley, *The Life of Johnny Reb* (1943) and *The Plain People of the Confederacy* (1943), R W Patrick, *Jefferson Davis and His Cabinet* (1944), C W Ramsdell, *Behind the Lines in the Southern Confederacy* (1944), E M Coulter, *The Confederate States of America, 1861–1865* ("A History of the South" series, Vol III, 1950)

Confederate cruisers. At the outbreak of the Civil War the United States ranked next to Great Britain in merchant marine Since practically all of the tonnage belonged to the North, the Confederacy set out to destroy it Privateering flourished only briefly because the increased effectiveness of the Union blockade forestalled attempts to bring prizes into Southern ports for adjudication But in the course of the war some 18 cruisers, constituting the South's seagoing navy, were engaged in this activity Only eight achieved results of any consequence Of these, the *Florida*, the *Alabama*, and the *Shenandoah* were outstanding The *Florida*, built in Liverpool in 1861–62, began her active career in Jan , 1863 Commanded by John N Maffitt and later by Charles M Morris, the *Florida*, along with several of her captures that were in turn commissioned Confederate cruisers, took about 60 prizes She was captured by the U S S *Wachusett* in the harbor of Bahia, Brazil, Oct , 1864 Most famous of the cruisers was the *Alabama*, also built at Liverpool in 1861–62 Under the command of Raphael Semmes she took almost 70 prizes Her damage to U S shipping was valued at more than $6,000,000 in the settlement of the ALABAMA CLAIMS In a famous naval action off Cherbourg, France, on July 17, 1864, the *Alabama* was sunk by the U S S *Kearsarge* The *Shenandoah*, bought at London in 1864, was commanded by James I Waddell Many of her 38 prizes, principally Pacific whalers, were taken after the fall of the Confederacy, of which Waddell was not apprised until Aug , 1865 On returning to England the *Shenandoah* reverted to the United States The indirect damage inflicted on the U S carrying trade by the cruisers had far more effect than the direct losses they caused Insurance rates rose and hundreds of ships transferred to foreign flags, especially to Great Britain's The raiders were in good part responsible for the decline of the nation's merchant marine See George W Dalzell, *The Flight from the Flag* (1940), Murray Morgan, *Dixie Raider* (1948)

Confederate States of America: see CONFEDERACY

Confederation, Articles of, in U S history, ratified in 1781 and superseded by the CONSTITUTION OF THE UNITED STATES in 1789 The imperative need of unity among the new states created by the AMERICAN REVOLUTION and the necessity of defining the relative powers of the CONTINENTAL CONGRESS and the states led Congress to entrust the drafting of a Federal constitution to a committee headed by John DICKINSON Three points in the Articles of Confederation submitted to the Second Continental Congress, on July 12, 1776—the apportionment of taxes according to population, the granting of one vote to each state, and the right of the Federal government to dispose of public lands in the West—provoked much argument After several revisions were made, however, this constitution, with a preamble and 13 articles, was adopted by Congress on Nov 15, 1777 In their final form, the Articles retained the vote by states, but based the apportionment of taxes on the value of buildings and land and specified that no state should be deprived of territory for the benefit of the United States The preamble and Article 1 established a perpetual union of the Thirteen Colonies under the style of the United States of America Article 2 asserted that each state retained its sovereignty and every right not expressly delegated to the central government, while Article 3 characterized the confederation as a "league of friendship," for common defense In Article 4, the free inhabitants of each state were granted the privileges of free citizens in all the states, extradition was provided for, and it was stipulated that full faith and credit be given the records, acts, and judicial proceedings of the courts of one state in the courts of every other state Article 5 provided that each state send annually not less than two nor more than seven delegates to Congress, though each state was to have only one vote Article 6 left the conduct of war to Congress, and Article 7 empowered the state legislatures to appoint military officers up to and including the rank of colonel Article 8 provided that the charges of war and other expenses incurred for the common defense should be defrayed out of a common treasury Besides placing the conduct of foreign affairs in the hands of Congress, Article 9 authorized a system of settling disputes between states, granted Congress partial control over the currency, sanctioned the establish-

ment of post offices by the Congress, and established the Committee of the States, with one delegate from each state, to sit in recess of CONGRESS The authority of the central government was drastically restricted by this article, which forbade Congress to engage in war, negotiate treaties or alliances, coin money, emit bills of credit, or borrow and appropriate money without the consent of a majority of the states Provisions for the functioning of the Committee of the States and for the possible admission of Canada were made in Articles 10 and 11 Article 12 stated that pecuniary obligations of Congress were to be deemed a charge against the United States Article 13 stipulated that the Articles of Confederation were to be unanimously ratified by the states before going into effect and that no alteration could be made unless agreed to both by Congress and by the legislature of every state. By 1779 all the states had ratified the Articles but Maryland, which refused its assent until states claiming territory NW of the Ohio river would relinquish their claims, thus guaranteeing the equitable right of all states to the Western lands When New York, followed by Virginia and Connecticut, offered to cede to Congress its claims to Western territory, Maryland ratified (March 1, 1781) the articles. While this constitution was a contribution to the techniques of government and a step toward national unity, the Articles of Confederation proved wholly unsatisfactory because of the subordinate position occupied by the central government Congress, dependent upon the states for its funds and for the execution of its decrees, became a legislative-executive body attempting to reconcile the policies of the various states. It could not extend its jurisdiction to individuals, command respect abroad by stabilizing credit, unify foreign and domestic policies, pass navigation regulations, or enforce treaty obligations Because of its inherent weaknesses, the government commanded little respect, and its prestige was further diminished by its inability to cope with internal uprisings (see SHAYS'S REBELLION) Many capable statesmen—e g., Robert MORRIS, John JAY, and Benjamin LINCOLN—who held key posts were thwarted by this organization of government, while others, equally able, shunned Congress in favor of state politics. The unanimity rule enabled one state to prevent the passage of a measure desired by 12 states. Thus, New York alone blocked the establishment of a tariff vitally necessary at the time. When it was apparent that government under the Articles of Confederation was, in the words of George Washington, "little more than the shadow without the substance," agitation for a stronger Federal government began It resulted in the Annapolis Convention of 1786, and the FEDERAL CONSTITUTIONAL CONVENTION of 1787, which drafted the Constitution of the United States. Perhaps the most significant event of the Confederation period was the adoption of the ORDINANCE OF 1787 concerning the NORTHWEST TERRITORY. See Allan Nevins, *The American States during and after the Revolution, 1775-1789* (1924); Merrill Jensen, *The Articles of Confederation* (1941)

confederation, Canadian: see BRITISH NORTH AMERICA ACT

Confederation of the Rhine, league of German princes formed in 1806 under the protection of Napoleon I The chief members were the kings of Bavaria, Württemberg, Saxony, and Westphalia and the grand duke of Baden The members disavowed their allegiance to the Holy Roman Empire, and Francis II, already styled emperor of Austria, relinquished the title Roman emperor in 1806 After Napoleon's retreat from Russia (1812–13), its members, by changing sides in the war, caused the collapse of the confederation

confession, in law, formal admission of criminal guilt. It is usually obtained in the course of examination by the police or prosecutor or at the trial For a confession to be admissible against an accused it must have been procured voluntarily If a confession is obtained by torture or by a false promise of immunity from prosecution made by a responsible party, it is inadmissible. A signed confession is prima facie voluntary, and the accused must introduce proof that it was extorted if he wishes to prevent its introduction at the trial Usually a person who does not plead guilty may not be convicted solely on the basis of his confession, and in most cases there must be at least some independent proof that the crime was committed.

confession, in religion see PENANCE.

Confession of Augsburg: see CREED.

confirmation, Christian rite supplementing baptism. In the Roman Catholic and Orthodox churches it is a SACRAMENT by which a Christian is strengthened in his faith. In the Anglican and Lutheran churches it is universally used, but it is not a sacrament In the East it is conferred by the priest on the newly baptized person of whatever age In the West it is ordinarily an episcopal function and the recipient is arrived at a canonical age of discretion It consists of the laying on of hands and anointing with chrism, a mixture of oil and balm; Protestants have abandoned the anointing. A sponsor is usually essential at confirmation. Scriptural passages cited as authority for confirmation include Acts 8.14–17, 19.

conflict of laws, legal rules governing situations where the law of more than one territorial unit is or may be involved. An alternative term, widely used on the European continent, is private international law An example of a legal relation which may be affected by the different laws of two places is that of a contract signed in one state and mailed to another Complications may arise if one of the states provides that a contract so delivered is effective when mailed, while the other state provides that it is not effective until received. The rules of conflicts of law which a court applies in these disputed situations are commonly designed to decide the case by the law of the territory having the closer or closest connection with the transaction. An often expressed ideal is that of making the decision the same regardless of where the case is decided In the United States the existence of many states with legal rules often at variance makes the subject of conflict of law especially urgent. Certain provisions of the U.S Constitution deprive the states of complete freedom to determine how they will decide cases in this field. Most important is Article 4, Section 1, which provides, in part, "Full Faith and Credit shall be given in each State to the Public Acts, Records, and judicial Proceedings of every other State." The U.S. Supreme Court has interpreted this to require each state to treat as valid any judgment rendered by another state which had jurisdiction and to lend its powers of enforcement to the judgment Jurisdiction in this context is defined as the capacity of the state to interpose its authority in a transaction because of intimate connection with it. There are especially difficult jurisdictional problems in the field of divorce There is usually no problem if both husband and wife appear in the trial, because the court then had personal jurisdiction of both parties The chief problem occurs when only one of the parties appears and the other is merely notified of the action In such cases the Supreme Court has ruled that the state had jurisdiction to divorce if the party appearing was domiciled there. The court has defined domicile as the place where one is living with the intention of making it his home A person who obtains a divorce under these circumstances may claim alimony in any state and is immune from the charge of bigamy if there is a remarriage See W W Cook, *The Logical and Legal Bases of the Conflict of Laws* (1942).

Confluence, borough (pop 1,035), SW Pa., on the Youghiogheny and SW of Somerset, inc 1873

Confucianism (kunfū'shunizĭm), moral and religious system of China Its origins go back to the *Analects* (see CHINESE LITERATURE), the sayings attributed to Confucius, and to ancient commentaries, including that of MENCIUS In its early form (i e, before the 3d cent B C) Confucianism was entirely a system of ethical precepts for the proper management of society It envisaged man as essentially a social creature who is bound to his fellows by *jen*, a term often rendered as "sympathy" *Jen* is expressed through the five relations —sovereign and subject, parent and child, older and younger brother, husband and wife, and friend and friend Of these, the filial relation is usually stressed. The relations are made to function smoothly by an exact adherence to *li*, a term denoting a combination of etiquette and ritual In at least some of these relations a person may be superior to some and inferior to others If in his subordinate status he wishes to be properly treated he must—applying a principle similar to the Golden Rule—treat his own inferiors with propriety Correct conduct, however, proceeds not through compulsion, but through a sense of virtue inculcated by observing suitable models of deportment The ruler, as the moral exemplar of the whole state, must be irreproachable, but a strong obligation to be virtuous rests upon all men It was recognized by the early philosophers that the millennial "great commonwealth," the union of mankind under ethical rule, must be long delayed It might be constantly advanced, however, by practicing the "rectification of names" This is a critical examination of the degree to which the behavior of a functionary or an institution corresponds to its name, thus, the title of king should not be applied to one who exacts excessive taxes, and the criticism of the undeserving claimant should force him to reform. The absence of a theological element in Confucianism was supplied (about the 2d cent. B C) when Shang-Ti [ruler of heaven] (apparently an old nature god) was identified as the superior of the emperor on earth. Heavenly displeasure with the emperor's conduct would be shown by natural calamities A method of divination was developed to determine exactly what had been remiss. In the 1st cent. A.D began the practice of offering sacrifices and other veneration to Confucius in special shrines; it continued even through the period of Kuomintang rule in the Chinese republic. Confucianism had often to contend with supernatural religious systems, notably TAOISM and BUDDHISM, and at times, especially from the 3d to the 7th cent., it suffered a virtual eclipse. Under the T'ang dynasty (618–906) it enjoyed a renascence and was the state religion. In the Sung dynasty (960–1279) occurred the development of Neo-Confucianism. This opposed to the meditative and quietistic techniques of self-improvement advocated by Buddhism and Taoism an active quest for knowledge, and by some it has been deemed an early statement of scientific method. Neo-Confucianism, however, in time became conservative and endorsed the belief that the status quo represented the highest order Hence it has fallen into disrepute with many modern thinkers See Richard Wilhelm, *Confucius and Confucianism* (Eng tr by G. H. Danton and A. P. Danton, 1931), J. C. Shryock, *The Origin and Development of the State Cult of Confucius* (1932), Lin Yutang, *The Wisdom of Confucius* (1943), H G. Creel, *Confucius: the Man and the Myth* (1949).

Confucius (kunfū'shus), Chinese *K'ung Fu-tse*, c 551–479? B C , Chinese sage Positive evidence concerning the life of Confucius is scanty Modern scholars base their accounts largely on the *Analects*, a collection of sayings and short dialogues apparently collected by Confucius's pupils, and discard most of the later lore Confucius was born in the feudal state of Lu, in modern Shantung prov Distressed by the constant warfare between the Chinese states and by the venality and tyranny of the rulers, he urged a system of morality and statecraft which would preserve peace and afford the people the stable, just government they required. He gathered about him a number of disciples, some of whom occupied high positions, although Confucius himself, possibly because of his extremely outspoken manner toward his superiors, was at most granted an insignificant sinecure From about his 55th to his 65th year he toured several neighboring states, but was still unable to induce any ruler to grant him high office so that he might introduce his reforms Later tradition depicts Confucius as a man who, seeking to restore an older social order, made special study of ancient books It was said that he was a minister of state and the author (or at least the editor) of the Five Classics (see CHINESE LITERATURE) His supposed doctrines are embodied in Confucianism For bibliography, see CONFUCIANISM

Congaree (kŏng'gərē), river of central South Carolina formed by the junction of the Broad and Saluda rivers near Columbia It flows 52 mi southeast and joins the Wateree to form the Santee

Conger, Edwin Hurd (kŏng'gur), 1843–1907, American diplomat, b near Galesburg, Ill He was a Congressman from Iowa from 1885 to 1890 As minister in Peking during the BOXER REBELLION, Conger handled critical matters with courage and wisdom He remained in China, gaining the people's affection and confidence, until 1905, when he became ambassador to Mexico His wife, Sarah P Conger, wrote *Letters from China* (1909).

congestion or **hyperemia** (hīpurē'mēu) [Gr , =too much blood], increase of blood in the vessels of a part of the body owing to increased arterial flow (active) or to diminished flow in the veins (passive) Active congestion occurs in exercise, from heat, during active function of an organ, and in the process of INFLAMMATION Passive congestion results from pressure or any obstruction of veins In the skin, congestion is evident as swelling, warmth, a red color in case of active, and a reddish-blue color (cyanosis) in case of passive, congestion The pains of ARTHRITIS, NEURALGIA, LUMBAGO, and muscle CRAMPS and some other pains are relieved by causing congestion through application of heat

Congo (kŏng'gō), great river of equatorial Africa It is c.3,000 mi long and is second in Africa only to the Nile The drainage basin of the Congo system is c 1,450,000 sq. mi , it includes all of the Belgian Congo and much of S French Equatorial Africa and of N Angola The upper course of the Congo, i e , from its rise in SE Belgian Congo N to the STANLEY FALLS, is called the Lualaba. The Lualaba is fed by a major eastern tributary, the Luvua, which in NE Northern Rhodesia is called the Chambezi and on its course along the Northern Rhodesia–Belgian Congo border is called the Luapula. The Congo proper makes a great arc through N Belgian Congo, turning southwest to receive the Ubangi The united rivers flow along the Belgian Congo–French Equatorial Africa border and receive the Kasai, which comes from Angola. The river broadens to the STANLEY POOL, on which are situated Brazzaville and Leopoldville On the final part of its course the Congo cuts across the western extremity of the Belgian Congo, and its wide estuary forms the border with Angola Much of the Congo is navigable, and it is the principal avenue of trade in the Belgian Congo Ocean steamers can proceed up the river 95 mi. to Matadi, where there is a railroad to Leopoldville. There is also a line running from Brazzaville to Pointe Noire on the coast From the Stanley Pool the river is navigable without a break to the Stanley Falls, which are skirted by a short railroad. The river is then navigable to Kindu, which is connected by rail and by intermediate navigable stretches with the rich metal-producing Katanga area. The mouth of the Congo was discovered by the Por-

tuguese navigator Diogo Cão in 1482. David Livingstone discovered and explored (1867–73) the Chambesi and Lualaba and believed that these streams were the headwaters of the Nile Sir Henry Stanley made (1876–77) the first known descent of the river to its mouth

Congo, Belgian: see BELGIAN CONGO.

Congo Free State: see BELGIAN CONGO

Congregationalism, type of Protestant church organization in which each congregation, or local church, has free control of its own affairs The underlying principle is that each local congregation has as its head Jesus Christ alone and that the relations of the various congregations are those of fellow members in one common family of God Congregationalism eliminates bishops and presbyteries The movement to which the name came to be applied began in the 16th and 17th cent in England, in a revolt against the formalized worship, unregenerate membership, and state control of the Established Church Those holding such views found themselves unable to remain within the Church of England Robert BROWNE published in 1582 the first theoretical exposition of Congregational principles and expressed the position of some of these SEPARATISTS Churches established on these lines were started very early in the 17th cent in Gainsborough and Scrooby, but government opposition drove them into exile in Holland Not until the Protectorate did the Congregationalists make much progress About that time the name INDEPENDENTS was first introduced, a term long used in Great Britain but seldom in America In 1658, when the Savoy Synod met in London, over 100 churches were represented With the Restoration came repression for the Independents, partly relieved by the Toleration Act of 1689 A marked tendency among English Congregationalists in the 19th cent was toward combination in larger fellowship Churches of this denomination formed a union in Scotland in 1812, in Ireland in 1829, in 1831 the Congregational Union of England and Wales was established The Congregational Union and the Evangelical Union were united in 1896 Congregationalism was brought to America in 1620 by the Pilgrims, who were members of John Robinson's congregation in Holland, originally of Scrooby, England For some years Congregationalism in New England was practically a state religion In 1648 in the CAMBRIDGE PLATFORM a summary of principles of church government and discipline was drawn up Congregationalists took a leading part in the Great Awakening which, in New England, was started in 1734 by the preaching of Jonathan EDWARDS As the country expanded, Congregational churches were established in the newly opened frontier regions In 1810 the American Board of Commissioners for Foreign Missions began its work, in 1826 the American Home Missionary Society was formed These were followed, in 1846, by the American Missionary Association, primarily devoted to the interests of Negroes and Indians The early part of the 19th cent brought the Unitarian secession, when over 100 churches left the main Congregational body Congregational churches began to meet in local and then in state-wide "conferences," out of which developed (1871) the National Council of the Congregational Churches of the United States But each local church is free to make its own declaration of faith and free to decide its own form of worship, in the conduct of the local church each member has an equal voice The principal assistants of the pastor are the deacons In education Congregationalists have always been prominent, but the institutions of their founding—Harvard (1636), Yale (1701), Williams, Amherst, Oberlin, and many others—have been free from sectarianism The trend toward broader fellowship and larger cooperation was notably indicated in the merging in 1931 of the National Council of the Congregational Churches of the United States and the General Convention of the Christian Church (see DISCIPLES OF CHRIST) to form the General Council of the Congregational and Christian Churches of the United States A move to unite the Congregational Christian Churches with the Evangelical and Reformed Church was opposed by part of the membership and was barred (1950) by the courts See Williston Walker, *The Creeds and Platforms of Congregationalism* (1893), A W W Dale, *The History of English Congregationalism* (1907), C E Jefferson, *Congregationalism* (1910), G G Atkins and F L Fagley, *History of American Congregationalism* (1942)

congress. In its international sense the term *congress* has been applied to conferences of great importance attended by sovereigns or plenipotentiaries. The Congress of Vienna was one of the most noted In the case of the American Continental Congress the word is used in a similar sense Even the present Federal Congress was conceived as of representatives of states, hence the unusual name was not misapplied. Lesser international meetings are usually termed *conferences*, but the distinction has lapsed since the First World War, the peace meeting at its close being usually called the Paris Peace Conference. The term *congress* is used also of meetings of private organizations, especially if they are international.

Congress, Library of: see LIBRARY OF CONGRESS

Congress of Industrial Organizations (C I O) In Nov, 1935, John L Lewis led eight affiliates of the American Federation of Labor in forming a federation called the Committee for Industrial Organization Its drive to unionize mass-production industries on an industrial (vertical) basis was opposed by the craft (horizontal) unions in the A F of L. The Federation suspended (1936) 10 unions then in the C I O (including the United Mine Workers and the Amalgamated Clothing Workers) and expelled them in 1937 Aggressive unionization drives in the steel, automobile, rubber, maritime, textile, coal, electrical, and other industries, accompanied by widespread strikes for union recognition, rapidly augmented C I O membership in the later '30s and produced powerful unions such as the United Steel Workers and the United Automobile Workers Later drives extended particularly to government and white-collar workers The C I O changed its name in 1938 and became a permanent organization, with Lewis as president Several unions withdrew during 1938–39, including the International Ladies Garment Workers and a faction of the United Automobile Workers In 1940 Lewis resigned the presidency to protest C I O endorsement of President Roosevelt. Lewis's United Mine Workers left the C I O in 1942 Philip Murray followed Lewis as president The C I O Political Action Committee, headed by Sidney Hillman, was formed in 1943 to promote policies and candidates favorable to labor, it was influential in the 1948 presidential election The post-war period saw many strikes by C I O unions for higher wages, shorter hours, and greater social benefits The C I O became a member of the International Federation of Trades Unions (formed 1945) but withdrew in 1949, because of the Federation's Communistic affiliations

Congress of the United States, the legislative branch of the Federal government, instituted (1789) by Article I of the U S Constitution (see CONSTITUTION), which prescribes its membership and defines its powers Congress is composed of two houses, the Senate and the House of Representatives The Senators, two from each state, have six-year terms and were chosen by the state legislatures until 1913, when the Seventeenth Amendment, providing for their direct popular election, went into force Actually, many states, especially in the West, had already in effect adopted this reform through use of the direct PRIMARY The terms of one third of the Senators expire every two years A Senator must be at least 30 years old, not less than nine years a U S citizen, and a resident of the state in which he is elected The Senate is presided over by the VICE President of the United States, who has no part in its deliberations and may vote only in case of a tie, in his absence his duties are assumed by a president pro tempore, elected by the Senate Representatives are apportioned among the states according to their populations in the Federal census Every state is entitled to a least one Representative, Delaware Nevada, Vermont, and Wyoming each had (1949) a Representative at large, i e , elected by the whole state, in the 81st Congress The legislatures of those states entitled to more than one Representative have been required since 1842 to divide their states into congressional districts When a reapportionment is made and until a new districting is carried out, a state whose quota is changed may also elect Representatives at large Representatives are chosen for two-year terms, and the entire body comes up for reelection every two years A Representative must be 25 or older, at least seven years a U S Citizen, and an inhabitant of the state from which he is elected Though they have no vote, one delegate each from the territories of Hawaii and Alaska and one resident commissioner from Puerto Rico sit in the House The presiding officer of the House, the speaker, is elected by the members of the House and may designate any member of the House to act in his absence In 1910 a revolt against the dictatorial speaker, Joseph G. CANNON, deprived that office of most of its powers and influence and placed them in the hands of House committees. In both houses the work of preparing and considering legislation is done by standing committees, and in addition there are special committees in each house as well as joint committees composed of members of both houses The two houses have an equal voice in legislation, though revenue bills must originate in the House of Representatives. Bills, after having been passed by each house separately, must be signed by the President within 10 days of their submission, or they become law automatically, unless Congress is not in session If vetoed by the President, a bill may become law only by its repassage by a two-thirds majority in each house The Constitution requires a regular annual meeting of Congress, which, since the passage of the Twentieth Amendment in 1933, begins on Jan 3 each year. The President may call an extra session of Congress or of either house. Only the House of Representatives may impeach the President or other Federal officers and the Senate alone has authority to try impeachments, but each house is the sole judge of the qualifications of its own members. The Senate must ratify all treaties and confirm important presidential appointments to office, including cabinet members, judges of Federal courts, and officers of the army and navy Because of this and because there are fewer Senators, who also enjoy longer terms of office and unlimited debate, today the Senate is regarded as the more powerful body Congress, as a whole, reached the zenith of its power during RECONSTRUCTION. The proceedings of each house are recorded in the *Congressional Record* See De Alva Alexander, *History and Procedure of the House of Representatives* (1916), W F Willoughby, *Principles of Legislative Organization and Administration* (1934), Charles Warren, *Congress, the Constitution, and the Supreme Court* (1935), E. S Bates, *The Story of Congress, 1789–1935* (1936), G H Haynes, *The Senate of the United States* (1938), C C Dill, *How Congress Makes Laws* (2d ed , 1939), L H Chamberlain, *President, Congress, and Legislation* (1946), W E Binkley, *The President and Congress* (1947), F M Riddick, *The United States Congress* (1949).

Congreve, Richard, 1818–99, English philosopher, chief representative of positivism in England. He translated *The Catechism of the Positive Religion* (1858) from the French of Auguste Comte.

Congreve, William, 1670–1729, English Restoration dramatist, b near Leeds, educated at Trinity College, Dublin, and studied law in the Middle Temple After a novel, *Incognita, or, Love and Duty Reconciled*, was published (1692), he wrote a comedy, *The Old Bachelor* (1693), which achieved tremendous popularity *The Double Dealer* (1693) followed *Love for Love* (1695) was popular in its day and was many times revived, it was produced in New York by John Gielgud in 1947 Congreve's tragedy, *The Mourning Bride* (1697), was approved by his contemporaries, though it is now known chiefly as the source of "Music hath charms to soothe the savage breast" and "Hell hath no fury like a woman scorned" (as popular usage has improved on Congreve's couplet) Congreve, along with Vanbrugh, Dryden, and other dramatists, was attacked by Jeremy COLLIER in his *Short View of the English Stage* (1698), to which Congreve wrote a reply (1698) His masterpiece of cynical, witty, and epigrammatic comedy, *The Way of the World* (1700), failed, possibly because of Collier's earlier attack, and thereafter Congreve wrote no more dramas He held various minor political positions, had many friends, and was sought out by VOLTAIRE Congreve was buried in Westminster Abbey See his works (ed by F W Bateson, 1930), biographies by D C Taylor (1931) and J C. Hodges (1941)

Coniah (kōnī'u) see JEHOIACHIN.

conical surface see CONE

conic section (kŏ'nĭk), any curve formed by the intersection of a right circular conical surface and a plane These curves are known as the CIRCLE, the ELLIPSE, the PARABOLA, and the HYPERBOLA When the plane passes through the vertex, the result is a point, a straight line, or a pair of intersecting lines, these are called degenerate conic sections

conifer (kō'nĭfûr) [Latin,=cone-bearing], tree or shrub of the order Coniferales, e g , the PINE, SPRUCE, CYPRESS, and SEQUOIA Most conifers bear cones and most are evergreens, though a few, such as the larches, are deciduous Some have globular fruits Conifers are widely distributed over the world, but are mostly found in the highlands of temperate regions

Coningh, Philips de see KONINCK, PHILIPS DE

Coningham, Sir Arthur (kŏ'nĭng-um), 1895–1948, British air marshal, b Brisbane, Australia, educated in New Zealand He saw service in the First World War and in 1916 joined the Royal Flying Corps, a two-year forerunner of the Royal Air Force After the war he remained in the air force and became in the Second World War air vice marshal (1941) and air marshal (1946) While on duty in the Middle East (1941) he took over and developed the tactics of the German *Luftwaffe* in close cooperation with ground forces These were successfully applied in support of the British 8th Army against Gen Erwin Rommel Later, as commander of the 2d Tactical Air Force, Coningham was active both in reconnaissance and in air support in the invasion of Normandy. He retired from the air force in 1947 and was lost at sea in an airplane crash in Jan , 1948

Coninxloo or Koninksloo, Gillis van (gĭl'ĭs vän kō'nĭngkslō), 1544–1607, Flemish landscape painter His *Latona* (Hermitage, Leningrad) and especially his fine *Landscape with Figures* (Liechtenstein Gall , Vienna) are well known.

Coniston (kō'nĭstun), town (pop 2,245), S Ont., E of Sudbury Incorporated in 1934, it is chiefly engaged in nickel and copper smelting

Conjeeveram (kunjē'vurŭm), town (pop 74,635), E central Madras state, India Several temples in the Dravidian style survive from the period

when it was the capital (c 300–c.750) of the Pallava empire of S India and a center of Brahmanical and Buddhist culture It was occupied by the Chola (11th–13th cent), Vijayanagar (c 1400–c 1468), and Orissa (after c 1468) kingdoms and by several Mohammedan sultanates Clive captured it from the French in 1758 Sacred to Hindus, it has many temples and is known proverbially as the Benares of the South. The native name is Kanchipuram or Kanchi

conjugation. see INFLECTION

conjunction, in English, PART OF SPEECH serving to connect words or constructions Most languages have connective particles like English conjunctions

conjunctivitis, congestion of the membranous covering of the eyelids and the front of the eyeball The condition may be caused by bacteria and some forms are contagious Gonococcal conjunctivitis may occur in newborn infants and in adults The newborn acquires the disease at birth from infected mothers, inflammatory symptoms occurring during the first 24 to 48 hr A prophylactic standard procedure for newborn infants is required by law in most states in order to prevent resulting blindness, silver nitrate placed in each eye is the treatment employed Another form of contagious conjunctivitis is acute catarrhal conjunctivitis, caused by the Koch-Weeks bacillus, the pneumococcus, and other organisms The condition commonly referred to as PINKEYE is characterized by intense redness of the lining membrane of the eye A noninfectious form, vernal conjunctivitis, is thought to be of allergic origin and occurs chiefly during the spring and summer months

Conklin, Edwin Grant, 1863–, American biologist, b Waldo, Ohio, grad Ohio Wesleyan Univ (B S, 1885) He taught zoology (1896–1908) at the Univ of Pennsylvania and biology at Princeton from 1908, becoming professor emeritus and special lecturer in 1933 His principal researches were in cytology (particularly cell division), embryology, and heredity He wrote *Heredity and Environment* (1915) and many other works in his field

Conkling, Roscoe, 1829–88, American politician, b Albany, N Y On his admission to the bar in 1850, he was immediately appointed district attorney of Albany The son of Alfred Conkling, Congressman and Federal judge, he became a U S Representative (1859–63, 1865–67) and Senator (1867–81) and undisputed leader of the Republican party in New York Conkling's machine was built upon Federal patronage, which was entirely his during the Grant administrations But in 1878 President Rutherford B HAYES, an advocate of civil service reform, removed Chester A ARTHUR and Alonzo B CORNELL, Conkling lieutenants, from the management of the New York customhouse in defiance of Conkling, who claimed that a Senator had the right to control Federal patronage in his state Conkling was reelected, and another lieutenant, Thomas C PLATT, became his colleague in the Senate, while Cornell won the governorship Conkling headed the third-term movement for Grant in 1880 and placed him in nomination at the Republican national convention Although his Old Guard or "Stalwart" faction was unsuccessful he prevented the nomination of James G BLAINE, his bitter personal enemy The deadlocked convention chose James A GARFIELD as a compromise candidate, and Arthur was named for Vice President as a sop to the "Stalwarts" Conkling gave Garfield only lukewarm support, but claimed afterwards that the President-elect had promised him the patronage in return Garfield denied this and further antagonized Conkling by making Blaine Secretary of State When an anti-Conkling man was appointed collector of the port of New York, Conkling resigned from the Senate in protest Platt soon followed his leader, earning for himself the nickname "Me Too" The two expected vindication through reelection by the state legislature, but both were defeated Conkling then retired to the private practice of law, in which he was highly successful See biography by his nephew, A R Conkling (1889), D B Chidsey, *The Gentleman from New York* (1935)

Connacht. see CONNAUGHT, Ireland

Connally, Tom (Thomas Terry Connally) (kŏ'nălĭ), 1877–, U S Senator (1929–), b. McLennan co, Texas, grad. Baylor Univ (B A, 1896) and Univ of Texas (LL B., 1898) Connally, a Democrat, was a representative (1901–4) in the state legislature and prosecuting attorney for Falls co, Texas He served as Congressman (1917–29) and then as Senator He headed (1941–46) the Senate Committee on Foreign Relations and urged the resolution, favoring U S leadership in world organization. He was appointed to the San Francisco Conference of 1945, which drafted the Charter of the United Nations, and was U S delegate (1945–47) to the UN General Assembly In 1949 he returned to Senate committee chairmanship

Connaught, Arthur William Patrick Albert, duke of (kŏ'nôt), 1850–1942, English prince; son of Queen Victoria and Prince Albert. Trained for a military career, he served in Egypt (1882) and India (1886–90) and as commander in chief in the Mediterranean (1907–9). He was (1911–16) governor general of Canada. His son, **Prince Arthur of Connaught,** 1883–1938, was (1920–23) governor general of South Africa

Connaught or **Connacht** (both· kŏ'nôt, kŏ'nŭkht), province (6,611 sq mi, pop 492,816), W Ireland, comprising the counties of MAYO, SLIGO, LEITRIM, ROSCOMMON, and GALWAY It was one of the ancient kingdoms of Ireland, whose rulers, the O'Connors, were supplanted by the Anglo-Norman De Burghs in the 13th cent Though Connaught is an agricultural district, the soil is poor and the people have migrated in vast numbers in the last century.

Conneaut (kŏ'nēŏt'), city (pop 9,355), extreme NE Ohio, on Lake Erie at the mouth of Conneaut Creek and near the Pa line, settled 1799 It is a port of entry, an important ore-receiving port, and a coal and steel loading center Gardening and farming tools, tin cans, underwear, canned goods, and leather are made here

Conneaut Lake, NW Pa, S of Lake Erie It gives its name to the boroughs of **Conneaut Lake** (pop 598) and **Conneautville** (pop 965)

Connecticut (kunĕ'tĭkut), state (4,899 sq mi, 1940 pop 1,709,242, 1949 estimated pop 2,019,000), NE United States, southernmost of the New England states, one of the Thirteen Colonies HARTFORD is the capital and largest city, with NEW HAVEN, BRIDGEPORT, and WATERBURY next in size Rectangular in outline, the state extends c 95 mi from east to west and c 60 mi from north to south, it is bounded on the north by Massachusetts, on the east by Rhode Island, on the south by Long Island Sound, and on the west by New York Connecticut is divided into two nearly equal sections, usually called the eastern highland and the western highland, by the Connecticut river and its valley (the central lowland) From the low, rolling coastal plain along Long Island Sound the land rises gradually to a general elevation of c 1,000 ft at the state's northern boundary, except in the Connecticut valley, which reaches only c 100 ft The western highland, with the TACONIC MOUNTAINS and the Litchfield Hills, is the more rugged one A few isolated peaks here reach more than 2,000 ft, Bear Mt (2,355 ft), in the extreme northwest corner, being the best known Rivers emptying into the THAMES drain the eastern highland, and the HOUSATONIC, with its chief tributary, the NAUGATUCK, waters the western highland The climate is that of the northeast temperate zone Though it is famed for its rural loveliness, Connecticut draws its wealth overwhelmingly from industry, and much of its manufacturing involves a high degree of precision The leading industrial categories, in terms of employment, are machinery, including machine tools and a wide variety of special machines, iron and steel, nonferrous metals (the state leads the nation in the fabrication of such metals, except aluminum, and produces well over half of all the brass products made in the United States), electric and communication equipment, textiles (largely concentrated in the eastern half), aircraft and shipbuilding, apparel, rubber, and printing and publishing Hardware, felt hats, typewriters, clocks, firearms and ammunition, and sewing machines are just a few of the many products long associated with the state's name High-grade broadleaf tobacco for cigar wrappers has been a specialty of Connecticut agriculture since the 1830s Shade-grown in the fertile Connecticut valley, it is still the most valuable crop, though production has been adversely affected by the increased smoking of cigarettes and cheap cigars Dairy products, poultry products, livestock, potatoes, and truck rank next in value on the farms Stone and clay are the most valuable minerals Many varieties of fish, including oysters, lobsters, and other shell-fish, come from Long Island Sound Adriaen BLOCK sailed through Long Island Sound and discovered the Connecticut river in 1614, but the Dutch did nothing about their claim to the area until 1633 Then, aroused by the activities of the English there, they built a small fort, the House of Hope, on the site of Hartford, but were finally forced to abandon it in 1654 Edward WINSLOW of Plymouth Colony, apparently the first Englishman to visit (1632) Connecticut, sent William Holmes to establish a trading post, not far from the Dutch one, on the site of WINDSOR in 1633 This small Pilgrim foundation was, however, soon completely absorbed by the wave of Puritan settlers from Massachusetts Bay, who had been influenced by the excellent reports brought back by John OLDHAM in 1633. Returning with several others in 1634, Oldham established still another trading post, which became WETHERSFIELD Puritans flocked in such numbers to the Connecticut valley the next year that 1635 marks the official date for the beginning of the colony In 1635 also Lion GARDINER, under the direction of John WINTHROP, the younger (1606–76), who himself was acting for a group of Puritan lords and gentlemen in England, founded SAYBROOK (named for Viscount SAYE AND SELE and Baron Brooke) at the mouth of the Connecticut river At Winthrop's insistence the Massachusetts Puritans about to go to, or already in, Connecticut acknowledged the supposedly superior land claim of the Puritan lords (who had actually received a worthless patent from the earl of Warwick) and recognized Winthrop as governor for a year. The desire for more and better land rather than religious differences prompted the Puritan migration, although Connecticut's most conspicuous leader, Thomas HOOKER, pastor at Hartford, did not like Massachusetts government and plainly said so John HAYNES and Roger LUDLOW also looked forward to establishing a somewhat more liberal commonwealth Their departure, however, was without bitterness, and the Connecticut venture had the official blessing of Massachusetts Bay Land was purchased from the natives, who were on the whole friendly Another set of invaders, the PEQUOT INDIANS, created a slight stir, but they were virtually wiped out by the English under John MASON (c 1600–1672) and John UNDERHILL in the short Pequot War of 1637 Not until King Philip's War (see PHILIP) in 1675–76 was there further serious trouble with the Indians Representatives of the three Connecticut river towns—Hartford, Windsor, and Wethersfield—met at Hartford in 1638–39 and on Jan 14, 1639, adopted the FUNDAMENTAL ORDERS establishing "an orderly and decent Government according to God" Under these statutes any householder of "honest conversation" who had taken a Trinitarian oath of fidelity to the commonwealth was admitted to town meeting, which acted on local affairs and voted for deputies to the colony's General Court Women, servants, apprentices, and those found guilty of scandalous offenses (and these last were not a few) had absolutely no part in government However, "admitted inhabitants" could not themselves be deputies unless the General Court or a magistrate considered them worthy to be "freemen," and probably less than a third achieved that distinction Those freemen elected to the General Court, which met at Hartford, chose the magistrates, one of whom was selected to be governor (Haynes was the first one) The governor, who had to be a member of some approved congregation, held office for one year only, but was reeligible after the lapse of another year (this limitation was repealed in 1660) His authority was dwarfed by the great power of the General Court, which exercised both legislative and judicial functions The colonists, numbering c 3,000 by 1643, raised much corn and other grains and smaller crops of tobacco, flax, and hemp They kept horses, cattle, swine, and sheep and from the surrounding forests (still constituting more than half the total area) made timber for building, pitch and tar for their boats (their chief means for transport and communication), and staves Corn and staves were sometimes exported, though the colony did not have much seagoing trade There was neither great wealth nor extreme poverty, and Connecticut, "the land of steady habits," expanded gradually By 1662 there were over a dozen towns, including Saybrook, which was acquired in 1644, NEW LONDON, Fairfield, and Norwalk, as well as East Hampton and Southampton on Long Island Meanwhile another Puritan settlement, New Haven, not connected with Connecticut colony, had its beginnings in 1637–38 Theophilus EATON, who dominated affairs there, and John DAVENPORT, who was pastor, were its chief promoters These Puritans from London hoped to make New Haven a center for commerce, which was what they knew best, but failing this they were forced to turn to agriculture in a region not well adapted to it New Haven, where the basic law code (1639) was doubtless influenced by Davenport's friend, John COTTON, was an extreme Puritan theocracy Its freemen, unlike those of Connecticut, had to be church members, and a select group among them formed the General Court Milford, Guilford, Stamford, Southold (on Long Island), and Branford were dominated by New Haven, and in 1643 they formed with the mother town the loose confederation called New Haven colony This new jurisdiction was necessitated by the organization (1643) of the NEW ENGLAND CONFEDERATION, to which both New Haven and Connecticut colonies belonged. To government by the few, New Haven added severe regulation of community morals (see BLUE LAWS), and it was unique among the Puritan colonies in denying trial by jury Neither New Haven nor Connecticut had any legal standing in England as colonies, and the restoration of Charles II in 1660 was disconcerting to both But Connecticut, having adroitly wooed Winthrop away from New Haven in 1657 by making him governor, sent him to London, where he secured a royal charter, dated May 10, 1662 By the charter Connecticut not only won its legal right to exist as a corporate colony but also acquired New Haven, since the charter ignored the existence of that colony in defining Connecticut's boundaries Most of New Haven's satellites quickly went over to Connecticut, but New Haven itself bitterly resisted absorption until, faced with the even more unpleasant prospect of becoming part of the proprietary grant to the west given (1664) to the duke of York, it formally submitted on Jan. 5, 1665. The duke of York surrendered his claim W to the Connecticut river in return for the Long Island towns,

and Connecticut's size has varied little since then, though boundary squabbles with Massachusetts, Rhode Island, and New York continued endlessly The outstanding fact about the charter, however, was its confirmation of the Fundamental Orders and subsequent laws, so that government went on much as before, with a brief interruption (1687–89) under the royal administration of Sir Edmund ANDROS that inspired the legend of the CHARTER OAK By the Saybrook Platform (1708), CONGREGATIONALISM was established as the official religion of the colony (it always had been, in fact) and a modified Presbyterian type of church government was adopted In 1708 the General Court also passed a limited toleration act, and later the Anglicans (1727) and the Baptists and the Quakers (1729) were exempted from contributing to the support of the Established Church However, other dissenting groups, lacking the political influence in England possessed by those three sects, were treated harshly Connecticut thus occupied a position midway between the more autocratic ecclesiastical system of Massachusetts and the liberal one of Rhode Island Nevertheless religious harmony generally prevailed until the 1730s, when the Great Awakening split the Congregational church into radical and conservative factions which carried their differences over to nonreligious questions Thus the "New Lights" or radicals, especially strong in New London and Windham counties in the east, generally supported the SUSQUEHANNA COMPANY in its scheme to settle the WYOMING VALLEY of Pennsylvania In this they were opposed by the "Old Lights" or conservative Congregationalists and by the even more conservative Anglicans, who flourished especially in Fairfield co in the west There was need for expansion because the colony's old, simple agrarian economy was being transformed The land was now almost fully occupied, and a small but vigorous merchant class had arisen Most of Connecticut's trade (agricultural products exported and manufactured goods imported) was controlled by New York and Boston merchants The ports, on Long Island Sound, however, maintained commercial relations with the West Indies, and for the most part the colony became resentful of England's increasingly burdensome commercial and colonial policy The years 1750–76 saw much bitter controversy between radicals and conservatives In 1766 the radicals, by exploiting the Stamp Act issue, achieved a political upset, ousting the conservative governor, Thomas FITCH, and four of his like-minded assistants The conservatives never did recover their power in colonial days, and they disintegrated rapidly after the radical (Whig) victory of 1774 Most of the conservative Congregationalists ultimately supported the patriot cause, but the Anglicans made up the bulk of the state's die-hard Tories, probably some 2,000 or 2,500, who paid dearly for their devotion to the king In 1776 the patriot governor, Jonathan TRUMBULL, was reelected almost unanimously (Connecticut and Rhode Island were the only colonies privileged to elect their chief executives), and he was the only governor of any colony to be retained in office after the outbreak of the American Revolution There was little fighting in Connecticut—skirmishes at Stonington (1775), Danbury (1777), New Haven (1779), and New London (1781)—but the state was the principal supply area for the Continental army Native sons Ethan ALLEN, Israel PUTNAM, Nathan HALE, and Benedict ARNOLD all won fame, and in the last case ultimately notoriety, for their parts in the war, and Trumbull, Roger SHERMAN, Oliver WOLCOTT, and Silas DEANE were outstanding political personalities of the period After the war the long and bloody dispute with Pennsylvania over the Wyoming Valley was settled (1782), and the state relinquished (1786) its claims to Western lands, except the WESTERN RESERVE, to the United States Connecticut was one of the first states to approve the Federal Constitution, which was largely shaped by Oliver ELLSWORTH, who, with Sherman and William Samuel JOHNSON formed Connecticut's delegation to the FEDERAL CONSTITUTIONAL CONVENTION Conservative Connecticut remained politically content until Thomas Jefferson ended the hegemony of the Federalist party in national affairs His Embargo Act of 1807 was denounced throughout New England (the ports on Long Island Sound and on the Connecticut river had developed a lively carrying trade), and the War of 1812, fought under his collaborator and successor, James Madison, was so unpopular that New England Federalists, meeting at Connecticut's capital, seriously considered secession But the HARTFORD CONVENTION sounded the death knell of the Federalists, and in 1818 the Jeffersonians came into power in the state A new constitution, replacing the ancient charter of 1662, was adopted It disestablished the Congregational church and greatly extended the franchise, although universal manhood suffrage was not proclaimed until 1845 Meanwhile, with its shipping industry ruined by the embargo and the war, the state had turned to manufacturing Artisans and craftsmen had become increasingly numerous in late colonial days, and Connecticut forges had turned native iron ore into guns for the patriot soldiers When Eli WHITNEY, probably the best known of a host of Connecticut inventors, established (1798) a firearms factory at New Haven which began making guns with standardized, interchangeable parts, modern mass production had its beginnings The growth of railroads (especially in the 1840s and 1850s) and canals fostered industry The manufacture of notions (buttons, pins, needles, metal goods, and clocks) gave rise to the versatile Yankee peddler, who, with horse and team, covered the nation, hawking his wares He was unfairly maligned, especially in the South, as a seller of wooden nutmegs (hence Connecticut is called the Nutmeg State), when actually what he had was the faculty for overcoming sales resistance (the fact that Hartford is both the leading insurance center in the United States and the home base of the Fuller brush man is not without significance) The rise of industry, however, did not check the old individual urge to move on Connecticut people settled throughout the nation in the 18th and 19th cent, especially in N New England, upstate New York, Pennsylvania, Ohio, and Texas Connecticut, which had abolished slavery in 1784, provided nearly 60,000 troops and an able Secretary of the Navy, Gideon WELLES, for the Union in the Civil War During and after the war, industry expanded greatly, and immigration maintained the cheap labor supply English, Scotch, and especially Irish immigrants began arriving in large numbers even before the war, and they were followed by French Canadians and, in the late 19th and early 20th cent, by Italians, Poles, and others Next to Rhode Island the state has the highest percentage of foreign-born in the Union However, the old Yankee stock (generally Republican), dominant in the small towns, has lost little of its political power, since the legislature is still the most important arm of government In a reversal of the usual system in U S legislatures, Connecticut has a senate elected from districts based on population and a house of representatives based solely on geographical distribution, i e, the towns Those towns that have more than 5,000 population or were incorporated before 1818 (when the present constitution was adopted) send two representatives each, all others send one Thus the state's seven largest cities (containing well over half of the total population) are grossly underrepresented in the government, which, reflecting small-town sentiment, is usually cautious and conservative Nevertheless, progressive legislation of the type represented by the state fair employment practices act (1947) is not lacking Connecticut has prospered and suffered along with the national industrial economy The depression of the 1930s was flanked by the boom periods of war years Like all Puritan-founded colonies, Connecticut has been interested in public education, and, largely because of the efforts of Henry BARNARD in the 19th cent, Connecticut has fine public schools Yale Univ has influenced the nation as well as the state Trinity College at Hartford and Wesleyan Univ at Middletown are also old, influential establishments Other institutions of higher education are the Univ of Connecticut, at Storrs, the U S Coast Guard Academy, Connecticut College, at New London, Albertus Magnus College, at New Haven, and St Joseph College, at West Hartford See G L Clark, *A History of Connecticut Its People and Institutions* (1914), R J Purcell, *Connecticut in Transition, 1775–1818* (1918), J M Morse, *A Neglected Period of Connecticut's History, 1818–1850* (1933), Marguerite Allis, *Connecticut Trilogy* (1934), I M Calder, *The New Haven Colony* (1934), C M Andrews, *The Colonial Period of American History*, Vol II (1936), Federal Writers' Project, *Connecticut a Guide to Its Roads, Lore, and People* (1938), I H Sterry and W H Garrigus, *They Found a Way the Story of Connecticut's Restless People* (1938), Odell Shepard, *Connecticut, Past and Present* (1939), J F Kelly, *Early Connecticut Meetinghouses* (1948), Oscar Zeichner, *Connecticut's Years of Controversy, 1750–1776* (1949)

Connecticut, river, c 350 mi long, rising in lakes in extreme N New Hampshire and flowing S along the Vt–N H line, then across Massachusetts and Connecticut to enter Long Island Sound between Old Saybrook and Old Lyme Its upper course is used for power, and much of its valley is good farm land, onions are an important crop in Massachusetts, and tobacco in Massachusetts and Connecticut Springfield, Mass, and Hartford, Conn, are the largest cities on the river A flood in March, 1936, reached a stage of 38 ft at Hartford and caused widespread destruction, in Sept, 1938, a hurricane and floods did much damage in the valley A flood-control project, first authorized by Congress in 1936, is planned to include 20 dams and reservoirs on tributaries of the river in New Hampshire, Vermont, and Massachusetts See Walter Hard, *The Connecticut* (1947)

Connecticut, University of, mainly at Storrs, land-grant and state supported, coeducational, chartered and opened 1881 as Storrs Agricultural School It became a college in 1893, Connecticut Agricultural College in 1899, and a university in 1939. It includes colleges of agriculture and liberal arts and sciences and schools of business administration, education, engineering, home economics, nursing, pharmacy (at New Haven), social work, and law and insurance (at Hartford)

Connecticut College, at New London, nonsectarian, for women, chartered 1911, opened 1915 The headquarters of the Institute of Women's Professional Relations is on the campus A nursery school and a plant-hormone laboratory are noteworthy

Connecticut Lakes, three lakes, N N H, source of headstreams of the Connecticut river

Connecticut Reserve, see WESTERN RESERVE

Connecticut Wits, literary group of the late 18th and early 19th cent, also called Hartford Wits Stimulated by awakening literary interests at Yale, which many of them attended, they tried to create an American literature The political ferment of the period turned them to attack the Anti-Federalists in jointly written satirical verse—the *Anarchiad* (in the New Haven *Gazette*, 1786–87), the *Political Greenhouse* (in the *Connecticut Courant*, 1799), and the *Echo* (in the *American Mercury*, 1791–1805) Members of the group were at various times Joel BARLOW, Timothy DWIGHT (1752–1817), David HUMPHREYS, John TRUMBULL (1750–1831), Lemuel HOPKINS, Richard ALSOP, Theodore DWIGHT (1764–1846), and Doctors Elihu H Smith and Mason F Cogswell See V L Parrington, ed, *The Connecticut Wits* (1926), Leon Howard, *The Connecticut Wits* (1943)

Connellsville, city (pop 13,608), SW Pa, on the Youghiogheny river and c 50 mi SE of Pittsburgh, settled c 1770, inc as a borough 1806, as a city 1911 Its manufactures include metal products, glass, and paper boxes Lafayette was entertained by Albert Gallatin here in 1825 The attack on Henry C Frick, steel magnate, by the anarchist Alexander Berkman occurred in the city (1892) during the Homestead strike

Connelly, Henry (kŏ'nulē), 1800–1866, governor (1861–66) of the New Mexico Territory and pioneer trader, b Nelson co (now Spencer co), Ky, M D Transylvania Univ, 1828 He began the practice of medicine in Liberty, Mo, but left with a trading party for Santa Fe and Chihuahua, Mexico There he became a merchant and (c 1832) a Mexican citizen, making many trading trips to Independence, Mo When U S troops entered Santa Fe in 1846, he was chosen by the Spanish governor to represent Mexico in negotiations After the American occupation he reassumed American citizenship and became the leading merchant in New Mexico When a new state was projected, he was elected governor in 1850, but he became territorial governor instead after Congress organized New Mexico as a territory

Connelly, Marc (Marcus Cook Connelly) (kŏ'nulē), 1890–, American playwright, b McKeesport, Pa He contributed verse and articles to magazines, and he collaborated with George S Kaufman on the plays *Dulcy* (1921) and *To the Ladies* (1922), they also dramatized several novels His Negro fantasy *The Green Pastures* (1930), based on Roark Bradford's book *Ol' Man Adam an' His Chillun*, received the 1930 Pulitzer Prize for drama and was appraised as the finest folk play yet produced in America In 1947 Connelly became associate professor at the Yale Drama School

Connemara (kŏnumä'rŭ), wild, mountainous region, Co Galway, Ireland, lying between the Atlantic and Loughs Corrib and Mask To the north is Clew Bay and on the south is Galway Bay It has few towns, but many lakes, streams, mountains, and glens

Conner, David, 1792–1856, American naval officer, b Harrisburg, Pa Appointed a midshipman in 1809, he distinguished himself on the famous sloop *Hornet* in the War of 1812, being promoted (1813) lieutenant and twice decorated Conner rose to become (1835) a captain and held various commands in Mediterranean and West Indian waters As commander (1843–47) of the forces in the Gulf of Mexico at the beginning of the Mexican War, he occupied Tampico in Nov, 1846, blockaded Mexican ports, and landed Gen Winfield Scott's army for the attack on Veracruz Conner was, however, overcautious, and in March, 1847, Matthew C Perry succeeded to his command His son, P S P Conner, wrote *The Home Squadron under Commodore Connor in the War with Mexico* (1896)

Connersville, city (pop 12,898), co seat of Fayette co, E Ind, on the Whitewater river and E of Indianapolis, laid out 1817 A railroad center, it manufactures kitchen sinks, cabinets, refrigerators, and jeep bodies A fur-trading post was established here in 1808

Connolly, Cyril (sĕr'ul kŏ'nulē), 1903–, English editor and critic, educated at Oxford He is the editor of *Horizon*, a small literary magazine of catholic representation which was founded by him in 1939 As a literary critic he is known for his penetrating, although sometimes brusque, analysis of literary pitfalls. He wrote *The Unquiet Grave* (1945) and *The Condemned Playground* (1946) His *Enemies of Promise* (1939) contains a short autobiography

Connolly, James, 1870–1916, Irish republican leader and socialist Early a convert to socialism, Connolly spent seven years (1903–10) in America as a worker for the socialist cause and helped to organize the I W W. He went to Belfast (1911) as an organizer among the dock workers, and in 1913, in Dublin, with Jim LARKIN, he organized the great strike of the transport union Later in the year he formed the citizen army in imitation of the rival bands in Northern Ireland He joined Patrick Pearse and the national volunteers in the Easter Rebellion of 1916, was wounded and captured in the fighting, and was executed after a court-martial Connolly's conviction in his later years was that the cause of socialism in Ireland could not be successfully furthered until the question of Irish nationalism was settled See biographies by Desmond Ryan (1924) and R M Fox (1946).

Connor, Patrick Edward, 1820–91, American army officer, b Ireland At an early age he was brought by his parents to New York He enlisted in the army, serving (1839–44) on the Western frontier and (1846–47) in the Mexican War, attaining the rank of captain In 1850 he went to California, where he engaged in mining and prospecting and joined the California Rangers At the beginning of the Civil War he was appointed to command the 3d California Infantry with the rank of colonel and was ordered (1862) to Utah to protect the settlers and the mails from Indian attack He established Camp Douglas (later Fort Douglas) near Salt Lake City, thereby incurring the resentment of the Mormons, who regarded with suspicion the presence of U S forces In 1863 he defeated the Shoshone and Bannock Indians on Bear river, a feat which is commemorated by the Bear river battle monument near Lewiston, Utah He commanded one of the three columns of the Powder river expedition to establish forts and help to open the Bozeman Trail The expedition was unsuccessful, Connor's command was bitterly criticised, and in 1866 he resigned from the army He then made his home in Utah, where he developed silver mines which he had discovered earlier in the Wasatch Range and where he established the *Union Vidette*, the first non-Mormon newspaper in Utah He was a consistent opponent of the Mormons and they hated him, while to the non-Mormons of Utah he was a hero See F B. Rogers, *Soldiers of the Overland* (1938)

Conner, Ralph · see GORDON, CHARLES WILLIAM

Conolly, John (kŏ'nulē), 1794–1866, English physician He was professor (1827–29) at University College, London Especially known for his introduction of humane treatment of the insane at Hanwell Asylum, where he abolished mechanical restraints, he wrote *The Construction and Government of Lunatic Asylums and Hospitals for the Insane* (1847) See memoir by Sir James Clark (1869)

Conon (kō'nŏn), d after 392 B C , Athenian commander He was an admiral in the PELOPONNESIAN WAR and was one of the leading commanders after the downfall of Alcibiades. The Athenian fleet under his general command was badly defeated (405 B C) at AEGOSPOTAMOS, but Conon escaped with his ship and went to visit Cyprus, where EVAGORAS was in power He later became a commander of a Persian-Greek fleet and with the help of PHARNABAZUS soundly defeated (394 B C) the Spartans off Cnidus He returned in triumph to Athens, completed the rebuilding of the Long Walls, and prepared the way for the remaking of the power of Athens and the Delian League When Persia turned away from Athens toward Sparta, Conon's fortunes sank His death was obscure

Conon, 3d cent B C , Greek astronomer and mathematician of Samos He traveled in the western part of the Greek world making astronomical observations, then settled at Alexandria He was a student of solar eclipses and discoverer of the constellation Coma Berenices His mathematical studies included an investigation of conic intersections

Cononiah (kŏn"ōnī'ù) [Heb ,=God has established], Levite of Hezekiah's reign 2 Chron 31 12,13

Conover, town (pop. 1,195), W central N C , NNW of Charlotte It has textile and furniture plants

Conowingo Dam (kŏn"ùwing'gō), NE Md , on the Susquehanna; completed 1927 It is 4,648 ft long and 105 ft high. The hamlet of Conowingo is here, and Conowingo Lake, formed by the dam, extends 14 mi north

conquistador (kŏnkwī'stùdôr, Span kŏng-kē"-städhôr'), leader in the Spanish Conquest of the New World in the 16th cent Francisco PIZARRO, the conqueror of Peru, and Hernán CORTÉS, the conqueror of Mexico, were the greatest of the conquistadors The name is frequently used to mean any daring, ruthless adventurer.

Conrad I, d 918, German king (911–18). As duke of Franconia, he distinguished himself by his military exploits, and in 911 he was elected successor to LOUIS THE CHILD Although supported by the bishops, he never succeeded in establishing his authority over the great feudal dukes in a long series of wars Lorraine broke away and acknowledged the rule of CHARLES III of France; the Swabians attacked a bishop favorable to Conrad and, although two of their leaders were captured and executed after the synod of Hohenaltheim (916), kept up the war till Conrad's death, the duke of Bavaria, expelled, was successful in returning The most able of Conrad's foes, however, was Henry the Fowler, duke of Saxony, who, in accordance with Conrad's own deathbed advice, was elected to succeed him as HENRY I (919) Conrad's reign saw the continuation of the invasions of the Hungarians.

Conrad II, c 990–1039, emperor (1027–39) and German king (1024–39), first of the Salian dynasty of the Holy Roman Empire. Since the Saxon line ended with HENRY II, the candidates at the election of 1024 were drawn from the descendants of Henry I through the female line Conrad, duke of Franconia, who was supposedly opposed to the reforms of CLUNY, was elected with the support of the great prelates and over the opposition of the monastic party His accession was contested by his nephew, Ernest of Swabia, by the Lorrainers, and by the Italians The revolts of Ernest and the Lorrainers having collapsed, Conrad brought N Italy into submission (1026–27) and was crowned emperor at Rome He suppressed two more revolts of his nephew (1027, 1030) and in 1033 annexed the kingdom of Burgundy (see ARLES, KINGDOM OF) under the terms of a treaty made (1006) between Rudolf III, last independent king of Arles, and Emperor Henry II Conrad was crowned king of Burgundy at Geneva in 1034 In 1036 Conrad returned to Italy, where war was raging between the greater and the lesser nobles He deposed Archbishop Aribert of Milan, a powerful ally of the great nobles, and made the fiefs of the lesser nobles hereditary by issuing (1037) the Constitution of Pavia In Germany also Conrad tended to favor the small nobility, thus reversing the policy of Otto I and Henry II, who had depended for support on the Church He pursued the same objective by promoting serfs to hold household offices and encouraging the rise of a hereditary class of *ministeriales* to replace the ecclesiastics in the civil service Conrad's administration was economical, and he encouraged commercial enterprise by granting market and mint privileges He was succeeded by his son Henry III

Conrad III, c 1093–1152, German king (1138–52), nephew of Emperor Henry V and founder of the HOHENSTAUFEN dynasty He joined his brother Frederick (defeated in the election of 1125) in rebelling against Emperor LOTHAIR II Set up as antiking in 1127, he went to Italy (1128) and, despite excommunication by Pope Honorius II, was crowned king at Milan Failing, however, to make any progress, he submitted to Lothair in 1135 After Lothair's death he was elected king by the nobles and ecclesiastics who feared to increase the power of Lothair's son-in-law, HENRY THE PROUD of Bavaria Conrad deprived Henry of his duchies, giving Saxony to ALBERT THE BEAR and Bavaria to Leopold of Austria A civil war broke out and was continued after the death of Henry the Proud by his son HENRY THE LION Out of this strife emerged the parties of the GUELPHS AND GHIBELLINES A truce was negotiated in 1142 At Christmas, 1146, Conrad was induced by St Bernard of Clairvaux to join in the Second Crusade (see CRUSADES) with LOUIS VII of France Leaving in 1147, he took part in the unsuccessful siege of Damascus and returned in 1149 An expedition against Roger II of Sicily was prevented by the activities of Henry the Lion Conrad was succeeded by his nephew, Emperor Frederick I

Conrad IV, 1228–54, German king (1237–54), king of Sicily and of Jerusalem (1250–54), son and successor of Emperor FREDERICK II He was elected king of the Romans at Vienna (1237) after the deposition of his brother Henry The election of an antiking at the behest of Pope INNOCENT IV (1246) plunged Germany into disorder, which was only increased when WILLIAM, COUNT OF HOLLAND, became antiking after the death of the original contender (1247) Removing to Italy (1251) after his father's death, Conrad was received with general favor in Sicily and brought order to his kingdom by taking Capua and Naples The pope, after the failure of negotiations, offered the crown of Sicily to RICHARD, EARL OF CORNWALL, to Charles of Anjou, who refused at this time, though he later became CHARLES I of Naples and Sicily, and to Edmund, earl of Cornwall, who accepted In 1254 Conrad was excommunicated Just as war was about to begin he died of fever It was left for his son, CONRADIN, to witness the final doom of the house of Hohenstaufen

Conrad, d 1192, king of Jerusalem (1192), marquis of Montferrat, a leading figure in the Third Crusade (see CRUSADES) He saved Tyre from the Saracens and became (1187) its lord In 1189 he joined GUY OF LUSIGNAN at the siege of ACRE, but a year later he was seeking to displace Guy as king of Jerusalem. To establish a claim to the crown he married Isabella, daughter of Amalric I. A compromise (1191) was short-lived. In 1192 Conrad was acknowledged as king, but a month later he was mysteriously assassinated. The royal title passed to the two later husbands of his widow, Isabella—Henry, count of Champagne (1192–97), and AMALRIC II.

Conrad, Joseph, 1857–1924, Polish-born English novelist, originally named Teodor Josef Konrad Korzeniowski; son of a writer who was exiled for political activities. He attended school in Cracow and in 1874 went to sea In 1884 Conrad became a master mariner in the British merchant fleet, and in 1886 a British citizen. He retired from the sea in 1894, with rich and varied experience, and began his career as a novelist *Almayer's Folly* (1895), *An Outcast of the Islands* (1896), *The Nigger of the Narcissus* (first published as *The Children of the Sea*, 1897), *Lord Jim* (1900), and his short story *Youth* (1902), all written in English, an acquired language, are remarkable for a distinctive prose style His other works include *Typhoon* (1903), *Nostromo* (1904), *Victory* (1915), *The Arrow of Gold* (1919), *The Rescue* (1920), *The Rover* (1923), and the unfinished work *Suspense* (1925). Conrad's novels are compounds of realism and romanticism. He portrays the tragic isolation and moral deterioration of men unable to reach their highest capabilities See Ford Madox Ford, *Joseph Conrad a Personal Remembrance* (1924), Arthur Symons, *Notes of Joseph Conrad, with Some Important Letters* (1926), Georges Jean Aubry, *Joseph Conrad Life and Letters* (1927), biographies and critical studies by his wife, Jessie Conrad (1926, 1935), R L Megroz (1931), Edward Garnett (1937), J H Retinger (1943), and Albert Guerard (1948), bibliography by G T Keating (1929)

Conrad, Michael Georg (mē'khäl gā'ôrk kôn'rät), 1846–1927, German critic and novelist He espoused the cause of Zola and in 1885, with Karl Bleibtreu, founded the *Gesellschaft* [society], a naturalistic review which was a rallying point for writers of the modern German school His works include a volume of criticism, *Madame Lutetia* (1883), and *Was die Isar rauscht* [what the Isar murmurs] (1887), the first of a series of Zolaesque novels

Conrad (kŏn'răd), city (pop. 1,471), co seat of Pondera co , N Mont , NNW of Great Falls, inc 1910 The town, founded as a grain-shipping center, is near oil fields

Conrads, Hermann (hĕr'mun kônrä'dĕs), 1862–90, German author He was one of the most enthusiastic exponents of the naturalistic school His best work is perhaps in the volume of verse *Lieder eines Sünders* [songs of a sinner] (1887) *Adam Mensch* (1889) is remembered as the cause of a prosecution for immorality which was forestalled by the author's death

Conradin (kŏn'rudĭn), 1252–68, duke of Swabia, titular king of Jerusalem and Sicily, the last legitimate HOHENSTAUFEN, son of CONRAD IV While he was still a child in Germany his uncle, MANFRED, made himself king of Sicily (1258) When Manfred died and the kingdom was seized (1266) by CHARLES I (Charles of Anjou), young Conradin was persuaded to come to Italy to recover his kingdom Several Ghibelline cities rallied to his support, but he was defeated (1268) by Charles at Tagliacozzo, was captured, and was executed at Naples

Conrad of Marburg, d 1233, German churchman He was confessor of St ELIZABETH of Hungary (1225–31) and administrator of her husband's benefices in his absence. His zeal against heresy earned him appointment (1231) as first papal inquisitor in Germany His harshness made him much disliked. He was murdered

Conrad of Würzburg (würts'bûrg), d 1287, German poet, pupil of Gottfried von Strassburg He was the author of epics, narrative poems, and romances in verse, which are among the best in Middle High German. His works include *Alexius*, *Silvester*, *Die goldene Schmiede*, *Der Welt Lohn*, *Otto mit dem Barte*, *Der Trojanerkrieg*, and *Das Herzemaere*

Conrad the Red, d 955, duke of Lorraine (944–53) He accompanied his father-in-law, the German king (later Emperor OTTO I), to Italy against Berengar II (951) Left behind after Otto's return to Germany (952), Conrad came to an agreement with Berengar and, when Otto refused to ratify it, joined in a conspiracy with Otto's son, Ludolf, and Frederick, archbishop of Mainz Expelled from his duchy (953), Conrad allied himself (954) with the Hungarians, who were invading the empire. However, the invasion united the people behind Otto, and Conrad submitted He distinguished himself fighting under Otto at the Lechfeld, but was killed near the close of the battle.

Conrad von Hötzendorf, Franz, Graf (fränts' graf' kôn'rät fün hût'sündôrf), 1852–1925, Austro-Hungarian field marshal Appointed chief of staff in 1906, he reorganized the army and led the so-called "army party," which pressed for war with Serbia His differences with the foreign minister, Count Aehrenthal, led to his dismissal (1911) Reappointed in 1912, he was successful against the Russians in the First World War, but his critical attitude toward Emperor Charles I led to a second dismissal (1917). He held a command on the

Italian front until 1918. Conrad wrote memoirs (*Aus meiner Dienstzeit*, 5 vols., 1921–25).

Conrart, Valentin (välätē' kôrär'), 1603–75, French writer, student of modern languages, and an authority on style His home was the center of a distinguished literary circle. In 1635 this group, fostered by Richelieu, was officially organized as the French Academy, of which Conrart became the first perpetual secretary His compilations were copious, but his own writings, poems, letters, and memoirs were few

Conroe (kŏn'rō), city (pop. 4,624), co seat of Montgomery co., S Texas, NNW of Houston, founded 1881, inc 1906 Previously a pine-lumbering town, it shot into prosperity after oil was struck here in 1931 It has a recycling plant, a carbon-black plant, and other industries

consanguinity (kŏn"säng-gwĭ'nĭtē) [Latin,=relationship by blood] Proximity of kinship everywhere not only provides socially recognized standards of mutual obligations and attitudes, but also often defines permissible marriages Infringement of such mating regulations is INCEST. Consanguinity is usually reckoned in terms of degree parents, brothers, and sisters stand in first degree relationship, uncles, aunts, and their offspring may be considered a second degree removed, and from these extend, in succeeding generations, third and fourth degree relatives Systems of reckoning often differ First cousins may or may not be within the proscribed degree The Christian churches are not in agreement In parts of the United States marriage between first cousins is prohibited by law The Roman Catholic Church has strict rules on consanguinity as an impediment to the marriage, though dispensations to marry may be obtained except for close relatives, the Orthodox Church prohibits second-cousin marriage Canonical and civil law have held that relatives of a deceased spouse are counted as related in the same degree as the widowed person's own family

Conscience, Hendrik (hĕn'drĭk kōsĕns'), 1812–83, Flemish novelist, a founder of modern Flemish literature Of his many novels not a few have appeared in English translation After early historical novels, including the very successful *De Leeuw van Vlaenderen* (1838, Eng tr., *The Lion of Flanders*), he devoted his talents to rather idealized stories of Flemish village life, notable among these are *The Conscript* or *The Recruit* (1850, Eng tr., 1864), *The Poor Gentleman* or *The Poor Nobleman* (1851, Eng tr., 1856), and *Rycke tycke tack* (1851, Eng tr., 1856).

conscience. Moral consciousness or sense of right and wrong has been variously explained by moralists and philosophers In the history of ETHICS the conscience has been looked upon as the rule of a divine power expressing itself in man's judgments, an innate intuitive sense of right and wrong resulting from man's unity with the unity of the universe, an inherited intuitive sense evolved in the long history of the human race, and a set of values derived from the experience of the individual Psychologists also differ in their analyses of the nature of conscience It is variously believed to be an expression of values differing from other normative organizations only in the subject matter involved, a feeling of guilt for known or unknown actions done or not done, the manifestation of a special set of values introjected from the example and instruction of parents and teachers, and the value structure which essentially defines the personality of the individual

conscientious objector, a person who passively resists the authority of the state, especially its power to compel military service, on the grounds of conscience Such resistance, emerging in time of war, may be based on membership in a pacifistic religious sect, such as the Society of Friends, the Dukhobors, or Jehovah's Witnesses, or on personal religious or humanitarian convictions Political opposition to the particular aim of conscription, such as that maintained by the Copperheads during the Civil War or by radical groups during the First World War and a portion of the Second, may be based on conscience but is usually considered in a separate category The problem of conscientious objectors, though present in different forms ever since the beginning of the Christian era, became acute in the First and Second World Wars because of the stringent demands for man power of the governments waging them. The United States and Great Britain allowed diversion from actual combat service into the noncombat branches of the military forces, into related activity outside the service, or into work of a socially valuable character apart from the war effort to members of religious groups recognized as pacifistic; those who did not fit readily into categories established by the draft authorities for exemption were liable to harsher treatment. In all c 5,000 conscientious objectors were imprisoned in the United States between 1940 and 1945. The treatment of conscientious objectors is in democracies a test of the state's ability to reconcile the exercise of its sovereignty with the protection of the individual and of minorities European treatment of the problem has always been more severe than Anglo-American practice. See M Q Sibley and A. W Wardlaw, *Conscientious Objectors in Prison, 1940–45* (1945); G. C. Field, *Pacifism and Conscientious Objection* (1945).

consciousness, in psychology, a term of no universally accepted definition, but commonly used in a general way to indicate a state of being aware of things and conditions as a whole in the environment In this sense it is distinguished from unconsciousness (see UNCONSCIOUS), another mode of behavior or mental and physical activity, which is held to involve activity with a less degree of conative quality The Freudian psychology (see PSYCHOANALYSIS) is based fundamentally in a distinction between the so-called conscious and unconscious, offering a technique for the study of the unconscious On the other hand, the behaviorists question the existence of either consciousness or unconsciousness and deny that any distinction can be made on this basis between one kind of human behavior and another A number of other psychologists use it without precise definition to indicate the total common integrated activities of an individual which constitute the personality

conscription, compulsory enrollment of personnel for service in the armed forces, in contradistinction to voluntary enlistment Although the ancient Greek and Roman forces were so recruited by custom, conscription by national law was introduced in the 1790s by the French in the French Revolutionary Wars Conscription enabled Napoleon Bonaparte to mold his tremendous fighting forces, and in 1808 compulsory recruitment was introduced, in peacetime, by Prussia The institution of conscription, which was increasingly justified by statesmen on the grounds of national defense and economic stimulation, spread to many of the European nations in the 19th cent England adopted conscription only after the outbreak of the First World War In the United States, conscription—more commonly today called SELECTIVE SERVICE—dates from the Civil War

consent, in law, voluntary concurrence or assent by a person legally capable of consenting (see AGE OF CONSENT) It may be evidenced by words or acts or by silence when silence implies concurrence Actual or implied consent is necessarily an element in every CONTRACT and every agreement In criminal charges, the consent of the party injured is a defense for the accused, unless a third party or the state is injured

conservation of energy see ENERGY

conservation of natural resources, prevention of waste of man's physical environment, including timber, fish, game, fertile topsoil, pasture, and minerals, and also the reclamation of wasteland by means of drainage or irrigation Deforestation and tillage have caused soil EROSION, destroying great areas of useful land, especially in China, the Mediterranean region, and North America Mineral resources have been rapidly depleted In North America the dissipation of natural resources has gone on more rapidly than in the Old World The conservation movement in the United States began effectually with the creation in 1871 of a U S commissioner of fish and fisheries The Forestry Bureau of the Dept. of Agriculture created the first national forest reserve in 1891 The Irrigation Division in the U S Geological Survey developed into the Bureau of Reclamation The Geological Survey has catalogued and classified the resources of the public domain In 1906 an act protected the Alaskan fisheries. Much of the impetus to this and similar legislation was given by President Theodore Roosevelt In 1907 President Roosevelt appointed the Inland Waterways Commission, which emphasized the connection between forests, water supply, and stream flow In 1909 he appointed the National Conservation Commission, which published the first inventory of the country's natural resources Roosevelt in 1907 also began to withdraw large areas of Western public land from sale and settlement, that their resources might be investigated, and he also set apart forest reserves, following the example of President Cleveland. Approximately one fifth of all standing timber is held by the government Reclamation of eroded lands, begun in 1880, was aided by the Newlands Act of 1902, withdrawing areas of water supply from future settlement In 1920 the development of water power on navigable streams was placed under the control of the Federal Power Commission The National Park Service was created in 1916 In the 1930s the erosion of much arable land in the Middle West emphasized the need for land reclamation and for conservation in general The National Industrial Recovery Act of 1933 contained provisions for conservation The Civilian Conservation Corps, founded in 1933 to relieve unemployment, furnished the personnel for many conservation projects The Tennessee Valley Authority set up in 1933 was an outstanding attempt to apply principles of conservation, soil reclamation, and electrification to an entire area. The New Deal era as a whole was outstanding for legislation on conservation The United States has participated in international agreements concerning ocean fisheries throughout its history. The conservation movement has slowed, if it has not halted, the exhaustion of natural resources Technical processes and the principle of substitution, such as of electricity for coal, are analogous processes in the case of privately owned resources European nations, with fewer resources and a tradition of state supervision, have been more conscious of the need for conservation than has the United States See Stuart Chase, *Rich Land, Poor Land* (1936), G T Renner, *Conservation of National Resources* (1942); A F Gustafson and others, *Conservation in the United States* (1944), publications of the National Resources Planning Board

conservation of wildlife: see WILDLIFE REFUGE

Conservative party, British political party. The name was first popularized by J W Croker in the *Quarterly Review* of Jan., 1830, but the party itself might be said to have a history long antedating this period It was an outgrowth, or continuation, of the TORY group which had begun to establish itself as a political organization as early as the latter part of the 17th cent., at the same time as its counterpart, the Whigs, who came during the 19th cent to be known as Liberals By the 1820s the Tory party had come to a reactionary position, but within its ranks there grew up a reform element, represented by George Canning (who used the term *Conservative* as early as 1824), William Huskisson, and Robert PEEL The Reform Bill of 1832, enfranchising some 500,000 new middle-class voters, was a death blow to the old-line Tory party Peel, however, accepted the implications of the Reform Bill in the Tamworth Manifesto of 1834 and rallied the Conservatives by his appeal to the new trading and manufacturing vote The Conservatives held office from 1841 to 1846 under Peel, but the party split on the question of the repeal of the corn laws Peel succeeded in passing the repeal, thus alienating the protectionists, headed by Lord George Bentinck and Benjamin DISRAELI and bringing about his own downfall The "Peelites" eventually merged with the Liberals, and the Conservatives were out of office, except for three brief ministries, until 1874 The party which returned to power at that time had been revitalized by Disraeli's program of "Tory democracy" and imperialism Disraeli pursued a vigorous program of social reform and colonial expansion, but the Conservative hegemony was broken in 1880 by the Liberals under W E Gladstone The Liberals, however, divided on the question of Home Rule for Ireland, and the Conservatives recaptured the House of Commons in 1885, maintaining control, with two brief intervals (1886, 1892–95) until 1905, when the party split once more on the question of the tariff reform—this time over reforms advocated by Joseph CHAMBERLAIN The Liberal ascendancy which began at this time continued until the First World War, when party differences were put aside for a coalition government which lasted until 1922 At that time the Conservatives, who had a majority in Commons, declined to continue under the coalition The Conservatives took office under A Bonar LAW, who resigned in favor of Stanley BALDWIN the following year. The party for years maintained its leadership, which was interrupted by victories of the Labour party in 1924 (with a short-lived Labour cabinet) and in 1929 The Labour government was expanded in 1931 to a coalition formed to meet the emergency of the great depression, and the new government was from the first dominated by the Conservatives The party lost greatly in prestige by the failure of the "appeasement" policy of Neville Chamberlain in the period preceding the Second World War, but the country rallied to the support of the vigorous war program of Conservative Winston CHURCHILL, who took office as prime minister at the head of a new coalition in May, 1940 At the end of the war Churchill eliminated Labour representatives from his cabinet and called for new elections In these elections of 1945 the socialistic reform program of the Labour party appealed to the voters over the cautious policies of the Conservatives Labour was returned to the House of Commons with a large majority In the elections of Feb., 1950, the Conservatives, who called for a halt in future socialization but maintained themselves willing to accept the changes that had already been instituted, succeeded in recapturing many votes, but fell short by a narrow margin of a majority in Commons Churchill continued as party leader See W F Ogburn, *Social Change* (1922), Arthur Bryant, *The Spirit of Conservatism* (1929)

Conshohocken (kŏn"shuhō'kun), industrial borough (pop 10,776), SE Pa., on the Schuylkill and NW of Philadelphia, settled 1831, inc 1850 Its industries include automobile tires, metal products, and textiles

Considérant, Victor Prosper (vēktôr' prōspâr' kōsēdārä'), 1808–93, French social theorist and reformer, follower of Charles FOURIER He edited Fourierist newspapers, including the *Phalanstère* and the *Phalange*, and published works on the subject, notably a digest of Fourier's writings, *Destinée sociale* (2d ed., 1847–49). In 1848, as a

member of the national assembly, he tried to reconcile the bourgeois and the workingmen, he later took part in the JUNE DAYS insurrections At the request of Albert Brisbane, Considérant tried unsuccessfully to establish a phalanx in Texas His several books include *Principes du socialisme* (1847), an argument favoring Fourierism over other kinds of socialism See biography by Maurice Dommanget (1929)

consideration: see CONTRACT

consols (kunsōlz', kŏn'sōls), contraction of "consolidated annuities" The government of England had incurred its debt by borrowing money at different periods on special conditions, usually the payment of an annuity The variety of stocks thus created caused great confusion, and they were therefore consolidated between 1750 and 1757 into annuity stocks Interest was paid by the Bank of England, which held the stock The consols bore no maturity date A fixed rate of interest was maintained, and premiums were given if the market justified higher rates The price of annuities was long regarded as an index to the national credit, for they constituted most of the national debt before the First World War

conspiracy (kunspĭr'ŭsē), in law, agreement of two or more persons to commit a criminal or otherwise unlawful act The crime of conspiracy consists in making the agreement and taking at least some overt step to accomplish the act It is not necessary for guilt, however, that the act be fully consummated, nor is it a defense that the wrongful purpose was abandoned In the 14th cent in England the crime consisted only of combining to abuse legal procedure by falsely prosecuting criminal or civil charges Its scope was gradually expanded to include combinations for many other purposes Many acts which would not be criminal if accomplished by an individual alone may nevertheless be the object of a conspiracy Thus, if a single person without cause refuses to patronize a business he does not commit any crime, but if two or more persons combine in a boycott they may be guilty of conspiracy In England and in the United States the law of conspiracy was for a long time directed against trade-union activities The courts held that while an individual employee might lawfully abstain from work, the concerted stoppage of a group of employees in a strike might be criminal Strong agitation in Great Britain produced the Conspiracy Act of 1875, which exempted trade unions from prosecution for conspiracy At a later date in the United States, however, the SHERMAN ANTI-TRUST ACT (1890) and the CLAYTON ANTI-TRUST ACT (1914) were interpreted as applying to trade-union combinations The NORRIS-LaGUARDIA Anti-Injunction Act (1932), which limited the power of Federal courts to restrain union activities, and changing legal conceptions have virtually ended the subjection of unions to conspiracy charges See P W Winfield, *The History of Conspiracy and Abuse of Legal Procedure* (1921)

Constable, Henry, 1562–1613, English poet His sonnet collections include *Diana* (1592) and *Spiritual Sonnets* (1815) He is represented in *England's Helicon* (1600) by four pastorals

Constable, John, 1776–1837, English painter, b Suffolk, famous for his inspired landscapes of Suffolk, Hampstead, Salisbury, and Brighton The son of a prosperous miller, Constable was not permitted to devote himself to his art until he was 23 In 1824 one of his paintings, *The Hay Wain*, was exhibited at the Louvre, where it created a sensation and is said to have made a profound impression upon the young Delacroix During his life Constable received but modest recognition in England and was tardily admitted to the Royal Academy in 1829 Although an ardent admirer of classical painting, he got his inspiration direct from nature and painted with a freedom in the use of broken color extraordinary in his day Splendid examples of his work are contained in the National Gallery, London, and in the Victoria and Albert Museum In the United States he is represented in the Metropolitan Museum and the Frick Collection, New York, in the National Gallery, Washington, and in the galleries of Philadelphia, Toledo, and Chicago See C R Leslie, *Memoirs of the Life of John Constable* (enl ed, 1937).

Constance, 1152–98, empress, consort of Emperor HENRY VI, and aunt of King William II of Sicily, who designated her as his successor The Sicilians instead crowned her illegitimate nephew, TANCRED of Lecce Her husband, who claimed her kingdom after their marriage (1186), conducted an unsuccessful campaign against Tancred (1190–91) Constance was captured during the campaign but was soon released After Tancred's death (1194) Henry was crowned at Palermo He died in 1197, and Constance secured from Pope Innocent III the investiture of her infant son (later Frederick II) with Sicily, which thus passed to the Hohenstaufen family She was regent for her son till her death

Constance, Ger *Konstanz* (kŏn'stants), city (pop 39,286), S Baden, SW Germany, at the western end of the Lake of Constance and near the Swiss border There are textile and clothing manufactures The city, undamaged in the Second World War, is rich in history Founded as a Roman fort in the 4th cent A D, it became an episcopal see c 580 The bishops became powerful, holding large territories as princes of the Holy Roman Empire, and the city, on a trade route between Germany and Italy, became a free imperial city in 1192 Here in 1183 Emperor Frederick I recognized the LOMBARD LEAGUE At the Council of Constance (1414–18) John Huss was burned In 1531 the city, which had accepted the Reformation, joined the Schmalkaldic League Emperor Charles V, after defeating the League, deprived Constance of its free imperial status and gave it to his brother, later Emperor Ferdinand I Constance remained in Austrian hands till its cession (1805) to Baden The bishopric was secularized in 1802–3 and the diocese abolished in 1827 Among the many historical buildings of Constance are the cathedral (begun 11th cent, rebuilt 15th cent) and the former Dominican convent, scene of the council, now converted into a hotel

Constance, Council of, 1414–1418, council of the Roman Catholic Church, some of its sessions being reckoned as the 16th ecumenical COUNCIL It was summoned to end the church schism in which three men were claiming to be pope—GREGORY XII (since recognized as canonical pope), John XXIII (see COSSA, BALDASSARRE), and Benedict XIII (see LUNA, PEDRO DE, and SCHISM, GREAT) Reform of Christian life and extirpation of heresy were also aims of the convocation, which was issued by John at the insistence of Emperor SIGISMUND Sigismund chose the place, Constance, an imperial city During the council enormous crowds visited the city, there was much pageantry The first session was Nov 16, 1414, the 45th and last was April 22, 1418 It was dominated by theologians, especially French, who held the conciliar theory that had appeared at the Council of Pisa (see PISA, COUNCIL OF) Instead of the traditional assembly of bishops, theoretically moved by the Spirit to speak of the faith handed down in their churches this was organized as a convention of nations (German, Italian, French, and English, the Spanish entered later) each having one vote The decisions were made in caucuses of the nations between sessions The council declared in the Articles of Constance (April 6, 1415) that it was an ecumenical council and supreme in the Church Next it declared John deposed (May 29, 1415) Gregory XII, meanwhile, sent legates with a formal decree to convene a council, this was accepted by the council, and the legates ceremonially opened it, then Gregory resigned the papacy By allowing the legates' action the council cast legal doubt on its own preceding acts, if Gregory was the canonical pope, the council only begins as a canonical general council with this action (July 4, 1415) Benedict provided a hard problem, at last, after a trial in absence, he was deposed (July 26, 1417) This ended the schism, and the council disputed over procedure for months Eventually an elaborate method of electing the pope was adopted which would reduce the power of the cardinals The conclave soon agreed on MARTIN V (Nov 11, 1417) The council had previously (Oct 5, 1417) enacted a complex plan to govern the Church by periodic councils, subsequently (March 20, 1418) it produced its measures of general reform Apart from a decree on clerical dress, these provided for changes in the taxation and fiscal administration of the popes As a supplement, the pope and representatives of each nation drew up agreements, the first concordats, amplifying the general decrees These enactments were trivial in the picture of reforms the Church needed, they reflect clearly a council of bishops and princes dominated by self-interest In its supreme role in Christendom the council had other problems The most serious was that of the Hussites John Huss, although he had come with the emperor's safe-conduct, was tried and burned at the stake (1415) The next year JEROME OF PRAGUE was burned There were also constant political troubles, e g, the French and English were at war Since Martin ratified decrees of the last four sessions only, no others are regarded by Roman Catholics as binding This includes the reforms, but not the changes of church government There is no detailed account of the council in English, publication of the journal (*Acta*, in Latin) was completed only in 1928 See E F Jacob, *Essays in the Conciliar Epoch* (1943)

Constance, Lake of, Ger *Bodensee* (bō'dunzā"), lake, 208 sq mi, 46 mi long with a maximum depth of 827 ft, bordered by Switzerland, Germany, and Austria It is formed by the Rhine and divides near Constance into two arms On its fertile shores are Constance and Friedrichshafen (Germany), Bregenz (Austria), and Rorschach (Switzerland) Remains of lake dwellings have been found Fishing is an important industry

Constans I (kŏn'stănz), b. 320 or 323, d 350, Roman emperor, youngest son of Constantine I At his father's death in 337 he received Italy, Africa, and Illyricum, while his brothers, Constantine II and Constantius II, received other portions of the empire There was trouble among them, and in 340 CONSTANTINE II invaded Italy He was, however, killed from ambush, and Constans was left to rule until his vices and extortions led to his assassination 10 years later.

Constans II, 630–68, Byzantine emperor (642–68), son and successor of Constantine III and grandson of Heraclius I Early in his reign Armenia and Asia Minor were invaded by the Moslems, who also took Cyprus and threatened Sicily and Constantinople Constans, an able and vigorous ruler, sought to end the religious controversy centering about MONOTHELETISM by issuing a decree (648) forbidding its discussion This involved him in conflict with Pope MARTIN I, whom he finally had arrested and banished In 662 Constans removed to Italy, with the purpose of establishing his capital at Rome, checking the Arabs in Africa, and restoring Roman power in the West He fought with little result against the Lombards and finally settled at Syracuse From there he directed a generally successful resistance to the Moslems During the reign of Constans the Byzantine Empire underwent an administrative reorganization designed to strengthen the emperor and to facilitate defense He was assassinated His son, Constantine IV, succeeded him

Constant, Benjamin (Henri Benjamin Constant de Rebecque) (ärē' bāzhamē' kôstā' du rubĕk'), 1767–1830, French Swiss writer and political theorist, b Lausanne His life was dominated by a series of tempestuous feminine attachments, and it was the friendship of Mme de Staël (begun in 1794, broken off in 1809) which turned him to political interests Constant was a tribune (1799–1801) under the first consul, Napoleon, but followed Mme de Staël on her banishment (1802) After the battle of Leipzig, Constant wrote a pamphlet attacking Napoleon and urging constitutional government and civil liberties, he returned to Paris supporting the Bourbons, but on Napoleon's return from Elba, Constant accepted an office of state Then, after Waterloo, he supported the Bourbons again He soon became one of the opposition, first as a pamphleteer, then as a deputy (1819–22 1824–30), his favorite theories were constitutional monarchy and civil liberties Constant gained a great reputation as a liberal publicist and pamphleteer, and his funeral (after the July Revolution 1830, which he had supported) was the occasion for great demonstrations Constant's political works are now of historical importance only, their theories of government on the English model were not new in France, but they helped to popularize liberal and laissez-faire principles His chief work of literary importance is a sentimental, introspective, quasi-autobiographical *nouvelle*, *Adolphe* (1816, Eng tr, 1908), parts of his correspondence and journals have been published, the latter as *Le Journal intime* (1887–89) and *Le Cahier rouge* (1907) See biographies by E W Schermerhorn (1924) and Harold Nicolson (1949)

Constant, Jean Joseph Benjamin (Jean Joseph Benjamin-Constant) (zhäʼ zhōzĕfʼ bāzhämēʼ kôstäʼ), 1845–1902, French portrait and subject painter He was a pupil of Cabanel and studied at the École des Beaux-Arts With the hanging of his first Salon picture, *Hamlet et le roi* (1869), he became widely recognized A journey to Morocco influenced his art and resulted in a group of Oriental scenes, remarkable in color, drama, and technique These include *Last Rebels* and *Justice in the Harem* (both Luxembourg Mus, Paris) and *Moroccan Prisoners* (Bordeaux) After 1880 he devoted himself to mural decorations, such as *Paris Convoking the World* (Hôtel de Ville, Paris) and *Literature* and *The Sciences* (both Sorbonne, Paris), and to portraiture, the best-known examples being those of Queen Victoria, Queen Alexandra, M de Blowitz, and *Mon fils Andre* (Luxembourg Mus, Paris) Other paintings by Constant are *Samson and Delilah*, *Valley Farm* (National Gall, London), *Entrance of Mohammed II into Constantinople* (Toulouse), and *Justinian in Council* (Metropolitan Mus)

Constant, Paul Henri Benjamin, baron d'Estournelles de, see ESTOURNELLES DE CONSTANT, PAUL HENRI BENJAMIN, BARON D'

Constanta (kônstänʼtsä), city (pop 78,586), SE Rumania, in the Dobruja It is the chief Rumanian Black Sea port and is connected by oil pipeline with Ploesti It was founded (4th cent A D) by Constantine I near the site of ancient Tomi, where Ovid lived in exile An early episcopal see, it has an Orthodox cathedral and several synagogues and mosques

Constant de Rebecque, Henri Benjamin: see CONSTANT, BENJAMIN

Constantine I (Constantine the Great) (kŏn'stuntēn, -tīn), 288?–337, Roman emperor, b Naissa (modern Nis, Yugoslavia) He was the son of CONSTANTIUS I and St HELENA and was named in full Flavius Valerius Constantinus When his father was made Caesar (subemperor), Constantine was left at the court of DIOCLETIAN, where he was under the watchful eye of the other Caesar, GALERIUS. When Diocletian and MAXIMIAN resigned in 305, Constantius and Galerius succeeded as emperors Constantius requested that Constantine be sent to him in Britain, and Galerius reluctantly com-

plied Constantius died at York the next year, and his soldiers there proclaimed Constantine emperor There was, however, much rivalry for the vacated office. In Italy, MAXENTIUS, supported by the Romans and by his father Maximian, vied with SEVERUS and Galerius Constantine, accepting the lesser title of Caesar from Galerius, stayed aloof while Maxentius and Maximian defeated Severus and Galerius He made an alliance with Maximian, marrying Maximian's daughter Fausta and recognising Maxentius after a fashion When Maximian, falling out with his son, fled to Constantine, Constantine received him and sheltered him until Maximian undertook (310) a revolt against Constantine's rule in Gaul The old emperor was then forced to commit suicide Constantine had already declared against Maxentius and was acting as emperor, ignoring the fact that Galerius had recognized LICINIUS in the East When Galerius died in 311, still another claimant to imperial honor appeared in MAXIMIN, who allied himself with Maxentius against the combination of Licinius and Constantine While Licinius moved against Maximin, Constantine showed his ability as a general by moving down Italy against Maxentius The rivals for Italy met at the Milvian or Mulvian Bridge over the Tiber near Rome in 312 Before the battle Constantine, who was already interested in Christianity, is said to have seen a cross flaming in the sky as the sign by which he would conquer He adopted the cross as his sign and did conquer magnificently Maxentius was routed and killed The fate of Christianity hung on that battle In 313 Constantine and his fellow emperor, Licinius, met at Milan and there issued the EDICT OF MILAN, which established toleration of Christianity throughout the empire (but did not, as is sometimes said, make Christianity the state religion) Licinius, having rid himself of Maximin, fell out with Constantine, and a brief struggle followed Constantine, victorious, took (315) control over Greece and the Balkans, and an uneasy peace followed until in 324 Licinius again challenged Constantine This time he lost his throne and ultimately his life Constantine was now sole ruler of the whole empire, and in a reign of peace he set about rebuilding the strength of the old Rome His interest in Christianity continued but he was not baptized a Christian until on his deathbed Meanwhile he not only tolerated paganism but even encouraged the strictly anti-Christian imperial cult He did, however, set out to make Christianity a unified, single establishment He convened a synod at Arles in 314 to regulate the Church in the West, and in 325 he convened a council at NICAEA to deal with the troubles over Arianism (see NICAEA, FIRST COUNCIL OF) The half-Christian emperor thus evolved the idea of the ecumenical COUNCIL For a time he seems to have favored compromise with Arianism and therefore exiled St Athanasius, but later he supported the council Constantine decided to move the capital to Byzantium, which he rebuilt as CONSTANTINOPLE It was dedicated (330) to the Virgin, and no pagan religion was allowed in it Constantine believed himself the beginner of a new era, and time was to prove that to a certain extent he was, as the founder of the Christian empire He believed thoroughly in absolutism and brought to completion the tendency toward despotic rule shown by Diocletian He was noted for his bursts of violent temper He had his son Crispus put to death on charges brought by his wife Fausta and later had Fausta put to death for bringing false charges His legal reforms however were marked by great humanity, perhaps a result of Christian influence Though he had done much to unify the empire, at his death he divided it again, providing for his three surviving sons and also to some extent for the sons of his half brother These nephews were soon killed (though others, notably Julian the Apostate, survived), but long contests ensued between Constans I, Constantine II, and Constantius II See C M Firth, *Constantine the Great* (1905), G P Baker, *Constantine and the Christian Revolution* (1930), L B Holsapple, *Constantine the Great* (1942), Jacob Burckhardt, *The Age of Constantine the Great* (Eng tr , 1949)

Constantine II, 316–40, Roman emperor, son of Constantine I When the empire was divided at the death (337) of Constantine I, among the brothers Constantius II, Constans I, and Constantine II, Constantine II received Britain, Gaul, and Spain He felt that he had been cheated and demanded some of the territory given CONSTANS I In an invasion of Italy intended to win some of that territory, he was killed from ambush

Constantine IV (Constantine Pogonatus), d 685, Byzantine emperor (668–85), son and successor of Constans II He defended Constantinople against the annual naval attacks of the Moslems, who finally withdrew in 677, GREEK FIRE was a conspicuous weapon in the defense Severely defeated (679) by the Bulgars, he ceded to them territory S of the Danube, where they founded a kingdom In 680 he summoned the Third Council of Constantinople, which reestablished peace between the Eastern and Western churches by condemning MONOTHELETISM. Constantine was succeeded by his son, Justinian II

Constantine V (Constantine Copronymus), 718–75, Byzantine emperor (740–75), son and successor of LEO III An able general and administrator, he fought successfully against the Arabs, Slavs, and Bulgars, improved the water supply of Constantinople, forcibly resettled the city after a great plague, and continued his father's financial and religious policies In 753 he summoned a council at Constantinople which sustained ICONOCLASM He rigidly enforced a decree forbidding the use of images in worship and cruelly persecuted monasticism A serious result of his religious policy was the loss to the Byzantines of Rome and, ultimately, of Italy Pope ZACHARIAS broke with Constantine, and Pope Stephen III placed Rome under the protection of PEPIN THE SHORT Constantine was succeeded by his son Leo IV

Constantine VI, b c 770, Byzantine emperor (780–97), son and successor of Leo IV His mother, IRENE, was regent until 790, when she was deposed by a military revolt Constantine recalled her in 792 and made her joint ruler His subsequent acts of cruelty and his divorce and remarriage (795) alienated his supporters, his actions were probably instigated by Irene, who thus found general support when in 797 she deposed her son and had him blinded Irene assumed the imperial title, and Constantine died in obscurity During his minority the Second Council of NICAEA took place (787) Constantine fought without success against the Bulgarians and against the Arabs under Harun-al-Rashid

Constantine VII (Constantine Porphyrogenitus), 905–59, Byzantine emperor (912–59), son and successor of Leo VI His reign before 945 was purely nominal A regency (912–19) was followed by the rule (919–44) of the usurper ROMANUS I In 945 Constantine expelled the sons of Romanus and began his personal rule His main interests lay in legal reforms and in the encouragement of art and learning He was himself a scholar and an assiduous writer He was succeeded by his son, Romanus II, who probably poisoned him

Constantine XI (Constantine Palaeologus), d 1453, last Byzantine emperor (1448–53), brother and successor of John VIII To secure Western aid against the Turkish assault on what remained of the empire, he proclaimed (1452) the union of the Roman and the Eastern churches No help came, however, and in 1453 Constantine, with some 8,000 Greeks, Venetians, and Genoese faced 150,000 Turkish besiegers under Sultan Mohammed II After almost two months of heroic defense directed by the emperor, the city fell Constantine died fighting with his last men

Constantine, 1868–1923, king of the Hellenes eldest son of George I, whom he succeeded in 1913 In the First World War he opposed the pro-Allied policy of the Greek premier, Eleutherios VENIZELOS, and was forced to abdicate in 1917 under Allied military pressure His second son, ALEXANDER, succeeded on the throne Recalled (1920) on Alexander's death, he continued the war against Turkey although the Allies withdrew their support from Greece The Turkish victory at Smyrna caused a military rebellion, and Constantine in 1922 was again deposed and exiled His eldest son, George II, succeeded

Constantine, d 411, Roman general He was proclaimed emperor by the troops in Britain in 407 and raised the banner of revolt against the Western emperor, Honorius Constantine conquered Gaul and, through his son, took Spain He forced recognition from Honorius as joint emperor, but his triumph was short The counterrevolt of GERONTIUS halted him, and he was defeated by Honorius' general Constantius (later Emperor CONSTANTIUS III) Constantine was beheaded His withdrawal of Roman troops from Britain had greatly weakened the Roman hold on that island (see BRITAIN)

Constantine, anc *Cirta*, city (pop 80,233), capital of Constantine dept , E Algeria It is an important market and industrial center, handling grain and manufacturing textiles and leather goods On a plateau that is deeply cut by ravines, Constantine is directly on the gorge of the Rhumel river It was originally a Carthaginian settlement, and as Cirta it was the capital and commercial center of Numidia and an important shipping point in the Roman grain supply Destroyed (A D 311) in the war that preceded the accession of Constantine I, it was rebuilt by Constantine himself and renamed for him It later sank in importance, but attained some prominence under the Turks in the 18th cent The French took it in 1837 and in the 20th cent developed it The population is more than half Moslem The city is modern but has interesting reminders of the past, especially ruins of Roman fortifications

Constantine (-tēn), village (pop 1,384), SW Mich , on the St Joseph near the Ind line and S of Kalamazoo, settled 1828, inc 1837 Butter is produced by the cooperative creamery

Constantine, Donation of, Latin *Constitutum Constantini*, forged document, probably drafted in the 8th cent It purported to be a grant by Emperor Constantine I of great temporal power in Italy and the West to the PAPACY Its purpose was apparently to enhance papal territorial claims in Italy by giving them greater antiquity The document also recognised the spiritual authority of the popes, but this statement had no weight, since at no time was it argued in the Roman Catholic Church that spiritual authority could emanate from the emperor It was not, as a matter of fact, ever of great practical value, nor was it, as is sometimes asserted, universally accepted in the Middle Ages It owes its great fame to the fact that the scholar Lorenzo VALLA demonstrated the falsity of the document by critical methods that became the model for later textual criticism and are said by some to be the beginning of modern textual criticism

Constantine Nikolayevich (nĕkôlīyā'vĭch), 1827–92, grand duke of Russia, brother of Alexander II He supported all the liberal policies of his brother, who gave him command of the fleet and made him governor general of Poland in 1862 There his conciliatory policy could not prevent the insurrection of 1863 He resigned and in 1865 was appointed president of the council of the empire Suspected of conspiracy in the reign of Alexander III, he fell into disgrace

Constantine the African, c 1020–c 1087, translator of Arabic works into Latin He was probably born at Carthage, lived for a time at Salerno, and finally retired to the Benedictine monastery at Monte Cassino His translations had an important influence on European medicine from the 12th to the 17th cent

Constantine the Great see CONSTANTINE I, Roman emperor

Constantinople, former capital of the BYZANTINE EMPIRE and of the OTTOMAN EMPIRE, since 1930 officially called Istanbul (for location and description, see ISTANBUL) It was founded (A D 330) at ancient BYZANTIUM as the new capital of the Roman Empire by CONSTANTINE I, after whom it is named The largest and most splendid European city of the Middle Ages, Constantinople shared the glories and vicissitudes of the Byzantine Empire, which in the end was reduced to the city and its environs Though besieged innumerable times by various peoples, it was taken only three times—in 1204 by the army of the Fourth Crusade (see CRUSADES), in 1261 by MICHAEL VIII, and in 1453 by Sultan MOHAMMED II An early inner wall was erected by Constantine I, and the enlarged Constantinople was surrounded by a triple wall of fortifications, begun (5th cent) by Theodosius II Built on seven hills, the city on the Bosporus presented the aspect of an impregnable fortress enclosing a sea of magnificent palaces and gilded domes and towers At its greatest period, in the 10th cent it had c 1,000,000 inhabitants, representing nearly every race in the world The church of HAGIA SOPHIA, the sacred palace of the emperors (a city in itself), the huge hippodrome, center of the popular life, and the Golden Gate the chief entrance into the city, were among the largest of the scores of churches, public edifices, and monuments that lined the broad arcaded avenues and squares Constantinople had an almost inconceivable wealth of artistic and literary treasures before it was sacked in 1204 and in 1453 Virtually depopulated when it fell to the Turks the city soon flourished again under the sultans (whose court was called the Sublime Porte) as one of the great political and commercial centers of Europe After the First World War it was occupied (1918–23) by the Allies In 1922 the last sultan was deposed, and Ankara became the new Turkish capital

Constantinople, First Council of, 381, the second ecumenical council, convened by Theodosius I to confirm the acts of the Council of NICAEA (see NICAEA, FIRST COUNCIL OF) and to decide who was bishop of Constantinople There was no representative from the West The council reinstated St GREGORY NAZIANZEN as bishop of Constantinople and appointed his successor when he resigned soon afterward Meanwhile, the president of the council, St MELETIUS, died, the council elected FLAVIAN OF ANTIOCH in his place, and the Antiochene schism went on The council confirmed the dogmas of Nicaea and, according to tradition, composed the Nicene Creed (see CREED) It condemned all the current heresies, particularly Arianism and Apollinarianism One canon, making the bishop of Constantinople second only to the pope in precedence, was not admitted in the West until the Fourth Lateran Council (1215) The council as a whole was admitted as ecumenical by the Emperor Marcian (452) and by Pope Hormisdas (c 520).

Constantinople, Second Council of, 553, regarded by Roman Catholic and Orthodox churches as the fifth ecumenical council It was convened by Emperor Justinian to deal with the question of the Three Chapters and the dispute with Pope VIGILIUS It was completely dominated by the emperor There were no Western bishops present, except for six Africans The council condemned the Three Chapters without prejudice to the Council of Chalcedon (see CHALCEDON, COUNCIL OF), which

had exonerated them. The council also seems to have judged Vigilius deposed The results of the council were to alienate both the Nestorians and the West. Vigilius subsequently made a pronouncement agreeing doctrinally with the council. The ecumenicity of this council was only slowly accepted in the West; but the papal confirmation of its canons gave it the necessary prestige. The original canons are lost

Constantinople, Third Council of, 680, regarded by Roman Catholic and Orthodox churches as the sixth ecumenical council It was convoked by Emperor Constantine IV to deal with MONOTHELETISM. The council was attended by more than 150 bishops from all over the world, and it was presided over by the papal legates. It condemned Monotheletism very clearly by defining the orthodox faith to accept a separate will and operation in each of the natures of Christ It also condemned several churchmen as Monothelites, among them HONORIUS I. The condemnation of Honorius is a much-discussed point in church history. The Orthodox Church accepts as an ecumenical part of the Third Council of Constantinople the Oriental Council of 692, summoned by Justinian II. This is called in the West the Trullan Synod because it met in Trullo, i.e., in the dome of the palace, or the Quinisext Synod [Latin,=fifth-sixth] because it is considered in the East to supplement the fifth and sixth ecumenical councils. The Trullan Synod was entirely legislative, and its principal work was the pronouncement of the obligation to observe the canons of the Apostolic CONSTITUTIONS. There was apparently in the legislation an anti-Western tone, and certain practices of the West were condemned

Constantinople, Fourth Council of, 869–70, regarded as the eighth ecumenical council by the modern Roman Catholic Church It has never been accepted by the Orthodox Church, which recognizes instead the council of 880 that supported PHOTIUS The council of 869 was convoked at the suggestion of Basil I, the new emperor, to confirm the restoration of St IGNATIUS OF CONSTANTINOPLE to the see which Photius had resigned. Only 12 bishops attended at first, and never more than 103 The legates of Adrian II presided Photius had already been condemned, without a hearing, at a Roman synod. At Constantinople his defense was cut short, and when he refused to sign his own condemnation, he was excommunicated. The result of these councils was to intensify the bitterness between East and West

Constantinople, Latin Empire of, 1204–61, feudal empire established in the S Balkan Peninsula and the Greek archipelago by the leaders of the Fourth Crusade (see CRUSADES) after the fall (1204) of the Byzantine Empire It was modeled on the Latin Kingdom of JERUSALEM Its core was the empire of Romania, on both sides of the Dardanelles, its rulers were also suzerains of the kingdom of Thessalonica, the principality of Achaia, and other fiefs. BALDWIN I, HENRY OF FLANDERS, Peter of Courtenay, ROBERT OF COURTENAY, JOHN OF BRIENNE, and BALDWIN II were the rulers. The empire deteriorated immediately after its creation, being beset by the Greek emperors of Nicaea (see NICAEA, EMPIRE OF) and despots of Epirus (see EPIRUS, DESPOTAT OF), by the Bulgars under IVAN II (Ivan Asen), by the Turks, and by internal discord In 1222 Thessalonica fell to the despot of Epirus By 1224 the Nicaean Emperor JOHN III had recovered Asia Minor Constantinople, nearly captured by Ivan Asen in 1234, fell to Emperor MICHAEL VIII in 1261. Venice, however, retained possession of most of the Greek isles, the duchy of ATHENS passed under Catalan rule, and Achaia stayed in the hands of the VILLEHARDOUIN family until 1278.

Constantius I, (Constantius Chlorus) (kŭnstăn'shŭs), c.250–306, Roman emperor (305–6) An able general, he put away St. Helena to marry the daughter of MAXIMIAN He was made Caesar (subemperor) under MAXIMIAN in 293 and added to the luster of his name when his forces defeated the rebel Carausius. He went to Britain, where he put down a rebellion in 296 Back in Gaul in 298 he defeated the Alemanni His vigor and his moderation made him popular with the people of the colonies as well as with his soldiers He was, however, viewed suspiciously by the other Caesar, Galerius The two emperors, Diocletian and Maximian, abdicated in 305, and Constantius and Galerius became emperors. The next year, however, Constantius died at York. His imperial office was claimed by his son Constantine (CONSTANTINE I), but there was a long contest for it.

Constantius II, 317–61, Roman emperor, son of Constantine I When the empire was divided (337) at the death of Constantine, Constantius II was given rule over Asia Minor, Syria, and Egypt, while his brothers, Constans I and Constantine II, received other portions. He fought successfully against the Persians and built up his power When in 350 the murder of Constans I threw the West into disorder, Constantius II defeated the usurping Magnentius and became sole emperor He gave great power to his cousin Julian (JULIAN THE APOSTATE) in Gaul, and Julian proved unexpectedly successful. New trouble having broken out with the Persians, Constantius ordered Julian to the East, but Julian's men revolted and proclaimed (360) Julian emperor in the West Constantius set out to repress this rebellion, but died on the way, naming Julian as his successor. A confirmed Arian, Constantius was involved in a struggle with St. Athanasius and at the same time repressed paganism vigorously.

Constantius III, d. 421, Roman emperor of the West (421) In 411, as the general of HONORIUS, he defeated GERONTIUS and CONSTANTINE (d. 411), thereafter he was the virtual ruler of the West Aspiring to the hand of the emperor's sister GALLA PLACIDIA, he was the leading opponent of peace with his rival ATAULF the Visigoth, whom he drove from Gaul into Spain shortly after Ataulf's marriage to Galla Placidia (414). In 416, after Ataulf's assassination, he made peace with the new Visigothic king, Wallia, and in 417 he married Galla Placidia. He was the prime mover in granting local government to Gaul (418) and in settling the Visigoths in Aquitaine (419). In 421 Galla Placidia persuaded her brother to take Constantius as his colleague, but he lived to suffer the inconveniences of his new dignity only a few months. He was the father of Valentinian III.

Constellation (kŏnstĭlā'shŭn), U.S. frigate, launched in 1797 The frigate was built to serve against the pirates of the Barbary States, but after the outbreak (1798) of the near-war between the United States and France, she was stationed in Caribbean waters After the *Constellation*, commanded by Thomas Truxtun, encountered and captured (Feb., 1899) the vessel *Insurgente*, she won (Feb., 1900) a hard-fought victory over another French frigate, the *Vengeance* The *Constellation* was blockaded at Norfolk, Va., during the War of 1812, but further victories followed in the Mediterranean in 1815. The *Constellation* was assigned to blockade patrol in the Civil War and was used (1873–93) as a training ship at Annapolis, Norfolk, and Philadelphia before being made (1894) a stationary ship at Newport, R.I.

constellation (kŏnstĭlā'shŭn), name used originally for a group of stars which seemed to form a configuration in the sky The meaning of the word has been extended to refer to a definite area of the sky, and the positions of heavenly bodies are located in terms of these areas. The 88 recognized constellations fill the entire sky, and the boundaries were established in 1928 by the International Astronomical Union. In antiquity 48 constellations were identified Constellations bear the names of mythological heroes, e.g., Hercules, Perseus, and Orion, of animals, e.g., Draco the Dragon, Cygnus the Swan, and Leo the Lion, and of objects, e.g., Libra the Scales and Corona the Crown Those recognized after the early Greek and Roman period were given Latin names The movement of the earth in its orbit causes the sun, in the course of a year, to appear to move in a circle through the heavens The 12 constellations in this apparent path (called the ecliptic) are known as the zodiacal constellations (see ZODIAC) In 1603 Johann Bayer introduced a system of designating the brighter stars of a constellation in order of their brightness (or according to their relative positions in cases where several are of about the same brightness) by using Greek letters and the Latin genitive of the constellation name In the constellation Taurus the Bull, for example, Aldebaran, the brightest star, is called Alpha Tauri, and the second brightest star is Beta Tauri

constipation, disturbed intestinal function accompanied by delayed or incomplete passage of feces Prolonged constipation results in other disturbances, the symptoms of which may be headache, fatigue, loss of appetite, and INDIGESTION Constipation may be caused by faulty diet, lack of exercise, irregular habits, mechanical obstruction of the intestinal tract, or muscular spasm caused by psychological factors Treatment includes drinking plenty of water, general exercise, local massage, forming regular habits of elimination, and a diet including roughage, fruits, and vegetables Treatment varies, however, with the type of constipation A bland diet is sometimes necessary. Cathartics and enemas should be administered only when prescribed by a physician

Constitution, U.S. 44-gun frigate, nicknamed *Old Ironsides* She was perhaps the most famous vessel in the history of the U.S navy Authorized by Congress in 1794, she was launched in 1797 and was commissioned and put to sea in 1798 in the near-war with the French She participated in the Tripolitan War. In the War of 1812, serving as flagship for Isaac HULL, she won a battle with the British vessel *Guerrière* on Aug 19, 1812, and under the command of William Bainbridge she defeated the *Java* on Dec 29, 1812. Charles Stewart was commanding the *Constitution* when on Feb. 20, 1815, she overcame the *Cyane* and the *Levant* (though the *Levant* was later recaptured by the British) The *Constitution* was condemned as unseaworthy, but public sentiment, aroused by Oliver Wendell Holmes's poem, "Old Ironsides," saved the ship from dismantling, and she was rebuilt in 1833. She was laid up at the Portsmouth navy yard in 1855 and was there used as a training ship In 1877 she was rebuilt, and the next year she crossed the Atlantic. In 1897 she was stored at the Boston navy yard, and in 1925, under authorization of Congress, she was rebuilt by public subscription After a tour of important U.S. seaports in 1931, the *Constitution* returned in 1934 to Boston See James Barnes, *Naval Actions of the War of 1812* (1896), Ira N. Hollis, *The Frigate Constitution* (1901); Elliot Snow, *On the Deck of "Old Ironsides"* (1932)

constitution, the fundamental principles of government in a nation, either implied in its laws, institutions, and customs or embodied in one document or in several. In the first category—customary and unwritten constitutions—is the British constitution, which is contained implicitly in the whole body of common and statutory law of the realm and in the knowledge of the workings of the government. It is termed *flexible*, for it may be modified by an ordinary act of PARLIAMENT or by judicial decisions. In the 18th, 19th, and 20th cent.—as a result of the American Revolution, the French Revolution, the revolutions against Spain in Latin America, and the Revolution of 1848 in Europe—many countries, having made sharp political and economic departures from the past, had little legal custom to rely upon and therefore set forth their organic laws in written constitutions. While the written constitutions of several countries could, in theory, be drastically changed overnight by legislative enactment (and thus are also termed *flexible*), **the Constitution of the United States** is classified as *rigid*—one that has superior sanction to the ordinary laws of the land and that is subject to a gradual process of amendment Its so-called rigidity, however, has been counterbalanced by growth and usage, statutory elaboration (see CONGRESS OF THE UNITED STATES) and judicial construction (see SUPREME COURT, UNITED STATES, and MARSHALL, JOHN) were erected on the base of the written document drawn up at the FEDERAL CONSTITUTIONAL CONVENTION at Philadelphia in 1787 The Constitution (see FEDERALIST PAPERS, HAMILTON, ALEXANDER, MADISON, JAMES), signed on Sept 17, 1787, and ratified by the required number of states (nine) by June 21, 1788, superseded the original charter of the United States in force since 1781 (see CONFEDERATION, ARTICLES OF) and established the system of federal government which began to function in 1789 The Constitution is concise, and its very brevity and its general statement of principles have, by accident more than by design, made possible the extension of meaning that has fostered growth There are but seven articles and a Preamble, 21 amendments have been adopted. The Preamble does not confer power but has been of great importance because of the weight placed on its first words, "We the People of the United States," by the advocates of a strong union arguing against the proponents of STATES' RIGHTS Another phrase of the Preamble, "to promote the general Welfare," has been of great importance in upholding much recent social legislation, for which no warrant could be found in the enumerated powers of Congress Article 1 of the Constitution sets up the U.S. Congress, in two divisions—the Senate and the House of Representatives—and enumerates its powers in Section 8 The last paragraph of this section gives Congress the implied power "to make all Laws which shall be necessary and proper for carrying into Execution" the enumerated or expressed powers Vital assurances of liberty to American citizens (e.g., clauses guaranteeing the writ of HABEAS CORPUS and prohibiting bills of attainder and ex post facto laws) and limitations on state powers are included in Sections 9 and 10 respectively Article 2 creates an executive branch of government headed by the President, elected, along with the Vice President, for a term of four years (see PRESIDENT and ELECTORAL COLLEGE) Article 3 provides for a judiciary and defines TREASON Article 4, dealing with relations of the states (see CONFLICT OF LAWS), establishes interstate comity Section 2 provides that "the Citizens of each State shall be entitled to all Privileges and Immunities of the Citizens in the several States" and for the extradition of criminals. The admission of new states into the Union and the government of territories is provided for by Section 3, and Section 4 guarantees to every state a republican form of government Article 5 provides for amending the Constitution (see AMENDMENT) Article 6 assured the validity of debts contracted before the adoption of the Constitution and asserts the supremacy of the Federal Constitution and laws in case of conflict with those of the states It also provides for an oath of office and specifically forbids any religious test for office Article 7 declared that the Constitution should go into force when ratified by nine states. An outstanding feature of the Constitution is the provision for the separation of the legislative, executive, and judicial branches of government and for a system of checks and balances among these branches. The Constitution has undergone gradual alteration with the growth of the country. Some of the 21 amendments

were brought on by Supreme Court decisions. However, the first nine amendments, which constitute the Bill of Rights, were added within two years as a result of widespread feeling that the Federal Constitution, unlike the majority of state constitutions, insufficiently guaranteed individual liberties. They guarantee (First Amendment) the freedom of worship, of speech, of the press, of assembly, and of petition to the government for redress of grievances; (Second Amendment) the right to bear arms—adopted with reference to state militias; (Third Amendment) freedom from the quartering of soldiers without the consent of the owner of the house; and (Fourth Amendment) freedom from search except with warrant They further guarantee (Fifth Amendment) that no person shall be held for an infamous crime without indictment, be twice put in "jeopardy of life or limb" for the same offense, be compelled to testify against himself, or "be deprived of life, liberty, or property, without due process of law" and establish that private property may not be taken for public use, without just compensation The Sixth Amendment guarantees the right of a speedy and public trial by an impartial jury in all criminal prosecutions, while the Seventh Amendment guarantees the right of trial by jury in all common-law suits "where the value in controversy shall exceed twenty dollars," and the Eighth Amendment prohibits excessive bail and fines and "cruel and unusual" punishment. The Ninth Amendment states that "the enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people" By the Tenth Amendment, generally considered with the first nine (they all went into effect in 1791), "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people" Powers reserved to the states are often termed "residual powers" The Eleventh Amendment (1798) prohibits suits against any state by citizens of another state or by foreigners (see SOVEREIGNTY) The Twelfth (1804) revises the method of electing the President and Vice President. The Thirteenth (1865), Fourteenth (1868), and Fifteenth amendments, arising out of the Civil War and Reconstruction, abolish slavery and guarantee civil rights and the suffrage to U S citizens, including former slaves The FOURTEENTH AMENDMENT enjoins on states the "due process" clause of the Fifth Amendment and forbids abridgment of the "privileges or immunities" of U S citizens and denial of their "equal protection" under the law The Sixteenth amendment (1913) authorizes the INCOME TAX and the Seventeenth (1913) institutes the direct, popular election of Senators The Eighteenth (1919)—repealed by the Twenty-first (1933)—introduced PROHIBITION The Nineteenth (1921) grants WOMAN SUFFRAGE The Twentieth (1933) abolishes the "lame-duck" Congress and alters the date of the presidential inauguration The wording of the Constitution is general, necessitating interpretation, and any short summary is only rough and approximate From its very beginnings, the Constitution has been subject to violent controversies, not only in interpretation of some of its phrases, but also between the "loose constructionists" and "strict constructionists" The middle of the 19th cent saw a tremendous struggle concerning the nature of the Union and the extent of states' rights The Civil War decided the case in favor of the advocates of strong union, and since that time the general tendency has been toward the centralization and strengthening of Federal power See C A Beard, *An Economic Interpretation of the Constitution* (1925), W B Munro, *The Constitution of the United States* (1930); F A Magruder and G. S. Claire, *The Constitution* (1933), C H McIlwain, *Constitutionalism, Ancient and Modern* (1940); C. B Swisher, *The Growth of Constitutional Power in the United States* (1946); B J Hendrick, *Bulwark of the Republic* (rev ed , 1947), D H J Chalmers, *Constitutional Laws of Great Britain* (6th ed , 1948), E S Corwin, *The Constitution and What It Means Today* (10th ed , 1948), R H Fitzgibbon, *Constitutions of the Americas* (1948); A H Kelly and W A Harbison, *The American Constitution* (1948), C F Strong, *Modern Political Constitutions* (3d ed , 1949).

Constitutional Convention: see FEDERAL CONSTITUTIONAL CONVENTION.

Constitutional Union party, in U S. history, formed when the conflict of North and South broke down the older parties The Constitutional Union group, composed of former Whigs and remnants of the Know-Nothings and other groups in the South, was organized just before the election of 1860 Delegates from 20 states attended the party convention at Baltimore in May, 1860, and John BELL, of Tennessee, and Edward EVERETT, of Massachusetts, were nominated for President and Vice President The party recognized "no political principle but the Constitution of the country, the union of the states and the enforcement of laws." Kentucky, Tennessee, and Virginia were carried in the election

Constitution Island, in the Hudson river opposite West Point and in the U.S. military reservation It is joined to the east bank of the river by railroad bridges. The ruins of old Fort Constitution (1775) are here. In the Revolution a chain was stretched across the Hudson between the island and West Point to prevent the ascent of British ships The island was long the home of Susan WARNER.

Constitution of Athens, treatise by Aristotle It was lost until discovered in Egypt in the late 19th cent It is a history of Athenian government and an account of its operation in the time of Aristotle It is invaluable as a source.

Constitution of the United States: see CONSTITUTION.

Constitutions, Apostolic, late 4th-century compilation, in eight books, of administrative canons for the clergy and the laity and of guides for worship. They were supposed to be works of the apostles, but actually included portions of apocryphal letters, most of the DIDACHE, and fragments from Hippolytus and PAPIAS The whole is a valuable primary source on early church history and practice The Third Council of Constantinople made the Apostolic Constitutions binding.

consubstantiation: see LORD'S SUPPER

consul, title of the two chief magistrates of ancient Rome. The institution is supposed to have arisen with the expulsion of the kings, traditionally in 510 B C , and it was well established by the early 4th cent B.C. The consuls led the troops, controlled the treasury, and were supreme in government At first only patricians were eligible, but the Licinian law in 367 B.C opened the office to plebeians Generally before being consul a man had to have experience as quaestor, aedile, and praetor, and the minimum age for a consul was normally set at 40 or 45 Ex-consuls became provincial governors as proconsuls. The year was identified as the time when So-and-So and Such-and-Such were consuls Under the empire the title of consul was continued but became a mere title of honor, conferred sometimes on small boys or infants

consular service, organized body of agents maintained by a government at the important ports and trade centers of a foreign country to protect the persons and interests of its nationals and aid them in every way possible The duties, for instance, of U S consuls in foreign countries include the certification of invoices of merchandise valued at more than $100, execution of landing certificates, disinfection of merchandise from districts having infectious diseases, issuing and visaing of passports for his country, certification of the sanitary condition of cargo, crew, and passengers of vessels clearing from foreign ports for ports of the United States, settlement of estates of citizens dying intestate in foreign countries, protection of citizens of the United States, reclamation of deserters, examination of prospective immigrants to the United States, adjustment of differences between crews and masters, and the shipment, discharge, and relief of seamen of American vessels The consular service must be distinguished from the DIPLOMATIC SERVICE usually, but there has been a recent tendency, because of the interrelated duties of the two branches, to combine them This was done in the United States by the Rogers Act of 1924, which consolidated both into the Foreign Service of the Dept of State The Dept of Commerce and the Treasury Dept may, however, have commercial attachés at a consulate to aid in the gathering of statistics and promotion of trade The persons of consuls and the premises of consulates enjoy immunity and EXTERRITORIALITY similar to those of diplomatic personnel.

Consulate, 1799–1804, in French history, the form of government established after the coup d'état of 18 Brumaire (Nov 9–10, 1799), which ended the DIRECTORY Three consuls were appointed to rule France—Bonaparte (see NAPOLEON I), SIEYÈS, and Roger Ducos Sieyès and Ducos were shortly replaced by CAMBACÉRÈS and Charles François LEBRUN, and the Consulate was little more than a scheme of autocratic government for First Consul Bonaparte, who was made first consul for life in 1802 and emperor in 1804 See Adolphe Thiers, *History of the Consulate and the Empire* (1845–62, new ed of Eng tr , 12 vols , 1893–94)

Consumers' League, National, formed in the United States in 1899 to promote better conditions among workers by encouraging the purchase of articles made and sold under good working conditions The movement started in England in 1890 The American national federation was founded by a group led by Florence Kelley The league undertook to investigate factories and to educate consumers in purchasing habits The stitched cotton underwear industry was chosen for the first investigation because of its many unskilled workers, low wages, long hours, sweatshop work, and generally unsanitary conditions For many years the league used a label for goods which had passed inspection, and many consumers learned to purchase only those goods thus labeled Many of the objectives of the league are now a matter of law, e g , shorter hours, a minimum wage, payment for overtime, and the abolition in most states of child labor See Maud Nathan, *Story of an Epoch-making Movement* (1926), publications of the National Consumers' League.

consumption, in economics, utilization of wealth which destroys that wealth or utilization of wealth which gives direct satisfaction to the one who uses it. French economists divided consumption into various component parts under the first definition Thus, productive consumption may be thought of as wealth used in the process of producing other wealth, and unproductive consumption as using up wealth in the direct satisfaction of human wants English economists preferred to understand consumption in the second sense, that satisfaction is susceptible to quantitative measurement is a doctrine of the utilitarian philosophers. The process of consumption is central to any system of economics, Adam Smith made it the sole end of production Production, the wholesale and retail trades, and consumption are closely linked, and the exchange of goods and services for money along the various stages from producer to ultimate consumer is the foundation of modern capitalist economy Advertising is today the chief means by which manufacturers and retailers seek to increase consumption, and an effort is also made by them to shift this and other costs of production and distribution to the consumer See W. C. Waite and Ralph Cassady, *The Consumer and the Economic Order* (1939)

consumption, in medicine see TUBERCULOSIS.

Consus (kŏn'sŭs), in Roman religion, harvest god, probably worshiped with the goddess OPS.

contagious abortion or **brucellosis** (brŏsĕlō'sĭs), infectious disease of cattle resulting in premature expulsion of the fetus It is caused by the bacterium *Brucella abortus*, which also affects the horse, mule, rabbit, guinea pig, and some other animals Two other species of *Brucella* cause the disease in swine and in sheep Any of these three species can cause undulant (Malta) fever in humans In cattle the first symptom is generally the premature birth of a dead or of a live calf Retention of the placenta after an otherwise normal calving may also indicate brucellosis. Infection occurs most commonly through the intake of food or water containing the germs Humans may contract the disease through contaminated raw milk and by contact with the animals Infected cattle can be sold for slaughter Methods of preventing the disease include vaccination of calves, removal of infected animals, and the testing of all new livestock before adding them to the old The disease in cattle has been called Bang's disease, after Bernard Bang, who discovered (1897) the causative agent in cattle In 1887 David Bruce had identified the germ causing abortion among goats on the island of Malta, and after the close relationship between the germs affecting cattle, goats, and swine was recognized, the name brucellosis was generally adopted for the disease in any of these animals It is also called infectious abortion See *Brucellosis of Cattle* (U S Dept of Agriculture, Farmers' Bul 1871)

contagious diseases: see COMMUNICABLE DISEASES

Contarini (kŏntärē'nē), ancient Venetian family, which produced eight doges, a cardinal, and several artists Its most celebrated member was **Andrea Contarini** (ändrā'ä), 1300?–1382 He was doge (1368–82) at the time of the War of Chioggia between Venice and Genoa and proved his patriotism by melting his gold and silver plate and mortgaging his lands to raise money for the state.

contempt of court, interference with the functioning of a court Contempts are classified as criminal or civil. Criminal contempts are those which lessen the dignity of a court or tend to limit a judge's freedom of action A direct criminal contempt is one committed in the courtroom, it may consist in creating a disorder or disobeying a direction of the judge, who is empowered to administer summary punishment by fine and imprisonment Indirect criminal contempts (also called constructive contempts) are acts committed outside a courtroom which are deemed prejudicial to justice They may include comment on a pending cause or unfavorable criticism of a judgment or opinion. In some jurisdictions these contempts also may be punished summarily, but in others, the apparent danger to freedom of expression has led to the requirement of indictment and trial by jury for the alleged offense Civil contempts of court are primarily injuries to private parties occasioned by disobeying an INJUNCTION or a court order that a judgment be satisfied The usual punishment is a fine and imprisonment until the guilty party purges his contempt by obedience Civil contempt originally was a device of EQUITY alone, but with the virtual disappearance in England and in most of the American states of a separate equity system, it now occurs more generally Among other uses, civil contempt punishes refusal to pay ALIMONY.

Conti (kōtē'), cadet branch of the French royal house of BOURBON Although the title prince of Conti was created in the 16th cent., the founder of the continuous line was **Armand de Bourbon, prince de Conti** (armä'dù bōōrbō'), 1629–66, son of Henri II de CONDÉ He led rebel armies of the FRONDE but reconciled himself with the court (1653), married a niece of MAZARIN (1654), and was given command of the army in the Italian and

Spanish campaigns (1654–57). Toward the end of his life he turned toward religious mysticism and retired (1657) to his estates, where he wrote several theological and moral treatises He was a friend and protector of Molière His son, **François Louis de Bourbon, prince de Conti** (frāswä'lwē'), 1664-1709, criticised Louis XIV while on the Hungarian campaign (1683) of CHARLES V of Lorraine and was banished to Chantilly Later he returned to service and fought in the Dutch War In 1697 he competed unsuccessfully with Augustus II (Frederick Augustus I, elector of Saxony) for the Polish throne **Louis François de Bourbon, prince de Conti,** 1717–76, French general, grandson of François, fought in the War of the Austrian Succession In 1744 he received command of the army in Piedmont He also distinguished himself in the campaigns in Germany (1745) and Flanders (1746) He resigned his commission in 1747 and for a while was a candidate for the Polish throne. Disliked by Mme de POMPADOUR, however, he lost favor at court In opposition to the king, he was on the side of the parlement against Maupeou, later he opposed the reforms of Turgot He was a writer and a friend of J J Rousseau His son, the last of the line, **Louis François Joseph, prince de Conti** (shōsĕf'), 1734–1814, fought in the Seven Years War, notably at the battles of Hastenbeck (1757) and Krefeld (1758) He was the only prince of the blood to favor the edicts of MAUPEOU (1771) He signed the protest of the princes in 1789 and left France but returned in 1790 He was arrested in 1793 and detained at Marseilles In 1795 he was freed but was exiled

Conti, Niccolò dei (nĕk-kōlō' dā kōn'tē), 15th cent., Venetian traveler He left Venice c 1419, visited Arabia, Persia, and India and after continuing his journey as far as Java returned (1444) to Venice by way of Indo-China, the Red Sea, and Cairo His account of his travels was recorded by Poggio Bracciolini, the papal secretary, and published (1723) in the fourth book of Bracciolini's *Historiae de varietate fortunae* An English translation appeared in a publication of the Hakluyt Society, *India in the Fifteenth Century* (ed by R H Major, 1857)

continent, largest unit of land mass The continents of the earth are Eurasia (conventionally regarded as two continents, EUROPE and ASIA), AFRICA, NORTH AMERICA, SOUTH AMERICA, AUSTRALIA, and Antarctica (see ANTARCTIC REGIONS) Of these, the larger land masses (Asia, North America, Europe, most of Africa, and part of South America) are grouped in the Northern Hemisphere or the land hemisphere, while only Australia, Antarctica, and the southern parts of South America and Africa lie within the Southern Hemisphere or the water hemisphere The total area of the continents comprises about 29 percent of the total surface area of the earth The continental masses properly include, in addition to the lands elevated above sea level, the submerged continental shelves, which slope off gently from the margins of the exposed areas to a point c 600 ft (100 fathoms) below the surface of the water, where the very much steeper continental slopes begin their descent into the depths of the ocean The continents and oceans are probably permanent features of the earth's surface, though the continents have frequently been covered by shallow seas, ocean depths have never, apparently, lain over the present sites of the continents Certain areas of the continents have remained practically untouched throughout the successive great floods of geologic history, examples of these stable areas or shield areas are the Baltic Shield of N Europe and the Canadian Shield of North America The average height of the land above sea level is said to be c 2,707 ft above sea level, and the highest point on any continent is Mt Everest, with a height of over 29,000 ft The greatest known ocean depth is more than 34,000 ft in the Pacific Ocean, E of the Philippines Isostasy is a term used for the condition of gravitational balance that maintains the heights of continents and the levels of the ocean floor The bulk of the crust of continents is composed of granitic rocks, often collectively known as sial (from a contraction of the names of the two chief constituents, silica and aluminum) The rock underlying the ocean floor and extending under the sial of the continents is composed of dark basalt and related rocks and is sometimes called sima (a contraction of silica and magnesia) It is held that because the sial is less dense than the sima it is buoyed up and thus a state of equilibrium exists (as it does between floating objects and water) and that because of the difference in density and the variations in thickness of the sial the great mountain ranges, large plateaus, and other major relief features are maintained It is believed that isostatic adjustments through a flow of the denser sima deep in the earth tend to cause a compensatory uplift of mountains as erosion wears them down and adds the weight of the eroded material to the ocean floor Such adjustments also accompany changes such as the growth and melting of ice sheets How the continents originated and came to occupy their geographic positions has from early times been a subject of controversy The theory of continental drift, i e, of the separation of the continents from an original continuous or nearly continuous land mass, was advanced chiefly by Alfred L Wegener of Germany c 1910 Elements of such a theory had been foreshadowed by early observations of Francis Bacon, and the concept was put forward also by Antonio Snider (in his book published in France in 1858), by F B Taylor c 1908, by Howard Baker c 1911, and others Wegener postulated a drifting apart of the continents beginning in the Mesozoic era and a shifting of the poles A general westward movement and a drift of the continents away from the poles were suggested to explain the present geographical positions The way in which the bulge of E South America can be fitted into the coast of W Africa is offered as supporting evidence for the theory Formation of the Rocky Mts and the Andes was explained as a result of crumpling of the land as it encountered the resistance of the Pacific Ocean floor The theory has aroused controversy and has stimulated geologic research Alexander du Toit and others have supported it See also EARTH See A L Wegener, *The Origin of Continents and Oceans* (Eng tr, 1924), A L du Toit, *Our Wandering Continents* (1937).

Continental, village (pop 1,059), NW Ohio, NW of Lima

Continental Congress, 1774–89, Federal legislature of the Thirteen Colonies and later of the United States in the AMERICAN REVOLUTION and under the Articles of Confederation (see CONFEDERATION, ARTICLES OF) Colonial indignation against England's colonial policy reached fever pitch after the passage (1774) of the INTOLERABLE ACTS, and the idea of an intercolonial assembly similar to the one held (1765) at the time of the STAMP ACT was promoted by the Sons of Liberty and the committees of correspondence The First Continental Congress (Sept 5–Oct 26, 1774) was made up of delegates from all the colonies except Georgia It met in Carpenter's Hall, Philadelphia, and Peyton Randolph was chosen to preside In general the object was to express colonial grievances against the British policy and only a few radical members considered the possibility of breaking with England The plan of Joseph GALLOWAY for reconciling Great Britain and the colonies under a new imperial scheme was introduced but rejected The most important act was the creation of the Continental Association, which forbade importation and use of British goods and proposed prohibition of colonial exports Several petitions of grievances, largely written by John DICKINSON, were sent to the king and the meeting was adjourned until May 10, 1775 Smoke from the battles of Lexington and Concord (April 19, 1775) had scarcely cleared when the Second Continental Congress met on the appointed day in Philadelphia Armed conflict strengthened the radical element, but only gradually did the delegates swing farther toward independence A Continental army was created to oppose the British and, through the agency of John ADAMS, George Washington was appointed (June 15, 1775) commander in chief The reconciliation plan offered (1775) by Lord North's government was tabled A diplomatic representative, Silas DEANE, was sent (March, 1776) to France American ports were opened in defiance of the Navigation Acts Finally, the momentous step was taken Congress on July 4, 1776, adopted the DECLARATION OF INDEPENDENCE The Congress, a young and unsteady organization, had little money and poor means of obtaining more Nevertheless, it struggled to prosecute the warfare in the Revolution while moving from place to place under force of military circumstances, it was at Philadelphia (1775–76), Baltimore (1776–77), Philadelphia again (1777), Lancaster, Pa (1777), York, Pa (1777–78), and Philadelphia once more (after 1778) There was friction between the Congress and the military leaders, and the soldiers, contemptuous (sometimes justly) of the politicians, were constantly trying to obtain their pay and their rights The Congress, jealous of its powers, not infrequently hindered Washington in his strategy After the war ended and the Articles of Confederation went into force, the quality of the Congressmen in general declined, since state offices were more desirable The Congress of that period has, however, been underrated by many Though shackled by the weaknesses of the Federal structure, which sharply curtailed its power and particularly its ability to get money, the Congress did have some accomplishments to its credit, notably the Ordinance of 1787, which set up the Northwest Territory, decision of the WYOMING VALLEY territorial dispute, and adoption of the decimal system of currency See *Journals of the Continental Congress* (34 vols, 1904–37), *Letters of Members of the Continental Congress* (ed by E C. Burnett, 6 vols, 1921–33), E. C. Burnett, *The Continental Congress* (1941), Cornelia L Meigs, *The Violent Men: a Study of Human Relations in the First American Congress* (1949); Lynn Montross, *The Reluctant Rebels the Story of the Continental Congress, 1774–1789* (1950)

Continental Divide, the "backbone" of a continent In North America it is the great ridge of the Rocky Mt summits which separates westward-flowing streams from eastward-flowing waters In the United States this ridge has sometimes been called the Great Divide, a name also occasionally used to designate the whole Rocky Mt system, especially the southern section where the high, rugged ranges presented an almost impenetrable barrier to westbound explorers and settlers Glacier, Yellowstone, and Rocky Mountain national parks lie on the Continental Divide

Continental Guinea. see SPANISH GUINEA

Continental System, the scheme of action adopted by NAPOLEON I in his economic warfare with England from 1806 to 1812 Economic warfare had been carried on before 1806, but the system itself was initiated by the BERLIN DECREE and extended by the Warsaw Decree (1807), the MILAN DECREE (1807), and the Fontainebleau Decree (1810), which forbade trade with Great Britain on the part of France, her allies, and neutrals Napoleon expected that the unfavorable trade balance and loss of precious metals would destroy England's credit, break the Bank of England, and ruin English industry Great Britain retaliated by the ORDERS IN COUNCIL, which forbade nearly all trade between any nations obeying the Berlin Decree One of the most dramatic results of the commercial warfare was the English bombardment of neutral COPENHAGEN (1807) and the seizure of the Danish fleet. England had control of the sea, and the Continental System was doomed from the start Large-scale smuggling throve all along the European coast (with citizens of the United States taking a large part in the illegal trade) Napoleon himself, unable to carry on his wars without British manufactures, issued special licenses for trade bringing in colonial goods on the payment of duties Napoleon's Russian campaign of 1812 was brought on by Russia's refusal to conform to the decrees, and the war between England and the United States, known as the WAR OF 1812, was also to some extent a result of the economic warfare But so difficult was the enforcement of the system that in his effort to impose it on Russia, Napoleon had to violate it in France Napoleon's failure, though it delayed the introduction of the Industrial Revolution in France, resulted in the creation of several new industries on the Continent, notably the manufacture of beet sugar It was the first major attempt at creating an autarchy and foreshadowed the forced economies of the two world wars See F E Melvin, *Napoleon's Navigation System* (1919), E F Heckscher, *The Continental System* (1922)

continuation school see VOCATIONAL EDUCATION

contour (kŏn'tōōr"), in geography, the physical configuration of an area Contour is now usually represented on maps by means of contour lines—lines drawn through points of equal elevation above sea level Such topographic maps have been drawn for most of the United States by surveyors and civil engineers employed by the government The interval between lines, or the contour interval, varies with the scale of the map and with the type of surface to be represented, a small interval (5 ft) may be used on a large-scale map of a relatively level area, while in representing mountains, to avoid the crowding of lines, a larger interval must be used, the U S Geological Survey uses an interval of 100 ft on its topographic sheets of Rocky Mt areas The shape of the lines indicates the shape of the elevations and depressions, valleys and peaks are as easily recognizable as they would be on an aerial photograph, and the space between the lines indicates, more accurately than a photograph, the slope, if the slope is steep, the contour lines will be very close together Hachures (rows of closely set parallel lines representing slope), shading, and altitude tints (differential coloring between a few key contour lines, used on small-scale maps) are other means of indicating relief

contraband, goods necessary or useful in the prosecution of war which a belligerent may lawfully seize from a neutral who is attempting to deliver them to the enemy The term is sometimes also applied to the goods carried into a country by SMUGGLING International law has not precisely defined all classes of goods which are contraband of war per se Munitions are certainly "absolute" contraband, but the status of food and other "conditional" contraband at least indirectly needed for war is often in doubt In many wars virtually no goods were treated as "free" commodities and hence immune from seizure as a PRIZE of war At the second (1907) of the HAGUE CONFERENCES a vain attempt to define the classes of contraband was made In the First World War many powers at first agreed to abide by the terms of the Declaration of London respecting contraband, but in time unconditional BLOCKADE of all goods was adopted At the beginning of the Second World War the belligerents drew up lists of absolute and conditional contraband, but the total absorption of the economy in warfare led to proscription, so far as possible, of all shipping to the enemy

contrabassoon, large, deep-toned instrument of the oboe family, also called double bassoon Its tube, over 16 ft. long, is doubled upon itself four times. It was first made by Hans Schreiber of Berlin in

1620 Handel, Haydn, and Beethoven used it for special pictorial effects, but it was characterized by faulty intonation until a German, Wilhelm Heckel, in the late 19th cent, made the type generally used today

contraception: see BIRTH CONTROL

contract. In a general sense, all civil obligations fall under TORT or CONTRACT law Torts are usually characterized as violations of duties which have been entirely established by law In contracts, on the other hand, the parties determine, at least in part, what will be their obligations to one another This article considers contracts in general, special types are given separate articles, e g , NEGOTIABLE INSTRUMENT, INSURANCE, DEED A contract may be defined as a promise to perform or to refrain from some specified act The parties must decide upon the precise terms of their agreement This is accomplished when one party submits an offer which the other accepts within a reasonable time or a stipulated period If the terms of the acceptance vary from the offer, in law a counteroffer is made, which the original offering party may accept or reject At any time prior to acceptance the offer may be rescinded on notice unless the offering party is bound by a separate option contract not to withdraw If the parties conduct their negotiations by mail or telegraph, ordinarily the contract is concluded on the day the acceptance is dispatched; in some jurisdictions, however, the offering party may revoke any time prior to receipt of the acceptance at his usual place of business For a contract to be binding it must not have an immoral or a criminal purpose Most contracts, moreover, are not enforceable unless there was a consideration, i e , a *quid pro quo*, something of value, however slight, which one party gave the other to induce his performance, the consideration need be no more than a promise to do something In a contract by specialty, however, the obligation ensues from compliance with formalities of execution, usually including the affixation of the seals of the parties to the paper embodying the contract, and consideration is not required In a number of American states (e g , New York) contracts by specialty have no effect and consideration is needed for all contracts except a few limited classes, usually voluntary agreements to pay an indebtedness for which suit no longer can be brought Contracts to be enforceable must also comply with the Statute of Frauds This, existing in some form in every jurisdiction, is designed to prevent dubious claims based upon alleged oral contracts, it requires that a contract for the sale of an interest in land or one which by its terms cannot be discharged in one year (e g , a contract employing a person for two years) be in writing and signed by the party who is obligated Any contract is either unilateral or bilateral A unilateral contract involves a promise to perform when the other party (who makes no promise) completes a certain performance The classical example is an offer to pay a man money if he will cross a bridge As in all unilateral contracts, the promise may be revoked any time prior to complete performance, i e , before the man sets foot on the far end of the bridge In a bilateral contract each party makes a promise and both are immediately bound The tendency of courts is to interpret contracts as bilateral, because mutuality of obligation is thereby achieved Since a contract is an agreement, it may be made only by parties with capacity to reach an understanding The insane and the feeble-minded, thus, are unable to make binding contracts At early common law married women also were without contractual capacity, being deemed the creatures of their husbands and without will of their own (see HUSBAND AND WIFE), this disability has been removed all but universally The only contracts which unconditionally bind a minor are those which he makes to procure necessaries of life Otherwise he may denounce his contracts at any time and on attaining majority may elect whether to affirm or repudiate them (see AGE OF CONSENT) A contract must also be the uncoerced agreement of the parties, thus, if it is procured by DURESS it is void While a contract is still wholly or partly unperformed it is termed executory, contracts may terminate, however, in other ways than by being fully executed If the object of the contract becomes impossible or unlawful, if the parties make a novation (a new superseding agreement), or if the death of one party prevent him from rendering personal services he had agreed to perform, the contract is terminated The injured party may also treat the contract as a nullity if the other party refuses to perform The law provides several remedies for breach of contract The most usual is money DAMAGES for the loss incurred In cases where some action other than the payment of money was contracted for, a court may grant the plaintiff an INJUNCTION ordering specific performance If one party may be unjustly enriched by a contract which he then repudiates, restitution may be required A typical example of this is ordering a minor who revokes a contract to restore the things of value which he obtained.

contract bridge: see BRIDGE.

contraction, in physics see EXPANSION.

contraction, in writing see ABBREVIATION

contralto: see ALTO

Contrecœur (kôtrükûr'), village (pop 1,043), S Que , on the south bank of the St Lawrence below Montreal

Contreras (kôntrā'rus, Span kôntrā'rās), village, central Mexico, near Mexico city Here was fought, Aug 19–20, 1847, one of the important battles of the Mexican War Gen Winfield Scott, continuing his advance after the battle of CERRO GORDO, approached Mexico city The Mexicans under Santa Anna were drawn up for defense, but they were suffering from rivalry between Santa Anna and his chief subordinate, Gabriel Valencia Scott sent out Gideon Pillow to open the way for circling around the Mexicans, and Pillow mistakenly ordered an attack which ended by isolating some of his advanced troops as darkness and a storm came on The situation seemed desperate, but brilliant night strategy by Scott's subordinates, supported by reestablishment of American communications by R E Lee, prepared the way for a daybreak attack Valencia had to retreat, and Santa Anna was forced to retire to Chapultepec Fierce fighting took place later on that same day at Churubusco, closer to Mexico city, where Mexican troops, defending a convent they had fortified, temporarily stemmed the American advance The American attack was ragged and ill-advised, but perseverance finally forced a Mexican retreat

Contucci, Andrea see SANSOVINO, ANDREA

convection, form of heat transmission in fluids, i.e., liquids and gases It depends upon the fact that, in general, a rise in the temperature of a fluid results in a decrease in density It is characterized by the movement of those portions (of the liquid or gas) that have been raised to a higher temperature through the surrounding portions For example, when a quantity of some liquid is heated in a container, that portion of the liquid nearest the point of application of the heat is the first to undergo a rise in temperature and a consequent decrease in density The cooler, heavier portion of liquid above it forces it upward and flows into its place As the temperature of this cooler portion is raised and its density decreased, it too is forced upward Thus, a current is started, moving upward through the liquid from the point at which the heat is applied Such a current is called a convection current, and heat is transferred from one point in a liquid to another by these moving, heated portions of the liquid The same process is found in the transmission of heat in gases The convection currents set up when the atmosphere of the earth is heated by contact with warm areas of land cause cloud formation and hence precipitation For example, when a rising current of heated air strikes a layer of cooler air, it is cooled below its dew point, and some of the moisture it is carrying is condensed to form clouds In ventilation and in cooling systems convection currents are used to circulate the gas or liquid In hot-air heating systems the movement of the hot air to the various rooms in the building is owing to convection currents, this is true also in hot-water heating systems Artificial drafts are set up in rooms when a means of escape is afforded the heated air rising upward in a convection current and a means of entrance is given the colder air at the bottom of the room In ventilating mines, air passages are provided for the entrance of air from the surface and others for the escape of air from the mine The ancients built fires at the air-exit shafts to aid circulation In the deep mines of modern times fans and blowers are often used

convent: see MONASTICISM

convention, gathering of persons, usually delegates, for any purpose, but especially to draw up a new CONSTITUTION or to nominate candidates for elective offices Convention parliaments in England often determined the succession to the crown, and in colonial America conventions several times superseded royal or proprietary governments with those of their own choosing A convention proclaimed the first French republic in 1792, and others formed the state constitutions in the former American colonies after 1776, most of which were later submitted to popular referendums The Constitution of the United States was drawn up at Philadelphia by delegates from the various states in 1787, and this Constitution provided for the drawing up of a constitution by a convention in any territory subsequently desiring admission as one of the United States New state constitutions have been adopted and existing ones revised by conventions called for the purpose State constitutional conventions are usually called by the legislature and proceed much as do other deliberative bodies, working mainly in committee of the whole or through subcommittees, usually without restriction save by rules which may be self-imposed The constitution resulting is usually submitted to popular vote In the United States, nomination of candidates for office by mass meeting and CAUCUS preceded the institution of the national nominating convention, of which the first was held at Baltimore by the Anti-Masonic party in 1831 The most important nominating conventions are those held every four years by the two major American parties to nominate the party candidates for President and Vice President of the United States Despite the relatively standardized procedure, these conventions frequently result in complex and important political struggles and decisions by the respective parties The direct primary has now superseded the delegate convention in many states The term *convention* is used also of a temporary international agreement See E F Clymer, *Presidents of the United States Conventions, Elections, and Parties* (1931)

Converse, Frederick Shepherd, 1871–1940, American composer, b Newton, Mass , studied with J K Paine and G W Chadwick and in Germany with Rheinberger His *Pipe of Desire* (Boston, 1906) was given at the Metropolitan Opera House, New York, in 1910, it was the first American opera performed there His orchestral works include *Flivver Ten Million* (1927) and *American Sketches* (1929) He was dean of the faculty (1930–38) of the New England Conservatory of Music

Converse College see SPARTANBURG, S C

conversion, in psychology see DEFENSE MECHANISM and HYSTERIA

conversion, experience, common among men in all ages, of definitive turning to a different way of thought or action, involving some reorganization of one's life Famous cases are those of the Buddha, St Paul (Acts 9), St Augustine, and St Francis of Assisi Conversions through preaching are a specialty of Christian history, among the preachers who excelled in making converts are St John Chrysostom, St Vincent Ferrer, Savonarola, John Calvin, John Knox, George Fox, John Wesley, and Jonathan Edwards The phenomenon of conversion has been explored extensively in the 20th cent by psychologists of many schools, including psychoanalysts A classic study is that of William James, *The Varieties of Religious Experience* (1902).

convict labor, work of prison inmates Until the 19th cent , labor was introduced in prisons chiefly as an added punishment and was often unproductive Such work is now considered a necessary part of the rehabilitation of the criminal, it is also useful in keeping discipline and reducing the costs of prison maintenance The main types of work in prison communities are maintenance activities, outdoor public works (farming, road building, reforestation), and industrial labor Considered a source of cheap labor, convicts were formerly put to work on contract, lease, or piecework bases for private industries In recent decades these methods have been condemned and prison industries are devoted chiefly to the production of goods to be used in state institutions Because of competition with regular labor, interstate commerce in the products of convict labor has also been restricted since 1934 Wages are paid in many state and Federal prisons in the United States and in many European countries The notorious chain gangs of some Southern states, in which convicts are chained and forced to do heavy labor, are disappearing Modern road camps, sometimes operated on an honor system, have been successful in many cases See L N Robinson, *Should Prisoners Work?* (1931)

convulsion, spasmodic muscular contraction, usually of sudden onset and often followed by a semicomatose state The stimulating mechanism is obscure, but convulsions may occur in such toxic conditions as lead poisoning and in diseases of the nervous system, e g , hydrophobia, tetanus, epilepsy, and hysteria In young children convulsions are caused by tetany, either active or latent, and by acute infectious diseases associated with sudden high fever, e g , pneumonia, scarlet fever, and malaria Treatment consists of complete quiet and sedation In asphyxia, oxygen has reduced the convulsions The underlying cause should be sought and treated

Conway, Henry Seymour, 1721–95, English soldier and statesman, nephew of Robert Walpole In his early years he entered upon concurrent and distinguished military and parliamentary careers He fell into disfavor with George III for defending John Wilkes Sympathetic to the American colonies, he secured the repeal of the Stamp Act (1766) and helped bring about Lord North's downfall (1782) for his handling of the struggle with the North American colonies

Conway, Sir Martin, see CONWAY OF ALLINGTON, WILLIAM MARTIN CONWAY, 1ST BARON

Conway, Moncure Daniel, 1832–1907, American social reformer and preacher, b Stafford co , Va , grad Dickinson College, 1849, and Harvard Divinity School, 1854 An ardent abolitionist, Conway lectured in England during the Civil War in the interests of the North Brought up as a Methodist, he became a Unitarian minister and later a preacher of free thought Conway edited the works of Thomas Paine (4 vols , 1894-96) and wrote studies of Carlyle (1881), Hawthorne (1890), and others. See his autobiography (1904)

Conway, Thomas, 1733–c 1800?, Irish soldier of fortune, general in the Continental army in the American Revolution Educated in France, he was a

soldier there before coming (1777) to America He fought valiantly as a patriot leader at Germantown, but Washington blocked his promotion from brigadier to major general as unfair to officers with longer service. Congress nevertheless did in Dec, 1777, appoint him major general and made him inspector general. His part in the intrigue called the CONWAY CABAL was small In 1778 Conway resigned and returned to France

Conway. 1 City (pop 5,782), co seat of Faulkner co., central Ark, NW of Little Rock, settled 1871, inc. 1875 Its trade and industries are based on the cotton and farm products of the area Hendrix College (Methodist, coeducational, 1876) and Arkansas State Teachers College (coeducational) are here. 2 Town (pop. 3,651), E N H; settled 1764, inc 1765 It includes the villages of Conway, at the confluence of the Swift with the Saco, and North Conway, a resort on the Saco and seat of an art colony. The town has granite quarries. 3 Borough (pop 1,865), Beaver co, W Pa, NW of Pittsburgh and on the Ohio. The town has railroad repair shops 4 Town (pop 5,066), co seat of Horry co, E S C, on the Waccamaw and SE of Florence, in fertile country producing lumber, tobacco, melons, and other truck crops There are good hunting and fishing grounds in the area.

Conway or Aberconway (k"bŭrkŏn'wā), municipal borough (1931 pop. 8,772; 1943 estimated pop 11,300), Caernarvonshire, Wales, at the mouth of the Conway, over which are two bridges A high wall with ruins of 21 round towers encloses the old town, and there are remains of a Cistercian abbey and a 13th-century castle. The Royal Cambrian Academy of Art occupies the Elizabethan mansion Plas Mawr

Conway Cabal (kubăl'), 1777, intrigue in the American Revolution to remove George Washington as commander in chief of the Continental army Washington had been defeated at Brandywine and Germantown, and Horatio GATES was flushed with credit for the victory of the Saratoga campaign. Some Congressmen and some army officers favored Gates as commander in chief Gen Thomas CONWAY, personally irritated at Washington, wrote to Gates a letter severely criticising Washington James WILKINSON of Gates's staff quoted to William ALEXANDER (Lord Stirling) a phrase purportedly from this letter, and Alexander repeated it to Washington, who sent the quotation to Gates without comment Gates wrote an elaborate defense of himself in reply and sent it to Washington through Congress Public opinion supported Washington, and the plot—if such it was—came to nothing. As it turned out, the much-quoted phrase was not in Conway's letter at all, and his name has been unfairly used to designate the cloudy scheme.

Conway of Allington, William Martin Conway, 1st Baron, 1856–1937, explorer, art historian, and writer He filled several university positions and in 1918 represented the combined English universities as Conservative member in the House of Commons He began mountain climbing at 16 and conducted expeditions of exploration in Spitsbergen (1896–97) and the Bolivian Andes (1898) He was the author of numerous books on art and exploration, among them *Mountain Memories* (1920), *Art Treasures of Soviet Russia* (1925), and *Giorgione as a Landscape Painter* (1929)

Conwell, Russell Herman, 1843–1925, American Baptist minister and lecturer, b Worthington, Mass. After practicing law, he became a minister in 1879 He was the first president of Temple Univ., which he opened in 1884, and he dedicated (1891) the Baptist Temple, Philadelphia For over 60 years Conwell was active as a lecturer His lecture "Acres of Diamonds," delivered more than 6,000 times, is said to have produced funds for the education of at least 10,000 young men It is included in the biography by A R Burr (1917)

cony or coney, name used for the rabbit (*Oryctolagus*) and for its fur, for the pika (*Ochotona*), a small rodent found at high altitudes in both hemispheres; and for the hyrax, a small herbivorous, hoofed animal of Arabia, Syria, and Africa, probably the cony mentioned in the Scriptures

Conybeare, William Daniel (kŏ'nĭbēr, kŭ'–), 1787–1857, English clergyman and geologist, dean of Llandaff. With William Phillips he wrote *Outlines of the Geology of England and Wales* (1822) ably summarizing the geological knowledge of his day

Conyers (kŏn'yŭrs), city (pop 1,619), co seat of Rockdale co., N central Ga., ESE of Atlanta, in a farm area, inc. 1854

Cooch Behar (*kōōch' bĭhär'*), former native state (1,318 sq. mi; pop. 639,898), now part of N West Bengal state, India. It lies in a low, poorly drained plain Rice, vegetable oils, tobacco, and jute are exported The chief town, Cooch Behar (pop. c 16,000), is a trading center.

Cook, David J., 1840–1907, American law-enforcement officer, b. near La Porte, Ind. He moved (1855) with his family to Kansas, went (1859) to the Colorado gold fields, and returned to enlist (1861) in the Union army in the Civil War. Army service as a sort of military policeman led him to found the volunteer Rocky Mountain Detective Association to suppress outlawry in Colorado, and he had a long career as marshal, sheriff, and police chief, mostly around Denver He brought many train, bank, and express-company robbers to book, helped to quell the Ute Indian revolt of 1878, and was arbitrator in the mine strike at Leadville in 1880 See biography by W. R. Collier and E V. Westrate (1936)

Cook, Frederick Albert, 1865–1940, American explorer, the center of much controversy about exploration, b. Sullivan co, N.Y., M.D. New York Univ., 1890 Dr. Cook early became interested in the arctic and accompanied the expedition of Robert E PEARY in 1891–92 as surgeon Later he accompanied the Belgian expedition (1897–99) to Antarctica, and he made other voyages In 1906, after unsuccessful attempts to reach the summit of Mt. McKinley, Dr Cook remained behind when most of the party returned He later announced that he and a companion had successfully scaled the peak In 1907 he set out with an expedition for the arctic, and on Sept 1, 1909, he emerged into civilization again, claiming that he had reached the North Pole in April, 1908 A few days later Peary announced that he had reached the pole in April, 1909, and accused Cook of fraud The argument was sensational Cook was deprived of some of the honors that had been accorded him and disappeared from the public eye for a time Later he was involved in an oilfield promotion scheme in Texas and served five years (1925–30) of a long sentence for using the mails to defraud To the end of his life, however, Cook fought for vindication of his polar and Mt. McKinley claims in the face of a generally hostile public, and he was supported by some well-known explorers as well as some ardent admirers

Cook, George Cram, 1873–1924, American author and playwright, b Davenport, Iowa, grad Harvard, 1893, and studied abroad A university teacher and later literary editor of the Chicago *Evening Post*, he is chiefly remembered as the founder (1915) and director of the Provincetown Players. With his wife, Susan Glaspell, he wrote the play *Suppressed Desires* (1915) After 1921 he lived in Greece See biography by Susan Glaspell, *The Road to the Temple* (1926)

Cook, James, 1728–79, English explorer and navigator. After an apprenticeship to a firm of shipowners at Whitby, he joined (1755) the royal navy He surveyed the St Lawrence Channel (1760) and the coasts of Newfoundland and Labrador (1763–67). Cook was commissioned a lieutenant in command of the *Endeavour* and sailed (1768) on an expedition to chart the transit of Venus, he returned to England in 1771, having also circumnavigated the globe and explored the coasts of New Zealand and E Australia He commanded (1772–75) an expedition to the S Pacific of two ships, the *Resolution* and the *Adventure* On this expedition he disproved the rumor of a great southern continent, explored the Antarctic Ocean and the New Hebrides, discovered New Caledonia, and by the observance of strict dietary and hygienic rules prevented scurvy, heretofore the scourge of long voyages As captain of the *Resolution*, Cook sailed (1776) to search for a practical passage from the Pacific Ocean to the Atlantic along the northern coast of North America After a year in the S Pacific, the expedition rediscovered the Sandwich Islands and unsuccessfully searched the northwest coast of North America for a passage to the Atlantic On the return voyage Cook was killed by natives on the Hawaiian Islands An account of Cook's first voyage was printed in Vols II and III of John Hawkesworth's *Voyages* (1773) and in Cook's journal (ed by W J L Wharton, 1893) The official account of the second voyage was published in 1777, of the third in 1784, selections (ed by Christopher Lloyd) were published in 1950 See biographies by Hugh Carrington (1939) and J. R Muir (1939)

Cook, Sir Joseph, 1860–1947, prime minister of Australia (1913–14), a leader of the Liberal party His term as premier was followed by service as minister of the navy (1917–21) and high commissioner to London (1921–27). He was Australian representative at the Paris Peace Conference and a delegate (1922) at the League of Nations.

Cook, Orator Fuller, 1867–1949, American botanist, b Clyde, N Y, grad Syracuse Univ., 1890 He spent six years with Liberia College in Africa (as president, 1896–97) and was a member of expeditions to Central America. From 1900 he was connected with the U.S. Dept of Agriculture, in charge of investigations in tropical agriculture. He developed the single-stalk method of cotton culture and wrote numerous treatises on many phases of botany and agriculture.

Cook, Thomas, 1808–92, English travel agent In Leicester in 1841, after the success of his first arranged tour to a temperance meeting, he founded the travel agency which bears his name The success of the idea of the guided tour was quick, and by 1852 Cook had moved his office to London. Shortly thereafter he set up (1856) his circular Tour of Europe, and 10 years later he was arranging tours of the United States. Cook felt that there were few aspects of travel with which his agency was unable to cope and was thus called upon for many unusual tasks Perhaps his most spectacular achievement in this respect was the transportation of an entire expeditionary force (18,000 men) up the Nile for the attempted relief of Gen. Charles George Gordon in 1884. At his death, Cook's son succeeded him in the agency.

Cook, Mount, 12,349 ft. high, on W South Island, New Zealand, in the Southern Alps, highest peak of New Zealand It is sometimes called Aorangi

Cooke, Jay, 1821–1905, American financier, b. Sandusky, Ohio He founded Jay Cooke & Company, which marketed the huge Civil War loans of the Federal government. He later turned to railroad bonds and in 1870 undertook to raise $100,000,000 for the Northern Pacific and financed construction to Bismarck, N Dak The burden was too great and continuing the financing proved impossible. In 1873 Cooke's New York branch closed its doors and helped to precipitate the panic of 1873. See biographies by E. P Oberholtzer (1907) and Henrietta M. Larson (1936)

Cooke, John Esten, 1830–86, American novelist, b Winchester, Va. He wrote novels of old Virginia—*The Virginia Comedians* (1854), his best, and *Henry St John, Gentleman* (1859) He served throughout the Civil War and later wrote military biographies of Stonewall Jackson (1866) and Robert E Lee (1871) and many novels, including the popular *Surry of Eagle's Nest* (1866) and *Mohun* (1869). See biography by J O Beaty (1922).

Cooke, Josiah Parsons, 1827–94, American chemist and mineralogist, b Boston, grad Harvard, 1848 From 1849 he taught at Harvard, where he was instrumental in founding the departments of mineralogy and chemistry and the chemical laboratory He determined the atomic weight of antimony and wrote several books on chemistry.

Cooke, Mordecai Cubitt, 1825–1912, English botanist, an authority on fungi Among his works are *British Fresh-Water Algae* (2 vols, 1882–84), *British Desmids* (1887), and his handbooks on British and Australian fungi. He also wrote on British reptiles and batrachians

Cooke, Rose Terry, 1827–92, American poet and short-story writer, b West Hartford, Conn, grad Hartford Seminary, 1843 She is known for her sketches of New England country life—*Happy Jodd* (1878), *Root-bound* (1885), and *Huckleberries* (1891) Her complete poems appeared in 1888

cookery, among savages, is practiced in the simplest forms with rude appliances The natural foods—such as eggs, fish, game, wild honey, fruits, and vegetables—known to primitive man required little cooking In a higher stage of culture, with the food supply varied by agriculture and the keeping of flocks and herds, BREAD, BUTTER, CHEESE, WINE, and malted drinks came into use. Very early in the world's history, flour, yeast, sugar, and condiments were known, and cooking became an established art Like other arts it is influenced by conditions of wealth, commerce, and general interchange of ideas, geographical position, climate, and fuel supply have also been of great importance in determining the food tastes and habits of different peoples The Egyptians had fine flour and bakeries with domed ovens, where leavened bread was made and sold. Roasting and boiling were well known, and beer and other drinks were brewed The Greeks of the wealthier classes made a fine art of gastronomy, as of the other pleasures of living. Bread was made in a variety of ways, early authors mention cabbage, onions, leeks, olives, fruits, nuts, and honey Meat was scarce, fish was baked in fig leaves, soaked in oil, or browned in a skillet with herbs Forcemeat and sausage were made of different kinds of meat and fish, and cheese was much used. The Asiatic conquests brought more luxurious standards in food The poorer people made much use of barley bread and a poor lentil soup. The staple food of the early Romans was a lentil gruel, *puls* With the development of the empire, wealthy Romans indulged in extravagant banquets and brought the art of cookery to an extreme of aesthetic development. Lucullus and Apicius were noted gourmets. Late Roman customs were influenced by the Goths, who ate simply of wholesome food and preferred wild fruit, curdled milk, game, and horseflesh. The best cooking in the Middle Ages was probably done in the monasteries, noted for their well-equipped kitchens, usually in separate buildings. The numerous fast days encouraged the ingenious preparation of many common materials They had fine gardens, in which they raised not only medicinal herbs, but also herbs used for skilful seasoning Modern cookery derives from Italy and dates from the Renaissance When Catherine de' Medici went to Paris, she took Italian cooks, and so great was the interest aroused in the revival of an ancient art, that noblemen took to cooking, and cooks were enriched and honored The use of the fork, greatly ridiculed at first, was epoch-making in its effects on cookery. The French Revolution checked the progress of cookery as well as other arts, but Napoleon gave it a new impetus by scattering chefs in his course among the countries of Europe,

and his period produced Beauvilliers—author of *L'Art du cuisinier* (1814)—CARÊME, and BRILLAT-SAVARIN. In England rich and elaborate cooking has been regarded with a certain disfavor, simple foods, dressed rather at the table than in the saucepan, have been characteristic. Yet England has had distinguished cooks and some interesting cookbooks and authors. *The Widow's Treasure* (1625), Dr. Pegge's *Forme of Cury* (1780), and Mrs Hannah Glasse's *Handbook* (1750) were among the earlier works, Thomas Walker's *Original* (1835) combined comments on cookery and philosophy, Alexis Soyer was both cook and author Present-day interest in chemistry, biology, and physiology and research and experiment in the field of dietetics and NUTRITION have combined to give a new significance to the reasons for cooking and a new accuracy to its various processes The reasons for cooking may be summarized as follows to render food more digestible; by softening tough substances, such as the connective tissue of meat, and by bursting starch granules, to make it more appetising, by improving its appearance and odor and by releasing juices and gases which change flavors, to sterilise and to destroy parasites and disease germs, to preserve food All the scientific aspects of present-day cooking are peculiarly characteristic of large-scale commercial food preparation, as in the CANNING and baking industries The processes of cooking divide into two classes—hot air, as in baking, roasting, and broiling, and hot liquid, as in boiling and frying Broiling or grilling brings food into close contact with heat or coals and is suitable for tender portions Roasting, as applied to poultry, animals (see BARBECUE), or large pieces of meat, means placing the meat near an open fire until seared, then basting and turning it on a spit or in an oven Baking is cooking by dry heat in an oven or enclosed chamber Frying may be done in two ways In true frying, known as French or deep-fat frying, the food is dropped into a kettle of fat heated to from 345° to 400°, so that a quick crust is formed and the fat cannot penetrate the food, in shallow frying, which includes sautéing, the food is turned in a small amount of fat Boiling, stewing, and simmering are cooking in water, boiling, at 212°, simmering or stewing, at a lower temperature, usually about 185° To fricassee is to combine frying and stewing Braising is a combination of frying, stewing, and baking It was formerly done in a utensil having a cover on which hot coals could be placed for the final browning, a casserole is now used Smothering or pot roasting is a similar process, calling for a quick searing all over in fat, then a slow simmering, tightly covered, in just enough water to prevent burning Steaming is good for a number of flour foods, with the pressure cooker for vegetables and meats Cooking schools began to make their appearance c 1870, first as departments in women's colleges and later in state universities and agricultural colleges Gradually public schools began to offer courses in cookery and to equip HOME ECONOMICS laboratories Most countries are celebrated for one or more distinguishing features of their cookery The United States has inherited or borrowed from almost every quarter of the world Among borrowings from Europe are pie, doughnuts, cheese, chowder, and malted drinks Some ideas were borrowed from the Indians, such as the use of maize in meal and hominy Native American foods include turkey, clam chowder, baked beans, corn bread (hoecake, johnnycake), Boston brown bread, beaten biscuit, pumpkin pie, gumbos, some oyster and terrapin dishes, corn on the cob, and strawberry shortcake In the Southwest, tamales and tortillas and various chili dishes preserve the customs of the native people A standard cookbook is Fanny Farmer's *Boston Cooking-School Cook Book*, first published in 1896 See also Louise Lampray, *The Story of Cookery* (1940)

Cookeville, town (pop 4,304), co seat of Putnam co, central Tenn., E of Nashville, founded 1854 It is a trade and industrial center in a farm, timber, and coal area Tennessee Polytechnic Institute is here

Cook Islands, formerly **Hervey Islands**, group (84 sq mi, pop 12,380), with Manihiki group pop, 14,519), S Pacific, SE of Samoa It comprises two volcanic islands, RAROTONGA and MANGAIA, and six coral islands. Some of the islands were discovered in 1773 by Capt James Cook, and the others were discovered by John Williams in 1823 The group was proclaimed a British protectorate in 1888 and was annexed in 1900 In 1901 the islands were placed under the government of New Zealand Rarotonga is the headquarters of the Cook Islands administration, which also governs seven islands N of the Cook Islands (see MANIHIKI) The inhabitants are Polynesians. The chief exports are copra and fruits.

Cook Strait, channel, c 15 mi wide, between North Island and South Island, New Zealand. It was discovered in 1770 by Capt. James Cook.

Cookworthy, William, 1705–80, English porcelain maker. He is notable for discovering (c 1755) the Cornish china clay and the china stone in St. Stephen's parish, near St. Austell, on the property of Lord Camelford, who assisted him in establishing porcelain works at Plymouth. Here in 1768 was manufactured the first English porcelain similar to the Chinese

Coolbrith, Ina Donna, 1842–1928, American editor and poet, b Illinois She helped Bret Harte edit the *Overland Monthly* She wrote poems of Western pioneer days and in 1915, by act of legislature, became California's poet laureate Her verse collections include *A Perfect Day and Other Poems* (1881) and *Songs from the Golden Gate* (1895).

Cooley, Charles Horton, 1864–1929, American sociologist, b Ann Arbor, Mich., grad, Univ of Michigan (B A , 1887, Ph D , 1894), son of Thomas M Cooley He taught at the Univ. of Michigan after 1892 His concepts of the interaction of the individual and society and of primary social groups are widely accepted as basic principles He wrote *Human Nature and the Social Order* (1902, rev ed , 1922), *Social Organization* (1909), *Social Process* (1918), and *Sociological Theory and Social Research* (1930).

Cooley, Thomas McIntyre, 1824–98, American jurist, b near Attica, N Y. His education was limited, but his intellectual worth earned him positions as a judge (1864–85) of the supreme court of Michigan and as first chairman (1887–91) of the Interstate Commerce Commission Cooley's chief work is *A Treatise on the Constitutional Limitations upon the Legislative Powers of the States* (1868, 8th ed , 1927) He argued that the U S Constitution contained not only direct limitations on the power of the states (e g , the prohibition in Article 1, Section 10, against a state's impairing the obligations of contract) but also implied limitations which could be deduced from the political theory underlying the Constitution For example, from the division of American governments into executive, legislative, and judicial branches he inferred the freedom of the judiciary from legislative interference. Cooley's study was highly influential in the early interpretation of the due process clause of the FOURTEENTH AMENDMENT to the Constitution His other works include treatises on taxation (1876), torts (1879), and constitutional law (1880)

Coolgardie, Western Australia see EAST COOLGARDIE GOLDFIELD

Coolidge, Calvin, 1872–1933, 29th President of the United States (1923–29), b Plymouth, Vt , grad Amherst, 1895. From a law practice in Northampton, Mass , his political progress took him swiftly and smoothly to local and state offices He was a member of the state senate from 1912 to 1915 (its president after 1914) and was lieutenant governor (1916–18) before serving two terms as governor (1919-20) He rushed to national prominence when he showed brisk decision by using the militia to end the Boston police strike in 1919 In 1920 he was enthusiastically nominated as Republican candidate for the vice presidency and was elected with Warren G Harding Noted for his New England simplicity and personal honesty, he was untouched by the charges of corruption leveled at the Harding administration After Harding died, Coolidge took (Aug 3, 1923) the oath of office as President He was nominated and elected in 1924 and throughout his term had strong popular backing The time was one of almost hectic national prosperity, which cast a glow upon him He twice vetoed the McNary-Haugen bill to aid agriculture (1927, 1928) because of its price-fixing features, and he strongly favored a laissez-faire policy toward business, economy in government, and tax cuts In his cabinet were Herbert C Hoover, Frank B Kellogg, and Andrew W Mellon, who by their positive policies gave the administration an aggressive tone In 1928 Coolidge did not choose to run for the nomination, which he probably could have gained, but instead backed Hoover and in 1929 retired to Northampton to write newspaper and magazine articles and his autobiography (1929). As first lady, his wife, Grace A Goodhue Coolidge, was much admired for her poise and charm See William A White, *A Puritan in Babylon* (1938), Claude M Fuess, *Calvin Coolidge, the Man from Vermont* (1940)

Coolidge, Charles Allerton, 1858–1936, American architect, b Boston, grad Harvard, 1881 After working (1882–86) in the architectural offices of H H. Richardson in Boston, he became a partner in several firms, heading Coolidge, Shepley, Bulfinch, and Abbott (1924–36) and also Coolidge and Hodgdon (until 1930) in Chicago Among buildings designed by him are many at Stanford Univ , the medical school, freshman halls, and Memorial Chapel at Harvard, the law school, commons, medical school, and hospital at the Univ of Chicago, the Art Institute of Chicago, buildings at Vanderbilt and Western Reserve universities, and parts of the Rockefeller Institute in New York.

Coolidge, Susan, pseud. of **Sarah Chauncey Woolsey**, 1835–1905, American writer of juvenile stories, b Cleveland Some of her work appeared in *St. Nicholas* after 1870. She wrote the series *What Katy Did* (1872–86), still popular with children, *A Guernsey Lily* (1880), and other wholesome, natural books free of sentimentality.

Coolidge, William Augustus Brevoort, 1850–1926, American mountaineer and author, the historian of the Alps, b New York city A graduate of Exeter College, Oxford, and life fellow and later modern history tutor at Magdalen College, he retained his American citizenship He ascended nearly all the highest Alpine peaks His books include *The Alps in Nature and History* (1908)

Coolidge, William David, 1873–, American physical chemist, b. Hudson, Mass , grad Massachusetts Institute of Technology, 1896. He joined the General Electric Company in 1905 and served as director of its research laboratory (1932–40) and as vice president and director of research (1940 44). He made special studies of X rays, invented an X-ray tube, and invented and developed ductile tungsten

Coolidge, town (pop 1,102), E central Texas, NE of Waco, in a farm area, settled 1903, inc 1905

Coolidge Dam, E Ariz , in the Gila river, SE of Globe, authorized 1924, built 1927–28, for irrigation and power It is c 900 ft. long and c 250 ft high The water, impounded in the San Carlos reservoir, is available to the areas around Florence, Casa Grande, and the town of Coolidge (1945 pop 3,300) Of the 100,000 acres irrigated, one half are Indian lands in the San Carlos Reservation

coolie labor, term applied to unskilled laborers from Asia, especially from India and China. The emigration of Chinese and Indian contract labor to British and French colonies came mainly as a result of the discontinuance of slavery Indenture of Indian coolies was usually for a term of five years—in return for wages, certain benefits, and the cost of passage, the terms were enforceable by penal sanctions At the expiration of their terms, the coolies were free to reindenture or to seek other employment They frequently became peasant proprietors, though they were entitled to free return passage to India The practice was discontinued by the British Indian government, which in 1922 prohibited assisting the emigration of unskilled laborers, except to a few countries Emigration of Chinese coolies began c 1845, though it was nominally prohibited before 1859 Between these dates the conditions were notoriously bad, the victims were shipped mainly to Cuba and Peru, where they died by the thousands The British Chinese Passenger Act of 1885 regulated British ships in the trade and resulted in the traffic's falling mainly into the hands of the Portuguese, under whom it resembled the African slave trade In 1859 Britain arranged with Canton for legal emigration to the British West Indies and elsewhere on five-year contracts In 1860 an Anglo-Chinese convention sanctioned such emigration to British territory, and the regulations were agreed to by the other powers in similar conventions In 1904 Britain arranged with China the hiring of 50,000 Chinese coolies to work the Transvaal gold mines In the 19th cent large numbers of Chinese coolies went to California and Australia Opposition in Australia to this influx of cheap labor resulted in the passage of the Emigration Restriction Act for the gradual elimination of Asiatics, by providing that no one should enter the country who failed to write 50 words in any prescribed language Coolies were important in building the first U S transcontinental railroad, but immigration into the United States was practically ended by the Chinese Exclusion Act of 1888 and by stringent Federal laws against contract laborers In 1904 Canada excluded coolies by a head tax of $500 See P. C Campbell, *Chinese Coolie Emigration to Countries within the British Empire* (1923)

cooling system. In many industrial processes and for the practical operation of certain engines it is necessary to install an efficient cooling system Engines of the internal-combustion type generate so much heat in the cylinders that, if they are not cooled, the lubricating oil will be burned and serious damage will be done to the various parts through unevenness of expansion Most internal-combustion engines are either water- or air-cooled Around each cylinder of a water-cooled engine, e g , an automobile engine, is a hollow jacket through which water is circulated. The jackets are connected at the top and the bottom to a radiator, generally by a rubber hose The radiator has a large cooling area and is assisted by a fan which draws air through it The water passing through the radiator is thus cooled before returning to the engine The two systems of circulating the water are by thermosiphon and by pump The temperature in cold weather can be controlled by fitting shutters on the radiator to reduce the influx of cold air In very cold weather it is necessary to mix with the water an efficient ANTIFREEZING SOLUTION In the Diesel engine, in which the heat is very great, the cooling of the cylinder walls alone is not sufficient—the cylinder covers and the pistons as well must be cooled. These parts are also supplied with water jackets. Blast furnaces, cupolas, gas generators, molds for casting, and many other contrivances in which the temperatures are high are cooled by water circulating through jackets Rapidly moving machinery is frequently cooled and lubricated at the same time

by running in an oil bath. The cylinders of an air-cooled engine are built with a number of metal fins projecting from the sides These assist the dissipation of heat by increasing the area exposed to the air Radial airplane engines are air-cooled, the arrangement of the cylinders around the crankshaft, like spokes around a hub, exposes each cylinder directly to the air stream Engines with cylinders set one behind the other are air-cooled with much more difficulty and are less commonly used For cooling systems in buildings, see AIR CONDITIONING

Coomaraswamy, Ananda Kentish (ä″nündä′ kĕn′-tĭsh koomä″ruswā′mē), 1877–1947, art historian, b Ceylon He was active in educational movements in India After 1917 he was fellow for research in Indian, Persian, and Moslem art in the Museum of Fine Arts, Boston, and he is largely credited with having built up the museum's great Far Eastern collection He was critical of Western institutions and sought, as in his *Am I My Brother's Keeper?* (1947), to apply to them standards derived from Oriental philosophy and history Among his other books are *Dance of Siva* (1918), *History of Indian and Indonesian Art* (1927), *Elements of Buddhist Iconography* (1935), and *The Transformation of Nature in Art* (2d ed , 1935)

Coon Rapids, town (pop 1,533), W Iowa, on the Middle Raccoon river and WNW of Des Moines, inc 1882 Dairying and poultry raising are carried on here

Cooper, Alexander: see COOFFR, SAMUEL

Cooper, Alfred Duff, 1890–, British statesman Elected to Parliament as a Conservative (Unionist) in 1924, he served as secretary of state for war (1935–37) in the coalition cabinet and was first lord of the admiralty in 1938 when he resigned in protest against the Munich Pact He returned to the cabinet as minister of information (1940–41) under Winston Churchill He was appointed resident minister of Far Eastern affairs in Singapore in Dec , 1941, and was recalled the following month, shortly before the fall of Singapore His wife, the former Lady Diana Manners, appeared in the U S production of Max Reinhardt's spectacle, *The Miracle* (1924)

Cooper, Anthony Ashley: see SHAFTESBURY, ANTHONY ASHLEY COOPER, 1ST EARL OF

Cooper, Sir Astley Paston, 1768–1841, English surgeon, pupil of John Hunter He was noted as a lecturer on anatomy and for his operations on hernia and aneurysms He was knighted after performing a slight operation on George IV He wrote several medical and surgical treatises See biography by B B Cooper (1843), study ed by G L Keynes (1922)

Cooper, Henry Ernest, 1857–1929, American official in Hawaii, b New Albany, Ind , grad Boston Univ , 1878 After practicing law in San Diego, Calif , he went (1891) to Hawaii He took part in the revolution that deposed Queen LILIUOKALANI and, when the United States delayed recognition, he held various cabinet posts As foreign minister he conducted negotiations with Japan concerning Japanese immigration to the islands He also held various posts after the U S annexation of Hawaii

Cooper, Hugh Lincoln, 1865–1937, American hydraulic engineer, b Houston co , Minn He was engineer for many important projects, including the hydroelectric plant at Keokuk, Iowa, the Dnepropes dam and plant in the Ukraine, the power plants at Niagara Falls, Canada, and at Holtwood, Pa , the Wilson Dam project at Muscle Shoals, Ala

Cooper, James Fenimore, 1789–1851, American novelist, b Burlington, N J In 1790 his family moved to Cooperstown, N Y , a frontier settlement founded by his father near Otsego Lake Sent to Yale at 13, he was dismissed in his third year The next five years he spent at sea, the last three of them as a U S midshipman After his marriage in 1811 he lived in Westchester co , N Y , and later at Cooperstown His first novel was *Precaution* (1820), a failure *The Spy* (1821), a story of the American Revolution, was an instant success, and during the rest of his life he wrote steadily for a large public. In 1826 he went to France, nominally as American consul at Lyons, and spent several years abroad He defended his countrymen in *Notions of the Americans* (1828), but on his return his criticisms of America, among them *The American Democrat* (1838) and the fictional *Home as Found* (1838, sequel to *Homeward Bound*, 1838), made him most unpopular His later life was marred by quarrels and lawsuits over his works Cooper's most popular novels are those of the frontier and those of the sea In the first group are the *Leatherstocking Tales*, so called from their chief character, Natty Bumppo, or Leatherstocking. The order of the narrative is *The Deerslayer* (1841), *The Last of the Mohicans* (1826), *The Pathfinder* (1840), *The Pioneers* (1823), *The Prairie* (1827). The two Indians, Chingachgook and Uncas, are romanticized savages, able, good, and unspoiled by civilization Cooper's novels of the sea, the best of which are *The Pilot* (1823), *The Red Rover* (1828), and *The Wing-and-Wing* (1842), reflect the same nautical knowledge which appears in his excellent *History of the Navy of the United States* (1839) Among his many other novels are the Littlepage trilogy on New York state antirentism, *Satanstoe* (1845), *The Chainbearer* (1845), and *The Redskins* (1846) See his correspondence (ed by his grandson, J F Cooper, 2 vols , 1922); biographies by T R Lounsbury (1882), R E Spiller (1931), and James Grossman (1949), studies by J F Ross (1933) and Dorothy Waples (1938), bibliography by R E Spiller and P C Blackburn (1934)

Cooper, Myles, c 1735–1785, second president of King's College (now Columbia Univ), b England, educated at Oxford. He was ordained priest in 1761 and came to King's College (1762) as professor of moral philosophy and assistant to the president In 1763 he was made president, succeeding Samuel Johnson Though his early administration was marked by the founding of a grammar school, a medical school, and a hospital, with changes in the curriculum and great increase of prestige, the college fell on evil days with the American Revolution Cooper was a Loyalist and in 1775 was forced to flee before the patriots' hatred to a warship in New York harbor He returned to Oxford and lived out his life in England

Cooper, Peter, 1791–1883, American inventor, industrialist, and philanthropist, b New York city After working as a carriage maker, machinist, cloth cutter, salesman, and grocer, he purchased (1813) a glue factory in New York city and developed the business until he supplied almost the entire American market With two partners he erected (1828) the Canton Iron Works in Baltimore and there constructed the *Tom Thumb*, the first railway locomotive built in America His success in trials on the Baltimore & Ohio RR probably saved that pioneer line from bankruptcy He rapidly expanded his holdings in the next 20 years, developing a rolling mill and wire factory at Trenton, N J , blast furnaces in Philipsburg, Pa , a rolling mill in New York city, and foundries at Ringwood, N J , and Durham, Pa He also owned iron mines in N New Jersey, and in 1870 he was awarded the Bessemer gold medal for rolling the first iron for fireproof buildings Cooper invented and patented several other practical devices and processes His faith in the success of the Atlantic cable led him to invest heavily in the New York, Newfoundland, and London Telegraph Company after banks refused to finance the operation He was president of this company for 20 years while he led the North American Telegraph Company, which controlled more than half of the telegraph lines in the country An outstanding leader in the civic affairs of New York city, Cooper led the successful fight to secure a public school system and did much to improve several of the municipal departments His lasting monument is COOPER UNION in New York city, chartered in 1859 and built after his own plans to provide for education for the working classes He supported the GREENBACK PARTY in national politics, and in 1876 he was the party's presidential candidate, polling nearly 100,000 votes Many of his addresses were collected in *Ideas for a Science of Good Government* (1883) Abram S Hewitt was his son-in-law, Peter Cooper Hewitt his grandson See biographies by R W Raymond (1901) and E C Mack (1949)

Cooper, Samuel, 1609–72, one of the greatest English miniaturists Specimens of his work are to be found at Windsor Castle, in the collections of the duke of Buccleuch and the duke of Devonshire (the latter containing the famous portrait of Cromwell, familiar through engravings), in the Rijks Museum, and in the Metropolitan Museum of Art His brother, **Alexander Cooper,** d 1660, was for many years miniature painter at the court of Queen Christina of Sweden

Cooper, Thomas, 1759–1839, American scientist, educator, and political philosopher, b London, educated at Oxford His important works include *Political Essays* (1799), the appendixes to the *Memoirs of Dr Joseph Priestley* (2 vols , 1806), in which Cooper reviews Priestley's life and works at length, *Lectures on the Elements of Political Economy* (1826), *Treatise on the Law of Libel* (1830), and (as editor) *The Statutes at Large of South Carolina* (5 vols , 1836–39) Cooper came to America in 1794 and, settling near his friend Joseph Priestley in Northumberland, Pa , was his partner in scientific research As a supporter of the Jeffersonian opposition to the Federalists, he wrote many political pamphlets, especially against the Alien and Sedition Acts of 1798 Convicted under the acts, he was imprisoned and fined $400, after his death this fine was repaid to his heirs He taught at Dickinson College and the Univ of Pennsylvania and was president (1820–34) of South Carolina College (now Univ of South Carolina) See Dumas Malone, *The Public Life of Thomas Cooper* (1926).

Cooper, town (pop 2,537), co seat of Delta co , E Texas, NE of Dallas, in a blackland cotton area of the northeast corner of the state, settled in the 1870s.

Cooper, river: see CHARLESTON, S C

cooperation, voluntary association of people for any desired end. The term refers specifically to the formation of cooperatives for nonprofit-making self-management of economic enterprises. Consumers' cooperatives, in which a group organizes for wholesale or retail distribution of agricultural or other products, are the most prevalent. Membership is open, and anyone may buy stock. Goods are sold to the public, usually at prevailing market prices, and any surplus above expenses and a small reserve is turned back to the members in amount proportional to their purchases Each member has one vote regardless of the amount of stock he holds Money is saved through direct channeling of goods from producer to consumer, thus the expenses of the middlemen and of advertisement are eliminated Producers' cooperatives are organizations of workers who own and control enterprise in their own interest. These are still relatively few Cooperative banks and CREDIT UNIONS constitute another important type of cooperative There has also been cooperative activity in insurance, medical services, housing, and other fields In most countries cooperatives are politically neutral, although in some cases they have worked actively with or against socialists The germ of the philosophy of cooperation is found in the writings of Robert OWEN and others After some 18th-century activity, consumers' cooperation took permanent form with the establishment (1844) of the ROCHDALE SOCIETY OF EQUITABLE PIONEERS Since then the movement has had considerable growth throughout Great Britain, where local cooperatives have been federated into tremendous national wholesale and retail distributive enterprises and where a large proportion of the population has membership Foods are among the chief products so handled Insurance and banking activities are also important Other parts of the British Empire have important cooperatives, especially Canada, where the rural population has led in the formation of marketing organizations, SAINT FRANCIS XAVIER UNIVERSITY in Nova Scotia has been particularly successful in its educational program for cooperative action The most outstanding examples of genuine participation are found in Denmark, Sweden, Finland, and Iceland, where cooperatives perform social and cultural as well as business functions and where there is much cooperative activity in housing, medicine, and similar services Denmark is outstanding for its rural cooperatives and for its cooperatively run folk schools In Sweden the formation of strong cooperatives resulted in the breaking of several trusts and monopolies without political action The movement had taken a strong hold in most of Europe before the Second World War and though destroyed or weakened in fascist countries has been revived The groups in Russia, called artels, were put under government control by the Soviets Palestine has vigorous cooperative development Japan had the most highly developed system in Asia before the Second World War In the United States, with its strongly competitive, individualistic society, the development of cooperatives was slow until after the First World War The movement started among the farmers, chiefly in the north central states, where the large Scandinavian and Finnish population carried on cooperative traditions Today, agricultural cooperatives have become an important force in the distribution of major farm products and supplies Cooperatives for the marketing of consumers' goods, especially groceries, have also spread in the cities Activity has been extended on a limited scale to the distribution and refining of oil and to the organizing of cooperative restaurants, bakeries, laundries, hospitals and medical plans, housing, power, and a few production plants An international alliance for dissemination of information and similar service was founded in 1895 Since then there has been increasing development of international cooperation and a trend toward the establishment of actual international cooperative distribution See Charles Gide, *Consumers' Cooperative Societies* (Eng tr , 1921), James P Warbasse, *Cooperative Democracy* (3d ed , 1936), Bertram Fowler, *Consumer Cooperation in America* (1936) and *The Cooperative Challenge* (1947), Horace Kallen, *The Decline and Rise of the Consumer* (1946)

Co-operative Commonwealth Federation, Canadian political party, popularly known as the CCF It was founded (Aug , 1932) at Calgary, Alta , where representatives from farmer, labor, and socialist parties (largely of the Western provinces) met to discuss the formation of a national party with the ultimate objective of replacing the present competitive society in Canada with a planned cooperative commonwealth At its first annual convention (1933) at Regina, Sask , the Co-operative Commonwealth Federation issued the so-called Regina Manifesto, which outlined the party's aims—socialization of finance, social ownership of public utilities, aid to agriculture, insurance for the aged, ill, and unemployed, tax reform, encouragement of cooperative societies, and other measures. J S WOODSWORTH was its first leader; after his death, M J COLDWELL was elected to the post. In 1944 the party secured a majority in the Saskatchewan legislature and established the first CCF government in Canada, with T C Douglas as provincial premier; it again captured the province in the elec-

tions of 1948 In 1948 it became the official opposition party in the Ontario legislature The CCF is also represented in other provincial legislatures as well as in the Canadian House of Commons, where it won 7 seats in 1935 and later increased its strength See Dean E. McHenry, *The Third Force in Canada the Cooperative Commonwealth Federation, 1932–1948* (1950)

Coopersburg, industrial borough (pop 1,193), E Pa, SE of Allentown, settled 1780 as Fryburg, name changed to Coopersburg 1832, inc 1879 A zinc plant and textile mills are here

Cooperstown, 1 Village (pop 2,599), co seat of Otsego co, E central N Y, W of Albany, on the Susquehanna river and Otsego Lake, inc 1807 The town was founded by William Cooper, who brought his family here in 1790 His son, James Fenimore Cooper, made his home in Cooperstown after his return from abroad in 1833, and the region is described in his *Leatherstocking Tales* Abner DOUBLEDAY is said to have originated BASEBALL in Cooperstown, and there is a national baseball museum The quarters of the New York State Historical Association and the Knox School for girls are here **2** City (pop 1,077), co seat of Griggs co, E N Dak, NW of Fargo, founded 1882, inc 1907 It is in a stock-raising and farm area

Coopersville, village (pop 1,083), S Mich, on Deer Creek and NW of Grand Rapids, in a farm area, settled 1845, inc 1871

Cooper Union, in New York city, nonsectarian, coeducational, chartered and opened 1859 Founded by Peter Cooper, it pioneered with evening art and engineering schools, day schools were added in 1900 The public reading rooms, library, museum for the arts of decoration, art galleries, and the free lectures are important Oratory and debating were early courses Cooper's son Edward Cooper, his son-in-law Abram S Hewitt, and Andrew Carnegie contributed to the development of the school Abraham Lincoln made a famous speech here in 1860 The Green Engineering Camp in the Ramapos belongs to Cooper Union

Coorg (kōōrg), state (1,593 sq mi, pop 168,726), SW India, on the southwest border of Mysore state Macara is the capital An independent Hindu dynasty ruled Coorg from the late 16th cent until overthrown by the British in 1834 Coorg, situated mainly in the Western Ghats, produces coffee and timber Rice is the principal lowland crop

Coornhert, Dirck Volckertszoon (dürk' vôl'kurtzōn kôrn'hârt), 1522 90, Dutch humanist Although he served William the Silent against Spain, he opposed Calvinists as well as Roman Catholics and occupied a nonpartisan Protestant position strong for tolerance His literary works consist of a moralizing philosophical exposition (1586), a book of poems (1585?), translations (Cicero, Boethius, the *Odyssey*, Boccaccio), allegorical plays, and many pamphlets

Coos (kōōs), island, the modern Kos Acts 21 1

Coosa (kōō'sŭ), river of Alabama Its chief headstreams join at Rome, Ga, and the main stream flows generally west and south c 282 mi to the Tallapoosa (with which it forms the Alabama) a little above Montgomery Jordan, Lay, and Mitchell dams produce widenings in the lower course of the partly navigable river

Coos Bay (kōōs), city (pop 5,259), SW Oregon, a port of entry on Coos Bay of the Pacific, founded 1854 as Marshfield, inc 1874, name changed 1944 It is a shipping, fishing, dairying, and lumber-manufacturing center

coot, marsh bird related to the rail and the crane and found in North America and Europe The American coot or mud hen or marsh hen is slaty gray, with a black head and neck and with white markings on the wings It has partially webbed feet and is a skillful swimmer and diver It pats the water with its feet to help it rise into the air Aquatic plants form its diet The European species inhabits the northern parts of the Old World The bird is familiar through Tennyson's 'Brook' "I come from haunts of coot and hern"

copaiba (kōpā'bu, kōpī'bu), oleoresin obtained from several species of tropical South American trees of the genus *Copaifera* Maracaibo copaiba from Venezuela is the product of *Copaifera officinalis*, and Para copaiba from Brazil is obtained from *C langsdorfii* Copaiba, also called copaiba balsam, is used in making varnishes and lacquers Medicinally it is used as a disinfectant, laxative, and diuretic and to allay inflammation of the mucous membranes, especially of the genitourinary tract

copal (kō'pŭl), resin produced by certain trees of tropical and subtropical regions It is procured chiefly in fossil and semifossil form, but some is obtained also from living trees Copals are a source of hard-surfaced lacquers and varnishes Those of commercial value include the copals of Zanzibar, Mozambique, Madagascar, W Africa, New Zealand (from the kauri pine), the Dutch East Indies, the Philippine Islands, and tropical South America

Copán (kōpän'), city of the Old Empire of the MAYA, W Honduras, near Copán village. Noted for fine sculptured steles and in particular for the Hieroglyphic Stairway (with between 1,500 and 2,000 glyphs), Copán was, perhaps, the scientific center where Mayan astronomical learning, as applied to chronology, reached its peak

Cope, Edward Drinker, 1840–97, American naturalist, b Philadelphia, studied at the Academy of Natural Sciences, Philadelphia, and at the Smithsonian Institution He taught at Haverford College (1864–67, 1871–78) and at the Univ of Pennsylvania (1889–97) and served as geologist and paleontologist on the surveys of F V Hayden and of G W Wheeler (west of the 100th meridian) His contributions to American paleontology include a large collection of fossil mammals (now in the American Museum of Natural History), the classification of extinct reptiles and fish, and many published works, including *The Vertebrata of the Tertiary Formations of the West* (1883), a report on the Hayden survey The bitter rivalry between Cope and O C MARSH was responsible for the suppression of a second volume of reports Cope strongly supported Lamarck's theory of the inheritance of acquired characters See biography by H F Osborn and H A Warren (1931)

Copeau, Jacques (zhak' kōpō'), 1879–, French theatrical producer He was dramatic critic for two Parisian newspapers and was one of the founders (1909) and later editor in chief of the *Nouvelle Revue française* His famous repertory theater, the Théâtre du Vieux Colombier in Paris (1913–24), had a wide influence toward simplification and imagination in stage settings Copeau became director of the Comédie Française in 1940

Copeland, William Taylor, 1797–1868, English porcelain manufacturer His father had been a partner of Josiah Spode, and Copeland became head of the firm and of the Spode pottery manufactory at Stoke-on-Trent He ranks with Herbert Minton as a reviver of the porcelain industry His products had a high reputation, especially his Parian groups and statuettes which were designed by well-known artists He held various public offices and in 1835 was lord mayor of London

Copenhagen (kō'punhā"gun), Dan *København* [merchants' harbor] city (pop 731,707, with suburbs 1,078,892), capital of Denmark, on E Zealand and N Amager islands and on the Oresund It is a major commercial, fishing, and naval port and a commercial, industrial, and cultural center There are large shipyards, iron foundries, machine shops, and manufacture of the celebrated COPENHAGEN WARE A fishing village, Copenhagen was first fortified (12th cent) by Archbishop Absalon, its charter was granted (1254) by the bishop of Roskilde In 1443 Copenhagen replaced Roskilde as the Danish capital It withstood numerous attacks (13th–16th cent) by the Hanseatic League Having resisted (1658–59) a Swedish siege Copenhagen was relieved by the Dutch, in 1660 peace was made here between DENMARK and Sweden In 1807 the city fell victim to the war between England and Napoleon I The news that Denmark, by a secret convention, was about to join Napoleon's CONTINENTAL SYSTEM and join in the war on England decided the British government to send an expedition to seize the Danish fleet, which had already been mauled (1801) in the battle of Copenhagen (see separate article) Upon the Danish refusal to surrender, the British landed troops and bombarded Copenhagen with terrible effect The Danish fleet surrendered, but Denmark declared war on England More than a century later in the Second World War, Copenhagen was occupied (1940–45) by the Germans, the shipyards were bombed by the Allies, but otherwise the city —one of the handsomest in Europe—remained undamaged The inner harbor of Copenhagen is the channel dividing Zealand and Amager islands The center of the city stretches from the inner harbor, on the east, to three long and narrow lakes, which separate Copenhagen from its western suburbs From the harbor extends a narrow arm, the Nyhavn, lined with picturesque old houses and closed off by the Kongens Nytorv, an irregular square from which the main arteries of the city radiate The Charlottenborg palace (17th cent) and the royal theater are on Kongens Nytorv Other famous landmarks include Amalienborg Square, enclosed by four palaces—the present royal residence, the domed Marble Church or Frederikskirke (18th–19th cent), the citadel (17th cent), the Rosenborg park and palace (17th cent), Trinity Church, with a famous round tower, the university (founded 1479, rebuilt after 1807), and the Cathedral Church of Our Lady (12th cent, rebuilt after 1807), with sculptures by Thorvaldsen The island of Slotsholm [Dan, =castle island], surrounded by a moat on three sides and the harbor on the fourth, supports an impressive complex of buildings, notably the Christiansborg palace (18th cent, restored), which houses the Rigsdag, the royal library, the Thorvaldsen Museum, and the exchange (17th cent) Nearby is the Tivoli, a favorite recreation park Among the western suburbs, Frederiksberg (pop. 113,589) is the largest, it contains the 17th-century Frederiksborg palace On Amager island is Christianshavn, a modern quarter, with an arsenal and naval installations

Copenhagen, battle of, 1801 In Dec, 1800, Denmark joined Russia, Sweden, and Prussia in declaring the armed neutrality of the northern powers in the French Revolutionary Wars and in announcing that they would not comply with the British rules on neutral navigation England considered this a threat and, without declaring war, sent a fleet under Admiral Sir Hyde PARKER and Admiral NELSON into the Baltic On April 2, 1801, Nelson attacked the Danish fleet at the roadsteads of Copenhagen and, fixing the telescope to his blind eye, naturally did not see Parker's signal to discontinue action The Danes were defeated after a hard battle

Copenhagen ware, several types of pottery, both underglaze and overglaze, produced in Copenhagen since c 1760 At that time a Frenchman, Louis Fournier, made soft-paste chinaware in the French style Hard porcelain was introduced in 1772, when pieces with peasant figures were in high favor The Royal Porcelain Works and other factories have produced especially fine tableware and fluted porcelain of the blue Danish pattern—borrowed from China but soon transformed in native spirit The modern white underglaze porcelain was first made by Arnold Krog in the late 19th cent and was found to be well adapted to the animal and figure sculptures, including some of Andersen's fairy-tale characters, that have distinguished the Copenhagen product of the 20th cent, each piece from the hands of a clever artist Brilliance and gayety characterize the floral designs of the popular Danish faience

Copernicus, Nicholas (kōpûr'nĭkus), Pol *Mikołaj Kopernik*, 1473–1543, Polish astronomer, b Torun After studying astronomy at the Univ of Cracow, he spent a number of years in Italy studying various subjects, including medicine and canon law He lectured c 1500 in Rome on mathematics and astronomy, in 1512 he settled in Frauenburg, East Prussia, where he had been nominated canon of the cathedral There he performed his canonical duties and also practiced medicine But the work that immortalized him is the treatise setting forth his beliefs concerning the universe It was probably completed by 1530, but was not published until 1543, when its author lay dying This work, *De revolutionibus orbium coelestium*, dedicated to Pope Paul III, described the sun as the center of a great system, with the earth, one of the planets, revolving about it Upon the foundation of the Copernican system modern astronomy was built See studies by Angus Armitage (1938), S P Mizwa (1943), and Hermann Kesten (1945)

Cophetua (kōfē'chōōŭ), legendary African king, chief figure in a ballad The legend tells how he wooed and won a beggar maid The ballad appeared in Bishop Thomas Percy's *Relques of Ancient English Poetry* (3 vols 1765) Shakspere and Ben Jonson allude to the tale

Copiapó (kōpyäpō'), city (pop 15,693), N central Chile, on the Copiapó river Founded in 1540 by Pedro de VALDIVIA, it was severely damaged by earthquakes in 1819 and 1922 It handles copper, gold, and silver ores The city is a green haven in arid country, and the climate is mild and pleasant First of the rivers to reach the Pacific S of the LOA the Copiapó is usually considered the southern boundary of the ATACAMA desert

Copland, Aaron (kōp'), 1900–, American composer b Brooklyn, N Y He was a pupil of Rubin Goldmark and of Nadia Boulanger, who introduced his work to the United States in 1925 when she played his Symphony for Organ and Orchestra in Boston and New York This work he rescored without organ as his First Symphony (1928) His earliest works show European influences With *Music for the Theatre* (1925), a suite for chamber orchestra, the idiom of jazz is introduced into his music Interested in the wider audience for music of the radio and moving pictures, he constructed his later works with greater simplicity than when he was composing for a more sophisticated audience His play-opera, *The Second Hurricane* (1937), for high school performers, and his orchestral works *Music for Radio* (1937) and *Music for Movies* (1942) were well received His ballets include *Billy the Kid* (1938), *Rodeo* (1942), and *Appalachian Spring* (1944), he composed music for the films *Of Mice and Men* (1939), *Our Town* (1940), and *North Star* (1943) Important orchestral works are *El Salón México* (1936) and *A Lincoln Portrait* (1942) His music is distinguished by economy of means and an architectural feeling for form With Roger Sessions he founded the Copland-Sessions Concerts (1928–31) and in 1932 organized the American Festivals of Contemporary Music at "Yaddo," Saratoga Springs, N Y He wrote *What to Listen for in Music* (1939) and *Our New Music* (1941)

Coplay (kōp'lē), borough (pop 3,109), SE Pa, on the Lehigh river and near Allentown. Cement is made here

Copley, John Singleton (kŏp'lē), 1738?–1815, American portrait painter, b Boston. He studied with his stepfather, Peter Pelham, and undoubtedly frequented the studios of Smibert and Feke An early work, the *Gore Children*, shows him an accomplished artist at the age of 16, and at 20 he was

already a successful portrait painter with a mature style remarkable for its brilliance, clarity, and forthright characterization In 1766 his *Boy with the Squirrel* was exhibited in London and won the admiration of Benjamin West, who urged him to come to England. However, he remained for eight years longer in America and worked in New York and Philadelphia as well as in Boston In 1774 he visited Italy and then settled in London, where he spent the remainder of his life, enjoying many honors and the patronage of a distinguished clientele In England his style gained in subtlety and polish but lost some of the vigor and individuality of his early work His large historical painting *The Death of Lord Chatham* (National Gall , London) gained him admittance to the Royal Academy However, his reputation today rests largely upon his early American portraits which are treasured not only for their splendid pictorial qualities but also as the most graphic record of their time and place Portraits such as those of Nicholas Boylston and Mrs Thomas Boylston (Harvard Univ.), Daniel Hubbard (Art Inst , Chicago), Governor Mifflin and Mrs Mifflin (Historical Society of Pennsylvania, Philadelphia), and Paul Revere (Mus of Fine Arts, Boston) are priceless documents in which the life of a whole society seems mirrored Among his later portraits those of Samuel Adams (Mus of Fine Arts, Boston) and the Copley family (privately owned) are splendid examples The Museum of Fine Arts, Boston, has an excellent collection of his works Copley's son became Baron Lyndhurst in 1827 See study by B N Parker and A B Wheeler (1938), biography by J T Flexner (rev ed , 1948)

Copley, John Singleton · see LYNDHURST, JOHN SINGLETON COPLEY, BARON

Coppard, Alfred Edgar, 1878–, English short-story writer and poet, b Folkestone, Kent His education stopped at the age of nine His tales, written in a poetic and fanciful vein, include *Adam and Eve and Pinch Me* (1921), *Nixey's Harlequin* (1931), *Selected Tales* (1946), and *Dark-eyed Lady* (1947) His poems, lyric verse, include *Hips and Haws* (1922), *Pelagea* (1926), *Collected Poems* (1928), and *Cherry Ripe* (1935) See G B Saul, *A E Coppard* (1932), bibliography by Jacob Schwartz (1931)

Coppée, François (frāNswä' kôpā'), 1842–1908, French poet and dramatist A member of the Parnassians, he achieved fame with *Le Passant* (1869, Eng tr , 1881), a one-act verse play presented by Sarah Bernhardt His poetry, concerned mostly with the sorrows of the underprivileged, includes *Le Reliquaire* (1866), *Intimités* (1868), and *Les Humbles* (1872) *La Bonne Souffrance* (1898) was written after his return to the Church Two political dramas, *Severo Torelli* (1883) and particularly *Pour la couronne* (1895), received great acclaim He was elected to the French Academy in 1884

Coppée, Henry, 1821–95, American educator, b Savannah, Ga Educated at Yale and West Point (grad. 1845), he served with distinction in the Mexican War and afterwards taught at West Point until he resigned (1855) from the army From 1855 to 1866 he was professor of belles-lettres and English literature at the Univ of Pennsylvania Although a Georgian, Coppée decided for the North in the Civil War and wrote several manuals for the Union army In 1866 he became the first president of Lehigh Univ He also served as professor of English literature and after resigning (1875) as president stayed on at Lehigh to teach literature and international and constitutional law until his death In his last two years he was also acting president of the university His most important works were *Grant and His Campaigns* (1866), *English Literature Considered as an Interpreter of English History* (1873), which ran through many editions, *General Thomas* (1893), and *History of the Conquest of Spain by the Arab Moors* (1881; 2d ed , 1892)

Copper, river rising in the Wrangell Mts , SE Alaska, and flowing S through the Chugach Mts to the Gulf of Alaska The Indians got copper from the deposits near the upper river and attracted the attention of the Russians and later of the Americans, but exploration was difficult because of the river's currents and the glaciers near its mouth The great Kennecott mine was finally developed and was reached by the building (1908–11) of the Copper River and Northwestern RR from Cordova, which in part followed the course of the lower river The line was abandoned in 1938.

copper, common metallic element (symbol = Cu [Late Latin *cuprum*], for physical constants, see ELEMENT, table) It is malleable, ductile, and an extremely good conductor of both heat and electricity It is relatively soft, being less hard than iron but harder than zinc It changes slowly in air, becoming covered with a greenish substance (a basic carbonate), but the reaction is not extensive since the coating serves as a protection and prevents further action Copper resists ordinary dilute acids, not displacing hydrogen, but reacts with the oxygen acids Salt water has corrosive action, a chloride being formed, fresh water does not have this effect. Because of the metal's resistance, it is used extensively in roofing, in making copper utensils, and for coins and metalwork Its chief commercial use is based upon its electrical conductivity (second only to silver), about half its total output being employed in the manufacture of electrical apparatus and wire. An important use of copper is in alloys such as BRASS, BRONZE, GUN METAL, MONEL METAL, and GERMAN SILVER Copper occurs free in nature and has been mined extensively, particularly in the Lake Superior region in Michigan In combination, it is found in various parts of the world—in the United States (its greatest source) in Arizona, Michigan, Montana, Nevada, and Utah, in South America, in Chile and Peru, and in Russia, the British Isles, Europe, and Africa Its chief ores are CHALCOPYRITE (or copper pyrites), CHALCOCITE (or copper glance), the reddish-brown mineral bornite (the sulphide of copper and iron), the red cuprite (copper oxide), the green MALACHITE, the blue AZURITE, and the bluish-green chrysocolla (a silicate of copper) BLUE VITRIOL, or bluestone, is the sulphate, and VERDIGRIS is copper acetate The metal is prepared commercially in various ways, the process employed depending upon the ores used and the concentration of copper in them The sulphide ores are roasted and then treated in a blast furnace, where copper matte is formed, in a converter similar to the Bessemer converter the molten matte becomes blister copper Ores containing only a small percentage of the metal are concentrated by the flotation process Copper is refined by ELECTROLYSIS, the crude copper being used as the anode and pure copper as the cathode The metal is deposited at the cathode Copper was one of the first metals known to man and was probably mined in the uncombined state several thousand years before Christ Cyprus, from which the metal's name ultimately comes, was the important source in the ancient world Mixed with tin, copper yields the ancient alloy of the BRONZE AGE

Copper Age see BRONZE AGE

copperas (kŏ'pûrûs) [ultimately from a word meaning copper] or **green vitriol,** common name for ferrous sulphate, a hydrous compound consisting of iron, sulphur, and oxygen It is a green, crystalline salt, very soluble in water Found usually in connection with pyrite, it is prepared by oxidation of this compound and also by treating iron with sulphuric acid It is used in the manufacture of ink, in the dyeing industry, and as a substitute for aluminum sulphate in the purification of water

Copper Cliff, town (pop 3,732), S Ont , SW of Sudbury It is adjacent to the smelters of the International Nickel Company

copper glance · see CHALCOCITE

copperhead, poisonous snake found in the E United States, which, like the rattlesnake and the water moccasin, is a pit viper It is about 2 or 3 ft long and has a coppery head The body is hazel brown with hourglass-shaped markings of chestnut above and pinkish white with dark spots underneath It is not aggressive but will strike swiftly if startled or attacked The bite is dangerous but not often fatal

Copperheads, in the American Civil War, a reproachful term for those Northerners sympathetic to the South, mostly Democrats outspoken in their opposition to the Lincoln administration Most of them were the so-called Peace Democrats They were especially strong in Illinois, Indiana, and Ohio, where Clement L VALLANDIGHAM was their leader The KNIGHTS OF THE GOLDEN CIRCLE was a Copperhead secret society They were so closely identified with the Democrats that not until years after the Civil War did the party live down the association See Wood Gray, *The Hidden Civil War: the Story of the Copperheads* (1942)

Copperhill, town (pop 1,005), E Tenn , near the point where Georgia, Tennessee, and North Carolina meet, in a mountainous copper-mining area

Coppermine, river, 525 mi long, Mackenzie dist , Northwest Territories It rises in the barren grounds of Great Slave Lake, meanders northwestward, and falls into an inlet at the west end of Coronation Gulf in the Arctic Ocean Coppermine government station is at the mouth of the river, opposite Victoria Island.

copper pyrites see CHALCOPYRITE

Coppet (kôpā'), village, Vaud canton, Switzerland, on Lake Geneva Its château was a residence of Jacques Necker and his daughter, Mme de STAËL

Coppini, Pompeo (pômpā'ô kôp-pē'nē), 1870–, American sculptor, b Italy His works include 41 public monuments, 16 portraits, and 75 portrait busts. His statue of Washington in Mexico city was an American gift to Mexico

copra · see COCONUT

Copt (kŏpt), member of the native Christian minority (5 to 10 percent) of Egypt Copts are not ethnically distinct, they are a cultural remnant, i e , the Christians who have not been converted to Islam in the 14 centuries since the Moslem invasion The **Coptic language,** now extinct, was the form of the ancient Egyptian language spoken in early Christian times (see LANGUAGE, table), it was superseded by Arabic. Most Copts belong to the **Coptic Church,** an autonomous Christian church officially holding MONOPHYSITISM, which was declared (451) a heresy by the Council of Chalcedon. The Church is in communion with the Jacobite Church (also Monophysite) and has an organic relation with the Church of Ethiopia, whose head (the abuna) is named by the Coptic patriarch In rites and customs the Coptic Church resembles other Oriental churches. Coptic, Greek, and Arabic languages are all used ceremonially. The chief bishop, the patriarch of Alexandria, is in direct succession to the 5th-century patriarchs who embraced Monophysitism. Among the Copts a small minority are in communion with the pope, these "Catholic Copts" have their own organization and churches but share the rites and practices of the Coptic Church This community began to develop in the 18th cent Protestant missions have had some success among the Copts. Besides Copts there are other Christian communities in Egypt, mainly Greek and Syrian The Greeks and many Syrians are Orthodox, under the Orthodox patriarch of Alexandria (who traces his succession to the Catholic patriarchs of the 5th cent) There are also many Catholic Syrians, mainly Melchites and Maronites See De Lacy E O'Leary, *The Saints of Egypt* (1938), Donald Attwater, *The Christian Churches of the East* (1947, 1948)

Coptos (kŏp'tŏs, -tôs) or **Coptus** (kŏp'tŭs), ancient city of Egypt, on the right bank of the Nile, c 27 mi. N of Luxor A granite pillar with the name of Thutmose III was found here, but the importance of the town came from Hellenistic times, when it was the terminus of a caravan route to Berenice on the Red Sea

copyright. Except for limited measures taken in Roman times, protection of rights in literary property did not appear necessary in Europe before the appearance of printing from movable type in the 15th cent The earliest device was for the sovereign to vest in guilds of printers the exclusive rights of publication The guilds kept order among their members and were supposed to prevent pirating In England this function was assigned to the Stationers' Company (chartered 1556), comprising a hundred or so printers and booksellers. The only protection which the common law extended to the author was against publication of his work without his permission, once he allowed publication, the work passed completely out of his control The first English copyright act (1710), while not abolishing the common-law right, allowed the author to copyright his work for 14 years (with a like period of renewal) and required deposition of copies and a notice that the work was copyrighted This law was the model for the earliest American copyright statute, passed in 1790 pursuant to Article 1, Section 8 of the U S Constitution The American statute in force today was adopted in 1891 It provides for a term of 28 years and a single renewal of the term Material for copyright must be deposited with the Library of Congress In addition to literary matter, maps, photographs, works of art, textile and other designs, musical compositions, and photoplays may be copyrighted In the United States prior to 1891 it was almost impossible for books by foreign authors to be copyrighted The most popular British books were published in cheap unauthorized editions, and the writers often received no royalties Since 1891 material in foreign languages has been easily copyrighted in the United States, material in English, however, usually cannot be copyrighted if it is imported, unless, in addition, type is set and material printed and bound in the United States Most of the major countries of the world, however, adhere to the Bern Convention, effective in 1887 and since modified. It provides that literary material copyrighted in a signatory country automatically enjoys copyright in all the signatory countries See Philip Wittenberg, *The Protection and Marketing of Literary Property* (1937); Margaret Nicholson, *A Manual of Copyright Practice* (1945)

Coquelin, Benoît Constant (bunwa' kôstā' kôklē'), 1841–1909, French actor, known as Coquelin aîné. He made his debut in 1860 as Gros-René in Molière's *Le Dépit amoureux* at the Comédie Française, where in reputation he soon became the successor to Got. He excelled in such plays as Beaumarchais's *Figaro* and Augier's *Paul Forestier*, but his greatest role was Cyrano de Bergerac, which he first gave in 1897, the year that he managed the Théâtre Porte-Saint-Martin In 1900 he toured the United States with Sarah Bernhardt and returned to Paris to play opposite her in Rostand's *L'Aiglon*. His works include *L'Art et le comédien* (1880) and *Les Comédiens, par un comédien* (1882) His brother, **Ernest Alexandre Honoré Coquelin** (ĕrnĕst' älĕksä'dru ônôrā'), 1848–1909, known as Coquelin cadet, also acted at the Comédie Française. He gained fame in many popular plays and in monologues which he wrote and recited in Paris salons Under the pseudonym Pirouette he wrote *Le Monologue moderne* (1881), *Le Rire* (1887), *Pirouettes* (1888), and other works.

Coquerel, Athanase Laurent Charles (ätänäs' lôrä' shärl' kôkrĕl'), 1795–1868, French Protestant cler-

gyman, noted for his eloquence as a preacher From 1830 he was pastor of the Reformed Church in Paris. He founded and edited liberal periodicals. Among his publications are *Biographie sacrée* (1825–26), *L'Orthodoxie moderne* (1842), and *Christologie* (1858). His son **Athanase Josué Coquerel (shōswā')**, 1820–75, was also a well-known Protestant minister in Paris From 1849 to 1870 he edited the *Lien* In 1852 he helped to found the *Nouvelle Revue de théologie* Among his works are *Jean Calas et sa famille* (1857) and *Histoire de l'Eglise réformée de Paris* (1860)

Coques or **Cocx, Gonzales** (gōnsā'lĕs kōks'), 1618–84, Flemish portrait painter He excelled in painting diminutive portraits and family groups of the aristocracy, in which the backgrounds were often painted by other artists The elegance of his paintings won him the title "the little Van Dyck" Cocques is represented in the galleries of Paris, London, and Vienna and in the John Wanamaker Collection in Philadelphia

coquilla nut (kōkē'yū, kōkēl'yū) [Span ,=little coconut], fruit of a Brazilian palm (*Attalea funifera*), closely related to the coconut palm Its fruit, 3 or 4 in long, is very hard, of a richly streaked brown, and capable of taking a fine polish and is used in cabinetwork and for such turned articles as bell-pulls, umbrella handles, and walking-stick knobs A stiff, wiry, bright chocolate-colored fiber, called piassava or piassaba, obtained from the petioles of the same palm, is exported. It is used in making brooms and rope

Coquille (kōkēl'), city (pop 3,327), co seat of Coos co, SW Oregon, SSE of Coos Bay and on the Coquille river near the Pacific coast, inc 1901. It is a lumber and dairying center

Coquimbo (kōkēm'bō), city (pop 18,863), N central Chile On a beautiful sheltered bay of the Pacific, it is the port for La Serena Exports are chiefly agricultural produce and some minerals In 1922 it was severely damaged by a tidal wave following an earthquake

coral, small marine invertebrate allied to the sea anemone, characterized by its outer skeleton of either horny or limy material and by its sedentary habit of life Among the many forms are the precious red coral (*Coralium*), found chiefly in the Mediterranean region, and the corals which build reefs and islands Most corals live in colonies although there are some solitary forms, in both forms the individual coral animals, known as polyps, are similar Each polyp consists in general of a jelly-like body surrounded by a skeleton or theca, usually of calcium carbonate, of which projections, known as septa, extend toward the center The body is mainly a hollow digestive tract with a single opening at the free or unattached end of the body This opening, or mouth, is surrounded by tentacles, and it leads into the gullet, which in turn leads into the main part of the digestive cavity Mesenteries, thin sheets of tissue, extend as vertical partitions inward from the body wall, some mesenteries join the gullet and others extend only a short distance inward Each of the septa lies between two mesenteries Reproduction occurs both by budding and by the production of eggs and sperm formed in the mesenteries The great variety in the form of various colonial corals (e g , the treelike branching forms, the compact, rounded species, and the organ-pipe coral) depends chiefly on what method of budding takes place Reproduction by means of eggs and sperm results in the production of an individual which moves about freely in the water before attaching itself and secreting its skeleton As the colonial forms produce more polyps, the lower members die, and new layers are built up on the old skeletons Coral skeletons are broken up by the action of waves, by animals, and by other agents, and when this material is piled up sufficiently, vegetation may become established and thus islands and reefs may eventually form The name **coral reefs** is applied both to certain calcareous deposits in which coral is the chief constituent and to similar calcareous deposits of which coral forms only a small part. Other forms of life which contribute their skeletal material to coral reefs include algae (e g , *Lithothamnion*), foraminifera (a group of protozoa), and mollusks Members of the group Madreporaria, the true stony corals, are the most abundant reef-forming corals Coral reefs form only in tropical and subtropical waters in a belt lying no more than 30° north and 30° south of the equator. The three general forms of reefs are the fringing reef, which is separated from the shore by a narrow, shallow lagoon and is partially exposed at low tide; the barrier reef (an example of which is the Great Barrier Reef), which is farther from the coast and is separated from it by a wider lagoon, often with deep channels, and the atoll, a ring-shaped reef enclosing a circular lagoon Less well known is a fourth type of reef, coral pinnacles, found within the lagoons. It is generally believed that fringing reefs formed as a result of upward and outward growth of corals which became established on rocks near shore. There is disagreement among scientists over the origin of atolls and barrier reefs, and research has not yet yielded convincing evidence to support fully any theory. The subsidence hypothesis of Charles Darwin assumes a slow steady sinking of the sea floor in the areas of the coral reefs and a simultaneous upward and outward growth of coral. By these processes of growth and sinking, the fringing reefs are converted into barrier reefs In some places entire volcanic islands became submerged and only the atoll remains above water Alexander Agassiz and Sir John Murray, Reginald A. Daly, and others proposed theories opposed to that of Darwin. Daly's theory differs from the others in that it is based on changes in the level of the oceans resulting from the formation of glaciers during the Pleistocene epoch and their subsequent melting

Coral Gables, residential city (pop 8, 294), SE Fla , part of Greater Miami, on Biscayne Bay, inc. 1925. It is a fine example of a planned city, built at the height of the Florida land boom The Univ of Miami (see Miami, University of) is here Near by is the Tropical Park race track

coral reefs: see CORAL

Coral Sea, southwest arm of the Pacific, E of Australia and SE of New Guinea, W of the New Hebrides and New Caledonia, and connected with the Arafura Sea by Torres Strait In the Second World War it was the scene (1942) of a Japanese defeat by U S forces, the battle, fought by aircraft near the Louisiade Archipelago, was a major U S victory which checked the southward expansion of the Japanese

coral snake, poisonous snake of the Western Hemisphere belonging to the genus *Micrurus*, related to the cobra Only two of the approximately 26 known species are found in the United States, the others inhabit Mexico, Central America, and tropical South America The coral snake or harlequin snake (*Micrurus fulvius*) is found in the SE United States and ranges into Mexico It is a burrowing snake with a cylindrical body averaging about 2½ ft long, and the head is small and blunt Throughout its length the body is ringed with broad bands of black and of red (sometimes spotted with black) with a narrow band of yellow on either side of the black The tail has yellow and black rings only It can be distinguished from a number of similarly colored harmless snakes because it is the only one with red bands touching the yellow ones Its venom acts upon the nervous system, causing paralysis The fangs through which the venom enters the victim are short, and the snake chews the flesh to impregnate the wounds with poison The mortality rate among humans bitten by coral snakes is high It feeds on other snakes and on lizards The Sonoran coral snake (*M euryxanthus*) found from Arizona to N Mexico is from 1½ to 2 ft long, with yellow bands often wider than the red.

Coram, Thomas (kō'rŭm), 1668?–1751, English philanthropist and colonizer He lived for some years in Massachusetts and on his return to England became a trustee of James Oglethorpe's Georgia colony and sponsored a colony in Nova Scotia for unemployed artisans He established the London Foundling Hospital (1740), a pioneer institution of its kind. See biography by Herbert Compston (1918)

Coraopolis (kō"rēō'pŭlĭs), industrial borough (pop 11,086), SW Pa., on the Ohio and NW of Pittsburgh, inc 1886 Its manufactures include glass and metal products Oil and gas are obtained here

Corato (kōra'tō), rural city (pop 43,907), Apulia, S Italy The region produces grapes, olives, almonds, and vegetables

Corbett, Harvey Wiley (kôr'bĭt), 1873–, American architect, b San Francisco, grad Univ of California, 1895, and École des Beaux-Arts, Paris, 1900 He entered the office of Cass Gilbert in New York in 1901 In 1903 Corbett formed a partnership with F J Helmle Their Bush Terminal Building (1920) in New York was one of the first impressive solutions in modern skyscraper design Other important works were Bush House, London, the Roerich Building, New York, and the George Washington Masonic National Memorial, Alexandria, Va In 1929 a new firm was formed, Corbett, Harrison, and MacMurray, one of three architectural organizations engaged in the Radio City development, New York Corbett was chairman of the architectural commission of the Century of Progress Exposition (1933–34), Chicago, and consulting architect to several public works commissions, including that of the Westchester County Park Helectured on modern architectural questions His wife is **Gail Sherman Corbett,** 1873–, American sculptor Her dignified monuments and other public sculptures are in Syracuse, N Y , Springfield, Mass , and other cities

Corbett, James John, 1866–1933, American pugilist, b San Francisco "Gentleman Jim" Corbett won (1892) the heavyweight boxing championship by knocking out John L. Sullivan at New Orleans and lost the title to Robert Fitzsimmons in 1897 at Carson City, Nev. He failed (1900, 1903) to regain the title in fights with James J. Jeffries He later appeared on the stage and in moving pictures and wrote *The Roar of the Crowd* (1925)

Corbin, Henry Clark, 1842–1909, American army officer, b Clermont co , Ohio. He was advanced to be brigadier general of volunteers in the Civil War, entered (1866) the regular army, and spent 10 years on the Western plains in various Indian campaigns Adjutant general of the U.S. army during the Spanish-American War, Corbin, under the existing organization became the virtual head of the army. His administrative ability was recognized, but jealousy on the part of other officers developed, and President Theodore Roosevelt transferred him (1903) to command of the Eastern Dept He later was sent (1904) to command the U S army in the Philippines and was advanced (1906) to lieutenant general.

Corbin, Margaret, 1751–1800, American Revolutionary heroine, b Franklin co , Pa Upon the death of her husband in the attack on Fort Washington (Nov 16, 1776), she commanded his cannon until she was seriously wounded She was the first woman to be pensioned by the government In 1916 her remains were moved from Highland Falls, N Y., to West Point, where a monument was erected in her honor

Corbin, city (pop 7,893), S Ky , NW of Middlesboro A railroad center, with repair shops, and a shipping point for the region's coal, the city lies on the old Wilderness Road in the Cumberland Plateau It developed with the railroad's arrival in 1883 and was incorporated in 1894 Near by are Levi Jackson Wilderness Road and Cumberland Falls state parks

Corbino, Jon (kôrbē'nō), 1905–, American painter, b Vittoria, Sicily, studied at the Art Students League of New York and Pennsylvania Academy of the Fine Arts He worked as a magazine illustrator before establishing his reputation as an imaginative and gifted painter His work, modern in its expressive freedom, is baroque in spirit

Corbulo (Gnaeus Domitius Corbulo) (kôr'bygŏlō), d A D. 67, Roman general He was a praetor under Tiberius and, as legate, governor of Lower Germany under Claudius The canal he had his troops dig from the Meuse to the Rhine is still in use He was sent to Asia, and there he commanded (A D. 58–A D. 59) the Roman armies against the Parthians with great success, defeating them at Artaxata and Tigranocerta The war broke out anew in A D 61 Corbulo with some assistance forced Tiridates from power in Armenia, but Nero was jealous of him, recalled him to Greece, and forced him to commit suicide. Corbulo's daughter was married to Domitian

Corcoran, William Wilson (kôr'kŭrun), 1798–1888, American financier, philanthropist, and art collector, b Georgetown, D C After becoming a successful banker, he retired in 1854 and devoted himself to his philanthropic activities, which included gifts to many educational and religious institutions, as well as the founding of the Louise Home for Women in Washington His chief gift was the **Corcoran Gallery of Art,** in Washington, which had as its nucleus Corcoran's art collection The present marble building, designed by Ernest Flagg, was opened in 1897 The gallery has collections of paintings, sculpture, and ceramics, as well as a free art school

Corcoran, city (pop 2,092), S central Calif , SSE of Fresno in the San Joaquin Valley, inc 1914 It has cotton gins and cottonseed-oil mills

Corcoran Gallery of Art see CORCORAN, W. W.

Corcyra. see CORFU

cordage, collective name for rope and tying materials Early man used strips of hide, animal hair, and plant materials Hemp and flax were formerly standard in Europe and America, but were largely replaced in the 19th cent by hard fibers, especially Manila hemp and sisal The fibers are straightened, usually by combing, then spun into yarn Cordage is divided into three main classes —binder twine, a single yarn used primarily to tie harvested crops, wrapping twine, two or more yarns twisted to form a cord, and rope, composed of three or more cords and usually at least an inch in circumference A cable is formed of three or more ropes twisted together Ropes may be impregnated with oil, tar, or other compounds and are commonly made of Manila hemp, about 25 percent stronger than sisal, whose chief use is for binder twine Most household wrapping twine is of cotton or jute Steel wire, often with a fiber core, is also used for rope See Ludwig Weindling, *Long Vegetable Fibers* (1947)

Corday, Charlotte (Marie Anne Charlotte Corday d'Armont) (kôrdā', märē' ăn' shārlôt', dārmō'), 1768–93, assassin of Marat Though of aristocratic background, she sympathized with the Girondists in the French Revolution and felt that Marat in his persecution of the Girondists was acting as the evil genius of France She resolved to emulate the action of Brutus and to destroy the "tyrant" Leaving her native Normandy for Paris, she gained an audience with Marat by promising to betray the Girondists of Caen and stabbed him (July 13, 1793) when he was in his bath She went to the guillotine calmly, but her crime and her death served to injure rather than aid her party. See Austin Dobson, *Four Frenchwomen* (1923), Joseph Shearing (pseud of G. M. V C Long), *The Angel of the Assassination* (1935)

Cordele (kôrdēl′), city (pop 7,929), co seat of Crisp co, S central Ga, SSW of Macon; founded 1888 It is a shipping, commercial, and processing center in a farm area A hydroelectric power plant (1928–30) on near-by Flint river is run by the county

Cordeliers (kôrdŭlyā′), political club of the French Revolution It was founded (1790) as the Society of the Friends of the Rights of Man and of the Citizen but later was called after its original meeting place, the suppressed monastery of the Cordeliers (Franciscan Recollects) In 1793 the club was instrumental in the destruction of the GIRONDISTS Its early leaders, DANTON and DESMOULINS, having withdrawn, the club drifted to the extreme left under the leadership of MARAT and HÉBERT Controlling the Paris commune and the army, it threatened the power of the JACOBINS but was dissolved after Robespierre had Hébert executed (March, 1794)

Cordell (kôrdĕl′), city (pop 2,776), co. seat of Washita co, W Okla, near the Washita river, in a cotton-growing and farming area

cordial. see LIQUEUR

Cordilleras (kôrdlĭ′luruz, Span kôrdēyā′ras) [Span, originally = little string], general name for the entire chain of mountain systems of W North America, extending from N Alaska through Canada, the United States, and Mexico to Panama In the United States the Cordilleras include the Rocky Mts, the ranges of the Great Basin, the Sierra Nevada, and the Coast Ranges The name was first applied to the similar systems of South America, where the mountains stretching from Panama to Cape Horn are known locally as the Cordillera de los Andes Some geographers use the term *cordillera* for any extensive group of mountain systems

cordite. see POWDER.

Córdoba, Francisco Fernández de: see FERNÁNDEZ DE CÓRDOBA, FRANCISCO

Córdoba, Gonzalo Fernández de. see FERNÁNDEZ DE CÓRDOBA, GONZALO

Córdoba (kôrdō′vu, Span, kôr′dōvä), city (pop 351,044), capital of Córdoba prov, central Argentina, on the Río Primero Córdoba—the third city of Argentina and a cultural, intellectual, and commercial center—is situated on the eastern flank of the Sierra de Córdoba and the western margin of the PAMPA The great dam in the Primero for irrigation and electric power is one of the most important in South America, and the surrounding country, formerly devoted almost solely to cattle ranches, has been transformed into orchards and grainfields Flour, lime, fruits, linseed, wood, marble, cattle, and hides are exported, and important local industries have developed because of hydroelectric power Founded in 1573 by Jerónimo Luis de Cabrera, Córdoba has many buildings, especially the cathedral, which recall its colonial days The university (founded 1613) early made the town an intellectual center of South America With the railroad came prosperity, and in the later 19th cent it became a flourishing city Córdoba is a popular tourist and health resort

Córdoba, city (pop 17,865), Veracruz, E Mexico Founded in 1618, Córdoba is in a fertile agricultural district producing coffee, sugar, cotton, and tropical fruits The climate is hot Here in 1821 was signed the treaty between the Spanish viceroy, O'Donojú, and Augustín de ITURBIDE, which established the independence of Mexico

Córdoba or **Cordova** (both kôrdō′vu, Span, kôr′dōvä), city (pop 116,046), capital of Córdoba prov, S Spain, in Andalusia, at the foot of the Sierra de Córdoba, on the Guadalquivir Of Iberian origin, Córdoba flourished under the Romans, then passed to the Visigoths (572) and the Moors (711). Under the OMAYYAD dynasty it became the seat (756–1031) of an independent emirate, later called caliphate, which included most of Moslem Spain The city was then one of the greatest and wealthiest in Europe, renowned as a center of Moslem and Jewish culture and for its architectural glories, notably the mosque, begun in the 8th cent, which is one of the finest of all Moslem monuments It has been a cathedral since 1238 Córdoba has ruins of the alcazar, and the Moorish bridge was recently restored The city reached its zenith under ABDU-R-RAHMAN III, but declined after the fall of the Omayyads and became subject to Seville in 1078 Ferdinand III of Castile conquered it in 1236 Córdoba never recovered its former splendor, but remained famous for its work in gold, silver, and leather. Other industries and commerce have been developed in the 20th cent The Senecas, Lucan, Averroës, and Maimonides were born here

Cordova (kôrdō′vu), town (pop. 938), S Alaska, a port on Prince William Sound Founded as the terminus of the Copper River and Northwestern RR to the Kennecott copper mine, it declined with the closing of the mine and the railroad in 1938 and now depends largely on a fish cannery and a cold-storage plant.

Cordova, Spain see CÓRDOBA

Cordova (kôrdō′vu), cotton town (pop 1,881), NW central Ala, NW of Birmingham, in the coal and industrial area, inc 1902.

Core (kō′rē), variant of KORAH

Corelli, Arcangelo (ärkän′jälō kôrlē′lē), 1653–1713, Italian composer and violinist He composed a set of variations on an air, *Folies d'Espagne*, which is the best known of his many violin sonatas He gave definitive form to the *concerto grosso* In the palace of his patron, Cardinal Ottoboni, he gave weekly chamber concerts

Corelli, Marie (kurĕl′ē), 1855-1924, English novelist of Italian-Scottish parentage, educated in France She became known with the popular and melodramatic novel *A Romance of Two Worlds* (1886) Her other works, in purple and pretentious prose, include *Thelma* (1887), *Ardath* (1889), *Barabbas* (1893), *The Sorrows of Satan* (1895), and *The Secret Power* (1921) She was Queen Victoria's favorite novelist See biography by George Bullock (1940)

coreopsis (-ŏp′-) [Gr, = like a bug (of the seed)] or **tickseed,** names for plants of the genus *Coreopsis*, easily cultivated annuals or perennials with daisy-like heads of flowers in various colors—commonly yellow or variegated Many species grow wild in North America Garden kinds are sometimes called calliopsis

Corfe Castle (kôrf), village, Dorsetshire, England, in the Isle of Purbeck NW of Swanage It has ruins of a castle reputed to be the scene of the murder of Edward the Martyr by Ælfrida, his stepmother, in 978 In 1643, under Lady Bankes, the castle withstood a long siege by the parliamentarians who later took it

Corfu (kôr′fōō, fū), Gr *Kerkyra* (kĕr′kēra), Latin *Corcyra*, island (229 sq mi, pop 106,593), off W Greece, in the Ionian Sea, the second largest of the Ionian Islands It is separated by a narrow channel from the Albanian and Greek coast Though rising to c 3,000 ft at Mt Pantokrator in the northeast, Corfu is largely a fertile lowland producing olive oil, wine, and fruit Livestock raising (poultry, hogs, and sheep) and fishing are important sources of livelihood The main industries are centered in the capital, also called Corfu The island has been identified with Scheria, the island of the Phaeacians in Homer's *Odyssey* Settled (8th cent B C) by Corinthian colonists, Corcyra shared with Corinth in the foundation of Epidamnus (see DURAZZO) on the mainland, but became the competitor of Corinth in the Adriatic Sea In 435 B C it made war on Corinth over the control of Epidamnus, and in 433 it concluded an alliance (often renewed) with Athens, this alliance helped to precipitate (431) the PELOPONNESIAN WAR In 229 B C, Corfu passed under Roman rule It was seized several times from the Byzantines by the Normans under ROBERT GUISCARD and his successors and by the Venetians, who in 1386 obtained a hold that ended only with the fall of the Venetian republic in 1797 Sharing the subsequent history of the IONIAN ISLANDS, Corfu passed to Greece in 1863 It was occupied (1916) by the French in the First World War, and the Serbian army was evacuated here In 1917 the union of Serbia, Croatia, and Slovenia (see YUGOSLAVIA) was concluded here Corfu became the object of an international incident in 1923 Several Italian officers belonging to a commission that was to delimit the Greek-Albanian boundary were slain on Greek soil, an Italian ultimatum was rejected by the Greek government, and Italy bombarded and occupied Corfu The League of Nations turned the matter over to the council of ambassadors in Paris, which persuaded Italy to evacuate Corfu and the Greek government to apologize for the murder of the Italians In the Second World War, Corfu was again bombed and occupied by the Italians

Corfu, Gr *Kerkyra*, Latin *Corcyra*, city (pop 33,777), on Corfu, capital and largest city of the island, a port on the channel separating the island from the mainland It exports olive oil, grain, wine, and citrus fruit and manufactures olive oil, soap, and paraffin Corfu, which dates from the 8th cent B C, is an important commercial center, a tourist resort, and the see of a Greek Orthodox archbishop and of a Roman Catholic bishop Not far from the city is the Achilleion, a palace built for Empress Elizabeth of Austria and later bought by William II of Germany

Cori, Carl Ferdinand (kō′rē), 1896–, and his wife, **Gerty Theresa** (**Radnitz**) **Cori,** 1896–, American biochemists They were both born in Czechoslovakia and received M D degrees (1920) from the German Univ of Prague In 1920 they were married and in 1922 they came to the United States, where they later (1928) were naturalized Carl Cori became professor of pharmacology and biochemistry (1931) at the school of medicine at Washington Univ, St Louis, and Gerty Cori became professor of biological chemistry at the same institution (1947), with which she also had been associated from 1931 For their contributions to biochemistry, especially their research on carbohydrate metabolism and enzymes, the Coris shared with B A Houssay the 1947 Nobel Prize in Physiology and Medicine

coriander (kŏ′-), strong-smelling Old World annual herb (*Coriandrum sativum*), related to the carrot and cultivated for the fruits Dried coriander seed contains an aromatic oil used as a flavoring, as a medicine, and in liqueurs

Corinna (kurĭ′nŭ), fl. c 500 B.C., Greek poet of Tanagra. She was an older critic and competitor of Pindar, perhaps his teacher Her verse, fragments of which remain, dealt with mythological themes and was written in Boeotian dialect.

Corinna, town (pop 1,515), S Maine, NNE of Pittsfield, inc 1816 It manufactures woolen goods and lumber products

Corinth, Lovis (lō′vēs kō′rĭnt), 1858–1925, German postimpressionist painter. He succeeded Max Liebermann as president of the Berlin secessionists Corinth painted many fine landscapes and still lifes and is noted for his excellent portraits, including those of Liebermann, Graf Keyserling, Konrad Ansorge, and a self-portrait

Corinth (kŏ′rĭnth), Gr *Korinthos*, city (pop 12,715), Greece, in the NE Peloponnesus, a port on the Gulf of Corinth It trades in currants (named after the city), silk, citrus fruit, and olive oil Founded in 1858 after the destruction of Old Corinth by an earthquake, it was rebuilt after another earthquake in 1928 It formerly was known as New Corinth Old Corinth, 3 mi SW of modern Corinth, is now a village (pop 1,473) Strategically situated on the Isthmus of Corinth and protected by the ACROCORINTHUS, it was one of the oldest, most powerful, and wealthiest cities of ancient Greece and a great intellectual center A town of the Dorians, it existed as early as Homeric times In the 7th cent B C, under the tyrants Cypselus, his son PERIANDER, and their successors, it became a flourishing maritime power Syracuse, Corfu, Potidaea, and Apollonia were among its colonies The natural rival of Athens, Corinth was traditionally allied with Sparta Athenian assistance to the rebellious Corinthian colonies was a direct cause of the PELOPONNESIAN WAR After the battle of Chaeronea (338 B C) Corinth had a strong Macedonian garrison It became (224 B C) a leading member of the ACHAEAN LEAGUE and in 146 B C was destroyed by the victorious Romans Julius Caesar restored it and also reestablished the ISTHMIAN GAMES Early in the 13th cent, Corinth was conquered by Geoffroi de Villehardouin as a sequel to the Fourth Crusade It was held by various Latin princes, was taken by the Turks in 1458, and in 1687 was seized by Venice, which again lost it to the Turks in 1714 In 1822 it was taken by the Greek insurgents Ancient ruins at Old Corinth include the market place, fountains, the temple of Apollo, and a Roman amphitheater

Corinth. 1 City (pop 7,818), co seat of Alcorn co, extreme NE Miss, near the Tenn line, in a live-stock and farm area, founded c 1855 It has dairy, cottonseed, and textile plants In the Civil War, Corinth was a strategic railroad center, abandoned to Gen H W Halleck's Union army in May, 1862 after the battle of SHILOH General Rosecrans repulsed the Confederates under Generals Van Dorn and Sterling Price here, Oct 3–4, 1862 **2** Village (pop 3,054), E N Y, on the Hudson and N of Saratoga Springs, inc 1886 Clothing is produced

Corinth, Gulf of, inlet of the Ionian Sea, 80 mi long and 3 to 20 mi wide, between central Greece in the north, the Peloponnesus in the south, and the Isthmus of Corinth in the east It is connected by the Corinth Canal, (which pierces the isthmus) with the Saronic Gulf and through Rion Strait (formerly known as the Strait of Lepanto) with the Gulf of Patras Corinth lies on a bay in the southeastern part of the gulf

Corinth, Isthmus of, 20 mi long and from 4 to 8 mi wide, connecting central Greece with the Peloponnesus It is crossed by the ancient Isthmian Wall, which was repeatedly restored by Byzantine emperors to defend the Peloponnesus Near the eastern end of the wall there are ruins, including those of a temple to Poseidon Here the ISTHMIAN GAMES were held Parallel to the wall runs the Corinth Canal, built in 1881–93, which was damaged in the Second World War.

Corinthian order, most ornate of the orders of architecture It was also the latest, not arriving at full development until the middle of the 4th cent B C The Greeks made small use of it, though several isolated capitals have been found, the chief example is the circular structure at Athens known as the choragic monument of Lysicrates (c 335 B C) The temple of Zeus at Athens (started in the 2d cent. B C and completed by Emperor Hadrian in the 2d cent A D) was perhaps the first great Corinthian temple The Greek Corinthian, aside from its distinctive cap, is similar to the Ionic (see IONIC ORDER), but the column is somewhat more slender The capital, which may have been devised as suitable for circular structures, is of uncertain origin Callimachus is the legendary originator of the design, the delicate foliated details make plausible an original in metal workmanship The Romans used the Corinthian in countless monumental works of imperial architecture. They gave it a special base, modillions and carved additions to the cornice, and numerous cap variations with sculptured floral leafage and human and animal figures. Of the special types, a fine example is the cap of the round temple of Vesta at Tivoli (1st cent B.C.). The prevailing form of Roman Corinthian is seen in the Pantheon and the Maison

Carrée, and it was embodied in the order as later systematised by the Italian writers of the Renaissance (e g , Vignola) At the base of this cap, shaped like an inverted bell, are 16 ACANTHUS leaves, eight of which rise to form an upper row. Between the upper leaves eight volutes spring and meet in pairs beneath the four corners of the abacus to support its overhang, while, from the same points, spring smaller volutes which combine together with a rosette or other ornament beneath the four center points of the abacus The abacus itself differs from that of the other orders in having concave faces and chamfered corners The Renaissance sculptors and metalworkers, especially in Italy, France, and Spain, found the Corinthian capital a medium for their full virtuosity The volutes became either mere light scrolls or were replaced by birds, rams' heads, or grotesque figures. The Composite order, so christened by the 16th-century codifiers, is actually but a variation of the Corinthian, devised by the Romans as early as the 1st cent A D , by forming a capital in which were combined Corinthian foliage and the volutes and echinus of the four-cornered type of Ionic

Corinthians (kûrĭn'thēənz), epistles of the New Testament, occupying the seventh and the eighth place in the usual order They were written to the church at Corinth by St PAUL First Corinthians, written probably at Ephesus early in A D 55, is one of the longest and most important epistles The first main part (1 10–4 21) attacks factionalism at Corinth, giving as its remedy the mystery of the Cross (1 18–3.4) and showing the true nature of Christian ministry (3 5–4 5) St Paul then takes up several irregularities—incest (5), litigation (6 1–11), and sensuality (6 12–20) After answers to questions on the married state and celibacy (7) and on the scandal involved in eating meat previously offered in pagan sacrifices (8, 10 14–11 1), there is a digression on freedom and how a Christian uses it (9–10 3) The rest of the epistle contains five famous passages the institution of the Eucharist (11 17–34), the doctrine of the mystical body of Christ, i e , Christian believers conceived as a unity (12), an eloquent panegyric on Christian love (13), the functions of prophecy among Christians (14), and a splendid chapter on Christ's resurrection and that of men dependent thereon (15) The epistle closes with a discussion of plans (16) Second Corinthians is shorter, it was written perhaps within a year of the other Its burden is Paul's apostleship, his authority, and his motives After particulars of his relations with the Corinthians (1 15–2 17), there follow statements about the Christian ministry (3–4 6) and about Paul's motives rooted in personal union with Jesus (4 7–6 10), these lead to an exhortation (6 11–7 16) A digression (8–9) follows about collection of alms for poor Christians of Jerusalem The last portion of the epistle contains a magnificent defense of the apostle's mission, citing his authority (10) and recounting his behavior (11–12 13) The announcement of an impending visit of the apostle to Corinth ends the book Many critics consider this—on internal evidence—to represent the accidental combination of two letters, the last four chapters being then separate from the rest See C J Callan, O P , *The Epistles of St Paul*, Vol I (1922), James Moffatt, *The First Epistle of Paul to the Corinthians* (1938)

Corinto (kôrēn'tō), city (1946 estimated pop 5,581), NW Nicaragua, a port on the Pacific A railroad terminus, Corinto handles about 70 percent of Nicaragua's exports of coffee, sugar, hides, and woods. Here U S marines landed in 1912

Coriolanus (Gnaeus Marcius Coriolanus) (kō"rēōlā'nus), legendary Roman patrician He is said to have derived his name from the capture of the Volscian city Corioli The story has it that he was expelled from Rome because he demanded the abolition of the people's tribunate in return for distributing state grain to the starving plebeians He joined the Volscians and led (491? B C) them in an attack on Rome Only the tears of his wife and his mother caused him to spare the city The angry and frustrated Volscians put him to death Plutarch tells the story, and Shakspere's *Coriolanus* is based on Plutarch.

Cork, Richard Boyle, 1st earl of: see BOYLE, RICHARD.

Cork [Irish,=swamp], maritime county (2,881 sq. mi , pop 343,668), S Ireland, in Munster prov. The capital is Cork Largest and southernmost of the Irish counties, it has a rocky and much-indented coast line (Bantry Bay and Clonakilty Bay and Kinsale, Youghal, and Cork harbors) The interior is varied, with wild rugged mountains rising as high as 2,000 ft. and fertile valleys (notably of the Blackwater, the Lee, and the Bandon) Farming, fishing, and dairying are the main occupations There are some coal deposits, and marble is quarried Manufacturing (textiles, whisky, and leather goods) is mostly centered around the city of Cork Near-by Cóbh is an important transatlantic harbor Cork was organized as a county by its English invaders early in the 13th cent , but it long resisted English influence. There are prehistoric remains (dolmens and stone circles) and ruins of medieval abbeys and churches.

Cork, county borough (pop 75, 361), county town of Co. Cork, Ireland, on the Lee river near its mouth on Cork Harbour The oldest part of the town is on an island between the north and south branches of the Lee, now crossed by numerous bridges St Finbar is supposed to have founded an abbey here early in the 7th cent In the 9th cent the Danes occupied Cork and walled it Diarmuid MacCarthy ousted the Danes and in 1172 swore allegiance to Henry II Oliver Cromwell occupied it in 1649, and Marlborough in 1690. Many public buildings were destroyed in the disturbances of 1920, and the lord mayor was murdered by the constabulary Terence MacSwiney succeeded him The entrance to the harbor is fortified, Cóbh (formerly Queenstown) and Passage, on the estuary shores, are important ports, Cóbh especially for transatlantic ships Spike Island and Haulbowline Island serve as military and naval depots In 1938 Spike Island was transferred to Ireland by an agreement with Great Britain Exports are largely of farm produce (dairy products, grain, livestock), cloth, and fish Leather goods, cotton and woolen goods, flour, and whisky are manufactured Educational institutions include University College (constituent of the National Univ of Ireland) and schools of science, art, and agriculture The Protestant cathedral (designed by William Burges), the Catholic cathedral, the Church of St Ann's, Shandon, and the Carnegie library are noteworthy There is a racecourse near the city, and the first yacht club in the world was established here in 1720 (headquarters are at Cóbh)

cork oak, evergreen species of OAK (*Quercus suber*), native to the Mediterranean region, where most of the world's commercial supply is obtained It is also cultivated elsewhere because of its ornamental and economic value The bark, or cork, is thick, light, and elastic It is made into bottle stoppers, insulating material, life preservers, shoe soles, cigarette tips, linoleum, and a myriad of household and industrial articles Cork can be harvested about every 10 years from the time the tree is around 20 years old California is growing young cork oaks with the hope of beginning a new industry there There is a cork layer in all trees but it is not as extensive as in the cork oak

corkwood see BALSA.

Corliss, George Henry, 1817–88, American inventor, b Washington co , N Y He invented and patented a sewing machine which antedated that of Elias Howe In 1844 he moved to Providence, R I , where he began to build engines for New England textile mills In 1856 he formed the Corliss Steam Engine Company, he became an international authority on steam engines, for which he designed numerous improvements, including the valve gear and the automatic cutoff

corm, short, thickened underground stem A corm grows upright, producing buds at the upper nodes and roots from the lower surface The scaly covering found around many corms consists of the remains of leaves or leaf bases The crocus and the gladiolus form corms, which are often inaccurately called bulbs

Cormac mac Cuilenan (kôr'măk mukŭ'lûnûn), 836–908, bishop of Cashel and king of Munster in Ireland He was author of the *Glossary of Cormac*, a prime source for Irish antiquity Cormac was killed fighting for the high kingship

Cormenin, Louis Marie de la Haye, vicomte de (lwē' mārē' du la ă' vēkôt' du kôrmunē'), 1788–1868, French jurist and pamphleteer He wrote polemics, signed Timon, against the government of Louis Philippe and tracts in defense of religious liberty His works include the compilation *Droit administratif* (1822), *Le Livre des orateurs* (1836), and *Entretiens de village* (1846)

cormorant (kôr'murŭnt), large aquatic bird related to the gannet and the pelican and found chiefly in temperate and tropical regions, usually on the sea but also on inland waters Cormorants are 2 to 3 ft long, with thick, generally dark plumage and green eyes The feet are webbed, and the bill is long with the upper mandible terminally hooked Expert swimmers, cormorants pursue fish underwater In the Orient they are used by fishermen who collar the leashed birds to prevent them from swallowing the catch The double-crested cormorant of the eastern Atlantic coast and Brandt's cormorant of the Pacific coast are common forms. The glossy black European cormorant is widely distributed in the Northern Hemisphere A South American cormorant is a source of guano

corn, in agriculture The name corn is given to the leading cereal crop of a region In England, corn means WHEAT, in Scotland and Ireland, OATS The grain called corn in America is Indian corn, or maize (*Zea mays*) The plant is a grass that was domesticated and cultivated in America long before white men reached the New World It is so changed from the ancestral wild grass that this has not been identified with certainty, and it has been so adapted to cultivation that it never reverts to a wild state, it requires the care of man The Indians had many varieties of corn, e g , sweet corn, popcorn, and corn for corn meal, the last with strains for short seasons and for long seasons. White, yellow, red, and blue corn were grown as distinct strains. The corn varieties grown today differ from many of the Indian strains from which they were evolved in their higher yield and increased sugar and lowered starch content. Corn has been introduced from America into other parts of the world. In the United States it is the leading grain crop. It is used for human food and is made into starch, sugar, and many other products, but its chief use is as food for animals, the grain for horses, hogs, and fowl, the fodder for cattle The part of the United States where most of the corn is grown, including the states of Illinois, Indiana, Iowa, Kansas, Missouri, Nebraska, and Ohio, is known as the Corn Belt See E G Montgomery, *Productive Farm Crops* (5th ed , 1938), Dorothy Giles, *Singing Valleys the Story of Corn* (1940), A R Crabb, *The Hybrid-Corn Makers* (1947), publications of the U S Dept of Agriculture

corn, in medicine, horny tubercle of the skin, resulting from friction and pressure It is a cone-shaped mass which extends into the tissues and causes pain when it presses on sensory nerve filaments Corns are common on the foot, especially over the joints of the toes and on the sole beneath the transverse arch Treatment consists of removing the cause of friction and pressure, e g , ill-fitting shoes, the corn may be removed by salicylic acid preparations. Soft corns between the toes may lead to painful inflammation

Cornaro, Caterina (katārē'na kôrna'rō), 1454–1510, queen of Cyprus A celebrated Venetian beauty, she was married in 1472 to James II of Cyprus, who was eager to secure the support of the republic; Venice was in turn interested in intervening on the island James II died in 1473, and his infant son, James III, in 1474 Caterina reigned amidst diplomatic intrigue and hostilities of native anti-Venetian factions until she was recalled (1489) to Venice, which openly took the island Caterina retired to Asolo, where she held a small but brilliant court A famous portrait of her by Titian is in the Uffizi

Cornaro, Luigi or **Ludovico** (lwē'jē, lōdōvē'kō), 1467–1566, Venetian nobleman, advocate of temperance in diet In middle age, after several severe illnesses, he gave up all reliance upon medicine and began to study his own constitutional needs, especially as to diet, regaining his health as a result. He published in 1558 *Discorsi della vita sobria*, a group of treatises on the advantages of a temperate life often reissued and translated.

Corn Belt, term applied to that part of the United States whose soil and climate are best suited to the production of CORN and corn-fed livestock, particularly hogs The region more or less corresponds to the western part of the Midwest, its heart is in Illinois and Iowa Indiana and Missouri are always included in the varying usage of the term

corn borer or **European corn borer,** small moth which in the larval stage is a serious pest of corn It is believed to have been transported to the United States c 1910 in some shipments of broomcorn from S Europe It was discovered near Boston in 1917 In some regions there is one brood a season, in others two When mature, the larva is about an inch long, with a pinkish body and a brown head It bores into any part of the corn plant and often attacks other plants, such as the dahlia and gladiolus and large-stemmed weeds Methods of control include destruction of infected plants, dusting with rotenone or nicotine, quarantine, importation and breeding of natural enemies, and the developing of resistant corn See *Strains of European Corn Borer in the United States* (U S Dept of Agriculture, Technical Bul 869)

Cornbury, Edward Hyde, Viscount, 1661–1723, colonial governor of New York and New Jersey (1702 8) He deserted the army of James II and ingratiated himself with William of Orange (William III) Appointed governor by William, he became extremely unpopular, and his administration was a period of turmoil in both provinces After his removal, he was imprisoned for debt in New York, but upon becoming 3d earl of Clarendon in 1709 he was able to free himself and return to England See Herbert L Osgood, *The American Colonies in the Eighteenth Century*, Vol II (1924)

Corneille, Pierre (pyĕr' kôrnā'yu), 1606–84, French dramatist, ranking with RACINE as a master of classical tragedy, b Rouen Educated by the Jesuits, he practiced law briefly and moved to Paris from Normandy after the favorable reception of his first play, *Mélite* (1629), a comedy His first tragedy, *Médée* (1635), was followed by *Le Cid* (1637), a masterpiece of French drama It is a romantic love story based on a Spanish play about the CID The play took Paris by storm and "beautiful as the *Cid*" passed into French proverb Its success did not prevent the newly founded French Academy from having CHAPELAIN attack the play as faulty of construction and plagiaristic The *Cid* controversy was effective in forcing Corneille to adhere thereafter to rigid classical rules, which cramped his genius Of the score of tragedies that followed, the greatest are undoubtedly *Horace* (1640), *Cinna* (1640), and *Polyeucte* (1643) His comedy *Le Menteur* (1643) was also successful.

Corneille's tragic style exalts the will at the expense of the emotions; and the expression "Cornelian man," applied to a person who sternly subordinates passion to duty, recalls any hero of Corneille. At its best Corneille's style rises to almost unsurpassed dignity and grandeur, but in his last plays he fell into monotonous and unreal declamation Corneille's last years were embittered by the rise of Racine, who replaced him in popular favor in 1660 Most of Corneille's plays have been translated into English. See the standard F P G Guizot, *Corneille and His Times* (1855), L H Vincent, *Corneille* (1901); J B Segall, *Corneille and the Spanish Drama* (1902)

cornel · see DUNCBERRY and DOGWOOD.

Cornelia, fl 2d cent B C , Roman matron; daughter of Scipio Africanus Major She was the wife of Ti Sempronius Gracchus and mother of the Gracchi She refused to remarry after her husband's death, devoting herself to her children, whom she educated well and inspired with a sense of civic duty and a desire for glory When a wealthy patrician lady spoke of her jewels, Cornelia pointed to her two sons, saying, "These are my jewels!" Whether she supported the revolutionary tendencies of her sons or tempered them is a matter of debate

Cornelia, city (pop 1,808), NE Ga , NE of Atlanta, in the Blue Ridge foothills; inc 1887 It is a trade center of the apple-growing region Near by are Piedmont College (at Demorest) and a state tuberculosis sanatorium

cornelian · see CARNELIAN

cornelian cherry: see DOGWOOD

Cornelius, centurion of an Italian cohort stationed at Caesarea, one of the first Gentile converts and traditionally first bishop of Caesarea Acts 10

Cornelius, Peter (pā'tûr kôrnā'lēôs), 1824–74, German composer and poet, nephew of the painter Peter von Cornelius, friend and follower of Liszt and Wagner. He wrote music criticism, songs, and poetry but is best known for his operas *Der Cid* (Weimar, 1865) and *Der Barbier von Bagdad* (1858)

Cornelius, Peter von, 1783–1867, German painter He studied at Düsseldorf and in Rome, where he joined the German Nazarene group and collaborated with other members in the decoration of the Casa Bartholdy In 1820 he was commissioned by Louis I of Bavaria to paint the fresco decorations in the Glyptothek, Munich He was director successively of the Düsseldorf and Munich academies and contributed much to the later rebirth of German art in the 20th cent Cornelius revived the art of fresco painting and was a sincere and able craftsman. His masterpiece, *The Last Judgment*, was one of his fresco decorations for the Ludwigskirche, Munich His favorite themes were religious or philosophical. His oils are less successful than his frescoes In addition to his painting, Cornelius produced notable illustrations for *Faust* and the *Nibelungenlied* and designs for the decoration of the royal mausoleum, done for Frederick William II of Prussia.

Cornelius, cotton-mill town (pop 1,195), W central N.C., N of Charlotte, settled 1880, inc 1905.

Cornelius Nepos: see NEPOS, CORNELIUS

Cornell, Alonzo B. (kôrnĕl'), 1832–1904, American businessman and politician, b Ithaca, N Y He was educated at Ithaca Academy Cornell was a director (1868–99) and vice president (1870–76) of the Western Union Telegraph Company, founded by his father, Ezra Cornell A supporter of Senator Roscoe CONKLING, he was surveyor of customs (1869–73) at the port of New York, chairman (1870–78) of the Republican state central committee, and speaker (1873) of the New York assembly President U S Grant, just before leaving office, appointed him naval officer in the New York customhouse, but President Rutherford B Hayes brought pressure upon him to resign because of his official party connection Cornell refused, and though strongly supported by Conkling, he and Chester A Arthur, the collector, were removed in 1878 Cornell was promptly chosen governor of New York for the term 1880–83. He modernized the state finances, made good appointments, and vetoed much extravagant legislation. By not taking sides in the patronage fight between President James A Garfield and Conkling in 1881, he contributed to Conkling's defeat in the legislature and was himself defeated for renomination as governor He wrote a biography of his father (1884). See his public papers (3 vols., 1880–82)

Cornell, Ezra, 1807–74, American capitalist and founder of CORNELL UNIVERSITY, b Westchester Landing, N Y. Cornell, who began life as a laborer, was of an ingenious mechanical bent and had a shrewd business mind. He aided in constructing the telegraph line between Baltimore and Washington over which Samuel F. B. Morse sent the first test message Having devised the method of stringing wires on poles, he threw himself into line construction in the East and the Middle West. He was a founder, director, and for a time largest stockholder of the Western Union Telegraph Company, which was formed in 1855 to end cutthroat competition in the field His interest in agricultural education led to his association in the New York senate with Andrew D. WHITE, and together they mapped and secured legislation for founding at Ithaca, N.Y. (Cornell's home since 1828), Cornell UNIV., with a charter embracing many of Cornell's ideas. He made many gifts to the university, including an initial $500,000, and was responsible for the successful financial returns on the university's Federal land grant. See biography by his son, Alonzo B. Cornell (1884); *Autobiography of Andrew D. White*, Vol. I (1905).

Cornell, Katharine, 1898–, American actress, b Berlin, Germany She made her debut (1916) with the Washington Square Players in *Bushido* and later, playing in stock companies, appeared in such plays as *Fanny's First Play*, *Captain Kidd, Jr.*, and *Lilac Time*. Her other successes include *A Bill of Divorcement*, *The Green Hat*, *The Letter*, the very popular *Barretts of Wimpole Street*, *Candida*, *The Three Sisters*, *Antigone*, and *Antony and Cleopatra*. See her autobiography, *I Wanted to Be an Actress* (1939)

Cornell, village (pop 1,759), central Wis , on the Chippewa and NE of Chippewa Falls; inc. 1913.

Cornell College · see MOUNT VERNON, Iowa.

Cornell University, mainly at Ithaca, N Y.; nonsectarian, with land-grant, state, and private support, coeducational, chartered 1865, opened 1868 It was named for Ezra CORNELL. The university has colleges of architecture, arts and sciences, engineering, and medicine (in New York city, part of the New York Hospital medical center); schools of law, nutrition, and business administration, and New York state colleges of agriculture (with an experiment station, extension service, and short courses) and schools of industrial and labor relations, home economics, and veterinary medicine There are an aeronautical laboratory (at Buffalo), an archaeology museum, a paleontological research institution, a herbarium, an observatory, a U S weather bureau, an arboretum, a veterinary museum, and a university press. The library has unusual collections of materials on Dante, Petrarch, law, technology, agriculture, China, and Iceland. Andrew D WHITE and Jacob G SCHURMAN were famous presidents.

corner, the securing of all or nearly all the supply of any commodity or stock so that buyers are forced to pay exorbitant prices In stock exchanges, corners are made possible by the practice of short selling stocks and commodities on MARGIN Corners may be planned deliberately or may be brought about unintentionally, as through a fight for the control of a corporation in which two or more groups seek to buy a controlling interest in its stock. In the first type the operator acquires control of the particular commodity or shares and then induces operators to promise to sell the commodity or stock by raising the market price to an apparently unwarranted level. The cornerer purchases these promises to sell. When the cornerer thinks he can make the biggest profit, he withdraws all his shares from the market, and those who have promised to sell find themselves "cornered" and have to buy from the cornerer at his own price in order to fulfill their contracts The cornerer sets the price just low enough to keep the dealers from repudiating their contracts To be successful, cornerers must have enough money to buy the necessary amount of shares or commodity The Bible describes Joseph's corner of the grain in Egypt Lysias condemned a similar corner on grain in the Athens of his day Famous deliberate corners were those of Jim Fisk and Jay Gould of the gold supply of the United States in 1869 (frustrated by the Federal government's placing its gold on sale) and the Joseph Leiter wheat corner of 1898 (frustrated by refusal of consumers to buy and an unusually large new crop). Notable illustrations of the unintentional corner were those on the stock of the Northern Pacific Railway in 1901, Stutz Motors in 1920, and Piggly Wiggly Stores in 1923. Various agencies are seeking to prevent corners In 1913 the Supreme Court declared that a corner in any commodity that enters into general use or into interstate trade amounts to a restraint of trade and is therefore a criminal offense under the Sherman Anti-Trust Act Certain states have made corners illegal, and laws of other states allow repudiation of contracts in the event of a corner Exchanges try to prevent corners and may fix a reasonable settlement price, though this is hard to determine. See S. S. Huebner, *The Stock Market* (1922).

Corner Brook, town (pop. 3,196), W N F , on the Bay of Islands. It has large paper mills. Corner Brook West has a population of 5,439

cornet (kôrnĕt') **or cornet-à-pistons** (-ä-pēstôN'), [Fr , =horn, horn with pistons], brass wind musical instrument, originally regarded as belonging to the family of the French horn, hence its name. It is now regarded as a TRUMPET. It was invented in France in the early 19th cent. and quickly became universally popular Berlioz described its tone as less noble than the horn and less lofty than the trumpet; nevertheless he used it in his instrumentation. It has often been described as coarse or vulgar, owing more to the style of playing than to the instrument itself. Shorter, easier to play, and more flexible than the trumpet, it has most often been used in military and dance bands. It should not be confused with the *cornett*, an instrument of the bugle family, of medieval origin, which was used as late as the time of Gluck.

cornflower, garden flower in America but a weed in the grainfields of Europe. It is called bluebottle or bluet in England and bluebonnet in Scotland, in North America the cornflower shares with other plants the names ragged robin, bachelor's-button, or ragged sailor The long-stemmed blue heads of the flowers, having radiating bottle- or vase-shaped florets, yield a juice which, mixed with alum, has been used as a dye. The cornflower is a hardy annual that will reseed itself, often escaping from cultivation. There are also forms in different colors and dwarf varieties useful for rock gardens. The cornflower is known botanically as *Centaurea cyanus*, but should not be confused with the centaury

cornice (kôr'nĭs), the molded or decorated projection which forms the crowning feature at the top of a building wall or other architectural motive; specifically, the uppermost of the three principal members of the classic entablature, hence by extension any similar crowning and projecting element in the decorative arts. The cornice undoubtedly had its origin in the primitive eaves projection the Greek Doric and Ionic cornices recall early wooden roof forms, and the Egyptian cavetto-and-fillet cornice is a derivation of the overhanging papyrus stalks which formed the eaves of primitive shelters The cornice early lost its structural significance and became a stylized decorative element, in the Greek and Roman eras it assumed firmly standardized forms in the classic orders which have been retained, with variations, through the Renaissance and later periods As an element in the classic entablature the cornice is composed of the cymatium, or crown molding, above the corona, the projecting flat member which casts the principal shadow, in this shadow, and supporting the corona, are a group of moldings called the bed molds, which may be elaborated with dentils. The Corinthian and Composite cornices are further embellished with modillions, or brackets, under the corona, the soffit of the Doric corona is decorated with square flat projections called mutules, having guttae, or small knobs, depending from their lower surfaces

Corning, James Leonard, 1855–1923, American physician and neurologist, b Stamford, Conn , studied at Heidelberg and Würzburg In 1885 he reported his method of inducing anesthesia by injection of the drug through the spinal route August Bier later used this method His works include treatises on hysteria, epilepsy, and pain

Corning. 1 City (pop 1,619), a co seat of Clay co , NE Ark , near the Mo line Billiard tables are made here **2** City (pop. 1,472), N Calif , NNW of Sacramento, inc 1907 It is the processing and shipping center of an extensive olive-growing region **3** City (pop 2,162), co. seat of Adams co , SW Iowa, WSW of Creston, in a farm, livestock, and dairy area; platted 1855, inc 1871 An Icarian communist settlement was here from 1858 to 1898 (see CABET, ÉTIENNE). **4** City (pop 16,212), S N Y , NW of Elmira and on the Chemung, in a dairy area, settled 1788, inc as a village 1848, as a city 1890. The glass industry, for which the city is famous, began in 1868. The research laboratory of the Corning Glass Works has invented various kinds of glass, it made the 200-inch telescope mirror for Mt Palomar (Calif) Observatory **5** Village (pop. 1,433), SE central Ohio, S of Zanesville

Cornish, Vaughan, 1862–1948, English geographer His work dealt mainly with geography in its relation to military strategy, with the action of waves and tides, and with the preservation of natural scenery. His books include *Great Capitals* (1923), *The Poetic Impression of Natural Scenery* (1931), *Ocean Waves and Kindred Geophysical Phenomena* (1934), and *Photography of Scenery* (1946).

Cornish, rural town (pop 790), SW N H , near the Connecticut R of Claremont; inc 1763. It is a resort and an art colony Augustus Saint-Gaudens became a summer resident in 1885; his estate, "Aspet," is a memorial Salmon P. Chase was born here See W H Child, *History of the Town of Cornish, New Hampshire* (1910)

Cornish, language belonging to the Brythonic group of the Celtic subfamily of Indo-European languages. See LANGUAGE (table)

Cornish literature. The literature of the Celtic language of Cornwall, which disappeared before 1800, consists mainly of a few miracle plays, mostly of the 15th cent They are usually on biblical subjects, with the exception of the *Life of St. Meriasek* Their resemblance to the Breton play is very close See studies and translations by Henry Jenner (1904), Edwin Norris (1859), and Whitley Stokes (1854)

Corn Islands, two islands, Great Corn and Little Corn, off E Nicaragua, opposite Bluefields. They were leased (1916) to the United States by the Bryan-Chamorro Treaty concerning the NICARAGUA CANAL

corn laws, regulations restricting the export or import of grain, particularly in England. As early as 1361 export was forbidden in order to keep grain

cheap. Subsequent laws, numerous and complex, either forbade export unless the price was very low, or import unless it was high. The most famous corn laws, in 1791 and 1815, employed this latter principle, in an effort to revive farming at a time when the INDUSTRIAL REVOLUTION was turning England toward manufacturing. Instead of arresting this trend, the corn laws made food expensive, arousing the resentment of both laborers and manufacturers Following a campaign by the Anti-Corn-Law League, they were repealed by Robert Peel in 1846, despite the opposition of conservatives led by Lord George Bentinck and Benjamin Disraeli See D. G Barnes, *A History of English Corn Laws from 1660 to 1846* (1930).

Corno, Monte, or **Corno Grande:** see GRAN SASSO D'ITALIA

Cornouaille (kôrnōō'), region, NW France, in Brittany, comprising parts of Finistère, Côtes-du-Nord, and Morbihan depts One of the counties of medieval Brittany, it had Quimper as its capital The name was brought by the Britons who fled Cornwall at the time of the Anglo-Saxon invasion (c 500). Many inhabitants still speak Breton.

Cornplanter, c 1740–1836, chief of the Seneca Indians The half-breed son of an Albany trader, he acquired great influence among the Seneca and in the American Revolution led war parties for the British against the patriot forces, particularly against Gen John Sullivan in New York He later favored friendship with the whites and signed the Treaty of Fort Stanwix (1784) He was given a grant of land on the Allegheny river, where he lived to a very old age His views were opposed by the energetic RED JACKET but supported by Handsome Lake (Cornplanter's half brother)

cornstarch, material made by pulverizing the ground, dried residue of the corn grains after the preparatory soaking and the removal of the embryo and the outer covering It is used as laundry starch, in the paper and tanning industries, and as a constituent of cosmetics, explosives, and adhesives DEXTRIN, corn syrup, and corn sugar are produced by the hydrolysis of cornstarch See STARCH

Cornu, Marie Alfred (mārē' älfrĕd' kôrnü'), 1841–1902, French physicist From 1867 he was professor at the École polytechnique, Paris He made accurate studies of the velocity of light and made contributions to acoustics, optics, and astronomy

cornucopia (kôr"nūkō'pēü) [Latin,=horn of plenty], in Greek religion, horn of the goat AMALTHAEA, which became full of anything the owner desired. Because Amalthaea's horn was filled with fruits and given to Zeus, the cornucopia is frequently pictured with fruits It is the symbol of plenty

Cornwall, Barry, pseud of **Bryan Waller Procter,** 1787–1874, English poet; friend of Lamb and Hazlitt His sentimental songs had considerable vogue in his lifetime His longer works include *Dramatic Scenes* (1819), *Mirandola* (1821), a tragedy, and *Charles Lamb a Memoir* (1866) Adelaide PROCTER was his daughter See biography by R W. Armour (1935) and autobiographical fragment ed. by Armour (1936).

Cornwall (kôrn'wôl, -wul), maritime county (1,365 sq mi ; 1931 pop 317,968, 1948 estimated pop. 331,641), extreme SW England The county town is Bodmin A peninsula bounded seaward by the English Channel and the Atlantic Ocean and landward by Devonshire, Cornwall ends in the west with the rugged promontory of Lands End The county includes the Scilly Isles, off the southwest tip of the county, famous for their export flower trade The region is a low-lying plateau, sloping from the rocky northern coast to the south and rising to its greatest height at Brown Willy (1,375 ft) in Bodmin Moor The principal rivers are the Tamar, which forms most of the Devonshire border, the Fowey, the Fal, and the Camel, in the beautiful river valleys are productive market and dairy farms. The uplands are used for sheep and cattle pasturage The climate is mild and moist, subtropical along the southern coast The history of the county has been distinct from that of the rest of England Cornish tin mines were known to ancient Greek traders (possibly to the Phoenicians) and have continued important as recently as the Second World War, when the old mines (mainly in the Camborne-Redruth district) were once more reworked The county long resisted Saxon penetration and Norman influence It was organized as a duchy in the 14th cent , rather than on the usual shire basis Cornwall was slow to accept the Reformation In the 16th cent 10,000 Cornishmen marched to defend the Roman church service The Cornish language, related to the Welsh and Breton tongues, did not die out until the 18th cent In the same century the Wesleyan dissent took a firm hold on Cornwall, which has remained predominantly Methodist until the present day. Cornwall's location has made it a great fishing center (pilchard, herring, and mackerel), and the county has produced many of Britain's finest sailors. The climate, the picturesque coastal towns (Penzance, Falmouth, and St. Ives), and the romance of Cornwall's past, interwoven with Arthurian legend and tales of piracy, have made the region popular with tourists. See Arthur Mee, *Cornwall* (1937).

Cornwall, manufacturing town (pop. 14,117), SE Ont., on the St. Lawrence and SE of Ottawa It is at the lower end of the Cornwall Canal, 11 mi long, with six locks, completed around the Long Sault rapids in 1843 and enlarged and deepened in 1902. A mixed farming and dairying region is tributary to the town The historical Indian village of St. Regis is across the river on the Quebec–New York boundary

Cornwall. 1 Town (pop 907), NW Conn , in the Litchfield Hills and bordered on the west by the Housatonic, settled 1738, inc. 1740 The town, with several acres of state park and forest, includes the hamlets of Cornwall (seat of Rumsey Hall school for boys on the site of Cornwall Mission School, operated from 1817 to 1827 for Hawaiians and Indians), Cornwall Center, West Cornwall, North Cornwall, Cornwall Hollow, and Cornwall Bridge Matthew Lyon was a resident of Cornwall 2 Resort and residential village (pop 1,978), SE N Y , on the Hudson below Newburgh, inc 1884. Cornwall is the seat of the New York Military Academy and two other boys' schools 3 Borough (pop 1,680), SE Pa , E of Harrisburg, inc 1926. The area has rich deposits of magnetite ore

Cornwallis, Charles Cornwallis, 1st **Marquess,** 1738–1805, British general, educated at Eton He was commissioned an ensign in 1756 in the British army and saw service in Europe in the Seven Years War As a member of Parliament, he opposed the tax measures which helped bring on the American Revolution When the war came, however, he placed himself at the king's service and was sent (1776) to America He served under Gen William Howe at the battle of Long Island, in the New Jersey campaigns, and at the battle of Brandywine, acquitting himself with credit in all the engagements In 1778 Cornwallis became second in command to Sir Henry Clinton, British commander in America Two years later Cornwallis began the fateful CAROLINA CAMPAIGN His major success against Horatio Gates was followed by less successful operations against Nathanael Greene, and this campaign led directly to the YORKTOWN CAMPAIGN and the major British defeat that in 1781 ended the fighting in the American Revolution Cornwallis was not held responsible for the disaster, but was made (1786) governor general of India There he reformed the civil service and the judiciary and distinguished himself in the campaigns for Mysore After he returned (1794) to England, he was once more given a high post, being sent as viceroy to Ireland He had nothing to do with bringing on the rebellion there of 1798, but as commander in chief of British forces he was stern in repressing it and in preparing for the Act of Union (1800) that instituted the unhappy experiment of uniting Irish government with the British Cornwallis was then commissioned British minister plenipotentiary and helped to draw up the Treaty of Amiens, which temporarily halted the wars with Napoleon I In 1805 he was again appointed governor general of India There was a great deal of trouble, and Cornwallis set out with his troops up the Ganges to suppress the anti-British forces He died on the way, at Ghazipur, where he is buried See his correspondence (ed by Charles Ross, 3 vols , 1859); Arthur Aspinall, *Cornwallis in Bengal* (1931)

Coro (kō'rō), port (pop 18,962), NW Venezuela, on an arm of the Gulf of Venezuela Founded in 1527, it became a base for Spanish exploration under German commanders, notably Federmann There are oil refineries on the Paraguaná peninsula to the north Here also goats are raised, and the skins, along with cattle, coffee, and hardwoods, are exported Near by are extensive coal fields

corolla (–rŏl'–) [Latin,=little crown], the part of a FLOWER, usually brightly colored, borne just within the CALYX The corolla may be united (as in the morning glory and snapdragon) or composed of separate parts, i e , petals (as in the rose), it is not always present The outer petals occasionally grade into the sepals (as in the white water lily), and the inner petals of some plants grade into the stamens (peony and white water lily) It is this tendency of stamens—when there are many—to become petal-like that often enables the horticulturist to develop double flowers. The corolla is usually evanescent, dropping before the fruit ripens, but it sometimes persists

Coromandel Coast (kŏrōmăn'dŭl), east coast of Madras state, India, from Point Calimere, opposite the northern tip of Ceylon, to the Kistna river. Inland it is bounded by the Eastern Ghats. The name probably derives from Cholomandalam, i e , country of the Cholas, a dynasty ruling from the 9th to the 12th cent The coast has the deltas of several rivers, notably the Godavari and the Cauvery, and is very fertile. Madras city is the only good harbor.

Corona (kûrō'nû), city (pop 8,764), S Calif , ESE of Los Angeles; inc. 1896 It is a shipping center for citrus fruits, with manufactures of orchard equipment

corona (kûrō'nû), luminous envelope surrounding the sun, outside the chromosphere, visible only at the time of totality during a total eclipse of the sun. It then appears as a halo of pearly-white light with an irregular outer edge, radiating from the sun's surface and contrasting with the dark lunar disk, which it borders It is divided into the inner corona, the ring of pale yellow light against which the crimson prominences are outlined, and the outer corona, the pearly-white halo which extends far out into space. Scientists are nearly in accord in believing that it consists of extremely fine particles of matter and that its luminosity results partly from sunlight reflected by them and partly from its own light. By means of the coronagraph, an instrument developed by Bernard Lyot c.1930, the corona can be studied and photographed in full daylight. The term *corona* is also applied to a ring of colored light about the sun or the moon, caused by the diffraction of light in a mist or dust-laden atmosphere

Coronado, Francisco Vásquez de (fränthŏs'kō väs'käth dā kōrōnä'dhō), c 1510–1554, Spanish explorer in the Southwest, b Salamanca He came to Mexico with Viceroy Antonio de Mendoza and was in 1538 made governor of Nueva Galicia The viceroy, dazzled by the report of Fray MARCOS DE NIZA about the great wealth of the Seven Cities of Cibola to the north, organized an elaborate expedition to explore by sea (see ALARCÓN, HERNANDO DE) and by land Coronado, made captain general, set out in 1540 from Culiacán, crossed modern Sonora and SE Arizona, and reached Cibola itself—the Zuni country of New Mexico He found neither splendor nor wealth in the Indian pueblos. Nevertheless he sent out his lieutenants Pedro de Tovar visited the Hopi villages in N Arizona, García Lopez de Cárdenas discovered the Grand Canyon, and Hernando de Alvarado struck out eastward and visited Acoma and the pueblos of the Rio Grande and the Pecos Alvarado came upon a Plains Indian nicknamed the Turk, who told fanciful tales of the wealthy kingdom of QUIVIRA to the east Coronado, still hopeful, spent a winter on the Rio Grande not far from modern Santa Fe, waged needless warfare with the Indians, then set out in 1541 to find the promised land of Quivira under the lying guidance of the Turk Just where the party went is not absolutely certain, but is generally thought they journeyed in the Texas Panhandle, reached Palo Duro Canyon (near Canyon, Texas), then turned N through Oklahoma and into Kansas They reached Quivira, which turned out to be no more than Indian villages (probably of the Wichita), innocently empty of gold and silver and jewels The Spanish turned back in disillusion and spent the winter of 1541–42 on the Rio Grande, then in 1542 left the northern country to go ingloriously back to Nueva Galicia into the terrors of the MIXTON WAR Coronado was in 1544 dismissed from his governorship and lived the rest of his life in peaceful eclipse in Mexico city Though he had found no cities of gold, no El Dorado, yet his expedition had acquainted the Spanish with the PUEBLO INDIANS and had opened the Southwest Subsidiary expeditions from Nueva Galicia to S Arizona and Lower California make the sweep of Coronado's achievement even more astonishing See F W Hodge and T Hays Lewis, eds , *Spanish Explorers in the Southern United States*, Vol II (1907), G P Hammond and E F Goad, *The Adventure of Don Francisco Vásques de Coronado* (1938), G. P Hammond and Agapito Rey, eds , *Narratives of the Coronado Expedition* (1940), A Grove Day, *Coronado's Quest* (1940); Herbert E Bolton, *Coronado on the Turquoise Trail* (1949)

Coronado (kō"runä'dō), city (1940 pop 6, 932, 1945 special census pop 25,382) S Calif , on a peninsula on the west side of San Diego Bay, inc 1890 The development of the aircraft industry and the augmented use of San Diego Bay during the Second World War account in part for the recent growth of the city Coronado has a magnificent beach and a fine airport

coronary thrombosis: see THROMBOSIS

coronation, the ceremony of crowning a sovereign on his accession to the throne Its origins are of great antiquity, and the ritual is usually of some religious as well as political signification, as is evidenced in the custom, still followed in England, of anointing the sovereign with oil, a rite probably of biblical derivation In England the pageantry of the coronation is still that of medieval times Since 1066, English kings and queens have been crowned in Westminster Abbey The kings of Scotland were crowned at Scone on the **Coronation Stone, which** was brought to Westminster in 1296 by Edward I and now forms part of the coronation chair. According to tradition it was the "pillow" Jacob used at Bethel and was long the Lia Fail, or Stone of Destiny, of early Irish kings, before it was taken to Scotland

Coronea (kŏrōnē'ù), town of ancient Greece, in Boeotia, ENE of Thebes It was an important point on the road and was the scene of two great battles In 447 B C the Athenians were here defeated by the Thebans, and in 394 B.C. AGESILAUS II of Sparta here won a hollow victory over the Thebans and their allies.

Coronel (kōrōnĕl'), city (pop. 14,799), S central Chile, a Pacific port 17 mi. S of Concepción. With

a good harbor and near-by coal mines, it is the major coaling station on the coast Off Coronel on Nov. 1, 1914, in the First World War, Admiral Graf von Spee with four ships defeated four British ships under Admiral Sir Christopher Cradock Two British vessels were sunk The German triumph was offset later by the battle of the Falklands

coroner (kŏ'rŭnŭr), judicial officer charged with investigating deaths occurring through violence or under suspicious circumstances The office has been traced to the late 12th cent Originally the coroner's duties were primarily to maintain records of criminal justice and to take custody of all royal property In England this second function persists in his jurisdiction over TREASURE-TROVE In his present-day work of determining the cause of deaths, the coroner proceeds by means of the INQUEST whenever there is doubt In several American states the medical examiner has been substituted for the coroner and works in cooperation with the public prosecutor

coronet (kŏ'runĕt, kŏrunĕt'), head attire of a noble of high rank, worn on state occasions It is inferior to the crown British peers wear their coronets at the coronation of their sovereign The coronet of a duke is bordered by eight strawberry leaves, that of a marquess, by four alternating with four pearls or silver balls on low points, that of an earl, by eight strawberry leaves alternating with eight pearls on high points, that of a viscount, by 16 pearls on the gold rim, that of a baron, by six pearls on the gold rim Coronets are part of the armorial devices of those entitled to them

Coronis (kŭrō'nĭs), in Greek legend, mother of ASCLEPIUS by Apollo, who killed her for infidelity

Corot, Jean Baptiste Camille (kō'rō, kurō', Fr zhăn' bătēst' kămē'yŭ kōrō'), 1796–1875, French landscape painter His parents were shopkeepers and his early years after leaving school were spent behind a counter At 26 he was permitted to study with Victor Bertin, and in 1825 he went to Rome, where he stayed three years Except for two later trips to Italy, in 1834 and again in 1843, most of his uneventful life was spent in Fontainebleau or Ville d'Avray A genial bachelor, Corot led a sheltered and happy life, devoted to his art Late in life he achieved a reputation and honors and made a considerable fortune He was notoriously generous and in 1871 gave $10,000 to the poor of Paris His landscapes, much simpler and more direct than those of the classical landscape painters are famous for their atmosphere and poetic mood Corot preferred to depict the misty hours before dawn, using a very cool and restricted palette of silvery grays and greens with a moderate use of red and brown An exquisite sense of values was the basis of his art He is generally considered the greatest of the Barbizon school of landscape painters His immense vogue at the close of the century was short-lived, but his best work, including many fine figure studies and portraits as well as landscapes, is still highly prized Among his well-known works are *Morning* and *Dance of the Nymphs* (Louvre) and *Ville d'Avray* (Metropolitan Mus) He is represented in most of the prominent galleries of England, France, and America See Charles Holme, *Corot and Millet* (1902), Julius Meier-Graefe, *Corot und Courbet* (1905, in German), Everard Meynell, *Corot and His Friends* (1908)

corozo · see TAGUA

corporal punishment, chastisement of the body of an offender It may include the death penalty (see CAPITAL PUNISHMENT), but the term usually refers to such activities as flogging, mutilating, branding, and confinement in the pillory or stocks Until c 1800 most crimes were punished thus, especially by flogging, which was also used to keep order among the insane and the feeble-minded and in schools A movement against the use of corporal punishment was led in the late 17th cent by American Quakers who achieved local reforms in Pennsylvania and New Jersey The 18th cent saw a reaction against the whole concept of violent punishment and the substitution of more humane methods Its effectiveness also has been disproved by modern criminologists and educators Flogging, however, is still used in Great Britain, in Delaware, and in some countries of Europe and Asia and is used, often unofficially, to maintain discipline within some British and American prisons See H E Barnes, *The Story of Punishment* (1930), G R Scott, *The History of Corporal Punishment* (1938)

corporation, in law, organization enjoying legal personality for the purpose of carrying on certain activities Most corporations are businesses for profit, they are usually organized by three or more subscribers who raise capital for the corporate activities by selling shares of STOCK, which represent ownership and are transferable Besides business corporations there are also charitable, cooperative, municipal, and religious corporations, all with distinctive features In the United States all governmental units smaller than a state (e g., counties, cities) are municipal corporations. Certain religious functionaries, e g, Roman Catholic archbishops, legally are corporations sole The legal personality of a corporation is symbolized by its seal and its distinctive name As a legal person, the corporation continues in existence when the organizers lose their connection with it. In most cases its liability is limited to the assets it possesses and creditors may not seize property of persons associated with the corporation as stockholders or otherwise. Legal personality gives the corporation many of the capacities of a natural person, e g , it can hold property and can even commit crimes (for which it may be fined and its directors imprisoned) The corporate form was known in Rome, although the notion of its personality was not fully developed In Norman England and on the Continent in medieval times municipal and ecclesiastical corporations were common In the overseas trade expansion of the 16th and 17th cent , associates bought shares in a ship and divided the profits The Muscovy Company (chartered 1555) and the Dutch East India Company (chartered 1602) were perhaps the earliest trading companies with what came later to be called a permanent capital Partial government subsidization of trading corporations was usual, but gave way in the 18th cent to the protective device of limited liability, especially after the failure (1720) of the MISSISSIPPI SCHEME, which was sponsored by the French minister J B Colbert At the same time the bursting of the South Sea Bubble in England led to more stringent fiscal regulation of business corporations, especially in the matter of capital The Industrial Revolution encouraged many new corporations to finance larger economic units, such as railways and steam-power-driven machinery in factories In the United States the state legislatures became the chief authorities to grant charters to corporations, though the Federal government incorporates in a limited field Both of the Banks of the United States were given Federal charters, for the years 1791 1811 and 1816–36 respectively, and Federal charters were given to certain railroads after the Civil War Corporations owned by the Federal government and financed by government appropriations include the Reconstruction Finance Corporation, the Community Credit Corporation, and various corporations established to meet emergencies and later liquidated At first states passed a special act for each incorporation, but in 1811 New York state enacted a general incorporation law enabling the secretary of state to give charters Since the Dartmouth College Case of 1819, when a charter was held to be a binding contract between a state and a corporation, unalterable and unamendable by the state without the corporation's consent, fewer perpetual charters have been granted, the right of the legislature to alter or annul being specifically reserved in the charter Variability in state incorporation laws and the ability of corporations incorporated in one state to do business in all other states have allowed corporations to incorporate in the state having the most lenient incorporation laws Thus was formerly New Jersey, but since 1913 has been Delaware, Maryland, and Maine A recent type of corporation is the holding company, organized to buy a controlling interest in other corporations The amount of cash needed to control a concern is lessened by pyramiding holding companies This is done by creating a company to hold a voting control of one or more operating companies A third company is created to hold a controlling interest in the second, and so on The control of the last holding company is sufficient to control all, and such control, because of the scattering of stock among many small holders, may need the ownership of only 10 or 20 percent of the stock available New Jersey first permitted such companies in 1889 In the interstate distribution of power, holding companies above the second level are prohibited The large business corporation has strongly influenced the control of property in the modern world Approximately 200 corporations are thought to own more than half the wealth of the United States, they are typically controlled by a small minority of the stockholders See also TRUST See A A Berle and G C Means, *The Modern Corporation and Private Property* (1932), N S Buchanan, *The Economics of Corporate Enterprise* (1940), P F Drucker, *Concept of the Corporation* (1946)

corporation tax, a tax on corporations, their income, or their peculiar attributes, such as charters, capitalization, dividends, and franchises In the United States such taxes were brought about by the difficulty of taxing bonds and stocks and by the growth of corporations beyond state bounds, with consequent difficulty of assessment and taxation Such special state corporation taxes now include fees and licenses for incorporation or for an increase in capitalization or for filing the corporation's charter in another state, taxes on gross earnings, taxes on lump sums, tonnage, and instruments or transactions, franchise taxes, capital stock taxes, and net income taxes In 1909 the Federal government imposed on corporations an excise tax, measured by the net income This tax was superseded by a corporation INCOME TAX after the Sixteenth Amendment (1913). A tax on corporations was levied in Britain in 1920, including foreign companies of limited liability doing business in the United Kingdom, but exempting certain classes of corporations for three years and the profits of corporations receiving income from other corporations already taxed. In the United States a tax on the undistributed profits of a corporation was a feature of the Revenue Act of 1936. An EXCESS PROFITS TAX was imposed in both the First and the Second World Wars See Roswell Magill, *The Impact of Federal Taxes* (1943), C J Gaa, *Taxation of Corporate Income* (1944), G E Lent, *The Impact of the Undistributed Profits Tax, 1936–1937* (1948).

corporative state, concept to which the economic system inaugurated by the Fascist regime in Italy after 1922 gave rise The system was based upon practically unlimited government control of economic life while preserving the framework of capitalism Legislation of 1926 and later years set up 22 guilds of employees and employers to administer various sectors of the national economy. These were represented in the national council of corporations Professional and civil service groups were covered by separate legislation The guilds, or corporations, while in principle representative, were administrative devices of the government and did not assume the separate legal personality of corporations in Anglo-American practice The organization was syndicalist (see SYNDICALISM), and there were confederations of syndical organizations including both employers and workers Thus, the freedom of both workers and employers was strictly abrogated, the former losing the right to strike while the latter were deprived of the lockout weapon in industrial disputes and freedom of economic choice in the conduct of business The government exercised appointive power over the officials of the guilds and insisted on Fascist party representation on the governing boards of each As practiced in Italy, the economy of the corporative state aimed in general at reduced consumption in the interest of militarization The corporative state was adopted by Francisco Franco for the reorganization of Spain, more or less on the Italian model The *Novo Estado* [new state] set up in Portugal under Salazar is a refinement of the corporative state, much less military and much more efficient than that of Italy or Spain

Corpus Christi (kôr'pus krĭs'tē) [Latin,=body of Christ], feast of the Roman Catholic Church, observed on the Thursday after Trinity Sunday (or on the following Sunday) It is a commemoration of the institution of the Eucharist, supplementing the anniversary on MAUNDY THURSDAY The feast was established generally in 1264, with an office by St Thomas Aquinas, which includes the splendid hymn PANGE LINGUA Corpus Christi is especially a flowery feast, and in many countries the day's procession is held outdoors with great pageantry

Corpus Christi (krĭs'tē), city (1940 pop 57,301; 1947 estimated pop 112,000), co seat of Nueces co , S Texas, inc 1852 It is on Corpus Christi Bay at the entrance of Nueces Bay, an inlet at the mouth of the Nueces river Corpus Christi Bay was discovered on Corpus Christi Day, 1519, and was visited infrequently by Spanish mariners and buccaneers In 1840 Col H L Kinney founded a trading post, and settlers collected in a raffish colony on land claimed by both Texas and Mexico The small port and terminus for overland wagon-train traffic boomed in the Mexican War, was briefly captured (1862) in the Civil War, and later shipped out sheep and cattle and supplied a ranch area Oil was discovered in the region, and after recovering from a destructive hurricane in 1919, the city grew as an oil center The deepwater channel past Mustang Island was completed in 1926, and the city, important as a port of entry, developed industrially It boomed again in the Second World War after a huge naval air-training station was built in 1941 Corpus Christi has oil refineries, a zinc refinery, an alkali plant, other chemical works, and establishments processing the cotton, milk, sea food, and truck of the region Its beaches make it a much-frequented resort It is the seat of a junior college

Corpus Christi College · see CAMBRIDGE UNIVERSITY and OXFORD UNIVERSITY

corpuscles, cells carried in the liquid or plasma of the blood Red blood corpuscles are microscopic yellowish discs, circular and biconcave in shape, containing hemoglobin, a protein combined with iron, which carries the oxygen of the blood Although individually they have a yellowish tint, the red corpuscles en masse give the blood its red color A cubic millimeter of blood contains, in males, about 5,000,000 red corpuscles and in females about 4,500,000 In some diseases, the number, size, shape, and hemoglobin content of the red blood cells are modified (see ANEMIA) White corpuscles or white blood cells differ from red blood corpuscles in many respects each white blood cell contains a nucleus, white cells are much less numerous than red ones, they contain no hemoglobin, their principal function is to combat infection The number of white cells in a cubic millimeter of blood varies between 6,000 and 10,000, in pathological conditions, the number may be greatly increased There are several varieties of these cells (see WHITE CORPUSCLE).

Corpus Juris Civilis (kôr'pŭs jōs'rĭs sĭv'ĭlĭs), most comprehensive CODE of ROMAN LAW. Compiled by order of JUSTINIAN I, it was largely issued between 529 and 535 and was the work of a commission of jurists headed by TRIBONIAN. The Corpus, intended to make an orderly statement of about 1,000 years of Roman legal development, was far more comprehensive and exhaustive than any previous work of that nature, including the THEODOSIAN CODE. The four parts of the Corpus are the Codex or Code, a collection of imperial constitutions since the time of Hadrian; the Digest or Pandects, selections from noted classical jurists, chiefly Gaius, Paulus, Ulpian, Modestinus, and Papinian; the Institutes, an elementary treatise, and the Novels or Novellae, constitutions which followed the earlier collection. The constitutions and the extracts from classical jurists were to a large extent altered to conform with current practice. Many copies of the Corpus were issued. It not only furnishes knowledge of law in late Roman times, but also incorporates extracts from some of the earlier materials which would otherwise have been entirely lost. In the 11th cent., when interest in Roman law was revived, notably at Bologna, the Corpus was exhaustively studied and commented upon. In the 19th cent. it was an important source for law codes.

Correctionville, town (pop. 1,151), NW Iowa, on the Little Sioux river and E of Sioux City, in a livestock area, settled 1855–56, inc. 1882.

Correggio (kŭrĕ'jō), 1494–1534, Italian painter, whose real name was Antonio Allegri, called Correggio for his birthplace. He studied the human figure under the anatomist Dr. Lombardi and learned the rudiments of his art from his uncle, Lorenzo Allegri. His style was greatly influenced by the study of the works of Mantegna. While still a minor Correggio executed a beautiful altarpiece, *The Madonna of St. Francis*, for the Franciscans at Correggio. Another early work is *The Virgin and Child with Angels*, one of the gems of the Uffizi. This panel was at one time attributed to Titian. Correggio's first important works in fresco, considered among his finest productions, were a series of mythological subjects painted for the Convent of San Paolo at Parma. His most famous work is the fresco on the octangular cupola of the cathedral at Parma, the *Assumption of the Virgin*, a conception of grandeur, showing an audacious use of foreshortening and of frolicsome movement in its numerous little angels. His influence over Italian art of the 16th and 17th cent. was almost as great as that of Michelangelo. His forms are tender and beautiful, whether sacred or profane, his pictures are characterized by joyousness, sentiment, and a soft play of light and shadow. Correggio's wife, Girolama Merlino, a young girl of great beauty, is said to have been the model for *The Madonna with the Rabbit*, in the Naples Gallery. See biography by Corrado Ricci (1930).

Correggio (kurĕ'jō), town (pop. 3,856), Emilia-Romagna, N central Italy, seat of a small principality of the Da Correggio family (12th–17th cent.). Their palace is a good example of early 16th-century architecture. The painter Correggio, born here, was called after the city.

Corregidor (kurĕ'gĭdôr"), fortress island, area c.2 sq. mi., off Bataan peninsula of Luzon, Philippine Islands, at the entrance to Manila Bay. Fortified by the Spanish, Corregidor was taken over by the United States in 1898 after the Spanish-American War, and Fort Mills and Kindley Field were established. In the early phase of the Second World War the island was the last Allied stronghold in the Philippines. After the fall of Bataan, Allied forces under Lt. Gen. Jonathan M. Wainwright gallantly fought on for a month, they surrendered in May, 1942. Corregidor passed to the jurisdiction of the Philippine republic in 1947.

Corrèze (kôrĕz'), department (2,273 sq. mi.; pop. 254,601), S central France, in LIMOUSIN, watered by the Dordogne and its tributary, the Corrèze Tulle (the capital) and Brive-la-Gaillarde are the chief towns.

Corrib, Lough (lŏkh kŏ'rĭb), lake, Counties Galway and Mayo, Ireland. It is irregular in shape, 27 mi. long and up to 10 mi. wide. It drains into Galway Bay and is connected by a partly subterranean channel with Lough Mask.

Corrientes (kôrēĕn'tĕs), city (estimated pop. 59,323), capital of Corrientes prov., NE Argentina, a port on the Paraná river. From Corrientes, the center of a rich cattle and agricultural district, are exported sugar, tobacco, cotton, cochineal, ostrich feathers, cabinet woods, and livestock. It was founded in 1588.

Corrievrekin or **Corryvreckan** (both kŏ'rēvrĕkŭn), whirlpool in Corrievrekin passage N of Jura island, off W Scotland, in Argyllshire.

Corrigan, Michael Augustine (kŏ'rĭgŭn), 1839–1902, American Roman Catholic churchman, b. Newark, N.J. He was bishop of Newark (1873–80), the diocese including all New Jersey. He was especially interested in Catholic education and in the establishment of hospitals, orphanages, and other charitable institutions. In 1880 he became coadjutor to the archbishop of New York, Cardinal McCLOSKEY, with the title archbishop of Petra, and in 1885 he became archbishop of New York. His work was to accommodate the church to the large number of immigrants. The principal event of his episcopate was a dispute with Edward McGlyn, a priest who was supporting Henry George, over the suitability of Henry George's doctrines for Catholics. After Father McGlyn's reinstatement in the Church, the archbishop appointed him to a church and at his death presided at his funeral Mass.

Corrigan, town (pop. 1,402), E Texas, NE of Houston and near Livingston; inc. 1938.

corrosion · see RUSTING.

corrosive sublimate, heavy, white, crystalline substance. Chemically it is mercuric chloride or bichloride of mercury, a compound of mercury and chlorine having one atom of mercury and two atoms of chlorine in its molecule. It is a deadly poison (for antidote, see POISONING, table). It is somewhat soluble in water, its degree of solubility increasing with the temperature. Its solution has an acid taste. A dilute solution (1 1000) is used as an antiseptic in medicine, especially in surgery. It is prepared by sublimation from a mixture of mercuric sulphate and sodium chloride (common salt). When heated with mercury it is reduced to calomel, which when exposed to sunlight slowly reverts to corrosive sublimate.

corrupt practices, in politics and government, fall under several headings. Bribery, the sale of offices, letting of public contracts to favored firms or individuals, and grants of land or franchises by public officials in return for monetary rewards have been frequent throughout history. But in modern times the term usually refers to frauds connected with elections. Such fraud may consist of efforts to influence or intimidate the voter or to tamper with the official BALLOT or election count. To eliminate these practices nearly all democratic self-governing units have passed laws to safeguard the honesty of political campaigns and elections. In Great Britain the Acts of 1883 and 1918 frequently amended, define election abuses and limit political spending by or in behalf of candidates for Parliament. In the United States individual states have their own election laws and they preceded Congress in enacting corrupt practices acts. Campaign spending is limited either to a percentage of the salary of the office at issue or to a sum in proportion to the number of voters or is fixed at an arbitrary figure. The Corrupt Practices Act of 1925 is the definitive law regulating campaign spending for election to either house of Congress. Spending by banks or corporations in behalf of candidates is forbidden, publicizing of expenditures and donations is provided for, and a campaign fund of $10,000 for election to the House of Representatives and $25,000 to the Senate stands as the limit permitted by the law. Each house of Congress is under the Constitution allowed to judge the election and qualifications of its members, has defined corrupt practices independently of existing statutes, and has on occasion excluded members from Congress. See E. R. Sikes, *State and Federal Corrupt Practices Legislation* (1928).

Corry (kŏ'rē), city (pop. 6,935), NW Pa., SE of Erie, settled 1795, inc. as a borough 1863, as a city 1866. Its industrial plants include steel-product and furniture factories. Gas and oil are found in the region.

Corryvreckan, see CORRIEVREKIN, Scotland.

corsair · see PIRACY.

corset, article of dress designed to support or modify the figure. Greek and Roman women wrapped broad bands about the body in the manner of puttees. In the early Middle Ages a short, close-fitting, laced outer bodice or waist was worn, by the 16th and 17th cent. it had become, in France, a tight inner bodice, stiffened with whalebone, wooden splints, or steel, and was worn by both men and women. Fashion demanded the slenderest possible waist in contrast with the enormous farthingales and breeches of the period. Stays and tight lacing continued in fashion for women through the 18th cent., except for a period following the French Revolution, until c.1820 when the dress-reform movement changed public taste, and the corset was gradually modified to conform to the natural lines of the body. See K. M. Lester, *Historic Costume* (3d ed., 1942).

Corsica (kôr'sĭkŭ), Fr. *Corse*, island (3,367 sq. mi., pop. 267,873), a department of metropolitan France, SE of France and N of Sardinia, in the Mediterranean. AJACCIO (the capital) and BASTIA are the chief towns and ports. The island is largely mountainous, culminating in Monte Cinto. Olive oil, wine, and timber are the main exports. Communications are poor, and much of the island is wild, covered by undergrowth [Fr. *maquis*], thus providing ideal hideouts for the bandits. Blood feuds (see VENDETTA) were a traditional occupation until they were largely suppressed by the French government. Outside the chief towns an Italian dialect is spoken. After having belonged to the Romans (3d cent. B.C.–5th cent. A.D.), the Vandals (5th–9th cent.), and the Arabs (9th–11th cent.), Corsica was ceded by the pope, who laid claims to it, to Pisa (1077). The Pisans were expelled (1312) by the Genoese. Genoese rule was unpopular and was marked by chronic unrest. The episode of "King" Theodore I (see NEUHOF, THEODOR, BARON VON) was typical. In 1755 Pasquale PAOLI headed a successful rebellion and set up a dictatorship at Corte which controlled all but the coastal areas. French intervention in his war against the Genoese led in 1768 to the cession of Corsica to France. In the following year NAPOLEON I was born at Ajaccio. He and his family supported the French central government in the Revolution. As a result of Paoli's return, their efforts were defeated, the French were expelled, and in 1794 Corsica voted its union with the British crown. Lord Minto ruled the island as viceroy until 1796, when the French recovered it. French possession was guaranteed at the Congress of Vienna (1815). In the Second World War, Corsica was occupied after 1942 by Italian and German troops. Late in 1943 the population revolted and seized Ajaccio, a Free French task force came to the rebels' assistance, and the liberation of the island was completed on Oct. 4, 1943.

Corsicana (kôrsĭkă'nŭ), city (pop. 15,232), co. seat of Navarro co., E central Texas, SSE of Dallas and NE of Waco, inc. 1848. The commerce and the lively small industries of the city depend on the cotton (long dominant), other varied crops, beef cattle, dairy products, eggs and poultry, and oil of the area. The discovery of oil when a city water well was being dug (1894) caused early dismay but led to the drilling (1895) of the first important commercial oil well and the building (1898) of the first refinery in Texas. Corsicana is the seat of Navarro Junior College and of two children's homes, one state-owned and one private (International Order of Odd Fellows).

Corson, Hiram, 1828–1911, American scholar and educator, b. Philadelphia. He served as a librarian in the Smithsonian Institution and later was professor of language and literature at Cornell Univ. Distinguished by thorough scholarship are his *Introduction to the Study of Robert Browning's Poetry* (1886), *Introduction to the Study of Shakespeare* (1889), and *The Aims of Literary Study* (1895). He was interested in spiritualism and wrote *Spirit Messages* (1911).

Cort, Cornelis (kôr'nā"lĭs kôrt'), c.1536–1578, Dutch engraver. Employed by Titian c.1565, he executed many fine engravings after his paintings and those of Raphael, Clovio, Floris and others. His work set a standard for Italian engraving. Agostino Carracci was his pupil.

Corte (kôrtā'), town (pop. 5,089), central Corsica, France. An old, fortified city, it was the capital of PAOLI from 1755 until 1768.

Cortelyou, George Bruce (kôr'tulyōō), 1862–1940, American public official and business executive, b. New York city, grad. Georgetown Univ. (LL.B., 1895). He taught school, and after learning stenography, he became secretary to several New York city and Federal officials. Appointed (1895) stenographer to President Grover Cleveland, Cortelyou also became secretary to President William McKinley (1900) and President Theodore Roosevelt (1901). He also served under Roosevelt as Secretary of Commerce and Labor (1903–4), Postmaster General (1905–7), and Secretary of the Treasury (1907–9). He then left government service and became prominent as an executive of public-utility companies.

Corte Madera (kôr'tā mudă'ru), residential town (pop. 1,098), W Calif., N of San Francisco, inc. 1916.

Corte Real or **Corte-Real, Gaspar** (gushpär' kôr'tu rēal'), c.1450–1501?, Portuguese explorer. Sent out by King Manuel I to search for the Northwest Passage, he is said to have discovered Greenland in 1500 and may have touched on the North American coast. He made a second voyage with his brother, Miguel Corte Real or Corte-Real, in 1501, but the two were separated. Gaspar Corte Real was lost. In 1502 Miguel Corte Real went in search of him but was also lost. The brothers certainly reached Newfoundland and made sweeping discoveries, but the results were shadowy and discouraging. See H. P. Biggar, *Voyages of the Cabots and the Corte-Reals* (1903).

Cortés, Hernán, or **Hernando Cortez** (kôrtās' Spanĕrnän', -ārnän'dō, kôrtās'), 1485–1547, Spanish CONQUISTADOR, conqueror of Mexico. He went to Hispaniola (1504) and later (1511) accompanied Diego de VELÁZQUEZ to Cuba. In 1518 he was chosen to lead an expedition to Mexico. Although Velázquez later sought to recall his commission, Cortés sailed (Feb., 1519). In Yucatán he rescued a Spaniard who had learned the Maya language, after a victory over Indians in Tabasco, the Spanish acquired the female slave Malinche—baptized Marina—who knew both Maya and Aztec. Having proceeded up the coast, Cortés founded Villa Rica de la Vera Cruz and was chosen captain general by the CABILDO, thus he discarded Velázquez's authority and became responsible only to Charles V. Cortés, learning that the Aztec empire of MONTEZUMA was honeycombed with dissension, assumed the role of deliverer and rallied the coastal Totonacs

to his standard; he also began negotiations with Montezuma Scuttling his ships, thus preventing the return of any Velásques sympathisers to Cuba, he began his famous march to Tenochtitlán, capital of the Aztec empire. He defeated the Tlaxcalan warriors, then formed an alliance with the so-called republic of Tlaxcala, practically destroyed CHOLULA, and arrived at Tenochtitlán in Nov., 1519 There the superstitious Montezuma received the Spanish as descendants of QUETZALCOATL Cortés seized his opportunity, took Montezuma as a hostage, and attempted to govern through him In the spring of 1520 Cortés went to the coast, where he defeated a force under Pánfilo de NARVÁEZ Pedro de ALVARADO, left in command, impetuously massacred many Aztecs, and soon after Cortés's return, the Aztecs besieged the Spanish A fight ensued, and Montezuma was killed The Spanish, seeking safety in flight, fought their way out of the city with heavy loss on the *noche triste* (June 30, 1520) Still in retreat, they defeated an Aztec army at Otumba and retired to Tlaxcala The next year an attack was made on the capital, and after a three-month siege Tenochtitlán fell (Aug 13, 1521) With it fell the Aztec empire As captain general, Cortés extended the conquest by sending expeditions over most of Mexico and into N Central America In 1524–26 Cortés himself went to Honduras, killing CUAUHTÉMOC, the Aztec emperor, on the expedition. In Cortés's absence his enemies gradually triumphed, and after his return his power was made by the *audiencia* more fictitious than real Though on his visit to Spain (1528–30) Cortés was made marqués del Valle de Oaxaca, Charles V refused to name him governor Returning to Mexico, he vainly sent out maritime expeditions, frustrated more than once by Nuño de GUZMÁN Subsequently he quarreled with the viceroy, Antonio de MENDOZA, and in 1540 he again sought justice in Spain There, neglected by the court, he died The best-known contemporary account of the conquest is that of Bernal Díaz del Castillo See the letters of Cortés (ed in English by F A. MacNutt, 1906), biography by H D Sedgwick (1926), W H Prescott, *Conquest of Mexico;* Henry R. Wagner, *The Rise of Fernando Cortes* (1944)

Cortes (kôr'tĕz, Span kôr'tās), representative assembly in Spain The institution originated (12th-13th cent.) in various Spanish regions with the Christian reconquest; until the 19th cent the local cortes of Leon, Castile, Aragon, Catalonia, Navarre, and Valencia, and other states met separately The three estates—clergy, nobility, and burghers—voted the taxes, recognized the kings upon their accession, and indirectly exercised some legislative influence The cortes of Aragon and Catalonia were particularly powerful After the consolidation of the royal power (15th cent.) and the unification of Spain, the *cortes* were seldom convoked except to pay homage, and their powers were curtailed The first national Cortes of Spain met at Cádiz in 1812 in the Peninsular War, which was also the Spanish war of liberation from Napoleonic rule They voted a liberal constitution, later (1814) revoked by Ferdinand VII Thereafter the status of the Cortes frequently changed in its struggle for power with the king At the fall of the monarchy in 1931, a constituent Cortes promulgated a republican constitution, and the Cortes was the parliament of Spain until 1939 Under Francisco Franco's dictatorship a Cortes was preserved but stripped of effective legislative power. The name of the Portuguese legislative body is Cortes Gerais (see PORTUGAL)

Cortez, Hernando: see CORTÉS, HERNÁN

Cortez (kôrtĕz'), town (pop 1,778, alt 6,198 ft.), co. seat of Montezuma co., SW Colo., in a fruit, grain, and livestock area, founded 1887, inc 1902 Near by are Mesa Verde National Park and Yucca House National Monument and several Indian reservations

cortin: see ADRENAL GLAND

Cortina d'Ampezzo (kôrtē'nä dämpĕd'zō), village, Venetia, NE Italy, in the heart of the DOLOMITES It is one of the most-visited summer and winter resorts in the Alps

Cortissoz, Royal (kôrtĭ'sōz), 1869–1948, American connoisseur and lecturer on art He was the New York *Herald Tribune* art critic from 1891 and was noted for his lectures at the Metropolitan Museum and at other museums throughout the United States. He wrote biographies of Augustus Saint-Gaudens (1907), John La Farge (1911), and Whitelaw Reid (1921), as well as *Art and Common Sense* (1913), *American Artists* (1923), *Personalities in Art* (1925), and *The Painter's Craft* (1930). He edited editions of *Don Quixote* and *The Autobiography of Benvenuto Cellini*

Cortland. **1** City (pop. 15,881), co seat of Cortland co., central N Y., S of Syracuse, in a rich farm area, settled 1791, inc as a village 1853, as a city 1900 It is the seat of a state teachers college. Wire mills are among its varied industries. **2** Village (pop 1,014), NE Ohio, NE of Warren. It has grain and lumber mills.

Cortona, Pietro da (pyä'trō dä kôrtō'nä), 1596–1669, Italian painter and architect, whose real name was Pietro Berrettini, b. Cortona. He is famous chiefly for his frescoes and easel paintings. His best-known frescoes are the ceiling in Barberini Palace and those in Santa Maria in Vallicella, both in Rome, and several large paintings in the Pitti Palace, Florence. Among his outstanding easel pictures are *Daniel in the Lion's Den* (Venice), *Battle of Arbela* (Louvre), and *Nativity* (Prado) His architectural activities consisted mainly of designs for churches in Rome, among which were those for the Santa Martina and the portico of Santa Maria della Pace

Cortona (kôrtō'nä), town (pop 3,736), Tuscany, central Italy, on a hill covered with olive groves It was one of the 12 important Etruscan cities and has Etruscan walls, a burial chamber, and a museum of antiquities The character of the city is medieval In its churches are paintings by Fra Angelico and by Luca Signorelli, who was born here

Cortot, Alfred Denis (älfrĕd' dünē' kôrtō'), 1877–, French pianist and conductor, authoritative interpreter of Chopin Among his appearances as a conductor were those at Bayreuth from 1898 to 1901 From 1903 he presented new works at the Société de Concerts Cortot He joined the faculty of the Paris Conservatoire in 1907 and in 1919 founded the École normale de Musique, Paris, of which he is director For many years he played trios with Jacques Thibaud and Pablo Casals Among his writings is *French Piano Music* (Eng. tr., 1932)

Corum (chôrōōm'), city (pop 20,307), N central Turkey It manufactures earthenware and leather goods

Corumbá (kôrōōmbä'), city (pop 13,319), Mato Grosso state, W Brazil, a port on the Paraguay river Founded in 1778, it is today not only a river port but also a junction point on the railroad to Bolivia and an important port of entry It ships the products from pastoral and forest areas of SW Brazil and E Bolivia and is also near manganese and iron mines and is a center of a new metal industry as well as light industries It was a strategic point in the War of the Triple Alliance and changed hands often

Coruña, La (kurŭ'nyä, Span lä kôrōō'nyä), city (pop. 92,189), capital of La Coruña prov., NW Spain, in Galicia, an Atlantic port An English form of the name is Corunna The old city is high on a promontory, the modern section occupies a narrow strip connecting the promontory with the mainland Fish, cigars, and paper are the chief exports Anciently a city of the Celts, the Phoenicians, and the Romans, it reached its height as a port and a textile center in the late Middle Ages From its harbor the Armada sailed in 1588. La Coruña was sacked by Sir Francis Drake in 1598 In the PENINSULAR WAR it was the scene of the battle in which Sir John Moore was mortally wounded (1809) The Roman Torre de Hércules and the Church of Santa María del Mar are the chief landmarks There are many handsome modern buildings along the sea front

corundum (kŭrŭn'dŭm), a mineral, mainly pure aluminum oxide The finer varieties are used as gems and the coarser as ABRASIVE materials Corundum occurs in crystals of the hexagonal system and in masses It is transparent to opaque and has a vitreous to adamantine luster The transparent gem varieties are colorless, red, blue, green, yellow, and violet, the common varieties are dark gray to black Emery is a common corundum, used as an abrasive and distinguished by its impurities of magnetite and hematite The chief corundum gems are the RUBY, SAPPHIRE, Oriental TOPAZ, Oriental EMERALD, and Oriental AMETHYST The term *Oriental* is used to distinguish corundum gems from other, softer stones having the same name Yellow, pink, green, and white stones are also called yellow, pink, green, and white sapphires Corundum is successfully made artificially The chief sources of natural corundum are Burma, Ceylon, India, the Union of South Africa, and the United States (North Carolina, Georgia, and Montana). Most of the emery is mined in Naxos and the other Cyclades and in Asia Minor.

Corunna, Spain, see CORUÑA, LA

Corunna (kōrŭn'ŭ), city (pop 2,017), co seat of Shiawassee co., S Mich., on the Shiawassee and W of Flint, inc as a village 1858, as a city 1869 Furniture is made

Corvallis (kôrvăl'ĭs), city (pop 8,392), co seat of Benton co., NW Oregon, on the Willamette and SSW of Salem, settled 1846, platted 1851, inc 1857 It is a fertile dairying and fruitgrowing valley, and its industries have developed from the agriculture and lumbering in the area. It is the seat of OREGON STATE COLLEGE

corvée (kôrvā'), under the feudal system, obligatory services rendered to a lord or king and the system of such services in general There were national and local variations, but in broad terms the *corvée* proper included work on the lord's portion of the manorial property, or demesne, and many attendant duties. Military service also came under the general terms of the *corvée* The *corvée* included both regular and exceptional demands. The real *corvée* included the duties attached to the ownership or tillage of certain lands; the personal *corvée* had reference to the duties of specific individuals. Highly developed during the feudalization of the late Roman Empire, the *corvée* system was an integral part of the non-moneyed social and economic system of the Middle Ages, but towns and all individuals who were able liberated themselves when possible by money payment instead of services In France the royal *corvée*, compulsory work on the roads, was introduced in the 18th cent., and both this and the seigneurial *corvée* bore heavily and almost exclusively upon the peasantry and helped cause the French Revolution Austria abolished the last European *corvée* system in 1848

Corvinus, Jakob: see RAABE, WILHELM

Corvinus, Matthias: see MATTHIAS CORVINUS

Corvisart des Marets, Jean Nicolas, Baron (zhäⁿ' nēkôlä' bärō' kôrvēzär' dā märā'), 1755–1821, French physician Noted as a professor of clinical medicine (1797) at the Collège de France, he made valuable studies of the heart and reintroduced the percussion method of diagnosis devised by Leopold Auenbrugger He was made a baron in 1805

Corvus (Marcus Valerius Corvus), c 370–272 B C., Roman general, a legendary figure. He was consul many times and is said to have defeated the Volscians, the Samnites, the Etruscans, and others. Indeed, the account of his exploits contains enough events for the life of four men He derived his name Corvus from a story that when he was engaging a giant Gaul in single combat a bird [Latin *corvus*= raven] fluttered in the Gaul's face and enabled the Roman to win

Corwin, Norman, 1910–, American writer, director, and producer of radio dramas, b Boston His radio experiments with poetry and his radio productions of plays and documentary dramas introduced many new techniques His radio plays are found in *The Plot to Overthrow Christmas* (1940), *Thirteen by Corwin* (1941), *More by Corwin* (1943), *On a Note of Triumph* (1945), and *Untitled and Other Works* (1947)

Corwin, Thomas, 1794–1865, American politician, b Bourbon co., Ky A lawyer, he was an Ohio legislator in the 1820s, a U.S Representative (1831–40), and governor of Ohio (1840–42) In the U S Senate (1845–50) Corwin, a Whig, violently opposed the Mexican War, infuriating the soldiers and scandalizing the nation by suggesting that the troops should be welcomed to hospitable graves in Mexico He was Secretary of the Treasury (1850–53) under President Millard Fillmore, and although he did not entirely approve of the Republican position on slavery, he reentered (1859–61) the House as a member of that party In the Civil War he was minister to Mexico from 1861 to 1864 See biography by Josiah Morrow (1896)

Cory, Charles Barney, 1857–1921, American ornithologist, b Boston At his home in Hyannis, Mass., he established one of the first American bird reserves When the Field Museum in Chicago was opened, he gave his private collection to that institution, where he served as ornithologist from 1906 His many books include *Beautiful and Curious Birds of the World* (1880-83) and *Catalogue of Birds of the Americas* (1918-19)

Cory, William Johnson, 1823–92, English poet, educated at Eton and Cambridge *Ionica* (1858) contains his well-known translation of Callimachus' epitaph on Heraclitus It begins, "They told me, Heraclitus, they told me you were dead."

Coryate, Thomas (kôr'ĕāt), 1577?–1617, English traveler He spent some time at the court of James I and was the willing butt of most of the court jokes In 1608 he went on a journey that covered much of the Continent and resulted in the publication of his *Crudities* (1611) In 1612 he set out again, voyaged in Asia Minor and Egypt, then back to Palestine and E to Persia and India, reaching Agra in 1616 His letters from Agra were published in 1616 and 1618, some were reprinted in *Early Travels in India* (ed by Sir William Foster, 1921)

Corybantes (kôr"ĭbăn'tēz), in Greek religion, dancers who followed CYBELE They resembled DACTYLS, CURETES, and Telchines, as well as BACCHAE

Corydon (kôr'ĭdŭn) **1** Town (pop. 1,865), co. seat of Harrison co., S Ind., W of Louisville, Ky.; laid out 1808. It was the territorial capital from 1813 to 1816 and then the state capital until 1825 The center of a dairying area, it has quarries and natural-gas resources It was the scene of the only Indian battle of the Civil War (July 8, 1863), when it was attacked by the Confederates who had crossed the Ohio river near by. The Wyandotte Cave is near here **2** Town (pop. 1,872), co seat of Wayne co., S Iowa, S of Chariton, inc. 1867

Cos: see KOS.

Cosa, Juan de la (hwän' dā lä kō'sä), c.1460–1510, Spanish navigator. He sailed with Columbus in 1492 as pilot of the flagship *Santa María*, and again in 1498. After accompanying Alonso de OJEDA in 1499, he drew (1500) a world map (a manuscript copy exists in Madrid) that seems to be the first to question the identity of the new lands with Asia and to furnish evidence that the Cabots coasted farther S along the Atlantic shore than other documents reveal. In 1501 he was with

Bastidas, and later (1504) he again explored the northern coast of South America Securing for Ojeda a commission to colonize and explore that coast, Cosa accompanied him (1509) to the site of Cartagena and was there killed by the Indians

Cosam (kō'-), ancestor of St. Joseph, in Luke's geneslogy. Luke 3 28

Cosenza (kōzĕn'tsä), city (pop 30,038), capital of Cosenza prov , Calabria, S Italy, at the junction of the Busento and Crati rivers Chief city of the ancient Bruttii, it was taken by the Romans in 204 B.C. According to tradition, Alaric I, Visigothic king, was buried here in the bed of the Busento A castle built by Emperor Frederick II dominates the medieval town, there are a cathedral and a museum of antiquities The city has suffered repeatedly from earthquakes

Cosgrave, William Thomas (kŏz'grāv), 1880–, Irish statesman He was a Dublin businessman and entered city politics as a young man. A member of the radical wing of Sinn Fein, he fought in the Easter Rebellion of 1916 and was imprisoned for a year After the amnesty he was elected to the British Parliament and to the revolutionary Sinn Fein government of 1918, in which he served as minister of local government When Sinn Fein divided in 1922 he stood by the Free State, and after the death of Arthur Griffith and the assassination of Michael Collins, Cosgrave was elected president of the executive council This office he held until 1932, when the republicans headed by Eamon De Valera won the election Cosgrave became opposition leader, a position he maintained until 1944, when he resigned the leadership of his Fine Gael, or United Ireland, party

Coshocton (kŭshŏk'tun), city (pop 11,509), co seat of Coshocton co , E central Ohio, N of Zanesville at the confluence of the Walhonding and Tuscarawas rivers, in an industrial area, laid out 1802 Cast-iron pipe, electrical products, advertising novelties, and leather goods are made here Flood-control dams have been built near by

Cosimo de' Medici see Medici, Cosimo de'.

Cosmas and Damian, Saints (kŏz'mus, dā'-), 4th cent ?, Christian martyrs, physicians who took no fees They are remembered daily in the Mass By tradition they were Arabian twins, killed under Diocletian They are patrons of physicians and apothecaries Feast Sept 27.

Cosmati work see mosaic

cosmetics [Gr ,=ornamental], preparations externally applied to enhance the beauty of skin, hair, and eyes The use of body paint for ornamental and religious purposes has been common among primitive peoples from prehistoric times Many cosmetics originated in the Orient In Egypt their use is recorded 6,000 years ago, and ancient tombs have yielded cosmetic jars and applicators The Egyptians excelled in eye make-up, using kohl on lashes and brows and green eye shadow Fingers, palms of hands, and feet were dyed with henna Greek women used charcoal pencils and rouge sticks and coated their faces with powder, which often contained dangerous lead compounds Beauty aids reached a peak in imperial Rome, and ladies required the services of slaves adept in their use Many cosmetics survived the Middle Ages, and Crusaders brought back rare Eastern oils and perfumes Men and women of the Renaissance used cosmetics extravagantly, and from the 17th cent recipes and books on the toilet abounded During the 19th cent make-up virtually disappeared except for a light dusting with powder At the turn of the century came a revival of the use of cosmetics, accompanied by the manufacture of beauty aids on a scientific basis in France, still a leading producer of fine cosmetics The industry has grown to tremendous proportions with the rapid development of beauty culture In the United States, cosmetics intended for interstate commerce are controlled under the Federal Food, Drug, and Cosmetic Act of 1938

cosmic rays, radiation of unknown origin coming to the earth from outer space These rays, carrying large amounts of energy, are able to penetrate nearly all substances Since the early research on cosmic rays undertaken by V F Hess and Werner Kolhörster c 1911, many scientists have studied their nature and occurrence in all parts of the world from the depths of lakes, mines, and glacial crevasses to mountain peaks and into the stratosphere It is believed that the primary rays coming from beyond the earth's atmosphere are chiefly protons traveling at various speeds Many of these collide with air particles, the collisions becoming more frequent in the denser atmosphere close to the earth It is believed that the collisions cause the nuclei of the atoms that are hit to break into particles including secondary protons, neutrons, mesons, and electrons, all of which may become secondary cosmic rays. Further collisions with atomic nuclei are believed to create tertiary and quaternary rays with the process continuing until the energy of the primary ray is dissipated Only a few primary rays reach sea level. Valuable contributions to knowledge of cosmic rays have been made by Robert Millikan, Carl D. Anderson, Arthur H. Compton, Bruno Rossi, and others, but much research must be completed before these rays are fully understood. See Pierre Auger, *What Are Cosmic Rays?* (rev. and enl. American ed., 1945); D X J Montgomery, *Cosmic Ray Physics* (1949)

Cosmo de' Medici see Medici, Cosimo de'

cosmogony (kŏzmŏ'gŭnē) [Gr ,=birth of the world], hypothesis on the origin of the solar system and the nature of the universe Newton, the first modern astronomer to have a system of his own, held that by the force of gravity particles of matter diffused through space were brought together about points of condensation, or nuclei, and so bodies began to take form His ideas were further developed in 1755 by Kant, who added his own belief that heat is generated by the impact of molecules Another of his views, which later was proved to be incorrect, was that the molecular impacts would cause a condensing body to rotate Independently, in 1796, Laplace announced a somewhat similar system, the nebular hypothesis In place of Kant's mistaken notion regarding the cause of rotation, Laplace assumed that the nebulous matter acted upon by forces of gravity already had some degree of rotation and that as it condensed and shrank it would whirl faster and faster, changing shape from a globular mass to a spheroid with flattened poles. Scientists at last became convinced by their calculations that the explanation does not fit our own solar system, although it may hold true in some parts of the universe Later theories are the meteoric hypothesis of Sir Norman Lockyer, the tidal theory of G H Darwin, and the planetesimal hypothesis of T C Chamberlin and F R Moulton, combining the nebular and meteoric theories

Cosmopolis (kŏzmŏ'pulĭs), town (pop 1,207), W Wash , on the Chehalis river near Grays Harbor, inc 1891

cosmos (kŏz'mus), name for garden plants of the tropical American genus *Cosmos* The most common garden kinds are annuals with heads of flowers in crimson, pink, white, or orange

Cossa, Baldassarre (bäldäs-sar'rā kŏs'sä), c 1370–1419, Neapolitan churchman, antipope (1410–15, see Schism, Great) with the name John XXIII He had a military career before entering the service of the Church He was made a cardinal by Boniface IX (1402) and proved himself able, especially in financial matters In 1408 he deserted Gregory XII and helped to bring about the Council of Pisa (see Pisa, Council of) to end the schism between the Roman and the Avignon popes The council, declaring both Gregory XII and Benedict XIII deposed, set up a third claimant as Alexander V On Alexander's death a year later, Cardinal Cossa was elected Of the three rival "popes," John had much the greatest following He immediately sought the aid of Sigismund and helped to elect Sigismund emperor John allied himself with Louis II of Anjou to make war on Lancelot of Naples and his ally Pope Gregory XII They routed the forces of Lancelot, but in 1412 John made peace with Lancelot, who, nevertheless, turned against him and took Rome in 1413 An ineffective council at Rome (1412–13) was followed by the Council of Constance (see Constance, Council of), which John convened under pressure from Sigismund At the opening of that council he reluctantly promised (1415) to abdicate if his rivals would do so Then, surreptitiously, he fled to the lands of his ally Frederick of Hapsburg He was forced to return The council formally deposed him, and he submitted He was held as prisoner in Germany until 1418, then returned to Italy In his lifetime he had a bad reputation for unscrupulousness, even simony, he certainly devoted himself to self-aggrandizement

Cossa, Francesco, or Francesco del Cossa (fränchä'skō dĕl kŏs'sä), c 1435–1477?, Italian painter He was a leading representative of the Ferrarese school and regarded, with Ercole Roberti, as the founder of the Bolognese school His principal works include *The Glorification of March, April, and May,* frescoes in the Schifanoia Palace, Ferrara, some admirable portraits of the artist's contemporaries, *Madonna Enthroned* (Bologna), *Madonna and Child with Angels, St Liberal,* and *St Lucy* (National Gall of Art, Washington, D C), altarpiece representing scenes from the life of St Vincent Ferrer (National Gall , London) See Bernhard Berenson, *North Italian Painters of the Renaissance* (1907), E G Gardner, *The Painters of the School of Ferrara* (1911)

Cossa, Pietro (pyä'trō), 1830–81, Italian dramatic poet His historical dramas in verse include *Nero, Cleopatra, Messalina, Cecilia,* and *Borgia* He is considered the leading Italian dramatist of the transition from romanticism to naturalism

Cossacks (kŏ'săks, kŭ'săks, -sŭks), Rus. *Kazaki,* peasant-soldiers of several regions in Russia, who under the tsars held certain privileges in return for rendering military service as Cossack cavalry The Cossacks (c 4,000,000 before the Russian Revolution) formed 11 communities named for their location—Don, Kuban, Terek, Astrakhan, Ural, Orenburg, Siberia, Semirychensk, Transbaikalia, Amur, and Ussuri The Don and Kuban Cossacks were the most numerous and important. The descendants of Russian and Ukrainian serfs who had fled from servitude in the 16th and 17th cent., the Cossacks settled on the border steppes, which they defended against raids and invasions Their villages, called *stanitsas,* were largely self-governed until 1918 In the Ukraine, they set up a separate state, which in 1654 became a vassal of Russia Throughout the 17th and 18th cent the Cossacks were prominent in the social rebellions in Russia and the Ukraine, which ended with the defeat of Pugachev In the second half of the 19th cent , the lands of their thinly populated regions attracted many peasants, whom the Cossacks despised The Cossacks turned reactionary, and the tsars came to rely on them to suppress revolution Having supported the counterrevolution in the civil war of 1918–20, they lost their privileges, but in 1936 the Soviet government resuscitated the name of the Cossacks, extending it to the whole population of the regions inhabited by them. Their uniforms and cavalry units were reinstated, but not their administrative privileges

Cossimbazar (kŭsĭm'buzär'), small town, West Bengal state, India It was the chief overseas port of Bengal from the 16th to the 18th cent., when Calcutta surpassed it and Cossimbazar declined

Costa, Isaäc da (ē'sä-ăk dä kŏ'stä), 1798–1860, Dutch poet, b Amsterdam, of an aristocratic Sephardic Jewish family He entered the Reformed Church (1822), and much of his poetry is fervently Christian Da Costa's period of poetic maturity is placed between the political poem *Vijfen-twintig Jaren* (1840), revealing unusual social consciousness, and the narrative poem *De Slag bij Nieuwpoort* [the battle of Nieuport] (1859) He was a distinguished scholar in Protestant biblical theology and the classics His work on Jewish history was translated into English as *Israel and the Gentiles* (1855) A reprint of the translation of Book III (the most significant portion) appeared as the title piece in the Jewish historical collection, *Noble Families among the Sephardic Jews* (1936)

Costa, Lorenzo (lōrän'tsō kŏ'stä), 1460–1535, Italian painter of the Ferrarese and Bolognese schools Costa's finest works are the *Madonna and Child with the Bentivoglio Family* and *Triumph of Life and Death* in San Giacomo Maggiore, the *Madonna with Saints* in the Bacciocchi Chapel, San Petronio, and the *Madonna* in San Giovanni in Monte, all in Bologna, *Madonna and Child Enthroned* (National Gall , London), *The Court of Isabella d'Este* (Louvre) *Three Saints* is in the Metropolitan Museum

cost accounting see accounting

Costa Rica (kŏ'stŭ rē'kŭ) [Span ,=rich coast], republic (19,238 sq mi , 1944 estimated pop 725,149), Central America The capital is San José Costa Rica is bounded on the north by Nicaragua, on the northeast by the Caribbean, on the east by Panama, and on the south and west by the Pacific The northeastern section is a broad, jungle plain, and in the northwest are jungles and low mountains, an extension of the massive cordillera that dominates the country from coast to coast and separates it from Panama. Within the mountain belt and under the very shadow of volcanoes such as Irazú lies the central plateau (the *meseta central*) of the highlands This, a land of "eternal spring," is the heart of the country There, however, Spanish conquest was delayed Not until 1563, with the founding of Cartago, was the region conquered and brought under the captaincy general of Guatemala The small Indian population that survived conquest and disease retreated into the mountains Unable, therefore, to establish a hacienda system based on Indian labor, the colonists generally became relatively small landowners, creating an agricultural economy that was ultimately the basis for a strongly coherent national life The language is Spanish, the prevailing religion Roman Catholic In the northwest a mestizo population (about 14 percent) developed, and the region became one of large cattle ranches From Cartago, westward expansion into the plateau began in the 18th cent , the three other great cities of the plateau, San José, Heredia, and Alajuela, were settled With independence from Spain (1821) Costa Rica was nominally annexed to the empire of Agustín Iturbide of Mexico Later it was a member (1823–38) of the Central American Federation After Francisco Morazán vainly attempted (1842) to use the republic as the nucleus of a new federation, Costa Rica consistently opposed later efforts toward union, but the little nation violently resisted the invasion of Nicaragua by the American filibuster William Walker and contributed to his defeat in 1857 Introduction of coffee early in the 19th cent formed the Spanish families into a coffee hierarchy that remained in control until the administration of Tomás Guardia (1870–72) The coffee, which is of a good quality, was the chief source of Costa Rican income and the base of the stable society largely made up of whites of Spanish descent (about 82 percent) In 1874 Minor Cooper Keith founded Limón and began to develop United Fruit Company banana plantations on the Atlantic coastal plain. These are worked by Jamaica Negroes (about 5 percent of the population). These tropical fruits contrib-

uted a good deal to Costa Rican prosperity, but in recent years a leaf blight has caused vast tracts to be abandoned. Many of these banana plantation workers have been forced to become small farmers as well as they may, but they threaten to be a serious social problem Other fissures have appeared in plateau society, but the nation—which exports abacá, cacao, balsam, hardwoods, and tuna fish as well as coffee and bananas—has generally maintained its stability Although the INTER-AMERICAN HIGHWAY is incomplete, the central plateau is crossed by a network of paved roads, and both a highway and an electric railroad lead to the Pacific port, PUNTARENAS Costa Ricans are proud of their tradition of democratic government and of a long record of friendly relations with neighbors, combined with complete independence Costa Rica after the attack on Pearl Harbor declared war on Japan on Dec 8, 1941, even before the United States did (declarations against Germany and Italy followed on Dec 11), and the republic has played an active part in Pan-Americanism, though there were disputes over the question of the NICARAGUA CANAL The tradition of solid and democratic government is strong, though there have been interruptions such as the administration (1917–19) of Federico Tinoco Granados, which came into power by revolution In the 1940s new trouble was brewed After the disbandment of the Comintern in 1943, the Communist party in Costa Rica became the Vanguardia Popular and with the National Republican party helped to secure the election (1944) of Teodoro Picado There was considerable opposition from the moderates, which reached a crescendo in preparation for the elections of Feb , 1948 The moderate candidate, Otilio Ulate, came off victor with a slight margin The government then charged that fraud had been used, and the congress declared that a new election would be necessary A revolution followed in March, 1948 The rebels were successful and set up (May, 1948) a junta under José Figueres, a Socialist, who, by arrangement with Ulate, took over rule temporarily A small band of rebels in Dec , 1948, crossed the border from Nicaragua, and Costa Rica, charging Nicaragua with a part on the revolt, asked for an investigation by the Council of the Organization of American States This was held, the Nicaraguan border was closed to rebels, and Costa Rica was asked to suppress activities of the Caribbean League, an international organization formed with the express purpose of attacking dictatorships (including the government of Nicaragua) In Nov , 1949, the junta yielded the government to Otilio Ulate, who was inaugurated under a new constitution Thus Costa Rica returned to its usual democratic forms See Ricardo Fernández Guardia, *History of the Discovery and Conquest of Costa Rica* (1913), D G Munro, *Five Republics of Central America* (1918), John Biesanz and Mavis Biesanz, *Costa Rican Life* (1944), Ralph Hancock, *The Rainbow Republics* (1947)

Coster, Charles de: see DE COSTER, CHARLES

Coster, Laurens Janszoon: see KOSTER, LAURENS JANSZOON

Coster, Samuel (sä'mŭĕl kōs'tur), 1579–c 1665, Dutch man of letters, a physician His importance lay less in the farces and tragedies he wrote than in his leadership of a group of promising liberal writers, including Vondel, Hooft, and Bredero Their literary academy at Amsterdam (1617) did not realize its ambitions, but it had influence on Dutch letters, especially in the theater

cost of living, cost of goods and services bought by a certain economic class to maintain a certain standard of living in a specified geographical area In estimating such cost, food, clothing, rent, fuel, lighting, furnishings, and other miscellaneous items, such as recreation, transportation, and medical services, are included in the data analyzed Index numbers based on any norm of 100 are used to show changes in the cost of living, and any deviation from that norm will reveal the rise or fall of the cost of living in a particular year, as compared to the normal year or years used as a basis The first attempt to gather data on the cost of living in the United States was made by the U S Bureau of Labor Statistics in 1890 During the Second World War and immediately following it, many employers established systems of wage changes based on changes in the cost of living, but such attempts were denounced by labor spokesmen as establishing a standard of living "which must remain fixed " However, an agreement using the cost of living index as a basis for the determination of wage rates was signed in May, 1948, between General Motors and the United Automobile Workers of America Attempts to compare index numbers of wages and costs of living of various countries have been made by the International Labor Office, but variations in the methods of gathering statistics have curtailed their usefulness

costa, legal: see DAMAGES

costume, dress in its distinctive forms as worn by different peoples, at different periods, and including official or ceremonial attire, such as vestments, coronation robes, and academic gowns Costume properly extends to accessories such as gloves, veils, collars, girdles, jewelry, weapons, headdress; to styles of wearing hair and beard, to primitive methods of painting, scarring, or tattooing the body, to head and foot binding and waist compression, and to ear, lip, and nose piercing for the wearing of ornaments or insignia. The use of ornament precedes, apparently, the use of protective garments, its purpose being to enhance personal importance by wearing trophies, valuables, charms, and the like and to increase sex attractiveness Climate, or the need of protective covering, is a powerful influence in the evolution of dress The southern peoples have been called the skirted races, the skirt supposedly developing from the girdle, while Pliny spoke of the northern tribes, the Gauls, Franks, and Britons, as the breeched or trousered ones and considered their garb an index of their barbarism Some eastern peoples also were trousered, as the Medes and Persians Caste distinctions have always greatly affected modes of dress Primitive man adorned himself with the mementos of his prowess, his paint and scars were symbolic, the Chinese aristocrat marks his immunity from toil by the length of his fingernails and his voluminous robes Chinese dress has always been distinguished by the use of magnificent textiles and embroidery, of pearls and jade, and by its subtle symbolism of rank and wealth India, having a diversified people and great caste traditions, has had divided usage in many details, but in general presents the same elements, for the women the long draped shawl or sari, sandals, jewelry in profusion, and for the men a similar drapery and headdress significant of tribe or caste Exquisite muslins, "painted" cottons, gold and silver flowered fabrics, the Cashmere shawl, and CLOTH OF GOLD have from antiquity beautified the Indian garments Early Egyptian costume was a sort of apron or kilt, variously wrapped and ornamented, of light transparent linen or other fabric Massive jewelry, wigs, and elaborate headdress were general among the upper classes Assyrians wore rich, opaque textiles, embroidery, fringe, and gorgeous jewelry To show any part of the body indicated lowly condition, and the long tunic was sleeved and girdled Greek costume is noted for its extreme of tasteful simplicity The characteristic woman's dress was the chiton, a long loose robe, drawn in soft folds over a girdle about the waist In the Doric chiton the top was turned to fall in a flap, the Ionic chiton was joined at intervals along the top to form sleeves The himation, a large, rectangular mantle, was draped at pleasure Wool, linen, and later silk in white and delicate colors were worn Jewelry was restrained and hairdressing simple, a fillet being generally used Men and women dressed much alike Men wore their hair long until the Persian wars Roman dress, influenced by that of the Greeks, was simple and dignified The TOGA, variously draped, was the distinctive garment of the Roman citizen Women wore the stola, and both wore the tunic The palla, a shawl for outdoor wear, functioned as well for bed or couch cover or for shroud White wool was much worn No tailoring or dressmaking in the modern sense existed, as garments were complete as they came from the loom, except for sewing up the tunic The change from ancient to modern costume began with the Roman conquest The conquerors adopted the close, trousered garb of the barbarians, while the Gauls, Franks, and Britons assimilated many features of the Roman clothing In the early Byzantine period various influences, pagan, Roman, and Christian, mingled The result in medieval European costume was characterized by a large number of separate garments, elaboration of detail, the fitting of garments to the body, and the beginnings of fashion The dress of the Byzantine period consisted of a long tunic or robe, some form of trousers, the dalmatic and the stole, which survive in clerical VESTMENTS Frankish dress became splendid Men wore knee-length tunics, rich girdles, furred and fringed mantles, clasps, and brooches The Crusades tremendously influenced dress by increasing commerce with the East and introducing rich fabrics Armor, armorial bearings, heraldic embroidery, insignia of all sorts, and the beginnings of uniform appeared The Norman Conquest substituted more shapely and ornamental clothing for the sober English cloak and tunic In the 16th cent , costume was of extravagant magnificence, as on the FIELD OF THE CLOTH OF GOLD Velvets, brocades, gold cloth and gold-shot fabrics, embroidery, and LACE characterized the dress of both sexes. Before the 15th cent the long robe of men had disappeared, except for scholars, and was followed successively by the rochet, the cotte, the doublet or pourpoint, and finally the coat, with which were worn the long closely fitted hose which had evolved from the early loose trousers and covered the body from waist to toes They were diversified by trunks called trunk hose and later were separated into distinct garments, trunks and HOSE (or stockings) The word *breeches* came into use c 1600. Armor was abandoned in the 17th cent The hennin or steeple headdress of the 14th and 15th cent. and the bombasted trunks, high ruffs, and extreme farthingales of the 16th cent gave way to the graceful and harmonious costume of the early 17th portrayed by Van Dyck—for men the short, full cloak, shapely doublet, wide collar, and broad, plumed hat, for women the bodice and stomacher and the full skirt Coats with skirts and waistcoats introduced at the court of Louis XIV soon became the general garb for men and in the 18th cent were marked by rich colorful materials Women adopted the long bodice, stiff corset, full skirts draped over a wide hoop, and towering hair arrangements. The period saw an elaboration of jewelry and accessories, such as snuffboxes, muffs, fans, and veils High heels became fashionable. The French Revolution, in reaction against caste distinctions, abolished elegance and made permanent changes in dress, such as the introduction of long trousers Although a number of eccentric fashions followed it, costume may be said at this time to have given way to a modern, more or less universal style National dress is fast giving way to standardized modes The peasant costume of some countries is colorful and picturesque, often elaborately fashioned and embroidered and augmented by kerchief, headdress, and apron Particularly interesting are those of the Netherlands, the Tyrol, Czechoslovakia, Lithuania, and Brittany The stage has done much to keep alive knowledge and appreciation of the apparel of bygone ages In the early religious drama of all nations theatrical costume was highly symbolical Deities, heroes, and personifications of qualities and forces, such as vice and virtue, all have their traditional colors, garments, insignia, MASKS, and wigs In the Greek theater, dress was conventional in colors and accessories, the sock and buskin (*soccus* and *cothurnus*) standing respectively for comedy and tragedy The Roman drama became more realistic and elaborate, and masks were gradually given up In medieval plays divinities were garbed in the style of contemporary religious paintings, devils were characterized by masks As the drama passed out of the control of the church into that of the courts, it became spectacular and splendid The modern stage has developed the greatest possible freedom in the use of costume, which may vary from strict historical accuracy to the furthest extreme of artistic suggestiveness See K M Lester, *Historic Costume* (3d ed , 1942), J R Planché, *A Cyclopaedia of Costume* (2 vols , 1876-79), R Turner Wilcox, *The Mode in Costume* (1947)

Cosway, Richard (kŏz'wā), 1740?–1821, English miniaturist There is a collection of his works in Windsor Castle Perhaps best known is the portrait of Mme du Barry A self-portrait is in the National Portrait Gallery, London See biography by G C Williamson (1905).

Côte-d'Or (kōt-dôr') [Fr ,=golden ridge], department (3,392 sq mi , pop 335,602), E France, a part of BURGUNDY It is named for a low mountain chain whose slopes are covered with some of the finest vineyards in the world DIJON (the capital) and BEAUNE are the chief centers

Cotentin (kôtätăⁿ'), region of Normandy, N France, roughly coinciding with the peninsula formed by the MANCHE dept An old Norman county, it takes its name from its old capital, Coutances The region is characterized by the numerous hedgerows which divide the hilly landscape into small fields and apple orchards

Cotes, Roger (kōts'), 1682–1716, English mathematician and philosopher He was Plumian professor of astronomy at Cambridge from 1706 He wrote the preface to the second edition of Sir Isaac Newton's *Principia*

Cotes, Sara Jeannette Duncan: see DUNCAN, SARA JEANNETTE

Côte Saint Michel, Que see SAINT MICHEL

Côtes-du-Nord (kōt'-dü-nôr') [Fr ,=northern shores], department (2,787 sq mi ; pop 526,955), NW France, in Brittany, on the English Channel. Saint-Brieuc is the capital

Cöthen, Germany see KOTHEN.

cotillion (kutil'yun, kō–), ballroom dance which flourished in the 19th cent in the United States and England It appeared in France during the reign of Louis XIV, but the number of dancers it then permitted was limited The cotillion was danced to polkas, waltzes, and mazurkas, and it allowed a great variety of steps and figures which were suggested by a leading couple, the other dancers imitating them. It was often used at the close of a ball

Cotman, John Sell, 1782–1842, English landscape painter and etcher, a leading representative of the Norwich school His father was a well-to-do mercer. Cotman studied in London, where he knew J M W. Turner and Girtin. He had a small income and never succeeded in making much by his painting For the last nine years of his life he was a drawing master at King's College, London. Although Cotman's work was but little appreciated in his day, it is now highly prized for its fine color, decorative and structural qualities, and sustained poetic mood He is best known for his water colors and drawings, of which the British Museum possesses many, including the famous *Greta Bridge*. Cotman's oil

paintings are in many British galleries The Metropolitan Museum possesses two His sons Miles Edmund (1810–58) and Joseph John (1814–78) and his nephew Frederick George Cotman were able painters See biography by S C K Smith (1926), Laurence Binyon, *John Crome and John Sell Cotman* (1897)

Cotopaxi (kōtōpäk'sē, kōtōpäk'hē), active volcano, 19,344 ft high, N central Ecuador A magnificent snow-capped cone, Cotopaxi is one of the most superb peaks of the Andes It is continuously active and eruptions have caused severe damage

Cotrone, Italy see CROTONA

Cotswold Hills, broken plateau of oolitic limestone, mainly in Gloucestershire, England, extending c 50 mi NE from Bath Its crest (average elevation less than 600 ft) is the Thames-Severn watershed The region is famous for Cotswold sheep and for its picturesque houses Noteworthy are the many megalithic monuments and long barrows here Among the ancient churches is Havles Abbey, founded in 1246 The Cotswold games were held here from ancient times until the 19th cent See O G S Crawford, *The Long Barrows of the Cotswolds* (1925), H J Massingham, *Cotswold Country* (1937), J C Moore, *The Cotswolds* (1937)

Cotswold sheep, old breed of long-wool English sheep, native to the Cotswold Hills of Gloucestershire, England The Cotswold is a large sheep with a long, coarse, lustrous wool hanging in ringlets It is often crossed with the Down and Merino breeds In the United States it is found mostly in the northwestern ranges The American Cotswold Registry Association promotes the interests of the breed in America

Cotta, Heinrich von (hīn'rĭkh fŭn kô'tä), 1763–1844, German forester In 1795 he founded near Eisenach a school of forestry, he became director (1810) of the forestry school at Tharandt, which in 1811 absorbed the Eisenach school He developed new methods of tree culture and of forest management His standard works on forestry include *Anweisung zum Waldbau* (1817)

cottage cheese, unripened soft cheese known also as pot, baker's, or Dutch cheese or smearcase It is usually made of pasteurized skim milk and set with a starter of lactic acid bacteria The separation of curd and whey is facilitated by low heat The curd is stirred and seasoned with salt, cream, and, in some localities, molasses or sugar The use of skim milk yields a cheese low in fat and vitamin A Cottage cheese is subject to mold spoilage and must be refrigerated and used fresh

Cottage City, town (pop 1,044), W central Md , residential suburb of Washington, D C

Cottage Grove, city (pop 2,626), W central Oregon, S of Eugene and on the Coast Fork a tributary of the Willamette, in a lumbering and fruitgrowing area, inc 1900 The Cottage Grove Dam, 6 mi south of the city, completed in 1942 is part of the Willamette river basin project (see WILLAMETTE)

cottage holding, term used in England for a tract of not more than three acres of agricultural land farmed by the household of a cottage to provide food for the household, which secures its money income from some source other than marketing the produce of the farm Possession of cottage holdings has proved advantageous to families engaged in local industries Their farming is not subject to the discouragements of business farming and materially improves their standards of living Holdings for subsistence farming are not limited to England, they are customary in many countries, and before the centralization of industry they were usual possessions of American mechanics and others who were not business farmers See also SMALL HOLDING See Ralph Borsodi, *This Ugly Civilization* (2d ed , 1933) and *Flight from the City* (3d ed , 1947)

cottar see COTTER

Cottbus or **Kottbus** (both kôt'bŏŏs), city (pop 49,131), Brandenburg, E Germany, on the Spree It has textile and machine-tool manufactures

Cotte, Robert de (rôbĕr' dŭ kôt'), 1656–1735, French architect He designed Parisian residences and public works such as the façade of the Church of St Roch in Paris and the episcopal palace at Strasbourg At Versailles, in association with J H Mansart, he built the Grand Trianon and completed the palace chapel He completed the high altar of Notre Dame de Paris Cotte succeeded Mansart as architect to Louis XV

cotter, cottar, or **crofter** in Highland Scotland, a tenant who rents a croft, or small holding of land The removal of many cotters from their land in the 19th cent aroused much agitation and started legislation in their behalf The humble lot of this agricultural type is described in Robert Burns's well-known poem, "The Cotter's Saturday Night."

Cottereau, Jean: see CHOUANS

Cottet, Charles (shärl' kôtā'), 1863–1925, French landscape and genre painter, studied at the École des Beaux-Arts His paintings of Brittany include the fine series of landscapes called *The Country of the Sea* (Luxembourg Mus , Paris), *Going to Church in Brittany* (Vienna), and *Burial in Brittany* (Lille) Travels in Egypt, Italy, and Spain resulted in paintings of those countries

Cotton, Charles, 1630–87, English poet and translator. He contributed to his friend Izaak Walton's *Compleat Angler* Cotton's verse, pleasant and unaffected, includes "An Ode to Winter" and "The Retirement " Among his translations from the French is a version of Montaigne's *Essays* (1685–86) See C J Sembower, *Life and Poetry of Charles Cotton* (1911)

Cotton, George Edward Lynch, 1813–66, English clergyman and educator, grad Trinity College, Cambridge, 1836 From 1837 until 1852 he was an assistant master at Rugby and is the "young master" in Thomas Hughes's *Tom Brown's School Days* He later became (1852) headmaster of Marlborough College and after 1858 served as bishop of Calcutta, where he did extensive missionary work and established numerous schools for Eurasian children See memoir by his wife (1871)

Cotton, Henry (Thomas Henry Cotton), 1907–, British golfer, b Cheshire, England He took the British open golf championship in 1934 and 1937, won many European championships, and was the Professional Golfers' Association of America winner in 1932, 1939, and 1946 Cotton also was captain of the British Ryder Cup team in 1939 and 1947 He wrote *The Game of Golf* (1949)

Cotton, John, 1584–1652, Puritan clergyman in England and Massachusetts, b Derbyshire, educated at Cambridge (M A Trinity College, 1606, B D Emmanuel College, 1613) Imbued with Puritan doctrines, he won many followers in the 20 years when he was vicar of the rich and influential parish of St Botolph's Church, Boston, Lincolnshire He was summoned to appear before the High Court of Commission (1632), but instead of appearing he resigned and fled Some of his flock sailed (1633) with him to Massachusetts Bay, where the young city of Boston was so named primarily to honor him He and John Winthrop were the leading figures of the colony, and Cotton was chiefly responsible for the exile of Anne HUTCHINSON because of her antinomian doctrines and for the expulsion of Roger WILLIAMS He was one of the molders of the Congregational Church, and his arguments in such treatises as *The Keys of the Kingdom of Heaven* (1644), *The Way of the Churches of Christ in New England* (1645), and *The Way of the Congregational Churches Cleared* (1648) were cogent and profound He was a firm believer in the right of the Congregational minister to dictate to the faithful, and thus he has been viewed as a strong upholder of theocracy His *Milk for Babes* (1646) was a well-known catechism for children His daughter was the wife of Increase MATHER and the mother of Cotton MATHER

Cotton, Sir Robert Bruce, 1571–1631, English antiquarian The Cottonian collection of books, manuscripts, coins, and antiquities became a part of the British Museum when it was founded in 1753 Cotton collected especially Hebrew and Greek manuscripts and Anglo-Saxon characters An unprinted classified catalogue of the collection is in the Harleian MSS of the British Museum The House of Commons Committee Parliamentary Report of 1732 gives a description

cotton, most important of the vegetable fibers Cotton has been spun, woven, and dyed since prehistoric times It formed the staple clothing of India, Egypt, and China Hundreds of years before the Christian era cotton textiles were woven in India with matchless skill, and their use spread to the Mediterranean countries In the 1st cent Arab traders brought the fine muslins and calicoes to Italy and Spain Moors introduced the cultivation of cotton into Spain in the 9th cent Fustians and dimities were woven there and in the 14th cent in Venice and Milan, at first with a linen warp Little cotton cloth was imported to England before the 15th cent , although small amounts were obtained chiefly for candlewicks By the 17th cent the East India Company was bringing rare calicoes and other fabrics from India Before the arrival of the white man in the Western Hemisphere, cotton was skillfully spun and woven into fine handkerchiefs, mantles, bags, breeches and poncholike garments and dyed tapestries, counterpanes, and carpets Cotton fabrics found in Peruvian tombs are said to belong to a pre-Inca culture In colors and texture, the ancient Peruvian and Mexican textiles resemble those found in Egyptian tombs The cotton plant belongs to the mallow family (genus *Gossypium*) and is related to the hibiscus and hollyhock It is generally a shrubby plant having broad three-lobed leaves and seeds in capsules, or bolls, each seed is surrounded with downy fiber, white or creamy in color and easily spun The fibers, when dried, are flattened and twisted Cotton is of tropical origin but is most successfully cultivated in temperate climates with well-distributed rainfall In the United States nearly all of the commercial cotton crop comes from varieties of upland cotton (*Gossypium hirsutum*), but small quantities are obtained from sea-island and American-Egyptian cotton (both belonging to the species *G. barbadense*) The upland varieties are hardier than the others, they have white flowers which turn red before dropping and white fiber ranging in length from about ¾ in to about 1½ in. Most of the sea-island and American-Egyptian cottons now grown in the United States are found in irrigated regions of the SW United States They have white or cream-colored flowers which turn yellow before falling, and the plants require a longer growing season than the upland cotton The fibers of both are cream-colored or buff Sea-island cotton was formerly, before invasion of the South by the BOLL WEEVIL, the chief type grown in Florida and the coastal regions of Georgia and South Carolina, since it thrives in a moist, salty atmosphere Its long silky fibers are used in fine fabrics, lacework, and thread Cotton, although actually a perennial, is usually treated as an annual in cultivation The Cotton Belt in the United States extends from Texas to North Carolina The land is plowed, bedded up in ridges 3 or 4 ft wide, and the seed planted in furrows The planting season extends from March 1 in Texas to May 1 farther north Sunshine and moisture are required by the young plants (which are thinned by "chopping"), and dryer weather for maturing the bolls After six or eight weeks the bolls burst and are ready for picking Since the bolls ripen at different times, the picking is a laborious process requiring care, and long done by hand After the Second World War the use of mechanical pickers increased A chemical defoliant, which causes the foliage to drop before stripping has increased the efficiency of machine picking In the ginhouse the ripe cotton is separated from the seeds and baled The usual plantation bale weighs 500 lb , is covered with jute, and is bound with iron hoops The U S Dept of Agriculture has established official standards for grades of cotton In the S United States, research has been carried on with a view to improving methods of cultivation and handling Diseases and insect pests are numerous and destructive, of these the most deadly is the boll weevil, which causes enormous losses, especially to sea-island cotton The leading cotton-producing countries are the United States, India, China, the USSR, Egypt, and Brazil, it is produced also in Argentina, Peru, Mexico, and parts of Africa Leading states, in order of production, are Texas, Mississippi Arkansas, Alabama, Georgia, South Carolina, Louisiana, North Carolina, Oklahoma, and Tennessee Cotton cultivation began in America in the Jamestown colony (1607) The invention of the COTTON GIN (1793) increased production enormously, and the amount exported by 1800 was over 17,000,000 lb Weaving was begun by settlers who brought their wheels and looms The manufacture of cotton into cloth involves many processes—cleaning, ginning, carding, and spinning, which bring the raw fiber to a yarn or thread strong enough for weaving Under modern conditions, the weaving is mostly done in large factories on highly specialized power looms, dyeing, printing, and finishing conclude the making of the textile The manufacturing of cotton goods is a great industry in Great Britain (where it centers about Lancashire) and in the United States The earliest manufacturers used cotton yarn imported from the Orient In 1773 Arkwright was weaving CALICO at Derby on hand looms When new machines came into use in England, e g , Kay's fly shuttle, Hargreave's spinning jenny, and Arkwright's mule, the colonies were prohibited, under severest penalties, from obtaining or copying them, and not until Samuel SLATER, in 1790, designed in America machines for spinning cotton similar to those used in England could the American industry be said to be fairly launched For some years manufacture was centered in the North, at present many of the factories are in the cotton-producing states Commodities made from cotton are innumerable They comprise fabrics used in making clothing as well as cord fabrics for tires, fabrics for covering airplane wings, and mesh materials used as an inner layer in paved roads, small wares, such as elastic webbing, shoelaces, machine belts, and labels, knit goods, and mixed fabrics From the linters are made batting, wadding, and absorbent cotton, stuffing for mattresses, upholstery, and comforts, yarn, twine, and candlewicks Linters are also a valuable source of CELLULOSE for products including rayon, writing paper, guncotton, smokeless powder, varnishes, waterproofing materials, celluloid, collodion photograph films, and numerous others Cotton hulls are used for fertilizer, fuel, and packing, fiber of the stalk, for pressed paper and cardboard Production of the chief by-product, **cottonseed oil,** has assumed the importance of a separate industry The ripe pod or boll contains numerous seeds which constitute about two thirds the bulk, the remaining third being lint or fiber Some attempts had been made before the invention of the cotton gin to utilize the seeds A few planters plowed seeds under as fertilizer or fed them to their stock, but on the whole they constituted an enormous waste Experiments were begun among the Moravians of Pennsylvania to utilize the seeds In the mid-19th cent France made an edible butter substitute from Egyptian cottonseed In America the oil produced was at first used for lamps and for medical purposes After experiments in using

the oil for lighting, soapmaking, and cattle food, it began to be used, in the mid-century, as an adulterant of lard, butter, and olive oil and in packing sardines Not until the latter part of the 19th cent did the processing of cottonseed oil become a well-established industry The oil content of cotton seeds is about 20 percent After being freed from the linters the seeds are shelled and then crushed and pressed to obtain the crude red or brown oil; the refining process removes much of the color. Another method of obtaining the oil is by extraction with a solvent In its highly refined state cottonseed oil is employed in many ways, e g , as shortening, as salad oil, as a frying medium, and in the manufacture of margarine and of cosmetics Paint makers use it to some extent as a semidrying oil In the manufacture of soap, candles, washing powder, roofing tar, oilcloth, and artificial leather, as well as many other commodities, the less refined grades are used See M DeC Crawford, *The Heritage of Cotton* (1924, reprint, 1948), Harry Dickson, *The Story of King Cotton* (1937), G R Merrill and others, *American Cotton Handbook* (1941), Josephine Perry, *The Cotton Industry* (1943), Cotton Textile Institute, *Cotton from Raw Material to Finished Product* (3d ed , 1944)

Cotton Belt, term applied to that part of the United States where for many years cotton was the principal agricultural crop This area included the greater part of North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma, and Texas and sections of Virginia, Kentucky, Tennessee, Florida, and Missouri Although large quantities of cotton are still grown in many parts of this region, there is now crop diversification In later years the Cotton Belt has been extended into the Southwest Texas has taken the lead in cotton production, and cotton is raised in the Imperial Valley and other areas in California and in regions in Arizona and New Mexico

cotton boll weevil: see BOLL WEEVIL

cotton gin (jĭn), machine for separating cotton fiber from the seeds The charkha, used in India from antiquity, consists of two revolving wooden rollers through which the lint is drawn, leaving the seeds A similar gin was early used in the S United States for long-staple cotton In the modern roller gin, rollers covered with rough leather draw out the fibers, which are cut off by a fixed knife pressed against the rollers This type of gin cleans only about two bales per day but it does not snarl or break the fibers The saw gin, invented by Eli Whitney in 1793 and patented in 1794, consisted of a toothed cylinder revolving against a grate which enclosed the seed cotton The teeth caught the lint, pulling it from the seeds, and the lint was removed from the cylinder by a revolving brush This device, especially suited to short- and medium-staple cotton, has been mechanized and is used in surviving small plantation gins and in the more usual commercial gins, where the fiber is conveyed from farm wagon to baler by air suction Such plants have one or more gin stands, each with a series of from 70 to 80 circular saws set on a shaft The fiber, freed from dirt and hulls, is pulled through a grid by the saw teeth, from which it is removed by a revolving brush or by a blast of air (in more modern plants), and it is carried by air blast or suction to a condenser and finally to the baling apparatus

cottonmouth see WATER MOCCASIN

Cotton Plant, town (pop 1,778), E Ark , near the White River, in a cotton region, laid out 1840

Cottonport, town (pop 1,196), central La , SE of Alexandria, in the Cotton Belt

cottonseed oil see COTTON

cottonwood. see POPLAR

Cottonwood Falls, city (pop 1,078), co seat of Chase co , E central Kansas, SW of Topeka, founded 1858 by Free State settlers, inc 1872 It is a trade and shipping center in a farm and livestock area Near by is the Knute Rockne Memorial

Cottrell, Frederick Gardner (kŏt'rul), 1877-1948, American chemist, b Oakland, Calif , grad Univ of California (B S , 1896), Ph D, Univ of Leipzig, 1902 From 1902 to 1911 he taught at the Univ of California He served the government in the Bureau of Mines (1911–20), the National Research Council (1921–22), and several branches of the Dept of Agriculture (1922–42) He was an authority on nitrogen fixation and mineral fertilizers and developed the Cottrell method of dust precipitation, which uses an electric current at high potential to precipitate out suspended particles

Cotulla (kŭtŭ'lŭ), city (pop 3,633), co seat of La Salle co , SW Texas, on the Nueces and SW of San Antonio, inc 1910 It has developed from a cow town in mesquite-brush country to a shipping center for truck and livestock and a tourist stop on the Pan American Highway There are oil fields near by

couch grass, name for several grasses, among them the QUACK GRASS

Couchiching, Lake (kōō'shĭchĭng), S Ont , N of Lake Simcoe, connected with it by a channel, the "Narrows" It discharges through the Severn into Georgian Bay A summer resort, it is the scene of the Couchiching Conference, an annual gathering for the discussion of public questions

Coucy, Robert de (rôbĕr' dŭ kōōsē'), d. 1311, French architect, celebrated for his part in the building of Rheims cathedral, which he carried on as master of the works after the death of Hugues Libergier in 1263 Probably the Robert de Coucy traditionally known as the original architect of Rheims cathedral, after the fire of 1211, was his father, their separate works on the cathedral have been confused

Coucy, ancient castle, Aisne dept , N France, notorious in the 12th cent for its robber barons It was damaged in 1917 One of its lords, Guy II of Coucy, known as Le Châtelain de Coucy (d 1203?) was a trouvère

Coudersport (kou'dûrspôrt), industrial borough (pop 3,197), co seat of Potter co , N central Pa , on the west bank of the Allegheny river and E of Smethport, laid out 1807, inc 1848. Its manufactures include toys, textiles, leather goods, and surgical appliances The borough is a resort center There are many examples of Greek revival style in houses here The famous Bucktail Regiment of the Civil War was recruited largely in this area

Coudert, Frederic René (kōōdâr'), 1832–1903, American lawyer and public official, b New York city, grad Columbia, 1850 He practiced law in New York city and for many years was counsel in the United States for the French, Italian, and Spanish governments He was (1880) a member of the international conference at Bern for the codification of the law of nations, served (1893–95) as counsel for the United States in the Bering Sea fur-seal arbitration at Paris, and was (1896–98) a member of the Venezuela Boundary Commission He was active in political reform movements in New York city and was a trustee of many educational institutions He wrote *Certainty and Justice* (1913)

Coué, Émile (kōōā', Fr āmēl' kwā'), 1857–1926, French psychotherapist He is remembered for his formula for curing by optimistic autosuggestion, "Day by day, in every way, I am getting better and better" His teaching achieved a vogue in England and the United States in the 1920s

Coues, Elliott (kouz), 1842–99, American ornithologist, b Portsmouth, N H , grad Columbian College, later Columbian Univ and now George Washington Univ (B A , 1861, M D , 1863, Ph D , 1869) He served as an army surgeon in the Civil War and as naturalist on government surveys and taught (1877–87) at Columbian Univ He was a founder of the American Society for Psychical Research and a leader in the theosophist movement He wrote *Key to North American Birds* (1872), *Birds of the Northwest* (1874), *Birds of the Colorado Valley* (1878), and *Fur-bearing Animals* (1877); he edited the journals of Lewis and Clark (1893), Zebulon M Pike (1895), and Alexander Henry and David Thompson (1897)

cougar see PUMA

cough, forceful expiration, with partly or completely closed glottis, which tends to remove obstructing material or irritants from the air passages It may be caused by irritation of the nerves in the air passages even when there is nothing to be coughed up It may be caused by inflammation from irritants, such as smoke, or by infection of the respiratory tract from ordinary sore throat, pneumonia, or tuberculosis of the lungs Special types occur in ASTHMA and WHOOPING COUGH Material coughed up is known as sputum It may contain bacteria in case of infection or blood where there is hemorrhage into the air passages In heart disease combined with poor circulation there may be coughing In general, no attempt is made to prevent a cough which gets rid of material in the air passages If it is exhausting, however, or if there is hemorrhage, sedatives are used to prevent coughing

Coughlin, Charles Edward (kŏ'glĭn), 1891–, Roman Catholic priest in America, b Ontario, Canada, grad Univ of Toronto, 1916 After study at St Michael's College, Toronto, he was ordained (1916) and became (1926) pastor of the Shrine of the Little Flower at Royal Oak, Mich After 1930 his radio addresses brought him to public notice, and in 1936 he bitterly opposed President F D Roosevelt's administration after earlier (1933–34) supporting him His political and economic doctrines were expressed in his magazine, *Social Justice*, which was barred from the mails by the U S government for violation of the Espionage Act and which ceased publication in 1942 Meanwhile Father Coughlin was silenced by his superiors

Coulanges, Numa Denis Fustel de. see FUSTEL DE COULANGES, NUMA DENIS

Coulomb, Charles Augustin de (kōō'lôm, kōōlôm', Fr shärl' ôgüstē' dŭ kōōlô'), 1736–1806, French physicist In 1789 he retired from his posts as military engineer and as superintendent of waters and fountains and devoted himself to continuing his scientific research. He was known for his work on electricity, magnetism, and friction, and he invented a magnetoscope, a magnetometer, and a torsion balance which he employed in determining torsional elasticity and in establishing COULOMB'S LAW The unit of quantity (coulomb) of electricity is named in his honor.

coulomb (kōō'lôm, kōōlôm') [for C. A de Coulomb], the unit quantity of electricity. It is defined (electrochemically) as the quantity of electricity required to deposit 0 001118 g of silver from an aqueous solution of silver nitrate, i e, the quantity of electricity which a current of one AMPERE transfers in a second

Coulomb's law [for C A de Coulomb], concerning magnetic and electrostatic forces between two charges, states that the force of attraction or repulsion is inversely proportional to the square of the distance between charges and directly proportional to their product

Coulonge (kōōlôsh'), river of SW Quebec, 120 mi long, rising in a series of small lakes and falling into the Ottawa river opposite Pembroke, Ont It is navigable only for canoes and small boats

Coulter, Ellis Merton (kōl'tûr), 1890–, American historian, b near Hickory, N.C., grad Univ of North Carolina, 1913, and Univ. of Wisconsin (M A., 1915, Ph D , 1917) He taught at Wisconsin and at Marietta College before going to the Univ of Georgia in 1919 In 1923 he became professor of history at Georgia. One of the more prominent historians of the South, and of the Civil War and Reconstruction periods in particular, Coulter has written *The Civil War and Readjustment in Kentucky* (1926), *William G Brownlow, Fighting Parson of the Southern Highlands* (1937), *Thomas Spalding of Sapelo* (1940), *Georgia a Short History* (1947, rev and enl ed of *A Short History of Georgia*, 1933), *The South during Reconstruction, 1865–1877* ("A History of the South" series, Vol VIII, 1947), *Travels in the Confederate States a Bibliography* (1948), and *The Confederate States of America, 1861–1865* ("A History of the South" series, Vol VII, 1950)

Coulter, John Merle, 1851–1928, American botanist, b China, of missionary parents, grad Hanover College, Hanover, Ind (B.A , 1870, Ph.D , 1882), Ph D Indiana Univ , 1884. He was a pupil and friend of Asa Gray and edited the sixth edition of Gray's *Manual* He was professor of botany (1896–1925) at the Univ. of Chicago, where he trained many leaders in botanical research He was influential in founding the Boyce Thompson Institute for Plant Research and was its adviser from 1925 In 1875 he founded the *Botanical Gazette*, which he edited for 50 years His works include *Plant Structures* (1899), *Plant Relations* (1899), *Plant Studies* (1900), *A Text-Book of Botany* (1906), *Fundamentals of Plant Breeding* (1914), *Plant Genetics* (1918), and valuable manuals on plants of Texas and the Rockies

Coulterville (kōl'tûrvĭl), village (pop 1,284), S Ill , SE of Belleville, in a farm and coal area, inc 1874

council, ecumenical (ĕ"kūmĕ'nĭkul, ē"-) [Gr ,=universal], in Christendom, council of church authorities accepted by the Church as speaking officially. A synonym is "general council" The utterances of such a council are called canons, the first being usually a detailed statement of the common faith The acceptance of the canons is unequal, thus, Roman Catholics regard them as binding ("canonical") only when a pope has subsequently ratified them, and many canons of several councils have never been accepted The following is the list of the general councils recognized by Roman Catholics (the numbering is a customary one) (1) 1 NICAEA, opened 325 (see NICAEA, FIRST COUNCIL OF), (2) 1 Constantinople, 381, (3) Ephesus, 431, (4) Chalcedon, 451, (5) 2 Constantinople, 553, (6) 3 Constantinople, 680, (7) 2 Nicaea, 787, (8) 4 Constantinople, 869, (9) 1 Lateran, 1123, (10) 2 Lateran, 1139, (11) 3 Lateran, 1179, (12) 4 Lateran, 1215, (13) 1 Lyons, 1245, (14) 2 Lyons, 1274, (15) Vienne, 1311, (16) Constance, 1414, (17) Basel and Ferrara-Florence, 1431, 1438, (18) 5 Lateran, 1512, (19) Trent, 1545, (20) Vatican, 1869 The Orthodox recognize the first seven and count the Trullan Synod of 692 as an ecumenical extension of the Third Council of Constantinople The first council was the model for the rest The common purpose of the first eight councils was to determine whether specific theological novelties were orthodox (i e , consonant with the Bible faith as handed down) or heretical (not orthodox) The rest of the councils, all held in Western Europe, have dealt extensively with church discipline and morals Two of them, the Second Council of Lyons and the Council of Ferrara-Florence, were occupied with abortive reconciliations between East and West In the Great Schism arose the "conciliar theory," that an ecumenical council is superior to the pope, this was in its heyday at the Council of Constance (see SCHISM, GREAT) The traditional opinion is that when the bishops of the world unite to define belief in the light of what they have received from their predecessors, God will protect them from error This is a manifestation of the infallibility of the teaching Church, and papal infallibility is compared to it in the definition published by the Vatican Council (see INFALLIBILITY) Two famous councils that claimed to be ecumenical in vain are the Robber Council of Ephesus (see EUTYCHES) and the Council of Pisa in the Great Schism Protestants, rejecting the teaching role of the Church, are little interested in the councils. In the 1930s and 1940s Protestants of Europe and the United States

have joined in a movement called ecumenical, intended to reduce the sectarian barriers among Christians; there is no pretension to establish an authoritative organism. See Clement Raab, *The Twenty Ecumenical Councils of the Catholic Church* (1937); H J. Schroeder, *Disciplinary Decrees of the General Councils* (1937).

Council Bluffs, city (pop 41,439), co seat of Pottawattamie co., SW Iowa, on the Missouri opposite Omaha, Nebr Site of a trading post (late 1820s) and of a Potawatami Indian mission (established by Father De Smet, 1838–40), it was settled in 1846 by Mormons, who changed the name from Hart's Bluff to Kanesville, it was named Council Bluffs in 1852, when the Mormons departed for Utah, and incorporated in 1853 It is an important rail focus, with repair shops and roundhouses, and a trade and industrial center for a large agricultural area. A council between Lewis and Clark and the Indians, said to have been held near by in 1804, is commemorated by a monument (1935) An important supply point during the gold rush (1849–50), the city was made the eastern terminus of the Union Pacific RR in 1863 and then grew rapidly. The city has large grain elevators and many manufacturing plants, the surrounding country grows corn, grain, and grapes. There is a Lincoln monument in honor of Lincoln's visit here in 1859. Near by is the state school for the deaf

Council Grove, city (pop 2,875), co seat of Morris co., E central Kansas, SW of Topeka and on the Neosho, in an agricultural and cattle-raising region at the edge of the Flint Hills, inc 1858 Under Council Oak, here, traditionally, a treaty was concluded in 1825 with the Osage Indians The spot became an important camping station on the old Santa Fe Trail In 1847 a trading post, the city's first settlement, was established Coronado is said to have reached Council Grove in 1541 The building of an unsuccessful Methodist Indian mission established in 1849 is still standing

Council of Europe, Council of Foreign Ministers, Council of Ten, etc., see EUROPE, COUNCIL OF, FOREIGN MINISTERS, COUNCIL OF, TEN, COUNCIL OF

counselor at law: see BAR, THE

counterfeiting (koun'turfĭt'ĭng), manufacturing spurious coins, paper money, or evidences of governmental obligation (e g , bonds). The offense may be regarded as a special variety of FORGERY Under an early English statute (1350), counterfeiting the king's seal or his gold and silver coinage was a grave crime against the state amounting to high TREASON and was punishable by death The statute left unchanged the common-law misdemeanors of counterfeiting copper coinage and passing counterfeit foreign currency Other early statutes were directed against debasing the coinage by clipping or filing off the edges to sell the metal In the 19th cent counterfeiting was no longer considered a form of treason, previously the nature of the crime had been altered to make felonious the coinage of base metals and of paper and foreign currency Article 1, Section 8, of the U S Constitution authorizes Congress to "provide for the punishment of counterfeiting the Securities and current Coin of the United States" Under this power statutes have been enacted making criminal the counterfeiting of the currency and bonds of the United States, of the evidences of indebtedness (e g , checks) of the Federal Reserve System, and of foreign money used for exchange The counterfeiting of postage stamps has been prohibited under the power of Congress to establish a post office system To commit the crime of counterfeiting one does not necessarily have to make a whole coin or bill It may be accomplished by plating coins, by raising the amount of a bill, or by any other alteration calculated to deceive the recipients Knowingly to retain counterfeit money or government obligations is also a criminal offense, regardless of how possession was acquired The knowing utterance (passing) of counterfeit currency or securities is also criminal In short, it is the duty of all persons in possession of counterfeit material to deliver it to the proper authorities While the ownership of equipment especially designed for counterfeiting is of course criminal, it is not criminal to have tools, dies, and the like which can be so used unless the owner's purpose is criminal. For the further protection of the currency or of postage stamps, statutes forbid making certain types of photographs (e g , in color) where there would be danger of deception All of the American states have statutes protecting their own securities from counterfeiting, and many extend like protection to the national currency, postage, and securities See Laurence D Smith, *Counterfeiting. Crime against the People* (1944).

counterpoint, in music, the art of combining melodies each of which is independent though it forms part of a homogeneous texture The academic study of counterpoint was long based on *Gradus ad Parnassum* (1725, Eng tr., 1943) by Johann Joseph Fux (1660–1741), an Austrian theorist and composer. This work, highly esteemed by Bach, Beethoven, Haydn, and Mozart, formulates the five species of counterpoint—note against note, two notes against one, four notes against one, syncopation, and florid counterpoint, which combines the other species Countless textbooks have followed this outline, laying down such arbitrary rules as to divorce the study of counterpoint from actual musical practice In recent years, several theorists have based their courses in counterpoint on a direct study of 16th-century musical practice See also POLYPHONY. See A T Merritt, *Sixteenth-Century Polyphony* (1939), Walter Piston, *Counterpoint* (1947), G. F. Soderlund, *Direct Approach to Counterpoint in 16th Century Style* (1947)

Counts, George Sylvester, 1889–, American educator, b. near Baldwin City, Kansas, grad Baker Univ , 1911, Ph.D Univ of Chicago, 1916 He taught in the educational departments of several universities before joining the faculty of Teachers College, Columbia Univ , in 1927 A strong advocate for teachers' unions, he ran for public office on the American Labor party ticket and was president (1939–42) of the American Federation of Teachers Counts was a founder (1934) and the first editor (1934–37) of the educational magazine *Social Frontiers* His works include *The American Road to Culture* (1930), *The Prospects of American Democracy* (1938), and *The Education of Free Men in American Democracy* (1941)

county, organ of LOCAL GOVERNMENT in the United States and elsewhere. The county (or shire) was in England a local unit of magistrates, its officers being sheriff and judges Throughout the English-speaking world the courts are still organized by counties The English counties never got real power, for the cities freed themselves from county rule, and the crown has increasingly supervised rural government In the S United States and much of the West analogous processes made settlements become urban and self-governing at the same time State governments, usually for efficiency, increase their control of rural matters, e g , in welfare and relief. So the county has been left with a residue of concerns of rural government, it is still normal for elected sheriffs to keep order in rural territory In much of America the county seat is a local rural community center, with perhaps a library and hospital, a high school, and churches and lodge halls, all clustered about the courthouse Counties in the United States are governed mostly by elected boards (commissioners, supervisors, chosen freeholders) Louisiana has parishes, not counties As urban areas are incorporated there is often a lagging duplication of function between county and city Thus overlapping is slowly eliminated, as in New York city, where the five counties have been shorn of administrative significance, and in Denver and San Francisco, where city and county are consolidated See J A Fairlie and C M Kneier, *County Government and Administration* (1930)

coup (kōō) [Fr ,=blow], among North American Indians of the Plains culture, a war honor in a complex system of warrior prestige A warrior earned coups by acts of bravery, which were valued according to the degree of recklessness, the most reckless, such as striking an armed enemy with the bare hand, counted highest Killing an enemy, wounding him, scalping him, and stealing his horse or gun—all these were coups of value Recital of the deeds performed was an important social function, and a warrior with a high coup count had status at feasts, ceremonials, and in the tribe After warfare was halted, coups became transferable property, passing from the old men to the younger, who needed coups to acquire warrior status in the tribe

Couper, James Hamilton (kōō'–), 1794–1866, American planter of Georgia, grad Yale, 1814 Influential in promoting agricultural research and experimentation, he was a pioneer in the cultivation of rice, long-staple cotton, and sugar cane and introduced new plants, including Bermuda grass

Couper, William (kōō'–), 1853–1942, American sculptor, pupil and son-in-law of Thomas Ball He has produced portrait busts, reliefs, and graceful winged figures Among his works are a bust of Longfellow, Washington, D C., and the Col Alexander Hawkins Memorial, Pittsburgh

Couperin, François (frăswȧ' kōōpürĕ'), 1668–1733, French harpsichordist and composer, called "le Grand" to distinguish him from the rest of his family His works represent the summit of rococo style His style of harpsichord playing, formulated in *L'Art de toucher de clavecin* (1716), was one much advanced for his day Bach was influenced by Couperin's four books of harpsichord suites (1713–30), which were usually series of short, graceful, highly ornamented pieces, with descriptive titles such as *Les Abeilles, Les Papillons, La Voluptueuse,* and *Le Rossignol en amour* Couperin was organist (1698–1733) at St Gervais, Paris, a position held by members of the Couperin family from c.1650 until 1826 The Couperin line of musicians had begun with three brothers—Louis (c 1626–1661), an organist and composer of harpsichord suites; François (c 1631–c 1701), a harpsichordist and violinist, and Charles (1638–79), an organist, the father of Couperin le Grand It extended to the great-grandsons of François, the second brother—Pierre Louis (1755–89) and François Gervais (1759–1826), who were organists at St. Gervais and composers

Couperus, Louis Marie Anne (lwĕ' mărē' ăn' kōōpārōōs), 1863–1923, Dutch novelist Many of his novels, popular at home and abroad, have been translated into English Especially well known is the collection of four realistic novels, *De Boeken der kleine Zielen* (1901–3, Eng tr., *The Book of the Small Souls,* 1932), containing *Small Souls, The Later Life, The Twilight of the Souls,* and *Dr Adriaan.* Noteworthy also is *Old People and the Things That Pass* (Eng tr., 1918)

Courbet, Gustave (gustăv' kōōrbĕ'), 1819–77, French painter, b. Ornans He studied in Paris, but learned chiefly by copying masterpieces in the Louvre An avowed realist, Courbet was always at odds with vested authority, aesthetic or political In 1844 his *Wounded Man* (Louvre) was rejected by the Salon He first won wide attention with his *L'Après-Dîner à Ornans* (Lille) in 1849 The next year he exhibited his famous *Funeral at Ornans* (Louvre) These were followed by other realistic canvases—portraits, studies of landscape and animals—and, in 1855, by the well-known *Painter's Studio* (Louvre) Despite much official criticism, his prestige and influence were enormous, reaching their height with his rejection of the cross of the Legion of Honor offered him by Napoleon III in 1870 An atheist, a socialist, and a democrat, Courbet under the Commune was elected to the chamber and in consequence was later held responsible for the destruction of the Vendôme column A council of war condemned him to pay 300,000 francs In 1873 he escaped to Switzerland, where he spent his few remaining years in poverty and exile, but always painting Although his aesthetic theories were not destined to prevail, his painting is greatly admired for its frankness, vigor, and solid construction Courbet is represented in galleries throughout France and America The Metropolitan Museum has 28 fine examples See Julius Meier-Graefe, *Corot und Courbet* (1905, in German)

Courcelle, Daniel Rémy, sieur de (dănyĕl' rămē' syür' du kōōrsĕl'), d 1698, governor of New France (1665–72) He arrived with the intendant Jean Talon, and together they inaugurated a period of peace and prosperity Courcelle led (1666) an unsuccessful winter raid upon the Mohawk Indians, but a campaign the next autumn under the marquis de Tracy and Courcelle induced the Iroquois to conclude a peace which was kept for a number of years In 1671 he led to Lake Ontario an expedition which chose the site for a fort later established as Fort Frontenac Ill-health led him to request his recall to France in 1672, and Frontenac took his place as governor

coureurs de bois (kōōrür' dŭbwȧ'), unlicensed traders during the French regime in Canada They escaped to the woods and lived with the Indians Traders were required to be licensed, but to only a favored few were licenses granted Towards the end of the 17th cent it was estimated that one third of the able-bodied men of the colony were *coureurs de bois,* though this may be an exaggeration They played an active historical part in the fur trade and in exploration.

Courier, Paul Louis (Paul Louis Courier de Méré) (pôl' lwĕ' kōōryā, du mārā'), 1772–1825, French political writer and classical scholar His translation (1810) of the Greek text of *Daphnis and Chloë* is considered excellent After the Restoration he devoted himself to writing trenchant political pamphlets, the best known of which are *Simple Discours* (1821), for which he was jailed, and *Le Pamphlet des pamphlets* (1824), remarkable for its stylistic brilliance His memoirs and correspondence (1828) have the same original charm that make his literary works memorable He was assassinated, presumably by one of his servants

Courland or **Kurland** (both kûr'lŭnd, Ger kōōr'länt), Lettish *Kurzeme,* region and former duchy, W Latvia, on the Baltic Sea, an agricultural and wooded lowland Liepaja (Ger *Libau*) and Ventspils (Ger *Windau*) are the chief ports JELGAVA (Ger *Mitau*) was the historic capital The early Baltic tribes—Letts and Kurs—who occupied the region were subjected in the 13th cent by the LIVONIAN KNIGHTS In 1561 the order disbanded and its grand master became the first duke of Courland, under Polish suzerainty In the Northern War, it was taken (1701) by Charles XII of Sweden Empress Anna, who was, by marriage, duchess of Courland before her accession in Russia, forced (1737) the nobles of Courland to elect her favorite, Ernst Johann von BIRON, their duke. Russian influence became paramount, and with the third partition of Poland (1795) the duchy passed to Russia In 1918 Courland was incorporated into Latvia, except for a strip of the southern coast which went to Lithuania

Cournot, Antoine Augustin (ătwăn' ôgüstă' kōōrnō'), 1801–77, French mathematician and economist. He developed mathematical theories of chance and probability and was one of the first to attempt the application of mathematics to economic problems His writings include *Researches into the Mathematical Principles of the Theory of Wealth* (1838, Eng. tr , 1897)

Court, Antoine (ătwăn' kōōr'), 1696–1760, French Protestant preacher, called the Restorer of Protestantism in France He was successful in reorganising the remnants of the persecuted Calvinists in France With a price on his head, he escaped to Lausanne in 1730, where he spent the remainder of his life directing the theological seminary which he founded

court, in law, official body charged with adjudicating legal cases The term is also applied to the judge or judges who fill the office and to the courtroom Distinct courts originate when legal relations are no longer entirely a private matter Thus, courts do not exist in a society governed by VENDETTA, and they are of little consequence in one where COMPOSITION for wrongs is the rule The most ancient courts known, e g , those of Egypt and Babylonia, were semiecclesiastical institutions which used religious rituals in deciding the issue In Greece the functions of a court were chiefly undertaken by assemblies of the people which heard the arguments of orators In Rome there is a clear evolution of the court system from priestly beginnings to a wholly secular, hierarchal organization staffed by professional jurists (see ROMAN LAW) Western Europe (after the collapse of Rome) and Anglo-Saxon England had mainly feudal courts of limited territorial jurisdiction These courts were largely independent, and they administered customary law, which differed from place to place In England, after the Norman Conquest, royal authority was gradually extended over the feudal lords By the early 13th cent , although purely local courts had not been abolished, there was established the supremacy of the central courts which had evolved from the Curia Regis [Latin, = king's court], namely, the Court of EXCHEQUER, the Court of Common Pleas, and King's Bench The Court of Common Pleas heard cases between ordinary subjects of the king, while King's Bench acted as a court to hear appeals and cases involving persons of high rank Soon itinerant royal courts were established to spare civil litigants the labor of coming to the capital at Westminster and to afford hearings to persons held on criminal charges in county jails By the 14th cent the principal function of the central courts was to hear appeals from the circuit courts Unity was at least temporarily disrupted by the emergence (16th cent) of EQUITY as a distinctive body of law administered by the chancery The conflict of jurisdiction continued to some extent until 1875, when the Judicature Act of 1873 went into effect It provides for a supreme court of judicature, comprising the high court of justice and the court of appeal The high court of justice (with jurisdiction over England, Wales, and Northern Ireland) is divided, purely for administrative purposes, into three divisions chancery, probate, divorce, and admiralty, and King's (or Queen's) Bench Appeals may be taken from the court of appeals to the House of Lords The judicial committee of the privy council hears appeals from overseas territories of the British Empire In the United States there are two distinct systems of courts, Federal and state, each supreme in its own sphere Whenever a matter simultaneously affects the states and the Federal government, the Federal courts, of course, have the decisive power. The district court is the lowest Federal court Each state constitutes at least one district, and some of the more populous states (e g , New York) contain as many as four districts There are 10 circuit courts of appeals (each with jurisdiction over a definite territory) and a court of appeals for the District of Columbia, these hear appeals from the district courts in the first instance There are, in addition, various specialized Federal courts, including the Court of Tax Appeals and the Court of Claims Heading the Federal court system is the U S SUPREME COURT The court systems of the states vary to some degree At the bottom of a typical structure are local courts of limited jurisdiction (e g , court of the justice of the peace and POLICE COURT) and special courts (e g , court of PROBATE) County courts, or the equivalent, exercising general criminal and civil jurisdiction are on the next level All states have a highest court of appeals, and some also have intermediate appellate courts In a few states separate courts of equity persist In addition to law courts there are ecclesiastical courts, arbitral tribunals (e g , for commercial and labor cases), administrative tribunals (e g , of the Interstate Commerce Commission), and courts-martial (see MILITARY LAW)

court, a square or enclosed place, which came to mean the household and establishment of the sovereign, in feudal times of a lord of high rank as well In empires and absolute monarchies, the court was the paramount political and cultural influence; in modern usage its application is confined to the residence, surroundings, and distinguished associates of sovereign princes in their private and public capacities and loosely denominates the government of the sovereign Presentation at court (the honor of being formally introduced to the sovereign) survives as a social ceremony

Courtdale, borough (pop 1,039), Luzerne co., NE Pa., near Wilkes-Barre, inc. 1897.

Courtenay, William (kôrt'nē), c.1342–1396, English prelate; son of the earl of Devon As archbishop of Canterbury (1381–96), he was important for his condemnation of the doctrines of Wyclif and for suppressing the Lollards

Courtenay, city (pop 1,737), on the east coast of Vancouver Island, SW British Columbia, on the Courtenay river and NW of Victoria

Courthope, William John (kôrt'ŏp), 1842–1917, English scholar He completed in 1889 the standard edition of Pope's works begun by Whitwell Elwin, wrote his own conservative *History of English Poetry* (6 vols , 1895–1910), and was professor of poetry at Oxford from 1895 to 1901

court-martial see MILITARY LAW

Courtney, Leonard Henry Courtney, 1st Baron (kôrt'nē), 1832–1918, British statesman and journalist After working for the London *Times*, he was elected as a Liberal to Parliament in 1875, but disagreed with William Gladstone on the feasibility of Irish Home Rule and eventually lost his seat in Commons (1900) for his opposition to the South African War He was made baron in 1906 He consistently advocated a negotiated peace in the First World War See biography by G. P Gooch (1920)

Courtois, Bernard (bĕrnär' kōōrtwä'), 1777–1838, French chemist In 1811 he discovered iodine and isolated it from seaweed ash

Courtois, Jacques (zhäk' kōōrtwä'), 1621–76, French painter, also known as Le Bourguignon A pupil of Guido Reni, he spent much of his life in Italy He is best known for his spirited little pictures of cavalry engagements, four of which are in the Louvre

Courtrai (kōōrtrā'), Flemish *Kortrijk* (kôrt'rĭk), town (pop 39,701), West Flanders, W Belgium, on the Lys river A textile center (linen, cotton, rayon), it was one of the earliest and most important cloth-manufacturing towns of medieval Flanders Here in 1302 the Flemings defeated the French in the first BATTLE OF THE SPURS In the First World War, Courtrai was an important German base for the Ypres front The Church of Notre Dame (13th cent) contains Van Dyck's *Elevation of the Cross*, the Church of St Martin and the Gothic town hall date from the 15th and 16th cent respectively

courts of love see KNIGHTHOOD AND CHIVALRY

court tennis is believed to have originated (about the 14th cent) in medieval France and is the game from which most modern racquet games descend Court tennis was patronized after 1500 by both French and English royalty—and is often called tennis royal—but it died out in the 18th cent The game was revived in the 19th cent , and in 1876 the first court was opened in the United States Court tennis is played on an indoor, cement court 110 ft by 38 ft , which is surrounded by four walls 30 ft high A player hits the ball—made of tightly-wound cloth—with a 16-ounce racquet, over the center net and plays the surface of the floor, the walls, and the ceiling to put the ball out of reach of the opponent The scoring of the game is intricate, and points are also made by hitting the ball into a number of openings in the walls Tom Pettitt and Pierre Etchebaster, professionals, and Jay Gould, amateur, have been the greatest court tennis players in the United States In Dec , 1949, the 56-year-old Etchebaster successfully defended the world's professional championship, which he has held since 1927, against Ogden Phipps, eight-time winner of the U S amateur title See Allison Danzig, *The Racquet Game* (1930)

Courville, town (pop 2,011), S Que , on the north bank of the St Lawrence and NE of Quebec

Couse, Eanger Irving (kous), 1866–1936, American painter, b Saginaw, Mich , studied at the National Academy of Design, New York, and with Bouguereau in Paris He worked for some years in Taos, N Mex , and is best known for his scenes of American Indian life He is represented in leading galleries throughout the United States

Coushatta (kou"shă'tu), cotton town (pop 1,289), parish seat of Red River parish, NW La , near the Red River SE of Shreveport, settled c 1870. It was the scene of Reconstruction riots

Cousin, Jean (zhăⁿ' kōōzaⁿ'), c 1490–c 1560, celebrated French painter, designer, sculptor, and writer To him have been attributed the designs for the windows in Sainte-Chapelle at Vincennes and various churches of Sens and Paris, a painting, *The Last Judgment* (Louvre), some of the sculpture of the tomb of Admiral Chabot (Louvre), a series of wood engravings illustrating Jean Le Clerc's Bible, and treatises on perspective and portraiture The last-named treatise, as well as some of the glass painting, is now attributed rather to his son and pupil, Jean Cousin (c 1522–c 1590), whose work has been confused with that of his father

Cousin, Victor (vēktôr'), 1792–1867, French educational leader and philosopher, founder of the eclectic school He lectured at the Sorbonne from 1815 until 1821, when political reaction forced him out Recalled to teaching in 1828, Cousin was named in 1830 to the council of public instruction and was made councilor of state In 1832 he became a peer of France, and in 1840 he accepted the position of minister of public instruction. He became virtually the arbiter of educational and philosophical matters His chief works in education were the complete reorganisation and centralisation of the primary system and the establishment of a policy of philosophical freedom in the universities. Cousin was a remarkable lecturer He did not develop a system of his own but sought to combine the empirical elements of the Scottish school with the idealism of Hegel and Schelling He argued, in his eclecticism, that each philosophy is an interpretation of consciousness from a particular point of view and therefore has elements of truth within it Through intuition one can grasp the truth in each theory and arrive at a complete theory His grasp of the history of philosophy was unusual, his presentation was brilliant, and his wide understanding of diverse positions was sympathetic Cousin's works include *Fragments philosophiques* (1826), *Du vrai, du beau et du bien* (1836, Eng tr , *Lectures on the True, the Beautiful, and the Good*, 1854), various studies of educational systems, a brilliant translation of Plato, and histories of philosophy See George Boas, *French Philosophies of the Romantic Period* (1925)

Cousin-Montauban, Charles Guillaume Marie: see PALIKAO

Cousins, Samuel, 1801–87, English mezzotint engraver He is famous for his interpretations in mezzotint of the work of Sir Thomas Lawrence, but his plates, over 200 in number, also include reproductions of the work of Thomas Gainsborough, Sir Joshua Reynolds, Sir John Millais, and Sir Edwin Landseer A collection of his mezzotints is in the British Museum See biography by Alfred Whitman (1904)

Coustou (kōōstōō'), family of French sculptors **Nicolas Coustou** (nēkôlä'), 1658–1733, studied with his uncle, Antoine Coysevox, with whom he later collaborated on the decorations at Marly and at Versailles He became rector and chancellor of the Académie royale de Peinture et de Sculpture Among his best-known works are *La Seine et la Marne, La Saône* (Tuileries Gardens), and the basrelief, *Passage du Rhin* (Louvre) His brother, **Guillaume Coustou** (gēyōm'), 1677–1746, studied with Coysevox and in Rome Returning to Paris he worked at Versailles and at Marly He is famous for his colossal group, *The Ocean and the Mediterranean*, at Marly, and above all for his *Horses of Marly* at the entrance of the Champs Élysées, Paris His son, **Guillaume Coustou,** the younger, 1716–77, was also a noted sculptor

Coutchiching see ARCHEOZOIC ERA

Couthon, Georges (zhôrzh' kōōtô'), 1755?–1794, French revolutionist An able lawyer, he was elected to the Legislative Assembly (1791) and the Convention (1792), joined the Committee of Public Safety (1793), and shared with ROBESPIERRE and Saint-Just in the triumvirate of the Terror, having gradually turned from moderate views to the most fanatic Jacobinism Though partially paralyzed, he led the army that took Lyons from the counterrevolutionists (1793), but as a commissioner there he proved surprisingly lenient, in contrast with his successor, Collot d'Herbois Couthon fell on 9 Thermidor and was guillotined

Couture, Thomas (tômä' kōōtür'), 1815–79, French painter, pupil of Gros and Delaroche He achieved fame with his *Love of Money* (Toulouse) and *Romans in the Decadence of the Empire* (Louvre) Unable to adapt himself to the life of an official painter under Napoleon III, he retired to the country at the height of his career His *Day Dreams* is in the Metropolitan Museum See "Couture" in J C Van Dyke, *Modern French Masters* (1896)

Couza, Alexander John. see CUZA, ALEXANDER JOHN

Couzens, James (kū'zĭnz), 1872–1936, U S Senator, industrialist, and philanthropist, b Ontario, Canada He moved (1887) to Detroit, and after he entered (1903) into partnership with Henry Ford, he became vice president and general manager of the Ford Motor Company In 1919 he sold his interests to the Fords for $35,000,000 As mayor (1919–22) of Detroit, Couzens installed municipal street railways Serving (1922–36) in the U S Senate, he acted with the Progressive Republicans, advocating such measures as high, graduated income taxes and public ownership of utilities He established the Children's Fund of Michigan with $10,000,000, gave $1,000,000 for relief in Detroit, and began a loan fund for the physically handicapped His support of the New Deal cost him (1936) the senatorial renomination

Covadonga (kōvŭdŏng'gu, kō'vadōn'gä), hamlet, Oviedo prov , N Spain, in Asturias It gave its name to a battle fought near by sometime between 718 and 725, this first victory of the Christians over the Moors had great symbolic significance in the Christian reconquest of Spain Legend says that a cave near Covadonga was the refuge of King PELAYO

Covarrubias, Miguel (mēgäl' kōvär-rōō'bēäs), 1902–, American artist, b Mexico city, self-taught. He went to New York in 1923 and won prompt recognition as a brilliant illustrator, stage designer, and caricaturist His caricatures and drawings for *Vanity Fair* and the *New Yorker* are probably his

best-known work. Covarrubias is also a painter, lithographer, and writer His *Island of Bali* was published in 1937

covenant (kŭ'vununt) [O Fr ,=agreement], in the Bible and in theology, explicit promise of God to man In law a covenant is a contract under seal or an agreement by deed In Scottish history the various pacts among the religious opponents of episcopacy were called covenants (here pronounced kŭvŭnănts'), those who agreed to the pacts were the COVENANTERS The constitution of the League of Nations was called the Covenant of the League A covenant is made upon condition of the fulfillment of certain obligations The covenants in the Bible are not contractual because they are not agreements between equal parties, in general, God promised gratuitously to man some specific good if man should have given God the obedience and love due Him In the covenant of God and Noah, He agreed never again to destroy man by a flood and set the rainbow in the sky as the sign of the covenant (Gen 9) The covenants with Abraham, Isaac, and Jacob established Israel as God's chosen people and promised Canaan to them (Gen 17, 26 1 5, 28 10–15, 32 24–32) The culmination of God's covenants with Israel comes in His promises and delivery of the Law of Moses This provides the theme of Exodus Leviticus, Numbers, and Deuteronomy The great covenant with Israel is called in Christian theology the Old Covenant, because Jesus is believed to have come to fulfill it and set up a new and better covenant (Mat 5 17,18, Gal 4, Heb 8–10) This theology is behind the conventional names of the two parts of the Bible, for *testament* in the expressions "Old Testament" and "New Testament" is derived from a Latin mistranslation of a Greek word used in the Septuagint for *covenant* In Protestant theology the covenant is especially prominent in the teaching of COCCEIUS In English law, covenants are agreements entered into by deed One of the parties promises to perform or not to perform certain acts, or states that something has or will be done, or has not or will not be done Covenants are bound by the same rules as other contracts and are variously classified There are affirmative, alternative, auxiliary, collateral, concurrent, declarative, dependent, executory, express, and independent covenants, and covenants in law, covenants for title, covenants of seizin, covenants of warranty, and others The express promise contained in a covenant is its most characteristic feature and distinguishes it from a bond, which is a simple record of indebtedness The sealing and delivery of a covenant is an essential element of its validity The covenantor is the party bound to perform the stipulation of a covenant, the covenantee is the party in whose favor the covenant is made

Covenanters (kŭvŭnăn'turz), in Scottish history, groups of people bound by oath to sustain each other in the defense of Presbyterianism The covenant of 1581 sought to combat Catholicism in Scotland The National Covenant of 1638, copied after it, aimed to unite the Scots in opposition to the episcopal innovations of Archbishop LAUD, especially the use of the English Book of Common Prayer The Covenanters successfully resisted the king's armies in the BISHOPS' WARS (1639–40) In the wars of the PURITAN REVOLUTION, they supported Parliament only after Parliament had accepted (1643) the Solemn League and Covenant, which provided for the establishment of a Presbyterian state church in England and Ireland This possibility was destroyed, however, when the Independents in the army secured control of affairs and broke the power of Parliament (1648 49) Charles II accepted the Solemn League and Covenant in 1650 in order to secure Scottish help in his unsuccessful attempt to regain the throne The power of the Covenanters was broken by Cromwell's conquest of Scotland (1650) After the Restoration the Covenanters continued to resist the attempts of Charles II and James II to impose episcopacy on them This was the period when the Covenanters were subjected to alternate attempts to pacify them and to hunt them down They stubbornly opposed all attempts at persuasion or coercion The result was a series of new compacts of resistance among the Covenanters and new attempts to suppress them Such battles as that of Bothwell Bridge (1679) were notable, and the opposition of Richard Cameron and his followers, who issued the Sanquhar Declaration in 1680, was repressed in blood Yet the spirit, and even the sect, of Cameron went on The troubles ended with the Glorious Revolution of 1688 See J K Hewison, *The Covenanters* (1908)

Covent Garden (kŭ'vunt), opera house in London on the site of the theater opened in 1732 by John RICH The names of many famous actors are associated with the old playhouse—Garrick, Mrs Siddons, Peg Woffington, and the Kembles It burned in 1808 and was replaced in 1856 by a theater which burned in the same year The present opera house was built in 1858, in it Patti, Malibran, Albani, and Caruso performed See E B Chancellor, *Annals of Covent Garden and Its Neighborhood* (1930)

Coventry (kŏv'ŭntrē), city (1931 pop 167,083, 1947 estimated pop 248,400), Warwickshire, England, on the Sherbourne river and NNE of Warwick Narrow streets, old houses, vestiges of town walls, and remains of old churches testify to the city's 14th-century founding Its industry was first connected with textile manufacture ("Coventry true blue" woolens), its products now include automobiles and bicycles, aircraft and aircraft engines telephone and electrical equipment, watches, artificial silk and other textiles, and tools Since 1914 it has been an important center for the production of airplanes and munitions On Nov 14–15, 1940, Coventry was subjected to an air raid of intense destructiveness Homes, business premises, factories, hospitals, churches, and public utilities were destroyed, there were many casualties, and thousands were rendered homeless The 14th-century Cathedral of St Michael was destroyed (except the spire) Factories were operating shortly after the bombing, and plans for a new, interdenominational cathedral were laid In a later raid (April, 1941) St Mary's Hall, a guild meeting place in the 14th cent , was destroyed Other notable buildings, most of which were damaged to some extent in the air raids, include Bablake and Ford's hospitals (16th cent), Christ Church, the Church of the Holy Trinity, and the council house A Benedictine abbey was founded here c 1043 by Lady Godiva and her husband, Leofric Later Coventry became the seat of a bishopric, its monastic cathedral was demolished under Henry VIII There is a monument to martyrs burned in the reign of Henry VIII From 1678 until recently pageants of Lady Godiva and Peeping Tom were held, perpetuating the legend, celebrated by Tennyson, of Godiva's ride to free the townspeople from burdensome taxes The Coventry Plays (15th cent) are among the most famous miracle plays The city was the meeting place of Bolingbroke (later Henry IV) and the duke of Norfolk, as related in Shakspere's *Richard II*, and of parliaments under Henry IV and Henry VI (called the Parliament Diabolicum because attainders were passed against Richard, duke of York) The phrase "to send to Coventry," meaning to ostracize socially, is of uncertain origin See M D Harris, *The Story of Coventry* (1911)

Coventry 1 Town (pop 2,102), NE Conn , bordered by the Willimantic, settled c 1700, inc 1711 Silk goods are produced Nathan Hale, Revolutionary hero, was born here **2** Town (pop 6,998), W R I , SW of Providence set off from Warwick and inc 1741 Washington village is the administrative center Lace and textiles are produced

Coventry Plays see MIRACLE PLAY

cover crop, green temporary crop sown for improving the soil, especially in connection with fruit-growing Seed sown in late summer or fall attains enough growth to protect the ground in winter It also stores up food which becomes available to the orchard later, helps check erosion, and is sometimes used to check the growth of some fruits when they reach maturity by supplying a plant that will compete with the tree for the nutriment in the soil Cover crops are often the first means used to rehabilitate land which has become run down as the result of poor farming practices and neglect Leguminous plants, such as clovers, vetches, and soybeans, and nonleguminous, such as rye, barley, wheat, buckwheat, and turnips, and various combinations of crops are used for this purpose See also CATCH CROP

Coverdale, Miles, 1488–1569, English translator of the BIBLE, educated at Cambridge He was ordained (1514) and entered the Augustinians He was a friend of Thomas More and Thomas Cromwell and early distinguished himself for his lack of orthodoxy and his study of the Bible In 1535 Coverdale published an English translation of the whole Bible, probably largely with the aid of German versions, Tyndale's Pentateuch and New Testament, and the Vulgate He was a principal collaborator in the Great Bible (1539) and edited that of 1540, known as Cranmer's Bible On the fall (1540) of Thomas Cromwell, Coverdale went to the Continent, but he returned (1548) and enjoyed high favor under Edward VI He assisted with the first BOOK OF COMMON PRAYER and served as bishop of Exeter from 1551 to 1553 On Mary's accession he lost his bishopric and again left England After Elizabeth's succession, he resumed his life in England, where he was widely known for his eloquent sermons and addresses Coverdale was rector of St Magnus, London Bridge, from 1563 to 1566 See his writings and letters (ed by George Pearson, 2 vols , 1844–46), Henry Guppy, *Miles Coverdale and the English Bible* (1935)

covered wagon. see CONESTOGA WAGON and PRAIRIE SCHOONER

Coverley, Sir Roger de see ROGER DE COVERLEY

Covilhã (kôvēlyã'), town (pop 10,488), E central Portugal, in Beira Baixa prov , NW of Castelo Branco and E of Coimbra It had a famous fair in medieval times and is still a trade center as well as a textile milling town

Covina (kōvē'nŭ), city (pop 3,049), in El Monte township, S Calif , E of Los Angeles, laid out 1885, inc 1901 Citrus fruits are packed and shipped

Covington (kŭv'-) **1** City (pop 3,900), co seat of Newton co., N central Ga , SE of Atlanta, inc as a town 1822, as a city 1854. It is a processing and market center in a cotton area **2** City (pop 2,096), co seat of Fountain co , W Ind , on the Wabash and N of Terre Haute, laid out 1826 **3** City (pop 62,018), a co seat of Kenton co , N Ky , on the Ohio where the Licking enters Bridges connect with Cincinnati across the Ohio and with Newport across the Licking A ferry and a tavern were established here c 1801, the city was settled in 1812, laid out in 1815, and incorporated in 1834 The second largest city in Kentucky, Covington is an industrial center, with railroad shops and tobacco and meat-packing plants, numerous manufactures include X-ray equipment, liquor, machine tools, and wire goods Among the points of interest are the suspension bridge to Cincinnati (designed by J A Roebling), Devou Park, St Mary's Cathedral, the tiny chapel at Monte Casino, Latonia race track, the Carneal House (1815), the boyhood home of Daniel Carter Beard, and the birthplace of Frank Duveneck The city is the seat of Villa Madonna College **4** Town (pop 4,123), parish seat of St Tammany parish, SE La , near Lake Pontchartrain, settled 1769 as Wharton, inc 1813, renamed 1816 It is in an orange-growing area, and a near-by state park offers recreational facilities **5** Village (pop 1,945), W Ohio, NNW of Dayton, settled 1807, inc 1835 It is a farm trade center with creameries and tobacco warehouses **6** Town (pop 3,513), co seat of Tipton co , W Tenn , near the Mississippi and Hatchie rivers NNE of Memphis, in a cotton area **7** Industrial town (pop 6,300), western Va , SW of Staunton, in the Jackson river valley surrounded by mountains, laid out 1819 inc 1902 It is near iron and coal fields and has textile, pulp, and paper mills The courthouse of Alleghany co is here

cow see CATTLE and DAIRYING

Cowan (kou'un), town (pop 1,461), S Tenn , WNW of Chattanooga, in a farm area, settled 1826, inc 1921 Near by is the Cumberland Mt railroad tunnel

Cowansville, town (pop 3,486), S Que , on the south branch of the Yamaska and SE of Montreal

Coward, Noel, 1899–, English playwright, actor, director, and musical composer He first appeared on the stage in 1910 and became known when he acted in his play *The Vortex* (1924) His great versatility and sophisticated wit are found in such works as *Fallen Angels* (1925), *Hay Fever* (1925), *Easy Virtue* (1925), *Sirocco* (1927), *This Year of Grace* (1928), a musical revue, *Bitter Sweet* (1929), an operetta *Private Lives* (1930), *Cavalcade* (1931), *Design for Living* (1933), *Conversation Piece* (1934), *Point Valaine* (1934), *Tonight at 8 30* (1935), a series of nine short plays, *Blythe Spirit* (1941), and *Present Laughter* (1943) He wrote, directed, and acted in the stirring film, *In Which We Serve* and wrote, directed, and produced *This Happy Breed* and *Brief Encounter* See his autobiographical works, *Present Indicative* (1937) and *Middle East Diary* (1944)

cowbird, New World bird of the blackbird and oriole family The male eastern, or common, cowbird (sometimes called cow blackbird) is a glossy black bird, about 8 in long, with a brown head and breast Most species lay their eggs in other birds' nests, victimizing especially vireos, warblers, sparrows, and flycatchers A few birds recognize the alien egg and toss it out, desert the nest, or cover it with a new floor, but most of them incubate the egg and labor to feed the oversized intruder, while their own smaller offspring are crowded out or starved Known in early days as buffalo birds because they attended the buffalo, cowbirds now follow cattle in order to feed on insects which the animals stir up as they walk Cowbirds also eat seeds Related birds are the bronzed, the California, the dwarf, the Nevada, and the red-eyed cowbirds

cowboys, in American history **1** Tory marauders adherents to the British cause in the American Revolution, who infested the neutral ground in Westchester co , N Y , and plundered their patriot opponents Patriot marauders, in the same territory at the same period, were called skinners **2** Mounted men employed as herders on cattle ranches of the W United States They were more important and picturesque in the days before the vast ranches were fenced, when their duties consisted of driving cattle to pasture and water, branding them at the roundup, protecting them from wild animals and thieves, and driving them to the shipping point At the present time their duties are not as dangerous as formerly, but cowboys are still fearless and expert horsemen, skilled with the lasso and in all details of their work See ROUNDUP and RODEO See Emerson Hough, *The Story of the Cowboy* (1912), Douglas Branch, *The Cowboy and His Interpreters* (1926), Philip A Rollins, *The Cowboy* (rev ed , 1936), E E Dale, *The Range Cattle Industry* (1938) and *Cow Country* (1942), John A Lomax and Alan Lomax, *Cowboy Songs and Other Frontier Ballads* (new ed , 1948).

Cowdry, Edmund Vincent (kou'drē), 1888–, American biologist, b Macleod, Alta., grad. Univ of Toronto, 1909, Ph D Univ of Chicago, 1913 In

1909 he came to the United States and became a naturalized citizen in 1930 He taught anatomy at the Univ of Chicago (1909–13), at Johns Hopkins (1913–17), and at Peking Union Medical College (1917–21) From 1921 to 1928 he was an associate member of the Rockefeller Institute As a member of scientific expeditions he traveled widely From 1928 he taught at Washington Univ, first as professor of cytology (to 1941), then as professor of anatomy (after 1941) He edited *General Cytology* (1924), *Special Cytology* (1928), *Human Biology and Racial Welfare* (1930), and *Problems of Ageing* (1939) and wrote *Textbook of Histology* (1934) and *Microscopic Technique* (1943)

Cowell, Henry Dixon (kou'ŭl), 1897–, American composer and pianist, b Menlo Park, Calif, largely self-educated, studied musicology in Berlin (1921–32) He has experimented much with new musical resources, in his piano compositions he introduced the tone cluster, played with the arm or the fist, and wrote compositions to be played directly on the strings of the piano He founded (1927) *New Music*, a quarterly for the publication of music by contemporary American and European composers In 1932, with the help of Leon Theremin, he invented the rhythmicon, a device which produces all kinds of rhythms and cross-rhythms mechanically, and for it he wrote a concerto (1932) His appointments include the directorship of music (1930–36, 1940–) of the New School for Social Research He wrote *New Musical Resources* (1930) and edited *American Composers on American Music a Symposium* (1933)

Cowes (kous), urban district (1931 pop 10,171, 1943 estimated pop 18,022), on the Isle of Wight, England, SSE of Southampton It is a seaport, shipbuilding center, and resort Henry VIII had strong forts here Cowes became headquarters of the Royal Yacht Club in 1856, and regattas are held annually Queen Victoria lived in OSBORNE HOUSE, near the eastern part of the town

Cowets (kō'wĕ'tu), town (pop 1,455), E Okla, SE of Tulsa Settled first by Indians and incorporated in 1900, it remains an Indian center

Cowles, Henry Chandler (kōlz), 1869–1939, American botanist, b Kensington, Conn, grad Oberlin, 1893, Ph D Univ of Chicago, 1898 He taught at the Univ of Chicago from 1902 to 1934 (as chairman of the botany department from 1925) From 1925 to 1934 he was the editor of the *Botanical Gazette*. He contributed to the early development of plant ecology, including the physiographic and comparative phases and ecological relations of sand-dune vegetation

Cowley, Abraham (kōō'–, kou'–), 1618–67, English poet, one of the METAPHYSICAL POETS He lived in Chertsey, where his home is preserved Strongly influenced by Spenser, Cowley produced a precocious volume of verse, *Poetical Blossoms* (1633), four years before entering Cambridge At the university he became a fellow in 1640, and during his residence he wrote three plays and began his scriptural epic *Davideis* (1656), in which he used the couplet as a vehicle for narrative verse A royalist, he left Cambridge in 1643 and for the next 12 years served as an agent for Queen Henrietta Maria *The Mistress* (1647) shows his debt to Donne, and *Poems* (1656) includes "Pindarique Odes," modeled after PINDAR, and his famous elegies on Richard Crashaw and William Hervey *Verses on Several Occasions* (1663) includes "To the Royal Society," an ode celebrating the society whose cause he had taken up in the prose essay *Proposition for the Advancement of Experimental Philosophy* (1661) Largely because of the excessive cleverness of his verse, his popularity waned in the face of the neoclassical reaction, his return to favor has come in the last 50 years See biography by A H Nethercot (1931)

Cowley, Hannah, 1743–1809, English poet and dramatist One of the DELLA CRUSCANS, she contributed under the name Anna Matilda sentimental verses to the *World* Her most successful comedy was *The Belle's Stratagem* (1782)

cow lily: see POND LILY

Cowloon: see HONG KONG.

cowpea or black-eyed bean, tender annual plant (*Vigna sinensis*) of many varieties, grown for forage, to some extent for human food, and as a COVER CROP To the S United States it is what alfalfa and clover are to the West and North It is also called the China bean See *Cowpeas Culture and Varieties* and *Cowpeas Utilization* (U S Dept of Agriculture, **Farmers' Buls** 1148 and 1153)

Cowpens (kou'pĭnz, kŭp'–), town (pop. 1,343), NW S C, c 8 mi ENE of Spartanburg. The battle fought (Jan 17, 1781) in the CAROLINA CAMPAIGN of the American Revolution is marked by a national battlefield site (one acre, est 1929), just north of the town

Cowper, William Cowper, 1st **Earl** (kōō'pur), c 1664–1723, English jurist He became lord keeper of the great seal in 1705 and in 1706 took a leading part in negotiating the union of England with Scotland He was made the first lord chancellor of Great Britain (1707–10), and as such he presided at the trial of Henry SACHEVERELL and was forced out of office with the Whigs in 1710 He was lord chancellor again (1714–18) under George I, for whom he wrote a still useful description of English political parties of the time. See his private diary for the years 1705–14 (ed by E C Hawtrey, 1833) and the diary of his wife, Mary, Countess Cowper (ed. by C S. Cowper, 1864)

Cowper, William (kōō'pur), 1666–1709, English surgeon After serving an apprenticeship he became a successful practitioner in London His works on human anatomy were, in their time, important contributions He discovered the glands known as Cowper's glands (kou'pŭrs, kōō'–) or the bulbo-urethral glands, a pair of small glands connected with the male urinogenital system. They lie on either side of the prostate gland, and their secretion forms part of the seminal fluid

Cowper, William (kōō'pur, kou'–), 1731–1800, English poet He was admitted to the bar, but never practiced Subject to melancholia, after treatment for an attack of insanity he was fortunately placed in the home of the Unwin family at Huntingdon and later at Olney Since his was a religious mania, Mrs Unwin's serene faith and care gave him peace, and she encouraged him to write Some of his best hymns, notably "Oh for a Closer Walk with God," were written for *Olney Hymns*, edited by John Newton, the local evangelical curate Cowper's volume of 1782 included "Table Talk" as well as the famous "Verses supposed to be written by Alexander Selkirk" Starting from a casual suggestion that he write about "the sofa," he produced his poem in six books, *The Task* (1785), which was at once popular In it the descriptions, in Miltonic blank verse, of the sights and sounds of country life are very early notes of what was later to be called romanticism Cowper made a translation of Homer (1791), but after the death of Mrs Unwin in 1796, his old malady overtook him and he wrote little except the anguished poem, "The Castaway" Among Cowper's other poems, "The Colubriad" and "John Gilpin" are famous Only slightly less so are "On the Loss of the Royal George," "To Mary," and the fine sonnet "To Mrs Unwin" Cowper's letters, among the most brilliant in English literature, were edited by Thomas Wright (1904, additions, 1925) See biographies by William Hayley (1835 ed), Goldwin Smith (1880), Thomas Wright (1921), H I Fausset (1928), David Cecil (1929), and L C Hartley (1938), Gilbert Thomas, *William Cowper and the Eighteenth Century* (1935).

cowpox, infectious disease of cows caused by a virus related to that of SMALLPOX It induces a mild infection of the hands in persons who milk infected cows The fact that such persons had IMMUNITY to smallpox led Edward JENNER to attempt VACCINATION with this virus, instead of using the dangerous method of vaccinating with material from the sores of smallpox which often caused the disease and left the person pockmarked Jenner's method was successful and is the basis of the modern vaccination against smallpox Cowpox is also known as vaccinia Horses and sheep may contract a similar disease

cowrie or **cowry** (both kou'rē), marine gastropod mollusk found in warm waters The smooth, shiny, often beautifully marked shell is rounded on the upper surface and flattened on the lower and usually is at least partially covered by an expanded portion of the mantle The shells of the money cowrie (*Cypraea moneta*) and of some related species are among those most anciently and most widely used for SHELL MONEY Various species are used for personal adornment and in some primitive cultures they indicate the rank of the wearer. Cowries are abundant in the Indian Ocean, particularly in the East Indies and the Maldive Islands Species of cowries inhabit the waters around S California and the warm waters southward from the SE United States

cowslip, name in the United States for the MARSH MARIGOLD, VIRGINIA COWSLIP, and SHOOTING STAR (American cowslip), in England a PRIMROSE

Cox, David, 1783–1859, English landscape painter, a follower of John Constable He is best known for his water colors of Welsh scenery, of which he produced a great number Cox is well represented in the British and the Victoria and Albert Museum and in the Birmingham Art Gallery See biographies by N N Solly (1875) and William Hall (1881), study by F G. Roe (1924)

Cox, George Barnsdale, 1853–1916, American politician, Republican boss of Cincinnati, b Cincinnati A former bootblack, he turned to real estate and local politics after selling his Mecca Saloon in 1881 Cox acquired political control of the city in 1886 and held power to 1911, except for defeats in 1897 and 1905 His machine, in other hands, won again in 1913

Cox, Jacob Dolson, 1828–1900, Union general in the Civil War and American statesman, b Montreal, of a New York city family, grad. Oberlin College, 1851 Admitted to the Ohio bar in 1853, he was active in organizing the new Republican party there and served (1859–61) in the state senate Cox, made a brigadier general of volunteers early in the Civil War, served ably in the Kanawha valley and Antietam campaigns and commanded in West Virginia (1862–63) and Ohio (April–Dec., 1863). He later led a corps in the Atlanta campaign (1864), fought at Nashville (Dec., 1864), and closed out his service with Sherman in North Carolina. He had risen to be a major general of volunteers and, returning home a hero, was elected governor of Ohio for the term 1866–68 Because he supported President Andrew Johnson on Reconstruction against the radical Republicans, he was not renominated Nevertheless U S Grant, on assuming the presidency, made Cox his Secretary of the Interior This was one of Grant's few good appointments. Cox, however, advocated and practiced civil service reform and opposed the President on other points, notably the move to annex Santo Domingo The Republican spoilsmen had long been hostile to him, and in Oct, 1870, rather than yield to Grant's pressure concerning a land claim, Cox resigned from the cabinet and became identified with the Liberal Republicans He later served one term in Congress (1877–79), was dean of the Cincinnati Law School for 16 years beginning in 1881, and also served as president of the Univ of Cincinnati from 1885 to 1889 Military book critic for the *Nation* from 1874 till his death, he himself wrote ably on military affairs His books include *Atlanta* (1882), *The Battle of Franklin* (1897), *The March to the Sea* (1898), and *Military Reminiscences of the Civil War* (1900) Kenyon Cox was his son.

Cox, James Middleton, 1870–, American political leader and journalist, b Butler co, Ohio After he served on the editorial staff of the Cincinnati *Enquirer*, he bought the Dayton (Ohio) *Daily News* (1898) and subsequently acquired several other papers in different states He served in the U S House of Representatives (1900–1913), and as governor of Ohio (1913–15, 1917–21) he became prominent as a supporter of President Woodrow Wilson Nominated in 1920 as presidential candidate by the Democratic party with Franklin D Roosevelt as his running mate, Cox staunchly supported the League of Nations. He was defeated by Warren G Harding, Cox winning over 9,000,000 popular and 127 electoral votes He later (1933) was vice chairman of the American delegation to the World Economic Conference. See his autobiography, *Journey through My Years* (1946)

Cox, Kenyon, 1856–1919, American painter, draughtsman, and art critic, b Warren, Ohio, studied in Cincinnati, at the Pennsylvania Academy of the Fine Arts, and with Carolus Duran and Gérôme in Paris, son of Gen J D Cox He worked in New York city, where he became an influential teacher at the Art Students League and the National Academy of Design His portraits, figure pieces, and murals are academic in style and distinguished by fine draughtsmanship He is perhaps more remembered for his drawings than for his paintings He painted murals for the Library of Congress, the state capitols of Iowa and Minnesota, and the public library of Winona, Minn His portrait of Saint-Gaudens is in the Metropolitan Museum Cox's writings on art include *Old Masters and New* (1905), *The Classic Point of View* (1911), and *Concerning Painting* (1917) Louise Cox was his wife

Cox, Louise Howland King, 1865–1945, American painter, b San Francisco She studied at the National Academy of Design and at the Art Students League, New York, under Kenyon Cox, whom she married in 1892 She is best known for her portraits of children and for her decorative paintings Among her works are *Psyche*, *My Children*, *Master Austin Smithers*, and *Mrs Homer Saint-Gaudens and Child* *May Flowers* is in the National Gallery of Art, Washington, D C

Cox, Palmer, 1840–1924, American author and artist, b Granby, Que, grad Granby Academy He is famous as the writer and illustrator of the Brownie stories for children (13 vols, 1887–1925)

Cox, Ross, 1793–1853, American fur trader He joined John Jacob Astor's Pacific Fur Company in 1811 and went to the Astoria post on a supply ship, the *Beaver* He was active in trade in the Columbia river valley, entering the employ of the North West Company after Astoria was sold to that firm His *Adventures on the Columbia River* (1831) is an entertaining as well as valuable historical source

Cox, Samuel Sullivan, 1824–89, American statesman and legislator, b Zanesville, Ohio, grad Brown, 1846 He traveled widely, studied law, and after 1849 he practiced in Cincinnati He became editor of the *Ohio Statesman*, was (Feb–Aug, 1855) secretary of legation in Peru, and served (1857–65) as a Congressman from Ohio before he removed (1866) to New York city. Again (1869–March, 1873, Nov, 1873–1885) in the U S Congress, Cox advocated civil service reforms, worked for extension of the scope of the census, and championed legislation for the development of the West. After serving (1885–86) as minister to Turkey, he once more entered (1886) Congress Among his books were *A Buckeye Abroad* (1852), *Puritanism in Politics* (1863), and *Three Decades of Federal Legislation* (1885)

Coxe, Tench, 1755–1824, American political economist, b Philadelphia. He entered his father's mercantile business in 1776, but after 1790, when he became assistant to Alexander Hamilton as Secretary of the Treasury, he remained in public office,

although he never attained one of importance. A firm believer in a balanced national economy, he supported Hamilton in his efforts to put the finances of the country on a sound basis Politically, however, he was Anti-Federalist. He assisted Jefferson on two reports to Congress—one on fisheries, the other on foreign commerce In Coxe's *Enquiry into the Principles on Which a Commercial System for the United States of America Should Be Founded* (1787) he first urged the necessity of an economy balanced between agriculture and manufacturing Especially did he advocate the culture and manufacture of cotton Many of his essays are collected in his *Views of the United States* (1794) His *Statement of the Arts and Manufactures of the United States of America for 1810* is an official digest of the census data collected in that year See study by Harold Hutcheson (1938)

Coxe, William, 1762-1831, American pomologist, b Philadelphia His experiments and his book, *A View of the Cultivation of Fruit-Trees and the Management of Orchards and Cider* (1817), had a pronounced effect on the early development of fruitgrowing in America He was instrumental in introducing the Seckel pear into England

Coxetter, Louis Mitchell (kŏk'sŭtûr), 1818-73, Confederate privateersman and blockade runner, b Nova Scotia He settled in Charleston, S C, and in the Civil War he captained the ship *Jefferson Davis*, which captured 10 prizes in 1861 When, because of the increasing effectiveness of the Union blockade, profiteering declined, Coxetter turned to blockade-running and was equally successful See W M Robinson, *The Confederate Privateers* (1928)

Coxey, Jacob Sechler (kŏk'sē), 1854–, American social reformer, b Selinsgrove, Pa He began his career as a stationary engineer, later turning to the scrap-iron business and then to sandstone quarrying He was interested in the problem of the unemployed, however, and arranged to have introduced in Congress a bill for road improvements, calling for the issue of fiat money to be spent in public construction work which would provide employment He was a candidate for Congress in 1894, for governor of Ohio in 1895 and 1897, and for the Senate in 1916 From 1931 to 1933 he was Republican mayor of Massillon, Ohio, and was Farmer-Labor candidate for President in 1932 and 1936 He wrote three books on monetary problems, topics of such concern to him that he named one of his sons Legal Tender In 1937 he put forth a flood-control plan involving the digging of a new Mississippi river channel straight from Cairo, Ill, to the Gulf of Mexico, financed by fiat money and giving work to countless unemployed But he was most famous as the leader of **Coxey's Army,** a band of unemployed men who marched to Washington, D C, following the Panic of 1893, to petition Congress for measures which they hoped would relieve unemployment and distress Coxey was aided by Carl Browne (1849–1914), a skilled agitator with curious religious notions By wide advertising Coxey gathered over 100 men and left Massillon with them on Easter Sunday, 1894, intending to reach Washington for a May Day demonstration The "army," named "The Commonweal of Christ" by Browne, was met by crowds in every city through which it passed It had an anticlimactic and ineffectual ending when, reaching Washington with c 500 men instead of the proclaimed 100,000, its leaders were arrested for walking on the Capitol lawn Coxey's was only one of several industrial "armies" which in these months started from different sections of the country for the capital Coxey himself led a small "army" to Washington in 1914 to agitate for a revised program. See D L McMurry, *Coxey's Army* (1929)

Coxsackie (kŏksŏ'kē), village (pop 2,352), SE N Y, on the west bank of the Hudson and S of Albany, settled before 1700 by Dutch, inc 1867. Valves are made, and there are granite works here

Coxwell, Henry Tracey, 1819–1900, English aeronaut One of the most noted balloonists of his day, he made the first of his hundreds of ascents in 1844 In 1862 with Dr James Glaisher he achieved a height of c 7 mi, a record for balloon ascension at that time During the Franco-Prussian War he operated military balloons for Germany He wrote *My Life and Balloon Experiences* (2 vols, 1887–89)

Coyoacán: see MEXICO, city

coyote (kīō'tē, kī'ōt, kīōt') or **prairie wolf,** small wolf native to W North America It has thick, long, tawny fur and a black-tipped bushy tail It hunts a variety of small animals and in packs attacks larger mammals It destroys some domestic animals but is a valuable scavenger and destroyer of rodents It has a yelping, doglike cry It ranges from Mexico through the W and central United States, Alaska, and S Canada

Coypel (kwäpĕl'), family of French painters **Noël Coypel** (nōĕl'), 1628–1707, director of the Académie de France à Rome and later of the Académie royale de Peinture et de Sculpture in Paris, was employed on the decorations of the palaces of the Louvre, Tuileries, Fontainebleau, and Versailles. One of his best paintings is the *Martyrdom of St. James* (Notre Dame de Paris) **He was succeeded as director of the Académie by his son, Antoine Coypel** (ätwän'), 1661–1722, who was made court painter in 1716 His Aeneid series painted for the Palais-Royal are among his best-known works He was also an accomplished etcher Antoine's half-brother **Noël Nicolas Coypel** (nōkōlä'), 1692–1734, and Antoine's son **Charles Antoine Coypel** (shärl'), 1694–1752, were also well-known painters.

coypu: see NUTRIA

Coysevox, Antoine (ätwän' kwäzvôks'), 1640–1720, French sculptor He enjoyed the patronage of Louis XIV and produced a great part of the sculpture at Versailles His *Winged Horses*, at the entrance to the Tuileries gardens, and his portrait and memorial sculptures show free, vigorous, and original treatment The bust of Condé (Le Havre), that of Colbert (Versailles), and the tomb of Massarin (Louvre) are notable works

Coz [Heb, =thistle], Judahite 1 Chron 4 8

Cozad (kō'zăd'), city (pop 2,156), S Nebr, on the Platte river and SE of North Platte, in a hay region, founded 1874 It has an alfalfa-processing plant

Cozbi (kŏz'bī) [Heb, =deceptive], Midianite woman whom Phinehas killed Num 25 6–18

Cozens, John Robert (kŭz'ĭnz), 1752–99, English water-colorist, son of Alexander Cozens, artist and writer He is best known for impressionistic and poetic landscapes His work is in marked contrast to the conventional and colorless aquarelle landscape painting of his day Examples are in the Victoria and Albert and the British Museum, London

Cr, chemical symbol of the element CHROMIUM.

Cr, the, constellation see CANCER

crab, crustacean with a broad, flat carapace or exoskeleton, a short abdomen which is bent under the body, stalked eyes, and five pairs of legs, the first pair bearing claws or pincers Crabs are chiefly marine, but some are found in fresh water and some are terrestrial for long periods They are omnivorous, some are scavengers, and others predatory The blue crab of the Atlantic coast of the United States is much used for food It is marketed as a soft-shelled crab after it has molted and before the new shell has hardened Females of the oyster and mussel crabs live inside the shells of bivalve mollusks Often seen scurrying about near their burrows in muddy banks are the fiddler crabs, the males of which have one claw much enlarged Swimming crabs have the last pair of legs flattened to form paddles Some of the spider crabs disguise themselves with pieces of seaweed or sponge The giant spider crab of Japan has legs about 4 ft long and a carapace more than a foot wide The KING CRAB, or horseshoe crab, and the HERMIT CRAB are related crustaceans

crab apple, popular name for a type of APPLE tree and for its fruit, which is usually small hard, and sour Native generally to Asia and North America, crab apples are very hardy and often strikingly beautiful, having fragrant, single or double flowers ranging in color from white to deep pink They are cultivated for ornament and for their fruits, which make excellent preserves, jellies, and pickles Two native American ornamental varieties are the wild sweet or garland crab apple (*Malus coronaria*) and the prairie crab apple (*M ioensis*), from which the popular double-flowered Bechtel's crab was developed One of the oldest known and most widely cultivated is the Siberian crab (*M baccata*), which, with the common apple, is the parent of many hybrids, some of which are much used as rootstocks for grafting apples in cold climates The Florentine crab (*M florentina*) of Italy is one of the few species native to Europe and is a handsome tree in autumn when its leaves turn orange and scarlet In England the wild common apple is called the crab apple See Donald Wyman, *Crab Apples for America* (1947)

Crabb, George, 1778–1851, English writer, b Palgrave, Suffolk, grad Oxford He is known for his *Dictionary of English Synonymes* (1816)

Crabbe, George, 1754–1832, English poet, b Aldeburgh, Suffolk After practicing medicine for some time, he turned to literature and wrote *The Library* (1781) He took orders the same year and held various livings, he was rector from 1814 at Trowbridge, where is his tomb *The Village* (1781), written in reply to Goldsmith's *Deserted Village*, made him famous He also wrote *The Parish Register* (1807), *The Borough* (1810), *Tales in Verse* (1812), and *Tales of the Hall* (1819) Crabbe is the great realist of English poetry His narrative verse, written chiefly in heroic couplets, deals with the sordid life of the very poor, in a natural setting accurately described See biography by his son (ed by E M Forster, 1932), studies by T E Kebbel (1888), A C Ainger (1903), René Huchon (1907), and J H Evans (1933)

Crab Island, Puerto Rico see VIEQUES.

Crabtree, Lotta, 1847–1924, American actress, b New York city She was a popular child actress in California mining camps, having been taught by Lola Montez In 1867, in a dramatization of Dickens's *Old Curiosity Shop*, she scored a success in New York. Despite the shoddiness of most of her plays, her verve, spontaneity, and sprightly grace captivated large audiences until her retirement in 1891. See C. M Rourke, *Troupers of the Gold Coast; or, The Rise of Lotta Crabtree* (1928)

cracking of petroleum: see PETROLEUM.

Cracow (krā'kō, krä'kou), Pol *Kraków*, Ger. *Krakau*, city (pop 299, 396), S Poland, on the Vistula Founded allegedly c 700 and made a bishopric c 1000, it became (14th cent) the residence of the kings of Poland The Cracow fire (1595) caused the transfer of the royal residence to Warsaw, but the kings continued to be crowned and buried in Cracow The city passed to Austria in the third partition of Poland (1795) and was included (1809) in the grand duchy of Warsaw In 1815 the Congress of Vienna made the city and its vicinity into the republic of Cracow, a protectorate of Russia, Prussia, and Austria, which was included (1846) in Austria The city reverted to Poland in 1919 In the Second World War, Cracow suffered relatively little damage The university (known sometimes as the Jagiellonian Univ), founded in 1364 by Pope Urban V, has long been a bulwark of Polish culture and a leading European center of learning. Copernicus was one of its students Standing on a hill, the Wawel, are the royal castle, rebuilt (16th cent) in Italian Renaissance style, and the Gothic cathedral (rebuilt in the 14th cent), which contains the tombs of great Poles The Rynek [market] square is noted for the Church of Our Lady (13th cent), which had carvings by Veit Stoss, for the 14th-century cloth hall, and for the remaining tower of a 14th-century town hall Chiefly a trade center, Cracow also has several industries Cracow prov (6,140 sq mi, pop 2,133,389) is partly in the Carpathians In the northwest the Cracovian Jura (c 1,650 ft) extends from Cracow to Czestochowa The soil (largely arable) contains coal, iron, salt (notably at WIELICZKA), oil and natural gas, and other deposits There are resorts and spas, principally in the Carpathians The chief cities are Cracow, Tarnow, and Nowy Sacz

Craddock, Charles Egbert, pseud of **Mary Noailles Murfree,** 1850–1922, American novelist, born on a plantation near Murfreesboro, Tenn She was educated well by her lawyer-father, except for the years 1881 to 1890, which the family spent in St Louis, Miss Murfree lived in Tennessee and wrote her best works about the mountain people Recognition came to her for her short stories *In the Tennessee Mountains* (1884), they had appeared in the *Atlantic Monthly* since 1878, but her identity was unknown even to her publishers until 1885 *Where the Battle Was Fought* (1884) and *The Prophet of the Great Smoky Mountains* (1885) were her best novels of local color. See biography by E W Parks (1941)

cradle, in furniture, an infant's bed Primitive cradles made of hollowed tree trunks or of basketry were followed by oblong boxes swung on pivots or set upon rockers Henry V's cradle was a wooden chest swung between posts Wooden hoods and, later, draperies were used as a protection against drafts The old-type cradle has been superseded by the stationary crib

cradle scythe or **cradle,** SCYTHE specially adapted for reaping grain It has a framework of wooden "fingers" parallel with the blade, to lay the grain straight for raking and binding In progressive agricultural regions, it largely took the place of the sickle and was itself superseded by the reaping machine, but both the sickle and the cradle scythe are still used in backward regions and under exceptional conditions elsewhere When it was the standard implement for reaping, especially in America before the Civil War, it was brought to the refinement and effectiveness characteristic of farm implements Cradle scythes made by Erskine Bouck, of Mineral Springs, N Y, are said to have been in their way "as much of a triumph as a Stradivarius violin" For the fingers of his cradles, Bouck made use of ash roots curved naturally in the right way

Crafton, residential borough (pop 7,163), SW Pa, W of Pittsburgh, inc 1894 It has a stove factory

Crafts, James Mason, 1839–1917, American chemist, b Boston, grad Harvard, 1858 At the Massachusetts Institute of Technology he taught chemistry (1871–80, 1892–97) and later was president (from 1898 to 1900) He made studies of silicon compounds and arsenic ethers and of thermometry With Charles Friedel he developed the Friedel-Crafts reaction for preparing certain hydrocarbons and ketones

crafts. see ARTS AND CRAFTS

Craig, Edward Gordon, 1872–, English actor, stage designer, and producer The son of Ellen Terry, he began his career as an actor and appeared with the Lyceum company (1885-97) His interest turned to stage design and production, and his first work in revivals of operas by Handel and Purcell, his settings for Ibsen's *Vikings* (1903) and Shakspere's *Much Ado about Nothing* (1903), and his later work for *Hamlet* (with the Moscow Art Theatre in 1912) were great contributions to the development of the modern theater. His settings had fantasy and mystery and though they often failed to regard the architectural restrictions of the theater were poetic and beautiful At Florence, Italy, he edited a magazine, the *Mask* (1908–29),

and founded the Gordon Craig School for the Art of the Theatre He is the author of *The Art of the Theatre* (1905), *Towards a New Theatre* (1913), *Scene* (1923), *Henry Irving* (1930), *Ellen Terry and Her Secret Self* (1931), and other works See Huntly Carter, *The New Spirit in Drama and Art* (1912), Enid Rose, *Gordon Craig and the Theatre* (1931)

Craig, James: see CRAIGAVON, JAMES CRAIG, 1ST VISCOUNT

Craig, Sir James Henry, 1748–1812, British soldier, governor in chief of Canada (1807–11), b Gibraltar He served in America throughout the American Revolution, participated (1794) in the Netherlands campaign, and was in joint command of the force which captured (1795) the Cape of Good Hope colony from the Dutch Knighted in 1797, he commanded (1797–1802) a division in India, was promoted lieutenant general, and later (1805–6) led an English army to Italy and occupied Sicily In 1807 Craig was appointed governor in chief of Canada His lack of sympathy with representative government and with the French Canadians found expression in dissolving (1809) the assembly of Lower Canada and in imprisoning the sponsors of the newly established journal the *Canadien* The French Canadians consolidated and strengthened their position through the political ammunition which his actions furnished, and Sir George Prevost was sent to replace him in 1811 Craig was promoted general shortly before his death

Craig, John, 1512?–1600, Scottish minister of the Reformation He joined the Dominican order, but, through reading the *Institutes* of Calvin, he adopted Protestantism Imprisoned at Rome for heresy, he was rescued from death at the stake in 1559 Craig went to Vienna, where he preached before the archduke Maximilian Returning to Scotland in 1560, he shortly became the colleague of John KNOX in Edinburgh, upon the death of Knox in 1572, he was accepted as leader of the Scottish Church Chaplain to James VI after 1579, he was the author of the *King's Confession* (1581), upon which was based the National Covenant of 1638 Craig's *Short Summe of the Whole Catechisme* (1581), reprinted in 1883, has a memoir by T G Law

Craig, Malin, 1875–1945, U S general, chief of staff (1935–39), b St Joseph, Mo , grad West Point, 1898 He fought in the Spanish-American War, served in China (1900) and the Philippines (1900–1901, 1907–9), and was chief of staff of the 3d Army (1918–19) in the First World War He held many army administrative posts and was promoted general on becoming chief of staff He was succeeded by George C Marshall

Craig, town (pop 2,123, alt 6,200 ft), co seat of Moffat co , NW Colo , on the Yampa river, inc 1908 It is the center and shipping point for an oil, stock-raising, and grain area

Craigavon, James Craig, 1st **Viscount** (krāgă'vun), 1871–1940, Ulster statesman He was a strong supporter of Edward Henry Carson, Baron CARSON, in rousing Ulster against Home Rule in the crisis preceding the First World War, and he organized armed resistance against any attempt to enforce Home Rule In 1921 he became prime minister of the newly established government of Northern Ireland, a position he held until his death See biography by St John Ervine (1949)

Craigenputtock (krāgŭnpŭ'tŭk), moorland home of the Carlyles from 1828 to 1834, S Scotland, near Dumfries

Craighead, Edwin Boone (krāg'hĕd), 1861–1920, American educator, b Callaway co , Mo , grad Central College, Mo , 1883, studied at Leipzig and Paris In 1890 he became professor of Greek at Wofford College He served as president successively of Clemson Agricultural College (1893–97), of Central College (1897–1901), of the Missouri State Normal School (1901–4) of Tulane Univ (1904–12), and of Montana State Univ (1912–15) His work of reorganization at Tulane won him special recognition in the educational world He edited at Missoula the *News Northwest*, an independent newspaper of much influence in the region See C J Keyser, "No Braver Man," in *Mole Philosophy and other Essays* (1927)

Craigie, Pearl Mary Teresa (Richards), pseud **John Oliver Hobbes,** 1867–1906, English novelist and playwright, b Boston, Mass Her first novel, *Some Emotions and a Moral* (1891), won her a wide audience, but was followed by less consequential works Her only successful play, *The Ambassador* (1898), ran for a year Her works were noted for their wit and epigrammatic style See her autobiographical *Life of John Olver Hobbes* (1911).

Craigie, Sir William A., 1867–, British lexicographer, b Dundee, Scotland. Educated at the Univ. of St. Andrews and at Oxford, he studied Scandinavian languages at Copenhagen before beginning (1893) his career as lecturer at St Andrews and as lecturer and professor at Oxford Generally considered the foremost lexicographer of his time, he was engaged on the *New English Dictionary* (commonly called the *Oxford Dictionary*) after 1897 and was joint editor from 1901 to 1933 He was persuaded to come to the United States and was the chief editor of *A Dictionary of American English on Historical Principles* (issued in parts after 1936; published as 4 vols , 1938–43). He also edited other dictionaries, made critical editions of texts, and wrote monographs and textbooks on the English language

Craik, Dinah Maria Mulock: see MULOCK

Crail, burgh (pop 1,059), Fifeshire, Scotland. It is a seaside resort and fishing center

Craiova (krayô'vă), city (pop 84,574), SW Rumania, in Walachia, a commercial center, former capital of Oltenia Built on the probable site of a Roman settlement, it has several museums containing prehistoric and Roman relics

Cram, Ralph Adams, 1863–1942, American architect and writer, b Hampton Falls, N H , studied at Westford, Mass , Academy. He established an office in Boston in 1889, and in 1892 he became associated with C F Wentworth and B G GOODHUE Later this firm changed to Cram, Goodhue, and Ferguson, and after 1913 it was known as Cram and Ferguson An ardent exponent of Gothic architecture, Cram produced many distinguished works designed in this style, chiefly collegiate and ecclesiastical structures, in various parts of the United States In 1911 he became the architect for the Cathedral of St John the Divine, New York, after the choir had already been built by Heins and La Farge Among his numerous church designs are Calvary, Pittsburgh, Fourth Presbyterian, Chicago, St Stephen's, Cohasset, Mass , and St Paul's, Detroit, Michigan His college buildings include the graduate school and chapel, Princeton, buildings for Williams College, Phillips Exeter Academy, and the Rice Institute, Houston, Texas, and the chapel and other buildings at the U S Military Academy at West Point, in association with B G Goodhue Cram's many writings, chiefly upon medieval architecture and thought, include *Church Building* (1901), *Ruined Abbeys of Great Britain* (1905), *The Gothic Quest* (1907), and *The Substance of Gothic* (1916) See his autobiography, *My Life in Architecture* (1936)

Cramer, Johann Baptist (yôhan' baptĭst' krā'mur), 1771–1858, German pianist He studied with Clementi in London, where he taught after a tour in 1788 His piano compositions include many sonatas and several concertos, but he is chiefly remembered for his 84 technical studies (1804)

Cramp, William, 1807–79, American shipbuilder In 1830 he founded a shipbuilding company in Philadelphia and was its president until his death The company gained its fame, however, from his son, **Charles Henry Cramp,** 1828–1913, b Philadelphia. He became a partner in the company in 1849, and he designed the ironclads built for the U S navy in the Civil War More important were his designs for the battleships of the "new navy" after 1887—the *Maine* (the center of a famous incident when she was sunk in Havana harbor), the *Massachusetts*, the *New York*, the *Colorado*, and the *Pennsylvania* The Cramp shipyard also built fine merchant vessels and designed and constructed warships for Russia and Japan Charles Henry Cramp became president of the company after his father's death

cramp, painful contraction of a muscle or group of muscles without the person's control It is of some minutes' duration and is common in the foot and leg As it results from cold, strain, and disturbance of circulation, it is common in swimmers The muscle is tender afterwards Rubbing, kneading, and the local application of heat are useful in relaxing the muscle and thus relieving the pain When the muscles in a hollow organ contract in this way it is called COLIC A "stitch" in the side is due to a cramp in the muscles between ribs See also MENSTRUATION and WRITER'S CRAMP

Cranach or **Kranach, Lucas** (both: lo͞o'käs kra'näkh), the elder 1472–1553, German painter and engraver His real name was either Müller or Sunder He settled in Wittenberg c 1504 and was court painter successively under three electors of Saxony There he maintained a flourishing workshop and was twice burgomaster Cranach was a friend of Luther, whose doctrine he upheld in numerous pictures and woodcuts, and he has been called the painter of the Reformation He was a rapid and prolific painter, and the work turned out by his studio is uneven in excellence Naïve and fanciful, often awkward in draughtsmanship, it has freshness and originality and a warm rich color His portraits are particularly successful Among his best-known works are *Repose in Egypt*, *Marriage of St. Catherine*, and *Crucifixion* (Weimar) This last contains figures of Luther and Cranach Famous portraits include those of Elector John Frederick, *Unknown Female* (National Gall , London), and *Self-Portrait* (Uffizi) Cranach was also an accomplished miniaturist He produced a few copperplates and designs for woodcuts His son and pupil **Lucas Cranach,** the younger, 1515–86, continued the tradition of his father whose workshop, signature, and popularity he inherited Their work is often indistinguishable His *Unknown Woman* (Mus of Fine Arts, Boston) is a good example of his work.

cranberry, name for low creeping BOG plants of the genus *Oxycoccus* (or *Vaccinium*), which has tart berries used for sauces, jelly, pie, and beverages. The European or small cranberry is found in North America, but the cranberry of commercial cultivation is the native American or large cranberry (*Oxycoccus macrocarpus*), having a larger berry. The leaves of both are small, evergreen, and somewhat hemlocklike; the berries are bright red. The large cranberry has been in cultivation since about 1840, chiefly in New Jersey, Massachusetts, and Wisconsin bogs that are especially prepared for annual flooding The serving of cranberry sauce with the Thanksgiving turkey is traditional in the United States Other species of the genus are also called cranberry, but are of less importance The HIGH-BUSH CRANBERRY or cranberry tree is not related See J J White, *Cranberry Culture* (enl ed , 1912), proceedings of the American Cranberry Growers Association

cranberry tree: see HIGH-BUSH CRANBERRY

Cranbrook, city (pop 2,568), SE British Columbia, in the Kootenay valley between the Selkirk Mts and the Rocky Mts , W of Lethbridge, Alta The first settlement was made c 1884

Cranbrook Foundation, at Bloomfield Hills, Mich , Episcopal, chartered 1927 by George G and Ellen Booth, with a large endowment It includes an elementary school, preparatory schools for boys and girls, an art academy, and a science institute (with a museum and an observatory) Many of the buildings were designed by Eliel Saarinen

Cranbury, unincorporated village (pop 733), central N J , N of Hightstown, settled 1682 David Brainerd, missionary to the Indians, lived near by A pyrotechnic factory is here

Cranch, Christopher Pearse, 1813–92, American poet and painter, b Alexandria, Va , grad Columbian College, 1831, and Harvard Divinity School, 1835 He served for some years as a Unitarian minister In Boston he was popular among the transcendentalists, contributed to the *Dial*, and was a friend and admirer of Emerson In 1843 he left the ministry to follow his bent for painting and thereafter spent long periods in Europe His writings include several volumes of poetry, a translation of Vergil's *Aeneid*, children's stories (illustrated by himself), and recollections of Browning See biography by his daughter, Leonora Cranch Scott (1917)

Crandall, Prudence, 1803–89, American educator and abolitionist, b Hopkinton, R I In 1831 she opened a school for girls in Canterbury, Conn Her decision to admit a Negro was protested, and in 1833 she decided to devote the school entirely to the education of colored girls She was arrested and tried, the judgment against her being reversed on appeal in 1834 In that year she gave up her work, married the Rev Calvin Philleo, and moved to the Middle West

Crandon, city (pop 2,000), co seat of Forest co , NE Wis , E of Rhinelander, in a lake and woods region, inc 1898 It is a resort and makes wood products

Crane, Hart, 1899–1932, American poet, b Garrettsville, Ohio After an undisciplined and promising youth, he was for a time an advertising writer in New York An acknowledged disciple of Walt Whitman, Crane used emotion and association as the subject matter of his experimental, modernistic poetry *White Buildings* (1926), inspired by New York, was followed by his most ambitious work, *The Bridge* (1930), a series of closely related long poems on the United States in which Brooklyn Bridge is a symbol of development Returning from a winter in Mexico, Crane jumped overboard from his ship and was drowned See his *Collected Poems* (ed by Waldo Frank, 1933), biographies by Philip Horton (1937) and Brom Weber (1948)

Crane, Stephen, 1871–1900, American novelist, short-story writer, journalist, and poet, b Newark, N J , attended Lafayette College and Syracuse Univ His first book, a realistic novel called *Maggie a Girl of the Streets* (1893), went unnoticed, but his purely imagined, remarkable story of soldiers under fire in the American Civil War, *The Red Badge of Courage* (1895), made him famous As a result, he was sent as a war correspondent to the Greco-Turkish and Spanish-American wars Some of his best writing is in the realistic tale stories of *The Open Boat and Other Tales* (1898) and *The Monster and Other Stories* (1899), as well as in a series for boys, *Whilomville Stories* (1900) *The Black Riders and Other Lines* (1895) and *War Is Kind* (1899) contain experiments in epigrammatic free verse Because his private life was unjustly criticized at home, he lived his last years in England and died of tuberculosis in Germany See the collection of his stories *Men, Women, and Boats* (ed by Vincent Starrett, 1921), *The Sullivan County Sketches of Stephen Crane* (ed by Melvin Schoberlin, 1949), and his complete works (12 vols , 1925–26) and *Collected Poems* (1930), both ed by Wilson Follett, biography by Thomas Beer (1923)

Crane, Walter, 1845–1915, English illustrator, painter, and decorator As a painter he is grouped with the later Pre-Raphaelites, but he is better known for his illustrations of the works of Spenser and of Hawthorne's *Wonder Book* and Grimm's *Fairy Tales* Seeking with William MORRIS to ally art with everyday life, he designed textiles, glass windows, tapestries, and house decoration. Crane's in-

terest in socialism is expressed in his cartoons for *Commonweal* and *Justice* In 1888 he founded the Arts and Crafts Exhibition Society of London See study by P G Konody (1902)

Crane, William Henry, 1845–1928, American comedian, b Leicester, Mass He appeared in opera (1863–74), but turned to the drama and became associated with Stuart Robson (1877–89) In *The Henrietta* (1887), written for Robson and himself by Bronson Howard, Crane had his greatest success He won praise in *On Probation* (1890) and *Peter Stuyvesant* (1899) by Howard and in D D Lloyd's *Senator* (1889), Augustus Thomas's *For Money* (1891), and George Ade's *Father and the Boys* (1908)

Crane, Winthrop Murray, 1853–1920, American manufacturer and public official, b Dalton, Mass He became a partner in the paper firm founded by his grandfather and became prominent in Republican party politics He served as lieutenant governor (1897–99) and then as governor (1900–1902) of Massachusetts He declined three cabinet posts offered him by President Theodore Roosevelt, who frequently conferred with Crane on important matters W Murray Crane was appointed in 1904 to the U S Senate to fill a vacancy and was elected (1906) for a full term He retired in 1913 See biography by S B Griffin (1926)

Crane. 1 City (pop 1,013), SW Mo , SW of Springfield in the Ozarks, inc 1906 **2** City (pop 1,420), co seat of Crane co , W Texas, N of the Pecos and S of Odessa, founded 1926, inc 1933 The region produces oil and also has sheep and cattle ranches and some commercial use of salt and clay

crane, large wading bird, chiefly of the Old World but with several North American species It is sometimes confused with the heron Cranes perform rhythmical dances during the mating season They eat small animals and vegetable food The whooping crane of North America, a white bird almost 5 ft tall, is nearly extinct The sandhill crane is about 4 ft tall and has gray plumage It is found chiefly W of the Mississippi and in Florida The little brown crane breeds mainly in N and W North America The Florida crane is a brownish-gray bird with a reddish warty head

crane, hoisting machine for lifting heavy loads and transferring them from one place to another It consists of a projecting beam fastened at one end and free at the other, from which the load is suspended Cranes have been in use from early times, being actuated by either manual or animal power Modern cranes are of varied types and sizes, are actuated by steam, electricity, Diesel, and hydraulic power as well as by manual power, and are indispensable in industries where heavy materials are handled constantly Commonly used inside machine shops and other buildings in which heavy products are manufactured is the bridge crane or overhead traveling crane, this moves along a steel girder spanning fixed rails laid either in the walls of the building or on special steel framework The girder, being supported at both ends on a wheeled carriage, can travel the length of the shop or building The hook or other lifting apparatus (the form depending on the kind of load) is supported on the trolley or rolling carriage mounted on the girder The gantry crane is a modification of an overhead traveling crane generally used out of doors and mounted on a structure which spans an area over which the crane operates Some gantry cranes are portable, i e , the legs of the trestles on which the crane bridge rests have wheels and operate on tracks, others are fixed Depending upon its use, the gantry has mounted on the bridge a trolley carrying a hoist, a derrick, a rotating pillar or jib crane, or a hammerhead crane Gantry cranes are used on docks and in storage yards for such purposes as handling bulk materials, e g , coal, cement, and ore, and also for moving heavy freight A simple crane of the rotary or revolving type consists of an upright post free to revolve about its vertical axis, with an attached jib or swinging arm Suitable hoisting tackle runs from the base of the vertical post to the top of the jib, over a pulley, and down to the load The derrick crane, used in building operations, is similar, except that the vertical post is held in position by guy ropes or struts which limit the swing of the jib There are a number of forms of the jib type of crane Hammerhead cranes are built on the cantilever principle, consisting essentially of a steel tower rigidly supported, across the top of which runs a horizontal truss extending on both sides, the whole having the appearance of a hammer head The extending side carrying the load is the longer of the two, and the other, shorter end contains the hoisting machinery The load is lifted and carried back and forth along the head truss on a traveling trolley, the whole top being designed to swing horizontally about the tower Cranes of this type are built to carry heavy loads and are used extensively in ship construction and repair work A portable or locomotor crane is a rotary crane with its turntable mounted on a wheeled car traveling on tracks, on a caterpillar tread enabling it to travel over rough ground and thus making it useful in many kinds of construction work, or on a truck which enables it to be moved quite rapidly to wherever it may be needed For use on water, cranes are mounted on pontoons

crane fly: see DADDY LONGLEGS

crane's-bill: see GERANIUM

Cranford, residential township (pop 12,860), NE N J , W of Elizabeth, inc 1871

cranial index: see CEPHALIC INDEX

cranium: see SKULL

Cranmer, Thomas (krăn'mur), 1489–1556, English churchman Educated at Cambridge, he became a lecturer in divinity at Jesus College In 1529 he came to the notice of HENRY VIII by proposing a method by which the king could divorce KATHARINE OF ARAGON through the ordinary ecclesiastical courts and without recourse to Rome Cranmer defended (1530) his argument at Oxford, at Cambridge, and at Rome He was ambassador to Emperor Charles V in 1532 In 1533 he was made archbishop of Canterbury and, as Henry expected, was entirely subservient to the king He declared void Henry's marriage to Katharine of Aragon and that to Anne Boleyn valid In 1536 he declared Anne's marriage invalid Though he tried to save the lives of the Catholic martyrs John Fisher and Sir Thomas More, he himself abjured allegiance to the pope He was a friend also of Thomas CROMWELL and one of the few to defend Cromwell after his fall Influenced strongly by the German Reformation, Cranmer believed in the right of the state (i e , the king) to determine the religion of the country He was influential in placing the Bible in English in the churches, and the translation known as the Great Bible is often called Cranmer's Bible The archbishop was one of the regents for EDWARD VI, and in that reign he largely determined the course of the English Church Cranmer's *Litany* had been written in 1545 and was incorporated in the BOOK OF COMMON PRAYER (1548) The revision (1552) contains the most famous of Cranmer's distinguished and sonorous prose, although his homilies, the proposed Forty-two Articles of Edward VI (never adopted), and other ecclesiastical writings were very influential in their day Cranmer supported the claims of Lady Jane GREY after Edward's death Upon the accession of the Catholic Queen Mary (1553), Cranmer was tried for treason, then convicted of heresy, excommunicated, and condemned A few days before his death he recanted, but when asked to repeat the recantation in public at the stake, he refused and placed the hand which had written it into the fire See the memorials by John Strype (1694 and modern editions), biography by A C Deane (1927), studies by A J Pollard (1904) and C H E Smyth (1926)

crannog see LAKE DWELLING

Crannon (krăn'un), small town, central Greece, in Thessaly, SW of Larissa It was of some prominence in ancient times Here in 322 B C Antipater won his final victory in the Lamian War (see LAMIA)

Cranston, city (pop 47,085), central R I SW of Providence, inc as a town 1754, as a city 1910 Its industrial products include textiles and machinery, and it is the seat of state training schools and a state mental hospital Several pre-Revolutionary buildings remain

crape see CREPE

crape myrtle or **crepe myrtle** (both krāp), ornamental flowering shrub (*Lagerstroemia indica*) native to China, much cultivated in the S United States It has a long blooming period Its abundant crinkled flowers are usually deep pink but vary to white or purple In the Northern states the plant is grown in greenhouses

craps see DICE

Crapsey, Adelaide (krāp'sē), 1878–1914, American poet, b Brooklyn, N Y , grad Vassar, 1901, daughter of Algernon Sidney Crapsey After teaching in girls' schools she became an instructor at Smith College A year after her early death from tuberculosis appeared a slender volume, *Verse*, which won high praise from critics, a new edition with 20 additional poems was issued in 1934 Her special contribution to verse form is the cinquain—a compressed five-line verse resembling the Japanese hokku in its fragile precision and expressive delicacy See biography by M E Osborn (1943)

Crapsey, Algernon Sidney, 1847–1927, American Episcopal clergyman, b Fairmount, Ohio, grad General Theological Seminary, 1872 In 1879 he became rector of St Andrew's Church, Rochester, N Y Admirable social work developed under his charge there, but in 1906 he was expelled from the ministry for heresy because of beliefs concerning the physical being and life of Christ His books include *Religion and Politics* (1905), *The Rise of the Working Class* (1914), *The Ways of the Gods* (1920), and the autobiographical *The Last of the Heretics* (1924)

Crashaw, Richard (krăsh'shô), 1612–49, English poet The son of a Puritan clergyman, he was graduated from Cambridge (B A , 1634) and remained there as a fellow at Peterhouse His High Church sympathies were intensified by frequent visits to an Anglican religious retreat founded by Nicholas Ferrar at Little Gidding, and he probably was ordained When the Puritans took over Cambridge during the civil war, Crashaw went into exile (1643) on the Continent Sometime after 1646 he was converted to Catholicism and eventually became a canon at the shrine of Loreto, Italy, there he died of a fever Although he wrote secular poetry in Latin and Greek as well as English, Crashaw's fame rests on his intense religious poetry He is called one of the METAPHYSICAL POETS His strange mixture of sensuality and mysticism, as in his poems on St Theresa, is unusual in English literature and has been compared to the baroque art of Italy and Spain His *Epigrammatum sacrorum liber* (1634) is Latin sacred poetry, *Steps to the Temple and Delights of the Muses* (1646, enlarged 1648) contains sacred and profane poetry, with only a few pieces in Latin, *Carmen Deo Nostro* (1652) is entirely English and sacred His complete poems were edited by Leonard Martin in 1927 See Austin Warren, *Richard Crashaw a Study in Baroque Sensibility* (1939)

Crassus (krăs'sus), ancient Roman family, of the plebeian Licinian gens It produced men who achieved great note in the 2d cent and 1st cent B C One of the well-known members was **Lucius Licinius Crassus** (lōō'shus lĭsĭ'nēŭs), d 91 B C , a noted orator and lawyer (much admired by Cicero) He was a strict follower of constitutional forms, and he and Scaevola as consuls in 95 B C proposed a law—called the Licinian Law, the Lex Licinia, or the Lex Licinia Mucia—to banish from Rome those persons (the Latins) who had gained Roman citizenship by illegal means (or what the law set as illegal means) This greatly aggravated anti-Roman sentiment among the allies and helped bring on the Social War **Publius Licinius Crassus** (pŭ'blēus), d 87 B C , was consul in 97 B C He was the financial backer of the Roman colony of Narbo (modern Narbonne) in Gaul and achieved fame by his victories in Spain after his consulship He was a partisan of SULLA and, after being proscribed by Marius, committed suicide His son, **Marcus Licinius Crassus** (mar'kus), d 53 B C , was the best-known member of the family He was a man of considerable personal charm and almost unbounded avarice and ambition He was a partisan of Sulla and commanded some of Sulla's forces He was also a highly successful dealer in real estate, and it is said that he bought property that was confiscated or deserted in the period of the bloody Sullan proscriptions It is also said that he organized his private fire brigade and bought burning houses cheap putting out the fire after the sale was made At any rate he became the principal landowner in Rome He was a rival of POMPEY for power, and he gained immense prestige—along with Pompey—for suppressing the uprising of SPARTACUS The two of them were consuls together in 70 B C , and Crassus' jealousy was stimulated He followed a devious course concerning Catiline, apparently secretly encouraging the conspiracy but not taking part He and Julius CAESAR drew closer together, Crassus hoping to use Caesar's ability, Caesar (deep in debt) hoping to use Crassus' money Caesar, seeing that he needed stronger support than Crassus, created (60 B C) the First Triumvirate of Crassus, Pompey, and Caesar With Crassus' envy of Pompey and Pompey's scorn of Crassus, the arrangement worked only because of Caesar's consummate ability in handling men Crassus seems to have backed the political maneuvers of the notorious Clodius, and trouble was stirred up between Crassus and Pompey Caesar called both of them to Lucca, where in 56 B C a conference reaffirmed the alliance Crassus and Pompey were consuls together in 55 B C Crassus managed to get Syria assigned for his proconsular service in 54 B C Avid for military glory, he left even before his term as consul was up to undertake a campaign against the Parthians His ambition outran his ability After early successes, his army was completely routed at Carrhae (modern Haran) by Parthian archers in 53 B C Crassus in this disgrace was murdered by treachery, and C Cassius Longinus had difficulty in saving even the remnants of the army

crater (krā'tur) [Gr , = cup or bowl], mouth of the vent of a VOLCANO or a GEYSER, often of symmetrical cone or cup shape Among active volcanic craters Kilauea is notable for its size Many regions have the eroded craters of extinct volcanoes Frequently a lake forms in a crater, such a lake is often of unusual beauty, since it is at a high elevation where the air is clear, and it is very deep and still

Crater Lake National Park, 160,290 33 acres, SW Oregon, in the Cascade Range NNW of Klamath Falls It was established (1902) to preserve an area of interesting geological formations and scenic beauty, including Crater Lake The lake, almost round, c 6 mi wide and 1,983 ft deep, was formed by volcanic action, at the crest of a mountain It lies at an elevation of 6,164 ft above sea level, surrounded by cliffs 500 to 2,000 ft. high A small crater, Wizard Island, rises 776 ft above the lake's surface The lake was discovered (1853) by a party of prospectors, who called it Deep Blue Lake because of the intense blue of the water In 1869 it was named Crater Lake A scenic highway follows the rim of the lake See Howel Williams, *Crater Lake* (1941) and *The Geology of Crater Lake* (1942)

Craters of the Moon National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Craterus (krā'tûrŭs), d. 321 B.C., Macedonian general under Alexander the Great. He was trusted by Alexander and distinguished himself in the wars in the East, especially in Bactria and India. Alexander in 324 B.C. sent him back from India to lead the discharged Macedonian soldiers home and to take over the reins from Antipater. After Alexander's death he promised to be one of the leading figures among the DIADOCHI, but he was killed in battle soon after the troubles had begun.

Crates (krā'tēz), fl. c. 449 B.C., Athenian comic poet. He is said to have introduced into comedy themes other than those of personal satire and he was one of the first to show the comic possibilities of the drunkard. Fragments of his plays survive.

Cratinus (krutī'nus), d. c. 422, Athenian comic poet. He won the prize when Aristophanes competed with *The Clouds*, but neither the prize-winning nor any other comedy by Cratinus is extant. He attacked Pericles violently in his plays.

Crauk, Gustave Adolphe Désiré (güstav' adôlf' dāzēā' krouk'), 1827–1905, French sculptor. His Admiral Coligny, in Paris, is a dignified monumental work. In Valenciennes, his native city, a museum is devoted to his sculptures.

Craven, Avery Odelle, 1886–, American historian, b. Randolph co., N.C., grad. Simpson College, 1908, M.A. Harvard, 1914, Ph.D. Univ. of Chicago, 1923. He taught at several other colleges in the Midwest before returning in 1928 to Chicago, which made him professor of American history in 1929. Craven is perhaps the leading light of that school of American historians which holds that the Civil War could have been avoided. His chief works are *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606–1860* (1926), *Edmund Ruffin, Southerner: a Study in Secession* (1932), "The Advance of Civilization into the Middle West in the Period of Settlement," in Dixon Ryan Fox, ed., *Sources of Culture in the Middle West* (1934), *The Repressible Conflict, 1830–1861* (1939), *Democracy in American Life: a Historical View* (1941), and *The Coming of the Civil War* (1942).

crawfish see CRAYFISH

Crawford, Francis Marion, 1854–1909, American novelist, b. Bagni di Lucca, Italy, son of Thomas Crawford. He studied at Trinity College, Cambridge, and in Karlsruhe, Heidelberg, Rome, and India. After editing the *Indian Herald* in Allahabad, he returned to America for the years 1881–83 and there wrote his first novel, *Mr. Isaacs* (1882), immediately successful. Thereafter he made his home in Italy. His very popular novels were vivid, romantic stories of historical or modern European and Oriental life. Some of them are *Doctor Claudius* (1883), *Saracinesca* (1887), *Marzio's Crucifix* (1887), *Sant' Ilario* (1889), *Greifenstein* (1889), *Don Orsino* (1892), *Via Crucis* (1899), *Marietta* (1901), *The Heart of Rome* (1903), and *The White Sister* (1909). *A Cigarette-Maker's Romance* (1890) was successfully dramatized, and another play, *Francesca da Rimini* (1902), was produced by Sarah Bernhardt in Paris. His three books about Italy's past show his considerable gifts as a historian. See M. H. Elliott, *My Cousin F. Marion Crawford* (1934).

Crawford, Isabella Valancy, 1850–87, Canadian poet, b. Dublin, Ireland. In 1858 her family migrated to Upper Canada. The remote, woodland region of her childhood is depicted in her long poem, "Malcolm's Katie." This poem, "Old Spookses' Pass," and other poems were published in a single volume in 1884. She died in poverty in Toronto. Her *Collected Poems* (1905) brought the recognition that the poet had not enjoyed in her lifetime. See biography by Katherine Hale (1923).

Crawford, Thomas, 1813–57, American sculptor, b. New York city. He was apprenticed to a wood carver and later worked for a firm of tombstone cutters. He achieved his first success in decorations for the Capitol at Washington, which include *Armed Freedom*, the figure above the dome, and the bronze doors and pediment statues for the Senate wing. He designed the Washington monument, Richmond, Va., for which he executed the equestrian figure and the figures of Patrick Henry and Jefferson. A pupil and follower of Thorvaldsen, Crawford lived and worked in Rome most of his life. He married Louise Cutter Ward, sister of Julia Ward Howe. The novelist Francis Marion Crawford was their youngest son.

Crawford, William Harris, 1772–1834, American statesman, b. Amherst co., Va. (his birthplace is now in Nelson co.). He moved with his parents to South Carolina and later to Georgia. After studying law he practiced at Lexington and served in the state legislature (1803–7). In the stormy state political battles of the time he was the leader of the upcountry forces allied with the followers of James Jackson and later George M. Troup, of the tidewater region. He killed in a duel a partisan of John Clark, head of the opposite faction, and in another duel was wounded by Clark. In the U.S. Senate (1807–13) Crawford staunchly advocated rechartering the Bank of the United States. From 1813 to 1815 he was minister to France. He was then appointed Secretary of War by President Madison, but in 1816 was made Secretary of the Treasury, a post he held through both of Monroe's administrations. He had strong support for the presidency in 1816 but disavowed his candidacy. In the presidential election of 1824, Crawford, a leading candidate, suffered a paralytic stroke during the campaign and finished third to Andrew Jackson and John Quincy Adams. Since no candidate received a majority of the electoral votes, the election went to the House of Representatives. Henry Clay, who had received even fewer votes than Crawford, threw his support to Adams, who was elected. Crawford later served as a judge in Georgia. See biography by J. E. D. Shipp (1909).

Crawford, city (pop. 1,845), NW Nebr., SW of Chadron and on the White River near the Badlands, in a grazing and dairying area, founded 1885. A U.S. fish hatchery is here. Fort Robinson is near by.

Crawford Notch, steep defile in the White Mts., N central N.H., through which the Saco flows. It is named for Abel Crawford, an early settler. The state bought the area in 1911.

Crawfordsville, city (pop. 11,089), co. seat of Montgomery co., W. Ind., NW of Indianapolis, laid out c. 1822. The city is commercially important as the center of a long-settled farming and stock-raising region. Its manufactures include wire, fences, and nails. It is the seat of Wabash College (for men, 1832). There is a memorial to Lew Wallace.

Crawfordville, city (pop. 1,056), co. seat of Taliaferro co., NE Ga., W of Augusta, inc. 1826. Alexander H. Stephens Memorial State Park (with Liberty Hall, Stephens's home) is here.

Crayer, Gaspar de (gäs'pär du krī'ur), c. 1582–1669, Flemish religious and portrait painter, much influenced by Rubens. While lacking the genius of Rubens, he almost rivaled him in productivity and maintained a high standard of work. His paintings are to be seen in countless Flemish provincial churches and in the museums and churches of Brussels and Ghent. His *Assumption* (Brussels) is among the best.

crayfish or **crawfish,** fresh-water crustacean smaller than the related and very similar lobster and found in most parts of the world except Africa. Crayfish are usually found in ponds and streams or swamps. A few are partially terrestrial. Some can burrow underground to avoid drought. They eat mainly small aquatic animals and carrion. The eggs develop while attached to the swimming legs of the female. Crayfish are usually dull brownish green in color. A red-clawed species is a food delicacy in Europe. *The Crayfish* (1880) by T. H. Huxley is a classic zoological study.

Crazy Horse, d. 1877, Indian chief of the Oglala Sioux. He led southern Sioux raids against the Mandan and the Crow Indians and against the whites, and when the attempt was made to force him into reservation life, he resisted. He defeated George A. Crook on the Rosebud river in 1876, and in the destruction of Custer's force on the Little Bighorn in 1876, Crazy Horse and GALL were assistants to Sitting Bull. In Jan., 1877, his village was destroyed by Gen. Nelson A. MILES, and a few months later Crazy Horse and more than 1,000 followers surrendered at the Red Cloud agency. He was accused of planning a revolt and was shot when resisting imprisonment. His bravery and skill were acknowledged by all. See biography by Mari Sandoz (1942).

crazyweed. see LOCOWEED.

creamery see DAIRYING.

cream of tartar, substance obtained from argol, a crystalline crust which forms in tanks in which wine is fermenting. It exists naturally in grape juice and to a certain extent in tamarinds, mulberries, pineapples, and unripe beets. The deposit of argol from grapes is the main source of the tartaric acid of commerce. Argol when partly purified by recrystallization is tartar and when fully purified, decolorized, and finally ground to a fine powder is cream of tartar. In this form it is used in cookery, being combined with soda to lighten dough. It is also an ingredient of the best baking powders. Medicinally, combined with sodium bicarbonate, it forms ROCHELLE SALT, combined with antimony oxide it forms TARTAR EMETIC.

Creasy, Sir Edward Shepherd (krē'sē), 1812–78, English historian. A lawyer, a professor of London Univ., and an author of several historical works, he is best remembered for his *Fifteen Decisive Battles of the World* (1851, see BATTLE). In 1860 he was knighted and made chief justice of Ceylon.

creationism see SOUL.

Crébillon, Prosper Jolyot de (prôspĕr' zhôlyō' dŭ krābēyō'), 1674–1762, French dramatist, whose full name was Prosper Jolyot, sieur de Crais-Billon. His plays include *Idomenée* (1705), *Électre* (1708), and *Rhadamiste et Zénobie* (1711), which is considered his best. Unsuccessful and in retirement for many years, he was persuaded by Mme de Pompadour, who was seeking a rival to Voltaire, to write *Catilina* (1748), a great success. Voltaire's savage attacks have immortalised him. In 1731 he was elected to the French Academy. His son **Claude Prosper Jolyot de Crébillon** (klōd'), 1707–77, was the author of many witty, licentious tales of which the best known are *Les Égarements du cœur et de l'esprit* (1736) and *Le Sopha* (1745).

crèche (krĕsh, krāsh), also called Christmas Crib, a representation of the Infant Jesus in the manger, usually surrounded by figures of Mary, Joseph, shepherds, animals, and the Wise Men. The crèche has been displayed in churches from Christmas Eve to Jan. 6 since the Middle Ages, especially after St. Francis of Assisi instituted the custom in 1223 at Greccio, Italy. It is a Christmas tradition in many homes. Munich has a noted collection of crèches. See also DAY NURSERY.

Crécy (krĕ'sē, Fr. krāsē'), officially **Crécy-en-Ponthieu** (-ā-pōtyû'), town (pop. 1,331), Somme dept., N France, N of Abbeville. Here, on Aug. 26, 1346, Edward III of England defeated Philip VI of France in the HUNDRED YEARS WAR. The English suffered few losses, while the flower of the French nobility was destroyed by the English longbows, which then made their first appearance in continental warfare. Among the combatants were EDWARD THE BLACK PRINCE and the blind king of Bohemia, JOHN OF LUXEMBURG. Crécy is also known in English as Cressy.

Credi, Lorenzo di. see LORENZO DI CREDI.

credit. The credit system is founded upon the lender's confidence in the borrower or in his COLLATERAL and general possessions. The chief function of credit is the transference of capital from those who own it to those who can use it in the expectation of profit exceeding the interest on the loan. Thus credit increases the productive power of capital. Credit permits the exchange of commodities without the use of cash or with the use of very little cash, but credit dissolves with lack of confidence, helping to cause economic crises, panics, and depressions. Credit may be classified according to the industry using it, according to the length of time the money is hired, and as to quality or liquidity. In the larger banks credit-analysis departments determine the amount of credit which may safely be given to applicants. Data as to credit risk is supplied by agencies organized for that purpose. The chief agency in the United States is Dun & Bradstreet, formed by a merger (1933) of R. G. Dun & Company (1841) and the Bradstreet Company (1849). If more credit than the community can liquidate is granted, there is inflation, if too little, deflation. In BOOKKEEPING, the credit side is the side of the account on which payments are entered, hence, sometimes, the payments themselves. See also DEBT, PUBLIC; INSTALLMENT BUYING AND SELLING. See Frederick Soddy, *Money versus Man* (1933), Ludwig von Mises, *The Theory of Money and Credit* (Eng. tr., 1934), R. B. Westerfield, *Money, Credit, and Banking* (1947).

credit, letter of, commercial instrument written by a banker or other person to his agent in another place authorizing the bearer to receive money from the agent. The document is called a circular letter of credit when it is addressed to more than one agent. In effect, a letter of credit is a DRAFT, save that the amount is merely stated as a maximum not to be exceeded. Letters of credit are most used by travelers. Those who issue such letters are usually so well known that any bank will honor the letter, whether an agent or not, upon proper identification. Travelers' checks are a modified form of letter of credit. They are issued in coupons, upon whose face a value is usually expressed in terms of the currency of a particular country. In the United States such checks are issued chiefly by express companies. Circular letters of credit require that each payment, as it is made, be endorsed by the firm making payment so that other banks may know how much of the total credit has been used.

Crédit Mobilier of America (krĕ'dĭt mōbĭlyā', krādē'), ephemeral construction company, connected with the building of the Union Pacific RR. and with one of the major financial scandals in American history. Oakes AMES, Thomas C. DURANT, and a few other inner stockholders of the Union Pacific organized the construction company under an existing Pennsylvania charter, which they took over with changed purposes. Thus acting for the Union Pacific and for their construction company, they made contracts with themselves. Oakes Ames, as head of the Crédit Mobilier, in 1867 assigned contracts to seven trustees to build the remaining 667 mi. of road for a total sum that brought profits variously estimated at from $7,000,000 to $23,000,000. This process depleted generous congressional grants to the Union Pacific and left it under a heavy debt by the time of its completion in 1869. The scandal became political when Ames, to forestall investigation or interference by Congress, sold or assigned shares of the Crédit Mobilier stock to members of Congress at par, though the shares were worth twice as much at the time. He wrote to Henry S. McComb, an associate, that he had placed the stock "where it will produce the most good to us" and subsequently forwarded a list of Congressmen who had received or were to receive shares. Later friction between Ames and McComb facilitated the publication of these letters in Charles A. Dana's New York *Sun* in the midst of the presidential election campaign.

of 1872. A subsequent investigation by Congress badly smirched the political reputations of Vice President Schuyler Colfax, Senator James W Patterson of New Hampshire, Representative James Brooks of New York, and others—most of all, of course, Ames himself Ames and Brooks were censured by Congress, but there were no prosecutions. In that age of gross public corruption, people were inclined to regard the frankness with which most of those involved admitted their parts in the affair as somehow mitigating their offenses

Crediton (krĕd'-), urban district (pop 3,490), Devonshire, England, NW of Exeter It is on the Creedy, a tributary of the Exe Crediton is the traditional birthplace of St Boniface and was the seat of a bishopric from early in the 10th cent until the middle of the 11th Farm machinery and leather are products

credit union, bank conducted on cooperative principles, usually by an association of members of the same occupational group or of the same local community Cooperative banking originated in Germany in the middle of the 19th cent , it was developed by Hermann Schulze-Delitzsch and later was particularly adapted to rural communities by F W Raiffeisen Credit unions in Canada are chiefly in the province of Quebec, where the first union was established by Alphonse Desjardins in 1900 In the United States the Credit Union National Extension Bureau, founded in 1921 by Edward A Filene, has been instrumental in organizing credit unions American credit unions are of many types, they agree in seeking to make loans on reasonable terms to farmers and wage earners and to offer them security and a fair return for their savings See R F Bergengren, *Credit Union* (1940)

creed [Latin *credo*=I believe], summary of basic doctrines of faith The following are historically important Christian creeds **1** The Apostles' Creed, beginning, "I believe in God the Father Almighty, creator of heaven and earth And in Jesus Christ " It does not appear in its present form before 650, but its predecessors probably arose in Rome in the 2d or 3d cent It has two material differences from the Nicene Creed (1) "He descended into hell," omitted in the Nicene, (2) "resurrection of the body," in the Nicene "of the dead " It is used by Roman Catholics privately and at baptism, it is much used by Protestants **2** The Nicene Creed, beginning, "I believe in One God the Father Almighty, maker of heaven and earth, and of all things visible and invisible, and in One Lord Jesus Christ " It is usually described as a revision by the First Council of Constantinople (381) of the creed adopted at Nicæa in 325, although there are good grounds for the belief that it represents substantially a creed written or used by St Cyril of Jerusalem In the Western Church since the 9th cent it has differed from the original in the italicized words "And in the Holy Ghost Who proceedeth from the Father *and the Son*" (qui ex Patre *Filioque* procedit) The controversy between the Orthodox and Roman Catholic churches on these words has made a shibboleth of the *Filioque* The Nicene Creed is an official creed of Orthodox, Roman Catholic, and some Protestant churches **3** The Augsburg Confession (1530), the official statement of the Lutheran churches It was written by Melanchthon and endorsed by Luther for the Diet of Augsburg **4** The Thirty-nine Articles date in their present form from the beginning of Elizabeth's reign, when they were written by a group of bishops They are Calvinistic in theological emphasis and enounce clearly the royal supremacy in the Church of England They are official in the Church of England and, with occasional changes, in its various daughter churches (usually Episcopalian) **5** The Westminster Confession (1645–47), the most celebrated pronouncement of English-speaking Calvinism It is official in the Church of Scotland, with occasional changes in most of its daughter churches (usually Presbyterian), and among Congregationalists **6** See ATHANASIAN CREED.

Cree Indians, North American Indian tribe of Algonquian stock, formerly inhabiting Manitoba S of the Churchill river Members of one branch of the Cree, allying themselves with the Sioux Assiniboin Indians, moved southwestward into buffalo territory and became the Plains Cree It is probable that they introduced the method of hunting buffalo by driving them into enclosures, since the Woodland Cree used this method in hunting deer The culture of the Woodland Cree greatly resembles that of the Ojibwa Indians, who are probably their close relatives The Cree were warlike and were a powerful tribe in the late 18th cent but were later decimated by disease.

Creek Indians, North American Indian confederacy The peoples forming it were mostly of Natchez-Muskogean linguistic stock They lived primarily in Alabama and Georgia and were settled agricultural people. There were more than 50 towns, generally called tribes, in the confederacy, which was formed chiefly for protection against the tribes to the north. Certain villages were set aside for war ceremonies, others for peace celebrations. Each had its annual Green Corn dance This festival was a time for renewing social ties and was a period of amnesty for criminals Old pots were broken, new fires lit, and new clothing put on, and religious ceremonies were performed The Creek impressed the early white men (De Soto saw them in 1540) by their height, their proud bearing, and their love of ornament They were hostile to the Spanish and therefore friendly to the British in colonial days, but, frightened by white encroachment and fired by the teachings of TECUMSEH, they rebelled in the Creek War of 1813–14 They massacred a large number of whites and Negroes at Fort Mims, and Andrew Jackson won part of his reputation by defeating them thoroughly They had to cede much of their land, and in 1825 they ceded their lands in Georgia to that state They were moved to the Indian Territory, where they became one of the Five Civilized Tribes At the time of the Civil War there was considerable dissension among the Creek A treaty was made with the Confederacy, but many denounced it, and there was great bitterness of feeling In 1906 the Creek abandoned their autonomy and became American citizens See J R Swanton, *The Early History of the Creek Indians* (1922) and *Social Organs and Social Usages of the Indians of the Creek Confederacy* (1928), Grant Foreman, *The Five Civilized Tribes* (1935)

creeper, name for various small birds with long decurved bills and usually inconspicuous plumage The true creepers are an Old World family (Certhiidae) related to the wrens and nuthatches They are represented by one New World species, the brown creeper, and its subspecies The brown creeper is an unobtrusive bird which breeds in Canada and parts of the United States, chiefly in rather densely wooded and mountainous regions It hitches up tree trunks, using the stiff, pointed feathers of its long tail as a prop while hunting for minute insects When part way up a tree it is apt to swoop to the base of another to begin again its upward, usually spiral, progress Related birds are the Mexican or Sierra Madre, the Rocky Mt , the Sierra, and the California creepers Some warblers are called creepers The honey creepers (family Coerebidae) are found chiefly in tropical and subtropical America

Creevey, Thomas (krē'vē), 1768–1838, English diarist His journals and letters record, from the viewpoint of a Whig member of Parliament and minor officeholder, the history and manners of the late Georgian period See the edition by John Gore (1948)

Crefeld, Germany see KREFELD

Creighton, Mandell (măn'dŭl krī'tun), 1843–1901, British historian and churchman He was professor of ecclesiastical history at Cambridge from 1884 to his appointment (1891) as bishop of Peterborough In 1896 he was made bishop of London He was a founder of the *English Historical Review* and wrote biographies of Cardinal Wolsey, Queen Elizabeth, and Simon de Montfort His masterwork was his *History of the Papacy during the Period of the Reformation* (5 vols , 1882–94, new ed , with title *History of the Papacy from the Great Schism to the Sack of Rome*, 6 vols , 1897, new ed of Vol I and reprint of Vols II-VI, 1901) See his life and letters (ed by his wife, Louise Creighton, 1913)

Creighton (krā'tŭn), city (pop 1,272), NE Nebr , NNW of Norfolk, in a hay region, laid out 1885

Creighton University, at Omaha, Nebr , Catholic (Jesuit), for men, chartered 1877 and 1879, opened 1878 It includes colleges of arts and sciences, commerce, and pharmacy, schools of dentistry, journalism, law, medicine, and nursing, lower schools, and University College for women

cremation, disposal of a corpse by burning It is a widespread practice, second only to BURIAL First evidence of the practice occurs during the Neolithic period In almost all of its later occurrences, it appears as a preferred trend, both because of its religious associations and because of its convenience Belief in the use of cremation is sometimes considered to be related to the belief in the properties of fire as a purification agent and as a vehicle for the immaterial essence of things it consumes In Polynesia, as in early Scandinavia, it was a mode of funeral allowed only to persons of great rank The public cremations of the Hindus, especially those performed along the Ganges, are among their most sacred observances Certain American Indian tribes practiced cremation Only during the last two centuries have Christians cremated their dead, among certain denominations it remains expressly forbidden Usually, the ashes from cremation are provided interment according to local FUNERAL CUSTOMS

Crémazie, Octave (Joseph Octave Crémazie) (ôktav' krāmäzē', shôzĕf'), 1827?–1879, French Canadian poet, b Quebec, educated at the Quebec seminary, His influence was of great importance in French Canadian poetry. With his brothers he was proprietor of a bookshop in Quebec, the gathering place for a literary group which included such figures as F X Garneau and H. R. Casgrain. With the appearance of his "Le Vieux Soldat canadien" (1855), Crémazie won instant fame and was raised to the rank of leader among French Canadian poets His poems, which show the influence of French romanticism, are filled with patriotic feeling, they appeared in newspapers, and some 20 are included in his so-called *Œuvres complètes* (1883) In 1862 the poet got into business difficulties and fled to France, where he lived in poverty under an assumed name He wrote a journal of the siege of Paris (1870) and died at Le Havre

crème de menthe (krĕm' dŭ mĭnt', Fr krĕm du mät'), a mint-flavored LIQUEUR, usually green, and often served with finely crushed ice

Cremer, Sir William Randal (krē'mur), 1828–1908, British pacifist At first active in trade unionism, he gradually expanded his work and interests, becoming one of the most active advocates of international arbitration In 1871 he became secretary of the Workmen's Peace Association, and he held this position until his death For his efforts toward international arbitration, he was awarded the 1903 Nobel Peace Prize He gave most of the stipend in trust to the International Arbitration League See biography by Howard Evans (1909)

Crémieux, Isaac (Adolphe Cremieux) (ēzäk' krāmyö'), 1796–1880, Jewish-French statesman and political writer He was president (1876) of the Alliance Israélite Universelle, through which he advocated international Jewish emancipation, and founded Jewish schools in Cairo and Alexandria As minister of justice of France, he achieved abolition of the death penalty for political offenders and abolition of slavery in the colonies He secured (1870) full citizen's rights for Jews in Algeria

Cremona, Luigi (lwē'jē krāmō'nä), 1830–1903, Italian mathematician After teaching at Bologna (1860–66) and at Milan (1866–73), he became (1873) director of the school of engineering at Rome He held several government posts and served as senator from 1879 Translations of two of his important works appeared in English as *Elements of Projective Geometry* (1885) and *Graphical Statics* (1890)

Cremona (krĭmō'nu), city (pop 54,564), capital of Cremona prov , Lombardy, N Italy, on the Po, in the heart of a rich agricultural district Once a Roman colony, it was in the Middle Ages an independent commune frequently at war with Milan until its surrender to that city in 1344 Cremona was noted in the Middle Ages as a center of learning, in the late Renaissance for a school of painting founded by Giulio CAMPI, and later for the violins made by the AMATI the GUARNERI, the STRADIVARI, and their successors The cathedral (12th–16th cent), the high campanile, the baptistery, the city hall (13th cent), and the Loggia adorn the impressive main square

creole (krē'ōl) [perhaps from Span ,=servant or child], term originally applied in Latin America to the native-born descendants of the French and Spanish conquerors The creoles were distinguished from the natives, from the Negroes, and from men of European birth The sharp distinction of interest always lay between the creoles, whose chief devotion was to the colony, and the foreign-born officials, whose chief devotion was to the mother country Never precise, the term acquired various meanings in different countries Mulattoes and half-breeds generally adopted the name for themselves Usage varies, but generally creole is the name applied to those of French or Spanish blood, it is now commonly employed only historically in Latin America The term was early adopted in Louisiana, where it is still used, a distinction usually being drawn between the creoles who are descendants of the original French settlers, and the "Cajuns," who are at least partially descended from the Acadian exiles The term does not mean persons of mixed white and Negro blood, although it is applied to mixed bloods and Negroes, frequently with the adjective colored The picturesque Louisiana Creole life has been ably depicted in the works of George W Cable, Lafcadio Hearn, and Grace King The term is also used in places distant from Latin America, such as Mauritius, but there it is a borrowed word, which has lost most of its original meaning

Creon (krē'ŏn), in Greek legend, brother of Jocasta He became regent of Thebes after the banishment of OEDIPUS Creon helped ETEOCLES to take the kingdom from his brother POLYNICES When the brothers died he buried Eteocles with honor and had ANTIGONE put to death because she secretly performed funeral rites for Polynices

creosote (krē'ŭsōt), volatile, heavy, oily liquid, colorless when pure but commonly pale yellow, with a penetrating, smoky odor and a sharp taste It is a strong antiseptic Originally it was prepared by fractional distillation from beechwood tar, and this substance is the one chiefly used in pharmacy today for its preparation Its active principle is guaiacol (a compound of carbon, hydrogen, and oxygen known chemically as o-metho-xyphenol), which constitutes about 70 percent and is sometimes used pure The remainder is made up of a number of other organic compounds Its chief use in pharmacy is as an internal antiseptic (guaiacol carbonate), as in intestinal infections and in

chronic bronchitis, but its value in the treatment of tuberculosis of the lungs has been questioned Creosote is not pleasant to take and is usually administered in gelatine capsules or in other ways to disguise its taste or in compounds The doses are small Creosote oil obtained from coal tar and other tars is commonly employed as a preservative for timber and also for ment It is a mixture of a number of compounds, among which are various phenols, e g , the three isomeric cresols (ortho, meta, and paracresol)

crepe (krāp), thin fabric of crinkled texture, woven from raw silk in the natural gummy state There are two kinds of crepe the hard-finished, usually dyed black and used for mourning (which retains the old spelling *crape*), is made of hand-twisted silk yarn and finished by a rather complex trade process after weaving, the soft crepes include the Canton or Oriental weaves, crepes de Chine (krāp' du shēn'), and the like, in plain or damask weaves Their crisped or wavy appearance results from the peculiar arrangement of the weft, which is formed of yarn from two different bobbins twisted together in opposite directions or which uses alternately a right-twisted and a left-twisted thread Wool and cotton may also be given the crepe weave

crepe myrtle · see CRAPE MYRTLE

Crépy, Treaty of (krāpē'), 1544, concluded by Emperor Charles V and King FRANCIS I of France at Crépy-en-Laonnois (formerly spelled Crespy), Aisne dept , N France The emperor renounced his claim to the duchy of Burgundy, the king renounced his pretensions to Naples, Flanders, and Artois

Créquy or **Créqui, François, chevalier de** (frāswa' shuvalyā' du krākē'), c 1625–1687, marshal of France He fought in the Thirty Years War, on the government side in the Fronde, and in the War of Devolution He refused to serve under Turenne in the third Dutch War and was exiled but soon submitted In 1675 he suffered two serious defeats, and was captured at Trier He later restored his reputation by brilliant campaigns in Alsace and in 1684 occupied Luxembourg

Crerar, Henry Duncan Graham (krēr'ar), 1888–, Canadian general in the Second World War, b Hamilton, Ont , educated at Upper Canada College, Toronto, and Royal Military College, Kingston After the First World War, in which he served with distinction, he joined the permanent force and held various high military positions in Canada and England In 1939, as brigadier, he became senior officer of Canadian military headquarters in London In 1940 he returned to Canada as chief of the Canadian general staff In 1941 he was appointed to command the Canadian 2d Division Overseas, later (1942) he became commander of the 1st Canadian Corps, and finally (1944) he was given command of the Canadian Army Overseas and promoted full general, a post he filled with distinction during the campaigns in Europe He retired in 1946.

Crerar, John (krēr'ar), 1827–89, American capitalist and philanthropist, b New York city A wealthy manufacturer in Chicago, he was a liberal giver to many causes He is remembered chiefly for the **John Crerar Library,** a scientific and technical reference library in Chicago, for which he provided in his will The library has special collections on medicine, Chinese literature, Dutch history, floriculture, woman, trade unions, and social science in general It is noted for its fine bibliographical work

Crerar, Thomas Alexander, 1876–, Canadian political leader, b Ontario He grew up on his father's farm in Manitoba and was later a farmer and a grain-elevator operator Under his able direction the United Grain Growers, Ltd , of which he was president (1907-29), became one of the most successful farmers' cooperative movements in W Canada Sir Robert Borden in 1917 called Crerar, a Liberal, into his coalition cabinet as minister of agriculture, a post from which he resigned in 1919 in protest against the government's high tariff policy He was leader (1920–21) of the new National Progressive party and of the Progressives in the dominion House of Commons, retiring in 1922 to private life He reentered the political scene as minister of railways and canals (1929–30) in Mackenzie King's Liberal government and later served (1935–45) as minister of mines and resources in King's cabinet In 1945 Crerar was called to the Canadian Senate

Cres, Yugoslavia see CHERSO

Cresap, Michael (krē'sāp), 1742–75, American frontiersman and soldier, b Allegany co , Md An Indian fighter, he was accused by Thomas Jefferson and others of massacring the family of the friendly Indian chief Logan and thus starting (1774) Lord Dunmore's War A letter from George Rogers Clark, however, states that Cresap was with him at the time of the massacre Cresap fought in the war, and after the American Revolution broke out he became (1775) captain of a company of riflemen So fast did he take his men to support the patriots at Boston - 550 mi in 22 days—that he died as a result of exhaustion

Crescens (krē'sənz) [Lat , =increasing], companion of Paul, a missionary in Galatia 2 Tim 4 10.

Crescent, town (pop 1,301), central Okla , NW of Oklahoma City, settled 1891, inc 1893

crescent, emblem representing the half-moon with the horns turned upward The crescent and star were ancient Byzantine symbols which became the emblems of Constantinople and were assumed as the standard of the Ottoman Turks after their capture of that city It is a symbol of the Islamic culture See also BLAZONRY

Crescent City. 1 City (pop 1,363), co seat of Del Norte co , N Calif , on the coast near the Oregon line, in a fishing and timber area, laid out 1852, inc 1854 Gold was discovered near by in 1946 **2** Town (pop 1,124), NE Fla , on Crescent Lake and SSE of Palatka It is an orange-growing center and a resort

Cresco, city (pop 3,530), co seat of Howard co , NE Iowa, near the Minn line, inc 1868 It is a trade and processing center for a farm, dairy, and livestock area

Cresilas (krĕs'ĭlus), fl c 450 B C , Greek sculptor, b Crete He worked at Athens His statue of Pericles is the earliest Greek portrait statue that has been identified

Crespi, Giovanni Battista (jōvan'nē bat-tē'sta krā'-spē), 1557–1633, Italian painter, architect, and sculptor of the Milanese school, also called Il Cerano

Crespi, Giuseppe Maria (jōōzĕp'pā marē'a), 1665–1747, Italian portrait painter, etcher, and caricaturist of the Bolognese school, called Lo Spagnuolo The Pitti and Uffizi galleries in Florence contain examples of his work The National Gallery of Art, Washington, D C , has *Cupids with Sleeping Nymphs* and *Portrait of a Girl*

Crespí, Juan (hwän'), 1721–82, Spanish explorer in the Southwest, a Franciscan He came to America in 1749, and in 1767 he went to the peninsula of California in charge of Mission Purísima Concepción In 1769 he joined the expedition of Portolá to occupy San Diego and Monterey and continued up the coast with Portolá The following year he founded the Mission San Carlos Borromeo, in the present Carmel-by-the-Sea, which became his headquarters He was chaplain of the expedition to the N Pacific conducted by Juan Pérez in 1774 His diaries, published in H E Bolton's *Fray Juan Crespi* (1927), provided valuable records of these expeditions

Crespo, Joaquín (hwakēn' krā'spō), 1841?–1898, president of Venezuela (1884–86, 1894–98) He served his first term under the dominance of Antonio GUZMÁN BLANCO In 1892 he led a revolt establishing a military dictatorship His second term was notable for the sharp feeling between the United States and England occasioned by the VENEZUELA BOUNDARY DISPUTE When he chose his successor, revolts occurred, and Crespo was killed defending the presidency The next year Cipriano CASTRO came into power

Crespy, France see CRÉPY

cress, name for several plants often used for salads, e g , the WATER CRESS, garden CRESS or PEPPERGRASS and Indian CRESS or NASTURTIUM

Cressent, Charles (shärl' krĕsä'), 1685–1768, French cabinetmaker, one of the chief creators of the Regence style, son of a cabinetmaker Though at first a sculptor and bronze craftsman, he studied under the furniture designer Boulle and became official cabinetmaker to the regent Philippe II, duc d'Orléans Examples of his furniture display a strong and majestic beauty, with subtly curving supports and swelling surfaces Against their veneers of mahogany and ebony stand lavish relief adornments in superbly modeled gilt bronze—the scrolls, shells, and dragons typical of Regence decoration and, above all, the female busts characteristically mounted at the corners Pieces by Cressent are in the Louvre and in the Wallace Collection, London

Cressida see TROILUS AND CRESSIDA

Cresskill, suburban borough (pop 2,246), NE N J , near the Hudson opposite Yonkers, N Y , inc 1894

Cresson, residential borough (pop 2,500), SW Pa , in the Alleghenies SW of Altoona, inc 1906 A summer resort, it has a state tuberculosis sanatorium The birthplace of Robert E Peary is near by Mount Aloysius Junior College is here

Cressona (krĭsō'nu), borough (pop 1,695), SE Pa , on the Schuylkill and S of Pottsville, laid out 1847, inc 1857 A branch of the Aluminum Company of America (ALCOA) is here

Cressy, Hugh Paulinus (krĕ'sē), or **Serenus de Cressy,** 1605–74, English Benedictine monk He was educated at Oxford and converted to Catholicism in Rome in 1646 His *Exomologesis* (1647) is an apologia for his conversion His most ambitious work, however, is his *Church History of Brittany or England* (1668), one of the first attempts at objective church history He edited the work of several Catholic mystics—Walter Hilton's *Scale of Perfection*, Friar Augustin Baker's *Sancta Sophia*, and the *Revelations of Divine Love* by Juliana of Norwich. Cressy served as chaplain to Catherine of Braganza, wife of Charles II.

Cressy, France: see CRÉCY

crest, in feudal livery, an ornament of the headpiece that afforded protection against a blow Crests were widely used in the 13th cent by feudal chiefs, as they had been by ancient Greek warriors and the Roman centurions The earlier forms were usually of stuffed leather, gilded, silvered, or painted, later they were of wood or metal The crest came to be used in HERALDRY, first only by persons of high rank, then by all those entitled to a coat of arms It surmounts the escutcheon, its tinctures are those of the coat of arms The dragon, wivern, and plume of feathers are common crests The lion, used by Edward III of England, still is the crest of the English sovereigns See also BLAZONRY.

Crested Butte (būt), town (pop 1,145, alt c 9,000 ft), W central Colo , N of Gunnison, inc 1880. A gold camp in the early 1880s, it is now a resort town in a livestock and coal area

Crestline, village (pop 4,337), N central Ohio, W of Mansfield, laid out 1851 as Livingston, later united with Crest Line It is a railroad center, and clothing, road-making machinery, furnaces, and dairy products are made

Creston, town (pop 1,153), SE British Columbia near the southern end of Kootenay Lake, SE of Nelson and near the U S border It is the center of a fruitgrowing area

Creston. 1 City (pop 8,033), co seat of Union co , SW Iowa, SW of Des Moines, inc 1871 It is a trade, rail, and manufacturing center for a bluegrass and corn area Livestock is raised in the region, and the city has processing plants and railroad shops A junior college is here Two artificial lakes supply the city's water **2** Village (pop 1,110), N Ohio, SW of Akron

Crestview, town (pop 2,252), co seat of Okaloosa co , NW Fla , near Choctawhatchee National Forest

Creswell, John Angel James (krĕs'-), 1828–91, U S Postmaster General (1869–74), b Port Deposit, Md , grad Dickinson College, 1848 He was a lawyer, U S Representative (1863–65), and U S Senator (1865–67), but his important work was done later as Postmaster General He reorganized the Post Office Dept to meet the expanding needs of the United States One-cent post cards were introduced, the cost of sending ocean mail was reduced from eight cents to two cents, postal treaties were revised, postal laws were recodified, money-order business was facilitated, free delivery was extended, methods of contracting with railways were improved, and the franking privilege was limited Some reforms which Creswell advocated, such as a postal savings bank and postal telegraph, were adopted later

Cret, Paul Philippe (krā), 1876–1945, American architect, b Lyons, France After studying at the École des Beaux-Arts he came (1903) to the Univ of Pennsylvania as critic of design and professor of architecture From 1907 he practiced architecture and is responsible for such buildings as the Philadelphia Federal Reserve Bank and the Folger Shakespeare Library at Washington, D C , he also designed several war memorials in France on American commissions He was awarded (1938) the gold medal of the American Institute of Architects and was a member of the National Federal Arts Commission

Cretaceous period (krĭtā'shus) [Latin, =chalky], third period of the MESOZOIC ERA of geologic time The Cretaceous period was marked, both in North America and in Europe, by unusually extensive submergences of the continents and by changes both in the earth's surface and in its flora and fauna, which brought the Mesozoic to a close At the beginning of the Lower Cretaceous in North America, the Mexican sea of the late JURASSIC PERIOD spread over Texas, depositing the Trinity sandstone and limestone Retreating at the end of Trinity time, it returned in Fredericksburg time to submerge Texas, Oklahoma, New Mexico, and parts of Arizona, Kansas, and Colorado Reaching its maximum late in Fredericksburg or early in Washita time, it was drained by a general emergence, which brought the Lower Cretaceous to a close Fredericksburg and Washita deposits were chiefly limestone, but some continental sediments (such as sandstone, shale, and conglomerate) mark the late Washita emergence The Comanchean series (Trinity, Fredericksburg, and Washita) reaches a thickness of some 1,500 ft in central Texas, and in Mexico is several times as thick The Comanchean seas were probably separated by a land barrier from contemporaneous seas in the California area, where 26,000 ft of Shastan shales, with sandstone and thin limestone, were laid down as a result of rapid erosion from the recently elevated Sierra Nevada and Klamaths In Montana, Alberta, and British Columbia were formed the Kootenai deposits of sandstone and sandy shale, which contain workable deposits of good coal, along the Atlantic coast was deposited the unconsolidated sandy clay, gravel, and sand of the Potomac series The Upper Cretaceous opened in W North America with the deposition of continental sands (now the Dakota sandstone) over the bottom exposed by the Washita retreat Some of these sands were worked over by the Colorado sea, which, advancing from Mexico, finally extended to the Arctic The eastern border of this, the greatest of North American Mesozoic seas, passed through Texas, Kansas, NW Missouri, Iowa, Minnesota,

SW Ontario, Manitoba, Saskatchewan, and Mackenzie, while the western border crossed Arizona, Utah, E Idaho, W Montana, British Columbia, Yukon, and NE Alaska Branches extended eastward into the Gulf and Atlantic coast regions and southward over Mexico and Yucatan The Colorado deposits are composed chiefly of shales and limestone, but there is chalk in Kansas and South Dakota Slight shifting of the sea was followed by the deposition of Montana shale and sandstone and then by withdrawal of the sea In Laramie time conditions in the West were similar to those of the CARBONIFEROUS PERIOD in other regions swamps and bogs were formed which later became valuable deposits of COAL In the Gulf region the Upper Cretaceous progression is from nonmarine sand and clay, with lignite (Tuscaloosa), to marine sands (Eutaw), chalk or soft limestone (Selma), and continental sand, with clay (Ripley) On the Atlantic coast the late Upper Cretaceous is represented by continental sands, gravel, and clay, with lignite, followed by clays and sands with glauconitic greensands The Pacific Coast Upper Cretaceous (Chico) is marine sandstone and shale, with local conglomerate and coal At the close of the Cretaceous occurred the Laramide revolution—at least two different epochs of mountain building and one of relative quiet In this disturbance the Rockies and the E Andes were first pushed up, and there were extensive flows of lava The Appalachians, which had been leveled almost to base level by erosion, were rejuvenated, and the seas retreated from all parts of the continent The intermittent character of the Laramide disturbance makes difficult the demarcation of the Mesozoic and the succeeding CENOZOIC ERA The Lower Cretaceous opened in NW Europe with the deposition of a continental and fresh-water formation, the Wealden sand and clay, best displayed in England The sea, meanwhile, expanded from the Mediterranean, finally overlaying successive Wealden stages with limestone There was at the same time an extensive sea in N Europe At the close of the Lower Cretaceous, there was probably some recession of the seas In the Upper Cretaceous a great transgression submerged lands which had been emergent since the Paleozoic The striking feature of the European Upper Cretaceous is a great chalk deposit, now exposed in the cliffs of the English Channel In India, the late Upper Cretaceous was marked by an outflow of lava in the Deccan plateau The area covered by igneous rocks dating from this period comprises over 200,000 sq mi and was formerly much larger, having been reduced by erosion Near Bombay the formation is 10,000 ft thick The Lower Cretaceous saw a revolution in the plant life with the sudden appearance of flowering plants (angiosperms), such as the beech, fig, magnolia, and sassafras By the end of the Cretaceous such plants were more numerous than all others, the willow, elm, grape laurel, birch, oak, and maple having made their appearance, as well as grass and the sequoias of California This prepared the way for the dominance of mammals in Cenozoic animal life The marine invertebrates of the Cretaceous included nautiluses, barnacles, lobsters, and crabs, sea urchins and foraminifera were common, ammonites, though plentiful, were increasingly degenerate Reptiles continued their supremacy of the Jurassic New kinds of dinosaurs were Triceratops, Tyrannosaurus, Stegosaurus, Brontosaurus, and Iguanodon Flying reptiles were highly developed, while in the sea there were ichthyosaurs, plesiosaurs, and mosasaurs None of these survived the MESOZOIC Of other reptiles there were crocodiles and turtles, while snakes and lizards made their first appearance Among the mammals, the marsupials and the first placental mammals appeared The climate of the Cretaceous as indicated by fossils was probably varied early in the period and generally mild later

Crete (krēt), Gr *Kríti* (krē'tē), island (3,235 sq mi, pop 438,239), off SE Greece, in the E Mediterranean, c 60 mi from the Greek mainland The largest of the islands of Greece, it extends c 160 mi from west to east and forms the southern limit of the Aegean Sea, the southern part of which is also called the Sea of Crete CANEA is the capital, CANDIA is the largest city The northern coast of Crete is deeply indented, and the interior is largely mountainous, culminating in Mt Ida (8,058 ft) Crete produces olive oil, raisins, wine, carobs, almonds, citrus fruit, and vegetables Sheep and goats are extensively raised, and dairying is an important source of livelihood Mineral resources include iron ore, lignite, and gypsum Crete had one of the world's earliest civilizations, the MINOAN CIVILIZATION, named after King MINOS, the mythical author of Cretan institutions, in the ruined palace at CNOSSUS invaluable finds have been made There are indications that inhabitants of Asia Minor and of Egypt settled at a very early time in parts of Crete The Cretan kingdom reached its greatest power, prosperity, and civilization c.1600 B C Its power collapsed suddenly later, for reasons still obscure Its civilization was interrupted, but Crete flourished after the Dorian Greeks settled on the island in large numbers and established city-states. Among the most powerful of the cities (100 in number, according to Homer) were Cnossus and Cydonia (modern Canea) Though important as a trade center, Crete played no important part in the political history of ancient Greece It became the base of pirates in the 3d cent B C, but was conquered (68 B C–67 B C) by the Romans under Quintus Metellus The Arabs took (A D 826) Crete from the Byzantine emperors, but Nicephorus II reconquered it in 961 As a result of the Fourth Crusade, the island fell to Venice in 1204 After expelling (1212) the Genoese rival colonists, the Venetians set up a new administration, headed by a governor, called duke Under Venetian rule Crete was generally known as Candia, after the duke's residence Insurrections against the Venetians were frequent, and the Cretans were not displeased at changing masters when the Turks conquered (1669) virtually the whole island after a long war Two fortresses remained in Venetian hands until 1715 The Cretan insurrection of 1896–97 led to war (1897) between Greece and Turkey Greece was utterly defeated, but the pressure exerted by the European powers forced (1898) Turkey to evacuate Crete The Cretan national assembly, led by VENIZELOS, declared in favor of union with Greece, but the powers rejected its demand and merely allowed Greece to send a high commissioner (Prince George of Greece and, after 1906, Alexander Zaimis) The Young Turk revolution of 1908, however, enabled the Cretans to proclaim their union with Greece, and in 1909 England, France, Russia, and Italy withdrew their occupation troops Cretan representatives were admitted to the Greek parliament in 1912, and in 1913, as a result of the Balkan Wars, Crete was officially incorporated into Greece The followers of Venizelos controlled Crete during their uprising (1935) against the imminent restoration of the monarchy, but were defeated after some fighting by Gen George Kondylis A new revolt (1938) against the dictatorship of John Metaxas was also suppressed In the Second World War, Crete was used as a British military and naval base late in 1940 The British and Greek forces on the Greek mainland were evacuated to Crete in April, 1941, after their defeat by the Germans They were quickly overwhelmed after the invasion (May, 1941) of the island by the Germans in a large-scale airborne attack, the first of its kind Only about half of the Anglo-Greek forces could be evacuated, but many of those that were left behind continued to wage guerrilla warfare from their mountain hideouts Late in 1944 British ships isolated the German occupation troops, who eventually surrendered to the guerrilla forces See bibliography under MINOAN CIVILIZATION

Crete. 1 Residential village (pop 1,772), NE Ill, SE of Joliet, platted 1849, inc 1880 It is a farm trade center Lincoln Field race track is near by **2** City (pop 3,038), SE Nebr, SW of Lincoln and on the Big Blue, in an agricultural area, platted 1870, inc 1871 Dairy products are made It is the seat of Doane College (coeducational, 1872)

cretinism (krē'tĭnĭzm), condition resulting from lack of thyroid secretion in fetal life or in infancy There is stunted physical and mental development, the cretin being one type of dwarf In some places (e g, parts of Switzerland), lack of iodine in the mother's diet results in cases of cretinism in children It is not common in the United States and when it occurs may be caused by lack of iodine, this type being associated with GOITER, or may result from complete absence of the thyroid gland Treatment consists of regulating the diet of mothers to include sufficient iodine The infant is treated with an extract of the thyroid gland See also FEEBLE-MINDEDNESS

Creus (krē'ŭs), TITAN, father by Eurybia of PALLAS ASTRAEUS, and Perses

Creusa (krōō'sə), in Greek and Roman legend **1** Princess of Corinth JASON, unhappy with his wife, MEDEA, wished to marry Creusa, instead Medea then sent to Creusa a magic wedding gown which burned her to death **2** Daughter of King Erechtheus of Athens The wife of XUTHUS she bore him a son, ACHAEUS She was violated by Apollo and tried unsuccessfully to kill their son, ION Her sons are eponymous heroes of the Greeks **3** Daughter of Priam and wife of Aeneas She died in fleeing from Troy

Creuse (krŭz), department (2,164 sq mi, pop 188,669), central France, on the northern slope of the Auvergne Mts Taking its name from a tributary of the Vienne, it occupies part of the old province of MARCHE Guéret (the capital) and Aubusson are the principal towns

Creusot, Le (lu krŭzō'), city (pop 17,133, 1936 pop 22,304), Saône-et-Loire dept, E central France In a coal-mining region, it is the seat of the large Schneider iron and steel mills and munitions manufactures (founded 1836) The town was severely damaged by the Allies in the Second World War

crevasse (krŭvăs'), large crack in the upper surface of a GLACIER, formed by tension acting upon the brittle ice Transverse crevasses occur where the grade of the glacier bed becomes suddenly steeper, longitudinal crevasses, where the glacier spreads over a wider valley or a plain Marginal crevasses usually point upstream at an angle of about 45° and are due to the strain set up by the central part's moving faster than the sides In the United States, the word *crevasse* is applied to a crack in the bank of a river, especially the Mississippi

Crevaux, Jules Nicolas (zhül' nēkôlä' krŭvō'), 1847–82, French explorer and surgeon During 1877–81 he made four trips into the interior of South America, especially in the regions of the great rivers, where he found Inca relics and was reputed to be the first white man to cross the Tumuc Humac mts His adventures are related in *Voyages dans l'Amérique du Sud* (1883)

Crèvecœur, J Hector St. John (krĕvkûr'), 1735–1813, American author and agriculturist, b France Originally his name was Michel Guillaume Jean de Crèvecœur It is believed that he served under Montcalm in Canada After traveling in the Great Lakes region and the Ohio valley and working as a surveyor in Pennsylvania, he settled (c 1769) on a farm in Orange co, N Y, where he wrote *Letters from an American Farmer* (1782) Other letters found in 1922, were published as *Sketches of Eighteenth Century America* (1925) The two books give outstanding descriptions of American rural life of the period He wrote, over the signature Agricola, agricultural articles for American newspapers He introduced the culture of European crops, notably alfalfa, into America and of the American potato into Normandy As French consul in New York (from 1783) he sought to improve commercial relations between France and the United States He lived in France from 1790 See biography by J P Mitchell (1916)

Creve Coeur (krĕv' kûr'), village (pop 3,545), N central Ill, near Peoria, inc 1921 Near by is Fort Creve Coeur State Park

Crewe, Robert Offley Ashburton Crewe-Milnes, 1st **marquess of** (krōō'-mĭlz'), 1858–1945, British statesman A member of the Liberal party, he was lord lieutenant of Ireland (1892–95), lord president of the council (1905–8, 1915–16), lord privy seal (1908, 1912–15), secretary of state for the colonies (1908–10), secretary of state for India (1910–15), president of the Board of Education (1916), British ambassador to France (1922–28), and leader of the Liberal party in the House of Lords until his resignation in Dec, 1944

Crewe (krōō), municipal borough (1931 pop 46,069, 1947 estimated pop 51 810), Cheshire, England It is an important railway junction with large locomotive and car works

Crewe, railroad town (pop 2,048), S Va, SW of Richmond, inc 1888

cribbage (krĭb'ĭj), card game played by two persons with a deck of 52 cards and a scoring device known as a cribbage board The game was probably first played in England in the 17th cent For the rules of cribbage, see R L Frey, ed, *The New Complete Hoyle* (1947)

Crichton, James (krī'tun), 1560?–1582, Scottish adventurer and scholar, called the Admirable Crichton, M A Univ. of St Andrews, 1575 He spent some time in France, possibly in military service In 1579 he was in Italy, where he attracted great attention by his scholarly accomplishments and personal charm Reputedly he spoke 12 languages and showed amazing erudition and powers of memory in public disputations He entered the service of a Mantuan nobleman as tutor to his son and was slain by his charge in a street brawl Crichton is of little scholarly or historical importance His fame is due to the extravagant praise given him by Aldus Manutius and by his 17th-century biographer, Sir Thomas Urquhart The play *The Admirable Crichton* (1903) by James M Barrie has a butler as hero and has nothing to do with the historical James Crichton See Douglas Crichton, *James Crichton of Eliock* (1911).

cricket, insect of the order Orthoptera related to the grasshopper and the katydid The typical species have long antennae and powerful hind legs Some are winged, others wingless They are often destructive to vegetation Some also eat insects Usually they are nocturnal The males produce the chirping by elevating the front wings and rubbing the hardened portion, or scraper, of one wing against the ridged, filelike region of the other wing, causing vibration The rate of chirping and the pitch vary with the temperature of the air Observers have worked out formulas for calculating temperature from the number of chirps per minute Included in the family of true crickets are the field cricket, a black species with brown wings, which is common in the United States and the northern half of South America the tree crickets, of which a white species (the snowy tree or temperature cricket), a pale green species, and a dark species are common in the Americas, and the Old World house cricket or "cricket on the hearth," now established in the New World The mole cricket of a related family is a burrowing insect The sand, Mormon, and cave or camel crickets are really grasshoppers In parts of the Old World crickets are caged like songbirds Cricket fighting is popular in China

cricket, the national sport of England. It is played by two opposing teams of 11 men each on a level, closely cut, green turf preferably measuring about 525 ft by about 550 ft. Two wickets are placed 66 ft apart near the middle of the field At each wicket, which is made of three wooden stumps 27 in. high and has two small wooden crosspieces known as bails, stands a batsman If the bowler of the opposing team bowls down the bails of the wicket opposite him, the batsman defending that wicket is retired In bowling the hard, leather-covered ball, the bowler may not bend his arm, and the ball usually approaches the batsman on one bounce When the bowler has made a certain number of throws (usually 6 or 8) to the batsman at one wicket, an umpire (there is one at each wicket) calls "over," and an alternate bowler begins bowling to the batsman at the other wicket The players in the field shift their positions according to which batsman is batting For his part, the batsman tries to hit the ball with his cane-handled, paddle-shaped bat far enough so that his partner and he may run to exchange places, thereby scoring a run If the ball is hit for a long distance (in any direction, since there are no foul lines in cricket), several exchanges or runs may be made However, if the opposing team recovers the ball in time to knock down the bails of a wicket before the batsman reaches it, he is out A batsman is also retired if the ball he hits is caught on the fly (as in baseball) and may be retired for several other, more technical reasons Each team has two innings each, in an inning all the men of a team bat twice in fixed order, it may take several days to complete one game The team scoring the most runs wins Except in case of serious injury, no substitutions are allowed Cricket was played in medieval England, and in 1774 the London Cricket Club drew up the first authoritative set of rules In 1787 the Marylebone Cricket Club, still the governing body of the game, was founded. Annual matches between English and Australian teams, between Eton and Harrow, and between Oxford and Cambridge are played at Thomas Lord's cricket field in London and have become national events Cricket is popular throughout the British Commonwealth of Nations In the United States the game was supplanted in popular favor by baseball, which was derived in part from cricket, and now cricket is most often played in the United States only in centers of recent British immigration, usually in the northeast William G Grace, John B Hobbs, Walter R Hammond, Donald G Bradman (Australia), and J Barton King (United States) were famous cricket players See C B Fry, *Cricket* (1930), D G Bradman, *How to Play Cricket* (1935); John Arlott, *Concerning Cricket* (1949)

Crieff (krēf), burgh (pop 5,543), Perthshire, Scotland, on the north bank of the Earn It is a health resort with a large hydropathic establishment Drummond Castle (1491) with its famous gardens and the market crosses are noteworthy

Crile, George Washington (krīl), 1864–1943, American surgeon, b Cleohoton co, Ohio, M D Univ of Wooster medical school (later merged with Western Reserve Univ), 1887 He taught at the Univ of Wooster (1889–1900) and at Western Reserve Univ (1900–1924) and was a founder and director (from 1921) of the Cleveland Clinic Foundation. He worked on hemorrhage and transfusion, surgery of the thyroid, and shock, developing the technique known as anociassociation to prevent surgical shock Among his many works are *Diseases Peculiar to Civilized Man* (1934), *Phenomena of Life* (1936), and *Intelligence, Power, and Personality* (1941)

Crillon, Louis des Balbes de Berton de (lwē' dā bälb' du bĕrtŏ' dŭ krēyŏ'), c 1541–1615, French general He fought under François de Guise in Italy and in the first wars against the Huguenots (1562–70) and under Don John of Austria in his Turkish campaign. Crillon distinguished himself at Lepanto (1571) He fought for Henry III against the League and was one of the best captains of Henry IV, under whom he took part in the battle of Ivry and the siege of Paris

crime, in its broadest sense, a violation of social rules and an act that is held to be detrimental to the group Since cultures vary in organization and values, what is considered criminal may also vary, although such types of behavior as parricide, treason, and violation of certain sexual taboos tend to be uniformly condemned In modern societies a crime is a violation of the law (see CRIMINAL LAW) Legally, an act to be criminal must be consciously committed by a sane adult, and punishment is meted out by the government So far, there has been no adequate legal definition of sanity, however Determination of amount of crime is difficult because of variations in definition and in method of recording it In the last few decades there has been a general rise in recorded crime in Western countries This is partly a result of the enormous multiplication of regulatory laws necessitated by the development of a complex industrial society Offenses against property (burglary and theft) have risen in the United States and in other urbanized countries Crimes of violence (murder, rape, aggravated assault) have decreased. In the United States organized crime (see GANG) became significant in the early 20th cent Crime rates tend to fluctuate with social trends, rising in times of depression, after wars, and in other periods of social disorganization Cities have a much higher proportion of serious property offenses than do rural areas, but crimes of violence tend to occur in equal or greater proportion in the country Within cities, areas in which large groups of underprivileged persons are crowded have the highest crime rates This applies especially to JUVENILE DELINQUENCY The fact that law enforcement is more strict in poor neighborhoods and among minority groups than among middle-class groups accounts for part of the difference in criminality A large number of criminals are characterized by recidivism (repeated criminality) The causes of crime are complex. Such mental traits as feeble-mindedness may account for a small number of criminals The theory that hereditary physical and psychological traits characterize and determine criminals, as well as the idea that criminals can be detected by their physical structure (shape of head, ear lobes, and the like), has been largely disproved Sociologists claim that many offenders are born into an environment (such as extreme poverty) which must automatically force the individual into a pattern of criminality, while others are caught between immediate and general culture conflicts Environmental factors are also said often to determine the situation in which the potential criminal becomes an actual one and the direction which the aggressive behavior takes The relative values and variance of what is considered crime from one group to another leads to the anthropological point of view, which considers the criminal as a deviate from his cultural pattern The more differentiated the society, the more laws are needed to sustain it, and the more laws, the greater the number of offenders Likewise crime is not necessarily antisocial behavior, nor is antisocial behavior always considered a crime Deeper than these factors lie the emotional disturbances from which a majority of criminals suffer Psychiatry considers all crime to result from emotional disorders which usually stem from maladjustment in childhood to the family group The criminal symbolically enacts a repressed, unconscious wish or desire, and such crimes as pyromania and kleptomania are specific expressions of a personality disorder Therefore, psychiatrists hold that crime prevention and the cure of criminals is a matter of psychiatric treatment rather than coercion Although detection and apprehension of criminals are undertaken by the police and punishment is determined by the court, there has been a gradual shift in emphasis in modern countries from punishment to rehabilitation and prevention Increased use of probation and parole, psychiatric treatment, training in prison, and betterment of general social conditions have become accepted in the theory of criminology, though they have not been put into universal practice See Clifford Shaw, *Delinquency Areas* (1929), Sheldon Glueck and Eleanor Glueck, *Five Hundred Criminal Careers* (1930), *Later Criminal Careers* (1937), and *Criminal Careers in Retrospect* (1943), Franz Alexander and William Healy, *Roots of Crime* (1935), Thorsten Sellin, *Culture Conflict and Crime* (1938), David Abrahamsen, *Crime and the Human Mind* (1944), E H Sutherland, *Principles of Criminology* (4th ed., 1947)

Crimea (krīmē'ə), Rus *Krym* or *Krim* (both krĭm), peninsula, S European RSFSR, on the north shore of the Black Sea, connected with the mainland by the Perekop Isthmus It forms an oblast (c 10,000 sq mi, pop c 1,050,000), with Simferopol its capital Other cities are Sevastopol, Kerch, Feodosiya, and Yevpatoriya The eastern tip of the Crimea is the Kerch peninsula, separated from the Taman peninsula, a projection of the mainland, by the KERCH STRAIT, which connects the Black Sea with the Sea of Azov The northern (and larger) part of the Crimea is a dry steppe, drained by intermittent streams, of which the Salgir is the largest, it produces fine wheat and cotton In the south rise the Crimean or Yaila Mts, which reach 5,062 ft in the Roman-Kosh Protected by their steep slopes, the Black Sea littoral, called the Russian Riviera, has a subtropical climate, it produces fruit, wine, and tobacco and has many beautiful resorts, notably Yalta and Sochi The KERCH peninsula has mineral wealth and heavy industries Food processing is the major industry in the rest of the Crimea The earliest known inhabitants were Cimmerians, followed (8th cent B C) by Scythians Ionian Greeks colonized (7th cent B C) the coast, and in 438 B.C most of the peninsula came under the rule of the Spartocids, a Thracian dynasty of Greek culture, who after 304 B C took the title kings of the Bosporus (i e, the Cimmerian Bosporus, now the Kerch Strait). The region was a major source of wheat supply for ancient Greece MITHRIDATES VI, king of Pontus, seized (c 110 B C) the peninsula, which in the 1st cent. A D became a Roman protectorate Its Greek name was Latinized into Chersonesus Taurica. It was overrun by the Ostrogoths (3d cent.), by the Huns (4th cent.), by the Khazars (7th–11th cent.), by the Cumans (11th–13th cent.), and by the Mongols under Batu Khan (1239). Meanwhile the southern coastline was mostly under Byzantine control from the 6th to the 12th cent. In the 13th cent Genoa established prosperous commercial colonies in the Crimea, notably at FEODOSIYA. These were captured (1475) by the Crimean TATARS, whose khan became a vassal of the Ottoman Empire in 1478 The khans of the Crimea, or Little Tartary, residing at STARY KRIM and later at BAKHCHISARAI, were powerful rulers whose sway extended over S Russia from the Kuban to Bessarabia They were the scourge of Russia and Poland, although their alliance was often sought by these and other powers In 1572 they burned Moscow The Crimea was first invaded by the Russians in 1736 CATHERINE II, in 1774, forced Turkey to recognize the independence of the khanate from the Dniester to the Terek, and in 1783 she annexed it outright The Treaty of Jassy (1792) confirmed it in Russian possession The province of Taurida, as the Crimea was then called, was settled by Russians, Ukrainians, Bulgarians, Germans, Armenians, and Greeks, while many Tatars, who are Moslems and Turkish-speaking, emigrated to Turkey The western part of the Crimea was the scene (1854–56) of the Crimean War. In 1918 German forces occupied the Crimea, which until 1920 was the refuge of the White Army under Baron Piotr Wrangel Again, in 1941–42, the Crimea fell to the German invaders after some of the most devastating battles of the Second World War (see SEVASTOPOL) It was reconquered by the Russians in 1944 In 1921 the Crimea had been made an autonomous Soviet republic, however, the disloyalty of the Tatars during the war caused the Russian government to settle them "farther east" and to dissolve the republic The cities and resorts of the Crimea suffered heavily during the war.

Crimean War (krīmē'ən) The general causes of this war between Russia on the one hand and Turkey, England, France, and Sardinia on the other were inherent in the unsolved EASTERN QUESTION The more immediate occasion was a dispute between Russia and France over the Palestinian holy places Challenging the claim of Russia to guardianship of the holy places, France in 1852 secured from Sultan Abdul-l-Mejid certain privileges for the Latin churches Russian counterdemands were turned down (1853) by the Turkish government, largely under the influence of the English ambassador, STRATFORD DE REDCLIFFE In June, 1853, Russia retorted by occupying the Turkish vassal states of Moldavia and Walachia, and in October, after futile negotiations, Turkey declared war In March, 1854, England and France, having already dispatched fleets to the Black Sea, declared war on Russia, Sardinia followed suit in Jan, 1855 Austria remained neutral, but by threatening to enter the war on the Turkish side forced Russia to evacuate Moldavia and Walachia, which were occupied (Aug, 1854) by Austrian troops In Sept, 1854, allied troops landed in the Crimea, with the object of capturing SEVASTOPOL The Russian fortress, defended by TOTLEBEN, resisted heroically until Sept, 1855 Allied commanders were Lord RAGLAN for the British and General Saint-Arnaud, succeeded by General Canrobert, for the French Military operations, which were marked on both sides by great stubbornness, gallantry, and disregard for casualties, remained localized Famous episodes were the battles of BALAKLAVA and of INKERMAN (1854) and the allied capture (1855) of MALAKHOV and Redan, which preceded the fall of Sevastopol On the Asiatic front the Russians gained advantages and occupied Kars. The accession (1855) of Tsar Alexander II and the capture of Sevastopol led to peace negotiations which resulted (Feb, 1855) in the Treaty of Paris (see PARIS, CONGRESS OF). The Crimean War ended the dominant role of Russia in SE Europe, the cooling of Austro-Russian relations was an important factor in subsequent European history. The scandalous condition of the troops and the dead and wounded, depicted by the first war correspondents, prompted the work of Florence NIGHTINGALE, which was perhaps the most positive result of the war See E B Hamley, *War in the Crimea* (1890)

criminal, see CRIME

criminal law, rules governing the definition and trial of crimes This article treats only the legal aspects of the subject, for a discussion of sociological and psychological factors involved in criminal behavior, see CRIME Legal wrongs are either civil or criminal A civil wrong is the violation of a personal right, and vindication must be pursued by the injured party himself (see TORT and CONTRACT). A crime, on the other hand, while it may also cause personal injury subject to redress, is deemed detrimental to the state, which seeks out and punishes the offender. In legal usage, then, acts repugnant to morality or custom which are not punishable by the state do not constitute crimes, and the criminal law cannot be said to operate in regard to acts for which the retribution is private, as in VENDETTA or

composition. The British criminal law did not take clear form until after the Norman Conquest. In place of the Anglo-Saxon system of composition for wrongs and of designating a serious malefactor an OUTLAW, there grew up the king's peace and the appeal of felony. In its origin the king's peace was no more than the decorous, obedient behavior which the king, like any feudal lord, could exact in his domain. It was soon extended to protect from violence and contumely the officers who carried out the royal functions, whether at the capital or on the roads and in the towns, which were under royal protection. With the consolidation of royal power and the resultant subordination of the feudal lords, the king's peace was extended to the whole English realm, and the courts of the feudal manors were substantially divested of their criminal jurisdiction. The appeal of felony (see FELONY) was a private proceeding initiated by a wronged person; from the offenses which were recognized as felonious many specific crimes were derived The English law of crimes belonged to the common law for the most part, because most offenses were established by judicial precedent and comparatively few had their source in statutes Both the common law of crimes and the major English criminal statutes were carried to America by settlers, and after the American Revolution they were formally adopted by the states In time, however, the occasional uncertainty and confusion of common law led many states to substitute criminal codes Usually, however, the code provisions are interpreted in the light of precedents in common law In the United States state systems of criminal law and a Federal system coexist No court will punish infractions of the criminal law of another jurisdiction, but by means of EXTRADITION a fugitive from justice may be delivered to the competent authorities Federal criminal law deals with all subjects in the territories of the United States and with cases regarding American ships at sea, otherwise the Federal government has criminal authority only in fields where the U S Constitution authorizes it to legislate (e g , in regard to the post-office system and the national armed forces) The states are free to enact any criminal laws which they deem necessary, subject to the provisions of the FOURTEENTH AMENDMENT of the Constitution Procedural aspects of criminal law are also affected by the U.S. Constitution and by state constitutions All crimes, whether common law or statutory, must be sufficiently definite to give due warning There may be no ex post facto laws, i e , statutes making acts committed prior to their enactment into crimes Bills of attaindер—legislative findings of criminal guilt without a trial—are also prohibited The procedure in criminal cases is substantially the same throughout the United States The person suspected of crime is taken into custody by a police officer, usually by service of a WARRANT of arrest The case is first presented to a grand jury, which draws up an INDICTMENT if there is sufficient evidence to justify trial, otherwise it discharges the accused While action is pending, the party charged may be released on BAIL Trial is by JURY or before a judge alone The government presents its case (i e , attempts to prove the allegations of the indictment) through the public prosecutor, usually called the district attorney, while the accused is represented by counsel chosen by himself or appointed by the court The legal presumption of innocence puts the burden of proving guilt on the prosecution, unless, of course, the defendant pleads guilty to the charge Special rules restricting the introduction of EVIDENCE in criminal trials further protect the defendant If the accused is adjudged innocent, he is discharged, if he is found guilty, the judge pronounces SENTENCE upon him (For types of criminal penalties, see CAPITAL PUNISHMENT, CORPORAL PUNISHMENT; PRISON) The procedure outlined above is followed in the case of a felony. When the charge is merely one of MISDEMEANOR or some minor legal offense (e g , a traffic violation), the proceedings are far more summary, because the punishment (a fine or a short term of imprisonment) is of relatively little consequence In addition to the regular national and local systems of criminal law there are special systems of MILITARY LAW applying to members of the armed forces and of MARTIAL LAW applying to a territory under military control The criminal categories of INTERNATIONAL LAW are PIRACY and WAR CRIMES. See J F Stephen, *A History of the Criminal Law of England* (3 vols , 1883); Roscoe Pound, *Criminal Justice in America* (1930)

crinoid (krī'noid, krĭ'–), marine animal, an echinoderm of the class Crinoidea, related to the starfish and sea urchin and represented by the sea lily and the feather star. The body usually consists of a central disk with plumelike arms. Many forms have stalks and are attached during at least part of their lives. They are found in the deep sea and in tropical waters. Fossilized forms, especially from the Paleozoic era, are abundant. Many limestone beds are composed chiefly of fossil forms

crinoline (krĭ'nŭlĭn, –lēn), a stiffening fabric, made originally of horsehair or horsehair mixed with other fibers and used to distend the FARTHINGALES and breeches of the 16th and 17th cent. The term was also used interchangeably with hoop skirt Later, crinoline was used for facing women's skirts The modern crinoline is made of coarsely woven linen or cotton sized with glue

Cripple Creek, city (pop. 2,358; alt 9,375 ft), co. seat of Teller co , central Colo , SW of Colorado Springs, inc. 1892 The discovery of gold in 1891 on a cattle ranch created one of the richest camps of a famous gold-producing area, with a turbulent town life. In 1901 the district had an estimated population of c 50,000 Although gold production declined after that year, mining has continued; when a drainage tunnel was opened (1941), some flooded mines became productive and new veins were disclosed. Violence marked miners' strikes here in 1893 and 1904 Few landmarks of the old camp remain. See H J Newton, *Yellow Gold of Cripple Creek* (1928)

Cripps, Sir Stafford, 1889–, British statesman, son of Lord Parmoor and nephew of Beatrice Webb. With varied knowledge from his training as a chemist at University College, London, his learning in law, and his experience as assistant superintendent of a munitions factory in the First World War, he was brilliantly successful as a patent and corporation lawyer He was knighted in 1930 A far-left Labour party leader, he was solicitor general in the Labour government in 1930–31 but was thrown out of the party for urging a united front with the Communists in 1939 Winston Churchill, when he became prime minister, appointed (1940) Cripps ambassador to the USSR, made him (1942) lord privy seal and leader in Commons, and in the same year sent him to India with a self-government plan This, though rejected by the Indian leaders, did something to create good will towards Great Britain He was shortly thereafter made minister of aircraft production and served from Nov , 1942, to May, 1945 He was in 1945 readmitted to the Labour party and appointed president of the Board of Trade, initiating Britain's austerity program of recovery By 1947 Cripps was in virtual control of the economy of Great Britain through the new post (minister of economic affairs) created for him by Prime Minister Clement Attlee, and later in the same year he added the post of chancellor of the exchequer to his portfolio It was at this time that he went on record against devaluation of the pound as a solution to Britain's dollar shortage—a position which he was to reverse late in 1949 when the country's gold reserves were dwindling too rapidly As nationalization of industry proceeded in Great Britain, Cripps sought to balance the budget by every means, including rationing at home, increased exports, loans from the dominions and the United States, and trade agreements He retained his post after the elections of Feb , 1950 See biographies by Patricia Strauss (1942) and Eric Estorick (1949)

Crisa (krī'sə), ancient city of Greece, in Phocis, on the Gulf of Crisa When CIRRHA was destroyed (c 590 B C), the people moved to Crisa, but Crisa itself was destroyed in the sacred wars

Crisana-Maramures (krĭshä'nä–märämōō'rĭsh), historical province (9,241 sq mi , pop 1,391,672), NW Rumania, between Transylvania and Hungary Arad, Oradea, and Satu-Mare are the chief cities The region was part of Hungary proper until 1919, and there remains a Hungarian minority of 365,745 The region occupies the easternmost part of the Hungarian plain and the western foothills of the Transylvanian Alps It is largely agricultural

Crisfield, city (pop 3,908), Eastern Shore Md , on Tangier Sound, an arm of Chesapeake Bay It is a port of entry and processes and ships sea food.

crisis, economic, a period of depression in commerce, finance, and industry, characterized by falling prices, restriction of credit, attempts to liquidate, numerous bankruptcies, and possible long-term consequences The short periods in which fear takes hold of the minds of businessmen are more properly called PANICS and do not necessarily occur in every crisis, but lack of business confidence is always present Crises usually mark the downward swing in the curve of the business cycle and are caused by a disequilibrium between the quantity of goods produced and the consumers' ability to buy. Rise in production costs, lessened demand, or both factors force a curtailment of production, the dismissal of employees, or a wage cut. Raw-material orders are canceled, whereupon the crisis spreads to the industries which supply them Unemployment and lowered wages further decrease purchasing power and make the crisis more acute Recovery is slow, depending on the return of confidence, depletion of the stock of goods, or, as recently, upon remedial action by governments. Crises now tend to be world-wide, because of the international scope of trade and credit Loss of confidence by investors, overexpansion of commerce or industry, bad harvests, a stock-market crash, the failure of a great banking or industrial firm, or war may be among the precipitating factors In antiquity and even up to the 18th cent , crises had chiefly noneconomic causes, such as crop failures. From c 1700 to 1825 crises were in the main speculative or commercial, since 1825 they have been basically industrial The existence of reserve banks such as the Federal Reserve System of the United States, created after the panic of 1907, has hindered at least financial and commercial crises Such banks participate in the money market, regulate the discount rate, and hence help stabilize economic conditions No such central reserve bank failed in the crisis of 1929 and the following years Cartels, such as became common in Germany after the crisis of 1890, and trusts may allay crises by price regulation and by orders for materials spread over a term of years The economic crises of the 20th cent saw the entrance of governments into large areas of the economy which had previously been in private hands See J. M Clark, *Strategic Factors in Business Cycles* (1934), Edwin Frickey, *Economic Fluctuations in the United States, 1866–1914* (1942), Dixon Wechter, *The Age of the Great Depression, 1929–1941* (1948)

Crispi, Francesco (franchā'skō krĕ'spē), b 1818 or 1819, d 1901, Italian statesman, b Sicily After participation in the Sicilian revolt of 1848, he went into exile to Piedmont, to France, and to England, where he befriended Mazzini After his return to Italy, Crispi helped Garibaldi to take Sicily A deputy to the Italian parliament from 1861, he was at first a leftist republican, but later became an outspoken monarchist He was minister of the interior (1877–78) and premier (1887–91) Through his personal relations with Bismarck, friendship with Germany was furthered, while Italian relations with France deteriorated He was much interested in colonial policies, Eritrea was organized under him Crispi was again premier from 1893 to 1896, when the victory of the Ethiopians over the Italians at Aduwa forced him from office.

Crispin and Crispinian, Saints, 3d cent , brothers, missionaries in Gaul martyred under Diocletian Shoemakers by trade, they are patrons of leather workers Feast Oct 25

Crispus [Gr , =curled], prominent Corinthian Jew converted by St Paul Acts 18 8, 1 Cor 1 14

Cristobal (krĭstō'bəl), Span *Cristóbal* (krēstō'bäl) [Christopher], town (pop 826), Panama Canal Zone, near the Atlantic end of the canal. Virtually a suburb of Colón, Cristobal is the American residential quarter Cristobal dist comprises the Atlantic half of the zone

Cristus, Petrus · see CHRISTUS, PETRUS

Critias (krĭ'shēəs,–tēəs) d 404 or 403 B C , Athenian political leader and writer He was an aristocrat and had early training in philosophy with Socrates and wrote poems and tragedies He is best remembered, however, as one of the Thirty Tyrants imposed on Athens by the Spartans. He was soon at odds with Theramenes, who was put to death Critias earned a name for rapacity and bloodthirstiness, although Plato seems to have admired him When THRASYBULUS led his force against the Thirty, Critias was killed in battle.

criticism, judging or evaluating works of art or literature Matthew Arnold's definition of it as "a disinterested endeavor to learn and propagate the best that is known and thought in the world" applies to literary criticism primarily, but there is, as well, dramatic criticism, music criticism, and art criticism In biblical criticism, the "lower" criticism seeks to determine the original text of a document, whereas the "higher" criticism seeks evidence as to its authorship and date of composition for their bearing on its meaning Critics since the days of Aristotle have had canons, the rules according to which a thing was called good or bad, and those canons have changed with the tastes of the periods Yet some masters have been acknowledged by many schools of thought to be great, as are Homer and the psalmists Notable in the history of criticism have been Aristotle, Horace, Quintilian, Boileau-Despréaux, Alexander Pope, Samuel Johnson, Lessing, Sainte-Beuve, F A Wolf, Matthew Arnold, Hazlitt, Ruskin, Walter Pater, Santsbury, Taine, Samuel Taylor Coleridge, Poe, Brunetière, Benedetto Croce, Remy de Gourmont, Virginia Woolf, W C Brownell, Vernon L Parrington, George E Woodberry, Irving Babbitt, Paul Elmer More, I. A Richards, T S Eliot, and Roger Fry (in art) In the early 20th cent , established neo-humanism was rivaled by the economic and sociological theories of interpretation The pervading interest in psychology was used by most critics whatever their school Impressionist critics laid stress especially on semantics See C M Gayley and F. N Scott, *Methods and Materials of Literary Criticism* (1899), W C. Brownell, *Criticism* (1914) and *Standards* (1917), I A Richards, *Principles of Literary Criticism* (1925), Norman Foerster, *Toward Standards* (1930), Bernard Smith, *Forces in American Criticism* (1939); Edmund Wilson, *The Wound and the Bow* (1941), J C. Ransom, *The New Criticism* (1941).

Critius (krĭ'shus) and **Nesiotes** (nēshō'tēz), 5th cent B C , Greek sculptors, in the time of the Persian Wars They made statues of the Tyrannicides, Harmodius and Aristogiton, to replace a group by Antenor taken from Athens by Xerxes and later

returned Critius, probably a pupil of Antenor, established a school of sculpture at Athens

Crittenden, Eugene Casson (krĭ'tundun), 1880-, American physicist, b Oswayo, Pa, grad Cornell, 1905 Long associated with the National Bureau of Standards, he was physicist (from 1909), chief of the electrical division (1921-46), assistant director (1933-46), and associate director (from 1946) He is an authority on the measurement and light

Crittenden, George Bibb, 1812-80, Confederate general, b Russellville, Ky, grad West Point, 1832, son of John J Crittenden and brother of Thomas L Crittenden Upon the outbreak of the Civil War, he left the U S army to become a Confederate brigadier general At MILL SPRINGS (Jan, 1862), he was badly defeated and resigned, but he reenlisted and thereafter served without rank for the rest of the war

Crittenden, John Jordan, 1787-1863, American statesman, b Woodford co, Ky After completing his law studies at the College of William and Mary, he began (1807) to practice in Kentucky He served in the War of 1812 and was a member of the Kentucky legislature from 1811 to 1817, when he entered the U S Senate Resigning in 1819, Crittenden returned to Kentucky There he was U S district attorney (1827-29), speaker of the state legislature (1829-32), and secretary of state (1834) After a full term in the Senate (1835-41), he served as Attorney General under Presidents William H Harrison and John Tyler from March to Sept, 1841, when all the cabinet except Webster resigned Crittenden was appointed (1842) and subsequently elected (1843) to fill the senatorial vacancy caused by the resignation of his friend Henry Clay, whose policies he followed He was governor of Kentucky, 1848-50, and was again Attorney General, 1850-53, under Millard Fillmore During his last term in the Senate (1855-61), Crittenden was foremost in attempting to conciliate North and South In the Crittenden Compromise, he proposed to settle the slavery issue through constitutional amendments, the most important providing for the restoration of the Missouri Compromise line His plan was defeated When the Civil War broke out, Kentucky adopted the neutrality policy he advocated He was chairman of the Border State Convention (May, 1861), which failed to secure peace Elected to the House of Representatives (June), Crittenden introduced a series of resolutions that defined the preservation of the Union as the sole purpose of the war He opposed the military regime in Kentucky and the Emancipation Proclamation, among other acts of the administration, on the ground that they exceeded that purpose His sons, George B Crittenden and Thomas L Crittenden, fought on opposing sides in the war See biography by his daughter, Ann Mary Coleman (1873)

Crittenden, Thomas Leonidas, 1819-93, Union general in the Civil War, b Russellville, Ky, son of John J Crittenden and brother of George B Crittenden He served in the Mexican War and was U S consul at Liverpool, 1849-53 A major general in the Kentucky militia as the Civil War began, Crittenden became a Union brigadier general (Sept, 1861) and was promoted major general (July, 1862) for his service at Shiloh He commanded under Rosecrans at Murfreesboro and in the CHATTANOOGA CAMPAIGN After being exonerated for the rout of his corps at Chickamauga, he served for a time in the Army of the Potomac Crittenden resigned his commission in Dec, 1864 but, reentering the army in 1867, served until 1881

Crittenden, Thomas Theodore, 1832-1909, governor of Missouri (1881-85), b Shelby co, Ky, grad Centre College, 1855, nephew of John Jordan Crittenden He moved to Missouri in 1857 and became a successful lawyer. In the Civil War he served (1862-65) as lieutenant colonel of a Missouri cavalry regiment in the fighting in Missouri and Arkansas He was state attorney general for a brief period after the war and served in the U S House of Representatives (1874-75, 1877-79) As governor Crittenden brought an end to outlawry in the state, especially by breaking up the Jesse JAMES gang In President Grover Cleveland's second term (1893-97) he was consul general in Mexico city. See *The Crittenden Memoirs* (compiled by H H Crittenden, 1936)

Crittenden Compromise. see CRITTENDEN, JOHN J

Crivelli, Carlo (krēvĕl'lē), b c 1430, d after 1493, Venetian painter He worked chiefly in the Marches His paintings, executed always in tempera, include the *Virgin and Child*, an altarpiece in the Ascoli cathedral, the great altarpiece, in 13 parts, painted for San Domenico, Ascoli (now in the National Gall, London), and *The Coronation of the Virgin* (Milan) Examples in the United States include *St George on Horseback* (Gardner Coll, Boston), *Pietà* (Mus. of Fine Arts, Boston), *St George*, *St Dominic*, and *Pietà* (Metropolitan Mus.), and *St Francis*, *St Nicholas*, and *Madonna and Child* (National Gall of Art, Washington, D C).

Crna Gora, Yugoslavia see MONTENEGRO.

Croaghpatrick (krō'ăpă'trĭk, krō'nkh-), mountain, 2,510 ft high, Co Mayo, Ireland, S of Clew Bay Legend connects it with St Patrick, and its summit has long been a place of pilgrimage

Croatan (krō"ătăn') When John White, governor of the colony, returned to ROANOKE ISLAND off North Carolina in 1591, he found the colonists gone and the unexplained letters CROATOAN carved on a tree Some have claimed that the word indicated that members of the "lost colony" had joined the Indians and that the coastal Croatan Indians were descended from them The name, in the form Croatan, is popular in the region and is perhaps best known in the name of Croatan Sound, N C

Croatia (krōā'shə), Croatian *Hrvatska*, autonomous republic (c 20,500 sq mi, pop 3,749,039), NW Yugoslavia It includes Croatia proper, SLAVONIA, DALMATIA, and most of ISTRIA ZAGREB is the capital, other important cities are FIUME, OSIJEK, SPLIT, and ZARA The western part lies in the DINARIC ALPS, the eastern part, drained by the Sava and Drava rivers, is mostly flat and agricultural A part of the Roman province of Pannonia, Croatia was settled (7th cent) by the Slavic Croats, who in the 9th cent accepted Christianity The fact that they accepted Roman Catholicism has ever since set the Croats apart from their neighbors, the Serbs, who also constitute a large minority within Croatia A kingdom from the 10th cent, Croatia conquered surrounding districts, chief among these was Dalmatia, which, chronically contested with Venice, had its own history The dynasty became extinct, and in 1091 King LADISLAUS I of Hungary conquered Croatia, in 1102 his successor was crowned king of Croatia In personal union with Hungary, Croatia retained its own diet and was governed by a native ban From the battle of Mohacs (1526) until the Treaty of Karlowitz (1699), most of Croatia was under Turkish rule From 1809 to 1813 it was part of Napoleon's Illyrian Provs Although in 1848 Croatia under JELLACHICH sided against the Hungarian revolutionists, its autonomy was abolished in 1849 In 1868, however, a compromise was reached, united with Slavonia, Croatia became an autonomous Hungarian crownland governed by a ban United (1918) with Serbia to form the kingdom of the Serbs, Croats, and Slovenes (see YUGOSLAVIA), Croatia became increasingly restless in its demands for greater autonomy Agitation, which resulted (1928) in the assassination of the Croatian leader, Stefan RADICH, was partially suppressed when King ALEXANDER established his dictatorship (1929) Encouraged by Hungary and Italy, a Croat nationalist terrorist organization, the Ustachi, was organized The Ustachi eventually procured the assassination of Alexander Legal opposition was represented by the Croatian Peasant party led by Vladimir Machek In 1939 Croatia was belatedly granted autonomous rights When the Germans invaded Yugoslavia in 1941 the Ustachi seized the power and declared Croatian independence under the dictatorship of their leader, Ante Pavelich Shortly afterward Aimone, duke of Spoleto, a prince of the royal Italian family, was made nominal king of Croatia, which came under the military control of Italy while the Ustachi continued their sadistic excesses Croatia declared war on the United States in 1941 In 1943 Pavelich made Aimone renounce his throne and placed Croatia under German control Meanwhile, a large part of the population was actively fighting in the Yugoslav "underground" forces After the Allied victory, the new Yugoslav constitution (1946) made Croatia one of the six People's Republics of Yugoslavia

Croce, Benedetto (bānādĕ'tō krō'chā), 1866-, Italian philosopher, historian, and critic He has lived mostly in Naples, devoting himself entirely to studying and writing He founded and edited (1903-44) *Critica*, a review of literature, history, and philosophy, which in 1944 became *Quaderni della critica* Croce was made a senator in 1910 and was minister of education from 1920 to 1921 A staunch opponent of Fascism, he lived in retirement until 1943, when he became a leader of the Liberal party Croce's system of philosophy is related to the idealistic school in that the spirit, monistic in manifestation, constitutes the only reality The general title of the work presenting his system is *Philosophy of the Spirit* (1902-17, Eng tr, 1909-21), which is divided into four parts, *Aesthetic as Science of Expression and General Linguistic*, *Logic as the Science of Pure Concept*, *Philosophy of the Practical*, and *History Its Theory and Practice* Among other works is *A History of Italy, 1871-1915* (1927, Eng tr, 1929) See his essays, *My Philosophy* (Eng tr, 1949)

crochet work (krōshā'), form of knitting done with a hook, by means of which loops of thread or yarn are drawn through other, preceding loops Crochet stitches are all based on the chain or single crochet, i e, a single loop In double crochet the thread is thrown once about the hook before the loop is drawn All other stitches and patterns are merely varying combinations of the single or double loop, The art finds its highest expression in Irish crochet, done with the finest thread and hooks in intricate patterns, usually displaying a motif of leaves or flowers set in an open weblike ground Whole garments, as well as trimmings, hats, and bags, are made by the skillful Irish needlewomen.

Crocker, Charles, 1822-88, American railroad builder, b Troy, N Y In 1836 he moved with his family to Marshall co., Ind, where he set up a small foundry. He joined a party to seek gold in California in 1849 He and a brother opened a store to sell supplies to miners, and as it prospered they started others, later consolidating them in Sacramento Here Crocker met Mark HOPKINS, Hopkins's partner, Collis P HUNTINGTON, and Leland STANFORD and with them organized (1861) the Central Pacific Railroad Company of California, Crocker undertaking responsibility for actual construction His difficulty in maintaining an adequate labor force for the arduous work led to his employment of Chinese coolies, who were kept in a state of virtual slavery In 1871 Crocker sold out his interest to his partners, but in the Panic of 1873 he returned as director and vice president. See Oscar Lewis, *The Big Four* (1938)

Crocker, William, 1876-1950, American botanist, b Medina, Ohio, grad Univ. of Illinois (B A., 1902), Ph D Univ of Chicago, 1906 He was associated with the Univ of Chicago from 1907 to 1921 and from 1921 was director of the Boyce Thompson Institute for Plant Research He is known for his research on the physiology of seed germination, on the effect of toxic and stimulative materials on plants, and on tropisms He wrote *Growth of Plants* (1948) and, with L V Barton, *Twenty Years of Seed Research* (1948)

Crockett, David, 1786-1836, American frontiersman, b Limestone, near Greeneville, Tenn After serving (1813-14) under Andrew Jackson against the Creek Indians in the War of 1812, he settled in Giles co, Tenn and in 1821 was elected to the state legislature In 1823 Davy, having moved to the extreme western part of the state, was reelected from his new constituency When it was jokingly suggested that he should run for Congress, he took the proposal seriously and served three terms in the House (1827-31, 1833-35) His dress, language, racy backwoods humor, and naïve yet shrewd comments on city life and national affairs made him a popular figure in Washington Crockett became a political opponent of Jackson, and the Whigs took him up so assiduously that he became the showpiece of conservatism. Resenting his defeat for reelection in 1834, Davy left Tennessee for Texas, where he heroically lost his life in the defense of the ALAMO *A Narrative of the Life of David Crockett* (1834), *An Account of Col Crockett's Tour to the North and down East* (1834), and *Col Crockett's Exploits and Adventures in Texas* (posthumous, 1836) were supposedly written by Crockett himself in his own immitable idiom, but they do not match, either in content or style, those letters which are definitely known to be his See *The Autobiography of David Crockett* (with an introduction by Hamlin Garland, 1923), Constance Rourke, *Davy Crockett* (1934), Richard M Dorson, ed, *Davy Crockett, American Comic Legend* (1939), Irwin Shapiro, *Yankee Thunder the Legendary Life of Davy Crockett* (1944)

Crockett, town (pop 4,536) co seat of Houston co, E Texas, 88E of Palestine, founded in the 1830s The region is forested with pines and post oaks, and farms yielding truck and other produce are in clearings The town, where streets are lined with pecan trees, makes pine crates, boxes, and lumber Many of the people of Crockett are Negro, and Mary Allen Junior College is for Negroes Some 25 mi to the northeast near Weches is a replica of the first Spanish mission in E Texas, San Francisco de los Tejas, founded, probably at this spot, in 1690 and abandoned in 1693 It was established on a new site near by in 1716, abandoned in 1719, and succeeded by San Francisco de los Neches in 1721

crocodile (krŏ'kudĭl), large carnivorous reptile of the order Crocodilia, covered by tough scales with underlying bony plates and having powerful jaws, short legs, and a vertically flattened tail It has a narrower, more pointed head than the ALLIGATOR, and the long fourth tooth of the lower jaw is visible when the mouth is closed, not concealed in a cavity as in the alligator The American crocodile, which inhabits fresh and sometimes salt water near S Florida, in the West Indies, and in Central and N South America, is not hostile to humans Among the man-eaters are the estuarine crocodile of parts of Asia and N Australia and the tropical Pacific islands and the Nile crocodile of Africa, which was worshiped and embalmed by some ancient Egyptians The Indian and Malayan gavials (gharials, garials), which have very narrow jaws, and the mugger of India are crocodiles

crocus, any species of the genus *Crocus*, low plants very popular for their early-spring blossoms, commonly purple, yellow, or white There are also fall-blooming species The grasslike leaves and the flowers (which have three stamens) are produced from a corm Native to the Mediterranean and SW Asia, crocuses are cultivated as garden plants and for naturalizing in a lawn One species, the SAFFRON, is cultivated for commercial purposes The MEADOW SAFFRON, or autumn crocus, and the PASQUEFLOWER, or wild crocus, are not related

Croesus (krē'sus), d. c 546 B.C, king of Lydia (560-c.540 B.C.), son of Alyattes. He continued

his father's policy of conquering the Ionian cities of Asia Minor, but on the whole he was friendly to the Greeks, and he is supposed to have given refuge to Solon. Among the Greeks he had a reputation for almost incredible wealth. Threatened by CYRUS THE GREAT of Persia, Croesus allied himself with Amasis II of Egypt and Nabonidus of Babylonia against the Persian might, but the alliance was of no avail Cyrus defeated and captured Croesus. There are varying legends about his death

crofter · see COTTER

Croghan, George (krō'gŭn), d. 1782, American Indian agent, b Ireland He migrated to North America in 1741 and became (1756) deputy superintendent of Indian Affairs under Sir William JOHNSON Croghan was to a good extent responsible for Johnson's success and reputation among the Indians In the French and Indian War he caused many tribes to desert the French cause See A T Volwiler, *George Croghan and the Westward Movement* (1926).

Croghan, George, 1791–1849, American military officer, b near Louisville, Ky , nephew of George Rogers Clark and William Clark He won public acclaim and congressional award for his defense of Fort Stephenson in the War of 1812 Croghan later served under Zachary Taylor in the Mexican War

Croix, Carlos Francisco de Croix, marqués de (kär'lōs fränthē'skō dā kruwä' märkäs' dā krûwä'), 1702 86, Spanish colonial administrator, b Lille As viceroy of New Spain (1766–71), he was a genial, honest, and industrious official, but the real ruler was José de GÁLVEZ Many reforms were instituted, the Jesuits were expelled (1767), and the natives of NW Mexico were subdued in order to open the California frontier His nephew, **Teodoro de Croix** (tāōdhō'rō), 1730–92, was military commander and provincial governor in Mexico before becoming viceroy of Peru (1784–90) He put into operation the reforms in Indian administration which resulted indirectly from the revolt of TUPAC AMARU

Croker, John Wilson (krō'–), 1780–1857 British Tory politician and author, b Ireland He was a member of Parliament from 1807 to 1832 and secretary of the admiralty from 1810 to 1830 Most famous of his regular contributions as a critic to the *Quarterly Review* was his virulent attack on Keats's *Endymion* in a review (1818) Croker's best work was his careful edition (1831) of Boswell's *Life of Johnson*, although he wrote many essays, poems, and criticisms See *Croker Papers* (ed by L J Jennings, 3 vols , 1884), biography by M F Brightfield (1940)

Croker, Richard, 1841–1922, American politician, head of Tammany Hall from 1886 to 1902, b Co Cork, Ireland He became prominent as a political leader of New York city's East Side and as an aide of John KELLY He was elected (1868) alderman and held minor appointive offices, which increased in importance after Kelly succeeded (1871) William M Tweed as boss Croker became Kelly's chief lieutenant, and after Kelly's death (1886) Croker was the acknowledged Tammany boss Croker was (1889 90) city chamberlain and brought about the elections of Hugh Grant (1889), Thomas F Gilroy (1893), and Robert Van Wyck (1897) as mayors The election (1901) of Seth Low as mayor of New York caused Croker's abdication as Tammany leader, and he was succeeded by Charles F MURPHY Croker spent the remainder of his life in leisure in England and Ireland See Lothrop Stoddard, *Master of Manhattan* (1931)

Croker, Thomas Crofton, 1798–1854, Irish antiquary, b Cork One of the first to collect Irish folklore, he wrote *Fairy Legends and Traditions of the South of Ireland* (1825-28), *Legends of the Lakes* (1829), and *Popular Songs of Ireland* (1837)

Croll, James (krōl), 1821–90, Scottish geologist and physicist He was associated with the Geological Survey of Scotland from 1867 to 1880 He contributed studies on climate and the glacial epoch and on stellar evolution See his autobiography (1896)

Croly, David Goodman (krō'–), 1829 89, American journalist, b Ireland He came to the United States as a child Croly was managing editor of the New York *World* and editor (1872–78) of the *Daily Graphic* Philosophically inclined, he wrote *Miscegenation* (1864) and *A Primer of Positivism* (1871)

Croly, George, 1780–1860, English author, b Ireland His writings include *Catiline* (1822), a tragedy, and *Salathiel* (1829) and *Marston* (1846), two historical romances

Croly, Herbert, 1869–1930, American editor, b New York city, son of David Goodman Croly and Jane Cunningham Croly He edited the *New Republic* from its beginning (1914) until his death

Croly, Jane Cunningham, pseud **Jennie June,** 1829–1901, American journalist, b. England. She came to the United States at the age of 12 and in 1857 married David Goodman Croly She was one of the earliest American newspaperwomen and was editor of *Demorest's Quarterly Mirror of Fashion* (later *Demorest's Illustrated Monthly*) She specialized in women's features and was one of the first to syndicate her articles In 1868 she founded Sorosis, the only woman's club of importance at that time, and in 1889 the New York Women's Press Club She wrote *The History of the Woman's Club Movement in America* (1898)

Cro-Magnon man (krō"-măg'nŏn), human being of the upper Paleolithic period, known through skeletal remains found in parts of S and Central Europe Discoveries were first made in the rock shelter of Cro-Magnon in Les Eyzies, Dordogne, France, later finds, differing slightly from each other in skeletal characteristics, were made in a number of caverns, especially in the Dordogne valley, Solutré, and Grimaldi (NW Italy, at the French border) and in parts of Spain, Germany, Czechoslovakia, and Poland Cro-Magnon man is generally accepted as a race of the same species as modern man (*Homo sapiens*) Unlike Neanderthal man, whom he superseded, Cro-Magnon man was straight and tall (the males probably 6 ft or more), with straight thigh bones, the head was balanced as in modern man and the forehead was high, the brain large, and the chin well developed Evidences of an advanced culture are remains of skillfully made implements of bone and flint, jewelry of shell and ivory, associated with the very late part of the period, and polychrome paintings found on the walls of some caves in S France and N Spain.

Cromarty, county see ROSS AND CROMARTY

Cromarty (krō'murtē), burgh (pop 837), Ross and Cromarty co , Scotland, on the south shore of the entrance to Cromarty Firth

Cromarty Firth, deep narrow inlet of Moray Firth, on the east coast of Scotland, in Ross and Cromarty co It provides excellent anchorage, its narrow entrance being protected by the headlands of the Sutor rocks, over 400 ft high It was a naval base in the First World War

Cromberger, Juan · see PABLOS, JUAN

Crome, John, 1768–1821, English landscape painter, founder of the Norwich school, b Norwich He is often called Old Crome The son of a poor weaver, he first got his taste for painting as an apprentice to a sign painter By dint of perseverance he rose to the position of a provincial landscape painter, earning his living by giving drawing lessons and selling an occasional picture In 1814 he made a short trip to Paris to see the Italian paintings there Otherwise most of his life was passed in Norfolk Crome's work was influenced by Gainsborough and by the Dutch masters (whose paintings he saw in the wealthy homes of his district), but it has a fine and distinctive character quite its own His landscapes are notable for simplicity and serenity Beautiful examples are to be seen in many British galleries and private collections *Mousehold Heath* and *Poringland Oak* are in the National Gallery, London The Metropolitan Museum has *The Old Oak* and *Hautbois Common* Crome's etchings were published after his death under the title *Norfolk Picturesque Scenery* See biography by C H C Baker (1921), Laurence Binyon, *John Crome and John Sell Cotman* (1897), G A Stephen, *Norfolk Artists* (1915) His son **John Bernay Crome,** 1794–1842, painted landscapes in his father's style

Cromer, Evelyn Baring, 1st **earl of,** (ēv'lĭn ba'rĭng, krō'mur), 1841–1917, British administrator and diplomat in Egypt As commissioner of the Egyptian public debt office (appointed 1877), he initiated inquiries by France and England into the bankrupt administration of the ISMAIL PASHA, and when dual control of Egypt was reestablished in 1879, Major Baring represented England He was finance minister in India (1880-83) and returned to Egypt after Arabi Pasha's revolt to become British agent and consul general in 1883 Until he resigned in 1907, the history of Egypt is also his, for he was virtual ruler, reforming finances, administration, and education He became Baron Cromer in 1892 and was made an earl in 1901 Of his several books, *Modern Egypt* (1905, rev ed , 1916) and *Ancient and Modern Imperialism* (1910) are most informative He was also a Greek scholar See biography by L J L Zetland (1932)

cromlech (krŏm'lĕk) [Welsh or Breton, = crooked stone], archaeological term for one type of megalithic monument It is usually considered equivalent to DOLMEN, but it may particularly signify a circular arrangement of monolithic pillars, as at STONEHENGE

Crommelynck, Fernand (fĕrnä' krômülăk'), 1888–, Belgian poet and dramatist Closely connected with the theater, Crommelynck earned his living as an actor before the tremendous success of his tragic farce *Le Cocu magnifique* (1921) Other plays, *Le Sculpteur de masques* (1908), in verse, *Le Marchand de regrets* (1913), and *Carine, ou, La Jeune Fille folle de son âme* (1934) show him as an expert dramatist of strong lyric power

Crompton, Samuel, 1753–1827, English inventor of the MULE spinner, or muslin wheel, an important step in the development of fine cotton spinning Working as a lad in a spinning mill, he knew the defects of the Hargreaves jenny and set himself to produce something better After five years of secret work, he perfected (1779) a machine which combined the features of the jenny and Arkwright's frame and, which, in one operation, by drawing, twisting, and winding the cotton, produced a very fine yarn. Too poor to obtain a patent for his invention, he sold his rights for £60 Later Parliament granted him £5,000

Crompton, R I see WEST WARWICK

Cromwell, Oliver, 1599-1658, lord protector of England, b. Huntingdon He came of a good but not noble family and entered Sidney Sussex College, Cambridge (1616), but probably left the next year As a member of Parliament from 1628 he stood firmly with the Puritans, and in the Long Parliament he was active in the Puritan cause though not a conspicuous leader During the first civil war (see PURITAN REVOLUTION) he rose rapidly to leadership because of his military ability and his genius for organizing and inspiring the parliamentary armies He and his sturdy Puritan regiment called the Ironsides distinguished themselves at Edgehill (1642), at Marston Moor (1644), and in numerous minor engagements In the dissension between Parliament (controlled by Presbyterians) and the army, in which all forms of Puritanism (the Independents) flourished, Cromwell proposed (1644) the reorganization of the army He and Sir Thomas Fairfax (later Baron Fairfax) were given command of the resulting New Model Army and defeated Charles at Naseby in 1645 Cromwell repelled the Scottish royalist invasion at Preston and became even stronger after the Presbyterian leaders were removed from Parliament by Pride's Purge (1649, see PRIDE, THOMAS), an act which he approved, but for which he disclaimed responsibility To the time of the flight of Charles I (1646) Cromwell had labored for compromise and continuance of the king in office, thereby arousing charges of double-dealing, especially in the army After 1646 he lost hope of further dealings with Charles, and at the king's trial (1649) he was the leading spirit in demanding execution In 1649 under the government of the Commonwealth he led a punitive expedition into Ireland Apart from the long-remembered cruelty of the massacre at Drogheda and other incidents, his visit had lasting consequences, since he carried forward a policy, begun by James I and completed by William III, of settling Englishmen upon the lands of dispossessed Irish In 1650 Cromwell invaded Scotland and beat the royalist Scots at Dunbar, later he defeated Charles II himself at Worcester, and left the rest of the conquest of Scotland to General Monck The Scottish and Irish Parliaments were abolished, representation was given to Scotland and Ireland in the English Parliament, and various legal and administrative reforms were effected Cromwell dissolved the Rump Parliament in 1653 when it had failed to frame needed new laws and had sought to perpetuate its power His attempt to replace it by the Barebone's Parliament, appointed by himself from the nominations of the congregations, resulted in a body so feeble and incompetent that it dissolved itself He finally (1653) accepted the Instrument of Government, drawn up by certain army officers, and became lord protector (see PROTECTORATE) The ineffective Parliament of 1654 was followed by Cromwell's rule with the major generals The Parliament of 1656 drew up the *Humble Petition and Advice* and offered Cromwell the crown, which he declined By a new constitution of 1657 Cromwell's powers were strengthened, and he assumed more of the pomp of royalty In foreign affairs Cromwell, still fearing Charles II, sought to build up a Protestant league His policy was, however, as fully governed by the necessity for England to have foreign trade as that of any English sovereign He had approved the Navigation Act of 1651, which largely caused the first (1652–54) of the DUTCH WARS, and though he ended that war as soon as he could, he appreciated the prestige which the naval victories gave England He did not hesitate to use Catholic France as an ally in his war on Spain (1655–58) to force trade rights for the English in Spanish colonies This war strained England's finances and brought Jamaica as its only gain Although he professed love for both toleration and democratic government, only Jews and non-Anglican Protestants were tolerated in his time, and he found it impossible to cooperate with Parliament in governing Opinions of Cromwell have always varied widely His military skill and force of character are universally recognized He met the task of holding together the gains of the civil war and the disharmonious groups in the Puritan party in what seemed the only practical way This involved cruelty, force, and intolerance which were evidently alien to him personally His government, dependent on his own strong character, costly in its foreign policy, representing a break in English institutions and a minority religious viewpoint, could not survive him long His son, Richard Cromwell, could not maintain the Protectorate See the writings and speeches of Oliver Cromwell (ed by W. C. Abbott and others, 4 vols , 1937–47), biography by Sir Charles H Firth (1900), historical writings on the period by S R. GARDINER and Sir Charles H FIRTH, Godfrey DAVIS, *The Early Stuarts* (1937)

Cromwell, Richard, 1626–1712, lord protector of England, third son of Oliver Cromwell. He was the eldest surviving son at the death of his father (Sept 3, 1658), who had nominated him as his successor Although he had served in Parliament and on the council of state, Richard lacked the energy and ability to manage the complicated affairs of state. Army and Parliament struggled for power, and Richard was forced to dismiss Parliament on April 22, 1659. His Protectorate had really collapsed, but continued in name until May 25, when the Rump Parliament reestablished the Commonwealth He lived abroad (1660–80) and later in England under an assumed name. A man of virtue and dignity, he was unfortunate in being forced into a situation too difficult for his talents See biography by R. W. Ramsay (1935)

Cromwell, Thomas, earl of Essex, 1485?–1540, English statesman. He left his home in Putney (c 1504 and perhaps after a family quarrel) and served as soldier and later as merchant abroad He returned (c.1513) to England, where he flourished as a moneylender and in the wool trade and eventually as a lawyer Cardinal WOLSEY used him as a revenue collector, probably helped him enter Parliament (1523), and made him his legal secretary. For the cardinal Cromwell led the suppression of small monasteries, but he avoided being disgraced with Wolsey in 1529 His adroit management of the House of Commons brought him to the notice of HENRY VIII, and his conviction that the king should be both spiritual and temporal head of the state made him a willing tool for Henry's ecclesiastical policies. A privy councilor in 1531, he became the king's secretary in 1534 and drafted, though he did not originate, most of the Reformation acts A more ruthless man than Archbishop Cranmer, Cromwell was, as Henry's vicar general after 1535, in charge of the visitation and suppression of monasteries (1536–39) that followed on the Act of Supremacy (1535) He dictated changes in the church service and the creed and gave orders to the clergy on their conduct and duties He was made baron and lord privy seal, and some of the confiscated lands and wealth of the monasteries became his own, despite his avowed intention of making the king wealthy In 1539 he became lord great chamberlain He negotiated the king's marriage to ANNE OF CLEVES, presented to Henry as a means of securing the North German princes as allies against the Catholic Emperor Charles V When Anne proved unattractive and the alliance failed, Henry did nothing to prevent charges of treason and heresy from being brought against Cromwell by Thomas Howard, 3d duke of Norfolk By act of attainder Cromwell was condemned and was beheaded See R B Merriman, *The Life and Letters of Thomas Cromwell* (1902)

Cromwell, industrial town (pop 3,281), central Conn , on the Connecticut below Hartford; settled c 1650, set off from Middletown 1851

Cronaca, Il. see POLLAIUOLO, SIMONE DEL

Cronin, Archibald Joseph, 1896–, Scottish novelist He gave up his London medical practice to devote himself to writing after the great success of his first novel, *Hatter's Castle* (1931) Among his later very popular novels are *The Stars Look Down* (1935), *The Citadel* (1937), *The Keys of the Kingdom* (1941), *The Green Years* (1944), and *Shannon's Way* (1948) Though successful moving pictures have been made from many of his novels, Cronin's play *Jupiter Laughs* (1940) failed on the stage He came to the United States to live in 1939

Cronje, Piet Arnoldus (pēt' ärnōl'dŭs krōn'yĀ), 18357–1911, South African commander A Boer, he commanded the Transvaal forces that frustrated the raid against the Transvaal led by Sir L. S. JAMESON In the South African War (1899–1902) he conducted the unsuccessful siege of Kimberley Before the advance of Lord Roberts he retreated west, but was surrounded (1900) at Paardeberg and forced to surrender.

Cronstadt, RSFSR, see KRONSTADT

Cronstedt, Axel Fredrik, Baron (äk'sŭl frä'frĭk, krōn'stĕt), 1722–65, Swedish mineralogist and chemist. In 1751 he discovered in niccolite an impure form of nickel, reported it as a newly discovered element, and proposed the name nickel for it He was one of the first to recognize the importance of the chemical constituents of minerals and rocks and to use the blowpipe in the study of minerals He wrote *An Essay towards a System of Mineralogy* (1758, Eng. tr., 2d ed , 1788).

Cronus (krō'nŭs), or Gr *Kronos* [time], in Greek legend, the youngest TITAN, son of URANUS [heaven] and GAEA [earth] He led the Titans in the revolt against Uranus and ruled the world He married his sister RHEA and fathered the great gods—ZEUS, POSEIDON, DEMETER, HERA, and HESTIA He is also called the father of CHIRON Because he was fated to be overthrown by one of his children, he swallowed them all as infants until Rhea hid Zeus and tricked Cronus into eating a stone instead He then disgorged his children Zeus led the Olympian gods in overthrowing Cronus in the battle called the TITOMACHY, and Cronus was relegated to ruling the Islands of the Blessed. He is equated with the Roman SATURN and shows strong resemblance to various agricultural gods His rule was the Golden Age

Crook, George, 1828–90, U.S general, b. near Dayton, Ohio, grad. West Point, 1852 In the Civil War he served first as colonel of a regiment of Ohio volunteers which was active in West Virginia After commanding a brigade in the Antietam campaign (Sept., 1862), Crook was promoted brigadier general of volunteers and led a cavalry division in the Chattanooga campaign (1863) He commanded in West Virginia in 1864, ably led a corps under Philip H Sheridan in that general's Shenandoah Valley campaign, and directed a cavalry division in the final fighting around Richmond After the war Crook operated so successfully against the Paiute and Snake Indians in Idaho and then against the Apache in Arizona that he was promoted (1873) brigadier general in the regular army Made commander of the Dept of the Platte in 1875, he was engaged in the hard-fought Sioux War of 1876 At the battle on the Rosebud river (June 17, 1876), the Indians, vastly superior in both man power and fire power, were victorious; it was the only major defeat Crook ever suffered at their hands The Sioux, however, were soon forced to capitulate Back in Arizona in 1883, Crook led an expedition into the rugged mountains against a Chiricahua band of the Apache and finally succeeded in persuading GERONIMO to surrender (1884) Geronimo later broke his pact with Crook and escaped, only to surrender to Crook's successor, Gen Nelson A Miles, in 1886. In 1888 Crook was promoted major general and made commander of the Division of the Missouri, with headquarters at Chicago, a post he held till his death. Crook was not only an able soldier but had the patience and integrity to settle Indian troubles without resorting to shooting In his dealings with, and aspirations for, the unhappy redmen he was far in advance of his times. See his autobiography (ed. by Martin F. Schmitt, 1946); John G Bourke, *An Apache Campaign in the Sierra Madre* (1886) and *On the Border with Crook* (1891).

Crooked Island: see BAHAMA ISLANDS

Crookes, Sir William (krŏŏks), 1832–1919, English chemist and physicist After serving at the Radcliffe Observatory, Oxford, and teaching chemistry at Chester Training College, he retired to work in his own laboratory in London. He discovered the element thallium and made special studies of radioactive substances (in the course of which he invented the spintharoscope and the radiometer) and also of selenium, the rare earths, and diamonds, he devised spectacles to protect the eyes of glassworkers. One of his chief inventions is the Crookes tube, with which J J Thompson, W C Roentgen, R A Millikan, and others conducted important research He founded the *Chemical News* and was the author of numerous scientific papers and of *Select Methods in Chemical Analysis* (1871), *A Practical Handbook of Dyeing and Calico Printing* (1874), and *Diamonds* (1897) He was interested also in psychical research See biography by E E Fournier d'Albe (1923).

Crookes tube, high-vacuum tube, invented by Sir William Crookes It is essentially a glass bulb from which the air has been almost completely exhausted and in the walls of which are set two electrodes (a cathode and an anode) Cathode rays, consisting of electrons, emanate from the cathode when a high-voltage electric current is used and cause the glass of the tube opposite this electrode to exhibit a yellowish-green fluorescence.

Crooks, Ramsay, 1787–1859, American fur trader, b Scotland After some experience in the fur trade, he joined the overland expedition to Astoria and heroically suffered great hardship on the journey (1811–12) Soon after crossing the continent westward, he joined the party of Robert Stuart and crossed it again eastward In 1816 he joined the AMERICAN FUR COMPANY and was second in command only to John Jacob Astor. He thus was one of the most powerful figures in the American fur trade When Astor retired in 1834, Crooks became president of the northern independent branch (still called the American Fur Company) and remained so until the company was dissolved

Crookston, city (pop 7,161), co. seat of Polk co., NW Minn , on Red Lake River and SE of Grand Forks, N Dak , settled 1872, inc 1879 It is a trade and shipping center for livestock and farm products and has the Northwest School of Agriculture of the state university The annual Red River valley stock show is held here

Crooksville, village (pop 2,890), S central Ohio, S of Zanesville Pottery is made here.

Cropsey, Jaspar Francis, 1823–1900, American landscape painter of the Hudson River school, b Staten Island, N Y His works include *Landscape, Wyoming Valley,* and *Pompton Plains* (Metropolitan Mus); *View near Rome, Sunset: Lake George,* and *Lake George* (belonging to N.Y. Public Library), and *Niagara Falls* (Brooklyn Mus.). He was a member of the National Academy.

croquet (krōkā'), lawn game in which the players hit wooden balls with wooden mallets through a series (9 or 10) of wire arches. The first player to hit the posts placed at each end of the field wins. It was a favorite game in Ireland in the 18th cent. and has enjoyed several periods of popularity in France, England, and America. A variant is called roque.

Crosby, Bing, 1904–, American singer and moving-picture actor, whose real name is Harry Lillis Crosby, b Tacoma, Wash. He sang with dance bands (1925–30) and in 1931 began radio work and made his moving-picture debut Among the many songs that have made him famous are *Down the Old Ox Road, The Last Round Up,* and *White Christmas.* Some of the films in which he has appeared are *College Humor, Pennies from Heaven, Road to Singapore, Going My Way, The Bells of St Mary's,* and *The Emperor Waltz.* See Ted Crosby, *The Story of Bing Crosby* (1946); Barry Ulanov, *The Incredible Crosby* (1948).

Crosby, Fanny (Frances Jane Crosby), 1820–1915, American song and hymn writer, b Putnam co , N.Y., blinded in infancy. Educated at the New York Institute for the Blind, she taught there until 1858, when she married Alexander Van Alstyne, a blind music teacher. Some of her lyrics were set to music by George F. Root, better known are a few of her nearly 8,000 gospel hymns, such as *Blessed Assurance.* See her autobiography (1906), S. A W Duffield, *English Hymns: Their Authors and History* (1886).

Crosby, Percy Leo, 1891–, American cartoonist, artist, and writer, b Brooklyn, N Y , studied at the Art Students League. His original prints and water colors have been widely exhibited, and his books, such as *Dear Sookey* (1929), *A Cartoonist's Philosophy* (1931), and *Always Belittlin'* (1933), had wide popularity, but he is best known for his popular syndicated comic strip *Skippy,* which first appeared in 1923

Crosby. 1 Village (pop. 2,954), central Minn., NE of Brainerd and on the Cuyuna iron range. It is a lumber center as well as an iron-mining town. 2 Town (pop 1,489), SW Miss , SE of Natchez, in a farm area, named Stephenson until 1934 3 City (pop 1,404), co seat of Divide co , extreme NW N.Dak , near the Canadian boundary, inc. 1911. It is a port of entry and a trade center for a farming region, with coal mines near by

Crosbyton, town (pop. 1,615), co seat of Crosby co , NW Texas, ENE of Lubbock, in a farm and ranch area of the Llano Estacado, founded 1908

Cross, Charles Frederick, 1855–1935, English chemist He originated with E J Bevan the viscose process (patented in 1892) of preparing artificial silk from cellulose and later founded a company to develop the spinning of the silk His writings deal with cellulose and papermaking

Cross, Wilbur Lucius, 1862–1948, American educator and public official, b Mansfield, Conn , grad Yale (B A , 1885, Ph D., 1889) He was instructor (1894–97), assistant professor (1897–1902), and professor (1902–30) of English at Yale, where he also was dean (1916–30) of the graduate school Cross became well known as a literary critic, edited the *Yale Review* for almost 30 years, and was the author of *The Life and Times of Laurence Sterne* (1909) and *The History of Henry Fielding* (1918) and books on the English novel After he retired (1930) from Yale he turned to politics As Democratic governor of Connecticut (1931–39), he brought about much reform legislation—abolition of child labor, governmental reorganization, and improved factory laws. See his autobiography, *Connecticut Yankee* (1943)

cross, widespread symbol It has been used by American Indians of diverse cultures and by ancient Egyptians; it is found in the megalithic monuments of Western Europe The most important use, and one of known origin, is among Christians, to whom it recalls the CRUCIFIXION of Jesus and man's redemption. The Christian form of blessing by tracing a cross over oneself or another person or thing originated before A.D 200 The oldest Christian remains contain drawings of crosses and crucifom artifacts, and the fact that the cross was the Christian emblem before the toleration of Christianity is shown by the vision of CONSTANTINE I His mother, St HELENA, is supposed to have found the True Cross at Calvary in 327, and the event is commemorated on May 3 as the Finding of the Cross Splinters of the relic are widely distributed and honored by Roman Catholics and Orthodox In 614, to the scandal of Christendom, Khosru II of Persia took the largest piece of the relic from Jerusalem It was replaced by Heraclius I in 627; the anniversary is Sept 14, the Exaltation of the Cross The relic was lost in the Moslem occupation of Jerusalem Use of the cross was one of the popular practices attacked by Byzantine iconoclasm and vindicated (787) by the Second Council of Nicaea The crucifix—the cross with the figure of Jesus upon it—had already been established in use, at first, the figure was painted or in bas-relief, a style surviving in the Christian East Older Western crucifixes often presented the Savior reigning, in robe and crown, the realistic dying figure, dating from the Renaissance, is universal in the small crucifixes used privately by Roman Catholics In the medieval Roman Catholic Church

the cross, as material object and as a concept, was integrated into the love for the Passion. This devotion (from the 11th cent.) is an outstanding development in the history of Christian thought, it has ever since been an essential part of the public and private religious life of Roman Catholics Manifestations are seen in the ROSARY, in the PASSION PLAY, in Cistercian MYSTICISM, in the *Imitation of Christ* of Thomas à Kempis, in cases of STIGMATA, and in the wayside calvaries of Catholic Europe (e g , in Austria and Brittany), further, it is seen in the cultus of Our Lady of Sorrows (see MARY and PIETÀ), in the cultus of the Five Wounds, and in that of the RELICS of the Passion Many observances of LENT and HOLY WEEK and the devotion of the Stations (or Way) of the Cross (14 meditations on the stages of the journey of Jesus to Calvary, represented in paintings and sculptures in churches) recall the Passion Protestants have been generally sparing in using the cross, even in blessings, and have abandoned the crucifix, but the symbolism has been retained in their literature (e g , in the hymn, *When I Survey the Wondrous Cross*) The cross was the badge of the Crusades taken at Clermont in 1095 Thence it became the emblem of the Templars, of the Knights Hospitalers (Knights of Malta), and of the Teutonic Knights From KNIGHTHOOD it passed into heraldry, into the FLAG, and into DECORATIONS There are many shapes of crosses The Latin cross, the commonest, has upright longer than transom With two transoms it is called an archiepiscopal or patriarchal cross, with three it is a papal cross A cross widely used by Slavs and by others of Eastern rites has two transoms and a slanting crosspiece below The Greek cross has equal arms St Andrew's cross is like an X, and the tau cross is like a T The Celtic, or Iona, cross bears a circle, the center of which is the crossing The Maltese cross and the swastika are still more elaborate An example of artistic effort spent on crosses is seen in the monumental crosses of market, town, and wayside in Europe (e g , at Cheddar, Malmesbury, and Winchester, England) and in calvaries and cemeteries Some of the finest art products of the Anglo-Saxons were stone crosses (For the later Eleanor Crosses, see ELEANOR of CASTILE) Processional crosses (on poles) lend themselves to elaboration Crosses are also worn for personal adornment Pectoral crosses and necklace crosses have given scope for fine enameling

crossbow: see BOW AND ARROW

Cross City, town (pop 1,869), co seat of Dixie co , NW Fla , between the Suwannee and the Gulf, inc 1924 It is a trade, shipping, and processing center for lumbering, farming, and fishing industries

Crossett (krŏ'sĭt), lumber "company town" (pop 4,891), SE Ark , near Louisiana Lumber, paper, and chemical plants are here, and scientific reforestation methods are demonstrated

cross-examination see EVIDENCE

cross-eye or **strabismus** (strŭbĭz'mus) The turning in of one or both eyes towards the nose often commences between one and four years of age It may be the result of errors of refraction which affect the muscles controlling the motion of the eyeballs Early correction with glasses and exercises of the eye muscles may overcome this condition If it is untreated before the child is six, operation may be necessary The opposite condition, in which the eye or eyes turn away from the nose, occurs in cases where vision in one eye is poor and that eye is unconsciously not used, therefore assuming a relaxed position in which the muscles pull it outward

cross-fertilization · see FERTILIZATION

Cross Keys. see PORT REPUBLIC

Cross Plains, town (pop 1,229), W central Texas, SE of Abilene, in an oil area, settled c 1876, inc 1911

Crossville, town (pop 1,511), co seat of Cumberland co , central Tenn , W of Knoxville, in an area of stone quarries, coal, timber, and small farms, founded c 1850, inc 1901 A school for mountain children and a sanatorium for tubercular patients are near by

cross vine: see BIGNONIA

crossword puzzle, word game usually played on a rectangle marked with white and black squares which may or may not form a design Two lists of numbered definitions are given, one for the horizontal words, the other for the vertical words The puzzle is solved when all the words are correctly supplied In the diagramless puzzle, the solver has no key to the length of the words used Crossword puzzles started in England in the 19th cent. as a game for children, and after 1920 it became a very popular adult game in England and the United States

Croswell (krŏz–), city (pop. 1,381), S Mich , on the Black River and N of Port Huron, inc as a village 1881, as a city 1905

Crothers, Rachel (krŭ'dhûrs), 1878–, American dramatist, b Bloomington, Ill , grad Illinois State Normal Univ , 1892, and Wheatcroft School of Acting, New York city. Her plays are notable for their craftsmanship and clever dialogue, many of them are social comedies written from the modern woman's point of view. Among her chief successes are *The Three of Us* (1906), *A Man's World* (1909), *Old Lady 31* (1916), *Let Us Be Gay* (1929), and *Susan and God* (1937).

Crothers, Samuel McChord, 1857–1927, American essayist and Unitarian clergyman, b Oswego, Ill , grad Princeton, 1874, and Union Theological Seminary, 1877 He was first a Presbyterian and later a Unitarian pastor in churches in Nevada, California, Minnesota, and Vermont In 1894 he went to Cambridge, Mass , as minister of the First Parish and preacher to Harvard Univ and remained there until his death An essayist of rare ability, humorous and urbane, he contributed to periodicals and wrote, among other works, *Mrs Muffet's Christmas Party* (1901), *The Gentle Reader* (1903), and *The Cheerful Giver* (1923)

Crothersville, town (pop 1,169), Jackson co , SE Ind , S of Seymour

Croton, Italy see CROTONA

Croton (krō'tŭn), short river of SE N Y , flowing S and SW to the Hudson near Ossining In Croton Lake are impounded its waters for part of New York city's water supply

Crotona (krōtō'nu) or **Croton** (krō'tun), ancient city, S Italy, on the east coast of Calabria, a Greek colony of MAGNA GRAECIA, founded at the end of the 8th cent B C In the second half of the 6th cent a great military, spiritual, and scientific development took place Pythagoras established here his school, which exerted a notable political and moral influence The near-by temple of Hera Licinia was the religious shrine of Magna Graecia Crotona's athletes won fame at the Olympic games The height of the city's prosperity was reached after the army, led by the athlete MILO, destroyed the rival town of Sybaris (510 B C) After that Crotona became involved in wars and soon declined After capture by the Romans in 277 B C , it was never more than a provincial town It was called Cotrone from the Middle Ages until 1928, when its name was changed to Crotone (pop 19,163)

Croton Aqueduct, 38 mi long, SE N Y , carrying water from the Croton basin to New York city, built 1837–42 It begins at Croton Lake, central Westchester co , follows the Croton river to the Hudson, then the Hudson to Yonkers, and crosses the Harlem River over High Bridge built especially for the aqueduct John B Jervis was the chief engineer It has been supplemented by a second aqueduct (built 1885–91), c 30¼ mi long, which passes underneath the Harlem River

Croton bug, small species of cockroach believed to be of European or Asiatic origin Its American name was given it because it was first noticed in New York when the Croton Aqueduct was built

Crotone, Italy see CROTONA

croton oil, transparent, pale yellow to brownish, viscid oil that does not evaporate upon exposure to the air It is pressed from the seeds of a plant (*Croton tiglium*) native to India, and SE Asia In medicine it is administered only in very small doses since its purgative action, even in small quantities, is extremely violent It should be given only at the direction and under the supervision of a physician It was used formerly also as a vesicant, applied externally to relieve congestion

Croton-on-Hudson, residential village (pop 3,843), SE N Y , in Westchester co , on the east bank of the Hudson and S of Peekskill, settled 1609, inc 1898 It is an artists' and writers' colony Hessian Hills School (coeducational) is here

Crotty, village (pop 1,235), N Ill , NE of Peoria, inc 1865

croup (krōōp), spasm of the larynx, occurring particularly in children between the ages of six months and four years The disease is associated with allergies and with infections, e g , WHOOPING COUGH (pertussis), DIPHTHERIA, tetany, and upper respiratory infections Treatment consists of relaxation of the larynx by means of emetics, hot fomentations, and sedatives The underlying cause should be treated

crow, partially migratory black bird of the same family as the raven, the magpie, the jay, and the ROOK and the JACKDAW of Europe The American, or eastern, crow, about 19 in long, has a wingspread of over 3 ft Crows eat some eggs and nestlings and grain, but destroy many injurious insects and rodents In winter they gather at night by thousands in communal roosts Easily tamed, though mischievous, crows can learn to pronounce some words The cruel practice of splitting their tongues does not improve their speech The throaty "caww" is familiar, but a musical warble is produced only when they think themselves unobserved The fish crow of the Atlantic and Gulf coasts is smaller than the common crow The common crow of Great Britain is a flesh-eating carrion crow 18 to 20 in long

crowbar: see SPADE and LEVER

crowberry, low evergreen shrub of the genus *Empetrum*, bearing inconspicuous purplish flowers and black, red, or purple berrylike fruits. It is an arctic or alpine plant suited to rockeries.

crowd: see MOB.

Crowder, Enoch Herbert (krou'dûr), 1859–1932, U S army officer and statesman, b. Grundy co , Mo., grad. West Point, 1881 After serving in campaigns against Geronimo and Sitting Bull, he was professor of military science at the Univ of Missouri, where he received (1886) a law degree After 1891 he was judge advocate, and in 1891 Major Crowder became associate judge of the Philippine Supreme Court He was (1904–5) a military observer in the Russo-Japanese War, was (1906–8) secretary of state and justice in Cuba, and became (1911) judge advocate general of the U S army He is perhaps best known for his work as provost marshal general in the First World War, when he helped to frame and administered the Selective Service Act These activities were discussed in *The Spirit of Selective Service* (1920) In 1919 Crowder, now a major general, was invited by the Cuban government to act as adviser on electoral reforms, and in 1921 he became the personal representative of President Warren G. Harding He was the first to serve (1923–27) as U S ambassador to Cuba

Crowe, Sir Joseph Archer, 1825–96, English art historian and journalist, a consular official He is the author, with Giovanni Battista Cavalcaselle, of *Early Flemish Painters* (1857) and the monumental *History of Painting in Italy* (5 vols , 1864–71) See Crowe's autobiography (1895)

Crowell, town (pop 1,817), co seat of Foard co , N Texas, W of Wichita Falls, settled 1887, inc 1908 This center of a region yielding cotton, wheat, and cattle has been rebuilt after destruction by a tornado in 1942

crowflower, name once used for the RAGGED ROBIN, but now given to various other plants, e g , the crowfoots

crowfoot, any of a number of plants with some part resembling the foot of a crow, particularly the BUTTERCUP

Crow Indians, North American Indian tribe of Siouan linguistic stock, who call themselves the Absaroka They ranged chiefly in the area of the Yellowstone river and its territories and were a hunting tribe of typical Plains culture They seem to have been closely kin to the Hidatsa Indians and apparently separated from them only in the 18th cent They were enemies of the Sioux and helped the white men in the Sioux wars See R H Lowie, *The Crow Indians* (1935).

Crowland (krō'–) or **Croyland,** village, in the Parts of Holland, Lincolnshire, England, NE of Peterborough There are ruins of an abbey founded in the 8th cent by Æthelbald of Mercia

Crowley (krou'lē), city (pop 9,523), parish seat of Acadia parish, SW La , SW of Baton Rouge, founded 1886, inc 1888 It is a shipping, milling, and storing center for a great rice-growing area The state university and the U S Dept of Agriculture maintain a rice experiment station here

crown, circular head ornament, symbolizing sovereign dignity (For crowns worn by nobles, see CORONET) The use of the crown as a symbol of royal rank is ancient in Egypt and the Orient In ancient Greece and Rome, however, crowns—sometimes made of leaves—were merely wreaths worn by victors in athletic or poetic contests or marks of honor bestowed in recognition of an act of public service The crown as used in medieval and modern times is an elaboration of the DIADEM It became so thoroughly identified with the functions of monarchy that the term *crown* is often used without reference to the sovereign personally, as in crown lands, crown lawyers, crown colonies, and crown debt Among famous crowns of historic interest are the Lombard iron crown, kept at Monza, Italy, the crown of Charlemagne, at Vienna, Austria, and the sacred crown of St Stephen of Hungary, which from 1920 to 1944 was in fact the supreme authority of the kingless monarchy These, however, are exceptional in that they were used repeatedly over centuries for coronation ceremonies Most crowns are of recent origin, though the jewels they contain are often taken from older crowns The ancient crowns of England were destroyed under Oliver Cromwell There are two crowns used by the British sovereigns —the crown of Edward the Confessor (or rather, an approximate replica, much altered, of the original crown), which is used for the coronation ceremony, and the imperial state crown, worn by the king after leaving Westminster Abbey and on state occasions The British state crown and crown jewels are normally kept in the Tower of London Crowns are also worn by the consorts and families of sovereigns The triple crown of the popes is known as a tiara Regardless of their actual shape, crowns are usually represented in heraldry as closed at the top by four arched bars called diadems and surmounted by a globe and a cross In religion and art, a crown symbolizes sovereignty (Rev. 19 12) and honor, especially the reward of martyrdom (Heb 2 9)

crown gall see GALL

Crowninshield, Frederic, 1845–1918, American decorative artist, b Boston He studied in London, in Paris, and in Rome, where he spent many years and was director of the American Academy He painted, in addition to murals, numerous landscapes—*Perugia*, *Taormina*, *Capri Cliff* (all Mus of Fine Arts, Boston). He also executed admirable

stained glass windows, *Hector and Andromache* (Memorial Hall, Harvard Univ) and the Goodrich window (Church of the Ascension, New York), as well as murals in the Municipal Building, Cleveland. He wrote *Mural Painting* (1887), *A Painter's Moods* (1902); and *Tales in Metre* (1903), poetry.

Crown Point. 1 Residential city (pop 4,643), co seat of Lake co, NW Ind, c 40 mi SSE of Chicago, settled 1832, inc 1868 2 Town (pop 1,661), NE N.Y., on Lake Champlain and N of Ticonderoga It is a summer resort Samuel de CHAMPLAIN explored the lake and near the present town supported (1609) the Hurons in a battle with the Iroquois The French realized the strategic importance of this point on the New York-to-Canada trail and in 1731 built Fort St Frederic In the French and Indian War the fort successfully resisted (1755 56) early English attacks, but was demolished (1759) before the advance of Jeffrey Amherst The British began building Fort Amherst (renamed Fort Crown Point) in 1759 Early in the American Revolution, Crown Point was captured (MAY 12, 1775) by Seth WARNER and a detachment of Green Mountain Boys, but it was abandoned (June 22, 1777) to Gen John Burgoyne in the Saratoga campaign Crown Point Reservation, with ruins of colonial forts, a museum, and bathing and fishing facilities, is here

Croydon, county borough (1931 pop 233,032, 1947 estimated pop 247,340), Surrey, England, S of London, of which it is a suburb In the Second World War, the airport here was used for military purposes and was a target for air raids In 1946 it was returned to civilian service Addington Park near by was the seat of the archbishops of Canterbury, who also had a palace in Croydon John Whitgift founded a hospital and a grammar school in Croydon John Singleton Copley died here

Croyland, Lincolnshire, England see CROWLAND

crucifix see CROSS

crucifixion, hanging on a CROSS, in ancient times a most shameful death It was practiced widely in the Near East, but not by the Greeks The Romans, who may have borrowed it from Carthage, reserved it for slaves and despised malefactors They used it frequently, as in the civil wars and in putting down the Jewish opposition Crucifixion was probably at first a modification of hanging on a tree, and from such a connection come the synonyms *tree* and *rood* (i e, rod or pole) for Jesus' cross The Romans used mostly the T cross, the Latin cross, or St Andrew's cross The tradition that Jesus died on a Latin cross has corroboration in the fact that it was the customary type when a title was affixed to the cross as a label The sufferer was nailed, or tied, to his cross, either on the ground before the cross was raised or after it had been set up The Gospel accounts of Jesus' crucifixion give no detail not in accord with usual procedure Mat 27 24–61, Mark 15 15–47, Luke 23 13–56, John 19 13–42 Crucifixion was abolished when the empire became Christian See CALVARY and GOOD THIEF

Cruden, Alexander, 1701?–1770, British scholar, b Aberdeen He became a bookseller in London and later a proofreader, especially of Greek and Latin texts In 1737 was published his *Complete Concordance to the Holy Scriptures*, which went through several editions and is the basis of later biblical concordances Subject to attacks of madness, Cruden considered himself a censor of public morals See Edith Olivier, *Alexander the Corrector* (1934).

cruelty, prevention of. In the 19th cent many laws were passed in Great Britain and the United States to protect the helpless from willful and malicious acts dangerous to health and life—especially to protect children, lunatics, and domestic animals At first, cruelty to animals was criminal only when severe enough to constitute a public nuisance But in 1822 the English Parliament passed the Martin Act for animal protection, and two years later Richard Martin formed the Society for the Prevention of Cruelty to Animals This English society began a movement which spread to Germany, France, and especially to the United States In the United States, the first S P C A was formed by Henry Bergh in New York in 1866 By 1849 English laws forbade beating, ill-treating, overdriving, abusing, or torturing various domestic animals In the United States, protection of children came after that of animals, the first Society for the Prevention of Cruelty to Children having been formed in New York in 1875 In most states, parents guilty of bodily cruelty to, or moral corruption of, their children may now be lawfully punished, and the children may be taken from them to become wards of the state Most humane societies protect both animals and children Societies of both types—for children and for animals—promote better legislation and enforcement, investigate alleged cruelties and report to courts, establish shelters and, in some cases, hospitals for animals, and carry on propaganda against cruelty While most of these societies are private, philanthropic corporations, those in New York, Philadelphia, and a few other places have some public funds In Indiana, boards of children's guardians have been organized by the state since 1889 to investigate and prosecute cases of cruelty and neglect and to have subsequent oversight of the victims See M. C McCrea, *The Humane Movement* (1910).

Cruikshank, George (krōōk'–), 1792–1878, English caricaturist, illustrator, and etcher, younger son of Isaac Cruikshank (1756–1810), caricaturist Practically self-taught, George early gained a reputation for his humorous drawings and contributed to such publications as the *Meteor*, the *Scourge*, and the *Satirist* Separate collections of his drawings were also published Among the best of his many illustrations are the famous *Life in London* (in collaboration with his brother), his masterly etchings for Grimm's *German Popular Stories*, the 12 etchings in Richard Bentley's miscellany, which include the notable illustrations of *Oliver Twist*, and the designs for W H Maxwell's *Irish Rebellion* In his old age Cruikshank made many drawings depicting the evils of intemperance, such as *The Drunkard's Children*, *The Bottle*, and *The Gin Trap* Fine collections of his drawings and etchings are in the British and the Victoria and Albert Museum See biographies by Blanchard Jerrold (1882), F G Stephens (1891), and W H Chesson (1908) His brother, **Robert Isaac Cruikshank,** 1789–1856, was best known as a caricaturist and satirist He also painted miniatures and was a wood engraver

cruiser, large, fast, moderately armed WARSHIP, type intermediate between the battleship and the destroyer The cruiser must be able to protect and to destroy commerce but must also be able to fight side by side with battleships in naval encounters Modern cruisers are divided in two distinct classes, battle cruisers and light cruisers Battle cruisers are small battleships and appear in most naval statistics in one category with the latter The *Hood* was an example of this type These ships represented the effort to combine maximum quality of gun caliber, armor protection, and speed in one The disadvantages of the type were seen in the Second World War when the *Hood* was sunk by a single hit in a short engagement with the German battleship *Bismarck*, on MAY 25, 1941 Another battle cruiser, the *Renown*, was torpedoed by the Japanese off the Malay Peninsula on Dec 10, 1941 Light cruisers are of moderate tonnage, lightly armed and armored, and very fast They are used for scouting, police duties, and other jobs where speed is needed and great defensive strength is unnecessary

crullers see DOUGHNUTS

Crummell, Alexander, 1819–98, American Negro writer, b New York city, studied in an Episcopal Seminary, Boston, grad Queens' College, Cambridge, 1853 He was in Liberia as a missionary, 1853–73, and returned to become rector of St Luke's, Washington The best of his orations appear in *The Future of Africa* (1862) See Vernon Loggins, *The Negro Author* (1931)

Crump, Edward Hull, 1876–, Tennessee political boss, b near Holly Springs, Miss At first (1905 9) a municipal administrator in Memphis, Tenn, he was later mayor (1909 10, 1939 41) and Congressman (1931–35) from Tennessee Meanwhile, he built an efficient political machine which dominated Tennessee elections Crump's boss rule was upset in the 1948 Tennessee Democratic primaries, when his favored candidates for Senator and governor were beaten

Crusades, series of wars undertaken by European Christians between the 11th and 14th cent to recover the Holy Land from Islam In the 7th cent Jerusalem was taken by the caliph OMAR Pilgrimages (see PILGRIM) were not cut off at first, but early in the 11th cent the mad FATIMITE caliph Hakim began to persecute the Christians and profaned and despoiled the Holy Sepulcher Persecution abated after his death, but relations remained strained and became more so when Jerusalem passed from the comparatively tolerant Egyptians to the Seljuk Turks, who in the same year (1071) defeated the Byzantine emperor Romanus IV at Manzikert Late in the 11th cent Emperor ALEXIUS I, threatened by the Moslems, appealed to the West for aid This was not the first appeal of the kind, while it may have helped to determine the time and the route of the **First Crusade,** 1095–99, its precise import is difficult to estimate The direct impetus was given the crusade by the great speech of Pope URBAN II at the Council of Clermont (now Clermont-Ferrand) in 1095 Urban exhorted Christendom to go to war for the Sepulcher, promising that the journey would count as full penance and that the homes of the absent ones would be protected by a truce The speech found immediate response From the crosses that were distributed at this meeting the Crusaders took their name Bishop ADEMAR was designated as papal legate for the crusade, and Count RAYMOND IV of Toulouse was the first of the great leaders of the expedition to take the cross Preached by many wandering preachers, notably by PETER THE HERMIT, the movement spread from France to neighboring countries. The chief factors that made for this enthusiastic response were the high point which religious devotion had reached in Western Europe, the prospect of territorial expansion for the nobles and of rich loot for all, the colonial projects of the Normans (directed against the Byzantine Empire as much as against the Moslem world), the desire, particularly of the Italian cities, to expand trade with the East; and a general awakening to the lure of travel and adventure The conflict between spiritual and material aims, apparent from the first, became increasingly serious The organized host of the crusade was preceded in the spring of 1096 by several undisciplined hordes of French and German peasants WALTER THE PENNILESS led a French group, which passed peacefully through Germany and Hungary, but sacked the district of Belgrade The Bulgarians retaliated, and Walter reached Constantinople with a few scattered bands only They were joined there by the followers of Peter the Hermit, whose progress had been similar A German group started off by massacring and robbing the Jews in the Rhenish cities and later so provoked the king of Hungary that he attacked and dispersed them The bands which had reached Constantinople were speedily transported by Alexius I to Asia Minor, where they were defeated by the Turks The survivors either joined later bands or returned to Europe Alexius began to take fright at the proportions the movement was assuming When, late in 1096, the first of the princes, Hugh of Vermandois, a brother of Philip I of France, reached Constantinople, the emperor persuaded him to take an oath of fealty GODFREY OF BOUILLON and his brother Baldwin (later BALDWIN I of Jerusalem), Raymond of Toulouse, BOHEMOND, TANCRED, Robert of Normandy, and Robert II of Flanders followed early in 1097 All save Tancred and Raymond (who promised only to refrain from hostilities against the Byzantines) took the oath to Alexius, which bound them to accept Alexius as overlord of their conquests Bohemond's subsequent breach of the oath was to cause endless wrangling The armies crossed to Asia Minor, took Nicaea (1097), defeated the Turks at Dorylaeum, and took Antioch (1098) and Ashkelon or Ascalon (1099) Their campaign was crowned in July, 1099, by the taking of Jerusalem The election of Godfrey of Bouillon as Defender of the Holy Sepulcher marked the beginning of the Latin Kingdom of Jerusalem (see JERUSALEM, LATIN KINGDOM OF) Other fiefs, theoretically dependent on Jerusalem, were created, these were the counties of EDESSA (Baldwin) and TRIPOLI (Raymond) and the principality of ANTIOCH (Bohemond) The First Crusade, which thus ended in victory, was the only crusade that achieved more than ephemeral results Until the ultimate fall (1291) of the Latin Kingdom the brunt of the fighting in the Holy Land fell on the Latin princes and their followers and on the great military orders, the KNIGHTS HOSPITALERS and the KNIGHTS TEMPLARS, that rose out of the Crusades The later Crusades were for the most part only expeditions to assist those who already were in the Holy Land, they are a single current, and dates are given them only for convenience The **Second Crusade,** 1147 49, was preached by St BERNARD OF CLAIRVAUX after the fall (1144) of Edessa to the Turks It was led by Emperor CONRAD III, whose army set out first, and by King LOUIS VII of France Both armies passed through the Balkans and pillaged the territory of the Byzantine emperor, MANUEL I, who provided them with transportation to Asia Minor in order to be rid of them The German contingent, already decimated by the Turks, merged with the French, who had fared better, at Acre (1148) A joint attack on Damascus failed because of jealousy, and possibly treachery, among the Latin princes of the Holy Land Conrad returned home in 1148 and was followed (1149) by Louis The Second Crusade thus ended in dismal failure The **Third Crusade,** 1189–92, followed on the capture (1187) of Jerusalem by SALADIN and the defeat of GUY OF LUSIGNAN, REGINALD OF CHÂTILLON, and RAYMOND of Tripoli at Hattin The crusade was preached by Pope Gregory VIII, RICHARD I of England, PHILIP II of France, and Emperor FREDERICK I took part Frederick set out first, but was hindered by the Byzantine emperor, ISAAC II, who had formed an alliance with Saladin Frederick forced his way to the Bosporus, sacked Adrianople, and forced the Greeks to furnish transportation to Asia Minor His progress was broken off by his death in Cilicia (1190) Richard and Philip arrived at ACRE in 1191 The city had been besieged since 1189, but the siege had been prolonged by dissensions between the two chief Christian leaders, Guy of Lusignan and CONRAD, marquis of Montferrat, both of whom claimed the kingship of Jerusalem The city was nevertheless starved out by July, 1191, shortly afterward Philip went home Richard removed his base to Jaffa, which he fortified, and rebuilt Ascalon, which the Moslems had burned down In 1192 he made a truce with Saladin; the Christians retained Jaffa with a narrow strip of coast (all that remained of the kingdom of Jerusalem) and the right of free access to the Holy Sepulcher. Antioch and Tripoli were still

in Christian hands; Cyprus, which Richard I had wrested (1191) from the Byzantines while on his way to the Holy Land, was given to Guy of Lusignan In Oct , 1192, Richard left the Holy Land. The achievements of the Third Crusade were thus slight, and they were almost entirely due to the genius and honesty of Richard and the generosity of Saladin Innocent III, who became pope in 1198, launched the **Fourth Crusade,** 1202–4, which—for reasons that are still debated—was totally diverted from its original course The Crusaders, led mostly by French and Flemish nobles and spurred on by FULK OF NEUILLY, assembled (1202) near Venice To pay some of their passage to Palestine they aided Doge ENRICO DANDOLO and his Venetian forces in recovering Zara from the Hungarians The sack of Zara (1202), violently denounced by the pope, prefaced more serious political schemes Alexius (later ALEXIUS IV), son of the deposed Byzantine emperor Isaac II and brother-in-law of PHILIP OF SWABIA, a sponsor of the crusade, joined the army at Zara and persuaded the leaders to help him depose his uncle, ALEXIUS III In exchange, he promised large sums of money, aid to the Crusaders in conquering Egypt, and the union of the Roman and the Eastern churches The actual decision to turn on Constantinople was largely brought about by Venetian pressure The fleet arrived at the Bosporus in 1203, Alexius III fled, Isaac II and Alexius IV were installed as joint emperors while the fleet remained outside the harbor In 1204 ALEXIUS V overthrew the emperors As a result the Crusaders stormed the city, sacked it, divided the fabulous spoils with the Venetians, and set up the Latin Empire of Constantinople (see CONSTANTINOPLE, LATIN EMPIRE OF). The shameful outcome of the expedition was perhaps partly responsible for the pathetic interlude of the **Children's Crusade,** 1212 Led by a visionary French peasant boy, Stephen of Cloyes, thousands of children embarked at Marseilles, hoping that they would succeed where their elders had betrayed the cause They were sold into slavery by unscrupulous skippers Another group, made up of German children, went eastward by land, most of them perished of hunger and disease Soon afterward Innocent III began to preach the **Fifth Crusade,** 1217–21 King Andrew II of Hungary, Duke Leopold VI of Austria, and JOHN OF BRIENNE were among the leaders of the expedition, which was aimed at Egypt, the center of Moslem strength Damietta was taken in 1219 but had to be evacuated again after the defeat (1221) of an expedition against Cairo The **Sixth Crusade,** 1228–29, undertaken by Emperor FREDERICK II, was simply a peaceful visit, in the course of which the emperor made a truce with the Moslems, securing the partial surrender of Jerusalem and other holy places Frederick crowned himself king of Jerusalem, but did nothing when the Moslems later reoccupied the city THIBAUT IV of Navarre and Champagne, however, reopened (1239) the wars, continued in 1240 by Richard, earl of Cornwall They were unable to compose the quarrels between the Knights Hospitalers and the Knights Templars In 1244 the Templars, who advocated an alliance with the sultan of Damascus, rather than with Egypt, prevailed Indeed, without an alliance with one of the disunited Moslem powers the Christian position seemed untenable A treaty (1244) with Damascus restored Palestine to the Christians, but in the same year the Egyptian MAMELUKES took Jerusalem and utterly routed the Christians at Gaza This event led to the **Seventh Crusade,** 1148–54, due solely to the enterprise of LOUIS IX of France Egypt again was the object of attack, Damietta fell again (1249), and an expedition to Cairo miscarried (1250) Louis, after his release from captivity, spent four years improving the fortifications left to the Christians in the Holy Land The fall (1268) of Jaffa and Antioch to the Moslems caused Louis IX to undertake the **Eighth Crusade,** 1270, which was cut short by his death before Tunis The **Ninth Crusade,** 1271–72, was led by Prince Edward (later EDWARD I of England) He landed at Acre, but retired after concluding a truce In 1289 Tripoli fell to the Moslems, and in 1291 Acre, the last Christian stronghold, followed

Heritage of the Crusades After the fall of Acre no more Crusades were undertaken in the Holy Land, though several were preached Even before that date, however, the term *crusade* was also used for other expeditions, sanctioned by the pope, against heathens and heretics ALBERT THE BEAR and HENRY THE LION led (1147) a crusade against the WENDS in NE Germany, Hermann von Salza in 1226 received crusading privileges for the TEUTONIC KNIGHTS against the Prussians, the pope proclaimed (1228) a crusade against Emperor Frederick II, and several crusades were fought against the ALBIGENSES and the Hussites (see HUSSITE WARS). Moreover, war against the Turks remained the chief problem of Eastern Europe for centuries after 1291. Campaigns akin to crusades were those of John HUNYADI, Don JOHN OF AUSTRIA, and JOHN III of Poland In their consequences, the crusades in Europe were as important as those in the Holy Land. However, though the Crusades in the Holy Land failed in their chief purpose, they exercised an incalculable influence on Western civilization by familiarizing the relatively barbarous Occident with the luxury of the East, by stimulating trade, and by increasing geographical knowledge At no time since the crusading period have the Occident and the Orient been as separate as they had been before In the Levant the Crusades left a lasting imprint Monumental castles built by the crusaders remain, such as that of KRAK, and French was the basis of the lingua franca The chief material beneficiaries of the Crusades were Venice and the other great Mediterranean ports The chief spiritual beneficiary was the pope, whose prestige was enhanced by his position as leader of the highest enterprise of united Christendom In the arts, and particularly in literature, the influence of the Crusades was tremendous The ideal of chivalry was also developed by the Crusades The chief collection of sources is *Recueil des historiens des croisades* (16 vols , 1841–1906), several chronicles are translated in the "Records of Civilization" series Outstanding among eyewitness accounts are those of WILLIAM OF TYRE, RICHARD OF DEVIZES, Geoffroi de VILLEHARDOUIN, and Jean de JOINVILLE Recent treatments in English include T A Archer and C L Kingsford, *The Crusades* (1895), W B Stevenson, *Crusaders in the East* (1907), D C Munro, *The Children's Crusade* (1914), A C Krey, *The First Crusade the Accounts of Eye-Witnesses and Participants* (1921), Ernest Barker, *The Crusades* (1923), J K Wright, *Geographical Lore of the Time of the Crusades* (1925)

crustacean (krŭstā'shŭn), animal of the class Crustacea of the phylum Arthropoda Included in the class are the CRAB, LOBSTER, SHRIMP, CRAYFISH, BARNACLE, water flea or daphnia, cyclops, pill bug, and sow bug All have jointed appendages The body and the appendages have a covering or exoskeleton which contains chitin. Some forms eat only flesh, some eat only plants, and others are omnivorous Many are parasites There are no true blood vessels, but there is usually a heart to circulate the almost colorless blood Crustaceans breathe by means of gills During development most forms undergo a metamorphosis The rigid body covering is molted periodically as the animal grows

Cruveilhier, Jean (zhäⁿ' krüvĕy ā'), 1791–1874, French physician A professor at the Univ of Paris from 1836, he introduced the descriptive method into the study of pathology His works include *The Anatomy of the Human Body* (2 vols , 1829–42, Eng tr , 1844)

Cruz, Juana Inés de la : see JUANA INÉS DE LA CRUZ.

Cruz, Juan de la see JOHN OF THE CROSS, SAINT

Cruz, Ramón de la (rämōn' dā lä krōōth'), 1731–94, Spanish dramatist He wrote tragedies, translated many French and Italian plays, and made the first Spanish version (1772) of HAMLET He owes his fame to his *sainetes* (about 300), short comedies and musical plays depicting the life of the middle and lower classes, especially of Madrid The *sainetes* are masterpieces of wit and realism

cryolite or **kryolite** (both krī'ulīt) [Gr , = frost stone], a mineral usually pure white or colorless but sometimes tinted in shades of pink, brown, or even black and having a luster like that of wax Chemically, it is a double fluoride of sodium and aluminum Because of its hardness, comparatively low melting point, and translucence, it is used in the manufacture of lamp shades, extremely hard glass and porcelain, and ornaments It is used also as a source of soda, aluminum salts, fluorides, hydrofluoric acid (by the action of sulphuric acid), and aluminum It was discovered in Greenland in 1794 and occurs almost nowhere else Cryolite has been produced synthetically

crypt (krĭpt) [Gr , = hidden], burial chamber beneath the main level of a church In the 9th cent , church burial for clergy and some laymen became popular There already had been, since the CATACOMBS, in many churches, a small chamber beneath the high altar, containing relics or the tomb of a martyr over which the church had been built Such chapels were developed into the extensive crypts of the Middle Ages which, in many churches of the 11th and the 12th cent , occupied the entire space beneath the sanctuary An early small crypt is that of Sant' Apollinare in Classe (A D 534) at Ravenna, Italy At Canterbury the 12th-century crypt forms a large and complete lower church in itself At Chartres and Bourges are crypts of the developed Gothic type Sometimes crypts were only partly sunk, the level of the chancel being raised to provide sufficient height for the crypt beneath, as in the 11th-century churches of San Miniato at Florence and San Zeno at Verona The chamber of relics developed in another direction also—into a recess in the altar stone, this is now universal in the Western rite of the Roman Catholic Church

cryptography (krĭptŏ'grŭfē) [Gr , = hidden writing], art of secret writing, employed from ancient times A cryptogram is a secret message or the form in which it is couched In the latter sense the term includes codes, ciphers, invisible writing, or any of the devices by which the true meaning is concealed from the casual reader and is discernible only to one who holds the proper key Codes used in the transaction of business are usually systems of pronounceable words with meanings listed in code books held by the sending and receiving firms Ciphers, on the other hand, often consist of unpronounceable words made up by the transposition of letters within the message or the substitution of one letter for another Numbers may also be used as substitutes for letters Francis Bacon's celebrated cipher (1605) was an arrangement of the letters *a* and *b* in five letter compounds Many elaborate devices for writing in cipher and for decoding the enciphered message have been invented Complex cipher systems in which the message is couched according to one series of letter substitutions and the resulting cryptogram recouched according to one or more new series are difficult to decode In modern times cryptography and the solution of cryptograms are jealously controlled by governments, and even knowledge of general methods is kept secret See H. F. Gaines, *Elementary Cryptanalysis* (1939)

Crystal, suburban village (pop 2,373), E Minn., NW of Minneapolis

crystal, solid having a definite internal structure which is the result of the arrangement of the atoms of its constituents and a definite external form—that of a polyhedron bounded by natural plane surfaces—which is the manifestation of the internal structure The assumption of the crystal form by a substance when it passes from a liquid, gaseous, or molten state to the solid state or when it goes out of solution (as when a quantity of the solvent is evaporated) is called crystallization. When some substances crystallize from a solution, the crystals hold a definite amount of water in chemical combination This water, known as water of crystallization, can be driven off by heat, and when this is done the substance generally loses its crystalline form and becomes amorphous In their internal structure, crystals are not considered to be "solid," i e , one continuous mass, but to be formed by the arrangement of the atoms in a latticework, each having a relatively fixed position in space The study of crystal structure was notably advanced by the work of Sir W H Bragg and Sir W L Bragg Chemically, crystals have a definite composition A crystal of calcium carbonate, for example, is composed of definite parts by weight of calcium, carbon, and oxygen From a consideration of this substance, however, it is found that the crystalline form is not necessarily determined by the chemical composition, for calcium carbonate crystallizes in two distinct forms of crystals In the same way the element carbon appears as graphite and diamond In nature, crystals seem, upon superficial examination, to be of infinite variety, because of differences in the size, shape, and number of their faces Nevertheless, definite similarity in form does exist and permits classification into species, throughout each one of which the angles between corresponding intersecting faces are constant Crystalline species are grouped, according to the type of symmetry which they display, into 32 classes, which in turn are grouped into six systems on the basis of the relationships of their axes, i e , imaginary straight lines passing through the ideal centers of the crystals Crystals may be symmetrical with relation to planes, axes, and centers of symmetry Planes of symmetry divide crystals into equal parts (mirror images) which correspond, point for point, angle for angle, and face for face Axes of symmetry are imaginary lines about which the crystal may be considered to revolve, assuming, after passing through a revolution of 60°, 90°, 120°, or 180°, the identical position in space which it originally had Centers of symmetry are points from which imaginary straight lines may be drawn which will pass through points equidistant from the center on opposite sides The crystalline systems are cubic or isometric (three equal axes, intersecting at right angles), hexagonal (three equal axes, intersecting at 60° angles in a horizontal plane, and a fourth, longer or shorter, axis, perpendicular to the plane of the other three), tetragonal (two axes equal, horizontal, and at right angles and one axis longer or shorter than the other two and perpendicular to their plane), orthorhombic (three unequal axes intersecting at right angles), monoclinic (three unequal axes, two intersecting at an oblique angle and the third perpendicular to the plane of the other two), and triclinic (three unequal axes intersecting at oblique angles) In all systems in which the axes are unequal, there is a definite axial ratio for each crystal species This ratio is simpler in the hexagonal and tetragonal systems than in the orthorhombic, monoclinic, and triclinic systems In the triclinic and monoclinic systems the angles at the intersection of the axes must also be given as a part of the elements of crystallization Crystals are sometimes compound, staurolite, for example, often occurs in the form of cruciform twinned crystals Crystals differ in physical properties, i e , in hardness, cleavage (splitting along a plane), optical properties, heat conductivity, and electrical conductivity. These properties are especially important since upon

them is based the use to which the crystals are put in industry For example, certain crystals, *e g*, those of galena and molybdenite, were formerly much used for the so-called crystal detector in radio receiving before the application of the vacuum tube It was discovered that these crystals permit an electric current to flow along one axis (in one direction), but offer a high resistance to its flow along another, this difference in conductivity makes it possible (when such a crystal is introduced into a receiving circuit) to group waves of radio-frequency *to which* neither the diaphragm of a telephone receiver nor that of the human ear are sensitive and produce waves of audio-frequency. See E S Dana, *A Textbook of Mineralogy* (4th ed, revised and enlarged by W E Ford, 1932), E H Kraus and W F Hunt, *Mineralogy* (1932), F C Phillips, *Introduction to Crystallography* (1947)

Crystal City. 1 City (pop 3,417), E Mo, on the Mississippi below St Louis, settled 1900, inc 1911 It is a "company town," owned by the Pittsburgh Plate Glass Company Silica pits are in the area 2 City (1940 pop 6,529, 1947 estimated pop 8,000), co seat of Zavala co, SW Texas, SW of San Antonio In an irrigated winter-garden area, it boasts of being the "spinach capital of the world" and has in its city square a statue of the spinach-eating comic character, Popeye the Sailor There is a state experimental farm near by

Crystal Falls, city (pop 2,641), co seat of Iron co, W Upper Peninsula, N Mich, near falls on the Paint river, inc as a village 1889, as a city 1899 It is a thriving mining city on the Menominee iron range, and near-by lakes attract tourists Woodenware is made here

crystal gazing, ancient and widespread mode of divination, in which a clairvoyant state is induced by gazing on a clear surface, such as a crystal ball, a pool, a mirror, or some other bright object It is said that persons or scenes, distant in time or space, may appear to the gazer Phenomena such as the capture of criminals and the recovery of lost or stolen goods have been claimed See APPARITION and TELEPATHY

Crystal Lake, summer resort city (pop 3,917), NE Ill, NW of Chicago, in a farm area, inc 1914 Radio equipment is made

Crystal Palace, building designed by Sir Joseph Paxton and erected in Hyde Park, London, for the Great Exhibition in 1851 In 1854 it was removed to Sydenham, where, until its damage by fire in 1936, it housed a museum of sculpture, pictures, and architecture and was used for concerts In 1941 its demolition was completed because it served as a guide to enemy air raiders

Crystal Springs, town (pop 2,855), SW Miss, SSW of Jackson It is the shipping center for a cotton and truck (especially tomatoes) area

Cs, chemical symbol of the element CESIUM

Csaba, Hungary see BEKESCSABA

Csepel (chĕ'pĕl), city (pop 46,171), on Csepel island, Hungary It has aluminum and iron mills and machine and munitions factories

Csepel, island 30 mi long, Hungary, in the Danube, S of Budapest In the northern section are the city and harbor of the same name The rest of the island is agricultural

Csongrad (chōn'grad), Hung *Csongrád*, city (pop 25,594), S Hungary, on the Tisza and Koros rivers It is an agricultural market center

Ctesias (tē'shēus, tē'sēus), 5th cent B C, Greek historian and physician of Cnidus He lived many years in Persia as court physician Photius' abridgments alone remain of Ctesias' histories, *Persica* and *Indica*, in them Ctesias hoped to show Herodotus' unreliability

Ctesibius (tĭsĭ'bēus), 2d cent B C, Alexandrian Greek mechanical genius He is reputed the first to discover and apply the expansive power of air as a motive force Among the inventions ascribed to him are a water clock (clepsydra), a hydraulic organ, and a force pump

Ctesiphon (tĕ'sĭfŏn), fl 340 B C, Athenian orator He was accused (330 B C) by AESCHINES of having proposed illegal honors for DEMOSTHENES, in the form of a gold crown Demosthenes defended him The orations of Aeschines and Demosthenes on the occasion, both called *On the Crown*, are among the greatest Greek orations

Ctesiphon, ruined ancient city, near Baghdad, Iraq, on the left bank of the Tigris opposite Seleucia and at the mouth of the Diyala. After 129 B.C it was the winter residence of the Parthian kings Ctesiphon grew rapidly and was of renowned splendor The Romans captured it in warring against Parthia It became the capital of the Sassanidae in c.266 In 636 it was taken and plundered by the Arabs The ruins of the Sassanid palace are impressive Its site marks the farthest advance of Great Britain against Turkey in the First World War.

Cu, chemical symbol of the element COPPER

Cuauhtémoc (kōō-outā'mōk), d. 1525, Aztec emperor Succeeding the brother of MONTEZUMA II in 1520, Cuauhtémoc failed to unite the Indian city-states of the Valley of Mexico against the Spanish after the expulsion of Cortés from TENOCHTITLÁN. He courageously defended his capital, but was taken prisoner when it fell (1521) after a three-month siege Tortured to reveal his treasure, Cuauhtémoc replied that it lay at the bottom of the lake—where the Spaniards had perished with it in their flight on the *noche triste* Cortés took Cuauhtémoc with him on his march to Honduras and, accusing the chief of treason, had him hanged The name occurs also as Cuauhtemoctzín, Guatémoc, Guatemozín, and Quauhtémoc.

Cuautla (kwou'tlä), city (pop 6,431), Morelos, central Mexico Its mild climate, hot springs, and lovely scenery make it a resort It is also the center for a district producing sugar, rice, and wine Cuautla is most important, however, for the heroic defense against Spanish siege made here in 1812 by patriot forces under José María Morelos y Pavón, who finally cut through the besieging forces Its fuller name is Cuautla Morelos, and it is sometimes called Ciudad Morelos

Cuba (kū'bu, Span kōō'vä), republic (44,218 sq mi, pop 4,778,583, including the Isle of Pines), coextensive with the island of Cuba (and the Isle of PINES), westernmost island of the West Indies HAVANA is the capital and the largest city (also the largest city of the West Indies) The island (c 700 mi long east and west and averaging 50 mi in breadth) is the largest of the West Indies and lies strategically at the entrance to the Gulf of MEXICO, with the western tip only 90 mi S of Key West, Fla The south coast is washed by the Caribbean, the north by the Atlantic, and in the east the Windward Channel separates Cuba from Hispaniola (on which are Haiti and the Dominican Republic) The shores, often inundated, are generally marshy and are fringed by coral reefs and cays Bottlenecked bays offer many fine harbors for the ports—Havana, MATANZAS, CÁRDENAS, NUEVITAS, GUANTÁNAMO (with a U S naval base), SANTIAGO DE CUBA (the second city in size), and CIENFUEGOS In the interior there are still forests, yielding timber and naval stores Of the many rivers (rainfall averages 50 in annually but increases inland) most are very short, and only the CAUTO is important There are three mountainous regions In the east the SIERRA MAESTRA is wild and rough, rising to 6,560 ft in the PICO TURQUINO, these mountains yield iron (Cuba is said to have extensive deposits), manganese, copper, nickel, chromium, and barite The lower slopes of the mountains are given over to coffee growing In the west there is a lower range, the Sierra de los ÓRGANOS, noted for its limestone cliffs In the west too is the VUELTA ABAJO, a tobacco-growing region that has helped to make Havana cigars a world standard of high quality The third mountainous region is the Sierra Trinidad, a jumbled mass of hills interrupting the plains and rolling country of central Cuba, the region of vast sugar plantations The topography, the semitropical and generally *uniform climate* (marred occasionally by hurricanes, particularly in the west), and the soil are suitable for various crops, but after it was introduced in the late 18th cent by refugees from Hispaniola, sugar cane became dominant Attempts at diversification since the disastrous sugar slump of the 1920s have been successful, and Cuba is self-sufficient in most agricultural products Yet sugar (and its derivatives such as molasses and rum) still is dominant, accounting for about three quarters of Cuba's exports by volume Sugar *centrales* [mills] dot the countryside and are served by a dense railroad net The renowned tobacco, grown since pre-Columbian days and coming mostly from Pinar del Río prov (outside the sugar belt), is second in the list of exports The bulk of these and other exports (bananas, coffee, pineapples, henequen, honey, winter vegetables, sponges, hides, and minerals) goes to the United States Economic ties with the North American coast have been strong since colonial days, when much of the trade between the British colonies and the Spanish colony of Cuba was illegal Cuba was discovered in 1492 by Christopher Columbus By 1508 the Spanish had explored the coast line and by 1511 they had gained a permanent foothold under the leadership of Diego de VELÁZQUEZ, who founded BARACOA near the eastern tip While Santiago de Cuba and Havana (settled at its present location in 1519) were being firmly founded, Cuba was already serving as the base for Spanish explorations of the Americas It became an assembly point for treasure fleets from the viceroyalty of New Spain and therefore offered a target for French and British buccaneers, who attacked the little island cities incessantly The native ARAWAK Indians soon died off and were replaced as laborers by Negroes, and Negroes contributed a great deal to the social and political evolution of the island, partially by revolts against their miserable lot. The white element has, however, been continuously replenished by immigration (chiefly from Spain), today about a quarter of the population is classified as Negro Despite the trade restrictions of Spanish mercantilist policies and despite the attacks of pirates, Cuba, the Pearl of the Antilles, prospered. In the imperial wars of the 18th cent other nations looked covetously on Spanish possession, and in the Seven Years War (the last of the French and Indian Wars in North America), a British force under Sir George Pocock and the earl of Albemarle captured and briefly (1762–63) held Havana Cuba, however, remained Spanish and continued so even when by revolutions against Spain in the early 19th cent most of the Spanish Empire in the Americas was being transformed into new republics In the wealthy sugar-producing island, however, the frequent risings were quickly crushed The urge for independence stiffened when representation in the Spanish Cortes, granted in 1810, was withdrawn, yet neither internal unrest nor filibustering expeditions (1848–51) led by Narciso LÓPEZ achieved anything The desire of U S Southerners to acquire the island as a slave state also failed (see OSTEND MANIFESTO). Spain, uneasy, promised liberal reforms, but they were sporadically applied with intervals of repression, and discontent grew, to break forth with the proclamation (the Grito de Yara) issued by Carlos Manuel de CÉSPEDES, which initiated the TEN YEARS WAR The revolt, which included among its leaders MÁXIMO GÓMEZ Y BÁEZ, Calixto GARCÍA Y ÍÑIGUES (later of *The Message to Garcia* fame), and Tomás ESTRADA PALMA, was ultimately crushed by Martínez de Campos, but its heritage was increased bitterness and new abortive revolts Finally in 1895 a revolt broke out with the brilliant poet José MARTÍ as its chief spokesman There was strong sentiment in the United States in favor of the rebels, which ultimately after the sinking of the *Maine* in Havana harbor led the United States to declare war on Spain (see SPANISH-AMERICAN WAR) The Cuban and U S forces were triumphant, and the treaty ending the war in 1898 (ratified 1899) established Cuba as an independent republic, though under U S protection U S military occupation of the island continued until 1902 The republic was then actually launched with Estrada Palma as president and Enoch H CROWDER as first U.S ambassador The Platt Amendment (see PLATT, THOMAS COLLIER) tied Cuba to the United States by provision for the right of the United States to intervene in Cuban affairs This arrangement was loudly decried in Latin America as imperialism and met also with liberal opposition in the United States The right to intervene was however, exercised sparingly The American regime, notably under Leonard WOOD, brought improved material conditions, and the conquest of yellow fever through Walter REED, Carlos J FINLAY, and others was a heroic achievement, of inestimable value to Cuba U S investment in Cuban enterprises increased, and plantations, refineries, railroads, and factories passed to American (and thus absentee) ownership The economic dependence of Cuba on the United States led to charges of "Yankee imperialism," strengthened when a revolt led by José Miguel GÓMEZ against Estrada Palma led to new American military occupation (1906–9) William Howard TAFT and Charles MAGOON acted as provisional governors After supervising the elections, the U S forces withdrew, only to return to guarantee order in the Negro insurrection of 1912 Foreign investments in the sugar plantations and industries encouraged the one-crop economy The government of Mario G MENOCAL was generally criticized as corrupt, but the First World War raised sugar prices to the point where Cuba enjoyed its "dance of millions" The ephemeral wealth was followed by collapse when the revival of the European beet-sugar industry and the declining U S sugar quota brought stringency The bad economic situation played its part in bringing on revolutions, fraudulent elections, and dictatorships A hurricane that devastated Havana prov aggravated the situation ,Gerardo MACHADO as president instituted vigorous measures He forwarded crop diversification, exploitation of mineral wealth, introduction of new industries, and encouragement of the tourist trade The central east-west highway across the island was completed in 1931 Yet the regime, facing democratic opposition, abandoned its great projects in favor of suppressing opponents A period of chaos and bloodshed followed With F D Roosevelt's administration a new era in U S relations with Cuba began Sumner Welles was sent as ambassador The Platt Amendment was abandoned in 1934 The United States sugar quota was revised, and tariff rulings were changed to favor Cuba Machado, overthrown by revolution, fled Ramón GRAU SAN MARTÍN, Carlos MENDIETA, and Miguel Mariano Gómez were briefly heads of the Cuban state, but the influence of Fulgencio BATISTA Y ZALDÍVAR, a former army sergeant, grew strong, and he was the most prominent figure in Cuban politics to 1944 Cuba declared war on the Axis Powers in the Second World War in 1941 Ramón Grau San Martín was constitutionally elected president in June, 1944, and pushed social reforms, despite opposition of Communist labor unions and despite vested interests In 1948 Carlos Río Jocarrás was elected San Martín's successor against a Communist-sponsored candidate and a Batista-sponsored candidate. The government set out bravely to attack the economic and international problems of Cuba, which are complicated by the fact that in the cane-harvesting time labor is short and laborers must be imported while in slack season there is much unem-

ployment. The added difficulties of U.S. ownership of many of the sugar *centrales* and the need for further diversification make the proper use of the rich Cuban resources a problem of statesmanship. See W. F. Johnson, *The History of Cuba* (4 vols with an extra volume on resources, 1920), C. E. Chapman, *A History of the Cuban Republic* (1927), R. H. Fitzgibbon, *Cuba and the United States* (1936), Erna Fergusson, *Cuba* (1946).

Cuba. 1 City (pop. 1,620), central Ill., SW of Peoria, in a farm and coal area, inc. 1853. 2 City (pop. 1,033), E. Mo., SW of St. Louis, in an Ozark farm and resort area, laid out 1857, inc. 1877. 3 Village (pop. 1,699), W. N.Y., NE of Olean; inc. 1850. Cheese is made here. Cuba Lake, near by, is a resort.

Cuba City, city (pop. 1,259), extreme SW Wis., NE of Dubuque, Iowa, inc. 1925.

Cubberley, Ellwood Patterson, 1868–1941, American educator, b. Andrews, Ind., grad. Univ. of Indiana, 1891, Ph.D. Columbia, 1905. He served as president (1891–96) of Vincennes Univ. and as superintendent of schools (1896–98) in San Diego, Calif. In 1898 he joined the faculty of Stanford, becoming professor of education in 1906 and in 1917 dean of the school of education, which he administered until his retirement in 1933. His works include *A History of Education* (1920), *Public School Administration* (1929), and *Public Education in the United States* (1934).

cube, in geometry, a regular solid bounded by six equal squares. All adjacent faces of a cube are perpendicular to each other. Any one face of a cube may be its base. The dimensions of a cube are the lengths of the three edges which meet at any vertex. The volume of a cube is equal to the product of its dimensions, and since its dimensions are equal, the volume is equal to the third power or cube of any one of its dimensions. Hence, in arithmetic and algebra, the cube of a number or letter is that number or letter raised to the third power. For example, the cube of 4 is $4^3=4\times4\times4=64$. Hence the cube of a number is the product of the number and its square. The problem to find a cube with a volume equal to twice that of a given cube is known as the problem of the duplication of the cube. Like the problem of squaring the circle, it was first posed in ancient times and has been proved by modern mathematicians to be impossible with only Euclidean constructions.

cubeb (kū'bĕb), dried, brownish, unripe berry of a climbing PEPPER plant, *Piper cubeba*, and also of some other species, native to the East and West Indies. For use as a condiment, cubebs are ground or crushed like ordinary black pepper, but the resulting substance is more aromatic and less biting. Various chemical compounds are present in the berries, including a resin, an acid (cubebic acid), and a volatile, essential oil. Cubebs have been used in medicine in the treatment of catarrhal conditions of the nose and throat, in treating gonorrhea, and sometimes as a stimulant in digestive disorders. They are administered in various ways. For treating catarrh they are ground and packed in cigarettes, taking the place of the tobacco.

cube root, the third root of a number. For example, the cube root of 27, written $\sqrt[3]{27}$, is 3, since 3 cubed or 3 to the third power, $3\times3\times3$, equals 27. See ROOT.

cubism, art movement primarily in painting, originating c. 1910 in France. It was a revolt against representational art and tended to reduce painting to design in space based on three-dimensional geometry. One of the earliest forms of modern ABSTRACT ART, cubism was perhaps the most fruitful. While few painters have remained faithful to its tenets, many are indebted to its discipline. Among the early cubists were Picasso, Braque, Jean Metzinger, Juan Gris, Marcel Duchamps, and Fernand Léger. Some of them found inspiration in the painting of Cézanne and in Negro sculpture. See Alfred H. Barr, Jr., *Cubism and Abstract Art* (1936), Guillaume Apollinaire, *The Cubist Painters* (1913, Eng. tr., 1949), D. H. Kahnweiler, *The Rise of Cubism* (1915, Eng. tr., 1949).

Cuchulain (kōōkhū'lĭn, kōō'khōōlĭn) [Irish,=the hound of Culan], Irish legendary hero of Ulster, of prodigious strength and of remarkable beauty. He is probably to be identified with a solar deity. He is the central figure of the Ulster legends, the greatest work of which is the *Táin Bó Cualnge* (tän' bō' kōōl'nĕ) [the cattle raid of Cooley]. The great feature of this is Cuchulam's stand at a ford on the boundary of Ulster, defending singlehanded his province against the armies of the rest of Ireland. The high points are the duels of Cuchulain with his dearest friend, Fer-diad, and with his own son.

cuckoo (kōō'kōō), name for a number of birds, most abundant in the tropics, but widely distributed in both hemispheres except in the colder regions. Cuckoos are mainly insectivorous, arboreal birds, with slightly decurved bills, long tails, and usually dull plumage. Also included in the family are the ROAD RUNNER, the ani, the trogon, and the KINGFISHER. The common European cuckoo, a grayish bird with a barred breast, makes no nest. Each female visits the nests of smaller birds in a selected territory and replaces an egg of the nest builder with one of her own which sometimes resembles that of the species she chooses to parasitize. The young cuckoo, after thrusting the remaining eggs or young from the nest, is the sole care of the foster parents. The bird's simple but musical song of two notes gives it its name. References to the cuckoo appear in English poetry and in mythology, and the song has been imitated in Beethoven's Pastoral Symphony. In Asia are found the related Baker's and Himalaya cuckoos. The black and the yellow-billed cuckoos of the United States are slender, long-billed, olive-brown birds of great value because they consume destructive insects, especially hairy caterpillars, which few birds eat. They almost always rear their own young. Their songs or calls are similar, mainly a series of "kuks" and "kows," those of the black-billed species being generally the softer. Maynard's cuckoo, found from S. Florida to the Bahamas, and the California cuckoo are related.

cucumber, common garden vegetable, the fruit of a trailing annual vine (*Cucumis sativus*), descended from a long-cultivated Asian plant. It is much used for salads and pickling. Of several varieties, the white spine is most grown in America. The cucumber is an important garden and field crop and is forced in greenhouses. The immature fruits are sometimes called gherkins, but the true gherkin is a related species (*Cucumis angurus*).

cucumber tree: see MAGNOLIA.

Cúcuta (kōō'kōōtä), city (pop. 37,323), NE Colombia, c. 10 mi. from the Venezuelan border, on the eastern cordillera of the Colombian Andes. Cúcuta grew as the center of a rich coffee-raising region, with outlets by rail to Lake Maracaibo and by highway to Bogotá and Venezuela. At Cúcuta the constituent congress of 1821 met to draft the constitution of Greater Colombia (present Venezuela and Colombia). In writing the constitution the delegates largely followed the ideas of Simón BOLÍVAR. Cúcuta was rebuilt after an earthquake in 1875.

Cudahy, Michael (kū'dūhē), 1841–1910, American meat packer, b. Co. Kilkenny, Ireland. He went (1849) to Milwaukee and after 1856 worked for meat-packing firms. In the 1870s he introduced refrigeration into the meat-packing industry. He became a partner of Philip D. Armour and later, with his brother John, established a packing company in Omaha, Nebr.

Cudahy (kū'dūhē), industrial city (pop. 10,561), SE Wis., on Lake Michigan between Milwaukee and South Milwaukee, inc. 1906. In 1892 Patrick Cudahy, brother of Michael Cudahy, founded the city and its meat-packing industry.

Cuddalore or **Kudalur** (both kŭdŭlôr'), town (pop. 60,632), E. central Madras state, India, a port on the Bay of Bengal. The oldest architectural monument is Fort St. David, a stronghold of Tippoo Sahib. Peanut products, cashew nuts, and textiles are the chief exports.

Cudworth, Ralph, 1617–88, English theologian and philosopher. He was one of the CAMBRIDGE PLATONISTS, a group which appealed to mysticism as against both materialism and divine authority. Cudworth's most ambitious work, *The True Intellectual System of the Universe*, was never completed. The first part, a critique of atheism, appeared in 1678, and two parts were published posthumously as *A Treatise concerning Eternal and Immutable Morality* (1731) and *A Treatise on Freewill* (1838). Cudworth attacked the materialism of Hobbes and held that moral ideas have transcendent existence.

Cuenca (kwĕng'kä), city (1944 estimated pop. 52,519, alt. c. 8,000 ft.), S central Ecuador. Founded in 1557, Cuenca is in one of the two richest agricultural basins (the other is Quito) of the Ecuadorian Andes. Chiefly raised are grains, subsistence crops, and some cattle. Rail and highway connections make it the commercial center of S. Ecuador. The chief industry is the weaving of Panama hats from the leaf of the *toquilla* palm, brought from the coast.

Cuenca, city (pop. 23,038), capital of Cuenca prov., E. central Spain, in New Castile, on a rocky hill circled by the Júcar and Huécar rivers. Taken (1177) from the Moors by Alfonso VIII of Castile, it received (c. 1190) a very liberal charter. It was taken (1706) by the English in the War of the Spanish Succession and was sacked (1808, 1810) by the French in the Peninsular War. There is an old castle above the town. The Gothic cathedral dates from the 13th cent.

Cuernavaca (kwĕrnävä'kä), city (pop. 14,336), capital of Morelos, central Mexico. With a mild climate, Cuernavaca is a popular tourist and health resort. There are beautiful churches, monasteries, a palace built by Cortés and now decorated with murals by Diego Rivera, and a formal garden, frequently used by Maximilian and Carlotta. Near by is the Toltec ruin, Xochicalco, built over limestone caves and utilizing the caves as part of the ancient city plan.

Cuero (kwâ'rō), city (pop. 5,474), co. seat of De Witt co., S Texas, on the Guadalupe and ESE of San Antonio; founded 1872, inc. 1873. Early an important cow town, it now processes cotton, milk, and other produce of the rich farm area. The Turkey Trot each November publicizes turkey raising.

Cueva, Beatriz de la (bäätrēs' dā lä kwā'vä), d. 1541, governor of Guatemala. After the death of her husband, Pedro de ALVARADO, she maneuvered her own election and became probably the only woman to govern a major American political division in Spanish times. A young, beautiful, and ambitious woman who styled herself the "hapless one," she was drowned a few weeks later in the destruction of CIUDAD VIEJA by a mysterious flood from the volcano Agua.

Cueva, Juan de la (hwän' dā lä kwā'vä), 1550?–1610?, Spanish dramatist, one of the forerunners of Lope de Vega. He spent three years in Mexico (1574–77). Juan de la Cueva wrote many plays inspired by Spanish history and legends, the most famous of which is *Los siete infantes de Lara*, presented in the year 1579. Another important play is *El infamador* [the libertine], presented in 1581, a precursor of the plays of cape and sword written during the Golden Age.

Cui, César Antonovich (tsāsär' äntô'nôvĭch kōō'), 1835–1918, Russian composer and critic, by profession a military engineer. As critic of a large daily newspaper he proclaimed the ideals of the Russian nationalist composers. His own compositions, however, do not fulfill these principles. Although he had little technical ability or originality, he wrote operas, over 200 songs, orchestral music, and salon music. See V. I. Seroff, *The Mighty Five* (1948).

Cuiabá (kōōyubä'), city (pop. 18,861), capital of Mato Grosso state, W Brazil, at the head of navigation on the Cuiabá river. Founded in the gold rush of the early 18th cent., it has been the capital of Mato Grosso since shortly before Brazil gained independence. Gold mining has declined but the city is a shipping point for cattle country. The name formerly was spelled Cuyabá.

Cujas or **Cujacius, Jacques** (zhäk' küshäs', kūjā'shŭs), 1522–90, French jurist and scholar of Roman law. He taught at Toulouse, Bourges, and elsewhere. Unlike previous scholars, he was relatively unconcerned with the practical applications of Roman law and wished primarily to study the ancient texts in their relation to history and literature. He is often considered the founder of the historical school of jurisprudence. Much of his critical effort was directed to reconstructing in the original form the excerpts from eminent Roman jurists quoted in the Corpus Juris Civilis. Cujas prepared critical editions of works of Ulpian and Paulus.

Culberson, Charles Allen (kŭl'bûrsŭn), 1855–1925, U.S. Senator (1899–1923), b. Dadeville, Ala., grad. Virginia Military Academy, 1874, son of David Browning Culberson. He studied law at the Univ. of Virginia, was admitted (1877) to the bar, and practiced law in Texas. He served as attorney general (1890–94) and governor (1894–98) of Texas. As U.S. Senator, C. A. Culberson was chairman (1913–19) of the judiciary committee and Democratic minority leader for a time. See biography by J. W. Madden (1929).

Culberson, David Browning, 1830–1900, U.S. Congressman (1875–97), b. Troup co., Ga., father of Charles Allen Culberson. After he was admitted (1851) to the bar, he practiced in Dadeville, Ala., and then (1856) moved to Texas. He was a member (1859) of the state legislature and served in the Confederate army in the Civil War. In Congress, D. B. Culberson, a Democrat, was particularly known as a staunch defender of the Sherman Anti-Trust Act.

Culbertson, Ely (ē'lē kŭl'bŭrtsun), 1893–, American expert on contract bridge, b. Rumania. His father was an American engineer then living in Rumania, and his mother was of Russian parentage. He met with many adventures in his youth, and after removing to Russia with his family, he traveled to Spain, Switzerland, Canada, and Mexico and then settled in the United States. Culbertson published *The Contract Bridge Blue Book* (1930), won several bridge tournaments, widely publicized contract bridge, and became one of the leading figures of the game. After the Second World War he wrote and lectured on world peace, setting forth his plans in the book *Must We Fight Russia?* (1946). See his autobiography, *The Strange Lives of One Man* (1940).

Culdees (kŭldēz') [Irish,=servant of God], ancient monks of the Celtic church, found especially in Ireland and Scotland, but also in England, Wales, and on the Continent. The 8th and 9th cent. seem to have been their best period. How they differed from other monks is not known, their characteristic was perhaps a community of anchorites' cells. There are only occasional examples of Culdees after the reforms of St. Malachy.

Culebra Cut see PANAMA CANAL.

Culiacán (kōōlēäkän'), city (pop. 22,025), capital of Sinaloa, NW Mexico. Founded in 1531 by Nuño de GUZMÁN, Culiacán figured prominently in the early Spanish colonial period as a point of departure for northern expeditions, notably that of Coronado in 1540. Culiacán is on the Culiacán river and is c. 40 mi. inland on a hot coastal plain, which produces tropical fruits, sugar, and cotton.

from its Pacific port, Altata, come fine oysters. Some minerals are found in the region The capital is on the West Coast rail line between the United States and Mexico city. Within the city are numerous government buildings and plazas, an impressive cathedral, and luxuriant tropical gardens

Culion (kōōlyōn'), and island (150 sq mi , 1939 pop 7,328), 20 mi long and 10 mi wide, one of the Calamian Islands, in the Philippines It is S of Busuanga and has a large leper colony

Cullen, Countee (koun'tē'), 1903–46, American Negro poet, b New York city, grad New York Univ , M A Harvard, 1926 His lyrical gift is most apparent in his early books, *Color* (1925), *Copper Sun* (1927), and *The Ballad of the Brown Girl* (1927) A student of classical forms, he handled them skillfully He wrote other poetry and a novel, compiled an anthology of Negro verse, *Caroling Dusk* (1927), and collaborated on a play, *St Louis Woman* (produced 1946) He made a collection of his verse, *On These I Stand* (pub posthumously, 1947)

Cullman, city (pop 5,074), co seat of Cullman co , N Ala , N of Birmingham, settled 1873 It is the shipping and trade center for a farm area noted for its strawberries and yielding also coal and sandstone Near by is a junior college

Culloden Moor (kulō'dun, -lō'dun), moorland, Inverness-shire, Scotland, ENE of Inverness It was the scene (April 16, 1746) of the decisive defeat of the Highlanders under Prince Charles Edward by English troops under the duke of Cumberland Cumberland Stone marks the battle

Cullom, Shelby Moore (kŭ'lŭm), 1829–1914, American political leader, b Wayne co , Ky He began to practice law at Springfield, Ill , in 1855, and that same year he became city attorney He then served in the state legislature, in the U S House of Representatives (1865–71), and as governor of Illinois (1876–83) In the U S Senate (1883–1913), Cullom was chairman of the committee which drew up the bill establishing (1887) the INTERSTATE COMMERCE COMMISSION He also was chairman of the committee which drafted a system of laws for the Hawaiian Islands, and after 1901 was chairman of the Committee on Foreign Relations In 1911 he became chairman of the Republican party caucus See his autobiography, *Fifty Years of Public Service* (1911)

Cullum, George Washington (kŭ'lum), 1809–92, American army officer, b New York city, grad West Point, 1833 In the Civil War, Cullum, made a brigadier general of volunteers (Nov , 1861), served as chief of staff to General Halleck (1861–64) and as superintendent of West Point (1864–66) He is chiefly known for his excellent *Biographical Register of the Officers and Graduates of the U S Military Academy* (1850, 3d ed , 3 vols , 1891), which furnishes sketches of the graduates of West Point

Culp, Julia (kŭlp, Dutch yül'yä kŭlp'), 1881–, Dutch contralto, especially noted as a lieder singer She first appeared in the United States in 1913, later she taught in Vienna

Culpeper or **Colepeper, John Culpeper, 1st Baron** (both kŭl'pĕ'pur), d 1660, English statesman He took the popular side in the Long Parliament, but broke with the Puritans on the matter of church legislation in 1642 He served Charles I as privy councilor and chancellor of the exchequer and remained a useful and moderate counselor of Charles II during his exile

Culpeper, Thomas Culpeper, 2d Baron, 1636–89, British colonial governor of Virginia, son of the 1st Baron Culpeper of Colepeper In 1673 he was granted, with the earl of Arlington, all lands in Virginia not previously patented He was, in addition, granted (1675) the right of succession to the governorship of Virginia and soon replaced Sir William Berkeley Culpeper ruled through deputies until 1680, when Charles II required him to go in person to Virginia His general pardon of all those who had participated in Bacon's Rebellion made him popular for a brief time, but after about four months he returned to England When disturbances, arising out of the low price of tobacco, broke out in the colony, he was threatened with removal unless he remained in Virginia During his second stay (1682–83) Culpeper hanged some of the planters who had destroyed tobacco plants and quarreled violently with the burgesses Upon leaving the colony again in 1683 he was deprived of the governorship However, in 1688 he procured from James II a renewal in perpetuity of his vast Northern Neck proprietary (see FAIRFAX, THOMAS FAIRFAX, 6TH BARON) See T J Wertenbaker, *Virginia under the Stuarts, 1607–1688* (1914)

Culpeper, town (pop 2,310), N Va , WNW of Fredericksburg, founded 1759, inc 1898 It is the trade center for a rich farm and dairy area The courthouse of Culpeper co is here In 1775 the famous Culpeper minutemen were organized Several engagements were fought in the region during the Civil War, and the town was occupied by Union forces

cultivation, manipulation of the soil for the purpose of improving its condition by mixing or loosening its particles, adding humus, and destroying weeds For this purpose tools, from the simplest HOE or PLOW to the tractor-drawn cultivator and harrow, are used The American Indians, who grew various crops—e g , potatoes, corn, tobacco, and squash—used implements made of buffalo bones, deer and elk horn, wooden sticks, and shells in cultivating their gardens Very primitive plows were used by prehistoric man and are still used in parts of the world IRRIGATION, fallowing, and ROTATION OF CROPS are farming practices which aid cultivation.

cultivator, agricultural implement for opening up and pulverizing soil, either before planting or as an aid to the removal of weeds and the aeration and loosening of the soil after the crop has begun to grow Cultivators usually stir the soil to a greater depth than do harrows In large-scale farming they are drawn by tractors

culture, in anthropology, the way of life of a society There are no implications of refinement or of advanced knowledge in the scientific usage of the term Culture, from the earliest beginnings of mankind, has provided human society with its most significant difference from the societies of animal groups The habits, ideas, and attitudes shared by a group are historically derived and are transmitted as a social heritage to its succeeding generations Language is the chief agent of culture transmission, but many behavior patterns and attitudes are acquired by means of nonverbal conditioning Material culture refers to that part of culture content represented by such things as tools, weapons, clothing, and art forms Each society has its distinctive culture The tendency of any given culture to become integrated in varying degrees about certain dominant interests contributes to its uniqueness A culture may therefore be described by such terms as "hunting" or "food-gathering" or characterized as "cooperative" or "aggressive" or the like The degree of complexity of cultural organization helps to distinguish "higher" from "lower" culture, civilized societies from primitive See Clark Wissler, *Man and Culture* (1923), G E Smith and others, *Culture* (1927), Ruth Benedict, *Patterns of Culture* (1934), C E Ware, ed , *The Cultural Approach to History* (1940), Abram Kardiner and others, *Psychological Frontiers of Society* (1945), Stuart Chase, *The Proper Study of Mankind* (1948), Clyde Kluckhohn, *Mirror for Man* (1949)

Culver, town (pop 1,605), N Ind , on Lake Maxinkuckee c 30 mi SSW of South Bend It is the seat of Culver Military Academy (1894)

Culver City, residential city (1940 pop 8,976, 1947 special census pop 17,143), in Venice township, S Calif , between Los Angeles and the Pacific, laid out 1913, inc 1917 Several large moving-picture companies maintain studios here

Culver's root see SPEEDWELL

Culver-Stockton College, at Canton, Mo ; coeducational (probably the first W of the Mississippi), chartered 1853, opened 1855 by the Disciples of Christ as Christian Univ , renamed 1917

Cumae (kū'mē), ancient city of Campania, Italy, near Naples Strabo says that it was the earliest Greek colony in Italy or Sicily, and it seems to have been founded in the 9th or 8th cent B C from Chalcis The area has yielded earlier non-Greek archaeological finds A number of colonies were founded by Cumae, which grew to great power and repulsed Etruscan and Umbrian attacks, but fell in the late 5th cent B C to the Samnites Cumae supported Rome in the 2d cent B C and adopted Roman culture, ultimately its inhabitants became Roman citizens As neighboring cities rose to power, Cumae declined, although it did not disappear until the 13th cent A D There are extensive Greek and Roman ruins, and the cavern where the famed Cumaean Sibyl (the priestess of Apollo mentioned by Vergil) uttered her prophecies may still be seen

Cumaná (kōōmänä'), Caribbean port (pop 25,893), NE Venezuela It was founded in 1520 to exploit the pearl fishing on MARGARITA island The climate is tropical, and, with abundant rainfall in the region between coast and cool highlands, there is a variety of agricultural produce for export—coffee, tobacco, hides, sugar, cacao, and rum Coconut oil and cotton textiles are manufactured Cumaná has several times been damaged by earthquakes, most recently and most severely in 1929

Cumans (kū'mŭnz), nomadic people of Turkic language, also called Kipchaks and, in Russian, Polovtsi Probably originating in NW Asiatic Russia, they conquered S Russia and Walachia in the 11th cent A D , and for about two centuries warred intermittently with the Byzantine Empire, Hungary, and Kiev The Mongols decisively defeated them c 1245 Part of the Cumans fled to Hungary, where they were allowed to settle, and merged with the Magyars The khanate of the GOLDEN HORDE (also called the Western Kipchaks) was organized on the former Cuman territory in Russia

Cumberland, Richard, 1631–1718, English philosopher He was bishop of Peterborough from 1691 In his *De legibus naturae* (1672) he first propounded the doctrine of utilitarianism and opposed the egoistic ethics of Thomas Hobbes.

Cumberland, Richard, 1732–1811, English dramatist and diplomat; great-grandson of the 17th-century philosopher Cumberland. He wrote 40 plays, mostly sentimental comedies, among which are *The Brothers* (1769), *The West Indian* (1771), and *The Wheel of Fortune* (1795) Secretary to the Board of Trade, he went on a mission to Spain with Abbé Hussey See his memoirs (2 vols , 1806–7), study by S T. Williams (1917), S F Bemis, *The Hussey-Cumberland Mission and American Independence* (1931)

Cumberland, William Augustus, duke of, 1721–65, British general, third son of George II. As captain general (1745–57) he excelled in organization but was not brilliant in battle In the War of the Austrian Succession he lost to the French at Fontenoy (1745) Then, having defeated Prince Charles Edward and the Jacobites at Culloden Moor (1746), he punished the Scots ruthlessly and earned the nickname the Butcher Once more on the Continent, he averted the fall of Maestricht (now Maastricht), but the French again defeated him (1747), at Laffelt In the Seven Years War he signed (1757) a capitulation to the French (the Convention of Kloster-Zeven), for which he was dismissed See two biographical studies by Evan Charteris (1913, 1925)

Cumberland, county (1,520 sq. mi , 1931 pop 263,151, 1948 estimated pop 275,600), extreme N England, bordering on the Irish Sea and Solway Firth to the west and Scotland to the north. The county town is Carlisle, famous for its cathedral The region, with adjacent Westmorland and Lancashire, is known as the LAKE DISTRICT Cumberland is largely mountainous in the southwest and east and low in the north (the Vale of Carlisle). Scafell Pike (3,210 ft) is the highest point in England The chief streams are the Derwent, the Eden, and the Esk It is a pastoral region (dairy farming and sheep and cattle grazing), with some mining (coal and iron), quarrying (granite, limestone, and slate), textile manufacturing, and smelting The district has remains of the great walls built during the Roman occupation Cumberland was not annexed to England as a shire until the 12th cent It was the scene of many centuries of border strife between England and Scotland The Lake District was extremely popular with literary figures in the 19th cent , many of whom made their homes in Cumberland See Cuthbert Headlam, *The Three Northern Counties* (1939)

Cumberland, town (pop 885), on Vancouver Island, SW British Columbia, near the east coast and on the Courtenay river Coal was discovered in the neighborhood in 1891 In 1931 Cumberland had a population of 2,371

Cumberland **1** City (pop 4,149), E Ky , NE of Harlan, in the Cumberlands near the Va line Until 1926 it was called Poor Fork Coal, corn, tobacco, and potatoes are among the products of the region **2** Town (pop 1,491), SW Maine, N of Portland, inc 1821 Textile, paper, and woodworking mills are here **3** City (pop 39,483), co seat of Allegany co , NW Md , on the North Branch of the Potomac and W of Hagerstown, in a coal-mining region It is a railroad and manufacturing center, producing automobile tires, artificial silk, glass, steel, tin plate, and limestone As a natural gateway through the Appalachians to the Ohio valley, it grew up around the site of a trading post established by the Ohio Company in 1750 Fort Cumberland was built several years later and was base of operations for the ill-fated Braddock expedition against the French and Indians The city became the eastern terminus of the Cumberland or NATIONAL ROAD, a division point for the Baltimore & Ohio RR, and the western terminus of the Chesapeake and Ohio Canal The site of Fort Cumberland and the near-by fairgrounds are points of interest **4** Town (pop 10,625), NE R I , between the Blackstone river and the Mass line, in a farming and textile-producing section, included in Massachusetts until 1746, inc 1747 Near Lonsdale village is a Trappist abbey, almost completely destroyed (March, 1950) by fire Ballou Meetinghouse dates from c 1740. **5** City (pop 1,539), NW Wis , on Beaver Dam Lake WNW of Rice Lake, in a farm area, settled 1874, inc 1885

Cumberland, river, 693 mi long, rising in E Kentucky, near Harlan in the Cumberland Plateau, and winding generally SW through Kentucky and Tennessee past Nashville and then NW to the Ohio above Paducah, Ky To control floods, improve navigation, and provide hydroelectric power the U S Corps of Engineers has undertaken a program including dredging, locks, dams, and levees The TENNESSEE VALLEY AUTHORITY is authorized to market power from three established dams the Wolf Creek Dam (begun 1941) in the Cumberland in Kentucky, the Dale Hollow Dam (completed 1943, power plant est 1948) in a tributary, the Obey river, in Tennessee, and the Center Hill Dam (begun 1942) in the Caney Fork in Tennessee

Cumberland Gap, natural passage through the mountains, near the point where Virginia, Kentucky, and Tennessee meet. It was discovered and named by Dr Thomas Walker, leader of a party exploring for a land company, in 1750; through it ran Boone's WILDERNESS ROAD. A strategic point in the Civil War, Cumberland Gap was held alternately by Confederates (1861, 1861–63) and Fed-

erals (1861, 1863–65) Congress has authorized the establishment of a national historical park here

Cumberland House, Canadian fur-trading post of the Hudson's Bay Company, on Cumberland Lake and near the Saskatchewan river, near The Pass, Man It was built (1774) by Samuel Hearne near an earlier (1772) post of Joseph Frobisher and was named for Prince Rupert, duke of Cumberland First permanent settlement on the Saskatchewan and first of the Hudson's Bay Company posts in the interior, it occupied a strategic position, commanding the routes of fur trade and exploration to the upper valleys of the Saskatchewan and the Churchill

Cumberland Island: see SEA ISLANDS

Cumberland Plateau or **Cumberland Mountains,** southwestern division of the Appalachian Mt system, extending NE–SW through S West Virginia, extreme SW Virginia, E Kentucky, and E Tennessee into N Alabama On the east, the plateau rises sharply from the Great Valley of E Tennessee, on the west, the slope is rough and broken It is the source of the Cumberland river and certain tributaries of the Tennessee The region, which offers a variety of scenery—fertile valleys, beautiful forested areas, and rugged, inaccessible sections—yields various minerals especially coal

Cumberland Presbyterian Church, branch of the Presbyterian Church in the United States founded in 1810 Many of its congregations were united with the main body of the church in 1906 It arose as a revival movement in the "Cumberland country," a newly settled region of Kentucky and Tennessee To fill the insufficient ranks of ministers, the presbytery, controlled by the revivalists, ordained men who lacked the academic training usually required The Synod of Kentucky laid a prohibition upon their preaching until they could pass examination in all requisites The Cumberland Presbytery was dissolved, but under the leadership of Finis Ewing and others it was reorganized in 1810 as an independent presbytery, a synod was constituted in 1813 The Negro members organized separate churches and in 1869 were legally set apart as the Colored Cumberland Presbyterian Church

Cumberland Road· see NATIONAL ROAD

Cumberland University see LEBANON, Tenn

Cumberland Valley, part of the great Appalachian valley, N of the Shenandoah Valley, extending from the Potomac river in Maryland to the Susquehanna in Pennsylvania

Cumbraes (kŭmbrāz'), islands, Buteshire, W Scotland, in the firth of Clyde Great Cumbrae (c 5 sq mi, pop 2,144), with a good climate, provides fishing, farming, and summer sports (Millport is the center) Little Cumbrae (1 sq mi) has a lighthouse

Cumbrian Mountains, hills of the Lake District, England Studded with lakes and narrow valleys, the range extends through Cumberland, Westmorland, and N Lancashire

cumin or **cummin** (both kŭm'ĭn), low annual herb (*Cuminum cyminum*) with thready foliage, long cultivated for the aromatic seedlike fruits The fruits, similar to caraway, are used, chiefly in the Old World, on bread and in cheese, soup, and curry powder, the oil is used for liqueurs and in veterinary practice and was formerly used in medicine Cumin is mentioned in the Bible For black cumin, see LOVE-IN-A-MIST.

Cumming, John. see COMYN, JOHN

Cummings, Bruce Frederick. see BARBELLION, W N P, pseud.

Cummings, Edward Estlin, 1894–, American poet and painter, b Cambridge, Mass, grad Harvard, 1915 His first book, *The Enormous Room* (1922), is a prose account of his war internment in France It demonstrates, as does his poetry, flashing originality and an extreme attempt to uncover a new form of expression Although Cummings's omission of capital letters and other typographical eccentricities often render his work unintelligible, his lyrical and imaginative powers are acknowledged, and his technical virtuosity and defiance are unable to conceal the preoccupation with love and death which reveal him as a romantic His poetry includes *Tulips and Chimneys* (1923), *Is 5* (1926), *Collected Poems* (1938), *1 × 1* [one times one] (1944), *Santa Claus* (1946), and *Xaipe Seventy-one Poems* (1950) He exhibited his paintings in 1944

Cummings, Homer Stillé, 1870–, U S Attorney General (1933–39), b Chicago, grad Yale (Ph B, 1891, LL B, 1893) He practiced law in Stamford, Conn, served as mayor, and rose to prominence in the state Democratic machine Cummings was a strong supporter of the New Deal, and on the death of Thomas J WALSH, F. D Roosevelt made Cummings acting Attorney General and then Attorney General

Cummings, Thomas Seir, 1804–94, American miniature painter and writer, b England, pupil of Henry Inman in New York city. He painted in water color and was recognized as the outstanding American miniaturist of his day. He was a founder, and for 40 years the treasurer, of the National Academy of Design, of which he wrote a history.

Cummington, rural town (pop 608), W Mass, in hills E of Pittsfield, settled 1762, inc 1779 Marcus Whitman lived here William Cullen Bryant was born in the town, his home is a memorial

Cummins, Albert Baird, 1850–1926, U S Senator from Iowa (1909–26), b Green co, Pa, grad Waynesburg College He studied law in Chicago and in 1878 joined his brother in practice in Des Moines As governor of Iowa (1901–8) Cummins worked to break up railroad domination in politics and to inaugurate progressive policies in the state He was elected (1908) to the U S Senate and was co-author there of the Esch-Cummins Transportation Act of 1920

Cummins, Maria Susanna, 1827–66, American novelist, b Salem, Mass She wrote *The Lamplighter* (1854), a best seller of its day Her later books were not so well received

cumulus see CLOUD

Cunard, Sir Samuel (kūnärd'), 1787–1865, Canadian pioneer of regular transatlantic steam navigation, b Halifax, N S The son of a United Empire Loyalist, he became a leading businessman of Nova Scotia, engaged in banking, lumbering, shipping, and shipbuilding enterprises His fleet at one time numbered some 40 vessels He was interested in the development of steam navigation and owned shares in the *Royal William*, first Canadian steamboat to cross the Atlantic (1833) from Canada to England When the British government invited bids (1838) for carrying the mails to and from Liverpool, Halifax, and Boston, Cunard went (1839) to England and laid before the admiralty such carefully considered plans for a line of steamships that he received the contract In association with Robert Napier, George and James Burns, David MacIver, and others, he formed the British and North American Royal Mail Steam Packet Company, which in 1840 placed four ships in operation, the first regular steamship service between the continents This was the beginning of the noted Cunard Line, which was amalgamated (1934) with the White Star Line to form the Cunard White Star Ltd He was created baronet in 1859 and spent most of his last years in England

Cunaxa (kūnăk'sə), small town of Babylonia, near the Euphrates NE of Ctesiphon It was the scene of a battle (401 B C) between CYRUS THE YOUNGER and ARTAXERXES II, described by XENOPHON in the ANABASIS CLEARCHUS, Spartan mercenary leader under Cyrus, chose to attack the Persian left wing (under Tissaphernes), which he completely routed and pursued When he and his Ten Thousand returned, they found that Cyrus had fought hard in the center, had broken Artaxerxes' bodyguard, but in the moment of victory had been killed Cyrus' army, demoralized, had broken up, and the Persians had taken the field The retreat of the Ten Thousand northward is the most famous feature of the campaign

cuneiform (kūnē'ĭfôrm) [Latin,=wedge shaped], WRITING developed in the lower Tigris and Euphrates valley, probably by the Sumerians The characters consist of arrangements of four kinds of wedge strokes impressed into the prevalent brick or stone The history of the script is strikingly parallel to that of the Egyptian HIEROGLYPHIC (see also ALPHABET and INSCRIPTION) The normal Babylonian and Assyrian writing used a large number of arbitrary cuneiform symbols for words and syllables, some had been originally pictographic There was an alphabetic system, too, making it possible to spell a word out, but because of the adaptation from Sumerian, a different language, there were many ambiguities Cuneiform writing was used outside Mesopotamia also, notably in ELAM and by the HITTITES There are many undeciphered cuneiform inscriptions, apparently representing several different languages A very late use of cuneiform writing was that of the Persians, who established a syllabary for Old Persian This is the writing of the Achaemenidae, whose greatest monument is that of Darius I at Behistun Key finds of cuneiform inscriptions have been at Nineveh, Lagash, Erech, Tel-el-Amarna, Susa, and Boghazkeui Two great names in the interpretation of cuneiforms are those of Sir Henry C RAWLINSON and of G F GROTEFEND.

Cunene (kōōnä'nē), river rising in W central Angola and flowing c 750 mi S and W to the Atlantic Ocean Its lower course forms part of the boundary with South-West Africa

Cuneo (kōō'nāō), city (pop 18,852), capital of Cuneo prov, Piedmont, NW Italy, on a high plain near the Maritime Alps A fortified city, it was a possession of the house of Savoy after 1382 and withstood repeated sieges It is an important market for silk, chestnuts, and cereals

Cunha, Euclides da (ā"ōōklē'dĭsh dä kōō'nyu), 1866–1909, Brazilian writer His short life was rather turbulent, after a brief but checkered career in the army, he was a civil engineer and a journalist He wrote several historical works, but is remembered for only one book, *Os sertões* (1902, Eng tr, *Rebellion in the Backlands*, 1944, abridged Eng tr, *Revolt in the Backlands*, 1947) In 1896 97 a religious fanatic called Antonio Conselheiro and a group of his followers defied the Brazilian government and defended themselves in Canudos, a stronghold in the undeveloped interior [*o sertão*] in the state of Bahia The revolt was pitiful and a bit mad and would have been of little significance except that Euclides da Cunha accompanied the conquering government forces as a reporter He made his account of the campaign a thorough and rather gloomy study of the conditions, prospects, and national soul of Brazil This "most Brazilian of all books" is a narrative embellished with lengthy descriptions of landscape and living conditions, but above all it is a brooding inquiry into the state of man in Brazil To a present-day reader it is marred by overcomplex writing and racistic doctrine, but its force, sincerity, and depth overcome all criticism

Cunha, Tristão da (trēshtă'ō), c 1460–c 1540, Portuguese navigator His most important voyage was that undertaken in 1506, when he set out with 15 ships for India He discovered three volcanic islands in the S Atlantic, one of which is named for him After taking Socotra, in the hope of establishing control over the Red Sea, Tristão da Cunha went on to India, while Afonso de Albuquerque, under secret royal orders, detached part of the fleet. On his return to Portugal, Tristão da Cunha served as Portuguese ambassador at the papal court A son, Nuno da Cunha (1487–1539), was governor of India and, as such, took Basra in 1529

Cunningham, Sir Alan Gordon (kŭ'nĭng-ŭm), 1887–, British general, brother of Admiral Viscount Cunningham In the Second World War he was field commander in the conquest of Ethiopia (1940–41) and briefly headed (1941) the British 8th Army in North Africa In 1945 he was made high commissioner for Palestine and Trans-Jordan, and he carried out the British evacuation of Palestine in 1948

Cunningham, Sir Alexander, 1814–93, English archaeologist and army engineer He retired (1861) as a major general after 30 years of service with the Bengal engineers and then was head (1861–65, 1870–85) of the archaeological survey of India. He was knighted in 1887 Among his books are *Bhilsa Topes* (1854), a history of Buddhism based on architectural remains, *The Ancient Geography of India* (1871), of which only one volume was written, *The Book of Indian Eras* (1883), and *Coins of Ancient India* (1891) Of his collection of rare coins, part was lost at sea, but most of the remainder are in the British Museum He was a son of Allan Cunningham

Cunningham, Allan, 1784–1842, Scottish poet, biographer, and miscellaneous writer His collection of *The Songs of Scotland, Ancient and Modern* (1825) included his own "A Wet Sheet and a Flowing Sea," one of the best known sea ballads in the language. His six-volume *Lives of the Most Eminent British Painters, Sculptors, and Architects* appeared from 1829 to 1833 See biography by David Hogg (1875).

Cunningham, Andrew Browne, 1st **Viscount Cunningham of Hyndhope** (hĭnd'hōp), 1883–, British admiral A long-seasoned naval officer—he was at Gallipoli in the First World War—Cunningham was commander in the Mediterranean from 1939 to 1942 and kept the inland sea open to the British He was later naval commander in the expedition against North Africa (1942–43), commander in chief of the Allied naval forces in the Mediterranean (1943), and first sea lord and chief of the naval staff (1943–46) He was created viscount Jan. 1, 1946

Cunninghame-Graham, Robert. see GRAHAM, ROBERT

Cunninghame Graham, Robert Bontine (kŭn'ĭngəm), 1852–1936, Scottish author and traveler, b London, educated at Harrow He lived as a cattle rancher in Argentina, traveled widely in Latin America, Morocco, and Spain In Scotland he served as a member of Parliament, took part in the dock strike of 1887, and, with James Keir Hardie, founded the Scottish Labour party His writings include collections of sketches and tales, such as *The Ipané* (1899) and *Rodeo* (1936), and historical studies of Spanish conquistadors See biography by A. F. Tschiffely (1937)

Cuno, Wilhelm (vĭl'hĕlm kōō'nō), 1876–1933, German chancellor (1922–23) He headed a nonpartisan ministry responsible only to President Ebert. His attempt to reduce reparations and his program of passive resistance to French occupation of the Ruhr both failed, and he could not rehabilitate German finance

Cunobelinus. see CYMBELINE

cup-and-ring mark see PETROGLYPH

Cupar or **Cupar-Fife** (both kōō'pur), burgh (pop. 4,595), co seat of Fifeshire, Scotland, on the Eden and WSW of St Andrews School Hill is the site of a 12th-century castle of the Macduffs, earls of Fife The estate of Sir David Lindsay was near by. The town has varied industries

Cupid (kū'pĭd) [Latin,=desire], Roman equivalent of EROS, Greek god of love He was sometimes called Amor and was the son of Venus and Mars. For the story of Cupid and Psyche, see PSYCHE.

cupping, a treatment for relief of congested or inflamed tissues, more used formerly than now The principle is to reduce the pressure under a glass applied to the skin, so that the skin is drawn into

the rim of the glass and its blood vessels are filled with blood The glass, 1 to 2 in wide, may be heated gently in an alcohol flame and applied, or it may be heated by touching a lighted match to the inside, which has been wiped with alcohol, the flame being extinguished when the glass is applied This is known as dry cupping If aseptic incisions are made so that blood is actually drawn, it is called wet cupping

Curaçao (kū'rūsō, kōōrusou'), Dutch colony (366 sq mi ; pop 143,052), West Indies The capital is WILLEMSTAD The colony is in widely separated parts; the islands of Curaçao (174 sq mi , pop 88,323), Bonaire or Buen Ayre (98 sq mi , pop 5,550), and Aruba (68 sq mi , pop 45,907) are off Venesuela, but St Martin, St Eustatius, and little Saba (5 sq mi , pop 1,143) are in the NW Leeward Islands Since Curaçao itself and the neighboring islands are semiarid and much of the plant life is of desert character, little agriculture is possible, and grazing, except for goats, is restricted Water from wells is insufficient and must be supplemented by imports Tempered by trade winds, the climate, in spite of the hot sun, is pleasant The population, largely Negro, has small Dutch and Venesuelan elements The even temperature and the curious blend of Afro-Spanish-Dutch culture—the patois and music of the Negroes, the neat Dutch cities with their gabled roofs—are of increasing attraction to tourists Discovered by Ojeda and Vespucci in 1499, Curaçao was not settled by the Spaniards until 1527 In 1634 the Dutch took control and, except for brief periods (1798, 1807–14) when the island was occupied by the English, have held it since. The making of curaçao liqueur was long a leading industry until it was transferred to the Netherlands The discovery and exploitation of enormous petroleum reserves at Lake Maracaibo, Venesuela, and the shallow channel from lake to sea at MARACAIBO city led to the construction of two oil refineries, among the world's largest, on Aruba and Curaçao Phosphates and crude salt are also mined and exported There is some fishing, and native cheeses are made After the fall of the Netherlands in the Second World War, Curaçao declared war (1940) on Germany, and the oil refineries were protected by U S troops in the war See P H Hiss, *Netherlands America* (1943)

curaçao (kyōōrūsō', a LIQUEUR sweet or dry, distilled from dried orange peel and spirits and flavored with rum Originally made by the Dutch in Curaçao from an orange native to the island, it is now produced principally in the Netherlands Grand Marnier and Cointreau are varieties of curaçao made with fine brandy

curare (kyōōrä'rē), aqueous poisonous extract obtained from certain South American plants Long employed by South American Indians to treat the tips of arrows for use both in warfare and in hunting animals, it causes paralysis of the muscles Death usually follows from inability to breathe caused by the paralysis One of the chief sources of curare is *Strychnos toxifera*, in which the poisonous principle is the alkaloid curarine Generally extracts of several different plants are mixed to obtain the proper consistency Some curare is obtained from species of *Chondrodendron*, in that from *Chondrodendron tomentosum* the alkaloid curine has been identified Curare has sometimes been named according to the kind of container in which it was sold on the market, tubocurare appeared in bamboo tubes, calabash or gourd curare in containers made from gourds, and pot curare in unglazed clay jars Some medical use has been made of curare in treating certain types of paralysis and to relax muscles to facilitate surgery See *Curare: Its History, Nature, and Clinical Use* (1947)

curb market. Formerly unorganized customary street meetings of brokers, most curb markets are now well organized and well housed Their main function is to provide primary markets for introducing new securities, whether of new or old firms, or speculative issues in their "formative" period and for other active stocks and bonds not listed on other exchanges In New York city early informal groups of traders organized successively the Curb Market Agency (1906), the Curb Market Association (1910), and the New York Curb Exchange (1929), under a president and board of 32 governors who administer a constitution and manual of trading rules The New York curb market lists about 950 securities, including many old and established ones and others which later "graduate" to the stock exchange Since 1934 the curb market has been under the general regulation of the SECURITIES EXCHANGE COMMISSION The curb market is comparable to the coulisse of the Paris bourse, and equivalent institutions exist in most capitalist nations See S S Huebner, *The Stock Market* (1939)

curculio (kûrkū'lēō), any typical snout beetle with a beak which is decurved and long in most species (sometimes twice the body length) and short and wide in some There are over 1,800 species in the United States Among them are serious pests, e.g., the apple and plum curculios, the imbricated snout beetle, and many species of WEEVIL.

Curé Island, T H · see KURE ISLAND.

Curel, François de (frăswä' dù kürĕl'), 1854–1928, French dramatist An early contributor to the Théâtre Libre and an expert craftsman, Curel won popular success only with *L'Âme en folie* (1919), a comedy His early plays, *L'Envers d'une sainte* (1892), *L'Invitée* (1893), and *La Danse devant le miroir* (1913) were followed by plays whose interest was the use of ideas on the stage. These include *Les Fossiles* (1892), *Terre inhumaine* (1922), and *La Vieuse et le morbond* (1925) He was elected to the French Academy in 1919

Curetes (kūrē'tēz), in Greek legend, young male divinities, who by dancing noisily about the infant Zeus protected him from his father, Cronus They are sometimes represented as attendants of Rhea and are confused with the Corybantes, the Cabiri, and the Dactyls

curfew (kûr'fū) [O Fr ,=cover fire], originally a signal, by the ringing of a bell, to cover up the fire, extinguish all lights in the dwelling, and retire for the night The custom originated as a precaution against fires and was common throughout Europe in the Middle Ages, applying to all classes of people It was abolished in England in the early part of the 14th cent , as it aroused considerable opposition The custom of ringing a bell at a certain time of night as a means of apprising the inhabitants of the time, rather than as a complete prohibition of further activity, has survived down to the present day The curfew is used today chiefly in times of turbulence such as revolution It is a restrictive measure designed to force all persons into their homes and thus reduce activity against the government or the foreign, occupying force

Curia Regis · see PARLIAMENT

Curia Romana · see CARDINAL

Curiatii, see HORATII

Curicó (kūrēkō'), city (pop 21,153), capital of Curicó prov , central Chile, 120 mi S of Santiago Founded c 1743, Curicó is a market for cattle and agricultural produce Flour mills and distilleries are the main industries

Curie, Ève Denise (kyōōrē', Fr ĕv' dunēz' kürē'), 1904 , French writer, lecturer, and pianist, daughter of Marie and Pierre Curie Her outstanding biography of Mme Curie, published in 1937, was translated into some 25 languages Ève Curie gave her first concert in Paris in 1925 and later became known also as a music critic In the Second World War she was active in the Free French movement, as a war correspondent she visited (1941–42) the major battle fronts and wrote an account of her trip, *Journey among Warriors* (1943) In 1945 she became copublisher of *Paris Presse*

Curie, Pierre (pyĕr'), 1859-1906, French chemist and physicist, and **Marie Sklodowska Curie** (marē' sklôdôf'ska), 1867 1934, chemist and physicist, b Warsaw They are known for their work on radioactivity and on radium Pierre Curie's early work dealt with crystallography and with the effects of temperature on magnetism, he discovered (1883) and, with his brother Jacques Curie, investigated piezoelectricity (a form of electric polarity) in crystals Marie Sklodowska's interest in science was stimulated by her father, a professor of physics in Warsaw In 1891 she went to Paris to continue her studies at the Sorbonne In 1895 she married Pierre Curie and engaged in independent research in his laboratory at the municipal school of physics and chemistry where Pierre was director of laboratories (from 1882) and professor (from 1895) Following A H Becquerel's discovery of radioactivity, Mme Curie began to investigate uranium, a radioactive element found in pitchblende In 1898 she reported a probable new element in pitchblende, and Pierre Curie joined in her research They discovered (1898) both polonium and radium laboriously isolated (1902) one gram of radium salts from about eight tons of pitchblende, and determined the atomic weights and properties of radium and polonium The Curies refused to patent their processes or otherwise to profit from the commercial exploitation of radium For their work on radioactivity they shared with Becquerel the 1903 Nobel Prize in Physics The Sorbonne created (1904) a special chair of physics for Pierre Curie, Marie Curie was appointed his successor after his death in a street accident. She also retained her professorship (assumed in 1900) at the normal school at Sèvres and continued her research In 1910 she isolated (with André Debierne) metallic radium As the recipient of the 1911 Nobel Prize in Chemistry she was the first to be awarded a second Nobel Prize She was made director of the laboratory of radioactivity at the Curie Institute of Radium, established jointly by the Univ of Paris and the Pasteur Institute, for research on radioactivity and for radium therapy During the First World War she devoted her energies to providing radiological services for hospitals In 1921 a gram of radium, a gift from American women, was presented to her by President Harding; this she accepted in behalf of the Curie Institute A second gram, presented in 1929, was given by Mme Curie to the newly founded Curie Institute in Warsaw. Among the very numerous and valuable writings of the Curies are Marie Curie's doctoral dissertation, *Radio-active Substances* (1902, 2d English ed., 1904); *Traité de radioactivité* (1910); *Radioactivité* (1935); and her biography of Pierre Curie (1923, Eng tr , 1923). Pierre Curie's collected works appeared in 1908 A biography of Marie Curie was written by a daughter, Ève Curie See also JOLIOT-CURIE, IRÈNE

Curitiba (kōōrētē'bù), city (pop 99,440), capital of Paraná state, SE Brasil Though founded in 1654 in the 17th-century gold rush, it was actually of little significance until the early 20th cent when immigrants began to develop the Paraná hinterland A cool and pleasant plateau town, it is a commercial and processing center for an expanding agricultural and ranch area and has minor manufactures It exports mate, coffee, sugar, lumber, and livestock products It is connected by rail with the Atlantic port of Paranaguá (c.50 mi away) The Univ of Paraná is at Curitiba The name was formerly commonly spelled Curityba, other variants in older works are Curytiba, Corritiba, and Corytiba,

curium (kyōō'rēum), violently radioactive chemical element (symbol=Cm, for physical constants, see ELEMENT, table) Curium can be prepared by bombarding plutonium with helium nuclei or by radiating americium with neutrons Curium emits alpha particles and has a half life of about five months, its disintegration product being plutonium Curium hydroxide has been isolated Curium, which was first identified in 1944 (and reported in 1945) by Glenn T. Seaborg and his co-workers, was produced with the aid of the cyclotron at the Univ of California

Curius Dentatus, Manius see DENTATUS

curlew (kûr'lū), any of a number of large shore birds of both hemispheres, generally brown and buff in color and with decurved bills The long-billed curlew, its bill almost one third the body length (about 2 ft), once abundant, is now rare in the E United States, it frequents salt marshes, prairies, and tidal creeks in the West In summer it eats locusts and other injurious insects The Hudsonian and the nearly extinct Eskimo curlews migrate from arctic breeding grounds to South America The bristle-thighed curlew summers and nests in Alaska and winters on S Pacific islands Some of the godwits and ibises are called curlews

Curley, James Michael, 1874 , American political leader, b Boston He held many municipal offices, served (1902–3) in the Massachusetts legislature, and became a power in the Democratic party of Boston before he served (1911–14) in the U S House of Representatives Curley—whose colorful personality and shrewd political manipulations steadily increased his vote-getting abilities—served three terms as mayor of Boston (1914–18, 1922–26, 1930–34) before he was governor of Massachusetts (1935–37) and again U S Congressman (1943–46) After Curley was once more elected (1945) as mayor of Boston, he was convicted (1946–47) of mail fraud He served (1947) five months in prison before his sentence was commuted by President Harry S Truman After he fulfilled his duties as mayor (1947–50) and was defeated (1949) for reelection to that post, Curley was given (1950) a full pardon by Truman

curling, winter sport, similar in principle to bowls and quoits, played on an ice court by teams of four Each player hurls a squat, circular stone—weighing 44 lb , dished on bottom and top and having a handle on top for the player's grip—at the tees, or fixed goals, which are placed 38 yd apart Around each tee a circle is drawn with a radius of 7 ft Each man is provided with a crampit, or spiked metal plate, to get a foothold on the ice, and a broom to sweep the ice in front of the swerving stone—one of the eye-catching features of the game. The men on both teams, alternating, send the stones toward one tee, the stones lying nearest the tee at the end of play count toward the score The play is then made toward the opposite tee Curling is the major winter sport of Scotland, where it was perhaps played as early as the 16th cent The Grand Caledonia Curling Club, founded in 1838, is the governing body of the sport Curling is also popular in Canada and is played to some extent in the United States and other countries where ice is found

Curll, Edmund (kûrl), 1675–1747, London bookseller, who, along with many fine books, printed a number of obscene works for the publication of which he was pilloried and imprisoned He quarreled with Pope over the publication of *Court Poems* and Pope's letters and was lampooned by the latter in *The Dunciad* See Ralph Straus, *The Unspeakable Curll* (1927)

Curragh, the (kûr'ukh) [Irish,=moor], undulating plain or common, 4,885 acres, Co Kildare, Ireland, E of Kildare town It has been a military camp since 1646 The Curragh racecourse is also long established

Curran, John Philpot (kŭ'rŭn), 1750–1817, Irish statesman and orator He became the best-known trial lawyer in Dublin when he was still very young, and he sat for a while in the Irish Parliament. He fought for Catholic Emancipation and vigorously opposed the repressive policy of the

British government in Ireland. He was defense lawyer for many of the rebels at the turn of the century; as such, he defended Wolfe TONE and Lord Edward FITZGERALD. He opposed the union of Ireland with England. Subsequently he sat in the privy council of the United Kingdom. His daughter, Sarah, was in love with Robert EMMET, who was captured and hanged when he came to Dublin to visit her. Their tragic love affair inspired Thomas Moore's verses beginning, "She is far from the land where her young hero sleeps" and "Oh! breathe not his name."

currant (kŭ'rŭnt), garden shrub of the genus *Ribes* native to the colder climates, having black, red, or white edible fruit, very tart, used for jellies, sauces, and pies. The common currant cultivated in American gardens is an Old World species (*Ribes sativum* or *vulgare*), red or white fruited. The currant acts as a host of the white-pine blister rust, and for that reason cultivation has been discouraged by the government in recent years. The buffalo or Missouri currant and others are grown for ornament. Indians used dried currants in making PEMMICAN, but the "dried currant" of commerce is a RAISIN. Indian currant is a name both for a West Coast currant and for the coralberry (see SNOWBERRY).

currency: see COIN and MONEY

current, electric: see ELECTRICITY

curriculum, course of study in a school of any grade. A typical curriculum, with a great history, is that in LIBERAL ARTS.

Currie, Sir Arthur William (kŭ'rē), 1875–1933, Canadian commander in the First World War. In April, 1917, he succeeded Sir Julian Byng as commander of the Canadian Corps with the rank of lieutenant general. His men distinguished themselves particularly at Ypres (1915), at Vimy Ridge (1917), and in the last months of the war when they broke the Amiens salient, penetrated the Hindenburg Line between Arras and Cambrai, and drove through to Mons on the Belgian frontier. He was knighted for his services. From 1920 until his death he was principal and vice chancellor of McGill Univ.

Currier & Ives, American lithographers and print publishers, whose prints of contemporary scenes and events of American life over the last two thirds of the 19th cent. have now become scarce and much-sought-after collectors' items. Nathaniel Currier (1813–88), born in Roxbury, Mass., founded the business in New York city in 1835, and in 1850 he took into partnership J. Merritt Ives, an artist. After 1857 their prints all bore the legend Currier & Ives. Currier retired in 1880, but his son, William, continued in the business with Ives. See H. T. Peters, *Currier & Ives, Printmakers to the American People* (1929; special ed., 1942), F. A. Conningham, *Currier & Ives Prints an Illustrated Check List* (1949).

Curry, Jabez Lamar Monroe, 1825–1903, American educator, b. Lincoln co., Ga., grad. Univ. of Georgia, 1843. He studied law at Harvard and later became a member of the Alabama legislature, of Congress (1857–61), and of the Confederate Congress (1861–64). After the Civil War, Curry served as president of Howard College (1865–68), as professor of English and public law at Richmond College (1868–81), and as U.S. minister to Spain (1885–88). After 1881, as administrative agent of the Peabody Fund for Southern Education, Curry established state normal schools and fostered better rural schools throughout the South, further extending his work after 1890 as agent of the Slater fund for Negro schools. He became (1901) supervising director of the Southern Education Board. See biography by E. A. Alderman and A. C. Gordon (1911), study by J. P. Rice (1949).

Curry, John Steuart, 1897–1946, American painter, b. Dunavant, Jefferson co., Kansas. He spent his youth on his father's farm. In 1916 he entered the Kansas City Art Institute and later studied in Chicago and New York and in Paris. His early paintings of Kansas life, such as *Baptism in Kansas*, aroused interest by their simple and authentic character. In 1932 Curry traveled with Ringling Brothers, making circus sketches. One of the resulting paintings is his *Flying Cadonas* (Whitney Mus., New York). In 1933 his painting *Tornado* (Hackley Art Gall., Muskegon, Mich.) won him an award and wide recognition. After serving as instructor in the Art Students League of New York, Curry was appointed artist in residence at the Univ. of Wisconsin in 1936. In addition to his oil paintings in numerous galleries and private collections, Curry is known for his murals in the high schools of Norwalk and Westport, Conn., the Dept. of Justice Building, Washington, D.C., and the statehouse, Topeka, Kansas. See L. E. Schmeckebier, *John Steuart Curry's Pageant of America* (1943).

curry [Malayalam], condiment much used in India and the East generally, in combination with rice, meat, and a variety of other dishes, and therefore called the salt of the Orient. It is compounded of such spices as turmeric, fenugreek, ginger, black and cayenne pepper, coriander, and caraway. When the pungent leaf of an East Indian tree of the rue family is included, the curry powder is used not only as a stimulating flavor, but as a remedy for dyspepsia and diarrhea. Curry paste is made from the slightly acid, jellylike pulp of the tamarind pod, combined with a variety of spices.

cursive: see PALEOGRAPHY

Cursor Mundi (kûr'sôr mûn'dī) [Latin,=courier of the world, intended to mean *course of the world*], a long 13th-century English poem giving the history of the world from a theological point of view, from the beginning to the end. It is written in the northern dialect, and it is one of the most valuable records of the English of the period. It has been edited by the Early English Texts Society.

Curtea-de-Argeş (kôr'tä-dā-är'zhĕsh), town (pop. 9,180), S central Rumania, in Walachia, of which it was once the capital. Its cathedral, built in the 16th cent. in Byzantine style, became the burial place of the kings of Rumania.

Curtin, Andrew Gregg, 1817–94, Civil War governor of Pennsylvania, b. Center co., Pa. Having vigorously devoted himself to politics, Curtin in 1860 was nominated for governor in hope that he would swing the pivotal Pennsylvania to Lincoln. As governor he rallied the state to the cause of the Union. His popularity returned him to office in 1863 by a large majority. He was considered for Vice President in 1868, but after the nomination went to Schuyler Colfax, Grant appointed (1869) him minister to Russia, where he served three years. His popularity in the Republican party was lost when he supported Horace Greeley for President in 1872, and later he went over to the Democratic party and served (1881–87) in Congress as a Democrat. See William H. Egle, ed., *Andrew Gregg Curtin* (1895), W. B. Hesseltine, *Lincoln and the War Governors* (1946).

Curtin, John, 1885–1945, Australian prime minister (1941–45). A labor-union secretary, he edited (1917–28) a labor weekly and was later a member of the lower house—from 1928 to 1941, except for three years. He became Labour party leader. As wartime prime minister, he vigorously organized the defense of Australia in the Second World War, and though he worked closely with the United States, he also helped plan closer cooperation within the British Empire. He died in office.

Curtis, Benjamin Robbins, 1809–74, American jurist, Associate Justice of the U.S. Supreme Court (1851–57), b. Watertown, Mass., grad. Harvard, 1829. After studying law at Harvard, he practiced at Northfield, Mass., and served several terms in the state legislature. He wrote one of the two dissenting opinions in the DRED SCOTT CASE. One of the nation's leading lawyers, he was chief counsel to Andrew Johnson at the President's impeachment trial. See biography by his son B. R. Curtis (1879), which includes a memoir by G. T. Curtis.

Curtis, Charles, 1860–1936, Vice President of the United States (1929–33). He was born on Indian land now included in Topeka, Kansas, his mother was half Kansa Indian. Admitted to the bar in 1881, he practiced in Topeka and was county attorney (1884–88) of Shawnee co. He was a member of the House of Representatives (1893–1907) and later of the Senate (1907–13, 1915–29). He was elected Vice President on the Republican ticket, serving with Herbert Hoover.

Curtis, Cyrus Hermann Kotzschmar, 1850–1933, American publisher and philanthropist, b. Portland, Maine. He began work as a newsboy at the age of 12. After working in Boston from 1869, he went to Philadelphia in 1876, worked on the Philadelphia *Press*, and, with financial backing, started a periodical, the *Tribune and Farmer*, a section of which later developed (1883) into the *Ladies' Home Journal*. Curtis founded (1890) the Curtis Publishing Company and in 1897 purchased the *Saturday Evening Post*, which, with his editor George Horace Lorimer, he built up to a position of eminence. *Country Gentleman* was bought in 1911, and in 1913 he purchased the Philadelphia *Public Ledger*. This was the first of his newspaper ventures. Among others purchased were the Philadelphia *Press* (1920), the New York *Evening Post* (1924), and the Philadelphia *Inquirer* (1930). Curtis gave large sums to many colleges, hospitals, and charities. See E. W. Bok, *A Man from Maine* (1923).

Curtis, George Ticknor, 1812–94, American lawyer and writer, b. Watertown, Mass., grad. Harvard, 1832. He studied at Harvard Law School and, admitted to the bar in 1836, practiced in Boston and (after 1862) in New York city, becoming a highly successful patent attorney. Curtis served in the Massachusetts legislature (1840–43) and as U.S. commissioner at Boston under the Fugitive Slave Act of 1850 incurred the wrath of the abolitionists by returning (1852) a runaway Negro, Thomas Sims, to slavery. He was, however, one of the defense counsel in the DRED SCOTT CASE, heard by the U.S. Supreme Court at a time when his older brother, Benjamin R. CURTIS, was on that bench. Closely associated with Daniel Webster, he was one of the so-called "Cotton Whigs" who became Democrats. He wrote a memoir of his brother (1879), biographies of Daniel Webster (1870) and James Buchanan (1883), and many legal treatises. His *Constitutional History of the United States to the Close of the Civil War* (Vol. I, 1889, Vol. II, ed. by J. C. Clayton, 1896), his most notable work, is the classic Federalist interpretation of the Constitution.

Curtis, George William, 1824–92, American author, editor, orator, and reformer, b. Providence, R.I. An admirer of Emerson and once a student at Brook Farm, Curtis carried unusually high ideals into public life. As an author notable in his time, he wrote travel books, such as *Nile Notes of a Howadji* (1851), essays, and magazine articles. *Prue and I* (1856), his most famous work, was a series of gentle essays republished from *Putnam's Magazine*. For over 40 years he conducted "From the Editor's Easy Chair" for *Harper's New Monthly Magazine*. Both as a distinguished orator and as political editor of *Harper's Weekly* after 1863, he devoted himself to public service, first championing the anti-slavery cause and later promoting civil service reform, woman suffrage, and clean politics. In 1890 he was appointed chancellor of New York Univ. after long service on the board of regents. See biography by Edward Cary (1894).

Curtis, Harvey Lincoln, 1875–, American physicist, b. Mason, Mich., grad. Univ. of Michigan (Ph.B., 1900). He joined the National Bureau of Standards in 1907, serving as head physicist from 1928 to 1946. His chief work has been research in electricity and in ballistics.

Curtis, Samuel Ryan, 1805–66, Union general in the Civil War, b. Clinton co., N.Y., grad. West Point, 1831. Resigning from the U.S. army in 1832, Curtis became a lawyer and later an engineer in Ohio, served in the Mexican War, and resumed engineering work in Iowa and Missouri. In 1856 he was elected to Congress from Iowa, resigning in 1861 to become a Union brigadier general. At PEA RIDGE (1862) he won a decisive victory which brought him a major generalcy. He commanded the Dept. of Missouri (1862–63), the Dept. of Kansas (1864–65), and the Dept. of the Northwest (1865). His last services (1865–66) were in negotiating treaties with the Indians and in reporting on the construction of the new Union Pacific RR.

Curtis Institute of Music, in Philadelphia, coeducational, founded 1924 by Mary Louise Curtis Bok (later Mrs. Efrem Zimbalist) and named for her father, Cyrus Curtis. The institute operates entirely on a scholarship basis, with a faculty made up principally of concert artists. The library includes the Burrell collection of Wagneriana.

Curtiss, Glenn Hammond, 1878–1930, American inventor and pioneer in aviation, b. Hammondsport, N.Y. He opened a bicycle shop which he turned into a motorcycle factory as his light Curtiss engines for motorcycles began to attract attention. He was one of the members of Alexander Graham Bell's Aerial Experiment Association (1907–9), and with planes built in this period he began in 1908 to give the first public flights in America, the work of the Wright brothers still being conducted secretly. In 1909 he established the first flying school in America. His greatest triumph was the then daring and spectacular flight from Albany to New York city in 1910 to win the $10,000 New York *World* prize. By 1912 he had developed his "flying boat" or seaplane. In 1916 he organized the Curtiss Aeroplane and Motor Corp., which built many planes for the Allied nations and, after 1917, for the United States. Curtiss continued to contribute radical improvements in design of both planes and motors. His Wasp planes were especially successful, as were also his NC (Navy-Curtiss) seaplanes, one of which, the NC-4, achieved the first crossing of the Atlantic (1919). See biography by Clara Studer (1937).

Curtius, Ernst (ûrnst' kôōr'tsĭ-ŭs), 1814–96, German archaeologist and historian. He secured for Germany the exclusive right of excavating at OLYMPIA, Greece, and taught at the universities of Gottingen and Berlin. His works include *History of Greece* (1857–61, Eng. tr., 5 vols., 1868–73).

curvature of the spine, abnormal curves of the spinal column resulting in deformity. Lateral curvature (scoliosis) occurs more frequently than forward curvature (lordosis) or backward curvature (kyphosis). Scoliosis is usually associated with rotation of the vertebrae. Spinal curvature has a number of causes, e.g., faulty posture, congenital factors, pathological bony changes (as in rickets and decalcification or osteomalacia of the vertebrae), infantile paralysis, and tuberculosis. Treatment consists of corrective exercises, corrective supports or appliances, and surgery (particularly in cases of marked deformity in adolescence).

curve, in mathematics, a line no part of which is straight. Sometimes a curve is considered to be any one-dimensional collection of points, thus including the straight line as a special kind of curve. In analytic geometry the plane curve is considered chiefly as the graph of an equation or function, and the properties of curves are seen to depend largely on the degree of the equation in the case of algebraic curves (i.e., curves with algebraic equations) or on the particular function in the case of transcendental curves (i.e., curves whose equations are not algebraic). For examples of plane curves, see CIRCLE, ELLIPSE, HYPERBOLA, PARABOLA. A twisted or skew curve is one which does not lie

all in one plane, e g, the helix, a curve having the shape of a wire spring

Curwensville (kûr'winzvĭl"), industrial borough (pop 3,422), W central Pa, on the West Branch of the Susquehanna and SW of Clearfield, settled c 1800, inc c 1832 It produces brick, sandstone, clay, and leather

Curzola, Yugoslavia see KORCULA

Curzon, George Nathaniel, 1st Marquess Curzon of Kedleston (kûr'zun), 1859–1925, British statesman; son of the 4th Baron Scarsdale (whom he succeeded in 1916) He showed early brilliance in politics and was undersecretary of state for India (1891–92) and undersecretary for foreign affairs (1895–98) Travels in Asia resulted in several books—*Russia in Central Asia* (1889), *Persia and the Persian Question* (1892), and *Problems of the Far East* (1894) As viceroy of India (1899–1905), he vigorously undertook administrative reform there, and his greatest achievements were pacification of the northwest border and encouragement of higher education Some of his brusque actions aroused antagonism, and he resigned after a quarrel with Lord Kitchener, commander of the army in India, who was supported by the home government Back in England, he was an able chancellor of Oxford, was made Earl Curzon of Kedleston in 1911 (raised to marquess 1921), and became a prominent Conservative as leader in the House of Lords, as lord privy seal (1915–16), and as foreign secretary (1919–24) He presided over the Lausanne Conference of 1922–23 and expressed strong disapproval of French occupation of the Ruhr and other French measures in Germany He paved the way for the Dawes Plan settlement of reparations See official biography by Lord Ronaldshay (1928)

Cusa, Alexander John see CUZA, ALEXANDER JOHN

Cusa, Nicholas of see NICHOLAS OF CUSA.

Cusco, Peru see CUZCO

Cush (kŭsh) **1** Asiatic nation, perhaps the same as one of similar name in E Mesopotamia flourishing c 1500 B C Gen 10 8, 1 Chron 1 10 **2** Benjamite opposed to David Ps 7, title **3** All other biblical references to Cush are for Ethiopia, i e, roughly the present Anglo-Egyptian Sudan Compare, in this regard, the genealogies of the eponyms of various nations, according to which Cush was Ham's son Gen 10 6, 1 Chron 1 8

Cushan (kŭ'shăn), obscure name in Hab 3 7 Some identify it with the Asiatic or the African Cush

Cushi (kū'shī) [Heb, = Cushite] **1** Messenger of Joab 2 Sam 18 19–33 **2** Ancestor of one of Jehoiakim's courtiers Jer 36 14 **3** Zephaniah's father Zeph 1 1

Cushing, Caleb (kŏŏ'shĭng), 1800–1879, American statesman, b Salisbury, Mass, grad Harvard, 1817 For some years he devoted himself to law and to writing political essays Service in the Massachusetts state legislature was followed by four terms in Congress (1835–43) He loyally supported William H Harrison, and after Harrison's death he remained a Whig and chose to stand by John Tyler rather than follow Henry Clay in his opposition program As the first American commissioner to China, Cushing negotiated (1844) the Treaty of Wanghia providing for the opening of the ports of China to U S trade He continued prominent in politics, engineered (1852) the nomination of Franklin Pierce at the Democratic convention of 1852, and served efficiently as Pierce's Attorney General (1853–57) When Stephen A Douglas was nominated (1860) for President, Cushing led the Democrats who nominated J C Breckinridge Secession convinced him that conciliation was impossible, and he supported Lincoln, thereafter remaining Republican He later acted (1871–72) as counsel for the United States at the arbitration of the Alabama Claims and was (1874–77) minister to Spain See biography by Claude M Fuess (1923)

Cushing, Frank Hamilton, 1857–1900, American ethnologist and archaeologist, b North East, Pa Associated with the U S Bureau of Ethnology from 1879, he was an authority on the Pueblo Indians, especially the Zuni He lived among the Zuni for three years, was adopted into the tribe, wrote several books on them, and translated *Zuñi Folk Tales* (1901) In 1896 he investigated remains of lake dwellings in the Florida Keys

Cushing, Harvey Williams, 1869–1939, American neurosurgeon, b Cleveland, grad Yale (B A, 1891), M D Harvard, 1895 Associated with Johns Hopkins (1896–1912), Harvard (1912–32), and Yale (1933–37), he was noted for his great contributions to surgery of the brain and also as teacher and as author For his life of Sir William Osler he won the 1925 Pulitzer Prize in biography Among his other works are a famous treatise on the pituitary body, *Tumors of the Nervus Acusticus* (1917), *Intracranial Tumours* (1932), and the autobiographical *From a Surgeon's Journal, 1915–1918* (1938) See biographies by J F Fulton (1946) and E H Thomson (1950)

Cushing, Luther Stearns, 1803–56, American lawyer, b Lunenburg, Mass, grad Harvard Law School, 1826 His best-known work is his short *Manual of Parliamentary Practice* (1844, many later editions), usually known as *Cushing's Manual.* It is still used in the United States in conducting meetings and legislative activities Cushing's fuller treatment of the subject is *Elements of the Law and Practice of Legislative Assemblies* (1856). He also wrote *An Introduction to the Study of Roman Law* (1854)

Cushing, William Barker, 1842–74, Union naval hero in the Civil War, b Delafield, Wis, educated at Annapolis Cushing became noted for a series of daredevil exploits, particularly for his sinking of the Confederate ram *Albemarle* at Plymouth, N C, in Oct, 1864

Cushing (kŏŏ'shĭng), city (pop 7,703), central Okla, near the Cimarron river SW of Tulsa, settled 1892, inc as a town 1894, as a city 1913 It is the trading and industrial center of a farm and oil-producing area

Cushite (kŭ'shīt), group of Hamitic languages, spoken S of Egypt See LANGUAGE (table)

Cushman, Charlotte Saunders (kŏŏsh'mŭn), 1816–76, American actress, b Boston, Mass The loss of her singing voice turned her from opera to drama, and in 1835 she played Lady Macbeth at New Orleans This role and Queen Katharine in Shakspere's *Henry the Eighth* were always her greatest triumphs, but she was popular in such melodramatic parts as Meg Merrilies in an adaptation of Scott's *Guy Mannering* and in her portrayals of male characters such as Romeo, Hamlet, Cardinal Wolsey, and Claude Melnotte Her appearances in England in 1845–49 were a great success She had a powerful voice and a regal bearing See biographies by Emma Stebbins (1878), Lawrence Barrett (1889), and W T Price (1894)

Cushman, George Hewitt, 1814–76, American miniature painter and engraver, b Windham, Conn He was known as an illustrator and as an engraver of bank notes and bookplates His miniatures were highly prized

Cushman, Pauline, 1835–93, Union spy in the Civil War, b New Orleans She lived in Grand Rapids, Mich, before becoming an actress at 18 in New York city In 1863 she was banished to Confederate lines as a supposed Southern sympathizer, when in reality she had already performed valuable services for Union intelligence in Louisville and Nashville Captured with compromising papers upon her, she was taken to Gen Braxton Bragg's headquarters, court-martialed, and sentenced to be hanged However, in Bragg's hasty departure (June, 1863) from Shelbyville, Tenn, she was left behind and was thus able, for the last time, to help the Union cause with information about Confederate strength and plans Dressed in a Federal uniform, she lectured afterwards about her experiences Her later life was unhappy, and she died a suicide in San Francisco

Cushny, Arthur Robertson (kŭsh'nē), 1866–1926, Scottish physician and pharmacologist. He came to the United States and was professor at the Univ of Michigan (1893–1905) Returning to Britain, he taught at the universities of London (1905–18) and Aberdeen (1918–25) He studied the action of digitalis on the heart, the secretion of urine, the effects of optical isomers, and the correlation of certain heart symptoms with auricular fibrillation His works include *A Text-Book of Pharmacology and Therapeutics* (1899, 13th ed, *Pharmacology and Therapeutics*, 1947)

custard apple see PAPAW

Custer, George Armstrong, 1839–76, b New Rumley, near Cadiz, Ohio, grad West Point, 1861 He immediately saw action in the Civil War at the first battle of Bull Run and then distinguished himself as a member of Gen G B McClellan's staff in the Peninsular campaign Custer was made a brigadier general of volunteers in June, 1863 (he was the youngest general in the Union army), and ably led a cavalry brigade in the Gettysburg campaign He became a national celebrity in 1864 for his fighting under Gen P H Sheridan in the great cavalry battle at Yellow Tavern and in Sheridan's Shenandoah Valley campaign, especially at Winchester Made a divisional commander in Oct, 1864, he defeated Gen Thomas L Rosser at Woodstock (Oct 9, 1864) After dispersing the remnants of Gen Jubal A Early's command at Waynesboro on March 2, 1865, he was in the advance in pursuit of Lee's army beyond Richmond Custer received the Confederate flag of truce, was present at the surrender at Appomattox Courthouse, and was promoted major general of volunteers His record (he had also been brevetted a major general in the regular army), considering his youth, was one of the most spectacular of the war In the reorganization of the U S army after the war Custer was assigned to the 7th Cavalry with the rank of lieutenant colonel, and he remained the acting commander of this regiment until his death In 1867 he was court-martialed and set down for leaving his command at Fort Wallace, Kansas, without permission, but in Sept, 1868, he was reinstated, mostly through the efforts of Sheridan, with whom he had always been a prime favorite In massacring the Cheyenne and their allies at the battle of the Washita (Nov, 1868) he was accused of abandoning a small detachment of his men, who were annihilated by the Indians He served on the Yellowstone in Dakota Territory (1873) and in 1874 commanded the expedition into the Black Hills which led to renewed hostilities with the Sioux. In the comprehensive campaign against the Sioux planned in 1876, Custer's regiment was detailed to the column under the commanding general, Alfred H Terry, that marched from Bismarck to the Yellowstone At the mouth of the Rosebud, Terry sent Custer forward to locate the enemy while he marched on to join the column under Gen John Gibbon Custer discovered the Indian encampment on the Little Bighorn on June 25 and decided to attack at once despite the great number of Indians, most of whom lay concealed in ravines He divided his regiment into three parts, sending two of them, under Major Marcus A Reno and Capt Frederick W Benteen, to attack farther upstream, while he himself led the third (over 200 men) in a direct charge The Indians killed them to a man Reno and Benteen were themselves kept on the defensive, and not until Terry's arrival was the extent of the tragedy known The men (except Custer, whose remains were reinterred at West Point), were buried on the battlefield, now a national monument in Montana Custer's spectacular death made him a popular but controversial hero, still the subject of dispute Custer, who was a Democrat, had placed himself on President U S Grant's blacklist by forthrightly testifying against Secretary of War William W Belknap, accused of taking bribes from Indian post traders Anxious to reap a large measure of glory for himself alone and thereby offset Grant's hostility, he ordered the foolhardy attack—thus runs one theory Considering Custer's immodest, not to say arrogant, character, it is not an improbable one Custer wrote *My Life on the Plains* (1874), and his wife, **Elizabeth Bacon Custer,** 1842–1933, who devoted much of her life to upholding his memory, wrote *Boots and Saddles* (1885), *Tenting on the Plains* (1887), and *Following the Guidon* (1890) See also biographies by F S Dellenbaugh (1917), Frazier Hunt (1928), and F F Van de Water (1934), W A Graham, *The Story of the Little Big Horn Custer's Last Fight* (1926, 2d ed, 1941), Charles A Windolph, *I Fought with Custer* (as told to Frazier Hunt and Robert Hunt, 1947), Marguerite Merington, ed, *The Custer Story the Life and Intimate Letters of General George A Custer and His Wife, Elizabeth* (1950)

Custer, city (pop 1,845, alt 5,301 ft), co seat of Custer co, SW S Dak, SSW of Rapid City Oldest town in the Black Hills, it was laid out in 1875 as Stonewall after gold was discovered near by and was soon renamed for G A Custer It has an active tourist trade and is in a mining, timber, and livestock region Near by are Custer State Park, Wind Cave National Park, Jewel Cave and Fossil Cycad national monuments, Harney Peak, and Mt Rushmore National Memorial

Custer Battlefield National Monument see LITTLE BIGHORN, river

Custine, Adam Philippe, comte de (adă' fēlĕp' kōt' du kustēn'), 1740–93, French general He served in the Seven Years War and the American Revolution Elected to the States-General (1789), he later took up arms in the FRENCH REVOLUTIONARY WARS His failure in the campaign of 1793 led to accusations of treason and he was guillotined

Custis, George Washington Parke, 1781–1857, American dramatist, b Mt Airy, Md, educated at the College of New Jersey (now Princeton) He was the grandson of Martha Washington, and, adopted by Washington, he grew up at Mt Vernon and became heir to part of the Washington estate Chiefly a planter and an active promoter of agriculture, he also wrote several plays produced in American theaters in the second quarter of the 19th cent, notably *The Indian Prophecy* (1827), *Pocahontas* (1830), and *The Railroad* (1830) His daughter, **Mary,** married Robert E LEE

custom refers to those group patterns of habitual behavior which tend to be transmitted from one generation to another Custom is enforced by informal sanctions which require some degree of conformity from the members of a society As social habits, such patterns are strengthened by repetition, but ultimately they are characterized only by their duration For example, certain fashions may, at a given time, dominate a culture and yet unaccountably fail to become "customary," i e, become embodied in its tradition

customs, government taxes on imports or exports Such taxes have been used by governments from ancient times Originally they were payments for the use of the facilities of ports and markets where collected, and they were levied at any important trade center, regardless of whether the goods had been taxed previously within the same country In the 18th and 19th cent they came to be levied only at the boundary of a country, and internal customs have now given way to excise. There are two common types of duties—specific duty, a tax levied on the quantity, whether by weight, measure, or number, of the goods, and ad valorem duty, a percentage of the price The ad valorem duty is preferable, but more difficult to levy, necessitating

complex methods to determine the value of goods Specific duties are best applied on goods comparatively uniform in quality and value and for protectionist purposes The United States uses both types and adds a mixed class Since 1922 the United States has given the President power to change rates within limits to meet changing trade conditions Some countries have schedules giving maximum and minimum rates, the former for general use and the latter for nations giving similar concessions through commercial treaties A nation's whole schedule of customs duties, or TARIFF, forms the basis for negotiating such treaties Low preferential rates are frequently granted by reciprocal tariff treaties, and within political unions such as the British Empire there may be special low rates Although customs were originally merely sources of government revenue, they have become a means of raising the prices of foreign goods to give home manufacturers PROTECTION Certain duties are designed to offset DUMPING Countervailing duties, on goods given a bounty by the exporting country, offset the bounty Compensatory duties are levied on manufactured goods to offset those levied on raw materials Few countries now levy many export duties, and those levied are entirely for revenue See F W Taussig, *Free Trade, the Tariff, and Reciprocity* (1920), B A Levett, *Through the Customs Maze* (1923), P W Bidwell, *Tariff Policy of the United States* (1933) A C Pigou, *Protective and Preferential Import Duties* (1935), H R G Greaves, *Raw Materials and International Control* (1936), R C Snyder, *The Most-Favored-Nation Clause* (1948)

Custozza (kōōstōd'zä), village, Venetia, N Italy, near Verona It was the scene of an Austrian victory over Sardinia in 1848 (see RISORGIMENTO) and of an Austrian victory over Italy in 1866 (see AUSTRO-PRUSSIAN WAR)

Cüstrin see KÜSTRIN

cut see WOUND

Cut Bank, town (pop 2,509), co seat of Glacier co, N Mont, at the point where Cut Bank Creek and Birch Creek form the Marias river and NW of Great Falls It is the center for a petroleum and gas field and has an oil refinery The Blackfeet Indian Reservation is west of the town

Cutch see KUTCH

cutch see CATECHU

Cuth (kūth) or **Cuthah** (kū'thä), ancient city of Mesopotamia, near Babylon The inhabitants, when settled in Samaria, introduced the worship of Nergal In later times the Jews called the Samarians Cuthites 2 Kings 17 24,30

Cuthbert, Saint, c 635–687, Celtic monk, bishop at Lindisfarne (685–86) He spent some time in the monastery at Ripon When St WILFRID introduced the Roman computation of EASTER there, he left, but later he accepted the change Cuthbert preached for some years in his native Scotland and to the Picts of Galloway He became prior at Lindisfarne but resigned to live in solitary retreat on Farne Island Nine years later, with great reluctance, he accepted the bishopric of Bernicia at Lindisfarne, retiring to Farne for his last weeks His relics were taken to the cathedral at DURHAM, where they have been tentatively identified Feast March 20 See Bertram Colgrave, *Two Lives of Saint Cuthbert* (1940)

Cuthbert, city (pop 3,447), co seat of Randolph co, SW Ga, S of Columbus, inc 1834 It processes farm products and manufactures plywood Andrew College (junior, for women) is here

Cutler, Manasseh (munā'sē), 1742 1823, American clergyman, scientist, and colonizer, b Killingly, Conn, grad Yale, 1765 A student of both law and theology, he was admitted to the bar in 1767 and was ordained (1771) pastor of the Congregational church at Hamilton, Mass He also studied medicine and became a practicing physician In science Cutler used both telescope and microscope and contributed his observations to the *Proceedings* of the American Academy of Arts and Sciences, of which he was a member His botanical papers, taken together, form the first systematic description and classification of New England flora He aided (1786) in forming the OHIO COMPANY OF ASSOCIATES, and in 1787 he was sent as agent to the Continental Congress to secure a grant of land on the Ohio river for settlement By skillful lobbying he succeeded where his predecessor, Samuel H Parsons, had failed, and for about $80,000 the company purchased 1,500,000 acres While at Congress, Cutler was consulted and took part in framing the famous ORDINANCE OF 1787 In 1788 he drove in a sulky to Ohio, where he remained nearly a year to help establish the settlement at MARIETTA He was (1801–5) a member of the U S House of Representatives, but declined renomination He kept up a large correspondence and a full diary from 1765 to his death He wrote, in addition to his scientific papers, *Description of Ohio* (1787, reprinted 1896) See W P Cutler and J P Cutler, *Life, Journals, and Correspondence of Rev Manasseh Cutler* (1888)

cutlery. The history of cutlery begins with the shell and the sharp flint used for cutting before man made tools The primitive craft of chipping flint began by improving naturally sharp edges The chipped flint knives of the Neolithic period show great skill Knives were made of copper and bronze when those metals came into use Finally steel and alloys of steel have displaced other materials for the blades of instruments for cutting The primitive generalized cutting instrument has been differentiated into specialized instruments of wide variety, e g, the sword, the razor, and shears Table knives were introduced c 1600, until then, individuals brought to the table their own knives, which served also as daggers The penknife was originally a knife for pointing quill pens The pocket knife, with the blade folding into the handle, was invented c 1600 The cutler's craft or industry, which supplies knife sharpeners and steel table forks as well as the finer cutting tools, was long marked by the successful resistance of the handicraftsman to mass production Small shops, with from one workman to a half dozen, are characteristic Handwork is requisite for some operations and is adequate for all Certain localities have become known for the excellence of their cutlery The Toledo blade was famous when the sword was an important weapon Solingen, in Germany, and Sheffield, in England have been noted for their cutlery since the Middle Ages The best knives are forged from high-carbon steel Cheaper grades are beveled from steel bars thick in the center and tapering toward the edges or are stamped from sheets of metal In hollow-ground blades the sides are concave For stainless blades, the steel is usually partly replaced by, or coated with, chromium Scissors blades commonly are either cast in molds or stamped Most razor blades are die-stamped See L J Peet and L E Sater, *Household Equipment* (2d ed, 1940)

Cuttack (kutăk'), town (pop 74,291), E central Orissa state, India, founded in the 10th cent A D Its gold and silver filagree work was long famous Today Cuttack is an important trade center

Cutter, Charles Ammi, 1837–1903, American librarian, b Boston, grad Harvard, 1855 and Harvard Divinity School, 1859 His experience in cataloguing the library of the Harvard Divinity School led him to prefer librarianship to the ministry, and in 1860 he became assistant to the librarian of Harvard As librarian of the Boston Athenaeum (1868–93) he was a pioneer in subject cataloguing The Athenaeum catalogue (5 vols, 1874–82) served as a model for later dictionary catalogues His *Rules for a Dictionary Catalog* (1875), the first work of its kind, went through four editions Cutter's system of classification, *Expansive Classification* (1891–93), used letters of the alphabet instead of numbers as in the Dewey decimal system, it was the basis of the Library of Congress classification Cutter also evolved an alphabetical scheme for arrangement on the shelf by author From 1893 until his death he was librarian of the Forbes Library, Northampton, Mass See biography by W P Cutter, his nephew (1931)

Cutter, George Washington, 1801–65, American poet, b Quebec, Canada He lived later in Indiana and Kentucky He wrote one vigorous battle poem, included in *Buena Vista and Other Poems* (1848), and his *Song of Steam and Other Poems* (1857) is original for its use of a modern theme

cutter, small, one-masted sailing vessel, with a rig similar to that of a SLOOP Cutters were notable for their speed and from 1800 to 1830 were used in service between England and France They were also employed to pursue smugglers, their easy handling and speed fitting them admirably for the task These revenue cutters were so well known that the name was applied to the revenue vessels even after steam had replaced sails, and the vessels of the coast guard are called cutters The name cutter is also used for a heavy rowboat carried on large ships

cutting, part of a plant stem, leaf, or root cut off and used for producing a new plant It is a convenient and inexpensive method of propagation, not possible for all plants but used generally for grapes, chrysanthemums, verbenas (stem cuttings), blackberries (root cuttings), African violets (leaf cuttings), and for many other plants Cuttings, as soon as made, are usually placed in moist sand, frequently heated from below, if taken in the fall, as hardwood cuttings of trees or shrubs, they are placed in unheated sand over winter and planted in the spring The word *cutting* alone usually means stem cutting, *slip* is a common synonym

cuttlefish, marine mollusk of warm and temperate coastal waters with a shield-shaped body, a distinct head (with well-developed eyes), and 10 arms It has an internal calcareous plate or cuttlebone which is used as a source of lime for cage birds It is used also in making abrasives and fertilizers A glandular ink sac secretes sepia which is ejected to form a concealing cloud in case of danger When dried the secretion is made into the sepia used by artists

Cuttyhunk see ELIZABETH ISLANDS

cutworm, the larva of various noctuid or owlet moths The eggs are laid in midsummer They soon hatch into larvae which feed on young shoots and roots In the fall the larvae go underground, emerging the next spring They cut the stems of young plants in cultivated fields, destroying more than they devour and working by night Methods of control include baits of poisoned bran mash or greens, placing metal or paper collars on young plants, or making holes in the ground from which the worms cannot emerge

Cuvier, Georges Léopold Chrétien Frédéric Dagobert, Baron (zhôrzh' lāôpōld' krātyĕ' frādārĕk' dägôbĕr' bärō' küvyā'), 1769–1832, French zoologist and geologist, a founder of the sciences of comparative anatomy and paleontology Outstanding for applying the comparative method to zoological classification and to paleontology, he also made notable studies in systematic zoology, especially on the bone structure of mammals and on the anatomy of fishes In *Leçons sur l'anatomie comparée* (5 vols 1800–1805) he emphasized the form (as opposed to the function) of organs and the correlation between organs in the same body as the basis of systematic classification He applied the correlation theory to the study of fossils and embodied his method of deducing the form of soft parts of fossil animals from their skeletal remains in *Recherches sur les ossemens fossiles des quadrupèdes* (1812) In *Le Règne animal* (1817) he opposed the arrangement of living forms in one continuous series, he divided animals into four groups (Vertebrata, Mollusca, Articulata, and Radiata) and compared forms only within each group His study of fossils and of the earth's development led him to reject theories of continuous evolution and to support the theory of CATASTROPHISM Cuvier was professor at the Collège de France (1800) and at the Jardin des Plantes (1802) and chancellor of the Univ of Paris (1819) As inspector of education (1802) and head of committees on education, he influenced the organization of higher education in France He became a baron (1819) and a peer (1831)

Cuvilliés, François de (frāswä' dù küvēyĕs'), 1698–1767, French architect, decorator, and engraver He introduced into Germany the ROCOCO style of decoration then popular in France He became architect to Charles Albert, elector of Bavaria, and when the latter became Emperor Charles VII (1742) was appointed architect to the imperial court His two best works, both at Munich, were the Residenz-Theater (1751–53) and the pavilion called the Amalienburg, in the park of Nymphenburg The brilliant interiors of the pavilion represent the highest achievements of German rococo decoration His son, **François de Cuvilliés,** the younger, 1734–1805, succeeded his father as architect of the Bavarian royal court He published architectural studies

Cuxhaven (kŏōks'hä'fun), city (pop 42,542), Hanover, N Germany, a port at the mouth of the Elbe, c 60 mi NW of Hamburg It passed to Hamburg in 1394, was chartered in 1907, and became the docking place for ocean steamers too large to reach Hamburg In 1937 it was transferred to Hanover prov, former Prussia Its naval yard was often bombed in the Second World War

Cuyabá, Brazil see CUIABÁ

Cuyahoga (kī"uhō'gu), river of NE Ohio, flowing SW then NNW to Lake Erie at Cleveland

Cuyahoga Falls, city (pop 20,546), NE Ohio, near Akron and on the Cuyahoga river, laid out 1837 It is a residential and industrial town Chemicals, rubber goods, and machinery are among its varied products

Cuyp or **Kuyp** (koip), family of Dutch painters of Dordrecht **Jacob Gerritszoon Cuyp** (yä'kŏp gĕ'rĭtzŏn), 1594–c 1651, pupil of Abraham Bloemaert, was a portrait and landscape painter His nephew and pupil, **Benjamin Cuyp,** 1616–52, painted figure compositions and peasant scenes in the style of Rembrandt Few examples of his work exist **Aelbert Cuyp** (ăl'burt), 1620–91, son and pupil of Jacob Gerritszoon Cuyp, was one of the foremost Dutch landscapists Little is known of his life He first painted still life, interiors with figures, and animals, but later specialized in the pastoral landscape for which he is famous Many of his pictures were inspired by the banks of the Meuse and the Rhine They are characterized by a fine breadth and simplicity of treatment and a golden luminosity His light effects have been compared to those of Claude Lorrain Many of his best works are in England Representative are his *Piper with Cows* and *Promenade* (Louvre) and *Horseman and Cows in a Meadow* (National Gall, London) The Metropolitan Museum contains six fine landscapes

Cuyuna, iron range in Minnesota see MESABI

Cuza, Alexander John (kōō'zä), or **Alexander John I,** 1820–73, first prince of Rumania (1859–66), b Moldavia For taking part in the abortive revolution at Jassy (1848), he was for a time under arrest, but subsequently he became (1850) prefect of Galati In 1859 he was elected prince of both Moldavia and Walachia and in 1861 was recognized by Turkey as sovereign of the united principalities, thenceforth known as Rumania His corrupt regime soon alienated his subjects, and in 1866 conspirators forced him to abdicate He went into exile in Paris. His name also appears as Cusa and Couza.

Cuzco or **Cusco** (both· (kōō'skō), city (pop 45,158, alt 11,207 ft), capital of Cusco dept, S Peru On a site probably actually occupied by pre-Incan tribes, Cuzco was founded, according to legend, by MANCO CAPAC, first of the Incan rulers In Cuzco stood massive palaces and temples, particularly the Temple of the Sun, lavishly decorated with gold medallions and ornaments, which were plundered by FRANCISCO PIZARRO after his entry into the Inca capital in Nov, 1533 On the ruins of the Inca city the conquerors and their descendants built the colonial city, using the ancient walls (in many instances still visible) as foundations for new buildings, the Convent of Santo Domingo was constructed on the walls of the Temple of the Sun The mixture of Incan and colonial gives the city a picturesque atmosphere Predominantly Indian in population, it is a trading center for agricultural produce and for the woolen textiles of the Cuzco mills There are rail and highway connections SE to the Lake Titicaca area Near by are the ruins of the Incan fortress SACSAHUAMAN

cyanide (sī'unīd), a salt or ester of HYDROCYANIC ACID (prussic acid) composed of a metal or a radical combined with the carbon-nitrogen (cyanogen) radical Important cyanides are those of sodium and potassium They are both deadly poisons (for treatment and antidote, see POISONING, table), are soluble in water, and in the presence of moisture give off the poisonous prussic acid They are used as insecticides and in processes such as casehardening, electroplating, and the extraction of gold and silver from their ores Potassium cyanide, a compound of potassium and the carbon-nitrogen radical, is white and crystalline It is active chemically By its interaction with ferrous and ferric salts "yellow prussiate of potash" (potassium ferrocyanide) and "red prussiate" (potassium ferricyanide) are formed The ferrocyanide and a ferric salt yield PRUSSIAN BLUE, while the ferricyanide and a ferrous salt yield Turnbull's blue (a reaction used in the making of a BLUEPRINT) Potassium cyanide is used also to prepare hydrogen cyanide for fumigation purposes Sodium cyanide, which is also white and crystalline, is a compound of sodium and the carbon-nitrogen radical It has largely taken the place of potassium cyanide in industry, because of its lower cost This is especially true in the extraction of gold and silver from their ores **The cyanide process** for this purpose is based upon the fact that gold (or silver) dissolves in a sodium (or potassium) cyanide solution, when air or oxygen is present, to form a compound of sodium, gold, and the cyanide From this substance the precious metal is precipitated by the action of another metal, such as zinc The cyanide process has largely taken the place of the amalgamation process (see AMALGAM)

cyanogen (sīă'nujĭn), colorless, inflammable, extremely poisonous gas, a compound of carbon and nitrogen, having a characteristic odor somewhat like that of prussic acid It liquefies at −21°C and solidifies at −35°C, it is very soluble in water and is soluble also in alcohol and ether It is prepared either by heating mercuric cyanide which decomposes to mercury and cyanogen (this reaction led originally to its isolation by Gay-Lussac) or by the reaction between solutions of copper sulphate and sodium or potassium cyanide Cyanogen is active chemically and reacts with many metallic and nonmetallic elements and compounds **Cyanogen chloride** is a very poisonous liquid boiling at about 14°C Because of its toxic properties, it has been used as a POISON GAS

cyanotype see BLUEPRINT

Cybele (sĭ'bulē), in Phrygian religion, the GREAT MOTHER OF THE GODS She rode in a chariot drawn by lions, attended by CORYBANTES and DACTYLS Her love for ATTIS and his early death were celebrated in a spring festival, which has been considered as the archetype of fertility rites Her worship was imported to Greece, where she was identified with DEMETER and RHEA It was later well known in Rome, particularly under Emperor Claudius She is indistinguishable from various other mother goddesses, notably Agdistis

Cyclades (sĭ'kludēz), Gr *Kyklades* [Gr, =circular], island group (1,023 sq mi, pop 129,015), Greece, a part of the Greek archipelago, in the Aegean Sea stretching SE from Attica The name was originally used to indicate those islands forming a rough circle around DELOS The Cyclades now include the islands of ANDROS, TENOS, NAXOS, MELOS, PAROS, and KEOS Hermoupolis, on SYROS, is the chief town Largely mountainous, with a dry and mild climate, the islands produce wine, fruit, wheat, olive oil, and tobacco In 479 B C the Cyclades became an Athenian dependency From the 3d cent. B C until the reign of Augustus they frequently changed hands After the establishment (1204) of the Latin Empire of Constantinople, the Cyclades formed the major part of the Duchy of the Archipelago, ruled by Italian nobles and by Venice until its fall to the Turks in 1566.

cyclamen (sĭk'-), name for plants of the genus *Cyclamen*, tuberous-rooted Eurasian herbs, one species (*Cyclamen indicum* or *persicum*) popular in America as a pot plant. This has nodding flowers with reflexed petals, white or in shades of rose or purple, and sometimes crested It is usually grown from seed *Cyclamen europaeum*—called sowbread —has tubers relished by swine

cycle (sī'kŭl) [Gr, =circle], in astronomy, a period of time required to bring about the recurrence of certain relative positions or aspects of the heavenly bodies It often involves a comparison of the period of revolution of one of those bodies with the 24-hour period of the earth's rotation on its own axis When a year or a month is measured by means of hours or days, there is a fractional part left over The revolution of the earth about the sun, producing what we call a year, takes place once in 365 days 5 hr 48 min 46 sec The moon revolves about the earth once in about 29½ days, a lunar month Because even results cannot be obtained by thus measuring with our units, the hour and the day, sometimes many years pass before a series of relations repeats itself in exactly the same order as before For instance, the solar cycle requires 28 years for its completion At the end of that time the sun will have reached the same position with relation to the earth that it occupied when the cycle started, and the order of days on the calendar through the year will be the same as that at the beginning of the cycle Because the orbits of the earth and the moon are not exactly in the same plane, eclipses of the sun do not occur in a yearly cycle After 18 years 11 days the moon and the earth are in nearly the same relative positions again, so the eclipse cycle is 18 or 19 years Another important cycle is that of the PRECESSION OF THE EQUINOXES, caused by a slow movement of the earth's axis in such a manner that in the course of 25,796 years it will have traced out a complete cone At the end of that time the equinoxes again occupy the positions in the ecliptic that they held when the period opened Astronomers make use of various other cycles, e g, those of SUNSPOTS and variable stars.

cycle, business see CRISIS, ECONOMIC

cyclone (sī'klōn) [Gr, =going in a circle], any storm area of low barometric pressure, more or less circular in shape, and characterized by wind blowing spirally inward (counterclockwise in the Northern Hemisphere, clockwise in the Southern Hemisphere) The term extratropical cyclone is applied to the large storms (from several hundred to a thousand or more miles in diameter) of the temperate latitudes, as opposed to the tropical cyclone (see HURRICANE) and to the smaller, intense storm, common in the Middle Western United States, known as the TORNADO According to Bjerknes, the extratropical cyclone, or "low," originates as a "wave," or "eddy," in the surface of separation (POLAR FRONT) between the cold polar easterly winds of the north and the warmer prevailing westerlies of the south This wave, once induced by the opposing air currents, is accentuated by a northerly flow of warm moist air in advance of the center of low pressure and by a southerly flow of cold dry air behind the center It thus inherits a frontal structure of its own—the outstanding characteristic of an extratropical cyclone In its subsequent development, marked by an increase in area affected and a reduction of pressure at the center, it moves generally in an easterly direction with a speed of 300 to 700 mi a day, attended by cloudiness, precipitation, and a change in temperature In the United States, these storms usually enter (or originate in) the western portion of the country and leave by the east or northeast

Cyclopean (sĭklupē'un), name often applied to a primitive method of masonry construction of prehistoric times, found chiefly in Greece, Italy, Asia Minor, and Syria The term is derived from Cyclopes, the race by whom, according to Greek fable, these walls were supposed to have been built The massive Cyclopean walls were usually of huge, roughly dressed stones, laid upon one another, the interstices filled with small pieces and the binding produced by a clay mortar They were characteristic of the Minoan and Mycenaean architecture (c 3000–1100 B C), which preceded Greek architecture in the Aegean basin and which centered in the island of Crete Remaining examples are found at Cnossus in Crete and at Mycenae, Tiryns, and Athens on the Greek mainland Here remain also examples of more careful masonry, built of fitted rectangular blocks or of accurately fitted polygonal stones apparently derived from the rough Cyclopean masonry From Etruscan architecture (750–100 B C) in Italy, there are many Cyclopean remains Similar examples are seen in China and Japan and, in Peru, in the ruins of vast structures built by the Inca probably about the 12th cent A D.

Cyclops (sī'klŏps), plural **Cyclopes** (sĭklō'pēz), in Greek religion, one of a group of one-eyed giants, descended from URANUS and GAEA Some of the Cyclopes were shepherds, like POLYPHEMUS, who captured ODYSSEUS Others worked in the smithy of HEPHAESTUS, forging thunderbolts for Zeus In the battle called the TITANOMACHY, they helped Zeus to defeat their kinsmen, the Titans.

cyclotron (sī'klutrŏn, sĭ'-), magnetic resonance accelerator invented by E O. LAWRENCE Applying the principle of resonance, it accelerates enormously the particles used to split target atoms, by employing a rapidly oscillating (high-frequency alternating) electric current in a constant magnetic field which causes the particles to move in curved paths The particles, such as a proton, deuteron, or helium nucleus (ALPHA PARTICLE), are introduced near the center of a special chamber, which looks something like a large pillbox split in half, with the halves slightly separated, and set between magnetic poles When the device is in operation, the particles introduced move faster and faster in a widening circle until, imparted with an enormous amount of energy, they reach the outer edge of the chamber, where they escape into a receptacle and bombard the atoms contained therein One of the advantages of the cyclotron is that excessively high voltage need not be applied The first cyclotron designed by Lawrence in 1930 imparted over 1,200,000 electron volts of energy to protons The Univ of California's 184-inch cyclotron at Berkeley, Calif, has imparted over 300,000,000 electron volts to the particles Powerful cyclotrons are in operation at other nuclear research centers including Columbia Univ's center at "Nevis," near Irvington, N Y, and the Univ of Rochester The cyclotron has made it possible to make ordinarily nonradioactive elements radioactive, thus leading to the transmutation of elements, the discovery of new elements, and the production of radioactive isotopes valuable as tracers in medical diagnosis and treatment

Cydippe (sĭdĭ'pē), in Greek legend **1** Young woman loved by ACONTIUS **2** Priestess see BITON

Cydnus (sĭd'nus), ancient name of the river of Cilicia on which Tarsus stands It rises in the Taurus range and flows to the Mediterranean Its waters were noted as being clear and cold

Cydonia see CANEA, Crete

Cygnaeus, Fredrik (frā'drĭk sŭng-nā'ŭs), 1807–81, Finnish poet and literary historian He was educated at the Univ of Abo, where for four years he taught literature In 1854 he became professor of aesthetics and literature at the Univ of Helsinki His best work, including two national dramas, is contained in *Skaldestycken* (6 vols, 1851–70) He wrote in Swedish

cylinder printing see CALICO PRINTING

cymbals (sĭm'bulz), percussion instruments of ancient Oriental origin, introduced fairly late into ancient Greece, and used also by the Egyptians and the Assyrians They consist of a pair of slightly concave metal discs which are sounded in various ways, always producing a sound of indeterminate pitch Introduced into Europe in the Middle Ages, they were then struck together lightly to give a gentle, ringing sound In 1680 they were introduced into European opera by Nikolaus Adam Strungk but were generally used for exotic effects until the 19th cent The best ones were imported from Turkey or India Besides the medieval method of playing them and the modern way of crashing them together, one cymbal, suspended, may be struck with a drumstick, or they may be violently swept past each other, in the Turkish fashion

Cymbeline (sĭm'bulēn) or **Cunobelinus** (kū"nōbĭlī'nus), fl A D 40, British king A wealthy and powerful ruler and the father of Caractacus, he died before the Roman invasion He gives his name, but little else, to Shakspere's *Cymbeline* (written c 1610) The plot of Shakspere's play is only partially derived from the pseudo-British history in Holinshed's *Chronicles* It concerns Imogen, daughter of Cymbeline, and her husband Posthumus, from whom she is separated by her stepmother, the queen, and with whom she is eventually reunited

Cyme (sī'mē), ancient Greek city of W Asia Minor, on the Ionian Sea and N of the present Smyrna in W Asiatic Turkey It was the largest and most important of the 12 cities of Aeolis Cyme struggled to be free of Persian domination but was only intermittently successful Later it was a city of the Seleucids and ultimately of Rome

Cymru and **Cymry** see WALES

Cynewulf (kĭn'uwo͝olf), fl early 9th cent ?, Old English religious poet of Northumbria or Mercia Four poems, *Juliana*, the middle section of *Christ*, *Elene*, and *Fates of the Apostles*, have been ascribed to him on the evidence of his signatures in runes in the text of each of these poems Other poems, including *The Phoenix*, formerly thought his, are now attributed to other poets of the "Cynewulf school" See *The Poems of Cynewulf* (tr by C W Kennedy, 1910)

Cynics (sĭn'ĭks) [Gr, =doglike, probably from their manners and from their meeting place, the *Cynosarges*], ancient school of philosophy founded by ANTISTHENES, a disciple of Socrates He seized upon one aspect of Socrates' ethics, "Virtue is the highest good" Antisthenes said, "Virtue is the only good" Everything else—riches, honor, freedom, health, life itself—is not merely indifferent, but contemptible Hence the Cynics paraded their poverty, their antagonism to pleasure, and their indifference to others as the essence of their virtue. They lived without family, society, or religion.

After Antisthenes the principal Cynics were Diogenes of Sinop, Crates, Menedemus, and Menippus.

Cynoscephalae (sīnŭsĕ'fŭlē, sĭnŭ-) [Gr.=dogs' heads], two hills in Thessaly, Greece, SSE of Larissa The place was noted as the scene of the victory of Pelopidas over Alexander of Pherae in 364 B C. and of the victory of Flamininus over Philip V of Macedon in 197 B C.

Cynthiana, city (pop 4,840), co seat of Harrison co., N Ky., NE of Lexington and on the South Fork of the Licking, in a farm area; founded 1793, inc. 1806 It has tobacco warehouses, food-processing plants, and a distillery. In the Civil War it was the scene of two of Gen John H. Morgan's raids Among the points of interest are the log house (1790) in which Henry Clay appeared as a lawyer, the covered bridge (c 1837), and the burying ground established in 1793

Cynthus: see Giraldi, Giovanni Battista.

cypress, popular name for trees or shrubs belonging to three genera related to the pines and having nearly globular cones Those of the genus *Cupressus*, the true cypresses, are resinous evergreens with a fragrant, durable wood and scalelike leaves. Species are found in S Europe, in China, and in W North America The Monterey cypress (*Cupressus macrocarpa*) is native to a limited region around the Bay of Monterey, Calif., but is cultivated in many parts of the world It is sometimes planted as a hedge The cypress of classical literature is the European *Cupressus sempervirens* or Italian cypress It has since early times been symbolic of mourning and, more recently, of immortality The gates of St Peter's at Rome, which stood for 1,100 years, were made of its wood The bald cypress species are of the genus *Taxodium*, closely related to the sequoia. They are called "bald" because of their character (somewhat unusual for conifers) of losing their leaves for a season Bald cypresses may reach an immense size and a great age, notably certain specimens in Mexico of *Taxodium mucronatum*, the Mexican bald cypress The common bald cypress of North America (*T. distichum*) is native chiefly in swamps and on stream banks of the SE United States When growing in water it produces upright root projections called knees The wood is valued for shingles and exterior and interior trim and construction Lawson's cypress or Port Orford cedar, a valuable timber tree, and the Nootka, Sitka, or yellow cypress belong to the genus *Chamaecyparis*

Cypress Hills, SW Sask and SE Alta The main line of the Canadian Pacific Railway is close by The name is derived from the jack pine (or cypress) forests in this section

Cyprian, Saint (sĭ'prēun), b 200? or 210?, d 258, Father of the Church, bishop of Carthage after 248 or 249 A pupil of Tertullian, he was far less puristic than his brilliant teacher In the persecution under Decius, many Christians apostatized Some bishops took the position that the apostates could not be reinstated (a view which culminated in Donatism) Cyprian, on the contrary, agreed with Pope St Calixtus I—he was strict with his flock, but would not refuse absolution. St Cyprian was also opposed to the schism of Novatian In his treatise *On the Unity of the Catholic Church* Cyprian pleaded for a united Church founded on the authority of the bishop His works, such as *On the Lapsed*, and his letters helped establish many orthodox tenets, and his doctrine of grace influenced St Augustine Feast, as a martyr Sept 16 See *De unitate ecclesiae*, (tr and ed by E H Blakeny, 1928)

Cypris: see Aphrodite

Cyprus (sī'prus), Gr *Kypros*, British colony (3,572 sq mi., pop 450,114), an island in the E Mediterranean, c 40 mi S of Turkey and c 60 mi E of Syria The seat of the governor is at Nikosia Limassol, Larnaca (ancient Citium), Famagusta, and Paphos are the other chief towns The majority of the population are Orthodox Greeks, but there are c 80,000 Moslems, mostly Turks Two mountain ranges traverse the island, rising to 6,406 ft. at Mt. Olympus Between the two ranges lies a wide plain The rainless summers of Cyprus create a water-supply problem, but the island is nevertheless rich in agricultural products, notably wine, wheat, olives, and tobacco Sheep and goats are raised, and silk worms are cultivated Among the mineral resources are pyrites, ochre, chrome, asbestos, and copper (which derives its name from *Kypros*). Excavations have proved the existence of a Neolithic culture on Cyprus in the period from 4000 B C to 3000 B C Contacts with the Orient and, after 1500 B C., with Greece greatly influenced Cypriot civilization The Phoenicians settled on the island c 800 B C Cyprus subsequently fell under Assyrian, Egyptian, and Persian rule, though local kings continued to reign Passing (333 B C.) to Alexander the Great, Cyprus after Alexander's death again became an Egyptian dependency until its annexation by Rome in 58 B C Ancient Cyprus was a center of commerce and also a center of the cult of Aphrodite The apostles Paul and Barnabas introduced Christianity. In 1191 Richard I of England conquered Cyprus from the Byzantine Empire, and in 1192 it was bestowed as a kingdom on Guy of Lusignan. The Lusignan dynasty, ending with Caterina Cornaro, ruled the island until 1489, when Cyprus was annexed by Venice The Turks conquered it in 1571 At the Congress of Berlin (1878) the Ottoman Empire, by a separate agreement, placed Cyprus under British administration, and in 1914 Britain annexed it outright It received the status of a colony in 1925 In 1931 the legislative council, established in 1882, was abolished A proposal (1947) for a more liberal government was rejected by the majority of the population, which instead demanded to be united with Greece From 1945 to 1948 Cyprus was used by the British as a detention center for "illegal" Jewish immigrants to Palestine See Stanley Casson, *Ancient Cyprus* (1937), G F Hill, *History of Cyprus* (1940)

Cyrano de Bergerac, Savinien (sävēnyĕ' sĕrənō' dŭ bĕrshŭrăk'), 1619–55, French novelist He is the author of two rambling satirical romances on journeys to the moon and sun—*L'Autre Monde, ou, Les Estats et empires de la lune* (1657) and *Les Estats et empires du soleil* (1662), later editions have usually given the works together, as in the translation by Richard Aldington, *Voyages to the Moon and the Sun* (1923) Cyrano de Bergerac's chief renown depends on his swaggering personality, evinced by the number of duels he fought against persons who had insulted him because of the unusual size of his nose This character has been romanticized by Edmond Rostand in the verse drama *Cyrano de Bergerac* (1897)

Cyrenaica (sīrunā'ĭkŭ, sīru-), region about the ancient city of Cyrene on the northern coast of Africa Other cities were also founded in the region, which was important for its production of wheat, wool, and silphium Barca achieved some prominence, but Cyrene maintained hegemony The Roman province of Cyrene was sometimes called Cyrenaica, and the name was revived to mean the eastern part of the Italian colony of Libya It was important in the North African campaigns of the Second World War

Cyrenaics (sīrĭnā'ĭks, sīrĭ-), one of the minor schools of Greek philosophy, flourishing in the 5th and 4th cent B C., that drew upon certain aspects of Socratic doctrine Cyrenaic philosophy was hedonistic (see Hedonism), teaching that pleasure is the highest good Aristippus of Cyrene, the founder, did not confine the good merely to bodily pleasures, but emphasized the value of spiritual satisfactions and social advancement Some of his followers, however, favored the notion of painlessness as being a more permanent form of the good Thus Theodorus maintained that man's happiness consists in a state of cheerfulness, while Hegesias (called the Death-Persuader) taught that a state of indifference is best and that death is the only perfect realization of that end Annieris emphasized the pleasures of friendship, society, and patriotism See John Watson, *Hedonistic Theories from Aristippus to Spencer* (1895)

Cyrene (sīrē'nē), ancient city on the northern coast of Africa, in Cyrenaica (now E Libya). A port c 10 mi from the sea, it was a Greek colony founded (c 631 B C.) by Aristoteles of Thera, who became king of Cyrene as Battus For eight generations the monarchs were alternately named Battus and Arcesilas The little state throve, having important commerce with Greece, especially in exporting wheat, wool, and silphium Arts and sciences were cultivated as well as commerce. Other cities were founded in Cyrenaica, notably Barca, but Cyrene retained power Cyrene submitted to the Persians under Cambyses, but later (after 450 B C.) was independent again, the state being modeled on Sparta, with which Cyrene had close connections Cyrene was overshadowed by Alexander the Great and was practically annexed by the Ptolemies of Egypt but seems to have had nominal independence until the marriage of Berenice (d 221?) to Ptolemy III It remained part of Greece until 96 B C., it then went to Rome Cyrene later was the center of a Roman province Under Trajan there were severe Jewish outbreaks, which were even more severely punished, and Cyrene declined At its prime Cyrene was a large and beautiful city, noted for its schools of medicine and philosophy Aristippus, Callimachus, Eratosthenes, and Synesius were born here There are extensive ruins.

Cyrenius (sīrē'nēus) or **Quirinius** (kwĭrĭ'nēŭs) (Publius Sulpicius Quirinius), Roman administrator, consul (12 B C.), governor of Syria (6–9 A D.) Luke 2 2 connects him with the census at the time of Jesus' birth We know that Roman governors could have but one term The higher critics reconcile the apparent inconsistency of dates by accepting Luke and blaming the translators, reading the Greek to mean not *governor* but *ruling*, they then make Quirinius a joint administrator of Syria after 4 B C.

Cyril, Saint (Saint Cyril of Jerusalem) (sĭ'rul), 315?–386?, Doctor of the Church, bishop of Jerusalem after 348. He was exiled three times for his objections to the dominant Arianism, but steadfastly joined St Basil the Great in trying to unite the Church on the teaching that Christ is like the Father in substance (homoiousianism). His *Catechetical Lectures* are a lucid exposition of 4th-century doctrine, including transubstantiation. St Cyril may have been the ultimate author of the Nicene Creed (see creed) Feast March 18.

Cyril, Saint (Saint Cyril of Alexandria), d 444, patriarch of Alexandria, Doctor of the Church, distinguished for his animosity toward heretics and heathen. Under his rule Hypatia was killed The great episode in his career was his struggle against Nestorianism, which culminated in the Council of Ephesus in 431 (see Ephesus, Council of) There Cyril presided and had the full support of Pope Celestine I He came back triumphant, but disliked by the Antiochenes, who, accusing him of sharp practice, stayed out of communion with Alexandria, and so with the Church, for two years In 433 he consented to a compromise with Antioch and affirmed his orthodoxy by declaring that Christ had two natures, human and divine, and that in speaking of one nature he meant one Person St Cyril wrote much on theology, particularly on the problem of the Trinity His doctrines, though considered orthodox in his time, were in a sense a preface to those of Eutyches and of Monophysitism Feast Feb 9

Cyril and Methodius, Saints (-thō'-), d 869 and 885 respectively, Greek missionaries, brothers, called the Apostles to the Slavs They were sent (863) as missionaries to the Moravians Their success aroused the dislike of German rulers and ecclesiastics, who feared that Christianity emanating from a non-German source might make the Moravians independent They contrived the recall of the brothers to Rome on charges of heresy The missionaries were exonerated, but Cyril died before they could leave Methodius went back, but was captured by Germans, who "deposed" him from the archbishopric of Moravia, which he had received from the pope The pope got him released and reinstated him St Methodius completed liturgical and biblical translations into Slavic which he and St Cyril had begun The Cyrillic alphabet, used in Russian, Serbian and other languages, is named for St Cyril, but he did not invent it Feast July 7.

Cyril Lucar see Lucaris, Cyril

Cyrus the Great (sī'rus), d 529 B C., king of Persia, founder of the greatness of the Achaemenidae and of the Persian Empire According to Herodotus, he was the son of an Iranian noble, the elder Cambyses, and a Median princess, daughter of Astyages Many historians, following other ancient writers (such as Ctesias), deny this genealogy The whole of Cyrus' life is encrusted with legend, and it is hard to arrive at a clear picture of the man or his career Whether or not Astyages was his grandfather, there is no doubt that Cyrus overthrew him at some time between 559 B C and 549 B C., probably in either 550 or 549 He entered Ecbatana and, taking over the Median kingdom, began to build a great empire after the Assyrian model Like a strong wind blowing, he swept over the Near East Croesus of Lydia, Nabonidus of Babylonia, and Amasis II of Egypt tried to build a strong alliance against him, but to no avail He met, defeated, and captured Croesus, and Lydia was his by c 546 B C The Chaldaean empire of Babylonia fell (538 B C.) to his touch Egypt he did not conquer, but he prepared the way for later Persian victories there The Greek cities of Asia Minor, which had been threatened or actually controlled by Croesus, immediately felt Cyrus' power, and the Persian king seems to have become a legend among the Greeks even in his lifetime He was also much admired by the Jews, whom he favored, setting them in power in Palestine His motive was probably to create a buffer state between Persia and Egypt, but the result was a rehabilitation of Israel He figures prominently in the Bible (e g., 2 Chronicles and Ezra), is viewed as God's appointed agent (Isa 40–48), and is approved by Daniel (Dan 6 28). Whether or not his justice, equanimity, and clim nobility are legendary, his military capacity and genius at organization are clearly historical. At his death his son Cambyses succeeded him, despite the ambitions of another son, Smerdis Cyrus is buried at Pasargadae, where he built a splendid palace.

Cyrus the Younger, d 401 B C., Persian prince His father, Darius II, favored him and gave him several satrapies in Asia Minor, and he aggrandized his power by playing Greek politics, particularly by giving aid to Lysander Cyrus was at court when Darius died (404 B C.) and was accused (probably with truth) by Tissaphernes of a plot to murder his elder brother and the legitimate heir, Artaxerxes II Cyrus was saved only by the pleas of his mother and was restored to his satrapies Whatever his earlier intentions, he at this point began careful plans for a rebellion He collected an army and through Clearchus hired a large troop of Greek mercenaries (the Ten Thousand) for the campaign On the pretext of setting out to put down brigands in Pisidia, the army was marched E from Sardis to Tarsus and then into Syria Many local rulers came over to Cyrus, but Tissaphernes rushed to court with the news, and

Artaxerxes set out to meet the rebels Many of Cyrus' men threatened mutiny when they learned of the true intent of Cyrus, but his charm and bravery mastered them and they went forward to fight In the battle of CUNAXA the handsome young pretender was killed and his hosts were defeated. The loss was followed by the heroic retreat of the Ten Thousand The revolt of Cyrus and the battle of Cunaxa have a prominence in world history far beyond their intrinsic importance because the story of the retreat and the events preceding it were told by one of the greatest masters of narrative of all time, XENOPHON, in the justly celebrated ANABASIS

Cythera (sĭthēr'ŭ), Gr *Kythera* (kē'thērä), island (109 sq mi, pop 7,932), Greece, in the Mediterranean, southernmost of the IONIAN ISLANDS, 15 mi SW of the S Peloponnesus On the south shore is the chief village, Kythera (pop 1,235), formerly called Kapsali Olive oil, wine, figs, and raisins are the chief products Ancient Cythera was a center of the cult of APHRODITE

cytoplasm: see PROTOPLASM

Cyzicus (sĭ'zĭkŭs), ancient city, at the neck of the Cyzicus Peninsula, NW Turkey Strategically situated, it rivaled Byzantium in commercial importance Founded (756 B C) by Greek colonists from Miletus, it was a member of the Delian League It remained a free city under Roman rule until A D 25 In 410 B C Alcibiades defeated a Spartan fleet off Cyzicus, and in 74 B C the city withstood a siege by Mithridates VI of Pontus Cyzicus was largely destroyed by the Arabs in A D 675 There are ruins of a large temple built by Emperor Hadrian and of other public buildings

Cyzicus Peninsula, NW Turkey, in Asia Minor, projecting into the Sea of Marmara Its modern name is Kapidagi Peninsula It is c 19 mi wide and 8 mi long and rises to 2,640 ft

Czajkowski, Michael, Pol *Michał Czajkowski* (mĕ'khou chĭkôf'skē), 1804–86, Polish novelist He often changed both his political and his religious outlook. Having participated in the insurrection of 1831, Czajkowski went to France and later to Turkey. There he accepted Mohammedanism, organized the Ottoman Cossacks, and, under the assumed name Sadyk Pasha (Pol *Sadyk Pasza*), participated in the Crimean War against Russia He died, by suicide, as a Russian citizen Czajkowski wrote novels on the life of the Cossacks and the South Slavs and on Polish history His *Black Pilgrim* has been translated into English

Czartoryski (chärtôrĭ'skē), Polish princely family Though of ancient lineage, it rose into prominence only in the 17th cent and in the 18th cent under the Saxon kings of Poland virtually ruled the country. **Prince Michael Czartoryski,** 1697–1773, was grand chancellor of Lithuania His brother, **Prince Augustus Czartoryski,** d 1782, was palatine of Polish Russia Failing in their efforts to reform the Polish constitution, the brothers fell out with King Augustus III and, securing the support of Catherine II of Russia, succeeded in elevating their nephew, Stanislaus Poniatowski (see STANISLAUS II) to the Polish throne after Augustus's death **Prince Adam Jerzy Czartoryski** (yĕ'zhĭ), 1770–1861, grandson of Michael, was a hostage at the Russian court after the failure of the Polish insurrection in 1794 There he befriended the future emperor, Alexander I, who after his accession appointed Czartoryski (1803) foreign minister He resigned in 1806 but remained a close adviser of Alexander, whom he accompanied to the Congress of Vienna and from whom he obtained the Polish constitution of 1815 Opposing the later Polish policy of Alexander and of Nicholas I, Czartoryski took part in the insurrection of 1830 and headed (1830–31) the provisional government He emigrated to Paris, where until his death he was the leader of the Polish aristocratic party From 1803 to 1823 Czartoryski was curator of the university at Vilna and greatly furthered the Polish school system His memoirs have been published (Eng tr, 1888)

Czech language (chĕk), a Western Slavic language of the Indo-European family See LANGUAGE (table)

Czech literature dates from the 11th cent Before the 15th it consisted mostly of chronicles in Latin (Cosmas of Prague, 1125) and Czech (Dalimil Mezericky, 1316), as well as Czech hymns, romances in verse on such international themes as Tristan and Isolde, and tales of chivalry based on the exploits of figures like Alexander the Great In 1394 Smil Flaska of Pardubice laid the foundation of modern Czech literature, which is predominantly realistic, with an allegorical admonition in verse, *New Council* In similar vein were the sermons in prose of Thomas Stitny (c 1331–c 1401) and the works of the peasant mystic Petr Chelcicky (*The Net of the True Faith,* 1440–43) By the language reforms of John Huss and the example of the Kralice Bible (a translation made by the Czech Brethren and published in 1579–93), the Czech language was rendered an effective literary instrument, worthy of the great pioneer in educational theory, Jan Amos Komensky (Comenius) The Czech defeat at White Mt (1620) resulted in wholesale destruction of works in the Czech language, which gradually became a mere peasant dialect Through the labors of men like Dobrovsky and Safarik, Jungmann and Palacky, it was rehabilitated, and writing in Czech was revived The revival was greatly spurred by Vaclav Hanka (1791–1861), who in 1817 and later claimed to have discovered manuscripts containing heroic verses in Czech dating from the 13th cent The verses at once became a part of the Czech literary tradition and whether genuine or spurious, as Thomas Masaryk and others assert, cannot be neglected In the 19th cent, with the works of Kollar, Macha, Cech, Neruda, and Halek, Czech poetry achieved importance, and with Bozena Nemcova and Alois Jirasek, the Czech novel Later writers such as Jaroslav Vrchlicky, J V Sladek, J S Machar, Petr Bezruc, and Otokar Brezina won fame at home, while Karel Capek through his widely translated dramas brought Czech literature into the general stream of world letters In the period 1918–38 Czech literature reflected every current from abroad and was of all the Slavonic literatures the most cosmopolitan At the same time native themes were cultivated, especially in the drama and the novel The German occupation saw a decline in Czech letters and the death of many outstanding figures After the Second World War a reorientation of Czech writing toward Russia ensued See František Chudoba, *A Short Survey of Czech Literature* (1924), Barrett Clark, *A History of Modern Drama* (1947), Paul Selver, ed and tr, *A Century of Czech and Slovak Poetry* (1946)

Czechoslovakia (chĕk"ŏslōvăk'ēŭ), Czech *Československo* (chĕs"kōslōvĕn"skō), republic (49,354 sq mi, pop 12,164,631), central Europe It is bounded by Poland on the north, Germany on the north and west, Austria and Hungary on the south, and the USSR on the east Its natural boundaries are the CARPATHIANS and the SUDETES in the north, the ERZGEBIRGE chain in the northwest, the BOHEMIAN FOREST in the west, and the Danube in the south The republic, founded in 1918 as a result of the breakup of the AUSTRO-HUNGARIAN MONARCHY, was divided in 1949 into the constituent states—the Czech Lands (BOHEMIA, MORAVIA, and Silesia) and SLOVAKIA Prague (the capital), BRNO, and BRATISLAVA are the chief cities The former eastern province of RUTHENIA was ceded to the Ukrainian SSR in 1945 Czechoslovakia is rich in minerals, forests, and agricultural land and has highly developed industries (For more detailed descriptions and historical accounts, see the articles on the individual provinces) The population is largely Slavic, consisting of Czechs (8,088,000), Slovaks (3,131,000), Ukrainians (115,000), and Poles (85,000), of the once large German and Magyar minorities there remain 197,000 Germans and 450,000 Hungarians Roman Catholicism is the majority religion, but there are large Protestant (notably Hussite) groups in Bohemia and Moravia and Orthodox Eastern and Uniate churches in Slovakia The creation of Czechoslovakia, the culmination of the long struggle of the Czechs against their Austrian rulers, was largely accomplished by its first and second presidents, T G MASARYK and Eduard BENES During the First World War, Czech units fought on the Allied side The Czech legion in Russia became involved there in the civil war and in the Allied intervention, fighting the Bolsheviks After an odyssey through Siberia it returned home by way of the United States Economically, Czechoslovakia was the most favored of the Hapsburg successor states A hard-working, enterprising, and well-educated nation, benefiting from a very liberal and democratic constitution and led by outstanding statesmen, the Czechoslovaks had the promise of a bright future Redistribution of some of the princely estates of the ex-nobility and the Church, despite some disadvantages, raised the general standards of the peasantry In foreign politics, Czechoslovakia relied on its friendship with France and on its LITTLE ENTENTE with Yugoslavia and Rumania Yet, with its antagonistic and nationalistic ethnic elements, the state reflected the inherent weakness of the Hapsburg empire Hitler's rise in Germany, the German annexation of Austria, the resulting revival of revisionism in Hungary and of autonomous agitation in Slovakia, and the appeasement policy of the Western powers exposed Czechoslovakia to a hostile Germany and Hungary on three sides and to an unsympathetic Poland on the fourth The nationality problem led to a European crisis when the German nationalist minority, led by Konrad Henlein and vehemently backed by Hitler, demanded the union of the predominantly German districts with Germany Attempts at compromise failed and Hitler, threatening war, extorted through the MUNICH PACT (Sept., 1938) the cession of the Bohemian borderlands (*Sudetenland*) Poland and Hungary shared in the spoils In Nov, 1938, the truncated state, renamed Czecho-Slovakia, was reconstituted in three autonomous units—Bohemia and Moravia, Slovakia, and Ruthenia Benes resigned the presidency and was succeeded by Emil Hacha In March, 1939, Hitler forced Hacha to surrender Czecho-Slovakia to German control, made Bohemia and Moravia into a German "protectorate," gave Slovakia nominal independence, and awarded Ruthenia to Hungary After the outbreak of the Second World War, Benes set up a provisional Czechoslovak government in London, Czech units fought with the Allied forces Except for the brutalities of the German occupation, of which the fate of LIDICE remains a symbol, Czechoslovakia suffered relatively little from the war In April, 1944, Russian forces, accompanied by a Czech coalition government headed by Benes, entered Czechoslovakia, American forces entered from the west, and the fall (May 12, 1945) of Prague marked the end of military operations in Europe Russian and American troops were evacuated in 1945 At the POTSDAM CONFERENCE of 1945 the expulsion of c 3,000,000 Germans from Czechoslovakia and an exchange of minorities between Czechoslovakia and Hungary were approved In the elections of 1946 the Communists emerged as the strongest single party and became the leading party in a coalition cabinet headed by the Communist Klement Gottwald Foreign policy became increasingly oriented toward Russia, and sweeping measures, begun in 1945, to nationalize industries were continued In Feb, 1948, the Communists seized the government by a coup d'état A constitution on the Soviet model was voted, providing notably for a unicameral legislature and a measure of autonomy for Slovakia Communist control of the government was established Benes resigned and was succeeded by Gottwald as president The new legislature enacted a five-year plan for 1949–54 and proceeded to nationalize nearly every branch of economic life In 1949 conflict between Church and state flared up See R I Kerner, *Czechoslovakia Twenty Years of Independence* (1940)

Czeged, Hungary see CEGLED

Czermak, Jaroslav (yä'rōslăf chär'mäk), Czech *Čermák,* 1831–78, Bohemian historical and genre painter He studied in Prague, Antwerp, Brussels, and Paris and traveled in the Balkans After 1858 he devoted himself chiefly to genre paintings of Slavic life His style is vigorous and colorful

Czernin, Ottokar, Graf (ô'tōkar gräf' chĕr'nĭn), 1872–1932, Austro-Hungarian statesman As foreign minister (1916–18) he sought peace with honor but had no part in the private peace feelers of Emperor CHARLES I He was one of the negotiators of the Treaty of BREST-LITOVSK

Czernowitz see CHERNOVTSY

Czerny, Karl (chĕr'nē), 1791–1857, Austrian pianist, pupil of Beethoven and teacher of Liszt He is known for his technical studies for the piano, his numerous other works having been long forgotten

Czerny George see KARAGEORGE

Czestochowa (chĕn"stukô'vu), Pol *Częstochowa,* city (pop 101,255), S Poland, on the Warta river Its monastery, situated on the Jasna Gora [mountain of light], contains an image of Our Lady, supposedly painted by St Luke and brought here in the 14th cent This is one of the world's most celebrated goals of pilgrimage In 1655, when CHARLES X of Sweden overran Poland, the prior with a handful of soldiers defended the monastery and its relic for 40 days The Swedes abandoned the siege Fired by the miracle, the Polish people rose to successful resistance The event figures prominently in Sienkiewicz's novel *The Deluge* The image, venerated since 1656 as the "Queen of Poland," has in later crises and sufferings of the Poles been the symbol of national survival Czestochowa suffered relatively little damage in the Second World War, but pilgrimages were stopped by the Germans The city has iron, textile, chemical, and food industries

Czolgosz, Leon F. (chōl'gŏsh), c 1873–1901, American anarchist, b Detroit, Mich He shot and killed William McKinley in Buffalo on Sept 6, 1901, saying that the President was "an enemy of good working people" He was adjudged sane and executed

Czuczor, Gregory (tsōō'tsôr), Hung. *Czuczor Gergely,* 1800–1866, Hungarian philologist and poet A Benedictine monk, best known as editor (with John Fogarasi) of a Hungarian dictionary, he also wrote charming folk poetry and several epics He was imprisoned (1849–51) for his poem *The Alarm,* in which he summoned Hungary to revolt against Austrian rule.

D

D, fourth letter of the ALPHABET. It corresponds to the Greek delta It is a usual symbol for a voiced dental or, as in English, alveolar stop The capital represents in MUSICAL NOTATION a note in the scale and in Roman numerals the number 500. The minuscule represents British pence

Dabareh (dă'bŭrĕ), same as DABERATH

Dabbasheth (dă'bŭ-), border city of Zebulun. Joshua 19 11

Daberath (dă'bē-), town, N Palestine, probably the modern Deburieh, on the slope of Tabor E of Nazareth Joshua 19 12, 1 Chron 6 72 Dabareh: Joshua 21 28

D'Abernon, Edgar Vincent, 1st **Viscount** (dă'bûrnŏn), 1857–1941, British diplomat Ambassador to Germany from 1920 to 1926, he was instrumental in the realization of the Dawes Plan (1924) and the agreements of the LOCARNO PACT (1925)

Dablon, Claude (klōd' dăblō'), 1619?–1697, French missionary in North America, a Jesuit He went from France to Canada in 1655 and worked first among the Onondaga in New York, then among the Cree in the Hudson Bay region In 1669 he went to take charge of the Western missions, with headquarters at Sault Ste Marie He accompanied Father Allouez on one exploring journey in the Green Bay–Fox river country Made superior of the Jesuits in Canada, he served from 1670 to 1680 and from 1686 to 1693 and was director of the great expansion of missionary and exploring work done by the Jesuits

Dabney, Charles William, 1855–1945, American educator, b Hampden-Sydney, Va, grad Hampden-Sydney College, 1873, and studied at Göttingen (Ph D, 1880) He was director (1880–87) of the North Carolina Agricultural Experiment Station and held a similar post in Tennessee while serving as president (1887–1904) of the Univ of Tennessee From 1904 until his retirement in 1920 he was president of the Univ of Cincinnati He wrote *Universal Education in the South* (2 vols, 1936)

Dabo, Leon (dă'bō), 1868–, American landscape and mural painter, b Detroit Among his landscapes are many scenes along the Hudson river He executed the friezes in Flower Memorial Library, Watertown, N Y, and the murals *Ascension* and *The Life of Christ* in the Church of St John the Baptist, Brooklyn, N Y He is represented in the Imperial Art Museum, Tokyo, the National Gallery, Ottawa, and leading American museums Among his best-known paintings are *Moose Park* (Luxembourg Mus, Paris), *Hudson in Winter* (Mus of Fine Arts, Boston), *Dawn beyond the Hudson,* and *The Cloud* (Metropolitan Mus)

Dabrowa Gornicza (dămbrô'vä gôrnē'chä), Pol *Dąbrowa Górnicza,* Ger *Dombrowa,* city (pop 28,070) Silesia prov, SW Poland A center of the KATOWICE mining area, it has coal mines dating from 1796 The city passed to Prussia (1795) and to the Russian Empire (1815) It reverted to Poland in 1919

Dabrowska, Maria, Pol *Marja Dąbrowska* (mär'yä dôbrôf'ska), 1892–, Polish novelist After a career as a social worker, she turned to fiction as a weapon in bringing about social changes *Nights and Days* (1932–34) and *The Crossroads* (1937) won her literary success

Dabrowski, Jan Henryk (yän' hĕn'rĭk dămbrôf'skē), 1755–1818, Polish general He distinguished himself in the unsuccessful Polish campaign (1792) against Russia and in the insurrection of Kosciusko in 1794 After its failure he went to France, organized (1796) a Polish legion, and led it in Bonaparte's Italian campaign In 1806 Napoleon had him recruit an army in Poland, and he subsequently distinguished himself in Napoleon's campaigns against Prussia, Austria, and Russia Returning to Poland in 1813, Dabrowski entered the service of Tsar Alexander I and began to organize the new Polish army, but he retired in 1816 He is sometimes referred to as Dombrowski

Dacca (dă'ku), city (pop 213,218), capital of East Bengal prov, Pakistan A palace, the Bara Katra (1644), and the Lal Bagh fort (1678) reflect Dacca's glory as the 17th-century Mogul capital of Bengal In the late 19th cent, competition of British cloth virtually destroyed the manufacture of the city's world-famed muslins Dacca, the industrial and commercial heart of East Pakistan, processes jute and hides and has a trade in agricultural products The largest of its many schools (chiefly Moslem) is the Univ of Dacca (opened 1921)

Dachau (dă'khou), town (1946 pop 18,158), Upper Bavaria, 10 mi NNW of Munich. Here was (1933–45) an infamous CONCENTRATION CAMP

D'Ache, Caran. see CARAN D'ACHE

dachshund (dŏks'hŏnd, dăks–, dăsh'hŭnd) [Ger, =badger dog], small hound with a long body and short legs, with the forefeet turning outward The dog has an elongated, tapered head with the long, wide ears set high It is courageous, intelligent, and affectionate Both the miniature and the full-sized dachshunds are bred in three coats—the short-haired or smooth, the wire-haired, and the long-haired. In Europe the dachshund was developed to hunt badgers and other animals which live in holes Egyptian carvings from as early as the 15th cent B C show dogs which resemble the dachshund See H C Sanborn, *The Dachshund or Teckel* (1937)

Dachstein · see SALZKAMMERGUT

Dacia (dā'shu), ancient name of the European region, corresponding roughly to modern Transylvania and Rumania, inhabited before the Christian era by a people who were called Getae (jē'tē) by the Greeks and were called Daci (dā'sī) by the Romans They were a people of advanced material culture, with a tribal organization Augustus claimed them as tributary allies, but the Daci were not much interested in Rome, and Domitian in A D 90 after inconclusive campaigns against them was forced to pay tribute to keep them quiet TRAJAN invaded the country and established a large number of colonies there in A D 105, and Dacia became a Roman province AURELIAN was obliged to withdraw the Roman colonists to Moesia when the Goths invaded Dacia It was these colonists in Dacia who formed the Latin-speaking nucleus that established the Romance tongue, Rumanian, still spoken in that region

Da Costa, Isaäc see COSTA, ISAAC DA

Da Costa, Jacob Mendez (dŭ kŏ'stu), 1833–1900, American physician, b St Thomas island, Virgin Islands, M D Jefferson Medical College, Philadelphia, 1852 After studying abroad, he was professor of medicine at his alma mater (1872–91) An outstanding teacher and diagnostician, he wrote a standard work on diagnosis (1864) and described a malfunction of the heart known as "irritable heart," a condition among Civil War soldiers which has become familiar in military medicine

Da Costa, Uriel · see ACOSTA, URIEL

Dactyls (dăk'tĭlz), in Greek religion, group of divinities who followed RHEA or CYBELE They were metalworkers, inventors of the rhythm of music They are obscure, were perhaps dwarfs, and are often confused with the Cabiri, the Curetes, and the Corybantes From their home on Mt Ida they were called Idaean Dactyls

Dada (da'dä) or **Dadaism** (dä'dăĭzm), international and nihilistic movement (1916–21) among European artists and writers It was originated by the poet Tristan Tzara, it attacked all conventional standards of aesthetics and behavior and "spat in the eye of the world" Dadaism was a doctrine of utter formlessness, words, or even syllables, were used without regard to meaning, as in the speech of a small child The movement was not long lasting, but it did have a jarring effect on contemporary aesthetic and had a significant result in encouraging surrealism and other radical movements Marcel Duchamps and Max Ernst, for example, became surrealists

daddy longlegs, name applied to the harvestman, which is an arachnid, and to the crane fly, an insect related to the mosquito The harvestman has a small body and eight slender legs which in most species are long It sucks the fluids from fruits and other vegetable matter and from insects (whether it eats whole insects is controversial) Crane flies have two pairs of wings and slender bodies The majority of the species have long legs and are much larger than mosquitoes They are usually found in damp places and in pastures and meadows

Dade City, city (pop 2,561), co seat of Pasco co, W central Fla, NNE of Tampa It is a trade center for a truck and citrus-fruit area To the north, near Bushnell, is Dade Memorial Park (est 1935), honoring Major Francis L Dade and his men, who in 1835 were massacred here by Indians

Dadeville, town (pop 2,025), co seat of Tallapoosa co, E central Ala, near the Martin Lake widening of the Tallapoosa, in a timber and mineral area, inc 1837 A textile mill is here Just north, on the Tallapoosa at a site called Horseshoe Bend, Andrew Jackson defeated the Creek Indians in March, 1814, a state monument marks the battlefield

Daedalus (dĕ'dulus), in Greek myth, sculptor and artist who built the labyrinth for the Minotaur Imprisoned by MINOS, he made wings for himself and his son Icarus Icarus flew too near the sun and, the wax joints of the wings melting, he fell into the sea Daedalus arrived in Sicily. Stories of the marvels he constructed are many

daffodil. see NARCISSUS

Dafoe, Allan Roy (dă'fō), 1883–1943, Canadian physician, b Madoc, Ont, grad Univ. of Toronto (M B, 1907) He attended the birth of the DIONNE QUINTUPLETS, and under an act of the Ontario legislature, he was appointed a member of the board of guardians for them Dafoe wrote *Guide Book for Mothers* (1936) See biography by Frazier Hunt (1939)

Dafoe, John Wesley, 1866–1944, Canadian newspaper editor, b Ontario In 1883, when he became parliamentary correspondent at Ottawa for the Montreal *Star,* he entered upon his long and distinguished career in journalism. As editor in chief (1901–44) of the Manitoba *Free Press* (later the Winnipeg *Free Press*), he made the paper the chief voice of Western agrarian liberalism. Although the owner of the paper, Sir Clifford Sifton, withdrew (1911) from the Liberal party in opposition to Laurier's reciprocal-trade policy, Dafoe vigorously supported this policy editorially However, in 1917 Dafoe broke with the Liberal party over the question of conscription In 1919, appointed press representative by the Dept of Public Information to the Paris Peace Conference, he accompanied Sir Robert Borden to Paris Thereafter Dafoe became the chief Canadian advocate of the League of Nations. From 1934 he was chancellor of the Univ of Manitoba He was a member of the royal commission on dominion-provincial relations, headed by N W ROWELL Dafoe's writings include a study of Sir Clifford Sifton (1931) and *Canada, an American Nation* (1935). See biography by G V Ferguson (1948)

Dafydd ap Gwilym (dă'vĭdh ap gwĭ'lĭm), 1340?–1400?, Welsh poet Many critics consider him the greatest poet the Celts have produced He introduced new themes and meters into Welsh poetry, in a diction free of archaisms The love theme, formalized in medieval poetry, he treated with refreshing gusto and great melodic effect, but it is his nature poetry which gives him his stature among medieval poets His influenced Welsh poetry for 200 years See Sir Idris Bell, *Development of Welsh Poetry* (1936)

Dagenham (dă'gənŭm), urban district (1921 pop 9,127, 1931 pop 89,362, 1947 estimated pop 111,330), Essex, England With the establishment of a huge Ford plant in 1929, the city mushroomed Other industries include steel casting and chemical engineering

Dagestan or **Daghestan** (both dăgŭstän'), autonomous republic (14,750 sq mi, pop c 900,000), SE European RSFSR, between the Terek river, the Greater Caucasus, and the Caspian Sea Makhachkala, the capital, and DERBENT are the chief cities Dagestan consists mainly of bare mountains, with an average altitude of 5,000 ft, and is difficult of access Mineral resources include petroleum, natural gas, and sulphur The mountains are used for grazing, the irrigated lowlands produce fruit, wine, cotton, corn, and wheat The population of Dagestan comprises about 30 nationalities, (mostly Moslems), including AVARS, Lezghians, and Russians Dagestan was ceded by Iran to Russia in the Treaty of Gulistan (1813), but the Moslem mountaineers under their native khans resisted Russian domination until 1877, when their revolts were finally suppressed It came under Soviet rule in 1920 and was made an autonomous Soviet republic in 1921

Dagobert I (dăg'ŏbûrt), d c 639, Frankish king (629?–c 639) He was the son of Clotaire II and with him ruled Austrasia as coregent after c 622. By reuniting Aquitaine with Austrasia and Neustria (630), he became king of all the Franks, he was, however, forced by popular demand to give Austrasia its own king in the person of his son, Sigebert III (633) The last of the MEROVINGIANS to exercise personal rule, he made himself independent of the great nobles, especially of PEPIN OF LANDEN, mayor of the palace Dagobert maintained a brilliant court and extended his influence over the Basques and the Bretons

Dagon (dā'gŏn), god of Canaan, perhaps a fish god. Scholars generally connect him with a fertility cult Judges 16 21–30, 1 Sam. 5 1–9, 1 Chron. 10 8–10, 1 Mac 10 83,84, 11 4 His name appears in the place name BETH-DAGON

Daguerre, Louis Jacques Mandé (lwē' zhăk' mädā' dagâr'), 1789–1851, French scene painter and physicist, inventor of the daguerreotype (dŭgâ'rŭtīp, –gâ'rēu-), a photograph produced on a silver, or silvered, plate treated with iodine vapor He first attracted attention as the inventor and exhibitor, with C M Bouton, of the diorama, which was shown at the Diorama in Paris In 1826 his experiments with the daguerreotype were joined with those of J Nicéphore NIEPCE, who had been experimenting along the same lines since 1814, and until Niepce's death in 1833 they worked together upon the photographic process, but Daguerre completed the invention of the daguerreotype alone, and in 1839 it was made public and ceded to the Academy of Sciences He wrote two books on the daguerreotype process The daguerreotype was introduced into the United States by J. W Draper and S F B Morse

Daguesseau, Henri François. see AGUESSEAU, HENRI FRANÇOIS D'

Dahl, Johan Christian Clausen (yōhän' krĭs'tyän klou'zŋ däl'), 1788–1857, Norwegian painter. His works, somewhat in the manner of the old Dutch masters, are chiefly Norwegian landscapes

Dahl, Michael (däl), 1656–1743, Swedish portrait painter In 1688 he settled in England, where he enjoyed a high reputation, painting Queen Anne and members of the aristocracy. His paintings are

to be seen in the National Portrait Gallery, London, and in Windsor Castle

Dahlak Archipelago (dä'läk' ärkĭp'ə-lā'gō), island group, off Eritrea, in the Red Sea There are two large and 124 small islands The pearl fisheries here were known to the Romans and still produce pearls and mother-of-pearl

Dahlberg, Erik Jonsson, Count, Swed *Jönsson* (ā'rĭk yün'sün, däl'bĕrg), 1625–1703, Swedish military engineer and field marshal In 1658 he conveyed Charles X's army across the frozen Great Belt in a daring march on Copenhagen As governor of Livonia, he held Riga through two sieges

Dahlgren, John Adolphus Bernard (däl'grən), 1809–70, American naval officer, b Philadelphia Appointed a midshipman in 1826, he had a long and honorable naval career In charge of ordnance at the Washington navy yard after 1847, he expanded the ordnance facilities and designed the 9-inch and 11-inch guns called Dahlgrens and much used by the navy In the Civil War, Dahlgren succeeded Franklin Buchanan in command of the Washington navy yard and soon became also chief of the Bureau of Ordnance Promoted rear admiral in 1863, he replaced Admiral S F Du Pont as commander of the South Atlantic Blockading Squadron, cooperated (1863) with Gen Q A Gillmore in the unsuccessful attempt to take Charleston, helped to place troops in Florida in 1864, cooperated with Sherman in taking Savannah, and in Feb, 1865, helped to occupy Charleston He later held high posts and wrote widely on naval ordnance See biography by his wife, Madeleine V Dahlgren (1882)

Dahlgren, Ulric (däl'grən), 1870–1946, American biologist, b Brooklyn, N Y., grad Princeton, 1894 From 1895 to 1939 he taught at Princeton (as professor of biology from 1911) Dahlgren specialized in histology and zoology, he studied especially the production of light and electricity by animals and wrote on these subjects

dahlia (dăl'–, dăl'–, dāl'–) [for Anders Dahl, 1751–89, Swedish botanist], any plant of the genus *Dahlia*, tuberous-rooted perennials native to Mexico, widely cultivated in gardens The composite flowers bloom in the late summer and are of a variety of shapes and colors, some of the popular types being known as cactus, decorative, peony-flowered, single, pompon, and collarette dahlias Many varieties have been developed from the single species originally introduced into cultivation at the end of the 18th cent, but other species and hybrids have contributed to the production of the modern dahlias A type of sugar is obtained from dahlia tubers The American Dahlia Society fosters cultivation of the plant See F F Rockwell, *Dahlias* (1929), L K Peacock, *The Dahlia* (1931), W H Waite, *Modern Dahlia Culture* (1931)

Dahlmann, Friedrich Christoph (frē'drĭkh krĭs'tôf däl'män), 1785–1860, German historian A liberal, he was one of the seven Göttingen professors who in 1837 protested when King Ernest Augustus of Hanover abrogated the constitution, and he was consequently dismissed After 1842 he taught at Bonn Dahlmann played a prominent part in the Frankfurt Parliament (1848–49) His *Quellenkunde der deutschen Geschichte* [sources of German history] (1830) has been enlarged in numerous subsequent editions and has become an indispensable aid to the study of German history Other works include a history of Denmark, completed by Dietrich Schäfer (*Geschichte von Dänemark*, 5 vols, 1840–92)

Dahlonega (dălŏn'ə-gə), city (pop 1,294), co seat of Lumpkin co, N Ga, NNE of Atlanta, inc 1833 Now a mountain trade center, it was settled with the opening of the gold mines in 1828, gold is still mined A U S mint was here, 1836–61 Points of interest are the county courthouse, dating from 1833, and North Georgia College

Dahlstjerna, Gunno Eurelius (gü'nō ä-ōō'rā'lēŭs däl'shĕr'nä), 1661–1709, Swedish poet, the first to use native themes in his writings He is best known for *The King's Song* (1698), an elegy on the death of Charles XI Another popular work is his lively **ballad**, in dialect, *Battlesong about King Charles IX and Tear Peter*

Dahna: see RUB AL KHALI

Dahomey (dŭhō'mē, Fr dàsōmā'), French overseas territory (c 45,500 sq mi, pop 1,458,000), French West Africa, on the Slave Coast of the Gulf of Guinea. The capital is Porto Novo Dahomey is bordered on the west by French Togoland, on the north by the Niger territory (from which it is separated in part by the Niger river), and on the east by Nigeria Mangroves along the coast give way to hardwood forests and, in the neighborhood of the Niger river, to treeless savannas Corn, manioc, and yams are grown for local consumption, and cotton, coffee, and palm oil are produced for export Cattle thrive in the north There is a railroad along the coast with branches extending some distance into the interior Dahomey is represented in the French parliament The territory is inhabited by Negro tribes who speak various Ewe languages The region first came to European attention in the 17th cent, when it was divided among several powerful native states. By the mid-18th cent the state of Dahomey was supreme It had a large army, notable for its female contingents Dahomey fell under the control of France in the late 19th cent. See Melville J. Herskovits, *Dahomey, an Ancient West African Kingdom* (1938)

Daibutsu (dī'bōōtsōō) [Jap.,=great Buddha], Japanese name applied to large statues of Buddha The most notable are those at Nara, Kamakura, and Kyoto The one at Nara, frequently restored, is 53 ft high and dates from the 8th cent. The Buddha of Kamakura, some 40 ft high with gold eyes several feet long, is the most famous, it was constructed in 1252 The Buddha of Kyoto, 58 ft high, is of wood rather than bronze and replaced an old figure destroyed in 1596.

Dáil Éireann (dôl' ā'rən, dīl' ā'run) [Irish,=diet of Ireland], the popular representative body of the *Oireachtas*, or National Parliament, of the republic of Ireland The second chamber, the *Seanad Éireann*, or Senate, has very limited powers, and the executive, as represented by the prime minister, is responsible to the Dáil, whose members are elected by universal adult suffrage The members of the first Dáil were elected in Dec, 1918, ostensibly to the British Parliament, but established themselves as a revolutionary body. It first convened at Mansion House, Dublin, in Jan, 1919, and proclaimed the Irish republic The Dáil existed precariously until the creation of the Irish Free State in Dec, 1921, and established itself firmly in the period of civil war that followed See IRELAND

Daimiel (dīmyĕl'), town (pop 19,277), Ciudad Real prov, central Spain, in New Castile It produces brandy, vermouth, and alcohol.

Daimler, Gottlieb (dīm'lur, Ger. gôt'lēp dīm'lûr), 1834–1900, German engineer, inventor, and pioneer automobile manufacturer His improvements in the internal-combustion engine, made in the 1880s, contributed largely to the development of the automobile industry

daimyo or **daimio** (both dīm'yō) [Jap.,=great name], the great feudal landholders of Japan, the territorial barons as distinguished from the kuge or court noble Great tax-free estates were built up from the 8th cent onward and were increased in number by alienation of lands to members of the imperial family who could not be supported at court By the 12th cent the power of the daimyo actually overshadowed that of the imperial government itself. This situation was forcefully revised by the reforms of Yoritomo, who in the 12th cent established a centralized feudalism The fierce civil wars of the 14th cent, the 15th cent (especially the Onin War), and the 16th cent were ended by the triumph of Ieyasu, but by 1600 most of the old daimyo families had yielded to a new group After 1600 the daimyo were divided into the *fudai* (the hereditary vassals of the Tokugawa family) and the *tozama* (the Outside Lords) The *tozama* were generally viewed with suspicion by the shogun and were ultimately to play a part in the overthrow of the shogunate In the 18th and early 19th cent the daimyo, with their tastes for luxury and their need for show in long stays at the court, were hard pressed by the limits of their agricultural incomes from the peasants and tended to sink deeper and deeper in debt while their social and economic usefulness approached the vanishing point With the overthrow of the shogun and the establishment of the Meiji restoration, all daimyo lost their feudal privileges in 1871

Dainan, China see TAINAN

Daingerfield, Elliott (dān'jurfēld), 1859–1932, American painter and writer, b Harpers Ferry, W Va, studied at the Art Students League, New York He first exhibited at the National Academy in 1880 and was made a member in 1906 His religious paintings in particular are notable for their rich, glowing color They include the murals in the Lady Chapel of the Church of St Mary the Virgin, New York, *Christ Stilling the Tempest* (Metropolitan Mus), and *The Story of the Madonna*, awarded the Clarke Prize of the National Academy in 1902 Among his principal landscapes are *Slumbering Fog* (Metropolitan Mus), *Midnight Moon* (Brooklyn Mus), *Storm Breaking Up* (Toledo Art Mus); and *The Valley of the Dragon* (Art Inst, Chicago).

Daingerfield, town (pop 1,032), co seat of Morris co, E Texas, near the northeast corner of the state The area yields pine and garden truck Iron deposits to the south supply an iron industry built up by the U S government in the Second World War and sold in 1947 to a private company. A state park is near by

Dairen, China see TALIEN.

dairying, the industry concerned with producing milk and milk products. In the United States c 250,000 persons are employed in the industry, which supplies an estimated 20 percent of the food consumed by the average person and which represents the largest single source of revenue of the American farmer About one third of the milk produced is used for BUTTER, almost as much for market MILK, and the remainder is devoted to farm uses and the making of CHEESE, concentrated milks, ice cream, and by-products such as dried milk solids (e g., LACTOSE and CASEIN). Commercial dairy products are processed or manufactured and then marketed by creameries, some of which, especially in Denmark, are farmers' cooperatives Modern dairying dates from 1850, its development paralleling the growth of urban populations Large-scale dairying was stimulated by the invention of specialized machines, notably the cream separator (see SEPARATOR, CREAM), by research in chemistry, physics, and bacteriology, by the discovery of PASTEURIZATION, by the introduction of the test devised by S M BABCOCK for determining the fat content of milk, by improved refrigeration and transportation, by the increase in output resulting from the scientific study of the breeding and feeding of CATTLE, by the greater consumption of dairy products resulting from increased knowledge of their nutritional value, and by the finding of new uses for the by-products of factory operation. See C H Eckles and others, *Milk and Milk Products* (3d ed, 1943)

daisy [O E.=day's eye] The daisy of literature, the true daisy, is *Bellis perennis*, called in the United States English daisy. This is a low composite-flowered European plant, cultivated in the United States mostly in the double form, with heads of flowers of white, pink, or red, sometimes smaller heads are clustered about the main one The English daisy, which closes at night, has long been considered the flower of children and of innocence There is a purple species of *Bellis* native to the lower Mississippi basin and called western daisy The common, often weedy, daisy of the United States (*Chrysanthemum leucanthemum*), called also oxeye daisy, is native to Europe but naturalized in America and is accepted as the state flower of North Carolina A composite, it has white petal-like rays with a golden center Both of these daisies are sometimes called MARGUERITE Other plants, daisylike, share the name of daisy, particularly species of *Chrysanthemum*, as the Shasta daisy and painted daisy or PYRETHRUM

Dakar (dŭkär', də-), city (pop c 132,000), Senegal, capital of French West Africa, a port on the Atlantic Ocean at the end of the Cape Vert peninsula Dakar, the westernmost point of Africa, is c 1,800 mi from Natal, Brazil It has rail connections with much of the interior of Senegal Food processing is the chief industry, and there are exports of peanuts and animal products In the Second World War, Gen Charles de Gaulle, with British assistance, vainly attempted (Sept, 1940) to take the heavily defended city In Dec, 1942, Dakar peaceably joined the Allied camp

Dakin, Henry Drysdale (dā'kĭn), 1880–, American research chemist, b England, grad Victoria Univ, Manchester, England After carrying on research in Leeds, London, and Heidelberg, he was associated with the Herter Laboratories, New York city, from 1905 to 1920 He was made a fellow of the Royal Society and a chevalier of the Legion of Honor He wrote *Oxidations and Reductions in the Animal Body* (1912) and, with E K Dunham *A Handbook on Antiseptics* (1917) **Dakin's solution,** known also in a modified form as Dakin-Carrel solution, is widely used in surgery as an antiseptic and in the sterilizing and dressing of infected wounds It is essentially a dilute, almost neutral, solution of sodium hypochlorite (0 5 percent) and owes its antiseptic properties to its instability and the liberation of free chlorine

Dakota Indians see SIOUX INDIANS.

Dakota Wesleyan University: see MITCHELL, S.Dak

Dal (dāl), Swed *Dalälven* (dal'ĕl"vun), river, central Sweden, rising in the border mountains of Norway and flowing into the Gulf of Bothnia at Skutskar With two large tributaries, it is 325 mi long Its numerous cascades furnish power for the industries of KOPPARBERG co

Daladier, Édouard (ādōōär' dalädyā'), 1884– French politician, a Radical Socialist After the First World War he was one of the semipermanent fixtures of the successive French cabinets, whose members were virtually interchangeable He was premier from Jan to Oct, 1933, and again from Nov, 1933, to Feb., 1934, when the STAVISKY AFFAIR, in which Daladier was not personally implicated, caused serious riots in Paris and forced his resignation. In April, 1938, Daladier obtained the premiership of a much-watered-down Popular Front cabinet, retaining his post as minister of war, which he had held since 1936 He did his best to nullify the social and economic legislation enacted by the four previous Popular Front cabinets and signed (Sept, 1938) the MUNICH PACT. He resigned in March, 1940, because his failure to aid Finland in its defense against Russia was unpopular, but he remained minister of war until May 18, when he was shifted to the post of foreign minister During the French collapse in the Second World War he left (June) the cabinet altogether. Arrested by the Vichy government in 1940, he was one of the defendants at the uncompleted Riom war-guilt trial (1942), was interned by the Germans, and was liberated from prison in Austria in 1945. Daladier reentered politics and was elected a deputy to the national assembly in 1946.

Dalaiah (dă'lā'ə), descendant of David. 1 Chron. 3 24.

Dalai Lama: see LAMAISM.

Dalarna (dä'lärnä") or **Dalecarlia** (dälükär'lēü), historical province of central Sweden Administratively it is nearly identical with KOPPARBERG co. In 1521 the peasants of Dalarna, led by Gustavus Vasa (see GUSTAVUS I), freed Sweden from Danish rule Old customs and home industries have survived in many villages, notably RATTVIK

Dalbeattie (dälbē'tĭ), burgh (pop 3,011), Kirkcudbrightshire, Scotland, SW of Dumfries, founded 1780 The near-by Craignair quarries supplied granite for the Thames embankment and the Liverpool and Odessa docks

Dalberg, Emmerich Joseph (Emeric Joseph, duc de Dalberg) (ĕmürĭk' zhōzĕf' dälbärk'), 1773–1833, French diplomat of German origin, nephew of Karl Theodor von Dalberg The foreign minister of Baden, he entered (1810) the service of Napoleon I, who created him duke In 1814 he helped to restore Louis XVIII, whom he served as French plenipotentiary at the Congress of Vienna and as ambassador at Turin and Vienna

Dalberg, Karl Theodor, Freiherr von (tä'ōdôr frī'hâr fŭn däl'bärk), 1744–1817, German statesman, of an ancient noble family prominent in the imperial service He was archbishop-elector of Mainz (1802-3) and, as such, archchancellor of the Holy Roman Empire Even after the secularization of his see, he remained archchancellor to 1806 A faithful collaborator of Napoleon I, he became (1806–13) prince-primate of the CONFEDERATION OF THE RHINE and grand duke of Frankfurt (1810 13) Dalberg was known as humane and enlightened

D'Albert, Eugen Francis Charles see ALBERT, EUGEN FRANCIS CHARLES D'

Dalcroze, Émile Jaques see JAQUES-DALCROZE

Dale, David, 1739–1806, Scottish cotton manufacturer and philanthropist He preceded (1785) his son-in-law, Robert OWEN, in organizing for the workers at New Lanark a model community with good housing and schools Dale worked up from humble beginnings to considerable wealth, gave generously to religious work, and built the community made famous by Owen He withdrew in 1770 from the Scottish church, founding the Old Independents, or Dalites, whom he served as minister

Dale, Sir Henry Hallett, 1875–, English scientist For his study of acetylcholine as agent in the chemical transmission of nerve impulses he shared with Otto Loewi the 1936 Nobel Prize in Physiology and Medicine He also investigated the pharmacology of ergot and histamine shock He was director of the National Institute for Medical Research (1928-42), professor of chemistry and director of the Davy-Faraday Laboratory at the Royal Institution (1942-46), and president of the Royal Society (1940–45) and of the British Association for the Advancement of Science (1947) In 1932 he was knighted

Dale, Richard, 1756 1826, American naval officer, b Norfolk co, Va At the outbreak of the American Revolution he joined the Virginia navy Captured by the British, he served in the British navy until recaptured by the patriots, he then declared his loyalty to the patriot cause and was advanced because John Paul Jones recognized his ability In 1801 he was sent to the Mediterranean to hold the pirates of the Barbary States in check The *President* was his flagship He was relieved of this command in 1803 and retired

Dale, Sir Thomas, d 1619, acting governor (May–Aug, 1611, 1614-16) of the Virginia colony His earlier life was spent as a soldier in Scotland and in the Low Countries, and he was knighted (1606) by James I Sent by the Virginia Company to restore order, he arrived (1611) in Virginia with three ships of settlers and governed four months until another fleet under Sir Thomas GATES arrived When Governor Gates departed (1614) Dale again ruled Though the administration of Dale and his assistant, Sir George Yeardley, was severe, famines, epidemics, insubordination, and Indian attacks were overcome, private holdings were instituted, cultivation of tobacco was begun, and the colony was settled in a more favorable location at Henrico Upon return to England, Dale received command of a fleet bound for India, fought the Dutch en route, and died soon after arrival

Dale, borough (pop 3,291), SW Pa, in the Alleghenies c 5 mi SE of Johnstown, inc 1891 Coal is mined here

Dalecarlia, Sweden see DALARNA.

D'Alembert, Jean le Rond: see ALEMBERT

D'Alembert's principle. Jean le Rond d'Alembert introduced (1742) and established (1743) in his *Traité de dynamique* a principle of mechanics which shows that Newton's third law of motion applies to bodies free to move as well as to stationary bodies

Dalen, Nils Gustaf, Swed *Dalén* (nĭls' güs'täf dälān'), 1869–1937, Swedish scientist, a specialist in the use of acetylene gas From 1906 he was associated with the Swedish Gas Accumulator Company His many inventions include an automatic regulator (sun valve) for turning on and off the acetylene-gas lights used as marine buoys and beacons and railway signals and lights Mainly for the invention of this device he received the 1912 Nobel Prize in Physics. A laboratory explosion blinded him

Dalhart (dăl'härt), city (pop 4,682), co seat of Dallam co, extreme N Texas, NW of Amarillo in the northwest corner of the Panhandle, founded 1901, inc. 1903 Born with the coming of the railroad to cattle-ranching country, it has railroad shops and stockyards as well as grain elevators to serve the wheat growing introduced later. Near by Rita Blanca Creek (of the Canadian river system) is dammed for irrigation

Dalhousie, James Andrew Broun Ramsay, 1st marquess of, (dălhōō'zē, -hou'-), 1812–60, British statesman, educated at Oxford After serving as president of the Board of Trade (1845–47), he was governor general of India (1847 56) He annexed (1849) the Sikh territory of the Punjab after British victory in the Second Sikh War He advanced India economically by introducing railroads and telegraphs, by reforming the postal system, and by building irrigation works His many social reforms included authorization of the remarriage of widows despite Hindu prohibition His policy of annexing princely states when there were no natural heirs to the rulers may have been a factor in the Sepoy Rebellion See biography by Sir William Lee-Warner (1904)

Dalhousie (dălhou'zē, -hōō'zē), town (pop 4,508), N N B, at the mouth of the Restigouche river, at the head of Chaleur Bay, and at the foot of Dalhousie Mt (715 ft high) With a good harbor and a fine beach it is a seaside resort There is lumbering near by, and Dalhousie has a paper mill Many of the inhabitants are fishermen

Dalhousie University (dălhou'zē), at Halifax, N S, nonsectarian, coeducational, founded by the 9th earl of Dalhousie, chartered 1821, opened 1838 Associated or affiliated with it are the Univ of King's College (chartered 1789, opened 1790, became the first university in Canada by royal charter, 1802, moved from Windsor, N S, 1923), the Maritime College of Pharmacy, and the Fisheries Research Board In the university proper there are faculties of arts and science, law, medicine, and dentistry

Dalí, Salvador (salvadhôr' dä'lē), 1904–, Spanish surrealist painter He tried futurism and cubism By 1929 he had abandoned abstract art to become a leading surrealist His paintings—of fine draughtsmanship—express a bowdlerized Freudian pseudo-dream world, tending more and more toward irrationalism His *Persistence of Memory*, with limp watches, has become well known in America In 1940 Dalí came to live in the United States He wrote *The Secret Life of Salvador Dalí* (1942) and a novel, *Hidden Faces* (1944) He has made surrealist ventures in moving pictures, advertising, and the ballet

Dalin, Olof von (ōō'lôv fŭn dälēn'), 1708–63, Swedish historian, poet, and journalist, foremost literary figure of his day Educated at the university in Lund, he entered the civil service His periodical, the *Swedish Argus* (1733–34), was at first issued anonymously In the next few years he wrote *Thoughts about Critics* (1736), a comedy, *The Jealous* (1738), the political satire, *April Activities* (1737), and also lyric poetry, humorous prose, and political articles He was royal librarian (1737–39), traveled for two years as a tutor in Germany and France (1739–40), and returned to Sweden to publish two satirical poems, *Story of the Horse* (1740) and *Swedish Liberty* (1742) As tutor (1750–56) to the crown prince (later Gustavus III) he was ennobled in 1751 He was appointed secretary of the Swedish Academy of Literature in 1753 and royal historiographer in 1755 Involved in court intrigue, he was banished in 1756 and in exile finished the third volume of his popular *History of the Swedish Kingdom* (1746–62) Restored to favor, he became a councilor to the king in 1763

Dalkeith (dulkēth'), burgh (pop 7,502), Midlothian, Scotland, SE of Edinburgh between the North Esk and the South Esk It is an important grain center, with metalworks, and is near one of the few oil fields in Britain Dalkeith House, with a large park, the seat of the duke of Buccleuch, was built in 1700 by Sir John Vanbrugh, replacing an earlier 13th-century fortress

Dalkey (dô'kē, dôl'-), town, Co Dublin, Ireland, on the south horn of Dublin Bay It is an old town, important in the Middle Ages, and has ruins of two churches and a tower Dalkey Island, separated from the mainland by a narrow sound, was famous in the 18th cent for the election of the mock "king of Dalkey"

Dall, William Healey (dăl), 1845–1927, American naturalist, b Boston, studied under Louis Agassiz He spent some time in Alaska with the International Telegraph Expedition (1865–68) and the U S Coast Survey (1871–84) From 1884 to 1911 he served the Geological Survey as paleontologist, studying especially the mollusks, on which he wrote numerous reports. He also wrote *Alaska and Its Resources* (1870) and biographies of S F Baird (1915) and T N Gill (1917).

Dallas, Alexander James, 1759–1817, U.S. Secretary of the Treasury (1814–16), b Jamaica, West Indies He went (1783) to Philadelphia, practiced law, and was secretary of state (1791-1801) and U.S. district attorney (1801–14) in Pennsylvania He was appointed by James Madison as Secretary of the Treasury to succeed George W CAMPBELL toward the close of the War of 1812, when treasury affairs were in an extremely critical condition He pushed Congress to levy taxes heavier than any that had hitherto been borne in the United States and asked for the reestablishment of the BANK OF THE UNITED STATES Under Dallas's administration, confidence in U.S currency was restored. After securing Madison's veto on the first bank bill, which did not suit him, Dallas largely dictated the second bill, which John Calhoun forced through congress and which became law in 1816 Dallas in 1815 also carried the duties of Secretary of War See biographies by his son, George Mifflin Dallas (1871) and Raymond Walters, Jr (1943).

Dallas, George Mifflin, 1792–1864, American statesman, Vice President of the United States (1845-49), b Philadelphia, grad Princeton, 1810, son of Alexander James Dallas He read law, was admitted (1813) to the bar, and was secretary to Albert Gallatin After he served as solicitor (1815-17) of the Bank of the United States, Dallas was city attorney (1817 19) and mayor (1819) of Philadelphia An active Democrat, he was appointed (1829) U S district attorney for E Pennsylvania, then rendered service as a U S Senator (1831–33), as attorney general (1833–35) of Pennsylvania, and as minister (1837–39) to Russia He returned to his law practice, and a sharp political rivalry developed between him and James Buchanan in Pennsylvania In 1844 Dallas was elected Vice President on the Democratic ticket along with James K Polk Though he believed in a high tariff, Dallas cast (1846) the deciding vote in the Senate for the low Walker Tariff and thus abided by the party platform Dallas was later (1856) appointed minister to Great Britain and was succeeded (1861) in that post by Charles Francis Adams He conducted the negotiations leading to the Dallas-Clarendon Convention, signed in 1856, which set a basis for the settlement of difficulties in Central America He also secured from Great Britain a disavowal of the right of search He wrote a biography (1871) of his father See his letters from London (1869) and his diaries (1892) while a minister to Great Britain and Russia

Dallas 1 Town (pop 1,922), co seat of Paulding co, NW Ga, NW of Atlanta, in a farm area, inc 1854 2 Textile-mill town (pop 1,704), W central N C, WNW of Charlotte, inc 1848 3 City (pop 3,579), co seat of Polk co, NW Oregon, W of Salem in the Willamette valley, founded 1852, inc 1874 It is in a lumbering and fruitgrowing region 4 Borough (pop 1,484), Luzerne co, NE Pa, NW of Wilkes-Barre, inc 1879 It is the seat of College Misericordia 5 City (1940 pop 294,734, 1947 estimated pop 370,000), co seat of Dallas co, N Texas, E of Fort Worth, inc as a town 1856, as a city 1871 It is on the Trinity, which is formed here by the junction of the Elm Fork and the West Fork Since the time when John Neely Bryan first built (1841) a hut here, Dallas has grown soberly and ambitiously French artisans and gentlemen who survived the failure (1858) of the Fourierist colony, La Réunion, came to Dallas along with other solid citizens from over the nation and the world Even before the railroads arrived in the 1870s Dallas was shipping the cotton of the rich blacklands, and now cotton-gin machinery is made, cotton is shipped, processed, woven, and made into clothing, and the city is a regional style center Oil brought new interests in the 20th cent, with offices of oil companies and making of oil-well machinery and like industries In the Second World War, varied manufactures expanded greatly in the city and the metropolitan area (e g, GRAND PRAIRIE and GARLAND), which in 1947 was estimated to have 483,000 inhabitants Dallas is the banking, financial, insurance, commercial, and industrial center of much of the Southwest and among Texas cities is second only to Houston in population Love Field handles much air transport, and there is a military air-training field A city improvement program, begun in the 1920s, has done much to make Dallas a model city In the suburb of University Park is SOUTHERN METHODIST UNIVERSITY, and Dallas is notable for its interest in books, music, and the Little Theater The old reservoir, White Rock Lake, is now in a large park, the newer one, Lake Dallas (see TRINITY, river) is near Denton The Texas State Fair is held annually in State Park, where buildings erected for the Texas Centennial Exposition of 1936 are used as museums.

Dallas City, city (pop 1,149), W Ill, on the Mississippi and S of Burlington, Iowa, in a coal and farm area; inc 1859.

Dallastown, borough (pop 2,917), York co, SE Pa, SE of York, inc 1867

Dalles, The, Oregon see THE DALLES.

Dalles of the Wisconsin see DELLS OF THE WISCONSIN

Dallin, Cyrus Edwin, 1861–1944, American sculptor, b Springville, Utah He was especially known for his statues of Indians, which include *The Appeal to the Great Spirit* (Mus of Fine Arts, Boston), *The Medicine Man* (Fairmount Park, Philadelphia),

The Signal of Peace (Lincoln Park, Chicago), and *The Scout* (Kansas City, Mo) His *Pioneer Monument* is in Salt Lake City His design for an equestrian statue of Paul Revere to be placed in Copley Square, Boston, won a competition in 1884, but the statue was not accepted by the city until 1940 It was finally placed on Paul Revere Mall.

Dalmanutha (dălmănū'thu), region, near the Sea of Galilee Mark 8 10 From a parallel passage it should be near MAGDALA

Dalmatia (dălmā'shu), Serbo-Croatian *Dalmacija*, region of Yugoslavia, extending along the Adriatic coast, approximately from Fiume to Kotor A long and narrow plateau, it rises to the Dinaric Alps The coast, which is famed for its scenic beauty and its resorts, has many bays and excellent harbors (ZARA, SPLIT, and DUBROVNIK), protected by a chain of islands Long in conflict with Rome, Dalmatia was definitively subdued by Augustus (35 B C–33 B C) and was incorporated with part of Illyria as a Roman province It was overrun by the Ostrogoths (5th cent A D), reconquered by the Byzantine Empire (6th cent), and settled, except in the coastal cities, by the Slavs in the 7th cent By the 10th cent it was divided between the kingdoms of Croatia (north) and Serbia (south), while Venice held several ports and islands After centuries of struggle, chiefly between Venice and the crown of Hungary and Croatia, the coastal islands and most of Dalmatia were under Venetian control by 1420 Hungary retained the Croatian part, which in 1526 passed to the Turks but was recovered by the Treaty of Karlowitz (1699) The Treaty of Campo Formio (1797) gave Venetian Dalmatia to Austria, and the Treaty of Pressburg (1805) gave it to Italy By the Treaty of Schonbrunn (1809) all Dalmatia passed to France and was incorporated into the Illyrian Provs (see ILLYRIA), but the Congress of Vienna restored (1815) the borders of 1797 The Croatian part of Dalmatia remained with Hungary, the former Venetian part formed an Austrian crownland, with its capital at Zara In 1919 Yugoslavia received all Dalmatia save Zara and several islands, which passed to Italy The Italian peace treaty of 1947 gave the remainder of the coast to Yugoslavia

Dalmatian dog or **coach dog**, sleek, short-haired white dog with black or liver spots The standard shoulder height for both sexes is between 19 and 23 in and the weight from 35 to 50 lb For many centuries the dog has existed in its present form Evidence points to Dalmatia as the place where it was first known The dog was long associated with horses and showed endurance and alertness in its capacity as a coach dog or follower of carriages It has also served as a sentinel, draft, shepherd, and sporting dog

Dalmău, Luis (lōōēs' dalmou'), fl 1428–60, Spanish primitive painter, court painter to Alfonso of Aragon He is thought to have visited Flanders, and his only undisputed work, *Virgin with Councilors* (Barcelona), shows the influence of Van Eyck

Dalny, China see TALIEN

Dalou, Jules (zhul' dalōō'), 1838–1902, French sculptor, popular under the Third Republic Exiled to England from 1871 to 1879 for his revolutionary sentiments, he taught in London His bronze *Maternity* is in front of the Royal Exchange there His best-known works are his *Triumph of the Republic* (Place de la Nation, Paris), his reliefs for the chamber of deputies, and his *Silenus* (Luxembourg Gardens) Dalou is represented in the Metropolitan Museum

Dalphon (dăl'fŭn), one of Haman's sons Esther 9 7.

Dalrymple, Alexander (dăl'rimpul, dălrim'pul), 1737–1808, British hydrographer, b near Edinburgh In the service of the East India Company, to which he became hydrographer in 1779, he traveled in the S Pacific He was later made hydrographer to the British admiralty He collected nautical memoirs, charts, and records and wrote historical accounts relating to the South Seas

Dalrymple, David, Lord Hailes, 1726–92, Scottish jurist and antiquarian In 1766 he became a judge in the court of session, receiving the title Lord Hailes He was a friend of Samuel Johnson and James Boswell His *Annals of Scotland* (1776–79) is a chronicle of medieval Scotland

Dalrymple, James. see STAIR, JAMES DALRYMPLE, VISCOUNT

Dalrymple, John: see STAIR, JOHN DALRYMPLE, EARL OF

Dalsland (dals'länd), historical province of central Sweden It is now administratively part of ALVSBORG CO

Dalton, John (dôl'tun), 1766–1844, English scientist He revived the ATOMIC THEORY, which he formulated in the first volume of *A New System of Chemical Philosophy* (2 vols, 1808–27) He had already applied the concept to a table of atomic weights (1803), in a paper (1805) on the absorption of gases, and in developing his famous law of partial pressures, known also as DALTON'S LAW His interest in weather conditions led him to keep daily records from 1787 and to write *Meteorological Observations and Essays* (1793) Dalton, himself afflicted with color blindness, investigated (c 1794) the condition, which is known also as Daltonism From 1793 he taught mathematics and physical sciences at New College, Manchester He was a member of the Royal Society (from 1822) and in 1825 received its medal for his work on the atomic theory

Dalton, John Call, 1825–89, American physiologist, b Chelmsford, Mass, M D, Harvard, 1847 He studied in Paris under Claude Bernard, whose methods of experimental physiology he introduced in the College of Physicians and Surgeons, in New York city, where he was professor (1855–83) and later president (from 1884) Besides a treatise on physiology (1859), he wrote works on anatomy and *Doctrines of the Circulation* (1884).

Dalton. 1 City (pop 10,448), co seat of Whitfield co, extreme NW Ga, in the Appalachian Valley, inc 1847 An industrial center in a cotton and lumber area, it has a large candlewick-bedspread industry developed after 1919 Yarn, thread, and hosiery are also made In the Civil War, Dalton, Confederate headquarters after the CHATTANOOGA CAMPAIGN, fell to Sherman in the ATLANTA CAMPAIGN (1864) **2** Town (pop 4,206), W Mass, in the Berkshires NE of Pittsfield, settled 1755, inc 1784 Its paper industry (including bank-note paper) dates from 1801 Woolen goods are also made here **3** Residential borough (pop 1,090), NE Pa, near Scranton, inc c 1890

Dalton plan see PROGRESSIVE EDUCATION

Dalton's law [for John Dalton] states that the total pressure exerted by a mixture of gases is equal to the sum of the pressures of the different gases making up the mixture, each gas acting separately and independently of the other gases The pressure of a gas containing water vapor can be determined by subtracting, from the total pressure, the pressure of the water vapor (called aqueous tension) for the existing temperature

Daly, Arnold, 1875–1927, American actor, b Brooklyn, N Y He made his debut in *Pudd'nhead Wilson* (1895) Inspired by Mansfield's production of *The Devil's Disciple* (1897–98), Daly determined to present Shaw on the American stage and in 1903 played successfully in *Candida Mrs Warren's Profession* (1905) caused the arrest of the principal actors, but they were immediately acquitted and the following year Daly toured with *Arms and the Man*, *Candida*, and *The Man of Destiny* His reputation was based on the Shaw plays which he introduced into the United States with financial and artistic success See biography by B H Goldsmith (1927)

Daly, Augustin, 1838–99, American playwright and theatrical manager, b Plymouth, N C From 1859 he was dramatic critic for several New York papers and adapted many plays from French and German In 1867 he made his debut as manager with his melodrama, *Under the Gaslight*, and in 1869 he opened his first theater, the Fifth Avenue There he produced plays with E L Davenport, Fanny Davenport, Clara Morris, and other stars A few years later he established his famous Daly's Theatre on Broadway, with a stock company headed by John Drew and Ada Rehan Daly presented largely magnificent productions of Shakesperian comedies and adaptations of French and German comedies In 1893 he established a London theater, known later as Daly's, where he took his company annually, his famous players were enthusiastically received on both sides of the Atlantic Daly's meticulous concern with details earned him both devotion and hatred, the first for his inspired direction and the second for misguided attempts to subjugate his entire company See biography by J F Daly (1917)

Daly, Charles Patrick, 1816–99, American lawyer, b New York city He was admitted to the bar in 1839 He was a judge (1844–85) of the court of common pleas of New York city, serving as chief justice in the last 27 years Daly was strongly interested in geography and for 35 years was president of the American Geographical Society

Daly, Marcus, 1841–1900, American copper magnate, b Ireland He came to New York city at 15 and later went to California, where he labored as a miner He went into the employ of the "silver kings," J G Fair and J W Mackay, at the Comstock Lode In 1876 he was sent by a large company to investigate the silver mines at Butte, Mont Discovering that there was rich copper beneath the silver, he purchased the Anaconda silver mine and tested the copper Then with the backing of George Hearst and others, he quietly bought up neighboring mines and formed a mining company He built a smelter at Anaconda and connected it by rail with Butte So dazzlingly successful was he that Anaconda became almost a household word in the United States Daly purchased coal mines to fuel his furnaces, bought forests to supply his timber, and built power plants to supply the mines He also established a number of banks. His great rival was William A CLARK, and their bitter struggle for control kept the copper country in turmoil, which was not lessened by the ambitions of other men, notably F. Augustus Heinze Though Daly was not himself desirous of public office, he built up an enormous political machine primarily to thwart the plans of Clark. The feud dominated Montana politics and economy Daly to further his interests also established a newspaper, the Anaconda *Standard*, which had great influence See C G Glasscock, *The War of the Copper Kings* (1935)

Daly, Thomas Augustine, 1871–1948, American journalist and humorous poet, b Philadelphia He was on the staff of several Philadelphia papers and was associate editor (1918–29) of the *Record* From 1929 until his death his humorous column, "Rhymes and Ripples", appeared in the *Evening Bulletin* He is best known for his humorous verse in Italian dialect, especially *Canzoni* (1906) and *McAroni Ballads* (1919) His last volume, *Late Lark Singing*, appeared in 1946

Daly City, city (pop 9,625), W Calif, adjoining San Francisco, inc 1911 It is a residential city, with truck and dairy farms in the area

Dalyell or **Dalzell, Thomas** (both dăl'yul, dŏŏl'), c 1599–1685, Scottish soldier He fought for Charles II at the battle of Worcester (1651), was captured, escaped, and went to fight in Russia He became commander of the forces in Scotland after the Restoration and was given the task of suppressing the Covenanters

Dam, Henrik (hăn'rĕk dăm'), 1895–, Danish biochemist A war refugee, he lectured in the United States and Canada (1940–41) and was research associate at the Univ of Rochester (1942–45) Appointed (1941) professor of biochemistry at the Polytechnic Institute, Copenhagen, he assumed his post in 1946 In 1934 he identified vitamin K The 1943 Nobel Prize in Physiology and Medicine was awarded jointly to Dam and to E A Doisy for their work on vitamin K His later work has been concerned especially with the role of vitamin E in nutrition

dam, barrier for holding back water and often forming a reservoir or lake Dams are made of timber, rock, earth, masonry, or concrete or of combinations of these materials Timber dams are seldom used because they do not last long and their height is limited Rock-fill dams consist of an embankment of loose rock with either a core impervious to water or a watertight face on the upstream side Earth dams may be either simple embankments of earth or embankments reinforced with a core of cement or with an upstream surface made watertight Masonry and concrete dams are either gravity dams (those dependent upon their own weight for resistance to the pressure of the water) or arch dams (either single-arch or multiple-arch dams) Single-arch dams are horizontally curved upstream and are usually constructed in narrow canyons or gorges where the rocky side walls are strong enough to withstand the tremendous thrust of the dam Some dams are of the multiple-arch type, consisting of a number of single arches supported by buttresses Dams have from early times been constructed to provide a ready supply of water for irrigation and other purposes One of the earliest large dams for this purpose was a marble structure built c 1660 by Rana Raj Singh in Rajputana (Rajasthan) Many modern dams are constructed for multiple purposes, e g, to provide for irrigation, to aid flood control, and to furnish power for hydroelectric plants Some dams are built to improve the navigability of waterways Within recent years many dams have been constructed in the United States (see CENTRAL VALLEY PROJECT, MISSOURI RIVER BASIN PROJECT, TENNESSEE VALLEY AUTHORITY) Among the largest are BONNEVILLE DAM, GRAND COULEE DAM, and HOOVER DAM Mexico, too, has undertaken a number of dam-building projects A large dam of the Panama Canal forms GATUN LAKE Notable dams are found in Egypt across the Nile (see ASWAN and SENNAR) and along many other important rivers (e g, the Dnieper, Tigris, Euphrates, Indus, Ganges, and Yellow rivers)

damages, money award which the judgment of a court requires the defendant in a suit to pay to the plaintiff as compensation for the injury inflicted Damages are the form of legal redress most commonly sought With a few exceptions, in England courts of law traditionally afforded only this remedy, while courts of EQUITY granted damages solely as an incident of other relief, such as INJUNCTION The purpose of damages is to compensate the injured party for the loss which he has suffered and will probably suffer from the defendant's misconduct Thus, in a suit for physical injuries the plaintiff may seek recovery for the pain he endured and his accrued medical expenses and for probable loss of earnings due to disability during the remainder of his normal life expectancy In suing for breach of contract the plaintiff need not prove the extent of his loss if the contract specified the "liquidated" damages, i e, the probable loss from breach Where there is a question as to the amount of damages, the jury usually makes the assessment While the ordinary object of damages is simply to compensate the injured party to the extent of the injury, where there was fraud or deliberate wrongdoing, exemplary or punitive damages may be allowed. Many statutes

also provide for double or treble damages. In some instances where the extent of the loss cannot be determined or the injury is slight, nominal damages (e g , a penny) may be granted The award of legal costs is related to damages. Usually the losing party is required to reimburse the winning party for having put him to legal expense In some states of the United States, however, even the winning party may be required to pay compensation if by delay or other improper conduct he added to his opponent's legal charges When damages and legal costs are awarded they become a lien on the debtor's property, which the creditor may seize and sell if the debtor does not meet his obligation In some states, if the debtor attempts to put his property out of reach, an injunction ordering him to pay may be issued

Daman (dumän′), Port *Damão*, Portuguese colony (86 sq mi , pop 63,521), India, bordered by Bombay state It was acquired in 1558 It consists of a coastal section, Daman proper, and a detached inland section, Nagar-Aveli The capital is Daman, which before the decline of Portuguese power in the 18th cent enjoyed a large overseas trade, especially with E Africa

Damanhur (dämänhōōr′), city (pop 84,983), N Egypt It is a center of communications and of the cotton trade Industries include cotton ginning, weaving of woolen cloth, and watch manufacturing It was in ancient times Hermopolis Parva.

Damão see DAMAN

Damar or **Dhamar** (both dämär′), town, Yemen, in an oasis The name of Damar is connected with both high-bred horses and an ancient Moslem university

Damaris (dăm′–), woman converted at Athens Acts 17 34

Damariscotta (dăm″ərĭskŏt′u), town (pop 844), S Maine, SE of Augusta, inc 1847 It includes Damariscotta village, on the east side of the tidal inlet known as the Damariscotta river, opposite Newcastle, and Damariscotta Mills, site of St Patrick's Church (1803), said to be the oldest Catholic church in New England Near the river north of the village are shell mounds, parts of which seem to be many centuries old Clams are still taken here This region was the site of trading posts c 1640

Damascene, John see JOHN OF DAMASCUS, SAINT

damascening (dămusē′nĭng) or **damaskeening** (–skē′nĭng), the art of decorating iron, steel, or bronze with inlaid threads of gold or silver or producing a watered effect in forging, as in sword blades, gun barrels, or other parts of arms, and various metal objects The method, long practiced in Persia, China, and Japan, was highly developed in Damascus The process involves chasing the design lightly and laying the wire within the burr thus raised, which is then worked down to hold the inlay, forming a delicate and intricate pattern upon the contrasting background The whole fabric is penetrated by the ornamental treatment, so that grinding does not remove it

Damascus (dumä′skus), Arabic *Esh-Sham*, Fr. *Damas*, city (pop c 275,000), S Syria, capital of Syria, on the Barada river The waters of the Barada are used to support wide orchards of apricots, figs, almonds, and pomegranates in an oasis on the desert's edge E of the Anti-Lebanon heights The white towers of the city rise above the green of these trees, a delight to the eyes of travelers This favored spot, which also has grainfields about it, has been inhabited since unknown antiquity A city was there before the time of Abraham (Gen 14 14, 15 2) It was probably held by the Egyptians before the Hittite period, and later it was under Israelite and Aramaean rule The kings of the rising Assyrian Empire coveted it, and after earlier rulers had attacked and even held it for a time Tiglath-pileser III made it (c 733 B C) a part of Assyrian territory Later it was a provincial capital of the Persian Empire until it passed (332 B C) without a struggle to the armies of Alexander the Great After his death Damascus was one of the prizes over which his successors fought bitterly The Ptolemaic dynasty of Egypt tried to wrest it from the Seleucidae When Seleucid power waned, Damascus was briefly an independent state but soon fell to new conquerors. Tigranes of Armenia took it, and after the surrender to the Romans, Damascus too went (64 B C.) to the Romans under Pompey One of the cities of the Decapolis, it was alienated again several times from Roman rule but was usually under Roman influence until the breakup of the empire It was a city of rich commerce, noted for its woolen cloth and its grain, and it continued to thrive It was early converted to Christianity, and it was on the road to Damascus—still a well-traveled highway—that Paul experienced his dramatic conversion, and from Damascus he escaped by being let down by the wall in a basket to evade persecution (Acts 9; 2 Cor. 11 32). Emperor Theodosius I had a Christian church built (A D c 375) on the foundations of the Roman temple of Zeus, and Damascus was a Byzantine provincial capital The Arabs had, however, been attacking and sporadically holding the city since before the days of Paul, and in 635 they occupied it in permanent fashion. The city became Moslem, and the great Christian church became the Great Mosque, now partly in ruins but still the principal "sight" of the city Damascus was the seat of the caliphate under the Omayyads from 661 to 750, when the triumphant Abbasids made Baghdad the center of the Moslem world Damascus fell prey to new conquerors—the Egyptians, the Karmathians, and the Seljuk Turks The Christian Crusaders failed in their several attempts to annex the city but ravaged the rich plain several times, when the Saracen rulers, notably Nureddin and Saladin, were absent on campaigns Damascus continued to prosper, with its bazaars selling the silks, wool, furniture inlaid with mother-of-pearl, and the famous swords and other ware of the Damascene metalworkers In 1260 Damascus first fell to the Mongols under Hulagu Khan, and more than a century later it was sacked by Tamerlane, who took away the swordmakers and armorers In 1516 Damascus passed to the Ottoman Turks, and for more than 300 years it remained in the Ottoman Empire fairly quietly, disturbed only by such events as the great massacres of the Christians and Jews in 1840 and 1860 and the disastrous fire of 1893, which damaged the Great Mosque In the First World War, Col T E Lawrence helped to prepare the way for the British capture of Damascus, which was entered by Allenby in 1918 An independent Syrian government was set up but had to yield in 1920 to the establishment of a French mandate Damascus was the center of a state, which was joined in 1925 to the state centered on Alep In 1925 the Damascenes joined the rebellion of the Druses The French, shelling the city from the hills, did great damage then and again in May, 1926 The fortunes of the Second World War turned favorably for Damascus After the entrance of British and Free French forces in June, 1941, the independence of Syria was proclaimed in Sept , 1941, and Damascus became the capital of the new nation (confirmed 1943) Though it is reputedly the oldest continuously occupied city in the world, it has few marks of its long habitation, apart from the Great Mosque and the medieval citadel The "street which is called Straight" still runs from the eastern to the western gate, flanked by bazaars Damascus has a decidedly old Oriental aspect though as a center of commerce it is linked to the other cities of the Middle East by a good highway and by rail Damascene steel is known no more, but fine textiles, fruits, and Damascus ware are still the pride of the ancient city

Damascus, town (pop 1,441), extreme SW Va , near the Tenn –N C line, laid out 1892, inc 1904 Dyes are produced Near by are White Top Mt and Mt Rogers

Damascus ware, the early siliceous-glazed semiporcelain produced in DAMASCUS The decoration is in turquoise blue, aubergine purple, sage green, and a rare red, on white or colored grounds Plates and dishes are also gadrooned or fluted

damask (dă′musk) [from Damascus], a fabric of silk, wool, linen, cotton, or rayon, with a pattern formed by the weaving, e g , the ground may be in twill weave, and the contrasting design in satin True damasks are flat and reversible thus differing from brocades Splendid patterns, silks, and dyes were used by the Damascus weavers, sometimes with the addition of gold or silver thread Fine linen table damask is one of the most beautiful examples of the modern weavers' art, both as to pattern and texture Double damask has more picks, or threads, to the inch than single, compound damask has one or two warps and two fillings

damaskeening see DAMASCENING

Damasus I, Saint (dă′mŭsus), c 305–384, pope (366–84), a Spaniard, successor of LIBERIUS and predecessor of St SIRICIUS He was elected by a majority of the factions of Liberius and of FELIX, but was opposed by an antipope, Ursinus, elected by a few extremist Liberians He is remembered for efforts to memorialize the early martyrs with inscriptions on their tombs Damasus encouraged St JEROME in his work on the Vulgate Feast Dec 11

Dambul (dămbōōl′) or **Dambulla** (dambōō′lu), village, central Ceylon It has notable cave temples of the 1st cent B C and is a place of Buddhist pilgrimage There is a recumbent Buddha 47 ft. long

Damian, Saint see COSMAS AND DAMIAN, SAINTS.

Damiani, Pietro see PETER DAMIAN, SAINT

Damien, Father (dă′mēun, damyĕ′), 1840–89, Belgian missionary priest, named Damien de Veuster He went to Hawaii (1864) as a Picpus Father (Father of the Sacred Heart of Jesus and Mary) He was ordained (1864) in Honolulu and worked among the natives for several years In 1873, at his request, he was sent to the lepers' colony in Molokai island, where he labored until his death of leprosy Attention was called to Father Damien by a tract in his defense by R L Stevenson, *An Open Letter to the Reverend Dr. Hyde*, written against a minister who had made some slanderous insinuations about him shortly after his death. In 1936 his body was removed in great state from Molokai to Antwerp. See John Farrow, *Damien the Leper* (1937).

Damietta (dămē̆′tù), city (pop 53,620), Egypt, on Manzala lake near the Mediterranean Sea Of commercial and strategic importance in the Middle Ages, Damietta was pillaged by the Byzantines and the Sicilian Normans and was captured and held (1219–21) by Crusaders and again (1249–50) under Louis IX of France The city was later destroyed and rebuilt by the Egyptians Dimity (named for the city) was first made here, today cotton and silk fabrics are woven Damietta Institute is a branch of El Azhar religious university in Cairo

Damocles (dă′mŭklēz), in classic legend, Syracusan at the court of Dionysius He glorified the riches and power of the tyrant, and Dionysius, to demonstrate the dangers and the unhappiness of high estate, gave a banquet in his honor Damocles enjoyed the splendor of the banquet to the full, until, looking up, he beheld a sword suspended above his head by a single hair

Damodar (dä′mōdar), river, c 370 mi long, rising in Bihar state, India It flows through West Bengal state to the Hooghly

Damon and Pythias (dā′mun, pĭ′thēus) [*Pythias*, probably for *Phintias*], two faithful Syracusan friends Pythias, condemned to death, was released on bail to go home to arrange his affairs while Damon stood as his pledge On Pythias' return in the nick of time, the tyrant Dionysius, impressed by the mutual love of the friends, released them both and asked to be admitted as a third friend

Damophon (dă′mufŏn), fl 2d cent B C , Greek sculptor of Messene He is remembered for colossal heads of Demeter and Artemis, found in Arcadia He was a skilled worker in ivory and gold

damp, in mining, any one of several kinds of gases or vapors Firedamp is found in coal mines Since it is almost entirely methane, a highly combustible gaseous compound of hydrogen and carbon, it forms an explosive mixture with air Until the introduction of the Davy lamp it was a continual danger to miners, since it is formed in large quantities by the decomposition of matter containing carbon and is not easily detected The gaseous mixture remaining after an explosion of firedamp is called afterdamp It is comprised largely of carbon dioxide and nitrogen and contains water vapor and carbon monoxide Chokedamp consists largely of carbon dioxide, a heavy, colorless, odorless gas which neither burns nor supports combustion Because it is more than one and one-half times heavier than air, it collects readily in the bottom of pits, valleys, caves, wells, and holes It will not support animal life and, being imperceptible, has caused the loss of many lives When it is present in quantities it is dangerous to human life, and a burning torch, candle, or lantern is immediately extinguished Since in mines an unprotected light may cause explosions, miners have used canaries, which are overcome by relatively small quantities of gas, to warn them of both carbon dioxide and carbon monoxide

Dampier, William (dăm′pēr), 1651?–1715, English explorer and buccaneer His adventurous career started when he went to sea (1669) He fought as an able seaman (1673) in the Dutch War, managed a plantation in Jamaica, then worked with logwood cutters in Honduras (1675–78) After taking part in a buccaneering expedition against Spanish America (1679–81), he sailed from Virginia in 1683 on a piratical voyage along the coast of Africa, across the Atlantic, and around Cape Horn to prey on Spanish cities on the west coast of South America The party split up, and Dampier joined a group that crossed to the Philippines Dampier was marooned (probably voluntarily) on the Nicobar Islands After many hardships, he returned to England in 1691 He published an account of his experiences in *A New Voyage round the World* (1697), supplemented by *Voyages and Descriptions* (1699), which included *Discourse of Trade-Winds*, a masterly treatise showing his skill as a hydrographer Dampier was made a naval officer and commanded an expedition (1699–1701) to Australia, New Guinea, and New Britain (which he discovered to be an island and named) Other discoveries included Dampier Archipelago and Dampier Strait His vessel, the *Roebuck*, finally foundered off Ascension island Dampier commanded an unsuccessful privateering expedition (1703–7) in the course of which Alexander Selkirk was voluntarily marooned Dampier's account was published in his *Voyage to New Holland* (Part I, 1703, Part II, 1709) He was pilot to Woodes Rogers on a voyage round the world (1708–11) See edition of Dampier's writings by John Masefield (1906), biography by Clennell Wilkinson (1929), W H Bonner, *Captain William Dampier, Buccaneer-Author* (1934)

Dampier Archipelago, rocky group in the Indian Ocean, just off the northwest coast of Australia, named for its discoverer, William Dampier

Dampierre, Auguste Henri Marie Picot, marquis de (ōgüst′ ärē′ marē′ pēkō′ märkē′ dù dăpyĕr′), 1756–93, French general in the French Revolutionary Wars. He distinguished himself at Valmy and

Jemappes and opposed the treason of DUMOURIEZ, whom he succeeded He was killed in battle.

Dampier Strait (dăm'pēr) [for William Dampier]. 1 Channel, c 15 mi wide, between E New Guinea and New Britain 2 Narrow channel, c 100 mi long, between NW New Guinea and the small island of Waigeo.

Damrosch, Frank Heino (hī'nō, dăm'rŏsh), 1859–1937, German-American conductor and educator, attended the College of the City of New York, son of Leopold Damrosch In 1885, after a few years in Denver, he became chorus master and assistant conductor of the Metropolitan Opera, New York, remaining in that position until 1891 He organized the Musical Art Society, an *a cappella* chorus, in 1893 He supervised (1897-1905) the music of the public schools of New York and conducted (1898-1912) the Oratorio Society and the Symphony Concerts for Young People His most important work was the founding in 1905, with James Loeb, of the Institute of Musical Art (later a unit of the Juilliard School), which he directed until 1933 See biography by L P Stebbins and R P Stebbins (1945)

Damrosch, Leopold, 1832–85, German conductor After taking a degree in medicine, he decided to make music his profession In 1855 he became solo violinist in the grand duke's orchestra at Weimar, where he was the friend of both Liszt and Wagner He conducted for a number of years in Breslau and in 1871 came to New York, where he founded the Oratorio Society in 1873 and the New York Symphony Society in 1878, conducting both organizations until his death The seasons of German opera at the Metropolitan, New York, began in 1884 with Damrosch as conductor Many works of Brahms and Wagner received their first American performances under his baton His own compositions include violin concertos, cantatas, and a symphony

Damrosch, Walter Johannes, 1862–, German-American conductor and composer, son of Leopold Damrosch At his father's death in 1885, he finished the season as conductor at the Metropolitan Opera and conducted there with Anton Seidl until 1891 In 1894 he organized the Damrosch Opera Company, which introduced opera in many American cities In 1900 he returned to the Metropolitan for two seasons After a season with the New York Philharmonic, he conducted the New York Symphony until the two orchestras merged in 1928 He remained one season with the combined orchestras, leaving to devote his time to radio broadcasting His outstanding contribution in that field was his series of children's concerts during school hours His compositions include the operas *Scarlet Letter* (1896), *Cyrano de Bergerac* (1913, revised 1937), and *The Man without a Country* (1937), *Abraham Lincoln Song,* a choral work, and incidental music for Euripides' *Medea* and *Iphigenia in Tauris* (1915) and Sophocles' *Electra* (1917) His style is derived from 19th-century German romanticism See his autobiography, *My Musical Life* (1923, rev ed , 1930), memoirs of his daughter, Gretchen Finletter, *From the Top of the Stairs* (1946).

damsel fly see DRAGONFLY

damson plum see PLUM

Damville, Henri, comte de. see MONTMORENCY, HENRI, DUC DE, the elder

Dan [Heb ,=judge] 1 Son of Jacob and Bilhah and founder of one of the 12 tribes of Israel Their allotment in SW Palestine was the smallest, and its occupants, the Amorites, were most hostile This hostility caused the larger part of the tribe to march north where they established themselves They shared the lot of the northern Hebrews Gen 30 6, 46 23, 49 16,17, Ex 31 6, Num 1 38,39, 2 25,31; 10 25, 26 42, Deut 27 13, 33 22, Judges 1 34, 5 17, 18, Joshua 19 40–48, 1 Chron 12 35, 27 22, 2 Chron 2 14. 2 Unidentified city, northernmost landmark of Palestine, hence the expression "from Dan to BEERSHEBA" Its original name was Laish or Leshem, it was renamed by the conquering Danites Gen. 14 14, Deut 34 1, Joshua 19 47, Judges 18 29, 1 Sam 3 20, 1 Kings 15.20, 2 Chron 16 4, 30 5 See DAN-JAAN 3 Apparently the name of a trading center associated with Tyre Ezek 27 19.

Dan, river, 180 mi long, rising in SW Virginia in the piedmont It twice crosses into North Carolina in its easterly course to the Roanoke in S Virginia

Dana, Charles Anderson (dā'nu), 1819–97, American newspaper editor, b. Hinsdale, N H He studied at Harvard, after which he was a member of the BROOK FARM community for five years In 1847 he began 15 years on the New York *Tribune,* most of that time as managing editor When Dana's views on the conduct of the Civil War became too militant for the editor, Horace Greeley, Dana resigned His reports as a special investigator in the West for the War Dept did much to build up official confidence in General Grant In 1864 Dana became Assistant Secretary of War His valuable *Recollections of the Civil War* (1898) are thus based on experience His great career as editor of "the newspaperman's newspaper" began in 1868 when Dana became editor and part owner of the New York *Sun* Though his editorials were erratic, often cynical, as a news editor he established high canons of readability and maintained a famous staff of writers He also wrote *The Art of Newspaper Making* (1895) and *Eastern Journeys* (1898) See biographies by J H. Wilson (1907), C J Rosebault (1931), and (for juveniles) A H Fenton (1941); study by Candace Stone (1938)

Dana, Edward Salisbury. see DANA, JAMES DWIGHT

Dana, Francis, 1743–1811, American diplomat, b Charlestown, Mass , grad Harvard, 1762 Son of a prominent lawyer, he was himself a lawyer He went as a colonial agent to England, then served as a delegate to the Massachusetts provincial council (1776–80) and the Continental Congress (1776–78), before accompanying (1779) John Adams on his mission to Paris In 1780, Dana was sent to the court of Catherine the Great of Russia Though he stayed at St Petersburg for two years (1781–83), he was never recognized or accredited He later was a justice of the Massachusetts supreme court (1785–1806) The poet, Richard H DANA, was his son See biography by W P Cresson (1930)

Dana, James Dwight, 1813–95, American geologist, b Utica, N Y , grad Yale, 1833 In 1837 he was appointed geologist and mineralogist on the U S exploring expedition to the Northwest Coast and the South Seas commanded by Charles Wilkes (1837–42) Dana's reports, published in large folio volumes with elaborate plates and an atlas, included *Zoophytes* (1846), *Geology* (1849), and *Crustacea* (1852–55) He had become editor of the *American Journal of Science* and in 1850 succeeded Benjamin Silliman at Yale as professor of natural history and geology His *System of Mineralogy* (1837) and *Manual of Geology* (1862) became standard works of many editions, and his *Corals and Coral Islands* (1872) and *Characteristics of Volcanoes* (1890) were also valuable See biography by D C Gilman (1899) His son, **Edward Salisbury Dana,** 1849–1935, b New Haven, Conn , grad Yale (B A , 1870, Ph D , 1876) was professor of physics at Yale from 1890 to 1917 He completed (1892) the sixth edition of his father's *System of Mineralogy* and wrote *Minerals and How to Study Them* (1895)

Dana, John Cotton, 1856–1929, American librarian and museum director, b Woodstock, Vt , grad Dartmouth, 1878 He was a lawyer and a civil engineer before he joined the staff of the Denver (Colo) Public Library in 1889 From 1898 to 1902 he was librarian of Springfield (Mass) City Library and in 1902 became head of the Newark (N J) Public Library, which under his direction led in offering new services to the public It was the first to install a branch for businessmen In 1909 the Newark Museum was founded, with Dana as its director His lively interest in machine art gave rise to interesting and original exhibitions Dana was a pioneer in library advertising and in library printing and was one of the founders of the Special Libraries Association and its first president He was president (1895–96) of the American Library Association Among his many publications are *A Library Primer* (1899), *Notes on Bookbinding for Libraries* (1906), and *The New Museum* (1917) See biographies by Frank Kingdon (1940) and Chalmers Hadley (1943)

Dana, Richard Henry, 1787–1879, American poet and essayist, b Cambridge, Mass , son of Francis Dana He entered Harvard in 1804 but left before graduation and was admitted to the bar in 1811 Critic and poet, he was an editorial associate on the *North American Review* and also wrote for other periodicals See his collected *Poems and Prose Writings* (1850) His son, **Richard Henry Dana,** 1815–82, American writer and lawyer, b Cambridge, Mass , after spending two years at Harvard shipped as a common sailor around Cape Horn to California The narrative of this voyage, published as *Two Years before the Mast* (1840), was written to secure justice for the sailor and has become an American classic of the days of sailing ships Dana returned to graduate at Harvard in 1837 and entered law practice He liked maritime cases and published *The Seamen's Friend* (1841), a standard manual of the law of the sea Interested in politics, he helped found the Free-Soil party, later he was a Republican His edition of Wheaton's *Elements of International Law* was standard in 1866 See biography by C F Adams (1890)

Dana, Samuel Luther, 1795–1868, American chemist, b Amherst, N H , grad Harvard, 1813 He aided cotton goods manufacture by devising a new method of bleaching. Valuable contributions to agricultural chemistry were his books *Muck Manual for Farmers* (1842) and *An Essay on Manures* (1850)

Dana, William Parsons Winchester, 1832–1927, American marine and genre painter, b Boston He became a member of the National Academy in 1867 His works include *Heartsease* (Metropolitan Mus) and *Ruby's Admiral* (Pa Acad of the Fine Arts)

Danaë (dă'năē), in Greek legend, daughter of Acrisius When it was prophesied that should Danaë have a son he would kill Acrisius, her father imprisoned her in a brazen tower. However, ZEUS came to her in the form of a shower of gold, and she bore him a son, PERSEUS. Acrisius put Danaë and Perseus into a chest and threw them into the sea, but they floated safely to land To punish the king of that land and his people for mistreating Danaë, Perseus turned them into stone with Medusa's head

Danann. see TUATHA DE DANANN

Danaïds (dă'năĭds), in Greek myth, brother of Aegyptus, Danaüs had 50 daughters, the Danaïds (dă'năĭds) or Danaïdes (dănăĭ'dēz), and Aegyptus 50 sons Danaüs fled to Argos to escape the wrath of Aegyptus' sons, but they followed and demanded the Danaïds in marriage Danaüs consented, telling each bride to murder her husband on the wedding night All agreed, but Hypermnestra did not kill her husband, Lynceus, who was said by some to have killed his father-in-law later. His descendants were the Danai, another name for the Greeks

Danbury, city (pop 22,339) in Danbury town (pop 27,921), SW Conn , a co seat of Fairfield co , settled 1684, town inc 1687, city 1889 Its important hat industry dates from 1780 It became known also through the lectures and writings of James Montgomery BAILEY and for its fairs, annual since the early 19th cent Danbury, a military depot, was the object of Tryon's 1777 raid, which resulted in the death of Wooster and the destruction of part of the village, Wooster is buried in Wooster Cemetery A state teachers college, the Wooster School for boys, and a Federal prison (1940) are here

Danbury Hatters' Case, decided in 1908 by the U S Supreme Court In 1902 the hatters' union instituted a nation-wide boycott of the products of a nonunion hat manufacturer in Danbury, Conn and the manufacturer brought suit against the union for unlawfully combining to restrain trade in violation of the Sherman Anti-Trust Act The holding of the Supreme Court that the union was subject to an injunction and to treble damages was precedent for interference by the Federal courts in labor activities See also INJUNCTION

Danby, Francis, 1793–1861, British historical and landscape painter He painted many romantic and imaginary scenes and excelled in depicting sunrise and sunset A good example of his work is *Fisherman's Home* (National Gall , London)

Danby, Thomas Osborne, earl of, 1631–1712, English statesman He was one of the chief ministers of Charles II and promoted the marriage of Mary, daughter of the duke of York (later James II) and William of Orange He was impeached (1678) by opponents of the king's French policy and was imprisoned until 1684. Danby became reconciled with the Whigs after his release and joined in inviting William of Orange to England Despite his suspected Jacobite sympathies, he continued influential under the new monarchs and was virtual premier from 1690 to 1695 He was created marquis of Carmarthen in 1689 and duke of Leeds in 1694

Danby, town (pop 1,112), SW Vt , between Manchester and Rutland, chartered 1761, settled 1765 Marble quarrying and supplying ferns to florists are the chief industries Many early settlers were Friends

Dance, George, the elder, 1700-1768, English architect He designed many public buildings in London, the most important being the imposing Mansion House (1739–53) He built the churches of St Botolph, Aldgate, St Leonard, Shoreditch, and St Luke's, Old Street His son, **George Dance,** the younger, 1741–1825, also was an architect He built St Luke's Hospital (1782) and did the impressive design for the rebuilding of Newgate prison (1770) Among his many other London works were the College of Surgeons in Lincoln's Inn Fields, a new façade in Gothic style for the medieval Guildhall, and designs for Finsbury Square and for Alfred Place and Crescent

dance. Among primitive people, dancing developed not as a form of play but as a natural expression of united feeling and action Many primitive dances have survived in the FOLK DANCE of modern times American Indian dances illustrate most of the purposes of primitive dancing and are usually of a ritualistic and ceremonial nature the war dance, expressing prayer for success and thanksgiving for victory, the dance of exorcism, performed by medicine men to drive out evil spirits, the dance of invocation, calling on the gods for help in farming, hunting, the fertility of men and animals, and other tribal concerns, imitation dances for secret societies, mimetic dances, illustrating events in tribal history, legend, or mythology; dances representing cosmic processes, and, more rarely, the dance of courtship, an invocation for success in love. The dance of religious ecstasy, in which hypnotic or trancelike states are induced (a characteristic phenomenon of the East and of Africa), was represented in America by the remarkable GHOST DANCE. American Indian dancing is always performed on the feet, but in many islands of the Pacific and in the Orient some of the dances are performed in a sitting posture, only the hands, arms, and upper parts of the body participating

Ancient Egyptian dances, often of a religious character, were derived from primitive African forms. In Greece the choral dance in honor of Dionysus played a part in the development of the drama. In India dance and drama are inseparable, both usually having spiritual significance and opening with a prayer. A complicated series of gestures and expressions is an important feature of Indian dancing, of which a famous example is the NAUTCH dance The early dances of Japan, probably influenced by ancient Chinese forms, became definitely institutionalized with the establishment of a national school of dancing in the 14th cent Soon the dances became associated with the famous *no* drama (see JAPANESE DRAMA) Secular dances are performed by the GEISHA In medieval Europe the repeated outbreaks of dance mania, a form of mass hysteria sometimes caused by religious frenzy, are reflected in the allegory of the dance of death (see DEATH, DANCE OF), which was often interpreted by artists and poets in later times Dancing as a social activity and a form of entertainment is of relatively recent origin During the Middle Ages, especially in France, dancing was a feature of the more enlightened and convivial courts Some medieval dances, such as the *volta*, precursor of the waltz, became the sources of modern dance steps In the 16th cent two types of dance were popular, the solemn and stately *danse basse* of the court of Charles IX and the lively *danse haute* of the peasants The BALLET first appeared in Italian courts in the 15th cent , and it became popular in France In the time of Catherine de' Medici an elaborate series of ballets, using the galliard, the *volta*, and other dances, was introduced In the reign of Louis XIV dancing reached its height in France Under the king's patronage the Royal Academy of Dancing was founded in 1662 Among the dances of this period were the courante, SARABAND, pavan, MINUET, GAVOTTE, QUADRILLE (or *contredanse*), and COTILLION Music, which had always accompanied dancing, now developed many forms and rhythms which were used by later composers, often in ways which had nothing to do with the dance French dances made their way into England in the 17th cent , though the ROGER DE COVERLEY remained a favorite there Villages and towns still saw the MORRIS DANCE performed Subsequent national dances include the MAZURKA and POLONAISE from Poland, the czardas from Hungary, the FANDANGO, BOLERO, and *seguidilla* from Spain, the TARANTELLA and saltarello from Italy, the WALTZ and galop from Germany, the POLKA and schottische from Bohemia, the STRATHSPEY and HIGHLAND FLING from Scotland; and the JIG from Ireland America initiated the barn dance, VIRGINIA REEL, clog dance, cakewalk, and Paul Jones in the 19th cent , the TWO-STEP c 1890, and the FOX TROT c 1912 The popularity of JAZZ in the early 1920s produced a number of new dances, of which the most popular was the Charleston From South America came the Argentine TANGO and the Brazilian MAXIXE, from Cuba, the RUMBA Early in the 20th cent , dancing as a form of art was profoundly affected by Isadora DUNCAN, who rejected the conventional ballet style and introduced a new technique of natural pose and gesture Later dancers, more or less under her influence, used the dance as a medium for the expression of complex emotions and abstract ideas See Curt Sachs, *World History of the Dance* (1937), Mary P O'Donnell and Sally T Dietrich, *Notes for Modern Dance* (1937), Lincoln Kirstein, *Book of the Dance* (rev ed , 1942, with a chronological table), Beth Tolman and Ralph Page, *The Country Dance Book* (1944), John Martin, *The Dance* (1947), Paul D Magriel, *A Bibliography of Dancing* (1936)

dance of death see DEATH, DANCE OF

D'Ancona, Alessandro (älĕs-sän'drō dänkō'nä), 1835–1914, Italian scholar He was professor at the Univ of Pisa from 1861 At 18 he published a definitive essay on Tommaso Campanella He was active in the Risorgimento and after 1859 edited a Liberal newspaper, the *Nazione* His greatest work (not translated), *Manuale della letteratura italsana* (1892), is a magnificent six-volume selection of Italian literature, with critical essays on the authors Orsino Bacci was joint editor

dandelion [Eng form of Fr ,=lion's tooth], any plant of the genus *Taraxacum* (or *Leontodon*), milky-juiced perennial herbs of wide distribution The dandelion has a rosette of deeply toothed leaves (the name is usually attributed to this), a hollow flower stalk, and a composite flower head of bright yellow, followed in fruit by a round head of white down The common dandelion (*Taraxacum officinale* or *Leontodon taraxacum*) is native to Europe but widely naturalized It is considered in the N United States chiefly as a lawn pest because of the easily dispersed seeds and the deep root, but it is also cultivated both for medicine and for food It is rich in iron. The young leaves, usually blanched for the market and resembling chicory, are used for salad greens and as a potherb The roots are roasted and used as a coffee substitute—mostly in the Old World. The flower heads are utilized for dandelion wine and are good forage for bees. In medicine the dried roots are used as a hepatic and tonic.

Dandie Dinmont terrier: see TERRIER.

Dandolo (dän'dōlō), ancient Venetian family which produced four doges, many admirals, and other prominent citizens **Enrico Dandolo** (ĕnrē'kō), c 1108–1205, became doge in 1192 He is considered the founder of the Venetian colonial empire In the Fourth Crusade (see CRUSADES) he was responsible for diverting the Crusaders first to ZARA (1202), then to Constantinople (1203) Though aged and blind, he commanded the Crusaders' fleet in the capture (1204) of Constantinople and secured for Venice the most valuable share of the spoils and of the conquered Greek territories In 1205 he and Emperor BALDWIN I of Constantinople were defeated near Adrianople by the Bulgars Baldwin having been captured, Dandolo led the remnants of the Latin forces back to Constantinople and soon died **Andrea Dandolo** (andrā'ä), c 1307–1354, doge of Venice (1343–54), was professor of jurisprudence at Padua before his election He subdued rebellious Zara, fought successfully against Genoa, and reorganized the laws of Venice He wrote a chronicle of Venetian history and was a friend of Petrarch

dandruff, disease of the scalp, characterized by branny scales and often associated with itching and loss of hair. The cause is sometimes attributed to a budding fungus, a yeastlike growth Treatment calls for frequent shampoos and application of ointments containing sulphur and salicylic acid.

Danegeld (dān'gĕld'), medieval land tax, originally raised to buy off raiding Danes In England it was first levied by ÆTHELRED in 991 and was collected by later rulers irregularly until 1163. In France the monks of Saint-Denis paid a Danegeld in 845 and several times later, as did Charles the Bald in 860

Danelaw (dān'lô"), originally the body of law which prevailed in the part of England occupied by the Danes after the treaty of King ALFRED with Guthrum in 886 It soon meant also the area in which Danish law prevailed, according to the treaty the boundary between England and Danelaw ran "up the Thames, and then up the Lea to its source, then straight to Bedford and then up the Ouse to Watling Street " The Danelaw contained four main regions Northumbria, the shires dependent on the boroughs of Lincoln, Nottingham, Derby, Leicester, and Stamford, E Anglia, and the SE Midlands Danish law was so strongly established that one of the law codes of Æthelred II recognizes its legal customs, which were different from the rest of England Even in the 11th cent the Domesday Book records suggest that Danish soldiers were settled in the Danelaw according to a plan, perhaps military See F M Stenton, *Danelaw Charters* (1920) and *The Danes in England* (1927)

Danforth, Moseley Isaac, 1800–1862, American engraver and painter, b Hartford, Conn. He was one of the founders of the National Academy of Design Danforth spent 10 years in London executing drawings of the Elgin Marbles and engraving portraits of many notables On his return to America, he devoted himself chiefly to bank-note engraving His principal engravings are *Sir Walter Scott*, *The Sentry Box*, *Washington Irving*, *Lady Arabella Johnson*, *Don Quixote*, *The Landing of Columbus*, and *The Landing at Jamestown*

Danforth, Thomas, 1703–86, American pewterer, founder of a family of celebrated pewterers, b Taunton, Mass In 1733 he opened a pewter shop in Norwich, Conn , where he made a wide variety of pewter tableware of excellent form, quality, and workmanship, using marks in the English mode Two sons, Thomas Danforth (1731–82) and John Danforth (1741–99), a grandson, Thomas Danforth (1756–1840), and a great-grandson, also named Thomas Danforth (1792–1836), succeeded him in the craft The grandson established a shop in Philadelphia in 1807, the great-grandson also worked there and later in Augusta, Ga Sarah Danforth, supposedly a granddaughter, married (1781) Oliver Boardman, of Hartford, Conn , whose son, Thomas Danforth Boardman, was the first of that name to carry on the Danforth tradition, a century's unbroken continuity of able craftsmanship

Danforth, town (pop 1,348), E Maine, S of Houlton, settled 1829, inc 1860 It includes Danforth and Eaton villages Lumber and pulp are produced

Dangerfield, Thomas, c 1650–1685, English criminal and conspirator. He invented the story of the Mealtub Plot (1679), which incriminated Catholics in a nonexistent conspiracy against Charles II Dangerfield was murdered when returning from the pillory following his conviction for libel

Dangerous Archipelago see TUAMOTU ISLANDS

Dania (dā'nēū), city (pop 2,902), SE Fla , on the Atlantic coast just S of Fort Lauderdale, settled 1896 by Danes It is a tomato-canning and shipping center Near by is the Seminole Indian Reservation

Daniel [Heb ,=God is my judge] 1 Prophet, central figure of the book of DANIEL 2 See CHILEAB. 3 Sealer of the covenant. Ezra 8 2; Neh 10 6.

Daniel, Antoine (Saint Antony Daniel) (ätwän' dänyĕl'), 1600–1648, French missionary in the New World, a Jesuit priest. He came in 1632 to Canada and in 1634 went with Father Jean BRÉBEUF as missionary to the Huron Indians He was killed by the Iroquois One of the Jesuit Martyrs of North America, he was beatified in 1925 and canonized in 1930 Feast March 16 (among the Jesuits) and Sept 26

Daniel, Samuel, 1562–1619, English poet. He is known chiefly for *Delia* (1592), a collection of sonnets His other poetry includes a narrative, *The Complaint of Rosamund* (1592), a tragedy, *Cleopatra* (1594); a defense of learning, *Musophilus* (1599), and an epic, *The Civil Wars between the Two Houses of Lancaster and York* (1609) The *Defense of Rhyme* (1603) and the *History of England* (1631) are his major prose works

Daniel, book of the Old Testament, fourth of the books of the Major Prophets It tells a series of events and visions of the life of Daniel, a Jew of the 6th cent B C , who spent his career at the court of Mesopotamian rulers, where he was called Belteshazzar (bĕl"tēshă'zär) Some parts of the work occur not in Hebrew but in Western Aramaic, and others are found originally in Greek versions only, the passages peculiar to Greek originals are treated as apocryphal in AV but as canonical in the Greek and the Western canon, including Roman Catholic versions The book divides easily, as follows Daniel and his friends remain faithful to the Law even in the Persian court (1), a dream of Nebuchadnezzar is interpreted by Daniel (2), Nebuchadnezzar, demanding divine honors, tries to punish three recalcitrant Jews in a furnace (3), there being in the Greek here a long, famous hymn (see THREE HOLY CHILDREN), a second dream of Nebuchadnezzar is interpreted by Daniel to foretell the king's madness (4), Daniel interprets the handwriting on the wall at Belshazzar's feast (5), he escapes alive from the lion's den (6), Daniel has four apocalyptic visions (7, 8, 9, 10–12) The Greek book has two more chapters, for which see SUSANNA 1 and BEL AND THE DRAGON The difference between Greek and Hebrew-Aramaic texts in chapter 3 causes a different numbering, thus, AV 3 24–30, 4 1–3, and 4 4–37 correspond to Douay 3 91–97, 3 98–100, and 4 1–34, respectively Daniel was proverbial for wisdom, even in the Bible. Ezek 14 14–20, 28 3 The book presents many critical problems, not least being the date some, denying its prophetic quality, set it in the mid-2d cent B C See Mat 24 15 For bibliography, see OLD TESTAMENT

Daniell, John Frederic (dă'nyul), 1790–1845, English chemist and meteorologist From 1831 he was professor of chemistry at King's College, London He invented the Daniell CELL, a HYGROMETER, and a pyrometer He wrote *Meteorological Essays* (1823) and *An Introduction to the Study of Chemical Philosophy* (1839)

Daniels, Fred Harris (dă'nyulz), 1853–1913, American mechanical engineer, b Hanover, N H , grad Worcester Polytechnic Institute, 1873 A manufacturer of steel and wire in Worcester, Mass , he devised many improvements, especially in making wire rods

Daniels, Jonathan Worth, 1902–, American newspaper editor and author, b Raleigh, N C , educated at the Univ of North Carolina (B A , 1921, M A , 1922) and Columbia Univ School of Law (1922–23) In 1925 he joined the staff of the Raleigh *News and Observer*, was its editor (1933–42) while his father, Josephus Daniels, was ambassador to Mexico, and succeeded to the editorship after his father's death in 1948 The paper ably reflects his views, those of a leading Southern liberal During the Second World War, Daniels was assistant director of the Office of Civilian Defense (1942), administrative assistant to President F D Roosevelt (1943–45), and press secretary to the President (1945) In 1947 he was made U S member of the United Nations subcommittee on prevention of discrimination and protection of minorities Daniels wrote a novel, *Clash of Angels* (1930), and contributed widely to magazines and periodicals, but is perhaps best known for his well-written, discerning reportorial books—*A Southerner Discovers the South* (1938), *A Southerner Discovers New England* (1940), *Tar Heels* (1941), and *Frontier on the Potomac* (1946)

Daniels, Josephus, 1862–1948, American statesman, newspaper editor, and author, b Washington, N C He became editor of the Raleigh *State Chronicle* in 1885 (he was admitted to the bar the same year) and in 1894 consolidated three newspapers into the Raleigh *News and Observer* He was in charge of the Democratic publicity bureau in the presidential campaigns of 1908 and 1912 Throughout both of Wilson's administrations, including the period of the First World War, he was Secretary of the Navy He was much criticized for pacifistic tendencies and administrative inefficiency before the U S entry into the war, but his record in 1917–18 quieted these charges. After leaving office, he continued to be a force in both state and national politics He was (1933–42) ambassador to Mexico His books include *Our Navy at War* (1922), *Life of Woodrow Wilson* (1924), and *The Wilson Era* (1944–46) *Tar Heel Editor* (1939), *Editor in Politics* (1941), and *Shirt Sleeve Diplomat* (1947) are autobiographical.

Danielson, industrial borough (pop 4,507) in Killingly town, NE Conn , on the Quinebaug, chartered 1854 Textiles are the chief products

Danilo I (Danilo Petrovich of Niegosh) (dä'nē'lō), 1677–1735, last elected prince-bishop (*vladika*) of MONTENEGRO (1696–1735) In 1702 he was seized in Turkish territory and narrowly escaped death by impalement After being ransomed by his subjects, he instigated (Christmas Eve, 1703) the "Montenegrin Vespers," in which all the Moslems in Montenegro were slain In 1715 Danilo visited Tsar Peter I at St Petersburg and secured his alliance against the Turks—a journey which became traditional among his successors He subsequently recovered Zeta from the Turks and restored the monastery at Cetinje Empowered to choose his successor, Danilo designated his nephew This became the usual order of succession, the prince-bishops being bound to celibacy

Danilo II (Danilo Petrovich of Niegosh), 1826–60, prince of MONTENEGRO (1851–60) He secularized (1852) his principality (chiefly in order to be able to marry) and transferred his ecclesiastic functions to an archbishop Danilo and his brother Mirko defeated the Turks at Ostrog (1853) and at Grahovo (1858) Assassinated by a Montenegrin exile, Danilo was succeeded by his nephew, Nicholas I

Danish language, Indo-European language See LANGUAGE (table)

Danish literature. The earliest period of Danish letters, from the 13th to the 16th cent , yields collections of laws, legends, and religious writings and, later, miracle and morality plays Pedersen, in the first half of the 16th cent , translated the Bible into Danish Prominent in the Renaissance period were the poet Anders Arreboe and the great hymn writer, Kingo The so-called father of Danish literature appeared in the 18th cent —the gifted and versatile Ludvig Holberg, in poetry, the works of Johannes Ewald rank high The 19th cent gave rise to Heiberg, critic and dramatist, Oehlenschläger, Grundtvig, Blicher, M A Goldschmidt, the religious and philosophical writer Kierkegaard, and the giant of Danish letters, Hans Christian Andersen Great names of the later 19th and early 20th cent include an important critic, Georg Brandes, as well as the novelists Drachmann, Jacobsen, H J Bang, Johannes Jorgensen, and Pontoppidan The work of the contemporary writers is diverse but often characterized by an absorption in social and economic problems Among these are the dramatist Abell, the novelists Andersen Nexo and Johannes Jensen, and the dramatist and patriot Kaj Munk See Frederika Blankner, ed and tr , *History of the Scandinavian Literatures* (1938), H A Larsen, ed , *Denmark's Best Stories* (1938), Alrik Gustafson, *Six Scandinavian Novelists* (1940), C W Stork, tr , *Second Book of Danish Verse* (1947)

Danish West Indies · see VIRGIN ISLANDS OF THE UNITED STATES

Danites . see MORMONS

Dan-jaan (-jä'un), unidentified city, perhaps the same as DAN **2.** 2 Sam 24 6

Dannah (dă'nu), town, S Palestine Joshua 15 49

Dannat, William Turner (dă'nut), 1853–1929, American figure and portrait painter, b New York city, studied at Munich and with Munkacsy in Paris His works include *The Quartette* and a portrait of Theodore Child (Metropolitan Mus), *Lady in Red* (Luxembourg Mus , Paris), *Portrait of Madame E* and *Sacristy in Arragon* (Art Inst , Chicago)

Dannecker, Johann Heinrich von (yō'hän hĭn'rĭkh fŭn dan'ĕkur), 1758–1841, German sculptor, studied with Pajou in Paris and with Canova in Rome His art shows a revival of classic influence, as well as moderate naturalism He became professor of sculpture at the Academy of Stuttgart Among his statues are *Sappho*, *Psyche*, and *Ariadne on a Panther* His later work turned toward the ideal and the religious He made busts of many noted contemporaries, including Metternich and Schiller

Dannemora (dă'nĭmōō"rŭ), iron mine, Uppsala co , E central Sweden Worked since the 16th cent , it is famous for the excellent quality of its ore

Dannemora (dă"nĭmō'ru), village (pop 4,830), NE N Y , in a mountainous region W of Plattsburg, inc 1881 Clinton State Prison is here

D'Annunzio, Gabriele (gäbrēä'lā dän-nōōn'tsyō), 1863–1938, Italian poet, novelist, and dramatist, b Pescara He went to Rome in 1881 and there began his literary career Even his early poetry—*Primo vere* [spring] (1880) and *Canto novo* [new song] (1882)—was filled with a richness of imagery, a sensuousness, a skill in handling the language which was equaled by no Italian poet of his day His novels—*Il piacere* (1889, Eng tr , *The Child of Pleasure*, 1898), *L'innocente* (1892, Eng trs , *The Intruder*, 1898, and *The Victim*, 1914), *Giovanni Episcopo* (1892, Eng tr , *Episcopo & Company*, 1896), and *Il trionfo della morte* (1894, Eng tr , *The Triumph of Death*, 1896)—show the same genius in the command of words, which has enriched the Italian language but which loses flavor in translation This skill is combined with theatricality, shallowness of philosophy, eroticism, and lack of feeling for humanity His life was crowded with sensation, but empty of real emotion. At the beginning of the First World War, D'Annunzio was in France, where he had lived since 1910, he hurried back to Italy, and his oratory had much to do with bringing Italy to join the Allies. He fought with spectacular bravery in the air force, losing an eye in combat In Sept., 1919, he led an expedition (known as the march on Ronchi) against Fiume and established a rule opposed by the Italian government and a hostile Europe that lasted until Jan , 1921 His troops in the Fiume raid wore the black shirt which was later the uniform of the Fascists After the war D'Annunzio was an early exponent of fascism He was one of the few men whom Mussolini courted D'Annunzio did little writing in his later years, but the list of his works is a long one Among his plays are *Il sogno d'un mattino di primavera* (1897, Eng tr , *The Dream of a Spring Morning*, 1902), *Il sogno d'un tramonto d'autunno* (1898, Eng tr , *The Dream of an Autumn Sunset*, 1904), *La città morta* (1898, Eng tr , *The Dead City*, 1902), and *Francesca* (1902, Eng. tr , *Francesca da Rimini*, 1902) Most of his plays were written during his love affair with Eleonora Duse, which he described with cruel candor in the novel *Il fuoco* (1900, Eng trs , *The Flame of Life*, 1900, and *The Flame*, 1906, 1914) Mussolini appointed him (1937) president of the Royal Italian Academy, but he did not live to preside over it See F V Nardelli and Arthur Livingston, *Gabriel, the Archangel* (Eng tr , 1931)

danse macabre · see DEATH, DANCE OF

Dansville, village (pop 4,976), W central N Y., S of Geneseo, in a nursery and garden-truck area, settled 1795, inc 1845 Shoes and paper are made. Clara Barton founded (1881) in Dansville the first local chapter of the American Red Cross

Dantan, Antoine Laurent (ätwän' lôrä' dätä'), 1798–1878, French sculptor He executed public monuments and portrait busts His brother, **Jean Pierre Dantan** (zhäN' pyâr'), 1800–1869, also a sculptor, was known chiefly for his caricature portraits of noted persons

Dantan, Joseph Édouard (zhôzĕf' ädwär'), 1848–97, French painter, son of Jean Pierre Dantan His works include *Corner of a Studio* (Luxembourg Mus , Paris), *Monk Carving a Crucifix* (Nantes), *Entr'acte during a First Night* (Théâtre Française, Paris), and *Vocation of the Apostles Peter and Andrew* Dantan illustrated some of the works of Zola and Victor Hugo

Dante Alighieri (dän'tā, Ital dän'tä älēgyä'rē), 1265–1321, Italian poet, author of the DIVINE COMEDY, b Florence His first name was a contraction of Durante He was a pupil of Brunetto Latini, and among his friends were Cavalcanti and Giotto. It is probable that he took part in military expeditions in his youth In 1292 Dante wrote *La vita nuova* [the new life], a prose narrative with inserted lyrics, telling the story of his love for BEATRICE PORTINARI, whom he first saw in 1274 In 1293 he married Gemma Donati, who remained in Florence when Dante went into exile From 1295 to 1300 he was occupied with public affairs, was made one of the priors of Florence, and went on an embassy to Rome Upon the rising of the Black Guelphs, Dante, a White Guelph, was fined and banished (1302) He spent the rest of his life wandering through Italy and never returned to Florence, although he was later permitted to do so He died at the court of Guido da Polenta in Ravenna, where he is buried Dante is one of the great figures of world literature and the outstanding figure of Italian letters, he is likewise the interpreter of all medieval Europe He fixed the character of Italian poetry, surpassed all Italian writers before him, and gave rise to a vast literature His works include *La vita nuova*, the *Divine Comedy* (*La commedia*, the *Divina* was added by a later generation), *Convivio*, an allegorical encyclopedic poem; and various lyrics He also wrote, in Latin, treatises on the Italian vernacular (*De vulgari eloquentia*) and on monarchy (*De monarchia*), besides some epistles and eclogues His verse is musical, his thought lofty, and his imagination vivid, and his ability to describe in detail is remarkable Dante Gabriel Rossetti translated *La vita nuova* and various lyrics in *The Early Italian Poets* (1861; ed. by E G Gardner, 1904) · selections are translated in Lorna de' Lucchi, *An Anthology of Italian Poems* (1922) See DIVINE COMEDY for translations of that work The first biography of Dante was by Boccaccio, others include those by A J Butler (1902), C H Grandgent (1916), and C A Dinsmore (1919) For criticism, see J. A Symonds, *Introduction to the Study of Dante* (1872), Benedetto Croce, *The Poetry of Dante* (Eng tr , 1922), G A Scartazzini, *Handbook to Dante* (Eng. tr , 1924), Étienne Gilson, *Dante, the Philosopher* (Eng tr , 1949).

Danton, Georges Jacques (zhôrsh' zhäk' dätô'), 1759–94, French statesman, one of the leading figures of the FRENCH REVOLUTION A Parisian lawyer, he became a leader of the CORDELIERS early in the Revolution and gained the favor of the mob through his powerful oratory. He became a member of the Paris commune and then of the Legislative Assembly (1791–92), where he championed the lowest class Danton was the prime mover in the radical revolution that led in 1792 to the storming of the Tuileries and the overthrow of the monarchy In the new republic he was minister of justice and head of the Provisional Executive Council Danton sought foreign war in order to spread French institutions to all Europe He built up a strong government, instituted (March 10, 1793) the Revolutionary Tribunal, and dominated the first Committee of Public Safety (April–July, 1793), but the growing bitterness of partisan strife soon endangered his position Now an advocate of peace, he was accused of peculation and of complicity in the treason of DUMOURIEZ The hostility of the GIRONDISTS had driven him into alliance with the MOUNTAIN, but by July, 1793, the leftward course of the Revolution left him a moderate He was not included in the new Committee of Public Safety, the extremists under ROBESPIERRE were rising to triumph Danton continued to support the Committee and to uphold the Terror, though he did advocate (1793–94) moderation of the rigors of the Revolution Yet his influence was declining and his desire to soften the Revolution led to an increasingly severe conflict with Robespierre Robespierre overcame him On March 30, 1794, Danton and his followers were proscribed and charged with a conspiracy to overthrow the government The trial was a mockery, and Danton was guillotined The conflict between Robespierre and Danton was one of personal animosity rather than political principle Danton, in fact, developed no coherent political doctrines except, perhaps, the theory of opportunism in revolutionary action There has been much controversy as to Danton's character, particularly between Aulard, who defends him as a far-seeing idealist, and Mathiez, who views him as a demagogue See his *Speeches* (Eng tr , 1928), biographies by Hilaire Belloc (1899), Hermann Wendel (Eng tr , 1935), and Louis Madelin (1914, in French)

Danube (dă'nūb), Ger *Donau*, Czech *Dunaj*, Hung *Duna*, Serbo-Croatian and Bulgarian *Dunav*, Rumanian *Dunarea*, Rus *Dunai*, great river of Central and Southeastern Europe About 1,750 mi long and with a drainage basin of c 320,000 sq mi , it is second only to the Volga among European rivers It rises in two sources in the Black Forest, SW Germany, flows NE through Württemberg and Bavaria past Ulm and Regensburg, where it turns southeast to enter Austria below Passau It continues its southeastern course through Upper and Lower Austria, past Linz and Vienna, this section is particularly famous for its lovely scenery It then forms the border between Czechoslovakia and Hungary from Bratislava to Esztergom, where it turns sharply south and flows through the great Hungarian plain past Budapest After entering Yugoslavia above Belgrade, it again turns southeast, then east, and forms large sections of the borders between Rumania and Yugoslavia and Rumania and Bulgaria After passing the IRON GATE, the Danube broadens again Near Silistra it leaves the Bulgarian border and turns generally north, separating the Rumanian provinces of Dobruja and Walachia, below Galati it divides into a delta before entering the Black Sea The northernmost branch of the delta, on which Izmail is situated, forms the frontier between Rumania and the Ukraine (USSR) The final tract is characterized by many lakes and swamps The Danube receives more than 300 affluents, notably the Inn, the Drava, the Theiss, the Sava, and the Pruth Navigable from Ulm, it is a vital traffic artery and has been a link of many cultures In volume, however, Danubian commerce is far below that of the Rhine Under the Roman Empire (when it was known as Danubius and, in its lower section, as Ister), the Danube was the northern border against the barbarian world As Rome declined, the Danubian plains for centuries attracted invading hordes—Goths, Huns, Avars, Magyars, Petchenegs, Cumans, Mongols, and others The Danube increased in commercial importance in the era of the Crusades, but commerce suffered again after the Turks gained control (15th–16th cent) of its course from Hungary to the sea The Congress of Paris in 1856 appointed the first European Danube Navigation Commission to clear the mouth of obstructions This commission dissolved in 1939 By the Treaty of Versailles (1919) the Danube was internationalized and an international commission was set up with jurisdiction over the course from Ulm to Braila, the point where the authority of the old commission began After having repudiated the internationalization in 1936, Germany also forced the international commission to dissolve in 1940. In 1948 delegates from Czechoslovakia, Hungary, Yugoslavia, Rumania, Bulgaria, the Ukraine, the USSR, the United States, Great Britain, and France met at Belgrade to determine the international status of the Danube When, instead of a general international commission, a body composed of only the seven riparian nations was set up, the three Western powers refused to sign the convention. See Emil Lengyel, *The Danube* (1939).

Danubian Principalities: see WALACHIA and MOLDAVIA.

Danvers, town (pop. 14,179), NE Mass, NW of Salem, settled 1636, set off from Salem 1757 Shoes and electric fixtures are the chief products Danvers was the birthplace of Israel Putnam, and Whittier spent his later years here Some old buildings remain

Danville, village (pop 1,332), SE Que, N of Sherbrooke The first settlers were from the vicinity of Danville, Vt

Danville. 1 Town (pop 1,010), a co seat of Yell co, W central Ark, on Petit Jean Creek and in the Ouachitas, founded 1841. **2** City (pop 36,919), seat of Vermilion co, E Ill, on the Vermilion river at the Ind line, platted 1827, inc 1839 Danville is a commercial and industrial center in a dairy, farm, and coal area. It has railroad shops, and among its numerous manufactures are brick and metal products, mine machinery, shoes, lumber, and candy Gurdon S HUBBARD had a trading post here, 1828–33, and Joseph G CANNON (whose home is preserved) lived here Abraham Lincoln maintained a law office in Danville for five years, in partnership with W H Lamon The city is the seat of a U S veterans' hospital **3** Town (pop 2,093), co seat of Hendricks co, W central Ind, c 20 mi W of Indianapolis, settled 1824, inc 1835 It is a farm trading center and the seat of Canterbury College **4** City (pop 6,734), co seat of Boyle co, central Ky, SSW of Lexington, settled 1775, est 1787, inc 1836 In an agricultural region, it has stockyards and flour and lumber mills It is also a railroad division point One of the oldest settlements in Kentucky, it was a seat of government (1784–92) by act of the Virginia legislature The Kentucky constitutional conventions were held here, Weisiger Memorial State Shrine (the old courthouse square) preserves their setting Among other points of interest are Centre College of Kentucky (Presbyterian, coeducational, 1819), the state school for the deaf (1823), and the Dr Ephraim McDowell State Shrine (scene of the first ovariotomy) TRANSYLVANIA COLLEGE was opened near Danville in 1785 The city has many fine ante-bellum houses and old trees The Kentucky and Dix rivers are near by To the northeast are Herrington Lake and Dix Dam; to the northwest is a national cemetery **5** Borough (pop 7,122), co seat of Montour co, NE central Pa, on the Susquehanna and NE of Harrisburg, laid out 1790, inc 1849 A farm trading center, Danville has iron and steel works and textile mills A state hospital for the insane is here **6** Town (pop 1,472), NE Vt, W of St Johnsbury, settled 1784 Thaddeus Stevens was born here The village West Danville is a resort on Joe's Pond **7** Industrial city (pop 32,749), S Va, on the Dan and SE of Roanoke, near the N C line, founded 1793, inc as a city 1870 One of the largest markets in the world for bright-leaf tobacco, it also has cotton mills The city operates the huge Pinnacles of Dan hydroelectric development (82 mi west), the project, built with Federal aid, was completed in 1938 In April, 1865, Danville became the "last capital of the Confederacy" when Davis and his cabinet fled from the Richmond area and came here. Danville has two girls' junior colleges

Danzig (dăn'sĭg) or **Gdansk,** Pol *Gdańsk,* city (pop 117,894, 1941 pop 267,251), a Baltic seaport on a branch of the Vistula and on the Bay of Danzig Formerly a free city, it was transferred to Polish administration in 1945 Originally a Slavic settlement, Danzig was an important center as early as the 10th cent, it became the capital of Pomerelia (see POMERANIA) After its settlement by German merchants, it joined (13th cent) the Hanseatic League, became German in culture, and rose to be an important Baltic port In 1308 Danzig passed to the Teutonic Knights Ceded to Poland by the Treaty of Torun (1466), Danzig became autonomous, in 1577 it unsuccessfully tried to sever its allegiance to the Polish crown After the Thirty Years War it began to decline Danzig resisted the invasion (1655–60) of Poland by Charles X of Sweden In the War of the POLISH SUCCESSION, King Stanislaus I took refuge in Danzig until its fall (1734) after a heroic defense The first partition of Poland (1772) made Danzig a free city, in the second partition (1793) it was given to Prussia Napoleon I made it a free city again (1807–14) Reverting to Prussia in 1814, it was a fortress and the provincial capital of West Prussia until 1919, when the Treaty of Versailles made Danzig once more a free city Though included in the Polish customs territory and placed under a high commissioner appointed by the League of Nations, Danzig had its own legislature It was increasingly troubled after 1935 by the growth of National Socialism, as the League's authority waned, Danzig came under absolute Nazi control, and clamor for union with Germany increased Hitler's demand (1939) for the reunion of Danzig with Germany was the principal immediate cause of the German invasion of Poland and the Second World War Danzig was annexed to Germany from Sept 1, 1939, until its fall to the Russian army early in 1945 After the First World War, friction between the Free City and Poland led to the construction by Poland of the rival port of GDYNIA As a result, Danzig lost much of its trade After 1945, Polish plans for Danzig envisaged Danzig as the chief Polish seaport, with Gdynia and ZOPPOT, a near-by resort, merged with Danzig in a single new city Most of the German population has been replaced by Poles The port of Danzig—the only part of the city that escaped the destruction of the Second World War—handled almost 4,000,000 tons of freight in 1946 It is principally located at Neufahrwasser (Pol *Nowy Port*), a northern suburb Before its destruction, Danzig had preserved its medieval aspect and architecture, notably the Gothic Church of St Mary's (1343) and the city hall (1379) The former abbatial church (begun c 1175, completed 1836) at the well-known suburb of Oliva serves as a cathedral Gdansk prov (c 2,900 sq mi, pop 604,975) is a largely agricultural lowland The main cities are Gdynia and Tczew Administered by the province is also the territory (c 2,000 sq mi, pop 327,232), which includes the former free city and sections of Pomerania and East Prussia

Daphne (dăf'nē), in Greek myth, nymph who attracted the love of Apollo He pursued her, she prayed for escape, and she was changed into a laurel tree

Daphnis (dăf'nĭs), in Greek literary legend, shepherd in love with a Naiad After swearing fidelity, he was made drunk, was unfaithful, and was punished with blindness He tried to comfort himself by playing sad songs upon the shepherd's pipes His friends also lamented for him in song Thus pastoral melody was born.

Daphnis and Chloé (klō'ē), Greek pastoral romance, attributed to one Longus of the 3d cent A D The very names (Daphnis means "laurellike", Chloé, "blooming") suggest the idyllic character of this improbable but charming story of the love of a goatherd and a shepherdess *Daphnis and Chloë* was very popular in France and England in the 17th and the early 18th cent

Da Ponte, Lorenzo (lōrĕnd'zō da pōn'tā), 1749–1838, Italian poet, librettist, and one of the pioneers in spreading Italian culture in the United States He wrote the librettos of three of Mozart's operas, *Così fan tutte* (1790), *The Marriage of Figaro* (1786, Eng tr, 1819), and *Don Giovanni* (1787, Eng tr, 1826) In 1805, after a varied career in Italy, Dresden, Vienna, and London, he went to New York, where (except for a few years as storekeeper in Elizabethtown, N J, and Sunbury, Pa) he spent the rest of his life teaching the Italian language and literature He was appointed professor of Italian language and literature at Columbia Univ in 1830, and his library, bought by the university when the chair was established in 1825, was the nucleus of its collection of Italian poets and miscellaneous literature In 1833 he succeeded in having built the Italian Opera House, where 28 performances of Italian opera were given before it was transferred to other management That opera house, soon destroyed by fire, represented the first attempt to establish Italian opera permanently in New York Da Ponte's last years were marred by want and the loss of pupils. See his memoirs (1823, Eng tr, ed by Arthur Livingston, 1929), J L Russo, *Lorenzo Da Ponte* (1922)

Dara (dā'ru), in the Bible see DARDA

Darab (darab'), village, SW Iran It is surrounded by orange and lemon groves Here Shapur I had the rocks sculptured in bas-relief to commemorate his victory over Valerian

D'Arblay, Madame see BURNEY, FRANCES

Darboux, Jean Gaston (zhäʹ gästôʹ darbōōʹ), 1842–1917, French mathematician He is known for his work on orthogonal surfaces and for his application of infinitesimal calculus to geometry He was professor from 1881 and dean from 1889 at the Faculty of Sciences, Paris, and perpetual secretary of the Academy of Sciences from 1900

Darboy, Georges (zhôrzhʹ darbwäʹ), 1813–71, French churchman, bishop of Nancy (1859–63) and archbishop of Paris (1863–71) In the Franco-Prussian War he behaved with notable heroism When the Commune of Paris was set up, he was imprisoned as a hostage and subsequently shot

Darby, John Nelson, 1800–1882, most noted of the founders of the PLYMOUTH BRETHREN, b England In 1827 he left a curate's post in Wicklow, Ireland, and joined with others in Dublin to found the Brethren Later he formed congregations on the Continent, in Switzerland, France, and Germany Between 1859 and 1874, Darby paid a number of visits to the United States and Canada His followers, especially those on the Continent, came to be called Darbyites or Exclusive Brethren His collected writings fill 32 volumes

Darby, residential borough (pop 10,334), SE Pa, near Philadelphia, settled 1682, inc 1853 One of the oldest settlements in the state, it has many colonial landmarks The Darby Library Company was founded in 1743 by Friends John Bartram, botanist, was born near here

Darcy, Thomas Darcy, Baron, 1467–1537, English statesman and rebel He served Henry VII in peace and war and continued important in Henry VIII's reign. He disapproved of the king's divorce from Katharine of Aragon, and he was involved in secret plots with the agents of Emperor Charles V against Henry After the outbreak of the rebellion in the north of England known as the PILGRIMAGE OF GRACE (1536), Darcy yielded Pontefract Castle to the rebels and became one of their leaders He was pardoned but was later convicted of treason and beheaded

Darda (där'dŭ), wise man 1 Kings 4 31 Apparently the same man as Dara 1 Chron 2 6

Dardanelle (därdŭnĕlʹ), city (pop 1,807), a co seat of Yell co, W central Ark, on the Arkansas river It was platted in 1843 on the site of an Indian post Mt Nebo State Park is near by

Dardanelles (därdŭnĕlzʹ), strait, c 40 mi long and from 1 to 4 mi wide, connecting the Aegean Sea with the Sea of Marmara and separating the Gallipoli peninsula of European Turkey from Asiatic Turkey It was called the Hellespont in antiquity and was the scene of the legend of HERO and Leander Its modern name is derived from Dardanus, an ancient Greek city on its Asiatic shore Controlling navigation between the Black Sea and the Mediterranean, the Dardanelles and BOSPORUS straits have been of immense strategic and commercial importance since the dawn of history Ancient Troy prospered at the western entrance to the Hellespont Xerxes I crossed (c 481 B C) the strait over a bridge of boats, as did Alexander the Great in 334 B C. Throughout the existence of the Byzantine and Ottoman empires the Straits were essential to the defense of Constantinople By 1402 the Dardanelles were under the control of Sultan Bajazet I Mohammed II began (15th cent) to fortify the passage, which, with brief interruptions, has remained in Turkish hands until the present day Russian expansion along the Black Sea (18th cent) and the resulting weakening of the Ottoman Empire became of great concern to the Western powers (see EASTERN QUESTION), notably England and France, which from 1841 joined forces to prevent Russia from gaining control over, or special rights in, the Straits In 1841 England, France, Russia, Austria, and Prussia agreed to close the Straits to all but Turkish warships in peacetime This convention was formally reaffirmed by the Congress of Paris (1856) at the end of the Crimean War and, theoretically at least, remained in force until the First World War Early in 1915 an Anglo-French fleet, commanded first by Admiral Carden and later by Admiral Sir John de Robeck, sought unsuccessfully to force the Dardanelles and take Constantinople A second attempt, known as the GALLIPOLI campaign, was also unsuccessful, but after the final Turkish collapse an Allied fleet passed (Nov, 1918) the Straits and occupied Constantinople The Treaty of Sèvres (1920) with Turkey internationalized the Straits zone, but it was superseded by the Treaty of Lausanne (1923) The zone was restored to Turkey, but was to remain demilitarized, the Straits were to be open to all ships in peacetime and in time of war if Turkey remained neutral, if Turkey was at war, it could not exclude neutral ships Secretly, however, Turkey soon began to refortify the zone, and in 1936, by the MONTREUX CONVENTION, was formally permitted to remilitarize it The Montreux Convention was essentially enforced by Turkey through the Second World War until Jan, 1945, when it was modified by the opening of unrestricted passage for Allied supplies to Russia After the war Russia sought, with fluctuating energy, to have the Montreux Convention revised in its favor The Dardanelles are also called Chanakkale Bogazi or Canakkale Bogazi See J T Shotwell and Francis Deak, *Turkey at the Straits* (1940)

Dardanus (därʹdunus), in Greek mythology, founder of Troy, son of ZEUS and the Pleiad ELECTRA His descendants, the Trojans, were sometimes called the Dardani

Dardic languages, Indo-European languages See LANGUAGE (table)

Dare, Virginia, b 1587, first white child of English parents to be born in America She was the daughter of Ananias and Elinor Dare, members of Sir Walter Ralegh's ill-fated colony which settled on ROANOKE ISLAND on the North Carolina coast Since no trace remained of the colony when the relief expedition reached Roanoke in 1591, the child's fate is unknown The recently discovered but debated Virginia Dare stones say she was killed in an Indian attack

Dares Phrygius (dā'rēz frĭ'jĭŭs), supposed author of a history of the Trojan War Dares of Phrygia is mentioned by Homer in the *Iliad* as a priest of Troy, and to him was attributed a history, which appeared in Latin translation, probably in the 5th cent A D Actually the Latin work, *De excidio Troiae historia* [history of the destruction of TROY], was probably original This and the supposed diary of DICTYS CRETENSIS became, through Benoît de Sainte-Maure's *Roman de Troie,* the most popular sources for medieval stories of the Trojan War

Dar-es-Salaam (där'-ĕs-sulām') [Arabic,=house of peace], city (pop 66,379), capital of Tanganyika, a port on the Indian Ocean, founded in the 19th

cent The city has wide, shaded streets and a fine botanical garden It is the terminus of a railroad across the country to Kigoma on Lake Tanganyika Cotton, sisal, copra, and hides are chief among the exports

Dargomijsky, Aleksandr Sergeyevich (älyĭksän'dur sĕrgāyä'vĭch dargŏmē'skĭ), 1813–69, Russian composer He and Glinka brought nationalism to Russian music, strongly influencing the next generation of composers Among his works are three operas *Esmeralda*, with libretto by Victor Hugo (1847), *Russalka* (1856), and *The Stone Guest* (1872), on a play by Pushkin See M D Calvocoressi and Gerald Abraham, *Masters of Russian Music* (1936)

Dariel, Georgia, USSR see DARYAL

Darien (dâ'rēĕn', dâ'rēn'), Span *Darién* (därvän'), eastern part of Panama Properly today the Isthmus of Darien is that part of the Isthmus of Panama between the Gulf of Darien on the east and the Gulf of San Miguel on the west The name was, however, formerly much used to mean the entire Isthmus of Panama Visited by Rodrigo de Bastidas in 1501 and by Christopher Columbus in 1502, Darien was granted to Diego de NICUESA His attempted colony failed until revived by Martín Fernández de ENCISO After he had been forcibly removed from office by Vasco Núñez de BALBOA, Enciso complained bitterly, and a new governor, Pedro ÁRIAS DE ÁVILA (Pedrarias) was sent out He established harsh rule over the entire isthmus and in 1519 moved the capital from the old settlements in Darien to Panama city The attempt at Scottish settlement on the Isthmus of Panama, generally called the DARIEN SCHEME, failed miserably, leaving as its only trace a place name, Puerto Escocés [Scottish port]

Darien. 1 (dâ'rēĕn') Residential town (pop 9,222), SW Conn , E of Stamford, settled c 1641, inc 1820 Many 18th-century houses remain **2** (dâ'rēn) City (pop 1,015), co seat of McIntosh co , SE Ga , a fishing port on the Altamaha, N of Brunswick It was founded in 1736 by a group of Scotch Highlanders recruited by James Oglethorpe to supersede Spanish influence in the area The town was first named New Inverness, for the settlers' home, and the surrounding area was called Darien Near by are Santo Domingo State Park, where tabby ruins (said to be either of a Spanish mission, est 1595, or of a sugar mill, built c 1816), and the site of Fort King George (1721–27), the first English settlement in Georgia

Darien Scheme, Scottish colonial project begun by the act (1695) of the Scottish Parliament that chartered a company for trading with Africa and India William PATERSON directed the first efforts of the company to founding a colony on the Isthmus of Panama to compete with the Dutch and Spanish for trade Stock was subscribed in England and Scotland, but opposition by the English government and by the East India Company caused English investors to withdraw English discrimination against Scotland in the NAVIGATION ACTS was underlined by passage of a new act in 1696 The company's three expeditions failed (1698, 1699) with the loss of many lives, because of poor leadership and equipment, disease, and the hostility of the Spanish The failure, with its immense losses to Scottish investors, vividly demonstrated Scotland's commercial disadvantage outside the British "realm" By the terms of the Act of Union with England (1707), Scotland secured equality in trade Investors in the Darien venture were partially indemnified for their losses See G P Insh, *The Company of Scotland Trading to Africa and the Indies* (1932)

Darío, Rubén (rōōbĕn' därē'ō), 1867–1916, Spanish American poet, whose real name was Félix Rubén García Sarmiento, b Segovia dept , Nicaragua A child prodigy, he acquired through reading a thorough knowledge of Spanish and French culture, widened during his many years abroad both in South America and Europe as the diplomatic representative of various Spanish American countries He was particularly familiar with the writings of the French Parnassians Darío was the leader of MODERNISMO, with its emphasis on metric form and beauty of diction, in Spanish American and Castilian poetry *Azul* [blue] (1888) was followed by *Prosas profanas* (1896), a departure from pure form and content to grace, beauty, and exoticism *Cantos de vida y esperanza* [songs of life and hope] (1905) and *El canto errante* [the wandering song] (1907) show Darío's elegance and grace strengthened by vigor and power, technical mastery, and the achievement of poetic universality

Darius I (Darius the Great) (dərī'əs), c 549 B C – 485? B C , king of ancient Persia (521–485? B C), called also Dariavaush and Darius Hystaspis (after his father, Hystaspes or Vishtaspa) A distant cousin of CAMBYSES, he succeeded to the throne after the fall of the impostor claiming to be SMERDIS Darius put down revolts in Persia itself, in Media, in Babylonia, and in the East Then he proved himself the true successor of CYRUS THE GREAT and one of the most able of the ACHAEMENIDAE by setting up the administrative system of the satrapies—provinces under satraps, who were like viceroys and were responsible only to the Great King, but were checked by generals, ministers of home affairs, and secret police, all of whom were also responsible to the Great King alone This system proved so efficient that it outlasted even the Achaemenid empire, being adopted by Alexander the Great and later by the Parthians Darius also undertook lengthy campaigns That against the Scythians began in 512 B C , it involved taking Thrace and Macedonia and building a bridge across the Danube, its merits and results are still subject to debate He was involved in trouble with the Greeks after giving refuge to the tyrant HIPPIAS, but more serious quarrels began with the revolt (c 500 B C) of the Ionian cities against Persian rule Having put down the rebels, Darius sent out to punish the Greek city-states that had aided in the insurrection (see PERSIAN WARS) His first expedition was turned back by storms, his second met defeat in the memorable battle of Marathon (490 B C) Darius consolidated Persian power in the East, including NW India He also continued Cyrus' policy of supporting and encouraging the rehabilitation of the Jewish state, and he is mentioned favorably in Ezra, Haggai, and Zechariah He is responsible for one of the greatest of all inscriptions of history, that at BEHISTUN When he died he was succeeded by his son XERXES I

Darius II, d 404 B C , king of ancient Persia (423?–404 B C), son of Artaxerxes I and a concubine, hence sometimes called Darius Nothus (nō'thus) [Darius the bastard] After his half brother, XERXES II was murdered by another half brother, Sogdianus, Darius killed Sogdianus and made good his own claim to the throne His rule was not popular or successful, and he spent most of his reign in quelling revolts He lost Egypt, but through the diplomacy of PHARNABAZUS, TISSAPHERNES, and CYRUS THE YOUNGER secured much influence in Greece in the Peloponnesian War ARTAXERXES II succeeded Darius, but the succession was challenged by Cyrus the Younger

Darius III (Darius Codomannus) (kōdŭmā'nus), d 330 B C , king of ancient Persia (336–330 B C) A cousin of ARTAXERXES III, he was raised to the throne by the eunuch Bagoas, who had murdered both Artaxerxes and his son, Arses Darius in turn murdered Bagoas, but his rule was not firm When ALEXANDER THE GREAT invaded Persia, Darius was defeated in the battle of Issus (333 B C) and again in the battle of Gaugamela or Arbela (331 B C) He showed himself a coward in the fighting, and he fled to Ecbatana and then eastward to Bactria There on Alexander's approach the satrap of Bactria, Bessus, murdered his royal cousin and took command himself in the unsuccessful opposition to the Macedonian conqueror Darius III is probably the Darius the Persian of Neh 12 22

Darius the Mede, in the Bible, king of the Chaldeans after the defeat of Belshazzar , he is called the son of Ahasuerus (Xerxes) He is not easily identified with any known monarch Dan 5 31, 9 1, 11 1

Darjeeling (darjē'lĭng), town (pop 25,873), N West Bengal state, India The town, at an elevation of c 7,000 ft in the Himalaya foothills, is a hot-weather resort and commands majestic views of lofty mountains, including Mt Everest and Kanchenjunga

Dark Ages. see MIDDLE AGES

dark horse, in U S politics, a comparatively unknown man chosen by a major party as a candidate for public office, especially the presidency A dark horse is usually chosen at a party national convention when there are two or more powerful rivals for the nomination whose ambitions bring the convention to a deadlock The first important example of a dark horse was William Henry Harrison, who was chosen as Whig party candidate in 1840 Other dark horses who went on to win the presidency were James K Polk, Franklin Pierce, and Warren G Harding

Darkon (dar'kŏn), ancestor of a family who returned with Zerubbabel Ezra 2 56, Neh 7 58

Darlan, Jean François (zhäN' frôNswä' dälä'), 1881–1942, French admiral He was made commander of the French navy in 1939 and joined the VICHY GOVERNMENT in 1940 as minister of the navy After the fall of Pierre LAVAL, Darlan was made (Feb , 1941) vice premier, foreign minister, and successor-designate to Marshal Pétain, taking over also the interior and defense ministries Darlan used his power to champion economic collaboration with Germany Laval returned to power in April, 1942, Darlan lost his cabinet posts but remained Pétain's successor-designate and was given command of the French armed forces In Algiers at the time of the Allied landing in North Africa (Nov 7, 1942), Darlan reversed his position and ordered (Nov 11) the cessation of French resistance to the Allies Repudiated by Pétain, he nevertheless assumed control over French North and West Africa in the marshal's name and brought them to the side of the Allies, who supported him in the name of expediency As high commissioner, he exercised authoritarian rule until his assassination (Dec , 1942) by a young French anti-fascist. He was succeeded by Gen. H H Giraud.

Darley, Felix Octavius Carr, 1822–88, American painter, illustrator, and lithographer, b. Philadelphia, self-taught His paintings, usually depicting incidents from American history, are in water color He is best known, however, for his pen-and-ink drawings, which, for their inventiveness, versatility, vigorous style, and technical facility, placed him in the front rank of American illustrators He illustrated the works of Cooper, Hawthorne, Irving, Longfellow, and others *The Cooper Vignettes* is a collection of drawings reproduced on steel for bank notes

Darley, George, 1795–1846, British poet, critic, and mathematician, b Ireland He wrote a series of popular, scientific textbooks (1826–30), a fairy opera, *Sylvia* (1827), and the poem *Nepenthe* (1836) See biography by C C Abbott (1928)

Darling, Grace Horsley, 1815–42, English heroine She was the daughter of a lighthouse keeper on the Farne Islands In Sept , 1838, she aided her father in rescuing five persons from the wrecked vessel *Forfarshire*

Darling, Jay Norwood, 1876–, American cartoonist, b near Charlevoix, Mich , who is known as "Ding" He was reporter for the Sioux City, Iowa, *Tribune* and *Journal* (1899–1900) and became cartoonist for the *Journal* in 1901 and for the Des Moines *Register* in 1906. Since 1917 he has been cartoonist for both the *Register* and the New York *Tribune*, later the *Herald Tribune*, which heads the syndicate for his cartoons He is actively interested in the preservation of wildlife and the provision for parks and was chief (1934–35) of the U S Bureau of Biological Survey Darling in 1924 was recipient of the Pulitzer Prize for the best cartoon published in 1923 He wrote *Ding Goes to Russia* (1932)

Darling, river of SE Australia, mainly in New South Wales, flowing generally southwest and forming part of the New South Wales Queensland boundary Longest tributary (1,702 mi) of the Murray, it is known variously as the Barwon or the Macintyre It was explored in 1844 by Charles Sturt

Darling Downs, tableland, 27,610 sq mi , SE Queensland, Australia, W of the Great Dividing Range It comprises the state's wheat belt

Darling Range, Western Australia, extending 200 mi parallel with the southwest coast and rising to 1,910 ft in Mt Cooke Mundaring Weir and Canning Dam are in the range, the suburbs of Perth are on its slopes

Darlington, William, 1782–1863, American botanist, b Chester co , Pa He wrote biographies of several botanists and was the author of *American Weeds and Useful Plants* (1859) The California pitcher plant was named *Darlingtonia* in his honor

Darlington, county borough (1931 pop 72,086, 1947 estimated pop 84,780), Durham, England, on the Skerne near its junction with the Tees It is a railroad center, with extensive locomotive works, iron foundries, steel plants, and woolen mills The locomotive which drew the first passenger train (1825), on the Stockton-Darlington line, is preserved in Bank Top Station St Cuthbert's Collegiate Church (12th cent) is noteworthy Institutions include teachers' training and technical colleges and an Elizabethan grammar school

Darlington 1 Town (pop 6,236), co seat of Darlington co , NE S C , just NW of Florence, in a cotton and tobacco area, settled 1798, inc 1835 It has a textile mill and a furniture plant **2** City (pop 2,002), co seat of Lafayette co , S Wis , on the Pecatonica and SW of Madison, inc 1857

Darmesteter, Arsène (ärsĕn' därmstĕtĕr'), 1846–88, French lexicographer, author of works on the history of the French language, of German-Jewish origin His knowledge of medieval Hebrew materials gave him a unique opportunity for the study of French phonology through words borrowed from French into Hebrew His brother, **James Darmesteter,** 1849–94, was a distinguished student of Iranian philology, his studies in Pahlavi were original He wrote much on Zoroastrianism, and his best-known work was a translation of the Avesta into French

Darmstadt (därm'shtät, därm'shtät), city (pop 76,266, 1939 pop 115,196), former capital of Hesse-Darmstadt (see HESSE), W Germany, a commercial center and seat of a chemical industry In the Second World War, Darmstadt was severely damaged by air raids

Darnley, Henry Stuart or **Stewart, Lord,** 1545–67, claimant to the throne of England and second husband of MARY QUEEN OF SCOTS Darnley's mother was Margaret Douglas, the daughter of Archibald DOUGLAS, earl of Angus, and Margaret Tudor, daughter of Henry VII, this made Darnley a candidate for succession to the English throne after ELIZABETH His father was the powerful earl of Lennox In 1561 Darnley was confined by Queen Elizabeth for scheming to strengthen his claim to the succession, but he was released the next year and attended her at court In 1565, at the age of 19, he was allowed by Elisabeth to follow his father to Scotland, and within a short time he married Queen Mary The motives of the Scottish queen were predominantly political, Darnley's sympathies were Catholic, and his right of succession to the English throne reinforced Mary's own

His handsome appearance and courtly manners, however, may also have impressed Mary. The Protestant lords, dismayed at what appeared a Catholic triumph, now revolted, but Mary defeated them handily Within a short time Darnley, dissipated and vicious, had shown himself unfit for kingship, and Mary denied him the crown matrimonial Wounded in pride and suspicious of Mary's relationship with her secretary, David Rizzio, Darnley was easily persuaded by a promise of the crown matrimonial to join the conspiracy of several Protestant nobles On March 9, 1566, accompanied by Darnley, they seized Rizzio in the queen's presence and stabbed him to death They may have hoped simultaneously to shock the pregnant queen into fatal illness, but she defeated the threatening coup by winning over Darnley and escaping from her captors to the help of loyal nobles Darnley soon found himself without a friend in either camp Although Mary made efforts toward reconciliation after the birth of their son, Darnley continued intractable, and the council demanded that the queen rid herself of him Probably with Mary's knowledge, there was then formed a plot, one of whose leaders was almost certainly the earl of Bothwell The earl of Morton confessed to a part in it, and the earl of Murray may have had a hand Recovering from an illness Darnley arrived in Edinburgh early in 1567 and lodged in Kirk o' Field, a house just outside the city On the night of Feb 9, after a visit from Mary, the house was blown up by gunpowder In the morning the bodies of Darnley and a page were found strangled in an adjoining garden Details of the murder remain a historical mystery Mary's subsequent failure to punish Bothwell and her hasty marriage to him led to the revolt which soon dethroned her Darnley, through his son James I, is the ancestor of the Stuart and succeeding English kings.

Darrow, Clarence Seward, 1857–1938, American lawyer, b Kinsman, Ohio He first practiced law in Ashtabula, Ohio In 1888 he moved to Chicago, where he was corporation counsel for several years and conducted the cases which the city brought to reduce transit rates He resigned (1894) his position as general counsel for the Chicago and Northwestern RR to defend Eugene V Debs from imprisonment in connection with the Pullman strike The defense was successful Darrow renounced his lucrative practice at this time and resolved to spend his life in defense of the "underdog" A staunch opponent of capital punishment, he exerted his tremendous courtroom skill in behalf of over 100 persons charged with murder, none of his clients was ever sentenced to death Darrow procured, in 1906, the acquittal of William J Haywood and his associates on the charge of murdering former Governor Steunenberg of Iowa He offended many socialists (with whom he had been popularly identified) by introducing a plea of guilty in his defense of the McNamara brothers in the Los Angeles *Times* dynamiting case (1911) Darrow was himself tried for allegedly bribing a juror in the trial, but he was acquitted In the Chicago "thrill" murder trial (1924) of Nathan Leopold and Richard Loeb he saved the defendants from execution by a plea of temporary insanity Long an agnostic, Darrow fought fundamentalist religious tenets in the Scopes evolution case (1925) Pitted against William Jennings Bryan, he defended without success a schoolteacher charged with violating a Tennessee statute which prohibited teaching that man descended from lower forms of life Many felt, nevertheless, that Darrow's examination of Bryan on the witness stand did much to discredit fundamentalist interpretation of the Bible Among Darrow's books are a novel, *Farmington* (1905), and *Crime Its Cause and Treatment* (1925) See his autobiography, biographies by C V Harrison (1931) and Irving Stone (1941)

D'Artagnan, Charles de Batz-Castelmore see Artagnan, Charles de Batz-Castelmore d'

Dartford, urban district (1931 pop 28,871, 1947 estimated pop 38,530), Kent, England, SE of London, in the valley of the Darent a little above its junction with the Thames In 1355 Edward III founded an Augustinian convent in Dartford St Edmund's Chantry was once a popular place of pilgrimage. Wat Tyler's Rebellion started in Dartford late in the 14th cent Here the first paper mill in England was built in Elizabeth's time Other manufactures include flour, leather, machinery, and pharmaceuticals

Dartmoor, upland, c 25 mi long, Devonshire, England It is mostly a picturesque wasteland with bare granite peaks (tors) rising above the general level The highest points are High Willhayes (2,039 ft) and Yes Tor (2,028 ft) The ancient Royal Forest of Dartmoor occupies the center There are tin, copper, and iron mines, granite quarries (now more important than the mines), extensive grazing lands, and numerous prehistoric remains

Dartmoor Prison, English prison, at Princetown, Devonshire, built (1806–9) to house French captives during the Napoleonic Wars During the War of 1812 many American prisoners, including impressed seamen, were confined there. In 1815 the guard fired upon some prisoners who were mistakenly suspected of mutiny, several were killed or wounded, and the incident had repercussions It was settled by the American and British governments In 1850, after it had been unoccupied for more than 30 years, Dartmoor was adapted for a convicts' prison From 1917 to 1919, conscientious objectors to the First World War were imprisoned there See A J Rhodes, *Dartmoor Prison* (1933)

Dartmouth (därt'məth), industrial town (pop 10,847), S N S, on Halifax Harbour opposite Halifax There are sugar and oil refineries and other factories and the provincial hospital for the insane

Dartmouth, municipal borough (pop 6,708), Devonshire, England, on terraces on the south bank of the Dart estuary Of interest are the Church of St Saviour (14th and 15th cent), the ruins of a castle of Henry VII overlooking the harbor, and the Royal Naval College Here, in 1190, Richard Cœur de Lion embarked with his followers for the Crusades The port was attacked by the French in 1404 Shipping, boatbuilding, and yachting are local activities

Dartmouth, town (pop 9,011), SE Mass, on Buzzards Bay SW of New Bedford, settled c 1650, inc 1664 A center of Quakerism, it still has an 18th-century Friends' meetinghouse

Dartmouth College, at Hanover, N H, nonsectarian, for men, chartered 1769, opened 1770, the ninth colonial college (see Wheelock, Eleazar) A state college connected (1868–93) with Dartmouth later developed into the Univ of New Hampshire Stressing liberal arts, Dartmouth also has schools of business administration (Tuck), civil engineering (Thayer), and medicine (two years, with an eye institute and a hospital) Unusual features are a selective admission process and a famous outing club which runs a winter sports carnival Among its buildings are the Baker Library and a science museum See histories by Frederick Chase (1891), J K Lord (1913), and L B Richardson (1932)

Dartmouth College Case, decided by the U S Supreme Court in 1819 The legislature of New Hampshire, in 1816, without the consent of the college trustees, amended the charter of 1769 to make the institution public The trustees brought suit Daniel Webster argued successfully that the amendment violated Article 1, Section 10, of the U S Constitution in that the state thereby impaired the obligation of a contract The opinion of the court, delivered by Chief Justice John Marshall, was that a charter was in effect inviolable The opinion, while highly influential, was limited by Chief Justice Taney in the Charles River Bridge Case (1837).

Daru, Pierre Antoine (pyĕr' ätwän' dərü'), 1767–1829, French soldier, administrator, statesman, and writer He served in the French Revolutionary Wars, was imprisoned in the Terror, and became chief of the army commissary under Napoleon, who created him count His exemplary administration vastly contributed to Napoleon's victories Daru also filled various cabinet posts under Napoleon and was made a peer in the Restoration His writings include histories of Venice and Brittany and translations of Horace

Darusmont, Frances Wright see Wright, Frances

Darwen (där'wĭn, dăr'ĭn), municipal borough (1931 pop 36,012, 1947 estimated pop 30,600), Lancashire, England, on the Darwen river and S of Blackburn It has cotton mills and makes paper, machinery, plastics, paint, and soap

Darwin, Sir Charles Galton, 1887–, English physicist, a son of Sir G H Darwin After serving as professor at the Univ of Edinburgh (1923–36) and at Cambridge Univ (1936–38), he became director of the National Physical Laboratory, Teddington, in 1938 He wrote *The New Conceptions of Matter* (1931) He was knighted in 1942

Darwin, Charles Robert, 1809–82, English naturalist, b Shrewsbury, grandson of Erasmus Darwin His father, Robert Darwin, was a physician, and his mother was a daughter of Josiah Wedgwood, the famous potter He studied medicine according to his father's wish, at Edinburgh, but lacking inclination to follow this profession, he began to study for the ministry at Cambridge His interest in natural history led to an acquaintance with John S Henslow, the geologist and botanist Through him came the opportunity to make a five years' cruise as official naturalist on the Beagle, starting Darwin on the career of exploration, observation, investigation, and written correlation of facts which led to the formulation of his conception of evolution, known as Darwinism (A R Wallace worked out, independently, a similar theory) In Darwin's *Origin of Species* (1859) he sets forth the structure and support of his theory in a superbly organized work Darwin formulated a theory, accepted by many, of the origin of coral reefs Others of his works are *Descent of Man and Selection in Relation to Sex* (1871) and *Variation of Plants and Animals under Domestication* (1867) See his *Life and Letters* (ed by Francis Darwin, 1887), G A Dorsey, *The Evolution of Charles Darwin* (1927), study by Geoffrey West (1937), Jacques Barsun, *Darwin, Marx, Wagner* (1941)

Darwin, Erasmus, 1731–1802 English physician and poet During most of his life he practiced medicine in Lichfield and cultivated a botanical garden He was a prominent member of the literary circle which included Anna Seward and Thomas Day In a long poem entitled *The Botanic Garden* (1789–91), Darwin expounded the botanical system of Linnaeus His *Zoonomia* (1794–96) explains organic life according to evolutionary principles and thus anticipates later theories Erasmus Darwin was the grandfather of Charles Darwin and of Francis Galton See Hesketh Pearson, *Doctor Darwin* (1930)

Darwin, Francis, 1848–1925, English botanist, assistant to his father, Charles Robert Darwin He was reader in botany at Cambridge, foreign secretary of the Royal Society, and a president of the British Association He edited *Life and Letters of Charles Darwin* (1887) and wrote *Elements of Botany* (1895) and *Foundations of the Origin of Species* (1909)

Darwin, Sir George Howard, 1845–1912, English astronomer and mathematician, second son of Charles Darwin He was Plumian professor (from 1883) of astronomy and experimental philosophy at Cambridge, and a recognized authority on cosmogony He wrote *The Tides* (1898) and *Scientific Papers* (5 vols, 1907–16)

Darwin, port (pop 2,538), capital of the Northern Territory, Australia, on Port Darwin, an inlet of the Timor Sea Remotely situated on the sparsely settled north coast, Darwin has no rail connection with any of the major Australian cities It is important largely because of its strategic position as an airport on the Singapore-Sydney route In the Second World War the city was heavily bombed by the Japanese, later a military airdrome, fuel-oil installations, and a wharf were built, and Darwin became a key Allied base The meager products include pearl shell, *bêche-de-mer*, and fish, the exports are chiefly meat and peanuts There is a large Chinese population Originally called Palmerston, the town was renamed for Charles Darwin

Darwinism, concept of evolution developed by Charles Robert Darwin As a result of years spent in making careful scientific observations and in studying and correlating these studies Darwin formulated his theories, which had a profound and lasting influence not only on biology but also on philosophy and other fields of knowledge His studies led him to question the belief in special creation of each species (a theory generally accepted by scientists of the time) and to present his evidence for descent of all life from a common ancestor Citing a wealth of examples as evidence, Darwin clearly presented his evolutionary theory embodying the principles which have become synonymous with Darwinism From his observations of the tendency of all organisms to increase in a geometrical ratio and of the fact that in general, despite this increase, the numbers of a given species remain more or less stable, Darwin deduced that there is a struggle for existence or a struggle for survival He emphasized the significance of variation or the existence of individual differences in members of the same species Some variations are helpful to a plant or animal in its struggle for existence, and those with such favorable variations are more apt to survive and reproduce, many variations are transmitted to offspring and thus will be preserved from generation to generation This is the principle of natural selection (or survival of the fittest, an expression used by Herbert Spencer) Darwin was influenced in developing the theory by the work of T R Malthus Among animals the choosing of mates (sexual selection) plays a part Darwin's evidence for the operation of evolution in shaping organisms rested on the infinite variety of forms of animals and plants, the recapitulation of past racial history in individual embryonic development, the existence of rudimentary organs (some of which are now called vestigial organs), geographical distribution, and evidence furnished by fossil forms In the late 19th and early 20th cent the Darwinian concept of slow continuous variation suffered attacks from supporters of the mutation theory As originally formulated by Darwin, the theory did not distinguish between the variations which were acquired characters or modifications not transmissible by heredity and genetic characters which are inherited With modifications made necessary by modern knowledge of heredity, Darwinism is almost universally accepted by scientists See also evolution See Geoffrey West, *Charles Darwin* (1937), Julian Huxley, ed, *Living Thoughts of Darwin* (1939), P B Sears, *Charles Darwin* (1950)

Daryal (dăryäl', Rus dăryal') or **Dariel** (dărēl'), defile, c 5,900 ft deep, Georgian SSR, in the central Greater Caucasus below Mt Kazbek It is noted for the wild grandeur of the granite precipices above the rapid Terek river The Georgian military road traverses the gorge, which has long been significant as an invasion route It probably is identical with the Caucasian or Iberian Gates known to the ancients The gorge has been celebrated in Lermontov's poem *The Demon*

Das, Chitta Ranjan (däs), 1870–1925, Indian politician, leader of the Swaraj [Sanskrit, =self-rule]

party in Bengal prov He split with Gandhi, who favored boycotting the provincial legislature, while Das's policy was to accept ministerial office only to obstruct British policy Das was (1924) the first popularly elected mayor of Calcutta See biography by P C Ray (1927)

Dasent, Sir George Webbe (dā'sunt), 1817–96, English scholar, b West Indies, educated at Oxford He stimulated English interest in Icelandic literature, notably in the translation *The Saga of Burnt Njal* (1861) He was knighted in 1876

dash: see PUNCTUATION

dasheen (dăshēn'), tropical plant, *Colocasia esculenta*, of the same genus as the elephant's ear, native to Asia but cultivated in the S United States It is a variety of TARO with an edible tuber somewhat resembling the potato

Daskam, Josephine Dodge see BACON, JOSEPHINE DODGE DASKAM

Dass, Petter (pĕ'tur dăs'), 1647–1707, Norwegian poet and clergyman Few of his writings were printed in his lifetime, they were circulated in manuscript or told from memory The still popular *Norway's Trumpet* was not published until 1739 In 1696 *The Norwegian Song of the Valley* appeared, followed by a collection of religious verse, *Spiritual Pastime* (1711) His collected works, with biography by A E Erichsen, were published in three volumes in 1874

date, name of a palm (*Phoenix dactylifera*) and its edible fruit Probably native to Arabia and North Africa, it has from early times been a principal food in many desert and tropical regions For some 4,000 years it has been grown near the Tigris and Euphrates rivers It is cultivated in many other warm regions including parts of the SW United States and Mexico The trees sometimes reach a height of 100 ft and yield fruit for generations Staminate (male) and pistillate (female) flowers are borne on separate trees, and pollination of those grown commercially is usually done by hand Heavy, pendent clusters of the sweet nutritious fruits are produced, the yield of fruit after maturity (10 to 15 years) being usually from 100 to 200 lb or more annually Each fruit is from 1 to 3 in long, reddish brown or yellowish brown, and somewhat cylindrical or oblong In the Old World a sugar and a fermented drink are made from the sap, and the seeds are sometimes roasted and used as a coffee substitute or pressed for oil, leaving a residue useful for stock feed, the wood of the trunk is often used in construction

date line, international, hypothetical line following the meridian of 180°, with divergence to include the Aleutian Islands with Alaska and some of the South Sea Islands with Australia The arbitrary line was adopted by mariners as the most convenient place for "changing dates" Going west, one day is lost, going east, one day is gained A change of the full day must occur somewhere, since 24 hours (one hour for every 15°) is gained or lost in making a complete circumnavigation of the globe

Dathan (dā'-), Levite who, with his brother Abiram and with KORAH, was consumed by fire from heaven Num 16 1–35, 26 8–10, Deut 11 6

Datia (dŭ'tēă), town (pop 22,086), Vindhya Pradesh, India Its extensive square palace (17th cent), one of the finest examples of Hindu domestic architecture in N India, is relieved by an octagonal tower at each corner and by stone latticework between its stories

dative (dā'-) [Latin, =for giving], in Latin grammar, CASE typically used to refer to a secondary recipient of an action For example, *him* in *I gave him a book* is translated in Latin by a dative case The Latin dative has also some other uses, and the cases called dative in other languages correspond in their grammatical function only in part to that of the Latin

Daubenton, Louis Jean Marie (lwē' zhā' marē' dōbătôⁿ'), 1716–1799?, French naturalist He was a professor at the Collège de France from 1778, his work touched on many fields—comparative anatomy, plant physiology, mineralogy, and experimental agriculture He is known especially for his work on the anatomy of mammals in Buffon's *Histoire naturelle* and is credited with introducing the Merino sheep into France He died during the night of Dec 31, 1799–Jan 1, 1800

D'Aubigné, Jean Henri Merle see MERLE D'AUBIGNÉ, JEAN HENRI

Daubigny, Charles François (shärl' fräswä' dōbēnyē'), 1817–78, French landscape painter, son of a minor painter He went to Italy early in life and later studied in Paris with Paul Delaroche Although usually classed with the Barbizon school, he never lived in Barbizon From 1838 he exhibited at the Salons, receiving several medals His last 30 years were spent largely in his houseboat on the Seine and the Oise, and he is best known for his pictures of the banks of those rivers He was particularly successful in his atmospheric depiction of dawn, twilight, and moonlight His later pictures are handled with great breadth He is well represented in the Louvre, the Mesdag Museum (The Hague), and the Metropolitan Museum Characteristic are his *Return of the Flock—Moonlight, Bords de l'Oise,* and *Moonlight* His son **Karl Pierre Daubigny** (pyĕr'), 1846–86, painted in his father's manner See studies (in French) by Frederic Henriet (1875) and Jean Laran (1912), D Croal Thomson, *The Barbizon School of Painters* (1890)

Daudet, Alphonse (älfôs' dōdā'), 1840–97, French writer, b. Nîmes (Provence) At 16, after his father had suffered financial loss, he was obliged to serve as study master (*maître d'études*) in a school at Cévennes With the help and encouragement of his older brother, he went to Paris, where he began his literary career with the publication of a small volume of poetry, *Les Amoureuses* (1857) His career was assured with the success of *Lettres de mon moulin* (1866), a group of delightful, Provence-inspired short stories *Le Petit Chose* (1868), a semi-autobiographical novel touchingly descriptive of his life at the boarding school and sometimes compared to Dickens's *David Copperfield,* was followed in rapid succession by *Tartarin de Tarascon* (1872), *Contes du lundi* (1873), *Fromont jeune et Risler aîné* (1874), *Jack* (1876), *Le Nabab* (1877), *Les Rois en exil* (1879), *Numa Roumestan* (1881), *L'Evangéliste* (1883), *Sapho* (1884), *La Belle Nivernaise* (1886), and *L'Immortel* (1888), as well as his autobiographic papers, *Trente Ans de Paris* (1888) and *Souvenirs d'un homme de lettres* (1888) He was at once objective and personal, and his works, permeated by an engaging sense of humor and a rather subtle irony, are drawn largely from his own experience Virtually all his works have been translated into English His brother, Louis Marie Ernst Daudet (1837–1921), was a historian Alphonse Daudet's wife, **Julia Allard Daudet** (zhulya' alär'), 1847–1940, was herself an author and a critic and served as his secretary His son was **Léon Daudet** (lāôⁿ'), 1867–1942, author, editor for some time of the *Action française,* and a member of the Goncourt Academy He was a bitter opponent of the Third Republic and of democracy in general, serving as deputy from 1919 to 1924, but failing to be elected senator in 1927 He wrote a biography of his father, but his most valuable work is probably *Souvenirs des milieux littéraires, politiques, artistiques et médicaux* (6 vols , 1914–21, Eng tr of selections, *Memoirs of Léon Daudet,* 1925)

Daugava see DVINA (Western Dvina)

Daugavpils (dou'gafpĕls), Ger *Dunaburg,* Rus *Dvinsk,* city (1935 pop 45,100), SE Latvia, in Latgale, a rail junction and market center on the Western Dvina It was founded (1278) by the Livonian Knights and became a strategic fortress Passing (1561) to the combined kingdom of Lithuania and Poland, it was ceded to Russia in the first partition of Poland (1772) Before 1914 there were c 115 000 inhabitants, but Daugavpils was largely destroyed in the fighting that raged here in the First World War and in the Russian Revolution

Daugherty, Harry Micajah (dô'ûrtē), 1860–1941, American political leader, b Fayette co , Ohio, grad Univ of Michigan, 1881 He became a successful corporation lawyer in Columbus, Ohio, and served (1890–94) in the state legislature He was a power in the Republican party of his state and was in charge of Warren G Harding's successful campaign for the presidential nomination in 1920 Daugherty, rewarded (1921) by Harding with the office of U S Attorney General, became the President's confidant and influenced his subsequent appointments He was charged with being implicated in the Teapot Dome scandal, and after President Calvin Coolidge forced (1924) his resignation, Daugherty was prosecuted (1927) for alleged conspiracy to defraud the U S government, but the case with dismissed after two juries failed to agree He wrote, with Thomas Dixon, *The Inside Story of the Harding Tragedy* (1932)

Daughters of the American Revolution, one of the leading patriotic societies in the United States, open to women having one or more ancestors who aided the patriot cause in the American Revolution The society was organized (1890) at Washington, D C , and has its national headquarters at the Memorial Continental Hall there Dissension in the organization in 1937 resulted in the formation of a new, more liberal group called Descendants of the American Revolution The refusal of the Daughters of the American Revolution to permit the use of Constitution Hall, its auditorium, to "nonwhite" entertainers brought much public condemnation and the resignation from the group of Eleanor Roosevelt in 1939 There is a similar, but unrelated, organization known as the Daughters of the Revolution The society has done much for the preservation and marking of historic places

Daulatabad (doulutubăd'), village, S Hyderabad state, India The 13th-century fortress is built on a conical rock c 500 ft high The Chand Minar (1294), a minaret of Turkish style, is one of the finest examples of Mohammedan art in S India.

Daumat, Jean: see DOMAT, JEAN

Daumier, Honoré (ônôrā' dōmyā'), 1808–79, French painter, cartoonist, and lithographer Son of a Marseilles glazier, he accompanied his family to Paris in 1816 There he was apprenticed, first to an attorney, then to a bookseller, but nevertheless found time to study under Lenoir and to learn lithography He early began to contribute cartoons to *Caricature* In 1832 he was imprisoned for six months for his political cartoon *Gargantua* After the suppression of *Caricature* his work appeared in *Charivari,* where he mercilessly ridiculed the bourgeois society of his day Relished as popular cartoons in his time, Daumier's lithographs, of which he produced almost 4,000, are now considered masterpieces of the art Despite an enormous production of lithographs and drawings, he found time to paint about 200 small canvases of power and dramatic beauty Among these are *Christ and His Disciples* (Rijks Mus), *Republic* (Louvre), *The Good Samaritan,* and *Don Quixote* and *The Third-Class Carriage* (both Metropolitan Mus.) Daumier's life was a constant struggle with poverty and misconprehension As a painter he was recognized a year before his death At that time he was a blind old man living in Valmondois in a cottage given him by the generous Corot See studies by M T Sadler (1925) and Ynez Ghirardelli (1941) For collections of prints, see *Married Life* (1944, 24 lithographs) and *Honoré Daumier,* with notes by Wilhelm Wartmann (1946, 240 lithographs)

Daun, Leopold Joseph Maria, Graf von (lā'ōpōlt yō'zĕf marē'ä grät' fûn doun'), 1705–66, Austrian field marshal In the War of the Austrian Succession he drove the French from Bohemia (1742) In the Seven Years War he defeated FREDERICK II of Prussia at Kolin (1757) and Hochkirch (1758), but was routed by Frederick at Torgau (1760)

Dauphin (dô'fĭn), town (pop 4,637), W Man , on the Vermilion river and NW of Winnipeg It is a milling and agricultural center

dauphin (dô'fĭn, Fr dōfĕ') [Fr , =dolphin], French title, borne first by the counts of Vienne and later by the eldest son of the king of France or, if the dauphin came to die before the king, by the dauphin's eldest son The origin of the title is somewhat obscure, it probably was the family name of the counts of Vienne, who adopted the dolphin as their heraldic device (12th cent). Their territory thus came to be called the dauphiné, or dauphinate of Vienne or simply the Dauphiné (see separate article) Another dauphinate, that of Auvergne, ruled by a branch of the house of Vienne, came into existence when Auvergne broke up in the 12th cent The title dauphin passed, with the Dauphiné, to the direct heirs of the French kings when (1349) Dauphin Humbert II of Vienne sold them—without consulting his suzerain, the emperor—to Philip VI of France After Louis XI the title was merely honorific Louis Antoine, duc d'Angoulême, was the last dauphin Louis, eldest son of Louis XIV, was known as the Great Dauphin, he was a competent military leader Louis XVII is known in America as the LOST DAUPHIN

Dauphiné (dōfēnā'), region and former province, SE France, bordering in the east on Italy It is now divided into three departments, Hautes-Alpes, Isère, and Drôme, In the east the Alps culminate in the BARRE DES ÉCRINS, their magnificent scenery attracts many tourists The lower districts are fertile and warm, with vineyards and mulberry shrubs (for silk worms) Some iron is mined, and water power is developed for industry Grenoble (the historical capital), Vienne, and Valence are the chief towns In the kingdom of Provence (879) and after 933 in that of ARLES, Dauphiné was nominally part of the Holy Roman Empire The rulers assumed the title dauphin (see separate article) In 1349 Dauphiné was sold by Dauphin Humbert II to Philip VI of France The imperial suzerainty was not recognized after Emperor Charles IV had made the dauphin (later Charles VI of France) imperial vicar in the kingdom of Arles (1378) Louis XI was the last dauphin actually to rule Dauphiné, which after his reign continued as a province, under the jurisdiction of the PARLEMENT of Grenoble

Daurat or **Dorat, Jean** (zhā' dōrä'), 1508?–1588, French classical scholar Among his pupils at the Collège de Coqueret at Paris (where he taught 1540–56) were the poets Ronsard, Du Bellay, Baïf, and Belleau, who included him in the PLÉIADE out of devotion Daurat was later professor at the Collège de France (1556–67)

Dauthendey, Max (maks' doutĕn'dī), 1867–1918, German poet and novelist He traveled over Europe and in the East During the First World War he was interned in Java, where he died His exotic, impressionistic, and somewhat extravagant verse appeared in many volumes, and he wrote a number of novels, stories, and plays, among the last *Caprices of an Empress* (1910, Eng tr , 1912) He was comparatively little known in his lifetime See H G Wendt, *Max Dauthendey, Poet-Philosopher* (1936)

Davao (dävou'), city (1948 pop 111,263), on SE Mindanao, capital of Davao prov , Philippine Islands, on Davao Gulf It is the center of a hemp-producing area and has an airfield

D'Avenant or **Davenant, Sir William** (dăv'unŭnt), 1606–68, English poet and playwright-manager His best-known comedy, *The Wits,* appeared in 1633, *The Temple of Love,* a masque for Queen Henrietta Maria, in 1634, and *Luminalia,* written with Inigo Jones, in 1638 In 1638 also he succeeded Ben Jonson as poet laureate For his services in the royalist cause he was knighted in 1643 by Charles I,

and imprisoned by the Commonwealth in 1651; his release was secured by John Milton and others. *Gondibert*, his epic poem, was published in 1651, and in 1656 Cromwell permitted him to produce *The Siege of Rhodes*, the first English opera (second part, 1659) Under Charles II, D'Avenant and KILLIGREW were granted (from 1601) exclusive rights to produce legitimate dramas D'Avenant managed the company known as the duke of York's players, in adapting and "improving" Shakspere for them he sometimes had the help of Dryden See biographies by Alfred Harbage (1935) and A H Nethercot (1938)

Davenport, Charles Benedict, 1866–1944, American zoologist, b Stamford, Conn As director (1904–34) of the experimental station of Carnegie Institution at Cold Spring Harbor, N Y , he conducted researches in eugenics and heredity Results of anthropometric studies of American troops, made with A G Love, were published (1919–21) He was associate editor of the *Journal of Experimental Zoology* (from 1898), *Genetics* (from 1916), and the *Journal of Physical Anthropology* (from 1918)

Davenport, Edward Loomis, 1816–77, American actor, b Boston He began his career at Providence, R I , in 1836, as Parson Willdo, when he supported Junius Brutus Booth in Massinger's *New Way to Pay Old Debts* In 1845 he became associated with Anna Mowatt Ritchie, and their tour to England (1848) had great success In 1856 he gave a memorable performance as Hamlet with Fanny Vining (an English actress whom he had married in 1849) as Ophelia In 1862 he joined James W Wallack at the Booth Theatre and culminated this association in 1876 with his appearance as Brutus in a production of *Julius Cæsar* Davenport had great charm and a versatility that enabled him to play roles from William in Jerrold's *Black-eyed Susan* to Edgar in Shakspere's *King Lear*, in which he made his last appearance (1877) See biography by E F Edgett (1901) His daughter, **Fanny Lily Davenport,** 1850–98, b London, appeared (1869–77) in Augustin Daly's company and had great success with roles in the plays of Sardou

Davenport, Eugene, 1856–1941, American agriculturalist and educator, b Woodland, Mich , grad Michigan Agricultural College He was dean (1895–1922) of the college of agriculture, Univ of Illinois His publications include *Principles of Breeding* (1907), *Domesticated Animals and Plants* (1910), *The Farm* (1927), and numerous experiment-station bulletins

Davenport, Fanny Lily see DAVENPORT, EDWARD LOOMIS

Davenport, George, 1783 1845, American Indian trader, b Lincolnshire, England He went to sea when a boy and at 21 quit sailing to settle in New York city He served for some years as a soldier, and after the War of 1812 he went to the West and entered the fur trade He and Russel Farnham became partners in an American Fur Company post on Rock Island, Ill , and had much influence in the settlement of that region After Farnham's death Davenport continued alone, living in a fine house he built (1833) on the island He was quartermaster general of the U S forces in the Black Hawk War, and his influence among the Indians made him invaluable in treaty making He and others in 1835 bought the land on the Iowa shore opposite Rock Island Here was laid out the town of Davenport, named in his honor

Davenport, Herbert Joseph, 1861–1931, American economist, b Wilmington, Vt , Ph D Univ of Chicago, 1898 He taught at the Univ of Missouri and at Cornell In *Value and Distribution* (1908) and *The Economics of Enterprise* (1913) he followed the principles of classical economics, attempting to purify them of nonscientific elements He made contributions to the theories of cost, interest, and taxation

Davenport, Homer Calvin, 1867–1912, American cartoonist, b Silverton, Oregon, self-taught He was for a while on the staff of the San Francisco *Examiner*, later, on the New York *Evening Journal*, he won international fame with his cartoons in the silver campaign of 1896, the Spanish-American War, and the McKinley campaign In Theodore Roosevelt's campaign of 1904 he produced, for the New York *Evening Mail*, the famous *He's Good Enough for Me* Among his most celebrated drawings are his representation of *Uncle Sam*, Senator Mark Hanna's $-marked suit of clothes, *The Boss* (Sam Rainey), and portrayals of the leading characters in the Dreyfus trial

Davenport, John, 1597–1670, Puritan clergyman, one of the founders of New Haven, Conn , b Coventry, England, educated at Merton and Magdalen colleges, Oxford Starting as a regular Church of England cleric, Davenport was largely influenced by John Cotton to turn more and more to nonconformity As pastor of an influential London parish he fostered the Puritan cause and in 1633 had to flee to Holland There he also got into theological troubles and, after returning to England, he and Theophilus EATON headed a party of Puritan colonists who sailed (1637) to New England In 1638 Davenport led the colonists to a spot chosen by Eaton, and New Haven colony was founded Davenport was minister in New Haven and a powerful figure in the colony until after he lost (1664) the bitter fight to prevent the union of New Haven colony and Connecticut He sheltered the regicides who had fled to New Haven In 1667 he accepted the call to the First Church in Boston, where new theological disputes caused many of his congregation to secede and form the Third or Old South Church

Davenport, 1 City (pop 66,039), co seat (since 1838) of Scott co , E Iowa It is on the Mississippi, here spanned by bridges to the Illinois cities ROCK ISLAND, MOLINE, and EAST MOLINE The four communities are known as the Quad Cities Industrial and commercial Davenport lies along the river, while the residential sections climb the limestone bluffs to the west Davenport is an important rail, commercial, and industrial center, shipping and processing farm produce, iron and steel, aluminum, cement, and other goods Flour, beer, and heavy machinery are made here The town was founded in 1836 by George Davenport on the site of an early trading post and was incorporated in 1839 It prospered with the arrival of the first railroad to bridge the Mississippi (1856) and had a heavy river traffic in the late 19th cent The government built a large roller-gate dam and locks here which raise the water level of the river The city is the seat of St Ambrose College, several denominational academies, Iowa Soldiers' Orphans' Home, the Palmer School of Chiropractic (developed by the son of D D PALMER), a municipal art gallery, a public museum (a function of the Davenport Academy of Natural Sciences), and several parks, including Credit Island, site (1814) of a battle in the War of 1812 Arthur Davison Ficke was born in Davenport, and Alice French lived here **2** Town (pop 1,337), co seat of Lincoln co , E Wash , W of Spokane, in a wheat area

Daventry (dăv'untrē, dān'-), municipal borough (pop 3,609), Northamptonshire, England, W of Northampton There was a large ancient Roman camp on Borough Hill, just east, now the site of the British Broadcasting Corp empire transmitter

Davey, John, 1846–1923, American tree surgeon, b England Among his writings are *The Tree Doctor* (1902) and *A New Era in Tree Growing* (1905)

David, Saint, d 588?, patron saint of Wales, first abbot of Menevia (SAINT DAVID'S) He apparently established a strict rule and was a zealous missionary, and his cult, popular in Wales from very early days, made the pilgrimage to his shrine important in the Middle Ages On his feast, March 1, the national Welsh festival is still celebrated An ancient form of his name is Dewi

David [Heb , =beloved], d c 972 B C , king of the ancient Hebrews (c 1012–c 972 B C), successor of SAUL His story is in several narratives in the Old Testament, with repetition and, according to critics, interpolations of later date Many of the most interesting and beautiful narratives in the Bible deal with the story of David, such as the fight of David and Goliath, the friendship of David and Jonathan, and the revolt of Absalom To him were ascribed many of the PSALMS David's reign seems to mark the change of the Jews from a somewhat rude confederation of tribes to a settled national state Indicative of this is the rise of Jerusalem, to which he moved his capital from Hebron, and he was largely responsible for making this city the eternal center of the Jews David is one of the greatest of Hebrew national heroes His descendants, the House of David, retained the kingdom at Jerusalem until 586 B C When the Messianic hope appeared in Israel, it centered in this house, and according to the Gospels, Jesus was of this royal seed 1 Sam 17 12–1 Kings 2 12, 1 Chron 11–29

David I, 1084–1153, king of Scotland (1124–53), son of Malcolm III and St Margaret of Scotland During the reign of his brother ALEXANDER I, whom he succeeded, David had been earl of Cumbria, ruling S of the Clyde and the Forth, and his marriage to Matilda, heiress of Northumbria, made him an important factor in English politics In the long struggle for the English crown between MATILDA (his niece) and STEPHEN, David fought for Matilda with no great success and in 1141 made peace with England His rule was wise and momentous for Scotland—the feudal organization was strengthened and reorganized, the burghs played a more important part in commerce, and the Church was improved by new sees, religious foundations, and provisions for their support He was succeeded by Malcolm IV, his grandson

David II (David Bruce), 1324–71, king of Scotland (1329–71), son and successor of ROBERT I David's guardians were not strong enough to prevent the invasion (1332) of Scotland by Edward III of England and Edward de BALIOL, who won the battle of Halidon Hill The young king had been sent to France and was sheltered in the Château Gaillard He returned in 1341 to rule In 1346 he invaded England to aid the French king and was captured and held prisoner until, in 1357, he was ransomed by the promise of 100,000 marks His nephew Robert II succeeded him

David, Félicien César (fālēsyē sāzăr' dăvĕd'), 1810–76, French composer His tone poem *Le Desert* (1844) and his opera *Lalla-Roukh* (1862) contain Oriental elements, presaging the exoticism of late 19th-century French romantic music.

David or Davit, Gerard (gā'rärt dă'vĕt), c 1450–1523, Flemish painter, one of the best of the Early Flemish school He painted *Baptism of Christ* (Bruges Acad), *Pietà* (National Gall , London), *Descent from the Cross* (Cavallo Coll , Paris), and the two magnificent altarpieces, *Madonna with Angels and Saints* (Rouen) and *The Marriage of St Catharine* (National Gall , London) David is well represented in America—*St Anne*, an altarpiece (National Gall of Art, Washington, D C), *The Crucifixion*, the *Madonna Feeding the Child*, and *Christ Taking Leave of His Mother* (Metropolitan Mus), and others See study by W H J Weale (1895), Eberhard von Bodenhausen, *Gerard David und seine Schule* (1905)

David, Jacques Louis (zhăk' lwē' dăvĕd'), 1748–1825, French painter He studied with Vien and, after winning the Prix de Rome, accompanied his master to Italy in 1775 His first important painting, *Blind Belisarius Asking Alms*, won him immediate recognition It was followed by his *Andromache* and *Oath of the Horatii* (Louvre), which secured his fame as the leading exponent of the classical reaction in painting He was admitted to the Académie royale de Peinture et de Sculpture in 1783 and became court painter to Louis XVI Despite these honors David was an ardent republican, in the Revolution elected to the Convention, he voted for the king's death and for the suppression of the Académie royale in France and the Académie de France à Rome In this period he painted *Assassination of Marat* (Brussels) Under Napoleon he became first painter to the emperor, painting *Coronation* (of Josephine), *The Distribution of the Eagles*, *Napoleon on Horseback* and a portrait of Pius VII Under the Restoration he spent his last years in Brussels, where he continued to paint and enjoyed an unfailing popularity Probably no French painter exercised, during his own lifetime, such a great influence on the whole art of Europe as David Today, however, his more ambitious compositions seem a little cold and lacking in color His striking portraits, to which he gave little importance, are much more congenial Among them are Mme Récamier (Louvre), Mlle du Val d'Ognes (Metropolitan Mus), Boissy d'Anglas, and Michel Gerard See studies (in French) by E J Délécluze (1855) and J L Jules David, a grandson (1880), and (in English) by Léon Rosenthal (1904)

David, John Baptist Mary (dā'vĭd), 1761–1841, French missionary in the United States, b Brittany He was educated at Nantes, joined the Sulpicians, and because of the French Revolution came to America First he worked in Maryland and taught in St Mary's Seminary, Baltimore In 1811 he crossed the mountains to Bardstown, Ky , where he continued his frontier missionary work At Bardstown he founded a seminary (St Thomas) and schools for boys and girls He also established a community of Sisters of Charity at Nazareth, Ky From 1819 he was bishop coadjutor of Bardstown, on succeeding as bishop (1832) he resigned immediately Bishop David's devotional works were popular for a generation, notably *True Piety* (1814), a catechism (1825), and *A Spiritual Retreat for Eight Days* (1864) See biography by Sister Columba Fox (1925)

David, Pierre Jean see DAVID D'ANGERS

David, Sir Tannatt William Edgeworth (dā'vĭd), 1858–1934, British geologist He was professor of geology (1891–1924) at the Univ of Sydney, New South Wales He led an expedition (1897) to Funafuti (one of the Ellice Islands), where borings were made through the coral in an attempt to determine the origin of atolls As geologist for the Shackleton antarctic expedition, he led the expedition which first reached the south magnetic pole, Jan 16, 1909 He was geologist to the British armies on the Western Front in 1918 19 David wrote part of Shackleton's *Heart of the Antarctic* and many papers dealing with Australian geology and prepared a notable geological map of Australia See biography by M E David (1937)

David (dăvēd'), town (pop 9,222), W Panama Cattle raising is the principal occupation in the region, but maize, sugar cane, and coconuts are also produced David is connected with Panama city by the Inter-American Highway

David City (dā'vĭd), city (pop 2,272), co seat of Butler co , E Nebr , S of the Platte, in a prairie region W of Omaha, inc 1878 It is a farm commercial center

David d'Angers (dăvēd' dāzhā') or **Pierre Jean David** (pyĕr' zhă'), 1788–1856, French sculptor His works are numerous and present national figures in statues, busts, reliefs, and medallions The pediment of the Panthéon in Paris shows a group of distinguished Frenchmen receiving wreaths from the hand of France Other representative works are statues of the Great Condé (Versailles), of Philopoemen (Louvre), and of Jefferson and Lafayette (Washington, D C.) The Musée David,

at his birthplace, Angers, has a fine collection of his sculptures

David Harum see WESTCOTT, EDWARD NOYES

Davids, Thomas William Rhys (rēs), 1843–1922, English Orientalist He went (1866) as a civil servant to Ceylon, where he became interested in Buddhism. Rhys Davids became a leading authority on that religion and on the Pali language Besides writing many works on Buddhism, including *Buddhism* (1878) and *Buddhism Its History and Literature* (1896), he translated many Pali texts His wife assisted him in this work and was also an authority on the subject

Davidson, George, 1825–1911, American geographer and astronomer, b England Becoming (1845) secretary to Alexander Bache, superintendent of the U S Coast and Geodetic Survey, he remained on the staff of the Survey until 1895 In 1850 he was sent to take charge of the charting of the Pacific coast for navigation purposes The results of his 10 years' work were embodied in the *Pacific Coast Pilot* From 1860 to 1866 Davidson was in the East surveying the Delaware river and mapping the district around Philadelphia for fortifications In 1867 he made a reconnaissance survey of the Isthmus of Darien to determine its suitability for a canal and in the same year was sent to Alaska to report upon its resources His survey of the Alaskan coast resulted in the publication by the government of the *Coast Pilot of Alaska* (1869 and later editions) From 1867 to 1887 he had charge of the Survey's work on the Pacific, and he planned all expeditions He measured the great base lines known as the Davidson quadrilaterals, upon which the primary triangulation of the Pacific coast states is based, and inaugurated reconnaissance surveys of the Sierra Nevada and Coast ranges In 1879 he built in San Francisco the first observatory on the Pacific coast He headed the American expedition to Japan in 1874 to observe the transit of Venus and that to New Mexico in 1882 for the same purpose, he also made observations of the transit of Mercury and total solar eclipses He published catalogues of star positions and made valuable studies on meteors, on latitude pairs, and on the advantages of altitude in astronomical observation As a member of the Irrigation Commission of California he studied irrigation in the Orient and Egypt He wrote *The Discovery of San Francisco Bay* (1907), *Francis Drake on the Northwest Coast* (1908), and *The Tracks and Landfalls of Bering and Chirikof* (1901)

Davidson, Jo, 1883–, American sculptor, b New York city, studied at the Art Students League and the École des Beaux-Arts, Paris He is known especially for his portrait busts, among them one of Woodrow Wilson, Anatole France (Luxembourg, Paris), Franklin D Roosevelt, and Robert M La-Follette (Capitol, Washington, D C)

Davidson, John, 1857–1909, British poet After teaching in Scotland and writing unsuccessfully, he went to London There, during his struggles with poverty and illness, he wrote *Fleet Street Eclogues* (1893, Ser 2, 1896), *Ballads and Songs* (1894), *New Ballads* (1897), literary dramas, and novels His work won recognition, but little money He committed suicide in 1909

Davidson, Randall Thomas, 1st **Baron,** 1848–1930, archbishop of Canterbury (1903–28) He edited *Five Lambeth Conferences, 1867, 1878, 1888, 1897, and 1908* (1920) As archbishop, he used his influence toward extending Christian unity See biography by G K A Bell (2 vols, 1936)

Davidson, Thomas, 1840–1900, American scholar and philosopher, b Scotland, grad Univ of Aberdeen, 1860 In 1866 he came to Canada and then to the United States On a visit to London in 1883 he founded the Fellowship of the New Life, out of which the Fabian Society developed, and later established a summer school at his home in the Adirondacks as well as lecture classes for workers in New York city He acted as tutor, traveled extensively in Europe, and wrote several books on philosophy and education, including *The Philosophical System of Antonio Rosmini-Serbati* (1882), *Aristotle and Ancient Educational Ideals* (1892), and *History of Education* (1900) See *Memorials of Thomas Davidson* (ed by W A Knight, 1907), William James, *Memories and Studies* (1911)

Davidson, town (pop 1,550), W central N C, N of Charlotte The town has cotton and lumber mills It is the seat of Davidson College (Presbyterian, for men, 1837)

Davie, William Richardson, 1756–1820, American Revolutionary soldier and statesman, b Egremont, Cumberland, England, grad College of New Jersey (now Princeton), 1776 In the American Revolution he served under Casimir Pulaski and later took an active part in the Carolina campaign, becoming Gen Nathanael Greene's commissary general After the war he practiced law in Halifax, N C, served in the state legislature (1786–98), and drew up the act for establishment of the Univ of North Carolina (1789) Davie was governor of North Carolina (1798–99) and one of the peace commissioners John Adams sent (1799) to France after the XYZ Affair

Davies, Arthur Bowen (dā'vēs), 1862–1928, American painter and lithographer, b Utica, N.Y., studied at the Art Institute of Chicago and the Art Students League, New York. He worked as a magazine illustrator for a few years, then succeeded in interesting William Macbeth, the art dealer, in his paintings. In 1893 he traveled in Europe and exhibited successfully on his return Always an imaginative and romantic artist, Davies more and more devoted himself to symbolic pictures of the female nude in idyllic landscapes A president of the Society of Independent Artists, he was largely responsible for the famous Armory Show of 1913, to which he gave a year of hard work and invaluable discrimination He was also a member of The EIGHT For a period Davies's work showed the influence of cubism, but its spirit remained unchanged As a colorist he had subtlety and charm, and his compositions are classical in their graceful simplicity Characteristic are his *Maya, Mirror of Illusions* (Art Inst, Chicago) and *The Dawning* and *Every Saturday* (both Brooklyn Mus) His oils are in most leading American galleries Perhaps less known, but equally important, are his lithographs and water colors Davies also worked as a mural painter and tapestry designer See study by Royal Cortissoz (1931)

Davies, Emily (Sarah Emily Davies) (dā'vĭs), 1830–1921, English feminist, founder of Girton College, Cambridge From 1862 to 1869 she was secretary of a committee to obtain admission of women to university examinations and succeeded (1865) in obtaining at Cambridge such admissions to senior and junior local examinations In 1869 she was instrumental in organizing a woman's college at Hitchin, Hertford, which in 1873 was transferred to Cambridge and became Girton College She was honorary secretary of the college (1869–1904) and mistress (1873–75) From 1866 she was closely associated with the English woman-suffrage movement and was active in organizing the first woman-suffrage petition presented to Parliament by John Stuart Mill in 1866 She wrote *Thoughts on Some Questions Relating to Women* (1860) and *Higher Education of Women* (1866) See Barbara Stephens, *Emily Davies and Girton College* (1927)

Davies, Henry Walford see DAVIES, SIR WALFORD.

Davies, Hubert Henry (dā'vĭs), 1876–1917, English dramatist He was a journalist in San Francisco After his return to England in 1901, he wrote several delightful comedies, of which *Cousin Kate* (1903) and *The Mollusc* (1907) were popular in the United States as well as in England

Davies, John (dā'vĭs), 1565?–1618, English poet of Hereford, a writing master *The Scourge of Folly* (1610?), epigrams, is his most famous work, but his serious poetry is in the moralizing *Mirum in Modum* (1602), *Microcosmus* (1603), and similar works

Davies, Sir John (dā'vĭs), 1569–1626, English poet He studied law, was disbarred and reinstated, and in 1603 was appointed solicitor general for Ireland and was knighted by James I His principal work is *Nosce Teipsum* (1599), a philosophical poem Others include *Orchestra, or, A Poeme on Dauncing* (1596) and *Hymns to Astraea* (1599), acrostics on the name Elizabeth Regina

Davies, Joseph Edward (dā'vēs), 1876–, American diplomat, b Watertown, Wis, grad Univ of Wisconsin (B A, 1898, LL B, 1901) Chairman (1915–16) of the Federal Trade Commission, he acted (1919) as Wilson's economic adviser at the Paris Peace Conference He served as ambassador to the USSR (1937–38), ambassador to Belgium (1938–40), and special assistant (1940) to Secretary of State Cordell Hull He was (1942–46) chairman of the President's War Relief Control Board. In 1945 he attended the Potsdam Conference His book, *Mission to Moscow* (1945), gives a glowing picture of the USSR

Davies, Sir Louis Henry (dā'vĭs), 1845–1924, Canadian jurist, b Charlottetown, P E I, studied law in England After serving (1876–79) as prime minister of Prince Edward Island, he was elected (1882) as a Liberal to the Canadian House of Commons, in Laurier's administration he was minister of marine and fisheries (1896–1901) Appointed (1901) a judge of the Supreme Court of Canada, Davies became chief justice in 1918 He was knighted in 1897

Davies, Samuel (dā'vēs), 1723–61, American Presbyterian clergyman, b New Castle co, Del., attended Samuel Blair's school at Fagg's Manor, Pa In 1748 he went to Hanover co, Va There he was soon the center of a revival which became part of the movement known as the GREAT AWAKENING He went with Gilbert TENNENT to England and Scotland in 1753 to raise funds for the support of the College of New Jersey (now Princeton Univ.) and was its president from 1759 to 1761

Davies, Sir Walford (Henry Walford Davies) (dā'vĭs), 1869–1941, English organist, choirmaster, and composer, studied (1890–94) at the Royal College of Music As a boy he sang in the choir of St George's Chapel, Windsor, where he was assistant organist (1885–90) to his teacher, Sir Walter Parratt He served Temple Church, London, as organist and choirmaster (1898–1923), was director of music for the Royal Air Force (1918–19), and was professor of music (1919–26) at the University College of Wales in Aberystwyth. He became known as a composer with the performance of his cantata *Everyman* at the Leeds Festival in 1904 He wrote church music in a conservative style, cantatas, including *Five Sayings of Jesus* (Worcester Festival, 1911), orchestral music; and songs His influence on English church music was great He edited several songbooks and hymnals and wrote *Music and Worship* (with Harvey Grace, 1935) and *The Pursuit of Music* (1936) Knighted in 1922, in 1934 he succeeded Elgar as Master of the King's Musick

Davies, William Henry (dā'vĭs), 1871–1940, English poet, b Wales Leaving school early, Davies lived for some years as a peddler and a beggar in America and England His first attempt at poetry, *The Soul's Destroyer* (1905), printed at his own expense, won the favorable attention of G B Shaw Thereafter Davies's success was assured *The Autobiography of a Super-Tramp* (1908) describes his vagabond life Davies was a prolific poet, his favorite themes were nature and the trials of the poor At his best he has been compared with Blake and Wordsworth Of his individual poems, "Days Are Too Short," "Treasures," "Sheep," and "Leisure" have proved very popular Collections of Davies's poems were published in 1916, 1923, 1928, and 1935, *Songs of Joy and Others*, a selection of favorite poems, appeared in 1937

Dávila, Gil González see GONZALEZ DE ÁVILA, GIL

Dávila, Pedrarias see ARIAS DE ÁVILA, PEDRO

Da Vinci, Leonardo see LEONARDO DA VINCI

Davis, Alexander Jackson, 1803–92, American architect, b New York city He was the partner of Ithiel Town of New Haven, with whom he designed many important buildings, including the New York Customs House (1832), now the Subtreasury, the Patent Office at Washington, D C (1832), and the state capitols of Indiana (1832–35), North Carolina (1831, in association with David Paton), Illinois (1837), and Ohio (1839) The most prolific practitioner of his time, Davis was notably successful in his Greek revival style, he also anticipated, in a New York shop front designed in 1835, the architectural use of iron He was a founder of the American Institute of Architects in 1837 See R H Newton, *Town and Davis, Architects* (1942)

Davis, Andrew Jackson, 1826–1910, American spiritualist A predecessor of the wave of spiritualism in the 19th cent, he did much to establish the terms and principles of the movement by his many works on "Harmonial philosophy" He is said to have performed astonishing intellectual feats when in a state of trance

Davis, Arthur Powell, 1861–1933, American civil engineer, b Decatur, Ill, grad Columbian Univ, now George Washington Univ (B S, 1888) He was topographer with the U S Geological Survey (1884–94), was hydrographer for the government (1895–1901), and served with the Reclamation Service as chief engineer (1906–14) and as director (1914–23) He served on many important irrigation and water-supply projects—in Turkistan, in Panama, and in the San Francisco Bay area—and wrote several books on hydrographic subjects

Davis, Benjamin Oliver, 1877–, American general, b Washington, D C After study (1897–98) at Howard Univ, Davis became a lieutenant in the Spanish-American War, enlisted (1899) in the regular army as a private, and rose through years of service to become (1940) the first Negro general in the U S army He retired briefly from the army in 1941 but returned to duty as inspector general (1945–48)

Davis, Charles Harold, 1856–1933, American landscape painter, b Amesbury, Mass, studied in Boston and Paris Among his paintings are *Evening* and *August* (both Metropolitan Mus), *Twilight* (Art Inst, Chicago), *The Brook* (Pa Acad of the Fine Arts), *Deepening* Shadows (Corcoran Gall), *Landscape* (Mus of Fine Arts, Boston), and *Late Afternoon* (Union League Club, New York) Other works are in the St Louis, Syracuse, Minneapolis, and Worcester art galleries and in the Rhode Island School of Design, Providence He became a member of the National Academy in 1906

Davis, Charles Henry, 1807–77, American naval officer and scientist, b Boston Educated at Harvard, he was appointed a midshipman in 1823 Davis directed operations of the Coast Survey for a time along the New England coast He established the *American Ephemeris and Nautical Almanac* in 1849 and published several hydrographic studies While commanding the *St Mary's* in the Pacific, Davis, on his own responsibility, rescued (1857) the American filibuster William WALKER, besieged in Rivas, Nicaragua. In the Civil War he was fleet captain and chief of staff to S F Du Pont in the successful expedition (Nov, 1861) against Port Royal, S.C. On May 9, 1862, he replaced A H. Foote in command of the Upper Mississippi flotilla of gunboats The next day he repulsed the attack of a Confederate fleet near Fort Pillow, and on June 6 he annihilated the Confederate fleet before Memphis, taking the city the same day. He then joined Farragut in an unsuccessful attempt to take Vicksburg. Davis was chief (1862–65) of the

Bureau of Navigation and superintendent (1865–67, 1874–77) of the Naval Observatory. For his victories at Fort Pillow and Memphis he was promoted rear admiral in Feb, 1863 See biography by his son Charles H Davis (1899)

Davis, Charles Henry, 1845–1921, American naval officer, b Cambridge, Mass, grad Annapolis, 1864, son of Charles Henry Davis (1807–77). He rose to the rank of rear admiral by 1904 He led expeditions to determine exact longitude telegraphically by use of submarine cable and wrote reports published in three volumes (1880–85).

Davis, David, 1815–86, American jurist, b Cecil co, Md, grad Kenyon College, 1832, and Yale Law School, 1835; cousin of Henry Winter Davis In 1836 he settled as a lawyer in Bloomington, Ill, his home thereafter From 1848 to 1862 Davis presided over the eighth judicial circuit in Illinois, famous because Abraham Lincoln practiced in its courts An intimate of Lincoln (the corpulent Davis and the tall, spare Lincoln often bunked together in traveling the circuit), he successfully managed his friend's campaign to secure the Republican nomination for the presidency at Chicago in 1860 Davis and Leonard Swett, another lawyer from the eighth circuit active in Lincoln's cause, made several political deals without Lincoln's knowledge (notably one with Simon Cameron of Pennsylvania) which their man was reluctantly forced to accept Lincoln appointed (1862) Davis himself to the U S Supreme Court Not especially learned in the law, he nevertheless wrote one of the most important opinions in the history of the court in *Ex parte Milligan* (1866) The decision, denouncing arbitrary military power, became famous as one of the bulwarks of civil liberty in the United States Davis, who did not allow his judicial position to interfere with his political ambitions, was nominated for President by the Labor Reform Convention at Columbus, Ohio, in 1872, but withdrew when he failed to win the nomination of the LIBERAL REPUBLICAN PARTY as well In 1877 he resigned from the court to become U S Senator from Illinois (1877–83), thereby winning the abuse of previously friendly Democrats, who had expected him to serve (and decide for Samuel J Tilden) on the electoral commission of 1877 A man of great wealth, accumulated in real estate, he gradually came around to be a consistent supporter of the Republican administrations

Davis, Dwight Filley, 1879–1945, American sportsman and public official, b St Louis, grad Harvard, 1900, and Washington Univ law school An outstanding tennis player, Davis donated in 1900 a cup as an international tennis trophy, this donation brought about the annual Davis Cup matches He held several public offices in St Louis, and after service (1917–18) in the First World War, he was director of the War Finance Corporation (1921–23), Assistant Secretary of War (1923–25), and Secretary of War (1925 29) He succeeded Henry L Stimson as governor general (1929–32) of the Philippines In the Second World War, Davis was (June Nov, 1942) director of the Army Specialist Corps

Davis, Elmer (Elmer Holmes Davis), 1890–, American author, radio commentator, director (1942–45) of the Office of War Information, b Aurora, Ind, grad Franklin College (B A, 1910, M A, 1911) A Rhodes scholar (1912–14) at Oxford, he was for 10 years (1914–24) on the staff of the New York *Times* and later became a popular radio news analyst When he was head of the OWI his delay in releasing foreign news caused controversy and criticism His work includes *History of the New York Times* (1921), several novels, short stories, and two volumes of essays—*Show Window* (1927) and *Not to Mention the War* (1940)

Davis, George Breckenridge, 1847–1914, American army officer and jurist, b Ware, Mass, grad West Point, 1871 His early military service was divided between duty on the Western frontier and teaching at West Point He wrote *Outlines of International Law* (1887) Davis joined the judge advocate general's department in 1888 and in 1891 was graduated from the Columbian Univ (now George Washington Univ) law school He became judge advocate general in 1901 He edited *The War of the Rebellion Official Records of the Union and Confederate Armies* (see bibliography of CIVIL WAR) In 1896 he returned to West Point and taught law and history until 1901 He was an American delegate (1907) to the Second Hague Conference Other books include *The Elements of Law* (1897) and *A Treatise on the Military Law of the United States* (1898). He retired as major general in 1911

Davis, Henry Gassaway, 1823–1916, American industrialist and public official, b Woodstock, Md Employed by the Baltimore & Ohio RR after 1842 as a brakeman and conductor, Davis left the railroad (1858) to develop timber and coal interests in West Virginia His speculations brought him great wealth, and he later projected and organized the West Virginia Central and Pittsburgh RR (1880) and the Coal and Coke RR (1893) He became president of the Davis Coal and Coke Company and several other corporations Davis was (1865, 1868–71) a member of the state legislature and served (1871–83) in the U S Senate. He was a delegate to the first two Pan American Congresses (1889–90, 1901-2), and in 1904 he was the Democratic nominee for Vice President on the unsuccessful ticket headed by Alton B Parker He helped found (1903) Davis and Elkins College See biography by C M Pepper (1920)

Davis, Henry Winter, 1817–65, American political leader, b Annapolis, Md, grad Kenyon College, 1837 After practicing law in Virginia, he moved (1849) to Baltimore He was elected (1854) to the House of Representatives on the Know-Nothing ticket and was twice reelected (1856, 1858) with the aid of the Republican party He tried to remain neutral on the slavery issue, but in 1860 cast the vote for a Republican as speaker which enabled the Republicans to organize the House His action was censured by the Maryland legislature, and he was not reelected Davis became the leader of the anti-secession forces in Maryland in opposition to Governor Hicks whose sympathies were Southern Again (1863–65) in Congress, he bitterly attacked Lincoln's gradual assumption of extraconstitutional powers and opposed his Reconstruction program Davis substituted for Lincoln's measures a much more thorough and radical plan of his own and succeeded in forcing it through both House and Senate, only to see it killed by Lincoln's pocket veto (1864) Davis made an angry attack on the President's plan and actions When Davis was defeated, Thaddeus STEVENS took up the fight on the Reconstruction issue Davis was a magnetic speaker, and at his death was, as a private citizen, practically dictating the actions of the radical Republicans in Congress See biography by B C Steiner (1916)

Davis, James John, 1873–1947, American public official, b Wales After migrating (1881) to the United States, he took odd jobs to aid the family income He worked as a puddler in ironworks in Pennsylvania and, removing to Elwood, Ind, became active in local politics and labor activities After 1907 he became well known as director general of the Loyal Order of Moose He was appointed (1921) Secretary of Labor by President Warren G Harding, remained at that post until 1930, and served (1930–45) in the U S Senate See his autobiography, *The Iron Puddler* (1922)

Davis, Jefferson, 1808–89, American statesman, President of the Southern CONFEDERACY (1861–65), b Fairview, near Elkton, Ky His birthday was June 3 His parents moved to Mississippi when he was a boy He was given a classical education at Transylvania Univ, but was appointed to West Point, where he was graduated in 1828 For the next seven years he was in various army posts in the Old Northwest and took part (1832) in the Black Hawk War He married the daughter of Zachary TAYLOR but she died three months later Davis spent the next 10 years in the comparative quiet of a Mississippi planter's life In 1845 he married Varina Howell Elected (1845) to the House of Representatives, he resigned in June, 1846, to command a Mississippi regiment in the Mexican War Under Zachary Taylor he distinguished himself both at the siege of Monterrey and at Buena Vista Davis was appointed (1847) U S Senator from Mississippi to fill an unexpired term, but resigned in 1851 to run for governor of Mississippi against his senatorial colleague, Henry S FOOTE, who was a Unionist Davis was a strong champion of Southern rights and argued for the expansion of slave territory and economic development of the South to counterbalance the power of the North He lost the election by less than 1,000 votes and retired to his plantation until appointed (1853) Secretary of War by Franklin Pierce Throughout the administration, he used his power to oppose the views of his Northern Democratic colleague, Secretary of State William L Marcy Davis favored the acquisition of Cuba and opposed concessions to Spain in the BLACK WARRIOR and OSTEND MANIFESTO difficulties, and he also promoted a southern route for a transcontinental railroad, therefore favoring the GADSDEN PURCHASE He reentered (1857) the Senate and remained there until the Civil War was threatening, then withdrew (Jan, 1861) because Mississippi had seceded He was immediately appointed major general of the Mississippi militia, and shortly afterward he was, as compromise candidate, chosen president of the Confederate provisional government established by the convention at Montgomery, Ala, and inaugurated in Feb, 1861 Elected regular President of the Confederate States, he was inaugurated at Richmond, Va, in Feb, 1862 As the Civil War progressed, the Confederate government required increasing centralization, and Davis assumed more and more power He closely managed the army and was involved in disagreements with the Confederate generals, arguments as to his policies raged long after the Confederacy was dead His strong central rule conflicted with the states' rights policy for which the Southern states had seceded, and many of the Southern leaders combined into an anti-Davis party, charging the President with having assumed too arbitrary a role Lee surrendered without Davis's approval. After the last Confederate cabinet meeting was held (April, 1865) at Charlotte, N C, Davis was captured at Irwinville, Ga He was confined in Fortress Monroe for two years and was released (May, 1867) on bail The Federal government proceeded no further in his prosecution Davis lived 22 years after his release and wrote an apologia, *The Rise and Fall of the Confederacy* (1881) He was buried at New Orleans, but his body was moved (1893) to Richmond, Va See biographies by W E Dodd (1907), H J Eckenrode (1923), Allen Tate (1929), and Robert McElroy (1937), B J Hendrick, *Statesmen of the Lost Cause* (1939), Rembert W Patrick, *Jefferson Davis and His Cabinet* (1944)

Davis or **Davys, John,** *c.*1550–1605, British navigator He made his first voyage in search of the NORTHWEST PASSAGE in 1585, continuing the work of Martin FROBISHER On this voyage he discovered Cumberland Sound of Baffin Island and made explorations that prepared the way for his later voyages in 1586 and 1587 On the third he sailed through Davis Strait into Baffin Bay and coasted down Baffin Island and across the east end of Hudson Strait to discover and name Cape Chidley on N Labrador He clarified much of the geography of that arctic region In 1591 Davis sailed S for the Straits of Magellan, and in 1592 he discovered the Falkland Islands He later made voyages to the East Indies and lost his life in a fight with Japanese pirates A type of quadrant he invented was used for more than a century, and he wrote a manual, *The Seaman's Secrets* (1599) See Sir Albert Markham, ed, *The Voyages and Works of John Davis* (1880), biography by Sir Clements Markham (1889)

Davis, John William, 1873–, American lawyer and public official, b Clarksburg, W Va, grad Washington and Lee Univ (B A, 1892, LL B, 1895) Admitted (1895) to the bar, he taught (1896–97) at Washington and Lee Univ and later practiced (1897–1913) in Clarksburg He served as Congressman (1911–13), U S Solicitor General (1913–18), and ambassador to Great Britain (1918-21) After 1921 he practiced law in New York city He was nominated for President in 1924 on the 103d ballot, when, after a two-week deadlock at the Democratic convention, the forces of Alfred E Smith and James McAdoo agreed to compromise on a third candidate Hampered by his legal affiliation with large corporations, Davis won only 136 electoral votes and 8,386,500 popular votes, even though he carried the South His speeches are collected in *Treaty-making Power in the United States* (1920) and *Party Government in the United States* (1929) See biography by T A Huntley (1924)

Davis, Nathan Smith, 1817–1904, American physician, b Greene, N Y, grad College of Physicians and Surgeons, Fairfield, N Y, 1837 He taught (1849–59) at Rush Medical College, was a founder and faculty member of Chicago Medical College (1859, later a part of Northwestern Univ), and was a founder of the American Medical Association

Davis, Norman Hezekiah, 1878–1944, American banker and diplomat, b Bedford co, Tenn After study (1897–1900) at Vanderbilt and Stanford universities, he was successful in Cuban sugar business and emerged as a banker In the First World War he became U S finance commissioner in Europe and a member of the Supreme Economic Council, then was financial adviser to President Wilson at the Paris Peace Conference After serving as Assistant Secretary of Treasury (1919–20) and as Undersecretary of State (1920–21) under Wilson, he was chief of the American delegation to the disarmament conference in Geneva President Roosevelt elevated (1933) him to the rank of ambassador at large and appointed (1938) him chairman of the American Red Cross

Davis, Paulina (Kellogg) Wright, 1813–76, American lecturer and editor, b Bloomfield, N Y She was active in the early antislavery and woman's rights movements She married, first, Francis Wright of Utica, N Y, and, second, Thomas Davis, member of Congress from Rhode Island She lectured to women on anatomy and physiology, using French anatomical models In Washington, D C, she founded (1853) *Una*, the first woman-suffrage periodical

Davis, Rebecca Harding, 1831–1910, American novelist, b Washington, Pa Her realistic stories were first published (1861) by James Russell Lowell in the *Atlantic Monthly*, and *Margaret Howth* (1862), a tale of life in a mill town, was the first of her several novels dealing with the effects of social problems on individuals Richard Harding Davis was one of her sons See her autobiographical *Bits of Gossip* (1904)

Davis, Richard Harding, 1864–1916, American novelist, playwright, and journalist, most famous war correspondent of his day, b Philadelphia, son of Rebecca Harding Davis He attended Lehigh and Johns Hopkins universities. He became a reporter at 22 in Philadelphia and later was on the New York *Evening Sun* Publication of "Gallegher" in *Scribner's* in 1890 made him famous as a short-story writer A handsome, dashing, and generous man, he became a world traveler and reporter, a person-

ally adventurous war correspondent who covered all the wars of his day—Greco-Turkish, Spanish-American, Boer, Russo-Japanese, and the German invasion of Belgium Davis's romances (mostly long short stories) include *Soldiers of Fortune* (1897), written about his trip to Venezuela, *In the Fog* (1901), *Ransom's Folly* (1902), and *The Bar Sinister* (1903) Among his most popular plays were *The Dictator* (1904) and *Miss Civilization* (1905) See his *Adventures and Letters* (ed by his brother, C B Davis, 1917), bibliography by H C Quinby (1924), biographies by F D Downey (1933) and (for juveniles) L S Miner (1940)

Davis, Robert Hobart (Bob Davis), 1869–1942, American editor and columnist, b Brownsville, Nebr , educated in the public schools After working on papers in the East and West, he became managing editor of the New York *News* in 1904 Joining the staff of the Frank A Munsey Company, he started as well as edited the *All-Story Magazine*, and during his 22 years' association with Munsey magazines, he discovered many young unknown authors, including O Henry Among his works are *Bob Davis Recalls* (1927), *The Caliph of Bagdad* (with A B Maurice, 1931), a biography of O Henry, and *Tree Toad the Autobiography of a Small Boy* (1935) His column, "Bob Davis Reveals," became a noteworthy feature of the New York *Evening Sun*

Davis, Stuart, 1894–, American painter, illustrator, and lithographer, b Philadelphia, studied with Henri At 19 he exhibited in the famous Armory Show of 1913 (see AMERICAN ART) His paintings are consistently abstract and have enjoyed wide popularity owing perhaps to their vigorous and expressive qualities, meticulous execution, and lively color His murals in Rockefeller Center and the WNYC broadcasting station, New York, and at Indiana Univ are well known, and his smaller works are in galleries throughout the United States

Davis, William Morris, 1850–1934, American geographer, b Philadelphia, grad Harvard (B S , 1869, M E , 1870) He taught at Harvard from 1878 until his retirement as professor emeritus in 1912 From 1930 until his death he was professor of physiographic geology at the California Institute of Technology. His investigations carried him to South America, central Asia, Australia, Africa, and all parts of North America He was an eminent authority on land forms and did much to advance the science of physiography Most of his important work is in geographical journals to which he was a prolific contributor *Geographical Essays* (1909) is a collection by D W Johnson of some of these articles His books include *Physical Geography* (1898), the *Handbook of Travel* (1917) of the Harvard Traveller's Club, which he founded, *The Lesser Antilles* (1926), and *The Coral Reef Problem* (1928)

Davis. 1 City (1940 pop 1,672, 1946 special census pop 2,421), central Calif , W of Sacramento in the fertile Sacramento valley, inc 1917 A branch of the Univ of California College of Agriculture is here **2** Town (pop 1,698), S Okla , on the Washita river and in the foothills of the Arbuckle Mts , settled 1889 **3** Coal town (pop 1,454), N W Va , inc 1889 Its altitude is 3,101 ft , the highest of any community in the state

Davis, Mount, peak, 3,213 ft high, SW Pa , in the Alleghenies near the Md border, highest point in Pennsylvania

Davis and Elkins College see ELKINS, W Va

Davis Mountains, W Texas, mostly in Jeff Davis co , SE of El Paso They rise to 8,382 ft in Mt Livermore, also called Baldy Peak and Old Baldy Bare rocky summits, forest-crowned mountains, great springs, and deep canyons attract summer visitors There are two state parks

Davison, city (pop 1,397), S Mich , E of Flint, in a farm area, settled 1836, inc as a village 1889, as a city 1939 Rosemoor Park has a race track

Davisson, Clinton Joseph, 1881–, American physicist, b Bloomington, Ill He became a member of the technical staff of the Bell Telephone Laboratories in 1925 He worked on thermionics, magnetism, and electron diffraction His demonstrations with L H Germer in 1927 confirmed Louis de Broglie's theory of the wave nature of moving electrons by means of diffraction by crystals For this he shared with G P THOMSON the 1937 Nobel PRIZE IN PHYSICS

Davis Strait, between Greenland and Baffin Island, connecting the Atlantic Ocean and Baffin Sea It is c.200 mi wide at the narrowest point John DAVIS sailed through it in 1787

Davit, Gerard. see DAVID, GERARD

Davitt, Michael (dă'vĭt), 1846-1906, Irish revolutionist and labor agitator He joined the FENIAN MOVEMENT in 1865 and was imprisoned for his revolutionary activities in 1870 On his release in 1877 he rejoined the Irish movement and, in 1879, helped C S PARNELL organize the Land League In 1890 he broke with Parnell, but he attempted to reconcile the Parnell and anti-Parnell factions in 1898, when with William O'Brien he established the United Irish League

Davos (dăvōs'), town (resident pop 9,259), Grisons canton, Switzerland, in Davos Valley near Davos Lake It is a winter sports center and a health resort for the tuberculous

Davout, Louis Nicolas (lwē' nēkôlä' dăvōō'), 1770–1823, marshal of France One of Napoleon's ablest generals, Davout defeated a Prussian army at Auerstedt (1806) and played a brilliant part in the victory at Wagram (1809) and in the Russian campaign Napoleon made him duke of Auerstedt, prince of Eckmühl, and, for a time, governor of the grand duchy of Warsaw In the Hundred Days he was minister of war, and in the Restoration he was for several years deprived of rank and titles

Davy, Sir Humphry (dā'vē), 1778–1829, English chemist and physicist The son of a woodcarver, he received his early education at Truro and was apprenticed (1795) to a surgeon-apothecary at Penzance While director (1798–1801) of the laboratory of the Pneumatic Institution, Clifton, he investigated the properties of laughing gas He was lecturer (1801) and professor (1802–13) at the Royal Institution, London His researches in electrochemistry led to his isolation of potassium and sodium in 1807 and of calcium, barium, boron, magnesium, and strontium in 1808 He established the elementary nature of chlorine, advanced the theory that hydrogen is characteristically present in acids, and classed chemical affinity as an electric phenomenon. He was also noted for the invention of a SAFETY LAMP for miners and for his lectures on agricultural chemistry (pub 1813) Knighted (1812) and made a baronet (1818), he was elected (1820) president of the Royal Society His collected works (9 vols , 1839–40) include a biographical memoir by his brother, John Davy

Davy Jones, personification of the danger and menace of the sea The name is best known in the expression "Davy Jones's locker," meaning the bottom of the sea, to which drowned sailors go There seems to be no actual legend of Davy Jones, and the name (perhaps connected with Jonah) is merely a figure of speech

Davys, John see DAVIS, JOHN

Dawes, Charles Gates (dôz), 1865–, American statesman and banker, b Marietta, Ohio, grad Marietta College (B A , 1884, M A , 1887) and Cincinnati Law School, 1886, Admitted (1886) to the bar, Dawes practiced law in Lincoln, Nebr , until 1894 and became interested in various gas and electric companies He was a member of the Republican executive committee in William McKinley's presidential campaign (1896) and served (1897–1901) as comptroller of the Treasury He organized the Central Trust Company of Illinois in 1902, was its president (1902–21) and chairman of the board (1921–25), and was a leading figure in other banking institutions Entering the U S army in 1917, he was sent to France, soon was appointed to General Pershing's administrative staff, and became the general purchasing agent of the American Expeditionary Force He resigned (1919) from the army and was the first to be appointed (1921) director of the U S Bureau of the Budget As head (1923–24) of the reparations committee to investigate the budget of Germany, he forwarded the DAWES PLAN, which led to a reduction in payment of REPARATIONS and the stabilization of German finances The 1925 Nobel Peace Prize was awarded to him for these efforts In 1924 Dawes was elected Vice President on the Republican ticket along with President Calvin Coolidge, and at the end of his term he was made (1929) ambassador to London In 1932 he was president of the Reconstruction Finance Corporation His many books include *Notes as Vice President* (1935), *A Journal of Reparations* (1939), and *Journal as Ambassador to Great Britain* (1939)

Dawes, Henry Laurens, 1816–1903, American statesman, b Cummington, Mass , grad Yale, 1839 After teaching school and doing newspaper work, he became a successful lawyer in Pittsfield, Mass , later serving successively in both houses of the state legislature He was U S district attorney for W Massachusetts (1853–57) and a member of the House of Representatives (1857–75) Elected in 1875 to the Senate, he served three terms, performing his most important service as chairman of the Committee on Indian Affairs He gave his name to the DAWES ACT and the DAWES COMMISSION

Dawes, William, 1745–99, American Revolutionary patriot, b Boston, Mass On the night of April 18, 1775, Dawes rode from Boston, via Brighton Bridge, to Lexington, warning the countryside of the British advance At Lexington, he was joined by Paul REVERE and Samuel PRESCOTT On the way to Concord, Revere was captured, but Dawes or Prescott or both reached Concord with the news

Dawes Act, 1887, passed by the U S Congress to provide for the granting of individual landholdings to civilized Indians who would renounce their tribal holdings Sponsored by H L Dawes while he was chairman of the Committee on Indian Affairs, the act established the modern policy of absorbing the Indians into the body politic of the nation

Dawes Commission, commission to the Five Civilized Tribes, created by the U S Congress in 1893 under the Dawes Act with H L Dawes as chairman Its aim was the reorganization of the INDIAN TERRITORY by securing the assent of the chiefs to the extinguishing of tribal land titles and by allotting lands to individuals

Dawes Plan, presented in 1924 by the committee headed (1923–24) by Charles G. DAWES to the Reparations Commission of the Allied nations It was accepted the same year by Germany and the Allies The Dawes committee, consisting of two representatives from Belgium, France, Great Britain, Italy, and the United States, was entrusted with finding a solution for the collection of the German REPARATIONS debt which was set at 20,000,000,000 marks Germany lagged in payment of this obligation, and the Dawes Plan provided that the Ruhr area be evacuated by Allied occupation troops, that reparation payment should begin at 1,000,000,000 marks for the first year and should rise over a period of four years to 2,500,000,000 marks per year, that the German Reichsbank be reorganized under Allied supervision, and that the sources for the reparation money should include transportation, excise, and custom taxes. The plan went into effect in Sept , 1924 Although German business picked up and reparations payments were made promptly, it became obvious that Germany could not long continue these huge annual payments As a result, the YOUNG PLAN was substituted in 1929

Dawkins, Sir William Boyd, 1837–1929, English geologist and archaeologist He was a member (1861–69) of the Geological Survey of Great Britain, curator (1870–90) of the Manchester Museum, and professor of geology (from 1872) at Owens College (now Victoria Univ), Manchester A consulting geologist in mining and engineering projects, he served (1882) on the Channel Tunnel committee He was noted for his research on fossil mammals and on the antiquity of man He wrote *Cave Hunting* (1874) and *Early Man in Britain* (1880) and was co-author of *The British Pleistocene Mammalia* (6 vols , 1866–1912) In 1919 he was knighted

Dawson, George Mercer, 1849–1901, Canadian geologist, b Pictou, N S , studied at McGill Univ and at the Royal School of Mines, London, son of Sir J W Dawson He was geologist (1873–75) to the North American Boundary Commission On the staff of the Canadian Geological Survey from 1875, he served as its director from 1895 He did pioneer geological work in the Northwest Territories and in British Columbia and explored the Yukon valley He was a member of a commission which investigated (1892) the resources of the Bering Sea Dawson, the capital of Yukon territory, was named for him

Dawson, Sir John William, 1820 99, Canadian geologist and educator, b Pictou, N S , studied at the Univ of Edinburgh As superintendent (1850–55) of education in Nova Scotia he reorganized and modernized the school system From 1855 to 1893 he was principal of, and professor of geology at, McGill Univ He was largely responsible for building up McGill's eminence in the teaching of science and for founding and developing its Redpath museum of botany and geology He served as president of the Royal Society of Canada (1882), the American Association for the Advancement of Science (1892), and other organizations and was knighted in 1884 A pioneer in paleobotany, he was the first to describe EOZOON His numerous papers and books, many of them classics in geology, include *Acadian Geology* (1855, 4th ed , 1891), *The Story of the Earth and Man* (1873), *The Chain of Life in Geological Time* (1880?, 3d ed , 1881), *The Geological History of Plants* (1888), and an autobiography, *Fifty Years of Work in Canada* (1901)

Dawson or **Dawson City,** town (pop 1,043), territorial capital, W Yukon, on the east bank of the Yukon river at the confluence of the Klondike It is the trade center of the Klondike mining region Dawson is usually reached by way of Skagway, Alaska, the White Pass RR , and steamboat from WHITE HORSE on the Lewes river, a route 570 mi in length In the gold rush of 1898 Dawson was a boom town, reported to have a population of c 20,000 It was named for George M Dawson

Dawson. 1 City (pop 3,681), co seat of Terrell co , SW Ga., NW of Albany, settled 1856, inc 1872 It is a trade center in a coastal-plain farm and lumber area **2** City (pop 1,646), W Minn , on the Lac qui Parle river and W of Montevideo, inc as a village 1885, as a city 1911 It is a farm trade center **3** Town (pop 1,086), NE Okla , just N of Tulsa, inc 1923 **4** Town (pop 1,155), E central Texas, NE of Waco and near Corsicana, settled c 1882, inc 1908

Dawson City, Yukon see DAWSON

Dawson Creek, village (pop 518), E British Columbia, near the Alta border, on Dawson Creek and NE of Prince George It is the south terminus of the Alaska Highway and is connected by railroad and road with Edmonton, Alta

Dawson Springs, town (pop 2,560), W Ky , NNW of Hopkinsville and near the Tradewater river It is a health resort with mineral springs, in a coal and farm area Near by are a U S veterans' hospital and Dawson Springs State Park

Dax (däks), town (pop. 12,551), Landes dept , SW France, on the Adour The Aquae Augustae of

the Romans, it has long been famous for its hot mineral springs.

Day, Benjamin, 1838–1916, American printer, son of Benjamin Henry Day A New York printer, he invented a process for shading the plates to print maps and illustrations in color It is known as the Ben Day, or Benday, process The inventor's name has given to English a noun and a verb as well as an adjective (e g, "to give a map a Ben Day," "to Ben Day a map," "to use the Ben Day process")

Day, Benjamin Henry, 1810–89, American journalist He learned the printer's trade in the office of the Springfield *Republican* and opened a printing office in New York Lack of job printing in a financial depression led him to begin publishing (1833) the New York *Sun* The first number consisted of four small pages, he wrote the paper and set the type without assistance The price of the paper was one cent, the price of other New York dailies at the time was six cents The *Sun* was the first paper in the city to employ newsboys It soon had a large circulation, and Day sold it in 1838 to his brother-in-law, Moses Yale Beach, for $40,000 See F. N O'Brien, *The Story of the Sun* (1918)

Day, Clarence Shepard, 1874–1935, American essayist, b New York city, grad Yale, 1896 Bedridden after a business career interrupted by arthritis, Day wrote and illustrated prose and verse and contributed to magazines His first book was *This Simian World* (1920), but it was *God and My Father* (1932), *Life with Father* (1935), and *Life with Mother* (1937) which won him popular recognition Incidents from these three books were used by Howard Lindsay and Russel Crouse for the play *Life with Father*, which began a phenomenally long Broadway run in 1939, *Life with Mother* was somewhat less successful as a play (1948)

Day, Clive, 1871–, American historian, b Hartford, Conn , grad Yale (B A , 1892, Ph D , 1899). He also studied at Berlin and Paris Professor of economic history at Yale from 1907 to 1936, he wrote *A History of Commerce* (1907, new ed , 1922), *History of Commerce of the United States* (1925), and *Economic Development in Europe* (1942, a revision and extension of *Economic Development in Modern Europe*, 1933)

Day, David Talbot, 1859–1925, American chemist and geologist, b Lakewood, Ohio, grad Johns Hopkins (B A , 1881, Ph D , 1884) He joined the U S Geological Survey in 1886, serving as chief of the division of mineral resources and (from 1907 to 1914) as chief of the petroleum investigations, he was consulting chemist for the Bureau of Mines (1914–20) He was editor of *Handbook of the Petroleum Industry* (1922)

Day, Edmund Ezra, 1883–, American educator, b Manchester, N H , grad Dartmouth, 1905, Ph D Harvard, 1900 He taught economics at Dartmouth (1907–10), Harvard (1910–23), and the Univ of Michigan (1923–27), here he also served as dean of the school of business administration He was director (1928–37) for social sciences of the Rockefeller Foundation and a member (1933–37) of the General Education Board, from which he resigned in 1937 to become president of Cornell Univ He wrote *Statistical Analysis* (1925) and *The Growth of Manufactures* (1928)

Day, John, 1522–84, English printer At his London shop he designed and made type for himself, but not for sale His types included musical notes and the first Anglo-Saxon type He printed the first English edition of John Foxe's *Book of Martyrs* (1562), though not under that title (see Foxe, John) Day's printer's mark was a rising sun, a sleeper awakening, and the motto, "Arise, for it is Day "

Day, John, 1574?–1640?, English dramatist, who collaborated with Dekker, Marlowe, and other playwrights His most original work is the allegorical masque *The Parliament of Bees* (performed c 1612, pub 1641) Other plays include *The Isle of Gulls* (1606), *Law Tricks* (1608), *Humour Out of Breath* (1608), and *The Blind Beggar of Bednal Green*, written in 1600 with Henry Chettle

Day, Thomas, 1748–89, English social reformer and author He supported the American Revolution and the abolition of slavery and was interested in improving the lot of the small farmer Under the influence of Rousseau, he unsuccessfully tried to educate a young girl to be his wife His *History of Sandford and Merton* (3 vols , 1783–89) contrasts the "natural" education of Sandford with the conventional one of Merton In Lichfield he was a member of the literary group centering about Anna Seward See biographies by G W. Gignilliat (1932) and S H Scott (1935)

Day, William Rufus, 1849–1923, American statesman and Associate Justice of the U S Supreme Court (1903–22), b Ravenna, Ohio, grad Univ of Michigan, 1870. Admitted (1872) to the bar, Day practiced law in Ohio and served (1886–90) as judge of the court of common pleas He became (1897) assistant to the Secretary of State and then (April, 1898) Secretary of State in the month when war was declared against Spain He was successful in converting France and Germany from an attitude of seeming hostility to definite neutrality As chairman (1899) of the U S. commission to arrange peace after the Spanish-American War, he insisted upon purchase of the Philippines rather than claiming these islands by right of conquest. The treaty therefore provided for the payment of $20,000,000 Day became (1899) a judge of the Circuit Court of Appeals Appointed to the Supreme Court in 1903 by President Theodore Roosevelt, he served as Associate Justice for 20 years See biography by J E McLean (1946)

day and night. The sun "rises" at a given point on the earth's surface when that point, in the course of the earth's rotation on its axis, is no longer shielded from the sun by the curve of the earth, the sun "sets" when the given point has moved around to the hemisphere shielded from the sun The earth rotates on its axis once in 24 hr , and this period of time is called a day, the term *day* is applied also to that part of the 24 hr during which there is sunlight, the other part being called night Day and night would each be 12 hr long everywhere on earth, the year round (with small variations), if the earth's axis were not tilted with respect to its orbit of revolution about the sun (see earth), this tilting is the cause of the difference in the length of the period of daylight from place to place and from time to time, and it is the cause of the seasons The length of the period of daylight varies most at the earth's poles, which have summer days of 24 hr and winter nights of 24 hr , it varies least at the equator The sidereal day, used in all astronomical calculations, is about 4 min shorter than the solar day

Daye, Matthew (dā), c 1620–1649, British printer in Massachusetts Bay colony, son of Stephen Daye He was a trained printer His name appears first on the almanac for 1647, but it would seem probable that he was employed at the Cambridge Press from its beginning and that the early works produced there under the supervision of Stephen Daye were actually printed by Matthew Daye See also Glover, Jose

Daye, Stephen, c 1594–1668, British settler in North America, considered by many to be the first printer in the English American colonies He came to Massachusetts Bay in 1638 under contract to the Rev Jose Glover, who brought along a printing press Glover died on the voyage Daye apparently supervised the establishment of the Cambridge Press, the first printing plant in the colonies From it was issued *The Freeman's Oath*, a broadside published in 1639 It was followed by an almanac and by the Bay Psalm Book (1640), the first book printed in the colonies Stephen Daye was not a printer, but a locksmith, whereas his son, Matthew Daye, was a trained printer There is reason to suppose, therefore, that the actual printing was done by Matthew Daye Samuel Green later was the only printer in the colony

Day Lewis, Cecil, 1904–, English author, b Ireland, grad Oxford He taught until 1935, later he achieved leisure for poetry by writing detective stories under the pseudonym Nicholas Blake He has written several volumes of poetry, which include *Collected Poems* (1933), *A Time to Dance* (1935), *Short Is the Time Poems, 1936–43* (1945), and *Poems 1943–47* (1948) His writings also include novels, children's books, a morality play, *Noah and the Waters* (1936), a translation of Vergil's *Georgics*, and an anthology

daylight-saving time is time reckoned usually one hour later than the standard time of a given time belt Benjamin Franklin when serving as U S minister to France wrote an article recommending earlier opening and closing of shops to save the cost of lighting In England, William Willett in 1907 began to urge the adoption of daylight-saving time During the First World War the plan was adopted in England, Germany, France, and many other countries In the United States, Robert Garland of Pittsburgh was a leading influence in securing the introduction and passage of a law (signed by President Wilson March 31, 1918) establishing daylight-saving time in the United States After the war the law was repealed (1919), but during the Second World War it was again established by law and was known as war time At other times the choice of continuing or discontinuing the practice has been left in the hands of state or local governments Those places making use of daylight-saving time (also called summer time) turn their clocks one hour ahead, usually in March or April, and one hour back, usually in September or October Arguments in favor of the plan are chiefly that it gives more daylight hours for outdoor recreation late in the day and thereby improves the health of the people In time of war it is chiefly a means of conserving fuel and light Some farmers and other rural dwellers oppose the change in time because of such difficulties as getting the milk to market at the earlier hour

day lily, name usually applied to members of the genus *Hemerocallis*, six species of popular hardy Old World perennials with yellow, orange, or reddish flowers Included are the fragrant lemon lily and the orange common day lily, often an escape along the roadsides Recently many improved garden varieties have resulted from hybridization The name day lily is rarely used for the genus *Hosta* (or *Funkia*), the plantain lily, which comprises about 10 species with white or lavender flowers and is native to Japan and China Both genera have short-lived flowers, hence the name

day nursery or **crèche,** institution for daytime care of children of working mothers Originated in France in 1844, day nurseries increased rapidly in Europe and were established in the United States through private charity in New York city in 1854 Lack of public control led to abuses which brought day nurseries into disfavor The National Federation of Day Nurseries was formed in 1898, and today most states exercise some form of regulation See nursery school

Dayton, 1 City (pop 8,379), N Ky , on the Ohio and near Covington, opposite Cincinnati, settled 1848, inc 1867 **2** City (pop 210,718), co seat of Montgomery co , SW Ohio, N of Cincinnati and on the Great Miami where it is joined by the Mad and Stillwater rivers, settled 1796, inc 1805 In a fertile area, it is an industrial, distributing, and aviation center and a port of entry Chief among its products are cash registers, precision tools, electric refrigeration and lighting equipment, electric motors, and auto parts The city grew with the extension of canals (1830s and 1840s) and railroads (1850s) and with the industrial demands of the Civil War Dayton was the home of the Wright brothers, who, after their flight at Kitty Hawk, set up a research airplane plant here It has a U S army aeronautical laboratory at Wright and at Patterson fields, an air force service and supply center at Fairfield Air Depot near by, several commercial fields, and a municipal airport (1936) Following the severe flood of 1913 a flood-control system of the Miami valley was established Dayton was the first large city to adopt the city-manager form of government (1913) The Dayton Art Institute, the Univ of Dayton (Catholic, Marist, coeducational, 1850), the Paul Laurence Dunbar Museum (1938) in the poet's home, the National Cash Register Company plant, and a large veterans' hospital and home are here **3** City (pop 1,870), co seat of Rhea co , E Tenn , near the Tennessee river NNE of Chattanooga, in a farm (especially fruit), coal, and timber area, founded c 1884 In 1925 it was the scene of the Scopes trial Dayton is the seat of William Jennings Bryan Univ **4** Town (pop 1,279), E Texas, NE of Houston, in an oil area, inc 1925 **5** City (pop 3,026), co seat of Columbia co , SE Wash , on the Touchet river and NE of Walla Walla, in a rich grain, fruit, and livestock area, inc 1871

Daytona Beach (dātō'nù), city (pop 22,584), NE Fla , on the Atlantic coast S of St Augustine and on Halifax River (a lagoon), in a citrus-fruit area A popular year-round resort, it was founded (1870) by Mathias Day in an area first settled by Spanish Franciscans, who established missions here in the late 16th and in the 17th cent The present city was formed in 1926 by the consolidation of the towns of Seabreeze, Daytona Beach, and Daytona Development began principally after the arrival of the railroad in the late 1880s The resort is noted for its hard, white beach, c 25 mi long and, at low tide, c 500 ft wide, on which automobile speed trials and races have been held since 1903 The city is the seat of Bethune-Cookman College (Negro, coeducational, 1904)

Daza, Hilarión (ēläryōn' dä'sä), 1840–94, president of Bolivia (1876–79) After entering the army, Daza rose rapidly in rank, chiefly through the favor of Malgarejo In 1870 Daza turned against his erstwhile protector, helped oust him from office, and then in 1876 himself seized control Heading an administration famed for corruption and bacchanalian orgies, he involved Bolivia in the War of the Pacific (see Pacific, War of the) and, after failure as a general in the field, was deposed and exiled When he returned from exile in 1894, he was assassinated

DDT see insecticide

Dead, Book of the see Book of the Dead

Dea Dia (dē'ù dī'ù), in Roman religion, goddess of fields, worshiped by the Arval Brothers She is probably the same as Acca Larentia

deadly nightshade see belladonna and nightshade

dead reckoning, in navigation, reckoning of a ship's position by speed and direction without direct reference to the position of heavenly bodies It is accomplished by reckoning from a fixed point (usually on shore or on an island), and calculations are then made from the latitude and longitude of that point At the time of the great exploring period in the 15th and 16th cent , dead reckoning was much used The results of crude computation naturally were highly erroneous, but the surprising thing is not the defects of dead reckoning but the results that skillful mariners could obtain from it despite its gross flaws The quadrant, the sextant, and the chronometer made dead reckoning more or less obsolete, though it is still used by owners of small craft and is used between astronomical findings by large ships The calculation is made from the point of departure (i e , the point of known latitude and longitude), the course (as shown by the compass), the speed and distance traveled according to the log, and the time elapsed.

Dead River, NW Maine, rising in the Chain Lakes on the Canadian border and flowing generally NE to the Kennebec, in a hunting and fishing region Benedict Arnold followed its course on his march to Quebec (1775)

Dead Sea, salt lake, on the border of Jordan and Palestine It is c 45 mi long and 10 mi wide, and it extends from north to south in a great depression between rocky cliffs This cut, the Ghor [Arabic, =hollow], is continued to the north by the Jordan valley and to the south by the Wadi Araba The Dead Sea is in places more than 1,300 ft deep, and its surface is nearly 1,300 ft below sea level The chief tributaries are the Jordan, the Zerka, and the Arnon The water, far saltier than the ocean, and the shores yield minerals, especially potash and bromides There is a growing resort at Kallia, at the north end Sodom and Gomorrah were on the southwest side of the lake Names of the Dead Sea include the biblical Salt Sea, East Sea, and Sea of the Plain, the Latin *Lacus Asphaltites* [lake of bitumen], and the Arabic *Bahr Lut* [sea of Lot]

Deadwood, city (pop 4,100), co seat of Lawrence co, W S Dak, in the Black Hills, NW of Rapid City and near Lead, settled 1876 after discovery (1875) of gold here In a canyon, Deadwood Gulch (the trees had been killed by a fire), the city boomed and waned with discovery or abandonment of nearby gold and silver mines It is now a tourist center for the Black Hills and a trading point for a mining and livestock region Its colorful early history is commemorated in the Adams Memorial Museum, several monuments, and an annual "Days of '76" celebration in August The graves of such famous Deadwood pioneers as Wild Bill Hickok and Calamity Jane are here, the cabin and grave of Deadwood Dick are near by

Deadwood Dick, American frontiersman, celebrated in many dime novels The original of the character is supposed to have been Richard W Clarke (1845–1930), an Englishman who came to the gold diggings of the Black Hills and became an intrepid scout He is buried in a mountain grave near Deadwood, S Dak Much doubt has been cast on his claims as hero See Robert J Casey, *The Black Hills and Their Incredible Characters* (1949)

Deady, Matthew Paul (dē'dē), 1824–93, American jurist, b near Easton, Md As a boy he moved to Barnesville, Ohio, and was apprenticed to a blacksmith, but studied at the local academy, got a certificate to teach, and was (1847) admitted to the bar It was as blacksmith to a mounted regiment that he made his way to Oregon in 1849 Once there he became a lawyer in the Willamette valley and later a leading jurist and a molder of cultural life in the Pacific Northwest He presided (1857) over the state constitutional convention, was a U S district judge (1859–93), codified state laws, helped to draw up state laws, drafted (1864) the Portland city charter, which was a model for many others, and was president (1873–93) of the board of regents of the state university

deafness, partial or complete loss of the sense of hearing There are many causes of deafness, e g, infected tonsils or adenoids, chronic sinusitis, scarlet fever, syphilis, organic lesions of the nervous system, psychogenic disorders, acute head colds, and chronic suppuration of the middle ear Obstruction of the external auditory canal by cerumen (wax), bony growths, or inflammation of soft parts may cause temporary deafness, this condition may be remedied by removal of the cause Spongy bone forming in the capsule of the labyrinth of the ear, a condition known as otosclerosis, is another cause of deafness Because of the different types and degrees of deafness, diagnosis includes an electroaudiometric examination Hearing devices, e g, electrical aids of the telephone or radio type, are commonly employed to improve hearing The Council on Physical Medicine of the American Medical Association examines hearing aids submitted to it and lists as acceptable those which meet its requirements Education of the deaf and of the hard-of-hearing is the chief factor in enabling them to lead successful lives For centuries, education of such handicapped persons was almost completely ignored In 1755 Abbé Charles Michel de l'Epée founded a school for the deaf in Paris, and in 1778 Samuel Heinicke established one in Germany In 1817 the first permanent public school for the deaf in the United States, now called the American School for the Deaf, was founded at Hartford, Conn, largely through the influence of Thomas Hopkins Gallaudet The work of Alexander Graham Bell and of his father, Alexander Melville Bell, did much to establish the study of speech on a scientific basis and to improve the methods of teaching the aurally handicapped Speech training, given as early as possible to both those who are born deaf and those who become deaf or hard-of-hearing later in life, is a factor in success In educating the partially deaf person, use is made of whatever residual hearing he possesses. Usually children who are hard-of-hearing can attend regular schools when they are helped by hearing aids and by instruction in speech reading (an expression now generally preferred to lip reading). When a child shows inability to hear even with a hearing aid and no improvement through medical treatment seems possible, it is necessary to teach him, in addition to reading and writing, some method of communicating with others Although about three quarters of the children in schools for the deaf are taught to communicate orally, some educators advocate also the teaching of a manual alphabet, which uses the fingers to represent letters Information may be secured from the American Association to Promote the Teaching of Speech to the Deaf at Washington, D C See Hallowell Davis, ed., *Hearing and Deafness* (1947)

Deak, Francis (dĕ'ăk), Hung *Deák Ferenc*, 1803–76, Hungarian statesman He entered the Hungarian diet in 1832 and became minister of justice after the revolution of March, 1848 He vainly opposed the extremism of Louis KOSSUTH, trying to prevent an open break with Austria, and upon his failure he withdrew from public affairs After the defeat (1849) of the Hungarian revolutionists, Deak became the recognized leader of his nation Though always advocating the continued union of Austria and Hungary, he insisted on the restoration of the Hungarian constitution and of Hungarian territorial integrity and on the recognition of Hungary as a separate kingdom. The government of Emperor Francis Joseph having begun, in 1860, to seek reconciliation with Hungarian national sentiment, Deak in the diet of 1866 cooperated with Julius ANDRASSY in drawing up a report on a new constitution This report was the basis of the negotiations (1867) between Deak and the Austrian chancellor, F F Beust, which resulted in the *Ausgleich* [compromise] establishing the AUSTRO-HUNGARIAN MONARCHY

Deakin, Alfred (dē'kĭn), 1856–1919, Australian statesman He aided in the fight for federation of the Australian states and accomplished much in social legislation, irrigation, defense, and preferential tariff First attorney general of the commonwealth (1901), he was prime minister in three different political combinations (1903–4, 1905–8, 1909–10) He is the author of authoritative books on irrigation

Deal, municipal borough (1931 pop 13,681, 1943 estimated pop 23,500), Kent, England, on the coast N of Dover It is the reputed landing place of Caesar in 55 B C, and it became a "member" of the CINQUE PORTS Henry VIII built three castles here, Walmer Castle is the seat of the lord warden of the Cinque Ports Deal is a naval station and shipbuilding center

Deal Island, small island, off the Eastern Shore, Md, in Tangier Sound N of Crisfield It is an important oyster, clam, and crab shipping and processing center

De Amicis, Edmondo (ādmōn'dō dā amē'chēs), 1846–1908, Italian novelist and essayist He was trained for the army, but in 1872 retired to devote himself to literature His books of travel, enthusiastic, frequently over-lyrical in style, were very popular His novels and short stories are sentimental but often genuinely moving *Cuore* (1886, Eng tr, *Cuore an Italian Schoolboy's Journal*, 1887) is one of the most widely read of all Italian books Croce attacked his essay on Italian style

Dean, Bashford, 1867–1928, American zoologist and armor expert, b New York city, grad College of the City of New York, 1886, Ph D Columbia, 1890 He taught zoology at Columbia (1891–1927), served the U S Fish Commission (1889–92, 1900–1901), and was curator of herpetology and ichthyology at the American Museum of Natural History (1903–26) His important works on ichthyology include *Bibliography of Fishes* (1916–23) As an authority on medieval arms and armor he became curator (1903) of the collection at the Metropolitan Museum of Art and made it one of the greatest collections of its kind in the world.

Dean, Jerome Herman, 1911–, American baseball player, known as Dizzy Dean, b Lucas, Crittenden co, Ark. His name may originally have been Jay Hanna Dean. A colorful, skillful, right-handed pitcher, he was an outstanding player (1932–38) with the St Louis Cardinals of the National League After his pitching arm was injured in 1937, he was traded (1938) to the Chicago Cubs and in 1940 was waived out of the major leagues From 1941 to 1949 he described baseball games over the radio in St. Louis, arousing the interest of all but English teachers by his picturesque reports. In 1950 Dean became a television broadcaster for the New York Yankees of the American League

Dean, Forest of, ancient royal forest, Gloucestershire, England, between the Severn and the Wye It is largely reforested, its economic value lies in its coal and iron mines, stone quarries, and timber

Deane, Silas, 1737–89, American Revolutionary patriot and diplomat, b Groton, Conn., grad Yale, 1758. A lawyer and merchant at Wethersfield, Conn, he was elected (1772) to the state assembly and became a leader in the patriot cause He was (1774–76) a delegate to the Continental Congress, which sent (1776) him as diplomatic agent to France There Deane worked with Pierre A C de BEAUMARCHAIS in securing commercial and military aid for the colonies, obtaining supplies which were of material help in the Saratoga campaign (1777). He recruited a number of foreign officers, such as Lafayette, Casimir Pulaski, Steuben, and Johann De Kalb. Late in 1776 Congress sent Benjamin FRANKLIN and Arthur LEE to join Deane. Together they arranged (1778) a commercial and military alliance with France. Deane, however, was soon recalled by Congress and was faced with accusations of profiteering made against him by Lee Embittered, unable to clear himself, and accused as a traitor after publication of some pessimistic private letters, Deane lived the rest of his life in exile In 1842 Congress voted $37,000 to his heirs as restitution and characterized Lee's account as "a gross injustice" See Charles Isham, ed., *The Deane Papers, 1774–1790* (5 vols, 1887–91); biography by G. L Clark (1913)

De Angelis, Jefferson (dē ăn'julĭs), 1859–1933, American comedian and singer, b San Francisco He made his debut in vaudeville at 10, achieved his greatest success in *Fantana* (1904), and made his final appearance at 70 in comic opera He wrote *A Vagabond Troupe* (with A F Harlow, 1931).

Dearborn, Henry, 1751–1829, American general, b Hampton, N H He was a doctor and became a captain of militia When the American Revolution broke out, he led his company to take part in the battle of Bunker Hill Later he saw distinguished service, accompanying Benedict Arnold in the march against Quebec (where he was captured), serving in the Saratoga campaign in 1777, wintering at Valley Forge, and fighting in the battle of Monmouth He led (1779) a regiment in John Sullivan's campaign against Loyalists and Indians in New York and was on Washington's staff at Yorktown After the war he settled in Maine, where he became a general of militia After service (1793–97) as a Congressman, he was Secretary of War (1801–9) under Jefferson When the War of 1812 began, he was a logical choice for the post he was given as major general commanding the northern frontier from Niagara to the Atlantic coast. He distinguished himself, however, chiefly by inaction The British took Detroit, and the American commander there, William Hull, more or less unjustifiably blamed Dearborn Several plans to invade Canada were not even attempted, and though in 1813 Dearborn took York (now Toronto) and Fort George on the Niagara, he lost many men and exposed Sackets Harbor to an almost successful British attack He was relieved of command in 1813 Fort Dearborn, on the site of Chicago, was named for him So was the light dearborn wagon, because he rode in one on his campaigns to the disgust of his troops, who preferred their generals on horseback

Dearborn, city (pop 63,584), SE Mich, on the River Rouge and W of Detroit, settled 1795, inc as a village 1893, as a city 1927 Fordson city was annexed in 1929 A modern highway to Chicago follows the old Sac Trail Early carriage making in Dearborn led to automobile making The city grew mainly after the First World War when Henry Ford's automobile plants were built here Other manufactures include aircraft parts and metal products Dearborn is known as the site of the Edison Institute of Technology, which includes GREENFIELD VILLAGE Henry Ford was born in Dearborn, and his large estate, "Fairhaven," is on the Rouge His birthplace has been restored A veterans' hospital is in the city

Dearborn, Fort, U S army post on the Chicago river, established in 1803 and named for Secretary of War Henry Dearborn The little frontier post was threatened by Indians with the commencement of the War of 1812, and Capt Nathan Heald, the commander, following the order of Gen William Hull, abandoned the post Just as he and his little company of troops, with some civilians and women and children, were leaving, they were set upon (Aug 15, 1812) by Indians on the Lake Michigan dunes Many were slaughtered, most of the rest taken prisoner The fort was rebuilt (1816–17), and around it and the trading posts of John Kinzie and others the city of CHICAGO grew

Dearth, Henry Golden, 1864–1918, American landscape and figure painter, b Bristol, R I, studied at the Ecole des Beaux-Arts and with Ernest Hébert and Aimé Morot in Paris His winters were spent in New York city, his summers in Normandy, where he painted many of his best-known works His paintings are characterized by meticulous drawing, rich and pleasing color, and imagination Outstanding examples include *Cornelia* (Metropolitan Mus), *In the Gloaming* (Detroit Mus.), *Black Hat* (Indianapolis Art Inst), and *Dreamland* (Brooklyn Mus) He became a member of the National Academy in 1906.

Dease, Peter Warren (dēs), 1788–1863, Canadian explorer He was in the North West Company before its merger with the Hudson's Bay Company, and later was a Hudson's Bay Company trader He was in the party of Sir John Franklin's second arctic expedition Later he and Thomas SIMPSON in journeys from 1836 to 1839 explored the coast of the Arctic Ocean in Canada and Alaska from the mouth of the Mackenzie to Point Barrow.

death. The change from life to the nonliving state in an individual is recognized by certain gross

changes, but the change in the tissues extends over a somewhat longer period After breathing has stopped, the heart may still beat, and for a very short time after the heartbeat has stopped, it is possible to stimulate the nervous system For this reason RESUSCITATION, especially ARTIFICIAL RESPIRATION, should be tried in every case where there is the slightest possibility of revival In the human body death is definite if no heartbeat can be detected by the stethoscope over a reasonable period of time, if the circulation is not backed up when a cord is tied around the arm or leg, and if rigor mortis or putrefaction is present Rigor mortis is a stiffened state of the muscles usually starting one or two hours after death, affecting first the facial muscles and spreading to those of the rest of the body Death in human beings may be caused by accident, diseases of heart and blood vessels, and paralysis of the vital centers of the nervous system in disease and intoxications Sudden death in adults occurs in apoplexy, diseases of the arteries of the heart muscle, rupture of organs, and such accidents as electric shock In biology it is a notable fact that, although every living individual dies, the race does not, because of the immortality of the protoplasm of the germ cells During the life of an individual, tissue cells are constantly dying and being replaced (except in the case of nerve cells, which cannot regenerate) See also FUNERAL CUSTOMS, IMMORTALITY, SOUL, VITAL STATISTICS

death, dance of, or **danse macabre** (dans' mŭka'bru, -bûr, dăns'), originally a 14th-century morality play The play was a dialogue between death and representatives of all classes from the pope down By the 15th cent, pictorial representation with verses illustrating the pictures became common The dance, in which death as a skeleton or a corpse led his victims, was painted on walls of churchyards and cemeteries A set of 24 woodcuts, with verses appended, was printed in Paris in 1485 The best-known representations of the dance of death are the drawings of Holbein the younger Goethe wrote a ballad on the theme, *Der Todtentanz*, and in music Saint-Saens used it in *Danse macabre* See L P Kurtz, *The Dance of Death* (1934)

death camass see CAMASS

death rate see VITAL STATISTICS

Death Valley National Monument, 1,850,565 2 acres, SE Calif and S Nev, est 1933 Death Valley is a deep and arid basin, walled in the west by the Panamint Range and in the east by the Funeral Range Less than an inch and a half of rain falls a year in this forbidding land, which has in summer some of the highest temperatures in the world The small Amargosa river and Furnace Creek die in the sands There are alkali flats, colored and grotesque rocks, salt flats, and briny pools Badwater, 280 ft below sea level, is the lowest point in North America The name Death Valley was given by gold seekers who in 1849 by mistake undertook to cross this desolate region on their way to the gold fields The valley itself yielded gold in the next decade but later surrendered more wealth in the borax taken out of the desert by mule-drawn wagons The solitude is actually alive with many small animals, and the peculiar desert plant forms have attracted much scientific attention The Panamint Indians (an offshoot of the Shoshone), the only group ever to be self-subsisting in the region, have been given a model village The valley was much publicized by Walter Scott, called Death Valley Scotty, whose ostentatious home, Scotty's Castle, is a showplace there See W A Chalfant, *Death Valley the Facts* (rev ed, 1936), Federal Writers' Project, *Death Valley* (1939), C B Glasscock, *Here's Death Valley* (1940), George P Putnam, *Death Valley and Its Country* (1946)

Deauville (dō'vĭl, dōvēl'), seaside resort (pop 5,438), Calvados dept, N France, on the English Channel A fashionable center, it has a famous racecourse

Deaver, John Blair (dē'vur), 1855–1931, American surgeon, b Lancaster co, Pa, M D Univ of Pennsylvania, 1878 He was professor of surgery at the Univ of Pennsylvania (1918–22) A skilled surgeon, he was noted especially for his methods in performing appendectomies and other abdominal surgery His works include *A Treatise on Appendicitis* (1896) and *Surgery of the Upper Abdomen* (with A P C Ashhurst, 1909–13)

De Bardeleben, Henry Fairchild (dŭ bär'dulăbun), 1840–1910, American industrialist, chief developer of the coal and steel industries of Birmingham, Ala, b Autauga co, Ala He became the ward of Daniel PRATT, whose enterprises he came to manage After Pratt's death, De Bardeleben expanded his holdings and founded Bessemer, Ala His company was merged with the organization generally known as the Tennessee Coal & Iron Company He battled in the 1890s to control it, but lost

De Bary, Heinrich Anton (hĭn'rĭkh an'tōn du bärē'), 1831–88, German botanist He was professor at the universities of Freiburg im Breisgau (1855–66) and Halle (1867–72) and first rector of the Univ of Strasbourg (from 1872) An authority on the life history of fungi and bacteria, he wrote several standard works in these fields and discovered sexual reproduction in fungi and the alternation of generations in rust fungi.

debenture (dŭbĕn'chûr), document acknowledging indebtedness. In England a debenture, being issued under seal and stating an indebtedness of a corporation, is practically the same as a BOND, and debenture stock is similar to preferred stock In the United States the term is usually employed for a corporation certificate without special security, such as a mortgage, to back it up Debentures differ from stock in that they promise to repay the principal on a specified date, with regular interest The term is also used for a document by which a government is bound to pay a creditor money due after some condition has been fulfilled

Debierne, André Louis (ädrā' lwē' dubyĕrn'), 1874–, French chemist He discovered ACTINIUM (1899), collaborated with the Curies in research on radioactivity, and worked with Marie Curie in isolating pure radium He served as professor at the Univ of Paris and director of its laboratory of physics and radioactivity

Debir (dē'bur) **1** King of Eglon Joshua 10 **2** Very ancient place, probably SE of Hebron Joshua 10 38, 11 21, 12.13, 21 15, 1 Chron 6 58 Kirjath-sannah Joshua 15 49 Kirjath-sepher Joshua 15 15,16, Judges 1 11,12 **3** Landmark, S Palestine Joshua 15 7 **4** Place, E of the Jordan between the Sea of Galilee and the Dead Sea Joshua 13 26

Deblin, Pol *Dęblin* (dĕ'blēn), small town, central Poland, on the Vistula and 58 mi S of Warsaw Founded as a fortress by Tsar Ivan III in 1492, it is known in Russian as Ivangorod

Deborah (dĕb'ōru) [Heb, =bee] **1** Judge of Israel, the only woman to hold that office Under her guidance Barak conquered Sisera and delivered Israel from the tyranny of King Jabin The triumphant Song of Deborah is one of the most brilliant poems in the Bible Judges 4, 5 **2** Nurse of Rebecca Gen 35 8

De Bow, James Dunwoody Brownson (dubō'), 1820–67, American editor and statistician, b Charleston, S C He became (1844) editor of the *Southern Quarterly Review* His long article "The Oregon Question" attracted attention in England and France as well as in America In 1846 he went to New Orleans, where he began publishing the monthly *De Bow's Review*, influential before the Civil War Advocating a chair of political economy at the new Univ of Louisiana, he was appointed to fill it He was superintendent of the U S census of 1850, and his *Statistical View of the United States* (1854) was an abstract and an interpretation of the census reports He also wrote *Encyclopaedia of Trade and Commerce of the United States* (1853), *Industrial Resources and Statistics of the Southwest* (1853), *The Southern States* (1856), and many articles for the eighth edition of *The Encyclopaedia Britannica* During the Civil War he was chief agent of the Confederate government in the purchase of cotton

De Brahm, William Gerard (dē brăm'), 1717–c 1799, surveyor of the southern British colonies in America A former captain of engineers in the army of Emperor Charles VI, he led (1751) a colony of Salzburg Lutherans to Georgia, where he founded the prosperous settlement of Bethany De Brahm, appointed surveyor of Georgia in 1754, prepared the first careful map of both Georgia and South Carolina (1757) and built Fort George to defend Savannah (1761) In 1764 he became surveyor general for the Southern District of North America and made a thorough survey of the islands, inlets, and rivers along the east coast of Florida, marking the desirable lands and town sites along the way His report to the king, never published but preserved in the British Museum, is important source material.

Debrecen (dĕ'brĕtsĕn), city (pop 125,936), E Hungary It is an important commercial center and the historical stronghold of Hungarian Protestantism Its university (chartered 1912) grew out of a Calvinist college founded in 1588, it has a large library In the great church of Debrecen the revolutionary government of Hungary, under Louis Kossuth proclaimed (April 14, 1849) the independence of Hungary and the deposition of Francis Joseph In Dec, 1944, a pro-Allied provisional Hungarian government was formed at Debrecen A former spelling was Debreczen

De Bruyn, Cornelis. see BRUYN, CORNELIS DE

Debs, Eugene Victor, 1855–1926, American Socialist leader, b Terre Haute, Ind He left school at the age of 15, became a railroad fireman (1871), educated himself, became important in local politics, and was elected (1884) to the Indiana legislature By outstanding leadership in union activities he became (1880) national secretary and treasurer of the Brotherhood of Locomotive Firemen He resigned (1892) from the Brotherhood and launched (1893), instead of a trade union, an industrial union to include all railroad workers, the American Railway Union, of which he became president After a significant victory over the Great Northern RR, the American Railway Union moved to its greatest test When the workers in PULLMAN, Ill, struck in 1894, Debs's union boycotted the servicing of Pullman cars. An injunction, however, was served against the trainmen, and Federal troops, sent to Illinois by President Grover CLEVELAND over the protest of the Illinois governor, John P ALTGELD broke the strike Debs and others were convicted (1895) of violating the injunction. While he was serving six months in prison, his reading diverted his attention to socialism and he became the leader of American Socialists As presidential candidate (1900) of the Social Democratic party, he polled 96,000 votes, and as candidate (1904) of the new Socialist party, he received 402,000 votes He became editor of the Socialist weekly *Appeal to Reason* and lectured widely to large audiences After 1900, he grew more bitter in his attacks on trade unionism and more vehement in advocating organization of labor by industries He helped to found (1905) the INDUSTRIAL WORKERS OF THE WORLD, but soon withdrew from the movement As Socialist candidate for president he polled 44,000 votes in 1908 and 901,000 votes in 1912. The Socialist party refused to take part in the government war effort in the First World War, and in 1918 Debs, a leading pacifist, was sentenced to 10-year imprisonment for speaking in violation of the Espionage Act Though still in prison, he was Socialist candidate for President in 1920 and gathered 919,000 votes He was released by order of President Harding His health was broken, and his civil rights were not restored He could accomplish little in his last years, but he was widely revered as a martyr for his principles See Ray Ginger, *The Bending Cross* (1949)

debt, obligation in services, money, or goods owed by one party, the debtor, to another, the creditor When contested, debts are now collected by a civil suit upon which the judge renders a judgment, and an execution is levied on the debtor's property The history of debt runs in cycles of measures against insolvent debtors, ending in revolution or general cancellation of debts In ancient nations debt was associated with slavery, for the insolvent debtor and his household were in many cases turned over to the creditor to perform compulsory services In early Rome the insolvent was given into custody of the creditor for 60 days prior to his sale as a slave subject to such treatment as pleased the creditor This arrangement was mitigated in 494 B C by the first of the uprisings of the Roman people, turbulence in Rome afterward was to a large extent occasioned by the desire to restrain creditors In Greece the reforms of Solon had a like origin. In Palestine, in every 50th year—the year of jubilee—Jewish debtors were freed and their obligations were canceled Imprisonment for debt, which once crowded prisons, was ended in theory in England and America by laws enacted in the 19th cent However, imprisonment on other charges, such as concealment of assets, in some instances continues the substance of imprisonment for debt The laws of BANKRUPTCY are designed to apply the resources of debtors to their debts and thereafter to relieve them from such legal obligations

debt, public, indebtedness of a government expressed in money terms The debt is differently computed by nearly every nation, and some authorities exclude all government obligations other than those incurred by public borrowing from individuals About 1800 the idea of a public debt became distinct from the concept of the debts of the sovereign himself These had been common in history, ever since the growth of money markets made large-scale borrowing possible Governments may incur debts for several reasons They may borrow to meet temporary needs, as when estimated revenue falls below estimated expenditures Short-term treasury notes, payable by increased taxes or by greater economy, may be issued, but the debt should not become permanent Public works, especially when widespread unemployment exists, are another source of public debt and are justified in part by their permanent social utility. The largest public debts are incurred to meet emergencies, such as WAR DEBTS, arising from the impossibility of financing the extended activities of government by new taxes or from the need to borrow abroad to finance the war effort Public debts are advantageous in securing part of the national funds at an interest rate lower than that given by private industry and in founding the financial operations of government on a permanent basis The disadvantages are that unjustifiable projects may be undertaken because the full burden of payment is not immediately met, that, if the government's demands become so large that the interest rate rises, money may be diverted from private enterprise, and that too great a debt may induce governments to depreciate currency or default on obligations Public loans, the characteristic form of government debts in modern times, may be in the form of short-term instruments, e g, tax warrants, treasury certificates, treasury notes, and other notes such as those of the FEDERAL RESERVE SYSTEM, long-term government bonds; and various notes which promise yearly payment of interest but without date for payment of principal The number of those holding government obligations has increased in recent history, but governments in times of stress have often converted bonds to issues carrying lower interest rates, have depreciated the value of currency, or have defaulted entirely on their obligations with disastrous results for the

bondholders Default on obligations held by foreigners has been a reason offered for intervention by major powers in Latin America, Egypt, and elsewhere The payment of the public debt improves the national credit Public debts may be paid by sinking funds or by annuities, but both have the disadvantage of committing the government to fixed annual payments, whether convenient or not Another method is to use only surplus revenue, setting a permanent appropriation to be paid against principal over and above annual interest rates, thus amortization of the public debt halts when the government has a deficit The ultimate security of the public debt is the willingness of the people to pay and the ability of the government to collect the taxes The U S national debt originated with the Revolution and stood after the Second World War at approximately $250,000,000,000 See E R A Seligman, *Currency Inflation and Public Debts* (1921), William Withers, *The Retirement of National Debts* (1932), C C Abbott, *Management of the Federal Debt* (1946)

Deburau or **Debureau, Jean Gaspard** (both shĕ' gaspar' duburō'), 1796–1846, French pantomime performer, whose real name was Jan Kaspar Dvorjak, b Bohemia He was the star of the Théâtre des Funambules, where he introduced the pantomime character PIERROT His portrayal of Pierrot had great charm and a certain pathos He is the subject of the play *Deburau* (1918) by Sacha Guitry and of the biography *The Great Debureau* (Eng tr 1940) by Francis Kozik

Debussy, Claude Achille (klōd' ăshēl' dubusē'), 1862–1918, outstanding composer of the French impressionist movement His piano works exploit the subtle coloristic possibilities of the instrument to the utmost Among them are *Suite bergamasque* (pub 1905), containing the popular *Clair de lune*, *Estampes* (1903), *The Children's Corner* (1908), 24 preludes, including *La Cathédrale engloutie* (1910), and 12 études *L'Après-midi d'un faune* (1892), inspired by the poem of Mallarmé, stands out among his orchestral works, in addition to his *Nocturnes* (1899) and *La Mer* (1905) He also wrote many exquisite songs and an opera, *Pelléas et Mélisande* (1892–1902), on the drama by Maeterlinck See biographies by Edward Lockspeiser (1937) and Oscar Thompson (1937)

Debye, Peter Joseph Wilhelm (dēbī'), 1884–, American physicist, b Netherlands He was professor at the universities of Zurich, Utrecht, Göttingen, Leipzig, and Berlin In 1940 he came to the United States and became professor of chemistry at Cornell Univ For his work on the structure of molecules he received the 1936 Nobel Prize in Chemistry He is known also for his studies in the conductivity of electricity by salt solutions and in the heat capacity of solids

decadents (dĭkā'dunt, dĕ'kūdunt) [ultimately from Latin, =decaying] The name is loosely applied to those artists and writers, particularly poets, who at the end of the 19th cent devoted themselves to exploiting the more or less morbid and macabre expressions of human emotions Often confused with the French SYMBOLISTS, from whom the movement originally sprang, the decadents were most evident in England, where Oscar Wilde set an extreme example among such men as Ernest Dowson and Aubrey Beardsley and the writers of the *Yellow Book* While the symbolists were in general identified with the decadents (often largely in connection with the conduct of their personal lives), all decadents were not symbolists See G L Van Roosbroeck, *The Legend of the Decadents* (1927), Mario Praz, *Romantic Agony* (Eng tr, 1933)

Decalogue. see TEN COMMANDMENTS

Decameron, The (dĭkă'murun), or **Il Decamerone** (ēl dăkămārō'nā) [Gr ,=10 parts], collection of 100 tales by Giovanni BOCCACCIO, written in 1348–53 A group of friends, fleeing the plague, entertain each other in a villa outside Florence by telling anecdotes The stories are distinguished by humor and charm and by the occasional licentiousness of the subject matter and language They are valuable also as a picture of 14th-century manners There are a number of editions in English

De Camp, Joseph Rodefer (dĭ kămp'), 1858–1923, American figure and portrait painter, b Cincinnati, studied under Duveneck and at the Royal Academy, Munich After painting with Duveneck in Italy, he settled in Boston, where he taught in the school of the Museum of Fine Arts Among his best works are *Woman Drying Her Hair* and a portrait of Duveneck (Cincinnati Art Mus), *Little Hotel* and a portrait of Dr Horace H Furness (Pa Acad of the Fine Arts), and portraits of his daughter Sally and Daniel Merriman (Worcester, Mass , Art Mus)

Decamps, Alexandre Gabriel (ălĕksăd'ru gábrēĕl' dŭkā'), 1803–60, French painter, pupil of Abel de Pujol He early achieved a reputation for his vivid scenes of Oriental life, painted in strong color, with violent contrasts of light and shade and accurate detail His *Good Samaritan* and *Night Patrol at Smyrna* are in the Metropolitan Museum

De Candolle, Augustin Pyramus: see CANDOLLE.

Decapolis (dĕkă'pŭlĭs) [Gr ,=ten cities], confederacy of (originally) 10 ancient cities, all E of the Jordan, except Scythopolis The others were (according to Pliny) Dion, Pella, Gadara, Hippos, Gerasa, Philadelphia, Damascus, Raphana, and Kanatha The league was constituted after Pompey's campaign (65 B C –62 B C) as a protection against the Jews and the Arabian tribes and as a customs union The Roman governor of Syria exercised general supervision of their affairs, and they were liable to Roman military service and taxation The name was used for the general locality. Mat. 4 25, Mark 5 20, 7 31

decathlon (dĭkăth'lŏn), in modern OLYMPIC GAMES, a composite contest It consists of the broad jump, the high jump, discus throwing, shot putting, javelin throwing, the 100-meter, 400-meter, and 1,500-meter flat races, the 110-meter hurdle race, and pole vaulting The PENTATHLON was the composite contest of the ancient Olympics

Decatur, Stephen (dĕkā tur), 1779–1820, American naval officer, b Snepunxet, near Berlin, Md , son of a naval officer, Stephen Decatur After joining the U S navy in 1798, he rose to fame in the TRIPOLITAN WAR In 1804 he and his men went into Tripoli harbor, where the U S frigate *Philadelphia* had run aground and had been captured (see BAINBRIDGE, WILLIAM) They got aboard and set the frigate afire This daring won Decatur promotion to a captaincy He helped in the bombardment of Tripoli and after peace was concluded (1805) negotiated successfully with the bey of Tunis In 1808 he was one of the judges at the court-martial of James BARRON, thereafter the two men were enemies In the War of 1812 he commanded three vessels, with the *United States* as his flagship On Oct 25, 1812, the *United States* met and captured the British frigate *Macedonian* Afterward the British blockade held him powerless until Jan , 1815—when the peace had already been signed but news had not come Then in the *President* he put to sea, outran three enemy ships and defeated the fourth, the *Endymion*, but the battle delayed him and he had to surrender to the other pursuers In the so-called Algerine War in 1815 he used his squadron with vigor to force the dey of Algiers to sign the treaty which ended American tribute to Algeria As one of the three navy commissioners (1815 20), he was powerful in navy affairs His opposition to reinstating the unfortunate and disgraced James Barron led to bitter words Barron challenged him, and in the duel Decatur was mortally wounded at Bladensburg, Md , on March 22, 1820 He was buried with national mourning and is remembered for his reckless bravery and stubborn patriotism Decatur made at Norfolk the fervent toast, ending, "may she always be in the right, but our country, right or wrong " See biographies by C T Brady (1900), C L Lewis (1937), and Helen Nicolay (1942)

Decatur. **1** Industrial city (pop 16,604), co seat of Morgan co , N Ala , on the Tennessee river and N of Birmingham, founded 1820, inc 1826 It is a market, manufacturing, and shipping center handling iron and steel, textiles, timber, fertilizer, brick and tile, and diversified farm produce, there are also shipyards and a large flour mill TVA power supplies the city In the Civil War the city was all but destroyed **2** City (pop 16,561), co seat of De Kalb co , NW Ga , residential suburb of Atlanta, at the foot of Stone Mt , inc as a town 1823, as a city 1922 Agnes Scott College and Columbia Theological Seminary are here **3** City (pop 59,305), co seat of Macon co , central Ill , E of Springfield and on the Sangamon river (here dammed to form Lake Decatur), founded 1829, inc 1839 It is a railroad and industrial center with railroad repair shops The city makes metal products, processes corn and soybeans, and is the distributing point for a rich farm and livestock area Coal deposits underlie the region The site of the first Lincoln home in Illinois is near by, in Fairview Park is preserved the Lincoln log cabin courthouse, where the young lawyer practiced, and the city library has a Lincoln collection The Grand Army of the Republic was organized here in April, 1866 Decatur is the seat of James Millikin Univ (coeducational, 1901), which includes Decatur College and Industrial School and a junior college at Lincoln **4** City (pop 5,861), co seat of Adams co , NE Ind , SW of Fort Wayne, settled 1837 Its products include dairy and soybean foods and motors **5** Village (pop 1,599), SW Mich , SW of Kalamazoo, in a lake and farm region, inc 1861 Several Indian mounds are near by **6** Town (pop 2,578), co seat of Wise co , N Texas, NNW of Fort Worth Decatur has processing plants and industries in a dairying, cattle-raising, and farming region It is the seat of Decatur Baptist College (junior, coeducational, 1892)

Decazes, Élie (ālē' dukaz'), 1780–1860, French statesman, a close friend of Louis XVIII, who made him a duke in 1820 A lawyer and judge, he was made minister of police in 1815 and practically controlled the French government even before he became (1819) prime minister His government maintained a precarious balance between the ultraroyalists and the radicals His downfall came when the ultras accused him of complicity in the assassination of Charles Ferdinand, duc de BERRY (1820) He resigned, but Louis XVIII sent him as ambassador to England (1820–21). He continued to figure in politics until the Revolution of 1848.

Deccan (dĕ'kăn'), region of India Sometimes defined as all India S of the Narbada river, it is in a more limited sense the plateau of central peninsular India, including approximately all of Mysore and S Hyderabad, SE Bombay, and NW Madras The rich volcanic soil is used for growing cotton. Here in the late 18th cent the British decisively defeated the French in the struggle for India

December see MONTH

Decembrist Conspiracy. The confusion in Russia that accompanied the succession (Dec , 1825) of NICHOLAS I to Alexander I opened an opportunity for the secret revolutionary and patriotic societies which had risen in Russia after the Napoleonic Wars Many members of these societies were army officers It thus was not difficult to persuade several regiments in St Petersburg to refuse their oath of allegiance to the unpopular Nicholas and to demand that his elder brother, Constantine, be made emperor and grant a constitution The rebels were crushed by artillery fire, and five of their leaders were hanged This event, the first attempt at overthrowing the autocracy of the tsars, made a profound impression on Russia It led both to the increasing police terrorism of the tsarist government and to the spread of revolutionary doctrine among the educated classes

decemvirs (dĕsĕm'vurz) [Latin, =ten men], in ancient Rome, a group of 10 men named in a special judicial or executive capacity The most famous were those who developed the Laws of the Twelve Tables, the prime Roman code There was a permanent decemvirate who guarded the Sibylline Books, they were priests

decentralization, in government, seeks to increase the power of the lesser and more localized governmental units at the expense of the central authority The ultimate in governmental decentralization is ANARCHY Since the growth of the concept of nationality in the later Middle Ages and the Renaissance, modern states have tended towards centralization, but groups within the nations have fought against it After the First World War the movement for decentralization bore fruit in the establishment of the new Baltic states and the Irish Free State and in the heightened status of the British dominions as well as in the preservation of considerable autonomy in Scotland by a separate secretary of state In Europe the movement for decentralization has frequently been allied with regionalism, which seeks to promote ethnic and cultural particularism as well as administrative decentralization Modern France, despite its high degree of centralization, is the nation in which regionalist concepts have been most marked In political thought, regionalism stands in an intermediate position between decentralization and federalism In the United States the several states have always been jealous of powers not specifically granted the central government, but the compelling force of modern conditions has allowed the increase of Federal power Regional conferences of governors, interstate organizations, such as the Port of New York Authority, organizations of state officials, such as the American Legislators, the rise of constitutional home rule for cities, and the establishment of public and quasi-public corporations to administer public enterprises—all represent the force of decentralization in the United States Decentralization is advocated as lessening bureaucracy, relieving national legislatures of increasing burdens, increasing citizen interest in government, and more adequately meeting the needs of a given area

deciduous plant see TREE

decimal system (dĕ'sĭmul) [Latin, =of tenths], system of notation for writing numbers based upon powers of 10 A number is written as a row of digits, and each place in the row stands for a certain power of 10 Each place to the left of the decimal point indicates that a number is raised to a higher power of 10, and each place to the right of the decimal point indicates division by 10 or raising the number to a negative power of 10 To give examples $4{,}309 = 4\times10^3 + 3\times10^2 + 0\times10 + 9$, and $43.09 = 4\times10 + 3 + 0\times10^{-1} + 9\times10^{-2}$ It is believed that the decimal system is based upon 10 because man has 10 fingers and so became used to counting by 10's early in the course of civilization In our notation there are still traces of systems with other bases The English score and the French *quatre-vingt* are indications of 20 as a base The minute-second measure for angles is probably a survival of the ancient Babylonian 6x10 base The decimal system was introduced into Europe c 1300 It greatly simplified arithmetic and was a much-needed improvement over the Roman numerals which did not use a place system A number written in the decimal system is called a decimal, although sometimes this term is used to refer only to a proper fraction (see FRACTION) written in this system and not to a mixed number. Proper fractions are written as the sum of fractions whose denominators are powers of 10 (i e., as the sum of terms containing 10's with negative exponents). For example, $\frac{1}{2} = .5 = \frac{5}{10} = 5\times10^{-1}$, $\frac{3}{8} = .375 = \frac{3}{10} +$

$^7/_{100}+^5/_{1000}=3x10^{-1}+7x10^{-2}+5x10^{-3}$. Decimals are added and subtracted in the same way as are integers (whole numbers) except that when these operations are written in columnar form the decimal points in the column entries and in the answer must all be placed one under another In multiplying two decimals the operation is the same as for integers except that the number of decimal places (i e , digits after the decimal point) is equal to the sum of the decimal places in the factors In division, if there is a decimal point in the divisor, the point is shifted to the extreme right, and the decimal point in the dividend is shifted the same number of places to the right If necessary, one or more zeros are added to make this possible The decimal point in the answer is then placed above that in the dividend If the divisor contains no decimal point, the same rule applies except that no shift occurs in either divisor or dividend The decimal system is used in the arithmetic of all civilized countries Except for those in which English is spoken, most countries have their systems of weights and measures and their coinage based upon 10 (see METRIC SYSTEM) The Dewey decimal system of Melvil DEWEY is a system for classifying books in libraries

Decin (dyĕ'chĕn), Czech *Děčín*, Ger *Tetschen*, city (pop 10,639), N Bohemia, Czechoslovakia, on the Elbe A trade center, it also has a chemical industry.

Decius (Caius Messius Quintus Decius) (dē'shus), 201–51, Roman emperor (249 51), b Pannonia He was sent by PHILIP (Philip the Arabian) to quell a mutiny, but when the soldiers hailed him as emperor, he marched at their head, defeated and killed Philip near Verona, and took the purple, adding Trajan (Traianus) to his name He undertook to rebuild the state and in an effort to revive the state religion persecuted the Christians vigorously He was killed in attempts to repel an invasion of the Goths into Moesia and was succeeded by GALLUS

Decius Mus, Publius (mŭs), name of three Romans, father, son, and grandson, who—according to legend—sacrificed themselves for their country The father (d 340 B C) fought in the war against the Samnites as a tribune (343 B C) and, as consul, with Manlius Torquatus, commanded in the war with the Latins Near Mt Vesuvius he "devoted" himself to the gods, and then he deliberately exposed himself to death in the belief that the enemy would thereby be destroyed by the gods His son when consul for the fourth time (295 B C) similarly sought death in the battle at Sentinum against the Gauls, Samnites, and Etruscans His grandson, in the war with Pyrrhus, followed their example at Asculum (279 B C), according to Cicero's *Tusculan Disputations*

Decker, Thomas. see DEKKER, THOMAS

Declaration of Independence, full and formal declaration adopted July 4, 1776, by representatives of the 13 North American colonies announcing the separation of those colonies from Great Britain and making them into the United States Official acts which colonists considered infringements upon their rights had previously led to the Stamp Act Congress (1765) and to the First Continental Congress (1774), but these were predominantly conservative assemblies which sought redress from the crown and reconciliation, not independence The overtures of 1774 came to nothing, discontent grew, and as the armed skirmishes at Lexington and Concord (April 19, 1775) developed into the American Revolution, many members of the Second CONTINENTAL CONGRESS at Philadelphia followed the leadership of John Adams, John Hancock, and Samuel Adams in demanding independence The delegates from Virginia and North Carolina were specifically instructed on independence and on June 7, 1776, Richard Henry LEE called for a resolution of independence On June 11 John Adams, Benjamin Franklin, Thomas Jefferson, Robert R Livingston, and Roger Sherman were instructed to draft such a declaration, the actual writing was entrusted to Jefferson The first draft was revised by Franklin, John Adams, and Jefferson before it was sent to Congress, where it was again changed This final draft was adopted July 4, 1776, and Independence Day has been the chief American patriotic holiday ever since It is interesting to note, however, that the July 4 document is merely a fuller statement justifying the resolution of independence adopted by Congress July 2, 1776 The Declaration of Independence is the most important of all American historical documents, familiar to all educated Americans The opening paragraphs (given here in the form used in the engrossed copy) state the general fundamental American idea of government, based on the theory of NATURAL RIGHTS, which had been held by Marsilius of Padua, John Locke, Jean Jacques Rousseau, and others "When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation —We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness —That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed,— That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes, and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security" Then follows an indictment of George III for willfully infringing those rights in order to establish an "absolute Tyranny" over the colonies The document states that colonial patience had achieved nothing and therefore the colonists found themselves forced to declare their independence The stirring closing paragraph is the formal pronouncement of independence and is borrowed from the resolution of July 2 "We, therefore, the Representatives of the united States of America, in General Congress, Assembled, appealing to the Supreme Judge of the world for the rectitude of our intentions, do, in the Name, and by Authority of the good People of these Colonies, solemnly publish and declare, That these United Colonies are, and of Right ought to be Free and Independent States, that they are Absolved from all Allegiance to the British Crown, and that all political connection between them and the State of Great Britain, is and ought to be totally dissolved, and that as Free and Independent States, they have full Power to levy War, conclude Peace, contract Alliances, establish Commerce, and to do all other Acts and Things which Independent States may of right do —And for the support of this Declaration, with a firm reliance on the protection of divine Providence, we mutually pledge to each other our Lives, our Fortunes and our sacred Honor" Not all the men who helped draw up or voted for the Declaration signed it (Robert R Livingston, for example, did not) nor were all the signers present at its adoption All the signatures except three (Gerry, McKean, and Thornton) were affixed on Aug 2, 1776 The first is that of John Hancock, president of the Continental Congress The remaining 55 are those of Josiah Bartlett, William Whipple, Matthew Thornton, Samuel Adams, John Adams, Robert Treat Paine, Elbridge Gerry, Stephen Hopkins, William Ellery, Roger Sherman, Samuel Huntington, William Williams, Oliver Wolcott, William Floyd, Philip Livingston, Francis Lewis, Lewis Morris, Richard Stockton, John Witherspoon, Francis Hopkinson, John Hart, Abraham Clark, Robert Morris, Benjamin Rush, Benjamin Franklin, John Morton, George Clymer, James Smith, George Taylor, James Wilson, George Ross, Caesar Rodney, George Read, Thomas McKean, Samuel Chase, William Paca, Thomas Stone, Charles Carroll of Carrollton, George Wythe, Richard Henry Lee, Thomas Jefferson, Benjamin Harrison, Thomas Nelson, Jr , Francis Lightfoot Lee, Carter Braxton, William Hooper, Joseph Hewes, John Penn, Edward Rutledge, Thomas Heyward, Jr , Thomas Lynch, Jr , Arthur Middleton, Button Gwinnett, Lyman Hall, and George Walton See studies by J H Hazelton (1906), C L Becker (1922), and Julian P Boyd (1945)

Declaration of Rights see BILL OF RIGHTS

Declaration of the Rights of Man, a fundamental document of French constitutional history, drafted by SIEYÈS, adopted by the Constituent Assembly on Aug 26, 1789, and embodied in the French constitution of 1791 as a preamble Based on the theories of J J ROUSSEAU and on the American Declaration of Independence, it stated the "inalienable rights" of the individual (a list of duties was, after some debate, omitted by its framers) The rights to "liberty, property security, and resistance to oppression" and the rights to freedom of speech, of the press, and of worship were guaranteed The document asserted the equality of men and the sovereignty of the people, on whom the law should rest, to whom officials should be responsible, and by whom finances should be controlled Its effect on liberal thought in the 19th cent was incalculable

declension: see INFLECTION

De Coninghi, Philips. see KONINCK, PHILIPS DE

Decorah (dĭkō'ru), city (pop 5,303), co seat of Winneshiek co , NE Iowa, 15 mi S of the Minn line, on the Upper Iowa river, inc. 1857 Settled largely by Norwegians, it publishes a Norwegian newspaper, its rich early history is preserved in a museum at LUTHER COLLEGE here Near by is a state game preserve, a fish hatchery, and a limestone ice cave

Decorated style or **Geometric style,** type of construction favored in the second period of Gothic architecture in England in the 14th cent The basic elements of Gothic architecture, as developed in the Early English style (late 12th and 13th cent) remained the same, but tracery, ornamented molding, and other decorations developed from straight geometric designs to more opulent and curvilinear patterns based on shapes in nature As the builders' skill advanced, the stone construction became lighter and more spacious and vaulting attained extraordinary degrees of complication It is exemplified in Bristol Cathedral

decoration, embellishment, enrichment, or ornamentation in architecture of walls (see MURAL PAINTING), public buildings and private houses (see INTERIOR DECORATION), metalwork, and woodwork It is also applied to textiles, pottery, books, and numerous household objects which have surfaces suitable for ornamental DESIGN, to ecclesiastical vestments and appurtenances, and to personal apparel and belongings, including costumes, jewelry, goldwork and silverware, arms and armor, tools, saddles, harness, and automobiles In its proper sense decoration embraces all the fine and applied visual arts

Decoration Day see MEMORIAL DAY

decorations, civil and military. The practice of rewarding civil and military achievements—including, in modern times, achievements in the arts, sciences, and education—grew out of the medieval custom of conferring knighthood At present, orders of knighthood in the feudal sense still exist in Great Britain (For the British orders of the Garter, Thistle, Bath, and others, see KNIGHT) Some recently created British orders—e g , the Distinguished Service Order (1886), the Royal Victoria Order (1896), and the Order of the British Empire (1917)—are decorations for civil and military service rather than true feudal orders In the rest of Europe the old orders of knighthood, where they still exist, have tended to become decorations without feudal connotations Among the best-known of these orders are the Order of the Golden Fleece created (1429 or 1430) by Philip the Good of Burgundy and conferred by Austria (until 1918) and by Spain, the Danish orders of the Dannebrog (1219) and the Elephant (1462), the Italian orders of the Annunziata (1362) and of SS Maurice and Lazarus (1434), the papal order of the Golden Spur (1559), the Prussian orders of the Black Eagle (1701), Red Eagle (1734), and Pour le Mérite (1740), and the Polish orders of the White Eagle and of Polonia Restituta (1919) The French Legion of Honor, created by Napoleon Bonaparte in 1802, is an order, it is composed of an unlimited number of knights, of a limited number of officers, commanders, grand officers, and holders of the grand cross, and of a grandmaster (the president of France) Most other European orders also are graded in several classes, and the stars, crosses, ribbons, and other insignia corresponding to the different classes vary greatly in aspect and value The French Croix de Guerre, instituted in 1915 for bravery, is awarded to enlisted men and, in cases of exceptional heroism, to officers It is not an order, but a decoration, as is also, for instance, the German Iron Cross The highest decoration for exceptional heroism in the United States is the Congressional Medal of Honor, instituted in 1862 Among other American decorations awarded by the Congress are the Distinguished Service Cross and Distinguished Service Medal (1917) and the Distinguished Flying Cross (1942) The Purple Heart (created by George Washington, 1782, revived 1932) is awarded for wounds received in action, the silver star and bronze star are awarded, respectively, for heroism and for outstanding service Oak-leaf clusters (in the navy, gold or silver stars) are marks of repeated awards of the same decoration In the United States a ribbon, indicating by its colors the corresponding medal, rather than the medal itself, is worn over the left breast pocket of the uniform or in the lapel of civilian clothes In some other countries, e g , Russia, the medals themselves are worn suspended on their ribbons Several countries—e g , France—award medals to entire units, every member of which is entitled to wear a *fourragère* (a braided cord) around the left shoulder Campaign ribbons and the battle stars worn on the ribbons are awarded automatically for presence in certain theaters of operation Soviet Russia, which long awarded only one decoration—the Order of the Red Star—now awards many, e g , the orders of Victory, Lenin, Suvarov, and Alexander Nevsky, these are orders in name only and belong to the category of medals.

De Coster, Charles Théodore Henri (du kō'stŭr, Fr. sharl' tāōdôr' ārē' du kôstĕr'), 1827–79, Belgian author, b Munich His collected legends from Flemish folklore (1857), written in old French style, gave him a reputation as a medievalist. His *Contes brabançons* (1861) was followed by his best-known work, *La Légende et les aventures héroïques, joyeuses et glorieuses d' Ulenspiegel et de Lamme*

Goedzak (1867; Eng. trs, 1918, 1921). This remarkable tale, written in archaic style and based on the Germanic folk hero and trickster, Till Eulenspiegel, has been compared with the *Gargantua* of Rabelais However, the book derives more directly from the medieval satiric allegory *Renard the Foz*, fashioned mainly in Flanders.

De Crayer, Gaspar see CRAYER, GASPAR DE.

decree, in law, decision of a suit in a court of equity It is the counterpart in equity of the judgment of a court of law, although in those jurisdictions where law and equity have merged, judgment is sometimes used to include both The difference between the two, however, is fundamental A judgment must be unconditionally for one party or another, setting the amount of damages awarded A decree, being more flexible, is adaptable to the peculiar necessities of each case Thus in a decree the act commanded may be conditioned upon the performance by the adverse party of a certain act The decree may act against the person of the defendant, it is not restricted to the award of money damages It may contain an INJUNCTION against the performance of certain acts One of the most familiar of the decrees given by courts of equity is the decree of DIVORCE, adjudicating the dissolution of a MARRIAGE and awarding ALIMONY Decrees are enforced by proceedings for CONTEMPT OF COURT.

decretals, see CANON LAW

Dedan (dē'-), eponym of a people apparently occupying Arabia S of Palestine The people are called Dedanim or Dedanites Gen 10 7, 25 3, Isa 21 13, Ezek 27 20 See DODANIM

Dedham (dĕ'dum), town (pop 15,508), co seat of Norfolk co, E Mass, SW of, and near, Boston, settled 1635, inc 1636 America's oldest frame house, the Fairbanks house (1636), is here, and Dedham is said to have had the first public school in America (1649) The county courthouse (1827) was the scene of the Sacco-Vanzetti trial. Dedham pottery has gained renown Paper products are made See history by Frank Smith (1936)

deduction [Latin, =leading down], in LOGIC, the form of inference in which particular conclusions are reached by reasoning from certain general principles assumed to be true For example, if we know that all men have two legs and that John is a man, it is then logical to deduce that John has two legs Deduction is contrasted with INDUCTION

Dee, John, 1527–1608, British astrologer He had a remarkable career as magician and scientist He was an accomplished mathematician, who studied not only at Cambridge (where he was a fellow) but also abroad, and he was a clergyman Accused of practicing sorcery against Queen Mary, he was acquitted and later was a favorite of Queen Elizabeth, drawing up valuable hydrographical and geographical materials on newly discovered lands for her He also made calculations in preparation for adoption of the Gregorian calendar in England, which he vainly sought He is better remembered, however, for the more sensational side of his career His interest in crystal gazing, divination, and the occult led to his being patronized by Emperor Rudolf II until dark rumors forced his departure from Prague Dee was also associated with Edward Kelley, who claimed to have discovered the alchemical secret of transmuting base metal to gold He was briefly the head of an occult group, and despite his protests he had an enormous reputation as a magician to the time of his death He wrote many works on mathematics, science, and the occult His diary was edited in 1842 by J O Halliwell-Phillips

Dee, rivers in Scotland **1** Aberdeenshire and Kincardine, celebrated for its beauty It rises in the Cairngorms and flows c 90 mi E past Braemar, Balmoral Castle, and Ballater to the North Sea through an artificial channel at Aberdeen Harbour It is a salmon stream **2** Kirkcudbrightshire, flowing 50 mi SE and S to Kirkcudbright Bay of Solway Firth just S of Kirkcudbright

Dee, river of Wales and England, rising in Merionethshire and flowing NE through Bala Lake and thence 70 mi through a picturesque course NE, N, NW to the Irish Sea At low tide the long, broad, shallow estuary is an expanse of sand, across which the narrow stream flows—Kingsley's "Sands of Dee" Thomas Telford's famous aqueduct crosses the Dee near Trevor SW of Wrexham Chester is the chief city on the river

deed, in law, formal contract conveying an interest in land or other realty A deed may warrant the extent of the conveying party's ownership or, if the party is uncertain of the precise extent, he issues a quitclaim (i e, a sale), without description, of whatever he may own The formalities with which a deed is invested are designed to make the instrument conclusive evidence of the transaction described and to obviate the need for further proof In all states deeds must be formally delivered and their receipt formally attested It is possible to deposit a deed with a third party or a court for delivery to the purchaser, this is termed a delivery in escrow. Most states also require that deeds be acknowledged by a duly authorized commissioner and that a copy be deposited with the clerk of the county where the realty is situated. If the formalities are not observed a deed (or the contract purporting to convey realty) is some, but not conclusive, evidence of the conveyance.

Deephaven, village (pop 1,026), E Minn., on the east shore of Lake Minnetonka W of Minneapolis.

Deep River, Conn see SAYBROOK.

deep-sea exploration: see OCEANOGRAPHY.

deer, ruminant mammal of the family Cervidae found in most parts of the world except Australia The only deer in Africa are small numbers of red deer found in the north in a forested area Antlers, solid bony outgrowths of the skull, develop in the males of most species They are shed and renewed annually The "velvet," a soft, hairy skin covering permeated by blood vessels, dries and is rubbed off as the antlers mature The stem of the antler is called the beam, and the branches are the tines Antlers are used as weapons during breeding-season combats between bucks In the deer which lack antlers (the MUSK DEER and Chinese river deer) the upper canines are long and serve as weapons Deer are polygamous They eat a variety of herbaceous plants, lichens, mosses, and leaves and bark of trees The white-tailed deer which lives in woodlands throughout the United States and in Central America and N South America was a source of food, buckskin, and other necessities for the American Indian and the white settler Slaughter through the years nearly exterminated it, but it is now restored in large numbers in the E United States and to a less extent in the West In summer the upper parts of the whitetail are reddish brown, in winter gravish The mule deer exists in reduced numbers from the plains region westward, and the closely related black-tailed deer is a Pacific coast form Old World deer include the red deer, the fallow deer, and the axis deer See also CARIBOU, ELK, MOOSE, REINDEER, WAPITI

Deer, Book of, ancient manuscript of the Gospels, with Irish notes, found in Aberdeenshire, Scotland It is now at Cambridge Univ

Deere, John, 1804–86, manufacturer of agricultural implements, b Rutland, Vt He was one of the pioneers of the steel PLOW industry A blacksmith by trade, he established (1836) a shop at Grand Detour, Ill Here he was associated with Leonard ANDRUS in making (1837) the first Grand Detour steel plow In 1843 Deere and Andrus formed a partnership for the manufacture of plows This partnership was terminated in 1847, when Deere moved to Moline, Ill Here he established a factory that in time made other farm implements as well as plows and became known throughout the world Deere himself long continued to work at the forge when he could, he refined the shape of the plow and improved other implements made in his factory

Deerfield. **1** Village (pop 2,283), NE Ill, NNW of Chicago, inc 1903 **2** Town (pop 2,684), NW Mass, on the Deerfield river, settled before 1670, inc 1677 Indian raids and alarms hindered the growth of the new village In the massacre of 1704, nearly 50 inhabitants were killed and most of the rest were taken to Canada; many were killed on the way Old Deerfield St is lined with 18th-century houses Deerfield Academy for boys (chartered 1797, opened 1799) is here

Deerfield, river rising in S Vermont and flowing S into NW Massachusetts, then SE to the Connecticut near Greenfield, Mass It furnishes power for many factories

Deerfield Beach, town (pop 1,850), SE Fla, on the Atlantic coast N of Fort Lauderdale, inc 1925 It is a trade center for a farm area

deerhound, dog allied to the greyhound, but stronger and heavier It resembles the Irish wolfhound, but is more delicately built than that breed There are two varieties, the Scottish and the Yorkshire The deerhound has been known since the 16th cent It was bred for deer hunting and therefore is strong, swift, and keen-sighted Its wiry coat is 3 or 4 in long, in color a dark blue-gray is preferred, though brindled and tawny deerhounds are popular The shoulder height of the male should be from 30 to 32 in and the weight between 85 and 110 lb

Deering, William, 1826–1913, American manufacturer of harvesting machinery, b South Paris, Maine, where he became manager of his father's woolen factory In 1870 he was persuaded by Elijah H Gammon to sell his business and go to Illinois and associate himself with Gammon in the manufacture of reapers Gammon & Deering acquired the manufacturing rights to the harvesting machine invented by Charles W. MARSH and the binder and knotting device invented by John F APPLEBY In 1879 Gammon retired and Deering became sole owner After a long series of experiments a suitable twine was perfected by Edwin H Fitler under Deering's direction Deering combined all these devices in one machine, the first successful binder His executive genius built the Deering Company into the largest agricultural-implement factory in the world. In 1902 the company was merged with the International Harvester Company

Deer Island, irregular island, c 10 mi long and 6 mi. wide, in Penobscot Bay, S Maine It comprises the towns **Deer Isle** (pop 1,303, settled 1762, inc. 1789) in the north and STONINGTON in the south.

Deer Lake, town (1945 pop. 1,932), W N F., NE of Corner Brook and on the Humber river. It is here that the electricity used by the mines at Buchans and by the paper mills at Corner Brook is generated from water power.

Deer Lodge, city (pop. 3,278), co. seat of Powell co., W Mont., SW of Helena and on the Clark Fork; inc 1883 Founded in 1862 after gold was discovered in Deer Lodge Valley, it was given the name Deer Lodge in 1864 It has large railroad workshops and is the seat of a state penitentiary

Deer Park. **1** Village (pop 3,510), SW Ohio, N of Cincinnati. **2** Town (pop 1,070), E Wash., N of Spokane, inc 1908. It ships lumber, grain, and fruit

Defense, United States Department of, created in 1947 as the National Military Establishment and reorganized as the Dept of Defense in 1949 The National Military Establishment was designed to provide a comprehensive program for the security of the United States and to coordinate effectively the activities and policies of the army, the navy, and the air force, and also to correlate those with the work of other government agencies relating to national security The Secretary of Defense—appointed from civilian life by the President with the consent of the U S Senate—was empowered to execute the general policies and programs for the National Military Establishment, to assist the President in all national security matters, and to help eliminate unnecessary duplication and overlapping in the fields of military supply, transport, storage, health, and research It was estimated that the integration of the armed services saved the U S government over $60,000,000 in a year and a half The establishment—under civilian control—was made up of the National Security Council (to help integrate domestic, foreign, and military policies), the National Security Resources Board (to help coordinate military, industrial, and civilian mobilization), the Central Intelligence Agency (to coordinate intelligence activities of Federal agencies concerned with national security), the Munitions Board, the Research and Development Board, the joint chiefs of staff, and the War Council (to advise the Secretary of Defense on broad armed-forces policy matters). In the face of much controversy and heavy criticism, James V FORRESTAL pioneered in the organization of the establishment Under the National Security Act of 1949, the National Military Establishment was redesignated the Dept. of Defense, nine military boards were abolished, and the new offices of Deputy Secretary of Defense and three Assistant Secretaries of Defense were created The Secretary of the Army, the Secretary of the Navy, and the Secretary of the Air Force—empowered by the act of 1947 to aid in the organization of the establishment—were subordinated (1949) to give the Secretary of Defense, Louis A JOHNSON, full cabinet authority over his department

defense mechanism, expression brought into popular usage by psychoanalysts Today it is employed widely and loosely to indicate some mode of behavior adopted unconsciously by an individual and designed to enable him to avoid or ward off an anticipated or imagined attack (criticism or condemnation rather than anything of a physical nature) Freud saw these mechanisms, commonly called dynamisms in psychoanalysis, as the result of conflicts between instinctual demands and fear or guilt The more important ones are rationalisation—protection of the ego against awareness of unsocial motives by substituting socially acceptable reasons for behavior, repression—prevention of unacceptable ideas entering the conscious mind, regression—return to infantile behavior and gratification, projection—the assignment to others of urges and wishes one's own ego repudiates, introjection or identification—reacting to another's desires or tendencies as if they were one's own, sublimation (considered a constructive mechanism)—redirection of the libido toward socially acceptable ends; and conversion—transformation of a psychological conflict into a physical symptom See Anna Freud, *The Ego and the Mechanisms of Defense* (1937)

Deffand, marquise du: see DU DEFFAND

Defiance, city (pop 9,744), co seat of Defiance co, NW Ohio, at the confluence of the Auglaize and Maumee rivers SW of Toledo, settled 1790, inc 1836. Its manufactures include machinery, dairy products, beer, and radio condensers Anthony Wayne built (1794) Fort Defiance here and William Henry Harrison built (1812) Fort Winchester near by. Defiance College is here.

deflation: see INFLATION.

Defoe or **De Foe, Daniel** (dĭ fō'), 1660–1731, English writer, author of ROBINSON CRUSOE, b. London As a dissenter, his education and chances of preferment were restricted. He was variously a traveler in Europe, a retail merchant at first successful but finally bankrupt, proprietor of a tile factory, and semiofficial government pamphleteer He was devoted to William III, and his poem *The True-born Englishman* (1701) won him the king's friendship But an ill-timed satire early in Queen Anne's reign, *The Shortest Way with Dissenters* (1702), which ridiculed Tory animus against nonconformists, re-

sulted in Defoe's being pilloried, fined, and imprisoned. Rescued by Robert Harley, he served the Whig minister both as a writer and as political agent in England and Scotland Defoe's *Review* (1704–13; facsimile ed , 22 vols , 1938, index by W. L. Payne, 1948), one of the earliest and best London miscellaneous journals, was independent, Whiggish, and was, incredibly, mostly written by Defoe himself Under George I he wrote moderate articles for the Tory press. In 1719 appeared Defoe's famous *Life and Strange Surprizing Adventures of Robinson Crusoe* and its seldom read sequel, *Farther Adventures of Robinson Crusoe;* in 1720 came the moralizing *Serious Reflections during the Life and Surprizing Adventures of Robinson Crusoe* His *Moll Flanders* (1722) and the less vivid *Fortunate Mistress, or . Roxana* (1724) are matter-of-fact, realistic novels about disreputable characters Defoe's fictitious *Journal of the Plague Year* (1722) and *Due Preparations for the Plague* (1722) are such lively and circumstantial descriptions of the London plague of 1665 that they almost seem the accounts of eyewitnesses Defoe's writing is clear, straightforward, and pungent, and the astonishing quantity of it all shows the man's enthusiastic, minute observation of affairs around him Others of his major works are *An Essay upon Projects* (1698), *History of the Union of Great Britain* (1709), *Captain Singleton* (1720), *Colonel Jack* (1722), and *A Tour through the Whole Island of Great Britain* (4 vols , 1724–42) See biography by James Sutherland (1937), W L Payne, *Mr Review* (1947)

De Forest, John William, 1820–1906, American author and soldier, b Seymour, Conn He served in the Civil War, chiefly as a captain His vivid accounts of battle scenes in Louisiana and with Sheridan in the Shenandoah Valley, published in *Harper's Monthly,* were among the best contemporaneous war records After the war he wrote a novel, *Miss Ravenel's Conversion from Secession to Loyalty* (1867, reissued 1939) He also wrote essays, stories, and poetry *A Volunteer's Adventures* (ed by J H Croushore, 1946) is a collection of his war articles and letters

De Forest, Lee, 1873–, American inventor, b Council Bluffs, Iowa, grad Yale, 1896 He was a pioneer in the development of wireless telegraphy, sound pictures, and television His audion (1921) made practicable transcontinental telephony, both wire and wireless The first high-powered naval radio stations were designed and installed by him He has been granted over 300 patents

De Forest, Lockwood, 1850–1932, American artist and Orientalist, b New York city He traveled in Europe and the Orient and founded workshops for the revival of wood carving at Ahmedabad, India His work exhibited at the First Indian Exhibition, Lahore, in 1882 was subsequently purchased for the India Museum, South Kensington, London A collection of Tibetan jewelry and other art objects was assembled in the Orient by De Forest for the Metropolitan Museum This museum has also a landscape by him, *Mount Carmel, California*

Defregger, Franz von (frănts' fŭn dā'frĕgur), 1835–1921, Austrian genre and historical painter, studied in Munich with Piloty He is known for his popular pictures of Tyrolean life, which depend largely for their interest on their fine characterization and humor Good examples are *The Last Summons* and *Zither Player* (both Vienna) and *German Peasant Girl* (Metropolitan Mus)

De Funiak Springs (dē fū'nēăk), town (pop 2,570), co seat of Walton co , NW Fla , W of the Choctawhatchee In the center of town is a picturesque fresh-water spring a mile in circumference and 80 ft deep

Degas, Hilaire Germain Edgar (ēlĕr' shĕrmĕ' ĕdgär' dŭgä'), 1834–1917, French painter, commonly called Edgar Degas, b Paris, son of a banker Intended for the law, he abandoned it for painting, studying at the École des Beaux-Arts and in Italy He first exhibited in the Salon of 1865 but later ceased showing there and exhibited with the impressionists In 1870 he enlisted in the army and after the Franco-Prussian War spent some time with relatives in New Orleans The last 30 years of his life he lived as a recluse in Paris, only a few old friends were admitted to his company Degas committed suicide alone in his studio at the age of 83 He was a perfectionist and a fanatic in his self-criticism as in his misanthropy An admirable painter, he practically abandoned oils for pastel, foregoing definitely the finished perfection to which he aspired, and despaired of attaining, in oils Favorite subjects of Degas were ballet dancers, modistes, women at their toilet, café life, and racetrack scenes. He was not, however, a *boulevardier;* an aristocrat in a plebeian century, he studied gay life as a detached observer His work is ranked with that of the greatest French artists. In his youthful works, drawing predominates over color, but his first pastels, done in his middle age, are gorgeous in color, in his later work, while color is much subdued, it is subtle and immensely effective. His later oils and particularly his pastels, are daring in composition and free in execution. They exercised a great and liberating influence on such men as Gauguin, Toulouse-Lautrec, and Picasso and constitute a penetrating psychological commentary on his day and generation Famous examples of his work are *La Danseuse au bouquet, saluant sur la scène* and *Les Repasseuses* (Louvre), *Dancer Fastening Her Sandal, Star Dancer,* and *Woman at Her Toilet* (Luxembourg Mus , Paris), and *La Modiste* (Metropolitan Mus) Degas also executed some fine bronzes of dancers and horses See studies by Julius Meier-Graefe (Eng. tr , 1923) and Camille Mauclair (Eng tr , 1941; new ed , 1948), Ambroise Vollard, *Degas an Intimate Portrait* (Eng. tr , 1927; new ed , 1937)

De Gasperi, Alcide (älchā'dā dā gä'spārē), 1881–, Italian statesman Born in the Trentino—then under Austria—he early represented the Italian Irredentists in the Austrian parliament From 1921 until 1924 he was a Catholic deputy in the Italian parliament After 16 months of imprisonment as an anti-Fascist, De Gasperi received (1931) a position at the library of the Vatican, where he organized, during the Second World War, the Christian Democratic party After the Italian surrender in 1943 he held several cabinet posts, and in Dec , 1945, he became premier of a coalition cabinet Although his cabinet was subsequently several times reorganized, De Gasperi remained premier In June, 1947, he excluded Communists and left-wing Socialists from the government, and in April, 1948, his party won a decisive electoral victory De Gasperi championed close cooperation with the United States and caused Italy to adhere to the European Recovery Program and to the North Atlantic Treaty

De Gaulle, Charles see GAULLE, CHARLES DE

degeneration. During infectious diseases and intoxications various tissues suffer from disordered nutrition, which results in changes in function and also in appearance of the cells in the tissue There are many types of change, such as cloudy swelling and fatty, mucous, colloid, amyloid, and hyaline degeneration Deposits of calcium salts and pigments also occur, either within or between cells or in place of groups of cells Fatty changes are not uncommon in the course of long high fevers and often occur in the heart A certain degree of degeneration can be repaired in most kinds of tissue In more severe cases the cells die

degree, academic, bestowed upon a student on the fulfillment of certain requirements or given as an honor to an eminent person The degrees usually conferred in American universities are Bachelor of Arts (B A), at the end of a LIBERAL ARTS course, Bachelor of Science (B S), Bachelor of Laws (LL B), Master of Arts (M A) or of Science (M S), at the end of a prescribed postgraduate course in liberal arts or in science The highest degree conferred by a university is the doctorate Doctor of Philosophy (Ph D), of Medicine (M D), of Divinity (D D), of Laws (LL D) There are numerous other degrees less often given, including purely honorary awards such as Doctor of Literature (Litt D) The requirements for degrees differ in different institutions The gowns and insignia worn at academic convocations indicate the degrees attained by their wearers and the degrees for which they are candidates (see ACADEMIC COSTUME)

De Grey, George Frederick Samuel Robinson, Earl see RIPON, GEORGE FREDERICK SAMUEL ROBINSON, 1ST MARQUESS OF

De Haas, Maurice Frederick Hendrick (dĕ hās'), 1832–95, American marine painter, b Rotterdam, Netherlands, studied at the academy there and at The Hague He settled (1858) in New York city, where he quickly gained recognition He was an original member of the American Water Color Society and became a member of the National Academy in 1867 Among his notable works are *Wreck on the Isle of Jersey, Menhaden Boats off Long Island Beach, The Rapids above Niagara, Tropical Sunset at Sea* (N Y Public Library) His masterpiece is *Farragut Passing the Forts at New Orleans*

De Haven, Edwin Jesse (dŭ hā'vŭn), 1816–65, American arctic explorer He accompanied Charles Wilkes on the naval exploring expedition that reached Antarctica In 1850 he was chosen to head an expedition into the arctic regions financed by Henry Grinnell to search for the lost party of Sir John Franklin Franklin's men were not found, but De Haven discovered Grinnell Land on Ellesmere Island

De Heem, Jan Davidszoon: see HEEM, JAN DAVIDSZOON DE

Dehmel, Richard (rĭkh'ärt dā'mĭl), 1863–1920, German poet After taking his degree in economics, he soon devoted himself to literature Despite his age and pacifist convictions, he fought in the First World War, and the strain led to his death His restless and virile temperament found expression in verse of great variety, composed often of conflicting elements but finely fashioned. A few of his lyrics have a strong social cast In general he represents a revolt against the extreme naturalistic school. His works include the collection *Erlösungen* [redemptions] (1891), *Schöne wilde Welt* [fair wide world] (1913), and the novel in verse *Zwei Menschen* [two souls] (1903)

Dehn, Adolf Arthur (dān), 1895–, American lithographer and painter, b. Waterville, Minn.; son of a German farmer. He studied at the Minneapolis Art Institute and under Boardman Robinson at the Art Students League of New York From 1921 to 1929 he traveled and studied in Europe, supporting himself largely by drawings for German and American magazines After 1929 he lived mostly in the United States, where his satiric figure studies and subtle landscapes made him a favorite black-and-white artist. He devoted himself primarily to lithography from 1927 to 1940, but after that became a successful water-colorist He exhibited widely and is represented in most American, and several foreign, galleries

De Hooch or **De Hoogh, Pieter** see HOOCH, PIETER DE

Dehra (dā'rŭ) or **Dehra Dun** (dōōn), town (pop 78,228), NW United Provs , India The temple (1699) of Ram Rai, founder of the Hindu Udasi sect of ascetics, is the most notable building There is an important institute for research in forestry, with an associated museum and a botanical garden

Deianira (dē"yənī'rə), in Greek legend, daughter of OENEUS and sister of MELEAGER and TYDEUS She became the second wife of HERCULES, who saved her from the centaur NESSUS

Deidamia (dē"īdā'mēə), in Greek legend, daughter of Lycomedes and mother of Neopotolemus by ACHILLES

Deira (dē'rə), Anglian kingdom between the Humber and the Tyne, united (late 6th cent) with Bernicia, to the north, to form NORTHUMBRIA.

Deirdre (dēr'drē, -drā, dār'-), heroine of Irish story. At her birth great misfortunes were foretold, and she was brought up in seclusion to be the wife of King Conchobar of Ulster By accident she saw Naoise, the son of Usnach, and fell in love with him. He and she and his brothers Ainle and Ardan fled to England After a long idyllic stay, they were enticed into returning by Conchobar, who killed the brothers, Deirdre died on their grave This story was a favorite with recent Irish writers, notably J. M Synge, W B Yeats, and James Stephens

deists (dē'ĭsts), term commonly applied to those thinkers in the 17th and 18th cent who held that the course of nature sufficiently demonstrates the existence of God For them formal religion was superfluous, and they scorned as spurious claims of supernatural revelation Many of them believed that God stands apart from human affairs Their tenets stemmed from the rationalism of the period, and though the word *deist* is not now generally used, the tenor of their belief persists The term *freethinker* is almost synonymous Voltaire and J J Rousseau were deists, as were Benjamin Franklin and Thomas Jefferson

De-jima see DE-SHIMA

De Kalb, Johann see KALB, JOHANN.

De Kalb (dē kălb') **1** City (pop 9,146), N Ill , W of Chicago, in a farm area, inc 1861 Among its manufactures are musical instruments, wire and wire products, and canned foods The city is the seat of Northern Illinois State Teachers College and has a memorial library **2** Town (pop 1,287), E Texas, W of Texarkana, in a cotton, truck and timber area

Dekar (dē'-), father of an officer of Solomon 1 Kings 4 9

De Kay, James Ellsworth, 1792–1851, American naturalist, b Lisbon, Portugal, M D Univ of Edinburgh, 1819 He became actively associated with the New York Lyceum of Natural History (later the New York Academy of Sciences), serving as librarian and first editor of its *Annals* He studied (1831-32) Asiatic cholera in Turkey Later he joined the New York state natural history survey as zoologist, reporting the work of his division in the monumental *Zoology of New York* (5 vols , 1842-44)

De Kempener, Pieter. see KEMPENER, PIETER DE

Deken, Agatha see WOLFF, ELISABETH

De Keyser, Nicaise see KEYSER, NICAISE DE

De Keyser, Thomas. see KEYSER, THOMAS DE

Dekker, Eduard Douwes (ā'dŭart dou'ŭs dĕ'kûr), pseud **Multatuli** (mŭltā'tŭlē), 1820-87, Dutch novelist His experiences in the Javanese colonial service (1838–57) made him an ardent advocate of reform in colonial administration and were the inspiration of the novel for which he is best known, *Max Havelaar* (1859, Eng tr , 1927)

Dekker or **Decker, Thomas,** 1572?–1632, English dramatist and pamphleteer Little is known of him save that he made a precarious living from his plays and pamphlets and that he was in prison for debt from 1613 to 1619 His best plays are *The Shoemaker's Holiday* (1600), *Old Fortunatus* (1600), *The Honest Whore* (with Thomas Middleton, 1604, Part II, 1630), *The Roaring Girl* (with Thomas Middleton, 1611) and *The Virgin Martyr* (with Philip Massinger, 1622) Occasional lyrics in his plays are among the best of the period His vigorous, realistic, affectionate picture of London in his prose writings is tempered with humanitarian indignation and satire *The Bellman of London* (1608) is an exposé of all kinds of roguery, and *The Gull's Hornbook* (1609) is an ironical book of manners *The Wonderful Year* (1603) is a vivid description of the plague See studies by M. L. Hunt (1911) and K L Gregg (1924).

De Koninck, Philips: see KONINCK, PHILIPS DE.

de Koven, Reginald, 1859–1920, American composer and music critic, b Middletown, Conn , grad Oxford, 1879 He received his musical education on the Continent, Délibes was one of his teachers He composed the operas *The Canterbury Pilgrims* (1917) and *Rip Van Winkle* (1920), based on plays by Percy MacKaye, but is best known for his operettas Of these the most famous was *Robin Hood* (1890), containing the song *Oh, Promise Me* He was music critic for newspapers in New York and Chicago See Anna de Koven, *A Musician and His Wife* (1926)

de Kruif, Paul (du krīf'), 1890–, American author, b Zeeland, Mich , grad Univ of Michigan (B S , 1912) He was bacteriologist at the university from 1912 to 1917 Among his books are *Microbe Hunters* (1926), *The Fight for Life* (1938), and *Hunger Fighters* (1939)

De la Beche, Sir Henry Thomas (dŭ lä bāsh', dĕlubĕsh'), 1796–1855, English geologist His privately undertaken work on a geological map of England attracted the attention of the government to the need for geological surveys The project was subsidized in 1832 and the Geological Survey was organized in 1835 with De la Beche as director He wrote several standard works on geology including *A Geological Manual* (1831, 3d ed , 1833), *Researches in Theoretical Geology* (1834), and *How to Observe Geology* (1835), which he enlarged under the title *The Geological Observer* (1851, 2d ed , 1853) He was knighted in 1848

Delaborde, Henri, Comte (ārē' kōt' dulabôrd'), 1811–99, French historical painter and art critic, pupil of Delacroix Examples of his painting are in Amiens and Versailles, but he is best known for his critical works on Flandrin and Ingres and for his history of the Académie des Beaux-Arts, of which he was secretary from 1874 to 1898

Delacroix, Ferdinand Victor Eugène (fĕrdänä' vĕktôr' ûzhĕn' dulakrwä'), 1798–1863 French historical painter He studied with Guérin and at the École des Beaux-Arts, but very early revolted against academic instruction Almost with his first work, *Dante and Vergil* (Louvre), exhibited in 1822, Delacroix became the recognized leader of the romantic movement in French painting In 1824 his *Massacre of Scio* (Louvre) was acquired by the government In 1832 he visited Morocco and in 1834 exhibited his *Women of Algiers* (Louvre) Throughout this period his work continued to arouse hot debate, but the patronage of Thiers secured him numerous public commissions His decorations in the Hôtel de Ville (Paris), in the Gallery of Apollo (Louvre), and for the libraries of the Luxembourg and of the chamber of deputies are splendid examples of his art as a mural painter A man of delicate constitution, Delacroix nevertheless displayed in his work a soul of indomitable energy In color, draughtsmanship, and composition his paintings are consistently dynamic As a colorist in particular he is ranked among the greatest of French painters His work is best seen in the Louvre He is represented in the Metropolitan Museum and in the Walters Art Gallery, Baltimore See his journal (tr by Walter Pach, 1937), study by Dorothy Bussy (1907)

Delafield, E. M (dĕl'ufēld"), 1890–1943, English novelist, whose real name was Edmée Elizabeth Monica de la Pasture, daughter of Mrs Henry de la Pasture and wife of Arthur Paul Dashwood She is best known for her *Provincial Lady* series, which includes *The Diary of a Provincial Lady* (1931), followed by *The Provincial Lady in London* (1934), *in America* (1934), and *in Wartime* (1940) Besides plays, other works include *I Visit the Soviets* (1937) and *No One Now Will Know* (1941)

Delafield, Francis, 1841–1915, American pathologist, b New York city, M D College of Physicians and Surgeons, 1863 After studying under Rudolf Virchow, he became professor of pathology (1876) and director of the newly founded laboratory (1878) at the College of Physicians and Surgeons He studied especially the pathology of nephritis and pneumonia and wrote several works, including a standard textbook of pathology (with T M Prudden, 1885, 16th ed , 1936)

Delagoa Bay (dĕlŭgō'u), large inlet, S Mozambique On its shore is the port of LOURENÇO MARQUES The bay was discovered in 1502 by a member of Vasco da Gama's party, and the adjacent territory was explored (1544) by the Portuguese Lourenço Marques Dutch from the Cape of Good Hope settled along the shores in 1721, but in 1732 they were forced to leave because of malaria In the early 19th cent Great Britain and Portugal both established territorial claims on the basis of conflicting treaties with native chiefs Not until the South African Republic (the Transvaal), seeking an outlet to the sea, attempted to annex a part of the area did the British and the Portuguese reassert their claims France arbitrated the dispute and made an award to Portugal.

Delaherche, Félix Auguste (fālĕks' ôgüst' dûlä-ârsh'), 1857–, French potter, considered the greatest since Bernard Palissy He works alone in the village of La Chapelle-aux-Pots, makes no duplicates, fires his kiln but once a year, and destroys every piece with which he is dissatisfied. He was made first a member and later an officer of the Legion of Honor

Delaiah (dĕlāī'u) **1** Chief priest 1 Chron 24 18 **2** Ancestor of a family who returned with Zerubbabel Ezra 2 60, Neh 7 62 **3** Father of SHEMAIAH 3. **4** Prince of Jehoiakim Jer 36 12,25.

De Lairesse, Gerard: see LAIRESSE, GERARD DE

de la Mare, Walter (dĕl'umâr"), 1873–, English poet and novelist He earned his living as a bookkeeper, and his first books—*Songs of Childhood* (1902), *Henry Brocken* (1904), a novel, and *Poems* (1906)—were produced in his scanty leisure A small government pension finally released him from distasteful work Both his verse and his prose show a delight in imaginative excursions and in the purely fantastic Much of his poetry is written for or about children His fiction includes *The Return* (1911), *Memoirs of a Midget* (1921), and *On the Edge* (1930), a collection of somewhat macabre short stories Of his verse, *Peacock Pie* appeared in 1912, *Down-adown-Derry* in 1921, *Poems for Children* in 1930, *Fleeting and Other Poems* in 1933 He has compiled three anthologies of characteristic charm, *Come Hither* (1923), *Behold This Dreamer* (1939), and *Love* (1943) See study by Forrest Reid (1929)

Delambre, Jean Baptiste Joseph (zhä' bätēst' zhôzĕf' dulä'bru), 1749 1822, French astronomer and mathematician He was a member of the bureau of longitudes from 1795 and professor at the Collège de France from 1807 With P F A Méchain he measured (1791–99) for the French government an arc of the meridian between Barcelona and Dunkirk He is noted also for astronomical computations, especially a table of the motions of Uranus, and for discovering four formulas in spherical trigonometry (Delambre's analogies)

De Lancey (dŭ lăn'sē), family of political leaders, soldiers, and merchants prominent in colonial New York **Étienne De Lancey** or **Stephen De Lancey,** 1663–1741 b Caen, France, was among the more famous of those Huguenots exiled by the revocation of the Edict of Nantes In New York he became one of the city's wealthiest men through his activities as a merchant He married into the Van Cortlandt family and was for 24 years a member of the colonial assembly His town house, built in 1719, was later sold to Samuel FRAUNCES, who made it a notable tavern in the Revolutionary period It still stands, probably the most famous of the old buildings on Manhattan Island His son, **James De Lancey,** 1703–60, b New York city, educated in England, was a noted jurist and one of the most important figures in colonial politics in New York He was a justice (1731–33) and chief justice (1733–60) of the provincial supreme court and served (1753–55, 1757–60) as lieutenant governor His political dexterity enabled him to control both the council and assembly, and after the suicide of the governor, Sir Danvers Osborne, he also assumed control of that office He led the De Lancey faction against Gov George Clinton in politics and against the Livingston faction when that family expressed its Presbyterian opposition to the chartering of King's College (now Columbia Univ) as an Anglican institution He was presiding judge at the trial of John Peter ZENGER and was president of the Albany Congress (1754) His son, **James De Lancey,** 1732–1800, b New York city, inherited the leadership of the De Lancey faction and, although he had opposed British colonial policies, was a Loyalist in the American Revolution He later received $160,000 for his estates, which were confiscated by the patriots His cousin, **James De Lancey,** 1746–1804, b New York city, was also a Loyalist during the Revolution He commanded a cavalry troop in raids outside New York city before fleeing (1782) to Nova Scotia **Oliver De Lancey,** 1718–85, son of Étienne, b New York city, was a British officer who served in the last of the French and Indian Wars and in the American Revolution His son, **Oliver De Lancey,** 1749–1822, b New York city, was also a British officer in the Revolution, succeeding John André as adjutant general of the British forces in America

Deland, Margaret Wade (Campbell) (dulănd'), 1857 1945, American novelist, b Allegheny (now part of Pittsburgh) She married Lorin F Deland of Boston in 1880 Her first successful novel, *John Ward, Preacher* (1888), was followed by her pleasant and sentimental stories of village life, including *Old Chester Tales* (1899) and *Dr Lavendar's People* (1903) *The Awakening of Helena Richie* (1906) and *The Iron Woman* (1911) are novels See her autobiographical works, *If This Be I, as I Suppose It Be* (1935) and *Golden Yesterdays* (1941)

De Land, resort city (pop 7,041), co seat of Volusia co , NE Fla , N of Orlando and SE of Lake George, in a productive citrus-fruit area, founded 1876 John B Stetson Univ (Baptist, coeducational, 1883) and the Royal French Museum are here From the Ponce de Leon Springs near by flow about 94,000 gal a minute

Delane, John Thaddeus (dûlān'), 1817–79, editor of *The Times* (London), 1841–77. See biography by Sir Edward T Cook (1915), The Times (London), *A History of The Times* (1939)

De Langlade, Charles Michel: see LANGLADE

Delano, Amasa (ă'musu dĕ'lunō), 1763–1823, American sea captain, b Duxbury, Mass. In the American Revolution he was a soldier at 15 and later a privateersman His experiences on the sea in the days of New England's supremacy are recorded in his *Narrative of Voyages and Travels in the Northern and Southern Hemispheres, Comprising Three Voyages Round the World* (1817). See J B. Connolly, *Master Mariner* (1943)

Delano, Jane Arminda, 1862–1919, American nurse and hospital administrator, b Schuyler co , N Y., grad Bellevue Hospital School of Nursing, 1886. She was superintendent of nurses at the Univ of Pennsylvania Hospital and at Bellevue Hospital and superintendent of the Army Nurse Corps In the First World War she developed a nursing reserve under the Red Cross With Isabel McIsaac she wrote *American Red Cross Textbook on Elementary Hygiene and Home Care of the Sick* (1913), which went through several editions

Delano, William Adams, 1874–, American architect, b New York city, grad Yale, 1895, studied at the École des Beaux-Arts The firm of Delano and Aldrich (1903) designed many large representative buildings and residences, mostly in the traditional style In 1940 they built LaGuardia Airport Delano was a professor of design (1903–10) at Columbia Univ See Delano and Aldrich, *Portraits of Ten Country Houses* (1924)

Delano (dĕ'lunō) **1** City (1940 pop 4,573, 1946 special census pop 6,630), S central Calif , NNW of Bakersfield in the San Joaquin Valley, inc 1915 It is a shipping point for vegetables and fruits and has a winery and a cotton gin **2** Village (pop 1,094), E Minn , W of Minneapolis and on the Crow, platted 1868, inc 1885. It has granite works and food-processing plants

Delany, Martin Robinson (dûlă'nē), 1812–85, American Negro leader, b Charles Town, Va (now in West Virginia) The son of free Negroes, he attended a Negro school in Pittsburgh and became a journalist and social reformer He studied medicine at Harvard In 1852 appeared his *Condition, Elevation, Emigration, and Destiny of the Colored People of the United States,* which emphasized the practical aspects of Negro problems He worked nobly in a cholera epidemic in Pittsburgh and continued to show humanitarian interests He took up the cause of emigration—the return of American Negroes to Africa—was largely responsible for the first National Emigration Convention in 1854, and headed an expedition to the Niger valley In the Civil War he was an army physician and was the first Negro major in the U S army In the Reconstruction he was in the Freedmen's Bureau, served as a trial judge in Charleston, S C , and was defeated in the election for lieutenant governor of South Carolina in 1874, he was a stern enemy of corruption His ideas of race appeared in *Principles of Ethnology* (1879) See Benjamin Brawley, ed , *Early Negro American Writers* (1935)

De la Pasture, Mrs Henry see CLIFFORD, SIR HUGH

De la Ramée, Louise see OUIDA

Delarey or **De la Rey, Jacobus Hercules** (yäkō'bus hĕi'kulĕs dularī'), 1847? 1914, Boer general in the South African War He scored several victories in the early phase of the war In later guerrilla fighting he was successful in eluding British traps Delarey appeared reconciled to the Boer defeat and sat (1907) in the first parliament which Great Britain permitted in the Transvaal At the outbreak of the First World War, however, he was implicated in a plot against the government and was shot dead by a patrol which was rounding up dissidents

Delaroche, Hippolyte (ēpôlĕt' dularôsh'), 1797-1856, French historical and portrait painter, commonly called Paul Delaroche He studied under Gros The exhibition of his large *Joas Saved by Josabeth* in 1822 brought him a popularity which continued throughout his life He devoted himself chiefly to the painting of large historical canvases *Death of Queen Elizabeth, Children of Edward IV in the Tower* (Louvre), and *Death of the Duke of Guise* (Chantilly) are notable examples Romantic in subject and in sentiment, the painting of Delaroche is studied and academic in handling He became a member of the Institut de France and a professor of the École des Beaux-Arts In 1837 he received the commission for his enormous painting in the hemicycle of the lecture theater of the École, his most ambitious work Late in life he painted his *Young Martyr* (Louvre) His excellent portraits, among which are those of Guizot and Rémusat, are perhaps his best claim to lasting fame

de la Roche, Mazo (mā'zō du la rôsh'), 1885–, Canadian novelist, b Toronto Her most famous novel, *Jalna* (1927), won an *Atlantic Monthly* prize Other books about the Whiteoak family of "Jalna" are *Whiteoaks* (1929), *Finch's Fortune* (1931), *Young Renny* (1935), *Whiteoak Harvest* (1936), *Growth of a Man* (1938), *The Building of Jalna* (1944), and *Mary Wakefield* (1949) Her dramatization of *Whiteoaks* had long runs in London and New York, and a film version of *Jalna* was released in 1935.

De la Rue, Warren (dĕ'lŭrōō, dĕlurōō'), 1815–89, British scientist and inventor Especially noted as an astronomer, he was a pioneer in celestial photography. He adapted the wet-plate process to

lunar photography and invented (1858) for Kew Observatory a photoheliograph, the first device to give good solar pictures His photographs of a solar eclipse in 1860 demonstrated that prominences observed at the sun's edge during eclipses are of solar origin. De la Rue is known also for his research in chemistry, solar physics, and electrical discharge through gases His inventions include an envelope-folding machine (1851)

Delavan (dĕl'uvăn), 1 City (pop 1,181), central Ill , S of Peoria, founded 1837, inc 1888 2 City (pop 3,444), SE Wis , E of Janesville, in a resort, dairy, and livestock area, settled 1836, inc 1897 Knit goods are made A state school for the deaf is here, and Delavan Lake is near by

Delavigne, Casimir (kazēmēr' dŭlăvē'nyu), 1793-1843, French dramatist, poet, and satirist His first publication, a verse diatribe against the Restoration, *Les Messéniennes* (1818), brought him popular recognition and was published in varying editions until 1840 His tragedies were enormously successful, they include *Les Vêpres siciliennes* (1819), *Le Paria* (1821), *Louis XI* (1832), and *Les Enfants d'Édouard* (1833) Delavigne was ranked with Béranger as a national poet

Delaware (dĕ'luwâr, -wur), state (1,978 sq mi ; with water surface 2,370 sq mi , 1940 pop 266,505, 1949 estimated pop 311,000), E United States, one of the Middle Atlantic states and one of the Thirteen Colonies The capital is DOVER, the only large city is WILMINGTON With the Eastern Shore of Maryland, the state occupies the peninsula between Chesapeake Bay and Delaware Bay Delaware is the eastern portion, fronting on the Delaware river, which broadens into Delaware Bay, the bay in turn merges into the Atlantic at Cape Henlopen. The state thus has water along its entire eastern edge (with New Jersey across the river and the bay), elsewhere it is bounded by Pennsylvania in the north and by Maryland in the west and the south The second smallest of all U S states (only Rhode Island is smaller), Delaware is sometimes called the Diamond State, obviously in reference to its size and the fertility of its soil (which, however, suffered from overuse in the 19th cent and had to be restored to vigor by scientific farming). None of the narrow state is very far from water There are fine beaches, notably that at Rehoboth Across the state run many small rivers, parting on a low watershed, some flowing eastward to the Delaware, others westward across Maryland to the Chesapeake, the best known of these streams are two connected rivers in the north, the Christina and the Brandywine The climate is equable, and the vegetation shows Delaware to be what it turned out to be in history, a true border state, a meeting place of South and North The land is all low-lying from the sand dunes in the southern sector to the pleasant little hills on the border of Pennsylvania in the north, the average altitude is c 60 ft , while the highest point, at Centerville (NW of Wilmington and almost on the Pennsylvania border) is but 440 ft Except for the great industrial area around Wilmington, the state is agricultural, producing grain, truck (notably strawberries), and fruit Since the 1930s chicken farming has been prominent The orchards have lost some of their fame for apples and peaches in competition with distant regions such as the West Coast, but they retain their old beauty, giving the land a froth of pink and white blossoms in the early spring. The natural forests have thinned with use over the centuries, but there are still wooded sections, and a little of the area is now preserved in state forests The variegated industries around Wilmington produce much wealth, and the far-reaching activities of the DU PONT family have centered in Delaware, with their accent on explosives and plastics (most of which are manufactured outside the state) Because of Delaware's easy law of business incorporation, many of the country's largest corporations have home offices in Wilmington The land has been in use since time immemorial, for it was occupied by tribes of the agricultural DELAWARE INDIANS—notably the Nanticoke in the south and the Minqua in the north—long before Henry Hudson in the service of the Dutch West India Company sailed into Delaware Bay in 1609 He was followed a year later by Sir Samuel Argall, who was bound for the colony of Virginia and called one of the capes at the entrance to the bay Cape La Warre, after the governor of Virginia, Thomas West, Baron DE LA WARR; hence the name of bay, river, state, and Indians The region was thus from the beginning contested by the Dutch and the English, it was to see much rivalry for ownership, both among nations and later between British proprietors. The first settlement was made by Dutch patroons in partnership with the navigator, David Pieter DE VRIES, it was called Swanendael and was established at the site of the present Lewes in 1631. It did not long survive, for it was attacked and utterly destroyed by the Indians within a year The Indians were, however, generally friendly and willing to trade with the white newcomers Partly because the Dutch West India Company was more interested in this trade on the South River (the Delaware, the North River was the Hudson, in the Dutch colony of New Netherland) than in settlement, several Dutchmen gave their services to Sweden The best known of these was Peter MINUIT, who had been governor of New Amsterdam, in 1637-38 he directed a colonizing expedition for the Swedes Fort Christina was founded in 1638 on the site of present Wilmington and was named in honor of the queen of Sweden The colony was launched and grew with Swedish, Finnish, and Dutch settlers (for its history, see NEW SWEDEN) The most able of the governors was John Bjornson PRINTZ Tentative efforts of the English colonists of Connecticut to establish trading posts in the Delaware river region failed, but the Dutch were not so easily disposed of Peter STUYVESANT, governor of New Netherland, sailed boldly down in 1651 and established on the Delaware shore Fort Casimir, on the site of the present NEW CASTLE This the Swedes took by surprise in 1654, but the triumph was short-lived Stuyvesant came with an expedition in 1655 and conquered all New Sweden, which then became a Dutch colony The old Swedish and Finnish settlers lived peacefully enough under the Dutch regime The Dutch West India Company sold part of the territory to the city of Amsterdam in 1656, the rest in 1663, but the little colony with its capital at New Amstel (New Castle) was not to remain quiet for long After taking the Dutch colony of New Netherland, the British also seized the Dutch holdings on the Delaware in 1664. Except for a brief reconquest (1673-74) by the Dutch, Delaware was to remain in British hands. The duke of York (later James II) annexed the region to his grant, though this move was not legalized until much later, and the claim was clouded That claim he transferred (1682) to William PENN, who wanted unimpeded water entrance to his new colony of Pennsylvania Thus Delaware became the Three Lower Counties (or Territories, as Penn called them) of Pennsylvania—New Castle, Kent (formerly St Jones), and Sussex (formerly Hoornkill, Whorekill, and Deal). The proprietors of Maryland contested the Penn claims, and the boundary dispute was not fully settled until 1750 The men appointed to govern the counties had to be approved by the British royal government More important, the inhabitants of the counties, not liking to be joined to the "radical" Quaker colony or to have their affairs settled in Philadelphia, at first refused the Penn charter of 1701, to which provisions were added giving the Three Lower Counties the right to a separate assembly The separate assembly met first in 1704, and Delaware maintained quasi-autonomy until the American Revolution The lack of complete separation was quite evident, however, in the fact that two of Delaware's leading statesmen in the Revolution—Thomas McKean and John Dickinson—were also prominent in Pennsylvania Though many in Delaware were Loyalists, the colony in 1776 became the sovereign state of Delaware, with a president as its chief executive Regiments from the state rendered valiant service to the patriot cause, especially the Delaware 1st Regiment, which was nicknamed the Blue Hen's Chickens—originally because they carried with them gamecocks bred by a famous hen of Kent, later because they themselves showed the fighting quality of gamecocks, the nickname is occasionally applied today to all Delawareans Two more Delaware men were high in the councils of the budding nation, Caesar Rodney and George Read It was, indeed, Rodney who cast the deciding vote in favor of independence in 1776 Under the Articles of Confederation, Delaware was a leader for revision of the form of government and was in 1787 the first state to ratify the new Constitution of the United States Meanwhile the 18th cent had seen the beginnings of industry with the well-known gristmills on the Brandywine and the Christina, and Wilmington developed as a center of the manufacture of cloth, paper, and flour —all products that helped to build the flourishing industrial economy of N Delaware in the 19th cent —not to mention shipbuilding and the industries that grew from the powder mill established by Eleuthère Irénée du Pont The constitution of 1776, which was superseded by a new constitution in 1791 (making the head of the state governor rather than president), had taken a stand against slavery, and importation of slaves was forbidden in 1787 In the early 19th cent the number of slaves declined, while the number of free Negroes increased Many citizens of Delaware favored manumission of slaves and belonged to the American Colonization Society, but there were few who were in sympathy with the growing abolitionist movement and there was strong sentiment for separation of white and blacks In the Civil War the border state of Delaware remained loyal to the Union, but pro-Southern feeling grew rather than diminished in the course of the war Delaware refused to accept an emancipation proposal made by Lincoln in 1861 and for many decades after the war refused to accept the Thirteenth, Fourteenth, and Fifteenth amendments The industrial section flourished in the later 19th cent while the larger agricultural section, cut off from the main roads of developing life, stagnated somewhat and gained the reputation for staunch conservatism, still characterizing the typical Delawarean The state was solidly Democratic until 1895. Then the political ambitions and brash attempts of the moneyed J E O'S ADDICKS to capture the Republican party threw political life into turmoil and resulted in Delaware's having no representative at all in the U S Senate for a time. The Republican party emerged in 1905 strengthened and able to take a leading role for some years. The conservatism of the farmers was buttressed by the constitution of 1897, which resulted in keeping the political strength of giant Wilmington at a minimum, the strength of rural areas at a maximum Most of the European immigrants in the late 19th and early 20th cent came to the Wilmington area, leaving the rest of Delaware to the homogeneous population of British (and Irish) stock and to the many Negroes The 20th cent saw a revolution in rural life also, particularly with the building of good roads after the First World War, the centralization of the school system, and the adoption of social welfare laws In the Second World War both the factories of the Wilmington area and the farms of lower Delaware contributed hugely to the nation's war effort The leading institution of higher education is the UNIV of Delaware at Newark The standard history of the early period in the middle of the 19th cent was Benjamin Ferris, *A History of the Original Settlements on the Delaware* (1846) See J T Scharf, *A History of Delaware, 1609-1888* (1889), H C Conrad, *History of the State of Delaware* (1908), W A. Powell, *A History of Delaware* (1928), Federal Writers' Project, *Delaware a Guide to the First State* (1938)

Delaware, city (pop 8,944), co seat of Delaware co., central Ohio, on the Olentangy river and N of Columbus, laid out 1808, inc as a city 1903 It is a trade center in a farm area with several factories OHIO WESLEYAN UNIVERSITY is here, and the city is the birthplace of Rutherford B Hayes Near by are the Olentangy Caverns

Delaware, river, 315 mi long, rising in the Catskills, SE N Y , in east and west branches, which meet at Hancock It flows between New York and Pennsylvania SE to Port Jervis, then between New Jersey and Pennsylvania generally S to Delaware Bay Easton (Pa), Trenton and Camden (N J), Philadelphia (Pa), and Wilmington and New Castle (Del) are on its banks It was early significant in commerce, and the Delaware and Raritan Canal (now unused) and the Chesapeake and Delaware Canal connect it with other waterways Reservoirs on its headstreams provide part of New York city's water supply, and the DELAWARE WATER GAP, where it cuts through Kittatinny Mt , has been developed as a summer resort See F B Brandt, *The Majestic Delaware* (1929), H E. Wildes, *The Delaware* (1940)

Delaware, University of, at Newark, Del , land-grant and state supported The university dates from a Presbyterian school in Pennsylvania opened in 1743, it moved to Newark in 1765 and was chartered by the Penns in 1769 as Newark Academy It was reorganized as a college in 1833 and designated a state land-grant college in 1870 It was called Delaware College from 1843 to 1921 From 1921 to 1944 it comprised Delaware College (for men) and the affiliated Women's College In 1944 it became completely coeducational It includes five academic schools, arts and science, agriculture, education, engineering, and home economics. In 1948 the university granted its first Ph D degrees

Delaware and Hudson Canal, former waterway, running from Honesdale, Pa , to Kingston, N Y , to connect the Delaware with the Hudson, built 1825-29 On a rail line built to serve the canal ran (1829) the first locomotive in the United States—the *Stourbridge Lion* The canal, which was later expanded, facilitated transportation of coal from the Pennsylvania fields and operated profitably until the 1860s With railroad competition it began to die, and by 1900 it was abandoned

Delaware and Raritan Canal, abandoned canal, between Bordentown and New Brunswick, N J , connecting the Delaware and Raritan rivers, completed in 1834 Once an important inland waterway, the railroads superseded it as a coal carrier At times some consideration has been given to a scheme for modernizing the canal in order to complete the inland water route from New York to Florida

Delaware Bay, estuarine inlet of the Atlantic between New Jersey and Delaware, receiving the Delaware river

Delaware City, town (pop 1,163), N Del , on the Delaware river and near Wilmington, inc 1851. Fort Du Pont, headquarters of harbor defenses of the Delaware river and Delaware Bay, is here

Delaware Indians, general name given several closely related North American Indian tribes of Algonquian linguistic stock They lived in New Jersey, Delaware, E Pennsylvania, and SE New York in the 17th cent They called themselves the Lenni-Lenape or the Lenape and were given the name Delaware because they lived about the Delaware river In their remarkable chronicle, the *Walum-Olum*, their origin is placed far to the north-

west, a region whence they migrated to the Atlantic They traded with the Dutch early in the 17th cent, sold much of their land, and began moving inland to the Susquehanna valley. In 1682 they made a famous treaty of friendship with William Penn, which was kept by both sides. In 1720 the Delaware fell victim to Iroquois attack and were forced to remove W of the Alleghenies and into Ohio The western Delaware sided with the French in the last of the French and Indian Wars, took part in Pontiac's Rebellion, and sided with the British in the American Revolution Anthony Wayne defeated and subdued them in 1794, and by the Treaty of Greenville (1795) they and their allies ceded their lands in Pennsylvania and Ohio to the whites They crossed the Mississippi and went to Kansas and then to Texas They were later removed to Indian Territory and settled with the Cherokee Some of the Delaware in Pennsylvania had been converted to Christianity by the Moravians In 1782 a settlement of these peaceful Christian Indians at Gnadenhutten was wantonly attacked by whites, men, women, and children were massacred The few survivors fled to Ontario, where some descendants are still living on the Thames river See D G Brinton, *The Lenâpé and Their Legends* (1885), M R Harrington, *Religion and Ceremonies of the Lenape* (1921), F G Speck, *A Study of the Delaware Indian Big House Ceremony* (1931) and *Oklahoma Delaware Ceremonies, Feasts, and Dances* (1937), Vincenzo Petrullo, *The Diabolic Root* (1934)

Delaware Prophet, fl 18th cent, North American Indian leader (see PROPHET) His real name is not known He began preaching (c 1762) among the Delaware Indians of the Muskingum valley in Ohio He spoke against intertribal war, drunkenness, polygamy, and the use of magic, and he promised his hearers that if they would but heed his words the Indians would be strong again and able to resist the white man He prepared symbolical charts of his message on deerskin and left them in various villages to help his converts teach others The religious fervor spread rapidly and was an inspiration to Pontiac After the collapse of PONTIAC'S REBELLION the cult of the Delaware Prophet waned and was largely superseded by that of the MUNSEE PROPHET

Delaware Water Gap, borough (pop 410) and summer resort, E Pa, where the DELAWARE river cuts through Kittatinny Mt, near Stroudsburg On the New Jersey side of the gap for which the town is named is Mt Tammany, and on the Pennsylvania side Mt Minsi, both over 1,500 ft high The gap is noted for its scenery

De la Warr, Thomas West, Baron (dĕ'lŭwur), 1577–1618, governor of the Virginia colony, b Hampshire, England He served in the army of the United Netherlands and was knighted when serving in Ireland before he was in 1609 appointed first governor of Virginia (Sir Thomas GATES governed as deputy until De la Warr arrived) He sailed in April, 1610, with an expedition including Sir Samuel Argall and arrived at Jamestown and found the settlers in such dire need that they were already bound for England He encouraged them, sent Argall for supplies, and had forts built Argall on his voyage sailed into the bay later called (after the governor) Delaware Bay Lord De la Warr returned to England, and the colony was governed by Sir Thomas Gates and Sir Thomas Dale De la Warr in his *Relation of the Colonies Planted in Virginia* pleaded for the colony He died on his return trip to Virginia

Delbrück, Hans (hans'), 1848–1929, German historian, professor at the Univ of Berlin He wrote *Geschichte der Kriegskunst* [history of the art of warfare] (4 vols, 1900–1927), a biography of Gneisenau (1908), and a world history based on his lectures from 1896 to 1920

Delbrück, Rudolf von (rōō'dôlf fŭn dĕl'brŭk), 1817–1903, German statesman He served (1857–76) under Bismarck as president of the chancellery of the North German Confederation and, after 1871, of the German Empire. A protagonist of free trade and liberal economics, he later opposed Bismarck's protectionist policy

Delcambre, village (pop 1,255), S La, N of Vermilion Bay, in the Acadian country, inc 1907

Delcassé, Théophile (tāôfēl' dĕlkasā'), 1852–1923, French statesman From the beginning of his career as political journalist his interest centered on colonial and foreign affairs He became undersecretary, then minister, for the colonies (1893–95) and foreign minister (1898–1905) Beginning with the FASHODA INCIDENT, in which his conciliatory attitude marked the beginning of the Franco-British Entente Cordiale, he exerted a tremendous influence on the alignment of European powers that eventuated in the First World War (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) Delcassé was forced to resign in the crisis over MOROCCO, upon the demand of Emperor William II He returned to politics in 1909, was minister of marine (1911–13), and at the outbreak of the First World War was again foreign minister (1914–15) He helped to bring Italy into the war on the Allied side, but his unsuccessful Balkan policy led to his retirement. See C. W. Porter, *The Career of Théophile Delcassé* (1936).

Deledda, Grazia (grä'tsēä dālĕd'dä), 1875–1936, Italian novelist, b Sardinia. Her first work, a collection of short stories, was published when she was 19 She was awarded the Nobel Prize in 1926. Deledda's work is partly naturalistic, has a strong lyric impulse and touches of violence, and is informed with sympathy and humor She has been compared to George Sand and Chekhov Her novels include *Dopo il divorzio* (1902, Eng tr, *After the Divorce*, 1905), *Elias Portolú* (1903), *Cenere* (1904, Eng tr, *Ashes*, 1908), *Canne al vento* [reeds in the wind] (1913), *La Madre* (1920, Eng tr, *The Mother*, 1922), and *La Fuga in Egitto* [flight into Egypt] (1925)

De Lee, Joseph Bolivar, 1869–1942, American obstetrician and gynecologist, b Cold Spring, N Y, M D Chicago Medical College (later the medical school of Northwestern Univ), 1891 He practiced in Chicago and founded there the Lying-in Hospital (1895) and the Maternity Center (1932). Through his practice and teaching he exerted a far-reaching influence in improving obstetrical methods He was professor at Northwestern Univ (1897–1929) and at the Univ of Chicago (1929–36) He wrote *Obstetrics for Nurses* (1904) and *Principles and Practice of Obstetrics* (1913), both of which went through many editions See biography by Morris Fishbein and S T De Lee (1949)

Delémont (dŭlāmō'), Ger *Delsberg* (dĕls'bĕrk), town (pop 6,625), Bernese Jura, Bern canton, Switzerland Its old château was a residence of the prince-bishops of Basel (1528–1792) It produces knives and watches

De Leon, Daniel (dē lē'ŏn), 1852–1914, American socialist leader Born on the island of Curaçao of Spanish American family, he was educated in Germany and the Netherlands before coming (1872) to New York There he edited a Spanish newspaper, studied law at Columbia Univ (LL B, 1876), practiced law for a time, and then returned to Columbia Univ to lecture (1883–89) on Latin American diplomacy His interest in labor and labor reform grew, and he joined successively the Knights of Labor (1888), Edward Bellamy's "Nationalist" movement (1889), and the Socialist Labor party (1890) His brilliant mind led him to wide grasp of theory, his vivid temperament led him to action He was Socialist Labor candidate for governor of New York in 1891, and for years he edited the Socialist Labor weekly, *The People* He was an inflexible and doctrinaire Marxian revolutionist and consequently fell out with most other liberal leaders He opposed unionization of labor according to trades and led the group that formed the Socialist Labor and Trade Alliance, but his leadership was too radical for some of the members (prominent among them Morris Hillquit), who withdrew in 1899 and ultimately formed the Socialist party De Leon's prestige lessened He helped to found the INDUSTRIAL WORKERS OF THE WORLD in 1905, but in the quarrel over political action he and his followers were expelled The rival Workers' International Industrial Union, which he then organized, did not flourish He wrote a great deal of Socialist polemical literature and translated a work of Karl Marx, but it was primarily the impetus of his personality that made him one of the important figures of American socialism

De Leon (dē lēōn'), city (pop. 1,971), central Texas, SW of Fort Worth, in a peanut-growing area, founded 1887, inc as city 1919.

Delescluze, Louis Charles (lwē' shārl' dulăklüz'), 1809–71, French journalist, radical republican, and leader in the COMMUNE OF PARIS An opponent of the July Monarchy, he spent much of that period in prison or in exile He was disappointed in the Revolution of 1848, and after the severe suppression of the radicals in the JUNE DAYS, he again (1849) sought exile He returned and for his bitter criticism of the Second Empire was sent to French Guiana After a number of years he returned once more (1859), and again his increasingly radical journalistic activities led to prison and to exile The downfall of the empire brought chaos to France Delescluze was elected to the national assembly (1871) He resigned to become, perhaps, the most capable leader in the commune, but he was unable to save it When the victory of the French government troops was unavoidable, Delescluze deliberately threw himself into the line of fire and was killed. He wrote an account of his experiences as a prisoner, *De Paris à Cayenne* (1869)

Delft, municipality (pop 61,610) and town, South Holland prov, W Netherlands, 5 mi. SSE of The Hague, famous for its ceramics (china, tiles, pottery) known as delftware Until superseded (17th cent) by Rotterdam, Delft was an important commercial center The aspect of old Delft has changed little since Jan Vermeer, who was born and lived here, painted his famous *View of Delft*. Its notable buildings include a 13th-century Gothic church (Oude Kerk), the Gothic Nieuwe Kerk (15th cent), with the tomb of William the Silent, who was assassinated at Delft, and the 17th-century town hall and East India House.

delftware. The earliest delftware was a faience of the late 16th cent., brown with opaque white glaze and polychrome decoration in Oriental style. Some of the earliest imitations of Chinese and Japanese porcelain were made at Delft in the 17th cent. Modern delftware is usually blue and white of average quality.

Delhi (dĕ'lē), state (574 sq mi; pop 917,939) India, centrally administered by the Indian government New Delhi (pop 93,733), the capital of India, is on the Jumna river, as is the adjoining ancient city of Delhi (pop. 428,116) The semi-legendary Indraprastha is said to have been situated here, but Anang Pal's construction of the Red Fort in A D 1050 is the first dated event in the history of the region Delhi was first important under Kutb-ud-din, who captured it (1192) and later (1206) made it the capital of the Moslem Slave dynasty. His mosque (1196) is surrounded by a colonnade of exquisitely carved Hindu columns, and in the courtyard is the Kutb Minar, a minaret 238 ft. high Tamerlane sacked Delhi in 1398 or 1399, and in 1526 Baber, the first Mogul emperor, captured it Shah Jehan, who made it (1658) the Mogul capital, built its greatest monuments, including the Jama Masjid [great mosque] and the imperial palace The inscription in the emperor's private audience hall, "If there is a heaven on earth, it is this!" is apt The exquisitely proportioned public audience hall contained the solid gold and jewel-encrusted Peacock Throne, which was carried off (1739) with other booty by the Persian Nadir Shah Delhi was later sacked several times, and in 1803 it fell to the British Great Britain temporarily lost (1857) the city in the Sepoy Rebellion In 1911 Delhi with its historical associations was proclaimed the capital of India in place of the relatively modern Calcutta The projected city of New Delhi, designed to display Britain's imperial role, was not inaugurated as the capital of India until 1931 Its architecture, basically Western, has some Oriental details See Gordon Hearn, *The Seven Cities of Delhi* (1928); Henry Sharp, *Delhi Its Story and Buildings* (1929).

Delhi (dĕl'hī), village (pop 2,062), S Ont, SW of Hamilton

Delhi (dĕl'hī) **1** Town (pop 1,192), NE La, on Bayou Macon and E of Monroe Founded before the Civil War, it was a hide-out of Jesse James It has cotton gins and sawmills **2** Village (pop 1,841), co seat of Delaware co, S N Y, in the Catskills, on the West Branch of the Delaware and SE of Oneonta, settled c 1785, inc 1821 Dairy products are made A state school of agriculture is in Delhi

Delhi Sultanate, Moslem state, ruling most of India from 1206 to 1398 It was founded by Kutb-ud-din, an Afghan general, who captured Delhi in 1192 He and several of the sultans who claimed succession from him were originally slaves, his dynasty is therefore called the Slave dynasty Continually faced with revolts, both of conquered territories in the south and of rival families, the Slave dynasty came to an end in 1290 In the Kulji dynasty (1290–1320) the conquests of Sultan Ala-ud-din brought the Moslem dominion in India to the greatest extent it was to reach until the advent of the Mogul empire The Tughlak dynasty (1321–98) saw the steady loss of territory as revolts, notably of the Hindu Vijayanagar kingdom in the south, raged Although the sultanate fell with the capture of Delhi by Tamerlane in 1398 or 1399, local rulers continued at Delhi until the MOGUL conquest.

Delia. see ARTEMIS

Delian League, confederation of Greek states under the leadership of Athens The name is used to designate two distinct periods of alliance, the first 478–404 B C, the second 378–338 B C The alliance of 478 B C was made between Athens and a number of Ionian states, chiefly maritime, for the purpose of opposing Persia All the signatories were given equal votes in a council which was established in the temple of Apollo at Delos, which had the league's treasury The assessments to be levied on the members were originally fixed by Athens, and the fairness with which these were apportioned contributed much to maintain enthusiasm at the start The Athenian presidents of the council also gave satisfaction. The states willingly contributed funds, troops, and ships to form a navy that could defeat Persia In 468 B C. that object was accomplished, and with the death of Xerxes all immediate danger from the East was over. But at this time an event took place which was to commit the league to a new policy Naxos attempted to secede and was coerced to retain allegiance, soon Thasos attempted the same maneuver and was likewise subdued by Cimon. Numerous states began to have apprehensions for the future, but the Athenians were so successful in their aims, using both persuasion and force, that the signatories that had by this time been gained—amounting to between 200 and 300—all remained in the league. In 457 B.C. a Spartan invasion was averted, and, at Oenophyta, Thebes, the traditional enemy of Athens, was subjected Aegina was taken and the Phocians and other allies of Sparta went over to Athens. In 454 B.C., because

of real or pretended danger of Persian attack, the treasury was transported from the temple of Apollo to the Athenian Acropolis The league had become an Athenian empire. This was never a stable unity, thus Athens lost Boeotia in 446 B C., while new colonies were being added, especially in Thrace. The empire came to an end with the disastrous conclusion of the PELOPONNESIAN WAR (404 B.C.). But in 394 B C , CONON reestablished the Athenian mastery of the sea at Cnidus. Proffers of alliance reached Athens, in 378 the second Athenian confederacy was formed. Two years later Athens won a maritime engagement over Sparta; the Athenians and Spartans compromised with a treaty which left Athens supreme on the sea and Sparta on the mainland of Greece In 371 B C , Thebes withdrew from the alliance and gained land predominance over Sparta A division of interests was created, a treaty was made between Athens and Sparta Philip II of Macedon had, by 351 B.C , seriously weakened the status of the league in the north and east, and within a few years it had almost dissolved In 338 B C it was utterly destroyed by the battle of Chaeronea.

Délibes, Clément Philibert Léo (klāmäⁿ' fēlēbĕr' lāō' dālēb'), 1836–91, French composer He wrote several operas, of which *Lakmé* (1883) is the most famous, and ballets, among them *Coppélia* (1870) His works are marked by an elegance of style and capable orchestration.

Delilah (dĭlī'lŭ, dē'lĭlu), [Heb ,=weak], courtesan in the pay of the Philistines who was loved by SAMSON She learned that his strength lay in his long hair and betrayed him to his enemies by cutting it off Judges 16.4–20.

delinquency, juvenile. see JUVENILE DELINQUENCY

delirium (dĭlĭr'ĕum), temporary state of mental confusion because of active uncontrolled imagination and faulty judgment It ranges from mere flightiness to a maniacal state and is a symptom in many disorders Among the causes are intoxications (see DELIRIUM TREMENS), infectious diseases, diseases of the brain itself, exhaustion, and the use of drugs There is not necessarily any apparent change in the brain structure The underlying cause must be treated, and in the meantime the patient must be protected from injury, kept in good nutrition, and quieted, if necessary, by suitable drugs

delirium tremens (trē'mĕnz) [Latin,=trembling delirium], occasional result of continued alcoholic excess It may be precipitated by a disease (e g , pneumonia), by an accident (e g , a fracture), or by a sudden withdrawal of alcohol The attack consists of DELIRIUM, of tremors, especially of the hands and tongue, and of hallucinations (the seeing of demons and snakes) Fatalities may be caused by heart failure or uremia The patient must be protected from injury in his attempts to escape the demons of his hallucinations Sleep is essential, but hypnotic drugs must be used with caution The circulation must be stimulated and nourishment given, beginning with milk

Delisle, Guillaume (gēyōm' dulēl'), 1675–1726, French geographer and cartographer His most important work is a world map (1700), as accurate as the data available at that time permitted and the first map on which the errors of Ptolemy were wholly absent Delisle is called founder of modern cartography He was geographer to Louis XV

Delisle, Joseph Nicolas (zhôzĕf' nēkôlä'), 1688–1768, French astronomer He visited (1726–47) Russia, where he founded a school of astronomy at St. Petersburg. On his return to Paris (1747) he became astronomer to the naval department He suggested new methods for observing the transits of Venus and of Mercury and for finding the sun's parallax, and he proposed the diffraction theory to explain the sun's corona

Delitzsch, Franz (fränts' dā'lĭch), 1813–90, German Lutheran theologian and Hebraist He was professor of theology at Rostock from 1846 to 1850, at Erlangen until 1867, and later at Leipzig He was the author of many commentaries on books of the Old Testament His son, **Friedrich Delitzsch** (frēd'rĭkh), 1850–1922, was an Assyrian scholar, author of works on Assyrian language, literature, and history

Delium (dē'lēŭm), town of ancient Greece, a port in Boeotia It was named for its temple of Apollo similar to the Delos shrine In the Peloponnesian War the Athenians were defeated by the Boeotians here in 424 B C ; Socrates fought in the battle In 192 B.C a Roman force was defeated by Antiochus III here

Delius. see APOLLO.

Delius, Frederick (dēl'yus), 1862–1934, English composer, of German parentage. In 1884 he went to Florida to grow oranges, going thence to Virginia and to New York. From 1886 to 1888 he studied in Leipzig, where his suite *Florida* (1888) was played, the first of his works publicly performed. Germany accepted his works more readily than did his native England. The best of his six operas is *A Village Romeo and Juliet* (Berlin, 1907), in a late romantic style, somewhat influenced by impressionism. Outstanding also are the choral works *Sea Drift* (1903), *A Mass of Life* (1904–5; the text is from Nietzsche's *Thus Spake Zarathustra*), and *Song of the High Hills* (1912; without words) and the orchestral pieces *Brigg Fair* (1907) and *On Hearing the First Cuckoo in Spring* (1912) He also composed chamber music, concertos, and songs In the 1920s he became blind and paralysed His last public appearance was in 1929 at a six-day festival of his music in London See biographies by Claire Delius (1935), Eric Fenby (1936), and Arthur Hutchings (1948)

Dell, Floyd, 1887–, American author, b. Barry, Ill After journalistic experience in Chicago, he was on the staff of the radical journal the *Masses* and its successor, the *Liberator*, from 1913 until 1924 His first and perhaps best novel was *Moon-Calf* (1920), others are *The Briary-Bush* (1921), *Runaway* (1925), *An Unmarried Father* (1927), and *The Golden Spike* (1934) He was a member of the Provincetown group and wrote plays for them, including *The Angel Intrudes* (1918) He also wrote studies of children and the family—*Were You Ever a Child?* (1919), *The Outline of Marriage* (1926), *Children in the Machine Age* (1924)—a biography of Upton Sinclair (1927), and *Homecoming* (1933), an autobiography

Della Bella, Stefano: see BELLA

Della Casa, Giovanni see CASA.

Della-Cruscans (dĕl'u-krŭs'kŭs) [from the Accademia della Crusca, founded for linguistic purity, Florence, 16th cent], a group of English poets living in Italy who published in 1785 *The Florence Miscellany* Robert Merry, writing as "Della Crusca," Bertie Greatheed, William Parsons, and Mrs PIOZZI, under other names, were the contributors In England, their poetry and that of other followers, including Hannah Cowley, was published in the *World* and collected in the *British Album* (1790) Their pretentious, sentimental verse was ridiculed by William Gifford in *The Baviad* (1791) and *The Maeviad* (1795) See R B Clark, *William Gifford* (1930)

Della Porta see PORTA

Della Quercia, Jacopo. see QUERCIA

Della Robbia (dĕ'lŭ rō'bĕu, Ital dĕl'lä rôb'byä), Florentine family of sculptors and ceramists famous for their enameled terra cotta or faïence Much of the Della Robbia ware is still in its original setting in Florence, Siena, and other Italian cities, but the finest collections are in Florence in the cathedral, the Bargello, and the Italian Academy and in London in the Victoria and Albert Museum

Luca della Robbia (lōō'kä), 1400?–1482, founder of the atelier, was known first as a sculptor in bronze and marble He was commissioned (1421) to make the choir gallery of the cathedral at Florence. Later he perfected a process for making clay reliefs and figures permanent by coating them with a glaze compounded of tin, antimony, and other substances A pure religious feeling is expressed in his panels and medallions, where the Madonna and saints and angels appear usually in white on a blue background, sometimes with touches of gold and color in the decorative setting A *Madonna and Child* is in the Metropolitan Museum **Andrea della Robbia** (ändrā'ä), 1435–1525?, nephew and chief pupil of Luca, made a marble altar for a church near Arezzo and extended the use of clay to whole altarpieces (one is in the Church of Santa Croce, Florence), friezes, and fountains His medallions on the Foundling Hospital, Florence, show simple baby forms (*bambini*) on blue ground, but in many of his medallions the central figures are framed in garlands of richly colored fruits and flowers *The Virgin in Adoration*, an unglazed terra-cotta relief, is in the National Gallery of Art, Washington, D C **Luca II della Robbia,** c 1480–c 1550, son of Andrea, became a Dominican monk, his name was originally Marco He is known for his pavement at the Vatican after Raphael's designs **Giovanni della Robbia** (jōvän'nē), 1469–c 1529, was also the son of Andrea He made a lavabo for the sacristy of Santa Maria Novella and a terra cotta statue and frescoes for the Church of Santa Croce (both Florence) and most of a frieze on the Ospedale del Ceppo at Pistoia His work cannot always be distinguished from that of his father **Girolamo della Robbia** (jĕrō'lämō), 1488–1566, another son of Andrea, an architect as well as a sculptor, worked in France for 40 years in the employ of the royal family See books by Allan Marquand on the Della Robbias

Dell Rapids, city (pop 1,706), SE S Dak., on the Big Sioux and N of Sioux Falls near the Minn line, in a farm area, settled 1868, inc 1879 Near by is the beautiful gorge called the Dells

Dells of the Wisconsin, usually called **The Dells,** scenic part of the Wisconsin river, central Wis , near the city Wisconsin Dells The river has cut a gorge through c 8 mi of sandstone, which is carved into caves, pinnacles, towers, and curious shapes, often beautifully colored The name Dalles of the Wisconsin was formerly sometimes used

Delmar, town (pop. in Md , 1,184, in Del., 881) on the Del.-Md. boundary NE of Salisbury, Md. It has two mayors, two town councils, and two school systems It is a trading and shipping center in a farm area which produces chiefly cantaloupes.

Delmonico, Lorenzo (dĕlmō'nēkō), 1813–81, famous restaurateur, b Switzerland. He came to New York city in 1832. With his uncles, John and Peter, he opened c.1834 a restaurant in William St , where many new and well-cooked European dishes were introduced to the American public Delmonico's in its subsequent locations after 1861 became nationally and internationally famous Delmonico made a contribution to American gastronomy, not only by introducing European dishes, but by cooking American food in new ways and encouraging the use of vegetables and salads

Del Norte (dĕl nôrt'), town (pop 1,923, alt c 7,800 ft), co seat of Rio Grande co , S Colo , NW of Monte Vista and on the Rio Grande, settled 1871–72, inc 1885 The area has irrigated farms and gold and silver mines Rio Grande National Forest is near

De Long, George Washington, 1844–81, American arctic explorer, b New York city, grad Annapolis, 1865 In 1873 he was assigned to the *Juniata*, which was sent to the arctic to search for C F Hall's expedition on the *Polaris*. In 1879, backed by the younger James Gordon BENNETT and under the auspices of the U S navy, he sailed from San Francisco on the *Jeannette* with a plan to penetrate Bering Strait and attempt a dash to the North Pole There was then a theory that a current from Japan would speed them north Instead, the vessel was caught in the ice pack and drifted nearly two years till it was crushed and sank The men had abandoned ship with provisions, sledges, and boats and now set out southward for Siberia After reaching open water and embarking in the boats, they were separated One boat was lost A second, with De Long in command landed, but only two men sent ahead for aid survived The third boat, commanded by George W MELVILLE, reached the Lena delta and was rescued The next year Melville returned and found the bodies of De Long and his companions The expedition had proved definitely that Wrangel Island was not the southern tip of a northern continent and had proved essential facts about the polar drift It had also demonstrated to what heights of heroism man could rise in emergencies De Long's diary was edited by his widow as *The Voyage of the Jeannette* (2 vols , 1884) Melville's account was published as *In the Lena Delta* (1885) See Edward Ellsberg, *Hell on Ice* (1938), a fictionalized account; Emma De Long, *Explorer's Wife* (1938)

Delorme, Marion (märyō' dulôrm'), 1613?–1650, French courtesan, mistress of CINQ MARS Her house was a meeting place for Masarin's enemies during the Fronde She is the chief figure in Victor Hugo's *Marion Delorme* and a prominent character in Vigny's *Cinq Mars*

Delorme or de l'Orme, Philibert (fēlēbĕr'), c 1515–1570, French architect One of the greatest French architects of the Renaissance, he was an architect to Francis I and to Henry II Catherine de' Medici employed him in 1563 to design the new palace of the Tuileries, a work which occupied the rest of his life His finest design was the sumptuous château at Anet (c 1550) for Diane de Poitiers, mistress of Henry II, but only fragments of it now remain He completed the ballroom of the palace of Fontainebleau and designed the tomb of Francis I at Saint-Denis He wrote a treatise on architecture, *Nouvelles Inventions pour bien bastir et à petits frais* (1561)

Delos (dē'lŏs), island (c 1 sq mi , pop 158), off Greece, in the Aegean Sea, one of the CYCLADES In Greek mythology, Leto gave birth to Apollo and Artemis on Delos, which was particularly sacred to Apollo Delos was of great commercial and political importance in antiquity The temple of Apollo here was the treasury of the DELIAN LEAGUE until this was removed (454 B C) to Athens, and it later had a flourishing slave market In 88 B C the island was sacked by Mithridates VI of Pontus, it never recovered and was abandoned Remains of temples, commercial buildings, theaters, and private houses and numerous inscriptions have been found

Delphi (dĕl'fī), locality in Phocis, Greece, near the foot of the south slope of Mt. Parnassus, c 6 mi northeast of the port of Cirrha It was the seat of the Delphic or Delphian oracle, the most famous and most powerful of ancient Greece The oracle gave answers to all questions, public and private, religious, political, and social The oracle arose from worship of an earth-goddess, and later legend ascribed it to GAEA It passed to APOLLO, some stories say he won it by killing the Python, others that it descended to him through Themis and Phoebe It was the preeminent shrine of Apollo, but in the winter, when Apollo was absent among the Hyperboreans, Delphi was sacred to DIONYSUS, who was buried there The great temple to Apollo built in the 6th cent B C. housed the oracle The oracles were spoken by a priestess called Pythia, who, seated on a golden tripod, uttered sounds in a frenzied trance, they were interpreted to the questioner by a priest, who spoke in verse. The answers were universally revered in Greece and therefore had great influence. The peculiar thing about Delphi was its universal position in the otherwise fragmented political and social life of Greece. It was the meeting place of the council of the Delphic Amphictyony, the most important league of Greek

tribes, it was also the seat of the Pythian games. Persons seeking the help of the oracle brought rich gifts, and the shrine grew very wealthy After the repute of the oracle had shrunk in Roman times, Sulla and, after him, Nero despoiled the shrine Typical of the art treasures once there is the fine bronze statue of the 5th cent B C excavated at Delphi and called the Delphic Charioteer

Delphi (dĕl'fī), residential town (pop 2,213), co seat of Carroll co, NW Ind, on the Wabash between Lafayette and Logansport.

delphinium · see LARKSPUR

Delphos (dĕl'fus), city (pop 5,746), NW Ohio, NW of Lima, laid out 1845 Its industries include motor manufacture and food canning

Delray Beach (dĕlrā'), resort city (pop 3,737), SE Fla, on the Atlantic coast 18 mi S of Palm Beach, in a truck and fruit area It is a leading polo center and has an annual winter gladiolı festival

Del Rio (rē'ō), city (pop 13,343), co seat of Val Verde co, W Texas, a port of entry on the Rio Grande opposite little Villa Acuña, Mexico, founded 1868, inc 1911 Irrigation from San Felipe Springs here yields alfalfa, truck, fruits, and especially grapes, which are made into wine at Del Rio The city also ships much wool and mohair from ranches of the region Leather goods are manufactured

Delsarte, François (frāswȧ' dĕlsärt'), 1811–71, French teacher of acting and singing He studied singing (1825–29) at the Paris Conservatoire and appeared as a tenor at the Opéra-Comique, but faulty training had ruined his voice He formulated certain principles of aesthetics which he applied to the teaching of dramatic expression in rules coordinating the voice with the gestures of all parts of the body He opened his first *Cours d'esthetique appliqué* in 1839, and his advice was sought by many famous artists, e g, Rachel, Henriette Sontag, and W C Macready Steele MacKaye studied with him in his last years and brought to the United States the Delsarte system, to which he had added many of his own ideas, including elements of gymnastics Some of Delsarte's writings are included in the compilation *Delsarte System of Oratory* (1893). See Percy MacKaye, *Epoch the Life of Steele MacKaye* (1927)

Delsberg, Switzerland see DELÉMONT

Delta, 1 City (pop 3,717), co seat of Delta co, W Colo, on the Gunnison and Uncompahgre rivers and SE of Grand Junction, in a diversified farming area, founded on the site of a trapper's fort (built 1830), inc 1882 It has a beet-sugar refinery Delta is the headquarters for the Uncompahgre National Forest **2** Village (pop 1,773), NW Ohio, WSW of Toledo Gasoline-pumping equipment and evaporated milk are made here **3** Town (pop 1,304), W central Utah, in the Sevier river valley, settled 1906 It was developed as the center of an irrigated region, growing alfalfa and other crops

delta [from triangular shape of the Nile delta, like the Greek letter *delta*], the usually fan-shaped alluvial plain formed at the mouth of a river where, meeting quieter waters, the stream drops part of its load of sediment No delta is formed if the coast is sinking or if there is ocean or tidal current strong enough to prevent deposition of sediment A deltaic plain is usually very fertile, but subject to floods The Nile, Mississippi, Orinoco, Niger, Rhine, Ithone, Danube, Kuban, Volga, Ural, Amu Darya, Lena, Indus, Ganges and Brahmaputra, Irrawaddy, Euphrates, and Hwang are among the rivers which have formed large deltas

Delteil, Joseph (zhōzĕf' dĕltā'yu), 1894–, French novelist, essayist, and poet *Le Cœur grec* (1918), a volume of poems, was crowned (1920) by the French Academy Other works are *Jeanne d'Arc* (1925, Eng tr, 1926) and *Les Poulus* (1926, Eng tr, 1927), novels, *Le Jongue de porcelaine* (1927, Eng tr, *The Porcelain Junk*, 1928), verse, and *Il était une fois Napoléon* (1929, Eng tr, *Once There Was a Man Napoleon*, 1930)

Deluge, in the Bible, the overwhelming flood which covered the earth and destroyed every living thing except the family of NOAH and the creatures in his ARK Gen 6–8, Isa 54 9, Mat 24 38, Luke 17 27, Heb 11 7, 1 Peter 3 20, 2 Peter 2 5 Flood stories resembling the biblical story are found in the folklore of many races American Indians, Fiji Islanders, and Australian aborigines have versions, and some paintings of ancient Mexico portray a flood The earliest known of these stories is Babylonian, one form being found in the record of Berosus (3d cent B C), another on a tablet of the Gilgamesh epic of at least 3000 B C See DEUCALION and UR.

delusion, false belief based upon a misinterpretation of reality It is not, as in a hallucination, a belief with no basis in reality Delusions vary in intensity, a passing delusion being not uncommon in normal people Fixed delusions, however, are characteristic of paranoia and schizophrenia There are several kinds of common psychotic delusions In those of persecution, the individual falsely believes himself to be the target of another person's hostility. In those of influence, the individual feels he is being interfered with, or controlled by, some remote force, such as cosmic rays or electricity In those of grandeur, the individual imagines himself an unappreciated person of great importance Delusions, by their crucial role in the development of mass hysteria, are of prime importance to the social psychologist

De Mabuse, Jan · see MABUSE, JAN DE

demand and supply · see SUPPLY AND DEMAND.

Demarest (dĕmurĕst'), suburban borough (pop. 1,165), NE N J, near the Hudson N of Englewood, inc 1903

Demas (dē'-), companion who forsook Paul Col 4 14, 2 Tim 4 10

Demavend (dĕm'ȧvĕnd) or **Demavand** (dĕmȧvȧnd'), mountain, c 18,600 ft high, N Iran, highest in the Elburz range There is also a town named Demavend or Demavand (pop 9,998) near the mountain It has mineral springs and is famous for its fruits.

dementia (dĭmĕn'shu) [Latin,=being out of the mind], state of insanity characterized by a general weakness of intellect, especially with respect to reason and will It is distinct from the weak intelligence of the feeble-minded, imbeciles, and idiots in that there is deterioration from a previously intact intelligence, whereas the others never possessed more than a limited degree of intelligence Dementia occurs in the later stages of many forms of insanity, including the deterioration of old age and the psychosis dementia praecox (see SCHIZOPHRENIA)

Demerara, river, British Guiana see GUIANA

Demeter (dĭmē'tûr), in Greek legend, goddess of the corn, of harvest, and of fruitfulness, daughter of CRONUS and RHEA and mother of PERSEPHONE by Zeus The earth-goddess, she was connected with the underworld through her daughter, and Demeter and Persephone were chief figures in the ELEUSINIAN MYSTERIES Worship of Demeter was connected with the corn cycle and fertility rites One of her chief festivals was the Thesmophoria, a woman's festival in autumn Grain, poppies, fruit and pigs were sacred to her The Romans identified her with CERES, and her worship is related to that of the mother gods such as Bona Dea (see GREAT MOTHER OF THE GODS).

Demetrius I (Demetrius Poliorcetes) (dĭmē'trĭus, pŏlĭôrsē'tēz), c 337–283 B C, king of ancient Macedon. The son of ANTIGONUS I, he proved himself a very able commander in his father's wars, particularly against Ptolemy I Though Ptolemy defeated him at Gaza in 312 B C, Demetrius was able to expel Ptolemy and Cassander from Athens, defeated the Egyptian fleet at Salamis, and took Cyprus Although he had huge armaments, including new weapons of assault, he failed (305 B C) to take Rhodes by sea When Cassander, Seleucus I, and Lysimachus, fearing the power of Antigonus, allied themselves against him, Antigonus and Demetrius were badly defeated in the battle of Ipsus in 301 B C, and Antigonus was killed Demetrius later became reconciled to Seleucus I and regained Athens for himself in 295 In order to obtain the throne of Macedon he murdered the sons of Cassander and others and succeeded (294) to the throne He still had his father's ambition to conquer all Asia, but his enemies combined against him, and Lysimachus and Pyrrhus invaded Macedonia He was forced (285) to take refuge with Seleucus, who held him until he died His son, Antigonus II, made good his claim to the throne of Macedon

Demetrius II, d 229 B C, king of Macedon (239–229 B C) His reign was a confusion of wars and invasions, mostly concerned with possession of Epirus The Aetolian League and the Achaean League were united against him He was defeated and died, leaving a small son as heir (Philip V)

Demetrius I (Demetrius Soter) (sō'tûr), c 187–150 B C, king of ancient Syria (162–150 B C), son of Seleucus IV He was sent as a hostage to Rome, where he remained during the reigns of his father and his uncle Antiochus IV After Antiochus died, he was succeeded by his son Antiochus V, but Demetrius escaped (162 B C), killed his cousin, and took the throne He put down the revolt of the general Timarchus in Babylon and went out to crush the Maccabees The usurper Alexander Balas rose against Demetrius and was supported by the Maccabean party as well as by Egypt and Pergamum Demetrius was defeated in battle

Demetrius II (Demetrius Nicator) (nĭkā'tur), d c 125 B C, king of ancient Syria, son of Demetrius I He was aided against the usurper, Alexander Balas, by Ptolemy VI (Ptolemy Philometer) and married Ptolemy's daughter, Cleopatra, even though she was already married to Alexander Balas. He got the throne in 146 B C, but in fighting against the Parthians in 141 he was captured Tryphon, Alexander Balas' governor of Antioch, had revolted and had put Alexander Balas' infant son, Antiochus Dionysius, on the throne. Two years later Tryphon murdered the boy and took the throne himself Demetrius, coming back from prison, regained the throne in 128 B C. He soon lost it again and died in battle at Tyre, fighting a war with Egypt

Demetrius. 1 Silversmith of Ephesus who stirred up a riot against Paul Acts 19 23–41. **2** Disciple commended in 3 John 12

Demetrius, in Russian history see DMITRI.

Demetrius Phalereus (fălēr'ŏŏs, fulēr'ēŭs) [Latin,= of Phalerum], d, c 282 B C., Athenian orator. He was governor of his city (317–307 B C.) under CASSANDER, who had appointed him when Demetrius, formerly a democrat, became pro-Macedonian In 307 B C, when Demetrius I arrived with his fleet before Athens, Phalereus was overthrown by the democrats. He escaped to Egypt, where he rose in the favor of Ptolemy I, to whom Demetrius is said to have suggested a library. On the accession of Ptolemy Philadelphus, Demetrius went into exile He died soon afterward

De Mézières y Clugny, Athanase (ätänäz' dū māzyĕr' ē klünē'), c 1715–1779, explorer and Indian agent in Spanish Louisiana, b Paris He came to Louisiana c 1733, and when France ceded the territory to Spain he stayed on in the Spanish service Made lieutenant governor of the Natchitoches dist, De Mézières, by judicious use of his control of the Indian trade and by his tact, kindness, and patience, won the friendship of the previously hostile tribes of the Red River valley and neighboring regions and concluded treaties with them His valuable reports and diaries are translated in H E Bolton, *Athanase de Mézières* (1914)

De Mille, Agnes, 1905?–, American dancer and choreographer, b New York city She made her debut in 1928 She did the choreography for *Black Ritual*, *Three Virgins and a Devil*, *Rodeo*, *Oklahoma!*, *One Touch of Venus*, *Carousel*, *Allegro*, and *The Rape of Lucretia* Her work has made ballet popular in musical comedy

De Mille, Cecil Blount, 1881–, American moving-picture director and producer, b Ashfield, Mass He began to direct in 1913 and became known with his first "spectacle" film, *Carmen* (1915) His later films include *Male and Female*, *The Ten Commandments*, *The King of Kings*, *The Crusades*, *The Plainsman*, and *Union Pacific* See W C De Mille, *Hollywood Saga* (1939)

Deming, Edwin Willard (dĕm'ĭng), 1860–1942, American artist, b Ashland, Ohio, studied at the Art Students League of New York and, in 1864, in Paris under Boulanger at Julien's academy On his return to the United States he began his career of painting and modeling the Indians of the West and Southwest Characteristic works are his murals in the Wisconsin Historical Society, Madison, Wis, and his bronzes in the American Museum of Natural History, New York, the National Museum, Washington, D C, and Herron Art Institute, Indianapolis, Ind

Deming (dĕm'ĭng), village (pop 3,608), co seat of Luna co, SW N Mex, in the valley of the Mimbres river (here underground), settled 1880, inc 1902 It is a health resort and a rail and trade center in a farm, livestock, and mine region

demiurge (dē'mĭûrj) [Gr,=worker for the people], name given by Plato in a half-mythological passage in the *Timaeus* to God the Creator In GNOSTICISM the Demiurge, creator of the material world, was not God, but the Archon, or chief of the lowest order of spirits or aeons According to the Gnostics, the Demiurge was able to endow man only with the psyche (sensuous soul), the pneuma (rational soul) having been added by God The Gnostics identified the Demiurge with the Jehovah of the Hebrews

democracy [Gr,=power of the people], term originating in Greece to designate a government where the people share in directing the activities of the state as well as participate in its rewards, as distinct from governments controlled by a class, select group, or single dictator Democracy has outgrown its purely political connotation, however, and in modern life such phrases as economic democracy, industrial democracy, and social democracy are familiar In this larger sense democracy is essentially a philosophy which insists on the right and, in the long run, the capacity of a people, acting either directly or through representatives, to control their institutions for their own best ends Such a philosophy of necessity exalts the individual and would free him as far as possible from restraints not self-imposed It recognizes, however, that complete individual freedom, which in the political sphere would be ANARCHISM, is practically impossible, but insists that restraints be imposed only by a majority and that they be erected on the principle of equal opportunity for all Democracy first flourished in the GREEK CITY-STATE, reaching its fullest expression in ancient Athens There the citizens, as members of the assembly, participated directly in the making of their laws A system of rotation in executive office existed which gave all citizens their turn Jurors, who acted in the capacity of both judges and jurors, were chosen by lot A democracy of this sort was possible only in a small state where the people were politically educated and where laws were simple and clear That democracy also had its shortcomings in practice is made clear by the keen analyses of Plato and Aristotle; Plato rejected it completely, Aristotle viewed it as the lesser of evils However, on the whole it worked well and encouraged a great flowering of individual genius. It fell before the imperial idea, which also smothered other ancient manifestations of democracy in the

early Italian cities and in the early Church Possibly if the idea of REPRESENTATION had been more fully worked out in the ancient world, democracy would have been better able to compete with empire, but representation as an idea grew up within the imperial framework rather than in a democracy and had later to be released from the former The medieval period also contributed, through feudalism, the idea of contract, which was important in developing the philosophy of modern democracy According to this view, rulers and people were bound to each other by a contract involving mutual duties If the sovereign failed, the people took back the sovereignty with which they had invested him The idea reached its fullest exposition in the social-contract theory of J J ROUSSEAU, which helped form the philosophical justification for the French Revolution In England the power of the people was gradually increased by parliamentary means, the philosophical leader of this constitutional development being John LOCKE It is scarcely correct to think of the British government as more than a class government, however, until after the passage of the Reform Bill of 1832 English settlers in America faced frontier conditions which increased the importance of the individual, also they were released, for several generations, from the class viewpoints of the Old World These were but a few of the factors underlying the American revolt and the establishment in the United States of a radically different type of democratic political structure The 19th cent may be characterized generally as a period when, the philosophy of democracy having triumphed, emphasis was upon the extension of the franchise and the working out of machinery which would enable the will of the people to be more fully and honestly expressed The complicated party system which it has seemed necessary to develop in large democracies has needed constant attention lest it defeat rather than facilitate the registration of public opinion The idea that equality of opportunity can be maintained through political democracy alone has been challenged by the socialists, who insist that economic democracy is the only foundation upon which a true political democracy can be erected COMMUNISM and FASCISM, both dictatorships in the interests of a class, have challenged the wisdom and efficiency of democracy in the face of the rapidly changing conditions of modern life See James Bryce, *Modern Democracies* (1921), John Dewey, *The Public and Its Problems* (1927), T R Glover, *Democracy in the Ancient World* (1927), A E Zimmern, *Prospects of Democracy* (1929), H J Laski, *Democracy in Crisis* (1933), R H Gabriel, *The Course of American Democratic Thought* (1940), A D Lindsay, *The Modern Democratic State* (1943)

Democratic party, in U S history When political parties first arose in Washington's administration, the rival groups were headed by Alexander HAMILTON and Thomas JEFFERSON Jefferson's group, at first called the Republican party, was generally sympathetic with the French Revolution and hostile toward England and was the party of small farmers, mechanics, and the debtors It stood—in opposition to the FEDERALIST PARTY for the ideas that have come to be known as Jeffersonian democracy, with the accent on personal liberty and limitation of the powers of the Federal government The victory of the Jeffersonians in the election of 1800 had virtually the force of a revolution The party was then called the Democratic Republican or simply the Democratic party By 1828 the name was fixed as Democratic The party gained power as the Federalists declined particularly with the Federalist loss of prestige after the HARTFORD CONVENTION From 1815 to 1832, national politics was largely reduced to conflicts within the Democratic party The factions, however, were veritably independent parties, as was proved in the election (1824) of John Q Adams and in the NULLIFICATION conflict The party was divided into the conservative group of businessmen, merchants, and planters and the radical Democrats, who were principally the little men—frontiersmen and mechanics (see also LOCOFOCOS) The overwhelming victory of the radical group under Andrew JACKSON in 1828 brought another virtual revolution with Jacksonian democracy The WHIG PARTY was created out of dissident factions Many Democrats opposed Jackson's successor, Martin VAN BUREN, and the Whigs, led chiefly by Daniel WEBSTER and Henry CLAY, attracted a large Western following and won the election of 1840 with William HARRISON The arguments over slavery, as the struggle between the North and the South grew more bitter, tended to create or deepen factional splits within the party, e g , between BARNBURNERS and HUNKERS in New York Nevertheless, the party remained a unit and won the presidential elections until 1860, except for the Whig victory under Zachary Taylor in 1848 Old party lines were breaking down as sectionalism increased, and by 1860 the Whig party was destroyed and the Democrats divided sharply into Southern and Northern Democrats, as the REPUBLICAN PARTY, succeeding the FREE-SOIL PARTY, had expanded The victory of Abraham Lincoln in 1860 over Stephen A. DOUGLAS (Northern Democrat), John C BRECKINRIDGE (Southern Democrat), and John Bell brought on the Civil War, which all but destroyed the old Democratic party George B MCCLELLAN was the Democratic candidate for President against Lincoln in 1864, and in 1868 the party attempted to rehabilitate itself, but it was not until the disputed election of 1876 that the party revived Reconstruction ended, and the white Southerners gained control of the state governments Because the hated Reconstruction and the political abuses under it were labeled Republican, the "solid South" emerged, the Southern states, except in rare instances, have gone overwhelmingly Democratic In general policy, the two parties, Democratic and Republican, had much the same complexion from 1876 to 1896 Traditionally the Democratic party was more the party of agrarianism and the opponent of protective tariffs, and even the most conservative Democrats were opposed to the control of industry and trade by the trusts and big business, but radical economic and agrarian schemes were as distasteful to the Democratic President, Grover CLEVELAND as to the Republicans The party as a whole still tended to reform and in the 1890s took over much of the program of the Populists In 1896 the radicals took over the party and nominated William J BRYAN for President on a "free-silver" platform He was defeated, and the Democratic party appeared doomed by the impossibility of keeping together its diverse elements—the Southern farmers, the Western farmers, the big-city industrial classes, and a few of the wealthy Again a leader appeared in the idealistic liberal, Woodrow WILSON, who won the presidential election of 1912 against the divided Republicans Wilsonian idealism waned after the First World War and the Republicans gained the elections of 1920 and 1924 The election of 1928 was complicated by the issues of religion and PROHIBITION, the Democratic candidate, Alfred E SMITH was defeated The depression which began in 1929 helped to sweep Franklin D ROOSEVELT and the Democrats back into power in 1932, and again the Democrats were identified as the reform party with the New Deal Roosevelt was reelected by an overwhelming majority in 1936 He became (1940) the first U S President to be elected to a third term In 1944, when the United States had been in the Second World War three years, he was chosen for a fourth term When he died (1945), Vice President Harry S TRUMAN became President In 1948 despite the withdrawal from the Democratic convention of J Strom THURMOND (who captured 39 electoral votes in the South on the Negro civil-rights issue) and despite the disaffection of Henry A WALLACE (who polled over 1,000,000 votes), Truman narrowly defeated the Republican presidential candidate, Thomas E Dewey, and brought the Democrats to a surprising victory See H R Bruce, *American Parties and Politics* (3d ed , 1936), W E Binkley, *American Political Parties* (1943), C E Merriam and H F Gosnell, *The American Party System* (4th ed , 1946)

Democritus (dĭmŏk'rĭtŭs), c 460–c 370 B C , Greek philosopher of Abdera, pupil of Leucippus His theory of the nature of the physical world was the most radical and scientific attempted up to his time He avoided the abstractions of his predecessors, Anaxagoras (mind) and Empedocles (harmony and discord), by employing consistent mechanistic postulates that required no supernatural intervention He held that all things were composed of atoms which he asserted to be tiny particles, imperceptible to the senses, composed of exactly the same matter but different in size, shape, and weight They were undivided, indivisible, and indestructible He postulated the constant motion of atoms and, on this basis, explained the creation of worlds (see ATOMIC THEORY) He held that the whirling motion caused by the falling of the heavier atoms resulted in aggregations—the heavier atoms forming the earth and the lighter ones the heavenly bodies What the senses perceive as quality is merely the result of a specific quantitative distribution of atoms Sense perception yields only confused knowledge, telling us merely how things affect us, thought alone can apprehend the nature of things Democritus' ethics were moderately hedonistic, teaching that the true end of life is happiness achieved by inner tranquillity

De Moivre, Abraham. see MOIVRE, ABRAHAM DE

demon [Gr ,=tutelary spirit], in human belief, a supernatural being not a deity, generally malefic in character. Demons are of almost innumerable variety, all tribes and peoples having their own distinctive types Some are superhuman and include nature spirits, spirits of disease and insanity, spirits of emotion personified, as anger or lust (Asmodeus or Ashmodai in the Bible is apparently of this type), fallen angels like LUCIFER, local deities degraded by the conquest of their land, dream demons like the nightmare, the spirits of houses and places, such as lakes, rivers, springs, and wells, which if offended or neglected could exercise malignant power Other demons are disembodied human souls, malevolent ghosts of those who have committed suicide, died a violent death, or remained for some reason unburied. Peculiarly revengeful and dangerous is the soul of the woman who died in childbirth Demons may assume any expedient form They are supposed, in the East, to dwell in ruins, tombs, and deserts, coming about human habitations at night Demoniacs are persons possessed of demons, i e , in whom demons live, the principal way of expelling demons from demoniacs is exorcism, for which many rites have been developed In ancient times certain diseases now identified as St Vitus's dance and forms of mental disease were said to show possession by demons See SATAN and SATANISM

demonetization (dēmŏ"nĭtīzā'shun, dēmŭ"nĭ–), governmental withdrawal of the monetary quality from particular coinage or precious metal Demonetization renders the former money no longer legal tender, but in certain cases it is still usable as money of exchange, i e , the actual metallic value may, but need not, be accepted in discharge of indebtedness However, in the United States since the demonetization of gold in 1933 gold may not lawfully be used in domestic exchange, although it may be purchased for shipment abroad Other instances of demonetization were the American conversion (1873) of silver into money of exchange and the similar British conversion (1889) of pre-Victorian gold coins See also MONEY

Demopolis (dĭmŏ'pulĭs), city (pop 4,137), W central Ala , SSW of Tuscaloosa at the confluence of the Black Warrior and Tombigbee rivers in the Black Belt, founded 1818 by Bonapartist exiles Some fine homes, built by later cotton planters, remain

De Morgan, Augustus, 1806–71, English mathematician and logician, b India, father of W. F De Morgan A noted teacher, he was professor of mathematics (1828–31, 1836–66) at University College (now part of the Univ of London) and a founder and first president (1865) of the London Mathematical Society Known as a reformer of logic, he developed a new logic of relations which he summarized in *Syllabus of a Proposed System of Logic* (1860) His works include *An Essay on Probabilities* (1838), *Formal Logic* (1847), *Trigonometry and Double Algebra* (1849), and *A Budget of Paradoxes* (1872, 2d ed , 1915)

De Morgan, William Frend, 1839–1917, English novelist, artist, and inventor, son of Augustus De Morgan He was a friend of several of the Pre-Raphaelites and in early life designed glass and tiles, rediscovering a process of making colored lusters He established a pottery business in Chelsea With the decline of his business and of his health, he retired in 1905 At the age of 65 he wrote his first novel, *Joseph Vance* (1906), a long, leisurely story, rich in character and humor It was an instant success In the short time which remained to him he wrote about one novel a year—*Alice-for-Short* (1907), *Somehow Good* (1908), *It Never Can Happen Again* (1909), *An Affair of Dishonor* (1910), *A Likely Story* (1911), and *When Ghost Meets Ghost* (1914) *The Old Madhouse* (1919) and *The Old Man's Youth* (1921) were completed by his wife, Evelyn Pickering De Morgan (d 1919), a painter and sculptor See A M D W Stirling, *William De Morgan and His Wife* (1922), studies by F W Seymour (1920) and W T Hale (1921)

Demosthenes (dĭmŏs'thunēz), 384?–322 B C , Greek orator, generally considered the greatest of the Greek orators He was a pupil of Isaeus, and—though the story of his putting pebbles in his mouth and declaiming is only a legend—he seems to have been forced to overcome a speech defect After years of private practice in the law, he became a political orator in 351 B C when he delivered the first of three *Philippics* Philip II of Macedon had been steadily building power, and Demosthenes saw clearly the danger to Greece in the great Macedonian state The *Philippics* (the second in 344, the third in 341) and the three *Olynthiacs* (two in 349, the third in 348), in which he urged aid for Olynthus against Philip, were all directed toward arousing Greece against the conqueror The third of the *Philippics* is generally considered the finest of his orations His predictions came true, and Philip began to exercise great influence in Greece In *On the Peace* (346) Demosthenes urged an end to the Phocian war In 343 he accused his rival, Aeschines, of accepting Macedonian bribes, this speech is entitled (as was the defense of Aeschines) *On the False Legation* With the battle of Chaeronea (338), Philip was triumphant, and Demosthenes' cause was lost He was greatly honored, however, by his admirers and even by most of his enemies But a proposal by Ctesiphon to give Demosthenes a gold crown caused Aeschines to bring suit Demosthenes roundly defended his own career and attacked that of Aeschines in *On the Crown* (330) The verdict was in favor of Demosthenes Later he was involved in a complex and obscure affair involving money taken by one of the lieutenants of Alexander the Great, it ended with Demosthenes in exile After the death of Alexander he was recalled and attempted to build Greek strength to throw off the yoke of Macedon, but he was unsuccessful as Antipater triumphed Demosthenes fled and took poison before he could be captured

demotic · see HIEROGLYPHIC.

Dempsey, William Harrison, 1895–, American boxer, known as Jack Dempsey, b. Manassa, Colo. Dempsey, called the "Manassa mauler" by his admirers, won the world heavyweight championship from Jess Willard in Toledo, Ohio, in 1919 and lost the title to James J (Gene) Tunney in Philadelphia in 1926 At Chicago in 1927, Dempsey was again defeated by Tunney in the fight which involved the controversial "long count" in the seventh round He then retired, but made a brief comeback tour in 1931–32. He later devoted himself to business interests and to promoting interest in sports In the Second World War he was a commander in the U.S. coast guard See his autobiography, *Round by Round* (written in collaboration with M M Stearns, 1940)

Demuth, Charles (dă'mŭth), 1883–1935, American water-color painter, b Lancaster, Pa At 20 he began his art study under William Chase at the Pennsylvania Academy of the Fine Arts In 1907 and again in 1912 he visited Europe On returning to America he began a series of line-and-wash illustrations for works of Zola, Poe, and Henry James and made drawings of vaudeville performers He is perhaps best known for his beautiful flower studies in water color In these and in his later paintings in tempera and oil of New York scenes the influence of cubism is manifest Demuth is represented in many American galleries His *Cyclamen* (Metropolitan Mus) is characteristic See study by William Murrell (1931)

Denain (dŭnē'), town (pop 22,299), Nord dept , N France, with coal fields and ironworks. Here the French defeated (1712) the imperialists in the War of the Spanish Succession

Denbigh (dĕn'bē), municipal borough (1931 pop 7,249, 1943 estimated pop 8,661), county town of Denbighshire, Wales, in the Vale of Clwyd There are remains of walls and of the 13th-century castle built by Henry de Lacy, earl of Lincoln, on a hill above the town, where Charles I stayed after the battle of Rowton Moor (1645) Sir Henry Stanley was born in Denbigh

Denbighshire (dĕn'bĕshĭr) or **Denbigh,** maritime county (669 sq mi , 1931 pop 157,648, 1948 estimated pop 167,493), N Wales, bounded on the north by the Irish Sea and on the west by the River Conway The county town is Denbigh, but WREXHAM, coal-mining and manufacturing center, is more important The county is largely high pastoral moorland Agriculture (oats and wheat) is pursued as an occupation in the valleys of the Conway, the Clwyd, and the Dee Organized as a county under Henry VIII, modern Denbighshire is chiefly important for its mineral resources (iron, slate, and lead as well as coal)

Denby, Charles, 1830–1904, American diplomat, b Virginia, grad Virginia Military Institute, 1850 After 1855 a lawyer of Evansville, Ind , he was appointed (1885) minister to China and served 13 years He wrote *China and Her People* (1906)

Denby, Edwin, 1870–1929, U S Secretary of the Navy (1921–24), b Evansville, Ind , son of Charles Denby President Harding appointed him to the cabinet In 1924 he was involved in the scandal about the oil reserves (see TEAPOT DOME) He was charged not with fraud but with neglect of duty, and in Feb , 1924, the Senate asked his dismissal Although President Coolidge denied the right of the Senate to dictate, he appointed a special counsel to prosecute the oil cases, and Denby resigned

Dendera (dĕn'dură), village, N Egypt, on the Nile It is on the site of the ancient Greek city Tentyra (tĕn'tĭru) There is a large well-preserved temple of Hathor (1st cent B C), which contained a zodiacal table now in the Louvre, and a temple of Isis

Dendermonde, Belgium see TERMONDE

Denham, Sir John, 1615–69, English poet, b Ireland He served with the royalists and during the Restoration, as a reward for his services, was made surveyor general of works With Cowley and Waller, he was one of the pioneers in the use of the heroic couplet His fame rests largely on his *Cooper's Hill* (1642), one of the first descriptive poems in English He wrote a tragedy, *The Sophy* (1642), and several other volumes of poetry, including *The Destruction of Troy* (1656) See edition of his works by T H Banks, Jr (1928)

Denham Springs, town (pop 1,233), SE La , on the Amite river and E of Baton Rouge, settled in the early 19th cent when mineral springs were discovered

Denikin, Anton Ivanovich (ŭntôn' ēvä'nuvĭch dyĭnyĕ'kĭn), 1872–1947, Russian general The son of a serf, he rose from the ranks In 1917 he joined General KORNILOV, whom he succeeded (1918) in command of the White forces against the Bolsheviks He was successful in S Russia, but his drive on Moscow (1919) failed because of his lack of military cooperation with Admiral KOLCHAK He retreated, his forces were demoralized, and in 1920 Denikin resigned his command to General Wrangel Denikin did not fight for the restoration of the tsars, but was a moderate in politics He lived in exile in France until 1946, when he came to the United States, where he died.

Denis, Saint (dĕn'ĭs, dūnē'), 3d cent.?, patron of France. He is said to have been first bishop of Paris and to have died a martyr on Montmartre. His shrine was Saint-Denis The Latin of the name is Dionysius, he was long identified with DIONYSIUS THE AREOPAGITE. Feast Oct 9

Denis, king of Portugal see DINIZ.

Denis, Maurice (môrĕs' dūnē'), 1870–1943, French muralist and writer on art, best known for his religious paintings and decorations His decorations are to be seen in the chapel of Saint-Germain-en-Laye, the churches of Le Vésinet and Gagny, and the Church of the Holy Ghost (Saint-Esprit), Paris He also decorated the Champs Élysées theater and the cupola of the Petit Palais A disciple of Gauguin, Denis uses much more delicate colors He wrote on Gauguin (1912) and on theories of modern and religious art (1914–21).

Denison, Henry Willard (dĕ'nĭsun), 1846–1914, American diplomat in the service of Japan, b Essex co , Vt , studied law at George Washington Univ Sent to Japan as a U S vice consul, he was later (1880–1914) an adviser to the Japanese government in foreign affairs and had considerable influence on the negotiations that ended the First Chino-Japanese War, on negotiations for a treaty of alliance with Great Britain, and on the deliberations of the conference at Portsmouth which ended the Russo-Japanese War. He was also a judge of the Hague Tribunal

Denison. 1 City (pop 4,361), co seat of Crawford co , W Iowa, on the Boyer river and NE of Council Bluffs, in an area producing poultry, grain, and dairy foods, inc 1876 Indian artifacts have been found near by 2 City (pop 15,581), N Texas, near the Red River and NNE of Dallas, inc 1873 It was a stagecoach station before the Civil War but grew to importance only with the coming of the railroad It is a railroad division point, a shipping center for the area, and a busy industrial city with cheese and milk plants, factories making machinery and heavy metal goods, and establishments processing cotton, wheat, and peanuts Wealth from industry has been used to preserve the spacious and well-shaded look of the old streets Dwight D Eisenhower was born here Near by is the big Denison Dam

Denison Dam, NE Texas and S Okla , in the Red River Denison, Texas, is to the south, Durant, Okla , to the north The main dam is 165 ft high and more than 15,000 ft long The reservoir impounded, Lake Texoma, is one of the largest artificial lakes in the United States and is extensively used for recreation The historic village of Preston in Texas and the site of Camp Washita in Oklahoma were inundated The dam was built by the U S Corps of Engineers principally for flood control and generation of power, water was first impounded late in 1943, and the first power was generated in 1944

Denison University · see GRANVILLE, Ohio

Denizli (dĕnĕzlē'), city (pop 20,162), SW Turkey, near the ruins of ancient LAODICEA It is famed for its beautiful situation and its luxuriant gardens An important center in the Middle Ages, it declined after the 14th cent

Denmark, Dan *Danmark*, kingdom (16,576 sq mi , pop 4,045,232), NW Europe, southernmost of the Scandinavian countries Except for the JUTLAND peninsula (between the North Sea and the Baltic Sea), on which Danish North Schleswig borders Germany, Denmark consists of Baltic islands, notably ZEALAND, FYN, FALSTER, LAALAND, LANGELAND, and BORNHOLM Outlying Danish possessions are the FAEROE ISLANDS and GREENLAND COPENHAGEN is the capital, other important or famous cities include Arhus, Odense, Alborg, Roskilde, and Elsinore A part of the European plain, Denmark is low-lying and highly cultivated Dairy and pork products are the mainstays of Danish agriculture and are widely exported. The coastal fisheries are among the most important in Europe, and the Danish commercial fleet is considerable A constitutional monarchy, Denmark is ruled by Frederick IX. The diet or Rigsdag consists of the Landsting (upper chamber) and the Folketing (lower chamber) The Established church is Lutheran, but there is complete freedom of religion The educational level is one of the world's highest Little is known of Danish history before the age of the VIKINGS The Danes had an important part in the viking (or Norse) raids in Western Europe and were prominent among the invaders of England who were opposed by King Alfred and his successors St Willibrord attempted to convert Denmark to Christianity, and St Ansgar succeeded HAROLD BLUETOOTH (d c 985) was the first Christian king of Denmark His son, SWEYN, conquered England From 1018 to 1035 Denmark, England, and Norway were united under King CANUTE The southern part of Sweden (Skane, Halland, and Blekinge) was, with brief interruptions, part of Denmark until 1658 After Canute's death Denmark fell into a period of turmoil and civil war WALDEMAR I (1157–82) and WALDEMAR II (1202–41) were energetic rulers who established Danish hegemony over the North WALDEMAR IV (1340–75) again brought Danish power to a high point, but was humiliated by the HANSEATIC LEAGUE in the Treaty of Stralsund (1370). His daughter, Queen MARGARET, achieved (1397) the union of the Danish, Norwegian, and Swedish crowns in her person (see KALMAR UNION). SWEDEN soon escaped effective Danish rule, and with the accession of Gustavus I of Sweden (1523) the union was dissolved The union with NORWAY, however, lasted until 1814. In 1448 CHRISTIAN I became king and established on the Danish throne the house of Oldenburg, from which the present ruling family (Schleswig-Holstein-Sonderburg-Glücksburg) is descended He also united SCHLESWIG and HOLSTEIN with the Danish crown. The Reformation was established in the reign (1534–59) of CHRISTIAN III. Shortly afterward Denmark had a brilliant court, with a brisk intellectual life, Tycho Brahe is perhaps best remembered of its figures Denmark continued to be involved in wars with Sweden and other neighbors. The participation of CHRISTIAN IV in the Thirty Years War and the wars of FREDERICK III with Sweden caused Denmark to lose its hegemony in the North to Sweden The Danish-Swedish Treaty of Copenhagen (1660) confirmed most of the Danish losses imposed by the Treaty of Roskilde (1658). Christian's successors, Frederick III and Christian V, aided by their minister, Count GRIFFENFELD, transformed the kingdom into an absolute monarchy, thus overcoming the resistance of the nobles, who for centuries had struggled against the royal authority Denmark maintained an imperial status with its rule over ICELAND and the establishment of the Danish West Indies (see VIRGIN ISLANDS) In the NORTHERN WAR against Charles XII of Sweden, FREDERICK IV gained little for Denmark The later 18th cent was marked by important social reforms carried out by the ministers Johann Hartwig Ernst BERNSTORFF, Andreas Peter BERNSTORFF, and STRUENSEE Serfdom was abolished in 1788 In the French Revolutionary and Napoleonic Wars, Denmark was twice attacked by England (see COPENHAGEN, BATTLE OF, COPENHAGEN) Having sided with Napoleon, it was deprived of Norway by the Congress of Vienna (1815). In 1848, after the adoption of a new constitution under FREDERICK VII, Denmark was involved in the first Prusso-Danish war (1848–49) over the status of SCHLESWIG-HOLSTEIN Denmark was defeated and was obliged to agree, by the London Protocol of 1852, to preserve a special status for the two duchies After the accession of CHRISTIAN IX war broke out again (1864) Humbled by Prussia and Austria, Denmark lost Schleswig-Holstein These losses in prestige were, however, more than offset by the astonishingly successful economic changes that transformed Denmark in the second half of the 19th cent from a people of poor peasants and tenants into the nation of the most prosperous small farmers in Europe This was achieved largely by persuading the farmers that they had to specialize in dairy products Not a little credit for educating the rural and industrial population to this necessity was due to the folk schools, which originated with Nikolai F S GRUNDTVIG and which have exerted a tremendous influence on modern Danish life The cooperative movement also has greatly contributed to Danish prosperity Denmark remained neutral in the First World War, but recovered North Schleswig after a plebiscite in 1920 Although the Social Democratic government of Denmark signed a 10-year nonaggression pact with Germany in 1939, neutral Denmark was invaded and occupied by German forces in April, 1940 King CHRISTIAN X and his government remained, but increasing friction with the German authorities led (Aug , 1943) to the establishment of martial law by the Germans, the arrest of the government, and the placing of the king under house arrest Until its liberation by British troops in May, 1945, Denmark was treated by Germany as an enemy nation Meanwhile the Danish minister in Washington, though disavowed by his government, signed an agreement with the United States granting military bases in Greenland Moreover, 40 percent of the Danish merchant fleet served under the Allies, and a Danish resistance force operated in 1945 under the supreme Allied command, although Denmark was technically at peace with Germany After its liberation Denmark entered (1945) the United Nations Economic recovery was more rapid than in the rest of Europe. The cabinet in 1949 was headed by a Social Democrat See J H. S. Birch, *Denmark in History* (1938); F C Howe, *Denmark: the Coöperative Way* (1936); A E Rothery, *Denmark* (1937).

Denmark, town (pop 2,056), S S C , S of Columbia; settled in 1896, inc. 1903 It is a rail and communications center in a diversified farming area.

Dennett, Tyler (dĕ'nĭt), 1883–1949, American historian and educator, b Spencer, near Marshfield, Wis , grad Williams, 1904. After study at Union Theological Seminary and Johns Hopkins Univ., he was briefly a Congregational minister before entering journalism Dennett was lecturer in American history at Johns Hopkins (1923–24) and at Columbia (1927–28), chief of the division of publications (1924–29) and historical adviser (1929–31) in the U.S. Dept. of State, and professor

of international relations at Princeton (1931–34). As president of Williams (1934–37) he was a sharp critic of the New Deal, but favored the admission of more high school graduates to the institution, saying that a college should not be an exclusive club for the wealthy and well-born. Disagreement with the board of trustees led to his resignation, and Dennett thereafter devoted himself to writing He wrote, in addition to numerous articles in magasines and periodicals, *The Democratic Movement in Asia* (1918), *Americans in Eastern Asia* (1922), *Roosevelt and the Russo-Japanese War* (1924); and *John Hay* (1933), which won the 1934 Pulitzer Prize for biography He also edited *Lincoln and the Civil War in the Diaries and Letters of John Hay* (1939)

Dennie, Joseph, 1768–1812, American Federalist journalist, b Boston, grad Harvard, 1790 As editor, he made the *Farmer's Weekly Museum* at Walpole, N H , an influential paper by his "Lay Preacher" essays printed in it (collected 1796, second collection, 1817, both ed in one volume by H M Ellis, 1943) In Philadelphia he founded the *Port Folio*, a leading weekly, and edited it under the pseudonym Oliver Oldschool, Esq , from 1801 to 1812 In it he attacked Jefferson so violently that Dennie was tried for seditious libel in 1805 but acquitted See his letters (ed by L G Pedder, 1936), study by H M Ellis (1915)

Dennis, James Shepard, 1842–1914, American missionary, b Newark, N J He served (1869–92) in Syria, most of the time at the Presbyterian Theological Seminary at Bevrouth His *Christian Missions and Social Progress* (1897-1906) and other writings on the mission field were influential

Dennis, John, 1657–1734, English critic and playwright He quarreled with Pope when his tragedy *Appius and Virginia* (1709) was satirized as bombastic in Pope's *Essay on Criticism* His real importance lies in his critical works, which include *Grounds of Criticism in Poetry* (1704) and *An Essay on the Genius and Writings of Shakespear* (1712). See H G Paul, *John Dennis* (1911)

Dennis, resort town (pop 2,015), SE Mass , on Cape Cod NE of Yarmouth, settled 1639, set off from Yarmouth 1793 It has a summer theater

Dennison, village (pop 4,413), E Ohio, S of Canton, founded 1864 with the establishment of railroad shops (moved to Columbus after a strike in 1922) Its clay deposits are used in the manufacture of ceramics Sewer pipe, boilers, and sheet iron are also produced

Denon, Dominique Vivant, Baron (dōmēnēk' vēvā' bärō' dunō'), 1747–1825, French artist, writer, and archaeologist He had a brilliant career as artist and diplomat under the *ancien régime* and followed Napoleon on his campaign in Egypt In 1804 he became director general of museums and was instrumental in bringing foreign masterpieces into the Louvre His *Voyage dans la basse et la haute Égypte* and his *Monuments des art du dessin chez les peuples tant anciens que modernes* contain fine collections of his engravings of famous monuments and works of art

Denonville, Jacques René de Brisay, marquis de (zhäk' rənā' du brēzā' märkō' du dənōvēl'), d 1710, governor of New France (1685–89) To subdue the Iroquois he led a force of c 3,000 French and Indians into the Seneca country in W New York in 1687 and destroyed their villages This, followed by several acts of inexcusable treachery on Denonville's part, so infuriated the Iroquois that they descended the St Lawrence in force, massacred the inhabitants at Lachine, and held the country in their grip to the gates of Montreal Denonville was replaced by Frontenac

density, in physics and chemistry, a measurement of the quantity of matter in a unit volume of a substance It is usually expressed in grams per cubic centimeter, grams per liter (1,000 c c), or pounds per cubic foot It is calculated by dividing a given standard weight or MASS of a substance by the volume which that mass occupies under standard conditions of temperature and pressure, i e , 0°C and 760 mm of mercury (one atmosphere) The density of water is an exception, however, since it is measured at 4°C , the point of its maximum density It is one gram per cubic centimeter, or or 62 4 lb per cubic foot Different substances have different densities, and this property is useful in determining the identity of an unknown substance Density tells "how heavy" a substance is A unit volume of iron weighs many times more than the same volume of cork, but a pound of iron weighs no more than a pound of cork When the density of a solid or a liquid is compared with that of water taken as a unit, the abstract number representing the ratio is called the SPECIFIC GRAVITY The density of a gas is compared with that of hydrogen or of air for specific gravity

Dent, Edward Joseph, 1876–, English musicologist. He studied at Cambridge, where he became professor of music in 1926 He is the author of biographies of Alessandro Scarlatti (1905), Busoni (1933), and Handel (1934) and of the critical works *Mozart's Operas* (1913, 2d ed , 1947), *Terpander, or, Music and the Future* (1927), and *Music of the Renaissance in Italy* (1934). In 1922 he founded the International Society for Contemporary Music, of which he was president until 1938.

Dentatus (Manius Curius Dentatus) (dĕntā'tŭs; mā'nēŭs kyŏŏ'rēŭs), d 270 B C., Roman general, distinguished for his simple habits. As consul (290 B C) he defeated the Samnites, Sabines, and Lucani and, in his third consulship (275 B.C), drove PYRRHUS from Italy Many stories are told of his simplicity and incorruptible honor Samnite ambassadors who sought to bribe him found him (according to Plutarch) boiling turnips He refused their offer, saying that it was more glorious to conquer owners of gold than to possess it himself.

Dent Blanche (dänt' blänsh'), peak, 14,318 ft high, Valais canton, Switzerland, in the Pennine Alps

Dent du Midi or **Dents du Midi** (both dä' dü mēdē'), Alpine mountain group, Vaud canton, Switzerland, rising to 10,696 ft in Haut Cime

dentifrice, material used to clean the teeth and gums, available as a liquid, a paste, and a powder Dentifrices which contain strong chemical antiseptics and abrasives may cause injury to the teeth and the oral tissues Approved dentifrices are listed by the American Dental Association, Chicago

dentistry, science which deals with the treatment and care of the teeth and associated oral structures The scope of dentistry includes such highly specialized fields as orthodontia (the prevention and correction of malocclusions of the teeth and malformations of the jaws), oral surgery, periodontia (the prevention and treatment of diseases of the gums or gingival tissues), prosthetics (restoration of missing teeth by artificial means), and public health dentistry Modern dentistry stresses both preventive and corrective measures, the employment of local and general anesthetics in the treatment of teeth and in surgery of the mouth is a routine procedure in dental practice The child of school age is now educated in the care of the teeth The earliest archaeological findings indicate that dental ills plagued man from the time he first inhabited the earth Magic and fetishes were used at first as curative measures, but these began to be replaced by drugs and other remedies in the civilizations of China and Egypt c 4000 B C Artificial dentures were probably first made by the Etrus ans or by the Egyptians The Romans borrowed from the Etruscans and the Greeks and achieved considerable skill in dentistry, most of which was lost in the return of magic in the Middle Ages Modern dentistry evolved from the work of many Ambroise Paré, a surgeon, described in his writings the transplantation of teeth and numerous other operations John Hunter, also a surgeon, performed transplantations and wrote an influential work on diseases of the teeth Important contributions were made by Pierre FAUCHARD, G V BLACK, C A HARRIS, and numerous others Introduction of the use of ether anesthesia was made by Crawford Long, W G T Morton, Horace Wells, and J C Warren Progress in dentistry was aided by the invention of the X ray, the use of local anesthetics, the production of artificial dentures made from porcelain and vulcanized rubber and later from plastics, the discovery of methods of preparing amalgam fillings and gold inlays, and the invention of the drilling machine In early days dentistry was not distinguished from medicine As it became a special and separate field, professional training schools grew up and educational requirements became more stringent In the United States the first dental college, the predecessor of hundreds now in existence, was established in Baltimore, Md , in 1840 See M D K Bremner, *The Story of Dentistry* (1939), A W Lufkin, *History of Dentistry* (2d ed , 1948)

Denton. **1** Trading town (pop 1,572), co seat of Caroline co , Eastern Shore, Md , in a farm area, settled c 1765 It has vegetable canneries and fertilizer and basket factories **2** City (pop 11,192), co seat of Denton co , N Texas, NW of Dallas and NE of Fort Worth, founded 1855, inc 1866 The students of North Texas State College (coeducational, 1890) and of Texas State College for Women (1901) give the city the leisurely look of a college town It is also active with processing plants and small factories in a varied farming area An agricultural experiment station is near by, as is artificial Lake Dallas in the Trinity river system

D'Entrecasteaux Islands (dätrəkästō'), volcanic group, area c 1,200 sq mi , off SE New Guinea, part of the Territory of Papua They comprise Fergusson, Goodenough, and Normanby islands The group is mountainous and contains several extinct volcanoes, hot springs, and geysers Coconuts and pearl shell are the chief products The islands were named for the French navigator, Entrecasteaux

Dents du Midi: see DENT DU MIDI.

Denver, James William, 1817–92, American territorial governor, army officer, and Congressman, b Winchester, Va He moved (1830) with his family to Ohio and taught school in Kentucky and Missouri before graduating (1844) from the Cincinnati Law School and beginning practice in Missouri He commanded a company of Missouri volunteers in the Mexican War, then went (1850) to California, where he was state senator and secretary of state before serving (1855–57) as U S Representative President Buchanan appointed him commissioner of Indian affairs (1857) and territorial governor (1858) of troubled Kansas. Denver as governor established order in the newly discovered Colorado gold mines and helped bring about the separation of Colorado from Kansas (Denver is named for him) In the Civil War he was a brigadier general of volunteers in the Army of the Tennessee, and later he practiced law in Washington, D C

Denver, 1 City (pop 322,412, alt 5,280 ft), state capital, N central Colo , on the South Platte river at the mouth of Cherry Creek, settled 1858, inc. 1861 Denver was made territorial capital in 1867 The mineral wealth of the Rockies laid the foundations for the city; the rich strikes of the late 1870s and the 1880s caused Denver to boom, like many another Colorado city (e g , LEADVILLE) It became the metropolis for bonanza kings, H A W TABOR built the Tabor Grand Opera House, and the Silver Dollar saloon flourished In the late 1890s Denver's steady development began, its metal industries were subsequently subordinated to its role as a great transportation, processing, and distributing center for an extensive agricultural and livestock area Denver is a port of entry and the financial and administrative center for the Rocky Mt region The city has extensive stockyards Among its industries are oil refineries, railroad shops, fruit and vegetable canneries, and feed and flour mills Some of its manufactures are mining and farming machinery, furniture, rubber goods, fiber and cotton products, confectionery, and electrical products Providing for tourists is an important aspect of the city's business The good transportation system (highway, rail, and air) brings many visitors, attracted by the fine climate, the beauty of the city, and its proximity to the Rocky Mt region Numerous Federal agencies have quarters here, including a mint Other places of interest include the park system, with many mountain areas, the Colorado Museum of Natural History, the capitol, the zoological gardens, the Denver Art Museum, and Lowry Field (U S military air station) Among the city's educational assets are the Univ of Denver (see DENVER, UNIVERSITY OF), Loretto Heights College (Catholic, for women, 1891), Regis College, a Methodist theological seminary, the Univ of Colorado medical school (with a fine psychopathic hospital), a junior college, an opportunity school, and a school for crippled children **2** Borough (pop 1,428), SE Pa , NE of Lancaster, settled 1863, inc 1900 Its manufactures include textiles, cigars, and shoes

Denver, University of, at Denver, Methodist, coeducational, chartered and opened 1864 as Colorado Seminary by John EVANS and others. The seminary was reorganized (1880) and the university created as a degree-conferring body It has colleges of arts and sciences, business administration, engineering, and law and schools of aeronautics, architecture and planning, art, education, hotel and restaurant management, librarianship, music (Lamont), social work, and speech There are a social sciences foundation, Chamberlin Observatory, and (in cooperation with other institutions) a high-altitude laboratory on Mt Evans

Denys, Nicolas (nēkôlä' dunā'), 1598–1688, trader and pioneer of New France, b Tours, France He became a master in the Nova Scotia fisheries After 1633 he founded several fishing and lumbering establishments along the northeast coasts of Nova Scotia, and in 1645 he built a fort at Miscou From the Company of New France, Denys purchased (1653–54) the Gulf of St Lawrence coast of Nova Scotia and New Brunswick from Canso to the Gaspé Peninsula, including Prince Edward Island and other islands, and over this territory and Newfoundland he held a commission from the king as governor However, none of his undertakings prospered, and it is for his valuable *Description géographique et historique des costes de l'Amérique septentrionale* (1672) that Denys is remembered This source book of information about Acadia was translated and edited by W F Ganong as *The Description and Natural History of the Coasts of North America (Acadia)* (1908, with a memoir of Denys)

deodar or **deodar cedar:** see CEDAR

deodorizer or **deodorant,** substance employed to absorb or to eliminate offensive odors Chloride compounds, hydrogen peroxide, and charcoal are employed for various deodorizing processes In personal hygiene, deodorants may be applied locally on body surfaces where little evaporation of perspiration occurs, e g , the armpits

department store: see STORE

De Patinir, De Patenier, or **De Patiner, Joachim:** see PATINIR, JOACHIM DE

De Paul University: see CHICAGO, Ill.

De Pauw, Washington Charles (dĭpô'), 1822–87, American manufacturer, b Salem, Ind At first successful at banking, he later established a plate-glass works at New Albany, Ind , which became one of the largest plants in the country. He donated some $300,000 to Indiana Asbury College, which was renamed (1882) DePauw University.

DePauw University see GREENCASTLE, Ind

De Pere (dĭ pēr'), industrial city (pop 6,373), NE Wis, on the Fox and S of Green Bay, inc 1883 It was called Mission des Pères (from which its present name is derived) after Father Allouez founded (1671) the St Francis Xavier Mission here Burned by the Indians in 1687, the mission was rebuilt and used until 1717 Nicolas Perrot presented (1686) a silver ostensorium to the mission, now preserved at the museum in Green Bay De Pere grew in the 19th cent as a lumber town, port, and commercial center St Norbert College is at West De Pere across the river

Depew, Chauncey Mitchell (dĭpū'), 1834–1928, American orator and railroad president, b Peekskill, N Y, grad Yale, 1856 Admitted to the bar in 1856, he was from the beginning interested in Republican politics and stumped for John C Frémont in 1856 He was a member (1862–63) of the state legislature and secretary of state of New York (1863–65) In 1866 he refused the ministry to Japan in favor of serving the railroad interests of Commodore Vanderbilt He served as general counsel (1875–82) vice president (1882–85), president (1885–99), and chairman of the board (1899–1928) of the New York Central lines His oratorical abilities appeared in the Republican conventions, and he was made U S Senator (1899–1911) He failed to secure reelection in 1910, partly because an investigation of life insurance revealed that he received an annual retainer from the Equitable Life Assurance Company He was noted as an after-dinner speaker See his memoirs (1922)

Depew, industrial village (pop 6,084), W N Y, near Buffalo, inc 1894 Metal products are made here

depilatory (dĭpĭl'ătō"rē), chemical agent used to remove hair In hide dressing, lime is the chief depilatory For the removal of superfluous hair from the body, sulphides of the metals are used, e g, barium sulphide, sodium sulphide, calcium hydrosulphide, and strontium hydrosulphide The powdered material is mixed with lime, sugar, chalk, and perfume, sometimes it is made into a paste These reagents convert the hair to a gelatinous mass, but do not prevent the hair from growing again Frequent application may cause grave disfigurement of the skin Sulphide preparations have disagreeable odors and since they are potentially dangerous should be used with caution

deportation, expulsion of aliens from a country by act of the government The term is not applied ordinarily to sending a national into EXILE or to committing one convicted of crime to an overseas penal colony In international law the right to return ALIENS to the country to which they owe ALLEGIANCE (or to any country which will accept them) derives from a government's sovereign control over its own territory Except for the ALIEN AND SEDITION ACTS of 1798 there was no American deportation law until the enactment in 1882 of a statute aimed at some of the Chinese who had come into the United States In 1891 an act authorized deportation of aliens who within a year of arrival became public charges for causes in existence before their entry Succeeding statutes increased the deportable classes to include persons who before their entry into the United States were insane, feebleminded, illiterate, or diseased in various ways In such cases proceedings must be brought within a limited period after entry In the case of criminals or persons espousing the violent overthrow of the government (e g, anarchists and Communists) there is no limit on the time when deportation proceedings may be initiated Deportation is also available against aliens who while in the United States commit crimes involving moral turpitude In recent years much attention has been centered on attempts to deport alleged Communists, but the great majority of recent deportations were of Mexicans who illegally entered the United States in search of employment Deportation was the responsibility of the Dept of Labor until 1940, when it was transferred to the Dept of Justice

Deposit, resort village (pop 2,028), S N Y, on the West Branch of the Delaware and E of Binghamton, settled 1785, inc 1811

depreciation, loss in value In ACCOUNTING it means shrinkage in value of fixed or capital assets, as by use, damage, weathering, or obsolescence Periodic depreciation is usually found by taking the cost of the asset, less its estimated value as scrap, and dividing this by its estimated life in periods Depreciation may be distributed over the life of the asset by equal, irregular, gradually increasing, or gradually diminishing installments Rights of limited duration, such as copyrights and leaseholds, depreciate in value as their date of expiration approaches. The problem of calculating depreciation has special importance because of the need of accurate returns for income taxes Failure to make allowance for depreciation results in over-estimating income

De Predis, Ambrogio (ämbrō'jō dā prā'dēs), c.1455–c 1506, Milanese portrait and miniature painter He worked under Leonardo da Vinci and followed his style so closely that his portrait supposedly of Beatrice d'Este (Milan) was long attributed to Leonardo De Predis went to Innsbruck, Germany, with his patron Lodovico Sforza. There he painted portraits of Bianca Sforza (National Gall. of Art, Washington, D C) and her husband, Emperor Maximilian (Vienna) His *Girl with Cherries* is in the Metropolitan Museum Miniatures by De Predis are in the Trivulzio Collection, Milan, and in the British Museum

depression see CRISIS, ECONOMIC

Depretis, Agostino (ägôstē'nō dāprā'tēs), 1813–87, Italian statesman An opposition leader in the Sardinian parliament after 1848, he held several cabinet posts after the foundation of the Italian kingdom and in 1873 became leader of the leftists He was three times premier (1876–78, 1878–79, 1881–87), maintaining himself in power by heading a coalition of the moderate elements Depretis worked for the Triple Alliance (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) of 1882 and effected useful internal reforms

De profundis (dā prōfōōn'dēs) [Latin,=from the depths], one of the penitential psalms, Ps 130 (or 129) See PSALMS

Deptford (dĕt'furd), metropolitan borough (1931 pop 106,891, 1948 estimated pop 75,670) of SE London, England, S of the Thames Noted in Elizabethan times for its cattle market and royal dockyard, it is now an industrial district In an inn here Christopher Marlowe was killed (1593)

Depue (dĭpū'), village (pop 2,296), N Ill, on the Illinois river and N of Peoria, in a farm area, inc 1867 Lake Depue lies to the south

De Queen, city (pop 3,055), co seat of Sevier co, SW Ark, near the Okla border, inc 1897 It is a rail center, shipping the products of a rich farm area

De Quincey, Thomas (dĭ kwĭn'sē), 1785–1859, English essayist, b Manchester In the winter of 1802–3 he ran away to London, where he suffered great privation When his family found him, they entered him (1803) in Worcester College, Oxford In 1808 he left without a degree because he did not take an oral examination In 1809 he settled at Grasmere, near Wordsworth and Coleridge, and married (1816) It was here the opium habit, started at Oxford to relieve neuralgia, overcame him for a time His literary career began with his "Confessions of an English Opium-Eater" in the *London Magazine* (1821) Driven by the need to support his family, De Quincey became a prolific contributor to various journals, especially after 1825 to *Blackwood's*, Edinburgh Among his best works, written in a polished, highly imaginative, and discursive prose, are "On Murder as One of the Fine Arts," "Suspiria de Profundis," "On the English Mail Coach," and *Autobiographic Sketches* (1853) "On the Knocking at the Gate in Macbeth" reveals him as a critic both scholarly and intuitive See De Quincey's diary for 1803 (ed by H A Eaton, 1927) and *De Quincey at Work* (letters, ed by W H Bonner, 1936), biographies by H A Eaton (1936) and Edward Sackville-West (1936)

De Quincy (dĭ kwĭn'sē), town (pop 3,252), SW La, NW of Lake Charles, settled 1898, inc 1902 It is in a rich lumber, farm, and oil district

Derain, André (ädrā'dürĕ'), 1880–, French painter, studied for a short time under Carrière Derain's friendship with Vlaminck led to his informal association c 1905 with the fauvist painters Although not linked with any one movement, his art attests an adroit assimilation of various influences Characteristic of his work is a simplified architectonic composition and conservative restraint in color and design suggestive of the inspiration of Cézanne He is represented in American public and private collections

Deraismes, Maria (marēä' durām'), 1828–94, French feminist She was a founder (1869) of the first French society dedicated to improving conditions for women and to securing greater educational advantages for them Her complete writings were published in 1895

Derbe (dûr'bē), ancient town, Asia Minor, SSE of Iconium near the Taurus range Paul and Barnabas fled hither from Iconium Acts 14 6

Derbent (dyĭrbyĕnt'), city (pop 23,097), SE Dagestan, SE European RSFSR, on the Caspian Sea It was founded (5th or 6th cent A D) by the Persians at the Iron Gates (probably identical with the Caspian or Albanian Gates of the ancients), a defile between the Greater Caucasus and the Caspian, on a major commercial route There are remains of the Caucasian Wall (also called Alexander's Wall), built by the Persians in the 6th cent as a bulwark against northern invaders The Arabs, who took Derbent in 728, made it a commercial and cultural center Passing (1220) to the Mongols and later recovered by Persia, Derbent was briefly held (1722) by Peter I of Russia and was annexed to Russia in 1813. Today it is a fishing port with nitrogen-processing plants and distilleries

Derby, Edward George Geoffrey Smith Stanley, 14th **earl of** (där'bē), 1799–1869, British statesman He was one of the great forces in liberalizing the Tory party An early admirer of George Canning, he served as Canning's undersecretary for the colonies (1827), but supported the Whig reform program and became chief secretary for Ireland (1830–33) under Earl Grey. Given the colonial office in 1833, he pushed through Parliament the abolition of slavery Attracted to Robert PEEL, he had become a Conservative by 1838 and served as Peel's colonial secretary (1841–45), but resigned because he could not favor repeal of the corn laws. With Lord George Bentinck and Benjamin DISRAELI he now led the Tory protectionists and headed two brief ministries (1852, 1858–59) When the unfortunate Russell government fell, Derby formed a government (1866–68) with Disraeli as chancellor of the exchequer and leader in the House of Commons Through Disraeli's initiative and skill the famous REFORM BILL of 1867 was passed

Derby, Elias Hasket (dûr'bē), 1739–99, American merchant, b Salem, Mass He inherited the considerable wealth and maritime business which his father, Richard Derby (1712–83), also of Salem, had acquired in trade with Spain and the West Indies previous to the American Revolution. In the Revolution, Elias increased his wealth by fitting out a number of successful privateersmen. After the war he was a pioneer in exploring new trade routes, his ships being the first to carry the Stars and Stripes to the Baltic and the Orient His most lucrative trade was with the island of Mauritius in the Indian Ocean The success of his enterprises was partly due to his wise selection of captains and supercargoes His mansion, built in 1797 by Samuel McINTIRE, was reputed the finest in Salem in its day His son, Elias Hasket Derby, Jr. (1766–1826), b Salem, made several remarkable voyages for the firm and took over the business after his father's death

Derby, George Horatio, pseud **John Phoenix,** 1823–61, American humorist, b Dedham, Mass, grad West Point After serving in the Mexican War, he was assigned to the U S Topographical Service in California, where he wrote a series of humorous sketches for the San Francisco magazine *Pioneer* These were collected in 1855 as *Phoenixiana*, and another series appeared as *The Squibob Papers* (1859) See G R Stewart, *John Phoenix, Esq* (1937)

Derby (dar'bē, dûr'), borough (1931 pop 142,403, 1947 estimated pop 142,280), co seat of Derbyshire, England, on the Derwent river It is a rail center with large engineering works and repair shops, manufactures include Rolls-Royce cars, pottery (see DERBY WARE), textiles, and paper It is the birthplace of Herbert Spencer, and George Eliot lived here Noteworthy are the Church of All Saints, with its Perpendicular tower (1509–27), the Roman Catholic Church of St Mary (by Pugin), and the arboretum In the 9th cent Derby was one of the Five Boroughs of the Danes

Derby (dûr'bē) **1** City (pop 10,287), SW Conn, at the confluence of the Naugatuck and Housatonic, founded 1642 as a trading post inc 1893, coextensive with Derby Town, inc 1675 Machinery, tools, and rubber goods are among its products The Yale spring regatta is held on the Housatonic here **2** Town (pop 2,118), N Vt, at the Canadian line, N and E of Newport It includes the villages Derby Center and Derby Line The latter, a port of entry, has an opera house and other buildings on the international line, its Legion Park is a Canadian-American World War Memorial

Derby (dar'bē, dûr'bē), famous horse race, instituted (1780) by the 12th earl of Derby and held annually at Epsom Downs, near London, England The race is open only to three-year-old colts and fillies who must be entered when they are yearlings The course, not level, is more than 1½ mi long Hundreds of thousands of spectators are drawn to the race every year The Derby became so famous that its name was applied to other well-known races, notably the Kentucky Derby (dûr'bē), held each year since 1875 at Churchill Downs, Lexington, Ky

Derbyshire or **Derby,** county (1,002 sq mi, 1931 pop 757,374, 1948 estimated pop 812,100), central England The county town is Derby The surface of the county is flat in the south, rising in the north to more than 2,000 ft in the Peak district The region is drained by the River Trent, with the Dove, the Derwent, and the Wye flowing south to it Derbyshire is extensively cultivated Dairy farming and sheep raising are important occupations In the eastern part of the county there are rich coal deposits Manufacturing of textiles, steel, porcelain, and paper is carried on at Derby, Chesterfield, Alfreton, Glossop, and Ilkeston There are Roman and pre-Roman remains In the Anglo-Saxon period Derbyshire was part of the kingdom of Mercia It was probably organized as a shire by Athelstan There are remains of Norman castles at Bolsover, Castleton, and Duffield, and the great house of the dukes of Devonshire is at Chatsworth. See Arthur Mee, *Derbyshire* (1937).

Derby ware, English china produced at Derby since c 1750, when William Duesbury opened the first pottery there Other potteries were soon opened at Denby, Brampton, Pinxton, Swadlincote, and Woodville in the same district From 1784 the ware was known as Crown Derby and included services for the queen, Gladstone, and many notables, it became Royal Crown Derby in 1890 by permission of Queen Victoria. It was in this ware that the government authorized reproductions of the Rhodian and Persian porcelains in the Victoria

and Albert Museum for exhibiting in the provinces. Japanese Imari porcelain also was successfully reproduced Derby ware is distinguished by delicacy of body and richness of decoration, ivory china and eggshell porcelain are among the types manufactured There have been a score or more of Derby marks, most of which show a crown over a D, sometimes with crossed swords and six dots, the whole in blue or red

derelict (dĕ'rĭlĭkt"), property cast overboard or abandoned at sea by the owner The most usual derelict is a wrecked ship from which the crew fled (see SHIPWRECK) SALVAGE may be claimed by those rescuing such a ship

Derg, Lough (lŏkh' dĕrg'), in Ireland **1** Expansion of the Shannon river, 23 mi long and 1 to 5 mi wide, on the borders of Counties Galway, Tipperary, and Clare There are mountains on the west shore, the east is mostly low On Holy Island or Inisceltra are remains of churches and a round tower **2** Lake, SE Donegal Station Island here, the traditional scene of St Patrick's Purgatory, has extensive religious establishments—hospice and chapels—and is a famous place of pilgrimage Saints' Island has remains of a monastery

De Ridder, city (pop 3,750), parish seat of Beauregard parish, SW La , E of the Sabine river, inc 1907 Industrial and trade center of a lumbering and diversified farming district, it is also increasingly a wool market

Dermot McMurrough or **Diarmid mac Murchada** (both dûr'mut mukmŭ'ru), d 1171, Irish king who brought the English into Ireland While he was king of Leinster, he intensified a feud with a neighbor by stealing his wife His enemies, headed by the wronged husband and the High King RORY O'CONNOR, defeated and banished him (1166) Dermot appealed for help to Henry II of England and, after obtaining promises of aid from Richard de Clare of Pembroke (Richard Strongbow) and other adventurers in Wales, returned to Ireland in 1168 The next year he welcomed the invaders, and by late 1170 they had won SE Ireland, including Dublin, and Strongbow married Dermot's daughter, Eva Although Dermot has been held in disrepute in Ireland for his treachery, he was a patron of the compilation of the valuable Irish manuscript, the Book of Leinster

Dermott (dûr'mut), city (pop 3,083), SE Ark , in a farm area It has sawmills and woodworking plants

Dern, George Henry, 1872–1936, U S Secretary of War (1933–36), b Dodge Co , Nebr , grad Fremont Normal College, 1888 He went (1894) to Utah and engaged successfully in mining and banking He served Utah as senator (1915–23) and, as governor (1925 32), sponsored much progressive legislation A Democrat, Dern was appointed Secretary of War by Franklin D Roosevelt On his death he was succeeded by Harry H Woodring

Derna (dĕr'na), town (pop c 21,000), Cyrenaica, Libya, a port and caravan center on the Mediterranean William Eaton commanded a U S force, comprising marines and hired Arab soldiers, which captured Derna, then a stronghold of the Barbary pirates, in 1805. Derna was an important objective in the North African campaigns of the Second World War

Dernburg, Bernhard (bĕrn'hart dĕrn'bo͝ork), 1865–1937, German financier and statesman As colonial secretary (1906-10), he was an important figure in the growth of German imperialism His efforts (1914–15) to act as German propagandist in the United States were offset by the sinking of the *Lusitania* Dernburg was finance minister in the Scheidemann cabinet (1919) and served as deputy in the Reichstag (1920–30).

derrick crane. see CRANE

Derry, Northern Ireland see LONDONDERRY

Derry. 1 Town (pop 5,400), SE N H , SE of Manchester, set off from Londonderry 1827 It produces textiles, shoes, and other goods Robert Frost farmed here and taught at the Pinkerton Academy Horse races on ice have been held since 1928 **2** Borough (pop 3,003), SW Pa , ESE of Pittsburgh near Greensburg, inc 1881 Porcelain insulators are made here

dervish (dûr'vĭsh) [Persian, =beggar], the friar or monk of ISLAM There are many societies of dervishes, many of them quite similar to religious orders in Western Christendom, with the important difference that final vows are not found, and enclosed or cloistered orders are really unknown Various orders are characterized by extreme forms of mystical practices, as those of the howling dervishes and whirling dervishes There is a strong antinomianism among dervishes, who claim special dispensation on account of their superior favor with God The ALMOHADES and ALMORAVIDES were at first dervish orders, and dervishes still mix in politics See also SUFI and FAKIR

Derwent (dûr'wŭnt), rivers in England **1** Cumberland, in the Lake District, rising near Keswick and flowing 35 mi N and W through Borrowdale, past Cockermouth, into Solway Firth at Workington **2** Derbyshire, tributary of the Trent, flowing 60 mi. S and SE past Chatsworth and Derby. **3** Yorkshire, tributary of the Ouse

Derwentwater, oval lake, 3 mi. long and 1 mi. wide, Cumberland, England, formed by a widening of the Derwent river. It is surrounded by wooded hills, with the Lodore waterfalls at its upper end Its islands include Lord's Isle, site of the former mansion of the earls of Derwent, Isle of St Herbert (a 7th-century hermit), and Floating Isle, a mass of vegetation, sometimes below the surface

Derzhavin, Gavril Romanovich (gŭvrēl' rŭmä'-nŭvĭch dyĭrzhä'vĭn), 1743–1816, Russian classical poet. He was poet laureate to Catherine II His fame rests principally on the *Ode to God,* translated into English by John Bowring (1861)

Desaguadero (däsäwädhä'rō), river of W Bolivia, 200 mi long, flowing SE from Lake TITICACA to Lake Poopó Since in its southern course it flows across salt beds, the Desaguadero is used for irrigation only in the north

Desaix de Veygoux, Louis Charles Antoine (lwē' shärl' ätwan' dusä' du vägōō'), 1768–1800, French general in the FRENCH REVOLUTIONARY WARS He served under Jourdan and Moreau, distinguished himself in the Egyptian campaign as soldier and administrator, and saved the day for Napoleon at Marengo, where he was killed

De Sanctis, Francesco (franchäs'kō dä sangk'tēs), 1818–83, Italian literary critic He was one of the founders of modern Italian literary criticism and one of the greatest of modern literary critics He suffered imprisonment for his political views and was exiled to Malta He was later (1871–77) professor of comparative literature at Naples, supported Cavour, and was by him appointed minister of education Important works are his *Saggi critici* [critical essays] (1866) and his *History of Italian Literature* (1871, Eng tr , 1931) He also wrote studies of Petrarch (2d ed , 1883) and of Leopardi (1885)

Des Arc (dā'z ärk'), town (pop 1,410), a co seat of Prairie co , E central Ark , on the White River, settled in the 1820s by the French, inc 1854 It ships farm products and lumber by rail

Desargues, Gérard (zhărär' duzurg'), 1593–1662, French mathematician and engineer, a founder of modern geometry He discovered the theorems on involutions and transversals known by his name and worked on conic sections His writings, lost for a time, were republished in 1864

Des Barres or **Desbarres, Joseph Frederick Wallet** (dăbar'), 1721?–1824, British army officer, surveyor, and artist He was born of French parents (probably in Switzerland), was educated at Basel and in Great Britain, and became a British citizen He served with British forces in America in the last of the French and Indian Wars and rendered valuable service as an engineer in the taking of Quebec He later spent 10 years in surveying the coasts of Nova Scotia and another 10 years in London editing his data, incorporating the surveys of others, and supervising the engraving of the plates, the result was *The Atlantic Neptune,* which appeared in successive issues and was used by British seamen in American waters for three generations The plates are justly famous for their artistic excellence, and they are collector's items Des Barres was later lieutenant governor of Cape Breton and then of Prince Edward Island The name also appears as Joseph Frederick Walsh Des Barres

Desbiens (dăbyĕ') or **Saint Émilien** (sĕtămēlyĕ'), village (pop 1,018), S Que , on Lake St John at the mouth of the Metabetchouan river

Descartes, René (runā' dākärt'), Latin *Renatus Carteseus* (rē-nā'tus kar-tē'zhus), 1596–1650, French philosopher and scientist He was educated in the Jesuit school at La Flèche and the Univ of Poitiers, then entered the army of Prince Maurice of Nassau In 1628 he retired to Holland, where he spent his time in scientific research and philosophic reflection In 1649 he was invited by Queen Christina to Sweden, but he was unable to endure the rigors of the northern climate and died not long after arriving in Sweden Even before going to Holland, Descartes had begun his great work, for the essay on algebra and the *Compendium of Music* probably antedate 1628 But it was with the appearance in 1637 of a group of essays that he first made a name for himself These essays included the famous *Discourse on Method,* his essay on dioptrics, his essay on meteors, and his essay on analytical geometry Mathematics was his greatest interest, building upon the work of others, he originated the CARTESIAN COORDINATES and Cartesian curves, he is often said to be the founder of analytical geometry To algebra he contributed the treatment of negative roots and the convention of index notation It was with the intention of extending mathematical method to all fields of human knowledge that he developed his methodology, the cardinal aspect of his philosophy He discards the authoritarian system of the scholastics and begins with universal doubt But there is one thing that cannot be doubted doubt itself This is the kernel expressed in his famous phrase, *Cogito, ergo sum* [I think, therefore I am] From the certainty of the existence of God, for which he offered a proof based on Anselm's ontological proof and a proof based on the first cause which must have produced the idea of God in the thinker. Having thus arrived at the existence of God, he reaches the reality of the physical world through God, who would not deceive the thinking mind by perceptions that are illusions. Therefore, the external world, which we perceive, must exist He thus falls back on the acceptance of what we perceive clearly and distinctly as being true and he studies the material world to perceive connections He views the physical world as mechanistic and entirely divorced from the mind, the only connection between the two being by intervention of God This is almost complete DUALISM In science, he discarded tradition and in a way supported the same method as Francis Bacon, but with emphasis on rationalization and logic rather than upon experiences In physical theory his doctrines were formulated by a compromise between his devotion to Catholicism and the scientific method which met opposition in the churchmen of the day He made numerous advances in optics, such as his study of the reflection and the refraction of light He wrote *Traité de l'homme et de la formation du fœtus* (1664), a textbook of physiology, and he also worked in psychology, in which he interpreted emotion as physiological at base and argued that the control of the physical expression of emotion would control the emotions themselves His chief work on psychology is in his *Traité des passions de l'âme* (1650), the development of his philosophy is in *Méditations de prima philosophia* (1641), his *Principia philosophiae* (1644) is also very important His influence on philosophy was immense. Frequently he has been called the father of modern philosophy, but his importance has been challenged in recent years with the demonstration of his great debt to the scholastics He influenced the rationalists Spinoza also reflects Descartes's doctrines in some degree The more direct followers of Descartes, the Cartesian philosophers, devoted themselves chiefly to the problem of the relation of body and soul, of matter and mind From this came the doctrine of occasionalism, developed by Malebranche and Geulincx His influence was very wide in law and theology also See E S Haldane, *Descartes His Life and Times* (1905), *Descartes Selections* (with introduction by R M Eaton, 1927), Jacques Maritain, *The Dream of Descartes* (Eng. tr , 1944)

descent, in law see INHERITANCE, in law.

Deschaillons sur Saint Laurent (dăshäyō' sûr sĕ lôrā'), village (pop 1,078), S Que , on the St. Lawrence The village of Deschaillons adjoins it

Deschanel, Émile (āmēl' dāshänĕl'), 1819–1904, French author and politician Of his numerous works the best-known are such critical studies as *Études sur Aristophane* (1867) and *Le Romantisme des classiques* (1882) His *Catholicisme et socialisme* (1850) offended Louis Napoleon (Napoleon III), and Deschanel spent the years 1851–59 in exile. He was made a professor at the Collège de France and a senator in 1881

Deschanel, Paul Eugène Louis (pôl' ûzhĕn'), 1855–1922, president of the French Republic (1920), son of Émile Deschanel Several times president of the chamber of deputies, he was chosen, over Clemenceau, to succeed Poincaré as president of the republic Ill-health forced his resignation after a few months He was succeeded by Millerand The author of many political books, Deschanel wrote notably *Gambetta* (1920), *Orateurs et hommes d'état* (1888), and *La Question sociale* (1898)

Deschutes (dăshōōts') [Fr ,=rapids], river rising in several lakes in W central Oregon, in the Cascade Range, and flowing NNE to the Columbia Its largest tributary is Crooked River Both the main stream and the tributary have been much used for the development of power and for irrigation An important early project was Crane Prairie Reservoir (created 1922, new dam built 1939) A project to irrigate more than 100,000 acres received water in the northern section in 1946

Deseret see MORMONS and UTAH

desert (dĕ'zurt), arid region, at least partly covered by sand, having scanty vegetation or sometimes almost none, and capable of supporting only a limited and specially adapted animal population. High-altitude deserts, caused by extreme cold and often covered with perpetual snow or ice, are known as cold deserts and are not usually considered with the deserts of warm regions It is estimated that deserts form about one fifth of the land surface of the world The largest desert regions of the world lie between 20° and 30° north and south of the equator, either where mountains intercept the paths of the trade winds or where atmospheric high-pressure areas cause descending air currents and lack of precipitation Other factors contributing to the formation of deserts include the amount of sunshine, rate of evaporation of water, and range of temperature Generally an annual rainfall of anything less than 10 in produces desert conditions Some deserts have no rain for intervals of several years Deserts and semideserts exist in some regions having up to about 20 in of rainfall where evaporation is very high and loss by runoff is great. Temperature ranges in deserts are often extreme. Europe is the only continent without deserts, there are, however, semidesert portions around the Black and Caspian seas, in parts of the

Ukraine and the N Caucasus In Asia a great desert, the GOBI, exists in the middle latitudes chiefly because of its remoteness from water Farther south there are desert areas in W India and through Baluchistan, Afghanistan, Iran, Iraq, and Arabia, these are largely the result of their situation in a subtropical high-pressure belt and of the distribution of pressure areas which produce cold, dry winds in winter and hot, dry winds in summer. In Africa is found the SAHARA, the largest desert in the world Second only to the Sahara in area is the desert region of central and W Australia, lying in a high-pressure belt and in the path of the trade winds (which lose much of their moisture on the windward slopes of the east-coast mountains) South America has deserts on the coast and interior of Chile and E of the Andes in Argentina and Patagonia In North America deserts are found from N Mexico northward through parts of the SW and W United States Extreme desert conditions exist in the MOJAVE DESERT, the IMPERIAL VALLEY, and Death Valley (see DEATH VALLEY NATIONAL MONUMENT) The northern plateau region of Mexico and the adjacent portions of Texas, Arizona, and New Mexico have less extreme desert conditions with a quite abundant growth of mesquite, greasewood, creosote bush, yucca, and various species of CACTUS. Middle-latitude deserts are found in parts of the Great Basin Plants of the desert have leaves and stems adapted to lessen their loss of water, and individual plants are more widely spaced than those in more humid regions, their roots form a spreading network sometimes penetrating to 50 ft underground Among the animals living in deserts of North America are species of squirrels, mice, bats, foxes, rabbits, and deer, reptiles, e g, the Arizona coral snake, species of rattlesnakes, the desert tortoise, and the horned toad, gila monster, and many other lizards, a number of birds, e g, the cactus wren, the road runner, species of owls, sparrows, and hawks, and spiders, scorpions, termites, and beetles See also DUNE, OASIS, CAMEL See E C Jaeger, *California Deserts* (2d ed, 1938), Gayle B Pickwell, *Deserts* (1939), W H Carr, *Desert Parade* (1947)

desertion, in law, the forsaking without justification of a station involving public or social duties In military law, it is the abandonment of (or failure to arrive at) a place of duty without leave and with the intention not to return (or arrive), in time of war desertion, especially in the face of the enemy, is punishable by death In maritime law, a seaman who abandons a ship without leave is rendered liable to damages and forfeits the wages he has already earned In family law, desertion is willful abandonment of the spouse or the children of a marriage without consent of the other party or parties The refusal to renew cohabitation without justification is also desertion, although in only a few states of the United States is mere abstinence from sexual intercourse considered such The refusal by a husband to support his wife has been regarded as desertion if he has the means to support her The wife who refuses to follow her husband when he changes his DOMICILE in good faith deserts him, since the matrimonial domicile is established by the husband's residence In most states, desertion is ground for DIVORCE

Desful, Iran see DIZFUL

De-shima (dā'-shĭma) or **De-jima** (dā'-jĭma), artificial island, c 1/3 mi long and 1/5 mi wide, Japan, in Nagasaki harbor Early Dutch traders were restricted (1641–1858) to the island

Deshler. 1 Village (1,037), SE Nebr, near the Kansas line SW of Lincoln Broommaking is an old industry 2 Village (pop 1,570), NW Ohio, SW of Toledo It manufactures several products

Des Houlières, Antoinette du Ligier de la Garde (ätwänĕt' du lēzhyā' du lä gärd' dāzōōlyĕr'), 1638–94, French poet Her songs and lesser pieces have merit She was prominent in philosophical circles

Desiderio da Settignano (dāzēdā'rēō dä sĕt"tēnyä'nō), 1428–64, Florentine sculptor, a follower of Donatello His marble carving, of exquisite delicacy, is best seen in his church decorations and in his busts of women and children In Vienna is a *Laughing Child*, characteristic and charming His tomb of Carlo Marsuppini in the Church of Santa Croce, Florence, is one of the most beautiful of early Renaissance monuments The National Gallery of Art, Washington, D C, has four examples, and the Detroit Institute of Arts has a bas-relief

Desiderius (dēsĭdēr'ēus), d after 774, last Lombard king in Italy (756–74) He was chosen with the support of the pope and of Pepin the Short, to whose son Charles (later Emperor Charlemagne) he married his daughter His alliance with Duke Tassilo of Bavaria and his subsequent interference in Roman affairs incensed Charlemagne, who repudiated (771) his wife and provoked open conflict Desiderius responded by supporting the claims of the children of Charlemagne's brother Carloman (d 771), by attacking Pope ADRIAN I, and by occupying several papal cities Charlemagne invaded Italy (773), captured (774) Desiderius at Pavia after a long siege, and proclaimed himself king of the Lombards. Desiderius was forced to retire into a monastery.

design, plan or arrangement of line, form, mass, and space in a pattern to produce an effect pleasing to the eye It possesses as many phases as there are fields of art There are exigencies in various processes of execution which must be considered in originating a proper design, thus a design created for one thing may or may not be used, or adapted, for another A lace design, for instance, can be adapted to mediums seemingly as remote as leaded glass, mosaic, jewelry, or textiles, but the boldness and stability requisite in successful architectural or monumental design are to be avoided in costume or jewelry where delicacy and pliancy are sought Architectural and sculptural designs must conform to the nature of the material used, in some cases to its tensile strength, as for marble or bronze in sculpture designing Other factors to be considered are the distance and the angle at which the completed work is to be viewed The term *design* applies also to the drawing, sketch, or model for the proposed scheme of decoration and to the executed work in reference to its arrangement of details, its form, and color For industrial design, see W D Teague, *Design This Day* (1940)

Désirade, see GUADELOUPE

De Sitter, Willem see SITTER, WILLEM DE

Desmarets or **Desmaretz, Jean, sieur de Saint-Sorlin** (both zhäⁿ' dāmärä' syĭr' du sĕ-sôrlĕ'), 1595–1676, French poet and dramatist He was a protégé of Richelieu and one of the founding members of the French Academy His most successful work was *Les Visionnaires* (1637), a comedy In 1670 he precipitated a controversy concerning the literary merits of the ancients which foreshadowed the polemics of PERRAULT and Boileau, Boileau attacked Desmarets de Saint-Sorlin in *L'Art poétique*

Desmarets, Nicolas (nēkôlä'), 1648–1721, French financier and statesman, nephew of Jean Baptiste Colbert Succeeding CHAMILLARD in 1708, he was chiefly responsible for the ingenious but ruinous expedients by which the expenses of the War of the Spanish Succession were met He was created marquis of Maillebois

De Smet, Pierre Jean (dĕ smĕt'), 1801–73, missionary in the U S Pacific Northwest, a Jesuit, b Belgium He came to the United States in 1821, served his novitiate in Florissant, Mo, and was ordained in 1827 He spent years in Europe gathering funds and recruits for missions among American Indians, then began (1838) his long missionary career at a mission near Council Bluffs, Iowa In 1840 he went to Montana with two Flathead Indians who had come to St Louis in search of a "black robe" (Jesuit), and he established missions in Montana and Idaho He traveled widely across the Northwest from 1840 to 1846 and won the friendship of various Indian tribes, including the Coeur d'Alene, the Kalispel, and the dreaded Blackfeet Later he acted often as mediator between Indian and white after Americans had poured west over the Oregon and California trails and the Indians had become restless—notably in the council at Fort Laramie in 1851 and in the Yakima war of 1858–59 He is said to have advised Brigham Young as to a place for the Mormons to settle, and he was a pacificator in the "Mormon War" Several peace missions to the Sioux were climaxed in 1868 when De Smet, after the Sioux and their allies had threatened to kill all white men, walked alone into Sitting Bull's camp and talked the chiefs into at least temporary peace His books are excellent source material in Western history—*Letters and Sketches* (1843), *Oregon Missions and Travels* (1847), *Western Missions and Missionaries* (1859), and *New Indian Sketches* (1863) See biography by H M Chittenden and A T Richardson (1905)

De Smet (dĭ smĕt'), city (pop 1,016), co seat of Kingsbury co, E central S Dak, E of Huron, in a dairying region, settled 1878

Des Moines (dŭ moin'), city (pop 159,819), state capital, and co seat of Polk co, S central Iowa, largest city of the state, at the junction of the Des Moines and Raccoon rivers, in the heart of the Corn Belt Established in 1843 as a military post, Fort Des Moines, it was settled by homesteaders in 1845, incorporated as Fort Des Moines in 1851, chartered as a city in 1857 It became the capital of Iowa by the terms of the state constitution of 1857 and in 1907 adopted the plan of city government known as the Des Moines plan It is an important center of transportation (rail, highway, air) and of industry (mining, farm-product processing, printing and publishing, garmentmaking) Cement, rubber products, and machinery are manufactured Many insurance companies are here Places of interest include the capitol (1871–84), the State Historical, Memorial, and Art Building, the library, the civic center, the coliseum (1910), the U S veterans' hospital, several war memorials, the state fairgrounds, Fort Des Moines (army post), several parks. DRAKE UNIVERSITY, Des Moines Still College of Osteopathy and Surgery, and Grand View College (junior; coeducational) Near by are Camp Dodge and Walnut Woods State Park.

Des Moines, river rising in SW Minnesota and flowing c 535 mi S and SE across Iowa to the Mississippi at Keokuk Its valley is rich in Indian mounds, especially near Des Moines.

Desmond (dĕz'mŏnd) [Irish,=south Munster], ancient division of Munster prov., Ireland, including the present Co Cork and Co. Kerry. The king of England gave it to the Fitzgeralds, and a branch of that family were earls of Desmond.

Desmoulins, Camille (kämēy' dämōōlĕ'), 1760–94, French revolutionist and journalist, whose oratory of July 12, 1789, led to the storming of the Bastille two days later His pamphlets and journals, beginning in 1789 with *Révolutions de France et de Brabant*, were received with immense enthusiasm and caused the outbreak of popular violence His later journal, the *Tribune des patriotes*, became the organ of the CORDELIERS, he attacked the Girondists in the *Histoire des Brissotins;* but late in 1793, with Danton, he counseled moderation, publishing *Le Vieux Cordelier* Twice accused before the Jacobin Club, where he was defended by Robespierre, he finally was arrested with Danton and others and was executed His beautiful wife, Lucile Duplessis, was guillotined shortly after See Jules Claretie, *Camille Desmoulins and His Wife* (Eng tr, 1876).

Desna (dyslnä'), river, 735 mi long, W European USSR, the main affluent of the Dnieper It rises SE of Smolensk and flows S and SW past Bryansk and Chernigov, joining the Dnieper just above Kiev It is navigable below Bryansk for 520 mi. and is used for transporting lumber

De Soto, Hernando (dĭ sō'tō, Span ĕrnän'dō dā sō'tō), c 1500–1542, Spanish explorer in the present United States, b Jérez de los Caballeros or Barcarrota (near Badajoz) After service under Pedrarias in Central America and under Francisco Pizarro in Peru, the dashing young conquistador was made by Emperor Charles V governor of Cuba with the right to conquer Florida (meaning the North American mainland) He led an expedition which left Spain in 1538 and landed in 1539 on the Florida coast, probably near Tampa Bay, certainly not far from the place where Pánfilo de Narváez was wrecked This was the start of an adventure that took him and his band nearly halfway across the continent in search of gold and silver and jewels, which they never found After wintering near Tallahassee they went N through Georgia and the Carolinas into Tennessee, then turned S into Alabama, where De Soto was wounded in a battle with Indians He was so determined to continue his treasure hunt that he refused to tell his men the news that Spanish vessels were off the coast In the spring of 1541 they set forth again and were probably the first white men to see and cross the Mississippi (there is fierce argument as to the spot) A journey up the Arkansas river and into Oklahoma disclosed no treasures, and they turned back, discouraged, to the banks of the Mississippi There De Soto died, and in the river itself he was buried, so that the Indians, whom he had intimidated and ill used, would not learn of his death His men went west again across the Red River into N Texas, then returned to the Mississippi and followed it to the sea A remnant of the expedition made its way down the coast to arrive at Veracruz in 1543 The chief chronicle of the expedition is by a Portuguese called the Gentleman of Elvas See E G Bourne, *Narratives of the Career of Hernando de Soto* (2 vols, 1904), biographies by R B Cunninghame Graham (1924) and Theodore Maynard (1930)

De Soto (dĭ sō'tō), city (pop 5,121), E Mo, SSW of St Louis, founded 1857 It has railroad shops and clothing factories Fishing, farming, quarrying, and lumbering are carried on in the area

Despenser, Hugh le (hū' lu dĭspĕn'sur), d 1265, chief justiciar of England He supported the barons in the struggle against HENRY III and received various offices, becoming chief justiciar in 1260. He lost this office in 1261, but was restored to it in 1263 He fought in the BARONS' WAR (1263–67) and was killed at Evesham in 1265 He was the first prominent member of a family which was important until the 15th cent The two best-known members were **Hugh le Despenser,** the elder, 1262–1326, and **Hugh le Despenser,** the younger, d. 1326 The elder Despenser took part in the Scottish campaigns with Edward I and engaged in negotiations with France On the accession of EDWARD II, Despenser alienated the baronial party by his support of Piers Gaveston and, on the latter's death, became the chief adviser to the king. Edward's defeat at Bannockburn in 1314 forced Hugh to withdraw from the court About 1318 the younger Despenser, who had earlier supported the barons, joined his father and the king, soon gaining more influence with Edward than the elder Hugh. Both became involved in a quarrel with the barons, who formed a league against them and brought about their banishment in 1321 In 1322, however, they returned to England, and after the battle of Boroughbridge they were the real rulers of the kingdom. The elder Despenser was created earl of Winchester in 1322. Their rule was notable for its constitutional spirit, but their greed was enormous and they were bitterly hated by the barons Both Despensers were executed when ISABELLA returned from France and seized control in 1326

Des Periers, Bonaventure (bônävätür' dā pĕrēā'), c 1510–1544, French humanist and poet; protégé of Margaret of Navarre. His chief work, *Cymbalum*

mundi (1537), a series of four skeptical prose dialogues imitated from Lucian, aroused much criticism. His name appears variously as Despériers, and Des Périers

Despiau, Charles (shärl' dāpēō'), 1874–1946, French sculptor. He studied at the École des Arts décoratifs and the École des Beaux-Arts, Paris, and worked in Rodin's studio He is best known for his graceful bronze busts and nudes of young women. Examples of his work are to be seen in many leading galleries in France and in the United States Despiau executed a war memorial for his native Mont-de-Marsan

Des Plaines (dĕs plānz'), city (pop 9,518), NE Ill, on the Des Plaines river and near Chicago, founded in the 1830s, inc 1925 Electrical appliances and radio parts are made An annual Methodist encampment has been held here since 1860

Des Plaines, river rising in SE Wisconsin and flowing c 110 mi south and southwest to be joined by the Kankakee near Joliet, Ill This combined stream is the Illinois river. Part of the Des Plaines is incorporated in the Chicago drainage system

Desportes, Alexandre François (alĕksā'drü frāswà' dāpôrt'), 1661–1743, French painter He is best known for hunting scenes and paintings of animals

despotism, government by an absolute ruler unchecked by effective constitutional limits to his power In Greek usage, a despot was ruler of a household and master of its slaves. The title was applied to gods and, by derivation, to the quasi-divine rulers of the Near East In the Byzantine Empire, despot was a title of honor of the emperors and their relatives and of vassal princes of the tributary states and dignitaries of the Eastern Church The Ottoman Empire perpetuated the term as applied to church officials and territorial princes The 18th-century doctrine of the Enlightenment influenced such rulers as Frederick the Great of Prussia, Catherine II of Russia, and Emperor Joseph II towards a rule of beneficent intent known as benevolent despotism, but despot is now a term of opprobrium See also ABSOLUTISM.

Despoto Dagh see RHODOPE

Des Prés, Josquin see JOSQUIN DES PRÉS

Dessalines, Jean Jacques (zhà' zhāk' dĕsalēn'), c 1758–1806, Negro emperor of Haiti (1804–6), born a slave A shrewd general, he served under TOUSSAINT L'OUVERTURE in the wars that liberated Haiti and was noted for a barbaric cruelty against the mulattoes which Toussaint was unable to control He fought brilliantly against the French under Leclerc in 1802 After the decimation of the French army by yellow fever and the capture of Toussaint, he revolted and overwhelmed the invaders in 1803 Independence was declared Jan 1, 1804, at Gonaïves and Dessalines chosen governor for life Later the Haitians crowned him emperor as Jacques I In attempting to reorganize the nation's shattered economy, the ambitious emperor instituted drastic measures, such as forced labor, and accompanied them with despotic and cruel acts He was ambushed and killed.

Dessau (dĕ'sou), city (pop 88,139), former capital of ANHALT, central Germany, at the junction of the Elbe and Mulde rivers, with machinery manufactures The Marienkirche (16th cent) has an altarpiece by Lucas Cranach, the younger From 1925 to 1932 Dessau was the seat of the BAUHAUS school, headed by Walter Gropius Moses Mendelssohn was born here

Dessye (dĕs'yā), Ital *Dessie,* town (pop 40,000), NE Ethiopia, in the Great Rift Valley Among the many thatched huts there are several churches, palaces, and modern buildings

Destaing, Charles Hector see ESTAING.

Desterro, Brazil see FLORIANÓPOLIS

Destouches, Philippe Néricault (fēlēp' nārēkō' dātōōsh'), 1680–1754, French dramatist. He was famous for his comedies of character

destroyer, warship of 1,500 to 2,000 tons, very fast, with powerful torpedo armament and a few medium caliber guns and anti-aircraft artillery The destroyer, originally called the torpedo-boat destroyer, was introduced in 1892 as an answer to the TORPEDO BOAT, which was considered a great menace to bigger warships In a short time, however, the destroyer took over the very functions of the torpedo boat, and the latter disappeared Destroyers are used for convoying merchant ships and as auxiliary vessels in a battle fleet. They are useful in battle because of speed and maneuverability and may be used to attack the enemy under the cover of the fire of their own battleships, or under a smoke screen, or under conditions of low visibility. They are invaluable in protecting warships from submarines and aircraft. Destroyers played a tremendous part in the Second World War Equipped with new electronic devices, they proved the best antisubmarine weapon Therefore they were the vessels best equipped for accompanying convoys through submarine-infested waters When submarines threatened all supply to Great Britain in the late summer of 1940, F. D. Roosevelt and Winston Churchill made a deal by which the United States gave England 50 destroyers for bases in the Western Hemisphere.

Destutt de Tracy, Antoine Louis Claude, Comte (ätwän' lwē' klōd' kō' dĕstüt' dü träsē'), 1754–1836, French philosopher and psychologist. Although active in the Napoleonic government, he was important for his leadership of the ideologists, disciples of Condillac This group contributed to such later psychological developments as the James-Lange theory of emotions To Tracy sensation was the source of conscious life His most important book was *Éléments d'idéologie* (4 vols, 1800–1815)

Detaille, Édouard (Jean Baptiste Édouard Detaille) (ādōōär' dātà'yü, zhà'bätēst'), 1848–1912, French painter He was noted as a painter of military scenes, especially of the War of 1870, and he imitated the meticulously realistic genre style of his teacher, Meissonier His paintings include *The Passing Regiment* (Corcoran Gall), *The Defense of Champigny* (Metropolitan Mus), and *Napoleon I and His Generals at Austerlitz* (N Y Public Library)

detective story, popular type of fiction in which the solution of a crime is traced step by step Poe's *Murders in the Rue Morgue* is considered the first modern detective story, and Wilkie Collins's *Moonstone* the first detective novel Dickens's *Mystery of Edwin Drood* is an excellent but tantalizing, because unfinished, tale Frequently the same detective appears in a series of such stories, as Sherlock Holmes in the works of Conan Doyle The mystery story, an allied type which grew from the GOTHIC ROMANCE and its predecessors and in which there is no detective and often no crime, only an unexplained situation, is exemplified by Collins's *Woman in White* Other leading detective-story writers include, in England, J S Fletcher, H C Bailey, Mrs Belloc-Lowndes, E C Bentley, John Dickson Carr, G K. Chesterton, Agatha Christie, Anthony Berkeley and Frances Iles (pseuds of A B Cox), F W Crofts, Michael Innes (J I M Stewart), Nicholas Blake (C Day Lewis), Joseph Shearing and Marjorie Bowen (pseuds of G M V C Long), Eden Phillpotts, Dorothy Sayers, Edgar Wallace, John Rhode, and R A J Walling, in France, Émile Gaboriau, Fortune Boisgobey, Maurice Leblanc, Gaston Leroux, and Georges Simenon (Georges Sim), in New Zealand, Ngaio Marsh, in the United States, Anna Katharine Green, E D Biggers, Raymond Chandler, Erle Stanley Gardner, Elisabeth Daly, Dashiell Hammett, E Phillips Oppenheim, Ellery Queen (pseud of Frederic Dannay and M B Lee), Frances and Richard Lockridge, Mary Roberts Rinehart, Rex Stout, George Harmon Coxe, S S Van Dine (W H Wright), and Carolyn Wells See Howard Haycraft, *Murder for Pleasure* (1941), Haycraft, ed, *The Art of the Mystery Story* (1946)

Deterding, Sir Henri (dā'turding), 1865–1939, Dutch oil magnate He built a huge industrial empire around an international organization (Royal Dutch Shell) and controlled a large part of the world's petroleum production He was created honorary Knight of the British Empire in 1920 Late in his life he supported the Hitler movement in Germany See Glyn Roberts, *The Most Powerful Man in the World* (1938)

detergent (dētûr'junt, dĭ-), substance that aids in the removal of dirt Soap is a good detergent although it has some disadvantages, e g, it forms insoluble compounds with certain salts found in hard water thus diminishing its effectiveness, and in acid solutions (used in industry) it is decomposed (thus precipitating the free fatty acid of the soap) Synthetic detergents were produced experimentally in France before the middle of the 19th cent and were further developed in Germany during the First World War However, not until the 1930s were chemical processes developed which made production in quantity feasible in any country In the United States within recent years many synthetic detergents, known also as surface-active compounds, have been produced A number of these are true detergents sold as "soapless soaps" under a variety of trade names, many are effective in hot, cold, and salt water and in acid solutions Others are used to increase the cleansing properties of another material and are incorporated in such products as dry-cleaning solutions, toothpastes, antiseptics, and solutions for removing poison sprays from vegetables and fruit Like soap, detergents act by reducing the surface tension of water

determinism, in ethics, the doctrine opposed to libertarianism or belief in freedom of the will Modern determinism is based on the type of psychology which sees the individual as controlled entirely by his history The doctrine is opposed by the principle of emergence, which states that truly novel and unpredictable events may occur out of the composite of forces in a situation.

Detmold (dĕt'mōlt), city (1946 pop 26,807), former capital of LIPPE, NW Germany Near by is a monument to the victory (A D 9) of Arminius over the Romans under Varus in the battle of the Teutoburg Forest

detonator (dĕ'tünā"tûr), type of EXPLOSIVE which reacts with great rapidity and is used to set off other, more inert explosives. Fulminate of mercury mixed with potassium chlorate is commonly used The word is also applied to equipment which, by flame, spark, percussion, friction, or pressure, is used to set off the chemical detonator.

Detroit (dĭtroit') [Fr, =the strait] **1** City (pop. 1,623,452), co seat of Wayne co, SE Mich., on the Detroit river and between Lakes St. Clair and Erie; inc as a town 1802, as a city 1806 It is a port of entry A fort (Pontchartrain) and settlement founded here in 1701 by Antoine de la Mothe Cadillac were held by the French until 1760, and three years later the British withstood a long siege in PONTIAC'S REBELLION American control, resulting from Jay's Treaty, was established in 1796 Detroit was territorial and then state capital from 1805 to 1847 Fire in 1805 destroyed all but one of the several hundred buildings then at Detroit Rebuilt, the growing settlement was surrendered by William Hull to British forces under Isaac Brock in 1812, it was recovered by William Henry Harrison in 1813 The 1830s saw the city's rapid growth, owing to the development of land and water transportation Well placed for commerce and industry, Detroit assumed importance after the middle of the 19th cent because of its shipping, shipbuilding, and manufacturing Its early carriage industry helped Henry Ford and others to make Detroit the center of the world's automobile industry and the largest city in Michigan Its Great Lakes shipping and rail transportation are tremendous, and its products, numerous and varied, include drugs, chemicals, stoves, rubber tires, Diesel engines, farm equipment paints and varnishes, machinery, and seed A large slum-clearance project was undertaken here in 1935 Among notable mayors were James COUZENS (1919–22) and Frank MURPHY (1930–33) Educational institutions include WAYNE UNIVERSITY, the Univ of Detroit (see DETROIT, UNIVERSITY OF), Marygrove College, the Detroit College of Law, the Detroit Institute of Technology, and the Detroit Institute of Musical Art A symphony orchestra was organized in 1914 Points of interest are the Detroit Institute of Arts, the public library, the Detroit Historical Museum, the Greater Penobscot Building (Detroit's tallest building), and several parks with recreational facilities Belle Isle in the Detroit river has been converted into a park with flower gardens, a conservatory, a zoo, an aquarium, and recreational facilities The Ambassador Bridge spans the river to Windsor, Ont The cities of HAMTRAMCK and HIGHLAND PARK are within the confines of Detroit See Arthur Pound, *Detroit, Dynamic City* (1940) **2** Town (pop 1,064), E Texas, NE of Dallas, in a farm, livestock, and pine area, inc 1935

Detroit, river, c 28 mi long, flowing from Lake St Clair, between SE Michigan and S Ontario, southward into Lake Erie It forms part of the international boundary

Detroit, University of, at Detroit, Catholic (Jesuit), coeducational, opened 1877, chartered as a college 1881, became a university 1911 It has colleges of arts and sciences, commerce and finance, and engineering and schools of dentistry and law

Detroit Lakes, city (pop 5,015), co seat of Becker co, NW Minn, E of Moorhead, settled c 1858, inc as a village 1880, as a city 1900 It is the manufacturing and trade center of a lake resort and farm area

Detskoye Selo, RSFSR see PUSHKIN

Dettifoss (dĕ'tĭfôs), fall, c 200 ft high, in the Jokulsa river, NE Iceland, the most powerful in the country

Dettingen (dĕ'tĭng-ün), village, Lower Franconia, Bavaria, on the Main river Here English, Austrian, and Hanoverian troops under the personal command of George II of England defeated (1743) the French in the War of the Austrian Succession

Deucalion (dūkā'lēün), in Greek mythology, son of PROMETHEUS and father of HELLEN He and his wife, Pyrrha (pĭ'rü), were the only survivors of a great flood An oracle told them to cast behind them the bones of their mother, the stones of the earth These stones became human beings

Deuel (dū'ul), father of Eliasaph the Gadite. Num. 1 14, 7 42,47, 10 20 Reuel Num. 2 14

deuterium see HYDROGEN

deuterocanonical books see OLD TESTAMENT.

deuteron see HYDROGEN

Deuteronomy (dūtûrŏn'ŭmē) [Gr, =second law], book of the Old Testament, last of the five books of the Law (the Pentateuch or Torah) ascribed by tradition to Moses According to the text it gives the final words of Moses to his people and may be outlined as follows first, the introductory discourse reviewing the history of Israel since the exodus from Egypt (1–4), second, an address of Moses to the people (5–30), beginning with general principles of morality (5–11), then continuing with particulars of legislation (12–26) and a conclusion (27–30); third, a chapter of narrative (31), fourth, the Song of Moses, a hymn (32), fifth, the blessing of Israel by Moses (33), and sixth, the death of Moses (34). The legislation is pointed toward life in the Promised Land, with the eventual foundation of a single lawful sanctuary Much of the book is written in a compelling, lofty style For books on Deuteronomy and critical views, see OLD TESTAMENT.

Deutsch, Emmanuel Oscar (doich), 1829–73, Semitic scholar, b Silesia, of Jewish origin He was an assistant (1855–70) at the British Museum His essay on the Talmud in the *Quarterly Review* (Oct., 1867) was translated into several languages, kin-

dling interest in the Talmud among Christian scholars His letters to the *Times* concerning the Moabite stone are also well known

Deutsch, Gotthard (gôt'hart), 1859–1921, Semitic scholar and historian, b Austria He studied at the rabbinical seminary at Breslau, Germany, and at the Univ of Vienna (Ph D , 1881), after which he taught at Brünn in Moravia In 1891 he came to America to become professor of the history and philosophy of religion at the Hebrew Union College at Cincinnati His contributions to Jewish newspapers and journals, besides his many books, made him an outstanding leader among his people He was an editor of the *Jewish Encyclopaedia*, contributing many articles His *Philosophy of Jewish History* (1897) and *History of the Jews* (1910) are well known

deutzia (dō'tsēŭ, doi'tsēu) [from Jan Deutz, a Dutch botanist], any plant of the genus *Deutzia*, popular ornamental shrubs mostly native to Asia The various species bear abundant white, pink, or purplish blossoms, commonly in the spring Some are hardy through most of the United States

Deux-Sèvres (dø-sĕv'ru), department (2,337 sq mi , pop 312,756), W France, in Poitou Its name derives from two small rivers—the Sèvre Nantaise, which joins the Loire opposite Nantes, and the Sèvre Niortaise, which flows into the Atlantic opposite the island of Ré Niort is the capital

Deva · see CHESTER, Cheshire, England

De Valera, Eamon (ā'mun dĕ"vulā'ru), 1882–, Irish statesman He was born in New York of a Spanish father and an Irish mother and was taken as a child to Ireland As a young man he joined the physical-force movement to achieve Irish independence and was imprisoned for a time for his part in the Easter Rebellion of 1916 Elected president of SINN FEIN in 1917, he was again arrested the following May in the police raids on Dublin After nine months of imprisonment he escaped from Lincoln jail in England with the assistance of a group of Sinn Feiners, in Feb , 1919 As head of the DÁIL ÉIREANN, De Valera came to America to raise funds for the cause of Irish independence In 1920, when he returned to Ireland, the country was in a state of virtual war against British rule In 1921 England, under Lloyd George, opened negotiations with De Valera as president of the Dáil, and the Irish Free State was established De Valera, however, felt that the treaty did not give real independence to Ireland and resigned from the Dáil in Jan , 1922 Nominal leader of the republican intransigents, De Valera greatly deplored the period of civil war that followed He maintained his opposition to the government, however, and did not enter the Dáil with his party, the FIANNA FAIL, until 1927 In the 1932 general election his party gained control of the government, and De Valera became president of the executive council on the fall of W T COSGRAVE He held this position until 1938, when, under the new constitution that he drew up, "Dev" became prime minister His policies were intensely nationalistic, calculated to remove every vestige of British influence He kept Ireland neutral throughout the Second World War, refusing to let the British use southern Irish ports and vigorously protesting Allied military activity in Northern Ireland In the general election of 1948 Fianna Fail was defeated by a coalition of six parties and De Valera was succeeded as prime minister by John A Costello See biography by M J MacManus (1946)

Devana Castra · see CHESTER, Cheshire, England

developer, in photography, a substance (in solution) used in the preparation of the NEGATIVE after the exposure of the film to light It acts upon the silver salts which have been affected by the action of the light Reducing agents such as pyrogallol (pyrogallic acid), hydroquinone, and metol are most commonly used for this purpose See also PHOTOGRAPHY

Deventer, Sir Jacob Louis van (yä'kŏp lōōē' vän dĕ'vuntur), 1874?–1922, Boer general In the South African War he commanded guerrilla forces in the Cape Colony In the First World War he helped suppress an outbreak against the government and participated in the campaigns against Germany in South-West Africa (1914–15) and in former German East Africa (1917–18)

Deventer (dĕ'vĕntûr), municipality (pop 43,985) and town, Overijssel prov , E central Netherlands, on the Ijssel river It is an industrial center with machine shops, foundries, textile plants, and carpet manufactures It was a center of piety and learning in the Middle Ages, Thomas à Kempis and Erasmus of Rotterdam studied here Once a member of the Hanseatic League, Deventer has retained many medieval and Renaissance structures These include the Groote Kerk (church, built 8th cent , rebuilt 11th, 15th, and 16th cent), the Marïakerk (15th cent), the town hall (17th cent), and the weighhouse (16th cent)

Devereux, Robert: see ESSEX, ROBERT DEVEREUX, EARL OF

devil see SATAN and SATANISM.

devilfish. For the fish, see **RAY: for the mollusk,** see OCTOPUS.

Deville, Henri Étienne Sainte-Claire: see SAINTE-CLAIRE DEVILLE, HENRI ÉTIENNE

Devil Postpile National Monument: see NATIONAL PARKS AND MONUMENTS (table)

devil's advocate: see CANONIZATION

devil's darning needle. see DRAGONFLY.

Devils Island, Fr *Île du Diable*, tiny island, one of the Îles du Salut off French Guiana A penal colony, it was used largely for political prisoners (the most celebrated was Dreyfus) and conditions were probably not so bad as in other penal colonies in French Guiana, but its name came to represent the horrors of the system Steps taken by the French government in 1938 to abolish the prison camps were delayed until 1946, when the return of prisoners to France was begun

Devils Lake, city (pop 6,204), co seat of Ramsey co , NE N Dak , WNW of Grand Forks and near Devils Lake, settled 1882, inc 1887 It is a manufacturing and trade center in a farm area, with tourist activities at near-by lakes A state school for the deaf is here The name comes from the salt Devils Lake (c 30 mi long), which is drying steadily A game preserve is on its shores

Devils Lake State Park, central Wis , in the Baraboo Range, near Baraboo The clear, oval-shaped lake is ranged about with bluffs from 400 to 500 ft high Indian mounds are here The region, noted for its scenery is of geological interest

devil's-paintbrush see HAWKWEED

Devils Tower National Monument see NATIONAL PARKS AND MONUMENTS (table)

devil's-walking-stick see HERCULES'-CLUB

Devine, Edward Thomas, 1867–1948, American social worker, b Hardin co , Iowa, Ph D Univ of Pennsylvania, 1893 One of the outstanding figures in early social-welfare practice, he was active as an administrator in the Charity Organization Society of New York (1896–1918), as director of the New York School of Philanthropy (1904–7, 1912–17), and as editor of the *Survey* (1897–1912) His books include *Principles of Relief* (1904) and *When Social Work Was Young* (1939)

Devine (dĭvīn'), town (pop 1,398), SW Texas, SW of San Antonio, in a truck-farm area, inc 1904

De Vinne, Theodore Low (du vĭ'nĕ), 1828–1914, American printer, b Stamford, Conn He learned his trade in the office of the Newburgh *Gazette* and in 1848 entered the shop of Francis Hart in New York city In 1858 he was made a junior partner, and on Hart's death in 1877 De Vinne became owner of the business It continued as Theo L De Vinne & Company until 1908, when it was incorporated as the De Vinne Press De Vinne became the most famous American printer of his day and did much by his writings and by example of workmanship to advance the cause of good printing He printed the *Century Magazine* and the *Century Dictionary*, both of them considered fine specimens of the art in that period He also printed many of the Grolier Club books He was a close student of types, and though his taste is not often followed today, he did much to make American printers type conscious He studied processes of reproductions and helped to bring them to new standards of excellence Besides many magazine articles, he published a number of books, the more notable including *The Invention of Printing* (1876), *Historic Printing Types* (1886), *The Practice of Typography* (4 vols , 1900–1904), *Title-Pages as Seen by a Printer* (1901), and *Notable Printers of Italy during the Fifteenth Century* (1910) He was a founder and president of the United Typothetae of America

Devolution, War of, 1667–68, undertaken by Louis XIV for the conquest of the Spanish Netherlands On her marriage to Louis, Marie Thérèse, daughter of Philip IV of Spain, had renounced her rights of inheritance in consideration of a large dowry Citing the failure of Spain to pay the stipulated dowry, Louis declared war and invoked an old law of Brabant which provided that property might "devolve" upon the children of a first marriage—in this case upon Marie Thérèse rather than upon Charles II of Spain The French easily captured the Spanish Netherlands (1667), and the United Provs , in alarm, formed the TRIPLE ALLIANCE with England and Sweden (Jan , 1668) The French overran Franche-Comté (Feb , 1668) but came to terms with the Triple Alliance in the Treaty of AIX-LA-CHAPELLE (May, 1668)

Devon, county, England see DEVONSHIRE

Devon (dĕ'vun), town (pop 2,337), S N B , on the St John river opposite Fredericton

Devon cattle, breed of CATTLE, one of the earliest developed in Great Britain, which is used for both beef and dairy purposes. They were first brought to America in 1817 and are to be found in nearly every state In color they range from deep red to chestnut

Devonian period (dĭvō'nēun) [from Devon, England, a type section], fourth period of the PALEOZOIC ERA of geologic time At the beginning of the Devonian, the continents were mostly dry land, later a great flood covered large areas of North America and Europe and smaller parts of Africa, South America, and Australia. In the Lower Devonian only the Appalachian and Acadian areas of North America were submerged, formations include the Helderberg limestone, the Gaspé limestone and sandstone, and the Oriskany sandstone. A good type section is that near Cumberland, Md. At the beginning of the Middle Devonian the Appalachian basin was elevated, while the interior was flooded. The Onondaga limestone was deposited over a large area between the Mississippi and the Appalachian region, while in New York the Schoharie and Esopus grits were laid down, apparently by increased erosion from the coastal highlands. The seas at their maximum extension became muddy and deposited the Hamilton shales The Upper Devonian probably saw the seas withdrawing and the eastern coast continuing to rise, with the formation of a delta of alluvium, now represented by the Chemung and Catskill shales and sandstones of New York and Pennsylvania The Devonian flood submerged the Cordilleran area of the Far West, depositing from 4,000 ft to 6,000 ft of limestone and shale in Nevada and 2,400 ft of quartzites and limestones in the Wasatch region of Utah The Devonian period in Europe was marked by considerable volcanic activity and the deposition of two great rock systems—the marine formation of Devonshire, the Rhine valley, and Russia and the OLD RED SANDSTONE The most notable Devonian animals were the fishes, which appeared in great numbers toward the close of the period Conspicuous types were sharks, armored fishes, lungfishes, and ganoid fishes Common invertebrates of the Devonian were corals, crinoids, starfishes, sponges, trilobites, and the forerunners of the ammonites Of land life the chief vestige is the footprint of a primitive salamanderlike amphibian in the Upper Devonian of Pennsylvania The Devonian plants were the earliest to be extensively preserved as fossils, but their high degree of development suggests that more primitive forms existed earlier. They were similar to the plants of the succeeding carboniferous period

Devon Island (dĕ'vun), area 21,606 sq mi , off N Canada, in the Arctic Archipelago It is mostly ice-covered, but supports musk oxen and caribou The Royal Canadian Mounted Police formerly had a post at Dundas Harbour

Devonport, Devonshire, England see PLYMOUTH

Devonshire, Spencer Compton Cavendish, 8th **duke of** (kā'vundĭsh, dĕ'vunshĭr), 1833–1908, English statesman He frequently held office in Liberal cabinets and led the Liberal Unionists who broke (1886) with Gladstone over HOME RULE for Ireland He later left (1904) the Unionists when that group proposed the abandonment of free trade He became marquess of Hartington in 1858 See biography by Bernard Holland (1911) **Victor Christian Cavendish,** 9th **duke of Devonshire,** 1868–1938, succeeded his uncle He was governor general of Canada (1916–21) and colonial secretary (1922–24) His son, **Edward William Spencer Cavendish,** 10th **duke of Devonshire,** 1895– , served as undersecretary of state for dominions (1936–40), undersecretary for India and Burma (1940–42), and undersecretary for colonies (1943–45)

Devonshire or **Devon,** maritime county (2,612 sq mi , 1931 pop 732,968, 1948 estimated pop, 765,459), SW England The county town is Exeter Devonshire is bounded on the north by the Bristol Channel, on the south by the English Channel, and on the west by Cornwall The surface is largely hills, rising to more than 2,000 ft in the wild Dartmoor district in the southwest There are many rivers and streams, the Tamar estuary, on the Cornwall border, forms the harbors of Devonport and Plymouth The region is primarily agricultural and pastoral Oats, wheat, barley, and fruit are grown The county is famous for its rich Devonshire cream Fishing (herring and pilchard) is important There is some mining and quarrying (clay, limestone, and granite) Woolen goods, lace, pottery, paper, and marine fixtures are manufactured Roman penetration did not extend much beyond Exeter When Devonshire was incorporated into Wessex in the 10th cent , it had already been organized as a shire In Elizabethan times the county reached its greatest maritime importance, and its name is associated with Walter Raleigh, Francis Drake, John Hawkins, and Richard Grenville From Plymouth the Pilgrim Fathers sailed for New England Plymouth and Exeter were badly damaged in bombing raids in the Second World War See Arthur Mee, *Devon* (1939)

De Vos: see VOS

De Voto, Bernard Augustine (du vō'tō), 1897–, American writer and editor, b Ogden, Utah, grad. Harvard, 1920, after army service in the First World War He taught at Northwestern Univ. (1922–27) and then at Harvard (1929–36) After 1935 he conducted "The Easy Chair" in *Harper's Magazine* and from 1936 to 1938 was editor of the *Saturday Review of Literature* His most important writing has been in the field of American history and literature—*Mark Twain's America* (1932), *The Year of Decision 1846* (1943), and a Pulitzer Prize winner in history, *Across the Wide Missouri* (1947). As official editor of the Mark Twain manuscripts now at Harvard, he has published *Mark Twain in Eruption* (1940) and *Mark Twain at Work* (1942). *The World of Fiction* appeared in 1950.

Devoy, John (dĭvoi'), 1842–1928, Irish-American journalist and Fenian leader, b Ireland He joined the Irish Republican Brotherhood (see FENIAN MOVEMENT) in 1861 For his proselyting within the British army he was sentenced in 1866 to 15 years in prison He was released in 1871, however, and went to America He rose to the position of foreign editor of the New York *Herald*, but was dismissed when he quarreled with James Gordon Bennett over the Irish question Devoy founded and edited the *Irish Nation* and became one of the leading Irish propagandists in the United States He organized the rescue of Irish prisoners in Australia by the *Catalpa* in 1875–76 and secured American financial support for the Irish Land League movement under Charles Stewart Parnell He founded in 1903 the *Gaelic-American*, which he edited until his death During the First World War he aided SINN FEIN, helped to send Sir Roger Casement to Germany for assistance, and secured much of the financial backing for the Irish Easter Rebellion of 1916. Afterwards he backed the Irish Free State against the republican extremists and helped secure a market for its first bonds See his *Recollections of an Irish Rebel* (1929), Desmond Ryan, *The Phoenix Flame* (1937).

Devrient, Ludwig (lōōt'vĭkh duvrēt'), 1784–1832, German actor In 1804 he abandoned a commercial career to join a traveling theatrical company He was a favorite in Berlin in comedy and tragedy, especially in the works of Shakspere and Schiller His three nephews were actors **Karl August Devrient** (kärl' ou'gōōst), 1797–1872, was popular in heroic and romantic roles such as Lear and Wallenstein **Philipp Eduard Devrient** (fē'lĭp ā'dōōärt), 1801–77, was the brother of Karl August He directed the Court Theater, Dresden (1844–46), and the Karlsruhe Theater (1852–70) He wrote several plays and a history of the German stage (1848–74) **Gustave Emil Devrient** (gōō'stäf ā'mēl), 1803–72, was the youngest and most gifted of the three brothers He gained fame in Germany in the plays of Shakspere and as Marquis Posa in Schiller's *Don Carlos* When he gave Hamlet in London, his portrayal was said to equal that of Edmund Kean **Otto Devrient** (ō'tō), 1838–94, the son of Philipp, edited Shakspere with his father and directed the court theaters at Oldenburg (1874) and Berlin (1899)

De Vries see VRIES

dew, water formed by condensation of some of the moisture (water vapor) in the atmosphere on a surface at temperatures above freezing Formation of dew is brought about by a decrease in the temperature of the air with the consequent decrease in its capacity to hold water The temperature to which the air must be cooled to attain saturation (relative humidity = 100 percent) and for condensation to begin is referred to as the dew point, a quantity which may be determined by means of a dew point hygrometer Leaves and grass cooling rapidly at night may cause the temperature of the near-by air to fall below the dew point, thus causing the formation of dew The phenomenon takes place on the side of a pitcher of ice water on a hot summer day See also FROST

Dewar, Sir James (dū'ur), 1842–1923, British chemist and physicist, b Scotland He was professor of chemistry (from 1877) at the Royal Institution, London, and later was director of the Davy-Faraday Research Laboratory there He is best known for his work on the properties of matter at low temperatures and the liquefaction of gases, in the course of which he invented the DEWAR FLASK and liquefied (1898) and solidified (1899) hydrogen With Sir Frederick Abel he invented cordite He was knighted in 1904. See his *Collected Papers* (1927), biography by J Crichton-Browne (1925)

Dewar flask [for Sir James Dewar], container after which the common thermos bottle is patterned It consists of two flasks, one placed inside the other, with a vacuum between The vacuum prevents the passage of heat from one flask to the other For greater efficiency the flasks are silvered to cause the reflection of heat The substance to be kept hot or cold is contained in the inner flask

dewberry, name for several species of the same genus (*Rubus*) as the BLACKBERRY and resembling it except in having a more trailing or prostrate habit and usually larger fruit Most species of dewberry are native North American plants, the most common of which is *Rubus procumbens* or *flagellaris*, sometimes called running blackberry The European dewberry is *Rubus caesius* The LOGANBERRY is thought to be either a variety of the Pacific dewberry or a hybrid between it and the red raspberry Dewberries are among the plants known as brambles

Dewees, William Potts (dĭwēz'), 1768–1841, American physician, b near Pottstown, Pa, M D Univ of Pennsylvania, 1808, where he taught from 1825 He was noted as an obstetrician and as the author of *System of Midwifery* (1824)

D'Ewes, Sir Simonds (dūz), 1602–50, English antiquarian He collected many old manuscripts and made transcriptions of others with the intention of writing a history of England, these now form part of the Harleian Collection of the British Museum His valuable collection of the journals of the Parliaments of the reign of Elizabeth were published in 1682 D'Ewes was a member of the Long Parliament, sided against the king and then against the army, and was expelled in Pride's Purge Portions of his diary of the period have been edited by Wallace Notestein (1923) and Willson Coates (1942) His autobiography and correspondence were edited by J O Halliwell (2 vols, 1845).

De Wet, Christian Rudolf (dū vĕt'), 1854–1922, Boer general and statesman In the South African War he achieved great success, especially in guerrilla fighting, he described his experiences in *The Three Years' War* (1902) After the war De Wet at first favored amity with the British, but in time he supported a separate Boer state He opposed the entrance of the Union of South Africa into the First World War and led a rebellion He was captured and sentenced to six years' imprisonment, but was pardoned after a short time

Dewey, Charles Melville, 1849–1937, American landscape painter, b Lowville, N Y, pupil of Carolus-Duran in Paris His works, in both oil and water color, are in leading American museums and private collections He became a member of the National Academy in 1907 Among his works are *The Sun Shower* (Metropolitan Mus) and *Edge of the Forest* (Corcoran Gall)

Dewey, Chester, 1784–1867, American naturalist, b Sheffield, Mass, grad Williams College, 1806 He was the first professor (1850–60) of chemistry and natural science at the Univ of Rochester and was an authority on sedges A genus of umbelliferous California plants is named *Deweya* for him

Dewey, Davis Rich, 1858–1942, American economist, b Burlington, Vt, grad Univ of Vermont, 1879, Ph D Johns Hopkins, 1886 From 1886 until his retirement in 1933 he taught economics and statistics at Massachusetts Institute of Technology He was a member of various state investigating commissions and of many government boards of arbitration in labor disputes His books include his standard *Financial History of the United States* (1902) and *National Problems* (1907) He was the brother of John Dewey

Dewey, George, 1837–1917, American admiral, hero of the battle of Manila, b Montpelier, Vt, grad Annapolis, 1858 He saw active service in the Civil War and rose in the navy in service and rank, becoming chief of the Bureau of Equipment in 1889, president of the Board of Inspection and Survey in 1895, and commodore in 1896 He was unpopular with many high in naval command, and it seems to have been through the influence of Assistant Secretary of the Navy Theodore Roosevelt and the direct intervention of President McKinley that Dewey was in 1897 appointed to command the Asiatic squadron He promptly took the fleet from Nagasaki to Hong Kong, where it was provisioned and put in order in expectation of war When the SPANISH-AMERICAN WAR actually broke out, he was ready Dewey sailed to Manila, entered the harbor after midnight on May 1, 1898, and engaged the Spanish fleet at dawn By noon he had destroyed eight Spanish ships with casualties of only eight Americans wounded Manila was at his mercy, but he waited for reinforcements, meanwhile bringing Emilio Aguinaldo back from exile to lead a revolution in the Philippines In maintaining relations with neutral warships at Manila, he had to exercise firmness with the officers of five German ships who would not accede to Dewey's blockade rules When Wesley MERRITT arrived with army forces, the two commanders cooperated in capturing Manila Dewey was promoted admiral of the navy in 1899 He was feted on his return to the United States with almost hysterical enthusiasm and was briefly boomed for President See his autobiography (1913), Laurin Hall Healy and Luis Kutner, *The Admiral* (1944), R S West, Jr, *Admirals of American Empire* (1948)

Dewey, John, 1859–, American philosopher and educator, b Burlington, Vt, grad Univ of Vermont, 1879, Ph D Johns Hopkins, 1884 He taught at the universities of Minnesota (1888–89), Michigan (1889–94), and Chicago (1894–1904) and at Columbia from 1904 until 1930, when he retired as professor emeritus He lectured at the Univ of Peking in 1912 and 1931, and in 1924 he prepared a report on the reorganization of the schools of Turkey Dewey's original philosophy, called instrumentalism, bears a relationship to the utilitarian and pragmatic schools of thought Instrumentalism holds that the various modes and forms of human activity are instruments developed by man to solve his multiple individual and social problems Since the problems are constantly changing, the instruments for dealing with them must also change Truth, evolutionary in nature, partakes of no transcendental or eternal reality and is based on experience which can be tested and shared by all who investigate Dewey conceives of democracy as a primary ethical value, and he has done much to formulate working principles for a democratic and industrial society In the field of education his influence has been a leading factor in the abandonment of authoritarian methods and in the growing emphasis upon learning through experimentation and practice In revolt against abstract learning, Dewey considered education as a tool which would enable the citizen to integrate his culture and vocation effectively and usefully. His contribution to the progressive school movement has been acknowledged throughout the world Dewey has actively participated in movements to forward social welfare, protect academic freedom, and effect political reform Among his writings, which are concerned with almost all philosophical fields except metaphysics, are *Psychology* (1887), *The School and Society* (1899, rev ed, 1915), *Ethics* (with James H Tufts, 1908), *Democracy and Education* (1916), *Reconstruction in Philosophy* (1920), *Human Nature and Conduct* (1922), *Experience and Nature* (1925), *The Quest for Certainty* (1929), *Art as Experience* (1934), *Logic the Theory of Inquiry* (1938), *Freedom and Culture* (1939), *Problems of Men* (1946), and *Knowing and the Known* (with A F Bentley, 1949) See P A Schilpp, ed, *The Philosophy of John Dewey* (1939), Sidney Hook, *John Dewey* (1939) and *Education for Modern Man* (1946), bibliography by M H Thomas and H W Schneider (1930)

Dewey, Melvil, 1851–1931, American library pioneer, originator of the Dewey decimal system, b Adams Center, N Y, grad Amherst, 1874 A man of originality and of enormous energy, Dewey played a large part in the early days of library organization in the United States He became acting librarian of Amherst in 1874, and it was then that he evolved his scheme of book classification, using numbers from 000 to 999 to cover the general fields of knowledge and narrowing the system to fit special subjects by the use of decimal points From 1883 to 1889 he was librarian of Columbia College, and there he established the first school for training librarians He went from Columbia to the New York State Library at Albany where he was librarian until 1906 and where he founded an important library school His interests extended from spelling reform to organizing the Lake Placid Club in the Adirondacks He was a founder of the American Library Association, the New York State Library Association, and the *Library Journal* See biography by G G Dawe (1933), study by Fremont Rider (1944)

Dewey, Thomas Edmund, 1902–, governor (1942–) of New York, b Owosso, Mich, grad Univ of Michigan, 1923, LL B Columbia, 1925 Admitted (1925) to the bar, Dewey practiced law and in 1931 became chief assistant U S attorney for the Southern District of New York After briefly serving (1933) as U S attorney, he was appointed (1935) special prosecutor to investigate organized crime and was elected (1937) district attorney of New York co He won a national reputation for "racket-busting" He was the unsuccessful Republican candidate for governor of New York in 1938, but was elected governor in 1942 His nation-wide prominence when he was only 42 years old brought him the Republican presidential nomination in 1944, but he lost the election to F D Roosevelt Reelected (1946) governor, Dewey again ran for President on the Republican ticket in 1948, and, contrary to general expectation, he once more lost —this time to Harry S Truman by a close margin

Dewey, city (pop 2,114), NE Okla, N of Tulsa, founded 1899, inc 1906 It was named after Admiral Dewey An annual fair and rodeo are held here Near by is a state fish hatchery

De Windt, Harry (dū wĭnt'), 1856–1933, English explorer He served his brother-in-law, Rajah Brooke of Sarawak, in Borneo (1876–78) and traveled overland from Peking to France (1887) and from Russia to India via Persia (1889) In an attempt to travel by land from New York to Paris (1896) he nearly lost his life on Bering Strait, but he made the journey in the reverse direction in 1901–2 His many books include *From Peking to Calais by Land* (1887), *A Ride to India* (1890), *Through the Goldfields of Alaska to Bering Straits* (1898), and *My Restless Life* (1908)

Dewing, Francis, fl 1716–22, early American engraver, b England He settled in Boston in 1716 He engraved coats of arms, silver plate, and designs on wood and was the first copper engraver of importance in America His best-known work is the copper engraving of John Bonner's *Town of Boston in New England* (1722)

Dewing, Maria Richards Oakey, 1845–1927, American flower and figure painter, b New York city She was best known for her paintings of flowers Among her figure pieces are a life-size *Mother and Child*, *The Prelude*, and *Child with a Doll* She married **Thomas Wilmer Dewing,** 1851–1938, American portrait and figure painter, b Boston He studied in Paris under Gustave Boulanger and Jules Lefebvre His pictures include *The Letter* and *Tobit and the Angel* (Metropolitan Mus), *The Lady in Green and Gray* (Art Inst, Chicago), *Summer* (National Gall of Art, Washington, D C); *Lady with a Mask* (Corcoran Gall,), *Lady in Gold* (Brooklyn Mus), and a portrait of his wife About 20 of his works are in the Freer Collection, Detroit Dewing became a member of the National Academy of Design in 1888

De Wint, Peter, 1784–1849, English landscape painter, a leading water-colorist. Most of De Wint's landscapes are distinctly English in subject and treatment, Lincolnshire scenes being favorites. *A Cornfield* and *Landscape with Water* (Victoria and Albert Mus) are among his best works

De Witt, Jan, and **Cornelius de Witt:** see WITT, JAN DE, and WITT, CORNELIUS DE

De Witt. 1 City (pop 2,498), a co seat of Arkansas co , SE Ark It ships timber and livestock and has rice mills and cotton gins A Federal bird refuge is near by **2** City (pop 2,205), E Iowa, N of Davenport; settled 1837, platted 1841 as Vanderburg, renamed 1842, inc 1858.

dew point. see DEW.

Dewsbury, county borough (1931 pop 54,302; 1947 estimated pop 51,490), West Riding of Yorkshire, England, on the Calder and SSW of Leeds There are ironworks, woolen mills, and blanket, carpet, and shoddy factories

Dexippus (Publius Herennius Dexippus) (dĕksĭ'pŭs), fl 268, Greek historian of the Roman period He was a general who commanded troops in an unsuccessful attempt to halt a Gothic invasion in 262 His works, much admired by Photius, included a universal history, and accounts of wars against the Goths and of the Diadochi

Dexter, Henry, 1806–76, American sculptor and painter, born on a farm near Syracuse, self-taught Apprenticed to a blacksmith, he taught himself to paint portraits and set up a studio in Boston Almost by accident he began modeling, invented (1842) a "sculptor's apparatus," and started making portrait busts, including one of Dickens He traveled over the country making busts of most of the state governors

Dexter, Timothy, 1747–1806, American merchant and eccentric, b Malden, Mass A leather dresser in Newburyport after 1770, he gained a fortune from the American Revolution by buying up depreciated Continental currency which was afterwards reclaimed at full value He gained money also by shrewd mercantile transactions He was styled "Lord Timothy Dexter" by his fellows, and he accepted the title Dexter wrote *A Pickle for the Knowing Ones* (1802), remarkable for the totally individual spelling and the absence of all punctuation In the second edition he added a page of "stops" so that readers could "pepper and salt it as they please" See biography by J P Marquand (1925)

Dexter. **1** Industrial town (pop 3 714), central Maine, NW of Bangor, settled 1800, inc 1816 Woolen goods are the chief product **2** Village (pop 1,087), S Mich , NW of Ann Arbor and on the Huron river, settled 1823, inc 1855 It is in a farm area abounding in Indian relics **3** City (pop 3,108), SE Mo , ENE of Poplar Bluff, founded 1873 It is a railroad junction, with plants processing food and cotton **4** Village (pop 1,109), N N Y , at the mouth of the Black River on a bay of Lake Ontario, NW of Watertown, inc 1855

dextrin, any one of a number of compounds of carbon, hydrogen, and oxygen having the same general formula as starch, but a smaller and less complex molecule They are polysaccharides (see CARBOHYDRATE) and are produced as intermediate products in the hydrolysis of starch by heat, by acids, and by enzymes Their nature and their chemical behavior depend to a great extent upon the nature of the starch from which they are derived For example, some react with iodine to give a reddish-brown color, others a blue, and still others yield no color at all The dextrin of commerce, known also as British gum, is a colorless or yellowish, tasteless, odorless powder which when mixed with water forms a strongly adhesive paste For commercial use dextrin is prepared by heating dry starch or starch which has been treated with acids It is used widely in adhesives, e g , for postage stamps, envelopes, and wallpapers, and for sizing the cotton cloth used in printing chintzes, cretonnes, calico, and other textiles

dextrose. see GLUCOSE

Deyssel, Lodewijk van: see ALBERDINGK THIJM, KAREL.

Dezhnev, Cape: see EAST CAPE.

Dhamar, Yemen see DAMAR.

Dhar (där), town (pop 22,015), Madhya Bharat state, India It was (9th to 14th cent) a center of Hindu learning A fort (c 1340) and a mosque, the Lat Masjid (1405), are notable buildings

Dharwar (därwär'), town (pop. 47,992), S Bombay state, India There is a fort which may date from the 15th cent Trading in cotton and the manufacture of cloth are the chief economic activities

Dhaulagiri (dou'lŭgēr'ē), peak, 26,810 ft high, Nepal, in the Himalayas

diabase (dī'ŭbās), an igneous ROCK intermediate in texture between the gabbros and the basalts It consists of narrow rectangular crystals of plagioclase FELDSPAR set in a matrix of ferromagnesian minerals, usually augite and olivine It is common in intrusives and is sometimes found in the interior of extrusive flows The Newark series of the Upper TRIASSIC system, which includes the exposed intrusives of the Connecticut valley and the Palisades of the Hudson, is largely diabase.

Diabelli, Antonio (äntō'nēō dēäbĕl'ē), 1781–1858, Austrian music publisher. He published works by Beethoven and Schubert and composed a waltz theme for Beethoven's Diabelli Variations

diabetes (dīŭbē'tēz, -bē'tĭs) or **diabetes mellitus** (mĕlī'tus), disease characterized by an increased amount of sugar in the blood and usually by sugar in the urine It is caused by a deficiency of INSULIN, an antidiabetic hormone normally secreted by the pancreas, discovered by F G BANTING and C H BEST in 1921 Failure to secrete insulin results in an abnormal amount of sugar in the blood, a loss of protein, which is in part responsible for loss in weight, and a disturbance in fat metabolism which accounts for the accumulation of abnormal products in the blood The presence of these products may cause acidosis and coma Susceptibility to infection is also a complicating factor When diabetes occurs in obese individuals, reduction in carbohydrates is an essential preventive measure Although mild cases are sometimes treated only by a prescribed diet, the more severe cases require injections of insulin In a condition known as renal glycosuria the urine when tested shows the presence of sugar but the sugar level in the blood is normal, such cases do not require insulin or a special diet, but obesity should not be allowed to develop and the sugar content of the blood should be checked regularly See M E Tangney, *Diabetes & the Diabetic in the Community* (1947), Ian Murray and M B Muir, *Good Health with Diabetes* (1947), R D Lawrence, *Diabetic A B C* (1948), J H Barach, *Food and Facts for the Diabetic* (1949)

Diablo Dam, NW Wash , on the Skagit river and NE of Seattle The dam, 386 ft high, was built (1927-30) for hydroelectric power and is owned by the city of Seattle

diadem, in ancient times, the fillet of silk, wool, or linen tied about the head of a king as a distinguishing mark Later it was a band of gold, which gave rise to the crown In heraldry, the diadem is one of the arched bars that support the crown

Diadochi (dīă'dŭkī) [Gr , =successors] The empire of Alexander the Great, the largest that the world had known up to that time, was quickly built At his death in 323 B C it even more quickly fell apart His generals and administrators, all the men who had power, sought immediately to increase their personal power in a bloody scramble These men were the Diadochi Chief among them were Antipater, Perdiccas, Eumenes, Craterus, Antigonus (Antigonus I), Ptolemy (Ptolemy I), Seleucus (Seleucus I), and Lysimachus The first struggle was over the regency, for theoretically Alexander's feeble-minded brother, Philip, and Alexander's posthumous son by Roxane had the real claim to the inheritance Perdiccas had the regency, to which Antipater also had claim Eumenes supported Perdiccas, while Antigonus, Ptolemy, and Craterus supported Antipater In 321 battle was joined, and the allies of Antipater won, though Craterus was killed On the death of Antipater in 319 the struggle was on again in earnest There were shifting alliances, but in general the chief figure was Antigonus, who, with the help of his son, Demetrius Poliorcetes (Demetrius I of Macedon), attempted to rebuild the empire of Alexander He failed After a long period of shifting fortune, Antigonus and Demetrius were defeated in the battle of Ipsus (301 B C) Already the Diadochi had been declaring themselves kings, Antigonus first and then the others The contest was carried on to the next generation, with Demetrius fighting successfully against Cassander, the son of Antipater, and even was pursued further with the wars between the Seleucidae and the Ptolemies Commonly, however, the period of the Diadochi is said to end with the victory of Seleucus I over Lysimachus in 281 Thus left the descendants of Ptolemy, Seleucus, and Antigonus as the chief claimants to power in the Hellenistic age and the empire of Alexander irrevocably split.

Diaghilev, Sergei Pavlovich (sĭrgā' päv'lŭvĭch dyä'gĭlyĭf), 1872–1929, Russian ballet impresario and art critic, grad St Petersburg Conservatory of Music, 1892 In 1899 he founded an influential art journal, *Mir Iskustva* He brought a company of Russian dancers to Paris (1909) and with the assistance of the painter L N Bakst and the choreographer Michel Fokine founded Diaghilev's Russian Ballet Anna Pavlova, Vaslav Nijinsky, Tamara Karsavina, Leonide Massine, Mikhail Mordkin, and Serge Lifar were all at one time associated with him His most famous productions include *Scheherazade*, *The Afternoon of a Faun*, *The Firebird*, *Petrouchka*, and *The Rite of Spring* Stravinsky, Debussy, Ravel, Dukas, and Richard Strauss wrote music which was first performed by his company See biographies by A L Haskell (1935) and Serge Lifar (1940), Romola Nijinsky, *Nijinsky* (1933)

diagnosis, determination of the nature of a disease in a given case A careful history includes symptoms described by the patient. Routine physical examination consists of four basic methods—general observation of the patient; use of the sense of touch to detect abnormal conditions; the use of percussion, especially in examining the chest; and listening to sounds such as breathing and heart sounds. Instruments which aid in physical examination include the stethoscope, to determine sound; the otoscope, to examine the ear; and the ophthalmoscope, to examine the eye. Additional aids in diagnosis are findings resulting from microscopical, chemical, and bacteriological examination of blood, urine, pus, and tissue Electrocardiograms and X rays are of diagnostic importance.

dial: see SUNDIAL.

dialect, variety of a LANGUAGE In usual 20th-century scientific usage, a dialect is the language of a person or group considered as it varies from that of other members of the same speech community A speech community is a group whose native language is intelligible to other (but not necessarily all other) members of the group. For example, imagine a line of persons A, B, C . . . Z, where each one is able to converse with his neighbor using his own native language but A and Z do not understand each other Then A . . Z all belong to one speech community and speak one language, A and Z speak different dialects Similarly, A and B speak different dialects if their speech differs at all The reason such a situation can occur is that A and B can converse even if they speak somewhat differently, yet with increasing isolation the differences may accumulate to the point of mutual unintelligibility There are many such speech communities, e g , the Dutch-German speech community, a continuous area of intelligibility from Flanders to Schleswig and to Styria, but with Flemish and Styrian dialects mutually unintelligible In the area there are standard languages used by educated persons, the official Dutch and German, mutually unintelligible because they are developed from mutually unintelligible dialects An exactly parallel situation exists between French and Italian The attitude of speakers of the standard language toward local nonstandard dialects varies In English areas some local dialects enjoy prestige, but not all (e g , Cockney of London) In France, where the standard language is revered, the local variety (called contemptuously *patois*) is derided The exact study of U S dialects began in the 20th cent See the journal *American Speech* and the monumental *Linguistic Atlas of the United States and Canada* (now in process of compilation)

dialectic (dīŭlĕk'tĭk), in philosophy, a term originally applied to the method of philosophizing by means of question and answer employed by certain ancient philosophers, notably SOCRATES For PLATO the term came to apply more strictly to logical method and meant the reduction of what is multiple in our experience of phenomena to the unity of systematically organized concepts or ideas In modern philosophy Kant uses the term for that part of his system which demonstrates his metaphysics as contrary to knowledge derived from phenomena HEGEL applied the term *dialectic* to the logical method of his philosophy, which proceeds from thesis through antithesis to synthesis

dialectical materialism, method of historical analysis developed by Karl Marx and Friedrich Engels It was presented by Marx in *Das Kapital* (1867) An inversion of Hegel's dialectical idealism, the theory sees social and economic change as the result of materialistic forces The doctrine holds that human beings, by their economic needs, indirectly produce their very form of life This leads to the development of classes, who are inevitably in opposition and whose struggles describe the historical process Eventually, when the proletariat achieves power, a classless society is formed The state, until then an oppressive tool of the dominant class, withers away The theory, absolutely monistic, denies that social change is effected by other than economic forces It has had very great influence in the development of MARXISM and of the political doctrines of Soviet Russia

dialogue [Gr , =conversation], the essence of theatrical performance, just as narrative may be said to be the essence of the story Since every idea conveyed from the stage to the audience normally is portrayed by speech and supporting action, the prime technique of the composition of drama or of anything for the theater is the making of dialogue which will delineate character and its development, narrate events outside the action, and bring to the audience everything that an unrestricted narrative account might, without making the persons acting seem to behave unusually or artificially In ancient Greece, a form popular at concourses of people was the *mime*, a little informal—usually humorous or satirical—scene consisting of a somewhat descriptive dialogue of two persons It was probably as a purely artificial device suggested by the mime that the classical dialogue as a form was developed. PLATO was the first or nearly the first to use the dialogue as a finished artistic form to convey an idea. Plato's distinction as a literary artist in his use of the dialogue is not his subtle climaxes and his ingenious dialectic, but his retention of a truth to nature that he abandoned in the later dialogues and that most of his imitators never achieved. The *Apology* and the *Symposium* are among his dialogues most remarkable for their construction. After him most philosophic writers used the dia-

logue, usually without success. Lucian's dialogues are among the best after Plato. The *Imaginary Conversations* of Landor and Holmes's *Autocrat of the Breakfast Table* are attempts to achieve a modern dialogue form.

dialysis (dīăl'ĭsĭs), in chemistry, method of separating a colloid from a substance in true solution, when both are present in a mixture, by the use of a membrane (natural or artificial) permeable to one and not permeable to the other The particles of the colloidal substance are of too great size to pass through the membrane and are retained; those of the substance in true solution, however, being of molecular fineness, diffuse through it readily A solution of salt or sugar, for example, can thus be separated from one of starch, a colloid The method was originated by Thomas Graham, the substance which remained within the membrane being called a colloid and that which diffused, a crystalloid An extension of the principle makes possible the separation of certain colloids by using an artificial membrane of known permeability, i e , one which will permit the diffusion of one colloid and not of the others

diamond, crystallized pure carbon used as a gem It is the hardest mineral known The crystals occur in the isometric system and are transparent to translucent, white, colorless, yellow, green, or blue Besides the gem varieties there are bort, poorly crystallized or of inferior quality and in fragmentary condition, and carbonado (black diamond), gray to black and opaque, with poor cleavage Bort and carbonados are used as abrasives, in the cutting of diamonds, and for the points of rock drills The earliest sources of gem diamonds were India and Borneo, where they were found in the alluvium of river beds All the famous diamonds of antiquity were Indian diamonds In the early 18th cent similar deposits were found in Brazil, though they may have been known as early as 1670 Since about the mid-19th cent the Brazilian fields, especially that of Bahia, have been important chiefly for the production of carbonados In South Africa, in 1867, a stone found some time before was recognized as a diamond Within a few years a wild search for diamonds was being carried on both in river diggings and inland In 1870–71 dry diggings, including most of the celebrated mines, were discovered These dry diggings are apparently volcanic pipes, filled for most of their length with "blue ground" or kimberlite, a mass of earthy matter largely metamorphosed into SERPENTINE, in which a great variety of minerals is still found Near the surface the "blue ground" is weathered to "yellow ground" The discoveries of 1870–71 led to a "rush," in the course of which a great number of prospectors staked out claims, from which they secured the diamonds by open-pit or quarry mining The damage caused by floods and mudslides, unavoidable when there were so many different claims, was an important factor in the series of amalgamations carried on by Cecil RHODES and Barnett BARNATO, though Rhodes's imperial schemes largely dominated the merging of their interests in the De Beers Consolidated Mines, Ltd , which established an effective monopoly over the diamond industry (1889) Loss of diamonds by theft, which cost hundreds of thousands of pounds annually, was reduced through the passage of the so-called I D B (Illicit Diamond Buying) Act, which limited the trade to licensed buyers, and imposed severe penalties for thievery Thefts were further curtailed by the institution of "compounds" in which the natives live while employed by the company and which they leave only after being thoroughly searched Diamantiferous earth is mined both by the open-pit method and by tunneling After being removed to the surface, it is allowed to crumble on "floors," or else is crushed, and then concentrated Sorting is done by passing the concentrated material over greased tables, since the diamond has been discovered to stick to the grease when other minerals do not The diamonds are then removed from the grease, cleaned, and graded for sale Well-known diamond mines are the Dutoitspan, Bultfontein, De Beers, Kimberley, Jagersfontein, and Premier (near Pretoria) Among famous Indian diamonds have been the Great Mogul, known only through the description of the French jeweler and traveler Jean B Tavernier, the Orlov, which was originally given to Catherine II of Russia, Koh-i-noor, now among the English crown jewels, and the Regent or Pitt From the Cullinan, a South African diamond found and presented to King Edward VII in 1907, 105 stones were cut, two of them being long the world's largest stones. Other notable diamonds are the Hope (blue), Dresden (green), and Tiffany (orange-yellow). See A C Austin and Marion Mercer, *The Story of Diamonds* (rev ed , 1941); J W. Hershey, *The Book of Diamonds* (1940); J. R. McCarthy, *Fire in the Earth* (1946),

Diamond Head, extinct crater, 761 ft. high, on the southeast shore of Oahu, T H. It was once the burial grounds of the ancient Hawaiians The plateau of the crater is the site of U.S. Fort Ruger.

Diamond Mountains, Jap. *Kongo San*, Korean *Kumgang San*, mountain range, N Korea, rising to 5,374 ft. There are scenic ravines and caverns and many ancient Buddhist temples.

Diamond Necklace, Affair of the, a puzzling scandal which took place at the court of Louis XVI of France just before the French Revolution The culpability of the persons involved has never been satisfactorily explained An adventuress who called herself the comtesse de Lamotte duped the Cardinal de ROHAN, the grand almoner, who was out of favor with Queen MARIE ANTOINETTE, into believing that she could through her efforts regain the queen's regard for him Mme de Lamotte and her accomplices then engineered a sham correspondence between the cardinal and the queen and even arranged an interview between him and a woman impersonating the queen The cardinal, fatuously believing that the queen loved him, next (1785) engaged to buy, on installment, supposedly as the queen's agent, a diamond necklace of enormous value, he was apparently told that the queen wished it The necklace, obtained from the jewelers, was taken to London by the husband of the comtesse and was broken up for sale When the cardinal was unable to meet the payments, the jewelers made the affair public, and the cardinal was brought to trial, he was acquitted, but lost his position in court Mme de Lamotte was ignominiously punished and then imprisoned, but she escaped to London, where she wrote her highly questionable memoirs CAGLIOSTRO, at first suspected of complicity, was acquitted Although the queen's share in the scandal has never been established, her enemies hinted that the affair was part of a scheme by the queen to ruin the cardinal, and the belief that she was involved added greatly to her unpopularity at a critical time A vast literature has grown around the subject, notably Dumas's romance *The Queen's Necklace* and Carlyle's *Diamond Necklace* See also Andrew Lang, *Historical Mysteries* (1904), J D Chamier, *The Dubious Tale of the Diamond Necklace* (1939)

Diana (dīă'nu), in Roman legend, goddess of the moon, of forests, of animals, and of women in childbirth, identified with the Greek ARTEMIS She was probably originally a forest goddess and special patroness of women like HECATE, her temple at Aricia, near Lake NEMI, stood in a grove and was frequented by women She was then associated with the GREAT MOTHER OF THE GODS and continued to be related to fertility rites—e g , the Diana of Ephesus in Acts 19 21–41 The temple on the Aventine at Rome, however, honored the virgin goddess of the Greeks

Diane de France (dyan' du frăs'), 1538–1619, duchess of Montmorency and Angoulême, natural daughter of King Henry II of France She was married to François, eldest son of Constable Anne de Montmorency She worked for the alliance of Henry III with Henry of Navarre (King Henry IV) and was influential during the reign of Henry IV

Diane de Poitiers (pwatyā'), 1499–1566, duchess of Valentinois, mistress of Henry II of France Her influence over Henry lasted to the end of his life, with the queen, Catherine de' Medici, she maintained friendly relations while completely eclipsing her In the rivalry between Anne de Montmorency and the Guise family, she took sides against whichever party was more powerful at the moment She supported the king's anti-Protestant policy After Henry's death (1559), she was forced to retire from court See H W Henderson, *The Enchantress* (1928)

dianthus see PINK

diaphragm (dī'ufrăm), muscular partition between the thorax and the abdomen, found only in humans and the other mammals The diaphragm is pierced by large blood vessels, nerves, and the esophagus Because of its importance in RESPIRATION, abnormalities of the diaphragm result in disorders of breathing There may be defects resulting from developmental faults or from injury, leading to hernia, displacement from pressure of near-by organs, paralysis through effect on its nerve supply, as in DIPHTHERIA and POLIOMYELITIS, spasm, as in HICCUP, and infection

Diarbekr, Turkey see DIYARBAKIR

Diarmuid mac Murchada: see DERMOT MCMURROUGH

diarrhea (dīurē'ŭ), frequent discharge of watery feces, which has many causes It results from irritation of the intestines by foods, e g , unripe fruit, drugs, e g , saline cathartics, infection with protozoa and bacteria (see DYSENTERY), and sometimes from stimulation by the nervous system. Summer diarrhea of infants results from infection with various bacteria in contaminated milk Treatment with potassium injections has reduced mortality. The blood fluids and minerals lost from the tissue spaces and the blood plasma in all cases of diarrhea must be replaced Vomiting must be controlled Proper diet is an important factor. Treatment depends on the cause of the condition

Dias, Antonio Gonçalves: see GONÇALVES DIAS, ANTONIO

diastase (dī'ustās) or **amylase** (ă'mĭlās), an ENZYME found in both animals and plants which brings about the conversion of starch into sugar. It converts dextrin and glycogen. It is present in various parts of the higher plants, especially in the seeds, and also in fungi, e.g., the yeasts and bacteria It is the ptyalin of saliva and as one of the enzymes in the pancreatic fluid is known as amylopsin Diastase was first prepared from barley malt; it occurs in the germinating seeds of barley and other grains The commercial product is commonly prepared from malt Diastase is of importance for its activity in digestion and in fermentation

diathermy (dī'uthûr"mē), in medicine, a therapeutic measure employing high-frequency electric currents to generate heat in the body tissues When applied to surface structures, heat dilates the capillaries, increases local blood circulation, and accelerates the process of absorption and repair Diathermy, in addition to bringing heat to surface structures, also warms the deeper tissues Diathermy is employed in pelvic inflammatory disease, in certain kinds of arthritis, in bursitis, and in conditions requiring physical therapy Because of the high-frequency current used in short-wave diathermy, care should be taken to avoid injury to deeper tissues

diatom (dī'ŭtŏm",-tum,-tōm"), microscopic form of plant belonging to the group of algae Some diatoms exist as single cells, and others are joined to form colonies They are usually yellowish or brownish and are found in fresh and salt water, in moist soil, and on the moist surface of other plants They are most abundant in arctic and other cold waters Some 15,000 species are known They are an important source of food for many aquatic animals The living matter of each diatom is enclosed in a shell of siliceous material which it secretes Many of the shells (some are round and some elongated and tapering at both ends) show intricate and beautiful sculpturing Some diatoms can move over moist surfaces by a streaming of the protoplasm, and some aquatic forms can move about in the water When the aquatic forms die they drop to the bottom, and the shells, not being subject to decay, collect in the ooze and eventually form the material known as diatomaceous earth (sometimes called kieselguhr) When it occurs in a more compact form as a soft, chalky, light-weight rock, it is called diatomite Deposits of diatomaceous material, formed under water in past geologic time and now exposed above water, are found in all parts of the world They are scattered over most of the United States, but productive sources exist chiefly in Oregon, Washington, Nevada, Florida, New York, and New Jersey Diatomite is much used as an insulating material against both heat and sound, it is employed in the form of a powder, artificial bricks, or bricks sawed from the deposits It has many other uses, e g , as an absorbent material in making dynamite and other explosives, as a filter for solutions of cane sugar and of fruit juices and other beverages, and in the making of ceramics, cosmetics, polishes, and some kinds of flooring

Diavolo, Fra see FRA DIAVOLO

Diaz, Armando (ärmän'dō dē'äts), 1861–1928, Italian field marshal In the First World War he replaced (1917) Cadorna as chief Italian commander. He defeated (1918) the disintegrating Austro-Hungarian army at Vittorio Veneto and concluded (Nov 3) the armistice, based on unconditional surrender, with Austria-Hungary Created *duca della Vittoria* [duke of Victory], he was later minister of war (1922-24)

Díaz, Bartholomew (dē'ăz), Port *Bartolomeu Dias* (bar"tōlumā'ōō dē'ush), d. 1500 Portuguese navigator, the first European to round (1488) the Cape of Good Hope, which he called Cabo Tormentoso That voyage laid open the road to India Diaz accompanied Pedro Alvares CABRAL on the voyage that resulted in the discovery of BRAZIL, but he perished in heavy seas off the African coast.

Díaz, Porfirio (pôrfē'rēō dē'ăs), 1830–1915, Mexican statesman, a mestizo, christened José de la Cruz Porfirio Díaz He gained prominence in support of JUÁREZ and the liberals in the War of the Reform and in the war against the French and MAXIMILIAN Defeated by Juárez in the presidential election of 1871, Díaz charged fraud and took up arms against the government, his revolt was not completely suppressed until after the inauguration of Sebastián LERDO DE TEJADA Díaz again lost in the presidential race of 1876 and promptly rose against Lerdo He achieved his ambition, gained the presidency, and remained in power until 1911 From 1880 to 1884 Manuel González was president, Díaz having declared for the principle of nonreelection in 1876, later the constitution was altered to permit Díaz's continuance in office His rule was stern and effective—incipient revolutions were crushed, banditry was eliminated, aspirants for political power were shrewdly matched with rivals, leaving the president supreme, elections were smoothly manipulated The regime of Díaz saw the growth of material prosperity in Mexico Foreign capital poured into the country. The natural wealth of Mexico was exploited, principally by foreigners Roads, railroads, and telegraph lines increased in number Díaz reformed the financial organization and gave Mexico a financial soundness that won the favor of other nations. Mexico was a land of peace and prosperity, ruled in the interest

of the few The oppressed masses were neglected. Education stagnated The downtrodden Indians, far from obtaining social justice, lost more of their communal lands Democratic forms were only empty mockery Opposition to Díaz grew, and in the last decade of his rule discontent increased, fostered by fear of conditions when the aged dictator should rule no more The announcement of his intention to restore democratic rule in Mexico created a sensation, but in 1910 he was reelected as usual The upshot was a revolution led by Francisco I MADERO In 1911 Díaz was forced to resign and flee the country He died in exile See biographies by David Hannay (1917) and Carleton Beals (1932)

Díaz de la Peña, Narcisо Virgilio (dyäs' dā lä pānyä'), 1807?–1876, French landscape and figure painter of the Barbizon school, b Bordeaux, of Spanish parents Mainly self-taught, he was influenced by Delacroix and Correggio and, later, by Théodore Rousseau Fine collections of his paintings are in the Louvre (including the *Descent of the Gypsies* and *Sous bois*) and in the Luxembourg, Paris, the museum of Rheims, the Art Institute, Chicago, the Walters Collection, Baltimore, the Metropolitan Museum (including the fine *Forest of Fontainebleau*), and many other European and American collections

Díaz del Castillo, Bernal (bĕrnäl' dĕ'äth dĕl kästē'lyō), c 1492–1581, Spanish conquistador and chronicler He had served in the New World under various commanders—Pedro Arias de Ávila, Diego de Velázquez, Francisco Fernández de Córdoba, and Grijalva—before going to Mexico in 1519 with Hernán Cortés He served in the conquest and his monumental work, written in his old age in Guatemala, is a fresh unstudied account of events and scenes and men he had himself known, with an accent on everyday concerns and on the common soldier It is *The True History of the Conquest of New Spain* (1632, Eng tr, 5 vols, 1908–16, Eng tr by A P Maudslay with variant title, 1928) See biography by R B Cunninghame Graham (1915)

Díaz Mirón, Salvador (salvadhōr' dē'äs mērōn'), 1853–1928, Mexican poet His life was almost as heavily accented with storm—with revolutionary plots, political quarrels, duels, and vigorous journalistic debates—as was his early post-romantic poetry written under the influence of Byron and Victor Hugo His later poetry showed more polish and cultivated smoothness His poem "A gloria" is said to have had considerable influence on José Santos Chocano and Rubén Darío, and his collection *Lascas* [chips from a stone] (1901) marks him as a precursor of MODERNISMO

Dibdin, Charles, 1745–1814, English song writer and playwright He is best known for songs from his ballad operas, such as *The Bells of Aberdovey* from *Liberty Hall* (1785), *'Twas in the Good Ship Rover* and *Tom Bowling* from *The Oddities* (1789)

Dibdin, Thomas Frognall, 1776–1847, English bibliographer His works, undependable because of their inaccuracies, include *Introduction to the Rare and Valuable Editions of the Greek and Latin Classics* (1802), *Bibliomania* (1809), and *Reminiscences of a Literary Life* (1836)

Diblaim (dĭb'lāĭm, dĭblā'ĭm), father of Hosea's wife Gomer Hosea 1 3

Diblath (dĭb'lăth), variant of RIBLAH **2.**

Dibon (dī'–) or **Dibon-gad,** ancient city, on the highland E of the Dead Sea, now a ruin called Dhiban Num 21 30, 33 3,34,45,46, Joshua 13 9, Isa 15 2, Jer 48 18,22. Dimon Isa 15 9 The MOABITE STONE was found here See also DIMONAH.

Dibri (dī'brī), father of SHELOMITH **1.**

Dice. see HORAE

dice [plural of *die*], small cubes used in games They are usually made of ivory, bone, wood, bakelite, or similar materials The six sides are numbered by dots from 1 to 6, so placed that the sum of the dots on a side and the opposite side equals 7 Dice much like those used today were found in ancient Egyptian tombs and in the ruins of Babylon The playing of dice was popular in Greece and even more so in Rome, and dice were used throughout the Middle Ages A simple form of play with dice is for each player to throw, or shoot, for the highest sum The most popular dice game in the United States is called craps It is played with two dice and the underlying principle of the game is the fact that the most probable throw is a 7 On the first throw, if a player shoots 7 or 11 (called a natural) he wins and throws again, but if he shoots 2, 3, or 12 (called craps) he loses If he shoots 4, 5, 6, 8, 9, or 10 that number becomes his point, and he continues to shoot until he makes his point, in which case he wins and retains the dice, or until he shoots a 7, in which case he loses and relinquishes the dice to the next player Usually all others in the game bet against the thrower, and in gambling halls bets are made against the house There are numerous other dice games In poker dice, five dice are used and the principles are similar to POKER. Dice are also used in backgammon, parcheesi, and other games The Chinese use a spinning die, somewhat like a top See R L. Frey, ed, *The New Complete Hoyle* (1947).

Diceto, Ralph de: see RALPH DE DICETO.

Dick, George Frederick, 1881–, American physician, b Fort Wayne, Ind., M D Rush Medical College, 1905 From 1905 he practiced in Chicago, and in 1933 he became head of the department of medicine at the Univ of Chicago With his wife, Gladys H Dick, he isolated the streptococcus causing scarlet fever, devised the skin test, known as the Dick test, to determine susceptibility to the disease, and developed a serum to establish immunity to the disease

Dickens, Charles, 1812–70, English novelist, b Portsmouth The son of a navy clerk, the boy grew up in London During one of his father's imprisonments for debt, the 12-year-old Charles was apprenticed in a blacking warehouse and never forgot the humiliation of his few months there At 17 he was a shorthand reporter in court and later was an expert parliamentary reporter for the *Morning Chronicle* His sketches of London types (signed "Boz") began appearing in periodicals in 1833, and the collected *Sketches by Boz* (1836), illustrated by George Cruikshank, enjoyed a great success Almost immediately he was asked to write the letterpress for a series of sporting pictures by H K Browne ("Phiz"), and the resulting *Posthumous Papers of the Pickwick Club* (1836–37) made Dickens and his characters Sam Weller and Mr Pickwick famous In 1836 he married Catharine Hogart, and early in 1837 the first of their 10 children was born For his eager and evermore numerous readers Dickens worked vigorously, publishing first in monthly installments and then as books *Oliver Twist* (book form, 1838), *Nicholas Nickleby* (1839), *The Old Curiosity Shop* (1841), and *Barnaby Rudge* (1841), a novel dealing with the Gordon riots Sometimes he was working on more than one novel at once The necessity to end each installment with suspense or promise of events to come mars his plots somewhat, but that fault is minor compared with his brilliant creation of characters both individual and typical After an American visit in 1842, he wrote *American Notes* (1842) and a novel, *Martin Chuzzlewit* (1843), both sharply criticizing America's shortcomings His books written for the Christmas trade began with *A Christmas Carol* (1843) and included *The Chimes* (1845), *The Cricket on the Hearth*, and others His next novel was *Dombey and Son* (1848) Then came *David Copperfield* (1850), which was his own favorite and is partly autobiographical, *Bleak House* (1853), *Hard Times* (1854), and *Little Dorrit* (1857) In 1857 he bought his country house, at Gad's Hill, Kent Apparently infatuated with an actress named Ellen Ternan, in 1858 Dickens separated from his wife, retaining her sister, Georgina Hogarth, as housekeeper *A Tale of Two Cities* (1859), a novel of the French Revolution, was followed by *Great Expectations* (1860–61) and *Our Mutual Friend* (1865) He augmented his income by three series of immensely popular and profitable readings from his own work in the British Isles (1858, 1861–65, 1866–67) and one in America (1867–68) A final English series (1869–70) ended in a breakdown of his health The physical and emotional exhaustion induced by these tours, combined with his writing, with his editing successively two magazines, *Household Words* (1850–59) and *All the Year Round* (1858–70), and with managing his amateur theatrical company, hastened his death He died without finishing *The Mystery of Edwin Drood* (1870) His grave is in Westminster Abbey, as befitted the most popular English writer of his day Later generations have criticized his sentimentality, but have continued to praise his evocation of the sights, sounds, and smells of London He wrote out of his own experience a great deal—his father's imprisonment for debt appears in *Little Dorrit*, and his father was evidently the model for both Mr Dorrit and Mr Micawber, his erratic mother is reflected in the mother of Nicholas Nickleby—or from direct investigation, as when he visited a private school before writing *Nicholas Nickleby* Never a professional reformer himself, his powerful, often satirical, novels, such as *Oliver Twist*, hastened needed social reforms See the Nonesuch edition of his works (ed by Arthur Waugh and others, 23 vols, 1937–38, including fullest collection of letters), biographies by his friend John Forster (3 vols, 1872–74, new ed by J W T Ley, 1928), Thomas Wright (1936), Una Pope-Hennessy (1945), and Hesketh Pearson (1949), studies by George Gissing (1898), Stephen Leacock (1933), Edward Wagenknecht (1929), and Thomas A Jackson (1938)

Dickinson, Emily, 1830–86, American poet, b Amherst, Mass There she spent almost all of her secluded life Her father, a lawyer and the treasurer of Amherst College, sustained the older traditions of Puritan New England, and his daughter, the only nonchurchgoing member of her family, was educated with suitable austerity in two of the stricter female academies of the day At 23 she accompanied her father, then Congressman, to Washington and Philadelphia, and it was at that time that she began the mysterious love affair which is supposed to have broken her life She returned to Amherst and retired gradually into seclusion. About 1862 she began writing the poems which have made her one of the classic poets of America The best of her short lyrics rank with the finest of modern poetry, and her work has been a great molding force in 20th-century poetry. Her letters and poems, both uneven in quality, reveal one of the most original and vigorous minds of her period, questioning established concepts and seeking new values Although considered eccentric, she was able to convert her personal idiosyncrasies into startlingly fresh universal language Practically none of her works appeared in her lifetime and she died intestate Her literary discovery has been one of explosive feuds and jealousies between her editors, who have concealed so much material that even today some details have not come to light As she left no instructions, her editors have had the added difficulty of deciding which poems she would have considered complete, and jottings which are often unintelligible are indiscriminately mixed with her finest verse Her fame began when Mabel L TODD and T W Higginson edited and published her poems (1890–91) Other editions are *Poems* (ed by Martha Dickinson Bianchi and A L. Hampson, 1937) and *Bolts of Melody* (ed by M L Todd and Millicent Todd Bingham, 1945) See her *Letters* (rev ed by M L Todd, 1931), M D Bianchi, *The Life and Letters of Emily Dickinson* (1924); G F Whicher, *This Was a Poet* (1939), M T Bingham, *Ancestors' Brocades* (1945)

Dickinson, Goldsworthy Lowes, 1862–1932, British author He was educated at King's College, Cambridge, and became a fellow there He was interested in international relations and won much unpopularity by his pacifistic attitude in the First World War He headed the Union of Democratic Control, which opposed retaliatory measures against Germany and reparations, and generally maintained and propagated liberal opinion in international affairs His writings in this field include *The International Anarchy*, 1904–1914 (1926) He is perhaps best known as author of *The Greek View of Life* (1896), a critical but laudatory work on Hellenic society He also wrote *Revolution and Reaction in Modern France* (1892), *Letters from a Chinese Official* (1903), and *After Two Thousand Years* (1930). See biography by E M Forster (1934)

Dickinson, John, 1732–1808, American patriot and statesman, b Talbot co, Md After studying law in London at the Middle Temple, he returned to America and developed a rich practice in Philadelphia In 1760 he became speaker of the assembly of the Lower Counties (Delaware), and in 1762 he entered the Pennsylvania legislature Dickinson led the conservative wing opposing Benjamin Franklin's attempts to have proprietary government of the Penns abolished The Sugar Act and the Stamp Act led him to write a pamphlet (1765) in protest As a member of the STAMP ACT CONGRESS he helped draw up the petitions to the king, but he opposed all violent resistance to the law The passage of the Townshend Acts (1767) led to the colonial nonimportation agreements and the publication of Dickinson's famous *Letters from a Farmer in Pennsylvania*, which appeared in the *Pennsylvania Chronicle* in 1767 and 1768 He pointed out that these laws were inconsistent with established English constitutional principles, but he favored nonimportation agreements and conciliation rather than revolt Dickinson came to be regarded as the leader of the conservative group, which opposed not only British actions but also the ideas of radicals such as Samuel Adams He was a delegate to the First Continental Congress and drew up a petition to the king, but he still hoped for reconciliation even after the opening of hostilities, and he refused to sign the Declaration of Independence He continued to be the leader of the conservative patriots in Pennsylvania and Delaware and held state posts In 1786 he presided over the Annapolis Convention, and in the subsequent Federal Constitutional Convention, Dickinson was a delegate from Delaware and a leading champion of the rights of the small states He later wrote vigorously in support of the Constitution. He was one of the founders of Dickinson College. See biography by C J Stillé (1891)

Dickinson, Jonathan, 1688–1747, American Presbyterian clergyman, a founder and first president of the College of New Jersey (now PRINCETON UNIVERSITY), b Hatfield, Mass, grad Yale, 1706. He was a leading preacher of the Great Awakening in the middle colonies and supported the revivalists or "New Sides" in the ensuing controversy Next to Jonathan Edwards, Dickinson was probably the most able exponent of Calvinism in the country. Convinced of the need of an educational institution to carry forward the ideals of William TENNENT, he obtained a charter (1746) for the College of New Jersey In 1747 he opened the institution at his house in Elizabethtown, N J

Dickinson, Preston, 1891–1930, American painter, b New York city There he studied at the Art Students League From 1910 to 1915 he traveled in Europe, to which he returned often later in life. His still lifes and landscapes in oil and water color are built up of highly colorful planes and have par-

ticular interest as designs. He is well represented in museums throughout the United States.

Dickinson, city (pop. 5,839), co seat (since 1884) of Stark co., SW N Dak., on the Heart river and W of Bismarck; inc 1919 Known in 1880 as Pleasant Valley Siding, it became Dickinson in 1883. It is a shipping point for livestock and wheat and has some manufacturing Dickinson is the seat of a state teachers college Near by is a state and Federal agricultural experiment station

Dickinson College, at Carlisle, Pa., coeducational, opened as a school 1773, chartered 1783, opened as a college 1784 by Benjamin Rush, John Dickinson, and others It has a law school Benjamin H. Latrobe designed one building Chief Justice Taney and President Buchanan were graduates

Dickman, Joseph Theodore, 1857–1927, American general, b Dayton, Ohio, grad West Point, 1881 He saw varied army service, including the campaign against Geronimo in the Southwest, the Spanish-American War in Cuba, and the Boxer Rebellion in China (where he was chief of staff to Gen A R Chaffee) He wrote manuals for cavalry In the First World War, he was a commander in the second battle of the Marne and in the Meuse-Argonne offensive After the war he commanded the U S 3d Army, which was the U S occupying force in Germany, with headquarters at Ehrenbreitstein

Dickson, Leonard Eugene, 1874–, American mathematician, b Independence, Iowa, grad Univ of Texas, 1893 He studied abroad and joined the staff of the Univ of Chicago in 1900 A leading American algebraist, he wrote on invariants and the theory of finite and infinite groups His chief work is *A History of the Theory of Numbers* (3 vols, 1919–23)

Dickson, industrial town (pop 3,504), central Tenn, W of Nashville, in an iron, timber, and farm area Wood and metal products are made The Montgomery Bell recreation area is near by

Dickson City, industrial borough (pop 11,548), NE Pa., on the Lackawanna river and NE of Scranton, inc 1875 Anthracite is mined, and metal products are manufactured here

Dick test see DICK, GEORGE FREDERICK

dictator, originally a Roman magistrate appointed to rule the state in times of emergency From 501 B C until the abolition of the office in 44 B C after the murder of Caesar, Rome had 88 dictators Dictators were usually appointed by a consul and were invested with sweeping authority over the citizens but were limited to a term of six months and lacked power over the public finances Dictators were held to strict account for their conduct in office Sulla and Caesar abolished the limitations to dictatorship and governed unconstitutionally With the Roman abandonment of the institution the exact meaning of the term was lost, and *dictator* now connotes roughly any absolutist or autocrat Kings, ministers, and presidents have assumed the status of dictators, but most dictators have their origins as adventurers working outside the constitutional framework The organization of the social structure into estates during the Middle Ages was not conducive to dictatorship, but in modern times conditions of economic dislocation and political chaos have permitted the seizure of power by extraconstitutional means by Mussolini in Italy, Hitler in Germany, and others In power, the dictator soon legalizes his position and makes use of the institution of an official party, the secret police, and widespread propaganda glorifying the regime to maintain himself and win public approval As a result of the Second World War many dictatorial regimes of the fascist order collapsed in Europe Dictatorship in Soviet Russia, a concentration of power in the hands of the Communist party, has devolved increasingly upon the individual figure of Stalin Latin American nations have undergone many dictatorships, usually of military adventurers at the head of a personal following See also TOTALITARIANISM See Albert Carr, *Juggernaut the Path of Dictatorship* (1939)

dictionary, published list of the forms of a language The content is governed by the purpose Thus, a descriptive dictionary attempts, ideally, to give the exact meaning of all forms of its language, treating them from an objective point of view School foreign-language dictionaries are of descriptive type The modern dictionary of its own standard language is often rather prescriptive than descriptive, for it attempts to establish certain forms as preferable The most remarkable case of this sort is the dictionary of the French Academy, which is widely admired and ignored The popular American attitude of the 19th cent towards dictionaries gave them a nearly sacred authority, but in the 20th cent the dictionary makers themselves began to replace notions of purity (especially based on ETYMOLOGY) by criteria of use, somewhat ahead of analogous developments in GRAMMAR Nathan Bailey (d 1742) was the author of two English dictionaries so much better than any of their predecessors as rightly to be held the beginning of the line that still continues His *Universal Etymological English Dictionary* was published in 1721, his larger dictionary, *Dictionarium Britannicum,* was published in 1730. An interleaved copy of this larger work was used by Samuel JOHNSON (1709–84) in preparing *A Dictionary of the English Language,* in two volumes, which appeared in 1755. Johnson's definitions evince his scholarship, judgment, and skill and are basic in later lexicography A revision of Johnson's dictionary by the Rev. Henry John Todd (1763–1845), including many words not found in Johnson, was published in 1818 The dictionary of Thomas Sheridan (1721–88), an actor, was published in 1780, and the dictionary of John Walker (1732–1807), also an actor, in 1791. In both these dictionaries special care was given to pronunciation, in which for many years Walker's authority received more deference than it merited. The first great lexicographer after Johnson was an American, Noah WEBSTER (1758–1843) The first edition of the book later known as *Webster's Spelling Book* appeared in 1783 For years the annual sales of this book were more than a million copies. To help those who had mastered the *Spelling Book* to continue their education, Webster published his *Compendious Dictionary of the English Language* in 1806 His larger dictionary, *An American Dictionary of the English Language,* in two volumes, was published in 1828 Authorized publishers have published a series of skillful revisions and abridgments which have retained for Webster's dictionaries their popularity The largest of Webster's dictionaries is now published in one volume Another notable one-volume American dictionary was that by Joseph Emerson Worcester (1784–1865), first published in 1830, an edition revised by the author appeared in 1860 A later one-volume American dictionary is the *Standard,* completed in 1895 *The Century Dictionary,* an American dictionary in six volumes, with encyclopedic features, was completed in 1891 Supplementary volumes were *The Century Cyclopedia of Names* (1894) and *The Century Atlas of the World* (1897) A later edition of this dictionary, including these two supplementary volumes, was in 12 volumes In England, progress in lexicography since Walker's time has been notably in the collection and organization of examples of usage In 1830–37 Charles Richardson (1775–1865) published in two volumes a dictionary richer in illustrative examples than any of its predecessors In 1857 the Philological Society began collecting dated examples of usage This work of the Philological Society made possible the publication of the dictionary variously known as the *New English Dictionary,* the *Oxford English Dictionary,* and *Murray's Dictionary* (for Sir James Augustus Henry Murray, 1837-1915, one of the editors) Publication of this dictionary began in 1884 and was completed in 1928, 70 years after the collecting of the material began A much less ambitious but notable project is the four-volume *Dictionary of American English on Historical Principles,* edited by Sir William Alexander Craigie at Chicago It was completed in 1943 See M M Mathews, *A Survey of English Dictionaries* (1933), Isadore G Mudge, *Guide to Reference Books* (frequently revised in new editions)

Dictys Cretensis (dĭk'tĭs krētĕn'sĭs), supposedly a Cretan hero, a companion of Idomeneus in the Trojan War To him was ascribed a diary of the Trojan War, which first appeared in Latin translation with the title *Ephemeris belli Troiani* in the 4th cent A D The Greek work seems to have been written in the 2d or 3d cent A D Because of Benoît de Sainte-Maure thus work, like that ascribed to DARES PHRYGIUS, became a popular source of medieval stories about the Trojan War

Didache (dĭ'dukē) [Gr.,=teaching], early Christian work written in Greek, called also *The Teaching of the Twelve Apostles* It was composed probably before A D 100 in the Near East The first part is a collection of moral precepts, perhaps based on rabbinical teachings, there are many quotations from the Old Testament The second section gives directions for baptism and the Eucharist, and the third contains directions for ministers The *Didache* may be of composite authorship It has been published in English translations in collections of patristic literature

Diderot, Denis (dēnē' dēdurō'), 1713–84, French encyclopedist and writer on many topics, philosopher of materialism, critic of art and literature He was also novelist, satirist, dramatist He became (1747) editor of the ENCYCLOPÉDIE, enlisting nearly all the important writers of the time and producing with them the most remarkable compendium up to that time His plays are inconsequential, save for the short pieces, *La Pièce et la prologue* and *Est-il bon? Est-il méchant?* [Is he good? Is he bad?] (1834) His vast correspondence, especially the *Lettres à Mademoiselle Voland* (1830), form a brilliant picture of the period As a writer of fiction—particularly of the collection of short tales, *Jacques le fataliste* (1796)—he has remarkable descriptive powers, but he suffers from an unruly imagination His philosophical works include *Pensées philosophiques* (1746), *Lettres sur les sourds et muets* [letters on deaf mutes] (1759), and *Essai sur Sénèque* (1779) Through his *Salons* (1759–71), reports on art exhibitions, he was the founder of literary art criticism. His later years, until he came to enjoy the patronage of Catherine II of Russia, were filled with pecuniary difficulties His influence was very great, both on his immediate successors, Holbach and Helvétius, and on the writers and thinkers of France, Germany, and England He may be summed up as one of the universal geniuses of the modern era See the *Dialogues* (tr by Francis Birrell, 1927), *Concerning the Education of a Prince, with an introductory essay by John M S Allison* (1941), John Morley, *Diderot and the Encyclopedists* (1878), essay in Carlyle's *Miscellanies.*

Didius Julianus (Marcus Didius Salvius Julianus) (dĭ'dēus jōlĭā'nus), d 193, Roman emperor (193) He was consul under Emperor PERTINAX, on whose death the Praetorians received bids for the purple Didius bid highest (25,000 sesterces) and became emperor A few months later he was murdered when it appeared that Septimius SEVERUS would not recognize him Severus succeeded him

Dido (dī'dō), in Roman legend, founder and queen of Carthage As Elissa she was daughter of a king of Tyre, but fled after her brother Pygmalion murdered her husband, Acerbas or Sychaeus Vergil in the *Aeneid* tells how she entertained AENEAS and fell in love with him, when under divine command he abandoned her, she destroyed herself on her own funeral pyre Another story tells that to escape Iarbas, king of Libya, she destroyed herself on a pyre Still another version has her sister Anna die for love of Aeneas

Didon, Henri (ārē' dēdō'), 1840–1900, French Dominican preacher and writer He became known as an eloquent preacher, especially by his eulogy on Archbishop DARBOY He was sent to Corsica by the Dominicans (1880–87) because he was suspected of leaning toward modernistic ideas In 1890 appeared his life of Christ, which was widely read His Lent and Advent series of sermons were always tremendously popular

Didot, François (frāswä' dēdō'), 1689–1757, Parisian printer The son of a printer, Denis Didot, he was the first of the family to win fame in his craft His son, **François Ambroise Didot** (äbrwäz'), 1730–1804, was said by Benjamin Franklin Bache to be "the best printer of this age and even the best that has ever been seen", by his grandfather, Benjamin Franklin, Bache was apprenticed to Didot The scholarly and typographic excellence of Didot's books is unquestioned Influenced by the work of BASKERVILLE, he designed type in the "modern," pseudoclassical style, and his work in turn influenced the work of BODONI He improved the "point" system of measuring and naming sizes of type, first employed by Pierre Simon Fournier, and secured its general adoption in France His sons, **Pierre Didot** (pyĕr), 1761-1853, and **Firmin Didot** (fērmē'), 1764-1836, continued the great tradition of the family, producing handsome books comparable to those of Bodoni, and, unlike Bodoni's books, with well-chosen texts conscientiously and skillfully edited Again unlike Bodoni, the Didot family never overlooked the requirements of students and general readers for good but inexpensive books Firmin Didot was the first in France to print books from STEREOTYPE plates, the process enabled him to make books at less cost The stereotype process had been used earlier for other purposes, as the printing of assignats, he improved it and named it Following the example of Baskerville, he used smooth wove paper Sons of Firmin Didot succeeded him

Didrikson, Mildred Babe (Babe Didrikson) (dĭ'drĭksun), 1913-, American athlete, b Port Arthur, Texas At an early age Babe Didrikson excelled in basketball, baseball, and track In 1932 she became internationally famous by winning many track and field events and breaking four records at the Olympic games held at Los Angeles She later devoted herself to golf In 1938 she married George Zaharias (zähär'ĭus), a wrestler, and she gained wide notice in her golfing career as Babe Didrikson Zaharias She won many titles, including the U S national amateur title (1946) and the British amateur championship (1947) She wrote *Championship Golf* (1948)

Didymus see THOMAS, SAINT

Didymus Chalcenterus (dĭ'dĭmŭs kălsĕn'turus) [Gr.,=bronze-boweled], fl late 1st cent B C, Alexandrian Greek grammarian and expositor He was famous for his prodigious literary output (said to have been over 3,500 works) He collated much of the work of the Alexandrian critics, and though only fragments of his own work are extant, he is probably the source of many surviving classical commentaries

Didymus of Alexandria, d c 396, Greek grammarian and theologian, also called Didymus the Blind His treatise *On the Holy Ghost* was translated by his pupil, St Jerome Although he had been trusted with teaching theology by St Athanasius, he was condemned for Origenism by the Third Council of Constantinople and the Second Council of Nicaea

die, name for various devices used for wire drawing and for blanking, bending, machine forging, and embossing Dies were used for striking, or stamping, coins and medals as early as c 800 B C in Greece The die is cut in intaglio, one for the obverse, another for the reverse, of the coin. Diemak-

ing, or diesinking, formerly entirely a hand process in which the graver, riffler, and chiseler were employed, has been accelerated in modern times by the use of diemaking machines supplemented by hand finishing. A punch, or male die, is commonly developed in relief from the original die, or matrix, and both are preserved as models, duplicates being made from them for working dies Sheet metal or other material is blanked out, shaped, or embossed between the dies by power-operated levers or drop hammers or by die-casting In architecture the term *die* applies to the square base of a pillar and to the face of a podium or pedestal In games the die is a cube (see DICE). See F A Stanley, *Punches and Dies* (3d ed , 1943), James Walker and C C Taylor, *Simplified Punch and Diemaking* (1946)

die-casting, process by which molten metal is forced into a metallic die under pressure maintained until the metal has solidified The development of alloys resistant to high temperatures has permitted the substitution of parts made by die-casting for sheet-metal, forged, and sand-cast parts formerly produced by skilled workers in machine shops The metal is pressed into the die by a plunger or by compressed air Die castings are accurate, sharply outlined, have a good surface finish, and can be made in complicated designs Type-casting machines are specialized die-casting machines See H L Harvill and P R Jordan, *High-Pressure Die Casting* (1945)

Diedenhofen, Lorraine see THIONVILLE

Dielman, Frederick (dēl'mun), 1847–1935, American draughtsman, painter, and teacher, b Germany, studied in Munich. He opened a studio in New York city in 1876 and won success as an illustrator and as a painter of genre and portraits Among his works are the mosaic panels *Thrift* (Albany, N.Y , Savings Bank) and *Law* and *History* (both Library of Congress), and six panels in the capitol, Des Moines, Iowa He was president of the National Academy of Design (1899–1909) and was professor of art at the College of the City of New York (1903–18) and art director at Cooper Union (1905–31)

Diemen, Anton van (än'tōn van dē'mun), 1593–1645, Dutch colonial official As governor general for the Dutch East India Company in the East Indies after 1636, he captured Ceylon and Malacca from the Portuguese. He sent out Abel TASMAN on exploring voyages Tasman called an island that he found Van Diemen's Land, it is today Tasmania.

Diepenbeeck, Abraham van (vän' dē'pbāk"), 1596–1675, Flemish painter and designer of stained glass, pupil of Rubens

Dieppe (dēēp'), town (pop 20,877), Seine-Inférieure dept , N France, on the English Channel, a fashionable resort and a fishing port. Once an important port, the town, which had adopted Protestantism, was ruined by the DRAGONNADES of Louis XIV and by an English raid (1694) Subjected to repeated air bombing in the Second World War, Dieppe was also the scene (Aug 19, 1942) of a commando raid by Canadians, British, and Americans

Dierks (dērks), city (pop 1,459), SW Ark , NE of De Queen, inc 1907 A large coal and lumber company is here, and a state game refuge near by

Dies, Christoph Albert (krīs'tōf al'bērt dēs'), 1755–1822, German landscape painter and engraver His best works are in water color, but he painted also in oil After spending many years in Italy, where he copied the masters and painted Italian scenes, he returned to Germany and published, together with J W Mechau and J C Reinhart, the *Collection de vues pittoresques de l'Italie* (1799), to which Dies contributed 24 fine etchings

Diesel engine (dē'zul), type of INTERNAL-COMBUSTION ENGINE invented by Rudolf Diesel (1858–1913, German engineer, b Paris) and patented in 1892 Since developed for high powers and competing successfully with the steam engine, steam turbine, and electric motor, it is used especially for marine work and for driving locomotives, trucks, electric generators, and pumps It differs from the gasoline engine in that the ignition of its fuel is caused by compression of air in its cylinders instead of by a spark compression raises the temperature of the air so high that it ignites the fuel Because of the high temperatures of operation, a special feature is the cooling system The construction of the Diesel engine is heavier than that of the gasoline engine, there are usually three or more cylinders (supported on a framework and bedplate) and a heavy flywheel The cylinders are set to work alternately to give a smooth-turning effect, and the flywheel further helps smooth action There are two classes of Diesel engines In the two-stroke or two-cycle type there is a complete cycle of operation in every two strokes. This type of engine requires an air compressor to supply compressed air for operating and for starting In the four-stroke or four-cycle type the first downstroke of the piston draws in air only, which is compressed on the upstroke to about 500 lb per square inch. At the top of the stroke a jet of oil is sprayed in. The oil is ignited and the rapid expansion, due to the explosion, forces the piston down in the working, or firing, stroke The next upstroke drives the waste gases out through the exhaust valve, and the cycle is complete. The Diesel engines have an advantage in that they use cheap crude oil for fuel and occupy a comparatively small amount of space, since no boiler is needed. This is particularly important for marine work where the additional space obtained can be used for cargo The Diesel engine has been developed extensively in Europe and the United States Single units may give as high as 20,000 h p See A P Chalkley, *Diesel Engines for Land and Marine Work* (5th ed , 1926); L H. Morrison, *American Diesel Engines* (2d ed , 1939), Orville Adams, *Elements of Diesel Engineering* (2d ed , 1949)

Dies irae (dī'ēs ī'rē, dē'ās ē'rā) [Latin,=day of wrath], hymn of the Roman Catholic Church, one of the six authorized sequences A part of the Requiem Mass, it is a powerful description of the Judgment and a prayer to Jesus for mercy Suggested in part by Zeph 1 14–16, it was probably written by Thomas of Celano It has often been set to music, in polyphonic settings its plain-song tune has frequently been used as a *cantus firmus* Verdi and Mozart composed original music for it which is intensely dramatic

Dieskau, Ludwig August, Baron (lōōt'vĭkh ou'gōōst bärōn' dē'skou), 1701–67, general in French service in the French and Indian War He arrived in Canada in 1755 and was defeated and captured the same year by Sir William JOHNSON on Lake George

diet, daily intake of food of a human or other animal The quality of the human diet from birth to old age is recognized as one of the chief factors in determining both physical and mental health In order to provide for the needs of the body the diet must include foods containing adequate amounts of each of the classes of nutrients Good sources of the nutrient protein are meat, fish, eggs, legumes (e g , peas, beans, and lentils), milk, and cheese, protein is essential to growth and to the maintenance of healthy tissues and good resistance at all ages Starch and sugar, together known as carbohydrates, provide the body with energy Starchy foods include rice, wheat, and other grains, grain products (e g , bread, macaroni, and cake), and potato, fruits, vegetables, honey, and molasses are more healthful sources of sugar than candy and refined sugar Fats are high in energy value, but their excessive use should be avoided, butter and fortified margarine provide vitamin A in addition to fat Among the most important mineral requirements are sufficient calcium for development and maintenance of healthy bones and teeth, for regulation of the heartbeat, for aiding coagulation of blood, digestion, and muscle action, and for other vital functions, phosphorus, also necessary to good bones and teeth and to many body functions, iron and copper to avoid anemia, and iodine, necessary for the proper functioning of the thyroid gland Water is an essential component of all body tissues and fluids, and it aids in ridding the body of wastes VITAMINS are necessary to the maintenance of health at all ages The energy value of foods, i e , their calorie value, must be considered in planning the diet A diet with a higher calorie value than the body requires leads to obesity The choice of foods and the proportions of the nutrients varies somewhat at different ages Generally the requirements are met by including in each day's food intake a serving of meat (or a meat substitute), an egg, a potato, at least one green or yellow vegetable and preferably an additional vegetable or fruit, citrus fruits or tomatoes, milk (a quart for children and pregnant women and at least a pint for others, including that used in cooking), two or more servings of grain foods (some should be whole-grain products), and a moderate amount of fat Cheese made from whole milk may be substituted for part of the milk requirement Special diets are necessary in certain diseases, e g , diabetes and kidney infections, and in conditions such as underweight and obesity, but these should be undertaken only according to a physician's instructions See L. H Gilletti, *Nutrition in Public Health* (1946), H. C Sherman, *Food Products* (4th ed , 1948), M. D Rose, *Laboratory Handbook for Dietetics* (5th ed , revised by C. M Taylor and Grace MacLeod, 1949)

diet, in German history, a deliberative or legislative assembly The imperial diet (Ger *Reichstag*) of the HOLY ROMAN EMPIRE was an assembly of magnates, both lay and ecclesiastic, summoned at irregular intervals The Golden Bull (1356) of Emperor Charles IV solidified its organization, three groups appeared—the ELECTORS, the princes, and the representatives of the imperial cities The Peace of Westphalia (1648) raised the diet above the emperor and made it more distinctly a federal body. It thus became a conference of ambassadors rather than a legislature, while the member states (notably Prussia and Austria) grew into strong nations From 1663 the diet met at Regensburg Among the most important diets were those of Würzburg (1180, see HENRY THE LION); of NUREMBERG (1467), of Worms and Cologne (1495, 1512, see MAXIMILIAN I, emperor), and of the REFORMATION —Worms (1521), Speyer (1529), and Augsburg (1530, 1547, 1555) For the federal diet (Ger *Bundesrat*) of 1815–66, see GERMAN CONFEDERATION. The parliamentary bodies of Poland, Hungary, Bohemia, and the Scandinavian countries were also called diets.

Dietrich, Christian Wilhelm Ernst (krīs'tyän vĭl'hĕlm ĕrnst' dē'trĭkh), 1712–74, German painter and engraver He imitated the Dutch masters with some success but had little originality. His *Itinerant Singers* (National Gall , London) is characteristic. Two paintings, *Surprised* and *Christ Healing the Sick*, are in the Metropolitan Museum.

Dietrich von Bern: see THEODORIC THE GREAT

Dieulafoy, Marcel Auguste (märsĕl' ōgüst' dyülăfwä'), 1844–1920, French highway engineer and archaeologist. He served in both the Franco-Prussian and the First World wars In 1885, while exploring in Persia, he discovered at Susa the palaces of Darius and Artaxerxes, fragments and relics from which are in special rooms at the Louvre He wrote *L'Art antique de la Perse* (1884–85), *L'Acropole de Suse* (1890–94), and *Art in Spain and Portugal* (Eng tr., 1913) He was ably assisted in his archaeological discoveries by his wife, **Jeanne** (or **Jane**) **Rachel Magre Dieulafoy** (zhän' räshĕl' mä' grü), 1851–1916, author and explorer She wrote *La Perse, la Chaldée, et la Susiane* (1887) and was a member of the Legion of Honor

Diez, Friedrich Christian (frē'drĭkh krīs'tyän dēts), 1794–1870, German philologist A professor at Bonn, he is noted as one of the founders of the science of Romanic philology His great works were a grammar of the Romanic languages (1836, later much enlarged) and a dictionary of the Romanic languages (1853, also much enlarged in later editions)

differential, in the automobile a set of gears used on the driving (usually rear) axle It serves to divide the torque equally between the two driving wheels and at the same time to permit one wheel to revolve faster than the other when necessary In a horse-drawn carriage or cart or other vehicle that is pulled or pushed, the wheels are not fixed to the axle and revolve independently of it and of one another However, in an automobile the two wheels on the driving axle must be interconnected in order to receive their energy from the single source—the driving shaft—and at the same time must be free to revolve at different speeds when necessary. These two requirements are met by the differential gearing Furthermore, through it the rotating motion of the driving shaft is transmitted to the axle and the wheels The axle is in two halves, to each half is attached a wheel at one end and, at the inner end, a bevel gear (see GEARING) The end of the driving shaft is also equipped with a bevel gear By an ingenious arrangement of these and other gears, together constituting the differential, a difference in speed of the two wheels is compensated for without a loss of tractive force Without this device, it would be practically impossible to round turns in an automobile without skidding

diffraction Light is held to travel in straight lines through a uniform, transparent medium When, however, its passage is partly blocked by some opaque object in its path, those rays that just pass the edges of the opaque body are bent or deflected slightly although to an almost imperceptible degree Such bending is called diffraction, and it results in the interference of the light waves that pass the opaque body, this in turn explains the lighter quality of the edges of the shadow cast by the opaque body Diffraction occurs when light waves pass through extremely narrow slits or when they are reflected from a surface having many finely scratched lines upon it and results in this case also in interference Sound waves likewise undergo diffraction with resulting interference A **diffraction grating** may be either a transmission grating, consisting of a plate having many small, parallel, evenly spaced slits in it through which the light passes, or it may be a reflection grating, a plate of metal or glass which reflects light from the polished strips between the parallel lines ruled on its surface The number of these slits or lines is not uncommonly 40,000 or more to the inch The ruling is generally done with a fine diamond point Since the light diffracted is also dispersed (see DISPERSION, in physics), these gratings are utilized in diffraction spectroscopes for producing and analysing spectra and for measuring directly the wave length of lines appearing in certain spectra (see SPECTRUM). See also X RAY

diffusion, a process in which the molecules of one substance become uniformly distributed among those of another substance, in seeming contradiction to the laws of gravitation For example, a gas heavier than air, when introduced into the lower part of a vessel containing air, spreads upward through the air until there is a uniform mixture of the two gases The rate at which such diffusion takes place, although constant for a given gas under given conditions, is not identical for all gases. It depends upon the density of the gas diffusing and is inversely proportional to the square root of the density of that gas (Graham's law). The lighter a gas is, the more rapidly it diffuses. Hydrogen, the lightest gas known, shows the greatest speed of diffusion of all gases, intermingling with air, for example, four times more rapidly than does oxygen. Diffusion is seen also in liquids: if two

liquids are miscible, although they are placed in a vessel in two layers with the lighter one above, nevertheless the lower and heavier liquid will gradually spread upward through the less dense. The same condition is seen when a layer of a concentrated solution is covered with a layer of the solvent. Some solids when in contact with others show similar activity. Gold, for example, diffuses into lead, which acts as the dissolving metal The rate of diffusion increases with the temperature. See also OSMOSIS.

Digby, George: see BRISTOL, GEORGE DIGBY, 2D EARL OF.

Digby, John: see BRISTOL, JOHN DIGBY, 1ST EARL OF

Digby, Sir Kenelm, 1603–65, English writer and man of affairs He was the son of Sir Everard Digby, who was hanged for his participation in the Gunpowder Plot In 1625 Kenelm Digby married Venetia Stanley, a childhood friend He turned pirate in 1628 to conduct a raid against a French and Venetian fleet at Alexandretta During the civil war he was imprisoned for two years and then, except for two brief visits, spent the rest of the war abroad His most famous achievement, which overshadows some of his solider scientific work, was the publicizing of the "powder of sympathy," which was supposed to heal wounds without direct application The powder may have been a form of copper sulphate Digby claimed to have received the secret of this panacea from a Carmelite friar in 1622, but the powder was common knowledge in the reign of Henry VII Digby also achieved some notoriety in 1654 by attempting to convert Oliver Cromwell to Roman Catholicism Digby's works include *Observations upon Religio Medici* (1643), *Two Treatises* (1644), *A Late Discourse touching the Cure of Wounds by the Powder of Sympathy* (1658), and his capable address to the Royal Society, *A Discourse concerning the Vegetation of Plants* (1661) His *Private Memoirs* was published in 1827 See biography by J F Fulton (1937)

Digby, Kenelm Henry, 1800–1880, English author A student of the Middle Ages and scholastic theology, he was converted to Catholicism after his graduation from Cambridge His principal works are *The Broadstone of Honour* (1822, enl ed , 4 vols , 1826–27) and *Mores Catholici* (1831-40)

Digby, town (pop 1,657), W N S , on the Bay of Fundy directly opposite St John, N B Loyalists from New England settled here in 1785 The town was incorporated in 1890 Fishing is the main industry, and Digby is a summer resort.

Digest see CORPUS JURIS CIVILIS

digestion, process of converting foods into a simple, soluble form which can be absorbed into the circulation and distributed to and used by the body tissues Chewing prepares food for the action of the enzymes In the mouth, saliva, secreted by glands, contains an ENZYME which digests starch In the stomach, proteins are acted upon by pepsin and hydrochloric acid and also by rennin, a substance which coagulates milk In about four hours the stomach is empty In the small intestine, digestion continues by means of BILE, pancreatic juice (with its enzyme trypsin acting on proteins and other enzymes acting on starches, sugars, and fats), and intestinal juice secreted by the lining of the small intestine, which acts on proteins and sugars Unabsorbed material is passed on by muscular action of the intestines to the rectum In the large intestine water is absorbed from this undigested material See W B Cannon, *Digestion and Health* (1936)

Digger Indians, term indiscriminately applied to many tribes of the central plateau region of the American West, including tribes in Oregon, Idaho, Utah, Arizona, Nevada, and central California The name is supposedly derived from the fact that they dug roots for food It has no ethnological significance and was often a term of opprobrium

Diggers, members of a small English religio-economic movement (fl 1649–50), so called because they attempted to dig (i e , cultivate) the wastelands They were an offshoot of the more important group of Puritan extremists known as the LEVELERS, who flourished at the time Gerrard Winstanley (1609?–1660?) was the leader of the Diggers and exponent of their egalitarian and communistic philosophy in his *New Law of Righteousness* (1649) The little band planted the common land at St George's Hill, Surrey, and at nearby Cobham, but their project was met with suspicion by their neighbors and resistance from the landowners on whose property they encroached In the spring of 1650 their community was destroyed by mob violence, and the experiment was abandoned. Winstanley's *Law of Freedom* (1651) extended his thesis that English law and institutions should be modified immediately to bring equality to all men. See G. H. Sabine, *The Works of Gerrard Winstanley* (1941).

Digges, Sir Dudley (digz), 1583–1639, English diplomat and political leader. Because of his interests in the East India Company and other trading ventures, he was sent by the king on missions (unsuccessful) to Russia (1618) and to Holland (1620). He sat in the House of Commons in every Parliament from 1604 to 1629 and several times incurred royal displeasure. He apparently hoped for preferment from the duke of Buckingham which never came, and in 1626 he had turned against Buckingham Now opposed to the king, Digges was active in pushing the Petition of Right (1628) and in defending free speech, but failed to back Sir John Eliot's extreme position. In 1630 he returned to the royal party, held several offices, and sat in the court of high commission (1633)

Dighton (dī'tŭn), textile town (pop 2,983), SE Mass., on the Taunton river and S of Taunton, settled 1678, set off from Taunton 1712 The origin of inscriptions, probably Indian, on Dighton Rock in the river has caused much speculation.

digitalis: see FOXGLOVE

Digne (dēn'yū), ancient city (pop 5,804), capital of Basses-Alpes dept , SE France, in upper Provence It is now a health resort, noted for its mineral springs

Dihang: see BRAHMAPUTRA.

Dijon (dē'zhŏn, dēzhŏn'), city (pop. 92,686), capital of CÔTE D'OR dept , E France, the old capital of Burgundy It is the principal trade and shipping center for Burgundy wine and one of the richest art cities in Europe Dating from Roman times, it began to flourish when the dukes of Burgundy first made it their residence (11th cent) Under PHILIP THE GOOD it probably had the most splendid court in Europe except Constantinople and was a great manufacturing and commercial center Even after the disintegration of Burgundy (1477), Dijon continued as a cultural center despite the centralizing influence of Paris Bossuet, Rameau, Charles de Brosses, and Rude were born here, and it was an essay contest of the Academy of Dijon that made J J Rousseau famous overnight Dijon is heavily indebted to Flemish artists and craftsmen Claus SLUTER established his school for sculpture here (late 14th cent), his *Well of Moses* is at the Chartreuse de Champmol (1383, largely destroyed in 1793) The funeral statues of the dukes of Burgundy by Sluter and his disciples are at the splendid museum, housed in the town hall, which was originally the ducal palace (12th cent , largely rebuilt 17th and 18th cent) Other remarkable buildings include the cathedral (late 13th cent), the Church of Notre Dame (13th cent , in French Gothic with a façade in Italian Romanesque), St Michael's Church (Renaissance), the Hôtel Aubriot (14th cent , now containing a museum of Burgundian folklore), and the palace of justice (16th cent , once housing the powerful PARLEMENT of Burgundy)

Dike: see HORAE

Diklah (dĭ'klŭ) [Heb ,=palm tree], descendant of Noah and son of Joktan Gen 10 27, 1 Chron 1 21

Dilean (dĭ'lēun, dĭ'-), unidentified town, SW Palestine Joshua 15 38

Dilke, Sir Charles Wentworth (dĭlk), 1843–1911, English statesman A leader in the Liberal party, he helped pass the parliamentary REFORM BILLS of 1884–85 and laws giving the municipal franchise to women, legalizing labor unions, and limiting working hours Dilke was hostile to the crown, calling himself a republican See biography by Stephen Gwynn and G M Tuckwell (1917)

Dilke, Emilia Frances Strong, Lady (dĭlk), 1840–1904, English writer on art She was the Royal Academy art critic for many years Her leading works include *The Renaissance of Art in France* (1879), *Art in the Modern State* (1884), *French Painters of the Eighteenth Century* (1889), *French Architects and Sculptors of the Eighteenth Century* (1900), and *French Engravers and Draughtsmen of the Eighteenth Century* (1902)

dill, Old World annual or biennial plant (*Anethum graveolens*), of which the pungent, aromatic leaves and seeds are used for pickling and for flavoring sauces and soups Dill water (a carminative) and oil of dill are made from the seeds Dill was formerly used in charms against witchcraft

Dillard, James Hardy, 1856–1940, American educator, b Nansemond co , Va , grad. Washington and Lee Univ , 1876 Professor (1891–1907) of Latin at Tulane Univ , where he was also dean (1904–7) of the academic colleges. Dillard resigned to act as president (1907–31) of the Jeanes Foundation for Negro rural schools He was director (1910–17) and president (1917–31) of the John F Slater Fund He contributed much to the improvement of Negro education and interracial relations

Dillard University, at New Orleans, Negro, interdenominational, coeducational, named for James H Dillard, because of his aid to Negro education It was chartered in 1930 and opened in 1935, combining two schools chartered and opened in 1869 (New Orleans Univ , Methodist, and Straight College, Congregationalist)

Dillenius, Johann Jakob (dĭlā'nēŭs), 1687–1747, English botanist, of German birth He published catalogues of the plants of Eltham, Kent, and of Giessen, Germany, and a work on mosses which placed him in the first rank among botanists of his day He was the first professor of botany at Oxford. A genus of tropical trees, *Dillenia,* was named after him by Linnaeus.

Dilley, town (pop. 1,244), SW Texas, SW of San Antonio, in a livestock and winter-garden area; settled 1880, inc 1920.

Dillinger, John (dĭl'lĭnjŭr), 1902–34, American bank robber, probably b Indianapolis Paroled after serving a prison term for attempted robbery, Dillinger in 1933 terrorized the Midwest with an organization of criminals He had been responsible for 16 killings and had looted some $300,000 before he was shot (July, 1934) in a Chicago street by FBI agents.

Dillingham, William Paul, 1843–1923, U S Senator (1900–23), b. Waterbury, Vt , son of Paul Dillingham, governor of Vermont After holding various local and state offices, including (1888–90) the governorship of Vermont, he succeeded J S Morrill as a Republican Senator and earned a name for himself in legislation on immigration He espoused the quota system for immigrants which was adopted after his death

Dillman, August (ou'gōōst dĭl'man), 1823–94, German Orientalist He wrote a well-known grammar of Ethiopic (1857) and compiled an Ethiopic lexicon (1865) A Protestant minister, he also had a reputation for his biblical exegesis

Dillon, John (dĭl'lun), 1851–1927, Irish statesman He began his long parliamentary career in 1880 and was a prominent leader of the Irish Nationalist party, which by its obstructionist tactics in the 1880s and 1890s forced the British Parliament to consider the Irish question He was several times arrested under the Coercion Acts and he supported boycotting, but Dillon always believed that Ireland's freedom could be obtained by constitutional means He supported the Irish Land League and Charles Stewart Parnell until the divorce scandal, when he gave his allegiance to John REDMOND. During the First World War he incurred the enmity of SINN FEIN by encouraging military recruiting in Ireland although he was opposed to conscription He succeeded Redmond in the leadership of the Nationalist party, but his career came to an end when Sinn Fein wiped out the Nationalists in the 1918 election

Dillon, John Forrest, 1831–1914, American jurist, b. Montgomery co , N Y , M D State Univ of Iowa, 1850 He early abandoned medical practice and was admitted to the Iowa bar in 1852 Dillon was an Iowa state judge (1858–68) and a U S circuit judge (1869–79) During his judicial career he wrote *Municipal Corporations* (1872), one of the earliest systematic studies on this subject, and *Removal of Cases from State Courts to Federal Courts* (1876) He was (1879–82) a professor in the Columbia School of Law He practiced in the field of railroad law in New York city

Dillon. 1 City (pop 3,014), co seat of Beaverhead co , SW Mont , on the Beaverhead (see JEFFERSON) river and S of Butte, founded 1880, inc 1885. It ships much wool A state normal school is here 2 Town (pop 3,867), co seat of Dillon co , NE S C , near the N C line NE of Florence, in a farm area producing especially cotton and tobacco, founded c 1886

Dillonvale, coal-mining village (pop 1,652), E Ohio, near the Ohio SW of Steubenville

Dillsburg, borough (pop 1,054), SE Pa , SW of Harrisburg, laid out 1800, inc 1833

Dilthey, Wilhelm (vĭl'hĕlm dĭl'tē), 1833–1911, German philosopher He taught at Basel, Kiel, Breslau, and Berlin One of the first to claim the independence of the spiritual sciences as distinct from the natural sciences, Dilthey laid down a foundation of descriptive and analytic psychology on which to base a study of philosophy His approach emphasized the historical and empirical development of ideas and action to the exclusion of the metaphysical His principal work is *Einleitung in die Geisteswissenschaften* [introduction to the mental sciences] (1883) See biography by H A Hodges (1944)

Dilworth, village (pop 1,068), NW Minn , in the Red River valley E of Fargo, N Dak. It is a trade center and railroad division point.

DiMaggio, Joseph Paul (dĭ mă'jē-ō), 1914–, American baseball player, b Martinez, Calif He began (1932) playing baseball as a shortstop, then was an outfielder for the San Francisco Seals of the Pacific Coast League Recognized early for his versatility and hitting ability, Joe DiMaggio was purchased (1935) by the New York Yankees of the American League and quickly rose to stardom, batting 347 during his second season (1937) In 1941 the right-handed center fielder established a new record by hitting safely in 56 consecutive games In the Second World War he enlisted (1943) in the army, he returned to the Yankees in 1946 See his autobiography, *Lucky to Be a Yankee* (1946)

dime novels, swift-moving, thrilling novels, mainly about the American Revolution, the frontier period, or the Civil War The books were first sold in 1860 for 10 cents by the firm of Beadle and Adams The earliest was *Malaeska. the Indian Wife of the White Hunter,* by Anne Stephens, which is said to have sold 300,000 copies in the first year, and similar novels sold by the thousands throughout the country and especially in the Civil War camps. Such experienced men as Brun Adams, Col Mayne Reid, Col. Prentiss Ingraham, W 'F

Cody, and Ned BUNTLINE wrote of their own adventures for Erasmus BEADLE and his editor, Orville J Victor Among the most famous series were those about DEADWOOD DICK, by Edward L. Wheeler, and those about Nick CARTER, by several authors After 1880, when imitators entered the field with stories which dealt in blood and thunder, the quality of the stories was lowered and the dime novels acquired a bad name Actually they probably emphasized self-reliance in a wholesome way Their popularity lasted until the 1890s, when series of stories such as those about the Rover Boys and Frank Merriwell and pulp magazines and the comic strip began to replace them See Edmund Pearson, *Dime Novels* (1929), Albert Johannsen, *The House of Beadle and Adams* (1950), Charles Bragin, *Dime Novels Bibliography, 1860–1928* (1938)

diminishing returns, law of, in economics, the law that after a certain point an increase in the capital and labor applied to the exploitation of a piece of land or to the production of a commodity under given conditions yields relatively decreasing returns This principle, first thought to apply only to agriculture, was later accepted as an economic law underlying all productive enterprise It governs the maximum size of any undertaking and limits the maximum return under given conditions The point at which the law begins to operate is difficult to ascertain, as it varies constantly with improved productive technique and other factors Anticipated by Turgot and implied by Malthus in his *Essay on the Principle of Population* (1798), the law first came under examination during the discussions in England on free trade and the corn laws See W J Spillman and E Lang, *The Law of Diminishing Returns* (1924)

Dimitrov, Georgi (gĕôr'gĕ dĭmē'trôf), 1882–1949, Bulgarian Communist leader A revolutionist from boyhood, he was an obscure exile in Berlin when, in 1933, he was arrested for alleged complicity in setting the REICHSTAG on fire Dimitrov's cool conduct of his defense and the accusations he directed at his prosecutors won him world renown He was acquitted and went to the USSR, which immediately conferred citizenship upon him and raised him to high office Dimitrov was secretary general of the Comintern from 1934 until its dissolution (1943) In 1944 he returned to Bulgaria to head the Communist party there, and in 1946 he succeeded Kimon Georgiev as premier The execution (1947) of the opposition leader, Nikola Petkov, strengthened Dimitrov's hold on the country Dimitrov died in Moscow, where he was undergoing medical treatment

Dimnah (dĭm'nə), the same as RIMMON 5.

Dimnet, Ernest, Abbé (ĕrnĕst' abā' dēmnā'), 1866–, French writer, canon of the cathedral of Cambrai His popularity as a lecturer in England and the United States created great interest in his writings in these countries His *Figures de moines* [faces of monks] was crowned by the French Academy in 1908 Among his best-known works are *Les Sœurs Brontë* (1910, Eng tr, *The Brontë Sisters*, 1927) and, in English, *Paul Bourget* (1913) and *The Art of Thinking* (1928) *My Old World* (1935) and *My New World* (1937) are autobiographical

Dimon (dī'–), the same as DIBON

Dimonah (dĭmō'nə) [Heb, =wasting], town, extreme S Palestine Joshua 15 22 This is probably the Dibon of Neh 11 25

Dinah (dī'nə) [Heb, =judged], daughter of Jacob and Leah Gen 30 21, 34 1-31

Dinan (dēnā'), town (pop 11,111), Côtes-du-Nord dept, NW France, in Brittany, on a bluff above the Rance river The 14th-century castle of the dukes of Brittany and the medieval ramparts still stand In the Church of Saint-Sauveur (12th–15th cent) the heart of Bertrand du Guesclin is kept The town was damaged in the Second World War

Dinant (dēnä'), town (pop 6,858), Namur prov, S Belgium, on the Meuse It is a railroad junction and market center Fortified since Merovingian times, it was noted in the Middle Ages for its copper-, brass-, and bronzeware It belonged to the bishopric of Liége until the French Revolution and was sacked by Charles the Bold in 1466 in the revolt of Liége Dinant has a Gothic church (13th cent), a 17th-century town hall, and a citadel, rebuilt in the 19th cent

Dinard (dēnär'), town (pop 7,353), Ille-et-Vilaine dept, NW France, in Brittany, facing Saint-Malo across an inlet of the English Channel It is a fashionable bathing resort Dinard suffered great damage in the Second World War

Dinaric Alps (dĭnă'rĭk), mountain range, occupying one third of Yugoslavia It prolongs the main chain of the Alps along the eastern coast of the Adriatic Sea from the Isonzo to the Drin and includes the KARST plateau in the north Its highest peak, the Volynac, rises to c 7,800 ft

Dindigul (dĭn"dĭgŭl'), town (pop 56,275), S Madras state, India It is a railroad junction. Cigars are the principal manufacture, timber, tea, coffee, cardamom, hides, and skins are exported

Dindorf, Wilhelm (vĭl'hĕlm dĭn'dôrf), 1802–83, German classical scholar He edited many Greek texts, particularly those of the poets He wrote a standard study of Greek metrics and edited Demosthenes, but his most important work was his new edition of the great *Thesaurus* of the second Henri Estienne In this work Dindorf was assisted by his less famous but very able brother, **Ludwig August Dindorf** (lōōd'vĭkh ou'gōōst), 1805–71, who was otherwise principally interested in the Greek historians This new edition of the *Thesaurus* was planned and published by the brothers Ambroise Firmin and Hyacinthe Firmin Didot

D'Indy, Vincent. see INDY, VINCENT D'

Dinesen, Isak (ē'sāk dē'nusŭn), pseud of **Karen Blixen** (kä'rŭn blĭk'sŭn), 1885–, Danish author, who usually writes in English On her marriage in 1914 to Baron Blixen, she went to British East Africa and lived on a coffee plantation until 1931 Her *Seven Gothic Tales* (1934) and *Winter's Tales* (1943) are in the genre of the German romances of the 18th cent *The Angelic Avengers* (1947), first published in German-occupied Denmark, was a political allegory written under the pseudonym Pierre Andrézel See her autobiographical *Out of Africa* (1937)

Dingley, Nelson, 1832–99, U S Congressman (1881–99), b Durham, Maine, grad Dartmouth, 1855 Long the editor of the Lewiston (Maine) *Journal*, he was also a state official, serving as governor of Maine (1874-75) His service in the House of Representatives was marked chiefly by his preparation of the highly protective tariff measure called the Dingley Act, which replaced (1897) the Wilson-Gorman Act and remained in force until 1909

dingo (dĭng'gō), wild dog of Australia It is much like the fox but larger and stronger, of stout build and with short legs, sandy brown in color with black markings on the back It resembles the pariah dogs of Egypt and India, from which it may be descended In the wild state it does not bark, but learns to do so in domestication, it has a dismal howl Its chief prey is rabbits but it also destroys sheep and poultry It hunts alone, in pairs, and sometimes in small packs, usually only at night

Dingwall (dĭng'wl), burg (pop 2,553), county town of Ross and Cromarty co, Scotland, near the head of Cromarty Firth

Dinhabah (dĭn'hăbə), unidentified city of Edom Gen 36 32, 1 Chron 1 43

Diniz, Port *Dinis* (dĭnēzh'), 1261–1325, king of Portugal (1279-1325), son and successor of Alfonso III His grandfather was Alfonso X of Castile, and Diniz showed the same interest in literature as that Spanish king His reign, therefore, ushered in the finest period of medieval Portuguese literature He founded at Lisbon the university that is now at COIMBRA He was also interested in more mundane matters and greatly encouraged agriculture, he gave special favors to nobles who would take up farming Diniz is therefore sometimes called *o Lavrador* [the farmer] He laid down strict laws to prevent further alienation of property to the Church, persecuted the Templars and took their lands, and generally worked to increase the royal holdings His wife was Isabella, daughter of Peter III of Castile, better known to history as St Elizabeth of Portugal The reign was relatively peaceful, though at its beginning the king's brother led an unsuccessful revolt, and there was a desultory war with Castile, by which Diniz gained more territory The last years of his reign were darkened by revolts of his son, the later Alfonso IV The greatest efforts of the queen were needed to patch up the quarrels Diniz is also known in English as Denis or Dionysius

Dinkelsbühl (dĭng'kulsbül"), city (pop 6 928), Middle Franconia, Bavaria, the oldest Franconian city It has retained its medieval character Particularly noteworthy are the 10th-century city walls, a 13th-century church, and the Deutsches Haus, with a splendid 16th-century façade

dinosaur (dī'nusôr) [Gr, =terrible lizard], extinct land reptile of the MESOZOIC ERA The dinosaurs ranged in length from 2½ ft to about 90 ft Their fossil remains have been found in the rock of every continent, and they differed widely in structure, habitat, and diet They reproduced by eggs Their intelligence, judged by the size of their brain cavities, was uniformly low Their extinction resulted probably from a combination of factors, among which geographic and climatic changes were especially important Land in the western parts of both North and South America rose (beginning in the Upper Cretaceous), and mountains formed, the swamplands to the east were uplifted and drained, the temperature dropped, and starvation and cold exterminated many dinosaurs Some forms in North America had been wiped out by flooding in earlier Cretaceous times Destruction of herbivorous forms by carnivorous types and the inability of the large, clumsy dinosaurs to compete with the small, fleet mammals which were gradually becoming more numerous at the time also contributed to the dinosaurs' extinction Of the dinosaurs, some were carnivorous bipeds, such as Tyrannosaurus, some, herbivorous quadrupeds, e g, BRONTOSAURUS and DIPLODOCUS. IGUANODON was duck-billed, STEGOSAURUS was armored, and TRICERATOPS was horned. See E H. Colbert, *The Dinosaur Book* (1945).

Dinosaur National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Dinotherium (dīnōthē'rĭŭm) [Gr, =terrible beast], extinct mammal related to the elephant, fossil remains of which have been found in Miocene and Phocene formations of Africa, Europe, and India. It had a short proboscis and a pair of tusks which extended downward, curving backward, from the lower jaw

Dinuba (dĭnū'bə), city (pop 3,790), S central Calif., SE of Fresno in the San Joaquin Valley, inc 1906. It packs raisins figs, and grapes and produces wines and canned fruit

Dinwiddie, Robert, 1693–1770, colonial governor of Virginia (1751–58), b near Glasgow, Scotland He was collector of customs (1727–38) for Bermuda and surveyor general (1738–51) for the Bahamas, Jamaica, Pennsylvania, Maryland, Virginia, and the Carolinas In 1751 he was appointed lieutenant governor of Virginia, but he was really the chief executive of the colony, always known as governor, since the two men who held the titular office during his term never came to Virginia Dinwiddie favored an aggressive policy to forestall the French in the Ohio valley and late in 1753 sent George Washington on a mission to Fort Le Boeuf, c 12 mi south of the site of Erie, Pa, to warn the French to withdraw from the territory claimed by the British The French declined to heed his demand, and early in 1754 Dinwiddie dispatched a force of workmen to build a fort at the junction of the Monongahela and Allegheny rivers, generally called the forks of the Ohio (see DUQUESNE, FORT) Washington, made a lieutenant colonel of the colonial militia, soon followed with a detachment to protect them The French drove the workmen away before Washington arrived and then defeated him on July 3, 1754 (see NECESSITY, FORT) Hostilities in the last of the French and Indian Wars had begun Dinwiddie worked energetically preparing for Gen Edward Braddock's campaign and the others that followed, but failed to win the full cooperation of other colonies that he constantly sought His exertions finally ruined his health, and he left Virginia in 1758 He is best remembered as the man who gave Washington his first chance as a soldier See D S Freeman, *George Washington*, Vols I and II (1948)

Dinwiddie (dĭn'wĭdē), village (pop c 250), SE Va, SW of Petersburg The courthouse of Dinwiddie co is here On April 1, 1865, at near-by FIVE FORKS, Sheridan and Warren defeated Pickett before the fall of Petersburg

Dio see DION

Diocletian (Caius Aurelius Valerius Diocletianus) (dī'uklē'shun), 245 313, Roman emperor (284–305), b Salona, Dalmatia Of humble birth, he obtained high military command under Probus and Aurelian and fought under Carus in Persia The army proclaimed him emperor after the death of Numerian, whom the prefect Arrius Aper was suspected of murdering He slew Aper [Latin, =boar] to fulfill a prophecy that he would reign when he had killed a boar and became sole ruler when CARINUS, joint emperor with Numerian, was murdered by his own officers In order to repel the Germans he appointed MAXIMIAN joint emperor (286) and CONSTANTIUS I and GALERIUS Caesars (292), the four rulers having their respective capitals at Nicomedia, Milan, Trier, and Sirmium In his reign Britain was restored to the empire (296), the Persians were subjugated (298), and the Marcomanni were expelled from the empire The latter part of his reign was memorable for the persecution of the Christians (beginning 303), to which course he had been instigated by Galerius He abdicated (305), and Maximian resigned at the same time Diocletian was the first to divide the empire formally and to set up a genuine autocracy with no theoretical checks The Edict of Diocletian (301) was an economic measure to check speculation in commodity prices It set a maximum price for provisions and maximum wages Its effects were ruinous to agriculture and to the markets This unsuccessful economic measure and the persecution of the Christians were the only black marks against Diocletian's splendid career, ended by his respected retirement in his castle at Salona.

Diodati, Giovanni (jōvän'nē dyōdä'tē), 1576–1649, Swiss Calvinist scholar and theologian, of a family of Italian Protestant refugees He succeeded Beza as professor of theology at Geneva In 1618 one of the deputies to the Synod of Dort, he was chosen to assist in compiling the canons His translation of the Bible into Italian is a celebrated achievement, and he made a revision of the French translation prepared by the professors at Geneva

Diodorus Siculus (dīudô'rŭs sĭ'kŭlŭs), d after 21 B C, Sicilian historian He wrote, in Greek, a world history in 40 books, ending with Caesar's Gallic Wars Fully preserved are Books I–V and XI–XX, which cover Egyptian, Mesopotamian, Indian, Scythian, Arabian, and North African history and parts of Greek and Roman history His compilation is uncritical and unreliable.

Diogenes (dīŏj'unēz), c.412–323 B C, Greek Cynic philosopher, pupil of Antisthenes He was born in Sinop and lived in Athens. He taught that the

virtuous life is the simple life and dramatically discarded the conventions, taking up his abode in a tub He is said to have thrown away his last utensil, a cup, when he saw a peasant drink from his hands When Alexander asked what he might do for him, Diogenes said, "Only step out of my sunlight" His daylight quest with a lantern "for a man" was probably the most striking expression of his contempt for his generation

Diogenes Laërtius (dīŏjĕ'nēz lāûr'shēŭs), fl 3d cent, Greek biographer, b Cilicia Extant is a work in 10 books on the lives and opinions of the philosophers from Thales to Sextus Empiricus The whole of the 10th book is on the Epicurean school His work is an invaluable source

Diogenes of Apollonia (āpŭlō'nēŭ), 5th cent B C, Greek philosopher He reverted to the tradition of a century earlier and sought to explain the constitution of all matter in terms of a single basic stuff He believed with Anaximenes, upon whom he drew heavily, that this substance was air To air, he added certain of the attributes of the "mind" of Anaxagoras, thus ascribing conscious intelligence to the primal force Some of Diogenes' extensive work in physiology was preserved by Aristotle

Diomed (dī'ŏmĕd), **Diomede** (-mēd), or **Diomedes** (dī"ŏmē'dēz), in Greek legend 1 One of the EPIGONI, son of TYDEUS He took a prominent part in the TROJAN WAR 2 Son of ARES who fed his horses on human flesh HERCULES killed him and captured the horses

Diomede Islands (dī'ŭmēd), group of three islands in BERING STRAIT between Alaska and Siberia The international boundary passes between the two larger islands Vitus Bering discovered the group

Dion Cassius (Cassius Dio Cocceianus) (dī'un kă'shŭs), c 155–235?, Roman historian and administrator, b Nicaea (Bithynia) He was a grandson of Dion Chrysostom His rise in civil and military office was steady, he became senator (c 180), aedile, quaestor, and praetor (194), consul (220?), proconsul in Africa (224), legate in Dalmatia (226), legate in Pannonia (227), and consul again (229) He was a good commander, but he remained in favor more for his literary works than for his abilities in office His great work, partially extant, was a history of Rome (written in Greek) from the earliest times until Dion Cassius' own period The surviving portions are a first-class authority for the 1st cent B C Dion Cassius tried earnestly to study all available sources in the light of a moderate skepticism He is also commonly called Dio Cassius

Dion Chrysostom (krī'sustum, krĭsŏ'stum) [Gr, = golden-mouthed], d after A D 112, Greek sophist and rhetorician, b Prusa (modern Bursa) He lived at Rome under Domitian, who subsequently banished him He traveled widely, finally returning to Rome in the favor of Nerva and Trajan He leaned toward Stoicism With Plutarch he shared in the revival of Greek literature in the 1st cent Extant are 80 interesting orations on literary, philosophical, and political subjects They are notable for their earnest moral tone and their clear pictures of everyday life

Dione (dīō'nē), in Greek legend, Titaness, daughter of URANUS and GAEA or of OCEANUS and TETHYS Probably originally an earth-goddess, she was the consort of Zeus at his ancient temple of DODONA and, according to some myths, the mother of APHRODITE by Zeus

Dionne, Narcisse Eutrope (narsēs' utrōp' dyŏn'), 1848–1917, French Canadian historian, b Quebec prov, educated at Laval Univ He was after 1892 librarian of the Quebec Legislative Library He was a prolific writer and produced biographies in French of Champlain, Cartier, Pierre Bédard, and other figures, numerous historical works, and an *Inventaire chronologique* of books, pamphlets, maps, and periodicals published in or about the province of Quebec (4 vols, 1905–9, supplementary volume, 1912)

Dionne quintuplets (dĭŏn'), five daughters born to Oliva Dionne and his wife at Callender, Ont, on May 28, 1934 Since cases of quintuple birth are very rare, their birth caused a sensation Their welfare was considered a state concern, and the Ontario legislature in 1935 made them wards of the province Their names are Annette, Emélie, Yvonne, Cécile, and Marie The fact that all five survived childhood was considered remarkable, and their physician, Allan Roy Dafoe, also gained considerable note

Dion of Syracuse (dī'un, sĭ'rŭkŭs, -kūz), 409?–354? B C, Sicilian Greek political leader, brother-in-law of DIONYSIUS THE ELDER, tyrant of Syracuse Dion became interested in philosophy through his acquaintance with Plato and endeavored to persuade Dionysius and his son that a moderate system of government would be superior to tyranny He thus became unwelcome at court and retired to Athens. Learning, while there, that Dionysius the Younger had taken measures prejudicial to his rights and property, he assembled an armed force and sailed to Sicily. There he was welcomed by the people and was able to defeat Dionysius in battle (357 B.C.). A rival, Heracleides, procured his temporary exile, but Dion was recalled and he assumed control He was murdered by an Athenian, a former companion

Dionysia (dīŭnĭ'shēŭ), in Greek religion, festivals to honor the god Dionysus Besides the two periods known properly as Dionysia—the Lesser or Rural Dionysia in late December and the Greater or City Dionysia in the spring—there were other feasts of Dionysus, notably the Anthesteria (ănthĕstēr'ēŭ) in early spring and the Lenaea in winter Dionysian festivals all stressed fertility and the joys of fertility as shown in the vine and were like the BACCHANALIA and the LIBERALIA Phallic worship was prominent in the rites that commemorated the death and the rebirth of the god in the cycle of the agricultural season The Dionysiac celebrations—particularly the Greater Dionysia—were most important, however, because from them developed the dithyramb, the choral procession, and Greek drama (see COMEDY and TRAGEDY)

Dionysius, king of Portugal see DINIZ

Dionysius Exiguus (dīŭnĭ'shēŭs ĕksĭ'gŭŭs), d c 545, Roman monk, scholar, and translator, a transmitter of Greek thought to the Middle Ages He collected and preserved vital documents of early Christian times Dionysius, in an attempt to improve the reckoning of the date of EASTER, was the first (525) to use our present system of reckoning a date from the time of the Incarnation

Dionysius of Halicarnassus (hă"lĭkärnă'sŭs), fl 1st cent B C, Greek rhetorician and historian He lived at Rome He was one of the most celebrated of ancient critics, acute and painstaking Among his extant rhetorical works are *On the Arrangement of Words*, *On Imitation*, *On the Early Orators*, *On Thucydides*, and *On the Eloquence of Demosthenes* *The Art of Rhetoric* attributed to him may be of later date Of his most important work, *Antiquities of Rome* in 20 books, we have approximately the first half, in which Roman history to the 5th cent B C is covered

Dionysius Periegetes (pĕ"rēŭjē'tēz) [Gr, = the traveler], fl between 100 and 400, Greek poet He wrote the poem *Journey round the Inhabited Earth*, which was very popular in antiquity

Dionysius the Areopagite, Saint (dīŭnĭ'shēŭs, ârēŏp'ăjīt), 1st cent, Athenian Christian, converted by St Paul Acts 17 34 Tradition has made him a martyr and the first bishop of Athens He has been confused with St DENIS During the Middle Ages he was revered as the author of certain philosophical writings erroneously attributed to him since the 6th cent These are 10 letters and four treatises (*The Celestial Hierarchy*, *The Ecclesiastical Hierarchy*, *The Divine Names*, *Mystical Theology*), written in Greek, possibly in Palestine, in the late 5th or early 6th cent It is now customary to refer to their author as Pseudo-Dionysius Their obscure style was no barrier to their study and repeated translation into Latin, notably by Erigena and Robert Grosseteste They exerted a lasting influence on the development of SCHOLASTICISM, particularly through St Thomas Aquinas The treatises provided a medium for transmission to Western culture of the concepts of Neoplatonism and of the theology of angels See F P Cassidy, *Molders of the Medieval Mind* (1944)

Dionysius the Elder, c 430–367 B C, tyrant of Syracuse Of humble origin, he entered politics as a supporter of the poorer classes Having prompted a measure which gave the governing power to the representatives of these classes, he managed to have himself named to the council His next move was to arouse distrust of his colleagues, and so well did he succeed that shortly he became (406 B C) tyrant Fundamentally his reign was characterized by a consistent policy of maintaining the obedience of the Syracusans through fear of the constant menace of the Carthaginians, then masters of a large part of Sicily At the same time he kept alive the enthusiasm of his subjects by expeditions against the cities of the Italian mainland and by his none too successful efforts to repel the Carthaginians He dreamed also of controlling Greek politics and to this end he allied himself with the Lacedaemonians He wrote works of disputed literary merit and patronized literature and art

Dionysius the Younger, fl 368–344 B C, tyrant of Syracuse, son of Dionysius the Elder He succeeded his father in 368 B C and made himself popular, at first, by remitting taxes and freeing several thousand prisoners But he was neither gifted nor trained for administration or warfare, and his banishment of DION OF SYRACUSE destroyed his only valid chance of maintaining his influence In 357 B C the Syracusans welcomed Dion, who came to avenge his family for the ill-treatment they had received, and Dionysius fled The murder of Dion gave him the opportunity to reestablish himself in his native city, whence he was finally expelled by TIMOLEON in 344 B C The remainder of his life was spent chiefly in Corinth, where he is said to have been a teacher of rhetoric

Dionysius Thrax [Latin, = the Thracian], 1st cent. B C, Greek grammarian of Alexandria, Rhodes, and Rome. His *Art of Grammar* touches only upon the formal aspect of language. It was much used as a model for subsequent grammars.

Dionysus (dīŭnī'sŭs), in Greek legend, god of fertility and wine, patron of choral song and the drama, son of Zeus and SEMELE Legends concerning him are profuse and contradictory He was principally a god of fertility, and his worship was said to have been brought from Thrace (see MELAMPUS) One legend has Dionysus wandering across Greece and to India, introducing the culture of the vine He was surrounded by a noisy band of satyrs and maenads (see BACCHAE), singing, dancing, and bearing the THYRSUS The rites connected with his worship were always of an enthusiastic type and constituted a religion of emotionalism The legend of PENTHEUS illustrates the frenzy of the cult The worship in Attica was more decorous, but in the DIONYSIA the emphasis was still on joyous freedom and on fertility, phallic elements were important Pan and Silenus were his companions His grave was supposedly at DELPHI, which was sacred to him in the winter, thus he achieved a sort of parity with Apollo Dionysus was the chief deity in the ORPHIC MYSTERIES and figured in the ELEUSINIAN MYSTERIES As nature god he was confused with many others, notably the Roman LIBER, as well as with Bacchus, more properly the god of wine One legend has him marry ARIADNE after she was deserted by Theseus, another has him the father of PRIAPUS by Aphrodite.

Diophantus (dīufăn'tŭs), 3d cent, Greek algebraist He pioneered in solving a type of indeterminate algebraic equations, work in this field is known as Diophantine analysis Only six of the 13 books with which he is credited are extant The standard edition in Greek was edited by Paul Tannery (2 vols, 1893–95) See study and English translation by T L Heath (2d ed, 1910)

Dioscorides, Pedanius (pĭdā'nēŭs dīŭskô'rĭdēz), 1st cent A D, Greek physician of Anazarbus, Cilicia On his travels while a surgeon in the Roman army he collected information on the remedies of the period and wrote in Greek a work on materia medica which remained standard for centuries See the English translation *The Greek Herbal of Dioscorides* (1934)

Dioscuri see CASTOR AND POLLUX

Diotrephes (dīōt'rĕfēz) [Gr, = nourished by Zeus], ambitious Christian 3 John 9

dip. A method of treating animals infested with various skin parasites consists of dipping the animals in or forcing them to swim through a tank containing a dip—a solution of coal-tar antiseptics, nicotine preparations or other effective substance Recently found effective and nonirritating as a dipping material for livestock is a mixture of derris dust and sulphur in water See publications of the U S Dept of Agriculture

Diphilus (dī'fĭlus), fl c 300 B C, Greek poet of the New Comedy, b Smope His many dramas (perhaps 100) were extensively copied by Plautus and Terence The few fragments which remain of his works show that the high esteem of antiquity was probably deserved

diphtheria (dĭfthē'rēŭ), contagious disease caused by a toxin-producing bacterium (*Corynebacterium diphtheriae*) It occurs in epidemics, especially in the winter, and is most likely to attack children under six years of age The incubation period is from two to five days The infection in the nose resembles a cold, and the throat shows a film or membrane, often on the tonsils Any sore throat accompanied by fever in a child should be examined early to make certain that it is not diphtheria The powerful TOXIN of the bacteria is absorbed into the blood and may injure the heart, nervous system, and other tissues There is also the danger of death from asphyxia if the membrane spreads to the larynx, causing membranous CROUP If one is exposed to the disease, a serum or ANTITOXIN should be injected The use of antitoxin is important in treating the disease, but to be most effective it must be given before the toxin has reached the tissues All children should be vaccinated with toxoid at six months of age to help eradicate the disease Older children and adults may be given the Schick test to determine immunity, and only those who are susceptible need be vaccinated Healthy adult carriers often cause epidemics in children

Diplodocus (dĭplō'dukus) [Gr, = double beam (or rafter)], quadruped vegetarian dinosaur found in the Jurassic strata of the United States It had a small head and a long tail and was probably amphibious Some reached a length of more than 80 ft, but were more slender and lighter in weight than the related Brontosaurus

diplomatic service, organized body of agents maintained by a government to conduct its relations with foreign countries Until the 17th cent international relations were generally carried on by means of ambassadors specially appointed for certain missions or by direct correspondence among heads of states This procedure, however, proved unsatisfactory, and the need for permanent diplomatic contact among friendly nations was felt Venice was the first power to institute, in the late Middle Ages, the custom of maintaining permanent residents in foreign capitals The Venetian ambassadors were acute observers of political and eco-

nomic conditions in the countries where they resided Their detailed reports constitute a prime source of modern historical knowledge To observe and to report on foreign political, economic, and military trends remains one of the prime functions of diplomats The means of securing such information, however, have been limited by international usage, and a suspicion of ESPIONAGE is sufficient for a government to demand the recall of a foreign diplomat by his government as *persona non grata* Permanent legations became general by the end of the 17th cent Confusion of titles and questions of precedence among the diplomatic ranks resulted in the adoption by the Congress of Vienna (1815) of a classification—later revised—which was subsequently recognized by all leading powers The four grades of diplomatic representatives are, in descending rank, ambassador, minister plenipotentiary and envoy extraordinary, minister, and chargé d'affaires Special ambassadors, or ambassadors at large, accredited to no particular country, may be appointed for certain occasions Diplomatic representatives are usually appointed by the sovereign or chief executive, in the United States the appointments are subject to approval by the Senate Large nations, or nations linked by close political or economic ties, usually are represented in each other's capitals by ambassadors Diplomats are usually responsible to their respective foreign ministers The government to which a diplomat is accredited may refuse to receive him or demand his recall, in that event (rare among friendly nations), the diplomat's government must either comply or break off diplomatic relations When the post of an ambassador or minister is vacant, business is usually conducted by a chargé d'affaires The persons of diplomats enjoy "diplomatic immunity," i e , they are inviolate and are exempt from search, arrest, or prosecution by the government to which they are accredited Their mail and baggage are exempt from censorship and customs regulations Their residence, an embassy or legation, enjoys the rights of EXTERRITORIALITY When two states are at war with each other, their interests are usually represented by neutral ambassadors or ministers, if two countries have no diplomatic relations, their interests may be represented by diplomats of other powers The staff of a diplomatic representative consists of secretaries, attachés (e g , military attachés, cultural attachés, and commercial attachés), and sometimes experts and advisers—all holding diplomatic rank—and of clerical workers The collective body of diplomatic agents in a capital forms the diplomatic corps Precedence among heads of legations of equal rank is established by seniority, i e , by the length of time an ambassador or minister has held his post in the capital Wherever a papal nuncio is permanently accredited, he is by general custom dean of the diplomatic corps, a position entitling him to speak, on certain occasions, in the name of the entire body Diplomatic business is generally conducted (according to forms long established by custom) by memorandums, informal oral or written notes, or formal notes Normally the head of legation communicates with the foreign minister of the government to which he is accredited A note requesting a government to comply with a definite demand within a stated period, with the alternative of incurring drastic action, usually war, is known as an ultimatum However, the elaboration of certain formulas, meaningless to those untrained in diplomacy, has made it possible to couch even the sternest notes in words calculated not to give offense Though much attacked in recent times, the graduations and distinctions made in traditional diplomatic language have often helped to smooth over difficult questions without resort to force Until very recently, French was the language most commonly used in diplomacy, but today there are diplomats who speak neither French nor the language of the nation to which they are accredited The diplomatic service must be distinguished from the CONSULAR SERVICE, although there has been a tendency in many countries to combine them This was done in the United States by the Rogers Act of 1924, the two branches now being known together as the Foreign Service The Foreign Service Act of 1946 introduced the merit system for promotions to all but appointive positions and placed the control of the Foreign Service in the hands of a director general, assisted by a board See David Hill, *A History of Diplomacy* (3 vols , 1905–14), A H Feller and M O Hudson, *A Collection of the Diplomatic and Consular Laws and Regulations of Various Countries* (2 vols , 1933); G H Stuart, *American Diplomatic and Consular Practice* (1936), Harold Nicolson, *Diplomacy* (1939); J. R Childs, *American Foreign Service* (1948)

Dipoenus (dĭpē'nus) and **Scyllis** (sĭl'lĭs), c 580 B C , Greek sculptors, who worked jointly in ivory, ebony, and probably marble. They are mentioned by Pliny the Elder.

Dipper, Big and **Little**: see URSA MAJOR.

Dirac, Paul Adrien Maurice (dĭrăk'), 1902–, English physicist For his work in developing Heisenberg's theory of quantum mechanics he shared with Erwin Schrödinger the 1933 Nobel Prize in Physics. Dirac evolved (1928) a theory of the electron and predicted (1931) the positron. He became professor of mathematics at Cambridge Univ in 1932 He wrote *The Principles of Quantum Mechanics* (1930, 2d ed., 1935).

Dirae. see ERINYES

Dirce (dûr'sē), in Greek legend, queen of Thebes, wife of Lycus AMPHION and Zethus punished her for her cruelty to their mother, ANTIOPE, by tying her to the horns of a bull This scene is the subject of a famous Greek statue, the FARNESE BULL

direct action, theory and methods used by certain labor groups to fight employers, capitalism, and the state by direct economic action, without using intermediate organizations Political measures are repudiated, as are arbitration, collective bargaining, and trade agreements According to the theory, workers, acting as a class, must be aroused to bring collective pressure on capitalist institutions to secure rights Such measures as the STRIKE and GENERAL STRIKE, the BOYCOTT, and SABOTAGE —frequently accompanied by physical violence— are used against industry, PROPAGANDA, agitation, and antimilitarism are employed against government The specific reforms gained are seen chiefly as steps toward the ultimate revolution and abolition of capital The theory was developed with the rise of the labor movement in the 19th cent and was formulated as a definite policy in the early 20th cent by anti-Marxist radical groups, notably proponents of SYNDICALISM The method was used in France and spread to other European countries In America the International Workers of the World advocated it The doctrine was repudiated by the Communists of the Third International, who held to the theory of political action See William Mellor, *Direct Action* (1920), L L Lorwin, *Labor and Internationalism* (1929)

direct current: see ELECTRICITY and GENERATOR

direction finder, name for various radio, radar, and other electronic devices used in navigation for determining the position of a ship, airplane, or other craft One radio direction-finding system used on ships and planes employs a simple form of radio compass having a loop antenna by means of which radio waves are received from two or more stations on shore in order to determine the location of the stations in relation to the ship The positions are marked on a map, and by triangulation the ship's location is determined Another method also makes use of stations on shore, the ship's radio operator contacts the shore stations, which, after determining the ship's location in relation to each station, plot the position of the ship and relay to the operator its latitude and longitude Radar devices for determining positions do not depend upon shore stations, in general these send out radio waves from a unit which both transmits and receives, and the waves are reflected back by a ship, a plane, a mountain, or any other obstacle in the path The indicator usually consists of one or more cathode-ray tubes, on the face of the tube (acting as a screen) light appears in the form of points or lines which form the basis of the data to be interpreted In this way is obtained not only the ship's position but also a record of the changing relative positions of the objects in the path of the ship as it proceeds. Considerable progress was made during the Second World War in the development of direction finders A high-frequency direction finder detects radio signals coming from any direction and from long distances, by taking readings from the indicator the location of submarines can be determined A long-range system for determining the location of damaged planes and survivors adrift on the sea was developed This system depends upon the receiving by several shore stations of sound waves produced by a bomb released into the water when a plane is about to crash or by survivors after a crash The bomb explodes by hydrostatic pressure at a depth of several thousand feet, a level at which the waves are transmitted horizontally for long distances In order to locate the point of origin the sound waves must be received by at least two stations, each station reports to a central station immediately after receiving the signal, and from the differences in the time of receipt at the various stations the location can be calculated

Directoire style (dōrĕktwär'), in French interior decoration and costume, the manner prevailing about the time of the Directory (1795–99), from which the name is derived A style transitional between Louis XVI and the Empire, it is characterized by a departure from the sumptuousness of the aristocratic regime A continued taste for classic design emphasized Pompeian forms The architects Percier and Fontaine and the artist J L. David were the chief personal influences. Furniture was more massive, marquetry was replaced by large surfaces of painted or waxed wood, rich fabrics by chintzes and printed cottons, tapestries and wainscoting by wallpaper and plain, tinted walls Women's dress displayed the tight skirt, low neckline, and high waistline; the *incroyables*, dandies of the period, favored long, tight trousers

Directory, group of five men who held the executive power in France according to the constitution of the year III of the FRENCH REVOLUTION (1795). They were chosen by the Council of Elders (or Ancients) and the Council of Five Hundred, each year one director was to be replaced. Bankrupt, corrupt, torn by internal struggles, and at odds with the Councils, the Directory had a stormy history. The coup d'état of 18 FRUCTIDOR (Sept 4, 1797), by which the radicals ousted Lazare CARNOT and François de BARTHÉLEMY from the Directory, was followed by other highhanded measures Discontent rose to a high pitch with the military reverses of 1799, SIEYÈS, who opposed the Directorate, was elected (May) a director, and by the coup d'état of 30 Prairial (June 18) obtained a predominant position in that body With BARRAS he now secretly began to prepare the coup of 18 Brumaire (Nov 9, 1799), which put Bonaparte in power and replaced the Directory with the CONSULATE

Diredawa or **Dire Dawa** (dĕ"rudä'wa), town (pop. 25,000), E central Ethiopia After 1902, when it became the terminus (now at Addis Ababa) of the railroad from Jibuti, French Somaliland, it developed under French direction into one of the most modern and sanitary towns of Ethiopia. There are important railroad shops.

dirigible balloon: see AIRSHIP

Dirschau, Poland see TCZEW

Dis. see PLUTO.

Disarmament Conference, 1932–37 Efforts to limit or reduce armaments on an international scale so as to restore mutual trust among the nations and to relieve the economic burden caused by large military establishments led to the HAGUE CONFERENCES of 1899 and 1907 They failed to prevent the armaments race that precipitated the First World War After the war the Allies (except the United States) committed themselves to disarmament in Part V of the Treaty of Versailles and in Article VIII of the Covenant of the League of Nations Actually, however, only the defeated Central Powers were obliged to limit their armaments A limitation of naval armaments was agreed upon at the Washington Conference of 1921–22 (see NAVAL CONFERENCES), but it was only in 1926 that a preparatory commission for a general disarmament conference met under League of Nations auspices at Geneva Fundamental differences between the English and the French approach to the problem prevented any concrete results in this and in subsequent meetings of the commission The far-going proposals made by the Soviet foreign commissar, Maxim LITVINOV, in 1928 were acceptable only to Germany and Turkey The first general world disarmament conference at last met at Geneva in Feb , 1932, under Arthur Henderson of Great Britain The League members, the United States, and Russia participated The draft convention submitted to the delegates proposed budgetary restriction of armaments, curtailment of periods of military service, limitation of military, air, and naval forces, acceptance of the system of naval disarmament set forth in the London Treaty of 1930 (see NAVAL CONFERENCES), and the appointment of a permanent committee to advise the League on the execution of the proposed treaty France, in the interest of its security, opposed the draft and proposed instead a plan involving an international police force and League control of weapons of aggression Deadlock ensued The proposals by President Hoover to reduce all world armament by one third and to outlaw weapons of aggression were acceptable to some powers, but were rejected by France Germany now demanded the right to rearm if world disarmament to the German level were not accomplished The conference adjourned in March, 1933. When it reconvened in Oct , 1933, Germany withdrew from both the conference and the League, and the conference quickly adjourned It reconvened sporadically until April, 1937, when it was indefinitely postponed Meanwhile Japanese aggression in China, the Italian attack on Ethiopia, civil war in Spain, and German rearmament had begun to shape the events that eventually led to the Second World War After 1945 under strong pressure from all humanitarians the Commission for Conventional Armaments and the Atomic Energy Commission of the United Nations attempted to work out disarmament plans, but they had achieved no success in 1949

disciple· see APOSTLE

Disciples of Christ, sometimes popularly called Campbellites, a Protestant religious body founded early in the 19th cent in the United States. Its primary thesis is that the Bible alone should form the basis for faith and conduct, each individual interpreting the Bible for himself and accepting no man-made creed Thomas CAMPBELL, preaching in W Pennsylvania, was censured by his presbytery because of his breadth of view in trying to gather into the church scattered groups of Christians He made a plea for unity among all Christians with no other platform than the primitive and simple gospel In 1809 he formed the Christian Association of Washington, Pa , but neither he nor his son Alexander CAMPBELL, who joined him in the work, desired that a new denomination should be estab-

lished. An independent church was built (1811) at Brush Run, Pa , with Alexander as the minister. The movement expanded rapidly Another minister, Barton Warren Stone, with several associates had also broken away from the Presbyterian Church and formed a church whose members were known as "Christians " Similar separatist groups, led by James O'Kelley, seceded from the Methodist church in North Carolina and, under Abner Jones and Elias Smith, from some of the Baptist churches in New England Both Stone and Alexander Campbell had adopted immersion, and this brought them for a time into sympathetic relations with the Baptists. In 1832 practically all of Stone's group and many of the other two branches united with the "Disciples" led by Campbell The remainder of the "Christians," who were subsequently organized as the Christian Church, finally merged (1931) with the Congregational Church The Disciples of Christ Church developed strongly and rapidly after the Civil War, particularly in the central and western states Missionary labors have extended the church throughout the world A separation into two churches has taken place during the 20th cent , the progressive group being known as the Disciples of Christ, and the conservatives as Churches of Christ See W E Garrison, *Religion Follows the Frontier a History of the Disciples of Christ* (1931)

Discobolus (dĭskŏ'bŭlus) [Gr ,=discus thrower], famous statue by the Greek sculptor Myron The original is known only through several copies, the best being the Lancelotti Discobolus, formerly in Rome The athlete stands with arm drawn back, ready to throw the discus, a pose with remarkable equilibrium, suggesting suspended action

discount. Bank discount is a fee for lending money, which the banker deducts from the loan when it is given Central banks, as in the U S Federal Reserve System, rediscount notes by taking them at a discount from other bankers When bills of exchange are cashed in advance, a percentage is discounted from the price they would bring at maturity When securities are sold at less than par, they are said to be sold at a discount Trade discount is a deduction from the list price Discounts from transportation rates are called rebates Certain banks specializing in banks' and bankers' acceptances, U S Treasury certificates of indebtedness, U S bonds which are approaching maturity, U S Treasury bills, and other high-quality, short-term credit obligations call themselves discount corporations Such specialization was made possible by the Federal Reserve Act, which allowed American bankers to accept bills of exchange, and can operate with efficiency only in large financial centers

discus throwing, gymnastic exercise of the ancient Greeks, revived in modern times, especially as part of the OLYMPIC GAMES (in which it is an event of the PENTATHLON and of the DECATHLON) and as an event of American track and field meets The discus was a circular plate of some heavy material, stone or metal, 2 or 3 in. in thickness and about 12 in in diameter The thrower held the discus in his right hand, the arm extended backward, and the discus against his forearm The Discobolus shows the position The modern discus is of wood with an iron rim and a leaden center and weighs 4 lb 7 oz To judge by what evidence there is, the modern method of throwing the discus is entirely different from the ancient The thrower rotates several times in a marked-off circle before releasing the discus Three throws are generally permitted, the best one counting

disease. Departure from health may be caused by changes in structure (resulting in organic disease) or in function of tissues Ancient theories of the cause of disease included the pneumatic and the humoral. Rudolf Virchow's study of cellular PATHOLOGY in the 19th cent was an important factor in overthrowing the humoral theory Disease may be considered from the standpoint of cause, contagiousness, course, heredity, epidemicity, or relation to occupation Each disease is considered as to its occurrence, cause (etiology), pathology, patient's symptoms, examiner's findings (signs), DIAGNOSIS, recovery (prognosis), treatment or therapy, prevention, and control See also COMMUNICABLE DISEASE

disease carrier, a person or an animal capable of harboring in the body and of distributing to others the causative agent of a disease Some persons who have recovered from a disease or who are themselves immune to a disease may be chronic carriers of that disease and thus be the means of causing epidemics Among the diseases spread by human carriers are typhoid fever, diphtheria, and cholera It is believed that there are probably carriers of poliomyelitis, the meningococcus form of meningitis, scarlet fever, and some other diseases A disease carrier should not be employed in a food-handling occupation. The most famous carrier was a woman called Typhoid Mary (d. 1938), who was responsible for a series of outbreaks of typhoid fever in the New York city area, where she was employed as a cook. Some people become carriers during convalescence or for a short time after convalescence from typhoid fever and diphtheria. Diseases which can be transmitted to man through animal carriers include psittacosis by birds; rabies by dogs and some other animals, bovine tuberculosis, anthrax, foot-and-mouth disease, undulant fever, and cowpox by the milk of cows; and malaria and yellow fever by insects

Dishan (dĭ'shăn), son of Seir the Horite Gen. 36 21,28,30, 1 Chron 1 38,42

Dishon (dĭ'shŏn) 1 Son of Seir Gen 36 21,26,30 2 Descendant of Seir Gen 36 25; 1 Chron 1 41

disinfectant, agent which destroys pathogenic organisms and their spores It differs from an ANTISEPTIC, which inhibits bacteria so that they do not multiply, although they may remain alive Disinfection is accomplished by burning excreta and dressings, by boiling utensils, instruments, clothes, and bed coverings, by soaking in various strengths of mercuric chloride, carbolic acid, lysol, or Dakin's solution, by sterilization with steam under pressure, as in an autoclave for surgical dressings, bandages, and towels In any infectious disease it is important to take care of excreta, bed linen, and all utensils to prevent spread of disease The attendant should scrub the hands and arms and then soak them in 2 percent lysol Bed pans should be soaked with 5 percent carbolic acid for several hours Cleanliness and sunlight are advisable at all times See also GERMICIDE.

Disko (dĭ'skō), island, area c 3,200 sq mi , off W Greenland, N of Godhavn Telluric iron has been found and lignite is mined here

dislocation, displacement of a part, particularly of a bone This condition may be congenital, e g , dislocation of the hip, knee, or ankle, simple, as in the dislocation of the jaw, traumatic, resulting from injury or violence, habitual or recurrent, as in the case of a "slipping patella", or pathologic, as in tuberculosis of the hip, or it may follow paralysis When a bone is dislocated, ligaments of the joint may be torn, causing severe pain Examination for a possible fracture should be made The patient should be treated for shock resulting from the injury In some conditions, as in congenital dislocation of the hip, surgery may provide increased stability and a useful amount of motion Manipulation and splints or other appliances are often employed in the reduction of dislocations, the treatment depending on the condition

Dismal Swamp, SE Va and NE N C The swamp, now c 20 mi long, was once much larger, heavily forested, and almost impenetrable, into it have fallen trees and other plants, which have formed a large body of organic material It was visited in 1728 by William Byrd, George Washington surveyed it in 1763 and was a member of a company organized to drain it; the canal, completed in 1828, connects Chesapeake Bay with Albemarle Sound There has been considerable subsequent drainage, and the swamp has been used for lumbering Lake Drummond, in the center of the swamp, is c 5 mi long The swamp is the scene of Harriet Beecher Stowe's novel *Dred* and of a poem by Thomas Moore

Disney, Walt (Walter Elias Disney) (dĭz'nē), 1901–, producer of animated cartoons, b Chicago He was brought up on a farm near Marceline, Mo After high school, he studied at the Academy of Fine Arts in Chicago During the First World War he was a Red Cross ambulance driver in France A commercial artist in Kansas City in 1918, he was employed by an agency in making advertising slides for moving-picture theaters In 1923 he began making comic films in Hollywood and in 1928 went to New York in an unsuccessful attempt to raise capital for more ambitious works Undismayed, on his return he began his "Mickey Mouse" pictures The third of these to be released, with sound, took the country by storm, and soon the series gained world-wide popularity There followed *Silly Symphonies*, in which color was added, *Three Little Pigs* (1933), *Snow White and the Seven Dwarfs* (1938), the first full-length animated cartoon, and *Pinocchio* (1940) *Fantasia* (1940), produced in collaboration with Leopold Stokowski, is an attempt to interpret music on the screen After 1928 Disney did none of the actual drawing of the animated strips but employed a large staff of artists In the Second World War, Disney's animated cartoons were used extensively as a propaganda medium See R D Feild, *The Art of Walt Disney* (1942).

dispensary: see CLINIC

dispersion, in chemistry, the scattering or dispersal of fine particles of one substance throughout another substance. A dispersion is classed as a SOLUTION, COLLOID, SUSPENSION, or emulsion (a kind of suspension) depending upon the size and nature of the particles of the substance so scattered. Fog and mist are formed by the dispersion of water droplets in the air (see CLOUD) SMOKE is formed when solid particles of carbon and other products of combustion are so scattered throughout the air

dispersion, in physics, the separating of a beam of white light by means of a prism or a DIFFRACTION GRATING into the various colors of which it is composed. A SPECTRUM is formed because the different colors undergo unequal refraction (are bent in different degrees) in passing through the prism Newton demonstrated the complexity of white light in this way. A defect of lenses (chromatic aberration) is caused by the dispersion of the light passing through them

Disraeli, Benjamin, 1st **earl of Beaconsfield** (dĭsrā'lē, bĕ'kunsfēld"), 1804–81, British statesman and author. He revitalized the Tory party, after its split by Robert PEEL, with a twofold policy of democracy and imperialism He was perhaps the most enigmatic of English statesmen, and his policies and his ambition seem to have stemmed in large part from his aristocratic contempt for the middle class and from unkind treatment occasioned by his Jewish ancestry He was the son of Isaac D'Israeli, the literary critic, who turned Christian and had Benjamin baptized Benjamin's brilliant mind was trained largely at home and in foreign travel (1828–31), and at 22 he began a literary career Several political essays and numerous novels gave him a reputation and a permanent place in English literature, although politics always imparted to his works an artificial character which made them rather vehicles of his opinions than works of literary art His works include *Vivian Grey* (1826), *Coningsby* (1844), *Sybil* (1845), and *Tancred* (1847) First as an independent, then as a liberal Tory, he four times stood unsuccessfully for Parliament, but in 1837 he was elected He followed Peel until 1843 His very happy marriage (1839) contributed moral strength to his later greatness After 1843 he became spokesman for the Young England group of Tories, who charged that Peel's favoring of free trade was a betrayal of Tory ideals of society Though the corn laws fell in 1846, so did Peel's ministry At the death of Lord George BENTINCK (1848) Disraeli became leader of the Tory protectionists He now sought to rebuild the party along lines already made clear in his novels, especially in *Coningsby* and *Sybil* Taking a historical view of the constitution, he favored elevation of crown, church, and aristocracy (all represented by his party) over the middle-class Whigs, who exploited the laboring and agricultural classes This end was to be attained by political partnership with the working classes Such a "Tory democracy" was actually to result from the REFORM BILL of 1867 Disraeli was chancellor of the exchequer in the brief governments of the earl of DERBY in 1852 and 1858–59, and after continued opposition during the Liberal governments of Palmerston and Russell, he again came to power under Derby (1866), whom he succeeded as prime minister in 1867 With consummate political skill Disraeli "educated his party" to pass the fairly radical parliamentary Reform Bill of 1867, which enfranchised c 2,000,000 men, largely of the working class, and greatly benefited his party A punitive expedition to Ethiopia was undertaken, and Canada was made a federated dominion Gladstone returned to power in 1868 Disraeli's second ministry (1874–80) saw many domestic reforms in housing, public health, and factory legislation, but was more notable for its aggressive foreign policy The annexation of the Fiji islands (1874) and of the Transvaal (1877), war against the Afghans (1878–79), and the Zulu War of 1879 proclaimed England a world imperial power more clearly than before Disraeli's purchase (1875) of the controlling share of the Suez Canal stock from the bankrupt khedive of Egypt strengthened British Mediterranean interests, which were jealously guarded in the diplomacy during and after the Russo-Turkish War Disraeli supported Turkey diplomatically and by threat of intervention, during the war, in order to combat Russian influence in the Straits region, and he induced Turkey to cede Cyprus to Great Britain. He forced Russia to submit the Treaty of San Stefano to the Congress of Berlin (1878), in which, with Bismarck's help, he greatly reduced Russian power in the Balkans. Disraeli had Queen Victoria, of whom he was a great favorite, crowned empress of India (1876) See biographies by W F Monypenny and G E Buckle (6 vols , 1910–20), J A Froude (1914), and D L Murray (1927); R G Stapledon, *Disraeli and the New Age* (1944)

D'Israeli, Isaac, 1761–1848, English author of Jewish descent, father of Benjamin Disraeli His best-known work is *Curiosities of Literature* (Ser 1, 1791, Ser 2, 1823), a miscellany of literary and historical anecdotes and original material, the 1849 edition of this work has a sketch of his life by his son Benjamin Other works include *Calamities of Authors* (1812), *Quarrels of Authors* (1814), and *Amenities of Literature* (1840)

Disraeli, village (pop 1,338), SE Que , on Lake Aylmer and NE of Sherbrooke It is an industrial town and a summer resort

dissenters: see NONCONFORMISTS

dissociation, in chemistry, the separation into simpler parts of the molecules of substances It occurs both at high temperatures (thermal dissociation) and when a substance goes into solution (electrolytic dissociation). At high temperatures the hydrogen molecule, which ordinarily consists of two atoms of hydrogen, dissociates to form two new monatomic molecules each made up of one atom of hydrogen Upon going into solution, the molecules of certain substances (electrolytes) dissociate to form IONS (see ION).

distaff see SPINNING

distemper, in art, painting medium in which the binder for the pigment is a simple glue size and the diluent is water It is widely used today for painting stage sets

distemper, in veterinary medicine, term denoting several infectious diseases of animals, especially canine distemper, a contagious catarrhal disease of young dogs The disease is accompanied by fever, weakness, loss of appetite, and inflammation of the mucous membranes, and it is sometimes fatal Treatment includes the maintenance of an even temperature, administering a broth and egg diet, and the use of stimulants and vaccines Colt distemper (strangles) is an infectious respiratory disease of horses

distillation, a process used for the purification of a substance, for the separation of substances from one another, and for the breaking down of one substance into fractional parts It involves a change of state, as of liquid to gas, and subsequent CONDENSATION For distillation the alchemists used the retort Today an apparatus commonly employed in the laboratory, as in the purification of water, consists essentially of two parts—a flask equipped with a thermometer and with an outlet tube from which the vapor is emitted and a condenser, commonly the Liebig condenser, which consists of two glass tubes of different diameters placed one within the other and so arranged that the smaller (in which the vapor is condensed) is held in a cooling stream of water running through the larger The impure water containing dissolved substances is placed in the flask and heated to its boiling point, when it changes to the vapor form, steam The steam is led into the condenser where, upon being cooled, it reverts to the liquid (condenses) and runs off The product so obtained is known as the distillate Those impurities having a higher boiling point than that of the water are left behind in the flask and constitute the residue The distillate is often again distilled to increase its purity (hence the expression "double distilled" or "triple distilled") If impurities of lower boiling point than that of water are present, they are removed first by keeping the temperature in the flask below the temperature at which the water vaporizes until they have been driven off Liquids of different boiling points can be separated, as water and alcohol (boil pt = 78 5°C), by regulating the temperature of the operation, keeping it at a temperature above 78 5°C and below 100°C The alcohol thus obtained, however, is not entirely pure, being 95 percent alcohol, since all the water cannot be separated A number of liquid substances which are essentially mixtures of other liquids of different boiling points are treated to repeated distillations at different temperatures and the parts, or fractions, obtained from each distillation are drawn off and condensed separately This process is known as **fractional distillation.** It is commonly used in refining petroleum, some of the fractions thus obtained being gasoline, benzine, kerosene, fuel oils, lubricating oils, and paraffin Another form of distillation involves heating out of free contact with air such substances as wood, coal, and oil shale and collecting separately the portions driven off, this is known as **destructive distillation.** Wood, for example, when treated in this way yields acetic acid, methyl or wood alcohol, charcoal, and a number of hydrocarbons Coal yields coal gas, coal tar, ammonia, and coke Ammonia is also obtained by the destructive distillation of oil shale In some cases it is necessary to introduce steam—**steam distillation**—at high temperatures, which carries off the volatile material with it Many alcoholic beverages are distilled, e g , brandy, gin, whisky, and various liqueurs The apparatus used, called the still, is the same in principle as that employed in the laboratory, but is made of metal, e g , copper, instead of glass

Distinguished Service Cross, Distinguished Service Medal, and **Distinguished Service Order:** see DECORATIONS, CIVIL AND MILITARY

distribution, amount of goods and services which each worker, employer, or economic group gets from the total produced Distribution, in this sense, does not refer to the physical MARKETING or circulation of goods, which is part of the process of exchange, but to the relative well-being and economic wealth of persons and groups DIVISION OF LABOR, which necessitates exchange, causes various problems of distribution. Regions prosper unequally, one industry may get more return from its labor on the common product than another, some workers get more than others. In territorial distribution, inequalities arise from a region's overproduction of the commodity peculiar to it, such as rubber, which cuts the value of that commodity in exchange for others. Underproduction has the reverse effect, if it is not due to crop failure or disaster. Inequalities in distribution among industrial groups making a common product are explained by the relative number employed in each group when compared to the value of what they produce or to the relative amount they get for a definite amount of work. Unequal distribution arises also from inequality in reward to those in the same industrial classification (capitalist, owner, manager, or laborer). See E G Nourse and others, *Distribution of Income in Relation to Economic Progress* (1936).

District of Columbia (1940 pop 663,091; 1948 estimated pop 863,000), tract of land (c 70 sq mi) on the east bank of the Potomac river, coterminous with the city of WASHINGTON, capital of the United States The District, established by congressional acts of 1790 and 1791, was selected by George Washington Maryland and Virginia granted land on each side of the river including the towns of Alexandria and Georgetown At the request of its residents, Alexandria was returned to Virginia in 1846 A territorial government for the remaining area was inaugurated in 1871, and the present system in 1878 The District is governed by Congress through an executive board of three commissioners (two residents and one officer of the army engineers) appointed by the President with the consent of the Senate The inhabitants have no voice in their local government, no representation in Congress, and no vote for President

Dithmarschen (dĭt'mărshŭn), region of SW Schleswig-Holstein, N Germany, between the Elbe and Eider rivers Cattle raising is extensive in the west The eastern portion is a sandy upland The region was known as Nordalbingia when it was conquered by Charlemagne and Christianized Later in the Middle Ages it became an independent peasant republic In 1474 Emperor Frederick III incorporated it with Holstein and invested Christian I of Denmark with the fief, but the attempts of the Danish kings to take possession were repulsed by the peasants until 1559 Dithmarschen is sometimes called Ditmarsh

dithyramb (dĭ'thĭrăm), in ancient Greece, hymn to the god Dionysus, choral lyric with exchanges between the leader and the chorus It arose, probably, in the extemporaneous songs of the Dionysiac festivals and was developed (according to tradition, by ARION) into the literary form to be found, for example, in the dithyrambs of BACCHYLIDES In its later development it became freer in its meter and more elaborate in its music (see PHILOXENUS and TIMOTHEUS) The TRAGEDY seems to have come out of the dithyramb, but the dithyramb was also cultivated after tragedy was invented See A W Pickard-Cambridge, *Dithyramb, Tragedy, and Comedy* (1927)

Ditmars, Raymond Lee (dĭt'mărz), 1876–1942, American naturalist and author, b Newark, N J , grad Barnard Military Academy, 1891 His early skill in preparing insect collections led to his first position in the division of entomology at the American Museum of Natural History, he remained at the museum for about five years and became assistant curator While serving (1898–99) as a reporter on the New York *Times* he met W T Hornaday, who asked him to join the staff of the New York Zoological Park, Ditmars served as curator of reptiles from 1899 and curator of mammals from 1910 He became a world authority on snakes and through his research, collecting expeditions, and writings contributed greatly to knowledge of reptiles and other animals His works include *The Reptile Book* (1907), *Reptiles of the World* (1909, rev ed , 1933), *Snakes of the World* (1931), *Strange Animals I Have Known* (1931), *Thrills of a Naturalist's Quest* (1932), *Book of Prehistoric Animals* (1935), *The Making of a Scientist* (1937), *The Book of Insect Oddities* (1938), and *Field Book of North American Snakes* (1939)

Ditmarsh. see DITHMARSCHEN

Dittersdorf, Karl Ditters von (dĭt'ŭrs fŭn dĭt'ŭrsdôrf), 1739–99, Austrian composer of many successful operas, symphonies, string quartets, and piano sonatas, some of them still occasionally heard

Ditzen, Rudolf see FALLADA, HANS

Diu (dē'ōō), Portuguese colony (20 sq mi , pop c 17,000), comprising Diu island, just S of Kathiawar peninsula, NW India Diu town, its capital, established by Portugal in 1535, has several splendid Catholic churches built before the overseas trade of Diu declined in the late 18th cent Fishing and salt extraction are the island's chief occupations.

diver, name for many diving birds, e g , the LOON, the GREBE, and some ducks, auks, and penguins

Divernon (dĭvûr'nun), village (pop 1,033), central Ill , S of Springfield, in a farm area, inc 1900

Dives (dī'vēz) [Latin, =rich], the rich man of the parable Luke 16 19–31

dividend, that part of the net earnings of a corporation which is distributed to its stockholders Dividend disbursements are based upon a percentage of the par value of the stock or are a certain sum per share of no-par-value stock They become payable only when approved by the board of directors and are usually declared at regular intervals Obviously, dividends should not be paid unless the company has accumulated a profit or surplus In the United States, dividends may be paid in property of various kinds, bonds and stocks of the company, stocks of other companies first acquired for other purposes, or in scrip, as well as in cash. In England they are payable only in cash Dividends may be paid in stock when the accumulated profits of a company are to be retained by reinvestment in the business. Scrip dividends are paid when the company wishes to conserve its cash holdings. Liquidation dividends are the return of the capital of a business that is being terminated Enterprises with diminishing assets, such as mines, issue a modified form of liquidation dividend Preferred shares yield a fixed percentage that must be paid before the remainder of the profit is divided among other shares If there are not enough profits to pay the whole dividend on preferred stock, future profits may be assigned to pay back dividends on preferred stock before anything is paid on common stock Preferred stock is ranked as to the priority of its obligations, as first and second preferred Preferred dividends differ from interest on bonds in that there is no default if they are not paid The term *dividend* is used also of a fractional payment of the amount owed by a bankrupt firm or creditor

Dividing Range, Australia see GREAT DIVIDING RANGE

divination (dĭvĭnā'shŭn), the searching out of hidden knowledge of matters past, present and future by the use of supernatural agencies It makes use of various means, such as OMENS, ORACLES, signs, and portents and most of the processes known to sorcery and MAGIC Divination may proceed by summoning spirits, or apparitions, to supply knowledge Divination was practiced in early stages of religious culture throughout the world and persists to the present day in CRYSTAL GAZING, PALMISTRY and FORTUNETELLING, in the use of the DIVINING ROD, and in other forms

Divine, Father, c 1882–, American Negro leader of a religious cult, the Peace Mission movement According to the best available information, he was born near Savannah, Ga , as George Baker After preaching in the South, he moved (c 1915) to the North and began styling himself Major M J Divine, later Father Divine Many of his followers are said to believe him the personification of God The movement, with its missions and its "heavens" for regenerate "angels," is nonsectarian and interracial, it has spread beyond New York city, where it had its start in Harlem, to other places in the United States and abroad See R A Parker, *The Incredible Messiah the Deification of Father Divine* (1937)

Divine Comedy, long Italian epic poem by DANTE ALIGHIERI, who entitled it *Commedia* because it ended happily, the epithet *Divina* was added in the 16th cent It is the account of a journey by the poet through Hell, Purgatory, and Heaven, and it is divided into three parts so named Dante is conducted on his journey through the first two by Vergil and through Heaven by Beatrice, for whom the poem was written as a lasting memorial The poem is an embodiment of medieval thought and ideas, strongly colored by Dante's personal opinion It is written in *terza rima*, a difficult Italian meter The poem was composed during Dante's exile (1302–21) There are numerous English translations, among them those of C E Norton, Longfellow, H F Cary, J B Fletcher, L G. White, and Dorothy Sayers (Part I, 1949)

divine right, the doctrine that sovereigns derive their right to rule by their birth alone—a right based on the law of God and of nature Their authority is transmitted from their ancestors, who were appointed by God as rulers, the sovereign was not responsible to the governed In England, HOBBES supported this doctrine, LOCKE opposed it It ceased to be important in England after the Revolution of 1688, but on the Continent it lingered until the early 20th cent , and it still is found in Asiatic countries The doctrine is epitomized in Louis XIV of France See J N Figgis, *The Theory of the Divine Right of Kings* (2d ed , 1914)

diving The act of descending into water and remaining there for an extended period is performed in fishing for sponges, coral, and pearls, in carrying out work on the foundations of bridges, docks, and other structures, and in such work in connection with ships as examining and repairing the underwater structure, recovering valuables from sunken ships, and raising the ships to the surface Before the introduction of modern apparatus, diving was done with the aid of a rope and a stone weight, the diver being naked, using the rope as a guide for position, he scooped up, as rapidly as possible, whatever commodity was being sought Some means whereby a diver could stay under water for an extended period early claimed the attention of inventors Various types of diving dress and water armor were devised, fresh air being supplied by a pipe leading to the surface, where it was kept above the water by a float The present type of diving dress was first devised by Augustus Siebe early in the 19th cent. His first suit was of the open type, consisting of a helmet attached to a jacket of waterproof material. From the helmet a pipe led to the surface, through which air was pumped. The air pressure served to keep the water level below the diver's head, the air finally escaping at the bottom of the jacket. While this type of suit was put to much practical use, the diver had to maintain a more or less upright position and was in danger of being drowned if he happened to fall. This defect led to Siebe's later inven-

tion of the closed-type diving suit, which, with improvements, is the general type used today Modern diving suits usually consist of a waterproof one-piece costume made of canvas and rubber, reinforced at the elbows and knees, which entirely covers the wearer except for his head and hands At the wrists are heavy rubber bands which seal the suit at these points and leave the hands free for use On his feet the diver wears leaded boots, and lead weights are fastened to his chest to maintain equilibrium Around the waist is a belt for carrying a knife, tools, and other equipment Over the head is worn a metal helmet, which is in two parts, the breastplate and the helmet proper The breastplate is a metal frame fitting over the shoulders and arranged so that it can be secured and made watertight to the suit The helmet is fitted with windows at the sides and in front, the front one being removable or hinged for opening Air (a mixture of nitrogen and oxygen or of helium and oxygen) is furnished through a flexible and noncollapsible pipe connected to the helmet and to the source of air supply, which may be from a hand-operated pump or, as in major operations, from a steel air reservoir fitted with an air-control panel To the diver is attached a life line, used for communication and for hauling the diver to the surface Communication is made by jerking the line, a prearranged code being used Telephonic communication is now used extensively, the necessary wires running through the life line When making a descent the diver is lowered in the water by the life line Too rapid rising causes the diver to suffer from CAISSON DISEASE For diving in shallow water (to depths of about 60 ft) a special helmet with an air hose and a belt with necessary apparatus can be used without a diving suit, this equipment is used, for example, in pearl diving and in salvage operations and underwater repair work Various metallic structures have been used in underwater diving from early times Some were rectangular and others bell shaped, they were generally open at the bottom, and compressed air was pumped in to keep out the water, thus enabling men to work within the device A bathysphere, a hollow, globular, steel structure built to withstand tremendous pressure, was designed by Otis Barton and used by Barton and William Beebe in undersea exploration In 1934 Beebe descended to a depth of 3,028 ft off the coast of Bermuda In 1949 Otis Barton descended in a steel globe called a benthoscope to a depth of 4,500 ft near Santa Cruz, one of the Santa Barbara Islands, off California Both the bathysphere and benthoscope were suspended by steel cables and were equipped with oxygen supply, lights, cameras, observation windows, and telephones See William Beebe, *Half Mile Down* (1934), A F Du Pont, *Under Sea with Helmet and Camera* (1940), F E Thompson, Jr , *Diving, Cutting, and Welding in Underwater Salvage Operations* (1944), Clarence Benham, *Diver's Luck* (1949, American title, *Pearl Diver's Luck*, 1950)

divining rod Searching for underground water or mineral with the help of the divining rod or dowsel is an ancient form of divination still in common use in many parts of the world Though some are skeptical, faith in the diviming rod is not limited to the ignorant The instrument is typically a forked twig Preferred woods include witch hazel and the wood of fruit trees, as the apple, willow, beech, and holly also are used The operator is called, like the instrument, a dowser His competence is believed to be a gift, not an acquisition In each hand he holds near his body one of the forks of the twig, with the stem pointing forward When he walks over a spot under which water or the desired mineral may be found, the stem of the diviming rod is supposed to be pulled down The water or mineral may be found at a depth equal to half the distance across the space where the diviming rod is affected by it A skeptic has observed that, as the rod is held, tightening the grip on the forks depresses the stem

division, one of the four fundamental operations of ARITHMETIC The symbol for this operation is + or / The result of dividing one number by another is called the quotient, the number divided is the dividend, the number by which the dividend is divided is the divisor; and the number denoting how many units are left over is the remainder Division is the inverse of MULTIPLICATION, i e , it is the process of finding what number the divisor must be multiplied by in order that this product added to the remainder will give the dividend For division other than that of simple whole numbers, see FRACTION, DECIMAL SYSTEM, ALGEBRA The operation does not have the properties of associativity (see ADDITION) or commutivity, but it does have distributivity, i e , the result of dividing each of two numbers by a third and then adding these quotients is the same as the result of adding the first two numbers and dividing their sum by the third

division of labor, specialization of production Specialization is closely tied with the standardization of production, the introduction and perfection of machinery, and the development of large industrial enterprise. Among the different categories of division of labor are territorial, in which certain regions specialize in producing certain products, exchanging their surplus for those produced elsewhere, temporal, in which separate processes are performed by different industrial groups in manufacturing one product, as the making of bread by farmers, millers, and bakers, and occupational, in which goods produced in the same industrial group are worked upon by a number of persons, each applying one or more processes and skills Modern factory methods are based upon the last type Proficiency at work and the saving of time in passing from one operation to another are such that total production is many times what it would be had each worker made the complete article The classic example is that given by Adam Smith, advocate of free trade (of which the division of labor is the underlying principle), in which 10 men, each performing one or more of the 18 operations necessary to make a pin, together produce 48,000 pins a day, whereas working separately they could not make 200 Separation of employment, as between riveters and plasterers or surgeons and dentists, also produces efficiency Waste of materials is less and the employees' special capacities may be more fully used The cost of learning a trade is reduced and the invention of new machines is facilitated by the small improvements made by those working at the machines Disadvantages in division of labor include the dulling effect of extreme concentration on routine and monotonous tasks, the decreasing need for skilled labor and its replacement by unskilled labor, and the inability of the men to adapt themselves to new employment if their skills are not in demand Occupational division of labor, as well as territorial, takes place between localities and countries Each type has its peculiar problems of distribution See Adam Smith, *The Wealth of Nations* (1776), Peter Kropotkin, *Fields, Factories, and Workshops* (1913)

divorce, partial or total dissolution of the MARRIAGE relation by judgment of a court Partial dissolution is a divorce "from bed and board," a decree of judicial SEPARATION, leaving the parties married Total dissolution of the bonds of a valid marriage is what is now usually meant by divorce It is to be distinguished from a decree of NULLITY OF MARRIAGE, which is a judicial finding that there never was a valid marriage In England, divorce was originally under the jurisdiction of the ecclesiastical courts These courts followed the CANON LAW rules They could grant a divorce from bed and board and could pass on the original validity or nullity of the marriage, but could not grant a total divorce from the marriage bond This power lay only in Parliament In 1857, by act of Parliament, judicial courts succeeded to the jurisdiction over nullity and partial dissolution and were given the added power to grant total dissolution of the marriage In the United States, as ecclesiastical courts were never established, the matrimonial law of England applied by these courts was never received as part of the common law Consequently, suits for divorce can be brought under authority of statute only The statutes usually confer on equity courts jurisdiction over divorce The power to legislate on divorce belongs to the states and not to the Federal government Although created by a contract between husband and wife, marriage is a legal relation of a particular nature with certain mutual rights and obligations, determined not by agreements but by the general law In a sense, the state has an interest in every marriage The parties cannot themselves terminate the relation by a contract of separation The relation can be dissolved only for what the state deems proper grounds The public policy of the several states toward divorce is extremely varied The most common grounds are adultery, DESERTION, and cruelty Habitual drunkenness, incurable insanity, conviction of a crime, nonsupport, and impotence are some of the less common grounds Corrupt consent by a party to the conduct of the other party bars a divorce, as does COLLUSION Forgiveness of the matrimonial offense either express or implied (as from cohabitation) on condition that it be not repeated is a bar to a divorce for that particular offense The fact that the party seeking the divorce is likewise guilty of the matrimonial offense charged is also a bar A decree of divorce is valid only if the court rendering the decree had jurisdiction, and jurisdiction is in the main based on the domicile of the parties Questions as to the validity of a divorce obtained in a foreign country or in another of the states of the United States are of extreme complexity An absolute divorce, as contrasted with a decree of nullity, takes effect from the date of the decree Property rights depending on the marriage, such as DOWER, if the wife is the guilty party are cut off By the divorce decree the custody of the children is usually given at the discretion of the court to one of the parties, the welfare of the children being the principal consideration. The wife retains the husband's name, although in some states she may resume her maiden name Both parties are usually at liberty to remarry, although this rule is not invariable, and a time limit within which the parties may not remarry is sometimes imposed The wife is entitled to ALIMONY at the discretion of the court

Dix, Dorothea Lynde, 1802–87, American social reformer, pioneer in the movement for specialized treatment of the insane, b Hampden, Maine For many years she ran a school in Boston In 1841 she visited a jail in East Cambridge and was shocked at conditions there, especially at the indiscriminate mixing of criminals and the insane She began inspecting other places in Massachusetts and in 1842 wrote a famous memorial to the state legislature Her crusades resulted in the founding of state hospitals for the insane in many states, and her influence was felt in Canada and Europe She also did notable work in penology During the Civil War she was superintendent of women war nurses See H E Marshall, *Dorothea Dix Forgotten Samaritan* (1937)

Dix, John Adams, 1798–1879, American statesman b Boscawen, N H After serving in the War of 1812, he was admitted to the bar, practiced law in Cooperstown, N Y , held high state offices, and served (1845–49) as U S Senator In 1848 he ran on the Free-Soil ticket for governor of New York President Buchanan appointed him Secretary of the Treasury in 1861, and in his two-month tenure of office he secured loans in the face of secession He was a major general in the Civil War and later minister to France (1866–69) Dix was prominent in railroad building and was made (1862) president of Union Pacific with T C Durant as vice president He was long president of the Erie RR In 1872 the Republican party elected him governor of New York His memoirs were edited by his son, Morgan Dix (1883)

Dix, Morgan, 1827–1908, American Episcopal clergyman, b New York city, grad Columbia, 1848, and General Theological Seminary, 1852, son of John A Dix His association with Trinity Church parish, New York, began upon his becoming associate minister in 1855, for almost a half century he was the rector Among his writings are *Memoirs of John Adams Dix* (2 vols , 1883) and *History of the Parish of Trinity Church in the City of New York* (4 vols , 1898–1906) To the *History* was added in 1950 a fifth part on the rectorship of Dr Dix

Dix, Fort, U S army training center, SE of Trenton, N J As Camp Dix, named for John A Dix, it was built in the First World War, it was made a permanent garrison and renamed Fort Dix in 1939 Fort Dix in the Second World War was the largest army training center in the country

Dixfield, town (pop 1,790), W Maine, on the Androscoggin below Rumford, settled 1787–89, inc 1803 Wooden products are made

Dixie, Lady Florence Caroline Douglas, 1857–1905, English explorer and writer, daughter of the 7th marquess of Queensberry and wife of Sir Alexander Dixie She visited Patagonia (1878–79) and wrote *Across Patagonia* (1880), the first of several vivid travel books She was field correspondent (1879) of the London *Morning Post* in the Zulu War and was instrumental in the release and return to Africa of the captured chief Cetewayo

Dixie, song composed by Daniel Decatur EMMETT in 1859 It became the patriotic song of the Confederate States during the Civil War and has remained popular since Dixie is now regarded as those states which lie below the Mason-Dixon line, but originally "Dixie's Land" was the name given a farm on Manhattan by some slaves sent to Charleston by Johaan Dixie, owner of the farm See C. A Browne, *Our National Ballads* (1931)

Dixmoor, village (pop 1,022), NE Ill , near Chicago, inc 1922

Dixon, Roland Burrage, 1875–1934, American anthropologist, b Worcester, Mass , grad Harvard (B A , 1897, Ph D , 1900) From 1901 he taught anthropology at Harvard (as professor from 1916) He was a member of the American delegation at the Paris Peace Conference and served as president of the American Anthropological Society and the American Folk-Lore Society His writings include *Oceanic Mythology* (1916), *The Racial History of Man* (1923), *The Building of Cultures* (1928), and many monographs on the North American Indians

Dixon, Thomas, 1864–, American novelist and clergyman, b Shelby, N C , M A Wake Forest College, 1883, LL B Greensboro Law School, 1886 He entered the Baptist ministry in 1886 and served (1889–99) his chief pastorate in New York city A militant Southerner, he is best known for his novel *The Clansman* (1905), on which the movie *The Birth of a Nation* (1915) was based

Dixon. **1** Town (pop 1,108), central Calif , WSW of Sacramento, in a farming, stock-raising, and dairying region of the Sacramento valley, inc 1878 **2** City (pop 10,671), co seat of Lee co , N Ill , on the Rock River and SW of Rockford, in a farm area, founded 1830, inc 1857 Its manufactures include wire and dairy products On the site of Dixon Blockhouse is a statue of Abraham Lincoln as a youthful captain in the Black Hawk War A state hospital is near the city

Dixville Notch, scenic 2-mile pass in the White Mts , N N H , E of Colebrook The land was granted in 1805 to Col Timothy Dix

Dixwell, John, d 1689, English regicide. He was one of the judges who sentenced Charles I to death in

1649 He served as a colonel in the parliamentary army and was for some years a member of the House of Commons He fled to America after the Restoration (1660) and lived undiscovered at New Haven, Conn , under the name of John Davids

Diyala (dēä'lụ, dēä'lù), river, SW Asia, rising in NW Iran and flowing c 350 mi to the Tigris below Baghdad, Iraq The river is a trade route between the two countries

Diyarbakir (dēyarbēkēr'), city (pop 41,087), E central Turkey, a commercial center on the Tigris, which becomes navigable here It occupies the site of ancient AMIDA Variant spellings are Diarbekr and Diyarbekir.

Dizahab (dĭz'ù-, dĭ'su-), place, in the peninsula of Sinai near where the Israelites halted Deut 1 1

Dizful (dĭzfōōl') or **Desful** (dēs-), city (1947 estimated pop 31,800), W Iran, near the site of ancient Susa The busy market town in a tropically hot section gets its name, which means "citadel bridge," from a bridge erected here by Shapur II.

dizziness see VERTIGO

Djambi, Indonesia see JAMBI

Djenné, French Sudan see JENNÉ.

Djerba, Tunisia see JERBA

Djibouti, French Somaliland see JIBUTI.

Djurba, Tunisia see JERBA

Djokjakarta, Indonesia see JOGJAKARTA.

Dlugosz, Jan, Pol *Długosz* (yan' dwōō'gōsh), 1415–80, Polish historian and churchman, known in Latin as Longinus Late in his life he was archbishop of Lvov His history of Poland, in Latin, is an excellent and well-documented work

Dmitri (dumē'trē) or **Demetrius** (dĭmē'trēus), d 1591, tsarevich, son of Ivan IV (Ivan the Terrible) of Russia He was a child when (1584) his brother, FEODOR I, died and Boris GODUNOV usurped the throne He was murdered, probably on Boris's orders Subsequently four pretenders assumed his name The first (believed to have been a monk, Gregory Otrepiev) appeared in Poland c 1600, claiming that he was Dmitri and had not really been put to death, he enlisted the support of Lithuanian and Polish nobles and finally of King Sigismund III of Poland He invaded Russia in 1604 Boris died suddenly in 1605, and the false Dmitri was crowned as tsar But his unconcealed favor toward Poland aroused opposition, and his marriage (1606) to Marina, a Polish noblewoman, provoked an insurrection in Moscow, led by Prince Vasily Shuiski, in which Dmitri lost his life A boyar was crowned tsar, but in 1607 another Dmitri made his appearance Aided by the Poles after Marina had said that he was indeed her husband, he marched on Moscow and had success for a time, but in 1610 he was killed No further resurrection took place, but in 1612 a man appeared who claimed he was Dmitri's son He was put to death by strangling Another, also claiming to be Dmitri's son, was beheaded in 1613 In that year the chaotic period, known as the Time of Troubles in Russian history, came to an end with the coronation of Michael Romanov, the first of the Romanov line, as tsar

Dmitri Donskoi (dumē'trē dŭnskoi'), 1350–89, grand duke of Moscow (1362–89) He successfully resisted Lithuania and was the first Russian prince since the Mongol conquest who dared to wage open war on the TATARS His victory at KULIKOVO (1380) made him a popular Russian hero, but its effect was counteracted in 1382 by the Tatars' successful surprise attack on Moscow

Dnepr see DNIEPER

Dneprodzerdzhinsk (dŭnyĕ"prudzĭrzhĕnsk'), city (1926 pop 34,150, 1939 pop 147,829), S central Ukraine, on the Dnieper and near Dnepropetrovsk It is a major industrial center with iron and steel mills, chemical plants, and metal-construction shops Until c 1935 its name was Kamenskoye

Dneproges (dŭnyĕprŭgĕs') [Rus abbreviation, = Dnieper hydroelectric station], suburb of Zaporoshe, Ukraine, on the Dnieper It is the site of the largest dam and power station in Europe The dam (built 1927–32) was originally called Dneprostroi H L Cooper was the chief among the American consultant engineers More than ½ mi long and 200 ft high, the dam raised the level of the Dnieper 123 ft. and covered rapids which till then had impeded navigation With a capacity of more than 500,000 kw per hour, the hydroelectric station supplies power for the industrial centers of Dnepropetrovsk and Krivoi Rog. The dam and plant were destroyed (Aug , 1941) by the Russians before their retreat from the Germans; they were partially repaired by the Germans, only to be destroyed by them before their retreat in Oct., 1943. By 1947 the dam was rebuilt and the first turbine put into operation

Dnepropetrovsk (dunyĕ"prŭpētrôfsk'), city (pop 500,662), capital of Dnepropetrovsk oblast, central Ukraine, on the bend of the Dnieper It is a major industrial center (metallurgy, automobiles, machinery, chemicals, clothing, flour) and a hub of rail and water transportation Here are several technical schools and a school of medicine Founded (1787) by Catherine II, it was named Ekaterinoslav (also spelled Yekaterinoslav) for her; the name was changed in 1926. Industrial growth began late in the 19th cent. with exploitation of the adjoining Donets Basin and the Nikopol manganese and Krivoi Rog iron mines; it greatly increased after the completion (1932) of the Dneproges dam and power station In the Second World War, Dnepropetrovsk was occupied by the Germans from Aug , 1941, to Oct , 1943, and suffered in the fighting which raged in the area

Dneprostroi see DNEPROGES

Dnieper (nē'pur), Rus *Dnepr* (dunyĕ'pûr), river, 1420 mi long, USSR, one of the longest in Europe. It was known to the ancients as Borysthenes (bôrĭs'thunēz) It rises in the Valdai Hills, W of Moscow, and flows generally S past Smolensk, Mogilev, Kiev, Cherkassy, Kremenchug, Dnepropetrovsk, Zaporoshe (site of the DNEPROGES dam), Nikopol, and Kherson into the Black Sea, thus traversing Belorussia and the Ukraine Between Kremenchug and Nikopol it describes a vast bend to the east Since the construction (1932) of the Dneproges dam the Dnieper is navigable for virtually its entire course Its tributaries include the Beresina, the Pripet, and the Ingulets from the right and the Desna, the Orel, and the Samara from the left Its right bank is generally low Its left bank is high, except in its middle course through the Dnieper lowland The Dnieper is linked by canals with the Western Bug, the Niemen, and the Western Dvina

Dniester (nē'stur), Rus *Dnestr* (dunyĕ'stûr), river, 850 mi long, rising in the Carpathians in SW European USSR It flows generally southeast, forming the approximate border between the Ukraine and the Moldavian SSR, past Galich, Khotin, Mogilev-Podolski, Bender, and Tiraspol, and empties through an estuary into the Black Sea SW of Odessa Among its tributaries is the Seret Navigable below Mogilev-Podolski, it is used for shipping lumber and grain It formed the Rumanian–USSR border from 1918 to 1940, when Russia recovered Bessarabia Its Rumanian name is Nistru

do, in music, first of the solmization syllables see GUIDO D'AREZZO and MUSICAL NOTATION

Doab (dō'ăb), term applied in India to a tract of land between two rivers The Doab, unqualified by the names of any rivers, designates the tract between the Ganges and Jumna rivers

Doane, George Washington, 1799–1859, Episcopal bishop of New Jersey (1832–59), b Trenton, N J , grad Union College, 1818 He acted as rector of St Mary's Church, Burlington, N J , there he established a school for girls, St Mary's Hall, and Burlington College for boys A leading High Churchman, Bishop Doane was also the author of a number of hymns, including *Softly Now the Light of Day* and *Fling Out the Banner, Let It Float* The *Life and Writings of George Washington Doane* (4 vols , 1860–61) was prepared by his son, **William Croswell Doane**, 1832–1913 He was bishop (1869–1913) of the Protestant Episcopal diocese of Albany and author of the hymn *Ancient of Days*

Doane College, see CRETE, Nebr

Dobbs, Arthur, 1689–1765, British colonial governor of North Carolina (1754–65), b Co Antrim, Ireland A member of the Irish House of Commons (1727–30) and surveyor general of Ireland (1730), he wrote *An Essay on the Trade and Improvement of Ireland* (1729), in which he advocated certain land reforms He also became interested in the search for the Northwest Passage and was largely responsible for the expedition (1741–42) under Christopher Middleton When Middleton returned without result, Dobbs accused him of falsifying his information at the instigation of the Hudson's Bay Company, and an acrimonious controversy developed Dobbs's *Account of the Countries Adjoining to Hudson's Bay* (1744) summarized the information then available As governor of North Carolina, where he already had large landholdings, he became involved in disputes with the legislators, arising from his arbitrary assertion of power without reference to their wishes

Dobbs Ferry, residential village (pop 5,883), SE N Y , in Westchester co , on the Hudson above Yonkers, inc 1873 The Masters School for girls is here Children's Village, a rehabilitation school for problem boys, is near by

Dobell, Sydney Thompson (dōbĕl'), 1824–74, English poet, member of the so-called "spasmodic school" of poetry ridiculed in W E Aytoun's *Firmilian* Dobell's best-known poem is *Balder* (1854), he collaborated with Alexander Smith on *Sonnets on the War* (1855), on the Crimean War, and wrote also *England in Time of War* (1856)

Döbereiner, Johann Wolfgang (yō'hän vôlf'gäng dö'bûrīnur), 1780–1849, German chemist. From 1810 he was professor at the Univ. of Jena He is known especially for his discovery of similar triads of elements, a step in the development of the PERIODIC LAW He discovered furfural, worked on the use of platinum as a catalyst, and invented Döbereiner's lamp, which is ignited by the action of hydrogen on a platinum sponge

Doberman pinscher (dō'burmŭn pĭn'shûr), sleek, short-haired dog of medium size, developed originally in Germany. It was little known before the beginning of the 20th cent., and its ancestry is not definitely established It is named for Louis Dobermann of Apolda, Thuringia, where the dog probably originated, but whether he helped to develop the breed is not definitely known. Males have a shoulder height of from 24 to 27 in., females from 23 to 25 in. The body is well knit and muscular, and the dog has a proud bearing. The coat may be predominantly black, brown, or blue, with markings of rust red. It is a faithful and fearless guardian and companion In order to remain healthy it must have considerable exercise See W. S Schmidt, *The Doberman Pinscher* (3d ed , 1935) and *The Doberman Pinscher in America* (1940), Philipp Gruenig, *The Dobermann Pinscher* (Eng tr , rev ed , 1947), M G Denlinger, *Your Doberman Puppy* (1949)

Döblin, Alfred (ăl'frāt dûp'lĭn), 1878–, German physician and novelist, leading expressionist writer He practiced psychiatry in the workers' district in Berlin His first work, a collection of short stories entitled *Die Ermordung einer Butterblume* [the murder of a buttercup] (1913), was followed by his "Chinese novel," *Die drei Sprünge des Wang-lun* [the three leaps of Wang-lun] (1915) His most widely read book, *Berlin Alexanderplatz* (1929, Eng tr , 1931), shows the influence of James Joyce Later works include *Pardon wird nicht gegeben* (1935, Eng tr , *Men without Mercy*, 1937), a novel, and *Die deutsche Literatur* (1938), an essay Doblin left Germany in 1933, lived in Palestine and the United States, and returned to Germany after the end of the Second World War

Dobrich (dô'brĭch), Rumanian *Bazargic*, city (pop 31,049), NE Bulgaria, in S Dobruja It is an agricultural and commercial center It belonged to Rumania from 1913 to 1940 In 1949 Dobrich was officially renamed Tolbukhin, in honor of Marshal Tolbukhin, who led a Russian army into Bulgaria in 1944

Dobrogea, Rumania see DOBRUJA

Dobrovsky, Joseph (dô'brôfskē), 1753–1829, Hungarian philologist, of Bohemian parentage In 1792 the Royal Bohemian Academy of Sciences commissioned him to recover Bohemian manuscripts lost in the Thirty Years War He is the founder of modern Slavonic studies and the father of modern Czech philology and literature He was criticized by scholars when he questioned the authenticity of *The Judgment of Libussha*, oldest Czech writing, discovered by Hanka in 1817 He wrote much on early Slavic materials, especially Czech

Dobruja (dô'brōōjù, dō'-), Rumanian *Dobrogea* (dô'brōjä), historic province (c 6,000 sq mi , pop 503,217), SE Rumania, between the lower Danube and the Black Sea, bordering on Bulgaria in the south Constanta, its chief city, is also the main Rumanian port Largely agricultural, the Dobruja comprises a low coastal strip and is hilly and forested inland The region was part of Roman Moesia and later belonged to the Byzantine Empire, to the medieval empire of Bulgaria, and, from the 15th cent , to the Ottoman Empire It was awarded (1878) to Rumania by the Congress of Berlin As a result of the Second Balkan War, Bulgaria ceded (1913) to Rumania a strip of territory which became known as S Dobruja, the Treaty of Neuilly (1919) confirmed Rumania in possession of S Dobruja, but in 1940 RUMANIA was obliged to return the area (c 3,000 sq mi., pop c 319,000) to Bulgaria

Dobson, Austin (Henry Austin Dobson), 1840–1921, English poet and essayist From 1856 to 1901 he was employed in the Board of Trade His well-known volumes of light verse include *Vignettes in Rhyme* (1873), *Proverbs in Porcelain* (1877), and *At the Sign of the Lyre* (1885) Dobson used Old French verse forms—the rondeau, villanelle, ballade, and others Among his studies of 18th-century England are *Eighteenth Century Vignettes* (1892–96) and his biographies of Fielding (1883), Steele (1886), Goldsmith (1888), Richardson (1902), and Fanny Burney (1903) See Alban Dobson, *Austin Dobson* (1928)

Dobson, Frank, 1888–, British sculptor, professor of sculpture in the Royal College of Art He founded the X Group of English sculptors Two portrait heads by him are in the Tate Gallery, London.

Dobson, William, 1610–46, English court painter He was probably apprenticed to Van Dyck After the death of Van Dyck, Dobson was made sergeant painter to Charles I and painted some interesting court portraits in the manner of Van Dyck Dobson's death at 36 cut short a promising career

Docetism (dōsē'tĭzm), early heretical trend in Christian thought Docetists claimed that Christ was a mere phantasm who only seemed to live and suffer. A similar tendency to deny Jesus' humanity appeared in the teachings of Simon Magus, Marcion, Gnosticism, and certain phases of monarchianism.

dock, any species of *Rumex*, a large and widely distributed genus of herbs, regarded in the United States chiefly as weeds They have small flowers and small, winged fruits, some species resembling the related rhubarb in both properties and appearance Species of dock having arrowhead-shaped leaves are better known as sorrel The more common of these are the green sorrel (*Rumex acetosa*) and the red, field, or sheep sorrel (*Rumex acetosella*), a red-flowered weed in acid pastures used in colonial

days in dyeing materials black. Both of these sorrels, but particularly the sheep sorrel, have pleasantly acid leaves long used in their native Europe for salads and greens Sorrels contain OXALIC ACID and cases of cattle poisoning have been reported Other species of dock have been used as potherbs, especially the narrow, yellow, or curled dock (*Rumex crispus*), a weedy plant with wavy-edged leaves; the patience or spinach dock (*Rumex patientia*), a tall large-leaved species; and the canaigre (kŭnā'-gûr) (*Rumex hymenosepalus*), a dock native to the Southwest whose stalks, leaves, and roots have been used for food by the Indians (the roots are also a source of tannin)

dock, enclosed basin or water area where ships are provided with facilities for mooring, for loading and unloading, and often for repair work There are several main types of docks A wet dock, usually known simply as a dock, is in general a rather large basin enclosed by walls and provided with a gate or with a lock chamber (enabling ships to enter and leave at either high or low tide) Wet docks are found at many large ports, e g , London, Liverpool, Dublin, Antwerp, Le Havre, Marseilles, Capetown, Buenos Aires, and Hong Kong A tidal dock is a basin similar to a wet dock, but is without a gate or lock and therefore can be used only where the variation in water level resulting from tides is not great This type is common on the Atlantic and Gulf coasts of the United States Most of those in the United States consist of a series of rectangular areas of water between projecting piers, New York city has miles of water front equipped with such docks A stationary dry dock or graving dock is any excavated chamber or basin in which ships can be repaired, it is usually somewhat rectangular in shape and is lined with watertight material It connects with the harbor so that the ship can be floated in through the open end; watertight gates are then closed, and the water is drained from the enclosure Floating docks or floating dry docks are used where it is impractical or undesirable to build masonry dry docks Some are rather permanently fixed, with many of the essential facilities on the near-by shore, others are complete units which can be moved to different parts of a harbor or from one harbor to another Floating docks have a hollow area shaped like the hull of a ship in which the ship can be berthed, they are equipped with pontoons or air chambers By filling these chambers with water the dock is submerged beneath the ship, when the water is pumped out, the dock rises and carries the ship upward out of the water Such docks can be used only where the water is sufficiently deep (usually at least 70 ft) and rather calm A large floating dock is at Southampton, England During the Second World War the United States constructed huge floating dry docks composed of sections that could be assembled at sea in order to repair battleships

documentary film · see MOVING PICTURES

Doczy or **Doczi, Louis, Baron** (both dŏ'tsĭ), Hung *Dóczy* or *Dóczi Lajos* (lŏ'yŏs), 1845–1918, Hungarian playwright and poet His comedy *The Kiss* (1871) won the Hungarian Academy award He is known also for his translation of *Faust* into Hungarian (1872)

Dodabetta, Mount, see GHATS

Dodai (dō'dāĭ, -dĭ dō'dāĭ), the same as DODO

Dodanim (dō'dunĭm, dŏ'–) or **Rodanim** (rō'dunĭm, rō'–), nation, probably the Rhodians Gen 10 4, 1 Chron 1 7 Dedan in Ezek 27 15 probably refers to the same

Dodavah (dō'duvŭ, dōdā'–) [Heb , =beloved of God], father of ELIEZER 3

Dodd, Samuel Calvin Tate, 1836–1907, American lawyer, b Franklin, Pa , grad Jefferson (now Washington and Jefferson) College, 1857 He was admitted to the Pennsylvania bar in 1859 In his early practice he represented many independent W Pennsylvania producers of oil who were resisting the encroachment of John D ROCKEFELLER Dodd was later employed by the Rockefeller interests, he always insisted, however, on receiving only a moderate salary and refused to become a director in any of the enterprises and thus enrich himself He is credited with devising the business TRUST arrangement by which Rockefeller was able to consolidate control of many companies engaged in producing oil Dodd strongly opposed the Sherman Anti-Trust Act (1890), and a collection of his addresses, *Trusts* (1900), defends business combinations He organized (1899) the Standard Oil Company of New Jersey, one of the earliest of the large holding companies

Dodd, William, 1729–77, English author A one-time king's chaplain, he ran heavily into debt, forged a bond, and was sentenced to death Dr Johnson led a movement to obtain clemency, but Dodd was executed His best-known work is *The Beauties of Shakespeare* (1752)

Dodd, William Edward, 1869–1940, American historian and diplomat, b Clayton, N C., grad Virginia Polytechnic Institute (B.S., 1895; M.S., 1897) and Univ. of Leipzig (Ph D., 1900) He was professor of history at Randolph-Macon College (1900–1908) and at the Univ. of Chicago (1908–33). From June, 1933, to Dec., 1937, he was ambassador to Germany. Dodd, an admirer of the German culture he knew in his pleasant student days at Leipzig, returned as U.S envoy with high hopes of improving German-American relations The Nazis, however, recently come to power, soon alienated him, and he became an outspoken critic of Hitlerism He was one of the few diplomats in those years of appeasement who had a clear idea of Hitler's aims His historical writings reflect with vigor his passionate devotion to democracy, and he inspired a whole school of historians, which carries on his Jeffersonian and Wilsonian ideals He wrote biographies of Nathaniel Macon (1903) and Jefferson Davis (1907), *Statesmen of the Old South* (1911), *Expansion and Conflict* (1915), *The Cotton Kingdom* ("Chronicles of America" series, Vol XXVII, 1919), *Woodrow Wilson and His Work* (1920, rev ed , 1932), *Lincoln or Lee* (1928), and *The Old South Struggles for Democracy* (1937) He also edited, with Ray Stannard Baker, *The Public Papers of Woodrow Wilson* (6 vols , 1924–27) See *Ambassador Dodd's Diary, 1933–1938* (ed by his son and his daughter, William E Dodd, Jr , and Martha Dodd, 1941)

dodder, leafless, parasitic twining plant, with small flowers There are about 100 widely distributed species of the genus *Cuscuta*, each parasitic on only one kind of plant—e g , clover, flax, or alfalfa The seeds germinate in the soil After the young plant has attached itself to a host plant, its lower stem and root shrivel, and it secures its nourishment through suckers which penetrate the host Dodder is often introduced into fields by contaminated seed

Doddridge, Philip, 1702–51, English nonconformist minister and noted hymn writer His *Rise and Progress of Religion in the Soul* (1745) was widely translated His many hymns include *Awake, My Soul, Stretch Every Nerve* and *O Happy Day, That Fixed My Choice* Doddridge's *Correspondence and Diary* (5 vols , 1829–31) was edited by his great-grandson

Dodds, Harold Willis, 1889–, American educator, b Utica, Pa , grad Grove City College, 1909, M A Princeton, 1914, Ph D Univ of Pennsylvania, 1917 He taught economics and political science and became well known as an adviser of electoral procedure in Latin America, particularly in Nicaragua (1922–24, 1928) and Cuba (1935) He was adviser (1925–26) to the Commission for the Tacna-Arica plebiscite and secretary (1920–28) of the National Municipal League Appointed professor of politics at Princeton in 1927, he was made president of the university in 1933 A volume of essays, *Out of This Nettle, Danger*, was published in 1943

Dodecanese (dōdĕ"kunēs', -nēz, dō"dĕ–), Gr *Dodekanesos* (dōdĕka'nēsŏs), island group (1,044 sq mi , pop 115,343), Greece, in the SE Aegean Sea, between Asia Minor in the east and Crete in the west Despite its name [12 islands], it consists of some 20 islands and islets, notably RHODES, KOS, KARPATHOS, KALYMNOS, PATMOS, Astypalaia, Kasos, Telos, Symi, Leros, Nisyros, Chalke, and Kastellorizo The city of Rhodes, on Rhodes, is the capital The islands are mostly mountainous Agriculture, livestock raising, fruitgrowing, and sponge fishing are the main sources of livelihood Rhodes is by far the most important of the islands and has the most interesting history, with its fall (1522) to Suleiman I, the Dodecanese passed under a long period of Turkish rule The islands were occupied (1912) by the Italians in the Italo-Turkish War of 1911–12 and were formally awarded to Italy by the Treaty of Sèvres (1922) In the Second World War, after the surrender of Italy, they were held by German troops, who surrendered in May, 1945, On the basis of their Greek population, the islands were awarded to Greece in the Allied peace treaty with Italy.

Dodge, Charles Richards, 1847–1918, American expert on fibers and fiber industries, b Mississippi, educated at Sheffield Scientific School, Yale In 1867 he became associated with the U S Dept of Agriculture, where he served as director of the agricultural museum for 10 years and later as special agent in charge of fiber investigation He wrote *A Descriptive Catalogue of Useful Fiber Plants of the World* (1897).

Dodge, David Low, 1774–1852, American reformer, b. Brooklyn, Conn He was a merchant In 1815 he founded the New York Peace Society, possibly the first such organization to be established In 1828 other peace societies joined with it to form the American Peace Society, Dodge served as a director and a member of the executive committee until 1836

Dodge, Grace Hoadley, 1856–1914, American philanthropist, b New York city; great-granddaughter of David Low Dodge. She played an important part in the founding of Teachers College of Columbia Univ She also promoted working girls' clubs and the New York Travelers' Aid Society

Dodge, Grenville Mellen, 1831–1916, Union general in the Civil War and railroad builder, b. Danvers, Mass., grad. Norwich (Vt.) Univ., 1851 Before the war Dodge, a civil engineer, did railroad work in the West. After he distinguished himself leading a brigade at Pea Ridge (March, 1862), where he was wounded, he was made a brigadier general of volunteers Dodge's skill in rebuilding rapidly the bridges and railroads destroyed by Confederate forces was of great value to Grant and Sherman in their Western campaigns Promoted major general of volunteers (June, 1864), he led a corps in Sherman's Atlanta campaign until he was severely wounded at the siege of Atlanta He commanded the Dept of the Missouri (1865–66) and campaigned against the Indians In May, 1866, he left the army to become chief engineer of the Union Pacific RR His efficient and rapid construction of that line was his greatest achievement In 1871 he became chief engineer of the Texas & Pacific RR and from 1873 to 1884 he was associated with Jay Gould in the railroad development of the Southwest Dodge was a Republican Congressman from Iowa (1867–69) and throughout his long career was a prominent lobbyist for railroads He was president of the commission that inquired into the conduct of the Spanish-American War He wrote about his war and railroading experiences See J R Perkins, *Trails, Rails, and War* (1929)

Dodge, Henry, 1782–1867, American frontiersman, governor, and U S Senator, b Vincennes, Ind He served as sheriff of the Ste Genevieve dist , Mo , and as marshal of Missouri in 1812 In the Missouri militia he rose to the rank of major general, and in the War of 1812 he led a body of troops to the rescue of Boone Lick, 250 mi NW of Ste Genevieve He moved in 1827 to the new lead fields of SW Wisconsin and settled near what became Dodgeville He commanded a body of volunteers in the Winnebago outbreak of 1827 and during the Black Hawk War commanded a battalion and participated in the principal battles He was commissioned by President Jackson colonel of a regiment of dragoons formed to patrol the frontier He led them to the upper Red River (of the South) region in 1834 to prepare the way for peace treaties with the Pawnee, Comanche, and Kiowa tribes, and in 1835 they marched to the Rocky Mts in Colorado on a similar mission of friendship and exploration In 1836, when Wisconsin was set off from Michigan, Dodge was appointed governor of the Territory, which then included Iowa, Minnesota, and a large part of the Dakotas as well When replaced by a Whig appointee in 1841, he was elected to the House of Representatives, but in 1845 he again became governor He served until 1848, when Wisconsin became a state, and was then elected one of the two first U S Senators See biography by Louis Pelzer (1911)

Dodge, Mary Abigail, pseud **Gail Hamilton,** 1833–96, American author, b Hamilton, Mass , grad Ipswich Female Seminary, 1850 Her books, brilliantly written and popular in their day, were ephemeral in subject matter They include *Gala Days* (1863) and *Women's Wrongs* (1868) She was related to Mrs James G Blaine, and her biography of Blaine (1895) is probably better known than her other books See *Gail Hamilton's Life in Letters* (ed by H A Dodge, 2 vols , 1901)

Dodge, Mary Mapes, 1831–1905, American editor and juvenile story writer, b New York city The volume *Irvington Stories* (1864) was popular, but *Hans Brinker, or, The Silver Skates* (1865), which received a prize from the French Academy, is still a juvenile classic In 1870 she became assistant editor of *Hearth and Home*, and from 1873 until her death she edited the *St Nicholas* magazine, which she had named Although she wrote only one more long story, *Donald and Dorothy* (1883), she remained the acknowledged leader in the field of juvenile fiction Collections of her work in *St Nicholas* for youngest readers were published as *Baby Days* (1876) and *Baby World* (1884) See biography by A B Howard (1943)

Dodge, William De Leftwich, 1867–1935, American mural painter, b Bedford, Va , studied at the École des Beaux-Arts in Paris, and also in Munich Among his best decorative works were the dome in the Administration Building, Columbian Exposition, Chicago, and mural paintings in the Library of Congress, Hall of Records, New York, Academy of Music, Brooklyn, Teachers College, Cedar Falls, Iowa, Café de l'Opéra and Folies Bergère, Paris, the Flag Room at the capitol, Albany, N Y , city hall, Buffalo, N Y , and *In Memoriam*, Kenosha co (Wis) courthouse He was a member of the Society of Mural Painters and an instructor at the Art Students League, New York

Dodge Center, village (pop 1,029), SE Minn , W of Rochester, in a rich farming area, settled 1853, inc 1872

Dodge City, city (pop 8,487), co. seat of Ford co , SW Kansas, on the Arkansas river and on the old Santa Fe Trail, laid out 1872 near Fort Dodge (1864), inc 1875 An early important supply base, it flourished as the Santa Fe railhead after 1872 and was called the "cowboy capital" It is the distributing center for a great wheat and livestock area The city hall, with its cowboy statue, is on the site of Boot Hill, a burial ground of early cowboys, many of whom "died with their boots on" Dodge City is at the edge of the Mountain time belt See R. M. Wright, *Dodge City* (1913).

Dodgeville, city (pop. 2,269), co. seat of Iowa co., SW Wis., SW of Madison, settled 1827, inc as a village 1858, as a city 1889. Once a lead center (1827–c 1829), it is now a trade and shipping point for a farm and dairy area. The site of the home of Henry Dodge is near by.

Dodgson, Charles Lutwidge: see Carroll, Lewis.

Dodo (dō'dō) [Heb., =amatory] **1.** Father of Elhanan. **2.** Father of the mighty man Eleazar. 2 Sam. 23 9, 1 Chron. 11 12. **Dodai.** 1 Chron. 27 4. **3.** Issacharite. Judges 10 1.

dodo, flightless forest-dwelling bird of Mauritius, extinct since the late 17th cent. Although related to the pigeon, it was larger than the turkey. The plumage was dark gray, with whitish breast, tail, and wings. The large black bill had a horny terminal cap. Its flesh was tough and unpalatable. Man and the domestic animals he introduced destroyed the bird, its single egg, and the young, and the dodo became extinct. The dodo appears in Lewis Carroll's *Alice in Wonderland*.

Dodona (dōdō'nu), in Greek religion, the oldest oracle, in inland Epirus, c 50 mi. E of Corcyra, sacred to Zeus and Dione. Priests interpreted the words of the oracle from the sound of a holy spring and from the wind in a sacred oak tree.

Dodsley, Robert, 1703–64, English publisher and author. He wrote a drama, *The Blind Beggar of Bethnal Green* (1741), and other plays and poems, but is best known as the editor of *A Select Collection of Old Plays* (12 vols., 1744) and *A Collection of Poems by Several Hands* (1748–58). He projected with Burke the *Annual Register* (1758), which still exists, and published the works of Young, Pope, Johnson, Gray, and Goldsmith. See Ralph Straus, *Robert Dodsley* (1910).

Doe, John, formerly in English law, fictitious plaintiff in an action of ejectment. Ejectment was originally a remedy for restoring a tenant for years to his occupancy of land from which he had been wrongfully ousted. As a more effective method for recovering property than the common law otherwise offered, it was made available to persons other than tenants for years by a fictitious suit. The nominal plaintiff, styled John Doe, a tenant for years, would bring suit against one Richard Roe who had dispossessed him of his land and was preventing the sublease to the actual plaintiff. The name John Doe has come to signify an anonymous person.

Doeg (dō'ĭg) [Heb., =uneasy], tool of Saul in the massacre at Nob. 1 Sam. 21 1–9, 22 6–23, title of Ps. 52.

Doenitz, Karl (dō'nĭts), 1891–, German admiral. He secretly planned a German submarine fleet in the years following the Versailles Treaty, was given command of submarine operations after the outbreak of the Second World War, and in 1943 replaced Admiral Raeder as chief naval commander. On the announcement (May 1, 1945) that Hitler was dead and had designated Doenitz his successor, the admiral formed a new cabinet and ordered the unconditional surrender (effective May 7) of Germany to the Allies. His government, at Kiel, was dissolved by the Allies. Doenitz, found guilty of war crimes, was sentenced (1946) to imprisonment for 10 years.

dog, domesticated mammal believed to be descended from the wolf. There is evidence that dogs were domesticated in the late Paleolithic period and were therefore the first domestic animals. Formerly it was thought that only certain breeds were descended from the wolf and that others were derived from related species, the jackal, coyote, and fox. Comparative studies of the teeth of these animals and those of dogs, as well as other evidence, led to the generally accepted conclusion that dogs of both hemispheres developed originally in Asia from the wolf. In early Egypt (c 3000 B.C.) two breeds were distinct, a short-legged dog and one with longer legs and a lighter but strong body (believed to be the greyhound's ancestor). Records of civilizations dating from c 3000 B.C. of cities in the Indus valley indicate that they had several types of dogs. Through the centuries dogs have been bred for special purposes, by the selective process man has perpetuated and intensified certain desired characteristics and eliminated others. The many present-day breeds fall into a few large groups. One of man's earliest uses of the dog was as a companion and aid in hunting, and many breeds were thus developed for pursuing and retrieving game. Although still used to some extent for such purposes, many of these dogs are now chiefly pets. Included in those generally known as sporting dogs are those that were bred for pointing, flushing, and retrieving game—the griffon, pointer, retriever, setter, and spaniel—and the many breeds of hounds, known for their ability to pursue their quarry. Also developed chiefly for hunting were the numerous breeds of terriers. Among those known as working dogs are the collie, Eskimo dog, German shepherd dog, Samoyede, and St. Bernard. Nonsporting dogs include the Boston terrier, bulldog, chow, Dalmatian, and poodle. Toy dogs are small dogs long bred as pets, among them are the chihuahua, toy spaniel, Mexican hairless, Pekingese, Pomeranian, pug, and toy poodle. See also articles on the separate breeds. See E. C. Ash, *Dogs* (1927) and *Practical Dog Book* (1931); American Kennel Club, *Complete Dog Book* (rev. ed., 1945); W. L. Judy, *Care of the Dog* (3d ed., 1946), May Larson, *Kennel, Show, and Field* (1948), E. V. Connett, *American Sporting Dogs* (1948), B. S. Vesey-Fitzgerald, ed., *Book of the Dog* (1948), H. P. Davis, ed., *Modern Dog Encyclopedia* (1949).

dog days, name for the most sultry period of summer, from about July 3 to Aug. 11. Named in early times by observers in countries bordering the Mediterranean, the period was reckoned as extending from 20 days before to 20 days after the conjunction of Sirius (the dog star) and the sun. In the latitude of the Mediterranean region this period coincided with the hot days plagued with disease and discomfort. The time of conjunction varies with difference in latitude, and because of the precession of the equinoxes it changes gradually over long periods in all latitudes.

dogfish, name for small sharks of several families found in both hemispheres, most abundantly in temperate but also in some tropical waters. Commonest among them is the spiny dogfish (*Squalus acanthias*) of the family Squalidae, which has a stout spine supplied with poison in front of each dorsal fin. It reaches a length of from 3 to 4 ft. It is most plentiful in the North Atlantic, where, traveling in large schools, it is a greedy destroyer of herring, mackerel, and other fish and is injurious to nets. Following unsuccessful attempts to eradicate the dogfish, efforts were made to establish the nutritious flesh as food. It was marketed in England as flake, in Canada and the United States as gray fish, and in Germany as sea eel. Oil from the liver of various dogfish is used in the adulteration of other fish oils.

Dogger Bank (dō'gûr, dŏ'–), extensive sand bank, central North Sea, between England and Denmark, covered by shallow water. It has fisheries.

Dog Star see Sirius.

dogtooth spar see Calcite.

dogtooth violet, originally a name for the Old World plant *Erythronium dens-canis*, now applied also to several North American species of the same genus, particularly two spring wild flowers of the East and Middle West called also adder's-tongue and trout lily. These have a single pair of leaves and a pendent lilylike flower—one yellow flowered with brown-mottled leaves, the other white flowered. Some species of the West are called avalanche, snow, and fawn lily.

dogwood or **cornel** (kôr'nul, –nĕl), shrub or tree of the large genus *Cornus*, chiefly of the Northern Hemisphere. The best known species is the flowering dogwood (*Cornus florida*), a handsome tree with spring flowers in showy bracts of white or sometimes pink, for which it is often cultivated. Most other species have less conspicuous clusters of flowers. All species are rich in tannin, and some have been used medicinally. The bark of *C. florida* has been used as a substitute for quinine and the roots as a dye, it has hard wood valued for shuttles, tool handles, and wood golf heads. The cornelian cherry, an Old World species (*C. mas*), has yellow flowers and usually scarlet fruits, used in preserves and drinks in Europe, it is cultivated in North America. The bunchberry is a species of *Cornus*.

dogy or **dogie** (both dō'gē), name given by cowboys to a motherless calf or to any ill-nourished, scrubby calf and, as a term of contempt, to all cattle. The weak calves naturally lag behind the rest of the herd on a drive and must be continually urged forward. Hence in cowboy songs the chorus frequently has a repetition of "Get along, little dogies" or "Roll along, little dogies." The word also occurs as *doby* and *dobie*.

Doherty, Charles Joseph (dō'urtē), 1855–1931, Canadian jurist and statesman, b. Montreal, educated at McGill Univ. After serving (1891–1906) as a puisne judge of the superior court of Quebec prov., he retired from the bench and entered (1908) the Canadian House of Commons as a Conservative. While serving (1911–21) as minister of justice in the administrations of Sir Robert Borden and Arthur Meighen, Doherty was a Canadian representative at the Paris Peace Conference, signed the Treaty of Versailles on behalf of Canada, and later (1920–21) represented Canada in the Assembly of the League of Nations.

Dohnanyi, Ernst von (ĕrnst' fŭn dō'nänyē), Hung. *Dohnányi Ernő* (ĕr'nŭ), 1877–, Hungarian composer, pianist, and conductor. He studied at the Royal Academy, Budapest, 1894–97, and later became its director. He toured as a pianist until 1908, when he became professor of piano at the Berlin Hochschule. Later he became permanent conductor of the Budapest Philharmonic Orchestra and musical director (1931) of the Hungarian Broadcasting Corp. His compositions, stylistically deriving much from Brahms, include four operas, chamber music, concertos, piano pieces, the orchestral suite *Ruralia Hungarica*, and the witty *Variations on a Nursery Tune*, for piano and orchestra.

Doisy, Edward Adelbert (doi'zē), 1893–, American biochemist, b. Hume, Ill., grad. Univ. of Illinois (B.A., 1914), Ph.D. Harvard, 1920. For his discovery of the chemical nature of vitamin K he shared with Henrik Dam the 1943 Nobel Prize in Physiology and Medicine. Doisy and others synthesized vitamin K in 1939. He has contributed to the knowledge of metabolism, insulin, and blood buffers and has isolated the sex hormones theelin (1929) and dihydrotheelin (1936). Doisy taught biochemistry at Harvard (1915–17) and at the medical school of Washington Univ., St. Louis (1919–23), and became professor of biochemistry at the medical school of St. Louis Univ. in 1923.

Dolabella (Publius Cornelius Dolabella) (dŏlubĕ'lu), c 70 B.C.–43 B.C., Roman general, notorious for his unscrupulousness. He divorced his wife Fabia and married (50 B.C.) Tullia, daughter of Cicero, to gain the support of that statesman. He transferred allegiance from Pompey to Caesar, fought at Pharsala, and accompanied Caesar to Africa and Spain. On the assassination of Caesar he at first favored the conspirators, then, with Antony's help, seized the consulship. He was commander of an army sent against Parthia and Syria, but he murdered the Roman proconsul C. Trebonius at Smyrna to get possession of the town treasure. He was outlawed by the senate and, in despair, caused one of his soldiers to kill him.

Dolbeau (dŏlbō'), town (pop. 2,847), S Que., on the Mistassini river near its mouth on Lake St. John. It is a pulp and paper center.

Dolci, Carlo or **Carlino** (kär'lō, kärlē'nō dōl'chē), 1616–86, Florentine painter. Among his best-known paintings are the heads and half-figures of Christ and the Mater Dolorosa, in which the expressions of patient suffering and sorrow are admirably portrayed. His works are best studied in the Uffizi and Pitti galleries and Corsini Palace, Florence. Among the finest are the celebrated *Magdalen*, *St. Cecelia*, *St. Sebastian* (Corsini Palace), and *St. Andrew Praying before His Crucifixion* (Pitti Palace), and *Christ Breaking the Bread* (Marquess of Exeter's Coll., Burghley House, Stamford, England). Many of Dolci's paintings are familiar through engravings.

doldrums (dōl'drumz) or **equatorial belt of calms,** an area around the earth slightly north of the equator (its location varying with the seasons and with the distribution of land and water), between the two belts of trade winds. The region is characterized by low barometric pressure, hot rising air, high humidity, cloudiness, light variable winds and frequent thunderstorms, calms, and squalls. In this area originate hurricanes. To be becalmed in the doldrums, perhaps for weeks, under the hottest sun in the oppressive, sultry air, like Coleridge's "ancient mariner," was one of the fears of the sailor dependent upon winds.

Dole, Sanford Ballard, 1844–1926, statesman of the Hawaiian Islands, b. Honolulu, of American missionary parents. After education in the United States he returned to Hawaii and became prominent in public life. A leader of the revolution that in 1887 secured a more democratic constitution, Dole became justice of the supreme court under the new government. He looked with disfavor upon the revolution of 1893 which overthrew Queen Liliuokalani, but once it was accomplished he was willing to accept the office of president under the provisional government. The application of the revolutionists for annexation to the United States was refused by President Cleveland, who, after sending James H. Blount to investigate, demanded the restoration of the queen. Dole's reply, in which he defended the revolution and denied Cleveland's right to interfere, was one of his ablest papers. A constitutional convention was then held (1894), and the republic of Hawaii was created. Dole was declared the first president. His administration, during which he made efforts to secure annexation, was successful in spite of attempts at a counterrevolution and difficulties with Japan concerning immigration. After the islands were annexed in 1898 in McKinley's administration, Dole headed a commission to Congress to recommend legislation for Hawaii. The report included the draft of a bill which became the Organic Act of 1900. Dole was appointed first governor of the Territory of Hawaii in 1900. He resigned in 1903 to become U.S. district judge for Hawaii.

Dôle (dōl), town (pop. 16,340), Jura dept., E France, on the Doubs. It was the capital and a fortified stronghold of Franche-Comté until Louis XIV, who conquered the province from Spain in 1674, shifted its parlement to Besançon. The university, founded (c 1422) by Philip the Good of Burgundy, was also transferred to Besançon, and Dôle declined. It has a chemical industry. Louis Pasteur was born here.

dole, distribution to the poor, usually of food or money. In medieval times doles were usually from bequests of money or land, and the income was given to charity or distributed to the local poor at funerals. John Leake in 1792 left £1000 to Trinity Church, New York city, the income of which was to provide wheat loaves to be distributed to the poor every Sunday morning after services. After the First World War the term was applied in Great

Britain to weekly payments to the unemployed—the noncontributory payees under the out-of-work-donation plan of 1918 This fund, terminated in Nov., 1919, was not administered on an insurance basis but rather through the use of exchanges The term was then misapplied to payments made under the National Unemployment Insurance scheme, of which the government's share was 25 percent of the whole, while the employers and employees equally divided the rest (75 percent) In the distribution of benefits no distinction was made as to earnings, sex, or race, the duration of the benefits being limited to 15 weeks in any one year Included in the scheme were all wageworkers between the ages of 16 and 65, with the exception of those in domestic service, public works, and agriculture As this came into operation at the beginning of an industrial depression, men who had not paid a sufficient amount or who had exhausted their benefits received payments also The term has also been applied to payments to unemployed by the Poor Law authorities

Dolet, Étienne (ātyĕn' dōlā'), 1509–46, French scholar and printer of Lyons He wrote treatises on French grammar, poems, a short history of Francis I, and works in Latin about Cicero In 1538 he issued from his own press the important *Commentarii linguae Latinae*, which was of great influence on the French Renaissance The fame and prosperity of his presses and his translation of the Bible and of the *Axiochus* into French got him into trouble with the authorities He was arrested, convicted of heresy, and executed His *L' Enfer d' Étienne Dolet* is a poem on his life in prison

Dolgelley (dŏlgĕth'lē, -gĕ'lē), urban district (1931 pop 2,260, 1943 estimated pop 2,740), co seat of Merionethshire, Wales, on the Wnion at the northern foot of Cader Idris A tourist center, it has leather manufacture, and gold has been mined in the vicinity Here, in 1404, Owen Glendower and the French held a conference

Dolgeville (dōl'vĭl), village (pop 3,195), E central N Y, E of Utica, inc 1891 Felt goods are manufactured here

doll. The many types of small figures found among the relics of primitive peoples were cult objects Egypt, Greece, and Rome have left well-preserved dolls of wood, clay, bone, ivory, and bronze which were used symbolically and probably also by children as playthings The articulated PUPPET was known in ancient Greece Creche dolls, some of them artistic masterpieces, were early used in Catholic lands in representations of the Nativity From the 15th cent , fashion dolls were popular in Europe as gifts among monarchs and courtiers and were important in the spread of costume styles At Venice a French doll dressed in the latest mode was annually displayed on Ascension Day Dolls regularly brought to the American colonies the latest fashions in dress and coiffure By the 17th cent , play dolls were commonly used by both boys and girls Sonneberg, Germany, was noted from the 17th cent as a center for wooden dolls, and in the 19th cent the town led also in the making of dolls' china heads Paris led in developing dolls that could speak and close their eyes and specialized in fine-lady dolls The use of papier mâché early in the 19th cent stimulated large-scale manufacture Wood, papier mâché, china, and wax were used for dolls at this time, hard rubber c 1850, and bisque c 1862 Homemade dolls include the colonial cornhusk man and the rag doll, which has evolved into a commercial product Cutout paper dolls are probably derived from the animated cardboard *pantins* fashionable among French courtiers in the 18th cent See W H Mills, *The Story of Old Dolls and How to Make New Ones* (1940), J P Johl, *The Fascinating Story of Dolls* (1941)

Dollar, burgh (pop 1,485), Clackmannanshire, Scotland, at the foot of the Ochils, near the Devon and NE of Alloa There are ruins of old Castle Campbell

Dollard des Ormeaux, Adam (ădā' dôlar' dāzôrmō'), 1636?–1660, commandant of the garrison at Ville-Marie (Montreal), b France He went to Canada in 1657 In the spring of 1660 he led a small party of Frenchmen up the Ottawa river to wage war on the Iroquois At Long Sault Rapids he and his companions were killed after a week's defense in an improvised fort against a large band of Iroquois, who were, however, forced to give up their plan to attack New France.

Dollfuss, Engelbert (ĕng'ulbĕrt dôl'fo͝os), 1892–1934, Austrian statesman A Christian Socialist, he rose to prominence as leader of the Austrian Farmers' League and became minister of agriculture in 1931 Appointed chancellor in 1932, he obtained a badly needed international loan in return for a pledge to maintain the full independence of Austria For a year Dollfuss governed with a precarious majority, but in March, 1933, he discarded parliamentary government on a technical pretext and assumed quasi-dictatorial powers The increasingly powerful Austrian National Socialist party, backed by Nazi Germany, was the chief threat to the Dollfuss regime and to Austrian independence Dollfuss never wavered in his firm stand against Nazism. Unwilling or unable to cooperate with the Social Democrats, he relied more and more on an alliance with the native Austrian fascists under E R von STARHEMBERG In foreign policy he was ill supported by the Western powers and staked the preservation of Austrian independence on the friendship with Italy. In Feb , 1934, the "little chancellor" (so called because of his diminutive stature) ruthlessly suppressed a Socialist rising Austria became an authoritarian state, with a one-party system, under a "corporative" constitution drafted by SCHUSCHNIGG (April, 1934) Dollfuss was brutally assassinated (July 25) by Austrian Nazis, who made an unsuccessful attempt to seize power See J D Gregory, *Dollfuss and His Times* (1935)

Dollier de Casson, François (frāswa' dôlyā' du kāsô'), 1636–1701, priest and explorer in Canada, b near Nantes, France In 1657 he entered the seminary of Saint-Sulpice, Paris, and in 1666 he went as a missionary to Canada With Father Galinée he set forth (1669) in La Salle's company, bound for the Ohio-Mississippi country, where the two priests planned to carry on missionary activities among the Western Indian tribes At Lake Ontario they parted from La Salle and went W to Lake Erie, on its north shore they wintered (1669–70), claiming the land in the name of Louis XIV Prevented by a series of misfortunes from continuing their missionary travels, they decided to go on to Sault Ste Marie and return to Montreal by way of the Ottawa river In 1671 Dollier de Casson became superior of the seminary at Montreal and later was vicar general of the diocese of Quebec His history of Montreal from 1640 to 1672 was published in 1868, it was translated into English (1928) by Ralph Flenley, who added a life of Dollier de Casson

Döllinger, Johann Joseph Ignaz von (yō'hän yō'zĕf ĭg'nats fän dû'lĭng-ur), 1799–1890, German theologian and historian, leader of the OLD CATHOLIC movement Ordained in 1822, he was subsequently professor of church history and ecclesiastical law at the Univ of Munich, chief librarian of the university, and a member of the Academy of Sciences Between 1845 and 1852 he had considerable influence as representative of the university in the Bavarian chamber and as one of the leading members of the Catholic party in the Frankfurt Parliament Temporarily (1847–49) he lost his professor's chair and his seat in the chamber A German Catholic Church, independent of the state, was the cause to which Döllinger devoted his efforts Some lectures delivered in Rome (1857) were published in English as *The Church and the Churches, or, The Papacy and the Temporal Power* This work, subsequently banned, expressed the opinion that the temporal sovereignty was not an essential accompaniment of the papacy In 1863 followed a work known in English as *Fables respecting the Popes in the Middle Ages* When the Vatican Council was in session, Döllinger opposed the doctrine of papal infallibility in a series of letters and papers, published under the pseudonym Janus as *The Pope and the Council* (1869) When that doctrine was pronounced a dogma in 1870, he refused to accept it. In 1871 he was excommunicated Although he was in sympathy with the Old Catholics, he never had intended that a separate sect should grow out of the movement, and he never formally became a member of the Old Catholic Church He was made rector of the Univ of Munich and in 1873 president of the Academy of Sciences Many of his works were translated into English

Dolliver, Jonathan Prentiss, 1858–1910, U S Representative (1889–1900) and Senator (1900–1910) from Iowa, b Preston co , Va (now in West Virginia), grad Univ of West Virginia, 1876 A lawyer of Fort Dodge, Iowa, he entered politics and was as Congressman one of the most persuasive speakers of his day He was in the early days of his national career a protégé of William B ALLISON and a conservative Republican, but later he swung to Progressive views, especially on railroad and tariff issues, and allied himself with A B CUMMINS

Dollond, John (dŏ'lund), 1706–61, English optician, inventor, and specialist in achromatics His refracting telescopic lens, the first to function without color fringes, won him, in 1758, the Copley medal of the Royal Society, London A silk weaver, entirely self-taught, he became known for his erudition as well as for his scientific achievements With his son, **Peter Dollond,** 1730–1820, he developed a notable optical manufactory in London

dolmen (dōl'mĕn, dōl-) [Breton, =stone table], archaeological term for a rough stone structure, consisting usually of two uprights supporting a capstone or table They are characteristic megalithic monuments and are considered to have formed a burial chamber, as in a BARROW Some authorities consider them to have been erected to substitute for cave burial They are particularly common in Western Europe, especially in Portugal, Brittany, and the British Isles Sometimes the term CROMLECH is substituted for dolmen.

Dolomieu, Dédodat Guy Silvain Tancrède Gratet de (dādōdā' sēlvē' tăkrĕd' gratā' dù dôlômyû'), 1750–1801, French geologist. He made important contributions to the study of volcanic geology, especially through examination and comparison of the products of volcanoes His discovery in Sicily of igneous rock interstratified with submarine sedimentary rock strengthened the belief in the igneous origin of basalt In 1791 he reported on the character of the mineral later known as DOLOMITE. He wrote several works on his findings during geological journeys, especially in S Europe A member of the scientific staff of Bonaparte's Egyptian expedition, he was captured on the return voyage, while in prison he wrote his *Sur la philosophie mineralogique* (1801)

dolomite (dŏ'lumīt) **1** A mineral, calcium magnesium carbonate The crystals may be white, gray, brown, black, or reddish, the luster is vitreous to pearly The magnesium is sometimes replaced in part by iron or manganese **2** A carbonate rock composed chiefly of the mineral dolomite, similar to limestone but somewhat harder and heavier Most dolomites probably originated through the replacement of the calcium of limestone by magnesium Dolomite may be metamorphosed into dolomitic marble The chief uses of dolomite are as a building stone and in the manufacture of linings for refractory furnaces and of basic magnesium carbonate for pipe coverings Formations of dolomite are very widespread (occurring in Europe, the United States, Brazil, and Mexico) and notably in the region of the Alps now called the Dolomites, where the rock was first studied by Dolomieu

Dolomites (dŏ'lumīts) or **Dolomite Alps,** Alpine group, N Italy, between the Isarco and Piave rivers, named for the stone of which it is formed Famous for their strikingly bold outline and for their vivid colors at sunrise and sunset, the Dolomites are ideal for rock-climbing The Marmolada (10,961 ft) is the highest peak Cortina d'Ampezzo and other resorts are among the major tourist centers of Italy

dolphin. 1 Gregarious mammal, a toothed WHALE found in most oceans and sometimes in rivers Dolphins range from 4 to 30 ft in length, the majority are from 5 to 14 ft Some which frolic in the vicinity of ships are called porpoises, but dolphins differ from true porpoises in having pointed muzzles The common dolphin of Atlantic and Mediterranean waters is usually 7 to 8 ft. long and has beaklike jaws It is seldom seen on the North American coast, where the bottle-nosed dolphin, which inhabits all but polar seas, is more often observed The killer whale or grampus (*Orcinus* or *Orca*), a large dolphin with a black and white mottled body, is the worst enemy of seals, porpoises, fish, and sea birds In groups it attacks and bites out the tongue of large whales River dolphins are related fresh-water animals of Asia and South America Dolphins featured in classic sculpture **2** Name for the coryphene, a swift spiny-finned fish of warm seas It has a long dorsal fin and the body is iridescent Some attain a length of 6 ft Flying fish are among its prey It is valued as food

Dolton, residential village (pop 3,068), NE Ill , just S of Chicago, in a truck-farm area, inc 1892

Dom (dôm), peak 14,943 ft high, in the MISCHABELHORNER group, highest peak entirely in Switzerland

Domagk, Gerhard (gā'hart dō'māk), 1895–, German chemist and pathologist A teacher successively at the universities of Greifswald and Münster, he became (1927) director of research at the I G Farbenindustrie laboratory at Wuppertal Because of a Nazi decree he was obliged to decline the 1939 Nobel Prize in Physiology and Medicine In 1947 he received a gold medal in lieu of the prize money The award was made for his discovery of the efficacy of prontosil, the forerunner of the sulfa drugs or sulfanilamide compounds, in treating streptococcal infections

Domat or **Daumat, Jean** (zhā' dômá'), 1625–96, French jurist His *Les Loix civiles dans leur ordre naturel* [civil laws in their natural order] (3 vols , 1689–94) is a restatement of Roman law considered as a system derived from ethical theory and natural theology It is believed to be the earliest work on the subject to depart from the arrangement of the 6th-century Corpus Juris Civilis

Dombasle, Christophe Joseph Alexandre Mathieu de (krēstôf' zhôzĕf' ălĕksā'dru matyû' du dôbāl'), 1777–1843, French agriculturist He established the first model farm and agricultural school (1822) near Nancy, in France, and otherwise promoted the progress of French agriculture by introducing English and German ideas, writing treatises on many practical subjects, and encouraging the cultivation of new products—such as sugar beets—and the raising of better cattle, sheep, and horses. He invented a plow that bore his name

Dombrowa, Poland see DABROWA GORNICZA

Dombrowski, Jan Henryk see DABROWSKI

dome, a roof circular or (rarely) elliptical in plan and usually hemispherical in form, placed over a circular, square, oblong, or polygonal apartment Domes have been built with a wide variety of outlines and of various materials Their earliest appearance was in the valley of the Tigris and Euphrates, where the use of sun-baked bricks led to the dome as a simple method of roofing adapted to the adhesive material. Such primitive domes

were used in the Assyrian period (1275–538 B.C.) and in the Persian and Sassanian periods which followed The Greeks made no use of the dome, but the Romans converted the primitive idea into a magnificent architectural element for covering monumental structures The Pantheon at Rome (2d cent A D), with its superb hemispherical dome, is structurally intact Roofing a circular room and constructed of brick and mortar, it has an internal diameter of 142 ft and is the largest dome in existence and one of the most beautiful internally The Romans, however, failed to discover a proper handling of the PENDENTIVE—the device essential to placing a dome over a square compartment, finally achieved by the Byzantine builders in Hagia Sophia at Constantinople (A D 532–37) The solving of this problem inaugurated a new period of dome construction and the dome of Hagia Sophia exerted profound influence through Italy and France The Byzantine style influenced the Saracens, and domes came into lavish use in all countries that fell under the Mohammedan conquest—in Persia, Turkey, India, and Egypt and in Spain, Sicily, and North Africa Saracenic domes departed from simple circular outlines, and their exterior shapes are, characteristically, pointed or bulbous (pear shaped) and often ribbed, while the interiors have pendentives developed in complex stalactite corbelings The most celebrated example is the superb Taj Mahal (A D 1630) at Agra, India Both the influence of the Roman Pantheon and of the Byzantine pendentive came to bear upon the designers of the Italian Renaissance, and the crossings of most churches of the period were covered by masonry domes on pendentives Between pendentives and dome a circular drum usually was interposed, serving both to give greater elevation and external importance and as a space for the introduction of windows By the addition of an outer shell, the exterior came to be independently designed for maximum effectiveness, and the placing of a lantern at the top of this outer shell provided an apex for the entire composition Celebrated examples are St Peter's, Rome, designed by Michelangelo, with two masonry shells (completed 1590), internal diameter 137 ft, the church of the Invalides, Paris, by J H Mansart (1706), 90 ft, St Paul's Cathedral, London, by Sir Christopher Wren (1675–1710), 112 ft, and the Panthéon, Paris, by J G Soufflot (1775–81), 69 ft The last three domes are built with triple shells, the middle shells serving to support the crowning lanterns In the United States the dome of the Massachusetts state capitol, designed (1795) by Charles Bulfinch, established the dome as a distinctive feature for numerous later state capitols as well as for the national Capitol at Washington The dome of the latter, however, is of cast iron instead of masonry The design by T U Walter, has an inner diameter of 90 ft and possesses great external impressiveness Modern domes usually are constructed of steel and concrete or of tile

Domenichino (dōmānēkē'nō) or **Domenico Zampieri** (dōmā'nēkō tsämpyā'rē), 1581–1641, Italian painter, studied Correggio in Parma and Modena He then went to Rome, where he assisted Annibale Carracci with his frescoes in the Farnese Palace and executed decorative works for Cardinals Aldobrandini, Farnese, and Borghese, as well as numerous frescoes in the churches of Rome In 1614 he painted the superb *Last Communion of St Jerome*, now in the Vatican The outstanding works of his later period are designs for Villa di Belvedere at Frascati and for Villa Ludovisi, Rome, and frescoes for the St Januarius chapel in the Naples cathedral Domenichino ranks as one of the greatest pupils of the school of the Carracci His portraits are among the best of the Bolognese school, and he often employed admirably executed landscapes as backgrounds in his subject pieces

Domenico Veneziano (dōmā'nēkō vānātsēā'nō), c 1400–1461, Florentine painter Only three authentic works remain—the altarpiece of Santa Lucia di Bardi, with its pale but luminous tonal harmonies (central panel in the Uffizi; another fragment in the Fitzwilliam Mus., Cambridge, England); *Madonna and Child* (National Gall., London); and the rugged *St John the Baptist* (Santa Croce, Florence) A fine profile portrait of a girl (Gardner Mus., Boston) is believed to be his work He introduced the technique of finishing tempera works with an oil glaze See Bernard Berenson, *The Florentine Painters of the Renaissance* (1896).

Dome of the Rock: see MOSQUE

Domesday Book (dōmz'dā, dōōmz' dā), the record of the general survey of England made at the order of WILLIAM I (William the Conqueror) in 1086 The survey ascertained the economic resources of most of the country for purposes of more accurate taxation Royal agents took the evidence of local men in each hundred, the latter acting as inquest jurors Descriptions of each piece of land, its present and former holders, the method of holding, and the population on it were included among the facts recorded. For the thoroughness and speed with which it was taken, the Domesday survey as an administrative measure is unsurpassed in medieval history. Written from the data thus gathered, the Domesday Book is an invaluable historical source. It furnished the material for F. W Maitland's masterly survey, *Domesday Book and Beyond* (1921), which treats of social and economic conditions in Anglo-Saxon and Conquest times Many of the Domesday records have been printed by counties in the *Victoria County Histories*, and several portions have been independently published See Adolphus Ballard, *The Domesday Inquest* (1906)

domestication, of plants and animals When early man began to cultivate plants, his habitations became more permanent and his food supply more dependable, these factors contributed importantly to social and cultural development All the major plant crops were domesticated during the Neolithic period Archaeological evidence indicates that emmer wheat was cultivated in Egypt at least by 5000 B C, grains of barley and emmer preserved in Mesopotamia date from c.4000 B C Some authorities believe that rye was developed from a weed that appeared in fields of wheat or barley in W Asia and that oats originated as a weed in fields of emmer The early Egyptians cultivated not only cereals, but also beans, lentils, melons, onions, radishes, garlic, and grapes Olives and flax are believed to have originated also in the vicinity of the Near East. Rice, sugar cane, and probably bananas and cotton were first grown in SE Asia Maize (corn) was the staple grain of the Western Hemisphere and was grown from the times of the pre-Inca civilization of Peru The white potato, the sweet potato, and a number of kinds of beans (e g, lima beans, red kidney beans, navy beans, marrow beans, and snap beans) also originated in the Western Hemisphere and were cultivated in early times Probably the domestication and breeding of most animals began about the same time as that of plants It is believed, however, that the dog may have been domesticated in the late Paleolithic period In Neolithic times draft animals began to be employed. The ass and probably the ox were domesticated first in the Near East, the horse was employed for riding probably first in central Asia, and the camel is believed to have been first domesticated on the steppes or deserts of Asia where they reached Africa The water buffalo originated as a beast of burden in SE Asia, this region was also the place of domestication of many poultry birds (not including the turkey) In the New World the llama and the alpaca were domesticated in the Andean region Although no new animals are known to have been domesticated since the beginning of recorded history, improved types have been developed through BREEDING.

domestic relations. For psychological and sociological aspects, see MARRIAGE For legal aspects, see DIVORCE, HUSBAND AND WIFE, PARENT AND CHILD

domestic science see HOME ECONOMICS

domestic service was performed by slaves in many early civilizations, e g, in Greece and Rome. Under the feudal system the work was done by serfs Under the guild system indentured apprentices performed household duties while learning a trade With the disappearance of feudalism and guilds, servants were recruited from free wage earners Domestic service came to be regarded as an unattractive occupation because of the long hours, low wages, poor living conditions, low social status, and dependence on the personal habits of the employer In the American colonies, domestic service was performed by transported convicts, bond servants who sold themselves into service for stated periods to pay their passage, Indians, and Negro slaves After the Revolution indentured servants were largely replaced except in the South, by free native-born labor not subjected to social discrimination The rapid development of the industrial system in the 19th cent provided more lucrative employment for native-born labor and coincided with a flow of immigrants many of whom drifted into domestic service The immigration quotas established in 1921 cut down this supply In the United States, as in most countries, domestic service has not been regarded as an industry, unionization is weak, and servants are generally excluded from legislation on wages and hours, social security, and workmen's compensation In Sweden there is little social stigma and the unions are strong, in Great Britain domestic workers are covered by national health and unemployment insurance schemes The shortage of domestic laborers in most countries has been partially offset by improvements in working conditions, by the use of labor-saving devices, by an increase in the number of restaurants and communal living units such as apartment houses and hotels, and by the establishment of domestic training schools See J C Brown, *Concerns of Household Workers* (1941), publications of the U S Women's Bureau.

Domett, Alfred (dō'mĭt), 1811–87, English poet. The subject of "Waring," a poem by his friend Robert Browning, he in turn dedicated to Browning his verse in *Flotsam and Jetsam* (1877) Domett spent the years from 1842 to 1871 in New Zealand, where he held many colonial government posts. He used the Anglo-Maori life of the country in his narrative poem *Ranolf and Amohia* (1872).

Domfront (dōfrō'), town (pop. 2,600), Orne dept., NW France, in Normandy. An agricultural center, it has medieval town walls and the imposing ruins of an 11th-century fortress, one of the chief strongholds of medieval Normandy The town and a near-by Romanesque church (11th cent.) were damaged in the Second World War

domicile, one's legal residence This may or may not be the place where one actually resides at any one time The domicile is the permanent home to which one has the intention of returning whenever the purpose for which one is absent has been accomplished One may at the same time possess a temporary lodging for a short time in one place, a more permanent place of abode called a residence at another place, and a domicile at still another place Usually the domicile of the husband and father determines that of wife and children The question of determining the domicile of a person is of importance in application of tax laws and also in determining personal status under international law.

Domínguez, Francisco Atanasio: see ESCALANTE, SILVESTRE VÉLEZ DE

Dominic, Saint (dŏ'mĭnĭk), 1170?–1221, Castilian churchman, named Dominic Guzmán, founder of the Dominicans. He studied at Palencia and became a canon, then prior of canons, of the cathedral of Osma He and his bishop went to Rome (c.1203) seeking permission to evangelize the Tatars, instead, Innocent III sent them to S France to preach to the Albigenses Adopting absolute poverty, they wandered about Languedoc preaching, and were the first Catholic missionaries to have success there St Dominic started a community for women converts at Prouille in 1206 In 1216 he was given a house and church at Toulouse for his band of preachers, now grown to 16 The same year he went to Rome and received from Honorius III approval of his plans for the new little order This, with its novel vocation to study and preaching, grew phenomenally An ancient tradition, often pictured, tells how the saint received the rosary from the Virgin Mary in a vision It is also told that St Dominic and St Francis met and became friends in Rome, Franciscans and Dominicans have been constantly associated, if not always friendly, and to this day each order pays special honors to the founder of the other order Feast Aug. 4 See Bede Jarrett, O P, *Life of St Dominic* (1934), P F Mandonnet, *St Dominic and His Work* (Eng tr, 1944)

Dominica (dŏmĭnē'kŭ), island (304 sq mi; pop 47,682), British West Indies It corresponds to Dominica colony, part of the WINDWARD ISLANDS The capital is Roseau (pop c 9,600) Mountainous and forested, with rugged and beautiful scenery, the island has a rich soil, producing for export vanilla as well as cacao, lime juice and lime oil, coconuts, oranges, bananas, and spices The majority of the population, speaking a French patois, is Negro, presumably with an admixture of Carib Discovered by Columbus in 1493, Dominica was left largely to the Caribs by agreement between France and England However, French settlements increased, and the island changed hands frequently between 1761 and 1815 In 1940, made a colony in itself, it was detached from the Leeward Islands colony

Dominican Republic (dumĭ'nĭkun), republic (19,129 sq mi, 1944 estimated pop 1,969,773), West Indies, on the eastern two thirds of the mountainous island of HISPANIOLA The capital is Ciudad Trujillo, more commonly known as Santo Domingo After Spain by the Treaty of Basel (1795) ceded the colony of SANTO DOMINGO to France, the area now known as the Dominican Republic was conquered (1801) by the Haitians under TOUSSAINT L'OUVERTURE The Spaniards, fearing black rule, supported the French invasion of Haiti under General LECLERC The resident French commander was able later to fend off the attacks of JACQUES DESSALINES, but in 1808 the people, preferring Spanish rule, revolted and in 1809 with the aid of an English squadron captured the city of Santo Domingo The first republic was short-lived By the Treaty of Paris (1814) Spain regained title to its former colony In turn, Spanish rule was brief In 1821 the inhabitants expelled the Spanish governor, but in 1822 they were reconquered by the Haitians under Jean Pierre BOYER Unlike the Haitians, who were almost entirely pure Negro, the Spanish population was more evenly made up of white, mulatto, and Negro, and the culture was dominantly Spanish A revolt broke out in 1844, the Haitians were defeated, a constitution was promulgated, and the Dominican Republic was finally established under Pedro SANTANA Frequent revolts as well as continued Haitian attacks led Santana to make his country a province of Spain in 1861, but opposition under Buenaventura BÁEZ was so severe that Spain withdrew in 1865 Unable to preserve order, Báez himself negotiated a treaty of annexation to the United States, which the Dominicans approved but the U S Senate failed to ratify. All semblance of order vanished. There were kaleidoscopic changes in the presidency and a long (1882–99) ruthless dictatorship under Ulises Heureaux, followed again by assassination

and revolts The republic was hopelessly bankrupt by 1905 and faced intervention from foreign powers President Theodore Roosevelt by executive agreement arranged a U S. customs receivership Although there was marked improvement in finances, fiscal control brought virtual political dominance. Disorder continued, and the island was occupied by U S marines in 1916 Feeling in Latin America and among U S liberals rose steadily against intervention The marines were withdrawn in 1934, the customs receivership terminated in 1941. Absolute dictator since the overthrow of Horacio Vásquez in 1930, Rafael Trujillo Molina has continued the material advancement of his country, but the government has been strictly under his control Although crop diversification was begun in 1925, sugar still leads the list of exports, accounting for about 63 percent Cacao and coffee are also major exports Aside from the sugar centrals and refineries, industries are few, but foodstuffs (yucca starch, meats, peanut oil, dairy products, and chocolate) are increasingly processed The Dominican Republic, nearly twice as large but with only two thirds the population of overcrowded Haiti, made efforts to prevent infiltration of Haitians Frequent border clashes resulted, and in 1937 Dominican troops crossed the boundary and massacred between 10,000 and 15,000 Haitians Pressure from the west is great, the two cultures are sharply divided, and the Dominicans fear absorption by the blacks Consequently, immigration of European refugees to increase the white population and occupy unproductive lands was encouraged See Sumner Wells, *Naboth's Vineyard* (2 vols , 1928), Otto Schoenrich, *Santo Domingo a Country with a Future* (1918)

Dominicans (dümĭ'nĭkŭnz), Roman Catholic religious order, founded by St Dominic in 1216, officially named the Order of Preachers (O P) Though they began locally in evangelizing the Albigenses, before St Dominic's death (1221) there were already eight national provinces The rule and constitutions had novel features For the first time the members of the order (friars) were accepted not into a specific house, but into the whole order The friar's life was to be all preaching and study, the order provided houses of study at centers of learning, and the rule set up dispensations from other duties to promote study Unlike that of most orders, the Dominican plan of government is nonpatrenalistic Priors of houses and provinces are elected for terms, and the councils are largely made up of elected delegates A prior has nothing like the honor and prestige accorded an abbot Dominicans were prominent in the medieval universities, St Thomas Aquinas was a Dominican, and the order has zealously propagated Thomism It has been often called on to provide official theologians, this fact, as well as the coincidence of origin, accounts for the Dominicans' being the order principally in charge of the Inquisition In the 19th cent the Dominicans had a revival in France and England, becoming leaders in Catholic social movements Dominicans came to the United States soon after 1800, their first U S province was founded in 1805 The Dominicans are especially attached to the rosary Their habit is white, with a black mantle, which is worn for preaching They used to be called Black Friars There is a contemplative order of Dominican nuns and a widespread third order Many of the tertiaries are in sisterhoods for teaching and other works St Catherine of Siena was a Dominican tertiary See R G Galbraith, *The Constitution of the Dominican Order* (1925), John-Baptist Reeves, *The Dominicans* (1929), R F Bennett, *The Early Dominicans* (1937).

Dominion, town (pop. 3,279), on Cape Breton Island, N S , on the northeast coast just W of Glace Bay. It is a coal-mining point

dominion (dümĭn'yŭn), territory controlled by a particular monarch or government, usually, in this sense, in the plural The term is most commonly used today in reference to one of the autonomous divisions of the British Empire

Dominion Day, celebrated in Canada, July 1 It is the anniversary of the uniting in 1867 of Upper and Lower Canada, New Brunswick, and Nova Scotia as the dominion of Canada

dominoes, game played with pieces (most often 28) called dominoes—oblong pieces of wood (especially ebony), bone, or ivory, with one face blank and one face marked with pips or dots The marked faces are divided in halves, each half containing (in a 28-piece set) from 0 to 6 pips in every possible combination—0–0, 1–1, 1–0, and so on The most common variation of dominoes is the draw game played by two to four players, who pick a specified number of face-down dominoes The underlying principle of the game is to match the number on one domino half to that of the half already played on the table. The first to dispose of all his dominoes wins. The game was introduced in Europe via Italy in the 18th cent See R. L Frey, ed , *The New Complete Hoyle* (1947).

Domitian (Titus Flavius Domitianus) (dömĭ'shŭn), A.D. 51–A.D 96, Roman emperor (A.D. 81–A.D 96), son of Vespasian. Though intended as the heir to his childless older brother, Titus, he was given no important posts On Titus' death he succeeded to the throne and proved himself at once proud and more absolutist than his father He governed, however, in the interests of order and public welfare in his first years Only indifferently successful in his own campaigns in the east, he out of jealousy recalled Agricola from his successful campaign in Britain As time went on Domitian became more despotic, his despotism caused plots against him, and the plots brought on a reign of terror that drenched Domitian's last years in blood Finally his wife, Domitia, had a freedman, Stephanus, stab him Nerva succeeded Tacitus and Juvenal describe Domitian's terror with bitterness

Domnarvet (dŏmnär'vĕt), largest iron- and steel-manufacturing center in Scandinavia, near Falun, Kopparberg co , Sweden

Domodossola (dō'mōdôs'sōlä), town (pop 9,193), Piedmont, N Italy, on the Simplon RR near the Swiss border

Domrémy-la-Pucelle (dōrāmē'-lä-püsĕl'), village (pop 185), Vosges dept , E France, in Lorraine The house in which Joan of Arc was born in 1412 still stands, and the 15th-century village church still has the baptismal font where she was baptized Outside the village is the handsome basilica of St Joan of Arc, begun in 1881, and near by is the historic Vaucouleurs

Don (dŏn), river of Yorkshire, England, 70 mi long, rising NW of Sheffield, through which it flows, then turns northeast and flows past Rotherham and Doncaster to the Ouse at Goole

Don (dôn, Rus dôn), river, 1,232 mi long, rising SE of Tula, S European RSFSR It flows SE, then SW, into the Sea of Azov Its eastward bend comes to within c 40 mi of the course of the Volga at Stalingrad, and a canal linking the two rivers at that point is projected Rostov is the chief city and port on its course Navigable from above Voronezh and accessible to seagoing vessels as far as Rostov, the Don is an important artery for grain, coal, and lumber shipments Its chief tributary is the Donets, which connects it with the industrial Donets Basin Fisheries, especially in its lower course, are valuable Known to the ancients as the Tanais, the Don has been a trading channel since Scythian times In the 16th cent Cossack settlers (see Cossacks) founded the virtually independent republic of the **Don Cossacks** in the fertile steppes along the lower course of the river The host of the Don Cossacks was governed by a popular council, the Rada, and by an elected chief, called ataman Their daring raids and exploits attained legendary proportions under Stenka Razin Though the Don Cossacks gave allegiance to the tsar in 1614, they continued to govern themselves throughout the 17th cent , but frequent rebellions, culminating in that of Pugachev, resulted in the loss of many of their privileges The Don Cossacks are famous for their magnificent songs and choirs

Don, river of Aberdeenshire, Scotland, rising in a bog near the Banffshire border (alt c 2,000 ft) and flowing 82 mi generally eastward to the North Sea near Old Aberdeen It is roughly parallel to the Dee and like it is a salmon stream

Donaghadee (dŏn"ŭkhudē', -kŭdē'), urban district (pop 2,533), Co Down, Northern Ireland, on the Irish Sea and ENE of Belfast It is the Irish port nearest to Great Britain and is connected by cable with Portpatrick, Scotland The town is a seaside resort and a farm market A rath, 70 ft high, and a holy well are here

Donald, William Henry, 1875–1946, confidential adviser to Chinese leaders, b Lithgow, New South Wales An Australian journalist, he went (1902) to China to edit the Hong Kong *China Mail* and gained fame for eyewitness reports on the Russo-Japanese War As editor of the *Far Eastern Review* after 1911, Donald crusaded for the modernization of China He advised and planned for Sun Yat-sen in the 1911 revolution and afterward during Sun's presidency (1911–12) Donald worked to prevent Japanese domination of China and caused the Twenty-one Demands (1915) to be modified In 1917 he helped to bring China into the First World War After 1928 he was adviser to Marshal Chang Tso-lin and his son Chang Hsueh-liang and was prominent in Kuomintang politics His interests allied (1934) him to Chiang Kai-shek, and Donald (who still could not speak Chinese) was influential in persuading (1936) Chiang to unite all Chinese forces against Japan Continually hunted by Japan, he returned (1941) to Australia, but was stranded (1941) at Manila on his way back to Chungking He was taken prisoner (1942) by the Japanese but he was not recognized and at the end of the war he was released

Donaldson, Jesse Monroe, 1885–, U S Postmaster General (1947–), b. Shelby, Ill He was first to rise through the ranks of post-office employees to achieve a cabinet post

Donaldsonville, city (pop 3,889), parish seat of Ascension parish, SE La , on the Mississippi below Baton Rouge It was founded as a trading post in 1806, and was temporary state capital in 1830 Situated in the center of an area producing sugar, rice, cotton, vegetables, lumber, and oil, it is the site of an annual state fair H H Richardson was born near by

Donalsonville, city (pop 1,718), co seat of Seminole co., extreme SW Ga , near the Chattahoochee river, inc 1897 It is a trade center for a farm, lumber, and naval-stores area

Donatello (Donato di Niccolò di Betto Bardi) (dōnŭtŏ'lō), c.1386–1466, Italian sculptor of the early Renaissance, b Florence Breaking with the traditions of the Middle Ages, he portrayed his subjects with intense realism—especially in his earlier years (the wooden crucifix in Santa Croce) Among the works of his formative period, executed for the churches of Florence, the masterpiece is the figure *St George*, in which the artist definitely abandons his earlier Gothic style It was created for Or San Michele and is now in the Bargello (or Museo Nazionale), which possesses many of Donatello's best original works, as well as casts from his works in other cities The unlovely, but vividly lifelike, Zuccone (Baldhead), in the Campanile, was said to be the artist's favorite work After 1425, working in various cities of Italy, including Rome, Donatello felt the influence of classic art, which had the effect of softening his austerity The supreme achievement of this period is *David* (Bargello) In 1453 he made for Padua the noble bronze equestrian statue, *Gattamalata*, the first of its kind since antiquity Donatello enjoyed the highest recognition accorded to an artist in his day His influence on painting as well as on sculpture was incalculable Among his most popular reliefs are two of *The Young St John Baptist*, one in sandstone in the Bargello, the other in stucco in the Metropolitan Museum His *Singing Gallery*, executed for the cathedral of Florence, is now in the museum of the cathedral *Madonna and Child* and a bust of St John the Baptist are in the National Gallery of Art, Washington, D C

Donati, Giovanni Battista (jōvän'nē bät-tē'stä dōna'tē), 1826–73, Italian astronomer Serving as director of the Florence Observatory from 1864, he succeeded (1864) in obtaining the spectrum of a comet and concluded that the composition of comets is, at least in part, gaseous He discovered (1854–64) six new comets, among them **Donati's comet** which he first saw at Florence on June 2, 1858 It has a period of c 2,000 years

Donation of Constantine see Constantine, Donation of

Donati's comet see Donati, Giovanni Battista

Donatism (dō'nutĭzm), heretical movement among the Christians of North Africa (fl 4th cent), led by two men, both named Donatus These were Donatus of Casa Nigrae (fl 313) and Donatus the Great or Donatus Magnus (d 355) Espousing a position previously defined by Montanism and Novatian, the Donatists declared that Christianity was a sect composed exclusively of pure persons The sinner fallen from grace should not be admitted again to complete fellowship with Christians, not because God would not forgive him, but because he was a danger to others Such emphasis on purity frequently led to extremes that threatened the very expansion of Christianity In times of persecution, many abjured who later returned, particularly in Africa, where the persecutions of Diocletian were especially terrible Many bishops and priests gave up sacred books to the government to save themselves and their flocks Such, the Donatists held, were traitors and by their act lost all sacramental power to confer grace The Donatist opposition also implied, therefore, that the Church was without power to absolve Catholics considered most heretical the Donatist practice of rebaptizing those who had lapsed In 316 Donatus the Great seceded from the Church and formed a separate African sect to which, by 350, the majority of African Christians belonged The Donatists were condemned by the Synod of Arles (314) and by Constantine I and were repressed by later emperors Late in the 4th cent many were turned from Donatism by the excesses of Numidian ascetics, who formed themselves into lawless bands. It was the teaching of St Augustine, as enounced at the Conference of Carthage (411), and in his works, that finally destroyed the theological position of Donatism Church and state also united to suppress the heretics, and by 450 most African Christians were Catholics Donatism vanished with Christianity before the Islamic invaders

Donato di Niccolò di Betto Bardi see Donatello,

Donatus (Aelius Donatus), fl 333, Roman grammarian, teacher of St Jerome His only well-known work, the *Ars grammatica* [elements of grammar], was throughout the Middle Ages the standard elementary Latin grammar

Donauwörth (dō'nouvûrt"), town (pop 7,298), Swabia, Bavaria, on the Danube Developing around a 9th-century fort, the Mangoldstein, it became the seat of the dukes of Upper Bavaria in the middle of the 13th cent , but was made an imperial city in 1348. It adopted the Reformation in 1555. The political crisis engendered by Emperor Rudolf II's attempt to reestablish Catholicism in the city (1607) was one of the causes of the Thirty Years War; it was captured by Gustavus II of Sweden in

1632 and by Emperor Ferdinand II in 1634. Donauwerth passed to Bavaria in the early 18th cent There are several 15th-century churches, a picturesque town hall (1308–9), and the Fugger house (1537–39)

Donbas see DONETS BASIN

Doncaster (dŏng'kŭstur), county borough (1931 pop 63,316, 1947 estimated pop 77,090), West Riding of Yorkshire, England, on the Don It has coal mines, railroad shops, steel mills, and minor manufactures A long-established racecourse is near the city Noteworthy are the parish church of St George (with a 170-foot tower), the technical college, the library, the art gallery, the market hall, the guildhall, and the corn exchange Doncaster is the site of the Roman station Danum, on an ancient highway

Don Cossacks see DON, river

Donders, Franciscus Cornelius (frănsĭ'skus kôrnā'lĭŭs dŏn'durs), 1818–89, Dutch ophthalmologist and physiologist A professor at the Univ of Utrecht from 1847, he promoted the establishment of hospitals for eye diseases in Holland He made improvements in eyeglasses, introduced the present type of ophthalmoscope, and contributed to the study of the physiology of the eye His works include an influential treatise in English, *The Anomalies of Accommodation and Refraction of the Eye* (1864)

Donegal (dŏ'nĭgôl, dŏnĭgôl'), maritime county (1,865 sq mi , pop 136,136), Ulster prov , Ireland The county town is Lifford The extremely irregular coast line extends from Lough Foyle on the north to Donegal Bay on the west and is deeply indented by Lough Swilly TORY ISLAND is the largest of the coastal islands The interior is rugged and hilly, rising to 2,466 ft at Mt. Errigal The chief rivers are the Foyle, the Derg, and the Finn, and there are numerous lakes In this primarily pastoral and agricultural region farming is pursued with difficulty because of the bogginess of the soil. Deep-sea fishing is important There is little manufacturing (some woolens and muslins), and there are no large towns Granite and sandstone are quarried Trade is mostly through Londonderry in Northern Ireland Many old Gaelic customs survive in the county Anciently the kingdom of Tyrconnell, Donegal was not organized as a county until the reign of Elizabeth

Donegal, town, Co Donegal, Ireland, at the head of Donegal Bay It is a seaport with woolen mills Its castle, early stronghold of the O'Donnells, was rebuilt in 1610 There are ruins of a Franciscan monastery, founded in 1474, where the *Annals of Donegal* or *Annals of the Four Masters*, a history of the world, were compiled between 1632 and 1636

Donelson, Andrew Jackson (dŏ'nulsun), 1799–1871, American diplomat, b Cumberland region of Tennessee, grad West Point, 1820 He was brought up at the Hermitage by his uncle, Andrew JACKSON After graduation he accompanied Jackson as aide-de-camp in the Seminole campaign He practiced law in Nashville, but again aided Jackson as private secretary in the presidential campaigns of 1824 and 1828 After Jackson's election to the presidency Donelson was his private secretary, and Mrs Donelson was Jackson's hostess at the White House Her refusal to accept Mrs J H Eaton (see O'NEILL, MARGARET) socially led to a temporary estrangement between uncle and nephew, but Jackson found himself in need of Donelson's aid and recalled him In 1844 he was sent as chargé d'affaires to the republic of Texas to conduct negotiations for annexation After his success in this mission he served (1846–49) as minister to Prussia

Donelson, Fort, Confederate fortification (in the Civil War) on the Cumberland river at Dover, Tenn , commanding the river approach to Nashville at a point c 60 mi northwest Fort HENRY on the Tennessee river having been reduced (Feb 6, 1862), Grant, on Feb 12, marched his three divisions (under Generals J A McClernand, C F Smith, and Lew Wallace) across the 12 mi of intervening country to Fort Donelson, which he proceeded to invest Commodore A H Foote's gunboats sailed around to assist, but on Feb 14 they were repulsed by the Confederates They, in turn, were thrown back by the investing forces on the next day, after attempting to cut their way through to a retreat The commanding Confederate, Gen J B Floyd, and Gen G J Pillow escaped during the night, leaving Gen S B Buckner to surrender the fort to Grant on Feb 16 A large quantity of military supplies and about 13,000 prisoners fell into Union hands The way was now open for the advance on Nashville It is now a national military park (102 54 acres, est 1928)

Donets (dŭnyĕts'), river, 655 mi long, S European RSFSR and S Ukraine, a tributary of the Don It is also called the North Donets (Rus *Severny Donets*). It rises NE of Belgorod, which it passes, and flows generally southeast to join the lower Don Its last 140 mi are navigable

Donets Basin, abbreviated as **Donbas** (dŭnbäs'), region (c 10,000 sq mi), USSR, SW of the Donets river, partly in the Ukraine and partly in RSFSR It is one of the main coal-producing and industrial areas of Russia. Its coal reserves (coking coal in the north and west, anthracite in the east and south) are estimated at 90,000,000,000 tons Among the principal coal and industrial centers are Stalino, Makeyevka, Yenakiyevo, Gorlovka, Shakhty, Voroshilovgrad, Voroshilovsk, and Artemovsk Industries include steel mills, heavy-machinery plants, chemical plants, and power plants The development of the region began in the late 19th cent In the Second World War the Donets Basin was the scene of heavy fighting A large part of the industrial installations were removed (late 1941) to the Urals before the German advance The area was fully under German control by the summer of 1942, but was recovered by the Russians early in 1943 after their victory at Stalingrad

Dongan, Thomas, 1634–1715, colonial governor of New York, b Co Kildare, Ireland He was lieutenant governor of Tangiers before he was appointed (1682) to succeed Sir Edmund Andros Following the instructions of the duke of York (later James II), Dongan called (1683) a legislative assembly, measures, known as the Charter of Liberties and Privileges, were passed granting popular rights and religious toleration These and subsequent (1684, 1685) enactments were not approved by James II, but Dongan secured (1686) a permanent charter for New York city It was chiefly to Dongan that the English owed their protectorate over the Iroquois, which the French recognized in 1713 He was replaced by Governor Andros in 1688 Dongan became 2d earl of Limerick in 1698 See biography by T P Phelan (1933).

Don Giovanni see DON JUAN

Dong Nai or **Donnai** (both dôn'nī'), chief river of E Cochin China, rising in the Annamese cordillera, S Annam, and terminating in an extensive delta on the South China Sea The Saigon river is one of its main tributaries

Dongola (dŏng'gōlu), region, N Anglo-Egyptian Sudan The largest town, Dongola (pop c 15,000), is just above the Third Cataract of the Nile Old Dongola, 75 mi to the south, was the capital of the Christian kingdom of Dongola or Makurra, which was first taken by Egypt in 625 and held briefly It was again taken in 1275 The first Moslem ruler, a puppet of the powerful Mamelukes, ascended the throne in 1316 His successor became independent in 1325, but the Egyptians conquered the land anew in 1366 and the capital was abandoned Dongola was ably ruled (1811–20) by Mameluke refugees from Egypt The Mahdists, in the course of their revolt, held it from 1885 to 1896 The inhabitants, though surrounded now by Arab tribes, are still Nubian in type and in language

Doniphan, Alexander William (dŏ'nĭfun), 1808–87, American lawyer and soldier, b Mason co , Ky , grad Augusta College, 1826 He began (1830) the practice of law in Lexington, Mo , and served three terms in the state legislature, becoming involved in the Mormon issue In 1838 Doniphan, as brigadier general of the state militia, was ordered against the Mormons by Gov Lilburn W Boggs, but refused point-blank to carry out orders to execute Joseph Smith and other Mormon leaders At the opening of the Mexican War he organized a mounted regiment of Missouri volunteers which comprised part of Stephen W Kearny's force in his march on Santa Fe When Kearny continued to California, Doniphan was left in command in New Mexico, where he subdued and made peace with the Navaho In Dec , 1846, turning the command at Santa Fe over to Sterling Price, Doniphan, on Kearny's orders, set out with 856 men for Chihuahua They were to join John Wool's army there Not far along the way his undisciplined but able fighting outfit routed the Mexicans in a farcical engagement at the Brazito river (Dec 25), near El Paso, which was easily occupied They then pushed on to a point c 15 mi N of Chihuahua, where, in the battle of Sacramento (Feb 28, 1847), they again defeated the Mexicans Chihuahua was taken the next day Since Wool was not there as planned, Doniphan began another long march E to Saltillo, which was reached late in May A few days later they were commended by Zachary Taylor at Monterrey, then, their terms of enlistment being up, they went down the Rio Grande, sailed for New Orleans, and returned to Missouri The entire march, covering some 3,600 mi and conducted with small loss under adverse circumstances, is one of the famous expeditions in American history Doniphan, who returned to law practice at Richmond, Mo , opposed secession and favored neutrality for Missouri in 1861 and though offered high command by the Union took no active part in the Civil War See Justin H Smith, *The War with Mexico* (1919)

Doniphan, resort city (pop 1,604), co seat of Ripley co , SE Mo , on the Current river and WSW of Poplar Bluff, in a timber and farm area, settled c 1847

Donizetti, Gaetano (gäätä'nō dōnēdzĕt'tē), 1797–1848, Italian operatic composer His early work was influenced by Rossini, and he later found artistic stimulus in competition with Bellini His operas are full of easily remembered tunes as well as vocal gymnastics for virtuoso singers Most popular of his more than 60 operas are *Lucrezia Borgia* (1833) and *Lucia di Lammermoor* (1835), serious operas, *La Fille du régiment* (*The Daughter of the Regiment*, Paris, 1840), a French *opéra comique*; and *L'elisir d'amore* (1832) and his masterpiece, *Don Pasquale* (1843), examples of *opera buffa* After 1844 further creative work became impossible because of frequent attacks of insanity

Don Juan (dŏn jōō'un, Span dōn hwän'), legendary hero of many literary works, supposedly based on the life of Don Juan Tenorio of Seville Don Juan seduces the daughter of the commander of Seville and kills her father in a duel He visits a statue of his victim, erected over his tomb, and invites it to a feast, it comes, seizes the libertine, and drags him to hell The first dramatization of the story was *El Burlador de Sevilla*, attributed to Tellez (Tirso de Molina, pseud), famous versions were Molière's *Le Festin de Pierre* and Mozart's great opera *Don Giovanni* Don Juan, the brilliant and unscrupulous gallant, is the subject of many other works, including Espronceda's *Estudsante de Salamanca*, Mérimée's *Les Âmes du Purgatoire*, Byron's *Don Juan*, Balzac's *L'Elixir d'une longue vie*, Browning's *Fifine at the Fair*, and Shaw's *Man and Superman*

donkey see ASS

Donna, city (1940 pop 4,712, 1947 estimated pop 6,000), extreme S Texas, WNW of Brownsville, founded c 1902 In the irrigated section of the lower Rio Grande valley, it has canneries, dehydrating plants, and small industries

Donnacona, town (pop 3,064), S Que , on the St Lawrence at the mouth of Jacques Cartier river It has a pulp and paper mill

Donnai see DONG NAI

Donnay, Maurice (mōrĕs' dônā'), 1859–1945, French dramatist Highly successful in the field of light comedy, Donnay showed versatility in many genres—fantasy in *Éducation de Prince* (1900), psychological depth in *Amants* (1895), *L'Autre Danger* (1902), and *Paraître* (1906), and social problems in *La Clairière* (with Lucien Descaves, 1900) He was elected to the French Academy in 1907 Autobiographical works comprise *Pendant qu'ils sont à Noyon* (1917), *Autour du Chat Noir* (1926), and *Mes débuts à Paris* (1937)

Donn-Byrne, Brian Oswald. see BYRNE, DONN

Donne, John (dŭn, dŏn), 1572–1631, English poet and divine Reared a Roman Catholic, Donne was educated at Oxford and Cambridge and at Lincoln's Inn He traveled on the Continent and in 1596–97 accompanied the earl of Essex on his expeditions to Cádiz and the Azores On his return he became secretary to Sir Thomas Egerton (later Baron Ellesmere), lord keeper of the great seal, and achieved a reputation as a poet and public personage His writing of this period, including his *Songs and Sonnets* and *Problems and Paradoxes*, consisted of cynical, realistic, often sensual lyrics, essays, and verse satires Donne's court career was ruined by the discovery of his marriage in 1601 to Anne More, niece of Sir Thomas Egerton's second wife, and he was imprisoned for a short time After 1601 his poetry became more serious, in *An Anatomy of the World* (1611) and *The Progress of the Soul* (1612) He wrote prose on religious and moral subjects, a polemic against the Jesuits, *Bathanatos* (not published until 1644), a qualified apology for suicide, and the *Pseudo-Martyr* (1610) After long uncertainty, during which he was twice a member of Parliament, Donne at the wishes of King James I took orders in 1615 He was made reader in divinity at Lincoln's Inn, a royal chaplain, and in 1621 dean of St Paul's Donne was one of the most eloquent preachers of his day, his *Devotions* (1624) and some of his sermons were printed in his lifetime His profoundly religious and philosophical poetry of this period is some of the finest and most intense of all metaphysical poetry The death of his wife in 1617 deepened the tone especially of his *Holy Sonnets* His original, often paradoxical poetic expression influenced 17th-century metaphysical poets, who tended to spin long-drawn figures, the "conceits" in imitation of him until their meaning was overshadowed In the 20th cent a number of poets, notably T S Eliot, have found inspiration in his work The best collections of his works are *Poems*, edited by H J C Grierson (1929) and R E Bennett (1942), and the *Complete Poetry and Selected Prose*, edited by John Hayward (1931) See the essays, *A Garland for John Donne* (ed by Theodore Spencer, 1931), biographies by Donne's friend Izaak Walton (1658), Edmund Gosse (1899), and Evelyn Hardy (1942), studies by E M Simpson (1924), Pierre Legouis (1928) C M Coffin (1937), M A Rugoff (1939), and M F. Maloney (1944)

Donnelly, Ignatius, 1831–1901, American author and political reformer, b Philadelphia He studied law, was admitted to the bar, and in 1856 moved to Minnesota There he energetically but unsuccessfully tried to promote Nininger, SE of St Paul, as the coming metropolis of the Middle West He then turned to politics and served as Republican lieutenant governor of Minnesota (1859–63) and U S Representative (1863–69). Donnelly, who had been active in the Liberal Republican party, became a leader of other third-party movements on the agrarian frontier. As editor of the weekly *Anti-Monopolist* (1874–79) and later (1894–1901) of the

Representative, a Populist organ, he expounded his radical views. He was a state senator (1874–78) and representative (1887–88) and subsequently held one or the other of these offices almost continually until his death, vainly seeking reforms He built up the Minnesota Farmers' Alliance, was its president from 1890 to 1894, and led it into the POPULIST PARTY, of which he was a founder He wrote the Populist platform of 1892, famous for its ringing preamble, which became the Populist creed Donnelly's nonpolitical writings were, however, more successful His *Atlantis the Antediluvian World* (1882, rev ed, 1949) probably has gone through at least 50 editions or printings and was long a leading best seller In his remarkable work, charmingly written and displaying Donnelly's vast erudition, the author argued that the world's original civilization had developed on ATLANTIS In *Ragnarok the Age of Fire and Gravel* (1883), which also had a large sale, although it did not approach that of *Atlantis*, Donnelly claimed that the earth's clay, gravel, silt, and sand resulted from contact with a mighty comet in some prehistoric time *The Great Cryptogram* (1888) was not a financial success, but its thesis that Francis Bacon wrote the Shaksperian plays stirred up a lively literary controversy Of his three novels *Caesar's Column a Story of the Twentieth Century* (1890) was the most popular. It told of the collapse of civilization from class struggles and foresaw dirigibles, television, and other blessings (or horrors) that have since come into existence Donnelly's lifelong but generally futile fight for the underdog doubtless influenced his gloomy view of the future Styled a "crank" in his day, he was a brilliant if unconventional personality

Donner Party (dŏ'nur), group of emigrants to California who in the winter of 1846–47 met with one of the most famous tragedies in Western history The California-bound families were mostly from Illinois and Iowa, and most prominent among them were the two Donner families and the Reed family In going west they unfortunately took an unknown cutoff after leaving Fort Bridger and were delayed They suffered greatly in crossing the salt flats W of Great Salt Lake, and there was dissension and ill feeling in the party when they reached what is today Donner Lake in the Sierra Nevada They paused (Oct, 1846) to recruit their strength, and early snow caught them, falling deep in the passes and trapping them Their limited food gave out, the cold continued, and suffering in the huts on Alder Creek and Donner Lake grew intense A party that attempted to make its way through the snow-choked passes in December suffered horribly The surviving members of the Donner Party were driven to cannibalism Finally expeditions from the Sacramento valley made their way through the snowdrifts to rescue the hunger-maddened migrants Only about half the party reached California The survivors later disagreed violently as to details of (and particularly blame for) the disaster See C F McGlashan, *History of the Donner Party* (2d ed, 1881, reproduced with notes 1940), G R Stewart, *Ordeal by Hunger* (1936) **Donner Lake,** named for the party, is today a popular mountain resort, near Truckee There is a monument to the party Near-by **Donner Pass** has a U S weather observatory

Donnybrook, suburb of Dublin, Co Dublin, Ireland, part of Pembroke dist It was famous for its fair, licensed by King John in 1204 and suppressed in 1855 because of its disorderliness

Donoghue, John (dŏ'nəhū), 1853–1903, American sculptor, b Chicago, studied at the Academy of Design, New York, and in Paris His *Young Sophocles Leading the Chorus after the Battle of Salamis*, executed in 1885, ranks high among American ideal figure subjects One of his later works, *St Paul*, is in the Library of Congress

Donora (dŭnō'rŭ), borough (pop 13,180), SW Pa, on the Monongahela and S of Pittsburgh, inc 1901. Zinc, iron, and steel works and wire-processing plants are of importance here

Don Quixote de la Mancha (dŏn' kēhō'tā dā lä män'chä, Eng dŏn" kwĭk'sŭt), title of the masterpiece of Miguel de CERVANTES SAAVEDRA Don Quixote, a country gentleman who has read too many chivalric romances, mounts his nag Rosinante and, accompanied by the peasant Sancho Panza as squire, sets out on a series of extravagantly chivalrous adventures of his own, choosing for his lady a country girl, whom he calls Dulcinea del Toboso The adventures of the strangely contrasting pair—the Don with his fantastic imagination, Sancho with his hardheaded practicality—combine to make one of the greatest pictures of human life ever written, a book in which humor, pathos, and philosophy are admirably blended Cervantes published the first part of the novel in 1605 and was working on the sequel when a spurious continuation was published in 1614 by Alonso Fernández de AVELLANEDA Cervantes was spurred by this to bring out his second part in 1615 The first English translation of *Don Quixote* was made by Thomas Shelton (1612–20) The burlesque qualities of the book were overemphasized until the translation by Samuel Putnam (1949).

Dooley, Mr.: see DUNNE, FINLEY PETER.

Doolittle, Hilda, pseud **H. D.,** 1886–, American poet, b Bethlehem, Pa, educated at Bryn Mawr After 1911 she lived abroad In England she came under the influence of Ezra Pound and, with Amy Lowell, became one of the most original of the imagist poets, many of her poems first appearing in the magazine *Poetry* In 1913 she married Richard Aldington, English writer, from whom she was later divorced Her first book of verse, *Sea Garden* (1916), was followed by *Hymen* (1921), *Heliodora and Other Poems* (1924), and *Red Roses for Bronze* (1929, 2d ed, 1931) Her *Collected Poems* appeared in 1925 and 1940

Doolittle, James Harold, 1896–, American general of the Army Air Forces, b Alameda, Calif, grad Massachusetts Institute of Technology, 1925 After serving in the First World War, he became noted for his speed records and speed tests and then engaged in commercial aviation In 1940 he was recalled to the Army Air Corps Doolittle commanded the bombers that raided (April 18, 1942) Tokyo and other Japanese cities from the aircraft carrier *Hornet* He later headed the North African Strategic Air Forces and the 8th Air Force In 1945 he resigned from the army

Doom or **Doomsday** see JUDGMENT DAY

Doomsday Book see DOMESDAY BOOK

Doon (dōōn), river of Ayrshire, Scotland, flowing c 30 mi NW through Loch Doon (6 mi long) to the Firth of Clyde S of Ayr Robert Burns sang of its beauties

door. Apart from the crude flaps of hide or textiles used among primitive peoples, the earliest known type of door was the single heavy wooden slab, with pivots at top and bottom fitting into sockets of the stone head and sill, in the dry climate of Egypt, these did not warp In Syria, where wood was scarce, and elsewhere until the Roman era, similar pivoted doors were sometimes made of stone or marble, usually paneled to lessen the weight, other doors of Syria, Palestine, and Mesopotamia were of wood, as in the famous gates of Balawat (895–825 B C), sheathed with decorated bands of bronze Greek doors, none of which are preserved, were probably of paneled wood Many doors of the Roman and Byzantine eras were formed of bronze sheets hammered in relief designs, and applied over paneled wood Notable examples are the superb doors of the Pantheon (2d cent A D) at Rome and those of Hagia Sophia at Constantinople Doors in the Middle Ages were marked by the advent of the hinge, which replaced the pivot late in the 12th cent Medieval doors, especially of the large cathedral portals, were usually of wood—heavy vertical planks, decorated with intricate foliated wrought-iron hinge plates which often formed a lacework over the whole face of the doors, those of Notre Dame at Paris are noteworthy With the Renaissance in Italy came the solid cast bronze door, a type initiated by those of the baptistery at Florence by Andrea PISANO and GHIBERTI—the most celebrated in history These doors, enriched with modeled ornament and panels of pictorial sculpture, established a type which has been perpetuated in most monumental doors of modern times Besides the ordinary hinged or pivoted door, there are many other types used for special purposes The sliding door is arranged to move, usually on a track, parallel and close to the face of the wall or into a pocket in the wall, it is used chiefly in monumental interiors and commercial structures or for barns where large openings are needed The Dutch door, a form occasionally used in American houses, is divided horizontally near the middle, the upper and lower parts being independently hinged For very wide openings, folding doors, often of the multileaf accordion type, are used The 20th cent has seen the development of many new types of doors to fill the complex needs of modern business and industry The revolving door, used in entrances of public and commercial buildings, consists usually of four leaves, equally spaced at right angles around a central pivot at the axis of a cylindrical structure of glass and metal within which they revolve The overhead door, a recent development originally applied to garage doors, consists of a number of horizontal sections hinged together, counterbalanced, and sliding on a track upward to a horizontal position along the ceiling Fireproof doors, required by law for many purposes, may be either hollow metal doors, a frame of steel shapes sheathed with metal, or kalamein doors, a wooden core incased in sheet metal

Doorn (dôrn), village, Utrecht prov, central Netherlands It was the refuge of Emperor William II of Germany from 1919 till his death in 1941

Door Peninsula (dôr), NE Wis, between Green Bay and Lake Michigan It is crossed by a waterway at Sturgeon Bay Cherry growing is an important industry. The peninsula was visited as early as the 17th cent by French explorers and missionaries

Dophkah (dŏf'kŭ), desert camp Num 33 12

Doppler, Christian Johann (krĭs'tyän yō'hän dŏ'plur), 1803–53, Austrian mathematician and physicist He was professor at the Polytechnical Institute, Vienna (1848–51), and at the Univ of Vienna (from 1851) He formulated **Doppler's principle** in *Über das farbige Licht der Doppelsterne* (1842) This principle states that as the distance between a source of wave motion (e g, sound or light) and an observer becomes less or greater the frequency of the waves received by the observer increases or decreases respectively This effect on the apparent frequency resulting from motion of source or observer is called the Doppler effect It is evident in the case of sound by the rise in pitch as the distance between source and observer decreases and the drop in pitch when the distance increases In the case of light, the approach of source or observer causes a shift of color toward the violet end of the spectrum, while the receding of source or observer causes a shift toward the red of the spectrum This effect is of great importance in astronomy in measuring the motions of stars

Dor or **Dora,** seaport, ancient Palestine, probably not far N of Caesarea It was never a Jewish city, but rather a Phoenician outpost It was rebuilt by the Romans and fortified by the Crusaders, if the identification is correct Joshua 11 2, 12 23, 17 11; Judges 1 27, 1 Kings 4 11, 1 Chron 7 29, 1 Mac. 15 11,13,25

Dora, town (pop 1,032), NW central Ala, NW of Birmingham, in the industrial area

Dora Baltea (dô'rä bältā'ä), river of Piedmont, NW Italy, flowing from Mt Blanc SE through the Val d'AOSTA to the Po below Turin In the valley there are many hydroelectric power plants The **Dora Riparia** (rēpä'rēä) rises near Mt Cenis and flows into the Po at Turin

Dorat, Jean see DAURAT, JEAN

Dorcas or **Tabitha** (tăb'thu) [Dorcas is Gr for Aramaic *Tabitha*=gazelle], Christian woman of Joppa whom St Peter raised from the dead She made clothes for the poor Acts 9 36–43

Dorchester, Guy Carleton, 1st Baron see CARLETON, GUY

Dorchester (dôr'chĭstûr) **1** Municipal borough (pop 10,030), county town of Dorsetshire, England, on the Frome and N of Weymouth William Barnes lived here Thomas Hardy was born here and built "Max Gate," overlooking the city, which is the Casterbridge of the Wessex novels. There are remains of the Roman crossroads station Durnovaria, at Maumbury Rings near by was an amphitheater MAIDEN CASTLE is southwest of the town **2** Village, Oxfordshire, England, SSE of Oxford on the Thame a mile from its confluence with the Thames From the 7th to the 11th cent it was the seat of an important bishopric The abbey church, with its stone Jesse window (showing the descent of Jesus from Jesse), dates partly from the 13th cent

Dorchester, Mass see BOSTON

Dordogne (dôrdô'nyu), department (3,561 sq mi; pop 387,643), SW France, in PÉRIGORD, traversed by the Dordogne river Périgueux is the capital

Dordogne, river, 305 mi long, SW France Rising near the Puy de Sancy in the Auvergne Mts, it flows W through PÉRIGORD and joins the Garonne N of Bordeaux, to form the Gironde There are famous vineyards along its lower course

Dordrecht (dôr'drĕkht) or **Dort** (dôrt), municipality (pop 67,591) and town, South Holland prov, SW Netherlands, at the point where the Lower Merwede divides to form the Noord and Old Meuse (*Oude Maas*) rivers An important rail junction and river port, it also produces heavy machinery and chemicals Founded in the 11th cent and chartered in 1220, Dordrecht was the scene (1572) of the meeting of the Estates of Holland that proclaimed William the Silent stadholder Dordrecht has a 14th-century Gothic church (Groote Kerk) and an art museum (see SCHEFFER, ARY) Jan de Witt was born here The Synod of Dort (1618–19) condemned the REMONSTRANTS

Doré, Paul Gustave (pôl' gŭstäv' dôrā'), 1833?–1883, French illustrator, engraver, painter, and sculptor He is best known for his highly imaginative and dramatic illustrations As first he did his own engraving on wood, but as his success grew, his later work was done in collaboration with numerous engravers His lively illustrations for the Bible, *Paradise Lost*, the *Divine Comedy*, *Don Quixote*, Balzac's *Contes drolatiques*, the works of Rabelais, the *Fables* of La Fontaine, and other classics have made him the best-known illustrator in the world He particularly excelled in weird, fantastic scenes As a painter Doré is represented by *Retreat from Moscow* in the Metropolitan Museum. His monument to Dumas père is in the Place Malesherbes, Paris, and his colossal vase called *The Vintage* is in Golden Gate Park, San Francisco.

Dore, Mont see MONT-DORE

Doremus, Robert Ogden (dûrē'mŭs), 1824–1906, American chemist, inventor, and physician, b New York city, M D Univ. of the City of New York (now New York Univ), 1850 He was a founder (1850) of the first New York Medical College (no longer in existence) In 1852 he became professor of natural history and later (1864–1903) of chemistry and physics at the New York Free Academy (later the College of the City of New York) An authority on toxicology, he also made special researches on light, heat, and gases and produced an arc light, using Bunsen cells for current His son,

Charles Avery Doremus, 1851–1925, American chemist, taught (1882–1904) at the College of the City of New York. He made a special study of toxicology

Doremus, Sarah Platt (Haines), 1802–77, American social worker, feminist, and philanthropist, b New York city She organized a home for discharged women prisoners (1842) and helped found the New York Woman's Hospital (1855) She was the mother of R O Doremus

Doria, Andrea (andrā'ä dô'rēä), 1468–1560, Genoese admiral and statesman, of an ancient family prominent in the history of Genoa He started his career as a condottiere and in the ITALIAN WARS fought for Francis I of France In 1528 he fell out with Francis and went over to Emperor Charles V, under the condition that the independence of Genoa be preserved Doria became virtual dictator of Genoa, but even under the constitution he imposed the republican institutions were preserved He mercilessly suppressed conspiracies against him (1547, 1548) and ended factional strife As admiral of the fleet, Doria assisted the Spanish against the Turks and the pirate BARBAROSSA He helped Charles V in taking Tunis from Barbarossa in 1535 but failed at Algiers in 1541 In 1559 he recovered, with French aid, Corsica for Genoa

Dorians, one of the traditional branches of the ancient Greek people Their name was mythologically derived from Dorus, son of HELLEN They seem to have been the last of the waves of Greek migration into present Greece from the north and supposedly arrived just before 1000 B C , defeating and displacing the Achaeans They settled in the Peloponnesus, but rapidly extended to Crete and spread colonies to Italy, Sicily, and Asia Minor Sparta and Crete are generally considered the Dorian areas par excellence, where the invaders maintained their separate societies and the conquered were kept subject The Dorian dialect was thought by the Athenians to be harsh and rough The Dorians are supposed to have contributed greatly to the development of pottery and sculpture and to have invented the choral lyric The severity of Spartan dress and manners and the plain simplicity of Doric architecture is thought by some to reflect the Dorian spirit

Doric order, the earliest of the orders of architecture developed by the Greeks and the one which they employed for most buildings As possible prototypes for the column with its cap, both the rock-cut columns at Beni Hassan in Egypt and the columns of pre-Hellenic architecture in the Aegean islands have been proposed, while the cornice details, which have a resemblance to carpentry forms, have led to the theory of a wooden origin The type had arrived at a definite form in the 7th cent B C , but further improvements produced the perfected order of the 5th cent B C as it appeared in the PARTHENON and the PROPYLAEA at Athens The Greek Doric column has no base Its massive shaft generally treated with 20 flutes, terminates in a simple CAPITAL composed of a group of annulets, a projecting curved molding called the echinus, and a square slab or abacus at the top The entablature, which is generally about one third the column height, consists of a plain architrave, a frieze ornamented with channeled triglyphs between which are square spaces or metopes sometimes used for sculpture, and a cornice The cornice has projecting blocks or mutules in its soffit, above which is a plain vertical face or corona, finished by a group of crowning moldings The proportions, heavy in the earliest Doric columns, became more slender in the perfected type, the entasis became less sharp, and the echinus projection was diminished The Roman Doric, while derived from the Greek, was probably also influenced by a simple and slender column developed by the Etruscans It was infrequently used, but examples are seen in the Colosseum and the theater of Marcellus The column differs from the Greek in its addition of a base, changes of the cap profile, and greater slenderness In codifying the Roman orders, the 16th-century Italians established as a Tuscan order a form of simplified Doric in which the column had a simpler base and was unfluted, while both capital and entablature were without adornments

Dorigny, Sir Nicolas (dôrē'nyē), 1657?–1746, French engraver, son and pupil of Michel Dorigny, also an engraver He worked for 15 years at Hampton Court and is known for his engravings from the works of Raphael and other masters

Dorion, Sir Antoine Aimé (ätwän' āmā' dôryô'), 1818–91, Canadian politician and jurist, b Quebec prov , educated at Nicolet College After 1842 he practiced law in Montreal, but in 1854 he entered political life, serving first in the legislative assembly of Canada, where he became a leader of the French Canadian liberals, and after confederation (1867) in the Canadian House of Commons Although an opponent of confederation, on the grounds that it would imperil French Canadian interests, he accepted it when dominion status had been won, and in the Liberal government of Alexander Mackenzie, he briefly held (1873) the post of minister of justice, resigning to accept appointment (1874) as chief justice of the court of Queen's Bench, Quebec Over this court Dorion presided until his death. He was knighted in 1877

Dorion (dô'rēŏn), town (pop 1,292), S Que , on the Ottawa river and W of Montreal.

Doriot, Jacques (ăhăk' dôryō'), 1888–?, French Fascist leader Originally a Communist, he was expelled (1932) from the party for adhering to Trotskyism and almost immediately swung to the extreme right, a maneuver then regarded as unprincipled He was nonetheless reelected to the chamber of deputies and founded the French Popular party Recruiting a large number of thugs, his party opposed virtually everything except Doriot and Hitlerism Doriot came into his own after the defeat (1940) of France Though treated coolly by the Vichy government, Doriot was strongly backed by the German occupation authorities He organized an auxiliary youth movement, recruited for a French legion to fight Russia, and sought to control the French laborers in Germany He fled (1944) to Germany with the Vichy government and early in 1945 was—unreliably—reported killed in an air raid

Doris, small mountainous district, central Greece, inland between the Gulf of Corinth and the Malic Gulf Its sole importance was that it was traditionally the home of the Dorians, who may have paused there in their invasion of Greece It was, therefore, favored by Sparta

Dorking, urban district (1931 pop 10,111, 1943 estimated pop 18,115), Surrey, England It is at the edge of the North Downs, near the foot of Box Hill (600 ft high), where George Meredith lived for many years. Dorking is a market and residential town

Dormont, residential borough (pop 12,974), SW Pa , near Pittsburgh, settled c 1790, inc 1909

dormouse, small, squirrellike, nocturnal rodent of the Old World which lives in bushes and trees It has prominent black eyes and a bushy tail Like the squirrel, it sits on its hind legs when eating and stores food for winter The common dormouse of Europe is the smallest of the group (about 5½ in long including the tail) and is mainly yellowish red in color It hibernates from fall to spring The flesh of a gray species with black markings is esteemed as food on the continent of Europe The dormouse appears in *Alice in Wonderland*

Dornier, Claude (klōd' dôrnyā', dôrnēr'), 1884–, German aircraft designer and manufacturer, son of a French father and a German mother He worked for the Zeppelin company from 1910 and from 1927 manufactured at his plant at Friedrichshafen and at its branches many types of seaplanes, fighter planes, and commercial aircraft, including the giant flying boat *DO-X* (1929), which made its first transatlantic flight to New York in 1931

Dornoch (dôr'nŏkh, -nōk), burgh (pop 725), county town of Sutherland, Scotland, on the northeast shore It is near the mouth of Dornoch Firth, an inlet of Moray Firth, and is a vacation resort Of a palace once belonging to the bishops of Caithness only its tower remains The cathedral (13th cent) was burned in 1570 and rebuilt in 1837 as the parish church Dornoch witnessed the last burning (1722) for witchcraft in Scotland The Scottish estate of Andrew Carnegie was at Tain, on the south side of Dornoch Firth.

Dorpat, Estonia see TARTU

Dorr, Rheta Childe, 1866?–1948, American author and feminist, b Omaha, Nebr She became a journalist in New York city in 1902, writing especially on subjects which concern women Her *What Eight Million Women Want* (1910) was successful propaganda for woman suffrage She was war correspondent for the New York *Evening Mail* and other papers (1917–18) and foreign correspondent with headquarters at Prahа (1920–23) A study of liquor laws in the Scandinavian countries resulted in *Drink—Coercion or Control* (1929) Especially notable among Mrs Dorr's books is her biography of Susan B Anthony (1928) See her autobiography, *A Woman of Fifty* (1924)

Dorr, Thomas Wilson, 1805–54, leader of Dorr's Rebellion (1842) in Rhode Island, b Providence, grad. Harvard, 1823 After studying law under Chancellor Kent in New York he practiced in Providence Although of a wealthy Whig family, he became the leader of the popular movement for universal manhood suffrage Rhode Island, still governed under the colonial charter of 1663, restricted the vote to men owning $134 in land Thus, most of the townspeople, whose numbers had greatly increased with the growth of industry, were disenfranchised Since the ruling conservatives were deaf to pleas for reform, Dorr's party called a constitutional convention (Oct , 1841) The People's Constitution was overwhelmingly approved, Dorrites claiming that the legal voters alone gave it a majority Another convention, called by the legislature, drafted the less liberal Freemen's Constitution, which was barely defeated Technically neither convention had been legal under the charter Early in 1842 both Dorr's followers and the charter government forces elected and organized governments, Dorr heading one and Samuel H King the other The Federal government declined to interfere. In May, Dorr, having the sympathy of most of the nation's Democrats, resorted to a show of arms. After an abortive assault on the Providence armory, his government collapsed and he fled the state King declared martial law, many Dorrites were arrested, and the leader himself was indicted for high treason Minor armed clashes and demonstrations caused much excitement The conservatives, finally persuaded of the strength of Dorr's cause, called yet another convention A new constitution, greatly liberalising voting requirements, was accepted by both parties. On its approval by the people in 1843, Dorr returned, was found guilty, and sentenced (1844) to solitary confinement at hard labor for life. The harshness of the sentence was widely condemned, and in 1845 Dorr, broken in health, was released. He was restored to his civil rights in 1851; in 1854 the court judgment against him was set aside See A M Mowry, *The Dorr War* (1901)

Dorrego, Manuel (mänwĕl' dôrā'gō), 1787–1828, Argentine statesman and soldier, governor of Buenos Aires province (1820, 1827–28) After serving for a time in the War of Independence, he returned (1816) to Buenos Aires and became a journalist He attacked the government of Juan Martín de PUEYRREDÓN and was banished (1817) Returning to Buenos Aires in 1820, he was provisional governor of the province (July–Sept , 1820). A leading advocate of federalism, he opposed the unitarian administration of Bernardino RIVADAVIA After Rivadavia's resignation and the dissolution of the national government, Dorrego became governor of Buenos Aires (Aug , 1827) He accepted (1828) on behalf of the nation the treaty of peace with Brazil His government was overthrown (Dec , 1828) by Juan LAVALLE, and Dorrego was executed

Dorr's Rebellion see DORR, THOMAS WILSON.

D'Ors, Eugenio. see ORS, EUGENIO D'.

D'Orsay, Alfred Guillaume Gabriel, count. see ORSAY, ALFRED GUILLAUME GABRIEL, COUNT D'

Dorset, Charles Sackville, 6th **earl of:** see SACKVILLE, CHARLES

Dorset, Thomas Sackville, 1st **earl of:** see SACKVILLE, THOMAS

Dorset, town (pop 1,128), SW Vt , N of Manchester, settled 1768 It is a resort of artists and writers The first commercial marble quarry in the United States was opened here by Isaac Underhill in 1785 Conventions that led to an independent Vermont were held in Dorset in 1775 and 1776 An 18th-century inn was made a library

Dorsetshire or **Dorset,** maritime county (973 sq mi , 1931 pop 239,352, 1948 estimated pop 272,800), S England, on the English Channel The county seat is Dorchester It is rolling country, crossed by chalk ranges running east and west (the North Downs and the South Downs) The rocky coast line has a fine harbor at Poole The fertile valleys (the Vale of Blackmore, the Stour, and the Frome) are devoted to agriculture Sheep raising and dairy farming are the chief occupations Portland and Purbeck marble are quarried here The pre-Roman antiquities include Maiden Castle, a large earthwork, estimated to have been constructed c 2000 B C Dorsetshire was part of the Anglo-Saxon kingdom of Wessex Thomas Hardy was born in Dorsetshire and treats of the region in his "Wessex" tales See C G Harper, *The Hardy Country* (1925), Arthur Mee, *Dorset* (1939)

Dorsey, George Amos (dôr'sē), 1868–1931, American anthropologist, b Hebron, Ohio, grad Denison Univ (B A , 1888) and Harvard (B A , 1890, Ph D , 1894) He was curator of anthropology at the Field Museum (now the Chicago Museum of Natural History) from 1898 to 1915, and he taught anthropology at the Univ of Chicago (1905–15) The study of the American Indian was his specialty, and he wrote many papers and monographs on their traditions and mythology After service in the First World War, he turned to writing and also lectured at the New School for Social Research in New York city His book *Why We Behave like Human Beings* (1925), an interpretation of human nature and psychology in terms understandable to laymen, was a best seller for months *The Evolution of Charles Darwin* (1927) and *Man's Own Show Civilization* (1931) are others of his books

Dort, Netherlands see DORDRECHT

Dortmund (dôrt'mŏont), city (1946 pop 436,491), in the former Westphalia prov of Prussia, NW Germany. It is an industrial center of the RUHR, on the Dortmund-Ems Canal Its name appeared in the 9th cent , and after 1220 it belonged to the Hanseatic League. Air raids in the Second World War damaged Dortmund.

Dortmund-Ems Canal (dôrt'mŏont-ĕms'), waterway, 175 mi. long, NW Germany, built 1892–99 It connects the industrial Ruhr district with the Ems river and the North Sea

Dorval (dôrvăl'), town (pop. 2,048), S Que , on the south shore of Montreal island and on the St Lawrence. It is the site of Montreal international airport Just offshore is the island of Dorval.

Dorylaeum (dôrĭlē'um), ancient city of N Phrygia, Asia Minor, now in NW Turkey. It was an important trading city of the Romans, but later fell to ruins At this spot on July 1, 1097, the Christians

of the First Crusade defeated the Seljuk Turks Many hold that the modern Eskisehir occupies the site, but the question is not settled

Dos Passos, John Randolph (dŏs pă'sŭs), 1844–1917, American lawyer, b Philadelphia He was admitted to the bar in 1865 and moved (1867) to New York city, where he conducted his practice. His *Treatise on the Law of Stockbrokers and Stock Exchanges* (1882) was a standard work He opposed the Sherman Anti-Trust Act in *Commercial Trusts* (1901) and vigorously advocated extensive legal reforms in *The American Lawyer* (1907)

Dos Passos, John Roderigo, 1896–, American novelist, b Chicago, grad Harvard, 1916 He served in the French and Italian ambulance services and as a private in the U S medical corps during the First World War. *Three Soldiers* (1921), his first successful novel, was a subjective portrait of individual helplessness in a mechanical society *Manhattan Transfer* (1925) presents a modern view of New York, its involved technique is applied to a larger canvas in *U S A* (1937), a trilogy which includes *The 42nd Parallel* (1930), *1919* (1932), and *The Big Money* (1936) A mechanistic chronicle, these novels record with ingenious fidelity the complex lives of American people in an industrial society A second trilogy, begun with *Adventures of a Young Man* (1939), was continued with *Number One* (1943) and concluded with *Grand Design* (1949) He also wrote *Tour of Duty* (1946)

Dosso Dossi (dŏs'sō dŏs'sē), 1479?–1542, Italian painter of the Ferrarese school, whose real name was Giovanni de Luteri Giorgione, Titian, and Raphael influenced him, and he was perhaps a pupil of Lorenzo Costa He often collaborated with his brother Battista (bät-tē'stä) (d 1548), a landscape painter Giovanni's early work is in Modena, but after 1514 he executed many decorative works for the ducal palace and churches of Ferrara, including frescoes, pictures, and cartoons for tapestries Both his landscapes and portraits show originality and imagination He was a friend of Ariosto, who mentions him in *Orlando Furioso* His works include *Circe in the Woods* (Borghese Villa), *The Three Ages of Man* (Metropolitan Mus), *The Standard Bearer*, *Scene from a Legend*, and *Saint Lucretia* (National Gall of Art, Washington, D C) See E G Gardner, *The Painters of the School of Ferrara* (1911)

Dost Mohammed (dōst'), 1793–1863, emir of Afghanistan He and his family struggled to get the emirate for years before he finally succeeded in establishing himself in 1826 He waged continual war with the Sikhs, and trouble with the British, beginning in 1838, led to the first (1839 42) of the Afghan Wars Defeated, he fled to India, but he later returned, and it was at least with British acquiescence that he regained the throne Friendly relations were resumed and an agreement was reached in 1855, but Britain firmly refused to support him against the Persians A strong, capable ruler, he helped to build Afghanistan and sought to play Russian interests against the British

Dostoyevsky, Feodor Mikhailovich (fyô'dur mĭkhĭ'lŭvĭch dŭstyĭ-ĕf'skĭ), 1821–81, Russian novelist, journalist, and short-story writer, b Moscow, son of a physician Sent (1837) to a military engineering school, he read avidly in foreign literature and when he had completed his course in 1843 turned at once to writing rather than the army His first novel, *Poor Folk*, finished in 1845, was praised by the great critic Belinsky and published (1846) by Nekrasov Between 1846 and 1849 Dostoyevsky wrote 12 short pieces of fiction, important chiefly as foreshadowing his later novels. In 1849 he was arrested for political activities as a member of the Fourierist Petrashevski circle Condemned to death, Dostoyevsky underwent the experience of waiting before a firing squad, but a courier arrived with the tsar's commutation order to four years at hard labor in Siberia, with service in the army thereafter These years of suffering and hardship caused him to turn for comfort to religion and were responsible in part for the expression in his novels of an overwhelming pity for humanity The attacks of epilepsy from which he suffered increased in frequency from this period In 1857 he married a widow with a son, whose support continued to be a burden to him long after his wife's death in 1864 In 1859 Dostoyevsky was permitted to return to St Petersburg, where his literary career was resumed With his brother he founded (1861) the magazine *Time*, in which several of his novels were serialized, notably *The House of the Dead* (1862) and *The Insulted and Injured* (1861–62) He made his first journey to Western Europe in 1862 On his second trip in 1863 (after *Time* had been suppressed by the government) he tried to recoup his financial losses by gambling but without success This passion for gambling, at which he always lost, he made use of later in the novels *The Gambler* (1866) and *A Raw Youth* (1875) It was on this journey that he met Polina Suslova, who became his mistress He and his brother revived their magazine in 1864 under the name *Epoch*, in this year appeared his next novel, *Notes from the Underground* (1864). In 1864 both his wife and his brother Michael died In the next years (1864–66) of financial hardship, the first of Dostoyevsky's great novels was taking shape In Raskolnikov, the hero of *Crime and Punishment* (1866), appears the dualism which is typical of Dostoyevsky's characters and perhaps of his own nature Another type which recurs in the novels, the "meek" character, is here represented by Sonya In 1867 Dostoyevsky married his secretary, Anna Grigorevna Snitkina. Her understanding both of his strength and of his weaknesses and her good business sense made his last years the happiest and most productive of his life In a period of about 10 years he wrote the rest of his major novels—*The Idiot* (1869), *The Possessed* (1872), *A Raw Youth* (1875), and *The Brothers Karamazov* (1879–80). Dostoyevsky was recognized in Russia as a great writer in his lifetime, but elsewhere an appreciation of his profound knowledge of human behavior has been slower in developing Most of his works have appeared in English in excellent translations by Constance Garnett and others See his *Diary of a Writer* (Eng tr , 1949) and *The Letters of Dostoyevsky to His Wife* (Eng tr , 1930), *The Diary of Dostoyevsky's Wife* (Eng tr , 1928), biographies by E H Carr (1931), Avrahm Yarmolinsky (1934), and J A T Lloyd (1947), critical studies by J Middleton Murry (1916), André Gide (Eng. tr , 1926), Gerald Abraham (1936), and E J Simmons (1940)

Dothaim (dŏthā'ĭm) or **Dothan** (dō'thăn), ancient city, central Palestine, in the uplands N of Samaria It was in the vicinity of Dothan that Joseph was sold into slavery and that the Syrians were blinded at Elisha's prayer It was later a stronghold Gen 37 17, 2 Kings 6 13, Judith 4 6, 7 3,18, 8 3

Dothan (dō'thun), city (pop 17,194), co seat of Houston co , SE Ala , near the Chattahoochee and the Fla line, in a diversified farm and timber region, inc 1885 It has trade and processing activities

Dou, Dow, or **Douw, Gerard** or **Gerrit** (all dou), 1613–75, Dutch genre and portrait painter of Leiden He first worked at engraving and glass painting His art was based on that of Rembrandt, to whom he was apprenticed for two years After a successful career as a portrait painter, he turned to painting domestic scenes often represented as in lantern light or candlelight, effects which he rendered with great skill Among his most famous works are *Evening School* (Rijks Mus), *Young Man* (The Hague), and *Dropsical Woman* (Louvre) The Metropolitan Museum has a self-portrait

Douai (dōō'ā, dōōā'), town (pop 35,509), Nord dept , N France, in Flanders Under the patronage of Philip II of Spain a Roman Catholic college was established here for English priests The Douay Bible was prepared at the college Louis XIV seized Douai in 1667, it capitulated to Marlborough in 1710, was retaken (1712) by Villars, and was restored to France by the Peace of Utrecht The town was rebuilt in the 18th cent and has kept most of its old buildings Held by the Germans in 1914–18 and 1940–44, it suffered heavy damage in both wars Today it has machine plants and coal mines

Douaumont (dōō-ōmō'), fort on the battlefield of VERDUN, NE France It was lost and recaptured by the French in 1916 The nearby cemetery has the graves of 10,000 unidentified soldiers

double bass, largest and deepest-toned instrument of the violin family, but tuned in fourths and having a flat back like the viol It was known as early as the 16th cent Sometimes it has had five strings, sometimes three, but four became standard in the 19th cent It sounds an octave lower than the notes written for it It is also called contrabass and bass viol

double bassoon see CONTRABASSOON

Doubleday, Abner, 1819–93, alleged originator of BASEBALL and Union general in the Civil War, b Saratoga co , N Y , grad West Point, 1842 The A G. Mills commission (1905–8) investigated the origin of baseball and reported that in 1839 Doubleday invented the game at Cooperstown, N Y — where the National Baseball Hall of Fame and Museum now stands This report has been denounced by many, who point out that a children's game similar to baseball had been played long before Doubleday's time Doubleday served in the Mexican War and in the Civil War He saw action at Fort Sumter, Antietam, Fredericksburg, and Gettysburg He wrote two volumes of Civil War reminiscences See Robert W Henderson, *Ball, Bat, and Bishop the Origin of Ball Games* (1947)

doublet (dŭ'blĭt), in Western Europe, a close-fitting garment for men. Usually extending below the waist and lined, padded, stiffened, or quilted (pourpoint), it was concealed under a fitted overgarment in the 14th cent and later was revealed under a cloak, gown, or jerkin or left uncovered Sleeves, when present, were often detachable It was superseded by the waistcoat in the late 17th cent. The doublet of defense was body armor made of metal plates, often cloth covered.

Doubs (dōō), department (2,031 sq. mi., pop 298,255), E France, in FRANCHE-COMTÉ, bordering on Switzerland along the Jura mts Besançon (the capital) and Montbéliard are the chief towns

Doubs, river, 267 mi long, E France and W Switzerland, rising in the French Jura N of Geneva It first flows northeast, parallel to the Swiss border, and for a short distance near Le Locle it forms that border, then after making a loop into Switzerland S of Porrentruy it runs W into France, turns sharply SW near Montbéliard, and runs southwest roughly parallel to its early course, till it reaches the Saône near Chalon, c 60 mi west of its source In its complicated course it flows through picturesque and geologically interesting gorges

Dougga (dōō'gu), village, Tunisia, SW of Tunis It is a tourist spot noted for ruins of the ancient city of Thugga, including a Punic mausoleum (2d cent B C), temples, arches, a theater, a circus, and an aqueduct of Roman times, and a Byzantine fortress

Dougherty, Denis J. (dō'ŭrtē), 1865–, American prelate, cardinal of the Roman Church, b. Ashland, Pa Educated at St Charles Seminary, Philadelphia, and at the American College, Rome, he was ordained in 1890 After teaching at St Charles Seminary (1891–1903), he was a bishop in the Philippines, first at Nueva Segovia (1903–8) and then at Jaro (1908–15) In 1915 he was translated to Buffalo and in 1918 was raised to the archbishopric of Philadelphia He was created cardinal-priest in 1921

Dougherty, Paul (dō'kurtē), 1877–1947, American marine painter, b Brooklyn, N Y After graduating from the New York Law School, he studied art in Paris, London, Italy, and Munich In 1907 he became a member of the National Academy of Design Among his best works are *The Land and the Sea* (Corcoran Art Gall , Washington, D C), *Lake Louise* and *October Seas* (Metropolitan Mus), and *A Freshening Gale* (Albright Art Gall , Buffalo, N Y) He is also represented in the Luxembourg Museum, Paris, the Art Institute of Chicago, the Carnegie Institute, Pittsburgh, and the Toledo and St Louis art museums

doughnut, small sweetened cakes of leavened dough deep-fried in lard or other fat, called also friedcakes or crullers. Usage differs as to the names Originally, the doughnut was a "nut" or ring of yeast-bread dough, and the cruller, a Dutch cake, differed from it mainly in shape, being twisted, curled, or gashed across The German doughnut, however, was leavened only by much beating and many eggs, although it was similarly seasoned and fried In some places a distinction is made between a doughnut and a friedcake, the former being made with yeast and the latter with buttermilk and soda or sweet milk and BAKING POWDER Old fashioned raised doughnuts are seldom made nowadays, and the three names are generally used in modern cookbooks, without distinction, as meaning cakes of the quick-bread type, flavored to taste, and fried in deep fat

Doughty, Sir Arthur George (dou'tē), 1860–1936, Canadian historian and archivist, b England He migrated to Canada in 1886 As archivist (1904–35) of the dominion, he served with signal success, the public archives of Canada are largely of his creating He wrote *The Canadian Archives and Its Activities* (1924) Doughty's historical works include *The Fortress of Quebec* (1904), *The Cradle of New France* (1908), and *The Acadian Exiles* (1916) With Adam Shortt he edited *Documents Relating to the Constitutional History of Canada, 1759–1791* (1907, rev ed , 1918) and *Canada and Its Provinces* (23 vols , 1913–17)

Doughty, Charles Montagu (dō'tē, dou'tē), 1843–1926, English author and traveler He is best known for his *Travels in Arabia Deserta* (1888), describing in stately and fascinating language his life among the Bedouins His poems include the epic *The Dawn in Britain* (1906). See biography by D G Hogarth (1928)

Doughty, Thomas (dou'tē), 1793–1856, American painter of the Hudson River school, b Philadelphia Though self-taught, he was one of the first American landscape painters to win widespread recognition at home and abroad His paintings, few in number, are mostly of river scenery Among the best are *On the Hudson* and *A River Glimpse* (Metropolitan Mus), *A View of the Schuylkill* (Edinburgh Mus), and others in the Corcoran Gallery, Washington, D C , the Brooklyn Museum, and the Pennsylvania Academy of the Fine Arts

Douglas, Archibald, 5th **earl of Angus,** 1449?–1514, chancellor of Scotland, son of the 4th earl (in the so-called Red Douglas line) In the rebellion (1487–88) of Scottish nobles against JAMES III, Angus earned his nickname of Bell-the-Cat by his audacious capture, according to his promise, of Robert Cochrane, the royal favorite most hated by the nobles He had joined Robert Stuart, duke of Albany, brother of James III, in intrigues against the king, but renounced him later and served James IV from 1493 to 1498 as lord chancellor Two of his sons were killed at Flodden Field (1513) after he had vainly tried to dissuade James from fighting there, and he was succeeded the next year by his grandson

Douglas, Archibald, 6th **earl of Angus** (ăng'gŭs), 1489?–1557, Scottish nobleman, grandson of Archi-

bald Douglas, 5th earl of Douglas. His marriage to Margaret Tudor, sister of Henry VIII and widow of James IV, alienated the Scotch noblemen and caused Margaret to lose the regency to John Stuart, duke of Albany. A struggle for control of the young James V ensued between Angus and Albany, with Margaret favoring first her husband, then Albany. In 1528 Margaret obtained a divorce, and Angus, deprived of his lands because of his alliance with Henry VIII, left for England. At King James's death in 1542 Angus returned to Scotland, was restored to power, and was soon patriotically fighting England. But he continued to correspond with Henry and to contest the power both of the regent James Hamilton, earl of Arran, and his successor, the dowager queen, Mary of Guise. The 7th earl was his nephew, David.

Douglas, Archibald, 8th **earl of Angus,** 1555–88, Scottish nobleman, grandnephew of Archibald Douglas, 6th earl of Angus. During the regency of his uncle, James Douglas, 4th earl of MORTON, from 1573 to 1578, he held a number of important positions, including the lieutenant generalcy of south of the Forth. At the fall of Morton, Angus was declared guilty of treason and escaped to England, but in 1582 he returned to Scotland and was reconciled to King James VI. As an ardent Presbyterian, he opposed James STUART, earl of Arran, and in 1584 after an unsuccessful attempt to remove him from power, Angus again fled to England. In the next year he took part in another rebellion, which brought about the downfall of Arran and his own return to power.

Douglas, Archibald, 3d **earl of Douglas,** 1328?–1400?, Scottish nobleman, illegitimate son of Sir James Douglas. He was knighted for his service in the French war of 1356. In 1361 he was made constable of Edinburgh, and in 1364 he became warden of the Western Marches. In 1369 and 1371 Sir Archibald served as ambassador to France. From 1380 until his death he both arranged truces with the English and engaged them in battle. In 1388, at the death of James Douglas, 2d earl of Douglas, he succeeded to the earldom and the Douglas estates. He had already acquired—by grant, purchase, and inheritance—Galloway and the Bothwell estates. At his death the Douglas family was the most powerful in Scotland.

Douglas, Archibald, 4th **earl of Douglas,** 1369?–1424, Scottish nobleman, called Tyneman [loser], second son of Archibald Douglas, 3d earl of Douglas. In 1390 he married Margaret Stuart, daughter of ROBERT III. During the English invasion of Scotland in 1401 he defeated the earl of March and Sir Henry Percy and held the castle of Edinburgh against Henry IV. In 1402 Douglas was tried and acquitted of the murder of David Stuart, duke of Rothesay, heir apparent to the throne. Later that year Douglas led the Scots against the English and was taken prisoner. He was then induced to join the Percies in a conspiracy against Henry, but at Shrewsbury he was taken prisoner by Henry and held until his ransom in 1408. From 1412 to 1422 Douglas continued his border warfare against England and eventually ransomed his young king, James I, from Henry V. In 1423 he and his Scottish contingent joined the French against the English. He was made lieutenant general of the French army and duke of Touraine. But in 1424 the allies were defeated at Verneuil, and Douglas was slain.

Douglas, Archibald, 5th **earl of Douglas,** 1391?–1439, Scottish nobleman, son of Archibald Douglas, 4th earl of Douglas. He fought in France for the French against the English in 1421 and persuaded his father in 1423 to go to France. Although Douglas was one of the Scottish nobles who accompanied James I home when that king returned in 1424 from his long English captivity, James so distrusted the Douglas power and loyalty that the earl was twice imprisoned for short times by royal order. After James's death in 1437, Douglas was lieutenant general of the kingdom in the minority of James II and the most powerful man in Scotland.

Douglas, Clifford Hugh, 1879–, English engineer and social economist, educated at Cambridge Univ. Author of the economic theory of SOCIAL CREDIT, he became (1935) chief reconstruction adviser to the SOCIAL CREDIT government of Alberta, Canada, but, differing with some of its policies, he shortly resigned. His books include *Economic Democracy* (1920), *Social Credit* (1924), *The Monopoly of Credit* (1931), *The Use of Money* (1935), and *The Alberta Experiment. An Interim Survey* (1937).

Douglas, David, 1798–1834, Scottish botanist. He made several journeys in North America between 1823 and 1834 to study American plants and sent to Scotland more than 200 plants and seeds then unknown in Europe. His journal, published in 1914, is of historical as well as of scientific importance, because he was one of the earliest travelers in the Oregon country and in California. In 1834 he traveled to Puget Sound and the Fraser river, then went to the Hawaiian Islands, where he was killed by a wild bull. The Douglas fir, which he observed c 1825, was named for him.

Douglas, Gawin (gä'win) **or Gavin** (găv'in), 1474?–1522, Scottish poet and churchman; son of Archibald (Bell-the-Cat) DOUGLAS, 5th earl of Angus. His ecclesiastical career was troubled by the jealousy the Scottish nobles felt toward the Douglas family. They prevented him for nearly a year from holding the see of Dunkeld, to which he had been appointed (1515). Involved in political quarrels caused by the queen's marriage to his nephew, the 6th earl of Angus, he suffered imprisonment and, just before his death, exile to England. His poetry was largely composed in the more peaceful period of his life, before 1515. He is one of the principal poets of the Chaucerian tradition, his allegories are often exceptionally fine, and his descriptive passages are remarkable. His poems are *The Palace of Honour*, *King Hart* (i.e., Heart), *Conscience*, and a translation of the *Aeneid*. The first two are long allegories, the third is less important, and the fourth is one of the first classical translations into English directly from the original. His works were edited (1874) by John Small of Edinburgh.

Douglas, George, pseud of **George Douglas Brown,** 1869–1902, Scottish novelist, educated at Oxford. He practiced journalism and was a publisher's reader. His novel, *The House with the Green Shutters* (1901), is a powerful, somber story of Scottish life. See Cuthbert Lennox, *George Douglas Brown: a Biographical Memoir* (1903).

Douglas, Sir Howard, 1776–1861, British general. He was a distinguished teacher of military strategy and an important authority on military and naval engineering. After a command in Canada (1795–99) he served intermittently as commandant of the senior department of the Royal Military College and inspector general of instructions there. Meantime he participated (1809–12) in the Peninsular War and the Walcheren expedition. While governor of New Brunswick (1823–31) he secured a charter for King's College at Fredericton (later the Univ. of New Brunswick) and attempted to settle the Maine boundary dispute with the United States. He was high commissioner of the Ionian Islands (1835–40). Douglas's many technical works include treatises on naval gunnery, steam navigation, armor-plating, land fortifications, national defense, and naval maneuvers.

Douglas, James. see QUEENSBERRY, JAMES DOUGLAS, 2d DUKE OF.

Douglas, James, 2d **earl of Douglas and Mar,** 1358?–1388, Scottish nobleman, son of William Douglas, 1st earl. In 1373 he married Isabel Stuart, daughter of King Robert II. In the raids on the English border made by Douglas and the French Admiral Vienne in 1385, Douglas succeeded in securing the chief advantages for the Scots. In the famous battle of Otterburn, celebrated in the ballads *Chevy Chase* and the *Battle of Otterburn*, Douglas's forces, though he was slain, were victorious, and his opponent, Sir Henry Percy (Hotspur), was taken captive.

Douglas, James, 9th **earl of Douglas,** 1426–88, Scottish nobleman, last earl of Douglas. Following the assassination of his brother William, the 8th earl, in 1452, he led a rebellion against King James II of Scotland. He was opposed by another Douglas, George, earl of Angus, and was defeated. He was reconciled to his king, but soon entered into a conspiracy with the English, and in 1455 he was defeated by James and Angus. Douglas escaped to England, but in 1483 was captured in a raid on Scotland and imprisoned the rest of his life. With him the first line of the earls of Douglas ended and their power passed to the Angus Douglases.

Douglas, James (d. 1581) see MORTON, JAMES DOUGLAS, 4TH EARL OF.

Douglas, James (1658–1712) see HAMILTON, JAMES DOUGLAS, 4TH DUKE OF.

Douglas, Sir James, 1803–77, Canadian fur trader and colonial governor, b. Scotland. In 1829 he went to Canada in the service of the North West Company, soon after its merger (1821) with the Hudson's Bay Company, he accompanied (1824) the noted John McLoughlin to the Columbia river country. By energetic and capable service, Douglas won promotion (1840) to chief factor, and in 1846 he succeeded McLoughlin in command of the Hudson's Bay Company territory W of the Rockies. On Vancouver Island, upon the site of the present Victoria, he built (1843) Fort Victoria, which became (1849) the western headquarters for the company. In 1851 he was appointed governor of Vancouver Island, and in 1858 he also became governor of the new colony of British Columbia on the mainland. At this time Douglas severed his long association with the Hudson's Bay Company. His governorship, which extended until 1864, was marked by a firm control of the colonies' affairs, made particularly turbulent by the gold rushes to the Fraser river and to the Cariboo region. Shortly before his retirement from office he was knighted (1863). See biographies by R. H. Coats and R. E. Gosnell (rev. ed., 1926) and W. N. Sage (1930).

Douglas, James, 1837–1918, Canadian metallurgist, mining engineer, and industrialist, b. Quebec city, educated at the Univ. of Edinburgh and at Queen's Univ., Kingston, grandfather of Lewis Williams Douglas. In his work as metallurgist he specialized in methods of extracting copper from its ore. In 1875 he went to the United States to take charge of a copper plant at Phoenixville, Pa. The copper properties which he bought (1880) in Arizona for a firm in New York city were the nucleus for the successful Copper Queen Consolidated Mining Company, of which he became president, it played a role in the development of the Southwest. An outstanding authority on mining and metallurgy, Douglas effected many reforms in the industry. He was twice president of the American Institute of Mining Engineers, and in 1900 he represented the United States at the mining congress in Paris. In addition to many technical papers, he wrote *Old France in the New World* (1905) and *New England and New France* (1913). See memoir by H. H. Langton (1940).

Douglas, Sir James de Douglas, lord of, 1286?–1330, Scottish nobleman, called the Black Douglas (from his dark complexion) and Douglas the Good, eldest son of William de DOUGLAS, lord of Douglas. In the struggle against Edward I of England he was deprived of his estates and made himself the terror of the border, even burning his own castle of Douglas twice to rid it of English garrisons. He joined ROBERT I (Robert the Bruce), led a force at Bannockburn, and was knighted there. When the Bruce went to Ireland in 1316 he left Douglas and Walter Stewart as regents of Scotland. In 1327 Douglas almost captured the young Edward III and did end the English campaign. After Robert the Bruce died, Douglas started with the Bruce's heart in a casket to bury it in Palestine, but was killed fighting the Moors in Spain. See Froissart's *Chronicles*, Barbour's *Bruce*, and Walter Scott's *Castle Dangerous* and *Tales of a Grandfather*.

Douglas, John Sholto see QUEENSBERRY, JOHN SHOLTO DOUGLAS, 8TH MARQUESS OF.

Douglas, Lewis Williams, 1894–, U. S. ambassador (1947–) to Great Britain, b. Bisbee, Ariz., grad. Amherst, 1916. After service in the First World War, he taught (1919–20) history at Amherst and devoted his attention to the rich copper mines developed by his grandfather and father. He served (1923–25) in the Arizona legislature, then represented (1927–33) Arizona in Congress. Douglas was appointed (1933) director of the budget by President F. D. Roosevelt, but he resigned in 1934 in disagreement with Roosevelt's fiscal policies. He was chosen (1937) by McGill Univ. to be its first American principal and vice chancellor. He served as deputy lend-lease expediter (1942–43) and deputy war shipping administrator (1943–44) before he was appointed ambassador to Great Britain.

Douglas, Norman (George Norman Douglas), 1868–, English novelist and essayist, b. Scotland. The best known of his works is *South Wind* (1917), a novel set in Capri. Other works include *Old Calabria* (1915), *They Went* (1920), *Together* (1923), *Three of Them* (1930), *Good-bye to Western Culture* (1930), *Looking Back, an Autobiographical Excursion* (1933), and *Late Harvest* (1946).

Douglas, Paul Howard, 1892–, American economist, b. Salem, Mass., Ph.D. Columbia, 1921. He joined the faculty of the Univ. of Chicago in 1920, was active as a government adviser, especially on problems of wages and social security, and served (1939–42) as alderman to the Chicago city council. In 1942 he enlisted in the U. S. Marine Corps, where he rose to the rank of major and was decorated. He was elected to the U. S. Senate in 1948. His books include *Real Wages in the United States, 1890–1926* (1930), *The Theory of Wages* (1934), and *Social Security in the United States* (1936, 2d ed., 1939).

Douglas, Stephen Arnold, 1813–61, American statesman, b. Brandon, Vt. He moved to the West as a young man and at Jacksonville, Ill., in 1834 was admitted to the bar. Douglas served two terms (1836–37) in the Illinois legislature and then became register of the land office at Springfield. He was appointed secretary of state for Illinois in 1840 and in 1841 became a judge of the state supreme court. He strengthened the Democratic party in Illinois, was a U. S. Representative (1843–47), and from 1847 until his death was a U. S. Senator. After 1847 he made his home in Chicago, where investments in real estate eventually made him wealthy. In the Senate, Douglas was made chairman of the Committee on Territories, an all-important post in the next decade because of the growing fight over the issue of slavery in the territories. For the COMPROMISE OF 1850, Douglas drafted the bills instituting territorial government in New Mexico and Utah, whose citizens were left free to act for themselves on all subjects of legislation (including slavery) not inconsistent with the Constitution. This was the essence of his doctrine of popular sovereignty (a phrase he coined later, in 1854), or SQUATTER SOVEREIGNTY, as its opponents contemptuously called it. When, in the early 1850s, expanding settlement and the great desire for a transcontinental railroad to the Pacific focused attention on the Nebraska region, Douglas proposed a bill in which, as in New Mexico and Utah, he left all question of slavery to the people of the new territory. A conference of leaders changed the bill to provide for two territories, and in this form the KANSAS-NEBRASKA BILL became law in 1854. Douglas really felt that

popular sovereignty would unite the Northern and Southern wings of the Democratic party and at the same time settle the slavery issue peacefully But he had not foreseen the bitter contest which would develop between proslavery and free-state settlers in KANSAS In his report on the Kansas situation he blamed the organized interference of interests outside the territory for the failure of popular sovereignty At the Democratic national convention of 1856, Douglas, unable to gather enough votes to win the presidential nomination, advised the support of James Buchanan and afterwards campaigned for him. However, when Buchanan decided to support the proslavery LECOMPTON CONSTITUTION, on which only the proslavery forces in Kansas had voted, Douglas rebelled and in one of his major speeches denounced both the Lecompton Constitution and the Buchanan administration It was a courageous and spectacular stand, but it only won him new enemies in the South while not losing old enemies in the North, who held, unfairly, that Douglas was moved by political expediency, for he was coming up for reelection in 1858 In this Illinois campaign the "Little Giant," as his admirers called him, was pitted against Abraham LINCOLN, Republican candidate The contest was made memorable by the Lincoln-Douglas debates, which first gave Lincoln a national reputation Of the seven debates, the second, held at Freeport on Aug 27, 1858, had the most important consequences There Lincoln shrewdly put to Douglas a question exposing the inconsistency between Douglas's doctrine of popular sovereignty and the U S Supreme Court's decision in the DRED SCOTT CASE—"Can the people of a United States Territory, in any lawful way exclude slavery from its limits prior to the formation of a State constitution?" Had Douglas answered No, in line with the Dred Scott decision, he would have offended many of his constituents and doubtless lost his seat in the Senate As it was, he replied that people of a territory could exclude slavery, since that institution could not exist for a day without local police regulations and these could be legislated only with their approval The Republicans won a popular majority in the ensuing election, but the Democrats controlled the legislature and Douglas was returned to the Senate However, his Freeport doctrine, as his answer to Lincoln's question was styled, had made him anathema to Southern Democrats Since they controlled the Senate, he was relieved of the chairmanship of the Committee on Territories The Democratic national convention at Charleston, S C , in 1860 adopted his recommendations in a platform advocating nonintervention with slavery in the territories, the demands of William L YANCEY that the Federal government protect the institution were thus rejected, and Yancey and other Southern delegates withdrew Although Douglas led on all 57 ballots taken there for the presidential nomination he was unable to muster the necessary two thirds of the vote, and the convention adjourned Reconvening at Baltimore, the Democrats finally chose him only after more Southern delegates withdrew to nominate their own candidate, John C Breckinridge Douglas won only 12 electoral votes, although he stood second to the victorious Lincoln in the popular count In the following months Douglas worked hard to effect a compromise between the sections, when that failed and the Civil War broke out, he vigorously supported Lincoln One of the greatest orators of his day, he made a speaking tour to rally the people of the Northwest in the crisis, but after an eloquent speech at Springfield, he was stricken with typhoid fever and died Douglas's reputation suffered with the growth of the Lincoln legend In recent years, however, it has been demonstrated that he was one of the few men of his era with a truly broad national vision, and this was both the basis for his honorable attempts to reconcile differences and for his ultimate political failure, because the age was essentially one of bitter sectional controversy See biographies by W G Brown (1902), Allen Johnson (1908), and C E Carr (1909), G F Milton, *The Eve of Conflict Stephen A Douglas and the Civil War* (1934)

Douglas, William · see LIDDESDALE, WILLIAM DOUGLAS, KNIGHT OF

Douglas, William · see QUEENSBERRY, WILLIAM DOUGLAS, 4TH DUKE OF

Douglas, William, 1st earl of Douglas and Mar, 1327?–1384, Scottish nobleman, son of Sir Archibald Douglas and nephew of Sir James de Douglas About 1348 he returned to Scotland from France and captured the Douglas lands from the English Later he took part in the negotiations for the ransom and release of DAVID II In 1354 he succeeded to the estates of his father and uncle and to the lands of his kinsman, William Douglas, Knight of LIDDESDALE, whom he had slain Douglas engaged in French-incited raids on the English border and fought for the French at Poitiers After the accession of Robert II he was made justiciar S of the Forth and received the lands of the earl of Fife. In 1373 his son James married Isabel Stuart, the king's daughter. At the death of his wife's brother in 1374 he received the lands and title of the earl of Mar. During his last years he fought the English and made peace with them He remained in constant attendance upon Robert Douglas had an illegitimate son by Margaret Stuart, countess of Angus in her own right This was George Douglas, who became 1st earl of Angus

Douglas, William, 6th earl of Douglas, 1423?–1440, Scottish nobleman, eldest son of Archibald Douglas, 5th earl of Douglas In answer to an invitation from the six-year-old King James II, a puppet controlled by Sir William Crichton and Sir Alexander Livingstone, Douglas and his brother visited the royal castle at Edinburgh and were there beheaded William had been 3d duke of Touraine, lord of Galloway and Annandale, and count of Longnville Now the earldom passed to James Douglas, son of Archibald Douglas, 3d earl of Douglas, and Galloway went to Margaret, sister of the 6th earl, who eventually married William Douglas, 8th earl The rest of the lands and titles were lost to the family, and the power of the Douglas clan was for a time broken.

Douglas, William, 8th earl of Douglas, 1425?–1452, Scottish nobleman, son of James Douglas, 7th earl of Douglas By marrying his cousin Margaret Douglas, the Fair Maid of Galloway, he reunited the two chief estates of his family Through the favor of James II he was able to avenge the death of the 6th earl by partially crushing Sir William Crichton and completely ruining Sir Alexander Livingstone When Douglas defied James, however, the king himself slew him at Stirling Castle His brother James succeeded to the title

Douglas, William de Douglas, lord of, d 1298, Scottish nobleman, called the Hardy (from *le Hardi* [the bold]) He was a Crusader and the first of his family to take the title of lord of Douglas For abducting and marrying a widow and royal ward, Eleanor of Lovain, he was deprived of his English estates by Edward I An unwilling subject of John de Baliol and then of Edward I, he at last rose (1297) with Sir William WALLACE, was captured, and died a prisoner in the Tower of London His eldest son was Sir James de Douglas

Douglas, William Orville, 1898–, American jurist, Associate Justice of the Supreme Court (1939–), b Maine, Minn , grad Whitman College, 1920, LL B Columbia, 1925 Professor of law at Yale, Douglas, a Democrat, was appointed (1934) to the Security and Exchange Commission, as chairman (1937–39) he pursued a vigorous policy of reform He was prominent as a liberal and a proponent of the New Deal He was appointed to the Supreme Court bench by President F D Roosevelt Douglas, in collaboration with C M Shanks, compiled (1931–32) many case books on business law See his autobiography, *Of Men and Mountains* (1950)

Douglas, capital (pop 19,328) of the Isle of Man, Great Britain It is a seaport The Tower of Refuge, near the harbor entrance, was built by William Hillary, founder of the Royal National Lifeboat Institution A favorite resort, Douglas has three piers and a 2-mile esplanade

Douglas, parish (pop 2,948), Lanarkshire, Scotland, on Douglas Water and SSW of Lanark Scott's "Castle Dangerous" has been replaced by the modern seat of the earls of Home The Church of St Bride (12th cent) was the burial place of the Douglases until 1761

Douglas. 1 City (pop 8,623), SE Ariz , at the Mexican boundary, inc 1905 The city grew about a copper smelter (built 1900) but is also a ranching center and a border port, with an international airport **2** City (pop 5,175), co seat of Coffee co , S central Ga , NW of Waycross, inc as a town 1895, as a city 1897 Douglas is a farm trade center It has a state junior college **3** Town (pop 2,617), S Mass , near the R I line SSE of Worcester, settled c 1721, inc 1746 Woolen goods are produced here **4** Town (pop 2,205), co seat of Converse co , E central Wyo , on the North Platte river and E of Casper, laid out 1886 It is trade center for a livestock, farm, and oil area The state fairgrounds are here Near by is the site of Fort Fetterman

Douglas and Mar, James Douglas, 2d **earl of** · see DOUGLAS, JAMES

Douglas and Mar, William Douglas, 1st **earl of:** see DOUGLAS, WILLIAM

Douglas fir or **Douglas spruce,** species of *Pseudotsuga, Pseudotsuga taxifolia,* not a true fir or spruce It is an immense coniferous evergreen of W North America and one of the most commercially valuable of native trees The wood, though variable, is usually hard and strong and used for many purposes, particularly construction The bark is used in tanning. Though native from Alaska to Mexico and E to Texas, it is cultivated elsewhere, both in Europe and the United States, for its attractive appearance Named for David Douglas, the tree is also sometimes called red fir, yellow fir, or Oregon pine

Douglass, Frederick, c 1817–1895, American abolitionist, b near Easton, Md The son of a Negro slave, Harriet Bailey, and an unknown white father, he took the name of Douglass (from Scott's hero in *The Lady of the Lake*) after his second, and successful, attempt to escape from slavery in 1838 At New Bedford, Mass , he found work as a day laborer An extemporaneous speech before a meeting at Nantucket of the Massachusetts Anti-Slavery Society in 1841 was so effective that he was made one of its agents Douglass, who had learned to read and write while in the service of a kind mistress in Baltimore, published his *Narrative of the Life of Frederick Douglass* in 1845. Fearing capture as a fugitive slave, he spent several years in England and Ireland, returning in 1847 with money sufficient to purchase his freedom At Rochester, N Y , he established the *North Star* and edited it for 17 years in the abolitionist cause Unlike Garrison, he favored the use of political methods and thus became a follower of James G BIRNEY. In the Civil War he helped organize two regiments of Massachusetts Negroes and urged other Negroes to join the Union ranks During Reconstruction he continued to urge civil rights for his people He was secretary of the Santo Domingo Commission (1871), marshal of the District of Columbia (1877–81), recorder of deeds for the same district (1881–86), and minister to Haiti (1889–91) *Life and Times of Frederick Douglass* (1941) is a final, revised edition of his autobiography See also biography by Booker T Washington (1907), Edmund Fuller, *A Star Pointed North* (1946), Shirley Graham, *There Was Once a Slave* (1947).

Douglas spruce. see DOUGLAS FIR

Douglasville, town (pop 2,555), co seat of Douglas co , NW Ga , W of Atlanta, settled on the site of an Indian village, inc 1875 Textiles are made

Douhet, Giulio (jōō'lyō dōōā'), 1869–1930, Italian military theorist He served in the First World War and was court-martialed for criticizing the Italian high command but was later recalled and in 1921 was promoted general His interest was in air power, and he attracted great interest by maintaining that command of the air could win a war despite land or sea power The matter is still debated The Second War proved the great significance of air power, but most observers felt that it showed that air power alone was not sufficient to win a war.

Doukhobors: see DUKHOBORS.

Doulton, Sir Henry (dōl'tŭn), 1820–97, English potter His revival of graffito, the old agate or salt-glazed stoneware of the late 17th cent , was the forerunner of many glazed wares At the Lambeth pottery he established a school which revived the art pottery industry and brought him the Albert gold medal of the Society of Arts. He was knighted in 1887 His Doulton ware is famous

Doulton ware, English pottery produced at Lambeth after 1815, first by John Doulton and his partners, then by his descendants It won the medal at the Exhibition of 1851 and more than 200 subsequent awards for the perfection of the various products and the beauty of their decoration by skilled artists who signed their work It includes brown stoneware with graffito or scratched designs, other salt-glaze pieces with black, brown, blue, bronze, green, gray, or white bodies, faience, impasto, and Carrara Sculptured terra-cotta plaques by George Tinworth won additional fame for Doulton ware Its factories became the Royal Doulton Potteries

Doumer, Paul (pōl' dōōmâr'), 1857–1932, president of the French republic (1931–32) He became a deputy in 1888, was governor general of Indo-China (1897–1902), was a senator after 1912, and served in several cabinets after the First World War Having succeeded Gaston Doumergue as president, he was assassinated by an insane Russian émigré

Doumergue, Gaston (gästôN' dōōmĕrg'), 1863–1937, president of the French republic (1924–31) and premier (1934) He entered politics in 1893 as a Radical Socialist deputy and served in various cabinets before and during the First World War He was unique in being a Protestant heading the modern French state When the DALADIER cabinet fell in Feb , 1934, as a result of the STAVISKY AFFAIR, Doumergue formed a new cabinet and was hailed by the rightists as the "strong man" of France He failed to obtain the extraordinary powers he demanded to lift France from its financial and political impasse, and in Nov , 1934, his coalition cabinet was succeeded by another under P E Flandin

Doumic, René (rünā' dōōmĕk'), 1860–1937, French literary critic He was editor of the *Revue des Deux Mondes* and from 1923 permanent secretary of the French Academy His criticism, of the type of BRUNETIÈRE, was nonrelativistic in seeking to discriminate between the good and the bad in literature His work appeared as *Études sur la littérature française* [studies in French literature] (1896–1909)

Doura, ancient city, Syria see DURA

Douro (dō'rō) or **Duero** (dōōā'rō), river of Spain and Portugal, more than 475 mi long Douro is the Portuguese, Duero the Spanish name It rises in the Sierra de Urbión, N central Spain, flows W through Old Castile and Leon past Zamora, then follows the Spanish-Portuguese border southwestward, before flowing W across Portugal to reach the Atlantic beyond Oporto Several hydroelectric power plants use its waters.

Douw, Gerard. see DOU.

Dove, Heinrich Wilhelm (hīn'rĭkh vĭl'hĕlm dō'və), 1803–79, German physicist. An authority on meteorology and climatology, he studied especially the distribution of heat on the earth's surface and winds and storms He worked also on induced electricity and on polarized light. He taught at the Univ. of Berlin from 1829

Dove (dŭv), river rising in Derbyshire, England, near Buxton, and flowing 40 mi S and SE to the Trent at Newton Solney It forms much of the Derbyshire-Staffordshire boundary Its watercourse was a haunt of Izaak Walton and still provides fishing The rocky and wood-bordered glen of Dovedale, below Hartington, is celebrated by artists and poets

dove, name applied to some of the smaller birds of the pigeon family, but often used synonymously with the name PIGEON The European rock dove is believed to be the ancestor of the domesticated pigeons The mourning dove is native to North America and is widely distributed over the continent Native also are the Inca and the Mexican ground doves, found from the SW United States to Central America, and the white-fronted dove, which has about the same range In religion and art the dove symbolizes peace, because of the dove which brought a sign of the end of the flood (Gen 8 8–12), it also represents gentleness (Mat 10 16) and a manifestation of the Holy Ghost (Mat 3 16) The TURTLEDOVE was used in Hebrew sacrifices (Lev 14 22) In Greek mythology the dove was sacred to Aphrodite

dove flower, Holy Ghost flower, or **Holy Spirit plant,** Central American ORCHID, *Peristeria elata*, with fragrant white, sometimes purple, spotted flowers thought to resemble a dove It has been cultivated for about a century

Dover, municipal borough (1931 pop 41,097, 1947 estimated pop 36,600), Kent, England, chief of the CINQUE PORTS, ESE of London, on the shores of a Channel bay, beneath chalk heights crowned with forts and castles The small Dour river, which flows through the town, gave it its name The Romans fortified the place and called it Portus Dubris, and in Anglo-Saxon times there was a fort at this "key to England" In 1216 it was defended by Hubert de Burgh against attack by the French In the civil wars it was taken (1642) by the parliamentarians It was the landing place of Charles II in 1660 Easternmost English port (21 mi from France), Dover was the center of English Channel defense and an important naval base in the First World War For four years in the Second World War it was a constant target of German long-range guns In the cliffs a series of subterranean caves and tunnels used formerly by smugglers served as shelters from 1940 to 1944 Dover is an important port for travel and shipping to the Continent and is a resort Improvement of the extensive harbor, protected chiefly by Admiralty and Prince of Wales piers, took place in the late 19th and early 20th cent Noteworthy are Shakespeare Cliff (the first coal in Kent was discovered here in 1822), the 13th-century Maison Dieu Hall, hostel of Hubert de Burgh; Dover Castle, of Roman or Saxon origin, the lighthouse, which is partly Roman, the Church of St Mary, in the castle, also with Roman work, the barracks, and St Martin's priory See J B Jones, *Annals of Dover* (1916)

Dover, 1 City (pop 5,517), state capital, and co seat of Kent co , central Del , on the St Jones river near Silver Lake and S of Smyrna, settled 1683, laid out 1717, inc as a town 1829, as a city 1929 In a rich farming and fruitgrowing region, it is a shipping and canning center with varied industries The old statehouse on the green, built in part in 1722 as county courthouse, has been the capital since 1777 Numerous historic homes and sites remain A home for dependent children is here, and Delaware State College (for Negroes) is near by. 2 Town (pop 1,374), E Mass , SW of Boston, settled c 1635, set off from Dedham 1784 3 City (pop. 14,990), co seat of Strafford co , SE N H , at falls of the Cocheco near its confluence with the Piscataqua; settled 1623, inc as a city 1855 Textiles and shoes are manufactured The town was organized in 1633 but grew slowly partly because of Indian depredations In the raid of 1689 the settlement was nearly destroyed Lord Saye and Sele and his group had large holdings here, 1633–41 A local library originated in 1792 The city has a 17th-century garrison house and an 18th-century Friends' meetinghouse The Woodman Institute (1915) has historical and natural-science collections Lincoln made a speech in Dover in 1860 and stayed overnight at the Lincoln House (built 1831) 4 Industrial town (pop 10,491), N N J , NW of Morristown, settled 1722, inc 1869 It grew as a port on the old Morris Canal The town was formerly an iron center, and powder plants near by brought great expansion in the early 1940s 5 City (pop 9,691), E Ohio, on the Tuscarawas and SSW of Canton, in a coal and fire-clay area, laid out 1807 and settled by German immigrants Electrical equipment, sheet steel, bricks, chemicals, and vacuum cleaners are among its varied products Near by are Atwood and Dover dams

Dover, Strait of, separating England from France and connecting the English Channel with the North Sea. It is 21 mi wide between Dover and Cape Gris-Nez, near Calais, and is called Pas de Calais by the French The Romans called it Fretum Gallicum It has been the scene of naval battles. In 1216 Hubert de Burgh defeated the invading French, and in 1588 the Spanish Armada received its first serious check in the strait.

Dover Center, Ohio see WESTLAKE

Dover-Foxcroft, town (pop 4,015), co seat of Piscataquis co , central Maine, NW of Bangor, formed in 1922 by the union of Foxcroft (settled 1806, inc. 1812) and Dover (settled 1803, inc 1822) towns The two parts are on opposite sides of the Piscataquis, which furnishes power for woolen mills See Mary C Lowell, *Old Foxcroft, Maine* (1935)

Doves Press (dŭvz), one of the leaders in the 19th-century revival of the art and craft of making books It was founded at Hammersmith, London, in 1900 by T J Cobden-Sanderson and Emery Walker, both of whom had been associated with William Morris in the work of the KELMSCOTT PRESS The masterpiece of the Doves Press was the Doves Bible (5 vols , 1903) The Doves type, suggested by type used by Nicolas Jenson in the 15th cent , was designed by Emery Walker The work of the press ended in 1916, when Cobden-Sanderson prevented further use of the type by throwing it into the Thames

Dovrefjell (dō'vrŭfyĕl), rough plateau of central Norway, culminating in Snohetta (Nor *Snøhetta*, 7,498 ft high) and dividing the country in two The sparsely inhabited region is crossed by the Dovre railway, opened in 1921

Dow, Gerard see DOU

Dow, Lorenzo (dou), 1777–1834, American evangelist, b Coventry, Conn Although connected at times with the Methodist Church, he was for much of his life an independent preacher He traveled between the North and the South on horseback, by 1830 Dow was nationally known, not only for his eloquence, but for his oddities of manner and dress He visited Ireland and England, where he introduced camp meetings See biography by C. C. Sellers (1928)

Dow, Neal, 1804–97, American prohibitionist, b Portland, Maine He helped organize the Maine Temperance Union in 1838 and prepared (1851) the famous "Maine Law," which superseded the less rigid prohibition legislation of 1846 Mayor of Portland (1851–59), Dow succeeded with difficulty in making his law operative in that city He lectured on prohibition throughout the United States and in 1857 visited England In the Civil War he rose to be a brigadier general of volunteers, twice wounded at Port Hudson (1863), he was captured and spent eight months in Libby Prison After the war he was the Prohibition party's candidate for President in 1880 See his reminiscences (1898)

Dowagiac (dō'wə'jăk), city (pop 5,007), SW Mich , SW of Kalamazoo, in a farm and lake region, settled 1848, inc as a village 1863, as a city 1877 Its stove industry began in the 1850s, furnaces and fishing tackle are also made Several Indian garden beds and mounds are near by

Dowden, Edward (dou'-), 1843–1913, Irish critic and essayist He is best known as a Shakspearian critic and a biographer of Shelley Dowden was an early and close friend of Walt Whitman

dower, the legal right to a life estate in a husband's real property which a wife acquires by marriage for her use and the use of their children after his death At common law dower consisted of a one-third interest in all the land which the husband owned during the marriage The right to a dower interest in land in the United States is generally determined by the law of the state where the land is situated In many states dower rights have been abolished, and other provisions, especially rights of inheritance, made for the widow Where it still exists, the dower right attaches to the land as soon as it comes into the husband's possession, for that reason it cannot be defeated by a conveyance of the land by the husband in his lifetime unless the wife joins in the deed Divorce if the wife is the guilty party or annulment of the marriage defeats the right of the wife to dower

Dowie, John Alexander (dou'ĭ), 1847–1907, founder of the Christian Catholic Apostolic Church in Zion, b Scotland He emigrated (1860) to Australia, where he was ordained as a Congregational minister, became interested in faith healing, and established the International Divine Healing Association Dowie came to America in 1888, in Chicago he founded his church in 1896 In 1901 he established Zion, Ill , which was composed of his followers and governed by special regulations laid down by Dowie Soon his administration was under criticism, and in 1905 he was deposed See fictionalized biography by Arthur Newcomb (1930)

Dowland, John (dou'-), 1563–1620, English composer, unsurpassed in his day as a lutanist His books of *Songes or Ayres* (1597–1603) established him as the foremost song composer of his time.

Down, maritime county (952 sq. mi.; 1937 pop. 210,687; 1948 estimated pop. 231,996, excluding Belfast, which lies partly within the county), Ulster prov , Northern Ireland. The county town is Downpatrick. The shore line extends along the Irish Sea from Belfast to Carlingford Loughs and is deeply indented by Strangford Lough and Dundrum Bay The undulating surface rises to the beautiful Mourne Mts. in the south The chief rivers are the Lagan and the Bann The area is extensively cultivated (oats, potatoes, wheat, and flax) Linen is manufactured at many towns, the chief of which are Bangor, Newry, Downpatrick, and Banbridge The area was anciently dominated by the O'Neills The date of its organization as a county is uncertain. See John Stevenson, *Two Centuries of Life in County Down* (1920)

Downers Grove, village (pop 9,520), NE Ill , just W of Chicago, settled 1832, inc 1873 Its manufactures include electrical machinery and tools

Downey, June Etta, 1875–1932, American psychologist, b Laramie, Wyo., grad Univ of Wyoming, 1895, Ph D Univ of Chicago, 1907 In 1915 she was appointed professor of philosophy and psychology at the Univ of Wyoming, and her educational contributions were in the field of personality testing Her writings include *Graphology and the Psychology of Handwriting* (1919), *The Will-Temperament and Its Testing* (1923), and *Creative Imagination* (1929)

Downing, Andrew Jackson, 1815–52, American horticulturist, rural architect, and landscape gardener, b Newburgh, N Y With his brother Charles Downing (1802–85) he took over the operation of the nursery which his father had established at Newburgh, and c 1838 Andrew became sole owner His *Treatise on the Theory and Practice of Landscape Gardening, Adapted to North America* (1841) rapidly became a classic and passed through 10 editions (10th ed , 1921) His *Cottage Residences* (1842) was an attempt to point the way to improvement in the homes of country people With his brother Charles, he published, both in England and America, *The Fruits and Fruit Trees of America* (1845), a valuable work that passed through 13 editions in the author's lifetime From 1846 until his early death he edited the *Horticulturist;* his editorials were in part published as *Rural Essays* (1853) In 1850 he published his *Architecture for Country Houses* With Calvert Vaux he designed and constructed the homes and gardens of a great number of country estates along the Hudson He also planned the grounds for the Capitol, the White House, and the Smithsonian Institution in Washington

Downing, Sir George, 1623?–1684, English diplomat Nephew of Gov John Winthrop of Massachusetts, he was graduated in the first class at Harvard (1642), returned to England, and fought for Parliament in the civil war, later assisting in the settlement of affairs in Scotland Cromwell sent him as ambassador to Holland He made his peace with Charles II in 1660, was created baronet, and received grants and offices, including the ambassadorship to Holland His conduct earned him a reputation for subservience Downing St , London, is named for him

Downing, Major Jack see SMITH, SEBA

Downing College: see CAMBRIDGE UNIVERSITY

Downing Street, London Here are located the British colonial and foreign offices and, at No 10, the residence of the first lord of the Treasury, who is usually (though not necessarily) the prime minister of Great Britain Since nearly all prime ministers from the time of Robert Walpole have lived here, the term designates the government in power Downing St is also used figuratively to mean the foreign office

Downingtown, borough (pop 4,645), SE Pa., W of Philadelphia near Brandywine battlefield, settled c 1730, inc 1859 It manufactures metal products, paper, and textiles

Downpatrick (doun pă'trĭk), urban district (pop 3,372) co seat of Co Down, Northern Ireland, SE of Belfast and at the southwest extremity of Strangford Lough The seat of the diocese of Down, it has long been a religious center, St Patrick is said to have founded a church here A.D c 440 The present cathedral dates from 1790 There are remains of Inch Abbey (founded 1180 by Sir John de Courcy) and of the Monastery of Saul (foundation ascribed to St Patrick), and near the town are a large rath, one of the finest Irish earthworks, and the holy wells of Struell The town is a market for a sheep-raising and flax- and oats-growing area and has linen mills It is a hunting center Downpatrick has always been a place of pilgrimage, as the tomb of Ireland's three great saints —Patrick, Columba, and Bridget of Kildare

Downs, city (pop 1,219), N Kansas, on the North Fork of the Solomon, inc 1879 It is a rail center in a farm area.

Downs, the, chalk hills, SE England, less than 1,000 ft. high The North Downs range, in Surrey and Kent, is cut by the Wey, Mole, Darent, Medway, and Great and Little Stour rivers, it is separated by the WEALD from the South Downs in Sussex, cut by the Arun, Adur, Ouse, and Cuckmere rivers The Downs provide excellent pasturage for sheep ("Southdown sheep"). See H. J. Massingham, *The English Downland* (1936).

Downs, the, roadstead between North Foreland and South Foreland, off Deal, Kent, England, in the

English Channel. It is 8 by 6 mi in area and is protected, except from strong south winds, by the Goodwin Sands. Here two naval battles were fought—between Dutch and Spanish in 1639 and British and French in 1666 (see DUTCH WARS).

dowry, the property which a woman brings to her husband at the time of the marriage The institution of the dowry was in origin apparently connected with the giving of marriage gifts by the family of the groom to the bride and by the family of the bride to the groom It has been a well-established institution among the propertied classes of various lands and times, e g , in ancient Greece and Rome, in India, in medieval Europe, and in modern continental countries Generally the husband has been compelled to return the dowry in case of divorce or the death of the wife when still childless One purpose of the dowry was to provide support for the wife on the husband's death, and thus it was related remotely to the rights of dower In civil-law countries the dowry is an important form of property

dowser: see DIVINING ROD

Dowson, Ernest Christopher (dou'-), 1867–1900, English poet From a brief life of squalor and excess which was ridden by tuberculosis, he decanted a few rich and delicate lyrics Dowson's works include *A Comedy of Masks* (1893), a semi-autobiographical novel written with Arthur Moore, *Verses* (1896), *The Pierrot of the Minute* (1897), a play in verse, *Poems* (1905), and various translations from the French Best known of his poems is "Non Sum Qualis Eram Bonae sub Regno Cynarae," with its refrain, "I have been faithful to thee, Cynara! in my fashion" See his *Poems and Prose* (with a memoir by Arthur Symons, 1919), biography (1944) and collected stories (1947) by Mark Longaker

doxology, sacred HYMN of praise The best-known doxologies of the Christian church are "GLORIA IN EXCELSIS," or the greater doxology, "GLORIA PATRI," or the lesser doxology, and the closing stanza of Thomas Ken's morning and evening hymns, beginning, "Praise God from whom all blessings flow," sung to the tune *Old Hundred* from the Genevan Psalter

Doyle, Sir Arthur Conan, 1859–1930, English author, b Edinburgh, who created Sherlock Holmes and Dr Watson Educated at Stonyhurst and at the Royal Infirmary in Edinburgh, he received a medical degree in 1881 A poor medical practice, which he abandoned in 1890, gave him time for writing, and in 1887 the first Sherlock Holmes story, *A Study in Scarlet*, appeared in *Beeton's Christmas Annual* Other detective stories which followed include *The Sign of the Four* (1890), *The Memoirs of Sherlock Holmes* (1894), *The Hound of the Baskervilles* (1902), *The Return of Sherlock Holmes* (1905), *His Last Bow* (1917), and *The Case Book of Sherlock Holmes* (1927) The brilliant and theatrical Sherlock Holmes has his foil in the slow and sober chronicler of the adventures, Dr Watson William Gillette long played Sherlock Holmes on the stage Doyle wrote many historical romances, e g , *Micah Clarke* (1889) and *The White Company* (1891) His play *The Story of Waterloo* (1900) was one of Sir Henry Irving's successes In 1900 Doyle was knighted for writing patriotic pamphlets He became, in later years, an ardent student of spiritualism and in 1926 wrote *The History of Spiritualism* See his autobiography, *Memories and Adventures* (1924), the short sketch by his son, Adrian C Doyle (1946), biography by J D Carr (1949), H W Bell, *Sherlock Holmes and Dr Watson* (1932), E W Smith, *Profile by Gaslight* (1944), Christopher Morley, *Sherlock Holmes and Dr Watson* (1944), B M L Ernst and H Carrington, *Houdini and Conan Doyle* (1932)

Doyle, Sir Francis Hastings Charles, 1810–88, English poet He is distinguished for the martial ring of his ballads, particularly "The Red Thread of Honour," "The Loss of the Birkenhead," and "The Private of the Buffs" He was professor of poetry at Oxford from 1867 to 1877 See his *Reminiscences and Opinions* (1886)

Doyle, Richard, 1824–83, English caricaturist, watercolorist, and illustrator, son and pupil of John Doyle, popular caricaturist His *Journal* (British Mus), a book of sketches done when he was 15, shows his extraordinary precocity He worked on the staff of *Punch*, 1843–50, and drew the famous cover design Later he illustrated various works of Thackeray, Leigh Hunt, Dickens, and Ruskin He also painted water colors of Welsh scenery, introducing figures of pixies and fairies He is represented in many British galleries

Doylestown. 1 Village (pop 1,259), NE Ohio, SW of Akron 2 Borough (pop 4,976), co seat of Bucks co , SE Pa , c 30 mi N of Philadelphia, settled 1735, laid out 1778, inc 1838. The trade center of a dairying and farming area, Doylestown is the seat of the National Farm School It has a historical museum with an especially interesting collection of early farm implements

Drachenfels (drä'khŭnfĕls) [Ger , =dragon's rock], cliff, 1,053 ft high, on the Rhine, S of Bonn, Germany It is of volcanic origin In legend, it is the scene of Siegfried's triumph over the dragon The Drachenburg, a now-ruined fortress, was built on it (probably in 1117) by Archbishop Frederick I of Cologne It was captured by the Swedes (1632) and by the Spaniards (1633) in the Thirty Years War. The cliff and castle are favorite excursion points

Drachmann, Holger Henrik Herholdt (hôl'gûr hänrĭk hĕr'hôlt drăkh'mən), 1846–1908, Danish poet and dramatist. He began to write poetry during a stay in London (1870–71) and contributed to the Danish press brilliant articles on the Franco-Prussian War, the Paris commune, and Danish art Joining the group of writers led by Georg Brandes, he wrote several volumes of verse, *Poems* (1872), *Muted Melodies* (1875), *Songs by the Sea* (1877), *Vines and Roses* (1879), and *Youth in Poetry and Song* (1879), and the travel book *Over the Border* (1877) He also wrote a number of popular plays and several romantic novels, but was preeminently a lyricist His *Collected Poetical Works* appeared in 1906

Draco (drā'kō) or **Dracon** (drā'kŏn), fl 621 B C , Athenian lawgiver, at least semilegendary Of his codification of Athenian customary law only the section dealing with involuntary homicide is preserved From this and from later traditional accounts it appears that the penalty of death was used for many offenses The code adopted the principle that murder must be punished by the state and not by VENDETTA. Draco's work was much modified and ameliorated by SOLON

Dracut (drā'kŭt), wool-textile town (pop 7,339), NE Mass , N of Lowell and on the Merrimack, settled 1664, inc 1702

draft. Similar in form to a CHECK, a draft is an order by one party to another party to pay a stated sum to the person or firm in whose favor the draft is made. Often the drawer and the drawee are the same person A sight draft is payable immediately on presentation to the drawee, a time draft is payable at a fixed date in the future Drafts usually arise out of commercial transactions in which buyer and seller are at some distance from each other The seller draws a draft against the buyer of his goods and sends the draft, together with shipping documents, to his bank The bank or its agent presents the draft to the buyer for his acceptance of the obligation or for payment An accepted draft—also known as a trade acceptance—represents a definite promise by the buyer to pay the amount stipulated A draft is essentially the same as a BILL OF EXCHANGE In shipping, *draft* refers to the extent to which a ship sinks in the water For military draft, see CONSCRIPTION

draft riots, in the Civil War The Union conscription act of March 3, 1863, provided that all able-bodied males between 20 and 45 were liable to military service, but a drafted man who furnished an acceptable substitute or paid the government $300 was excused A defective piece of legislation enforced amid great unpopularity, it provoked nation-wide disturbances that were most serious in New York city, where for four days (July 13–16, 1863) there occurred large-scale, bloody riots Many elements in New York had sympathized with the South, and the populace had been aroused by the statements of Gov Horatio SEYMOUR and other Democratic leaders that the conscription act was unconstitutional Further incited by agitators, laborers, mostly foreign-born, made up the bulk of a tremendous mob which overpowered the police and militia, attacked and seized the Second Ave armory with its rifles and guns, and set fire to buildings Abolitionists and Negroes were especially singled out for attack Many Negroes were beaten to death and a Negro orphanage was fired, leaving hundreds of children homeless Business ceased, and robbing and looting flourished Since the conscription provision which allowed the rich to buy exemption was especially resented, the Tammany city government voted to pay the necessary $300 for anyone who might be drafted Meanwhile New York troops, including the famous 7th Regiment, which had been sent to the front for the Gettysburg campaign, were rushed back, and with the aid of the police, militia, naval forces, and cadets from West Point, they succeeded in restoring order President Lincoln supported a Democratic-dominated commission which investigated the draft in New York, while Governor Seymour urged both adherence to the conscription act and a court test of its constitutionality (which never came about) In August the draft was peacefully resumed The privilege of buying one's way out of service was limited (1864) to conscientious objectors The riots had, however, inflicted property damage of $1,500,000 to $2,000,000, and it has been estimated that total casualties ran as high as 1,000 See F A Shannon, *The Organization and Administration of the Union Army, 1861–1865* (1928), B L Lee, *Discontent in New York City, 1861 1865* (1943)

Draga (drā'gä), 1867–1903, queen consort of King ALEXANDER of Serbia A widow and a lady in waiting to the king's mother, Draga Mashin was accused by general rumor of a shady and promiscuous past However, the infatuated king ignored all warnings and in 1900 shocked his nation by marrying her Her unpopularity, especially in army circles, was aggravated by the subsequent political measures of the king. In 1903 an army clique, headed by Colonel Mashin, a brother of the queen's first husband, plotted against the royal couple A regiment occupied the palace, and the king and queen, found hiding in a cupboard, were killed by some 30 bullets Draga, for good measure, was stabbed by the conspirators, and the premier and several ministers were likewise assassinated

Drago, Luis María (lōō'ēs' märē'ä drä'gō), 1859–1921, Argentine statesman, jurist, and writer on international law As minister of foreign affairs under Julio A ROCA, he dispatched (Dec 29, 1902) a note to the Argentine minister at Washington protesting against the forcible coercion of Venezuela by Great Britain, Germany, and Italy (see VENEZUELA CLAIMS) This protest set forth the **Drago Doctrine,** intended as a corollary of the Monroe Doctrine Drago, apparently under the erroneous impression that the European nations were merely attempting to collect unpaid bonds, maintained that no public debt should be collected from a sovereign American state by armed force or through the occupation of American territory by a foreign power The doctrine was not new in principle, though its concept is narrower than that of the earlier CALVO DOCTRINE, from which it grew The Drago Doctrine was discussed at the Pan-American Congress of 1906 and was brought before the Hague Conference of 1907, where a modified form offered by Horace PORTER was approved instead

dragon, in mythology, a composite winged reptilic beast, generally said to have lion's claws, eagle's wings, and serpent's tail The dragon's breath is usually fiery The conception is found in many parts of the earth and has persisted from ancient Babylonia It was an emblem of the Chinese Empire Among the Romans the emblem was subordinate only to the eagle, and it is the national symbol of Wales The slaying of a dragon by a hero is a widespread story, e g , in the *Nibelungenlied*, in *Beowulf*, and in the story of St George The dragon of the Apocalypse (Rev 12) has given rise to its use as a symbol of Satan, hence the common and popular conception of St Michael the Archangel as the slayer of the dragon

Dragonetti, Domenico (dōmä'nēkō drägônĕt'tē), 1763–1846, Italian double-bass virtuoso He appeared in opera houses in Italy and after 1794 in concerts in England He was a friend of Beethoven and Haydn and left to the British Museum a large and valuable collection of manuscripts and old instruments

dragonfly, large insect of the order Odonata, which also includes the damsel fly Dragonflies are found in most parts of the world but are especially numerous in South America and Japan. Both the dragonfly and the smaller damsel fly lay their eggs in or near water The nymphs are aquatic, and the metamorphosis is incomplete The adults have four membranous wings When at rest, those of the dragonfly are extended horizontally and those of the damsel fly are folded back Some dragonflies surpass the swiftness and agility of the swallow in flight They eat larvae and adults of insects, including mosquitoes, gnats, and flies. Dragonfly nymphs are eaten by fish and ducks Some dragonflies destroy bees Although they cannot bite or sting, their common names include horse stinger and devil's darning needle Fossil remains of a form of the Permian period, more than 2 ft long, were found in Kansas

dragonnades or **dragonades** (both drăgŭnādz'), name given to a form of persecution of French Protestants before and after the revocation (1685) of the Edict of Nantes by Louis XIV It consisted in harassing the Huguenots by billeting soldiers (particularly the rowdy dragoons) in their houses and in disregarding the soldiers' misconduct The outrages committed against the persons and property of the Huguenots contributed—even more than the legal enforcement of the Act of Revocation—to the mass emigration of HUGUENOTS, so that entire cities and regions were ruined and depopulated as if devastated by war

dragon's blood, name for a red resin obtained from a number of different plants It was held by early Greeks, Romans, and Arabs to have medicinal properties Dioscorides and other early writers described it, a chief source was a liliaceous tree, *Dracaena cinnabari* Fifteenth-century voyagers to the Canary Islands obtained it from another species, *D draco* Later supplies were obtained from the East Indies and Malaya (from species of *Daemonorops*) and used in Europe to some extent in medicine but largely for coloring in varnishes. Its use as a coloring material has been largely replaced by synthetics

Draguignan (drägēnyä'), town (pop 8,879), capital of Var dept , SE France, in Provence It is a resort town with several minor industries Of 13th-century Draguignan there remain two city gates and part of the synagogue

drainage, in agricultural practice, a system of removing excess moisture from soil, either by a ditch or by an underground method The ditch method has been practiced in shallow furrow form for a long time, and underground drainage was known to

the farmers of ancient Rome Cylindrical tiles, now made of either burned clay or concrete, are much used in the United States Over large areas, drainage problems are worked out cooperatively by communities or farming districts See W L Powers and T A H Teeter, *Land Drainage* (2d ed , 1932), Q C Ayres and Daniels Scoates, *Land Drainage and Reclamation* (2d ed , 1939), B A Etcheverry, *Land Drainage and Flood Protection* (reissue, 1940), R G Kendall, *Practical Field Drainage* (1945), publications of the U S Dept of Agriculture

drainage. In mining, drainage is an important consideration The shafts themselves are kept dry in various ways (see SHAFT SINKING), but provision has to be made to take care of water entering them from the surface or from the passageways below ground For this purpose, drainage reservoirs called sumps are dug out at the bottom below the lowest level of the mine, and the water flows into them by gravity Pumping systems are used below ground, in addition, special passages are often driven below the lowest level, and into these water seeps from the workings above

drainage basin: see CATCHMENT AREA

Drake, Alexander Wilson, 1843–1916, American artist and critic, b Westfield, N J He studied oil and water-color painting and practiced wood engraving until 1871, when he became art director of *Scribner's Monthly Magazine*, later (1881–1913) filling a similar position on *Century Magazine* and on *St Nicholas* Drake was a connoisseur of paintings and a collector of brasses and ship models (preserved in India House, New York)

Drake, Daniel, 1785–1852, American physician, b near Plainfield, N J , M D Univ of Pennsylvania, 1816 He founded, in Cincinnati, the Medical College of Ohio (chartered 1819, now part of the Univ of Cincinnati), the Commercial Hospital and Lunatic Asylum (1821), the Eye Infirmary (1827), and the Ohio School for the Blind (1837) He taught at Transylvania Univ and, in his later years, at Louisville (Ky) Medical Institute His monumental contribution to medicine was a study of disease as related to geography, *The Principal Diseases of the Interior Valley of North America* (1850–54) His *Pioneer Life in Kentucky* was edited by his son C D Drake (1870) See studies by S D Gross (1853) and Otto Juettner (1909)

Drake, Edwin Laurentine, 1819–80, American oil-well driller, b Greene co , N Y An investor in the Pennsylvania Rock Oil Company, he was sent in 1857 to look over the company's property on Oil Creek In 1858 he was employed to conduct drilling operations, and on Aug 27, 1859, he struck oil at 69 ft The site of this first oil well in the United States is in Drake Well Memorial Park near Titusville, Pa

Drake, Sir Francis, 1540?–1596, English navigator and admiral, first Englishman to circumnavigate the world (1577–80) He was born in Devonshire of middle-class parentage and was early apprenticed to a ship captain He made voyages to Guinea and the West Indies and in 1567 commanded a ship in a slave-trading expedition of his kinsman, John HAWKINS The period was one of growing naval rivalry between Spain and the ascendant strength of Elizabethan England Drake had already come into conflict with the Spanish, and on the voyage with Hawkins the Spanish destroyed all but two of the English vessels Drake made other voyages to the West Indies shortly afterwards About 1570 the English adopted a policy of "reprisals" on Spanish shipping In 1572, with two ships and 74 men, Drake set out on the first of his famous marauding expeditions He took the town of Nombre de Dios on the Isthmus of Panama, captured a ship in the harbor of Cartagena, burned Portobelo, crossed and recrossed the isthmus, and captured three mule trains bearing 30 tons of silver The voyage brought Drake wealth and fame For the next few years he commanded the sea forces against rebellious Ireland Drake sought the favor of Queen Elizabeth and received her secret consent to a raid on Spanish holdings on the Pacific coast of the New World, Elizabeth not daring openly to abandon her professions of friendship for Philip II of Spain Drake sailed with five ships in Dec , 1577, abandoned two ships in the Río de la Plata in South America, and, with the remaining three, navigated the Straits of Magellan, the first Englishman to make the passage A storm drove them far southward, one ship and its crew were destroyed, and another, separated from Drake's vessel, returned to England Drake continued alone in the *Golden Hind* up the coast of South America, plundered Valparaiso and smaller settlements, cut loose the shipping at Callao, and captured a rich Spanish treasure ship making from Lima Armed now with Spanish charts, he continued north along the coast, looking for a possible passage to the Atlantic, feeling it would be unsafe to retrace his course Sailing possibly as far north as the present state of Washington with no success, he determined to cross the Pacific He returned to what was probably San Francisco Bay to repair and provision his ship, evidence recently found seems to show he visited that area He named the region New Albion and took possession of it in the name of Queen Elizabeth Then crossing the Pacific, he visited the Philippines, the Celebes, and Java, rounded the Cape of Good Hope, and arrived at Plymouth on Sept 26, 1580 The value of the treasure Drake brought back to England has been estimated at as much as £2,500,000 Elizabeth endeavored for a time to justify Drake's conduct to Spain, but, failing to satisfy the Spanish, she finally abandoned all pretense and openly recognized Drake's exploits by knighting him aboard the *Golden Hind* In 1585 Drake commanded a fleet of 19 vessels that sacked Vigo in Spain and burned São Tiago in the Cape Verde Islands Proceeding across the Atlantic, he took Santo Domingo, captured Cartagena (which was subsequently ransomed), plundered the Florida coast, including the settlement of St Augustine, and rescued Sir Walter Ralegh's Roanoke colony under Ralph Lane on the Carolina coast Meantime, Spain had begun to prepare for open war In 1587 Drake entered the harbor of Cádiz with 30 ships and destroyed the fleet the Spanish were assembling He had, he said, merely singed the king of Spain's beard and wished to carry out further expeditions against the Spanish ports, but Elizabeth would not sanction his plans He was a vice admiral in the fleet that defeated the Armada in 1588 He was in joint command of an attempted invasion of Portugal in 1589, but failed to take Lisbon Drake's last expedition, in 1595, undertaken jointly with Hawkins, was directed against the West Indies This time the Spanish were prepared, and the venture was a complete failure Hawkins died off Puerto Rico, and Drake shortly afterwards, of dysentery, off Portobelo, where he was buried at sea See J S Corbett, *Drake and the Tudor Navy* (2 vols , 1898), H R Wagner, *Sir Francis Drake's Voyage around the World* (1926), biographies by E F Benson (1927) and A E Mason (1942)

Drake, Francis Marion, 1830–1903, Union Army officer in the Civil War, railroad president, and governor of Iowa (1896–98), b Rushville, Ill He helped defend St Joseph, Mo , against Confederate Gen Sterling Price and as lieutenant colonel of an Iowa regiment fought with distinction in the Western campaigns, being brevetted brigadier general of volunteers in Feb , 1865 Admitted to the bar in 1866, Drake was president of the Iowa Southern RR for a time and later headed (1882–98) the Indiana, Illinois & Iowa, which became part of the Chicago & Alton As governor he called a special session of the general assembly to revise the legal code of Iowa and substantially reformed the state's charitable and penal institutions Drake Univ was named for him

Drake, Joseph Rodman (drāk), 1795–1820, American poet and satirist, b New York city He became a practicing physician there Under the name "The Croakers," he and his intimate friend, Fitz-Greene Halleck, wrote a series of light satirical verses for the New York *Evening Post* (1819, first complete ed , 1840) Drake's longest serious poem is "The Culprit Fay" (1816, in *The Culprit Fay and Other Poems*, ed by his daughter, 1835), his poem "The American Flag" was long a standard patriotic declamation Halleck's elegy beginning, "Green be the turf above thee," was written upon Drake's death See *The Life and Works of Joseph Rodman Drake* (with a memoir and complete text, ed by F L Pleadwell, 1935)

Drakensberg Range (drä'kunzbûrg), South Africa, extending 700 mi NE–SW in Natal, Basutoland, Orange Free State, and Transvaal Mont-aux-Sources (10,750 ft) is the loftiest point. The Natal National Park is in the Drakensbergs It includes Mont-aux-Sources and the gorge and waterfalls (total drop of 2,800 ft) of the Tugela river

Drakesboro, town (pop 1,255), W Ky , S of Owensboro, in a coal area

Drake University, at Des Moines, Iowa, coeducational, chartered and opened 1881 by the Disciples of Christ, named for Francis M Drake It includes colleges of the Bible, commerce and finance, education, fine arts, liberal arts, and pharmacy and a school of law

drama. see THEATER

Drammen (drä'mun), city (pop 26,994), co seat of Buskerud co , SE Norway, on the Drammen river and at the head of the Drammen Fjord It has wood-pulp, cellulose, and paper manufactures

Drammen, river, c 25 mi long, SE Norway, emptying into the Drammen Fjord, a branch of Oslo Fjord Its several falls are utilized by lumber mills and hydroelectric plants

Drangiana (drăn"jēā'nu, ā'nu), ancient country, part of the Persian empire of Alexander the Great, between Aria on the north and Gedrosia on the south The Drangae, a warlike people from whom the country derived its name, inhabited the northern part, the Ariaspae, the southern part Drangiana is now in W Afghanistan and E Persia

Draper, Henry, 1837–82, American scientist, b Prince Edward co , Va , son of John William Draper He was professor of physiology (1870–82) at New York Univ His major contributions to science were in the field of astronomical photography and spectroscopy He built an observatory at Hastings-on-Hudson

Draper, John William, 1811–82, American scientist, philosopher, and historian, b near Liverpool, England He came to America in 1832 (M D Univ. of Pennsylvania, 1836) In 1838 he became professor of chemistry in New York Univ He aided in the organization of the medical school of the university, became its professor of chemistry and physiology, and in 1850 succeeded Valentine Mott as its president His chief contribution to abstract science was research in radiant energy His work on the spectra of incandescent substances foreshadowed the development of the field of spectrum analysis, in which his son Henry Draper became a pioneer It was his researches in the effect of light upon chemicals that led him to take up photography He was said to be the first in New York to use Daguerre's process, announced in 1839, and he improved it so that in 1840 he took the first satisfactory portrait of a human face Most of his papers on radiant energy were republished in his *Scientific Memoirs* (1878) His *Human Physiology* (1856) was the leading textbook of the period in its field, and it contained his own admirable microphotographs, the first ever published This was followed by what is usually considered one of the most brilliant books of the 19th cent , his *History of the Intellectual Development of Europe* (1863) Scarcely less popular was his *History of the Conflict between Religion and Science* (1874), a rationalistic classic, which played an important part in the intellectual debates of the last quarter of the century He wrote also *History of the American Civil War* (3 vols , 1867–70), in which he had the aid of General Sherman, and *Thoughts on the Future Civil Policy of America* (1865)

Draper, Lyman Copeland, 1815–91, American historical collector and librarian, b Erie co , N Y He spent years traveling over an area from New York to Mississippi, gathering the stories of old pioneers and documentary material on frontier history for a projected series of biographies of Western heroes His extensive collection was deposited with the Wisconsin Historical Society at Madison, of which he was secretary and librarian (1854–86), there he built up one of the notable historical libraries of the country He founded and edited the first 10 volumes of the society's *Collections* and wrote *King's Mountain and Its Heroes* (1881), but never completed the intended biographies His collection, valuable to many researchers, contains the George Rogers Clark papers, the Daniel Boone papers, and many other manuscript sources

Draper, Ruth, 1884–, American monologist, b New York city She has written 36 monologues which range from farce to tragedy These often include half a dozen characters, all of whom she plays in turn with few stage accessories or changes of costume Her delicate and sophisticated art has gained world-wide acclaim

Drau see DRAVA

draughts see CHECKERS

Drava or **Drave** (both dra'vu), Ger *Drau* (drou) river, c 450 mi long, central Europe, a tributary of the Danube It rises in the Italian Alps near the Austrian border, flows E through Carinthia (Austria) past Villach and SE through Slovenia and Croatia (Yugoslavia) past Maribor and Osijek, forming part of the Hungarian-Yugoslav border Its lower course is navigable

Dravidian (druvĭ'dēun), name given to the largest group of inhabitants in India before the coming of the Aryans Today the name is given to a large group in S India, presumably descended from the prehistoric Dravidians, they have strong Negrito elements

Dravidian languages (druvĭ'dēun), family of languages of S India, see LANGUAGE, table Attempts have been made to connect them with other groups, especially the Munda language of the Himalayas

Dravosburg (druvōs'bûrg), borough (pop 2,277), Allegheny co , SW Pa , on the Monongahela and near Pittsburgh, inc 1903

drawbridge, movable bridge, generally over a stream or river where water-borne traffic must be maintained and where it is not possible to build a fixed bridge of sufficient height to allow the traffic to pass under it Formerly in fortresses, in some cases as late as the beginning of the 19th cent , the drawbridge played an important part in the system of defense It spanned a ditch or moat, was hinged at the inner end, and rested free on the outer edge of the moat Chains attached to the outer end and passing through the wall over sheaves with counterbalance weights inside were used to hoist the bridge The modern drawbridge may be one of several types Most common are the lifting, bascule, and swing bridges The lifting bridge or lift bridge consists of a rigid frame carrying the road and resting on abutments, over each of which rises a steel frame tower There is no center pier The bridge is hoisted vertically The bascule bridge follows the principle of the ancient drawbridge It may be in one span or in two halves meeting at the center It consists of a rigid structure mounted at the abutment on a horizontal shaft, about which it

swings in a vertical arc. The lower center span of the famous Tower Bridge in London is of the double-leaf bascule type Bascule bridges are sometimes built to swing back on a heavy steel quadrant frame, there being suitable tracks for it to roll in There are several forms of the swing bridge, generally it is mounted on a pier in midstream and is swung in a direction parallel to the stream See Otis Ellis Hovey, *Movable Bridges* (2 vols , 1926–27), G A Hool and W S Kinne, ed , *Movable and Long-Span Steel Bridges* (2d ed , 1943).

drawing, the art of the draughtsman In its broadest sense it includes every use of the produced line and is thus included in the arts of painting, design, calligraphy, and geometry It is commonly used to denote works in pen, pencil, crayon, chalk, charcoal, or similar mediums, in which form rather than color is emphasized For centuries, drawings were produced rather in preparation for paintings than for decoration But today exhibitions of drawings rival those of paintings in popularity, and the sketches of the masters are prized almost as highly as their most ambitious works

Drayton, Michael, 1563–1631, English poet, b Warwickshire The sonnet beginning, "Since there's no help, come let us kiss and part," is probably the most famous of many he wrote in *Ideas Mirrour* (1594) and other volumes Other short works are the eclogues in *Idea, the Shepheards Garland* (1593) and the odes "Ballad of Agincourt" and "To the Virginian Voyage" in *Poems Lyrick and Pastorall* (1606) His several poems on English history culminated in the 15,000-line panoramic *Poly-Olbion* (1612–22) He also wrote at least two satires, *The Owle* (1604) and "The Man in the Moon" (1606), collaborated with Dekker and Webster on plays now lost, and wrote a charming fairyland piece, *Nymphidia* (1627) See his complete works (ed by J W Hebel and others, 5 vols , 1931–41), B H Newdigate, *Michael Drayton and His Circle* (1941)

Drayton in Hales, Shropshire, England see MARKET DRAYTON

dreadnought, term used for a type of heavily armed and heavily armored warship used just before and during the First World War It took its name from the *Dreadnought,* built for the British navy in 1905, which carried 10 guns of 12-inch caliber and had armor 11 in thick to guard against torpedoes Still larger British vessels of the type were called superdreadnoughts in the First World War After that period the term went out of use

dream, mental activity associated with sleep and made up commonly of a number of visual images, i e , of scenes or thoughts expressed in terms of seeing rather than in those of the other senses or in words Dreams are similar to hallucinations in that they are not usually aroused by sense impressions Although it has been demonstrated that some dreams are the result of somatic disturbances (e g , toothache and indigestion) or are motivated by external stimuli (e g , ringing of an alarm clock), these factors merely determine the form of the dream without affecting its content The time length of a dream is disputed, but many authorities believe it takes no more than a few seconds In primitive and ancient cultures dreams played an extensive role, being variously considered as visitations of the gods, prophetic pronouncements, and the meanderings of human souls released by sleep The dreams of Jacob and Joseph and those of Pharaoh interpreted by Joseph are classic. However, with the development of science and its attendant rationalism, particularly during the 18th and 19th cent , dreams ceased to be considered worthy of speculation Freud, in his *Interpretation of Dreams* (1900, Eng tr , 1913), was one of the first to bring dreams forward as mental phenomena worthy of careful and exhaustive scientific study He distinguished the manifest from the latent content of dreams, the former being the dream-image as experienced and the latter the meaning of the dream The language of dreams is symbol, some of so universal and ancient a nature that the interpretation is standard and others significant only through the free association of the patient in psychoanalysis The symbolic nature of dreams is a disguise designed to protect the dreamer from recognizing attempts at wish fulfillment of thoughts and impulses forbidden to his conscious life Freud believed dreams protect sleep by draining off the force of emotional disturbances which would otherwise cause a person to awaken There is considerable disagreement among psychotherapists as to dream motivation. C G Jung considered it a piece of anticipatory thinking in which various possible steps in the future are tested, while Alfred Adler emphasized the compensatory function of dreams. See R L Woods, *World of Dreams* (1947).

Drebbel, Cornelis Jacobszoon (kôrnā'lĭs yā'kôpsŏn drĕ'bŭl), 1572–1634, Dutch inventor, physicist, and mechanician He settled in England, where he won great repute in the service of James I and Henry, prince of Wales An engraver by profession and an expert glassworker, Drebbel turned to the applied sciences. His major inventions and discoveries were a "perpetual motion" machine, patented in Holland in 1598; a true scarlet dye for which tin salts were used as a mordant; and the diving boat (c 1620), the first navigable submarine The air in this craft was renewed from a supply of oxygen, probably the first use of this gas, which Drebbel extracted from saltpeter by a process long kept a secret He was also the reputed inventor of the compound microscope and an improved thermometer Other of his recorded inventions are self-regulating ovens, incubators, automatic musical instruments, magic lanterns, a mirror reflecting seven images, explosive underwater engines, and improved drainage pumps See study by Gerrit Tierie (1932)

dredging, the process of excavating materials under water to clear or deepen channels and entrances of harbors, docks, rivers, and canals The Dutch at an early period cleared their canals of silt with a pole to the end of which was attached a bag held open by a steel ring The arrangement, operated from the side of a stationary barge, was dragged along the bottom and then raised to the surface to be emptied into the barge Modern dredging equipment may be divided into four main classes The **grab dredge** is used where the amount of excavation is relatively small It consists of one or more grab buckets, operated by cranes mounted on a vessel or barge or sometimes, as in the case of canal work, on the shore The bucket is similar to the clamshell bucket used in ordinary shore excavation It is lowered in an open position to the sea or canal bed, filled by a special closing device, raised, and discharged into a hopper barge which takes the material to a disposal area The **dipper dredge** is also similar to the apparatus used in shore excavations and is known as the boom and dipper assembly It is used extensively in canal construction and was used in the cutting of the Panama Canal The **ladder-bucket dredge** is a more elaborate type and is generally mounted on a self-propelling vessel built with a longitudinal well in the center open to the water for a considerable length Over it a long steel frame is mounted and hinged The frame, which may be raised or lowered at will, is equipped with an endless string of buckets passing over sprockets at each end The buckets, operating through the well, scoop up material and discharge it into a chute which projects over the vessel's side to a hopper barge moored alongside or into a receiving hopper in the dredger itself Hopper barges, for carrying away material brought up by dredges, are of a special type The space for the material is fitted at the bottom with hinged doors or flaps, held closed by chains Around the spaces are watertight compartments to give the barge buoyancy When the dredge is above the disposal area, the bottom doors are released and the material is discharged The doors are closed again by hand-operated winches The **suction dredge** is an entirely different type and is used principally where material such as sand or mud is to be removed There is a flexible pipe connected to a powerful centrifugal pump The pipe is lowered to the bottom and the material pumped up and discharged into hopper barges With the material come large quantities of water When discharged into the hopper barge the heavy material sinks to the bottom, and the surplus water flows back into the sea Material from these dredges is sometimes pumped through pipes for long distances and used to build up low-lying ground The first steam river dredge used in America was built by Oliver Evans

Dred Scott Case, argued before the U S Supreme Court in 1856–57 It involved the then bitterly contested issue of the status of slavery in the Federal territories In 1834 Dred Scott, a Negro, personal servant to Dr John Emerson, a U S army surgeon, was taken by his master from Missouri, a slave state, to Illinois, a free state, and thence to Fort Snelling (now in Minnesota) in Wisconsin Territory, where slavery was prohibited by the MISSOURI COMPROMISE There he married and had two children before returning with Dr Emerson to Missouri in 1838 After Emerson's death, Scott sued (1846) Mrs Emerson for freedom for himself and his family on the ground that residence in a free state and then in a free territory had ended his bondage He won his suit before a lower court in St Louis, but the Missouri supreme court reversed the decision and thus reversed its own previous rulings Mrs Emerson now married Dr C C Chaffee, an abolitionist Congressman from Massachusetts. In order to get the case into the Federal courts, a defendant from some state other than Missouri was needed, and since it would have been unseemly to have an abolitionist appear in the role of a slaveowner, Dred Scott was technically sold to the brother of Mrs Chaffee, J F A Sanford of New York Whatever the verdict in the case of *Scott* vs. *Sanford,* Dred Scott and his family were to be set free by agreement of the nominal parties to the suit, which was to be a test case It came on appeal to the Supreme Court, where Montgomery Blair and George T Curtis appeared as counsel for Scott and Reverdy Johnson for the defense In Feb , 1857, the court decided in conference to avoid completely the question of the constitutionality of the Missouri Compromise and to return a verdict against Scott on the ground that under Missouri law as now interpreted by the supreme court of that state he remained a slave despite his previous residence in free territory. However, when it became known that two antislavery justices, John McLEAN and Benjamin R CURTIS, planned to write dissenting opinions vigorously upholding the constitutionality of the Missouri Compromise (which had, in fact, been voided by the KANSAS-NEBRASKA BILL of 1854), the court's Southern members, constituting the majority, were forced to consider the whole question of Federal power over slavery in the territories They decided that Congress had no power to prohibit slavery in the territories, and Chief Justice Roger B TANEY delivered the court's opinion to that effect It was held that a Negro "whose ancestors were sold as slaves" was not entitled to the rights of a Federal citizen and therefore had no standing in court and that the Missouri Compromise was unconstitutional The court's verdict further enflamed the sectional controversy between North and South and was roundly denounced by the growing antislavery host in the North The decision was later nullified by the FOURTEENTH AMENDMENT See Frank H Hodder, "Some Phases of the Dred Scott Case," *Mississippi Valley Historical Review,* XVI (1929), 3–22

Dreiherrnspitze, Austria see HOHE TAUERN

Dreiser, Theodore (drī'sur), 1871–1945, American author, b Terre Haute, Ind , studied at Indiana Univ , brother of Paul Dresser He worked on newspapers in Chicago, St Louis, and Pittsburgh and in 1894 went to New York, where he soon wrote for and edited magazines *Sister Carrie* (1900), his first novel, was suppressed by its publisher and later was attacked for its unsparing realism His next novel *Jennie Gerhardt* (1911), was also attacked as immorally frank, but it sold well enough to enable Dreiser to give up journalism. After *The Financier* (1912) and its sequel *The Titan* (1914), describing a ruthless industrialist, and *The 'Genius"* (1915), concerning an artist in America, which won the acclaim of such critics as H L. Mencken, a larger public approved Dreiser in spite of his ponderous, amorphous style His intense pity and his determinism gave strength to *An American Tragedy* (2 vols , 1925), later dramatized and produced by the Theatre Guild Of his posthumously published novels, *The Bulwark* (1946) is stronger than *The Stoic* (1947), in which Dreiser attempted to return to the characters of *The Titan* and *The Financier* In his later life Dreiser found hope in socialism, reflected in *Dreiser Looks at Russia* (1928) and *Tragic America* (1931) Among his other works are *The Hand of the Potter* (1918, rev. ed , 1927), a tragedy, short stories in *Free* (1918), *Chains* (1927), and *A Gallery of Women* (1929), and studies of actual persons in *Twelve Men* (1919) Autobiographical material is in *A Traveler at Forty* (1913), *A Hoosier Holiday* (1916), *A Book about Myself* (1922), republished as *Newspaper Days* (1931), and *Dawn* (1931) See biography by R H Elias (1948)

Drenthe (drĕn'tu), province (1,029 sq. mi , pop 269,769), NE Netherlands, bordering on Germany Assen is the capital Largely a heath country, it is used for stock raising and dairy farming Long subject to the bishops of Utrecht, Drenthe passed (1536) to Emperor Charles V It was part of the United Provs from 1581, but it sent no delegates to the States-General until 1796

Dresden (drĕz'dun), town (pop 1,662), S Ont , on the Sydenham and N of Chatham

Dresden (drĕz'dun), city (1946 pop 467,966, 1939 pop 630,216), capital of Saxony, E Germany, on the Elbe A manufacturing center (machine tools, optical instruments, glass, chemicals) and a large inland port, it was in the Second World War about three quarters destroyed by air raids and by Russian artillery Originally a Slavic settlement, Dresden was settled with Germans by the margrave of Meissen in the 13th cent From 1485 until 1918 it was the residence of the electors (later kings) of Saxony The Treaty of Dresden (1745) transferred the major portion of Silesia from Austria to Prussia (see AUSTRIAN SUCCESSION, WAR OF THE) and ended the Prussian occupation of the city, but in the Seven Years War, Dresden was again occupied (1756) and shelled (1760) by the Prussians In 1813 Napoleon I defeated the coalition forces near Dresden before his defeat at Leipzig In the late 17th and 18th cent , particularly under the electors Frederick Augustus I and Frederick Augustus II (Augustus II and Augustus III as kings of Poland), Dresden became a center of the arts and an outstanding example of baroque and rococo architecture Among the once famous landmarks, destroyed or damaged in the Second World War, are the city hall, the Zwinger palace and museum, the Hofkirche [court chapel], and the cathedral Most of the fabulous art collections, acquired by the court in the 18th and 19th cent , were safely kept through the war outside Dresden, but many art objects were afterward removed to Russia, the most famous item was Raphael's *Sistine Madonna.* "Dresden china," despite its name, was made in MEISSEN

Dresden (drĕz'dun), 1 Village (pop 1,350), E central Ohio, on the Muskingum and N of Zanesville

It manufactures several products. 2 Town (pop, 1,115), co. seat of Weakley co , W Tenn , W of Paris, in an area of timber, sweet-potato farms, and clay pits, laid out 1825.

dress see COSTUME.

Dresser, Horatio Willis, 1866–, American author, associated with the New Thought movement, b Yarmouth, Maine, grad Harvard, 1895 He published and edited (1896–98) the *Journal of Practical Metaphysics* and, later, *The Higher Law* He was editor of *Spirit of New Thought* (1917) and the *Quimby Manuscripts* (1921) His numerous books, chiefly on philosophy and New Thought, include *Handbook of the New Thought* (1917) and *Spiritual Health and Healing* (1922)

Dresser, Paul, 1857–1911, American song writer His name was originally Dreiser, and he was the brother of Theodore Dreiser Most popular of his songs were *On the Banks of the Wabash, Far Away* and *The Blue and the Gray* (1890), a favorite during the Spanish-American War See J T Howard, *Our American Music* (rev ed , 1946)

Dressler, Marie, 1869–1934, American stage and moving-picture comedienne, whose real name was Leila von Koerber, b Cobourg, Ont She first became known in the company of Weber and Fields (1905) and later entered musical comedy, where her greatest success was the title role in *Tillie's Nightmare* Her performances in the moving pictures *Tillie's Punctured Romance, Anna Christie, Min and Bill Emma* and *Dinner at Eight* made her a great favorite See her autobiography, *My Own Story* (1934), as told to Mildred Harrington

Dreux (drŭ), town (pop 11,528), Eure-et-Loir dept , NW France, N of Chartres Here in 1562 François de Guise defeated the Protestant forces under Louis I de Condé, who was captured

Drew, Daniel, 1797–1879, American capitalist, b Carmel, N Y He became a cattle dealer in early life and by 1834 was successful enough to engage in the steamboat business on the Hudson, which he developed rapidly In 1844 Drew entered Wall St , where he founded the firm of Drew, Robinson & Company After its dissolution a decade later, he became an independent operator of the bold and scheming type In 1857 he forced his way into becoming a director of the Erie RR During the famous "Erie War" (1866–68), Drew manipulated Erie stock so that he and his allies Jay GOULD and James FISK defeated the attempt of Cornelius VANDERBILT to gain control Sometime later Drew, bested by Gould and Fisk, now in association without him, saw the beginning of his downfall, which led to financial ruin in the Panic of 1873 By 1876 he was bankrupt In his heyday Drew, a Methodist, contributed to the establishment of several churches, Drew Theological Seminary (now part of Drew Univ), and Drew Seminary (for girls) at Carmel See C F Adams (1835–1915), *Chapters of Erie* (1871), Bouck White, *The Book of Daniel Drew* (1910)

Drew, George Alexander, 1894–, Canadian political leader, b Guelph, Ont , educated at Upper Canada College, the Univ of Toronto, and Osgoode Hall Law School Appointed assistant master (1926) and master (1929) of the supreme court of Ontario, he was elected (1938) leader of the Conservative party in Ontario In1939 he entered the provincial legislature From 1943 until his defeat in 1948, Drew was premier of Ontario and minister of education, laying the foundation for extensive educational reforms In 1948 he was elected leader of the Progressive Conservative party of Canada

Drew, John, 1827–62, American actor, b Dublin He made his debut in 1846 at the Bowery Theater, New York, afterwards touring various cities and establishing a reputation as an Irish comedian His career for the rest of his life was bound up in the Arch Street Theater, Philadelphia, where he maintained a famous stock company, with his wife as co-star His wife, **Louisa Lane Drew,** 1820–97, b London, came to the United States in childhood When she was scarcely 15 she appeared as Julia in *The Hunchback* and as Lady Teazle in *School for Scandal* She supported Edwin Forrest and other leading actors of the period, until her marriage in 1850 On her husband's death in 1862 she assumed management of the Arch Street Theater, maintaining the high standard of the place and her own reputation as a portrayer of such character parts as Mrs Malaprop Her three children, John and Sidney Drew and Georgiana Drew BARRYMORE, had their early sound training under their mother She wrote *Autobiographical Sketch,* with an introduction by John Drew (1899) See also M J Moses, *Famous Actor-Families in America* (1906)

John Drew, 1853–1927, b. Philadelphia, the eldest son of John and Louisa Lane Drew, began his career in their stock company in Philadelphia In 1875 he joined the Daly Company, New York, supporting Fanny Davenport in plays adapted from the German Later, with the accomplished Ada Rehan as co-star, he played with acclaim in Augustin Daly's remarkable Shakesperian productions In 1892, as the first of the Charles Frohman stars, he left Daly to play in modern comedies with Maude ADAMS In 1921 he appeared with Mrs. Leslie Carter in *The Circle* by Somerset Maugham. He died when on tour in an all-star revival of *Trelawney of the Wells.* His versatility in comedy made him a leading actor throughout his long career. See his autobiography, *My Years on the Stage* (1922); E. A. Dithmar, *John Drew* (1900), Peggy Wood, *A Splendid Gipsy* (1928).

Drew, town (pop. 1,579), NW Miss , near the Sunflower river NW of Greenwood, in a cotton area. Near by is a state penal farm

Drewrys Bluff (drōō'rēz), height on the south bank of the James river, S of Richmond, scene of two engagements in the Civil War Union gunboats were repulsed here, May 15, 1862, in McClellan's PENINSULAR CAMPAIGN. In May, 1864, B. F BUTLER led the Union Army of the James up the peninsula against Richmond while Grant engaged Lee in the WILDERNESS CAMPAIGN Butler advanced to Drewrys Bluff, where on May 16, 1864, he was defeated by a greatly inferior Confederate force under Beauregard He then retreated to Bermuda Hundred (at the confluence of the Appomattox and James rivers), where Beauregard had him bottled up until Grant crossed the James and moved on PETERSBURG The bluff is also called Drewry Bluff and Drury's Bluff

Drew University, at Madison, N J , Methodist, mainly for men, opened 1867, chartered 1868 as a theological seminary, named for Daniel DREW It added Brothers College and became a university in 1928.

Drexel, Anthony Joseph, 1826–93, American banker and philanthropist, b Philadelphia He entered at an early age the well-known banking firm of Drexel and Company, founded by his father, Francis Martin Drexel, an Austrian immigrant, in 1838 Anthony became a partner, and later under his dominant leadership the firm expanded extensively. Drexel Institute, opened in 1892, was the most important of his many philanthropies

Drexel Institute of Technology, in Philadelphia, nonsectarian, coeducational, founded by Anthony J DREXEL, opened 1892, chartered as an institute of art, science, and industry 1894, renamed 1936 It has schools of business administration, engineering, home economics and library science, all of university grade A work and study plan may be used in business and engineering courses

Dreyer, John Louis Emil (drī'ŭr), 1852–1926, Danish astronomer, who worked in Great Britain. He was assistant astronomer at the earl of Rosse's observatory, Parsonstown (now Birr), Ireland (1874–78), and at the observatory of the Univ of Dublin (1878–82) and director (1882–1916) of the observatory at Armagh He compiled the standard *New General Catalogue of Nebulae and Clusters of Stars* (1888, supplements, 1895, 1908), wrote a biography of Tycho Brahe (1890) and *History of the Planetary Systems from Thales to Kepler* (1906), and edited *Second Armagh Catalogue of 3,300 Stars* (1886), the scientific papers of Sir William Herschel (1912), and the first volumes of the collected works of Tycho Brahe (15 vols , 1913–29)

Dreyfus Affair (drā'fus, drī'–) In 1894 a French court-martial convicted for treason and sentenced to degradation and imprisonment on Devils Island a French general staff officer, Capt Alfred Dreyfus (1859–1935) Evidence was based on a *bordereau* (schedule) written on a hand similar to that of Dreyfus, to Major Max von Schwartzkoppen, German military attaché in Paris The *bordereau,* which listed secret French documents that the writer promised to furnish the attaché, had been intercepted by a French spy Dreyfus was the son of a Jewish manufacturer of Alsace who had emigrated to France after the cession of Alsace to Germany The origins of Dreyfus tempted the court-martial, which like the rest of the army was permeated by anti-Semitism, into using this slim evidence to convict Dreyfus, who protested his innocence Temporarily forgotten, the case flared up again in 1896 and soon divided Frenchmen into two irreconcilable factions In 1896 Col Georges PICQUART, chief of the Intelligence section, discovered evidence pointing to Major Ferdinand Walsin ESTERHAZY as the real author of the *bordereau* Picquart was silenced by the authorities, but in 1897 Dreyfus's brother, Mathieu, independently made the same discovery and energetically pressed for a new trial. The case became a major political issue and was exploited to the full by the royalist, militarist, and bigoted elements, on the one hand, and by the republican, socialist, and anticlerical elements, on the other The lines of violent partisanship cut across family ties and disrupted French life for 10 years The anti-Dreyfusards, led by such men as Édouard Drumont, Paul Déroulède, and Maurice Barrès, were placed in the unfortunate position of having the truth against them, many thus felt obliged to resort to perjury and intimidation in the higher interests of patriotism and piety. Esterhazy was tried and acquitted by a court-martial Emile ZOLA, a leading champion of Dreyfus, was sentenced to jail for his famous article, "J'accuse" (1898). Yet the pro-Dreyfus faction (which included Jean Jaurès, Clemenceau, Waldeck-Rousseau, Anatole France, Joseph Reinach, and Charles Péguy) steadily grew in power. They were, for the most part, less concerned with Dreyfus personally (he continued to languish on Devils Island) than with discrediting the rightist government. The event which made revision imperative was the suicide (1898) of Major Henry, who had manufactured evidence against Dreyfus in order to shield Esterhazy. In 1899 Waldeck-Rousseau became premier, and the court of appeals, voiding Dreyfus's conviction, ordered a new court-martial It was a general surprise when the military court at Rennes found Dreyfus guilty (though it reduced his sentence) President Emile Loubet pardoned Dreyfus, but agitation for complete exoneration continued in France and throughout the world. At last, in 1906, the supreme court of appeals cleared Dreyfus, who was reinstated as major and decorated with the Legion of Honor. In the First World War, Dreyfus was made a general, and in 1930 his innocence was conclusively proved by the publication of Schwartzkoppen's papers The Dreyfus Affair had as an immediate result the discrediting of the monarchists and clericalists, and it hastened separation of Church and state in France See Joseph Reinach, *Histoire de l'affaire Dreyfus* (4 vols , 1901–11), Alfred Dreyfus and Pierre Dreyfus, *The Dreyfus Case* (Eng tr , 1937), Wilhelm Herzog, *From Dreyfus to Pétain the Struggle of a Republic* (Eng tr , 1947)

drift, any deposit of heterogeneous rocky materials, especially the mixture of clay, gravel, sand, and boulders transported and laid down by glaciers over large sections of continental Europe and North America The greater part of the drift is unstratified or glacial drift, also known as till or boulder clay Stratified or glacio-fluvial drift is the product of streams flowing from the melting ice, layers of coarser particles are generally deposited nearer the point of origin than layers of finer particles The drift may take the form of a DRUMLIN, a KAME, an ESKER, a MORAINE, or an even plain, its thickness varies noticeably in different regions and is not dependent upon topographical factors Thus and other characteristics of the drift were useful in establishing the existence of GLACIAL PERIODS

Driftless Area, over 10,000 sq mi , largely in SW Wisconsin but extending into SE Minnesota, NE Iowa, and NW Illinois The continental glacier which covered most surrounding regions did not touch this area, which therefore has no glacial drifts It abounds in caves and sinkholes and has residual, well-drained soil

Driggs, village (pop 1,040), co seat of Teton co , E Idaho, in a farm area of the Teton Basin, settled c 1888, inc 1909

drill. Tools of the drill family include the awl, the drill, the auger, the gimlet, and the brace and bit Of these the oldest is the awl, a device for piercing small holes, which in its early forms was a thorn or a tool of bone or chipped flint Prehistoric awls of flint are often found Drills, e g , the bow drill, are used by primitive men, for making fire as well as for drilling The principle of the gimlet, a tool with a cross handle and a screw point for boring small holes, and of the auger was known and used in ancient times, but the tools were much improved in the Middle Ages The brace, a crank-type handle in which bits of various sizes and shapes can be interchanged, is used for boring holes and for setting screws The ball-bearing handle and the ratchet-driven chuck have improved the earlier drills, forms of which have been known since the Middle Ages In drilling rocks, power drills are generally used The percussive type of power drills work their way by chipping, not by cutting or abrading, the process of the rotary drill. The diamond drill, a kind of rotary drill, has its cutting edge faced with black diamonds or other inferior diamonds and removes a solid core of rock that gives excellent evidence as to the strata through which the drill passes An agricultural implement for planting certain seeds or for placing fertilizer in the soil is called a drill Small drills for gardens are pushed by hand, large drills for field work are drawn by horses or tractors The agricultural drill is named for its special uses, e g., the grass drill and the grain drill, or for its construction, as the disk drill and the hoe drill. The fertilizer drill is commonly combined with the seed drill See also PNEUMATIC APPLIANCES AND TOOLS See E L Oldham, *Driller's Handbook* (4th ed , 1941), J E. Brantly, *Rotary Drilling Handbook* (3d ed., 1942), Emanuele Stieri, *Drill Presses* (1944)

Drin (drēn), river, c 170 mi. long, Albania The largest river in the country, it is formed by two streams (the White Drin and the Black Drin), which rise in Yugoslavia and, after joining in NE Albania, flow west and south through deep gorges into the Adriatic Sea

Drina (drē'nä), river, 286 mi. long, Yugoslavia. Its two headstreams rise in Montenegro and unite in Bosnia; the Drina then flows N into the Sava.

Drinkwater, John, 1882–1937, English poet, playwright, and biographer. In 1913 he became manager of the Birmingham Repertory Theatre For it he wrote his first success, *Abraham Lincoln* (1918), which also established his reputation in the United States. Other biographical plays, including *Mary Stuart* (1921) and *Robert E. Lee* (1923), were followed by a highly successful comedy, *Bird in*

Hand (1927). Besides his prose studies of such men as Byron, Pepys, and Charles James Fox, he wrote a novel, *Robinson of England* (pub. posthumously, 1937). His collected poems appeared in 1923, and a later collection, *Summer Harvest*, in 1934. *Inheritance* (1931) and *Discovery* (1932) are autobiographical

Driver, Samuel Rolles, 1846–1914, English clergyman and biblical scholar. He was regius professor of Hebrew and canon of Christ Church, Oxford, and from 1878 to 1884 was a member of the Old Testament Revision Company. Among his works are valuable commentaries, translations, and critical editions of the books of the Old Testament. He collaborated with C. A. Briggs and Francis Brown in preparing *A Hebrew and English Lexicon of the Old Testament* (completed 1906).

Drobak, Norway: see OSLO

Drobisch, Moritz Wilhelm (mō'rĭts vĭl'hĕlm drō'-blĭsh), 1802–96, German philosopher and mathematician. He was a teacher at Leipzig and a follower and adherent of Herbart. Drobisch's works include *Neue Darstellung der logik* [new exposition of logic] (1836) and *Empirische Psychologie* (1842)

Drogheda (drô'ĭdă, drou'du), urban district (pop 15,709), Co. Louth, Ireland, on the Boyne river 4 mi. from its mouth on Drogheda Bay. St. Lawrence's Gate and other gates remain of walls about the town. Drogheda is the site of a Dominican abbey founded in 1224, of which the Magdalen Steeple remains, and of the Abbey of St. Mary d'Urso. POYNINGS'S LAW was enacted here in 1494. The town was taken and the inhabitants were massacred by Cromwell in 1649. The battle of the Boyne was fought near here in 1690. The town's industries include brewing, tanning, flour milling, iron founding, and the making of cotton and linen goods and soap

Drogobych (drŭgō'bĭch), Pol. *Drohobycz* (drôhō'-bĭch), city (pop. 32,622), capital of Drogobych oblast, Ukraine, SW of Lvov. Ceded by Poland to Austria in 1772, it reverted to Poland in 1919 and was ceded to the USSR in 1945. It has old salt mines and now is an oil-field center, with natural gas supplying heat and light. Drogobych oblast (4,000 sq. mi.; pop. 1,200,000) lies in a plateau bordering on the Carpathians in the south. Besides salt (which includes potassium), petroleum, and gas, it has mineral wax and iron ore. A pipe line for natural gas to Kiev was begun after the Second World War. The population, largely Ukrainian, is agricultural. Towns besides Drogobych are Borislav, Sambor, and Stryy.

Drohobycz: see DROGOBYCH

Droitwich (droit'wĭch), municipal borough (1931 pop. 4,515, 1943 estimated pop. 4,553) Worcestershire, England, on the Salwarpe and NNE of Worcester. There is a canal to the Severn river, built by James Brindley in the 18th cent. The site was occupied by the Romans. The borough is noted for its brine baths and salt trade. There is a radio transmitting station at near-by Wychbold

Drôme (drōm), department (2,533 sq. mi.; pop. 268,233), SE France, in DAUPHINÉ, named for a tributary of the Rhone. Valence is the capital

dromedary: see CAMEL

Dromore (drŏmôr', drō'môr), urban district (pop. 2,176), Co. Down, Northern Ireland, on the Lagan river and SW of Belfast. It is a market for an oats-growing and sheep-raising area and has linen mills. The present church, built (1661) by Jeremy Taylor, who is buried and was bishop here, replaces an abbey of the canons regular, said to have been founded by St. Colman and destroyed in 1641 in the civil wars. Thomas Percy also was bishop of Dromore. Ruins of a castle and rath are near by

Drontheim, Norway: see TRONDHEIM

dropsy, accumulation of fluid in the tissues or in a body cavity. Dropsy may occur as the result of mechanical blocking of circulation in heart and in kidney disease (BRIGHT'S DISEASE) or of local blocking of vessels, as in thrombosis. Normally fluid from the capillaries bathes the tissues and reenters the circulation by the veins. Prevention of its return causes accumulation, which is often first noticed in swelling of the feet. One type depends on abnormal composition of the blood. Treatment includes removal of the underlying cause, surgical puncture, elevation and bandaging of a limb, and aiding excretion through kidneys and skin

Drosophila: see FRUIT FLY

Droste-Hülshoff, Annette Elisabeth, Baronesse von (ănĕ'tŭ ālē'zăbĕt brōnĕ'sŭ fŭn drō'stu-hüls'hôf), 1797–1848, German poet. She is highly rated among German women poets, her *Das geistliche Jahr* (1850) has been termed the finest example of religious poetry in German. She is also noted for the ballad "Die Schlacht im Loener Bruch", and, although she wrote comparatively little prose, for one of the finest German novelettes, *Die Judenbuche* (1842; Eng. tr., *The Jew's Beech Tree*, in Kuno Francke and W. G. Howard, *The German Classics of the Nineteenth and Twentieth Centuries*, 1913–14)

Drouais (drōō-ā'), family of French painters. **Hubert Drouais** (ühbâr'), 1699–1767, was a fashionable miniaturist. His son **François Hubert Drouais** (frăswä'), 1727–75, was a follower of François Boucher, whose style he imitated. Under the patronage of the court he painted portraits of Louis XV, Mme du Barry, Mme de Pompadour, and many others. His son, **Jean Germain Drouais** (zhă' shĕrmĕ'), 1763–88, was a favorite pupil of J. L. David, whom he accompanied to Rome, where he died at the age of 25. His *Marius at Minturno* is in the Louvre, and two of his portraits are in the Metropolitan Museum.

drought (drout), period of insufficient rainfall resulting in serious damage to crops and other vegetation. Drought cannot be accurately defined in terms of inches of rainfall or of number of days without rain because other factors, such as the amount of rain before a long rainless period and the distribution of the amount that does fall, also help to determine the presence or absence of drought. Attendant upon prolonged drought are loss of life from famine and damage to soil and property from forest fires and dust storms. Crop failures are caused not only by lack of rain but also by the effect of hot winds accompanying drought. All continents have at times been plagued by drought, in China and India especially, drought has periodically caused untold millions of deaths through starvation and epidemics resulting from lack of food and water. In the United States many sections of the country have suffered. New England had severe droughts in 1749 and 1762. In 1860 much of the Middle West suffered from drought, and in 1881 the entire country E of the Mississippi was affected. A drought of great severity occurred in the Great Plains region in 1894–95. In the years following, increased rainfall restored the land to agricultural use, and by the time of the First World War much of the area was producing grain crops. Then came years with higher average temperatures and less rainfall, and in 1930 drought again devastated the Great Plains, the DUST BOWL developed in the '30s, and its area spread to alarming dimensions (about 50,000,000 acres). Scarcity of rain prevailed through 1939, the NE United States suffered from drought in 1939. In 1938 Great Britain, Italy, and areas in Central Europe experienced drought conditions. In the United States after 1939 the Western drought area again began to be productive, large grain crops were particularly valuable assets during and after the Second World War. The causes of drought are not well understood. There is some evidence that the presence or absence of drought is related to the relative temperatures of ocean and land, the distribution of high and low pressure areas, and the variations in solar radiation (including those indicated by the sunspot cycle). Much remains to be learned regarding the causes as well as the methods of combating the effects of drought. Problems created by drought include not only those concerned with soil conservation but also the social and economic problems of those driven from drought-stricken areas. See Lawrence Svobida, *Empire of Dust* (1940), T. A. Blair, *Climatology* (1942), I. R. Tannehill, *Drought: Its Causes and Effects* (1947)

Drouyn de Lhuys, Édouard (ādwär' drōōē' du lüēs'), 1805–81, French statesman and diplomat under the July Monarchy, the Second Republic, and the Second Empire. He was a bitter enemy of Guizot. After the Revolution of 1848, he became president of the committee of foreign affairs, ambassador to London, and minister of foreign affairs (1851, 1852–55, 1862–66). He had much to do with the part Napoleon III played in the Crimean War and the Austro-Prussian War

drowning. Submersion in a liquid may cause death from ASPHYXIA, since RESPIRATION cannot continue when air is prevented from entering the lungs. In a case of death from drowning, post-mortem examination shows the lungs to be heavier and larger than is normal, filled with fluid, and in a state of congestion. Since the heart does not stop beating instantly and the nervous system can be stimulated even a short time after the heart stops, RESUSCITATION should be attempted. After clothing has been loosened, the larynx cleared, and excess water pressed out of stomach and chest, ARTIFICIAL RESPIRATION is started as soon as possible. The patient should be kept warm, and when he is conscious stimulants may be given.

Droysen, Johann Gustav (yōhän' gōōs'täf droi'zŭn), 1808–84, German historian. A member of the Frankfurt Parliament in 1848, he took part in the movement that led to the unification of Germany under the leadership of his native Prussia. His nationalism is reflected in his *Geschichte der preussischen Politik* [political history of Prussia] (14 vols., 1855–86) and his biography of Yorck von Wartenburg (3 vols., 1851–52). Other works include *Outline of the Principles of History* (1858, Eng. tr., 1893)

drug addiction. The chief drugs leading to addiction are opium and its derivatives—morphine and heroin—cocaine, hashish and marijuana (both derived from hemp), alcohol, and nicotine. An addict has a craving for the drug at all costs, develops a tolerance so that increasing doses are necessary in order to produce an effect, and when not under the influence of the drug shows disturbances of the nervous system. The physiological and mental make-up of an individual is an important factor in the development of addiction

drugs, substances used in medicine either externally or internally for curing, alleviating, or preventing a disease. Drugs are obtained from many sources. Among the inorganic materials used are compounds of iron, silver, mercury, zinc, lead, aluminum, chromium, calcium, magnesium, arsenic, and bismuth; drugs derived from animal tissues include insulin, adrenalin, vaccines, and serums, from plants come numerous drugs including the alkaloids (e.g., cocaine, cocaine, atropine, quinine, morphine, and codeine), tannic acid, digitalis, belladonna, and pectin. Vitamins to be used therapeutically are derived from both plant and animal material. Of incalculable value in the treatment of many infections are the ANTIBIOTIC SUBSTANCES and the SULFA DRUGS. Many drugs are now prepared synthetically, and thus the supply is not dependent upon natural sources. The effect of the action of drugs is to increase, decrease, or stop the normal function of some gland or other body structure. Standards for drugs and tests for their identity, quality, and purity are given in the U. S. Pharmacopoeia, first published in 1820, it was long revised every 10 years and later every five years. The British Pharmacopoeia is a similar publication. The National Formulary published by the American Pharmaceutical Association gives the composition, description, method of preparation, and dosage for drugs. Legislation to safeguard the purchasers of drugs began in the United States with the Food and Drugs Act of 1906; this was superseded by the more inclusive and more stringent Federal Food, Drug, and Cosmetic Act of 1938. Enforcement of such laws has been carried out since 1931 by the Food and Drug Administration (various other titles for the body were previously used), in 1940 the Food and Drug Administration was transferred from the Dept. of Agriculture to the Federal Security Agency. The science of pharmacology embraces a number of sciences, including pharmacodynamics (the study of the action of drugs on a living body), therapeutics (the use of drugs and other agents and methods in treating patients), materia medica (the study of the source, composition, characteristics, and preparation of drugs), toxicology (the study of poisons and their action and methods of treating poisoning), pharmaceutical chemistry (chemistry in relation to drugs), and pharmacy (the preparation and dispensing of drugs for medical use). See H. C. Fuller, *The Story of Drugs* (1922), W. C. Cutting, *Actions and Uses of Drugs* (1946), T. I. Williams, *Drugs from Plants* (1947); Michel Pijoan and C. H. Yeager, *Handbook of Commonly Used Drugs* (1947), E. C. Browning, *Modern Drugs* (2d ed., 1948), F. R. Davison, *Synopsis of Materia Medica, Toxicology, and Pharmacology* (4th ed., 1949)

druids (drōō'ĭdz), priests and medicine men of Celtic Great Britain and Gaul and probably of all ancient Celtic peoples everywhere. Not much is actually and certainly known of them, and the chief reliance for evidence is on the material preserved by Roman authors, notably Julius Caesar. Some facts are definitely known. They constituted an upper priestly class in command of a highly ritualistic religion. They were highly educated and passed their learning from one generation to another without writing it down. They believed in the immortality of the soul and apparently believed in the departure of the soul into another, not earthly, body. Worship of the sun seems to have been a central feature of their religion, but there was a large pantheon of deities. Some of the druids were from the upper ranks of society. All were organized into a confederation, which had a yearly meeting somewhere N of the Loire in Gaul, perhaps on the site of Chartres. This confederation had great political power, and the druids were the core of the rebellions against Rome in Gaul. Rome, therefore, moved to destroy the druidic power and did much to break it down, but it finally yielded only to Christianity. The great mysteries surrounding them and their lore have attracted much interest, and there have been many efforts to piece together the scraps of information obtainable about them. Formerly many of the prehistoric ruins in France and Great Britain were ascribed to them, notably the menhirs of Carnac in Britanny and the megalithic stones of Stonehenge. This attribution is now discarded, and it is agreed that most of the "druid circles," "druid rings," and "druid stones" had nothing to do with the druids. There is much debate about even minor details, such as the plants sacred to the druids and used by them for medical or ritual purposes. These would seem to include mistletoe, vervain, primroses, and the highly disputed *samolus* (perhaps water pimpernel or an anemone, probably not the modern genus *Samolus*). Druids have also attracted much attention from those interested in the occult. See J. A. MacCulloch, *The Religion of the Ancient Celts* (1911), T. R. Kendrick, *The Druids* (1927), Lewis Spence, *History and Origins of Druidism* (1949)

drum, in music, percussion instrument consisting of a frame over which is stretched a membrane (the

drumhead), struck with sticks or with the hands to produce sound Of prehistoric origin, it acquired in the Middle Ages its military associations, it usually accompanied the flute, hence the modern fife-and-drum corps Late in the 18th cent the bass drum, also called Turkish Drum, was introduced into the orchestra and used by Mozart and Haydn See also KETTLEDRUM, SNARE DRUM, TAMBOURINE

Drumclog (drŭmklŏg′) [Scottish,=ridge of stone], moorland, Lanarkshire, Scotland, on the Ayrshire border E of Kilmarnock On June 1, 1679, it was the scene of Bonnie Dundee's defeat by Covenanters

Drumheller, city (pop 2,659), SE Alta , on the Red Deer river and NE of Calgary It is in an agricultural area, with coal mines and clay pits in the vicinity

drumlin (drŭm′lĭn), smooth oval hill of glacial DRIFT, elongated in the direction of the movement of the ice which deposited it Drumlins, which may be more than 100 or 150 ft high and more than half a mile long, are common in Massachusetts, New York, and Wisconsin

Drummond, Henry, 1786–1860, English banker, known particularly as one of the founders of the CATHOLIC APOSTOLIC CHURCH Beginning in 1826, he gathered annually for five years, at his home in Surrey, a group of laymen and clergymen to examine the prophecies in the Scriptures Out of these meetings grew the organization of the Catholic Apostolic Church under Edward IRVING Drummond became an apostle of the church in 1832 From 1847 until his death he served in Parliament

Drummond, Henry, 1851–97, Scottish clergyman and author, educated at the Univ of Edinburgh He was a minister of the Free Church and from 1877 a lecturer on science in Free Church College, Glasgow Deeply interested in the reconciliation of science and religion, he wrote *Natural Law in the Spiritual World* (1893) After travels in Africa he published *Tropical Africa* (1888), in *The Ascent of Man* he collected the Lowell Lectures delivered in Boston in 1893 A sermon, *The Greatest Thing in the World,* has been many times reprinted

Drummond, James Eric see PERTH, JAMES ERIC DRUMMOND, 16TH EARL OF

Drummond, Thomas, 1797–1840, Scottish engineer, inventor, and administrator He entered the Royal Engineers (1815), and in 1820 he took part in a trigonometrical survey of the United Kingdom To aid in making observations in murky weather, Drummond devised his limelight or Drummond light, utilizing the incandescent properties of lime In 1835 he became undersecretary of state for Ireland, an office he administered with wisdom and justice

Drummond, William (William Drummond of Hawthornden), 1585–1649, Scottish poet Educated in Edinburgh and in France, he succeeded in 1610 to his father's estate, Hawthornden, where he spent his life as a gentleman of letters His first volume of verse, *Teares on the Death of Moeliades* (1613), was followed by *Poems* (1616), *Forth Feasting* (1617), and *Flowres of Sion* (1623) His sonnets best reveal his talent and show beneath their conventionalities the poet's sincere love of nature Drummond's prose works include *A Cypresse Grove,* an essay on death (published with *Flowres of Sion*), and *The History of Scotland from the Year 1423 until the Year 1542* (1655) The visit of Ben Jonson to Hawthornden (1618–19) resulted in Drummond's notes of Jonson's conversations See L E Kastner, ed , *The Poetical Works of William Drummond* (1913), David Masson, *Drummond of Hawthornden* (1873)

Drummond, William Henry, 1854–1907, Canadian poet, b Ireland For several years he worked and practiced medicine in frontier communities There he came to know the French Canadians whom he celebrated in his best poems, using the habitants' own dialect of English His published volumes include *The Habitant* (1897), *Johnnie Courteau* (1901), *The Voyageur* (1905), and his complete *Poetical Works* (1912) See biography by J F Macdonald (1925)

Drummond, Lake. see DISMAL SWAMP

Drummond Island see MANITOULIN ISLANDS

Drummond light see DRUMMOND, THOMAS

Drummondville, city (pop 10,555), co seat of Drummond co , S Que , on the St Francis river and ENE of Montreal It is a rayon-milling center

Drumont, Édouard (ādwär′ drümō′), 1844–1917, French journalist and anti-Semitic leader His book, *La France juive devant l'opinion* [Jewish France in public opinion] (1886) and his periodical, *Livre Parole,* were notable for brilliant style and vicious virulence Drumont reached his apex in the DREYFUS AFFAIR

Drumright, city (pop 4,303), E central Okla , near the Cimarron river SW of Tulsa, in an oil region; founded c 1913

drupe. see FRUIT

Drury College see SPRINGFIELD, Mo

Drury Lane, street and district of London, at first a place of fine Tudor residences, among which was that of the Drury family. It was the site of the original Drury Lane Theatre, a cockpit of the early 17th cent , this was replaced by playhouses where in appeared many of England's greatest actors and actresses. The present Drury Lane Theatre was designed by Benjamin Wyatt in 1812.

Druses (drōō′zĭz), people of S Syria and Lebanon, They inhabit the hill country of the Hauran and are spread over much of the Lebanon and the Anti-Lebanon They are quite distinct from their neighbors and insist upon the distinction Their religion, which is obscurantist and is therefore not completely understood by outsiders, is only in one sense a sect of Islam They believe that the sixth Fatimite caliph, Hakim, who in the 11th cent announced his divinity (see FATIMITES) is really God and that therefore he is still living but hidden until his time shall come, this doctrine is like that of the hidden imam, if not identical with it The Druses have their own customs and their own beliefs, which vary considerably from both Sunnite and Shiite doctrines They were not content with control by the Ottoman sultans, and a long series of wars occurred, for the Druses are some of the fiercest fighters in the whole of Asia The result was that, for the most part, the Turks left them undisturbed except when Druse incursions forced them to take punitive action The Druses were more or less autonomous Their hatred for Christians was directed particularly against the MARONITES, and in the 19th cent the Druses sporadically swept down from their hills to perpetrate bloody massacres of the Christians, notably in the 1860s These actions helped to prepare the way for French control in Syria and Lebanon—the last thing that the Druses desired After the French mandate was created, they opposed the foreign control and in 1925–26, supported by the Syrian nationalists, took Damascus and defied the French until a small but full-scale war had been fought In the Second World War, when the British and Free French undertook their campaign against the Vichy government in Syria, the Druses supported them The independence of Syria was proclaimed in 1941, and in 1944 the Druses of Syria agreed to surrender their autonomous rights in the Jebel Druz [**Jebel**= mountain], as their section of the Hauran is called, thus, theoretically at least, the Syrian Druses became amalgamated with the other Syrians in government

Drusilla (drōōsĭl′ə), d A D 79, daughter of Herod Agrippa I, married to Felix the procurator She was killed in the eruption of Vesuvius Acts 24 24

Drusus (drōō′sŭs), Roman family of the gens Livyius (Livy) An early distinguished member was **Marcus Livius Drusus** (mär′kŭs lĭ′vēŭs), d 109? B C , tribune of the people with C GRACCHUS (122 B C) As a member of the senatorial party he led the successful attack on Gracchus by making more extreme democratic proposals than Gracchus had dared ask By these tactics and by still more unscrupulous ones, Gracchus was disgraced In 112 B C , Drusus was made consul by the senatorial party His son **Marcus Livius Drusus,** d 91 B C , was party leader also His policy was to win the people and the Italian allies over to the senate that the senate might recapture from the knights (equites) the control of the courts By huge doles and a general increase in the franchise he won the people and the Italians, but pleasing the Italians soon cost Drusus support in Rome The senate, in alarm over popular unrest, rescinded Drusus' laws, the Italians were infuriated, and the Social War between Rome and the Italians broke out Drusus was assassinated A member of the family by adoption was LIVIA DRUSILLA, mother of **Nero Claudius Drusus Germanicus** (nēr′ō klô′dēŭs, jərmā′nĭkŭs), 38 B C -9 B C , called Drusus Senior, he was stepson of Augustus and began public life before the customary age He took the field against the Rhaetians (15 B C) and gained much credit for his generalship In 13-12 B C he was in Gaul putting down disorder, and on his return to Rome he was made urban praetor (11 B C) He soon went back to the provinces and ravaged Germany E and N of the Rhine He fortified the Rhine, but he put the Germans under no permanent subjection He died in Germany His brother was the emperor TIBERIUS, one of his sons was GERMANICUS CAESAR, and another was CLAUDIUS I Tiberius' son, **Drusus Caesar** or **Drusus Junior,** d A D 23, served in the provinces—in Pannonia (15) and against the Germans In A D 22 he was made tribune Meanwhile, Sejanus, Tiberius' minister, became jealous of Drusus' power and tried to turn Tiberius against him Drusus died the same year, perhaps of poison administered by Sejanus or by his wife under Sejanus' influence

dryad (drī′ăd), in Greek mythology, a tree NYMPH

Dryburgh Abbey (drĭ′burŭ), Premonstratensian abbey, Berwickshire, Scotland, on the Tweed river below Melrose Founded in 1150, it was several times destroyed and rebuilt and is now a beautiful ruin, a favorite subject for etching and painting. It contains the tomb of Sir Walter Scott

dry cell: see CELL

dry cleaning, process of cleaning fabrics by means of chemicals Special solvents and soaps leave unharmed fabrics and colors which will not withstand the effects of soap and water Dry cleaning began in France about the middle of the 19th cent , at first in small plants by hand, but with the development of specialized machinery it has become an important industry. The danger of fire—at first a constant menace because of the large amounts of inflammable materials in use—was largely overcome by concentrating the work in central plants specially designed and by the use of a high-boiling petroleum product still commonly used in the United States Newer chlorinated hydrocarbon synthetic solvents, noninflammable but requiring precautions against their fumes, include carbon tetrachloride and the less volatile tri- and perchlorethylene The process of dry cleaning for ordinary fabrics is to place them in revolving washers containing the cleansing fluid and a special soap, rinse and pass them through centrifugal extractors, and then dry them in warm air Delicate fabrics are done by hand The cleansing fluids are reclaimed and used again Special stain removers include chloroform, ether, and carbon disulphide Unusual stains are given an expert test to determine the proper solvent. A highly specialized knowledge of chemistry and textiles is necessary to deal with fabrics made of synthetic and mixed fibers

Dryden, John, 1631–1700, English poet, dramatist, and critic, b Northamptonshire Educated at Westminster and Cambridge, he went to London c 1657 There he came to notice with *Heroick Stanzas* (1659), commemorating Oliver Cromwell, in 1660, however, he celebrated the return of Charles II with *Astraea Redux* With the Restoration, Dryden began his rise to a commanding place in English letters and society He was elected a fellow of the Royal Society in 1662 and in 1663 married Lady Elizabeth Howard In 1668 he was appointed poet laureate, in 1670 historiographer royal Dryden's best work of this period is *Annus Mirabilis* (1667), a long poem on the Dutch War and the great fire of London Meanwhile Dryden secured in 1668 a contract with the King's Theatre company and by 1681 had written 14 plays Although his comedies—such as *Sir Martin Mar-All* (1667, pub 1668), *Marriage-à-la-Mode* (1672′, pub 1673), and *The Spanish Friar* (1680, pub 1681)—enjoyed considerable vogue, Dryden's fame as dramatist rests on his tragedies, the most famous of which are *The Conquest of Granada* (1670, pub 1672), *Aureng-Zebe* (1675, pub 1676), and *All for Love* (1677, pub 1678), a version of the Antony and Cleopatra story In 1681 appeared the first part of *Absalom and Achitophel,* his heroic-couplet satire on Monmouth and Shaftesbury, in the second part (1682) Nahum Tate collaborated In 1682 also appeared *MacFlecknoe,* an attack on Thomas SHADWELL, and *Religio Laici,* a poetical exposition of the Protestant layman's creed In 1687, however, Dryden announced his conversion to Catholicism in *The Hind and the Panther* The foregoing poems, plus his Pindaric odes, "Alexander's Feast" and "Ode to the Memory of Mrs Anne Killigrew," place Dryden in the first rank of English poets With the accession of the Protestant William III, Dryden lost his laureateship and court patronage He continued to write plays, translated Juvenal, Persius, Vergil, Ovid, and others, and did other literary work Throughout his life Dryden had written brilliant critical prefaces, prologues, and discourses, dealing with both the ancients and the moderns The best example undoubtedly is his *Essay of Dramatick Poesy* (1668) For Dryden's complete works, see edition by Sir Walter Scott, revised by George Saintsbury (18 vols , 1882 92), see also studies by Saintsbury (1881), T S Eliot (1932), James Osborn (1940), and Mark Van Doren (rev ed , 1946)

Dryden, town (pop 1,641), W Ont , WNW of Fort William It is the site of a government experimental farm

dry farming, practice of raising crops in regions of low rainfall where irrigation is impractical It is most successful where the annual rainfall is from 10 to 20 in with some showers in winter and frequent ones in spring The soil must be deep, without a hardpan or bedrock near the surface, and it must permit absorption and retention of moisture. The crops must be somewhat drought resistant Among those successfully produced in the United States are durum wheat, corn, rye, barley, peas, potatoes, cotton, and forage grasses Rotation of crops and letting the land lie fallow alternate years improves the yield See publications of the U S Dept of Agriculture

Drygalski, Erich von (ā′rĭkh fŭn drĕgäl′skē), 1865–1949, German polar explorer A professor of geography at the Univ of Munich, he led an expedition that wintered (1892–93) in W Greenland In 1901–3 he led the German antarctic expedition in the *Gauss,* which discovered Wilhelm II Coast Subsequently Drygalski wrote the narrative of the expedition and edited the voluminous scientific data (18 vols. and 3 atlases, 1905–26).

dry ice is CARBON DIOXIDE in the solid or "frozen" state and is sometimes called carbon dioxide snow It is formed when the pressure under which the gas was liquefied is removed and the liquid allowed to evaporate in a confined space Some of the liquid returns to the gaseous state at once and in undergoing this change of state draws heat from the remaining liquid, thereby "freezing" it to a solid (see

EVAPORATION) This solid form is known as dry ice, because when sufficient heat is available the solid changes to the gas, leaving no traces of moisture behind. Extremely low temperatures are obtainable by its use, and a given quantity can accomplish the same cooling effect as a quantity of ordinary ice about 15 times the weight of the dry ice It is used in commercial refrigeration, especially for foods being transported Although with careful handling it is not dangerous, it causes severe "burns" if pressed against the skin

drying oil, an oil of either plant or animal origin which oxidizes readily, forming a resistant film when a thin layer of the oil is exposed to air For this reason drying oils are used in paint, varnish, lacquer, printer's ink, and other materials One of the commonest of the drying oils is LINSEED OIL, and a high-grade drying oil is tung oil, obtained from the tung-oil tree native to China and introduced in the United States Among the other drying oils are poppy oil, sunflower oil, walnut oil, and various fish oils Sometimes a drier in the form of a metallic oxide or other metallic compound is added to hasten the drying action

dry point, an intaglio printing process in which the lines are scratched directly into a metal plate with a needle and also a print made from such a plate It is distinguished from etching by the fact that no acid is used and from engraving by the type of tool employed and the consequent shallowness of the line In dry point the burr raised by the needle is usually left on the plate, producing saturated darks which are slightly blurred It is characteristically a sketchy medium suitable for improvisation, but it can also be used to render much fine detail Very few good prints can be made from a plate

dry rot, fungus disease that attacks seasoned timber, both hard and soft In the United States it is caused chiefly by a pore fungus *Poria incrassata* and the tear fungus or house fungus *Merulius lachrymans* They cause a brownish discoloration of the wood and give it a dry, crumbly appearance Collapse of timbers frequently results Moisture is essential to the development of the fungus, the disease is therefore best prevented by dryness and good ventilation Woodwork around sinks and in damp cellars and mines is particularly affected The painting of surfaces in buildings and the creosoting of posts which go into the ground help to prevent the growth of the fungus The name is applied also to diseases attacking potatoes, apples, and corn, caused in each case by a different fungus

Dry Tortugas (tôrtōō'gŭz), island group, off S Florida, 60 mi W of Key West On one of the islands, Garden Key, are FORT JEFFERSON NATIONAL MONUMENT and a U S bird refuge

Dual Alliance, 1879–82 see TRIPLE ALLIANCE AND TRIPLE ENTENTE

dualism, any philosophical system that seeks to explain all phenomena in terms of two distinct and irreducible principles It is opposed to monism and pluralism In Plato's philosophy there is an ultimate dualism of being and nonbeing, of ideas and matter Aristotle criticized Plato's doctrine of the transcendence of ideas, but he was unable to escape the dualism of form and matter, and in modern metaphysics this dualism has been a persistent concept Much popular thinking and writing continues to assume the dualism of form and matter In epistemology dualism posits that an idea of an object is different from the object itself—a position held by Descartes and John Locke and opposed by Berkeley and many later philosophers In psychology occasionalism and interactionism both assumed a dualism of mind and matter The term also has a theological application, e g , the Manichaeans explained evil in the world as resulting from an ultimate evil principle, coeternal with good

Dual Monarchy: see AUSTRO-HUNGARIAN MONARCHY

Duane, James (dūān'), 1733–97, American Revolutionary statesman, b New York city Admitted to the bar in 1754, Duane soon gained renown and wealth as a lawyer and developed as a political conservative Recognition of his sincere interest in colonial rights, however, won him a seat in the Continental Congress (1774), where he served until 1783 His support of Joseph Galloway's conciliatory plan and his constant cautious policy in Congress brought numerous attacks on his patriotism He served on various Revolutionary committees and helped draft the Articles of Confederation. Toward the close of the war Duane was a member of George Clinton's council and from 1784 to 1789 served as the first mayor of New York city after the British evacuation He was at the same time state senator and was a member of the convention that ratified the Federal Constitution. From 1789 until his retirement (1794) he was U S. district judge for New York. Duane was long an ardent advocate of New York's claims to the New Hampshire Grants. His last years were spent in Duanesburg in the Mohawk valley, where he carried out colonizing projects on his large landholdings. See biography by E. P. Alexander (1938).

Duane, James Chatham, 1824–97, American army engineer, b. Schenectady, N.Y., grad. Union College, 1844, and West Point, 1848; grandson of James Duane In the Civil War he organized the engineer equipage of McClellan's army (1861–62) and commanded a battalion of engineers in the Peninsular campaign Duane was chief engineer of the Army of the Potomac in the Antietam campaign (1862) and from July, 1863, to the end of the war He was brevetted brigadier general for his service in the siege of Petersburg (1864) From 1886 to his retirement in 1888 he was brigadier general commanding the Corps of Engineers

Duane, William, 1760–1835, American journalist, b. near Lake Champlain, N Y , of Irish parentage. He learned the printer's trade in Ireland and in 1787 went to Calcutta, where he edited the *Indian World* His attacks on the local government there brought about his deportation and the confiscation of his property Unable to secure redress in England, Duane came to Philadelphia and joined Benjamin Franklin Bache in editing the *Aurora* Upon Bache's death (1798), Duane became sole editor An able and courageous writer, he made the *Aurora* the leading Jeffersonian organ His acid criticism, however, led to his arrest (1799) under the Alien Act Acquitted, he was arrested again under the Sedition Act (see ALIEN AND SEDITION ACTS) Charges against him were dismissed when Jefferson came into office Duane's prosperous journal declined after the removal of the government to Washington, but it remained influential in local politics In the War of 1812 Duane served as adjutant general He retired from the *Aurora* in 1822 and traveled in South America, writing upon his return *A Visit to Columbia in the Years 1822 & 1823* (1826)

Duane, William, 1872–1935, American physicist, b Philadelphia, grad Harvard, 1893, Ph D Univ of Berlin, 1897 He taught at the Univ of Colorado (1898 1907), worked at the Curie radium laboratory in Paris (1907–12), and returned in 1913 to teach at Harvard (as professor of biophysics, 1917–34). He is known for his researches in radioactivity and X rays and their application in radiotherapy

Duane, William John, 1780–1865, U S Secretary of Treasury (June-Oct , 1833), b Clonmel, Ireland He came (1796) to Philadelphia with his father, William DUANE (1760–1835), and assisted him in publishing the *Aurora* until 1806 Admitted (1815) to the bar, he became an influential lawyer He served several terms in the Pennsylvania legislature, working energetically for internal improvements Duane held a number of city offices in Philadelphia and was powerful in state politics He was appointed Secretary of Treasury by President Jackson to succeed Louis McLane, who was transferred to the Dept of State because he refused to remove government deposits from the BANK OF THE UNITED STATES to state banks When Jackson made this request of Duane, the new Secretary also refused to carry out the transfer and was replaced by Roger B Taney Duane defended his own position in his documentary *Narrative and Correspondence concerning the Removal of the Deposites* (1838) and then withdrew from public life He later drew up the will of his friend Stephen GIRARD and was a director of Girard College, which the will established

Duarte (dwär'tŭ), 1391–1438, king of Portugal (1431-38), eldest of the five sons of John I He was the "philosopher-king," better known for his learning and as the author of *O leal conselheiro* [the loyal counselor] than for his indecisive statesmanship The great event of his reign was the disastrous defeat (1437) of an expedition to Morocco led by his brother Prince Henry the Navigator

Duban, Jacques Félix (zhäk' fālēks' dubäⁿ'), 1797–1870, French architect, one of the leaders of the Neo-Greek movement in France between 1830 and 1850 He was among the first of the 19th-century designers to revive interest in architectural polychromy, he studied the remains of color decorations in ancient Greek and Roman work and was engaged in restoring the color adornment of Sainte-Chapelle, Paris (1840–49), and in the château at Blois He reconstructed and extended the École des Beaux-Arts buildings in Paris and worked on the restoration of the Louvre, where he completed the façade of the Henry IV gallery and the decorations of the Gallery of Apollo (1848–51)

Du Barry, Jeanne Bécu, comtesse (zhän' bärē' kōtĕs' dŭ bärō', dōōbär'ē), 1743–93, mistress of Louis XV of France A courtesan of illegitimate birth, she was the mistress of one Jean du Barry when she attracted the king's attention (1768) After being fictitiously married to her lover's brother, Guillaume, comte du Barry, she was installed at court (1769) and retained her influence until the king's death (1774). She spent large sums on clothing, jewelry, the furnishing of her apartments, and great fetes Though her position involved her in political intrigues, they were of minor importance, Mme du Barry lacked the ambition and executive ability of her predecessor, Mme de Pompadour At the accession of Louis XVI she retired from court She was arrested by the Revolutionary Tribunal on charges of treason (1793) and was guillotined See biographies by Edmond and Jules de Goncourt (1860, Eng. tr , 1914), H. N Williams (1904), and Karl von Schumacher (1931, Eng tr , 1932)

Du Bartas, Guillaume de Salluste (gēyōm' du sälüst' dŭ bärtäs'), 1544–90, French poet, a Huguenot soldier under Henry IV, known chiefly for his poems, *La Sepmaine; ou, Creation du monde* [the week or creation of the world] (1578) and the unfinished *La Seconde Sepmaine* The English translation by Josuah Sylvester (1608) was widely read by English and American Protestants

Dubawnt (dōōbônt'), river of N Canada, nearly 600 mi long Rising NE of Lake Athabaska, Sask., it flows northeast across the southeast corner of Mackenzie dist through Dubawnt Lake and E across Keewatin dist into Baker Lake at the head of Chesterfield Inlet of Hudson Bay

Du Bellay, Guillaume (gēyōm' dübĕlā'), 1491–1543, French diplomat under Francis I, brother of Jean du Bellay He was employed in negotiations with Henry VIII of England and with the German Protestant princes From 1537 to 1543 he governed the province of Piedmont He left an uncompleted manuscript history of Francis I's reign

Du Bellay, Jean (zhäⁿ), 1492–1560, French humanist and diplomat, cardinal of the Roman church, brother of Guillaume du Bellay and patron of his nephew, Joachim du Bellay He undertook numerous missions to England, Rome, and Germany After the accession of Henry II (1547), he lived for the most part in Rome A religious moderate, he was criticized—as was his brother—for being too favorably inclined toward Henry VIII of England, for whose divorce he secured the support of several French universities

Du Bellay, Joachim (zhōäshē' du bĕlā'), 1522?–1560, French poet of the PLÉIADE He wrote their manifesto, *La Deffence et illustration de la langue francoyse* (1549), which sets forth the principles of the new movement and makes suggestions as to carrying them out His poetic works are broadly imitative of Italian, Greek, and Latin works These include the collections of sonnets *L'Olive* (1st ed , 1549), *Les Antiquités de Rome*, published (1558) with *Un Songe ou vision*, and *Les Regrets* (1558) The last of these is his masterpiece, its 191 sonnets reveal the poet best, especially in the nostalgia he felt during his sojourn at Rome (1553–57) as the secretary of his uncle, Cardinal du Bellay The *Antiquités* and *Songe* were translated by Spenser

Dubinsky, David (dōōbĭn'skē), 1892–, American labor leader, president (1932–) of the International Ladies Garment Workers Union, b Poland He became a baker in his father's shop in Lodz, Poland, and after being active in labor organization there, he was banished (1909) to a Siberian prison He soon escaped and reached the United States by 1911 He became a cloak cutter and joined (1911) the I L G W U He rose rapidly through the executive ranks of the union and, after serving as its secretary-treasurer (1929–32), became president After 1932 he led in considerably expanding the membership, wealth, and scope of operations of the I L G W U while militantly opposing Communist elements He became (1934) a vice president of the American Federation of Labor, but he led his union in joining with the Congress of Industrial Organizations, in 1936—the same year he helped found the AMERICAN LABOR PARTY in New York state In 1938 he broke with the C I O and helped set up the garment union as an independent organization In 1945 he again became vice president of the A F of L He was an outspoken advocate of the New Deal, in 1944 he withdrew support from the American Labor party and led in founding the LIBERAL PARTY He helped found (1947) the Americans for Democratic Action, and after 1948 he actively supported the European Recovery Plan

Dublin [Irish,=black pool], county (327 sq mi , pop 635,876, including the city of Dublin), Leinster prov , Ireland A small area, situated on Dublin Bay, it is dominated by its great city, which is the county seat and capital of Ireland The area is low-lying in the center and north, rising to the Wicklow Mts in the south The chief river is the Liffey, which bisects the city of Dublin and empties into the bay There are several islands off the coast The rural area, upon which the city has increasingly encroached, is devoted to farming and cattle, and fishing is pursued along the coast Balbriggan is a center for the manufacture of hosiery There are several large suburban towns Organized as a county by King John, the county was the heart of the English Pale and was strongly guarded by castles along its boundaries

Dublin, Irish *Baile Átha Cliath* (bä'lĕ ä klĭ'), county borough (pop 506,635) and city, capital of Ireland, and co seat of Co Dublin, on Dublin Bay of the Irish Sea at the mouth of the Liffey Dublin's harbor, with shipyards and extensive docks and quays, dates from 1714 It is connected with the interior by the Royal and Grand canals, as well as by railroad Dublin's chief industries are brewing (the Guinness brewery covers about 600 acres) and poplin milling (introduced by Huguenot refugees in the 17th cent), distilling, and the manufacture of chemicals, soap, textiles, thread, carpets, lace, and machinery. Dublin is the cultural center of Ireland, the Univ. of Dublin or Trinity College (founded

1591 on the site of a 12th-century monastery) has in its library the famous Book of Kells (see KELLS) University College (Roman Catholic) was incorporated in 1909 as part of the National Univ. of Ireland Dublin has a national museum, interesting for its collections of Irish antiquities, and the National Gallery of Art, with a good collection of old masters. Dublin Castle, built c 1200, was the residence of the lords lieutenants of Ireland until 1922 and now houses government offices Leinster House is the seat of the Irish Parliament. The ABBEY THEATRE is world famous The city's earliest church is Christchurch (the Protestant cathedral of the diocese of Dublin and Glendalough), founded in 1038 by the Dane Sigtryg, Strongbow built a new church on its site in 1172, and his tomb is here St Patrick's is the national cathedral of the Protestant Church of Ireland, Jonathan Swift (who is buried here) was dean from 1713 to 1745 Dublin was a stronghold of the Danes in the 10th cent Defeated (1014) at the battle of Clontarf, they reestablished themselves until 1170, when Strongbow took the town for the English In 1172 Henry II held court in Dublin and chartered the city to the "men of Bristol", it became the seat of English government and the center of the PALE In 1209 the Black Monday massacre of English residents occurred Edward Bruce unsuccessfully assaulted the town in the 14th cent In the civil war the city surrendered (1647) to the parliamentarians, and Cromwell landed here in 1649 James II held (1689) his last Parliament in Dublin, which was later taken by William III Dublin saw much bloodshed in the 19th and 20th cent —the insurrection led by Robert EMMET in 1803; the 1867 uprising of the FENIAN MOVEMENT, the murder (1882) in Phoenix Park of Lord Frederick Cavendish, chief secretary for Ireland, and his undersecretary, and the Easter Rebellion of 1916 Among Dublin's famous sons are Swift, Sir Richard Steele, Edmund Burke, Thomas Moore, R B Sheridan, Oscar Wilde, J M Synge, G B Shaw, W B Yeats, James Joyce, and the patriots Robert Emmet and Arthur Griffith For pictures of Dublin life, see the novels of James Joyce and the works of Oliver Gogarty

Dublin, 1 City (pop 7,814), co seat of Laurens co, central Ga, on the Oconee river and SE of Macon, inc 1812 It is a commercial and industrial center in a coastal-plain farm and lumber area 2 City (pop 2,546), N central Texas, SW of Fort Worth, founded 1856, inc 1889 It is a railroad junction, with processing plants in a region of truck farms, dairies, orchards, cattle ranches, and variegated farms

Dubois, Augustus Jay (dubois'), 1849–1915, American civil engineer, b Newton Falls, Ohio, grad Yale (C E, 1870, Ph D, 1873) At Yale he was professor of mechanical engineering from 1877 to 1884 and of civil engineering from 1884 His contributions to the field include *Elements of Graphical Statics* (1875), the first adequate American work on the subject, *Stresses in Framed Structures* (1883), and *Elementary Principles of Mechanics* (3 vols, 1894–95)

Dubois, Guillaume (gēyōm' dübwä'), 1656–1723, French statesman, cardinal of the Roman church He was tutor to Philippe II d'ORLÉANS, who, when he became regent, made Dubois councilor of state (1715) Dubois's policy was one of peace, he formed the TRIPLE ALLIANCE of 1717 and negotiated marriage contracts between the royal houses of France and Spain (1719) After the collapse of the system of John LAW, he reconstructed the public finances, and in 1722 he became chief minister

du Bois, Guy Pène (dü bwä'), 1884–, American painter and critic, b. Brooklyn, N Y, son of a writer and critic He studied in New York under William Chase and in Paris On his return to New York, he worked as police reporter, as music and art reviewer for various periodicals, and finally (1913–22) as editor of *Arts and Decoration* From 1924 to 1930 he lived and painted abroad His work is summary and effective, evoking amusing aspects of city life Fine examples are in leading galleries throughout the country The Metropolitan Museum has his *Doll and the Monster* He is perhaps best represented in the Whitney Museum, New York. See his autobiography, *Artists Say the Silliest Things* (1940)

Dubois, Théodore (tāōdōr), 1837–1924, French organist and composer, pupil of Ambroise Thomas at the Paris Conservatoire. Dubois was director there from 1896 to 1905 His best-known composition is the cantata *Les Sept Paroles de Christ* (*The Seven Last Words of Christ*, 1867).

Du Bois, William Edward Burghardt (dubois'), 1868–, American editor and author, of Negro descent, b Great Barrington, Mass., grad Harvard (B A, 1890, M A, 1891, Ph D., 1895). He taught (1897–1910) at Atlanta Univ and afterwards was director of publications of the National Association for the Advancement of Colored People and editor of its magazine, the *Crisis* His writings, which have a fine literary quality, include *The Suppression of the Slave Trade* (1896), *The Souls of Black Folk* (1903), *John Brown* (1909), *Darkwater* (1920), *Black Reconstruction* (1935), and *Color and Democracy* (1945) In 1940 he founded the *Review of Race and Culture*. His *Dusk of Dawn* (1940) is autobiographical

Du Bois (dōō'bois, dübois'), city (pop 12,080), W central Pa, in the region of the Allegheny plateau NE of Pittsburgh; settled 1812, laid out 1872, inc 1881 It grew with the advent of extensive lumbering and mining operations In a rich agricultural area, the city produces metal goods and soft coal Abundant game and fish are found in this region. Du Bois Undergraduate Center of Pennsylvania State College is here

Du Bois-Reymond, Emil (ā'mēl dü bwä'-rāmōn'), 1818–96, German physiologist of French descent A pupil and successor (after 1858) of Johannes Müller at the Univ of Berlin, he is known especially for his studies of nerve and muscle action in which he demonstrated that electrical changes accompany muscle action He wrote *Untersuchungen über tierische Elektrizität* (1848–84) and *Über die Grenzen des Naturerkennens* (1872)

Duboistown (dōō'boistoun, dōōbois'–), borough (pop 1,047), NE central Pa, near Williamsport, settled 1773, inc 1878

Dubos, René Jules (rünā' shül' dübō'), 1901–, American bacteriologist, b France, Ph D Rutgers Univ, 1927 He came to the United States in 1924, joined the Rockefeller Institute in 1927, and was naturalized in 1938 From soil bacteria he isolated in crystalline form the agent, one of the ANTIBIOTIC SUBSTANCES, which destroys the so-called grampositive germs (see GRAM, H C J) and named it gramicidin, this work laid the basis of a new field of chemotherapy

Dubrovnik (dōō'brôvnĭk), Ital *Ragusa* (rägōō'sä), city (pop 16,060), Croatia, Yugoslavia, a port and tourist center on the Adriatic It was probably founded in the 7th cent A D by Greek refugees and rose to eminence as a powerful and virtually independent merchant republic Ruled (13th-14th cent) by Venetian governors, it regained independence as the result of warfare between Venice and Hungary The city, governed by rectors, later preserved its freedom by paying tribute to the Ottoman sultans, but in 1806 Napoleon I seized it His marshal, Marmont, bore the title duke of Ragusa The Congress of Vienna assigned (1815) Ragusa to Austria as a part of Dalmatia Medieval Dubrovnik was the center of Serbo-Croatian culture and literature The city retains much of its medieval architecture, notably the city walls, the customs house, the mint, the rectors' palace, and the Franciscan and Dominican convents

Dubuque, Julien (dubūk'), 1762–1810, pioneer settler of Iowa, b. Nicolet co, Quebec Setting out early in life for the West, Dubuque reached Prairie du Chien by 1785 and crossed to the Iowa side of the Mississippi, then in Spanish Louisiana He ingratiated himself with a band of Fox Indians encamped at the site of what is today the city of Dubuque, and by a written cession they gave (1788) him sole right to work their lead mines This right was confirmed, and the first land holdings in Iowa to be given to a private individual were granted to him by Baron Carondelet, governor of Louisiana For 20 years Dubuque worked the mines and traded in furs, employing Indians and French Canadian settlers He retained the confidence of the Indians and was buried by them—with the honors of a chief— on a bluff overlooking the city named for him See biography by Richard Herrman (1922)

Dubuque (dubūk'), city (pop 43,892), co seat of Dubuque co, NE Iowa, on bluffs above the Mississippi, organized 1837, chartered 1841 It is rail, trade, and industrial center and river port for a rich agricultural, and dairy region One of the oldest towns in the state, it was named for Julien DUBUQUE who had settled near by in 1788 The Black Hawk treaty of 1833 having ended the Indian title to the territory, the whites began to pour in, and the town grew where Dubuque had settled Iowa's first newspaper, the *Du Buque Visitor*, was established here in 1836 The town developed as a lumbering and milling center It has railroad shops, shipyards, farm-product processing plants, foundries, and woodworking factories. The Univ of Dubuque (Presbyterian, coeducational; 1852), Clarke College (Catholic, for women, 1843), LORAS COLLEGE, and Wartburg Theological Seminary (1854) are here The library with a collection of paintings, St. Raphael's Cathedral (1857), a Federal building (1934), and Eagle Point Park are also of interest Near by are Crystal Lake Cave, the U S locks and dam on the Mississippi, the grave of Julien Dubuque (with a memorial tower built 1897), and a Trappist monastery, New Melleray Abbey A hotel fire in 1946 took many lives

Du Cange, Charles du Fresne, sieur (shärl' dü frān' syûr du käzh'), 1610–88, French medieval scholar He is principally known for his *Glossarium mediae et infimae Latinitatis* [glossary of medieval and late Latin], the greatest collection ever made of the forms of early medieval Latin and of the oldest Romance.

Ducas (dū'kŭs), Greek family of Constantinople Four of its members became Byzantine emperors— Michael VII, ALEXIUS V, JOHN III, and Constantine X.

Duccio, Agostino di: see AGOSTINO DI DUCCIO.

Duccio di Buoninsegna (dōōt'chō dē bwōnēnsā'-nyä), fl. 1278–1319, early Italian painter, founder of the school of Siena and one of its greatest exponents. His strictly religious art departs from the Byzantine tradition, introducing a new type of formal decoration as well as a new human appeal He painted in tempera on gesso with a liberal use of gold He is recorded as a cassone painter in Siena in 1278 and as an illuminator in 1285. In the same year he was commissioned to paint a Madonna for Santa Maria Novella, Florence, today identified with the Rucellai Madonna, formerly attributed to Cimabue His most celebrated and only authenticated work, a double altar in the Siena cathedral, was finished in 1311 and carried to its place by a rejoicing populace While the main panel of the altar remains in the cathedral, the scattered predelle are now in the galleries of London and Berlin, the Frick Collection, New York, the National Gallery of Art, Washington, D C, and several private collections Several other works are attributed to Duccio on stylistic grounds The art which he initiated in Siena remained a devotional and formal one, medieval in spirit despite the personal prominence of its practitioners

Du Cerceau. see ANDROUET

Du Chaillu, Paul Belloni (pōl' bĕlōnē' dü shīyü'), 1831?–1903, French-American explorer in Africa Born probably in Paris, he spent his youth on the west coast of Africa, where his father was a trader in the province of the Gabun There he learned the native languages and became interested in the interior Coming to the United States in 1852, he became a citizen and secured the backing of the Philadelphia Academy of Natural Sciences for an expedition to explore the Gabun country In four subsequent years of travel (1855–59) he secured many rare birds and animals, some of them new to science He brought back the first gorillas to be seen in America His published account, *Explorations in Equatorial Africa* (1861), upset the previous ideas of the region's geography, Du Chaillu made a second expedition (1863–65) to prove the truth of his account In this two-year trip he visited many previously unknown tribes and verified previous reports of a Pygmy race, the story of the trip is told in *A Journey to Ashango-Land* (1867) Later writings include *Stories of the Gorilla Country* (1867), *Wild Life under the Equator* (1868), *My Apingi Kingdom* (1870), and *The Country of the Dwarfs* (1871) He traveled in Scandinavia (1871–78) and published *The Land of the Midnight Sun* (1881) and *The Viking Age* (1889) See biography by Michel Vaucaire (Eng tr, 1930).

Duchamp, Marcel (marsĕl' dushā'), 1887–, French painter He became a resident of the United States in 1942 He is noted especially for his painting *Nude Descending a Staircase*, depicting continuous action with a series of overlapping figures, it was the cause of long and bitter controversy when exhibited (1913) at the New York Armory Show Among his other works are the collage *Monte Carlo Share* (Mus. of Modern Art, New York) and the privately owned stained glass window *The Bride* He was a leader of the Dadaists and was cofounder (1920) with Katherine Dreier of the Société anonyme for the advancement of modern art.

Du Châtelet-Lomont, Gabrielle Émilie le Tonnelier de Breteuil, marquise (gabrĕēl' āmēlē' lu tônulyā' du brütö'yu markēz' dü shatulā'-lômō'), 1706–49, French mathematician and physicist Greatly interested in the ideas of Isaac Newton, she helped to propagate them in France Her companion in her work was Voltaire, who lived at her château at Cirey (Lorraine) for 15 years before her early death See Frank Hamel, *An Eighteenth-Century Marquise* (1910)

Duchenne, Guillaume Benjamin Amand (gēyōm' bāzhamē' āmā' düshĕn'), 1806–75, French physician He is noted for researches on diseases of the muscular and nervous system and for his pioneer work on the application of electricity to diagnosis and treatment of disease

Duchesne, Louis Marie Olivier (lwē' märē' ōlēvyā' düshĕn'), 1843–1922, French Roman Catholic ecclesiastic, educator, and church historian. He made a scientific expedition to Mt Athos, and to Asia Minor (1874–76) His able thesis, *Étude sur Liber pontificalis*, won (1877) for him the professorship of church history at the Catholic Institute, Paris, which he held for eight years He founded the *Bulletin critique* (1880) to disseminate his views on theology, history, and philology and edited and published an edition of *Liber pontificalis* (2 vols, 1886–92) Appointed to the directorship of the French school of archaeology at Rome, he there became president of the papal commission to deliberate revising the breviary (1902). Among his works are *Origines du culte chrétien* (1889) and *Histoire ancienne de l'église* (1906); both have been translated into English

Duchesne, Père: see HÉBERT, JACQUES RENÉ

Duchesne, Rose Philippine (rōz fēlēpēn'), 1769–1852, French educator in the United States, a Roman Catholic nun, b Grenoble, France. She entered the order of the Visitation, but was forced (1791) by the antireligious decrees of the French Revolu-

tion to leave her convent. In 1804 she joined the Society of the Sacred Heart, and in 1818 she was sent to the United States. From the convent and school she founded at St. Charles, Mo.—later moved to Florissant, Mo —she went out over a wide area, founding schools for girls, doing charitable work, and finally ministering to the Indians She was a valiant missionary and a well-known benefactress. She was beatified in 1940. See biography by Lady Leopoldina Keppel (1940).

Duck, river of central Tennessee winding northwestward c 250 mi to join the Tennessee SW of Waverly Columbia and Shelbyville lie on the river

duck, wild and domestic waterfowl smaller than the related goose and swan and prized for its meat, eggs, and feathers Strictly speaking, duck refers to the female and drake to the male. Ducks are usually divided into three groups the river or fresh-water ducks, such as the mallard, the wood duck, the black duck, and the teal, the sea ducks, such as the canvasback, the scoter, the eider, and the redhead, and the mergansers, or fish-eating ducks, which have slender, serrated bills The sea ducks have webbed hind toes and dive under water to feed, while the river ducks usually feed on or near the surface, and their hind toes are not webbed Ducks make long migratory flights. At the time of the postnuptial molt when the power of flight is temporarily lost, most of the Northern Hemisphere drakes assume an inconspicuous "eclipse" plumage similar in coloring to that of the female Among the domestic meat producers the Pekin, or Peking, is the most important, others are the Aylesbury and the Rouen The ancestor of all domestic breeds, except the Muscovy of South American origin, is the mallard, which is found in Europe, Asia, and North America In the mallard drake the head and neck are glistening green, the neck ringed with white, the breast chestnut, and the back grayish brown The canvasback is widely hunted Its flesh is most palatable when it feeds on eelgrass It has a chestnut head and neck, black bill, and whitish back and under parts A swift flier, it is also an expert swimmer and diver It breeds inland from the Dakotas and Minnesota north and winters over most of the continent chiefly near the water The wood duck, which nests in hollow trees, is an ornament to lakes and ponds The blue-winged, the green-winged, and the European teals are small ducks which fly with great speed In northern countries a portion of the down with which the eider duck lines its nest is systematically collected, as are some of the eggs It lays throughout the season, replacing the eggs that are removed It is allowed to hatch one brood a year See F H Kortright, *The Ducks, Geese, and Swans of North America* (1943), *Duck Raising* (U S Dept. of Agriculture, Farmers' Bul 697)

duckbill see PADDLEFISH and PLATYPUS

Duck Lake, central Sask , SW of Prince Albert It was the scene of the first encounter in Riel's Rebellion in 1885 A large body of half-breeds under Gabriel Dumont drove back a small force of volunteers and mounted police

Ducktown, unincorporated copper-smelting town (pop 1,255), E Tenn , near the point where Georgia, Tennessee, and North Carolina meet The surrounding copper-producing area is deeply eroded because sulphur fumes from copper smelters have blighted plant growth

Ducommun, Élie (ālē' dükômū'), 1833–1906, Swiss journalist and pacifist He organized (1831) the International Peace Bureau at Bern and was awarded the 1902 Nobel Peace Prize jointly with Albert Gobat

ductless gland. see GLAND

Duddell, William Du Bois (dŭdĕl'), 1872–1917, English consulting electrical engineer He designed and constructed electrical instruments, particularly an oscillograph His researches in the resistance of the electric arc led to the Poulsen arc

Du Deffand, Marie de Vichy-Chamrond, marquise (märē' dü vēshē'-shärō' märkēz' dü dŭfä'), 1697–1780, French woman of letters, whose salon was frequented (1753–80) by the leaders of the ENLIGHTENMENT. She was blind The letters (1766–80) of Mme du Deffand to Horace WALPOLE, whom she loved deeply, are typical of her brilliant, witty correspondence. See Mrs Reginald De Koven, *Horace Walpole and Madame du Deffand* (1929)

Dudevant, Amandine Lucile Aurore: see SAND, GEORGE

Dudley, John: see NORTHUMBERLAND, JOHN DUDLEY, DUKE OF

Dudley, Joseph, 1647–1720, colonial governor of Massachusetts, b. Roxbury, Mass , grad. Harvard, 1665; son of Thomas Dudley. He took part in King Philip's War and served (1677–81) as one of the commissioners of the New England Confederation. In 1682 he was one of the agents sent to England to protest against the threatened loss of the Massachusetts charter. Having found favor in England, Dudley was appointed head of the temporary government in the colony until Sir Edmund Andros arrived (1686) a few months later as governor of all New England. Under Andros he held several prominent positions, but with Andros's fall (1689) he was sent to England to answer charges brought against him by the colonists Acquitted of the charges, he was appointed chief of the council of New York (1690–92) and acted as chief justice during the trial of Jacob Leisler Back in England again, he was elected to Parliament (1701), but soon returned as governor of Massachusetts (1702–15). Dudley raised and directed military expeditions against Canada, but his administration was marked by dissension because of his old unpopularity in the colony and his uncompromising attitude See biography by Everett Kimball (1911) His son,

Paul Dudley, 1675–1751, b Roxbury, Mass , rose to considerable prominence as a jurist in spite of his father's unpopularity and the hostility of the Mather faction He was chief justice of Massachusetts (1745–51) and was a naturalist of repute

Dudley, Plimmon Henry, 1843–1924, American civil and metallurgical engineer, b Portage co , Ohio, educated at Hiram College His inventions include the dynamometer to record the drawbar pull of a locomotive, an indicator to register graphically all irregularities of a track, and the stremmatograph to register strains in rails under moving locomotives With these and other instruments he checked the roadbeds of most of the important American railroads He initiated the treatment of railroad ties to prevent their deterioration, made investigations into the metallurgy of rails and their response to weather conditions, and designed many of the heavier rails used after 1884

Dudley, Robert. see LEICESTER, ROBERT DUDLEY, EARL OF

Dudley, Thomas, 1576–1653, colonial governor of Massachusetts, b Northampton, England As a young man he served as a clerk and later as steward to the earl of Lincoln In 1630 he emigrated to America as deputy governor of the Massachusetts Bay colony and spent the remainder of his life in one public office or another, being elected deputy governor 13 times and serving four terms as governor He was also one of the first members of the standing council and a founder and one of the first overseers of Harvard. See biography by Augustine Jones (1899)

Dudley, William Russel, 1849–1911, American botanist, b Guilford, Conn , grad Cornell Univ (B S, 1874) He taught botany at Cornell from 1876 to 1892 and in 1892 went to Stanford, where he served as professor of botany until his death He was influential in securing the California Redwood Park, and at Stanford he built up the Dudley Herbarium, one of the most complete collections in the W United States

Dudley, county borough (1931 pop 59,583, 1947 estimated pop 63,330), Worcestershire, England, WNW of Birmingham It is on an elevation in the Black Country and has iron and brass foundries, coal mines, brick factories, and art and technical schools It is the site of a Cluniac priory (12th cent) and of Dudley Castle

Dudley, town (pop 4,616), S central Mass , near the Conn line SW of Worcester, settled 1714, inc 1732 Textiles and lenses are made here

duel, prearranged armed fight between two persons on a point of honor The duel may have originated in the wager of battle, an early mode of trial in which an accused person fought with his accuser under judicial supervision (see ORDEAL) Wager of battle was abolished in France in the mid-16th cent , and the duel in part took its place The institution later spread to England and other countries To initiate a duel the offended party would present a challenge to fight, which had to be accepted on pain of dishonor Negotiations were conducted by seconds, who also observed the combat to see that all agreements and the complex punctilio were observed The object of a duel was not necessarily to kill one of the combatants, and in most cases after the firing of a prescribed number of shots or drawing blood the fight would be stopped. Although dueling was recognized as irrational, it long persisted among aristocrats and army officers In National Socialist Germany the famous student duels were revived In the United States, Alexander HAMILTON was killed in a duel with Aaron BURR and Andrew Jackson took part in several duels Dueling today is illegal in all civilized countries, and a killing in the course of a duel is usually considered willful murder

due process of law see FOURTEENTH AMENDMENT

Duer, John (dōō'ûr), 1782–1858, American jurist, b Albany, N Y , son of William Duer. He studied law in Alexander Hamilton's office and was admitted to the bar within a few years In 1821 he was a member of the state constitutional convention, and later he served as commissioner to revise the state statutes (1825–27) Duer became U S district attorney for S New York in 1827, but in 1829 resumed his law practice in New York city, becoming an expert on insurance law He was elected judge of the superior court of New York city in 1849 and chief justice in 1857 Duer's writings, especially his treatise on law and marine insurance (2 vols., 1845–46), gained him a wide reputation.

Duer, William, 1747–99, American Revolutionary patriot and capitalist, b. Devonshire, England, educated at Eton He served for a time as aide-de-camp to Robert Clive in India, afterward spending some time in the West Indies looking after his father's estates In 1768 he came to New York and, having received a contract to supply the royal navy with masts, purchased a tract of timberland above Saratoga on the Hudson, built himself a mansion, erected mills, and became a gentleman of influence Elected (1775) to New York's provincial congress, he served prominently in the state constitutional convention and acted on the Committee of Public Safety From March, 1777, until Jan , 1779, he was a delegate to the Continental Congress, where he served on seven committees During the war he was one of the largest contractors supplying the army From 1786 to 1789 he was secretary of the Board of the Treasury, and after the Dept. of the Treasury was organized (1789) he became Assistant Secretary under Alexander Hamilton Duer aided Manasseh Cutler in securing the land grant for the OHIO COMPANY OF ASSOCIATES and was a prime mover in the Scioto Company A speculator with great holdings, Duer was probably second only to Robert Morris as a financier of the period His multifold plans did not succeed, however, the government sued him on account of certain irregularities involved in his work with the Treasury Dept He was imprisoned for debt, and his ruin is supposed to have helped create the Panic of 1792 Except for a brief period he spent the rest of his life in prison. See J S Davis, *Essays in the Earlier History of American Corporations* (1917)

Duer, William Alexander, 1780–1858, American jurist and educator, b Rhinebeck, N Y , son of William Duer He was admitted to the New York bar in 1802 He practiced until 1806 in New Orleans Back in New York, he was a member of the state legislature (1814–20) and a judge of the state supreme court (1822–29) From 1829 to 1842 he was the president of Columbia College. There he established scientific courses that did not require Latin, and he increased instruction in modern languages and Hebrew Some of his Columbia lectures were published as *Constitutional Jurisprudence of the United States* (1843) He also wrote *Life of William Alexander* (1847), a biography of his grandfather, a general in the American Revolution, and *Reminiscences of an Old Yorker* (1867)

Duero, river see DOURO

Dufay, Guillaume (dōō'fī', gēyōm' düfä'), c 1400–1474, founder and leading composer of the Burgundian school, probably b Chimay, Hainaut After his early training in the cathedral choir at Cambrai, he sang (1428–37) in the papal chapel in Rome He was in the service of the antipope Felix V from 1442 to 1449 He was a canon of the cathedral of Cambrai, where he lived from 1450 until his death He traveled a great deal, knew many musical styles, and was highly esteemed by his contemporaries His style united Gothic and Italian elements with some English influence from John Dunstable He composed three-part vocal chansons, Masses on a *cantus firmus*, songs with instrumental accompaniment, and motets The faux-bourdon style reached its height in his works See J F R Stainer and Cecie Stainer, *Dufay and His Contemporaries* (1898)

Duff, Alexander, 1806–78, Scottish missionary in India. In Calcutta he opened, in 1830, a mission college which became an important center of education in India, both religious and scientific subjects were taught In 1844 he helped to launch the Calcutta *Review*. Duff was instrumental in founding the Univ of Calcutta

Duff, Sir Lyman Poore, 1865–, Canadian jurist, b Meaford, Ont , educated at the Univ of Toronto and the Ontario Law School For two years (1904–6) he was a judge of the supreme court of British Columbia; in 1906 he was appointed a judge of the Supreme Court of Canada, and in 1933 he became chief justice, serving until his retirement in 1944 He was chairman (1931–32) of the commission (popularly called the Duff Commission) appointed to inquire into the railroad situation in Canada, and twice (1931, 1943) he was administrator of the government of Canada

Duff, Mary Ann Dyke, 1794–1857, English-American actress She married (1810) an Irish actor, John Duff, with whom she went to the United States She made her debut in Boston and won fame as Juliet, Ophelia, Desdemona, and Lady Macbeth In 1821 she supported Edmund Kean in his production of *The Distressed Mother* and in 1823 played Hermione to the Orestes of the elder Booth Until Fanny Kemble came to the United States (1832), Mrs Duff was unrivaled in tragic roles

Duff Cooper, Alfred: see COOPER, ALFRED DUFF.

Dufferin and Ava, Frederick Temple Hamilton-Temple-Blackwood, 1st marquess of (dŭ'fərĭn, ā'vu), 1826–1902, British diplomat He served numerous missions abroad, as undersecretary for India (1864–66), governor general of Canada (1872–78), ambassador to Russia (1879–81), ambassador to Turkey (1881–82), commissioner to Egypt (1882–83), viceroy of India (1884–88), ambassador to Rome (1888–91), and ambassador to Paris (1891–96). He was an imperialist His administration in India saw the annexation of Burma and activity against the Afghans See biographies by Alfred Lyall (1905) and Harold Nicolson (1938)

Duff-Gordon, Lucie (Austin), Lady, 1821–69, English author, daughter of the jurist, John Austin Beautiful, witty, and independent in thought and speech, she is described by George Meredith and other writers of her day, her London home was a literary salon She is remembered for the wit and humanity of *Letters from the Cape* (1862–63), *Letters from Egypt* (1865), and *Last Letters from Egypt* (1875), written in exile in a vain search for health She died of tuberculosis in Egypt See Janet Ross (her daughter), *Three Generations of Englishwomen* (1886), biography by Gordon Waterfield (1937)

Duffus, Robert Luther, 1888–, American author, b Waterbury, Vt , grad Stanford (B A , 1910, M A , 1911) He was a reporter and editorial writer on the San Francisco *Bulletin*, 1911–18, and the New York *Globe*, 1919–23 He was then a free-lance writer until 1937, when he joined the editorial staff of the New York *Times* His work includes *Roads Going South* (1921), *The Arts in American Life* (with F P Keppel, 1933), and *The Innocents at Cedro* (1944), an autobiographical memoir of Thorstein Veblen

Duffy, Sir Charles Gavan, 1816–1903, Irish-Australian statesman, b Ireland He founded the *Nation* (1842), a patriotic Irish literary journal With Daniel O'Connell, Duffy agitated for the repeal of the union of Ireland and England, but went over to the more radical Young Ireland movement He was acquitted of treason in 1848 and helped to found the Independent Irish party Disconsolate over the failure of Catholics and Protestants to unite for land reform, he went to Australia (1855) He became prime minister of the Victoria colony (1871–72) and served later as speaker of the assembly

Duffy, Francis Patrick, 1871–1932, U S army chaplain, b Ontario prov , grad Troy Seminary, 1896 He was ordained a priest in 1896 and in 1898 entered the U S army, seeing service in the Spanish-American War as chaplain of the "Fighting 69th" Division In the First World War, Father Duffy, with the 165th Regiment of the "Rainbow" Division, distinguished himself for courage under fire and was promoted (1919) major A monument of Father Duffy was unveiled (1937) in Times Square, New York city See biography by E M E Flick (1935)

Dufour, Guillaume Henri (gēyōm' ārē' düfōōr'), 1787–1875, Swiss general He served in the French army under Napoleon, and in 1847 he led the federal forces to victory against the SONDERBUND A noted cartographer, he was also the author of several military treatises and histories Dufour presided over the first Geneva Convention, which established (1864) the International Red Cross

Dufourspitze see ROSA, MONTE

Dufrénoy, Ours Pierre Armand Petit (ōōr' pyĕr' ärmä' putĕ' düfrānwa'), 1792–1857, French geologist He collaborated with Élie de Beaumont in making a geological map of France (pub 1841) and was director of the École des Mines, Paris

Dufy, Raoul, (rä'ōōl' düfē'), 1877–, French painter, illustrator, and decorator, studied at the École des Beaux-Arts His decorative and calligraphic style and subtle use of brilliant color recall Matisse, but have a highly personal character He achieved a reputation in 1911 with his illustrations for *Le Bestiaire* by Apollinaire Dufy is represented in leading galleries of contemporary painting Characteristic is his water color *The Palm*, in the Museum of Modern Art, New York See study by K G Perls (1941)

Du Gard, Roger Martin see MARTIN DU GARD

Dugdale, Richard Louis (dŭg'dāl), 1841–83, American social investigator, b Paris While inspecting (1874) county jails for the New York Prison Association, he ran into the facts which gave him material for his famous study of the Jukes (fictitious name of a real family) This was published in an Association report as *The Jukes a Study in Crime, Pauperism, Disease, and Heredity* (1875), with *Further Studies of Criminals* it was republished separately in 1877 One of the first social investigations of familial feeble-mindedness and criminality, it created a sensation at the time, however, most of Dugdale's assumptions and conclusions about "hereditary" degeneracy are no longer accepted The finding of the manuscript (1911), revealing the actual names of the family, enabled Arthur H Estabrook to make his comparative study, *The Jukes in 1915* (with a memoir of Dugdale, 1916)

Dugdale, Sir William 1605–86, English antiquarian His chief works are *Antiquities of Warwickshire* (1656), *The Baronage of England* (2 vols , 1675–76), and the greater part of *Monasticon Anglicanum* (3 vols , 1655–73)

Duggan, Eileen (dŭ'gŭn), New Zealand poet, M A Victoria University College, Wellington, 1918 A Roman Catholic, she has written poetry noted for its strong religious feeling *Poems* (1937) and *New Zealand Poems* (1940) were published in Great Britain and the United States as well as in New Zealand She has also contributed prose and poetry to numerous magazines in these countries

Duggan, Stephen, 1870–, American educator and administrator, b. New York city, grad College of the City of New York, 1890, Ph D Columbia, 1902 From 1896 to 1927 he taught in the department of political science at the College of the City of New York, serving also as director (1919–46) of the Institute of International Education. Influential in the field of international education, Duggan has received many foreign decorations His works include *A History of Education* (1916), *The League of Nations* (1919), *A Professor at Large* (1943), and *The Rescue of Science and Learning* (with Betty Drury, 1948)

Duggar, Benjamin Minge (dŭ'gŭr), 1872–, American botanist, b Gallion, Ala , grad Harvard (B A , 1894), Ph D Cornell Univ , 1898 From 1927 to 1943 he was professor at the Univ of Wisconsin His work includes research on antibiotics, virus diseases of plants, and the physiological effects of ultraviolet radiation on plants Besides many articles on economic botany, he wrote *Fungous Diseases of Plants* (1909), *Plant Physiology* (1911), and several works on the cultivation of mushrooms

Dugger, town (pop 1,406), SW Ind , c 30 mi. SSE of Terre Haute

dugong (dōō'gŏng), herbivorous aquatic mammal of the Red Sea, the Indian Ocean, and the waters around Australia Like the manatee of the same order (Sirenia), it is also called sea cow Sea cows may be the originals of the mermaids of legend The dugong has a brownish or grayish body about 7 to 9½ ft long, with flexible front flippers and a two-lobed, flat tail Hunted for its palatable flesh, for its hide, tusks, and oil, it is in danger of extinction The related Steller's sea cow of the N Pacific became extinct in the 18th cent

Duguay-Trouin, René (rünā' dügā'-trōōĕ'), 1673–1736, French privateer and admiral A member of a Breton family of shipowners, he enlisted as a privateer (1689) Because of his bravery he was given command of a vessel (1691) He was captured by the English (1694) but escaped and raided the coast of Ireland After he captured a Dutch naval squadron he was made captain of a frigate in the French fleet (1697) Duguay-Trouin again defeated the Dutch off Spitsbergen (1702–3) and was appointed captain of a ship of the line (1705) In 1707 he barred the passage of a British troop convoy destined for Portugal His record of captures was reported by 1709 as 300 merchantmen and 20 warships or privateers In 1711 he captured Rio de Janeiro after an 11-day bombardment and forced the city to pay a heavy ransom, and in 1731 he compelled the rulers of Algeria and Tunis to release French sailors from captivity As a reward for his services Duguay-Trouin was ennobled by Louis XIV in 1710 and commissioned a lieutenant general in 1728 He was idolized by his sailors Though the captor of rich prizes, he died poor

Du Guesclin, Bertrand (dügĕs'klĭn, bĕrträ' dü gĕklĕ'), c 1320–1380, constable of France (1370–80), greatest French soldier of his age A Breton, he fought for Charles of Blois in the War of the BRETON SUCCESSION, he distinguished himself in the defense of Rennes against the English (1356–57) and in 1364 won the brilliant victory of Cocherel over the forces of CHARLES II of Navarre He was captured in the same year, however, by Sir John Chandos at Auray, where Charles of Blois was killed Du Guesclin was ransomed by CHARLES V of France, in whose service he remained till his death To rid himself of the "free companies" (bands of discharged soldiers who ravaged France after the Treaty of BRÉTIGNY), Charles put Du Guesclin at their head and sent them to aid Henry of Trastamara (later HENRY II of Castile) against PETER THE CRUEL Du Guesclin, though successful in the campaign of 1366, was defeated and captured by Peter and EDWARD THE BLACK PRINCE at Nájera (1367) In 1369, however, he and Henry won the battle of Montiel, through which Henry gained the throne of Castile Warfare against England was renewed in 1369, and Du Guesclin reconquered Poitou and Saintonge and pursued (1370–74) the English into Brittany He disapproved of the confiscation (1378) of Brittany by Charles V, and his campaign (1379) to make the duchy submit to the king was half-hearted He died when on a military expedition in Languedoc An able tactician, Du Guesclin was notable also for the interest he took in the welfare of his soldiers His personal prowess and loyalty have made him one of the most popular heroes of France and, particularly, of Brittany See biographies by D F Jamison (1864), E V Stoddard (1897), and Roger Vercel (Eng tr , 1934)

Duhamel, Georges (zhôrsh' düämĕl'), 1884–, French novelist and dramatist Like Papa Pasquier in the *Chronique des Pasquier* (1933, Eng tr , 1937), Duhamel began to study medicine in middle age From his experience as a surgeon during the First World War came *Vie des martyrs* (1917, Eng tr , *The New Book of Martyrs*, 1918) and *Civilisation* (1918, Eng tr., 1919) The latter, published under the pseudonym Denis Thévenin, won the Goncourt Prize He was successful as a dramatist; his *Dans l'ombre des statues* was performed in 1912 (Eng. tr , *In the Shadow of Statues*, 1914) and *L'Œuvre des athlètes* in 1920. His most famous character is the somewhat dubious hero Salavin, created in his *Cycle de Salavin* (1920–32, Eng tr , 1936) Duhamel caused some ill feeling in the United States with the publication of *Scènes de la vie future* (1930, Eng tr , *America the Menace*, 1931) This book, however, as well as *Querelles de famille* (1931) and *Défense des lettres* (1936, Eng tr , 1939), is simply an expression of his distaste for overindustrialization and overmechanization of modern life He was elected to the French Academy in 1936

Duhamel du Monceau, Henri Louis (ärē' lwē' dümôNsō'), 1700–1782, French agriculturist and tree expert He did experimental work on plant physiology and ecology and wrote *The Elements of Agriculture* (1762, Eng tr , 1764) and other standard works on agriculture and on the distribution and culture of trees and shrubs

Dühring, Eugen Karl (ougän' karl' dü'rĭng), 1833–1921, German philosopher and economist. He practiced law in Berlin until blindness threatened him and then became (1864) docent at the Univ of Berlin Inability to get along with academic authorities forced his retirement in 1877 A positivist in the manner of Comte and Feuerbach, he looked to the study of man as the basis of his philosophy His political philosophy rested on the retention of capitalism with the elimination of its abuses through a strong labor movement He was violently criticized by Engels in *Anti-Dühring* (1877) His works include *Kritische Geschichte der allgemeinen Principien der Mechanik* (1872) and *Cursus der Philosophie* (1875)

Duhring, Louis Adolphus (dyōō'rĭng), 1845–1913, American dermatologist, b Philadelphia, M D Univ of Pennsylvania, 1867 He was professor at the Univ of Pennsylvania from 1876 A pioneer specialist in skin diseases, he studied abroad, opened a clinic in Philadelphia (1870), and wrote *Practical Treatise on Diseases of the Skin* (1877)

Duisburg (dōō'ĭsbōōrk), city (1946 pop 356,408), in the former Rhine Prov of Prussia, NW Germany, at the junction of the Ruhr and Rhine rivers It is an industrial center of the RUHR district, with steel, machinery, and textile plants, and a large inland port Of ancient origin, Duisburg was tributary (12th–13th cent) to the dukes of Limburg, passed to the duchy of Cleves in 1290, and in 1666 was acquired, with Cleves, by Brandenburg As a center of the German armaments industry (notably the Thyssen steelworks), the city was a favorite target for Allied air raids in the Second World War, from which it emerged about three quarters destroyed

Dujardin, Félix (fālĕks' düzhärdăN'), 1801–60, French zoologist He contributed valuable research on bacteria and on Infusoria In 1835 he described protoplasm in unicellular animals and named it sarcode He taught at the universities of Toulouse and Rennes

Dujardin, Karel (kä'rul duzhärdăN'), 1622?–1678, Dutch painter and etcher He studied with Berchem and in Italy He was particularly successful in painting landscapes with figures and animals, and he made some 51 fine etchings of similar subjects He also painted portraits and allegorical pictures Characteristic are his *Charlatans* and *Cavalry* (both Louvre) and *Landscape with Cattle* (National Gall , London)

Dukas, Paul (pōl dükä'), 1865–1935, French composer and critic He stands between the romanticism of César Franck and the impressionism of Debussy His compositions are few, the best known being a symphonic poem, *The Sorcerer's Apprentice* (1897), and an opera on a poem of Maeterlinck, *Ariane et Barbe-Bleue* (1907)

Duke, James Buchanan, 1856–1925, American industrialist, processor of tobacco products, b near Durham, N C The Civil War left the Duke family poor, but James and his brother, Benjamin Duke (1855–1929), helped their father in building up a local tobacco-processing business, which soon prospered Development of cigarette-making machines and vast advertising gave the Duke firm a lead in tobacco manufacturing Through a long series of mergers with competitors, James Duke organized (1890) and led a trust which, when dissolved by order of the Supreme Court in 1911, controlled 150 factories with a capitalization of $502,000,000 He left to Trinity College a trust fund which provided for the erection of buildings and facilities, the name of the college was changed to Duke Univ He also gave large amounts for hospitals, orphanages, and churches See biographies by J W Jenkins (1927) and J K Winkler (1942).

Duke of York Islands, coral group, area 23 sq mi , SW Pacific, between New Britain and New Ireland, in the BISMARCK ARCHIPELAGO and part of the Territory of New Guinea There are coconut plantations in the islands The group was formerly called Neu Lauenburg

Dukeries, the, park district in Sherwood Forest, Nottinghamshire, England It draws its name from the number of its ducal seats, which include Clumber, Thoresby, Welbeck, and Worksop

Dukes, Leopold, 1810–91, Hungarian Hebrew scholar He made a collection of rabbinical proverbs and wrote on the history of Jewish literature, notably of Hebrew poetry in the Middle Ages.

Duke University, at Durham, N C.; for men and women, opened 1838, chartered 1841 by Friends and Methodists as Union Institute in Randolph County It was reorganized in 1852 as Normal College and again in 1859 as Trinity College (Methodist) It moved to Durham in 1892 After large endowments by James B Duke and his family, it was renamed in 1924 Duke Univ includes engineering and two undergraduate (Trinity and Woman's) colleges and schools of forestry (graduate), law, medicine, nursing, and religion (Methodist) It has a marine laboratory, a large library, and a university press Research is notable in tobacco culture and in medicine See William Blackburn, *The Architecture of Duke University* (1939), Nora C Chaffin, *Trinity College* (1950)

Doukhobors or **Doukhobors** (both dōō'kŭbôrz), [Rus ,=spirit wrestlers], religious sect, which arose in Russia in the late 17th cent The name was not given its members until the late 18th cent , when it was used by Orthodox critics in derision but was adopted by the members of the sect, who now, however, call themselves Christians of the Universal Brotherhood In doctrines and mode of life they have a more or less vague similarity to the early members of the Society of Friends (the Quakers) They believe in the equality of all men before God and therefore reject all authority, including that of the government The members were all recruited from the peasantry, and the group was at first ignored, but their adoption of communal life and their firm resistance to both the state and the Orthodox Church brought persecution upon them under Catherine II Alexander I allowed them to settle near the Sea of Azov, where they built up flourishing agricultural settlements Their resistance to military conscription (regarded as sinful) brought down the wrath of the government, and in 1840 they were forcibly ejected from their lands and moved to a barren section now in the Georgian SSR They built new and thriving communities there In 1887 military conscription was extended to them, and in the 1890s they put into practice their principle of passive resistance to evil Severe persecution followed Leo Tolstoy befriended them, and it is possible that Dukhobor doctrines affected his social thought, certainly his doctrines affected them He and the Quakers were among those who helped make it possible for the Dukhobors to emigrate to Canada Most of them moved to what is now Saskatchewan in 1898–99 Their leader, Peter Veregin, was at first not permitted to leave his exile in Siberia, but a few years later he joined them His son, also Peter Veregin, remained in the Caucasus with a dissident group of the sect Again their agricultural talents resulted in flourishing communities, and they spread into British Columbia The frugal, industrious, and abstemious Dukhobors built their own roads and irrigation projects and developed orchards and farms A division occurred within the sect, and a group known as the Sons of Freedom advocated more ascetic practices (including nudism) As settlement of the frontier progressed, the Dukhobors were involved more and more in struggles with the government—particularly over taxes and the education of their children—and with their non-Dukhobor neighbors Strife sometimes resulted in violence (even occasionally within the sect itself), but more often there were arrests and displays of passive resistance One of the most remarkable forms of this resistance were the mass "nudist strikes," in which the protesting Dukhobors stripped and refused to reclothe After the elder Peter Veregin had been killed by a time bomb in 1924, the younger Peter Veregin was in 1927 brought from Russia to be their leader On his death in 1939 he left a message recommending that the Dukhobors abandon communal life and accept the laws of the country while retaining their religious doctrines The Sons of Freedom continued to get into occasional trouble, but most of the Dukhobors began being absorbed into the Canadian community A lively, journalistic account of the Dukhobors is given in J F C Wright, *Slava Bohu* (1940)

Dulac, Edmund (dülăk'), 1882–, French illustrator of English books. His art is imaginative and decorative Excellent examples are his colorful illustrations for the *Arabian Nights*, Shakspere's *Tempest*, and *The Rubaiyat* of Omar Khayyam

Dulany, Daniel (dŭlā'nē), 1685–1753, political leader of colonial Maryland, b Ireland He came to Maryland in 1703, studied law, and was admitted to the bar He entered the assembly in 1722 and remained a member 20 years, becoming a leader of the colonists in opposition to the proprietor as represented in governor and council The veto of a bill passed in 1722 which implied the introduction of English statute laws into the colony was denounced by Dulany as a violation of the charter To win him over, the proprietor appointed him his agent and receiver general in 1733, a judge of admiralty in 1734, and commissary general in 1736 He was also appointed to the council in 1742 and served in that body until his death. His son, **Daniel Dulany**, 1722–97, was educated in England He gained prominence as a colonial politician in Maryland and was probably the most celebrated lawyer in the American colonies. Dulany opposed the Stamp Act in his *Considerations on the Propriety of Imposing Taxes in the British Colonies* He lost his popularity, however, when in 1773 he engaged in newspaper controversy with Charles Carroll in defense of the fees exacted by government officials for performing certain services

dulcimer (dŭl'sŭmur), stringed musical instrument consisting of a wooden box over which strings are stretched It is a kind of psaltery, whose strings are struck with mallets instead of being plucked Of Oriental origin, it appeared in Europe in the Middle Ages Around the beginning of the 18th cent a German, Pantaleon Hebenstreit, made an enlarged, improved dulcimer called the pantaleon, upon which he gave concerts In general, however, the dulcimer was an instrument of amateurs, and its popularity waned in the 19th cent

Du Lhut, Daniel Greysolon, sieur. see DULUTH

Dulles, John Foster (dŭ'lus), 1888–, U S Senator and U S delegate to the United Nations, b Washington, D C , grad Princeton, 1908, grandson of John Watson Foster, Secretary of State (1892) under President Benjamin Harrison From the time when he attended the Hague Conference of 1907, he had a lively interest in world affairs and international law and served in various international conferences He was appointed (1945) adviser to the U S delegation at the San Francisco Conference, and after 1945 he served as U S delegate to the UN General Assembly and was U S adviser at meetings (1945, 1947) of the Council of Foreign Ministers In 1944 and 1948 he was adviser to the Republican presidential candidate, Thomas E Dewey, Dewey, as governor of New York, appointed (1949) Dulles to the Senate to succeed Robert F Wagner He wrote *War or Peace* (1950)

Dullin, Charles (shärl' dülă'), 1885–, French actor, theatrical director, and teacher of dramatic arts He first became known (1911) through his performance of Smerdiakov in *The Brothers Karamazov* He was the associate of Jacques Copeau and later of Firmin Gémier in producing plays before he opened (1921) his Atelier in Paris, a school for dramatists as well as for actors He has produced plays of Aristophanes and classic dramas of England and Spain

Dulong, Pierre Louis (pyĕr' lwē' dülō'), 1785–1838, French physicist and chemist He was professor (from 1820) and director (from 1830) at the École polytechnique, Paris He worked on thermal expansion with a colleague, A T Petit, with whom he also evolved (1819) Dulong and Petit's law that the specific heats of elements are inversely proportional to their atomic weights and the product of the atomic weight and the specific heat is a constant for all solid elements Dulong discovered nitrogen chloride (1811) and studied the specific heats of gases.

Duluth or **Du Lhut, Daniel Greysolon, sieur** (dulōōth', Fr dülüt'), 1636–1710, French explorer in Canada He went to Canada with his younger brother c 1672 In 1678 he set out on an expedition to Lake Superior to pacify the Indians and end the Ojibwa-Sioux war Going as far as the Ojibwa village at Mille Lacs Lake (in Minnesota), he claimed the upper Mississippi region for France He remained in the West, but his plans for exploration were interrupted by necessary negotiation for the release of HENNEPIN and Aco, members of La Salle's party Returning to Mackinac, he found himself charged with illegal trading and had to go to France to clear himself In 1683 he was off on a new expedition, on which he established his brother in trade on Lake Nipigon and built a fort at Kamanistikwia He was recalled to join Perrot in leading an expedition against the Iroquois Returning to Kaministikwia, he prepared to search for the Western Sea, but was again recalled to fight the Iroquois In 1686 he built Fort St Joseph on the St Clair river He went on his last Lake Superior expedition in 1688 In 1695 he was retired because of lameness Duluth won the Lake Superior and upper Mississippi region for France, his treatment of the Indians gained their lasting friendship

Duluth (dulōōth'), city (pop 101,065), co seat of St Louis co , NE Minn , at the west end of Lake Superior, at head of lake navigation The harbor, shared with Superior, Wis , is protected by long sandspits called Minnesota Point and Wisconsin Point Duluth was incorporated as a city in 1870, returned to village status in 1877, and was reincorporated as a city 10 years later It adopted commission government in 1912 Built largely on rocky bluffs overlooking the lake, the city is the commercial, industrial, and cultural capital of N Minnesota, the gateway to a large resort area, and a port of entry The Skyline Parkway provides fine views Indian settlements were found here by early explorers, including the sieur DULUTH (for whom the city was named) and fur traders Permanent settlement began after 1850 The city was at first a trade and shipping center for the lumber country, but discovery of iron in the Mesabi range made it the chief shipping point for ore for the nation's steel mills. Its docks handle a huge tonnage Alexander MCDOUGALL built shipyards here, foundries, mills, and factories were established In 1915 the U S Steel Corp built, just outside the city, a plant and a town, Morgan Park, to house its employees Duluth has a state teachers college (1902), the College of St Scholastica, and the Northeast Demonstration Farm and Experiment Station of the state university There is an airport and a seaplane base, a U S fish hatchery, and U S coast guard, naval, and weather stations The civic center, designed by D H Burnham, comprises the courthouse (1910), with a historical museum and library, the city hall (1927), and the Federal building (1930) Duluth has a children's museum (1930), a Little Theater, and a civic symphony orchestra and choral society

Dulwich (dŭl'ĭj), residential suburb of Camberwell metropolitan borough, London, England It is the seat of a well-known public school, Dulwich College, which was founded in 1613 by Edward ALLEYN Its art gallery contains paintings of the Dutch and Flemish schools

duma (dōō'mä), Russian name for a representative body, particularly applied to the Imperial Duma established as a result of the Russian Revolution of 1905 The parliamentary organization of 1906, largely the work of Count Witte, provided for a state council—an upper house with some members appointed by the emperor and others elected by the nobility, the zemstvos (see ZEMSTVO), and the university faculties—and for the Duma, a lower house elected by a system of suffrage which was neither equal nor direct, no law was to be passed without the consent of the Duma When Nicholas II found, however, that a majority of opposition candidates had been elected in 1906, he dissolved the Duma after 10 weeks The second Duma (1907), even more hostile to the government, was also dissolved The third Duma (1907–12) was the product of an electoral change which made it the tool of the government It did, however, establish full citizenship rights for the peasantry, did reform the administration of local justice, and did reorganize the educational system The fourth Duma (1912–17) had a conservative majority, called at rare and brief intervals, it was in constant conflict with the tsar Dissolved by Nicholas in Feb , 1917, it refused to disband Revolution (see RUSSIAN REVOLUTION) broke out, and the Duma, after appointing Prince Lvov as head of the provisional government, disintegrated

Dumah (dū'mŭ) [Heb ,=silence] **1** Son of Ishmael Gen 25 14, 1 Chron 1 30 **2** Unidentified town, S Palestine Joshua 15 52

Dumas, Alexandre (ălĕksă'drŭ dümä'), known as **Dumas père,** (pĕr'), 1802–70, French novelist and dramatist, b Villers-Cotterets, Aisne His father, a natural son of the marquis de la Pailleterie, was a general in the Revolution and dropped the family title for the name of his mother, Louise Cossette Dumas, a woman of African descent At 20 Dumas obtained a minor post with the duc d'Orléans in Paris, he was active in the Revolution of 1830 His first successes were the historical dramas *Henri III* (1829), *Christine* (1830), *Antony* (1831), and *Le Tour de Nesle* (1832), notable for its evocation of the Middle Ages After a number of novels, written independently or in collaboration, he produced his great triumphs, *The Three Musketeers* (1844, Eng tr , 1846) and its sequels—*Twenty Years After* (1845, Eng tr , 1846) and *The Vicomte de Bragelonne* (1848–50, Eng tr , 1850?)—and *The Count of Monte Cristo* (1844–45, Eng tr , 1846), which in its dramatic version was made famous by James O'Neill Although these historical novels and their successors, written with the aid of numerous collaborators, especially Auguste Maquet, are scorned by French critics, who prefer his plays, they have delighted several generations of readers and have been translated into nearly every language Among his other works are *Queen Margot* (1845, Eng tr , 1845), *The Lady of Monsoreau* (1845, Eng tr , 1847), *The Forty-Five* (1848), and *The Black Tulip* (1850) A recent translation (1944) introduced *The Journal of Madame Giovanni* to readers of English The elder Dumas's incredible output of novels, travel works, memoirs, and historical studies made him rich, but he spent more than he earned on a horde of pensioners at his home, "Monte-Cristo," near Saint-Germain His memoirs (1852–54) end with the year 1832 He was interested in Italian unification, and among his activities was a part in Garibaldi's expedition in 1860 See H A Spurr, *Life and Writings of Alexandre Dumas* (new ed , 1929), F H Gribble, *Dumas Father and Son* (1930), J Lucas-Debreton, *The Fourth Musketeer* (1928), H S Gorman, *Dumas, the Incredible Marquis* (1929)

Dumas, Alexandre, known as **Dumas fils** (fēs'), 1824–95, French dramatist and novelist, b Paris, son of Dumas père He was the chief creator of the modern comedy of manners, though he began as poet and novelist His first important play, *La Dame aux camélias* (1852, Eng tr , 1856), known in English as *Camille*, was a sensation It was based on a novel of the same title which appeared in 1848 The play has since been the vehicle of many famous actresses, it was the basis of Verdi's *La Traviata* and was made into a film starring Greta Garbo

(1937) *Le Demi-Monde* (1855, Eng tr., 1858) aroused much discussion because of its theme In later plays Dumas preached a revolt against romantic morality, the excesses of the wealthy, and bourgeois puritanism and propounded social and psychological questions His stage works are notable for skillful construction and brilliant dialogue, although the characterizations are somewhat lacking in vitality His novels include *Tristan le Roux* (1850) and *Diane de Lys* (1851) Among his best plays are also *The Money Question* (1857, Eng tr , 1915), *Le Fils naturel* [the natural son] (1858), *Les Idées de Mme Aubray* (1867), *L'Étrangère* [the strange woman] (1876), and *Denise* (1885) His [early essays, *Entr'actes* (1878–79), are mostly on social subjects He was elected to the French Academy in 1874 See H Stanley Schwars, *Alexandre Dumas Fils, Dramatist* (1927), F H Gribble, *Dumas Father and Son* (1930)

Dumas, Jean Baptiste André (zhä' bätēst' ädrā' dumä'), 1800–1884, French organic chemist He was distinguished for his researches on atomic weights, esters, vapor densities, the oxidation products of alcohols, and the laws of substitution He taught in several institutions, served as minister of agriculture and commerce and as senator, and in 1868 became perpetual secretary of the Academy of Sciences His works include *Traité de chimie appliquée aux arts* (8 vols , 1828–45)

Dumas (dōō'mus) **1** Cotton town (pop 2,323), SE Ark , near the Arkansas river, founded c 1878 **2** City (1940 pop 2,117, 1947 estimated pop 5,000), co seat of Moore co , extreme N Texas, N of Amarillo on the plains of the Panhandle, founded 1892, inc 1930 Originally a cattle town, then a wheat-shipping center, Dumas turned to industry with the development of the gas fields It has carbon-black plants, a zinc smelter, a helium plant, an oil refinery, and like enterprises

Dumas fils: see DUMAS, ALEXANDRE (1824–95).

Dumas père: see DUMAS, ALEXANDRE (1802–70)

Du Maurier, George Louis Palmella Busson (dü mōr'ēā), 1834–96, English artist and novelist, b Paris, of a French father and an English mother He studied chemistry, but after his father's death turned to art for a livelihood In spite of the loss of one eye in his youth, he became a successful illustrator and in 1864 joined the staff of *Punch* His profiles of tall and distinguished women fitted his own heroines when later he began writing novels The first, *Peter Ibbetson* (1892) was successfully dramatized and later made into an opera by Deems Taylor (produced 1931), the others, *Trilby* (1894) and *The Martian* (1897), shared a fantastic and romantic charm See Daphne Du Maurier, *The Du Mauriers* (1937) **Daphne Du Maurier**, 1907–, his granddaughter, is the author of popular novels—including *Jamaica Inn* (1936), *Rebecca* (1938), *Frenchman's Creek* (1941), *The Parasites* (1949)—and of a vivid biography of her father (1934)

Dumba, Konstantin Theodor (kônstäntēn' tä'dôr dōōm'bä), 1856-1947, Austro-Hungarian diplomat As ambassador to the United States (1913–15), he was involved, with Franz von Papen and Karl Boy-Ed, in schemes to sabotage the American munitions industry He was recalled on President Wilson's request He wrote *Memoirs of a Diplomat* (Eng tr , 1932)

Dumbarton (dŭmbär'tŭn), burgh (1931 pop 21,546, 1948 estimated pop 24,563), county town of Dumbartonshire, Scotland, at the junction of the Leven with the Clyde NW of Glasgow It is the ancient British Alcluith and was the principal town of the kingdom of Strathclyde It is now a shipbuilding center and manufactures aircraft, pharmaceuticals, whisky, soap, and hosiery The double-peaked basaltic rock above the Leven has remains of a very old castle Here Sir William Wallace was held captive in 1305, and from here in 1548 Mary Queen of Scots was sent to France

Dumbarton Oaks, estate, now in Washington, D C (in Georgetown) Here representatives of the United States, Great Britain, the USSR, and China met in Sept , 1944, and reached an agreement (made public Oct 9) for creating an international organization of the UNITED NATIONS

Dumbartonshire (dŭmbär'tŭnshĭr) or **Dunbartonshire** (dŭn–), county (241 sq mi , 1931 pop 147,744, 1948 estimated pop 157,811), central Scotland The county town is Dumbarton The county is bordered on the east by Loch Lomond, from which runs the river Leven, on the south by the Clyde estuary, and on the west by Loch Long A detached portion lies to the east The region is mountainous, rising to more than 3,000 ft , and agriculture is limited Cattle and sheep are raised Chief industries are fishing, shipbuilding, and cotton manufacturing There are remains of the Roman Wall of Antoninus. The region is part of the Scottish territory of Lennox On Roseneath peninsula is the castle of the dukes of Argyll

Dumdum (dŭm'dŭm), town (pop. 39,434), S West Bengal state, India In the 19th cent its arsenal was the first to manufacture lead-nosed bullets, which spread on impact, inflicting a tearing wound In 1905 Great Britain acceded to the prohibition of dumdum bullets adopted (1899) by the first Hague Conference

Dumfries (dŭmfrēs'), burgh (1931 pop. 22,795; 1948 estimated pop 27,128), county town of Dumfriesshire, Scotland, on the Nith It includes Maxwelltown across the river. Wool weaving and the manufacture of agricultural machinery are among the burgh's industries Robert Burns lived for five years in Dumfries, and his mausoleum is in St. Michael's Church Craigenputtock is not far

Dumfriesshire (dŭmfrēs'shĭr) or **Dumfries,** border county (1,073 sq mi ; 1931 pop 81,047, 1948 estimated pop 86,832), SW Scotland The county town is Dumfries The surface is largely hilly, sloping upward from the Solway Firth on the south The chief rivers are the Annan, the Nith, and the Esk There are beautiful lochs, such as Mahen and Skene Agriculture is confined to the valleys, with cattle grazing important in the uplands Salmon fishing is important, and limestone and sandstone are quarried The history of the county is largely a record of border warfare, which persisted until the 18th cent Robert Burns and Thomas Carlyle lived in Dumfriesshire

Dummer, Jeremiah, 1645–1718, early American silversmith and engraver, b Newbury, Mass He was apprenticed (1659) to John Hull and set up as a silversmith in Boston c 1666 He held several public offices, was known as a merchant, and engraved plates for currency He probably painted portraits of himself and his wife and of John Coney, silversmith, and his wife, these bear his inscription Dummer's silverwork mark is ID enclosed over a fleur-de-lis in a heart or occasionally ID in a rectangle He is well represented in the collections of colonial silver of the Museum of Fine Arts, Boston, and the Metropolitan Museum See H. F Clarke and H W Foote, *Jeremiah Dummer, Colonial Craftsman and Merchant* (1935)

Dummer, Jeremiah, c 1680–1739, colonial agent for Massachusetts and Connecticut, b Boston, grad Harvard, 1699, son of Jeremiah Dummer (1645–1718) He saw little opportunity for business in Boston and settled in England, where he was prosperous at law He became the agent in England of Massachusetts (1710) and of Connecticut (1712) Dummer persuaded Elihu Yale, a wealthy English merchant, to donate books and valuable goods to the Collegiate School of Connecticut—which was renamed (1718) Yale Univ Dummer himself collected nearly 1,000 books which were sent to this institution His most important service for the colonies was his well-reasoned *Defence of the New England Charters* (1721), written to answer the attacks in Parliament Because Dummer recommended and supported the appointment of Samuel Shute as governor of Massachusetts, he was dismissed as colonial agent in 1721 by the Massachusetts General Court and in 1730 by Connecticut

Dumont, Pierre Étienne Louis (pyĕr' ātyĕn' lwē' dumō'), 1759–1829, Swiss jurist He knew Mirabeau well and wrote many of Mirabeau's speeches, His *Souvenirs sur Mirabeau* (1832) is a valuable record of the times An important work of Dumont was his French edition (1801) of Jeremy Bentham's *Principles of Morals and Legislation* (1789)

Dumont (dōō'mŏnt), suburban borough (pop 7,556), NE N J , NE of Hackensack, settled 1730, inc 1894

Dumont d'Urville, Jules Sébastien César (zhül' säbästyĕ' säzär' dümō' dürvēl'), 1790–1842, French navigator While on service (1819 20) in the E Mediterranean, he saw and recognized the importance of the newly discovered Venus of Milo and was influential in having the Louvre secure it In 1826–29 he commanded the *Astrolabe* in a voyage around the world, exploring the coasts of Australia and many of the islands of Oceania With the *Astrolabe* and the *Zelée* he made a second circumnavigation in 1837–40, and in 1840 he penetrated the ice pack S of New Zealand and discovered ADÉLIE LAND in Antarctica

Dumoulin, Charles (shärl' dümōōlă'), 1500–1566, French jurist He was converted to Calvinism and argued, opposing the Catholic position, that the return of moderate interest on investments was in accord with divine law Feudal law courts came under his attack, and he asserted that all legal authority stemmed from the king In the field of contracts he is famous for asserting the principle that the will of the parties should determine what body of law (e g , the law of Paris) will govern their agreements

Dumouriez, Charles François (sharl' frăswä' dümōōrēā'), 1739–1823, French general in the FRENCH REVOLUTIONARY WARS He earlier fought in the Seven Years War and was employed on several secret missions In the Revolution, by professing democracy, he gained influence Becoming minister of foreign affairs (1792), he was the real leader of the Girondist ministry, which sought war with Austria Made minister of war (June, 1792), he resigned to take Lafayette's place as army commander when the latter was charged with treason (Aug , 1792) Dumouriez helped to defeat the Prussians at Valmy (Sept , 1792), drove the Austrians from Belgium at Jemappes (Nov , 1792), and invaded the Netherlands (Feb , 1793) Defeated (March) at Neerwinden, he began negotiations with the Austrians, and after surrendering the commissioners sent from Paris to investigate his defeat he finally (April, 1793) deserted to the Austrian lines. After wandering over Europe, disavowed even by the French royalists, he settled in England (1804) See his memoirs (both English and French eds , 1794, enlarged French ed , 1823), Arthur Chuquet, *Dumouriez* (1914, in French)

dumping, selling goods abroad at less than the normal price It may be done by a producer, a group of producers, or a nation. Usually it is an occasional practice to get rid of a temporary surplus without disturbing home markets, to introduce a commodity abroad, to stop foreign competition, or to offset foreign dumping in the home market As a permanent policy, it is used to obtain the advantages of large-scale production and sale without lowering a high domestic price It is not likely to be systematic unless monopoly maintains a high price in the home market or the product receives an export bounty or competing foreign goods are subject to high import duties Standardized and trade-marked goods are more difficult to dump In the late 19th cent , dumping became part of the trade policy of great European cartels, especially in Germany England, France, Japan, and the United States also have practiced dumping Dumping is disliked because it is irregular and disturbs markets where the goods are dumped Antidumping legislation was first passed by Canada in 1904 In the United States various tariff acts have been passed to deal with different types of dumping, in particular the 1921 Emergency Tariff Act imposed special duties on goods imported for sale at less than fair value or cost of production See Jacob Viner, *Memorandum on Dumping* (1923)

Dúna · see DVINA OR WESTERN DVINA.

Dünaburg, Latvia see DAUGAVPILS

Dunagiri (dōōnŭgēr'ē), peak, c 23,170 ft. high, Nepal, in the Himalayas

Dunajec (dōōnă'yĕts), river of Poland, 128 mi long, rising in the Carpathians and flowing NE past Nowy Sacz into the Vistula

Dunant, Jean Henry (zhä' rē' dünä'), 1828–1910, Swiss philanthropist, b Geneva In 1862 appeared his *Un souvenir de Solférino* (Eng tr , *The Origin of the Red Cross*, 1911), a description of the sufferings of the wounded at the battle of Solferino and a plea for organizations to care for the war wounded There was an immediate response Gustave Moynier and the Société genevoise d'Utilité publique took up the cause An international conference in 1863 led to the conference of 1864 which adopted the Geneva Convention and established the Red Cross Dunant aided other causes and wrote several books **He** shared with Frédéric Passy the first Nobel Peace Prize (1901) See Martin Gumpert, *Dunant. the Story of the Red Cross* (1938)

Dunash ben Labrat (dōō'năsh bĕn lä'brät), 920–70 Hebrew grammarian and poet, b Fez He was also called Rabbi Adonim Halevy (ha-Levi) He wrote an exhaustive criticism of Menahem's Hebrew lexicon, adding to and correcting it, and was the first to adapt the Arabic meter to Hebrew poetry

Dunash ben Tamim (tä'mēm) or **Dunash ibn Tamim** (ĭb'ŭn), c 900–c 960, Hebrew scholar, an astronomer and physician of North Africa A pioneer in the field of scientific comparative philology, he tried to demonstrate that Arabic was merely a corrupt form of the purer Hebrew

Dunbar, Paul Laurence, 1872–1906, American Negro poet, b Dayton, Ohio, educated in the public schools His parents had both been slaves He won recognition with his *Lyrics of Lowly Life* (1896), a collection of poems from his *Oak and Ivy* (1893) and *Majors and Minors* (1895) His dialect poems were especially popular, but he also wrote melodic verse Later volumes were incorporated into his *Complete Poems* (1913) He wrote several volumes of short stories—*Folks from Dixie* (1898), *The Strength of Gideon* (1900), and *The Heart of Happy Hollow* (1904)—and four novels, the best of which is probably *The Sport of the Gods* (1902) See L K Wiggins, *The Life and Works of Paul Dunbar* (1907), biography by Benjamin Brawley (1936)

Dunbar, William, c 1460–c 1520, Scottish poet. He was a Franciscan friar and a diplomat at the court of James IV Dunbar, a follower of Chaucer and a greater artist than any earlier Scottish poet, is hardly surpassed for richness of fancy, exuberance of inventive delight, and metrical felicity His most characteristic poem is "Dance of the Sevin Deidly Synnis," where boisterous humor, power over the grotesque, and ingenuity of phrase produce a unique effect He wrote in a diversity of forms an epithalamium in honor of James IV and Margaret Tudor, "The Thrissil and the Rois" [the thistle and the rose], an allegory, "The Golden Targe", his elegy for the poets, "The Lament for the Makaris", vigorous satires, such as "The Flyting of Dunbar and Kennedie", and ribald verse, such as "The Two Maryit Women " See editions of his poems by John Small (1893) and W M. Mackenzie (1932), study by R. A Taylor (1931).

Dunbar, William, 1749–1810, American scientist in the old Southwest, b near Elgin, Morayshire, Scotland. He came to America in 1771 and finally

settled (1792) on a cotton plantation near Natchez on the Mississippi, then Spanish territory. After serving as Spain's representative in running the boundary line of 1798 (which made the Natchez district American), he became a U.S. citizen Commissioned by President Jefferson to explore the Ouachita and Red River countries, he wrote the first scientific account of the mineral wells at Hot Springs, Ark. Dunbar set up his own private astronomical observatory with instruments imported from Europe, took the first meteorological observations in the old Southwest, studied the rise and fall of the Mississippi and explored its delta, and published his findings on these subjects and on the plants, animals, and Indians of the region in the *Transactions* of the American Philosophical Society, of which he was a member See Mrs Dunbar Rowland, *Life, Letters, and Papers of William Dunbar* (1930)

Dunbar (dŭnbär') [Scottish.=castle headland], burgh (pop. 3,751), East Lothian, Scotland, at the mouth of the Firth of Forth E of Edinburgh It is a resort and a fishing port On a crag above the harbor are remains of a castle which in 1339 was held for six weeks by "Black Agnes," countess of Dunbar, against English siege Mary Queen of Scots was abducted thither by Bothwell in 1567, and in 1568 the castle was dismantled. Oliver Cromwell here defeated (1650) the Covenanters under Alexander Leslie, earl of Leven, and Sir David Leslie, who had espoused the royalist cause Dunbar House, the former seat of the earls of Lauderdale, is now a barracks

Dunbar (dŭn'bar). **1** Borough (pop. 1,390), SW Pa., SE of Pittsburgh near Uniontown **2** Industrial city (pop. 5,266), W W.Va , on the Kanawha river and WNW of Charleston, inc 1921 Glass, enamelware, and farm implements are manufactured here

Dunblane (dŭnblān'), burgh (pop 2,692), Perthshire, Scotland, on Allan Water and N of Stirling The cathedral was founded c 1150 by David I There is an ancient Celtic cross The battle of SHERIFFMUIR was fought near the burgh

Duncan I, d 10407, king of Scotland (1034–1040?), grandson and successor of Malcolm II He was murdered by his general MACBETH MALCOLM III was his son

Duncan, Isadora, 1878–1927, American dancer, b San Francisco She had little success at first in the United States when she created dances derived from Greek classical art But in Europe, at Budapest (1903) and at Berlin (1904), and later in London and New York (1908), she had the triumphs which made her name An innovator, she danced barefoot and in flowing draperies to music which was often not written to be danced Through her many tours, her schools in Berlin, Paris, Moscow, and London, and her daring and dynamic personality, she had a great influence on modern dance In 1922 she married the Russian poet Sergei Yesenin, but they separated in 1923 In 1927 she gave her last concert in Paris and met death when her scarf caught in the wheel of her car while she was motoring at Nice She wrote an autobiography, *My Life* (1927) See essays and studies in *The Art of the Dance* (ed by Sheldon Cheney, 1924) and *Isadora Duncan* (ed by P D Magriel, 1947), biographies by Sewell Stokes (1928), Mary Desti (1929), and Irma Duncan and A R Macdougall (1929), Floyd Dell, *Women as World Builders* (1913), William Bolitho, *Twelve against the Gods* (1929)

Duncan, Robert Kennedy, 1868–1914, American industrial chemist and educator, b. Brantford, Ont , grad Univ of Toronto (B A , 1892) He was professor at the Univ of Kansas (1906–10) and at the Univ of Pittsburgh (1910–14) In Kansas he introduced the system of fellowships for research in industrial chemistry which became the basic plan of the Mellon Institute and which greatly furthered the discovery of new products and new processes His books for laymen include *The New Knowledge* (1905), *The Chemistry of Commerce* (1907), and *Some Chemical Problems of Today* (1911).

Duncan, Sara Jeannette, 1862–1922, Canadian novelist, later Mrs Everard Cotes, b Brantford, Ont. She wrote for the Toronto *Globe* and in 1890 produced her first novel, *A Social Departure* After her marriage in 1891 she lived chiefly in India Her popular stories of Indian life include *The Simple Adventures of a Mem Sahib* (1893) and *The Story of Sonny Sahib* (1894), other novels are *Those Delightful Americans* (1902), *The Imperialist* (1904), and *His Royal Happiness* (1915) Her work is notable for its humor

Duncan, Thomas, 1807–45, Scottish historical and portrait painter He is best known for his painting of subjects from Scottish history, such as *Prince Charles Edward and the Highlanders Entering Edinburgh after the Battle of Prestonpans*

Duncan, city (pop 2,189), on Vancouver Island, SW British Columbia, on the east coast N of Victoria It is a lumbering and farming center.

Duncan, city (pop. 9,207), co. seat of Stephens co , SW Okla , SW of Oklahoma City; founded 1892. A supply and marketing point for an area yielding oil, cattle, cotton, farm and dairy produce, it has oil refineries and cotton gins

Duncannon (dŭnkăn'ŭn), borough (pop. 1,707), S Pa , NW of Harrisburg and on the Susquehanna, inc. 1844 Fire escapes are made here.

Duncansbay Head or **Duncansby Head,** 210 ft high, northeastern extremity of Scotland, in Caithness

Duncansville, residential borough (pop. 1,415), central Pa., in the Alleghenies near Altoona, laid out 1831

Dundalk (dŭndôk'), urban district (pop 18,546), co seat of Co Louth, Ireland, near the mouth of the Castletown river at Dundalk Bay of the Irish Sea It is a seaport with dock installations Its industries include the export of farm produce, brewing, shipbuilding, linen milling, and fishing The town is a railroad center with large car works. In 1315 it was taken by Edward Bruce, whose headquarters it was for three years.

Dundas (dŭn'dŭs), town (pop. 5,276), S Ont , at the head of Burlington Bay and NW of Hamilton It was laid out in 1801 and was first known as Coote's Paradise It is at the head of the Desjardins Canal, which formerly gave it water connection with Hamilton and other ports With the decline of canal transportation the town has receded in importance

Dundas Harbour, post of the Royal Canadian Mounted Police, on the southeast corner of Devon Island, Northwest Territories, on Croker Bay of Lancaster Sound It was the starting point in 1929 for a tour of exploration by dog team of over 1,700 mi among the northern islands

Dundee, John Graham of Claverhouse, 1st **Viscount** (klā'vûrŭs), c 1649–1689, Scottish chieftain and soldier, known as Bonnie Dundee He became a legendary figure in Scotland by virtue of the hatred borne him by the Covenanters and the veneration accorded him by the Jacobites, whose first great hero he was After service abroad he returned to help James Graham, earl of MONTROSE, in the suppression of the Covenanters (1678) and devoted himself to that task for 10 years. He was second in command of the Scottish force vainly sent to help James II repel William of Orange in 1688, and James made him Viscount Dundee. After James's flight, Dundee raised forces in Scotland to help restore him, but was killed in the hour of victory at Killiecrankie His striking personality has been immortalized in ballads and novels, especially in Sir Walter Scott's song usually called *Bonnie Dundee* and in Scott's *Old Mortality* See his memorials and letters (ed by Mark Napier, 1859–62), biographies by C S Terry (1905) and A N Taylor and H A N Taylor (1939)

Dundee (dŭndē'), independent burgh or county of a city (1931 pop 175,585, 1948 estimated pop. 181,805), Angus, Scotland, on the north shore of the Firth of Tay, here crossed by a bridge The land slopes up to Dundee Law (571 ft high) The city has docks and various industries, which include metal casting, oil refining, tar distilling, textile bleaching, and the making of textile machinery, electric appliances, and biscuits Dundee marmalade is famous There are fish canneries in the vicinity Noteworthy are University College, part of the Univ of St Andrews, the town hall (1734), St Mary's Church, with its 15th-century "Old Steeple", Albert Institute (by Sir George Gilbert Scott), and Caird Hall The doctrines of the Reformation were early adopted in Dundee, largely through the influence of George Wishart See R L Mackie, ed , *A Scientific Survey of Dundee and District* (1939–40).

Dundee. **1** Town, NE Ill It is composed of two separately incorporated villages, EAST DUNDEE and WEST DUNDEE, on either side of the FOX river **2** Village (pop 1,699), SE Mich , on the Raisin river, in a farm area, settled 1827, inc 1855 Grain products are made **3** Village (pop 1,168), W central N Y , S of Geneva, in the grape-growing region of the Finger Lakes, settled c 1800, inc 1847

Dundonald, Thomas Cochrane, 10th **earl of** (kŏk'rĭn), 1775–1860, British naval commander He served in the Napoleonic Wars, executing his assignments with a boldness and originality sometimes too radical for the admiralty This fact, together with his outspokenness, and his disregard for convention, prevented as rapid a rise as he might have otherwise merited In 1814 he was falsely accused of implication in a stock-market fraud and dismissed from the navy He went to South America, where, as admiral of the Chilean navy, he was prominent in the liberation of Chile and Peru He aided the newly independent nation of Brazil from 1823 to 1825, and in 1827, he commanded the Greek navy in the war of liberation against Turkey The next year he returned to England, received a pardon, and was reinstated in the navy (1831), eventually becoming admiral. See biography by Christopher Lloyd (1947)

dune (dūn), mound or ridge of wind-blown material, usually sand, formed in arid regions Dunes are seen in parts of most of the great deserts of the world. Often a dune begins to form because material is deposited by the wind as it encounters a bush, a rock, or an irregular ground surface, others form against cliffs, hills, man-made walls or buildings, or other barriers Those that are not restrained by fixed barriers have a tendency to migrate, driven by the prevailing wind. These free-moving dunes are of two main kinds, transverse and longitudinal, and the characteristic form is maintained in migration Transverse dunes usually form where wind blows quite constantly from one direction across expanses of loose sand; the windward slope is typically gentle, and the lee side, where the sand blown over the crest seeks its natural angle of repose, is steep Transverse dune ridges have a tendency, especially with increasing distance from the source of sand, to break up into individual hillocks One of the commonest forms of these is the symmetrical, crescent-shaped, transverse dune called a barkhan, some of which are seen at Pismo Beach, Calif., and near Arequipa, Peru Longitudinal dunes are ridges, with about the same slope on both sides, elongated in the direction of the prevailing wind. These are especially well developed in the African deserts and are also seen in Arizona and in the Imperial Valley, Calif. In the United States great dunes are found also in the Great Lakes region, especially on the eastern shore of Lake Michigan Dunes ranging in height to more than 500 ft exist in the Great Sand Dunes National Monument, gleaming white dunes of gypsum sand are formed in White Sands National Monument Sand dunes may cause destruction as they migrate; in France on the coast of the Bay of Biscay they destroyed villages and farm land In some areas of Europe and the United States this danger has been checked by planting vegetation and by erecting barriers One value of dunes is their absorption of rain which helps to raise the level of the water table and thus produces oases in some areas and also accessible sources of water through rather shallow wells

Dunedin (dunē'dĭn), city (pop. 65,7?1; metropolitan pop 83,351), on South Island, New Zealand, a port on the southeast coast, at the base of Otago Peninsula, founded 1848 It is the seat of the Univ of Otago (1869), the school of medicine of the Univ of New Zealand, Knox College (a theological seminary), and a school of mines There are Anglican and Roman Catholic cathedrals Dunedin has iron and brass foundries and woolen mills Port Chalmers is near by

Dunedin, city (pop 1,758), W Fla , on the Gulf coast, contiguous to Clearwater and W of Tampa, settled c 1865, inc 1899 It is a processing center for a citrus-fruit area, and canning machinery is made There are boating and fishing activities

Dunellen (dunē'lŭn), borough (pop 5,360), N central N J , SW of Newark near Plainfield, laid out 1868, inc. 1887 Printing presses, pumps, and adhesives are made here

Dunes, Battle of the, 1658, decisive engagement in the struggle between France and Spain which had resulted from Spanish intervention in the FRONDE. It was fought near Dunkirk and was won by the French and their English allies under Turenne over the Spanish under Don John of Austria and Louis II de Condé

Dunfermline (dŭnfûrm'lĭn, dŭm–), burgh (1931 pop 35,058, 1948 estimated pop 44,892), Fifeshire, Scotland, near the Firth of Forth It was the residence of Scottish kings from the 11th cent. The abbey, founded by Malcolm Canmore and his queen, St Margaret of Scotland, is the burial place of Robert the Bruce and other Scottish kings Andrew Carnegie, born in Dunfermline, made many gifts to the town, which is headquarters of the Carnegie Trusts There are textile mills (silk and rayon), engineering works, and metal-casting works, ham and bacon are other products

Dungannon (dŭn-gă'nun), urban district (pop 3,930), Co Tyrone, Northern Ireland, NNW of Armagh In a coal-mining area, it has linen and woolen mills and potteries The chief stronghold of the O'Neills was here, the Royal School was founded in the reign of Charles I North of the town is a great earthwork, the rath of Tullaghoge

Dungarvan (dŭn-gar'vŭn), urban district (pop 5,271), Co Waterford, Ireland, on Dungarvan Bay and SW of Waterford It is the site of a castle founded by King John, and in Abbeyside, a suburb, are remains of a castle of the McGraths and of an Augustinian priory Fishing and trade in farm produce are pursued

dung beetle · see TUMBLEBUG

Dungeness (dŭnj'nĕs'), flat shingle headland forming the southeast extremity of Kent, England, ESE of Rye. It has a lighthouse. The Dutch, under Admiral Tromp, defeated the English in a battle off Dungeness in 1652

Dunglison, Robley (rŏ'blē dŭng'glĭsun), 1798–1869, American physician, b Keswick, England, M D Univ of Erlangen, 1823 He came to the United States in 1824 and was professor (at Jefferson's instance) at the Univ of Virginia (1825–33) and at Jefferson Medical College, Philadelphia (1836–68) He translated and edited many foreign works, wrote several texts, and compiled a valuable medical dictionary

Duniway, Abigail Scott, 1834–1915, American editor and woman-suffragist, b near Groveland, Ill. She went to Oregon with her family in 1852 and the next year married Benjamin Charles Duniway For many years she edited the *New Northwest* in

Portland and through her writings and lectures became recognized as the leader of the woman's movement in the Northwest For her account of her part in the movement, see *Path Breaking* (1914)

Dunkards, Dunkers, or **Tunkers,** a sect of German Baptist brethren, divided into five denominations Their popular name derives from the German word "to dip," in description of their way of baptism. Evolving from the Pietist movement in Germany, the first congregation of the sect was organised there in 1708 by Alexander Mack Persecution drove them to America, here, under Peter Becker, they settled in 1719 in Germantown, Pa From this and other settlements in Pennsylvania they spread westward and into Canada Dunkards are distinguished by their simple, conservative garb They are opposed to war, oaths, alcohol, tobacco, and worldly amusements The original group in the United States was organized as Church of the Brethren (Conservative Dunkers) From this body there have been separations into the Seventh-Day Baptists, German (1728, see BEISSEL, JOHANN CONRAD), Church of God (New Dunkards, 1848), Old German Baptist Brethren (1881), and the Brethren Church (Progressive Dunkers, 1882) Dunkards baptize by trine immersion, the kneeling candidate being immersed once for each person of the Trinity They practice foot washing and the love feast The ministry is ordained but for the most part is unsalaried See M G Brumbaugh, *A History of the German Baptist Brethren in Europe and America* (1899)

Dunkeld (dŭnkĕld'), village, Perthshire, Scotland, near Birnam and on the Tay, here crossed by Thomas Telford's seven-arched bridge The village is the site of Dunkeld House, belonging to the duke of Atholl, and of a cathedral, part of which dates from the 12th cent

Dunkers see DUNKARDS

Dunkirk (dŭn'kûrk), Fr *Dunkerque* (dŭkôrk'), town (1946 pop 9,869, 1936 pop 28,450), Nord dept, N France, on the North Sea near the Belgian border Before 1940 it was one of the most prominent ports of France It has a large fishing fleet Founded about the 10th cent and often fortified, it was a key city in the centuries-long struggle among France, the Holy Roman Empire, Spain, England, and the Netherlands It frequently changed hands, generally sharing the history of FLANDERS Captured for France by Louis II de Condé in 1646 and recaptured by the Spanish in 1653, it was conquered once more by Turenne in 1658 after the Battle of the DUNES and given to England, then an ally of France Louis XIV bought it back permanently in 1662 It withstood an Anglo-Dutch bombardment in 1694 and several German bombardments in the First World War In 1940 Dunkirk was the scene of the evacuation of more than 300,000 Allied troops, cut off from retreat on land by the German break-through to the French Channel ports The retreat was carried out by all kinds of available British craft, manned in part by civilian volunteers, and was protected in the air by a concentration of the Royal Air Force One of the most heroic and most memorable actions in naval history, it lasted from May 26 until June 4, when the evacuation was completed The Germans entered the ruins of Dunkirk and held out here until after the surrender of Germany in May, 1945 Among the many gallant sailors born in **Dunkirk, Jean Bart** was the most celebrated

Dunkirk. 1 City (pop 2,942), Blackford and Jay counties, E Ind, near the Ohio boundary S of Fort Wayne and ENE of Indianapolis Glass containers are made here **2** Industrial city (pop 17,713), W N Y, on Lake Erie SW of Buffalo, inc as a village 1837, as a city 1880 Metal tools, heaters and oil-refining equipment are its chief products There are fisheries, and a state park is near by

Dún Laoghaire (dōn lā'rĕ, dŭn lā'ru), borough (pop 44,680), Co Dublin, Ireland, on the Irish Sea and SE of Dublin It was formerly called Kingstown or Dunleary It is the main passenger port for Dublin and a resort, with fishing and yachting

Dunlap, William, 1766–1839, American playwright, b Perth Amboy, N J He was first a portrait painter *The Father* (1789) began Dunlap's career as a playwright, and his output was prolific until the time of his death *The Fatal Deception, or, The Progress of Guilt* (1794, pub 1806 as *Leicester*) and *Fontainville Abbey* (1795) are excellent examples of the so-called Gothic romance school, *André* (1798) is a tragedy In 1796 Dunlap began his career as theater manager by purchasing a quarter interest in the Old American Company then playing in the John Street Theatre, New York City, and he soon became sole director of the New Park Theatre The venture failed in 1805 It was during this period that, endeavoring to supply the demand for new drama, he translated and adapted a great number of French and German plays He was a founder and secretary of the National Academy of Design His *History of the American Theatre* (1832) and his *History of the Rise and Progress of the Arts of Design in the United States* (1834) are invaluable source books and contain important autobiographical material His diary was edited by D C Barck in 1930 See biography by O S Coad (1917)

Dunlap, town (pop 1,550), W Iowa, on the Boyer river and NNE of Council Bluffs, inc 1871.

Dunleary, Ireland see DÚN LAOGHAIRE.

Dunlop, John Boyd, 1840–1921, Scottish inventor. While living near Belfast, where he had a veterinary practice, he devised (1888) a practical pneumatic bicycle tire A pneumatic carriage tire had been patented in England in 1845, but the company established in Belfast to manufacture the Dunlop tire obtained rights to the invention through Dunlop's original patent of 1888 supplemented by accessory patents Dunlop wrote *The History of the Pneumatic Tyre* (1924)

Dunmore, John Murray, 4th **earl of,** 1732–1809, British colonial governor of Virginia, a Scottish peer. Appointed governor of New York in 1770, he remained there for about 11 months before being transferred to Virginia In 1774 he led the Virginians in an Indian campaign usually known as Lord Dunmore's War Sending one expedition under Andrew Lewis west by the Kanawha valley, he personally headed the northern column, which set out from Fort Dunmore at Pittsburgh Lewis defeated the Indians at Point Pleasant, and Dunmore negotiated a final treaty with them in the Scioto valley When the news of Lexington and Concord reached Virginia, Dunmore, who had twice previously dissolved the house of burgesses for its pro-colonial stands, removed the colony's powder stores to a man-of-war The aroused Virginians made him pay for the powder Threats against his life forced him to take refuge (June, 1775) on shipboard, whence he declared martial law and sent out loyal troops, who were defeated at Great Bridge on Dec 9, 1775 In Jan, 1776, he shelled and burned Norfolk, but in July he was forced to return to England From 1787 to 1796 he was governor of the Bahamas See R G Thwaites and L P Kellogg, ed, *Documentary History of Dunmore's War, 1774* (1905)

Dunmore, industrial borough (pop 23,086), NE Pa, near Scranton, settled 1783 It has anthracite mines and silk factories

Dunmore, Lake, c 3½ mi long and c 1 mi wide, W Vt, between Brandon and Middlebury It is a summer resort

Dunmore's War: see DUNMORE, JOHN MURRAY, 4TH EARL OF

Dunmow (dŭn'mō), rural district (pop 15,564), Essex, England Its two villages, Great Dunmow, on the Chelmer river, and Little Dunmow, are agricultural centers At Little Dunmow are remains of an Augustinian priory founded in 1104 The custom of awarding a flitch of bacon (the Dunmow flitch) to the couple who could testify that they had not quarreled or regretted their marriage for a year and a day after their wedding is described in *Piers Plowman*

Dunn, Gano, 1870–, American electrical engineer, b New York city, grad City College, New York (B S, 1889, M S, 1897), E E, Columbia, 1891 In addition to designing electrical equipment for production purposes, he has engineered large-scale construction projects, including a steam plant at Muscle Shoals, a transatlantic radio telegraph station, nitrate plants, oil refineries, and hydroelectric stations President of J G White Engineering Corp since 1913, he has served as consultant to industrial organizations and governmental bodies and as president of Cooper Union

Dunn, town (pop 5,256), central N C, S of Raleigh It is a trade center in a farm area, with lumber and flour mills

Dunne, Finley Peter (dŭn), 1867–1936, American humorist, famous as the creator of "Mr Dooley," b Chicago An experienced Chicago journalist, he was successively on the staffs of the *Evening Post* and the *Times-Herald* and editor in chief (1897–1900) of the *Journal* In 1893, in the Chicago *Evening Post*, he began his series of Irish-American monologues by "Martin Dooley" As a trenchant though humorous critic of the Spanish-American War and of politics and society in America, "Mr Dooley" excelled in deflating the pretensions of politicians In book form the series began with *Mr Dooley in Peace and War* (1898) See *Mr Dooley in His Best* (ed by Elmer Ellis, 1938), biography by Elmer Ellis (1941)

Dunnellon (dŭnĕl'ŭn), town (pop 1,217), N central Fla, on the Withlacoochee and SW of Ocala, near the Gulf coast, inc as a town 1909 At first a plantation and ranch trading center, it turned to quarrying phosphate rock and limestone, discovered here in 1889 Lumbering, farming, and dairying are also carried on Rainbow Springs are near

Dunnet Head, Caithness, Scotland, forming the northern extremity of Great Britain proper

Dunning, John, 1st **Baron Ashburton,** 1731–83, English jurist and statesman He attracted notice in 1762 by his written defense of the East India merchants against their Dutch rivals In 1768 he became solicitor general and in the same year he entered Parliament, where he consistently opposed the government policy toward the American colonies and the attempt to destroy the right of free election and petition in the case of John WILKES. He has been suggested as a possible author of the Junius letters

Dunning, William Archibald, 1857–1922, American historian, b Plainfield, N J, grad Columbia (B A, 1881; Ph D, 1885) After studying in Berlin, he returned (1886) to spend a lifetime at Columbia, becoming the first Lieber professor of history and political philosophy in 1904. His reputation is twofold, first, his scholarly studies of Reconstruction led the way to a new interpretation of that era in American history, second, his *History of Political Theories* (3 vols, 1902–20) was a brilliant survey of a hitherto unanalyzed field Dunning not only wrote two superb studies of Reconstruction—*Essays on the Civil War and Reconstruction* (1898, rev ed, 1904) and *Reconstruction, Political and Economic, 1865–1877* (1907)—but also inspired and directed the long series of books by his students on Reconstruction in the individual states He also wrote *The British Empire and the United States* (1914), an excellent survey of Anglo-American relations J G de Roulhac Hamilton edited his *Truth in History and Other Essays* (1937) See H W Odum, ed, *American Masters of Social Science* (1927)

Dunnottar Castle (dŭnŏ'tûr), Kincardine, Scotland, S of Aberdeen and near Stonehaven, on a rock overlooking the sea The ancient building was taken by Sir William Wallace in 1297 The present structure, with its tower and chapel, dates partly from the late 14th cent, when it was built by Sir William Keith, earl marischal of Scotland In 1652 it was surrendered to the parliamentarians, after an eight-month siege In Whigs' Vault, a dungeon, more than a hundred Covenanters were confined in 1685, the tombstones of nine are in the churchyard

Dunnville, town (pop 4,028), S Ont, on the Grand River near its entry into Lake Erie and S of Hamilton It is a port of entry and has manufactures

Dunois, Jean, comte de (zhäN' kōt' dü dünwä'), c 1403–1468, French general, called the Bastard of Orléans, natural son of Louis, duc d'Orléans He sided with the Armagnacs in the civil war of Charles VI's reign and was captured by the Burgundians in 1418 Released in 1420, he took part in the English war and in the enthronement of CHARLES VII He had charge of the defense of Orléans when it was relieved by Joan of Arc (1429) and joined her in her subsequent campaign After her execution he continued the war, took part in the capture of Paris (1436), and was rewarded with the county of Dunois (1439) He later joined the PRAGUERIE against Charles VII and was (1465) a leader of the League of the Public Weal against Louis XI, but each time he was restored to favor at court

Dunoon (dunōōn'), burgh (pop 8,780), Argyllshire Scotland, on the Firth of Clyde and W of Greenock It is a resort There is a statue of "Highland Mary" (Mary Campbell), celebrated by Robert Burns An annual Highland Gathering is held in August

Dunoyer de Segonzac, André see SEGONZAC

Duns (dŭns, dūns), burgh (pop 1,788), county town of Berwickshire, Scotland, ESE of Edinburgh, in a farming region Duns Law, a hill 700 ft high, was the camping place of Alexander Leslie and the Covenanters in 1639

Dunsany, Edward John Moreton Drax Plunkett, 18th **Baron** (dŭnsăn'ĭ, -sā'-), 1878–, Anglo-Irish soldier and man of letters, educated at Eton and Sandhurst He served in the Boer and First World wars and in 1941 escaped the German invaders in Athens, where he was Byron professor of English literature at Athens Univ His work deals with gods, fairies, and men, hesitating between satire and pure fantasy, and his style is eloquent in its simplicity His plays include *The Glittering Gate, Gods of the Mountain* (both 1914), *A Night at an Inn* (1916), *If* (1921), *Alexander* (1925), and *Lord Adrian* (1933) Among his prose tales are *The Gods of Pegana* (1905), *A Dreamer's Tales* (1910), *The Book of Wonder* (1912), *Travel Tales of Mr Joseph Jorkens* (1931), *My Talks with Dean Spanley* (1936), *The Story of Mona Sheehy* (1939), and *A Glimpse from a Watch Tower* (1946) See the semi-autobiographical *Patches of Sunlight* (1938)

Dunsinane (dŭn"sĭnān'), one of the Sidlaw Hills, 1,012 ft high, Perthshire, Scotland, NE of Perth There are ruins of an ancient fort on the summit, called Macbeth's Castle, supposed to be the scene of the defeat of Macbeth by the earl of Northumbria, as related by Shakspere

Dunsmuir (dŭnz'mûr), city (pop 2,359), N Calif, S of Mt Shasta, inc 1909 It is a mountain resort, with an airport, railroad shops, and lumber mill Castle Crags State Park lies to the south

Duns Scotus, John (dŭnz' skō'tŭs) [Latin *Scotus* = Irishman or Scot], d 1308, scholastic philosopher, called the Subtle Doctor. A native of Great Britain or Ireland, he was a Franciscan who taught at Oxford, Paris, and Cologne The exact canon of Duns Scotus' work is unknown, hence it is not possible to state fully and positively what were his own beliefs The best known of his undoubtedly authentic works are *On the First Principle* and two commentaries on the *Sentences* of Peter Lombard He followed St Bonaventure in putting Aristotelian thought to the service of Christian theology He was the founder of a whole school of SCHOLASTI-

CISM called Scotism and opposed to the Thomism of the followers of St THOMAS AQUINAS The Scotists deny that matter is the principle of individuality and insist that individuation of things is by formal, intelligible determination They place much emphasis on the nature of knowledge Certain knowledge of all finite, particular truths rests upon the infinite Truth, which is God The concept of being is common to both God and his creatures, and he differs from them as infinite from finite It is possible to prove the existence of God, but St Anselm's ontological proof is modified the idea of God's possible existence involves his necessary existence, but knowledge of that possible existence must be demonstrated from sensible things, i e , from experience Scotus taught that the state arose from common consent of the people in the social contract He also denied that private property was sanctioned by natural law Scotism has had great influence on Catholic thought and has been fostered especially by the Franciscans

Dunstable (dŭn'stŭbŭl), municipal borough (1931 pop 8,976, 1943 estimated pop 16,910), Bedfordshire, England, at the foot of the Chiltern Hills and S of Bedford There are interesting traces of Stone and Bronze Age civilization, including earthworks at Maiden Bower and the Five Knolls, one of the Knolls, excavated in 1926, contained relics and ornaments of a woman of c 2000 B C The town is at the meeting point of the ancient Icknield and Watling streets The Priory Church includes part of an Augustinian priory founded in 1131 An Eleanor Cross was erected here (see ELEANOR OF CASTILE)

Dunstan, Saint (dŭns'tŭn), 925?–988, English prelate, archbishop of Canterbury (960–88), b near Glastonbury He was at court from 940 to 945 and was made abbot of Glastonbury He reformed monastic discipline, enforcing a strict Benedictine observance Under King Edred he was a royal counselor, and the favorable peace with the Danes is said to have been largely his doing He was in Flanders (956–58) in exile After his return to England he became bishop of Worcester (958), bishop of London (959), and archbishop of Canterbury (960) He was not in favor with Æthelred He is generally regarded as the greatest of the Anglo-Saxon saints Feast May 19

Dunstan, Sir Wyndham Rowland, 1861–1949, English chemist, an authority on tropical agriculture As director (1907–24) of the Imperial Institute, London, he studied the agricultural and mineral resources of Ceylon, Cyprus, India, and Newfoundland He was an expert on alkaloids, and he isolated the mineral thorianite He was knighted in 1924

Dunster, Henry, c 1612–1659, first president of Harvard College, b Lancashire, England, educated at Magdalene College, Cambridge (M A , 1634) He emigrated to New England in 1640 and was almost at once (Aug 27 1640) appointed president of the new college He formulated its rules and patterned its procedure after the English schools, worked actively for its support, and gave freely of his meager salary for its success Because of his adoption of Baptist principles he was forced to resign in 1654, and he spent the remainder of his life as a pastor in Scituate, Mass.

duodecimal system, a system of notation corresponding to the decimal system but based on 12 instead of 10 It is more convenient in certain respects than the decimal system, for, since 12 has a larger number of factors than 10, more fractions can be expressed evenly in the duodecimal system, e g , ⅓ would be equal to 0 4 and ¼ to 0 3 The Babylonians, who were far advanced in mathematics in early times, used a system of numbers based upon 12 Today, the foot is divided into 12 inches, the year into 12 months, and the face of the clock into 12 hours

Duparquet (dü"pärkā'), town (pop 1,384), W Que , on Lake Duparquet and NNW of Rouyn It is a gold-mining center

Duperron, Jacques Davy (shäk dävē' düpĕrō'), 1556–1618, French churchman, cardinal of the Roman Church A convert to Catholicism from Protestantism, he was an adherent of Henry IV and was made bishop of Évreux He received Henry IV's abjuration and went on the successful mission to Rome to secure the removal of the papal interdict.

Dupetit-Thouars, Louis Marie Aubert (lwē' märē' ôbĕr' düpütē'-twär'), 1758–1831, French botanist and horticulturist He traveled (1792–1802) on Madagascar and other islands in the Indian Ocean and wrote books on their flora While director (from 1802) of the Royal Institute of Arboriculture, Paris, he made valuable studies in plant physiology

Dupleix, Joseph François, marquis (zhōzĕf' frāswä' märkē' düplĕks'), 1697–1763, French governor of Pondichéry, India (1741–54) His initial military successes against the British (notably the seizure of Madras, 1746, and the defense of Pondichéry, 1748) were largely offset by the insubordination of LA BOURDONNAIS and by the Treaty of Aix-la-Chapelle (1748). Dupleix then formed a vast project for establishing French supremacy in India. Intervening in native politics, intrigues, and warfare, he controlled the Carnatic by 1749 and nearly the entire Deccan by 1751 Soon, however, the British began to regain ground under the leadership of Robert Clive, and the French government, anxious to avoid war and uninformed of Dupleix's grandiose schemes, recalled the governor in 1754 With Dupleix, the last hope of a French empire in India vanished Dupleix ended his days in poverty and neglect See G B Malleson, *Dupleix* (1890), Henry Dodwell, *Dupleix and Clive* (1920)

Duplessis, Maurice Lenobiet (mōrēs' lunôblĭā' düplĕsē'), 1890–, Canadian lawyer and politician, b Trois Rivières, Que , educated at Laval Univ Elected in 1927 to the Quebec legislature, he was leader (1933–35) of the provincial Conservative party A founder of a French Canadian nationalist party, Duplessis became premier and attorney general of the province of Quebec in 1936, when the party was victorious in the elections He was defeated in 1939 on the issue of Canadian conscription for the Second World War but was reelected in 1944 when, as head of his party, he again took office as premier and attorney general

Duployé, Émile (āmēl' düplwäyā'), 1833–1912, French stenographer He invented a system of shorthand which was very popular in France

Dupo (dū'pō), village (pop 2,073), SW Ill , on the Mississippi below East St Louis, in a limestone quarry area, inc 1907 It has railroad yards

Du Ponceau, Pierre Étienne, or **Peter Stephen Duponceau** (dūpŏn'sō), 1760–1844, American lawyer and ethnologist, b France He became secretary and interpreter for Baron von Steuben and accompanied him to America in the Revolution Later he became an American citizen When Robert R Livingston was in charge of foreign affairs, Du Ponceau served as his secretary He studied law, was admitted to practice in Philadelphia in 1785, and attained eminence in the field of international law He made a translation, *Treatise on the Law of War* (1810), from the Latin work by Bynkershoek and wrote several original legal treatises His *Mémoire sur le système grammatical des langues de quelques nations indiennes de l'Amérique du Nord* (Paris, 1838) gave him an international reputation as an authority on the languages of North American Indians He translated a work by John Heckewelder from English into French under the title *Histoire, mœurs et coutumes des nations indiennes* (1822) and carried on with Heckewelder a valuable correspondence on Indian languages

Du Pont (dū pŏnt'), family notable in U S industrial history The Du Pont family's importance began about 150 years ago when Eleuthère Irénée DU PONT established a powder mill on the Brandywine Development, continuation, and family control of the E I du Pont de Nemours & Company (dū numôōr') have been the family's chief concern, and its prolific members have kept the company well staffed Outstanding among the Du Ponts was Henry Du Pont, a West Point graduate and son of the company's founder, who set the basis for the family's cohesiveness Lammot I (1831–1884), chemist and inventor, having developed a new and superior blasting powder, gave the Du Pont Company a leading place in the making of explosives Later, Pierre Samuel DU PONT and his cousins Coleman and Alfred brought about the company's incorporation with outsiders, which was a departure from the long-established family partnership But family control is still predominant, despite the company's several thousand stockholders The Du Ponts have actively displayed individuality in politics Coleman and Pierre have increased Delaware's roads, and Pierre has contributed heavily to the state's education Wilmington owes most of its importance to the Du Ponts See J K Winkler, *The Du Pont Dynasty* (1935), Marquis James, *Alfred I Du Pont, the Family Rebel* (1941)

Du Pont, Eleuthère Irénée (dū pŏnt', Fr ālütĕr' ērānā' dü pō'), 1771–1834, American powder manufacturer, b Paris, France, son of Pierre Samuel du Pont de Nemours At the age of 17, Irénée entered the royal powder works, where Lavoisier taught him the trade After Lavoisier's forced leave from the plant, Irénée began managing (1791) his father's printing house, where the Du Ponts published counterrevolutionary pamphlets When the Jacobins sacked the printing house, Irénée and his family left for America to set up a trading and land company Though he met disillusionment upon reaching America (1800), Irénée soon formulated plans to improve the quality of American gunpowder In July, 1802, he began constructing his powder works on the Brandywine, near Wilmington, Del Despite lack of capital, Irénée constantly improved his powder and plant and developed within a few years an extensive business, which he named E I du Pont de Nemours & Company (the firm's present name). His sales were augmented during the War of 1812 and the years following, but his immense debts and family obligations constantly plagued him He was appointed (1822) director of the Bank of the United States, and his judgment on manufacturing and farming was widely sought See W S Dutton, *Du Pont—140 years* (1942)

Du Pont, Pierre Samuel, 1870–, American industrialist, b Wilmington, Del , grad Massachusetts Institute of Technology, 1890 Upon his graduation, Du Pont worked nine years as chemist with the family's company, where he helped develop smokeless powder In 1902 Pierre and his two cousins, Alfred and Coleman Du Pont, bought the E I du Pont de Nemours & Company Pierre became treasurer and later vice president In 1915, after a group headed by Pierre bought Coleman's stock, Alfred brought suit against Pierre for breach of trust After four years in court, the case was settled in Pierre's favor, but Alfred and Pierre remained long estranged When the Du Pont Company acquired control of General Motors, Pierre was its president from 1920 to 1923 Under his presidency, the Du Pont Company also developed scores of chemical manufactures and acquired many other industries From 1925 to 1937 Du Pont was tax commissioner for Delaware Strongly antiprohibitionist, he was (1933–38) the state's liquor commissioner At first an adherent of Franklin Roosevelt, he later opposed him See J K Winkler, *The Du Pont Dynasty* (1935), Marquis James, *Alfred I Du Pont, the Family Rebel* (1941)

Du Pont, Samuel Francis, 1803–65, American naval officer, b Bergen Point, N J , grandson of Pierre Samuel DU PONT DE NEMOURS Appointed a midshipman in 1815, he saw his first active duty in the Mediterranean (1817) In the Mexican War, Du Pont, commanding the *Cyane*, cleared the Gulf of California of Mexican shipping, captured La Paz, and in several raids helped to establish U S control over Lower California Assigned to command the South Atlantic Blockading Squadron in the Civil War, Du Pont directed (Nov , 1861) the successful naval attack against Port Royal, S C , for which he won a rear admiral's commission He later secured further footholds for the Union on the coasts of South Carolina, Georgia, and Florida The blockade which Du Pont organized was generally successful, except at Charleston The Dept of the Navy thought that Charleston could be taken by naval attack and, against his own will, Du Pont attempted to take the harbor, using seven monitors Severely repulsed on April 7, 1863, he expected the department to share the blame for the reverse A dispute followed, and Du Pont asked to be relieved See biography by H A Du Pont (1926)

Dupont, industrial borough (pop 5,278), NE Pa , near the Susquehanna between Wilkes-Barre and Scranton, inc 1917 Anthracite mining and munitions are its industries

Du Pont de Nemours, Pierre Samuel (pvĕr' samüĕl' dü pō' du numôōr'), 1739–1817, French economist, one of the PHYSIOCRATS He early attracted the attention of Quesnay and edited the *Journal de l'agriculture* in 1765–66 and the *Éphémérides du citoyen* from 1768 to 1772 He also edited some of Quesnay's writings under the title *Physiocratie* (1768) and later presented his own views of economy and political philosophy in his *Tableau raisonné des principes de l'économie politique* (1775) and other works He was also active in practical politics After two years as secretary of the council of public instruction in Poland, he became the financial and economic adviser of his friend TURGOT Under Vergennes he was one of the diplomats in the long negotiations (1783) after the American Revolution, and he drew up a trade treaty (1786) with England that expressed his economic principles In the French Revolution he was an important figure in the Constituent Assembly, especially in financial debates He opposed the issue of the assignats, and as the Revolution moved further to the left he fell under the suspicion of his fellow revolutionists and for a time lived in hiding and issued pamphlets against the "radicals" He emerged into notice in the Directory, but, disappointed with the course of events, he migrated (1799) to the United States, where his son E I Du Pont set up a powder mill The elder Du Pont returned to Napoleonic France in 1802 but in 1815 was again in America, where he died He was a correspondent of Thomas Jefferson, and his economic theories had some influence in shaping U S policy

Düppel (dü'pul), village, SE Denmark, in Schleswig Here the Danes were defeated (1849) by Saxon and Bavarian troops and again (1864) by the Prussians It passed to Denmark in 1920

Dupplin Moor (dŭ'plĭn), SE Perthshire, Scotland Here occurred the defeat (1332) of the earl of Mar by Edward de Baliol

Dupré, Giovanni (jōvän'nē duprā), 1817–82, Italian sculptor, b Siena, of French descent His statues of Cain and the fallen Abel are in the Pitti Palace, Florence

Dupré, Jules (zhül' duprā), 1811?–1889, French landscape painter of the Barbizon school He excelled in portraying dramatic and tragic aspects of nature. A frequent and honored exhibitor at the Salon, Dupré spent his last years at L'Isle-Adam, where some of his best work was done. His *Old Oak* and *Hay Wagon* are in the Metropolitan Museum, and he is represented in many American galleries

Dupuy de Lôme, Stanislas Charles Henri Laurent (stänēslas' shärl' ärē' lōrą' düpüē' dü lōm'), 1816–85, French naval engineer, director of French naval construction after 1857. To him France owed its first iron ship and first armored and screw steam warship In 1872 he proved practicable a dirigible balloon He was made a life member of the senate in 1877

Dupuytren, Guillaume, Baron (gēyōm' bärō' düpüētrē'), 1777–1835, French surgeon As professor at the Hôtel Dieu, Paris, from 1812, he was noted as diagnostician, lecturer, and operator He wrote on surgical subjects, described a fracture of the fibula and a contraction of the hand which bear his name, and founded the chair of pathological anatomy at the Univ. of Paris In 1823 he was made a baron

Duquesne, Abraham (äbrääm' dükān'), 1610–88, French naval officer In the Fronde, he suppressed a revolt at Bordeaux (1650) As commander of Colbert's new fleet, he distinguished himself in the Dutch War, engaging De Ruyter off Stromboli and Catania and sharing in the victory of Palermo (1676) He fought the Barbary pirates (1681) and bombarded Algiers (1682–83) and Genoa (1684) Though a Protestant, he was created marquis (1681) and was exempted from proscription when the Edict of Nantes was revoked

Duquesne (dükān', dōō–, dū–), city (pop 20,693), SW Pa , on the Monongahela and near Pittsburgh, settled 1789, inc as a borough 1891, as a city 1910 Ingot and bar steel and pig iron are produced here

Duquesne, Fort, on the site of PITTSBURGH, Pa Because of its strategic location at the junction of the Monongahela and Allegheny rivers (the forks of the Ohio), it was a major objective in the last of the French and Indian Wars. The fort was begun by a small force of Virginians in the spring of 1754 at the instance of Gov. Robert Dinwiddie, but the French appeared in superior numbers and took possession (April 17, 1754) They completed it and named it after Ange de Menneville, Marquis de Duquesne, then governor general of New France George Washington's detachment of Virginia militia had been unable to reach the fort before the arrival of the French, who then defeated him in July (see NECESSITY, FORT) Fort Duquesne was the goal of the unsuccessful expedition under Gen Edward BRADDOCK in 1755 and of the successful one under Gen. John FORBES in 1758 The French, abandoning their position to Forbes without a fight, burned (Nov. 24) the fort, which the English rebuilt and renamed Fort Pitt, whence Pittsburgh

Duquesne University · see PITTSBURGH, Pa.

Duquesnoy, François (fräswä' dükānwa'), 1594–1643?, Flemish sculptor, also called François Flamand and Il Fiammingo. He worked mostly in Italy (where he became a friend of Poussin) and is famous for his reliefs of children in terra cotta, ivory, bronze, and marble Among his works in Rome are *St Susanna* in Santa Maria di Loreto and a statue of St Andrew and groups of children on the columns of the altar in St Peter's

Du Quoin (dōō koin', kwoin'), city (pop 7,515), S Ill , N of Cairo, inc 1861. It is an industrial and trade center in a farm and coal region

Dura (dōō'rü) or *Europus* (yōōrō'püs), ancient city of Syria, on the Euphrates and E of Palmyra, sometimes called Dura-Europus or Dura-Europos Founded (c 300 B.C.) by a general of Seleucus I, it prospered In the 2d cent. A D the Parthians took it Later it was taken by Rome and was a Roman city until it was seized (A D c 257) by Shapur I It was then abandoned to the desert Excavations begun in 1922 were pursued by a series of Yale expeditions and yielded rich finds, supplying much information on life, history, and art in Mesopotamia from Hellenistic through Roman times The name is also spelled Dour See M. Rostovtzeff and others, *Excavations at Dura-Europos* (reports, 1929–39); Rostovtzeff, *Dura-Europos and Its Art* (1938)

Dura, plain, near Babylon, where Nebuchadnezzar set up a golden image Dan 3 1

duralumin (dōōrăl'yumĭn, dyōō–), an alloy of aluminum (over 90 percent) with copper (about 4 percent), magnesium (0.5 to 1 percent), and manganese (less than 1 percent) Small amounts of iron and silicon are sometimes present Before a final heat treatment it is ductile and malleable and easily worked into various shapes, after this treatment it is allowed to stand and, owing to chemical reaction between the aluminum and magnesium, becomes hard and strong Because of its lightness and great tensile strength, it is used in dirigible framework construction

Duran, Durand (both dürä'), or **Durante** (dürät'), family of Jewish scholars, originally from Provence **Profiat Isaac ben Moshe ha-Levi Duran** (prōfĭa' ĭsăk' bĕn mōsh' hă-lāvē'), 1350–1415, called Efodi, was compelled to profess Christianity in 1391, but in reality remained true to his faith He wrote a satiric epistle against Christianity and a Hebrew grammar **Simon ben Zemah Duran** (sĭmō' bĕn zumä'), 1361–1441, a poet, physician, Talmudic authority, and rabbi of Algiers, was the first rabbi to receive a salary His writings were notably in the field of Hebrew scholastic philosophy.

Duran, Carolus · see CAROLUS-DURAN

Durance (dürās'), river, 217 mi. long, SE France. Rising in the Dauphiné Alps, it rushes SW past Briançon, enters Provence, and swings west to join the Rhone near Avignon Its valley in Provence is very fertile.

Durand, family. see DURAN

Durand, Asher Brown (dürănd'), 1796–1886, American painter and engraver, b. near Newark, N.J He was apprenticed to the engraver Peter Maverick and later became his partner He established a reputation by his engravings of Trumbull's *Signing of the Declaration of Independence* and of Vanderlyn's *Ariadne*, followed by a series of engraved portraits of eminent contemporaries. After 1835 he devoted himself to painting, producing portraits of several of the presidents and figure pieces, such as *The Wrath of Peter Stuyvesant* (N Y Historical Society) and *Judgment of Gog* (Metropolitan Mus). After a year of European travel and study, he turned to landscape painting, becoming a founder of the Hudson River school Examples of his work are *In the Woods* and *The Beeches* (Metropolitan Mus), *Woodland Brook* and *Franconia Notch* (N Y. Public Library), and *Mountain Forest* (Corcoran Gall) Durand was a founder of the National Academy of Design and its president from 1845 to 1861 See biography by John Durand (1894).

Durand, Charles Auguste Émile: see CAROLUS-DURAN

Durand, Elias, 1794–1873, American chemist, b. France Originally his name was Élie Magloire Durand In 1816 he came to America and in 1825 opened in Philadelphia a drugstore that was exceptional for its stock of European drugs. He explored the Dismal Swamp and other areas, made large botanical collections, and wrote on botanical and chemical subjects.

Durand. 1 City (pop 3,127), S Mich , SW of Flint, inc as a village 1887, as a city 1933 Railroad shops are here, and gravel screeners are made Several Indian earthworks are near by **2** City (pop 1,858), co seat of Pepin co , W Wis , on the Chippewa and SW of Eau Claire, settled c.1850, inc 1887

Durandus, Gulielmus (gŭlēĕl'mus dyōōrăn'dus) 1237?–1296, French canon jurist He was educated at the Univ of Bologna, and he served under Boniface VIII as governor of the papal state of Romagna Durandus' *Speculum judiciale* [mirror of law] (1473) is an outline of canon and civil law which was long studied His *Rationale divinorum officiorum* [rationale of the divine offices] (c 1286) is an exhaustive treatment, many times reprinted, of the nature and symbolism of the Roman Catholic liturgy Parts have been translated as *The Symbolism of Churches and Church Ornaments* (1843) and *The Sacred Vestments* (1899) His name also appears as Durand Durantus, and Duranti

Durango (dōōrăng'gō, Span dōōrāng'gō), state (47,691 sq mi , 1946 estimated pop 593,913), N Mexico In general, the physical characteristics of Durango are like those of Chihuahua, which bounds it on the north The mountainous western half is dominated by the Sierra Madre Occidental, a rich mining region of silver, gold, lead, mercury, sulphur, and coal The vast semiarid plains of the eastern part are ranching country, farther to the east, on the border of Coahuila, is the extremely fertile LAGUNA DISTRICT, where tremendous desert basin lands are irrigated by the NAZAS river. GÓMEZ PALACIO, across the river from TORREÓN, Coahuila, is the state's chief settlement in this region Particularly in the valley of the Nazas, agriculture is important, cotton is the chief crop, but wheat, sugar cane, tobacco, corn, and grapes are grown Although known early to the Spanish, Durango was not opened up until 1562, when Francisco de IBARRA undertook its exploration and colonization The early settlers of Durango and Chihuahua, which were then called Nueva Viscaya, were frequently attacked by Indians, but the mines and grazing lands continued to attract colonists Durango became a state shortly after the revolution against Spain **Durango,** capital (pop 34,412) of the state, is in the southern part, on the level plain of a fertile valley Founded as a mining town in 1563 by Alonzo Pacheco, serving under Ibarra, it was for a time capital of Nueva Viscaya In addition to minerals, the city ships out some lumber, and it is also an agricultural and commercial center Near by is the Cerro del Mercado, 640 ft high, a fabulous hill of solid iron ore Durango's cathedral is a massive example of early 18th-century architecture.

Durango (dōōrăng'gō), city (pop. 5,887, alt c.6,500 ft.), co seat of La Plata co , SW Colo , on the Animas river, in a farm, ranch, and mine area, founded 1880, inc 1881 It is the headquarters of San Juan National Forest Near by are Fort Lewis School of Agriculture and Mesa Verde National Park The mining of carnotite ore for uranium brought a boom in 1948

Durant, Henry Fowle (dōōrănt', dyōō–), 1822–81, American lawyer and educator, b. Hanover, N H., grad Harvard, 1841. His name was originally Henry Welles Smith After a successful career as a lawyer, he became an evangelist. In 1870 he first obtained a charter for Wellesley College and from that time on devoted himself completely to the college, of which he was officially the treasurer. See biography by F. M Kingsley (1924)

Durant, Thomas Clark, 1820–85, American railroad builder, chief figure in the construction of the Union Pacific RR, b. Lee, Mass., grad. Albany Medical College, 1840 He was successful in building railroads in the Midwest, and, after the Union Pacific was organized (1862) by act of Congress, John A DIX was elected president and Durant vice president of the company The burden of management and money raising was assumed by Durant and, with much money at his disposal, he helped to secure in 1864 the revision of the act which increased the land grants and privileges of the railroad He organized and at first controlled the CRÉDIT MOBILIER, but later he lost control of the company to Oakes AMES and his brother. Durant, however, continued on the directorate of the Union Pacific and furiously pushed construction of the railroad until it met the Central Pacific RR on May 10, 1869 The Ames group then procured his discharge

Durant, William James, 1885–, American educator and author, b. North Adams, Mass., grad. St Peter's College, Jersey City, N.J (B A., 1907, M A., 1908) He was director (1914–27) of the Labor Temple School, New York. His *Philosophy and the Social Problem* (1917) was followed by *The Story of Philosophy* (1926), an immediate best seller, which opened the way for a school of popularized history He has completed three volumes of an intended five-volume *Story of Civilization*

Durant. 1 Town (pop 2,510), central Miss , near the Big Black River NNE of Jackson, in a rich farm area, founded 1858 A state park is near by **2** City (pop 10,027), co seat of Bryan co , SE Okla , near the Red River, settled c 1870 It is the commercial and processing center for an agricultural region producing chiefly cotton A state teachers college and the Oklahoma Presbyterian College for Girls are here Denison Dam is near by

Durante, family see DURAN

Durazzo (dürä'zō, dōōrät'sō), Albanian *Durres* (dōōr'üs), town (pop 14,031), Albania, an Adriatic port It was founded as Epidamnus as a joint colony of Corinth and Corcyra (Corfu) c 625 B C and gained importance from its trade with Illyria The quarrel over Epidamnus between Corinth and Corcyra helped to precipitate (431 B C) the PELOPONNESIAN WAR The city changed its name (c 300 B C) to Dyrrhachium, from which the present name is derived It passed under the kingdom of Epirus and in 229 B C under Rome Made a naval station by Pompey (48 B C), it was also an important Roman military base During the Byzantine period Durazzo was, between intervals of Byzantine rule, seized successively by the Goths, the Serbs, the Bulgars, the Normans, the Crusaders of the Fourth Crusade, Venice and the Angevins of Naples, who made it a duchy in 1267 Venice again held it from 1392 until 1501, when it passed to the Turks The majority of the citizens accepted Islam, which still prevails Under Turkish rule Durazzo declined rapidly and almost disappeared. It was occupied (1912) by the Serbs in the First Balkan War, was assigned to Albania in 1913, and was (1914) the residence of William, prince of Wied It subsequently revived as one of the main Albanian ports Durazzo, with its many mosques, has an Oriental character Three towers of the early Byzantine period and medieval fortifications erected by Venice have survived Occupied, with the rest of Albania, by Italy (1939–43) and by German troops (1943–44), Durazzo was severely bombarded by the British navy in 1943

Durban (dür'bün), city (pop 338,817), Natal, Union of South Africa, a port on the Indian Ocean, founded in the early 19th cent It is the largest city of Natal and its chief commercial center Exports include coal, manganese, and chrome There are railroad workshops, auto-assembly plants, and sugar refineries, in addition to light industries The city is a winter resort with race tracks and beaches. Its cultural resources include a college, botanical gardens, and an art museum

Düren (dü'run), city (1946 pop 27,653), in the former Rhine Prov. of Prussia, NW Germany, between Aachen and Cologne and on the Roer river It was an important center under the Frankish kings In 1242 Emperor Frederick II gave it to the duke of Jülich In 1543 Düren was captured by troops of Emperor Charles V and almost completely burned down. In the Second World War the city was bombed from the air and shelled by American artillery Most of Düren was literally pulverized, and no building remained unharmed

Dürer, Albrecht (äl'brĕkht dü'rur), 1471–1528, German painter, draughtsman, and engraver, most representative and influential artist of the German school, b Nuremberg, son of a goldsmith. His life may be studied in his own writings, translated into English in W M Conway, ed., *Literary Remains of Albrecht Dürer* (1889), and Roger Fry, *Records of Journeys to Venice and the Low Countries* (1913) He was apprenticed for three years to Michael Wolgemut in Nuremberg and then visited various parts of Germany and Venice. He worked for

a time in Schongauer's studio in Colmar In 1494 he established his own studio in Nuremberg The work of his first period (1494–1505) shows traces of the influence of Schongauer and Mantegna To it belong several fine portraits—those of his father (National Gall , London) and of himself (Prado)—and also an *Adoration of the Magi* (Uffizi) During these years he also produced several large copper engravings, including *Adam and Eve*, *The Prodigal Son*, *Nativity*, *Little Horse*, and *Great Horse*, and his famous series of woodcuts for the *Apocalypse*, *Great Passion*, and *Life of the Virgin* From 1505 to 1507 he was in Venice, where he painted the *Feast of the Rose Garlands* and *Christ Crucified* At this time Dürer already enjoyed a European reputation He was the friend of great artists, rulers, and statesmen and of the reformers Luther and Melanchthon A true son of the Renaissance, he had a boundless intellectual curiosity From 1507 to 1520 (his second, and most productive, period) he worked chiefly in Nuremberg, producing several large altarpieces, including *Adam and Eve* (Prado) and *Adoration of the Trinity* and *Martyrdom of the Ten Thousand* (both Vienna), and the portraits of Charles V and Emperor Sigismund To this period also belong many of his most celebrated engravings on both wood and copper The former include the single woodcuts *St Jerome*, *St Christopher*, and *Mass of St Gregory*, the series of 35 blocks entitled *Little Passion*, and three series, *Triumphal Arch*, *Triumphal Procession*, and *Triumphal Car*, done in honor of his patron, Emperor Maximilian I His copper engravings of this period include 15 plates on the themes of the *Little Passion* and his three great masterpieces, *The Knight*, *Melancholia*, and *St Jerome in His Study* These last are generally considered the greatest of all copper engravings In their originality of conception, richness of suggestion, and brilliant execution they are classics of the art In 1520 Dürer visited the Netherlands, where he made numerous fine portrait drawings in charcoal and chalk His last years (1521–28) were devoted chiefly to portrait painting, copper engraving, and literary activities Outstanding paintings of this period include the portrait of Hans Imhoff (Prado), *Unknown Man* (Mus of Fine Arts, Boston), and *Madonna and Child with St Anne* and *Virgin and Child* (Metropolitan Mus) His copper engravings include portraits of Erasmus and Melanchthon Dürer's theoretical works on geometry and perspective and fortification were published shortly before his death, and that on human proportions, just after As a painter Dürer did not equal his great contemporaries in Italy His work, while original and full of vigor, retains the stiffness and tightness of a primitive, and his color is rarely inspired It is in his engravings and drawings that his genius found free expression In these he shows himself an artist of unsurpassed fertility of imagination, tireless energy, keen observation, and superb craftsmanship Priceless collections are in the Albertina, Vienna, and the British Museum See studies by T S Moore (1905), Willi Kurth (1936), and Erwin Panofsky (1943)

duress (dyo͝o'rĭs, do͝o'-, do͝orĕs'), [O Fr from Latin, -hardship], in law, actual or threatened violence or imprisonment, by reason of which a person is forced to enter into an agreement or to perform some other act against his will The constraint or threat of constraint must have been directed toward the person thus compelled or toward the wife, husband, parent, child, or other near relative of the person compelled Anyone who makes a contract under duress is entitled to void it and be free of its obligations, but in order to release him from the contract duress must be shown to have been such as to overcome his mind and will See COERCION

Durfee, William Franklin (dûr'fē), 1843–99, American engineer, b New Bedford, Mass He studied with his father, a mechanic of reputation, and at Harvard He designed and superintended the construction of a plant, together with all its machinery, at Wyandotte, Mich , where in 1864 he produced the first steel made in America by the Bessemer process He also built there the first laboratory in the United States for the study of steelmaking processes At Ansonia, Conn , he constructed the first successful furnaces to refine copper by use of gaseous fuel His extensive library is now part of the library of the Engineering Society, New York city.

D'Urfey, Thomas (dûr'fē), 1653–1723, English song writer and dramatist, of Huguenot descent His comedies, such as *Wonders in the Sun, or, The Kingdom of the Birds* (1706), were forerunners of the ballad opera Writers of ballad opera drew heavily upon his collection *Wit and Mirth; or, Pills to Purge Melancholy* (1719), which included many of his own witty, satirical songs.

Durham, John George Lambton, 1st earl of (dŭ'rŭm), 1792–1840, British statesman A stormy liberal career in Parliament (1813–32), which earned him the nickname Radical Jack, culminated in his playing an important part in drafting and forcing upon the House of Lords the Reform Ball of 1832. After several diplomatic missions he was, in 1838, made governor general of Canada, with special powers to quell the rebellions there Impulsive and tactless, Durham was only moderately successful as a conciliator, but he prepared the masterly recommendations of the *Report on the Affairs of British North America* (1839), which has been called the Magna Carta of the British colonies The proposed remedies for existing defects included union of Upper and Lower Canada, the grant of responsible self-government, improvement of the land laws, and railroad building to unify the country The one (but very large) defect in its liberalism was its advocacy of extinguishing the French national spirit in Canada—a motive behind many of the proposed measures See S J Read, *Life and Letters of the First Earl of Durham* (1906)

Durham, maritime county (1,015 sq mi , 1931 pop 1,486,175, 1948 estimated pop 1,447,597), N England, on the North Sea between the Tees and Tyne rivers The county seat is Durham, site of one of England's finest Norman cathedrals The region is low-lying along the coast, rising inland to the Pennine Chain It is one of the most densely populated counties of England There is dairy farming and cattle raising, but primarily the region is industrial. The coal deposits are rich and extensively worked There are associated iron, steel, chemical, and glass industries Shipbuilding is important along the Tyne Sunderland and Hartlepool are important seaports The area was occupied by the Romans and subsequently became part of the Anglo-Saxon kingdom of Northumbria After the Norman Conquest the county was organized as a palatinate under the bishops of Durham and was governed as such until 1836 See Cuthbert Headlam, *The Three Northern Counties* (1939)

Durham, town (pop 1,700), S Ont , on the Saugeen river and NW of Toronto It is a manufacturing and residential town

Durham, municipal borough (1931 pop 16,224, 1943 estimated pop 19,300), county town of Durham, England, on the sides of a hill nearly encircled by the Wear river Two old bridges are here Noteworthy are the castle (1072), now occupied by the Univ of Durham (which incorporates several colleges—Armstrong, Hatfield's, and others), and the cathedral, on the hilltop In 995 the relics of St Cuthbert were brought to Durham (then Dunholme) and a church was built as his shrine The construction of the present cathedral, on the same site, began in 1093, it is considered the finest example of Norman architecture in the country For the Book of Durham, see LINDISFARNE

Durham 1 Rural town (pop 1,098), S Conn , NE of New Haven, settled c 1698, inc 1708 It makes metal products The public library was started in 1733 2 Town (pop 1,533), SE N H , SW of Dover and on the Oyster river, settled 1635, inc 1732 It is the seat of the Univ of New Hampshire (see NEW HAMPSHIRE, UNIVERSITY OF) The early settlement suffered greatly in Indian wars (1694, 1704) The 18th-century home of Gen John Sullivan is preserved Local blue clay is used for handmade pottery 3 City (pop 60,195), co seat of Durham co , central N C , in the piedmont NW of Raleigh, settled c 1852, inc 1867 It is an important center for the marketing and processing of tobacco and has large textile and hosiery mills Durham is a port of entry The area was settled c 1750, but the town was only a hamlet until after the Civil War, when the tobacco industry began its great development, with James B DUKE a leading manufacturer Negroes have extensive business and industrial enterprises in Durham, and the headquarters of the largest Negro life insurance company in the country is here The city is the seat of DUKE UNIVERSITY and North Carolina College for Negroes

Durham cattle. see SHORTHORN CATTLE.

Durkee, John (dûr'kē), 1728–82, American pioneer and Revolutionary officer, b Windham, Conn Durkee, a leading member of the Connecticut Sons of Liberty, led the group that forced Jared INGERSOLL to resign at the time of the Stamp Act Later he led Connecticut settlers into the WYOMING VALLEY, laid out (1769) Wilkes-Barre, and was the leader of the Connecticut faction in the first of the PENNAMITE WARS He was twice captured by the Pennsylvanians In the Revolution he raised a company that fought well at Bunker Hill, and he saw action in other battles, notably Long Island, Trenton, and Monmouth

Durkheim, Émile (āmēl' dürkĕm'), 1858–1917, chief French sociologist after Comte, a professor at the Sorbonne His approach to sociology was influenced by the positivist philosophy of Comte, of whom he was a critical follower To the collective mind of society Durkheim attributed the origin of religion and morality (through constraint of the individual) and even of such fundamental concepts as space and time To support his theories, he drew extensively on anthropological and statistical materials. His works include *The Division of Labor in Society* (1893; Eng tr , 1933), *The Rules of Sociological Method* (1895, Eng tr., 1938), *Le Suicide* (1897), and *The Elementary Forms of Religious Life* (1912; Eng tr , 1915). See Harry Alpert, *Émile Durkheim and His Sociology* (1939)

Dürkheim: see BAD DÜRKHEIM

Durlach (do͝or'läkh), former town of Baden, W Germany, since 1938 incorporated into KARLSRUHE It was the residence of the margraves of Baden-Durlach (see BADEN, Germany)

Dürnstein (dürn'shtīn), ruined fortress in Lower Austria, on the Danube and 40 mi WNW of Vienna RICHARD I of England was held prisoner here by the duke of Austria.

Duroc, Géraud Christophe Michel (shärō' krēstôf' mēshĕl' dürōk'), 1772–1813, French general He was a close friend of Napoleon, who made him grand marshal of the palace and duke of Friuli He acted as a diplomat, fought in the Napoleonic Wars, and was killed in battle in 1813

durra: see SORGHUM

Durres, Albania see DURAZZO.

Duruy, Victor (vĕktôr' dürüē'), 1811–94, French historian As minister of education (1863–69), he improved the educational system in France His best-known works are his *History of Rome and of the Roman People* (7 vols , 1870–85, Eng tr , 8 vols in 16, 1883–86) and his popular and much-translated *History of France*

Duryea, Charles Edgar (do͝or'yā), 1862–1938 American inventor and pioneer automobile manufacturer, b near Canton, Ill With his brother J Frank Duryea (1870–) he built in Springfield Mass , one of the first practical internal-combustion automobiles in the United States A Duryea car, driven by J Frank Duryea, won the first U S automobile race at Chicago (1895) Charles Duryea is credited with the invention (1892) of the spray carburetor He manufactured automobiles until 1914 and was later a consulting engineer J Frank Duryea, long associated with the Stevens-Duryea automobile manufacturing company, was a leader in establishing the automobile industry

Duryea (do͝or'yā, dûryā'), industrial borough (pop 8,275), NE Pa , on the Lackawanna SW of Scranton, inc 1891 Anthracite and silk are its industries

Duse, Eleonora (do͝o'zē, Ital ālāōnō'rä do͝o'sā), 1859–1924, Italian actress Of a theatrical family, she made a successful appearance at 14 as Juliet and in 1878 gained recognition in Auger's *Les Fourchambault* In 1893, in New York and London, her portrayal of Dumas's *La Dame aux camélias* was considered a rare dramatic event, and in Paris in 1897 she was regarded as the only rival of Bernhardt She added to her stature in such dramas as Sardou's *Fédora*, Goldoni's *La Locandiera*, and Pinero's *Second Mrs Tanqueray* For some years a romantic attachment existed between Duse and the Italian poet D'Annunzio, whose plays she was often the first to present and champion A great interpreter of Ibsen, she made her farewell appearance (1923) in his *Lady from the Sea* in New York She appeared in the moving picture *Cenere* (1916) Duse's acting was characterized by extreme simplicity and lack of theatrical artifice Her emotional power, however restrained, was tremendous in its effect See E A Rheinhardt, *The Life of Eleonora Duse* (Eng tr , 1930), Bertita Harding, *Age Cannot Wither* (1947)

Dushan, Stephen: see STEPHEN DUSHAN

Dussek, Jan Ladislav, Czech *Dušek* (yan' lä'dĕslăf do͝o'shek), 1760–1812, Czech pianist and composer, pupil of C P E Bach, favorite of Marie Antoinette, and protégé of Talleyrand Some of his piano compositions are still taught

Düsseldorf (dü'sĕldôrf), city (1946 pop 420,909), in the former Rhine Prov of Prussia, NW Germany, at the junction of the Rhine and Düssel rivers It is a major industrial and commercial center, with steel mills, machinery plants, and textile manufactures First mentioned in the 12th cent , Düsseldorf became (1288) the capital of the duchy of BERG Under French occupation (1921–25) it was a center of the Rhenish separatist movement In the Second World War the city was a major target of the Allied air forces Captured (1945) by American troops, it was found largely in ruins Düsseldorf has a famous art academy (founded 1819) and gave its name in the 19th cent to the Düsseldorf school, of which BENDEMANN and SCHADOW-GODENHAUS were representative Heinrich Heine was born here

dust, atmospheric, minute particles of predominantly inorganic matter slowly settling or suspended by slight currents and existing in varying amounts in all air There is least dust at high levels over the ocean, and most at low levels over cities, that caused by the smoke of heating and manufacturing is a serious problem of cities Sources of atmospheric dust are winds blowing over dry earth (as plowed fields, deserts, and roads), the various activities of people in cities, volcanic eruptions, salt spray from the oceans, pollen and other material from plants, and the combustion of meteorites by friction with the earth's atmosphere Dust sometimes almost immediately settles visibly on surfaces, but vast quantities are carried to the upper layers of the air and suspended there for long periods of time The effects of volcanic eruptions such as that of Krakatoa have been observed three years after the occurrence Hygroscopic dust particles (those to which water adheres) are the

nuclei of condensation in free air; the nucleus of each droplet in a fog or cloud and of each raindrop and snowflake is one of these invisible particles of inorganic or organic dust When the dust is exhausted from a container, condensation takes place only on the surfaces of the container, while the air remains quite clear John Aitken, who in 1880 invented a dust counter, first correlated dust particles and condensation Dust is also chiefly responsible, through its scattering effect upon light, or diffusion, for one type of HAZE, for sunrise and sunset colors, for twilight, and for the blue color of the sky

Dust Bowl, areas of the prairie states that suffer from dust storms These storms may smother growing crops, destroy pasturage, and injure health, but their most serious effect is the removal of topsoil Dust-storm areas suffered especially in the droughts of 1934, 1936, and 1937 The removal of the natural cover of grass by overgrazing, by burning over, or by plowing aggravates dust-storm conditions Remedies include the return of large areas to grass and the planting of cover crops and trees to anchor the soil

Dustin, Hannah, b 1657, d after 1729, New England heroine She was captured (1697) in an Indian raid on Haverhill, Mass , and taken up the Merrimack river to a place near modern Concord, N H While the Indians were asleep, Hannah and a 10-year-old boy (Samuel Lennardson) killed and scalped 10 of their guards and with another prisoner returned to Haverhill

Dutch and Flemish literature, the literature written in the standard language of the Low Countries since the Middle Ages It is conventional to term the language Dutch when speaking of the modern Netherlands and Flemish when speaking of the Belgians who use the same language, this is inaccurate in making a distinction which does not exist (the standard Netherlands language differs from the standard language of N Belgium somewhat as British and American English do) and in attributing to Flanders more than its share Middle Dutch literature shows the same general characteristics as the contemporary vernacular literatures, thus the bourgeois spirit is expressed in Van Maerlant and in the Dutch versions of Reynard the Fox, Hadewijch, Ruysbroeck, and Gerard Groote spoke the beautiful language of mysticism Among the best known of Dutch medieval dramas are *Mary of Nimmegen* (tr by H M Ayres, 1924) and the morality *Elckerlyc*, closely related to EVERYMAN The greatest Dutch figure of the Renaissance, Erasmus, wrote in Latin, but other humanists used their native Dutch— Van der Noot and the painter and poet Van Mander, then Coornhert, and finally Spieghel Reformation polemics were represented by the Catholic Anna Byns and the Protestant Marnix With the establishment of the republic and the subsequent commercial prosperity came the Golden Age of Dutch literature, this is the period of the influential Coster, of the masters Hooft and Vondel, of the homely verse of Cats, of the comedies of Bredero, and of the work of the elder Huygens A religious poet of the period was the painter Camphuysen In the early 18th cent there is the comedian Langendijk and Addison's imitator, Van Effen Two important women novelists of the later 18th cent are Wolff and Deken Other writers are the Van Haren brothers, Feith, and Bilderdijk In the 19th cent , Dutch literature expanded on European lines with the novelists Van Lennep, Bosboom-Toussaint, Dekker, and the Belgian Conscience and the poets Da Costa, Tollens, Potgieter, and the Belgians Gezelle, Rodenbach, and Pol de Mont Thus was also the period of the sketches of Beets The 1880s saw a reorientation of Dutch letters under foreign influence, especially under that of the French naturalism of Zola, the Belgian parallel movement began slightly after Leaders in the new movements were Verwey and Van Deyssel (son of the critic Alberdingk Thijm) in the Netherlands and Vermeylen and Buysse in Belgium The new forces are seen in the novelists and short-story writers Van Eeden, Couperus, Van Ammers-Küller, Robbers, and Querido and in the Belgian Stijn Streuvels and Timmermans Among the better-known poets are Roland Holst, Boutens, and Gorter in the Netherlands and Van de Woestijne in Belgium. A successful dramatist, the Jewish Heijermans, has a special place in 20th-century Dutch literature See A J Barnouw *Holland under Queen Wilhelmina* (1922), Jethro Bithell, *Contemporary Belgian Literature* (1915) and *Contemporary Flemish Poetry* (1917)

Dutch art, as a distinct national style, dates from about the turn of the 17th cent , when the country emerged as a political entity and developed a clearly independent culture During the Middle Ages, Netherlandish art was subject to the leveling influence of the Romanesque and Gothic styles which prevailed throughout Europe In the 15th and 16th cent the southern or Flemish provinces in general led in quantity and refinement of production and set the artistic pace for the entire region. Consequently, it is very difficult to distinguish a development of national traits in the art of the Dutch provinces before the aesthetic fluorescence of the 17th cent Furthermore, the iconoclasm that attended religious and political upheavals in the mid-16th cent destroyed much of the work. The earliest known Dutch paintings, by such artists as Aelbert Ouwater, Geertgen van Haarlem, and Dierick Bouts date from the second half of the 15th cent and are clearly to be related to the Flemish tradition of the Van Eycks Certain native characteristics are to be distinguished, however, in a feeling for continuous space, in a predilection for rendering effects of light and atmosphere, and in a matter-of-fact tone underlying the interpretation of subject matter An outstandingly original genius was Hieronymus Bosch, whose demoniacal and ironical realism was linked to medieval ideology and at the same time anticipated aspects of the 17th-century style In the 16th cent a profusion of Italian Renaissance motifs appeared especially in decorative sculpture, e g , the fireplace in the town hall of Kampen by Jacob Colyns de Nole, and centers of sculptural production grew up at Dordrecht, Utrecht, and Breda In painting, enthusiasm for Italian art, combined with a kind of late revival of Gothicism, resulted in a mixture of manneristic and classicistic elements in works by such painters as Cornelis Englebrecht (1468–1533), Jacob Corneliszoon van Oostsanen (c 1470–1533), Jan de Mabuse, Jan van Scorel, Maarten van Heemskerck, Hendrik Goltzius, and Cornelis Cornelisz oon (1562–1638, also called Cornelis de Harlem) At the same time there was continued assertion of a native tendency towards sober realism in the works of Jan Mostaert (c 1470–c 1555), Antonio Moro, and the great Lucas van Leyden The current of Italian Renaissance influence persisted well into the 17th cent and is to be noted especially in the work of the most important sculptor, Hendrik de Keyser (1565–1621), whose style continued to be exemplified in the work of his sons Willem and Pieter de Keyser The Twelve-Year Truce with Spain (1609) introduced a period of unprecedented cultural growth and material prosperity Calvinist proscription of church art and the absence of extensive state patronage encouraged the development of private easel painting, and a heightened national pride was reflected in the immense popularity of pictures that portrayed the domestic scene and Dutch burgher activities The art of Frans Hals, Rembrandt, and Jan Vermeer testifies to the originality and vitality of the Dutch school for three successive generations There were many artists who devoted themselves primarily to the rendering of special types of subject matter, e g , Nicolas Elhas, also called Pickenoy (1591–c 1655), Thomas de Keyser, and Bartholomeus van der Helst, who were primarily portraitists Their works include many of the large group portraits of officers of corporations and guilds, a type of painting peculiar to Dutch culture At Utrecht the 16th-century Italianate tradition persisted in the work of Abraham Bloemaert (1564–1651) His followers, notably Gerard van Honthorst and, to a lesser extent, Hendrik Terbruggen (c 1588–1629), were influenced by Caravaggio in their renderings of large-figured genre groups and isolated half-length figures of musicians and drinkers Characteristically the Dutch genre picture was of relatively small dimensions—hence the title "Little Masters"—and represented typical situations and activities of the people Soldier scenes were common, especially in the period of the Thirty Years War, and figured prominently in works by such artists as Willem Duyster and Philips Wouwerman Outstanding as a painter of peasant scenes was Adriaen van Ostade Toward the middle of the 17th cent there was greater interest in the rendering of homely domestic scenes and views of urban life reflected in the paintings of Pieter de Hooch, Gabriel Metsu, and Jan Steen In the '60s and '70s taste began to favor effects of wealthy elegance and refinement A slightly enervated atmosphere was to be felt, not only in works of lesser artists, but in the exquisite paintings of Gerard Ter Borch and the late Vermeer Landscape was also one of the most popular subjects This field offered full scope to the native tendencies toward pictorial realism The painters depicted their countryside with an unpretentious sincerity and a sensitiveness that has made the Dutch school of landscape one of the most influential and esteemed of all time At the beginning of the 17th cent a manneristic, decorative style carried over from the 16th cent in the landscapes of Gillis van Coninxloo and David Vinckboons (1578–1629) A clearer emphasis on straightforward contemplative realism was manifest in work by such artists as Esaias van der Velde (c 1590–1636) and the highly original genius Herkules Seghers (1590–1640), who in his expression of unified mood seemed to anticipate the landscapes of Rembrandt In the second quarter of the century the landscapes of Jan van Goyen and Salomon van Ruisdael reveal emphasis on greater breadth of space and dynamic composition The culmination of these tendencies was reached in the art of Jacob van Ruisdael, Aelbert Cuyp, and Meindert Hobbema and in the great specialists of marine views, Jan van de Cappelle, Willem Van de Velde, and Ludolf Backhuysen. Certain landscapists emphasized animal painting (e g , Paul Potter) or concentrated on unusual light effects of sunsets and moonlight scenes (e g , Aart van der Neer) Outstanding painters of still life included Jan Davidszoon de Heem, Willem Claaszoon Heda, and Willem Kalf (b c 1621). An outstanding painter of birds and wildlife was Melchior d' Hondecoeter. Another distinctively Dutch type of subject matter was architectural interiors Specialists in this field included Pieter Saenredam (1597–1665) and Emanuel de Witte (c 1617–1692) After the middle of the 17th cent a long period of artistic decline set in Even works by the principal artists executed in the last quarter of the century reveal tendencies towards empty elaboration of effects and pomposity or sentimentality of content During the 18th cent a strong wave of French influence encouraged renewed interest in historical and mythological painting and a heavy-handed imitation of rococo elegance There was a tendency to admire and imitate the Italianate landscapists of the 17th cent by such painters as Nicolaes Berchem and Karel Dujardin Among the more original of the 18th-century masters were Jacob de Wit (1695–1754) and Cornelis Troost (1697–1750) Not until the middle of the 19th cent in a period of liberalism that was marked by the constitution of 1848, was there a revival of Dutch artistic culture marked by the emergence of such artists as Johannes Bosboom, Jozef Israëls, Anton Mauve, Hendrik Mesdag, Johann Jongkind, and the Maris brothers The outstanding genius of the second half of the century was Vincent van Gogh, one of the most important figures of the French postimpressionist school During the 20th cent , Dutch painting was strongly influenced by such movements as fauvism, cubism, and expressionism Such artists as the painter and architect Theo van Doesburg and Piet Mondrian played important roles in the cubist and non-objective movements In sharp contrast to the vitality of the Dutch school in painting and the graphic arts is the lack of production of important sculpture Outstanding among Dutch minor arts is the silverwork and goldwork of the 16th and 17th cent There was also extensive production and export of ceramic tiles, of which the finest examples date from the late 16th and 17th cent Dutch trade in Chinese porcelains discouraged the development of extensive domestic production, and although factories for hard porcelains were established in the 18th cent , Dutch ware did not rival the best French and German production See Wilhelm von Bode, *Great Masters of Dutch and Flemish Painting* (Eng tr , 1909), W R Valentiner, *The Art of the Low Countries* (Eng tr , 1920), Karel van Mander, *Dutch and Flemish Painters* (Eng tr , 1936), G H Marius, *Dutch Painters of the Nineteenth Century* (Eng tr , 1908)

Dutch belted cattle, breed of dairy cattle which originated in the Netherlands They are characterized by a broad white belt around the middle of the body, the rest of which is solid black Brought to America probably c 1838, they are not abundant but are found over much of the country They are excellent milkers

Dutch East India Company · see EAST INDIA COMPANY, DUTCH

Dutch East Indies see INDONESIA

Dutch elm disease see ELM

Dutch Guiana see GUIANA

Dutch Harbor, village, on Amaknak island in Unalaska Bay, which indents Unalaska, off W Alaska One of the few good harbors in the ALEUTIAN ISLANDS, it was known early to Russian fur traders After gold was discovered at Nome in 1899, it became a transshipping point for that boom town A U S naval base established in 1940 was of importance in the Second World War It was attacked by Japanese planes in 1942

Dutch language, Germanic language See LANGUAGE (table)

Dutch literature. see DUTCH AND FLEMISH LITERATURE

Dutchman's-breeches, North American early-spring wild flower (*Dicentra cucullaria*), perennial and related to the bleeding heart It has delicate ferny foliage and racemes of drooping white flowers, yellow tipped, resembling tiny inverted pantaloons It is said to be poisonous to cattle *Dicentra canadensis*, similar but with elongated heart-shaped flowers, rose tinged, is called squirrel corn

Dutchman's-pipe or **pipe vine,** twining vine (*Aristolochia macrophylla* or *durior* or *sipho*) of the E United States, often cultivated for shade or screening purposes It is of rapid growth and quite hardy, with large heart-shaped leaves The odd flowers, curved-pipe shaped, trap insects within until the pollen is matured, then release them

Dutch metal see BRASS.

Dutch New Guinea: see NETHERLANDS NEW GUINEA.

Dutch Reformed Church · see REFORMED CHURCH IN AMERICA

Dutch Wars 1 1652–54, war between the English and the Dutch. It marked a crisis in the long-standing rivalry between the two nations as carriers of world trade, a crisis which was precipitated

by English search and seizure of Dutch merchant ships in the course of an unofficial Anglo-Dutch maritime war and, secondarily, by the English Navigation Act of 1651, which was directed against Dutch trade with British possessions Hostilities were opened (May, 1652) by a sea fight between the British and Dutch admirals, Robert BLAKE and Maarten TROMP At the beginning of the war Blake broke up the Dutch herring fleet, while George Ayscue successfully waylaid Dutch ships in the English Channel However, the victory of Tromp over Blake off Dungeness (Nov , 1652) gave the Dutch command of the Channel, and in Jan , 1653, a Dutch treaty with Denmark closed the Baltic to English trade Meanwhile reforms were introduced into the British navy for greater efficiency, and Generals Richard Deane and George Monck were associated with the naval command Tromp was forced to retire after an engagement off Portland (Feb , 1653), and the English regained control of the Channel After Blake's succeeding victory off Gabbard's Shoal (June, 1653) the British were able to blockade the Dutch coast While Dutch trade was thus effectively cut off, England itself was approaching financial exhaustion Negotiations were undertaken but failed On July 31, 1653, Tromp attacked the blockading fleet, he was defeated and killed, but the English ships were forced to return home for refitting Peace was finally signed in April, 1654 The Dutch agreed to salute the British flag in British seas, to pay compensation for English losses, and to submit territorial claims to arbitration **2** 1664–67, another war between Dutch and English The first war had humbled, but had not crushed, the Dutch power, which continued to challenge English commercial supremacy, especially in the East Indian trade and in the West African slave trade In 1664 Robert Holmes raided the Dutch colonies on the coast of Africa, and Richard Nicolls took the Dutch colony of New Netherland in North America War was officially declared by England in March, 1665 The duke of York (later James II) won the battle off Lowestoft (June, 1665), and in September, the bishop of Munster, an ally of the English, overran the eastern province of the Netherlands, he was, however, soon expelled In Jan , 1666, Louis XIV of France declared war on England, yet his interests did not lie on the side of the Dutch, and he took little part in the war The British fleet under Monck and Prince Rupert was defeated in the Four Days battle or battle of the Downs (June 1-4, 1666) by Michiel de Ruyter and Cornelis Tromp, but in August they inflicted a severe defeat on the Dutch and destroyed shipping along the Dutch coast The plague, the great fire, and disaffection in Scotland made England anxious for peace, and negotiations were undertaken, while Charles II let the fleet fall into a state of unpreparedness which enabled De Ruyter to fall on the British ships in the Thames and inflict heavy losses (1667) By the Treaty of Breda (July, 1667) the trade laws were modified in favor of the Dutch, and all conquests of war were retained, the English thus receiving New York, New Jersey, and Delaware and the Dutch keeping Surinam At the same time the English and French made mutual restoration of conquests Breda was a blow to English prestige, but proved in the long run to English advantage **3** 1672–78, first of the great wars of Louis XIV of France. It was aimed at the destruction of Dutch rivalry to French trade and the extension of Louis XIV's empire Having obtained the support of CHARLES II of England by the secret Treaty of Dover (1670) and allied himself with Sweden (see CHARLES XI) and several German states, Louis overran the southern provinces of the Netherlands (May, 1672) The Dutch halted his advance on Amsterdam by opening the dikes, about the same time, under the command of De RUYTER, they defeated the English and French fleets at Southwold Bay Dutch peace proposals made at this juncture having been spurned by the French, a revolution took place, and William of Orange (later WILLIAM III of England) took over Dutch leadership from the ill-fated Jan de WITT (July, 1672) William's attempt to divide the French lines and enter France was countered by the French seizure of Maastricht (1673) By the end of the year the French were forced to retreat, and Spain, the emperor, Brandenburg, Denmark, and other powers entered the war on the side of the Dutch In 1674 England made peace with the Dutch Nevertheless, military operations turned in favor of France In 1674 Louis II de CONDÉ won the battle of Seneff, while TURENNE was victorious at Sinzheim The defeats CRÉQUY suffered in 1675 were made good by the naval campaign of DUQUESNE in 1676, and in 1677 the French defeated William at Cassel and took Freiburg Peace was negotiated at Nijmegen in 1678 Maastricht was ceded to the Dutch and a trade treaty modified the French restrictive tariffs in their favor By a subsequent treaty with Spain, Louis received Franche-Comté and a chain of border fortresses in return for evacuating the Spanish Netherlands. By a treaty with the emperor (1679), France was confirmed in possession of Freiburg and a part of Lorraine

Dutch West India Company, trading and colonizing company, chartered by the States-General of the Dutch republic in 1621 and organized in 1623 Through its agency NEW NETHERLAND (New York) was founded The phenomenal success of the Dutch East India Company was an influential factor in its establishment The United New Netherland Company, which had been trading around the mouth of the Hudson river for several years, was absorbed into the new company By the terms of the charter no citizen of the Netherlands could trade with any point on the African coast between the Tropic of Cancer and the Cape of Good Hope or on the American coast between Newfoundland and the Straits of Magellan without the company's permission The company was responsible in larger matters, such as declaring war, to the States-General, but otherwise had almost complete power in its territory, including the appointment and removal of officers, the making of laws and administration of justice, and the conduct of Indian affairs For a time the company was more interested in Brazil than in North America, but in 1654 Brazil was definitely lost Traders meanwhile had built Fort Orange (1624) on the site of Albany, N Y , Fort Nassau (1624) on the Delaware river, Fort Good Hope in the site of Hartford on the Connecticut river, and finally Fort Amsterdam (1626), on the southern tip of Manhattan island, which was the nucleus of the settlement called New Amsterdam, now New York city England could not afford to antagonize the Dutch at this period because of wars with France and Spain and so permitted the Dutch settlement to be made on lands which England claimed New Netherland remained under the control of the Dutch West India Company until the English finally conquered it in 1664 **New Sweden** was also taken by the Dutch in 1655, but was later sold by the company to the city of Amsterdam before also falling prey to the English

Dutch West Indies · see WEST INDIES

Dutra, Eurico Gaspar (āōōrē'kō gäshpär' dōō'trŭ), 1885–, president of Brazil (1946–) An army officer, he took part in the revolution that put GETULIO VARGAS in power By 1935 he was a general of a division and was minister of war from 1936 to 1945 He was endorsed as presidential candidate by Vargas, but, charging that Vargas planned to remain in power, Dutra led in deposing him (Oct , 1945) Dutra was elected president in Dec , 1945

Dutton, Clarence Edward, 1841–1912, American geologist, b Wallingford, Conn , grad Yale, 1860 He served in the Civil War, first in the volunteer service and after 1864 in the regular army In 1901 he retired from military service He became connected with the U S Geological Survey of the Rocky Mt region under John W Powell in 1875 As a result of his work with the Survey he wrote several reports, including those on the geology of the high plateaus of Utah (1879–80) and the Tertiary history of the Grand Canyon district (1882) In order to study volcanic activity, he visited Hawaii and also the old volcanic region of California and Oregon He was one of the pioneer advocates of the isostatic theory of earth movements and introduced the term *isostasy* He wrote a valuable report (1890) on the Charleston earthquake of 1886 and wrote also *Earthquakes in the Light of the New Seismology* (1904)

Dutton, Joseph Everett, 1874–1905, English biologist Working in Africa, he discovered (1901) the trypanosome of sleeping sickness in human blood and named it *Trypanosoma gambiense*

duty, in taxation see CUSTOMS, INTERNAL REVENUE

Duun, Olav (ō'lāv dōōn'), 1876–1939, Norwegian novelist He taught in public schools until 1927 His monumental series of six novels, *The People of Juvik* (1918–23, Eng tr , 1930–35), is an outstanding work on Norwegian life A trilogy of novels followed, *Fellow Beings* (1929), *Ragnhild* (1931), and *The Last Year of Life* (1933) In 1938 his last book, *The Man and the Powers*, appeared Almost all his work was written in Landsmaal Norwegian

Duval, Claude (dōōvăl'), 1643–70, English highwayman Born in Normandy, he came to England at the Restoration in the train of the duke of Richmond. He led a daring career as a highwayman until he was captured when drunk He was hanged at Tyburn Duval was noted for his gallantry to the ladies, and his memorial inscription in the Covent Garden Church begins "Here lies Du Vall Reader, if male thou art, Look to thy purse; if female, to thy heart "

Duval, William Pope, 1784–1854, American frontiersman, territorial governor of Florida (1822–34), b near Richmond, Va He went to Kentucky as a youth, studied law, and began practicing at Bardstown c 1804 Duval was a U S. Representative from Kentucky (1813–15) and U S judge in East Florida (1821–22). As governor, he accomplished the peaceful removal of the Seminole Indians to the southern district, the compilation and revision of territorial laws, and legislation creating a board of education and improving the schools He was the original of Washington Irving's "Ralph Ringwood" in *Wolfert's Roost* and of James K Paulding's "Nimrod Wildfire "

Duveen, Joseph, 1st **Baron Duveen of Millbank,** 1869–1939, English art dealer Beginning his career in his father's firm, Duveen Brothers, he soon expanded the business to mammoth dimensions He was the benefactor of many musems and galleries, notably the National Gallery and the Tate Gallery, both in London At the Univ of London, Lord Duveen endowed a chair for the history of art He was influential in forming several American art collections which later became public collections and was also active in the movement to save Spanish masterpieces during the civil war He was created baron in 1933 See his *Thirty Years of British Art* (1930)

Duveneck, Frank (dū'vunĕk), 1848–1919, American portrait and genre painter and teacher, b Covington, Ky , studied in Cincinnati and in Munich His work made a great impression when exhibited in America in 1875 because of its boldness and technical proficiency His portraits, painted heavily with marked brushwork, are low in key and reminiscent of the old masters whom he loved, but they are also remarkable for their sensitive and admirable characterization Duveneck was an inspired teacher for many years in Munich and, after 1889, in Cincinnati, where he devoted himself to the art school and museum and exercised a powerful and salutary influence on both He presented a fine collection of his works to the museum in 1915 Duveneck is represented in leading galleries throughout the country His *Whistling Boy* (Cincinnati Art Mus) and *Old Woman* (Metropolitan Mus) are characteristic He was also a talented sculptor and etcher

Duvergier de Hauranne, Jean (zhā' düvĕrzhyā' dü ōrän'), 1581–1643, French theologian He is often called the abbé de Saint-Cyran, from an abbacy he held *in commendam* A personal friend of Cornelis JANSEN, he collaborated with him and was one of the molders of JANSENISM He was also a close friend of the ARNAULD family, and he was largely responsible for the conversion of Port-Royal into the stronghold of Jansenism He was the first of the Jansenist controversialists against the Jesuits, and he also fell afoul of Cardinal Richelieu, who had him thrown into prison in 1638 He was released on the cardinal's death He and his puritanical Augustinianism have been much criticized.

Dúvida, Rio da · see ROOSEVELT, river

du Vigneaud, Vincent (dū vēn'yō), 1901–, American biochemist, b Chicago, grad Univ of Illinois (B S , 1923) He was professor of biochemistry and head of the department at George Washington Univ (1932–38) and at Cornell Univ (from 1938) His researches include the chemistry of insulin, protein, sulphur compounds, and biotin

Duxbury (dŭks'bĕrē), town (pop 2,359), SE Mass , a resort on Duxbury Bay SE of Boston, inc 1637 Plymouth colonists including Miles Standish, William Brewster, and John Alden settled here Alden's house is still standing

Duyckinck, Evert Augustus (dī'kĭngk), 1816–78, American author, b New York city, grad Columbia, 1835 He studied law, but never practiced From 1840 to 1842 he edited *Arcturus, a Journal of Books and Opinion*, and from 1848 to 1853, with his brother George Long Duyckinck (1823–63), owned and edited the *Literary World*, the best literary weekly of the period With his brother he also edited and prepared much of the copy for the *Cyclopaedia of American Literature* (2 vols , 1855), which he revised and enlarged in 1866 and which was a standard work in its time He edited many classics, compiled *Irvingiana* (1860), and wrote the text for the *National Portrait Gallery of Eminent Americans* (2 vols , 1861–62), the *National History of the War for the Union* (3 vols , 1861–65), and other subscription works, besides contributing to magazines His library of 17,000 volumes and his papers and manuscripts are in the New York Public Library

dvi-manganese see RHENIUM

Dvina (dvēnä') or **Northern Dvina,** Rus *Severnaya Dvina*, river, 580 mi long, N European RSFSR, formed near Veliki Ustyug by the union of the Sukhoma and Yug rivers It flows NW past Kholmogory and empties into Dvina Bay, an arm of the White Sea, just below Archangel Navigable in its entire course from May to November, it is connected with the MARIINSK SYSTEM by the Sukhoma and the Northern Dvina Canal

Dvina or **Western Dvina,** Ger *Düna*, Lettish *Daugava*, Rus *Zapadnaya Dvina*, river, 620 mi long, Eastern Europe Rising in the Valdai Hills, RSFSR, it flows generally W through Belorussia, past Vitebsk and Polotsk, and through Latvia, past Daugavpils and Riga, into the Gulf of Riga, an arm of the Baltic Sea Navigable to Vitebsk, it is connected by canal with the Berezina and the Dnieper

Dvinsk, Latvia. see DAUGAVPILS.

Dvorak, Anton (än'tŏn dvôr'shäk) Czech *Antonín Dvořák* (an'tônēn), 1841–1904, Czech composer He studied at the Organ School, Prague, 1857–59, where he was professor and director after its merger with the Prague Conservatory in 1890 He played the viola in the National Theater Orchestra, 1859–

73. A preoccupation with Wagner in his early compositions is finally overcome in his cantata *Hymnus* (1873), his first successful work The piano duets *Ave from Morava* (1876) and the orchestral Slavonic Rhapsodies and Slavonic Dances (both 1878), published in Berlin through Brahms's interest, established his reputation abroad He went to England in 1884 to conduct his *Stabat Mater* (1877, Prague, 1880), which had become popular there His symphony in E minor, *From the New World* (1893), was composed in the United States while he was director (1892–94) of the National Conservatory, New York In it the idiom of Negro folk melody is suggested The influence of Wagner is again felt in six symphonic poems (1896–99), though not in his last operas He composed nine symphonies, several chamber works, a violin concerto (1879) for Joseph Joachim, a Requiem (1890), a *Te Deum* (1892), and a number of piano pieces, including eight humoresques None of his operas became known outside his country See biography by Paul Stefan (1941); Rosa Newmarch, *The Music of Czechoslovakia* (1942)

Dvur Kralove, Czechoslovakia: see KÖNIGINHOF.

dwarf, a plant, animal, or person whose size is less than normal Among humans dwarfism or nanism appears to be the result of endocrine malfunction which causes an arrest of growth Dwarfs are usually born to parents of normal stature and are likely to be sterile The PYGMY is not considered a dwarf since he inherits the stature of his parents and is fecund Such racial differences as stature, however, may possibly prove to be an inherited variation in endocrine function Dwarfs vary in height from 2 to 4 ft , sometimes there occurs a marked increase in stature in middle age They may possess normal body proportions or be achondroplastic, i e , having, as a result of a skeletal disease a trunk approximating normal size but with stunted limbs. The achondroplastic type is portrayed in the paintings of Velásques There are many famous dwarfs in legend and in history They were court favorites, and despite the attitude of considering them subhuman and amusing, they were frequently noted for wit and intrigue The career of Jeffrey Hudson, a dwarf knighted in jest by Charles I, could be matched by few adventurers of any period Most famous in recent times was "General TOM THUMB" (Charles S Stratton)

dwarf cornel see HUNCHBERRY

dwarf tree, in horticultural practice, a tree artificially kept to a smaller size than is normal for average members of the species This is usually accomplished either by limiting its root space, food, and water or by grafting it on rootstocks of a smaller species and keeping it carefully pruned Dwarfing is done for the sake of ornament, as in a Japanese dish garden, or to utilize limited space Dwarf fruit trees are valued for both decoration and fruit production in small gardens. They bear earlier and sometimes have larger fruits and flowers, but usually do not live as long as undwarfed varieties

Dwarka (dwär'ku) or **Jigat** (jĭ'gut), town (pop 10,876), in detached portion of Bombay state, India, at the western extremity of the Kathiawar peninsula Many Hindu pilgrims visit the temple sacred to Krishna

dwelling: see HOUSE

Dwiggins, William Addison, 1880–, American type designer, calligrapher, and book designer, b Martinsville, Ohio He attained prominence as an illustrator and commercial artist, and he brought to the designing of type and books some of the fresh boldness that he displayed in his work on advertisements His type faces—Electra and Caledonia are most widely used—were specifically designed for linotype composition and have the clean spareness of the motor age His scathing attack on contemporary book designers in *An Investigation into the Physical Properties of Books* (1919) led to an association with the publisher Alfred A Knopf A series of finely conceived and executed "trade" books followed and did much to increase public interest in book format The designs are greatly varied, not all in "modern" key He was perhaps more responsible than any other designer for the marked general improvement in book design in the 1920s and 1930s. He gained recognition also as a calligrapher and was the founder of the mythical Society of Calligraphers He has written much on the graphic arts, notably essays collected in *MSS by WAD* (1949), and his *Layout in Advertising* (1928, rev ed , 1949) is standard

Dwight, Harrison Gray Otis, 1803–62, American Congregational missionary to the Armenians, b Conway, Mass , grad Hamilton College, 1825, and Andover Theological Seminary, 1828 He served the Armenian population of Constantinople for 30 years. His travels with Eli Smith were recorded in *Researches of Rev Eli Smith and Rev H. G O Dwight in Armenia* (2 vols , 1833)

Dwight, Henry Otis, 1843–1917, American missionary in Turkey, b Constantinople, studied at Ohio Wesleyan Univ , son of Harrison Gray Otis Dwight In 1867 he returned to Constantinople as secular agent for the American Board of Commissioners for Foreign Missions. From 1872 to 1899 he was editor of the board's Turkish publications. In 1880 Dwight was ordained a Congregational minister. He wrote a number of books and articles on Turkish affairs and edited the *Turkish and English Lexicon* (1890), his *Centennial History of the American Bible Society* was published in 1916

Dwight, John, fl 1671–98, English potter, reputed founder of the Chelsea factory Little is known of his life, the date (1671) of his patent for the "Mistery of transparent earthenware " being the first certain event recorded He is considered to have laid the foundation of the pottery industry in England and to have set a standard not excelled elsewhere There are specimens of his work at the Victoria and Albert Museum and at the British Museum

Dwight, Theodore, 1764–1846, American author and editor, b Northampton, Mass , brother of Timothy Dwight and grandson of Jonathan Edwards He became a leader of the Federalist party in New England, famous for his political pamphlets and articles As one of the younger CONNECTICUT WITS he proved himself a good satirist While he practiced law in Hartford, he served in Congress (1806–7), in the Connecticut state council (1809–15), and as secretary of the HARTFORD CONVENTION He later wrote the challenging journal of the convention (1833) He edited (1809–15) the Federalist Hartford paper, the *Connecticut Mirror*. In Albany he founded and edited (1815–17) the *Daily Advertiser*, and in New York city (1817–36) the New York *Daily Advertiser*

Dwight, Theodore, 1796–1866, American author, b Hartford, Conn , grad. Yale, 1814, son of Theodore Dwight (1764–1846) After traveling widely abroad, he settled in Brooklyn, N Y There he was a teacher, director of educational institutions, author, translator, and editor of various periodicals including his own *Dwight's American Magazine* (which he edited 1845–52) In 1854–58 he was active in the group which sent free-soil settlers to Kansas Among his books are *A Journal of a Tour in Italy* (1824), *Sketches of Scenery and Manners in the United States* (1829), *Dictionary of Roots and Derivations* (1837), and a translation (1861) of Garibaldi's autobiography

Dwight, Theodore William, 1822–92, American lawyer, b Catskill, N Y , grad Hamilton College, 1840 He studied at Yale Law School and was admitted to the bar in 1845 He was professor of law and later head of the law school at Hamilton In 1858 he became the sole member of the faculty of the newly established Columbia School of Law Until 1873, when the faculty was enlarged, he taught all private-law subjects and lectured elsewhere as well From 1873 until his retirement in 1891 he headed the law faculty Dwight was vitally interested in prison reform He collaborated on *A Report on Prisons and Reformatories in the United States and Canada* (1867), served as president of the New York Prison Association, and was (1878) a delegate to the International Prison Congress at Stockholm

Dwight, Timothy, 1752–1817, American clergyman, author, educator, b Northampton, Mass , grad Yale, 1769, and afterward tutored there He renounced legal for theological studies c 1774, in 1777 became a chaplain in the Revolutionary Army, and after 1783 was for 12 years pastor of a Congregational church at Greenfield Hill, Conn During his pastorate he grew famous throughout New England for his preaching and for the excellent private school he established near his church He was one of the CONNECTICUT WITS, and among his once popular poems are *The Conquest of Canaan* (1785), *The Triumph of Infidelity* (1788), *Greenfield Hill* (1794), and several hymns At the death of Ezra Stiles, Dwight was called to the presidency of Yale, and from 1795 to 1817 he presided over the college with signal ability His widely circulated sermons both reflected and molded public opinion of the day His theology owed much to that of his grandfather, Jonathan Edwards, and he presented it to each generation of Yale students in a four-year series of lectures (published after his death as *Theology, Explained and Defended*, 5 vols 1818–19) With vigor he opposed the rising Republicanism of Connecticut and the nation His *Travels in New England and New York* (4 vols., 1821–22) is representative in its contents of his wide range of interests See biography by C E. Cunningham (1942)

Dwight, Timothy, 1828–1916, American educator, b Norwich, Conn , grad Yale, 1849, grandson of Timothy Dwight (1752–1817) Appointed professor of sacred literature at Yale, he assisted in the reorganization of the Divinity School, edited the *New Englander* (1866–74), and served on the American committee on the revision of the Bible (1873–85) In 1886 he succeeded Noah Porter as president of Yale He coordinated and expanded the institution, securing the legislative charter which authorised the title "university" instead of "college," and retired in 1898 He is the author of *Thoughts of and for the Inner Life* (1899) and *Memories of Yale Life and Men* (1903).

Dwight, village (pop 2,499), N Ill., W of Kankakee, in a farm area, inc 1869 Keeley Institute, famed for its treatment of alcoholism, and a veterans' hospital are here

Dy, chemical symbol of the element DYSPROSIUM.

Dyak (dī'ăk), inhabitant of the interior of Borneo. The Dyaks are the aboriginal peoples of the island and are the principal large group living in the interior. They are not followers of Islam Strongly restricted by superstitions and taboos, they have maintained their customs and mode of life largely uninfluenced by modern civilization The Kayan are a representative group of Dyaks One or two (sometimes more) enormous "long houses" provide dwelling places for a whole village; a corridor used for gatherings and for some kinds of work runs the length of the building, and from the corridor open the separate rooms for each family group. Each building has a house chief. The Dyaks are devoted to their families. In clearings made in the jungle, rice, yams, sugar cane, and some other crops are grown cooperatively by the men and women of the whole community By fishing and hunting (with blowguns and poison darts) the food supply is supplemented. Head-hunting persists despite government efforts to eradicate it. Dyaks generally have bronze or brown skin and dark eyes, they are usually slight of build, active, lithe, and muscular. Habitual chewing of betel blackens the teeth and stains the lips. The sea Dyaks are dwellers of the coast, differing in character and customs from those of the interior Sometimes the name is spelled Dayak

Dyar, Harrison Gray (dī'ur), 1866–1929, American entomologist, b New York city, grad Massachusetts Institute of Technology, 1889, Ph D , Columbia, 1895 From 1897 he was custodian of Lepidoptera at the National Museum, Washington, D C. He wrote many articles on the Lepidoptera, and his works on mosquitoes include *The Mosquitoes of the Americas* (1928)

Dyce, Alexander (dīs), 1798–1869, Scottish editor and critic He edited the works of George Peele, Robert Greene, John Webster, Thomas Middleton, Christopher Marlowe, John Skelton, and Beaumont and Fletcher His great work was his valuable edition of Shakspere (6 vols , 1857, rev ed , 9 vols , 1864–67)

Dyce, William, 1806–64, Scottish historical and portrait painter, studied in London and in Rome He practiced portraiture in Edinburgh until 1844, when he was made professor at King's College, London He is perhaps best known for his frescoes, particularly those in the robing room at Westminster which illustrate the legend of King Arthur

Dyck, Sir Anthony van see VAN DYCK, SIR ANTHONY

Dyck, Christopher van, 1601–72 German designer and maker of printing type who worked in Amsterdam Types that he designed were used by the ELZEVIR firm His roman was of the kind known in England and America as "old style" and has caused this kind of type to be known on the continent of Europe as "Elzevir " It was sturdy, legible, without much contrast between light and heavy lines, and with inconspicuous serifs It has strongly influenced Caslon and other designers of old-style types

dye. The substances used to color various materials, especially cotton, silk, and wool, are commonly divided into two general groups Natural dyes are so called because they are obtained from plants (e g , ALIZARIN, CATECHU, INDIGO, and LOGWOOD), from animals (e g , COCHINEAL, KERMES, and Tyrian purple), and from certain naturally occurring minerals (e g , OCHER and PRUSSIAN BLUE) They have been almost entirely replaced, however, in modern dyeing by the artificial or synthetic dyes Most of these are prepared from coal tar, being formed from an aromatic HYDROCARBON, such as benzene, from which indigo is derived (see also ANILINE), or anthracene, which yields alizarin Although some materials, as silk and wool, can be colored simply by being dipped in the dye (the dyes so used are called consequently direct dyes), others, as cotton, commonly require the use of a MORDANT (see also LAKE) Alizarin is a mordant dye and the color it gives depends upon the mordant used Dyers class dyes also as acid or basic according to the medium (acid or base) required in the dyeing process A vat dye, as indigo, is so called for the method of its application, it is first treated chemically so that it becomes soluble and is then used for treating the materials to be colored. When the materials become impregnated with the dye, they are removed and dried, the reduced indigo taking on oxygen and reverting to its original form In what way a dye becomes "attached" to the material it colors is not definitely known One theory holds that a chemical reaction takes place between the dye and the fiber treated, another that the dye is absorbed by the fiber Dyeing is an ancient industry The Chinese, Persians, and Indians used natural dyes centuries ago. Indigo is probably the oldest dye used, Tyrian purple from a species of snail is another The Egyptians achieved some brilliant colors In the 13th and 14th cent in Italy, dyeing assumed importance. The methods employed were carried to other parts of Europe, and as new dyes became known, the industry flourished and grew. Cochineal was brought from Mexico Finally in the 19th cent the work of W. H. PERKIN and Adolf von BAEYER produced the first synthetic

dyes. See C. E. Pellew, *Dyes and Dyeing* (rev. ed., 1927), R. S. Horsfall and L. G. Lawrie, *Dyeing of Textile Fibres* (2d ed., 1946).

Dyer, Sir Edward, 1543–1607, Elisabethan poet, educated at Oxford. He is known for his lyrics collected in *The Writings in Verse and Prose of Sir Edward Dyer* (ed by A. B. Grosart, 1872). See R. M. Sargent, *At the Court of Queen Elizabeth* (1935).

Dyer, Eliphalet (ĭl'ĭfălĕt), 1721–1807, American jurist, b. Windham, Conn., grad. Yale. After serving in the state legislature for several years, Dyer took part in the French and Indian Wars and later was a member of the governor's council (1762–84) and became (1766) an associate judge of Connecticut's superior court. He was one of the organizers of the Susquehanna Company and was an active supporter of the company in its attempts to secure confirmation of its lands in the WYOMING VALLEY. A Connecticut delegate to the Stamp Act Congress (1765), he was also appointed (1774) to the Continental Congress, where he played a leading part. Dyer was chief justice of Connecticut from 1789 until 1793.

Dyer, John, 1700?–1758, British nature poet, b. Wales. His best-known descriptive poem is *Grongar Hill* (1726). *The Fleece* (1757), in blank verse, is about the sheep and wool industry.

Dyer, Mary, d. 1660, Quaker martyr in Massachusetts, b. England. She accompanied (c.1635) her husband to Massachusetts and supported Anne Hutchinson, whom she followed to Rhode Island, where her husband held several public offices. In 1650 she returned to England and there joined the Society of Friends. On her return to America (1657), she was arrested in Boston and banished, but twice returned (1659, 1660) to minister to imprisoned Quakers. Arrested and condemned to be hanged both times, she was reprieved in 1659 but was executed in 1660. See biography by Horatio Rogers (1896).

Dyer, Reginald Edward Harry, 1864–1927, British general. He commanded the troops which on April 13, 1919, fired upon an unarmed mob of some 5,000 Indians assembled in the Jalianwala Bagh, a public square in Amritsar, Punjab, India, killing nearly 400 persons and wounding many hundreds more. Censured by a commission of inquiry, he retired.

Dyer, Sir William Turner Thiselton see THISELTON-DYER.

Dyer, town (pop. 1,186), W Tenn., NNW of Jackson, in a farm area. Shoes are made here.

Dyersburg, city (pop. 10,034), co. seat of Dyer co., W Tenn., near the Mississippi, NNE of Memphis, laid out 1826, inc. 1836. The city has textile mills and is a processing center for a cotton, grain, dairy, and timber region.

Dyersville, city (pop. 2,138), NE Iowa, W of Dubuque and on the North Fork of the Maquoketa, settled 1837–38 by English, laid out 1851, inc. 1872.

dyer's-weed, name for several plants, among them A MIGNONETTE, A BROOM, and species of GOLDENROD.

Dying Gaul, famous statue in the Capitoline Museum, Rome, formerly wrongly called *The Dying Gladiator*. It is an example of the Pergamene school of Greek sculpture (c. 200 B.C.), depicting with skillful realism a fallen Galatian warrior struggling against death and defeat.

Dyk, Viktor (vĭk'tôr dĭk'), 1877–1931, Czech writer and nationalist. As a poet he is seen at his best in *The Window* (1920), based on experiences in an Austrian prison. As a dramatist he is known especially for *The Messenger* (1907), in which he seeks to explain the crucial defeat of the Czechs at White Mt. in 1620, and for the satirical play *Andrew and the Dragon* (1920). See Paul Selver, *Anthology of Czechoslovak Literature* (1929).

Dykes, John Bacchus, 1823–76, English clergyman, composer of some of the best hymn tunes of his period, including those for *Holy, Holy, Holy, Ten Thousand Times Ten Thousand*, Cardinal Newman's *Lead, Kindly Light*, and the tune *Melita*, to which the hymn of the U.S. navy is sung.

Dykh-Tau (dĭkh"-tou'), peak, 17,050 ft. high, USSR, in the central Greater Caucasus.

Dykstra, Clarence Addison (dĭk'strŭ), 1883–, American educator and civic administrator, b. Cleveland, grad. Univ. of Iowa, 1903. After graduate work at the Univ. of Chicago, he taught in Pensacola, Fla., was instructor in history and government at Ohio State Univ. (1907–9) and professor of political science at the Univ. of Kansas (1909–18). From 1918 to 1920 he served as executive secretary of the Cleveland Civic League. He later held a similar position with the Chicago City Club (1920–22) and with the Los Angeles City Club (1922–26). He was also commissioner of water and power in Los Angeles (1923–26) and professor of municipal administration at the Univ. of California at Los Angeles (1923–29). Dykstra was city manager of Cincinnati from 1930 until 1937, when he resigned to become president of the Univ. of Wisconsin. He directed the administration of the Selective Service Act in 1940–41. In 1945 he resigned from the Wisconsin presidency to become provost of the Univ. of California at Los Angeles. He has been a member of several government committees.

dynamics see MECHANICS.

dynamic symmetry, term given to the theories originally developed by Jay HAMBIDGE, which he believed to be a recovery of knowledge once possessed and used exclusively by Egyptian and Greek artists and architects. These formed, in his opinion, a mathematical foundation which was largely responsible for the perfection of their designs. Discovered by the Egyptians, the principle was adopted in the 6th cent. B.C. by the Greeks, who widely increased its application. Hambidge's system was grounded upon measurements of ancient buildings and works of art, he demonstrated it after 1920 in various volumes. It met both with wide support and with skepticism. "Dynamic" symmetry was so called because of its asserted correspondence to the natural organic symmetry in the human figure and in growing plants, as opposed to "static" symmetry, the type seen in such ordered natural forms as the snow crystal and employed unconsciously by most designers. As developed into an operating technique by Hambidge and his followers, the basic principle of dynamic symmetry is the deriving of measures in terms of areas rather than of linear units. By this method harmonious geometrical shapes can be generated in a series. Within the bounding areas so established, the artist can then organize, with a certain degree of latitude, forms and designs whose component parts will possess an essentially correct relationship.

dynamite [Gr. =power], explosive made from nitroglycerin and a porous substance such as wood pulp, sawdust, kieselguhr (a diatomaceous earth), or some other absorbent material. The mass is pressed in cylindrical forms and wrapped in paper. The proportions vary in different kinds of dynamite, often ammonium nitrate or sodium nitrate or sometimes a carbonate is also a constituent. The charge is set off by a DETONATOR. Dynamite was discovered by Alfred B. NOBEL in 1866.

dynamo see GENERATOR.

dyne (dīn), unit of force in the cgs (centimeter-gram-second) system, being that force which produces in a mass of one gram an acceleration of one centimeter per second for each second that the force acts. It is equivalent roughly to one milligram, being 1/980 of a gram. One dyne acting through a distance of one centimeter is an ERG.

Dysart (dĭ'zurt), former burgh, Fifeshire, Scotland, on the Firth of Forth. It was annexed to Kirkcaldy in 1930. There is a chapel to the hermit St. Serf. Dysart House was the residence of the earl of Rosslyn. Carpets are made in Dysart.

dysentery (dĭ'zuntĕ"rē, dĭ'sun-), disorder characterized by inflammation of the intestines, particularly of the colon, and associated with abdominal pain and the frequent passage of blood and mucus in the stool. The causative agents include chemical irritants, bacteria, protozoa, and parasitic worms. Amoebic dysentery, caused by the protozoan *Entamoeba histolytica*, occurs most frequently in the tropics and subtropics. It is an infection of the large intestine and sometimes causes abscesses of the liver. Drugs, including emetine, an alkaloid of ipecac, are used in treatment. The bacterial type, caused by strains of *Bacillus dysenteriae* (or *Shigella dysenteriae*), occurs in tropical and temperate regions, is usually of short duration, and has no specific drug treatment. In all cases of dysentery, infectious material is taken in by mouth. Food or water is contaminated by feces of sick persons or carriers either directly or through flies and dust.

Dyson, Sir Frank Watson (dī'sun), 1868–1939, English astronomer. He was astronomer royal of Scotland (1905–10) and of England (from 1910). As director (1910–33) of Greenwich Observatory he greatly enlarged its field of research and inaugurated (1928) the wireless transmission of Greenwich time. Noted for his study of solar eclipses, he was an authority on the spectrum of the corona and on the chromosphere, his observations of an eclipse (in Brazil, 1919) confirmed Einstein's theory on the effect of gravity on light rays. Dyson plotted the motions of many previously uncharted stars. A fellow of the Royal Society from 1901, he was knighted in 1915. His publications include *Astronomy, a Handy Manual* (1910) and *Eclipses of the Sun and Moon* (with Richard Woolley, 1937).

dyspepsia: see INDIGESTION.

dysprosium (dĭsprō'zhēŭm, -sēŭm), metallic element (symbol=Dy, for physical constants, see ELEMENT, table), found with other members of the RARE EARTHS group in certain minerals, such as gadolinite and euxenite. With oxygen it forms a white oxide known as dysprosia, and with other elements, some other compounds. The metal and its salts are the most highly magnetic (susceptible to magnetization) of all substances. It was discovered by P. É. Lecoq de Boisbaudran in 1886. It is of no commercial importance.

Dyushambe, Tadzhik SSR. see STALINABAD.

Dzaudzhikau (dzoujĭkou'), city (pop. 127,172), capital of the North Ossetian Autonomous SSR, SE European RSFSR, on the Terek river and at the foot of the Caucasus. It is an industrial center with an electric zinc smelter and lead and silver refineries and has several technical and educational institutions. The population is Russian, Ossetian, Armenian, and Georgian. Founded in 1874 as a fortress and named Vladikavkas, it was long the military and political center of the Russian Caucasus. It was renamed Ordzhonikidze in 1939 and Dzaudzhikau in 1944. In the Second World War the German advance in the Caucasus was halted (Nov., 1942) within c.10 mi. of the city.

Dzerzhinsk (dzĭrzhĕnsk'), city (pop. 103,415), Central European RSFSR, on the Oka river and 20 mi. W of Gorki. It has chemical industries (phosphate fertilizers) and flour mills. Dzerzhinsk was formerly known as Chernovo.

Dzerzhinsky, Felix Edmundovich (fyē'lyĭksĕdmōōn'-duvĭch dzĭrzhĕn'skē), 1877–1926, Russian Bolshevist leader, organizer and first chairman (1917–21) of the feared Cheka (see SECRET POLICE). Under his direction, the Red Terror reached its height in 1918. Dzerzhinsky, personally a mild-mannered fanatic, later held other high posts.

Dzhambul (jŭmbōōl'), city (pop. 62,723), capital of Dzhambul oblast, Kazakh SSR, on the Turksib RR and the Talass river. It is the center of a sugar-beet and orchard area. The city established here since the 5th cent. A.D. has had various names, before 1933 it was Aulie-Ata.

Dzierzon, Jan or **Johann** (yän' tsēr'zhŏn, yō'hän), 1811–1906, Polish clergyman and apiculturist. He devised a hive with movable combs, by means of which he was enabled to make his observations on parthenogenesis among bees. He wrote *Theorie und Praxis des neuen Bienenfreundes* (1848) and *Rationelle Bienenzucht* (1861, Eng. tr., *Dzierzon's Rational Bee-keeping*, 1882).

Dzierzoniow, Lower Silesia see REICHENBACH.

Dzungaria, Jungaria, Sungaria, or **Zungaria** (all zōōn-gā'rēu), Mandarin *T'ien Shan Pei Lu*, region of Sinkiang prov., China. It lies N of the Tien Shan range. The confederation of Western Mongols established (17th cent.) a large central Asian empire, including Dzungaria (named for the Dsungar, one of the tribes). Dzungaria is a grazing area inhabited by nomads, chiefly Khirghiz and Khazaks. The Dzungarian Ala-Tau is a mountain chain which lies on the boundary of Sinkiang prov., China, and the Kazakh SSR (see ALA-TAU).

E

E, fifth letter of the ALPHABET. It is a usual symbol for a mid-front vowel, such as ĕ. A mid-front vowel was represented by Greek epsilon (ĕp'sĭlŏn) [Gr., =e without the aspirate], to which E corresponds in form and place (see also H). English ē is a diphthong of I and y. In MUSICAL NOTATION E represents a note in the scale.

Ea (ā'ä), Sumerian water-god, widely known in Mesopotamia. One well-known center of his worship was Eridu.

Ead-. For some Anglo-Saxon names beginning thus, see Ed-; e.g., for Eadward, see EDWARD.

Eadmer or Edmer (both: ĕd'mûr), d. 1124?, English monk and historian. He was in the monastery of Christ Church, Canterbury, when Anselm became archbishop of Canterbury, and his biography of St. Anselm is the basic one. Edmer's *Historiae novorum* is a history of England from 1066 to 1122 from the ecclesiastical point of view and excellent in its kind. He was elected archbishop of St. Andrews, but was never consecrated because the Scots refused to accept the spiritual authority of Canterbury.

Eads, James Buchanan (ĕdz), 1820–87, American engineer, b. Lawrenceburg, Ind. He invented (c.1841) a diving bell and for many years salvaged wrecks in the Mississippi. He knew the river so well that Lincoln consulted him on military operations there in the Civil War. Eads built a fleet of ironclads used in the war. He built (1867–74) a bridge of three steel arches at St. Louis—a triumph of engineering in its day—and crowned his achievements by constructing a system of jetties at the mouth of the Mississippi, whereby the river dredged its own channel. Its success made New Orleans an ocean port. His *Addresses and Papers* (1884) contains much material on river control. See biographies by Louis How (1900) and F. L. Dorsey (1947).

Eadwig: see EDWY.

Eagels, Jeanne (ē'gŭls), 1894–1929, American actress, b. Kansas City, Mo. She gained fame in

1922 as Sadie Thompson in *Rain*, which was adapted from Somerset Maugham's short story "Miss Thompson"

eagle, large predatory bird related to the kite, the hawk, and the falcon and found in all parts of the world Eagles are powerful, solitary birds with keen vision and with great ability in flying and soaring. They kill their prey with their sharp, curved claws and tear it apart with their hooked beaks. The American or bald or white-headed eagle became the national emblem of the United States by act of Congress in 1782 The southern bald eagle is found in all parts of the United States near streams, lakes, and seacoasts The northern form ranges chiefly in Canada and in the N United States It takes three years for the young to develop the adult plumage—white head, neck, tail, and upper tail coverts and dark brown body and wing feathers The lower legs are scaled, not feathered The eagle feeds mainly on fish, sometimes robbing the osprey of its catch Large birds, often those crippled, are also eaten, and it may resort to carrion Nests are usually placed high in a tree, and one is often added to year after year The golden or mountain eagle is a bird of the Old and New Worlds In North America it is found chiefly in the West It is dark brown with tawny feathers on the neck, its legs are feathered to the toes It is the largest bird trained for falconry—in Asia it is used for hunting foxes, antelopes, and wolves The gray sea eagle is found in Greenland, Iceland, Europe, and N Asia The monkey-eating eagle is found in the Philippines A symbol of royal and military power since ancient times, the eagle has appeared on coins, seals, and flags since the pre-Christian era It was carried on standards by the armies of Rome and by Napoleon's troops See F H Herrick, *The American Eagle* (1935)

Eagle Grove, city (pop 4,024), N Iowa, NE of Fort Dodge, inc 1882

Eaglehawk, Victoria, Australia see BENDIGO

Eagle Lake. **1** Town (pop 1,891), N Maine, in a hunting and fishing region, settled 1840, inc 1911 **2** City (pop 2,124), S Texas, WSW of Houston founded c 1840 It is a railroad junction near the lake of the same name The dominant crop of the region is rice Potatoes are also grown

Eagle Pass, city (1940 pop 6,459, 1947 estimated pop 9,700), co seat of Maverick co, W Texas, a port of entry on the Rio Grande opposite Piedras Negras, Mexico The present city was laid out in 1850 beside the border post, Fort Duncan, from which U S soldiers went out on lively forays against the Indians In 1855 trouble with the Mexicans led to the burning of Piedras Negras Eagle Pass, now connected by highway with Mexico city, boasts that it is the world's largest shipper of spinach, which is grown in the irrigated region The city has prospered also from processing food and cotton and from international trade

Eagle River, city (pop 1,491), co. seat of Vilas co, N Wis, on the Eagle river and NE of Rhinelander, in a lake and woods region, inc as a village 1923, as a city 1937 It is a center of summer and winter sports

Eagles Mere, borough (pop 175) and resort, Sullivan co, NE Pa It has an altitude of 2,000 ft

eaglewood see ALOES

Eaker, Ira Clarence (ā'kur), 1896–, American general, b Field Creek, Llano co, Texas, grad Southeastern Normal College, Durant, Okla, 1917 In army aviation after 1917, he established many records and in the Second World War became (1942) head of the U S bomber command in Europe As a lieutenant general, he commanded the 8th Army Air Force (1943) and the Allied air forces in the Mediterranean (1944) In 1945 he was made deputy commander of the Army Air Force and chief of the air staff He retired in 1947 With Henry H Arnold, he collaborated in writing *This Flying Game* (1936), *Winged Warfare* (1941), and *Army Flier* (1942)

Eakins, Thomas (ā'kĭnz), 1844–1916, American painter and sculptor, b Philadelphia, where most of his life was spent He studied art at the Pennsylvania Academy of the Fine Arts and in Paris under Gérôme, Bonnat, and the sculptor A A Dumont He also visited Spain, where the art of Velázquez strongly impressed him On his return to Philadelphia in 1870 he painted portraits and taught at the Pennsylvania Academy, but received only slight recognition Nevertheless, he continued to develop an art of extraordinary sobriety and uncompromising realism and late in life enjoyed a little of the high reputation he now holds for his fine portraiture and characterization Among his most notable works are *The Surgical Clinic of Professor Gross* (Jefferson Medical College, Philadelphia), *The Clinic of Professor Agnew* (Univ of Pennsylvania), *The Cello Player* (Pa Acad of the Fine Arts), and *The Chess Players*, *The Writing Master*, and *The Thinker* (Metropolitan Mus) Eakins excelled in depicting the humble types with whom he largely consorted His pictures of athletes, such as *Biglen Brothers Turning the Stake Boat* (Cleveland Mus), are noteworthy His works in sculpture include the colossal figures of the prophets on the Witherspoon Building, Philadelphia, executed in collaboration with his pupil Samuel Murray, and the horses on the Soldiers' and Sailors' Memorial Arch, Brooklyn, N Y As a teacher, Eakins's original and scientific methods, often severely censured, had a profound and healthy influence which can be traced in the work of such men as Sloan, Glackens, and Henri In a period when many artists were concerned with the exotic or deliberately picturesque, he succeeded in painting the everyday world about him See study by Lloyd Goodrich (1933)

Ealdhelm, Saint see ALDHELM, SAINT

Ealing, municipal borough (1931 pop 117,707, 1947 estimated pop 185,960), Middlesex, England, W of London Largely residential, it has several parks Thomas Huxley was born here

Eames, Emma (ēmz), 1865–, American soprano, b China, of American parentage She studied in Boston and with Mme Marchesi in Europe From 1891 to 1909 she appeared at the Metropolitan Opera, New York, where her personal beauty combined with her fine voice to make her especially successful in such roles as Aïda and Juliet and as Micaëla in *Carmen* See her autobiography, *Some Memories and Reflections* (1927)

Eames, Wilberforce (ēmz), 1855–1937, American bibliographer, b Newark, N J He joined the staff of the Lenox Library in 1885 and was its librarian in 1895 when it became a part of the New York Public Library After 1911 he was bibliographer of the New York Public Library The scholarliness of his work on Americana and North American Indian literature was recognized by honorary degrees from many universities He edited Vols XV–XX (1885–92) of Sabin's *Dictionary of Books Relating to America* and resumed work on it in 1927 He taught himself many languages, ancient and modern See *Bibliographical Essays a Tribute to Wilberforce Eames* (1924)

ear, organ of HEARING, consisting of external, middle, and internal parts The external ear, composed of the pinna or auricle and the external auditory canal, collects the sound waves and transmits them to the eardrum (tympanum), a membrane which closes the external ear internally The middle ear is a cavity extending from the internal surface of the tympanum It contains the ear ossicles (the malleus, incus, and stapes) and communicates with the nasopharynx by means of the EUSTACHIAN TUBE Sound waves are transmitted by the tympanum and the ear ossicles to the internal ear or bony labyrinth located in the petrous portion of the temporal bone of the skull Auditory nerve filaments (eighth cranial nerve) in the labyrinth convey sound to the brain Also included in the structure of the internal ear are three semicircular canals, associated with the maintenance of equilibrium

earache, pain in the ear Inflammation of the external auditory canal and infections of the middle ear are common causes Middle-ear infection requires drainage, if neglected, the mastoid process may become involved, or chronic infection may result in a running ear, a possible cause of deafness in later life Pain in the ear should have medical attention

Earhart, Amelia (âr'härt), 1898–1937, American aviator, b Atchison, Kansas Until 1928 she was a teacher and social worker in Massachusetts She became the first woman to cross the Atlantic in an airplane when she made a transoceanic flight, with others, from Newfoundland to Wales in June, 1928 In 1932 she made a solo flight across the Atlantic, and in 1935 she flew across the Pacific, alone, from Honolulu to California She was the first woman to make both flights unaccompanied In 1937 she attempted, with Frederick J Noonan, to fly around the world, but her plane was lost on the flight between New Guinea and Howland Island in the Pacific, and her fate remained a mystery She was aviation editor of *Cosmopolitan Magazine* (1928–30) and author of *20 Hrs 40 Min* (1928), *The Fun of It* (1932), and *Last Flight* (1937), arranged by her husband, George Palmer Putnam, whom she had married in 1931 He also wrote her biography (1939)

Earl, Ralph see EARLE, RALPH

Earle, Franklin Sumner, 1856–1929, American botanist and agriculturist, b Dwight, Ill, M S Alabama Polytechnic Institute, 1902 He is known for his work in mycology, especially for his research on sugar-cane disease He wrote *Southern Agriculture* (1908)

Earle, John, 1601?–1665, English clergyman, bishop of Salisbury from 1663, and author of *Microcosmographie* (1628), a collection of witty characterizations which is still reprinted

Earle, Pliny, 1809–92, American psychiatrist, b Leicester, Mass, M D Univ of Pennsylvania, 1837 He was the son of Pliny Earle (1762–1832), inventor of a machine for carding cotton and wool Pliny Earle, the younger, is known for his work in institutions for the insane (Bloomingdale, N Y, 1844–49, Northampton, Mass, 1864–85) and for his writings on the subject, notably *The Curability of Insanity* (1887) He was one of the founders of the American Psychiatric Association. See biography by F B Sanborn (1898).

Earle or Earl, Ralph, 1751–1801, American portrait and landscape painter, b Worcester co, Mass He is purported to have painted four scenes of the battle of Lexington as an eye witness, but is best known for his admirable portraits, which may be seen in the museums of Chicago, New York, Worcester, Mass, and Yale Univ Earle studied with Benjamin West in London, but his work shows rather the influence of Copley A slight unevenness in his painting is sometimes attributed to his fondness for drink

Earle, cotton town (pop 1,872), NE Ark, NW of Memphis, Tenn, inc. 1905.

Earlham College: see RICHMOND, Ind

Earlington (ûr'lĭngtŭn), city (pop 2,858), W Ky, near Madisonville and N of Hopkinsville. It is a railroad junction in a coal area

Earlom, Richard (ur'lum), 1743–1822, English mezzotint engraver, studied under Cipriani He was known for his fruit and flower pieces and for the engravings after Claude Lorrain

Earlston, formerly **Erceldoune** or **Ercildoune** (both (ûr'sĭdōōn"), parish (pop 1,689), Berwickshire, Scotland, NE of Melrose and on Leader Water The Rhymer's Tower remains of the traditional abode of the poet and prophet, Thomas of Erceldoune or Thomas the Rhymer

Earlville, city (pop 1,103), N Ill, WSW of Aurora, founded c 1854, inc 1869 It is a railroad junction

Early, Jubal Anderson, 1816–94, Confederate general, b Franklin co, Va, grad West Point, 1837 After fighting against the Seminoles in Florida, he resigned from the army (1838), studied law, and practiced at Rocky Mount, Va He saw brief service in the Mexican War Early voted against secession in the Virginia convention (April, 1861), but when war broke out he became a colonel of Virginia troops Winning his brigadier generalcy at the first battle of Bull Run (July, 1861), he fought in all the campaigns (1862–64) of the Army of Northern Virginia He was prominent at Salem Church (see CHANCELLORSVILLE, BATTLE OF) and in the GETTYSBURG CAMPAIGN (1863) In the WILDERNESS CAMPAIGN (1864) he temporarily commanded A P Hill's corps, and when R S EWELL was forced to retire, Early assumed command of the 2d Corps After Cold Harbor, Lee sent Early against Gen David HUNTER, who was threatening Lynchburg Early drove Hunter westward and then marched down the Shenandoah Valley, crossed the Potomac, and moved on Washington He defeated Lew Wallace in the battle of MONOCACY (July 8, 1864) and was before the capital on July 11 The arrival of troops from Grant's army compelled him to withdraw to Virginia, but later in the month he crossed the Potomac again His cavalry raided far and wide and burned Chambersburg, Pa, when that town refused to pay a ransom In Sept, 1864, P H SHERIDAN moved against Early and, defeating him at Winchester and Fisher's Hill, drove him up the valley Early returned and surprised Sheridan's army at Cedar Creek (Oct 19) but was finally defeated On March 2, 1865, his small force was overwhelmed by Gen George Custer, of Sheridan's army, at Waynesboro Lee, although still confident of Early's ability, was forced by public opinion to remove him At the end of the war Early fled the country and did not return till 1869 He resumed the practice of law and was associated with Gen P G T Beauregard in the Louisiana lottery He remained extremely bitter against the North till his death See his autobiography (1912), D S Freeman, *Lee's Lieutenants* (3 vols, 1942–44)

Early English style, type of construction introduced into England by the Cistercians, the first phase of Gothic architecture in England in the late 12th and the 13th cent Its characteristic features are the sharply pointed arch, ribbed and groined vaulting, the clustered column with foliated capital and circular abacus, and, at the end of the period, tracery and other ornament Examples include the choir of Canterbury cathedral, the choir of Fountains Abbey, Lincoln, Salisbury, and Wells cathedrals, which are outstanding expressions, the transept of York Minster with its celebrated Five Sisters window, and the transept, choir, and chapter house of Westminster Abbey

early man, see MAN, PRIMITIVE

Earn, Loch (lŏkh' ûrn'), lake, 6½ mi long and 1 mi wide, Perthshire, Scotland, surrounded by hills Ardvorlich House, on its shore, is the Darlinvarach of Sir Walter Scott's *Legend of Montrose* St Fillans, a village at the east end, is named for the Irish missionary, St Fillan Earn river, outlet of the lake, flows eastward, 46 mi through Strathearn Valley past Comrie, Crieff, and Bridge of Earn, into the estuary of the Tay

earring, a personal adornment, sometimes an amulet, worn attached to the ear lobe Since prehistoric times the ear has been pierced for the insertion of the earring, certain primitive tribes distort the lobe with plugs several inches in diameter or with heavy stones Among forms used are the ball, crescent, chain, plaque, sacred symbols, and representations of animals—the size and length changing with the fashion The Egyptians favored a gold hoop and, later, the incrusted pendant. In Babylonia and Assyria the earring evolved into an

exquisite work of the goldsmith's art and was developed with great richness in Persia, India, and the Far East. In the East it has been worn by men to denote rank. The finely wrought gold earrings of Greece often had tinkling pendants, and Rome adapted Greek and Etruscan styles, set with precious stones Earrings were little used with the headdresses of the Middle Ages, but the style had a vigorous revival during the Renaissance and was adopted also by men The invention of a screw device for attaching the earring brought a fresh revival c 1900

earth, fifth largest PLANET of the SOLAR SYSTEM and the only one definitely known to support life It is the third in order from the SUN, only Mercury and Venus being nearer, the mean distance from the earth to the sun is c 93,000,000 mi The earth rotates about a line (its axis) which is perpendicular to the plane of the EQUATOR and passes through the center of the earth, terminating at the north and south geographical poles The period of one complete rotation is a day, the rotation of the earth is responsible for the alternation of periods of light and darkness (DAY AND NIGHT) The earth revolves about the sun once in a period of a little more than 365¼ days (a year), the path of this revolution, the earth's orbit, is an ellipse rather than a circle, and the earth is consequently nearer to the sun at some seasons than at others, the difference between its maximum and minimum distances from the sun being c 3,000,000 mi The difference is not great enough to affect climate on the earth When the Northern Hemisphere has winter, the earth is nearest to the sun (in perihelion); when it is summer in the Northern Hemisphere, the earth is farthest from the sun (in aphelion) The change in SEASONS is the result of the fact that the earth's axis is inclined to the plane of its orbit, making an angle of 23 5° When the Northern Hemisphere receives the most direct rays it has its warmest season, summer, at that time the Southern Hemisphere has winter, since it is then receiving indirect rays Halfway between, in spring and in autumn, there is a time (EQUINOX) when all parts of the earth have equal day and night The earth is surrounded by an envelope of gases (the ATMOSPHERE), of which the greater part is made up of nitrogen and oxygen The earth is not an exact sphere, but is somewhat flattened at the poles and bulging at the equator The equatorial diameter is c 7,926 mi and the polar diameter 1/297 less, the circumference at the equator is c 24,840 mi The surface of the earth is divided into dry land and oceans, the dry land occupying 57,469,928 sq mi, and the oceans 139,480,841 sq mi It is exceedingly irregular, but for this irregularity, the earth would be completely covered with water, since the ocean has a mean depth of c 2¼ mi as against a mean elevation of the land of c ½ mi According to the theory of isostasy, the various segments of the earth's crust are in balance (see CONTINENT) Information about the interior of the earth is derived chiefly from study of the behavior of earthquake waves, from consideration of its shape, and from analogies with meteorites It is probably much denser at its core than at its surface, this conjecture is borne out by the fact that while the mean density of the rocks at the surface is 2 7 the mean density of the earth is calculated to be 5 52 Present evidence obtained from the study of earthquake waves, which pass through the earth to a depth of 1,800 mi, would indicate that the interior of the earth is solid to that depth The fact that temperature increases progressively downward does not, moreover, impair the concept of its solidity, since the melting point of rock, as of other substances, is raised by pressure and since the pressures in the earth's interior are great The molten magma which issues from a VOLCANO in the form of LAVA may in all probability owe its origin to radioactivity or to the relief of pressure comparatively near the surface of the earth In the same way, rearrangements under pressure probably account for the setting up of the stresses and strains which are adjusted by the formation of folds and faults The earth is conceived to consist of a series of concentric shells—an outer layer of sedimentary rocks, an underlying granite-gneiss shell, a shell of basic rocks, similar to peridotite, and a core of nickel and iron, with a transitional layer between the basic rocks and the core The age of the earth has been estimated at from 2,000,000,000 to 3,000,000,000 years See R A Daly, *Our Mobile Earth* (1926), Harold Jeffreys, *The Earth* (1929), George Gamow, *Biography of the Earth* (1941), H. H Read, *Geology: an Introduction to Earth-History* (1949)

earthenware, a form of POTTERY fired at relatively low temperatures, so that the clay does not vitrify, as do stoneware and porcelain clays. Occasionally earthenware is used as a general term for all kinds of pottery

earthquake, trembling or shaking movement of the earth's surface Great earthquakes usually begin with slight tremors, rapidly take the form of one or more violent shocks, and end in vibrations of gradually diminishing force. They are most commonly caused by the jar given the earth's surface when a FAULT occurs; other causes are the subterranean movements of gases and lava in volcanic activity and the collapse of the roofs of caves The subterranean point of origin of an earthquake is called its focus; the point on the surface directly above the focus is the epicenter The effects of the earthquake are strongest in a zone some distance from the epicenter, as the ordinary earthquake has several epicenters lying along the plane of the fault, the distribution of these effects shows great irregularity From data registered by the SEISMOMETER, earthquake activity has been analyzed into compressional or longitudinal waves, distortional or transverse waves and surface waves The longitudinal and transverse waves, of which the longitudinal travel more rapidly, pass through the earth and cause the preliminary tremors of the quake, since their velocities depend on the density and elasticity of the material which transmits them, as well as on their own character, their study may lead to some conclusions about the nature of the earth's interior The surface waves cause the violent shocks of the quake Violent earthquakes occur roughly in two zones of the earth's surface, of which one follows a line drawn through the Mediterranean, Asia Minor, the Himalayas, and the East Indies, while the other follows the western, northern, and eastern shores of the Pacific Tsunamis, or seismic sea waves, erroneously called tidal waves, are the results of submarine earthquakes Notable earthquakes have occurred at Lisbon (1755), at Charleston, S C (1886), in California (1906), near Valparaiso (1908), at Messina (1908), in Kansu prov , China (1920), in Japan (1923), and at Ambato, Ecuador (1949) The Lisbon and Valparaiso earthquakes were accompanied by tsunamis See N H Heck, *Earthquakes* (1936), J. J Lynch, *Our Trembling Earth* (1940), L. D Leet, *Causes of Catastrophe* (1948)

earths. see ALKALINE EARTHS and RARE EARTHS

earthworm, segmented worm of the phylum Annelida or Annulata found in most parts of the world except in deserts and extremely cold regions In temperate climates earthworms are usually not more than 10 in long, but forms 4 to 6 ft long and about 1 in in diameter are known in Africa, Australia, and South America *Lumbricus terrestris*, common in Europe and America, is the species usually studied in laboratories It has no head and no organs of sight or hearing, but is sensitive to light and to vibrations It usually emerges from the ground only at night or on dark days In winter and during drought it remains deep in the ground It moves by the action of circular and longitudinal muscles, aided by rows of bristles called setae which line the sides of the body. Leaves and other organic material form its diet A muscular gizzard grinds the food The plasma of the blood contains hemoglobin and the corpuscles are colorless Worms are hermaphrodites but do not fertilize their own eggs Two individuals exchange sperm cells and the eggs and sperms are encased in a cocoon secreted by the clitellum, a band of tissue near the anterior end of the body Fertilization occurs in the cocoon, which is placed in the ground The young emerge as small but fully formed worms Earthworms are of inestimable value to agriculture Burrowing through the ground they aerate the soil and make it easier for roots to grow Nutriment from the soil is absorbed in the intestine, and the residue is deposited as castings outside the burrow This builds up a finely divided layer of surface soil See C R Darwin, *Darwin on Humus and the Earthworm* (reprint, 1945)

earwig, popular name of a small or medium-sized chiefly nocturnal insect of the order Dermaptera, usually black or brown Some tropical species are brightly colored Pincerlike organs, probably used mainly for defense and for capturing and killing prey, are attached to the end of the abdomen They are larger in the male than in the female Some species are wingless The eggs and young are cared for by the female The metamorphosis is gradual In the tropics earwigs are often carnivorous and cannibalistic, while in cooler climates they frequently are garden and household pests Among the numerous widely distributed species are the European, the black, and the maritime or seaside earwigs Superstitions regarding the earwig include the belief that it crawls into human ears and penetrates the brain

easement (ēz'mŭnt), in law, right to the limited use of another's land Easements are divided into easements in gross and servitudes An easement in gross is a right of way across another's land pursuant to a private LICENSE It cannot be disposed of without the consent of the landowner. A servitude, also called an easement appurtenant, is a privilege enjoyed by one parcel of land (the dominant estate) as against another (the servient estate) Servitudes are part of the estate and go with it on sale or lease. They may be created by deed (i e , a sale of the servitude), by prescription, or by implication. A servitude by prescription is one arising from a use of land without protest from the owner for a period of years set by statute or common law. A servitude by implication is one created by a necessary use of the neighbor's land. Examples are the right of drainage over land extending to a river or a sewer and the right, generally recognized only in England and not in the United States, to daylight unobstructed by new buildings

Easley, cotton-milling city (pop 5,183), NW S.C., W of Greenville, in a farm area, founded 1874

East, Sir Alfred, 1849–1913, English landscape painter and etcher, studied in Paris under Bouguereau His landscapes, broadly painted, are low in key and quiet in mood Characteristic are *Returning from Church* (Carnegie Inst , Pittsburgh) and *The Morning Moon* (Art Inst , Chicago) East wrote *The Art of Landscape Painting in Oil Colour* (1906)

East, Edward Murray, 1879–1938, American biologist, b Du Quoin, Ill , grad Univ of Illinois (B S , 1900, Ph D , 1907) He served the agricultural experiment stations of the Univ of Illinois (1900–1905) and of Connecticut (1905–9) and taught at Harvard from 1909 (as professor of experimental plant morphology from 1914 to 1926 and of genetics from 1926) His researches on the genetics and breeding of corn and on tobacco—in part for the Dept of Agriculture—were especially valuable His works include *Mankind at the Crossroads* (1923) and *Heredity and Human Affairs* (1927), he edited *Biology in Human Affairs* (1931)

East Alton, village (pop 4,680), SW Ill , on the Mississippi above St Louis and contiguous to Alton, inc 1894 It has an ammunition plant

East Anglia (ăng'glēu), kingdom of Anglo-Saxon England, comprising the modern counties of Norfolk and Suffolk It was settled in the late 5th cent by Angles Little is known of its early history, but its large size and protection by fens probably made it one of the most powerful kingdoms in the late 6th cent Raedwald of East Anglia (593?–c 627) followed Æthelbert of Kent as overlord of S England and seated Edwin as king of Northumbria This brief ascendancy was eclipsed by the rise of MERCIA, of which East Anglia became an underkingdom for long periods after 650 and c 794 It rebelled from Mercia in 825 to submit to Egbert of Wessex The great Danish invading army was quartered (865–66) in East Anglia and returned (869) to conquer the state completely, destroy its monasteries, and murder its young ruler, St Edmund When King ALFRED of Wessex first decisively defeated the Danes in 878, they retired under Guthrum to an area which included East Anglia, and the treaty of 886 confirmed the region as part of the DANELAW Its Danes gave aid to the viking invaders in 893 and continued to harass Wessex until Edward the Elder finally defeated their army in 917 After this time, East Anglia was an earldom of England

East Angus (ăng'gŭs), town (pop 3,501), SE Que , on the St Francis, and ENE of Sherbrooke Pulp and paper and brickmaking are its chief industries

East Aurora, village (pop 5,253), W N Y , SE of Buffalo, inc 1874 Leather and metal products are made The Roycroft Shops, founded by Elbert HUBBARD in 1895, were sold in 1939

East Avon see AVON **2**, river, England

Eastbourne, county borough (1931 pop 57,435, 1947 estimated pop 54,980), Sussex East, England, S of London, on the coast near Beachy Head and backed by the South Downs It is a popular resort with a 3-mile promenade along the terraced sea front There are traces of Roman occupation The city's growth during the late 19th cent was due largely to the efforts of the 7th duke of Devonshire Devonshire Park contains winter gardens.

East Brady, borough (pop 1,427), W Pa , on the Allegheny river and NNE of Pittsburgh, laid out 1866 It has a rubber-products plant and bituminous coal mines

East Brewton, town (pop 1,340), S Ala , near the Conecuh river and Brewton

East Bridgewater, town (pop 3,832), SE Mass , SE of Brockton, settled 1649, set off from Bridgewater 1823 It produces machinery

East Brookfield, town (pop 1,016), S central Mass , WSW of Worcester, settled 1664, set off from Brookfield 1920

East Broughton (brô'tun), town (pop 1,684), S Que , S of Quebec city, near an area of asbestos mining

East Cape, northeasternmost point of Asia, RSFSR, on Chukchi Peninsula and on Bering Strait Its official Russian name since 1898 has been Cape Deshnev, after the Russian navigator who first reached (1648) the cape, he is commemorated by a monument

Eastchester, town (pop 23,492), SE N Y , in Westchester co , settled 1664 By an act making it a township (1788), Eastchester stretched from the south at Westchester (part of the present Bronx) to the north at Scarsdale and included Mt Vernon When Mt Vernon became a city (1892), Eastchester was divided in two parts, with Mt Vernon between, the southern part was annexed (1895) to New York city Eastchester now includes the villages Bronxville and Tuckahoe On the site of St Paul's Church (c 1761), in present Mt Vernon, the Westchester co. election of 1733 was held, bringing about the arrest of John Peter ZENGER for publishing an account of the election in his weekly newspaper. St Paul's Church is now a national historic site (1943).

East Chicago, city (pop 54,637), NW Ind., on Lake Michigan c 20 mi from Chicago, settled 1888, inc 1889 It is the largest port in the state and has a dense concentration of heavy industry The city manufactures coke, chemicals, steel, gypsum, petroleum, and metal products The lake front of the city, Indiana Harbor, is connected with the Grand Calumet river by a 3-mile-long ship canal

East China Sea or **Eastern Sea**, western arm of the Pacific Ocean It is partly bounded by Japan, the Ryukyu Islands, and China It is connected with the South China Sea by Formosa Strait and opens in the north to the Yellow Sea

East Cleveland, city (pop 39,495), NE Ohio, residential suburb of Cleveland, inc as a village 1895, as a city 1911 Nela Park, seat of General Electric's experimental laboratories, and Forest Hill Park, former Rockefeller estate, are here

East Conemaugh (kŏn'ümô'), coal-mining borough (pop 4,810), SW Pa , on the Conemaugh river and near Johnstown, inc 1891

East Coolgardie Goldfield (kōōlgär'dē), richest gold field in Australia, 632 sq mi., in the arid south central section of Western Australia The chief mining center is the municipality of Kalgoorlie and Boulder, Coolgardie is also important Gold was discovered here in 1892

East Detroit (dĭtroit'), residential city (pop 8,584), SE Mich , a suburb of Detroit; settled 1827, inc 1924 as Halfway village In 1928 it was renamed and incorporated as a city.

East Dubuque (dubūk'), city (pop 1,475), NW Ill , on the Mississippi, connected by bridge with Dubuque, Iowa, inc 1865

East Dundee, village (pop 1,306), NE Ill , on the Fox river and NW of Chicago; inc 1887

Easter [Old Eng., from a spring goddess], chief Christian feast, anniversary of the resurrection of Jesus Christ It falls between March 22 and April 25, inclusive (see CALENDAR) Many dates of the Christian calendar move with Easter There is a preparatory period of penitence, beginning (in the West) with Septuagesima Sunday, 17 days before LENT, and ending in HOLY WEEK With Easter begins the paschal season, liturgically marked with rejoicing; Alleluia is often said, and the paschal CANDLE is set up The five Sundays of this time begin with Low Sunday They are followed by Ascension (Thursday) and, 10 days later, by PENTECOST. The Sunday after Pentecost is Trinity Sunday. Until Advent the days are counted from Pentecost or Trinity A feature of Roman Catholic life is the Easter duty, by which every member is required to receive communion at Easter time (i e , between Ash Wednesday and Trinity Sunday) Failure to do so is commonly regarded as equal to leaving the Church Painting eggs and wearing new clothes are Easter observances, there is no development of festivities comparable with those of Christmas

Easter Island, Span , *Isla de Pascua*, island (c 46 sq mi , pop 563), in the Pacific, c 2,000 mi W of Chile, to which it belongs Of volcanic origin, Easter Island is covered generally with grasslands and is swept by strong trade winds that occasionally bring days of drenching rain The inhabitants speak a Polynesian tongue They raise yams, taro roots, potatoes, bananas, and sugar cane The island has long been known for the indecipherable petroglyphs and remarkable monolithic stone heads, from 30 to 40 ft tall, which have evoked all kinds of legends and theories as to their origin. They are carved from tufa, a soft volcanic stone, and their average weight is from 5 to 8 tons There are conflicting theories as to the origin and the culture of the builders of these monuments One recent theory holds that the statues are no more than 500 or 600 years old and that they were still being carved at the time that the island was discovered—apparently by the British navigator and buccaneer Edward Davis in 1686 or 1687—and was named (1722) by the Dutch navigator Roggeven on Easter, 1722 There is no evidence to support the theory that Easter Island is the remnant of a "lost continent," a belief that is, nevertheless, widely held Their possible connection with the Inca and other South American Indians has been much debated Many scholars believe that the ancestors of the Polynesians, who may have come to the island in the 12th and 13th cent , erected the monuments, despite the fact that the inscriptions are unintelligible See William Churchill, *Easter Island* (1912), J M Brown, *The Riddle of the Pacific* (1925), R J Casey, *Easter Island* (1931), Alfred Métraux, *Ethnology of Easter Island* (1940).

Eastern Church: see ORTHODOX EASTERN CHURCH

Eastern Empire: see *Roman Empire* under ROME and see BYZANTINE EMPIRE

Eastern Question, general term designating the political relations of certain European states with the OTTOMAN EMPIRE in the 18th, 19th, and early 20th cent. The Eastern Question is understood to begin with the rise of Russia as a European power under Peter I, and the problems presented by Russian expansion at the expense of a decaying Turkey It first came into sharp focus during the reign of CATHERINE II with the first two of the RUSSO-TURKISH WARS (1768–74, 1787–92). At this stage Russia, in alliance with Austria, planned the partition of the Ottoman Empire Constantinople was the chief prize coveted by Russia, which lacked an adequate outlet to the sea. These designs aroused alarm in Prussia and, more especially, in Great Britain, which saw its route to India, and perhaps India itself, threatened by Russian ambitions The formation of a diplomatic alliance by Great Britain, Prussia, and the Netherlands, and the Austrian defeats at the hands of the Turks, offset Russian successes, thus the first stage of the struggle, terminating with the Treaty of Jassy (1792), ended without a decisive Russian triumph During the Napoleonic era, when attention shifted elsewhere, Russia after another war with Turkey again secured favorable terms in the Treaty of Bucharest (1812) and pushed its conquest against Persia and in the Caucasus, which were confirmed in the treaties of GULISTAN (1813) and TURKMANCHAI (1828) These developments and the outbreak of national aspirations among the oppressed peoples of the Balkans again made the Eastern Question a major European problem The Holy Alliance was committed to defending the territorial integrity of Turkey, but the rival imperialistic interests of the Great Powers, each of which hoped to profit from Ottoman disintegration, soon caused the abandonment of this principle In the Greek War of Independence (1821–30), both England and Russia assisted the Greek insurgents, each trying to impose its influence on the newly formed state The Russo-Turkish War of 1828–29, connected with the Greek war, ended successfully for Russia (see ADRIANOPLE, TREATY OF), but the subsequent Russian assistance to Turkey against MOHAMMED ALI of Egypt, followed by a Russo-Turkish alliance (1833) greatly disquieted England and France Still, the five Great Powers (England, France, Russia, Austria, and Prussia) acted in concert in the final settlement of the Egyptian question In 1854, however, Anglo-Russian rivalry caused the Eastern Question to explode once again in the CRIMEAN WAR The treaty which ended it (see PARIS, CONGRESS OF) sought to stabilize the situation by accepting Turkey into the concert of European nations, satisfying to some extent the national aspirations of the Rumanians, affording protection to the sultan's Christian subjects, establishing a statute for the DARDANELLES and the Black Sea, and guaranteeing the integrity of Turkey But Turkey had become the "sick man" of Europe and its disintegration could not be arrested Events in BOSNIA AND HERCEGOVINA once more led to a Russo-Turkish War (1877–78), the Treaty of SAN STEFANO was so favorable to Russia that Disraeli became thoroughly alarmed, and war between England and Russia was but narrowly averted The congress (see BERLIN, CONGRESS OF) which revised the Treaty of San Stefano marked a return of British influence Nevertheless, several developments soon were to shift the system of alliances Austria, allied with Russia in the late 18th cent , had long come to fear Russian influence in the Balkans, reoriented to the east after its defeat by Prussia in 1866, it had joined in an alliance with Germany (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) Germany, which had assumed the role of "honest broker" at the Congress of Berlin, became increasingly interested in extending its influence over the Ottoman Empire The German-Austrian *Drang nach Osten* policy became manifest in the reorganization of the Turkish army by German officers, the BAGHDAD RAILWAY affair, the crisis over MOROCCO, and Austrian annexation of Bosnia and Hercegovina Russian PAN-SLAVISM in the Balkans and the almost total disappearance of European Turkey in the BALKAN WARS left Turkey no choice but to seek German and Austrian support and to join the Central Powers after the outbreak of the First World War Even after the liquidation of the Ottoman Empire, many problems inherent in the Eastern Question remained open, but the Eastern Question as such ceased to exist See Sir J A Marriot, *The Eastern Question* (3d rev ed , 1924)

Eastern Rumelia: see RUMELIA

Eastern Sea, see EAST CHINA SEA

Eastern Turkistan, see SINKIANG

East Flanders, province (1,147 sq mi , pop 1,212,103), NW Belgium, bordering on the Netherlands in the north GHENT is the capital. The province is drained by the Scheldt (Escaut), Dender, and Lys and has a very fertile soil Textile manufacturing is the chief industry The population is mostly Flemish-speaking For the history of East Flanders, see FLANDERS

East Flat Rock, town (pop 1,103), W N C , in the Blue Ridge SSE of Asheville, inc 1926 It is the railroad center for a resort area.

East Friesland (frēs'lŭnd), region and former duchy, extreme NW Germany It includes the East Frisian Islands in the North Sea and is separated in the west from the Netherlands by the Dollart, inlet of the North Sea formed by the Ems estuary EMDEN is the chief city and port. The extensive moors and marshlands of the region have been partly reclaimed. East Friesland became a county of the Holy Roman Empire in 1464, was raised to a duchy in 1654, passed to Prussia in 1744, and—after various transfers in the Napoleonic era—was attached to Hanover in 1815.

East Galloway, county, Scotland see KIRKCUDBRIGHTSHIRE.

East Gary, town (pop. 3,401), Lake co., NW Ind., near Lake Michigan.

East Granby, town (pop 1,225), N Conn., set off from Granby 1858.

East Grand Forks, city (pop 3,511), NW Minn., on the Red River opposite Grand Forks, N Dak , in a farm area, settled 1870. There is a beet-sugar refinery

East Grand Rapids, city (pop. 4,899), SW Mich , near Grand Rapids, settled 1835, inc. as a village 1891, as a city 1926

East Greenville, borough (pop 1,776), S Pa , NNW of Philadelphia; settled 1850, inc 1875

East Greenwich (grē'nĭch, grĭ'nĭch), town (pop 3,842), co seat of Kent co , central R I , SW of Providence; inc 1677 Its textile industry dates from 1790 East Greenwich Academy was founded in 1802 The Northeastern Naval Air Station is near here, at QUONSET POINT

East Haddam, textile town (pop 2,217), S Conn , on the Connecticut, settled c 1670, set off from Haddam 1734

East Ham, county borough (1931 pop 142,394; 1947 estimated pop 120,160), Essex, England, eastern suburb of London It has extensive shipyards, docks, chemical factories, and ironworks. Manor Park lies to the north, and Woolwich to the south

Eastham (ēs'tăm", ēs'tŭm), resort town (pop 582), SE Mass , on Cape Cod between Orleans and Wellfleet, settled 1644 from Plymouth, inc 1651 Shipping and fishing flourished here Nauset Light and U S coast guard station are in the town An 18th-century windmill was restored in 1936

East Hampton 1 Town (pop 2,955), central Conn , E of the Connecticut and below Hartford, settled c 1710, inc 1767 Machine parts are made here 2 Resort and residential village (pop 1,756), on E Long Island, SE N Y , near Southampton, settled 1648, inc 1920 The home of John Howard Payne and other historic buildings remain Much of the hurricane damage of Sept , 1938, was repaired

Easthampton, industrial town (pop 10,316), W Mass , S of Northhampton, settled 1664, inc 1809 Williston Academy for boys (1841) is here

East Hartford, town (pop 18,615), central Conn , across the Connecticut from Hartford, settled c 1640, inc 1783 It has an airplane industry

East Haven, town (pop 9,094), S Conn , inc 1785 It produces engine parts

East Helena (hē'lĭnə), town (pop 1,143), W central Mont , near Helena, inc 1927 Zinc and lead are processed here

East India Company, British, 1600–1858, chartered by Parliament for the monopoly of trade with the Eastern Hemisphere The company, after losing to the Dutch in the contest for the trade of Indonesia and the Pacific islands, virtually limited itself to Indian trade, concentrating on exporting textiles Other trading concerns violated its monopoly, which was abrogated in 1698 but restored after it amalgamated (1708) with its leading competitor The victories (1745–61) of Robert Clive over the French rivals for the Indian trade made the British company's position impregnable When its prosperity was threatened by the disorders attending the breakup of the Mogul empire, the company intervened in Indian politics and acquired territory for military establishments The power of the company was enormous Parliament, fearing a private empire, placed (1773) it under cabinet control and appointed Warren Hastings the first governor general of the Indian possessions The company continued to have enormous political and economic power, even in England itself the operations were widespread Parliament in 1813 abolished the monopoly and in 1833 limited the company's activities to administration The Sepoy Rebellion (1857) merely hastened the crown's direct assumption of Indian rule Records and documents concerning the company have been published in great profusion, and there are many monographs as well as general and popular works on its history Some of these are Beckles Willson, *Ledger and Sword* (1903); W R Scott, *Joint-Stock Companies* (3 vols., 1910–12), William Foster, *John Company* (1926), M K E Wilbur, *The East India Company and the British Empire in the Far East* (1945); C L Reid, *Commerce and Conquest* (1948)

East India Company, Dutch, 1602–1798, chartered by the States-General to aid the war of liberation against Spain and Portugal and to expand trade From its headquarters at Batavia (founded 1619) the company drove the British and Portuguese from Indonesia, Malaya, and Ceylon and arrogated to itself the fabulous trade of the Spice Islands A colony, established (1652) in South Africa at the Cape of Good Hope, remained Dutch until conquered by Great Britain in 1814. The company was dissolved when it became scandalously corrupt and nearly insolvent in the late 18th cent , and its possessions became part of the Dutch colonial empire in the Far East. See Albert Hyma, *The Dutch in the Far East* (1942).

East India Company, French, 1664–1769, chartered by the French government to compete with Great Britain for the trade of India. It was combined (1719) under John Law with the other French trading companies to make the Compagnie des Indes (see Mississippi Scheme), but with the collapse of the scheme it resumed independence in 1720. Robert Clive, the British commander, brought about the company's downfall by defeating (1745–61) its attempt under Dupleix and La Bourdonnais to carve out an Indian empire by military conquest. See V. M Thompson, *Dupleix and His Letters* (1933)

East Indies, name used primarily for India and, vaguely, the adjacent regions, but also extended to include SE Asia and Indonesia

East Jordan, resort city (pop 1,725), N Mich , NE of Traverse City and on the Jordan, in a farm area; inc as a village 1887, as a city 1911 Canned goods and dairy products are made

Eastlake, Sir Charles Lock, 1793–1865, English painter and art critic He lived 14 years in Rome and painted Italian landscapes, often with figures In 1855 he was made director of the National Gallery, which owes much to his judgment He translated *Theory of Colors* from Goethe's work and wrote several learned books on painting.

Eastland, city (1940 pop 3,849, 1947 estimated pop 5,000), co seat of Eastland co , N central Texas, on the South Leon river and WSW of Fort Worth, laid out 1875, inc 1897 It is the center of a farming (peanuts, vetch seed, truck), dairying, and oil-producing region and has small factories Much publicity was given in the late 1920s to a horned frog said to have remained alive 31 years in the cornerstone of the old courthouse

East Lansdowne, borough (pop 3,323), SE Pa , near Philadelphia, settled by Friends

East Lansing, residential city (pop 5,839), S Mich , on the Cedar adjoining Lansing, settled c 1850, inc 1907 It is the seat of Michigan State College of Agriculture and Applied Science

East Liverpool, industrial city (pop 23,555), NE Ohio, on the Ohio river and N of Steubenville, settled 1798 and named St Clair, called Fawcett's Town until 1830, inc as a village 1834, as a city 1882 Its extensive clay deposits are used in its chief industry, pottery, begun c 1839 Other manufactures include bricks, barrels, cartons, and paper products A museum houses a historical pottery collection

East London, city (pop 76,016), SE Cape Prov , Union of South Africa, a port on the Indian Ocean, founded in the mid-19th cent It exports the products of its largely agricultural hinterland, including citrus fruit, dairy products, meat, hides, and wool There are foundries and railroad workshops

East Longmeadow, agricultural town (pop 3,403), SW Mass , SE of Springfield, settled c 1740, set off from Longmeadow 1894 Aircraft parts were made here in the Second World War

East Lothian (lō'dhēun), formerly **Haddingtonshire** or **Haddington,** county (267 sq mi , 1931 pop 47,338, 1948 estimated pop 50,789), SE Scotland The county seat is Haddington In the south are the Lammermuir Hills, which slope gently down to the Firth of Forth on the north The Tyne is the chief river The rich lowlands are extensively cultivated, and the highlands are devoted to sheep grazing The people engage in fishing, coal mining, brickmaking and distilling The county was part of the Anglo-Saxon kingdom of Northumbria until the 11th cent , when it was joined to Scotland It continued thereafter to suffer in the border warfare between England and Scotland

East Lumberton, town (pop 1,039), S N C , SSW of Fayetteville, in a farm area

East Lyme (līm), town (pop 3,338), SE Conn., W of Niantic Bay and river, settled c 1660, inc 1839 Surgical dressings are manufactured Its many colonial houses include the Thomas Lee House (1664), near it is the Little Red Schoolhouse (1734?) A state farm for women is here

East Machias (muchī'us), town (pop 1,183), SE Maine, on both sides of the East Machias river, inc 1826 Canning (especially of blueberries) is done

East McKeesport, residential borough (pop 3,026), SW Pa , near the Monongahela SE of Pittsburgh; inc 1895

Eastmain (ēst'mān), river rising in central Quebec in the Otish Mts and flowing 375 mi W to James Bay Three miles from its mouth is one of the oldest Hudson's Bay Company posts, founded in 1685

Eastman, George, 1854–1932, American inventor, industrialist, and philanthropist, b. Waterville, N Y By mass production of his photographic inventions, he enormously stimulated the development of photography as a popular hobby. He invented a dry-plate process and established (1880) a factory at Rochester, N Y , for making the plates; he devised a roll film and the Kodak camera (1888) to use it, as well as a process for color photography (1928) The Eastman Kodak Company, founded in 1892, was one of the first firms in America to establish a plant for large-scale production of a standardized product and to maintain a fine chemical laboratory; its progressive welfare program included a profit-sharing plan. Eastman's philanthropies were estimated at over $100,000,000: the principal recipients were the Univ. of Rochester and the Eastman School of Music, Massachusetts Institute of Technology, Tuskegee and Hampton institutes, Rochester Dental Dispensary, and dental clinics in several European capitals. In 1932 after a long illness Eastman committed suicide.

Eastman, Joseph Bartlett, 1882–1944, U.S. government administrator, b. Katonah, N.Y., grad. Amherst, 1904 Early interested in transportation, he was secretary (1906–13) of the Public Franchise League in Boston, adviser of street-railroad employees (1913–14), and a member (1915–19) of the Massachusetts public-service commission before President Wilson appointed (1919) him to the Interstate Commerce Commission As Federal coordinator of railroads (1933–36), director of the Office of Defense Transportation (1941–44), and a member of the War Production Board, he showed great ability at mobilizing all sorts of transportation for the good of the nation He was at first widely known as a radical, but later his opinions were more conservative

Eastman, Max, 1883–, American author, b. Canandaigua, N Y , grad Williams, 1905 He also studied and taught at Columbia Univ His first book, *Enjoyment of Poetry* (1913), is widely considered as one of the most important of modern studies of the psychology of poetry reading He edited the leftwing Socialist magazine the *Masses* from 1914 until it was suppressed (1917) in the First World War He later edited the *Liberator* His *Enjoyment of Laughter* (1936) is an outstanding study of the psychology of humor He also has written works on Marxism and modern Russian history His autobiography is called *Enjoyment of Living* (1948)

Eastman, city (pop 3,311), co seat of Dodge co , central Ga , SSE of Macon, in a cotton and pecan area; founded after the railroad's coming (1871)

Eastman School of Music see Rochester, University of, and Hanson, Howard

East Mauch Chunk (mô"chŭngk'), borough (pop 3,392), E central Pa , on the Lehigh river and near Mauch Chunk, inc 1853

East Millinocket (mĭl"lĭnŏ'kĭt), town (pop 1,663), central Maine, on the Penobscot and SE of Millinocket, inc 1907 The same year a dam and paper mill were built here

East Moline (mōlēn'), city (pop 12,359), NW Ill , on the Mississippi; inc 1907 It is an industrial suburb of Moline East Moline State Hospital is here, and near by is Campbell's Island State Park

East Montpelier (mŏntpēl'yŭr), town (pop 1,025), central Vt Settled c 1788, it was set off from Montpelier in 1848

East Newark, borough (pop 2,273), NE N J., across the Passaic from Newark, inc 1895

Easton. 1 Rural town (pop 1,262), SW Conn , NW of Bridgeport, settled c 1757 **2** Rural town (pop 1,605), NE Maine, E of Presque Isle, inc 1864 **3** Town (pop 4,528), co seat of Talbot co , Eastern Shore, Md , across Chesapeake Bay SE of Annapolis, settled 1710, inc 1906 It is the trade center of an agricultural area and has canneries and lumber mills A Friends' meetinghouse here dates from c 1683 **4** Industrial town (pop 5,135), SE Mass , S of Boston, settled 1694, inc 1725 **5** Industrial city (pop 33,589), co seat of Northampton co , E Pa , on the Delaware near the mouths of the Lehigh and Bushkill rivers and c 55 mi N of Philadelphia, laid out 1752, inc as a borough 1789, as a city 1886 A ferry was established here in 1739 In canal days a coal-receiving port in the Pennsylvania Dutch region, it now manufactures textiles, chemicals, electrical devices, and quarry cars Lafayette College (Presbyterian, for men, 1826) is here Easton was the seat of Indian conferences in 1756 and 1761 Union Church, built in 1775 and now Reformed, is here

East Orange, city (pop 68,945), NE N J., adjoining Newark, primarily a residential suburb of New York and Newark, settled 1678, separated from Orange 1863, inc 1899 A civic center including a city hall and post office was completed in 1929 Upsala College (Lutheran, coeducational, 1893) and Panzer College of Physical Education and Hygiene are here

East Palestine, city (pop 5,123), NE Ohio, at the Pa line S of Youngstown, in a fine orchard area, founded 1828, inc 1875 The region yields clay, shale, oil, and coal, which are used in the city's pottery plants Other manufactures include fireproofing material, porcelain insulators, and steel tanks.

East Paterson, borough (pop. 4,937), NE N J , industrial suburb of Paterson; inc 1916

East Peoria, city (pop 6,806), N central Ill , on the Illinois river opposite Peoria; inc 1919

East Pittsburgh, industrial borough (pop 6,079), SW Pa , on the Monongahela and near Pittsburgh; inc 1895. Electrical equipment is manufactured here In 1755 Braddock's army was defeated on this site by the French and Indians

East Point, industrial city (pop 12,403), NW Ga., a suburb of Atlanta, inc 1887 Chemicals, automobile batteries, and fertiliser are made here.

Eastport, city (pop 3,346), SE Maine, a resort on Moose Island in SE Passamaquoddy Bay, settled c.1780, inc. as a town 1798, as a city 1893 Fishing and fish processing are the chief industries, the country's first sardine cannery was built here c.1875. The city is a port of entry Fort Sullivan was erected at Eastport after the Embargo Act of 1807, but the village fell to the British in July, 1814. The tidal variation at Eastport averages 18 ft , the Passamaquoddy Bay project was initiated (1935) to convert this tidal power into hydroelectric power for industry

East Prairie, city (pop 2,469), SE Mo , near the Mississippi SW of Cairo, Ill. It has cotton gins and flour and lumber mills.

East Providence, town (pop 32,165), E R I , near the Seekonk river, in a farm and dairy area Originally part of Massachusetts, it was incorporated as a Rhode Island town in 1862 It includes Rumford village Food and petroleum are processed

East Prussia, former province (14,283 sq. mi., 1939 pop. 2,333,301), former Prussia On the map of 1938 it was separated from the rest of Germany by the Polish Corridor and the Free City of Danzig in the west, it bordered Poland and Lithuania in the south and east and stretched to Memel and the Baltic Sea in the north and northeast. At the Potsdam Conference (1945), East Prussia was broken up by two transfers, which are, however, subject to ratification in a final peace treaty with Germany The northern part (c 6,100 sq mi) with the capital, Königsberg, was assigned to the USSR, which incorporated it with the RSFSR as the Kaliningrad oblast The rest, including Allenstein, Elbing, and Marienburg, was placed under Polish administration Heavily wooded and dotted by many lakes (especially in Masuria), East Prussia is largely agricultural, producing rye, oats, potatoes, and livestock In the 13th cent the Teutonic Knights conquered the region from the Old Prussians (a people related to the Liths), displaced the original population, and secured the territory as a fief for their order In 1466 they ceded Pomerelia (later known as West Prussia) and Ermeland to Poland and accepted Polish suzerainty over the rest of their domain In 1525 Albert of Brandenburg, after secularizing the Teutonic order, took the title duke of Prussia, still under Polish suzerainty The duchy was inherited (1618) by the elector of Brandenburg Frederick William the Great Elector won full sovereignty over the duchy at the Peace of Oliva (1660), and in 1701 his son had himself crowned king of Prussia as Frederick I at Königsberg East Prussia, as the original Prussia came to be called, from that state has fully shared the history of Prussia It remained the stronghold of the Prussian land-owning and military aristocracy—the *Junkers*—whose immense estates took up a large part of the province

East Rainelle, trading town (pop. 1,515), S W Va , NE of Beckley, in a mine and timber region, inc 1921 A state park is near by.

East Ridge, town (pop 2,939), E Tenn , near Chattanooga, inc 1921

East Riding: see Yorkshire, England

East River, c 16 mi long and 600 to 4,000 ft wide, navigable tidal strait, SE N Y , connecting Upper New York Bay and Long Island Sound Within the confines of New York city, the East River separates the boroughs of Manhattan and the Bronx from Brooklyn and Queens boroughs on Long Island It is connected with the Hudson by the Harlem River at the north end of Manhattan island Welfare, Wards, Randalls, and Rikers islands (with city institutions and amusement areas) lie in the East River, which is crossed by the Brooklyn, Manhattan, Williamsburg, Queensboro, Triborough, Hell Gate, and Bronx-Whitestone bridges Subway, railroad, and vehicular tunnels pass under it Both sides of the river are lined with piers, and on the Brooklyn side is the New York Naval Shipyard

East Rochester, village (pop 6,691), W N Y , SE of Rochester; inc 1906 Panos are made here

East Rockaway, resort and residential village (pop. 5,610), on SW Long Island, SE N Y , near Lynbrook, inc 1900 Sashes and screens are made.

East Rutherford, industrial borough (pop 7,268), NE N J , NE of Newark, inc 1894. Asbestos products are made here

East Saint Louis (lōō'ĭs), city (pop 75,609), SW Ill , on the Mississippi (here checked by large levees) opposite St Louis, with which it is connected by several bridges It was platted as Illinoistown in 1816, incorporated as a town in 1859, and reincorporated in 1865, having absorbed and taken the name of the adjacent town of East St Louis (platted 1859) An important rail and industrial center and livestock market, it has large railroad yards and repair shops, warehouses, and stockyards Its numerous factories include meat-packing plants, ironworks and steelworks, glass factories, flour and feed mills, and oil refineries. Coal mines and rock quarries are near by. The city was the scene of violent race riots in 1917 in which many Negroes were killed Parks College of Aeronautical Technology of St Louis Univ. is here Northeast are the Cahokia Mounds

East Spencer, town (pop 2,181), central N C , on the Yadkin river and S of Winston-Salem, in a cotton and tobacco region

East Stroudsburg, borough (pop 6,404), E Pa , N of Easton, inc 1870 It is a resort center which manufactures textiles and metal products There is a state teachers college here

East Syracuse, village (pop 4,520), central N.Y., NE of Syracuse, inc 1881

East Tawas (tô'wŭs), city (pop 1,670), N Mich , on Tawas Bay, an inlet of Saginaw Bay, settled 1864, inc as a village 1887, as a city 1895 It is a railroad, fishing, and resort center A U S forest nursery and a state park are near by

East Thomaston, village (pop 3,590), W central Ga , W of Macon and near the Flint river, in a peach-growing area

East Tupelo (tōō'plō, tū'–), town (pop. 1,108), NE Miss , near Tupelo, inc 1934

East Turkistan · see SINKIANG

East Vandergrift, borough (pop 2,005), SW Pa., on the Kiskiminetas and NE of Pittsburgh; inc 1901

Eastview, town (pop 7,966), SE Ont , on the Rideau and Ottawa rivers It is an industrial suburb of Ottawa

East Washington, borough (pop. 2,106), SW Pa , near Washington, inc 1892.

East Williston, village (pop 1,152), on W Long Island, SE N.Y , inc 1926

East Windsor (wĭn'zur), part (since 1935) of Windsor, S Ont , opposite Detroit, Mich Until 1929 East Windsor was called Ford City

East Windsor, town (pop 3,967), N Conn , on the Connecticut river above Hartford, set off from Windsor 1768

Eastwood, urban district (1931 pop 5,360, 1943 estimated pop. 8,990), Nottinghamshire, England, NW of Nottingham, in a mining region It is the birthplace of D H Lawrence

Eaton, Amos (ē'tun), 1776–1842, American naturalist, b Chatham, N Y , grad Williams College, 1799 After practicing law for a time, he continued his scientific studies at Yale He conducted pioneer geological surveys in Albany and Rensselaer counties, N Y (1820–21), and along the Erie Canal (1822–23), his report on the canal was published in 1824 He then became professor at the scientific school opened by Stephen Van Rensselaer (1825) in Troy, N Y (now Rensselaer Polytechnic Institute) Besides a number of textbooks, he wrote the *Manual of Botany* (1817, expanded into *North American Botany*, 1840) and *Index to the Geology of the Northern States* (1818) See biography by E M McAllister (1941).

Eaton, Daniel Cady, 1834–95, American botanist, b near Port Huron, Mich An authority on ferns, he was the author of *The Ferns of North America* (2 vols , 1879–80) and was a contributor of material on ferns to various publications He was professor of botany at Yale from 1864

Eaton, Dorman Bridgman, 1823–99, American reformer, b Hardwick, Vt , grad Harvard Law School, 1850 He was a law partner of William Kent in New York city His major interests were reform in municipal administration and abolition of the spoils system in national politics He drafted the Metropolitan Health Law, passed in 1866, which gave New York city its present health department, and drafted bills organizing the New York city fire and dock departments and reorganizing the police department In 1873 he became chairman of the National Civil Service Commission and with George W Curtis and Carl Schurz led in gaining support for civil service reform He drafted the Pendleton Act of 1883, which has remained the basis of the civil service system His *Government of Municipalities* appeared in 1899

Eaton, John, 1829–1906, American educator, b Sutton, N.H., grad Dartmouth, 1854 After serving as teacher and principal of schools in Cleveland, Ohio, and as superintendent of schools at Toledo, he returned to Andover Theological Seminary in 1859. He later became a chaplain in the Union army and was brevetted brigadier general for his work in caring for the Negroes who entered the Union lines. After the war, as editor of the Memphis *Post* and as superintendent of schools in Tennessee (1867–69), he was a strong advocate of free public schools Appointed U S commissioner of education in 1870, he won public and congressional support for the Bureau of Education, which he directed until 1886 He afterwards served as president of Marietta College (1886–91) and from 1899 as inspector of education for Puerto Rico

Eaton, John Henry, 1790–1856, U S Senator (1818–29) and Secretary of War (1829–31), b Halifax co , N C After attendance (1803–4) at the Univ of North Carolina, he studied law, was admitted to the bar, and practiced in Franklin, Tenn He married Myra Lewis, a ward of Andrew Jackson Eaton remained close to Jackson and completed (1817) the biography of Jackson begun by John Reid He was appointed (1818) to the Senate to fill a vacancy and defended Jackson's earlier activities in Florida Twice (1821, 1826) elected to the Senate, Eaton resigned in 1829 He was one of Jackson's most energetic supporters in the presidential campaign of 1828, and he was appointed (1829) Secretary of War. The refusal of Washington society to accept Eaton's second wife (see Margaret O'NEILL) helped to disrupt Jackson's cabinet and led to Eaton's resignation He was governor (1834–36) of Florida, then was minister (1836–40) to Spain His refusal to support Van Buren ended his political career.

Eaton, Theophilus, 1591–1657, Puritan leader in Connecticut, one of the founders of New Haven, b Northamptonshire, England A member of the London congregation of John DAVENPORT, he was interested in the Massachusetts Bay Company and other Puritan colonial ventures In 1637 he came with Davenport and others to Boston, and later that year he led an exploring party which chose the site of a new colony A small band was left to winter there, and the next spring settlers came, and New Haven was born Eaton was the governor and a leading figure of the New Haven colony until his death and was supposedly the chief drafter of the law code of 1656 He was much interested in trade and promoted the unsuccessful attempts of New Haven to found a trading colony on the Delaware river

Eaton, Walter Prichard, 1878–, American author and critic, b Malden, Mass , grad Harvard, 1900 Between 1902 and 1918 he was dramatic critic for the New York *Tribune*, the New York *Sun*, and the *American Magazine* An authority on the theater, he has written *The American Stage of Today* (1908), *Plays and Players* (1916), *The Actor's Heritage* (1924), and *The Drama in English* (1930) With David Carb he collaborated in the historical play *Queen Victoria* (1923) *The Idyl of Twin Fires* (1915) is about the New England countryside He has been associated with the Yale Drama School since 1933

Eaton, William, 1764–1811, U S army officer, celebrated for his exploit in the Tripolitan War, b Woodstock, Conn , grad Dartmouth, 1790 He served in the American Revolution and in the Indian wars in Ohio Captain Eaton was sent to Tunis as consul in 1798 and learned much of the BARBARY STATES When he returned to the United States in 1804, he had a scheme to win the war against Tripoli by supporting the claimant to the rule of Tripoli, Hamet Karamanli Somewhat reluctantly Congress appointed him "navy agent to the Barbary States" and gave him a chance to try In Egypt, Eaton persuaded the claimant to undertake the venture and gathered a mixed army of 400 men, Greeks, Italians, Arabs, and sundry With this small band he set off on the long march overland to take Tripoli from the rear, took the seaport of Derna, and might have taken Tripoli if the TRIPOLITAN WAR had not ended with a truce (1805) before he arrived He later attained the dignity of a generalship See biography by F R Rodd (1932), L B Wright and J H Macleod, *The First Americans in North Africa* (1945)

Eaton, Wyatt, 1849–96, American figure and portrait painter, b Philipsburg, Que He studied at the National Academy of Design, New York, and under J L Gérôme at the École des Beaux-Arts, Paris After his return to America he became a founder and later president of the Society of American Artists He is best known for his portraits Among his works are the portraits of Mrs R W Gilder, of Bishop Henry C Potter, and of President Garfield (Union League Club, New York), the series of American poets painted for *Century* and engraved by Timothy Cole, the portrait of Cole himself as *The Man with the Violin*, and the figure pieces, *Harvesters at Rest* (Smith College, Northampton, Mass), *Reverie* (Montreal Gall), and *Ariadne* (private collection)

Eaton. 1 Town (pop 1,322), N Colo , N of Greeley; founded 1881, inc 1892 It is a processing center in a farm area **2** Town (pop 1,453), E Ind , N of Muncie It has paper mills **3** Village (pop 3,552), co seat of Preble co , SW Ohio, W of Dayton, founded 1806 It was named for William Eaton

Eaton Rapids, city (pop 3,060), S Mich , on the Grand and SW of Lansing, in a sheep-raising area, settled 1837, inc as a village 1871, as a city 1881. There are woolen mills here The Michigan Holiness Association Camp and the national home for children of the Veterans of Foreign Wars are near

Eatonton, city (pop 2,399), co seat of Putnam co , N central Ga , SE of Atlanta, in a farm area, inc 1808 There is a monument to Joel Chandler Harris, who was born here

Eatontown, borough (pop 1,758), E N J , S of Red Bank, settled 1670, inc 1926

Eau Claire (ô'' klâr') **1** Town (pop 3,508), central S C , a suburb of Columbia, inc 1897 Columbia College (Methodist, for women, 1854) and a Lutheran seminary are here **2** City (pop 30,745), co seat of Eau Claire co , W Wis , on the Chippewa at the mouth of the Eau Claire, in a dairy area, inc 1872 A trading post was here in the late 18th cent., and a thriving lumber industry followed Eau Claire is today a farm trade center with varied manufactures, including cookers and rubber tires and tubes A state teachers college and a state fish hatchery are here

eau de Cologne (ô'' dŭ kŭlōn') [Fr , =Cologne water], dilute perfume introduced c 1709 in Cologne, Germany, by Jean Marie Farina It was probably a modification of a popular formula made before 1700 by Paul Feminis, an Italian in Cologne, and was based on bergamot and other citrus oils. The success of Farina's product resulted in numerous imitations.

Ebal (ē'bl) [Heb , =stone]. **1** Seirite Gen 36.23, 1 Chron 1.40. **2** Same as OBAL.

Ebal, Mount, central Palestine Shechem is in the valley between Ebal and Gerizim It is called in Arabic Jebel esh-Shemali On Ebal, according to the Bible, as the Hebrews took possession of the Promised Land, were delivered the curses due for the violations of God's commands Here Joshua built the altar and monument inscribed with the Mosaic law Deut 11.29, 27 4,13, Joshua 8 30–33

Ebbw Vale (ĕb'ōō), urban district (1931 pop 31,080, 1947 estimated pop 29,270), Monmouthshire, England, NW of Newport It is a center of tin-plate manufacture

Ebed (ē'bĕd) [Heb , =slave] **1** Father of GAAL **2** One who returned with Ezra Ezra 8 6.

Ebed-melech (ĕbĕd'-mēlĕk, ē'bĕd-mē'–) [Heb , = king's slave], King Zedekiah's Ethiopian eunuch through whom Jeremiah was freed from prison Jer 38 7–12, 39 17 This name may be a title

Ebenezer (ĕbŭnē'zûr) [Heb , =stone of help] **1** Stone set up (near Shen) by Samuel to commemorate the victory over the Philistines 1 Sam 7 12 **2** Site of the battle where the Philistines captured the ark 1 Sam 4 1, 5 1

Ebensburg (ĕb'unzbûrg), agricultural borough (pop 3,719), co seat of Cambria co , SW Pa , in the Alleghenies W of Altoona, settled c 1800, laid out 1806, inc 1825 A summer resort, it also has farms and coal mines Dickens compared this region with mountain passes in Scotland

Eber (ē'bur), variant of HEBER **1.**

Eberhard (ā'burhart), d 939, duke of Franconia, brother of the German king, Conrad I The first to rebel against the centralizing policy of OTTO I, he was an important member of the successive coalitions against Otto After Eberhard's death at the battle of Andernach, Otto seized his duchy

Eberhard, Johann Augustus (yōhän' ougōōs'tōōs), 1739–1809, German theologian and philosopher An eclectic of the Leibniz-Wolffian school, he wrote *Vrai Apologie des Socrates* (1772), an attack on narrow theology

Eberle, Abastenia St. Leger (ē'burlē), 1878–1942 American sculptor, b Webster City, Iowa, studied at the Art Students League, New York, under Kenyon Cox and George Grey Barnard Her *Victory, Mowgli*, and *Girl on Roller Skates* are in the Metropolitan Museum Other familiar pieces are *Hurdy Gurdy*, *The Windy Doorstep*, *Little Mother*, and *The Stray Cat* She also executed many portraits and fountains

Ebers, Georg Moritz (gā'ôrk mō'rĭts ā'burs), 1837–98, German Egyptologist and novelist He studied law, then turned to the study of the Egyptian language, which he taught at Jena and Leipzig In 1874 he published the Papyrus Ebers (a medical papyrus), which he had discovered at Thebes In addition to his Egyptian studies and miscellaneous works, he wrote many historical novels, of which those about Egypt are the most famous Among them are *Uarda* (1877), *Homo Sum* (1878), and *Cleopatra* (1894), all of which were translated in the years of their original publication

Ebert, Friedrich (frē'drĭkh ā'burt), 1871–1925, first president of the German republic (1919–25) A saddler, he became a trades union leader and a Social Democratic deputy in the Reichstag In 1913 he became party leader By no means a revolutionary, Ebert supported the war effort during the First World War, favored cooperation with MAXIMILIAN, PRINCE OF BADEN, in the crisis of Oct , 1918, and succeeded Maximilian as chancellor when the monarchy collapsed Ebert would have preferred a parliamentary monarchy on the British model to the republic of which he was elected president in Feb , 1919 He suppressed the uprising of the Communist SPARTACUS PARTY and (1920) the reactionary putsch of Wolfgang KAPP During his presidency Germany accepted the Treaty of Versailles and adopted the Weimar constitution

Eberth, Karl Joseph (karl' yō'zĕf ā'burt), 1835–1926, German bacteriologist and anatomist, b Würzburg, where he studied medicine He was professor of pathological anatomy at Zurich and at Halle and made studies of the anatomy of the parasitic worms Eberth also noted the association of a bacillus with typhoid fever in a post-mortem examination of the spleen and intestine The group of bacteria in which this organism belongs is now called *Eberthella*

Ebiasaph (ĕbī'ŭsăf), variant of ABIASAPH.

Ebionites (ē'bēŭnīts) [Aramaic, =poor], Jewish-Christian sect of rural Palestine, of the first centuries after Christ There were two groups, according to Origen The Judaic Ebionites held closely to Mosaic law and regarded Jesus as a miracle-working prophet and St Paul as an apostate Gnostic Ebionites believed Christ to be a Spirit, invisible to men, giving Him the title Prophet of the Truth.

Ebner-Eschenbach, Marie, Baronin von (mārē' bärō'nĭn fŭn ĕb'nûr-ĕsh'ŭnbäkh), 1830–1916, [Austrian novelist and dramatist. She began writing

lyrics and plays with small success, but in middle age attained great fame as a writer of *Novellen*. Among her best-known works in the style of "poetic realism" are the novels *Komtess Muschi* (1885, Eng tr , *The Two Countesses*, 1893) and *Das Gemeindekind* (1887, Eng tr., *The Child of the Parish*, 1893) and the dog story *Krambambuli* (1894, Eng tr., 1913–15).

Eboli, Ana de Mendoza de la Cerda, princess de (ä'nä dā lä mändō'thē dā lä thär'dä ä'thĕrdä), 1540–92, Spanish noblewoman Though she lost an eye when a girl, she was a beautiful as well as an accomplished woman She was a friend (though probably not the mistress) of Philip II, but lost his favor through her love for Antonio PÉREZ She shared her lover's disgrace after the murder of Juan de ESCOBEDO and spent the years after 1579 in prison and enforced retirement She appears in Schiller's *Don Carlos* and is heroine of Kate O'Brien's novel *For One Sweet Grape* (1946), dramatized in 1949 as *That Lady*, with Katharine Cornell

Éboli (ĕ'bōlē), town (pop 12,057), Campania, S Italy It consists of a medieval town on the slopes of a hill dominated by an imposing castle and of a modern section in the plain Near by are ruins of ancient Eburum, which was colonized by the Greeks, flourished under the Romans, and was destroyed by the Visigoths (5th cent)

ebony, handsome, dark heartwood obtained from a number of tropical trees, especially species of *Diospyros*, the persimmon genus Ebony is hard and heavy and takes a high polish, making it suitable for ornaments, tableware, inlay, and piano keys The trees are most common in Asia and Africa and were valued by the ancients, mention of ebony was made by Herodotus, Theophrastus, and Vergil and in the Bible (Ezek 27 15) The timber of several leguminous trees is also called ebony

Eboracum see YORK, England

Ebro (ĕ'brō, ā'brō), river, c 575 mi long, NE Spain, the longest river entirely in Spain Rising in the Cantabrian Mts , it flows SE between the Pyrenees and the Iberian Mts past Saragossa and empties through a wide delta into the Mediterranean below Tortosa In its middle course the waters are canalized for irrigation The Jalón, the Gallego, and the Cinca-Segre are the main tributaries The Ebro system feeds several large hydroelectric power plants During the Spanish civil war a great battle, ultimately lost by the Loyalists, was fought along the Ebro (Aug –Nov , 1938)

Ebronah (ĕbrō'nu), wilderness camping place of the Israelites Num. 33 34,35

Eça de Queiroz, José Maria (zhōōzā' murĕ'u ā'su du kĭrōsh'), 1846?–1900, Portuguese novelist, educated at the Univ of Coimbra He traveled widely and was also in consular service, so that he was well acquainted with Cuba and England as well as his beloved France, where he died He introduced realism to the Portuguese novel, and some of his works seem steeped in French realism, such as *O crime do Padre Amaro* [Father Amaro's Crime] (1876) and his rather doleful family chronicles, *O primo Basilio* [Cousin Basil] (1878) and *Os Maias* (1880) *A reliquia* [the relic] (1887) shows his charm to good advantage, but his fame rests mainly upon two novels, *A ilustre casa de Ramires* [the illustrious Ramires family] (1900) and *A cidade e as serras* [the city and the mountains] (1901) Many critics consider him the ablest of all Portuguese novelists Sparkling descriptions of scenery, profound character analysis, and exotic local color are virtues of his able and witty writing. His essays and letters exhibit his urbanity, grace, and gently skeptical humor

écarté (ā"kärtā'), card game similar to PIQUET, played by two persons. The pack has 32 cards—7 upward to ace in each suit, though the king is the highest card and the ace rates below the jack and above 10 A trick is won by the higher trump or by the higher card of the suit led. The object of play is primarily to win three tricks. For detailed rules, see R. L. Frey, ed., *The New Complete Hoyle* (1947).

Ecbatana (ĕkbă'tùnu, ĕkbŭta'nŭ), capital of ancient MEDIA, later the summer residence of Achaemenid and Parthian kings, beautifully situated at the foot of Mt. Elvend and NE of Behistun It possessed a royal treasury and was plundered in turn by Alexander, Seleucus, and Antiochus III Its once-imposing ruins are wholly covered by the modern city, HAMADAN, where the traditional tomb of Esther is still honored by the small Jewish community Ecbatana was the Achmetha (ăk'muthŭ, ukmē-) of Ezra 6.2 and the Apocrypha

eccentric, in mechanics, a device by means of which the rotary motion of one part of a machine is used to cause another part of the machine to move to and fro in a straight line The cam finds similar use. The eccentric consists of a disk mounted off center on a rotating shaft and having one end of a rod attached to its outer circumference The other end of the rod is usually arranged to slide to and fro in a slot The revolving disk draws the rod back and forth, thus changing the rotary motion to longitudinal The so-called "throw" or eccentricity of the device is defined as the distance from the center of the disk to the center of the shaft (or center of rotation).

Ecclefechan (ĕk"kulfĕ'khun, -fĕ'kŭn) [Celtic, =church of St Fechin], village, Dumfriesshire, Scotland Here Thomas Carlyle was born, and here he lies buried

Eccles, Marriner Stoddard (ĕ'kulz), 1890–, chairman (1936–48) of the board of governors of the Federal Reserve System, b Logan, Utah After study (1905–9) at Brigham Young College in Logan, he devoted himself to investment banking In 1934 he was appointed to the board of governors of the Federal Reserve System and helped draft the Banking Act of 1935, which strengthened Federal Reserve Board control over currency and credit Eccles favored increased government spending and higher income and inheritance taxes

Eccles, municipal borough (1931 pop 44 416, 1947 estimated pop 42,070), Lancashire, England, W of Manchester and on the Manchester Ship Canal. There are cotton and silk textile factories Eccles cakes are famous

Eccleshall (ĕk'ulshul, -shôl), town, Staffordshire, England It has a castle begun in 1315, the residence of the bishops of Lichfield until 1867

Ecclesiastes (ĕklē"zēăs'tēz) [Gr paraphrase of Heb , =of the assembly], book of the Old Testament, 21st in the order of AV In ancient times it was ascribed to Solomon, partly because the author puts his work into the mouth of a great king Its date is unknown, but some set it as late as 200 B C It is a philosophical essay opening with the theme, Since "all is vanity," therefore life should be enjoyed (1–7 1) This is followed by passages in praise of wisdom and mercy, with increasing emphasis on the universality of death (7 2 12 7), there is a brief epilogue on the fear of God's judgment (12 8–14) The apparent cynicism is said to have distressed the ancient rabbis, some critics ascribe to pious correctors a number of the non-pessimistic observations, e g , 5 1–7 Ecclesiastes is one of the biblical examples of wisdom literature (see WISDOM). For bibliography, see OLD TESTAMENT

Ecclesiasticus (ĕklē"zēăs'tĭ-) [Latin from Gr , =ecclesiastical], book of the Old Testament, placed in AV in the Apocrypha and before Isaiah in the Western canon It is called also the Wisdom of Jesus the Son of Sirach A prologue states that the book was composed in Hebrew by one Jesus, son of Sirach, and translated into Greek by his grandson (or, less likely, descendant) He gives the date of the translation, but because of linguistic ambiguity this may be 132–131 B C or 274–273 B C The excellence of wisdom is the theme of Ecclesiasticus After the prologue there is a declaration of the value of wisdom and then a passage on the fear of God (1–2) The bulk of the book is given over to instructive apothegms, but there are splendid passages Such are the praise of wisdom beginning at 14 20 and leading into a protest against determinism (15 11–20), the praise of wisdom put in her own mouth (24), and the praise of God for the works of nature (42–43). This leads into the praise of famous men, men who wrought well for Israel (44–50). After a statement of authorship the book closes (51) with a psalm. No complete Hebrew version is extant, and there is much textual variation The book is a good example of wisdom literature (see WISDOM) For bibliography, see OLD TESTAMENT.

Ecgberht, king of Wessex see EGBERT

Echegaray, José (hōsā' ĕchāgärī'), 1832–1916, Spanish dramatist, mathematician, and political economist His earlier years were devoted mainly to engineering, and his old age to politics From 1874 to 1905 he produced a number of plays which made him the outstanding playwright of the day in Spain and he shared with Mistral the 1904 Nobel Prize in Literature. Among the 64 plays that he wrote, the best known are *O locura o santidad* (1876, Eng. trs., *Folly or Sainthness*, 1895, *Madman or Saint*, 1912), *El hijo de don Juan* (1892, Eng tr , *The Son of Don Juan*, 1895), *Mariana* (1892, Eng. tr , 1895), and the most famous of all, *El gran Galeoto* (1881, Eng trs , *The Great Galeoto*, 1895, *The World and His Wife*, 1908). Echegaray's theater deals with psychological and moral problems, it is romantic in spirit, sensational in form, but adapted to the prevailing realism of his time The main theme is the clashing of two moral issues, honor and duty.

Echeverría, Esteban (ĕstā'vän ā"chāvĕrrē'ä), 1805–51, Argentine romantic poet, prose writer, and revolutionary propagandist. After five years in Europe he introduced romanticism in Argentina through his long poem *Elvira* (1832) Although he excelled as a prose writer, it was through his poetry that he introduced exploitation of the American landscape in Spanish writing and influenced later writers His most successful poem, "La Cautiva," which has the rich local color of the pampas, appeared in *Rimas* (1837) He was the leading spirit in the Asociación de Mayo, a secret society founded to combat the dictator Jean Manuel de Rosas Echeverría spent the last years of his life in exile in Montevideo.

Echidna (ĭkĭd'nu), in Greek mythology, monster who is half maiden, half dragon, wife of TYPHON She was killed by Argus

echinoderm (ĭkī'nudûrm, ĕ'kĭnō-), invertebrate marine animal of the phylum Echinodermata, characterized by a calcareous, often spiny, exoskeleton and tube feet controlled by a water-vascular system The adults show radial symmetry Many forms have five or more arms Included in the group are the STARFISH, SEA URCHIN, sea lily or feather star (see CRINOID), sand dollar, brittle star, and sea cucumber

Echmiadzin (ĕchmēädzēn'), town (1926 pop 8,436), central Armenian SSR, W of Erivan Dating from the 6th cent B C , it was (2d–4th cent A D) the capital of Armenia From the 2d cent A D until 1945 it was called Vagarshapat Above the town is the celebrated monastery of Echmiadzin, seat of the head (catholicus) of the Armenian Church Behind its high wall and amidst shady gardens stands the massive cathedral, begun, according to tradition, in the 4th cent The cathedral is surrounded by the residence of the catholicus, the cloisters, and the library The Armenian historical archives, long kept here, have been transferred to Erivan

Echo, in Greek mythology, mountain nymph who assisted Zeus in a love affair by keeping Hera busy with her chatter Hera, to punish her, made her unable to speak except to repeat the last words of someone else Echo fell in love with NARCISSUS and pined so for love that she dwindled away into nothing but her voice

echo, in physics, a phenomenon caused by the reflection of sound waves Since the human ear cannot distinguish between sounds striking the eardrum at any interval less than one tenth of a second, if an echo and the original sound reach the ear within one tenth of a second of one another they are indistinguishable For a clear echo, therefore, the reflecting surface must be far enough away from the source of the sound so that more than one tenth of a second is required for the sound to travel to it and return Since at 20°C the velocity of sound is c 1,130 ft per second, the reflecting surface must be at least 56 5 ft from the source of the sound if an echo is to be heard when the air is at this temperature In this case, the sound requires one fifth of a second to reach the surface and the same time to return As the distance between a source of sound and a reflecting surface increases, the echo becomes more distinct Its amplitude, however, decreases When a sound wave strikes a reflecting surface such as a cliff or the wall of a room, it is partially absorbed and partially reflected, sound energy being used in setting the reflecting surface in vibration When an echo is reflected again and again from different surfaces, as by the parallel walls of a tunnel, the condition is known as reverberation See ACOUSTICS

Echternach (ĕkh'turnakh), town (pop 2,660), grand duchy of Luxembourg, on the Sûre river An agricultural center, it has mineral springs frequented since Roman times A colorful pilgrimage and procession takes place every year on Whit-Tuesday Echternach, which has an 11th-century church and a 16th-century town hall, was severely damaged in the Second World War

Eck, Johann Maier von (yō'hän mī'ur fŭn ĕk'), 1486–1543, German Roman Catholic apologist He was of humble origin, the von Eck being taken from his birthplace in Swabia He was a brilliant student and became a professor at Freiburg in his youth He was renowned in Germany for his dialectic skill in public disputation and for his deep knowledge of church history and canon law He had been suspected of unsound theology for some of his relations with humanism, but he had no hesitation in condemning (1518) the new theses of Martin LUTHER, with whom he held a public discussion at Leipzig in 1519 Anxious for the condemnation of the heresy he saw in Lutheranism, he went to Rome and brought back the papal bull condemning Luther (1520) From that time he was a leader in the struggle against the reforming party in Germany He was one of the leading theologians at the Diet of Augsburg (1530) He also attacked the Swiss reforms of Zwingli Eck is usually known as the first theologian who forced Luther into the position of being definitely, openly opposed to the teachings and practice of the Roman Catholic Church

Eckener, Hugo (hōō'gō ĕ'kŭnur), 1868–, German airship pilot He was the pilot of the *ZR-3* (later the *Los Angeles*) on its flight from Friedrichshafen, Germany, to the United States in 1924, the first airship flight across the Atlantic

Eckermann, Johann Peter (yōhän' pā'tur ĕ'kŭrman), 1792–1854, German scholar and author He assisted Goethe in various literary labors, was professor of English and German at the Univ of Jena, and later was librarian at Weimar He wrote *Conversations with Goethe* (1836–48, Eng. tr., 1850), which quotes many of the poet's opinions Nietzsche called it the best German book there is "

Eckersberg, Christoffer Vilhelm (krĭstô'fûr vĭl'hĕlm ĕ'kŭrsbĕrkh), 1783–1853, Danish painter. He studied with J. L David in Paris and in Rome became a friend of Thorvaldsen. After his return to Denmark (1816) he taught at the Copenhagen Academy, becoming its director His finest works are landscapes and marines, good in color and in at-

mospheric effect and painted with a genuine appreciation of nature Among his best works are *Moses Dividing the Waters of the Red Sea*, the series of historical paintings in the Christiansborg palace, and a portrait of Thorvaldsen (all Copenhagen)

Eckhart, Meister (mīs'tûr ĕk'härt) [Meister=master, i e , of arts], c 1260–c 1328, German mystical theologian, b Hochheim, near Gotha His original name was Johannes Eckhardt He studied and taught in the chief Dominican schools, notably at Paris, Strasbourg, and Cologne He held a series of offices in his order Eckhart communicated in various ways his burning sense of God's nearness to men. He exhorted the Dominicans, wrote scholarly tracts, addressed the *Book of Divine Comfort* to the queen of Hungary, and preached everywhere to the humble and ignorant, urging them all to seek the divine spark in man His evangelical activities among the undisciplined were suspect, and his election (1309) to be provincial of the German province was not confirmed Toward the end of his life, he was wrongly accused of connection with the BEGHARDS and charged with heresy He was upheld by his order, but the charge was pressed Eckhart appealed to Rome He died between 1327, when his appeal was denied, and 1329, when John XXII issued a bull condemning 17 of Eckhart's propositions as heretical His disciples tried vainly to have this decree set aside From his influence there sprang up a popular mystical movement in 14th-century Germany, which included among its leaders TAULER, SUSO, and various Dominicans These were all intellectual as well as practical preachers and did not show that tendency to set holiness and learning in opposition which characterised the mystics of the popular school of Gerard GROOTE Eckhart was perhaps the first writer of speculative prose in German, and from then on German, not Latin, was to be the language of popular tracts See R B Blakeney, *Meister Eckhart a Modern Translation* (1941)

eclecticism (ĕklĕk'tĭsĭzm) [Gr ,=selection], in philosophy, a general term usually applied to any doctrine which combines, without modification, various distinct systems of thought The eclectic is usually accused of being a thinker who, unable to evolve an independent system, is content to borrow from others Ideally, however, eclecticism is a selective process which preserves the merits of diverse systems, discards the inadequacies, and achieves a synthetic unity An outstanding example of this type of eclecticism is Victor COUSIN, under whose guidance eclecticism became the popular philosophy in France during the 19th cent

Eclectic school, in painting see CARRACCI

eclipse (ĭklĭps', ē-) [Gr ,=failing], in astronomy, the partial or complete obscuring of one heavenly body by another. Eclipses of the SUN and the MOON are those most familiarly known, but eclipses of Jupiter's satellites have been of great importance in astronomy Since the earth and the moon are opaque bodies, lighted by the sun, each of them casts a shadow which extends into space in the direction away from the sun When the moon is in such a position that it is wholly or partly in the earth's shadow, there is a lunar eclipse When, in its orbit, the moon passes directly between the earth and the sun so that its shadow falls upon the earth, there is a solar eclipse, visible from the part of the earth's surface on which the shadow lies The shadows of both earth and moon are cone shaped, the apex in each case being hundreds of thousands of miles out in space The earth's shadow extends to a length several times the average distance of the moon from the earth, so that the moon may be totally eclipsed for a period averaging 1 hr and 42 min , and the entire period of the eclipse may be about 4 hr The length of the moon's shadow is far less than that of the earth's, and the distance between the moon and the earth varies by c 31,000 mi , so that at times the moon's shadow is not long enough to reach the earth But when it is, a total solar eclipse may be observed from a position on the earth on the line of the centers of the moon and the sun If the orbit of the moon lay in the plane of the ecliptic, there would be eclipses every month, but the plane of its orbit is inclined to the plane of the ecliptic at an angle of nearly 5° 9′ and therefore the moon's orbit crosses the ecliptic at two opposite points called the nodes A lunar eclipse can occur only when the moon is at or near one of its nodes at the time of the full moon (i e , when the sun and moon are at opposite sides of the earth) A solar eclipse can occur only at the time of a new moon (i e , when sun and moon are on the same side of the earth), and then only when the sun is not more than 18° 5′ from one of the nodes of the moon's orbit The ratio of the number of solar eclipses to lunar eclipses is about four to three However, at any given place on the earth many more lunar eclipses are seen than solar, because a lunar eclipse in all its phases can be seen at the same time from all parts of the earth's surface where the moon is above the horizon, while any single solar eclipse is visible within an area limited in diameter, and the phenomenon is observed at different moments in different localities as the moon's shadow progresses rapidly eastward A total solar eclipse is observed only about once in every 400 years at any one place The central or true shadow, the umbra, of the earth or the moon is surrounded by a half-shadow, the penumbra In the umbra all direct rays of the sun are cut off, in the penumbra there is illumination from a part of the sun's face In some positions, the moon during eclipse does not pass entirely into the earth's umbra but some part of it remains outside the deep shadow This is a partial lunar eclipse In the course of its total eclipse (which is longer or shorter according to the part of the umbra through which it passes) the moon, after traveling through the penumbra, begins to show a dimness on the eastern part The moon advances into the umbra until the whole surface is darkened Usually some sunlight is bent, or refracted, into the umbra by the atmosphere, giving the moon's disk a coppery color The earth's shadow, seen on the moon, makes a curve approximating an arc of a circle Aristotle pointed to this as proof that the earth is a sphere An eclipse of the sun is partial when only the penumbra of the moon falls across some part of the earth's surface When the moon is in a position so far from the earth that the cone-shaped umbra comes to a point before it can reach the surface of the earth, an annular (or ring) eclipse can be observed from the region of the earth's surface directly beyond the apex of the umbra, because the sun can be seen all the way around the disk of the moon, making a bright ring A total solar eclipse takes place only when the narrow part of the cone of the moon's umbra rests upon some part of the earth's surface, and only in that region is the eclipse total In this case and in that of an annular eclipse, a partial eclipse is visible at the same time in a wider surrounding area During a total solar eclipse the moon cannot be seen as it approaches the edge of the sun, but it soon appears as a dark object moving across the sun's face, shutting more and more of the bright surface from view, until daylight fades to twilight and there is a noticeable drop in temperature Just before totality, when there is but a slender crescent of the sun in sight, dim rippling shadows ("shadow bands") run over all white surfaces near the observer On the eastern edge of the disappearing sun, seen beyond the irregular edge of the moon, "BAILY'S BEADS" shine for an instant The sky, darkened, shows the brightest stars as at nightfall Then, surrounding the black moon disk, glows the sun's CORONA with solar PROMINENCES sometimes extending far out beyond Gradually the moon moves away, revealing more and more of the sun's surface until normal light returns The moon moves along at c 2,000 mi an hour and the earth is rotating in the same direction The shadow of the moon sweeps rapidly eastward over the area of the eclipse, describing a path on the earth's surface The longest possible duration of totality is 7 min 30 sec at or near the earth's equator when the sun is directly overhead, and the duration of totality decreases with increase in latitude The eclipse of June 8, 1937, had the longest duration of totality (calculated at 7 min 4 sec) in 1,200 years Its path lay almost entirely over water, in the Pacific region Total solar eclipses are of such importance to science that astronomers travel half round the world to have a possible chance of a few minutes of observation From their observations of eclipses the Chaldeans discovered that nearly similar eclipses of the sun come about in cycles of 18 years, 11 32 or 10 32 days (according to the occurrence of leap years) They called the interval the saros Eclipses are predicted far in advance, as the time and the circumstances can be calculated very closely In the same way dates of events in the far past can be determined if an eclipse is known to have occurred at the same time See G F Chambers, *The Story of Eclipses* (1902), I E Lewis, *A Handbook of Solar Eclipses* (1924), S A Mitchell, *Eclipses of the Sun* (4th ed , 1935), F W Dyson and R V D Woolley, *Eclipses of the Sun and Moon* (1937)

ecliptic (ĭklĭp'tĭk, ē-), the great circle in the heavens which marks the path of the sun's apparent yearly journey among the stars This circuit is actually accounted for by the earth's revolution around the sun, and the plane of the earth's orbit is called the plane of the ecliptic The celestial sphere is comprised of two hemispheres, one being the apparent dome of the sky above the horizon and the other its counterpart below the horizon Known as the celestial equator is the imaginary line in the celestial sphere formed by extending the plane of the earth's equator into the sky The plane of the ecliptic is inclined to that of the celestial equator at an angle of about 23 5° This is known as the obliquity of the ecliptic, and it is the cause of the changing seasons on the earth The angle of obliquity varies slightly from century to century The two points where the ecliptic and the celestial equator intersect are the equinoxes The constellations through which the ecliptic passes are known as the constellations of the ZODIAC

Ecnomus, Cape: see LICATA

École des Beaux-Arts (ākôl' dā bōzär') [Fr.,=school of fine arts], French national school of fine arts, on the Quai Malaquais, Paris, founded (1648) as the École académique, the title being changed to the present form in 1793 It includes three departments, painting and graphic arts, sculpture, and architecture, and is free to men and women whose previous training enables them to pass the entrance examination They are prepared in the various courses to compete for the PRIX DE ROME (created 1666), which admits the student to the Académie de France à Rome The high standards of the École des Beaux-Arts in drawing and composition have influenced both French and foreign art Professors are chosen from the ablest French artists Study in the outside studios of the professors may be pursued for a small fee Eight other French cities have similar national academies

ecology (ēkŏl'ŭjĭ), scientific study of plants and animals in relation to their natural environment Ecology is concerned with such problems as anatomical and physiological adaptations of living things to environmental conditions (e g , amount of moisture and light, temperature, wind, and kind of soil), interrelations in plant and animal communities, and succession By succession is meant the series of stages leading to the ultimate establishment of a climax community or climax area A climax community is mature and relatively stable, representing the final stage of development for the existing climatic conditions of a particular region Examples of climax formations in different parts of North America are tundra, boreal forest, deciduous forest, scrub, and prairie Succession is well observed where plant and animal life begin to inhabit land previously bare (exposed by emergence from the sea or by the drying up of a pond or lake or deposited by agents of erosion), it is also observed where the habitat is altered in some way so that it becomes unsuitable for the original species The order of succession varies, depending upon whether the progression begins in water or on dry surfaces of rocks, sand, or rocky talus Wet habitats are said to be hydric, extremely dry ones are xeric, and those that are intermediate are mesic , the different successional trends are known as hydrarch succession, xerarch succession, and mesarch succession See R Sears *This Is Our World* (1937), E E Weaver and F E Clements, *Plant Ecology* (2d ed , 1938), T K Just, ed , *Plant and Animal Communities* (1939), F E Clements and E V Shelford, *Bioecology* (1939), C S Elton, *Animal Ecology* (3d ed , 1947), F E Clements, *Dynamics and Vegetation* (1949)

Economic and Social Council, constituent organ of the United Nations It is established by Chapter 10 of the United Nations Charter and has 18 member nations elected for three-year terms by the General Assembly The function of the council is to undertake investigations of international economic and social questions and to report its conclusions and suggestions to the General Assembly and other organs of the United Nations for action The full council meets at least twice a year, decisions are taken by a majority of members present and voting To facilitate its work the council has established various commissions, including the Economic and Employment Commission, the Transport and Communications Commission, the Population Commission, the Commission on Human Rights, and regional commissions for Europe, for Asia and the Far East, and for Latin America There has been much interest in the activities of the Commission on Human Rights In Aug , 1948, a draft international declaration of human rights, which the commission drew up, was adopted by the General Assembly, and the commission was directed to draft a fuller covenant on human rights with suggested measures of implementation As part of its work for the welfare of children the council administered the United Nations International Children's Emergency Fund (est Dec , 1946) and the United Nations Appeal for Children, which was conducted in 1948 Other activities of the council are in the fields of transport, economic rehabilitation of war-damaged countries, population studies, and control of narcotics At the request of countries belonging to the United Nations various special studies were also undertaken

Economic Cooperation Administration: see EUROPEAN RECOVERY PROGRAM

economic planning. Few kinds of economic activity, however crude, have been carried on haphazardly Pastoral peoples sought to increase their flocks, primitive agriculturalists learned to save a portion of their crops for winter and times of scarcity Families today budget expenditures according to probable earnings, the same process, on a larger and more complex scale, goes into the planning of business and industry Economic planning on the largest scale has been the work of national governments Wages and prices were regulated in Egypt, Greece, Rome, and other ancient societies, a chief aim being to stabilize the prices of staple commodities for fear of political repercussions In the Middle Ages, feudal law secured the position of the manorial agricultural system, and craft and merchant guilds regulated wages and prices to prevent overproduction and to preserve the economic status quo of the cities In the Renaissance and after, strict national economic regulation sought to ac-

quire wealth and develop the commerce and industry of home countries, while colonies were to furnish raw materials and markets. In modern times regulation of prices, wages, and business practices for the benefit of economic classes or of the community as a whole has been increasingly widespread; doctrines such as SOCIALISM, COMMUNISM, and FASCISM propose a varying, but in all cases dominant, degree of control over the national economy by the state Public works have in all ages been a characteristic by-product of economic planning to benefit commerce and create employment Dissemination or withholding of contraceptive information, payment of maternity benefits, exclusion of certain classes of immigrants—all amount to population planning, the result of economic, military, or idealistic considerations Wars, which subordinate all private activity to a unified national effort, have been perhaps the chief promoters of national economic planning Tariff agreements, world banks, reparation plans, and systems of international aid such as the Marshall Plan carry the effects if not the principles of economic planning into the international sphere See G D H Cole, *Economic Planning* (1933), F A Hayek, *The Road to Serfdom* (1944), Karl Landauer, *The Theory of National Economic Planning* (2d ed , 1947)

economics (ē″kŭnŏ′mĭks, ĕ″-), study of the supplying of man's physical needs and wants The first economic writings were the Oriental moral codes, such as that of Moses, which attributed physical well-being to divine will The Greeks stressed the dominance of ethics, but went further in analyzing economic desires Plato advocated a state in which the individual should be subordinate to the needs of the group Aristotle exalted the individual's desires above those of the group and was the first to treat economics rationally rather than metaphysically Roman writers made little advance over the Greeks, though Cicero, Cato, and Varro gave advice about agriculture The medieval period was dominated by the isolating feudal and manorial systems and by scholasticism Although towns, guilds, and commerce were developing in the latter part of the period, significant contributions to economic thought were limited to the canon law then being formed In the transition to modern times (16th–18th cent), with the European expansion overseas and the resultant growth of commerce, the economic policy called MERCANTILISM was developed to secure by tariffs and regulation of commerce as much bullion as possible to the economically successful state In the late 17th cent and the 18th, protest against the governmental regulation characteristic of mercantilism was voiced, especially by the PHYSIOCRATS, who advocated LAISSEZ FAIRE—allowing business to follow freely the "natural laws" of economics—but demanded help for agriculture, mining, and fishing, which they said were alone productive and should therefore bear all taxation In *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), Adam SMITH established economics as a major study and rounded out the ideas of the physiocrats and of his contemporary, Hume, into a complete economy Instead of production, Smith emphasized consumption as the goal of economic endeavor, as have later writers His discussion of the DIVISION OF LABOR is a classic Smith's theories, including his advocacy of FREE TRADE, particularly suited the INDUSTRIAL REVOLUTION then taking place in England The evil effects of this revolution were examined by MALTHUS, whose belief that population tends to outrun the means of subsistence gave little hope of relief, and by Ricardo, with his gloomy thesis that marginal lands must be increasingly used as DIMINISHING RETURNS set in and that wages follow an "iron law" which keeps Malthus's increasing population at a subsistence level N. W Senior further narrowed economic theory and pointed out the contribution of capital to production through "abstinence " Among critics of free trade outside England were the German Friedrich List and the American Henry C Carey The early exponents of SOCIALISM, especially in France, attacked the idea of the necessity of private property and competition and were interested in revamping the economic and social order Among these were C H Saint-Simon, Robert Owen, Charles Fourier, and Louis Blanc The rising industrialization after Adam Smith required the restatement of the principles of economics which John Stuart Mill gave, in which he emphasized self-interest, demand and supply, and competition. In Germany the historical school arose under Wilhelm Roscher, Bruno Hildebrand, and Karl Knies, who doubted the existence of economic "laws" and the supremacy of self-interest. Böhm von Bawerk of the Austrian school believed in a final utility concept Such Americans as J B Clark, Irving Fisher, Simon Patten, and F A Fetter evaluated money, wages, and profits in terms of utility. The socialists continued to criticize all these schools, and *Das Kapital*, by Karl MARX, became a veritable socialist bible The socialists advocated the increase of the purchasing power of the masses and the socialization of property as the means of avoiding poverty and CRISES. A leading English economist of the late 19th cent was Alfred Marshall. Other American economists include H C Adams, J R. Commons, R T Ely, H J Davenport, D R Dewey, A T Hadley, E J James, J L Laughlin, E. R A Seligman, F W Taussig, F A. Walker, and Thorstein Veblen Political science, sociology, and other studies have become separate disciplines during the development of economics See E R A Seligman, *The Economic Interpretation of History* (2d ed , 1924); Eli Ginzberg, *The House of Adam Smith* (1934); Ernest Teilhac, *Pioneers of American Economic Thought in the Nineteenth Century* (Eng tr , 1936), J M Ferguson, *Landmarks of Economic Thought* (1938), C E Avres, *The Theory of Economic Progress* (1944), C R Noyes, *Economic Man* (1948)

Economy, Pa : see AMBRIDGE, Pa , and HARMONY SOCIETY

écorcheurs (ākôrshûr′) [Fr ,=flayers], brigands who devastated France in the Middle Ages, particularly the free companies—marauding bands of soldiers—during the Hundred Years War Many of their leaders (such as LA HIRE) were capable professional soldiers

Écorse (ēkôrs′), industrial city (pop 13,209), SE Mich , on the Detroit river at the mouth of the Rouge and S of Detroit, settled c 1815, inc as a village 1903 as a city 1941 Steel, chemicals, and automobile parts are made

Écrins, Barre des see BARRE DES ÉCRINS

ectoplasm (ĕk′tuplăzĭm), in SPIRITISM, a mysterious substance, a sort of externalized protoplasm, materializing from the person of the medium It may be visible or tangible, or possibly both It lasts but a short time and must be returned to its source Believers in spiritism assert that ectoplasm has been weighed and may be photographed More skeptical sitters at séances suggest that it should be chemically analyzed In biology, the outer area of the cytoplasm of a CELL is called the ectoplasm

Ecuador (ĕ′kwudôr) [Span ,=equator], republic (estimated area 104,510 sq mi , 1944 estimated pop 3,171,367), W South America The capital is QUITO Although the long boundary dispute between Ecuador and Peru was ended by protocol in 1942, no accurate survey has been made of the region E of the Andes, called the Oriente It is a wilderness of plains and jungle rain forests populated almost entirely by scattered tribes of Indians, notably the JÍVARO, and at present has no commercial value This area is bounded to the west by the Andes, which cut across Ecuador in two ranges separated by a structural fault The mountains, with high, snow-capped volcanic cones, notably CHIMBORAZO and COTOPAXI, dominate the country About 30 volcanoes are active, and on the fault line there have been disastrous earthquakes, such as that of 1949 which leveled Ambato and took some 6,000 lives Mountain pedestals and spurs divide the long rift and create high, generally fertile intermontane valleys To the west of the mountains is the Pacific coast, with hot, humid valleys N of the Gulf of Guayaquil From the coastal region come Ecuador's chief exports—cacao (Ecuador is third among nations producing it), petroleum, gold and cyanide precipitates, tagua nuts, Panama hats, and some bananas, hides, and rubber Guayaquil is the main port Most of the cities of Ecuador are distributing centers with few and small-scale manufactures, principally the processing of agricultural and mineral products, with some textile mills and some small plants making shoes, leather goods, and Panama hats With sufficient resources and manpower, Ecuador has not yet been able to marshal its industry and arrive at a balanced economy Economic and commercial development has taken place in the coastal region, where it is somewhat handicapped by the scarcity of population Most of the Negroes (some 15 percent of the population) and many mestizos live in this region The main bulk of the population is in the highlands and is predominantly Indian or part Indian The basic form of life is communal agriculture The few whites are principally the landholders and are dominant in the political life, which is marked by the activities of small factions and cliques and by rivalry between the coastal region and the highlands Even the development of modern communications has not created sufficient unity to halt the dominance of personal and factional rivalry that began with the Spanish Conquest Francisco Pizarro's subordinate, BENALCÁZAR, entered the territory in 1533 to forestall Pedro de ALVARADO Not finding the wealth of the mythical El Dorado, he and other conquistadors, notably GONZALO PIZARRO and ORELLANA, moved restlessly on The region became a colonial backwash Given an *audiencia* in 1563 and established politically as the presidency of Quito, it was at various times subject to Peru and to NEW GRANADA After an abortive independence movement in 1809, it remained under Spanish control until liberated by SUCRE in the battle of PICHINCHA (1822) and joined by Simon BOLÍVAR to Greater Colombia. With the dissolution of the union in 1830, Ecuador, not because of a strong national sentiment but because of its isolation from Bogotá and Lima, became a separate state under a constitution promulgated by its first president, Juan José FLORES Ecuador was unsuccessful in attempting to get Popayán prov from Colombia by warfare in 1832 but did acquire the GALÁPAGOS ISLANDS Boundary disputes led to frequent invasions by Peruvian forces in the 19th and 20th cent Personalism in government and the rivalry of Conservatives and Liberals has marked the political history The Conservatives, led by Flores and GARCÍA MORENO, supported entrenched privileges and the dominance of the Roman Catholic Church, the Liberals, championed by ROCAFUERTE and ALFARO, sought social reform The disadvantages of topography and lack of education have not yet been overcome by any of the political programs Recently a beginning has been made in working out economic problems by common action of Colombia, Venezuela, Ecuador, and Panama which signed (1948) the Quito Charter, recommending a customs union and political and cultural cooperation Colombia, Peru, and Ecuador have established a common merchant fleet See C R Enock, *Ecuador* (1914), V W von Hagen, *Ecuador the Unknown* (1940), A B Franklin, *Ecuador Portrait of a People* (1943)

ecumenical council see COUNCIL, ECUMENICAL

ecumenical movement (ē″kūmĕ′nĭkûl, ĕ″-), term used to describe a movement aimed at the unification or reunion of the Protestant churches of the world and ultimately of all Christians Protestantism after the Reformation tended to separate into numerous independent sects, more than 200 being formed in the United States alone An early attempt to reverse this tendency, which was believed to make the churches ineffective, was the Evangelical Alliance founded in England in 1846, an American branch was formed by Philip Schaff in 1867 Other organizations that crossed denominational barriers were the Young Men's Christian Association (1844), the Young Women's Christian Association (1884), and the Christian Endeavor Society (1881) In 1908 the Federal Council of Churches of Christ, composed of the larger Protestant denominations in the United States, was organized and strove to represent Protestant opinion on religious and social questions The movement known as Church Reunion in Great Britain and as Christian Unity (1910) in the United States has been active in seeking both a creed and a polity on which all Christians could unite Several world-unity conferences have resulted, including an international missionary conference in 1910, the Universal Christian Conference on Life and Work (Stockholm, 1925), inspired by Nathan SÖDERBLOM of Sweden, the World Conference on Faith and Order (Lausanne, 1927), and the first meeting of the WORLD COUNCIL OF CHURCHES (Amsterdam, 1948), which was attended by representatives from 150 Protestant, Eastern Orthodox, Anglican, and Old Catholic bodies In the meantime progress was made in consolidating Protestant denominations who found themselves close together in belief and usage, including some free churches in England and Scotland and Congregationalists, Presbyterians, and Methodists in Canada and Australia In the United States in 1939 three Methodist bodies united to form the Methodist Church Headed by E Stanley Jones, the Association for a United Church for America was founded in 1947 See C S Macfarland, *Steps toward the World Council* (1938), T O Wedel, *The Coming Great Church* (1945), O F. Nolde, *Toward World-wide Christianity* (1946)

eczema (ĕk′sumu, ĕg′zūmù, ĕgzē′mu), term applied to various forms of skin eruptions A common variety is characterized by a watery discharge and the development of scales and crusts Infantile eczema is caused by a failure to wash the scalp properly Fear of damaging the unclosed portions of the young infant's skull results in the retention of early scales of DANDRUFF on the scalp, these can be removed by careful washing with soap and water Other types of eczema include those caused by plants, chemicals, ultraviolet light, and X rays

Ed [Heb ,=witness], name of an altar raised on the left bank of the Jordan Joshua 22 34

Edam (ē′dŭm, ē′dăm, Dutch ādăm′), town (pop 10,751), North Holland prov , NW Netherlands, on the Ijsselmeer and NE of Amsterdam It is an important market for the cheese to which it gives its name Edam cheese is pressed and made in balls sealed by bright red wax

Edar (ē′dar) [Heb ,=flock], tower, near which Jacob pitched his tent Gen 35 21

Edcouch (ĕd′kouch′) town (pop 1,758), extreme S Texas, WNW of Brownsville, in the irrigated district of the lower Rio Grande valley; inc 1928

Edda (ĕ′du), title applied to two distinct works preserved in Old Icelandic The Edda of SNORRI STURLUSON, also called the *Prose Edda* or the *Younger Edda*, is a work intended as a guide to the scaldic poetry of Iceland The highly allusive quality of this verse and the abundant use of the kenning, a metaphoric synonym, made some kind of explanation necessary to comprehend the poetry at all The first and second parts of the *Edda* are an account of Scandinavian mythology constituting the prime source on the subject The third

part is a compendium of the rules of scaldic poetry, and the fourth is a commentary on some of the author's poems. The preface to the *Edda* is a Christian essay on biblical history. The *Edda* is invaluable as an account of Norse religion by one steeped in the poetic tradition at a time when it was still alive, it is also useful for the understanding of Icelandic poetry. The first half of the *Edda*, the only portion interesting in translation to those acquainted with Icelandic poetry, has been translated by G. W. Dasent (1842), R. B. Anderson (1880), and A. G. Brodeur (1916, reprinted 1923). The *Poetic Edda* or *Elder Edda* is a collection of 33 or 34 heroic lays in Icelandic. The name *Elder* was given when they were supposed to have been collected by the priest Saemund the Wise in the 11th cent., but actually they were compiled later. They are not complete. In spite of its uncritical arrangement and its textual corruption, the poems of the *Elder Edda* make up the most valuable series of texts in Icelandic. Its most remarkable poem is the *Voluspa* (or the *Prophecy of the Sibyl*), giving the Norse mythology so far as it applied to the beginning and end of things. It is beautifully severe and simple. See translation by H. A. Bellows (1923).

Eddington, Sir Arthur Stanley, 1882–1944, British astronomer and physicist. He was chief assistant (1906–13) at the Royal Observatory, Greenwich, and was from 1913 Plumian professor of astronomy at Cambridge, where he was director of the observatory from 1914. He made important contributions to the study of the evolution, motion, and internal constitution of stars and was one of the first physicists to grasp the theory of relativity, of which he became a leading exponent. One of the foremost contemporary expositors of scientific subjects, he wrote *Stellar Movements and Structure of the Universe* (1914), *Space, Time, and Gravitation* (1920), *Theory of Relativity and Its Influence on Scientific Thought* (1922), *Mathematical Theory of Relativity* (1923), *Internal Constitution of the Stars* (1926), *Nature of the Physical World* (1928), *Science and the Unseen World* (1929), *The Decline of Determinism* (1933), *The Expanding Universe* (1933), *New Pathways in Science* (1935), *Relativity Theory of Protons and Electrons* (1936), and *The Philosophy of Physical Science* (1939).

Eddo see TARO.

Eddy, Mary Baker, 1821–1910, discoverer of the principles of CHRISTIAN SCIENCE and founder of the church based on those principles, b. Bow, near Concord, N.H. As her physical frailty prevented regular school attendance, she received much of her early instruction from her brother Albert, a Dartmouth student, who tutored her systematically when he was at home. She also attended Holmes Academy at Plymouth and Sanborn Academy. She early wrote poetry and prose, accepted for publication in periodicals. Widowed a few months after her marriage to George W. Glover, she spent nine years among relatives, teaching at times and often in ill-health. Married in 1853 to Daniel Patterson, a dentist, she lived quietly in the country for some time, going later to Lynn, Mass. Having learned of the success in mental healing of P. P. QUIMBY, she went in 1862 to Portland, Maine. She received benefit from his treatment but later discarded his methods. In 1866 she separated from her husband, she later secured a divorce on the grounds of desertion and infidelity. The year 1866 marks the actual beginning of Christian Science as she apprehended it. Bible study, practice, and writing, in the ensuing years, brought steady development in doctrine and plans regarding the system she revealed to her students and followers. In 1875 the textbook of Christian Science, *Science and Health*, was published. In 1877 she was married to Asa Gilbert Eddy. She founded in 1883, and for a time edited, the *Journal of Christian Science*. Mrs. Eddy herself planned the *Manual* for the conduct of the church and directed every detail in its upbuilding. She lived in Boston for seven years, from 1882, then near Concord, N.H., until 1908, when she made her home in Chestnut Hill, near Boston. As pastor emeritus of the Mother Church in Boston and head of the whole church with all its branches Mrs. Eddy exercised a strong influence, even in the retirement of her later years. Later of her writings include *Retrospection and Introspection* (1891), *Miscellaneous Writings* (1896), and *Messages to the Mother Church* (1900, 1901, 1902). See the official biography by Sibyl Wilbur (1929 ed.) and a later one by J. M. Johnston (1946), an impartial biography by L. P. Powell (1930), and a critical one by E. F. Dakin (rev. ed., 1940).

Eddy, Thomas, 1758–1827, American philanthropist and reformer, b. Philadelphia. He was an active supporter of many philanthropies in New York, where he had become wealthy by his brokerage and insurance business. The reforms and civic projects in which he was active included the Erie Canal project, insane asylums and improved treatment of the insane, free schools, reform in the penal code of New York, and antislavery. His greatest contribution was in prison reform—introducing advanced ideas of a penitentiary system, persuading the New York legislature to authorize new buildings, superintending the new institution, and defending in writing the principles behind his innovations.

Eddystone (ĕd'ĭstun), lighthouse, on dangerous rocks off the coast of Cornwall, England, SSW of Plymouth. The first lighthouse, begun by Henry Winstanley in 1696, was 100 ft. high, of wood with a stone base, and was washed away with its builder in 1703. The second, built of wood in 1706, was burned in 1755. The third, of very strong construction, with a tower 85 ft. high, was erected (1756–59) by John Smeaton, it was made unsafe by the undermining action of the sea, so that the upper portion was taken down and rerected at Plymouth. A fourth lighthouse was built (1878–82) on the Eddystone rocks by Sir James Douglass.

Eddystone, borough (pop. 2,493), SE Pa., near Philadelphia, inc. 1889. It is the site of a steel-products plant and a locomotive works. The locomotive *Old Ironsides* was constructed here in 1832.

Eddyville, city (pop. 2,407), co. seat of Lyon co., SW Ky., on the Cumberland river and E of Paducah. Tobacco and corn are grown in the area, which also yields limestone and timber. The state penitentiary is in Eddyville. Near by are the ruins of an iron furnace where William KELLY invented his method of making steel.

Edelinck, Gérard (zhārär' ādulĕk'), 1640–1707, French engraver. He is known for his faithful interpretations of the work of Raphael, Le Brun, Champagne, and other masters and for his portraits of celebrities of the time, including Louis XIV, Colbert, La Fontaine, John Dryden, and Descartes.

edelweiss (ā'dlvīs) [Ger., =noble-white], plant of the high Alps, reputed to grow in inaccessible places and thus to have brought death to many who have sought to reach it. The plant is an emblem of purity and is highly esteemed in Switzerland, where popular opinion has made it the equivalent of a national flower. It is protected by the government and has appeared on their postage stamps. The plant, botanically *Leontopodium alpinum*, is a perennial herb, usually about 6 in. high. The flowers are small and yellow, but are in a head that is subtended by a number of rays of woolly-white floral leaves, giving the effect of a roughly star-shaped flower. Edelweiss, popular as an alpine plant, is also offered for sale as a rock-garden or pot plant, sometimes under the name *Gnaphalium*. There are other quite similar species of *Leontopodium*.

edema (ĭdē'mu), swelling resulting from an excessive accumulation of fluid in the tissue spaces. Causes of edema include reduction of the protein concentration in the blood, changes in capillary blood pressure, an increase in the permeability of capillary walls, and mechanical blocking of lymph channels. Edema may occur in heart or renal disease, cirrhosis of the liver, malnutrition, and anemia. It may result from the presence of tumors or from the direct action of toxic substances. Because edema is a symptom, the underlying cause should be sought and treated.

Eden. **1** Son of Joah. 2 Chron. 29:12. **2** Priest. 2 Chron. 31:15. Perhaps this is the same as **1**. **3** See EDEN, GARDEN OF. **4** Unidentified trading center, possibly in Mesopotamia. 2 Kings 19:12, Isa. 37:12, Ezek. 27:23. **5** Place somewhere near Damascus. Amos 1:5.

Eden, Anthony (Robert Anthony Eden), 1897–, British statesman, educated at Eton and Oxford. After service in the First World War, Anthony Eden rose as a Conservative member of Parliament (since 1923) and made his mark as champion of peace, internationalism, and the League of Nations when he was lord privy seal (1934–35) and "traveling ambassador." He served (1935) as British minister for League affairs and was made foreign minister in Dec., 1935. His tenure ended in Feb., 1938, after he opposed the "appeasement" of the Axis powers by Neville Chamberlain, but with the Second World War he was called back (Sept., 1939) to the cabinet as dominions secretary. He was briefly (1940) secretary of war before being returned to the foreign office post in Dec., 1940. He was after Nov., 1942, also leader in Commons. His five years (to July, 1945) as foreign secretary in Winston Churchill's war cabinet were dominated by the alliance of Great Britain, the USSR, and the United States and by the building of the UNITED NATIONS organization. See his *Freedom and Order: Selected Speeches, 1939–1946* (1948).

Eden, Emily, 1797–1869, English novelist, b. London, daughter of Baron Auckland. She went with her brother George, Lord Auckland, to India when he was governor general (1836–42). Her two novels, *The Semi-detached House* (1859, ed. by Anthony Eden, 1928) and *The Semi-attached Couple* (2 vols., 1860, with biographical introduction by Anthony Eden, 1947), have had renewed popularity in the 20th cent. as witty, ironic pictures of worldly life in the early 19th cent. See *Miss Eden's Letters* (ed. by Violet Dickinson, 1919).

Eden, village (pop. 1,603), W central Texas, ESE of San Angelo. In the rough hills are sheep and goat ranches, and Eden also handles oats, cotton, and other crops.

Eden, name of several rivers in England and Scotland. The principal one rises in Westmorland, England, and flows 65 mi. NW through Cumberland, past Carlisle, into Solway Firth.

Eden, Garden of, in the Bible, first home of man. God established the garden, with its trees of knowledge and of life, as a dwelling place for Adam and Eve, until, eating of the forbidden fruit, they were banished. Gen. 2, 3. Eden is often called Paradise. In Babylonia there was a legend of a holy place with a tree of life inhabited by a god and a goddess. Eden has been located variously over the Old World, especially in lower Mesopotamia.

Edenhall, village, Cumberland, England, on the Eden river. It is famous for the legend of the Luck of Eden Hall, an enameled goblet belonging to the Musgraves, whose family seat was the mansion Eden Hall. According to the tradition, the family luck depended on keeping unbroken the goblet which had been taken from the fairies near St. Cuthbert's Well. Longfellow's "Luck of Edenhall" is a translation of the ballad by Uhland. Eden Hall no longer exists, but the goblet is in the Victoria and Albert Museum.

Edenton (ē'duntun), town (pop. 3,835), co. seat of Chowan co., NE N.C., SW of Elizabeth City and on Albemarle Sound, settled c. 1658, inc. 1722. Its industries center around fish, peanuts, cotton, and truck produce. In 1774 women of Edenton held the "Edenton Tea Party," at which it was resolved not to use tea or other English goods until the repeal of acts oppressive to the colonies. Historic buildings include the old courthouse (1767) and St. Paul's Church (1736). Near by is a U.S. fish hatchery.

Eder (ā'dur) [Heb., =flock] **1** Levite. 1 Chron. 23:23, 24:30. **2** City of Judah, S Palestine. Joshua 15:21.

Edessa (ĭdĕ'su) or **Vodena** (vōdā'nu), city (pop. 12,994), NE Greece, in Macedonia, W of Salonica. It is an agricultural trading center with cotton and carpet manufactures. In antiquity, when it was also known as Aegae, it was the earliest seat of the Macedonian kings.

Edessa (ĭdĕ'sū), ancient city of Mesopotamia, at the site of modern URFA, Turkey. It emerged into history in the 4th cent. B.C. as Arrhoe and was named Edessa by Seleucus I. From c. 137 B.C. it was the capital of an independent kingdom, Osroene, about which little is definitely known. It later became a Roman city. Here in 260 Shapur I of Persia defeated Emperor Valerian. It was a center of Christianity by the 3d cent., and in the 4th cent. and 5th cent. many monasteries were founded. It was one of the major religious centers of the Byzantine Empire. The city fell to the Arabs in 639 and remained in Moslem hands until captured by the Crusaders in 1097. Baldwin (later Baldwin I of Jerusalem) became the ruler of the county of Edessa, and when he became king he turned it over to one of his cousins. The city, however, fell to the Moslems in 1144, and within a few years the county was overrun. Edessa remained a Christian city under the Turks.

Edfu (ĕd'fōō), village, Upper Egypt, on the Nile. It was in very ancient days the last Egyptian outpost on the border of Nubia. Supposedly an ancient temple was built there in the III dynasty. It is most notable for the great sandstone temple of Horus built after 237 B.C. by Ptolemy III and his successors. Excavations have yielded many Roman remains. The name also appears as Idfu.

Edgar or **Eadgar** (both ĕd'gur), 943?–975, king of England (959–75) son of Edmund. In 957 when the North of England revolted against Edwy, Edgar's elder brother, the young Edgar was chosen king of Mercia and Northumberland. In 959 he succeeded his brother as king of the West Saxons and a reign of orderly prosperity began. Edgar won the title the Peaceful. He recalled St. Dunstan and with him instituted wide-spread monastic reforms. In 973 the king was given a belated but magnificent coronation at Bath and a little later seems to have received the submission of eight kings, including Cumbrians, Scots and Welsh, in token of which they rowed him in a boat on the Dee while he held the rudder. Edgar gave Lothian to Kenneth of Scotland in return for his homage, and granted practical autonomy to the Danes in England (see DANE LAW) in return for their loyalty. Nevertheless he was unable to impose a political unity which could persist after his death. The son of his first wife was Edward (later EDWARD THE MARTYR), who succeeded his father. Edgar's second wife was Ælfthryth of Devon, widow of the East Anglian ealdorman Æthelwold, she bore him ÆTHELRED, who succeeded his half brother.

Edgar Atheling (ă'thulĭng) [O.E. *atheling*=son of the king], 1060?–1125?, English prince, grandson of Edmund Ironside, probably b. Hungary. After Harold's death at Hastings in 1066 he was chosen to succeed to the English throne, but he submitted to WILLIAM I in 1067. He fled (1068) to the Scottish king Malcolm III, who later married Edgar's sister (see MARGARET OF SCOTLAND, Saint). Edgar took part in the unsuccessful Northumbrian uprising (1069) in which the Danes also joined.

After Malcolm made his peace with William in 1072, the Atheling probably was in Flanders until he himself came to terms with William in 1074 and was settled in France After William's death Edgar joined Malcolm in raiding England in 1091, but after that seems to have been at peace with William II of England He led the English expedition which in 1097 dethroned Donald III and seated the Atheling's nephew Edgar (d 1107) on the throne of Scotland With Robert, duke of Normandy, Edgar went on the crusade of 1099, and in Robert's later war with Henry I of England, he was taken prisoner at the battle of Tinchebrai (1106), but was released

Edgartown, resort town (pop 1,370), on E Martha's Vineyard, co seat of Dukes co, SE Mass, settled 1642, inc 1671 Old houses, built when the town was a whaling center, survive

Edge, Walter Evans, 1873–, governor of New Jersey (1917–19, 1944–47), b Philadelphia He became a wealthy newspaper and advertising executive in Atlantic City, N J Important in Republican politics, Edge held many state offices before he served his first term as governor In the U S Senate (1919–29) he opposed the isolationist groups Later he was (1929–33) U S ambassador to France He was long identified with reform legislation in New Jersey See his autobiography, *A Jerseyman's Journal* (1948)

Edgefield, town (pop 2,119), co seat of Edgefield co, W S C, WSW of Columbia, in a cotton area, settled in the 18th cent

Edge Hill, ridge on the border of Warwickshire and Oxfordshire, England A tower built in 1760 marks the scene of the first great battle of the civil war, Oct 23, 1642, between the royalists under Charles I and the parliamentarians under the earl of Essex The result of the battle was indecisive

Edgemont, city (pop 1,002), SW S Dak, on the Cheyenne and SSW of Rapid City near the Wyo line It has a sulphur hot springs sanatorium Near by are sandstone quarries

Edgerton. 1 Village (pop 1,082), extreme NW Ohio, on the St Joseph river and NW of Defiance **2** City (pop 3,266), S Wis, near Lake Koshkonong, settled 1836, laid out 1854, inc 1883 In a tobacco-growing area, it has numerous warehouses, truck trailers are made

Edgewater. 1 Town (pop 1,648), N central Colo, in the Denver metropolitan area, inc 1904 **2** Borough (pop 4,028), NE N J, on the Hudson and S of Fort Lee, inc 1899 Chemicals and vegetable oils are made here

Edgewood, borough (pop 4,697), SW Pa, E of, and near, Pittsburgh, inc 1888

Edgeworth, Francis Ysidro, 1845–1926, British economist, grad Trinity College, Dublin He was professor of political economy at Oxford and first editor (1891–1926) of the *Economist* His special contribution to economics was the application of mathematical measurements, as described in *Mathematical Psychics* (1881) Much of his writing was collected in *Papers Relating to Political Economy* (3 vols, 1925)

Edgeworth, Maria, 1767–1849, Irish novelist, daughter of Richard Lovell Edgeworth *Letters for Literary Ladies* (1795), her first publication, was an argument for the education of women The years spent on her father's estate in Ireland, in close contact with rich and poor alike, resulted in her notable stories of Irish life– *Castle Rackrent* (1800), *Belinda* (1801), *The Absentee* (1812), and *Ormond* (1817)—to which her friend Sir Walter Scott acknowledged a debt Maria Edgeworth was also a successful writer of children's stories, including *Moral Tales* (1801), *Frank* (1801 22), and *Harry and Lucy* (1801 25) See Constance Hill, *Maria Edgeworth* (1910), bibliography by B C Slade (with biographical introduction, 1937)

Edgeworth, Richard Lovell, 1744 1817, British author and educational theorist, b Ireland, educated at Trinity College, Dublin, and at Oxford, father of Maria Edgeworth A member of the literary coterie of Lichfield, he was a close friend of Thomas Day, to whom he suggested writing *Sandford and Merton Practical Education* (written with his daughter, 1798) and Edgeworth's other educational essays show the influence of Rousseau's ideas

Edgeworth, residential borough (pop 1,696), SW Pa, on the Ohio and NW of Pittsburgh, inc 1904 It was the first municipality in Pennsylvania to adopt the borough-manager form of government Ethelbert Nevin, composer, was born here

Edgren, August Hjalmar (ou'gŭst yäl'mar ĕd'grĕn), 1840–1903, Swedish-American scholar He was graduated from the Swedish royal military academy and served for two years with the Union army in the American Civil War He then took up the study of languages in France and Germany and at Yale (Ph D, 1874) and taught languages at Sheffield Scientific School, Yale (1873–80), at the Univ of Lund (1880–85), and at the Univ of Nebraska (1893 1900), where he was also dean of the graduate school In 1900 he became an official of the Swedish royal academy He was remarkable as a polyglot, writing grammars, helping to compile dictionaries, making translations, and pursuing philological studies in various languages.

edile: see AEDILE

Edina (ĕd'nŭ) **1** Village (pop 5,855), E Minn., southwest suburb of Minneapolis **2** City (pop 1,637), co seat of Knox co, N Mo., on the South Fabius river and ESE of Kirksville, in a farm and timber area, inc 1857

Edinburg (ĕ'dĭnbûrg) **1** Town (pop 2,466), S central Ind, SSE of Indianapolis, settled 1821 Canned goods, furniture, and veneer are manufactured here **2** City (1940 pop 8,718, 1947 estimated pop 12,000), co seat of Hidalgo co, extreme S Texas, WNW of Brownsville, inc 1908 as Chapin, renamed 1911 It is a prosperous packing and processing center in the irrigated district of the lower Rio Grande valley, which produces citrus fruit, vegetables, and cotton Edinburg has a junior college.

Edinburgh, Philip Mountbatten, duke of (ĕ'dĭnburu), 1921–, British nobleman, husband of Princess Elizabeth, heiress presumptive to the English throne Prince Philip, who took his mother's name, Mountbatten, when he became a British citizen in 1947, at the same time renounced his Danish and Greek titles He is the grandson of George I of Greece, great-grandson of Christian IX of Denmark, and great-great-grandson of Queen Victoria He was created duke of Edinburgh shortly before his marriage (Nov 20, 1947) to Elizabeth He has spent most of his life in England and served in the British navy during the Second World War

Edinburgh (ĕ'dĭnburu), independent burgh or county of a city (1931 pop 449,010, 1948 estimated pop 488,331) capital of Scotland, and county town of Midlothian, E of Glasgow and near the southern shore of the Firth of Forth In literature it is often referred to as Dunedin, the Scottish form of the name, and its popular nickname is "Auld Reekie," The city is built on a series of ridges, the highest points within the city are Castle Rock at the western edge of the old town and Calton Hill on the east King Edwin of Northumbria occupied the site of Edinburgh Castle c 617 The settlement which grew up about the castle became a burgh in 1329 under Robert the Bruce and in 1437 superseded Perth as capital of the kingdom The town walls were built in 1450 and were extended in the next century The English sacked the town in 1544, and Oliver Cromwell took the castle in 1650 The town declined in importance with the departure of James VI to England in 1603 With the Act of Union (1707) Parliament House, now the seat of the Supreme Law Courts, ceased to be the meeting place of the national assemblies Holyrood palace is at the east end of the city Edinburgh's oldest building (Norman) is the small Chapel of St Margaret on Castle Rock St Giles's Church dates from the 12th cent, and the Cathedral of St Mary (Episcopal) from the 19th cent There are famous art collections in the Royal Scottish Academy, the National Gallery of Scotland, and the Royal Scottish Museum, the National Library contains many valuable manuscripts The Univ of Edinburgh, founded in 1583 under James VI, includes faculties of medicine (perhaps the most noted), law, divinity, arts, science, and music Other interesting features of the city are the famous Princes St, running east and west, and the Royal Botanic Gardens In the 18th and early 19th cent, Edinburgh developed as a center of learning and literature, among its famous men being David Hume, Adam Smith, Francis Jeffrey, John Wilson (pseud Christopher North), and Sir Walter Scott The *Edinburgh Review*, founded in 1802, added to the city's literary reputation Most of Edinburgh's industries—engineering, tanning, metal casting, and the making of machine tools, chemicals, and biscuits—are carried on in its suburbs, Corstorphine, Granton, Restalrig, and Portobello Leith is Edinburgh's port See Sacheverell Sitwell and Francis Bamford, *Edinburgh* (1938)

Edinburghshire, county, Scotland see Midlothian

Edington (ĕd'), village, Wiltshire, England It is traditionally the scene of a defeat of the Danes by Alfred There is a 14th-century church.

Edirne, Turkey see Adrianople

Edison, Charles, 1890–, Secretary of the Navy (Jan–June, 1940) and governor (1941 44) of New Jersey, b West Orange, N J, son of Thomas Alva Edison After study (1909–13) at the Massachusetts Institute of Technology, Charles Edison gradually took over management of his father's industrial holdings A Democrat, he was appointed to many offices in New Jersey before serving (1936–39) as Assistant Secretary of the Navy After Claude Swanson's death he was Acting Secretary until he was in Dec, 1939, appointed Secretary He was succeeded by Frank Knox As governor of New Jersey, Edison broke with Frank Hague by passing (1941) bills providing for payment of railroad taxes

Edison, Thomas Alva, 1847–1931, American inventor, b Milan, Ohio. His schooling was limited to three months in Port Huron, Mich, in 1854 He was a newsboy on the Grand Trunk RR and later a telegraph operator in various cities His first inventions were the transmitter and receiver for the automatic telegraph, the quadruplex system of transmitting four simultaneous messages, and an improved stock-ticker system (to make this he opened a shop in Newark, N J, and moved to Menlo Park in 1876 and to West Orange in 1887) His invention in 1877 of the carbon telephone transmitter for the Western Union Telegraph Company precipitated a legal battle between Western Union and the Bell Telephone Company, who held the patent on the Emile Berliner transmitter This dispute finally ended in an agreement between the companies which separated the two fields of speech and code transmission Edison's phonograph (patented 1878) was the first successful instrument of its kind Although others including M G Farmer had experimented with the obtaining of electric light by incandescence, Edison produced the first commercially practical incandescent lamp in 1879 Moreover, for use with it he developed a complete system for the distribution of electricity for light and power, including generators, motors, light sockets with the "Edison base," junction boxes, safety fuses, underground conductors, and other devices The crowning achievement of his work in this field was the Pearl St plant (1881 82) in New York city, the first central electric-light power plant in the world For many years Edison advocated the use of direct current He built and operated an experimental electric railroad (1880) Edison produced a superior storage battery of iron and nickel with an alkaline electrolyte He developed the kinetoscope or "peep-show" machine and later demonstrated experimentally the synchronization of moving pictures and sound, talking pictures were based on this work Edison held over 1,300 U S and foreign patents During the First World War he helped to develop the manufacture in the United States of chemicals previously imported and served as head of the U S Navy Consulting Board, concerned with ship defenses from torpedoes and mines He later worked on the production of synthetic rubber from American plants, notably goldenrod Edison was not concerned with abstract science, but was a genius in the practical application of scientific principles An Edison memorial tower and light was erected in Menlo Park (1938), Edison's laboratory and other buildings associated with his career are preserved in Greenfield Village. Charles Edison is his son See the autobiographical *Diary and Sundry Observations* (ed by D D Runes, 1948), biographies by G S Bryan (1926), F L Dyer and others (1929), F T Miller (1931), W. A. Simonds (1934), and A. O. Tate (1938)

Edison, city (pop 1,241), SW Ga, W of Albany

Edisto (ĕ'dĭstō), river rising in North and South forks in W central South Carolina and flowing SE and S to the Atlantic Near its entrance into the Atlantic it separates into two channels which form Edisto Island

Edman, Irwin, 1896–, American philosopher, b New York city, grad Columbia (B A, 1917, Ph D, 1920) He began teaching in the department of philosophy at Columbia in 1918, becoming professor in 1935 Both his teaching and his writings have achieved wide popularity, particularly in the field of aesthetics His philosophical position in general follows the direction of William James and John Dewey, although it is closely associated with Platonism His works include *Poems* (1925), *The Contemporary and His Soul* (1931), *The Mind of Paul* (1935), *Candle in the Dark* (1939), *Arts and the Man* (1939), *Fountainheads of Freedom* (with H W Schneider, 1941), and *Philosopher's Quest* (1947) He is editor of the works of Plato (1927) and Santayana (1936) and a frequent contributor to periodicals

Edmer see Eadmer

Edmond, city (pop 4,002), central Okla, N of Oklahoma City, settled 1889 It is a farm trading center with small industries and a huge oil field A state teachers college is here, and a memorial to Wiley Post is near by

Edmonds, Walter Dumaux, 1903–, American author, b Boonville, N Y, grad Harvard, 1926 His popular historical novels about New York state include *Rome Haul* (1929, adapted for the stage and moving pictures as *The Farmer Takes a Wife*), *Erie Water* (1933), *Drums along the Mohawk* (1936), *Chad Hanna* (1940), *Wilderness Clearing* (1944), *In the Hands of the Senecas* (1947), and *Wedding Journey* (1947) His short stories are in *Mostly Canallers* (1944), and his *Matchlock Gun* (1941) is an excellent story for children In 1948 his history of the Oneida Community was privately printed

Edmonds, city (pop 1,288), NW Wash, on Puget Sound N of Seattle, settled c 1866

Edmonton (ĕd'muntun), city (pop 113,116), provincial capital central Alta, chiefly on the north bank of the North Saskatchewan river It now includes the former city of Strathcona on the south bank The Parliament building, on a bold bluff overlooking the river, occupies the site of Edmonton House, a post built by the Hudson's Bay Company—during the 19th cent one of the most noted trading posts of the Northwest Edmonton is in the midst of the fertile northern park country, a prosperous farming area, and is also the gateway for the Peace river and Athabaska river country to the northwest. It is the depot for the entire

northern Mackenzie dist., an outfitting point for northern expeditions, and a focus for the fur trade There are coal, oil, and gas fields in the vicinity Edmonton is the seat of the Univ of Alberta (see ALBERTA, UNIVERSITY OF)

Edmonton, urban district (1931 pop 77,658, 1947 estimated pop. 107,960), Middlesex, England, N of London Charles Lamb spent his last years here Keats and Cowper lived in Edmonton The Bell Inn is made famous by Cowper's "Diverting History of John Gilpin"

Edmund, Saint, d 869, king of East Anglia (from 855) He was martyred by the invading Danes for his adherence to Christianity His shrine was at Bury St Edmunds Feast Nov 20

Edmund, Saint (Edmund Rich), 1170?–1240, English churchman, b Abingdon. He studied at Oxford and Paris and became a bachelor of divinity In 1222 23 he preached the crusade in England The pope made him archbishop of Canterbury in 1233 St Edmund was a zealous reformer and led a very holy life He was soon a leading force in England, and Edmund's reform affected the circle of HENRY III himself Edmund made peace between England and Wales After some years Henry persuaded the pope to send legates who should hold precedence over Edmund and whom he had to obey The bishops of England were thus completely isolated, with the legates, the king, and the lesser clergy all against them Edmund excommunicated his enemies with no decisive result He retired (1240) to Pontigny, a Cistercian abbey in France Feast Nov 16

Edmund, 921–46, king of WESSEX (939–46). He succeeded his half brother ATHELSTAN as king He had fought at BRUNANBURH and was a brave leader, but was unable to prevent an invasion by vikings from Ireland in 939–40 He was forced to cede to them by treaty the territory between Watling Street and the Northumbrian border (occupied partly by Danes), and he succeeded in recapturing it in 944 only because of the quarrels among the Norse leaders. He seems to have made an alliance with Malcolm, king of Scots, and to have fought for him in Strathclyde Edmund was killed while defending his steward against an outlawed criminal and was succeeded by his brother EDRED

Edmund Crouchback: see LANCASTER, HOUSE OF

Edmund Ironside, d 1016, king of England (1016), son of ÆTHELRED He first became prominent in 1015 in the fighting against CANUTE Contrary to the wishes of his father, he married the widow of Sifferth, a thane of the DANELAW who had been murdered, and was accepted as ruler of the Danelaw. The history of Edmund's troubles is obscure, apparently the people felt that Edmund was a rebel against his father, for he found it hard to gain a following without his father's aid At Ætheldred's death, Canute received the support of more than half of England, although Edmund was proclaimed king in London in April, 1016 Edmund fought with the courage and bravery that earned him the appellation Ironside After the great and disastrous battle of Assandun, he and the Dane came to an agreement and a partition of England. Popular legend has it that he and Canute swore brotherhood in arms. Shortly afterward, in Nov 1016, Edmund died and Canute had undisputed possession of the land

Edmundston (ĕd'mŭnstun), town (pop 7,096), NW N B , at the international boundary, on the St John river at the mouth of the Madawaska, inc 1905. It is a pulp-milling center and a hunting and fishing base Settled c 1785 by Acadians, it was known as Petit Sault to the French and Little Falls to the English before being named in 1848 for Sir Edmund Head, later governor general of Canada

Edna, town (pop 2,724), co seat of Jackson co , S Texas, SW of Houston on the Gulf Coast plain, inc 1926. The region has oil fields, cattle ranches, and varied farms

Edom (ē'dŏm), **Idumaea,** or **Idumea** (both ĭdūmē'ŭ), mountainous country, called also Mt Seir, given to Esau and his descendants It extended along the eastern border of the Arabah valley from the Dead Sea to Elath on the Gulf of Aqaba The history of the Edomites was one of continuous hostility and warfare with their neighbors—Jews, Assyrians, and Syrians—until finally they were subdued by the Maccabees and merged with the Jews At one period they occupied S Judah Gen 32 3, 36, Num. 20 14–22, Deut 2 12, 1 Kings 9 26, 11 14–17, 22 47, 2 Kings 8 20–22, Isa 34 5, Jer 49 7–17, Ezek 25 12-14, 35, 36 5, Mark 3 8 The Romans grouped Idumaea with Judaea, Samaria, and Galilee in one procuratorship After the destruction of Jerusalem, Idumaea was included in Arabia Petraea

Edred or **Eadred** (both ĕ'drĕd), d 955, king of England 946-55, son of Edward the Elder He succeeded his brother EDMUND and was faced with invasions of Danish Northumbria by Irish Vikings and by Eric Bloodaxe of Norway The last independent Scandinavian kingdom in England was ended when Edred's control was reestablished in 954 Edred being sickly, he wisely left affairs to his friend Dunstan (see DUNSTAN, SAINT), who allowed the Danes of England to live under their own laws

Edrei (ĕd'rēī) [Heb ,=strong] 1 Capital of Og, king of Bashan, not certainly identified. Num 21.23; Deut 1 4, 3 1,10, Joshua 12 4, 13 12,31 2 Unidentified town of Naphtali Joshua 19 37

Edrisi see IDRISI

Edson, Merritt Austin, 1897–, U S marine officer, b. Rutland, Vt He studied (1915–17) at the Univ. of Vermont, was commissioned (1918) in the marines, and served in France in the First World War In the Second World War, Edson fought in the Pacific area, first commanding a famous batallion of marine raiders His defense (Sept., 1942) of Henderson Field on Guadalcanal won him the Congressional Medal of Honor Promoted (1943) brigadier general, he took Tulagi and fought in the Tarawa and Saipan-Tinian operations He served (1946–47) on the staff of the chief of naval operations before retiring in Aug., 1947 In July, 1949, Edson became commissioner of public safety in Vermont

Edson, town (pop 1,571), W Alta., W of Edmonton Its principal industries are mixed farming, lumbering, and mining

education (Latin, =leading out) includes any process shaping the potentialities of the maturing organism and may be formal or informal Informal education results from the constant effect of environment, and its strength in shaping values and habits can hardly be overestimated Formal education is a conscious effort by society to impart the skills and the modes of thought considered essential Thus, Soviet Russian schools indoctrinate their students in the virtues of that system, while schools in the United States stress the democratic method Techniques of instruction also reflect the attitudes of society, i e , authoritarian groups sponsor dogmatic method, while democratic systems emphasize freedom of thought A classical exposition of totalitarian education may be found in Plato's *Republic* Democratic societies by their nature inevitably move toward universal education, hence the United States has a well-developed system of public schools In ancient Greece education for freemen was a matter of studying Homer, mathematics, and music, as well as gymnastics Higher education was carried on by the Sophists and philosophers before the rise of the ACADEMY and the philosophical schools Most education in medieval Western Europe was a charge of the Church the monastic schools and universities were the chief centers, and virtually all students took orders Lay education consisted of apprentice training for a small group of the common people and education in the usages of chivalry for the more privileged With the Renaissance, education of boys, and of some girls, in classics and mathematics became widespread After the Reformation both Protestant and Catholic groups began to offer formal education more broadly The classical-mathematical curriculum became the substance of lay teaching, while the development of scientific inquiry brought new methods and materials Though many schools were still church-sponsored, there was a great increase in the number of private nonsectarian and public schools Elementary and secondary schools were established, and as larger proportions of the population attended, curriculums became differentiated (see PROGRESSIVE EDUCATION and GUIDANCE) and included aspects of VOCATIONAL TRAINING Opportunities for higher education were more widely provided in the 19th and 20th cent , especially in the United States in the LAND-GRANT COLLEGES A large increase in college and vocational training resulted from the provision of tuition and subsistence by the Veterans' Administration to veterans of the Second World War Various religious groups, notably the Roman Catholic, have PAROCHIAL SCHOOLS which parallel public schools Private schools and colleges have frequently been leaders in educational experiment Education today is generally considered as important for girls as for boys (see COEDUCATION), equality of educational opportunity in the United States is an accepted principle, though not always observed in practice Theories of education have reflected psychologies of learning and systems of ethics An ancient idea, held by Socrates, is that the rightly trained mind would turn toward virtue This idea has actually never been abandoned, though varying criteria of truth and authority have influenced both the content and the techniques of education It was present in the classical curriculum of the Renaissance, the theorists of which included ERASMUS, Sir Thomas MORE, and George BUCHANAN Since the 17th cent the idea has grown that education should be directed to individual development for social living COMENIUS, ROUSSEAU, PESTALOZZI, FROEBEL, MONTESSORI, and Horace MANN were outstanding figures in this development In the 20th cent John DEWEY has emphasized that young people should be taught to use the method of experimentalism in meeting problems of the changing environment See ADULT EDUCATION, KINDERGARTEN, NURSERY SCHOOLS See John Dewey, *Democracy and Education* (1916), E. H Reisner, *Historical Foundations of Modern Education* (1927), J. D Russell and C H. Judd, *The American Educational System* (1940).

Education, United States Office of, established (1867) as an independent governmental agency and transferred (1869) to the Dept of the Interior as the Bureau of Education In 1939 the bureau, by executive order, was transferred to the Federal Security Agency and renamed the Office of Education. It was created to collect and disseminate information on education and to promote better standards of education in the United States These functions were greatly expanded, and the office is now empowered to administer funds appropriated as aids to education and to conduct special studies The office publishes many reports and periodicals Henry BARNARD was the first commissioner of education (1867–70)

Edward I, 1239–1307, king of England (1272–1307), son of HENRY III By his marriage (1254) to ELEANOR OF CASTILE he gained new claims in France and strengthened the English rights to Gascony. He received from his father the huge appanage of all outlying English dependencies, including Wales, Ireland, and the lands in France, but he failed in his first attempt to subdue Wales in 1257 After briefly seeming to approach an alliance with Simon de MONTFORT, he took Henry III's part in the BARONS' WAR (1263–67) and, by revitalizing the royal party and its forces, was responsible for the crown's triumph From this time on the young heir actually wielded control of the realm He went on crusade in 1270 but returned from the Holy Land when he learned of his father's illness He did not arrive until 1274 Edward's vigorous reign was characterized by constant warfare Trouble with the Llewelyns led to his successful conquest (1277–82) of Wales beyond the Marches. In 1284 Edward extended the English administration to Wales In France from 1286 to 1289 he improved the administration of Gascony After the death in 1290 of Margaret, Maid of Norway, Edward asserted his claim to overlordship of Scotland John de Baliol, his choice for the throne, soon entered an alliance with Philip IV of France, with whom Edward was already on bad terms In 1296 the English king began his long attempt to conquer Scotland His first campaign was successful, he deposed Baliol and humiliated Scotland by removing the Coronation Stone from Scone to Westminster But while he was heading an expedition to the Continent the next year, a new Scottish leader arose in William WALLACE, who defeated the English at Stirling Bridge Edward ceased fighting with France, England's claims to Gascony were to be favorably settled finally in the treaties of 1299 and 1303 On a second expedition into Scotland he won a brilliant but inconclusive victory at Falkirk (1298) Campaigns in the following years led to Wallace's defeat and execution (1305), but a new leader, ROBERT I (Robert the Bruce), arose as king of a still-defiant Scotland Edward commenced an expedition against him but died before reaching the border, commending the cause of the conquest of Scotland to his son, EDWARD II An astute general and planner, Edward I is outstanding for his efforts to extend the English rule to all of Britain More important, however, are those developments during his reign in law and constitution that have caused him to be praised as the English Justinian He began to strengthen the central government by *quo warranto* writs, which reduced and restricted private feudal courts, and by his law of 1285, *Circumspecte agatis*, he forced church courts to confine themselves to ecclesiastical cases His three Statutes of Westminster (1275, 1285, 1290, see WESTMINSTER, STATUTES OF) formulated the advances of a century of common law and supplemented them By his statute on mortmain (1279) Edward prohibited grants of land to the church without the king's permission In turn the English clergy, backed by Boniface VIII's bull *Clericis laicos* (1296) refused in 1297 to contribute to Edward's campaign against the French until the king boldly denied protection to them and their goods and even threatened to confiscate all church property Such action was mainly prompted by his need for funds Partly in deference to popular demand, partly in accord with what he conceived as sound economic policy, he expelled (1290) all Jews from England His expensive wars necessitated concessions to the barons and threw him upon the generosity of all his subjects The Model Parliament which he called in 1295 marked a tremendous forward step in the development of a powerful governmental body representative of all three estates The increasing resistance of the barons, merchants, and clergy to heavy taxation for war forced Edward to issue in 1297 the confirmation of the Charters, including the Magna Carta and those signed by Henry III Edward here promised in effect to collect aids and other forms of taxation only with the consent of Parliament Although he later revoked part of the confirmation, this doctrine survived to become the basis of "no taxation without representation" Edward was a handsome, personable man, so tall that he was known as Edward Longshanks He was, however, violent, ambitious, and hasty—a strong but somewhat unstable ruler. See T F Tout, *Edward the First* (1903) and *History of Eng-*

land . . . 1216–1377 (1905); Edward Jenks, *Edward Plantagenet (Edward I), the English Justinian* (1923), F M Powicke, *King Henry III and the Lord Edward* (1947)

Edward II, 1284–1327, king of England (1307–27), son of Edward I and Eleanor of Castile, called Edward of Carnarvon for his birthplace in Wales He served as regent during his father's absence in 1297–98 and became the first prince of Wales in 1301. He accompanied his father in the Scottish campaigns, but the prince's dissipations caused Edward I to banish young Edward's friend, Piers GAVESTON Edward succeeded his father in 1307 and married Isabella of France in 1308 Almost immediately the strains which were to dominate his reign became apparent—internal dissension and the loss of Scotland His insistence of having Gaveston at court and even as regent during his absence caused rebellion of the barons, who appointed (1310) 21 lords ordainers to rule Gaveston was treacherously killed by some of the nobles in 1312. Meanwhile Edward had tried to renew the campaigns against Scotland which Robert I (Robert the Bruce) had forced him to abandon in 1307 At Bannockburn in 1314 the Bruce won a signal victory over Edward's forces England itself was blighted by internal disorders and famines A moderate royalist group of barons under Aymer de Valence, earl of Pembroke, gave promise of stability in government from 1318 to 1321, but Edward found new favorites in the Hugh Despensers, father and son, who virtually ruled from 1322 to 1326 They called a parliament at York in 1322, important not so much for its enactments as for its principle that provisions for the good of the realm should have the consent of commoners as well as of barons, earls, and clergy The Despensers also made (1323) a truce with Robert the Bruce which lasted for 13 years and virtually recognized him as king of Scots Their avarice caused the Despensers to overreach themselves in making enemies Queen Isabella was finally disaffected by Edward's neglect and by mistreatment from his favorites When trouble threatened with the new king of France (her brother, Charles IV) she went as envoy to France in 1325, taking with her her son, the heir to the English throne (later EDWARD III) Refusing to return home while the Despensers ruled, Isabella now entered an adulterous alliance with Roger de Mortimer, who had fled to France With him and her son she married Philippa of Hainault, and in 1330 his first son, EDWARD THE BLACK PRINCE, was born In this year Edward executed a coup and seized power, putting Mortimer to death and forcing his mother into retirement. Edward, who had gone to Scotland on the unsuccessful expedition of 1327, resented the terms of the Treaty of Northampton (1328) by which he had renounced the Scottish throne and decided to support Edward de Baliol against the Scottish king, David II. Edward's victory at Halidon Hill in 1333 did not settle the Scottish question, and trouble with France arose to divide his attention The series of wars known as the HUNDRED YEARS WAR, which was to dominate Edward's reign, began in 1337 Disputes over English holdings in France, trouble between the great Flemish weaving cities (allies of the English) and their French overlords, and French aid to the Scots were chief causes of this war. Edward's assumption of the title of king of France in 1340, based on a claim through his mother, which was first advanced in 1328, was a contributing factor. Edward took an active part in the war, fighting in the naval victory of Sluis (1340), in the famous battle of Crécy (1346), and in the victory at Calais (1346) His son, the Black Prince, achieved a popular reputation for his exploits, such as his victory at Poitiers (1356), where he captured the French king, JOHN II, who had succeeded PHILIP VI in 1350 The Treaty of London (1359) ended this phase of the war but was unpopular in France because of its concessions to England. Fighting was resumed, continuing through the treaties of Brétigny and Calais, by which Edward renounced his claim to the French throne in return for the possession of Aquitaine In 1369 CHARLES V of France repudiated the Treaty of Calais and renewed the war, but Edward took less interest in it Various factors, among them the poor health of the Black Prince, led to a truce in 1375, which proved to be but a pause in the fighting Wars with the Scots, who had been receiving French aid, continued in a desultory manner In 1346 the English had won a victory at Neville's Cross in England and made a prisoner of David II In 1356 Edward had gone on the expedition known as Burnt Candlemas against the Lothians But, like the French wars, the Scottish wars were inconclusive in Edward's reign The great constitutional developments of this period were promoted by the heavy expenditures on the wars Parliament, by withholding money grants, forced concessions from the king, as in the collection of tallage, and it was at this time that Parliament began to take the form it was to retain Equally important in bringing about social change in England were the visitations of the Black Death (see PLAGUE), which struck first in 1348–49 and again in 1362 and 1369 The decimation of the population allowed the lower classes to demand higher wages and social advancement In an effort to combat this and to preserve old conditions, the Statutes of Laborers were passed (first adopted in 1351) Religious unrest during the reign found a spokesman in John WYCLIF Edward quarreled with the Church—first, because of papal and hierarchical threats to his power, secondly, because the pope generally supported the French king, and, thirdly, in order to divert church revenues into his chronically exhausted coffers The Statutes of Provisions (first issued 1351) and Praemunire (first issued 1353) were aimed at breaking down church power In 1371 the clerical ministers were replaced by laymen, but this proved unsuccessful During the last years of his reign, Edward was under the influence of his greedy mistress, Alice PERRERS The political scene was one of rivalry between the court party headed by JOHN OF GAUNT and the clerical and parliamentary party led by the Black Prince and Edmund Mortimer (husband of Edward's granddaughter) Supported by Alice Perrers, John of Gaunt gained control, but at the time of the Good Parliament of 1376, Alice Perrers was expelled from the court, and John's ministers were impeached However, the Black Prince died, and John once again seized power in 1377 Edward died soon afterward, and the son of the Black Prince came to the throne as Richard II Of Edward III's seven sons five lived to figure importantly in history and establish lines of rival claimants to the throne These sons were Edward the Black Prince; Lionel of Antwerp, duke of Clarence, John of Gaunt, duke of Lancaster, Edmund of Langley, duke of York, Thomas of Woodstock, duke of Gloucester See Joshua Barnes, *The History of Edward III* (1688), W P Warburton, *Edward III* (1884), James Mackinnon, *The History of Edward III* (1900), T F Tout, *History of England, 1216–1377* (1903), G M Trevelyan, *England in the Age of Wycliffe* (1909)

Edward IV, 1442–83, king of England (1461–70, 1471–83), b Rouen, France He succeeded (1460) to the leadership of the York party (see ROSES, WARS OF THE) after the death of his father, Richard, duke of York, and the defeat and capture of HENRY VI at Northampton He defeated the Lancastrians at Mortimer's Cross in 1461, entered London shortly thereafter, and was proclaimed king He achieved another victory over the Lancastrians at Towton Field in the same year Between 1462 and 1464 he participated in campaigns in the north, but because he was negotiating a secret marriage with Elizabeth Woodville, he was not present at the defeat of the Lancastrians at Hexham in 1464 Edward's marriage and subsequent favoritism to his wife's family alienated his cousin, the able and ambitious Richard Neville, earl of Warwick The severe reprisals taken by Edward's constable, John Tiptoft, earl of Worcester, caused some discontent Warwick married his daughter to Edward's brother, George, duke of CLARENCE, and openly rebelled Warwick defeated Edward's forces at Edgecote, but the king was strong enough to oppose him, Warwick soon fled to France, where, under the influence of Louis XI, he formed an alliance with MARGARET OF ANJOU, queen of the deposed Henry VI They returned to England with an army, rescued Henry from the Tower, and replaced him on the throne Edward fled to Holland but returned in 1471 to defeat and kill Warwick at Barnet and rout the Lancastrians at Tewkesbury, where Margaret was captured and her son killed With the death of Henry in the Tower in 1471, Edward's position was secure The remainder of his reign was a peaceful one Edward remained popular despite his dissolute, often ruthless, character He had little recourse to Parliament and instituted the system of benevolences as a source of income He did much to promote trade See Charles Oman, *The History of England, 1377–1485* (1906), K H Vickers, *England in the Later Middle Ages* (1914), C L Scofield, *The Life and Reign of Edward IV* (1923)

Edward V, 1470–83, king of England (1483), elder son of EDWARD IV and Elizabeth Woodville His father's death (1483) left the boy king the pawn of the conflicting ambitions of his paternal uncle Richard, duke of Gloucester, and his maternal uncle, Earl Rivers, Gloucester had Rivers arrested and confined the king and his younger brother, Richard, duke of York, to the Tower The young princes were declared illegitimate, and Gloucester, with a show of reluctance, took the throne as RICHARD III The fate of the two children in the Tower remained a mystery for more than 20 years, until Sir Thomas More, seeking a solution, offered proof that they had been smothered in their sleep by order of their uncle, Richard Skeletons, presumed to be those of the princes, were unearthed in the Tower during the reign of Charles II Their pathetic fate has appealed to the imagination of many writers, including Shakspere, who treats their unfortunate careers in *Richard III*

Edward VI, 1537–53, king of England (1547–53), son of HENRY VIII and Jane Seymour Edward succeeded his father under a council of regency, whose composition reflected Henry's desire to forward the Reformation Control of the government went to Edward's uncle, Edward Seymour, earl of Hertford (later duke of SOMERSET), who became protector In general he continued Henry's policies but relaxed the Tudor absolutism by liberalizing the treason and heresy laws The Church became increasingly national, and the government, tempering the zeal of Thomas CRANMER, archbishop of Canterbury, moved slowly toward Protestantism The new order of communion (1548) and the first Book of Common Prayer (1549) increased contention between Catholics and reformers, and an unsuccessful rebellion of Catholics occurred in the west The dissolution of chantries and the destruction of relics, both begun under Henry, proceeded apace A proposal for the union of England and Scotland was refused by the latter, despite the great victory of Somerset at Pinkie (1547) The Scots instead strengthened their alliance with France, the power which increasingly threatened England's safety War between France and England broke out in 1549 over the possession of Boulogne Meanwhile there had arisen at home the pressing agrarian problem of excessive inclosure of common lands By adopting the yeomen's cause, Somerset aroused the opposition of the gentry and the council, thus affording his rival, John Dudley, earl of Warwick (later duke of NORTHUMBERLAND), an opportunity to secure his overthrow (1549) Dudley, after confining Somerset in the Tower, won complete ascendancy over Edward With the prorogation (1550) of Parliament and the expulsion of Catholics from the council, the reformers triumphed, and Dudley gained control of the government By an ignominious treaty with France he secured peace The confiscation of chantry lands and church treasures brought needed revenue A second Act of Uniformity and a second Book of Common Prayer, both more strongly Protestant, were adopted After Somerset's execution (1552), Northumberland's government became increasingly unpopular Fearing the accession of the persecuted Catholic princess, Mary, the duke inveigled Edward into settling the crown on Lady Jane GREY, granddaughter of Henry VIII's sister and wife of Northumberland's son, who was to receive the crown matrimonial At the dying king's insistence the council reluctantly assented, and Northumberland made hurried preparations for the coming unsuccessful struggle against Mary's forces Edward himself had given indications that he might have matured into a strong-willed but intelligent and pious king, but his domination by Northumberland prevents an accurate assessment See A F Pollard, *England under the Protector Somerset* (1900) and *History of England, 1547–1603* (1910), Clements Markham, *Edward VI* (1907), C H Smyth, *Cranmer and the Reformation under Edward VI* (1926)

Edward VII, 1841–1910, king of England (1901–10) The eldest son of Queen Victoria, he was known for 60 years as Albert Edward, prince of Wales He traveled widely on the Continent, in the Near East and in India, and in 1860 he visited the United States and Canada In 1863 he married Alexandra, daughter of Christian IX of Denmark They had six children, the second of whom was to become GEORGE V Victoria lived largely in seclusion for some years after the death of the prince consort in 1861 and upon the prince of Wales devolved the duty of representing the crown at public functions A liberal patron of the arts and sciences, he was also a leader of a notable social group and an enthusiastic sportsman His tactful recognition of Liberal

leaders softened the public's impression of Victoria's partiality for the Conservatives His love affairs, however, often offended his mother's stern moral sense and distressed the proprieties of Victorian England The prince ascended the throne on Jan 22, 1901, his coronation the following year was postponed for some weeks because of an illness As king, Edward was well received on two visits to Ireland In the course of his travels on the Continent he did much, by his tact and personality, to promote better international understanding He had a hand in building the alliance with France and helped bring about a number of arbitration treaties with other powers The end of his reign was marked by the constitutional crisis over the attempt to limit the veto power of the House of Lords Edward cooperated somewhat reluctantly with the Liberal ministry of Herbert Asquith, but the issue was still unresolved at the time of his death See Sidney Lee, *King Edward VII* (2 vols, 1925–27), E F Benson, *Edward VII* (1933)

Edward VIII, 1894–, king of England (1936), known in later years as the duke of Windsor The eldest son of George V, he was born at White Lodge, Richmond, and christened Edward Albert Christian George Andrew Patrick David He was privately tutored and studied at the Osborn Naval College and the Royal Naval College at Dartmouth In 1911 he was made prince of Wales and earl of Chester His studies at Magdalen College, Oxford, which he entered in 1912, were interrupted by the First World War The young prince went to France in 1914 as aide-de-camp to Sir John French at Saint-Omer, France, and later served in Italy and Egypt Between 1919 and 1936, his duties as prince of Wales carried him on many trips He visited the United States Japan, South America, and the dominions—Canada, New Zealand, Australia, South Africa, and India His fondness for hunting and riding gained him the reputation of a sportsman As prince of Wales he manifested interest in such problems as slum clearance and housing After a trip in 1929 to the depressed mining areas of Wales, his sympathetic comments concerning conditions there received much attention On the death of his father in Jan, 1936, he succeeded to the throne, but his intention to marry Wallis Warfield Simpson (see WINDSOR, WALLIS WARFIELD, DUCHESS OF), an American, then suing her husband for divorce, precipitated a crisis The government, headed by Stanley Baldwin, opposed the marriage, and the issue developed into a struggle between monarch and cabinet The king insisted upon his right to marry the woman of his choice The government saw in his refusal to accede to its wishes a threat to constitutional procedure Since no resolution seemed possible, the king executed a deed of abdication, and on Dec 11, 1936, a bill of abdication was passed by Parliament After a moving radio address, the ex-king left for the Continent He was granted the title of duke of Windsor On June 3, 1937, he married Wallis Warfield at Monts, France After a trip to Germany in 1937, a proposed visit to the United States was canceled With the outbreak of the Second World War, the duke went to France as a major general, serving briefly as a liaison officer between British and French headquarters In 1940 he was appointed governor of the Bahamas, a post which he held until 1945 After that time, he lived in France but traveled much, making frequent trips to the United States

Edward Nyanza (nĭăn'zŭ, nē–), lake, area 830 sq mi, in the Great Rift Valley, central Africa, on the border of the Belgian Congo and Uganda It is at an altitude of 3,240 ft The lake is connected by the Semliki river to Albert Nyanza in the north, and it is one of the lakes supplying water to the Nile Edward Nyanza was discovered by Stanley in 1899 It is also called Lake Edward

Edwards, Edward, 1812–86, English library pioneer As assistant in the British Museum, he helped Sir Anthony Panizzi draw up the rules for the catalogue (1839–46) Edwards collected library statistics and advised William Ewart on the free-library legislation for the United Kingdom (1850) He was first librarian of the Manchester Free Library (1850–58) He wrote a biography of Sir Walter Ralegh (1865), *Memoirs of Libraries* (1859), and *Lives of the Founders of the British Museum* (1870)

Edwards, George, 1693–1773, English naturalist He became librarian of the Royal College of Physicians in 1733 His works include *History of Birds* (1743–51) and *Gleanings of Natural History* (1758–64)

Edwards, George Wharton, 1859–1950, American illustrator and author, b Fair Haven (now part of New Haven), Conn, studied in Antwerp and Paris He was art director of *Collier's Magazine* and the American Bank Note Company and was well known for his magazine and book illustrations and water colors A mural painting on Henry Hudson is in the U S Military Academy at West Point His publications include *Thumbnail Sketches* (1886), *Holland of Today* (1909), *Brittany and the Bretons* (1910), *Some Old Flemish Towns* (1911), *Vanished Towers and Chimes of Flanders* (1916), *Vanished Halls and Cathedrals of France* (1917), *Belgium Old and New* (1920), and other travel volumes

Edwards, Haden see FREDONIAN REBELLION.

Edwards, Harry Stillwell, 1855–1938, American author, b Macon, Ga, grad Mercer Univ, 1877 A newspaperman in Macon, he is remembered for his Georgia tales in *Two Runaways and Other Stories* (1889), *Eneas Africanus* (1919), and other volumes and for a novel, *Sons and Fathers* (1896)

Edwards, Henri Milne see MILNE-EDWARDS

Edwards, Jonathan, 1703–58, American theologian and metaphysician, b South Windsor (then in Windsor), Conn He was a precocious boy, early interested in things scientific, intellectual, and spiritual After graduating from Yale at 17, he studied theology, preached in New York city, tutored at Yale, and in 1727 became the colleague of his grandfather, Solomon Stoddard, in the ministry at Northampton, Mass In 1729, on his grandfather's death, Edwards took sole charge of the congregation The young minister was not long in gaining wide spiritual leadership by his forceful preaching and powerful logic These were in the best Calvinist tradition and were enriched by his reading in philosophy, notably Bishop Berkeley and John Locke His favorite themes were predestination and the absolute dependence of humble man upon God and upon divine grace, which alone could save man He rejected with fire the Arminian (see REMONSTRANTS) modification of these Calvinist doctrines He exhorted his hearers with great effect and held in 1734–35 a religious revival in Northampton which in effect brought the GREAT AWAKENING to New England Edwards was stern in demanding strict orthodoxy and fervent zeal from his congregation He was unbending in a controversy over tests for church membership, and in 1750 he was dismissed from Northampton At Stockbridge, Mass, where he went to care for the Indian mission and to minister to a small white congregation, he completed his theological masterpiece, *The Freedom of the Will* (1754), which sets forth metaphysical and ethical arguments for determinism In 1757 he was called to be president of the College of New Jersey (now Princeton), but he did not have time to establish himself there In 1758 he died, far from his beloved wife, Sarah Pierrepont Edwards His influence on American Christian thought was immense for a time Such men as Joseph BELLAMY and Samuel HOPKINS spread the doctrines of Edwards's New England theology Yet it is often said that Jonathan Edwards was the last of the great New England Calvinists His theological writings are perhaps less read today than his more casual writings and some of his burning and poetic sermons, such as *Sinners in the Hands of an Angry God* and *God Glorified in the Work of Redemption by the Greatness of Man's Dependence on Him in the Whole of It* Many of his descendants have attained to high positions in the U S culture A short selection of his works, ed by Clarence H Faust and Thomas H Johnson, appeared in 1935 See bibliography, *Printed Works of Jonathan Edwards* (ed by Thomas H Johnson 1940), introduction by Perry Miller to *Images or Shadows of Divine Things* (1949), biographies by H S Parkes (1930), A C McGiffert (1932), O E Winslow (1940), Perry Miller (1949)

Edwards, Jonathan, the younger, 1745–1801, American theologian, b Northampton, Mass, grad College of New Jersey (now Princeton), 1765, son of Jonathan Edwards (1703–58) His career in some ways paralleled that of his famous father After serving as pastor of a New Haven church from 1769 to 1795, he was dismissed for opposing the HALF-WAY COVENANT He was pastor at Colebrook, Conn, until 1799, then was made president of Union College, but died before he could make much impress on the college He edited some of his father's works and generally held to his doctrines, though in *On the Necessity of the Atonement* the younger Edwards expounded a "governmental theory" of the Atonement, which was more liberal and more popular than the elder Edwards's "satisfaction theory"

Edwards, Ninian, 1775–1833, governor of Illinois, b Maryland A Kentucky lawyer and jurist, he was appointed (1809) governor of Illinois Territory and served in the formative years until 1818 He served as one of the first U S Senators from the new state and, despite growing political opposition, was elected governor in 1826

Edwards, William Henry, 1822–1909, American entomologist, b Hunter, N Y, grad Williams College, 1842 His chief work was the 18-volume *Butterflies of North America* (1872–97) To his *Voyage up the River Amazon* (1847), A R Wallace credited the inspiration for his own famous journey with H W Bates

Edwards, town (pop 1,110), W Miss, W of Jackson The Civil War battle of Champion's Hill in Grant's VICKSBURG CAMPAIGN was fought near here

Edwardsville. **1** City (pop 8,008), co seat of Madison co, SW Ill, NE of St Louis, in a coal area, settled 1800, platted 1813, inc 1837 Radiators and boilers are made here. **2** Industrial borough (pop 7,998), NE Pa, on the Susquehanna near Wilkes-Barre, inc 1884 Anthracite is mined

Edward the Black Prince, 1330–76, son of Edward III of England He was created duke of Cornwall in 1337, the first duke to be created in England, and was made prince of Wales in 1343 After the battle of Crécy, in which the boy established himself as a valorous knight, he seems to have been called the Black Prince by the French, perhaps because he wore black armor, the name is first recorded in England in the 16th cent He was also called Edward of Woodstock He served at the siege of Calais and was sent by his father to lead an expedition which ravaged Aquitaine in 1355 In 1356 the prince won the battle of Poitiers and captured John II of France When by the Treaty of Calais (1360) the English king received Aquitaine, Ponthieu, and Calais, he created a principality of his French holdings and made Edward prince of Aquitaine and Gascony In 1361 the prince had married Joan the Fair Maid of Kent, and with her he maintained at Bordeaux after 1363 a brilliant court When rebellious Castilians tried to set up Henry of Trastamara as king in place of his half brother, Peter I (of Castile and Leon), Charles V of France allowed Bertrand du Guesclin, a Breton noble, to lead French mercenaries to the aid of Henry The Black Prince took Peter's part and temporarily restored him to his throne by the victory of Nájera (1367) The expenses of the war, however, compelled the prince to levy a tax in Aquitaine which was protested by his nobles and by Charles V on their behalf War with Charles resulted, and the prince, though very ill, directed the capture and burning of Limoges (1370) with needless massacre of the citizens By 1372 his bad health forced him to resign his principalities, leaving his brother, JOHN OF GAUNT, to attempt the impossible task of holding them for England The aging Edward III had relaxed his hold on the government, and in the quarrel of powerful noblemen with the church party John of Gaunt headed the anticlerical group and became virtual ruler of England The Black Prince, aware that he would not live to succeed his father, tried to strengthen the hands of the church party so that the accession of his son (later Richard II) would be assured To that end he and the earl of March inspired the Good Parliament of 1376 which, among other things, impeached two followers of John of Gaunt and removed Alice Perrers, the king's mistress, from court These acts were reversed shortly after the prince's death, but John of Gaunt did not oppose the accession of Richard For bibliography, see EDWARD III See biographies by R P Dunn-Pattison (1910) and H D Sedgwick (1932)

Edward the Confessor, d 1066, king of England (1042–66), son of ÆTHELRED and his Norman wife, Emma Queen Emma and her children fled to the Norman court in 1016, and there Edward grew up, although Emma returned to England and married Canute He was brought to England in 1041 by HARTHACANUTE and succeeded him, being elected king in 1042 and crowned in 1043 Edward governed well and was able (1049–51) to discharge his naval vessels and so free his people from burdensome taxes Earl GODWIN was the most powerful noble in the kingdom, especially after the king married his daughter Trouble between the king and Godwin was aggravated by Edward's natural inclination to favor the Normans in England—notably Robert of Jumièges, whom he made archbishop of Canterbury in 1051 A fracas between the king's brother-in-law, EUSTACE II, count of Boulogne, and the men of Dover, for which Godwin refused to punish the Dover citizens, led to the outlawry and exile of Earl Godwin and his family In their absence Edward received William, duke of Normandy (later WILLIAM I) At this time the childless king probably made William his heir, as William later claimed But in 1052 Godwin and his sons returned and demonstrated their power by making STIGAND archbishop of Canterbury instead of Robert Thenceforward the king took less interest in his realm and more in his religion After Godwin's death in 1053 his sons increased their power, especially HAROLD, who suppressed (1062–63) the Welsh Another son, TOSTIG, was earl of Northumbria until 1065, when his people revolted and exiled him Harold's refusal to help Tostig led to a breach between the brothers Edward was disheartened at the prospect of a war after his death, for both HAROLD III of Norway and William of Normandy had claims to his throne, and he recognized the warlike Harold, son of Godwin, as his successor rather than EDGAR ATHELING The crisis of the succession was resolved by the NORMAN CONQUEST Edward's piety was responsible for his name the Confessor, he was remembered with affection by the English during Norman times He was canonized in the 12th cent Feast Oct 13

Edward the Elder, d 924, king of Wessex (899–924), so called to distinguish him from Edward the Martyr and Edward the Confessor. The son of ALFRED, he was of great aid to his father in the wars with the Danes and was apparently joint king with him. At Alfred's death Edward's succession was disputed by his cousin Æthelwold, who gath-

ered adherents in the north and in Mercia and ravaged the land with rebellion. Edward's armies were not victorious, but the death of Æthelwold in battle (905?) put an end to the war. Shortly thereafter fighting with the Danes recommenced. Aided by his Amazonian sister, Æthelflæd, Lady of the Mercians, Edward undertook the partial reconquest of the Danelaw from Ireland and also repelled viking attacks on the shores of England. Victories of the English enabled him to fortify English lands, and he gradually established himself as the ruler of all England S of the Humber. After Æthelflæd's death (918) Mercia lost its semi-independent position and was ruled by Edward. He was accepted as overking by several Welsh rulers, and he is supposed to have received the submission of Constantine II of Scotland, though there is some dispute as to the reality of the submission. The right of the overlordship of Scotland, based on Edward's position, was asserted by the English kings who later conquered Scotland. Athelstan succeeded Edward, his father. Two other sons also ascended the throne, Edmund and Edred.

Edward the Martyr, d 978, king of England (975–78), son of Edgar and his first wife. Despite the opposition of some of the nobles, Edward was crowned, but could not control the kingdom. He was murdered at Corfe by retainers in the service of his stepmother, Queen Ælfthryth or Ælfrida, and of her son Æthelred. There is no proof that Ælfthryth or Æthelred planned his death, as later tradition said. Edward's body was translated to Shaftesbury; miracles occurred there, and he was regarded as a saint and martyr by the people.

Edwin or **Eadwin** (both ĕ'dwĭn), 585?–632, king of Northumbria (616–32). The son of Ælla and heir to the throne of Deira, he was kept from his inheritance by Æthelfrith. Edwin sought refuge with Rædwald, king of East Anglia, who in 616 defeated and killed Æthelfrith and restored Edwin to his throne and gave him the rule of Bernicia also. In a few years Edwin succeeded Rædwald too, and his overlordship included all the heptarchy but Kent. The king was converted to Christianity by Paulinus (Saint), who accompanied the king's bride (a daughter of the king of Kent) to Northumbria in 625. In 627 Edwin and many of his court were baptized at York, and he seems to have assisted Paulinus in the conversion of his people thereafter. Edwin, in one of his raids attacked Cadwallon, king of North Wales. Later Cadwallon and Penda of Mercia defeated and killed Edwin and his son in 632.

Edwy (ĕ'dwē) or **Eadwig** (ĕ'dwĭg), d 959, king of Wessex (955–59), son of Edmund. He succeeded his uncle, Edred. At his accession he was probably chosen king of Mercia and Northumbria as well as Wessex, but within two years Mercia and Northumbria shifted allegiance to his brother Edgar, who succeeded him in Wessex after his death. Little is known of his short reign, except that during it St Dunstan was exiled because of a personal quarrel with the king.

Eeckhout, Gerbrand van den (gĕr'brant vän dĕn āk'hout), 1621–74, Dutch painter and etcher, pupil and close follower of Rembrandt. His works are sometimes confused with those of his master. Among the best known are *Anna Presenting Samuel to the High Priest* (Louvre), *Resting Huntsman* and *Woman Taken in Adultery* (Rijks Mus.), *Four Chiefs of the Wine Guild* (National Gall., London), and *Sodom and Gomorrah* and *Isaac Blessing Jacob* (Metropolitan Mus.).

Eeden, Frederik van (frā'durĭk vän ā'dun), 1860–1932, Dutch novelist and poet, a practicing physician. In 1898 he founded a cooperative farm colony. His work is pervaded by deep mysticism, a tendency contributing to his conversion (1922) to Roman Catholicism. Van Eeden's best-known work is a novel trilogy, *De kleine Johannes* (1885–1906, Eng tr., *The Quest*, 1907). He also wrote dramas, among them the tragicomedy *Ijsbrand* (1908, Eng tr., *Ysbrand*, 1910).

eel, edible fish of the family Anguillidae of the order Apodes. The common fresh-water eel (*Anguilla*) is found in the Atlantic coastal areas of North America and Europe and in the Mediterranean region. The snakelike body is covered with minute scales embedded in the skin, and the dorsal and anal fins are continuous around the tail. Females grow to a length of 4 ft. and males to about 2 ft. Both the American and the European species breed deep in overlapping areas of the Atlantic Ocean S and SE of Bermuda. They hatch as tiny, flattened, transparent larvae, which travel back toward their ancestral shores. After arrival there (the American eels at the end of the first summer, the European the third) they begin to develop into elvers (tiny creatures with the appearance of the adult). The males remain near the mouths of rivers and the females swim upstream, where they remain for from 5 to 20 years. When sexually mature the adults lose their voracious appetites, and in autumn they migrate to the breeding grounds, reproduce, and die. There are no fresh-water eels on the Pacific slopes of the Americas, but several species inhabit Asia. There are a number of related families of marine eels.

eel, electric: see electric fish.

Efate (ĕfä'tē), Fr *Vaté* (vatā'), volcanic island (pop 1,940), S Pacific, most important island of the New Hebrides. It is SE of Espiritu Santo and is the seat of Vila, capital of the Anglo-French condominium. The island produces copra, coffee, and sandalwood. Havannah Harbour was developed in the Second World War. Efate was formerly called Sandwich Island.

Effen, Justus van (yŏos'tŏos vän ĕ'fun), 1684–1736, Dutch man of letters, founder of the *Hollandsche Spectator* (1731–35), a pioneer in Dutch journalism modeled on the journal of Addison and Steele. See W. J. B. Pjenaar, *English Influences in Dutch Literature* (1929).

efficiency: see industrial management, machine; work.

Effingham, city (pop. 6,180), co. seat of Effingham co., SE central Ill., SE of Decatur, in a farm and dairy area, inc. 1861. It is a railroad center and manufactures food products, lumber, and road machinery. Lake Kanaga borders the city.

efflorescence. see hydrate.

Egadi. see Aegadian Isles.

Égalité, Philippe see Orléans, Louis Philippe Joseph, duc d'.

Egan, Maurice Francis (ē'gun), 1852–1924, American diplomat and author, b. Philadelphia, grad. La Salle College, Philadelphia, 1873, M.A. Notre Dame, 1878, Ph.D. Villanova College, 1907. He taught at Georgetown Univ., was briefly a New York journalist, then was a lay teacher at Notre Dame (1888–95) and at Catholic Univ. (1895–1907). Appointed minister to Denmark in 1907, he remained at that post until 1918, negotiating the purchase of the Virgin Islands, making a fruitful study of Danish farming methods, and conducting himself superbly in a neutral country in the First World War. Among his books, which display ease of style and sunny personal charm are *Ten Years near the German Frontier* (1919), *Confessions of a Book Lover* (1922), and the widely loved *Recollections of a Happy Life* (1924). Other of his writings include poetry, essays, and humorous short stories (notably in *The Wiles of Sexton Maginnis* (1909).

Egan, Patrick, 1841–1919, Irish and American political leader, b. Co. Longford, Ireland. His patriotic interests took him from his grain-milling and bakery business into fervent devotion to the cause of Irish home rule and land reform. He was a member of the Irish Land League from the year of its founding (1879) and was an able lieutenant of Michael Davitt and Charles Stewart Parnell. One of the defendants in the ineffective "state trials" of 1880–81, he fled later before steiner British measures. In Lincoln, Nebr., he again went into grain milling. He continued to work strenuously for the Irish Land League and Irish home rule but also took up American politics and was a minor power in the Republican party until he deserted it for W. J. Bryan and the Democrats in 1896. As minister to Chile (1889–93), he conducted himself well when international relations were strained during the revolt against President José Balmaceda.

Egan, Pierce, 1772–1849, English sports writer and author of *Life in London*, a gay account of the adventures of sporting gallants of the Regency. With its rough-and-tumble humor, slangy style, and timeliness, it was tremendously popular from the appearance of its first number in 1821, and the three chief characters, Jerry Hawthorn, Corinthian Tom, and Bob Logic the Oxonian, were known over all England. Egan was a reporter of sporting events for several journals, he edited a sporting paper, *Pierce Egan's Life in London and Sporting Guide*, which became *Bell's Life in London*. His son, **Pierce Egan,** the younger, 1814–80, wrote numerous popular novels as magazine serials and is known as a pioneer of cheap literature. He was also an illustrator of some talent.

Eganville (ē'gunvĭl), village (pop. 1,088), S Ont., on the Bonnechere river and S of Pembroke. It has lumbering, farming, and manufacturing.

Egbert, d. 839, king of Wessex (802–39), son of an underking of Kent. The name also appears as Ecgberht. He was of the line of Cerdic and was apparently an unsuccessful aspirant for the crown of Wessex against Beohtric. He took refuge at the court of Offa of Mercia, but the alliance of Offa and Beohtric drove him to the court of Charlemagne, where he may have spent three years. At Beohtric's death (802) he became king, apparently without opposition. In 815 he conquered the West Welsh, harrying the present Cornwall. Some 10 years later he was involved in war with Beornwulf, king of Mercia, whom he defeated at Ellandune (or Ellendun). He sent his son Æthelwulf and others to Kent, which was then made an underkingdom of Wessex. East Anglia sought Egbert's protection and revolted against Mercia. Beornwulf was killed in battle, and Mercia submitted (828?) to Egbert. He then secured the nominal submission of Northumbria (829?) without a battle. Thus all the heptarchy recognized his overlordship. In the *Anglo-Saxon Chronicle* he is called eighth Bretwalda (a title of obscure significance), and later historians called him the first king of England (an anachronistic title, for there was no conception of a kingdom of England in his day). His power varied from kingdom to kingdom and year to year. After 834 he had to defend his realm against the Danes and in his last battle defeated the Britons of Cornwall, who had allied themselves with the Danes. Egbert's son, Æthelwulf, succeeded him.

Egede, Hans (häns ā'gudu), 1686–1758. Norwegian Lutheran missionary, called the Apostle of Greenland. He went to Greenland in 1721 and, with the support of the Danish government, founded a mission for the Eskimo. He returned to Copenhagen in 1736. In 1740 he became superintendent of the Greenland mission. His son, Paul, also a missionary to Greenland, translated the New Testament for the use of the Eskimo.

Egedesminde (ā'gudhusmĭ'nu), settlement (pop. 187) in Egedesminde district (pop. 2,413), on NW Greenland, at the mouth of Disko Bay. It is named for Hans Egede, who conducted a mission here.

Eger (ā'gur), Czech *Cheb* (khĕb), city (1948 pop. 14,543), NW Bohemia, Czechoslovakia, near the Bavarian border. King Ottocar II conquered (1266) this old commercial center from Bavaria and lost it (1276) to Rudolf I of Hapsburg. Wenceslaus II recovered it as reward for his support in the election (1298) of Albert I as German king. The city, which suffered greatly in the Hussite Wars, retained a privileged status until the 16th cent. The castle, now in ruins, was built by Emperor Frederick I, it was the scene of the assassination (1634) of the officers who had remained loyal to Wallenstein. The general himself was slain in the town hall. In 1939 the population of Eger was 35,507, the drop is due to the expulsion of the German-speaking inhabitants from Czechoslovakia after the Second World War.

Eger (ĕ'gĕr), Ger *Erlau*, city (pop. 32,482), NE Hungary, on the Eger river. It was created a bishopric by St. Stephen. In 1552 its fortress, commanded by Stephen Dobo, withstood a heavy siege by the Turks, whose advance into Hungary it delayed for several decades. Treachery delivered the city to the Turks in 1596, they held it for almost 150 years. A minaret remains. Francis II Rakoczy used the fortress in his fight against the Hapsburgs, who had it razed. Early in the 19th cent. Eger became an archiepiscopal see, the many churches subsequently built have earned Eger the name "Rome of Hungary." Eger has an active trade, and fine wine is produced in the vicinity. It also has mineral springs.

Egeria (ējēr'ēu), in Roman religion, water goddess. She was particularly invoked as a goddess of childbirth. She was consort and adviser of King Numa.

Egerton, Francis: see Bridgewater, Francis Egerton, 3d duke of.

Egerton, Thomas see Ellesmere, Thomas Egerton, Baron.

egg: see ovum.

Egge, Peter (pā'tur ĕ'gu), 1869–, Norwegian novelist. He was born in Trondheim, the scene of many of his books, and is one of the most prolific writers of Norway. His best-known work is the widely translated *Hansine Solstad* (1925, Eng. tr., 1929). His first success was *The Heart* (1907).

Egg Harbor City, inland city (pop. 3,589), S N.J., NW of Atlantic City, settled 1854 by Germans, inc. 1856. It grew as a center of grape culture and has an annual agricultural fair.

Eggleston, Edward, 1837–1902, American author, a Methodist clergyman, b. Vevay, Ind., educated in the elementary schools of the frontier. Before 1866 he was a Bible agent, circuit rider, farm worker, and minister in Minnesota and Indiana. These circumstances gave him his knowledge of S Indiana and the Hoosier dialect, which he so successfully employed in his fiction. After a few years of journalism in Chicago, he went to New York in 1870 to join the editorial staff of the *Independent*. His literary reputation was established with *The Hoosier Schoolmaster* (1871) and *The Circuit Rider* (1874), and he followed them with other novels and short stories of the Western frontier, of which *Roxy* (1878) and *The Graysons* (1887) deserve special mention. He was pastor of the Church of Christian Endeavor, Brooklyn, from 1874 until 1879, when he retired from all work but writing and historical research. Besides writing juvenile stories and historical lectures and articles, he planned a history of American life, two volumes of which he completed as *The Beginners of a Nation* (1896) and *The Transit of Civilization* (1901). See *The First of the Hoosiers* (1903) by his brother, G. C. Eggleston, biography by W. P. Randel (1946).

Eggleston, George Cary, 1839–1911, American author, b. Vevay, Ind., studied law at Richmond College in Virginia, brother of Edward Eggleston. After a varied career of teaching, plantation life, serving in the Confederate army, and business ventures, he became a journalist in New York city after 1870. He was literary editor (1875–81) of the *Evening Post* and an editorial writer (1889–1900) for the *World*. He wrote a number of boys' stories, biographies, and a good *History of the Confederate War* (2 vols., 1903). *A Rebel's Recollections* (1874) and *Recollections of a Varied Life* (1910) are autobiographical.

eggnog, beverage made of well-beaten eggs combined with cream or milk, to which may be added sugar, wine, spirits, or fruit juices and frequently nutmeg to flavor. A rich eggnog based on bourbon whisky, brandy, or other spirits is a traditional Yuletide drink In certain diets eggnog is useful for its high food value

eggplant, garden vegetable (*Solanum melongena*), grown widely in the tropics, where it is native It is cultivated also in the warmer parts of Europe and the United States Of several varieties, the purple is most popular in the United States and the white in Europe

Egham (ĕg'um), urban district (1931 pop 15,916, 1943 estimated pop *23 563*), Surrey, England, on the Thames and WSW of London In the vicinity are Cooper's Hill, celebrated in a poem by John Denham, Virginia Water, an artificial lake at the end of Windsor Park, and the Royal Holloway College for Women (1886) RUNNYMEDE is a level stretch along the river

Eginhard see EINHARD

Eglah (ĕg'lû) [Heb , =a heifer], one of David's wives 2 Sam 3 5

Eglaim (ĕ'glăĭm, ĕglā'ĭm), place E of the Dead Sea Isa 15 8 See also EN-EGLAIM.

eglantine see SWEETBRIER

Egleston, Thomas (ĕ'gulstŭn), 1832–1900, American geologist, b New York city, grad Yale, 1854, and École des Mines, Paris, 1860 He was superintendent (1861–64) of the mineralogical and metallurgical sections of the Smithsonian Institution In 1863 Egleston organized, with Charles F Chandler, the School of Mines at Columbia Univ He served as professor of mineralogy and metallurgy (1864–97) and assembled the collection now called the Egleston Mineralogical Museum

Eglon (ĕg'-) [Heb , =like a calf] **1** King of Moab. He was murdered by Ehud, who became judge of Israel Judges 3 **2** Ancient city, Palestine, on the southern end of the maritime plain It was one of the cities allied against Joshua, who destroyed it after the battle of Aijalon Joshua 10, 12 12, 15 39

Egmont, John Perceval, 1st **earl of** (ĕg'mŏnt, -munt), 1683–1748, Irish peer, associate of James E OGLETHORPE in founding Georgia, b Co Cork Elected (1727) to the British House of Commons, he served on Oglethorpe's committee investigating penal conditions He was first president of the trustees of Georgia and kept a journal of their transactions, part of which has been printed (1886)

Egmont, Lamoral, count of (lă'mōrăl), 1522–68, Flemish general and statesman, of one of the noblest families of the Netherlands In the service of Philip II of Spain he helped defeat the French at Saint-Quentin (1557) and Gravelines (1558) and was governor of Brabant and Artois Though a devout Catholic, Egmont protested against the persecution inflicted on the Protestants of the Low Countries In 1565 he journeyed to Madrid to induce a change of policy in Philip II, but failed in his mission. When the duke of Alba arrived (1567) at Brussels, he almost immediately had Egmont and Count HOORN arrested Although they had sympathized with WILLIAM THE SILENT, they had actually never entertained the thought of treason against their king Nevertheless, Alba meant to spread terror among the population by securing a death sentence Egmont and Hoorn, both knights of the Golden Fleece, vainly sought to be tried by a court of their order or even to obtain a fair trial by the judges Alba had appointed In 1568 Egmont and Hoorn were publicly beheaded in front of the city hall of Brussels Their death plunged the Low Countries into consternation and fury and was instrumental in the outbreak of open rebellion against Spanish rule Egmont is the central figure of Goethe's tragedy, *Egmont*, for which Beethoven composed an overture and incidental music

Egmont, Mount (ĕg'mŏnt, -munt), extinct volcanic cone, 8,260 ft high, on W North Island, New Zealand. It is symmetrically shaped, with a snow-capped summit

ego see PSYCHOANALYSIS.

egoism (ē'gōĭzm), in ethics, the doctrine that the ends and motives of human conduct are the good of the individual It is opposed to altruism, which holds the criterion of morality to be the welfare of others The term has been variously used, from the broad interpretation of the self and all its concerns and interests (the benevolent self-interest of the utilitarians) to the egoism of Nietzsche in which any self-denial is cowardice Although egoism is most frequently associated with the ethics of the early Greek hedonists and the modern utilitarians, it may be associated with intuitionism, which is by nature ego-centered Herbert Spencer attempted to reconcile egoism and altruism through social discipline, and some modern philosophers attempt this reconciliation through the concept of the growing self who invests his interests in an ever-widening social field

Egorevsk, RSFSR see YEGOREVSK

egret (ē'grĕt'), name for several species of herons of the Old and New Worlds Before they were protected by law the birds were nearly exterminated by hunters who slaughtered them in their nesting colonies to secure, for the millinery trade, their beautiful, white, silky plumage called aigrettes. These feathers develop during the breeding season and in the American egret are straight plumes, about 21 in long, growing on the back The smaller snowy egret or snowy heron, the most beautiful and most hunted, has curved plumes on the back, head, and breast The reddish egret is white part of the year, changing to grayish plumage with brown head and neck The greater and lesser egrets are European species

Egypt (ē'jĭpt), Arabic *Misr* (mĭs'ru), biblical *Mizraim* (mĭzrā'ĭm), kingdom (386,198 sq mi ; pop 19,087,304), occupying the northeast corner of Africa and the SINAI peninsula of SW Asia The capital is CAIRO Egypt is washed on the north by the Mediterranean Sea and on the east by the Red Sea and its two arms, the Gulf of Suez and the Gulf of Aqaba The Sinai peninsula (separated from the rest of Egypt by the Suez Canal) is bordered on the east by Israel and Palestine In Africa, Egypt's land boundaries are Libya on the west and the Anglo-Egyptian Sudan on the south Geographically Egypt is a desert crossed from north to south by the NILE river, which has a fertile valley and delta The Nile is the dividing line between the Western Desert and the Eastern Desert (also called the Arabian Desert), in both of which a small population of pastoral nomads eke out a living The country is also sometimes divided into Upper Egypt (south) and Lower Egypt (north) Egypt is predominantly a plateau averaging under 1,000 ft high The limited mountainous areas are chiefly on the Sinai peninsula (with Mt Sinai, 7,497 ft high, the loftiest peak in the country) and along the Red Sea coast In the mountains oil, Egypt's main mineral resource besides the salt and potash of its deserts, is tapped Comparatively minor, however, are all economic activities outside the Nile valley and delta There some 95 percent of the population lives and nearly all the cultivable land (3 percent of the national area) is found While the density of population in Egypt as a whole (c 50 per square mile) is not large, the density within this zone (c 700 per square mile) is among the greatest in the world The annual inundations of the Nile and carefully controlled irrigation combine with a hot climate and a long growing season to afford Egypt two or even three harvests a year despite the almost total absence of rain (there is, however, winter rainfall on the Mediterranean coast) Agriculture is divided between subsistence crops, including rice, wheat, and green vegetables, and cotton, the main cash crop Industry in Egypt, occupying some 500,000 persons, is confined almost entirely to spinning and weaving cotton The chief industrial center is Cairo, but many of the towns strung along the Nile also contribute their production Most of the cotton, however, is exported, chiefly through the port of ALEXANDRIA, where the foreign trade of the country is concentrated Imports are mainly machinery and luxury goods, in which the country is deficient Egypt also exports some of the products of the Anglo-Egyptian Sudan These are carried down the Nile to Shallal near the First Cataract and there transferred to the southern terminus of the main Egyptian railroad, which parallels the Nile to Cairo and Alexandria There are shorter railroads in the delta and along the Mediterranean coast, and several surfaced roads cross the desert Some 91 percent of the Egyptian population is Moslem, Christians, chiefly of the Coptic Church (see COPT), form about 8 percent, and Jews are a small minority

The Ancient Empire of the Nile The valley of the long river between the deserts, with the annual floods and deposits of life-giving silt and with its equable climate, was the seat of one of the oldest civilizations built by man into an organic whole—rivaled, indeed, only by the somewhat more obscure cultures of Mesopotamia Grain was grown early in the valley of the Nile The earliest known date in world history is that of the adoption of the Egyptian calendar, which has been set at 4241 B C. The antiquity of the regional civilization is thus almost staggering, and whereas the story of other lands is measured in centuries, that of ancient Egypt is measured in millenniums Thanks to the work of Sir William M Flinders Petrie and other archaeologists, much is known even of the period before the actual historic records begin Those records are abundant and, because of the dry climate of Egypt, have been well preserved The inscriptions, such as the Palermo stone (of the V dynasty), have unlocked a wealth of information, both historical and mythohistorical, since the HIEROGLYPHIC writing was deciphered (principally by Champollion) Later historical writings, especially those of MANETHO and, to a lesser extent, those of Greek historians (notably HERODOTUS), illuminate the meaning of the inscriptions. Finally, the great papyrus dumps, preserved in the dry climate, offer an enormous (and not infrequently confusing) amount of information, especially on the later periods of ancient Egyptian history The study of the Egyptian records has become in modern times a science of itself, known as Egyptology The study offers many problems, not the least of which is that of dating events. There is so much argument on the subject that it seems sometimes as if each Egyptologist had developed his own chronology. One system was worked out by the celebrated J. H. BREASTED, and it attained wide enough acceptance to become a sort of conventional dating system, though many critics claim that he makes the early events of Egyptian history much too early Since his system has been much used in textbooks and is supported by his well-established reputation, it has been used throughout *The Columbia Encyclopedia* The division of Egyptian history into 30 dynasties up to the time of Alexander the Great, worked out by Manetho and revised by modern historians, is a convenient frame upon which to hang the biography of the kings and a record of events The table of the dynasties, with the chronology of Breasted, is here given The numbers of the dynasties are given in Roman numbers, and the number is followed by the date of founding and a notation of famous monarchs of that line Since there are many gaps and periods without well-known rulers (occasionally without known rulers at all), those are given simply with dates or are combined with better-recorded periods

I, II. 3400 B C MENES
III 2980 B C SNEFRU
IV 2900 B C KHUFU (Cheops), KHAFRE, MENKURE Age of the great pyramids.
V 2750 B C
VI 2625 B C PEPI I, PEPI II. Old Kingdom or Old Empire ends
VII, VIII 2475 B C
IX, X 2445 B C Capital at Heracleopolis
XI 2160 B C Capital at Thebes
XII 2000 B C AMENEMHET I, SESOSTRIS I, AMENEMHET II, SESOSTRIS II, SESOTHIS III, AMENEMHET III, AMENEMHET IV The Middle Kingdom or Middle Empire
XIII–XVII 1788 B C The HYKSOS (c 1675–c 1575) An obscure period
XVIII 1580 B C AMENHOTEP I, THUTMOSE I, THUTMOSE II with Hatshepsut, THUTMOSE III, AMENHOTEP II, THUTMOSE IV, AMENHOTEP III, Amenhotep IV (IKHNATON), TUT-ANKH-AMEN New Empire, New Kingdom, or Empire begins
XIX 1350 B.C HAREMHAB, RAMSES I, SETI I, RAMSES II, MERNEPTAH, SETI II
XX 1200 B C RAMSES III with TIY New Empire, New Kingdom, or Empire declines
XXI 1090 B C Tanite dynasty, with capital at Tanis
XXII 945 B C Libyan dynasty SHESHONK I Capital at Bubastis
XXIII 745 B C Capital at Bubastis Nubian dynasty, with invasion of PIANKHI
XXIV 718 B C Saite dynasty, with capital at Sais
XXV 712 B C Nubian dynasty TIRHAKAH Assyrian invasions begin foreign domination
XXVI 663 B C PSAMTIK, NECHO, APRIES, AMASIS II Capital at Sais
XXVII 525 B C The ACHAEMENIDAE of Persia in control, CAMBYSES to DARIUS II Egypt revolts
XXVIII, XXIX, XXX 405 B C Last native dynasties before conquest of ALEXANDER THE GREAT in 332 B C Capital at Sais, then at Mendes, then at Sebennytos NEKHTNEBF I, NEKHTNEBF II

The development of a high culture was early, and the artistic and intellectual achievements of the Old Kingdom were notable (see EGYPTIAN ARCHITECTURE, EGYPTIAN ART, EGYPTIAN RELIGION) From the beginning there was a concept of the divinity or quasi-divinity of the king (Pharaoh) that lasted from the time of Menes, who united two earlier kingdoms to make Egypt, to the ultimate fall of Egypt to the Romans Menes, king of Upper Egypt with his capital of Nekheb, near Thebes, conquered the rival kingdom of Lower Egypt in the Nile delta A new capital was set up at MEMPHIS In the unified and centralized state the memory of the two ancient kingdoms was preserved in formalities of administration Trade flourished, for Egypt had to obtain its minerals from abroad. The III dynasty was the first to build extensively in stone and brick. These kings and more especially those of the IV dynasty (which may be said to begin the Old Kingdom proper) were the builders of the great pyramids at GIZEH The Great Pyramid of Khufu has been called "the greatest mass of masonry ever put together by human hands." It is a monument not only to the king but to the unified organization of ancient Egyptian society. This centralization broke down somewhat in the V dynasty, the priests of the sun-god at Hierapolis gained increasing power, and the office of provincial rulers became hereditary, and their local influence was thereafter always a threat to the state In the 25th cent B C the Old Kingdom after a long and flourishing existence fell apart. The local rulers became dominant, and the records, kept by the central government, tended to disappear, leaving the period dark Some order was restored by the IX dynasty, but it was not until 2160 that power was again centralized, this time at Thebes up the Nile. This was to be the capital for the most part of the next millennium. The Middle Kingdom, founded by the XI dynasty, reached its zenith under the XII. The Pharaoh,

however, was not now an absolute monarch but rather a feudal lord, and his vassals held their land in their own power. The XII dynasty advanced the border up the Nile to the Second Cataract Order was preserved, the draining of the Fayum was begun (adding a new and fertile province), a uniform system of writing was arrived at, and civilization reached a new splendor After 213 years this dynasty came to an end, in 1788 B C In the dimly known period that followed, Egypt passed for a century under the Hyksos (the so-called shepherd kings), who were apparently Semites from the east; they may have continued to rule in Palestine as well. They were expelled from Egypt by Amasis I (Ahmose I), founder of the XVIII dynasty The New Kingdom, the New Empire, or the Empire was established The local governors generally opposed both the Hyksos and the new dynasty, those who survived were now made mere administrators, their lands passing to the crown Ancient Egypt reached its height The boundaries were extended into Asia, with a foreign province reaching the Euphrates (see THUTMOSE I and THUTMOSE III). Architecture was at its zenith with the enormous and stunningly impressive buildings at and around Thebes (see LUXOR and KARNAK) The curious religious revolution by which Pharaoh Ikhnaton strove to introduce a monotheism of the sun-god aroused great opposition and wrecked his house Ramses II of the XIX dynasty fought the HITTITES in Syria and concluded a treaty with them Ramses III of the XX dynasty beat off sea raiders (called Achaeans). These invaders did not return, but Egyptian civilization seems to have worn out rapidly There was a succession of weak kings, and the Theban priesthood practically ruled the country and continued to maintain a sort of theocracy for 450 years In the delta the Libyan element had been growing, and with the disappearance of the weak XXI dynasty, which had been ruling from Tanis, a Libyan dynasty came to power This was succeeded by the alien rule of Nubians, Negroes who advanced from the south to the delta under Piankhi and later definitely conquered the land The rising power of ASSYRIA threatened Egypt by absorbing the petty states of Syria and Palestine, and Assyrian kings had come to the very borders of Egypt several times, before ESAR-HADDON actually invaded the land of the Nile, overpowered the Nubians, and sacked Memphis and Thebes Egypt now passed under the control of a great foreign empire Assyrian rule was, however, shortlived, by 650 B C, under Psamtik, Egypt was once more independent and orderly Greek traders became important, and their city of Naucratis, founded by Amasis II, throve Attempts to reestablish Egyptian power in Asia were turned back by Nebuchadnezzar, and Egypt was to fall easy prey to the armies of CAMBYSES of Persia Despite occasional troubles, the Persians maintained their hegemony until 405 B C New dynasties were then established, but they did not regain any of the old splendor Egypt, rich and ill-defended, fell to Alexander the Great with no resistance in 332 B C When his brief empire faded, Egypt in the wars of his successors (the Diadochi) fell to his general Ptolemy who became king as Ptolemy I All the succeeding kings of the dynasty were also named Ptolemy The great city of Alexandria became the center and fountainhead of the new HELLENISM of the Hellenistic world The Ptolemies maintained a formidable empire for more than two centuries and exercised great power in the E Mediterranean The priesthood remained in native hands, but the splendor of the Ptolemaic government weighed heavily upon the overtaxed and hard-working peasantry The Jewish population was large—perhaps as much as a seventh of the total population—and even the Palestinian Jews looked to the Alexandrian Jews for guidance The rising power of Rome early overshadowed Egypt, but it was not until Ptolemy XI through POMPEY got Roman aid to regain his throne that Rome actually obtained (58 B.C.) a foothold in Egypt itself CLEOPATRA, the daughter of Ptolemy XI, tried to win back power for Egypt, especially through Julius CAESAR and Mark ANTONY Octavian (later Emperor Augustus) actually annexed Egypt to Rome, putting to death the putative son of Caesar and Cleopatra who was at least nominally the last of the Ptolemies as Ptolemy XIV Egypt became a granary for Rome, and the emperors from Augustus to Hadrian raised the irrigation system to great efficiency, and Trajan reopened the ancient Nile–Red Sea canal In the 2d cent, strife between Jews and Greeks in Alexandria brought massacres, and a mutiny of the soldiers did irreparable damage The taxes rose steadily to meet increasingly severe and frequent emergencies. Would-be conquerors looked longingly at Egypt, and Zenobia of Palmyra actually took the province, which was, however, soon recovered Christianity was welcomed in Egypt, and several of the most celebrated Doctors of the Church, notably ATHANASIUS, CYRIL (of Alexandria), and ORIGEN, were Egyptians. Egypt gave rise to the Arian and Nestorian heresies, and GNOSTICISM flourished for a time. The patriarch of Alexandria was probably the most important figure in Egypt After Cyril, MONOPHYSITISM became the national faith; out of this arose the Coptic Church The hostility of the people to the Orthodox Byzantine emperors and officials probably helped Khosru II of Persia to gain Egypt in 616 It was recovered (c 628) by Heraclius, but the Persian invasion was but a forerunner of the more serious Arabian invasion. See J H Breasted, *A History of Egypt from the Earliest Times to the Persian Conquest* (2d ed, 1909; many reissues); Sir William M Flinders Petrie, *History of Egypt* (6 vols, 1898–1905, many reissues); E R Bevan, *History of Egypt under the Ptolemaic Dynasty* (1928), James Baikie, *Ancient Egypt* (2d ed, 1932), Allan Chester Johnson, *Roman Egypt to the Reign of Diocletian* (1936), H I Bell, *Egypt from Alexander the Great to the Arab Conquest* (1949)

Islamic Egypt The Arabic conquest of Egypt (639–42), only some 20 years after the rise of Islam, made the country an integral part of the Moslem world Until the 19th cent, Egyptian history was tied up with the general political development of ISLAM, whether unified or divided into warring states Under the OMAYYAD caliphate many of the people continued their adherence to Coptic Christianity despite the special tax exacted from infidels The settling of colonists from Arabia and the financial advantages of adopting Islam eventually reduced the Christian population to a small minority With Arab dominance, the Greek and Coptic languages went out of use and Arabic alone was spoken The ABBASID caliphate (founded 750) at first had Egypt completely in its grip, but the unwieldiness of its vast domain encouraged provincial governors to revolt and to assert their own rule In the 10th cent Egypt fell to the FATIMITE claimants to the caliphate, who invaded from the west The Fatimites founded Cairo in 969 to be their capital, and in 972 with the establishment there of the Mosque of El Azhar as a great (and still active) Moslem university they further signalized the change of Egypt from an outpost of Islam to one of its centers The strain of the CRUSADES may have been responsible for the fall of the Fatimites, which led to the founding by SALADIN of the Ayyubite dynasty The strategic position of Egypt made it a logical target of the Crusaders, who twice (1219–21, 1249–50) held Dametta, then the chief Mediterranean port, but could advance no farther. The later Ayyubite rulers came excessively under the control of their soldiers and advisers, the MAMELUKES, former slaves, who in 1250 seized the country Until 1517, when Egypt was conquered by the Ottoman Turks, the Mamelukes maintained their turbulent rule, with frequent revolts and extremely short tenure for most of the sultans Nevertheless, they built many great architectural monuments Their importance by no means disappeared with the establishment of Ottoman power, for the Egyptian pasha (governor) was compelled to consult the Mameluke beys (princes), who continued in control of the provinces Ottoman control became almost nominal by the administration (1768–73) of Ali Bey, who termed himself sultan Order was not, however, restored, and the Turks by no means gave up attempts to assert power over the unruly beys It was on the pretext of establishing order and restoring Turkish rule that Napoleon Bonaparte (NAPOLEON I) undertook the French occupation of Egypt (1798–1801), though his real object was to strike at Great Britain by cutting off British trade lines and ultimately by detaching India All efforts were bent to establishing French power (in Syria as well as Egypt), and the Turks ultimately joined the British in forcing the French out After the French withdrawal occurred the rise of MOHAMMED ALI, a former common soldier, who was appointed (1805) Egyptian pasha by the Ottoman emperor Mohammed, in 1811, once for all destroyed the Mamelukes' power by massacring their leaders Only the threat of European force could persuade him to desist from using his well-trained army and navy to maintain his conquest of Syria and from threatening all Ottoman power As additional compensation his office of pasha was made hereditary He is the founder of the present Egyptian royal line Succeeding pashas continued his policy of piecemeal annexation of the Sudan and of modernization. All land was confiscated and redistributed in nearly equal shares to the fellahin [Arabic, =peasants], but in time large holdings were built up out of bankrupt estates The cultivation of cotton as a cash crop was inaugurated, the Nile was brought under control through dams, and the SUEZ CANAL was constructed The increasing independence of Egypt from Ottoman rule was manifested by granting (1866) the title khedive (VICEROY) to ISMAIL PASHA. Ismail's extravagance forced him to sell (1875) his shares in the Suez Canal to Great Britain. His successor, Tewfik Pasha, submitted (1880) to joint British-French control over Egypt's finances. An anti-foreign rebellion (1881–82) forced the khedive to appoint a nationalist cabinet. Great Britain and France, supporting Tewfik, compelled the resignation of the cabinet and in May and June, 1882, made a joint naval demonstration off Alexandria. Riots broke out in the city in June. On July 11, after France and Italy refused to join in intervention, the British vessels bombarded Alexandria Troops were then landed, and the rebel forces were rapidly conquered Disapproval of this action led France to withdraw from participation in the Egyptian government in November The British consolidated their control during the period (1883–1907) when Lord CROMER was consul general and *de facto* ruler Lord KITCHENER at this time accomplished the conquest of the Sudan, which was constituted the ANGLO-EGYPTIAN SUDAN, and later (1911–14) he was British consul general in Egypt In the First World War when Turkey joined the Central Powers, Great Britain declared Egypt a British protectorate and deposed ABBAS II, the allegedly pro-German khedive, substituting Husein Kamil, a member of his family After the war Egyptian nationalists of the WAFD party, led by ZAGHLUL PASHA, were especially vigorous in their demands for freedom A treaty providing for Egypt's independence was concluded in 1922 and after some delays went into effect in 1928 A constitution was proclaimed making Egypt a kingdom under FUAD I and establishing a parliament Great Britain, however, might still station troops in Egypt and refused to consider Egyptian claims to the Anglo-Egyptian Sudan The British protectorate was retained until the promulgation of a new treaty in 1936, which made the two countries allies but promised the eventual withdrawal of British troops Fuad was succeeded by his son FAROUK I In 1937, at Montreux, Switzerland, a further step towards sovereignty was accomplished by the agreement (which went into effect in 1949) to end EXTERRITORIALITY in Egypt The country's internal political life was largely a struggle for power between the Wafd party and the throne The constitution was suspended in 1930, and Egypt was under a virtual royal dictatorship until the Wafdists forced its readoption in 1935 In the Second World War, Great Britain undertook the defense of Egypt (and thereby of its empire) according to the treaty of 1936 Egypt did not declare war until Feb, 1945, despite almost continuous danger of Axis engulfment until the British victory at Alamein in Oct, 1942, decisively buried the enemy from the country (for details of the military engagements, see NORTH AFRICA, CAMPAIGNS IN) After the war, demands were made for a revision of the treaty of 1936 Repeated talks failed because of Egyptian insistence that Great Britain allow the incorporation of the Anglo-Egyptian Sudan into Egypt An Egyptian appeal (1947) to the Security Council of the United Nations on this subject was also vain Difficulties were also occasioned by the British announcement that not all military forces in areas other than the Suez Canal zone could be withdrawn Egypt bitterly opposed the United Nations partition of Palestine in 1948 and, joining its forces with the other members of the ARAB LEAGUE, sent troops into the S Negeb. Smaller Israeli forces, however, held the Egyptians to slight gains In domestic politics there were frequent ministerial upsets occasioned by the failure of any party to win a majority in the chamber of deputies Early in 1950, however, the Wafd acquired a majority and formed a one-party cabinet See Lord Cromer, *Modern Egypt* (1908), Stanley Lane-Poole, *History of Egypt in the Middle Ages* (2d ed, 1914), G A Lloyd, Baron Lloyd, *Egypt since Cromer* (1933–34), A E Crouchley, *Economic Development of Modern Egypt* (1938), Charles Issawi, *Egypt, an Economic and Social Analysis* (1947), M A. Rifaat, *Awakening of Modern Egypt* (1948)

Egyptian architecture was formulated prior to 3000 B C Scant tree growth afforded no encouragement for wooden architecture, but from the fine clay deposited by the flood waters of the Nile the ceramic arts developed early and both sun-dried and kilndried bricks were extensively used Fine sandstone, limestone, and granite were available for obelisks, sculpture, and decorative uses, so an architecture of massive, static, and reposeful quality emerged from primitive structures of clay and reeds The incised and flatly modeled surface adornment of the granite buildings apparently was derived from mud wall ornamentation, while the slope given to the masonry walls suggests a method originally used for obtaining greater stability in the mud walls The reeded columns are reminiscent of the original reeds, bound together, which formed the framework The Egyptians developed post-and-lintel construction—the type exclusively employed in their monumental buildings—even though the use of the arch was known to them Walls were immensely thick Columns were confined to the halls and inner courts The massive, sloping exterior walls, containing only a few small openings, as well as the columns and piers which they concealed, were covered with hieroglyphic and pictorial carvings in brilliant colors Many motives of Egyptian ornament are symbolical, such as the scarab, or sacred beetle, the solar disk, and the vulture Hieroglyphics were composed as decorations, in addition to constituting records of historic events Egyptian sculptors possessed the highest capacity for integrating their ornament with the essential forms of the building.

From natural objects, such as palm leaves, the papyrus plant, and the buds and flowers of the lotus, they developed conventionalized motifs Roofs, invariably flat, as suited to the lack of rain, were of huge stone blocks supported by the external walls and the closely spaced columns All dwelling houses, built of timber or of sun-baked bricks, have disappeared, only temples or tombs were constructed in enduring materials and thus survived The great monuments were made possible by the most despotic government ever known the population was put to work on them as each monarch desired to leave behind memorials to his glory The belief in existence beyond death resulted in sepulchral architecture of maximum impressiveness and permanence Egyptian architectural development parallels the chronology (see EGYPT) Old Kingdom, 3400–2475 B C , Middle Kingdom, 2475–1788 B C , New Empire, 1580–1090 B C Old Kingdom remains are almost entirely sepulchral, chiefly the tombs of monarchs and nobles The mastabas, the oldest remaining sepulchers, are rectangular, flat-roofed structures with sloping walls containing chambers built over the mummy pit The PYRAMID of a sovereign was commenced as soon as he ascended the throne Groups of them exist, those at Gizeh, which include the Great Pyramid of Cheops (KHUFU), being among the best-known examples Many Middle Kingdom tombs were tunneled out of the rock cliffs of the west bank of the Nile In a remarkable XII-dynasty group (2000–1788 B C) at Beni Hassan are the earliest-known columns of Egyptian architecture New Empire temples in the neighborhood of Thebes, such as those of Medinet Habu and the Rameseum, derived their form from the funerary chapels of previous ages While remains of earlier temples are almost entirely lacking, the New Empire was the great period of temple construction, those extant exhibiting conformity to a distinct type The doorway in the massive façade is flanked on each side by great sloping towers, or pylons, in front of which obelisks and colossal statues often were placed The more important temples were approached between rows of sculptured rams and sphinxes, and a high enclosing wall screened the building from the common people, who had no share in the temple rituals—these existed solely for the king, the officials, and the priesthood Beyond the open, colonnaded courtyard was the great hypostyle hall with immense columns arranged in a central nave and side aisles, the shorter columns of the latter permitting a clerestory for the admission of light Behind the hypostyle hall were small sanctuaries, where only the king and priests might enter, and, behind these, small service chambers The Great Temple of Amon, at Karnak, is a product of many successive additions, beginning with the XVIII dynasty, the central columns of its hypostyle hall being the largest ever used New Empire temples were also excavated from rock The temple of Abu-Simbel (begun by Seti I), an overwhelmingly impressive monument, has four colossal figures of its builder, Ramses II, who completed it, sculptured from solid rock and flanking the entrance portal in the façade, hewn from the limestone mountainside The temple at EDFU (237 B C), commenced by Ptolemy III, is the best preserved of the Ptolemaic period See Sir W M Flinders Petrie, *Egyptian Architecture* (1918)

Egyptian art. Prehistoric tombs in Egypt have yielded finds of painted pottery and figurines—especially of women—carved ivory tusks, and flint weapons which roughly parallel the European cave drawings of the Paleolithic period Somewhat later, glazed pottery, stone and metal cosmetic utensils, gold ornament, and crude stone reliefs appeared With the beginning of the Old Kingdom period (3400–2475 B C) there was a rapid development of the stylistic conventions which characterize Egyptian art throughout its history In relief sculpture and in painting, the human figure was almost always represented with the head in profile view, the eye and shoulders in front view, and the pelvis, legs, and feet in profile view (the law of frontality) The profile view was favored in representations of animals and objects There was little attempt at plastic or spatial illusionism The reliefs were very low and often sunken below the surface of the stone Color was applied in flat tones and there was no attempt to render effects of linear perspective Corresponding conventions prevailed in statuary in the round Various standing and seated types were developed, but always there was strict adherence to the law of frontality and a tendency to emphasize symmetry and to minimize suggestion of movement Strong emphasis on broad perpendicular planes resulted in a characteristic blocklike effect As religious beliefs emphasized the preservation of all phases of earthly life in order to insure the happy posthumous existence of the dead, what was demanded of the artist was a conceptual and illustrative statement of reality embodied in the most durable materials at his command, rather than the creation of independently beautiful forms Tombs were decorated with a variety of domestic, military, hunting, and ceremonial scenes with full complement of personages and objects. In addition there were statues of the deceased and of his servants and attendants, often shown at their characteristic occupations. Especially in the poorer tombs there were often wooden or terra-cotta statuettes of vassals and slaves frequently arranged in episodical groups Among the earliest examples of Old Kingdom sculpture are stone tablets decorated in low reliefs which probably served as cosmetic palettes Outstanding Old Kingdom examples of sculpture in the round are the *Great Chephren*, in diorite, the *Prince Ra-hetep and Princess Neferet*, in painted limestone, and the *Sheik-el-Beled* (mayor of the village), in painted wood (all Cairo) and the *Seated Scribe*, in painted limestone (Louvre) Because of its relative impermanence, painting was little used as an independent medium, but appears to have served principally as accessory to sculpture A rare example is the painting of geese from a tomb at Medum (Cairo) In the Middle Kingdom period when Thebes was the artistic and political center, there were no innovations in painting and sculpture, which tended toward increased formalism The standardization of art forms resulted in a conventionalized pictorial symbolism that may be associated with the qualities of Egyptian hieroglyphic writing Outstanding for freedom of draughtsmanship are the paintings of the rock-cut tombs at Beni Hassan (e g , *Slaves Feeding Oryxes* and *Cat Stalking Prey*, Tomb of Khnemu-hetep) and elsewhere Superb craftsmanship and richness of design distinguish the minor arts In jewelry often a very fragile, delicately worked mounting is combined with heavy stones and enamel work, suggesting that certain pieces were designed as funerary ornaments rather than for actual wear In both painting and sculpture in the Empire period there was a tendency towards greater elasticity of line and boldness of design, e g , *Nobleman Hunting* (British Mus), Thutmose III, a life-size basalt statue (Cairo), and *Seti I Offering to Osiris*, a limestone relief (temple of Seti I, Abydos) A masterpiece of the 16th cent B C , when a school of artists was producing works at Tel-el-Amarna, is the painted limestone portrait bust of Queen Nofretete, wife of Ikhnaton The style developed at Tel-el-Amarna soon died out Its decline was well advanced in the reign of Tutankh-amen, whose throne chair is a superb example of Egyptian furniture design The body is of cedar exquisitely worked with reliefs covered in sheet gold and inlaid with enamels and semiprecious stones In the Saite period (8th cent B C) there was a conscious return to the simplicity and austerity of the Old Kingdom style Sometimes the imitation is so exact that it is difficult to date a work without an inscription Many finely wrought portrait heads of Saite dignitaries, usually made of close-grained stone such as basalt and highly polished, testify to a recrudescence of realism Yet despite its high level in technical performance, Saite art shows signs of artistic decline even more marked after the Persian conquest of 525 B C During the Ptolemaic dynasty (332 B C –30 B C) the vitality of the ancient architectural tradition was still evident in the construction of great temples (e g , temples of Horus at Edfu, Hathor at Dendera, Isis at Philae), but in the other arts there was servile imitation of Old, Middle, and New Kingdom forms This decadent Egyptian eclecticism could not withstand the infiltration of Greek and Roman forms, and after this period an autonomous Egyptian art did not survive The minor arts, however, continued to flourish Alabaster vases, faience pottery and figurines, glassware, carved ivory, and hammered and enameled metalwork long continued to be produced in the ancient manner, and the traditional Egyptian style predominated in jewelry even though Near Eastern and Greek motifs appear from the end of the Saite period See G C M Maspero, *Art in Egypt* (1922), Sir W M Flinders Petrie, *The Arts and Crafts of Ancient Egypt* (1923)

Egyptian language, chief of the ancient Hamitic languages See HIEROGLYPHIC and LANGUAGE (table)

Egyptian religion. There is no dearth of documents on the religion of the ancient Egyptians Prayers, myths, and legends are known It is true that whole periods of Egyptian history are dark, and the documents cover only certain areas in time, but there is almost a superfluity of material The difficulties in the way of understanding and interpreting the mass of material are, however, enormous because of the innate complexity of the subject Many gods and goddesses seem to be more or less identical and yet coexist Contradictory myths explaining the creation of the world, natural phenomena, and the like were apparently accepted simultaneously There were numerous local deities, and some scholars have sought to find in the history of Egyptian religion a sort of war of the gods, with the dominance of a god following directly the political dominance of the city or region in which his cult centered Others have, however, denied this, pointing out the national prominence of gods whose cults centered in obscure cities or regions that never had political power Attributes were borrowed from one deity for another, and there is much overlapping. The question of the relationship of the gods to particular animals is by no means simple Animals—apparently all animals—were held to be sacred, but only in certain periods was this reverence debased to animal worship Even the sacred Apis bull at Memphis was not simply an animal god but was related to Ptah, the great god, the artificer, the maker of the world, and in a certain sense an earth-god who was identical with the earth The worship of Serapis or Sarapis was also connected with the Apis bull and seems to have arisen at the tomb of the dead Apis bulls Serapis was also the great god, the maker, represented as a bearded man, his cult was late and was promoted chiefly by the Ptolemies in Alexandria Some early cosmological myths represent the heavens as a great, star-studded cow standing above the earth Elsewhere the sky is Nut, the mother goddess, arched over the earth and supported by Shu and Tefnut, gods of the air These three and Keb, god of the earth (both brother and husband of Nut), are in one myth the children of the sun-god, who begat them from himself The connection of Nut with the cow (a symbol of fertility) held also for the other mother goddesses, notably Hathor or Athor, who is frequently represented in art simply as a cow, but more often with a woman's body and a cow's head or a woman with a cow's horns and ears Isis, likewise a mother goddess, is also often represented as a woman with cow's horns Bast, the mother goddess and the "lady of life" whose cult centered at Bubastis, was, however, represented as having the head of a cat or a lioness—and sometimes as a cat or a lioness This correlation of animal and god gives an individual and peculiarly baffling aspect to Egyptian pictured and sculptured representations of the deities The hawk or falcon is connected with the sun-god, particularly with the sun-god Horus Anubis, one of the gods of the dead, who conducted the dead to judgment, is represented as a reclining jackal or a man with a jackal's face Thoth, who also conducted the dead and was, besides, the secretary god who kept the records of the dead and of the gods, was shown as a man with the head or neck of an ibis or as an ibis He also was connected with the baboon Sometimes parts of different animals were combined into one figure, e g , the wings of a falcon and the claws of a lion, or the head of a hippopotamus and the back of a crocodile, occasionally there would be anatomical features from four or five animals combined Other symbols were also attached to the deities Thoth, for instance, was represented bearing the moon symbol Horus and the other sun-gods had the disk as symbol of the sun Neith or Neit, a sky-goddess and the goddess of joy, whose chief temple was at Saïs, had crossed arrows as her symbol The sun-god Ra or Re, whose worship centered at Heliopolis, had the obelisk (again a fertility sign) for his chief symbol Myths are likewise overlapping and seem to present contradictions One of the best known is that of OSIRIS and ISIS These two were brother and sister as well as husband and wife, they were the children of Keb and Nut, as were also Nepthys and Set or Seth, who was the principle of darkness, night, and evil He managed to kill Osiris and hide the body, but Isis found it and partially revived Osiris Set, discovering this, hacked the body of Osiris to bits Isis found them all and with the help of Thoth restored Osiris, who then dwelt in the underworld and became the judge of the dead Horus, the son of Osiris and Isis, avenged his father and took over his father's power since Osiris had gone to the dark underworld Horus it was who sailed the sun boat across the heaven daily The king was looked upon as occupying the place of Horus, and the succession of a new king was celebrated as the replacement of Osiris by Horus In time the name of other sun-gods, particularly Ra and AMON, became much more common in usage than that of Horus, but Horus by no means disappeared Not only did the several sun-gods coexist, but other aspects and other names might be attached to one, e g , Ra as the rising sun was Khepri, as the setting sun Atum The importance of sun worship in Egypt can hardly be overstressed, and it should be noted that the one attempt at establishing monotheism in ancient Egypt—the reforms of IKHNATON—were aimed at making the sun-god the sole god Great emphasis was placed on the cult of the dead, leading to emphasis on the tomb and on the corpse and causing the building of the PYRAMID as the king's tomb, the greatest form of tomb the world has known Hence also the preservation of the bodies of the great by embalming (Anubis, who had helped Isis care for the dead Osiris, was the god of embalming) and mummification (see MUMMY) The dead were provided with food and drink, weapons, and articles of toilet. Tombs were often visited by the family, who brought new offerings A whole body of funerary literature grew up, the most celebrated example being the BOOK OF THE DEAD Most of this dealt with proper precautions and care for the dead so as to insure proper immortality The concept of immortality was complex. The elaborate care for the remains testifies to the belief

in some fashion in the immortality of the body (at least the form of the body), but the fundamental doctrine seems to have been belief in the ka, the vital spirit within a man A man was said at his death to have joined his ka The dead were peculiarly attached to the place of burial, but might also venture abroad as ba, an earthly apparition usually represented in bird form, and tombs were provided with some means of entrance and exit for the ba At least some of the great dead were conceived of as being translated among the stars and thus joining the rhythm of nature Finally the underworld was spoken of as the abode of the dead The evidence, it may be noted, is concerned primarily with the treatment of dead kings and nobles, and much less is known of the funeral customs of the common people and the peasantry The king as successor to the god and as a god himself was the chief of the priests, but in the many centuries of Egyptian history powerful priesthoods grew up, the priests becoming enriched particularly by the service in the cult of the dead They at times exercised actual powers of government in the land The worship of the Egyptian deities was not in late days confined to Egypt Those who were especially adopted by the Romans and the Greeks were Isis, Horus (especially as a child, called Harpocrates and shown with his finger to his lips, thus being sometimes considered the god of silence), and Serapis The worship of Isis as the mysterious and beneficent mother goddess was especially widespread and persisted until well in the Christian era Interest in the occult has always emphasized the secrets of the Egyptian religion and the wisdom of the East The modern believers in the occult often are concerned with the secrets revealed to the initiate by signs and proportions in the Great Pyramid and with lore allegedly handed down within hidden organizations of the initiate Modern scholars have tried to gather together the immense amounts of information on the innumerable gods and to catalogue and classify the abundant materials Many take the view that the frequent contradictions can be explained only by assuming that the Egyptians accepted the many local gods without concern for the contradictions and that, therefore, their polytheism was a matter of conflicting beliefs Some scholars have turned their attention to development within the religion J H Breasted attempted to show, by correlation of data from different periods, that Egyptian thought and religion evolved steadily toward a more spiritual concept and especially toward a broader and deeper ethical view of life Recently H Frankfort has attempted to show an underlying unity in Egyptian thought and to demonstrate that apparent confusions and contradictions resulted only from the use of many approaches to the ineffable problems of being, permanence, and change See Adolf Erman, *A Handbook of Egyptian Religion* (Eng tr, 1907), J H Breasted, *Development of Religion and Thought in Ancient Egypt* (1912) and *The Dawn of Conscience* (1934), Sir E A Wallis Budge, *From Fetish to God in Ancient Egypt* (1934), H Frankfort, *Ancient Egyptian Religion* (1948)

Egyptians, Gospel of the see PSEUDEPIGRAPHA

Ehi (ā'hī), the same as AHIRAM

Ehime (āhē'mā), prefecture, NW Shikoku, Japan see MATSUYAMA

Ehrenberg, Christian Gottfried (krĭs'tyän gôt'frēt ā'runbĕrk), 1795-1876, German naturalist, studied theology and then medicine In 1820 he went to Egypt for scientific exploration and later to Syria and Arabia, describing his travels in several books He went with Alexander von Humboldt into Asiatic Russia in 1829 His principal investigations were studies of the infusoria

Ehrenbreitstein (ā"runbrīt'shtīn), fortress, W Germany, on a high cliff across the Rhine from COBLENZ, of which it has been a part since 1937 It was first built in 1128, probably on earlier foundations, and was rebuilt in the 19th cent It was occupied after the First World War by the Americans and the French, and in 1945 by the French

Ehrenburg, Ilya Grigoryevich (ēlyä' gēgôr'yuvĭch ā'rünbōōrk), 1891–, Russian journalist and novelist, whose name is also spelled Erenburg He is noted for his reports on both the First and Second World Wars Some of his reports are translated in *The Tempering of Russia* (1944) Because of long residence abroad (1921–40), he is the most cosmopolitan of the Soviet writers In 1942 he won the Stalin Prize for a novel, *The Fall of Paris* (Eng tr, 1942), dealing with the decay of French society from 1935 to 1940 Other translated novels are *The Extraordinary Adventures of Julio Jurenito and His Disciples* (1921, Eng tr, 1930), *The Love of Jeanne Ney* (1924, Eng tr, 1929), an ironic spy story, *A Street in Moscow* (1927, Eng tr, 1932), *Out of Chaos* (1933; Eng tr, 1934), and *The Storm* (Eng tr, in Moscow, 1948, American ed, 1949), a panoramic war novel which won the Stalin Prize in 1948.

Ehrlich, Paul (poul' ār'lĭkh), 1854–1915, German bacteriologist. He directed (1896) an institute for serum research at Steglitz, near Berlin, which was transferred (1899) to Frankfurt-am-Main as the Institute for Experimental Therapy For his work in immunology he shared with Élie Metchnikoff the 1908 Nobel Prize in Physiology and Medicine He made valuable contributions also in hematology, in cellular pathology, in the use of dyes in microscopy and in the treatment of disease, in the study of cancer, and in his discovery of salvarsan (or "606," so called from its numerical order in his experimental series) and of neosalvarsan (less toxic than salvarsan) for the treatment of syphilis

Ehud (ē'hŭd) 1 Judge of Israel He delivered Israel from Moab Judges 3 12-30 2 Benjamite 1 Chron 7 10, 8 6

Eichelberger, William Snyder (ī'kŭlbûrgur), 1865–, American astronomer, b Baltimore, grad Johns Hopkins (B A, 1886, Ph D, 1896) He was twice assistant on the *Nautical Almanac* and later served as director (1910–29) From 1900 to 1929 he was professor of mathematics at the U S Naval Academy and after 1902 was in charge of several different departments in the Naval Observatory In 1901 he had charge of the U S eclipse station at Fort de Kock, Sumatra, in 1905, of that at Daroca, Spain

Eichendorff, Josef, Baron von (yō'zĕf bärōn' fŭn ī'khundôrf), 1788–1857, German poet His lyric verse, modeled upon German folk songs, is among the best poetry of the romantic period It reflects the sound and mood of nature with remarkable effect One of his best-known poems, "The Broken Ring," has itself become a folk song Schumann set much of his verse to music Eichendorff wrote also the autobiographical *Memoirs of a Good-for-Nothing* (1826, Eng tr, 1866) and several short tales, such as "The Marble Statue" (1817–26, Eng tr in Pierce and Schreiber, *Fiction and Fantasy of German Romance*, 1927) For selections, see his *Happy Wanderer and Other Poems* (tr by Marjorie Rossy, 1925), M A A Münsterberg, *A Harvest of German Verse* (1916), Norman Macleod, *German Lyric Poetry* (1930)

Eichholtz, Jacob (īkh'hōlts), 1776–1842, American portrait painter, b Lancaster, Pa, pupil of Gilbert Stuart in Boston but mainly self-taught He painted portraits of some of the most prominent men of the day and he also painted family groups He was especially successful in handling textiles Among his portraits are those of Chief Justices John Marshall (Historical Society of Pennsylvania, Philadelphia) and John Bannister Gibson (Philadelphia Law Association), James Buchanan (Smithsonian Institution), Col James Gibson (capitol, Dover, Del), and Nicholas Biddle

Eichler, August Wilhelm (ou'gōōst vĭl'hĕlm īkh'lŭr), 1839–87, German botanist He worked out the symmetry of the parts of a flower and developed a system of plant classification, which, after later work on it by Adolf Engler, was widely adopted by European botanists He wrote a syllabus of pharmaceutical botany

Eickel, Germany see WANNE-EICKEL

eider see DUCK

Eider (ī'dur), river, 125 mi long, N Germany, separating Holstein on the south from Schleswig on the north It rises S of Kiel and flows W into the North Sea

Eidsvold or **Eidsvoll** (both āts'vôl), hamlet, Akershus co, SE Norway, S of Mjosa lake One of the oldest Norse confederacies, the Eidsvalag, held assemblies here from about the 1st cent A D In 1814 Norwegian patriots met at Eidsvold manor (now a national monument), framed a constitution, and declared the independence of Norway

Eielsen, Elling (āĕl'sŭn), 1804–83, Norwegian-American preacher, remembered as the founder (1846) of the Norwegian Evangelical Lutheran Church After itinerant missionary work in Scandinavia, he came to the United States in 1839, preached in Chicago the first Norwegian sermon heard in America, and for many years exercised the strongest religious influence among Norwegian pioneers in the Middle West See J M Rohne, *Norwegian American Lutheranism* (1926)

Eifel (ī'fŭl), plateau, NW Germany, N of the Moselle river and E of the Ardennes The Eifel forms part of the Rhenish Slate Mts (Ger *Rheinisches Schiefergebirge*) and is a barren area characterized by deep valleys, extinct volcanoes, and crater lakes Hohe Acht is the highest point (2,447 ft)

Eiffel, Alexandre Gustave (ĭ'fŭl, Fr älĕksäN'dru gustäv' äfĕl'), 1832–1923, French engineer A noted constructor of bridges and viaducts, he also contributed to the science of aerodynamics and wrote *The Resistance of the Air* (1913, Eng tr, 1913) He designed the **Eiffel Tower,** erected in the Champ-de-Mars for the Paris exposition of 1889 The tower is 984 ft high, of iron framework supported on four masonry piers, from which rise four columns uniting at a height of 620 ft to form one shaft Three platforms at different heights are reached by stairs and elevators On the top of the tower are a meteorological station and a wireless station

Eigenmann, Carl H. (ī'gŭn-), 1863–1927, American zoologist, b Germany, grad Indiana Univ, 1886 From 1891 he taught at Indiana Univ, founding and directing (1895–1920) the biological station at Winona Lake and serving as dean of the graduate school (1908–26) With his wife, Rosa Smith Eigenmann (1859–1947), he studied the fishes of South America and wrote on the freshwater fishes of British Guiana (1912), of NW South America (1922), and of Chile (1927) He also wrote *Cave Vertebrates of America* (1909)

Eiger (ī'gŭr), peak, 13,038 ft high in the Bernese Alps, Switzerland.

Eight, The, group of American artists in New York, formed in 1908 to exhibit paintings They were men of widely different tendencies, held together mainly by their common opposition to academism They were stigmatized as the "ashcan school" The group comprised Arthur B Davies, a romanticist, Maurice Prendergast, Ernest Lawson, and William Glackens impressionists, Everett Shinn, an illustrator, Robert Henri, a singularly honest virtuoso, and John Sloan and George Luks, at that time followers of Henri These men, and above all Davies, were responsible for the Armory Show of 1913, which introduced modern European art to a shocked, recalcitrant, but curious America In 1917, together with George Bellows and other adherents, they organized the Society of Independent Artists Modern American painting owes much to their efforts and example They forced the younger generation to abandon the various forms of nature copying and to accept serious aesthetic and social responsibilities

eight-hour day see LABOR, HOURS OF

Eijkman, Christian (krĭs'tyän īk'män), 1858–1930, Dutch physician He was head of the Pathological Institute of Batavia and later (1898–1928) professor of hygiene at the Univ of Utrecht His work at Batavia on the cause of BERIBERI led to the isolation of the antineuritic vitamins For this he shared with F G HOPKINS the 1929 Nobel Prize in Physiology and Medicine

Eikon Basilike (ī'kŏn bŭsĭ'lĭkē) [Gr, =royal image], described as "the portraiture of his sacred majesty in his solitudes and sufferings," is a work published soon after the execution of Charles I of England in 1649 and generally believed to be an autobiographical work by him It ran into innumerable editions and was translated into several languages John Milton replied to it in his *Eikonoklastes* (1649) After the Restoration, authorship of the book was claimed by John Gauden, and thus claim was a subject of scholarly controversy for generations The name is also spelled *Icon Basilike* and *Ikon Basilike* See edition (1903) and bibliography (1896) by Edward Almack

Eildon Hills (ēl'dun), three conical hills, Roxburghshire, Scotland, S of Melrose The middle and loftiest peak is 1,385 ft high The Roman camp Trimontium was near by The hills are associated with legends of Thomas of Erceldoune

Eilshemius, Louis Michel (īlshĕ'mēus), 1864–1941, American painter, b Laurel Hill Manor near Newark, N J Son of a wealthy Dutch importer, he spent much of his youth abroad After two years at Cornell Univ he studied art at the Art Students League and the National Academy of Design in New York and at Julien's in Paris, where he worked under Bouguereau He returned to New York about 1887 when two of his works were shown at the National Academy Aside from this early notice he received no real recognition for 30 years although he continued to paint At the Armory Show of 1913 his work impressed various artists After 1926 it had widespread recognition His imaginative, atmospheric landscapes of an authentic American character are in many leading galleries *Approaching Storm* (Phillips Memorial Gall, Washington, D C) is an excellent example of his work See William Schack, *And He Sat among the Ashes* (1939)

Einaudi, Luigi (lwē'jē ēnou'dē), 1874–, first constitutional president of Italy (1948–) A noted economist, a senator after 1919, and an opponent of Fascism after 1924, Einaudi taught at the Univ of Turin until 1943, when he fled to Switzerland After his return he became governor of the Bank of Italy (1945) and vice premier and minister of the budget under De Gasperi (1947) His drastic measures helped to curb inflation In May, 1948, he was elected president under the new republican constitution by the Christian Democratic majority of the parliament

Eindhoven (īnt'hō"vun), municipality (pop 132,595), North Brabant prov, S Netherlands Chartered in 1232, it had only 5,700 inhabitants in 1910, before its rapid expansion as an industrial center began Eindhoven is the seat of the Dutch manufactures of electrical appliances and radios, it also produces plastics, textiles, cigars and cigarettes, and other manufactured articles In the Second World War, Eindhoven was one of the chief targets in the landing (Sept, 1944) of Allied airborne troops Unlike the simultaneous landing at Arnhem, the landing at Eindhoven was successful

Einhard (īn'härd) or **Eginhard** (ā'gĭnhärd), c 770–840, Frankish historian Educated in the monastery of Fulda, he continued his studies at Charlemagne's palace school at Aachen He rose to high favor with the emperor, who apparently appointed him superintendent of public buildings Emperor Louis I made him tutor or adviser to his son Lothair Einhard was invested with several abbeys, to one of which he finally retired. In 830 he sought

to reconcile Louis I and the rebellious Lothair. Einhard's reputation rests on his biography of Charlemagne, which is not only a prime contemporary source, but also an eminently readable book. Other writings include a history of the translation of the relics of SS. Marcellinus and Peter (4th-century martyrs) from Rome to Germany and correspondence. The annals that bear his name were almost certainly not written by him. There are many translations of *The Life of Charlemagne*.

Einhorn, David (īn'hôrn), 1809–79, Jewish theological writer and leader of the reform movement in Judaism in the United States, b. Bavaria. A staunch supporter of Abraham Geiger's liberal views on the practice of Judaism, he succeeded in introducing ritual modifications in the religious services of the American Jews. His vigorous anti-slavery campaign in the Civil War forced him to leave Baltimore.

Einsiedeln (īn'zē"dŭln), town (pop. 8,392), Schwyz canton, Switzerland. It is a noted place of pilgrimage and has a Benedictine abbey, founded by St. Meinrad, a 9th-century martyr, and a fountain with a statue of the Blessed Virgin. Zwingli was priest here (1516–18). There is a small printing industry.

Einstein, Albert (īn'stīn), 1879–, American theoretical physicist, known for the formulation of the relativity theory, b. Ulm, Germany, of Jewish parents. He lived as a boy in Munich and Milan, continued his studies at the cantonal school at Aarau, Switzerland, and was graduated (1900) from the Federal Institute of Technology, Zurich. Later he became a Swiss citizen. He was examiner (1902–9) at the patent office, Bern. During this period he obtained his doctorate (1905) at the Univ. of Zurich, evolved the special theory of relativity, explained the photoelectric effect, and studied the motion of atoms, on which he based his explanation of Brownian movement. In 1909 his work had already attracted attention among scientists, and he was offered an adjunct professorship at the Univ. of Zurich. This he resigned in 1910 to become full professor at the German Univ., Prague, and in 1912 he accepted the chair of theoretical physics at the Federal Institute of Technology, Zurich. By 1913 he had won international fame and was invited by the Prussian Academy of Sciences to come to Berlin as titular professor of physics and as director of theoretical physics at the Kaiser Wilhelm Institute. He assumed these posts in 1914 and subsequently resumed his German citizenship. For his work in theoretical physics, notably on the photoelectric effect, he received the 1921 Nobel Prize in Physics. When Hitler became chancellor in 1933, Einstein was visiting professor at the California Institute of Technology, he did not return to Germany, but resided for a few months in Belgium. His property was confiscated (1934) by the Nazi government, and he was deprived of his German citizenship. In the meantime he was offered posts in several universities, including the Collège de France, he accepted (1933) a post at the Institute for Advanced Study, Princeton, from which he retired in 1945. In 1940 he had become an American citizen. Einstein set forth in 1905 a restricted theory (known as the special theory) of relativity in papers (published in *Annalen der Physik*) on the electrodynamics of moving bodies and on the equivalence of mass and mechanical energy (which gave a new turn to research on the atom). In 1911 he asserted the equivalence of gravitation and inertia, and c. 1916 he completed his mathematical formulation of a general theory of relativity which included gravitation as a determiner of the curvature of a space-*time continuum* and represented gravitation as a field rather than a force. He then sought to devise a group of equations applicable not only to gravitation but also to electromagnetic and subatomic phenomena. He announced in 1929 that he had found a key to the formulation of this unified field theory, the mathematical expression of the theory appeared in 1950 as an appendix to *The Meaning of Relativity* (1922, Eng. tr., 4th ed., 1950). Einstein is known also for his contributions to the development of the quantum theory, he postulated (1905) light quanta (photons), comparable to energy quanta, and on these based his explanation of the photoelectric effect, and he developed the quantum theory of specific heat. At the request of a group of scientists, including Niels Bohr, he wrote (1939) to President Roosevelt to stress the urgency of investigating the possible use of atomic energy in bombs. Einstein's chief interests, apart from his scientific work, are pacifism and Zionism, playing the violin is his chief recreation. His writings include *Relativity the Special and the General Theory* (1918, Eng. tr., 1920, reissued 1947) and excerpts (most of them translated) from letters, articles, and addresses collected in *About Zionism* (1930), *The World as I See It* (1934), and *Out of My Later Years* (1950). See also RELATIVITY. See studies by H. G. Garbedian (1939), Philipp Frank (1947), and Leopold Infeld (1950).

Einthoven, Willem (vĭl'hĕm ĭnt'hōvŭn), 1860–1927, Dutch physiologist, b. Java, M.D. Univ. of Utrecht, 1885. He was professor at the Univ. of Leiden from 1886. To measure the electric currents developed by the heart, he invented a string galvanometer and with its aid produced the electrocardiogram, a graphic record of the action of the heart. For this he received the 1924 Nobel Prize in Physiology and Medicine.

Eire see IRELAND.

Eirene (īrē'nē), variant spelling of Irene, one of the Horae and personification of peace.

Eisenach (ī'zənäkh), city (pop. 51,834), Thuringia, central Germany. It is the birthplace of J. S. Bach and was the residence (1498–1501) of young Martin Luther. An ancient city, it has kept the churches of St. Nicholas (12th cent.) and of St. Anne (13th cent.) and other old buildings. Near by is the WARTBURG. Eisenach often served as a residence of the electors of Saxony and, later, the dukes of Saxe-Weimar-Eisenach. Here in 1869, at the Congress of Eisenach, August Bebel and Wilhelm Liebknecht founded the German Social Democratic party. Eisenach manufactures electrical supplies and chemicals and has saline springs.

Eisenerz (ī'zənĕrts), mining town (pop. 12,917), Styria, central Austria, at the foot of the ERZBERG. There are large ironworks here.

Eisenhower, Dwight David (ī'zənhou"ur), 1890–, American general and university president, b. Denison, Texas, grad. West Point, 1915. When he was two years old, his family moved to Abilene, Kansas, where he grew to manhood. After finishing highest in an examination for appointment to West Point or Annapolis, he entered (1911) the U.S. Military Academy. He served in the First World War as an instructor in the tank corps, then was stationed (1922–24) in the Panama Canal Zone, was a member of the American Battle Monuments Commission, and was assistant executive (1929–33) in the office of Assistant Secretary of War. He was in the Philippines from 1935 to 1940. His impressive performance in the 1941 army maneuvers led to his assignment in Washington as chief of operations (1942) and preceded his meteoric rise as military commander in the Second World War. General Eisenhower was named (June, 1942) U.S. commander of the European theater of operations and commanded the Americans in the North African landings (Nov., 1942), in Feb., 1943, he became chief of all Allied forces in North Africa. After he successfully directed the invasions of Sicily (July, 1943) and Italy (Sept., 1943), he was recalled (Dec., 1943) to England to be supreme commander of the Allied Expeditionary Force. He was largely responsible for the cooperation between the British, American, and other forces and for the integration of land, sea, and air forces in the great battle for the European continent. His own account of the Allied defeat of Germany was published in book form as *Crusade in Europe* (1948). In Dec., 1944, he was made general of the army ("five-star general"), and in 1945 he commanded U.S. occupation forces in Germany. He succeeded (Nov., 1945) Gen. George C. Marshall as chief of staff of the U.S. army and advocated the unification of the U.S. armed forces and universal military training. He resigned (Feb., 1948) as chief of staff to become (June, 1948) president of Columbia Univ. Particularly because of his nation-wide personal popularity he was sought for the U.S. presidential candidacy in 1948, but rejected the offers made him. His nickname is Ike. See Alden Hatch, *General Ike* (1944), K. S. Davis, *Soldier of Democracy* (1945), H. C. Butcher, *My Three Years with Eisenhower* (1946).

Eisenstadt (ī'zənshtät), town (pop. 7,299), capital of Burgenland, E. Austria. Joseph Haydn resided here under the patronage of the Esterhazy family.

Eisenstein, Sergei Mikhailovich (sĭrgā' mĭkhī'lŭvĭch ăzunshtyēn'), 1898–1948, Russian moving-picture director. He was an architect and engineer before he began his film career in 1924. Eisenstein's silent film classic *Potemkin* (1925) brought him world-wide fame, and he added to his stature with such films as *October* and *The Old and the New*. In 1930 he visited the United States. Here none of his plans matured, but films made in Mexico were later used in *Thunder over Mexico* and in three short films *Alexander Nevsky* (1938), his first sound film, for which Sergei Prokofiev composed a score, was an international success. *Ivan the Terrible* (1944), his last film, was made in two parts. Part I gained critical acclaim, and Part II was withheld by the Soviet Film Trust. A master of camera craft, he expounded his montage theories and techniques in *The Film Sense* (Eng. tr., 1942).

Eisleben (īs'lābun), city (pop. 29,095), in the former Saxony prov. of Prussia, central Germany, at the foot of the Harz mts. It has been a copper-mining center for 750 years. Martin Luther was born and died here. Eisleben remained unharmed in the Second World War. The house where Luther was born, the house where he died, the church where he was baptized, and several other Gothic 16th-century churches still stand.

Eisner, Kurt (kŏrt' īs'nûr), 1867–1919, German revolutionist, of Jewish descent. He studied at the Univ. of Marburg, joined the Socialist party, and worked on several Socialist newspapers. He was convicted of treason after inciting (1918) a strike among munitions workers. Released, he organized the revolution which overthrew the Bavarian monarchy (Nov. 7, 1918) and became the first republican premier of Bavaria. A separatist, he now opposed the reestablishment of a federal Germany and the convocation of a national constituent assembly. At a Socialist conference in Berne he accepted German responsibility for the First World War. He was assassinated in Feb., 1919, by Count Arco-Valley, an anti-Semitic nationalist. Eisner's collected writings were published in 1919.

eisteddfod (āstĕdh'vŏd) [Welsh, =session], Welsh competitive festival. Contests are held in all the arts and crafts, with special emphasis on music and poetry. The National Eisteddfod is held annually for one week in August, alternately in the north and the south, but local eisteddfods are held throughout Wales during the year. A historical institution (12th cent.), it is important in maintaining national feeling and preserving the Welsh language and culture and is enthusiastically supported by all classes. Its outstanding ceremony is the "chairing" of the winning bard. The bardic assembly (gorsedd) has been a part of the National Eisteddfod since 1819. Other Celtic peoples have somewhat similar institutions.

ejido (āhē'dō) [Span., =common land], in Mexico, agricultural land expropriated from large private holdings and redistributed to small farmers. Communal ownership of land was practiced by the Aztecs, but the institution was in decline before the Spanish arrived. The conquistadors instituted the ENCOMIENDA, which was superseded by the *repartimiento* and finally, after independence (1821), by debt PEONAGE. Although legally abolished by the constitution of 1917, which provided for the *ejido*, peonage remained a general practice until the presidency of Lázaro CÁRDENAS. In the LAGUNA DISTRICT in Oct., 1936, the *ejido* became a fact on a large scale. The intent of the *ejido* system is to remedy the social injustice of the past and to increase Mexican production of subsistence foods. The land is owned by the government, and the *ejido* is financed by a special national bank, which supplies the necessary capital for reclamation, improvement, initial seeding, and the like. In effect, the bank has replaced the colonial *encomendero*, with this difference—the laborer is paid. See E. N. Simpson, *The Ejido* (1937).

Ekaterinburg, RSFSR see SVERDLOVSK.

Ekaterinodar, RSFSR see KRASNODAR.

Ekaterinoslav, Ukraine see DNEPROPETROVSK.

Eker (ē'kur), descendant of Judah through the family of Hezron. 1 Chron. 2:27.

Ekhof, Konrad (kōn'rät ĕk'hōf), 1720–78, German actor and theatrical manager. In 1740 he made his debut as Xiphares in Racine's *Mithridate* with the celebrated Schönemann company, then a group of strolling players but after 1757 established at Hamburg. In this city Ekhof founded (1751) a theatrical academy. In 1764 he left the Schönemann company for the Ackermann group and in 1767 was the star of the newly founded National Theater in Hamburg. In 1775 he became codirector of the Court Theater at Gotha, the first permanently established theater in Germany. Ekhof was one of the founders of the realistic school of acting in Germany, and as a tragic actor he was lauded by Lessing and Iffland.

Ekkehard (ĕ'kūhärt), name of three monks of St. Gall, Swiss monastery. **Ekkehard I** was author of the *Waltharilied* (c. 930), an epic in Latin hexameters celebrating the deeds of Walter, prince of Aquitaine. **Ekkehard II**, fl. 10th cent., was tutor of Hedwig of Swabia, niece of Otto the Great, and appears in Scheffel's novel *Ekkehard*, which contains a translation of the *Waltharilied*. **Ekkehard IV**, fl. 11th cent., contributed to a chronicle of the St. Gall monasteries and revised the *Waltharilied*. See translation of *Ekkehard* by Helena Easson (1911).

Ekron (ĕ'krŏn) [Heb., =eradication], important Philistine city, ESE of Jaffa, not far from the sea. It was on the border of Judah and was the last resting place of the ark before its restoration to the Jews. Judges 1:18; Joshua 13:3, 15:45, 46, 19:43; Sam. 5:10, 6:16, 17, 7:14, 17:52, Jer. 25:20, Amos 1:8, Zeph. 2:4, Zech. 9:5,7. Accaron 1 Mac. 10:89. It is now called Akir.

El. For Arabic and Spanish names beginning thus, see second part of name, e.g., for El Bika, see BIKA, EL, for El Salvador, see SALVADOR.

Eladah (ē'lădu, ēlā'du) [Heb., =whom God adorns], Ephraimite. 1 Chron. 7:20.

Elagabalus: see HELIOGABALUS.

Elah (ē'lu) [Heb., =terebinth]. **1** Died c. 885 B.C., king of Israel (c. 886–c. 885 B.C.), son and successor of Baasha. He was murdered, and succeeded, by Zimri. 1 Kings 16:8–14. **2** Father of Hoshea, last king of Israel. 2 Kings 15:30, 17:1. **3** Duke of Edom. Gen. 36:41, 1 Chron. 1:52. **4** Father of one of Solomon's stewards. 1 Kings 4:18. **5** Son of Caleb the spy. 1 Chron. 4:15. **6** Benjamite. 1 Chron. 9:8. **7** Valley in which David slew Goliath. 1 Sam. 17:2, 19, 21:9. It has been identified plausibly with the Wadi es-Sunt, which empties into the Mediterranean not far N. of Ashdod.

Elaine: see ARTHURIAN LEGEND.

El Alamein, Egypt: see ALAMEIN.

Elam (ē'lŭm), ancient country of Asia, N of the Persian Gulf and E of the Tigris, now in W Iran. A civilization seems to have been established there very early, probably in the 5th millennium B.C. The capital was SUSA, and the country is sometimes called Susiana. The land included a hot rich plain and hill country to the east. Sculpture and tradition attest that in very early times a Negro population occupied the plain. In historical times Elam was known principally as a rival of Babylonia. The population was neither Sumerian nor Semitic. Their language survives in a copious cuneiform literature. The Elamites seem to have maintained their independence steadily despite invasions and counterinvasions. SARGON fought against them, but also signed a treaty with them. The Elamites led forays into S Mesopotamia. They emerged into greater prominence after they had helped other mountain peoples to overthrow Babylonia in the 18th cent. B.C., and the golden age of Elam came after 1200 B.C. The Elamite civilization grew strong; there was a literary renaissance and great development of architecture and sculpture. The rising power of ASSYRIA threatened Elam. SARGON of Assyria, SENNACHERIB, and ESAR-HADDON all attacked the Elamites, but Susa fell (c. 645 B.C.) only to ASSURBANI-PAL, who sacked the city. Possibly the house that in the person of Cyrus took over the rule from the Medes and created the Persian Empire was originally Elamite. At any rate Susa became a favored provincial capital of Persia.

eland (ē'lund) [Dutch, =elk], largest living African antelope. A bull may stand 6 ft. high at the shoulder and weigh over 1,200 lb. The horns are spiral and extend straight upward. Hunted for its hide and flesh and victimized by disease, it survives in reduced numbers. Protection in many areas is inadequate.

Elasah (ē'lŭsŭ, ēlā'su) [Heb., =God made] **1** One of Zedekiah's messengers to Babylon. Jer. 29. **2** Priest. Ezra 10:22.

elasticity, the ability of matter to return to an original shape or an original volume after extension, compression, twisting, or other form of distortion. The elasticity of a substance is measured in terms of the amount of force (see STRENGTH OF MATERIALS) it can resist without becoming permanently deformed. The smallest force which brings about a permanent deformation is known as the elastic limit. The elasticity of a body depends upon the nature of the matter composing it. A rubber band, for example, does not have as great elasticity as a brass spring, for the elastic band, after subjection to great extension (within limits) does not regain its original shape, but is noticeably longer after such stretching than before. A brass spring, on the other hand, shows practically no deformation after stress is removed. The degree of elasticity of a substance is denoted for linear changes by YOUNG'S MODULUS. Gases and liquids possess perfect elasticity. Gases readily fill the space created after removal of pressure, liquids, although permitting very little compression, exhibit the property no less. Elasticity is treated in HOOKE'S LAW.

Elath (ā'-) [Heb., =trees] ancient port, on the Gulf of Aqaba near or on the site of the modern AQABA. Near by was Solomon's port of EZION-GEBER. Elath was built up or rebuilt by King Uzziah of Judah and lost by King Ahaz (8th cent. B.C.). The Roman port succeeding Elath was Aelana or Elana. Deut. 2:8; 2 Kings 14:22, 16:6. Eloth. 1 Kings 9:26, 2 Chron. 8:17.

El Azhar, Moslem university: see CAIRO, Egypt.

Elba (ĕl'bä), mountainous island (86 sq. mi., pop. 29,462), 6 mi. off the coast of Tuscany, central Italy, in the Tyrrhenian Sea. Under many foreign rulers throughout its history, it was briefly (1814–15) a sovereign principality under the exiled Napoleon I. Iron has been extensively mined since Etruscan and Roman times and there are important iron works in the chief town, PORTOFERRAIO.

Elba, city (pop. 2,363), a co. seat of Coffee co., SE Ala., NW of Dothan and on the Pea river, in a farm area.

Elbasan (ĕlbäsän'), town (pop. 14,968), central Albania, on the Shkumbi river. It is the center of a fertile agricultural region. There are remnants of medieval Turkish fortifications.

Elbe (ĕl'bŭ), Czech *Labe* (lä'bĕ), river, 725 mi. long. Czechoslovakia and Germany. It rises in the Giant Mts., NE Bohemia, and traverses Bohemia in a wide arc for 226 mi. It then enters Saxony, after cutting through steep sandstone cliffs, and flows generally NW through Saxony and the North German plain (past Dresden, Wittenberg, Magdeburg, and Hamburg) into the North Sea at Cuxhaven. Its chief tributaries are the Moldau, the Mulde, the Saale, and the Havel. A canal system connects it with the Oder. Navigable for 525 mi., the Elbe is one of the chief waterways of Europe. The Treaty of Versailles (1919) internationalized its course from the entrance of the Moldau to the sea, but Germany repudiated its internationalization after the Munich Pact. The Albis of the Romans, the Elbe marked the farthest Roman advance into Germany under Drusus (9 B.C.) and again the eastern limit of Charlemagne's conquests. The largely Slavic lands E of the Elbe resisted Christianization and German colonization for centuries more, and the Elbe is still a cultural frontier.

Elberfeld, Germany: see WUPPERTAL.

Elbert, Mount, peak, 14,431 ft. high, W central Colo., in the Sawatch Mts., highest summit of the Rocky Mts. in the United States.

Elberton, industrial city (pop. 6,188), co. seat of Elbert co., NE Ga., ENE of Athens near the Savannah river, settled in the 1780s. It is the center of the state's important granite industry, the first quarry was opened here in 1882. Nancy Hart Forest Park is near by.

El-beth-el [Heb., =God of the house of God], name given by Jacob to a place in Canaan because God appeared to him there. Gen. 35.7.

Elbing (ĕl'bĭng) or **Elblag,** Pol. *Elbląg* (ĕl'blōnk), city (1946 pop. 20,924, 1939 pop. 85,952), former East Prussia, E of Danzig, transferred to Polish administration by the Potsdam Conference in 1945. It is a seaport on the Elbing river near its mouth in the Frisches Haff, and it is connected by waterway with Torun. The Teutonic Knights built (1237) a castle here. Elbing was one of the cities of the Hanseatic League, passed to Poland in the 15th cent., and was taken by Prussia in 1772. It has shipyards and other industries.

Elblag, East Prussia: see ELBING.

Elbow Lake, village (pop. 1,150), co. seat of Grant co., W Minn., S of Fergus Falls. It is a farm trade center.

Elbrus, Mount (ĕl'brōōs, ăl'brōōs), highest mountain of the Caucasus and of Europe, NW Georgian SSR, formed by two extinct volcanic cones, respectively 18,481 ft. and 18,356 ft. high. Its glaciers give rise to several rivers, notably the Kuban. The snow line is at c. 11,000 ft.

Elburz (ĕlbōōrz'), mountains, N Iran, S of the Caspian Sea. They rise to their highest point in Mt. DEMAVEND.

El Cajon (ĕl kähōn'), city (1940 pop. 1,471; 1945 special census pop. 3,175), S Calif., E of San Diego, in a region of citrus fruits and grapes, inc. 1912.

El Campo (ĕl kăm'pō), city (1940 pop. 3,906, 1947 estimated pop. 6,575), S Texas, SW of Houston, founded 1884, inc. 1905. The city is a market for a Gulf Coast plain region producing rice, oil, cattle, cotton, and milk, and it has processing plants, bottling works, and metalworks.

El Centro (ĕl sĕn'trō), city (pop. 10,017), co. seat of Imperial co., SE Calif., S of the Salton Sea in the IMPERIAL VALLEY, laid out 1905, inc. 1908. It is a packing and shipping center, with an oil refinery and an airport. Central Junior College (coeducational) and an experiment station of the Univ. of California College of Agriculture are here.

El Cerrito (ĕl surĕ'tō), residential city (1940 pop. 6,137, 1943 special census pop. 16,624) on the eastern shore of San Francisco Bay, inc. 1917.

Elche (ĕl'chā), city (pop. 31,275), Alicante prov., SE Spain, in Valencia. Near by is a celebrated palm grove yielding large crops of dates. Elche also grows figs, pomegranates, and other fruit.

Eldaah (ĕl'dăŭ, ĕldă'ŭ) [Heb., =whom God calls], son of Midian. Gen. 25:4, 1 Chron. 1:33.

Eldad, one of the elders who with Moses received the gift of prophecy. Num. 11:26.

Eldad ben Mahli ha-Dani (ĕl'dăd bĕn mä'lē hä dä'nē), fl. after 850, Jewish merchant and traveler. His account of an independent Jewish state in E Africa and theories of the Ten Lost Tribes were probably responsible for the legend of Prester John. An English translation of *The Tales of Eldad the Danite* appeared in 1855.

elder or **elderberry,** name for any of numerous species of the genus *Sambucus*, deciduous trees and shrubs of wide distribution. Four are native to North America. They have large flat-topped clusters of creamy white flowers. The common elder (*Sambucus canadensis*) has purplish-black berries often used for pies, wine, and jelly; the flowers are sometimes used in making wine. Except for the berries the plant contains properties that have been reported to cause poisoning under certain conditions. Both berries and flowers have been used medicinally. Elder pith is commonly employed to support sections of tissue which are being cut for microscopic study. The red-berried or stinking elder has inedible fruits. The European elder and the "Spirit of the Elder" have figured prominently in north European mythology.

Eldon, John Scott, 1st earl of, 1751–1838, English statesman and jurist. From a successful law practice he entered Parliament (1783) and became solicitor general in 1788 and attorney general in 1793. He prosecuted John Horne Tooke and other sympathizers with the French Revolution, and his was the guiding hand in drawing up the repressive laws of 1793–98. Made chief justice of common pleas and Baron Eldon in 1799, he advanced in 1801 to the lord chancellorship, which office he held almost continuously until 1827. His influence in government during the period was great, and during the weak ministries of the earl of Portland and Spencer Perceval (1807–12) he was virtual prime minister. Eldon was a Tory politician of the most reactionary cast. He was an unrelenting opponent of Catholic Emancipation and of liberal reform. Though he had a brilliant and influential legal mind, he was extremely dilatory and chancery delays became notorious in his time.

Eldon. **1** City (pop. 1,676), SE Iowa, on the Des Moines river below Ottumwa; inc. 1877. Indian mounds are near by. **2** City (pop. 2,590), central Mo., SW of Jefferson City, founded c. 1880. It is a railroad division point and trade center in a farm area, with barite mines. Bagnell Dam is near by.

Eldora, city (pop. 3,553), co. seat of Hardin co., N central Iowa, on the Iowa river and NNW of Marshalltown, settled 1851, inc. 1896. The state training school for boys is here. Near by are Pine Lake State Park and a fish hatchery.

El Dorado (ĕl' dura'dō, -rä'-) [Span., =the gilded man], mythical country of the Golden Man sought by adventurers in South America. The legend supposedly originated in a custom of the CHIBCHA Indians of Colombia, whose young chief was annually anointed (or covered with turpentine) and rolled in gold which he then ceremonially washed off in the waters of Lake Guatavitá, casting sacrifices of gold and emeralds into the waters of the lake at the same time. This custom was apparently discontinued long before the coming of the white man, but tales of it were current. They grew into a legend of a land of gold and plenty. Gonsalo PIZARRO and ORELLANA hoped to find it. From the middle of the 16th cent. a series of conquistadors set out in search, looking for Omagua, the Land of Cinnamon, or the golden land of Manoa. El Dorado passed into European literature and found its way to the maps. The conquistadors of Venezuela and New Granada—FEDERMANN, BENALCÁZAR, JIMÉNEZ DE QUESADA, and Alfinger—all sought El Dorado. Perhaps best known to English-speaking peoples is the expedition of Sir Walter RALEGH in 1595. The location of the mythical land shifted as regions were explored and similar legends appeared in the W United States. CABEZA DE VACA told of the Seven Cities of Cibola, Fray MARCOS DE NIZA also stimulated interest in searching for the treasure cities by his stories, based possibly on the relative wealth of the Pueblo Indian villages. CORONADO went forth on a fruitless search for them. El Dorado is used figuratively to mean any country of wealth or the land of desire.

El Dorado (ĕl durā'du) **1** City (pop. 15,858), co. seat of Union co., S Ark., near Louisiana, settled 1843, inc. 1851. The discovery of oil in 1921 made it the oil center of the state. Other industries include lumber and cotton processing; it is also the trade center for a farm area. A junior college is here. **2** City (pop. 10,045), co. seat of Butler co., SE Kansas, on the Walnut and ENE of Wichita; laid out 1868, inc. 1870. With the discovery in 1915 of oil in the region, the city grew as a shipping and refining point for petroleum. The area also produces grain and livestock. Near by, a great cave, threaded by a stream, has resisted efforts of geological parties to explore it completely.

Eldorado (ĕldurā'du) **1** City (pop. 4,891), S Ill., west of the junction of the Ohio river with the Wabash, inc. 1873. It is a trade and distributing center for a coal and farm area. **2** Town (pop. 1,530), co. seat of Schleicher co., W Texas, S of San Angelo and on the Edwards Plateau. The many sheep ranches supply a woolen mill.

Eldorado Mines (ĕldōra'dō) or **Port Radium,** port, N Northwest Territories, on Great Bear Lake 26 mi. S of the Arctic Circle and 1,400 mi. north of the nearest railhead at Waterways, Alta. It is sometimes called Radium City. Discovered by Gilbert La Bine in 1930, its deposits of pitchblende produced much of the radium used in hospitals throughout the world. In 1944 Canadian scientists found that these ores contained one of the world's richest stores of uranium oxide, a source of atomic energy. The mines were promptly expropriated by the Canadian government.

El Dorado Springs, city (pop. 2,342), SW Mo., NW of Springfield, in the Ozark region, founded 1881. It is a health resort.

Eldred, borough (pop. 1,051), NW Pa., on the Allegheny river and E of Bradford near the N.Y. border, inc. 1880.

Elead (ĕl'lēăd, ēlā'-) [Heb., =God has defended], Ephraimite. 1 Chron. 7:21.

Elealeh (ĕ"lēā'lē) [Heb., =God goes up], ancient city of Reuben. Its ruins are NE of Heshbon. Num. 32:3, 37, Isa. 15:4; 16:9, Jer. 48:34.

Eleanor Crosses see ELEANOR OF CASTILE.

Eleanor of Aquitaine (ăkwĭtān', ă'kwĭtān), 1122?–1204, queen of HENRY II of England. Daughter of William X, duke of Aquitaine, she married the son of Louis VI of France in 1137. Shortly thereafter her husband ascended the throne as Louis VII. Between 1146 and 1149 she accompanied Louis on the Second Crusade. Eleanor bore Louis two daughters, but in 1152 their marriage was annulled. Soon afterward Eleanor married Henry Plantagenet, duke of Normandy, count of Anjou, claimant to the English throne, uniting her vast possessions with those of her husband. Louis VII feared this powerful combination, and when Henry

ascended the English throne in 1154, the stage was set for the long struggle between English and French kings Eleanor bore Henry three daughters and five sons, two of whom, RICHARD I and JOHN, became kings of England Because of Henry's infidelities, especially his relationship with the fair ROSAMOND, Eleanor's relations with her husband grew strained, and in 1170 she established a court of her own at Poitiers She assisted her sons in their unsuccessful revolt against Henry in 1173 and was held in confinement by Henry for many years Her efforts helped Richard secure the throne During his absence on the Third Crusade, she was active in forestalling a plot against him, and during his captivity she energetically collected his ransom She brought about a reconciliation between Richard and his treacherous brother, John, and on Richard's death in 1199 she supported John's claims to the throne over those of Arthur of Brittany Eleanor's court at Poitiers was the scene of much artistic activity and was noted for its cultivation of courtly manners and the concept of courtly love She was the patroness of such literary figures as Wace, Benoît de Sainte-More, and Chrestien de Troyes In literary romance Eleanor appears as the jealous murderess of "the Fair Rosamond," but she was apparently innocent of this crime She was an able and strong-minded woman See Amy R Kelly, *Eleanor of Aquitaine and the Four Kings* (1950), Curtis Howe Walker, *Eleanor of Aquitaine* (1950)

Eleanor of Castile (kăstēl'), d 1290 queen consort of EDWARD I of England and daughter of Ferdinand III of Castile At her marriage (1254) she brought to Prince Edward the territories of Ponthieu and Montreuil and claims to Gascony They went together on the crusade of 1270 and on their return were both crowned (1274), Henry III having died in 1272 After her death Edward is supposed to have had the Eleanor Crosses erected to mark the stages of her funeral journey, at Lincoln, Grantham, Stamford, Geddington, Northampton, Stony Stratford, Woburn, Dunstable, St Albans, Waltham, Westcheap, and Charing The crosses at Geddington, Northampton, and Waltham are extant, though partially restored

Eleanor of Provence (prôvăs'), d 1291, queen of HENRY III of England She was the daughter of Raymond Berenger, count of Provence, and was followed into England after her marriage in 1236 by her unpopular kinspeople and foreign courtiers, and criticism of her extravagance may have been colored by her enemies During Simon de Montfort's ascendancy in 1264–65 she raised mercenaries in France for the royalists She retired to a convent in 1286 but was sometimes consulted by her son, Edward I

Eleasah (ēlē'usə,-lēā'-) [Heb ,=God made] **1** Judahite 1 Chron 2 39 **2** Benjamite 1 Chron 8 37

Eleatic school (ēlēă'tĭk), Greek pre-Socratic philosophical school at Elea, in Lucania, Italy The group is generally represented by its four leading thinkers The notion of the unity of all existence, taught by XENOPHANES, was the foundation upon which PARMENIDES built his philosophy of "being" that was basic to Eleaticism ZENO OF ELEA used a series of paradoxes to undermine the commonsense notion of reality, and Melissus, with some minor divergences, extended the teachings of Parmenides The Eleatic taught that being (that which remains after quality and quantity have been subtracted) is the ultimate and eternal reality and that all testimony of the senses is illusory They denied the possibility of change

Eleazar (ēlē'zur) [Heb ,=God has helped] **1** Son of Aaron Ex 6 23,25, Num 3 32, Deut 10 6, Joshua 24 33 **2** Keeper of the Ark of the Covenant 1 Sam 7 1 **3** Mighty man of David 2 Sam 23 9, 1 Chron 11 12 **4** Priest Ezra 8 33, Neh 12 42 **5** Jew who had married a foreign wife Ezra 10 25 **6** Merarite Levite 1 Chron 23 21,22, 24 28 **7** Man in the Gospel genealogy Mat 1 15 **8** One of the chief martyrs in the Maccabean period An old man, he refused to eat swine's flesh 2 Mac 6 18–31

elecampane (ĕl"ukămpān'), hardy Old World herb, *Inula helenium*, of the composite family, naturalized in America and sometimes cultivated in gardens It has yellow-rayed flowers and a thick root which was formerly regarded as a good tonic and remedy for coughs and diseases of the chest It was used in horse medicine, whence its popular name horseheal According to one tradition, Helen carried the flower in her hands when Paris took her to Troy, according to another, the flower sprang from Helen's tears

election, choosing to office in an organization by the vote of those enfranchised or privileged to cast a BALLOT In ancient Greece public officials were occasionally elected but more often were chosen by lot In Rome the popular assemblies elected the tribunes and voted on certain laws The Middle Ages saw the practical abandonment of popular suffrage and of elections, an exception being the elections to the papacy and, in an even more limited sense, the election of the Holy Roman emperor by a minuscule and in part hereditary body of electors In the modern period, elections have been an inseparable part of the growth of democracy. Elections were associated with the parliamentary process in England from the 13th cent but were only gradually regularized by the adoption of the Septennial Act after the Revolution of 1688, by successive reform bills widening the franchise in the 19th cent, and by the adoption of the secret ballot in 1872 In colonial America the election of church and public officials dates almost from the founding of the Plymouth Colony, and the paper ballot was instituted in elections to the Massachusetts governorship in 1634 Under the U S Constitution the right to hold elections is specified, but the method and place are left to the states, with Congress having the power to alter them regulations The Constitution specified that the elections to the House of Representatives should be direct, or popular, that the election of the Senate and of the President and Vice President should be indirect, Senators being chosen by the state legislatures, the President and Vice President by electors chosen by the people The Seventeenth Amendment (1913) provided for the popular election of Senators, vacancies before election to be filled by state governors Qualifications for voters have varied The Fourteenth Amendment (1868) and the Fifteenth Amendment (1870) were designed to forbid the disenfranchisement of the Negro, and the Nineteenth (1920) in effect conferred the vote on women Residents of the District of Columbia, certain classes of felons, some Indians, and the feeble-minded are deprived of the suffrage by law The age limit of 21 years is specified in the Constitution Voting frauds and disorder at the polls were common after the rise of political machines, and the enactment of registration laws after 1865 did little to ameliorate conditions CORRUPT PRACTICES acts, poll watchers, the institution of PRIMARY elections and the introduction of the VOTING MACHINE after 1892 have had great effect in insuring honest elections Candidates are usually chosen by delegate CONVENTION, direct primary, nonpartisan primaries, or petition The candidate who receives the most votes is usually elected, but an absolute majority of at least 50 percent of the vote cast may be required, it has not been required in the United States since 1850 except in the electoral vote cast for the President and Vice President In presidential nominating conventions, the absolute majority is required, the Democrats requiring a two-thirds vote of the delegates from 1832 to 1936 The existence of the electoral college has on occasion permitted a President to be chosen without a majority, or even plurality, of popular votes, and in 1824, 1860, 1876, 1888, and 1912 candidates lacking either a majority or a plurality succeeded in winning office In some European countries and in some local elections in the United States, proportional REPRESENTATION or some other method of preferential voting is used to represent more adequately the minority groups within the electorate Almost all nongovernmental organizations choose officers through some form of election See E M Sait, *American Parties and Elections* (1942)

electoral college, in U S government, the body of electors in the states which chooses the President and Vice President The Constitution, in Article 2, Section 1, provides "Each State shall appoint, in such Manner as the Legislature thereof may direct, a Number of Electors, equal to the whole Number of Senators and Representatives to which the State may be entitled in the Congress" However, no Senator, Representative, or officer of the U S government may be an elector The electors are directed by the Constitution to vote in their respective states, and Congress is authorized to count their votes To win, a presidential candidate must have a majority in the electoral college Before adoption of the Twelfth Amendment (1804), in the event that no candidate had a majority, the House of Representatives (voting by states, with one vote for each state) was to choose the President from among the five candidates highest on the electoral list Then, "after the choice of the President, the Person having the greatest Number of Votes of the Electors shall be the Vice President", in case of a tie the Senate would choose the Vice President The Twelfth Amendment, however, resulting from the election of 1800 (see JEFFERSON, THOMAS, and BURR, AARON), enjoined the electors to vote for the President and the Vice President separately It also reduced from five to three the number of candidates from among whom the House was to choose --in case no candidate had a majority (only two Presidents, Jefferson and John Quincy ADAMS, have been elected by the House) In early days the electors were most often chosen by the state legislatures, but with the growth of democratic sentiment popular election became the rule After 1832 (and until the Civil War) only in South Carolina did the legislature continue to choose the electors. In some of the states at first the people voted for electors by congressional districts, with two being elected at large from the whole state, but with the growth of political parties this plan was discarded (by 1832 only four states retained it and only for a brief time) in favor of the general-ticket system (the one now prevailing), whereby a party needs only a plurality to carry the whole state. Thus in every state a voter casts his ballot for as many electors as his state is entitled to. However, there is nothing in the Constitution that requires either that the electors be chosen by popular vote or that the general-ticket system be employed, but electors must be elected on the Tuesday following the first Monday in November, as required by a Federal law dating from 1845 As a belated result of the disputed election of 1876 involving Samuel J. TILDEN and Rutherford B HAYES, the Electoral Count Act of 1887 placed the responsibility of deciding electoral disputes mainly on the states themselves Congress now counts the votes (a mere formality) on Jan 6 Only in the very beginning did the electoral college function as planned, and there is widespread dissatisfaction with the institution The outstanding objection is that it has given the nation eight so-called minority Presidents, i e , Presidents who had a majority in the electoral college but lacked it in the total national popular vote—James Buchanan (1856), Abraham Lincoln (1860, but not 1864), Rutherford B Hayes (1876), James A. Garfield (1880), Grover Cleveland (1884 and 1892), Benjamin Harrison (1888), Woodrow Wilson (1912 and 1916), and Harry S Truman, who polled slightly less than 50 percent of the total popular vote in 1948 A constitutional amendment providing that the electoral votes of a state be divided among the candidates in proportion to their popular vote in that state and that a candidate must have at least 40 percent of the total national electoral vote to win was approved by the Senate on Feb 1, 1950 But, even should it pass the House, there are doubts that it would be accepted by three fourths of the states The most populous ones are not likely to surrender the pivotal positions they now hold in a presidential election under the general-ticket system

electors, in the history of the HOLY ROMAN EMPIRE, the princes who had the right to elect the German kings or, more exactly, the "kings of the Romans" Until the reign (1493–1519) of MAXIMILIAN I, an elected king was crowned by the pope before he called himself emperor In practice, it was only from the election of Lothair II (1125) to that of Albert II (1438) that the imperial office was truly elective, later only members of the Hapsburg dynasty were chosen by the electors By the 13th cent the group of electors had narrowed to seven, but there was no agreement as to who they were The frequency of contested elections led Emperor Charles IV to issue (1356) the Golden Bull (so called because of its golden seal), which regulated the procedure and ceremonies of the elections and coronations The electoral right was conferred on the following princes (their imperial household offices are given in parentheses) the archbishops of Mainz, Trier, and Cologne (archchancellors, respectively, of Germany, Gaul and Burgundy, and Italy), the king of Bohemia (archcupbearer), the count palatine of the Rhine (archseneschal), the duke of Saxony (archmarshal), and the margrave of Brandenburg (archchamberlain) The Golden Bull also imposed the law of primogeniture and nondivision of territory on the electors, who became powerful rulers and were considered as one of the three colleges of the imperial DIET The kings were elected at Frankfurt on the Main, they were in early times usually crowned at Aachen, but after 1562 at Frankfurt To punish FREDERICK THE WINTER KING, Emperor Ferdinand II transferred (1623) the vote of the count palatine to the duke of Bavaria, but at the Peace of Westphalia (1648) an eighth vote was created for the count palatine, in 1692 a ninth vote (formally recognized, 1708) was created for Hanover, thus the kings of England became (1714) electors In 1803 Napoleon I radically altered the list of electors Though the office disappeared with the Holy Roman Empire in 1806, the landgraves of Hesse-Kassel, made electors by Napoleon, bore the title until their deposition (1866)

Electra (ĭlĕk'trə), in Greek mythology. **1** Daughter of AGAMEMNON and CLYTEMNESTRA After Clytemnestra and Aegisthus killed Agamemnon, Electra burned for revenge and encouraged and aided the vengeance wrought by her brother, ORESTES Her character as known to readers today is that developed in the dramas of Aeschylus, Sophocles, and Euripides **2** One of the PLEIADES She was the daughter of the Titan Atlas and the nymph Pleione and mother by Zeus of Dardanus, founder of Troy According to one legend she was the lost Pleiad, she left her place in the heavens to avoid seeing the destruction of Troy **3** Daughter of Oceanus and Tethys and mother, by Thaumus, of Iris and the Harpies

Electra, city (pop. 5,588), N Texas, WNW of Wichita Falls, founded 1890, inc 1910 It was early called Beaver, but was renamed when the rancher W T Waggoner struck oil, the oil field was named for his daughter After the boom of 1911, Electra held its gains and today is a busy, small industrial town It manufactures machinery and supplies for oil and gas fields It also handles wheat and poultry.

electrical engineering: see ENGINEERING.

electric circuit, an unbroken path along which a current of electricity flows. A simple circuit, for example, can be set up with an electric cell, two conducting wires (one end of each being attached to each pole of the cell), and a small lamp and socket to which are attached the free ends of the conducting wires leading from the cell When the wires are made fast, the circuit is said to be "closed," and the lamp will light The current is flowing from the cell along one conductor to the lamp, through the lamp, and back along the other conductor in the cell This part of the circuit is called the external circuit to distinguish it from that part of the circuit within the cell itself, the internal circuit, where the current flows from one electrode to the other through the electrolyte of the cell When the wires are disconnected, the circuit is said to be "open" or "broken" In practice, this is accomplished by switches and fuses (see FUSE, ELECTRIC, and SHORT CIRCUITS) When a circuit is so arranged that the current flows through its parts one after another, it is called a series circuit, when the current flows through all its parts at the same time and is divided among them, it is a parallel circuit These two types of circuits differ in resistance (see OHM), voltage (see VOLT), and current strength (see AMPERE) In a series circuit the negative electrode of one cell is connected with the positive electrode of another cell The total resistance offered to the flow of a current of electricity is equal to the sum of the separate resistances, the voltage for the whole circuit is the sum of the voltages for the different parts, the current strength is the same throughout the circuit In the parallel circuit, like electrodes are connected, i e , negative with negative and positive with positive Resistance is less than that of the part having the least resistance, the voltage is the same for all parts of the circuit, the current strength is the sum of the current strengths in the different parts (See OHM'S LAW) Cells may be arranged in series or parallel circuits or in combinations of the two, depending upon the desired current strength, voltage, and resistance The parallel circuit is most commonly used, e g , in lighting and heating equipment and other electrical devices Series connections are impractical for many purposes since devices so connected must all operate at the same time, disconnecting one breaks the circuit Series circuits are generally used for street lighting and in the windings of generators, motors, and transformers when high voltages are needed

electric eye · see PHOTOELECTRIC CELL

electric fish, name for various fish which produce electricity by means of organs developed usually from modified muscle tissue The electric eel (*Electrophorus*), a South American fresh-water fish related to the carp, has organs along the ventral surface capable of producing from 450 to 600 volts of electricity, powerful enough to light a neon bulb Fish produce the electricity at will to paralyze or kill their prey and to repel enemies Other electric fish are the electric ray or torpedo, species of which inhabit warm waters of Europe and the United States, the fresh-water electric catfish (*Malapterurus*), with a jellylike, subcutaneous electric organ, probably of epidermal origin, which extends over the whole body, the marine stargazer (*Astroscopus*) of the Atlantic coast of the United States, and a Mormyrid eel of Africa

electric furnace see FURNACE

electricity [from Gr , amber, named by William Gilbert] According to the modern electron theory, the fundamental nature of all matter is electrical The ATOM, the unit particle of elemental matter, is held to be made up of negative charges (electrons), positive charges (protons), and electrically neutral particles (neutrons) Electrons move within the atom in orbits around the nucleus and under some conditions move from one atom to another Since electrons and protons are balanced in a normal atom, when an electron leaves an atom, the atom becomes positively charged If an electron is added, the atom becomes negatively charged In this way the phenomenon of an electrically charged body is explained, a negatively charged body is one with an excess of electrons, a positively charged body is one with less electrons than it has normally The study of electricity at rest, or static electricity, is concerned with the nature, strength, and effect of charges on bodies Bodies can be given a charge in various ways When, for example, a glass rod is rubbed with silk, it is found to be charged after the silk is removed, i e , it will attract bits of paper and, if suspended by a thread so that it can turn freely, will turn away from another glass rod which has also been rubbed with silk According to the electron theory, negative charges of electricity have been taken off the glass rod and on to the silk by the rubbing, and the rod has excess positive charges A hard rubber rod when rubbed with flannel acquires the same property of attracting bits of paper, and some other materials, but differs in that, instead of repelling an electrified, freely suspended glass rod, it will attract it The rubber rod is said to be negatively charged, i e , to have gained electrons. The terms *negative* and *positive* are arbitrary names given to the two unlike kinds of electricity. Like charges of electricity repel each other, unlike attract A body can also be given a charge merely by being brought near a charged body (see INDUCTION) Substances vary in their ability to receive a charge and to hold it, some, e g , the metals, can be electrified only with difficulty, for they pass on their charge from one part to another very rapidly and lose it readily if they are not insulated Such substances are called conductors (see CONDUCTION) and differ from substances called insulators (see INSULATION), which do not pass on their charges readily from one part to another This passing on, or movement, of electrons along a conductor is called a current of electricity, electricity in motion, or current electricity The direction of the electric current would seem to be definable in terms of the direction of flow of the electrons through a metallic conductor However, in electrolytic conductors and gaseous conductors both positive and negative charges (ions) move in opposite directions Before much was known about the nature of an electric current, the direction of flow was spoken of as if it were entirely from positive to negative, this way of expressing the direction of a current is still generally in use A flow of electrons, or a current of electricity, is set up in a conductor when it is connected across the electrodes of an electric cell forming a closed ELECTRIC CIRCUIT The flow of electricity is in one direction -from one electrode of the cell, along the conductor, to the other electrode —and is called for this reason direct current An electric current set up in a conductor by a GENERATOR (if no commutator is used on the generator) differs from that generated by the cell in that it flows alternately first in one direction and then in the opposite direction along the conductor Such a current is called an alternating current, and its frequency is measured in the number of cycles per second, i e , the number of times the current makes a complete change (from one direction to the opposite direction and back) in one second The simplest form of alternating current generator is a rotating coil, an electromagnet provides the magnetic field, and the coil or armature is wound on an iron cylinder (Sometimes the coil and cylinder together are referred to as the armature) A direct current can be obtained by connecting each terminal of the coil to one side of a split ring called a commutator A current of electricity can be used to produce magnetism (see ELECTROMAGNET) An instrument called a GALVANOMETER is used to measure the force and strength of a current of electricity Various units are used in making electrical measurements for current strength, the AMPERE, for the electromotive force or force causing the current flow, the VOLT, for resistance of a body to the flow of a current along it, OHM, for quantity of electricity, the COULOMB, for electric power the WATT or kilowatt (1,000 watts) The electric MOTOR is based upon the same principle as the generator, that of electromagnetic induction, but the application is reversed, here electric energy is transformed to mechanical energy From a consideration of the working principles of these two electrical machines, the importance of the magnetic effect of an electric current flowing along a conductor may be seen The fact that heat is produced in a conductor carrying an electric current and that the amount of heat produced depends upon the strength of the current and the resistance of the conductor is important in many practical devices In them, electrical energy is exchanged to heat energy The common electric fuse is an example Electric heaters, stoves, toasters, and irons all utilize the heat which an electric current can produce The filament of an electric light bulb is heated to incandescence by it The electric ARC is another example of the production of heat and light in this way The effect of an electric current in passing through certain solutions (see ION, ELECTROLYTE, ELECTROLYSIS) is of great importance to metallurgy in the separation and refining of various metals, in electroplating, and in the preparation of type by plating a wax surface with metal The history of electricity is made up of a number of consecutive discoveries, each of which contributed in turn to the growing knowledge of the different aspects of the phenomenon and later played a specific part in the formulation of the modern theory of the fundamental nature of electricity The phenomenon of static electricity and the fact that amber could be charged by rubbing were known to the ancients (perhaps as early as 600 B C by Thales of Miletus), but the modern knowledge of electricity began its rise with the studies of William Gilbert, reported in 1600, which described the production of static electricity by numerous substances His work was continued by others Robert Boyle showed that electrical attraction was felt even through a vacuum Otto von Guericke invented (1650) a machine, probably the first, for generating electricity by friction, it consisted of a ball of sulphur mounted on a wooden shaft equipped with a crank by which it could be revolved. Francis Hauksbee devised (1709) a similar machine using instead of the sulphur ball a hollow glass sphere in which a glowing light was produced. The distinction between conductors of electricity and insulators was brought out by the work of Stephen Gray (1729), C F. Du Fay (1733), and Joseph Priestley (1767) Du Fay (c 1737) concluded that there were two kinds of static electricity, now distinguished as positive and negative The invention of the Leyden jar and the discoveries of Benjamin Franklin and others concerning atmospheric electricity advanced experimentation The work of Henry Cavendish, Coulomb, Ohm, and Joule made quantitative measurement of electricity possible Attention turned from static to current electricity under the stimulus of Galvani's observations (reported 1791) of the passage of electricity through metal wires connected with frog's muscles and Volta's work which stemmed from it Disagreeing with Galvani's conclusion that the electricity came from the frog's muscles, Volta determined to prove that the current resulted from the contact of two different metals, an outcome of his experiments was the VOLTA'S PILE or voltaic pile, the first real battery capable of delivering a steady current of electricity Using Volta's pile Sir Humphry Davy made numerous experiments and produced an electric arc which led to many developments, including illumination by electricity Davy decomposed a salt solution with an electric current and thereby obtained metallic sodium, electrolysis of water had already been accomplished by Sir Anthony Carlisle and William Nicholson Little practical use was made of electricity until after the discoveries of the relationship of magnetism and electricity made possible the development of generators, motors, and the innumerable other devices employing electromagnets The properties of magnets were studied from early times (see MAGNETISM) Their utilization in electrical devices can be traced through the contributions of Hans Christian Oersted, André Marie AMPÈRE, Joseph HENRY, and Michael FARADAY Faraday's simple motor was the first of the many devised Thomas Davenport, a blacksmith received the first U S patent on a motor Many others contributed to the further development of motors, dynamos, and generators In the United States, William Wallace and Charles F Brush especially forwarded the development of improved dynamos Brush contributed also to the development of electrical engineering in general through his inventions of an electric arc light a storage battery used in automobiles, and other devices Fundamental to the development of the telegraph and of radio were the electromagnetic theory of light propounded by James Clerk MAXWELL and the experimental confirmation of that theory by Heinrich HERTZ William Thomson KELVIN contributed notably to progress Theoretical as well as practical developments were forwarded when in 1897 J J Thomson discovered the ELECTRON, in 1910 R A Millikan measured its charge The work of Thomas A EDISON, Alexander Graham BELL, Michael PUPIN, and Edwin Howard ARMSTRONG form milestones in the history of progress in electricity Modern developments soon introduced applications of electricity into almost every phase of life With the enormously increased demands of industry for electric power came a more extensive use of flowing water to operate the turbines connected with the generators in hydroelectric plants The chief source of electric power, however, is from coal and other fuels The electrical-engineering profession developed into a wide field with many areas of specialization See Ernest Greenwood, *Amber to Amperes* (1931), A P Morgan, *Getting Acquainted with Electricity* (1942), W L McDougal and others, *Fundamentals of Electricity* (2d ed , 1948), H H Skilling, *Exploring Electricity* (1948)

Electric Mills, town (pop 1,205), E Miss , near the Ala line NNE of Meridian, in a timber area At near-by Scooba is a district junior college

electric shock, the effect of the passage of a current of electricity through the body Fatality may result from shocks of from 1 to 2 amperes and 500 to 1,000 volts, the variation depending upon such factors as wetness of the skin and area of contact There is a burn at the site of entry The general disturbances include spasm of the muscles, loss of consciousness, and sometimes death, depending upon the strength of the current If the current cannot be turned off, thick rubber or dry clothes should be used to detach the person from the current, but under no conditions should the rescuer actually touch him, since the current then passes through the second person Wood can be used to detach the victim Treatment for SHOCK and burns and ARTIFICIAL RESPIRATION are necessary

electrochemistry, branch of chemistry concerned essentially with the relationships between certain chemical reactions and electricity It includes the production of an electric current by chemical means, as in the electric CELL, and the chemical effects of electric currents upon various substances It deals with the electrical conductivity of the SOLUTION, with the classification of substances as ELECTROLYTE or nonelectrolyte, with the theory of the ION and the nature and extent of electrolytic dissociation or ionization, and with ELECTROLYSIS and the practical application of its principles.

electrode (ūlēk'trōd), in electricity, commonly a terminal or pole of an electric cell or some other source of current electricity An electrode may be either one of two kinds—a positive electrode (+), called the anode, or a negative electrode (−), called the cathode Electrodes are made of various substances, such as carbon, copper, lead, platinum, silver, and zinc In the carbon ARC both electrodes are of carbon Although electrodes are usually rods, strips, or plates, in ELECTROLYSIS the vessel which contains the electrolyte often serves as one of the electrodes In any external ELECTRIC CIRCUIT the flow of electrons is from negative to positive electrode In a high vacuum (see TUBE, VACUUM), a radiation from the cathode is known as the cathode RAY

electrolysis (ūlēktrŏ'lūsĭs), process which involves the passage of an electric current through a conducting solution (the ELECTROLYTE) and the decomposition of this chemical compound by its action For example, when a cathode or negative (−) ELECTRODE and an anode or positive (+) electrode are introduced into a solution of hydrogen chloride (a compound of hydrogen and chlorine) and a current of electricity is led in, hydrogen gas bubbles off at the cathode, and chlorine at the anode According to one explanation, when the hydrogen chloride goes into solution in the water, its molecules dissociate (see DISSOCIATION) into ions The hydrogen atom loses an electron, or negative charge, and becomes a positively charged ION, the chlorine atom, taking on this electron, becomes a negatively charged ion When the electric current is introduced, the positive hydrogen ions move to the negative pole (cathode), there each receives an electron and becomes a hydrogen atom again These atoms collect in pairs to form molecules of hydrogen gas, which bubble off at the cathode The negative chlorine ions move to the positive pole (anode), give up the extra electron, and revert to chlorine atoms These collect in pairs to form molecules of chlorine gas which bubbles off at the anode Various substances are prepared commercially by electrolysis, e g , chlorine by the electrolysis of a solution of common salt Hydrogen is sometimes prepared by the electrolysis of water The principle involved in electrolysis finds important commercial uses It is applied in the refining of various metals, e g , copper, the pure metal (called electrolytic copper) being deposited at the cathode The PLATING of an object with a metal can be carried out by using that object as the cathode in the electrolysis of a solution of a salt of the metal In the commercial process, the anode is made of a bar of the metal itself, which goes into solution as the metal of the salt already in solution is deposited on the object acting as the cathode ELECTROTYPE plates are prepared in this way Michael Faraday discovered that a definite relationship existed in electrolysis between the strength of the current used, the nature of the metal and the solution employed, the weight of metal deposited, and the time involved He found that the amount of metal deposited is proportional to the quantity of electricity The ratio of the weight in grams of the substance deposited to the quantity of electricity used is called the electrochemical equivalent of the substance A given quantity of current will cause these equivalent quantities to be deposited in a unit time

electrolyte (ūlēk'trulīt), in chemistry, a compound which, in solution, conducts a current of electricity and is decomposed by it An explanation of this phenomenon and of the characteristic properties of electrolytes is offered by the theory of the ION The chemical decomposition which electrolytes undergo when a current is passed through them is called ELECTROLYSIS Acids, bases, and salts are typical electrolytes Nonelectrolytes are substances, such as sugar, which in solution do not conduct electricity

electromagnet, a magnet in which MAGNETISM is produced by means of an electric current It is based upon the principle that if a bar or rod of soft iron is introduced into a coil of insulated wire through which a current of electricity is flowing, the piece of iron becomes a magnet but retains its magnetism only so long as the current is flowing The foundation upon which this principle rests was laid by the work of Michael Faraday and of Hans C Oersted, the practical application of the principle was made in the early 19th cent. by William Sturgeon The strength of an electromagnet depends primarily upon the number of turns in the coil rather than upon the strength of the current, electromagnets of great strength can be made with the use of a small current They are constructed in the shape of a bar or, more commonly, of a horseshoe In addition to their use in lifting and handling scrap iron, steel girders, and other magnetic materials (when they are especially valuable because their attractive power can be turned off and on by a switch), they find application in a number of electrical devices such as the electric bell, TELEPHONE and TELEGRAPH apparatus, and the INDUCTION coil They are essential parts of the electric GENERATOR and the electric motor (see MOTOR, ELECTRIC).

electromotive force: see VOLT.

electromotive series: see METAL.

electron (ulēk'trŏn), the unit charge of negative electricity or the particle carrying this unit charge. In the electronic theory, the electron and the proton (positive charge) are considered to be the fundamental units of which all matter is composed, this theory giving rise to the belief that all matter is ultimately electrical The nucleus, or center, of the atom was formerly believed to consist of protons and electrons, with an excess of protons, thus giving the nucleus a positive charge Now it is thought that the nucleus contains protons and neutrons (which are electrically neutral) Neutralizing the positive charge of the nucleus are a number of electrons moving in orbits around the nucleus The hydrogen atom, for example, the lightest of all atoms, is supposed to have a nucleus of one proton with a single electron revolving around it The valence of a chemical element is dependent upon the number and the arrangement of the electrons revolving outside the nucleus Ions are atoms which have lost or gained an electron Sir J J Thomson showed that cathode rays are composed of electrons He determined the mass of the electron to be about 1/1,847 that of the hydrogen atom and also demonstrated that as its speed approaches the velocity of light its mass increases The size of the electron charge was determined by R A Millikan The radiation from radium has been shown to consist in part of electrons from the nucleus (the beta rays) In this respect and through the breaking down of various atoms, E R Rutherford contributed some basic knowledge necessary for understanding the TRANSMUTATION OF ELEMENTS

electronics (ūlēk"trŏ'nĭks), the science that deals with the use of electrons which are emitted from solids or liquids and made to move through a vacuum or a gas The name electron was first used for the unit of negative electricity by an English physicist, George Johnstone Stoney, in the late 19th cent , the actual discovery of the particle, however, was made by J J THOMSON All electrical phenomena are concerned with the movement of electrons, and electronics forms only one branch of the large field of electrical engineering Electrons do not normally leave the atoms of which they are a part, chiefly because of the attraction of the nucleus of the atom However, electrons in the outermost orbit of an atom of a metal, in which atoms are closely packed, are often attracted no more strongly by their own nucleus than by that of a neighboring atom Such electrons are known as free electrons, and these can, in various ways, be liberated from the surface of the solid or liquid metal This liberation is called emission and it can be brought about by heating the surface (thermionic emission), by allowing light to fall upon certain surfaces (see PHOTOELECTRIC CELL), by bombarding the metal surface with electrons or with ions, i e , charged atoms (secondary emission), and by the use of an intense electric field of high positive potential (high-field emission or cold-cathode effect) Electron emission also occurs in naturally radioactive substances (e g , radium, thorium, uranium, and polonium) and in cyclotron and other atom-disintegrating machines Thermionic emission is the commonest method of obtaining a flow of electrons Among the materials used to yield electrons are wolfram (tungsten), molybdenum, tantalum, thorium, mercury, and barium coated with strontium oxide Edison observed thermionic emission (1883) when he noted a current flowing between the hot filament and the plate in a lamp bulb Utilizing thermionic emission Sir John Ambrose Fleming developed his two-element vacuum tube or diode, a commonly used vacuum tube Lee de Forest inserted a third electrode, the grid, in a thermionic tube, thus producing (1907) the triode, which made possible greater advances in radio In the high vacuum cathode-ray tubes known as X-ray tubes the cathode rays strike a target (usually of wolfram) and thus produce the desired radiation In a number of devices the cathode rays are used directly. One of these is the cathode-ray tube called an oscilloscope, a highly evacuated glass tube Within the tube electrons are emitted from the heated filament and are accelerated toward an anode A narrow beam of the electrons passes through a small hole in the anode and thus strikes the screen, the enlarged opposite end or face of the tube, which is coated on the inner surface with a substance that fluoresces when electrons strike it Also within the tube are an electron gun for collecting the electrons into a beam and a deflecting device (the kind depending upon the purpose for which the tube is used) Such tubes are employed in many ways, chiefly for observing, in the form of tracings of light on the screen, certain electrical processes in industry The image on the screen can be photographed A large cathode-ray tube is an integral part of a television system Radio broadcasting, loran, and radar devices are also outcomes of the science of electronics. Electonic devices of various types are used in industry for many purposes, e g , for detecting flaws in metal products, for sorting goods, and for matching color tints millions of which can be distinguished electronically). The radiotelephone used in traveling vehicles is an electronic device. Biological as well as physical sciences have benefited from the use of the electron microscope (see MICROSCOPE), the BETATRON, and the CYCLOTRON. Electronic medical tools include (in addition to X-ray machines) devices for locating metal embedded in flesh, for producing artificial fevers, for concentrating penicillin extracts, and for use in performing surgical operations. Passage of electrons through gases produces the light of neon signs and of mercury-vapor, sodium-vapor, and fluorescent lamps. In these a discharge of current is set up between cold cathodes in the tubes See James Stokley, *Electrons in Action* (1946); W. J Bends, *Electronics for Industry* (1947); Vin Zeluff and John Markus, *What Electronics Does* (1948), A W Kramer, *Industrial Electronics* (1949), R. R Wright, *Electronics* (1950).

electron microscope: see MICROSCOPE.

electron tube see TUBE, VACUUM

electrophorus. see VOLTA, ALESSANDRO, CONTE.

electroplating see PLATING

electrotherapy (ūlēk"trōthĕ'rŭpē), use of electricity for medical treatment and diagnosis For certain purposes the galvanic current (term used in medicine for direct current) is used Application of the galvanic current to a part of the surface of the body is often called medical galvanism, it serves to stimulate the circulation and thus the nutrition of the tissue through which the current passes It has been used successfully in treating some cases of sprains, myositis (inflammation of a muscle), arthritis, rheumatic conditions, neuritis, and neuralgia Surgical galvanism, sometimes called electrolysis, is the use of the galvanic current to destroy tissue It is used to remove superfluous hair and to destroy minor blemishes and benign tumors of the skin A galvanic current is also employed in the introduction of electrically charged particles of certain drugs and the salts of heavy metals into the tissues This has been used in treating some diseases of the skin, ear, nose, and throat and in relieving some cases of arthritis, migraine, and asthma Electrosurgery, known also as surgical diathermy, is the use in surgery of electrical currents of high frequency It is useful as a means of destroying abnormal growths and diseased tissue and for reducing bleeding to a minimum when cutting through normal tissue Electrodiagnosis, the use of an electric current to test the reactions of nerves and muscles, is of great value It is especially useful in determining the degree of degeneration of muscle and nerve tissue DIATHERMY is a form of electrotherapy effective in treating a variety of conditions Both long-wave and short-wave diathermy are used, although use of short-wave diathermy is the more common Electrical methods are used in producing artificial fever (see FEVER THERAPY)

electrotype, in printing, a plate made by electrically coating with copper or nickel a wax mold of type or relief engraving and then pouring melted type metal over this coating Copper or nickel, instead of type metal, thus becomes the printing surface Copper is better than type metal, and nickel is better than copper The electrotype has largely superseded the STEREOTYPE except in the printing of newspapers

elegy, in poetry, originally a poem written in elegiac verse, i e , a couplet consisting of a hexameter line followed by a pentameter line, now a short, subjective, reflective poem of lamentation or regret, generally dealing with the subject of death or of unhappy or unrequited love Usually melancholy in tone, the elegy is dignified and stately and generally adopts the simplest of metrical structures The few Greek elegies now extant treat of war and love and are called elegies because of the form of their verse Elegiac verse reached a height in the work of Catullus, Propertius, Tibullus, Philetas, Callimachus, and Ovid The 16th and 17th cent in England produced some of the greatest elegies, such as Edmund Spenser's "Astrophel," John Milton's "Lycidas," and such Shakesperian works as his 71st sonnet, the dirge from *Cymbeline*, and the song "Full Fathom Five" from *The Tempest* Noted 18th-century English elegies include Pope's "Elegy to the Memory of an Unfortunate Lady," William Collins's poem on the death of Thomson, William Cowper's "Loss of the Royal George," and the best known of all English elegies, Thomas Gray's "Elegy Written in a Country Churchyard." The 19th cent. produced Matthew Arnold's "Thyrsis," Shelley's "Adonais," Swinburne's "Ave atque Vale," Robert Louis Stevenson's "Requiem," William Cullen Bryant's "Thanatopsis," Walt Whitman's "When Lilacs Last in the Dooryard Bloom'd," and Tennyson's "In Memoriam," although the latter has been called "a collection of elegies" A threnody is differentiated from an elegy by being essentially a dirge or funeral song or chant.

El-elohe-Israel (ĕ'lĕlō'hē-, ĕ'lĕ'lōhē-) [Heb ,=God, the God of Israel], name of an altar erected by Jacob in Shechem. Gen. 33 20

element, in modern chemistry, any substance which has not as yet been decomposed into simpler substances by chemical action. In this respect an element differs from a compound. Each element is represented by a specific symbol—one or two letters taken from its English name or from the Latin or Greek. Elements differ from one another in the

ELEMENTS

Element	Symbol	Atomic Number	Atomic Weight	Melting Point	Boiling Point	Valence
actinium	Ac	89				
aluminum	Al	13	26 97	659 7°C	1800°C.	3
americium	Am	95				
antimony (stibium)	Sb	51	121 76	630 5°C	1380°C	3, 5
argon	A	18	39 944	−189 2°C	−185 7°C	0
arsenic	As	33	74 91	*See* ARSENIC		3, 5
astatine	At	85				
barium	Ba	56	137 36	850°C	1140°C	2
berkelium	Bk	97				
beryllium	Be	4	9 02	1350°C	1500°C	2
bismuth	Bi	83	209	271 3°C	1450°C	3, 5
boron	B	5	10 82	2300°C	2550°C	3
bromine	Br	35	79 916	−7°C	58 8°C	1, 3, 5, 7
cadmium	Cd	48	112 41	320 9°C	767°C	2
calcium	Ca	20	40 08	810°C	1170°C	2
californium	Cf	98				
carbon	C	6	12 010	3500°C.	4200°C.	2, 4
cerium	Ce	58	140 13	640°C	1400°C	3, 4
cesium	Cs	55	132 91	28 5°C	670°C	1
chlorine	Cl	17	35 457	−101 0°C	−34 7°C	1, 3, 5, 7
chromium	Cr	24	52 01	1615°C	2200°C	2, 3, 6
cobalt	Co	27	58 94	1480°C	3000°C	2, 3
copper	Cu	29	63 57	1083°C	2300°C	1, 2
curium	Cm	96	242			
dysprosium	Dy	66	162 46			3
erbium	Er	68	167 2			3
europium	Eu	63	152 0			2, 3
fluorine	F	9	19	−223°C.	−187°C	1
francium	Fr	87				
gadolinium	Gd	64	156 9			3
gallium	Ga	31	69 72	29 7°C	1600°C (1)	2, 3
germanium	Ge	32	72 6	958 5°C	2700°C	4
gold	Au	79	197 2	1063°C	2600°C	1, 3
hafnium	Hf	72	178 6	(1700°C.)	3200°C (1)	4
helium	He	2	4 003	−272°C (2)	−268 94°C	0
holmium	Ho	67	164 94			3
hydrogen	H	1	1 0080	−259 14°C	−252 7°C	1
indium	In	49	114 8	155°C	1450°C (1)	3
iodine	I	53	126 922	113 5°C	184 3°C	1, 3, 5, 7
iridium	Ir	77	193 1	2350°C (1)	4800°C (1)	3, 4
iron	Fe	26	55 84	1535°C	3000°C	2, 3
krypton	Kr	36	83 7	−169°C	−151 8°C	0
lanthanum	La	57	138 92	826°C	1800°C	3
lead	Pb	82	207 21	327 4°C	1620°C	2, 4
lithium	Li	3	6 940	186°C	1220°C (1)	1
lutetium	Lu	71	175			3
magnesium	Mg	12	24 32	651°C.	1107°C (1)	2
manganese	Mn	25	54 93	1260°C.	1900°C (1)	2, 3, 7 (4, 6)
mercury	Hg	80	200 61	−38 87°C	356°C	1, 2
molybdenum	Mo	42	96	2620°C	3700°C (1)	3, 4, 6
neodymium	Nd	60	144 27	840°C		3
neon	Ne	10	20 183	−248 67°C	−245 9°C	0
neptunium	Np	93				
nickel	Ni	28	58 69	1455°C	2900°C	2, 3
niobium	Nb	41	92 91	1950°C	3300°C (1)	3, 4, 5
nitrogen	N	7	14 008	−209 86°C	−195 81°C	3, 5
osmium	Os	76	190 2	2700°C (1)	5300°C (1)	2, 3, 4, 6, 8
oxygen	O	8	16	−218 4°C	−183°C	2
palladium	Pd	46	106 7	1553°C	2200°C (1)	2, 4
phosphorus	P	15	30 98	*See* PHOSPHORUS		3, 5
platinum	Pt	78	195 23	1773 5°C	4300°C.	2, 4
plutonium	Pu	94				
polonium	Po	84	210			
potassium	K	19	39 096	62 3°C.	760°C.	1
praseodymium	Pr	59	140 92	940°C.		3
promethium	Pm	61				
protactinium	Pa	91	231			
radium	Ra	88	226 05	960°C.(1)	1140°C.(1)	2
radon (niton)	Rn	86	222			0
rhenium	Re	75	186 31	3000°C (1)		
rhodium	Rh	45	102 91	1985°C	2500°C (1)	3
rubidium	Rb	37	85 48	38 5°C	700°C	1
ruthenium	Ru	44	101 7	2450°C (1)	2700°C.(1)	3, 4, 6, 8
samarium	Sm	62	150 43	1300°C (1)		3
scandium	Sc	21	45 10	1200°C	2400°C	3
selenium	Se	34	78 96	220°C.	688°C	2, 4, 6
silicon	Si	14	28 06	1420°C (1)	2600°C (1)	4
silver	Ag	47	107 88	960 5°C	1950°C.(1)	1
sodium	Na	11	22 997	97 5°C	880°C	1
strontium	Sr	38	87 63	800°C (1)	1150°C (1)	2
sulphur	S	16	32 06	113°–119°C	444 6°C	2, 4, 6
tantalum	Ta	73	180 88	2850°C.(1)	4100°C.(1)	5
technetium	Tc	43				
tellurium	Te	52	127 61	452°C.	1390°C.(1)	2, 4, 6
terbium	Tb	65	159 2			3
thallium	Tl	81	204 39	303 5°C.	1650°C (1)	1, 3
thorium	Th	90	232 12	1845°C (1)	3000°C (1)	4
thulium	Tm	69	169 4			3
tin	Sn	50	118 7	231 89°C	2260°C (1)	2, 4
titanium	Ti	22	47 9	1800°C.(1)	3000°C (1)	3, 4
uranium	U	92	238 07	1850°C (1)		4, 6
vanadium	V	23	50 95	1710°C (1)	3000°C.	3, 5
wolfram	W	74	183 92	3370°C	5900°C.(1)	6
xenon	Xe	54	131 3	−140°C	−109 1°C.	0
ytterbium	Yb	70	173 04	1800°C.		3
yttrium	Y	39	88 92	1490°C	2500°C.	3
zinc	Zn	30	65 38	419 47°C.	907°C.	2
zirconium	Zr	40	91 22	1900°C (1)	2900°C.(1)	4

(1) Approximately. (2) Over. (3) Under

structure of their atoms upon which depend their physical and chemical properties Listing the elements in order of increasing ATOMIC WEIGHT was important in the formulation of the PERIODIC LAW Elements differ in VALENCE, boiling point, melting point, density and specific gravity, hardness, specific heat, spectrum, and radioactivity, as well as in compressibility, elasticity, thermal expansion, and electrical conductivity. Some elements (e g , carbon, phosphorus, and sulphur) appear in several different forms, called allotropic forms (see ISOTOPE) Some elements occur free in nature, i e , chemically uncombined with other elements, but the majority are found only in compounds Oxygen is the most abundant element Depending upon the state in which they occur at ordinary temperature and pressure, elements are classed as solid, liquid, or gas They are also classed as metals and nonmetals In ancient times the Greeks considered water, fire, air, and earth as the elements, substances of which all things were composed Some of the metals later identified as elements were known to early man In ancient Egypt gold ornaments were skillfully fashioned, and in biblical times gold was a medium of exchange Other elements long known are copper, silver, iron, lead, tin, mercury, carbon, and sulphur Arsenic, antimony, and bismuth were discoveries of the alchemists, but their original discovery is not definitely credited to any one person Probably the first to discover a new element was Hennig Brandt (or Brand) of Hamburg, who prepared phosphorus (1669) from human urine During the 18th and 19th cent most of the remaining known elements were identified With increased understanding of the properties and behavior of elements came the development of the PERIODIC LAW. Until the production by means of the cyclotron of the transuranium elements, uranium (atomic number 92) had the highest known atomic number, and for some time it was believed that no elements would be discovered that would fall beyond it in the periodic table The gaps in the periodic table, representing predicted but undiscovered elements, were gradually filled, and a number of elements with atomic weights greater than that of uranium were discovered (neptunium, 93, plutonium, 94, americium, 95, curium, 96, berkelium, 97, californium, 98) Some of the elements in the periodic table were known by more than one name In Sept , 1949, at the annual meeting of the American Chemical Society, announcement was made of the decisions of the International Union in Chemistry which met in the Netherlands (Sept , 1949) The names for elements 93, 94, 95, and 96 were officially adopted Names adopted for four other man-made elements were for element 43, technetium (formerly known also as masurium), for element 61, promethium (formerly known as illinium), for element 85, astatine (formerly called alabamine), for element 87, francium (formerly also known as virginium) Element 74, long known as tungsten in the United States and England, became, by international agreement, wolfram Other changes were the acceptance of beryllium (instead of glucinum or glucinium), niobium (instead of columbium), lutetium (to replace lutecium), and protactinium (to replace protoactinium) See also separate table of elements See I. Nechaev, *Chemical Elements* (Eng tr , 1942), M E Weeks, *Discovery of the Elements* (5th ed , 1945)

elementary school see SCHOOL

Eleph (ĕ'lĭf) [Heb ,=ox], town, near Jerusalem. Joshua 18 28

elephant, largest living land mammal, member of the order Proboscidea and related to the extinct MAMMOTH and MASTODON Greatly reduced in numbers by hunters for its ivory tusks and by encroaching civilization, it is now under protection It is thought that Egypt was the elephant's ancestral home, from which it migrated to Asia, Europe, and North and South America There are two living genera, the Asiatic or Indian elephant (*Elaphas*) of India and SE Asia and the African elephant (*Loxodonta*) now found only S of the Sahara African bull elephants reach 11 ft or more in shoulder height, Asiatic bulls about 9 ft The African elephants have larger ears and tusks (those of the bulls may weigh from 150 to 200 lb each) Tusks in the female Indian elephant are small or lacking The tusks are enlarged upper incisor teeth, sometimes more than 10 ft long They are used to dig up plant food and to pin enemies to the ground The longer, more wrinkled trunk of the African elephant terminates in two fleshy finger-like protuberances, and the smoother trunk of the Asiatic form has a single protuberance Fruits, leaves, and other plant foods which form the elephant's diet are conveyed to the mouth by the trunk. Water is sucked into the trunk and sprayed into the mouth Adults are mature at about 25 years and old at about 50 Usually one calf is produced at a time and the gestation period is between 18 and 22 months For centuries the Asiatic species has been domesticated and made to labor in the teak forests and to perform other heavy tasks It is the one generally used in circuses, but the famous Jumbo who weighed about six tons was African. **The pygmy elephant, about 5 to 7 ft.**

high at the shoulder, is found in W Africa In Siam albino elephants have long been held sacred

Elephanta (ēlĭfăn'tu), island, area c 14 sq mi , W central Bombay state, India, in Bombay harbor It is noted for six caves, excavated (8th cent) from solid rock and now serving as Hindu shrines The Great Cave, the largest (130 ft long) and most visited, contains gigantic pillars supporting its roof and colossal statuary, notably a three-headed bust of Siva The statue of an elephant, now removed to Bombay city, gave the island its English name The native name is Gharapuri

Elephant Butte Dam see RIO GRANDE

elephantiasis (ĕ"lŭfănt'ĭ'ăsĭs, -fun-) Obstruction of vessels of the LYMPHATIC SYSTEM results in enormous enlargement of the part of the body affected, the final result in some cases resembling elephant skin owing to hypertrophy of the skin and the tissue beneath it It is commonest in tropical regions from infection with a parasite, *Filaria*, a roundworm or threadworm introduced into man by the bite of a mosquito The condition of elephantiasis does not occur in every case of filariasis The leg, scrotum, and breasts are often affected Pressure from a TUMOR or scar may result in elephantiasis

Elephantine (ĕ"lŭfănt'ī'nē), island, Egypt, in the Nile near Aswan Ruins include a granite gateway with carved portraits of Alexander, son of Alexander the Great, and a temple built by Trajan The ancient Nilometer, built to gauge the height of the Nile, was restored in 1870

elephant's-ear see CALADIUM and TARO

elephant's-foot or **Hottentot bread**, twining South African vine (*Testudinaria elephantipes*), called also tortoise plant, it is related to the yam and is sometimes cultivated in greenhouses It has somewhat kidney-shaped leaves and inconspicuous flowers The rootstocks, often huge and protruding from the ground, were formerly a food of the South African natives

Eleta, RSFSR see YELETS

Eleusinian Mysteries (ĕl"ūsĭn'ēən), principal religious MYSTERIES of ancient Greece held at ELEUSIS The mysteries dealt with the legends of DEMETER, Kore (PERSEPHONE), and DIONYSUS They symbolized the yearly decay and resurrection of vegetation, and they were supposed to give the initiated a happy life after death The Lesser Mysteries, celebrated early in the spring, were a preparation for the Greater Mysteries, which took place in the month of Boedromion (Sept.–Oct) The rites included ceremonial purification by bathing in the sea after a fast, a solemn procession from Athens to Eleusis, and the rites themselves at Eleusis The nature of the secret rites is unknown despite ingenious guesses from ancient times to the present

Eleusis (ĭlōō'sĭs), ancient city of Attica, Greece, 12 mi NW of Athens, at the mouth of the Cephisus river. Through ancient times it was the seat of the ELEUSINIAN MYSTERIES There was a large temple to Demeter The Eleusinian games, also held here, were not connected with the mysteries Ruins of the city and temple near the modern village of Eleusis have been excavated and studied

Eleuthera see BAHAMA ISLANDS

elevator, device for transporting people or goods from one level to another The term is applied to the enclosed structures as well as the open platforms used to provide vertical transportation in buildings, large ships, and mines and also to devices consisting of a continuous belt or chain with attached buckets for handling bulk materials Simple hoists were used from ancient times From about the middle of the 19th cent , power elevators, often steam-operated, were used for conveying materials in factories, mines, and warehouses In 1853 Elisha Graves Otis demonstrated at the Crystal Palace exhibition a freight elevator equipped with a safety device to prevent falling in case a supporting cable should break This increased public confidence in such devices and served as an impetus to the industry Otis established a company for manufacturing elevators and patented (1861) a steam elevator After the introduction by Sir William Armstrong of the hydraulic crane (1846), the hydraulic principle was applied to the elevator, and in the early 1870s the hydraulic machines began to replace the steam-powered elevators In the operation of a hydraulic elevator a heavy piston enclosed in a cylinder is an essential part of the machinery, this piston is operated by water (or oil) pressure produced by pumps With the increased speed of movement made possible as the hydraulic elevators were improved came the development of safety devices such as speed governors to check excessive downward speed Toward the end of the 19th cent , electric elevators came into use, and gradually operation by electric motor became the chief method Later developments are mainly the improvement of safety devices and the introduction of means of operating elevator cars either partially or entirely by automatic devices. Increase in speed of operation and improvement in general design also mark the more modern elevators Moving staircases, commonly called escalators, are used (often to supplement the work of elevators) in stores, subway stations, and elsewhere for transporting from one level to another

elf, in Germanic mythology, one of the fairy folk said to dwell in fields, in woods, and in the air They are usually represented as tiny people, more or less human in form except for their size They—and particularly the elf maidens—are remarkable for their (usually dark) good looks and they lure mortals into peril They are vengeful and mischievous, trying always to do harm to human beings The term can be used to include all the fairy folk

Elfsborg, Sweden see ALVSBORG

Elgar, Sir Edward William, 1857–1934, English composer He became acquainted with music largely through the reading of books and scores in his father's music shop and taught himself several instruments He succeeded his father as organist of St George's Church, Worcester, in 1885 Music composed in 1897 for Queen Victoria's diamond jubilee brought him public recognition Among his outstanding works are *Variations on an Original Theme* (1898, known as *Enigma Variations*), orchestral portraits of his friends, *Sea Pictures* (1899) for contralto and orchestra, and *The Dream of Gerontius* (Birmingham, 1900), a cantata using Cardinal Newman's poem as a text Popular also are his five marches, *Pomp and Circumstance* (1902–30) His style, influenced by German romanticism, is marked by a sensuous texture and sure musical craftsmanship He was knighted in 1904 and became Master of the King's Musick in 1924 See biographies by Ernest Newman (1922), Basil Maine (1933), Mrs Richard Powell (1937), and W H Reed (1939)

Elgin, Thomas Bruce, 7th **earl of** (ĕl'gĭn), 1766–1841, British soldier and diplomat He served on diplomatic missions to Vienna, Brussels, Berlin, and Constantinople and brought to England the so-called ELGIN MARBLES from Athens His son, **James Bruce,** 8th **earl of Elgin,** 1811–63, was governor of Jamaica (1842–46) and governor general of Canada (1847–54) In Canada he put into operation the responsible government outlined in the famous report of his father-in-law, the earl of DURHAM He improved education and helped Canadian economy by urging on London a gradual application of the new policy of free trade and by personally negotiating with the United States the reciprocity treaty of 1854 He negotiated (1857–60) trade agreements with China and Japan Shortly before his death he was appointed governor general of India See biographies by W P Kennedy (1926) and J L Morison (1928) His son, **Victor Alexander Bruce,** 9th **earl of Elgin,** 1849–1917, was viceroy of India (1894–99) during an especially troubled period in that country's history and served as colonial secretary (1905–8) under Sir Henry Campbell-Bannerman

Elgin (ĕl'gĭn), burgh (pop 8,810), county town of Morayshire, Scotland, on the Lossie river and SSW of Lossiemouth, its seaport Elgin is the site of the Cathedral of Moray, founded in 1224, partially burned in 1270, again burned in 1390 (by the Wolf of Badenoch, Alexander Stuart), and ruined by the falling of the lofty central tower in 1711 There are also ruins of a castle which lodged Edward I in 1296 and of a bishop's palace The town has a museum, a hospital, an asylum, and county and market buildings, mostly of 19th-century construction Elgin's products include woolen textiles and whisky

Elgin **1** (ĭl'jĭn) city (pop 38,334), NE Ill , on the Fox river and WNW of Chicago, founded 1835, inc as a village 1847, as a city 1854 Elgin is a railroad, trade, and industrial city, a processing center for dairy products, and the home of the Elgin watch factories Among other manufactures are wood products, hardware, garments, and shoes A number of religious periodicals are published here The city is the seat of one of the state's oldest preparatory schools for boys (opened 1856) A state hospital for the insane is in Elgin **2** (ĕl'gĭn) City (pop 2,008), S central Texas, E of, and near, Austin, settled 1867, inc 1890 The area has truck and dairy farming and coal mining

Elgin Marbles (ĕl'gĭn), ancient sculptures taken from Athens to England in 1806 by Thomas Bruce, 7th earl of Elgin The PARTHENON frieze by Phidias, or more probably by his pupils, a CARYATID, and a column from the ERECHTHEUM were sold to the government in 1816 and are now in the British Museum, in a gallery given by Lord Duveen Casts of these sculptures are in the Metropolitan Museum

Elginshire, county, Scotland see MORAYSHIRE

Elgon, Mount (ĕl'gŏn), peak, 14,140 ft high, central Africa, on the Kenya-Uganda border It is an extinct volcano

El Greco, see GRECO, EL

Elhanan (ĕlhā'nŭn) [Heb ,=God has been gracious], **1** One of David's mighty men 2 Sam 23 24, 1 Chron 11 26 **2** Israelite 2 Sam 21 19, 1 Chron 20 5

Eli (ē'lī) [Heb ,=height], high priest and judge of Israel, teacher of the boy Samuel 1 Sam 1–4

Elia see LAMB, CHARLES

Eliab (ēlī'ăb) [Heb ,=my father is God] **1** Chief of the tribe of Zebulun Num 1 9, 2 7, 7 24,29, 10 16 **2** Father of DATHAN **3** Brother of David 1 Sam 16 6, 17,13,28, 1 Chron 2 13 Elihu 1 Chron 27 18 **4** Musician of David. 1 Chron 15 18,20, 16 5 **5** A follower of David. 1 Chron 12,9 **6** The same as Elihu **1**

Eliada (ēlī'ŭdu) [Heb ,=known by God] **1** Son of David 2 Sam 5 16, 1 Chron 3 8 Beeliada 1 Chron. 14 7. **2** Officer under Jehoshaphat 2 Chron 17,17

Eliadah (ēlī'ŭdu) [Heb ,=known by God], father of Rezon 1 Kings 11 23

Eliah (ēlī'u) [Heb ,=God is God] **1** Benjamite 1 Chron 8 27 **2** Jew who had a foreign wife Ezra 10 26

Eliahba (ēlī'ŭbu) [Heb ,=whom God hides], one of David's guard 2 Sam 23 32, 1 Chron 11 33

Eliakim (ēlī'ŭkĭm) [Heb ,=whom God will establish] **1** King of Judah see JEHOIAKIM **2** Important officer of state under King Hezekiah 2 Kings 18 17-37, 19 1-5, Isa 22 20-25, 36, 37 1-5 **3** Priest at the dedication of the new wall at Jerusalem Neh 12 41 **4, 5** Names appearing in the Gospel genealogies Mat 1 13, Luke 3 30,31

Eliam (ēlī'ăm) [Heb ,=the God of the people] **1** Father of Bath-sheba 1 Sam 11 3 Ammiel 1 Chron 3 5 **2** One of David's warriors 2 Sam 23 34

Elias (ēlī'ŭs), Greek form of ELIJAH

Eliasaph (ēlī'ŭsăf) [Heb ,=to whom God has added] **1** Tribal chief of Gad Num 10 20 **2** Head Gershonite Num 3 24

Eliashib (-lī'u-) [Heb ,=God brings back] **1** High priest Neh 3 1,20,21, 12 10,22,23, 13 4,7, Ezra 10 6 **2** Priest under David 1 Chron 24 12 **3** Descendant of David 1 Chron 3 24 **4, 5, 6** Men who had made foreign marriages Ezra 10 24, 27, 36

Eliathah (ēlī'ŭthu) [Heb ,=to whom God has come], temple musician 1 Chron 25 4,27

Elidad (ēlī'-) [Heb ,=loved by God], Benjamite Num 34 21

Élie de Beaumont, Jean Baptiste Armand Louis Léonce (zhäN' bätēst' ärmäN' lwē' lāôN' älN' du bōmôN'), 1798–1874, French geologist With the collaboration of Ours Dufrénoy he made a noted geological map of France, begun 1823 and published in 1841 In *Notice sur les systèmes de montagnes* (3 vols , 1852) he enunciated a theory relating the age and orientation of mountain chains He was professor at the School of Mines, Paris, from 1829 and also at the Collège de France from 1832 and served with the Bureau of Mines from 1824 (as inspector general from 1847) He became a senator (1852) and perpetual secretary of the Academy of Sciences (1853)

Eliel (ē'lĭĕl) **1** Manassite chief 1 Chron 5 24 **2** The same as ELIHU **1, 3, 4** Benjamites 1 Chron 8 20,22 **5, 6, 7** Mighty men of David 1 Chron 11 46,47, 12 11 **8, 9** Levites 1 Chron 15 9,11, 2 Chron 31 13

Eli, Eli, lama sabachthani? (ē'lī, lā'mu săbăk'thunu, ā'lē, la'masabakh'thanē) or **Eloi, Eloi, lama sabachthani?** (ē'loi, ā' loi) [*Eli, Eloi* Heb or Aramaic,= Lord, *lama sabachthani?* Aramaic,= why hast thou forsaken me?], in the Gospel (Mat 27 46, Mark 15 34), words of Jesus on the cross The Greek text retains and translates the original, which is seemingly a quotation of Ps 22 1

Elienai (ē"lĭē'nāī) [Heb ,=my eyes are unto God], Benjamite chief 1 Chron 8 20

Eliezer (ēlĭē'-, ēlĭē') **1** Servant of Abraham Gen 15 2 **2** Son of Moses Ex 18 4, 1 Chron 23 15,27, 26 25 **3** Prophet who rebuked King Jehoshaphat 2 Chron 20 37 **4** Benjamite 1 Chron 7 8 **5** Priest under David 1 Chron 15 24 **6** Chief Reubenite 1 Chron 27 16 **7** Messenger of Ezra Ezra 8 16 **8, 9, 10** Men who had taken foreign wives Ezra 10 18,23,31 **11** Man in the Gospel genealogy Luke 3 29

Eligius, Saint see ELOY, SAINT

Elihoenai (ēlĭ"hōē'nāī) [Heb ,=towards God are my eyes] **1** Korahite doorkeeper 1 Chron 26 3 **2** Leader in the return with Ezra Ezra 8 4

Elihoreph (ēlĭ"hō'rĕf), scribe of Solomon 1 Kings 4 3

Elihu (ēlī'hū) [Heb ,=he is my God] **1** Ancestor of Samuel 1 Sam 1 1 Ehlab 1 Chron 6 27 Eliel 1 Chron 6 34 **2** One of Job's comforters Job 32 2-37 21 **3** The same as ELIAB **3 4** Manassite captain of David 1 Chron 12 20 **5** Korahite doorkeeper 1 Chron 26 7

Elijah (ēlī'ju) or **Elias** (ēlī'us) [both Heb ,=God is God], fl c 875 B C , Hebrew prophet He is one of the outstanding figures of the Old Testament Nothing is heard of him before he confronts Ahab with the prophecy of a drought to last until Israel shall forsake her evil ways Elijah's mission was to destroy the worship of foreign gods and to restore justice His fanatical zeal lashed the land and brought about at least a temporary banishment of idolatry His story has many incidents—his raising the widow's son from the dead, his contest of faith with the priests of Baal, resulting in his triumph and their death, his being fed by ravens, his experience of the still, small voice on Mt Horeb, and his departure from earth in a chariot of fire enveloped in a whirlwind His disciple was Elisha Allusions to Elijah are frequent in the New Testament, e g , John the Baptist and Jesus are asked if they are the incarnation of the prophet He appeared in the Transfiguration He is prominent in the Koran. Mendelssohn composed an

oratorio, *Elijah* 1 Kings 17-19; 21 17-29; 2 Kings 1-2; Mal. 4 5; Mat 11 14; 16 14, 17 3; Luke 4 25; John 1 21, James 5 17. Another Elijah is mentioned among the Jews who came back after the Exile Ezra 10 21

Elijah ben Solomon, 1720–97, Hebrew scholar, called the Gaon [genius] of Wilna He combated the spread of Hasidic mysticism among the Jews of Lithuania and Poland He was immensely influential His name also appears as Elijah Wilna

Elika (ĭ-lī'-), oasis where the Israelites halted Ex. 15 27, Num 33 9

Elimelech (ĭ-lĭm'ĕlĕk) [Heb ,=my God is king], Naomi's husband Ruth 1 2,3, 2 1,3, 4 3,9

Eliosnai (ĭl'ĭŏs'nāī) [Heb ,=towards God are my eyes] **1** One of the house of David 1 Chron 3 23, 24 **2** Simeonite 1 Chron 4 36 **3** Benjamite 1 Chron 7 8 **4, 5** Men who had taken foreign wives Ezra 10 22,27 **6** Priest Neh 12 41

Eliot, Charles William, 1834–1926, American educator and president of Harvard Univ , grad Harvard, 1853 In 1854 he was appointed tutor in mathematics at Harvard and in 1858 became assistant professor of mathematics and chemistry In 1863 Eliot went abroad for two years' study, returning to become professor of chemistry at the new Massachusetts Institute of Technology Two articles on "The New Education Its Organization," published in the *Atlantic Monthly*, were in part responsible for Eliot's election in 1869 to the presidency of Harvard Univ The corporation's choice of a layman and a scientist, coupled with the fact of Eliot's youth, aroused some opposition, but the overseers finally concurred in the appointment Under Eliot's 40-year administration Harvard developed from a small college with attached professional schools into a great modern university Several notable reforms were introduced in the college the elective system was extended, the curriculum was enriched through the addition of new courses, written examinations were required the faculty was enlarged, and the strict student discipline was relaxed in favor of flexible regulations Increased entrance requirements prevailed both in the college and in the professional schools, which Eliot reformed and revitalized The courses of study were radically revised, and the standards for professional degrees were raised with the able cooperation of such men as Christopher C Langdell, dean of the law school New schools were established, including the Bussey Institution (agriculture), schools of applied science, the graduate school of arts and sciences, and the school of business administration Eliot also supported Elizabeth Cary Agassiz in her project of a woman's college, and fostered the development of Radcliffe College, affiliated with Harvard He was greatly interested in secondary education and as chairman of the Committee of Ten appointed in 1892 by the National Education Association was influential in securing a greater degree of uniformity in high school curriculums and college entrance requirements After his resignation in 1909, he turned to public affairs He had been a strong advocate of civil service reform for many years and was a member of the General Education Board and a trustee of the Carnegie Foundation for the Advancement of Teaching In 1911–12 he traveled abroad as an emissary of the Carnegie Endowment for International Peace and later actively supported the League of Nations and the World Court A national leader, Eliot made numerous public addresses and edited *The Harvard Classics* ("President Eliot's Five-Foot Shelf") to further adult education by means of a planned course of reading His most important papers written before 1914 are reprinted in two volumes edited by W A Neilson, under the title *Charles W Eliot, the Man and His Beliefs* (1926), and those since 1914 in *A Late Harvest* (1924), edited by M A De Wolfe Howe *The Religion of the Future* (1909) and *The Durable Satisfactions of Life* (1910) present Eliot's religious and ethical views See biography by Henry James (2 vols , 1930), S E Morison, *The Development of Harvard University, 1869 1929* (1930) In 1901, he wrote a biography of his son

Charles Eliot, 1859–97, landscape architect, who in a short period made his mark in a new profession through his work in planning the park system of Greater Boston

Eliot, George, 1819–80, English novelist, whose real name was Mary Ann or Marian Evans She was brought up in a strict evangelical atmosphere, against which she later rebelled Her early schooling was supplemented by assiduous reading, and the study of languages led to her first literary work, *Life of Jesus* (1846), a translation from the German of D F Strauss After her father's death she joined (1851) the editorial staff of the *Westminster Review*, contributed articles, and came to know many of the literary people of the day Her long and happy union with G H Lewes, which began in 1854, she regarded as marriage, though it involved social ostracism and could have no legal sanction because Lewes's estranged wife was living Encouraged by Lewes, she began the *Scenes of Clerical Life*, a series of realistic sketches first appearing (1857) in *Blackwood's Magazine* under the pseudonym Lewes chose for her, George Eliot Three novels followed, *Adam Bede* (1859), *The Mill on the Floss* (1860), and *Silas Marner* (1861), in each of them middle-class characters lived out the lives which their circumstances and emotions necessitated, against the beautiful background of the Warwickshire countryside George Eliot had known in her youth She twice visited Italy (1860 and 1861) before she brought out in the *Cornhill Magazine* (1862–63) her historical romance *Romola*, a story of Savonarola *Felix Holt* (1866) a political novel, was followed by *The Spanish Gypsy* (1868), a dramatic poem *Middlemarch* (1871–72), which marked a return to her earlier manner, she considered her best novel—an opinion upheld by many critics She wrote one more novel, *Daniel Deronda* (1876), and the satirical *Impressions of Theophrastus Such* (1879) Her verse, never popular, is now seldom read Lewes died in 1878, and in 1880 she married an intimate friend of both Lewes and herself, John W Cross, who later edited *George Eliot's Life as Revealed in Her Letters and Journals* (1885) See A T Kitchel, *George Lewes and George Eliot* (1933) G S Haight, *George Eliot and John Chapman* (1940), biographies by Oscar Browning (1890), E S Haldane (1927), B C Williams (1936), and Gerald Bullett (1948)

Eliot, Jared, 1685–1763, American scientist, b Guilford, Conn , grad Collegiate School of Connecticut (now Yale), 1706 The minister at Killingworth (now Clinton), Conn , from 1709 to his death, he was deeply interested in medicine—which he had learned from his father—and became a notable physician and teacher of physicians His broad interests also led him to urge development of iron deposits in Connecticut as well as to write *Essays upon Field-Husbandry in New-England* (1760, reprinted 1934)

Eliot, Sir John, 1592? 1632, English statesman He was a staunch upholder of constitutional government by Parliament and joined Sir Edward Coke and others in promoting the PETITION OF RIGHT, which was presented to Charles I in 1628 In 1629 he read a protest in Commons against arbitrary taxation and "popery," while the speaker was held in the chair by force in defiance of the king's order of adjournment Eliot was committed to the Tower and, refusing to submit to the authority of the king, was left to die in prison

Eliot, John, 1604–90, English missionary in colonial Massachusetts, called the Apostle to the Indians, educated at Jesus College, Cambridge He was influenced by Thomas Hooker, became a staunch Puritan, and emigrated from England Arriving in Boston in 1631, he became teacher at the church in Roxbury in 1632 and kept that position the rest of his life He helped to write the *Bay Psalm Book*, but more important was his interest in converting the Indians He studied the native language spoken around Roxbury and was soon preaching in it His determination to Christianize the Indians led him to establish villages for the Christian natives—the "praying Indians"—with simple civic and religious organization He won the aid of the colonial authorities and achieved the founding in England of the Society for the Propagation of the Gospel in New England under the auspices of Parliament Funds and workers came to him and on lands granted for the purpose he and his helpers founded some 14 communities The most prominent and successful was at Natick King Philip's War caught the "praying Indians" between the hostile tribes and the Indian-hating whites and all but wiped them out White settlements took over most of the villages The pamphlets by Eliot and, even more, his translation of the Bible into an Algonquian Indian language usually called Natick (1661–63, the first Bible printed in the United States) and his *Indian Primer* (1669) are prime sources of later knowledge of the peoples of Massachusetts

Eliot, Thomas Stearns, 1888–, English poet, b St Louis, Mo , studied at Harvard, the Sorbonne, and Oxford After 1914 he lived mostly in England and in 1927 became a British subject For a time he worked as a teacher, then as a bank clerk, and later entered the publishing firm of Faber & Faber, of which he is a director He is one of the most influential conservative modern poets and literary critics His early poetical works, *Prufrock and Other Observations* (1917) and *Poems* (American ed , 1920), expressed his disillusion with his times, his long poem *The Waste Land* (1922) provided an iconoclastic and hopeless picture of his world and was followed in 1925 by the less ambitious but no less despairing poem, "The Hollow Men" Meanwhile he attained stature as a critic by being assistant editor (1917–19) of the *Egoist*, magazine of the imagists, by founding and editing (1922–39) his quarterly, the *Criterion*, and also by his essays collected in *The Sacred Wood* (1920) Some of his literary debts are indicated in his edition of poems by Ezra Pound (1928), his *Dante* (1929), and his *John Dryden* (1932) In 1928 in *For Lancelot Andrewes* he announced that he was an Anglo-Catholic in religion and a classicist in literature In the same kind of difficult, musical language layered with meanings which he had found necessary for his earlier poetry, his religious conversion is reflected in his later poetry—*Ash Wednesday* (1930), many of the *Collected Poems, 1909–35* (1936), and *Four Quartets* (1943) His early poetic dramas were interesting—*Sweeney Agonistes* (1932) and *The Rock* (1934), *Murder in the Cathedral* (1935) and *Family Reunion* (1939) were widely produced, and *The Cocktail Party* (1950), called a modern morality, was acclaimed Eliot's criticism includes *Elizabethan Essays* (1934), *Essays Ancient and Modern* (1936), *The Use of Poetry and the Use of Criticism* (1933), *After Strange Gods* (1933), *The Idea of a Christian Society* (1939), and *Notes toward the Definition of Culture* (1949) His works are widely translated, he was awarded the 1948 Nobel Prize in Literature, and a considerable body of criticism has been written about him See bibliographical checklist of his writings by Donald Gallup (1947) and selections of critical articles by Leonard Unger (1948), Balachandra Rajan (1948), and Richard Marchand Tambimuttu (1950), critical studies by F O Matthiessen (new ed , 1947) and Elizabeth Drew (1949)

Eliot, town (pop 1,932), extreme SW Maine, on the Piscataqua above Kittery, inc 1810

Eliott, George Augustus, 1st **Baron Heathfield of Gibraltar,** 1717–90, British soldier, of Scottish birth He served in Germany under George II In 1775, as lieutenant general, he was made governor of Gibraltar In 1779 he was besieged in Gibraltar by the Spanish fleet, which, reinforced by the French, continued the siege until peace was restored, three and a half years later (1783) This was a long and memorable defense He was raised to the peerage in 1787 The name also appears as Elliott

Eliphal (ĭ-lī'făl, ē-lī'-f]), the same as ELIPHELET **4.**

Elphalet (ĕ-lĭf'ŭlĕt) [Heb ,=God is deliverance], name of two sons of David 2 Sam 5 16, 1 Chron 14 7 Elphelet 1 Chron 3 6,8 Elpalet 1 Chron 14 5

Elphaz (ĕ'lfăz, ēl'-făz) **1** Son of Esau and father of Teman Gen 36 4 10–16, 1 Chron 1 35,36 **2** Temanite, a comforter of Job Job 2 11, 4, 15, 22, 42 9

Elpheleh (ĕl-fē'lĕ) [Heb =God distinguishes], harper before the ark 1 Chron 15 18,21

Elpheiet (ĕl-fŭl'ĕt) [see ELIPHALET] **1, 2** Same as Elphalet **3** Companion of Ezra Ezra 8 13 **4** One of David's mighty men 2 Sam 23 34 Eliphal 1 Chron 11 34 **5** Benjamite 1 Chron 8 39 **6** One who had married a foreign wife Ezra 10 33

Elis (ē'lĭs) region of ancient Greece, in W Peloponnesus, W of Arcadia A plain watered by the Alpheus and Peneus rivers, it was notable for breeding horses and growing flax It was even more notable for the Olympic games held at OLYMPIA Other important cities were PISA and the later-built Elis The region was divided into three parts —Elis proper or Hollow Elis Pisatis, and Triphylia The Elians were early allied with the Spartans but fell out with them in 420 B C and as a result later lost Triphylia to Arcadia Elis declined after the Olympic games were suppressed

Elisabeth see ELIZABETH

Elisabethville, city (pop 67,980), SE Belgian Congo; founded 1910 It is the chief city of Katanga, a rich metal-producing region It is on a transcontinental railroad linking Luanda on the west coast with Beira on the east coast Copper, tin, gold, and uranium are refined

Elisavetgrad, Ukraine see KIROVOGRAD

Elisavetpol, Azerbaijan SSR see KIROVABAD

Elisha (ĕ-lī'shŭ) or **Eliseus** (ĕl'ĭsē'ŭs) [both Heb ,= God is salvation], fl 875 B C , Hebrew prophet He continued the work of ELIJAH He prophesied under the successors of Ahab Where Elijah had been aggressive, Elisha gained his objectives through a diplomatic use of his powers With few exceptions his miracles show a kindly nature—the raising of the dead boy, the healing of the Syrian captain Naaman, the timely aid to the poor widow in debt Though far more is recorded of him than of Elijah, he leaves no such impression of personality and accomplishment 1 Kings 19 16–21, 2 Kings 2 9, 13 14–21, Luke 4 27

Elishah (ĕl'ĭshŭ), geographical name in the Bible Gen 10 4, Ezek 27 7 No certain identification has been established

Elishama (ĕl'ĭshumu) **1** Chief Ephraimite Num 1 10, 1 Chron 7 26 **2,3** Sons of David 1 Chron 3 6,8, 14 7, 2 Sam 5 16 One is called Elishua twice 2 Sam 5 15, 1 Chron 14 5 **4** Judahite 1 Chron 2 41 **5** Grandfather of ISHMAEL **6.** 6 Scribe Jer 36 11–26 **7** Priest under Jehoshaphat. 2 Chron 17 8

Elishaphat (ĕl'ĭshufăt) [Heb ,=whom God has judged], one of the leaders who aided Jehoiada to place Joash on the throne 2 Chron 23 1

Elisheba (ĕl'ĭshubu) [Heb ,=worshiper of God, Elizabeth is a Greek form], Aaron's wife Ex 6 23

Elishua (ĕl'ĭshōō, ĕl'ĭshōō'ŭ) [Heb ,=God is salvation], son of David see ELISHAMA **2**

Elissa, see DIDO

Eliud (ĕl'ĭud) [Gr from Heb ,=God of the Jews], in the Gospel genealogy Mat 1 14

Elizabeth, Saint [Gr ,=Heb ELISHEBA], mother of St John the Baptist and cousin of the Virgin,

Luke 1. Her principal liturgical and artistic importance is in the Visitation of Our Lady, July 2; see MARY, the Virgin Feast Nov 5

Elizabeth, Saint, 1207–31, daughter of Andrew II of Hungary and wife of Louis II of Thuringia She is called St Elizabeth of Hungary or St Elizabeth of Thuringia After the death of her husband (1227) she left the Wartburg, perhaps at the compulsion of her brother-in-law, Henry Raspe She found refuge with her uncle, the bishop of Bamberg, and later joined the third order of St Francis and lived in seclusion at Marburg Her confessor, Conrad of Marburg, was a harsh ascetic and led her to practice extreme austerities and to separate herself from her children St Elizabeth's sweet disposition and loving care for the needy and sick won her the devotion of Thuringia Her shrine is in the beautiful church at Marburg In art she is portrayed carrying red roses because of a legend that her husband, disapproving of her giving bread to the poor, one day halted her, and the bread she was carrying miraculously turned to roses The same legend is told of other saints Feast Nov 19

Elizabeth, 1837–98, empress of Austria and queen of Hungary A Bavarian princess, she was married (1854) to her cousin Emperor Francis Joseph Despite her exceptional beauty, intelligence, and kindness she led an unhappy domestic life which was obscured, moreover, by family tragedies (notably the death of her only son, Archduke RUDOLF, and the death of one of her sisters in the charity bazaar fire in Paris, 1897) Independent and unconventional, she avoided the stiff etiquette of the Viennese court and spent much of her time abroad, notably on Corfu She was assassinated by the Italian anarchist Luccheni in Geneva, Switzerland See biography by E C CORTI (1936)

Elizabeth, 1709–62, empress and tsarina of RUSSIA (1741–62), daughter of Peter I and Catherine I She gained the throne by overthrowing the young emperor, IVAN VI, and the regency of his mother, ANNA LEOPOLDOVNA Her coup d'état was made possible by her popularity with the imperial guards, who hated the German favorites of Anna Leopoldovna and who revered in Elizabeth the memory of her father Elizabeth herself, arms in hand, led the bloodless revolution Violently anti-German and guided in her foreign policy by her chancellor, A P. BESTUZHEV-RYUMIN, Elizabeth rid Russia of German influence She victoriously sided against Frederick II of Prussia in the SEVEN YEARS WAR, but her death and the accession of her nephew, Peter III, took Russia out of the war and made Frederick's ultimate victory possible Elizabeth established government banks and founded the Univ of Moscow and the Academy of Fine Arts in St Petersburg

Elizabeth, 1876–, queen of the Belgians, consort of King ALBERT I, whom she married in 1900 and whom she lost in a tragic accident in 1934 A Bavarian princess, she inherited the independent character and many-sided talents which distinguish her family She studied nursing in her youth and during the First World War won the love and admiration of her adopted people by her unstinting work in hospital care She showed deep and personal interest in the improvement of social conditions in Belgium Her simplicity of manners, studious taste, and musical talent won her the personal friendship of many outstanding scientists and artists

Elizabeth, 1596–1662, queen of Bohemia, daughter of James I of England Her beauty attracted most of the royal suitors of Europe (she was nicknamed the "Queen of Hearts"), but she was married (1613) to Frederick V, elector palatine (see FREDERICK THE WINTER KING) in order to cement an alliance between English and German Protestantism She became queen of Bohemia in 1619, when her husband accepted the crown offered by the Bohemian diet After Frederick was defeated (1620) in the battle of the White Mountain, Elizabeth took up her residence in Holland, where she courageously endured privation and misfortune She received no support from abroad, not even from her son, Charles Louis, who was restored to the Palatinate in 1648 In 1661 she returned to England, against the wishes of Charles II, who, however, pensioned her She had 13 children, among them Prince RUPERT, Princess Elizabeth, who was the patroness of Descartes, and SOPHIA, who was electress of Hanover, mother of George I of England

Elizabeth, 1533–1603, queen of England (1558–1603) The daughter of HENRY VIII and Anne BOLEYN, she was declared illegitimate by a royally controlled court after the execution of her mother in 1536, but Parliament in 1544 reestablished her in succession after Edward, her half brother, and Mary, her half sister Elizabeth was well educated by a series of tutors including William Grindal and Roger Ascham. In 1553 she supported the claims to the throne of MARY I over those of Lady Jane GREY, and after Mary was crowned, Elizabeth was careful to avoid implication in the plot of Sir Thomas WYATT Since Elizabeth's potential succession to the throne inevitably furnished a rallying point for discontented Protestants, she was imprisoned, but gradually regained her freedom through outward conformity to Catholicism. When she became queen in 1558, religious strife, a huge government debt, and failures in the war with France had brought England's fortunes to a low ebb At Elizabeth's death 45 years later, England had passed through one of the greatest periods of national history—a period that produced SHAKSPERE, Edmund SPENSER, Francis BACON, Walter RALEGH, Martin FROBISHER, Francis DRAKE, and other notable figures, a period that saw England, united as a nation, become a first-rate European power with a great navy, a period in which English commerce and industry prospered and English colonization was begun Elizabeth came to the throne with the Tudor concept of strong rule and the realization that effective rule depended upon popular support She was able to select and work well with the most competent of counselors, Sir William Cecil (Lord BURGHLEY) was appointed immediately, and Sir Francis WALSINGHAM in 1573 One of her first acts was to reestablish Anglicanism through Acts of Supremacy and Uniformity (1559) The measures against Roman Catholics grew harsher over the course of her reign—and particularly after the pro-Catholic Ridolfi plot in 1571 In 1585 a law declared it treason for a Catholic priest to set foot in England English Puritans, like the Catholics, objected to the Established Church, and a severe law against conventicles in 1593 kept the separatist movement underground for the time At the beginning of her reign, Elizabeth's government enacted needed currency reforms and took steps to mend English credit abroad Other measures eventually followed—the Statute of Apprentices (1563) to stabilize labor conditions, the poor laws (1563–1601) to attempt some remedy of widespread poverty, and various acts to encourage agriculture, commerce, and manufacturing Elizabeth initiated a general policy of peace and commenced a long series of diplomatic maneuvers which eventually defeated Spain and stalemated France In 1559 she concluded a peace in the unfortunate war with France and refused the marriage offer of PHILIP II of Spain The next year the Treaty of Edinburgh initiated a policy toward Scotland, successful in the long run, of supporting the Protestant lords against the Catholic party By lending aid to French Huguenots she managed for some time to harass France and Spain without involving England in actual war effort By keeping alive the prospect of marriage with Francis, duke of Alençon and Anjou, she secured (1572) a temporary defense alliance against Spain and by reviving the marriage negotiations later she procured some French aid for the Dutch against Spain Meanwhile Elizabeth had met the threat of MARY QUEEN OF SCOTS, a Catholic with a claim to the English throne In 1568, after Mary's abdication from the Scottish throne, Elizabeth gave her refuge and kept her prisoner for 18 years Elizabeth's government defeated numerous plots, both real and alleged, to seat Mary on the English throne Elizabeth did not, however, have her executed until 1587 after the plot of Anthony BABINGTON By now Spain had emerged as England's main enemy English seamen had been unofficially encouraged to encroach on Spanish monopolies and raid Spanish shipping Philip therefore planned the punitive expedition of the Spanish Armada The Armada was defeated in 1588 by the skill of such leaders as John Hawkins and Francis Drake and by storms, rather than by planning on Elizabeth's part, but the victory strengthened English national pride and broke the power of Spain Elizabeth continued to harry the Spanish by permitting raids on the Spanish coast From 1599 Ireland was the scene of increasingly severe rebellions, but these were finally ended by the campaigns of Lord Mountjoy in 1600–1603 After the Armada, Elizabeth's popularity began to wane Parliament became less tractable and began to object to the abuse of royally granted monopolies The rash and foolish uprising of her old favorite, Robert Devereux, 2d earl of ESSEX, darkened part of her last years Elizabeth was vain, fickle in bestowing favor (as upon Essex and upon Robert Dudley, earl of LEICESTER), prejudiced, vacillating, and parsimonious Her main virtues were a constant awareness of the responsibility of rule and her immense personal courage See A D Innes, *England under the Tudors* (1932), A F Pollard, *The History of England, 1547–1603* (1915), Lytton Strachey, *Elizabeth and Essex* (1928), J. B Black, *The Reign of Elizabeth* (1936)

Elizabeth, 1900–, queen consort of GEORGE VI of England, daughter of the 14th earl of Strathmore She was Lady Elizabeth Bowes-Lyon until her marriage (1923) to the then duke of York

Elizabeth, 1843–1916, queen of Rumania, consort of King Carol I, whom she married in 1869 Of German birth, she was the daughter of Hermann, prince of Wied She completely identified herself with her adopted country and gave herself to its cultural development Under the pseudonym Carmen Sylva the queen wrote extensively and with almost equal facility in German, French, English, and Rumanian. She collaborated on several books with her lady in waiting, Mite Kremnitz Among her chief works are *Pensées d'une reine* [a queen's thoughts] (1882) and an English collection of Rumanian folk tales, *The Bard of Dimbovitza* (1891)

Elizabeth, 1926–, British princess, heir presumptive to the throne of Great Britain. She is the daughter of King George VI and Queen Elisabeth. In 1947 she married Philip Mountbatten, duke of Edinburgh. In 1948 their son, Prince Charles Philip Arthur George, was born.

Elizabeth, 1764–94, sister of Louis XVI of France, known as Madame Elisabeth. Loyal to her brother, she remained in France during the Revolution, suffered imprisonment, and was guillotined

Elizabeth see RUSSELL, MARY ANNETTE

Elizabeth, 1 City (pop 109,912), co seat of Union co , NE N J , S of Newark, known as Elizabethtown until 1740, inc. as a borough 1789, as a city 1855 Goethals Bridge (opened 1928) connects it with Staten Island Englishmen bought the site from Indians in 1664; it was selected as the provincial capital, and Philip Carteret arrived as first governor in 1665, the assembly met here, 1668–82 The school that became Princeton Univ was opened here in 1747 The village suffered British raids in the Revolution, the courthouse, the Presbyterian church, and other buildings being burned in 1780 Surviving old buildings include Elias Boudinot's home (c 1750), the Belcher Mansion (before 1750), and the Nathaniel Bonnell House (before 1682) Tanning and brewing were followed by manufacture of machinery, oil refining, and shipbuilding, a Singer sewing-machine factory was opened in 1873 A vocational school was started in 1937 Nicholas Murray Butler and M. W Baldwin were born here See Sesquicentennial Committee, *Revolutionary History of Elizabeth* (1926) 2 Residential borough (pop 2,976), SW Pa , on the Monongahela and SSE of Pittsburgh, settled 1769, inc 1834

Elizabethan style (ĭlĭz"ubē'thun, -bē'thun), in architecture and the decorative arts, a transitional style of the early English Renaissance which took its name from Queen Elizabeth's reign (1558–1603) Particularly characteristic of the period was the construction of large country houses, the plans, interior finish, and comfort of which were immensely in advance of earlier dwellings The great hall of medieval manors was retained, while added features were a broad staircase, a long gallery connecting the wings of the house on the upper floor, a withdrawing room, and bedrooms of increased importance and number As in the subsequent Jacobean style, the designers attempted to include Renaissance motives drawn from Italy, their insufficient documentation leading to free and naïve interpretations of columns, pilasters, and classic ornament These, together with lozenges, festoons, baroque scrolls, interlacing straps, and grotesque figures, constituted the details peculiar to the two styles and appeared not only on exteriors but also in the design of interiors, furniture, and accessories The important rooms contained architectural paneling in oak, elaborately ornamented chimney breasts, and ceilings in decorative plaster relief As a background for the new ideas, many elements of English Gothic construction remained tall projecting bays with mullioned windows, numerous ornamental gables, towers, great chimneys, and façades in half-timber Landscape design reached the point of formal gardens with clipped box and yews, long balustraded terraces, and other features to form a finished setting for the great manors During the period few churches but a number of colleges at Oxford and Cambridge were built Among the mansions are Knole House, Kent (1570), Kirby Hall, Northamptonshire, and Moreton Hall, Cheshire

Elizabeth Charlotte of Bavaria, 1652–1722, German princess, called the Princess Palatine, wife of Philippe I d'ORLÉANS She abjured the Protestant faith before her marriage (1671) Her ugliness, active temperament, German patriotism, and strict moral views combined to make her miserable with her husband and at the court, from which she tried to hold aloof Her frank and vigorous letters are a valuable source for the social history of the time She was the mother of the regent, Philippe I d'Orléans, and a friend and patron of Leibnitz She was also known as Charlotte Elizabeth See *Letters of Madame* (Eng tr , 2 vols , 1924–25), Cécile Vincens, *Madame, Mother of the Regent* (1909, Eng tr., 1909)

Elizabeth City, town (pop 11,564), co seat of Pasquotank co , NE N C , a port of entry with a fine harbor on the Pasquotank river N of Albemarle Sound, founded 1793. It is a fishing, trade, and industrial center (cotton, lumber, and hosiery mills) in an agricultural area yielding cotton, corn, and potatoes The region is also a popular sportsmen's resort A U.S coast guard base and a state teachers college for Negroes are here.

Elizabeth Farnese (färnā'sā), 1692–1766, queen of Spain, second consort of Philip V; niece of Antonio Farnese, duke of Parma. Soon after her marriage (1714), arranged by Cardinal ALBERONI and the Princess des URSINS, she gained a strong influence over her weak husband and for some time, at first with Alberoni, virtually ruled Spain, though after

1743 Ensenada was the chief power in government Her ambition to recoup the losses incurred by Spain at the Peace of Utrecht plunged Spain into several wars. As a result of the attack on Naples in the War of the POLISH SUCCESSION her son Carlos (later Charles III of Spain) became king of Naples and Sicily in 1734 and her son Philip obtained (1748) the duchy of Parma Exiled by her stepson, Ferdinand VI, she returned to court after the accession (1759) of Charles III.

Elizabeth Islands, chain forming the southern boundary of Buzzards Bay, off SE Massachusetts, in Dukes co Cuttyhunk is farthest west, Naushon is largest Cuttyhunk was discovered in 1602 and settled in 1641, it has a U S coast guard station Pemkose Island was the seat of a summer school of marine biology established by Louis AGASSIZ

Elizabeth of Valois (vāl'wh, Fr valwā'), 1545–68, queen of Spain, daughter of Henry II of France Originally destined for Don CARLOS, son of Philip II of Spain, she was married (1559) to Philip himself The unfounded legend of a tragic love between Elizabeth and Carlos has often been used in literature, notably in Schiller's *Don Carlos*

Elizabethton, town (pop 8,516), co seat of Carter co, NE Tenn, at the junction of the Watauga and Doe rivers. The region was one of the earliest settled in Tennessee In 1772 the WATAUGA ASSOCIATION was organized here, Sycamore Shoals Monument commemorates this event, the treaty Richard Henderson made with the Cherokee in 1775, and the formation of a Revolutionary force that later took part in the battle of Kings Mountain Elizabethton, which was incorporated in 1905, is an industrial center with notable rayon mills, a strike here in 1929 was one of the first in Southern textile plants Unaka National Forest is near by

Elizabethtown. **1** City (pop 3,667), co seat of Hardin co, central Ky, S of Louisville, settled 1780, platted 1793 It is a trade center for a farm (especially tobacco and grain) and limestone region Thomas Lincoln lived here for a time The Union garrison at Elizabethtown was captured by Gen John H Morgan in Dec, 1862 Indian mounds in the region have yielded numerous artifacts Near by is Fort Knox (see KNOX, FORT) **2** Early name of ELIZABETH, N J **3** Town (pop 1,123), co seat of Bladen co, S N C, on the Cape Fear River and SSE of Fayetteville, settled c 1738 It is in a region growing cotton, tobacco, and peanuts and has processing plants. **4** Borough (pop 4,315), SE Pa, between Harrisburg and Lancaster, laid out 1751, settled c 1753, inc 1827. It is a trading center for the surrounding agricultural region Elizabethtown College is here

Elizabethville, borough (pop 1,410), SE Pa, NNE of Harrisburg, settled 1817 It is a shopping center for farmers

Elizabeth Woodville: see WOODVILLE, ELIZABETH

Elizaphan (ĕlĭ'zufān, ĕlĭzā'-) [Heb, =whom God protects] **1** Aaron's own cousin Num 3 30; 1 Chron 15 8, 2 Chron 29 13 Elzaphan Ex 6 22, Lev 10 4 **2** Zebulunite Num 34 25

Elizur (ĕlĭ'zur) [Heb, =God is a rock], Reubenite prince Num 1 5, 2 10, 7 30–35, 10 18

elk, member of the deer family of the genus *Alces* (or *Alce*) now found in reduced numbers in some forested parts of N Europe and Asia It is smaller than the American species, called the MOOSE, but very similar to it The extinct Irish elk was a large relative of the fallow deer For the deer called the American elk, see WAPITI

Elkader (ĕlkā'dŭr), town (pop 1,556), co seat of Clayton co, NE Iowa, on the Turkey river and NW of Dubuque, inc 1868 Near by are the ruins of Communia, a cooperative town settled c 1850

Elkanah (ĕl'kănu, ĕlkā'nu) [Heb, =God possesses] **1** Husband of Hannah and father of Samuel 1 Chron 6 27,34, 1 Sam 1, 2 11,20 **2** Head of a Levitical family. Ex 6 24 **3** One of David's mighty men 1 Chron 12 6 **4** Officer of Ahaz's household 2 Chron 28 7 **5** Doorkeeper of the Ark of the Covenant 1 Chron 15 23. **6, 7, 8** Levites 1 Chron 6 23,25,26,35, 9 16

Elk City, city (pop 5,021), W Okla, in a dairy region. A cooperative medical center was founded here in 1929

El-Khalil see HEBRON

Elkhart, city (pop 33,434), N Ind, at the confluence of the Elkhart and St Joseph rivers E of South Bend, settled and platted 1832, inc 1877 It is a shipping and trading center for an agricultural area The city is a division headquarters for the New York Central RR and has shops of that road Its manufactures include band instruments, trailer accessories, and fishing tackle

Elkhorn, city (pop 2,382), co seat of Walworth co, SE Wis, SW of Milwaukee and N of Lake Geneva, in a farm and dairy area, settled 1837, inc. as a village 1852, as a city 1897 Musical instruments are made here

Elkhorn, river rising in N Nebraska and flowing 333 mi SE to the Platte WSW of Omaha.

Elkhorn City, coal-mining town (pop. 1,030), E Ky., in the Cumberlands, SE of Pikeville and on Russell Fork near the Va. line Its post office address is Praise. Near by are the picturesque Breaks of the Big Sandy River.

Elkhorn Tavern: see PEA RIDGE.

elkhound, dog known for its strength and stamina and used in early times in parts of Europe for hunting big game. It originated in Norway, where it is believed to have existed from several thousand years B C., and is often called the Norwegian elkhound It is of medium size (from 18 to 20 5 in high at the shoulder), compact, and muscular, with rather short, strong legs Its outer coat is thick and gray with black-tipped hairs, the undercoat is woolly The tail curls over the back, and the ears are erect From the latter part of the 19th cent it has become increasingly popular as a pet and companion dog

Elkin, town (pop 2,734), W central N C, in the Blue Ridge foothills, on the Yadkin and WNW of Winston-Salem It has cotton and wool textile mills

Elkins, Stephen Benton, 1841–1911, American statesman, b Perry co, Ohio, grad Univ of Missouri, 1860 He grew up in Missouri and after the outbreak of the Civil War enlisted in the Union army, though his father and brother were Confederates Admitted to the bar in 1864, he removed to New Mexico, where he had a political career, capped by service (1873–77) as territorial delegate to Congress He acquired interests in mines, land, and railroads, and, after living in New York, made his home (1890) at Elkins, W Va., where he and H G Davis founded Davis and Elkins College Prominent in Republican politics, he was (1891–93) Secretary of War under Benjamin Harrison As Senator from West Virginia (1895–1911), he was interested in railroad legislation and was author of the Elkins Act of 1901 against the system of the REBATE, though he did not support the more drastic Hepburn Act of 1906 His son, **Davis Elkins,** 1876–, b Washington, D C, was also Senator (1911-13, 1919–25)

Elkins, city (pop 8,133), co seat of Randolph co, N W Va, on the Tygart river and SE of Clarksburg, in a timber and mining area, inc 1890 It has a tannery and several woodworking plants Davis and Elkins College (Presbyterian, coeducational, 1904) and a state home for children are here Elkins is an entrance to Monongahela National Forest

Elk Island National Park, central Alta, E of Edmonton, est 1913 It is Canada's chief fenced preserve of buffalo and other prairie animals

Elkland, borough (pop 2,400), Tioga co, N Pa, on the N Y border between Bradford and Sayre, inc 1850 It has a sole-leather tannery

Elk Mountains, range of the Rocky Mts, W central Colo Mt Carbon (sometimes called Castle Peak), 14,259 ft high, is the highest peak The southwest extension of the range is called the West Elk Mts

Elko (ĕl'kō), city (pop 4,094), co seat of Elko co, NE Nev, on the Humboldt river and N of the Diamond Mts, inc 1917 Founded (1868) when the Central Pacific arrived, it is today a shipping point for a ranch area The Univ of Nevada (now at Reno) was here from 1873 to 1885

Elkoshite (ĕl'kushīt), surname of Nahum, of unknown meaning Nahum 1 1

Elk Point, city (pop 1,483), co seat of Union co, extreme SE S Dak, NW of Sioux City, Iowa, founded 1861 It is a shipping center for grain and livestock

Elk River, village (pop 1,245), co seat of Sherburne co, E Minn, on the Mississippi and NW of Minneapolis; platted 1865, inc 1881 An early lumber town, it is now a farm trade center

Elkton. **1** City (pop 1,214), co seat of Todd co, S Ky, E of Hopkinsville near the Tenn line, in a tobacco, livestock, grain, and fruit area. Blue and Gray State Park is near by At Fairview, a few miles west, a memorial park and monument mark the birthplace of Jefferson Davis **2** Town (pop 3,518), co seat of Cecil co, NE Md, NE of Baltimore, founded c 1681 It was the Gretna Green of the Eastern states until 1938, when the state passed a marriage law requiring a 48-hour residence The town is supported by paper and pulp, textile, explosives, and fertilizer plants A state park is near by **3** Town (pop 1,050), N Va, in the Shenandoah Valley near Harrisonburg, inc 1908

Ellasar see LARSA

Ellenborough, Edward Law, 1st **earl of,** 1790–1871, British statesman He served as president of the Board of Control of the East India Company (1828–30) and as governor general of India (1841–44) His main achievement was the annexation of Sind Later, in England, he was first lord of the admiralty (1846) and minister for Indian affairs (1858)

Ellenborough, Edward Law, 1st **Baron,** 1750–1818, lord chief justice of England (1802–18) He achieved his greatest fame for his successful defense of Warren HASTINGS in the famous impeachment trial, but his influence on England lay in his lifelong conservatism He supported the repressive measures of the French Revolutionary period and helped increase the severity of the Penal Laws

Ellendale, city (pop 1,517), co seat of Dickey co, SE N Dak., near the S Dak line S of Jamestown, in a farm area; inc 1889. A state normal and industrial college is here

Ellensburg, city (1940 pop 5,944, 1942 estimated pop 15,000), co seat of Kittitas co, central Wash., on the Yakima; platted 1875 It is a center of the Yakima reclamation project A state teachers college is here

Ellenville, residential village (pop 4,000), SE N.Y., SW of Kingston, in a resort area of the Shawangunk Mt; inc. 1856 It has varied products

Ellery, William, 1727–1820, American Revolutionary patriot, signer of the Declaration of Independence, b Newport, R I While a member of the Continental Congress (1776–81, 1783–85), Ellery distinguished himself in committee work pertaining to naval and commercial affairs

Ellesmere, Francis Egerton, 1st **earl of** (ĕlz'mēr), 1800–1857, English statesman, author, and philanthropist He lent his influence and wealth to the support of many intellectual societies In Parliament (1822–46) he supported the liberal Tory policies, favoring free trade He served as secretary for Ireland (1828–30) and secretary for war (1830) Ellesmere's many writings include essays, translations, poems, and plays He enlarged and opened to the public the Bridgewater Collection of paintings which he inherited in 1833. In the latter year he changed his family name from Leveson-Gower to Egerton

Ellesmere, Thomas Egerton, Baron, c 1540–1617, lord chancellor of England A distinguished early career at law brought him appointment (1581) as solicitor general He took part in the trial of Mary Queen of Scots (1586) and was a favorite and adviser of Queen Elizabeth In 1592 he was appointed attorney general and in 1596 lord keeper of the great seal and privy councilor A friend of Robert Devereux, 2d earl of Essex, he tried to curb the earl's impetuosity, was lenient to him at the time of his first trial (1600), but abandoned him after his rebellion (1601) and was a witness against him in the trial that resulted in his execution James I retained Egerton as lord keeper, made him Baron Ellesmere and lord chancellor (1603), lord lieutenant of Buckinghamshire (1607), and Viscount Brackley (1616) Ellesmere was also chancellor of Oxford (1610–17) He upheld James's harsh policy toward the Puritans and was equally severe to Catholics He pressed the king's favorite project of a union with Scotland and asserted the king's prerogative against the common law His championing of the chancery and high commission courts against the courts of common law brought him into conflict with Sir Edward Coke, whose dismissal he helped to secure (1616) As a man of learning and an incorruptible judge he was highly regarded by such contemporaries as Francis Bacon and Ben Jonson John Donne was his secretary (1597–1601) and married Egerton's niece

Ellesmere Island, island, area 77,392 sq mi, off N Canada, in the Arctic Ocean, the most northerly and, except for Baffin Island, the largest of the Arctic Archipelago It is separated from Greenland by Smith Sound, Kane Basin, and Kennedy and Robeson channels There are great fjords in the surface of the plateau (mostly above 2,000 ft) which rises to c 5,000 ft in the United States Range in the north An ice cap covers much of the southeast Glaciation occurs in the south and east slopes of the mountains, while in northerly Grant Land there is almost none The central district is called Grinnell Land To the ice-free parts summer brings abundant grass for large herds of musk oxen The eastern coast was explored by E. A Inglefield, E K Kane, G S Nares, C. F Hall, A W Greely, and R. E Peary. The western shore was explored largely by Otto Sverdrup

Ellet, Charles, 1810–62, American civil engineer, b. Bucks co, Pa, studied at the École polytechnique, Paris He built noted bridges at Philadelphia over the Schuylkill (1842), below Niagara Falls (1847), and at Wheeling, W Va, over the Ohio (1847–49) He was chief engineer of the James River and Kanawha Canal and of the Virginia Central RR A fleet of nine ram boats (advocated by Ellet in his *Coast and Harbour Defense*, 1855, and built by him) sank four Confederate gunboats and helped to capture Memphis (1862), Ellet was fatally wounded in the battle He was long an advocate of flood control, his plans, outlined in *The Mississippi and Ohio Rivers* (1853) were reprinted (1927–28) for the use of Congress

Ellice Islands (ĕl'ĭs) or **Lagoon Islands,** group of atolls (9 5 sq mi, pop 4,487), S Pacific, belonging to Great Britain The group includes nine islands, FUNAFUTI, NANUMEA, Nanumanga, Nui, Niutao, Vaitupu, Nukufetau, Nukulaelae, and Nurakita The islands are generally low, but some rise to 90 ft There are pandanus and coconut groves, the chief export is copra The Polynesian natives are unusually literate Discovered in 1764 by Captain Byron and made a British protectorate in 1892, the group was included (1915) in the Gilbert and Ellice Islands colony In the Second World War the islands escaped Japanese invasion Nanumea and Funafuti were occupied in 1943 by U.S. forces, who established naval and air bases

Ellicott, Andrew, 1754–1820, American surveyor, b Bucks co, Pa, brother of Joseph Ellicott His early career was varied, he served in the American Revolution and edited *The United States Almanack* before he helped to run (1784) the western part of

the Mason-Dixon line and served (1785–86) on the commission to locate the northern and western boundaries of Pennsylvania Appointed (1789) by the Federal government, he ran the southwestern boundary of New York As surveyor of the national capital at Washington, he succeeded (1792) Pierre Charles L'Enfant and issued an altered city plan called the Ellicott plan He later laid out (1795) Erie, Pa , and surveyed the United States-Florida boundary (1796–1800) and the Georgia-South Carolina boundary (1811–12) In 1813 he was appointed mathematics professor at West Point See biography by C V Mathews (1908)

Ellicott, Joseph, 1760–1826, American surveyor and land agent, b Bucks co , Pa He worked on surveys made by his brother Andrew Ellicott, then became the surveyor and ultimately the agent of the HOLLAND LAND COMPANY He helped to open W New York to settlement and laid out many towns, including Batavia, N Y , the headquarters of the company, and Buffalo, which he modeled somewhat after Washington, D C

Ellicott City, unincorporated town (pop 2,682) in Baltimore and Howard counties co seat of Howard co , N Md , on the Patapsco river and W of Baltimore It is a commercial center in wheat-growing country, mills flour, and manufactures doughnut machines John, Joseph, and Andrew Ellicott settled here and built a flour mill (1774) The town was called Ellicott's Mills until 1867 In 1830 the Baltimore & Ohio RR was opened to this point Near by are Doughoregan Manor (c 1720), home of Charles Carroll, and a Franciscan monastery (1930)

Ellicottville, village (pop 1,024), W N Y , SE of Buffalo, inc 1881 It has varied industries

Ellijay, city (pop 1,497), co seat of Gilmer co , N Ga , N of Atlanta and on the Coosawattee river, inc 1834 It is a processing center for a fruit area Chattahoochee National Forest is near

Ellington, rural town (pop 2,479) N Conn , NE of Hartford, settled c 1720, inc 1786

Ellinwood, city (pop 2,059), central Kansas, on the Arkansas and NW of Hutchinson, founded 1871, inc 1878 In the 1930s it boomed with the exploitation of the area's oil fields

Elliot, Daniel Giraud, 1835–1915, American zoologist, b New York city From 1856 to 1878 he traveled widely in Europe and the Near East and later pursued his research in North and South America He helped found the American Ornithologists' Union, gave his collection to the American Museum of Natural History, and served the Field Museum, Chicago, as curator of zoology (1895–1906) His many works include several volumes on birds, some of which he illustrated, and *Review of the Primates* (3 vols , 1912) The National Academy of Science established the Elliot medal in his memory

Elliott, Charles Loring, 1812–68, American painter, b Scipio, Cayuga co , N Y , pupil of John Trumbull and Quidor His portraits number over 700 His principal works include the portraits of Matthew Vassar (Vassar College), A B Durand (Corcoran Gall), several governors of New York (city hall, New York), Fletcher Harper, Erastus Corning (state library, Albany, N Y), James E Freeman (National Acad of Design, New York), Caleb Gasper, Mrs James C Griswold, M B Brady, and a self-portrait (Metropolitan Mus), and James Fenimore Cooper

Elliott, George Augustus: see ELIOTT, GEORGE AUGUSTUS, 1ST BARON HEATHFIELD OF GIBRALTAR

Elliott, Jesse Duncan, 1782–1845, American naval officer, b Hagerstown, Md In the War of 1812, he helped capture two British vessels on Lake Erie and was made commander of the lake He began building the fleet that O H Perry was to use after he succeeded (1813) Elliott In the battle of Lake Erie (1813), Elliott was second in command His delay in the battle brought about a bitter argument with Perry—an argument that was continued long after the death of both and is still not completely settled.

Elliott, John, 1858–1925, American portrait and mural painter, b England, studied in Paris and in Rome His portraits include those of King Humbert of Italy, the marquess of Winchester, and Julia Ward Howe, a pastel study of Dante, and 16 *War Portraits* of young Americans killed in the First World War (National Mus , Washington, D C) Notable examples of his decorative works are *The Triumph of Time* (Boston Public Library) and *Diana of the Tides* (National Mus , Washington, D C)

ellipse (ĭlĭps'), closed plane curve of which the sum of the distances between a point on the curve and two fixed points (*foci*) is the same for all points on the curve It is also defined as the conic section—other than a circle—formed by a plane cutting all the elements of the cone in the same nappe. The center of an ellipse is the point halfway between its foci The major axis is the chord which passes through the foci The minor axis is the chord which passes through the center perpendicular to the major axis The vertices are the two points of intersection of the major axis with the curve Elliptical gears in hay presses, the elliptical orbits of the planets, and the elliptical shape of whispering galleries are examples of the occurrence of this curve in everyday life

Ellis, Alexander John, 1814–90, English philologist, an early student of phonetics, educated at Cambridge Univ He was originally named Sharpe but took the name Ellis from a relative who left him money to pursue his scholarly life He made attempts to reform English spelling on phonetic lines and wrote *On Early English Pronunciation* (5 vols , 1869–89, title varies slightly with the volumes). He also wrote on mathematics

Ellis, George Washington, 1875–1919, American Negro sociologist, b Weston, Mo A student, a teacher, and a lawyer, he was from 1902 to 1910 secretary of the U S legation in Liberia and made a study which resulted in his *Negro Culture in West Africa* (1914) He became a prominent lawyer and speaker in Chicago Ellis is remembered for his studies of Negro culture in its sociological setting, notably as the author of *Negro Achievements in Social Progress* (1914) and as an editor of the *Journal of Race Development*

Ellis, Havelock (Henry Havelock Ellis), 1859–1939, English psychologist and author He became a qualified physician but devoted himself to scientific study and writing Although the first volume of the *Studies in the Psychology of Sex* (7 vols , 1897–1928, complete ed , 4 vols , 1936) was banned on charges of obscenity, the series—Ellis's major work—constituted a valuable contribution to the study of sex problems and had an important influence in changing the public attitude toward them In 1891 Ellis married Edith Lees The story of their marriage is the chief theme of his *My Life* (1939) His other works include, besides poems and essays, *A Study of British Genius* (1904), *The Soul of Spain* (1908), and *The Dance of Life* (1923) See biographies by Isaac Goldberg (1926) and Houston Peterson (1928)

Ellis, Job Bicknell, 1829–1905, American mycologist, b Potsdam, N Y He made a large collection of North American fungi (now in the New York Botanical Garden herbarium) With B M Everhart he wrote *North American Pyrenomycetes* (1892)

Ellis, William, 1794–1872, English missionary, pioneer of printing in the Pacific Sent in 1816 to Polynesia as a *nonconformist* missionary, he developed a form of writing for the Hawaiian language, set up at Tahiti the first printing press in the South Seas, and included in his works valuable antiquarian materials on Polynesia He also worked in Madagascar and wrote a history of that land

Ellis, rail city (pop 2,042), W central Kansas, between the Saline and Smoky Hill rivers NW of Hays, founded 1867, inc 1888

Ellis Island, c 27 acres, in Upper New York Bay, SW of Manhattan Island Government property since 1808, it was long the site of an arsenal and a fort, but its most famous years were from 1892 until 1943, when it served as the chief immigration station of the country With the removal of immigration and naturalization services to Manhattan, Ellis Island was used as a detention center for immigrants having some inaccuracy in their entry papers and for those awaiting deportation

Ellisville, city (pop 2,607), a co seat of Jones co , SE Miss , SSW of Laurel, in a farm and dairy area near timber resources In the Civil War the county was a center of anti-Confederate activity A district junior college and the state school for the feeble-minded are here

Ellora (ĕlō'rŭ), village, NW Hyderabad state, India Extending more than a mile on a hill are 34 rock and cave temples (3d–13th cent) in three groups, Buddhist, Brahman, and Jain The most remarkable structure is the Brahman Kailasa (8th cent), a free-standing Dravidian temple hewn from the surrounding rock The rear wall of its excavated courtyard (276 ft x 154 ft) is 100 ft high The temple proper (164 ft x 109 ft) was carved from a single mass of rock The roof of its central hall is supported by 16 square columns The Siva shrine at the rear is surrounded by five small temples The mythological and animal figures profusely carved on nearly all the surfaces are among India's greatest sculptural treasures

Ellore (ĕlōr'), town (pop 64,911), NE Madras state, India It is at the head of an important irrigation system Carpetmaking and tanning are important.

Elloree (ĕl'ŭrē), town (pop 1,123), E central S C , SE of Columbia near the Santee river

Ellsworth, Elmer Ephraim, 1837–61, American Civil War hero, b Malta (then Dunning Street), near Mechanicville, N Y Just before the Civil War he became famous for his Zouave company of Chicago, which toured the North, giving exhibition drills A friend of Lincoln, he accompanied him to Washington in 1861 When war began, Ellsworth recruited a regiment from the volunteer firemen in New York city and dressed and trained them in the Zouave manner At Alexandria, Va , in May, 1861, he removed a Confederate flag from atop the Marshall House and was shot and killed by the proprietor His death, the first officer casualty on the Virginia front, produced a profound sensation See C. A Ingraham, *Elmer E. Ellsworth and the Zouaves of '61* (1925)

Ellsworth, Henry Leavitt, 1791–1858, American agriculturist, b Windsor, Conn , grad. Yale, 1810 His interests were varied He was a lawyer, a businessman (of Hartford), and a farming enthusiast In 1832 he was one of the commissioners appointed to inspect the area to which Indians were being transferred (in the present Oklahoma) He was accompanied on his Western journey by Washington Irving, who recorded his impressions in *A Tour on the Prairies*, by C J Latrobe, and by the young comte de Pourtales Ellsworth's own account appears in *Washington Irving on the Prairie, or, A Narrative of a Tour of the Southwest in the Year 1832* (ed by Stanley T Williams and Barbara D Simison, 1937) Appointed (1835) commissioner of patents, Ellsworth worked to promote agricultural research and aid to farmers He helped bring about the establishment of the Dept of Agriculture

Ellsworth, Lincoln, 1880–, American explorer, b Chicago, Ill , educated at Columbia and Yale He was surveyor and engineer in railroad building and afterwards was a prospector and mining engineer in NW Canada He became the financial supporter and associate of Roald AMUNDSEN in his arctic aviation ventures In 1925 they flew N from Spitsbergen to 87° 43′, and in 1926 he was co-leader of the flight from Spitsbergen over the North Pole to Alaska in the dirigible *Norge* He was an observer on the *Graf Zeppelin's* flight in 1931 to Franz Josef Land and Northern Land In 1935 he accomplished the first flight over Antarctica from the Weddell Sea to the Ross Sea In 1939 he flew into interior Antarctica from the Indian Ocean side, viewing 81,000 sq mi previously unseen With Amundsen he wrote *Our Polar Flight* (1925) and *First Crossing of the Polar Sea* (1927) His later books are *Search* (1932), *Exploring Today* (1935), and *Beyond Horizons* (1938)

Ellsworth, Oliver, 1745–1807, American statesman, b Windsor, Conn , grad College of New Jersey (now Princeton), 1766 A lawyer of Hartford, he was a member of the Continental Congress and a commissioner (1784) with Oliver Wolcott to determine the Connecticut boundary line His great service was at the FEDERAL CONSTITUTIONAL CONVENTION, where as a delegate he advanced the "Connecticut compromise," which ended the struggle between large and small states over representation He also was responsible for the term United States in the Constitution He later was one of Connecticut's first Senators, was Chief Justice of the U S Supreme Court, and served as a commissioner to negotiate in 1799 with the French government concerning the restrictions put on American vessels See biography By W G Brown (1905)

Ellsworth 1 City (pop 2,227), co seat of Ellsworth co , central Kansas, on the Smoky Hill River and W of Salina, laid out 1867, inc 1868 It grew as a cow town in the 1870s and is a farm trading center for a vicinity which produces winter wheat, rock salt, oil, and limestone **2** City (pop 3,911), co seat of Hancock co , S Maine, N of Mt Desert Island, settled 1763, inc as a town 1800, as a city 1869 A trade center for a resort area, it had as earlier industries lumbering, shipbuilding and shipping, and manufacturing (there are falls in the Union river here) Much of the business district burned in May 1933 Among old houses is Black Mansion (1802), now a museum **3** Borough (pop 1,975), SW Pa , SE of Washington, inc 1900 **4** Village (pop 1,340), co seat of Pierce co , W Wis , W of Eau Claire, inc 1887

Ellwood City, industrial borough (pop 12,329), W Pa , NW of Pittsburgh near the Ohio border, settled 1890, inc 1892 It has many metal-products plants and a wire-fence company Limestone deposits are found here

elm, any of several species of the genus *Ulmus*, deciduous trees or, rarely, shrubs of wide distribution in the Northern Hemisphere Among the North American species are the American or white elm (*Ulmus americana*), native throughout the eastern half of the United States and into Canada and commonly planted as a shade tree, the slippery elm (*U fulva*), of similar distribution, with a mucilaginous inner bark often chewed like gum and sometimes used for medicinal purposes, the rock or cork elm (*U thomasi*), a Northeastern and Midwestern species with very hard wood, and the wahoo or winged elm (*U alata*), southern in range The English elm (*U campestris*), native to Europe, is much planted elsewhere, the best-known specimens in America are on Boston Common Elm wood is valued for being tough, hard, and durable and is extensively used for barrel hoops and staves, general lumber, and farm implements The inner bark of some species has been used for food, and that of others for a fiber yielding rope and fabric The Dutch elm disease, so named because Dutch scientists discovered its cause, results from invasion of the elm's tissues by a fungus, *Ceratostomella ulmi*, which is carried from tree to tree by at least two species of bark beetles It attacks both American and European elms and has nearly exterminated them in some areas.

Elma, farm trading town (pop 1,370), W Wash , in the Chehalis river valley; settled c.1886.

Elman, Mischa (mĭ'shŭ ĕl'mŭn), 1891–, Russian-American violinist, b Kiev, studied in St. Petersburg with Leopold Auer. Since his debut in New York (1908) he has toured widely in Europe and America, being noted for an extensive repertoire

Elmer, John: see AYLMER, JOHN

Elmer, borough (pop 1,344), SW N J , E of Salem, inc 1893. It is a farm trade center

Elmhurst, residential city (pop 15,458), NE Ill , W of Chicago, in a truck-farm area, settled 1843, inc 1910 It is the seat of Elmhurst College (Evangelical and Reformed, coeducational, 1865)

Elmina (ĕlmē'nu), town (pop c 5,000), Gold Coast, on the Gulf of Guinea The earliest European settlement on the Gold Coast, it was founded in 1471 by the Portuguese, who built (1482) St George's Castle, still extant Elmina fell to the Dutch in 1637 and to the British in 1872

Elmira (ĕlmĭ'rŭ), town (pop 2,012), S Ont , N of Kitchener and W of Toronto It is a manufacturing town with a large felt-shoe factory

Elmira, city (pop 45,106), co seat of Chemung co , extreme S N Y , on the Chemung and W of Binghamton, settled 1788, inc 1864 It is a distributing and manufacturing center, producing office equipment, business machines, tools, and fire engines An annual glider contest is held near by The Elmira State Reformatory, first supervised by Z R BROCKWAY, is well known The Arnot Art Gallery has paintings of the Flemish, Dutch, German, and French schools Mark Twain is buried in Elmira **Elmira College** (nonsectarian, for women), chartered in 1852 and 1853, was rechartered and opened in 1855 with a gift from Simeon Benjamin It was called Elmira Female College until 1890 Elmira was the first women's college to grant degrees (1859) for the completion of courses equivalent to those offered in men's colleges Besides arts and science courses, it cooperates with a hospital in a nursing school

Elmira Heights, village (pop 4,829), S N Y., N of Elmira, settled 1779, inc 1896

Elmo, Saint: see PETER GONZALEZ, SAINT

Elmodam (-mō'-), in the Gospel genealogy Luke 3 28

El Monte (ĕl mŏn'tē), city (1940 pop 4,746, 1947 special census pop 7,153), S Calif , E of Los Angeles, in an area of truck and dairy farms, founded 1842, inc 1912 Walnuts are packed here A large lion farm is near by

Elmore, village (pop 1,103), NW Ohio, SE of Toledo and on the Portage river

El Morro National Monument see NATIONAL PARKS AND MONUMENTS (table)

Elmsford, residential village (pop 3,078), SE N Y , in Westchester co , W of White Plains, inc 1910 Hearing aids are made here

Elmwood, city (pop 1,348), N central Ill , WNW of Peoria, in a coal and farm area, inc 1867 It is the birthplace of Lorado Taft, whose bronze statue *Pioneers of the Prairies*, a memorial to his parents, stands in the park

Elmwood Park, village (pop 13,689), NE Ill , residential suburb of Chicago, inc 1914

Elmwood Place, village (pop 4,248), SW Ohio, a suburb of Cincinnati Gears, pinions, and crane wheels are made here

Elnaam (ĕl'nāăm, ĕlnā'-) [Heb , =God is delight], father of two of David's guard 1 Chron 11 46

Elnathan (ĕlnā'thăn) [Heb , =God's gift] **1** Grandfather of Jehoiachin 2 Kings 24 8 **2** Leader in Jerusalem in the time of Jehoiakim Jer 26 22, 36 12,25 This may be the same person as **1**

3, 4, 5 Three emissaries of Ezra Ezra 8 16

Elohim (ĕlōhēm', ĕlō'hĭm, ĕl'ōhĕm) [Heb , =gods], common Hebrew name of GOD

Eloi, Eloi, lama sabachthani? see ELI, ELI, LAMA SABACHTHANI?

Elon (ē'lŏn) [Heb , =oak] **1** Hittite father-in-law of Esau Gen 26 34 **2** Ancestor of the Elonites Num 26 26 **3** Judge of Israel Judges 12 11, **4** Danite town Joshua 19 43 This may be connected with **Elon-beth-hanan** (-hā'-) [oak of the house of grace], one of Solomon's commissariat districts 1 Kings 4 9

Elora, village (pop 1,247), S Ont , at the junction of the Grand and Irvine rivers NW of Guelph It is in a cattle-breeding area

Eloth (ē'lŏth), the same as ELATH

Eloy, Saint (ē'loi), d c 658, Frankish goldsmith and state treasurer, bishop of Noyon He is patron of goldsmiths Eligius is the Latin of Eloy

Eloy (ē'loi), town (1950 special census pop 4,828), S Ariz , on the Santa Cruz and NNW of Tucson, inc as a town 1949 It is in an agricultural area and has vegetable-packing and cotton-processing plants

Elpaal (ĕl'pāăl, ĕlpā'ăl), founder of a Benjamite family. 1 Chron. 8 11,12,18.

Elpalet (-pā'-), son of David see ELIPHALET.

El-paran (ĕl'pā'-), the same as PARAN

El Paso (ĕl pă'sō). **1** City (pop. 1,021), central Ill , E of Peoria, in a farm area, inc 1861 **2** City (1940 pop 96,810; 1948 estimated pop. 107,000), co. seat of El Paso co., in the western tip of Texas, on the Rio Grande opposite JUÁREZ, Mexico, inc. 1873. It is a port of entry and has immense international traffic by rail, highway, and air. This largest of the border cities is something of a blend of the United States and Mexico, and its long past is bound with that of Juárez The two present cities are in the region then known as El Paso del Norte, so called because of the route through the mountains to the north In the 17th cent , missionaries, soldiers, and traders came to the region Although missions were founded at YSLETA and elsewhere north of the river, the major settlement was on the south (Juárez) bank Not until 1827 was the first house built in the present El Paso After the new U S –Mexican border was set, settlement thickened, and the coming of the first railroad in 1881 prefaced the growth of the rendezvous of cowboys, exiles, border traders, and adventurers into a great commercial city Paso wine from the sunny vineyards was once much sought, and today farms irrigated from Elephant Butte Reservoir (see RIO GRANDE) have large yields The city has diverse industries, including copper refineries, smelters, oil refineries, food-processing plants, a big cement plant, and textile mills The tourist traffic is notable, and the dry warmth attracts winter residents International trade is, however, still all-important In El Paso there are Texas Western College (formerly called the Texas College of Mines and Metallurgy, coeducational, 1913, a branch of the Univ of Texas), an old and still active army post (Fort Bliss), an army hospital (William Beaumont General Hospital), and a military airfield (Biggs Field)

Elphinstone, Arthur, 6th **Baron Balmerino** (ĕl'fĭnstun, băl"mĕ'rĭnō), 1688–1746, British leader of the JACOBITES He resigned a command in the British army (1715) to join the cause of the Old Pretender, lived in exile in France (1715–33), and was executed after his capture at Culloden (1746)

Elphinstone, George Keith, 1746–1823, British admiral He held high commands during the wars of the American and French revolutions In the naval service from 1761 to 1815, the high points of his career were the reduction of Charleston (1780), the capture of Capetown (1795), the suppression of the Sheerness mutiny (1797), and the covering of Sir Ralph Abercromby's landing in Aboukir Bay (1801) He was made Viscount Keith in 1797

Elphinstone, William, 1431–1514, Scottish prelate He was trained in the law and was employed on many political missions before becoming bishop of Aberdeen in 1483 For his loyalty in the struggle with the nobles, James III made him lord high chancellor in 1488 In 1494 he procured a papal bull founding King's College (part of the present Univ of Aberdeen) Bishop Elphinstone was instrumental in introducing printing into Scotland

El Reno (ĕl rē'nō), city (pop 10,078), co seat of Canadian co , central Okla , near the North Canadian river W of Oklahoma City, settled 1889, inc 1890 A marketing center, it has flour and other mills and railroad shops Near by are a U S reformatory, Fort Reno, a U S army remount station, and a state quail hatchery

Elroy, city (pop 1,850), central Wis , on the Baraboo and E of La Crosse, settled 1854, inc 1885

Elsa, town (pop 1,006), extreme S Texas, WNW of Brownsville, in the irrigated district of the lower Rio Grande valley, settled 1927, inc 1933

Elsberg, Louis (ĕlz'bûrg), 1836–85, American physician, b Germany, M D Jefferson Medical College, 1857, studied in Europe with Johann Czermak A pioneer laryngologist and a founder of the American Laryngological Association, he introduced the use of the laryngoscope in the United States, invented several instruments, and wrote a history of laryngology

Elsberry, city (pop 1,548), E Mo , near the Mississippi NW of St Louis, laid out 1871 A glove factory and a U S erosion control nursery are here

El Segundo (ĕl sĕgŭn'dō), city (1940 pop 4,738, 1944 special census pop 5,625), in Inglewood township, S Calif , WSW of Los Angeles, founded 1911, inc 1917 Founded as an oil town, it refines oil and produces machinery and chemicals

Elsheimer, Adam (ă'dăm ĕls'hīmur), 1578–1610?, German painter After studying in Frankfurt, Munich, and Venice, he settled in Rome and worked for Pope Paul V He painted chiefly biblical and mythological subjects with landscape backgrounds which he treated naturalistically He had numerous students, including Pieter Lastman, who was the teacher of Rembrandt, and is thought to have had a considerable influence on Dutch landscape painting Elsheimer was particularly successful in rendering light effects His *Good Samaritan* (Louvre) is one of his well-known works

Elsinore (ĕl'sĭnôr"), Dan. *Helsingør* (hĕl"sĭng-ûr'), city (pop. 18,930), NE Zealand, Denmark, on the Oresund opposite Halsingborg, Sweden, with which it is connected by ferry. It is a port and a commercial center, with shipyards and rubber manufactures Known since the 13th cent , it saw its greatest prosperity from the 15th cent until 1857 as the port where the Danish kings collected tolls from ships passing through the Oresund The famous Kronborg castle was built in 1577–85 and restored in 1635–40 and is now sometimes used as the scene for performances of Shakspere's *Hamlet*, which is laid in Elsinore.

Elsinore (ĕl'sĭnôr), resort city (1940 pop 1,552, 1948 special census pop 2,074), S Calif , on Lake Elsinore and S of Riverside, inc 1888 Hot mineral springs are near by

Elsmere. **1** Town (pop 1,630), NE Del , near Wilmington, inc 1909 An industrial school for boys and a county workhouse are near here. **2** Town (pop 2,885), N Ky , near Covington

Elssler, Fanny (fă'nē ĕl'slûr), 1810–84, Austrian ballet dancer. The youngest daughter of Johann Elssler, copyist and servant of Haydn, she made her debut (1833) at the King's Theatre, London, in Adolphe Adam's *Faust* She danced at the Paris Opéra (1834–39) and also in London (1838–40) and became a favorite in both cities Her forte was folk dancing, especially the cachucha and the cracovienne She made a triumphant tour of the United States (1841) and after appearances throughout Europe retired in 1851 Her dancing was sensuous, human, and fired by great energy Her sister, **Thérèse Elssler** (tārĕz'), 1808–78, supported Fanny as male dancer She married Prince Adalbert of Prussia (1848) and was made countess of Barnim by Frederick William IV

Elster, Kristian Mandrup (krĭs'tyăn măn'drŏp ĕl'stur), 1841–81, Norwegian novelist His promising career was cut short by an early death, and recognition was posthumous, with the publication of *Dangerous People* (1881) His son, **Kristian Elster,** 1881–, a novelist and literary critic, wrote a history of Norwegian literature (1923–24)

Elstow, village (pop 513), Bedfordshire, England It is the birthplace of John Bunyan

Elswick (ĕl'sĭk), western part of Newcastle-on-Tyne, England Great engineering works are here

Eltekeh (ĕl'tĕkĕ) [Heb , =God-fearing], city of Dan Near here Sennacherib of Assyria put down the western nations in 701 B C Joshua 19 44, 21 23

Eltekon (ĕl'tĕkŏn, ĕltē'-), town, S Palestine, of unknown site Joshua 15 59

Eltolad (ĕl'tō-, ĕltō'-), unidentified town, S Palestine Joshua 19 4 Tolad 1 Chron 4 29

Eluard, Paul (pôl' ălwar'), 1895–, French poet His poetry, at first impersonal, became more emotional during his alliance with the surrealists, with whom he broke for Communism *Mourir de ne pas mourir* [to die of not dying] (1924) was followed by *L'Immaculée Conception* (with André Breton, 1930) and the war poems, *Poésie et vérité* (1942) and *Au rendez-vous allemand* (1945)

Eluzai (ĕlū'zāī, ĕl"ūzā'ĭ), Benjamite with David at Ziklag 1 Chron 12 5

Elvas (ĕl'vush), city (pop 11,272), S Portugal, in Upper Alentejo prov , near the Guadiana river and the Spanish border A heavily fortified town, it was important in all the Portuguese wars but most particularly in the wars with Spain after Portugal revolted (1640) against Spanish control and in the Peninsular War The city has minor manufactures and farm trade There is an imposing old aqueduct

Elvehjem, Conrad Arnold (ĕlvā'ŭm), 1901–, American biochemist, b McFarland, Wis , grad Univ of Wisconsin (B A , 1923, Ph D , 1927) From 1923 he was affiliated with the department of biochemistry at the Univ of Wisconsin, as professor from 1936 In 1946 he became dean of the graduate school The discovery of Elvehjem and his associates that niacin (or nicotinic acid), part of the vitamin B complex can cure blacktongue in dogs, a disease corresponding to pellagra in humans, led to the use of niacin in treating pellagra patients His many other contributions include research on various other components of the vitamin B complex, the discovery that copper is essential to the formation of hemoglobin, and research on respiration in tissues With H A Waisman he wrote *The Vitamin Content of Meat* (1941)

Elvend or **Elwend** (both ĕlvĕnd', ĕl'vĕnd), mountain, c 11,600 ft high, W Iran, SW of Hamadan. It bears rock inscriptions of Darius and Xerxes The name may be spelled in other fashions, e g , Alvand

Elvins, city (pop 2,367), E Mo , SW of St Louis, in a farm and timber area, inc 1903

Elwell, Frank Edwin, 1858–1922, American sculptor, b Concord, Mass He was a curator in the Metropolitan Museum from 1903 to 1905 Examples of his work are *Dickens and Little Nell* (Fairmont Park, Philadelphia), a statue of Gen Winfield Scott Hancock (Gettysburg, Pa), *Kronos*, fountain exhibited at the Pan-American Exposition, *Greece* and *Rome* (New York Customhouse), *Water Boy of Pompeii* (Metropolitan Mus), and *Diana and the Lion* (Art Inst , Chicago)

Elwend, mountain, Iran see ELVEND

Elwood. **1** City (pop 10,913), E central Ind , NNE of Indianapolis It is a canning center for a tomato-growing area and ships grain and livestock. Trailers and tractors are made here Wendell L Willkie was born in Elwood **2** Residential city (pop 1,014), NE Kansas, on the Missouri above Atchison, founded 1856 as Roseport, inc 1873

Ely, Richard Theodore (ē'lē), 1854–1943, American economist, b Ripley, N.Y., grad. Columbia, 1876, Ph D Heidelberg, 1879. He taught at Johns Hopkins (1881–92), the Univ of Wisconsin (1892–1925), and Northwestern Univ. (1925–33). One of the most influential teachers of his time, he

was instrumental in popularising the study of economics, and his *Outlines of Economics* (with R H. Hess, 1889, 6th ed , 1937) was a standard text At Wisconsin he founded the Institute for Research in Land Economics and Public Utilities (now the Institute for Economic Research), he also helped found the American Economic Association An early leader of Christian socialism in America, he advocated public control of resources, prohibition of child labor, and the development of labor unions His many books include *Monopolies and Trusts* (1900), *Studies in the Evolution of Industrial Society* (1905), and *Land Economics* (with G S Wehrwein, 1940) See his autobiography, *Ground under Our Feet* (1938); J R Everett, *Religion in Economics* (1946)

Ely, **1** City (pop 5,970), NE Minn , NE of Virginia and on the Vermilion iron range, settled 1885, inc as a village 1888, as a city 1891 In a region of lakes and forests, Ely is a center for vacationists and hunters and headquarters for the Superior National Forest It has a junior college (coeducational) **2** City (pop 4,140, alt 6,433 ft), co seat of White Pine co , E Nev , settled 1868, inc 1907 It is a trade center for the state's rich copper-mining area Lehman Caves National Monument and Wheeler Peak are near by

Ely, City of, urban district (pop 8,381), Isle of Ely, England, NNE of Cambridge Ely Cathedral, one of the largest in England, is on the site of an abbey founded by St Æthelðreda in the 7th cent and destroyed by Danes in 870 The present building was begun in 1083 and became the cathedral of a new bishopric in 1109 The architecture is of varied periods Within the cathedral grounds are the Tudor palace of the bishop, a theological college, and the King's Grammar School, founded (1541) by Henry VIII

Ely, Isle of, administrative county (372 sq mi , 1931 pop 77,698, 1948 estimated pop 87,613), E England March is the administrative center It is a region of extensive fens, now drained and devoted to agriculture Historically it is a part of CAMBRIDGESHIRE The name originally applied to the small area of higher ground in the center of the region about the City of Ely

Elymas (ĕl'ĭmăs), the same as BAR-JESUS

Elyot, Sir Thomas, c 1490–1546, English author He wrote the earliest Latin-English dictionary (1538) and is remembered especially for his sensible and well-written treatise on education, *The Book Named the Governour* (1531)

Elyria (ĭlēr'ĭə), city (pop 25,120), co seat of Lorain co , N Ohio, on the Black River and SW of Cleveland, settled 1817, inc 1892 It is a retail and industrial city in a farm area Its products include plastics, industrial pumps, and bicycle equipment Gates Memorial Hospital for crippled children and Cascade Park are here

Élysée (ālēzā'), palace in Paris, on the Rue du Faubourg Saint-Honoré Built in the 18th cent and once the property of Mme de Pompadour, it is now the residence of the presidents of France

Elysian fields (ĭlĭ'zhun) or **Elysium** (ĭlĭ'zhēŭm), in Greek religion, happy otherworld for heroes favored by the gods Identified with the Isles of the Blest or Fortunate Islands, Elysium was situated in the distant west, at the edge of the world In later tradition and in Vergil, Elysium is a part of the underworld and a pleasant abode for the righteous dead

Elzabad (ĕl'zŭ-, ĕlzā'-) [Heb ,=God's gift] **1** Gadite who came to David in Judah 1 Chron 12 12 **2** Levitical doorkeeper 1 Chron 26 7

Elzaphan (ĕl'zufăn, ĕlzā'-), same as ELIZAPHAN **1**

Elzevir, Louis (ĕl'zuvur, -vēr), 1540–1617, Dutch publisher, whose name also appeared as Elsevier or Elzevier He produced his first book at Leiden in 1583 Under him and his descendants, the business was continued until the death of the second Abraham Elzevir at Leiden in 1712 In its best years it was easily the greatest publishing business in the world The Elzevirs were typically neither printers nor scholars but businessmen They owned presses and type and employed good editors and printers Their books were good textually, legible, and inexpensive Many of the Elzevir books were printed in the establishments of members of the family at Leiden, Amsterdam, Utrecht, and The Hague, but many books were printed for the Elzevirs by other printers Agencies of the family, conducted by members of it, were established in many cities, from Denmark to Italy The Elzevir types are typically legible and sturdy, rather than elegant, and typically the books are of small size with narrow margins The impecunious scholar was the purchaser whom the Elzevirs kept in mind The texts were usually in Latin, though the family printed and published books in Greek, French, and other languages. The most noted of the successors of Louis were his son **Bonaventure Elzevir,** 1583–1652, and his grandson **Abraham Elzevir,** 1592–1652 A famous designer of types used by the Elzevirs was Christopher van DYCK. Roman type such as he designed, known in England and America as "old-style" type, is known on the continent of Europe as "Elzevir" type

emanation (ĕmŭnā'shŭn) [Latin,=flowing from], cosmological concept characteristic of Neoplatonism and of GNOSTICISM and frequently encountered in Indian metaphysics It is one of three fundamental ways of explaining the world, the other two being creation, by which the eternal God makes all else from nothing, and EVOLUTION Emanation is a subtle idea, explainable only in crude metaphors God (or the One or the Absolute) is the one prime principle, and from him flows the divine substance, his substance never lessens, as the out-flowed substance becomes more distant from God, the divinity of the substance becomes less and less Thus, when a stone is dropped in a pool, the circles ever widening from the point (God) where the stone fell are emanations, becoming fainter and fainter. Another metaphor makes God a spring that can never dry up, always overflowing Similarly a candle's light becomes dimmer with distance Emanation never ceases, the whole process moving continually outward from God Emanation differs especially from creation in the transcendent nature of the creative God, who shares none of His substance with His creatures, and from metaphysical evolution in the evident perfectionism of the ideal evolutionary scheme, in which all is improving The Neoplatonists ascribed to Plato an emanative concept in his Idea of the Good supreme, the lesser ideas being in some way related to the Idea of the Good The use of the name God is, of course, dangerous in thinking of emanation, which is entirely impersonal See PLOTINUS and NEOPLATONISM For use of the term in chemistry, see RADIUM

Emancipation, Edict of, March 3, 1861 (N S), the edict by which Tsar Alexander II freed all Russian serfs (c 22,000,000 or one third of the total population) All serfs were freed unconditionally, peasant serfs were given the use of land allotments in addition to freedom The land still belonged to the landlords however, and the freedmen paid for its use with money or services A peasant could buy his land if the landlord consented, in such case, the government advanced the purchase price as a 49-year loan Land thus sold did not become the personal property of the peasant until the entire *mir* (see VILLAGE) had redeemed itself, in the meantime it was held in communal ownership and subject to periodic redistribution These provisions proved irksome, for only a minority of freedmen were ever able to acquire full ownership The situation helped the Russian Revolution to succeed

Emancipation Proclamation Despite the insistent urgings of abolitionists, President Abraham Lincoln reframed, in the early part of the Civil War, from issuing an edict freeing the slaves He was anxious not to alienate the slaveholding border states that had remained in the Union, and for him the war was being fought solely to preserve the Union "If I could save the Union without freeing *any* slave, I would do it, and if I could save it by freeing *all* the slaves, I would do it, and if I could do it by freeing some and leaving others alone, I would also do that" He wrote these words to Horace Greeley on Aug 22, 1862, in answer to a carping criticism from that administration gadfly, but actually he had long since decided, after much reflection, to adopt the third course For his own good and sufficient reasons Lincoln kept the plan to himself until July 13, 1862, when, according to the cabinet diarist Gideon Welles, he first mentioned it to Welles and Secretary of State William H Seward On July 22 he read a preliminary draft to the cabinet and acquiesced in Seward's suggestion to wait until after a Union victory before issuing the proclamation The Antietam campaign presented that opportunity, and on Sept 22,1862, after reading a second draft to the cabinet, he issued a preliminary proclamation which announced that emancipation would become effective on Jan 1, 1863, in those states "in rebellion" which had not meanwhile laid down their arms On Jan 1, 1863, the formal and definite Emancipation Proclamation was issued The President, by virtue of his powers as commander in chief, declared free all those slaves residing in territory in rebellion against the Federal government "as a fit and necessary war measure for suppressing said rebellion" Congress, in effect, had done as much in its confiscation acts of Aug , 1861, and July, 1862, but its legislation did not have the popular appeal of the Emancipation Proclamation—despite the great limitations of the proclamation, for it did not affect bondsmen in those slave states which had continued loyal to the Union or in territory of the Confederacy which had been reconquered These were freed in other ways (see SLAVERY) Nor did the proclamation have any immediate effect in the vast area over which the Confederacy retained control, although Confederate leaders fearfully denounced it as an incitement to servile insurrection, which, however, did not occur. It did not even reflect Lincoln's own earnest solution for the slavery problem. He continued to favor gradual emancipation, to be undertaken voluntarily by the states, with Federal compensation to slaveholders, a plan he considered eminently just (which it was) in view of the common responsibility of North and South for the existence of slavery. The Emancipation Proclamation was chiefly a declaration of policy, which, it was hoped, would prove an opening wedge in depleting the South's great man-power reserve in slaves (hence the military necessity) and, equally important, would enhance the Union cause in the eyes of Europeans, especially the British. At home it was duly hailed by the radical abolitionists, but it cost Lincoln the support of many conservatives and undoubtedly figured in the Republican setback in the congressional elections of 1862. This was more than offset by the boost it gave the Union abroad, where, on the whole, it was warmly received, in combination with subsequent Union victories, it ended all hopes of the Confederacy for recognition from Britain and France. Doubts as to its constitutionality were later removed by the adoption of the Thirteenth Amendment

Emba (ĕm'bŭ), river, 410 mi. long, Kazakh SSR It flows southwest through a rich oil area into the Caspian Sea.

embalming (ĕmbä'mĭng, ĭm-), practice of preserving a body after death The custom was current among many ancient peoples and has survived among several remote groups. It was highly developed by the Egyptians, who believed it advantageous to the dead in an afterlife, it is said to have been suggested by the natural preservation of bodies in hot sands Although Egyptian embalming methods varied, bodies were almost always immersed for several weeks in a solution of carbonate of soda and were usually treated with spices and with resinous or bituminous materials Viscera were sometimes embalmed separately and either replaced in the body or preserved in canopic jars The custom of embalming was gradually discontinued in Egypt and ceased A D c 700. It is mentioned in the Bible and was practiced occasionally in Europe during the Middle Ages Modern methods originated in the 17th cent in attempts to preserve anatomical specimens Although practiced to a limited extent in Europe, the custom is most widespread in the United States Methods have been evolved by which a body can be preserved indefinitely, but most embalming is designed only to preserve the body until burial or cremation Embalming fluids, commonly containing formaldehyde, are pumped into the vascular system or body cavities or both Many states require embalming after death from contagious disease or if a body is to be transported before burial The use of toxic ingredients, e g , arsenic, zinc salts, and mercuric chloride, is commonly prohibited to prevent medico-legal complications that might arise in cases of death by poisoning See J H Eckels, *Modern Mortuary Science* (3d ed , 1948)

embargo (ĕmbär'gō), prohibition by a country of the departure of ships or certain types of goods from its ports Instances of confining all domestic ships to port are rare, and the EMBARGO ACT OF 1807 is the sole example in American history Neither is it any longer the practice to detain foreign ships as an act of REPRISAL designed to coerce diplomatic redress Embargoes on goods, however, are fairly common The United States has used them for economic ends, e g , in prohibiting the export of gold bullion in 1933. Strategic considerations motivated (1940) the American prohibition of export of goods (e g , high octane gasoline) needed for war. The United States has often used the embargo as a diplomatic weapon Thus, in 1912, the President was empowered to forbid the export of munitions to Latin America, and the NEUTRALITY ACT of 1936 gave him a similar power in regard to warring nations anywhere An embargo was imposed in the Spanish civil war (1936–39) pursuant to the act, but it was not applied in the Second Chino-Japanese War Embargoes were authorized by the Covenant of the League of Nations and were applied to some degree against Italy in the Italo-Ethiopian War (1935–36) Article 41 of the United Nations Charter permits embargoes in case of military aggression

Embargo Act of 1807, passed Dec 22, 1807, by the U S Congress in answer to the British ORDERS IN COUNCIL restricting neutral shipping and to Napoleon's opposing CONTINENTAL SYSTEM The U S merchant marine was hit by both, and Thomas Jefferson's administration undertook to answer by measures that would restrict neutral trade and thus show its importance and vindicate its rights The first attempt was the Nonimportation Act, passed April 18, 1806, forbidding the importation of specified British goods in order to force Great Britain to relax the rigorous rulings on cargoes and sailors (see IMPRESSMENT) The act was suspended, but the Embargo Act of 1807 was a bolder statement of the same idea It forbade all international trade to and from American ports, and Jefferson hoped that England and France would be persuaded of the value and the rights of a neutral commerce. In Jan , 1809, the prohibition was extended to inland waters and land commerce to halt the sky-rocketing trade with Canada. Merchants, sea captains, and sailors were naturally dismayed to find themselves without income and to see the ships rotting at the wharves. All sorts of dodges were used to circumvent the law.

The daring attempt to use economic pressure in a world at war was not successful. England and France stood firm, and not enough pressure could be brought to bear Enforcement was difficult, especially in New England, where merchants looked on the scheme as an attempt to defraud them of a livelihood When, in Jan , 1809, Congress, against much opposition, passed an act to make enforcement more rigid, there was a protesting outcry—again especially in New England—and the scheme had to be abandoned. On March 1, 1809, the embargo was superseded by the Non-intercourse Act Thus allowed resumption of all commercial intercourse except with England and France. Jefferson reluctantly accepted it Not unexpectedly, it failed to bring pressure on England and France In 1810 it was replaced by Macon's Bill No 2 (named after Nathaniel Macon), which merely authorized the President to restrict commerce to one of the warring countries if and when the other revoked the offensive measures against neutral commerce Thus the whole purpose of the embargo was effectually dissolved, and Jefferson's prestige was much hurt by the failure of his scheme See L M Sears, *Jefferson and the Embargo* (1927)

Embarras (ĕm'brō), river, 185 mi long, rising in E Illinois and flowing S, then SE, to the Wabash a few miles below Vincennes, Ind

embassy: see DIPLOMATIC SERVICE and EXTERRITORIALITY

ember days, in the Western Church, the Wednesday, Friday, and Saturday following the first Sunday in Lent, Whitsunday, Sept 14 (Exaltation of the Cross), and Dec 13 (St Lucy's Day) They are days of fasting to sanctify the season, and the ember Saturdays are especially appropriate for ordinations The ember days are of very ancient, and of uncertain, origin

embezzlement, wrongful use of another's property for one's own selfish ends The act could not be considered as LARCENY at common law because larceny is committed only when the property stolen is secured by a "felonious taking " Consequently, unfaithful servants, employees, agents, trustees, or guardians who misappropriated another's property could be sued only in the civil courts To remedy this situation statutes were passed in England and the United States which either make embezzlement a distinct crime or enlarge the definition of larceny in such a way as to include all cases of misappropriation of property in the lawful possession of the wrongdoer In most states of the United States, embezzlement is a FELONY The modern state laws are broad Under acts of Congress, stealing of letters by postmasters, clerks, and letter carriers is punishable as embezzlement

emblem, symbol representing membership in a group Emblems are usually used as heraldic devices in HERALDRY The cross, crescent, and star of David denote membership in religious groups Flags and heraldic animals (e g , the American eagle) are national emblems The fasces and hammer and sickle are political emblems The Tudor rose, originally a family emblem, eventually denoted a political group Colors may be emblematic (e g the Blues and the Greens in Byzantium, the Reds and the Whites in Russia) Among emblems of rank are crown, baton, mace, scepter, and cardinal's hat Some emblems are jocular, as the donkey and elephant in American politics

embolus (ĕm'bŭlus), clot or plug carried by the blood current from a larger to a smaller vessel, thereby occluding the smaller vessel Air bubbles, globules of fat, or aggregations of bacteria are examples of emboli The circulation may also become blocked by a fragment of a cancerous growth or by a portion which becomes separated from a thrombus (see THROMBOSIS) and is carried to the lung, forming a pulmonary embolus

embossing, process of producing by mechanical means designs or patterns in relief upon various materials, such as metal, wood, leather, fabrics, cardboard, and paper. The material is pressed between a pair of dies especially adapted therefor as to hardness, depth, and design, a felt counter or female die being employed for embossing fabrics, while metal, millboard, or cardboard is used for embossing metal, cardboard, or paper Leather for commercial bookbinding and decorative purposes, such as wall coverings and screens, and wood for furniture ornamentation are die stamped while wet, heat being applied for embossing the wood Embossing differs from other processes resulting in reliefs, such as repoussé, chasing, carving, and leather tooling, in being machine wrought.

embroidery, ornamental NEEDLEWORK applied to all varieties of fabrics and to leather and worked with all varieties of thread—linen, cotton, wool, silk, and gold thread and leather thongs. The art, probably antedating that of weaving, is exemplified in the decorated skin garments of the American Indians and the shell and feather work of central Africa All peoples used some type of needle very early. Needlework is mentioned in the Veda and in Exodus in the Bible and has been found on mummy wrappings of the 15th cent. B.C. Embroidery on filmy muslin and goldwork and silverwork on velvet, for trappings of state such as canopies and elephant housings, have been done in India from remotest times. Persia made famous gauzes threaded with gold; the art in China is stylized, unchanged for centuries Asia Minor produced sumptuous designs in gold and silver Richly embroidered fabrics were introduced into Europe through Byzantine channels From the 12th through the 14th cent was the great period of church embroidery The famous Opus Anglicanum dates from these centuries France, Germany, and Italy produced beautiful embroidery Monasteries and convents were kept busy adorning vestments and altarpieces Ateliers employing both men and women were founded In the 16th cent , secular embroidery came to the fore, and the Elizabethan period was famous for its household and costume embroidery—not only gowns, capes, and caps, but accessories of all kinds were embellished with fine needlework. Richly embroidered curtains and bed valances of this period are still preserved Under the Bourbon kings of France embroidery became a court art Louis XIV established embroiderers in his household to keep up the supply for his court The tools are simple, including frames large and adjustable for TAPESTRY or crewel work and small tambour frames for lighter pieces, with the different needles necessary for holding yarn, silk, or metal threads Stitches are numerous and are adapted to the type of work Turkey work, done with worsted yarn in imitation of Oriental carpets and rugs, was favored in the 16th cent Petit point or tent stitch, closely imitating tapestry, was the fashion from the 16th to the 18th century Needlepoint (any embroidery stitch applied on a canvas ground) has had a 20th-century revival Embroidery as an art declined with the advent of machinery Some of the lighter forms are still practiced, such as English or Madeira eyelet, Italian cutwork, French and Irish embroidery on lingerie, and the so-called peasant work The BAYEUX TAPESTRY is a famous example of embroidery See Grace Christie, *Embroidery and Tapestry Weaving* (1933 ed), *Mary Thomas's Embroidery Book* (1936).

embryo (ĕm'brō), name for the developing young of an animal or a plant Embryology is the science dealing with the development of the animal up to the time of hatching or of birth, but the exact period during which the young is called an embryo is not well defined In humans and other mammals the young in the later stages of prenatal development is called the fetus In all animals that reproduce through a union of a sperm cell with an egg cell, a series of mitotic divisions known as cleavage or segmentation begins soon after fertilization The succeeding stages vary much among the different groups of invertebrates Although there is more uniformity in vertebrate development, the changes in form and the processes involved in both groups are complex and difficult to outline in general terms Successive divisions during the early stages result, in many forms, in the arrangement of the cells to form a spherical mass called a blastula It is one layer of cells in thickness and has a hollow central cavity called the cleavage cavity or segmentation cavity An impushing of the blastula occurs, partially obliterating the cavity and forming a two-layered cuplike stage called the gastrula Its cavity is known as the archenteron or primitive gut The outer layer of cells is the ectoderm, and the inner the endoderm In simple invertebrate animals, e g , the sponges and jellyfish, these two layers become the chief functional tissues of the adult In higher forms a third layer, the mesoderm develops from one or both of the other two layers or from other cells, the organs and tissues of these forms therefore develop from three primary germ layers From the ectoderm develop the outer layers of the integument, outer skeletal structures (e g , scales, hoofs, hair, claws), the nervous system, parts of the sensory organs, and a number of other tissues in various animals Endoderm forms most of the tissues and organs of the alimentary tract, part of the respiratory tissue, and the reproductive organs From the mesoderm are developed muscular tissue, the lining of the body cavity, blood, teeth (except for the ectodermal enamel), cartilage, reproductive organs of some animals, and other tissues in certain animals Among vertebrates the process of gastrula formation is more complex than in the invertebrates. A number of embryonic membranes develop for performing special functions Among animals in which the egg contains much yolk, e g , birds, some fish, and reptiles, the embryo undergoes its early divisions on the surface of the yolk, and later the yolk becomes surrounded by membranes and is gradually used up by the developing animal. In the higher mammals there is little yolk and the whole egg divides Nourishment is secured through the placenta In the higher plants the divisions of the fertilized egg and the differentiation of the tissues to form the structures of the embryo occur within the ovule inside of the pistil. The embryo is enclosed within the seed which develops from the ovule.

Emden (ĕm'dŭn), city (pop. 31,748), Hanover, NW Germany, in East Friesland, a North Sea port at the mouth of the Ems river and on the Dortmund-Ems and Ems-Jade canals The third largest seaport of Germany after Hamburg and Bremen, it has large shipyards and herring fisheries and has considerable transit trade Dating from the 10th cent., Emden reached its flower in the 16th cent It passed from East Friesland to Prussia (1744) and to Hanover (1815) All its historic buildings—but not the port installations—were heavily damaged in the Second World War

emerald, the green variety of BERYL, of which aquamarine is the blue variety The emerald was highly esteemed in antiquity, both genuine and imitation emeralds were used in early Egypt The finest emeralds are found in South America in Colombia The gem was a favorite in pre-Columbian Mexico and Peru, where it was cut in intricate designs with great skill The treasure taken to Spain by the conquerors included emeralds. Good emeralds are highly valued The **Oriental emerald** is a different gem, the transparent green variety of corundum. The blue variety is sapphire, the red, ruby

Emerson, Ralph Waldo, 1803–82, American poet and essayist, b Boston His father, William Emerson, the descendant of New England clergymen, was minister of the First Unitarian Church in Boston Ralph was in school at the age of two, and his early years were filled with books and a daily routine of studious and frugal home life After his father's death in 1811, Ralph's aunt, Mary Moody Emerson, brilliant and eccentric, became his confidante and stimulated him to courageous and independent thinking At Harvard (1817–21) he was an undistinguished scholar In his junior year he began copying passages which interested him and recording his thoughts in the since-famous *Journal* Precarious health hindered his studies at the Harvard Divinity School in 1825, and in 1826, after being "approbated to preach," he had to go South because of incipient tuberculosis In 1829 he became minister of the Old North Church in Boston (Second Unitarian) In the same year he married Ellen Tucker, who died of tuberculosis in 1831 Disagreeing with his congregation as to the sacrament of the Lord's Supper, Emerson retired in 1832 from his only pastorate On a trip to Europe at this time, he began his long friendship with Carlyle and met Coleridge and Wordsworth. He was already reading Elizabethan and contemporary English literature, Plato and the Neoplatonists, the sacred books of the East, and Swedenborg and Montaigne, and his English friends turned him toward the German idealists At home he began to give lectures He bought a house in Concord, Mass (1834), to which in 1835 he brought Lydia Jackson as his second wife, and here his four children were born The earliest published product of his stubborn search to express his belief in the worth of the individual was *Nature* (1836) Two addresses at Harvard first attracted really wide attention to his views in the Phi Beta Kappa oration in 1837 titled *The American Scholar*, he called for independence from European cultural leadership, in a lecture at the Harvard Divinity School in 1838, his admonition that one could find redemption only in one's own soul was taken to mean that he repudiated Christianity and caused such indignation that he was not invited to Harvard again until, in 1866, the college granted him the LL D degree In 1836 Emerson had helped form a conversation group interested in TRANSCENDENTALISM He was not regarded by the group as its official spokesman, though the members read his work with appreciation Emerson contributed to their magazine, the *Dial*, and was editor himself in 1842–44 in a futile attempt to keep the magazine going In 1847 the first collection of his poems appeared Emerson always regarded himself as essentially a poet, in spite of his difficulty in writing structurally correct verse Among his poems, "Threnody" (on the death of his son Waldo), "Brahma," "The Problem," "The Rhodora," and "The Concord Hymn" are perhaps best known His prose is charged with passages of poetic insight, but it was his winter lecture tours which first made him famous among his contemporaries To write a lecture he culled from his *Journal* appropriate quotations and sentences, which he wove into a related whole His published works were largely his lectures, somewhat polished and revised His *Essays* (first series, 1841, second, 1844) expressed some of his transcendental beliefs in "The Over-Soul," "Compensation," and "Self-Reliance " After his second trip to England in 1847, he gave lectures later published as *English Traits* (1856) A new edition of *Nature* appeared in 1849, a collection *Addresses and Lectures* in 1849, and *Representative Men* in 1850 In the '50s his concern with the antislavery issue and national events increased The material of his later annual lecture tours was largely contained in *The Conduct of Life* (1860) and *Society and Solitude* (1870) After 1866 he felt his own inability to produce new work, though he gave a series of talks, *Natural History of Intellect* (1870), at Harvard and published *Letters and Social Aims* (1876) He spent his last decade in a slow decline of mental capacity, brightened by journeys to California (1871) and Europe (1872) and by the expression of affection

shown by his friends and townspeople when they rebuilt the home that burned in 1872 A check list of all Emerson's published letters is included in the *Letters* (ed. by R. L Rusk, 6 vols., 1939) See *The Heart of Emerson's Journals* (ed by Bliss Perry, 1926), biographies by G W Cooke (1881), J E Cabot (1887), G E Woodberry (1907), O W. Firkins (1915), Van Wyck Brooks (1932), and R L Rusk (1949) Emerson's son, **Edward Waldo Emerson,** 1844–1930, b Concord, Mass., grad Harvard and Harvard Medical School, practiced medicine in Concord until his father's death After 1882 he devoted himself to editing and to writing about the literary men of his father's generation His *Emerson in Concord* (1889) and *Early Years of the Saturday Club* (1918) contain good biographical material He was editor of the Centenary edition (12 vols, 1903–4, the most complete) of Emerson's works, and, with W E Forbes, of the *Journals of Ralph Waldo Emerson* (10 vols, 1909–14)

Emerson, borough (pop 1,487), NE N J., N of Hackensack, settled 1875, inc 1909.

emery see CORUNDUM

Emeryville, industrial town (pop 2,521), W Calif, on San Francisco Bay and adjoining Oakland on the north, inc 1896 It has factories, including plants making paper and electrical products The San Francisco–Oakland Bay Bridge has an approach from Emeryville

Emesa see HOMS, Syria

emetic (ĭmĕ'tĭk), a substance which produces vomiting Emetics may act upon the controlling nerve center in the medulla and so produce the required effect (indirect or systemic emetics), or they may act immediately upon the stomach walls by irritation (direct or gastric emetics) The chief indirect emetics are apomorphine, tartar emetic, ipecacuanha, senega, and squill Direct emetics include alum, ammonium carbonate, zinc sulphate, common salt, mustard, and warm water

emeu · see EMU

Emigrant Aid Company, formed in 1854 to promote organized antislavery immigration to Kansas from the Northeast Eli Thayer conceived the plan as early as March, 1854, even before the Kansas-Nebraska Bill became law, and in April, Massachusetts chartered the Massachusetts Emigrant Aid Company This organization, however, proved defective and was soon superseded by the New England Emigrant Aid Company Many other Kansas aid societies were subsequently formed throughout the North, e g , the Kansas Emigrant Aid Society of Northern Ohio and the New York Kansas League, but the New England group was preeminent in the field, and the name Emigrant Aid Company is associated exclusively with it Amos A Lawrence served as treasurer of the company, which, despite its earnest soliciting of the support of clergymen throughout New England, remained in bad financial condition until Nov, 1855, when a notably successful campaign to raise money was launched For Thayer, who was vice president of the company, the venture was not only philanthropic but profitable As stock-subscription agent he received 10 percent of all the money he collected, provided he gathered in $20,000 or more Thayer easily exceeded that figure, for by May, 1856, the company had received over $100,000 The company sent out an aggregate of 1,240 settlers under agents such as Charles Robinson, who founded Lawrence and other towns in Kansas Southerners, at first confident that Kansas was safe for slavery, were moved to organize similar, though proslavery, societies of their own, but without success The ill-advised show of force in sacking Lawrence (May 21, 1856) only stimulated the Kansas aid movement further Delegates from 12 states and Kansas convened at Buffalo, N Y., in July, 1856, and formed a National Kansas Committee Its project of establishing Kansas aid committees in every state, county, and town throughout the North was never realized For one thing the national committee was divided, one group, in which Lawrence was most conspicuous, advocated peaceful protest against proslavery excesses in Kansas and financial help to the Free Staters, while the other, led by extreme abolitionists such as Gerrit Smith and the Rev Thomas W Higginson, urged the creation of state military forces to be used against Federal troops in Kansas if necessary This group also proposed disunion at a convention in Worcester in Jan , 1857 Although the New England Emigrant Aid Company continued in existence for many years, its real work was over and the whole Kansas aid movement was virtually ended by 1857. Actually, the company and its counterparts in other states had little to do with making Kansas a free state. That was mainly accomplished by settlers from the Western states But the movement made a deep impression on public opinion, North and South, and it is claimed that the bitterness and hate it engendered helped bring on the Civil War

emigration. see IMMIGRATION and MIGRATION.

émigré (ā'mēgrā'), in French history, royalist who fled from the French Revolution and took up residence in foreign lands. The émigrés were principally members of the higher nobility and of the clergy. Immediately after the fall of the Bastille (1789) the exodus of the princes of the blood began, and a steady stream flowed out of France after that date Louis XVI himself tried to flee France but was arrested at Varennes (1791) Many of the émigrés gathered about Prince Louis Joseph de Condé and formed a counterrevolutionary army The Convention decreed against them perpetual banishment and confiscation of their goods The rise of Napoleon marked a turn of fortune for the émigrés, who were readmitted to France after 1802 with restrictions Many rose to power in the empire With the Restoration, they all returned and became a powerful reactionary group working against the moderate policies of Louis XVIII The king's brother favored them, and when he ascended the throne as Charles X, an attempt was made to restore to the nobility their confiscated estates The pro-émigré (or more properly ultraroyalist) legislation helped bring on the July Revolution of 1830 The term *émigré* is used of the noble refugees from any revolution

Emilia-Romagna (āmē'lyā-rōmā'nyā), region (8,542 sq mi , pop 3,338,721), N central Italy A generally fertile plain bounded in the north by the Po, in the east by the Adriatic, and in the south and west by the Apennines, it is divided into eight provinces, named after their chief cities Bologna, Ferrara, Modena, Parma, Piacenza, and Reggio nell' Emilia are in Emilia, Forlì and Ravenna lie in historic Romagna Bologna is the regional capital Cereals, sugar beets, hemp, rice, and grapes are the chief products, cattle raising is of some importance The only important industries are cheese production and sugar refining Emilia takes its name from the Aemilian Way, a Roman road crossing the region from Rimini to Piacenza After the fall of Rome the region was conquered (5th cent) by the Lombards, most of present Romagna and Bologna fell under Byzantine rule in the 6th cent and from then on had its own history Emilia, divided into several duchies and counties, was conquered by the Franks in the 8th cent , but its subsequent history is that of its cities By the 17th cent the duchy of Parma and Piacenza, under the Farnese family, and the duchy of Modena, under the house of Este, covered virtually all the region not included in the Papal States In 1860 the whole region was annexed to Sardinia, which in 1861 became the kingdom of Italy

Emims (ĕ'mĭmz), primitive Moabitish tribe of giants. Gen 14 5, Deut 2 10

Eminence, city (pop 1,411), N Ky , NW of Frankfort, in a noted stock-raising area

Eminescu, Mihail (mēhīl' yĕmēnĕ'skōō), 1850–89, foremost Rumanian poet, b Moldavia, whose name was originally Mihail Iminovici His poems, first published in periodicals and widely translated into European languages, were collected in 1880 Selections from his work appeared in English in 1930

Emin Pasha (ā'mĭn pa'shä), 1840–92, German explorer, whose original name was Eduard Schnitzer A physician, he served the Turkish government in Albania and Egypt He joined (1876) Gen Charles Gordon's forces in the Sudan as medical officer In 1878 he became the governor of Equatoria province (southernmost part of Anglo-Egyptian Sudan) When news reached Europe in the late 1880s that his life was apparently endangered by the Mahdist uprising, a rescue expedition under Henry Stanley was dispatched, and Emin was brought (1889) to Mombasa He was murdered while engaged in exploration for Germany in the region of Lake Tanganyika See Henry Stanley, *In Darkest Africa* (1890)

Emmanuel. For Byzantine and Portuguese rulers thus named, see MANUEL

Emmanuel, in the Bible see IMMANUEL

Emmanuel College: see CAMBRIDGE UNIVERSITY

Emmanuel Philibert, 1528–80, duke of Savoy (1553–80), called Ironhead He succeeded his father, Charles III, who had been dispossessed of his duchy by Francis I of France and by the Swiss in 1536 Emmanuel Philibert entered the service of Emperor Charles V and later served Philip II of Spain. As Philip's lieutenant general in Flanders he won a brilliant victory over the French at Saint-Quentin (1557) and captured the French commander, Anne de Montmorency The Treaty of Cateau-Cambrésis (1559) restored most of Savoy (except Vaud and Geneva, which remained Swiss) to Emmanuel Philibert, who in the same year married Margaret of Valois, sister of Henry II of France Savoy was in deplorable condition, but the duke, with great energy and wisdom, completely reorganized the courts, finances, educational system, industry, commerce, and army of his state His skillful diplomacy and Savoy of the remaining French and Spanish garrisons and secured peaceful relations with the Swiss. Toward the Waldenses he displayed tolerance. By making Turin his capital, he shifted the center of gravity of his duchy from Savoy proper to Piedmont, thus making it an Italian rather than a French state. He was succeeded by his son, Charles Emmanuel I

Emmaus (ĕm'ā-ŭs, ĕmā'ŭs) **1 Place,** outside of Jerusalem, where Cleopas and another disciple met the risen Christ. Luke 24.13. **2 Place,** where Judas Maccabeus defeated Gorgias. 1 Mac 3 40,57; 4.3–27; 9 50 It is now called Amwas and lies halfway from Jerusalem to Jaffa, Palestine The two places cannot be identical without correction of the text

Emmaus (ĕm'ā-ŭs), industrial borough (pop 6,731), E Pa , S of Allentown, settled c 1740 by Moravians, inc 1859 It manufactures commercial gases and rubber products and has textile mills. German folkways are preserved here

Emma Willard School, at Troy, N Y.; nonsectarian, for girls, opened 1814 as Middlebury (Vt.) Seminary, chartered 1819, moved to Waterford, N Y , 1819, to Troy 1821 From 1821 to 1892 it was called Troy Female Seminary. Founded by Emma Willard, it preceded the first women's colleges as an experiment in higher education In 1910 Margaret O S Sage gave the school new buildings, the old buildings were turned over to Russell Sage College in 1916 The Emma Willard School occupies a hilly site in the eastern part of the city

Emmen (ĕ'mun), municipality (pop. 53,590), Drenthe prov , NE Netherlands. It is an agricultural center

Emmental (ĕ'mŭntal), valley of the Emme river, Bern canton, Switzerland Devoted to agriculture and cattle raising, it produces some of the finest cheese in Switzerland

Emmet, Lydia Field, 1866–, American miniature and portrait painter, b New Rochelle, N Y., student of Bouguereau and Tony Robert-Fleury, Paris, and William Chase, New York Her work has received many awards

Emmet, Robert, 1778–1803, Irish patriot He studied at Trinity College, Dublin, but was forced to leave (1798) because of his nationalist sympathies He spent some time (1800–1802) in France planning, with other exiled United Irishmen, a French-aided uprising in Ireland Emmet interviewed Napoleon, who encouraged him in his plans He returned to Ireland and scheduled an uprising for Aug , 1803 A premature explosion advanced the date to July 23. Emmet, with a hundred or so disorderly men, started a march on Dublin Castle The rebellion turned into a brawl, and Emmet fled, but returned to Dublin a few days later, partly to be near Sarah Curran, daughter of John Philpot Curran He was captured, tried, and hanged Leonard McNally, his attorney, was in the pay of the crown, and many of Emmet's associates were informers for the British government Emmet became a great hero of Irish patriots, largely on the basis of his stirring speech from the scaffold He inspired Thomas Moore's songs beginning, "Oh, breathe not his name" and "She is far from the land where her young hero sleeps " See biography by Helen Landreth (1948)

Emmet, Thomas Addis, 1764–1827, Irish-American lawyer, b Cork, Ireland, grad Trinity College, Dublin, 1782, brother of Robert Emmet He was trained in medicine at the Univ of Edinburgh but abandoned that field for law and gained a brilliant reputation as a barrister in Ireland, particularly in defending members of the Society of United Irishmen Imprisoned in 1798 for his activities in the Irish cause, he was later released on condition of perpetual exile and came to the United States in 1804 As a lawyer in New York, he came to be known as one of the most notable of American lawyers His interest in the Irish cause continued, and he also was of invaluable assistance to many of the Irish immigrants who came to America

Emmetsburg, city (pop 3,374), co seat of Palo Alto co , N Iowa on the West Fork of the Des Moines river near Medium Lake, founded 1856

Emmett, Daniel Decatur, 1815–1904, American song writer, b Mt Vernon, Ohio He sang as a blackface minstrel and founded the Virginia Minstrels in 1842 He is most famous for his songs *Old Dan Tucker* (c 1830) and DIXIE (1859) See C. A Browne, *Our National Ballads* (1931)

Emmett, city (pop 3,203), co seat of Gem co , SW Idaho, on the Payette river and SE of Payette, founded 1864 as a trading post, inc as a village 1900, as a city 1909 The region about the city is within the Boise PROJECT and grows cherries and other fruit There is some lumbering

Emmitsburg, town (pop 1,412), N Md , near the Pa boundary NE of Hagerstown, founded around a convent established by Elizabeth Ann Seton in 1809 Mt St Mary's College and St Joseph's College are here Mother Seton is buried in the Chapel at St Joseph's

Emmons, Ebenezer, 1799–1863, American geologist, b Middlefield, Mass , grad Williams, 1818 He taught at Williams, at Rensselaer Institute, and at Albany Medical College, served the New York state geological survey (1838–42), and was state geologist of North Carolina (from 1851). Emmons did notable pioneer work in paleozoic stratigraphy His theory that the Taconic rock system was older than the Silurian was for a time discredited, but later found support

Emmons, Samuel Franklin, 1841–1911, American geologist, b. Boston, grad Harvard, 1861. He studied abroad, joined (1867) the survey of the 40th parallel under Clarence King, and from 1879 was geologist in charge of the Colorado division of

the U. S Geological Survey. His chief works were *Descriptive Geology* (with Arnold Hague, 1877) and *The Geology and Mining Industry of Leadville, Colorado* (1886)

Emmor (ĕm'-), the same as HAMOR

Emory, William Hemsley, 1811–87, American general, b. Queen Annes co , Md , grad West Point, 1831. Chief topographical engineer in the Western expedition of Gen S W KEARNY in the Mexican War, he won two brevets After that war he worked on the survey of the new U S –Mexican boundaries and later served in the cavalry on the Western frontier In the Civil War, Emory was made a brigadier general of volunteers (1862), he fought in the Peninsular campaign and commanded under N P Banks in the Dept of the Gulf (1862–64) He led the 19th Corps in Sheridan's operations in the Shenandoah Valley (1864–65) In 1876 he was retired from the army with the rank of brigadier general His engineering reports were published by the government

Emory University, near Atlanta, Ga , mainly for men, chartered 1836, opened 1838 by Methodists at Oxford as a college, became a university 1915, moved near Atlanta 1919 It includes a college of arts and sciences and schools of business administration, dentistry, law, library science, theology, and medicine It cooperates with Agnes Scott College (for women, 1889), at near-by Decatur

emotion, term commonly and loosely used as synonymous with feeling In psychology, however, it is considered as a response to stimuli which involves characteristic physiological changes (as an increase in pulse rate, a rise in temperature, a greater or less activity of certain glands, a change in rate of breathing, and various other activities) and which tends in itself to stimulate the individual as a whole, or in part, to further activity Fear, love, and anger are usually considered the three primary responses of this kind They are apparently aroused either directly by some external environmental stimulus or indirectly by some internal one through memory As individuals mature, specific stimuli no longer provoke the same emotion in every person, nor is there any universal manner of expressing a given emotion In varying cultures emotional expression must at least be partially learned The development of PSYCHOSOMATIC medicine has emphasized the physiological role of emotions, demonstrating that tension from unrelieved emotions may be the underlying cause of physical disorders See C A Ruckmick, *Psychology of Feeling and Emotion* (1936)

empathy (ĕm'puthē), theory to explain the imitative responses, both emotional and kinesthetic, of the human observer to perceived objects It originated with the German psychologist Theodor Lipps in the term *Einfuhlung* The theory hypothesized that understanding of others depends upon the capacity to imitate behavior In general, however, empathy holds that the imitative response is unconscious, and while it may coexist with sympathy, it can be distinguished from sympathy as a sharing of activity or emotion rather than a sharing of attitude Empathy also has an objective reference and physical manifestations Examples of empathy may be found in the imitation by an audience of the facial and bodily gesture of the actors, in the reproduction of muscular movements by the spectators at athletic events, and in the perception by the observer of the mood of a work of art

Empedocles (ĕmpĕ'dŭklēz), c 495–c 435 B C , Greek philosopher, b Acragas (present Agrigento), Sicily Leader of the democratic faction in his native city, he was offered the crown, which he refused A turn in political fortunes drove him into exile with his followers He taught that there are four elements—fire, water, earth, and air—composed of material particles, which are undivided and indestructible He postulated two opposing forces —harmony and discord—which act upon the lifeless elements, forcing the particles into varying combinations and then destroying those combinations, thus creating multiplicity and change in the world He believed in the indestructibility of matter, teaching that things as a whole arise and pass away, but that the material particles of which they are composed are undivided and indestructible

emperor [Latin *imperator*=one holding supreme power, especially applied to generals], the head of an empire In the Roman republic, the imperator held the chief military command The title became honorific and was accorded by acclamation Taken by Caesar and Augustus in reference to their military positions, it was adopted by all their successors During the Middle Ages the Holy Roman emperors perpetuated the title as claimants to the Roman political succession and added definite religious connotations to the name. In its most lasting sense, the title lost meaning with the abolition of the Holy Roman Empire in 1806, though the Roman heritage, evoked by Peter the Great in Russia, was also revered in the empire of Napoleon Its subsequent use by European monarchs in Austria, France, Germany, and England (Indian Empire, 1877–1947) was in the strict sense incorrect, as was its use by various rulers in the Americas—Brazil (1822–89), Mexico by Iturbide and Maximilian, and Haiti by Christophe and Dessalines. In a more general sense the title has been used to describe a non-European ruler of a considerable territory, e g , the emperor of Japan, the emperor of Ethiopia

Empire State Building, in central Manhattan, New York city, on Fifth Ave between 33d St. and 34th St , built 1930–31 The tallest building in the world, it is 1,250 ft high and has 102 stories From the observatories atop it there is a 50-mile view on a clear day The name is derived from a nickname of New York state

Empire style, manner of interior decoration evolved in France from the DIRECTOIRE STYLE and designated *Empire* by reason of its identification with the reign of Napoleon I The Empire expression of the classic revival already evident during the Louis XVI period emphasized Roman forms marked by the imperial grandeur with which Napoleon had determined to invest his reign It received its direction from J L DAVID and from the emperor's architects, PERCIER and FONTAINE Traditional classic motifs were supplemented by symbols of imperial pomp, representations of military trophies, the monogram of the emperor, and his emblem, the bee Walls and ceilings were simple, colors strong, even crude Although rosewood, ebony, and cheaper woods treated to imitate ebony were used, the staple wood was mahogany, solid or veneer Brass and ormolu mounts were the chief embellishment In vogue were pedestal tables and beds designed to fit sideways against a wall, e g , the gondola, or sleigh, bed The style, although characterful and robust, has been criticized for unimaginative copying of classic forms The newly rich clientele demanded grandiose effects in place of the artistic detail appreciated by the cultivated taste of the old regime In its later phase the style deteriorated and c 1840 fell into disuse A simplified form was adopted in England and the United States, a German bourgeois adaptation is known as Biedermeier The style of the first Empire is to be distinguished from that of the second (1852–70), which was heavy, often incongruous

empiricism (ĕmpĭr'ĭsĭzm) [Gr , =experience], philosophical doctrine that all knowledge is derived from experience, i e , from sense perception Empiricism denies the existence of innate ideas or a priori truths and explains all abstract ideas as merely names (NOMINALISM) or shorthand devices, for dealing economically with groups of particular objects The doctrine opposed to this is rationalism Empiricism denies the possibility of certain knowledge, holding that generalizations (based on experience) can never yield more than a greater or less degree of probability Empiricism in one form or another was the teaching of Bacon, Hobbes, Locke, Berkeley, Hume, J S. Mill, and a great many others The term *empiricism* can be used in a broader sense Some thoroughgoing mystics claim that they are empiricists, because, they say, their conviction of union with their mystical object (usually God) is based on a sense perception of it, not on any intellectual process

employee, one who works for a salary in the service of an employer An employee's status may vary greatly In the beginning of the factory system he was little more than a cog in the machine Labor and humanitarian organizations have forced employers to grant better working conditions, wages, and hours, and some gains have been legally protected Employee representation in managerial councils, employee stock ownership plans, employee insurance and saving plans, and personnel departments, as well as labor unions, are among the developments tending to give the worker more control over his job and more security Employee representation in the United States started with shop committees which presented workers' grievances The National War Labor Board, the U S Railroad Administration, and the Shipbuilding Labor Adjustment Board in the First World War used the shop committee in adjusting labor disputes Some businesses now give employees only advisory power, some provide for employee representation on bodies settling labor disputes, some have employee representation on the company board of directors, and many allow representation from labor unions not subject to the management The plan of allowing employees to purchase stock has been practiced by many corporations, in the United States it is more widely used than the similar English scheme of copartnership or the giving of shares as bonuses Under handicraft production, the apprentice system of the guilds trained the worker. The training of employees for factory work has been less systematic A few companies c 1890 set up corporation schools or educational departments The directors of the schools rarely had enough experience for thorough instruction, and the emphasis is now upon training supervisors who give informal but thorough instruction to the worker on the job Public trade and industrial schools have been widely developed for generalized industrial training, but more specific aspects must be left to the company Personnel departments employ men to fit the various jobs, relocate them in other departments if they are not successful in one; keep records of work, promptness, and relations with other employees, and frequently supervise the training of new workers In the Second World War the U S government established (1942) a Committee on Fair Employment Practices to eliminate race and religious discrimination in employment It was terminated in 1946, but a few states have passed laws against discrimination See also LABOR TURNOVER See G S Watkins, *Labor Problems* (3d ed , 1940)

employers' liability see WORKMEN'S COMPENSATION

employment bureau, establishment for bringing together the employer offering work and the employee seeking it In Europe the public exchange is most common, in the United States, although many large cities and states and even the Federal government have established free agencies, the private bureau, charging a fee, is perhaps more characteristic In England the first employment bureau was opened in 1855 at Egham A national system was established in 1909 When the Ministry of Labour was founded in 1917, both unemployment insurance and the employment exchanges were transferred to it The exchanges charge no fees In Germany local public exchanges were founded as early as 1883 France has had public employment agencies since 1916 The International Labor Conference of the League of Nations in 1919 included in the convention on unemployment an article providing that ratifying states would establish free public labor exchanges In the United States the first state regulation of private employment bureaus was in Massachusetts in 1848, and Wisconsin and Minnesota were requiring municipal licensing by 1855 Private fee-charging agencies are prohibited only in Idaho Regulations and required licensing have been enacted in 41 states Misleading advertising, misrepresentation, fraud, and fee-splitting with employers are prohibited, some states try to regulate fees, many require agencies to post notices of strikes and lockouts or otherwise inform applicants of labor disputes The first state agency was established in 1890 in Ohio The Federal government in 1907 opened offices in 18 zones under the Bureau of Immigration and Naturalization In 1918 the Employment Service was established as a unit in the Dept of Labor It cooperated with or replaced many state and local bureaus, and 832 offices were opened by Oct , 1918 By the time the war ended, the service was becoming efficient, but decreasing appropriations and considerable opposition rendered it practically ineffective In June, 1933, it was reestablished as part of the Dept of Labor Its functions as defined in the bill were to develop a national system of public employment offices throughout the country, furnish information as to the opportunities of employment, and maintain a system for clearing labor among the several states In Jan , 1942, the state employment services were brought directly under Federal operation, and a few months later the entire U S Employment Service was incorporated into the War Manpower Commission .While the war lasted, the agency was mainly preoccupied with the channelization of labor into war industries In Sept , 1945, after the liquidation of the War Manpower Commission, the U S Employment Service was transferred back to the Dept of Labor In July, 1946, Congress turned the public offices back to the states Two years later (July, 1948), the U S Employment Service was transferred from the Dept of Labor to the Federal Security Agency and placed within that administration's Bureau of Employment Security See J B Seymour, *The British Employment Exchange* (1928), S M Harrison, *Public Employment Offices* (1924)

Empoli (ĕm'pōlē), town (pop 12,534), Tuscany, central Italy, on the Arno It has varied manufactures Its cathedral dates in part from the 11th cent

Emporia (ĕmpō'rēu) **1** City (pop 13,188), co seat of Lyon co , E central Kansas, between the Neosho and the Cottonwood and SW of Topeka, founded 1857, inc 1870 A railroad center, chief commercial city of a large dairying and farming area, it has grain elevators, stockyards, and various manufactures A dam and reservoir (completed 1938) in Kahola Valley supply the city with water William Allen WHITE made the Emporia *Gazette* nationally known The College of Emporia (Presbyterian, coeducational, 1882) and Kansas State Teachers College (1863) are here **2** Town (pop 2,735), S Va , on the Meherrin river and S of Petersburg, near the N C line, in a cotton, lumber, and peanut area, inc 1887 The courthouse of Greensville co here dates from 1787

Emporium, industrial borough (pop 3,775), co seat of Cameron co , N Pa , surrounded by mountains NE of Ridgway, settled 1810, laid out 1861, inc 1864 It produces electric and leather goods.

Ems or **Bad Ems** (bät' ĕms'), town (pop. 8,454), Hesse, W Germany, on the Lahn river and near Nassau After 1945 it was incorporated into the French-occupied and newly founded state of Rhineland-Palatinate It is one of the most famous and oldest watering places of Europe, its springs are probably those described by Pliny.

Ems, river, 208 mi long, NW Germany, rising near Paderborn and flowing NW into the North Sea near Emden Its wide mouth is called the Dollart The Ems is paralleled for much of its course by the DORTMUND-EMS CANAL In the Emsland, as the region about its lower course is called, oil and natural gas were discovered after 1940

Ems dispatch. In June, 1870, the throne of Spain was offered to Prince Leopold of Hohenzollern-Sigmaringen, a relative of King William I of Prussia (later Emperor William I) Leopold at first accepted the candidacy, but withdrew it in July after the French government had protested During these transactions William I and Otto von Bismarck were taking the waters at Ems, Germany Here the French ambassador, Comte Benedetti, in an interview with the king, demanded William's guarantee that never in the future should a Hohenzollern seek the candidacy to the Spanish throne William flatly rejected this unusual request Bismarck, intent on provoking war with France, made the conversation public (July 12) in his celebrated Ems dispatch, which —by skillful editing—he worded in a manner thoroughly insulting to the French France declared war on July 19, and the Franco-Prussian War began

Emser, Hieronymus (hĕ"rō'nōōmōōs ĕm'zur), 1477–1527, German Roman Catholic theologian He was secretary to the elector of Saxony and urged reform of clerical abuse In 1519 his enmity with Luther began, he and the reformer indulged in the most violent invective, mainly on the subject of Luther's translation of the New Testament Emser made a translation in 1527

Emsworth, residential borough (pop 2,765), SW Pa., on the Ohio and NW of Pittsburgh, settled 1803, inc 1897.

emu or **emeu** (both ē'mū), large flightless bird of Australia, related to the CASSOWARY and the ostrich It is 5 to 6 ft tall and a very swift runner The feathered head and neck bear no wattles Six or seven dark green eggs are laid in a sandy pit They are incubated by the male and require 56 days to hatch The emu is easily tamed Only two species are known, and the bird is in danger of extinction.

emulsion: see SUSPENSION

Enam (ē'–), city, SW Palestine Joshua 15 34

Enambuc, Pierre Belain d'. see ESNAMBUC

enamel, a siliceous substance fused upon metal It may be so compounded as to be transparent or opaque and with or without color, but usually it is employed to add color for decoration, as in CLOISONNÉ It is the same vitreous GLAZE, of prehistoric origin, which is used for pottery, the constituents being easily fusible and comprising sodium or potassium borates and silicates and lead, with the inclusion of a metallic oxide to produce the desired color Applied dry or moist, it is subsequently placed in a muffle and subjected to moderate temperature in an enamel furnace See PAINT

enamelware, commodities or utensils having a metal foundation and a glaze coating applied by fusion Many appliances, especially for the kitchen, nursery, and bathroom, are made by this process, which produces a surface resistant to acids and rust and easy to clean, although it becomes chipped or cracked by extremes of temperature Foods tend to stick in enamelware utensils because of the comparatively porous surface The metal base (of sheet iron or steel or of cast iron) is cut, stamped, or drawn into the desired shapes and then is annealed and pickled to remove impurities The glaze is practically the same as glass and is colored and made opaque by the use of metallic oxides The mineral ingredients are fused and the molten glass drawn off into cold water, in which it contracts so rapidly as to fall into small particles (called frit) The pulverized frit is mixed with clay and water and aged The quality of enamelware depends on the ingredients of the glaze and the number of coats applied The metal base is usually first dipped in glaze made dark blue by cobalt oxide, which has an affinity for iron and bonds the metal with the outer coats It is fused into the pores of the metal at temperatures of from 1400°F to 1800°F Subsequent coats are similarly applied on sheet metal On cast iron, the glaze in powder form is sifted on the red-hot metal and then fused

Enan (ē'–), prince of Naphtali Num. 1 15.

Enare, lake, Finland see INARI

encaustic, painting medium in which the binder for the pigment is wax or wax and resin In the best encaustic painting the palette and spatula are warmed to keep the color soft Examples of encaustic tomb portraits from Roman Egypt bear witness to the durability of the medium, which is thought to have been widely used in ancient times Encaustic painting lacks the facility of oil painting, which it somewhat resembles, and has been practiced rarely in Western art. A few 20th-century painters, however, have revived its use.

encephalitis lethargica: see SLEEPING SICKNESS

Enchanted Mesa, steep-sided mesa, central N.Mex., near the pueblo of Acoma. Acoma legend says it was the home of their people until earthquake destroyed the only approach. Investigation does not support the legend It is called Mesa Encantada in Spanish and Katsimo by the Indians.

enchantment: see INCANTATION and MAGIC

Encina or **Enzina, Juan del** (both hwän' dĕl ĕnthē'nä), 1469?–c 1530, Spanish dramatist, musician, and poet. He spent many years in the service of the duke of Alba and lived in Italy There one of his plays, *Placida y Victoriano,* was given in Rome in the year 1513 He became a priest and went on a pilgrimage to Jerusalem The *Cancionero,* published in Salamanca in 1496, contains his musical and lyrical compositions He is one of the precursors of the theater of Lope de Vega The best known of his dramatic pieces are called *Églogas* [eclogues]

Enciso, Martín Fernández de (märtēn' fĕrnan'dāth dā ĕnthē'sō), fl 1509–19, Spanish conquistador and geographer Commanding the supply ship for the colony planted (1509) near Cartagena by OJEDA, he met the discouraged men who had abandoned the settlement and persuaded them to found a new one in Darien There NICUESA had earlier failed in planting a colony Enciso, unable to govern satisfactorily, was deposed by Vasco Núñez de BALBOA and sent to Spain Enciso's complaints led to the appointment of Pedro ARIAS DE ÁVILA as governor, and with him Enciso returned (1514) In 1519 appeared his *Suma de geografía,* an excellent commentary on the flora and fauna he had observed in the New World

Encke, Johann Franz (yō'hän' fränts' ĕng'kù), 1791–1865, German astronomer. He was assistant (1816–22) and director (1822–25) of the observatory at Seeberg (near Gotha) and director (from 1825) of the Berlin Observatory He is known for his study of records of the orbit of the comet of 1680 and for calculations, based on transits of Venus, of the earth's distance from the sun Encke's comet (discovered by J L Pons in 1818) was named for him because he calculated its orbit, finding the period of recurrence to be 3 3 years, and accurately predicted the date of its return

enclosure of land see INCLOSURE

encomienda (änkōmyän'dä), system of tributory labor established in Spanish America Developed as a means of securing an adequate and cheap labor supply, the encomienda was first used over the conquered Moors of Spain Transplanted to the New World, it gave the conquistador complete control over the Indians by requiring them to pay tribute from the lands, which were granted to the *encomendero* by the Spanish crown Often the Indian rendered personal services as well In return he received the protection of the owner and the right to use the land for his own subsistence When first applied in the West Indies, the system wrought extreme hardship and resulted in early efforts by the Spanish king and the Dominican order to suppress it, but the need of the conquerors to reward their supporters led to *de facto* recognition of the practice The crown prevented the encomienda from becoming hereditary, and with the New Laws (1542) promulgated by LAS CASAS, the system gradually died out, to be replaced by the *repartimiento* and finally debt PEONAGE

encyclical see BULL.

encyclopedia, either a general compendium of knowledge in all fields or a work which aims to be comprehensive in some one field It differs from a dictionary in that it gives not only a definition but a history and discussion—however brief—of the subject, explaining its causes and relating it to similar topics It differs from an almanac or yearbook in that the almanac covers only a recent period and is issued periodically while the encyclopedia attempts to cover large periods in a single unit The *Natural History* of Pliny the Elder in 37 books (which included not only science but some material on the fine arts) is often considered the most ancient encyclopedia because it aimed at encompassing all knowledge Various medieval attempts to make all the knowledge of scholars available to the less informed include the works of Vincent of Beauvais, Roger Bacon, and Brunetto Latini, all in the 13th cent William Caxton printed (1481) an English translation of the encyclopedia of Vincent of Beauvais as *Mirror of the World* Caxton's successor, Wynkyn de Worde, printed an English translation by John of Trevisa of the encyclopedia of natural science written in Latin (c 1250) by Bartholomew de Glanville The modern encyclopedia—including alphabetical arrangement of material and bibliographies—was of late and slow development The example was not clearly set until John Harris (c.1667–1719) published (1704) his *Lexicon technicum, or, An Universal English Dictionary of Arts and Sciences.* The next notable encyclopedia was the *Cyclopedia; or, An Universal Dictionary of Arts and Sciences* (1728), published by Ephraim Chambers (d. 1740). Arranged alphabetically like Harris's work, it is notable also for being the product of collaboration and for employing cross references Johann Zedler published (1732–54) in German a *Universal-Lexikon,* a notably comprehensive encyclopedia for the time After originating in a translation of Ephraim Chambers's work, the famous French ENCYCLOPÉDIE in 28 volumes was finally completed in 1772 by Diderot and others This encyclopedia, partly because it was involved in the bitter struggle of ideas in its day and partly because of the fame of its contributors, is probably the most famous of all encyclopedias. The first edition of *The Encyclopaedia Britannica* in three volumes was published in Edinburgh in 1771. Since the 14th edition (1929) this encyclopedia has been published in the United States The oldest German encyclopedia still being published is *Brockhaus' Konversations-Lexikon,* first issued in 1796–1808 On this was based the first edition of the British *Chambers's Encyclopaedia* (1859–68) and the first American encyclopedia, *The Encyclopaedia Americana,* which was edited by Francis Lieber (13 vols , 1829–33); the *Americana* through many later editions has kept only the name *The New International Encyclopaedia* traces its descent from *Chambers's Encyclopaedia* There have been many encyclopedias planned especially for young people These in general are not alphabetically arranged but are grouped by subject—animals and plants, literature, history, art—and are intended for reading rather than for quick reference. Nearly all the major countries of the world have encyclopedias in the vernacular Several have been published in China, they are arranged by categories, not alphabetically, and generally partake of the nature of anthologies Among the encyclopedias which limit themselves to a single branch of knowledge or try to serve a special interest, the most ambitious is the great German art encyclopedia edited by Ulrich Thieme and Felix Becker (35 vols , 1907–47) Among others are the *Encyclopaedia of the Social Sciences, Grove's Dictionary of Music and Musicians, The Schaff-Herzog Encyclopedia of Religious Knowledge, The Catholic Encyclopedia, The Jewish Encyclopedia,* and *The Encyclopaedia of Islam* In a work published over a period of many years the earlier volumes must of necessity be out of date before the last ones are off the press A smaller encyclopedia, which brings events down to the year of publication obviates this difficulty Encyclopedia publishers have tried various methods for bringing their works up to date, the most popular being yearbooks, supplements issued every few years, loose-leaf insertions, and "continuous revision," i e , the system of revising a certain number of articles for each new printing For evaluation of encyclopedias, see the latest edition of *Guide to Reference Books,* edited by I G Mudge and Constance Winchell

Encyclopédie (äsēklōpādē'), the work of the French Encyclopedists or *philosophes* The full title was *Encyclopédie, ou, Dictionnaire raisonné des sciences, des arts, et des métiers* This work was originally planned as a translation of the Chambers *Cyclopedia,* and the first editor was the Abbé Jean Paul de Gua de Malves, but the project was abandoned on account of various disagreements, and Le Breton, the publisher, agreed to let Denis DIDEROT as editor produce an entirely new work With the aid of Jean le Rond d'ALEMBERT, QUESNAY, MONTESQUIEU, VOLTAIRE, J J ROUSSEAU, TURGOT and other distinguished authorities, Diderot produced the first volume in 1751, with a famous "preliminary discourse" signed by D'Alembert Jesuit influence caused withdrawal of the official permit, and Voltaire and D'Alembert prudently retreated However, with the support of Mme de Pompadour, of Marc Pierre d'Argenson, and of the duc de Choiseul and the statesman Malesherbes, Diderot was able to persist Helped by the Chevalier de Jaucourt, he brought the clandestine printing of the work (28 vols) to completion in 1772 It was followed (1776–77) by a supplement in five volumes and by a two-volume index in 1780 When the work was in page proof Diderot discovered that deletions had been made by the printer The *Encyclopédie* differed from similar works in being the mouthpiece of a philosophy, that of scientific determinism, derived from Bacon, Descartes, Locke, and Newton and championing the skepticism and rationalism of the century Its success was immediate and its influence incalculable, the term *encyclopedist* became the description of an entire school Through its stress on a materialistic philosophy and its attacks on legal, juridical, and clerical abuses, the *Encyclopédie* was a major factor in the development of the French Revolution See John Morley, *Diderot and the Encyclopedists* (1878), D H Gordon and N. L Torrey, *The Censoring of Diderot's Encyclopédie and the Re-established Text* (1947).

Endecott or **Endicott, John,** c 1588–1665, governor of Massachusetts Bay colony (1628–30) He was the first governor of the colony at Salem and continued important in public affairs after John Winthrop established the colony's center at Boston. As a military leader, he so managed an expedition against the Indians that he helped bring on the Pequot War. One of the sternest of the Puritan fathers, he brought about the expedition of Miles Standish against the colony of Thomas MORTON at Merry Mount and was zealous in persecution of the Quakers. See biography by L. S. Mayo (1936).

endemic disease (ĕndĕ'mĭk) [Gr.,=in the people], one which is always present in a given locality in a certain number of the population Most infectious diseases are endemic in some region or other. In these regions the disease does not ordinarily become EPIDEMIC because most persons in the locality have IMMUNITY to that disease and the infectious agent is of ordinary virulence TYPHOID FEVER is endemic in many places. It becomes epidemic when, spread by even one carrier, it affects a large group of persons, as in armies in war A disease is said to be sporadic when a very few cases occur here and there in a given region

Enderbury Island, area 4 sq mi , central Pacific, one of the Phoenix Islands It is near CANTON ISLAND c 2,000 mi SW of Honolulu The island has been under Anglo-American control since 1939

Enderby Land, area in Antarctica, in the Indian Ocean sector It is claimed by Great Britain on the basis of discovery by John BISCOE in 1831. The region was not visited again until 1929–30. Douglas MAWSON went there

Enderlin, city (pop. 1,593), SE N Dak , SW of Fargo; inc 1896 It is a railroad division point

Endicott, Charles Moses, 1793–1863, American sea captain, b Danvers, Mass He traded in the Far East and knew well the coast of Sumatra His *Sailing Directions for the Pepper Ports* (1833) and its accompanying chart of Sumatran ports were long used by mariners On his last voyage but one his ship, the *Friendship,* was seized by natives at Kuala Batu in Sumatra, and members of the crew were killed Endicott escaped and with the help of three American ships recaptured the *Friendship* The next year the U S frigate *Potomac* bombarded the town in reprisal See R D. Paine, *Ships and Sailors of Old Salem* (1909).

Endicott, John · see ENDECOTT, JOHN

Endicott, village (pop 17,702), S N Y , on the Susquehanna and W of Binghamton, settled c 1795, inc 1906 With Johnson City and BINGHAMTON it is the home of the Endicott-Johnson shoe company. Business machines are also made

endive (ĕn'dĭv, an'dēv), annual or biennial herb (*Cichorium endivia*) native to India, widely cultivated as a salad plant The broad leaved and the curly leaved are the common kinds, the crisp inner leaves are blanched Endive is closely related to chicory

endocrine gland: see GLAND and HORMONE.

endogamy · see MARRIAGE

En-dor [Heb ,=spring of Dor], village, Palestine, S of Mt Tabor, where lived a celebrated witch consulted by King Saul 1 Sam 28 7, Ps 83 10

Endymion (ĕndĭ'mēun), in Greek legend, young shepherd of Mt Latmos, loved by Selene (the moon) He was given immortality and eternal sleep John Keats in his poem *Endymion* elaborated on this legend

En-eglaim (ĕn-ĕg'lāĭm, ĕn-ĕglā'ĭm) [Heb ,=spring of two heifers], place, probably on the Dead Sea. Ezek 47 10 It may be the same as EGLAIM

enemy alien · see ALIEN

energy, in physics, usually defined as the ability or capacity to do work Forms of energy include HEAT, LIGHT, SOUND, ELECTRICITY, and chemical energy When a force acts upon a body, the work performed is the product of the force and the distance **Potential energy** is the capacity for doing work that a body possesses because of its position For example, a stone weighing 5 lb and resting on the edge of a cliff 40 ft high is said to have 200 foot-pounds of potential energy, since in falling it could do 200 foot-pounds of work (the product of its weight and the distance it falls) The energy is here measured in a work unit, the foot-pound **Kinetic energy** is the capacity for doing work that a body possesses because of its motion Each is illustrated, and the change from one to the other is shown, in the movements of a simple pendulum As the suspended body moves upward its kinetic energy or energy of motion is continuously being changed into potential energy The higher it goes the greater becomes the energy that it owes to its position, for the greater becomes its potential capacity for doing work on the downward swing At the top of the swing the change from kinetic to potential energy is complete, and in the course of the downward motion the potential energy reverts again to kinetic energy It is common for energy to be converted thus from one form to another, but it is a fundamental law, the **law of the conservation of energy** that although energy can be changed in form it can be neither created nor destroyed **Chemical energy** is the form of energy involved in a CHEMICAL REACTION. For example, chemical energy is changed into heat and light energy when a candle burns (see COMBUSTION) and into electrical energy in the electric CELL In addition, its transformation is important in the processes concerned with the obtaining of energy from foods. Solar energy, considered as the ultimate source of all energy on the earth, is utilized by plants in the chemical process of making starch (see PHOTOSYNTHESIS), later as a food this starch is broken down by chemical action (see DIGESTION) and the energy stored in it is thus released for use in the animal body. In life processes (e g., RESPIRATION), in many other natural phenomena, and also in many industrial operations, the transformation of energy is of fundamental importance

Enesco, Georges (ĕnĕs'kō), 1881–, Rumanian violinist, composer, and conductor, studied at the Vienna Conservatory and in Paris with Massenet, Fauré, and others. He has frequently appeared both as violinist and conductor in Europe and America, including appearances with the New York Philharmonic, 1936–39 Among his numerous compositions, two Rumanian Rhapsodies for orchestra are very popular

Enfantin, Barthélemy Prosper (bärtālmē' prôspĕr' äfätē'), 1796–1864, French socialist, sometimes called Père Enfantin He became a leader of the movement started by the comte de SAINT-SIMON. Under his guidance the Saint-Simonians became a religious group, notorious for eccentricities of dress and rite Because of his disagreements with BAZARD and his free-love doctrine, there was a schism Enfantin settled his followers at Ménilmontant (1832), but was imprisoned He later became a successful industrialist His books include *La Science de l'homme* (1858) and *Life Eternal* (1861, Eng tr , 1920) See biography by Sebastien Charléty (1930)

Enfield, urban district (1931 pop 67,874, 1947 estimated pop 109,680), Middlesex, England, N of London It is largely residential but is the site of the Royal Small Arms factory (Enfield rifles) and manufactures electric wire, boilers, ebonite, aluminum, chemicals, and cables Charles and Mary Lamb lived near here for several years

Enfield, 1 Textile town (pop 13,561), N Conn , on the Connecticut at the Mass line, settled c 1680 The site of a Shaker settlement (c 1780–1915) was bought for a state prison farm The town hall was built in 1775 2 Town (pop 1,693), W N H , on Mascoma river and lake and E of Lebanon A charter was granted to settlers in 1761 A Shaker community was established here in 1793 Woolen fabrics are made 3 Town (pop 2,208), N N C , near the Roanoke NNE of Rocky Mount, in a farm area, settled before 1750 It is a peanut-processing and shipping center

Engadine (ĕng'gudēn), upper part of the Inn valley, Grisons canton, Switzerland Extending 60 mi NE from Maloja to Martinsbruck, it is divided into the Upper and the Lower Engadine The valley, which is forested and partially cultivated, is dominated in the south by the BERNINA group The majestic scenery and excellent air have made the Engadine a tourist and health center St Moritz, Pontresina, Sils-Maria, Tarasp, and Schuls are among its numerous resorts The population is largely Romansh-speaking and Protestant

En-gannim (ĕn-gă'nĭm) [Heb ,=spring of gardens] 1 Town of Judah Joshua 15 34 2 Levitical city, the modern Jenin, at the southeastern end of the plain of Esdraelon Joshua 19 21, 21 29 Anem 1 Chron 6 73

En-gedi (ĕn-gē'dī, ĕn'-gĕ-) [Heb ,=well of the kid], ancient well, on the west shore of the Dead Sea above a fertile plain, now called Ain Jidy Joshua 15 62, 1 Sam 24 1–4, Cant 1 14, Ezek 47 10 Hazezon-tamar Gen 14 7, 2 Chron 20 2

Engelberg (ĕng'ulbĕrk), village (pop 2,409), Obwalden half-canton, Switzerland It is a winter and summer resort and has a 12th-century Benedictine abbey

Engelmann, George (ĕng'ulmun), 1809–84, American physician and botanist, b Frankfurt-am-Main, Germany, studied at the universities of Heidelberg and Würzburg (M D , 1831) Coming to America in 1832, he settled at St Louis, Mo , and built up a large medical practice His intense interest in general science led him also to carry on researches in biology and botany and to continue systematic meteorological observations from 1836 until his death He first called attention to the immunity of the American grape to the attack of the phylloxera His large plant collection and botanical library, as well as some 60 volumes of botanical notes and drawings, are in the Missouri Botanical Garden, St Louis Some of his more important papers were collected in *Botanical Works of the Late George Engelmann* (1887) Three genera and a number of species bear his name

Engels, Friedrich (frē'drĭkh ĕng'uls), 1820–95, German socialist He and Karl MARX were the two founders of modern communism The son of a wealthy textile manufacturer, Engels went in 1842 to take a position in a factory near Manchester, England, in which his father had an interest In 1844, while passing through Paris, he met Marx, and their lifelong association began. Engels's first major book was *The Condition of the Working Class in England in 1844* (1845, Eng tr , 1887), which attracted wide attention From 1845 to 1850 he was active in Germany, France, and Belgium organizing revolutionary movements and collaborating with Marx on several works, notably the epoch-making *Communist Manifesto* (1848). The failure of the Revolution of 1848 caused his return (1850) to England, where he lived the rest of his life He was a successful businessman, and from his income he enabled Marx to devote his life to research and writing. Engels played a leading role in the First INTERNATIONAL and the Second International After Marx's death, Engels edited the second and third volumes of *Das Kapital* from Marx's drafts and notes The intimate intellectual relationship between Marx and Engels leaves little doubt that there was complete harmony of thought between them, although recent critics have sometimes questioned their full agreement Marx's personality has overshadowed that of Engels, but the influence of Engels on the theories of MARXISM, and particularly on the elaboration of DIALECTICAL MATERIALISM, can scarcely be overestimated Engels's *Landmarks of Scientific Socialism* (1878, Eng tr , 1907) and *The Origin of the Family, Private Property, and the State* (1884, Eng tr , 1902) rank among the fundamental books in communist literature and profoundly influenced Lenin Another of Engels's works is *The Peasant War in Germany* (Eng tr , 1926) His correspondence with Marx has been partly translated (1942). See biography by Gustav Meyer (Eng tr , 1935)

Engels (ĕn'gĭls), city (pop. 73,279), RSFSR, on the left bank of the Volga opposite Saratov It is an agricultural center Founded in 1747 by Ukrainian settlers, it was called Pokrovsk until c 1932 and was the capital (1923–41) of the former German Volga Republic

Enghien, Louis Antoine Henri de Bourbon-Condé, duc d' (lwē' ätwan' ārē' dŭ bōōrbō-kōdā dük' dĭgē'), 1772–1804, French émigré, son of Louis Henri Joseph de CONDÉ He was suspected by Napoleon of participation in the conspiracy of Georges CADOUDAL because witnesses testified that an unnamed émigré prince had directed the plot This was probably the count of Artois (later Charles X), but Napoleon had the duke kidnaped from Ettenheim, Baden, and, within the space of a few hours, had him court-martialed and shot at Vincennes (March 21, 1804) Napoleon's brutal procedure provoked a revulsion of feeling against him, it is still subject to debate whether his act ultimately strengthened or weakened his power

Enghien (ägē'), town (pop 4,511), Hainaut prov , W Belgium, SW of Brussels There are linen and lace manufactures Dating from the 11th cent , it was a medieval trade center Enghien became a possession of the Bourbon family in the 15th cent , but was sold (1606) by Henry IV to the house of Ligne The title duke of Enghien remained with the Condé branch of the house of Bourbon

engine · see DIESEL ENGINE, INTERNAL-COMBUSTION ENGINE, STEAM ENGINE

engineering, the science dealing with the design, construction, and operation of the various structures, machines, engines, and other devices used in industry and in everyday life From the beginnings of civilization man in his use of simple tools applied engineering principles By means of man power and simple machines were accomplished such feats of engineering skill as the pyramids of Egypt, the irrigation systems of Egypt, Babylon, and Mesopotamia, the Roman roads, bridges, and aqueducts, and the Mayan temples Until the time of the Industrial Revolution, engineering embodied only the functions of the civil engineer (the construction of tools, roads, bridges, and other useful devices and structures) and those of the military engineer (the construction of fortifications, engines of war, and other structures) After the Industrial Revolution mechanical engineering developed as a separate field to provide for the designing and construction of the essential machinery Engineering in modern times is a vast field embracing many smaller fields of specialization related to nearly every phase of human activity **Aeronautical engineering** is concerned with the designing of aircraft (both civil and military) and parts of aircraft and the directing of the technical phases of manufacture and operation of such structures Special branches of aeronautical engineering include aerodynamics, stress analysis, and flight testing **Agricultural engineering** includes the design and construction of farm buildings, machinery, and other equipment farm electrification, the development of power for agricultural use and of methods of conserving and utilizing soil and water (e g , irrigation, drainage, and flood and erosion control). **Chemical engineering** is concerned with the design, construction, and operation of the plants and machinery required to produce innumerable products such as acids, dyes, drugs, plastics, and synthetic rubber The chemical engineer must have a thorough knowledge of both chemistry and mechanical engineering **Civil engineering** has many smaller divisions since it is concerned with the planning, designing, construction, and maintenance of a great variety of structures and facilities for use by the public as well as by commerce and industry Among its problems are city planning and the planning and building of highways, bridges, tunnels, harbors, airports, railroads, dams, canals, irrigation systems, pipe lines, and water-supply systems and sewage and waste disposal plants (usually included in sanitary engineering) **Electrical engineering** is a broad field which includes the planning and construction of power plants, transmission lines, and distributing systems and the designing and construction of lighting devices and lighting systems (the work of the illuminating engineer) and of the innumerable

other devices utilizing electricity (e.g., refrigerator and air-conditioning equipment, telephone, telegraph, radio, television, and radar) Two main divisions of **geological engineering** are petroleum engineering and mining engineering **Industrial engineering** or **management engineering** is less clearly defined than most other engineering fields, the industrial engineer deals with such problems as the improvement of production methods, efficient arrangement and working of machinery in a plant, and the planning of production **Marine engineering** deals with the designing and construction of ships, docks, and other marine structures and devices **Mechanical engineering** is a field on which many other branches of engineering are dependent, since it is concerned with the design, construction, and operation of power plants and of the engines and machines used in commerce and industry A number of the other fields of engineering are actually branches of mechanical engineering **Metallurgical engineering** deals with the extraction of metals from ores and with the fabrication of metals Education for engineering is based on a strong foundation in mathematics, chemistry, physics, and allied sciences in addition to study in the special fields of engineering and in the social sciences and humanities In the United States, West Point and Rensselaer Polytechnic Institute pioneered in offering engineering courses Many of the institutions providing engineering training were originally land-grant colleges. Education in engineering has benefited by the activities of the many engineering societies See W D. Binger, *What Engineers Do* (rev ed , 1938), W J Claxton, *Half-Hours with Great Engineers* (1938), T J Hoover, *The Engineering Profession* (1941), N V Carlisle, *Your Career in Engineering* (1942), J K Finch, *Trends in Engineering Education* (1948), J G. McGuire and H W Barlow, *An Introduction to the Engineering Profession* (1950)

England, John (Ing'glund, Ing'lund), 1786-1842, Irish Roman Catholic churchman in America, b. Cork He studied, was ordained, and ministered to several parishes in Co Cork His patriotic zeal made him well known, although his parishes were among the peasantry, and he fought vehemently for Catholic Emancipation and for the equality of his church with the Anglicans in Ireland. He was consecrated bishop of the new see of Charleston, S C , in 1820 and immediately went to America His diocese included the Carolinas and Georgia He was notable from the beginning for his intense interest in all things American He traveled throughout his diocese continually, going many miles if necessary to visit even one of his coreligionists Especially devoted to the needs of the Negroes, he said a special early Mass on Sunday for them He was highly honored throughout the country See biographies by J L O'Brien (1934) and D F Grant (1949)

England (Ing'glund, Ing'lund) [i e , Angle-land], largest political division (all figures without Monmouthshire 50,874 sq mi , 1931 pop 37,359,045, 1948 estimated pop 40,197,490) of the island of Great Britain in the British Isles, the core of the British Empire WALES occupies the western mountainous portion of the island, SCOTLAND the northern part above Solway Firth, the Cheviot Hills, and the River Tweed, the remainder of the island is England The English Channel, the Strait of Dover, and the North Sea cut the island off from the continent of Europe The coast in the south and southeast lies close to France, the strait of Dover is narrow Yet wind and tide have given Britain security in her insularity, without cutting the island off from the course of continental affairs The south and east coasts are low-lying, only in the north and the west is the land edge rocky and forbidding The ports of the south are easy of access—Southampton, Portsmouth, Folkestone, Dover (see also CINQUE PORTS), and, in the southwest, Plymouth In the east the estuaries of the rivers make entrance easy the Thames, with London up the river, the Humber, with the port of Hull, the Tees, and the Tyne, on which is Newcastle The west coast also offers entry by Bristol Channel and the Severn, with Bristol just inland, the Mersey, with Liverpool and Birkenhead, and Solway Firth, with Carlisle The accessibility of the island, together with its defensibility by a strongly organized government, is one of the cardinal geographic facts that determined England's growth Another is the mildness of the climate, attributable to the surrounding ocean, though the island lies far to the north (London being in the same latitude as Labrador), most of the island is subject to much wet weather, some of it suffers severe cold, but in general the climate is favorable to man The political divisions of England, the counties or shires, are Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cheshire, Cornwall, Cumberland, Derbyshire, Devonshire, Dorsetshire, Durham, Essex, Gloucestershire, Hampshire, Herefordshire, Hertfordshire, Huntingdonshire, Kent, Lancashire, Lincolnshire, Middlesex, Monmouthshire (often included in Wales rather than in England), Norfolk, Northamptonshire, Northumberland, Nottinghamshire, Oxfordshire, Rutland, Shropshire, Somerset, Staffordshire, Suffolk, Surrey, Sussex, Warwickshire, Westmorland, Wiltshire, Worcestershire, and Yorkshire The surface in the south and southeast is generally low. The low white chalk cliffs that face France across the Channel begin in Norfolk and continue S to Dover and to the southern coast Behind them, especially in the south—Sussex, Surrey, Hampshire—lie gently rolling downs and wide plains stretching to the Chiltern Hills and on to the Cotswolds This is the south of England, fertile agricultural lands from the orchards of Kent to the gardens of E Devon To the north along the east coast are the lowlands of Norfolk reaching up to the Fens, the marshy country about the inlet called the Wash, into which flow waters of several small rivers (the Ouse, the Nene, the Welland, and the Witham) The Fens once stretched inland much farther than now, to Cambridge and as far N as Lincoln, most of the land has been reclaimed since the coming of the Saxons to England. The center of England, the Midlands, is a large plain interrupted and bordered by hills, which has much dairying country, it lies southwest by northeast and in it, especially along its northern edge, the coal fields have led to the great industrial development Birmingham is a huge industrial center, and to the west of it is the Black Country with its extensive coal and iron industries The Severn valley is more closely kin to the south of England in its general aspect, the Severn's tributary, the Avon, is notable to tourists chiefly because of Stratford-on-Avon, Shakspere's birthplace The west of England is rough country tapering out through Somerset and Devon to the long peninsula of Cornwall, which terminates in two points, one (Lands End) the westernmost, the other (Lizard Point or Head) the southernmost in England proper Lincolnshire, just S of the Humber, is a distinctive region, with high, bleak hill country near the coast and much sheep-grazing country to the west The Humber is created by the confluence of the Trent, the Ouse, and lesser rivers The north of England, above the Humber, is mountainous The Pennine Chain, the longest chain, leads into Scotland The scenic charms of the LAKE DISTRICT in Cumberland, Westmorland, and Lancashire have been especially noted since the days of the Lake poets (William Wordsworth, S T Coleridge, and Robert Southey) Lancashire is the center of intensive industrial development, depending chiefly upon the textile industry which developed rapidly after the Industrial Revolution Yorkshire is also highly developed industrially in the west, in the east are the high bleak moors and wolds The largest city of England is London, the capital, the other leading cities are for the most part the great manufacturing and shipping centers—Manchester, Liverpool, Leeds, Sheffield, Birmingham, Bristol, Bradford, and Hull The chief wealth of England for the last 200 years has come from her shipping and her manufactures Various parts of the country are noted for various types of specialized manufactures, such as the steel of Sheffield and the pottery of Staffordshire In the 19th cent , England was the undisputed leader in world export of manufactured articles England is joined with Scotland and Northern Ireland in the United Kingdom of Great Britain and Northern Ireland Constitutionally, it is a limited monarchy The legislative authority and actual sovereignty reside in PARLIAMENT, the executive authority is nominally vested in the crown, but actually is in the hands of a cabinet responsible to Parliament The Church of England, of which the king is the head, is the established religion, though there is complete religious liberty Education had no uniform system until the Education Act of 1944 attempted coordination of all secondary schools, extending its registration and inspection even to the heretofore independent public schools—Eton, Harrow, Rugby, Winchester, and lesser institutions Oxford and Cambridge are still the most notable as well as the oldest of the 11 universities, the others being Birmingham, Bristol, Durham, Leeds, Liverpool, London, Manchester, Reading, and Sheffield

Celt and Roman, Saxon and Dane The history of England has been from its beginning closely associated with that of the other nations of the British Isles, Wales, Scotland, and Ireland All were settled at the dawn of historic times by peoples usually called CELTS, who were, however, a mixed people, probably created by various waves of prehistoric migration (see BRITAIN) The island was visited by Mediterranean traders who sought jet and pearls as well as tin from the mines of Cornwall Apart from archaeological remains, little is definitely known of these early Britons before the invasion by Julius Caesar in 55 B C This was a harbinger of Roman conquest and occupation which began in the 1st cent and continued until the early 5th cent Great internal improvements were made by the Romans, who built the famous ROMAN ROADS that were to be the main highways during the Middle Ages The Roman period also brought about the conversion of the Celts to Christianity About the time that declining Rome began to withdraw the legions from Britain, Germanic peoples—the ANGLO-SAXONS and Jutes—commenced the raids which developed in the latter half of the 5th cent into great invasions. Most of the Celts fell back into Wales and Cornwall and some of them to Brittany. The newcomers gradually developed from loosely knit tribes into several kingdoms (see KENT, SUSSEX, ESSEX, WESSEX, EAST ANGLIA, MERCIA, NORTHUMBRIA), among which Wessex assumed lasting importance in the 9th cent Meanwhile, in the 8th cent the general movement of the NORSEMEN southward resulted in raids on coastal England by Norwegians, who went on to settle in E Ireland and who in the 10th cent repeatedly tried to extend their Irish kingdom to N England. By 835 the Danes, no longer controlled by a strong king, raided present France and England. *Danes* came to be in English history the term for all Norse invaders. In 865 a great Danish army invaded England and conquered and plundered for some 10 years until at last the leaders divided land among the soldiers for settlement The continuing process of conquest and settlement was first effectually resisted by King ALFRED when more than half of England was lost He obtained support from all Englishmen not subject to the Danes and with great trouble confined the enemy to the DANELAW. His successors, EDWARD THE ELDER, ATHELSTAN, and EDMUND, conquered the Danelaw to form a united England The early 10th cent saw attempts at conquest by the Irish vikings and by Norwegians repulsed But new Danish invasions, beginning late in the 10th cent , overcame the ineffective resistance offered under ÆTHELRED (called the Unready, and the Dane, CANUTE, ruled all England by 1017 At the expiration of the Scandinavian line in 1042, EDWARD THE CONFESSOR of the Wessex dynasty gained the throne Upon his death in 1066 the crown was disputed by the Saxon HAROLD and William, duke of Normandy (WILLIAM I) The resulting NORMAN CONQUEST ended the Anglo-Saxon period, important in its own right and for its effects on essential English culture The basic social structure of the early Germanic invaders had been not the earl or noble but the ceorl or freeman, responsible only to his king and notably superior to the freedman and slave Intervening centuries of war and subsistence-level farming usually forced him to serfdom or at least to dependence on the aristocracy of lords and thanes who came to enjoy a large measure of autonomous control over manors held from the king The old traditions of freedom and popular government persisted to some extent among the large number of Danish freemen and in the courts of shires and hundreds The central government developed from tribal chieftainships to a monarchy in which the king usually controlled both executive and judicial powers, limited only by his practical need for support from the secular and ecclesiastical aristocracy which composed his witan or council Agriculture remained the principal industry, but the enterprising Danes also stimulated trade, and the growth of towns was accelerated from the 9th cent on The Anglo-Saxons had been Christianized by missionaries from Rome—St AUGUSTINE OF CANTERBURY arrived in Kent in 597—and from Ireland—St AIDAN, a disciple of St COLUMBA, began (c 635) to convert Northumbria Missionaries changed the old heathen fatalism into devout faith, and the influence of Christianity became strongly manifest in all phases of culture Differences between the Celtic and continental religious customs were decided in favor of the Roman forms in the Synod of Whitby (664) Monastic communities, outstanding in the later 7th and in the 8th cent and strongly revived in the 10th, boasted continental styles of architecture and sculpture and developed great proficiency in manuscript illumination Most important, church scholars like Bede, Alcuin, and Ælfric—as well as King Alfred himself—preserved and furthered learning and education Fittingly, much ANGLO-SAXON LITERATURE simultaneously reflects the old Germanic heroic ideal and loyalty and the softer qualities of the Christian faith

Feudal England William's conquest marked a new departure in English history To Saxon England's economic FEUDALISM and MANORIAL SYSTEM he added political and military feudalism England was for the first time under strong rule, efforts at centralization were made, typified in the DOMESDAY survey After William came two of his sons, at the death of the second (Henry I), the country was subjected to a period of civil war and anarchy (see STEPHEN), which ended in the accession of HENRY II in 1154 His reign was notable for the conflict between king and Church and for the great constitutional and legal reforms he instituted The holdings of English kings in France were greatly increased, and the first struggles between the two countries began. The towns of England commenced their phenomenal growth, which was abetted by the financial needs of RICHARD I in going on the Third Crusade Under JOHN, who succeeded Richard, the baronial wars between nobles and kings reached a high pitch, and the vic-

tory of the barons bore fruit in the most noted of all English constitutional documents, the MAGNA CARTA (1215). This marked a great step forward in the development of PARLIAMENT, which was to grow steadily in power The baronial wars continued under HENRY III, with a great popular leader rising in Simon de MONTFORT The conquest of Ireland was first seriously attempted by Richard de Clare (Richard Strongbow), earl of PEMBROKE. Attempts to enforce English hegemony in Scotland and Wales dated from Saxon times, but conquest was not systematically undertaken until EDWARD I, also known as the English Justinian because of his expansion and reform of the centralized royal courts and the legal system. Under EDWARD III, the HUNDRED YEARS WAR with France began in 1337 England won some glorious victories under EDWARD THE BLACK PRINCE and Henry IV but with no ultimate gain The Black Death, which first arrived in England in 1348, had a tremendous effect on English economic life, hastening the breakdown (long since begun) of the manorial and feudal systems and building up the towns and trades The confusion and change of the time fostered radical thought in the teachings of John WYCLIF, the resulting spread of LOLLARDRY, and the revolt led by Wat TYLER RICHARD II was deposed and was succeeded in 1399 by HENRY IV (the son of JOHN OF GAUNT), the first of the Lancastrian kings War with France continued, while the English wool trade, firmly established in the reign of Edward III, became more and more important Commerce opened new avenues, and the islanders were assuming the nature of tradesmen The dynastic Wars of the ROSES, in which the house of Lancaster (see LANCASTER, HOUSE OF) and the house of York (see YORK, HOUSE OF) contended for the throne, was brought to an end by the accession of the family of TUDOR in the person of HENRY VII in 1485

Tudor and Stuart The accession of Henry VII is usually considered the beginning of the modern history of England The reign of the Tudors was one of the most glorious periods of English history Commercial expansion was fostered, and English seamen went far and wide, bringing the country into conflict with Spain, a conflict intensified by religious differences The culminating point of this struggle was the failure of the Spanish ARMADA (1588) HENRY VIII introduced the REFORMATION, and his work was brought to completion by EDWARD VI and ELIZABETH The Renaissance in England came to flower in Elizabethan literature The matter of succession to the throne was one of the principal political questions in the reigns of Edward VI (see SOMERSET, EDWARD SEYMOUR, DUKE OF, NORTHUMBERLAND, JOHN DUDLEY, DUKE OF, GREY, LADY JANE), MARY I, and Elizabeth, whose chief rival was MARY QUEEN OF SCOTS Elizabeth was succeeded by James VI of Scotland, who, as JAMES I of England, introduced the Stuart line The reigns of James and his son, CHARLES I, were dominated by the struggle of the new bourgeois class—in general identified with the Puritans in religion—to establish its power in the government, to end the influence of ministers responsible only to the king (such as the unpopular George Villiers, duke of BUCKINGHAM, the bitterly hated Thomas Wentworth, earl of STRAFFORD, Archbishop William LAUD), and to make Parliament superior to the king This was the PURITAN REVOLUTION, which reached the crisis of civil war in 1642 The victory of the parliamentarians was signalized by the execution (1649) of Charles I For more than a decade England was kingless and was under the Puritan rule of the Commonwealth and the PROTECTORATE Oliver CROMWELL was practically ruler of the country until his death in 1658 In 1660 the Stuart monarchs in the person of CHARLES II regained the throne, and the RESTORATION was a period of reaction against Puritanism and an era of reawakening prosperity and of vigorous political activity under such men as Edward Hyde, earl of CLARENDON, and Anthony Ashley Cooper, earl of SHAFTESBURY The victory of Parliament was not, however eclipsed, with the overthrow of JAMES II by the Glorious Revolution of 1688 and the accession of WILLIAM III and Mary (MARY II), the supremacy of Parliament was definitely fixed For some years the JACOBITES, supporters of James II and his descendants, were to disturb the security of the monarch From this time, too, dates the beginning of party government (see WHIG and TORY), which reached its rounded development under the statesman Sir Robert WALPOLE in the early 18th cent Colonial expansion of England had begun under Elizabeth with the exploits of Sir Francis Drake, Sir John Hawkins, and the other "sea dogs," and mercantilist laws were passed by the Commonwealth government and by that of Charles II, but this expansion did not assume huge proportions until the time of William III In the 17th and early 18th cent England established supremacy over the Dutch in the carrying trade and engaged in colonial rivalry with France England entered into the wars of the European alliances—the War of the GRAND ALLIANCE and the War of the SPANISH SUCCESSION—mainly because of this rivalry with France. The Tudors, the Stuarts, and Cromwell continued the conquest of Ireland and the settlement of English and Scottish colonists there, but Ireland was never pacified for long Scotland, already under English rule, was reluctantly joined to England by the Act of Union (1707) under Queen ANNE, and the kingdom was thereafter Great Britain The later history of GREAT BRITAIN is treated under that heading and the development of the empire under BRITISH EMPIRE

Heart of Empire The face of England was changed in the 17th and 18th cent by the agricultural revolution brought about by inclosures, and in the 19th cent the industrial Midlands were the heart of England's leadership in the INDUSTRIAL REVOLUTION and the expanding empire and trade There was a notable shift of the population northward to this area, and the disfigurement caused by smoking factories gave it the name of the Black Country. The darker side of industrialization—depression and unemployment—produced the Owenist agitation and CHARTISM in the first half of the century The worst depression of the century, with its attendant miseries, hit Lancashire when the American Civil War in the 1860s temporarily cut off the supply of American cotton The greatly increased trade and the financial supremacy of England contributed to the phenomenal growth of cities in the 19th cent, especially of the sprawling metropolis, London, which became the focal point of the new web of railway lines The First World War made few major changes physically in England, but in the succeeding depression, housing deteriorated in spite of all efforts With the rising income tax, inherited fortunes began to be broken up and great estates sold and divided, a process brought almost to completion by the taxes attendant on the Second World War and the following nationalization of industry Between the wars England lost financial leadership of the world to the United States England was the heart of the mushrooming war industries for this second war, and the countryside was dotted with air fields for allied forces Air attacks by the German air force leveled huge areas of the principal cities and architectural treasures in London and a few historic towns After this war rebuilding was slow, but new planned residential towns or areas were undertaken to prevent the regrowth of slums bombed out or slated to be removed As the ties of the British Empire became more tenuous in the British Commonwealth of Nations, England rather than Great Britain as a whole once more became its center and preeminently the home of the king

The kings of England since William the Conqueror have been *Norman*—William I, 1066–87, William II, 1087–1100, Henry I, 1100–1135 *Stephen*—Stephen, 1135–54 *Plantagenet*—Henry II, 1154–89, Richard I, 1189–99, John, 1199–1216, Henry III, 1216–72, Edward I, 1272–1307, Edward II, 1307–27, Edward III, 1327–77, Richard II, 1377–99 *Lancaster*—Henry IV, 1399–1413, Henry V, 1413–22, Henry VI, 1422–61 and 1470–71 *York*—Edward IV, 1461–70 and 1471–83, Edward V, 1483, Richard III, 1483–85 *Tudor*—Henry VII, 1485–1509, Henry VIII, 1509–47, Edward VI, 1547–53, Mary I, 1553–58, Elizabeth, 1558–1603 *Stuart*—James I, 1603–25, Charles I, 1625–49 (executed in 1649, Commonwealth and Protectorate, 1649–60, Charles II in exile), Charles II, 1660–85, James II, 1685–88 *Orange*—William III, 1688–1702, and Mary II, 1688–94 *Stuart*—Anne, 1702–14 *Hanover*—George I, 1714–27, George II, 1727–60, George III, 1760–1820, George IV, 1820–30, William IV, 1830–37, Victoria, 1837–1901 *Saxe-Coburg-Gotha*—Edward VII, 1901–10 *Windsor*—George V, 1910–36, Edward VIII, 1936, George VI, 1936–

There is, of course, a vast body of literature on England, geographical, historical, and general See also ENGLISH LITERATURE and ENGLISH LANGUAGE Among the better-known writers on English history are H T Buckle, H M Chadwick, R G Collingwood, E A Freeman, J A Froude, S R Gardiner, F A Gasquet, Élie Halévy, Henry Hallam, F J Haverfield, Sir William Holdsworth, W E H Lecky, T B Macaulay, Justin M'Carthy, F W Maitland, Sir Francis Palgrave, Harold Peake, A F Pollard, Sir Frederick Pollock, J H Round, Thorold Rogers, Frederic Seebohm, William Stubbs, T F Tout, G M Trevelyan, Sir Paul Vinogradoff, Sir Spencer Walpole, and Beatrice and Sidney Webb See Charles Gross, *The Sources and Literature of English History from the Earliest Times to about 1485* (2d ed, 1915) A much-read but now outdated general history is J R Green, *History of the English People* (4 vols, 1883–86) There are several good shorter histories, such as those by G M Trevelyan (1926, later rev eds), W E Lunt (3d ed, 1945), and K G Feiling (1950) See *Victoria History* of the counties of England, *The Dictionary of National Biography* and its supplements and continuations, William Hunt and R L Poole, ed, *The Political History of England* (12 vols, 1905–10), William Cobbett, *Rural Rides* (ed. by G. D H Cole and Margaret Cole. 3 vols, 1930), C B Fawcett, *A Political Geography of England* (1933), *The Oxford History of England* (ed. by G. N. Clark, 1934–), A E Trueman, *Geology and Scenery in England and Wales* (rev. ed, 1949)

England, city (pop 2,027), central Ark, near the Arkansas river, in a fertile farm region

England, Church of, the established church of England. It had its beginning as a separate national institution in the 16th cent, when Henry VIII, withdrawing allegiance from the pope, announced that in England the king should be head of the church The occasion of the break with Rome was Henry's request for divorce from KATHARINE OF ARAGON The Act of Supremacy (1534) acknowledged the king as "the only supreme head on earth of the Church of England" Thus the Reformation in England under Henry and WOLSEY was at first a matter of policy, not doctrine The theology of the Church as shown in the SIX ARTICLES (1539) and the King's Book (1543) was unchanged in essentials Henry authorized the Great Bible (1539), a revision of the English translations of Tyndale and Coverdale, and some slight alterations in services The monasteries were suppressed, chiefly at the hands of Thomas Cromwell Under Edward VI changes came rapidly and Protestantism gained ground In 1549 the first BOOK OF COMMON PRAYER was adopted Under Mary all the measures that had separated the Church of England from Rome were reversed, the old ritual was brought back, and the nation was received again into the Catholic communion under the pope. ELIZABETH restored Protestantism The national church retained its continuity with the early Christian church of Britain and much of the ritualism sanctioned by older rubrics In the struggle between Catholicism and Calvinism, the queen and her advisers hit upon a middle course The Act of Supremacy (1559) made clear the constitutional position of the Church in relation to the crown, provided that the powers thus restored to the sovereign should be exercised by a court of high commission Under JAMES I the steadily rising tide of Puritanism made necessary the Hampton Court Conference (1604), where the king gave his decision for the existing doctrine Under CHARLES I the extreme measures of the party headed by Archbishop LAUD, in maintaining the discipline and worship of the Church against the Calvinists, had much to do with bringing on civil war (1642) The Long Parliament, after excluding the bishops, substituted Presbyterianism for the episcopacy in 1646, in accordance with the Solemn League and Covenant (see COVENANTERS) Under Oliver Cromwell, Independent rather than Presbyterian doctrines triumphed, it was a penal offense to use the prayer book Many bishops were imprisoned and many churches were pillaged With the Restoration (1660) the episcopacy was restored The prayer book was in 1662 made the only legal service book by an Act of Uniformity which required the episcopal ordination of all ministers About 2,000 clergymen, the "nonjurors," instead of complying, resigned and, with their adherents, established their own worship in Protestant nonconformist chapels Parliament passed severe acts against nonconformists In 1688 a petition to King James II stating their reasons for refusing his order to read in all churches his declaration of indulgence was signed by SANCROFT, archbishop of Canterbury, and six other bishops Imprisoned, they were acquitted by trial Some of these were among the nonjurors who refused to swear allegiance to William and Mary For some time latitudinarians held control in the Church In George I's reign the Bangorian Controversy, occasioned by the heterodox expressions of Bishop HOADLY, led to the proroguing of convocation in 1717, this great council of the Church was not reassembled until 1852 There was a revival of religious fervor in the late 18th cent, one of the results of which was the rise of Methodism In the first half of the 19th cent certain Catholic elements in the Church of England were revived by the OXFORD MOVEMENT, of which KEBLE and PUSEY were leaders and also NEWMAN until he went over to the Church of Rome in 1845 To the later leaders of the movement, ritualism became of chief importance, as it is at present to the High Church party, which holds the doctrines of APOSTOLIC SUCCESSION, the Real Presence, and others that are contravened by the Low Church or Evangelical party The Broad Church adherents follow a middle course In 1833 the judicial committee of the privy council became the supreme court of appeal in ecclesiastical matters, it is composed of secular statesmen Closely related to the Church of England are the other members of the Anglican Communion in the British dominions and in other English-speaking countries They include the Protestant EPISCOPAL CHURCH and the Church of Ireland (see IRELAND, CHURCH OF) These are all represented by their bishops in the Lambeth Conferences, the first of which was held in 1867 The clergy of the Church of England are of three orders, deacons, priests, and bishops Only the bishop can ordain and confirm or can consecrate churches A bishop is given consecration at the hands of other bishops. The archbishop of Canterbury is the primate of all England, while the archbishop of York is the pri-

mate of England Worship is liturgical and is regulated by the Book of Common Prayer The creeds in use are the Apostles', the Nicene, and the Athanasian The standards of doctrine are found in the Thirty-nine Articles, the Book of Common Prayer, the Catechism, and two books of homilies In the Articles the truths of Christianity are explained on the authority of Scripture alone. See W R W Stephens and William Hunt, eds , *A History of the English Church* (8 vols , 1899–1910), C. M Ady, *The English Church* (1940), Gordon Crosse, *A Short History of the English Church* (1947), S L Ollard and others, eds , *A Dictionary of English Church History* (rev ed , 1948), *Official Year-Book of the Church of England*

Englehart, town (pop 1,262), E Ont., N of North Bay

Engleheart, George, 1752–1829, English miniature painter He studied with Sir Joshua Reynolds and made copies in miniature of his paintings Court miniaturist under George III, he competed successfully with the famous Cosway His nephew **John Cox Dillman Engleheart,** 1784–1862, was also a noted miniaturist Fine examples of both men's work may be seen in the Metropolitan Museum

Engler, Adolf (a'dôlf ĕng'lur), 1844–1930, German botanist He emphasized the importance of geological history in the study of plant geography and worked out an influential system of plant classification. He was professor at the Univ of Berlin and director of the botanical gardens (1889–1921) and was founder and editor (from 1881) of the periodical *Botanische Jahrbücher* He wrote several works on plant geography and taxonomy, including *Versuch einer Entwicklungsgeschichte der Pflanzenwelt* (2 vols , 1879–82) and *Syllabus der Pflanzenfamilien* (1898) He collaborated with Karl Prantl on the early volumes of *Die natürlichen Pflanzenfamilien* (1887–1915)

Englewood (ĕng'gulwŏod) **1** Residential city (pop 9,680), N central Colo , near Denver, in a farming and dairying area, inc 1903 **2** Residential city (pop 18,966), NE N J , near the Hudson N of Jersey City, settled before the Revolution, inc 1899 **3** Town (pop 1,342), E Tenn , NE of Chattanooga, inc 1919 It is in a farm area which was settled in 1819

English, Thomas Dunn, 1819–1902, American ballad writer and playwright, b Philadelphia His poem "Ben Bolt" was made into a popular song during the Civil War and was used by George Du Maurier in his novel *Trilby* Among his several plays, only *The Mormons* (produced 1858) had any success Poe, in his "Literati," satirized English as "Thomas Dunn Brown "

English, William Hayden, 1822–96, U S Congressman (1853–61), b Scott co , Ind A lawyer, he became a local politician and entered the House of Representatives He voted for the Kansas-Nebraska Bill and generally supported Stephen A Douglas on the slavery question In 1858 when the question of bleeding Kansas was crucial he proposed a compromise, Kansas was offered a land grant for accepting the proslavery Lecompton Constitution Southern votes passed the bill, but the people of Kansas—as English is said to have foreseen—refused the compromise He was candidate as vice presidential running mate to Gen W S Hancock on the unsuccessful Democratic ticket in 1880

English architecture as a distinctive national art may be said to have evolved in the 12th cent with the Norman style Building before that time was in what is commonly called the Saxon or Anglo-Saxon style, which combined Roman and Celtic features, it is represented by remains of monasteries, churches, and cathedral crypts distinguished by long-and-short ashlar stonework composed into single-towered, three-naved structures, with roofing probably of slate or shingles The Norman Conquest brought French ideas to England (see NORMAN ARCHITECTURE), but there the round-arc style soon took on characteristics distinguishing it from the slightly lighter French type The Norman style developed in the late 12th cent into English Gothic, a style predominating for three centuries, during which most of the English cathedrals were built This period can be subdivided into EARLY ENGLISH STYLE (late 12th and 13th cent), DECORATED STYLE (14th cent), and PERPENDICULAR STYLE (late 14th-middle 16th cent) The transition from Gothic to a classic Renaissance style was slow and again was composed of three phases, TUDOR STYLE (1485–1558), ELIZABETHAN STYLE (1558–1603), and JACOBEAN STYLE (1603–25) A fairly strict adherence to the Palladian architecture (see PALLADIO, ANDREA) prevalent in Italy was initiated in England by Inigo JONES and elaborated by Sir Christopher WREN A refined observation of the Renaissance orders slightly adapted to the English use of wood, especially in interior paneling, remained throughout the period of the GEORGIAN STYLE (1714–1820) of construction Neoclassicism set in with the REGENCY STYLE evolved by John Nash and continued, with alterations, through the Victorian period (see VICTORIAN STYLE) The classic and Gothic revivals, already begun in England late in the 18th cent , reached their elaborate climax in the middle of the 19th cent. The 20th cent brought with it mass construction and the adoption of a few modern tendencies, such as simplified square blocks, sometimes incongruously superimposed on an older style. It was not until c 1930 that MODERN ARCHITECTURE gained ground in England; since that time the influence of the modern German schools of construction has produced in England some notable examples of functional contemporary architecture In 1941 John Reith was appointed to plan the rebuilding of bombed areas See T D Atkinson, *English Architecture* (new ed , 1904), W H Godfrey, *Story of Architecture in England* (2 vols , 1928–31), T E Tallmadge, *Story of England's Architecture* (1934), Frederick Gibberd, *Architecture of England* (1938), A H. Gardner, *Outline of English Architecture* (1945)

English art. A copious religious art of painting, sculpture, stained glass, and embroidery enriched the medieval church in England Enough architectural and memorial sculpture has survived to attest to centuries of achievement from the Anglican crosses of Cumberland (dating back to the 7th cent) to the 15th-century figures of Henry V's chantry in Westminster Abbey A similar long tradition can be traced in stained glass windows still adorning many churches Very little church painting has survived, but illuminated manuscripts, such as the benedictional of St Æthelwold, (c 975), show a high development of the art at an early period In comparison with this wealth of indigenous medieval art, the 16th and 17th cent, were barren A long series of foreign artists were imported by the nobility, largely for portraiture From Holbein to Van Dyck these men found few worthy followers and no rivals in England Such painters as William Dobson and Robert Walker could hardly compete with the Dutch Lely or the German Kneller But the Elizabethan miniaturists Nicholas Hilliard and Isaac and Peter Oliver were followed by Samuel Cooper and Richard Cosway, all admirable practitioners, and late in the 17th cent a notable sculptor, Grinling Gibbons, decorated Oxford Chapel and other churches Early in the 18th cent William Hogarth, a highly original artist, initiated the English school of portraiture but is better known as a satirist, and the graphic art of social commentary which he began has flourished in England ever since Perhaps it found its finest expression in Rowlandson's drawings at the close of the century, when an opposite trend toward poetic and mystical expression in the graphic arts reached its perfection in the work of William Blake and his followers In portraiture the 18th cent produced outstanding men Sir Joshua Reynolds, who helped found the Royal Academy of Arts and was the first Englishman who successfully asserted the dignity of his profession, is usually conceded to share with Gainsborough the place of honor in this field, though Romney, Raeburn, Hoppner, Wilkie, and Sir Thomas Lawrence were all admirable Gainsborough is distinguished too for his landscape painting, a genre in which England made contributions of the first order Other excellent 18th-century landscape painters, such as Richard Wilson, J R Cozens, George Morland, Paul Sandby, and Thomas Girtin, were followed in the 19th cent by John Crome, J S Cotman, and others But all these were overshadowed by two great landscape painters, John Constable and J M W Turner, whose influence on subsequent French painting is incalculable In England, however, they were followed by a decline in landscape painting and by the rise of the short-lived Pre-Raphaelite school of D G Rossetti, William Holman Hunt, and Burne-Jones Sculpture did not parallel the development of English painting, but Flaxman in the 18th cent and Baron Leighton, Sir W H Thornycroft, Sir Alfred Gilbert, and, above all, Alfred Stevens in the 19th cent were notable In the 20th cent such men as Frank Dobson, Eric Rowland Gill, and Henry Moore have brought English sculpture into considerable prominence, the American Jacob Epstein has worked chiefly in England. England played a very minor part in initiating experimental and intellectual movements in the arts, such as cubism, early in the 20th cent , but was profoundly affected by them Among noted 20th-century painters are Augustus John, Paul Nash, Stanley Spencer, Sir William Orpen, Sir Muirhead Bone, Sir William Rothenstein, and P Wilson Steer In the minor arts English pottery is justly famous, and such wares as Chelsea, Derby, Doulton, Staffordshire, and Wedgwood are highly prized The same can be said of furniture prior to the Victorian era and of the work of such famous designers and craftsmen as Chippendale, Sheraton, Heppelwhite, and the Adam brothers. See E. G Underwood, *A Short History of English Sculpture* (1933); Roger Fry, *Reflections on British Painting* (1934), R H. Wilenski, *Masters of English Painting* (1934), R. S. Lambert, *Art in England* (1938).

English Channel, Fr *La Manche* (lä mänsh') [Fr., = the sleeve], arm of the Atlantic, 350 mi long, between France and England It is 112 mi wide at its west entrance, between Lands End, England, and Ushant, France. Its greatest width, c.150 mi., is between the inner coast of Lyme Bay and the inner coast of Saint-Malo; between Dover and Cape Gris-Nez it is 21 mi wide. At the east end the Strait of Dover connects the Channel with the North Sea. The principal islands in the Channel are the Isle of WIGHT and the CHANNEL ISLANDS Shipping across the Channel is supplemented by air lines, a train-ferry service to carry passengers and freight without change between Paris and London was opened between Dover and Dunkirk in 1936 Tunneling the Channel has long been under discussion In 1785 J P Blanchard and Dr John Jeffries crossed the Channel by balloon; the first airplane crossing was made by Blériot in 1909 The first to swim across was Matthew Webb (1875) The fisheries of the Channel are important The principal Channel ports are (in England) Plymouth, Southampton, Portsmouth, Folkestone, and Dover and (in France) Cherbourg, Le Havre, and Calais

English daisy. see DAISY

English horn, musical instrument, the alto of the OBOE family, pitched a fifth lower than the oboe and scored for as a transposing instrument It has a pear-shaped bell, giving it a soft, melancholy tone, which probably accounts for the fact that its regular use in the orchestra dates from the romantic era Wagner used it, but even its solo passage in Franck's Symphony in D Minor was considered revolutionary The 18th-century form of the instrument was curved, whence, possibly, its misleading designation as a horn

English ivy or **ivy,** Old World woody vine (*Hedera helix*), cultivated in many varieties as a house plant, CLIMBING PLANT, and ground cover It clings by many small roots and has evergreen leaves, only very old plants fruit This ivy contains a poisonous principle (hederin), and the berries especially are reported to be poisonous Ivy was sacred to Bacchus and the English hung it as a tavern sign

English language, language prevalent in the United States and much of Canada, in the British Isles, in Australia, in New Zealand, in much of South Africa, and in a few other places, such as Bermuda It is probably the native language of more people than any other except North Chinese It is also used extensively as an auxiliary language There are many dialect areas, in England and S Scotland these are of long standing, and the variations are striking, the SCOTTISH DIALECT especially has been cultivated literarily There are newer dialect differences also, such as in the United States Standard forms of English differ also, thus, the standard British ("the king's English") is dissimilar to the several standard varieties of American and to Australian Today's English is the continuation of the language of the 5th-century invaders of Britain No records exist of pre-invasion forms of the language The language most closely related to English is Frisian, an earlier stage of Anglo-Frisian was West Germanic, for the Germanic subfamily and its place among Indo-European languages, see LANGUAGE (table) The history of English is an aspect of the history of the English and their ramifications Thus in the 9th cent. the standard English was the dialect of dominant Wessex (see ANGLO-SAXON LITERATURE). The Norman Conquest (11th cent) brought in foreign rulers, and English was eclipsed by French as the official language When English became again (14th cent) the language of the upper class, the capital was London, and the new standard (continued in Modern Standard English) was a London dialect It is convenient to divide English into periods—Old (to c 1050), Middle (to c 1450, see MIDDLE ENGLISH LITERATURE), and Modern, this implies no discontinuity, for even the hegemony of French affected only a small percent of the population The English-speaking areas have expanded at all periods Before the Normans the language was spoken in England and S Scotland, but not in Cornwall, Wales, or, at first, in Strathclyde English has not yet quite ousted the Celtic languages from the British Isles, but it has spread vastly overseas. Since its establishment in North America (17th cent) the extension has continued, until today English is the most widely scattered of the great speech communities Like other languages, English has changed greatly, albeit imperceptibly, so that an Englishman of 1300 would not have understood either the English of 500 or that of today Changes of every sort have taken place, concomitantly in the sounds (phonetics), in their distribution (phonemics), and in the grammar (morphology and syntax) The following familiar words show changes of 1,000 years.

	home	*stones*	*name*	*tongue*
Old	hāām	stāā'nās	nā'mā	tōŏng'gū
Middle	hōm	stō'nus	nā'mū	tōŏng'gu
Modern	hōm	stōnz	nām	tŭng

The changes are more radical than appear, for Modern English ō and ā are diphthongs. The words *home, stones,* and *name* exemplify the fate of unaccented vowels, which became ŭ, then u disappeared In Old English important inflectional contrasts depended upon the difference between unaccented vowels, so, as these vowels coalesced into

ú and this disappeared, much of the case system disappeared too. In Modern English a different technique, word order (subject + predicate + object), is used to show what a case contrast once did, namely, which is the actor and which the goal of the action There are other critical changes also. The vocabulary has naturally expanded, but many common modern words are derived from the lexicon of the earliest English, e g., *good, father,* and *shower* From words acquired with Latin Christianity come *street, bishop,* and others; and from words adopted from Scandinavian settlers *root, egg, knife, take,* and many more French words, such as *castle,* began to come into English shortly before the Norman Conquest After the Conquest, Norman French became the language of the court and of official life, and it remained so until the end of the 14th cent During these 300 or more years English remained the language of the common people, but an increasingly large number of French words found their way into the language, so that when the 14th-century vernacular revival, dominated by Chaucer and Wyclif, restored English to its old place as the speech of all classes, the French element in the English vocabulary was very considerable. To this phase of French influence belong most legal terms (such as *judge, jury, tort,* and *assault*) and words denoting social ranks and institutions (such as *duke, baron, peer, county,* and *parliament*), together with a great number of other words which cannot be classified—e g , *honor, courage, season, manner, study, feeble,* and *poor* Since nearly all of these French words are ultimately derived from Late Latin, they may be regarded as an indirect influence of the classical languages upon the English vocabulary The direct influence of the classical languages began with the Renaissance and has continued ever since, even today Latin and Greek roots are the chief source for the English names of new inventions, such as *bicycle* and *telephone* During the last 300 years the borrowing of words from foreign languages has continued unchecked, so that now most of the languages of the world are represented to some extent in the vocabulary See Henry Sweet, *A Short Historical English Grammar* (1892), Ernest Weekley, *The Romance of Words* (1920), G P Krapp, *The English Language in America* (1925), Otto Jespersen, *Growth and Structure of the English Language* (6th ed , 1930), H L Mencken, *The American Language* (4th ed , 1936), C C Fries, *American English Grammar* (1940)

English literature. Modern English literature was preceded by two earlier periods, Old English or ANGLO-SAXON LITERATURE (roughly, to 1066) and MIDDLE ENGLISH LITERATURE (roughly, to 1475) The RENAISSANCE, with which Modern English may be said to begin, was slower to appear in England than on the Continent and may be dated from the setting up of the first English printing press by William Caxton in 1476 The end of the Middle Ages came in England at the cessation of the Wars of the Roses and the accession of the Tudor family in the person of Henry VII in 1485 The humanism of the Renaissance had been fostered at Oxford Univ and was carried on by the Oxford humanists, William Grocyn, Thomas Linacre, John Colet, and William Lyly Significant prose works were written in English instead of scholarly Latin by Sir Thomas Elyot and Roger Ascham, although the greatest English humanist, Sir Thomas More, wrote his *Utopia* in Latin In this age of seeking after old and new knowledge a complete translation of the BIBLE was needed, and William Tyndale issued a noteworthy version, in 1539 the Great Bible (Tyndale's, revised by Miles Coverdale) was ordered used in churches The Book of Common Prayer (1549), given form by Archbishop Thomas Cranmer (1552), is one of the prose masterpieces of the 16th cent Early Tudor poetry included the satires of John Skelton, Alexander Barclay, and David Lindsay and the experiments with Italian forms (including the sonnet) by Sir Thomas Wyatt and Henry Howard, earl of Surrey. Their poems and others were published in Richard Tottel's miscellany (1557), the first of a brilliant series of collections of poetry Meanwhile the drama had developed from medieval religious pageantry to the MIRACLE PLAY OR MYSTERY PLAY and such morality plays as *Everyman,* from these it had passed to the INTERLUDE. The first plays written in accordance with classic dramatic rules were produced probably by schools, they were the comedies *Ralph Roister Doister* by Nicholas Udall and *Gammer Gurton's Needle* by William Stevenson and the tragedy *Gorboduc* by Thomas Sackville and Thomas Norton There followed comedies by George Gascoigne, John Lyly, George Peele, and Robert Greene, produced mostly in private theaters such as the Blackfriars, where the children of the Chapel Royal acted. In tragedy the influence of Seneca underwrote violence in the great predecessors of Shakspere—Thomas Kyd, Samuel Daniel, Robert Greene, and Christopher Marlowe. Shakspere is the apotheosis of playwright and poet of Elizabethan England. The long reign of Elizabeth (1558–1603) saw the flowering of the English Renaissance in literature Every branch was enlarged and enriched, and new literary forms were created. Characteristic of the age are its enthusiasm and robust vitality, its imagination and its freedom of expression The religious writers of reestablished Protestantism included the Scottish preacher John Knox, the anonymous author of the Puritan Martin Marprelate tracts, and Richard Hooker. In prose narrative, John Lyly's *Euphues* has been called the first English novel and had many imitations, as did Sir Philip Sidney's *Arcadia* Other romancers included Robert Greene and Thomas Lodge, both of whom wrote controversial pamphlets and satires. A realistic story by Thomas Nashe, another satirist, has been called the forerunner of the picaresque novel Sidney, Lodge, and George Gascoigne were critics as well as authors Influential translations were Sir Thomas North's Plutarch, Sir John Harington's Ariosto, John Florio's Montaigne, and George Chapman's Homer English historians fired with nationalism, such as John Stow, Raphael Holinshed and Sir John Hayward, influenced dramatists, who used their material as Shakspere used Holinshed Richard Hakluyt and Samuel Purchas collected the voyage literature of their time. Sir Walter Ralegh wrote of his own famous voyages and was historian and poet as well Edmund Spenser's *Shepheardes Calender* (1579) and his *Faerie Queene* (1590–96) are the first major poetic achievements of the period Songs and lyrics, so beloved by this age, were written by most of the major literary men, of the sonnets, particularly beloved were those by Sir Philip Sidney, the much later *Amoretti* (1595) of Spenser, and those by Shakspere In the large group of poetical collections, *England's Helicon* (1600) is outstanding Of long narrative verse, the chief writers were Michael Drayton, Thomas Sackville, and Samuel Daniel The last part of the Renaissance in England is considered to extend from the accession of James I in 1603 through the PURITAN REVOLUTION to the Restoration Obviously some of the great men of Elizabeth's day continued writing beyond her reign King James himself was a poet and prose writer, and the version of the Bible authorized by him is a high point of English translation Foremost among the prose writers of his time was Sir Francis Bacon Other prose writings were those of Robert Burton, Sir Thomas Browne, and Jeremy Taylor and the sermons of the poet John Donne Thomas Fuller was a good historian and a royalist, as was the biographer Izaak Walton (best known, however, for his *Compleat Angler*) Of the sermons and pamphlets which influenced English life in the period before and during the civil war, little achieved the stature of literature except the *Eikon Basilike,* published immediately after the execution of Charles I, and the powerful writings of the Puritan apologist John Milton In drama, Shakspere wrote his greatest tragedies after Elizabeth's death and remained the foremost dramatist Others were Thomas Heywood, Thomas Dekker, and John Webster, while Ben Jonson's classic and satiric plays started a school of writers, who continued until the closing of the theaters by the Puritans in 1642 Jonson's great masques are equaled only by the later *Comus* of Milton Other playwrights of note were George Chapman, John Marston, Cyril Tourneur, Francis Beaumont and John Fletcher, Philip Massinger, and Thomas Middleton In poetry during the Jacobean period, Ben Jonson was the leader, as critic and teacher, but equally great was John Donne Their contemporaries and followers included the group called the METAPHYSICAL POETS and the CAVALIER POETS, as well as William Drummond and Andrew Marvell, the friend of Milton Many of these men continued to write through the confusion of the Puritan Revolution, although the work of John Milton overshadows all else in those times and is one of the great achievements in English literature His two epics and other major poetry appeared after the restoration of Charles II in 1660 The interest in the classics which had been an element in humanism developed into a well-defined critical neoclassicism, concerned with rules and proportions, in the latter half of the 17th cent Probably the greatest critic as he was one of the greatest poets of the period was John Dryden, although William D'Avenant, Thomas Hobbes, and Abraham Cowley had preceded him in both fields Perhaps in reaction from the Puritan regime, perhaps reflecting the low moral tone of the courts of Charles II and James II, Restoration plays, especially comedies, were cynical and corrupt, often indecent. Dryden's rival playwrights were Thomas Otway, Sir George Etherege, William Wycherley, Thomas Shadwell, and Aphra Behn Around the turn of the century the playwrights who continued the bawdiness, though with more concern for the structure of the plays, were William Congreve, Sir John Vanbrugh, and George Farquhar In the uncertain political atmosphere poetic satire flourished, written by Dryden, Samuel Butler, and John Wilmot, earl of Rochester Notable prose is found in the histories of Edward Hyde, earl of Clarendon, the diaries of John Evelyn and Samuel Pepys, and the essays of the antiquarian Thomas Rymer and of Abraham Cowley. In 1698 Jeremy Collier wrote his attack on the morality of the English stage. Imitations of foreign romances were numerous The greatest fiction writer of the time was, however, John Bunyan, who used his talents for religious teaching The 18th cent is often called the Age of Reason or Age of Classicism because of the stress placed on common sense (i e., the sense of knowledge common to all men), conventionality, and the pseudoclassical "rules" of literature Enthusiasm and individuality were deprecated, reason, manners, and form were stressed over imagination and emotion The philosophy propounded by John Locke shortly after the Glorious Revolution of 1688 was empirical rationalism, and he was followed by the deist Anthony Ashley Cooper, 3d earl of Shaftesbury, and the Anglican bishop George Berkeley, also a philosopher The concern with manners had in it the seeds of sentimentalism and of romanticism which were to prevail in the latter half of the 18th century The early half of the century was the age of town life and the coffeehouses, the rise of the PERIODICAL and the NEWSPAPER, and the vigorous and cutting prose of Daniel Defoe and Jonathan Swift Joseph Addison and Sir Richard Steele, collaborators in the *Spectator,* were also political writers, and Addison was a poet and critic. In poetry Alexander Pope was the predominant figure, while his friends John Gay and Dr John Arbuthnot as well as Swift, Matthew Prior, and others were noted for light and satiric verse Pope himself was a master of form and of criticism in verse. James Thomson and Edward Young both used blank verse as opposed to Pope's polished heroic couplets Most notable of the hymn writers of the time was Isaac Watts There was a new interest in the ballad. Pope as a letter writer found a rival in Lady Mary Wortley Montagu, and the vogue for letters led to the novel in letters of Samuel Richardson After his *Pamela* (1740) the modern novel was developed by Henry Fielding and Tobias Smollett Laurence Sterne, Oliver Goldsmith, Henry Mackenzie, and Fanny Burney are foremost among those later in the 18th cent who wrote sentimental novels They may be compared with the sentimental comedies which held the stage in the first half of the century In reaction against the Restoration appeared these more respectable if less inspired plays of Colley Cibber, Sir Richard Steele, Edward Moore, and Henry Fielding The farces of Fielding and the ballad operas by John Gay and Henry Carey, however, continued the earlier free vein Tragedy was negligible, represented in the plays of Nicholas Rowe, of Addison, Ambrose Philips, and George Lillo Dr Samuel Johnson embodies a great deal of the best thought and writing of the middle and latter half of the century and may be grouped with his biographer, James Boswell, with the philosopher David Hume, the naturalist Gilbert White, and the historian Edward Gibbon, as well as with Edmund Burke, as a master of English prose In an age which prized autobiography and the stories of voyages—*Robinson Crusoe* was a fictional reflection of both—the diaries of Fanny Burney and Mrs Thrale were popular, as were the letters of the earl of Chesterfield, Horace Walpole, William Cowper, and Thomas Gray On the stage appeared plays by George Colman, the elder, and Richard Cumberland and the revisions of older plays by the actor David Garrick Of higher kind were the works of Oliver Goldsmith and Richard Sheridan The growing interest in nature and in the individual which was to flower in romanticism begins to show not only in the early work of James Thomson and William Collins, but more especially in the transitional poetry of Thomas Gray, William Cowper, and Robert Burns In addition, William Blake gave rein to the soaring imagination and personal religion which in different forms were to appear in the later romantic poets Burns too adapted the folk song which the romantics were to collect as ballads On the other hand, romantic interest in the medieval and exotic flowered in the GOTHIC ROMANCE of Horace Walpole, Ann Radcliffe, and others and in the Ossianic poems of James Macpherson The religious revival under the Wesleys, Charles and John, gave a great stimulus to hymn writing and religious writing The romantic period in English literature is usually defined as beginning with the French Revolution in 1789 or with the publication of *Lyrical Ballads* (1798) by William Wordsworth and Samuel Taylor Coleridge and ending with the death of Sir Walter Scott in 1832. The characteristics of ROMANTICISM are conveniently opposed to those of classicism in poetry, but English literature of the period also reflects the turmoil of the French Revolutionary Wars and of those against Napoleon I as well The polemics of Thomas Paine and the writings of William Godwin and Joseph Priestley were largely political, while the later agitations for reform by William Cobbett and Jeremy Bentham, culminating in the Reform Bill of 1832 and the rise of the Victorian middle class, were sociological This great creative period in English literature stressed, among the poets, nature, the individual, the medieval and to some

extent the classical past, and Elizabethan literature, especially Shakspere The leading poets were William Wordsworth, Samuel Taylor Coleridge, John Keats, Percy Bysshe Shelley, Lord Byron, and Sir Walter Scott, while lesser ones included Robert Southey, Thomas Moore, Thomas Hood, Thomas Lovell Beddoes, Leigh Hunt, and Walter Savage Landor Hunt and Landor, as well as Coleridge, were essayists and critics of note and played their part in the development of the periodicals which sprang up in this time Other leading essayists were Charles Lamb, William Hazlitt, and Thomas De Quincey In fiction the novels of Jane Austen are in tone purely 18th cent , although chronologically she is the first great novelist of the romantic period Lesser novelists were Henry Brooke, Thomas Day, William Godwin, and the Irish novelist Maria Edgeworth The greatest name in romantic fiction of the early 19th cent is that of Sir Walter Scott, who also wrote popular narrative verse and whose influence was as great in Germany, France, and Italy as in England and America His contemporaries and followers included his son-in-law and biographer J G Lockhart, Frederick Marryat, Thomas Love Peacock, and John Galt Harrison Ainsworth and Edward George Bulwer-Lytton were his most immediate successors among historical novelists in England, and Bulwer-Lytton was one of the few successful playwrights in a period when imitations of the Elizabethans and translations and adaptations of German plays held the stage Other playwrights once popular, but now forgotten, were Thomas Holcroft, Richard Cumberland, Joanna Baillie, and Mary Russell Mitford, Miss Mitford is remembered only for *Our Village* The Victorian period in literature is usually considered to begin with the passage of the Reform Bill of 1832 and to close about the end of the 19th cent The rise of a prosperous middle class, attendant on the INDUSTRIAL REVOLUTION, increased the reading public, and the rapid progress of science brought many new questions to the attention of writers Periodicals flourished, and in literature the age was one predominantly of the novel, the essay, and poetry In scientific writing, Sir Charles Lyell in the 1830s in geology was to prepare the way for Charles Darwin's writings on evolution in the 1850s and for the writings of the philosopher Herbert Spencer and the later Thomas H Huxley Thomas Carlyle was an essayist and historian in whom romanticism was expressed as transcendentalism John Stuart Mill, utilitarian philosopher, was a notable essayist. T B Macaulay was the first of the great Victorian historians and was followed by H T Buckle, W E H Lecky, J R Green, William Stubbs, and E A Freeman In the 1830s the Oxford movement within the Anglican Church included John Keble, R H Froude, Edward Pusey, and John Henry Newman Newman after his conversion to Roman Catholicism wrote some of the best religious prose and poetry of the century The great novelists of the early part of the Victorian period were Charles Dickens and William Makepeace Thackeray, only slightly less prominent were Charlotte and Emily Brontë, George Eliot, Anthony Trollope, Charles Reade, Charles Kingsley, Wilkie Collins, and Benjamin Disraeli, Elizabeth Gaskell wrote one immortal novel, *Cranford* The fiction of Lewis Carroll (C L Dodgson) is some of the most charming nonsense in English Largely autobiographical are Samuel Butler's *Way of All Flesh* (not published until 1903) and the travel books of George Borrow Later in the century George Meredith and Thomas Hardy wrote both poetry and novels of note, free of the taboos which are associated with Victorianism Robert Louis Stevenson became one of England's best storytellers, and Rudyard Kipling was both poet and novelist of the empire George Gissing's novels reflected the naturalism of France George Moore's best work was done in the 1890s The great names in Victorian criticism included John Ruskin, Matthew Arnold, Walter Pater, and Walter Bagehot and later Edward Dowden, G E B Saintsbury, and Sir Edmund Gosse In poetry the writings of Matthew Arnold and his friend Arthur Clough were less successful than Arnold's prose Alfred Tennyson was the unchallenged poet laureate till the 1870s, when Robert Browning began to get the recognition already accorded his wife, Elizabeth Barrett Browning, and when the Pre-Raphaelites Dante Gabriel Rossetti and William Morris and also Algernon Swinburne revolted variously against Victorianism Among the minor poets were W H Henley, William Watson, A E Housman (whose lyrics were better known to 20th-century readers), and the decadents Oscar Wilde, Ernest Dowson, and Arthur Symons Coventry Patmore, Francis Thompson, Lionel Johnson, and Gerard Manley Hopkins were all religious poets of the time, although the intense work of Hopkins was not published by his brother poet Robert Bridges until 1918 Christina Rossetti wrote religious poetry and charming verses for children. Playwrights in the rather undistinguished Victorian theater were Dion Boucicault, Tom Taylor, and T. W Robertson. W S. Gilbert is best known for his collaborations with Sir Arthur Sullivan in gay, satirical operettas Social comedy in the 1880s and '90s—best represented by Henry Arthur Jones, Sir A W Pinero, and the sparkling wit of Oscar Wilde —was almost untouched by the influence of Ibsen, although some of his plays had been translated by William Archer, playwright and dramatic critic, and George Bernard Shaw had written *The Quintessence of Ibsenism* (1891) Shaw dealt with social problems and ideas, as did Harley Granville-Barker and John Galsworthy Other playwrights whose work carried into the 20th cent were Sir James Barrie and John Drinkwater The Irish literary revival in the latter part of the century gave rise to the Abbey Theatre and its playwrights, notably J M Synge, W B Yeats (a major poet as well as playwright), Lady Gregory, St John Ervine, and later Lennox Robinson and Sean O'Casey Early 20th-century poets include traditionalists such as Alfred Noyes, John Masefield, Walter de la Mare, Lascelles Abercrombie, Edward Thomas, and James McElroy Flecker and the essayists G K Chesterton and Hilaire Belloc Among the "war poets" of the First World War were Rupert Brooke, Wilfred Owen, Edmund Blunden, and Siegfried Sassoon English poets concerned with the poetic experiment imagism included primarily Richard Aldington, although many more were profoundly influenced T S Eliot is probably the most influential poet, critic, and playwright of the middle years of the century Other poets are W H Auden, Stephen Spender, Louis MacNeice, C Day Lewis, and Dylan Thomas The Sitwells— Osbert, Edith, and Sacheverell —are perhaps more famous for their prose than for their eccentric poetry In the first half of the 20th cent the strong tendencies toward realism and naturalism noticeable in Hardy's novels and in other works continued in those of John Galsworthy and Arnold Bennett and even in some of those of H G Wells, when he was not writing of a fantastic future William De Morgan wrote long novels, crowded with characters, in the 19th-century tradition Joseph Conrad was probably the best writer of sea stories of this period The nature novels of W H Hudson seem a romantic survival Psychological realism was attempted by Henry James and was carried to its ultimate by James Joyce and his followers, May Sinclair, Dorothy Richardson, and especially Virginia Woolf, who pursued the stream-of-consciousness technique Disgust with society and revolt against it resulted in the powerful and diverse fiction of Aldous Huxley, D H Lawrence, and Evelyn Waugh Various novelists writing less experimental works were Somerset Maugham (also a successful playwright), E M Forster, Rose Macaulay, H M Tomlinson, and Winifred Holtby Most short-story writers were also novelists, but the especial talents of Katherine Mansfield must be remembered This century also saw a phenomenal rise in the popularity of the detective story, which had had its genesis earlier in the "Sherlock Holmes" stories of Sir Arthur Conan Doyle The theater has prospered in spite of difficulties of wars and depressions, besides the long and brilliantly paradoxical plays of G B Shaw, the most popular have been those of Noel Coward and the Abbey Theatre dramatists Much of the best English prose was written in other fields than pure literature, by such men as the psychologist Havelock Ellis, the philosophers Bertrand Russell and Alfred Whitehead, the scientist Julian Huxley, the anthropologist Sir James Frazer, and the sociologists Beatrice and Sidney Webb Influential books on Arabia were written by Gertrude Bell, Charles Montagu Doughty, and T E Lawrence Of the excellent historians only a few can be named— Cardinal Gasquet, Lord Acton, G M Macaulay, W S Churchill, Arnold Toynbee See also the articles AMERICAN LITERATURE, CANADIAN LITERATURE, ENGLISH, SOUTH AFRICAN LITERATURE, AUSTRALIAN LITERATURE See *The Cambridge History of English Literature* (14 vols , 1907–16, index volume, 1927), *The Cambridge Bibliography of English Literature* (4 vols , 1940) There are various one-volume histories of English literature, such as those by Emile Legouis and Louis Cazamian (rev ed , 1935), W M Neilson and Ashley Thorndike (rev ed , 1930), and A C Baugh and others (1948) For histories of 20th-century literature, see J M Manly and Edith Rickert, *Contemporary British Literature* (3d ed , 1935), S J Kunitz and Howard Haycraft, *Twentieth Century Authors* (1942), W Y Tindall, *Forces in Modern British Literature, 1885-1946* (1947)

engraving, in its broadest sense, the art of cutting lines in metal, wood, or other material either for decoration or for reproduction through PRINTING. In its narrowest sense, it is an intaglio printing process in which the lines are cut in a metal plate with a graver (burin) The earliest known engravings date from about the middle of the 15th cent The technique lends itself to careful, studied work in which precision and clarity are desiderata Tones are most readily obtained with fine parallel lines, which may easily give a slightly mechanical quality Among the early master engravers were Dürer, Schongauer, and Lucas van Leyden WOOD ENGRAVING differs from true engraving in that it is a relief process During the 19th cent , steel engraving enjoyed a short popularity as a reproduction process because it made possible a large number of proofs, but it was superseded by the photomechanical processes (see PHOTOENGRAVING) See also DRY POINT and ETCHING See A M Hind, *History of Engraving and Etching* (1923), Frank Weitenkampf, *How to Appreciate Prints* (rev ed , 1932), J T Arms, *Handbook of Print Making and Print Makers* (1934)

engrossing, in English law, crime of acquiring a monopoly of goods so as to sell them dear The offense was ordinarily limited to monopolies of foods Related crimes were forestalling, i e , the buying up of food on the way to its normal markets, and regrating, i e , an attempt to raise the price of foods, as by spreading rumors about imminent shortages All these crimes were abolished in 1844

En-haddah (ĕn-hă'dŭ), unidentified city, N of Samaria Joshua 19 21

En-hakkore (ĕn-hă'kōrē) [Heb ,=spring of the crier], fountain, S Palestine Judges 15 19

En-hazor (ĕn-hā'zôr) [Heb ,=village spring], place, W of the Sea of Galilee Joshua 19 37

Enid (ē'nĭd), city (pop 28,081), co. seat of Garfield co , N Okla , settled 1893 on the site of a U S land office It is an important trade and processing center for an area rich in wheat, livestock, and poultry, there are also oil refining and dairying Phillips Univ (Disciples of Christ, coeducational, 1906) and a state hospital are here See Marquis James, *The Cherokee Strip* (1945)

Enisei, river see YENISEI

Eniwetok (ĕnĭwē'tŏk, ĕnā'wĕtôk), circular atoll, central Pacific, one of the Ralik Chain in the Marshall Islands It is c 50 mi in circumference and comprises 40 islets In the Second World War, Eniwetok was captured in 1944 by U S forces and became a naval base in 1945 In 1948 installations for atomic tests were established

Enkhuizen (ĕngk'hoi"zun), municipality (pop 10,342), North Holland prov , NW Netherlands, a port on the Ijsselmeer NNE of Amsterdam It played an important part in the Dutch struggle for independence, was a prosperous fishing and trading center in the 17th cent , and has retained some of its Renaissance architecture Enkhuizen was the scene of fighting (1940) in the Second World War

Enlightenment, term applied to the main trend of thought of 18th-century Europe Sparked by the English Revolution of 1688, by the discovery by Sir Isaac NEWTON of a fundamental universal order, by the rationalism of DESCARTES, and by the empiricism of Francis BACON and John LOCKE, the champions of the Enlightenment sought to popularize a rationalistic and scientific approach to religious, social, political, and economic issues They varied so widely in opinion that one cannot speak of a common program, but they were in agreement on several basic attitudes All remnants of the Middle Ages—feudalism, dogmatism, reliance on authority in spiritual and scientific matters, censorship of thought, religious intolerance, restrictions of trade and economic enterprise—fell under their attack Freedom, reason, and humanitarianism were their common mottoes Popularization was their preferred weapon The dictionary of Pierre BAYLE, the ENCYCLOPÉDIE of DIDEROT, and the popular writings of Benjamin FRANKLIN and Thomas PAINE exerted immeasurable influence on all classes of 18th-century society Foremost among other proponents of Enlightenment and humanitarianism were VOLTAIRE, MONTESQUIEU, J J ROUSSEAU, TURGOT, and BUFFON in France, David HUME and Alexander POPE in England, G E LESSING, Moses MENDELSSOHN, HERDER, and, especially, KANT in Germany, and BECCARIA in Italy Among the extreme materialistic school, generally opposed with vehemence by the other thinkers of the Enlightenment, were LA METTRIE, HOLBACH, and HELVÉTIUS The cosmopolitan character of the whole movement was furthered by the international salons of such women as Mme d'Épinay, Mme du Deffand, and Mme Geoffrin The movement found its strongest echo among the newly arisen class of bourgeoisie— rich merchants, industrialists, and financiers—its strongest opposition in the high clergy and the impoverished nobility, which saw its few remaining privileges menaced A phenomenon peculiar to the Age of Enlightenment—or Age of Reason, as it is also called—were the "enlightened despots" who by high-handed methods tried to impose the reforms advocated by the philosophers Peter I of Russia anticipated the trend Emperor JOSEPH II was perhaps the outstanding prototype of the enlightened despot; others were FREDERICK II of Prussia, CATHERINE II of Russia, and CHARLES III of Spain The proponents of the Enlightenment have often been held responsible for the French Revolution They certainly contributed immensely to the formation of the modern mind and of modern society The government of the United States, particularly, is the child of 18th-century rationalism. See R B. Mowat, *The Age of Reason* (1934);

O E Fellows and N L Torrey, *The Age of Enlightenment* (1942), G E Bryson, *Man and Society* (1945), Ernst Cassirer, *Rousseau, Kant, Goethe* (1945), Paul Hazard, *La crise de la conscience européenne* (3 vols , 1935)

En-mishpat (-mĭsh'-) [Heb , =fountain of judgment], the same as KADESH (Kadesh-barnea)

Enna (ĕn'nä), city (pop 21,261), capital of Enna prov , central Sicily, Italy, formerly called Castrogiovanni In ancient times it was devoted to the cult of Ceres It fell to Syracuse (396 B C) and to Rome (258 B C), and it played a major part in the Sicilian slave rebellion of 135–132 B C A strong medieval citadel dominates the city, which commands a strategic position Sulphur mining and agriculture are important in the region

Ennemoser, Joseph (yō'zĕf ĕ'numōzûr), 1787–1854, Austrian physician, b Tyrol, M D Univ of Berlin, 1816 He was professor of medicine at the Univ of Bonn and later established a practice in Munich, where he attracted attention by his use of hypnotism in the treatment of disease

Ennis, urban district (pop 5,876), co seat of Co Clare, Ireland, on the Fergus river and NW of Limerick It has flour mills and a trade in farm produce It is the site of the Roman Catholic cathedral of Killaloe diocese A Franciscan abbey was founded here in the 13th cent The ruins of Clare Abbey and Killone Abbey (both 12th cent) are near

Ennis, city (pop 7,087), N Texas, SSE of Dallas, settled c 1870, inc 1893 A market center in an area of rich blackland farms, it processes cotton and grain and has railroad shops and varied small industries

Enniscorthy (ĕnĭskôr'thē), urban district (pop 5,960), Co Wexford, Ireland, on the Slaney river and NNW of Wexford It is a market for livestock, dairy products, and field crops and has breweries, flour mills, iron founding, and other industries The Roman Catholic cathedral of Ferns diocese was designed by E W Pugin There are remains of a 12th-century Norman castle In 1649 Cromwell took the town, and in 1798 it was sacked by United Irishmen from near-by Vinegar Hill

Enniskillen (ĕnĭskĭl'lĭn), urban district (pop 4,880), co seat of Co Fermanagh, Northern Ireland, on an island in Erne river between Upper and Lower Loughs Erne There is trade in farm produce, and cutlery is manufactured The forces of William III defeated those of James II here in 1689

Ennius, Quintus (kwĭn'tŭs ĕ'nēus), 239–169? B C , Latin poet, regarded by Romans as the father of Latin poetry, b Calabria He learned to speak Oscan, Greek, and Latin He served (204 B.C) as a centurion in Sardinia under Cato the Elder, who took him to Rome Ennius lived there most of his life, teaching and writing He was made a Roman citizen in 184 B C His ambition was to be a Latin Homer, and his innovations proved important in the development of Latin poetry he introduced the Latin quantitative hexameter and the elegiac couplet, smoothed the current roughness of Latin diction, and gave to Latin poetry a definitive artistic base His verse is vigorous and imaginative with a sonorous quality of diction A successful tragedian, he also wrote comedies, satires, and epigrams Fragments amounting to some 400 lines survive from his tragedies, and about 600 lines remain from his masterpiece, the epic *Annales*, a literary history of Rome Vergil, Lucretius, and Ovid borrowed freely from Ennius

Ennodius, Saint (Magnus Felix Ennodius) (ĕnō'-dēus), 474?–521, Gallo-Roman ecclesiastic and writer He was bishop of Pavia (514?–521) and was employed as an imperial envoy (515, 517) in an attempt to unite the Eastern and Western Churches His writings (letters, orations, poems, and biographies), in the classical tradition, are devoted much to form An autobiography, *Eucharisticum*, and a life of Epiphanius, his episcopal predecessor, are his best works

Enns (ĕns), town (pop 7,661), Upper Austria, on the Enns river, a tributary of the Danube, and SE of Linz One of Austria's oldest towns, it was established as a fortress in the 9th cent and received city rights in 1212 It has a Gothic church and a museum with Roman relics Lorch, incorporated into Enns in 1938, is on the site of a Roman camp established A D c 170 by Marcus Aurelius

Enoch (ē'nuk) [Heb , =dedicated] **1** Son for whom Cain named the city he built Gen 4 17 **2** Father of Methuselah It was said of him that he walked with God—a phrase used also of Noah—and also that like Elijah he was translated to heaven Gen 5 18–24, Luke 3 37, Heb 11 5, Jude 14 Henoch 1 Chron 1 3 For the Ethiopic Book of Enoch and the Secrets of Enoch, see PSEUDEPIGRAPHA

Enos (ē'nŏs) [Heb , =man], son of Seth Gen 4 26, Luke 3 38 Enosh 1 Chron 1 1

Enosburg (ē'nusbûrg), town (pop 2,082), N Vt , NE of St Albans, granted 1780 It includes Enosburg Falls village (pop 1,168), where textile equipment is made

Enosh (ē'nŏsh), the same as ENOS

En-rimmon [Heb , =pomegranate spring], place, inhabited by Judahite exiles. The same is meant by "Ain and Rimmon" in Joshua 15 32, by "Ain, Remmon" in Joshua 19 7, by "Ain, Rimmon" in 1 Chron 4 32, and by "Rimmon" in Zech 14 10 It was near the border of Simeon

En-rogel (ĕn-rō'gĕl) [Heb , =fuller's spring], spring, near Jerusalem Joshua 15 7, 18 16, 2 Sam 17 17, 1 Kings 1 9 Two places claim to be identified with En-rogel—the Fountain of the Virgin and the Well of Job, further south

Enschede (ĕn'skhudă), municipality (pop 100,-123), Overijssel prov , E Netherlands, near the German border It is a textile center and a market for dairy products The city, destroyed by fire in 1862, has been completely rebuilt

Ensenada, Zenón de Somodevilla, marqués de la (thānōn' dā sōmōdāvē'lya markās' dā lā ĕnsānā'-dhä), 1702–81, Spanish statesman He was ennobled (1736) for his part in the expedition to Naples that placed King Philip V's son Carlos (later Charles III of Spain) on the Neapolitan throne After 1743, when Philip appointed him chief minister, Ensenada virtually ruled Spain He sought to maintain peace so that Spain might recover, but he was led by his fear of England to a policy of close alliance with France and of naval rearmament His economic and fiscal reforms benefited the country Ensenada's anti-British attitude led to his downfall In 1754 FERDINAND VI dismissed, arrested, and banished him Ensenada returned to the court after the accession (1759) of Charles III, but was accused of intrigues and banished again in 1766

En-shemesh (ĕn-shē'mĕsh) [Heb , =spring of the sun], spring, Palestine, on the border of Judah Joshua 15 7, 18 17

ensilage (ĕn'sulĭj), succulent, finely chopped fodder, made by storing a green crop in an airtight structure (called a silo), in which it is preserved in palatable form for a considerable time if properly cured and handled The crop most used for silage is corn, other crops are sorghum, sunflowers, and legumes The principle has been known since Roman times at least, fodder then being stored in pits in the ground, but the modern tower storage process is only about a century old Its development has been a great aid to dairying and to agriculture in general, since ensilage makes a good feed for horses and sheep as well as for cattle The crop must be cut at the proper time to insure right fermentation in the silo See publications of the U S Dept of Agriculture

Ensor, James Ensor, Baron, 1860–1949, Belgian impressionist painter, son of an Englishman As a protégé of Félicien Rops, he was one of the founders of the experimental group *Les XX*, with whom he exhibited in Paris (1882), Berlin (1903, 1908), and Rome (1911) His work is characterized by brilliant and subtle coloring and concerns itself with landscape as well as portraits and action pictures, masks and masked persons are one of his specialties Among his works are *Hultres* (Antwerp), *Le Lampiste* (Brussels), and *Tribulations of St Anthony* (Mus of Modern Art, New York) His influence on 20th-century Belgian art has been incalculable He was created baron in 1929 The German radio had announced his death in 1942

entablature (ĕntă'blucheûr), the entire unit of horizontal members supported by the columns or pilasters in classic architecture—Greek, Roman, or Renaissance In Renaissance and modern designs, the entablature is used also upon a wall as the crowning member or as a horizontal band, irrespective of columns Essentially the entablature is a development from the primitive lintel which spans between two posts and supports the ends of the roof rafters The height of the entablature with relation to the column supporting it varies with the three orders, Doric, Ionic, and Corinthian, but, in general, it is about one fourth the column height in all the Roman and Renaissance interpretations The entablature's component members are the ARCHITRAVE, which rests directly upon the abacus, or top member, of the column cap and which in the Greek orders was generally a plain, unmolded surface, the FRIEZE, which may be plain or ornamented and which, in the Doric order, is composed of alternating triglyphs and metopes, and the CORNICE, or topmost member, a group of strongly projecting moldings

entail, in law, restriction of inheritance to a limited class of descendants for at least several generations The object of entail is to preserve large estates in land from the disintegration which is caused by equal inheritance by all the heirs and by the ordinary right of free alienation (disposal) of property interests Legal devices similar to entail were known in Roman law and in all the countries of Europe In England the entail became common in the early 13th cent , and in its most usual form was a conveyance by the grantor (owner) of real property to a grantee and the "heirs of his body," i e , his lawful offspring, in successive generations In the inheritance the rule of PRIMOGENITURE was observed The subsequent development of the entail reflects a continuing struggle between the effort to preserve large estates and the allowance of free alienation By the mid-13th cent the courts interpreted the birth of his first child as the satisfaction of a condition which vested the grantee with the power of alienation This result was overcome by the statute *De donis conditionalibus* [conditional gifts] (1285) which gave effect to the grantor's intent In time the grantee was able to get control of the property despite the statutory prohibition by use of the FINE Other devices were later developed to effect the opposite result of preserving the entail Current English law permits the holder of entailed property (either real or personal) to dispose of it by DEED, otherwise the entail persists In the United States for the most part entails are either altogether prohibited or limited to a single generation

En-tappuah (ĕn'-tăpū'u) [Heb , =spring of Tappuah], the same as TAPPUAH **2**

entasis (ĕn'tusĭs) [Gr , =stretching], the slight convex curvature of a classical COLUMN which diminishes in diameter as it rises This device, as used by Greek builders, was of extreme subtlety, the free-hand curvature being merely sufficient to guard the contours of the column from any appearance of inward sagging In the Doric columns of the Parthenon, 34 ft high and 6 ft 3 in in diameter at the bottom, the total convexity amounts to only ¾ in This, as well as other Greek refinements, had remained entirely unobserved prior to Cockerell's close measurements of the ruins in the early 19th cent In Greek Doric columns the entasis began at the foot, but in the Roman orders it was confined to the upper two thirds of the column

Entebbe (ĕntĕ'bu), city (pop c 7,000), capital of Uganda, on Victoria Nyanza There is sugar refining

Entente. see TRIPLE ALLIANCE AND TRIPLE ENTENTE, BALKAN ENTENTE, LITTLE ENTENTE

Entente Cordiale. see TRIPLE ALLIANCE AND TRIPLE ENTENTE

Enterprise. 1 City (pop 4,353), a co seat of Coffee co , SE Ala , WNW of Dothan, inc 1899 Diversified farming was begun after the boll weevil destroyed the area's cotton (1910–15), a Boll Weevil Monument was erected in 1919 **2** City (pop 1,709), co seat of Wallowa co , NE Oregon, SE of Pendleton, platted 1885, replatted 1887, inc 1889 Trade center for near-by ranches, it is the headquarters for Wallowa National Forest and has a state fish hatchery

Entragues, Henriette de Balzac d' (ärrĕt' du bälzak' dätrag'), 1579–1633, marquise of Verneuil, mistress of Henry IV of France after the death of Gabrielle d'Estrées She violently resented his marriage to Marie de' Medici and plotted against his life

Entrecasteaux, Joseph Antoine Bruni d' (zhōzĕf' ätwan' brōnē' dätrukastō'), 1739–93, French navigator He fought at Minorca (1756), commanded the East India station (1786), and was appointed governor of Mauritius and the Isle of Bourbon (1787) While in command of an expedition to search for La Pérouse (1791–92), he determined the position of Amsterdam island, explored the coast of New Caledonia, Tasmania, and New Holland, and located several groups of islands Many of the charts made by the expedition (particularly those of South Australia produced by Beautemps-Beaupré) were of unusually high standards An archipelago, a point on the coast of Australia, and a channel between Tasmania and Brumi island are named for him

Entrecasteaux Islands, D', Territory of Papua see D'ENTRECASTEAUX ISLANDS

entrepreneur (ätruprunûr') [Fr , =one who undertakes], term attributed to the French 18th-century economist Richard Cantillon With French economists the term carried a connotation of personal activity and speculative risk, in contrast to the ordinary capitalist's more passive participation in business ventures British economists did not differentiate the entrepreneur from the regular capitalist until the 19th cent , when Alfred Marshall and others built up a doctrine stressing the entrepreneur's social value as coordinator of the various processes necessary to large-scale industry and trade Entrepreneurs have been most important in times of economic change and new industrial growth, pre-eminently during the Industrial Revolution in the 18th and early 19th cent , when Arkwright in England and William Cockerill on the Continent were outstanding among the rising class of manufacturers Henry Ford is a more recent example, but the entrepreneur's functions and importance have declined with the growth of the CORPORATION See M H Dobb, *Capitalist Enterprise and Social Progress* (1925)

Enumclaw (ĕn'umklô), town (pop 2,627), W Wash , in the foothills of the Cascade Range E of Tacoma, in lumber, dairy, and resort country, founded 1885

Enver Pasha (ənvär' pashä'), 1881–1922, Turkish general and political leader He took a prominent part in the Young Turk revolution of 1908 and in the Tripolitan campaign of 1912 In the second Balkan War he recovered Adrianople (1913) Ardently pro-German, he helped bring Turkey into the First World War as a German ally, and throughout the war he exercised virtually dictatorial power He was killed while leading an anti-Soviet expedition in Bukhara

envoy see DIPLOMATIC SERVICE

Enzeli, Iran see PAHLEVI

Enzina, Juan del: see ENCINA, JUAN DEL.

Enzio (ān'tsēō) or **Enzo** (ān'tsō) [Ital. from Ger. *Hans* or *Heinrich*], c.1220–1272, king of Sardinia, illegitimate son of Emperor FREDERICK II. He married a Sardinian heiress and was made king of Sardinia by his father. In the wars between Frederick and the pope he fought gallantly in central and N Italy. While helping Modena against BOLOGNA he was defeated and captured at the battle at Fossalta (1249). He was kept a prisoner in Bologna until his death. The palace in which he was confined was named after him.

enzyme (ĕn'zīm, -zim), complex organic substance secreted by certain cells of plants and animals which causes a chemical change in the substance upon which it acts. Much remains to be learned about the chemical nature and mode of action of enzymes. A number of enzymes have been isolated in crystalline form and have been found to be proteins. The action of an enzyme is believed to be that of a catalyst (see CATALYSIS). However, enzyme reactions are distinguished from ordinary catalytic reactions in being more specific (i.e., they usually can act upon only one kind of substance), in having an optimum temperature at which they react (usually from about 30°C. to 40°C.), in having an optimum acidity for reaction, and in that the effect of changing the concentration of the enzyme or changing the material upon which it is acting (the substrate) cannot always be predicted by simple chemical theory. Among the digestive enzymes found in both plant and animal tissues are the proteinases (those that act upon protein), e.g., pepsin, trypsin, and erepsin; lipase (which acts upon fats); and the carbohydrases (those that act upon starch and sugar), e.g., diastase (or amylase), maltase, and invertase. Certain enzymes catalyze oxidation reactions and other metabolic processes. Fermentation is brought about by enzymes. See C. A. Elvehjem and others, *Respiratory Enzymes* (1939); J. H. Northrop and others, *Crystalline Enzymes* (2d ed., 1948), Henry Tauber, *Chemistry and Technology of Enzymes* (1949), Benjamin Harrow, *One Family's Vitamins, Enzymes, Hormones* (1950).

Eoanthropus: see MAN, PRIMITIVE.

Eocene epoch (ē'usēn) [Gr., =early recent, literally: dawn-recent], first epoch of the TERTIARY PERIOD and the CENOZOIC ERA of geologic time. It is frequently divided by geologists into Paleocene and Eocene. In North America, the Laramide revolution of the CRETACEOUS PERIOD was prolonged into the Paleocene during which the continent remained generally emergent, the Fort Union sandstone and shale of Wyoming and Montana and the Puerco and Torrejan sandstones of New Mexico being the only rock formations laid down. The Eocene proper in North America was marked by the submergence of the Atlantic and Gulf coastal plain, from New Jersey to Texas and as far north as S Illinois, and of the Great Valley of California and by extensive continental deposition in the Rocky Mt. region. Eocene formations along the Atlantic-Gulf coast are chiefly sands, clays, and marls, with some limestone and lignite, in California, Oregon, and Washington they are shale and sandstone, with oil and coal. The Badlands of the West are partly cut into Eocene formations (Wasatch, Green River, Bridger, and Uinta) containing great quantities of volcanic ash and in some districts oil-producing shale. Europe at the beginning of the Paleocene was emergent, but N France, S England, Belgium, and parts of Russia, Germany, and S Europe were later flooded. In the Eocene, a great flood from the Mediterranean covered most of S Europe, N Africa, and SW Asia, depositing nummulitic limestone, which is prominent in the Alps and Carpathians and from which the stones of the Pyramids are quarried. In the Eocene, the mammals became the dominant animals. The chief Paleocene mammals were marsupials, insectivores, lemuroids, archaic flesh-eating mammals (creodonts), and archaic hoofed mammals (amblypods, condylarths), but in the Eocene proper the ancestors of the common animals of Europe and North America suddenly made their appearance, possibly as immigrants from another region where they had developed. Eocene mammals included ancestral rhinoceroses, tapirs, camels, pigs, rodents, monkeys, and whales and the ancestral HORSE, *Eohippus*, as well as animals, like the titanothere, which have since become extinct. The vegetation of the Eocene was fairly modern. After a period of cool climate in the Paleocene, the Eocene climate was warm.

Eohippus: see HORSE.

Éon de Beaumont, Charles Geneviève Louis Auguste André Timothée, chevalier d' (shärl' shunuvyĕv' lwē' ōgüst' ädrā' tēmōtā' shuvälyā' dō' du bōmō'), 1728–1810, French secret agent. According to a legend, neither established nor disproved, his first exploit (1755) was a secret mission to the Russian court, where he appeared in woman's dress and thus obtained the confidence of the empress. He was certainly attached to the French embassy in Russia from 1756 to 1760, served in the army (1761), and then went to England as secretary to the special ambassador (1762). Left there as chargé d'affaires (1762–63), he became involved (1763) in a scandalous public quarrel with the new ambassador, refusing to accept his recall or to surrender his papers. After Louis XV's death (1774), the new government, through Beaumarchais, reached an agreement with him by which he was to surrender his papers and return to France. The story of his Russian disguise had meanwhile been revived, bets were laid on his sex, and just before his departure (1777), an English jury officially adjudged him a woman. For unknown reasons, the French government insisted on his wearing female dress after his return to France, and he was thenceforth known as the Chevalière d'Éon. He returned to England in 1785, and there retained his disguise in his later years he was forced to earn his living by exhibitions of fencing. After his death, an examination of the body conclusively proved him a man. Memoirs attributed to him were published in 1836 and contain the spurious will of Peter the Great, a "plan" for world conquest by Russia. See J. B. Telfer, *The Strange Career of the Chevalier d'Éon de Beaumont* (1885).

Eos (ē'ŏs) [Gr., =dawn], Greek personification of dawn, daughter of the Titans HYPERION and THEIA. Her husband was ASTRAEUS, her children were the winds and the stars. She loved TITHONUS and bore him a son, MEMNON. The Romans called her AURORA. Homer's standard epithet for Eos is "rosy-fingered."

Eötvös, Joseph, Baron (öt'vûsh, Hung. *Eötvös József* (yō'zhĕf), 1813–1871, Hungarian writer and statesman. A Christian Liberal, he was minister of public instruction and religious affairs in 1848 and again in 1867. His political writings and also his novels and dramas reflect his liberal views. His novel, *The Village Notary*, translated into English, exposed the corrupt practices of county governments.

eozoon (ēuzō'ŏn) [Gr., =dawn animal], mineral formation composed of alternate layers of lime and green serpentine, discovered in the Grenville limestone of Canada. Sir John William Dawson, by whom the formation was named and described, believed it to represent a colony of fossil invertebrates, the earliest animals known to science, whose bodies had occupied the space filled by the serpentine and whose shells survived as the lime. The organic nature of eozoon has been vigorously disputed, and many scientists now agree that it is of inorganic origin.

Epaenetus (-pē'nĭ-, -pē'-) [Gr., =praiseworthy], convert living at Rome. Rom. 16:5.

Epaminondas (ĭpă'mĭnŏn'dus), d. 362 B.C., Greek general of Thebes. The son of a poor noble, he was obscure in early life, but at the battle of Mantinea (385 B.C.) he is said to have saved the life of Pelopidas. At the peace conference of 371 B.C. he was a Theban delegate and refused to surrender Theban claims to supremacy in Boeotia. Agesilaus II of Sparta therefore excluded Thebes from the peace. In the resulting war Epaminondas commanded the Boeotian troops. His thorough victory over the Spartans at Leuctra (371 B.C.) proved the virtue of his military innovations and earned him a name as one of the greatest tacticians of ancient times. Later he bolstered Boeotian power by rebuilding Messenian independence of Sparta. Because of unauthorized activities, he was for a time demoted, but his services were indispensable and he was returned to rank. In 367 B.C. he forced Alexander of Pherae to release Pelopidas. In 362 he was again commanding the Boeotians against the Spartans. He won at Mantinea but was killed in battle. He had a high reputation for probity, and his military genius was a valuable lesson to Alexander the Great.

Epaphras (ĕ'pufrăs) [for EPAPHRODITUS], fellow worker of Paul. Col. 1:7, 4:12, Philemon 23.

Epaphroditus (ĕpăfrōdī'tus) [Gr., =lovely], messenger from the Philippians to Paul in Rome. Philip. 2:25–30, 4:18.

Epée, Charles Michel, Abbé de l', (sharl' mĕshĕl' ābā' du lāpā'), 1712–89, French Jansenist and teacher of deaf-mutes. He developed a manual system of communication for deaf-mutes and founded a school for their instruction. In 1776 he published a treatise on his educational method, which he later (1784) expanded as *La Véritable Manière d'instruire les sourds et muets* [the right way to teach deaf-mutes]. His dictionary of manual signs was completed after his death by Abbé Sicard, and in 1791 his school was taken over by the Institution nationale des Sourds-Muets à Paris.

Épernay (āpĕrnā'), town (pop. 18,716), Marne dept., NE France, in Champagne, on the Marne river. It is, next to Rheims, the largest manufacturing center for CHAMPAGNE wine, and the headquarters of some of the oldest firms, notably Moët. The wine is processed and stored in caves which form a labyrinth some 30 mi. long in the surrounding hills.

Épernon, Jean Louis de Nogaret, duc d' (zhā' lwē' du nōgärā' dük' dāpĕrnō'), 1554–1642, French nobleman, favorite of Henry III. After the assassination of Henry, he tried to set up an independent government in Provence but was forced to submit to Henry IV in 1596. Largely responsible for the acceptance of MARIE DE' MEDICI as regent (1610), he was conspicuous in the government till 1618, in 1619 and 1620 he supported Marie against LUYNES. He was governor of Guienne from 1622 until dismissed (1641) by Richelieu.

Ephah (ē'fù) [Heb., =darkness]. **1** Midianite. Gen. 25:4, 1 Chron. 1:33. **2** Concubine of Caleb. 1 Chron. 2:46. **3** Judahite. 1 Chron. 2:47.

Ephai (ē'fī), man whose sons were massacred in Babylon by Ishmael. Jer. 40:8, 41:3.

Epher (ē'fur) [Heb., =calf]. **1** Son of Midian. Gen. 25:4, 1 Chron. 1:33. **2** Judahite. 1 Chron. 4:17. **3** Head of a Manassite family. 1 Chron. 5:24.

Ephes-dammim (ē'fĭs-) [Heb., =border of blood], bivouac of the Philistines when David killed Goliath. 1 Sam. 17:1. Pas-dammim. 1 Chron. 11:13.

Ephesians (-fē'-), epistle of the New Testament, the 10th book in the usual order. According to tradition it was written by St. PAUL to the Christians of Ephesus from his captivity at Rome (A.D. c.60). Critics have doubted, without great agreement, each of these points, there is ground for believing the letter was intended as an encyclical. No one subject is treated, but the whole epistle is pervaded with the doctrine of the mystical body of Christ, St. Paul's analogy of the perfect union of Christians. 1:20-23, 2:19-22, 4:1-13. Thus provides, too, the best example for the ideal harmony of husbands and wives. 5:22-33. Ephesians contains a famous metaphor of the Christian as a soldier. 6:10-17. The epistles to Colossians and Philemon were probably written at the same time as Ephesians.

Ephesus (ĕ'fusus), ancient Greek city of Asia Minor, near the mouth of the Cayster river (modern Kucuk Menderes), in what is today W Asiatic Turkey, S of Smyrna. One of the greatest of the Ionian cities, it enjoyed huge trade and became the leading seaport of the region. Its wealth was proverbial. The Greek city was near an old center of worship of a native nature-goddess, who was equated with the Greek Artemis, and a large temple was built. To this Croesus, who captured the city, contributed. From Lydian control Ephesus passed to the Persian Empire, enhancing its trade and importance. The temple was burned down in the 4th cent. B.C., but rebuilding was begun before Alexander the Great took Ephesus in 334. The city continued to thrive during the wars of his successors, and after it passed (133) to the Romans it kept its hegemony and was the leading city of the province of Asia. Its greatest glory was still the huge temple of Artemis, called by the Romans the temple of Diana and considered one of the Seven Wonders of the World. Ephesus became a center of Christianity and was visited by St. Paul, who addressed one of his epistles to the congregation there. The city was sacked by the Goths in A.D. 262, and the temple was destroyed. It was later somewhat restored. Ephesus was the seat of a church council in 431, but its importance was sinking. After the harbor silted up, Ephesus was abandoned. Excavation (1869–74) of the ruins of the temple brought to light many artifacts, including sculptures by Phidias and Polycletus and a portrait of Alexander the Great by Apelles. Other ruins are also of interest, including the Cathedral of St. John (which incorporated some materials from the old temple).

Ephesus, Council of, 431, the third ecumenical council, convened by Theodosius II and Valentinian III to deal with the controversy over NESTORIANISM. Adherents of both parties came, St. CYRIL of Alexandria had behind him the clergy and laity of most of Christendom, while Nestorius was backed by Theodosius and the Antiochene hierarchy. The council, late in starting, was opened by St. Cyril before the Antiochene bishops arrived. It anathematized Nestorius and his views. The Antiochenes arrived and, accusing Cyril of deliberately rushing the vote, deposed him. Soon afterward the papal legates arrived and the council reconvened, reaffirmed its position, and excommunicated the Antiochenes. The controversy continued until Theodosius held a hearing at Chalcedon between the disputants. He exiled Nestorius and ordered the consecration of a new patriarch of Constantinople, and the council broke up. Its chief dogmatic pronouncement was that from the very words of the Nicene Creed it follows that Mary may be called Mother of God, for the perfect coherence of godhead and manhood in Christ prevents any separation of natures such as Nestorius implied. This doctrine was further defined later (see CHALCEDON, COUNCIL OF). For the Robber Synod (Latrocinium) of Ephesus, see EUTYCHES.

Ephialtes: see ALOADAE.

Ephlal (ĕf'-), descendant of Judah. 1 Chron. 2:37.

Ephod (ē'fŏd, ĕ'fŏd), Manassite. Num. 34:23.

ephod, sacred linen garment worn by the high priests of Israel. It was in two parts, one covering the back, one the front of the body to the hips, and was fastened at the shoulders by two clasps of onyx on which were engraved the 12 tribal names, six on each. This vestment was held in at the waist by a twisted linen girdle of many colors and upon it, hung by golden chains and rings, was the breastplate with the URIM AND THUMMIM. It was somehow used for divination. Ex. 28, Judges

8.27; 17.5; 18.14; 1 Sam. 2.28; 14.3; 22.18; 23.6,9; 30.7, Hosea 3 4.

ephors (ĕ'fûrz) [Gr., =overseers], an executive, legislative, and judicial board of five Spartan citizens. This annually elected board functioned at least from the 8th cent B C down to the 3d cent. B.C. In the period of its greatest authority the board of ephors was the organ of citizen control over the dual kingship of Sparta. Its members were elected in various ways at different times, but for the most part, apparently, by the drawing of lots Their relation to the two kings was curious The kings were recognized as the only authorized military commanders, but the ephors had full discretion in levying troops, and some of them accompanied the armies During campaigns they had no voice in command, but they might bring the royal leaders to trial for alleged errors in conducting war. The ephors cast the deciding vote when the kings disagreed. While one member of the board of ephors was its chairman and, like a Roman consul, gave his name to the year of his office tenure, the authority of the five members was equal, and their decisions were the result of a simple majority vote A particularly famous prerogative was that of control over the education of Spartan youth

Ephorus (ĕ'fûrus), c 405–330 B C , Greek historian; pupil of Isocrates His chief work is a universal history, in 30 books, arranged by subjects He was widely quoted by the ancients, notably by Diodorus Siculus

Ephphatha (ĕ'fûthû) [Aramaic, =be opened], words addressed by Jesus to a deaf-mute as He made him hear and speak Mark 7 34 As elsewhere in Mark, the Greek text retains and translates the Aramaic words, cf 5 41, 14 36, 15 34

Ephraem, Saint, 308?–373, Syrian theologian, Doctor of the Church He taught at Nisibis and Edessa and composed biblical exegesis (now almost all lost) and numerous sacred verses He converted Syria with his psalms, vehicles of orthodox doctrine, which soon supplanted those of BARDESANES He is venerated by all the Eastern churches and by Rome Feast June 18 See C W Mitchell, ed., *St Ephraim's Prose Refutations of Mani, Marcion, and Bardaisan* (1912–21)

Ephraim (ē'frĭm) [Heb , =doubly fruitful] **1** Youngest son of Joseph and Asenath and ancestor of one of the 12 tribes of Israel The tribe occupied the rough country around Shiloh, this came to be called Mt Ephraim Gen 41 52, 46 20, 48 14-20, Joshua 16, 1 Chron 7 20 **2** Unidentified place, central Palestine, probably near Bethel 2 Sam 13 23 **3** Place, to which Jesus retired after raising Lazarus It is in the same region as **1** and **2** and may be the same as **2** It also may be identical with EPHRAIN John 11 54

Ephraim, city (pop 2,094, alt 5,543 ft), central Utah, in the Sanpete Valley S of Provo, settled 1854, inc 1868 Turkeys and sheep are raised Alfalfa is grown for winter range, since 1937 the Sanpete project has brought water by a tunnel through the Wasatch Range from a Green River tributary to support irrigation here Ephraim has Snow College (junior) and the Central Utah Museum

Ephrain (ē'frān), unidentified city, N of Jerusalem, where Abijah defeated Jeroboam 2 Chron 13 19 See EPHRAIM **3.**

Ephrata (ē'frutu), industrial borough (pop 6,199), SE Pa , between Lancaster and Reading, inc 1891 It is the financial and commercial center of a prosperous farming area and produces textiles, brick, and furniture Here a noted communal religious community, the Ephrata Cloisters, was settled (1728–33) under the leadership of Johann Conrad BEISSEL, by Seventh-Day Baptists This austere colony was famous for its music and established one of the earliest printing presses in the country The well-preserved buildings are now maintained as a monument by the state

Ephratah (ē'frutu) or **Ephrath** (ē'frăth) **1** See BETHLEHEM **2** Wife of CALEB 1 Chron 2 19,50, 4 4 At Ps 132 6 Ephraim may be intended instead of this name

Ephron (ē'frŏn) **1** Owner of the cave of MACHPELAH. **2** Unidentified region, W of Jerusalem Joshua 15 9

epic, a long narrative poem, elaborate and dignified, in which a theme is treated in heroic proportions and in the grand style The story of a hero usually provides a unifying subject, although there may be more than one main plot, e g , the divine and human plots in the work of Homer Early Greek epics were written to be recited and thus differed from lyrics, written to be sung, and from the drama, written to be acted Epics are generally classed as those conceived and composed by one mind (Vergil's *Aeneid*, Milton's *Paradise Lost*) and those, often termed "epics of growth," by various unknown poets working at different times on popular legends which contained significant heroes (BEOWULF and ROLAND), the greatest of all epics, the *Iliad* and the *Odyssey*, embrace both groups Some epics embody the ideals of a nation, as do the Finnish KALEVALA, the Persian *Shah Namah* of FIRDAUSI, and *The Lusiads* of CAMÕES. Other famous epics include the *Jerusalem Delivered* of TASSO, the *Orlando Innamorato* of BOIARDO, the *Orlando Furioso* of ARIOSTO, *The Faerie Queene* of SPENSER, the High German NIBELUNGENLIED, the Sanskrit MAHABHARATA, the RAMAYANA of India, the Spanish CID, and the Babylonian GILGAMESH. Examples of the burlesque epic include the Greek *Batrachomyomachia* (*Battle of the Frogs and Mice*), Samuel Butler's *Hudibras*, Pope's *Rape of the Lock*, and Boileau's *Lutrin*. See W P. Ker, *Epic and Romance* (1896), C. M. Bowra, *From Virgil to Milton* (1946)

Epicharmus (ĕpĭkär'mŭs), fl c 450 B C , Sicilian Greek comic poet He was the first to write a coherent artistic comedy, and he dealt with topics other than personal satire His role as a Pythagorean philosopher and his connection with that school are debatable See A W. Pickard-Cambridge, *Dithyramb Tragedy and Comedy* (1927).

Epictetus (ĕpĭktē'tŭs), b c 60 B C , Phrygian Stoic philosopher He wrote nothing, his teachings were set down by his disciple Arrian in the *Discourses* and the *Encheiridion* Epictetus emphasized indifference to external goods and taught that the true good is within oneself His Stoicism was outstanding in its insistence on the doctrine of the brotherhood of man Arrian has been translated in the Loeb Classical Library

Epicurus (ĕpĭkū'rŭs), 341–270 B C , Greek philosopher, b Samos, son of an Athenian colonist He claimed to be self-taught, although tradition states that he was schooled in the systems of Plato and Democritus by his father and various philosophers He taught in several towns in Asia Minor before going to Athens c 306 B C There he purchased the famous garden which has become linked in the annals of philosophy with the Academy of Plato and the Lyceum of Aristotle He was a generous and genial man who lived on the warmest terms with his followers Though his writings were voluminous, only fragments remain Epicurus defined philosophy as the art of making life happy, strictly subordinating metaphysics to ethics, with pleasure as the highest and only good For Epicurus pleasure was not heedless indulgence, but the opposite, *ataraxia* [serenity], manifesting itself in the avoidance of pain His hedonism differed from the cruder variety of Aristippus and the Cyrenaics in the emphasis which he placed on *ataraxia* and on the superiority of intellectual pleasures over bodily pleasures He prescribed a code of social conduct that included honesty, prudence, and justice in dealing with others, not because these attitudes were good in themselves, but to save the individual from society's retribution While Epicurus appropriated much of the mechanics of Democritus' metaphysics, he deviated from its deterministic implications by the introduction of an element of spontaneity, which allowed atoms to form the objects of the world by chance The element of freedom in his metaphysics supported and paralleled his notion of man's freedom of will He held blind destiny to be more dangerous to man's *ataraxia* than belief in fables about the gods, men could hope to propitiate the gods but mechanical determinism was inexorable Denying the gods supernatural powers which would interfere with man or nature, he reduced the power of religious and physical forces on man's life and emphasized freedom of action The work of the Roman poet Lucretius, *De rerum natura* (*On the Nature of Things*), contains the finest exposition of Epicurus' ideas

Epidaurus (ĕpĭdô'rŭs), ancient city on an inlet of the Saronic Gulf, NE Peloponnesus, Greece It was celebrated as the site of the temple of ASCLEPIUS, visited for centuries by Greek seekers of health Relics of the city include a temple, a theater, and a *tholos* [rotunda] with fine Corinthian columns Though in the region of Argolis, Epidaurus was semi-independent until Roman times

epidemic disease (ĕpĭdĕ'mĭk) [Gr , =on the people] AN ENDEMIC DISEASE may become epidemic if persons lacking immunity are present in large numbers or if the infectious agent is more virulent than usual or is for some reason being distributed more than usual CHOLERA is endemic in parts of India and becomes epidemic in the crowding of people under unsanitary conditions during pilgrimages PLAGUE is endemic in a part of China and under certain conditions becomes epidemic When it reached Europe in the Middle Ages, an epidemic of great proportions resulted MALARIA is endemic in various parts of the world Epidemic diseases are controlled by various measures according to whether they are spread by respiratory infection, by intestinal infection, by direct contact, or by means of insects A world-wide epidemic is known as a pandemic Influenza was pandemic in 1918

Epigoni (ĕpĭg'unī) [Gr , =the offspring], in Greek legend, the sons of the SEVEN AGAINST THEBES Ten years after their fathers died at Thebes—and not long before the Trojan War—they conquered Thebes and gave the kingdom to THERSANDER. Their leader was ADRASTUS

epigram, in Greek literature, an epitaph in verse. Simonides was probably the greatest Greek writer of epigrams The terseness and aptness of epigrammatic verse made it popular in Rome for literary purposes, and as written by Catullus, Martial, Juvenal, and others, it developed into its familiar form—the short, pointed or antithetical saying, often with a satiric "sting" at the end or a paradox in expression In Germany LOGAU was among the greatest epigrammatists, the form was popular there among 18th-century writers, especially Lessing. In 18th-century France, Boileau-Despréaux, Lebrun, and Voltaire excelled at the little barbed poem. Epigrams have been culled from the work of Shakspere and Ben Jonson, but they really became high fashion in English literature in the 18th cent when Alexander Pope made the heroic couplet a perfect instrument for the epigram In recent times epigrams have been written brilliantly in prose, notably by Oscar Wilde, and many poets, among them W B Yeats, have used the form Chinese speech and literature, especially poetry, are epigrammatic.

epigraphy · see INSCRIPTION.

epilepsy, condition characterized by loss of consciousness and usually accompanied by a convulsion The attacks vary in frequency, they may be sudden and either brief or prolonged. Peculiar sensations of feeling, taste, and smell precede the attack The individual usually falls to the ground and a convulsion follows; the muscles stiffen and breathing may be temporarily arrested Exhaustion follows the attack The individual falls asleep and often retains no memory of the occurrence on awakening The cause of epilepsy is not known The condition is considered to be a symptom rather than a disease Most cases of epilepsy begin in early life Electroencephalography has been used as an aid in diagnosis Treatment consists of sedation and rest in an attempt to prevent attacks by avoiding exhaustion See W G Lennox, *Science and Seizures* (1941), Owsei Temkin, *The Falling Sickness* (1945).

Epimenides (ĕpĭmĕ'nĭdēz), 6th cent. B C , Cretan prophet According to one story, he was called to Athens to purify the city after the murder of Cylon on the Acropolis. Many poems, oracles, and sayings were attributed to him Titus 1 12 is supposed to contain one of these

Epimetheus (ĕpĭmĕ'thēŭs,-thūs) [Gr , = afterthought], in Greek religion, Titan, brother of PROMETHEUS and son of Iapetus and Clymene Despite his brother's warning, he took PANDORA for his wife

Épinal (āpēnäl'), town (pop 21,939), capital of Vosges dept , E France, in Lorraine, on the Moselle It is famous for the *images d'Épinal*, popular colored portravals of melodramatic events printed here for many generations There also is a textile industry Épinal suffered considerable damage in the Second World War

Épinay, Louise Florence Pétronille (de Tardieu d'Esclavelles) La Live d' (lwēz' flôrās' pātrônē'yu du tärdyû' däklävĕl' lä lēv' dāpēnā'), 1726–83, French woman of letters Influential in the ENLIGHTENMENT, she was the friend of many of its leaders, especially Grimm, her literary heir, and Diderot She was Rousseau's benefactress until 1757, when there was a quarrel It is now known that Rousseau was at fault and that his passages on Mme d'Épinay in his *Confessions* are pure calumny She wrote a treatise on the education of girls, *Les Conversations d'Émilie* (pub 1775 though volume bears date 1774) Her memoirs and correspondence (1818, Eng tr , 1899, 1930) were not intended for publication

epinephrine · see ADRENALINE.

Epiphania see HAMA, Syria

Epiphanius, Saint (ĕpĭfā'nēŭs), c 315–403, theologian, bishop of Salamis, and metropolitan of Cyprus after 367, b Palestine His chief work (in Greek) against heresy was *Penarion* Feast May 12

Epiphany (ĭpĭ'funē) [Gr , =showing], a prime Christian feast, celebrated Jan 6, called also Twelfth Day, Little Christmas, and the Manifestation of Christ to the Gentiles Its eve is TWELFTH NIGHT It commemorates three events—the baptism of Jesus (Mark 1), the visit of the WISE MEN to Bethlehem (Mat 2), and the miracle at Cana (John 2) In his baptism Jesus' sonship to God was manifested to the world, in the visit of the Wise Men he was manifested as king to the Gentiles, and at the marriage feast in Cana his power to perform miracles (a divine prerogative) was shown. The feast is far more ancient than Christmas. Technically it is more important than Christmas, ranking after Easter and Whitsunday It is a day of gifts in many countries, and in England it marks the end of the Christmas holidays In the Eastern Church the waters are blessed on this day The word *epiphany* in lower-case usage means a manifestation, usually of divine power Thus the actual appearance of God (as in the burning bush) or a moment of divine revelation may be called an epiphany

epiphyte, see AIR PLANT

Epirus (ĕpī'rus), ancient country of Greece, on the Ionian Sea, N of the Ambracian Gulf, S of Illyria, and W of Macedon and Thessaly, a region now comprised in NW Greece and S Albania. Between the mountains and the sea, it is largely a land of ridges and valleys with a few alluvial plains It was inhabited from very early times by Eprote

tribes, barely known to the Greeks, who were, however, acquainted with the oracle at Dodona. The tribes were molded into a state under the hegemony of one of them (the Molossi), whose chiefs became the paramount rulers in the 4th cent B C. A Molossian ruler, Neoptolemus, married his daughter to Philip II of Macedon, who placed Neoptolemus' son Alexander on the throne of Molossia (most of Epirus). Alexander met death on an invasion of Italy, but the kingdom persisted and grew. It reached its height in the 3d cent B C under PYRRHUS, who sought to make conquests in Italy, Macedon, and Greece. He achieved great renown, but his exploits and the unsuccessful attempts of his successor, Alexander II (d. 240), to take Macedon ruined the state. A republic was set up with its capital at Phoenice. The Epirotes aided with Macedon in the wars against Rome, and Epirus was sacked (167 B C.) by Aemilius Paullus, who took away many thousands of captives. The country passed under Roman dominion. Octavius (later Augustus) built (31 B C.) a new capital at Nicopolis. Epirus was a more-or-less-neglected portion of the Byzantine Empire. After the Crusaders had conquered Constantinople, the despotat of Epirus, larger than ancient Epirus, was set up. At the end of the 18th cent. Ali Pasha, the Lion of Yanniná, set up an independent state in Epirus and Albania.

Epirus, despotat of (dĕ'spŭtăt") When, in 1204, the host of the Fourth Crusade set up the Latin Empire of Constantinople on the ruins of the Byzantine Empire, an independent state emerged in Epirus under Michael I, a member of the Angelus family. It reached from Durazzo in the north to the Gulf of Patras in the south. In 1222 the despot of Epirus took Salonica from the Latins. For a time the despotat was a rival of the Greek empire of Nicaea (see NICAEA, EMPIRE OF) in the struggle for the restoration of the Byzantine Empire. It accepted, however, a status of semivassalage to Nicaea c 1246 and was united (1336–49) with the restored Byzantine Empire. The Serbs and Albanians then assumed direction of the state. In the 15th cent. the Ottoman Turks took over, and the state disappeared. The despotat of Epirus played an important role in the preservation of Hellenism in W Greece.

Episcopal Church, Protestant, in the United States of America, a part of the Anglican Communion. Its separate existence as an American ecclesiastical body with its own episcopate began in 1789. Anglican church services in America were first held in 1607 in Jamestown, Va. In New England the Puritans proscribed all that was Anglican, except in Maryland and Virginia, there were few clergymen of the Established Church in the colonies. In 1686, when the colonial charter of Massachusetts was revoked, Church of England clergymen were appointed. In 1689 King's Chapel, Boston, was opened, and that year saw the consecration of Trinity Church in New York city. In 1693 James BLAIR, an Anglican missionary to colonial Virginia, secured the charter for the College of William and Mary. As the commissary of the bishop of London, Thomas BRAY visited Maryland in 1700. King's College (now Columbia Univ.) was founded in 1754. During the American Revolution, while many members of the Church of England in America were supporters of the patriot cause, a number of the clergy were Loyalists who fled to England or Canada. To organize a national church and establish a native episcopacy was the first objective of American Anglicans after the Revolution. Conferences were held, and the new ecclesiastical body was called the Protestant Episcopal Church, a name approved in 1789 by the first General Convention of the denomination, which also adopted a constitution and a revised version of the BOOK OF COMMON PRAYER. Meanwhile, Dr. Samuel SEABURY of Connecticut was consecrated bishop in 1784 by bishops of Scotland, and William White of Pennsylvania and Samuel PROVOOST of New York were consecrated bishops in England in 1787. In 1817 General Theological Seminary was organized, and in 1820 the Domestic and Foreign Missionary Society was established. Episcopal churches were founded by settlers in the newly opened regions of the West. Although during the Civil War the Church was necessarily disunited, at the General Conference of 1865 the full number of states answered to the roll call. However, a group of clergy and laity withdrew in 1873 from the main body, in disagreement over certain ritualistic practices and other matters, and formed the Reformed Episcopal Church. Revised issues of the Book of Common Prayer were approved in 1892 and 1928. The Church maintains that the Holy Scriptures are the ultimate rule of faith. Her symbols of doctrine are the Apostles' and the Nicene Creed and the Thirty-nine Articles of the Church of England, with certain modifications to fit American conditions. The ministry is of three orders, deacons, priests, and bishops. The system of organization includes the parish, the diocese, the province, and the General Convention. The General Convention, the highest ecclesiastical authority in the Church, consists of the House of Bishops and the House of Deputies and meets in session every three years. The National Council, set up in 1919, is delegated by the General Convention to administer all the organized missionary, educational, and social work. Among the organizations within the Church are the Brotherhood of St. Andrew, the Girls' Friendly Society, the Church League for Industrial Democracy, the Guild of St. Barnabas, and the Woman's Auxiliary. Publications of the Protestant Episcopal Church in the United States of America include the *Living Church* and the *Witness*. In 1940 the Church came into full membership with the Federal Council of the Churches of Christ in America, and it is a member of the World Council of Churches. See histories of the Episcopal Church by S. D. McConnell (1916) and W. W. Manross (1935), E. C. Chorley, *Men and Movements in the American Episcopal Church* (1946).

Episcopal Church, Reformed see REFORMED EPISCOPAL CHURCH.

Episcopius, Simon (ĕpĭsko'pēus), 1583–1643, Dutch theologian, whose original name was Bisschop or Bischop. Episcopius accepted the teachings of Jacob ARMINIUS and became a leader of the Arminians or REMONSTRANTS. This group opposed orthodox Calvinist doctrine by assuming a more lenient and less dogmatic view on such questions as original sin, election, and predestination. Episcopius represented the Remonstrants at conclaves at The Hague (1611), at Delft (1613), and at the Synod of Dort (1618), where he presented a detailed defense of his position. However, the Calvinist views prevailed, Remonstrant church services were banned, and some of its leaders were banished. In exile Episcopius wrote an Arminian creed (1622). In 1625, upon the death of Prince MAURICE OF NASSAU, the ban was removed, and Episcopius returned to the Netherlands. Episcopius, in the *Institutiones theologicae* (1650), established the doctrine of the Remonstrants upon a consistent theological basis. His avowed aim was to present Christianity in a practical aspect and to liberate theology from too rigid limitations of theory and ecclesiasticism.

epistemology (ĭpĭ"stumŏ'lujē) [Gr., =discussion of knowledge], that branch of philosophy which investigates the origin and the nature of knowledge. It is a discipline distinct from logic, which has traditionally occupied itself with the mind's operations in the knowing process. With regard to the origin of knowledge, empiricism traces all knowledge to sense perception, rationalism insists that the mind contributes to knowledge certain general ideas not derived from experience. With regard to the nature of knowledge, realism teaches that the object of knowledge is independently real, and idealism makes the object entirely, or in part, dependent on the mind's activity.

epistle (ĕpĭ'sĕl), letter, considered from a formal point of view. Of the books of the New Testament, 21 are epistles. The Pauline Epistles (ascribed to St. Paul) are ROMANS, 1 and 2 CORINTHIANS, GALATIANS, EPHESIANS, PHILIPPIANS, COLOSSIANS, 1 and 2 THESSALONIANS, 1 and 2 TIMOTHY, TITUS, PHILEMON, and HEBREWS. The Catholic, or General, Epistles are JAMES, 1 and 2 PETER, 1, 2, and 3 JOHN, and JUDE. This classification is traditional. There is an Epistle of Jeremiah in BARUCH. The liturgical recitation of the lesson from the epistle at the right side of the altar, a usage of the Western Church, has caused the right side to be called the epistle side. The use of letters as a literary form was especially popular in the 18th cent., when the novel was epistolary. Celebrated epistles are those of PETRARCH, PASCAL, SWIFT, and (in verse) POPE, DRYDEN, and others.

epitaph, strictly, an inscription on a tomb, but by extension of usage, lines, usually in verse, commemorating the dead. Many of the best ancient and modern epitaphs are literary memorials. The earliest such inscriptions are those found on Egyptian sarcophagi. Greek epitaphs are numerous, the earliest being those from the island of Thera. In England, epitaphs did not begin to assume a literary character until the time of Elizabeth and even after that were often written in Latin or Greek. Ben Jonson, John Milton, Alexander Pope, and Samuel Johnson were considered masters at the art, and there are valuable discussions of epitaphs by Pope, Johnson, and Wordsworth. Epitaphs are sometimes humorous, by accident or design. E. L. Masters used epitaphs as a literary form in *The Spoon River Anthology* (1915).

E Pluribus Unum (ē" plōōr'ĭbus ū'nŭm) [Latin, =one made out of many], motto on the great seal of the United States and on many U.S. coins. It was selected (1776) by Benjamin Franklin, John Adams, and Thomas Jefferson for the Continental Congress.

epoch (ē'pŏk, ĕ'puk) [Gr., =age], a word signifying either a period of time (an "age" or an ERA) or, more exactly, the beginning of a period, especially as marked by destructive or formative events.

Epping, urban district (pop. 4,956), Essex, England, on the northern edge of Epping Forest, NNE of London. **Epping Forest** (the ancient royal Waltham forest) originally included all Essex, but had dwindled before it became a 5,600-acre public park in 1882. For its history and literary associations, see William Addison, *Epping Forest* (1945).

Epping, town (pop. 1,618), SE N.H., between Manchester and Portsmouth; inc. 1741.

Epping Forest see EPPING, Essex, England.

Epsom and Ewell (yōō'ul), urban district (1931 pop. 27,689, 1947 estimated pop. 68,760), Surrey, England, SSW of London. Horse races are run on Epsom Downs, notably the DERBY (founded 1780), named for the earl of Derby, and the Oaks, named for his estate. Epsom College, for the sons of medical men, was founded in the middle of the 19th cent.

Epsom salts, name for magnesium sulphate. In the common heptahydrate (i.e., containing seven molecules of water) form it appears as white, needle-shaped crystals. It was first prepared from the waters of mineral springs at Epsom, England. Epsom salts are used medicinally as a purgative and are employed also in cotton goods as a filler and in a number of processes, e.g., dyeing and tanning.

Epstein, Jacob (ĕp'stĭn), 1880–, sculptor, b. New York city, of Russian-Polish parentage, studied under Rodin in Paris. He has worked chiefly in England. In revolt against the ornate and merely pretty in art, Epstein produces forms striking in effect—massive creations in stone or bronze, foreign to accepted traditions, which have stirred up many controversies. His 18 large figures on the British Medical Association Building, London, removed in 1937 as dangerous, were followed by the Oscar Wilde Memorial, Père-Lachaise cemetery, Paris, a marble *Venus*, a bronze *Christ*, the W. H. Hudson Memorial, a statue of "Rima" of *Green Mansions*, Hyde Park, London, *Adam*, and *Jacob and the Angel*. Some of his best work is bronze portraiture, the subjects including Admiral Lord Fisher, the duchess of Marlborough, Joseph Conrad, and Mrs. Epstein. In the Metropolitan Museum is his *American Soldier* in bronze. See his *Let There Be Sculpture* (1940), Robert Black, *The Art of Jacob Epstein* (1942).

Epworth, market village, in the Parts of Lindsey, Lincolnshire, England. It is the birthplace of John and Charles Wesley, whose father, Samuel Wesley, was rector here.

equal temperament, in music, a system of tuning based on the arbitrary division of the octave into 12 equal semitones, thus leaving the octave as the only acoustically correct interval in the scale. The scale thus derived is known as the tempered scale, its advantage is that a keyboard instrument may be played in all keys because, for example, a single key can represent both F sharp and G flat, and modulation is then freely possible. Bach demonstrated his belief in this or a similar system with his *Well-tempered Clavier*, containing preludes and fugues in all the major and minor keys. Opposed systems are the Pythagorean scale, wherein the pure fifth, whose frequency ratio is 3:2, is the basis of tuning, and just intonation, a purely theoretical system wherein all the intervals are tuned in relation to the pure fifth and the pure third. Various compromise systems, referred to as mean-tone systems, were advanced from the early 16th cent. That of Vincenzo Galilei (1581) closely approximates equal temperament. Such systems were first used for fretted instruments and were applied to some extent to keyboard instruments in the 17th cent., but did not find universal adoption until the beginning of the 19th cent. Rameau was a notable advocate of equal temperament. See also TEMPERAMENT. See Alexander Wood, *The Physics of Music* (1944).

equation, in mathematics, a statement, usually written in symbols, which states the equality of two quantities or algebraic expressions, e.g., $x+3=5$. The quantity $x+3$, to the left of the equals sign (=), is called the left-hand or first member of the equation, that to the right, 5, the right-hand or second member. A numerical equation is one containing only numbers, e.g., $2+3=5$. A literal equation is one which, like the first example, contains some letters (representing unknowns or variables). An identical equation is a literal equation which is true for every value of the variable, e.g., the equation $(x+1)^2=x^2+2x+1$. A conditional equation (usually referred to simply as an equation) is a literal equation which is not true for all values of the variable, e.g., only the value 2 for x makes true the equation $x+3=5$. To solve an equation means to find the value or values of the variable which satisfy it. Equations are classified according to the highest degree of the variable which they contain. Thus the first example is a first degree (also called linear) equation. The equation $ax^2+bx+c=0$ is a second degree (or quadratic) equation in the unknown x if the letters a, b, and c are assumed to represent constants. In algebra, methods are evolved for solving various types of equations. To be valid the solution must satisfy the equation. Whether it does can be ascertained by substituting the supposed solution for the variable in the equation. The simultaneous solution of two or more equations is a set of values of the variables which satisfies each of the equations. In general the number of equations (i.e., conditions) must be no more than the number of variables in order that a

solution may exist. In physics, equations are a means of expressing fundamental relationships In chemistry an equation is used to represent a reaction The first member of a chemical equation consists of the formulas of the reacting substances and the second member the formulas for the resulting products. An arrow (→) is used instead of an equals sign The direction of the arrow indicates in which direction the reaction is proceeding

equator [Latin, =equalizer], imaginary line about the earth, everywhere equidistant from the two poles and forming the base line from which latitude is reckoned It intersects N South America, central Africa, and Indonesia. The celestial equator is the projection of the plane of the earth's equator upon the celestial sphere (see ECLIPTIC)

equatorial belt of calms: see DOLDRUMS.

Equatorial Islands: see LINE ISLANDS

equinox (ē'kwĭnŏks) [Latin, =with equal night; i e, equal to the day], in astronomy, either of the two points of intersection of the ECLIPTIC and the celestial equator The vernal equinox, known also as "the first point of Aries," is the point at which the center of the sun moves across the celestial equator from south to north This occurs about March 21 and marks the beginning of spring in the Northern Hemisphere The autumnal equinox is the point at which the sun again crosses the celestial equator, but from north to south, about September 23, the beginning of autumn for the Northern Hemisphere On those two dates, in all parts of the world, night and day are equal in length The word *equinox* is often used to indicate either of the dates when day and night are equal The belief has long been widespread that violent storms, called "equinoctial gales," occur at the time of the equinoxes Meteorological science and observation have not supported this popular impression See also PRECESSION OF THE EQUINOXES.

equites (ĕk'wĭtēz) [Latin, =horsemen], the original cavalry of the Roman army, chosen, it is said, by Romulus from the three old Roman tribes and later selected (to the number of 3,600), on a basis of wealth, from the patricians and plebeians The Sempronian Law of C Sempronius Gracchus in 123 B C transferred judicial functions from the senate to the body of equites, who, though deprived of these powers by Sulla, attained much influence in the state In the 1st cent B C they were really the capitalist class, and they allied themselves alternately with the popular and the senatorial parties Under the emperors the body gradually fell into disrepute, it disappeared in the reign of Constantine It is conventional in English to call them knights, but their resemblance to anything in knighthood is neither apparent nor real

equity (ĕk'wĭtē), principles of justice originally developed by the English chancellor In Anglo-American jurisprudence equitable principles and remedies are distinguished from the older system which the COMMON LAW courts evolved One of the earliest functions of the king's chaplain (the chancellor) and of the chancery (the office which he headed) was to govern access to the royal courts by issuing on application the appropriate original WRIT At first the chancellor had great discretion in framing writs, but in time he was limited to a few rigidly circumscribed forms, and in certain cases worthy claims could not be satisfied From this inadequacy arose the practice of appealing directly for aid to the chancellor as the "keeper of the king's conscience" By the early 16th cent a fairly well-defined jurisdiction was exercised by the court of chancery in rivalry with the common law In the 17th cent it was definitely established that the court of chancery would decide any claim to jurisdiction which the courts of common law disputed The early chancellors purported to dispense equity in its original sense of fair dealing, and they cut through the technicalities of common law to give just treatment Some of their principles were derived from ROMAN LAW and from CANON LAW Soon, however, equity amassed its own body of precedents and tended to rigidity Among the most notable achievements of equity were the MORTGAGE and the TRUST, in the field of remedies, in addition to the money DAMAGES of common law, it afforded the INJUNCTION Because the DECREE (final order) of an equity court operated as an order of the king to the defendant, disobedience might be punished as CONTEMPT OF COURT, in legal remedies, on the contrary, the plaintiff was limited to enforcing his JUDGMENT The fact that equity trials were decided without a jury was thought advantageous in complex cases The coexistence of different systems of justice and the delays of the courts of chancery presented such great procedural difficulties that in England, in 1875, the Judicature Acts were adopted to amalgamate law and equity In the United States only a few of the states have separate equity courts Of the remaining states some divide actions (and to a less extent) remedies into legal and equitable, while the others have almost entirely abolished the distinction See Frederick Maitland, *Equity* (1909)

Er [Heb, =watchful] **1** In the Gospel genealogy, Luke 3 28 **2** Judah's first son. Gen 38.1–7. **3** Judahite. 1 Chron 4 21

Er, chemical symbol of the element ERBIUM.

era (ēr'ə), period of historic time. In geology, it is the name applied to large divisions of geologic process, e g, Paleozoic era (see GEOLOGY) In chronology an era is a period reckoned from a fixed point in time, as before or after the birth of Christ —before Christ, B C, *Anno Domini* [year of the Lord], A D These points are determined by the legends, history, and culture of the people adopting them Some of those best known in the West are the creation of the world (Jewish, equivalent to 3761 B C, Byzantine, 5508 B C), the founding of the city of Rome (753 B C, year marked A U C for *ab urbe condita* [from the founding of the city]), the hegira, the flight of Mohammed from Mecca (A D 622, abbreviation A H), and the founding of the Olympic games in ancient Greece (776 B C, time in Olympiads) Since in different calendars, years are of different lengths and do not begin on the same day (see CALENDAR), several factors have to be used in changing the year of one era to that of another, and even with conversion charts not all difficulties are removed Because of poor time calculation in earlier times, there may be anomalies in dating Thus the beginning of the Christian era, originally fixed probably by Dionysius Exiguus, was fixed a little too late Therefore the actual birth of Christ must be dated a little earlier, probably in 4 B C

Eran (ē'-) [Heb, =watching], grandson of Ephraim. Num 26 36

era of good feeling, phrase applied to the period 1817–23 in U S history, when, the Federalist party having declined, there was little open party feeling After the War of 1812 all sections were anxious to return to a normal life and to forget political issues. The phrase was coined at the time of President Monroe's good-will tour through the North, including New England, where a President had not been seen since the Virginia "dynasty" came into power Under the surface, however, vast sectional issues were shaping themselves, while personal rivalries also were gathering strength to break loose in the campaign of 1824

Erasistratus (ĕrəsĭs'trətŭs), 3d cent B C, Greek physician, b Chios He was the leader of a school of medicine at Alexandria, and his works remained influential until the 4th cent A D Congestion was considered by him to be a primary cause of disease His theory of the pneuma as a substance vital to life embraced the belief that air is carried from the lungs to the heart, where it becomes a vital spirit circulated by the arteries He revived dissection, distinguished between motor and sensory nerves, studied the convolutions of the brain, named the trachea, and devised a calorimeter and a catheter

Erasmus (ĭrăz'mŭs) or **Desiderius Erasmus** (dĕsĭdēr'ēŭs) [Gr *Erasmus*, his given name, and Latin *Desiderius* =beloved, both are regarded as the equivalent of Dutch *Gerard*, Erasmus' father's name], 1469?–1536, Dutch humanist, probably b Rotterdam He was ordained priest of the Roman Catholic Church and studied and lectured at the Univ of Paris Erasmus' influence began to be felt in Europe after 1500 It was exercised through his personal contacts, his editions of classical authors, and his original writings He was acquainted with most scholars of Europe and his circle of friends was especially large in England, it included Thomas More, Colet, and Henry VIII His editions of Greek and Latin classics and of the Fathers of the Church (especially of Jerome and Athanasius) were his chief occupation for years His new Latin edition of the New Testament was based on critical principles He was many years editor for the publisher FROBEN in Basel Erasmus' original works are mainly satirical and critical, they are written in Latin, the author's customary language Important among them are *Adagia* (1500, Eng tr, *Adages* or *Proverbs*), a collection of quotations, *Enchiridion militis christiani* (1503, Eng tr, *Manual of the Christian Knight*), *Moriae encomium* (1509, Eng tr, *The Praise of Folly*), *Institutio principis christiani* (1515, Eng tr, *The Education of a Christian Prince*), and *Colloquia* (1516, Eng tr, *Colloquies*) His collected letters (Eng tr, ed by F M Nichols, 1904–18) are perhaps more important still Erasmus combined vast learning with a keen, often malicious, humor He is esteemed the model man of culture Whatever his individual talents, he was certainly the broadest of the humanists His position with regard to the Reformation gained him wide denunciation, especially from Luther, who had first looked on Erasmus as an ally because of Erasmus' attacks on clerical abuse and lay ignorance As a humanist he detested the cultural decline inevitable in the religious warfare, and he remained all his life a believing Roman Catholic See Preserved Smith, *Erasmus* (1923), Maurice Wilkinson, *Erasmus of Rotterdam* (1921), J J Mangan, *Life, Character & Influence of Desiderius Erasmus of Rotterdam* (1927), Albert Hyma, *The Youth of Erasmus* (1930)

Erastus (ĭrăs'tŭs) [Gr, =beloved] **1** Companion of Paul Acts 19 22 **2** Early Christian, probably the same as 1 2 Tim. 4 20. **3** Chamberlain of Corinth Rom. 16 23

Erastus, Thomas (ĭrăs'tus), 1524–83, Swiss physician and theologian, whose original name was Lieber or Liebler As a follower of ZWINGLI, he supported the Swiss leader's view of the LORD'S SUPPER at the conferences of Heidelberg (1560) and Maulbronn (1564) and in a book (1565). In spite of his vigorous opposition to the Calvinist doctrine, Presbyterian church discipline and government were introduced in Heidelberg in 1570. In the same year Erastus, charged with Unitarian sympathies, was excommunicated, but five years later the edict was removed Much controversy has arisen over the treatise, *Explicatio*, written in 1568 and posthumously published in 1589, which declares that excommunication is not a divine ordinance and that punishment of sins should be left to civil authorities Erastus was motivated by his fear of the omnicompetent Church At the Westminster Assembly (1643–49), a party of Erastians unsuccessfully presented this view, and since that time the term **Erastianism** represents approval of the dominance of civil authority in all punitive measures and, by extension, complete dominance of the state over the Church, though Erastus had no such extreme view. See Erastus Evans, *Erastianism* (1931)

Erath (ē'răth), town (pop 1,408), S La, N of Vermilion Bay, in the Acadian country

Erato see MUSES

Eratosthenes (ĕrətŏs'thənēz), c 275–c 195 B C, Greek scholar, b Cyrene A pupil of Callimachus in Athens, he became (c 240 B C), head of the library at Alexandria Known for his versatility, he wrote poetry and works (most of them lost) on literature, the theater (notably on ancient comedy), mathematics, astronomy, geography, and philosophy, he also drew a map of the known world and evolved a system of chronology Especially noted as an astronomer, he is credited with measuring the circumference and tilt of the earth and the size and distance of the sun and the moon

Erbil (ĕr'bĭl), town (pop c 25,000), NE Iraq The ancient Sumerian and Assyrian city of ARBELA was on this site Erbil is on an artificial mound surmounted by an old Turkish fort The name is sometimes spelled Arbil

erbium (ûr'bēum), rare metallic element (symbol = Er, for physical constants, see ELEMENT, table) With other metals of the RARE EARTHS, to which group it belongs, it is present in the mineral gadolinite occurring in Sweden It is combined with oxygen in a rose-colored oxide (erbia) and with other elements in a number of similarly colored salts Discovery of the element (1843) is credited to Carl G Mosander It has no commercial use

Erceldoune or **Ercildoune**, Scotland see EARLSTON

Ercilla y Zúñiga, Alonso de (ālōn'sō dā ĕrthĭl'lya ē thōō'nyĕga), 1533–94, Spanish epic poet He went to Chile in 1556 as a soldier and fought against the Araucanian Indians of Chile While in camp he began the heroic poem *La Araucana* This famous poem in 37 cantos is divided into three parts, published in 1569, 1578, and 1589 Ercilla praises the brave Araucanian Indians with passion and strength In the second and third parts he deals with Spanish contemporary history, relating it to the heroic subject of the poem Verse translations into English were published in 1945 and 1946

Erckmann-Chatrian (ĕrkmän'-shätrēän'), name indicating the joint authorship of **Émile Erckmann** (ämēl'), 1822–99, and **Alexandre Chatrian** (alĕksän'drŭ), 1826–90 They wrote a series of historical romances and plays laid in their native Lorraine The novels include *Madame Thérèse* (1863, Eng tr, 1869), *Friend Fritz* (1864, Eng tr, 1877), *The Conscript* (1864, Eng tr, 1869), *Waterloo* (1865, Eng tr, 1899), and *Brigadier Frederick* (1874, Eng tr, 1875) Their principal plays are *Friend Fritz* (1876), which was the basis of the opera *L'Amico Fritz* by Mascagni, *The Rantzaus* (1884), also set by Mascagni, and *The Polish Jew* (1869), which in the English version by Leopold Lewis (1870) was called *The Bells* and was made famous by Sir Henry Irving in the role of Mathias

Erdélyi, John (ĕr'dĕlyĭ), Hung *Erdélyi János*, 1814–68, Hungarian writer and critic He was a professor of philosophy and literature at Sarospatak A follower of Hegel in his aesthetics and anticipating Taine in his criticism, he figured prominently in the movement of Hungarian language reform. His research in the field of Hungarian folk literature was comparable to that of Thomas PERCY in English He edited (1846–48) the first collection of Hungarian folk poetry

Erdmann, Benno (bĕ'nō ĕrt'män), 1851–1921, German philosopher He taught in the universities of Kiel, Breslau, Halle, Bonn, and Berlin He is widely known for his books on the philosophy of Kant.

Erdmann, Johann Eduard (yō'hän ä'dōōart), 1805–92, German philosopher, b Livonia, Russia, educated in Dorpat (now Tartu) and Berlin He was professor of philosophy at Halle from 1836 until his death He is best known for his *History of Philosophy* (1866, Eng trs, 1891, 1913)

Erebus (ĕ'rĭbŭs) [Gr, =darkness], in Greek mythology, gloomy part of the underworld through which the shades of men go on their way into Hades

Erebus, Mount, volcanic peak, more than 13,300 ft. high, on Ross Island, in the Ross Sea off Antarctica It was discovered (1841) by Sir James C Ross and named after one of his ships It was climbed in 1908 by a party under T W E David

Erech (ē'rĕk) or **Uruk** (ōō'rōōk), ancient Sumerian city of Mesopotamia, on the Euphrates, not far from the ancient Ur, in present Iraq A modern name is Warka. Erech was one of the most important early cities of S Mesopotamia and was flourishing probably in the 5th millennium B C. It was one of several rivals for power and for long periods was the capital of what came to be Lower Babylonia. Excavations have revealed a ziggurat temple of Nana (equivalent of Ishtar) and other finds including libraries with documents Gilgamesh, the hero of the Babylonian flood legend, was king of Erech It was in the Bible one of the cities of Nimrod in Shinar

Erechtheum (ĕrĕk'thēum) [for Erechtheus], Gr *Erechtheion*, temple in Pentelic marble, on the Acropolis at Athens One of the masterpieces of Greek architecture, it was constructed between c 420 and 409 B C, though damage by fire extended the work until c 393 B C Its design is sometimes ascribed to the architect Mnesicles The Erechtheum contained sanctuaries to Athena Polias, Poseidon, and Erechtheus The temple contains the finest examples of the Greek Ionic order The requirements of the several shrines and the location upon a sloping site produced an unusual and irregular plan From the body of the building porticoes project on east, north, and south sides The eastern portico, hexastyle Ionic, gave access to the shrine of Athena which was separated by a partition from the western cella The northern portico, tetrastyle Ionic, stands at a lower level and gave access to the western cella through a fine doorway The southern portico, known as the Porch of the Caryatids from the six sculptured draped female figures which support its entablature, is the temple's most striking feature, it forms a gallery or tribune The west end of the building, with windows and engaged Ionic columns, is Roman work In Justinian's reign the Erechtheum was made a church, while upon the Turkish capture of Athens (1458) it became a harem One of the east columns and one of the caryatids were removed by Lord Elgin to London, replicas being installed in their places The building was much damaged in the Greek revolution in 1827 Partial reconstructions took place beginning in 1838, while in recent years the fragments on the site have been employed in further restoration

Erechtheus (ĕrĕk'thūs), in Greek mythology, ancient king of Athens, son of Hephaestus and Gaea, usually identified with Erichthonius His body ended in the form of a serpent, a symbol of his connection with the powers of the earth He became a wise and beloved king, invented the four-wheeled chariot, built the Erechtheum, and founded the Panathenaea He had three daughters, and when he sacrificed one to win a battle, the others also died

Erenburg, Ilya Grigoryevich · see Ehrenburg

Eretria (ĕrē'trēu), ancient city of Greece, on Euboea, southeast of its rival, Chalcis Eretria sent out many colonists to islands and coasts of the N Aegean, and they supported the Ionian cities in the revolt against Persian control In punishment Darius I destroyed (490 B C) the city Here Athens later planted a colony, which revolted in 411 B C with the rest of Euboea and much later after the new Delian Confederacy had been created again revolted (349 B C) It had a school of philosophy and dialectics Eretria has been studied and excavated by archaeologists

Erfurt (ĕr'fōōrt), city (pop. 174,633), in the former Saxony prov of Prussia, central Germany, incorporated after 1945 into Russian-occupied Thuringia It manufactures chemicals and raises large quantities of flowers and vegetables One of the oldest cities of Germany—it was mentioned by St Boniface in the 8th cent.—Erfurt is rich in historical associations At its former university (founded 1392, closed 1816) Martin Luther studied, and at its former monastery he took his vows as an Austin friar. A free city of the Hanseatic League, Erfurt passed (1664) to the electors of Mainz and (1802) to Prussia and was occupied by the French from 1806 to 1813 Here, in 1808, Napoleon I and Alexander I met at the Congress of Erfurt, more notable for Napoleon's interview with Goethe and for Talma's acting before the two emperors and a "parterre of kings" than for its political results The Franco-Russian alliance concluded at Tilsit in 1807 was renewed, but proved short-lived At a congress held at Erfurt in 1891 the German Social Democratic party adopted the Erfurt Program, which marked the triumph of Marxian teachings over the doctrines of Lassalle in German Socialism. Among the notable buildings of Erfurt is the cathedral, flanked by the Church of St. Severus (both 13th cent.).

erg, unit measurement of work and energy in the cgs (centimeter-gram-second) system. It is the work done by one dyne acting through a distance of one centimeter A joule is 10,000,000 ergs.

Ergasteria, Greece: see Laurion.

ergot (ûr' gŭt), drug derived from a fungus, ergot, which attacks rye and other cereals. It is used medicinally to stop hemorrhage and in obstetrics to cause contraction of the uterus and induce labor. Poisoning from eating bread made from rye infected with the fungus or from continued use of the drug may either cause gangrene or affect the nervous system.

Eri (ē'rī) [Heb., =watching], son of Gad Gen. 46 16; Num 26 16

Eric IX (Eric the Saint), d. 1160, king of Northern Sweden Leading a crusade to Finland, he converted the Finns to Christianity by the sword He was assassinated by a Danish prince, a pagan Soon afterward the people began to revere him as a saint, and he became the patron saint of Sweden. Feast day May 18

Eric XIV, 1533–77, king of Sweden (1560–68), son and successor of Gustavus I. In order to strengthen the power of the crown, he limited (1561) the privileges of the royal dukes He forbade the marriage of his brother John, duke of Finland, to the sister of the king of Poland John disobeyed and was accused of treason and imprisoned (1563) Eric tried to regulate the status of the nobles, but finally, fearful of treason, assassinated Nils Sture, of the powerful Sture family, and had other nobles murdered or imprisoned (1567) Having unsuccessfully sought the hand of Elizabeth of England, Eric married his peasant mistress in 1568 and had her crowned queen Swedish reverses in the war with Denmark (1563–70), the unpopularity of his adviser, Goran Persson, and Eric's evident insanity enabled John to lead a successful insurrection against him Eric was deposed (1568) and died in prison He was succeeded by his brothers John III and Charles IX A patron of the arts and literature, Eric was himself an author of some ability

Ericht, Loch (lŏkh' ē'rĭkht), lake, 14 mi long, Perthshire and Inverness-shire, Scotland, at the foot of Ben Alder

Erick, city (pop 1,591), SW Okla., inc 1903 The region has farms, ranches, and natural gas

Ericsson, John (ē'rĭksun), 1803–89, Swedish-American inventor and marine engineer, b Varmland co., Sweden He moved to London in 1826 In a railroad locomotive contest (1829), his entry, the *Novelty*, was defeated by George Stephenson's *Rocket* Ericsson's outstanding role in the development of the screw propeller (he patented one in 1836) for ships was responsible for his coming to the United States in 1839 to build for the navy The U S S. *Princeton*, completed by him in 1844, was the first warship with a screw propeller Unfortunately, one of the *Princeton's* guns, which he did not build, exploded and killed several notables, and he was blamed unjustly for the disaster He is chiefly remembered as the designer and builder of the *Monitor* (see monitor) The battle of the Monitor and Merrimac caught the imagination of the people and made Ericsson a hero With his associates he was busy the remainder of the Civil War designing and building more ironclads After the war he built monitors for other governments, constructed gunboats for Spain, and worked on a "destroyer" with successful devices for releasing torpedoes under water, in which, however, he could not interest the navy He made many other contributions to engineering, notably in ordnance, marine engines, and caloric or heat engines In his late years he did experimental work in solar physics See biography by W. C. Church (1890)

Ericsson, Leif see Leif Ericsson

Eric the Red, fl 10th cent., Norse chieftain, discoverer and colonizer of Greenland He left (c 950) Norway with his exiled father and settled in Iceland A feud resulting in manslaughter led to his banishment (c 981) for three years from Iceland He sailed (c 982) to seek land reputed to be W of Iceland The discovery of Greenland followed, and Eric and his viking followers spent three years exploring the south and west coasts On his return to Iceland he promoted a colonizing venture and is said to have given Greenland its attractive name to encourage settlers He led (c 986) to the new land a group of 25 ships, of which 14 arrived Eric established a farmstead, Brattahlid, near present Julianehaab and was a leader of a southern settlement at Osterbygd He resisted in vain the introduction (c 1000) of Christianity by his son Leif Ericsson.

Eridu (ā'rĭdōō), ancient Sumerian city of Mesopotamia, near the Euphrates, built close to the Persian Gulf, but now (because of silting) well inland The ruins are in Iraq, near the ruins of Ur, and have been excavated The city is very old, dating perhaps from the 8th millennium B.C It was a center of worship of the water-god Ea.

Erie. 1 Town (pop 1,019), N Colo., N of Denver, in a coal area, inc 1885. **2** Village (pop 1,052), NW Ill., on the Rock River and NE of Moline, inc. 1872 **3** City (pop 1,286), co. seat of Neosho co., SE Kansas, on the Neosho and WNW of Pittsburg, founded 1867, inc. 1870. It is a trade center and shipping point for an oil-producing and farming area **4** City (pop 116,955), co. seat of Erie co., NW Pa., on Lake Erie SW of Buffalo; laid out 1795, inc. as a borough 1805, as a city 1851. The state's only port on the Great Lakes, it is a busy shipping point for coal, iron, chemicals, and petroleum It has machinery and metal-products plants A reconstructed blockhouse commemorates Fort Presque Isle. The original fort, built in 1753 by the French, was occupied and rebuilt in 1760 by the English and was destroyed in 1763 by Pontiac. In 1764 a peace conference was held on this site by the British and Indians Garrison Hill (now the site of the state soldiers' and sailors' home) was fortified in 1795 The Venango Trail, which was the main land route to Lake Erie, connected the line of French forts from Quebec to the Ohio river At Crystal Point, Perry's fleet was launched before his victory over the British in 1813 The first all-iron battleship, the *Wolverine*, was assembled at Erie (1843). Stanton House was a stop on the Underground Railroad H T Burleigh, composer, was born at Erie Mercyhurst College is here

Erie, Lake, 241 mi long and from 30 to 57 mi wide, fourth in size and shallowest of the Great Lakes Lying 571.94 ft above sea level, it has a maximum depth of 210 ft. and an area of 9,950 sq. mi On its north shore it touches Canada (Ontario), on its south, New York, Pennsylvania, and Ohio; on its west, a small portion of Michigan The Detroit river is its inlet from Lake Huron, and the Niagara its outlet into Lake Ontario Navigation between Lakes Huron and Erie follows a natural channel, but between Lakes Erie and Ontario it passes through the Welland Canal Lake Erie is connected with the Atlantic by the New York State Barge Canal and the Hudson river. The lake, which is subject to violent storms, is partially ice-bound and largely closed to navigation from mid-December until about the end of March Its principal U S ports are Buffalo and Dunkirk, N Y., Erie, Pa., Conneaut, Ashtabula, Cleveland, Lorain, Sandusky, and Toledo, Ohio, and Detroit, on the lake's inlet Its main Canadian ports are Port Colborne, Port Dover, Port Stanley, and Leamington Probably the first white man to see Lake Erie was Louis Jolliet in 1669 Forts and trading posts sprang up along its shore The French and Indian Wars gave Great Britain control of the lake, which she retained even after the American Revolution At the close of the War of 1812 the international boundary between the United States and Canada was established to run approximately through the center of the lake See Harlan Hatcher, *Lake Erie* (1945) The **battle of Lake Erie,** Sept 10, 1813, a naval engagement in the War of 1812, was fought at Put in Bay An American fleet (9 ships) led by Oliver H Perry defeated a British squadron (6 ships) commanded by Capt Robert Barclay and thereby won control of the lake

Erie Canal, artificial waterway, extending from Albany to Buffalo and connecting the Hudson with Lake Erie After the American Revolution, the need for a canal between the Great Lakes and the Atlantic coast was imperative George Washington saw political unity in canalization, others visualized easy transportation and increased trade free from Canadian competition Several land surveys for a canal followed, and by 1810 the issue loomed large in the New York state legislature, where De Witt Clinton lent it his political strength A canal commission, including De Witt Clinton, Gouverneur Morris, Stephen Van Rensselaer, Thomas Eddy, and others, formed (1810) by the legislature, recommended (1811) an Erie rather than an Ontario canal The War of 1812 stilled the issue but revealed a canal need After a public meeting in New York city (1815), Clinton drew up an Erie canal proposal and petitioned the legislature for the canal's authorization The canal bill was debated in the legislature (1816–17), New York city and the Lake Ontario interests opposing vigorously Meanwhile, veto of a national-waterways project forced the proposed canal's financial burden on New York state, but the canal bill passed the state legislature in April, 1817 The Erie Canal's middle section (extending from Utica to Salina) was completed in 1820, its eastern section was finished at Albany in 1823 Elaborate celebrations followed the canal's completion in 1825, Clinton and other notables sailed from Buffalo to New York city, where Clinton emptied a barrel of Lake Erie water into the Atlantic The canal, over 350 mi long and costing over $7,000,000, was later enlarged Its most important branches, the Champlain (1819), the Oswego (1828), and the Cayuga and Seneca were also enlarged. The Erie's total cost, at the end of 1882 when its tolls were abolished, was over $78,000,000 It had showed large profits Railroad competition, beginning in the 1850s, eventually destroyed the canal's long-haul advantages. Some improvements were made (1884–94), but its inadequate navigability and the disclosure of a fraudulent canal administration (the "Canal Ring") brought plans for its basic improvement and conversion into the New York State Barge Canal. The Erie helped to push New York city's financial development, opened Eastern markets to the farm products of the Great

Lakes region, fostered immigration to the Old Northwest, and helped to create numerous large cities Its initial success started a wave of frenzied canal building, which was ended completely only by the victory of the railroads

Erie Indians, tribe of Iroquoian linguistic stock, who in the 17th cent. inhabited the region E and SE of Lake Erie in the present states of New York, Pennsylvania, and Ohio They then numbered some 14,000 Although they were sedentary farmers of the Eastern Woodlands culture, they exhibited some Southeastern cultural traits, such as the use of poisoned arrows and building of palisaded villages They were traditional enemies of the Iroquois Confederacy, and in 1656, after one of the most relentless and destructive Indian wars, the Iroquois almost exterminated them The surviving captives were either adopted or enslaved by the confederacy, and some of their descendants live on reservations in Oklahoma as "Seneca" Indians. See R C Vietzen, *Immortal Eries* (1945)

Erie Railroad. The New York and Erie Railroad Company was enfranchised and incorporated in 1832, and construction was begun in 1835 from Piermont, N Y , on the Hudson river The year 1851 saw 483 mi of trunk line across New York state completed to Dunkirk, N Y , on Lake Erie at a huge cost The railroad was extended to Jersey City, N J , and to Buffalo, N Y , but in 1861 the company failed and was reorganized as the Erie Railway Company The company gained sound footing during the Civil War before it became the subject of a tremendous financial battle Daniel DREW, Jay GOULD, and James FISK allied themselves and from 1866 to 1868 outmaneuvered —with aid of unauthorized stock issues, political chicanery, and incessant litigation—Cornelius Vanderbilt to keep control of the Erie Railway Company Drew lost his control to Gould, who during his presidency (1868–72) further wrecked the Erie Railway Company After further financial trickery, the Erie Railway Company went bankrupt and was reorganized (1878) as the New York, Lake Erie and Western Railway Company By 1880 branch lines were built to Chicago The New York, Lake Erie and Western went into receivership after the Panic of 1893 and was reorganized (1895) as the Erie Railroad Company Under the presidency (1901–27) of Frederick D Underwood, the Erie fought an uphill fight, and after a major reorganization (1941) it yielded (1942) a dividend for the first time in 69 years See Edward Hungerford, *Men of Erie* (1946)

Erigena, John Scotus (skō'tus ĕrĭj'ĭnŭ) [Latin *Scotus*=Irish, *Erigena*=born in Ireland], c 810–880, scholastic philosopher, apparently born in Ireland About 847 he was invited by Charles II (Charles the Bald) to take charge of the court school at Paris At Charles's request also he translated the writings of Pseudo-Dionysius and his commentator Maximus Confessor Erigena is said to have been invited to England by King Alfred One account has it that he was put to death by his students, but the story of his death is obscure as is that of much of his life It is not even certain whether he was a priest Erigena was perhaps the most learned man of his time and a remarkable thinker His thought, based on that of Pseudo-Dionysius, with elements of Aristotle, the Greek Fathers, and St Augustine, is Neoplatonic Philosophy and theology are identified, all thinking and being begin and end with God, who is above all being and thought Erigena makes a fourfold division of the things that are, or nature—that which creates and is not created, that which is created and creates, that which is created and does not create, that which neither creates nor is created. The first is God, the source of all things The second is the Logos, existent in, and coeternal with, God, in whom are the primordial causes and types of things The third is the world of space, time, and generation, which came into being from the primordial causes by emanation through the successive genera and species The fourth is again God, but regarded now as the end of all things, for just as creatures have emanated from God, so they will return to him This division is reminiscent of the analysis of a universal into its generic and specific parts, plus the converse process by which the parts are unified in the universal, thought is identified with reality. Erigena's principal writings are *De divisione naturae* and the fragmentary *De egressu et regressu animae ad Deum* See Henry Bett, *Johannes Scotus Erigena* (1925).

Erha, Palestine see JERICHO

Erin (ĕr'ĭn, ē'rĭn), poetic name of IRELAND.

Erinna, fl 4th cent. ?B C , Greek woman poet, influenced by Sappho Her *Distaff*, in 300 hexameters (of which fragments survive), a lament for a friend, was compared anciently to Homer

Erinyes (ĕrĭn'ĭ-ēz), in Greek religion, the Furies or goddesses of vengeance, usually represented as three maidens, winged, with snakes in their hair They were born from the blood of URANUS, and their names were Megaera (mĕjē'rŭ) [envious], Tisiphone (tĭsĭf'ŏnē) [blood avenger], and Alecto (ŭlĕk'tō) [unceasing, i.e., in pursuit]. They pursued criminals, drove them mad, and tormented them in Hades The Erinyes were called Semnae (sĕm'nē) [Gr ,=august ones] and, euphemistically, Eumenides (ūmĕn'ĭdēz) [Gr ,=favorable ones] The latter is their title as the chorus in the *Eumenides* of Aeschylus, who was fined when the realistic appearance of the chorus caused panic in the Athenian theater The Romans called them Dirae (dī'rē) [dire ones] and Furiae (fū'rĭē) [furies]

Eriphyle (ĕr'ĭfī'lē), in Greek legend, wife of AMPHIARAÜS Knowing that if he joined the SEVEN AGAINST THEBES he would go to his death, Amphiaraüs refused to go until Eriphyle, bribed by Polynices with the necklace of HARMONIA, persuaded him When her sons ALCMAEON and Amphilochus grew to manhood, they punished her treachery by killing her

Eris (ē'rĭs) [Gr ,=discord], in Greek legend, female personification of strife, who provoked a dispute among HERA, APHRODITE, and ATHENA See APPLE OF DISCORD

Erith (ē'rĭth, ĕr'ĭth), urban district (1931 pop 32,789, 1947 estimated pop 45,170), Kent, England, on the Thames and ESE of London It is a summer resort with fine estates, and it manufactures chemicals, explosives, paper, cables, radios, lubricating oil, and flour

Eritrea (ĕrĭtrē'ŭ), former Italian colony (46,128 sq mi , pop c 700,000), NE Africa, on the Red Sea Asmara is the capital, Assab and Massawa are the ports The land boundaries of Eritrea are the Anglo-Egyptian Sudan on the west, Ethiopia on the south, and French Somaliland on the east The southern part is a largely desert coastal strip c 30 mi wide, in N Eritrea there is a narrower level coastal zone adjoining a rugged inland plateau (3,000–7,000 ft high) Most of the country supports only a scanty population of pastoral nomads Central Eritrea, however, has many fertile agricultural valleys Products of the country include citrus fruits, cereals, cotton, and hides Eritrea was more or less governed by Ethiopia until the 16th cent , when the region fell to the Ottoman Turks Various parts were under petty chieftains from the 17th cent to the mid-19th cent , when Egypt, Ethiopia, and Italy struggled for control Italy was dominant by the 1880s and formed the colony in 1890 Eritrea was an important base for Italy's conquest (1935–36) of Ethiopia In the Second World War the colony was used for attacks on the Anglo-Egyptian Sudan Early in 1941 the British counterattacked and by April completed the conquest of Eritrea and occupied the territory Ethiopia had long demanded Eritrea on the grounds that the population, largely Moslem, was of Ethiopian stock and that the coast was needed to give access to the Red Sea In 1949 the General Assembly of the United Nations voted to award most of Eritrea to Ethiopia but took no action because the final disposition of all the former Italian colonies was not settled

Erivan (ĕrĭvan', Rus ĕrĭvăn'yu), Armenian *Yerevan* (yĕrĕvan'), city (1926 pop 64,613, 1939 pop 200,031, 1948 estimated pop 300,000), capital of the Armenian SSR, on the Zanga river, in a picturesque orchard district surrounded by mountains Mt Ararat, in Turkish territory, is visible from here Founded in the 7th cent A D , Erivan was the capital of Armenia under Persian rule After the downfall (15th cent) of Tamerlane's empire, to which Erivan belonged, the city passed back and forth between Persia and Turkey It was taken by Russia from Persia in 1827 and formally ceded to Russia by the Treaty of Turkamanchai (1828) Under the Soviet regime Erivan underwent spectacular growth, mainly because of the establishment of important industries (machinery, textiles, and chemicals) and the influx of Armenian refugees. Erivan is the seat of a university (founded 1921) and possesses several museums and public libraries (totaling 3,000,000 volumes) Some 10,000 ancient Armenian manuscripts have been transferred here from Echmiadzin Erivan consists of a modern section and of the old historical city Hydroelectric stations on the Zanga furnish power for its industries

Erkel, Ferenc (fĕ'rĕnts ĕr'kĕl), 1810–93, Hungarian composer, the founder of opera in Hungary He wrote the Hungarian national anthem (1845), and his operas, of which *Hunyady Laszlo* (1844) and *Bank Ban* (1861) are most famous, are marked with strong national feeling

Erlach, Johann Bernhard Fischer von: see FISCHER VON ERLACH, JOHANN BERNHARD

Erlangen (ĕr'läng-ŭn), city (pop 45,536), Middle Franconia, Bavaria, on the Regnitz river and N of Nuremberg It has breweries and textile manufactures and produces the major part of German medical equipment, such as X-ray machines and hearing aids. Erlangen is best known, however, for its university (the only Protestant university in Bavaria, founded 1742 at Bayreuth and transferred here in 1743) Schelling and Schleiermacher taught here in the 19th cent. The university has numerous scientific institutes and a large library Dating from the 8th cent., Erlangen belonged to the bishopric of Bamberg from the 11th to the 14th cent and passed (1402) to the Franconian branch of the house of Hohenzollern, under which it shared the history of Bayreuth. It was rebuilt after a devastating fire in 1706, and the present city has a predominantly baroque character G. S Ohm was born here, and Friedrich Rückert lived here

Erlanger, Joseph (ûr'läng-ur), 1874–, American scientist, b San Francisco, grad Univ of California (B S , 1895), M.D Johns Hopkins, 1899 For his contributions to physiology, especially nerve action, he shared with H S Gasser the 1944 Nobel Prize in Physiology and Medicine From 1910 to 1946 he was professor of physiology at the medical school of Washington Univ , St Louis With H S Gasser he wrote *Electrical Signs of Nervous Activity* (1937)

Erlanger (ûr'läng-ûr), residential town (pop 2,416), N Ky , a suburb of Covington and Cincinnati

Ermak see YERMAK.

Ermanaric (ûrmă'nurĭk), d c 375, king of the Ostrogoths He extended his power over other barbarian tribes and thus built up an empire in eastern Europe N of the Danube. He was overthrown by the HUNS and soon afterward came to a violent end, either committing suicide or being assassinated In Germanic legend he bears the character of a treacherous tyrant He appears in Anglo-Saxon poems (e g , *Deor*) as Eormanric and in Old Norse literature as Jormunrekker

Ermeland (ĕr'mŭlänt), **Ermland** (ĕrm'länt), or **Warmia** (wôr'mēŭ), historic diocese of former East Prussia The region, extending far inland from the Baltic Sea, was ceded to Poland by the Teutonic Knights in 1466 and passed to Prussia only in 1772, in the first Polish partition Since 1945 it has been again under Polish administration.

ermine (ûr'mĭn), name for various species of WEASEL and for their fur In fur trapping the name weasel is generally used for skins obtained in North America and stoat is applied to the chief species (*Mustela erminea*) of the northern parts of Europe and Asia The pelts are made into wraps, coats, and trimmings When used in the white winter coat, the fur is bleached to remove discolorations The black tails are sometimes used in America as ornament, and in Europe they were always used with the ermine of royal robes Both the white winter coat dyed light brown and the brown winter coat of an arctic weasel which does not become white in winter are called summer ermine

Ermine Street, early Roman road in Britain said to have extended from Londinium (London) N to Lindum (Lincoln) Its length and exact route are disputed See Thomas Codrington, *Roman Roads in Britain* (new ed 1918)

Ermland see ERMELAND

Erne (ûrn), river of Ireland and Northern Ireland, rising in Lough Gowna on the border of Counties Longford and Cavan, and flowing 72 mi NW through Counties Cavan, Fermanagh and Donegal, through Loughs Oughter and Erne, past Belturbet and Ballyshannon, to Donegal Bay of the Atlantic

Erne, Lough (lŏkh' ûrn'), lake, 200 ft deep, Co Fermanagh, Northern Ireland Upper Lough Erne (10 mi long and 5 mi wide) is joined to Lower Lough Erne (18 mi long and 5 mi wide) by a 10-mile stretch of the Erne river Both lakes have numerous islands, on one of which is Enniskillen

Ernest I, 1784–1844, duke of SAXE-COBURG-GOTHA, brother of Leopold I of Belgium, uncle of Queen Victoria of England, and father of Victoria's consort, Prince Albert He succeeded to the duchy of Coburg in 1806 and acquired Gotha in 1826

Ernest Augustus, 1771–1851, king of Hanover (1837–51) and duke of Cumberland, fifth son of George III of England At the accession of Victoria, the crowns of England and Hanover were separated, since succession in Hanover was only through the male line The reign of Ernest Augustus was notoriously reactionary He rescinded the liberal constitution of 1833 and evoked the famous protest of the seven GÖTTINGEN professors The revolutionary outbreaks of 1848 forced him to restore the constitution, but he later attempted to evade his concessions He was succeeded by his son, George V

Ernle, Rowland Edmund Prothero, bp, 1st **Baron** (ûr'nul, prŏ'dhurō), 1851–1937, British agriculturist, editor, and writer He served as president of the Board of Agriculture from 1916 to 1919, and from 1894 to 1899 he edited the *Quarterly Review* Among his books are *Pioneers and Progress of English Farming* (1887), *Life and Correspondence of Dean Stanley* (1893), *English Farming Past and Present* (1912), and *The Land and Its People* (1925)

Ernst, Harold Clarence (ûrnst), 1856–1922, American bacteriologist, b Cincinnati, M D Harvard, 1880 He studied with Robert Koch and in 1885 opened at Harvard a course in bacteriology He established laboratories in Boston hospitals and furnished diphtheria antitoxin and tuberculin for use by the state Besides editing the *Journal of Medical Research* from 1896, he wrote several books on infection and immunity

Ernst, Max (mäks' ĕrnst'), 1891–, German painter After the First World War he joined the Dada movement in Paris and contributed to the periodical *Révolution surréaliste* Ernst has explored many means, including collage, psychic automatism,

and photographic representation, in his attempt to express the subconscious He is well represented in the Museum of Modern Art, New York

Eros (ĭ'rŏs, ē'rŏs) [Gr , =love], in Greek mythology, god of love He is the force of love in all its manifestations—physical passion at its strongest, tender romantic love, rose-crowned, playful, sportive friend of love-making and flirtation By some he was pictured as one of the oldest of the gods, born from Chaos like Gaea the earth-goddess and personifying creative power and harmony Associated with Dionysus in the ORPHIC MYSTERIES, he was worshiped as Protogonos, the first-born More usually, he was called the son of Aphrodite and Ares and was represented as a winged youth armed with bow and arrows He is sometimes also represented with a brother, Anteros In later times, and especially as the Roman CUPID or Amor, he was represented as a child, and Venus was accompanied not with one Cupid but with many cherubic boys For the story of Eros and Psyche, see PSYCHE

erosion (ĭrō'zhŭn), general term for the processes by which the surface of the earth is constantly being worn away, in which the principal agents are running water, waves, glaciers, and the wind All running water gathers and transports particles of soil or fragments of rock, formed by WEATHERING, and every stream carries in suspension or rolls along its bottom material received from its tributaries or detached from its own banks In addition to this power of transportation, which is an essential feature of erosion, streams have the power of wearing away their beds by corrasion If the bed is rough, with many jagged points, and the water is moving with sufficient velocity, the jagged points are detached by the mere mechanical action of the water, if on the other hand the bed is smooth and hard, it is worn by the rubbing of the particles being transported Streams also gather and transport material decomposed by the chemical action of weathering agents on rock Erosion by running water frequently enlarges slight depressions, forming gullies, ravines, and ultimately valleys, widens and alters the courses of rivers, and reduces hilly areas to peneplains or very nearly level surfaces Eroded materials either find their way to the deep sea or are deposited as ALLUVIUM It has been estimated that the basin of the Mississippi river is being reduced by erosion at the rate of one foot in about 9,000 years Sea coasts are eroded by ocean waves, which detach loose or nonresistant material and wear the rock by both the force of their own impact and the abrasive action of the detritus they carry A GLACIER erodes by plucking off loose rocks and by its abrasive action on the surface over which it passes, the wind is an important agent in arid regions, where it may transport sand in the form of a DUNE Washing away of the fine rich topsoil of farm lands annually destroys great amounts of wealth This menace is particularly acute in Mississippi and other regions of the South and in California, Oregon, Washington, and Montana Among the methods of preventing soil erosion are reforestation, the leaving of fallow strips, terracing, underdraining, ditching, deep plowing, and plowing across slopes rather than up and down See P B Sears, *Deserts on the March* (1935), Russell Lord, *To Hold This Soil* (U S. Dept of Agriculture, Miscellaneous Publication 321), G V Jacks and R O Whyte, *Vanishing Lands* (1939), H H Bennett, *Soil Conservation* (1939), William Vogt, *Road to Survival* (1948)

Erpenius, Thomas (ûrpē'nēus), 1584–1624, Dutch Orientalist, whose name in Dutch was Van Erpe He was one of the most celebrated scholars of his day and wrote several grammars of Near Eastern languages, notably one of Arabic

Errett, Isaac (ĕ'rĭt), 1820–88, American minister of the Disciples of Christ, b New York city After years of pastoral and evangelistic work in pioneer towns of Ohio and Michigan, he became (1866) the first editor of the *Christian Standard* and made it the denomination's foremost periodical See J S Lamar, *Memoirs of Isaac Errett* (2 vols , 1893)

Errigal, Mount (ĕrĭgŏl'), 2,466 ft high, Co Donegal, Ireland, highest point in the county

Ersch, Johann Samuel (yō'hän zä'mōōĕl ĕrsh'), 1766–1828, German encyclopedist, first editor of the great encyclopedia known as Ersch and Gruber's At his death, 17 volumes had been completed As editor he was succeeded by Johann Gottfried Gruber, who had been his associate Previous works of Ersch entitle him to be considered the father of German bibliography He held professorships in the universities of Jena and Halle and was librarian of each university

Erse (ûrs), Irish or Gaelic language See LANGUAGE (table)

Erskine, Ebenezer (ûr'skĭn), 1680–1754, founder of the Secession Church in Scotland, minister of Portmoak, Kinross-shire (1703) and of Stirling (1731) He upheld the right of the people to make their own choice of pastors, for which he was censured, suspended, and deposed (1733) With three other ministers he set up an Associate Synod, which was the origin of the Secession Church In 1736 they reaffirmed their separation, but they were not ejected from their churches until 1740 When the Associate Synod was divided over the question of certain oaths taken by burgesses of Scottish cities, Erskine was a leader of the "Burghers"

Erskine, John, 1509 91, Scottish reformer, called Erskine of Dun After several years on the Continent he returned to Scotland, where he introduced the study of Greek He was the friend and firm supporter of John Knox and George Wishart Erskine was a witness at the marriage (1557) of Mary Queen of Scots to Francis II of France and a participant in the coronation (1567) of James VI at Stirling As a member of a noble family and a person of gracious manner he was a valuable intermediary between the reforming party and Mary and, later, James Although a layman, he was several times moderator of the general assembly of the Scottish Reformed Church In 1578 he took part in compiling the Second Book of Discipline and in 1579 became a member of the king's council

Erskine, John, 1695–1768, Scottish jurist He was (1737–65) professor of law at the Univ of Edinburgh His chief works are *Institutes of the Law of Scotland* (1754) and *Principles of the Law of Scotland* (1773)

Erskine, John, 1721?–1803, Scottish theologian He was long a leader of the evangelical party in the Church of Scotland He was minister successively at Kirkintilloch, Culross, and New Greyfriars Church, Edinburgh, until, in 1767, he became the colleague of Dr William Robertson at Old Greyfriars He corresponded with Jonathan Edwards and edited and published his works in Great Britain Erskine's own writings include sermons, theological pamphlets, essays, and other works, principally of a religious nature

Erskine, John, 1879–, American educator, author, and musician, b New York city, grad Columbia (B A , 1900, Ph D , 1903) He taught first at Amherst (1903–9) and then at Columbia, becoming professor of English in 1916 and professor emeritus in 1937 He has written much about literature, including *The Literary Discipline* (1923) and *The Delight of Great Books* (1928), has edited scholarly works and served as coeditor of *The Cambridge History of American Literature*, and has written serious poetry He is best known for his gay, satiric novels based on legend, which include *The Private Life of Helen of Troy* (1925) and *Galahad* (1926) In his late 40's he began appearing as a concert pianist and was president of the Juilliard School of Music from 1928 to 1937 See his autobiographical *The Memory of Certain Persons* (1947) and *My Life as a Teacher* (1948)

Erskine, Robert, 1735–80, geographer and surveyor general to the American Revolutionary army, b Dunfermline, Scotland His several hundred detailed maps of the region W of the Hudson, showing roads, buildings, and other details, were of much use to Washington and are of great value to local historians See Albert Henry Heusser, *The Forgotten General* (1928)

Erskine, Thomas, 1st **Baron Erskine,** 1750–1823, British jurist He was admitted to the bar in 1778 and immediately built up an enormous practice by his eloquence and forensic skill A Whig member of the House of Commons from 1790 to 1806, he devoted much of his energy in the 1790s to the defense of civil liberties He defended Thomas Paine's publication of *The Rights of Man* against the charge of sedition, and his defense of the dean of St Asaph led to a liberal revision of the laws of libel (1792) Erskine's parliamentary career was undistinguished, as was his service as lord chancellor (1806 7) He is conceded, however, to have been one of the greatest trial lawyers of all time See L P Stryker, *For the Defense* (1947)

Erul see GERMANS

Ervine, St John Greer (ĕrvĭn', ûr'vĭn), 1883–, British dramatist and novelist, b Belfast Two early plays, *The Magnanimous Lover* and *Mixed Marriage*, were produced at the Abbey Theatre, of which Ervine became the manager in 1915 His dramatic work was interrupted by service at the front in the First World War Two of his plays, *John Ferguson* and *Jane Clegg*, were among the early successful productions of the Theatre Guild, New York Two later plays, *The First Mrs Fraser* and *Boyd's Shop* (in the United States, *Boyd's Daughter*) were also produced in New York, in 1930 and 1940 Ervine's novels include *Mrs Martin's Man* (1914), *Alice and a Family* (1915), *Changing Winds* (1917), *Foolish Lovers* (1920), and *The Wayward Man* (1927) In 1928–29 he was dramatic critic on the New York *World* *The Theatre in My Time* (1934) comprises his reviews

Erving, George William, 1769–1850, American diplomat, b Boston His father, a Loyalist in the American Revolution, took him to England, where he was educated at Oriel College, Oxford He returned to the United States in 1790 and attached himself to the Jeffersonian party He was secretary of legation in Spain (1804–9), was successful on a special mission to Denmark (1811), and served (1814–19) as minister to Spain

Erving, town (pop 1,328), W Mass , E of Greenfield, settled 1801, inc 1838. Paper and tools are made here

Erwin, town (pop 3,350), co seat of Unicoi co , NE Tenn , S of Johnson City, near the Bald Mts and the N C line, inc 1903 The area was settled c 1775 Erwin has potteries and railroad shops, and a U S. fish hatchery is near

Erymanthos (ĕrĭmăn'thŏs), mountain group, Greece, in the NW Peloponnesus, on the border of Achaea, Arcadia, and Elis The highest peak (7,294 ft) is Mt Erymanthos, also known as Mt Olonos In mythology the mountains were the haunt of the boar killed by Hercules

Eryri, Wales see SNOWDON

erysipelas (ĕrĭsĭl'pulus, -lĭs, ĭru-) [Gr , =red skin], acute inflammation of the skin accompanied by fever and other constitutional symptoms It is a world-wide disease, occurring especially in temperate climates, more frequently in women than men, and most commonly between 35 and 55 years of age *Streptococcus hemolyticus* (*S pyogenes*) is the cause of the disorder The organisms invade the site of a wound or abrasion, causing an eruption, swelling, pain, itching, and burning sensations accompany the infiltration of underlying tissues Complications are subcutaneous abscesses Some forms of erysipelas, e g , the traumatic variety, may be fatal, especially when gangrenous The sulfa drugs have reduced the fatality rate Antitoxins and vaccines have not been found to be of value The individual with erysipelas should be isolated

Erythrae (ē'rĭthrē), ancient Greek city in Asia Minor, on the peninsula opposite the island of Chios, now in W Asiatic Turkey It was one of the 12 Ionian cities and had a famous sybil

Erythraean Sea (ĕrĭthrē'un), name of doubtful origin anciently applied to the Indian Ocean, later to the Arabian Gulf, and finally to the Red Sea

Eryx (ē'rĭks), ancient city, W Sicily, Italy It was long a bone of contention between Carthage and Syracuse The Carthaginians destroyed it (c 260 B C) in the First Punic War, and its people were resettled in nearby Drepana (modern Trapani) The temple of Venus Erycina was an important religious shrine The most notable remains are cyclopic walls, some with Phoenician inscriptions The site is now occupied by the village of Erice

Erzberg (ĕrts'bĕrk), peak, c 5,000 ft high, Styria, central Austria It has large iron ore deposits In the summer the ore is mined on the surface Some of the mines have been worked for more than a thousand years

Erzberger, Matthias (mätē'äs ĕrts'bĕrgur), 1875–1921, German statesman, b Württemberg A leader of the Catholic Center party in the Reichstag from 1903, he was chief of propaganda in the First World War and drew criticism for his proposal (July, 1917) in favor of peace without annexation He joined (Oct , 1918) the cabinet of MAXIMILIAN, PRINCE OF BADEN, and headed (Nov 11, 1918) the German delegation which signed the armistice at Compiègne His powerlessness to secure the armistice on the basis of President Wilson's Fourteen Points caused many irresponsible attacks on him A member of the Scheidemann cabinet, he insisted upon acceptance of the Treaty of Versailles When the Scheidemann cabinet resigned (June, 1919) rather than sign the treaty, Erzberger joined the cabinet of Scheidemann's successor, Gustav Bauer, as finance minister He brought all railroads under national control and drastically reformed the fiscal system Opposition to Erzberger was fostered by a pamphlet of Karl Helfferich, a former finance minister whose policy the Center leader had attacked After suing his critic, most of whose statements were groundless, Erzberger resigned He was assassinated shortly afterward by two members of a secret nationalist organization

Erzerum or **Erzurum** (both ĕr'zurōōm), city (pop 50,875), NE Turkey, in Armenia, near the source of the Euphrates It is an agricultural trading center The ancient Theodosiopolis, it was long of strategic and commercial importance

Erzgebirge (ĕrts'gubĭr"gu), Czech *Krušné Hory* (krōōshnā hô'rĕ), mountain range, along the border of Bohemia (Czechoslovakia) and Saxony (Germany) It is sometimes called, in English, the Ore Mountains Extending c 100 mi from the Fichtelgebirge in the southwest to the Elbe in the northeast, it reaches its highest point (4,080 ft) in Mt Klinovec (Ger *Keilberg*) in Czechoslovakia From the 14th cent to the 19th cent silver and iron were mined extensively in the Erzgebirge, notably at JACHYMOV At present, the chief ores mined are wolframite, lead, tin, copper, bismuth, sulphur, arsenic, antimony, and uranium Coal and lignite mines are also exploited The Erzgebirge has many famous mineral springs (notably at Carlsbad, Marienbad, and Teplice-Sanov, all in Czechoslovakia) and is an important industrial area particularly in the production of textiles and machinery. Embroidering and toy manufacturing have long been traditional home industries In 1938 the Czech part of the Erzgebirge, which then had a predominantly German-speaking population, was transferred to Germany by the Munich Pact It was restored to Czechoslovakia in 1945, and most of the German population was expelled.

Erzsebetfalva, Hungary: see PESTSZENTERZSEBET.
Erzurum, Turkey: see ERZERUM.
Esaias (ēsā'yŭs), variant of ISAIAH
Esar-Haddon (ē"sär-hă'dŭn), king of ancient ASSYRIA (681–668 B C), son of SENNACHERIB Immediately on getting the throne he had to put down serious revolts and defeat the Chaldaeans In this he was triumphant He also extended conquests wide Most important was his conquest (673–670 B C) of Egypt, where, after initial difficulties, he took Memphis and defeated Tirhakah, deposed him, and put Necho in power Esar-Haddon also captured Susa and broke the power of Elam. One of the most powerful of the Assyrian kings, he was still warring when he died on the way to subdue an Egyptian revolt He was succeeded by Assur-bani-pal
Esau (ē'sô) [Heb ,=hairy], son of Isaac, tricked out of his birthright and his father's blessing by his twin, Jacob The loss of these compelled Esau to seek his living away from home, and he settled on Mt Seir As ancestor of Israel's enemies Esau is called EDOM Some scholars regard the story of Jacob and Esau as a double eponymous myth Gen 25–28, 32, 33, 36, Deut 2 4,5, Joshua 24 4, Jer 49 7–22, Heb 12 14–17
Esbjerg, Dan *Esbjaerg* (both ĕs'byĕr), city (pop 43,241), SW Jutland, Denmark, a North Sea port It is an export center and a fishing base and has a dairy industry The city developed after the construction of the harbor in the 19th cent Fano island, opposite the city, is a resort suburb
Escalante, Silvestre Vélez de (sēlvā'strā vā'lāth dā ĕskŭlän'tā), fl 1769–79, Spanish explorer in the Southwest and Far West, a Franciscan missionary He was in charge of Pueblo missions in the present New Mexico and conceived the idea of establishing overland communications with Monterey in Alta California A preliminary journey in 1775 took him to the Hopi towns in N Arizona and in 1776 he led an expedition from Santa Fe that crossed the present Colorado and went into present Utah, reaching Utah Lake—the first white men known to have seen the Utah country Mountain snows in the Sierra Nevada prevented him from going on to California, and with great hardship the party returned to Santa Fe Escalante kept a singularly accurate journal, which was signed also by his associate and superior, Francisco Atanasio Domínguez It appears in English translation in W R Harris, *The Catholic Church in Utah* (1909)
Escalante (ĕskŭlăn'tē), town (pop 1,106, alt 5,303), S Utah, on the Escalante river, a tributary of the Colorado, in a grazing area, settled 1875 by Mormons The name honors the Spanish missionary Silvestre Vélez de Escalante, who did not, however, visit the site
Escambia (ĕskăm'bēu), river, c 231 mi long, rising in SE Alabama, where it is called the Conecuh (kunē'ku) It flows SW through Alabama, then southerly through the northwest corner of Florida into Escambia Bay, an arm of Pensacola Bay
Escanaba (ĕskunō'bu), resort city (pop 14,830), co seat of Delta co, W Upper Peninsula, N Mich, on an inlet of Green Bay and NE of Menominee, settled 1852, inc 1883 It is a railroad, lumber, and fishing center, and from its fine harbor large amounts of ore are shipped Among its varied manufactures are paper, veneer, and dairy and foundry products The Upper Peninsula State Fair is held here Several prehistoric Indian villages were located in the vicinity
Escanaba, river, c 100 mi long, rising in W Upper Peninsula, N Mich, and flowing SSE into Little Bay de Noc, an inlet of Green Bay
Escandón, José de (hōsā' dā ĕskundōn'), 1700–1770, Spanish conquistador, count of Sierra Gorda, colonizer of the lower Rio Grande valley Made governor (1746) of the province of Nuevo Santander, an area on the Gulf of Mexico including TAMAULIPAS E of the Sierra Madre and Texas S of the San Antonio river, Escandón from 1747 to 1755 was one of the most efficient colonizers of New Spain The Indians were peacefully subdued, and prosperous settlements were established, notably those in the vicinity of present Laredo, Texas, and Nuevo Laredo, Tamaulipas Escandón continued as governor until his death See F J Scott, *Historical Heritage of the Lower Rio Grande* (1937)
escarpment or **scarp,** a long cliff, bluff, or steep slope, caused usually by geologic faulting or by EROSION and characteristic of mountainous regions The Palisades along the Hudson river are an example of an escarpment, another is the long break separating the coastal region from the inland area in Texas, roughly paralleling the coast
Escaut, river: see SCHELDT
Esch, John Jacob (ĕsh), 1861–1941, U S. Congressman and Federal administrator, b Norwalk, Wis, grad Univ of Wisconsin (B A, 1882, LL B, 1887) A lawyer of La Crosse, he became a member of the House in 1899 and served until 1921, distinguishing himself as co-author of the Transportation Act (Esch-Cummins Act) of 1920 He was a member of the Interstate Commerce Commission from 1921 to 1928, when his renomination was rejected by the Senate because he allegedly was responsible for rates favoring Pennsylvania coal mines and discriminating against Southern mines. He served as president of the American Peace Society from 1930 to 1938
Esch (ĕsh), town (pop 26,851), grand duchy of Luxembourg, on the Alzette river A steel center, it also produces cement, tar products, and synthetic fertilizer It is also called Esch-sur-Alzette
Eschenbach, Wolfram von see WOLFRAM VON ESCHENBACH
Eschenmayer, Adam Karl August von (ä'däm kärl' ou'gŏost fŭn ĕ'shunmīur), 1768–1852, German philosopher He was a physician and professor of philosophy at Tübingen from 1811 to 1836 He later became deeply interested in animal magnetism, spiritualism, and demonology His point of view in philosophy was like that of Schelling, except that Eschenmayer conceived of philosophy as leading to nonphilosophy, an area where religious mystical faith must supersede speculation
Escholtz Islands, Marshall Islands see BIKINI
Eschscholtz, Johann Friedrich (yō'hän frē'drĭkh ĕsh'shôltz), 1793–1831, German naturalist and traveler, b Dorpat He accompanied Otto von Kotzebue in his travels, collecting many animal specimens Eschscholtz Bay on Kotzebue Sound and the genus *Eschscholtzia* (see CALIFORNIA POPPY) were named for him He published *Zoologischer Atlas* (1829–33)
eschscholtzia see CALIFORNIA POPPY
Eschweiler (ĕsh'vīlur), city (pop 30,191), in the former Rhine Prov of Prussia, NW Germany, near Aachen The center of a soft-coal basin, it has iron and steel mills Dating from the 9th cent, Eschweiler has preserved the ancient Church of SS Peter and Paul (dating partly from the 12th cent, damaged in the Second World War) and a 13th-century castle, now a hospital
Escobedo, Juan de (hwän' dā ĕskō hā'dhō), d 1578, Spanish politician, secretary of John of Austria in the Netherlands He was murdered while on a mission in Madrid Antonio PÉREZ was accused of having procured the murder, possibly on orders from Philip II
Escondido (ĕskŭndē'dō), city (1940 pop 4,560, 1946 special census pop 5,930), S Calif, N of San Diego, laid out 1885, inc 1888 It lies in a valley rich in citrus fruits, grapes, and dairy products To the east is San Pasqual Battlefield State Monument, there, in Dec, 1846, Gen Stephen W Kearny and his U S force engaged in a battle with a group of Californians under Andrés Pico
Escondido (ĕskōndē'dhō), river, SE Nicaragua, flowing into the Caribbean at BLUEFIELDS It is navigable for shallow-draft vessels some distance inland and is the principal east-west communication It is sometimes called the Bluefields
Escorial (ĕskō'rēul, Span ĕskōrē-ä'l') or **Escurial** (ĕskyōō'rēul), palace near Madrid, Spain It was built (1563–84), together with the monastery of San Lorenzo del Escorial, by Philip II to commemorate the victory over the French at Saint-Quentin (1557) The somber and massive pile of granite buildings including monastery, church, royal palace, mausoleum, college, and library, form a parallelogram with towers rising from the corners and the dome and towers of the church rising from the center The Escorial was begun by the architect Juan Bautista de Toledo and finished by his pupil Juan de Herrera, it was decorated by Claudio Coello, Luca Giordano, and other noted artists The Escorial has an art collection including paintings by Velázquez, Ribera, El Greco, and Tintoretto
escutcheon (ĕskŭ'chun) or **shield,** in heraldry, the field upon which armorial bearings are displayed (see BLAZONRY) It originated in the actual SHIELD borne in war and identifying its owner The usual escutcheon in heraldry is straight across the top with sides curving to a point at the bottom Variants include the shield *chaurée* or *à la bouche,* this is four-sided and has a notch, where the lance rested, at the upper dexter corner (1 e, at the right of the bearer)
Esdraelon (ĕs'drūē'lŭn) [Gr for JEZREEL], fertile plain, central Palestine, through which the Kishon flows It extends from the Mediterranean near Mt Carmel to the Jordan and is roughly triangular with the apex to the west The coastal route through Palestine crosses the plain, and since ancient times it has been a battleground, especially around MEGIDDO, see also GILBOA The plain of Esdraelon is called also the plain of Jezreel or of Megiddo The plain is divided between territory which belongs to Israel and territory which is claimed by Jordan There was fighting in the area after the partition (MAY, 1948) of Palestine
Esdras (ĕz'-) [Gr from Heb EZRA], books of the OLD TESTAMENT and PSEUDEPIGRAPHA Four books have borne this name, the canonical books called Ezra and Nehemiah in AV (see EZRA) and two pseudepigrapha called 1 and 2 Esdras in the Apocrypha of AV The Western canon calls Ezra and Nehemiah 1 and 2 Esdras respectively, and the terms 3 and 4 Esdras are then used for the pseudepigraphic books Greek Bibles use the name 1 Esdras for Ezra and Nehemiah (taken as one book as in the Hebrew canon) and 2 and 3 Esdras for the pseudepigraphic books Below the pseudepigrapha are called 3 and 4 Esdras 3 Esdras is mainly a Greek translation of several parts of the Bible (3 Esdras 1=2 Chron 35 1-36 21, 3 Esdras 2 1–15=Ezra 1, 3 Esdras 2 16–30=Ezra 4.7–24, 3 Esdras 3–5 6 not found elsewhere, 3 Esdras 5 7–73=Ezra 2–4 5, 3 Esdras 6–9 36=Ezra 5–10, 3 Esdras 9 37–55=Neh 7 73–8 12) The book antedates 100 B C 4 Esdras is a Jewish apocalyptic work of which the bulk is a series of visions and revelations to Ezra in the style of the book of Revelation This is considered by many the best Jewish apocalypse The original language must have been Greek, but no Greek version is extant Most critics date it as a whole after A D 100 3 Esdras has enjoyed a relatively greater prestige in Christendom than 4 Esdras For 4 Esdras, see W O E Oesterley, *II Esdras* (1933)
Esek (ē'sĕk) [Heb ,=struggle], one of Isaac's wells Gen 26 20
Esenin, Sergei Aleksandrovich see YESENIN
Esh-baal (ĕsh-bā'ul, ĕsh'-bāul) see ISH-BOSHETH
Eshban, HOURI Gen 36 26, 1 Chron 1 41
Eshcol (-kŏl) [Heb ,=cluster], Amorite ally of Abraham Gen 14 13, 24
Eshean (ē'shēun, ĕsh'-, ĕshē'), unidentified city, near Hebron Joshua 15 52
Eshek (ē'shĕk), Benjamite 1 Chron 8 39
Esher, Reginald Baliol Brett, 2d **Viscount** (bāl'yul, ē'shur), 1852–1930, British historian After sitting in Parliament (1880–85), he thereafter preferred to exercise his influence from behind the scenes As deputy governor (later governor) of Windsor Castle (1901–30), he managed the king's household for 30 years He was given access to Queen Victoria's papers, from which he edited, with A C Benson, *The Correspondence of Queen Victoria* (1907) He was offered many public offices, among them the viceroyalty of India and the secretaryship for war, but refused them all in his desire to stay out of politics His works include *The Influence of King Edward* (1914) and *The Tragedy of Lord Kitchener* (1921) See his journals and letters (ed by his sons, M V Brett and Oliver Brett, Viscount Esher, 4 vols, 1934–38)
Esher (ē'shur), urban district (1931 pop 17,076, 1947 estimated pop 50,440), Surrey, England, SW of London Wolsey's Tower, a gatehouse, remains of the ancient mansion "Esher Place" founded by William Waynflete and occupied by Cardinal Wolsey "Claremont," built by Lord Clive, is here.
Eshkalon (ĕsh'ku-), variant of ASHKELON
Esh-Sham, SYRIA see DAMASCUS
Eshtaol (ĕsh'tāōl), unidentified city, SW Palestine, Joshua 15 33, 19 41, Judges 13 25, 16 31, 18 2, 8, 11, 12
Eshtemoa (ĕsh'tĕmō'u) **1** Judahite 1 Chron 4 19 **2** City, S Palestine, probably near Hebron in the mountains Joshua 21 14, 1 Sam 30 28, 1 Chron 4 17, 6 57 This place is called **Eshtemoh** (-mō') in Joshua 15 50
Eshton, Judahite 1 Chron 4 11,12
Esk, short river of S Cumberland, England, rising near Scafell in the Lake District and flowing SW through Eskdale to the Irish Sea The Esk river of Dumfriesshire, Scotland, cuts across a corner of N Cumberland just before entering Solway Firth
Esk, name of several rivers in Scotland There are in Midlothian the North Esk and the South Esk, which unite at Dalkeith and enter the Firth of Forth, the Black Esk and the White Esk, of Dumfriesshire, which unite and flow into the Solway Firth just after crossing a corner of Cumberland, England, and the North Esk and the South Esk, of Kincardine and Angus, which flow into the North Sea
esker (ĕs'kur) [Irish], long, narrow, winding ridge of stratified sand-and-gravel DRIFT Eskers, many miles long and resembling abandoned railway embankments in general appearance, occur in Scandinavia, Ireland, Scotland, and New England, they probably arose from deposition in the beds of subglacial streams
Eski Krim or **Eski Krym,** RSFSR see STARY KRYM
Eskilstuna (ĕ'skĭlstŭ"nu), city (pop 49,421), Sodermanland co, SE Sweden, between Hjalmaren and Malaren lakes Named after an 11th-century martyr missionary, Eskil, it was incorporated in 1659 by Charles X, who founded a gun factory there This factory was the nucleus of an expanding steel and tool industry, which has made Eskilstuna the rival of Sheffield, England, in the production of cutlery
Eskimo (ĕ'skumō) [Algonquian, =eaters of raw meat], native inhabitant of the arctic and subarctic regions of North America Also included among the Eskimo are c 1,000 individuals on the Chukchi Peninsula of NE Siberia The present population is estimated at little more than 30,000, although there is evidence that in earlier times they numbered at least 100,000 All but a few bands of the 15,000 Greenland Eskimo have mixed with the white population, but the Central Eskimo have remained a pure stock in historic times Despite their wide dispersal, the Eskimo are surprisingly uniform in language, physical type, and culture and as a group are distinct in these traits from all neighbors They speak dialects of the same language, which with the language of the ALEUT makes up the Eskimo-Aleut family Their Mongoloid features, unusual for their facial breadth and head height,

point to an Asiatic origin. Their eastern distribution is relatively recent—the first Eskimo known to the Norse settlers in Greenland appeared in the 13th cent Their adjustment to a severe environment has been equaled by no other group Sea mammals provide them with food, clothing, illuminating and cooking oil, tools, and weapons, the skill required to secure these necessities places the Eskimo among the foremost hunters of the world Fish and caribou are of next importance in their economy The practice of eating raw meat, disapproved of by their Indian neighbors, provides their limited diet with essential nutritional elements which cooking would destroy Except for some 500 Caribou Eskimo living in the "barren grounds" of central Canada, they are a littoral people who rove inland in the summer for freshwater fishing and game hunting Tents of caribou skins or sealskins provide adequate summer dwellings, in colder seasons, shelter is constructed of sod, driftwood, or sometimes stone placed over excavated floors The snow hut or IGLOO of the Eastern and Greenland Eskimo is seldom used The problem of long-distance and heavy transport made necessary by their nomadic and hunting existence is solved with dog-pulled sleds Their skin CANOE, the "kayak," in experienced hands is the most highly maneuverable small craft ever invented Their innumerable devices used in hunting and their clothing show an ingenuity essential to survival in their environment They possess a well-developed art and are skilled artisans in bone, ivory, antler, and stone There is evidence of cultural decline antedating white contact Archaeological finds show a richer material culture and a presumably wider social organization among early Eskimo than in recent times They now live in small bands, in voluntary association under a leader recognized only for his superior ability to provide for the group Only the most personal property is considered private, any equipment reverts through disuse to those who have need for it Blood feuds occur, but friction is usually forestalled by mutual avoidance Fear of ridicule is sufficient inducement to remain within group approval Their religion is loosely formulated, with a rich mythology that little affects daily life, although they are handicapped by food taboos Shamanism is found, but is a relatively recent borrowing from Siberia The now widespread use of firearms has seriously reduced native food supply, and substitution of the white man's economy has not yet proven beneficial. Measures are being undertaken by the U S and Canadian governments to check the population decrease and to restore the economy of the North. See G deM de Poncins, *Kabloona* (1941), writings of Vilhjalmur Stefansson and K J Rasmussen

Eskimo dog, dog believed to have originated in E Siberia, related to the chow, the Samoyede, the Alaskan malamute, and the Siberian husky Inhabitants of the arctic have long used the dogs for drawing sleds, for pulling boats, and as pack animals Explorers in both the arctic and the antarctic have relied on the dogs for transporting men and supplies to otherwise inaccessible places The coat consists of long guard hairs overlying a dense, woolly undercoat impenetrable by rain and cold Some are gray, some all white, and others are white with black heads Instead of barking, the Eskimo dog usually yelps or howls like a wolf, actually it is not very closely related to the wolf

Eskisehir (ĕskē'shĕhĕr), city (pop 80,030), W central Turkey, W of Ankara It is an export center for meerschaum, chromium, and magnesite, an important agricultural market, and a railroad junction, and it has cotton and tile manufactures and mineral springs It probably is the same as the ancient DORYLAEUM.

Esli (ĕs'lī), in the Gospel genealogy Luke 3 25

Esmarch, Johannes Friedrich August von (yōhä'nus frē'drĭkh ou'gōost fŭn ĕs'märkh), 1823–1908, German surgeon, educated at Kiel and Göttingen He served in the Schleswig-Holstein and Franco-Prussian wars and was the author of works on hospital management and military surgery He is especially known for his book on first aid written in 1877 and for his introduction of the Esmarch TOURNIQUET and a triangular cloth bandage which can be applied in 32 ways

Esna (ĕs'nu) or **Isna** (ĭs'nŭ), town (pop 20,085), Upper Egypt, on the Nile The Ptolemaic temple (with Roman additions) to the ram-headed deity Khnum is the outstanding monument Near by there is a Christian monastery, supposedly founded in the 4th cent to commemorate those martyred by Diocletian, but now believed to date from the 10th or 11th cent.

Esnambuc or **Ênambuc, Pierre Belain d'** (both· pyĕr' bŭlĕ' dänäbük'), 1585–1636, French pioneer in the West Indies Seeking to recoup his family fortune by privateering in the West Indies, Esnambuc instead became the founder of French colonial possessions in that area In 1625 he established a settlement on St Kitts in the Leeward Islands. Although St Kitts had already been settled by the British, the island was divided between France and England Firmly and justly he managed the colony's affairs through difficult times and explored and settled other islands. In 1635 he founded a colony at SAINT-PIERRE on Martinique

Esopus (ĕsō'pŭs), town (pop 4,220), SE N.Y., on the west bank of the Hudson and S of Kingston; formed 1811 In 1818 part of it was annexed to Kingston, while a portion of Hurley was annexed to Esopus In 1842 Esopus annexed part of New Paltz John Burroughs lived on a farm near Esopus.

Esopus Creek, rising in SE New York in the Catskills and flowing generally SE through Ashokan Reservoir and later NE past Kingston to the Hudson at Saugerties

espalier (ĕspăl'yûr), trellis or lattice used in horticulture for training a tree or vine either for ornament or to fit it into a small space, allowing it to get a maximum of air and sun, and bringing the fruit within easy reach for gathering The plant, usually an apple or pear tree, may be trained into various shapes, such as a fan or a fork The term is also used for the tree or vine so trained.

Española see HISPANIOLA

Espartero, Baldomero, duque de la Victoria, conde de Luchana (bäldōmā'rō ĕspartä'rō dō'kā dā lä vĕktō'rēä kōn'dā dā lōōchä'na), 1793–1879, Spanish general and statesman He fought against the French in the Peninsular War (1808–14) and later against the revolutionists in South America After Ferdinand VII's death, he supported Isabella II against the CARLISTS and won brilliant victories in the Carlist War of 1836–39 His agreement at Vergara (1839) with the Carlist general Maroto virtually ended the war Espartero was created duke of la Victoria (an honorary title) A member of the progressive party in the Cortes from 1837, the general played an important political role His opposition to the queen regent, MARIA CHRISTINA, helped force her to leave (1840) In 1841 Espartero was made regent by the Cortes and became virtual dictator His ruthless suppression of revolutionary movements—notably at Barcelona—soon made him highly unpopular A general uprising drove him from office, and he fled to England (1843) He returned to Spain in 1848 but lived in retirement until Isabella II called upon him (1854) to support her tottering throne He became premier with the support of the progressives and commander in chief of the army Leopoldo O'Donnell, who was his war minister, displaced him in 1856 Espartero later supported King Amadeus, then adhered to the republic, but he recognized Alfonso XII upon his accession (1875).

Espejo, Antonio de (äntō'nyō dā ĕspä'hō), fl 1582–83, Spanish explorer in the Southwest In 1582 he went out to rescue missionaries among the Pueblo Indians, said to be menaced by the Indians He went down the Conchos river and then up the Rio Grande, exploring much of the present New Mexico and going far into the present Arizona and returning in 1583 He found traces of gold that led the Spanish to support the expedition under Juan de OÑATE a few years later His narrative is translated in H E Bolton, *Spanish Explorations in the Southwest* (1916)

Esperanto see UNIVERSAL LANGUAGE

Espina de Serna, Concha (kōn'cha ĕspē'ná dā sĕr'na), 1877–, Spanish novelist Her regional novels, many of them laid in her native Santander, have brought her fame and have been widely translated Among the best known of her novels are *La esfinge maragata* (1914, Eng tr, *Mar(flor*, 1924), a story of Leon, *El metal de los muertos* (1920), of the Rio Tinto mines, *El cáliz rojo* (1923), and *Tierras del aquilón* [lands of the north wind] (1924), a collection of short stories and impressions of voyages

Espinel, Vicente Martinez (vĕthān'tā martēnēth' ĕspēnĕl'), 1550–1624, Spanish poet, novelist, and musician He composed guitar music and added the fifth string to the guitar As a poet he is credited with the creation of the 10-line stanza called *décima* or, in his honor, *espinela* His translation of Horace's *Epistola ad Pisones* was published with his *Rimas* in 1591 Espinel wrote the picaresque novel *Vida del escudero Marcos de Obregón* [the life of Squire Marcos de Obregón] (1618), from which Le Sage adapted many episodes and characters for *Gil Blás de Santillana*

espionage (ĕ'spēŭnäzh", -nĭj, ĕspō'ŭnĭj), clandestine securing of information. The term applies particularly to the act of seeking military, industrial, and political data concerning one nation for the benefit—actual or potential—of another Espionage is also practiced in other connections In industrial espionage employers use detectives to prevent sabotage, to apprehend agitators, or to break strikes Commercial espionage is common among competing businesses. The most widespread type of espionage is practiced by the police and security agencies of a state to discover foreign spies and saboteurs (counterespionage), to apprehend or control disloyal elements within the state, and to prevent organized opposition to a despotic regime Foreign espionage agents are usually indiscriminately called spies—a derogatory term One should distinguish between agents belonging to the armed or civil services of a government and spies, who are either paid or voluntary informants serving these agents. Spies, if caught, are almost always disavowed by their employers, agents are, if possible, protected. All types of espionage have been practiced ever since organized society began. Espionage as an organized institution was developed in the 18th and the early 19th cent., particularly by Joseph FOUCHÉ International law and the rules of warfare have standardized the treatment accorded to convicted foreign agents In wartime an enemy agent, if apprehended while not wearing the uniform of his country, may be punished by death. A neutral agent serving the enemy in wartime, or any foreign agent in peacetime, may be imprisoned but is frequently merely deported Anyone spying against his own country may be convicted of TREASON and made subject to the penalty provided by the law of his country. In the First World War the U S Espionage Acts of 1917 and 1918 extended the definition of espionage to include almost all interference with the government war effort, thus curtailing freedom of the press and making obstruction of the government a criminal offense Among nations at peace with each other espionage is never officially admitted but almost always practiced Diplomatic personnel (military attachés and others), if suspected of employing unfair means for securing information, must be recalled upon the demand of the government which they have offended Captured spies are often not convicted but used by their captors to spy on their original employer, these are "double agents" Spies may be zealous amateurs, paid professionals, or individuals who for some reason are at the mercy of their employer (e g, criminal or political offenders desiring to escape punishment) Of these the first are the most, the last are the least, reliable Espionage is rarely of decisive military value, except when carried out on such a huge scale as in France before the Allied landing in 1944 Espionage forms a minor aspect of intelligence activities as compared with the study of diplomatic and consular reports, foreign newspapers and technical publications, statistics, and—in wartime—aerial photography and interrogation of prisoners The four main steps in intelligence work are the gathering of data, the evaluation of their source, the analysis of their content, and the evaluation of their significance In secret police work, however, espionage plays a very important part No state can entirely dispense with it, but some governments consider every citizen a potential informant Typical is the use of *agents-provocateurs*, i e, agents who induce suspects unwittingly to give self-incriminating evidence

Espiritu Santo (ĕspō'rētōō sän'tō) or **Santo,** volcanic island (c 1,900 sq mi, pop c 4,000), S Pacific, largest and westernmost island of the New Hebrides British administrative headquarters is at Hog Harbour, French headquarters at Segond Canal The island produces copra, coffee, and cocoa It was discovered in 1606 by Queiros and was formerly called Tierra del Espiritu Santo In the Second World War the island was occupied (1942) by U S forces who established an air base for the Solomons campaign

Espoz y Mina, Francisco (franthē'skō ĕspōth' ē mē'nä), 1781 1836, Spanish soldier and revolutionist During the Peninsular War (1808–14) he and his nephew MINA waged successful guerrilla warfare against the French After the restoration of Ferdinand VII he was forced to flee because of his liberal views He returned to serve the constitutional government (1820–22), but went abroad again until 1833 He supported Maria Christina against the Carlists

Espronceda, José de (hōsä' dā ĕsprōnthä'dhä), 1808–42, Spanish poet He was involved in political intrigue from a very early age and wrote his first verse while confined in a monastery He was exiled and later went to Lisbon, where he fell in love with Teresa Mancha His two principal poetic works are *El estudiante de Salamanca* [the student of Salamanca] and *El diablo mundo* [the world devil] (1841), in which he included his passionate "Canto a Teresa" Espronceda was the great popular poet of the romantic period in Spain He has been compared to Byron, whom he much admired

Espy, James Pollard (ĕ'spē), 1785–1860, American meteorologist He developed a convection theory of storms, explaining it in 1836 before the American Philosophical Society and in 1840 before French and British scientific societies, his *Philosophy of Storms* was published in 1841 He became meteorologist to the War (1842) and Navy (1848) departments and developed the use of the telegraph in assembling weather observation data, by which he studied the progress of storms and laid the basis for scientific weather forecasting.

Esquiline Hill: see *Rome before Augustus* and *Roman Empire* under ROME.

Esquimalt (ĕskwĭ'mŏlt,-mält, ĕskwī'-), village, on Vancouver Island, British Columbia, c.3 mi. from Victoria It has the chief naval station and naval dockyard in W Canada. The station was established by the British government in 1855 and was taken over by Canada in 1906

Esquipulas (ĕskēpōō'läs), town (pop. 1,876), S Guatemala, near the Honduran and Salvadorean borders.

Believed to be a center of Mayan religious ceremonies, Esquipulas was chosen by the Spanish conquerors as a church site Here they commissioned the carving of a figure of Christ from balsam, which became known as the Black Christ of Esquipulas A series of miracles resulted in commissioning a grandiose church in 1737 About Jan 15 each year, before Guatemala inaugurated passport restrictions, the population exceeded 100,000 The pilgrimage may be made throughout the year.

Esquirol, Jean Étienne Dominique (shā'ătvĕn' dôměnăk' ĕskērôl'), 1772–1840, French psychiatrist, pupil of Pinel. He worked prodigously for the reform of mental institutions and for sympathetic treatment of the criminally insane In his chief work, *Des maladies mentales* (2 vols , 1838), he was one of the first to emphasize the role of emotions as a source of mental disturbances, supporting his thesis with statistical tabulations

Esquiros, Alphonse (Henri Alphonse Esquiros) (ălfōs' ĕskērōs', ārē'), 1814–76, French politician and author He was disciplined by the government for his democratic *Évangile du peuple* (1840) and exiled in 1851 He returned to political life as a deputy and became a senator in 1876 His works include *Les Chants d'un prisonnier* (1841), poems, and *Charlotte Corday* (1840), a novel *L'Angleterre et la vie anglaise* (1859) first appeared in *Revue des Deux Mondes* (1857–59), parts of it have been translated into English

Esrom (ĕs'rŏm), the same as HEZRON 1.

Essad Pasha (ĕ'săt pä'shä), 1863–1920, Albanian dictator Of a prominent Albanian family, he supported (1908) the Young Turk revolution, became a member of the Turkish parliament, and in the First Balkan War was entrusted (1912) with the defense of Scutari against the Montenegrins, to whom he surrendered the city in 1913 In 1914, when William, prince of Wied, became king of newly independent Albania, Essad was made chief minister He promptly expelled William and governed Albania dictatorially In the chaotic years that followed, Essad maintained himself, with Italian aid, until defeated (1916) by the Austrians He fled abroad and headed an Albanian commission in Paris, where he was assassinated by a fellow countryman

essay, literary composition in prose which gives the author's thoughts and feelings on almost any subject The essay is unlike a dissertation or an article in being less objective and more personal The word was first used by Montaigne, whose *Essais* (1580–95) discussed friendship, love, death, and moral questions, they are considered by many today the finest essays ever written The essays of Francis Bacon, his contemporary, were more formal The first important personal essays in English were those of Abraham Cowley, and the great essayist of the next period was Jonathan Swift In the 18th cent Addison and Steele in the *Spectator* and Samuel Johnson in the *Rambler* widened the use of the essay In the next century the most famous essayists were Charles Lamb and Thomas De Quincey and later Richard Jefferies, more formal essays dealing with morality, literature, painting, and history were written by Leigh Hunt, Carlyle, Walter Savage Landor, Ruskin, Matthew Arnold, J H Newman, John Stuart Mill, and Walter Pater In America the principal essayists of the 19th cent were Washington Irving, Oliver Wendell Holmes, James Russell Lowell, and, most famous, Ralph Waldo Emerson and Henry Thoreau Continental essayists included Brunetière, F É J Lemaître, Lessing, Friedrich von Schlegel, Émile Faguet, and Schopenhauer The 20th-century English essayists include G K Chesterton, E V Lucas, and Hilaire Belloc In the United States, Samuel McChord Crothers, H L Mencken, Christopher Morley, Agnes Reppher, James Thurber, and E B White have written informal and generally amusing essays See Burges Johnson, *Essayng the Essay* (1927)

Esseg, Yugoslavia see OSIJEK

Essen (ĕ'sŭn), city (pop 524,728), in the former Rhine Prov of Prussia, NW Germany The center of the RUHR district and the seat of the KRUPP steel works, it is one of the great industrial cities of the world Although its origin is traceable to the 9th cent , its importance dates only from its industrial rise in the 19th cent Its ancient minster was damaged in the intensive Allied raids which destroyed three quarters of Essen during the Second World War

Essenes (ĕ'sēnz), members of a Jewish religious order, originating in the 2d cent B C Very little historical information about the Essenes is available our chief sources of information are Pliny the Elder, Philo's *Quod omnius probus liber*, and Josephus' *Jewish War* and *Antiquities of the Jews* A feature of their organization was the doctrine of communal possession Ceremonial purity was another outstanding characteristic, this called for abstinence from conjugal relations, scrupulous cleanliness, the wearing of only white garments, and the most strict observance of the Sabbath. The Essenes believed in purification through baptism and in immortality, but not in resurrection They condemned slavery and prohibited trading because it led to covetousness and cheating; they abhorred untruthfulness, forbidding oaths They subsisted by pastoral and agricultural activities and handicrafts All these features, besides indicating that the sect was an outgrowth of extreme Pharisaism, also show Oriental influences. The claim sometimes advanced that Jesus and John the Baptist came from this sect has never been substantiated The sect ceased to exist sometime in the 2d cent A D

essential oils. see OILS

Essequibo (ĕsăkē'bō), river, central British Guiana It is the longest river of the colony, flowing from the Brazilian border to the Atlantic The first colony in the Guianas, founded by the Dutch in 1616, was also called Essequibo

Essex, Robert Devereux, 2d **earl of** (dĕ'vurōō), 1567–1601, favorite of Queen ELIZABETH of England He succeeded to the earldom on the death of his father in 1576 and came under the guardianship of Lord BURGHLEY He received his master's degree from Cambridge in 1581 and soon won favor at court. While serving as a cavalry officer in the Netherlands under his stepfather, the earl of Leicester, he distinguished himself in action and was knighted (1587) When he returned to England he soon became a marked favorite of the queen, a position which involved him in a quarrelsome rivalry with Sir Walter RALEGH Pressed for money and hungering for adventure, Essex joined the expedition of Sir John Norris and Sir Francis Drake to Portugal but was ordered home by Elizabeth (1589) In 1590 he angered the queen by secretly marrying the widow of Sir Philip Sidney The following year he commanded a flamboyant but unsuccessful expedition to Normandy to help Henry of Navarre (Henry IV) He returned home and, advised by Francis BACON, entered politics in an effort to seize power from the aging Burghley But Essex was too obvious and impetuous in his demands on the queen, Elizabeth was wary, and gradually she conferred the power he sought on Robert Cecil, son of Burghley Essex became a national hero when he shared command of the expedition which captured Cádiz in 1596, but he failed miserably the next year in another Spanish expedition, much to the displeasure of the queen. When she soon afterward created him earl marshal, however, Essex plunged again into a quest for power In 1598 he affronted the queen and was struck by her In 1599, at his own demand, Essex was made lord lieutenant of Ireland and sent there with a large force to quell the rebellion of the earl of TYRONE Failing completely to accomplish his mission, he returned to England against the express orders of the queen, was confined by the council, and then became ill In 1600 he was tried for disobedience by a special council and deprived of his offices In several months he was again free but was banned from the court Still popular, he planned a coup which would oust the enemy party and establish his own about the queen To this end he unsuccessfully asked support from the army in Ireland and opened negotiation with James VI of Scotland Desperately, Essex made his attempt with a small body of personal followers on Feb 8, 1601 The Londoners failed to respond, the queen's government was thoroughly prepared, and he was arrested At the trial Bacon contributed heavily to his former patron's conviction Elizabeth signed the death warrant, and Essex was executed See W B Devereux, *Lives of the Earls of Essex* (1853), L A Cadwallader, *Career of the Earl of Essex* (1923), Lytton Strachey, *Elizabeth and Essex* (1928), G B Harrison, *The Life and Death of Robert Devereux* (1937)

Essex, Robert Devereux, 3d **earl of,** 1591–1646, English parliamentary general, son of Robert Devereux, 2d earl of Essex James I restored him (1604) to the estates of his father and arranged his marriage (1606) with Frances Howard, daughter of Thomas Howard, earl of Suffolk The marriage ended in a famous trial when the countess, who had fallen in love with Robert Carr, earl of SOMERSET, sued for and obtained an annulment (1613) with great scandal After 1620 Essex followed a military and naval career and after 1626 was in the parliamentary opposition to Charles I leading to the Puritan Revolution He was second in command of the royal army in the first BISHOPS' WAR in Scotland (1639) and was made privy councilor (1641), but Charles could not keep his allegiance thereafter Essex commanded the parliamentary forces at Edgehill (1642) and took Reading (1643) He relieved Gloucester in 1643, but the next year saw his failure and disgrace He went into Cornwall and, pursued, had to escape with as many of his men as he could by sea. The Self-Denying Ordinance forced Essex to relinquish his command (1645)

Essex, Walter Devereux, 1st **earl of,** 1541–76, English soldier He was created earl of Essex in 1572 The following year he volunteered to colonize a part of Ulster, then controlled by the O'Neill clan, and bring it under English rule Famine, desertion of his troops, and the vacillation of Queen Elizabeth negated his ruthless efforts to subdue the Irish He was recalled (1575) and died soon afterwards. His son, Robert, became the 2d earl of Essex

Essex, kingdom of Anglo-Saxon England It was settled probably in the early 6th cent by Saxons who traced their royal line back to a continental Saxon god, instead of to Woden, as did rulers of other early kingdoms, Essex eventually included the modern counties of Essex, London, Middlesex, and most of Hertfordshire Under the hegemony of his uncle, Æthelbert of Kent, King Sæbert by 604 had accepted Christianity, but the kingdom lapsed into heathenism when his successors ejected (617) Mellitus, bishop of London In 653, however, at the request of King Sigbert, Oswy of Northumbria sent Cedd to convert the East Saxons and to build churches In the 7th cent the submission of Essex to the overlordship of Wulfhere marked the beginning of a long domination by MERCIA, and by 740 the larger state controlled London In 825 Essex joined other eastern kingdoms in submitting to EGBERT of Wessex and became an earldom Heavily settled by the Danes, it became part of the DANELAW by the treaty of 886, but was retaken by Edward the Elder of Wessex in 917 Its most famous later earl was BYRHTNOTH, who suffered a noble defeat with his followers at MALDON in 991

Essex, maritime county (1,528 sq. mi , 1931 pop. 1,755,459, 1948 estimated pop 1,974,000), E England, on the north bank of the Thames estuary Chelmsford is the county town The land rises from the low irregular coast line to undulating pastoral country There are numerous streams and salt marshes Among the chief products of the county are fish, oysters, fruits, and vegetables The southwest portion of the county is included in the Greater London area Here there are important manufactures of chemicals, machinery, textiles, cement, and a variety of other products Essex was once part of the kingdom of the East Saxons, whence its name, and there are Roman and Saxon remains at Colchester and Maldon There are popular resorts along the coast The areas near London and along the coast were frequently bombed in the Second World War See *Victoria History of Essex* (2 vols , 1903–7), Clifford Bax, *Highways and Byways in Essex* (1939)

Essex, town (pop 1,935), S Ont , SE of Windsor It is in a fruitgrowing district

Essex. 1 Industrial town (pop 2,859), S Conn , on the Connecticut, set off from Saybrook 1852 2 Town (pop 1,384), NE Mass , NE of Salem, settled 1634, set off from Ipswich 1819 Its shipyards were established in 1668 3 Town (pop 3,059), NW Vt , E of Burlington and on the Winooski, chartered 1763, settled 1783 It includes the village Essex Junction (pop 1,901), a railroad and highway focus and seat of the Champlain Valley Exposition

Essex Fells, borough (pop 1,466), NE N J , NW of Newark, inc 1902

Essex Junction, Vt see ESSEX

Essex Junto, group of New England merchants, so called because many of them came from Essex co , Mass They opposed the radicals in Massachusetts in the American Revolution and supported the Federalist faction of Alexander Hamilton They later encouraged the disaffection of the Hartford Convention Prominent among them were Timothy PICKERING, George CABOT, and Theophilus PARSONS

Essexville, city (pop 2,390), S Mich , at the mouth of the Saginaw river opposite Bay City and near Saginaw Bay, inc as a village 1883, as a city 1934 This area, the site of numerous Indian villages, was part of an Indian reservation (1819–37)

Esslingen (ĕs'lĭng-un) or **Esslingen am Neckar** (am nĕ'kär), city (pop 64,923), N Württemberg, SW Germany, on the Neckar and ESE of Stuttgart Noted for its wines, it also has machinery, textile, and other industries Founded in 777 and a free imperial city from 1219 to 1803, Esslingen was (1488) the scene of the formation of the Swabian League It has retained its 13th-century castle and several fine Gothic churches The old city hall dates from the 15th cent , the new city hall dates from the 18th cent

Established Church. see ENGLAND, CHURCH OF, SCOTLAND, CHURCH OF; and IRELAND CHURCH OF.

Estaing, Charles Hector, comte d' (shärl' ĕktôr' kōt' dĕstĕ'), 1729–94, French admiral After serving in India he was given command (1778) of a French fleet sent to aid the patriots in the American Revolution Planning to attack Newport, R I , he was undone by a storm and had to put into Boston for repairs In 1779 he cooperated with Gen Benjamin LINCOLN in the unsuccessful attack on Savannah In 1780 he returned to France Estaing commanded the National Guard at Versailles when a Parisian mob invaded the palace (Oct 5–6, 1789), but failed to take action Though he shared some of the French revolutionists' ideas, he was personally friendly to the royal family, testified (1793) in favor of Marie Antoinette during her trial, and was guillotined as a noble

estate. 1 In property law, see PROPERTY and TENURE 2 In constitutional law, an estate de-

notes an organized class of society with a separate voice in government The term is of feudal origin and in older usage designates the three principal classes, the nobility, the clergy, and the commons The commons were the townspeople of substance—the burgesses or bourgeoisie The sovereign would occasionally consult the three estates and consider their grievances Often voting was by an estate as a whole rather than by individual vote In many cases the estates might merely advise the sovereign, and their decisions were not binding From these practices modern parliamentary institutions gradually evolved In several countries Much of the constitutional development of the later Middle Ages is a record of the emergence of the commons —sometimes called the third estate—into a position of equality with the other two estates The process is clearly shown in the history of the STATES-GENERAL in France The English PARLIAMENT may be viewed historically as a representative body of the estates, the nobility and the Church of England are represented by the House of Lords, and the commons—the remaining adult citizens—by the House of Commons In fact, however, the term *estate* is not applicable to a country with democratic institutions and is probably not appropriate in any modern state

Estates-General see STATES-GENERAL

Estaunié, Édouard (ādwär' ĕstônyā'), 1862–1942, French novelist Although he was successful as an engineer, Estaunié's main interest was literary His best-known novel, *L'Empreinte* [the imprint] (1896), was followed by *Le Ferment* (1899), both concerned with the problems of education Other novels, generally dealing with unhappy people, include *La Vie secrète* (1909), *Les Choses voient* [things do see] (1913), and *Tels qu'ils furent* [such as they were] (1927) He was elected to the French Academy in 1923

Este (ĕ'stā), ancient Italian noble family, rulers of FERRARA (1240–1597) and of MODENA (1288–1796) and celebrated patrons of the arts during the Renaissance Probably of Lombard origin, they belonged to the house of the GUELPHS and derived their name from the castle of Este, near Padua **Azzo d'Este II** (ät'tsō), d 1097, lord of Este, was invested with Milan by the emperor His son, **Guelph d'Este IV** or **Welf IV,** d 1101, was adopted by his maternal uncle, Guelph III, whom he succeeded as duke of Carinthia In 1070 he was made duke of Bavaria The grandfather of Henry the Proud of Bavaria and Saxony, Guelph IV was the founder of the German line of the Guelphs, from whom the ruling house of England is descended He died on Cyprus while crusading Azzo d'Este II had another son, who continued the Italian line of the house, among that son's successors was **Obizzo d'Este** (ōbĕt'tsō), d 1194 Obizzo played an important part in the struggle of the Guelphs against Emperor Frederick I (see GUELPHS AND GHIBELLINES) He married the heiress of one of the two families contending for supremacy in Ferrara His grandson, **Azzo d'Este VI,** 1170–1212, was podestà of Mantua and Verona and fought to obtain Ferrara, but it was left for his son, **Azzo d'Este VII,** 1205–64, to succeed in becoming (1240) podestà of that city at the head of the triumphant Guelph party **Obizzo d'Este II,** d 1293, was made perpetual lord of Ferrara, lord of Modena (1288), and lord of Reggio (now REGGIO NELL'EMILIA) in 1289. Since Ferrara was held as a fief from the pope, the Este became papal vicars in 1332 **Niccolò d'Este III** (nĕk-kōlō'), 1393–1441, made Ferrara a center of arts and letters and increased the power of his house by playing his more powerful neighbors against each other Under his successors the court of the Este became one of the most brilliant in Europe Among them were **Lionello d'Este** (lēōnĕl'lō), 1407–50, an accomplished prince, and his brother **Borso d'Este** (bōr'sō), 1413–71, who received the title duke of Modena and Reggio from Emperor Frederick III in 1452 and that of duke of Ferrara from Pope Paul II in 1471 The third brother, **Ercole d'Este I** (ĕr'kōlā), 1431–1505, lost some territory in wars against Venice Ercole's beautiful and brilliant daughter, **Beatrice d'Este** (bāatrē'chā), 1475–97, married LODOVICO SFORZA, duke of Milan, one of the most lavish of all Renaissance princes Her sister, **Isabella d'Este** (ē"zabĕl'lā), 1474–1539, married Francesco GONZAGA, marquess of Mantua Ariosto, Boiardo, and Berni were her friends, and Leonardo da Vinci and Titian painted portraits of her Ercole I was succeeded by his son, **Alfonso d'Este I** (alfōn'sō), 1476–1534, second husband of Lucrezia BORGIA In the ITALIAN WARS he entered the League of Cambrai against Venice and remained an ally of Louis XII of France even after Pope Julius II had made peace with Venice The pope declared Alfonso's fiefs forfeited and excommunicated him (1510), Modena and Reggio were lost However, in 1526–27 Alfonso participated in the expedition of Emperor Charles V against Pope Clement VII, and in 1530 the pope again recognized him in possession of his duchies Ariosto lived at his court in Ferrara after being long employed by Alfonso's brother, **Ippolito I, Cardinal d'Este** (ēp-pō'lētō), 1479–1520, to whom *Orlando Furioso* is dedicated. Alfonso's son and successor, **Ercole d'Este II,** 1508–59, married Renée, daughter of Louis XII of France He joined the pope and France against Spain in 1556, but made a separate peace in 1558 He also was a patron of the arts, as was his brother, **Ippolito II, Cardinal d'Este,** 1509–72, an able diplomat who led the pro-French party at the papal court Ippolito built the celebrated VILLA D'ESTE at Tivoli. With Ercole II's son, **Alfonso d'Este II,** 1533–97, the direct male line of the house ended He willed his titles to his cousin, **Cesare d'Este** (chāza'rā), 1533–1628, but Pope Clement VIII refused to recognize Cesare's rights, and Ferrara was incorporated into the Papal States in 1598 Emperor Rudolf II recognized Cesare's rights to Modena and Reggio, but without Ferrara the duchy lost its political importance The last duke, Ercole d'Este III, was deposed in 1796 by the French and died in 1803 His daughter, Maria Beatrice, married Archduke Ferdinand of Austria, a son of Emperor Francis I, who founded the house of Austria-Este After the restoration of the duchy of Modena (1815) their son and grandson, Francis IV and Francis V, ruled as dukes of Modena, Massa, and Carrara Francis V was expelled in 1859, and his territories were annexed (1860) to the kingdom of Sardinia

Este (ĕ'stā), town (pop 14,438), Venetia, NE Italy, SW of Padua The ancient Ateste, it was a center of civilization (10th–2d cent B C) of which many important remains have been found The Este family originated here In 1405 the town passed under Venetian rule Este has a 13th-century castle and several fine villas

ester, any one of a group of compounds formed by the reaction between an alcohol and an acid For example, when ethyl alcohol and acetic acid react, ethyl acetate (an ester) and water are formed, the reaction is called esterification Ethyl acetate is used as a solvent Methyl acetate, formed by the reaction between methyl alcohol and acetic acid, is a sweet-smelling liquid used in making perfumes, extracts, and lacquers Esters react with water (HYDROLYSIS) under certain conditions to form an alcohol and an acid When heated with a hydroxide certain esters decompose to yield soap and glycerin, the process being called saponification Common FATS AND OILS are mixtures of various esters, such as STEARIN, PALMITIN, and linolein, formed from the alcohol glycerol (GLYCERIN) and fatty acids The presence of certain esters in flowers gives them their distinctive odors Esters are commonly used for flavoring, in perfumes, in paints, and in explosives (see NITROGLYCERIN)

Esterhazy (ĕ'sturha"zē), Hung *Eszterházy,* ancient princely Hungarian family **Paul, Fürst Esterhazy von Galantha** (poul' fürst' ĕ'shtĕrhä'zē fŭn gä'läntä), 1635–1713, distinguished himself in the defense of Vienna (1683) and the reconquest of Hungary from the Turks and was made palatine of Hungary in 1681 A staunch supporter of Hapsburg rule, he was created prince of the Holy Roman Empire in 1712 **Paul Anton, Fürst Esterhazy von Galantha,** (än'tōn), d 1762, appointed Joseph HAYDN as composer for his private chapel (i e, orchestra) at his seat at Eisenstadt, now in Austria For his brother **Nikolaus Joseph, Fürst Esterhazy von Galantha** (nĕkōlä'ōōs yō'zĕf), 1714–90, Haydn composed most of his chamber music and numerous symphonies and operas for a vastly increased orchestra and a newly established private opera Nikolaus Joseph, one of the most lavish Maecenases of all time and immensely rich, built the celebrated château of Esterhaz, on the southern end of the Neusiedler Lake, at an estimated cost of 11,000,000 florins At his death he left Haydn the handsome pension of 1,000 florins a year His nephew, **Nikolaus, Fürst Esterhazy von Galantha,** 1765–1833, was offered (1809) the crown of Hungary by Napoleon I, but refused

Esterhazy, Ferdinand Walsin (ĕ'sturha"zē, Fr fĕrdēnä' välsĕ̄ ĕstĕrazē'), 1847–1923, French army officer, claiming membership in the old Hungarian family of Esterhazy An adventurer, he had served in the papal army and the French Foreign Legion before entering the regular French army, where he rose to be a major Deep in debt, he sold French military secrets to the Germans When evidence of treason leaked out in 1894, the guilt was pinned on Captain Dreyfus (see DREYFUS AFFAIR) Esterhazy was tried in 1898 upon the insistence of the pro-Dreyfus party, but his fellow officers, still refusing to admit a judicial error, acquitted him He was later dismissed from the army

Estes Park (ĕs'tĕz), resort town (pop 994, alt c 7,500 ft), N central Colo, in the Rockies NNW of Denver, settled 1859, inc 1917 It is the headquarters for Rocky Mountain National Park A state fish hatchery is near by Two dams and power plants of the COLORADO–BIG THOMPSON PROJECT are near Estes Park

Estevan, town (pop 3,120), S Sask, SE of Regina, just N of the SOURIS river and near the N Dak. border; founded 1892 It has a lignite-mining industry and an electric power plant

Estey, Jacob (ĕ'stē), 1814–90, American organ manufacturer, b Hinsdale, N H Going to Brattleboro, Vt, he started to make small organs c.1850, selling them himself in New England His shop burned, in 1860 the Estey Organ Company was established in Brattleboro The firm began to make pianos in 1885 and large church organs in 1901.

Esther (ĕ'stûr) [Heb from Babylonian Ishtar], book of the Old Testament, 17th in the order of AV. It is the story of a Jewish girl, named originally Hadassah (hŭdă'sû) [Heb, =myrtle], whose great beauty made her queen of the Persian king Ahasuerus (Xerxes) It tells how the wicked courtier Haman attempted to compass the massacre of the Jews and how Esther and her uncle Mordecai turned the tables, the feast of PURIM commemorates the triumph Extant Hebrew versions are different from those surviving in Greek These latter are longer by several chapters, translations of which are treated as apocryphal in AV, in Roman Catholic translations, where they are canonical, they are appended, out of order, as 10 4–13 and 11–16 They contain a conclusion and supplementary material, including prayers of Esther and Mordecai The Hebrew version contains no mention of God Some critics date the book as late as 150 B C The French dramatic poet Racine wrote an *Esther* (1689) For bibliography, see OLD TESTAMENT

Estherville, city (pop 5,651), co seat of Emmet co, NW Iowa, on the West Fork of the Des Moines river near the Minn line, E of Spirit and Okoboji lakes, settled 1857, inc as a town 1881, as a city 1894 A processing, trade, and shipping center for a large livestock, farm, and lumber area, it has railroad shops, creameries, and a meat-packing plant Parts of a large meteorite which fell here in 1879 are at the British Museum, at Vienna, and at the Univ of Minnesota The site of Fort Defiance (1862), near by, is preserved in a state park The city has a junior college

esthetics see AESTHETICS

Estienne, Étienne (ātyĕn'), or, Latinized, **Stephanus** (stĕ'funus), family of Parisian and Genevan printers of the 16th and 17th cent, distinguished through five generations in scholarship as well as in their craft The first of the line was **Henri Estienne** (ärē'), d 1520, who was by 1502 established as a printer in Paris Before his death more than 100 books, some of them of great typographic beauty, had issued from his press His foreman, Simon de COLINES, succeeded him and married his widow Some years later, probably in 1526, Henri's son, **Robert Estienne** (rōbĕr'), b 1498 or 1503, d 1559, took over his father's shop, Colines then founding a new establishment Robert, a capable scholar, devoted himself to printing only scholarly works, many of them edited by himself He put out editions of classical authors, dictionaries and lexicons, and, more especially, critical editions of the Bible He enjoyed the favor of Francis I and became king's printer for Latin, Hebrew, and Greek The printer's mark used by him, the Olive Tree, was designed by Geoffroy TORY, who is said to have been a proofreader for the elder Estienne, some of the Estienne types were designed by Claude GARAMOND Robert Estienne, a thorough humanist, upheld the cause of the Reformation, and long-continued attacks upon him by the faculty of the Univ of Paris and also by political opponents of the king finally resulted in his removal to Geneva in 1550 He set up a press there and continued to print books until his death His own Latin dictionary, *Thesaurus linguae Latinae* (1531), probably compiled with the aid of other scholars, is a monumental work His grammatical treatises on French are also of great importance His brother, **François Estienne** (frāswa'), d 1553, was of minor importance as a bookseller, but another brother, **Charles Estienne** (sharl), c 1504–1564, succeeded Robert in the management of the Paris establishment in 1551 Educated in medicine, skilled in classical learning, Charles wrote many works on medicine, agriculture, and other subjects Many of his books were printed by his brother, Robert, and by his stepfather, Colines Best known of his works are perhaps an encyclopedia, one of the earliest appearing in France, a treatise on dissection, and *Praedium rusticum,* which as *Maison Rustique, or, The Countrie Farme* appeared in English editions The second **Henri Estienne,** 1531?–1598, the greatest scholar of the family, was one of Robert's sons He inherited his father's press on the express condition that it should not be moved from Geneva He was a well-trained scholar and devoted years to searching for manuscripts Although humanism was far advanced, he yet discovered numerous works of classical authors of which he issued first editions His editions of Greek and Latin works are remarkable for their accuracy and textual criticism The greatest monument to his scholarship is, perhaps, his *Thesaurus Graecae linguae* (1572) He also championed the use of the French language and wrote valuable treatises on the French tongue and on French grammar, the most important is *La Precellence du langage françois* (1579), in spite of its gross errors in philology His satirical *Apologie pour Herodote* (1566) got him into trouble with the Consistory of Geneva, and after the publication of *Deux Dialogues du nouveau langage françois italianizé* (1578) he went to France to escape cen-

sure in Geneva He was imprisoned for a short time on his return, and his life became more and more that of the wandering scholar. The books he printed did not equal those of his father in typographic beauty He marks, however, the highest point of the family's career, though the Estiennes continued prominent as printers until late in the 17th cent

Estill (ĕs'tĭl), town (pop 1,280), S S C , near the Savannah W of Charleston, in an area yielding tobacco, peanuts, and strawberries

Eston, urban district (1931 pop 31,341, 1947 estimated pop 32,290), North Riding of Yorkshire, England, at the foot of the Cleveland Hills It has ironworks and steelworks

Estonia (ĕstō'nēu), Estonian *Eesti* (ā'stĕ), republic (17,400 sq mi , 1934 pop 1,126,413), NE Europe Its inclusion (1940) in the USSR as a constituent republic was still unrecognized in 1949 by the United States It borders on the Baltic Sea and two arms of the Baltic, the Gulf of Finland and the Gulf of Riga, in the north, west, and southwest, on the RSFSR in the east, and on Latvia in the south TALLINN (the capital), TARTU, Narva, and Parnu are the chief cities Estonia has about 1,500 lakes, Lake PEIPUS, on its eastern border, is the largest On its Baltic coast there are 818 islands, the most notable Saaremaa It is a flat, generally agricultural country Dairy farming is—or used to be—the chief source of its agricultural wealth, other important resources are shale oil, timber, peat, and fish Before the Second World War 88 percent of the population were Estonians, who are ethnically and linguistically close relatives of the Finns, and 8 percent Russians Lutheranism is the prevailing religion Early in the 13th cent the northern part of present Estonia was conquered by Denmark, and the southern part by the LIVONIAN KNIGHTS, a German order In 1346 all LIVONIA (i e , present Estonia and Latvia) was united under the rule of the knights, who however lost their domains in 1561 Estonia passed to Sweden, the rest was briefly Polish, then (1629) also Swedish In 1710 Peter I of Russia conquered all Livonia, and Russian possession was confirmed by the Treaty of Nystad (1721) Despite these political changes, the German nobility—the Baltic barons—retained its sway over the Estonian peasantry until the eve of the Russian Revolution of 1917 Estonian national consciousness began to stir in the mid-19th cent There were grave outbreaks and bloody reprisals in the Revolution of 1905 Independence from Russia was proclaimed in Feb , 1918, and was shortly followed by occupation by German troops who received some aid from the Estonians In Nov , 1918, Estonia proclaimed itself a democratic republic and repulsed the invading Red Army Peace with Russia came in Feb , 1920 Democratic rule ceased in 1934, when political parties were abolished and President Konstantin Pats instituted an authoritarian regime A more democratic constitution came in force in 1938, but in Sept , 1939, Russia secured military bases, and in June, 1940, occupied Estonia Elections were held in July, 1940, and Estonia was absorbed into the USSR as a constituent republic Occupied (1941–44) by German troops, it was reconquered by Russia Many Estonians fought Russia alongside the Germans and many fled their country on the approach of the Russians The Estonian SSR ceded c 1000 sq mi of border tracts to the RSFSR

Estournelles de Constant, Paul Henri Benjamin, baron d' (pôl' ārē' băzhamē' barō' dătōōrnĕl' du kōstā'), 1852–1924, French diplomat and pacifist He wrote and spoke tirelessly in favor of disarmament and international conciliation, was a delegate to the Hague Peace Conferences (1899 and 1907), and was awarded the 1909 Nobel Peace PRIZE jointly with Auguste Beernaert

Estrada Cabrera, Manuel (mänwĕl esträ'dä käbrā'ra), 1857–1924, president of Guatemala (1898-1920) He ruled as an absolute dictator, and there were several revolutionary movements and attempts on his life Although his regime was one of terror, Guatemala achieved material progress through advance of education, maintenance of order, and, in spite of a ruinous currency system, increase of wealth A revolution in 1920 forced Estrada Cabrera to leave office and flee the country

Estrada Palma, Tomás (tōmäs', pal'ma), 1835–1908, Cuban revolutionist and first president (1902–06) of the permanently established republic Actively participating in the Ten Years War (1868–78), he became a general and revolutionary president (1876) He was captured by the Spanish (1877), but released and exiled Estrada Palma spent some time in the United States where, upon the new outbreak (1895) of revolution in Cuba, he helped to win sympathy and support for the Cuban cause. As president he strove to balance the republic's economy and set Cuba on the road to material progress, but he was unable to stop the excessive graft and spoils sought by the revolution's military and political participants who claimed reward His reelection by the Conservatives in 1906 brought charges of fraud from the Liberals, and a revolt broke out under José Miguel GÓMEZ Estrada Palma asked the United States to intervene, but after the intervention refused the proferred American compromise and resigned

Estrades, Godefroy, comte d' (gôdfrwä' kōt' dĕstrād'), 1607–86, French diplomat, marshal of France He negotiated the restitution of Dunkirk by the English (1662), fought in the Dutch War of Louis XIV, and negotiated the Peace of Nijmegen.

Estrées, Gabrielle d' (gabrēĕl' dĕstrā'), 1573–99, famous beauty, mistress of Henry IV of France, who made her marquise of Monceaux and duchess of Beaufort She divorced her husband, and Henry was preparing to divorce Marguerite of Valois, with the object of marrying Gabrielle, when Gabrielle died in childbirth

Estrela, Serra da (sĕ'ru dä shträ'lu), short mountain range, N central Portugal, in Upper Beira prov , rising to more than 6,500 ft The mountains, notable for their beauty, are a summer resort, and in the winter the slopes, heavy with snow, attract winter sports enthusiasts

Estremadura (shtrŭmudōō'ru), region, SW Portugal, formerly a province, now divided among the provinces of Estremadura (2,064 sq mi , pop 1,379,533) and Ribatejo, with a small part in Beira Litoral The capital is Lisbon, which dominates the province The Tagus river flows through a fertile, heavily wooded valley, stretching out to wide plains There are grainfields, orchards, and vineyards, and the province produces some copper, iron, marble, coal, and salt Before the Christian reconquest it was a Moslem province Its history is largely that of Lisbon, Santarém, and its other cities See PORTUGAL

Estremadura (shtrumudōō'ru), Span *Extremadura* (ăstrāmădhōō'rä,ăks–), region (16,059 sq mi , pop 1,253,924), W central Spain It is on the border of Portugal and comprises Badajoz and Cáceres prov , a tableland crossed by mountains and by the Tagus and Guadiana rivers Poverty-ridden, Estremadura suffers from the effects of poor communications, absentee landlordism, and continuous emigration Except in its fertile valleys, where wine, oil, and cereals are produced, Estremadura serves as winter grazing land for sheep from Castile and Leon Hogs are also raised in large quantities Reconquered from the Moors in the 12th and the 13th cent , Estremadura was frequently a battlefield in the Spanish wars with Portugal and again in the Peninsular War

Estremoz, Port *Estremós* (shtrumōsh'), city (pop 6,765), SE Portugal, in Upper Alentejo prov , NE of Évora It is famous for its white, almost translucid marble and also for its pottery The castle built by King Diniz, with a stately tower, is much admired Some of the expeditions of Nun'Alvares Pereyra were based on Estremoz, and in the 17th cent it was important in the wars with Spain

estuary (ĕs'chōō"rē), the meeting place of river water and ocean water, the part of a river course affected by tides The shape of an estuary affects the height of the tide, some estuaries (as that of the Severn) are characterized by a BORE An estuary often provides a good harbor, sometimes well connected with the interior, if the river is navigable Estuarine inlets take different names in different countries, e g , firth (Scotland), fjord (Norway)

Eszek, Yugoslavia see OSIJEK

Esztergom (ĕ'stĕrgôm), Ger *Gran,* city (pop 22,-171), N Hungary, on the Danube and 25 mi NW of Budapest The birthplace of St Stephen, it became (1198) and still is the seat of the archprimate of Hungary, it was the royal residence and the capital of Hungary until the 13th cent The dome-topped cathedral, the most beautiful church in Hungary, dates from the 19th cent and overlooks the Danube The palace of the primates contains a museum of antiquities and a library rich in old manuscripts and incunabula Esztergom's warm springs and beautiful location have made it a favorite tourist resort

Etah (ē'tu), village, on NW Greenland, N of Cape York The Eskimo tribe discovered here by John Ross in 1818 is known as the Polar Eskimo and has been studied by R E Peary, D B MacMillan, and Knud Rasmussen Etah is frequently used as a base for arctic expeditions See D B MacMillan, *Etah and Beyond* (1927)

Etam (ē'–) **1** Village, S Palestine 1 Chron 4 32. **2** Town of Judah, fortified by Rehoboam *2* Chron 11 6 **3** Cleft rock, where Samson hid Judges 15 8,15 These may be the same

Étampes, Anne de Pisseleu, duchesse d' (ăn' dŭ pēslû' dushĕs dătăp'), 1508–1580?, official mistress of Francis I of France after 1526 She patronized men of letters and used her increasing influence over the king to procure the downfall of Anne de Montmorency and the reinstatement of Chabot In 1533 Francis married her to Jean de Brosses, whom he created duke and made governor of Brittany In 1547 Henry II exiled her from court

Etawah (ĭtä'wŭ), town (pop 53,114), SW United Provs , India, on the Jumna river In the 17th cent it was an important banking and commercial center. Cotton cloth is manufactured

etching, the art of engraving with acid on metal and also the print taken from the metal plate so engraved In hard-ground etching the plate, usually of copper or zinc, is given a thin coating or ground of acid-resistant resin This is sometimes smoked so that lines scratched through the resin will be clearly visible The needle exposes without penetrating the metal When the design is completed, the plate is submerged in an acid solution which attacks the exposed lines During the bath the plate is frequently removed, and such lines as are bitten to sufficient depth are coated with stopping-out varnish The lines receiving the longest exposure to the acid will be the heaviest and darkest in the subsequent print It is also possible to apply the acid locally to the plate In printing, all varnish is removed, the plate is warmed, coated with etcher's ink, and then carefully wiped so that the ink remains in the depressions but is largely or wholly removed from the surface It is then covered with a soft, moist paper and run through an etching press The best etchers have usually done their own wiping and printing There are many variations of the technique of etching Often the acid is permitted to penetrate the ground somewhat, and the resultant specks of foul biting are deliberately employed Etchers often remove undesired lines by burnishing and otherwise change the first state of the plate from which they make their trial print Certain etchings appear in many and widely differing states Only a limited number of first-rate proofs can be made from a plate, and some etchers destroy their plates after making a given number of prints Soft-ground etching gives effects similar to those obtained in pencil or crayon drawing, while aquatint approximates the effects of a wash drawing Aquatint is often combined with hard-ground etching, as is also dry point This latter technique, in which lines are scratched directly on the metal, is not true etching as no acid is employed but resembles it closely in the effect produced Dry point has been practiced on celluloid as well as on metal Pictorial etching evolved gradually from the earlier burin engraving Both seem to have originated in Germany, where Dürer's etchings on iron, made between 1515 and 1518, were probably the earliest important examples of an art which in the following centuries was practiced by many of the greatest painters Landmarks in the history of etching are the names of Dürer, Jacques Callot, Rembrandt, the Tiepolos, the Piranesi, Goya, and, in the 19th cent , Meryon and Whistler See Levon West *Making an Etching* (1932), Joseph Pennell, *Etchers and Etching* (1919)

Eteocles (ētē'ōklēz), in Greek legend, son of OEDIPUS Having excluded his brother, POLYNICES, from a share in the kingdom, he defended Thebes in the war of the SEVEN AGAINST THEBES The brothers killed each other in single combat

Étex, Antoine (ätwăn' ātĕks'), 1808–88, French sculptor, painter, and architect Among his paintings is *Glory of the United States* (city hall, New York) He is best known as a sculptor, foremost among his works are the colossal group, *Cain and His Race Cursed by God,* Lyons, and *Resistance* (1814) and *Peace* (1815), two large groups on the Arc de Triomphe de l'Étoile, Paris

Etham (ē'–) encampment of the Jews Num 33 6,8

Ethan (ē'–) [Heb ,=strong] **1** Ezrahite 1 Kings 4 31, title of Ps 89 He is probably the same as Ethan, son of Zerah 1 Chron 2 6 **2, 3** Two temple singers 1 Chron 6 42,44

ethanol. see ETHYL ALCOHOL

Ethbaal (ĕthbā'ŭl, ēth'bāul) [Heb ,=with Baal], king of Sidon, Jezebel's father 1 Kings 16 31

Ethel-. For some Anglo-Saxon names beginning thus, see ÆTHEL–, e g , for Ethelbald, see ÆTHELBALD

Ether [Heb =abundance], unidentified city, SW Palestine Joshua 15 42, 19 7

ether, in chemistry, a term used commonly to designate ethyl ether, a compound of carbon and hydrogen, united in the ethyl (C_2H_5) radical, and oxygen It is a colorless liquid with a characteristic odor, is volatile and inflammable, boils at 34 54°C , and is used extensively as an organic solvent (for fats and oils) and as an anesthetic (see LONG, W , MORTON, W T G , SIMPSON, J Y) It is prepared commercially by the distillation of ethyl alcohol and sulphuric acid (140°C) The group of compounds known chemically as ethers are formed in a similar manner METHYL ether, for example, is prepared from methyl alcohol and sulphuric acid These compounds are classed also as oxides, e g , ethyl oxide and methyl oxide, because of the combination of the hydrocarbon radicals (ethyl and methyl) with oxygen

ether In physics and astronomy, ether (called also luminiferous ether) is a hypothetical medium for transmitting light and heat (see RADIATION), filling all unoccupied space, e g , that between the bodies of the solar system, that between the molecules of the gases that make up the air, and that between the molecules of solids Ether is held to be invisible, without odor, and of such a nature that it does not interfere with the motions of bodies through space Many deny its material existence

Etherege, Sir George (ĕth'ŭrĭj), 1635?–1691, English Restoration dramatist His witty, licentious comedies—*The Comical Revenge, or, Love in a Tub* (1664), *She Wou'd If She Cou'd* (1668), and *The*

Man of Mode; or, Sir Fopling Flutter (1676)—set the tone of the comedy of manners which Congreve was to perfect As English minister to Ratisbon after 1685, he sent amusing letters home to Dryden and other friends See his *Letterbook* (ed by Sybil Rosenfeld, 1928) and works (ed by H F B Brett-Smith, 3 vols, 1927–)

Ethical Culture movement, originating in the Society for Ethical Culture, founded in New York city in 1876, by Dr Felix Adler Its aim is "to assert the supreme importance of the ethical factor in all relations of life, personal, social, national, and international, apart from any theological or metaphysical considerations" No definite ethical system is insisted upon, though Adler's own ethical thought has naturally had much influence The society holds its own religious services, but members may have other religious affiliations if they wish Much emphasis has been placed upon education, and especially in New York the movement pioneered in the establishment of free kindergartens and adult education Societies were organized in Chicago (1882), Philadelphia (1885), St Louis (1886), Brooklyn (1906), and later in other cities In England, Stanley Cot founded the South Place Ethical Society, London, in 1887 There are now seven societies in that country In 1896 the International Union of Ethical Societies was organized. Though the membership is not large, the movement has enlisted a number of intellectual leaders See Adler's books and *The Fiftieth Anniversary of the Ethical Movement* (1926)

ethics, in philosophy, the study and evaluation of human conduct in the light of moral principles Moral principles may be viewed either as the standard of conduct which the individual has constructed for himself or as the body of obligations and duties which a particular society requires of its members Ethics has developed as man has reflected on the intentions and consequences of his acts From this reflection on the nature of human behavior, theories of CONSCIENCE have developed, giving direction to much ethical thinking The intuitionists (Cudworth, J J Rousseau, the 3d earl of SHAFTESBURY, Francis HUTCHESON) hold that conscience is innate, a given moral sense that drives men to act on values beyond their immediate gain The empiricists (Comte, John LOCKE, HOBBES, HELVETIUS, J S MILL) deny the innateness of conscience and explain it as a power of discrimination acquired by experience In the one case conscience is the originator of moral behavior, and in the other it is the result of moralizing Between these extremes there have been many compromises Another major difference in the approach to ethical problems revolves about the question of absolute good as opposed to relative good Throughout the history of philosophy men have sought an absolute criterion of ethics Frequently moral codes have been based on religious absolutes Other theories, such as Socrates' concept of ideas as eternal and Kant's categorical imperatives, were an attempt to establish a criterion independent of any one theology Idealists (PLATO, KANT, ROYCE) founded their ethics on a metaphysics All varying methods of building an ethical system pose the question of the degree to which morality is authoritarian (i e, imposed by a power outside the individual) If the criterion of morality is the welfare of the state (HEGEL), the state is supreme arbiter If the authority is a religion, then that religion is the ethical teacher The utilitarians (Jeremy BENTHAM, James MILL) found their criterion in the greatest good of the greatest number To the instrumentalists (John DEWEY) morality lies within the individual and is relative to his experience Man acts morally as he grows in his ability to consider the consequences of his behavior and to choose intelligently between alternative courses of action The egoist (ARISTIPPUS, LA METTRIE, Hobbes) views the good of the individual to be the sole consideration HEDONISM, as the desire for the greatest amount of pleasure, may be either egoistic or universalistic (utilitarian) Since the study of the ends of conduct embraces all areas of human activity, the field of ethics extends beyond the material of pure philosophy into the total relationships of man with his environment See CASUISTRY, DETERMINISM, VIRTUE See John Dewey and J H Tufts, *Ethics* (rev ed, 1938), M. A. R Tucker, *Past and Future of Ethics* (1938), Albert Schweitzer, *Civilization and Ethics* (3d ed, 1946)

Ethiopia (ēthēō'pēŭ), empire (c 400,000 sq mi, pop c 15,500,000), E central Africa The name Abyssinia, although never official, was formerly widely applied to the country The capital is Addis Ababa Ethiopia is not far inland from the Indian Ocean and the Red Sea, but it is completely cut off from the coast It is bordered on the north by Eritrea, on the east by French Somaliland and British Somaliland, on the south by Italian Somaliland and Kenya, and on the west by the Anglo-Egyptian Sudan The country comprises low-lying deserts and a hilly and mountainous plateau rising to 15,158 ft at Ras Dashan in the northwest In the deserts (Danakil in the north and Ogaden in the south), which occupy the eastern third of Ethiopia, the small population (Somali-speaking) lives by grazing livestock and mining potash and salt The Great Rift Valley (with a chain of large lakes in the south) divides the plateau into two sections, of which the western is the larger and loftier The plateau is extremely broken, and travel is difficult Some sections, especially Gojam in the northwest, are, with Tibet and the Andean highlands, among the highest inhabited places in the world There is considerable summer rainfall in the plateau, much draining off to the northeast, where Tana lake, the largest body of water in the country and the source of the Blue Nile, is located In the stretches of level land agriculture is possible, but except in a few areas there are no commercial plantations but only subsistence farming and gathering of wild products, including cotton and coffee The exports of W Ethiopia include grains, coffee, honey, beeswax, hides, and gold The country's chief connection with the outside world is its single railroad, which runs from Addis Ababa to JIBUTI, French Somaliland, a port on the Gulf of Aden There are c 7,000 mi of finished roads centering on Addis Ababa, some extend to Eritrea and Somaliland With facilities for foreign trade inadequate and little surplus produced, there persists a nearly self-contained agricultural and pastoral economy It is not known when the Ethiopian state originated The traditional account is that the ruling line was founded in c 1000 B C by Solomon's first son, whom the queen of Sheba (identified with Ethiopia) is supposed to have borne In the 1st cent A D, however, the earliest time for which there are authentic records, Ethiopia, with its capital at AKSUM, was pagan The country then probably comprised Tigré (present-day N Ethiopia) and Nubia (S Anglo-Egyptian Sudan) In the 4th cent the Aksumite king was converted to Coptic Christianity by Frumentius, a bishop consecrated by the patriarch of Alexandria A later Alexandrian patriarch refused to recognize the Council of Chalcedon (451), and the established Ethiopian Church still adheres to MONOPHYSITISM Ethiopia's control over the Red Sea coast provided the base for invasion (6th cent) of Yemen in Arabia Judaism, found among the Falashas, who live N of Tana lake, was perhaps introduced from Yemen The rise of Islam in the mid-7th cent was soon to deprive Ethiopia of its coast and to surround it with hostile Moslem neighbors There was some expansion southward in the face of Moslem Somalis and pagan Gallas, both large elements of the population today The country was often in turmoil until a new dynasty, allegedly a restoration of the Solomonian line, was founded (c 1270) A literary revival followed, with many works written in the fields dear to Ethiopian savants—hagiology, biblical exegesis (based upon the translation in Geez of the Septuagint), history, and annals Other arts, including illumination and church architecture, flourished Reports of a great Christian monarch in a remote country excited the belief in Europe that Ethiopia (confused with India) might be the land of the fabulous Prester John In the early 16th cent several Portuguese embassies reached the Ethiopian court and furnished arms to the emperor to repel attacks from the Turks based in Yemen The emperor was converted to Roman Catholicism, but extreme repression of native customs and the priesthood caused much unrest, and in the mid-17th cent the Coptic Church was fully restored and all foreigners expelled Occasional explorers, notably James Bruce, were still permitted to visit the country In the intense civil war of the two succeeding centuries nearly all of Ethiopia's greatest monuments were ruined In the 19th cent the continuous war for power saw the temporary victory of Kasa (c 1818–1868), originally a petty chieftain, who, after 1855, ruled most of the country as Theodore II and consolidated his conquest over Tigré and Shoa (central Ethiopia, where Amharic, the official language, is spoken) Theodore's refusal to release a British diplomatic party led to his defeat (1868) by a relief expedition under Napier of Magdala The succession went to the ras [governor] of Tigré, but in the renewed fighting the Shoa ruler, later MENELIK II, became dominant, especially as he received the help of Italy, for Italy wished to expand from the Eritrean deserts into the fertile land of NW Ethiopia In 1889 Menelik II had control of most of the country and concluded the Treaty of Uccialli with Italy Amity was soon disrupted when Italy claimed that the treaty established a protectorate over Ethiopia Ethiopia then repudiated the treaty. Italy invaded the country late in 1895, but repeated losses in the next few months, especially in the battle of Aduwa, forced the Italians to withdraw and to recognize Ethiopia's independence Menelik turned his favor to France and Great Britain In his reign the railroad (financed by French capital) was built and law codes were enacted His successor, Lij Yasu, was deposed (1916) after a short reign when he attempted to propagate Islam. Judith, a daughter of Menelik, was made empress and Ras Tafari Makonnen became the regent, on her death (1930) he ascended the throne as Emperor HAILE SELASSIE Almost immediately he faced threats from Italy, determined to avenge the "shame" of Aduwa A border clash at Walwal in Ogaden on Dec 5, 1934, provided an occasion for increasing the tension and calling up reserves Italy refused all offers of conciliation and on Oct 3, 1935, commenced invasion, thus launching war The attempt of the French and British governments to compromise the matter with a deal crashed (Dec, 1935) as the Hoare-Laval Plan failed On several fronts with air power and modern weapons, the Italians, under Gen Emilio de Bono and Marshal Pietro Badoglio, quickly crushed what feeble resistance the ill-armed Ethiopians could offer In May, Haile Selassie, whose resistance had been hindered by the defection of some of his forces, fled the country Although the League of Nations, which rejected the Italian contention that the war was a civilizing mission, had called for economic sanctions against Italy, they were soon abandoned, and in 1938 the member nations were released from their commitment not to recognize the conquest All major countries except the United States, China, and the USSR granted recognition Ethiopia was amalgamated with Eritrea and Italian Somaliland into Italian East Africa In the Second World War, Ethiopia was a base, in 1940, for Italy's short-lived occupation of British Somaliland Early in 1941 Great Britain flew Haile Selassie into Ethiopia to organize resistance A British offensive was launched (Feb) against Italian East Africa, the stubborn resistance of the duke of Aosta in Ethiopia was broken, Haile Selassie resumed the throne in May, and the entire territory fell by November In 1942 Ethiopia declared war on Italy, Germany, and Japan After the war Ethiopia repeatedly insisted that territory on the Red Sea coast seized from Italy should be given Ethiopia and protested when Italy was granted temporary control over Italian Somaliland Ethiopia today is governed by the emperor with the aid of a council of ministers and of a parliament consisting of two houses, one appointed by the emperor and one, eventually to be elected by the populace, now selected by the nobility Efforts are being made to reduce illiteracy and, building upon Italian improvements, to modernize transportation and agriculture and to develop industry See Sir E A W Budge, *A History of Ethiopia* (1928), A H M Jones and Elizabeth Monroe, *A History of Abyssinia* (1935), Margery Perham, *The Government of Ethiopia* (1948)

Ethiopic (ēthĭŏp'ĭk), subgroup of Semitic languages See LANGUAGE (table)

Ethnan [Heb., =gift], son of Ashur 1 Chron 4 7

Ethni (-nī) [Heb., =munificent], ancestor of Asaph the singer, perhaps the same as JEATERAI 1 Chron 6 41

ethnology (ēthnŏ'lŭjē), branch of ANTHROPOLOGY which studies primarily the distinctive groups of mankind which are still extant or have only recently become extinct The first concern of ethnology has been the analysis and comparative study of primitive peoples The variety of such groups, the uniqueness of their cultures, and their relative simplicity of organization have led to the development of techniques of detached and objective observation Since society cannot be studied under conditions of experiment or control, comparative data from the total range of human behavior can help the social scientist to avoid those assumptions implicit in his understanding of his own society See G P Murdoch, *Our Primitive Contemporaries* (1934), R H Lowie, *The History of Ethnological Theory* (1938).

ethyl (ē'thĭl), in chemistry, an organic RADICAL consisting of two carbon atoms and five hydrogen atoms It corresponds to the molecule of ethane (the second member of the METHANE SERIES) with one hydrogen atom removed It appears in numerous compounds known, therefore, as derivatives of ethane, e g, ETHYL ALCOHOL, when a hydroxyl radical (O H) is added, and ETHER, upon the addition of oxygen Ethyl acetate, an aromatic liquid used as a solvent for lacquer and varnish, is an ESTER formed by acetic acid and ethyl alcohol Ethyl chloride, a colorless, inflammable gas liquefying at 12°C, is used in REFRIGERATION and, because of its rapidity of evaporation, as a local anesthetic

ethyl alcohol, ethanol, or **grain alcohol,** a colorless, liquid ALCOHOL with a characteristic odor and taste, boiling at 78 5°C and melting at −117 3°C It has a strong affinity for water, is miscible with it in all proportions, and is separated from it completely only with difficulty When free of water, it is called absolute (ethyl) alcohol and is extremely poisonous The absolute alcohol of commerce usually contains a small percentage of water, less than one percent Ethyl alcohol burns in air with a blue flame forming carbon dioxide and water, reacts with certain acids to form esters, and reacts with certain active metals (e g, sodium or potassium), to form a compound (e g, sodium or potassium ethylate) and to liberate hydrogen Ethyl alcohol is formed by the action of yeast on sugar or from starch It is the alcohol of wine and distilled liquor Commercially it is prepared by FERMENTATION from sugar (molasses) or from starch (e g, potatoes and corn). It

can be synthesized. Ethyl alcohol is used extensively as a solvent in the manufacture of varnishes, perfumes, and many other substances; as a preservative for biological specimens, in the preparation of essences and tinctures (e g , tincture of iodine) and of many medicines and drugs; and as a fuel. Ethyl alcohol is denatured by the addition of nauseous or poisonous substances (e g , methyl alcohol) to prevent its use as a beverage, alcohol thus treated is called industrial alcohol and is not taxed The term "one hundred proof" indicates that a solution contains 50 percent alcohol

ethyl chloride: see ETHYL

ethylene (ĕ'thĭlēn), colorless gas with a faint odor and a slightly sweet taste, boiling at −103 8°C and solidifying at −169 4°C Ethylene burns in air with a luminous flame and for this reason is an important part of illuminating gas Its presence gives luminosity to the coal-gas flame With oxygen it forms an explosive mixture It combines directly with bromine to form a dibromide, with chlorine to form a dichloride, and with hydrogen to form ethane, a hydrocarbon of the methane or paraffin series Ethylene is prepared by the action between sulphuric acid and ethyl alcohol at about 180°C , the alcohol being dehydrated to yield ethylene and water It is also formed when certain other hydrocarbons of higher molecular weight are broken down by heat It is used as an anesthetic and to bring out the coloring of citrus fruit Ethylene is an unsaturated HYDROCARBON, its molecule consisting of two atoms of carbon and four of hydrogen, the carbon atoms being held together by a double bond and each in addition holding two of the hydrogen atoms It is the first member of a series of hydrocarbons, called the **ethylene series** or olefine or olefin series Each member has twice as many hydrogen atoms as carbon atoms in its molecule The lower members of the series, like ethylene, are gaseous, the middle members, liquids, and the higher, solids Members of the series can be obtained by the destructive distillation of such substances as petroleum, wood, and coal, they also occur in such animal secretions as beeswax and in certain animal and plant oils Derivatives of the ethylene series are similar to those of the methane or paraffin series

ethyl gasoline: see GASOLINE.

Étienne, family of printers see ESTIENNE.

etiquette, name for the codes of rules governing social or diplomatic intercourse These codes vary from the more or less flexible laws of social usage (differing according to local customs or taboos) to the rigid conventions of court, naval, and military circles and extend to the legal, medical, and other professions Some system of etiquette has prevailed in all stages of culture, the variations which occur are a partial index to differing racial attitudes toward morals and conduct. See Lillian Eichler, *Customs of Mankind* (1924), M B Van Arsdale and M R Lingenfelter, *Manners Now and Then* (1940), A H Verrill, *Strange Customs, Manners, and Beliefs* (1946), Emily Post, *Etiquette* (1948 ed)

Etna, industrial borough (pop 7,223), SW Pa , on the Allegheny river and near Pittsburgh, settled c 1832, inc 1868 Its manufactures include iron and steel

Etna or **Aetna** (both ĕt'nû), volcano, 10,700 ft high, on the east coast of Sicily, Italy It is the highest active volcano in Europe The shape and height of its central cone have often been changed by eruptions There are more than 260 lesser craters on the slopes, formed by lateral eruptions The southeastern slope is cut by a deep, precipitous cleft, the Valle del Bove. The first known eruption occurred in 475 B C and was described by Pindar and Aeschylus Of the numerous later eruptions, often accompanied by earthquakes, those of 1169 and 1669 were the most destructive, the most recent occurred in 1949 The wide base of Mt Etna is encircled by a railroad c 93 mi in circumference Up to 1,600 ft the vegetation is subtropical, yielding citrus fruit, bananas, and figs, between 1,600 and 4,300 ft there is a temperate zone, with vineyards and various fruit trees, from here to c 7,000 ft there are chestnut, birch, and pine woods, above, there is a desolate waste of lava and ashes Near the top there is snow most of the year The fertile lower slopes are densely populated agricultural areas There is an observatory at 9,650 ft A motor road reaching 6,170 ft was completed in 1935 Nicolosi, 9 mi. NW of Catania, is the starting point for the ascent.

Étoile, Place de l', Paris: see ARC DE TRIOMPHE DU L'ÉTOILE.

Eton (ē'tŭn), urban district (1931 pop. 2,005, 1943 estimated pop 4,505), Buckinghamshire, England, on the left bank of the Thames, opposite Windsor It is known chiefly for **Eton College,** largest and most famous of the English public schools, founded by King Henry VI in 1440. Some of the buildings (chapel, lower school, cloisters) date back to the 15th cent. Unlike other English public schools, whose masters appoint prefects and monitors, Eton is controlled by elected student representatives who enforce regulations and administer discipline. Many of England's outstanding men were schooled here. Eton has had a close alliance with King's College, Cambridge, for over 500 years. Since the Second World War more scholarships to poorer students have been granted The annual cricket match between Eton and Harrow attracts much attention

Etowah (ĕ'tûwä), town (pop 3,362), E Tenn , ENE of Chattanooga It is a farm trade center and a railroad division point Cherokee National Forest is near by

Etowah, river rising in N Georgia in the Blue Ridge and flowing c 150 mi SW to Rome, where it joins the Oostanaula to form the Coosa Allatoona Dam, near Cartersville (begun 1946), for flood control and hydroelectric power), is the first in a series of projects planned to develop the Alabama-Coosa river system

Etruria (ĭtrōō'rēu), ancient country of W central Italy, now forming TUSCANY and part of UMBRIA. This was the territory of the Etruscans, who in the 6th cent spread their civilization over much of Italy but were later forced back into Etruria and ultimately dispersed See ETRUSCAN CIVILIZATION.

Etruscan civilization (ĭtrŭ'skun), highest civilization in Italy before the rise of Rome The core of the territory of the Etruscans, known as Etruria to the Latins, was NW of the Tiber, now in modern TUSCANY and part of UMBRIA, but they at first expanded their territory greatly, then were forced to contract The Latins called them Etrusci, while the Greeks called them Tyrrheni [whence Tyrrhenian Sea] The striking fact about the Etruscans, that their language and culture differed completely from that of other old peoples of the peninsula at the time—Villanovans, Umbrians, and Picenes—indicated that they were of foreign origin. Some scholars consider them as autochthonous, but evidence is generally against this belief Barthold Niebuhr's theory that they came down from the north has been abandoned since archaeological exploration has shown that their earlier settlements were made by the sea and that the northern settlements in the valley of the Po were the latest of all, modern research upholds the tradition of Herodotus that they arrived (c 800 B C) by sea from Asia Minor, possibly Lydia Their superiority and wealth was in part based upon their knowledge of ironworking and exploitation of iron deposits which were abundant in Etruria and the island of Elba just off the coast They brought the older art of bronzeworking to a new level of achievement Even the Greeks purchased from them, and their work is found over Germany and France Etruscan goldwork is the finest found anywhere in the ancient world They were noted for their black *bucchero* pottery and were experts with the wheel This pottery was highly prized by the Greeks and others The Etruscans may have introduced the vine and the olive tree from the East and improved agriculture, controlling the rivers for irrigation Much of the actual work was done by the native population, who were subject to—though probably not slaves of—their conquerors, the nobility of Etruscan birth formed an exclusive caste The Etruscans were fond of music (particularly wind instruments), of games (especially dice and ball games), and racing (they introduced the chariot into Italy) They kept up a large commerce with the East and many of their art motifs are from the East The Etruscan cities were a loose-banded confederation, each ruled by oligarchical government Important Etruscan centers were Tarquinii (modern Tarquinia), with its frescoed tombs, Caere (modern Cervetri), with its necropolis, the most striking Etruscan monument in Etruria, and tumuli, now excavated, Veii (modern Veio), a center known particularly for its sculptures, Vetulonia, one of the very earliest Etruscan settlements, Volterra, where most of the evidences have been destroyed by landslides, and Clusium (Umbrian Camars, modern Chiusi) Museums important for Etruscan remains are at Florence (the best), Rome, and Tarquinia, the best specimen of an Etruscan chariot extant is in New York city The earlier art was influenced by Asiatic and Egyptian art, the later by Greek Inscriptions in Etruscan are few and short, and, if they could be read, would probably not add greatly to the knowledge of the civilization The establishment of the affiliations of the language, however, would be important It is certain it is not Indo-European and therefore not related to any ancient Italian dialect The alphabet has a relation to the Greek and Phoenician, however In the last years of the 6th cent B C. the Etruscans crossed the Apennines and established themselves in the Po valley, their center being at Felsina (the modern Bologna). Their civilization was at its height about 500 B C , when they had consolidated the Umbrian cities with Etruria and occupied part of Latium. The Greeks in S Italy had always sought, with some success, to halt Etruscan expansion The Romans, who had varying relations with the Etruscans (the Tarquin kings of Rome were Etruscans), undertook in the early 5th cent B C. to beat the Etruscans back. In the north invading Gauls aided in making the confederacy of the 12 cities crumble Rome finally captured (396 B C) Veii after long struggles. Thus, the disunited Etruscan cities fell one by one and the civilization was no more. See F Poulsen, *Etruscan Tomb Paintings* (Eng. tr , 1922), David Randall-MacIver, *Villanovans and Early Etruscans* (1924) and *The Etruscans* (1927), R A L. Fell, *Etruria and Rome* (1924), M A Johnstone, *Etruria Past and Present* (1930); J. D. Beazley, *Etruscan Vase Paintings* (1947)

Ettrick (ĕ'trĭk), parish, Selkirkshire, Scotland Here is buried James Hogg, the "Ettrick Shepherd "

Ettrick Forest, former woodland including all the present Selkirkshire, Scotland. It was forfeited to the crown by the 9th earl of Douglas in 1455 and became a royal hunting ground, famous in legend Today the area is pasturage for sheep

Ettrick Water, river of Selkirkshire, Scotland, rising on Capel Fell and flowing with a high gradient c 32 mi NE to the Tweed after passing Selkirk. It receives the Yarrow above Selkirk.

Ettwein, John (ĕt'vĭn), 1721–1802, leader and bishop of the American Moravian Church. He arrived in Bethlehem, Pa , from Germany in 1754 as a missionary He traveled on foot or horseback from the settlements in Pennsylvania to Moravian frontier colonies in North Carolina, toured South Carolina and Georgia, and made trips through New England He preached to many Indian tribes and established missions among those in Pennsylvania He led a band of Christian Indians in 1772 to a new settlement established in Ohio by the Moravian missionary David ZEISBERGER and, after the Revolution, prevailed upon Congress to set aside reservations for the converted Indians He represented the Moravians in negotiations with the Continental Congress, explaining their refusal to bear arms or subscribe to the Test Act From 1784 to 1801 he was bishop and head of the church in America See J T. Hamilton, *A History of the Church Known as the Moravian Church or the Unitas Fratrum* (1900)

Etty, William, 1787–1849, English painter. He studied with Sir Thomas Lawrence and later in Italy, where Venetian painting made a lasting impression on him Etty is best known for his spirited figure compositions He achieved fame in 1825 with his *Combat* (Edinburgh) and enjoyed a high reputation, although criticized by some for his voluptuous nudes Characteristic are his three Judith pictures (Edinburgh), *The Three Graces* (Metropolitan Mus), and *Youth at the Prow and Pleasure at the Helm* (National Gall , London) See biography by Alexander Gilchrist (1855)

etymology (ĕtĭmŏl'-), historical derivation of linguistic forms, especially words. The study had prestige for centuries because of an accepted theory that knowledge of the history of a word made its meaning clearer It was this study which chiefly revealed the regular relations of sounds in the Indo-European languages (as in GRIMM'S LAW) and led to the historical investigation of language in the 19th cent In the 20th cent linguists continued to use etymology to learn how meanings change, but they came to consider that the meaning of a form at a given time must be understood without reference to its history if it is to be understood at all. The term *etymology* has been replaced by *derivation* for creation of combinations in a language, such as new nouns with *-ness* See GRAMMAR.

Etzel (ĕt'sul), in German legend, hero who corresponds to the Atli of Icelandic legend and to the historic ATTILA

Eu, Louis Philippe Marie Ferdinand Gaston d' Orléans, comte d' (lwē' fēlēp' märē' fērdēnā' gästō' dôrlāā' kōt' dû'), 1842–1922, consort of Princess ISABEL of Brazil, b Neuilly, France, son of the duc de Nemours. He married the Brazilian princess in 1864, commanded the Brazilian forces against Paraguay (1869–70), and exercised great influence in the government, particularly when Isabel, in the absence of her father, was regent He favored the ultraconservative, clerical party and was generally unpopular in Brazil At the fall of the empire (1889) he retired to France

Eu, chemical symbol of the element EUROPIUM.

Euboea (ūbē'u), Gr *Evvoia* (ĕ'vēā), island (1,467 sq mi , pop 162,854), Greece, in the Aegean Sea, separated from Boeotia and Attica on the Greek mainland by a narrow channel Chalcis is the main city Generally mountainous, Euboea is c 100 mi long and 4 to 33 mi wide and rises to 5,718 ft Wheat, wine, and olives are grown in its fertile valleys, and sheep, goats, and cattle are raised In the 8th cent B C , CHALCIS and ERETRIA were powerful and prosperous cities and established colonies in Macedonia, S Italy, and Sicily Euboea came (506 B C) under Athenian hegemony, against which it rebelled unsuccessfully in 446 It was annexed (338 B C) by Philip II of Macedon and passed in 191 B C under Roman rule As a result of the Fourth Crusade, Euboea became a Venetian colony (1209–1470). It then passed under Turkish domination, which ended only in 1830. Its name under the Venetians was Negropont [black bridge], for the bridge connecting Chalcis with the mainland across the EURIPOS A drawbridge now connects Chalcis with the mainland

Eubulides (ūbū'lĭdēz), 4th cent B C , Greek philosopher, native of Miletus He was a contemporary and adversary of Aristotle and was the successor of Euclid as head of the Megarian school.

Eubulus (ūbū'–) [Gr., =prudent], Christian at Rome 2 Tim. 4 21

eucalyptus (ūkŭlĭp'tŭs) [Gr , =well covered] or **gum tree,** any plant of the large genus *Eucalyptus,* evergreen trees or shrubs native to Australasia Some species are widely planted in other warm regions, especially along the west coast of the United States The blue gum (*Eucalyptus globulus*) is the most common in California The red gum (*E rostrata*) is a relatively hardy species *E amygdalina regnans* is one of the tallest trees known, one specimen being reported from Australia as 326 ft high Various species yield timber used particularly for shipbuilding, railroad ties, furniture, and fuel, eucalyptus oil used in medicine and perfumery, Botany Bay kino and red gum used in medicine, and tanning materials For other gum trees, see BLACK GUM and SWEET GUM.

Eucharist (ū'kurĭst) [Gr , =thanksgiving], Christian SACRAMENT which repeats the action of Jesus at his last supper with his disciples, when he gave them bread saying, "This is my body," and wine saying, "This is my blood " Mat 26, Mark 14, Luke 22, 1 Cor 11 Partaking is called communion The traditional understanding of the words of Jesus holds that in the sacrament bread and wine actually turn into the body and blood of Jesus The sacrament is a reenactment of the crucifixion and therefore an act of sacrifice The performance is called the LITURGY, the Roman liturgy is the MASS The official Roman Catholic explanation of the change taking place in the sacrament, called transubstantiation, is that the substances of bread and wine are turned (miraculously) into the substance of God himself, the elements changed retaining only the appearance, taste, etc (the accidents) of bread and wine Since the Godhead is indivisible, every particle or drop thus changed is wholly identical in substance with divinity, body, and blood of the Crucified Savior The views of the Orthodox are basically similar In receiving communion the Christian attains union with Jesus, and all who partake are mystically united In the Mass (but not in Eastern liturgies of the Roman Catholic Church) others than the celebrant receive the Host only a practice which arose from the difficulty of transport and storage of wine In this communion in one kind the believer is held to receive the same divine whole as the celebrant, who receives both kinds at the altar The Roman Catholic and Orthodox churches set conditions for the reception of communion, which is a sign of membership, to be "in communion with" means mutual recognition of membership in the true church Devotion to the Eucharist (the Blessed Sacrament) is important in the Roman Catholic Church The object of the cult of the Blessed Sacrament is the Host reserved in churches (see BENEDICTION and CORPUS CHRISTI) Every leader of the Protestant Reformation attacked the traditional teaching of the Eucharist For the communion services in some Protestant churches, see LORD'S SUPPER

euchre (ū'kur), card game, played usually by four persons (two sets of partners) The pack has 32 cards, from 7 up to ace in each suit The jack of trumps, called the right bower, ranks highest, and the jack of the other suit of the same color, called the left bower, ranks next The dealer gives five cards to each player, in two rounds, first three cards and then two or vice versa, as he chooses, and turns up the next card for trumps The player to the left of the dealer (eldest hand) may accept the turn-up for trumps ("I order it up") or may pass, in which case the option goes to the next player and so on If all four pass, then the eldest hand may name trumps or pass A second round of passing calls for a new deal A trick is won by the highest trump or by the highest card of the suit led Five points make a game By making all five tricks (march), the combination that has made trumps scores two points (four if one plays alone) They score only one point by making either three or four tricks, while if they fail to make three tricks they are euchred and the opponents score two points Variations of the game are cutthroat or three-hand euchre, two-hand euchre, auction euchre, call-ace euchre, and hasenpfeffer See R. L Frey, ed , *The New Complete Hoyle* (1947)

Eucken, Rudolf Christoph (rōō'dôlf krĭs'tôf oi'kun), 1846–1926, German philosopher, studied at Göttingen and Berlin He taught philosophy at Basel and became professor of philosophy at Jena (1874) His work attained wide popularity, and he won the 1908 Nobel Prize in Literature In 1912 he lectured at Harvard His organized philosophy, which he called "activism," emphasized that experience is the source of value English translations of his work include *The Truth of Religion* (1901), *The Life of the Spirit* (1909), and *Knowledge and Life* (1913) See W T Jones, *The Philosophy of Rudolf Eucken* (1914)

Euclid (ū'klĭd), fl c 300 B C , Greek mathematician famous for his *Elements,* a collection of geometrical theorems and problems which forms the basis for GEOMETRY Practically nothing is known about his life, his history and character having been overshadowed by the importance of his work Works attributed to him, besides the *Elements,* include the *Phenomena,* the *Data,* the *Optics,* and *On Divisions.* The *Elements* was first translated into English by Sir Henry Billingsley in 1570

Euclid (ū'klĭd), city (pop 17,866), NE Ohio, a suburb of Cleveland, settled 1798 Its chief products are incandescent lamps and office machinery The National American Shrine of Our Lady of Lourdes is here

Euclid of Megara (mĕ'gŭru), c 450–c 375 B C, Greek philosopher, a disciple of Socrates and founder of the Megarian school He combined the Eleatic doctrine of the unity of being with the Socratic teaching that virtue is knowledge He held that the idea of the good is the sole reality

Eudemus of Rhodes (ūdē'mus), 4th cent B C, Greek Peripatetic philosopher, whose works are lost He may have edited the *Eudemian Ethics,* which is certainly the work of Aristotle

Eudes (ūdz, ūd), c 860–898, count of Paris, French king (888–98) The son of ROBERT THE STRONG, he was the first Capetian to hold the royal title He defended Paris against the Normans (885–87), and after deposition of Emperor CHARLES III (Charles the Fat) he was elected by the nobles to succeed Charles in France He continued to battle the Normans, but his energies were increasingly diverted by the rising tide of sentiment favorable to the legitimate Carolingian heir, CHARLES III (Charles the Simple), who in 893 was elected king by a party of nobles The resulting warfare between the two rival kings, neither of whom controlled much territory, was suspended in 897, when Eudes conceded the city of Laon to Charles He is also called Odo

Eudocia (ūdō'shŭ), d c 460, Roman empress of the East, daughter of an Athenian Sophist She was selected by PULCHERIA as the wife of THEODOSIUS II, whom she married (421) after undergoing baptism and exchanging her name of Athenais for Eudocia She became powerful at court, then was banished and withdrew to Jerusalem, where she devoted herself to literary and charitable work She embraced EUTYCHIANISM, but finally returned to orthodoxy See Charles Diehl, *Byzantine Portraits* (Eng tr , 1927)

Eudocia Macrembolitissa (mă"krumbō"lĭtĭ'su), fl 11th cent , Byzantine empress At the death (1067) of her husband, Constantine X, she married ROMANUS IV and made him emperor She was famous for her learning

Eudora (ūdō'ru), town (pop 1,808), extreme SE Ark , near the Mississippi, inc 1904 It has cotton gins and sawmills

Eudoxia (ūdŏk'sēu), d 404, Roman empress of the East (395–404), daughter of a Frankish general and wife of ARCADIUS Her evil influence upon her weak husband was largely responsible for the corruption of his government She helped bring about the downfall of EUTROPIUS, to whose intrigues she owed her marriage, and the exile of St JOHN CHRYSOSTOM, who had criticized her

Eudoxus of Cnidus (ūdŏk'sus, nī'dŭs), 408?–355? B C , Greek astronomer, mathematician, and physician From the accounts of various ancient writers he appears to have studied with Plato in Athens, spent some time in Heliopolis, Egypt, founded a school in Cyzicus, and spent his later years in Cnidus, where he had an observatory It is claimed that he calculated the length of the solar year, indicating a calendar reform like that made later by Julius Caesar, and that he was the discoverer of some parts of geometry included in the work of Euclid He was the first Greek astronomer to explain the movements of the planets in a scientific manner His system involved a number of concentric spheres supporting the planets in their paths Some scientists still held this belief at the time of Copernicus

Eudoxus of Cyzicus (sĭ'zĭkus), fl 130 B C , Greek navigator in the service of the Ptolemies He explored the Arabian Sea for Ptolemy II and after being blown from his course to the east coast of Africa decided that Africa could be circumnavigated Setting out from Gades (Cádiz), he was driven ashore at Morocco on a first voyage He undertook a second voyage down the west coast of Africa and was never heard from

Eufaula (ūfô'lu) **1** City (pop 6,269), a co seat of Barbour co , SE Ala , on the Chattahoochee and ESE of Montgomery, settled in the 1830s It ships cotton and produces textiles Many fine plantation houses remain **2** City (pop 2,355), co seat of McIntosh co , E Okla , near the confluence of the Canadian and North Canadian rivers, founded c 1872 near the site of a Creek settlement An Indian girls' school is here

Eugene III, d 1153, pope (1145–53), a Pisan named Bernard (probably in full Bernardo dei Paganelli di Montemagno), successor of Lucius II and predecessor of Anastasius IV Before his election he was called Bernard of Pisa He was prominent among the CISTERCIANS, then in their first flower, and was the friend of St BERNARD OF CLAIRVAUX, who wrote *De consideratione* for the new pope Eugene's pontificate was disturbed from the beginning by ARNOLD OF BRESCIA, whom he ordered to return to Rome in penitence In 1146 the agitation of the triumphant republicans drove the pope from Rome Eugene and St Bernard led in promoting the disastrous Second Crusade While in exile (1146–48) the pope busied himself with reforming the clerical discipline of Western Europe. Early in 1149 he left Rome again He was beatified in 1872.

Eugene IV, 1383–1447, pope (1431–47), a Venetian named Gabriele Condulmer, successor of MARTIN V and predecessor of NICHOLAS V He was of exemplary character and ascetic habits Gregory XII, his uncle, made him cardinal (1408). The first part of Eugene's reign was beset with the difficulties created by the Council of Basel, (see BASEL, COUNCIL OF), which began just after his election. Eugene at first opposed the council in its antipapal acts, but after he had been driven by rebellion from Rome into exile at Florence (1434) he was disposed to conciliate Finally in 1437 he removed the council to Ferrara, the refusal of the leaders at Basel to obey removed much of their prestige and their subsequent "deposition" of Eugene and "election" of Amadeus VIII of Savoy (as Felix V) were academic Meanwhile the Council of FERRARA-FLORENCE met and proclaimed the reunion of Eastern and Western Churches Abortive as this union proved to be, it greatly enhanced the papal prestige, and in 1443 Eugene returned to Rome from Florence The stay of the papal court in Florence and the influx of Greeks connected with the reunion were important in turning the disposition of the papacy towards the new tendencies in arts and letters

Eugene, city (pop 20,838), co seat of Lane co , W central Oregon, on the Willamette and S of Salem, settled 1846, laid out 1852, inc 1862 Commercial and shipping center of an agricultural area, it has creameries, fruit canneries, and flour and lumber mills The Univ of Oregon (see OREGON, UNIVERSITY OF) is here

Eugene of Savoy, 1663–1736, prince of the house of Savoy, celebrated general in the imperial service Born in Paris, he was the son of Eugène, comte de Soissons, of the line of Savoy-Carignano, and Olympe MANCINI, niece of Cardinal Mazarin He was ill received by Louis XIV, who refused him a commission in the French army—a refusal the king had cause to regret Eugene entered (1683) the service of Emperor Leopold I against the Turks After taking part in the relief of Vienna he fought in Hungary, helped in the capture of Belgrade (1688), and annihilated the Turkish army at Zenta (1697) Though this victory was perhaps his greatest feat, posterity remembers him more for his part in the War of the SPANISH SUCCESSION (1701–14) At first in command of the imperial army in N Italy, Eugene was victorious over the French under CATINAT and VILLEROI In 1704 he joined MARLBOROUGH in Bavaria, and together they won the signal victory of BLENHEIM Returning to Italy, Eugene was severely defeated by his cousin, Louis Joseph de VENDÔME, at Cassano (1705), his invasion of Provence (1707) was a failure owing to the inadequacy of his forces In 1708 Eugene again cooperated with Marlborough in Flanders, the victories of Oudenarde (1708) and Malplaquet (1709) resulted After the conclusion (1713) of the Peace of Utrecht by England and France, Eugene continued to campaign on the Rhine against the French under Villars Emperor Charles VI empowered him late in the year to negotiate with the war-weary French at Rastatt The Peace of Rastatt (1714) complemented that of Utrecht (see UTRECHT, PEACE OF) Eugene was made governor of the Austrian Netherlands (1714–18) and, after his recall, imperial vicar in Italy He again fought the Turks successfully (1716–18), defeating them at Belgrade (1717) and making possible the Austrian triumph marked by the Treaty of Passarowitz (1719) In the War of the Polish Succession Eugene held a command despite his advanced age One of the greatest commanders of modern times, Prince Eugene was noted for his cold and severe character, his almost monastic way of life, and his unremitting hatred of Louis XIV

eugenics (ūjĕ'nĭks), study of methods of improving the human race physically and mentally. Francis Galton, who introduced the term *eugenics,* is usually regarded as the founder of the modern science of eugenics, his emphasis was on the role of agencies under social control which could either improve or impair the qualities of future generations Modern eugenics is directed chiefly toward the discouragement of propagation among the unfit and encouragement of propagation among those who are healthy, intelligent, and of high moral character. Sterilization of mental defectives is advocated by some as a eugenic measure, and laws pertaining to the practice exist in many states The carrying out of such a measure presents many problems, including the difficulties of deciding to whom it shall be applied Comparative statistics on the prevalence of mental defectiveness existing, for example, in different years or among groups living under different socio-economic conditions are frequently misleading, among the reasons for this are the failure in some cases to consider the numbers of defectives in relation to an increased population figure and the difficulty of getting accurate counts of defectives. In education probably lies the great-

est hope for eugenics; much remains unknown about the inheritability among humans of many traits, but such knowledge is constantly increasing Studies in heredity have revealed the frequency with which defective offspring result from marriages in which both families have a history of such weaknesses, inbreeding increases the chances of producing defectives The inheritability of hemophilia, of albinism, and of a number of structural abnormalities is known. Efforts to improve the human race through bettering the housing facilities and other environmental conditions are known as euthenic measures Race betterment requires greater progress in euthenics as well as in eugenics See International Eugenics Congress, *A Decade of Progress in Eugenics, 1932* (1934), Ellsworth Huntington and others, *Tomorrow's Children* (1935), Nathan Fasten, *Principles of Genetics and Eugenics* (1935), J B S Haldane, *Heredity and Politics* (1938), H C Bibby, *Heredity, Eugenics, and Social Progress* (1939), L L Burlingame, *Heredity and Social Problems* (1940), Frederick Osborn, *Preface to Eugenics* (1940)

Eugenie (ûjē'nē, Fr ûzhānē'), 1826–1920, empress of the French (1853–70), consort of NAPOLEON III She was christened Eugenia María de Montijo de Guzmán at Granada, Spain, and was the daughter of the conde de Teba and of a Scottish noblewoman One of the most beautiful women of her time, she was presented (1851) to Prince Louis Napoleon, who fell in love with her and married her in 1853 She played some part in the politics of the Second Empire, acting as regent when Napoleon was away at war Deposed (Sept, 1870) after her husband's capture at Sedan, she fled to England After the death (1879) of her sole child, the prince imperial, she retired to FARNBOROUGH, Hampshire, where she is buried In her later life she undertook numerous trips abroad She died at Madrid See Maurice Paléologue, *Tragic Empress* (Eng tr, 1928), Robert Sencourt, *The Life of the Empress Eugenie* (1931), Rita Wellman, *Eugenie* (1941)

Euhemerus (ûhē'mûrus), fl c 300 B C, Cyrenaic philosopher He is famous for a theory of mythology embodied in his philosophical romance, *Sacred History*, a work of which only fragments remain Euhemerus' theory, called after him euhemerism, was that the gods were deified heroes His views are consistent with contemporary application of philosophical skepticism to religion

Eulenberg, Herbert (hĕr'bĕrt oi'lunbĕrk), 1876–, German dramatist After his first play, *Anna Walewska* (1899), he produced many popular dramas, characterized by passionate, sensational, and grotesque elements Among them are *Kassandra* (1903) and *Belinde* (1912), awarded the Schiller Prize Other works include fantastic tales and a history, *The Hohenzollerns* (1928, Eng tr, 1929)

Eulenburg, Philipp, Fürst zu (fē'lĭp fürst tsōō oi'lunbōōrk), 1847–1921, German diplomat, friend and confidential adviser of Emperor William II He was ambassador to Austria-Hungary (1894–1902), but it was his role as intermediary between the emperor and his government that made him important After Bülow became chancellor (1900), Eulenburg's influence declined In 1908 a scandal, which was dragged into the courts of law, put an end to Eulenburg's public life and private reputation A famous *raconteur* and a dilettante composer, Eulenburg also left memoirs, *Aus 50 Jahren* (1923) and *Mit dem Kaiser als Staatsmann und Freund* (1931)

Eulenspiegel, Till (oi'lun-shpē'gûl) [Ger, =owl-mirror, hence English Howlglas], a north German peasant clown of the 14th or 15th cent who was immortalized by chapbooks describing his tricks, preferably on persons of higher class The first chapbook (c 1500) was probably in Low Saxon, but his story was spread all over Europe, e g, in North Britain he was called Howleglas He is the subject of a popular tone poem by Richard Strauss See K R H MacKenzie's adaptation in English, *Master Tyll Owlglass* (1890)

Euler, Leonhard (lā'ônhart oi'lûr), 1707–83, Swiss mathematician A founder of higher mathematics, he is known especially for his work on the calculus of variations, trigonometry, and analytic mathematics and mechanics He also accomplished notable work in astronomy, hydrodynamics, and optics In 1727 he was called by Catherine I to St Petersburg, where he was professor (1730–41) At the invitation of Frederick the Great, he taught in Berlin from 1741 until his return to St Petersburg in 1766 He wrote many influential treatises, and his name is perpetuated in the terminology of mathematics and hydrodynamics, e g, Eulerian equation and Euler's formula

Euler-Chelpin, Hans Karl August Simon von (hänz' kärl' ou'gōōst zē'mōn fŭn oi'lur-kĕl'pĭn), 1873–, Swedish chemist, b Germany For his work on the fermentation of sugar and the chemistry of enzymes he shared with Arthur Harden the 1929 Nobel Prize in Chemistry He studied under Arrhenius at the Univ of Stockholm and was professor there (1906–41) and director of its institute for research in organic chemistry.

Eumenes (ûmē'nēz), c 361–316 B C, secretary to Philip II of Macedon and to Alexander the Great A Thracian Greek, he was able, diplomatic, and eloquent and proved himself able as a general as well as a secretary After Alexander's death, he was given control of Cappadocia and Paphlagonia He threw in his lot with PERDICCAS and thus was opposed by ANTIPATER, Antigonus (ANTIGONUS I), Ptolemy (PTOLEMY I), and Craterus He was defeated by Antigonus, but it was the downfall and death of Perdiccas that undid Eumenes in the wars of the Diadochi He was deserted by his troops and killed

Eumenides, see ERINYES

Eumolpus (ūmŏl'pus) [Gr, =good singer], in Greek religion, founder of the Eleusinian Mysteries

Eunapius (ūnā'pēus), b c 347, Greek Neoplatonic philosopher, whose *Lives of the Philosophers and Sophists* is a most valuable primary source His continuation of Dexippus' history is lost Like many Neoplatonists, he opposed Christianity

Eunice (ūnī'sē, ū'nĭs) [Gr, =good victory], Timothy's mother, a Christian 2 Tim 1 5, Acts 16 1

Eunice (ū'nĭs) **1** Town (pop 5,242), SW La, W of Baton Rouge, inc 1895 The oil fields, cotton, rice, and vegetables in the area provide materials for its industries It has an annual fair **2** Town (pop 1,227), SE N Mex, near the Texas line, settled 1909, platted 1927, inc 1935. It is in an oil region, and carbon black is made

Eunomia see HORAE

Eunomius, c 333–393?, Cappadocian theologian He was a pupil and secretary of AETIUS, whose system he adapted This was an extreme ARIANISM, founded on a rationalistic concept of the deity It rejected even the Semi-Arian compromise that the Son is like the Father Eunomius held that the essential attribute of God is that he has no origin, whereas the Son, begotten and created out of nothing, is unlike the Father in having an origin Eunomius' followers were called Anomoeans [Gr *anomoios*=unlike] The doctrine was never popular Eunomius was made (c 361) bishop of Cyzicus, but after 383, when Theodosius restored orthodoxy, he was frequently in trouble and repeatedly exiled The clause in the Nicene Creed which contains the words "Son of God, begotten of the Father before all worlds" was probably inserted as a conscious denial of the Anomoean stand

eunuch (ū'nuk) [Gr, =keeper of the couch], castrated man, particularly a chamberlain of the harem in the Orient The custom of employing eunuchs as servants in wealthy or royal households is very ancient, it reached its epitome at the court of Constantinople under the Byzantine emperors, from whom the Ottoman sultans adopted it Eunuchs often rose to high position, the Byzantine general NARSES being the most celebrated example In the Moslem world the use of eunuchs was far less common than is generally believed, however, the sale of boys to be eunuchs was formerly an important element in African trade The operation was performed with varying thoroughness and with varying success From Constantinople also spread the custom of using eunuchs in choirs In the *opera seria* (see OPERA) of the 18th cent the male heroes' roles were sung by *castrati*, and the papal choir used *castrati* until the beginning of the 19th cent A famous *castrato* was FARINELLI

Euodias (ūō'dēus) [Gr, =good fortune], Philippian Christian urged by Paul to be reconciled with one Syntyche Phlip 4 2

euonymus (ūōn'ĭmŭs) or **spindle tree**, any plant of the genus *Euonymus* (or *Euonymus*), widely distributed and cultivated vines, shrubs, or small trees, many with square or winged stems and brilliant fall foliage Spindles were formerly made of the wood of *Euonymus europaeus* The pods, often pink, split open to reveal a usually scarlet center, they resemble somewhat the related bittersweet but the leaves are opposite rather than alternate One of the most popular is a trailing or climbing evergreen used on walls, as a hedge, or as a ground cover See also BURNING BUSH

Eupatoria (ūputō'rēu), Rus *Yevpatoriya* (yĕfpŭtô'rēĭ), city (pop 23,512), S European RSFSR, in the W Crimea It is a Black Sea port, an agricultural center, and a resort Founded in 6th–1st cent A D, it was named after Eupator, king of Pontus Under the Tatar khans of Crimea it served as a fortress and developed its sea trade During the Crimean War, Eupatoria was occupied (1854–56) by the allied British, French, and Turkish troops, in the Second World War it was occupied by the Germans The old section of the city contains ruins of the Tatar fortress and a 16th-century mosque The new section was developed after 1910 Eupatoria was also called Kozlov in the 19th cent A variant spelling is Evpatoriya

Eupen (oi'pun), town (pop 14,379), Liége prov, SE Belgium, near the German border and Aachen, in an agricultural district There are wool manufactures The districts of Eupen and MALMÉDY, an area of c 380 sq mi with a population of c 60,000, were awarded to Prussia by the Congress of Vienna (1815) Strategically important for the defense of Belgium, they were transferred (1919) from Germany to Belgium by the Treaty of Versailles, although the population is predominantly German The inhabitants were allowed to register their protest against the transfer, but only a few did so German nationalists agitated for the return of Eupen and Malmédy, and during the Second World War the districts were annexed (1940–44) to Germany. German continues to be used as an official language under the Belgian administration

Euphorion (ūfô'rēun), 276? B C–187? B C, Greek poet, b Chalcis He was (c 223 B C) made librarian at Chalcis Of his works—much admired in Augustan Rome—only fragments remain

Euphranor (ūfrā'nûr), fl 364 B C, Greek painter and sculptor of Corinth His most famous paintings were in the Stoa of Zeus at Athens—*Theseus* on one wall and the 12 great gods on the opposite and *A Cavalry Charge between the Athenians and Boeotians at Mantinea* His statues, executed in metal or marble, were praised by Pliny for symmetry and dignity Among them were *Paris* and *Leto with Apollo and Artemis* Adolf Furtwängler has attempted to identify several celebrated existing statues as copies of Euphranor's works

Euphrates (ūfrā'tēz), Turkish *Frat*, Arabic *Al Furat*, river of SW Asia, rising in E Turkey It flows c 1,675 mi to Iraq, where it joins the TIGRIS river to form the SHATT EL ARAB The two headstreams of the Euphrates, the Kara Su and the Murad (or Murat), run west to their junction in Turkey The united stream flows S through Turkey and into Syria, where it turns southeast, crossing the eastern section of the country and continuing on into Iraq, which it divides into two nearly equal parts The river flows between steep banks in its precipitous upper course In N Iraq it is studded with islands, some with the remains of old castles The lower course of the river is of greatest economic importance Through a system of canals and dams water is supplied to Iraq's great date plantations The river works, to a large extent the product of modern engineering, do not equal in scope those of ancient times, when Sippar, Erech, Ur, and Babylon flourished on the banks of the lower course The lower Euphrates and the Tigris water Mesopotamia, which was the birthplace of great ancient civilizations

Euphrosyne see GRACES

euphuism (ū'fūĭzm) [Gr, =of good form], in English literature, a highly artificial style derived from the *Euphues* (1579) of John LYLY It was characterized by alliteration, allusion (to mythology), and antithesis The term has come to mean any artificial, precious, high-flown style of writing

Eupolis (ū'pulĭs), c 466–c 411 B C, Athenian comic poet, contemporary of Aristophanes He seems to have collaborated with Aristophanes, whom he also attacked; another of his victims was Alcibiades I His plays, satirical and virulent, were greatly admired by the ancients Fragments of his work survive.

Eupompus (ūpŏm'pus), fl 4th cent B C, Greek painter, founder of the Sicyonic school The only one of his works of which there is record is *A Victor in the Olympic Games*

Eupora (ūpô'rù), town (pop 1,377), N central Miss, near the Big Black River E of Greenwood, in a poultry and farm area, settled 1887, inc 1889

Eurasia (yōōrā'zhu, -shu), land mass comprising the continents of EUROPE and ASIA

Eure (ûr), department (2,331 sq mi, pop 315,902), N France, in Normandy EVREUX is the capital The Eure river is a minor tributary of the Seine

Eure-et-Loir (ûr-ā-lwär'), department (2,293 sq mi, pop 285,110), N France, SW of Paris, in the agricultural BEAUCE region Chartres is the capital

Eureka (ūrē'ku) **1** City (pop 17,055), co seat of Humboldt co, N Calif, on Humboldt Bay, founded 1850, inc 1856 It is a port of entry and a lumbering and fishing center in a country noted for its redwoods Fort Humboldt here protected settlers against Indian attack from 1853 to 1865 **2** City (pop 1,714), co seat of Woodford co, central Ill, E of Peoria, founded in the 1830s, inc 1859 It is a farm trade center with a cannery Eureka College (coeducational, 1848) is here **3** City (pop 3,803), co seat of Greenwood co, SE Kansas, E of Wichita and on the Fall River, laid out 1867, inc 1870 It is a trade center for an oil-producing and cattle-raising region **4** City (pop 1,457), N S Dak, NW of Aberdeen near the N Dak line, founded 1886 by immigrants from the German Volga Grain and livestock are shipped Eureka has a state agricultural experiment station **5** City (pop 2,292, alt c 6,400 ft), N central Utah, SW of Utah Lake, in a mining region, settled 1870

Eureka Springs, resort city (pop 1,770), a co seat of Carroll co, NW Ark, in the Ozarks near Missouri, settled 1879 It has mineral springs A U S soil conservation project is near by

eurhythmics, see EURYTHMICS

Euric (yōō'rĭk), d c 484, Visigothic king of Spain (466–c 484), brother and successor of Theodoric II He conquered nearly all of the Iberian peninsula and part of Gaul, made Toulouse his capital, and issued the first codification of Visigothic law His son and successor was ALARIC II

Euripides (yōōrĭ'pĭdēz), b 480 or 485 B C, d 406 B C., Greek tragic poet, ranking with AESCHYLUS

and SOPHOCLES. Born in Attica of a middle-class family (though rumor said his mother was a greengrocer), he lived at Athens most of his life, though spending much time on Salamis He wrote perhaps 92 plays (the first produced in 455 B C), he won only four first prizes in his lifetime (the first in 441 B C) There are 19 of his plays extant (including one that is doubtful) *Cyclops* (date unknown), the only complete extant Greek satyr play, *Alcestis* (438 B.C), perhaps his most appealing play, *Medea* (431 B C), one of the greatest of Greek tragedies, *Hippolytus* (428 B C), *Andromache* (date unknown), the *Heraclidae* (perhaps c 428 B C), a patriotic play inspired by the Peloponnesian War, *Hecuba* (425? B C), the *Suppliants* (c 420 B C), *Hercules Furens* (c 420 B C), one of his more rationalistic works, *Ion* (date uncertain), even more iconoclastic, the *Trojan Women* (415 B C), an indictment of war, *Electra* (413 B C), *Helena* (412 B C), *Iphigenia in Tauris* (date uncertain), one of the most finished of his tragedies, the *Phoenician Women* (c 409 B C), on the story of the SEVEN AGAINST THEBES, *Orestes* (408 B C), *Iphigenia in Aulis*, a character study, and the *Bacchae*, on the PENTHEUS story, both posthumously produced (405 B C), and *Rhesus*, doubtfully attributed to Euripides Provocative, concerned with problems and conflicts sometimes disturbing to his audience, Euripides displayed a rationalistic and iconoclastic attitude toward the gods and an interest in less heroic, even homely, characters He brings the mythical stories down to the immediate contemporary and human level He was more of a realist than Aeschylus or Sophocles, and his tragedies may lack in grandeur what they make up in penetration Characteristic of Euripides' tragic form are the prologue, used as means for direct exposition of previous action, and the *deus ex machina* [god from a machine], used, in many cases, to resolve the play's problem Though the *deus ex machina* often seems a forced addition to the play and though its presence often strains the play's meaning, Euripides used it probably because the Athenian audience considered it desirable One theory has been that for Euripides the play ends before the *deus ex machina* and that the device is a concession to convention His choral passages (interludes in, rather than parts of, the action) have remarkable lyric power Euripides has been often translated See A W Verrall, *Euripides the Rationalist* (1895), W N Bates, *Euripides, Student of Human Nature* (1930), G M A Grube, *The Drama of Euripides* (1941)

Euripos (yōōrī'pus), strait, forming the central and narrowest part of the channel separating the island of Euboea from the Greek mainland It is 5 mi long and from 130 ft to 1 mi wide Chalcis, at the narrowest point, is connected with the mainland by a drawbridge (built 1894)

Euroclydon (ūrŏk'lĭd-), east or northeast storm wind which caused Paul's shipwreck on Malta Acts 27.14

Europa (yōōrō'pu), in Greek religion, Phoenician princess, daughter of Agenor and sister of Cadmus Zeus, enamored of her, appeared as a white bull, enticed her to climb on his back, and swam off with her to Crete There she bore him three sons—Minos, Rhadamanthus, and Sarpedon She married the king of Crete, who adopted her sons She was worshiped as a goddess in the festival of the Hellotia

Europe, continent (with adjacent islands c 4,000,000 sq mi, pop c 540,000,000) It forms a vast peninsula of the great Eurasian land mass It is separated from Asia by the Ural mts and Ural river in the east, by the Caspian Sea and the Greater Caucasus in the southeast, and by the Black Sea, the Bosporus, and the Dardanelles in the south The Mediterranean Sea and the Strait of Gibraltar separate it from Africa Europe is washed in the north by the Arctic Ocean (including the Barents Sea and the White Sea) and in the west by the Atlantic Ocean, with which the Irish Sea, the North Sea, the Baltic Sea, the Mediterranean Sea, and the Black Sea are connected A huge mountain chain, of which the Pyrenees, the Alps, the Carpathians, the Balkans, and the Caucasus are the principal links, traverses the continent from west to east The highest points are Mt Elbrus (18,481 ft.) in the Caucasus and Mont Blanc (15,772 ft) in the Alps Between the mountainous Scandinavian peninsula in the north and this mountain chain in the south extends the great European plain, stretching from the Atlantic coast of France to the Urals A large part of this plain (which is often relieved by minor mountain groups and hills) is fertile agricultural soil, in the east and north there are vast steppe, forest, lake, and tundra districts South of the mountain chain extend the Iberian, Italian, and Balkan peninsulas, which are largely mountainous The Po plain, between the Alps and the Apennines, and the Danubian plain, between the Carpathians and the Alps, are fertile and much-developed regions Among the chief river systems of Europe are, from east to west, those of the Volga, the Don, the Dnieper, and the Danube (all flowing south), of the Oder, the Elbe, and the Rhine (flowing north), and of the Loire, the Garonne, and the Tagus (flowing west). The climate varies radically in different parts of Europe. The Mediterranean climate of the south is dry and warm The western and northwestern parts have a mild, generally humid climate, influenced by the North Atlantic Drift In Central and Eastern Europe the climate is continental In the northeast it is hyperborean All Europe, however, is subject to the moderating influence of prevailing westerly winds from the Atlantic Politically, Europe is subdivided into many sovereign states, some very large, some covering only a few square miles The following list is arranged by geographic regions Eastern Europe the European part of the UNION OF SOVIET SOCIALIST REPUBLICS, the Baltic republics (Lithuania, Latvia, and Estonia), which are in fact members of the USSR, and Poland Southeastern Europe Rumania, Hungary, Yugoslavia, Albania, Bulgaria, Greece, and the European part of Turkey Scandinavia Sweden, Norway, Denmark, and Finland Central Europe Austria, Czechoslovakia, Germany, Switzerland, and Liechtenstein Western Europe Belgium, the Netherlands, the grand duchy of Luxembourg (these three forming the Low Countries), France, and Monaco Southern Europe Italy, the Free Territory of Trieste, San Marino, Vatican City, Spain, Portugal, and Andorra The British Isles United Kingdom (i e, England and Wales, Scotland, and Northern Ireland) and Ireland Isolated in the Atlantic is Iceland With the exception of Basque and Maltese and the Finno-Ugric, Samoyed, Turkic, and North Caucasian language groups, only Indo-European languages are spoken in Europe (see LANGUAGE) European colonists and immigrants have spread their languages and civilization throughout North America, and South America, South Africa, Australia, New Zealand, and large parts of Asiatic Russia, they have introduced their technology and political concepts and the Christian religion to all parts of the earth The beginnings of civilization in Europe can be traced to very ancient times, but the civilizations of Mesopotamia and Egypt are still older than those of Europe

Europe, Council of, international body created in 1949 at London, England, by representatives of Great Britain, France, Belgium, the Netherlands, Luxembourg, Norway, Sweden, Denmark, Ireland, and Italy The purpose of the council is to make a first step toward a federation of European states Its statute provides for a committee of ministers and for a consultative assembly composed of representatives of the member countries Strasbourg, France, was chosen as the seat of the council because of its central location Greece and Turkey joined the council in 1950 Although the Council of Europe may eventually facilitate the creation of a genuinely federated Europe, its importance in 1950 was largely as a platform for public opinion

European corn borer see CORN BORER.

European Recovery Program, name popularly given to the project which was instituted at the Paris Economic Conference (July, 1947) to foster postwar economic recovery in certain European countries The ERP took form when U S Secretary of State George C Marshall—for whom the program is also called the Marshall Plan—urged (June 5, 1947) that European countries decide on their economic needs so that material and financial aid from the United States could be integrated on a broad scale In April, 1948, President Harry S Truman signed the act which set up the Economic Cooperation Administration to administer the program The ECA, authorized to function until 1952, was created to promote European production, to bolster European currency, and to facilitate international trade. Paul G Hoffman was named (April, 1948) economic cooperation administrator, and the participating countries (Austria, Belgium, Denmark, France, Germany, Great Britain, Greece, Iceland, Italy, Luxembourg, Netherlands, Norway, Sweden, Switzerland, Turkey, and United States) signed in 1948 an accord establishing the Organization for European Economic Cooperation as the master coordinating agency From the start the USSR strongly opposed the program while the various countries in the Soviet orbit denounced or ignored it To the end of 1949, England, France, Germany, and Italy received the largest allocations See S E. Harris, *The European Recovery Program* (1948)

europium (yōōrō'pēum), extremely rare metallic element (symbol = Eu, for physical constants, see ELEMENT, table) occurring with other metals of the RARE EARTHS group of which it is a member The oxide is obtained as a pinkish powder Discovery of the element (1901) is credited to Eugène Demarçay. Europium has no commercial use

Europus or **Europos,** Syria see DURA.

Eurydice. see ORPHEUS

Eurymedon (yōōrĭ'mudŏn), small river of ancient Pamphylia, S Asia Minor. Here in the Persian Wars Cimon defeated (c 467 B.C.) the Persians.

Eurynome (ūrĭ'numē), in Greek religion, daughter of Oceanus and Tethys and mother, by Zeus, of the Graces According to one tradition, she and the Titan Ophion ruled the world until they were overcome by Cronus

eurythmics or **eurhythmics** (both yōōrĭdh'mĭks) [as if Gr., = good rhythm], harmonious bodily movement, especially as expressed according to the system of Emile JAQUES-DALCROZE, who began his studies in 1903 in an effort to overcome the rhythmic difficulties of his students His aim is to bring the body under control of the mind through a system of gymnastics correlated with music. First, an unconscious technique of bodily response to the rhythm of music is developed, and finally the student is able to improvise an interpretation, through gesture language, of an entire composition. The system has influenced, not only musical instruction, but also the ballet and even fields outside of musical study The first demonstrations of it were given in 1905, and the first Jaques-Dalcroze Institute in the United States was established in 1915 For a history of the Dalcroze method of eurythmics, see Nicolas Slonimsky, *Music since 1900* (1937) See Jaques-Dalcroze, *Eurythmics, Art, and Education* (Eng tr, 1930) and *Rhythm, Music, and Education* (Eng tr, 1921)

Eusebius of Caesarea (ūsē'bēŭs, sĕzūrē'u) or **Eusebius Pamphili** (păm'fĭlī), c 263–339?, Greek historian Born in Palestine, he was bishop of Caesarea, Palestine (314?–339) In the controversy over ARIANISM he was accused by the Athanasians of being an Arian—a probably unjustified charge Eusebius was related to Eusebius of Nicomedia and gave Arius refuge at one time He disapproved of some of the canons of the First Council of Nicaea, which he was deputed to open, but he signed the Nicene Creed His historical works were his chronicle, a history of ancient peoples, remarkable for its chronology, and the monumental *Ecclesiastical History*, in 10 books Written from a moderate point of view, it is the only source for many events in the history of the early church He also wrote a life of Constantine and theological treatises

Eusebius of Nicomedia (nĭkōmē'dēu), d 342?, Arian leader, powerful because of his influence over Constantia, sister of Constantine I He sheltered Arius in 321 and fought his condemnation at Nicaea (325). Eusebius opposed the Nicene canon, although he had signed it, he was exiled for his Arianism But he was in power again in 330 and, aided by the court, became bishop of Nicomedia (330–39) and patriarch of Constantinople (339–42)

Eustace II (ū'stĭs), d 1093, count of Boulogne Kinsman by marriage of EDWARD THE CONFESSOR of England, he visited England in 1051. There he and his followers came into conflict with the citizens of Dover GODWIN, earl of Wessex, refused to punish the people of the town and broke with Edward as a result Eustace supported William I (William the Conqueror) in 1066, but the following year led an unsuccessful revolt against him They were subsequently reconciled Eustace was the father of Godfrey of Bouillon and Eustace III, who was in turn father of Matilda, wife of STEPHEN of England Stephen and Matilda's son, **Eustace IV,** d 1153, count of Boulogne, opposed Empress MATILDA and GEOFFREY (Geoffrey Plantagenet) in Normandy Eustace's death cleared the way for the accession of HENRY II to the English throne

Eustachi, Bartolomeo (bär"tōlōmā'ō ā"ōōstä'kē), d 1574, Italian anatomist He lived in Rome from 1549 and taught at the Collegia della Sapienza (later the Univ of Rome) He described many structures in the human body, including the Eustachian tube of the ear, the adrenal glands, the thoracic duct, the uterus, and the kidneys, and investigated the structure and development of the teeth His *Tabulae anatomicae* (1552), a remarkable set of anatomical drawings, was published in 1714

Eustachian tube (ūstā'kēun, ūstā'shŭn), small structure, also referred to as the auditory tube or auditory canal, which extends between the middle ear and the nasopharynx It serves to equalise the air pressure between the throat and the middle ear Growths such as adenoids or tumors may block off the cartilaginous opening of the tube in the nasopharynx Infection in the throat may extend to the middle ear by way of this channel, causing ear infections and deafness

Eustathius, Saint (ūstā'thēus), c 280–c 335, patriarch of Antioch (324?–330?), prominent Catholic leader at the First Council of Nicaea He was deposed and exiled by a faction led by Eusebius of Nicomedia during the Arian reaction His followers refused to acknowledge MELETIUS as bishop

Eustathius, d c 1194, Byzantine scholar, archbishop of Salonica (from 1175). He became renowned as master of the orators at Hagia Sophia, Constantinople, then a center of learning He lectured on Homer and Pindar As bishop he was active in the affairs of Salonica and secured religious freedom for its inhabitants when the Normans captured it. He attempted to reform the monasteries but failed and was temporarily obliged to leave the city. Works of interest include commentaries (especially on Homer), which are valuable for extracts from lost Greek works, also a history (1185) of the Norman conquest of Sicily and S Italy, funeral orations, and *The Reform of Monastic Life*. Michael ACOMINATUS was his student and friend

Eustatius Island: see SAINT EUSTATIUS.

Eustis, William (ū'stĭs), 1753–1825, U S. government official, b Cambridge, Mass , grad Harvard, 1772. He studied medicine under Joseph Warren and was a surgeon in the patriot forces in the American Revolution Later he took up politics as an Anti-Federalist and Jeffersonian and served in Congress (1800–1804). Jefferson made him (1807) Secretary of War, and he served until 1812 when the misfortunes of the War of 1812 brought criticism of him as inefficient and caused him to resign He was later minister to the Netherlands (1814–18), again a member of the House of Representatives (1820–23), and governor of Massachusetts (1823–25)

Eustis, city (pop. 2,930), N central Fla , on Lake Eustis, N of Lake Apopka, inc as a city 1925 It is a resort and trade center in a region noted for its citrus fruit and watermelons Sand dredged from the lake is used for building purposes

Eutaw (ū'tô), town (pop 1,895), co seat of Greene co , W central Ala , near the Black Warrior river and SSW of Tuscaloosa, in a farm area, settled 1818. It has a number of ante-bellum houses

Eutaw Springs, short branch of the Santee river, which it joins c 30 mi E of Orangeburg, S C It was (Sept 8, 1781) the scene of a battle in the CAROLINA CAMPAIGN of the American Revolution.

Euterpe: see MUSES

Eutropius (ūtrō'pēŭs), fl 4th cent A D , Roman historian, a protégé of the emperors Julian and Valens He wrote a compendium of Roman history (*Breviarium ab urbe condita*) in 10 books Though unimportant as a source, it is a good summary, written in pure Latin

Eutropius, d 399, favorite of the East Roman Emperor ARCADIUS A eunuch of the palace, he brought about the marriage (395) of Arcadius and EUDOXIA and succeeded RUFINUS as chief minister He was hated for his cruelty and avarice, his fall, however, was caused by the enmity of Eudoxia and of the leader of the Gothic mercenaries, Gainas Though his life was spared at first through St John Chrysostom, he was later tried and executed

Eutyches (ū'tĭkēz), c 378–c 452, archimandrite in Constantinople, sponsor of Eutychianism, the first phase of MONOPHYSITISM He was the leader in Constantinople of the most violent opponents of NESTORIANISM, among whom was Dioscurus, successor to St CYRIL as patriarch of Alexandria Whereas Cyril had agreed with the Antiochenes in 433 that Christ had two natures, Eutyches and Dioscurus insisted that Christ's humanity was absorbed in his divinity and that to accept two natures at all was Nestorian When THEODORET attacked Eutychianism (447), Dioscurus retaliated by anathematizing him, and Emperor Theodosius II, who was friendly to Eutychianism, confined Theodoret to his diocese (448) But Eutyches was accused of heresy and deposed by a council called by St. Flavian, patriarch of Constantinople (Nov , 448) Eutyches appealed to his friends, and Theodosius called a council to meet at Ephesus, Aug 1, 449 This, the famous Robber Synod (Latrocinium), was disgraceful from the beginning Dioscurus presided and disenfranchised most of the clergy inimical to Eutyches The "council" reinstated Eutyches, declared him orthodox, and deposed Flavian and Eutyches' accuser, Eusebius Flavian denied the council's authority, the papal legates denounced the council's proceedings The soldiery, called in by Dioscurus, compelled an affirmative vote, Flavian was imprisoned and died of rough handling by members of the "synod " The legates barely escaped Theodoret and the patriarch of Antioch were deposed. After the death of Theodosius (450) his orthodox successors convened the Council of Chalcedon (see CHALCEDON, COUNCIL OF) to right the wrongs of the Robber Synod, and Eutychianism was ended

Euychides (ūtĭ'kĭdēz), fl 4th cent B C , Greek sculptor of Sicyon, pupil of Lysippus Records exist of several of his works, among which the best known is *Fortune*, personifying the city of Antioch. The allegory is carried out in detail, as may be seen in a marble copy in the Vatican The identity of the statue was established through copies on coins

Eutychus (ū'tĭkŭs) [Gr ,=fortunate], young man whom Paul raised from the dead Acts 20 9–12

Evagoras (ĭvă'gŭrŭs), d c 374 B C , despot of Cyprus He was the inheritor of the rule of Salamis in Cyprus and was able not only to make good his claim but also to spread (c 410 B C) his control over the whole island. He was friendly to Athens and sought to bring Athenian culture to Cyprus, partly by giving refuge to exiled Athenians, notably CONON He built a powerful fleet and with it harried the mainland (under Persian control) After the Peace of Antalcidas, Evagoras lost all Greek support and found himself alone in war with Persia ARTAXERXES II defeated him in 381 and destroyed his fleet. He was, however, given easy peace terms and kept at least nominal rule of the island. Isocrates wrote an encomium of him.

Evagrius Scholasticus (ĭvă'grēŭs), c 536–c 600, Syrian ecclesiastical historian, a prominent, honored lawyer in Antioch and Constantinople. His *Ecclesiastical History* (431–593), written in excellent Greek, is an authentic source for the history of Nestorianism and Monophysitism.

Evald, Johannes: see EWALD, JOHANNES.

Evander (ĭvăn'dûr) [Gr ,=good man], a figure taken by the Romans from Greek mythology to connect Roman with Grecian legend He was said to have founded Pallanteum on the Palatine Hill (hence, supposedly, the name), naming it for his home Pallanteion, Arcadia He figures in the *Aeneid*, when Aeneas appeals to him for aid

Evangelical Alliance (ēvănjĕ'lĭkŭl), an association of Evangelical Christians in a union, not of churches, but of individuals belonging to different denominations and different countries, formed to give evidence of the unity existing among Evangelical believers and to advance such unity It was founded in 1846 in London, at a conference in which some 50 denominations were represented by several hundred clergymen and laymen, gathered from many parts of the world Branches have been organized in various countries. The largest association is the one first formed in Great Britain, which in 1923 became known as the World's Evangelical Alliance See A J Arnold, *History of the Evangelical Alliance* (1897), J W Ewing, *Goodly Fellowship a Centenary Tribute to the Life and Work of the World's Evangelical Alliance* (1946)

Evangelical and Reformed Church, a Protestant denomination formed by merging (1934) the Reformed Church in the United States and the Evangelical Synod of North America, both of which bodies had their origin in the Reformation in Europe Settlers in the American colonies from Germany and Switzerland established churches The Reformed Church in the United States, long known as the German Reformed Church, organized its first synod in 1747 and adopted a constitution in 1793 The Evangelical Synod of North America (not to be confused with the Evangelical Church, which merged in 1946 with the United Brethren in Christ to form the Evangelical United Brethren Church) was founded in 1840 at Gravois Settlement, Mo , by a union of Reformed and Lutheran Christians In its early years it was known as the German Evangelical Church Association of the West The Evangelical and Reformed Church is presbyterian in organization, and its creed is the Heidelberg Catechism (1563) The church maintains educational institutions and foreign missions A move to unite the Evangelical and Reformed Church and the Congregational Christian Churches (see CONGREGATIONALISM) was opposed by part of the Congregational membership and was barred (1950) by the courts

Evangelical Church: see EVANGELICAL UNITED BRETHREN CHURCH

Evangelical United Brethren Church, a Protestant denomination created (1946) by the union of the Evangelical Church and the United Brethren in Christ Both denominations originated early in the 19th cent in about the same place, with similarities in organization and polity The Evangelical Church owed its beginning to the evangelical, pietistic efforts of Jacob ALBRIGHT, a Lutheran convert to Methodism, who preached among his fellow Pennsylvania Germans The United Brethren in Christ came into being as a result of the evangelistic preaching of Philip William OTTERBEIN of the German Reformed Church and Martin BOEHM, a Mennonite bishop These two ministers conducted revivals among the German-speaking people of Pennsylvania, Maryland, and Virginia The methods of Albright, Otterbein, and Boehm were similar after evangelistic meetings, converts were encouraged to form classes or societies for strengthening their spiritual life The groups formed under Albright held a general conference in 1807 at which he was elected bishop, in 1816 the name Evangelical Association was assumed In 1891 a group which became the United Evangelical Church seceded from the Evangelical Association, but in 1922 the two bodies reunited as the Evangelical Church The societies formed under Otterbein and Boehm took shape as a distinct ecclesiastical body, to be known as the United Brethren in Christ, at a conference in 1800, at which the two ministers were elected bishops The United Brethren in Christ (Old Constitution) parted from the main body in 1889, from that time they have maintained a separate church Members of the MORAVIAN CHURCH are also sometimes called the United Brethren. In earlier years the membership of the Evangelical Church and of the United Brethren in Christ included few who were not German in speech, but later the German-speaking element formed only a small proportion Extension W of the Alleghenies was rapid The newly combined church supports publishing houses in the United States and abroad, four theological seminaries, a number of colleges, and foreign missions It has an episcopal form of government. In doctrine it is Arminian Particular emphasis is laid on prayer, a life of devotion to Christ, and the responsibility of the individual See R W Albright, *History of the Evangelical Church* (1942); J. W Owen, *A Short History of the Church of the United Brethren in Christ* (1944).

evangelist (ĭvăn'jŭlĭst) [from Gr.,=Gospel], the title given to SS. Matthew, Mark, Luke, and John The four evangelists are often shown together in art accompanied by, or represented by, their symbols The symbols usually given are: St Matthew, a youth with a book, St Mark, a lion (hence the celebrated Lions of St Mark, at Venice), St. Luke, a bull, St. John, an eagle In modern times the term is applied to Protestant preachers who go about preaching personal conversion to religion. The greatest effort of evangelism was undoubtedly the GREAT AWAKENING, and METHODISM is essentially evangelistic John WESLEY and George WHITEFIELD were the great Methodist evangelists George FOX, founder of the Society of FRIENDS (Quakers), was also an evangelist In the 19th cent Dwight MOODY was the type of the evangelist Frank Buchman used the methods of evangelism in the Oxford Group. See also CAMP MEETING and REVIVAL

Evans, Sir Arthur John, 1851–1941, English archaeologist He was keeper (1884–1908) of the Ashmolean Museum at Oxford He conducted archaeological researches at Cnosus and discovered in Crete the pre-Phoenician script. His writings include *Cretan Pictographs and Prae-Phoenician Script* (1896), *The Mycenaean Tree and Pillar Cult* (1901), and *Palace of Minos* (3 vols , 1921–30)

Evans, Augusta Jane, 1835–1909, American novelist, b Columbus, Ga Of her sentimental, moralistic novels, *St. Elmo* (1866) achieved greatest popularity It was widely translated and read Others include *Vashti* (1869) and *Infelice* (1875)

Evans, Caradoc, 1883–1945, Anglo-Welsh novelist and short-story writer His chief works are his short-story collections, *My People* (1915), *Capel Sion* (1916), and *My Neighbors* (1919), and his novel *Nothing to Pay* (1930) A writer of power, he is a harsh critic of his people. See biography by his wife, Oliver Sandys (1946)

Evans, Edward Payson, 1831–1917, American scholar, b Remsen, N Y , grad Univ of Michigan, 1854 He spent most of his life in Munich, Germany, where he studied ancient and contemporary Oriental literature, medieval art and law, religions, and languages He contributed frequently to magazines in Germany and America *Animal Symbolism in Ecclesiastical Architecture* (1896) and *The Criminal Prosecution and Capital Punishment of Animals* (1906) are strange and fascinating excursions into medieval art and law by an original mind His wife, **Elizabeth Gibson Evans**, 1832–1911, wrote biographical studies and novels

Evans, George Henry, 1805–56, American editor and agrarian reformer He came to the United States from England in 1820 He edited (1829–37, 1844–47) the *Workingman's Advocate*, the first important labor paper in the United States, and in 1840 published in the *Radical* a "History of the Workingman's Party in New York," an account of a movement in which he was a leading figure, but which had been largely destroyed by the panic of 1837 After the panic he preached a doctrine of free land and entered into the homestead movement on the theory that its success would not only relieve the conditions of labor in the cities but reduce the price of land in the older states to the value of improvements on the land, which would mean that the land itself was free Henry George and the single taxers used many of his arguments a generation later

Evans, Herbert McLean, 1882–, American anatomist and embryologist, b Modesto, Calif , M D Johns Hopkins, 1908 At the Univ of California he became professor of anatomy in 1915 and professor of biology and director of the Institute of Experimental Biology in 1930 He discovered vitamin E (1922) His work also includes research in the endocrine organs, the relation of nutrition to fertility, the physiology of reproduction, and studies of chromosomes in man

Evans, John, 1814–97, American founder of educational institutions, b Waynesville, Ohio, grad Lynn Medical College, Cincinnati, 1838 He practiced medicine in Indiana and was first superintendent of the state hospital for the insane in 1845 He went to Chicago in 1848 as professor of obstetrics at Rush Medical School He invested in real estate, and Evanston, Ill , is named for him He helped found Northwestern Univ there He served (1862–65) as governor of Colorado Territory Later he worked for the promotion of what is now the Univ of Denver He was also prominent as a railroad builder in Colorado See biography by E. C MacMechen (1934)

Evans, Sir John, 1823–1908, English archaeologist, geologist, numismatist, and paper manufacturer A president of the Royal Numismatic Society and of the Society of Antiquaries, he was active also in public welfare and was an authority on water supply His works include *Coins of the Ancient Britons* (1864), *The Ancient Stone Implements, Weapons, and Ornaments of Great Britain* (1872), and *Ancient Bronze Implements ... Great Britain and Ireland* (1881) Part of his coin collection is in the Ashmolean Museum, Oxford.

Evans, Lewis, c 1700–1756, colonial surveyor and geographer, b Wales He is known to have been in Philadelphia c 1736 He did several jobs for Benjamin Franklin. His travels and studies of the colonies nearest him bore fruit in two maps, *A Map of*

Pennsylvania, New Jersey, New York, and the Three Delaware Counties (1749, revised 1752) and *A General Map of the Middle British Colonies in America*, published together with an *Analysis* (1755) The first of these was used by migrating colonists for the excellent detail of the roads The second was used by Braddock and was published many times over by London firms In the *Analysis* he drew particular attention to Ohio and suggested ways and means of acquiring it by force from the French His *Brief Account of Pennsylvania* (1753) is given in the biography by L H Gipson (1939)

Evans, Luther Harris, 1902–, American librarian and political scientist, b Bastrop co, Texas, grad Univ of Texas, 1923, Ph D Stanford, 1927 After teaching political science at New York Univ, Dartmouth, and Princeton, he became director of the Historical Records Survey, under the WPA (1935) In 1939 he was appointed director of the legislative reference service of the Library of Congress He was chief assistant librarian of Congress from 1940 to June, 1945, when he was appointed librarian He wrote *The Virgin Islands* (1945)

Evans, Maurice, 1901–, English-American actor manager He was naturalized in 1941 His debut in the United States with Katharine Cornell in *Romeo and Juliet* (1936) was followed by other Shakspearian roles which won him great distinction These included *King Richard II* (1937), *Hamlet* (1938), and *Macbeth* (1941) During the Second World War he entertained troops and in 1947 appeared in Shaw's *Man and Superman*

Evans, Oliver, 1755–1819, American inventor, b near Newport, Del He joined his brothers in Wilmington in the flour-milling business and installed machinery which he developed and patented after studying similar earlier devices These included an elevator, a conveyor, a descender, and a hopper-boy, which handled the grain by machinery and which a generation later became a part of every mill establishment His *Young Mill-Wright & Miller's Guide* (1795) went through many editions Evans experimented on a steam carriage to run on ordinary roads, but turned from it to build stationary steam engines He was a pioneer in the building of high-pressure engines, and after establishing the Mars Iron Works in 1807 he built about 50 engines, most of them used in pumping He built the first steam river dredge to be used in America and brought it to the river under its own power See biography by Greville Bathe and Dorothy Bathe (1935)

Evans, Rudulph, 1878–, American sculptor, b Washington, D C *The Golden Hour* (Luxembourg Mus, Paris, replica, Metropolitan Mus) is rated one of his best works Others are *Boy and Panther*, *Dawn*, *Venus Aphrodite*, and the Kiernan Memorial, Green Bay, Wis

Evans, Mount, peak, 14,260 ft high, N central Colo, in the Front Range of the Rocky Mts The Inter-University High Altitude Laboratory is at the summit of Mt Evans

Evansburg, borough (pop 1,604), W Pa, E of Zelienople, inc 1882 Its post office is **Evans City.**

Evanston, **1** Residential city (pop 65,389), NE Ill, on Lake Michigan just N of Chicago, settled 1826, platted 1854, inc as a city 1892 It is the seat of NORTHWESTERN UNIVERSITY, Seabury-Western Theological Seminary, a Bible institute, a teachers college, and a junior college Evanston, once the home of Frances E Willard, is the national headquarters of the Woman's Christian Temperance Union Radios and steel products are made **2** City (pop 3,605, alt c 6 750 ft), co seat of Uinta co, extreme SW Wyo, on the Bear river, settled 1869, inc 1888 It is the trade center of a farm and dairy area in a region which has yielded coal and other minerals The city developed with the arrival of the railroad The state hospital for the insane is in Evanston

Evansville, **1** City (pop 97,062), co seat of Vanderburgh co, SW Ind, on the Ohio and SW of Indianapolis, settled 1817, inc as a town 1819, as a city 1847 It is a port of entry and is a shipping point for an agricultural region which also mines coal During the Second World War, Evansville had the largest inland shipyards in the world It manufactures glassware, tools, automobile parts, refrigerators, shovels, and cranes, and beer and pharmaceuticals are made here It is the seat of Evansville College A state hospital for the insane is in the city **2** City (pop 2,321), S Wis, S of Madison, settled 1839, inc as a village 1866, as a city 1896 It is a farm trade center The Wyler School for boys and the Hallelujah Campgrounds are here

evaporation, the changing of a liquid into a gas at any temperature below the BOILING POINT of the liquid For example, water placed in a shallow, open container and exposed to dry air disappears rapidly, the rate at which it evaporates depending in part upon the extent of surface exposed and also upon the amount of water already in the air (see HUMIDITY) The explanation of the process, according to the kinetic molecular theory of MATTER, is that the molecules of water at the surface bound off into the air and are prevented from returning to their original position by collision with the molecules of the air and consequent deflections from their original direction This process continues until no more water molecules remain in the container Since increased activity of the water molecules is dependent upon the acquisition of heat (heat is the kinetic energy of the molecules), this energy must be drawn from surrounding substances As a result, the temperature of substances in the immediate vicinity, as well as that of the liquid itself, is decreased The cooling sensation felt when a liquid evaporates on the skin is an example When carbon dioxide which has been liquefied is allowed to evaporate in a confined space, so much heat is absorbed from the surrounding substances, including the liquid already evaporated, that DRY ICE is formed

Evart (ĕv'urt), city (pop 1,335), N Mich, on the Muskegon and NW of Midland, inc as a village 1872, as a city 1938 Several Indian mounds are near by

Evarts, William Maxwell, 1818–1901, American lawyer and statesman, b Boston, grad Yale, 1837, grandson of Roger Sherman After attending Harvard Law School he began (1841) to practice law in New York city, where, with Charles E Butler, he formed (1843) a firm which became one of the best known in the country A number of cases, notably one involving the daring forger Monroe Edwards, spread his fame, which during the Civil War was further enhanced by his handling of the Savannah privateers case and several prize cases Evarts was government counsel in the abortive trial of Jefferson Davis for treason and later eloquently defended President Andrew Johnson in the impeachment proceedings He was one of the counsel for the United States in the Geneva arbitration proceedings (1871–72) on the *Alabama* claims and in 1877 argued the claims of Rutherford B Hayes to the presidency as Republican counsel before the electoral commission He was U S Attorney General under Johnson (1868–69) and Secretary of State under Hayes (1877–81) Confronted in the latter capacity with activity of French interests in constructing an isthmian canal, he stated forcefully that any canal must remain under American control, thus formulating a policy subsequently maintained in American foreign relations He was U S Senator from 1885 to 1891, a period marked by failing eyesight, which resulted in total blindness for the last 11 years of his life See Brainerd Dyer, *The Public Career of William M Evarts* (1933), biography by Chester L Barrows (1941)

Evarts, town (pop 1,642), E Ky, in the Cumberlands, near the Va line E of Harlan, in a coal area, settled c 1800, inc 1915

Evatt, Herbert Vere (vēr' ĕ'vut), 1894–, Australian statesman After achieving prominence as a labor lawyer Evatt became justice of the High Court of Australia in 1930 and in 1940 became a Labour member of the House of Representatives In 1941 he was appointed attorney general and minister for foreign affairs During the Second World War, Evatt was the Australian member of the Pacific War Council and a delegate to the United Nations Conference in 1945 He gained note for championing the rights of the smaller nations and opposing the veto power of the big nations Evatt has also urged international control of atomic energy In 1948–49 he was president of the United Nations General Assembly He has written a number of books, including *The Task of Nations* (1949)

Eve [Heb, =life], in the Bible, the first woman, wife of ADAM and the mother of Cain, Abel, and Seth Fashioned from Adam's rib, she was beguiled by the serpent into eating the forbidden fruit of the tree of knowledge Eve then tempted Adam to eat, whereupon they were banished from the Garden of Eden Gen 2–4, 2 Cor 11 3, 1 Tim 2 13

Eveleth (ĕv'ulĕth), city (pop 6,887), NE Minn, on the Mesabi iron range and S of Virginia, in a region of lakes and woods, settled 1892, inc 1893 It has a junior college (coeducational) An annual winter carnival is held

Evelyn, John (ēv'ulĭn, ĕv'lĭn, ēv'lĭn), 1620–1706, English diarist, b Wotton House, Surrey Though of royalist sympathies, he took little active part in the civil war After 1652 Evelyn lived at Sayes Court, Deptford, as a wealthy country gentleman, cultivated his garden, and wrote on all manner of subjects, including reforestation, natural science, the history of art, and numismatics After the Restoration he was a faithful public servant His best-known work is his lifelong diary, less intimate than Pepys's, but full of historical information about 17th-century England It was first published in 1818 and was edited by Austin Dobson in 1906 Evelyn also wrote *The Life of Mrs Godolphin* (ed by Harriet Sampson, 1939)

evening primrose, any species of the genus *Oenothera* and of several similar and related genera, herbs, most of which are yellow, evening-flowering, North American annuals or biennials The common evening primrose (*Oenothera biennis*) has become a weed in the Old World, where the roots are sometimes used for food Hugo de Vries noticed that the progeny of evening primroses were often unlike the parents Further study led him to formulate the theory of mutation and to confirm and expand Mendel's law of heredity

evening schools see VOCATIONAL EDUCATION.

Evenki National Okrug (ĕvyĕn'kē), administrative division (285,900 sq. mi., pop 25,000), N Krasnoyarsk Territory, RSFSR, in central Siberia, traversed by the Lower Tunguska and the Stony Tunguska rivers. Tura is the capital Fur trading, reindeer raising, and fishing are the chief occupations of the Evenki population, which belongs to the TUNGUS linguistic family

Everdingen, Allart van (ä'lärt vän ä'vürdĭngŭn), 1621–75, Dutch painter and etcher. He studied in Utrecht and in Haarlem, which, with Amsterdam, was his chief working center The scenery of Sweden and Norway forms the subject of some of his finest pictures In color, atmosphere, and skillful composition his paintings have often been likened to those of Ruisdael Everdingen executed over 150 etchings, treated in a broad and vigorous manner

Everest, Sir George (ē'vurĭst), 1790–1866, British surveyor, b Brecknockshire, Wales. He worked on the trigonometrical survey of India from 1806 to 1843 He became superintendent of the survey in 1823 and surveyor general of India in 1830 Mt Everest, on the Nepal-Tibet border, is named for him He was knighted in 1861

Everest, Mount, peak, 29,141 ft high, on the border of Tibet and Nepal, in the Himalayas It is the greatest elevation in the world The mountain is named for Sir George Everest, whose trigonometrical survey in 1849 definitely located the peak and later fixed its height at 29,002 ft, a figure still used in official works All attempts to climb the peak to its summit have been vain C G Bruce (1923, 1924), Hugh Ruttledge (1933, 1936), and W H Tilman (1938) returned in safety after the failure of the parties that they led On Bruce's expedition E F Norton established the world's climbing record of 28,126 ft It is possible, however, that in that party G L Mallory and A C Irvine, who were observed disappearing in a fog before they were lost, attained a greater elevation The summit of Mt Everest is well known today from aerial photographs See E F Norton and others, *The Fight for Everest, 1924* (1925), Sir Francis Younghusband, *The Epic of Mount Everest* (1926), P F M Fellowes and others, *First over Everest* (1934), James R Ullman, *Kingdom of Adventure Everest* (1947)

Everett, Edward (ĕv'rĭt, ē'vurĭt), 1794–1865, American orator and statesman, b Dorchester, Mass, grad Harvard (B A, 1811, M A, 1814) In 1814 he became a Unitarian minister in Boston, but, appointed (1815) professor of Greek literature at Harvard, he went abroad to study at the Univ of Gottingen (Ph D, 1817) and to travel During his professorship (1819–25) he also edited (1820–23) the *North American Review* A U S Representative (1825–35), Everett adopted a conservative attitude toward the slavery question, thereby awaking opposition He was governor of Massachusetts (1836–39), minister to England (1841–45), and president of Harvard (1846–49) In the last four months of President Millard Fillmore's administration, he was Secretary of State, succeeding his late friend, Daniel Webster By this time Massachusetts had elected him U S Senator, but he resigned in the second year of the term (1854), embarrassed still by his old-line Whig attitude of compromise on slavery In 1860 Everett halfheartedly accepted the vice presidential nomination of the CONSTITUTIONAL UNION PARTY In the Civil War he traveled throughout the North speaking for the Union cause and drawing immense audiences His most famous address, now completely forgotten, was the principal oration delivered at Gettysburg on the same occasion that called forth Abraham Lincoln's enduring Gettysburg Address See his *Orations and Speeches on Various Occasions* (4 vols, 1850–68), biography by P R Frothingham (1925)

Everett (ĕv'rĭt, ē'vurĭt) **1** Industrial city (pop 46,784), E Mass, a suburb N of Boston, set off from Malden 1870, inc as a city 1892 Steel and iron goods and chemicals are its chief products **2** Industrial borough (pop 2,425), S Pa, on the Juniata and E of Bedford, laid out 1795, inc 1873 Coal and limestone are produced here It was the site of an attack upon Indian traders which resulted in the Battle of Bloody Run (1765) **3** City (pop 30,224), co seat of Snohomish co, NW Wash, on Puget Sound at the mouth of the Snohomish Settled c 1890, it was planned as a seaport and industrial city It is a port of entry and a commercial center and has important manufactures of lumber, pulp, and plywood and other diversified industries A state home for girls is here, and an Indian reservation is near by The attempt to expel members of a lumber workers' union resulted in violent conflict, Nov 5, 1916

Everglades, subtropical area, covering the greater part of S Florida, S of Lake OKEECHOBEE The sedge (*Cladium jamaicense*), popularly called saw grass, and water which are its chief characteristics stretch 100 mi from the lake to the Gulf of Mexico, ranging from 50 to 70 mi in width The water flows south from the lake system of central Florida to Lake Okeechobee and then, overflowing into the

Everglades, moves south down an almost imperceptible incline. The Everglades proper—with two marked seasons, wet and dry—has an annual average rainfall of over 60 in. Underlying the grass and water and embedded in some places with coral is oolitic limestone, which also rims the area, thus serving as a retaining wall against the sea. The saw grass is most heavily concentrated at the northern end, south from there, thousands of islandlike masses of vegetation called hammocks rise above the surface, which is nowhere more than a few feet above sea level. The solidly packed black muck of the Everglades, the result of millions of years of vegetable decay, was long looked on as potentially rich farming land, and intensive reclamation work began in the administration (1905–9) of Gov Napoleon B Broward. The state and Federal governments constructed thousands of miles of canals and ditches leading out of Lake Okeechobee to the Atlantic and the Gulf of Mexico. Over 4,000,000 acres of the Everglades and contiguous lands were drained, but only the area immediately bordering the lake was actually turned over to agriculture (winter vegetables and sugar cane are the chief crops) and, partially, to cattle grazing. Great fires which burned in the lower Everglades in March, 1939, confirmed the opinion of a few conservationists that the region was being overdrained and led to the first thorough studies of the region as a whole. These established that most of the lower Everglades was unfit for cultivation. Everglades National Park, established in 1947, embraces 341,-969 acres. In addition to the saw-grass and water prairies, it includes long stretches of sandy beaches, vast mangrove forests, and a wide variety of subtropical flora and fauna. The rookeries of the white egret, the roseate spoonbill, the great heron, and other water birds are particularly impressive. The park reaches to the north of the Tamiami Trail, completed in 1928. The town of Everglades (pop 518), county seat of Collier co, is the western terminus of the trail. W of the Everglades and N of Big Cypress Swamp is a reservation for SEMINOLE INDIANS, whose forebears found a great natural ally in the Everglades in their long struggle to resist removal to the West. See Marjory Stoneman Douglas, *The Everglades: River of Grass* (1947)

Evergreen, city (pop 2,216), co seat of Conecuh co, S Ala, SW of Montgomery, in a farm area noted for its evergreens, settled c 1820

evergreen, plant which carries green foliage the year round. Most conifers are evergreen, the LARCH being an exception. Many broad-leaved plants, too, are evergreen, e g, box, rhododendron, holly, and most tropical plants. The leaves, whether needlelike or broad, last a varying length of time with different plants

Evergreen Park, village (pop 3,313), NE Ill, south suburb of Chicago, inc 1893

everlasting or **immortelle**, names for several plants characterized by papery or chaffy flowers which, on drying, retain their form and, usually, color and are used for winter bouquets and decorations. Some of the more popular of the everlastings are the STRAWFLOWER, pearly everlasting (*Anaphalis*), winged everlasting (*Ammobium*), Swan River everlasting (*Helipterum* or *Rhodanthe*), the common immortelle (*Xeranthemum*), pussytoes (*Antennaria*), SEA PINK (*Statice*), GLOBE AMARANTH, and COCKSCOMB. Everlastings should be cut before fully mature, some while still in bud, then stripped of their leaves and hung in bunches, head downward, to dry, colored blossoms should be dried in the shade. Some plants may be treated as everlastings because of their ornamental dried fruits, e g, several grasses, honesty (*Lunaria*), Chinese lantern (*Physalis*), TEASEL, and bittersweet

Evermann, Barton Warren, 1853–1932, American naturalist, b Monroe co, Iowa, grad Indiana Univ (B A 1886, Ph D, 1891). From 1891 to 1914 he was ichthyologist of the Bureau of Fisheries, serving also as head of the Alaska Fisheries Service (1910–14) and as chairman of the fur-seal board (1908–14). From 1914 he was director of the Museum of the California Academy of Sciences and from 1922 of the Steinhart Aquarium, in San Francisco. With David Starr Jordan he wrote *The Fishes of North and Middle America* (4 vols, 1896–1900) and *American Food and Game Fishes* (1902).

Everson (ĕv'ûrsŭn), borough (pop 1,809), SW Pa., SE of Pittsburgh, laid out 1874. It has a metal-products plant

Everyman, a late 15th-century morality play in English which is the counterpart of the Dutch play *Elckerlyc*. Which one is the original has been disputed. When he is summoned by Death, the hero, Everyman, can persuade none of his friends—Beauty, Kindred, Worldly Goods—to go with him, except Good Deeds. Modern presentations of *Everyman* have been well received

Evesham (ēv'shŭm, ē'shŭm, ē'sŭm), municipal borough (1931 pop 8,799, 1943 estimated pop 11,000), Worcestershire, England, SE of Worcester and on the Avon, in a productive fruit and vegetable region. There are remains of a Benedictine abbey founded early in the 8th cent. An obelisk marks the scene of the victory of the royalists under Prince Edward over Simon de Montfort in 1265, and the place where Simon fell.

Evi (ē'vī) [Heb, =desire], Midianite king. Num. 31 8, Joshua 13 21

Évian-les-Bains (āvyā'-lā-bĕ') or **Évian**, town (pop. 2,999), Haute-Savoie dept, E France, on the Lake of Geneva. It is a fashionable spa at the foot of the Alps. Évian mineral water (for digestive and rheumatic diseases) is bottled and exported to all parts of the world

evidence. The rules discussed in this article were developed in England for use in JURY trials. Today they are generally observed in all countries having the COMMON LAW, although they have been extensively modified by statute in some jurisdictions. The object of the law of evidence is to assure a high probability that the questions of fact in suits are resolved correctly. To that end the proof at the trial is ordinarily restricted to items of great probative value, and material which may arouse unreasoning passion is ordinarily excluded. The nature of the legal controversy determines what assertions of fact each party must prove or disprove to win his case, and an item of evidence which at best has a remote bearing on the factual issues must be excluded as irrelevant (an alternative legal term is *immaterial*). Naturally a judge prefers direct evidence (such as an official document or a witness's assertion of his immediate knowledge) to indirect or circumstantial evidence from which the truth respecting the issues can merely be inferred. The type of controversy also governs the burden of proof, i e, the obligation that a party bring forward some admissible proof of a factual contention on pain of having it decided against him. In criminal trials the prosecution has the burden of proof whenever the defendant raises an issue. In civil trials, on the other hand, each party has the burden only of proving his affirmative contentions. Thus the plaintiff must offer some proof of each of the elements which combine to constitute the defendant's alleged wrong (see PROCEDURE), while the defendant must prove his affirmative defenses, e g, in a suit for NEGLIGENCE, that the plaintiff's own negligence contributed to the injury. Carrying the burden of proof requires the prosecutor and, in most cases, the plaintiff to present his evidence first. At the close of this presentation the criminal or civil defendant may move for a nonsuit if admissible evidence supporting each necessary contention has not been offered. Evidence at the trial, in addition to being relevant, must be competent, i e, it must not fall under an exclusionary rule. Obviously if the evidence is documentary (e g, a birth certificate introduced to prove a person's age) or if it is "real" (e g, a bloody garment exhibited to prove that the victim suffered injury), there can be a question only whether the proferred evidence is itself incompetent. Most evidence, however, is testimonial, i e, offered by the witnesses who testify before the court. Here the question of the witness's personal competency is ever present. To qualify a witness as competent, it must be shown that he was able to know, understand, and remember the matters on which he is to be examined. Thus a witness must possess the sensory faculties needed to apprehend the facts on which he reports, and he must not be feeble-minded or insane. Children offered as witnesses are examined by the judge to determine their intelligence and their understanding of the OATH usually required of witnesses. Children may be permitted to testify without an oath if the jury is cautioned that their statements then possess slight probative value. The witness is first directly examined by the party who offers him. The adversary party is then allowed to cross-examine the witness and attempt to disprove his testimony by eliciting additional facts or showing inconsistencies or lies. Testimonial evidence is limited both by exclusionary rules—chiefly concerning opinion evidence and hearsay evidence—and by rules respecting personal privilege. No witness may express his opinion on any matter when the jury can draw its own conclusions from the facts, but on technical questions an expert witness (e g, a physician) may state his opinion. Hearsay declarations, i e, statements made by persons who are not before the court, usually are excluded on the grounds that the statement may not be cross-examined, and only when the circumstances of the statement afford a high probability of its truth may it be admitted. Thus, if the victim of an attack, believing himself near death and so likely to speak truth, identifies his assailant, the identification may be introduced in a trial for murder. Certain types of evidence are excluded by the assertion of the personal privilege of the witness or another person. In general, information confided in the course of the relations of attorney and client, priest and penitent, physician and patient, and husband and wife is subject to this privilege. Witnesses are further protected by the privilege of withholding self-incriminating evidence. Criminal defendants have the privilege of refusing to take the witness stand, and in most situations evidence of previous criminal convictions is inadmissible. When an attorney believes that offered evidence should be excluded, he first makes the "general objection" that the item is "irrelevant, immaterial, and incompetent." If this is overruled, he may offer a specific objection on any grounds. Allegedly damaging errors in the admission of evidence are reviewable on appeal. In their final summing up, the attorneys may make any assertion which is supported to some degree by evidence. Among the many modern treatises on the law of evidence those of J H WIGMORE are often accorded the highest authority

evil. The philosophical problem of evil is most simply stated in the question, Why does evil exist in the world? Death, disease, and SIN are often included in the problem. Traditional Christian belief ascribes evil to the misdeeds of men, to whom God has granted FREEDOM OF THE WILL. The Christian systems that hold PREDESTINATION and justification by faith claim like their Christian opponents that God is still not the author of the evil men do. One explanation of evil is DUALISM, as in ZOROASTRIANISM and MANICHAEISM. In OPTIMISM evil is treated often as more apparent than real. The book of Job is a literary treatment of the problem.

evil eye. An ancient superstition (still prevalent, particularly in the Orient) holds that the glance of certain persons has the power to harm or to destroy other persons or things. Amulets and charms of many kinds are worn or used as protection against the evil eye, animals and children being considered especially susceptible to it

Evil-Merodach (ē'vĭl-mē'rōdăk, -mĭrō'dăk) [Babylonian *Amil-Marduk*], d 560 B C, king of Babylonia (562–560 B C), son and successor of NEBUCHADNEZZAR. He favored JEHOIACHIN. 2 Kings 25 27–30

evolution, concept which embodies the belief that existing animals and plants developed by a process of gradual, continuous change from previously existing forms. This theory, also known as descent with modification, constitutes organic evolution. Inorganic evolution, on the other hand, is concerned with the development of the physical universe from unorganized matter. Organic evolution, as opposed to belief in the special creation of each individual species as an immutable form, conceives of life as having had its beginnings in a simple primordial protoplasmic mass (originating probably in the sea) from which, through the long eras of time, arose all subsequent living forms. Evolutionary concepts appeared in some early Greek writings, e g, in the works of Thales, Empedocles, Democritus, Anaxagoras, and Aristotle. Under the restraining influence of the Church no evolutionary theories developed during some 15 centuries of the Christian era to threaten the belief in special creation and the literal interpretation of the first part of Genesis. With the growth of scientific observation and experimentation, there began to appear from about the middle of the 16th cent. glimpses of the theory of evolution that emerged in the mid-19th cent. Among philosophers, belief in the mutability of the species appeared in the works of Francis Bacon, Descartes, Leibniz, and Kant. In the field of experimental science the invention of the microscope, making possible the study of reproductive cells and the growth of the science of embryology, was a factor in overthrowing theories such as preformation or *embottement* (belief that the embryo contains in miniature the complete form of the adult) which long hampered evolution. Studies in classification (taxonomy or systematics) contributed to the trend toward belief in evolution. Linnaeus, in his later years, showed an inclination toward belief in the mutability of species as a result of his observations of the many variations among species. Buffon, on the basis of his work in comparative anatomy, suggested the influence of use and disuse as molding the organs of vertebrate animals. Cuvier directed his weighty influence against Buffon and also against Lamarck, who was one of the first to present a clearly stated evolutionary theory. Lamarck's explanation depended upon the inheritance of acquired characters, and for this belief he was ridiculed and discredited by his contemporaries. Erasmus Darwin, grandfather of Charles Robert Darwin, had earlier advanced a theory similar to that of Lamarck. Goethe's theory of metamorphosis of plants, in which he interpreted all floral parts as having evolved from leaves, placed him among the ranks of the evolutionists. His discovery in man of the intermaxillary bone (previously demonstrated in a number of vertebrate animals) furnished important evidence of evolution among higher forms. Although special creation of each species was the prevalent belief even among scientists in the first half of the 19th cent, actually the evidence for the chief arguments in favor of evolution had by that time been uncovered. It remained for someone to assemble and interpret the evidence and to formulate a scientifically credible theory. This was accomplished by Charles Robert Darwin, who set forth the concepts that came to be known as DARWINISM. After returning from the *Beagle* voyage, Darwin had worked for some 20 years on analyzing his material, collecting further evidence, and working out a theory to explain his observations. In 1858 Darwin received from Alfred Russel Wallace a paper setting

forth a concept of evolution based on his studies (begun in 1848) in the tropics which almost paralleled the theory that Darwin had worked out Darwin felt that he should set aside his own interests and present Wallace's less exhaustive treatise However, Charles Lyell and Joseph Hooker, who had for years been familiar with Darwin's work, finally persuaded him to present his own and Wallace's conclusions simultaneously, this was done (1859) at a meeting of the Linnean Society. Darwin's generosity lent strength to the arguments of both authors Also in 1859 appeared the first edition of Darwin's *Origin of Species* The influence of the evolutionary theory upon scientific thought and experimentation and upon philosophy can scarcely be overestimated The mid-19th cent. saw not only the emergence of Darwinism but also the death of the theory of spontaneous generation or abiogenesis, belief in which had persisted in some degree from the time of Aristotle Pasteur's masterly and dramatic demonstrations supported by the work of John Tyndall in England presented incontrovertible evidence that microscopic organisms, like the more complex forms of life, can arise only from preexisting life This gave support to the theory of evolution In the years following the promulgation of evolution many accepted and many denied its validity The theory found an opposing force in some religious creeds that declared it incompatible with their basic tenets For a time evolution, sometimes falsely interpreted as meaning man's descent from monkeys, became a target for attack by both church and educational authorities Feeling ran high even as late as the time of the SCOPES TRIAL Nevertheless, the theory of evolution became firmly entrenched as a scientific principle, and in many creeds it has been reconciled with religious teachings It has, however, undergone modification in the light of later scientific developments Evidence that evolution has occurred still rests on essentially the same grounds that Darwin emphasized Since the time of Darwin much more fossil evidence has been uncovered, and paleontology, considered by Darwin as lending only rather weak support to the theory, has proved to be a strong bulwark The chief weakness of Darwinian evolution lay in its inability to explain satisfactorily the mode of origin of species and the mechanism of evolution The neo-Darwinians believed that natural selection adequately explained evolution and denied the inheritance of acquired characters, this stand provoked much controversy Darwinism failed to distinguish between inheritable and noninheritable characters (developed through influence of the environment) De Vries, in 1901, presented his theory that mutations or suddenly appearing, well-defined, inheritable variations, as opposed to the slight, cumulative changes stressed by Darwin, are forces in the origin and evolution of species Scarcely less important than the work of Darwin were the Mendelian laws of inheritance (rediscovered in 1900), although their significance in their relation to evolution did not begin to be realized until some 20 years later With the growth of the science of genetics, of which Mendelian inheritance formed the basis, new light was shed on evolution Largely through studies of the fruit fly or vinegar fly *Drosophila* developed the knowledge of the genes as the bearers of inheritable traits Through the artificial production of gene mutations and studies of their inheritance came a better understanding of the evolutionary process T H Morgan and H J Muller pioneered in experimental studies of evolutionary genetics Many others have contributed to this growing field of knowledge Evolution is not a completed process but a continuing one, both the recombination of the many factors carried by the genes inherited by offspring from its male and female parents and the occurrence of mutations are forces contributing to evolution It is believed by many that the role of the environment is to offer a stimulus to change and that ability to adapt to the environment may have survival value to the individual and may influence its ability to reproduce and thus to perpetuate certain characters See H F Osborn, *From the Greeks to Darwin* (1929), A F Shull, *Evolution* (1936), Theodosius Dobzhansky, *Genetics and the Origin of Species* (2d ed., 1941), Julian Huxley, *Evolution* (1942), R S Lull, *Organic Evolution* (rev. ed., 1947); G. G Simpson, *The Meaning of Evolution* (1949)

Évora (ĕ'vôru), city (pop 21,851), S Portugal, capital of Évora dist., largest city of Alentejo prov., ESE of Lisbon It was the Ebora (renamed Liberalitas Julia after Julius Caesar) of Roman times and has impressive ruins called the temple of Diana An episcopal see before 300, it was later a center of commerce under the Moors. In the wars of the reconquest by the Portuguese its capture by Geraldo Sem-Pavor [Gerald the fearless] in 1166 was a noteworthy incident The old cathedral (12th cent.) is well known, and the Jesuit university (1559–1758, now used as a high school) has remarkable glazed tiles

Evpatoriya, RSFSR: see EUPATORIA.

Évreux (ĕvrû'), town (pop. 16,645), capital of Eure dept., N France, in Normandy. A Roman town called Mediolanum, it became (10th cent.) the seat of a county which, through the Middle Ages, frequently changed hands From 1349 to 1425 the counts of Évreux were also kings of NAVARRE as CHARLES II (Charles the Bad) and CHARLES III (Charles the Good) The French crown, which had already held it at various times, acquired it in 1584, but Louis XIV exchanged it for Sedan with Frédéric Maurice, duc de Bouillon. The county was abolished by the French Revolution. The cathedral (14th–17th cent.) of Évreux was damaged in the Second World War, it contains some remarkable carved altar screens.

Ewa (ā'wä, ā'wə), town (pop. 3,570), Oahu, T H., 12 mi WNW of Honolulu. It is a sugar center

Ewald, Georg Heinrich August von (gā'ôrk hĭn'rĭkh ou'gōost fŏn ā'vält), 1803–75, German Orientalist and theologian He was professor of philology at Göttingen after 1827. In 1837 he was one of the seven professors who protested the revocation of the Hanoverian Constitution (see GÖTTINGEN) For the next 10 years he was a professor at Tübingen In 1848 he returned to Göttingen, but in 1867, having refused to take an oath of allegiance to the king of Prussia, he was retired with a pension In spite of the bitterness of his polemical writings, his scholarship was broad and deep, and he produced many highly valued exegetical and critical works Among his notable publications are *A Grammar of the Hebrew Language* (Eng. tr., 1836) and *The History of the People of Israel* (Eng. tr., 1867–86).

Ewald, Johannes (yōhä'nŭs ā'väl), 1743–81, Danish poet. He studied for the ministry, but soon turned his talents to writing In 1769 his dramatic tragedy *Adam and Eve* was published His numerous works include *The Joys of Rungsted* (1773), a poem dedicated to his mother, *Rolf Krage* (1770), the first original Danish tragedy, the satirical tragicomedy *The Brutal Clappers* (1771), and *Old Bachelors* (1773) His last great drama, which is still popular, *The Fishers* (1779), contains the Danish national anthem, *King Christian Stood by the Lofty Mast* Ewald was one of the earliest of the romantic writers of Denmark, and he exerted a marked influence on later writers. His name also sometimes appears as Evald

Ewbank, Thomas (ū'băngk), 1792–1870, American inventor and writer, b. Durham, England He learned sheet-metal working in England In 1819 he emigrated to the United States and for 16 years manufactured tubing in New York, utilizing his patents for tinning lead He wrote an authoritative account (1842) of hydraulic and other machines for raising water Appointed commissioner of patents by President Taylor, he greatly improved the method of handling claims After extensive travels in South America he wrote *Life in Brazil* (1856) His writings include also *The World a Workshop* (1855), *Thoughts on Matter and Force* (1858), and *Reminiscences of the Patent Office* (1859)

Ewell, Benjamin Stoddert (ū'ŭl), 1810–94, American educator, b Georgetown, D C, grad West Point, 1832, brother of Gen R S Ewell He taught mathematics at West Point, Hampden-Sidney College, and Washington College (now Washington and Lee Univ.) before being elected professor of mathematics and acting president of the College of William and Mary (1848) In 1854 he became president The college was closed in the Civil War, and Ewell, who had at first opposed secession, joined the Confederate army and was chief of staff to Gen J E Johnston through most of the war After the war he prevailed on Congress to reimburse the college for buildings burned by Federal troops and was thus able to reopen William and Mary in 1869, only to be forced to close it again in 1881 because of diminished income Ewell spent his own money in keeping up the institution, until in 1888 it was reopened with state aid He was then president emeritus till his death

Ewell, Richard Stoddert, 1817–72, Confederate general, b Georgetown, D C, grad West Point, 1840 He served with distinction in the Mexican War and on the frontier. Ewell, of Virginia family, resigned from the army in May, 1861, to follow that state in the Civil War. He was rapidly promoted in the Confederate army, attaining his major generalcy in Oct., 1861 In 1862, his division fought under T J (Stonewall) JACKSON in the Shenandoah Valley campaign, and Ewell had a large part in Jackson's victories at Winchester, Cross Keys, and PORT REPUBLIC He continued in Stonewall's command through the Seven Days battles and Lee's subsequent advance on Pope but lost his leg at the beginning of the second battle of Bull Run (Aug., 1862) When Ewell returned to duty in May, 1863, he was promoted lieutenant general and made commander of the 2d Corps, succeeding the late Stonewall Jackson He ably led Lee's advance in the GETTYSBURG CAMPAIGN and commanded the Confederate left in that great battle. At Spotsylvania Courthouse in the WILDERNESS CAMPAIGN (1864), Ewell sustained further injury and was forced to retire from the field. He later commanded the defenses of Richmond until the city fell. Sheridan captured him and his small force at Sailor's Creek in April, 1865. Ewell was held prisoner for four months after the war. Upon his release, he made his home in Tennessee See D. S. Freeman, *Lee's Lieutenants* (3 vols., 1942–44).

Ewing, Eleanor Boyle, 1824–88, American philanthropist, b. Lancaster, Ohio; daughter of Thomas EWING (1789–1871) She married (1850) William Tecumseh SHERMAN Her zealous work for Catholic charities was the best-known manifestation of an admirable character. See *Home Letters of General Sherman* (ed by M. A. De Wolfe Howe, 1909), Anna McAllister, *Ellen Ewing, Wife of General Sherman* (1936)

Ewing, Hugh Boyle, 1826–1905, Union general in the Civil War, b Lancaster, Ohio; son of Thomas Ewing (1789–1871). Having served with distinction in the Antietam, Vicksburg, and Chattanooga campaigns, he was brevetted major general in 1865 Ewing was minister to the Netherlands (1866–70)

Ewing, James (ū'ĭng), 1866–1943, American pathologist, b Pittsburgh, M.D. Columbia, 1891 Professor of pathology (1899–1932) and of oncology (from 1932) at Cornell and director of Memorial Hospital, New York city, he was known for his research in cancer and in classifying tumors He wrote *Neoplastic Diseases* (1919, 4th ed., 1940) and *Cancer* (1931)

Ewing, Sir James Alfred, 1855–1935, Scottish engineer and physicist. He was principal and vice chancellor of the Univ. of Edinburgh from 1916 to 1929 He had earlier served as professor at Tokyo (1878–83), Dundee (1883–90), and Cambridge (1890–1903) He was director of naval education in the United Kingdom (1903–16), held important government committee posts, and was knighted in 1911 His researches in magnetism led him to observe the phenomenon of hysteresis, and he investigated the crystalline structure of several important metals. He studied earthquakes in Japan, one of the first Europeans to do so His works include *Treatise on Earthquake Measurement* (1883), *The Strength of Materials* (1899), and *Thermodynamics for Engineers* (1920)

Ewing, John, 1732–1802, American clergyman and educator, b Cecil co., Md., grad Princeton He served as pastor of the First Presbyterian Church of Philadelphia from 1759 until his death and, after 1779, as professor of natural philosophy and provost of the newly chartered Univ. of the State of Pennsylvania Ewing remained as provost when this university and the College of Philadelphia were combined in 1791 as the Univ. of Pennsylvania He wrote numerous articles on scientific subjects, and his lectures were published in *A Plain, Elementary, and Practical System of Natural Experimental Philosophy* (1809)

Ewing, Juliana Horatia (Gatty), 1841–85, English story writer, b Ecclesfield, Yorkshire She wrote the children's classic, *Jackanapes* (1879), first published in *Aunt Judy's Magazine*, which was founded by her mother, Margaret Gatty Other stories for children are *A Flatiron for a Farthing* (1870–71) and *The Story of a Short Life* (1885)

Ewing, Thomas, 1789–1871, American statesman, b Ohio co., Va. (now W Va.), grad Ohio Univ., 1815 He began (1816) to practice law in Lancaster, Ohio and rose rapidly in the profession He represented Ohio in the U S Senate (1831–37) and supported Henry Clay in the Whig fight against the Jackson administration Ewing was Secretary of the Treasury under Presidents Harrison and John TYLER from March to Sept., 1841, when all the cabinet except Webster resigned President Taylor made him the first Secretary of the Interior (March, 1849) but in July, 1850, he resigned to fill a senatorial vacancy from Ohio until March, 1851. Defeated for reelection, Ewing resumed his law practice and subsequently won renown for his work before the U S. Supreme Court He favored conservative Unionist policies in the Civil War and later supported President Johnson Ewing was the benefactor of Gen. W. T SHERMAN

Ewing, Thomas, 1829–96, Union general in the Civil War, b Lancaster, Ohio, son of Thomas Ewing (1789–1871) He served as the first chief justice of the Kansas supreme court from 1861 to 1862, when he resigned to recruit Kansas volunteers. Ewing was brevetted major general of volunteers for his service at Pilot Knob, Mo (Sept., 1864), in checking Price's march on St Louis After the war he was a leader of the Greenback movement in Ohio, a Democrat in the House of Representatives (1877–81), and later a lawyer in New York.

Excalibur, King Arthur's wonderful sword given him by the LADY OF THE LAKE and returned to her by Sir Bedivere at the king's death. Another sword was drawn from a stone by Arthur in his youth to prove his royal lineage See ARTHURIAN LEGEND.

Excelsior (ĕksĕl'sēôr), village (pop 1,422), E Minn., western suburb of Minneapolis. It is a resort on Lake Minnetonka

Excelsior Springs, city (pop. 4,864), W Mo., NE of Kansas City; founded 1880, inc. 1903. It is a health resort with mineral springs. Frank and Jesse James lived near by.

excess profits tax, a tax on a profit above a standard profit Georgia used an excess profits tax during the Civil War. In 1917 the Federal government

adopted such a tax, which continued in various forms and at increasing rates, until 1921 The excess profits tax has been chiefly a wartime phenomenon, it has been imposed on the excess over a firm's peacetime earnings or over an arbitrary earning rate. In 1915-21 Great Britain imposed an excess profits tax, with a rate varying from 40 to 80 per cent Excess profits taxes were revived in both Great Britain and the United States in the era of the Second World War, rates were increased to 100 per cent in Britain, and the choice of terms allowed to the taxed firm was not so advantageous as in the United States See J R Hicks and others, *Taxation of War Wealth* (1941)

exchange, the mutual transfer of goods, money, or services or their equivalents In primitive society, exchange of unessential articles, such as jewelry, was common, but no primitive group could afford to rely on another for the necessities of life Gradually, as DIVISION OF LABOR developed, articles were produced for exchange, each group producing what best it could. Modern capitalistic society is not strictly an economy based on exchange, but is an outgrowth of it, because society has become too complex for barter, which is essential in true exchange, barter is replaced by the money and price system Broadly, the term is used to signify exchange of goods and services for money The value of the various factors in exchange is determined by the market demand for them In commerce, an exchange is a place where trading goes on, especially a STOCK EXCHANGE or a commodity exchange The current price of a BILL OF EXCHANGE is called the course of exchange Conversion of one country's currency into that of another by means of still others is called arbitration of exchange Exchange also refers to the amount of money necessary to buy a given amount in a foreign country, usually for the FOREIGN EXCHANGE of goods See W S Jevons, *Money and the Mechanism of Exchange* (1875, many times reprinted), J A Todd, *The Mechanism of Exchange* (1933)

Exchequer, Court of (ĕkschĕ'kur, ĕks'chĕk"kur), British governmental agency It originated after the Norman Conquest as a financial committee of the Curia Regis. By the reign of Henry II it had a separate organization and was responsible for the collection of the king's revenue as well as for exercising jurisdiction in cases affecting the revenue By the latter part of the 13th cent a separation became discernible between the court proper and the exchequer or treasury, especially with the appointment of lawyers as barons (judges) of the exchequer Its jurisdiction over common pleas now steadily increased, e g , to include money disputes between private litigants on the assumption that the plaintiff was indebted to the crown and needed payment from the defendant to enable him to pay the king A second Court of Exchequer Chamber was set up in 1585 to amend errors of the Court of the King's Bench From an amalgamation in 1830, a single Court of Exchequer emerged as a court of appeal intermediate between the common-law courts and the House of Lords In 1875 the Court of Exchequer became, by the Judicature Act of 1873, the exchequer division of the high court of justice

excise see INTERNAL REVENUE

exclamation point, see PUNCTUATION

excommunication, formal expulsion from a religious body It is attended by social ostracism when religious and social communities are nearly identical So it was in the case of Spinoza, excommunicated by the Jews In Christianity the Roman Catholic Church especially retains excommunication, it teaches that the spiritual separation of the offender from the body of the faithful takes place *ipso facto* when the offense is committed, and the decree of excommunication (or ANATHEMA) is a warning and proclamation of exclusion from Christian society Those who die excommunicate are not publicly prayed for, but this does not imply that the living know who is saved or damned Excommunications vary in gravity, thus, in grave cases readmission may be possible only by action of the Holy See Excommunicates are always free to return to the Church on repentance Protestant churches have generally abandoned excommunication, the Friends have made frequent use of it

excretion, process of eliminating from the body those materials which are of no further use It is an essential process in all forms of life Plants eliminate gases through the stomates In the unicellular animals, the protozoa, wastes are simply eliminated through the surface of the cell Among the multicellular animals special excretory organs develop In man the organs which function in excretion are the skin, which eliminates water and salts (see SWEAT), the lungs, through which carbon dioxide and water vapor leave the body, the kidneys, through which URINE is eliminated, and the large intestine (see INTESTINE) from which solid wastes are discharged

Exe (ĕks), stream of Somerset and Devonshire, England It rises in Exmoor and flows c 55 mi. S and SE to the English Channel at Exmouth.

execution of judgments: see JUDGMENT.

executive, one who carries out the will or plan of another person or of a group In GOVERNMENT, the term refers not only to the chief administrative office but to all others who execute the laws and to them as a group In modern government, the executive also formulates and carries out governmental policies, directs relations with foreign governments, commands the armed forces, approves or disapproves legislative acts, recommends legislation, and in some countries summons and opens the legislature, appoints and dismisses some executive officials, and pardons any but those impeached Usually the executive may also issue ordinances, often supplementing legislative acts, and may interpret statutes for the guidance of officials. These broad powers depend upon the theory that the state has a juristic personality whose will the government, in its various departments, must perform The separation of the legislative, executive, and judicial powers of government was not only modified in the U S CONSTITUTION but has been further modified in practice, for the President performs many judicial and legislative functions State and municipal executives have likewise assumed larger powers Distinction is sometimes made between executives who decide policies and the administration which carries out the laws and executive orders In business, the executives are those who manage, decide policies, and control the business See C A Beard, *American Government and Politics* (1931), H L Laski, *The American Presidency* (1940)

executors and administrators (ĭgzĕk'yōōturz, ădmĭn'ĭstrātŭrz) An executor is the person designated in the WILL of a decedent to carry out the provisions of the will An administrator is appointed by a probate court to perform the identical functions if the testator failed to name executors are not capable or are dead An administrator is also appointed in case of the death without a will of any person who owns property, the duty of such an administrator is to distribute the property among the heirs Administration is not necessary if the heirs, the creditors of the estate, and all others interested in the estate agree to the settlement of debts and the distribution of the property Under modern statutes, priority of right to be administrator depends largely on nearness of relation to the decedent The executor or administrator must execute a bond for honest and faithful discharge of his duties After he has paid the legacies and otherwise has followed the directions of the will so far as legally possible, the court will discharge him if his accounting is correct and he has shown himself to have acted honestly and in good faith, otherwise his bond may be forfeited, and he is made liable to suit

exegesis (ĕk"sĭjē'sĭs) [Gr ,=explanation], exposition of a literary passage, especially of Scripture Exegesis today has the general aim of discerning what the writer intended, this is accomplished especially by textual criticism Formerly exegesis ascertained what moral truths might be drawn from a passage, emphasizing especially allegorical interpretation of historical passages, which were also accepted as factually true Thus it was a conventional idea that the sacrifice by Abraham of his son Isaac was a foreshadowing of Jesus' death on the cross

exercise. The use of muscles leads to an increase in their size and improvement in their state of tone and, through favorable effect on circulation, has a beneficial action on the body as a whole Exercise is also a means of RECREATION and is important in the treatment of certain disorders, including paralysis Systematic exercise was introduced into Germany by Friedrich L Jahn in the early 19th cent Thus system makes use of apparatus, while the Swedish systems of P H Ling and of J G W Zander do not employ apparatus Exercise includes setting-up exercises, gymnasium, games, sports (including swimming), and dancing Each individual should follow the form of exercise which is suited to his needs and should avoid overexertion, since this degree of effort gives the heart more work than it is capable of doing Shortness of breath is a signal for rest See J H McCurdy and L A Larson, *The Physiology of Exercise* (3d ed , 1939), G Z Dupam, *Exercise and Physical Fitness* (1948), L E Morehouse and A T Miller, *The Physiology of Exercise* (1948)

Exeter (ĕk'sutur), village (pop 1,589), S Ont , on the Sable near Lake Huron and NW of London

Exeter, county borough (1931 pop 66,029, 1947 estimated pop 75,290) and city, county town of Devonshire, England, on an elevation above the Exe river There is a canal to Topsham, at the head of the Exe estuary The fortified town Isca Damnoniorum occupied the site in Roman times Ruins of a Norman castle and parts of the great town walls remain Because of its strategic location, the town was the object of several sieges, by the Danes in the 9th and 11th cent , by William the Conqueror in 1068, by Yorkists in the 15th cent , and by religious factions in the middle of the 16th cent In the civil wars, it surrendered to Fairfax (1646) The great cathedral, with its massive Norman towers, contains a remarkable oak throne of the bishops, the chapter house contains the famous EXETER BOOK Of interest also are Northernhay Boulevard, near the castle, and the bishops' 14th-century palace The cathedral was severely damaged by bombing in the Second World War The city has varied industries

Exeter. **1** City (pop 3,883), S central Calif., SE of Fresno, in a diversified farm section of the San Joaquin Valley, inc 1911 **2** Town (pop 5,398), co seat of Rockingham co , SE N H , SW of Portsmouth Rev John Wheelwright settled here in 1638 after his banishment from Massachusetts, the town was organized in the same year Noted for its patriotic activities, Exeter was the capital of New Hampshire in the Revolution The Gilman garrison house (17th cent) and several 18th-century buildings, including the Congregational church, are here, and Exeter is the seat of PHILLIPS EXETER ACADEMY Daniel Chester French, who designed the war memorial, William Ladd, and Lewis Cass were born in Exeter Textiles are made here **3** Industrial borough (pop 5,802), NE Pa , on the Susquehanna and NE of Wilkes-Barre, settled 1790, inc 1884 Anthracite is mined here **4** Rural town (pop 1,790), W R I , near Queens river, set off from North Kingstown and inc 1743

Exeter Book, manuscript volume of Old English religious and secular poetry, compiled c 975 and given to Exeter Cathedral by Bishop Leofric (d 1072) See edition by George Philip Krapp and Elliott V K Dobbie (1936)

Exeter College: see OXFORD UNIVERSITY.

exhaustion see FATIGUE

exhibition, term usually applied to a special showing of industrial and fine arts or of commercial and agricultural products On a large scale, it is called an EXPOSITION

Exile see CAPTIVITY

exile, expulsion of a national from his country by the government or voluntary removal of a citizen usually in order to escape punishment The banishment may be permanent or temporary and may be imposed as punishment for ordinary crimes or for political offenses An exile may be excluded from his native land upon pain of death, or he may be transported to, and sequestered in, a secluded location In the Homeric age of Greece, the punishment of homicide belonged to the family of the victim, rather than to the state (compare VENDETTA) If the offender could not atone for his crime by money payment, he could escape punishment only by flight When a reconciliation was effected, the exile returned and was not liable to reprisals After the state assumed jurisdiction over such cases, exile was sometimes an alternative penalty offered the accused when his guilt was established If the crime was intentional, his banishment was permanent and his property was confiscated If the offense was unintentional, his exile was temporary and his property was not subject to confiscation In the Greek city-states exile was a common punishment for political offenses Its typical form was ostracism The device, probably originated by Clisthenes, was designed to safeguard democracy by an expulsion of subversive leaders later it evolved into a system of expelling political dissenters As such, it was both a cause and a result of civil war Exile in early Rome was a means of escaping penalties An offender's removal was voluntary, but he was placed under an interdict by the state, and anyone could lawfully kill him if he returned With the extension of the empire, Roman offenders were exiled by deportation or sequestration The ancient Hebrews allowed those who committed crimes against the person to take refuge in specially designated cities of SANCTUARY These exiles were immune to personal or state reprisal Expulsion of political offenders was a common practice of the Italian city-states In medieval England, exile was usually imposed by a quasi-voluntary abjuration of the realm Certain classes of English offenders were formerly transported to Australian penal settlements, while Siberia received thousands of exiles banished by the tsarist government (see DEPORTATION) With the growth of national states and the acceptance of the doctrine that ties between state and citizen are indissoluble, exile tends to be less frequent, but in modern civil war, voluntary exile is common, and dictatorships, which depend upon conformity, also banish dissenters Political opponents of a state may seek refuge abroad, may be sequestered, or may be transported to outlying districts and there interned Political exiles are not subject to extradition and may demand protection from the country receiving them See REFUGEE, OUTLAW, ÉMIGRÉ

Exira, town (pop 1,046), SW Iowa, on the East Nishnabotna and N of Atlantic, settled 1852, laid out 1857, inc 1880

existentialism (ĕgzĭstĕn'shulĭzm, ĕksĭ–) There are three developments of this philosophic school—the Christian existentialism of Soren Kierkegaard, the atheistic existentialism of Martin Heidegger and Jean Paul Sartre, and the Christian existentialism of St Thomas Aquinas as presented by Jacques Maritain While differing widely in direction and emphasis, the common ground for these three doctrines seems to be the major problem is the problem of human existence, reason, by itself, is an inadequate method for explaining the enigmas

of the universe, anguish is an emotion common to all men as they confront the problems of life, and morality demands positive participation The Christian existentialism of Kierkegaard develops these grounds within a religious framework The intellectual methods available to man cannot reconcile paradoxes, and the anguish which man bears is caused by his inability to resolve these tensions For Kierkegaard the escape lies in the transcendental plane of faith In God the finite and the infinite are one, no tensions exist This philosophy has been developed theologically by Karl BARTH, Paul Tillich, and Reinhold Niebuhr and psychologically by Karl Jaspers and Gabriel Marcel Heidegger and, particularly, his pupil Sartre are the leading atheistic existentialists Sartre maintains that the fundamental absolute truth of atheistic existentialism is the Cartesian "I think, therefore, I exist" The existence of God is denied, as is also the existence of any set pattern of human behavior Man becomes what he wills himself to be, and as he perceives the futility of his efforts to resolve the paradoxes of the universe he sees himself alone and the world as absurd His aloneness gives him freedom to choose without dependency, obligation, or justification, and the emotional price which man pays for his freedom is anguish, forlornness, and despair He has no being, is nothingness, when he follows the dictates of society A literary movement has developed among the French existentialists, influenced by Franz Kafka, led by Sartre and Simone de Beauvoir A political creed based on the philosophy has started as well The third type of existentialism, that of Thomism as developed by Maritain, is best expressed in his *Existence and the Existent* (1949), in which he claims that Thomism is the only authentic existentialism The desire for being and the anguish over the possibility of nothingness is resolved by faith in God, the Free Existent Through this faith love of humanity is reborn and manifests itself in charity and self-giving See J P Sartre, *Existentialism* (1947), Marjorie Grene, *Dreadful Freedom* (1948), Guido de Ruggiero, *Existentialism* (1948)

ex libris · see BOOKPLATE

Exmoor, high moorland, Somerset and Devonshire, England It is largely a wasteland, with hills (Dunkery Beacon, 1,707 ft , highest point, others above 1,500 ft), valleys, and wooded glens, underlain by slates and sandstone. It is the grazing ground of sheep and the small Exmoor ponies The Exe, Lyn, and Barle rivers rise here There are many prehistoric earthworks It was the home of a nomadic group of brigands called the Doones before they were dispersed in the 17th cent See J L W Page, *An Exploration of Exmoor* (1890)

Exmouth (ĕks'mouth), urban district (1931 pop 14,591, 1943 estimated pop 15,260), Devonshire, England, below Exeter and on the east side of the mouth of the Exe river It has a long history—in 1347 it provided 10 ships for the siege of Calais Its modern development began in the 18th cent It is now a port and a popular summer resort There are promenades, baths, and facilities for golf, tennis (annual tournament), fishing, and yachting Docks were built in 1869 Sir Walter Ralegh was born at near-by Hayes Barton

Exodus (ĕk'sudus), book of the Old Testament, second of the five books of the Law (the Pentateuch or Torah) ascribed by tradition to Moses It is a religious history of the Jews during their departure from Egypt, the period when they began to receive the Law The events may be outlined as follows first, bondage in Egypt, from which God prepares liberation by means of Moses (1–11), including Moses' early career and divine vocation (1 15–7 13), and the first nine plagues of Egypt (7 14–25, 8–11), second, the exodus proper (12–18), with the plague of the first-born and the institution of the Passover (12–13) and the crossing dry shod through the Red Sea (14), third, the first divine legislation at Sinai (19–40) The last portion includes the Ten Commandments (20), a law code (20 22–23 33), directions for a tabernacle and worship (25–27,29–31), the designation of Aaron as high priest (28), the first national apostasy at the golden calf (32), a brief restatement of the code (34), and the institution of the tabernacle (35–40) A most solemn moment of biblical history occurs early in Exodus the appearance of God to Moses in the burning bush revealing His name as I Am (3 11–15) For critical views of the composition of Exodus and for works on the book, see OLD TESTAMENT.

exogamy see MARRIAGE.

expanding universe. see UNIVERSE

expansion, in physics, an increase in volume resulting from an increase in temperature Contraction is the reverse process It is characteristic of matter, according to the kinetic molecular theory, that when heat is applied to a body the rate of vibration and the distances between the molecules composing it are increased and that an increase in the space occupied by the body, i e , its volume, should result This increase in volume is not constant for all substances for any given rise in temperature, but is a specific property of each kind of matter. For example, zinc and lead undergo greater expansion in a one-degree rise in temperature than do silver or brass The amount of expansion which a unit volume (e g , a cubic centimeter or a cubic foot) of any substance undergoes per one-degree rise in temperature is called its coefficient of cubical expansion and is listed as a property of that substance The coefficient of linear expansion is the increase per unit of length per degree rise in temperature, and it can be calculated by dividing the coefficient of cubical expansion of the substance by three When the amount of expansion of a given length of a substance has been determined experimentally, the linear coefficient is calculated by dividing the total amount of expansion by the product of the original number of length units and the number of degrees of rise in temperature. Liquids and gases, as well as solids, expand when heated The coefficient of expansion is about the same for all the common gases at ordinary temperatures; it is $\frac{1}{273}$ of the volume at 0°C per degree rise in temperature The Kelvin or absolute scale (see TEMPERATURE) is based upon this number Charles's law concerning the expansion of gases states that the volume of a GAS is directly proportional to its absolute temperature. Liquids differ from each other as do solids in their expansion coefficients Water, unlike any other substance, expands when its temperature is decreased between 4°C and 0°C

expatriation, loss of NATIONALITY This may be general, as in connection with the cession or conquest of territory, or may be individual, and it may or may not be voluntary Desertion in time of war, flight in time of peace from a country requiring a period of military service of its citizens, or banishment may result in expatriation if the government chooses to renounce its obligations to protect such individuals Such persons are stateless until NATURALIZATION under some other government takes place Some governments, including the United States, consider an individual to have voluntarily expatriated himself if he lives abroad more than five years without giving notice on proper forms to diplomatic or consular agents that he wishes to continue as a citizen Many countries also consider that a woman loses her citizenship upon marrying an alien, the United States in 1922 provided that a married woman's citizenship was independent of her husband's and that she might choose whether to retain her own or adopt that of her husband The United States, in common with other countries, forbids expatriation in time of war The view of common law, that one's allegiance cannot be renounced without the state's permission, prevailed until after the middle of the 19th cent and is still common in Europe The United States first protested against it in order to protect her naturalized immigrants from claims of their native states, which had not recognized the rights of subjects to expatriate themselves In 1868 Congress announced the right of voluntary expatriation to be "a natural and inherent right of all people" and served notice that she would protect her naturalized citizens abroad, even in their native countries The United States has concluded treaties with most European countries covering this and other conflicting interpretations of citizenship Great Britain abandoned the common-law view in 1870 and gave British citizens the right to expatriate themselves voluntarily Some other European nations followed the British lead, but others did not Several nations today, notably the USSR, do not recognize expatriation

Exploits, largest river of Newfoundland Rising in the Long Range, it flows northeast and empties into Exploits Bay, a branch of Notre Dame Bay On it are Grand Falls and Bishop's Falls, the sites of large electric power plants

exploration was undertaken from the earliest times by primitive peoples in search of supplies, and most regions of the world were first discovered by them Recorded exploration which contributed to Western civilization began c 3000 B C , it was usually motivated by a desire for trade, conquest, or colonization Early Egyptian expeditions penetrated into Nubia, the Phoenicians and the Greeks explored the Mediterranean and the Black Sea regions before 600 B C , and a Phoenician expedition sent out c 600 B C by the Egyptian ruler Necho is said to have sailed around Africa After c 500 B C the Carthaginians pioneered beyond the Strait of Gibraltar to trade along the coasts of Spain and Africa A Greek navigator, Pytheas, probably sailed beyond Britain c 330 B C The conquests of Alexander the Great brought Western contacts with the Orient, and the Roman legions extended the limits of geographical knowledge, especially in N Europe Trade with the East was stimulated by the discovery (A D c 15) of a sea captain, Hippalus, that by using monsoon winds one could sail across the Indian Ocean instead of hugging the coast. Alexander, a Roman trader, established (A D. c 100) direct trade with China. After the dissolution of the Roman Empire, the Arabians extended contacts with the East Exploration by Europeans was carried on during the Middle Ages by the Norsemen, Eric the Red reached Greenland, and Leif Ericsson, North America However, these Norse journeys were too meagerly publicized to influence the rest of Europe. During the Crusades, Europe emerged from isolation and regained some knowledge of the Orient. This was extended by remarkable journeys across Asia, notably the missionaries Piano Carpini and William Rubruquis and by Marco Polo By c 1400 the breaking up of the Mongolian empire and the growth of the Ottoman Empire had blocked the routes to the East The search for new routes initiated a great age of discovery Henry the Navigator promoted voyages along the coast of Africa which helped to dispel the miasma of superstition and misinformation that had impeded previous attempts to sail through a torrid zone reputed to be impassable Epochal achievements that revealed the extent of the globe include the rounding of the Cape of Good Hope by Bartholomew Diaz, the reaching of India by Vasco da Gama, the discovery of America by Christopher Columbus, and the first circumnavigation of the globe by the expedition of Ferdinand Magellan In the 16th cent Spanish explorers, notably Balboa, Cortés, Francisco Pizarro, Cabeza de Vaca, De Soto, and Coronado, explored large areas in the Americas Much of the interior of North America was revealed in the 17th cent by Samuel de Champlain, La Salle, Louis Jolliet, Jacques Marquette, and other French explorers A Spanish and Portuguese monopoly of the new trade routes stimulated attempts to find other passages to the Orient (see NORTHEAST PASSAGE and NORTHWEST PASSAGE) and was soon challenged by English and Dutch voyages in the Pacific Ocean Most of the major islands of the Pacific and the coast line became known through the voyages of Drake, Tasman, Dampier, Cook, Bering, Vancouver, and other explorers The interior of Australia was explored in the mid-19th cent , and most of Africa, the "dark continent," by the end of the century This century saw also important achievements in arctic and antarctic exploration and pioneer attempts at deep-sea exploration (see OCEANOGRAPHY) Scientific interests and a search for natural resources were influential in motivating exploration in the 19th cent and have predominated in the 20th cent Inventions equipped the explorer with better facilities for conducting his inquiries, these include the steamship, the automobile, and the airplane Hitherto inaccessible areas, such as the interior of Antarctica, are being revealed See also GEOGRAPHY and articles on localities, e g , AFRICA, ARCTIC REGIONS, AUSTRALIA General works on exploration include J N L Baker, *A History of Geographical Discovery and Exploration* (1931), Sir Percy Sykes, *A History of Exploration* (1934), Leonard Outhwaite, *Unrolling the Map* (1935), Vilhjalmur Stefansson, ed , *Great Adventures and Explorations* (1947) Works on ancient exploration include C R Beazley, *The Dawn of Modern Geography* (3 vols , 1897–1906), Max Cary and E H Warmington, *The Ancient Explorers* (1929)

explosive, a substance (a liquid, solid, or gas) which undergoes decomposition or combustion with great rapidity, with the evolution of heat, and with the production of a large volume of gas Because the volume of gas thus suddenly formed is so many times greater than that occupied by the explosive substance originally and is expanding even more because of the heat evolved in the reaction, an enormous pressure is exerted The suddenness and the magnitude of this pressure is responsible for the characteristic activities of explosives—the blasting of rocks, the shattering of iron and steel shells and containers, and the propelling of shells from guns Chemically, explosives are of two general kinds Some, such as black powder (GUNPOWDER has been largely replaced today by smokeless powders), are mixtures of combustible, but not necessarily explosive, substances which, when "set off" (by ignition or friction), undergo very rapid combustion Others are compounds, which in being formed take on much energy, i e , are endothermic It is this energy that they liberate in their rapid decomposition and that is a factor in the expansion of the gas formed The chief elemental constituents of most explosives are nitrogen, oxygen, hydrogen, and carbon, and these elements are arranged in molecules which are apparently relatively less stable than those formed when they decompose Most of the modern high explosives (explosives which decompose with the greatest rapidity) are prepared from nitric acid In setting off many high explosives certain other explosives called DETONATORS (such as mercury FULMINATE) are employed Important high explosives are DYNAMITE, GUNCOTTON, NITROGLYCERIN, PICRIC ACID, and TRINITROTOLUENE (T N T)

exponent (ĕk'spōnunt), in mathematics, a number, letter, or algebraic expression written above and to the right of another number, letter, or expression called the base In the expression x^3 and x^n, the number 2 and the letter n are the exponents respectively of the base x The exponent indicates the power to which the base is to be raised When exponents were first introduced, only positive whole numbers were used and then the exponent indicated how many times the base was to be taken as a factor (see ROOT) In advanced algebra, fractions, zero, and negative numbers are also used as

exponents. Particular meanings have been assigned to these types of exponents so that they obey the same algebraic rules as does the simpler type of exponent

Export, borough (pop. 1,990), SW Pa., E of Pittsburgh, inc 1911 Coal mining is done here.

export, commodities sold out of a country. They are usually sold to wholesalers in the importing country They may be paid for primarily in goods and services, the balances being paid partly in gold and partly in currency whose par value is established by the International Monetary Fund Between the producer and the importer are many services facilitating such exchanges, which may be grouped under selling, buying, and distribution, transportation, and finance and insurance The national trade balance sheet includes not only visible exports, but such invisible exports as use of ships, foreign loans, commissions, payments for foreign loans, money spent by tourists and shippers in a foreign country, emigrants' remittances to relatives in the home country, and such miscellaneous items as moving-picture royalties Countries tend to export their surpluses for which there is a foreign demand but which cannot be consumed at as good a price at home See R E Osborne, *Export and Import Business* (1932), Philip MacDonald, *Practical Exporting* (1949)

exposition The word has wider meanings but is applied typically to an international exhibition or world's fair, designed to register the state of civilization The fine and industrial arts lend themselves especially to such an exposition, and the first international expositions were limited rather strictly to these arts Later expositions have emphasized scientific and technological progress Expositions have done much to raise standards of popular taste, to diminish provincialism, and to promote understanding among the countries participating The chief expositions outside the United States include the following London, 1851, 1862, and 1871, Paris, 1855, 1867, 1878, 1889, 1900, and 1937, Vienna, 1873, British Empire Exhibition at Wembley, 1924–25, South Africa Empire Exhibition at Johannesburg, 1936–37, International Exhibition at Nagoya, Japan, 1937, Empire Exhibition at Glasgow, 1938, Swiss National Exhibition at Zurich, 1939 Among the most important American expositions are Centennial Exposition, 1876, and Sesquicentennial Exposition, 1926, at Philadelphia, Cotton Centennial Exposition at New Orleans, 1884, World's Columbian Exposition, 1893, and Century of Progress Exposition, 1933–34, at Chicago, Pan-American Exposition at Buffalo, 1901, Louisiana Purchase Exposition at St Louis, 1904, Panama-Pacific Exposition, 1915, and Golden Gate International Exposition, 1939–40, at San Francisco, California Pacific International Exposition at San Diego, 1935–36, Great Lakes Exposition at Cleveland, 1936–37, New York World's Fair, 1939–40 See also FAIR

express company, system for the transportation of parcels, goods, luggage, or money when safer and quicker delivery is necessary than is provided by ordinary freight service Parcels to be expressed are collected from the shippers and delivered to the consignees by the compay Transportation is furnished chiefly by the railroads, but steamship, bus, and air lines also are utilized The transportation charge may be paid by the shipper or collected from the consignee The fee includes some insurance, additional insurance may be purchased for a higher fee The company also may act as an agent for the shipper and collect on delivery the amount of the invoice from the consignee Expressed goods sent by rail are transported in special cars attached to passenger trains or in special express trains The express company also performs such transactions as the issuance of letters of credit, traveler's checks, and money orders, the exchange of foreign money, the transference and filing of legal documents, the forwarding and clearance of imports and exports, and the operation of an extensive travel agency It is difficult to determine just when or by whom the express business in the United States was started Probably the postrider in colonial times performed the expressman's duties on land, he gradually disappeared from the main post roads, and late in the 18th cent stagecoaches began carrying mail in New England As people pushed westward into the mountain country, the pack horse, which had been in use from early days, became more prominent and was followed by the wagon carriers, who in turn were succeeded by railroads and canals In the early 19th cent, the jehu, a traveling agent who executed any sort of business, became prominent In 1834 an express service between Boston and Providence was organized by B D and L B Earle, they were joined by Henry Prew and as Earle & Prew the firm was in operation until the end of the century Silas Tyler, in 1835, ran a car attached to passenger trains on the Boston and Lowell RR, in 1836 he sold to W C Gray. In 1836 David T. Brigham conducted an express business on the Boston and Worcester Dean and Davenport had a carrying business between Boston and Taunton from 1836 to 1837, and in 1838 Dow's Express, Boston to Haverhill, was established In 1839 William F. Harnden started a parcels and general delivery service between Boston and New York, and in the same year he was listed in the Boston directory as "Express Package Carrier", in 1840 he established a transatlantic business and a foreign exchange through his partner, Dexter Brigham S S Leonard established a Boston and Worcester Express in 1840 Also in 1840 Burke and Company's Express was started between Boston and Worcester—with P B Burke and Alvan Adams as partners Within a few weeks Burke sold out to Adams, who carried on under the name of Adams and Company In 1841 he extended the service to New York and in 1842 to Philadelphia, in 1854 Adams and Company absorbed a number of companies, among them the service started by Harnden, under the name of Adams Express Company In 1841 an express service between Albany and Buffalo was started by George E Pomeroy, who made Henry Wells and Crawford Livingston partners Wells, William G Fargo, and Dan Dunning started the Western Express between Buffalo and St Louis in 1845 In 1849 Wells and Company, Livingston and Fargo, and Butterfield, Wasson and Company reorganized, forming two companies which came to own the stock of the American Express Company, organized in 1850 Wells, Fargo and Company was formed in 1852 In 1854 the United States Express Company was organized as a subsidiary of the American Express Company Two other important express companies were formed in later years—the Southern in 1861, as a result of the Civil War, and the Pacific in 1879 In the '40s and early '50s a great deal of mail was carried by the express companies, but this practice was finally stopped by the government The California gold rush in 1849 brought into existence many new express companies and an extension of duties, as most of the companies found it necessary to become bankers In 1860 the most spectacular and celebrated messenger service in the country, the Central Overland Pony Express Company (see PONY EXPRESS), was started between St Joseph and Sacramento During the Civil War the express company was the only satisfactory agency by which soldiers in the field kept in communication with their friends and relatives In 1918 the principal companies (Adams, American, Southern, and Wells, Fargo) were merged into a single company, the American Railway Express Company Wells, Fargo still operates in Mexico and has a bank in San Francisco, American has a financial business, Adams has become an investment trust, and Southern no longer exists With the inauguration of air express service, delivery service entered a new phase See A L Stimson, *History of the Express Companies* (1858) and *History of the Express Business* (1881), Henry Wells, *Sketch of the Rise, Progress, and Present Conditions of the Express System* (1864), A F Harlow, *Old Waybills* (1934), N C Wilson, *Treasure Express Epic Days of the Wells Fargo* (1936)

expressionism, term used generally to describe any modern art work in which representation of nature is subordinated to expression of emotion More specifically it is used to classify modern works of art characterized by intuitive, spontaneous distortion for emotional effect The term originated in Munich in 1911 but refers rather to a widespread tendency than to a localized school of art Van Gogh is often cited as the precursor of expressionism In literature the effort to project spiritual actualities rather than to recite naturalistic records of events was of most importance in the drama and the novel, though in poetry it was allied to and contrasted with the romantic schools of imagism and vorticism—e g , in the work of T S Eliot In the drama August Strindberg and Frank Wedekind were precursors of the expressionist playwrights who flourished in post-war Germany and Russia and of whom the German Ernst Toller was perhaps most vigorous In the English-speaking drama the plays of Eugene O'Neill and J B Priestley are outstandingly expressionistic The movement gained immeasurably from the work of the experimental stage designers of the period (see THEATER) The novel showed the influence of expressionism most strongly in France until the works of James Joyce appeared in English

exterritoriality or **extraterritoriality,** privilege of an alien of exemption from local law and law enforcement agencies while in a foreign country In legal theory the alien's activities take place outside the territorial jurisdiction of the country where they actually occur Exterritoriality, including immunity from arrest, extends to the visiting head of a foreign state and to persons in diplomatic service and their families Officials of the United Nations, like the officials of the former League of Nations, enjoy exterritoriality when performing their duties Vessels in foreign ports (so far as harbor management allows) and armed forces crossing foreign territory with permission of the sovereign enjoy exterritorial status Obviously armies in occupation of an enemy country are altogether exempt from the jurisdiction of the occupied country. Exterritoriality has also been granted to resident foreigners not occupying a diplomatic or official position. This practice developed when law was personal rather than territorial; i e , a person regardless of where he was came under the law of the place of his allegiance, typically where he was born Such exterritoriality at that time was not considered a limitation of sovereignty and was granted freely After the conquest of Constantinople by the Turks, exterritoriality was by the so-called capitulations accorded to several European states, notably Venice and Genoa, and nearly autonomous foreign residence zones were established in the city In the 19th cent Western powers, often by the use of coercion, secured unilateral exterritorial rights for their citizens resident in Morocco, Turkey, Persia, Egypt, Siam, Japan, and China Usually the Western consul was granted jurisdiction to try all civil and criminal cases involving his countrymen Thus, in 1906, the U S Congress established in China a consular court for American nationals with the right of appeal to higher courts in the United States In some countries, notably in Egypt, mixed courts, i e , courts with both foreign and native judges, tried the cases Exterritoriality of this type was strongly resented not only as an infringement of sovereignty but also as an opportunity for abuses, such as placing natives under the protection of foreign law and condoning the illegal conduct of aliens Speedy legal reforms led to the final abolition in 1899 of such exterritoriality in Japan Turkey's abrogation of capitulations in 1914 was confirmed by the Treaty of Lausanne (1923) and was not protested by the United States, which did not ratify the treaty Exterritoriality longest remained a problem in Egypt and China In Egypt, pursuant to the Montreux Convention of 1937, it was entirely abolished in 1949 In China opposition to exterritoriality was but one phase of resistance to foreign control, which included the TREATY PORT system and territorial concessions in the major cities In the First World War, China abolished all treaty rights of the Central Powers, and in 1924 the USSR voluntarily abandoned its privileges In 1943 the United States and Great Britain made a voluntary renunciation Italy and Japan, as enemies of China, lost their special status during the Second World War, and in 1946, when France abandoned its privileges, nondiplomatic exterritoriality in China came to an end See Shih Shun Liu, *Extraterritoriality Its Rise and Decline* (1925), G W Keeton, *The Development of Extraterritoriality in China* (1928)

extortion, in law, unlawful taking by an officer, under color of his office, of any property or money not legally due to him, e g , requesting and accepting fees in excess of those allowed to him by statute or arresting a man and, with corrupt motives, demanding money or property unlawfully under pretense of duty The taking of money or property is generally an essential element of the crime In most states of the United States, extortion is more widely defined to include the obtaining of money or property of another by inducing his consent through wrongful use of fear, force, or authority of office, thus under this definition are included BLACKMAIL and THREAT of force Such statutes define as extortion, in the case of officers, the mere request for illegal fees See CONSPIRACY

extradition (ĕkstrudĭ'shun), delivery of a person, suspected or convicted of crime, by the state where he has taken refuge to the state which asserts jurisdiction over him International law does not recognize extradition as a duty in the absence of treaty, however, a state, even though not obligated, may as a matter of comity refuse ASYLUM to a fugitive and honor a request for voluntary extradition In the United States fugitives are surrendered pursuant to extradition treaties only JAY'S TREATY (1794) included the first international extradition agreement to which the United States was a party In the 19th cent the increasing ease with which criminals could flee led to the conclusion of many bilateral treaties of extradition Treaties may specify particular extraditable crimes or may provide that all crimes for which there is a certain minimum penalty shall be extraditable Many offenses, possibly including minor ones, are typically included in the treaties between adjoining countries, while countries far apart usually demand extradition for major crimes only In most countries of the European continent a mere demand for the fugitive is sufficient The United States and Great Britain require, on the contrary, that evidence of sufficient facts to justify an indictment first be supplied Unlike the continental countries, they will surrender their own nationals for trial in a foreign country and will not try them domestically for crimes committed abroad Most countries do not surrender fugitives wanted for political offenses, where a political offense, e g , insurrection, is also an ordinary crime, diplomatic disputes may result if extradition is refused Congress, pursuant to Article 4, Section 2, of the U S Constitution, has established a uniform law of extradition between the states or interstate rendition The law provides that any person properly charged is subject

to extradition regardless of the nature of the crime. Although the states normally comply with extradition demands, the Supreme Court has held that they have the right to refuse compliance See J. A Scott, *The Law of Interstate Rendition* (1917), J Mervyn Jones, *Modern Development in the Law of Extradition* (1942)

extrahazardous occupations. Certain occupations are characterized by a much greater risk to health and life than others File cutters, for example, show a death rate 85 percent in excess of the average At one time glass blowers suffered a very high death rate Mining carries the risk of explosion and cave-in accidents Industries involving the use of explosives entail great risk to life Persons who work with arsenic, lead, phosphorus, and benzene are frequently victims of poisoning (see OCCUPATIONAL DISEASES) Many governments have set up agencies to mitigate the dangers in extrahasardous occupations (e g , the U S Bureau of Mines) Others have provided special care and other benefits (financial or otherwise) to those engaged in dangerous work, such as coal mining See E R Hayhurst and G M Kober, *Industrial Health* (1924), Ludwig Teleky, *History of Factory and Mine Hygiene* (1948)

extra-sensory perception see PARAPSYCHOLOGY.

extraterritoriality, see EXTERRITORIALITY

Extremadura: see ESTREMADURA, Spain

extreme unction (usually ĕks'-) [Latin, probably meaning anointing at the hour of death], SACRAMENT of the Roman Catholic Church In it a dying person is anointed on eyes, ears, nostrils, lips, hands, feet, and, sometimes in the case of men, the loins, by a priest while he recites absolutions for sins committed The Church teaches that through the sacrament the dying receive remission of sins, health of soul, and, if God wills, health of body The sacrament may be shortened, and it may be given conditionally, as when there is doubt as to whether the recipient is living or whether he is baptized The oil used is blessed on Maundy Thursday by the bishop The chief biblical text for extreme unction is James 5 14, 15, but theologians hold that it is implied in Mark 6 13 In the Eastern churches it is normally given by three priests and is not so widely used as in the West Extreme unction is given only to persons in danger of death from sickness or injury, hence it is not given before operations or in battle before attack Extreme unction, the last confession, and the VIATICUM are the last rites of the Church

extroversion and introversion, terms introduced into psychology by C G JUNG to identify two opposed psychological types He saw the activity of the extrovert directed toward the external world and that of the introvert inward upon himself This general activity or drive of the individual was called the libido by Jung, who robbed it of the sexual character ascribed to it by Freud The extrovert is characteristically the active man who is most content when surrounded by people, carried to the neurotic extreme his behavior appears to constitute an irrational flight from himself into society, where his feelings are acted out Jung called hysteria the extrovert's neurosis The introvert, on the other hand, is normally a contemplative individual who enjoys solitude and the satisfactions of a quiet life The extreme introvert flees external life by retreating into his own inner world, where his fantasies tend to become more meaningful to him than objective reality Jung saw schizophrenia as the psychotic ultimate of introversion and psychasthenia its neurosis. He did not suggest, however, strict classification of individuals as extrovert or introvert since everyone has tendencies in both directions, though one direction generally predominates Investigation indicates that the position of a personality on the extroversion-introversion scale is a result of a combination of temperament and environmental influences See C G Jung, *Psychological Types* (Eng tr , 1923)

Exuma and Cays. see BAHAMA ISLANDS

Eyck, Huybrecht van (vän īk', Flemish hoi'brĕkht vän īk'), **or Hubert van Eyck,** c 1370–1426, and **Jan van Eyck** (yan') **or John van Eyck,** c 1390–1441, founders of the Flemish school of painting, brothers They have been called, inaccurately, the discoverers of oil painting What is fairly certain is that they revolutionized the painter's craft and were the first to employ a resin or oil medium in naturalistic painting to obtain the greater depth and richness of color which such a medium permits Little is known of the life of Huybrecht He is said to have worked (1414–17) for William, duke of Bavaria, and is known to have settled in Ghent early in the 15th cent Jan is said to have become (1425) painter to the duke of Burgundy and in 1428 went to Portugal to portray his patron's fiancée, the Infanta Isabella On his return he settled in Bruges There is some controversy as to what part each of the brothers took in their famous masterpiece, an altarpiece of 12 panels in the cathedral at Ghent, called *The Adoration of the Lamb* from the subject of the principal panel. Huybrecht is credited with the general plan of the whole and the execution of certain panels, which are the only works which can be attributed to him with certainty Jan collaborated with his brother and is usually credited with much of the execution of the principal panel and certain of the others This work is one of the greatest in European art Its lower central panel shows the Lamb of the Revelation worshiped by angels in the center of a landscape of great beauty, with groups of martyrs, priests, and laymen symmetrically disposed In front is the fountain of life, and in the distance are the towers of Jerusalem The lower side panels show the just judges, knights, saints, and hermits advancing to adore The upper central panels represent Christ as King, the Virgin, and St John the Baptist, with choirs of singing and playing angels on both sides and Adam and Eve on the wings The jewellike color, thinly painted over smooth, white gesso, has retained much of its freshness There is little attempt at any general light and shade, the entire picture being in full light but with the individual forms modeled realistically and in great detail The Van Eycks had little, if any, knowledge of linear perspective but showed a clear intention to depict everything in perspective, and they were the first to exploit the depth of oil color to express depth in space Their influence upon the future of painting was of crucial importance In addition to the Ghent altarpiece, Jan van Eyck is credited with the portrait of Arnolfini and his wife (National Gall , London), *St Barbara* (Antwerp), *Annunciation* (National Gall of Art, Washington, D C), *Crucifixion* (Hermitage, Leningrad), and *St Francis Receiving the Stigmata* (Philadelphia Mus of Art) The Metropolitan Museum contains a fragment showing the head of a donor Various other splendid works are attributed to one or the other of the famous brothers See W H J Weale, *Hubert and John van Eyck* (1908), Sir W M Conway, *The Van Eycks and Their Followers* (1921)

Eyde, Samuel (sa'mōōĕl ā'dù), 1866–1940, Norwegian engineer and manufacturer He developed with O C Birkeland the Birkeland-Eyde process for nitrogen fixation, which he used for the manufacture of fertilizers He extended his operations to produce explosives and other products

eye, organ of vision, almost spherical in shape, situated in the front part of the bony orbit of the skull The eyeball or bulb of the eye is covered by a coat of three layers within which are contained the refracting media The layers which compose the wall of the eyeball consist of an outer fibrous, a middle vascular, and an inner nervous layer The outermost layer comprises the sclera and the cornea The sclera is white and opaque and covers the posterior larger portion of the eyeball The cornea is transparent and covers the front, lesser portion of the eyeball The middle layer is vascular and pigmented and consists of three structures, the chorioid (choroid), ciliary body, and iris The inner nervous layer, the retina, is a delicate membrane in which are distributed the fibers of the optic nerve The chorioid, situated between the sclera and retina, nourishes the retina and the lens The iris, behind the cornea, is a circular pigmented membrane perforated by an aperture, the pupil The ciliary body consists of the ciliary ring, ciliary processes, and ciliary muscle and connects the chorioid with the circumference of the iris The retina, innermost layer of the wall of the eyeball, is the perceptive structure of the eye The refracting media consist of the vitreous humor (vitreous body), the lens, and the aqueous humor The lens is a biconvex transparent structure, situated behind the iris and attached to the ciliary body by a suspensory ligament The vitreous humor is a transparent jellylike substance which fills the hollow of the eyeball between the lens and the retina The aqueous humor occupies the space between the lens and the cornea, this space is divided into two chambers, an anterior chamber between the cornea and the iris and a posterior chamber between the iris and the lens The aqueous humor in both chambers is continuous through the pupil of the eye A number of muscles attached to the wall of the eyeball regulate the movements of the eye The convexity of the lens is controlled by the action of the ciliary muscle Eyestrain results from overaction of the ciliary muscle and of the muscles which move the eyeball Among the disorders of the eye are ASTIGMATISM, BLINDNESS, CATARACT, CONJUNCTIVITIS, CROSS-EYE, GLAUCOMA, and STY

Eyjafjalla Jokull, Icelandic *Eyjafjallajökull* (ā'yā-fyät"lāyû"kŭtul), ice-capped volcano, 5,404 ft high, S Iceland It erupted in 1612 and 1821

Eyja Fjord (ā'ù fyôrd"), Icelandic *Eyjafjörður* (ā'yā-fyûr"dhûr), longest fjord in Iceland (37 mi), on the north coast At its head is AKUREYRI

Eylau (i'lou) **or Bagrationovsk** (bugrŭ"tyôf'nŭfsk), city (1939 pop 7,485), until 1945 in East Prussia, near Konigsberg Its former official name was Preussisch Eylau Here, in Feb., 1807, Napoleon I fought a bloody, indecisive battle against the allied Russian and Prussian forces Eylau was in 1945 transferred to Russian administration, it was incorporated into the RSFSR and renamed in honor of Prince Bagration, who distinguished himself in the battle

Eyre, Edward John (âr), 1815–1901, English administrator. In Australia (1832–45) he was a magistrate, friend of the aborigines, explorer, and writer on Australian geography. After terms as lieutenant governor of New Zealand (1846–53) and governor of St. Vincent (1854–60), he became (1864) governor of Jamaica A serious Negro outbreak (1865) was suppressed with vigor by the military, and Eyre was accused of brutality and illegal acts, especially in the execution of George Gordon, a mulatto member of the Jamaican legislature He was recalled in 1866, but several attempts to try him for murder were forestalled by a committee of admirers, which included John Ruskin, Alfred Tennyson, Thomas Carlyle, and Charles Kingsley. The episode contributed to the fall of the government of Lord Russell See W. L Mathieson, *Sugar Colonies and Governor Eyre* (1936).

Eyre, Sir James, 1734–99, English judge. As a young lawyer he successfully attacked the government's practice of issuing general search warrants He later became president of the Court of Exchequer (1787) and chief justice of common pleas (1793) He conducted (1794) the famous state trials of John Horne Tooke and others for alleged subversion of the government.

Eyre, Lake, shallow salt lake, area 3,430 sq mi , NE South Australia It is 39 ft below sea level and frequently dry

Eyre Peninsula, South Australia, between Spencer Gulf and the Great Australian Bight.

Ezar (ē'-), the same as EZER 1.

Ezbai (ĕz'bāī, ĕzbā'ī), father of NAARAI

Ezbon. 1 Son of Gad Gen 46 16 Ozni· Num. 26 16 2 Benjamin's grandson 1 Chron. 7 7.

Ezekias (ĕzŭkī'ûs) see HEZEKIAH

Ezekiel, Mordecai Joseph Brill, 1899–, American agricultural economist, b Richmond, Va He entered the service of the Dept of Agriculture in 1922 and became an expert in statistical analysis and in the study of the relation of farm production to demand He left the department in 1930 to serve as assistant chief economist to the Federal Farm Board, but returned as economic adviser to the Secretary of Agriculture (1933–44) In 1944 he became economic adviser to the Bureau of Agricultural Economics in the Dept of Agriculture and in 1947 was made economist of the Food and Agriculture Organization of the United Nations He wrote *Methods of Correlation Analysis* (1930).

Ezekiel, Moses Jacob, 1844–1917, American sculptor, b Richmond, Va , studied in Germany and worked in Rome He is known for his portrait busts, memorials, and religious statues, notably the Jefferson monument, Louisville, Ky , and *Religious Liberty*, Philadelphia

Ezekiel or **Ezechiel** (both ēzē'kēl) [Heb , =God strengthens], book of the Old Testament, third of the books of the Major Prophets It is the account of the prophetic career of the priest Ezekiel (fl 592 B C), who preached to Jews of the exile in Mesopotamia The central point of the work is the fall of Jerusalem (586 B C), what goes before (1–32) being prophetic of doom, the rest (33–48) inspired by the hope of restoration, ending with a vision of the ideal temple (40–48) Ezekiel's work consisted not only in sermons but also in prophetic behavior, e g , eating a book (3), sleeping on one side (4), and not mourning his wife (24) Splendid and famous passages are on the sword of God's wrath (21), on the greatness of Tyre (26–28), lament over Egypt (31–32), and on the field of dried bones (37) Ezekiel contains an explicit revocation of the principle of sins of the fathers visited on the children (18) See Ecclus 49 10–11 For bibliography, see OLD TESTAMENT

Ezel (ē'-), in the Bible, rock where David said farewell to Jonathan 1 Sam 20 19

Ezem (ē'zĕm), the same as AZEM

Ezer (ē'-) 1 Edomite chief Gen 36 21,27,30 Ezar 1 Chron 1 38,42 2 One of Ephraim's sons 1 Chron 7 21 3 Priest at the dedication of the wall Neh 12 42 4 Son of Hur the Judahite 1 Chron 4 4 5 Gadite ally of David 1 Chron 12 9. 6 Repairer of the wall Neh 3 19

Ezion-geber (ē'zēŏn-gē'-) or **Ezion-gaber** (-gā'-) [both Heb.,=giant's backbone], ancient port, on the Gulf of Aqaba The site, near AQABA, is now called Tell el-Kheleifeh It is now some distance from the shore, which is advancing The Bible reveals the existence of a port here from the reign of Solomon to at least that of Jehoshaphat (10th cent B C) 1 Kings 9 26, 22 48; 2 Chron 8 17 Esion-gaber Num 33 35,36, Deut 2 8 Excavations carried out in 1938–40 under American auspices fixed the site of Ezion-gaber The city, founded apparently by King Solomon, was established at one time as a port and a center of copper refining The scale of the buildings shows a high degree of planning and material resource

Eznite (ĕz'nīt), ostensibly an epithet of ADINO in 2 Sam. 23 8 The name with its qualifier is translated in the parallel passage "he lifted up his spear." 1 Chron. 11 11 This translation has been added to the passage in 2 Sam in AV

Ezra [Heb ,=help]. 1 Central figure of the book of EZRA 2 Priest who returned with Zerubbabel. Neh. 12.1 3 Judahite. 1 Chron. 4.17.

Ezra, or Esdras (ĕz'drŭs), and **Nehemiah** (nē'hŭmī'ŭ) [Heb.,=consoled by God], books of the Old Testament, a single work in the Hebrew canon, occupying the 15th and the 16th place in AV, they are usually called 1 and 2 Esdras in the Vulgate and the Western canon. Ezra (fl after 400 B C) was a priest; Nehemiah (fl. 444 B C.) was a cupbearer to Artaxerxes I and became governor of Jerusalem. The books narrate events of the return of the Jews to Palestine from captivity, as follows: Zerubbabel's return with a certain number, beginning with a favorable decree by Cyrus in 538 B C, but encountering opposition in rebuilding the city walls (Ezra 1–6). Ezra's account of his own return in 458 B C (possibly 398 B C), with the eviction from Jewish families of Gentile wives (Ezra 7–10), Nehemiah's return in 444 B C., with the rebuilding of the walls in spite of rich, powerful enemies (Neh 1–7), the solemn reading of the Law and signing of a covenant (Neh. 8–10); the conclusion of the walls (Neh 11–12), and an addendum telling of some reforms of Nehemiah (13). The order of events is not chronological, and much of the books consists of documents and lists, some of these are not in Hebrew but in Western Aramaic The work was probably originally one with Chronicles The Ezra of Neh 12.1,13,33, and the persons named Nehemiah in Ezra 2 2, Neh 3 16, 7.7, are not the famous leaders See OLD TESTAMENT See also ESDRAS.

Ezrahite (ĕz'rŭ-) a patronymic. see ZERAH 1.

Ezri (-rī) [Heb.,=help], officer under David 1 Chron 27.26

Ezzelino da Romano (ĕt"sālē'nō'dä'rōmä'nō), 1194–1259, Italian Ghibelline leader and soldier, a faithful supporter of Emperor FREDERICK II. He held Verona, Vicenza, Padua, and other cities and after Frederick defeated (1237) the Lombard League at Cortenuova he became the greatest power in N Italy. He had, however, to fight continuously against the Guelphs. In 1238 he married a natural daughter of Frederick In 1254 Pope Innocent IV excommunicated him and a strong alliance was formed against him Ezzelino lost Padua (1256), but in 1258 took Brescia After an attempt to conquer Milan he was defeated and wounded at Cassano and died soon afterward His name is remembered as that of a cruel tyrant; Dante placed him in the *Inferno*

F

F, sixth letter of the ALPHABET The Greek letter corresponding to it, digamma, which probably represented a sound like w, quite disappeared before the classical period In Western alphabets *f* has usually represented the voiceless labiodental fricative In MUSICAL NOTATION F stands for a note in the scale In Chemistry F is the symbol of the element FLUORINE

Fabens (fā'bĭnz), unincorporated town (pop c 2,000), extreme W Texas, SE of El Paso and on the Rio Grande, in an irrigated region

Faber, Frederick William (fā'bur), 1814-63, English theologian and hymn writer, friend of J H Newman. An adherent of the Oxford movement, he became in 1843 rector of Eton In 1845 he entered the Roman Catholic Church and with some of his friends and parishioners founded a religious community in Birmingham, which merged in 1848 into the ORATORY of St Philip Neri Ordained a Roman Catholic priest in 1847, with Father Hutchinson he established in 1849 the oratory in London of which he was superior for the rest of his life His poetical works include *The Cherwell Water-Lily* (1840) and many well-known hymns collected in *Hymns* (1848) Other writings are nine contributions to *Lives of the Canonized Saints* (1844–45), *The Blessed Sacrament* (1855), and *The Foot of the Cross* (1853–60) See biography by J E Bowden (2d ed., 1888)

Faber, Johannes (yōhä'nus fa'bur), 1478–1541, German churchman His German surname was Heigerlin He was a Dominican After 1531 he was bishop of Vienna. He was friendly at first (until 1521) with Luther and Zwingli, but later he became their untiring opponent in polemics He was an ardent proponent of reform of clerical discipline and of preaching, especially with respect to indulgences

Faber Stapulensis, Jacobus (jakō'bus fā'bûr stăpŭlĕn'sĭs), c 1455–1536, French writer of the Reformation movement His name in French was Jacques Lefèvre d'Étaples He became a priest and was much interested in classical studies, he was in 1507 made librarian at the abbey of Saint-Germain-des-Prés In 1521 the Sorbonne condemned as heretical a book on St. Mary Magdalene, but FRANCIS I and MARGARET OF NAVARRE prevented further process against him Later he was tutor to the royal children and librarian in the château at Blois His last years were spent at Nérac, under the protection of Margaret His works (particularly *Psalterium quintuplex*, 1509) are charged with the current ideas that were taken up into the Reformation He translated the Bible into French (1523–30)

Fabian, Saint (fā'bēun), pope (236–50), a Roman, successor of St. Anterus and predecessor of St Cornelius He recast the ecclesiastical organization in Rome Fabian was martyred under Decius Feast (with St SEBASTIAN) Jan 20

Fabian Society, influential English socialist society An outgrowth of the Fellowship of the True Life (founded 1883 under the influence of Thomas Davidson), the society was developed the following year by Frank Podmore and Edward Pease G B Shaw and Sidney Webb joined soon after this and became its outstanding exponents The group achieved recognition with the publication of *Fabian Essays* (1889), whose contributors included Shaw, Webb, Annie Besant, and Graham Wallas The Fabians were opposed to the revolutionary theory of Marx, holding that social reforms and socialistic "permeation" of existing political institutions would bring about the natural development of socialism Repudiating thus the necessity of violent class struggle, they took little notice of trade unionism and other labor movements until Beatrice Potter (later Mrs Sidney Webb) joined the group They subsequently helped create a unified Labour party (1900) and became increasingly identified with it The Labour party adopted their main tenets, and the Fabian Society remains as an independent research and publicity agency See E R. Pease, *The History of the Fabian Society* (1916); G D. H. Cole, *The Fabian Society* (1942)

Fabius (fā'bēŭs), **gens** of ancient Rome The family was most distinguished from the 5th cent B C onward Stories of the early members are, however, mostly tradition and legend That is even true of **Quintus Fabius Vibulanus** (kwĭn'tus vĭbulā'nus), fl 450 B C, consul three times (467, 465, 459 B C), one of the second decemvirate, although he had served Rome well in battle he was exiled with the other decemvirs His descendant, **Quintus Fabius Maximus Rullianus** (măk'sĭmus rŭlēā'nus) or **Rullus** (rŭ'lus), d c 291 B C., consul five times (322, 310, 308, c.300, and 297 B C) and dictator (315 B C), was renowned as a general, especially for his victory over the Etruscans, the Samnites, and their allies at Sentinum (295 B C) A famous act of insubordination was Rullianus' attack on the Samnites when he was master of horse (325 B C), he was victorious, but his disobedience to orders brought his condemnation by the dictator L Papirius Cursor, and Rullianus fled Rome for his life His descendant, **Quintus Fabius Maximus Verrucosus** (vĕrōsō'sus), d 203 B C, the opponent of HANNIBAL, was called Cunctator (kŭngk'tutōr) [Latin,=delayer], because of his tactics, which have given the term Fabian to a waiting policy He was consul five times (233, 228, 215, 214, 209 B C), and dictator (217 B C) after the battle of Trasimeno Fabius kept his army always near Hannibal's but never attacked, harassing Hannibal continually, but never joining battle The Romans tired of Fabius' policy, and he was supplanted by M Minucius Rufus and Terentius Varro, the rout at Cannae was the result In his last consulship Fabius took Tarentum from Hannibal, a signal victory Fabius was perhaps not one of the great generals of the PUNIC WARS, but his tactics were apparently sound Another branch of the family was represented by **Caius Fabius Pictor** (kā'us, kĭ'us, pĭk'tôr) [Latin,=the painter], fl 302 B C, who painted the temple of Salus at Rome, the first recorded Roman painting His grandson was **Quintus Fabius Pictor**, fl 225 B C, the first Roman annalist, his history covered Rome from Aeneas to the Second Punic War His work is lost Another Fabius was **Quintus Fabius Labeo** (lā'bēō), fl 180 B C, praetor (189 B C) He was commander of the fleet in an eastern campaign, but he seems to have used his power largely for his own aggrandizement An adoptive member of the gens was **Quintus Fabius Maximus**, fl 121 B C, consul (121 B C), called Allobrogicus (ă"lōbrō'jĭkus), because of his victory over the Allobroges in Gaul In his triumph the Allobrogian king was led in chains

fable, short moral story, often one in which the characters are beasts or inanimate objects Perhaps the oldest fables are in the *Hitopadesa* and PANCHATANTRA, both professedly moral Indian collections The Buddhist jataka tells of the Buddha's births in animal form, and the stories show many signs of being fabular in type The Indian fables were possibly the basis for the fables of AESOP, which were the earliest to be written down Other names important in classical fable are BABRIUS, PHAEDRUS and PLANUDES MAXIMUS In medieval times began the satirical series of animal stories about REYNARD THE FOX, and the fable was finally given classic form by Goethe in the 19th cent The greatest medieval fabulist was Marie de France, from whom Chaucer took the story in his Nun's Priest's Tale, her countryman of a later period, LA FONTAINE, was probably the greatest and most subtle literary artist to write fables Lessing, Gellert, and others in Germany and Bernard Mandeville, John Gay, and John Dryden in England continued the tradition of beast fables On the other hand, the use of fable to mean a general narrative with a lesson is demonstrated in J. R Lowell's *Fable for Critics* (1848) and in George Ade's lighthearted *Fables in Slang* (1899)

Fabre, Jean Henri (zhäⁿ ärⁿ' fā'brŭ), 1823–1915, French entomologist and author. He is known for his observations on insects and his study of insect behavior He taught until 1870 at Carpentras, Ajaccio, and Avignon, wrote works on popular science at Orange (1870–79), then retired to nearby Sérignan, where he devoted himself to the study of insects His principal work is *Souvenirs entomologiques* (10 vols., 1879–1907), English translations of selections from this work include *The Life of the Spider* (1912), *The Life of the Fly* (1913), *The Wonders of Instinct* (1918), *The Marvels of the Insect World* (1938), and *The Insect World of J Henri Fabre* (ed with commentary and biographical notes by E W Teale, 1949) See studies on Fabre by Augustin Fabre (Eng tr, 2d ed, 1921) and P F Bicknell (1923)

Fabre d'Églantine, Philippe François Nazaire (fēlēp' frāswä' näzĕr' fa'bru dāglätēn'), 1750–94, French dramatist and revolutionist His chief work, *Le Philinte de Molière* (1790), was a sequel to Molière's *Misanthrope* A member of the Convention, he was selected to devise the names for the months and days of the French Revolutionary calendar He was guillotined

Fabriano, Gentile da: see GENTILE DA FABRIANO.

Fabriano (fäbrēä'nō), town (pop 10,350), the Marches, central Italy, in the Apennines The local school of painting, founded by Allegretto Nuzi in the 14th cent, had Gentile da Fabriano as its best-known figure Paper has been made here since the 12th cent

Fabricius (Caius Fabricius Luscinus) (fûbrĭ'shus), d 250 B C, Roman general and statesman, distinguished for simplicity of habit and probity in public life He persuaded the Tarentines to abstain from war with Rome and, as consul (282 B C), defeated the Bou and Etruscans While treating with PYRRHUS for the ransom of prisoners captured at Heraclea (281 B C) he rejected a bribe When consul again (278 B C) he negotiated terms of peace with Pyrrhus and subsequently defeated the Samnites, Lucanians, and Bruttii

Fabricius, Hieronymus (hĭfurō'nĭmus), Ital *Geronimo Fabrizio* (jārō'nēmō fabrē'tsyō), 1537–1619, Italian anatomist, pupil and successor of Fallopius and teacher of William Harvey at Padua He was a surgeon, an embryologist, and an anatomist, he discovered the venous valves, but did not fully understand their function. See his *De venarum ostiolis* (1603, facsimile ed., with introduction by K J Franklin, 1933)

Fabricius, Johan Christian (yōhän' krĭs'tyan fabrē'syōōs), 1745–1808, Danish entomologist and economist Influenced by the methods of Linnaeus, under whom he studied, he worked out a classification of insects based on mouth structure He taught at the Univ. of Kiel from 1775

Fabritius, Carel (kär| fäbrĕt'sēōōs) c 1624–1654 Dutch painter, pupil and worthy follower of Rembrandt His early death in the explosion of a powder magazine of Delft cut short a career of the greatest promise Among his few but admirable works are *Portrait of a Man* (Rotterdam), *The Goldfinch* (The Hague), and *Portrait of a Soldier* (National Gall., London) Jan Vermeer was his pupil

Fabyan, Robert (fā'bēun), d 1513, English chronicler He was a prosperous member of the Drapers Company in London and an alderman His *New Chronicle of England and France*, ending with the reign of Richard III, was not published until 1516 Subsequent editions continued the narrative to later dates

façade (fusad', fă-), exterior face, or wall, of a building, the designation implying ordered disposal of its openings and other features—it seems inapplicable to a wall without design Any freestanding structure may have four or more façades designated by their ORIENTATION (i e, north façade, etc.), while a building flanked by others on either side generally has only a front and a rear façade In medieval churches the chief façade is that of the building's west end, where are the principal entrance portals The architectural theory of the façade is that, while enclosing a space, it should give by its articulation a true expression of the internal arrangements and the structure The flanks of a Gothic cathedral of the best type admirably fulfill this requirement. The dictum of the most advanced modern architecture requires of the façade an uncompromising revelation of structure and plan and avoidance of all architectural "effects."

Fackenthal, Frank Diehl (fă'kŭnthôl), 1883–, American educator, b Hellertown, Pa , grad. Columbia, 1906 He served his university as chief clerk (1906–10), secretary (1910–37), and provost (1937–48) Between the retirement of Nicholas Murray Butler (1945) and the installation of General Eisenhower as president (1948), Dr Fackenthal was acting president of the university, retaining his post as provost He retired in 1948 His principal speeches as acting president were published as *The Greater Power and Other Addresses* (1949)

facsimile (făksĭ'mulē), in communications, a system for transmitting pictures or other graphic matter by wire or radio The surface of the material to be sent is traversed by a light-beam and photoelectric-cell arrangement which translates the light and dark areas of the material thus scanned into tones of corresponding intensity capable of transmission by radio and wire A receiving station reverses the process, reproducing the transmitted material by means of a stylus which touches a chemically treated paper in response to the received tones

factor, in arithmetic, any number which divides a given number evenly, without any remainder The factors of 12 are 1, 2, 3, 4, 6, and 12 Similarly in algebra, any algebraic expression which divides a given expression evenly is called a factor of the given expression See also MULTIPLICATION

factory, commonly, an establishment where two or more persons are working for hire Primarily the word *factory* was not associated with manufacturing but with a business house under management of an agent With the Industrial Revolution the work took on a new meaning, with special implications of wage labor, division of labor, and the use of machines The factory is contrasted with the shop of the master workman Standardized goods are produced and sometimes are sold more cheaply by the factory system, and some of the goods are better than a craftsman can make The obvious advantages of the factory system in some functions, as in making pins, have led to its extension to fields where the advantages have been less decisive, as farming The system at once gave rise to social problems that remain unsolved See Peter Kropotkin, *Fields, Factories, and Workshops* (1899), R C Davis, *The Principles of Factory Organization and Management* (1928), Lewis Mumford, *Technics and Civilization* (1934), G G Hyde, *Fundamentals of Successful Management* (1946)

factory acts see LABOR LAW

Facundo Quiroga, Juan see QUIROGA, JUAN FACUNDO

Fadeyev, Aleksandr Aleksandrovich (ŭlyĭksan'dur ŭlyĭksan'drôvĭch fŭdyā'ŭf), 1901–, Russian author An active Communist, he fought in the Russian civil war Both his first novel, *The Rout* (1926, Eng tr , *The Nineteen*, 1930), and the long *Last of the Udege* (1929–35) are laid in Siberia

fading, in radio, the irregular variation in the strength and quality of a received signal The effect is thought to be caused largely by the constantly changing altitude and density of the Kenelly-Heaviside layer Different parts of the transmitted wave are reflected unevenly and arrive at the receiver out of phase Automatic volume control alters the amplification in the receiver in response to variations in signal strength so that weak signals are given greater amplification than strong ones In this way a fairly constant level of sound is maintained at the loudspeaker

Faenza (făän'tsä), city (pop 23,823), Emilia-Romagna, N central Italy, in Romagna The Manfredi family, which ruled it in the 14th and 15th cent , enriched it with works of art There are a Renaissance cathedral, a town hall (12th cent), and the Manfredi palace A special kind of richly colored ceramics, called faïence, has been made here since the 12th cent , this art reached its flower between 1450 and 1550 and was revived in the 18th cent The school and museum, containing fine specimens of faïence, were greatly damaged in the Second World War

Faerie Queene, The, see SPENSER, EDMUND

Faeroe Islands or **Faroe Islands** (both fă'rō), Dan *Færøerne* (fär'ŭ"rŭnu), Faeroese *Føroyar* (fûr'yar), group of 21 volcanic islands (c 540 sq mi , pop 29,178), in the N Atlantic Ocean, between Iceland and the Shetlands They belong to the Danish crown Stromo—on which the capital, Thorshavn, is located—and Ostero are the largest islands of the group High, rugged, with sparse vegetation, the Faeroes depend mainly on fishing and sheep raising and to a lesser extent on whaling, fowling, and farming Despite frequent storms and fog, the winters are mild, owing to the warm North Atlantic Drift Fish and wool are exported The earliest-known inhabitants of the islands were Celtic, but before A D 800 the Faeroes were settled by Norsemen. The islands became part of the kingdom of Norway and were Christianized in the 11th cent The Black Death nearly wiped out the population, which was replaced by Norwegian settlers in the 14th and 15th cent In the Treaty of Kiel (1814), which transferred Norway from the Danish to the Swedish crown, the Faeroes were not mentioned and thus remained under Danish rule. A nationalist movement resulted in the development of a written Faeroese language, which is akin to Icelandic and medieval Norwegian. In the Second World War, England established (1940) a protectorate over the islands after the German occupation of Denmark. The population profited greatly from the reorientation of its fish exports from Spain to England In 1948 the Faeroese obtained home rule. Their local parliament, the Lagting, was granted full legislative powers in matters of exclusive concern to the islands, and laws enacted by the Danish Rigsdag become valid in the Faeroes only after their approval by the Lagting See Gordon Hudson, *The Faeroes in Pictures* (1946)

Faes, Pieter van der: see LELY, SIR PETER.

Fages, Pedro (pā'dhrō fā'hās), fl 1767–90, Spanish governor of Alta California (1782–91) In Mexico in 1767, he was ordered to accompany the Portolá expedition that established (1770) the mission at Monterey, where he became *comandante* Later that year he led a small party to explore the east coast of San Francisco Bay, and his reports influenced the choice of the site of San Francisco In 1772, with Juan Crespi, he led an expedition from Monterey to the San Joaquin river, through the Santa Clara Valley Friction developed at Monterey between Fages and Father Junípero Serra, and Fages was recalled (1774), but he returned in 1782 as governor His administration was notable for its encouragement of colonization, agriculture, and missionary work He led punitive expeditions (1781–82) against the Indians of the Colorado river area, describing them in a diary, *The Colorado River Campaign* (Eng tr , 1913) Two other diaries, *The Expedition to San Francisco Bay in 1770* (Eng tr , 1911) and *A Historical, Political, and Natural Description of California* (Eng tr , 1937), are valuable source materials for the history of the period

Faggi, Alfeo (älfā'ō fad'jē), 1885–, American sculptor, b Florence, Italy He came to the United States in 1913 Faggi is best known for his sensitive interpretation of religious subjects in bronze His work recalls the Italian primitives, but is also a highly personal expression His *Pietà* (Art Inst , Chicago), *Stations of the Cross* (Church of St Thomas the Apostle, Chicago), *St Francis* (Santa Fe Mus), and low reliefs (Whitney Mus , New York) are characteristic works

Faguet, Émile (āmēl' fagē'), 1847–1916, French literary critic and historian His literary studies of the 16th, 17th, 18th, and 19th cent re-created an interest in the development of French literature Later works include *Le Culte de l'incompétence* (1910, Eng tr , 1911), *L'Horreur des responsabilités* (1911, Eng tr , 1914), and *Jean-Jacques Rousseau* (5 vols , 1911–13)

Fahrenheit, Gabriel Daniel (fä'runhīt, Ger gä'brēĕl dä'nēĕl fa'rūnhīt), 1686–1736, German physicist, b Danzig He improved the thermometer by substituting mercury for alcohol, invented a new type of hygrometer, and devised the Fahrenheit scale (see TEMPERATURE)

Faial see FAYAL

Faidherbe, Louis Léon César (lwĕ' lāō' sāzar' fādĕrb'), 1818–89, French colonial administrator As governor of Senegal (1854–61, 1863–65), he fought HAJJ OMAR and established an orderly and greatly expanded colony In the FRANCO-PRUSSIAN WAR, he assumed command of the Army of the North in the dark days after the fall of Sedan and gained some success

faïence (fīĕns', -ans', fī–) [for FAENZA, Italy], term applied to many kinds of pottery, especially to earthenware with an opaque lead glaze, e g , MAJOLICA

Failly, Pierre Louis Charles de (pyĕr' lwē' shärl' du fāyē'), 1810–92, French general He fought in Algeria, in the Crimean War, and at Magenta and Solferino (1859) Heading the expeditionary forces sent to protect the Papal States, he defeated Garibaldi at Mentana (1867) In this campaign the Chassepot rifle was first used Failly commanded the right wing of MacMahon's army at Sedan (1870) The disastrous outcome of that battle (see FRANCO-PRUSSIAN WAR) is largely ascribed to Failly's tactics

fainting or **syncope** (sĭng'kupē, sĭn'-), temporary loss of consciousness resulting from an insufficient flow of blood to the brain Among the causes of the condition are emotional shock, lack of food, being in a poorly ventilated place, hemorrhage, pain, and anemia To prevent an injured person from fainting it is wise to have him sit or lie down while being given first-aid or other medical treatment The sensation of faintness is best treated by lying down with the body level or, if this is not possible, by lowering the head to a position below the heart Sometimes it is helpful to hold an ammonia inhalant near the nose and to sprinkle the face with cold water Stimulants by mouth should never be given unless the patient is conscious

Fair, James Graham, 1831–94, American financier, b near Belfast, Ireland He came to America as a child, grew up on an Illinois farm, and went to the West in 1851 in search of gold In partnership with J W Mackay, J C Flood, and William S O'Brien, he made a large fortune from the silver of the Comstock Lode He was U S Senator from Nevada from 1881 to 1887

fair. Before the development of transportation and marketing had made it possible, in effect, to buy anything anywhere at any time, special opportunities for marketing were afforded by religious observances that brought many people together from distant places Periodic markets, or fairs, of this kind developed in Greece and Rome In the Middle Ages, the advantages of such fairs became much greater Merchants traveling together were safer than those who traveled alone, and special privileges were granted to those who transacted business at fairs The greatest period of the European fairs was the 13th and 14th cent The European fair has always been a business institution, for buying, selling, and bartering It declined under competition with continuous marketing, but a few fairs survived, as those of Leipzig and Nizhni Novgorod At some fairs, marketing was of products in general, but others were limited, e g , to cattle or to cheese Rosa Bonheur's painting of a horsefair is well known Some fairs that are no longer held are remembered in legend, as Donnybrook Fair in Ireland, abolished in 1855, is remembered for its turbulence The typical American fair has little in common with the European fair but the name It is not a market but an exhibition of products that are ranked by judges according to their relative excellence The products exhibited are typically those of the farm and the home The credit for the plan and for its prompt success belongs to Elkanah Watson, who organized and conducted the first Berkshire County Fair at Pittsfield, Mass , in 1811 The enthusiastic response of the rural population to this opportunity to meet their neighbors and to compare the best products of their work led swiftly to the establishing of annual county and state fairs throughout the United States As the wilderness was occupied by settlers, the fair was promptly introduced, tales of the meagerness of the first fairs are a part of neighborhood lore A famous rural fair is that at Danbury, Conn The nature of county and state fairs has changed with changes in farming Machines made by distant factories are exhibited Race horses from a distance, handled by professional jockeys, have displaced horses of the neighborhood ridden or driven by their owners In some places, allegiance to the fair has weakened until it has been discontinued For world's fairs, see EXPOSITION See W C Neely, *The Agricultural Fair* (1935)

Fairbairn, Sir William (fâr'bârn), 1789 1874, Scottish engineer A pioneer builder of iron ships, he was also known for his bridges, particularly for his work with George Stephenson on the railway bridges across the Conway river and the Menai Strait

Fairbanks, Avard Tennyson, 1897–, American sculptor, b Provo, Utah, studied in New York and Paris He was associate professor of sculpture at the Univ of Michigan in 1929 and has been dean of the school of fine arts, Univ of Utah, since 1947 Among his important works are *Doughboy of Idaho*, a state memorial, *Old Oregon Trail*, a marker, bust of Ezra Meeker (Univ of Oregon), *Three Witnesses*, memorial (Salt Lake City, Utah), *Pioneer Mothers*, memorial (Vancouver, Wash), *Hawaiian Motherhood*

Fairbanks, Charles Warren, 1852–1918, American statesman, Vice President (1905–9), b Union co , Ohio, grad Ohio Wesleyan Univ (B A , 1872, M A , 1875) He became wealthy as a railroad lawyer in Indianapolis, rose in Republican politics, and served in the U S Senate from 1897 to 1905 He was recognized as the spokesman of President McKinley and of the conservatives, and Fairbanks was chosen as vice presidential candidate with Theodore Roosevelt primarily to attract the conservative vote He continued to dominate his party in Indiana and was in 1916 again vice presidential candidate, this time on the unsuccessful ticket with Charles Evans Hughes

Fairbanks, Douglas, 1883–1939, American moving-picture actor, whose real name was Douglas Elton Ulman, b Denver From 1902 to 1914 he appeared on Broadway and on tour in light comedies and vaudeville In 1915 he entered moving pictures and made his name in such films as *Manhattan Madness*, *The Americano*, *Wild and Wooly*, *He Comes up Smiling*, *The Mollycoddle*, *The Mark of Zorro*, *The Nut*, *The Three Musketeers*, *Robin Hood*, and *The Thief of Bagdad* His marriage (1920) to Mary Pickford ended in divorce in 1935 Fairbanks had personal charm and great muscular agility See Alistair Cooke, *Douglas Fairbanks the Making of a Screen Character* (1940)

Fairbanks, Erastus, 1792–1864, American manufacturer and politician, b Brimfield, Mass His family moved to St Johnsbury, Vt , in 1815, and soon after, with two brothers, he established an iron foundry which manufactured stoves, plows, and various other implements The invention of the platform scale by Thaddeus Fairbanks, a younger brother, led the firm which Erastus headed to concentrate largely on making scales of various kinds The business prospered, and Fairbanks scales became known throughout the world Governor of Vermont (1852–53), he was elected again in 1860, this time as a Republican,

and remained in office the first year of the Civil War. His energetic support of the Federal government and cooperation in providing troops and supplies place him among the more notable "war governors." See W B Hesseltine, *Lincoln and the War Governors* (1948)

Fairbanks, Thaddeus, 1796–1886, American inventor, b Brimfield, Mass He helped his elder brother, Erastus Fairbanks, to establish an iron foundry in St Johnsbury, Vt, where he devised improvements for many household and agricultural implements He is remembered because he invented the platform scale, patented in 1831

Fairbanks, town (1939 pop 3,455, 1949 estimated pop 8,500), central Alaska, on Chena Slough, where the Chena river enters the Tanana Fairbanks is the transportation, distributing, and financial center for the Tanana river area and for the whole vast region of inland Alaska Gold was discovered here in 1902, and Fairbanks grew rapidly as a mining camp It declined somewhat after placer mining reached its limits, but flumes were built and two large companies continued mining by hydraulic methods The building of the Alaska RR increased the importance of Fairbanks The Richardson Highway from Valdez on the coast reaches Fairbanks, which became in the Second World War the terminus of the ALASKA HIGHWAY There are also other highways In the war it was an army air base, and a new air base was established in the vicinity after the war Fairbanks has one of the prominent airports of the territory Just outside Fairbanks is the Univ. of Alaska (see ALASKA, UNIVERSITY OF)

Fairburn, city (pop 1,502), NW Ga, SW of Atlanta, inc as a town 1854, as a city 1925

Fairbury. **1** City (pop 2,400), NE Ill, NE of Bloomington, in a farm and coal area, inc 1895 **2** City (pop 6,304), co seat of Jefferson co, SE Nebr, near the Kansas line SSW of Lincoln, in a farming area, founded 1869 In the '70s and '80s it was a typical prairie town Dairy products, metal castings, and grain are produced here It has a municipal power plant

Fairchance, borough (pop 1,855), SW Pa, SSE of Pittsburgh near Uniontown Explosives are manufactured here

Fairchild, David Grandison, 1869–, American botanist and agricultural explorer, b East Lansing, Mich After graduate study at Naples Zoological Station, German universities, and the Buitenzorg (Java) Botanical Garden, he entered the service of the U S Dept of Agriculture, where he organized (1897) and later (1906–28) was in charge of a division of plant exploration and introduction now part of the Bureau of Plant Industry He had charge also of the foreign research expeditions, in many of which he participated He wrote *Exploring for Plants, 1925–1927* (1930), *The World Was My Garden* (1938), *Garden Islands of the Great East* (1943), and *The World Grows round My Door* (1947) He married the daughter of Alexander Graham Bell

Fair Employment Practices Committee (FEPC), established (1941) as the Committee on Fair Employment Practices in the U S government within the Office of Production Management by executive order of President F D Roosevelt This wartime committee, created to promote the fullest utilization of all available man power and to eliminate discriminatory employment practices, was transferred (1942) to the War Manpower Commission and later (1943) was reorganized within the Office of Emergency Management Field offices were established in the major industrial cities of the United States, and complaints of discrimination were reviewed by the committee Appropriations for the FEPC were drastically reduced for the 1945 fiscal year and this committee was suspended (1946) for lack of funds Efforts to establish a permanent peacetime FEPC, as advocated by President Harry S Truman, were blocked in the U S Senate after 1946

Fairfax, Edward, d 1635, English translator *Godfrey of Bullogne, or, The Recoverie of Jerusalem* (1600) was his verse translation of Tasso's *Gerusalemme liberata* In *Discourse on Witchcraft* (1621) he recounts alleged witchcraft in his own family

Fairfax, Thomas Fairfax, 3d **Baron,** 1612–71, English soldier-statesman Son of Ferdinando Fairfax, 2d Baron Fairfax of Cameron (1584–1648), whose title he inherited and under whom he fought until 1644, he was given command of the New Model Army (1645) That same year the army crushed Charles I at Naseby Fairfax was conservative by nature, and when the quarrel developed between the army and Parliament he lost influence over army policies, although he remained nominal commander after Cromwell had become the dominant figure Nominated as a judge of Charles I, he resigned when he realized the king's execution was predetermined He resigned his command rather than invade Scotland (1650), became hostile to Cromwell during the Protectorate because of his dread of a military dictatorship, and was instrumental in securing the return of CHARLES II to the throne (1660) He was an able and valiant officer In politics he found himself moving less rapidly than the times. See the correspondence of the Fairfax family called *Memorials of the Reign of Charles I* (to 1642, ed by J G W Johnson, 2 vols, 1848) and *Memorials of the Civil War* (to 1660, ed by R Bell, 2 vols, 1849), biography by C R Markham (1870)

Fairfax, Thomas Fairfax, 6th **Baron,** 1693–1781, proprietor of the Northern Neck of Virginia, b Kent, England, educated at Oriel College, Oxford The Northern Neck, comprising the land between the Rappahannock and the Potomac, was inherited by him through his mother from his grandfather, the 2d Baron CULPEPER, colonial governor of Virginia Virginia disputed the extent of his grant, and both parties had surveys made, Fairfax coming to the colony for that purpose (1735–37) In 1745 the privy council, in return for certain concessions made by Fairfax, confirmed his claim in full (a minimum of 5,282,000 acres), and two years later he returned to Virginia to live permanently He spent several years with his cousin and former agent, Col William Fairfax, the patron of the youthful George WASHINGTON, at "Belvoir" on the Potomac before moving (1752) to the Shenandoah Valley, where he built "Greenway Court," near Winchester Though a Loyalist in sentiment (he was the only resident peer in the colonies), he went unharmed during the American Revolution The state of Virginia canceled the proprietorship in 1785 See D S Freeman, *George Washington*, Vol I (1948)

Fairfax **1** Residential town (pop 2,198), W Calif, N of San Francisco, inc 1931 **2** Village (pop 1,116), S Minn, E of Redwood Falls, in a farming region **3** Oil town (pop 2,327), N Okla, near the Arkansas river NW of Tulsa, founded c 1905, inc 1909 **4** Town (pop 1,379), S S C, near Allendale SSW of Columbia, in a truck and livestock area, settled 1876, inc 1898 **5** Rural town (pop 1,229), NW Vt, SE of St Albans, granted 1763, settled 1783 **6** Town (pop 979), N Va, WSW of Washington, D C, inc 1892 In the old courthouse (1800) of Fairfax co are the wills of George and Martha Washington Mt Vernon, Gunston Hall (1755–58), and Pohick Church (1774) are in the county

Fairfield. **1** Steel-manufacturing city (pop 11,703), N central Ala, near Birmingham, planned as an industrial city, founded c 1910 as Corey, inc 1919 **2** City (pop 1,312), co seat of Solano co, W Calif, NE of San Francisco, founded 1859, inc 1903 There are sheep ranches and fruit and dairy farms **3** Industrial town (pop 21,135), SW Conn, between Bridgeport and Westport, settled 1639 It was the scene of a battle with the Pequots (1637). In the Revolution the British burned much of the village The residential part of the town has many colonial houses **4** City (pop 4,008), co seat of Wayne co, SE Ill, W of the Little Wabash, in a farm region, settled c 1819, inc 1840 Automobile parts, dresses, and paper boxes are made here **5** City (pop 6,773), co seat of Jefferson co, SE Iowa, E of Ottumwa, inc 1847 It is a residential, trade, and manufacturing center Washing machines are made here The first annual Iowa State Fair was held here in 1854 The city is the seat of Parsons College (Presbyterian, coeducational, 1875) and of Old Settlers' Park (with a log cabin built in 1836) **6** Town (pop 5,294), S Maine, on the Kennebec above Waterville, settled 1774, inc 1788 It is the seat of a tuberculosis sanatorium and of the Good Will Homes and Schools There are woolen mills **7** Village (pop 1,409), SW Ohio, NE of Dayton The Fairfield Air Depot is here **8** Town (pop 1,047), co seat of Freestone co, E central Texas, WSW of Palestine, inc 1933 Small plants use the native lumber **9** Town (pop 1,444), NW Vt, E of St Albans, in a region known for its maple sugar, granted 1763, settled 1787 Chester A Arthur's birthplace is near

Fair Haven. **1** Borough (pop 2,491), E N J, on the Navesink and NE of Red Bank, inc 1912 **2** Town (pop 2,245), W Vt, W of Rutland The town is known for its slate, the first slate quarry in Vermont was opened here in 1839 Many inhabitants are descendants of Welsh slate workers who immigrated in the second half of the 19th cent Matthew Lyon was a citizen of Fair Haven

Fairhaven, town (pop 10,938), SE Mass, at the mouth of the Acushnet opposite New Bedford, settled 1670, set off from New Bedford 1812 Boatbuilding is carried on William Bradford, the marine painter, was born here

Fair Havens, Crete see LASEA

Fair Head, Northern Ireland see BENMORE HEAD

Fairhope, resort town (pop 1,845), SW Ala, on the east coast of Mobile Bay, founded 1894 95 by followers of Henry George, inc 1908 It remained a single-tax town until 1937 The experimental School of Organic Education is here

Fair Isle, rocky island (pop 108), 3 mi long and 2 mi wide, off N Scotland, halfway between the Orkneys and the Shetland Islands It is known for its knitted hosiery of bright, many-colored design Fishing and sheep raising are also pursued Fair Isle is a famous bird migration station

Fair Lawn, borough (pop 9,017), NE N J, near Paterson; inc. 1924 Airplanes are made The borough includes the planned community Radburn

Fairmont. **1** City (pop. 6,988), co seat of Martin co, S Minn, S of New Ulm near the Iowa line, platted 1857, inc as a village 1878, as a city 1902 Railway maintenance equipment is made here, and the city is a shipping point for farm products The courthouse, on the site of a stockade built in the Sioux outbreak of 1862, has pioneer relics **2** Town (pop 1,993), S N C, near the S C line S of Fayetteville, in a farm area **3** City (pop 23,105), co seat of Marion co, N W Va, where the West Fork and the Tygart form the Monongahela, in a rich bituminous-coal area, founded 1843 Glass and glass products are made here Fairmont is the seat of a state teachers college and a state hospital

Fairmont City, village (pop 1,905), SW Ill, industrial suburb of East St Louis, founded 1910 as Willow Town, inc 1914 as Fairmont City

Fairmount, town (pop 2,382), E central Ind, NNE of Indianapolis It has a cannery The town is the site of national and state conferences of the Methodist Church

Fairmount Heights, town (pop 1,391), W central Md, a suburb of Washington, D C, inc 1927

Fair Oaks see PENINSULAR CAMPAIGN

Fairport, village (pop 4,644), W N Y, SE of Rochester and on the Erie Canal, inc 1867 Tin cans are made here

Fairport or **Fairport Harbor,** village (pop 4,528), NE Ohio, on Lake Erie near Painesville, laid out 1810 as Grandon, inc 1836 as Fairport A fishing village, it also ships iron ore and coal

Fairview. **1** Borough (pop 8,770), NE N J, near the Hudson NE of Jersey City, settled 1860, inc 1894 **2** Village (pop 4,700), NE Ohio, near Cleveland **3** City (pop 1,913), co seat of Major co, NW central Okla, near the Cimarron river, in a farm and dairy section, settled 1893, inc as a town 1901, as a city 1909 **4** City (pop 1,314), central Utah, on the San Pitch river in the Sanpete Valley, S of Provo, settled 1859 by Mormons, inc 1872 The dairy and farm region long had some irrigation from the river and now receives some water from a Green River tributary by the Sanpete project

Fairview Park, town (pop 1,074), Vermillion co, W Ind, N of Terre Haute

fairy, in legend of the British Isles, a supernatural being quite similar to human beings, but endowed with various magic powers and generally ill-disposed towards men The JINNI of Arabian folklore is similar Fairies are nearly always of great beauty, an attribute that distinguishes them from the non-English types of ELF, GNOME, GOBLIN, NIX, and TROLL The night is the favorite time of fairies It is dangerous for human beings to have anything to do with them thus, there are many stories of human lovers of fairies dying or being carried away In the 16th cent the fairies became very popular in English literature, and Shakspere led the way in conventionalizing them The fairy became a tiny, dainty little creature associated with flowers The diminutive size of fairies had no great place in popular belief until Elizabethan literature touched the people (for a similar development, see BROWNIE) At the same time, all kinds of classical names and ideas were connected with the fairies, and they were given a king and queen, Oberon and Titania or Queen Mab, and were identified with sylphs, dryads, and wood sprites Supernatural beings on the Continent were associated with the pagan gods In very recent times belief in fairies has been strong in Ireland, where a fundamental distinction is made between the fearful Little People or Good People (a euphemism) and larger man-sized fairies In the 16th and 17th cent belief in, and supposed dealings with, fairies were so general that the Church of Scotland conducted a vigorous campaign against them (For special types of creatures like fairies, see ROBIN GOODFELLOW, PUCK, and WAYLAND SMITH, also TUATHA DE DANANN, KELPIE, BANSHEE, and LEPRECHAUN) The appearance of supernatural beings and of magic of all sorts is characteristic of **fairy tales** The great adapters of popular fairy tales were Charles PERRAULT and the brothers GRIMM Hans Christian ANDERSEN's fairy tales are perhaps the most artistic examples of this literary genre Andrew LANG and James STEPHENS were other notable contributors.

Faisal. see FEISAL.

faith. see CREED.

faith healing, relief or cure of bodily ills without material aid, through some religious attitude on the part of the sufferer Cures are commonplace in religions of the most diverse cultures In the Jewish and Christian traditions prayers for cures and miracles are normal, thus the apostles developed a ritual of healing (James 5 14–16, see also MIRACLE) In the traditional churches healing has centered about the sacraments of the Eucharist and EXTREME UNCTION and around shrines (e g, LOURDES and SAINTE ANNE DE BEAUPRÉ) and RELICS Since 1800 there have appeared a number of groups who cultivated faith healing, e g, that of John Alexander DOWIE, the Emmanuel movement, and the PECULIAR PEOPLE The followers of CHRISTIAN SCIENCE, approaching the problem differently, do not consider their system one of faith healing They count man as like God,

spiritual, therefore not truly subject to material ills Faith healing is of obvious interest to psychiatry, especially in the fields of psychosomatic medicine and PSYCHOTHERAPY

Faithorne, William (fā'thôrn), 1616–91, the elder, English engraver and portrait painter, pupil of Robert Peake His activities during the English civil war caused him to be banished to France, where he studied with Robert Nanteuil He returned to London c 1650 and devoted himself to engraving, portraiture in crayon, and print selling His best engravings are portraits, executed in a brilliant and finished manner—the duchess of Cleveland (after Lely), Lady Paston (after Van Dyck), Oliver Cromwell, Cardinal Richelieu, and John Milton Faithorne engraved also two curious maps of London (Bibliothèque nationale, Paris) and of Virginia and Maryland (British Mus) His son, **William Faithorne,** the younger, 1656–1701?, engraved portraits in mezzotint

Faiyum, Egypt see FAYUM

Faizabad (fī'zŭbăd, fīzăbad'), city (pop c 20,000), capital of Badakhshan prov , NE Afghanistan It is a trading center with a fort built in 1904

Faizabad, India see FYZABAD

fakir (fukēr', fā'kur) [Arabic,=poor], a Moslem monk The term has been extended to include monks in India of all sorts and wandering beggars as well Because of their skill at magical tricks and awe-inspiring feats, fakirs are commonly considered wonder-working magicians In general, the word has come to mean a quasi-ascetic man who lives off charity, by begging, working miracles, or other means The term DERVISH is synonymous with fakir as applied to Moslem monks

Falaise (fălēz'), town (pop. 3,954), Calvados dept , N France, in Normandy It has tanneries and a textile industry At the castle of the first dukes of Normandy WILLIAM I of England (William the Conqueror) was born It was heavily damaged in the NORMANDY CAMPAIGN of 1944, in which Falaise was a key point

Falange (fā'lănj), Spanish political party, founded in 1933 as the Falange Española Tradicionalista by José Antonio Primo de Rivera, son of the former Spanish dictator Professing generally the principles of FASCISM, the Falange distinguishes itself from other fascist groups by its great insistence on national tradition, particularly emphasizing the imperial and Renaissance Christian traditions of Spain The Falange militia aided with the Insurgents in the Spanish civil war of 1936–39 and emerged as the most powerful single party Branches of the Falange were created in Latin American countries In 1942 Francisco Franco dismissed the head of the Falange, Ramón Serrano Suñer, and virtually absorbed it into his one-party government

Falashas (-lă'-) [Ethiopic,=emigrant], group of Abyssinians of Jewish affinity Pagan influences have affected their Judaism See J M Flad, *The Falashas of Abyssinia* (Eng tr , 1869)

falcon (fôl'kŭn, fô'kŭn), name for a number of species of long-winged birds of prey found in all parts of the world Only the female is used in FALCONRY Falcons fly at great speed with rapidly moving wings and do not soar as do hawks They have strong hooked and notched bills They eat birds, small mammals, and insects The Old World peregrine and the gyrfalcon (jûr'-) of arctic regions have been much used in falconry The duck hawk, the American variety of the peregrine, can overtake almost any bird in flight and kill it by striking it to earth or by grasping it with deadly talons Other American falcons are the pigeon hawk, the sparrow hawk, and the prairie falcon The kestrel and the merlin are English falcons

Falcone, Aniello (ănyĕl'lō fälkō'nā), 1600–1665, Italian painter, sometimes called the Oracolo delle Battaglie Two of his battle scenes are in the National Museum, Naples, two others in the Prado, *Fight between Turks and Cavalry* is in the Louvre and *Flight into Egypt* in the Naples cathedral

Falconer, Hugh (hū' fôk'nur), 1808–65, British paleontologist, botanist, and physician to the East India Company in Bengal For many years (1830–42, 1847–55) he remained in India, serving as superintendent of the botanic gardens at Saharanpur and at Calcutta, steadily carrying on his researches which resulted in remarkable discoveries of fossil fauna and flora After his retirement he continued his researches in Europe He edited nine parts of an illustrated work, *Fauna Antiqua Sivalensis* (1846–49) Dr. Charles Murchison edited his *Palaeontological Memoirs and Notes* (1868)

Falconer, William (fôk'nur), 1732–69, English poet, b Scotland The victim of a shipwreck off Greece, he described his ordeal in a long heroic poem, *The Shipwreck* (1762), which enjoyed immediate but transitory popularity The success of his poem brought him an appointment as purser on a royal frigate, but on his first voyage he was lost with the ship off Mozambique

Falconer (fôl'kunŭr, fôk'nŭr), village (pop 3,222), W N Y , near Jamestown, settled 1807, inc 1891

Falconet, Étienne Maurice (ātyĕn' mōrĕs' fälkōnā'), 1716–91, French sculptor, pupil of Lemoyne He was famous under Louis XV, but much of his work was destroyed in the Revolution. His colossal bronze equestrian statue of Peter the Great (Leningrad) and his *Bathing Girl* (Louvre) are well-known surviving works

falconry (fô'kunrē, fôl'-), the sport of hunting birds or small animals with falcons It was known to the ancient Chinese, Persians, and Egyptians. Falconry probably spread from Asia to Eastern Europe and then to Western Europe and became one of the chief sports of royalty and the nobility It attained its greatest popularity in late medieval and early modern Europe, but after the 17th cent falconry declined Subsequent revivals never brought it into the favor it once enjoyed A renewal of interest occurred in the United States and several European countries in the 1930s The hawks used in falconry are taken when young from their nests They are subjected to a rigorous course of training, in which they learn to fly, when released, at the quarry, to leave the prey untouched after killing it, and to sit quietly, when hooded, on the falconer's wrist See W. F Russell, Jr , *Falconry* (1940)

Falerii (fălēr'ēī), ancient city of Etruria, Italy, W of the Tiber It was the capital of the Faliscans, a tribe who fought with the Etruscans against Rome Falerii fell to Rome in 241 B C Modern Civita Castellana is on the site

Falfurrias (fălfûr'ēus), unincorporated town (pop c 2,500), co seat of Brooks co , S Texas, SW of Corpus Christi The dairying, truck-farming, and ranching area also yields oil The city has a recycling plant and a gypsum plant

Falguière, Jean Alexandre Joseph (zhā' alĕksā'dru zhôzĕf' fälgyĕr'), 1831–1900, French sculptor and painter He rose to prominence with his bronze *Winner of the Cock Fight* (Luxembourg Mus , Paris) Among his best works are the spirited *Diana* and the portrait statues of Corneille (Théâtre Français, Paris), Gambetta (Amiens), and Lafayette (Washington, D C) Less successful are his *Triumph of the Republic*, a quadriga designed for the top of the Arc de Triomphe, and his *Progress Overthrowing Error* (Panthéon, Paris) His paintings *The Wrestlers* and *Fan and Dagger* are in the Luxembourg Museum

Faliero or Falier, Marino (märē'nō fälyā'rō, fälĕr'), 1274–1355, doge of Venice (1354–55). As commander of Venetian forces he defeated Louis I of Hungary at Zara (1346) and later held high diplomatic posts Soon after his election as doge, the Venetians were defeated by the Genoese The doge found himself at odds with a group of patricians who had insulted his family Joining some dissatisfied plebeians, Faliero decided to participate in a conspiracy with the aim of assassinating the nobles, overthrowing the oligarchic government, and making Faliero dictator The plot was discovered, Faliero and his accomplices were tried by the Council of Ten and executed (1355) Faliero's life has inspired works by Byron, Swinburne, Delavigne, Delacroix, and Donizetti

Faliscan, Italic language See LANGUAGE (table)

Falkberget, Johan (yōhän' fälk'bĕrgu), 1879–, Norwegian novelist As a youth he worked in the mines, and this early experience of hard toil and poverty left an impress upon all his books *Lisbeth of Jarnfjeld* (1915, Eng tr , 1930), the trilogy *Christianus Sextus* (1927–35), and *Night Bread* (1940) are stories of the mines and the people who live by them

Falkenhayn, Erich von (ā'rĭkh fŭn fäl'kunhīn), 1861–1922, German general He succeeded (1914) the younger Moltke as chief of the German general staff He was successful on the Eastern front during the First World War, but after the disaster at Verdun (1916), he was replaced by Hindenburg Falkenhayn commanded (1916) the invasion of Rumania, and in 1918 he led an army into Lithuania.

Falkirk (fôl'kûrk, fôl'-), burgh (pop 36,566), Stirlingshire, Scotland, ENE of Glasgow and SW of Grangemouth, the port for Falkirk It is near a broad carse (stretch of fertile farm land) in a mining and manufacturing region Its chief products are chemicals and leather goods Famous annual stock fairs (the "trysts of Falkirk") have been held for centuries Carron, a northeastern suburb, is well known for ironworks established c 1760 In the first battle of Falkirk (July 22, 1298), Edward I and the English defeated the Scots led by Sir William Wallace On Jan 17, 1746, Gen Henry Hawley was defeated by Prince Charles Edward and his Highlanders The Wall of Antoninus passed the burgh

Falkland, Lucius Cary, 2d Viscount (fôk'lŭnd), 1610?–1643, English statesman and literary figure A poet in his own right, Falkland was a liberal patron of many of his literary contemporaries. He entered Parliament in 1640, where he opposed the exaction of ship money, spoke in favor of the earl of Strafford's attainder, and objected to the abolition of the episcopacy. He represented the king in attempts to make peace with Parliament and was with Charles at Edgehill and the siege of Gloucester. In despair at having to fight either king or Parliament, he is supposed to have deliberately allowed himself to be killed at the battle of Newbury. His family name also appears as Carey. See biography by J. A R. Marriott (1907), study by Kurt Weber (1940).

Falkland (fô'klŭnd, fôl'-), burgh (pop. 791), Fifeshire, Scotland, at the foot of East Lomond Hill and N of Edinburgh It was formerly the site of a castle of the earls of Fife, in which David, duke of Rothesay, was starved to death in 1402, and is the site of a 15th-century palace of the Stuarts

Falkland Islands (fô'klŭnd), group of islands, S Atlantic, c.300 mi E of the Strait of Magellan Ownership is disputed by Argentina and Great Britain, but the islands are administered as a British crown colony (4,618 sq mi , pop 2,239) with the capital at Stanley (pop 1,252) There are two large islands (East Falkland and West Falkland) and some 200 small islands Dependencies of the colony, scattered down into Antarctica, include SOUTH GEORGIA, the South Orkney Islands, the South Sandwich Islands, the South Shetland Islands, and Graham Land The Falklands themselves are bleak, rocky moorlands, swept by wind and drenched by chill rain The islands yield wool and skins, while from the dependencies come whale and seal oil and guano The British claim to them is based on probable discovery by John DAVIS in 1592 But a colony was first established in 1764 by the French under BOUGAINVILLE at Port Louis (on East Falkland), which was transferred to Spain (1766) and renamed Soledad John BYRON took possession in 1765 for the British at Port Egmont (on West Falkland) A British colony was established (1766), taken by the Spanish (1770), restored (1771), and abandoned (1774) by the British Soledad was also abandoned by the Spanish in 1811, but in 1820 was revived by the United Provs of La Plata (Argentina) Seizure of a U S sealing vessel at Soledad in 1832 led to a U S punitive expedition In 1832-33 the British occupied the islands The Argentine claim has, however, never been dropped, and in 1948 Argentina offered to have the question settled by adjudication In one of the most stirring naval engagements of the First World War, the British under Sir Frederick Sturdee destroyed a German squadron under Graf von SPEE near the Falklands on Dec 8, 1914 The Spanish name for the islands is Islas Malvinas See V F Boyson, *The Falkland Islands* (1924), Julius Goebel, Jr , *The Struggle for the Falkland Islands* (1927)

Falkner, William see FAULKNER WILLIAM

Fall, Albert Bacon, 1861–1944, American cabinet official, b Frankfort, Ky He became a rancher in New Mexico and a political leader in that state After election to the U S Senate in 1912 he served there until President Harding made him Secretary of the Interior in 1921 Fall was one of the chief figures in the scandal concerning oil lands that rocked the Republican administration (see TEAPOT DOME) He resigned in 1923 and was later tried and found guilty (1931) of conspiracy to defraud the government

fall, the, i e , the fall of man, in Christian thought see ORIGINAL SIN and GRACE

Falla, Manuel de (mänwĕl' dā fal'yä), 1876–1946, Spanish composer, pupil of the nationalist composer Felipe Pedrell In 1907 he went to Paris, where he met Debussy, Dukas, and Ravel Notable among his compositions are *La vida breve* (1905), an opera, *Nights in the Gardens of Spain* (1916), for piano and orchestra, the ballets *El Amor Brujo* (1915) and *El sombrero de tres picos* (Madrid, 1917, as *El corregidor y la molinera*, London, 1919, *The Three-cornered Hat*) See J B Trend, *Manuel de Falla and Spanish Music* (1929), Gilbert Chase, *The Music of Spain* (1941)

fallacy, in logic, reasoning which fails to satisfy the principles of valid argument Aristotle pointed out that fallacies may be divided into two classes—those attributable to language, arising primarily from ambiguities of meaning, and those arising from the inconsistencies of thought itself Among the commonly found deductive fallacies are the argument *ad hominem*, the *non sequitur*, the *petitio principii* (begging the question), the *post hoc, ergo propter hoc* (confusion of cause and concidence), and the double question Fallacies of induction arise from errors of perception, judgment, and interpretation

Fallada, Hans (hăns' fa'lädä), pseud of **Rudolf Ditzen** (rōō'dôlf dĭt'sun), 1893–1947, German novelist In 1932, after having written several novels, he produced *Little Man, What Now?* (Eng tr , 1933), a moving story of a young couple in Germany after the First World War, it was an immediate international success This was followed by *The World Outside* (1934; Eng tr , 1934), *Once We Had a Child* (1934, Eng tr , 1936), *An Old Heart Goes a-Journeying* (1936, Eng tr., 1936), and *Wolf among Wolves* (1937, Eng tr , 1938)

fallen arches: see FLAT FOOT

Fallen Timbers, state park, NW Ohio, near Maumee, on the Maumee river just SW of Toledo It is the site of the decisive battle in which Anthony WAYNE defeated (1794) the hostile Indians

Fallières, Armand (ärmä' fälyĕr'), 1841–1931, president of the French republic (1906–13) He was, with few interruptions, a member of various cabinets from 1882 to 1892 and served as president of

the senate. As president of the republic he maintained republican and socialist rule at home and sought the friendship of Russia and England abroad. During his term the separation of Church and state, passed as law in 1905, began to be applied, and the DREYFUS AFFAIR was brought to its conclusion in 1906

falling star: see METEOR

fall line, physiographic feature of almost every drainage basin, the boundary between an upland region and a coastal or tidewater plain It marks the place where rivers drop to the plain in falls or rapids To this point canoes could go without being portaged, and here today all seagoing boats must stop and unload their freight The falls also supply water power for the development of industry, and therefore the fall line is marked in modern lands, e g , the eastern seaboard of the United States, by a band of commercial and industrial cities of an importance rivaling that of the ports Typical fall-line cities of the Atlantic coast are Lowell, Mass , Pawtucket, R I , Troy, N Y , Trenton, N J , Georgetown, now part of Washington, D C , Richmond, Va , Raleigh, N C , Columbia, S C , and Augusta, Ga Louisville, Ky , and Minneapolis are illustrative of those in the Mississippi valley

Fallon (făl'ŭn), city (pop 1,911), co seat of Churchill co , W Nev , ENE of Carson City, inc 1908 The trade center of a ranching area, it is also served by the NEWLANDS PROJECT A Federal wildlife refuge was established here in 1931

Fallopius (fŭlō'pēŭs), Ital *Gabriello* or *Gabriele Fallopio* (gäbrēĕ'lō, gäbrēĕ'lā fäl-lō'pyō), 1523–62, Italian anatomist, pupil and successor of VESALIUS and teacher of FABRICIUS at Padua His important discoveries include the **Fallopian tubes** (fulō'pēun), leading from uterus to ovaries His collected works were published at Venice in 1584

fallow land, in farming, is plowed but not seeded for a season, either to conserve moisture, as in DRY FARMING, or to check weeds and plant diseases ROTATION OF CROPS is often substituted for fallowing in modern agricultural practice While fallowing helps conserve moisture, it is considered wasteful of humus and nitrogen

Fallows, Samuel, 1835–1922, American clergyman, bishop of the Reformed Episcopal Church, b England, grad Univ of Wisconsin, 1859 He served with the Union army in the Civil War and afterwards held Methodist pastorates in Milwaukee Choosing the Reformed Episcopal Church as best fitted to the needs of the West, he became (1875) rector of St Paul's Church, Chicago, and was made bishop in 1876 In 1908, with President Taft's endorsement, he went to the Far East to study sociological conditions See biography by A K Fallows (1927)

Fall River, industrial city (pop 115,428), a co seat of Bristol co , SE Mass , on Mt Hope Bay at the mouth of the Taunton, settled 1656, set off from Freetown 1803, inc as a city 1854 The first cotton mill was built here in 1811, Fall River's excellent harbor, water power, and damp climate contributed to the growth of the textile industry The city suffered with the transfer of much of New England's textile industry to the South and in the general depression after 1929, but recuperated with defense work after 1940 It is a port of entry The Bradford Durfee Textile School was opened in 1904

Falls Church, residential town (1940 pop 2,576, 1945 special census pop 4,341), N Va , near Washington, D C , inc 1875 The Falls Church was built in 1767–69 on the site of an earlier church built in 1734

Falls City, city (pop 6,146), co seat of Richardson co , extreme SE Nebr , near the Kansas line and near the falls of the Nemaha, founded 1857, inc 1858 It is a railway division point and the trade center of an agricultural region

Falls Creek, borough (pop 1,258), Jefferson and Clearfield counties, W Pa , NW of Du Bois It was incorporated in 1900

Falmouth (făl'mŭth), municipal borough (1931 pop 13,492, 1943 estimated pop 15,130), Cornwall, England, on the Fal estuary This port, fishing town, and resort has an excellent harbor, with the entrance guarded by Pendennis Castle on the west and St Mawes Castle on the east (both 16th cent) Fairfax took the town after a five-month siege (1640) in the civil wars The climate here is unusually warm, subtropical plants thrive

Falmouth. 1 City (pop 2,099), co seat of Pendleton co , N Ky , on the Licking and SSE of Covington, in a farm area, settled 1776, town founded 1799 Pleistocene fossils have been found in the area **2** Town (pop 2,883), SW Maine, on Casco Bay N of Portland, inc 1718 The old town of Falmouth included the site of one of Maine's earliest and largest settlements, which suffered greatly in the Indian wars and in 1775, when it was bombarded and nearly destroyed by the British The nucleus of the settlement was in 1786 set off as the town of PORTLAND **3** Town (pop 6,878), SE Mass , on SW Cape Cod, settled 1660, inc 1686 Falmouth includes WOODS HOLE and other villages. A Friends' meetinghouse was built in 1720. Falmouth village green was laid out in 1749. See study by M. C. Faught (1945).

False Decretals (dĭkrē'tŭls), collection of partly spurious documents treating of CANON LAW It was published between 847 and 852 probably in France, either at Rheims or in the province of Tours (specifically at Le Mans), and composed by a man who called himself Isidore Mercator (hence the term Pseudo-Isidorian Decretals), the date is based on external, the place chiefly on internal, evidence 'It was made to support bishops in their perennial struggle against secular interference by giving ancient legal sanction to episcopal demands for freedom from secular courts and spoliation on bare accusation It gave sanction instead to the direct dependence of bishops on the Holy See without mediation of metropolitans and archbishops The effect of the False Decretals was great in the Middle Ages, especially in application to individual cases in France They were accepted by the Holy See in support of its age-long claims, but to no such extent as was formerly said By incorporation and quotation in GRATIAN the False Decretals received a definite authority in textbooks of canon law in the Middle Ages The collection must be considered as a whole in the treatment of their effect in history and law The False Decretals have gained their chief fame because they were one of the great forgeries of history They were cunningly put together with the ostensible purpose of giving the basis for a canon-law reform The pseudonymous author gives in his collection 60 letters or decrees of popes from Clement I to Melchiades (d 314), of which 58 are forged an original essay on the early Church and the Council of Nicæa, with canons of 54 councils, of which all canons but one are authentic or were accepted as authentic long before the author's time, a collection of papal letters from the 4th to 8th cent , of which the majority are authentic The forgeries are supported by liberal interlarding with quotations from authentic letters and by attribution to popes whose letters were known to be lost Much of the author's work might be called false attribution or plagiarism rather than forgery, but his intent was palpably fraudulent The exposure of the False Decretals was begun by Cardinal Nicholas of Cusa and Juan de Torquemada in the 15th cent and continued by Protestant and Catholic critics The interpretation of the collection according to proper historical methods was not really begun until the 19th cent

false imprisonment, complete restraint upon a person's liberty of movement against his will and without legal justification Actual physical contact is not necessary, a show of authority or a threat of force is sufficient The person falsely imprisoned may sue the offender for money damages The action lies against officials improperly issuing warrants for arrest and against private persons for any total illegal restraint of liberty Release from such illegal restraint may be had through a HABEAS CORPUS proceeding See KIDNAPING

false pretenses, crime of obtaining property by willful misrepresentation. The offense, of statutory origin, was created to cure the inadequacies of the common law of cheats Cheats were misrepresentations intended to deceive a number of persons, e g , the use of false weights, any misrepresentation which affected only one individual was not actionable The crime of false pretenses is committed when a deliberately false statement induces the victim to deliver money or other property to the person committing the fraud It is no defense that the victim was unduly gullible

false Solomon's-seal see SOLOMON'S-SEAL

falsetto (fôlsĕt'tō) [Ital , =diminutive of *falso*], high-pitched, unnatural tones above the normal register of the male voice, produced, according to some theories, by the vibration of only the edges of the larynx The male altos of certain church choirs are tenors skilled in the use of falsetto Falsetto tone is usually thin and expressionless, but certain singers have occasionally used it with good effect

Falstaff (fôl'stăf), name of a famous jovial character, presented as the friend and companion of Prince Hal (later Henry V) in Shakspere's play *Henry IV* Shakspere's original name for his rakish character was Sir John Oldcastle, taken from his anonymous source, *The Famous Victories of Henry the Fifth*, but the historical John OLDCASTLE, who had been an intimate of Henry V, had died a Lollard martyr, and in deference to his contemporary descendants, Shakspere changed the name to Falstaff between the production of the play and its publication in quarto (1598) Falstaff is a transliteration of Fastolf, though it is doubtful that Shakspere had the historical Sir John Fastolf, an English soldier, in mind as a model, some similarities between the two may, however, have suggested the name Falstaff is also the leading character in Shakspere's *Merry Wives of Windsor* He has been made the central figure of several operas, notably that of Verdi, with libretto by Boito (1893). See J D. Wilson, *The Fortunes of Falstaff* (1943)

Falster (fäl'stŭr), island (198 sq mi , pop 45,665), Denmark, in the Baltic Sea, separated from S Zealand by a strait from 3 to 15 mi. wide Its southern tip, Gedser Odde, is the southernmost point of Denmark The soil is very fertile Nykobing is the chief city

Falun (fa'lün"), town (pop 15,439), central Sweden, co. seat and industrial center of KOPPARBERG co Its chief importance is as the headquarters of the oldest Swedish industrial company, organized in the 12th cent to operate the copper mine of Falun (now exhausted) The company gained great power, played an important role in Swedish history, and now holds wide interests in the Swedish iron, steel, lumber, and paper industries At Falun it has established an industrial museum and a mining school Swedenborg was born near Falun

Famagusta (fămŭgōō'stă), Gr *Ammochostos* (ămō'-khŏstŏs), city (pop 16,194), on E Cyprus, the chief port of the island It occupies the site of ancient Arsinoë, built (3d cent B C) by Ptolemy II Famagusta was (15th–16th cent) the seat of the Venetian governors of Cyprus, and it is thought to be the scene of the main action in Shakspere's *Othello* A British naval base, the city was bombed in the Second World War There are ruins of the medieval fortifications, including the so-called Tower of Othello, the 13th-century Gothic Cathedral of St Nicholas, and the Venetian governors' palace From 1945 to 1948 Jewish "illegal" immigrants to Palestine were interned by British authorities in a camp near the city Almost a third of the population of Famagusta is Turkish

familiar, a spirit or demon attending on a magician or wizard to give him information or assistance in his sorceries The belief in familiars was prevalent among Persians and Hindus and in the East generally, it colored medieval European thought

Familists (fă'mĭlĭsts), religious community founded in Friesland in the 16th cent by Hendrik Niclaes (c 1502–1580?) It was extended to England, where it existed until after the middle of the 17th cent Niclaes, a merchant of Munster and originally a Roman Catholic, claimed to have been chosen prophet and prepared by special outpouring of the "spirit of the true love of Jesus Christ " His purpose and aim was to promote unquestioning sympathy and love without regard to doctrine Making Emden his headquarters, he spread his beliefs, traveling much, particularly in Flanders and England At Emden was first established the Family of Love, many of whose members remained in the Roman communion, since no specific form of worship was prescribed In 1560 he had to leave Emden, and he escaped to England There the movement gained adherents but its emotionalism was frowned upon by the orthodox There was some government procedure against them under Elizabeth and James In the 17th cent the sect became extinct

family, social group consisting of parents and their children To this group of genetically related persons others may be added, as slaves, servants, and the wives or husbands of sons or daughters and their children Thus arises the extended family or lineage, also called the 'large" or "joint" family, an important economic as well as biological unit This family, with either a matriarchal or a patriarchal head, is characteristic of societies organized on a clan and tribal basis The smaller family of one male and one female, who care for their immature offspring, is in Western civilization the commonest form of family and the fundamental economic and social unit The birth of a child, coupled with the long weaning period (often three or four years in simple food-gathering economies, where suitable food for infants is hard to find), tends to cement the union of the parents and make it permanent The care that the child receives under such circumstances reduces the mortality rate and makes for race survival The type of family and MARRIAGE in time obtains the sanction of custom and religion In advanced agricultural-pastoral economies the patriarchal family, often polygynous, seems to be the dominant form, it is found in Arabia, China, and Africa and among the ancient Hebrews The Bible contains illuminating records of patriarchal families Typical of this family was the Roman familia, which was made up of all those subject to the same paterfamilias The familia might include, besides the wife and sons and daughters (adopted as well as direct), the daughters-in-law and the grandchildren by the sons, the paterfamilias had practically absolute control over both the persons and the property of the family This family was largely a self-sufficient household of producers and consumers The Roman law, which gave such extraordinary power to the paternal head of the family, was copied in many of its details in both the canon and secular law of Western Europe and was little modified until the 19th cent , when the Western nations began to grant to women equal rights with men with respect to the ownership of property, the control of children, divorce, and the like The state also intervened to modify the authority of parents over their children The effect has been to loosen the traditional ties that were strong in the old patriarchal family Another factor affecting the modern European-American family was the Industrial Revolution, which removed from the home many economic tasks, such as baking, spinning, and weaving, that once made for family cooperation In industrial communities the wife and mother is often employed outside the

home, leaving the children to be cared for by others Sociologists and psychologists find in these changed relations of the members of the family to each other and of the family to the community at large the germ of maladjustments that need to be resolved and are thought to have a bearing on many problems connected with family income, education, divorce, mental hygiene, and juvenile delinquency. See Margaret Mead, *Coming of Age in Samoa* (1928), J K Folsom, *The Family Its Sociology and Social Psychiatry* (1934) and *The Family and Democratic Society* (1943), Willystine Goodsell, *History of Marriage and the Family* (rev ed, 1934), Ralph Linton, *The Study of Man* (1936), B J Stern, ed, *The Family, Past and Present* (1938), M C Elmer, *Sociology of the Family* (1945)

Family Compact, name given to several alliances between France and Spain in the form of agreements between the French and Spanish branches of the Bourbon family The first of the three "compacts," the Treaty of the Escorial (1733), was continued and extended by the second agreement (1743) The third, and most important, of the treaties was that of 1761 Both England and France sought Spanish support in the SEVEN YEARS WAR, but England's attack on Spanish colonies and shipping alienated Charles III of Spain, and the king rejected the English offer in favor of the proposal made by the French minister Choiseul The pact, which dealt with political and commercial relations and with the entry of Spain into the war, also included the Bourbon ruler of the Two Sicilies and the Infante Philip, duke of Parma Spain entered the war (1762) but was of small use to France, the economic and political provisions of the pact proved more enduring

Family Compact, term popularly applied to a small, powerful group of men who dominated the government of Upper Canada from the closing years of the 18th cent to the beginnings of responsible government under the Baldwin-LaFontaine Reform ministry (1848–51) The group, some of whose members were of the same family and most of whom were men of wealth, controlled the legislative and executive councils, had a virtual monopoly of political office, and strongly influenced banking, education, the issuing of land grants, the affairs of the Anglican church in Canada, and the courts New settlers from Great Britain and the United States, finding themselves denied political opportunity, were drawn into an opposition movement, which in time became the Reform party Religious differences embittered the struggle, since the Family Compact (the term first appeared c 1828) was composed almost entirely of members of the Church of England The Chateau Clique was the name given to a similar powerful group in French Lower Canada See W S Wallace, *The Family Compact* (1915)

fan, device for agitating air or gases or moving them from one location to another Mechanical fans with revolving blades are used for ventilation, in manufacturing, in winnowing grain, to remove dust, cuttings, or other waste, or to provide draft for a fire Fans are driven by belts or by direct motor and include the screw or propeller type and the centrifugal or impeller type with blades set in a wheel within which centrifugal force sets up a partial vacuum and causes air to come in at a side opening in the casing As a light, flat instrument manipulated by hand to cool the body, the fan is of primitive origin and wide distribution and probably stems from the use of palm or other leaves China claims the invention of an early form, a row of feathers mounted in the enlarged end of a handle The fan reached a high point of artistic development, becoming an attribute of civil and religious ceremonial The long-handled fan carried by attendants was a badge of rank of Eastern potentates In India the punkah was suspended from the ceiling and agitated by slaves The screen of light material stretched on a rigid frame is the most universal type, few of its variants—such as the cockade of China, the tablet of Rome, or the flag of the East—have been perpetuated The folding fan made up of thin slats held together at one end by a pivot and covered with creased paper or fabric, was developed in Japan A D c 670 and was introduced into Europe by way of China c 1600 Carving, inlay, and piercing on slats of ivory, mother-of-pearl, wood, and tortoise shell became increasingly elaborate both in Europe and the Orient The form reached a high degree of delicacy, especially in France, in the 17th and 18th cent Mounts of silk, lace, paper, and parchment were decorated with designs by such artists as Charles Le Brun, Watteau, and François Boucher The management of the fan became a highly regarded feminine art The function and employment of the fan reached its high point of social significance in Japan

Fanar and **Fanariot** see PHANAR and PHANARIOT

fandango (fănděng'gō), ancient Spanish dance, probably of Moorish origin, which came into Europe in the 17th cent It is in triple time and is danced by a single couple to the accompaniment of castanets, guitar, and songs sung by the dancers At the end of certain measures, the music halts abruptly, and the dancers remain rigid until it is resumed

Faneuil Hall (făn'l, făn'yul), public market and hall given to Boston by the merchant Peter Faneuil in 1742 The building burned in 1761 but was rebuilt The scene of Revolutionary meetings, it became known as "the cradle of liberty" Bulfinch enlarged the hall in 1806 The building is still in use as market, meeting hall, and museum

Fannin, James Walker (fă'nĭn), 1804?–1836, hero in the Texas Revolution, b Georgia, Having been adopted by his maternal grandfather, he attended West Point (1819–21) under the name of James F Walker but did not graduate In 1834 he settled in Texas and became a slaveowner, possibly also a slave trader An influential agitator in the preliminaries of the revolution, he distinguished himself in the first victories of 1835 He eagerly advocated an expedition into Mexican territory, but the idea met with much opposition, particularly that of Gen Sam Houston With Houston occupied elsewhere and the governor removed, Fannin was left without orders or support His force never got beyond Goliad, and in the delays there he realized the precariousness of his position in the face of the rapid Mexican advance He retreated, but too late to prevent the capture of his small force after a hopeless battle The day after the surrender most of Fannin's men, including Fannin himself, were shot at the order of Santa Anna

Fanning, David, c 1755–1825, American Loyalist in the American Revolution, b Amelia co, Va He led raids on the patriots in the Carolinas and wrote an account of his adventures in *The Narrative of Colonel David Fanning*, first published in 1861 He later was a member of the provincial assembly of New Brunswick, Canada

Fanning, Edmund, 1739–1818, American Loyalist in the American Revolution, b Suffolk co, Long Island, N Y, grad Yale, 1757 He moved to North Carolina, practiced law, held minor political posts, and supported his father-in-law, the royal governor, William TRYON Fanning was the special object of detestation for the rebels of the REGULATOR MOVEMENT He went as Tryon's secretary to New York, where he held offices In 1775 he raised a Loyalist regiment which fought in partisan actions about New York and was notorious for ruthless cruelty After the Revolution he was lieutenant governor of Nova Scotia (1783–86) and governor of Prince Edward Island (1786–1804) Made a general, he spent his last years in England

Fanning, Edmund, 1769–1841, American trader, explorer, and promoter of trade and exploration in the South Seas, b Stonington, Conn At 14 he went to sea In command of a trading vessel, he realized a large profit from an expedition (1797–98) in the course of which he traded a cargo of trinkets for seal skins in the islands off the coast of Chile and exchanged them for valuable Chinese goods at Canton, returning around the Cape of Good Hope On this voyage he discovered (1783) Fanning Island, Washington Island, and other islands Convinced of the profits to be made from trade in the South Seas, he became the agent for a group of New York city merchants, for whom he supervised over 70 expeditions, in some of which he participated His *Voyages around the World* (1833), which shed light on some of the then-little-known parts of the globe, passed through several editions

Fanning Island, atoll, 15 sq mi, central Pacific, one of the Line Islands It is NW of Christmas Island and was discovered by Edmund Fanning in 1798 In 1916 it was added to the British colony of Gilbert and Ellice Islands It has a cable relay station connecting Canada and Suva, Fiji

Fano (fä'nō), city (pop 13,348), the Marches, central Italy, a resort on the Adriatic It was important in Roman times and flourished (1304–1463) in the Middle Ages under the Malatesta of Rimini An arch of Augustus, a town hall, and the Malatesta palace are the main landmarks A printing press, the first to use Arabic type in Italy, was set up here in 1514

Fanshawe, Sir Richard, 1608–66, English diplomat and man of letters He was secretary to the ambassador to Spain (1635–38) and chargé d'affaires there (1638) In the civil war he served Charles II in England, Ireland, and on the Continent until his own capture at Worcester (1651) In the retirement allowed by his captors, Fanshawe made the best known of his many translations—*The Lusiad* (1655), an English version in ottava rima of Camoens's masterpiece After the Restoration he was ambassador to Portugal (1661, 1662–63), privy councilor, and ambassador to Spain (1664–66) See memoirs of Lady Fanshawe with some of his letters (ed by H C Fanshawe, 1907) and his translation of *The Lusiad* (ed by J D M Ford, 1940)

fantasia (fäntä'zyu, –shŭ, făntăzē'u) [Ital, =fancy], musical composition not restricted to a formal design, but constructed freely in the manner of an improvisation In the 16th and 17th cent, however, the term designated a contrapuntal piece employing imitation and thus was one of the forerunners of the fugue The term is also used for medleys of popular airs.

Fantin-Latour, Ignace Henri Jean Théodore (ăgnäs' ărē' zhă' tōdōr' fătăn-latōōr'), 1836–1904, French painter and lithographer, best known for his portrait groups of famous contemporaries Notable examples are *An Atelier at Batignolles* (Luxembourg Mus, Paris), *Hommage à Delacroix* (Louvre), and *Around the Piano* A portrait of Manet is in the Art Institute of Chicago and *Portrait of a Lady* and *Palace of Aurora* are in the Metropolitan Museum Fine collections of his lithographs are in the British Museum and the Louvre Fantin-Latour illustrated Adolphe Jullien's *Wagner* and *Berlioz* with allegorical drawings See study by Adolphe Jullien (1909, in French)

fan vault, type of masonry vaulting developed in England in the late Gothic or Perpendicular style From the late 14th to the middle of the 16th cent this fan form, with many radiating members, was evolved by adding subordinate ribs to the main diagonal ones in constructing groined vaults, a custom begun early in the 13th cent After the introduction of a continuous rib along the ridge of the VAULT, the next addition was that of intermediate ribs, rising from the vault spring and meeting at the ridge Thus the vault surfaces of each bay, called tiercerons, were transformed into a number of smaller areas which could be more easily laid up and supported The next addition was that of the liernes, small ribs inserted between the major ribs, creating starlike patterns in plan The plain surfaces of vault masonry were now so numerous and small that the natural sequence was to make a decorative composition of the entire vault, with the rib and its adjoining areas worked from the same stone Thus, instead of having separate elements, web and rib, the vault became a concave conoid, from the center point of which a rich network of tracery spread, suggesting an open fan The earliest example (14th cent) is in the cloisters of the cathedral at Gloucester Others are in the retrochoir of Peterborough (late 15th cent), St George's Chapel, Windsor (c 1500), and the chapel of King's College, Cambridge (early 16th cent) That in the chapel of Henry VII, at Westminster Abbey, is unexcelled both for the great skill of its construction and for its intricate beauty See Clarence Ward, *Medieval Church Vaulting* (1915)

Fanwood, borough (pop 2,310), NE N J, SW of Newark, settled before 1780, inc 1895

Farabee, William Curtis (fă'rubē), 1865–1925, American anthropologist, b Washington, Pa, grad Waynesburg College, 1894, Ph D Harvard, 1903 He led the scientific expedition of the Peabody Museum in a study of E Peru (1906–9) and an expedition of the Univ of Pennsylvania in a study of the tribes of the Amazon basin (1913–16) On the second expedition he mapped hitherto uncharted country in N Brazil and the Guianas, discovered three previously unheard-of Indian tribes, and made the finest collection of Amazonian material in existence From 1903 to 1913 he taught anthropology at Harvard and from 1913 was curator of the museum of the Univ of Pennsylvania He was ethnographer for the American delegation to the Paris Peace Conference His writings include *The Central Arawaks* (1918), *The Indian Tribes of Eastern Peru* (1922), and *The Central Caribs* (1924)

Faraday, Michael (fă'rudē, –dā'), 1791–1867, English scientist Apprenticed to a bookbinder at the age of 13, he had little formal education, but acquired a store of scientific knowledge through reading and by attending some lectures by Sir Humphry Davy In 1812 he became assistant to Davy at the Royal Institution in London He was made a member of the institution in 1823 and a fellow of the Royal Society in 1824 In 1825 he became director of the laboratory, and from 1833 he was Fullerian professor of chemistry at the Royal Institution He declined knighthood and the presidency of the Royal Society His experiments yielded some of the most significant principles and inventions in scientific history. He developed the first dynamo (in the form of a copper disk rotated between the poles of a permanent magnet), the precursor of modern dynamos and generators From his discovery of electromagnetic induction stemmed a vast development of electrical machinery for industry In addition to other contributions he formulated laws of electrolysis Some of his works were collected as *Experimental Researches in Electricity* (3 vols, 1839–55) and *Experimental Researches in Chemistry and Physics* (1859) See his diary (ed by Thomas Martin, 7 vols, 1932–36), biographies by Thomas Martin (1934) and P E Andrews (1937)

Farah (fără'), town (pop c.6,000), W Afghanistan, S of Herat Farah is on the Herat-Kandahar trade route and on the Farah river It was rebuilt after destruction by Nadir Shah in 1837

Farallon Islands (fă'rulŏn), group of small, rocky islands in the Pacific c 26 mi W of San Francisco, Calif, of which they are a part A bird sanctuary, the islands are also the site of a lighthouse and a U S navy radio beam compass station

Farasan Islands (fărusän') or **Farsan Islands** (fărsän'), small archipelago, in the Red Sea, part of Saudi Arabia. There is oil drilling.

farce [Latin,=stuffing], light, comic theatrical piece It is a form of comedy in which the characters and the events are greatly exaggerated to produce a broad, simple humor Examples of farce are the Latin comedies of Plautus and Terence, but the term is derived from the *farces* of medieval France In England two of the earliest and best-known farces are *Ralph Roister Doister* (pub 1566) and Shakspere's *Comedy of Errors* (c 1593) Broad humor and absurd situations can be found in many other comedies, among them the farces of Molière in the 17th cent, those of Henry Fielding in the 18th cent, and the operettas of William Schwenck Gilbert and Arthur Sullivan in the late 19th cent In more recent times farce is used in the slapstick comedies of the American moving pictures See also BURLESQUE

farcy see GLANDERS

Far East, in the most restricted sense, term applied to China, Korea, Indo-China, Siam, Malaya, Japan, and the Far Eastern Area of the RSFSR In a more extended sense it also includes the Philippine Islands, Indonesia, Burma, Pakistan, India, Ceylon, and Afghanistan

Far Eastern Territory, former administrative division, RSFSR, in E and NE Siberia, a vast area comprising the KHABAROVSK TERRITORY and the MARITIME TERRITORY, into which it was divided in 1938 Khabarovsk was the capital, Vladivostok was the chief port Russian colonization of the northern part of the region began in the 17th cent The Amur district, between N Manchuria and the Sea of Okhotsk was ceded by China to Russia in 1858, the district between the Amur and Ussuri rivers and the Sea of Japan was ceded by China in 1860 During the civil war which followed the Russian Revolution of 1917, much of the area was occupied by the Japanese in connection with the Allied intervention In 1920 the local Bolsheviks organized the Far Eastern Republic, with Chita as capital, but the Japanese continued to hold the coast, including Vladivostok, where they set up a "White" Russian government The Japanese withdrew in 1922, and the republic became an oblast (from 1926 to 1938 a territory) of the RSFSR

Farel, Guillaume (gēyōm' färĕl'), 1489–1565, French religious reformer In 1520 Farel joined Jacques Lefèvre (FABER STAPULENSIS) at Meaux to aid in church reform and to establish an evangelical school for students and preachers Soon his iconoclastic ideas made him suspect, and he left for Switzerland, where most of his work was done His fearless and eloquent evangelism aroused both support and opposition He received permission to spread the reform doctrine throughout the canton of Bern The opposition of the bishop forced him to leave Geneva in 1532, but he returned in 1533 to lead a public disputation in favor of the Reformation The people declared in favor of Farel and his colleagues, and in 1535 the town council formally proclaimed the adoption of the Reformation Farel entreated John Calvin to assist in the organization of the new Protestant republic The two men drew up a statement of doctrine and immediately instituted widespread reform of church practices These measures were too sudden and too strict to be generally accepted, and Calvin and Farel were forced to leave Geneva in 1538 Farel went to Basel and then to Neuchâtel, where he worked unceasingly for the return of Calvin to Geneva, which he achieved in 1541 Farel went to Metz in 1542 and returned to Neuchâtel in 1544 Throughout his life he remained a confidant and consultant of Calvin

Farewell, Cape, most southerly point of Greenland, on Egger Island, at lat 59° 46' N Egger Island and the surrounding islands are called the Cape Farewell Archipelago

Farewell, Cape, most northerly point of South Island, New Zealand

Fargo, William George, 1818–81, American pioneer expressman, b Pompey, N Y He had been successively a postrider, freight agent, messenger, and resident agent (1843) for an express company in Buffalo, N Y, when in 1844, with Henry Wells and another partner, he organized Wells & Company, the first express company operating W from Buffalo The following year the firm became Livingston and Fargo, and in 1850 it merged with others to form the American Express Company, with Fargo as secretary By 1852 he and Wells had organized Wells, Fargo & Company to handle the express service between New York and San Francisco for which the gold rush had created a need, and they established stage and banking businesses on the Pacific coast, American Express Company serving as eastern representative In 1873 the two companies merged as the American Express Company In 1868 Fargo had become president of the American Express Company, making his home in Buffalo, where he served (1862–66) as mayor See N C Wilson, *Treasure Express Epic Days of the Wells Fargo* (1936)

Fargo [for W G Fargo], city (pop 32,580), co seat of Cass co, E N Dak, largest city in the state, on the Red River, settled 1871 with the coming of the railroad, inc. 1875 A railroad center and river port, it grew as the chief distributing point in the region, handling farm machinery and foodstuffs and processing the area's agricultural products NORTH DAKOTA AGRICULTURAL COLLEGE, Concordia Conservatory of Music, a veterans' hospital, and a school for crippled children are here

Faribault (fā'rĭbō), city (pop 14,527), co seat of Rice co, SE Minn, S of Minneapolis on bluffs of the Cannon and Straight rivers, in a rich farm region Alexander Faribault, French fur trader, built a post here in 1826, the village was platted in 1854 The city's importance as a center of Episcopalianism began with the missionary work here of James Lloyd BRECK and Bishop Henry B WHIPPLE Faribault has two military academies and a school for girls, it is the seat of state schools for the deaf and the blind and of one for the feeble-minded, known for its early study of FEEBLE-MINDEDNESS. Buckham Memorial Library contains historical collections

Faridun see FERID ED-DIN ATTAR

Farina, Salvatore (sälvätō'rā färē'nä), 1846–1918, Italian novelist His novels of middle-class life, sentimental but humorous, include *Il signor Io* [Mr I] (1880), *Mio figlio!* [my son] (in *Nuova antologia*, 1877 81), *Amore ha cent' occhi* [love has a hundred eyes] (1883), and *Amore bugiardo* [lying love] (1893) His memoirs appeared in three volumes (1910–15)

farina [Latin,=meal], in general, fine flour or powder made from vegetable growths rich in starch Its source may be cereal grains, such as rice and wheat, seeds, such as beans, or tubers, e g, the potato In England potato starch is called farina, in the United States, cereal breakfast foods are so named, such as the fine meal from winter wheat and that specially prepared from white corn The food value, in the case of cereals, depends largely on the part of the grain used in the manufacture

Farinato or **Farinati, Paolo** (pou'lō fərēnä'tō, -nä'tē), c 1525–1606, Italian painter, draughtsman, and etcher, of the Veronese school His worked chiefly in the churches and palaces of Verona Among his best works are *St Michael* (Santa Maria in Organo, Verona), the frescoes in San Nazaro e Celso, Verona, *Miracle of the Loaves and Fishes* (Verona), *St Martin* (cathedral, Mantua), and *Abraham and Hagar* (N Y Historical Society) Farinato's etchings, though few, are of high merit, and his drawings are in leading European collections

Farinelli, Carlo Broschi (kärlō brō'skē fərēnĕl'lē), 1705–82, Italian male soprano, whose real name was Carlo Broschi, pupil of Niccolò Porpora, in whose operas he sang in London (1734) Having been lauded in France and Italy, he became, in 1737, official singer to Philip V of Spain and renounced his public career He enjoyed a highly favored position at the Spanish court until 1759, when he retired to an estate in Bologna He was the greatest of the *castrati* and is regarded as one of the most remarkable singers of all time

Farington, Joseph, 1747–1821, British landscape painter and diarist His diaries, first published in 1922, are rich in gossip of the personalities and conditions of his period

Farley, James Aloysius, 1888–, American political leader, U S Postmaster General (1933–36, 1937–40), b Rockland co, N Y He rose steadily in Democratic party politics in New York state and became (1930) chairman of the New York state Democratic committee In 1932 he successfully pushed the presidential nomination of Franklin D ROOSEVELT Made chairman of the Democratic National Committee, Farley managed (1932) the presidential campaign with equal success He became U S Postmaster General and resigned this post to direct Roosevelt's 1936 presidential campaign—which resulted in another overwhelming Democratic victory He was reappointed (1937) Postmaster General but, opposed to Roosevelt's third-term candidacy and himself an unsuccessful Democratic presidential aspirant in 1940, Farley resigned (1940) his cabinet post and his national party chairmanship He remained powerful in New York state politics until 1944—when he resigned as chairman of the state Democratic committee Farley's two autobiographical works are *Behind the Ballots* (1938) and *Jim Farley's Story* (1948)

Farley, John Murphy, 1842–1918, American Roman Catholic churchman, archbishop of New York (1902–18), cardinal of the Roman Church, b Co Armagh, Ireland He came to America in 1864 He was educated at St John's College (now Fordham Univ) and in Rome, he was ordained (1870) and became parish priest on Staten Island He was (1872–84) secretary to Archbishop MCCLOSKEY and from 1891 was vicar general of the archdiocese of New York He was made archbishop in 1902 and cardinal in 1911 Cardinal Farley's greatest work was in unifying and stabilizing his diocese, which on his accession he found badly split by disagreements

Farlow, William Gilson, 1844–1919, American botanist, b Boston, grad Harvard, 1866 His chief contributions were made in the study of cryptogamic and parasitic plants. In his Harvard laboratory many eminent botanists received their training

Farman, Henri (ärē' färmä'), 1874–, French aviator and inventor A bicycle racer and then a racing motorist, he later pioneered in aviation and finally manufactured airplanes With his brother, Maurice, he perfected the Farman biplane In 1909 he established a world record for flight duration and altitude He became a chevalier of the Legion of Honor in 1909

Farm Credit Administration (FCA), an agency of the U S Dept of Agriculture that supervises a nationwide system of agricultural-credit units Farmers need long-term mortgage loans to help them acquire property and to refinance existing debts, short-term loans to finance the production and marketing of crops and livestock Agricultural cooperatives also need credit to supplement their operating capital Farmers have traditionally favored liberal credit facilities and low interest rates They have complained that private institutions have not made funds available as cheaply and conveniently as possible, and agrarians long strove (especially in periods of economic stress, such as the 1870s and 1890s) for "easy money" policies They asked for a banking system adapted to the peculiar needs of agriculture, and in answer to this demand the Federal Farm Loan Act of 1916 set up a system for mortgage credit 12 regional farm land banks were set up, with most of the original capital supplied by the government Their function was to act as credit wholesalers, raising funds in the investment markets through the sale of their bonds and loaning the money to farmers at interest rates only slightly higher than those paid by the land banks for their borrowings It was intended that the farmer-borrowers should ultimately own the banks In 1923 further federal aid was extended to farmers by establishment of 12 intermediate credit banks (one in the district of each land bank), with capital subscribed by the government These banks make loans for periods of six months to three years to agricultural cooperatives The loans are secured by warehouse receipts for crops or by liens of livestock Six years later, the whole structure of the land banks was severely hit by the great depression of 1929, with falling prices of farm products, increased debt delinquencies, and decline in the value of farms To bolster the land banks, the Hoover administration in 1932 took action The government invested $125,000,000 in the land banks and thus again became the majority stockholder The Reconstruction Finance Corporation made some of its funds available to farm enterprise Further measures were taken by the Roosevelt administration All then existing Federal agricultural-credit organizations were unified into one agency, the Farm Credit Administration Congress authorized that agency to extend the system of farm-mortgage credit Funds were made available for first- or second-mortgage loans—the so-called land bank commissioners loans—to debtors whose collateral was so low in value or so encumbered by debt as to make refinancing by the land banks unfeasible These "rescue" loans were made on easier terms than the regular advances In 1933 the FCA was also authorized to establish 12 production credit corporations, which finance short-term credit associations, and banks for cooperatives, which finance farmers' cooperative marketing These steps have resulted in a centralized source of major types of farm credit In addition to this more permanent work, the FCA makes emergency crop and feed loans to farmers who cannot obtain funds from other sources The FCA's work is supplemented by important types of farm credit advanced by the Commodity Credit Corporation and the FARM SECURITY ADMINISTRATION, which are agencies of the Dept of Agriculture Since 1939 the FCA, previously an independent agency, has also been responsible to the Dept of Agriculture Though it was originally expected that the farm-credit system would be cooperatively owned, unsubsidized, and operated in accordance with private banking criteria, there has been marked departure from these goals Operations of the FCA have been widespread and at least moderately effective In 1940 it held 40 percent of all outstanding farm mortgages, as against 12 percent held by the land banks in 1928 See annual reports of the Administration

Farmer, Fannie Merritt, 1857–1915, authority on American cookery, b Boston Ill-health interfered with her plans for a college education, and she turned to cooking, at home and at the Boston Cooking School, where she graduated in 1889 She was assistant director and director of the school until 1902, when she opened Miss Farmer's School of Cookery, pledged to train housewives and nurses, rather than teachers, in cookery One of her contributions was accurate measurement in recipe building For 10 years she contributed a page on cookery for the *Woman's Home Companion* She edited *The Boston Cooking School Cook Book* (1896), a standard text on the subject, many times reissued and translated

Farmer, Moses Gerrish, 1820–93, American inventor, b Boscawen, N H He studied at Dartmouth and later taught school He helped build and maintain some of the pioneer telegraph lines of Massachusetts and also experimented in multiple telegra-

phy He exhibited (1847) an electric train which carried children, invented a process for electroplating aluminum, and in 1851 installed in Boston the first electric fire-alarm service in any city His later years were spent chiefly in developing the incandescent electric light Twenty years before Edison's success he produced (1858–59) electric lamps, and in 1868, with a dynamo of his own invention, he lighted a house in Cambridge, Mass, but he was never able to perfect a marketable light His wife, **Hannah Shapleigh Farmer**, 1823–91, aided him with his inventions Interested in many charities, she also wrote on them

Farmer City, city (pop 1,833), central Ill , SE of Bloomington in a farm area, inc 1869

Farmer-Labor party, in U S history, political organization formed in 1920 by some former members of the older PROGRESSIVE PARTY together with representatives of farmers and labor leaders, chiefly of the Middle West Their socialistic program favored government ownership of public utilities, establishment of government banks, farm-relief measures, and progressive labor legislation The party's presidential candidate in 1920, P P Christensen of Utah, gained less than 300,000 votes, but the party continued strong in the Old Northwest, particularly in Minnesota, and elected Henrik Shipstead, Magnus Johnson, and Ernest Lundeen to the U S Senate and Floyd B Olson to the governorship It also won many local elections in the Dakotas In 1924 the national party dissolved to join other liberals in the unsuccessful attempt to elect Robert M La Follette as President It was reconstituted later and remained strong for some years but gradually lost strength after Franklin D Roosevelt became President and his New Deal incorporated in modified form some of the reforms advocated by the Farmer-Laborites

Farmersburg, town (pop 1,005), SW Ind , S of Terre Haute, settled 1854, inc 1871 It is a farm trading center

Farmersville, city (pop 2,206), N Texas, NE of Dallas, on the rich blackland prairie

Farmerville, town (pop 1,428), parish seat of Union parish, N La , on a branch of the Ouachita and NW of Monroe It is the parish trade center.

farming: see AGRICULTURE

farming, in taxation, the collection of TAXES through private contractors Usually, the tax farmer pays a lump sum to the public treasury; the difference between that sum and the sum actually collected represents his profit or loss In republican Rome, the collection of direct taxes was farmed out to publicans; in the Roman Empire only indirect taxes were farmed Tax farming has been practiced in most countries of Europe and Asia at various times and has survived in some forms, e g , in the method of collecting revenues from state-licensed gambling establishments In England the system was tried briefly but played no important part It was most fully applied in 18th-century France, where the collection of certain indirect taxes was leased by the king to the farm general, a chartered body of 40 financiers (at one time they numbered 60) which guaranteed a fixed sum of revenue Though the farmers general made phenomenal profits and their name became a by-word for cruel extortion, there undoubtedly were some excellent and able men among them, e g , Helvétius and Lavoisier Popular hatred naturally found a target in the farmers general, whose organization was abolished (1789) in the French Revolution, some 30 former members of the farm—Lavoisier among them—were guillotined in the Reign of Terror The system of farming has been generally abandoned and has been replaced by systems which allow the state to collect larger sums in a less offensive manner

Farmingdale **1** Town (pop 1,197), SW Maine, on the Kennebec below Augusta, inc 1852 **2** Village (pop 3,524), on W Long Island, SE N Y , near Mineola, settled 1695, inc 1904 There are large aircraft factories here It is the seat of the Long Island Agricultural and Technical Institute Bethpage State Park is near by

farming the taxes: see FARMING, in taxation

Farmington. **1** Town (pop 5,313), central Conn , SW of Hartford, settled 1640 It has many old buildings Miss Porter's School for girls is here Metal and other products are made The town includes Unionville borough (pop 2,084, inc 1921) **2** City (pop 2,225), W central Ill , W of Peoria, in a coal area, laid out 1834, inc 1857 **3** Town (pop 3,743), co seat of Franklin co , W central Maine, on the Sandy, tributary of the Kennebec, and NW of Augusta, settled 1781, inc. 1794 In beautiful country, it is the gateway to the Rangeley Lakes and Dead River regions Food and wood products are made here It has a state teachers college. Lillian Nordica was born in Farmington, and Jacob Abbott's home, "Fewacres," is here **4** Residential city (pop 1,510), SE Mich , a suburb of Detroit, settled 1824 by Quakers, inc as a village 1867, as a city 1926 Wines and dairy products are made. **5** Village (pop 1,580), SE Minn , S of St Paul, in a rich farm and dairy region **6** City (pop 3,738), co. seat of St Francois co , E Mo , SW of St. Louis, in an area of farms, timber lands, and lead mines; settled c 1799, laid out c.1822. A state mental hospital is here **7** Town (pop. 3,095), SE N.H., on the Cocheco and NW of Rochester, inc 1797. Its shoe industry began in 1835 Henry Wilson was born here. **8** Town (pop. 2,161), NW N Mex., on the San Juan river, settled 1876, inc 1901 A distribution point for the Navajo Indian Reservation, it is the trade center of an oil, coal, farm, and livestock area Oil is refined here Aztec Ruins National Monument is near by, and Chaco Canyon National Monument lies to the south **9** City (pop 1,211), co seat of Davis co , N central Utah, on Great Salt Lake and N of Salt Lake City, settled 1848 by Mormons Disastrous floods in 1923 and 1930 led to a reforestation project.

Farmville. **1** Town (pop 2,980), E N C., just W of Greenville, settled 1860, inc 1872 It is a farm trade center and tobacco market **2** Town (pop 3,475), S Va , on the Appomattox and WSW of Richmond, inc 1912 It is a tobacco market and industrial point The courthouse of Prince Edward co and a state teachers college are here, and near by is HAMPDEN-SYDNEY COLLEGE

Farnborough, Thomas Erskine May, 1st Baron: see MAY, THOMAS ERSKINE

Farnborough, urban district (1931 pop 16,356, 1943 estimated pop 21,670), Hampshire, England, SW of London It is the site of an important Royal Air Force station and includes part of Aldershot military camp "Farnborough Hill" was the home (1881–1920) of the Empress Eugenie With her husband and her son she is buried in the crypt of a church she built The Abbey of St. Michael (Benedictine) is here

Farne Islands (färn), group of islets, 2 to 5 mi off the northeast coast of Northumberland, England The largest, Farne or House Island (10 acres), sheltered St Cuthbert in the 7th cent There is a chapel dedicated to him Longstone was the scene of Grace Darling's heroism at the time of the wreck of the *Forfarshire* in 1838 The islands are a breeding place of seafowl The dangerous passages are marked by lighthouses Fearne and Ferne are variant spellings for the islands, also called the Staples

Farnese (färnā'zā), Italian noble family which ruled PARMA and PIACENZA from 1545 to 1731 In the 12th cent the Farnese held several fiefs in Latium They became one of the most prominent families in Rome, and in 1534 Alessandro Farnese became pope as PAUL III He used his office to aggrandize his family and in 1545 alienated papal lands to create the duchy of Parma and Piacenza for his natural son, **Pierluigi Farnese** (pyĕr"lōōjē), 1503–47 Pierluigi gained the hatred of the nobility, whose privileges he tried to abrogate, and was assassinated His son, **Ottavio Farnese** (ôt-tä'vēō), 1520–86, who succeeded him, married MARGARET OF PARMA, natural daughter of Emperor Charles V Ottavio's brother, **Alessandro Farnese** (älĕs-sän'drō), 1520–89, was a cardinal of the Roman Church It was he who had the FARNESE PALACE finished Ottavio's son and successor was Alessandro Farnese (1545–92), one of the great generals of his time (see separate article) The five dukes who succeeded Alessandro ruled Parma and Piacenza without notable events but were conspicuous as patrons of the arts The last duke of the line, Antonio, died in 1731 His niece, ELIZABETH FARNESE, queen of Philip V of Spain, secured (1748) the succession to the duchy for her son Philip, founder of the line of Bourbon-Parma

Farnese, Alessandro, 1545–92, duke of Parma and Piacenza (1586–92), general and diplomat in the service of Philip II of Spain He was the son of Duke Ottavio Farnese and Margaret of Parma and thus a nephew of Philip II and of John of Austria, under whom he distinguished himself at the battle of Lepanto (1571) In 1577 Farnese joined John in the Low Countries to fight the rebels against Spain Appointed (1578) governor of the Netherlands, he took Tournai, Maastricht, Breda, Bruges, Ghent, and Antwerp from the rebels and secured continued possession of the southern part of the Netherlands for Spain (see NETHERLANDS, AUSTRIAN AND SPANISH) In 1590 he was sent to France at the head of a Spanish army to assist the Catholic LEAGUE against Henry IV of France He relieved the siege of Paris (1590) and the siege of Rouen (1592), but was wounded soon afterwards and died in Arras.

Farnese, Elizabeth: see ELIZABETH FARNESE.

Farnese, Ottavio: see FARNESE, family.

Farnese, Pierluigi: see FARNESE, family

Farnese Bull, sculptured group representing Zethus and Amphion, sons of Antiope, tying Dirce (who had ill-treated their mother) to an infuriated bull. The sculpture is generally considered to have been executed by Apollonius of Tralles and his brother Tauriscus in the 1st or 2d cent B C. A copy, formerly in the Farnese Palace, is in the National Museum at Naples

Farnese Hercules, marble statue, of the 1st cent B C It represents the hero with muscles exaggerated, leaning heavily upon his club, with the apples of Hesperides held in his right hand behind him It bears the inscription "Glycon, the Athenian, made it" Once in the Farnese Palace, it is now in the National Museum, Naples.

Farnese Palace, in Rome, designed by Antonio da Sangallo for Cardinal Alessandro Farnese (Pope Paul III). It was begun before 1514, and after the architect's death was continued by Michelangelo and was completed by Giacomo della Porta. Built of huge blocks plundered from the Colosseum and from the theater of Marcellus, it is one of the most magnificent palaces of Rome The great halls were decorated by Annibale Carracci and his pupils After the extinction of the Farnese family it passed by inheritance to the king of Naples Since 1874 it has housed the French embassy and the French school of archaeology of Rome; in 1937 it was leased to France for 99 years The once famous gallery of sculptures has been dispersed.

Farnesina (färnāzē'nä), villa in Rome, Italy, built (1508–11) by PERUZZI for the banker Agostino Chigi at the foot of the Janiculum on the right bank of the Tiber. One of the finest examples of Italian Renaissance architecture, it is famous for its frescoes by Raphael and his pupils It was long the residence of the Farnese family

Farnham, Eliza Woodson (Burhans) (fär'nŭm), 1815–64, American social worker, b Rensselaerville, N Y , wife of Thomas Jefferson Farnham As matron (1844–48) of the women's department at Sing Sing Prison, she used humane methods of treatment She also organized a society for the rehabilitation of destitute women The best known of her writings is *Woman and Her Era* (1864)

Farnham, Russel, 1784–1832, American fur trader, b Massachusetts He was a member of the sea expedition sent to found Astoria and made the journey on the *Tonquin*, sailing around Cape Horn When Astoria was sold to the British, Farnham set out to carry records and money (about $40,000) to the United States by crossing Asia and Europe His trip on foot across Siberia and Russia in 1814–16 was one of incredible difficulty, but after many adventures he reached Hamburg and ultimately America and delivered the records and funds to Astor He later served the American Fur Company as a trader in the upper Mississippi valley, where he and an older trader, Maurice Blondeau, got into trouble with the military in 1818 He proved capable and successful and later traded chiefly at Rock Island, where he was a partner of GEORGE DAVENPORT

Farnham, Thomas Jefferson, 1804–48, American pioneer, b Maine A lawyer of Peoria, Ill , he in 1839 led a small company westward over the Oregon Trail After visiting the Hawaiian Islands and California, he returned to Peoria, arriving in 1840 His *Travels in the Great Western Prairies* (1841) helped to stimulate emigration to the Oregon country He also wrote *Life and Adventures in California* (1846) His wife was the social worker Eliza Woodson (Burhans) Farnham

Farnham, town (pop 4,055), S Que , on the Yamaska river and E of St Johns It is a railroad and industrial center, with textile manufacturing, sugar refining, and dairying

Farnham, urban district (1931 pop 18,297, 1943 estimated pop 22,000), Surrey, England, on the Wey and SW of London, in a hop-producing region William Cobbett was born here There is a 17th-century castle of the bishops of Winchester Aldershot Camp is northeast of the town

Farnsworth, Philo Taylor, 1906–, American inventor, b Beaver, Utah, grad Brigham Young Univ , 1925. While still a boy he conceived of accomplishing television through the scanning of an image by fast-flying electrons In 1927 his working model was demonstrated at the Crocker Research Laboratory, San Francisco His "dissector tube" (called an Orthicon), like V K Zworykin's iconoscope, is a means of dividing an image into particles whose light values, when transmitted, are capable of being restored to form a replica of the original image Present-day equipment, both transmitting and receiving, employs principles which involve some of Farnsworth's inventions In 1938 he became research director of the Farnsworth Television and Radio Corp. See biography by George Everson (1949)

Farnworth, urban district (1931 pop 28,717, 1947 estimated pop 27,810), Lancashire, England, SE of Bolton It has cotton mills and makes chemicals, paint, soap, and textile machinery

Faro (fä'rō), town (pop 19,695), capital of Faro district and of Algarve prov , S Portugal A seaport, it exports fish, fruit (especially dried figs), and cork Important under Moorish domination, it was retaken in 1249

Faro, Swed. *Fårö* (fô'rû), island (40 sq mi , pop 1,321), N Gotland co , E Sweden, separated from Gotland by Faro Sound It has a lighthouse and there are ancient ruins.

faro (fâ'rō) [for *Pharaoh*, from an old French card design], gambling game played with a pack of 52 cards The dealer plays against each player individually The layout, or the cards of one suit, is painted on a specially made table, and a player may bet to win or lose on the layout in any of 21 different ways. The dealing is from a box and the cards are dealt by twos First played in France and England, faro was especially popular in American gambling houses in the 19th cent. See R. L. Frey, ed , *The New Complete Hoyle* (1947).

Faroe Islands: see FAEROE ISLANDS

Farouk I (fărōōk'), 1920–, king of Egypt, son and successor of Fuad I He returned to Egypt after Fuad's death in 1936 and, after a regency, acceded to the throne on July 29, 1937 His marriage to Queen Farida in 1938 was terminated by divorce in 1948. Farouk, a constitutional monarch, was frequently at odds with the WAFD, the largest Egyptian party.

Farquhar, George (fär'kŭr, -kwŭr), 1678–1707, British Restoration dramatist, b Londonderry, Ireland, educated at Trinity College, Dublin He acted on the Dublin stage, went to London (c 1697), procured an army commission, and had his first comedy, *Love and a Bottle*, produced in 1698 Other plays are *The Constant Couple* (1699), *Sir Harry Wildair* (1701), *The Stage Coach* (with Peter Motteux, 1704), and his masterpiece, *The Beaux' Stratagem* (1707), which had immediate and lasting success Farquhar excelled in easy, natural dialogue in his licentious, somewhat sentimental comedies See his complete works (ed by Charles Stonehill, 1930), Willard Connely, *Young George Farquhar* (1949)

Farr, William, 1807–83, English physician and statistician, founder of the English system of vital statistics He introduced tabulation methods which are still used and, through his statistical monographs, performed important services in indicating the incidence of disease and needed public-health measures *Vital Statistics*, a posthumous collection of his papers, was published in 1885

Farragut, David Glasgow (fă'rŭgut), 1801–70, American admiral, hero of the battles of New Orleans and Mobile Bay in the Civil War, b Stony Point, near Knoxville, Tenn Son of George Farragut, he was originally called James Glasgow Appointed a midshipman in 1810, he first served on the frigate *Essex*, commanded by David PORTER, his guardian, and bore himself well on that ship's famous cruise in the Pacific in the War of 1812 Farragut commanded his first vessel in Porter's Mosquito Fleet, which operated (1823–24) against the pirates in Gulf and Caribbean waters In the Mexican War he had minor commands on blockade duty The navy yard at Mare Island, Calif, was established by Farragut in 1854, and he was commandant there till 1858 On Virginia's secession Farragut, a Union sympathizer, moved from Norfolk, where he had made his home ashore, to Hastings-on-Hudson, N Y Yet his Southern connections placed him under suspicion, and not until Jan, 1862, did he receive an important assignment Then the Dept of the Navy, convinced of his loyalty, gave him command of the West Gulf Blockading Squadron, with orders to ascend the Mississippi and reduce New Orleans By April 18, 1862, his fleet, consisting of 17 vessels and a mortar flotilla under D D PORTER, was before Forts Jackson and St Philip, the defenses of the city, situated on opposite sides of the Mississippi about 40 mi from its mouth When the mortars failed to reduce the forts, Farragut decided to run by them This bold action was accomplished on April 24, with the loss of only three vessels The Confederate flotilla was then defeated in a hot engagement, and on April 25 Farragut anchored at New Orleans, now defenseless The forts surrendered on April 28, and on May 1 Union troops under Gen B F BUTLER entered the city For this victory at New Orleans, Farragut was made senior rear admiral of the navy His attempt to reduce Vicksburg in May–June, 1862, failed But in March, 1863, he successfully ran two ships past the batteries at Port Hudson and by thus controlling the Mississippi between that point and Vicksburg contributed to Grant's ultimate success in the VICKSBURG CAMPAIGN Farragut had succeeded in stifling Confederate blockade-running in the Gulf, except at its chief source, Mobile, and he moved on that port in 1864 Mobile Bay was strongly defended by Forts Gaines and Morgan, a double row of torpedoes (mines), and a Confederate flotilla commanded by Franklin BUCHANAN Farragut, disregarding the torpedoes, forced these defenses and defeated Buchanan for his crowning victory on Aug 5, 1864 The forts surrendered shortly afterwards, and though the city itself did not fall until April, 1865, blockade-running was effectively ended there Farragut was easily the outstanding naval commander of the war, and the ranks of vice admiral and admiral were created for him in 1864 and 1866 respectively See biographies by Loyall Farragut (1879), A T. Mahan (1892), and C L Lewis (1941–43)

Farragut, George, 1755–1817, American naval and army officer, b Ciudadela, Minorca, of Spanish stock, father of David Glasgow Farragut. By 1773 he was employed in trade in the Gulf of Mexico. His sympathy with the American colonies led him to offer his services and a cargo of arms and ammunition to Charleston, S C, in 1776 Farragut, made a lieutenant in the South Carolina navy in 1778, fought in actions near Savannah and at Charleston, where he was taken prisoner Exchanged, he later served on land, fighting under Francis Marion at Cowpens and raising and leading a volunteer cavalry company against Cornwallis in North Carolina. After the Revolution he returned to the sea until 1790, when he was made a major in the militia of the Southwest Territory (Tennessee) He later campaigned against the Cherokee From 1807 to 1814 Farragut was a sailing master in the U S navy at New Orleans. He was a U S. spy at the battle of New Orleans

Farrand, Livingston (fă'rŭnd), 1867–1939, American anthropologist, public-health worker, and educator, b Newark, N J., grad Princeton and College of Physicians and Surgeons, Columbia, and studied in England and Germany From 1893 to 1914 he taught at Columbia, first as instructor in psychology and after 1903 as professor of anthropology He accompanied two expeditions to the Pacific Northwest, wrote monographs on the Indian tribes of the British Columbia region and *The Basis of American History* (1904), a study of geographical and aboriginal backgrounds From 1905 to 1914 he also served as executive secretary of the National Association for the Study and Prevention of Tuberculosis In 1917 and 1918 he was in France as director of the antituberculosis campaign of the International Health Board From 1919 to 1921, as chairman of the central committee, he directed the work of the American Red Cross Farrand was president of the Univ of Colorado (1914–19), later of Cornell Univ (1921–37)

Farrar, Edgar Howard (fă'rur), 1849–1922, American lawyer, b Concordia, La, grad Univ of Virginia, 1871 He made his home in New Orleans, where he had a large corporation practice He was active in municipal-reform movements and in the founding of Tulane Univ Farrar wrote *Legal Remedy for Plutocracy* (1902) and *State and Federal Quarantine Powers* (1905)

Farrar, Frederic William, 1831–1903, English clergyman and author, dean of Canterbury (1895–1903), b Bombay, India, educated in England He was assistant master at Harrow from 1855 to 1870 and headmaster of Marlborough College from 1871 to 1876 In 1876 he was installed canon of Westminster and rector of St Margaret's He became archdeacon of Westminster in 1883 and dean of Canterbury in 1895 His writings cover a wide range, from school stories such as *Eric, or, Little by Little* (1858) to Scripture commentaries and theological studies His *Life of Christ* (1874) and *Eternal Hope* (1878) have passed through several editions See biography by his son (1904)

Farrar, Geraldine (furär'), 1882–, American operatic soprano, b Melrose, Mass, pupil of Lilli Lehmann She made her debut in Europe (1901) and sang at the Metropolitan Opera, New York, from 1906 to 1922 Her most famous roles were in *La Bohème, Madame Butterfly,* and *Carmen* See her autobiography, *Such Sweet Compulsion* (1938)

Farrell, James Thomas (fă'rul), 1904–, American novelist, b Chicago, studied at the Univ of Chicago His novels of life among Chicago's South Side Irish population include the *Studs Lonigan* trilogy (1932–35), *A World I Never Made* (1936) and its sequels, *No Star Is Lost* (1938), *Father and Son* (1940), and *My Days of Anger* (1943), and *Bernard Clare* (1946) and its sequel, *The Road Between* (1949) *Can All This Grandeur Perish?* (1937) is a collection of short stories The stories follow the Dreiser tradition of detailed realism in incident and language, Farrell plans to complete 25 or more novels integrated and connected through characters and scenes *A World I Never Made* was the subject in 1936 of a censorship trial chiefly because of the frankness of its language, but the obscenity charges were dismissed

Farrell (fă'rul), city (pop 13,899), W Pa, on the Shenango river at the Ohio border and adjoining Sharon, inc. as a borough 1901, as a city 1932 It is a railroad and industrial center, with large steelworks and ironworks

Farren, Elizabeth, 1759?–1829, Irish actress She was the daughter of an apothecary or surgeon in Cork who adopted the life of a strolling player Her first London appearance (1777), as Kate Hardcastle in *She Stoops to Conquer*, was a great success When Mrs. Abington withdrew (1782) from Drury Lane, Farren succeeded her as a comedy star As Lady Betty Modish and Lady Teasle, she became as renowned as her predecessor, playing these roles with grace, elegance, and vivacity In 1797 she was married to the 12th earl of Derby and retired from the stage

Farrer, Henry (fă'rur), 1843–1903, American etcher and painter, b England, self-taught He settled in New York in 1863 He painted landscapes and marines, both in oil and in water color (*On the East River, A Quiet Pool, A Windy Day*), but is best known for his etchings, executed with individuality and artistry and particularly admirable in the treatment of light and of sky effects Among the finest are *A Cloudy Day, November Day, Winter in the Woods, December,* and *The Washerwoman*

Far Rockaway, N Y see ROCKAWAY

Farrukhabad (fŭrōōkh'ăbad"), town, central United Provs, India, a joint municipality with Fategarh (total pop. 69,418) It was founded c 1714 by the Afghan ruler Nawab Mohammed Khan. The town manufactures brass and copper vessels and trades in grain.

Fars (färs) or **Farsistan** (färsĭstän'), region (75,476 sq. mi ; pop 1,403,583), SW Iran, corresponding to the Seventh Prov It is more or less identical with ancient Persis, the nucleus of the Persian Empire Fars produces grain, cotton, tobacco, opium, and wine The chief city is Shiraz, and the chief port Bushire

Farsan Islands, Saudi Arabia: see FARASAN ISLANDS

farsightedness, defect of sight resulting when rays of light focus behind the retina of the eye, known also as hyperopia It makes constant adjustment of the eye lens necessary in order to get a clear image and therefore usually results in eyestrain It is caused by shortness of the eyeball from front to back The malformation develops before birth. Glasses are necessary in cases which show eyestrain.

Farsistan, Iran see FARS

Farwell, Arthur, 1872–, American composer and teacher, b St Paul, Minn , pupil of Humperdinck He was interested in native American music, and his own compositions were often in Indian or Negro idioms In 1901 he founded the Wa-Wan Press for the publishing of American music He was director (1915–18) of the Music School Settlement in New York and taught (1927–39) at Michigan State College His compositions include *Navajo War Dance* (1923) for chamber orchestra and *Four Choruses on Indian Themes* (1937)

Farwell, unincorporated town (pop c 1,000), co seat of Parmer co , Texas, at the N Mex line NW of Lubbock, in a grain-growing region on the Llano Estacado

Fas, French Morocco: see FEZ

fasces (fă'sēz) [Latin,=bundles], ancient Roman symbol of the regal and later the magisterial authority The fasces were cylindrical bundles of wooden rods, tied tightly together, from which an axe projected, they were borne by guards, called lictors, before praetors, consuls, dictators, and emperors The fasces, which symbolize unity as well as power, have often been used as emblems, e g , on the arms of the French republic and on American coins Italian Fascism derived its name and its emblem from the fasces

fascism (fă'shĭzm) In its narrow sense, Fascism (in this case written with a capital F) was the political and economic system prevailing in Italy under the dictatorship of Benito MUSSOLINI, there it came into existence gradually after 1922 and lasted until the Italian defeat in the Second World War In its wider meaning, the term *fascism* has been applied more or less loosely to similar ideologies in other countries, e g , to NATIONAL SOCIALISM in Germany and to the regime of Francisco FRANCO in Spain While socialism (particularly Marxism) sprang into existence as a clearly formulated theory or program, based on a logical interpretation of history, fascism was a negative reaction against socialist and democratic equalitarianism Its roots may be traced to the reaction of the ruling classes against the French Revolution While in the early 19th cent an effort was made by the ruling class to restore conditions more or less as they had been before 1789, it became increasingly plain that the advance of leftist radicalism could be halted only if the ruling classes won over at least a fair segment of the "proletariat" and the petty bourgeoisie instead of treating them as enemies Forerunners of fascism, such as Boulanger, Drumont, Barrès, and Maurras in France and Adolf Stöcker and Karl Lueger in Germany and Austria, appealed to the fears inspired by the French Revolution, the Revolution of 1848, the Commune of Paris of 1871, and the increasingly menacing "specter of communism," they played on the sensitive chords of nationalist pride and prejudice, exploited ANTI-SEMITISM, and set themselves up as the champions of law, order, Christian morality, the sanctity of property, and the rights of the educated and responsible classes against the threat of mob rule and the destruction of the existing civilization Parliamentary democracy was generally represented by them as corrupt or, at best, as impotent, disorderly, and conducive to rule by mediocrities, salvation was expected only by the appearance of an authoritarian leader The events of the Russian Revolution of 1917 and the disorders caused in Germany, Italy, Hungary, and other countries by Communist attempts to seize power greatly strengthened this emotional approach to the problem In Italy particularly, social unrest was combined with nationalist dissatisfaction over the government's failure to reap the full fruits of victory after the First World War The action of Gabriele D'ANNUNZIO at Fiume was an indication of things to come With the appearance of the type of adventurer described in Machiavelli's *Prince*—such as D'Annunzio, Mussolini, and Hitler—the antidemocratic and anti-socialist reaction took on the revolutionary character that typifies fascism Capable of appealing to labor and the peasantry through demagogic promises of order and social justice, they were in a position to sell their services to the representatives of vested interests, who could not hope to muster such popularity themselves Governmental paralysis enabled Mussolini in 1922 to obtain the premiership by a show of force. He presented himself as

the strong-armed savior of Italy from anarchy and Communism He had taken over from Russian Communism a system of party organization based on a hierarchy and cells, this became typical of fascism everywhere He made use of a party militia—the Black Shirts—which became equally typical His party adopted the Roman fasces, symbol of strength through unity, as its emblem, and thus came to be known as Fascist In its dictatorial methods and in its use of brutal intimidation of the opposition by the militia and the secret police, Fascism did not distinguish itself from any other despotic regime of the past Inasmuch as it tended increasingly toward totalitarianism (i e , the subordination of all functions of life to the needs of the state), it bore strong similarities with Stalinist Communism It innovated, however, in two important respects As a philosophy of life, Fascism adopted as a social creed the basically Darwinist doctrine of the survival of the fittest, hence, it represented war as a necessary function in the life of a nation, and it considered peaceful and satisfied nations as decadent and doomed, fit victims for the appetite of young and dynamic nations The emphasis on youth and struggle became paramount However, the individual was subordinated to the nation, and the struggle for life was to be fought on a national rather than an individual plane Fascist militarism was to explode in the Italian aggression on Ethiopia and, ultimately, in the Second World War The second important innovation was the organization of the state As in other totalitarian systems, the supreme power was vested in the dictator and his party (the sole legal party) However, unlike Communism, Fascism abhored the idea of a classless society and saw a desirable order only in the organization of a state in which each class had its distinct place and function Representation by classes (i e , capital, labor, farmers, and professionals) was substituted for representation by parties, and the CORPORATIVE STATE came into existence Although the government tended to interfere considerably in the economic life and to regulate its process, there can be no doubt that despite all restrictions imposed on them, the capitalist and land-owning classes were protected by the fascist system and favored it as an obstacle to socialization On the other hand, the state adopted a paternalistic attitude toward labor, improving its conditions in some respects, reducing unemployment through large public works and through an armaments program, and controlling its leisure time through organized activities Many of these features were taken over by the Franco regime in Spain and by quasi-fascist dictators in Latin America A variation of fascism was the so-called clerico-fascist system set up in Austria under Chancellor Dollfuss This purported to be based on the social and economic doctrines enunciated by the popes Leo XIII and Pius XI, which, however, were never put into operation The Vichy government under Marshal Pétain in France during the Second World War also claimed a Christian basis, with little or no justification, it rather was the combination of fascist strong-arm methods and of an anachronistic attempt to restore the traditions of France before 1789 Wherever it has been successful, fascism has come into power by flattering the masses Admission into the party was, however, restricted as much as possible to an élite, the masses being considered as intrinsically stupid, amorphous, and sheep-like raw material, to be shaped and governed for their own good by a sort of natural aristocracy of superior beings Fascism has found adherents in all countries Its essentially vague and emotional nature facilitates the development of peculiar national brands, whose leaders often reject with indignation the idea that they are fascist at all See Herman Finer, *Mussolini's Italy* (1935), Gaetano Salvemini, *Under the Axe of Fascism* (1936), G A Borgese, *Goliath the March of Fascism* (1937), E B Ashton, *The Fascist His State and His Mind* (1937), W G Welk, *Fascist Economic Policy* (1938), H A Steiner, *Government in Fascist Italy* (1938), C T Schmidt, *The Corporative State in Action* (1939), Stephen Raushenbush, *The March of Fascism* (1939)

fashion, in dress, the prevailing mode affecting modifications in costume Styles in the Orient have been characterized by freedom from fashionable change, and Greek and Roman dress preserved the same flowing lines for centuries Fashion in dress and interior decoration may be said to have originated in Europe about the 14th cent New styles were set by monarchs and prominent personages and were spread by travelers, by descriptions in letters, and, in costume, by the exchange of fashion dolls (see DOLL) Probably the first fashion periodical originated c 1586 in Frankfurt, Germany, and was widely imitated, gradually superseding fashion dolls *Godey's Lady's Book*, established in the United States in 1830, remained popular for decades In interior decoration the influence of designers, such as Chippendale, Sheraton, and Robert and James Adam, was apparent in the 18th cent , but in costume the only influential designer at that period was Rose Bertin, milliner and dressmaker to Marie Antoinette In Paris, the leading arbiter of fashion since the Renaissance, the fading influence of celebrities was coincident with the rise of designer-dressmakers in the mid-19th cent Assisted by the proximity of Lyons, outstanding in the manufacture of fine textiles, Paris *haute couture* has remained preeminent in setting fashions for women's dress Increasing competition, however, is offered especially by American fashion designers Fashions are adapted for mass production by the garment industries of New York, Los Angeles, and other cities London early in the 19th cent became the center for men's fashions under the leadership of Regency dandies such as Beau Brummell, English tailors were skilled in handling the heavier cloth then coming into style See also CLOTHING See James Laver, *Taste and Fashion* (rev ed , 1945); R Turner Wilcox, *The Mode in Fashion* (1947)

Fashoda Incident (fəshō'du), 1898, diplomatic dispute between France and Great Britain In the closing years of the 19th cent those two countries were contending for control of the upper course of the Nile While Kitchener was leading British and Egyptian forces against the Mahdists in the N Sudan, a French and Ethiopian party under J B Marchand entered the S Sudan on July 10 and occupied the small town of Fashoda (now KODOK) on the Nile In September, Kitchener proceeded up the river and demanded that Marchand evacuate this territory, which the British claimed for Egypt The French government resisted for a time but, fearing war, ordered its mission to withdraw on Nov 3 In March, 1899, France yielded its claims to the upper Nile region and accepted a part of the Sahara in satisfaction The peaceful settlement of the dispute was largely due to the efforts of the French foreign minister, Delcassé, to bring about a Franco-British alliance French resentment about the incident rankled for several years, however, and was smoothed over only after the visit (1903) of Edward VII to Paris

Fassett, Jacob Sloat (fă'sĭt), 1853–1924, American political leader, b Elmira, N Y , educated at the Univ of Rochester (B A , 1875) and Heidelberg A lawyer and newspaper editor at Elmira, he became a Republican politician noted for his independence, his aggressive tactics, and his interest in reform He headed a commission to investigate New York city government in 1889 and conducted a notable though unsuccessful campaign for the governorship against Roswell P Flower in 1891 Fassett, despite an earlier quarrel with the Republican boss, Thomas C Platt, was U S Congressman from 1905 to 1911

fasti (fă'stī) [Latin, from *fas*, divine law], in ancient Rome, days on which public business could be transacted without impiety The calendars and almanacs were often called *fasti*, because they listed days that were holy and the *fasti* as well The annual official Roman summaries of important events of the year were *fasti* also Ovid's *Fasti* illustrate part of Julius Caesar's new calendar

fasting Abstinence from food or drink leads to death from STARVATION in eight or more days depending upon the original state of nutrition In hibernating animals the low rate of metabolism prevents starvation Fasting is used as a protest measure as in the case of hunger strikers (see HUNGER STRIKE) Partial or temporary abstinence from food is a widely used form of ASCETICISM Among the stricter Jews the principal fast is the Day of ATONEMENT (Yom Kippur), in ISLAM the faithful fast all the daytime hours of the month of RAMADAN In Christianity fasting is general The most widely observed fasts are LENT and ADVENT Both of these are preliminary to seasons of great rejoicing, and the vigils of several feasts are also kept as fasts, e g (in the West), those of Christmas, Easter, Whitsunday, the Assumption, and All Saints EMBER DAYS are also fasts in the West Protestants have generally abandoned fasting, but in New England an annual Fast Day was proclaimed (in Massachusetts until the 20th cent) The Roman Catholic Church differentiates fasting (eating only one full meal and little else in a day) and abstinence (eating no flesh meat) On most fast days the Church allows meat, but not on Fridays, which are days of abstinence or of fasting and abstinence (e g , Fridays in Lent) Roman Catholics fast from food and drink before receiving communion

Fastnet Rock (făst'nĭt), islet, off SW Ireland, in Co Cork, SW of Clear Island Its 160-foot lighthouse is on the most southerly point of Ireland.

Fastolf, Sir John (fă'stŏlf), 1378?–1459, English soldier He probably began his long service in the wars with France before 1413 For distinguished service at Agincourt (1415) and in other engagements, he was knighted some time prior to early 1418 He acted as governor of Anjou and Maine (1423–26) and was made (1426) a Knight of the Garter. While convoying supplies in 1429, Fastolf was attacked by a superior French force, but achieved victory by using herring barrels as protection (see HERRINGS, BATTLE OF) His conduct at the defeat of the English by Joan of Arc at Patay (1429), where he retreated after a panic of his men, has been variously described as common sense or cowardice. Fastolf continued, however, to exercise responsible commands until his final return to England in 1440 There he managed to amass a considerable fortune by somewhat sharp methods He spent his last years on his huge Norfolk estate as neighbor to John Paston, the principal beneficiary of his will For the connection between Fastolf and Shakspere's Falstaff, see FALSTAFF See James Gairdner, ed , *The Paston Letters* (1904); D. W Duthie, *The Case of Sir John Fastolf* (1907).

fat · see OBESITY and FATS AND OILS

fatalism, belief that a certain outcome is appointed for each life which neither foreknowledge nor effort can set aside or alter Unlike determinism, fatalism sees destiny determined by events and processes totally outside the individual In history, fatalism has been frequently associated with those who have many difficulties, who live under some extreme danger or discomfort, or who live under an especially arbitrary tyranny It is not normally a consistently worked out philosophical position

fata morgana · see MIRAGE

Fatehpur Sikri (fŭtŭpōōr' sĭk'rē), deserted ancient city, W central United Provs , India, c 30 mi W of Agra Founded (1569) by Akbar, it was the capital of the Mogul empire until he abandoned (1584) it in favor of Agra Fatehpur Sikri is unique in India as a nearly intact Mogul city A gate, flanked by colossal statues of elephants, was the principal entrance Carvings and murals cover many of the buildings Among the most notable are the Turkish Queen's House with Chinese-like carving, the Palace of Birbal, and the marble tomb of the Mohammedan saint Shaikh Salim

Fates, in Greek mythology, three goddesses, daughters of ZEUS and THEMIS They are called Moerae (mē'rē) or Moirai (moi'rē) They controlled the lives of men They were Clotho (klō'thō), who spun the web of life, Lachesis (lă'kusĭs), who measured its length, and Atropos (ă'trupŏs), who cut it The Roman Fates were the PARCA, Nona, Decuma, and Morta In Germanic mythology, the three NORNS wove and spun the web of life

Fath Ali Shah (fath' ă'lē shä', ălē', fat'), 1762–1834, shah of Persia (1797–1834), son and successor of Aga Mohammed Shah, of the Kajar or Qajar dynasty Most of his reign was spent in both internal and external warfare He managed to maintain himself against other claimants to the throne, but he was not so fortunate in his wars with Russia He sought to enlist aid from Napoleon, who, however, turned instead to the Russians with the Treaty of Tilsit and later was too occupied to be concerned with Persia The settlement of wars with Russia by the Treaty of Gulistan (1813) and the Treaty of Turkamanchai (1828) deprived Persia of the Caucasus and marked a downward trend in Persian power The name also appears as Feth Ali Shah

Father Millet Cross National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Fathers of the Church, collective name for the Christian writers of early times whose work is considered generally orthodox A convenient definition includes all such writers up to and including St GREGORY I (St Gregory the Great) in the West and St JOHN OF DAMASCUS in the East See PATRISTIC LITERATURE There are several conventional groupings of the Fathers of the Church One of these is the Apostolic Fathers, usually considered to include the authors of the *Didache*, of the Epistles of Clement, of the Epistles of Ignatius of Antioch, and of the Shepherd of Hermas In an ancient category of honor eight Doctors of the Church are set apart, the Four Fathers of the Greek Church are St Basil the Great, St Gregory Nazianzen, St John Chrysostom, and St Athanasius, the Four Fathers of the Latin Church are St Ambrose, St Jerome, St. Augustine, and St. Gregory the Great

fatigue, in physiology, condition in which a tissue or an organ shows decreased ability or inability to respond to a stimulus as a result of continual stimulation without adequate rest The chemical and physiological processes involved in fatigue are complex and not fully understood In human beings and other higher animals, prolonged muscular activity produces fatigue which is accompanied by the accumulation of lactic acid and other metabolic products and a decrease in the nutritive material in the muscle. When such activity is followed by rest, the blood is able to carry away the waste products for elimination by the excretory organs and to restore nutritive substances to the muscles If the fatigue has become extreme, the accumulation of wastes is much greater and recovery is slower. Fatigue of nerve cells is also believed to be largely the result of an accumulation of waste products in the cell and the using up of the nutritive material of the cell Nerve fatigue can be produced by both muscular and mental activity The junction between nerve and muscle, i e , the point where nerve impulses activate a muscle, is more susceptible to fatigue than either the nerve fibers or the muscles. Mental work causes fatigue substances to form in the cells of the brain Ordinarily a night's sleep enables the body to recover from the fatigue produced by the day's activities.

However, if excessive fatigue occurs over a prolonged period, exhaustion, brainfag, and certain pathological conditions may result Poor physical health and worry, fear, and other mental anxieties lower the resistance to fatigue

Fatima (fä'tĭmû, fä'-, fŭtē'mû), 606?–632, daughter of MOHAMMED by his first wife She was the wife of ALI, the mother of Hasan and Husein, and reputedly the ancestress of the Fatimites

Fátima (fä'tēmû), hamlet, W Portugal, near Leiria At the Cova da Iria, near by, is the national shrine of Our Lady of the Rosary of Fátima This became a great Roman Catholic center of pilgrimage after the six reported apparitions of the Virgin Mary to three shepherd children, May 13–Oct 13, 1917 The oldest of these children was named Lucia de Jesus Santos An impressive basilica was built in 1944 See M F Wineatt, *Children of Fatima* (1945), W T Walsh, *Our Lady of Fatima* (1947), T M McGlynn, *Vision of Fatima* (1948); F. P. Ryan, *Our Lady of Fátima* (4th ed , 1949).

Fatimite (fă'tĭmīt) **or Fatimide** (fă'tĭmĭd), family claiming to hold the CALIPHATE on the basis of alleged descent from FATIMA, a daughter of Mohammed the Prophet In Moslem sectarian matters the Fatimites were related to other Shiite sects, including the Karmathians, the Assassins, and, most closely, the Druses About 904 Obaidallah, the leader of a Syrian Shiite group, responded to the call of his general Ash-Shu (or Al-Shu) that he come to NW Africa There Ash-Shu had aroused much enthusiasm among the Berber tribesmen by representing Obaidallah as the MAHDI whose coming they awaited Obaidallah was arrested by the Sunnite ruler of Morocco and cast into prison His release was effected in 909 by Ash-Shu, who in the intervening years had conquered the coast of NW Africa On his release Obaidallah claimed for himself the caliphate in opposition to the claims of the Abbasid caliph at Baghdad Obaidallah fell out with Ash-Shu and removed him after investing the Barbary States In the next few years the vigorous ruler pushed east, capturing the Abbasid holdings in Cyrenaica and Libya Several times he attacked Egypt, capturing Alexandria in 914, but not making extensive conquests His son Qaim, who succeeded in 934, consolidated the empire and attacked the Mediterranean ports in Europe Qaim's son Mansur (succeeded 946) brought Sicily under his control The Fatimites attained new importance with the conquest by Moizz (succeeded 952) of all Egypt in 969 and his founding of Cairo as his new capital Janhar (or Jawhar), Moizz's great general, invested W Arabia, Palestine, and Syria However, the western Fatimite provinces (Morocco, Tripolis, Sicily) gradually broke away from the empire as the governors became autonomous and founded their own dynasties Sicily was lost to the Normans in the mid-11th cent , and Tripoli and Morocco were detached in the 12th cent Fatimite rule in Egypt was at first brilliant and successful Great mosques were built in Cairo, and an academy was founded for teaching the Shiite doctrine Hakim (succeeded 996), the sixth Fatimite caliph (third in Egypt), forsook the religious toleration of his predecessors, he persecuted the Christians in his domain and destroyed (1010) the Church of the Holy Sepulchre in Jerusalem His positive accomplishments were founding the library at Cairo and giving support to the academy In 1020 Hakim proclaimed that he was a reincarnation of God This claim took hold only in Syria, where it is still espoused by the DRUSES Throughout the 11th cent the eastern domains of the Fatimites, mainly W Arabia and Syria, were continually menaced by the Turks There were also powerful European enemies, chiefly the Normans in Italy and Sicily and the Venetians The force of such powerful adversaries was eventually to crush the Fatimites A contributing cause to their downfall were attacks (1219–21, 1249–50), never highly successful, of the Crusaders in the Nile delta After 1129 the Fatimite caliphs were merely puppets in the hands of their viziers or their generals Nureddin seized (c 1160) control, and in 1171, when SALADIN entered Cairo and the name of the Abbasid Sunnite caliph was used in the Friday prayer in the mosques, the Fatimite reign officially came to an end See De Lacey O'Leary, *Short History of the Fatimid Khalifate* (1923).

fats and oils, group of substances which form an important part of the diet and also are useful in many industries Those known as fats are usually solid, while oils are usually liquid at ordinary room temperatures Some tropical products are liquids in the country of their origin and solids in cooler climates, in commerce they often retain the name originally given, e g , palm oil and cocoanut oil Chemically fats and oils are either simple or mixed glyceryl esters of organic acids belonging to the fatty-acid series They are compounds of the elements carbon, hydrogen, and oxygen, differing from the carbohydrates in having less oxygen in their molecules Fats and oils are derived from both plant and animal sources Among the vegetable oils of greatest commercial importance are cottonseed, linseed, olive, coconut, corn, peanut, rape, soybean, and castor oil. The method of obtaining the oils is similar for all· the fruits or seeds after being cleaned are crushed and pressed cold to obtain the highest grade of oil and then pressed warm, thus securing a grade suitable for industrial use Sometimes solvents are used to remove the remaining oil from the crushed mass Edible oils are those used in foods, and for these the highest grade is used, these must be pale in color, free from disagreeable odor and taste, and wholesome The lower grades are suitable for making soap and for other industrial purposes Vegetable fats are usually produced from the oil by a hardening process called hydrogenation, in general the process involves bringing the hydrogen into contact with the heated oil in the presence of a catalyst Some animal oils (e g , fish oil and whale oil) are also hydrogenated, chiefly for use in soapmaking, although some can be used in foods Animal fats used in foods include butter, lard, chicken fat, and suet. NEAT'S-FOOT OIL is used in dressing leather LANOLIN is used in many products Cod-liver oil and some other fish oils are used therapeutically as sources of vitamins A and D Nutritionally fats and oils are valued as a source of energy Because they contain less oxygen than other nutrients they oxidize more readily and release more energy Fats are digested in the human body chiefly by the enzyme lipase (in the pancreatic juice) aided by the bile There are several theories to explain the method of absorption of fats, favored by many is the view that they are absorbed by the epithelial cells of the lining of the small intestine in the form of the fatty acids and glycerol into which they are split by digestion and that a recombination to again form the fat occurs within the cells Most of the fat then enters the lymphatic system through the villi in the lining of the small intestine, although some is probably absorbed directly by the blood vessels of the villi See also OILS and PETROLEUM

Fatshan, China see NAMHOI

fatty degeneration. see DEGENERATION.

Fauchard, Pierre (pyĕr' fōshär'), 1678–1761, French dentist, a founder of modern dentistry He practiced in Paris from c 1715 and was influential in raising dentistry from a trade to a profession He advocated the sharing of dental knowledge and wrote *The Surgeon Dentist* (1728, Eng tr of 2d ed , 1946), long a standard work on dentistry See study by B W Weinberger (1941)

Fauchet, Claude (klōd' fōshā'), 1744–93, French clergyman and revolutionist, constitutional bishop of Calvados Fauchet led in the attack on the Bastille (1789) and was a member of the Paris commune, of the Legislative Assembly, and of the Convention Self-styled the Attorney General of the Truth, he sided with the Girondists, after whose fall he was executed

Faucit, Helen (fô'sĭt), 1817–98, English actress Engaged by Macready for Covent Garden in 1837, she became his leading lady in 1842–43 She had a measured and incisive style of acting and excelled in Shaksperian roles and in plays by Bulwer-Lytton and Robert Browning She married Sir Theodore Martin in 1851 and appeared on the stage rarely thereafter She wrote *On Some of Shakespeare's Female Characters* (1885)

Faujas de Saint-Fond, Barthélemy (bärtälmē' fōzhäs' du sē-fō'), 1741–1819, French geologist, an authority on volcanoes He became commissioner of mines and quarries in 1785 and was professor of geology (1793–1818) at the Jardin des Plantes, Paris His scientific journeys resulted in valuable geological observations He wrote *Minéralogie des volcans* (1784), *Voyage en Angleterre* (1797, Eng tr , *A Journey through England*, 1907), and *Essai de géologie* (2 vols , 1803–9)

Faulhaber, Michael von (mĭkh'ā-ĕl fŭn foul'hä-bur), 1869– , German churchman, cardinal of the Roman Church He was made archbishop of Munich and Freising in 1917 and was given the red hat in 1921 He was of great importance in church affairs and was a leading pacifist between the two world wars He earned most note for his unflinching courage in denouncing the National Socialist government for its violation of the Concordat of 1933 and for its anti-Christian activities Though an attempt was made on his life in 1934 and Nazi vandals damaged his palace in 1938, he remained firm

Faulkner or **Falkner, William,** (both fôk'nûr), 1897–, American novelist, b New Albany, Miss He saw war service in the Canadian air force before attending the Univ of Mississippi His first novel was *Soldiers' Pay* (1926), about his war experiences, but thereafter his major novels, written in a highly subjective style, were macabre, often morbid tales of the Deep South Among them are *The Sound and the Fury* (1929), *As I Lay Dying* (1930), *Sanctuary* (1931), *Light in August* (1932), *Absalom, Absalom!* (1936), *The Unvanquished* (1938), and *Intruder in the Dust* (1948) His notable short stories are collected in *These Thirteen* (1931), *Doctor Martino* (1934), and *Go Down, Moses, and Other Stories* (1942) Those in *Knight's Gambit* (1949) are of the detective-story type He has also written poems, less distinguished than his prose

fault, in geology, a fracture in the earth's surface, with displacement of the rock lying parallel to the fracture on one side relative to that on the other side Fractures in igneous rocks result chiefly from the contraction of the cooling molten matter, in sedimentary rocks, from contraction in the processes of hardening and drying or from the tension and compression caused by FOLD formation, and in metamorphic rocks, chiefly from folding Faults are most evident in sedimentary formations, where they result in the separation of the halves of previously continuous strata by considerable vertical and horizontal distances The fracture (fault plane or fault surface) along which a fault takes place may be vertical, inclined, or nearly horizontal Movement along a fault plane may be vertical, horizontal, or oblique in direction, or it may consist in the rotation of one or both of the fault blocks The side of a fault which has been raised relatively to the other is commonly called the upthrow side, and the other the downthrow side These terms, however, are purely relative and not necessarily descriptive of the actual movement, for the same effect is produced whether the two sides are moving in opposite directions, or one is stationary while the other moves, or both move in the same direction but not to the same extent In inclined faults (which make up the great majority of all faults) the term "hanging wall" is used for the side which, because of the slope of the fault plane, lies vertically above the other, called the "foot wall", thus if a fault plane slopes to the west, the foot wall is, horizontally, to the east of the hanging wall An inclined fault in which the foot wall is the upthrow side and the hanging wall is the downthrow side is called a normal or gravity fault, because the hanging wall appears to have slipped downward, a fault in which the foot wall is the downthrow side and the hanging wall is the upthrow side is called a reverse or thrust fault, or simply a *thrust*, because the hanging wall appears to have been pushed up over the foot wall Faults are also classified as high angle and low angle, and these classes are generally considered to correspond to gravity fault and thrust faults, though it is possible for high-angle faults to be of the thrust type, and vice versa The immediate cause of normal faulting is generally conceded to be stretching of the earth's crust, and the immediate cause of thrust faulting, the compression of the crust, even here, the evidence can be misleading, e g , if the rocks on one side of a fracture were squeezed higher than those on the other, so as to give the impression of a normal fault The more remote causes of fault formation, if known, would probably be the same as those of fold formation, since both are earth movements involved in the formation of mountains The principal topographical evidences of faults are fault scarps or cliffs on the faces of mountains Faults create grave problems for the geologist by altering the relations of strata (see STRATIFICATION), in some cases making the same bed appear twice in a vertical cross section of a formation, and in others making beds disappear altogether Faults commonly recur again and again along the same fault plane, so that the sum of the movements, though each movement is comparatively small, often makes a very great effect Faults are the leading causes of EARTHQUAKES

faun (fôn), in Roman religion, creature like the Greek SATYR, half man and half goat The fauns, not so lascivious as the satyrs, were mischievous, friendly spirits, followers of FAUNUS.

Fauna· see BONA DEA

Faunce, William Herbert Perry (fôns), 1859–1930, American educator and clergyman, b. Worcester, Mass , grad Brown Univ , 1880, and Newton Theological Seminary, 1884 He held pastorates in Springfield, Mass (1884–89), and New York city (Fifth Ave Baptist Church, 1889–99) and became prominent as a liberal theologian In 1899 he was chosen president of Brown Univ A champion of the liberal arts curriculum, Faunce in his 30-year administration placed Brown among the leading American universities After 1921 he was also president of the World Peace Foundation His books include *The Educational Ideal in the Ministry* (1908) and *Facing Life* (1928)

Faunus (fô'nus), in Roman religion, popular god of nature, protector of farmers and herdsmen, identified with the Greek PAN and related to Bona Dea. Many little fauns attended him Legend made him an ancient king of Latium The LUPERCALIA probably was his festival

Fauquier, Francis (fôkēr'), c 1704–1768, acting royal governor of Virginia (1758–68) He came to the colony as lieutenant governor in 1758, and in the absence of the governors—the earl of Loudon (1756–63) and Jeffrey Amherst (1763–68)—he was the chief administrative officer Instructions sent with him demanded that the office of treasurer of the colony be taken from the speaker of the house of burgesses, but he disobeyed these instructions and gained and maintained the friendship of the house In 1760 he informed Pitt of the colonial trend toward independence and offered suggestions as to changing British policies on taxation In 1765, however, he dissolved the house of burgesses when it passed a resolution against the Stamp Act See P S Flippin, *The Royal Government in Virginia, 1624–1775* (1919)

Faure, Élie (ālē' fôr'), 1873–1937, French art historian Trained in medicine, he brought his scientific knowledge to bear in his study of the history of art, relating it to the progress of human culture Of his long list of critical and historical works, the best known is his *History of Art* (5 vols , 1909–21, Eng tr by Walter Pach, 1937).

Faure, Félix (fālēks' fôr'), 1841–99, president of the French republic (1895–99) He had been a leather merchant and he served in the Franco-Prussian War before becoming an undersecretary for commerce and colonies in the GAMBETTA cabinet He later (1882–85, 1888) occupied the same post again and was vice president of the chamber of deputies and minister of the marine before becoming president The DREYFUS AFFAIR was a notable development in his administration, and Faure earned a bad mark against his reputation by opposing a new trial The Franco-Russian alliance was concluded, and the FASHODA INCIDENT occurred

Fauré, Gabriel Urbain (gäbrēĕl' ürbĕ' fôrā'), 1845–1924, French composer, pupil of Saint-Saëns In 1896 he succeeded Massenet at the Paris Conservatoire, where Ravel was among his pupils Fauré was its director, 1905–20 His works, largely of a refined, intimate quality, include nocturnes and barcarolles for piano, chamber music, and three operas He is best known for his Requiem (1888) and many exquisite songs See Charles Koechlin, *Gabriel Fauré* (Eng tr , 1945)

Faure, Jean Baptiste (zhäN' baptēst' fôr'), 1830–1914, French operatic baritone and composer, studied at the Paris Conservatoire He is remembered chiefly for his sacred song *Les Rameaux* (*The Palms*, 1861), which is very popular in American churches for Palm Sunday services

Faust (foust) or **Faustus** (fô'stus), in German legend, the tale of a learned doctor who surrendered his soul to the devil (personified by Mephistopheles in many literary versions) in exchange for youth, knowledge, and magical power Of obscure origin, the legend is supposedly based on the life of one Dr Johann Faust (d 1541), a scholar and savant about whom fanciful tales were told even in his lifetime. From 1570 on, the subject was treated in literature One of the best-known versions occurs in the *Volksbuch* of Johann Spies (1587), on an English version of which Marlowe based his play *Dr Faustus* (1593) The subject has since been treated by GOETHE and some 20 other German authors A recent variant of the Faust legend is Thomas Mann's novel *Doctor Faustus* (Eng tr , 1948) The Faust legend has been the subject of several operas opera in two acts, unrelated to Goethe's drama, music by Spohr, libretto by Bernhard (première, Frankfurt, 1818, London, 1852), *La Damnation de Faust*, a "dramatic legend in four parts," music by Berlioz, words partly translated by Gérard de Nerval from Goethe's drama and partly written by Berlioz (Paris, 1846, London, 1848, New York, 1880), opera in five acts, based upon Goethe's drama, music by Gounod, libretto by Barbier and Carré (Paris, 1859, London and New York, 1863), *Mefistofele*, perhaps the most dramatic setting of Goethe's *Faust*, both music and libretto by Boito (Milan, 1868, Bologna, 1875), *Le Petit Faust*, comic opera in three acts, music by D'Hervé, libretto by Crémieux and Jaime (première, 1869), *Doktor Faust*, an opera not related to Goethe's *Faust*, words and music by Busoni (Dresden, 1925) The legend also inspired Liszt's *Mephisto Waltz* and Faust Symphony See H E Krehbiel, *A Book of Operas* (1909), H G Meek, *Johann Faust the Man and the Myth* (1930), P M Palmer and R P More, *Sources of the Faust Tradition from Simon Magus to Lessing* (1936).

Fausta (Flavia Maximiana Fausta) (fô'stu), d c.326, Roman princess She was the wife of CONSTANTINE I, the daughter of MAXIMIAN, and the mother of CONSTANTINE II, CONSTANTIUS II, and CONSTANS I Her part in the murder of her stepson Crispus is said to have turned Constantine I against her, and she was murdered

Faustina (fôstī'nū), name of two women, wives of Roman emperors The elder (c 104–141) was the wife of ANTONINUS PIUS, who founded a school for orphan girls in her honor The younger (c 125–176), daughter of Antoninus Pius and the elder Faustina, was the wife of MARCUS AURELIUS, whom she accompanied on most of his campaigns, and she was termed Mater Castrorum [Latin,=mother of the camps] on the coinage

Faustulus (–tūlŭs), in Roman legend, shepherd, husband of ACCA LARENTIA, foster father of ROMULUS and Remus

Faustus, see FAUST

fauvism (fō'vĭzm [Fr *fauve*=wild beast], name adopted by a group of French painters including Matisse, Rouault, Derain, and Braque for a short-lived French art movement (1905–6) which preceded cubism Fauvism was essentially an expressionist movement, characterized by bold distortion and vivid color used for emotive effect.

Favart, Charles Simon (shärl' sēmŏ' fävar'), 1710–92, French dramatist and theatrical manager, for a time director of the Opéra-Comique He was the originator of the modern light opera and wrote, largely in collaboration with his wife, about 150 comedies and operettas, including *La Chercheuse d'esprit* (1741), *Les Amours de Bastien et de Bastienne* (1753), and *Les Trois Sultanes, ou, Soliman second* (1761). His wife, **Marie Justine Benoîte Duronceray Favart** (märē' shüstēn' bünwät' dürōsürā'), 1727–72, was a brilliant light-opera star.

Faversham, William (fā'vûrshŭm), 1868–1940, American actor, b London. He came to the United States on tour in 1888 and remained, joining the Empire Theatre Company in 1893. He played many Shakspearian parts but is remembered for his portrayal of the leading role in E M Royle's *Squaw Man* (1905–7)

Faversham (fā'vûrshum), municipal borough (1931 pop 10,091, 1943 estimated pop 12,080), Kent, England, WNW of Canterbury and on a small but navigable stream There are oyster fisheries under the management of an ancient guild Farm produce is exported to London, and brewing and cement-making are carried on King Stephen and Queen Matilda were buried in the Cluniac abbey here. The parish church is Early English The town was a seat of the Saxon kings Athelstan held a witenagemot here

Favorinus (fāvôrī'nŭs), b A D c 75, philosopher and writer, b Arles, in Gaul He wrote in Greek and knew many of the Roman great of his time including Emperor Hadrian, Plutarch, and Aulus Gellius

Favras, Thomas de Mahy, marquis de (tômä' du mäē' markē' dŭ fávras'), 1744–90, French royalist After the outbreak of the French Revolution, he plotted (1789) with the count of Provence (later Louis XVIII) to steal King Louis XVI away to Metz and, allegedly, to assassinate Bailly and Lafayette Favras was arrested but refused to divulge the details He was hanged

Favre, Jules (zhül' fa'vrŭ), 1809–80, French statesman At first a partisan of the July Monarchy, he joined the republican opposition to Louis Philippe After the February Revolution of 1848 he was one of the leaders of the provisional government of the Second Republic Under Napoleon III he was a leader of the constitutional opposition In 1858 he courageously defended Felice Orsini After Napoleon's downfall Favre was briefly foreign minister of the provisional government (1871), he resigned because of the hard conditions imposed by victorious Germany on France

Fawcett, Edgar (fô'sĭt), 1847–1904, American novelist and playwright, b New York city, grad Columbia, 1867 His opera libretto, *The New King Arthur* (1885), was moderately successful in the '80s, and of his plays the most popular was *A False Friend* (1880) His 35 novels, beginning with *Purple and Fine Linen* (1873), are satirical commentaries on New York life

Fawcett, Henry, 1833–84, English economist and statesman Blinded as a young man, Fawcett nevertheless played an important part in the radical politics of his day As a member of Parliament he achieved better finance methods for India, helped preserve public lands and forests, and opposed religious tests in the universities A follower of Mill, he was professor of political economy at Cambridge, and his *Manual of Political Economy* was widely popular As postmaster general under Gladstone he achieved several important improvements, such as parcel post, money orders, and postal savings His other works include *Pauperism* (1871) and *Free Trade and Protection* (1878) See biography by Leslie Stephen (5th ed , 1886) His wife, whom he married in 1867, was **Dame Millicent Garrett Fawcett**, 1847–1929, English suffrage leader, sister of Dr Elizabeth Garrett Anderson Active in the woman-suffrage movement in England after 1867, she became the leader of the nonmilitant suffragists. She was made Dame of the British Empire in 1924. Among her writings are *Political Economy for Beginners* (1870, 9th ed , 1915), *Some Eminent Women of Our Time* (1889), *The Women's Victory and After* (1920), and *What I Remember* (1925) See biography by Ray Strachey (1931)

Fawkes, Guy see GUNPOWDER PLOT.

Fay, Charles Ernest (fā), 1846–1931, American mountain climber, b Roxbury, Mass , grad Tufts College, 1868 He was instructor (1869–71) and professor (1871–1928) of modern languages at Tufts and helped found (1883) the Modern Language Association Better known as the "dean of American mountaineering," Fay was a founder of the Appalachian Mountain Club in 1876 and the first president (1902–8) of the American Alpine Club He was the first to climb many peaks of the Canadian Rockies, and his writings did much to make mountaineering popular in America Mt. Fay in the Canadian Rockies is named for him

Fay, Sidney Bradshaw, 1876–, American historian, b Washington, D C , grad Harvard (B A , 1896, Ph D , 1900) He also studied at the universities of Paris and Berlin Fay, professor of history at Dartmouth (1902–14), Smith College (1914–29), and Harvard (1929–46), earned his name as an authority on European diplomatic history. Best known of his books is *The Origins of the World War* (1928, 2d ed , revised, 1930) He also wrote *The Rise of Brandenburg-Prussia to 1786* (1937), made the translation *World History, 1815–1920* (1922) from Eduard Fueter's work and *The German Catastrophe* (1950) from that of Friedrich Meinecke, and was an editor of *A Guide to Historical Literature* (1931).

Fay, Theodore Sedwick, 1807–98, American author and diplomat, b New York city. He was one of the editors of the *New-York Mirror*, for which he wrote the essays collected in *Dreams and Reveries of a Quiet Man* (1832) His novels, full of melodrama and sentiment, were popular in their day, and Poe stirred up a literary sensation when he savagely attacked *Norman Leslie* (1835) Fay lived his later life in Europe and was (1853–61) resident U S minister in Switzerland. He wrote poetry and textbooks One of his later works was *The Three Germanys* (1889).

Fayal, Port *Faial* (fäyäl'), island, in the N Atlantic, one of the Azores It is in Horta dist , named for its chief town and port Horta. Fruit is exported

Fayette. **1** City (pop 2,668), co seat of Fayette co , NW Ala , WNW of Birmingham, inc 1821 It has a textile mill. **2** Town (pop 1,162), NE Iowa, on the Volga and NE of Waterloo, inc 1874 Upper Iowa Univ (coeducational, 1857) and an old church (1876) are here Near by is Brush Creek Canyon State Park **3** Commercial city (pop. 2,608), co seat of Howard co , N central Mo , near the Missouri R NW of Columbia, founded 1823 Central College (Methodist, coeducational, 1855) is here

Fayette City, borough (pop 1,598), SW Pa , on the Monongahela and S of Pittsburgh, settled 1794

Fayetteville (fā'ĕtvĭl) **1** City (1940 pop 8,212, 1947 special census pop 13,052), co seat of Washington co , NW Ark , in the Ozarks, founded 1828, inc 1836 It is a farm trade center with canneries and woodworking plants The Univ of Arkansas (see ARKANSAS, UNIVERSITY OF), which is here, maintains an agricultural experiment station near by Also near by are a U S soil conservation project, with recreational facilities, and a Methodist camp for summer conferences Because of its strategic location during the Civil War, the city was captured by troops of both sides, several battles occurred in the area, including the battle of PEA RIDGE **2** Village (pop 2,172), central N Y., E of Syracuse, inc 1844 Chemicals, paper, and furniture are made here It was the boyhood home of Grover Cleveland **3** City (pop 17,428), co seat of Cumberland co , S central N C , at the head of navigation on the Cape Fear River and SSW of Raleigh It was founded in 1739 by Scottish immigrants as Campbelltown and was renamed for Lafayette in 1783 It has textile and lumber industries As the state capital (1789–93) the city was the scene (1789) of the state convention which ratified the U S Constitution In the Civil War, Sherman occupied the city and destroyed its arsenal (1865) A state teachers college for Negroes is here Near by is Fort Bragg (c 122,000 acres, est 1918), a U S military reservation, used principally as a field-artillery training center **4** Town (pop 4,684), co seat of Lincoln co , S Tenn , SSE of Nashville and on the Elk river near the Ala line, in a farm area An inn here dates from 1813 Near by is the site of Camp Blount, where troops were mustered (1813) for Andrew Jackson's expedition against the Creek Indians **5** Trading town (pop 1,347), co. seat of Fayette co., S W Va , SE of Charleston, in a farm and stock area, settled 1818 New River Gorge is near

Fayum or **Faiyum** (both flyo͞om', fä–), region, N Egypt, W of the Nile It is a depression made fertile by Nile water and silt, which are carried by the canalized Bahr-Yusuf river It produces cereals, fruits, sugar cane, and cotton In the W Fayum is Lake Karun, identified with the ancient Lake Moeris The entire Fayum is rich in archaeological remains Although little survives of the structures built by the kings of the XII dynasty, many papyri both in ancient Egyptian and in Arabic (8th cent) have been discovered The chief city, Fayum (pop 74,314), is a trading and rail center with cotton spinning The name also appears as Fayyum.

Fe, chemical symbol of the element IRON.

fealty: see FEUDALISM.

Fear, Cape, promontory on Smith Island, off SE North Carolina, at the mouth of the Cape Fear River A lighthouse (built 1903) is on the cape, and a lightship is stationed off the dangerous Frying-Pan Shoals, which extend c 20 mi to sea.

Fearne Islands, see FARNE ISLANDS

feast. For secular feasts, see HOLIDAY The principal Jewish feasts are ROSH HA-SHANAH, the Feast of TABERNACLES, HANUKKAH, PURIM, PASSOVER, and PENTECOST The Christian ecclesiastical year is based on two systems By far the greater number of feasts, excluding Sunday, the weekly feast, fall on the same day of the month each year (e.g., CHRISTMAS), but some of the most important liturgical observances are movable, notably, EASTER and the feasts calculated from it. The two systems meet in the system of ecclesiastical seasons. These are (in the Western Church) ADVENT, Christmas and its season, EPIPHANY and the time after Epiphany, LENT (with the three Sundays before Lent itself), Easter and its season (Paschal

time), and Pentecost (Whitsunday) and its season In the Church of England the last season is that of Trinity. There are also some feasts reckoned according to the Sunday, hence movable within a short period (e g , the Feast of Christ the King on the last Sunday of October) For liturgical and other purposes Christian feasts are classified according to importance, thus, Easter, Pentecost, Epiphany, and Christmas are the four principal feasts, in that order, of the Western Church The Roman Catholic Church requires the attendance of its members at Mass on certain feasts besides Sundays, in the United States these are Christmas (Dec 25), the Circumcision (Jan 1), ASCENSION DAY (movable), the Assumption of the Virgin (Aug 15), ALL SAINTS (Nov 1), and the Immaculate Conception of the Virgin (Dec 8) these are called holydays of obligation For feasts commemorating Jesus, see JESUS, for those of the Virgin, see MARY See also VIGIL and FASTING

Feather, river rising in N California in the Sierra Nevada Its forks meet above Oroville, from which point the river flows S into the Sacramento above Sacramento Its basin was a rich source of gold The river has recently been used for hydroelectric power

feathers, outgrowths of the skin characteristic only of birds Scientists consider them to be modified scales Feathers grow in definite lines or areas called feather tracts or pterylae Down feathers or plumulae form the first plumage of young birds The true feathers are attached to the base of the down feathers, which later rub off, and they are at first sheathed in a horny covering Each feather develops from a papilla composed of cells of both layers of the skin and embedded in a pit Blood vessels in the lower layer of skin (dermis) nourish the growing feather When it is full grown, the blood supply is discontinued, and the cells of the papilla remain dormant until they are stimulated to produce a new feather when one has been pulled out or molted A typical feather, such as a contour or body feather, consists of a shaft bearing barbs which bear smaller barbules with two kinds of microscopic projections, barbicels and hamuli or hooklets, these interlock to form a web, giving the feather stiffness Down feathers lack these projections Bristles are modified feathers Red, brown, and yellow are caused by pigment in the feathers, but refraction of light causes the appearance of metallic colors and of blue and green (except in the African touraco, in which green pigment is present)

Featherstone (fĕth'ûrstŭn, -stōn), urban district (1931 pop 14 955, 1943 estimated pop 13,690), West Riding of Yorkshire, England, SE of Leeds It is a coal-mining center

February, see MONTH

February Revolution, 1848, French revolution which overthrew the monarchy of LOUIS PHILIPPE and established the Second Republic It was caused partly by the king's increasingly reactionary policy, carried out after 1840 by François GUIZOT, partly by the dissatisfaction of the working class, whose condition had worsened as a result of the Industrial Revolution The discrepancy of aims between bourgeois revolutionists such as LAMARTINE and P T A MARIE and the radicals, led by Louis BLANC, contributed to the eventual failure of the revolution On Feb 22, 1848, street fighting began in Paris, on Feb 24 Louis Philippe abdicated The chamber of deputies appointed a provisional government, including Lamartine, LEDRU-ROLLIN, and GARNIER-PAGÈS, and, upon popular pressure, proclaimed a republic Thus the moderates prevented, from the start, the seizure of power by the radical Commune of Paris, which had set up its headquarters at the city hall To appease the workers, the government guaranteed the right to work and established the national workshops (Louis Blanc's scheme for public works), however, deliberately incompetent handling of the workshops soon discredited the plan Radical demonstrations (March) were turned into peaceful channels by Blanc himself, and the "specter of Communism" was temporarily laid Elections, held in April, gave a majority to the moderates, whose strength was greater in the provinces than in Paris. The provisional government was replaced by an executive commission (again including Lamartine and Ledru-Rollin), which late in May began the gradual dissolution of the national workshops The resulting workers' rebellion of the JUNE DAYS was drowned in blood After the completion of a republican constitution Prince Louis Napoleon (later NAPOLEON III) was elected president The February Revolution set off revolutions in most European nations, but, as in France, the movement failed virtually everywhere See Pierre de la Gorce, *Histoire de la seconde république française* (2 vols , 1886); Émile Levasseur, *Histoire des classes ouvrières et de l'industrie en France depuis 1789 à 1870* (2 vols , 1903–4), Alexis de Tocqueville, *Recollections* (Eng tr , 1949).

Fécamp (fākäN'), town (pop 16,072), Seine-Inférieure dept., N France It is a fishing port and bathing resort on the English Channel. Fécamp dates back to Roman times Its Benedictine abbey church, a magnificent example of 12th-century Norman architecture, was damaged in the Second World War The Benedictine monks here were the inventors of BENEDICTINE liqueur, for which Fécamp is famous

Fechner, Gustav Theodor (gōōs'täf tā'ōdôr fĕkh'nûr), 1801–87, German philosopher and physicist, founder of psychophysics, educated at Dresden and Leipzig He became professor of physics at Leipzig in 1834 but was forced by ill-health to leave in 1839 Thereafter he devoted himself largely to the study of the relationship between body and mind, though under the name "Dr Mises" he also wrote humorous satire In philosophy he was an animist, holding that life is manifest in all objects of the universe His greatest achievement was in the investigation of exact relationships in psychology and aesthetics He formulated the rule known as Fechner's or Weber's law, that, within limits, the intensity of a sensation increases as the logarithm of the stimulus Fechner's most important work was *Elements der Psychophysik* (1860) See selections tr into English by Walter Lowrie as *Religion of a Scientist* (1946); G S Hall, *Founders of Modern Psychology* (1912)

Fechter, Charles Albert (fĕk'tur), 1824–79, Anglo-French actor, b England He made his debut (1844) at the Comédie Française and later appeared with Rachel but left France to perform in Berlin (1846) and in London (1847) He returned to Paris (1852) and, creating the role of Armand Duval in *La Dame aux camélias* by Dumas fils, speedily became the leading romantic actor of his time He played in English in *Hamlet*, in London (1861), and in Hugo's *Ruy Blas* in New York (1870) After 1870 he remained in the United States

Feckenham, John de (fĕk'ŭnŭm), 1518?–1585, English abbot He became a Benedictine monk at Evesham, studied at Oxford, and later served as chaplain to the bishop of Worcester and to Edmund Bonner, bishop of London Feckenham's sympathies were Roman Catholic, and his fortunes varied under the successive Tudor monarchs He was confined to the Tower by Edward VI and kept there, except for a brief release to engage in religious disputations, until Queen Mary's accession He became chaplain to Mary and abbot of the reconstituted abbey of Westminster, he was the last mitered abbot to sit in Parliament After Elizabeth's accession (1558), although his previous relations with her had been friendly, Feckenham spent most of the rest of his life in confinement for his refusal to recant his Catholic beliefs

Federal Art Project see WORK PROJECTS ADMINISTRATION

Federal Bureau of Investigation, division of the U S Dept of Justice Created (1908) by the Dept of Justice Appropriation Act as the Bureau of Investigation, it conducted investigations only for the Justice Dept After J Edgar HOOVER became (1924) director of the Bureau of Investigation, Congress gradually added one duty after another to the jurisdiction of the bureau and reorganized (1933) it with wider powers as the DIVISION of Investigation in the Dept of Justice Designated (1935) the Federal Bureau of Investigation, the bureau has charge of the investigation of violations of federal laws The FBI investigates alleged violations of about 120 Federal statutes, including crimes that pertain to the internal security of the United States, e g , sabotage, conspiracy, and treason See Henry Lysing, *Men against Crime* (1938)

Federal Capital Territory see AUSTRALIAN CAPITAL TERRITORY

Federal Communications Commission, independent executive agency of the U S government established by the Federal Communications Act of 1934 The Federal Communications Commission replaced the Federal Radio Commission—set up by the Federal Radio Act of 1927 to regulate radio communications The Federal Communications Commission is composed of seven members—appointed by the President with the consent of the Senate for seven-year terms—who are authorized to classify radio stations, to prescribe the nature of their service, to assign broadcasting frequencies, and to carry out the regulations prescribed in the Federal Communications Act The FCC has jurisdiction over standard, high-frequency, relay, international, television, and facsimile broadcasting stations and also has authority over experimental, amateur, coastal, aviation, strip, and emergency radio services The commission is empowered to grant, revoke, renew, and modify broadcasting licenses

Federal Constitutional Convention. The government adopted by the Thirteen Colonies in America (see CONFEDERATION, ARTICLES OF, and CONTINENTAL CONGRESS) soon showed serious faults Congress, powerless to enforce its legislation, was unable even to obtain adequate financial support Though its achievements were not so inconsiderable as has been commonly thought, it was, on the whole, impotent, and federal authority was too weak to be of consequence The central government was unable to enforce any obligations it entered into with foreign nations Severe economic troubles produced radical economic and political movements, such as Shays's Rebellion The monetary schemes of the states brought floods of paper money, which some of the states, notably Rhode Island, attempted to force upon its citizens The threat to economic stability alarmed the wealthy and conservative class, the merchants, who found the state tariffs not to their liking, were also harassed by the impossibility of reaching stable agreements with the English merchants They were anxious to have a stronger federal government to guarantee order and property rights The men who had money invested in Western territories also favored a stronger federal government controlling the territories Therefore, agitation for the adoption of a stronger union grew steadily in force Its advocates were zealous James MADISON and George WASHINGTON in Virginia, Alexander HAMILTON in New York, and James WILSON and Benjamin FRANKLIN in Pennsylvania all favored some new scheme The pamphlet of Pelatiah WEBSTER has been, perhaps, overemphasized by enthusiasts, feeling for union was general It was chiefly through the efforts of Madison that Virginia and Maryland agreed to a conference concerning navigation on the Potomac The conference met in 1785 at Alexandria and at Mt Vernon, but it was discovered that no agreements could be reached without the concurrence of Pennsylvania and Delaware The upshot was the calling of a general convention of the states This met at Annapolis in Sept , 1786, but delegates from only five states—Virginia, Pennsylvania, New York, New Jersey, and Delaware—arrived The delegates therefore contented themselves with calling a convention for constitutional purposes to meet at Philadelphia in May, 1787 Notice was sent to Congress, but the new convention was definitely extralegal in character This was the convention which drew up the CONSTITUTION OF THE UNITED STATES To it all the states except Rhode Island sent representatives The delegates on the whole came from the wealthier and more conservative ranks of society and included, besides Washington and the other proponents already mentioned, such leaders as Edmund RANDOLPH, Gouverneur MORRIS, Robert MORRIS, William PATERSON Charles PINCKNEY, C C PINCKNEY, Abrahain BALDWIN, Luther MARTIN, and Roger SHERMAN Washington was elected to preside The convention immediately set about drawing up a new scheme of government, but found itself faced with a rift It is customary to speak of the compromises of the Constitution, but actually the only real division lay between the smaller states, wishing to retain their power, and the larger states, wishing to have power fall where population and wealth lay It was agreed that the new Congress should be made an effective body, but as to its composition there was great difference of opinion This was the fundamental question—the apportionment of power in the new government Edmund Randolph offered a plan known as the Randolph, the Virginia, or the Large-State Plan, this provided for a bicameral legislature, the lower house to be elected according to population, the upper house to be elected by the lower William Paterson offered the New Jersey or the Small-State Plan, this provided for equal representation of states in Congress Charles Pinckney also prepared a plan, though its exact nature is today unknown Neither the large states nor the small states would yield, and for a time it seemed that the convention would break up Ellsworth of Connecticut finally offered a compromise measure which gradually won approval, this provided for a lower house to be elected according to population (the House of Representatives) and an upper house to be chosen by states (the Senate) After this initial compromise the way was easy It was agreed that Congress should have the power to lay direct but no indirect taxes, and the matter of counting slaves in the population for figuring representation was settled by a compromise agreement that three fifths of the slaves should be counted in apportioning representation and should also be counted as property in assessing taxes. Controversy over abolition of the importation of slaves ended with agreement that the importation should not be forbidden before 1808 There were, naturally, numerous other points of argument and some of the delegates were so disgusted that they went home and later led the fight in their states against the ratification of the Constitution James Madison was the chief drafter of the Constitution, Gouverneur Morris also having a hand in it The convention was in session until Sept 17, and the document was then sent to the states for ratification Delaware ratified it Dec 7, 1787, and although there were great struggles in most of the states (see FEDERALIST PAPERS and FEDERALIST PARTY), a sufficient majority to make it binding had ratified by the end of June, 1788 North Carolina and Rhode Island rejected the Constitution, but the majority clause brought the Constitution into force without them and they were forced to accept the Constitution later See Max Farrand, ed , *The Records of the Federal Convention of 1787* (3 vols., 1911), C A Beard, *An Economic Interpretation of the Constitution* (1925), Max Farrand, *The Framing of the Constitution* (1913) and *Fathers of the Constitution* (1921), Fred Rodell, *Fifty-five*

Men (1936), Carl Van Doren, *The Great Rehearsal* (1948)

Federal Council of the Churches of Christ in North America, interdenominational organization composed of some 25 Protestant churches It was founded in 1908 by the denominations "to express the fellowship and catholic unity of the Christian Church" The Council has no authority over its constituent bodies and no creed-making powers Its numerous functions to promote general spiritual welfare include an evangelistic program, aid in recruiting for the ministry, attempts to foster international and interracial cooperation and understanding, and assistance to communities in organizing local and state church councils

federal government, a union of states, forming a new body politic, which delegates some powers to the central government while the rest are held separately by the original governments Federal government has developed from the joining of states into confederations for some purpose, such as protection against a powerful enemy, with local autonomy preserved in other matters The Greek CITY-STATES formed such leagues, as did the Etruscans, the early Romans, and later the Italian and German cities of the 12th cent Commercial leagues such as the Hanseatic League had federal governments of a sort, and Switzerland and the United Netherlands grew from local federations in the Holy Roman Empire The confederation of the 13 English colonies in America was short-lived, and in 1789 the present Federal government of the United States was formed In 1867 Canada was federated Switzerland, in 1867, strengthened her federal central government The German Empire of 1871 was a strong federal government dominated by Prussia Australia achieved federal government in 1900, South Africa in 1909 Mexico, Argentina, and Brazil also have this form, and the USSR is a federal government Federal governments differ in the power delegated to the central government, but it is always more than in a confederation of states In the federal government, the central government has certain power over individuals as well as over local governments Federal powers usually include war, coinage, foreign relations, and commerce See FEDERATION See W F Dodd, *Modern Constitutions* (1909)

Federalist Papers, series of 85 essays written by Alexander Hamilton, James Madison, and John Jay in 1788 explaining and urging the adoption of the Federal Constitution, then before the states for decision Hamilton initiated the series and wrote about 50 of the essays Madison wrote perhaps 30, and Jay wrote 5 They were published in New York newspapers, widely copied in other papers, and subsequently gathered into book form The essays are notable for their literary quality as well as for their exposition of political philosophy They played an important role in securing the adoption of the Constitution The best editions are by H C Lodge (1891) and P L Ford (1898) See C A Beard, ed , *The Enduring Federalist* (1948)

Federalist party In the later years of the Articles of Confederation there was much agitation for a strong federal union, which was crowned with success when the Federal Constitutional Convention drew up the Constitution of the United States The men who favored the strong union and who fought for the adoption of the Constitution by the various states were called Federalists, a term made famous in that meaning by the *Federalist Papers* of Alexander Hamilton, James Madison, and John Jay After the new government was established under the presidency of George Washington, political division appeared within the cabinet, the opposing groups being headed by Alexander HAMILTON, and by Thomas JEFFERSON The party that emerged to champion Hamilton's views was the Federalist party The opponents, at first called Anti-Federalists, also coagulated into a Jeffersonian party that eventually became known as the Democratic party The issue had not yet been joined when John Adams was elected President, but the choice of Adams was, nevertheless, a clear Federalist victory The Federalists were the conservatives, favoring a strong centralized government, encouragement of industries, attention to the needs of the great merchants and landowners, and establishment of a well-ordered society In foreign affairs they were pro-British, while the Jeffersonians were pro-French The members of the Federalist party were drawn largely from the ranks of the wealthy merchants, the big property owners of the North, and the conservative small farmers and small-town businessmen Geographically, they were concentrated in New England, with a strong element in the Middle Atlantic states In the administration of John Adams there was trouble with France that led to virtual warfare in 1798 It led also to the ALIEN AND SEDITION ACTS, under which the Federalists, who mirrored the British reaction against all supporters of the French Revolution, prosecuted their opponents John Adams, who was a moderate and thoroughly honest man, followed the course he considered wise and by rejecting Hamilton's extreme desires caused something of a division in the Federalist ranks The Jeffersonians were meanwhile winning popular support not only among Southern landowners but also among the mechanics, workers, and generally the underprivileged everywhere Jefferson showed skill in building his party, and the Jeffersonians were much better publicists, than the Federalists The election of 1800 was, therefore, a Federalist debacle The Jeffersonians came to power and stayed there, establishing the so-called Virginia dynasty, with James Madison succeeding Jefferson and James Monroe succeeding Madison The Federalist party remained powerful locally, but more and more the leadership passed to the reactionaries, rather than the moderates It tended to become a New England party This trend was accentuated in the troublous period before the War of 1812 Merchants and shipowners were opposed to the EMBARGO ACT OF 1807, which worked great havoc in the seaboard cities, and their feelings were expressed through the Federalist party The Federalists, however, failed to enlist De Witt CLINTON and his followers in New York in their cause and their challenge in the elections of 1808 was easily overridden by the Jeffersonians Opposition to war brought the Federalists the support of Clinton and many others, and the party made a good showing in the election of 1812, winning New England (except for radical Vermont), New York, New Jersey, Delaware, and part of Maryland They failed, however, in Pennsylvania and lost the election While the country was at war, the disgruntled merchants of New England, represented by the ESSEX JUNTO, contemplated secession and called the HARTFORD CONVENTION Thus, paradoxically the Federalists became the champions of STATES' RIGHTS The successful issue of the war ruined the party, which became firmly and solely the party of New England conservatives The so-called "era of good feeling" followed, and politics was a matter of internal strife within the Democratic party The Federalist party did not even offer a presidential candidate in 1820, and by the election of 1824 it was virtually dead See J S Bassett, *The Federalist System* (1906), Claude Bowers, *Jefferson and Hamilton* (1925), W O Lynch, *Fifty Years of Party Warfare* (1931), L D White, *The Federalists* (1948)

Federal Power Commission, independent executive agency of the U S government established by the Federal Water Power Act of 1920 At first an interdepartmental agency of the War, Interior, and Agriculture departments, the commission was reorganized in 1930 The five commissioners are appointed by the President with the consent of the Senate The commission has control of the licensing of power sites on navigable rivers and public lands and of the location, design, and operation of hydroelectric projects on such sites An investigation of each proposed project is made by the commission to determine if it is in public interest, taking into consideration such matters as navigation, irrigation, flood control, and water supply The commission has the duty of determining the rental for the site and of regulating rates and services (see also RECLAMATION, BUREAU OF) General investigations of power resources may also be conducted by this agency The FPC was given (1938) similar jurisdiction over natural-gas projects, facilities, and rates The commission was also given added authority to supervise various parts of such federal hydroelectric projects as the Tennessee Valley Authority

Federal Reserve System, central banking system of the United States Established in 1913, it began to operate in Nov , 1914 Its setup, though somewhat altered since 1914, particularly by the Banking Act of 1935, has remained substantially the same The Federal Reserve Act created 12 regional Federal reserve banks, supervised by a Federal Reserve Board Each reserve bank is the central bank for its district The boundary lines of the districts were drawn in accordance with broad geographic patterns of business, and the banks were placed at Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St Louis, Minneapolis, Kansas City, Dallas, and San Francisco All national banks must belong to the system, and state banks may if they meet certain requirements Member banks hold the bulk of the deposits of all commercial banks in the country Each member bank is required to own stock in the Federal reserve bank of its district and must maintain legal reserves on deposit with the district reserve bank These required reserves are proportionate to the member bank's own deposits, the proportion varying according to the location of the member bank and the character of its deposits Each reserve bank is managed by a board of nine directors (three appointed by the Federal Reserve Board, six by the local member banks) The Board of Governors designates one of the directors it appoints as chairman and Federal reserve agent to report to the Board. The board of directors appoints the bank's president and other officers and employees The operations of the Federal reserve banks, although not conducted primarily for profit, yield an income that is ordinarily sufficient to cover expenses, to pay a six percent cumulative dividend annually on the stock held by member banks, and to make additions to surplus The Board of Governors of the Federal Reserve System—the national supervisory agency—is composed of seven members appointed for 14-year terms by the President Its offices are in Washington, D C The Federal Open Market Committee comprises the seven members of the Board of Governors and five representatives of the Federal reserve banks, it directs the purchases and sales by the reserve banks of Federal government securities and other obligations in the open market The Federal Advisory Council consists of 12 members, one appointed annually by the board of directors of each reserve bank, it confers from time to time with the Board of Governors on general business conditions and makes recommendations with respect to Federal reserve affairs The most important duties of the Federal reserve authorities relate primarily to the maintenance of monetary and credit conditions favorable to sound business activity in all fields—agricultural, industrial, and commercial Among those duties are lending to member banks, open-market operations, fixing reserve requirements, establishing discount rates, and issuance of regulations concerning these and other functions Member banks use their reserve accounts with the reserve banks in much the same way that a bank depositor uses his checking account They may deposit in the reserve accounts the checks on other banks and surplus currency received from their customers, and they may draw on the reserve for various purposes, especially to obtain currency and to pay checks drawn upon them But the required reserves also enable the Federal reserve authorities to influence the lending activities of banks So long as a bank has reserves in excess of requirements, it can enlarge its extensions of credit, otherwise it cannot increase its extensions of credit and may be impelled to borrow additional funds Inasmuch as the Federal reserve authorities have power to increase or decrease the supply of excess funds, they are able to exercise considerable influence over the amount of credit that banks may extend The principal means through which the Federal reserve authorities influence bank reserves are open-market operations, discounts, and control over reserve requirements Open-market purchases of securities by these authorities supply banks with additional reserve funds, and sales of securities diminish such funds Through the power to discount and make advances, the Federal reserve authorities are able to supply individual banks with additional reserve funds They may make these funds more or less expensive for member banks by raising or lowering the discount rate Discounts usually expand only when member banks need to borrow Raising or lowering requirements – within the limits imposed by law on the Board of Governors—as to the reserves that member banks maintain on deposit with the reserve banks has the effect of diminishing or enlarging the volume of funds that member banks have available for lending These several powers directly affect the volume of member-bank funds but have no immediate effectiveness in the use of those funds However, in the field of stock-market speculation the Federal reserve authorities have a direct means of control over the use of funds, namely, through margin requirements Another of the important functions of the Federal Reserve System is furnishing Federal reserve notes (now the most important element in the nation's currency for circulation The Federal Reserve System has achieved marked improvements in American monetary and banking institutions Its control over credit is a powerful influence on the nation's economic life See W R Burgess, *The Reserve Banks and the Money Market* (rev ed , 1946), E W Kemmerer, *The ABC of the Federal Reserve System* (12th ed , 1950), G L Bach, *Federal Reserve Policy-Making* (1950)

Federalsburg, farm trading town (pop 1,748), Eastern Shore, Md , SE of Denton, settled 1852

Federal Theatre Project. see WORK PROJECTS ADMINISTRATION

Federal Trade Commission (FTC), independent commission of the U S government established under the Federal Trade Commission Act of 1914 It has five members appointed by the President, with the consent of the Senate, for seven-year terms The act was part of the program of Woodrow Wilson to check the growth of monopoly and preserve competition as an effective regulator of business The duties of the FTC are, in general, to promote fair competition through the enforcement of certain antitrust laws, to prevent the dissemination of false and deceptive advertising of goods, drugs, curative devices, and cosmetics; and to investigate the workings of business and keep Congress and the public informed of the efficiency of such antitrust legislation as exists, as well as of practices and situations that may call for further legislation The commission's law-enforcement activities have to do with the prevention of unfair methods of competition and false advertising (in accordance with the Federal Trade Commission Act and the Wheeler-Lea Act of 1938), with administration of provisions restricting tying and exclusive dealing contracts, acquisition of capital stock, interlocking directorates, and price discrim-

inations (in accordance with the Clayton Anti-Trust Act of 1914 and the Robinson-Patman Act of 1936), and with administration of the Webb-Pomerene Act of 1918, which permits associations to engage in export trade without incurring the penalties of the Sherman Anti-Trust Act In 1946 the FTC was given the right to cancel faulty trademarks The commission may undertake special investigations at the order of Congress, the President, or upon its own initiative Its powers do not extend to banks or common carriers, which are under the supervision of other governmental agencies To enforce antitrust legislation, the commission is empowered, upon ascertaining to its satisfaction that the laws are being violated, to issue cease-and-desist orders These orders, to be effective, usually must have court sanction, and the commission must, therefore, in various instances prove its case in court The courts in deciding have interpreted and applied the phrase "unfair methods of competition" Many of the judicial decisions have frustrated the work of the commission in restricting the growth of monopoly and also, to some degree, the intent of the antitrust laws Yet the commission has done much toward ridding the business world of vicious competitive practices In its investigatory work, the commission was delegated the power to require information from any corporation in interstate commerce Many companies, however, gave only partial access to their records, and others gave none A decision by the Supreme Court declared that access to records of private business, except where substantial proof is submitted as to a specific breach of the law, is a violation of the Fourth Amendment Despite the fact that the commission's investigatory power was thus greatly limited, it has made and published a notable series of investigations After the checks received in the courts, the commission tended more and more to carry out its recommendations through trade-practice conferences, at which representatives of an industry might voluntarily adopt regulations to control competition in that industry See the annual reports of the commission, T C Blaisdell, Jr, *The Federal Trade Commission* (1932), Carl McFarland, *Judicial Control of the Federal Trade Commission and the Interstate Commerce Commission* (1933)

Federal Writers' Project see WORK PROJECTS ADMINISTRATION

Federated Malay States see MALAYA

federation, a group of states in which sovereignty is divided between the central government and component political units A federation differs from a unitary state in that its component parts share with the central authority in the sovereign power and from a confederation in that the central power acts directly upon individuals, thus implying the possibility of dual allegiance In order to reconcile the need for unity with the desire of the component states for autonomy, the uniting states delegate certain powers to a central authority Thus the chief political problem of a federation is likely to be the allocation of sovereignty The Greek city-states failed to solve this problem, although religious and political federations were often attempted and the Aetolian and Achaean leagues had many of the institutions of federal government The primacy of the central over the state governments was not resolved in the United States until after the Civil War If the federation is to endure, substantial powers over matters affecting the people as a whole, such as external affairs, must be granted the central government, but retention of jurisdiction over local affairs by the states promotes efficiency and makes allowance for local feelings The distribution of powers between the federal and state governments is usually accomplished by means of a written constitution, for a federation does not exist if authority can be allocated by ordinary legislation The supremacy of the constitution implies the presence of a judicial body to interpret it, in American practice this function is performed by a powerful Supreme Court A fairly uniform legal system, as well as cultural and geographic affinities, is necessary for the success of a federation Interesting varieties of federation are the Swiss, where the federative principle is carried into the executive branch of government, the Australian, which closely reflects American states' rights and judicial doctrines, and the Canadian, which reverses common federative practice and allots residuary rights to the dominion government The League of Nations established after the First World War and the United Nations established after the Second World War represent embryonic attempts to achieve federation on a world scale See CITY-STATE and DEMOCRACY See James Bryce, *The American Commonwealth* (1888)

Federmann, Nikolaus (nē'kōlous fā'dûrmän), 1501–42, German adventurer in Venezuela and Colombia In the service of the Welser brothers, Augsburg bankers to whom Charles V had granted rights in Venezuela, Federmann first landed at CORO in 1530 Contrary to the orders of his commander, George op Speyer, Federmann began his search for EL DORADO in 1535, going south to explore the Colombian llanos. Hearing of JIMÉNEZ DE QUESADA, Federmann and his men climbed the Andes, met Quesada, and in return for a large payment agreed not to dispute the latter's claims An attempt by BENALCÁZAR to join with Federmann against Quesada failed Entering Bogotá, the commanders settled their differences and returned (1539) to Europe to confirm their claims Federmann, involved in a suit in which he accused the Welsers of defrauding the emperor, died in Madrid after confessing his accusation to have been false

Fedor. For Russian rulers thus named, see FEODOR

Fee, John Gregg, 1816–1901, American abolitionist clergyman, b Bracken co, Ky After two years (1842–44) at Lane Theological Seminary, Cincinnati, he devoted himself to the abolitionist cause in Kentucky, for which he was disinherited by his slaveholding parents He founded antislavery churches, notably one at Berea, where he also established an abolitionist school which became BEREA COLLEGE Driven from Kentucky in 1859, Fee was not allowed to return until 1863 He spent the rest of his life in Berea as pastor of the church and a trustee of the college See his autobiography (1891)

fee, in property law see PROPERTY and TENURE

feeble-mindedness, state of arrested mental development In the United States the three recognized degrees of feeble-mindedness are idiocy, imbecility, and moronity Idiots (I Q, 0–25) never exceed the mental age of 3 years and require constant supervision throughout life Imbeciles (I Q, 26–50) range from 3 to 7 years of mental age and with careful direction can be taught to carry out simple tasks, although they rarely learn to read Morons (I Q, 51 70), ranging from 8 to 12 years in mental age, can generally be taught, if adequately supervised, to perform manual labor of moderate complexity, such as the operation of lathes and sewing machines Observable physical defects, found in less than 10 percent of the feeble-minded, are cretinism, caused by an underactive thyroid gland which stunts growth, Mongolism, so called because of the superficial resemblance to Mongolians and believed to be the result of an unknown influence on the embryo, microcephalia, characterized by small skulls and receding foreheads resulting from injury to the fetus, and hydrocephalia (having a high infant mortality rate), evidenced by large heads and protruding foreheads, the cause of which is unknown While heredity is chiefly responsible for mental deficiency, other known causes are disease, glandular disturbance, and birth injury The development of institutions to treat and study the feeble-minded was given impetus by Dr Édouard Seguin, of Paris, who came (c 1850) to the United States Though there are a great many institutions throughout the United States—notably those at Faribault, Minn, and Vineland, N J —only about 10 percent of the feeble-minded are institutionalized See L S Penrose, *Mental Defect* (1933), L S Hollingsworth, *The Psychology of Subnormal Children* (1936)

Feehan, Patrick Augustine (fē'un), 1829–1902, American Roman Catholic churchman, first archbishop of Chicago (1880–1902), b Co Tipperary Ireland He studied at Maynooth and came to America in 1852 He lived from then on in St Louis as a parish priest except for a period as rector of the Carondelet seminary In 1864 he was made bishop of Nashville, the diocese being in a completely ruined condition He rebuilt churches and schools and ministered untiringly When Chicago was made an archepiscopal see, he went there (1880) and devoted himself to the poor immigrants, who were arriving daily He built many schools and institutions His devotion to the people was evident in his ministrations in the cholera epidemics of 1853 and 1878

Fehling, Hermann von (hĕr'man fŭn fā'lĭng), 1812–85, German analytical and industrial chemist He was professor from 1839 at the technical institute at Stuttgart He is best known for originating

Fehling's solution or **Fehling solution,** commonly used to test for glucose, fructose, and certain other reducing agents (substances causing removal of oxygen from a compound by union of the oxygen with another material) The solution consists of two parts (combined just before using)—a solution of cupric sulphate and an alkaline solution of Rochelle salt When heated in the presence of the reducing agent, the blue color of Fehling's solution is destroyed and a red precipitate, cuprous oxide, is formed

Fehmarn (fā'marn), island (69 sq mi, pop c 22,000), off Schleswig-Holstein, N Germany, in the Baltic Sea It has fertile soil and pastures Burg (pop c 6,700) is the chief town

Fehmgericht see VEHMGERICHT

Feijóo y Montenegro, Benito Gerónimo: see FEYJÓO Y MONTENEGRO, BENITO GERÓNIMO

Feininger, Lyonel (fī'nĭng-ur), 1871–, American painter and illustrator, b New York city The son of a violinist, he went to Germany in 1887 to study music but soon abandoned it for painting, which he studied in Berlin, Hamburg, and Paris He was an illustrator and caricaturist for several periodicals in Paris and in Germany and had a weekly comic page (1906-7) in the Chicago *Tribune* before he turned to easel painting in 1907 Feininger taught at the Bauhaus in Germany (1919–32) and at colleges in the United States He has exhibited in most European countries and is represented in New York in the Metropolitan Museum, the Museum of Modern Art, and the Whitney Museum and in other museums throughout the United States

Feisal I or **Faisal I** (both fī'sul), 1885–1933, king of Iraq after 1921 The third son of Husein ibn Ali, hereditary sherif of Mecca, he is also called Feisal ibn Husein or Feisal al Husein Feisal was educated in Constantinople and later sat in the Ottoman parliament as deputy for Jidda In the First World War he served with the Turkish army in Syria until 1916, when, escaping to Arabia, he joined in the revolt under T E LAWRENCE Feisal was disappointed in his expectation that the British would offer him the kingship of all Arab territory formerly in the Ottoman Empire His aspirations were partly satisfied in 1920, when a Syrian national congress proclaimed him king, but France, the mandatory power, forced him to abdicate later that year Largely at the urging of Gertrude M. L. BELL, the British, who held the mandate of Iraq, nominated Feisal as king, and he was confirmed by a plebiscite In Feisal's reign a constitution was adopted (1924) and the mandate was ended (1932) Generally he cooperated with the British He actively participated in government and encouraged improvements and the settlement of the Bedouin population

Feisal II or **Faisal II,** 1935–, king of Iraq He came to the throne in 1939 on the death of his father, King Ghazi I State affairs in 1950 were being conducted by the regent, Emir Abdul Ilah

Feith, Rhijnvis (rīn'vĭs fīt'), 1753–1824, Dutch romantic poet, novelist, and dramatist His principal works are the long poem on eternity *Het Graf* (1792) and the sentimental novel *Julia* (1783), which resembles Goethe's *Werther*

Feke, Robert (fēk), c 1705–c 1750, early American portrait painter, b Oyster Bay, N Y He practiced in Newport, New York, Philadelphia, and Boston Some of his finest works were produced in Boston His portraits accurately reproduce the elaborate costumes of the day The best known are Mary Wanton and Philip Wilkinson (Redwood Library, Newport, R I), Charles Apthorp (Cleveland Mus), Rev John Callender (R I Historical Society), James Bowdoin, Mrs James Bowdoin, William Bowdoin, and Mrs William Bowdoin (Bowdoin College, Brunswick, Maine) See biography by H W Foote (1930)

Feldberg (fĕlt'bĕrk), mountain, 4,898 ft high, S Baden SW Germany It is the highest peak of the Black Forest

Feldkirch (fĕlt'kĭrkh"), city (pop 17,061), Vorarlberg, W Austria It is a textile manufacturing center There is a large Jesuit academy

feldspar (fĕl'spär, fĕld'–) or **felspar** (fĕl'spär), mineral of which there are many widely distributed varieties As constituents of granite, gneiss, basalt, and other crystalline rocks the feldspars form a large part of the earth's crust Clay is the chief substance formed when weathering decomposes feldspars Feldspar crystals are either monoclinic or triclinic (see CRYSTAL), and all show clean cleavage planes in two directions Orthoclase feldspars, which have cleavage planes intersecting at right angles, are monoclinic The triclinic feldspars include the plagioclase feldspars (e g, albite, anorthite, and labradorite) and microcline, and their cleavage planes form slightly oblique angles Chemically the feldspars are silicates of aluminum, containing sodium, potassium, calcium, or barium or combinations of these elements Pure feldspar is colorless and transparent but the mineral is commonly opaque and found in a variety of colors Orthoclase and microcline are called potassium feldspars or potash feldspars, and usually they range from flesh color to brick red, although white, gray, and other colors are found They are used in the making of porcelain and as a source of aluminum in making glass A green variety of microcline known as amazonite or Amazon stone is used for ornament when cut and polished The plagioclase feldspars are commonly gray and occasionally red

Felegyhaza, Hungary see KISKUN FELEGYHAZA

Félibien, André, sieur des Avaux et Javercy (ādrā' fālēbyē' syûr' dāzävō ā zhavĕrsē'), 1619–95 French architect and writer Upon the establishment (1671) of the Académie de l'Architecture, he became its secretary As historian to Louis XIV, he assembled material for a history of the royal châteaux He did not complete the undertaking, however, from a manuscript copy of his notes, the Société de l'Histoire de l'Art français published in 1874 a volume entitled *Mémoires pour servir à l'histoire des maisons royales et bastiments de France* Among Félibien's other writings is *Entretiens sur les vies et sur les ouvrages des plus excellents peintres anciens et modernes,* valuable as material upon the history of French art

Felicity and Perpetua, Saints (purpĕ'chōōu), d 203, Carthaginian martyrs The contemporary account of their martyrdom is a treasure of patristic literature It is supposed by some to show traces of Montanism The martyrs are commemorated

March 6 or March 7 and are mentioned in the canon of the Mass after the consecration

Felix, Roman deacon, antipope (355–56) Emperor Constantius, an Arian, set him up to replace LIBERIUS He is wrongly known as Felix II

Felix V, antipope, see AMADEUS VIII

Felix, Antonius, fl A D 60, Roman procurator of Judaea, Samaria, Galilee, and Peraea (A D c 52–A.D 60), a freedman of Claudius I The apostle Paul addressed him at Caesarea on righteousness and the judgment to come and was held in custody for two years (Acts 24, 24) He married Drusilla, a Herodian princess He was succeeded by Porcius FESTUS, and when recalled to Rome, he only escaped being sentenced to death by Nero through the intercession of his brother, Pallas

Felixstowe (fē'lĭkstō), urban district (1931 pop 12,067, 1943 estimated pop 12,860), Suffolk East, England It is a fishing port, a seaplane base, and a summer resort with a good beach, golfing, tennis (annual matches), and yachting There are flour mills and electrical works Roman remains have been discovered in the vicinity

Fell, John, 1625-86, English clergyman He was dean of Christ Church and bishop of Oxford, but he is remembered today as the subject of Tom Brown's verse "I do not love thee, Dr Fell " While at Oxford, Fell initiated an extensive building program and restored high academic standards His chief literary work was a critical edition (1682) of St Cyprian

Fellenberg, Philipp Emanuel von (fĕ'lĭp ā'mä'nōōĕl fŭn fĕ'lunbĕrk), 1771–1844, Swiss educator and agriculturist He purchased (1799) an estate, "Hofwyl" (near Bern), where he put into practice his theory of combining farm training with a well-rounded education, encouraging productive labor, and bringing into contact pupils from different social levels His school attracted students from all parts of Europe and was influential in the development of educational theories and especially of manual training Fellenberg also founded an orphan asylum (1804), a colony for poor boys (1816), and other schools including a vocational school

Feller, Robert William Andrew (Bob Feller), 1918–, American baseball player, b Van Meter, near Des Moines, Iowa Famous for his extraordinary fast ball, Feller began pitching with the Cleveland Indians (American League) in 1936 In eight seasons of major-league play the right-hander pitched 2 no-hit and 10 one-hit games, he set two major-league records—the most strikeouts in one game (18 against the Detroit Tigers in 1938) and the most strikeouts in one season (348 in 1946) In the Second World War, Feller served (1941–45) in the U S navy See his autobiography, *Strikeout Story* (1947)

Fellin, Estonia see VILJANDI

Felling, urban district (1931 pop 27,040, 1947 estimated pop 25,040), Durham, England It is an industrial suburb of Gateshead with coal mining and metalworks

Fellows, Sir Charles, 1799–1860, English explorer and archaeologist In four expeditions to Asia Minor (1838–44), he discovered 15 ancient cities and brought back to England a large group of marbles now exhibited in the Lycian Room at the British Museum He was knighted in 1845 He wrote several books on his expeditions

felon, paronychia (pârunĭ'kēu), or **whitlow,** infection around the nail of finger or toe caused by staphylococcus bacteria There is inflammation with throbbing pain and swelling Pus may form and if there is no outlet, the abscess may extend to the tendons of muscles and to the bone This may lead to loss of use of the hand or foot, and some cases are fatal Hot soaks in epsom salts solution should be used early and the infected part kept at rest Most cases require careful watching in order to open the abscess surgically at the proper time

felony (fĕ'lunē) In early English law a felony was a heinous act which canceled the perpetrator's feudal rights and forfeited his lands and goods to the king, thus depriving his prospective heirs of their inheritance The accused might be tried by an appeal of felony, i e , personal combat with his accuser, the losing party to be adjudged a felon (see ORDEAL) The appeal of felony was gradually replaced by rational modes of trial and was altogether abolished in England in 1819 In addition to the forfeiture of his property, the convicted felon usually suffered death, long imprisonment, or banishment. Death was an especially common English penalty in the 18th and the early 19th cent To the list of common-law felonies —including murder, rape, theft, arson, and suicide—many were added by statute With the abolition of forfeitures in England in 1870 the felony acquired essentially its modern character of a grave crime contrasting with a MISDEMEANOR or petty crime Felony is used in various senses in the United States In some states the common-law definition is retained, in others, any crime calling for capital punishment or imprisonment for at least a year is felonious (e g , in New York), or else statutes specifically label certain crimes as felonies Other possible consequences of committing a felony are loss of the rights of citizenship, DEPORTATION if the felon is an alien, and liability to a severer SENTENCE for successive offenses. Felonies are usually tried by jury, and in some states the accused must first have been indicted by a grand jury.

felspar: see FELDSPAR

felt, fabric made by matting or felting together WOOL, hair, or fur, most of which have a natural tendency to snarl or cling together owing to their notched or scaly surfaces Processes of manufacture vary according to fibers used and purpose intended Woven felt is first made into coarse cloth, given a heavy nap by teasseling, then ironed down True felt is made by placing the cleaned fibers in the shape or mass desired, then beating, steaming, pressing, fulling, or otherwise compacting them to the required thickness For the finest hats, such as beaver hats, the fur and MOHAIR are placed and held in position (often by air suction), pressed and matted, then stiffened into permanent form Impregnated felts, designed for industrial uses such as roofing and sheathing, are made from waste and sometimes from paper treated with a stiffening or waterproofing substance Ancient writers mention feltmaking As an art it probably preceded spinning, having been used in N Asia for clothing, head coverings, tents, and decoration It is used for piano parts, covering and linings for furniture, slippers, polishers, surgical dressings, sound deadeners and interlinings

Felton, William Harrell, 1823–1909, American political leader, b Oglethorpe co , Ga , grad Univ of Georgia, 1842 After studying at the Medical Academy of Georgia (now part of the Univ of Georgia) at Augusta, he began to practice medicine, but gave it up for farming in 1847 Ordained a Methodist minister in 1848, he served occasionally in that capacity for the rest of his life He was a surgeon in the Civil War After the war he became the leading independent Democrat of Georgia, opposing reactionary machine politics He fought corruption and advocated legislation for elementary schools, higher education, penal reform, and better charitable institutions In 1874 he was elected to Congress as an independent in a bitter campaign against the party organization and served three terms before he was defeated Later, in the state legislature, he worked effectively for improved returns from the state-owned railroad In his long political struggle, his chief aid was his second wife,

Rebecca Latimer Felton, 1835–1930 Born near Atlanta, she wrote for the *Atlanta Journal* for nearly 30 years and was a champion of clean government, penal reform, temperance, and woman suffrage She was the first woman to enter the U S Senate, where she served briefly in 1922 by appointment Her writings include *My Memoirs of Georgia Politics* (1911)

Femgericht see VEHMGERICHT

feminism, in general, the movement for the political, social, and educational equality of women with men It had its roots in the humanism of the 18th cent and in the Industrial Revolution, both of which contributed to the emergence of society from a feudal aristocracy to an industrial democracy Women had been regarded as inferior to men physically and intellectually, their minds were assumed to be unfit for much learning Both law and theology had ordered their subjection Women could not in their own names possess property, engage in business, or control the disposal of their children or even of their own persons Although Mary ASTELL and others had pleaded earlier for larger opportunities for women, the first great feminist document was Mary Wollstonecraft's *Vindication of the Rights of Woman* (1792) In the French Revolution, women's republican clubs demanded that liberty, equality, and fraternity be applied regardless of sex, but the French woman's movement was extinguished for the time being by the Code Napoléon, partially repealed in 1938 In America, although Abigail Adams and Mercy Otis Warren had petitioned Washington and Jefferson to include woman's emancipation in the Constitution, the feminist movement really dates from 1848, when Elizabeth Cady Stanton, Lucretia Mott, and a few others, in a women's convention at Seneca Falls, N Y , issued a declaration of independence for women, demanding full legal equality, full educational and industrial opportunity, equal compensation and the right to collect wages, and the right to vote Led by Mrs Stanton and Susan B Anthony, the movement spread rapidly and soon extended to Europe Little by little, women's demands for higher education, entrance into all trades and professions, married women's property and other rights, and the right to vote were conceded In the United States after woman's suffrage was won in 1920, women were divided on the question of equal standing with men (advocated by the National Woman's party) versus some protective legislation For the political aspects of feminism, see WOMAN SUFFRAGE See John Stuart Mill, *The Subjection of Women* (1867), Havelock Ellis, *Man and Woman* (1894), Charlotte Perkins Gilman, *Women and Economics* (1908), Katharine Anthony, *Feminism in Germany and Scandinavia* (1915), Virginia Woolf, *A Room of One's Own* (1929), Ray Strachey, *Struggle* (1930), Mary Beard, *On Understanding Women* (1931); Winifred Holtby, *Women and a Changing World* (1935), Agnes Rogers, *Women Are Here to Stay* (1949).

Fen (fŭn), river, c 375 mi long, Shansi prov , China, flowing generally SW to the Yellow River It is not navigable

fence, in crime see STOLEN GOODS

fence [short for defense], barrier between two divisions of land, used to mark a boundary, to keep animals out or in, and sometimes for ornament In newly settled lands it is usually made of native materials, such as stone, saplings, or mud. When native materials become scarce or unobtainable, concrete, iron rails, woven wire, and BARBED WIRE are commonly used For fence posts, hard woods such as oak and chestnut are preferred, though soft woods may be treated with creosote to lengthen the life of the fence HEDGE fences are made of living trees or shrubs, grown close together and sometimes kept closely trimmed Electrified wire fences which deliver slight, intermittent shocks of electricity are sometimes used to keep animals either inside of or outside of the barrier

fencing, the art of attack and defense with foil, épée, saber, and similar weapons Fencing was refined as a means of combat when heavy armor declined after the introduction of firearms With the realization of the greater effectiveness of piercing the joinings of armor with a point, rather than by cutting or crushing, a light, maneuverable weapon was needed Thus the rapier—with a sharp point and with cutting edges as well—displaced (first in Italy) the heavy, cumbersome, double-edged sword The épée, a further refinement, is a straight, narrow, and stiff thrusting weapon without cutting edges The foil—a light flexible thrusting weapon with a blunted point—was introduced into the fencing *salle* as a practice weapon, and from the foil and its use fencing developed from a means of combat to an organized sport Today fencing societies exist in many European and American cities, and in 1920 for the first time the sport was included in the Olympics Fencing matches may be conducted among individuals or between teams of four (one member serving as alternate) A button blunts the weapon's tip, and points are scored by touching the opponent With foil and épée touches are made with the point, the rules governing the use of the two weapons varying mainly because of the difference in the sizes of the target (the torso only in foil, the whole body in épée) and because of the number of touches which wins (5 in foil, 3 in épée) The saber—a light weapon with a theoretical cutting edge along the front and along one third of the back edge—is also used in the sport of fencing Saber touches are made mostly by cutting, though a touch with the point may also be made The saber target is the torso, including head and arms Five touches win Because of the speed of the action, fencing is one of the most difficult sports to referee A bout is ruled by a director and four judges, a score-keeper keeps the record Fencers attack and parry on a strip (40 ft long and about 6 ft wide) which is marked off by a center line and two other parallel warning lines 10 ft from each end, beyond which the fencer may not step without penalty Women, too, engage in fencing—but using only the foil Besides his standardized weapons, a fencer requires protective equipment—a mask, a padded jacket, and a glove In international competition the French school has achieved note in foil and épée, the Italian in saber and foil, and the Hungarian in saber See Luigi Barbasetti, *The Art of the Foil* (1932), Aldo Nadi, *On Fencing* (1943), Clovis Deladrier, *Modern Fencing* (1948)

Fénelon, François de Salignac de la Mothe (frāswȧ' dŭ sälēnyäk' du lä môt' fänulō'), 1651–1715, French theologian and author, archbishop of Cambrai He was appointed tutor to the young duke of Burgundy, for whom he wrote *Télémaque* (1699), his most famous work His other writings are a treatise on the education of young girls (1687), used by Mme de Maintenon for her fashionable school at Saint-Cyr, and his *Lettre à l'Académie* (1716) Fénelon's defense of QUIETISM brought him into a prolonged quarrel with Bossuet, his former patron, which was settled by the pope in Bossuet's favor Fénelon was banished to Cambrai, where he devoted himself to his pastoral duties.

Fenelon Falls (fē'nulŏn), village (pop 1,158), S Ont , on the Fenelon river and N of Lindsay, in a lumbering and farming area

Fengkieh (fŭng'jĭĕ'), Mandarin *Feng-chieh*, city and county (pop 408,846), E Szechwan prov , China The city is on the Yangtse river at the beginning of the series of gorges which extends to Ichang, Hupei prov. The city was formerly called Kweichow

Feng Yu-hsiang (fŭng' yü'-shyäng'), 1880–1948, Chinese general. He held various military positions under the Ch'ing dynasty. Feng's conversion to Methodism in 1912 gained him the sobriquet the Christian General From 1920 to 1926 he struggled with Wu Pei-fu and Chang Tso-lin for the control of N China and Manchuria. He later held high offices in the Chinese central government, including the ministry of war and membership on

the Kuomintang central executive committee In 1947, while in the United States on an official mission, he denounced the government of Chiang Kai-shek Feng died in a fire aboard a Russian ship, apparently while en route to a conference with the Chinese Communists

Fenian movement (fē'nēun). The Fenian Brotherhood, known variously as the Fenian Society, the Irish Republican Brotherhood, and Irish-American Brotherhood, was a secret revolutionary society, organized c 1858 in Ireland and the United States to achieve Irish independence of England by force of arms Irish discontent with English rule was brought to a crisis by the famine of the 1840s and culminated in the abortive Young Ireland rising of 1848, led by William Smith O'Brien Vast numbers of embittered Irishmen emigrated to the United States, where they redoubled their agitation against England John O'Mahoney, one of those revolutionists driven abroad after 1848, was the organizer of the movement in the United States, and it was he who gave the society its name, reminiscent of the ancient Irish military corps led by Finn mac Cumhail In Ireland the movement was led by James Stephens (1825–1901), who founded the party organ, the *Irish People*, in Dublin, in 1863 The movement made its chief appeal to artisans and shop assistants rather than to the agrarian population The Roman Catholic Church was opposed to the society and doubtless kept many potential members from joining its ranks As the movement became stronger and rumors of actual plots arose, the British government took steps to crush it In 1865 the *Irish People* was suppressed and Stephens was arrested, although he escaped to America In 1866 the writ of habeas corpus was suspended in Ireland, and many Feinans were confined Initiative shifted to America, where a huge store of arms and money had been accumulated by the Fenians, and many Irish-American Civil War veterans were anxious to strike a blow against England In 1867 a ship, renamed *Erin's Hope*, was outfitted and sailed to Ireland The Fenians aboard were captured in an attempt to land In the same year there were several small-scale risings in Ireland The extensive plans included an uprising among the Lancashire Irish Two Irish-Americans were arrested for agitation in England As they were being taken through Manchester the police van was attacked by Fenians and in the scuffle a policeman was killed Three of the attackers were captured and were executed on Nov 23, 1867 Intense feeling among the Irish was aroused by the execution of these Manchester martyrs In the same year the Fenians attempted to rescue a Fenian prisoner in Clerkenwell prison in London by blowing in the wall Another Fenian was executed for the resulting deaths Agitation was continued and terrorism was condoned by many as a result of the feeling aroused by the executions The long-range effect of the Fenian movement was to draw the attention of the English Parliament to Irish problems The Fenian movement in America had a career of its own In 1865 a convention at Cincinnati determined upon an invasion of Canada In June, 1866, Gen John O'Neill (1834–78) with about 800 men crossed the Niagara river and captured Fort Erie His force was soon cut off by U S troops, and he was obliged to retreat toward Buffalo Some 700 men were arrested An attack on Campobello island was also frustrated O'Neill became president of the society and prepared for raids on the border towns of St Albans and Malone in 1870, these, too, were unsuccessful O'Neill and many other participants were arrested The raids added to the strained relations between England and the United States at the end of the Civil War, but their more important effect was encouraging confederation in Canada by the threat of invasion The movement continued until the First World War, but its influence was largely drawn off into new organizations, notably Sinn Fein, founded by Arthur Griffith, a former Fenian See Davitt, Michael, and Rossa, O'Donovan For bibliography, see Ireland

Fenians (fē'nēunz) [Irish *Fianna*, cf Fianna Fail] A professional military corps that wandered about ancient Ireland in the service of the high kings They figure in the legends clustered around Finn mac Cumhail and Ossian

Fenn College see Cleveland, Ohio

fennel, name for Old World herbs of the genus *Foeniculum*, particularly *Foeniculum vulgare* and two closely allied plants sometimes considered varieties These have licorice-scented foliage and seeds, used (particularly by Italians) as a potherb and a flavoring for sauces, bread, and liqueurs, the oil is used as a carminative and stimulant. The sweet fennel or finochio has a bulbous-based stalk eaten like celery Traditionally the fennel is a symbol of flattery, a cure for failing eyesight, and an exciting agent Fennels are cultivated in California, they have fine thready foliage and flat-topped clusters of yellow flowers The name fennel is sometimes incorporated in other plant names, as the fennelflower (see Love-in-a-mist)

Fennimore, city (pop 1,592), SW Wis., SE of Prairie du Chien, inc. 1919 Dairy products are made It is headquarters for a U S soil conservation project

Fenollosa, Ernest Francisco (fēnulō'su), 1853–1908, American Orientalist, educator, and poet, b Salem, Mass., grad Harvard, 1874 He lived in Japan from 1878 to 1890, spent the next seven years as curator of the Oriental department of the Boston Museum, and in 1897 returned to Japan for three years Besides teaching at Tokyo Univ, the Tokyo Academy of Fine Arts, and the Imperial Normal School, he was manager of the fine arts department of the Imperial Museum in Tokyo His works include *East and West the Discovery of America and Other Poems* (1893), *Epochs of Chinese and Japanese Art* (2d ed, 1912), compiled by his widow, Mary McNeil Fenollosa, and two works on Japanese drama (ed by Ezra Pound, 1916)

Fenris, in Norse mythology, a great wolf, son of Loki, chained by a magic bond until Ragnarok (Judgment Day), when he would swallow Odin

Fens, the, district, England, W and S of the Wash, including parts of the counties of Bedford, Norfolk, Cambridge, Huntingdon, and Lincoln It extends c 70 mi from north to south and c 35 mi from east to west and is traversed by the Witham, Welland, Nene, Ouse, and other streams The area was originally a swampland, formed by the silting up of a bay of the North Sea The higher places were sites of Roman stations, the Romans attempted drainage and built roads across the Fens The first effective drainage systems were developed after 1621 by the Dutch engineer Cornelius Vermuyden Drainage and the construction of dikes in various sections or "levels" (e g, Bedford Level) continued through the 18th and 19th cent, and the district is now largely under cultivation, the alluvial soils are very fertile Small game abounds in the wilder parts

Fenton, Edward, d 1603, English navigator He fought against Shane O'Neill's rebels in Ireland (1566) and commanded the *Gabriel* in Frobisher's second expedition (1577) to discover the Northwest Passage and the *Judith* in the third expedition (1578) While serving again in Ireland he was commissioned (1582) by the duke of Leicester to take a commercial expedition to the Moluccas and China by way of the Cape of Good Hope After an engagement off Brazil with three Spanish vessels he returned to England, having accomplished nothing In 1588 he was in command of the *Mary Rose* in the fleet against the Armada He translated *Certain Secret Wonders of Nature* (1569) from the French of Pierre Boaistuau See Hakluyt's *Voyages*

Fenton, Elijah, 1683–1730, English poet, chiefly remembered for his share in Pope's translation of the *Odyssey* (1725) Besides writing a volume of *Poems* (1708) and a tragedy, *Marianne* (1723), he edited Milton (1725) and Waller (1729) See Earl Harlan, *Elijah Fenton* (1937)

Fenton, Reuben Eaton, 1819–85, U S Senator (1869–75), b Carroll, Chautauqua co, N Y His early life was spent in logging and lumbering in W New York and Pennsylvania He was elected to the New York assembly in 1849 and to Congress in 1852 Although he was elected as a Democrat, his position on slavery led him to become a founder of the Republican party in New York He presided over the first Republican state convention, was a Republican member of Congress (1857–64), and in 1864 was elected governor, defeating Horatio Seymour. He was reelected in 1866 His administration was marked by progress in education, particularly in the establishment of normal schools, Cornell Univ was established during his governorship When Fenton entered the Senate, he immediately entered into dispute with Senator Conkling over control of the distribution of patronage Conkling, having the support of President Grant, won, and in 1874 he prevented Fenton's renomination Fenton spent his later years as a banker, and in 1878 he went to Paris as chairman of the U S commission to the International Monetary Conference

Fenton, part (since 1910) of Stoke-on-Trent, Staffordshire, England, in the Potteries district

Fenton, resort village (pop 3,377), S Mich, S of Flint, in a lake region, settled 1834, inc 1863 Marl taken from near-by lakes is used in the cement works here There are several Indian mounds W of Fenton

Fenwick, Benedict Joseph, 1782–1846, American Roman Catholic prelate, second bishop of Boston (1825–46), b. near Leonardtown, Md He was educated at Georgetown and Baltimore and entered the Jesuit novitiate in Georgetown He was ordained (1808) and in 1809 went to New York as parish priest. He was the principal priest in the region for many years and did much work in long tours about the country, visiting scattered Catholics In 1825 he became bishop of Boston, a see including all New England. He established Catholic education in his diocese and was instrumental in founding Holy Cross College at Worcester, Mass

Fenwick, Edward Dominic, 1768-1832, American Roman Catholic prelate, first bishop of Cincinnati (1822–32), b St Marys co., Md. He was educated in Belgium, joined the Dominicans (1790), and was ordained (1793). After a short imprisonment by the French republicans he went to England and taught at a new Dominican college in Surrey In 1804 he returned to America and set out for a Western mission. He set up the convent of St Rose of Lima, the first Dominican house in America, near Springfield, Ky, on land he bought He was an itinerant missionary in Kentucky and Ohio His chief center became Cincinnati, of which he was made bishop (1822) In 1831 he founded there the Athenaeum, now Xavier Univ

Fenwick, John, 1618–83, English Quaker colonist in America, b Berkshire, England Planning to found a Quaker refuge in America, Fenwick obtained (1673–74) Lord Berkeley's share of New Jersey in trust for the Quaker merchant Edward Byllynge, and in 1675 he and other Quakers founded at Salem the first permanent English settlement in New Jersey Conflict with Sir Edmund Andros over the administration of West Jersey led to Fenwick's imprisonment After his release most of his holdings were taken over by other proprietors

Fenwick, Sir John, 1645?–1697, English conspirator A persistent Jacobite plotter, he was arrested (1696) for conspiring to murder William III In his confession he tried to implicate leading Whigs in treasonable relations with James II Parliament secured his execution by voting a bill of attainder

Feodor I (Feodor Ivanovich) (fyô'dur, évä'nuvich), 1557–98, tsar of Russia (1584–98), son of Ivan IV (Ivan the Terrible) He left the government in the hands of his brother-in-law, Boris Godunov, who became tsar after Feodor's death

Feodor II, 1589–1605, tsar of Russia (1605) He succeeded his father, Boris Godunov, but was assassinated when the first false Dmitri was proclaimed tsar

Feodor III, 1656–82, tsar of Russia (1676–82), son and successor of Alexis Though an invalid, Feodor strove to carry out reforms In 1681 he abolished the system of precedence among the boyar families, which had caused interminable feuds He was succeeded by his brother Ivan V and his half brother Peter I under the regency of his sister Sophia Alekseyevna

Feodosiya (fyudô'shēu, -sē', Rus fā"ŭdô'sēū), city (pop 28,656), S European RSFSR, in E Crimea It is a major Black Sea port at the western end of the Feodosiya Gulf, exporting mainly grain The ancient Theodosia, it was founded (6th cent B C) by Greek colonists and shared the subsequent history of the Crimea The Genoese established (13th cent) a flourishing colony here and virtually monopolized Black Sea trade Under their rule the city was known as Caffa or Kaffa The khan of Crimea conquered it in 1475, and it remained under Turco-Tatar rule until the annexation (1783) of the Crimea by Russia During the Second World War, Tatar Feodosiya was twice occupied by the Germans (1941, 1942–44) There are ruins of the Genoese fortifications and an archaeological museum Feodosiya is also a health resort with a bathing beach, grape cure establishments, and mud baths

Ferber, Edna, 1887–, American novelist and playwright, b Kalamazoo, Mich Her first novel, *Dawn O'Hara* (1911), was followed by the serialized stories of "Emma McChesney," traveling saleswoman Her novels *So Big* (1924), *Show Boat* (1926), and *Cimarron* (1929) were all best sellers, and *Show Boat* with music by Jerome Kern was a successful musical comedy She collaborated with George S Kaufman on the plays *Dinner at Eight* (1932), *Stage Door* (1936), and *The Land Is Bright* (1941) Other works are the novels *Saratoga Trunk* (1941) and *Great Sons* (1945) and a collection of stories, *One Basket* (1947) See her autobiography, *A Peculiar Treasure* (1939)

fer-de-lance (fâr"-du-lās', -lans'), highly poisonous snake, about 5 to 6 ft long, found in tropical America and some of the West Indies It is related to the bushmaster and to the rattlesnake Since it hunts its prey, chiefly small mammals, at night, it is at that time most dangerous to humans

Ferdinand I, 1503–64, emperor (1558–64), king of Bohemia (1526–62) and of Hungary (1526–63), younger brother of Emperor Charles V Brought up in Spain, he was expected to succeed his grandfather, Ferdinand V of Aragon, who, instead, made Charles his heir In 1521 Charles gave him the Austrian duchies of the Hapsburgs In the same year Ferdinand married Anna, sister of Louis II of Hungary and Bohemia, in fulfillment of a treaty (1515) between his grandfather, Emperor Maximilian I, and Anna's father, King Uladislaus II On Louis II's death at Mohacs (1526) Ferdinand claimed the succession In Hungary he met the rival claim of John I (John Zapolya), supported by Sultan Suleiman I John's claims were inherited by his son John Sigismund (king as John II) The sporadic warfare in Hungary was indecisive, except that Ferdinand had to pay tribute to the sultan for the strip of NW Hungary which he was allowed to keep with the royal title In Bohemia, Ferdinand laid the groundwork for Hapsburg absolutism by virtually abrogating (1547) the prerogatives of the diet and the towns, he also began the reconversion of the kingdom to Catholicism by calling in the Jesuits. In Germany,

Ferdinand increasingly acted as agent of Charles V, who in 1531 had him elected king of the Romans He had to deal with the PEASANTS' WAR and with the rebellions stirred up by Ulrich I, dispossessed duke of WÜRTTEMBERG, where Ferdinand was unpopular as governor Ulrich and PHILIP OF HESSE defeated Ferdinand at Lauffen (1534) In the War of the SCHMALKALDIC LEAGUE, Ferdinand was an important figure Though a devout Catholic, Ferdinand was less committed against the Reformation than Charles V When Charles's triumph turned to defeat in the revolt of Maurice of Saxony, Ferdinand acted as mediator in making the Treaty of Passau (1552), and in 1555 he negotiated a religious truce at Augsburg (see AUGSBURG, PEACE OF) Charles had practically surrendered the government of the empire to Ferdinand by 1556, though formal abdication was not complete until 1558 At the end of his reign, Ferdinand still hoped that the reconvened Council of Trent would bring about a union of the churches He was succeeded by his son, Maximilian II, who had been crowned king of Bohemia (1562) and king of Hungary (1563) and had been elected king of the Romans (1562) before Ferdinand's death

Ferdinand II, 1578–1637, emperor (1619–37), king of Bohemia (1617–27) and of Hungary (1618–26), successor of Matthias Grandson of Ferdinand I, son of Archduke Charles of Styria, Ferdinand was educated by the Jesuits and was a devout Catholic He was chosen successor to MATTHIAS and became, before the emperor's death, king of Bohemia and Hungary His Catholicism, however, alienated the Bohemian nobles, who rebelled In 1619 they chose FREDERICK THE WINTER KING as their ruler, and the THIRTY YEARS WAR began The Bohemians at first were successful and pressed upon Vienna, but Ferdinand's forces drove them back Ferdinand was inducted as emperor He allied himself with MAXIMILIAN I of Bavaria and the Catholic League, and in 1620 the battle of the White Mt won back Bohemia War continued in the Palatinate In Hungary, Gabriel BETHLEN was successful in opposing Ferdinand in 1619 and 1620, but a peace was signed in 1621 TILLY and WALLENSTEIN gained victories for the emperor in the general European war The imperial cause prospered, though Wallenstein was unable to take Stralsund, a favorable peace was made with Denmark In 1629, however, Ferdinand II issued the Edict of Restitution, ordering the restoration of the property secularized after 1552 This further antagonized the Protestant princes GUSTAVUS II (Gustavus Adolphus) of Sweden came into the war Ferdinand in 1630 dismissed Wallenstein but later (1632) restored him after a series of disasters In 1634 the general was assassinated, almost certainly at the instigation of Ferdinand The battle of Nordlingen marked the resurgence of the imperialists, but the war was wrecking Germany and the house of Hapsburg Yet the Peace of Prague (1635), the last important act of the irresolute Ferdinand, did not end the fighting The war reached its unhappy conclusion in the reign of his son, FERDINAND III

Ferdinand III, 1608–57, emperor (1637–57), king of Hungary (1626–57) and of Bohemia (1627–57), son and successor of FERDINAND II After the dismissal and assassination (1634) of Wallenstein, Ferdinand became nominal generalissimo of the imperial forces in the THIRTY YEARS WAR, but it was Gallas who was responsible for the imperial successes that culminated in the victory of Nordlingen (1634) After Ferdinand's accession, however, the war took a disastrous turn Though anxious for peace, Ferdinand rejected the early peace proposals, but in 1648 he had to assent to the treaties of Münster and Osnabrück (see WESTPHALIA, PEACE OF), which virtually ended the central power of the HOLY ROMAN EMPIRE The emperor and his successors were left only the shadow of the imperial dignity, and their power was restricted to the hereditary Hapsburg dominions In these dominions—a vast enough empire in themselves—Ferdinand devoted the rest of his reign to healing the wounds of war He was succeeded by his son, Leopold I

Ferdinand, 1793–1875, emperor of Austria (1835–48), son and successor of Emperor Francis II A well-meaning monarch in his lucid moments, he was subject to fits of insanity A council of state dominated by METTERNICH, governed in his name After revolution broke out in Vienna in 1848 the emperor promulgated (April) a constitution which failed to satisfy the revolutionists He fled from Vienna in May and—after the recapture of Vienna by Windischgratz—was forced by Felix zu SCHWARZENBERG to abdicate (Dec 2, 1848) in favor of his nephew, Francis Joseph

Ferdinand, 1861–1948, tsar (1908–18) of Bulgaria after being ruling prince (1887–1908) A grandnephew of Ernest I of Saxe-Coburg-Gotha, he was chosen prince of Bulgaria after the enforced abdication of Prince ALEXANDER (Alexander of Battenberg) He was, however, opposed by Russia, and it was not until 1896 that he was recognized by the European powers. In 1908, taking advantage of the Young Turk revolution in Constantinople and of the annexation of nominally Turkish Bosnia and Hercegovina by Austria, Ferdinand proclaimed the full independence of Bulgaria from the Ottoman Empire and proclaimed himself tsar Now favored by Russia, Ferdinand concluded (1912) an alliance with Serbia, later joined by Greece and Montenegro, the four allies, falling on Turkey, were victorious in the first of the BALKAN WARS (1912–13) Bulgaria emerged as the foremost military power of the Balkans To check it, Serbia and Greece, joined by Rumania and Turkey, attacked Bulgaria in the Second Balkan War (1913) and thoroughly humiliated it In the hope of recovering the loss of most of Macedonia to Serbia and Greece by the Treaty of Bucharest (1913), Ferdinand in 1915 joined the Central Powers in the First World War In 1917 the tide of war turned against Bulgaria, and in 1918 Ferdinand was forced to abdicate in favor of his son, Boris III Ferdinand left Bulgaria to spend most of the rest of his life at Coburg, Germany His death was erroneously announced in April, 1945

Ferdinand I, 1379?–1416, king of Aragon and Sicily and count of Barcelona (1412–16), second son of John I of Castile, nephew and successor of Martin I of Aragon In 1406 Ferdinand became regent of Castile during the minority of his nephew, John II He captured (1410) Antequera from the Moors and claimed the vacant throne of Aragon in the same year Finally chosen king in 1412, he restored order in Sicily and Sardinia and suppressed a revolt in Catalonia (1413) In 1415 he met Emperor Sigismund and was obliged to agree to the deposition of Antipope Benedict XIII (see LUNA, PEDRO DE) Ferdinand was succeeded by his son, Alfonso V

Ferdinand II, king of Aragon see FERDINAND V, Spanish king of Castile

Ferdinand I or **Ferrante** (fĕr-rän'tā), 1423–94, king of Naples (1458–94), natural son and successor (in Naples) of ALFONSO V of Aragon His succession was challenged by Pope Calixtus III, but Pope Pius II made peace with him Ferdinand promoted commerce, industry, and learning and tried to reform the fiscal system His authoritarian policy provoked several revolts of the great feudal barons In 1462 they called in John of Anjou (son of the rival king of Naples, RENÉ) They were defeated at Troja, and John left in 1464 Another conspiracy (1485) was ruthlessly repressed Ferdinand's son reconquered (1481) Otranto from the Turks, who had held it a year He was succeeded by Alfonso II (1494–95), Ferdinand II (1495–96), and Frederick (1496–1501), who were unable to defend the kingdom of NAPLES against France and Spain in the ITALIAN WARS

Ferdinand IV, king of Naples see FERDINAND I, king of the Two Sicilies

Ferdinand I, 1345–83, king of Portugal (1367–83), son and successor of Peter I His ambitions and his private life plunged the realm in disaster Called Ferdinand the Handsome and Ferdinand the Inconstant, he justified both nicknames His desire for the throne of Castile plunged him into war with HENRY II (Henry of Trastamara) of Castile In 1370 Ferdinand promised to marry Leonor, daughter of his ally, the king of Aragon In 1371 in a peace patched up with Castile, he promised to marry Leonor, daughter of Henry II Instead he fell in love with a Portuguese noblewoman, Leonor Teles, and, after securing a rather dubious annulment of her earlier marriage, made her his queen She exercised a baleful influence on the reign With the help of JOHN OF GAUNT, Ferdinand waged new war against Henry II, which led to a Castilian siege of Lisbon (1373) and a humiliating peace Hostilities broke out once more after John I succeeded to the throne of Castile The English alliance was resumed, but in 1382, Ferdinand abandoned his ally and made peace with John, who married the heiress to the Portuguese throne, Beatrice Portugal would thus have gone to Castile on Ferdinand's death, but feeling was strong against Leonor Teles, her lover (the conde de Ourém), her daughter, and her Spanish son-in-law A revolution gave the throne to John of AVIZ (John I)

Ferdinand II, 1816–85, titular king of Portugal (1837–55) Ferdinand, oldest son of Ferdinand, duke of Saxe-Coburg-Gotha, married MARIA II (Maria da Glória) of Portugal in 1836, and although given the title of king consort (1837) did not use the appellation until the birth of an heir From the death of the queen (1853) until the majority of his son (1855), he ruled as regent The government was left to ministers, while Ferdinand, a collector of note, occupied himself with art He was offered the Greek crown in 1862 and in 1869 refused the Spanish crown, probably on account of his recent marriage to the American singer, Eliza Hensler

Ferdinand, 1865–1927, king of Rumania (1914–27), nephew and successor of Carol I In 1893 he married MARIE, daughter of the duke of Edinburgh Although related to the German imperial family, he entered (1916) the First World War on the Allied side, and in 1922 he was crowned king of the greater RUMANIA established by the peace treaties Ferdinand annexed (1918) Bessarabia from Russia and in 1919 ordered the Rumanian military intervention in Hungary which broke up the Communist government of Bela Kun. During his reign important agrarian reforms and universal suffrage were introduced Ferdinand's son, Carol (see CAROL II), renounced his succession in 1925, and Carol's son, Michael, succeeded in 1927

Ferdinand I or **Ferdinand the Great,** d 1065, Spanish king of Castile (1035–65) and Leon (1037–65) He inherited Castile from his father, Sancho III of Navarre, conquered Leon, and took parts of Navarre from his brother García Ferdinand fought successfully against the Moors and reduced to vassalage the Moorish kings of Saragossa, Badajoz, Seville, and Toledo At the Council of Coyanza (1050) he confirmed the laws of Alfonso V and introduced church reforms He divided his kingdom among his sons, Castile went to Sancho II, Leon to Alfonso VI, and Galicia to García

Ferdinand II, d 1188, Spanish king of Leon (1157–88), son and successor of Alfonso VII He invaded Castile in the minority of his nephew ALFONSO VIII and fought the Moors in Estremadura His son, Alfonso IX, succeeded him

Ferdinand III, 1199–1252, Spanish king of Castile (1217–52) and Leon (1230–52), son of Alfonso IX of Leon and Berenguela of Castile At the death (1217) of her brother, HENRY I of Castile, Berenguela renounced her right of succession in Ferdinand's favor Having inherited (1230) Leon from his father, Ferdinand permanently united the kingdoms of Castile and Leon. Ferdinand spent most of his reign crusading against the Moors He took Córdoba (1236), Jaén (1246), and Seville (1248) and received homage from Granada, the only remaining Moorish state in Spain In 1671 he was canonized a saint of the Roman Church His son, Alfonso X, succeeded him

Ferdinand IV, 1285–1312, Spanish king of Castile and Leon (1295–1312), son and successor of Sancho IV His mother, María de Molina, was regent during his turbulent minority He tried unsuccessfully to take Algeciras from the Moors but conquered Gibraltar with the help of Aragon He was succeeded by his son, Alfonso XI

Ferdinand V or **Ferdinand the Catholic,** 1452–1516, Spanish king of Castile and Leon (1474–1504), king of Aragon (as Ferdinand II, 1479–1516), king of Sicily (1468–1516), and king of Naples (1504–16) His father, John II of Aragon, gave him Sicily before his death and left him Aragon when he died In 1469 Ferdinand married ISABELLA I of Castile, and in 1474 Ferdinand and Isabella assumed joint kingship of Castile Thus all Spain except Navarre and the Moorish kingdom of GRANADA became united The royal couple, known as the Catholic monarchs, set out with energetic determination to make all Spain Christian Granada fell to them at last in 1492 In the same year Ferdinand and Isabella took a fateful step, which was to deal a hard blow to Spanish prosperity—all the JEWS who refused to accept Catholicism were expelled from Spain, and the decree, despite the pleas of Don Isaac ABRAVANEL and others, was ruthlessly executed The expulsion of the Moors (1502) was less effective, for many Moors pretended to accept Catholicism and remained To bolster religious unity, the Catholic kings instituted the INQUISITION in Spain Their reign was crucial in the history of the world as well as in that of Spain In 1492 Christopher COLUMBUS, sailing under their auspices, discovered the New World, and in 1494, by the Treaty of TORDESILLAS, Spain and Portugal divided the world Ferdinand V continued the imperialist policy of his predecessors, taking a leading part in the ITALIAN WARS His general, Gonzalo FERNÁNDEZ DE CÓRDOBA, conquered Naples in 1504 Ferdinand joined the League of Cambrai (1508) against Venice and the Holy League (1511) against France, and in 1512 he annexed most of NAVARRE After Isabella's death (1504) Ferdinand retained control over Castile as regent for his daughter JOANNA Joanna's husband, PHILIP I, became king of Castile in 1506 but died the same year, and Ferdinand continued his regency for Joanna, who had become insane, until his death He left a united Spain, besides Naples, Sicily, Sardinia, and an overseas empire, to his grandson by Joanna and Philip—the later Emperor Charles V The seeds of subsequent Spanish power and decay were sown in the reign of the Catholic kings The nobles and the CORTES had been curbed The expulsion of the Jews, the search for American gold, the conversion of large agricultural areas into grazing lands for the benefit of the wool industry, and the privileged position granted to the Church—all these left effects still now to be felt Spain became an Atlantic power, chief rival of France and England, and revolutionized the commerce of Europe See W H Prescott, *History of the Reign of Ferdinand and Isabella,* and Washington Irving, *Chronicle of the Conquest of Granada,* both classic works See also R B Merriman, *The Rise of the Spanish Empire* (4 vols, 1918–34)

Ferdinand VI, b 1712 or 1713, d 1759, king of Spain (1746–59), son of Philip V by his first queen, Marie Louise of Savoy When Ferdinand succeeded his father, his stepmother, ELIZABETH FARNESE, lost

her power at court and went into retirement Ferdinand's chief ministers were José de Carvajal y Lancaster, who was pro-British, and Ensenada, who had long directed the destinies of Spain and strongly favored France In the years preceding the Seven Years War (1756–63), both France and England sought the Spanish alliance Carvajal died in 1754, and Ferdinand, desiring Spain to remain at peace, dismissed Ensenada, fearing that he might embroil Spain in a French alliance Richard Wall, an Irishman, succeeded Carvajal, and with his help Ferdinand kept Spain out of the war during his lifetime In 1758 Ferdinand's queen, Maria Barbara de Braganza, died Ferdinand did not recover from his grief and died soon afterward He was succeeded by his half brother, Charles III

Ferdinand VII, 1784–1833, king of Spain (1808–33), son of Charles IV and María Luisa Excluded from a part in the government, he became the center of intrigues against the favorite Godoy and attempted to win the support of Napoleon I In 1807 he was arrested by his father, who accused him of plotting his overthrow and the murder of his mother and Godoy He was soon acquitted but the prestige of the family was shaken, and Napoleon's invasion of Spain (see Peninsular War) was facilitated A palace revolution at Aranjuez (March, 1808) caused the dismissal of Godoy and the abdication of Charles in favor of Ferdinand, who was enthusiastically acclaimed by the people Ferdinand was soon persuaded to cross the French border and meet Napoleon at Bayonne There he was forced to renounce his throne in favor of Charles IV, who in turn resigned his rights to Napoleon The emperor gave the Spanish throne to Joseph Bonaparte During the Peninsular War (1808–14) Ferdinand was imprisoned in France In his name the nationalist and liberal elements of Spain resisted the French invaders, and a liberal constitution was proclaimed (1812) by the Cortes at Cádiz Throughout the Spanish Empire his name was the rallying cry of revolutionary elements When Ferdinand was restored (1814) to his throne, he promptly abolished the liberal constitution and revealed himself a thorough reactionary After several unsuccessful uprisings, the Spanish liberals (who had organized in secret societies, e g , the Carbonari) staged a successful revolution in 1820 and forced the king to reinstate the constitution of 1812 The Holy Alliance became alarmed, and the Congress of Troppau was summoned to cope with the Spanish situation The powers reached no decision, but in 1822 at Verona (see Verona, Congress of) France was deputed by the Holy Alliance to undertake military intervention in Spain and to restore Ferdinand to absolute power Ferdinand, backed by French arms, revoked the constitution in 1823, ruthless repression followed Ferdinand's death caused no less trouble than his reign His fourth wife, Maria Christina, persuaded him to set aside the Salic law so that their only child Isabella might succeed to the throne, thus excluding Ferdinand's brother, Don Carlos, from the succession When Ferdinand died, the liberals supported Isabella II, while the reactionaries rallied around Don Carlos The Carlist Wars were the result During Ferdinand's reign the Spanish colonies on the mainland of North and South America were lost through the very rebellions which had begun as risings in his favor and against Napoleon

Ferdinand I, 1751–1825, king of the Two Sicilies (1816–25) He had previously been king of Naples as Ferdinand IV and king of Sicily as Ferdinand III Ferdinand succeeded (1759) to the two kingdoms when his father and predecessor became king of Spain as Charles III His father's reforms were continued during Ferdinand's minority by the regent, Bernardo Tanucci, but after the king's marriage (1768) to Marie Caroline a regime of absolutism and reaction was instituted under her influence Sir John Acton was appointed prime minister After the execution (1794) of the queen's sister, Marie Antoinette of France, Ferdinand drew closer to Austria and England and in 1798 joined the Second Coalition against France In Jan , 1799, the French took Naples shortly after the royal couple had fled to Sicily The French-sponsored Parthenopean Republic was short-lived, and terror accompanied Ferdinand's return (June, 1799) Peace was made with France in 1801, but in 1805 Ferdinand joined the Third Coalition In Dec , 1805, Napoleon I at Schonbrunn declared the Bourbons dispossessed of the kingdom of Naples, and early in 1806 the royal couple again fled to Sicily, where Ferdinand ruled under English protection In 1812 he made his son regent and had him grant a constitution After Naples was restored to him (1815) he abolished Sicilian autonomy and proclaimed himself (1816) king of the Two Sicilies His reactionary government provoked an insurrection in 1820, and he was forced to grant a constitution, which he soon repudiated He persecuted the Carbonari and reestablished his despotism with Austrian aid He was succeeded by his son Francis I.

Ferdinand II, 1810–59, king of the Two Sicilies (1830–59), son and successor of Francis I He is called King Bomba. Though at first he sought to improve the wretched condition of his kingdom, he soon relapsed into the policies of his predecessors and became an absolute despot Fear of revolution made him grant a constitution in 1848, but when disorders broke out in Sicily he ordered the bombardments of Messina (1848) and Palermo (1849) —an act that earned him the nickname Bomba He soon revoked the constitution, becoming even more reactionary Great Britain and France, in protest against his inhuman treatment of at least 15,000 political prisoners, withdrew their envoys (1856) The political isolation brought about by Ferdinand facilitated the fall of the dynasty under his son and successor, Francis II

Ferdinand, 1721–92, Prussian field marshal, a prince of the house of Brunswick, known as Ferdinand, duke of Brunswick He served Frederick II of Prussia brilliantly in the Seven Years War, notably by victories at Crefeld (1758) and Minden (1759)

Ferdinand the Catholic, see Ferdinand V

Ferdinand the Great, Spanish king of Castile and Leon see Ferdinand I

Fère-en-Tardenois, France see Château-Thierry

Fergana or **Ferghana** (both fyĕrgänä'), city (1932 estimated pop 34,700), capital of Fergana oblast, Uzbek SSR, in the Fergana Valley It is an industrial center (cotton ginning and milling, silk spinning) Founded in 1876 by the Russians, it was first named Novy Margelan, renamed (1907) Skobelev, and again renamed Fergana after the Bolshevist Revolution

Fergana Valley or **Ferghana Valley** (both fĕrgä'nu, fur-), region, USSR, in central Asia Bordering in the southeast on Chinese Turkistan (Sinkiang prov), it is divided among the Uzbek SSR, the Tadzhik SSR, and the Kirghiz SSR In the northeast rises the Fergana Range (part of the Tien Shan system), in the south is the Pamir The valley consists partly of a very fertile steppe, partly of desert land, and is drained by the Syr Darya and by many mountain streams A dense irrigation network is linked by the Great Fergana Canal, constructed in 1939–40 The Fergana Valley has one of the densest populations in the USSR and is covered by cotton fields, orchards, and vineyards Cotton is the chief crop, but for centuries the Fergana Valley was also one of the world's chief silk-producing regions, and silk continues, next to cotton, as one of the main industries There are oil fields and mercury and antimony mines along the fringes of the valley A circular rail line connects the chief cities of the valley—Kokand, Andizhan, Namangan, and Fergana The population is predominantly Moslem and consists of Uzbeks, Tadzhiks, and Kirghiz The Fergana Valley is one of the world's oldest cultivated regions, cities such as Margelan and Osh have been world trade centers for a thousand years Many conquerors occupied the region The Arabs introduced Islam early in the 8th cent Their rule was replaced (12th cent) by the Seljuk shahs of Khorezm, who in turn were displaced (14th cent) by the Mongols under Jenghiz Khan The valley was part of the empire of Tamerlane and his successors, the Timurids Early in the 16th cent it was overrun by the Uzbeks, who established the khanate of Kokand The Russian conquest of the valley was completed in 1876 by the fall of Kokand

Fergus, village (pop 2,832), S Ont , on the Grand River and NW of Guelph

Fergus Falls, city (pop 10,848), co seat of Otter Tail co , W Minn , SE of Fargo, N Dak , at falls of the Otter Tail river, settled 1857, laid out 1870, inc 1872 There are factories, mills, and a large cooperative creamery A state mental hospital (1890) is in Fergus Falls

Ferguson, Adam, 1723–1816, Scottish philosopher and historian He was professor of philosophy at the Univ of Edinburgh from 1759 until his retirement in 1785 His interest in ethics led to the writing of *Principles of Moral and Political Science* (1792) In this treatise he advanced the work of the Scottish school by developing the principle of perfection and by attempting to reconcile self-interest and universal benevolence His chief historical works are *An Essay on the History of Civil Society* (1767) and *The History of the Progress and Termination of the Roman Republic* (1783) See W C Lehmann, *Adam Ferguson and the Beginnings of Modern Sociology* (1930)

Ferguson, James Edward, 1871–, governor of Texas (1915–17), b Bell co , Texas After an adventurous youth, he rose from poverty to be a large landowner, a lawyer in Belton and in Temple, and finally a banker in Temple Though entirely unknown in state politics, he in 1914 announced his candidacy for the governorship and won it by speaking as the champion of the tenant farmers and poor independent farmers He promised many radical agrarian reforms, some of which were enacted into law He was not, however, favored by the reformers in Texas, because of his demagogic methods and the accusations of wholesale corruption in his administration In 1917 he was impeached, found guilty on several charges, and removed from office He devoted himself to clearing his name He was himself debarred from running for office, but in 1924 his wife, Miriam A. Wallace Ferguson (1875–), ran in his place and was triumphantly elected by the small farmers A general amnesty was issued to vindicate her husband, but it was declared unconstitutional Nevertheless in the midst of the depression Ma Ferguson (so called from her initials) once more was elected and served from 1933 to 1935, with a policy of extreme retrenchment. Ferguson was the actual, though not the nominal, governor

Ferguson, Margaret Clay, 1863–, American botanist and educator, b Phelps, N Y , grad Cornell Univ From 1906 to 1932 she was professor of botany at Wellesley She made a special study of plant physiology, genetics, cytology, and comparative morphology and is a Fellow of the American Association for the Advancement of Science Besides many scientific papers she wrote *Contributions to the Life History of Pinus* (1904)

Ferguson, Miriam A. Wallace (Ma Ferguson) see Ferguson, James Edward

Ferguson, Patrick, 1744–80, British army officer in the American Revolution He in 1776 invented an early breech-loading rifle Ferguson fought at Brandywine and Charleston before he was assigned to organize and train Loyalist militia in South Carolina Ironically he was defeated and killed in the battle that demonstrated the superiority of the rifle, Kings Mt in the Carolina campaign

Ferguson, Sir Samuel, 1810–86, Irish poet and author of some valuable works on Irish antiquities, including *Ogham Inscriptions in Ireland, Wales, and Scotland* (1887) "The Forging of the Anchor," his first poem, appeared in *Blackwood's Magazine* (1831) One of the first to put Irish history into English verse, he wrote *Lays of the Western Gael* (1865), *Congal* (1872), and *Deirdre* (1880)

Ferguson, city (pop 5,724), E Mo , settled c 1874, inc 1894 It is a residential suburb NW of St Louis

Fergusson, Robert, 1750–74, Scottish poet, b Edinburgh He was a precursor of Robert Burns, who generously proclaimed his debt to Fergusson's *Poems* (1773) His "Auld Reekie" is conceded to be the best of his poems, and it reflects both his genuineness of inspiration and his familiarity with the life of the Edinburgh poor He died in an asylum for the insane after a fall See his works (ed by A B Grosart, 1879)

Ferid ed-Din Attar (fĕrēd' ĕdēn' utär') [Arabic, = pearl of the faith, the druggist], d c 1229, Persian poet, one of the greatest mystic poets of Islam He was a druggist, hence his appellation Attar. Because he was converted to Sufism and became an expounder of the faith, he was called Ferid ed-Din His masterpiece is the *Mantiq ut-Tair* [language of birds], a long allegory surveying the philosophy and practices of the Sufis He lived in and near Nishapur His name also appears as Ferid Eddin Attar, Farid ud-Din Attar, and Faridun

Ferishtah see Firishta

Ferland, Jean Baptiste Antoine (zhä' bätēst' ätwän' fĕrlä'), 1805–65, French Canadian priest and historian, b Montreal, educated at Nicolet College Ordained priest in 1828 and appointed vicar at Quebec, he later (1841) joined the faculty of Nicolet College, of which he became superior in 1848 His lectures delivered while he was professor of history (1855–65) at Laval Univ were published as *Cours d'histoire du Canada* (2 vols , 1861–65), best known of his works Articles which Ferland contributed to the *Soirées canadiennes* and the *Foyer canadien* were republished after his death in several books

Fermanagh (fürmă'nù), inland county (653 sq mi , 1937 pop 54,569, 1948 estimated pop 53,722), Northern Ireland, in Ulster The county town is Enniskillen The Erne river, which widens into the extensive and beautiful Upper Lough Erne and Lower Lough Erne, divides the county into two roughly equal parts The land is hilly, rising to more than 2,000 ft in the south, and is devoted largely to grazing Butter, eggs, and oats are the chief agricultural exports Pottery (at Belleek) and linen are made, and some limestone and sandstone are quarried Fermanagh was organized as a county in 1585 The population has steadily declined, through emigration, for more than a century

Fermat, Pierre de (pyĕr' dŭ fĕrmä'), 1601–65, French mathematician A magistrate whose avocation was mathematics, Fermat is known as a founder of the modern theory of numbers and the calculus of probabilities His posthumously published *Varia opera mathematica* (1679) contains several new theorems, including one known as Fermat's last theorem, which states that if n represents any number greater than 2 there are no whole numbers that satisfy the equation $a^n+b^n=c^n$ Prizes have been offered for a proof of this theorem, and attempted proofs have resulted in many developments in the theory of numbers Fermat also recognized a principle in optics known as Fermat's law See L J Mordell, *Three Lectures on Fermat's Last Theorem* (1921)

fermentation (fûr"muntā'shŭn, fûr"mĕn-), chemical change brought about by the action of enzymes (or ferments) Various changes are known as fermentation, e g , the formation of lactic acid in milk as a result of the enzymatic action of lactic-acid

bacteria and the production of vinegar by the action of acetic-acid bacteria However, the process known as alcoholic fermentation is the one most commonly known as fermentation It is of great commercial importance Louis Pasteur's work on the fermentation of sugar solutions to produce wine proved that the process depends upon the presence in the solution of yeast cells (which are found on the surface of the fruit and in the air) and not upon spontaneously generated substances Later it was found that an extract of the enzymes from the living cells can also cause fermentation Zymase is a chief component of the enzyme system in the yeast cells which brings about the fermentation The reaction involves the production from simple sugars (glucose and fructose) of alcohol and carbon dioxide Fermentation processes are a source both of industrial alcohol (ethyl alcohol or ethanol) and of alcoholic beverages (e g , BEER, BRANDY, GIN, LIQUEUR, WHISKY, and WINE) In the United States the chief raw materials for the production of industrial alcohol are cane-sugar molasses and beet-sugar molasses. After the molasses has been diluted with water and made slightly acid (to retard the growth of bacteria and promote the growth of yeast), it is heated (to 70°F) and a prepared yeast culture is added The sucrose in the molasses is converted to glucose and fructose by the enzyme invertase (secreted by the yeast) and then the alcohol and carbon dioxide are produced By distillation the concentration of the alcohol can be increased Also used as sources of alcohol are corn and other grains, potatoes, and other starch-containing substances, in these the starch is converted to sugar in the preliminary stages

fermented milk, whole or skim milk curdled to beverage or custardlike consistency by lactic-acid producing organisms Many forms of fermented milk were originated by early nomadic herdsmen, especially in Asia and S and E Europe, and some are known in Scandinavia, Africa, and South America Such milks are believed to have medicinal value in the control of intestinal fermentation by contributing bacteria which, establishing themselves in the lower intestine, predominate over putrefactive types Fermented milks include acidophilus milk, especially noted for its therapeutic value, cultured BUTTERMILK, koumiss (koumiss), probably originated from mare's milk by western Mongols, effervescent and of acrid flavor and containing alcohol produced by yeasts, the similar kefir of SE Russia, yoghurt, similar to the Armenian matzoon, a highly acid, usually semisolid, form publicized by Metchnikoff in a book on the prolongation of life among Bulgarian tribes, and the somewhat ropy Scandinavian beverages, *kaelder-maelk* and *filbunke*

Fermi, Enrico (ĕnrē'kō fĕr'mē), 1901–, American physicist, b Italy He taught physics at the universities of Florence and Rome In 1939 he came to the United States, he was professor of physics from 1939 to 1945 at Columbia Univ and after 1945 at the Univ of Chicago For his work on radioactive substances he received the 1938 Nobel Prize in Physics The ATOMIC BOMB project was materially aided by his early research (1934–38) and after 1939 by his active participation He postulated the existence of an atomic particle which he called the neutrino and discovered element 93, now called neptunium He is the author of *Thermodynamics* (1937)

Fermo (fĕr'mō), town (pop 9,295), the Marches, central Italy, on a hill in the Apennines 5 mi from the Adriatic It has pre-Roman walls, interesting Roman remains (an arch, a theater, and a reservoir), and a Gothic cathedral Silkworm culture is the main occupation.

Fermoy (fûrmoi'), urban district (pop 4,212), Co Cork, Ireland, NE of Cork and on the Blackwater, here crossed by a 16-arch stone bridge built in 1866 There are woolen and flour milling, trade in farm produce, and fishing A large military station was established in Fermoy late in the 19th cent A Roman Catholic cathedral is here

Fern, Fanny see PARTON, SARA PAYSON WILLIS

fern, any plant of the Filicales order of the phylum Pteridophyta, numbering several thousand species, widely distributed but most abundant in the tropics Early geologic predecessors of ferns were in general similar to the TREE FERN and contributed to coal deposits Modern ferns range from small epiphytes to climbing ferns, aquatics, and tree ferns Typically, however, the ferns of North America have green fronds produced from a rootstalk Reproduction is achieved not by seeds (ferns have neither flowers nor seeds) but by asexual spores These are borne in various ways, as in rounded or elongated "fruit dots" (sori) on the backs of fertile fronds otherwise similar to the sterile (e g , the Boston fern), on a definite part of the frond delegated to spore bearing (e g , the interrupted fern), under the reflexed edges of the frond (e g , the brake and the maidenhair fern), or on specialized fertile fronds that bear no resemblance to the sterile frond (e g , the sensitive fern) The spores germinate to produce a small flat structure (prothallus) containing the sperm and egg cells, the union of which gives rise to the leafy fern plant. This production of both sexual and asexual forms is known as alternation of generations There are also vegetative means of multiplication, as by runners in the Boston fern and by the rooting of the frond tip in the walking fern Particularly valued as ornamental plants, some ferns have also been used for food, and the male fern has long been considered a remedy for tapeworm The asparagus fern and the shrub SWEET FERN are not true ferns The CLUB MOSS and HORSETAIL are related to the ferns and are usually distinguished as fern allies There is an American Fern Society See Herbert Durand, *Field Book of Common Ferns* (1928), W N Clute, *Our Ferns Their Haunts, Habits, and Folklore* (1938)

Fernald, Merritt Lyndon (fûr'nŭld), 1873–, American botanist, b Orono, Maine, grad Harvard, 1897 He taught at Harvard from 1902 to 1949 (as Fisher professor of natural history from 1915) and was director of the Gray Herbarium there from 1937 He was the editor (with Benjamin L Robinson) of the seventh edition (1908) of Asa Gray's manual of botany and of *Rhodora*, journal of the New England Botanical Club Besides numerous botanical papers and monographs, he wrote (with A C Kinsey) *Edible Wild Plants of Eastern North America* (1943)

Fernández or **Hernández, Gregorio** (grāgō'rĕō fĕrnän'dāth, ĕrnän'dāth), c 1576–1636, Spanish baroque sculptor He probably studied in Valladolid, where by 1605 he was established and was working for Philip IV He never went to Italy, and his natural and realistic figures are free from Michelangelesque exaggeration His *Pietà*, *Baptism*, and *Mater Dolorosa* are famous examples of his work to be seen in the churches and museum of Valladolid Others of his fine works are found throughout Spain A beautiful group, *St Theresa and Jesus*, is in the Church of St Theresa, Ávila

Fernández, Juan (hwän' fĕrnan'dāth), d 1602?, Spanish or Portuguese navigator in the Pacific There were several pilots of the name in Spanish America and much confusion about them One of them discovered how to increase sailing speed off the Peruvian and Chilean coast by taking advantage of the trade winds far out to sea He is also said to have discovered the Juan Fernández Islands before 1572, possibly in 1563

Fernández de Avellaneda, Alonso see AVELLANEDA, ALONSO FERNÁNDEZ DE

Fernández de Córdoba, Francisco, d 1526?, Spanish conquistador Sent in 1524 by Pedro ARIAS DE ÁVILA to deprive Gil GONZÁLEZ DE ÁVILA of his claims to Nicaragua, Fernández de Córdoba founded LEÓN and GRANADA Trying to seize Nicaragua for himself, he was surprised by his commander and put to death

Fernández de Córdoba, Gonzalo (gônthä'lō), 1453–1515 Spanish general, called the Great Captain He fought in the civil wars preceding and following the accession of ISABELLA I and in the conquest of Granada From 1495 to 1498 he commanded the army aiding Naples against Charles VIII of France After expeditions against the rebels of Granada and the Turks he returned to Italy as an ally of Louis XII of France, who had joined with Ferdinand V of Castile to partition Naples (see ITALIAN WARS) When Naples had been conquered, he expelled the French and served as governor till 1507, when he lost the king's favor

Fernández de Lizardi, José Joaquín (hōsā' hwäkēn' fĕrnän'dās dā lēsar'dē), 1776–1827, Mexican journalist, novelist, and dramatist, known by his pseudonym El Pensador Mexicano His most important work is the picaresque novel, *El Periquillo Sarniento* (1816–30, Eng tr , *The Itching Parrot*, 1942), which depicts scenes of Mexican life See biography by J R Spell (1931)

Fernández de Moratín, Leandro (lāän'drō fĕrnän'dāth dā mōrätēn'), 1760–1828, Spanish dramatist and poet He was a Francophile who sided with the Bonapartes and after Napoleon's fall lived a life of exile in France His poetry is mediocre, but he wrote successful prose comedies after the manner of Molière The best of these is *El sí de las niñas* [the maidens' consent] (1806)

Fernández Navarrete, Juan see NAVARRETE, JUAN FERNÁNDEZ

Fernandina (fûrnăndē'nŭ), city (pop 3,492), co seat of Nassau co , extreme NE Fla , on Amelia Island at the mouth of the St Marys It is a port of entry and a shrimping, fishing, and pulp-manufacturing center The region was known in the 16th cent , and in the 1680s it was the site of a Spanish fort During the 18th cent the region changed hands many times Fernandina was declared a free port in 1808 and developed rapidly as a resort of smugglers, slave traders, and pirates The old Spanish fort was taken by Americans in 1812, but it was not until the close of 1817 that the port was permanently captured Fort Clinch, now a state park, was built in 1847–61; in the Civil War, Union troops seized and occupied it (1862).

Fernando da Noronha (fĕrnän'dō dä nōrō'nyä), group of islands in the Atlantic, off NE Brazil, c 225 mi. NE of Natal Discovered in 1503 by a Portuguese expedition under Fernando da Noronha, it was used as a penal colony by Brazil and in 1942 was made a military base

Fernando Po or **Fernando Póo:** see SPANISH GUINEA

Fernán González (fĕrnän' gônthä'lāth), d 970, count of Castile Under him Castile gained virtual independence from Leon His feats are celebrated in an epic poem of the 13th cent , one of the chief works of popular Castilian poetry

Ferndale, 1 City (pop 22,523), SE Mich , residential suburb of Detroit; inc as a village 1919, as a city 1927 Metal products and synthetic resins are among the city's products 2 Residential borough (pop 2,740), SW Pa , near Johnstown, inc 1896

Ferne Islands. see FARNE ISLANDS

Fernel, Jean François (zhäN' frāswä' fĕrnĕl'), 1497–1558, French physician, professor of medicine at the Univ of Paris Besides contributing numerous medical writings (including *Universa medicina*, 1554), which advanced medical progress, he corrected many errors of Galen He also wrote on astronomy and mathematics See study by C. S Sherrington (1946)

Ferney-Voltaire (fĕrnā'-vôltĕr'), town and commune (pop 822), Ain dept , E central France, near Geneva It grew after VOLTAIRE, in 1758, bought the seigniory of Ferney to escape molestation from both the Genevese and the French authorities Here the "patriarch of Ferney" lived until 1778, he built the local church and founded a pottery industry which, revived by the French government, has formed some of the finest craftsmen of modern France Voltaire's handsome residence still stands

Fernie, city (pop 2,545), SE British Columbia, near the Mont border and on the Elk river It is a coal and lumber center

Fernkorn, Anton Dominik (ăn'tōn dō'mēnĭk fĕrn'kōrn), 1813–78, German sculptor Emigrating from Prussia to Vienna, he became director of the imperial bronze foundry His principal monuments are the equestrian figures, with prancing horses, of St George, Archduke Charles, and Prince Eugene (done in collaboration with others)

Fernow, Bernhard Eduard (fûr'nō), 1851–1923, American forester, b Germany In 1876 he came to the United States and became a leader in the movement to protect forests against fire and exploitation In 1886 he was appointed chief of the Division of Forestry, U S Dept of Agriculture He organized several of the schools of forestry in the United States and Canada Among his publications are *Economics of Forestry* (1902), *A Brief History of Forestry* (1907), and *Care of Trees* (1910)

Ferozepore (fŭrōz'pōr), town (pop 82,502), S Punjab state, N India It was founded by Firoz Shah Tughluk (reigned 1351–88), sultan of Delhi Important engagements in the Sikh Wars were fought near by

Ferrante see FERDINAND I, king of Naples

Ferrar, Nicholas (fĕ'rŭr), 1592–1637, English theologian He was associated (1618–23) with the Virginia Company and, with his brother John, played a notable role in its affairs He retired from Parliament and founded (1625) a religious utopian community at Little Gidding in Huntingdonshire, visited (1633) by Charles I, but attacked as an "Arminian nunnery" and disbanded by Parliament in 1647 Ferrar left in manuscript a harmony of the Gospels See biographies by T T Carter (1892) and H P K Skipton (1907), J E Acland, *Little Gidding and Its Inmates in the Time of Charles I* (1903), *The Ferrar Papers* (ed. by B Blackstone, 1938)

Ferrara (fûrä'ru, Ital fär-rä'rä), city (pop 58,187), capital of Ferrara prov , Emilia-Romagna, N central Italy On a low, marshy plain with much reclaimed land, it is now an agricultural center, but works of art recall its past splendor In the 13th cent the ESTE family founded here a powerful principality, and in the Renaissance commerce, learning, painting, and the arts flourished about the brilliant court Ariosto and Tasso lived here, and Savonarola was born in Ferrara After the city was incorporated (1598) in the Papal States, it declined Severe damage in the Second World War spared the 14th-century moated castle and the Romanesque-Gothic cathedral Foremost among the palaces of Ferrara are the Palazzo dei Diamanti and the Schifanoia

Ferrara-Florence, Council of, 1438–45, second part of the 17th ecumenical council of the Roman Catholic Church, the first part was the Council of Basel, canonically convened but after 1437 schismatic (see COUNCIL, ECUMENICAL, and BASEL, COUNCIL OF) The chief goal at Ferrara was to end the Schism of East and West, it was greatly promoted by John VII, Byzantine emperor, who, hard pressed by the Turks, hoped Christian union might save his empire! The council, consummation of years of negotiations, was opened by the papal legate at Ferrara as the legitimate successor of the Council of Basel. The representatives of the East arrived soon after the council's beginning (Jan , 1438), they included the emperor, the patriarch of Constantinople, canonical representatives of the

other Orthodox patriarchs, and the metropolitan of Kiev, head of the Russian Church The questions between East and West were the *filioque* clause of the CREED, the use of unleavened bread in the EUCHARIST, the definition of purgatory, and the nature of the papal jurisdiction The discussions were generally conducted without acerbity, the leading figure being BESSARION, archbishop of Nicaea, leader of the moderates among the Orthodox About a year after its commencement the council moved to Florence (Jan , 1439) because of the plague at Ferrara and of the financial inducements of the Florentines In July, 1439, the pope issued the bull *Laetentur coeli*, announcing the religious union of East and West, which had been ratified by both sides, except for a few Orthodox On the questions at issue the Orthodox conceded that the Latins might use the *filioque* in the creed and unleavened bread at Mass without danger to faith or right custom, they also accepted the Latin definition of purgatory and the papal supremacy over the patriarchs, without prejudice to patriarchal jurisdiction in the patriarchates The Orthodox departed from Italy, but after their return the party opposed to union on the council's terms gained power, and before any lasting strength could be given the union Constantinople fell to the Turks, who controlled the patriarchate of Constantinople thereafter The council continued to sit after the union was announced until 1445, moving to the Lateran in 1443 Its principal business was then to bring back into union with the Holy See the smaller non-Orthodox churches, i e , Armenian, Jacobite, Nestorian, and Maronite Of these, as of the Orthodox, small groups entered the Roman communion, but there was no great reunion The chief result of the council was probably the increase of prestige it lent to the Holy See It also was important in bringing Bessarion and other Greeks into Italy, strengthening the cultural connection between East and West

Ferrari, Gaudenzio (goudān'tsō fĕr-ra'rē), c 1480–1546, Italian painter, one of the leading representatives of the Lombard school He worked chiefly in the churches of Varallo (N Piedmont), Vercelli, and Milan and produced many works, including tempera, oil, and fresco, most of them now in the galleries of Lombardy and Piedmont At its best his art is characterized by inventiveness, fine feeling for the dramatic and decorative, and bright and pleasing color Notable examples include the frescoes in Santa Maria delle Grazie, Varallo, portraying 20 scenes from the life of Christ, the fine altarpiece, *Marriage of St Catherine*, for San Gaudenzio, Varallo, and frescoes for three of the chapels on the Sacred Mountain of Varallo Other excellent Ferrari frescoes, depicting incidents in the lives of Mary Magdalene and the Virgin, are in the Church of San Cristoforo, Vercelli, also *Choir of Singing Angels* in Santa Maria dei Miracoli, at Saronno, and the *Scourging of Christ*, in Santa Maria delle Grazie, Milan See study by Ethel Halsey (1904).

Ferrari, Giuseppe (jōōzĕp'pā), 1812–76, Italian philosopher and politician A thorough skeptic in metaphysics, he devoted himself to the more active aspects of social, political, and historical philosophy. From his self-imposed exile in France (1837–59), he exerted influence on the RISORGIMENTO His development of a philosophy of revolution in *La filosofia della rivoluzione* (1851) and *Histoire des révolutions* (1858) encouraged the radical and liberal elements in Italy to act Returning to Italy in 1859 he strove for a federalized state, described in his *La federazione repubblicana* (1851), thus opposing the unitarian and monarchical schemes of Cavour.

Ferraris, Galileo (gälā'lā'ō fär-rē'rēs), 1847–97, Italian physicist and electrical engineer. He is noted for his work on alternating currents and for his discovery (1885) of the rotary magnetic field, through which he promoted the development of alternating-current motors

Ferreira, Antonio (antō'nyō fûrā'ru), c 1528–1569, Portuguese dramatist and poet He studied canon law in the Univ of Coimbra and was imbued with the spirit of the Renaissance He was privy councilor and magistrate but found time to write dramas and lyrics His immortal work is the drama *Inês de Castro*, written sometime between 1553 and 1567, probably around 1557 He also wrote two comedies, *Bristo* and *O cioso* [the jealous husband]. *Poemas lusitanos* is a collection of sonnets, odes, epistles, eclogues, and epigrams His style is generally grave and elevated, and his writings show his classical learning The greatness of Ferreira's contribution to the development of the Portuguese language and literature is the more remarkable because he died of plague when still relatively young.

Ferrel, William (fĕ'rul), 1817-91, American meteorologist, b. Fulton co., Pa , grad Bethany College, now in West Virginia. For several years he worked on the *Nautical Almanac*, and from 1867 until 1882 he was employed on the government coast and geodetic survey. He did valuable research on tides, currents, winds, and storms and wrote extensively, his works include *Tidal Researches* (1874) and *Meteorological Researches* (1875–81). He formulated **Ferrel's law:** moving bodies on the earth's surface are deflected to the right in the Northern Hemisphere and to the left in the Southern Hemisphere, the amount of deflection varies with the velocity of the motion and with the latitude. This deflection is due to the rotation of the earth; it is zero at the equator and greatest near the poles. The law is of wide application in explaining the ways of air currents BUYS-BALLOT formulated a related law

Ferrer, Vincent. see VINCENT FERRER, SAINT

Ferrer Guardia, Francisco (frānthĕ'skō fĕrĕr' gwär'dyä), 1859–1909, Spanish educator and politician An ardent liberal, anticlerical, and republican, he took refuge in France (1886), where he became a socialist He returned to Spain to found (1901) an anticlerical, antimilitarist school at Barcelona Accused of complicity in the attempt (1906) to murder Alfonso XIII, he was, however, released and continued his educational work until 1909, when he was convicted of taking part in the violent uprising that had just shaken Barcelona He was executed His death was viewed by liberals everywhere as a judicial murder

Ferrero, Guglielmo (gōōlyĕl'mō fär-rā'rō), 1871–1942, Italian man of letters and historian With his father-in-law, the criminologist Cesare Lombroso, he collaborated in the writing of *La donna delinquente*, and his interest in psychology and sociology permeates all his writings An outspoken critic of Fascism, Ferrero was exiled by Mussolini and became (1930) professor of history at the Univ of Geneva, Switzerland, where he died Among his numerous works the best known deal with Roman history, notably *The Greatness and Decline of Rome* (Eng tr , 5 vols , 1907–9), a highly readable and challenging work, which, however, has been criticized by many professional historians He also wrote *The Ruin of Ancient Civilization* (Eng tr , 1921), *The Life of Caesar* (Eng tr , 1933), and *The Women of the Caesars* (Eng tr , 1935) In his last years he wrote extensively on the French Revolutionary and Napoleonic periods *The Gamble Bonaparte in Italy* (Eng tr , 1939), *The Reconstruction of Europe Talleyrand and the Congress of Vienna* (Eng tr , 1941), and *The Principles of Power* (Eng tr , 1942) are attempts at pointing, by historical parallels, toward a solution of the modern political world crisis Ferrero also wrote several novels Most of his later works appeared originally in French

ferret. The American ferret—the black-footed ferret—is the largest North American weasel It inhabits the Great Plains, and its chief prey is the prairie dog It is extremely rare About 2 ft long, it is yellow buff, marked with brown, and has a black masklike band across the eyes, a black-tipped tail, and black feet The Old World ferret is a domesticated breed of polecat with the head and body about 14 in long, native probably to Africa and used at least since Roman times for hunting rats, mice, and rabbits

Ferri, Ciro (chē'rō fĕr'rē), 1634–89, Italian painter, etcher, and architect, the most celebrated pupil of Pietro da Cortona He imitated Cortona's style with such success that he was employed to complete his unfinished works in the Pitti Palace and in Rome Among his chief independent works are the biblical frescoes in Santa Maria Maggiore, Bergamo, and the frescoes in the cupola of Sant' Agnese in Agone, Rome, and his masterpiece, *St Ambrose*, an altarpiece in San Ambrogio, Rome Others are *Triumph of Bacchus* (Hampton Court, London) and *Christ on the Cross* (Uffizi)

Ferri, Enrico (ānrē'kō), 1856–1929, Italian criminologist He continued the scientific study of crime begun by Lombroso, emphasizing social and economic factors He recommended classification of criminals as a basis for preventive treatment and advocated "penal substitutes" Argentina's penal code of 1921 was based on his ideas, but the Italian code which Ferri drew up in the same year was rejected by the Fascist regime He edited *Avanti*, a Socialist daily, for many years Of his several books the best known is *Criminal Sociology* (1884, Eng tr , 1917)

Ferri, Luigi (lwē'jē), 1826–95, Italian philosopher, educated in France He taught in both French and Italian universities and his works show the influence of both French and Italian thought As a historian of philosophy, he sought a reconciliation of the prevailing psychology with idealism His works include *Il genio d'Aristotele* (1866), *Il senso commune nella filosofia* (1872), and two highly esteemed historical studies in French, *Essai sur l'histoire de la philosophie en Italie au XIX siècle* (1869) and *La Psychologie de l'association depuis Hobbes jusqu'à nos jours* (1883)

Ferriday, town (pop 2,857), E La., near the Mississippi, founded 1903, inc as a village 1905, as a town 1927. It has railroad shops and cotton gins A large pecan plantation is near by

Ferrier, Sir David (fĕ'rēur), 1843–1928, Scottish neurologist He served as professor of neuropathology at King's College, London. His work on the cerebral localization of control of bodily functions confirmed and extended that of earlier investigators. He wrote *The Functions of the Brain* (1876) and *Cerebral Localisation* (1878).

Ferrier, James Frederick, 1808–64, Scottish philosopher He was a professor at Edinburgh (1842–45) and at St. Andrews from 1845 until his death His major work, the *Institutes of Metaphysic* (1854), argued against the absolute existence of matter and for the coexistence of mind and matter in all experience See biography by E S Haldane (1899)

Ferrier, Susan Edmonstone, 1782–1854, Scottish novelist In *Marriage* (1818), *The Inheritance* (1824), and *Destiny* (1831), she drew lively satirical pictures of Scottish society The *Memoir and Correspondence of Susan Ferrier* (ed by J A Doyle, 1898) was republished with the novels in 1928, when there was a considerable revival of interest in Miss Ferrier's work

Ferris, Warren Angus 1810–73, American fur trader and frontier surveyor, b. Glen Falls, N Y Most of his childhood was spent in Buffalo, but in 1828 he left home, adventuring westward In 1830 at St Louis he was engaged by the American Fur Company, and the next five years he spent as a company trader and trapper in the Rocky Mts After returning briefly to Buffalo in 1835, he went (1836) to Texas, where he surveyed much of NE and N Texas, including the site of Dallas He spent his years after 1847 on his farm near Dallas, doing some surveying and hunting on the side, as well as building up a library (rare in frontier Texas) His *Life in the Rocky Mountains*, first published (though not in entirety) in the *Western Literary Messenger* at Buffalo in 1843–44, is one of the most valuable of early Western documents An edition by Paul C Phillips appeared in 1940

Ferris, Woodbridge Nathan, 1853–1928, American educator and public official, b Tioga co , N Y After study (1873–74) at the Univ of Michigan, he taught in country schools, and became a successful school superintendent in Illinois In 1884 he founded a college at Big Rapids, Mich , the Ferris Institute, of which he remained head until his death He became active in Democratic party politics, and as governor (1913–16) of Michigan he gained the title of 'Good Gray Governor " In 1922 he won a notable victory when he was elected to the U S Senate, the first Democrat to gain this office in Michigan since 1863

Ferris, town (pop 1,436), N Texas S of Dallas, settled 1870, inc 1874 It is in a blackland farming area notable for producing onions It also makes bricks

Fernsburg, town (pop 1,347), W Vt , S of Burlington, on Lake Champlain, granted 1762, settled 1785 Many of the inhabitants were Friends "Rokeby," home of the writer Rowland E Robinson, was an Underground Railroad station

Ferris wheel, gigantic revolving wheel built for the World's Columbian Exposition held in Chicago in 1893 It was designed and constructed by George W. Ferris, an American engineer of Galesburg, Ill The wheel was built on the tension spoke principle, having two rims, between which were carried 36 cars, each capable of holding 40 passengers The wheel was 250 ft in diameter, the supporting towers 140 ft high, and the total weight of the apparatus about 1,200 tons Imitations have since been built for various exhibitions

ferroconcrete see CONCRETE

Ferrol, El (ĕl fĕrōl'), officially **El Ferrol del Caudillo** (dĕl koudhē'lyō), city (pop 40,664), La Coruña prov , NW Spain, in Galicia, an Atlantic port The naval base, first built in the 18th cent , is one of the most important in Spain Shipbuilding and ironworks are the main industries. Francisco Franco was born here

Ferry, Jules (zhul' fĕrē'), 1832–93, French statesman A journalist and a politician, he rose to prominence as minister of public instruction (1879–80, 1882) and was twice premier (1880–81, 1883–85) Ferry established the modern French educational system with universal, free, and compulsory education in the primary schools An anticlerical, he secularized the schools and dissolved those religious orders that were not authorized to teach The curriculum and the upper grades were expanded under his guidance Ferry is best known, however, as the builder of the French colonial empire Developing a philosophy of imperialism, he accepted the loss of Alsace-Lorraine and was willing to cooperate with Bismarck in order to get compensation elsewhere During his premiership the French occupied Tunis, entered Tonkin and Madagascar, and penetrated the regions of the Niger and the Congo Ferry was overthrown by Clemenceau after a temporary defeat of the French army in Indo-China. He was assassinated by a religious fanatic See T F Power, *Jules Ferry and the Renaissance of French Imperialism* (1944)

ferry, a passage across water by boat, provided for the public upon payment of a toll Over a narrow waterway foot passengers may be ferried in rowboats Vehicles and animals are often carried across on barges with flat bottoms If the passage is short, such a ferryboat may be propelled by means of a chain which lies on the bed of the stream and is made fast on shore at each end. In the boat it passes over a drum which is turned by hand power or by an engine Another kind of ferry for rivers has a boat attached to one end of a long

chain or rope, the other end of which is fastened to a stationary buoy somewhat upstream and in the middle This is used where the current is strong enough to propel the boat by pressure upon its side Where regular passenger traffic is heavy or where the distance traversed is greater, large ferryboats propelled by power are used, ordinarily with a screw at each end In places where a bridge cannot be used, large vessels, sometimes paddle-driven, transport railroad trains across water between track and track. Specially built ocean ferries have made possible, since 1936, a through train service between London and Paris The passengers entrain in either London or Paris, the cars are ferried across the English Channel between Dover and Dunkirk, and the occupants alight without having left the train throughout the entire trip

Fersen, Count Fredrik Axel (frā'drĭk äk'sŭl fĕr'sŭn), 1719–94, Swedish politician and soldier, a descendant of the McPhersons of Scotland. He served in the French army (1743–48) and retired as brigadier general As lieutenant general in the Swedish army (1750–57), he distinguished himself in the Seven Years War Fersen was a leader of the noble faction called the Hats After the coup d'état of Gustavus III, he became the king's adviser At the diet of 1789 he opposed the king's war policy and was arrested He was soon released and retired from politics His *Historiska Skrifter*, a history of 18th-century Sweden (largely autobiographical), is more interesting than accurate

Fersen, Count Hans Axel, 1755–1810, Swedish soldier and diplomat, son of Count Fredrik Axel Fersen He entered (1779) the French service, was aide-de-camp of Rochambeau in America, and later at the court of Versailles became a favorite of Marie Antoinette He was recalled (1784) to Sweden, but returned to Paris at the eve of the French Revolution In 1791 he helped Bouillé plan the flight of Louis XVI and Marie Antoinette and himself drove their coach outside the city limits, but the royal couple were arrested at Varennes Fersen later held diplomatic posts at Vienna and Brussels and in 1801 was made marshal of Sweden by Gustavus IV, whom he accompanied to Germany in the Napoleonic Wars After the Swedish revolution of 1809 Fersen was accused by popular rumor of reactionary intrigues, and he was killed by a mob See his own diaries (Eng tr, 1902), Marjorie Coryn, *Marie Antoinette and Axel de Fersen* (1938), Evan John (pseud of E V Simpson), *Kings' Masque* (1941)

fertility rites, magico-religious ceremonies to insure abundance of food and birth of children In primitive agricultural societies natural phenomena, such as rainfall, the fecundity of the earth, and the appearance, disappearance, and reappearance of vegetation were personified and thought to act in terms of human generation These phenomena are symbolized in the sacred mythical marriages of Mother Earth, the mother goddess (e g, Cybele, Ishtar, and Demeter), and the sun-god or ruler of heaven (e g, Attis, Tammuz, and Zeus) and the birth and death of their progeny (see Osiris, Persephone) The sacred drama is the fertility rite par excellence It depicts the marriage and includes a story of birth, death, and resurrection, symbolizing the periodicity of nature Fertility rites include acts of sympathetic magic, e g, kindling of fires (symbolizing the sun) and scattering the reproductive organs of animals on the fields, displays of phallic symbols, and even ritual prostitution A ritual dance including a mock battle, e g, the Green Corn dance of the Natchez Indians, was a typical device to ward off spirits hostile to crops Sacrifices released the powers embodied in humans, animals, and plants and so made the fields productive Generally the same magic was believed effective in enhancing agricultural and human fertility Some fertility rites have come down to modern times in a somewhat disguised form, e g, the Maypole dance and carnivals

fertilization, in biology, a process in the reproduction of both plants and animals, involving the union of two unlike sexual cells, or gametes, the sperm and the ovum or egg In the flowers of higher plants, the process occurs when, after pollination and the growth of the pollen tube down the style to establish contact with the egg cell, one sperm nucleus of the pollen enters the egg and fuses with the nucleus of the egg The process occurs also in the mosses and ferns differing in that the sperm is actively motile and swims down the neck of the egg chamber (archegonium) to fuse with (fertilize) the egg cell In the higher animals, the fundamental principle is the same The sperm or male cell fuses with the ovum, a new individual developing subsequently Fertilization is especially important in that, by the fusion of the nuclear material, the inheritable characters of the parent cells are carried in the genes, which are brought together to be rearranged and recombined in the fertilized ovum

Cross-fertilization, in botany, indicates the fusion of an ovum of one flower with the sperm of another flower, as distinguished from self-fertilization in which ovum and sperm from the same flower are fused.

fertilizer, material applied to the soil for the purpose of increasing its nourishment for plants Plants require nitrogen, potassium, phosphorus, and other chemical elements for proper growth, when these are lacking in the soil, they may be introduced by the application of organic fertilizers, such as barnyard manure, fish or bone meal, and packing-house wastes, or by inorganic or artificial fertilizers—chemicals which contain these elements Nitrate of soda, sulphate of ammonia, and muriate of potash are commercial fertilizer materials, used either separately or mixed in definite proportions, according to the needs of the soil and crop Machinery of various types is used for distributing fertilizers in the soil, either with the seed or before or after seeding The fertility of the soil is increased by plowing crops under and by growing leguminous crops, such as sweet clover and red and crimson clover See A F Gustafson, *Handbook of Fertilizers* (4th ed, 1944), G H Collings, *Commercial Fertilizers* (4th ed, 1947), publications of the U S Dept of Agriculture

Fervidor see French Revolutionary calendar

Fescennine verses (fĕ'sŭnĭn, -nīn), ancient Italian doggerel lines, bantering and scurrilous, originally chanted at rustic festivals—perhaps to avert the evil eye As used in Rome, they were shouted extemporaneously (in dialogue form) by onlookers at weddings and triumphs and may have been forerunners of Latin drama

fescue (fĕs'kū), any species of the genus *Festuca*, annual or perennial grasses The meadow fescue and especially the tall fescue, Eurasian perennials introduced into North America, are pasture and forage grasses The sheep fescue, is better adapted for turf than for use as a forage crop, the red fescue is used mainly for lawns A few species are cultivated for ornament

Fess, Simeon Davidson, 1861–1936, American educator and legislator, b Allen co, Ohio He was graduated from Ohio Northern Univ in 1889, immediately becoming professor of American history and later serving as dean of the law school (1896–1900) and vice president of the university (1900–1902) He was lecturer (1902–7) at the Univ of Chicago, then president (1907–17) of Antioch College Beginning his political career when past the age of 50, he served in Congress (1914–23) and in the Senate (1925–35) An ardent and conservative Republican, he served as chairman of the Republican national congressional campaign committee (1918–22), as temporary chairman and keynote speaker of the Republican national convention in 1928, and as chairman (1930–31) of the Republican National Committee He was an unswerving prohibitionist and an opponent of the New Deal One of his books, mostly textbooks in history and civics, is *The History of Political Theory and Party Organization in the United States* (1910)

Fessenden, Reginald Aubrey (fĕ'sundun), 1866–1932, American physicist and engineer, b Quebec prov, studied at Bishop's College, Lennoxville, Que From 1887 to 1890 he was head chemist at the Edison laboratories and was later associated with leading electrical companies He was professor of electrical engineering at Purdue (1892–93) and at Western Univ of Pennsylvania (later Univ of Pittsburgh) from 1893 to 1900 He also served with the Weather Bureau and conducted researches in electricity, particularly in the field of radio and its application See biography by his wife, Helen M Fessenden (1940)

Fessenden, Thomas Green, 1771–1837, American journalist and satirical poet, b Walpole, N H, grad Dartmouth, 1790, and studied law in Rutland, Vt Under the name Christopher Caustic he wrote satirical poems, popular but scurrilous, among them *Democracy Unveiled* (1805), an attack on Jefferson and other Democratic leaders He practiced law in Brattleboro, Vt, and edited successively two papers In 1822 he established in Boston the *New England Farmer*, which he edited until his death, and he wrote various agricultural handbooks including the widely used *Complete Farmer and Rural Economist* (1834) See P G Perrin, *Life and Works of Thomas Green Fessenden* (1925)

Fessenden, William Pitt (fĕ'sundun), 1806–69, American statesman, b Boscawen, N H, grad Bowdoin College, 1823 Admitted (1827) to the bar, he began practice in Portland in 1829 and by 1835 was regarded as one of the leading lawyers of Maine A Whig, he served several terms in the state legislature and one (1841–43) in the U S House of Representatives Fessenden was active in organizing the Republican party in Maine and in 1854 was elected to the U S Senate, where, except for nine months as Lincoln's Secretary of the Treasury (June, 1864–March, 1865), he remained till his death Beginning with a notable speech against the Kansas-Nebraska Bill, he gained a reputation as one of the Senate's greatest debaters Made a member of the finance committee in 1857, Fessenden was its chairman during most of the Civil War and in that capacity and as Secretary of the Treasury made an excellent record in public finance, trying to confine expenditures to necessary measures and to resist inflation In Dec, 1865, he became chairman of the joint committee on Reconstruction and wrote most of its famous report Though he believed Congress, and not the President, should direct Reconstruction and though he disliked Andrew Johnson personally, he refused to vote for Johnson's impeachment He also refused to vote on the Tenure of Office Act and in general acted more moderately than his fellow radical Republicans His course, particularly in regard to the impeachment proceedings, was contrary to the expressed wishes of his constituency, and for a time he was unpopular See biography by his son, Francis Fessenden (1907)

Festiniog, Merionethshire, Wales see Ffestiniog

Festival of Lights, Jewish festival see Hanukkah

festoon, sculptured or painted architectural or interior ornament consisting of a garland of leaves, flowers, or fruit, or some combination of these, held by ribbons or folds and draped by the ends It is also designated a swag It reproduces the actual garland used on Greek and Roman festal altars and was much used as a decorative feature in Roman and Renaissance art, and was often represented as carried by *putti*, or infant figures

Festus (Sextus Pompeius Festus), fl at some time between 100 and 400 A D, Roman lexicographer, his surviving work, *On the Meaning of Words*, is an abridgment of the lost glossary of M Verrius Flaccus It is most important as a primary source for Roman scholarship and Roman antiquities Paul the Deacon abridged Pompeius Festus' work

Festus, Porcius (pôr'shus), fl A D 60, Roman procurator of Judaea (A D 60–A D 62) He succeeded Antonius Felix He was just in his administration of the province Finding Paul in prison he gave him a fair hearing before King Agrippa and then sent him to Rome Acts 24 27–26 32

Festus, residential city (pop 4,620), E Mo, on the Mississippi below St Louis and adjacent to Crystal City, in a farm area, platted 1878 Shoes and textiles are made here

feterita see sorghum

Feth Ali Shah see Fath Ali Shah

Fétis, François Joseph (frāswa' zhōzĕf' fātēs'), 1784–1871, Belgian music theorist, historian, and critic His great contributions to music history were his *Biographie universelle des musiciens* (8 vols, 1835–44) and *Histoire générale de la musique* (1837), works of great value to music historians, despite inaccuracies In France in 1827 he founded the *Revue musicale*, an outstanding periodical He also wrote biographies and theoretical works

fetish (fē'tĭsh) [Port *feitço*=charm, sorcery], inanimate object supposed to possess some magical power through its association with some divine power The belief and use of fetishes in worship is fetishism, a religious idea related ultimately to animism Any object of irrational or superstitious devotion may by extension be called a fetish, and in psychopathology, fetishism usually means neurotic sexual attraction to some object such as a piece of clothing

Fetter, Frank Albert, 1863–1949, American economist, b Peru, Ind, Ph D Halle, 1894 He taught at Princeton from 1911 to 1931 Fetter attempted to revise the marginal utility theory by analyzing the importance of psychological factors in the determination of the value of goods His writings include *The Principles of Economics* (1904, rev ed, 2 vols, 1915–22)

Fetterman, William Judd, 1833?–1866, American army officer In 1861 he enlisted in the Union army from Delaware, he served throughout the Civil War and was twice brevetted for gallant conduct After the war he remained in the army and was sent, in Nov, 1866, to Fort Phil Kearney, Wyo The **Fetterman massacre** occurred when, despite his unfamiliarity with frontier conditions and methods of Indian fighting, he volunteered to lead a party of 80 men on supply escort duty, ignored orders not to leave the trail, and was ambushed by Indians under Red Cloud He and his entire party were killed in the attack

fetus (fē'tus), unborn offspring of a viviparous animal in the later stages of its development In earlier prenatal life, the developing young is known as the embryo The fertilized egg becomes implanted on the wall of the uterus (womb), and the embryo develops a separate circulatory system with its own blood supply, receiving nourishment and oxygen through the placenta In humans the heart beat of the fetus can be heard through the abdominal wall of the mother after the 18th week The form and position of the fetus can be identified by palpation in the second half of pregnancy, this may be confirmed by X-ray examination Active movements of the fetus are usually evident after the fifth month Just previous to birth, the top of the head of the fetus is usually situated in the lower portion of the pelvis In premature births, modern medicine, through the use of incubators and oxygen, offers the infant an excellent chance of survival

Feuchtwanger, Lion (lē'ŏn fokht'vang-ûr), 1884–, German novelist and dramatist He studied philosophy but turned to literature, translating various ancient classical dramas and writing several original plays which were successful His rise to a wide fame began with the historical novels *The Ugly Duchess* (1923, Eng. tr., 1928) and *Jud Süss* (1925,

Eng tr, *Power*, 1926), and he confirmed his popularity as a historical novelist with the Josephus trilogy, *Josephus* (1923, Eng tr, 1932), *The Jew of Rome* (1935, Eng tr, 1935), and *Josephus and the Emperor* (1942, English only) *Success* (1930, Eng. tr, 1930) and *The Oppermanns* (1933, Eng tr, 1933) are stories of modern German life Other works include the journal *Moscow, 1937* (1937, Eng tr, 1937) and the novels *Simone* (1944, English only) and *Proud Destiny* (1947, English only) Feuchtwanger left Germany in 1933 for France, but was later arrested and escaped to the United States in a dramatic fashion in 1940

feud, private warfare, especially between family groups Originally the general form of justice, the blood vengeance feud (see VENDETTA) is characteristic of most societies where a central government either has not arisen or has decayed In modern times the feud, outlawed in most civilized countries, has persisted where justice cannot be easily enforced and some recourse must be had to private means of effecting it Such has until recently been the case in the mountain regions of North Carolina and Kentucky, where the feud of the Hatfields and McCoys has become legendary The frontier in U S history was usually characterized by private justice and the feud

feudalism (fū'dŭlĭzm) [from Late Latin *feodalis*, adjective of *feodum* or *feudum*, a fief, which is ultimately from Germanic =cow, the source also of English *fee*], the form of social organization typical of all Western Europe from the dissolution of Charlemagne's empire to the rise of the absolute monarchies The basic characteristic of the organization is local and agricultural political economy Because it arose in Europe from the breakdown of central government and the growth of independent local units connected by personal relationships, there is such a bewildering diversity of forms, of customs, and of institutions that it is almost impossible to describe accurately feudalism as a whole This difficulty has been increased rather than lessened by the attempts of later legal writers to formulate exact feudal laws Nevertheless, certain institutions may be singled out as characteristic of feudalism strict division into social classes—nobility, clergy, peasants and burgesses (who emerged to power in the later part of the Middle Ages), private and almost continuous warfare, private jurisdiction, resting upon local custom, and the system of landholding dependent upon the fief, which gives feudalism its name Although some tillers of the soil held their land without obligation to any man, in alod (alodial tenure) or absolute ownership, they were the exceptions to the rule in the Middle Ages The usual economic unit was the manor, where the peasants, VILLEIN and SERF, held the land they worked from the lord of the manor, the seigneur, who granted them protection and the use of land in return for personal services (especially on the land he retained for his own use) and dues (especially payment in kind), which tended to become rigidly set by custom This was the MANORIAL SYSTEM and must be considered as distinct from the feudal system although the two were interdependent and inseparable The seigneur himself did not usually own the land, although in exceptional cases he might hold the manor in alod Normally he held it from a more powerful lord In an ideal feudal society (a legal fiction which most nearly approached realization in the artificially created Latin Kingdom of Jerusalem of the Crusaders), the ownership of all the land of a country was vested in the king Beneath him was a hierarchy of nobles, the most important nobles holding from him directly, the lesser nobles from them and so on down to the seigneur who held a single manor The method of holding was by fief The grantor of the fief was the suzeram or overlord, the recipient the vassal To acquire the fief the vassal knelt before the overlord, put his hands in those of the overlord, and declared himself his man, the overlord bound himself by kissing the vassal and lifting him to his feet This was the act of homage The vassal then swore an oath to be faithful to the overlord and to perform the services and acts due him this was the act of fealty or fidelity The overlord then invested the vassal with the possession of the fief, usually by giving him a stick, a straw, a clod of earth, or some other symbol of the land transferred (see INVESTITURE) It was not always land which was given in fief, an honor or a right might also be granted thus Nor is fief-holding usually considered as essential in feudalism this was merely a typical institution of medieval Western Europe. The vassal might in his turn become overlord by granting part of the fief to one who became a vassal to him A very complex and confusing net of relationships between the nobles grew up on the basis of fiefs The fief was originally a purely personal relationship and on the death of either party it had to be renewed With the growth of the idea of hereditary succession and of primogeniture, custom compelled its renewal with the heir of the deceased Basically, the system rested upon the unsettled condition of the time and the need that a lord felt for armed warriors; the nobility were essentially a military class, with the KNIGHT as the typical warrior (see also KNIGHTHOOD AND CHIVALRY) Since arming and equipping the mounted fighters were expensive, the lord was unable to create his armed force without the obligation of the vassal to supply a stipulated number of armed men, which varied according to circumstance from the simple service of the vassal himself (necessarily a knight) to the service of hundreds (who made up the private armies) The gradations of nobility were based on military service as well as on landholding The lowest rung of the scale was the squire, originally the servant of the knight Above the knight were the classes that varied in different countries—counts, dukes, earls, barons, and other nobles The vassal in addition to military service owed other dues and services varying with local custom and tending to become fixed, as in the AIDS The obligation of the overlord in the suzeram-vassal engagement, the feudal contract, was always protection of the vassal It was out of this need for protection that feudalism grew, in both the military and economic aspects It appears first in definite form in the Frankish lands in the 9th and 10th cent, and some scholars deny the name to any but the Frankish type A long dispute between historians as to whether German or Roman institutions formed its base could not reach a definite conclusion because of lack of documents It seems safe to say that feudalism arose from the condition of society consequent on the disruption of the decaying Roman institutions by the inroads and settlements of the Germans It used and altered institutions already existent One of the more important in an economic sense was the social organization of the Roman villa with the peculiar form of rental, the precarium, a temporary grant of land which did not alienate the right of the grantor More and more the poor landholder transferred his land to a wealthy protector and received it back as a precarium, thus creating the holdings in the manorial system However, the manorial system could develop as it did in England from the Germanic villages More important in the development of fiefs were the personal relationships, the Roman patrocinium and the German comitatus, both showing the tendency of the powerful to gather about them men dependent upon them for protection and rendering them service, particularly military service There was a tendency for the powerful to reward the services and render protection by the grant of a *beneficium*, the use of land, which tended to become hereditary. The use of mounted warriors, as by Charles Martel against the Saracens in 732, undoubtedly hastened amalgamation The local royal officers and the great landholders increased their power and forced the king to grant them rights of private justice and immunity from royal interference By this process feudalism grew fixed in Frankish lands by the end of the 10th cent The Church also had great influence in shaping feudalism, and though the organization of the Church did not become feudal in character, its hierarchy somewhat paralleled the feudal hierarchy The Church also owned much land, held in the hands of the monasteries, the church dignitaries, and the churches themselves Some of this was brought under cultivation by the monasteries out of the wilderness, but most of it was given by nobles as bequest or gift Much of it came with feudal obligations attached, and clerical land tended, like lay land, to assume a feudal aspect Therefore, though the clergy were forbidden to bear arms, they became participants as temporal lords in the feudal system, and many of the bishops and abbots were much like lay seigneurs Women and children could also become seigneurs in inheriting property under wardship Feudalism spread from France to Spain, to Italy, and later to Germany and Eastern Europe. The Frankish form was imposed by William I (William the Conqueror) upon England (1066), though most of the elements of feudalism were already present there It was extended eastward into Slavic lands to the marches that were continually battered by new invasions, and it was adopted partially in Scandinavian countries Feudalism continued in all the various countries until the end of the 14th cent The disruptive forces were always present in the system itself, which provided for the concentration of power into single hands The rise of monarchs in France, Spain, and England broke down the local system Another disruptive force was the increase of communication which broke down the isolated manor, built towns, and introduced the burgess (bourgeois) class This had also been present from the beginning, especially in Italy and Germany, but its great acceleration in the 14th cent with the expansion of the economic world after the Crusades, did much to destroy the feudal classification of society The system broke down gradually In France it was not completely destroyed until the French Revolution (1789). Old usages persisted in Germany until the 19th cent, in Russia until 1917 Many relics of feudalism still persist, and it has left its impress on almost all institutions of Western Europe Other ages and other lands have seen the development of feudal institutions In Japan the feudal system was well ordered before the 10th cent and persisted with modifications to the 19th cent (see JAPAN, BUSHIDO, DAIMYO) In other areas, as in China, the development was only partial, creating at times a feudalistic, rather a feudal, society Feudalism in India and in Saracenic civilization has also attracted notice There are thousands of scholarly works on particular aspects of feudalism as well as many collections of documents, laws, and treatises See Sir Paul Vinogradoff, *Villainage in England* (1892) and *The Growth of the Manor* (2d ed, 1911), Sir Frederick Pollock and F W Maitland, *History of English Law* (2d ed, 1899), Charles Seignobos, *The Feudal Régime* (Eng tr, 1902, of a chapter from Ernest Lavisse and Alfred Rambaud, *Histoire générale*, 12 vols, 1893-1901), R W Carlyle and A J Carlyle, *A History of Medieval Political Theory in the West* (6 vols, 1903-36), W S Davis, *Life on a Medieval Barony* (1923), Henri Pirenne, *Medieval Cities* (1925), J W Thompson, *Feudal Germany* (1927) and *Economic and Social History of the Middle Ages* (1928), F M Stenton, *The First Century of Feudalism, 1066-1166* (1932), Carl Stephenson *Medieval Feudalism* (1942), Marion Gibbs, *The Feudal Order* (1949)

Feuerbach, Anselm von (an'zĕlm fŭn foi'urbakh), 1829–80, German painter, leading exponent of the German classicist school, studied in Düsseldorf, Munich, Paris, and Rome He lived in Rome from 1856 to 1873, and after two years as professor in the Vienna Academy, he retired to Venice for the last five years of his life To his Roman period belong most of his famous works, including *Dante in Ravenna, Plato's Symposium, Judgment of Paris, Battle of Amazons,* and *Medea* One of his last works is the *Fall of the Titans* (Vienna) Feuerbach was also an accomplished portraitist His work shows strong Venetian influence His autobiography (1882) went through several editions

Feuerbach, Ludwig Andreas (lōōt'vĭkh andrā'äs), 1804–72, German philosopher, educated at Heidelberg and Berlin, son of Paul Johann Anselm von Feuerbach At first a Hegelian, he abandoned absolute idealism for naturalistic materialism, asserting that religious feeling is simply a product of man's yearnings and that the proper study of philosophy is man as defined by experience His attacks upon orthodoxy won him attention Feuerbach's most important works were *Das Wesen des Christentums* (1841, Eng tr by George Eliot, *The Essence of Religion*, 1853), *Geschichte der neueren Philosophie* (2 vols, 1833–37), and *Gotthelt, Freiheit und Unsterblichkeit* (1866) His writings exerted influence through their exposition of materialism, and both Karl Marx and Friedrich Engels wrote commentaries on him See W B Chamberlain, *Heaven Wasn't His Destination* (1941)

Feuerbach, Paul Johann Anselm von (poul' yō'hän an'zĕlm), 1775–1833, German jurist, father of Ludwig Feuerbach His work was in the field of criminal law † In *Kritik des naturlichen Rechts* [critique of natural law] (1796) he argued that law was the positive mandate of the state and was not to be confused with natural morality His *Grundsätze und Grundbegriffe des positiven peinlichen Rechts* [principles and rules of positive criminal law] (1799) ascribed a dual role to the penal law It should protect society by deterring crime through the threat of finely adjusted penalties and should protect individual liberties by punishing only those crimes which had been exactly defined by statute Feuerbach's books earned him teaching positions at the universities of Jena (1799), Kiel (1802), and Landshut (1804), and in 1805 he joined the ministry of justice of Bavaria with the task of preparing a criminal code The code (1813) embodied his principles, it was adopted by several German states and by several Swiss cantons Feuerbach served as an appellate judge from 1814 to his death Besides his systematic treatises he wrote vivid psychological studies, including *Kaspar Hauser* (1832; Eng tr, 1834) and *Narratives of Remarkable Criminal Trials* (1828–29, Eng tr, 1846)

Feuermann, Emanuel (ā'mä'nōōĕl foi'urmän), 1902–42, virtuoso cellist, b Kolomea, Galicia He appeared with the Vienna Philharmonic Orchestra at the age of 11 and later (1917–23) taught at the Cologne Conservatory From 1929 until 1933, when he fled to Switzerland, he taught at the Berlin Hochschule In 1938 he moved to the United States, where from 1935 he had concertized, he joined the faculty of the Curtis Institute of Music, Philadelphia, in 1941 Many considered him the greatest cellist in the world

Feuillants (fûyä'), political club of the French Revolution It emerged in July, 1791, when the right wing of the JACOBINS began to meet separately at the former Feuillant convent Its chief member was BARNAVE The Feuillants advocated a constitutional monarchy In March, 1792, the Girondists overthrew the Feuillant ministry, which was opposed to war on Austria From then on, the Feuillants were identified with the royalists and aristocrats and, after the fall of the monarchy (Sept, 1792), were suppressed by the Jacobins

Feuillet, Octave (ôktäv' fûyā'), 1821–90, French novelist and dramatist, popular with the court and society of the Second Empire He began, perhaps, as a collaborator of Dumas père, his own first

novel was *The Little Countess* (1856, Eng. tr , 1875). This was followed by *The Romance of a Poor Young Man* (1858, Eng tr., 1859), his most popular novel, also successful as a play, *Monsieur de Camors* (1867, Eng tr., 1868), *Julie de Trécœur* (1872, Eng tr , 1875); and *La Morte* (1886, Eng tr , *Alvette*, 1876) His work gave a sympathetic account of the loves and activities of genteel society. The word *feuilleton* was first used of his newspaper serials

fever. The normal temperature of the average human body registers 98 6°F by mouth and 99 6°F by rectum Any temperature above this is characterised as fever Fever may result from disease, e g , typhoid fever or pneumonia, from injuries to nerve centers of the brain, from a reduction of the water content of the blood (dehydration), and from the use of certain drugs

fever blisters see COLD SORES.

feverbush. see SPICEBUSH

feverfew [once identical with *febrifuge*], hardy Eurasian perennial (*Chrysanthemum parthenium*), called also PYRETHRUM and cultivated formerly as an herb, now as a border plant, often escaping in America It is strong smelling and has small daisy-like flower heads, sometimes double, with short white petallike rays One yellow-leaved variety is called golden feather Feverfew was long used medicinally, especially as a febrifuge and tonic

fever therapy (thē'rupē), treatment of disease by means of artificially produced fever In 1917 Julius Wagner-Jauregg introduced a method of treating general paralysis in the insane by injecting malaria organisms into the body to produce fever Other microbes, including those causing typhoid fever, have also been used in fever therapy but other methods have generally supplanted the use of germs. Physical methods of raising the body temperature are known under the general term of hyperthermy or artificial hyperpyrexia Probably the most used of these are the electrical methods (electropyrexia), including devices such as luminous heat cabinets containing carbon-filament lamps, nonluminous heat cabinets equipped with resistance coils, air-conditioned cabinets with a thermostat-controlled resistance unit for heat production and means of controlling humidity and circulation of air, cabinets provided with short-wave diathermy units, and electric blankets Other methods include the use of hot baths and radiation from infrared and other sources One value of fever therapy is that it can destroy pathogenic organisms without injury to the person under treatment Although such treatments have been to some extent displaced by chemical agents, fever therapy is sometimes used in conjunction with chemical substances, e g., in treating gonorrhea and syphilis Fever therapy is reported to have value in treating some cases of chorea, bronchial asthma, chronic arthritis, rheumatic fever, undulant fever, meningococcal meningitis, and some skin conditions. Skill and care are required in the use of fever therapy

Few, William, 1748–1828, American Revolutionary patriot and statesman, b near Baltimore Few moved (1758) with his family to North Carolina He was involved in the activities of the REGULATOR MOVEMENT and after its failure (1771) went to Georgia He took part in partisan activities in the American Revolution, served in the Continental Congress (1780–82, 1785–88), signed the Constitution, and was one of Georgia's first U S Senators (1789–93)

Fewkes, Jesse Walter (fūks), 1850–1930, American ethnologist b Newton, Mass , Ph D Harvard, 1877 He turned from his early work in marine zoology to the study of Southwestern ethnology He was chief of the U S Bureau of Ethnology (1918–28) His careful studies of Hopi ceremonies, especially the snake dances, are classic ethnological works He was the first to employ phonographs in recording Indian music From the study of the present-day Pueblo tribes he was led to their prehistory and in subsequent years did much foundation work in excavating prehistoric pueblos and cliff dwellings, including Casa Grande in S Arizona and many of the structures in Mesa Verde National Park He was also an expert in their judicious repair His work in the West Indies and on subsequent trips to Florida and E Mexico resulted in luminous contributions on West Indian and Gulf of Mexico relationships His writings are chiefly in the publications of the Bureau of Ethnology and in archaeological journals.

Feyjóo y Montenegro, Benito Gerónimo (bānē'tō hārō'nēmō fāhō'ō ē mōntānā'grō), 1676–1764, Spanish Benedictine scholar and critic, abbot at Oviedo, Asturias In his social and political ideas, in philosophy, science, and literature, he represents the most advanced European thought of his time His *Teatro crítico universal* (8 vols , 1726–39) and *Cartas eruditas y curiosas* (5 vols., 1742–60) are collections of essays in the manner of the English *Spectator*. Feyjóo is a variant spelling of his name

Fez, Arabic *Fas*, Fr. *Fès*, city (pop. 200,946), French Morocco. Its location in a rich agricultural region and at a central point on routes to Tangier, Rabat, and Marrakesh has assured its prosperity It was the capital of several dynasties (808–1062, 1269–1550, and after 1800), and it is one of the residences of the sultan of Morocco Fes consists of the old city (founded 808) and the new city (founded 1276), connected by walls, as well as a European suburb. There are more than a hundred mosques; that containing a shrine of Idris II, founder of the old city, is one of the holiest places in Morocco. The Kairouine mosque houses a Moslem university, especially influential in the Middle Ages Fez is noted for native industries and gave its name to the brimless felt caps, formerly a characteristic item of Mohammedan dress in the Near East

Fezzan (fĕzän'), region (c.50,000 sq. mi., pop c 30,000), W central Libya, a part of the Sahara It is a plateau bordered by hills and studded with oases Dates and grains are grown, and there is some grazing On the route from the Sudan to the Mediterranean, Fezzan was early an important trade zone It was conquered repeatedly, falling to Rome (19 B C.), to Arab invaders (7th cent.), to Bornu (13th cent.), and, after a bitter struggle to Turkey (1842) Italy acquired it in 1912 It was occupied by the French in the Second World War Murzuk is the chief settlement

Ffestiniog or **Festiniog** (both fĕstĭ'nĭŏg), urban district (pop 9,078), Merionethshire, Wales It is in the mountains overlooking the Vale of Ffestiniog, in which are the Cynfael Falls Slate is quarried at near-by Blaenau Ffestiniog

Fiammingo, Il (ēl fyam-mēn'gō) [Ital , =Fleming], appellation of several Flemish-Dutch artists see BOLOGNA, GIOVANNI DA, CALVAERT, DENIS, DUQUESNOY, FRANÇOIS

Fianna Fail (fē'unŭ fäl') [Irish, =Feinans of Ireland], Irish political party Organized in 1926 by opponents of the Anglo-Irish treaty of 1921 establishing the Irish Free State and led by Eamon DE VALERA, the party gained control of the government in 1932 and pursued a policy of complete political separation from Great Britain It remained dominant until it was in 1948 defeated at the polls by a coalition De Valera was replaced as prime minister by John A Costello

fiat money (fī'ăt, fē'ut), inconvertible money that is made legal tender by the decree or fiat of the government but which is not covered by a specie reserve It is commonly understood to be of paper, but it may also consist of overvalued metal coins Fiat money involves a danger of inflation, whereas money redeemable in gold is held to involve this danger in much smaller degree Inasmuch as inflation and deflation tend to transfer property from one class to another, discussions of fiat money have seldom been disinterested It is at least possible that, under certain conditions, fiat paper money might be a stable currency Large amounts of irredeemable paper money were issued by the American colonies and by both the Federal and Confederate governments during the Civil War Violent price rises accompanied these issues See Norman Angell, *The Story of Money* (1929)

fiber (fī'bur), threadlike strand, usually pliable and capable of being spun into a yarn More than a thousand different fibers are known to be usable, some 40 of these are of commercial importance, and others are of local or specialized use Most commercial fibers are put to varied and interchangeable uses Fibers may be classified according to origin as animal, vegetable, and inorganic fibers Animal fibers are composed chiefly of proteins, they include SILK, WOOL, and hair of the goat (known as MOHAIR), llama (called ALPACA), vicuña, camel, horse, rabbit, beaver, hog, badger, sable, and other animals Vegetable fibers are composed chiefly of cellulose and may be classed as short fibers, e g , COTTON and KAPOK, long fibers, including FLAX, HEMP, MANILA HEMP, istle, RAMIE, SISAL, and SPANISH MOSS, and synthetic fibers, e g , RAYON The chief natural inorganic fiber is ASBESTOS Fibers are derived also from other inorganic substances which can be drawn into threads, e g , glass, metals (especially gold and silver), and synthetic materials (notably, NYLON). Fibers are classified according to use as textile, cordage, brush, felt, filling, and plaiting fibers The largest volume is used for textiles and cordage. The chief textile fibers used for clothing and domestic goods are cotton, wool, rayon, nylon, flax, and silk Coarse-textured fibers (principally jute) are used for burlap, floor covering, sacks, and bagging materials. Cordage fibers include most of the long vegetable fibers and cotton Brush fibers include istle, sisal, broomcorn, palmyra, and animal hairs The chief felt fibers are rabbit and beaver hair Filling fibers include horsehair, wool-flock, kapok, cotton, and Spanish moss Plaiting fibers are used for braided articles (e g , hats, mats, and baskets) and include Manila hemp, sisal, rushes, and grasses. Flax, hemp, and wool have been used extensively from remote times, cotton, however, became the leading commercial fiber c 1800, and synthetic fibers are rapidly gaining in diversity and extent of use. The demand for fibers was greatly increased by the invention of spinning and weaving machinery during the Industrial Revolution. The expansion of commerce with remote areas has brought into Western markets many fibers formerly employed only locally. See J. V Sherman and S. L. Sherman, *New Fibers* (1946), J. M. Matthews, *Textile Fibers* (5th ed., 1947); Ludwig Wemdling, *Long Vegetable Fibers* (1947).

Fibiger, Johannes (yōhä'nŭs fē'bĕgur), 1867–1928, Danish pathologist and physician. He served as professor of pathological anatomy at the Univ. of Copenhagen. For his experimental studies in cancer, in which he was the first to produce cancer in the stomach of rats, he received the 1926 Nobel Prize in Physiology and Medicine

Fibonacci, Leonardo (lāônär'dō fēbōnät'chē), late 12th and early 13th cent , Italian mathematician, known also as Leonardo da Pisa In *Liber abaci* (1202), for centuries a standard work on algebra and arithmetic, he advocated the adoption of Arabic notation In *Practica geometrae* (1220) he organized and extended the material then known in geometry and trigonometry Baldassare Boncompagni edited his works (2 vols., 1857–62).

Fichte, Johann Gottlieb (yō'hän gōt'lēp fĭkh'tŭ), 1762–1814, German philosopher After studying theology at Jena and working as a tutor in Zurich and Leipzig, he became interested in Kantian philosophy. Public recognition was accorded him for his *Versuch einer Kritik aller Offenbarung* [critique of all revelation] (1792), which was at first attributed to Kant himself, who highly commended the work As professor of philosophy at Jena (1793–99), Fichte produced a number of works, including the *Wissenschaftslehre* [science of knowledge] (1794). Charges of atheism forced him to leave Jena for Berlin, where he became interested in politics. His *Reden an die deutsche Nation* (1808, Eng tr , *Addresses to the German People*, 1923) established him as a leader of liberal nationalism After several brief professorships, he served (1810–12) as rector of the new Univ of Berlin Fichte's dialectic idealism attempted unification of the theoretical and practical aspects of cognition which had been set apart by Kant He did this by rejecting the noumenal realm of Kant and by making the active indivisible ego the source of the structure of experience From there his dialectical logic led to the postulation of a moral will of the universe, a God or absolute ego from which all eventually derives and which therefore unites all knowing Fichte's philosophy had considerable influence in his day, but later he was remembered more as a patriot and liberal Though he was in political disrepute in his own day and after the reaction of 1815, he became a hero not only to the revolutionaries of 1848 but also to the conservatives of 1871 His political theory had socialistic aspects which influenced Lassalle See biography by H E Engelbrecht (1933) His son, **Immanuel Hermann von Fichte** (ēmänōō'ĕl hĕr'man fĭn), 1797–1879, edited Fichte's works, wrote a biography of him, and also did original philosophical work

Fichtelgebirge (fĭkh'tulgubēr"gu), mountain range, Upper Franconia, NE Bavaria, extending between Bayreuth and the Czech border and rising to 3,447 ft. in the Schneeberg peak It has dense pine woods and is dotted with numerous resorts The Saale and the Red and the White Main rivers originate here The chief industries are cattle breeding and glass manufacturing

Ficino, Marsilio (märsē'lyō fēchē'nō), 1433–99, Italian Platonic philosopher, son of a Florentine physician who enjoyed the patronage of Cosimo de' Medici A gifted youth, Marsilio Ficino was chosen by Cosimo to head a new Platonic Academy at Florence He translated Plato into Italian (1482), and his version is still regarded as the best in Italian His importance lies in this work, as his other writings are unreliable and unoriginal He must also be credited with aiding the revival of the humanist movement as head of Cosimo's Academy See study by P. O Kristeller (Eng tr , 1943)

Fick, August (ou'gōōst fĭk'), 1833–1916, German philologist He compiled the first comparative etymological dictionary of the Indo-European languages (1868).

Ficke, Arthur Davison (fĭk'ē), 1883–1945, American poet, b Davenport, Iowa, grad Harvard, 1904 His poetry, the best of which is sincere in theme and traditional in form, has been published in several volumes, including *Selected Poems* (1926) Prose works are *Chats on Japanese Prints* (1915) and a novel, *Mrs. Morton of Mexico* (1939) With Witter Bynner he wrote, under the pseudonym Anne Knish, brilliant parodies of modern poetry in *Spectra* (1916), which was seriously reviewed

fiction: see NOVEL, NOVELLE, SHORT STORY

fiduciary (fĭdū'shēĕrē), in law, a person who is legally obliged faithfully to discharge a responsibility of trust toward another. Among the common relations in which fiduciary duties figure are guardian and ward, parent and child, lawyer and client, and partnership In dealings with one who is entitled to repose trust in him, the fiduciary must be absolutely open and fair. Thus certain business methods which would be acceptable between parties dealing with one another "at arm's length" might expose a fiduciary to legal liability for having abused his position of trust; e g , whereas in an ordinary business transaction the prospective purchaser of land need not inform the seller of an imminent rise in realty values, a man buying land

from his partner must disclose such information. In many cases the courts will treat an unexplained profit derived from a fiduciary relationship as an instance of constructive FRAUD.

fief: see FEUDALISM.

Field, Charles William, 1828–92, Confederate general, b. Woodford co , Ky , grad West Point, 1849 He was instructor in cavalry tactics at West Point when he resigned (May, 1861) to enter the Confederate service Field led a regiment of Jeb Stuart's cavalry until March, 1862, when he was given an infantry brigade. He fought in the Seven Days battles and was severely wounded at the second battle of Bull Run (Aug., 1862) Promoted major general in Feb., 1864, Field commanded a division of Longstreet's corps from the Wilderness campaign to the end of the war. He served in the Egyptian army from 1875 to 1877 See D. S. Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Field, Cyrus West, 1819–92, American merchant, promoter of the first Atlantic cable, b Stockbridge, Mass , brother of David Dudley Field and Stephen J Field As head of a paper business, he accumulated a modest fortune, and in 1853 he retired In 1854 he conceived the idea of the cable He secured a charter, organized the English and American companies, and obtained the British and American naval ships *Agamemnon* and *Niagara* to lay the cable Five attempts were made in 1857–58 and the first message came over Aug 16, 1858, but the cable ceased working three weeks later It was necessary for Field to raise new funds and make new arrangements. The *Great Eastern* succeeded in laying a cable in 1866 Field was the object of much admiration and praise on both sides of the Atlantic for his persistence in accomplishing what many thought to be an absurd undertaking He promoted other oceanic cables, notably that via Hawaii to Asia and Australia In 1877 he resuscitated the New York city elevated system. See P B McDonald, *A Saga of the Seas* (1937)

Field, David Dudley, 1805–94, American lawyer and law reformer, b Haddam, Conn , brother of Cyrus W Field and S J Field He attended Williams College, studied law in Albany and New York city, was admitted to the bar in 1828, and soon had a large practice in New York city After the Civil War he argued before the U S Supreme Court several cases involving post-war constitutional issues, including the Milligan case (see MILLIGAN, EX PARTE) He was counsel for Jay Gould and James Fisk in the Erie RR litigation in 1869 and later defended "Boss" Tweed, receiving severe criticism from Samuel Bowles and others Filling an unexpired term of two months in Congress in 1877, he strongly supported the election cause of Samuel J Tilden against Rutherford B Hayes His greatest reputation, however, was for his work in behalf of law reform He was responsible for the New York legislature's appointment in 1847 of one commission to reduce the laws of the state to a systematic code and another to prepare codes of court practice and procedure Serving on the second commission, Field prepared a code of civil procedure which was promptly adopted (1848) His code of criminal procedure eventually became law The first commission met failure, and in 1857 Field became head of a new commission for the same task He prepared complete civil, political, and penal codes, but only the penal code, in 1881, became law The civil code several times passed the legislature but was killed by the governor's veto. The codes of procedure were adopted by several other states and strongly influenced the English Judicature Acts of 1873 and 1875, subsequently adopted by many British colonies Field abolished distinctive law and equity procedure Turning next to international law, he prepared, with some assistance, his *Draft Outline of an International Code* (1872), dealing with peacetime relations among nations The second edition (1876) contained Part II, which concerns war. He took a prominent part in the founding of the Association for the Reform and Codification of the Law of Nations (later the International Law Association) See biography by his brother H M. Field (1898)

Field, Eugene, 1850–95, American poet and journalist, b St Louis. For brief periods he attended Williams and Knox colleges and the Univ of Missouri He spent one year abroad, 1872–73, and the next 10 years on the editorial staffs of the St. Louis *Journal*, the Denver *Tribune*, and other newspapers In 1883 he made his permanent connection with the Chicago *Daily News*, later the *Record*. In this paper he conducted a column, "Sharps and Flats," which was effective in establishing the columnist as essential to the staff of an American newspaper. While Field's column was for the most part ephemeral, he did not withhold from it even such poems as his Horatian lyrics later published, with those of his brother, Roswell Martin Field (1851–1919), as *Echoes from the Sabine Farm* (1892). Eugene Field's poems of childhood include the favorites "Little Boy Blue" and "Wynken, Blynken, and Nod " Among his books are *A Little Book of Western Verse* (1889) and *With Trumpet and Drum* (1892). See biography by Slason Thompson (1927).

Field, John, 1782–1837, composer and pianist, b. Dublin, d Moscow In London he studied with Clementi, with whom he later toured Europe In 1804 he settled in Russia He was a successful pianist and his compositions were popular Chopin's nocturnes were modeled after those of Field

Field, Marshall, 1834–1906, American merchant, b Conway, Mass. In 1856, after five years' apprenticeship in a general store in Pittsfield, Mass , he went to Chicago and became a clerk for Cooley, Wardsworth & Company, a leading dry-goods house there, of which he became a junior partner in 1860. In 1865 he became a partner in the firm of Field, Palmer, and Leiter, the company which became Field, Leiter, and Company in 1867 and Marshall Field and Company in 1881 He amassed one of the largest private fortunes in the United States and pioneered in establishing many modern retailing practices The first of his major philanthropies was made when he was a charter member of the corporation formed in 1878 to found the institution which became the Art Institute of Chicago In 1890 he gave the original tract of land for the Univ of Chicago, ultimately becoming one of the largest donors to the school, and in 1893 he gave $1,000,000 to the fund for the museum at the World's Columbian Exposition in 1893. Its collections were the nucleus of the Field Museum of Natural History, now the Chicago Museum of Natural History, housed in a magnificent building on the Chicago lake front which was provided by a bequest of $8,000,000 from Field See S H Ditchett, *Marshall Field & Company* (1922) His son, **Marshall Field II,** 1868?–1905, attended Harvard and married the daughter of a Chicago brewer, but never made any move to follow his father into business His early death was from a gun wound officially held to have been accidental **Marshall Field III,** 1893–, son of Marshall Field II, was educated at Eton and at Cambridge Univ , then served in the First World War He engaged in numerous business activities until 1936, when he gave up all of them to devote himself to his various social projects From its beginning in June, 1940, Field was the largest stockholder in the New York city liberal newspaper *PM*, of which he became owner in Oct , 1940 He took no part in its editorial direction, but offered it financial support until April, 1948, when the paper was sold In 1941 he had started the Chicago *Sun*, and in Jan , 1948, he bought the Chicago *Times* and merged the two papers In this journalistic enterprise Field took a more active part, ultimately becoming the paper's dominant personality His charities included many child welfare organizations His political and social beliefs are expressed in his book *Freedom Is More than a Word* (1945) See John Tebbel, *The Marshall Fields. a Study in Wealth* (1947)

Field, Michael, pseud used by two British authors, Katherine Harris Bradley (1846–1914) and Edith Emma Cooper (1862–1913) They collaborated on numerous literary works, including poetic tragedies and lyrics Although their work was praised by such contemporaries as Robert Browning and George Moore, it is almost forgotten today *Works and Days*, a selection from their journal, was published in 1933 See Mary Sturgeon, *Michael Field* (1922)

Field, Nathaniel or **Nathan,** 1587–1633, English actor and dramatist He was one of the Children of the Queen's Revels who performed Ben Jonson's *Cynthia's Revels* in 1600 The young and brilliant Field acted in plays by Shakspere (he is listed in the 1623 folio as a principal actor), Ben Jonson, and Beaumont and Fletcher He had great success in Jonson's *Bartholomew Fair* in 1614 Field wrote two comedies, *A Woman Is a Weathercock* (1612) and *Amends for Ladies* (1618), and collaborated in Massinger's *Fatal Dowry* (1632)

Field, Rachel, 1894–1942, American author, b New York city, studied (1914–18) at Radcliffe She first achieved success as a writer of children's stories, both verse and prose, and as an illustrator of some of them *Hitty Her First Hundred Years* (1929), the story of an antique doll, won the Newbery medal for the most distinguished children's book in 1929 A collection of poems, *Fear Is the Thorn*, appeared in 1936 Her novels include *Time Out of Mind* (1935), her most successful one, *All This, and Heaven Too* (1938, moving picture, 1940), and *And Now Tomorrow* (1942). She married Arthur Pederson in 1935

Field, Robert, c 1769–1819, English portrait painter, miniaturist, and engraver In 1794 he came to America, where he painted portraits and miniatures in Philadelphia, Washington, and Boston, producing also some notable engraved portraits. After 1808 he lived in Halifax, N S. His best-known likenesses include those of Mrs Washington, painted at Mt Vernon, Henry Sargent and Sir John Wentworth (government house, Halifax), Sir A. Cochrane and the Rt Rev Charles Inglis (National Portrait Gall., London), and Sir John Cooper Sherbrooke, which was engraved See biography by Harry Piers (1927).

Field, Stephen Johnson, 1816–99, U S Supreme Court Justice (1863–97), b. Haddam, Conn , grad Williams, 1837. After practicing law for several years in New York city with his brother David Dudley Field, he went to California in 1849, settled at Marysville, and in 1850 was elected to the legislature He secured the passage of an act reorganizing the state judiciary and drafted codes of civil and criminal procedure which were based upon the famous codes of his brother but were adapted to certain established Spanish customs and miners' practices This legal recognition of usages and regulations of the mining camp as developed by the miners themselves became the basis of mining law in California and in other Western states which followed California's lead It was finally applied by Congress in all U S territories In 1857 Field was elected as a Democrat to the California supreme court, becoming chief justice two years later He wrote *Personal Reminiscences of Early Days in California* (1880) See C B Swisher *Stephen J Field, Craftsman of the Law* (1930)

Fielding, Antony Vandyke Copley, 1787–1855, English landscape painter in water color For the last 24 years of his life he was president of the Water Colour Society, where he exhibited yearly Fielding is best represented in the Victoria and Albert Museum

Fielding, Henry, 1707–54, English novelist and dramatist, educated at Eton and Leiden In 1729 he settled in London and began writing comedies, farces, and burlesques His vigorous dramatic attacks on Walpole's government—particularly in the play *Pasquin* (1736) and in the *Historical Register*—provoked the Licensing Act (1737), which set up political censorship of the stage Barred from the theaters, Fielding turned first to partisan journalism and then to fiction His first novel, *Joseph Andrews* (1742), was begun as a burlesque of Richardson's *Pamela*, it developed, however, into a long, Cervantean narrative *Tom Jones* (1749) is generally considered Fielding's masterpiece Its main action concerns the rise and triumph of the foundling Tom Fielding's other major works are *Jonathan Wild* (1743), *Amelia* (1752), and the posthumous *Journal of a Voyage to Lisbon* (1755) Fielding attacked human faults and foibles with ridicule, and major evils with savage satire Conversely, he portrayed virtuous living as the most desirable of human achievements Fielding had begun his serious study of law in 1737 and in 1740 was called to the bar He was appointed justice of the peace for Westminster in 1748 and for Middlesex in 1749 As a magistrate he worked ceaselessly and with some success to suppress crime and to establish an effective police See W L Cross, *The History of Henry Fielding* (3 vols , 1918), Aurélien Digeon, *The Novels of Fielding* (1925), B M Jones, *Henry Fielding, Novelist and Magistrate* (1933), M J Willcox, *A True-born Englishman* (1948)

Fielding, William Stevens, 1848–1929, Canadian statesman, b Halifax, N S For 20 years (after 1864) he was on the staff of the Halifax *Morning Chronicle*, rising to the position of managing editor In 1882 he entered the assembly of Nova Scotia as a Liberal, from 1884 to 1896 he was prime minister of the province, resigning to enter Laurier's cabinet as minister of finance For 15 years (1896–1911) he held this portfolio As a tariff expert, Fielding helped to negotiate the reciprocal-trade treaty with the United States in 1911 that resulted in the downfall of Laurier's government Favoring military conscription for Canada in the First World War, he parted with Laurier on the issue and supported Sir Robert Borden's Union government, but after the war he returned to the Liberal party, and in Mackenzie King's cabinet he again served (1921–25) as minister of finance Fielding had been Mackenzie King's unsuccessful rival for leadership of the Liberal party after Laurier's death

Field Museum of Natural History: see CHICAGO NATURAL HISTORY MUSEUM

Field of the Cloth of Gold, locality between Guines and Ardres, not far from Calais, in France, where in 1520 HENRY VIII of England and FRANCIS I of France met for the purpose of arranging an alliance Both kings brought large retinues and the name given the meeting place reflects the unexampled splendor of the pageantry The political result was negligible, because Henry, who had been undecided whether to support Francis or Emperor CHARLES V, had already turned toward the emperor and shortly afterward made an alliance with him

Fields, Annie Adams see FIELDS, JAMES THOMAS

Fields, James Thomas, 1817–81, American author and publisher, b Portsmouth, N H He was the junior partner of Ticknor and Fields, noted Boston publishing house in the middle of the 19th cent Fields edited the *Atlantic Monthly*, 1861–70, with notable success In 1870 he retired from business, but became a popular lecturer His books, largely reminiscences of literary friendships, include *Yesterdays with Authors* (1872), *Hawthorne* (1876), *In and Out of Doors with Charles Dickens* (1876), and *Ballads and Other Verses* (1881), a selection of his poems He was helped in his work by his gifted wife, **Annie Adams Fields,** 1834–1915, a native of Boston, who also became a well-known author Her books include a memoir of her husband (1881), biographies of Whittier (1893) and Harriet Beecher Stowe (1897); *Letters of Sarah Orne Jewett* (1911),

and *Under the Olive* (1881), one of her volumes of poetry She was a gracious hostess, and the home of the Fields in Boston was a literary salon See M A De Wolfe Howe, *Memories of a Hostess* (1922)

Fields, Lewis Maurice, 1867 1941, American comedian and theatrical manager, known as Lew Fields, b New York city He appeared with Joseph WEBER from 1875 to 1904 and again after 1912

Fiene, Ernest (fē'nĭ), 1894–, American painter, b Elberfeld, Germany, studied at the National Academy of Design and the Art Students League, New York, and later in Europe A brilliant practitioner in oil, water color, etching, and lithography, he is perhaps best known for his landscapes of New England and New York, although he is also an excellent still-life and figure painter His work is forceful and warm in color with an emphasis on space A Guggenheim fellow in 1932, Fiene is known as a popular teacher as well as an artist He is represented in leading galleries throughout the country

Fieschi, Giuseppe Marco (jōōzĕ'pā mar'kō fyā'skē), 1790–1836, French conspirator, b Corsica He became a revolutionist, and his activities culminated in his attempt to assassinate LOUIS PHILIPPE in July, 1835 He rigged up an arrangement of 24 guns which fired together, killing 40 people He was executed and his attempt at assassination resulted in a revival of loyalty to the king

Fiesole, Giovanni da see ANGELICO, FRA.

Fiesole, Mino da see MINO DA FIESOLE

Fiesole (fyā'zōlā), town (pop 2,647), Tuscany, central Italy, 3 mi NE of Florence, beautifully situated on a hill overlooking the Arno valley and Florence An Etruscan town of which walls still stand, ancient Faesulae (fē'sŭlē), was enriched with fine buildings by the Romans There are a well-preserved Roman theater and baths, a 11th-century Romanesque cathedral, and a Franciscan church and convent (on the site of the Roman acropolis) On the lower slopes of the hill is the Church of San Domenico, with paintings by Fra Angelico, who spent much of his life here

Fife or **Fifeshire,** maritime county (505 sq mi , 1931 pop 276,368, 1948 estimated pop 303,265), E Scotland, between the Firth of Forth and the Firth of Tay The county town is Cupar Part of the central Scottish Lowlands, the terrain rises, however, to more than 1,500 ft in the Lomond Hills The region, notably in the valleys of the Eden and the Leven, is well cultivated Fife is one of the most prosperous of the Scottish counties There is extensive coal mining, linen manufacturing, brewing, and shipbuilding Anciently the home of the Picts, the county has been known for many centuries as the kingdom of Fife Its modern history has been a peaceful one SAINT ANDREWS, which is also famous as a golfing resort, is the seat of the oldest of the Scottish universities Dunfermline is noted for its historic associations

fife, small transverse flute adopted for military purposes in Switzerland in the late Middle Ages Properly it has six finger holes, but the term is sometimes applied to the modern piccolo, which has largely replaced the fife in the present day

Fifth Avenue, famous street of Manhattan, New York city It begins at Washington Square and ends at the Harlem River Between 34th and 59th streets Fifth Ave is mainly a business section of large department stores and smaller shops, it passes the Empire State Building, the New York Public Library, Rockefeller Center, and St Patrick's Cathedral From 59th to 110th streets it borders Central Park, here its east side is lined with tall apartment houses (interspersed with some private homes), on the site of the mansions of 50 years ago North of the park it runs through congested Harlem

Fifth Monarchy Men, religious group of the time of the Puritan Revolution in England They were millenarians expecting the imminent coming of Jesus to rule the earth His monarchy was to be the fifth according to their interpretation of Dan 2 36-45, the first four were the Assyrian, Persian, Greek, and Roman empires The Fifth Monarchy Men objected to an established church and believed it their duty to establish Christ's reign by force, if necessary Among their numbers was John ROGERS, a Presbyterian minister For a time they supported the Commonwealth but, growing dissatisfied with its progress, they agitated against the government *When* evidence of a plot to murder Cromwell was uncovered (1657), many of their leaders were imprisoned until after the protector's death After the Restoration, Thomas Venner, one of their preachers, led a group through London in 1661 proclaiming the advent of the Fifth Monarchy He and many of his band were hanged for treason, and the movement thereafter disappeared The Fifth Monarchy Men were never sufficiently united to be called a sect. They have often been compared to the LEVELERS See L F Brown, *Political Activities of the Baptists and Fifth Monarchy Men* (1912).

Fifty-four forty or fight, phrase commonly used by extremists in the controversy with Great Britain over the Oregon country The rights of the United States, they maintained, extended to the whole region, i e , to lat 54° 40' N, the recognized southern boundary of Russian America It was used as a Democratic campaign slogan in the election of 1844

fig. The common fig is a tree (*Ficus carica*) native to the Mediterranean region and cultivated since early times for its commercially valuable fruit Several varieties of figs, e g , the Smyrna (one of the best), require caprification in order to produce good fruit, since the flowers are borne inside a fleshy fruitlike receptacle and are dependent on the fig wasp, *Blastophaga,* for the transfer of pollen from the caprifig This process involves hanging bunches of caprifigs (an inedible variety in which the wasp is enclosed) in the fig tree, the wasp emerges, enters and pollinates the fig flower, lays its eggs, and dies The resulting fig fruit absorbs the body of the wasp and the eggs, the insect being reproduced only from those eggs laid in caprifigs Figs can be propagated from cuttings They are now grown commercially in California and the Gulf states and usually bear three crops a year A few species are native to America The BO TREE, India-rubber tree, and BANYAN belong to the genus of figs

Figueras, Estanislao (āstä"nēslä'ō fēgä'räs), 1819–82, Spanish politician First elected to the Cortes in 1851, he joined the republicans, taking part in all their uprisings After the expulsion (1868) of Isabella II he became leader of the republican party, opposed King Amadeus, and was briefly president of the republic after the king's departure (1873) He retired to private life when the monarchy was restored

Figueras, town (pop 13,513), Gerona prov , NE Spain, in Catalonia, near the French border In the Spanish civil war it was briefly the seat of the Loyalist government before falling (Feb , 1939) to the Insurgents The 18th-century fortress of San Fernando is now a prison

Figueroa, Francisco de (fränthĕ'skō dä fēgärō'ä), 1536–1617', Spanish pastoral poet He spent his youth in Italy, traveled in Flanders, and finally retired to his native city, Alcalá de Henares, where he enjoyed fame until his death He followed the school of Garcilaso de la Vega and wrote elegies, sonnets, and *canciones* in the Italian manner

figure, in music, short melodic or rhythmic pattern, the smallest coherent unit in a composition A phrase may consist of several figures or of one figure used in IMITATION There is no clear distinction between figure and MOTIVE

figured bass, in music, a system of notation in which the bass part is given with figures below the notes to indicate the chords which are to be played Called also thorough bass and *basso continuo,* it arose in the early 17th cent in Italy as a means of notating an accompaniment It soon became so widespread that the baroque era is sometimes called the age of *basso continuo* The harpsichord's part in sonatas was indicated by a figured bass The harpsichord and the organ are usually played from a figured bass in the vocal works of Bach and Handel The realization of the *basso continuo* involves considerable improvisation, the style of which varies according to composer and period After the time of Bach, with the development of the symphony, the figured bass disappeared except for limited use in opera and as a device for teaching harmony See F T Arnold, *The Art of Accompaniment from a Thorough-Bass* (1931)

figurehead, carved decoration usually representing a head or figure placed under the bowsprit of a ship The art is of extreme antiquity Ancient ships such as the galley and trireme carried rostrums or beaks on the bow to ram enemy vessels These beaks were often surmounted by figureheads representing national emblems Roman vessels were sometimes embellished with large heads of the gods in bronze Viking ships had lofty and extended prows which were elaborately carved Dragons and lions vied with the human form in the figureheads of the Renaissance During the 18th and 19th cent a highly developed and original art of figurehead wood carving flourished in the United States It is of particular interest because at the time of its highest development (approximately 1785–1825), little other sculpture was practiced in this country Unfortunately few examples from this period survive, and attributions to such known masters of the art as William Rush of Philadelphia or the Skillin brothers of Boston are very rare Among them is the fine bust of Benjamin Franklin (Yale Univ), attributed to Rush The early "heads" were brightly painted and gilded, whereas after the middle of the 19th cent they were usually a uniform white or yellow With the disappearance of the sailing vessel the art became practically extinct One of the finest collections of American figureheads is in the Mariners' Museum, Newport News, Va See Pauline Pinckney, *American Figureheads and Their Carvers* (1940)

Fiji (fē'jē) or **Viti** (vē'tē), Melanesian island group (7,056 sq mi , pop. 259,638), S Pacific The most important British colony in the Pacific, it comprises 250 islands of which 80 are inhabited VITI LEVU, the largest, is the seat of Suva, capital of the colony The other important islands are VANUA LEVU, Taveuni, Kandavu, Koro, Ngau, and Ovalau In the center of the group is the Koro Sea, east of which is the Lau group The Yasawa and Mamanutha groups are W of Viti Levu. The larger islands are volcanic and mountainous, the highest peak (Mt Victoria, 4,341 ft) being on Viti Levu, which also has the largest river, the Rewa There are dense forests on the windward sides of the islands, and grassy plains and clumps of casuarina and pandanus on the leeward side The two largest islands have central cores of plutonic rocks thought to be remnants of an older continental mass There are hot springs in the mountain region The fertile soil, rich in humic acid, yields sugar cane, tropical fruits, taro, rice, cotton, pineapples, and cassava There are mangrove forests on the beaches and in the swampy delta lands The limited fauna includes bats, rats, parrots, and pigeons The temperature ranges from 60° to 96°, the annual rainfall varies from 60 in on the leeward side to 140 in on the windward side There are trade winds (May-Nov), and equatorial winds (Dec.-April) The chief ports, Suva and Lautoka on Viti Levu, export sugar, gold, copra, bananas, and timber The group was discovered in 1643 by Tasman and annexed by Great Britain in 1874 Missionaries arriving in 1835 helped abolish cannibalism The Fijians, a dark, fuzzy-haired race of Melanesian origin, constitute only about 40 percent of the population Indian laborers, imported (1879-1916) under the indenture system, are chiefly engaged in the sugar industry There are small groups of Europeans, Chinese, Polynesians, and Micronesians Fiji is governed by the colonial office in London through the governor at Suva, who is also the high commissioner of the Western Pacific See J W Coulter, *Fiji: Little India of the Pacific* (1942)

filament, in the incandescent lamp, the threadlike wire, usually made of tungsten and coiled or wound in the center of the light bulb, which becomes white-hot when an electric current flows through it In the vacuum tube, the filament is similarly placed, but is uncoiled It is made of various substances of high melting point (e g , tungsten, an alloy of tungsten and thorium, or an alloy of platinum and iridium coated with barium, calcium, cesium, and strontium oxides) When an electric current flows through it, it becomes red-hot and electrons break away and are attracted to the positively charged plate of the tube The flow of electrons is increased by an increase of temperature and by an increase in the positive charge of the plate See TUBE, VACUUM, and A battery under BATTERY, ELECTRIC

filament battery. see BATTERY, ELECTRIC

Filangieri, Gaetano (gätä'nō fēlänjā'rē), 1752 88, Italian jurist He served at the royal court of Naples His greatest work is the unfinished *Science of Legislation* (6 vols , 1780–85, Eng tr , 1806) It advocates a system of law which would not be concerned with transitory conditions but would serve man's permanent needs, chiefly the cooperation of social classes based upon the preeminent position of agriculture This social harmony, Filangieri urged, would best be promoted by a system of education designed to inculcate virtue

Filaret, Vasily Drosdov. see PHILARET, VASILY DROSDOV

filbert see HAZEL

Filchner, Wilhelm (vĭl'hĕlm fĭlkh'nur), 1877–, German explorer, geophysicist, and travel writer He led several expeditions to China and Tibet, where he established magnetic stations, and also led the second German antarctic expedition (1910–12), which discovered Luitpold Land on the southeast coast of Weddell Sea

Fildes, Sir Luke (fīldz), 1844–1927, English genre and portrait painter, b Liverpool He made drawings for the *Graphic* and other periodicals and illustrated Dickens's *Edwin Drood* As a painter he excelled in depicting the life of the London poor Later he specialized on portraiture and painted the coronation portraits of Edward VII and Queen Alexandra and a state portrait of George V His *Doctor* (Tate Gall , London) is a well-known work See biography by D C Thomson (1895)

file, tool dating from the Bronze Age, used for shaping, smoothing, and sharpening The blade or body is scored with chisel cuts and has a tapering end (tang) which fits into a wooden handle Over 4,000 kinds are classified according to their size, their cutting ridges, e g , single cut (having one series of parallel cuts), double cut or crosscut, circular cut, their cross section, e g , rectangular, round, triangular, or their use, e g , wood file, nail file, saw file The file is most widely used in hand metalwork

Filene, Edward Albert (fīlēn', fī–), 1860–1937, American merchant, b Salem, Mass As president of the Boston firm of William Filene's Sons he pioneered in scientific methods of retail distribution and successfully expanded his trade He planned and helped organize the Boston Chamber of Commerce and the Chamber of Commerce of the United States and served in the First World War as chairman of the War Shipping Committee. He was the founder (1919) of the Cooperative League, which became the Twentieth Century Fund, and he was active in the cause of peace He wrote several books on business methods and on economics See G W Johnson, *Liberal's Progress* (1948) His brother, **Lincoln Filene,** 1865–, b Boston, also directed William Filene's Sons and served as

business counsel to the Federal government after 1933. He played a prominent role in business associations and wrote a number of books and articles on economic problems

Filer, village (pop 1,239), S Idaho, W of Twin Falls, in an irrigated farm area, inc 1909 The Idaho white bean is grown here

filibuster (fĭl'ĭbŭs"tŭr), term applied in the 17th cent to buccaneers who plundered the Spanish colonies in the New World. In the 19th cent the word was used more in reference to adventurers who organized and led, under private initiative, armed expeditions into countries with which the country from which they started was at peace Complications between the governments involved were likely to result There was a series of filibustering expeditions from the United States against Cuba, Mexico, and Central and South American countries in the 19th cent, some of them led by citizens of the United States, as those of John A QUITMAN and William WALKER, and some by rebellious citizens of the government which they sought to overthrow, as those of Narciso LÓPEZ against Cuba Texas, when it was still a part of MEXICO, was a scene of filibustering activities In recent years the term has come to be used to designate organized obstructionist tactics in legislative assemblies

Filicaja, Vincenzo da (vēnchān'tsō dä fēlēkä'yä), 1642–1707, Italian poet A protégé of Queen Christina of Sweden, he wrote verses celebrating her conversion as well as a cycle of odes on the liberation of Vienna (1684) and some beautiful sonnets See Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

filigree (fĭl'ĭgrē), goldsmith's work of fine gold or silver wire often wrought into an open-work design and joined with matching solder and borax under the flame of the blowpipe The term was formerly applied to a fine sprinkling of metal grains Filigree is used as a decorative treatment for jewelry or other fine metalwork It was made in early times by the Egyptians and the Chinese The Greeks were especially adept in the art, and the Etruscans were noted for fine granular work Saxons, Britons, and especially the Celts in Ireland were skilled in producing intricate and ingenious designs in the Middle Ages, and the Moors in Spain did much exquisite work in silver Filigree is much employed today in Mediterranean areas, especially Tuscany, Malta, and the Ionian Islands, in India, and in Scandinavian countries Antique examples are to be seen in the Vatican, the Louvre, the British Museum, and the Metropolitan Museum

Filipepi, Alessandro di Mariano see BOTTICELLI, SANDRO

Filipino see PHILIPPINE ISLANDS

Fillmore, Millard, 1800–1874, 13th President of the United States (July, 1850–March, 1853), b Locke (now Summerhill), Cayuga co, N Y His education was irregular and incomplete, for he was early compelled to work at odd jobs to earn a living He read law in his spare time and was admitted (1823) to the bar After practicing law at East Aurora, N Y, until 1823, he settled in Buffalo Thurlow WEED made Fillmore a lieutenant in the ANTI-MASONIC PARTY, and with Weed's support Fillmore served in the New York state assembly (1829–31) and in the U S House of Representatives (1833–35) In 1834 he joined the WHIG PARTY and was thrice reelected (1836, 1838, 1840) to the House When the Whigs came into national power in 1840, Fillmore became prominent in his party As chairman of the Ways and Means Committee, he promoted the high tariff of 1842 He was considered (1844) for the vice presidential candidacy, but instead became whig candidate for the governorship of New York His defeat by Silas WRIGHT in a close contest was caused by the split between proslavery and antislavery Whigs, which lost the state, and thus the presidency, for Henry Clay in 1844 With Henry Clay's backing Fillmore was nominated (1848) for Vice President on the Whig ticket with Zachary TAYLOR As Vice President, Fillmore presided with notable fairness over the Senate during the turbulent debates of 1850 Succeeding to the presidency upon Taylor's death, he signed the Compromise of 1850, which included the Fugitive Slave Act He tried to enforce the measures despite the criticism his course evoked from the North Cheaper postal rates were introduced during his administration He appointed Daniel Webster Secretary of State, emphasized nonintervention in foreign disputes, and approved the treaty opening Japan to Western commerce He unsuccessfully tried to make of the Whigs a national party which by occupying middle ground on the issue of slavery could conciliate North and South and prevent extremists from gaining power Neither he nor Webster could win the support of the Whig convention in 1852, and the nomination went to Gen Winfield SCOTT, representative of the more radical antislavery element. With the division of the Whigs by the slavery issue and the consequent rapid decline of the party, Fillmore's political career was over He joined the KNOW-NOTHING MOVEMENT in the vain hope that it might unite North and South, and he accepted (1858) the nomination of that group for the presidency. He opposed Lincoln's election and his Civil War administration and supported Andrew Johnson's stand against radical Reconstruction measures, but he took no active part in the controversies over these issues Some of his papers and other materials were edited by Frank H Severance in Vols X and XI of the *Publications of the Buffalo Historical Society* (1907)

Fillmore, 1 City (pop 3,252), S Calif, NW of Los Angeles, in a citrus-fruit and oil-well region, inc 1914 **2** City (pop 1,785), co seat of Millard co, W central Utah, settled 1851 by Mormons Nominally the capital of Utah Territory from 1851 to 1856, it was briefly the seat of the legislature The region has dry farming and ranching

film, photographic see PHOTOGRAPHY

Filmer, Sir Robert, d 1653, English royalist political writer, author of *Patriarcha, or, The Natural Power of Kings* (1680), a defense of the divine right of monarchs by an exposition of the patriarchal theory of the origin of government He attacked Hobbes's contractual theory Later Whig and liberal political economists attacked Filmer violently, but his theory approached historical accuracy much more than the purely artificial social contract theory See W A Dunning, *A History of Political Theories* (1905), J N Figgis, *The Divine Right of Kings* (1914)

Filson, John, c 1747–1788, Kentucky pioneer, b Chester co, Pa In 1783 he took up land in Kentucky, taught school, and wrote *Discovery, Settlement, and Present State of Kentucke* (1784) This first history, or rather traveler's description, of the state contained a very good map, which was also published separately in several editions, but perhaps its most popular feature was an appendix, "The Adventures of Col Daniel Boon" Filson obviously wrote out, in the first person, material he garnered from Daniel BOONE, for the pseudo-Johnsonian style of the alleged autobiography was hardly that of the simple, vigorous, and unlettered frontiersman Filson's book is not completely reliable historically, but it went through a number of editions, including several in London and Paris Boone, however, delighted with his ghost-written "autobiography," pronounced every word true, and *Kentucke* was mainly responsible for his subsequent high reputation in American history See W R Jillson, ed, *Filson's Kentucke* (1929), a facsimile reproduction with full bibliography, biography by R T Durrett (1884)

filtration see WATER

fin, organ of locomotion characteristic of fish and consisting of thin tissue supported by cartilaginous or bony rays In some, e g, the eel, a single fin extends from the back, around the tail, and along the ventral surface In the majority there is a division into one, two, or three dorsal fins, a distinct tail fin, and an anal fin These are called median or unpaired fins The paired fins are the pectoral fins, placed just back of the gills, and the pelvic fins, variable in position and sometimes lacking The tail is an important organ of locomotion and the paired fins are used for steering, checking speed, and balancing and for slow movements An adipose fin (fatty tissue without support) is found behind the dorsal fin in some, e g, the salmon and the catfish See also CLIMBING PERCH and FLYING FISH

finance, the theory and practice of conducting the larger public and private dealings in money Private finance includes BANKING, insurance, and all ways of providing capital for business enterprises, as by stocks, bonds, and other securities Public finance is the management of public revenues and expenditures and of public debts Finance as a social science dates from the rise of the national state, for in medieval times most needs were met by direct personal service The governmental financial policy of the United States since 1921 has been embodied in an annual BUDGET, which shows how much revenue is to be raised and how it is to be spent Private expenditure tends to be measured by income, public income tends to be measured by expenditure Public income is derived mainly from taxes, but also from the sale of public property or of rights such as franchises and from charges for such services as the post office Public expenditures may be classified as protective, commercial, and developmental The first includes provision for the preservation of peace within the country and for defense from foreign aggression In the second class are expenditures such as those for post office or railways which take the place of private ownership The third group includes such expenditures as those for education or for public works See Francis Oakey, *Principles of Government Accounting and Reporting* (1921), Edward D Allen and O H Brownlee, *Economics of Public Finance* (1947)

Finch, Francis Miles, 1827–1907, American jurist and song writer, b Ithaca, N Y, grad Yale, 1849 He practiced law in Ithaca and from 1880 to 1895 was an associate judge of the New York court of appeals He became dean of the Cornell law school in 1892 The author of a number of college and patriotic songs, he is best remembered for "The Blue and the Gray," first published in the *Atlantic Monthly* (1867) and included in *The Blue and the Gray and Other Poems* (1909).

Finch, Heneage: see NOTTINGHAM, HENEAGE FINCH, 1ST EARL OF.

finch, member of the largest family of birds, the Fringillidae The birds have stout cone-shaped bills, useful in breaking the seeds which form a large part of the diet Among the finches are the SPARROW, the GROSBEAK, the CANARY, the GOLDFINCH, the BULLFINCH, the CHAFFINCH, the INDIGO BUNTING, the JUNCO, the purple finch, and the hawfinch.

Finchley, urban district (1931 pop 58,964, 1947 estimated pop. 71,410), Middlesex, England It is a residential suburb of London Finchley Common was once a resort of highwaymen

Finck, Henry Theophilus, 1854–1926, American music critic, b Bethel, Mo, educated at Harvard and in Europe He was noted for his work on the New York *Evening Post* from 1881 to 1924 His numerous books on music included *Chopin* (1889), *Wagner and His Works* (1893), *Songs and Song Writers* (1900), *Massenet and His Operas* (1910), *Richard Strauss* (1917), and *My Adventures in the Golden Age of Music* (1926)

Finden, William (fĭn'dun), 1787–1852, English line engraver and publisher With his brother Edward and numerous pupils he engraved many illustrations for books, characterized by precision and elaboration of finish They produced landscape illustrations for *The Life and Works of Lord Byron* and *The Gallery of the Graces*, after Landseer and others, *Landscape Illustrations for the Bible*, after Turner and others, *Portraits of the Female Aristocracy of the Court of Queen Victoria*, and *The Royal Gallery of British Art* The most important of Finden's single plates are the full-length portrait of George IV, after Thomas Lawrence, *The Village Festival*, after Sir David Wilkie, *The Highlander's Return*, after Landseer, and the *Crucifixion*, after William Hilton All are on a large scale and admirably executed

finder Under ordinary circumstances the finder of lost property is entitled to retain it against anyone except the owner It is LARCENY, however, for the finder to keep the property if he knows or could easily determine who owns it In some places (e g, New York city) the finder must deliver the lost object to the police, if it is unclaimed within a prescribed period it becomes his property Lost objects which are embedded in the soil, e g, a deeply buried ring, belong to the landowner even if another finds them On the other hand, objects found in a privately owned place to which the public has the right of access, e g, a hotel, belong to the finder and not to the owner of the realty The purchaser of an article which unwittingly has something of value concealed in it, e g, money in a desk, is legally the finder, not the owner, of the valuable See TREASURE-TROVE

Findlay (fĭn'lē, fĭnd'lē), city (pop 20,228), co seat of Hancock co, NW Ohio, on the Blanchard and S of Toledo, laid out 1821, inc as a village 1838, as a city 1887 Its industries include oil refining and the manufacture of automobile tires and tubes, cigars, and shooting traps Findlay College (Church of God, coeducational, 1882) is here In the 1880s Findlay prospered because of its abundant oil and gas, but by 1900 its supply had greatly diminished In the Findlay *Jeffersonian* appeared (1861) the satiric antislavery letters of "Petroleum V NASBY"

Findley, William, 1741–1821, American politician, b Ireland He arrived in Pennsylvania in 1763 and served the patriot cause in the American Revolution After the war, he gained political prominence in Pennsylvania, and in 1791 he was elected to Congress, where he served until 1817, except for the years 1799–1803 He was an Anti-Federalist and opposed Hamilton's measures, but Washington consulted him frequently on frontier matters At his suggestion the Committee on Ways and Means, the first congressional standing committee, was created At first Findley actively sided with the WHISKY REBELLION, but later urged compromise He justified his attitude toward the rebellion in his *History of the Insurrection in the Four Western Counties of Pennsylvania* (1796)

Findon or **Finnan** (both fĭ'nun), fishing village, Kincardine, Scotland, on the coast near Portlethen S of Aberdeen It was formerly known for the production of smoked haddock—"finnan haddie"

Fine, Henry Burchard, 1858–1928, American mathematician and educator, b Chambersburg, Pa, grad Princeton, 1880 From 1881 he was on the Princeton faculty. Although he made researches in the singularities of curves, his chief interest was in the logic of mathematics He wrote *Number System of Algebra* (1891), *College Algebra* (1905), and *Calculus* (1927)

fine. 1 In criminal law, sum of money exacted as punishment for a crime. In the case of misdemeanors and minor infractions of the law the convicted person has ordinarily the alternative of paying a fine or undergoing a short term of imprisonment This practice has been condemned at times as potentially exposing the poor to more onerous punishment than the well-to-do Fines are also

sometimes imposed in convictions for felony, usually in addition to a prison sentence. The Eighth Amendment of the Constitution of the United States prohibits the imposition of excessive fines, but the Supreme Court has never found that any statutory fine violated this provision **2** In the law of land, conveyancing, a legal fiction for permitting the sale of lands in ENTAIL The fine, first worked out in the 15th cent , is in form a suit to determine the ownership of land The buyer sues the seller, who accedes to the buyer's claim that his right of ownership is superior The judgment of the court to this effect constitutes the buyer's title The fine was formerly of wide use in England and the United States, but easier methods of defeating the entail have made it obsolete **3** In feudal law, payment to the lord for the privilege of releasing to another or acquiring for oneself the tenancy of land

Fingal see FINN MAC CUMHAIL

Fingal's Cave, cavern celebrated for its unusual beauty, on the little island Staffa of the Inner Hebrides, Scotland The entrance is an archway 227 ft long, supported by basaltic columns 20 to 40 ft high The ocean water is 25 ft deep beneath the arch at ebb tide There are many legends connected with the cave Mendelssohn composed an overture called *The Hebrides* or *Fingal's Cave*

Finger Lakes, group of long, narrow glacial lakes in north-south valleys, W central N Y , between Geneseo and Syracuse From west to east they include Conesus, Hemlock, Canadice, Honeoye, CANANDAIGUA, KEUKA, SENECA, CAYUGA OWASCO, SKANEATELES, and Otisco lakes The Finger Lakes region, famed for its beauty, has many resorts and state parks It produces grapes and other fruits, wines, vegetables, and wheat

fingerprint, an impression of the inside of the end of a finger or thumb, used for identification because the arrangement of lines is thought to be unique and unchanging with each person The first practical classifications of fingerprints were those of Sir Francis Galton and Juan Vucetich in 1891 The Galton method, elaborated by E R Henry, is still used in England and the United States, the Vucetich system is popular in South America Fingerprinting for identification of criminals was first used in connection with the BERTILLON SISTEM Most European and American countries now require that all criminals be fingerprinted In the United States, prints are also taken of members of the armed forces and many civilian government employees and by some private banks and other agencies Palm prints and footprints are also used, especially for identification of infants See C E Chapel, *Fingerprinting* (1941), B C Bridges, *Practical Fingerprinting* (1942)

Fini, Tommaso di Cristoforo: see MASOLINO DA PANICALE

Finiguerra, Maso or **Tommaso** (mä'zō, tôm-mä'zō fēnēgwĕr'rä), 1426–64, Florentine goldsmith and engraver of the Renaissance Benvenuto Cellini considered him the first master of his time in niello engraving His pax of the Crucifixion for the baptistery, Florence, was his masterpiece in this craft He probably introduced the copperplate engraving process into Italy In 1457 he was in partnership with Antonio Pollaiuolo, and in 1463 he made cartoons for five or more figures for the sacristy of the cathedral in Florence, the only existing works that can be attributed certainly to him In these his designs were carried out under Giuliano da Majano See Sir Sidney Colvin, *A Florentine Picture Chronicle* (1898)

Finistère (fēnēstĕr') [from Latin *finis terrae*=land's end], department (2,719 sq mi , pop 724,735), NW France, at the tip of BRITTANY Quimper is the capital and Brest the main port

Finisterre, Cape (finĭstâr') [from Latin *finisterrae*=land's end], rocky promontory, extreme NW Spain, on the Atlantic coast of Galicia Here the English won two naval battles against the French (1747, in the War of the Austrian Succession, 1805, in the Napoleonic Wars).

Fink, Albert, 1827–97, American engineer, b Hesse-Darmstadt, Germany. In 1849 he came to the United States and went to work in the drafting room of the Baltimore & Ohio RR, where he was responsible for the design and erection of bridges, stations, and shops, leaving in 1857 to become construction engineer, then chief engineer, for the Louisville and Nashville RR After the Civil War he was successful in rehabilitating the road and was made its general superintendent and vice president. He analyzed rates and costs, demonstrating the wastefulness of competitive rates in railroad operation, and wrote the Fink report on cost of transportation In 1875 he resigned to study and write but was called on to serve as commissioner of the Southern Railway and Steamship Association and to regulate freight rates among its 25 competing members Two years later he undertook the same service for the four trunk lines entering New York city and organized the Trunk Line Association When the Interstate Commerce Commission was established in 1887, such voluntary associations were no longer necessary, and in 1889 he retired He designed a type of truss bridge which is known by his name

Fink, Colin Garfield, 1881–, American electrochemist, b. Hoboken, N J., grad Columbia, 1903 He was research engineer with the General Electric Company (1910–17) and from 1922 taught at Columbia He invented the drawn tungsten filament, introduced the insoluble anode for copper electrolysis, and perfected a process for smelting and refining tin ores He produced several valuable corrosion-resisting alloys and helped make chromium and tin plating a commercial success As consulting chemist for many years for the Metropolitan Museum of Art, he invented methods for restoring old bronze and other metal art objects

Fink, Mike, 1770?–1822, American frontier hero, b Pittsburgh Having acquired a reputation as a marksman while serving as a keelboatman on the Ohio and Mississippi rivers, he enlisted, along with two friends, as a boatman, trapper, and hunter in W H Ashley's expedition of 1822 to open trade with the mountain tribes on the upper Missouri Fink was killed on this expedition, and the ascertainable facts are only that when the party was in winter quarters near the mouth of the Yellowstone, Fink shot one of his companions and was himself ultimately shot by another Many colorful tales were fabricated around the incident and were passed on, along with other tales of his adventurous life and his own ability at telling "tall stories" See Walter Blair and F J Meine, *Mike Fink, King of the Mississippi Keelboatmen* (1933).

Finland, Finnish *Suomi* (sōō'mē), republic (117,970 sq mi , with water surface 130,160 sq mi , pop 3,736,510), N Europe HELSINKI is the capital Finland is bounded by Sweden and the Gulf of Bothnia (part of the Baltic Sea) in the west, by Norway in the north, by Russia in the east and south, and by the Gulf of Finland in the south The central and southern sections consist of innumerable lakes grouped into many-forked waterways and linked by short rivers and by sounds that tend to form rapids The largest lakes are Saima, Inari, and Pajanne The Kemi and the Oulu are the longest rivers and together with the Tornio are important logging waterways From a central forested plateau c 500 ft high, the land rises in the north to 2,000 ft , with a few peaks 3,000 ft high The northern arctic region forms part of LAPLAND, its inhabitants, the nomadic Lapps, raise large reindeer herds as a primary source of food and clothing Although only about 7 percent of the land is used for agriculture, more than half the population is engaged in that occupation More than two thirds of the land area is forested, making timber the main Finnish export article Paper, pulp, and plywood are the chief industrial products Textile manufacture, ironworking, and dairying are also important A major part of the economic life of Finland is carried on by cooperatives Finland has three universities—one at Helsinki and two at TURKU. The Finns are largely Lutherans Finnish (see LANGUAGE, table) and some Swedish are spoken By the 8th cent A D , the Finns, coming from regions S of the Baltic, had taken the country from the Lapps, who receded northward In the 12th cent , Finland was conquered and Christianized by the Swedes, who in the 16th cent made it a grand duchy as a royal appanage Swedish became the official and literary language Finland suffered severely in the recurring wars between Sweden and Russia In 1696 a great famine wiped out almost a third of the population By the Treaty of Nystad (1721) Peter I of Russia acquired the province of Viborg (Viipuri) The rest of Finland passed to Russia in 1809 A constitution was granted, and for nearly a century Finland enjoyed semi-independence as a Russian grand duchy, with its own parliament and with a democratic regime entirely different from that of the rest of Russia Finnish nationalism became a powerful movement early in the 19th cent It was characterized by intensification of the language conflict between Swedes and Finns, by the folklore studies of Porthan at the Univ of Turku, and by Lönnrot's monumental work on the *Kalevala* The tightening of Russian rule after 1890 led to a general strike in 1905 and to the declaration (1917) of Finnish independence In the ensuing civil war between Russian sympathizers (Reds) and Finnish nationalists (Whites), the Whites, led by Marshal MANNERHEIM and aided by German troops, were victorious After a brief period of military control, the republic was established and the first president elected (1919) In 1920 the USSR recognized Finnish independence The agrarian reform laws of 1918–1922 enabled tenants on large estates to acquire their own land These measures, together with the distribution of state-owned land, made nearly 90 percent of the farmers independent Prohibition, effective after 1919, was repealed in 1931 Finland was the only European country to honor its debts to the United States in the years between the two world wars and thus won great popularity in America In 1931 an anti-Communist movement gained among the farmers in N Finland. Known as the Lapua movement, it resulted in the dissolution of the Communist party and the barring of Communist activities The movement soon lost popular support because of its violent tactics and reactionary nature. From Nov., 1939, to March, 1940, Finland was involved in war with Russia (see FINNISH-RUSSIAN WAR). Peace lasted only until June, 1941, when Finland, in the hope of recovering its territorial losses, invaded NW Russia shortly after the German attack on the USSR England—but not the United States—declared war on Finland A full-scale Russian offensive resulted in the capitulation of Finland in Sept , 1944 The German troops stationed in N Finland refused to evacuate the country, to fulfill the armistice terms, the Finns proceeded to expel the Germans by force In the resulting Finnish-German warfare N Finland was devastated A peace treaty between Finland and the principal Allies (except for the United States) was signed at Paris in 1946 Finland promised Russia $300,000,000 in reparations, ceded the PORKKALA area to Russia on a 50-year lease, and lost to Russia PETSAMO (PECHENGA) and border districts in the east and southeast, notably VYBORG Despite great financial and economic difficulties Finland paid its reparations on schedule, and in 1948 Russia cancelled $75,000,000 of reparations The post-war years were characterized by political tension The Communist party, strengthened by the Finnish defeat, was conceded several important government posts, but Communist attempts to seize power (notably by instigating widespread strikes in the summer of 1949) were foiled by determined government action President Juho PAASIKIVI, elected in 1946, appointed a predominantly Social Democratic cabinet in 1948 See J H Wuorinen, *Nationalism in Modern Finland* (1931), *The Prohibition Experiment in Finland* (1931), and *Finland and World War II* (1948), J H Jackson, *Finland* (1938)

Finlay, Carlos Juan, or **Charles John Finlay,** 1833–1915, Cuban physician of Scotch and French blood, studied in France, M D Jefferson Medical College, Philadelphia, 1855 Settling in Havana, he began his life work on yellow fever, suggesting in 1881 the mosquito as carrier and in 1882 specifying the genus *Stegomyia* The Reed Commission of 1900 inaugurated experiments which conclusively proved his theories Finlay served as chief health officer of Cuba from 1902 to 1909

Finlay, George (fĭn'lā, -lē), 1799–1875, British historian He studied law at Glasgow and Gottingen and in 1823 went to Greece, where he assisted in the fight for Greek independence He made his home in Greece from 1826 and devoted himself to the study of Greek history after the Roman conquest His many studies of that subject, which appeared after 1844, were collected by H F Tozer into a single series, *History of Greece from Its Conquest by the Romans to the Present Time, B C 146 to A D 1864* (7 vols , 1877)

Finlay (fĭn'lē), river of N British Columbia, 210 mi long, rising in the Stikine Mts and flowing southeast to join the Parsnip at Finlay Forks and form the Peace River

Finley, James Bradley, 1781-1856, Methodist preacher and frontier missionary, b North Carolina He was long a circuit rider and for 21 years was district superintendent of a backwoods circuit of the Western Conference of the Methodist Church His autobiography (1853) and other books are valuable sources on frontier life in Ohio

Finley, John Huston, 1863–1940, American editor and educator, b Grand Ridge, Ill , grad Knox College (B A , 1887, M A , 1890) He educated himself behind a plow, worked his way through Knox, and returned as its president at the age of 29 He was later president (1903–13) of the College of the City of New York, commissioner of education, New York state, and from 1921 associate editor of the New York *Times*, becoming editor in 1937 and editor emeritus in 1938 He wrote *A Pilgrim in Palestine* (1918) *Poems* (1941) has an introduction by his son, John Finley, Jr

Finley, Robert, 1772–1817, American clergyman, a founder of the AMERICAN COLONIZATION SOCIETY, b Princeton, N J In 1787 he was graduated from the College of New Jersey (now Princeton), where he later studied theology Ordained in 1795, he served for over 20 years at Basking Ridge, N J , both as pastor and as headmaster of an excellent school for boys At his death he was president of the Univ of Georgia Finley wrote *Thoughts on the Colonization of Free Blacks* (1816).

Finley, Samuel, 1715–66, Presbyterian minister, president of the College of New Jersey (now Princeton Univ), b Ireland He came to America in 1734 and is believed to have studied under William Tennent He preached in the Great Awakening, mainly in New Jersey and Pennsylvania In the early 1740s Finley founded a school in Nottingham on the Pennsylvania-Maryland border (now the West Nottingham Academy), where many noted men received their training He became president of the College of New Jersey in 1761.

Finnan, Kincardine, Scotland: see FINDON.

Finnan haddie, see HADDOCK

Finney, Charles Grandison, 1792–1875, American evangelist, theologian, and educator, b Warren, Ohio Licensed to the Presbyterian ministry in 1824, he had phenomenal success as a revivalist in the Eastern states, converting many who became

noted ABOLITIONISTS In 1834 the Broadway Tabernacle, New York city, was organized for him. Under his leadership this church withdrew from its presbytery and adopted the Congregational form of government Finney went in 1837 to Oberlin College, where he was professor of theology until 1875 and president of the college from 1851 to 1865 At the same time he was pastor of the Oberlin Congregational Church and continued his evangelistic tours until his death, twice taking trips to England to conduct revivals His theological writings, published chiefly in the *Oberlin Evangelist*, of which he was founder and editor, were of great influence and set the tone of "Oberlin theology," one of the forms of New School Calvinism See his memoirs (1876).

Finney, John Miller Turpin, 1863–1942, American surgeon, b Natchez, Miss, M D Harvard, 1889 He was associated with Johns Hopkins from 1889, becoming professor emeritus of surgery in 1933 Besides works on surgery of the abdomen and chest, he wrote the autobiographical *A Surgeon's Life* (1940).

Finnish language, one of the Finno-Ugric languages. See LANGUAGE (table)

Finnish literature. The first printed work in Finnish was an ABC book published c 1542 by Bishop Michael Agricola (1506–57) In 1642 the first complete translation of the Bible in Finnish appeared in Stockholm Until the 19th cent most of the writing done by Finns was in Swedish, since from the 13th cent to 1809 Finland was in political vassalage to Sweden The linguistic researches of Alexander Castrén (1813–53), coupled with the historical writings of Henry Gabriel Porthan (1739–1804), and finally in 1835 the publication by Elias Lönnrot of the *Kalevala* brought about an interest in the Finnish language as a literary vehicle and called attention to the literary worth of Finnish themes Still many of the leading authors continued to write in Swedish, including the national poet Runeberg Others who used Swedish were the poet and novelist Topelius, Arvid Morne (1876–1946), poet, novelist, and playwright, Jarl Hemmer (1893–1944), poet, Runar Schildt (1888–1925), prose writer To the first generation of those writing in Finnish belong the novelist Pietari Päivärinta (1827–1913) and the all-round literary figure Alexis Stenvall (pseud Kivi, 1834–72), known abroad for *The Seven Brothers* (1870, Eng tr, 1929), a historical romance Literature in Finnish was strongly influenced by French and German naturalism, e g, in the dramas of Minna Canth (1844–97) and the novels of Juhani Aho (1861–1921), which portray realistically the life of the common folk of Finland Tolstoy's influence is seen in the novels of Arvid Järnefelt (1861–1932) Finland's leading poet is Eino Leino (1878–1926) Other poets are Otto Manninen (1872–), Veikko Antero Koskenniemi (1885–), and Larin Kyösti (1873–) The leading Finnish novelists are Johannes Linnankoski (1869–1913), who won fame with his *Song of the Bloodred Flower* (1907, Eng tr, 1921), the 1939 Nobel Prize-winner Frans Eemil Sillanpää (1888–), Unto Seppanen (1904–), and Mika Waltari (1908–), whose *Egyptian* was translated into English in 1949 Among the dramatists are Maria Jotuni (1880–1943), Lauri Haarla (1890–1944), and Hella Wuolijoki (1886–) Paavo Cajander (1846–1913) is known for his translations of Shakspere

Finnish-Russian War, 1939–40 When the Second World War broke out in Sept, 1939, Russia, never on cordial terms with Finland, took advantage of its nonaggression pact with Germany to make several far-reaching demands on Finland (Oct, 1939). These demands included the demilitarization of the Mannerheim Line (a strong Finnish fortification across the Karelian Isthmus just N of Leningrad), a 30-year lease on Hankö as a naval base, and the cession of several islands in the Gulf of Finland In return, Russia offered extensive but valueless districts along the eastern border of Finland Finland balked, negotiations broke down in November After alleging (Nov 26) that Finnish artillery had fired on Russian troops, the USSR, denouncing (Nov 28) the Russo-Finnish nonaggression pact of 1932 and breaking off (Nov 28) diplomatic relations, attacked on Nov 30 The Russians first concentrated their efforts on the eastern border of Finland, but the Finns, superior in winter warfare and ably commanded by Field Marshal MANNERHEIM, repulsed their attacks at Lake Ladoga, Suomussalmi, Salla, and Ivalo World sympathy was with Finland Sweden and Norway sent volunteers and supplies, and some supplies came from France and England At length, however, small Finland was no match for the USSR Air bombardments and a well-prepared frontal attack (Feb, 1940) on the Mannerheim Line were followed by the collapse of Finnish resistance. In the peace treaty signed on March 12 Finland ceded part of the Karelian Isthmus, Viborg (Vupuri), and several border territories to the USSR In June, 1941, warfare between Finland and Russia was resumed and became part of the general world conflagration (see FINLAND).

Finn mac Cumhail, Fionn mac Cumhail or Finn MacCool (all fĭn' mukōōl'), in Irish literature, a central hero of Ossianic legend (see OSSIAN). He headed a corps of professional fighters, the FENIANS, in the 3d cent. and is the chief figure of many of the Fenian ballads. He was surrounded in the stories by a favored group, one of whom was Diarmuid, who eloped with Finn's wife, Grania The pursuit of these lovers is the most famous story about Finn There may be historical basis for Finn's personality He is the original of Macpherson's Fingal See Lady Gregory, *Gods and Fighting Men* (1904)

Finnmark (fĭn'mark), county (18,797 sq mi; pop 50,041), N Norway, forming the northernmost part of the Scandinavian peninsula It borders on Finland in the south and on the RSFSR in the southeast Its coast on the Barents Sea, a part of the Arctic Ocean, is deeply indented by large fjords, notably the Tana Fjord and the Varanger Fjord There are numerous islands off the coast, on one of them is NORTH CAPE Vadso is the county seat, and HAMMERFEST is the chief city A plateau rising to barren glaciated mountains, Finnmark is both the largest and the least-populated county of Norway The population consists of LAPPS (called Finns by the Norwegians—hence the name of the county), of Norwegians, and of Finns Fishing and reindeer raising (mainly by the Lapps) are the main sources of livelihood, but there also are large iron mines at Kirkenes as well as copper deposits In the Second World War, Finnmark was the scene of severe fighting (1944–45) between Russians and Germans.

Finno-Ugric languages: see LANGUAGE (table)

finochio see FENNEL

Finsbury, metropolitan borough (1931 pop 69,888; 1948 estimated pop 35,640) of N London, England It includes Clerkenwell Here are the graveyard Bunhill Fields (where Bunyan, Blake, Defoe, and Isaac Watts are buried), John Wesley's chapel and house, Sadler's Wells Theatre (home of English ballet), and the mint of the Bank of England

Finschhafen (fĭnsh'hafun), harbor on Huon Peninsula, E New Guinea, in the Territory of New Guinea There are boat yards In the Second World War the Japanese air base established in 1942 was taken by Australian forces in 1943 and became a U S base It is sometimes called Finsch Harbour

Finsen, Niels Ryberg (nĕls' rē'bĕr fĭn'sŋ), 1860–1904, Danish physician He established in Copenhagen an institute of light therapy and wrote several books on his work He received the 1903 Nobel Prize in Physiology and Medicine for his method of treating disease, especially lupus vulgaris, with concentrated light rays

Finsteraarhorn (fĭn"sturar'hôrn"), peak, 14,026 ft high, Switzerland, highest of the Bernese Alps.

fiord see FJORD

Fiorenzo di Lorenzo (fyōrān'tsō dē lōrān'tsō), b c 1440, d after 1521, Italian painter He was born in Perugia, where he worked and where his best authenticated works remain These include an altarpiece of 16 panels depicting a Madonna enthroned, God the Father, angels, saints, and Fathers of the Church, frescoes depicting SS Peter and Paul on either side of a niche with a Madonna with angels above, and *Adoration of the Shepherds* Attributed to him on stylistic grounds are works in the galleries of London and in the Metropolitan Museum Fiorenzo di Lorenzo is thought to have been the master of Perugino

fir, any tree of the genus *Abies*, tall pyramidal coniferous evergreens widely distributed, both naturally and in cultivation A favorite species is the BALSAM FIR Other North American kinds include the white firs, silver fir, and the red firs Old World species are also cultivated in America The wood of most species is light, soft, and not strong but is sometimes used, as well as that of the firs producing a better quality, for interior finishing and for boxes. The DOUGLAS FIR is not a true fir

Firbank, Ronald (Arthur Annesley Ronald Firbank) (fûr'bĭngk), 1886–1926, English writer, b London, studied at Cambridge An aesthete and a poseur, Firbank excelled in his very short novels in the presentation of characters and appealed to a small but appreciative number of readers He was a convert to Roman Catholicism Best known of his novels is *Prancing Nigger* (1924, title in England, *Sorrow in Sunlight*) Others are *The Artificial Princess* and *Concerning the Eccentricities of Cardinal Pirelli*, both republished in *Extravaganzas* (1935) A play, *The Princess Zoubaroff* (1920), was not produced See his works (with a biographical memoir by Osbert Sitwell, 5 vols, 1928) and *Five Novels by Ronald Firbank* (with introduction by Sitwell, 1949); biography by I K Fletcher (1932)

Firbolgs (fĭr'bōlgs) [Irish, =bagman], in Irish tradition, especially as recorded in *The Book of Invasions*, one of the foreign invading peoples These short, dark men were predecessors of the FOMORS The tinkers of Ireland, a nomadic group having their own dialect, were thought to be descendants of the Firbolgs.

Firdausi (fûrdou'sē), c 940–1020, principal Persian poet, author of the *Shah Namah* [the book of kings] the great Persian epic. His real name was Abul Kasim Mansur; he was born of a yeoman family of Khurasan and received a thorough education, not only in Moslem learning, but in the Persian language and antiquities The real course of his life is not surely known because of the immense accretion of legend about it He lived at the court of Mahmud of Ghazni, where there was a group of antiquarians Firdausi, not only a good antiquary but also a good poet, undertook his epic history of Persia from the arrival of the Persians to that of the Arabs to glorify Persia's past He dedicated the work to the king, who paid him less than Firdausi expected The poet wrote a savage satire on the king (usually prefaced to editions of the *Shah Namah*) and fled He wandered from court to court and arrived in his old age at his home His poem, in 60,000 verses, is the first great work of modern Persian literature In it Firdausi set the mark for Persian poetry with his even rhyme, stately cadences, and continuous flow The poem has taken a singular place in Persia, and long sections of it are known and recited by illiterate and savage tribesmen Another long work (18,000 lines) is *Yusuf and Zulaikha*, a version of the story of Potiphar's wife Firdausi was often suspected of infidelity for his glorification of pagan Persia.

fire For the nature of fire, see COMBUSTION and FLAME There is no record in tradition, archaeology, or observation, of any human community without the use of fire Since human beings alone of animals possess the use of fire, it is like speech in being a human property This fact has been appreciated by most men, as has the value of fire It is probably a combination of the ideas of indispensability and of mysterious force that made fire a sacred or divine object for many men. The fire as a god is a characteristic feature of ZOROASTRIANISM, in which, as in many sun-worshiping religions, fire is considered the earthly representative or type of the sun The fire as sacred is universal in mythology, and in practice it has often survived in highly cultured communities The tie between the Greek colony and the metropolis was the fire kindled in the colony from a brand brought from the mother-city's fire The most carefully preserved cult in Rome was that of VESTA, goddess of the hearth, and her virgins guarded the holy fire One of the greatest Greek myths is the story of PROMETHEUS, the fire bringer The ramifications of the human ideas about fire are tremendously complex, extending as they do into the concepts about light and the heavens (sun and stars) The Greek philosophers regarded fire as one of the four elements

fire apparatus, devices and appliances, both portable and mobile, used to combat or to escape from fire Essential to the burning process are a supply of fuel and oxygen and sufficient heat to cause the fuel to be kindled Methods of fighting fire are designed to remove one or more of these necessary conditions and thereby stop the burning process The apparatus and methods used depend upon the nature of the burning materials These fall into three main groups—ordinary combustible materials, e g, wood, paper, and cloth, inflammable liquids, e g, gasoline, alcohol, oils, lacquers, and paints, and electrical apparatus Water, although it has been to some extent supplanted by other materials, is the most commonly used means of quenching fires, it both cools the burning substance and helps to exclude oxygen from its surface With burning liquids and electrical apparatus, however, water spreads the fire, and therefore usually chemical apparatus must be employed A small fire can often be extinguished by smothering it (i e, removing the oxygen supply) with a rug, heavy fabric, sand, or water Fire buckets or pails filled with sand or water are the simplest form of fire apparatus Extinguishers that can be used to form a stream of water include the knapsack pump, which can be strapped to the back, and the stirrup pump The soda-and-acid extinguisher commonly seen in buildings is usually a cylindrical metal container filled to a certain level with a solution of water and sodium bicarbonate, above the solution is suspended a small container of acid When the cylinder is inverted, thus mixing the acid with the soda and water, the reaction produces carbon dioxide and the pressure of this gas forces a stream of water through the nozzle of an attached hose This extinguisher is useful for ordinary materials but not for most chemical substances or for electrical apparatus (unless the current is turned off) The addition to water of chemicals of a group called detergents gives it greater penetrating power, this chemically treated water is more effective in fighting forest fires as well as indoor fires For extinguishing both chemical fires and ordinary burning materials the foam-type extinguishers are effective This device consists of a metal cylinder containing water, sodium bicarbonate, and an agent (often licorice powder) for strengthening the foam and an inner container which holds an aluminum powder (aluminum sulphate), when all the materials are mixed, a foam of carbon dioxide bubbles, surrounded by a coating, forms This is used especially to put out oil fires Among the many other devices are the vapor-type extinguishers. One form is a metal cylinder containing liquid carbon tetrachloride which is forced out either by pumping or by

gas pressure and on striking the fire forms a heavy vapor that shuts off the oxygen, another kind is a tank with liquid carbon dioxide under pressure, which when released forms flakes which vaporize and form a layer of carbon dioxide gas over the flame A number of chemicals are used in the dry form for extinguishing fires A protective apparatus installed in many buildings is an automatic sprinkler system. Such a system usually consists of overhead pipes equipped with outlets normally closed but designed to open in response to excess heat and release streams of water to put out the fire Most large buildings have a standpipe system with outlets on each floor so that a hose can be quickly and easily attached wherever the fire may be The history of fire fighting begins with man's earliest efforts to halt fire's progress and culminates in the well-equipped, highly organized, and scientifically trained modern fire departments Machines for extinguishing fires are mentioned in early Roman writings Heron of Alexander described a fire-fighting machine of his own invention Pumping machines of various designs are said to have been used in Egypt possibly in the 2d cent. B C and in European countries in later times Hand squirts or squirt guns were used in England well into the 17th cent , these could be operated by one man who held the device by its two handles and pressed the plunger against his chest to force out a jet of water Larger squirts were mounted on wheels About 1672 Jan and Nicolas van der Heyden produced a leather hose that could be used for suction and delivery and also couplings for joining together lengths of the hose This made possible the drawing of water from a pond or other source and produced a stream that could be more accurately directed In 1725 Richard Newsham developed a fire engine with pumping levers and treadles operated by the firemen Two of Newsham's engines were the first of such machines to reach the United States (1731) A steam-operated fire engine was built in England by John Braithwaite in 1829, but it was not put into use By about the mid-19th cent steam fire engines were fairly common in some European countries and in parts of the United States In New York city their use dates from 1858 and in London from 1860 The horse-drawn engines were gradually replaced by motorized vehicles Modern motorized fire apparatus includes pumping engines (a combination of a pumper and a hose wagon), hook-and-ladder trucks (for fighting fire and effecting rescues at considerable heights), searchlight apparatus, rescue wagons, smoke ejectors, water towers, chemical apparatus, and salvage wagons Fireboats are invaluable for combating fires on water fronts and on vessels at sea They are usually equipped with hoses of a number of sizes, a two-way radio, air-compressor units, searchlight generators, cutting torches, drills, and other apparatus necessary to make the boat a self-sufficient fire-fighting unit Smoke and noxious gases produced by burning are hazards to fire fighters Mobile apparatus for analyzing such gases in order to permit immediate use of the correct antidote is a desirable but not commonly available adjunct to fire-fighting equipment See L M Limpus, *History of the New York Fire Department* (1940), John J McCarthy, *The Science of Fire Fighting* (1943), Frank Eyre and E C. R Hadfield, *The Fire Service Today* (1944)

firearm, device consisting essentially of a straight tube, to propel shot, shell, or bullets by the explosion of gunpowder Primitive types of firearms were used by the Chinese at least as far back as 618 B C and came into general use in Europe early in the 14th cent The principal classification of firearms is the division between large firearms, called ARTILLERY, and small firearms (the RIFLE, the MACHINE GUN, and the REVOLVER) Some arms, notably the mortar, belong to neither group. See GUN, MUSKET, PISTOL

firebrick, a brick characterized by its high degree of resistance to heat, used in the construction of kilns, furnaces, ovens, and fireplaces, especially in the metalworking industries There is no universally accepted standard of refractoriness for firebricks, but any brick which fuses at a temperature below 1600°C could not accurately be called firebrick. Firebricks are made in a variety of shapes and sizes and differ in composition according to the specific uses for which they are designed Aside from heat resistance, the chief requirement in a firebrick is resistance to chemical decomposition by the substances with which it comes in contact in the furnace The commonest firebrick material is some kind of clay, either kaolin or fire clay Silica bricks are used where very high temperatures obtain, they are less subject than fire-clay bricks to expansion and shrinkage and hence are useful in arch and roof construction Silica brick is quickly attacked by alkalies, magnesia brick is popular because of its resistance to alkalies Alumina brick, which is neutral in reaction, is adapted to electric furnaces Chromite brick is much used as a neutral course between acid and basic bricks In the construction of furnaces the bricks are bound together by refractory mortar or cement, which is also used as a protective lining and for patching defects. See A. B. Searle, *Refractory Materials* (3d ed., 1940) and *Refractories for Furnaces, Kilns, Retorts* (2d ed., 1948), F. H Norton, *Refractories* (2d ed , 1942)

fire clay, a CLAY which has a high degree of resistance to heat. By the best standards it should have a fusion point higher than 1600°C The term "fire clay" is commonly held to exclude kaolin and other refractory potter's clays Fire clay should contain high percentages of silica and alumina, with as little as possible of such impurities as lime, magnesia, soda, and potash, which lower the fusion point of the clay Two types of fire clay are recognized—flint clay, exceedingly hard, nonplastic, and resembling flint in appearance, occurring in the United States, and plastic fire clay The principal uses of fire clay are in the manufacture of firebrick and of various accessory utensils used in the metalworking industries, such as crucibles, saggers, retorts, and glass pots.

firedamp see DAMP

fire-eaters, in U S history, term applied by Northerners to proslavery extremists in the South in the two decades before the Civil War Edmund RUFFIN, Robert B RHETT, and William L. YANCEY were the most notable of the group As early as 1850, at a convention held in Nashville, Tenn , the "fire-eaters" urged secession upon the South, but the Compromise of 1850 and more moderate counsel combined to postpone that event for another 10 years Although the "fire-eaters" were in large measure responsible for the movement to organize a separate Southern government, they actually filled minor offices under the Confederacy

fire engine see FIRE APPARATUS

fire escape, in architecture, a device, either fixed or movable, to facilitate escape from a burning building In the United States the term usually is applied to the common exterior iron balconies and stairways or ladders which give egress from each floor to the ground, this type, although of doubtful value in time of panic and usually a disfigurement architecturally, is still in general use on multi-family dwellings and other buildings The fire stair, enclosed in an independent fireproof curtain wall and accessible at each floor level through a self-closing fireproof door, is a more dependable device now widely used (often required by ordinance) in apartment and commercial buildings and in places of public assemblage Even more desirable is the smokeproof fire tower, which contains a fireproof stair entered from each floor across an open-air balcony Other varieties of fire escape in more or less general use range from the simple knotted rope to elaborate systems of spiral chutes In England the term refers to a portable extension ladder which may be wheeled up to a burning building to enable occupants to escape when ordinary exits are cut off

fire extinguisher see FIRE APPARATUS.

firefly, luminescent carnivorous beetle, often called lightning bug, of the family Lampyridae, which is well represented in temperate regions although the majority are tropical or subtropical species The light organs are on the abdomen They consist of several layers of small cells which act as reflectors and a lower layer of light-producing (luminescent or photogenic) cells These are permeated by nerves and by air tubes, which supply oxygen for oxidizing the substance luciferin in the presence of an enzyme called luciferase The light may be yellow, greenish, bluish, or reddish There is variation in different species, also, in the intensity of the flashes and in the length of the intervals between them Attraction between the sexes is believed to be a function of the light Synchronized flashing is characteristic of some species, especially in the tropics The males, females, larvae, and eggs of some emit light Some tropical American species of the family Elateridae known as fire beetles or cucuyos glow with red and green lights.

fire insurance see INSURANCE

Fire Island, c 30 mi long, off the south shore of Long Island, SE N Y , between Great South Bay and the Atlantic, part of the OUTER BARRIER On the narrow, sandy island lie the resort colonies of Saltaire, Fair Harbor, Point o' Woods, Ocean Beach, and Cherry Grove, at its west end are a state park and a lighthouse (1858), reached by ferry from Bay Shore and Babylon The hurricane of 1938 and a storm in 1939 did great damage, but reconstruction has been extensive.

fire lands see WESTERN RESERVE

Firenze, Italy see FLORENCE

fireplace, the oldest device for providing heat in a room and one which lingers chiefly for its charm and hospitable associations The earliest fireplaces were mere stone hearths in the center of a hut or tent, the smoke issuing through an opening in the roof In early Roman dwellings the ATRIUM or court, in which the domestic existence focused, contained a hearth for heat and for cooking. In European castles of the Middle Ages the fire was built upon a large hearth in the center of the great hall, with a lowered aperture in the timbered roof above to draw away the smoke In the 13th cent , probably because rooms were built above the hall, the fireplace was moved from the center to an outer wall of the room, which permitted a projecting hood and a flue for discharging the smoke. By the 15th cent , fireplace and CHIMNEY had practically the form which they still retain, and in the rooms the chimney breast began to receive pronounced decorative treatment From this time each room had a fireplace in the country manors of N Europe Their chimneys were built in great decorative stacks in the Elisabethan and Jacobean periods in England and in the châteaux of the early French Renaissance (16th cent). The art of iron casting developed iron firebacks, often of elaborate design, to protect the masonry of the fire chamber from intense heat. Coal began to be used in England in the 13th cent ; this led eventually to the invention of wrought-iron hob grates. Fireplace openings became relatively small, as compared with the enormous ones of the Middle Ages, and were framed with mantelpieces of great variety and charm in wood, stone, or marble For a fireplace and its chimney to draw satisfactorily, certain methods must be followed in their construction The depth of the fire chamber should never be less than one half the height of the opening or more than 24 in For proper radiation of the heat, the side walls of the fire chamber should be splayed inward, and the upper part of the rear wall should slant forward The throat through which smoke passes to the flue should be of an area at least equal to that of the flue, yet not so large as to draw off too much heated air Above the fireplace, the smoke chamber, which collects the smoke, should have smooth sides sloping inward to the flue The flue itself should have a tightly jointed terra-cotta lining to prevent heat leakage, and its area should be one tenth that of the fireplace opening It should terminate in a sloping ledge, or smoke shelf, at the bottom to prevent smoke from blowing back into the room See A. H Senner, *Fireplaces and Chimneys* (1941)

fireproofing, method of making normally combustible materials as nearly noncombustible as possible In most cases it is possible only to treat them with a solution or coating of some substance that will tend to retard their ignition when subjected to fire Wood is protected in this way by being impregnated with a solution of ammonium phosphate Paints can be made fire-retardant by the use of certain pigments (e g , antimony oxide and calcium carbonate) or by the inclusion of chlorinated resins, chlorinated oils, chlorinated paraffins, and certain other materials Fireproof board made from a mixture of asbestos and cement is used quite extensively and for all practical purposes is noncombustible, as well as being a good insulator Fireproof doors are often constructed entirely of steel, but sometimes they have a wooden core with a layer of sheet metal pressed over it Some are equipped with automatic devices for closing them to check the spread of fire Fire-resisting materials used extensively in fireproof buildings are hollow clay tile, brickwork, gypsum, plaster, and concrete In the construction of steel buildings it is of utmost importance that the steel be adequately protected against damage by fire While steel will retain its strength up to a very high temperature, it fails rapidly at temperatures over 1000°F A very hot fire in a portion of a building where the steel is poorly protected may cause failure either in the columns or the floor beams Hollow clay tile and brickwork afford good protection for steel Steel beams incased in concrete should have at least 2½ in of concrete outside of all surfaces Columns and girders when liable to severe exposure to fire should be covered with a minimum thickness of 4 in of hollow clay tile Fireproof floors are frequently constructed of arched hollow tile between steel beams, the exposed portion of the beams being adequately protected as well A method used in modern buildings is known as slow-burning construction Very heavy lumber, much heavier than necessary to carry the normal loads imposed on the members, is used In the event of fire, the members, burning only on the surface, are thus protected against final collapse for a considerable period Certain methods and safeguards of building construction are required by law in most cities In the typical municipal code, buildings classed as fireproof are those in which all parts carrying weights or resisting strains as well as exterior and interior walls, interior partitions, stairways, and elevator enclosures are made entirely of incombustible materials and those in which all metal structural members are protected against effects of fire by complete casings of fireproofing material Building materials which are generally considered fireproofing materials include bonded brickwork laid in cement mortar, concrete, cinder concrete, porous or semiporous terra-cotta blocks, and solid gypsum blocks, all with certain required ingredients and methods of setting Textiles, especially cotton, rayon, and other fibers of vegetable origin, are often treated to make them flameproof by immersing them in solutions of certain chemicals or by brushing or spraying them with such solutions. Tents and tarpaulins can be made flame-retardant by treatment with certain substances, e.g , a coating containing chlorinated paraffin and antimony oxide Asbestos, because it is noncombustible and a nonconductor of heat, is widely used for insulation of pipes, boilers,

and other heated structures, for roofing and flooring materials, for theater curtains, and for many other purposes The fibers can be spun into fabrics flexible enough to be made into suits and gloves for firemen and for workers in metallurgical industries where intensely high temperatures are used Fire-resistant cloth made of cotton and asbestos (the proportions varying according to the use of the fabric) is made into various products for household use, e g., dish towels and covers for ironing boards.

Firestone, Harvey Samuel, 1868–1938, American industrialist, manufacturer of rubber products, b Columbiana co , Ohio Son of a prosperous farmer, Harvey Firestone turned from the soil, worked in Columbus, Ohio, and manufactured rubber tires after 1896 He organized (1900) the Firestone Tire & Rubber Company and rapidly became a leader of the rubber industry, with various properties over the world By 1926 he leased a 1,000,000-acre rubber plantation in Liberia to control the output of raw rubber needed in his factories Henry Ford and Thomas A Edison were his intimate friends

fireweed, any of several plants that spring up in fire-swept regions, especially the widely distributed great willow herb (*Chamaenerion,* or *Epilobium, angustifolium*) This fireweed is a tall perennial, weedy but sometimes cultivated, with willowlike foliage and with flowers that vary in shade from rose to purple and are sometimes white It is a good bee plant

fireworks · see PYROTECHNICS

firing, process of baking clay to produce pottery Primitive potters baked their clay in an open fire, as the American Indians still do, but for firing at higher temperatures and for the use of glaze, a KILN is needed In general, pottery is fired once to harden it into biscuit ware, then a glaze is applied and fused with the clay by a second firing China painting, enamel work, and STAINED GLASS also require firing Temperatures of firing vary from about 1100°F for fixing paint on glass to about 2800°F for hard porcelain

Firishta or **Ferishtah,** c 1552–c 1623, Persian historian He wrote an account of Moslem rule in India, including some Indian history before the arrival of Islam Although Firishta is considered uncritical and occasionally erroneous, he has preserved writings otherwise lost, and his history remains an important source

Firkins, Oscar W., 1864–1932, American literary critic, b Minneapolis, grad Univ of Minnesota (B A , 1884, M A , 1898) He was professor of comparative literature at his alma mater except in 1919–21, when he was drama critic for the New York *Weekly Review* His own one-act plays dramatize incidents in the lives of authors Among his full-length critical studies is his last work, *Power and Elusiveness in Shelley* (1937) See his *Memoirs and Letters* (1934)

Firminy (fĕrmēnē'), town (pop 17,941), Loire dept , E central France, in the SAINT-ÉTIENNE industrial district

first aid. The immediate treatment of a patient in case of emergency while awaiting the arrival of a physician is often a means of saving life and also may result in a better and more rapid recovery Prevention of further injury is important Essential knowledge includes that of the proper BANDAGE for a WOUND, that of the treatment of BLEEDING, FRACTURE, SPRAIN, DISLOCATION, FAINTING, BITES AND STINGS, BURNS AND SCALDS, POISONING (see POISON and POISONING, table), SUNSTROKE, and heat exhaustion, and that of the method of ARTIFICIAL RESPIRATION for DROWNING and ASPHYXIA See also Red Cross literature

Asphyxia Symptoms blue color, gasping, unconsciousness Treatment remove cause, e g , a foreign body or gas, use artificial respiration

Bites Symptoms wound Treatment bandage part on side towards heart Use antivenin for snake bite Cauterize with nitric acid for bite of rabid dog and follow with vaccination

Bleeding Symptoms external wound, pallor, weakness if internal Treatment local pressure, temporary tourniquet for severe arterial bleeding

Burns Symptoms redness, blistering, charring Treatment coat with oily material If from acid, first use baking soda If from alkali, first use vinegar Caution treat for shock

Dislocation Symptoms pain, swelling, deformity of the joint Treatment rest, cold or hot wet applications Caution do not move

Drowning Treatment artificial respiration Caution patient should be on stomach, with head low and mouth and nose unobstructed as in artificial respiration

Fainting Symptoms pallor, cold, rapid pulse Treatment elevate legs When conscious, give stimulants

Foreign body in eye Symptoms pain; redness, tears Treatment wash out with clean water, remove with clean cloth Caution do not touch cornea, the eyeball covering over pupil and iris

Fracture. Symptoms pain, deformity of bone Treatment splint the whole limb Caution do not move until splint is in place Treat for shock

Heat exhaustion. Symptoms pale, clammy skin, weakness, subnormal temperature Treatment. rest, stimulants Caution no cold application to skin

Poisoning Symptoms corrosive stain around mouth from irritants, depression from narcotics Treatment emetic, soothing liquids such as eggs, milk, oils For specific antidote, see POISONING (table)

Shock Symptoms pallor, cold, weak breathing, weak pulse Treatment head low, warmth, stimulants, treat cause of shock Caution do not move, avoid contact if electric shock

Sprain Symptoms pain, swelling. Treatment rest, cold wet applications

Sunstroke Symptoms headache, unconsciousness, fever, red, dry, hot skin Treatment rest, cold applications to skin, cool drinks Caution no stimulants

Wound Treatment remove foreign body, apply clean dressing and bandage Caution treat for bleeding and shock

Firth, Sir Charles Harding (fûrth), 1857–1936, British historian He was educated at Oxford, and in 1883 he began his long career of teaching there From 1904 to 1925 he was regius professor of history Under the influence of S R Gardiner, he edited texts and wrote works on 17th-century England and became one of the greatest authorities on the Puritan Revolution His *Oliver Cromwell* (1900) attracted wide notice and is still much read *Cromwell's Army* (1902), *The Last Years of the Protectorate* (2 vols , 1909, a continuation of Gardiner's great work), and *The House of Lords during the Civil War* (1910) complete the list of his major works He was remarkable for his high standards of research in original materials and was an editor without a peer His writing, though somewhat dry, is firm-textured, and his powers of narration considerable

firth or **frith,** name applied to an estuary in Scotland For Firth of Clyde, see CLYDE, for Firth of Forth, see FORTH

Firuzabad (fĭrōō'zŭbăd'), ruined city, S Iran, S of Shiraz It has an interesting palace built by Artaxerxes It was the birthplace of Firuzabadi (1329–1414), compiler of a great Arabic dictionary

Fischart, Johann (yōhän' fĭ'shärt), c 1545–c 1590, German satirist, called Der Mentzer He was a jurist by profession and was also engaged in printing Among his numerous works are an imitation of Rabelais, *Geschichtklitterung* (1575), three times the length of the original, a narrative poem, *Das Glückhaft Schiff von Zürich* [the lucky boat of Zurich] (1576); the religious satires, *Der Binenkorb* [the beehive] (1579), and *Das Jesuiten Hütlen* [the Jesuit's hat] (1580) Fischart was a writer of great wit and originality, he was the foremost German satirist of his age

Fischer, Emil (ā'mĕl fĭ'shur), 1852–1919, German organic chemist He is especially noted for his researches on the structure and synthesis of sugars and of purines and purine base derivatives, e g , caffeine, for this work he received the 1902 Nobel Prize in Chemistry His many other valuable discoveries include a method of synthesizing polypeptides He was an assistant of Adolf von Baeyer and was professor at the universities of Erlangen (1882–85), Würzburg (1885–92), and Berlin (from 1892)

Fischer, Hans (hans), 1881–1945, German organic chemist and physician For his studies of chlorophyll and hemin and for the synthesis of hemin he received the 1930 Nobel Prize in Chemistry He was professor from 1921 at the technical institute at Munich

Fischer, Kuno (Ernst Kuno Berthold Fischer) (kōō'nō), 1824–1907, German philosopher He taught at Heidelberg, was honorary professor of philosophy at Jena, and in 1856 was appointed lecturer at Berlin In 1872 he accepted the chair of philosophy at Heidelberg A Hegelian, he made his chief contribution to philosophy as a historian, his important work being *Geschichte der neuern Philosophie* (new ed , 1914)

Fischer, Theobald (tā'ōbalt), 1846–1910, German geographer, studied at Heidelberg and Halle He traveled much in Europe (especially in the Mediterranean regions) and in the northern part of Africa and was professor of geography in Kiel (1879–83) and Marburg (1883–1910) The author of several works on geography, he was an authority on Mediterranean lands

Fischer von Erlach, Johann Bernhard (yō'hän bĕrn'hart fĭ'shur fŭn ĕr'lakh), c 1656–1723, Austrian architect After studying in Rome, he returned to his native city, Vienna, where he designed a large number of buildings Most of these were baroque, some of them exemplifying its extreme phase His work gave a definite stamp to Vienna and remained typical of both the Austrian empire and the city for more than half a century His earliest buildings were done in Salzburg, chiefly churches, including the University Church (1696) Among his noted Viennese works are the imposing Karlskirche, begun in 1715, the Church of San Carlo Borromeo, extensive additions to the Hofburg, the imperial palace, designs for the imperial palace at Schönbrunn, subsequently executed by others, the monumental fountain in the Hohe Markt, and a number of private palaces He wrote *A Plan of Civil and Historical Architecture* (1730) See study by H V. Lanchester (1924)

Fish, family long prominent in New York politics and society **Nicholas Fish,** 1758–1833, b. New York city, attended the College of New Jersey (now Princeton Univ) and studied law before serving ably as a major in a New York regiment throughout the American Revolution A New York city alderman (1806–17), he was a leading Federalist and the close friend of Alexander Hamilton. He also served as chairman of the board of trustees of Columbia College, a post later held by his son, Hamilton Fish (1808–93), the most illustrious member of the clan (see separate articles for Hamilton Fish, 1809–93, and for his youngest son, Stuyvesant Fish). **Nicholas Fish,** 1848–1902, b New York city, grad Columbia, 1867, and Harvard Law School, 1869, was Hamilton's eldest son He entered the U S diplomatic service and was minister to Belgium (1882–86). A third son, **Hamilton Fish,** 1849–1936, b Albany, N Y , grad Columbia, 1869, studied law and was admitted to the bar in 1873 He was a member of the New York state assembly (1884–96), serving as speaker in 1895–96, and was long Republican boss of Putnam co On appointment by President Theodore Roosevelt, he was Assistant Treasurer of the United States in New York city (1903–8) He also served one term (1909–11) as a U S Representative The family's third **Hamilton Fish,** 1888–, son of the foregoing, b Garrison, Putnam co , N Y , grad Harvard, 1910, was a famous Harvard football player He remained an additional year at Cambridge to study law Fish served in the New York state assembly (1914–16), distinguished himself in the First World War as a captain of Negro infantry, and from 1920 to 1945 was a U.S. Representative A leading isolationist and vigorous anti-Communist, once accused of having connections with German Bundists and other Axis supporters, he was opposed for renomination in 1944 by Gov Thomas E Dewey and other Republican leaders because he injected a religious issue into the campaign Fish, however, won in the primary, but was defeated for reelection in November

Fish, Carl Russell, 1876–1932, American historian, b Central Falls, R I , grad Brown, 1897, and Harvard (M A , 1898, Ph D , 1900) From 1900 to his death he taught history at the Univ of Wisconsin Fish considered the Univ of Wisconsin the "most democratic institution in America," and he was extremely popular there among both students and colleagues He wrote *The Civil Service and the Patronage* (1904), *Guide to the Materials for American History in Roman and Other Italian Archives* (1911), *The Development of American Nationality* (1913, rev ed , 1940), a useful and popular textbook, *American Diplomacy* (1915, 5th ed , 1929), *The Path of Empire* ("Chronicles of America" series, 1919), *The Rise of the Common Man, 1830–1850* ("History of American Life" Vol VI, 1927), and *The American Civil War an Interpretation* (ed by William E Smith, 1937)

Fish, Hamilton, 1808–93, American statesman, b New York city, grad Columbia, 1827, son of Nicholas Fish (1758–1833) He studied law, was admitted (1830) to the bar, and generally confined his practice to real estate and chancery law Fish had been named for his father's friend Alexander Hamilton, and as an heir to the Federalist tradition he quite naturally gravitated to politics as a Whig A U S Representative (1843–45), he was elected lieutenant governor of New York in 1847 and governor, for a two-year term, in 1848 From 1851 to 1857 Fish was a U S Senator, serving on the foreign relations committee in 1855–57 He was a moderate antislavery man who opposed both abolitionist and proslavery excesses and deplored the breakup of the Whigs as a national party Slow to join the new Republican party, he lost his political standing After spending two years (1857–59) abroad with his family, he devoted himself during the next decade to private and civil affairs in New York city Fish was one of many to honize the victorious Civil War general Ulysses S Grant, but his appointment (March 11, 1869) as Grant's Secretary of State, to succeed the grossly miscast Elihu B Washburne, came as a surprise He accepted reluctantly and expected to hold the office for only a few months, but actually was in the cabinet longer than any other member, serving through both of Grant's administrations He was one of the most able of U S. Secretaries of State, although his reputation has doubtless been enhanced by the general low tenor of most of Grant's other appointments His greatest achievement as Secretary was bringing about the treaty (see WASHINGTON, TREATY OF) which paved the way for settlement of the ALABAMA CLAIMS and other long-standing disputes with Great Britain This was accomplished amid great difficulties, especially those offered by the vigorously anti-British chairman of the Senate foreign relations committee, Charles SUMNER, and Sumner's friend John L MOTLEY, the virtually insubordinate U S minister to Britain The period was one of constant trouble with Spain, arising out of the Ten Years War. To end the brutal conflict

Fish eagerly advanced a plan by which Cuba would buy its independence, the purchase price to be guaranteed by the United States Unfortunately the arrangement fell through, and Fish was hard pressed to persuade Grant not to recognise the belligerency of Cuba but to exert pressure on Spain to grant reforms in Cuba and redress the grievances of Americans having property there Under Fish's vigilant eye filibustering expeditions from the United States to Cuba were kept to a minimum, but the VIRGINIUS affair in 1873 nearly brought the nation, already completely sympathetic to the Cuban cause, to war with Spain Fish was not an expansionist, but to secure Grant's support of other policies he supported without enthusiasm the President's pet project to annex Santo Domingo He arranged the annexation treaty which the Senate, led by Sumner, rejected on June 30, 1870, an action bitterly resented by Grant Fish also handled unsuccessful negotiations for a Central American canal route and undertook a vigorous but cooperative policy in the Far East Grant was much impressed with Fish's character and ability, and neither he nor the Senate would hear of permitting Fish to retire late in 1871, after the Treaty of Washington had been concluded For his part Fish, while regretting the obvious deficiencies in Grant's make-up, which were largely responsible for the never-ending political scandals that characterised his administrations, was personally devoted to the President It is, however, difficult to understand how Fish, with his intimate knowledge of the widespread corruption that existed under Grant, could have, as he did in 1880, supported Grant's attempt to obtain a third term Fish himself was far above moral reproach, although, diplomatlike, "he sometimes chipped the cube of truth to make it roll," as his biographer aptly puts it After he left office in 1877, Fish, who maintained a town house in New York city and "Glenclyffe," a country estate at Garrison, on the Hudson, resumed his labors for Columbia College and the Episcopal Church, two institutions to which he was affectionately devoted Long chairman of the board of trustees of Columbia (before and after his cabinet service), he was one of those most responsible for its emergence as a true university See Allan Nevins, *Hamilton Fish, the Inner History of the Grant Administration* (1936)

Fish, Hamilton, 1849–1930, and 1888–· see FISH, family

Fish, Nicholas, 1758–1833, and 1848–1902 see FISH, family

Fish, Stuyvesant (stī'vŭsănt), 1851–1923, American railroad executive, b New York city, grad Columbia (B A., 1871; M A , 1874), son of Hamilton Fish (1808–93) He became (1877) a director of the Illinois Central RR, and as its president (1887–1907) he built the railroad into a large system Fish's membership in the state committee which investigated the Mutual Life Insurance Company of New York—of which he was (1883–1906) a trustee—gave E H Harriman an opportunity to oust him from the presidency of the Illinois Central RR

fish, aquatic gill-breathing vertebrate animal with fins and having skin provided with mucous glands and usually reinforced with scales or plates There is no distinct neck The cyclostomes, e g , the lamprey and the hagfish, are primitive, elongated creatures without paired fins and with suctorial mouths by which they attach themselves to larger fish, on whose tissues they feed More highly developed are the cartilaginous fish, the group to which the shark and the ray belong Highest in the scale are the bony fish (those with true bone in the skeleton), which include the majority of the fresh-water and marine species The name Pisces once included all fish but now usually refers only to the class of bony fish Largest of living fish is the whale shark, said to reach 50 ft in length, the smallest is a goby of Luzon in the Philippines, *Pandaka pygmea*, which averages about ½ in in length Locomotion in fish is accomplished by contractions of the body muscles and movements of the fins, supplemented by the thrust from the expulsion of water through the gill slits Most bony fish have an air bladder, the functions of which are not fully determined It aids in maintaining equilibrium between the density of the fish and that of the water, in some it is a supplementary respiratory organ, and others use it to produce sound Most fish have a lateral line on each side of the body, an indication of underlying sense organs Fish eat plankton, aquatic animals, plants, and refuse Eggs of some fish, e g , those of the cod, which are laid and fertilized in open waters, number in the millions Of eggs which have a better chance of survival smaller numbers are produced Among the live bearers the eggs are fertilized and develop within the female's body Young stages of the fish are known as fry and fingerling The SEA HORSE and the STICKLEBACK are among the few fish which care for the eggs Most fish are to some extent migratory in feeding and breeding habits. The EEL and the SALMON undertake long migrations Phosphorescent organs are found especially in deep-sea fish Fish are marketed fresh, frozen, canned, and dried Among the chief food fish are the salmon, cod, herring, tuna, haddock, halibut, and mackerel The protein content of fish is high and some, e g , salmon, herring, and mackerel, are rich in fat Important fish products are oil, ranging from crude oil to medicinally used liver oils, fish meal for feeding livestock and poultry, and fertilizer Glue and isinglass are also fish products See also CLIMBING PERCH, ELECTRIC FISH; FIN, FISHERIES, FLYING FISH, GILL, SHELLFISH See D S Jordan, *Fishes* (rev ed , 1925), J R Norman, *A History of Fishes* (1931), Brian Curtis, *The Life Story of the Fish* (1938), L P Schultz and E M Stern, *The Ways of Fishes* (1948)

fish curing, Methods of curing fish by drying, salting, smoking, and pickling or by combinations of these processes have been handed down from ancient times almost unchanged, although modern taste favors less salt than was formerly used On sailing vessels fish were usually salted down immediately to prevent spoilage; the swifter boats of today commonly bring in unsalted fish, much of which is sold fresh Modern freezing and canning methods have largely supplanted older methods of preservation, although sizable curing industries still exist in the Orient, Scandinavia, Russia, the British Isles, and New England Fish to be cured are usually first cleaned, scaled, and eviscerated, large fish are generally split Fish are salted by packing them between layers of salt or by immersion in brine The fish most extensively salted are cod, herring, mackerel, and haddock Smoking preserves fish by drying, by deposition of creosote ingredients, and, when the fish are near the source of heat, by heat penetration Herring and finnan haddie (Findon haddock) are commonly smoked Kippers are split herring, and bloaters are whole herring, salted and smoked Sardines, pilchards, and anchovies are small fish of the herring family, often salted and smoked, then preserved in oil Fish are dried under controlled conditions of temperature, humidity, and air velocity Since the dried product is relatively unappetizing and rehydration slow, other preservation methods are more common

Fisher, Andrew, 1862–1928, Australian statesman he emigrated from Scotland to Australia in 1885, helped organise the Australian Labour party, and served three times as labor prime minister of Australia (1908–9, 1910–13, and 1914–15) He guided the passage of much social legislation in the fields of taxation, banking, and land policy

Fisher, Dorothy Canfield, 1879–, American novelist, b Lawrence, Kansas, Ph D Columbia, 1904 After her marriage in 1907 to John Redwood Fisher she lived chiefly in Vermont, the background of the stories in *Hillsboro People* (1915) and of some of her novels *A Montessori Mother* (1912), one of the first books in English on the Montessori system of education, demonstrates Mrs Fisher's interest in education, which recurs in her fiction, e g , in *The Bent Twig* (1915) and *Fables for Parents* (1937) Her other novels include *The Brimming Cup* (1916), *The Deepening Stream* (1930), and *Seasoned Timber* (1939) Collections of her short stories are *Foursquare* (1949) and *Something Old, Something New* (1949, for children) Her translation (1921) of Papini's life of Christ was widely read

Fisher, Frederick Bohn, 1882–1938, American Methodist bishop, b Greencastle, Pa , grad Asbury College (B S , 1902, B A , 1903· D D , 1916) and Boston Univ (Ph D , 1909) From 1910 to 1920 he was secretary of the foreign missions department of the Methodist Episcopal Church In 1920 he became bishop, in residence at Calcutta, India, until 1930 He wrote *That Strange Little Brown Man, Gandhi* (1932) and other books on Indian affairs See biography by his wife (1944)

Fisher, Geoffrey Francis, 1887–, archbishop of Canterbury He was educated at Oxford and ordained in 1914 For 21 years he was an educator, serving as assistant master of Marlborough College (1911–14) and as headmaster of Repton School (1914–32) In 1932 he became bishop of Chester, from 1939 to 1945 he was bishop of London In 1945 Dr Fisher was named archbishop of Canterbury He is a president of the World Council of Churches

Fisher, Herbert Albert Laurens, 1865–1940, English historian He was a fellow, tutor, and warden (from 1925) at New College, Oxford, and served as vice chancellor (1912–16) of the Univ of Sheffield He led a distinguished public career, serving as a member of Parliament (1916–26) and president of the Board of Education (1916–22) His most ambitious historical work is his *History of Europe* (3 vols , 1935–36) He wrote various studies of Napoleon, including a biography (1913), and lives of the historians F W Maitland (1910), Lord Bryce (1927), and Sir Paul Vinogradoff (1927) Other works include *The Mediæval Empire* (1898), *A Political History of England, 1485–1547* (William Hunt and R L Poole, *A Political History of England*, Vol V, 1906), and *An Unfinished Autobiography* (1941).

Fisher, Irving, 1867–1947, American economist, b Saugerties, N Y , Ph D Yale, 1891 He began teaching at Yale in 1890 and was active there until 1935 His earliest work was in mathematics, and he made a distinguished contribution to mathematical economic theory He was noted chiefly for his studies in managed currency, in which he set forth the theory of the "compensated dollar" whereby purchasing power might be stabilised He was also one of the first to work out a system of index numbers Fisher's interests were wide and included activity in many academic, business, welfare, and public organisations, especially public-health societies Important among his many books are *Mathematical Investigations in the Theory of Value and Prices* (1892), *Appreciation and Interest* (1896), *The Nature of Capital and Income* (1906), *The Rate of Interest* (1907), *The Making of Index Numbers* (1922), and *Theory of Interest* (1930)

Fisher, John (Saint John Fisher), 1459–1535, English prelate, cardinal of the Roman Church, bishop of Rochester (1504–34). Known for his scholarship at Cambridge, he was chosen confessor to Margaret, countess of Richmond and Derby As vice chancellor of the university (1501–4) and chancellor thereafter, he helped to carry out her plans for establishing St John's College and Christ's College As bishop he was firm in his denunciation of abuses by the clergy, but he resisted reforms like Luther's, affecting doctrines of the Church Giving his support to the new learning, he was a friend to Erasmus Fisher, who was confessor to Katharine of Aragon, was the only bishop to oppose the invalidation of the marriage of Henry VIII and Katharine He refused to acknowledge the supremacy of the king and to accede to the Act of Succession, which made Katharine's child illegitimate In 1534 he was imprisoned in the Tower and deprived of his bishopric Pope Paul III, openly to show his attitude, created Fisher a cardinal in May, 1535 Henry, infuriated, pushed forward the trial A fortnight before Sir Thomas More was executed, John Fisher was beheaded on Tower Hill He was canonized as a martyr in 1935 Most of the Latin writings that he left were published in 1597 Some of his English works still remain in manuscript Feast June 22 See *The Life and Death of That Renowned John Fisher, Bishop of Rochester* (1635, new ed , 1893)

Fisher, John Arbuthnot Fisher, 1st **Baron** (fĭr'bŭth'nŏt), 1841–1920, British admiral In 1872 he was responsible for instituting the developmental work which perfected the torpedo, and in 1902 he reorganized and improved the method of training naval officers Fisher foresaw the need to revamp the types and sizes of naval vessels, and in 1905 started construction of the *Dreadnought* (see DREADNOUGHT) It was also largely through his efforts that the British navy changed to the use of oil as a fuel With the outbreak of the First World War he became first sea lord of the admiralty, but resigned because his scheme for control of the Baltic was abandoned in favor of the plan to force the Dardanelles In 1909 he was created Baron Fisher of Kilverstone See biography by R H. Bacon (2 vols , 1929)

Fisher, Sydney Arthur, 1850–1921, Canadian statesman He entered the House of Commons in 1882 and served from 1896 to 1911 as Sir Wilfred Laurier's minister of agriculture In 1909 he was a Canadian representative at the Washington Conference to consider conservation of the natural resources of the American continent

Fisher, Vardis, 1895 , American novelist, b Idaho, of Mormon parents, grad Univ of Utah, 1920, Ph D Univ of Chicago, 1925 His first important work was an autobiographical tetralogy (1932–36) He directed the state Federal Writers' Project, which compiled the Idaho state guide (1937) In 1939 his historical novel of the Mormons, *Children of God* (1939), won the Harper Novel Prize *The Mothers* (1943) is a novel of the Donner Lake tragedy He has also written poetry

Fisher, William Mark, 1841–1923, American landscape painter, b Boston, studied in Boston and Paris He settled in England, where he became a member of the Royal Academy His *Road to Mual* is in the Museum of Fine Arts, Boston, and *Feeding the Fowls* is in the Tate Gallery, London

Fisher, Fort, Confederate fortification on the peninsula between the Atlantic and the Cape Fear river, which defended the port of Wilmington, N C , in the Civil War. It was built by Gen W H C Whiting in 1862 Because Wilmington was one of the few ports open to blockade-runners, a joint land and naval expedition under Gen B F Butler and Admiral D D Porter was sent against Fort Fisher in Dec , 1864, but failed to take it A second attempt, with Gen A H Terry replacing Butler, captured the fort on Jan 15, 1865, after a desperate battle The port was then effectively closed and shortly afterward Wilmington itself fell to the Union

fisher, large species of marten (genus *Martes*) native to the N United States and Canada It is over 3 ft long, with brown fur shading to black It is a forest hunter, able to overtake squirrels and martens in trees and strong enough to kill a lynx, raccoon, or fox It attacks the porcupine fearlessly, turning it over and striking at the unprotected under parts. The fisher is nocturnal and hard to catch in traps, which it robs of other victims. It is not abundant, and the beautiful fur

brings high prices. Other names are pekan, black cat, and Pennant's marten.

fisheries. From earliest times and in practically all countries, fisheries have been of industrial and commercial importance The largest fishing grounds are in the N Atlantic off Newfoundland and Labrador, where cod and herring and also haddock, mackerel, and bluefish are taken by American and European fishing fleets The most valuable yields of American waters are the oyster, on the Eastern seaboard, and the salmon, the sardine, and the tuna on the Pacific The Pacific fisheries of Japan, the sardine fisheries of France and Spain, the cod and herring fisheries of the Baltic and the North Sea, and the inland fisheries of Russia are among the largest of the world Most of the large fishing fleets are now equipped with steam trawlers The methods chiefly in use—each with a great variety of modifications—are with line, net (trawling), and trap (for lobsters and crabs) In some cases the fish are put in salt-water tanks or in cold storage on the boat The drying, canning, salting, and preserving of fish give rise to a vast industry, with, in addition, the manufacture of numerous by-products, including glue, fertilizer, and, in the Orient, fish sauces In the United States, since all waters within a state are subject to state jurisdiction, domestic fisheries are governed by state regulations, except when national control results from the treaty-making power and except for the regulation of navigation, customs, and interstate commerce, which are granted to the Federal government by the Constitution Agreements between states concerning fishing in boundary waters (such as that between Washington and Oregon concerning the Columbia river salmon fisheries) require the ratification of Congress State fishery legislation is generally both restrictive and protective Fish may be protected by imposing closed seasons during the spawning season or for the period necessary for the increase of depleted species, certain waters may be entirely closed to commercial fishing, and the taking of fish below a certain size may be forbidden Undesirable types of fishing gear are prohibited and the use of other apparatus restricted State statutes forbidding the pollution or the obstruction of nonnavigable streams are general National governments generally restrict fishing rights within territorial waters to citizens and may establish jurisdiction over portions of the open sea, often for the purpose of protecting shore fisheries (Chesapeake Bay and Delaware Bay thus constitute closed seas) While the national government may regulate the high-seas fisheries of its own citizens, the right to take products from the high seas is a subject for international agreements Fisheries occupy an important part in the economic structure of many countries (the Black Sea fisheries formed an important source of Phoenician and Greek income, Spanish and Sicilian waters yielded fish for Rome, the economy of the Hanseatic League was partly based on North Sea herring fisheries, cod fishing was a chief industry of New England, and its fisheries in the Pacific are vital to Japan) For this reason fishing rights have long been the basis of controversy In the modern age such disputes have generally been settled by arbitration or by treaties Fishing rights, which had been enjoyed by the American colonists on the entire Atlantic coast, were confirmed in the Treaty of Paris (1783), but the right to dry fish on the Newfoundland coast and on the settled parts of the Labrador and Nova Scotian coasts (except by agreement with the inhabitants) was expressly denied This treaty was abrogated by the British upon the outbreak of the War of 1812, and the Treaty of Ghent (1814) contained no provisions relating to this controversial issue Friction developed, and, after prolonged parleying, another treaty further restricting American rights was negotiated (1818) This convention was replaced by the reciprocity treaty of 1854, which abolished all restrictions except for shellfish The United States abrogated the treaty in 1866, but a new treaty (1871, with a protocol in 1873) revived the provisions of the agreement of 1854 (to lat 39° N) Since the Canadians declared their waters more valuable than those of the United States, the question was arbitrated, and Canada received an award of $5,500,000 (1877) When the United States denounced the treaty (1885), American vessels were again seized and strained relations resulted In 1910, however, the North Atlantic Coast Fisheries Arbitration at The Hague ended the prolonged controversy Canada and the United States in 1923 and 1930 signed agreements regulating the halibut fisheries of the Pacific In 1882 Great Britain, Germany, France, Denmark, and Belgium signed the North Sea Fisheries Convention, which ended lawlessness in that area by granting a mutual right of visit, search, and arrest to the public vessels of the treaty powers A similar treaty, regulating the fishing banks off Iceland and the Faeroe Islands, was signed by Great Britain and Denmark in 1901, and three years later Anglo-French rights in the N Atlantic were set forth in a convention. The fisheries of the Pacific have also been the subject of many international agreements, such as the Japanese right to fish in specified sections of Siberian waters, first granted by the Treaty of Portsmouth in 1905 and continued by later agreements with annual auction of fishing "lots." One of the most celebrated contentions about territorial rights in waters concerned not fishing proper but the hunting of fur seals (see BERING SEA FUR-SEAL CONTROVERSY) See S A Moore and H. S Moore, *History and Law of Fisheries* (1903); G C L Howell, *Ocean Research and the Great Fisheries* (1921), R G Lounsbury, *The British Fishery at Newfoundland, 1634–1763* (1934), H E Gregory and Kathleen Barnes, *North Pacific Fisheries* (1939), E A Ackerman, *New England's Fishing Industry* (1942)

Fishers Hill, bluff, c 2 mi S of Strasburg, Va , in the Shenandoah Valley, where P H SHERIDAN defeated (Sept 22, 1864) Confederate Gen J A EARLY in the Civil War

Fishers Island, c 8 mi long and averaging 1 mi wide, off the northeastern tip of Long Island, SE N Y , in Suffolk co Fishers Island Sound separates it from SE Connecticut It was developed (1925) as a summer resort, but it has many all-year-round residents Fort H G Wright, headquarters for the Long Island coast guard, is here Discussions regarding the island's annexation to Connecticut were held in the 1940s

Fishes, the · see PISCES

fish hawk · see OSPREY

fishing. The practice of catching fish—by hand, club, spear, and possibly by hook—was known to prehistoric man. Fishing was practiced by the ancient Persians, Egyptians, and Chinese, and it is mentioned in the *Odyssey* It is a major means of livelihood today not only in simple societies such as those in the S Pacific but also in great nations such as China, Japan, and Norway As a self-conscious sport it is a comparatively recent development, though *The Compleat Angler*, the fishing classic by Izaak WALTON, appeared in 1653 There are three methods used in modern angling, fly-fishing on the surface of the water, mid-water fishing with moving bait such as a small fish, and bottom-fishing with worms and other bait Fly-fishing has become very popular, and several fly-casting tournaments are held annually The artificial fly—made of feather, quill, and metal hook—resembles a favored food of the fish to be caught The sport of deep-sea fishing has received increasing attention in recent years See Ray Bergman, *Just Fishing* (1932), Van Campen Heilner, *Salt Water Fishing* (1937), J A Knight, *The Theory and Technique of Fresh Water Angling* (1941), T W. Trueblood, *The Angler's Handbook* (1949)

Fishkill Landing, old village, SE N Y , on the east bank of the Hudson In 1913 it was joined with Matteawan to form BEACON

Fisk, Clinton Bowen, 1828-90, American philanthropist and temperance leader A general in the Civil War, he was appointed to the Freedmen's Bureau in 1865 In Nashville, Tenn , he helped found (1866) a school for training Negro leaders which became FISK UNIVERSITY, developed under the auspices of the American Missionary Association He was the Prohibition party candidate for the presidency in 1888 See biography by A A Hopkins (1890)

Fisk, Eugene Lyman, 1867–1931, American physician, M D New York Univ , 1888 He organized the periodic health examination system and educational service of the Provident Savings Life Association and of the Life Extension Institute and wrote and lectured on hygiene and the prolongation of life

Fisk, James, 1834–72, American financial buccaneer, b Pownal, Vt In his youth he worked for a circus and as a wagon peddler of merchandise During the Civil War he became wealthy purchasing cotton in occupied areas of the South for Northern firms and selling Confederate bonds in England In 1866 he established a brokerage house in New York city with the aid of Daniel Drew, whom he had formerly served as agent He audaciously helped Drew and Jay Gould conduct the famous struggle with Cornelius Vanderbilt for control of the Erie RR Afterward he and Gould unscrupulously manipulated Erie stock so as to gain millions for themselves but wreck the road They also engineered the attempt to corner the gold market in 1869, causing the famous BLACK FRIDAY scandal Other raids by Fisk and his associates upset markets and aroused public indignation Fisk controlled the Fall River and Bristol steamboat lines on Long Island Sound operated ferries on the Hudson, and bought an opera house in New York city, producing drama and light opera there He was killed by E S Stokes, a former business associate who was a rival for the attentions of the well-known actress Josie Mansfield. See R H. Fuller, *Jubilee Jim* (1928)

Fisk, Wilbur, 1792–1839, American clergyman and educator, b Brattleboro, Vt Ordained a Methodist minister in 1818, he rapidly became a leader of his denomination in New England In 1825 Fisk helped to reestablish Wesleyan Academy at Wilbraham, Mass., and became its principal He was a founder (1831) and first president of Wesleyan Univ , Middletown, Conn

Fiske, Bradley Allen (fisk), 1854–1942, American naval officer and inventor, b. Lyons, N.Y , grad. Annapolis, 1874. In the U S navy he devoted himself to inventing instruments for shipboard use His numerous inventions included an electric-powered turret, the turbine-driven torpedo, the naval telescope sight, and an electric range-finder—a device which brought him (1898) many citations when he applied it as navigating officer in the battle of Manila Bay He later became commanding officer of many battleships, was promoted (1911) rear admiral, and was (1912–13) division commander in the Atlantic Appointed (1913) aide for naval operations, Fiske agitated for a stronger navy, but he retired (1917) after his ideas clashed with the policies of Secretary of the Navy Josephus DANIELS He wrote *Electricity in Theory and Practice* (1884) *The Navy as a Fighting Machine* (1917), and *Inventions* (1921) See his autobiography, *From Midshipman to Admiral* (1919)

Fiske, John, 1842–1901, American philosopher and historian, b Hartford, Conn , grad Harvard, 1863 Born Edmund Fisk Green, he changed his name in 1855 to John Fisk, adding the final e in 1860. He opened a law practice in Boston but soon turned to writing A wide reader, he had been an enthusiastic follower of Herbert Spencer while in college, and the first part of his life was given mainly to popularizing Spencerian evolution He tried to reconcile orthodox religious beliefs with science, both on the lecture platform and in such books as *Outlines of Cosmic Philosophy* (1874), *Darwinism and Other Essays* (1879), *Excursions of an Evolutionist* (1884), *The Idea of God as Affected by Modern Knowledge* (1886), and *Through Nature to God* (1899). Fiske early achieved popularity also as a lecturer on history and in his later life was occupied mostly with that field His *Critical Period of American History, 1783–1789* (1888), *The Beginnings of New England* (1889), *The American Revolution* (1891), *The Discovery of America* (1892), *Old Virginia and Her Neighbors* (1897), *Dutch and Quaker Colonies in America* (1899), *The Mississippi Valley in the Civil War* (1900), and *New France and New England* (1902) form part of a comprehensive history of the United States from 1000 to 1865 These books were popular accounts based largely on secondary authorities and noted for an easy, lucid, and dramatic style See *The Letters of John Fiske* (ed by his daughter, Ethel F Fisk, 1940), biography by J S Clark (1917)

Fiske, Minnie Maddern, 1865–1932, American actress, b New Orleans For more than a generation she was a leading figure in the theatrical world. Born of a family of actors, she first appeared in *Richard III* when she was three, played an old woman in *Lady of Lyons* at 13, and starred when she was 15 In 1890 she married Harrison Grey Fiske and, after a retirement of four years, appeared thereafter under his management. *A Doll's House* (1894) and later *Ghosts* and *Hedda Gabler* established Mrs Fiske as one of the greatest interpreters of the intellectual drama of her time and introduced Ibsen in the United States Roles for which she was famous were Becky Sharp and Tess of the D'Urbervilles, and her successful revival of Sheridan's *Rivals* toured the country almost to the time of her death In 1901 she opened her own theater in New York, the Manhattan, and was influential in combating the theatrical syndicate of the '90s Mrs Fiske's polished technique and intelligence contributed to her artistry See *Mrs. Fiske, Her Views on Actors, Acting, and the Problems of Production* (compiled by Alexander Woollcott, 1917)

Fisk University, at Nashville, Tenn , nonsectarian, coeducational, a leading Negro institution It was opened in 1866 and chartered in 1867 by Congregationalists (American Missionary Association) and the Western Freedmen's Aid Commission of Cincinnati, assisted by Clinton B FISK It has a college of liberal arts, a music department, and a graduate department Especially noted are the social science courses and research under Charles S Johnson, who became president in 1946 The Fisk Jubilee Singers, a noted choir of Negroes, toured the United States and Europe, giving concerts to raise money for Jubilee Hall, and were a factor in spreading interest in Negro spirituals.

fistula (fis'chōolu), deep sinuous ulcer Although it may have two openings, it often has only one and is then more correctly called a sinus Removal of the source of trouble is the first step in treatment If a hollow organ, such as the bladder, opens to the skin, this tract is called a fistula Fistula from the cecum sometimes follows an abscess of the APPENDIX A fistula requires surgical treatment In horses an abcess on the withers from chafing and infection is termed a fistula

fit · see EPILEPSY and CONVULSION

Fitch, Clyde (William Clyde Fitch), 1865–1909, American playwright, b Elmira, N Y , grad Amherst, 1886 His first success, *Beau Brummel* (1890), written for Richard Mansfield, established a pattern, many of his plays thereafter being star vehicles He was a rapid worker and wrote 36 original plays as well as 21 adaptations His better plays, psychological studies, include *The Girl with the Green Eyes* (1902), *The Truth* (1907), and *The City* (1909), all ranking with the best produced in Amer-

ica before that time Historical plays, such as *Nathan Hale* (1899), *Barbara Frietchie* (1899), and *Captain Jinks of the Horse Marines* (1901), were immensely popular He frequently had several plays on Broadway at once, most were produced with success in London and many were translated for continental theaters The plays are remarkable for their reflection of American social life of the period See M J Moses, ed , *Plays by Clyde Fitch* (4 vols , 1916), M J Moses and Virginia Gerson, *Clyde Fitch and His Letters* (1924)

Fitch, John, 1743 98, American inventor, b. Windsor, Conn After serving as an apprentice clockmaker, Fitch set up a brass shop, served briefly in the Revolution, and with money he earned selling tobacco and beer to the Continental army bought Virginia land grants along the Ohio His land claims, coming into conflict with the Federal land policy, proved fruitless, but resulted in his own engraved maps of the Northwest Territory (1785) Returning to Pennsylvania, Fitch began (1785) work on the invention of the steam engine and steamboat and secured soon afterward the exclusive right to build and operate steamboats on the waters of New Jersey, Pennsylvania, New York, Delaware, and Virginia His first boat, launched and operated on the Delaware in 1787, was followed by two others A fourth was wrecked by a storm While Fitch was not alone in developing the steam engine and steamboat, there is good evidence that he was the first to invent the American steamboat Nevertheless, the penuriousness and lack of confidence displayed by his financial backers and other men of influence robbed him of the opportunity to commercialize his invention and of his undisputed recognition Frustrated by endless disappointments, Fitch committed suicide in Bardstown, Ky See Thomas Boyd, *Poor John Fitch* (1935)

Fitch, Thomas, c 1700–1774, colonial governor of Connecticut, b Norwalk, Conn , grad Yale, 1721 A lawyer, Fitch was an assistant in the colony (1734–35, 1740–50) The assembly elected him deputy governor in 1750, and for the next three years he was returned to that office by the qualified voters He supported the British well in the French and Indian Wars Fitch was elected governor in 1754 and remained chief executive until 1766, when he was turned out by the Whigs Although he had been the chief author of the colony's protest against the Stamp Act, he felt duty-bound to take the oath of office required of governors by the act and was, as a result, consistently defeated for reelection thereafter See A C Bates, ed , *The Fitch Papers* (2 vols , 1918–20)

fitch. For the fur, see POLECAT, for the plant mentioned in the Bible, see LOVE-IN-A-MIST

Fitchburg, industrial city (pop 41,824), a co seat of Worcester co , N Mass , on the north branch of the Nashua and N of Worcester, settled c 1730, inc as a town 1764, as a city 1872 Its products include paper, tools, electrical equipment, and textiles It has a state teachers college

Fittig, Rudolf (rōō'dôlf fI'tikh), 1835–1910, German organic chemist He was professor of chemistry at the universities of Tubingen (1870–76) and Strasbourg (from 1876) He discovered lactones, was coestablisher of the constitution of phenanthrene and of piperine, and introduced the Wurtz-Fittig reaction (see WURTZ, CHARLES ADOLPHE)

Fitz, Reginald Heber, 1843–1913, American pathologist, b Chelsea, Mass , M D Harvard, 1868 He studied under Rudolf Virchow, and in 1870 he returned to Harvard, where he introduced Virchow's methods and ideas In 1908 he became professor emeritus In a classic medical paper (1886) he first identified, named, and accurately analyzed appendicitis and recommended radical surgery for its cure In 1889 he first analyzed acute pancreatitis

Fitzgerald, Lord Edward, 1763–98, Irish patriot Son of James Fitzgerald, 20th earl of Kildare and 1st duke of Leinster, he spent much of his early life in France In 1779 he joined the British army and was sent to America in the American Revolution He was severely wounded in the battle of Eutaw Springs (1781) After his return to Ireland he sat in the Irish House of Commons, but gave up his seat when he saw that no reform was possible After a visit to the United States he again sat in Parliament, but, drawn by the French Revolution, he went (1792) to Paris He was expelled from the British army for his avowed republicanism In 1796 he joined the UNITED IRISHMEN and went again to Paris to secure French aid for an Irish uprising The rebellion had the wide support of the Irish people, but in 1798 in Ireland Fitzgerald was betrayed to the English and captured. He died of wounds sustained at his arrest See biography by Thomas Moore (ed. by Martin MacDermott, 1897)

FitzGerald, Edward, 1809–83, English poet, translator of Omar Khayyam He was the third son of John Purcell, who in 1818 took the name of his wife's father—FitzGerald Edward FitzGerald was educated at Trinity College, Cambridge, and passed most of his life in Suffolk in the leisurely pursuit of literature He wrote *Euphranor* (1851), a Platonic dialogue, and *Polonius* (1852), a collection of aphorisms, and prepared translations of Jami, Calderón, Aeschylus, and Sophocles. His masterpiece, *The Rubaiyat* of OMAR KHAYYAM, appeared in 1859 and passed unnoticed for a short time, until Rossetti made it famous. Greatly revised editions appeared in 1868 and 1872 FitzGerald's *Rubaiyat* has long been one of the most popular of English poems Although actually a paraphrase rather than a translation of the Persian poem, it poignantly expresses the *carpe diem* spirit of the original See biography of FitzGerald by A M Terhune (1947)

Fitzgerald, Francis Scott Key, 1896–1940, American novelist, b St Paul, Minn , educated at Princeton He attracted notice with stories of the post-war prohibition era, epitomizing the flapper and the jazz age *This Side of Paradise* (1920), an instant success, was followed by *The Beautiful and Damned* (1922) and *The Great Gatsby* (1925), considered his best novel *Tender Is the Night* (1934) failed to fulfill Fitzgerald's promise, but his posthumous unfinished *Last Tycoon* (1941) evidenced a maturing novelist A miscellaneous collection was published as *The Crack-up* (ed by Edmund Wilson, 1945). Fitzgerald was also a talented short-story writer

Fitzgerald, Gerald, 15th **earl of Desmond** (dĕz'-mund), d 1583, Irish nobleman He spent his life fighting the Butlers of Ormonde, who controlled the governorship and represented English interests He allied himself with his relatives in Kildare to avenge the death of Thomas Fitzgerald, 10th earl of Kildare He was twice imprisoned in London, but returned both times to continue his struggle After 1573 he was repeatedly defeated and was eventually murdered

Fitzgerald, James, 20th **earl of Kildare** and 1st **duke of Leinster** (kĭldär', lĭn'stur, lĕn'-), 1722–73, Irish nobleman He sat in the Irish House of Commons from 1741 and in the House of Lords at Westminster, as an English peer, from 1747 Politically active and powerfully connected, he became a national hero when he successfully opposed the ambitious Anglican archbishop of Dublin, George Stone, and in particular when he defeated Stone's attempts to divert surplus Irish revenues to the crown

Fitzgerald, Maurice, d 1176, Anglo-Norman invader of Ireland Son of Gerald, steward of Pembroke castle, and Nesta, daughter of the king of South Wales, he crossed to Ireland in 1169 to aid Dermot McMurrough, king of Leinster He served in expeditions against Dublin and Waterford In the seige of Dublin (1171), Maurice led the sally which routed King Roderic's army He acquired vast landholdings in Ireland and increased them by advantageous marriages of his children From his sons, Gerald and Thomas the Great, descend the two branches of the Fitzgeralds who became earls of Kildare (through Gerald) and earls of Desmond (through Thomas)

Fitzgerald, Thomas, 10th **earl of Kildare** (kĭldär'), 1513–37, Irish nobleman, called Silken Thomas When his father, the 9th earl and the deputy governor of Ireland, was summoned to London on charges of maladministration, Lord Thomas became vice deputy in 1534 The same year, hearing the rumor that his father had been executed (he actually died later in the Tower of London), he rose in rebellion against the pro-English Ormondes Lord Thomas was excommunicated for the murder of his enemy, the archbishop of Dublin The rebellion was crushed the following year Thomas eventually surrendered and was hanged in London with five of his uncles

Fitzgerald, city (pop 7,388), co seat of Ben Hill co , S central Ga , near the Ocmulgee river SSE of Macon, inc 1896 Founded in 1895 by Union veterans, it is an industrial and shipping center in a farm area Near by is Jefferson Davis State Park, where Davis was taken prisoner by Federal troops

Fitzgibbon, James, 1780?–1863, Canadian soldier, b Ireland He saw service in the British army in the wars against France before he went to Canada in 1802 As an officer in the War of 1812, he distinguished himself in the battle of Beaver Dams (1813) on the Niagara frontier Warned by Laura Secord of a surprise American attack, he forced the surrender of the American force, which was considerably larger than his Appointed assistant adjutant general (1822) of the militia of Upper Canada, he was adjutant general of the defending loyalist force at Toronto in the rebellion of 1837.

Fitzgibbon, John see CLARE, JOHN FITZGIBBON, 1ST EARL OF

Fitzherbert, Maria Anne, 1756–1837, wife of George, prince of Wales (later GEORGE IV) He was her third husband The marriage (1785) was illegal under English law of the time, since the prince was under age and the lady a Roman Catholic It was therefore ignored in 1795 when the prince, for purposes of state, married Princess Caroline, but the relationship did not end until 1803 See biographies by W. H Wilkins (1905) and Shane Leslie (2 vols , 1939–40)

Fitzmaurice, Henry Charles Petty: see LANSDOWNE, HENRY CHARLES PETTY, 5TH MARQUESS OF.

Fitzmaurice, William Petty: see SHELBURNE, WILLIAM PETTY FITZMAURICE, 2D EARL OF

Fitzpatrick, Benjamin, 1802–69, governor of Alabama (1841–45), b Greene co , Ga In 1816 he moved to Alabama (then still part of Mississippi Territory), became a successful lawyer, and developed a large plantation near Montgomery. After his two terms as governor he served in the U S Senate (1848–49, 1853–61) He declined the vice presidential nomination of the Douglas Democrats in 1860 A conservative, Fitzpatrick opposed secession but later supported the Confederacy He was prominent in the early days of the Reconstruction period in Alabama and presided over the constitutional convention of 1865, but was soon afterwards disfranchised

Fitzpatrick, Sir Charles, 1853–1942, Canadian jurist and statesman, b Quebec. He won distinction as a criminal lawyer In Laurier's government he became solicitor general (1896) and minister of justice (1902), resigning to accept appointment as chief justice of the Supreme Court of Canada in 1906 After his retirement from the bench in 1918, he was lieutenant governor of the province of Quebec until 1923

Fitzpatrick, Thomas c 1799–1854, American trapper, fur trader, and guide, one of the greatest of the MOUNTAIN MEN, b Co Cavan, Ireland In 1823 in St Louis he was engaged for a trading expedition of William Henry ASHLEY up the Missouri Like others of the mountain men, he spent many of the succeeding years opening up the West He went, with Jedediah S Smith into the Green River country in 1824 through the SOUTH PASS Fitzpatrick worked for the Ashley interests until Ashley withdrew (1826) from the trade, then he was a trader for Smith, Jackson, and Sublette until 1830, when the Rocky Mountain Fur Company was formed with Fitzpatrick as senior partner He knew well the whole region of the mountains, the Great Basin, and even the Southwest After competition, decline in beaver, and falling fur demands injured the trade irreparably, the Rocky Mountain Fur Company was dissolved (1834) Fitzpatrick was later notable as a guide He piloted the John Bidwell party, the first emigrant train bound for California as far as Fort Hall in 1841 The next year he guided Elijah White and Lansford W Hastings, bound for Oregon He gained some celebrity as guide to John C Frémont on his second expedition and in 1846 was guide to Stephen W KEARNY on the march to Santa Fe In Nov , 1846, he was appointed Indian agent for a large part of the present Colorado and was successful in negotiating treaties He, James BRIDGER, and Kit CARSON are perhaps the best known of the mountain men See H C Dale, *The Ashley-Smith Explorations* (1918), L R Hafen and W J Ghent, *Broken Hand the Life Story of Thomas Fitzpatrick* (1931), Bernard De Voto, *Across the Wide Missouri* (1948)

Fitzroy, Robert (fĭtsroi'), 1805–65, British meteorologist and naval officer He commanded the BEAGLE on the expedition (1831–36) for which Charles Darwin was naturalist He was governor of New Zealand for a term (1843–45) While chief of the meteorological department of the Board of Trade, he instituted the storm warnings which developed into daily weather forecasts His *Weather Book* was published in 1863 The Fitzroy barometer was his invention

Fitzroy (fĭtsroi'), manufacturing town (pop 32,423), Victoria, Australia, northeast suburb of Melbourne

Fitzroy, rivers in Australia **1** E Queensland, formed by the junction of the Dawson and the Mackenzie and flowing 174 mi past Rockhampton to Keppel Bay of the Coral Sea **2** N Western Australia, rising in the King Leopold Range and flowing 325 mi to King Sound of the Indian Ocean

Fitzsimmons, Robert, 1862 1917, British pugilist, b Cornwall, England Fitzsimmons excelled as a pugilist in Australia and New Zealand before coming to the United States in 1890 He won (1897) the world's heavyweight crown by defeating James J Corbett at Carson City, Nev In 1899 he lost the heavyweight title to James J Jeffries at Coney Island, N Y He retired from the ring in 1914

Fitzwilliam, William Wentworth Fitzwilliam, 2d **Earl,** 1748–1833, British statesman In his brief period as lord lieutenant of Ireland (1795) he was popular, but he was recalled by the younger Pitt because he advocated Catholic Emancipation His recall was a contributing cause of the rebellion of 1798

Fitzwilliam Museum, building erected to house the art collection of Richard, Viscount Fitzwilliam, bequeathed to Cambridge Univ in 1816 Both the collection and the building have been enlarged by later bequests, notably by that of Charles Brinsley Marlay in 1912 The museum has a splendid collection of paintings

Fiume (fēōō'mĕ, Ital fyōō'mā), Serbo-Croatian *Rijeka-Sušak* (rē̂ē'kä-sōō'shäk), city (pop. 72,130), Croatia, Yugoslavia, an Adriatic seaport on the Gulf of Quarnero Before the First World War it was the chief seaport of Hungary Italy, to which the city had been promised in the secret Treaty of London of 1915, claimed it at the Paris Peace Conference, but while negotiations still were going on Gabriele D'ANNUNZIO at the head of an Italian free corps seized Fiume in Sept., 1919 By the Treaty of Rapallo of 1920 Italy and Yugo-

slavia agreed to establish a free state of Fiume However, in 1922, a Fascist coup d'état overthrew the local government, and Italian troops occupied the city Tension between Yugoslavia and Italy over the Fiume question was eased by the Treaty of Rome (1924), which left Fiume in Italy but awarded its eastern suburb, Susak (Ital. *Porto Barros*), to Yugoslavia Susak was built up as a leading Yugoslav port In 1945 Fiume passed under Yugoslav occupation, and in 1947 the Allied peace treaty with Italy formally transferred the city to Yugoslavia It was reunited with Susak into a single city From 1700 until the Second World War, Fiume was a free port It has large shipyards, oil refineries, and other industries

Five Boroughs, Danish fortified towns in the English Midlands, settled in the 9th cent They were Derby, Leicester, Stamford, Nottingham, and Lincoln

Five Civilized Tribes, inclusive term for the CHEROKEE, CHICKASAW, CHOCTAW, CREEK, and SEMINOLE tribes of E Oklahoma By 1850 some 60,000 members of these tribes had settled in Indian Territory under the Removal Act of 1830, which provided that this territory was to be held communally on the condition that the tribes surrendered certain land rights E of the Mississippi These tribes never lived on a reservation and were officially recognized as domestic dependent nations Before crossing the Mississippi the Cherokee and the Creek had developed a high agricultural civilization in the SE United States Each tribe achieved a constitutional government modeled on that of the American states and a national school system supported by their own funds After the Civil War, the majority of the tribesmen having aided the Confederacy, all treaties were put aside, their lands were restricted to E Oklahoma, and their Negro slaves, who had numbered several thousands, were freed Later a Federal policy of detribalization resulted in loss of the governmental functions of the Five Tribes and the division of all land into individual holdings Despite their diminished acreage they have maintained their own leadership and status high among North American Indians Today, intermixed with white and Negro blood, they number some 64,000 See Grant Foreman, *The Five Civilized Tribes* (1934)

Five Forks, crossroads near Dinwiddie Courthouse, SW of Petersburg, Va The last important battle of the Civil War was fought here on April 1, 1865 P H SHERIDAN, leading his own and G K Warren's corps, decisively defeated the Confederates under Pickett The victory led to the fall of PETERSBURG, the capture of Richmond, and the surrender of Lee's army at Appomattox Courthouse

five hundred, card game, similar in principle to EUCHRE, usually played by three persons with a pack of 32 cards and a joker Each player receives 10 cards, and highest bidder for the widow (the three cards left over) names trump The two other players play in temporary combination against the bidder, and 500 points wins the game For the detailed rule, see R L Frey, ed , *The New Complete Hoyle* (1947)

Five Nations see IROQUOIS CONFEDERACY

Five-Power Treaty see NAVAL CONFERENCES

Five Towns, Staffordshire, England see STOKE-ON-TRENT and POTTERIES, THE

Five-Year Plan, Rus *Pyatiletka* In 1928 the UNION OF SOVIET SOCIALIST REPUBLICS adopted a plan designed to expand industrial production, expedite the collectivization of farms, and fulfill an ambitious cultural and educational program The plan was put into action by ruthless means, and its schedule was used to measure the efficiency and loyalty of those entrusted with its execution The second Five-Year Plan (1934–37) was a continuation and expansion of the first The third, inaugurated in 1938, was interrupted by the Second World War A fourth was put into effect in 1946, and by the end of 1949 the Soviet government claimed that some of the quotas set had already been exceeded The practice of government economic planning for a limited period ahead (four, five, six years) was adopted also by other nations, not necessarily Communist The great publicity given the first Five-Year Plan made it a household word throughout the world

Fizeau, Armand Hippolyte Louis (ärmäⁿ' ēpôlēt'lwē fēzō'), 1819–96, French physicist The first to measure (1849) the velocity of light in air, he also determined its speed in water He made valuable discoveries on the polarization of light and the expansion of crystals, explained the Doppler effect, and devised a method of increasing the permanency of daguerreotypes

fjord or **fiord** (fyôrd), a steep-sided inlet of the sea, characteristic of plateau lands Uplift, with consequent river activity and glaciation, and final subsidence and valley drowning produced the fjord coastlines of Norway, Scotland, Greenland, Alaska, British Columbia, Patagonia, S New Zealand, and Antarctica A fjord differs from most estuaries in its sheer parallel walls, often extending far below the water surface, and in the many sharp branches of similar form Often shallow at the mouth, fjords are frequently very deep farther inland, e g , Messier Channel (Patagonia) is 4,250 ft deep and Sogne Fjord (Norway) is 4,000 ft deep and over 100 mi long Loch Moran, Scotland (1,017 ft), is a typical fjord but is separated from the sea Norwegian fjords are noted for their grandeur

Flaccus, Quintus Fulvius (kwin'tŭs flăl'vēŭs flăk'kŭs), Roman consul four times (237, 224, 212, 209 B C), censor (231 B C), pontifex maximus (216 B C), and urban praetor (215 B C) In the Second Punic War he defeated (211 B C) Hanno near Beneventum, captured Capua (211 B C) and overcame (209 B C) Hannibal's garrisons in Lucania and Bruttium

Flacius Illyricus, Matthias (muthī'ŭs flā'shŭs ĭlĭr'ĭkŭs), 1520-75, German Lutheran reformer, whose original name was Matthias Vlachich or Frankowich, b Istria At Wittenberg, where he spent some time in study and in 1544 became professor of Hebrew, he was greatly influenced by LUTHER and MELANCHTHON Active in theological controversies wherever he went, Flacius made many enemies for himself In 1551 he went to Magdeburg, where he planned two great historical works In 1557 Flacius was called to Jena to the professorship of New Testament theology After leaving Jena in 1562, Flacius moved about, never able to remain long in any place until he found protection at Frankfurt His writings are able Among them three are preeminent, *Catalogus testium veritatis* (1556), *Clavis scripturae sacrae* (1567), and *Glossa-compendiaria in Novum Testamentum* (1570)

flag, name for several plants, particularly IRIS and SWEET FLAG

flag, a piece of cloth, usually bunting or similar light material, plain, colored, or bearing a device, varying in size and shape, but often oblong or square, used as an ensign, standard, signal, or for display and decorative purposes, and generally attached by one edge to a staff or to a halyard by which it may be hoisted The part of the flag attached to the staff or halyard is the hoist, the portion from the attached part to the free end is the fly The quarter next the staff and to the top is the canton, this is also in the U S flag, and in many others, the union, so called because it represents national unity In the U S flag in 1950 it is a field of blue with 48 stars representing the 48 states Symbolical standards were used by the ancient Egyptians, Assyrians, and Jews Biblical references to standards, ensigns, and banners are numerous As early as 800 B C the Persians were using a standard—the apron of a blacksmith—around which they rallied in a revolt against a despotic ruler A golden eagle emblazoned on a white flag was used by the Persians at the time of Cyrus The early Greeks carried a piece of armor on a spear for a standard, later the various Greek cities had their own devices Standards, usually figures of animals mounted on spears or staves, were common among the Romans, these were supplanted by the eagle Later, Roman emperors used the labarum as the imperial standard It resembled the vexillum, a square flag hanging from a crosspiece attached to the end of a spear, which was used by the Roman cavalry After Constantine was converted to Christianity, he adopted the labarum as his banner—a purple silk flag crowned with the Greek monogram of Christ Early flags usually had a religious significance The Dannebrog of Denmark, a red ensign, swallow-tailed, bearing a white cross, is no doubt the oldest flag in existence According to legend, King Waldemar I, while leading his troops in battle in 1219, saw a cross in the sky and, taking this as a celestial answer to his prayers, adopted it as the Danish flag In France the Cape de St Martin, originally kept in Marmoutier abbey, was borne upon the standards of the early kings, but this was succeeded by the oriflamme, the ancient banner of the abbey of St Denis William the Conqueror received his banner from the pope, and the ensign of Great Britain (the Union Jack) is formed by the crosses of St George, St Andrew, and St Patrick, national saints, respectively, of England, Scotland, and Ireland In medieval times there were numerous flags in use—banners, banderoles, gonfalons, gonfanons, pennons, pennoncells, standards, streamers, and gudons The banner, usually quadrangular in shape, was a battle flag bearing the arms of the person entitled to carry it—from knights banneret up in rank The banderole was smaller in size than the banner The gonfalon and the gonfanon, resembling the labarum and vexillum in that they hung from a crosspiece attached to a staff or spear, also were battle flags The gonfalon indicated the commander's position in battle, the gonfanon usually was carried beneath a knight's lance head The pennon was used as a knight bachelor's ensign, it was a long triangular flag, generally swallow-tailed The pennoncell was a small pennon used for ceremonial purposes The standard was a long, narrow flag, tapering toward the free end, richly decorated and used by nobles on ceremonial occasions The royal standard of today is derived from the medieval banner, it bears the royal arms and is smaller than the national flag or ensign The streamer was a long, narrow flag, tapering toward the fly, and generally carried at the masthead of a vessel. Today the pennant has replaced it, except in the British navy where the pendant, earlier spelling of pennant, is used The gudon was carried by horsemen, today it is used by the U S army for practically all units in dress parade and as a distinguishing flag In France the oriflamme was replaced by the Bourbon white flag sprinkled with fleurs-de-lis, which in turn was succeeded by the tricolor at the time of the Revolution In the British colonies of North America before the Revolution, each of the 13 colonies had its flag On Jan 2, 1776, the first flag of the United States was raised at Cambridge, Mass , by George Washington This was the Grand Union flag It consisted of 13 stripes, alternate red and white, with a blue canton bearing the crosses of St George and St Andrew Congress, on June 14, 1777, enacted a resolution "that the Flag of the United States be 13 stripes alternate red and white, that the Union be 13 stars white in a blue field representing a new constellation " The story of Betsy Ross and the first flag is now somewhat discredited, and it is recognized that the national flag evolved (see M M Quaife, *The Flag of the United States*, 1942) On Jan 13, 1794, Vermont and Kentucky having been admitted to the Union, Congress added two each of stripes and stars. Congress in 1818 enacted that the 13 stripes, denoting the 13 original colonies, be restored and a star added to the blue canton for each state after its admission to the Union Each of the states and territories of the United States has its flag The international code flags and pennants enable mariners to communicate regardless of differences of language In the armies and navies of the various nations of the world, flags are used for signaling The white flag is used universally for truce, the black in early times was a symbol for piracy, the red symbolizes mutiny or revolution, the yellow is a sign of infectious diseases Shipping lines have their own flags Striking a flag signifies surrender The flag of a victor is hoisted above that of the vanquished A flag flown at half-mast is the symbol of mourning The inverted national ensign is a signal of distress In U S usage the church pennant of the services is the only flag flown from the same hoist above the U S ensign There are specific rules for how to display the flag on any occasion, e g , when displayed with a state flag, the U S flag should be on the right (i e , the flag's right), and when draped out of a window the flag should hang flat, with the union uppermost and to the flag's right (i e , to the left of the observer in the street).

Flag Day, anniversary of the adoption of the American flag in 1777 In 1895, June 14 was designated in the United States as Flag Day, through the efforts of Dr B J Cigrand of Batavia, Ill It is not a legal holiday

flagellants (flă'julunts, flujĕ'lŭnts), term applied to the groups of Christians who practiced public flagellation as a penance The practice supposedly grew out of the floggings administered as punishment to erring monks, though flagellation as a form of religious expression is an ancient usage It was with the flagellants an extreme and hysterical expression of the ascetic ideal Self-flagellation as a penance was fostered by the great preachers of penance, such as St Peter Damian, and by the more severely ascetic religious orders of the Roman Church, such as the Camaldolese and the Carthusians Moderate and private self-flagellation is still practiced in some orders with the countenance of the Church The flagellant movement did not appear until the 12th cent , and it was not until c 1260 that the flagellants became large and organized bodies Arising in the towns of N Italy, the movement spread like wildfire across the Alps to Germany, Bohemia, and even to Poland Bands of flagellants marched from town to town and in the market places bared their backs and beat each other and themselves, all the while exhorting the people to repent The disorderly and morbid nature of these exhibitions caused the civil and ecclesiastical authorities to suppress them The movement died down, though occasional flarings of the spirit appeared, especially in Germany in 1296 and in Italy under the leadership of Venturino of Bergamo At the time of the Black Death (1348-49) it flared up again and was fed by the general dread and confusion of society From the East, the bands of flagellants spread across Hungary and Germany, to S Europe and even to England, where no converts could be gained In 1349 Pope Clement VI prohibited the practice After this pronouncement, flagellant movements were stamped out by the Church, though the milder forms were tolerated and were even encouraged by such leaders as St Vincent Ferrer The most important of the heretical flagellant sects were the Bianchi of Italy and France (1399) and the group led by Karl Schmid or Schmidt in Thuringia (1414). The Bianchi adopted the form of a religious order with a habit and rules The followers of Schmid went further and adopted doctrines of salvation through self-castigation and rigorous asceticism, the movement became an organized heresy The leader of the Bianchi and Schmid and many of his

followers were burned. By the end of the 15th cent the flagellants had largely disappeared, though sporadic outbursts in France, Spain, and Italy continued to occur in spite of the efforts of the Church to suppress them There was a recrudescence of public flagellation within the Church after the Reformation Catherine de' Medici and King Henry III of France encouraged flagellant orders, but Henry IV forbade them The Jesuits after a time abandoned this public penance and the practice died out again though tertiaries from time to time degenerated into flagellant groups In Spanish America flagellant orders persisted, usually in defiance of the ecclesiastical disapproval, in New Mexico the Penitentes (Hermanos Penitentes), a flagellant order, still practice secret rites

flageolet (flăjulĕt'), small, straight flute of conical bore, having a whistle mouthpiece The number of finger holes varies, as does the length, which may be from 4 to 12 in This instrument, related to the recorder, was known as early as the 16th cent. It has never figured in serious music Juvigny, a Parisian, is said to have invented the French flageolet in 1581

Flagg, Azariah Cutting, 1790–1873, American political leader, b Orwell, Vt He fought in the War of 1812, was editor of the Plattsburg (N Y) *Republican* until 1825, and was elected (1823) to the New York state assembly Flagg, a relentless Jeffersonian Democrat, was a leader of the ALBANY REGENCY and helped sustain its drive for political reforms after Martin VAN BUREN left to devote himself to national affairs He served New York as secretary of state (1826–32) and as state comptroller (1834–39, 1842–46), opposed any form of Federal banks, and advocated reform of the New York state banking system In New York city after 1846 he helped organize the BARNBURNERS, and was (1852–59) comptroller of New York city

Flagg, Edmund, 1815–90, American journalist and diplomat, b Wiscasset, Maine, grad Bowdoin, 1835 He was connected with various newspapers as editor or contributor, including the Louisville *Daily Journal* and the St Louis *Evening Gazette* *The Far West* (1838) contains sketches of pioneer life on the prairies, and material for *Venice the City of the Sea* (1853) was collected during a two-year consulship He was with the Dept of State in Washington from 1854 until 1870

Flagg, Ernest, 1857–1947, American architect, b Brooklyn, N Y, studied at the École des Beaux-Arts, Paris The 45-story Singer Building in New York which he built in 1908 marked a revolutionary height (612 ft) at its completion Flagg's other works include the Scribner Building, New York, the Corcoran Gallery of Art Washington, D C (later added to by Charles A Platt), buildings for the U S Naval Academy, Annapolis, Md, apartment houses, and numerous residences In magazine articles and in his book *Small Houses. Their Economic Design and Construction* (1922), Flagg advocated various structural economies and innovations These include a method of house planning on a module basis and a thin metal and plaster partition eliminating supporting studs He wrote also *Le Naos du Parthenon* (1928, in French and English), a study in Greek units of proportion

Flagg, George Whiting, 1816–97, American painter, b New Haven, Conn, nephew and pupil of Washington Allston His *Murder of the Princes, Execution of Lady Jane Grey, Woodchopper's Boy, The Nun, Lady and Parrot, Little Match Girl*, and several others are at the New York Historical Society His brother, **Jared Bradley Flagg**, 1820–99, portrait painter, clergyman, and author, wrote *Life and Letters of Washington Allston* (1892) and painted portraits of Chief Justice Church and of William M Evarts (state capitol, Albany, N Y)

Flagg, James Montgomery, 1877–, American painter, illustrator, and author, b Pelham Manor N Y, studied in New York, in England, and in Paris Returning to New York, he rapidly won a reputation as an illustrator of versatility, vivacity, and technical skill, contributing to *St Nicholas*, *Judge*, *Life*, and other magazines He works with equal facility in pen-and-ink, crayon, charcoal, oils, and water colors As official artist for New York state during the First World War, he designed 45 military posters He wrote *If—a Guide to Bad Manners* (1905), *Why They Married* (1906), *All in the Same Boat* (1908), *Cuty People* (1909), *I Should Say So* (1914), *The Mystery of the Hated Man* (1916), *Boulevard All the Way—Maybe* (1925), and his autobiography, *Roses and Buckshot* (1946)

Flagg, Jared Bradley: see FLAGG, GEORGE WHITING

Flagler, Henry Morrison, 1830–1913, American capitalist, b Hopewell, near Canandaigua, N Y As a youth he struck out for himself in Ohio. After trying the grain and salt business, he joined John D Rockefeller in oil refining The firm of Rockefeller, Andrews & Flagler became the Standard Oil Company in 1870, and Flagler was connected with it until 1911, resigning as vice president, however, in 1908 He had been Rockefeller's closest associate in the early development of the company Flagler visited Florida in 1883, and, annoyed at the inadequate transportation and hotel facilities, he began to do something about them. He bought up and consolidated several local railroads and organized the Florida East Coast Railway, which he extended 8 from Daytona through Palm Beach to Miami (1896) and thence 150 mi. to Key West (1912). He established steamship lines, dredged the Miami harbor, and built palatial hotels, all to encourage the development of Florida as a winter playground. He also made anonymous gifts to build schools, churches, and hospitals. Altogether Flagler invested over $40,000,000 in the peninsula and more than any other man was responsible for Florida's comparatively recent growth See S. W. Martin, *Florida's Flagler* (1949).

flagship, that vessel in a fleet which carries the commander of the squadron and which flies his flag The practice of having a leading ship with a supreme commander on board during a naval engagement was used by the early warring nations of the Mediterranean and by the vikings and has prevailed since that time The flag denotes the rank of the flag officer If the flagship is sunk or put out of action, the admiral immediately transfers his flag to the next ship in line Among smaller warships, such as destroyers, the ship carrying the senior officer is known as a flotilla leader

Flagstad, Kirsten (kyĭsh'tĭn flăg'stă, -stät), 1895–, Norwegian soprano. She made her debut in 1913, but sang only in Norway until 1934, when she appeared at the Bayreuth Festivals In 1935 she made her debut at the Metropolitan Opera House as Sieglinde in Wagner's *Die Walküre* and was soon acclaimed as the greatest living Wagnerian soprano In 1941 she returned to Norway to spend the duration of the war with her husband, who died (1946) while awaiting trial for economic collaboration with the Nazis She returned to the United States in 1947

Flagstaff, city (pop 5,080), co seat of Coconino co, N Ariz, near the San Francisco Peaks NE of Prescott, founded 1881 Lumbering, ranching, and the tourist trade thrive in the region, where many ruined Indian pueblos (as in Walnut Canyon), Mormon Lake and other lakes, Sunset Crater, and large forests are found Lowell Observatory (est 1894 by Percival Lowell) and Arizona State College (coeducational, 1899) are in the city A powwow of southwestern Indians is held each July

Flahaut de la Billarderie, Auguste Charles Joseph, comte de (ōgust' sharl' zhōzĕf' kōt' du flăō' du la bēvärdurē'), 1785–1870, French general and statesman, illegitimate son of TALLEYRAND and Adèle de Flahaut He fought under Napoleon I and served as ambassador to Berlin and Vienna under Louis Philippe After the Revolution of 1848, he plotted to put Napoleon III in power and was rewarded with the ambassadorship to London The lover of Hortense de BEAUHARNAIS, Flahaut was the father of Napoleon III's half brother, the duc de MORNY

Flaherty, Robert Joseph (flă'urtē), 1884–, American explorer and moving-picture producer He was born in Michigan, spent his childhood in Canada, and graduated from Upper Canada College During the years 1910–16 he explored subarctic E Canada and in 1922 completed his first film, which was the first full-length documentary film, *Nanook of the North* Among his best-known films are *Moana of the South Seas* (1925), *Tabu* (directed with Fred Murnau, 1931), *Man of Aran* (1934), *Elephant Boy* (1936), *The Land* (1941), *Louisiana Story* (1949), and *The Titan* (1950)

flail, The flail, consisting of two sticks, one a handle and the other swinging freely at the end of it, was not known in prehistoric or ancient agriculture It was invented in the Middle Ages—where or exactly when is uncertain It was much used from the time of its introduction until threshing machines largely displaced it in the 19th cent

Flamand, François see DUQUESNOY, FRANÇOIS

Flambeau (flăm'bō), river rising in N Wisconsin near the Mich. line and flowing swiftly SW to the Chippewa below Ladysmith

Flamborough Head, chalk promontory, Yorkshire, England, on the east coast, with Bridlington Bay to the south There is a lighthouse, visible for 21 mi Danes' Dyke (an ancient earthwork) crosses the head of the peninsula The chalk cliffs are fantastically wave-carved into caves and stacks and inhabited by flocks of seafowl

flamboyant style, the final development in French GOTHIC ARCHITECTURE, which reached its height in the 15th cent It is chiefly characterized by ornate tracery forms which, by their suggestion of flames, gave the style its name Though these free-flowing patterns in lines of double curvature originated in the English Decorated Gothic (early 14th cent), the French adopted them as the basis of a lavish style quite different from the English original Flamboyant works exhibit pronounced freedom and exuberance, created by high, attenuated proportions, accumulated and elaborate traceries, and many crockets, pinnacles, and canopied niches. Supposedly the style first appeared in a chapel (1373) of the cathedral at Amiens, while its culmination is in the Church of St. Maclou, Rouen (1437–50). Other conspicuous examples are the Palais de Justice, at Rouen (c.1500), the west front of Rouen cathedral; the northern spire of Chartres; and the south transept of Beauvais.

flame, in general, a phenomenon concerned with the CHEMICAL REACTION of a gas which has been heated above its kindling temperature with some other gas, usually atmospheric oxygen (see COMBUSTION). The heat and light given off are characteristic of the specific chemical reaction (or reactions) going on; the luminosity of the flame is usually caused by solid particles of foreign matter present (naturally or artificially) in the burning gas and heated to incandescence; and the shape of the flame is commonly that of a hollow cone The simple flame occurring when a single gas, such as hydrogen, burns in another gas, such as air, shows two areas or zones an inner, cone-shaped area consisting of unburned gas and an outer area in which the chemical reaction (the combination of hydrogen and oxygen to form water) is taking place Furthermore, the flame is nonluminous and therefore very hot, since the chemical energy is nearly all transformed into heat energy. This reaction is illustrated in the flame of the oxyhydrogen BLOWPIPE The flame of the OXYACETYLENE TORCH is also extremely hot A decrease in light with an increase in heat is brought about in the BUNSEN BURNER flame (a more complex flame) by mixing the combustible gas with air before it is ignited Flames become more complex as the combustible gas increases in complexity, since an increasing number of chemical reactions is involved Three zones, for example, are apparent in the Bunsen burner flame, which is commonly caused by the combustion of ordinary illuminating gas an inner zone of unburned gas, a middle zone called the reduction zone or reducing flame, since here a sufficient supply of oxygen is lacking and the oxygen is therefore removed from an oxide placed in it, and an outer or oxidizing zone The candle flame is extremely complex Several zones can be observed a nonluminous inner portion where the melted wax produces gases, a middle area where the gases are decomposed to hydrogen, which burns, and carbon, which is heated to incandescence, and an outer, hardly visible region in which combustion is complete (carbon dioxide and water being formed) Flames are colored by the introduction of various substances In the flame test used for the identification of certain metals, when a salt of a metal is introduced into the flame of a Bunsen burner it gives a color characteristic of the metal A yellow-green flame indicates the presence of barium, a reddish-orange, calcium, a bluish-green, copper, a violet, potassium, a crimson-red, lithium, a yellow, sodium, and a red, strontium

Flameng, Léopold (lāōpōl' flămĕ'), 1831–1911, Belgian engraver, pupil of Gigoux and Calamatta He early made a reputation on the staff of the Paris *Gazette des Beaux-Arts* He is best known for his plates after pictures by Rembrandt, Gainsborough, and Ingres He made 40 etchings illustrating Blanc's *Œuvre complet de Rembrandt* and 30 etchings for *Théâtre complet de Molière*

flame test, see FLAME

flamingo (flŭmĭng'gō), large, gregarious wading bird, with some similarities both to the heron family and to ducks and geese Native to both hemispheres, it is found in marshes and lagoons in warm regions It has very long legs, webbed feet, a goose-shaped body with a long neck, and a large heavy bill bent in the middle and ridged for straining the mud and water from its food The nest is a mud hollow 1 to 2 ft high on which both sexes sit alternately, with legs folded under them The American flamingo, now rare, nests in the Bahamas and other islands Both sexes have vermilion plumage with black-edged wings

Flaminian Way, one of the principal ROMAN ROADS, the greatest artery from Rome to Cisalpine Gaul, built by C Flaminius (220 B C) The road ran north from Rome to Narnia (Narni), to Mevania (Bevagna), northeast to Nuceria (Nocera Umbria), thence north to the Burano river at Cales (Cagli), thence to the Metauro river, thence northeastward to Fanum Fortunae (Fano) on the Adriatic, thence along the coast northwest to Arminum (Rimini) The Aemilian Way was an extension of it The original length was 209 mi, but it was increased to 215 when the course was changed for some 50 mi north of Narnia to run via Interamna (Terni), Spoletium (Spoleto), and Fulginium (Foligno). The former course replaced by this new road was called the Old Flaminian Way

Flamininus, Titus Quinctius (tī'tŭs kwĭngk'shŭs flămĭnī'nŭs), c 230–175 B C, Roman general and statesman, known as the Liberator of Greece. He became quaestor (199 B C) and, without the usual intermediate stages (aedile and praetor), consul (198 B.C). He defeated PHILIP V of Macedon at Cynocephalae (197 B.C) and, at the Isthmian games of 196 B C, declared the independence of the Greek cities. When Nabis, tyrant of Sparta, failed to abide by the Roman terms, he was crushed (195) by Flamininus, who returned to Rome after freeing the Italian captives sold into slavery during the Second Punic War. In 183 B.C. he sought to induce Prusias, king of Bithynia, to deliver up HANNIBAL.

Flaminius, Caius (kā'ŭs flŭm'ĭnēŭs, kī'ŭs), d. 217 B.C., Roman statesman and general. In his tribuneship (232 B.C.) he carried an agrarian law for the benefit of the plebeians and, as praetor (227 B.C.), governed Sicily with success. While consul (223 B.C.) he campaigned against the Insubres and although chosen master of the horse (221 B.C.) was barred from office by a bad omen. As censor (220 B C) he constructed the Circus Flaminius and the Flaminian Way. In 218 B.C. he supported the tribune Claudius in prohibiting senators and senators' sons from possession of seagoing vessels except for the transportation of the produce of their own estates. As consul again (217 B C) he was a leader against HANNIBAL in the invasion of Italy, and he fell at Trasimene See PUNIC WARS

Flammarion, Camille (kămē'yŭ flămärēôN'), 1842–1925, French astronomer and author He served for some years at the Paris Observatory and the Bureau of Longitudes and in 1882 was given an estate at Juvisy (near Paris), where he set up an observatory and continued his studies, especially of double and multiple stars and of the moon and Mars. He is chiefly noted as the author of popular books on astronomy, including *Popular Astronomy* (1880; Eng. tr , 1907) and *The Atmosphere* (1871, Eng. tr., 1873) His later studies were on psychical research, on which he wrote many works, among them *Death and Its Mystery* (3 vols., 1920–22, Eng. tr , 1921–23)

Flamsteed, John (flām'stēd), 1646–1719, English astronomer In 1675 he was appointed first astronomer royal by King Charles II and carried on his researches at the Greenwich Observatory Over his protests—as he did not consider it ready for publication—the *Historia Coelestis*, in which was included the first of the Greenwich star catalogues, was published in 1712. His complete work, *Historia Coelestis Britannica*, finished after his death by an associate, did not appear until 1725

Flanagan, Hallie (Ferguson), 1890–, American dramatic director, b Redfield, S.Dak , grad Grinnell College, 1911, M.A Radcliffe, 1924 She was production assistant to George Pierce Baker at Harvard In 1925 she became professor of drama at Vassar, securing leave to act as director (1935–39) of the Federal Theatre Project and dean (1942–46) of Smith She was appointed professor of drama at Smith in 1946 In 1912 she married John Murray Flanagan (d 1918) and in 1934 Philip H Davis (d 1940) Her works include *Shifting Scenes of the Modern European Theatre* (1928) and *Arena* (1940)

Flanagan, John, 1865?– American sculptor and medalist, b Newark, N J In addition to numerous medals and plaquettes, he has produced larger works, including a clock for the Library of Congress, the Bulkeley Memorial, Aetna Life Insurance Building, Hartford, Conn , and the Joseph Henry bust, Hall of Fame, New York Univ

Flanders (flăn'dŭrz), former county in the Low Countries, now divided between Belgium and France Extending along the North Sea and W of the Scheldt (Escaut) river, it varied considerably in size in the course of its history, including at one time also Artois and parts of Picardy In Belgian Flanders the Flemish language, a Low German dialect akin to Dutch, is spoken by the majority of the inhabitants, all the Flemish-speaking population of Belgium and France are, by extension, known as Flemings A considerable part of N Flanders has been gained from the sea in past centuries In 862 Baldwin Bras-de-Fer, a son-in-law of Emperor Charles II, became the first count of Flanders In the divisions (9th cent) of the Carolingian empire, Flanders became a fief dependent on the French crown, but its powerful counts enjoyed virtual independence They extended (11th cent) their domains to the east, these additions, being held in fief to the Holy Roman Empire, became known as Imperial Flanders, in contrast to Crown Flanders, held from the French kings In the 12th cent the direct line of counts died out, and in 1191 the counts of HAINAUT (with which Flanders had been briefly united previously) became also counts of Flanders The struggle for the succession to Flanders in the 12th cent resulted in the loss of Artois and other districts and towns in W and S Flanders to the French crown. At the same time the Flemish cities —among which GHENT, BRUGES, YPRES, and COURTRAI were foremost—gained vast privileges and liberties (see COMMUNE) Their prosperity and the prosperity of Flanders as a whole depended on the growing cloth industry, which had been introduced in the 10th cent , and on the transit trade at such major ports as Bruges (later superseded by Antwerp) and Ghent By the 13th cent the Flemish cloth industry was the foremost in Europe, and it has retained much of its importance to the present day. The turbulent history of Flanders in the 13th and 14th cent was the result of social and economic as well as political tensions. The intensive industrialization of the cities led to a class struggle between the guild workers and the patricians. This struggle was reflected in the political rivalry of the *Leliaerts* (supporters of the French kings, so named for the lion's claws in the counts' shield), who represented the lower classes In addition, there was chronic rivalry among the main cities, who often resorted to arms against each other. Flanders was weakened by the departure of its count, Baldwin IX, on the Fourth Crusade, which resulted in his proclamation (1204) as emperor of Constantinople as BALDWIN I. His absence was exploited by Philip II of France to strengthen his influence in Flanders, the Flemings were joined in defense by John of England and Emperor Otto IV but were defeated by Philip at Bouvines (1214) Again, in 1297, Guy of Dampierre, count of Flanders, allied himself with Edward I of England against Philip IV of France, but Philip, with the help of the *Leliaerts*, overran Flanders and imprisoned Guy (1300) Yet only two years later the *Clauwaerts* seized power, the French were massacred in the Matins of Bruges and were thoroughly routed in the BATTLE OF THE SPURS (1302) The accession (1322) of the pro-French Louis of Nevers as count of Flanders threw the country into a civil war in which Bruges and Ypres sided against, and Ghent with, the count The pro-French party emerged victorious, and Flanders became little more than a French province. When Edward III of England, about to embark on the Hundred Years War with France, stopped English wool exports to Flanders, the Flemish cloth industry faced ruin. Realizing the danger, the Flemings united under the leadership of Ghent, where Jacob van ARTEVELDE was given dictatorial powers in 1337, and allied themselves with England, taking part in Edward's great naval victory at Sluis (1340). After Artevelde's death (1345), Louis de Maële, son of Louis of Nevers, recovered control over Flanders and sought to preserve a balance between England and France, in 1380, however, the weavers of Ghent rebelled once more, this time under Philip van ARTEVELDE. They took Bruges but were defeated (1382) by a French army at Roosebeke Louis de Maële's son-in-law, Duke PHILIP THE BOLD of Burgundy, succeeded to Flanders on Louis's death (1384) and in 1385 subdued Ghent. Under the Burgundian dynasty (see BURGUNDY) Flemish commerce and FLEMISH ART reached their flower The cloth industry, however, was in decline, and the political rights of the cities, though asserted in many revolts, were curtailed On the death (1477) of Charles the Bold, his heir, MARY OF BURGUNDY, restored the Flemish liberties in the Great Privilege Her son by Archduke Maximilian (later Emperor MAXIMILIAN I), Philip of Burgundy (later PHILIP I of Castile), succeeded on Mary's death in 1482, but was kept a virtual prisoner in Ghent till 1485 With him began the rule of the house of Hapsburg over Flanders and the rest of the Low Countries. Flanders joined (1576) in the revolt of the NETHERLANDS against Philip II of Spain, but by 1584 the Spanish under Alessandro Farnese had recovered the county It continued under Spanish rule until 1714, when the Peace of Utrecht awarded it to Austria (see NETHERLANDS, AUSTRIAN AND SPANISH) Parts of W Flanders, including Lille, were annexed to France by Louis XIV between 1668 and 1678 and became known as French Flanders (see separate article) Austria ceded the remainder of Flanders to France in the Treaty of Campo Formio (1797), but the Congress of Vienna awarded (1815) the former Austrian Flanders to the Netherlands When Belgium gained (1830) independence, Flanders was divided into the provinces of EAST FLANDERS and WEST FLANDERS. Its strategic situation has made Flanders a major battleground since the Middle Ages In the First World War there was continuous fighting in French Flanders and West Flanders. In the Second World War the battle of Flanders began with the German invasion (May 10, 1940) of the Low Countries and ended with the surrender of the Belgian army and with the evacuation of the British at Dunkirk (May 26–June 4, 1940) For bibliography, see BELGIUM

Flanders, French, region and former province, N France, on the North Sea and along the Belgian frontier. It occupies part of NORD dept The area, studded with important industrial and fortified towns and with rich coal fields, shared the history of the county of Flanders until its final incorporation (1662–78) into France by Louis XIV Flemish is still widely spoken Lille was the provincial capital, Douai the seat of the PARLEMENT. The area has been a battleground in many of the major European conflicts

Flandrau, Charles Eugene (flăn'drō), 1828–1903, American judge and frontier hero, b New York city He read law in Whitesboro, N Y., was admitted (1851) to the bar, and after practicing law in St. Paul, Minn , he removed to Traverse des Sioux on the frontier There he became territorial representative and Indian agent in 1856. He was prominent in the state constitutional convention of 1857 and was associate justice (1857–64) in the territorial and state supreme court of Minnesota When the Sioux made war in 1862, Flandrau led the volunteer defenders in a dramatic victory at New Ulm, Minn. He practiced law in Minneapolis and St. Paul after 1867 He wrote *History of Minnesota and Tales of the Frontier* (1900).

Flandrau, Charles Macomb (flăn'drō), 1871–1938, American author, b St Paul, Minn., grad Harvard, 1895, son of Charles Eugene Flandrau. He wrote *Harvard Episodes* (1897), which were adapted for a magazine serial as *The Diary of a Freshman* (1901), soon followed by *Sophomores Abroad* (book form, 1935) His best-known work is a travel book, *Viva Mexico!* (1908) From 1915 to 1920 Flandrau wrote music and literary criticism for a St Paul newspaper.

Flandreau (flăn'drō), city (pop 2,212), co. seat of Moody co , E S.Dak., on the Big Sioux and N of Sioux Falls, in a farm area Its first settlers (1857) were driven away by Indians, it was resettled in 1869 It has a large cooperative creamery and is the seat of an Indian vocational high school

Flandrin, Jean Hippolyte (zhăN' ēpôlēt' flădrē'), 1809–64, French painter, student and follower of Ingres He is best known for his religious paintings, such as *St Clair Curing the Blind* (cathedral, Nantes), his decorations for the Church of Ainay, Lyons, and the Church of St. Séverin, Paris, and his frescoes for Saint-Germain-des-Prés, Paris. See studies (in French) by J B Poncet (1864), Henri Delaborde (1865), and Louis Flandrin (1902)

Flannagan, John Bernard, 1895–1942, American sculptor, b Fargo, N Dak , studied at the Minneapolis Institute of Arts His early life was a bitter struggle against poverty Too poor to buy quarried stone, he picked up field stones and carved them His sculptures, often of animals, are profound in conception, simple and direct in execution A mountain goat, *Figure of Dignity*, is in the Metropolitan Museum Because of ill-health he committed suicide in 1942 A retrospective exhibition, held first at the Museum of Modern Art, New York, was sent to various cities

Flannan Islands or **Seven Hunters**, uninhabited isles, off NW Scotland, in the Outer Hebrides

Flatbush, residential section of central Brooklyn borough of New York city, SE N Y In the 17th cent Flatbush was a Dutch village BROOKLYN COLLEGE, several 18th-century buildings, including the Reformed Protestant Dutch Church, and Erasmus Field are here

flatfish, member of an order of fish (Heterosomata) containing over 500 species, which in the adult form have both eyes on the same side of the head The body is compressed and the dorsal and anal fins elongated At first the larvae are bilaterally symmetrical The asymmetry of the adult involves changes in the skeletal and digestive systems and migration of one eye The side which is uppermost when swimming or lying on the bottom is pigmented and the under side is light in color Included in the group are the flounder, halibut, sole, plaice, and turbot

flat foot, condition of the human foot in which the entire sole rests on the ground The foot has two bony arches, the longitudinal arch extends from the heel to the toes on the inner (or medial) side of the foot, and the transverse arch extends across the foot in the metatarsal region When the alignment of the bones forming these arches is distorted, the foot becomes flattened This usually results from a weakness of the muscles and a straining and consequent stretching of the ligaments, as a result the instep sinks and the arch disappears The causes that initiate flattening of the foot are not fully understood Hypermobility of certain parts of the foot is one cause, this defect is inheritable, and it can also be acquired in childhood often as a result of rickets, obesity, and certain metabolic diseases of childhood Shortness of the muscles of the calf of the leg is usually also considered a primary cause of disorders of the longitudinal arch The shortness is sometimes acquired by confinement in bed because of a long illness and in women by the continual wearing of high-heeled shoes (intermittent wearing of high heels seems not to produce the condition) Conditions which aggravate such structural factors and thereby produce flat foot and related disorders include long standing and walking on hard level floors and pavements, faulty footwear, debilitating illness, and obesity In growing children malnutrition and the carrying of too heavy burdens are contributing causes Treatment and exercise directed by an orthopedic physician are usually advisable in cases of flat foot

Flathead, river rising in three forks in NW Montana North Fork, which rises in SE British Columbia and flows southeast, Middle Fork, which rises near the Continental Divide and flows northwest, forming the southern border of Glacier National Park, and South Fork, which flows north through rugged wilderness in the southern part of Flathead National Forest The united river flows into the north end of Flathead Lake and, coming out the south end, flows southward to Clark Fork. A large dam on this southern portion is used for power, it is on land belonging to the Indians. The whole Flathead valley is rich farming land. The Hungry Horse Dam on the South Fork is for power, irrigation, and flood control.

Flathead Indians, tribe of North American Indians of the Salishan linguistic stock, also known as the Salish Indians, who in the early 19th cent. inhabited the Bitterroot river valley of W Montana

According to Lewis and Clark they numbered some 600 These people never practiced head flattening, but the Columbia river tribes who flattened the front of the head to create a pointed appearance spoke of their neighbors, the Salish, as 'flatheads" in contrast Although a Plateau area tribe, after the introduction of the horse they adopted a Plains culture, including the hunting of buffalo and the use of the tepee After a series of wars with the Blackfoot Indians over hunting land the Flathead dwindled to some 350 The Jesuit missionary DE SMET, who in 1841 founded the mission of St Mary in Bitterroot valley among the Flathead, persuaded the Blackfoot to make peace By the Garfield Treaty (1872) the Flathead agreed to move north to the valley of the lake and river now bearing their name, where, with a band of the Kootenai Indians, they dwell and together number some 3,300 See H H Turney-High, *Flathead Indians of Montana* (1937)

Flathead Lake, 30 mi long, NW Mont In the midst of mountains, it is indented with irregular bays and has many small islands The Flathead river flows through it The region hereabout is quite fertile Polson is on the lake, and Kalispell is in the region

Flatman, Thomas, 1637–88, English poet and miniature painter Of his *Poems and Songs* (1674), there were several editions Of his two self-portraits, one is in the duke of Buccleugh's collection, the other in the Victoria and Albert Museum His portrait of Charles II is in the Wallace Collection, London See F A Child, *Life and Uncollected Poems of Thomas Flatman* (1921)

Flatonia, town (pop 1,024), S central Texas, ENE of San Antonio, in a diversified farm area, founded 1874 by Czechs, inc 1875

Flat River, city (pop 5,401), E Mo , ESE of Potosi, settled 1890, inc 1934 It is a lead-mining center A coeducational junior college is here

Flat Rock, industrial village (pop 1,467), SE Mich , on the Huron river and SW of Detroit, settled 1824, inc 1923 There are railroad shops and a plant making automobile parts

Flattery, Cape, NW Wash , at the entrance to Juan de Fuca Strait, discovered in 1778 by Capt James Cook A lighthouse and an Indian reservation are close by

Flaubert, Gustave (gustăv' flōbĕr'), 1821–80, French novelist, b Rouen The son of a surgeon, he studied law unsuccessfully and early settled down to the life of a writer Because of a severe nervous malady, he spent most of his life at Croisset, near Rouen, with his mother and his niece His first works were *Novembre* (written 1842, pub 1910) and the first version of *Education sentimentale* (written 1843–45, pub 1910) In 1857 was published, after five years of work, *Madame Bovary* (Eng tr , 1886), which, in spite of his romantic inclinations, is a masterpiece of naturalism, written in a supremely fastidious style The book resulted in his being prosecuted on moral grounds, but he won the case This novel was followed by *Salammbô* (1862, Eng tr , 1886), a story of ancient Carthage, the second *Education sentimentale* (1869, Eng tr , 1898), the final version of *The Temptation of St Anthony* (1874, Eng tr , 1895), which had been written three times, and the volume *Three Tales* (1877, Eng tr , 1903), which contained the great short story "A Simple Heart " After his death his unfinished satire *Bouvard and Pécuchet* was published (1881, Eng tr , 1896) His correspondence, including that with George Sand and the letters to his niece Caroline, appeared in nine volumes in 1926–33 Flaubert is the model of the scrupulous writer intent on the exact word (*le mot juste*) and complete objectivity See Francis Steegmuller, *Flaubert and Madame Bovary* (1939), L P Shanks, *Flaubert's Youth* (1941), Anatole France, *On Life and Letters* (1898, Eng tr , 1922), Henry James, *French Poets and Novelists* (1884), Émile Faguet, *Flaubert* (1898, Eng tr , 1918)

Flavian (flā'vēun), epithet applied to three Roman emperors, VESPASIAN and his sons TITUS and DOMITIAN

Flavian of Antioch (ăn'tēŏk), d 404, Catholic patriarch of Antioch He succeeded St MELETIUS A rival claimant to the patriarchate, Evagrius, was illegally consecrated but when Evagrius died, Flavian was recognized (c 398) by all but a very small party

flax (flăks), annual plant of the genus *Linum*, cultivated for its fiber and seed One of the oldest plants known to man, its cultivation in Europe was furthered by the Romans and revived by Charlemagne, by the late medieval period it had become the chief source of textile fiber Flax was largely superseded by cotton c 1800 and was further displaced by jute and other competitive fibers Flax is grown in temperate regions and does best in cool, damp climates The species *Linum usitatissimum*, the flax of commerce, has two varieties, one with blue and one with white flowers, the blue-flowered variety produces fiber of finer quality than does the white The plant rises to a height of 20 to 40 in on a smooth stem (in which the longitudinal fiber is embedded) and is surmounted by a small flower which is replaced by globular seed bolls Thick sowing produces plants with unbranched stems used for fiber; sparse sowing results in stems that throw out branches, each of which bears seed Flaxseed is crushed to obtain LINSEED OIL, the residue is employed as livestock feed The seed also yields a demulcent used in medicine Flax grown for fiber is harvested by pulling the stalk from the soil Gummy and semiligneous matter is dissolved from the stem by retting, a fermentation process The stems are retted by leaving them spread on grass for two to five weeks, by immersing them in cold water for one to two weeks, or by placing them in tanks of warm water for a few days Tank retting may be accelerated by the introduction of bacterial cultures The retted stems are allowed to dry, then the fiber is removed by scutching (beating) the stems to crush and break the pith The fiber is composed of elongated, tapering cells ranging in length from 1/5 in to 2 in and consisting chiefly of cellulose Short, broken fibers (called scutching tow) are used in the manufacture of coarse fabrics and cordage, long fibers, for fine *linen* The USSR grows the largest quantity of flax for fiber, Belgium reputedly grows the finest quality The chief producers of flaxseed are Argentina, the United States, and the USSR In the United States, production of fiber flax increased when flax harvesting and decorticating machines replaced hand labor Oregon is the chief flax-growing state

Flaxman, John, 1755–1826, English sculptor and draughtsman At 20 he went to work for Wedgwood, designing the cameo-like decorations for their pottery Later he spent seven years in Rome, where he devoted himself to sculpture and also produced outline figure drawings from Greek vases as illustrations for works of Homer, Dante, Aeschylus, and Hesiod These last were engraved by his friend Blake As a sculptor he is well known for his memorial sculptures of Chatterton (Bristol), of Agnes Cromwell, Jane Smith, and the poet Collins (all in Chichester Cathedral), and of Sir Joshua Reynolds, Admiral Earl Howe, and Lord Nelson (Westminster Abbey) In 1810 he became professor of sculpture at the Royal Academy It was at the instigation of Flaxman that the British government purchased the famous Elgin Marbles in 1816

flea, wingless, leaping insect which, in the adult stage, has mouth parts fitted for piercing the skin and sucking the blood of mammals and birds The larva feeds on decaying organic matter In America the cat flea and the dog flea are common They also attack man Rubbing the infested animals with napthalene or with insecticidal powders and freeing their sleeping quarters of eggs and larvae by cleanliness and the use of insecticides are methods of control The human flea, abundant in the warmer parts of Europe and Asia, is found less frequently in cooler regions Bubonic PLAGUE is transmitted to man by species which are parasitic on rodents, chiefly rats The CHIGOE is a flea See *How to Control Fleas* (U S Dept of Agriculture, Leaflet 152)

Flèche, La (lä flĕsh'), town (pop 8,103), Sarthe dept , NW France, on the Loir river It is famous for its college, the Prytanée, founded in the 16th cent for the sons of officers Descartes was a pupil here

flèche (flĕsh) [Fr ,=arrow], a spire which rises directly from a roof rather than from the summit of a tower and generally of light construction, such as timber covered by lead In French Gothic churches of the 13th cent , they are an especially characteristic decorative feature The most frequent location is at the point where the roofs of nave and transepts intersect (as at Amiens and at Notre Dame, Paris) In the Sainte-Chapelle, Paris, where there are no transepts, the elaborate flèche rises simply from the ridge of the nave roof The top of the Amiens flèche is 154 ft above the ridge An open and lacy effect was characteristic of the Gothic flèche Its polygonal form usually was composed of miniature pointed arches with gables, in a couple of receding tiers and with adornments of pinnacles and gargoyles, while a tall, richly crocketed spire topped the whole

Fléchier, Esprit (ĕsprē' flāshyā'), 1632–1710, French writer He was a famous pulpit orator and became bishop of Nîmes His principal work is an account of a grand inquest at Clermont (1665), in which most of the local nobility was involved Fléchier's manner is witty and detached, he attended the proceedings only as an onlooker See W W Comfort, *The Clermont Assizes of 1665: Translated from Abbé Fléchier's Mémoires sur les Grands Jours d'Auvergne* (1938)

Flecker, James Elroy, 1884–1915, English poet and playwright Educated at Oxford, he spent three years in the consular service in the Near East His poetry includes *The Golden Journey to Samarkand* (1913) and *Collected Poems* (1916) His two plays were posthumously published, *Hassan* in 1922, *Don Juan* in 1925 *Hassan* was produced in 1923–24 with music by Delius and ballet by Fokine See *Some Letters from Abroad* (with reminiscences by his wife and an introduction by J C Squire, 1930), studies by Douglas Goldring (1923) and G E Hodgson (1925).

fleece, wool shorn from a sheep at one time and forming a continuous mat which weighs on an average about 5 to 10 lb In highly bred wool sheep such as the American Merinos the fleece of the ram may weigh up to 30 lb Each fleece contains different qualities of wool, which are sorted at the factory Shearing is now done mostly by machinery on the large Western ranges When done twice a year the winter fleece is the better fleece

Fleet, Thomas, 1685–1758, American colonial printer, b Shropshire, England He arrived in Boston c 1712, a refugee because of his opposition to the High Church, and became a prominent printer and publisher of the colony From 1732 till his death he published a weekly paper after the manner of the English press, first called *Weekly Rehearsal* but changed in 1735 to Boston *Evening Post*

Fleet Prison [see FLEET STREET], former jail in London, an old establishment Rebuilt after it was destroyed in Wat Tyler's revolt in 1381, again after the great fire of 1666, and once more after the Gordon riots of 1780, it was finally demolished in 1845–46 It was notable principally after the 17th cent for incarceration of debtors "Fleet marriages" were clandestine and irregular ceremonies performed at Fleet Prison by debtor clergymen Though not illegal, the system was so abused that it was abolished in the reign of George II

Fleet Street, center of journalism in London, named for the Fleet river, now a sewer under Farringdon St Many buildings in Fleet St were damaged or destroyed in air raids in 1940–41

Fleetwood, Charles, d 1692, English parliamentary general He supported the policies of Oliver Cromwell, fought in many battles of the civil war, married Bridget, daughter of Cromwell and widow of Henry Ireton (1652), served on the council of state (1651), and was one of the administrative major generals He succeeded Ireton as commander in chief in Ireland (1652–55) and was ranking military officer under Richard Cromwell when he tried in vain to reconcile the protector, the army, and Parliament At the Restoration he was not prosecuted but was declared incapable of holding public office

Fleetwood, urban district (1931 pop 23,001, 1943 estimated pop 25,000), Lancashire, England, at the mouth of the Wyre estuary, which forms a good harbor off Morecambe Bay The town was named for Sir Peter Hesketh Fleetwood, who founded it in 1836 and developed it into a trading port and seaside resort

Fleetwood, borough (pop 2,254), SE Pa , NE of Reading, inc 1873

Flémal, Bertholet (bĕrtōlĕ' flämäl'), 1614–75, Flemish painter of mythological and religious subjects He studied in Italy and was influenced by Nicolas Poussin He worked in Paris for Marie de' Medici and in Liége for various churches Among his few surviving works are *Raising of Lazarus* and *Crucifixion* (cathedral, Liége), *Death of Lucretia* (Kassel), and *Mysteries of the Old and New Testaments* (Louvre) His name is spelled also Flemael, Flémall, and Flemalle

Flémalle, Master of see CAMPIN, ROBERT

Fleming, the see BOLOGNA, GIOVANNI DA

Fleming, Sir Alexander, 1881–, Scottish bacteriologist, discoverer of PENICILLIN and lysozyme He was educated at St Mary's Hospital Medical School, Univ of London, where he later became professor of bacteriology Lysozyme, a bacteria-destroying substance found in certain plant and animal secretions, was discovered by Fleming in 1922 In 1928 he observed that a mold contaminating one of his bacterial cultures caused the disappearance of germs To the germ-destroying substance produced by the mold he gave the name penicillin Fleming shared the 1945 Nobel Prize in Physiology and Medicine with Ernst B Chain and Sir Howard W Florey for work on penicillin

Fleming, Sir John Ambrose (flĕ'mĭng), 1849–1945, English electrical engineer He was a leader in the development of the use of electric lighting, the telephone, and wireless telegraphy in England and the inventor of a thermionic valve, as well as professor at the Univ of London and at University College In 1929 he was knighted Among his many publications are *The Thermionic Valve in Radiotelegraphy* (1919), *Fifty Years of Electricity* (1921), *Propagation of Electric Currents in Telephone and Telegraph Conductors* (4th ed 1927), and *Waves and Ripples in Water, Air, and Æther* (4th ed , 1929), as well as his *Memories of a Scientific Life* (1934)

Fleming, Margaret or **Marjorie,** 1803–11, Scottish child prodigy She was the daughter of James Fleming of Kirkaldy, the "Pet Marjorie" of Scott, and author of verses and a diary See *The Complete Marjory Fleming* (ed by Frank Sidgwick, 1935), biography by Oriel Malet (1946).

Fleming, Sir Sandford, 1827–1915, Canadian civil engineer, b Scotland He came to Canada in 1845, and after serving as chief engineer of the Northern Railway and of the Intercolonial Railway during its construction, he was appointed (1871) engineer in chief of the Canadian Pacific Railway In 1872 he began surveying the route for the railroad W from Fort William across the plains to the moun-

tains He first surveyed and advocated the use of Yellowhead Pass through the Canadian Rockies (now used by the Canadian National RR), and when it was rejected, he surveyed Kicking Horse Pass, which the Canadian Pacific now uses He also introduced the idea of establishing 24-hour-a-day standard time, publishing a pamphlet, *Terrestrial Time* (1876), and urging his proposal until in 1883 a standard time system was adopted by the railroads of North America and subsequently by the International Prime Meridian Conference Fleming was also the chief influence in the laying of the Pacific cable from Canada to Australia, over which he received (1902) the first message sent from New Zealand to Canada Knighted in 1897, he was chancellor (1880–1915) of Queen's Univ See biography by L J Burpee (1915), G M Grant, *Ocean to Ocean* (rev ed , 1925)

Fleming, Walter Lynwood, 1874–1932, American historian, b near Brundidge, Ala , grad Alabama Polytechnic Institute (B S , 1896, M A , 1897) and Columbia (M A , 1901, Ph D , 1904) He taught at West Virginia Univ (1904–7) and at Louisiana State Univ (1907–17) before becoming professor of history at Vanderbilt Univ From 1923 to his retirement in 1928 because of ill-health, Fleming was dean of the college of arts and sciences and director of the graduate school at Vanderbilt His scholarly reputation is based chiefly upon his studies of the Reconstruction period He edited *Documents Relating to Reconstruction* (1904) and wrote *Civil War and Reconstruction in Alabama* (1905), *Documentary History of Reconstruction* (2 vols , 1906–7), *The Sequel of Appomattox* ("Chronicles of America" series, 1909), and *The Freedmen's Savings Bank* (1927) He also edited *General W T Sherman as College President* (1912), wrote *Louisiana State University, 1860–1896* (1936), and contributed widely to periodicals From 1914 to 1922 he was a member of the board of editors of the *Mississippi Valley Historical Review* and was also an editor of the series "The South in the Building of the Nation "

Fleming, town (pop 1,193), E Ky , in the Cumberlands, near Jenkins and near the Va line, in a coal area, inc 1913

Flemingsburg, town (pop 1,542), co seat of Fleming co , N Ky , NE of Lexington, in a farm and livestock area, settled c 1790 The courthouse and the old graveyard are of interest

Flemington 1 Borough (pop 2,617), co seat of Hunterdon co , W N J , settled c 1730, inc 1910 Its courthouse (1828) was the scene in 1935 of Hauptmann's trial for the kidnaping and murder of Charles A Lindbergh, Jr Agricultural fairs and (since 1930) cooperative farm-product auctions are held here Manufactures include pottery and chemicals 2 Borough (pop 1,301), N central Pa , near the Susquehanna at Lock Haven, inc 1864

Flemish art. From the early 15th to the early 17th cent Flanders produced some of the world's greatest painters Although architects, sculptors, and decorative artists have always been active in Flanders and Belgium, it is in painting that the great masterpieces have been produced There are no records of native art in Flanders before the end of the 11th cent At that time the increased urban population and greater national prosperity gave impetus to the building of churches and cathedrals modeled on adjacent French buildings, such an early construction is the Church of St Gertrude at Nivelles Architecture flourished in the Meuse river valley and acquired a distinctive Romanesque character exemplified by semicircular vaulting, elongated verticals, and massive outlines Sculpture was confined to reliefs on such articles as baptismal fonts and to carvings in ivory Public secular buildings, such as the Château des Comtes (12th cent) at Ghent, in the same style, also became numerous Continuing in the French tradition, Flemish architecture developed the typical Gothic style, as exemplified at Bruges by the Church of Notre Dame (12th–13th cent) and the town hall (14th cent) The interiors were ornamented with statues, bronzes, and tapestries, but the Gothic elaborateness of building did not allow for mural painting, as had become the tradition in Italy Early painting in Flanders, as in France, developed the miniature and the illuminated manuscript. The best-known example of illumination is the Book of Hours (15th cent) of the duc de Berry, which is partly illustrated by the Flemish Pol de Limbourg Painting in the north thus had a tradition of delicate and accurate detail in contrast with the broader sweep of the Italian schools With the brothers Van Eyck, Flanders entered upon its great age of painting Of Huybrecht van Eyck little is known, and the only work that can definitely be attributed to him is the altarpiece *The Adoration of the Lamb*, which was completed by his brother Jan after Huybrecht's death This triptych is the first-known successful work in oils and, along with other paintings by Jan van Eyck, was far in advance of the general caliber of painting in Europe at that day, the tradition of careful observation of natural phenomena as practiced by the Van Eycks determined the style of subsequent Flemish painting Roger van der Weyden, in the 15th cent., amalgamating the French and Flemish styles, greatly influenced succeeding painters, such as Hans Memling, whose elongated fragile Madonnas have much in common with Van der Weyden's Gothic figures Petrus Christus, on the other hand, worked in the style of the Van Eycks Traits of Leonardo da Vinci are echoed in the paintings of Gerard David, and the portraits of Quentin Massys recall Piero della Francesca Italian elements are especially applied to landscape painting, which had grown up in Flanders under the teaching of the Dutch Dierick Bouts At the same time a native element found expression in the grotesque type of painting as elaborated by the work of Hieronymus Bosch, whose illustrations of hellish tortures and martyrdom are filled with horror In the work of Joachim de Patinir the landscapes of his teacher Gerard David and some of the exaggeration of Bosch mingle to give a foretaste of the work of Pieter Bruegel, the elder, outstanding genre and landscape artist In the late 16th cent both traditions existed in the so-called Antwerp school, where the native element predominated in the genre scenes, often humorously or grotesquely illustrating a proverb, and the Italian influence found expression in such artists as Frans Floris The last of the imitators of Italian painting was Otto Venius, the teacher of Peter Paul Rubens, in whom the two traditions were finally reconciled in the early 17th cent to give Flanders its most important artist since the Van Eycks A whole school of artists worked under his direction His pupil Sir Anthony Van Dyck excelled in aristocratic 17th-century portraiture, while Jacob Jordaens, another pupil, followed a more bourgeois trend of portraiture With the genre paintings of Adriaen Brouwer and the two Teniers, Flemish painting came to the end of its great period During this time, architecture had followed the usual French Renaissance and baroque trends Sculpture had not flourished to the same extent as painting, François Duquesnoy in the 17th cent being the only notable name in the field In the 18th and 19th cent Flemish arts became more and more connected with the French schools The influence of France produced in the 19th cent the painters Alfred Stevens and Félicien Rops James Ensor was the most important of the Belgians in the early 20th cent , influenced first by the impressionists, he later inaugurated a modern Belgian school of painting In contemporary Belgium painters, architects, and sculptors work in idioms indistinguishable from those of the French and Dutch artists See W R Valentiner, *The Art of the Low Countries* (1920), Roger Fry, *Flemish Art a Critical Survey* (1927), Édouard Michel, *Flemish Painting in the XVIIth Century* (Eng tr , 1939), Joseph van der Elst, *The Last Flowering of the Middle Ages* (1944)

Flemish language, Germanic language See LANGUAGE (table)

Flemish literature see DUTCH AND FLEMISH LITERATURE

Flensburg (flĕns'bo͝ork), city (1939 pop 70,871, 1946 pop 101,577), Schleswig-Holstein, a port on the Baltic Sea It produces machinery and is known for its rum and its smoked eels Chartered in 1284, it acquired commercial importance in the 16th cent It passed from the Danish crown to Prussia in 1864 Undamaged in the Second World War, it received a great influx of refugees after 1945

Flers, Robert de la Motte-Ango, marquis de (rōbĕr' du là môt"-ägō' markē' du flĕr'), 1872–1927, French dramatist His most important work was done in collaboration with Gaston de Caillavet and includes *L'Amour veille* (1907), *Le Roi* (also with Emmanuel Arene, 1908), based on the life of Edward VII, and *Primerose* (1911) An early prose work of his own, *Vers l'Orient* (1896), was crowned by the French Academy, to which Flers was elected in 1920

Fleta (flē'tä), treatise of unknown authorship on the English common law, written in the late 13th cent Its name is derived from the belief that it was written in the old Fleet Prison The book is almost entirely based upon Bracton's work The name is sometimes spelled Fleda

Fletcher, Alice Cunningham, 1838–1923, American ethnologist, b Cuba Her work was chiefly among the Indian tribes of the N Great Plains For several years she lived with the Omaha, and in 1883 as special agent of the Office of Indian Affairs she superintended the allotment of the reservation lands to the members of the tribe She was in charge of the same procedure for the Winnebago (1887–89) and the Nez Percé (1890–93), formulating rules that the Office used also with other tribes Her works include *A Study of Omaha Indian Music* (1888), *The Omaha Tribe* (1911, 27th annual report of the Bureau of American Ethnology), written with her adopted son, Francis LA FLESCHE, and *The Hako a Pawnee Ceremony* (1904, 22d annual report of the Bureau of American Ethnology) She wrote also *Indian Education and Civilization* (1888), a comprehensive 600-page report prepared in response to a Senate resolution After 1891 she held the Thaw fellowship of the Peabody Museum, Harvard, and many of her papers appear in the museum's publications.

Fletcher, Andrew, 1655–1716, Scottish patriot For his opposition to the English government of Scotland and for his part in the duke of Monmouth's rebellion he was much in exile until 1688 Fletcher helped organize the Darien Scheme, and with others he formed a Scottish home rule party. Though he opposed the union of Scotland and England, he worked to protect the civil and religious liberties of Scotland in the Act of Union (1707) After 1707 he devoted himself to agricultural experiments and to writing on Scottish affairs See biography by W C Mackenzie (1935)

Fletcher, Giles, the elder, c 1548–1611, English writer and diplomat He was the father of two poet sons, Giles Fletcher, the younger, and Phineas Fletcher He became a member of Parliament and later treasurer of St Paul's An envoy to Russia in 1588, he published an account of his experiences, *Of the Russe Common Wealth* (1591), which was suppressed Part of the book later appeared in Hakluyt in 1598 He also wrote a number of Latin poems, among them *Lucua, or, Poems of Love* (1593), a sonnet series strongly influenced by continental writers, and *Richard III*, a historical poem published with *Lucua*

Fletcher, Giles, the younger, b 1585 or 1586, d 1623, English poet, son of Giles Fletcher, the elder He was educated at Trinity College, Cambridge He began to write poetry while a boy, and his best poem, *Christ's Victory and Triumph* (1610), is a fine example of baroque style This devotional work owed much to Spenser and was later to have a great influence on Milton's *Paradise Regained* His only published prose work was *The Reward of the Faithful* (1623) See A B Langdale, *Phineas Fletcher* (1937)

Fletcher, Horace, 1849–1919, American writer on nutrition, b Lawrence, Mass He evolved a system called Fletcherism, concerned chiefly with the slow mastication of food Among his numerous publications are *Glutton or Epicure* (1899) and *Fletcherism What It Is* (1913)

Fletcher, John, 1579–1625, English playwright, b Rye, Sussex, educated at Benet College, Cambridge His father was the Protestant dean of Peterborough, and young Fletcher was in favor at Elizabeth's court until 1596, when his father was suspended because of a second marriage unpleasing to the queen After that it is known only that Fletcher was a prolific author of plays, often in collaboration with others He seems in many cases to have written the larger part of plays attributed to him and Francis BEAUMONT, with Shakspere (and perhaps Beaumont) he wrote the tragicomedy *The Two Noble Kinsmen* (between 1613 and 1616) and the historical play *Henry VIII* (1613) Having begun by writing for the boys' companies, after 1616 he supplied plays for the company called the King's Men, until he died of the plague in 1625 He was a competent craftsman of great popularity and delighted in extravagant plots He wrote two early tragedies, *Valentinian* (between 1610 and 1614) and *Bonduca* (between 1609 and 1614), and his comedies include *Monsieur Thomas* (between 1610 and c 1616), *Wit without Money* (between 1614 and 1620), *The Woman's Prize* (between 1604 and 1617), his sequel to Shakspere's *Taming of the Shrew*, *Rule a Wife and Have a Wife* (1624), and *The Chances* (between 1613 and 1625) His tragicomedies, perhaps his own favorites, were *The Loyal Subject* (1618), *The Mad Lover* (between 1615 and 1619), *The Humorous Lieutenant* (1619), and *A Wife for a Month* (1624) *The Pilgrim* (1621) is founded on Lope de Vega's play of that title and reflects the vogue of Spanish literature in that day, as does Fletcher's *The Island Princess* (between 1619 and 1622) In later years he collaborated with William Rowley, Nathan Field, and Ben Jonson, but most often with Philip Massinger, with whom he wrote many plays, including the tragedies *Thierry and Theodoret* (between 1607 and 1621), *Sir John van Olden Barnavelt* (1619), and *The False One* (between 1619 and 1622) and the tragicomedies *Women Pleased* (between 1619 and 1622), *The Prophetess* (1622), and *The Wandering Lovers* (1623) Among their comedies are *The Beggar's Bush* (between 1615 and 1622), *The Custom of the Country* (between 1619 and 1622), *The Spanish Curate* (1622), *The Sea Voyage* (1622), and *The Fair Maid of the Inn* (1626) Plays of unsettled authorship in which Fletcher seems to have had a hand are *The Knight of Malta* (1618 or 1619) and *The Bloody Brother* (between 1616 and 1624) See edition of the works of Beaumont and Fletcher by Arnold Glover and A R Waller (10 vols , 1905–12) and the incomplete Variorum edition (4 vols , 20 plays, 1904–13), studies by E H C Oliphant (1925), R C Bald (1938), Baldwin Maxwell (1939), and L B Wallis (1947), Alfred Harbage, *Annals of the English Drama, 975 to 1700* (1940)

Fletcher, John Gould, 1886–, American poet, b Little Rock, Ark , studied at Harvard Living for 15 years in England, Fletcher became associated with the imagist school of poetry, its influence appearing in *Irradiations Sand and Spray* (1915) and *Goblins and Pagodas* (1916), combined as *Preludes and Symphonies* (1922) *Japanese Prints* (1918) is revealing criticism His later work turned slowly from free verse to more exacting forms, and his

imagination was harnessed to create greater intellectual depths *Parables* (1925), *The Black Rock* (1928), and *XXIV Elegies* (1935) show his growth as a poet In 1939 he won the Pulitzer Prize for his *Selected Poems* (1938) Later works are *South Star* (1941), *The Burning Mountain* (1946), and *Arkansas* (1947) See his autobiography, *Life Is My Song* (1937).

Fletcher, John William, Fr *Jean Guillaume de la Flechère,* 1729–85, English clergyman, noted for his piety and saintliness, b Switzerland He went to England c 1752 and there became a close friend of John Wesley, for whom he sometimes preached From 1760 he labored for 25 years in the living of Madeley He was superintendent (1768–71) of the countess of Huntingdon's college at Trevecca, Wales Of his works the best known is *A Check to Antinomianism* (1771–75)

Fletcher, Phineas, 1582–1650, English poet, son of Giles Fletcher, the elder, and brother of Giles Fletcher, the younger He was primarily a follower of Spenser in form In his best-known work, the involved and overdone *Purple Island* (1633), Fletcher introduced a scientific note into the familiar conception of the body as an island *A Father's Testament* (1670) and *The Locusts* or *Apollyonists* (1627) show Fletcher at his best His other works include *Britain's Ida* (1628) and a play, *Sicelides* (1631). See study by A B Langdale (1937)

Fletcher, Thomas Clement, 1827–99, governor of Missouri (1865–69), b Herculaneum, Mo A Democrat opposed to slavery, he became a Republican in 1856 and supported Lincoln for the presidential nomination in 1860 In the Civil War, Fletcher commanded a Missouri regiment and was wounded and captured (Dec., 1862) at Chickasaw Bayou in the Vicksburg campaign Exchanged in May, 1863, he served in the Chattanooga and Atlanta campaigns and was brevetted brigadier general of volunteers for his service in repulsing Sterling Price at Pilot Knob, Mo (Oct, 1864) As governor in the difficult post-war period, he proved an exceptionally able administrator, especially in dealing with railroad and educational matters

Flettner, Anton (ăn'tŏn flet'nur), 1885–, German marine engineer and inventor As color blindness prevented service in the merchant marine for which he had trained, Flettner became teacher of physics and mathematics in technical schools and served as an aviator in the First World War He was interested in control of airplanes by radio, but is better known because he devised a type of ROTOR SHIP and invented the Flettner rudder See his *Story of the Rotor* (Eng tr, 1926)

Flettner, Peter. see FLÖTTNER, PETER

fleur-de-lis (flûr"-dŭ-lē', -lēs') [Fr, =lily flower], heraldic device of conventional design and of great antiquity, believed to have been suggested by the lily or the iris. It was used on many medieval coats of arms, but particularly on that of the kings of France. Early arms of France showed a blue field covered by an indefinite number of golden fleurs-de-lis, but in the 14th cent their number was reduced to three Edward III of England, when he claimed the French throne, quartered the fleur-de-lis shield of France with the arms of England, and his successors kept the fleurs-de-lis in their arms until 1801

Fleurus (flûrûs'), town (pop 6,619), Hainaut prov, Belgium, NE of Charleroi Here Mansfeld and Christian of Brunswick defeated (1622) the Spanish in the Thirty Years War, the French under Marshal Luxembourg defeated (1690) the Dutch and their allies in the War of the Grand Alliance, and the French under Jourdan defeated the Austrians in a decisive battle (1794) of the French Revolutionary Wars

Fleury, Abraham Joseph (abrȧ-hăm' zhôzĕf' flûrē'), 1750–1822, French actor, whose real name was Abraham Joseph Bénard. After experience in the French provinces, he went to Paris (1778). He was soon accepted and made a *sociétaire* or full sharing member of the Comédie Française There he became the greatest comedian of the period In 1793 a performance of Laya's play *L'Ami des lois,* thought counterrevolutionary, led to the arrest of Fleury and the entire company In 1799 he rejoined the rehabilitated Comédie Française His memoirs were edited (1835–37) by J P B Lafitte

Fleury, André Hercule de (ȧdrā' ĕrkül' du), 1653–1743, French statesman, cardinal of the Roman Church Louis XV, whose tutor he had been, made him his chief adviser and the virtual ruler of France (1726–43) Fleury restored order to the national finances, disorganized by the policies of Louis XIV and the speculative schemes of John LAW The currency was stabilized, roads were built, the merchant marine expanded, and a growth in commerce resulted By his rigorous proceedings against the Jansenists, Fleury became widely unpopular He strove for peace abroad but became involved in the War of the POLISH SUCCESSION; through it, however, he secured the reversion of Lorraine to France and established (1738) a Bourbon on the throne of Naples He was also drawn into the unfortunate War of the Austrian Succession. See A. McC Wilson, *French Foreign Policy during the Administration of Cardinal Fleury* (1936).

Fleury, Claude (klōd), 1640–1723, French ecclesiastical historian, a Roman Catholic priest, confessor to Louis XV, and author of the learned and unbiased *Histoire ecclésiastique* This great work, in 20 volumes, occupied him for 30 years It was the first systematic history of the Church, its organization, doctrines, and rites

Flexner, Abraham, 1866–, American educator, b Louisville, Ky, grad Johns Hopkins, 1886. After 19 years as a secondary school teacher and principal, he took graduate work at Harvard and at the Univ of Berlin In 1908 he joined the research staff of the Carnegie Foundation for the Advancement of Teaching and in 1910 wrote a report, *Medical Education in the United States and Canada,* which hastened much-needed reforms in the standards, organization, and curriculums of American medical schools From 1912 to 1925 Flexner was a member of the General Education Board, serving as secretary after 1917 He was director of the newly organized Institute for Advanced Study at Princeton from 1930 to 1939 His influential works on education range from *A Modern School* (1916) and *The Gary Schools* (with F B Bachman, 1918) to *The Burden of Humanism* (the Taylorian Lecture at Oxford Univ, 1928) and his widely known study, *Universities American, English, and German* (1930) His biography of H S Pritchett was published in 1943 See his autobiography, *I Remember* (1940).

Flexner, Simon, 1863–1946, American pathologist, b Louisville, Ky, M D Univ of Louisville, 1889, brother of Abraham Flexner He served with Rockefeller Institute from 1903 to 1935 (as director, 1920–35) and was Eastman professor at Oxford from 1937 to 1938. He worked on experimental epidemiology and venoms and is especially known for his serum treatment of cerebrospinal meningitis and for his studies of poliomyelitis

flicker, large North American WOODPECKER Flickers are the only brown woodpeckers The northern or yellow-shafted flicker is well known over most of North America and is called by many local names, such as yellowhammer and high hole There is a similar southern form A white rump patch shows plainly in flight Unlike most woodpeckers this bird often remains on the ground for some time Its sticky tongue, which can be thrust outward about 2½ in beyond the end of the bill, is useful in capturing insects Ants form the bulk of its food The yellow-shafted flicker interbreeds with the red-shafted flicker of the West

Fliedner, Theodor (tā'ōdōr flēt'nur), 1800–1864, German Protestant minister and philanthropist He organized in 1826 the first Prison Society of Germany In 1836 at Kaiserswerth he founded the pioneer deaconess house and hospital for the indigent sick Here Florence Nightingale worked and gained many ideas Fliedner established schools and orphanages in Europe and from 1849 to 1851 stimulated the organization of mother houses for deaconesses in Europe, America, and Asia See biography by Catherine Winkworth (1867)

Fliegende Holländer see FLYING DUTCHMAN

flight, sustained progress through the air achieved either by an animal or by aircraft Among animals adaptation for flight is highly developed in birds and insects The bat is the only mammal that accomplishes true flight, flying squirrels glide rather than fly, as do flying fish and flying lizards Man's first attempts at flight were made with flapping wings in imitation of birds, but no really successful machine of this kind has been developed Airships and balloons owe their ability to ascend and remain aloft to their inflation with a gas lighter than air, this is an application of Archimedes' principle of flotation, i e, that a body immersed in a fluid (liquid or gas) is buoyed up by a force equal to the weight of the fluid that it displaces Airplanes, autogiros, helicopters, and gliders, which are heavier than air, are able to remain in the air because of forces developed by the movement of the plane through the air Forward motion of an airplane is obtained through conversion by means of the propeller of the power of the engine to a forward force Wings and other airfoils are so designed as to employ the airflow and the resulting differences in pressure on various parts to support the plane The wings are streamlined and slightly curved on one or more surfaces, and the chord of the wing (line from the leading edge to the trailing edge) must form an acute angle (called the angle of attack) in relation to the relative wind Lift is obtained largely from the upward pressure of the air against the airfoils (e g, wings, tail fins, and ailerons) on the upper surface of which the pressure becomes lower than that of the atmosphere Studies in aerodynamics are concerned with the forces by which lift is obtained as well as with certain other principles of physics involved in flight Observers of the flight of birds have concluded that the body of the bird, highly adapted for flight, employs many of the aerodynamic principles that man has employed in designing airplanes The wing feathers of greatest importance in flight are the primary feathers (attached to the portion of the wing corresponding to the hand of humans), the secondaries (attached to the ulna bone of the forearm), and the tertiaries or scapulars (attached to the muscles over the humerus or upper-arm bone) The leading edge of the slightly concave wings is rather sharp and the feathers are small and close-fitting, so that a streamlined surface meets the air. On the trailing edge of each wing the interlocking of the larger feathers forms a surface that acts somewhat as do the ailerons of an airplane Flight of birds is of three general types, flapping, soaring, and gliding All birds employ flapping and some use all three; whether the bird is flapping, soaring, or gliding, the principal flight feathers overlap in such a way that the air pressure on the underside of the wing causes the feathers to form an airtight surface, on the upstroke, however, the feathers part sufficiently to allow some air to pass between them, thus reducing the pressure against which the wings must work Studies of the pattern of movement traced by wings have been made, but much remains to be learned It is believed that in flapping flight the wings rarely move straight up and down, but when the bird is flying at normal speed the motion is more or less in a semicircle, the wings generally moving upward and backward and then downward and forward The form and size of the wings vary in different birds In most woodland birds the wings are somewhat rounded and the secondary feathers are often as long as the primaries, thus giving a relatively broad surface Birds with well-developed gliding ability, e g, gannets and gulls, usually have narrow, pointed wings Especially noted for their soaring powers are eagles, vultures, crows, and some hawks, in these birds the ends of the outer primaries taper, and in both flapping and soaring flight the feathers separate at the tips so that they look something like spread fingers against the sky It is believed that this diverts the airstream over the wing and aids the bird in turning, banking, and wheeling There is disagreement as to the maximum speeds achieved by birds in flight The swift is considered the fastest of birds, and it is said often to reach 70 mi. an hour while procuring food and some say it can fly up to well over 100 mi an hour Most birds range between 10 and 60 mi. an hour See G C. Aymar, *Bird Flight* (1935), H L Williams, *Fundamentals of Aviation* (1946), Roland Green, *Wing-Tips in the Identification of Birds in Flight* (1947), G W Gray, *Frontiers of Flight* (1948), J H Storer, *The Flight of Birds* (1948)

Flinck, Govaert (gō'vart flĭngk), 1615–60, Dutch portrait and genre painter, pupil and follower of Rembrandt In such notable works as *The Blessing of Jacob, Celebration of the Peace of Münster,* and *Fete of the Civic Guards* (all Amsterdam) the influence of his master is predominant Among his best portraits are *The Man with a Gray Beard; Girl* (Louvre), and *Portrait of a Man and Woman* (Rotterdam) During his last 10 years Flinck endeavored to imitate Rubens, and his work deteriorated

Flinders, Matthew, 1774–1814, English naval captain and hydrographer, noted for his charting and coast surveys of Australia and Tasmania From 1795 to 1799 and again in 1801–3 he made valuable maps and charts of the waters and coast, circumnavigating both countries He is said to have been the first to perceive and correct compass errors caused by the iron ships He wrote *A Voyage to Terra Australis* (1814) W M Flinders Petrie was his grandson See biography by Sir Ernest Scott (1914) and fictionalized biography by Ernestine Hill (1944)

Flinders Island (802 sq mi, pop 853), in Bass Strait, between Tasmania and Australia, largest of the Furneaux Islands It produces sheep, butter and tin

Flinders Petrie, Sir William Matthew see PETRIE

Flinders Ranges, E South Australia, extending 260 mi between Lakes Torrens and Frome and rising to 3,900 ft. at St Mary's Peak There is a uranium-ore mine at Mt Painter The ranges were named for Matthew Flinders

Flin Flon (flĭn' flŏn), municipal district (1946 pop 7,595), W Man, at the Sask border and NNW of The Pas It is a mining and smelting center in a region producing copper, zinc, silver, gold, and cadmium

Flint, Austin, 1812–86, American physician, b Petersham, Mass, M D. Harvard, 1832. He practiced in New York city, where he was noted as a diagnostician and as an authority on diseases of the chest and of the heart, he wrote on these subjects and was also author of *Principles and Practice of Medicine* (1866) His son, **Austin Flint,** 1836–1915, M D Jefferson Medical College, Philadelphia, 1857, was a founder of Bellevue Hospital Medical College, New York city, and was professor of physiology there (1861–98) and later at Cornell Univ His *Physiology of Man* (5 vols., 1866–75) and *Textbook of Human Physiology* (1876) were standard works.

Flint, Timothy, 1780–1840, American author, b North Reading, Mass., grad Harvard, 1800, and entered the ministry As a missionary he traveled up and down the Mississippi valley from 1815 until 1825 and recorded in *Recollections of the Last Ten Years* (1826) the frontier life he experienced. Later,

while principal of a seminary in Louisiana, he produced a work very useful in its day, *A Condensed Geography and History of the Western States* (1828), and romantic novels, among them *Francis Berrian* (1826) and *Arthur Clenning* (1828), immediately popular but now forgotten. From 1827 to 1830 he edited the *Western Monthly Review* in Cincinnati His vivid *Biographical Memoir of Daniel Boone* (1833) helped the growth of the Boone legend See biography by J E Kirkpatrick (1911), introduction by C H Grattan to 1932 reprint of Flint's *Recollections*

Flint, county, Wales see FLINTSHIRE.

Flint, city (pop 151,543), co seat of Genesee co , S Mich , on the Flint river and NW of Detroit; settled 1819 as a fur-trading post on the site of an Indian village, platted 1835, inc 1855 Fur trading was succeeded by lumbering and then by cart and carriage making as Flint's leading industry Since 1904 it has been one of the chief automobile centers of the state. Other manufactures include structural steel and foundry and dairy products Of interest are the Flint Junior College, with its museum of Indian relics; the Frederick Wright Collection, antiques and curios; the Flint Institute of Arts, the General Motors Institute of Technology, and a state school for the deaf

Flint, municipal borough (1931 pop 7,655, 1943 estimated pop 13,140), Flintshire, Wales, NW of Chester, on the Dee estuary. The castle, of the time of Edward I, was the scene of Richard II's submission to Bolingbroke in 1399, it was taken by the parliamentarians in 1643 and dismantled in 1647 There are coal and lead mines and manufactures of paper, rayon, and chemicals

Flint, river rising in W central Georgia, S of Atlanta, and winding southeast and southwest c 285 mi to the southwestern corner of the state, where it joins the Chattahoochee to form the Apalachicola at the Fla line Navigable to Albany, it is a valuable source of water power Just N of Chattahoochee, Fla , a new dam is under construction in 1950

flint, a variety of cryptocrystalline QUARTZ, commonly occurring in rounded nodules Flints are gray, smoky brown, or black in color, when found in chalk or in other rocks containing lime the nodules frequently have a white coating Flint is translucent to opaque It was early used by primitive peoples for making knives and spearheads because although flint is very hard it is more readily shaped than stone, edges can be flaked off with comparative ease, especially those of freshly dug pieces, by pressure exerted with a piece of stone or bone Since it is not chipped by pounding, as stone is, sharper edges are obtained It was long used with steel for lighting fires and later for setting off the powder in flintlock firearms

Flintshire or **Flint,** county (256 sq mi , 1931 pop 112,889, 1948 estimated pop 138,300), NE Wales The county town is Mold, the chief industrial center is Flint It is bounded on the north by the Irish Sea and the Dee estuary and to the east by Cheshire The upland country of the Clwydian Hills is devoted to pasturage, while the fertile valleys (the Dee and the Clwyd) are given over to farming (oats and turnips). The county is rich in deposits of coal, iron, lead, zinc, copper, clay, and limestone, and there are manufactures of pottery, chemicals, and artificial silk Watt's Dyke and Offa's Dyke cross the county After the Norman Conquest the region was heavily fortified by the border lords against the partially conquered Welsh Flintshire today is important as part of the great British industrial area centered in near-by Lancashire.

Flodden, hill, Northumberland, England, SE of Coldstream, Scotland It was the scene of the battle of Flodden Field (Sept 9, 1513), in which the English under Thomas Howard, later 3d duke of Norfolk, defeated the Scots under James IV, who was killed The battle is described in Scott's *Marmion*

flogging see CORPORAL PUNISHMENT

Flood, Henry, 1732–91, Irish statesman. Educated in Dublin and at Oxford, he entered the Irish House of Commons in 1759 and allied himself with Henry GRATTAN in attempting to gain independence for the Irish Parliament He lost favor with the nationalists, however, when he accepted (1775) a position in the government, and the leadership of the nationalists went to Grattan. Although Flood's demands for independence were more radical than Grattan's, he opposed the cause of Catholic Emancipation, which Grattan favored. After the establishment of an independent Irish Parliament in 1782, Flood served (1783–90) in both the English and the Irish House of Commons, but he never regained his leadership

Flood, James Clair, 1826–89, American silver magnate, b. New York city. Having been apprenticed to a carriage maker, he left to join the California gold rush in 1849. The following year he returned to New York, then bought a farm in Illinois, but in 1851 he was back in California. In partnership with William Shoney O'Brien he operated a saloon and lunchroom in San Francisco until 1865, when the two men formed a successful mining partnership with J. W. Mackay and J. G. Fair to exploit the Comstock Lode. See Oscar Lewis, *The Silver Kings* (1947).

Flood, in the Bible see DELUGE.

flood plain, level land along the lower course of a large river formed by deposition of sediment during floods Flood plains are sometimes of great extent Below the confluence of the Ohio and the Mississippi, for example, the flood plains have a width of 80 mi. in some places Other rivers with considerable flood plains are the Nile, Ganges, Danube, Po, and most of the rivers of China. Flood plains are generally the most fertile parts of the country

floods. The most common natural causes of floods are excessive rainfall, sudden thaw, or a combination of the two When heavy spring rains follow a winter of heavy snowfall, floods invariably occur Less predictable are floods caused by the bursting of a levee or a dam, sea waves following earthquake or cyclone, or the blocking of a stream by a glacier or avalanche (common in mountainous regions) or by a mass of vegetation (as in the upper course of the Nile and other tropical rivers) and the subsequent sudden release of the dammed-up waters The changing of the course of an old river often results in disastrous flooding China's most terrible floods have been due to this cause. Next to the quantity of rainfall the type of stone or soil forming the river bed is a decisive factor in the frequency of floods Where the ground is pervious, much of the precipitation is absorbed and the danger of an inundation is lessened When the river bed is formed by impervious bare rock, 90 percent of the precipitation runs off, the average runoff being only 25 percent Another important factor in reducing the danger of floods is the presence of vegetation The most important means of protection against floods are levees (see LEVEE) or dikes, auxiliary outlets to be opened in time of floods, reservoirs near the headwaters to contain surplus drainage, and reforestation The basin of the Mississippi and its principal tributaries—the Ohio, the Missouri, the Arkansas, the White, the Red, and the Ouachita—has been frequently covered by floods from Cairo, Ill , to the Gulf of Mexico Its early levees (the first built in 1717) were local, but in 1879 the Mississippi River Commission was appointed to direct flood control From 1935 the U S Corps of Engineers has been in charge Other means of control used in the basin have been channel improvement by dredging, cutoffs, and reservoirs (of which there are more than 150) One of the objects of the TENNESSEE VALLEY AUTHORITY is flood control In 1947 Congress appropriated money for a 10-year program to combat floods by reforestation and the construction of reservoirs, spillways, and levees, the start was made on the upper course of the Missouri in Montana and North Dakota. The worst floods in the United States from river overflow were in 1913 on the Miami river (a tributary of the Ohio), affecting Dayton, Ohio, especially, in 1927 on the Mississippi; in 1935–36 on the Connecticut and other New England rivers In the spring of 1950, floods on the Red River of the North caused great damage in Winnipeg, Man , and other cities. The Johnstown, Pa , flood of 1889, with the loss of thousands of lives, was caused by the breaking of a mud dam above the city Even greater loss of life occurred (1900) in Galveston, Texas, when a tidal wave engulfed the city after a hurricane. The hurricane of 1938 on the New England and Long Island coasts was also followed by a tidal wave Accounts of floods which destroyed nearly all life are found in the mythology of many peoples For the flood described in the Old Testament, see DELUGE. The earliest continuous records of flood heights have been kept of the Nile, at Cairo. A flood of the Tiber was recorded in 413 B C Records of floods on the Danube date from 1000 The Netherlands, dependent on its dikes for protection from inundation, has suffered many disastrous floods, both from the sea and from the Rhine and Meuse rivers. See A. D Frank, *The Development of the Federal Program of Flood Control on the Mississippi River* (1930); H K Barrows, *Floods: Their Hydrology and Control* (1948)

floor, lower enclosing surface of a room In primitive dwellings the ground itself, often tamped down, was used for the purpose Later flat stones were laid down, and this developed into tile and mosaic floors The Romans made great use of tile for floors, some of the most beautiful and elaborate mosaic floor coverings are found in Byzantine buildings. Such floors were made by setting the pieces directly into the earth With multiple-story buildings a double floor was developed, in which a space is left between the girders and beams forming the supports and the actual solid flooring Wooden floors are most common in dwellings, they were introduced in the Renaissance and are often elaborate, as in parquet floors, where short wooden slabs—sometimes in contrasting woods—are arranged in a geometric mosaic. Concrete floors, whose chief advantage is fireproofness, are common in commercial buildings such as factories and warehouses. Aside from these main types of flooring, many other materials are used The Italian Renaissance introduced terrazzo, a mixture of cement and bits of marble; floors of marble are used in regions where this stone is abundant; and brick or other artificial stones have been employed. The main requisites of flooring are smoothness of surface, sound absorption, and temperature insulation

Flor, Roger de, d c.1306, German commander of Spanish mercenaries, b Italy He entered the service of the Knights Templars at an early age became a member of the order, and fought at ACRE (1291), but was obliged to leave the order when accused of theft He subsequently served as vice admiral under Frederick II of Sicily and after 1302 became the leader of a band of Spanish adventurers who entered the service of ANDRONICUS II against the Turks This Catalan company won several victories, but its oppression of the native population led to Roger's assassination by imperial order His followers ravaged the neighboring countryside in revenge, migrated into Greece, and established the duchy of Athens (1311)

Flora [from Latin, = flower], Roman goddess of flowers, identified with the Greek Chloris Her feast, Floralia, April 28 - May 1, was celebrated with great license Her temple was near the Circus Maximus

Flora. **1** City (pop 5,474), SE Ill , near the Little Wabash, E of Salem, in a farm area, inc 1867 Among its manufactures are dairy products, shoes, and furniture **2** Town (pop 1,468), NW Ind., SW of Logansport near Delphi, settled 1884, inc. 1898

Florala (flōrā'lə), city (pop 2,999), S Ala , at the Fla line, in a farm and pine-lumber area, with large sawmills

Floral Park, residential village (pop 12,950), on W Long Island, SE N Y , near Mineola, inc 1908.

Flora Macdonald College. see RED SPRINGS, N.C

Floréal: see FRENCH REVOLUTIONARY CALENDAR.

Florence, William Jermyn, 1831–91, American actor, whose real name was Bernard Conlin, b Albany, N Y He won praise in such roles as Bob Brierly in *Ticket-of-Leave-Man* and Captain Cuttle in an adaptation of Dickens's *Dombey and Son*, but his best portrayal was in 1861 as Bardwell Slote in *The Mighty Dollar*, which he often repeated A character actor, he had a great gift for dialect and impersonation

Florence, Ital *Firenze* (fērĕn'tsā), city (pop 271,975, with suburbs 321,176), capital of Tuscany, central Italy, on both banks of the Arno, at the foot of the Apennines Florence, the jewel of the Italian Renaissance, was a town of the Roman Empire In the Middle Ages it gained autonomy (c 1200), and Guelphs and Ghibellines fought over it until the Guelphs expelled the Ghibellines, then split into their own warring factions, the Blacks and the Whites, best remembered because Dante, a Florentine, was banished as a White Guelph. Warfare raged too with other cities, notably PISA, as the merchants and bankers of Florence made their own fortunes and the fortune of the city; the sale of Florentine silks and wools and jewelry brought almost overpowering wealth Florence grew in war, absorbing Arezzo, Pistoia, Volterra, and Pisa itself The turbulent city, become a city-state, fell in the 15th cent under the control of Cosimo de' Medici, a wealthy and cultured merchant Though republican forms were kept until the 16th cent , the MEDICI family ruled, and Lorenzo de' Medici, who ruled from 1469 to 1492, was able to put down the PAZZI CONSPIRACY. Under him and his successors for two centuries Florence was the golden city, with a well-nigh incredible flowering of intellectual and artistic life—the soul of the Renaissance The list of artists working in the city is headed by Michelangelo, Leonardo da Vinci, Raphael, and Donatello Poets and scholars abounded, and the Accademia della Crusca (see SOCIETIES, LEARNED AND LITERARY) was established Political life was turbulent The Medici were expelled by revolution, the fiery SAVONAROLA briefly held power, and MACHIAVELLI was a diplomatic representative of the republic The revolt was over by 1512, but a new revolution (1527–30) established a new republic, which was destroyed by the surrender to Emperor Charles V after heroic defense Under the restored Medici, Florence went on expanding and controlled most of Tuscany In 1569 Cosimo I de' Medici was made grand duke, and Florence became the capital of the grand duchy of TUSCANY The grand duchy, ruled by the house of Hapsburg-Lorraine after the extinction (1737) of the Medici, was annexed to the kingdom of Sardinia in 1860 Florence was the capital of the newly founded kingdom of Italy from 1865 to 1870 Most art treasures of Florence were spared in the Second World War, although many historic buildings were hit and parts of the medieval quarters have disappeared Of the bridges across the Arno, all were blown up except the famous Ponte Vecchio It is impossible to mention here all of the city's monuments, most of them dating from the 13th, 14th, and 15th cent The Gothic Cathedral of Santa Maria del Fiore has a dome by BRUNELLESCHI (1420–34), near by are the campanile designed by GIOTTO and the baptistery with the famous doors by GHIBERTI The Church of Santa Croce is the Florentine pantheon with frescoes by Giotto and other artists and fine works by the DELLA ROBBIA family, ROSSELLINO, and others Santa Maria

Novella (1278–1360) has frescoes, sculptured tombs, and fine cloisters Some of the best works by Fra ANGELICO are in the convent of St Mark's, while important frescoes by MASACCIO and Filippino LIPPI adorn the Church of the Carmine San Lorenzo contains Michelangelo's tombs of the Medici and many works by Donatello The imposing **Palazzo** della Signoria (city hall) has frescoes by Vasari, near by is the Loggia with the *Perseus* of CELLINI The UFFIZI and the Pitti Palace house some of the richest collections of paintings in the world Behind the Pitti Palace are the Boboli gardens, a typical example of Italian landscaping architecture The Academy art museum, the BARGELLO, and the Etruscan museum are also of primary importance Among the countless medieval and Renaissance palaces Or San Michele, Riccardi, Strozzi, and Rucellai deserve special mention On a hill overlooking the city is the basilica of San Miniato (11th–13th cent) The standard work of recent scholarship is Robert Davidsohn, *Geschichte von Florenz* (4 vols in 9, 1896–1927) See G F Young, *The Medici* (2 vols , 1909), Pasquale Villari, *Two First Centuries of Florentine History* (1894, Eng tr , 1894–95) See also works of the Florentine historians MACHIAVELLI and GUICCIARDINI and bibliography under RENAISSANCE

Florence. **1** City (pop 15,043), co seat of Lauderdale co , NW Ala , on the Tennessee near MUSCLE SHOALS and adjacent to Wilson Dam, laid out 1818, inc 1826 It is in a cotton and mining area, and power from Muscle Shoals has stimulated the growth of various industries In 1941 a large aluminum plant was built A state teachers college is here **2** Town (pop 1,383), co seat of Pinal co , S ARIZ , on the Gila river and SE of Phoenix; founded 1866, inc 1906 The surrounding area is irrigated from the San Carlos reservoir, made by the Coolidge Dam The state prison is near by **3** City (pop 2,632), S central Colo , on the Arkansas river above Pueblo, in a fruit, coal, and oil area, inc 1887 **4** City (pop 1,329), E central Kansas, NE of Wichita and on the Cottonwood, in a livestock and grain area, platted 1870, inc 1872 It has stone quarries **5** Hosiery-producing village, W central Mass , near Northampton It was a station on the Underground Railroad until 1861 **6** City (pop 16,054), co seat of Florence co , NE S C , ENE of Columbia and near the Pee Dee river, founded in the 1850s It is an important focal point for railroads (with repair shops) and an industrial and trade center for a farm, tobacco, and livestock area During the Civil War it was a transportation and supply point and served as the site of a prison camp Near by are a national cemetery, an agricultural experiment station, and the state industrial school for boys

Florence, Council of ' see FERRARA-FLORENCE, COUNCIL OF

Florence of Worcester (wo͝o'stur), d 1118, English chronicler A monk of Worcester, he compiled a Latin chronicle of British history, the *Chronicon ex chronicis* The earlier part of the account is based upon the work of other chroniclers, principally Marianus Scotus The work was continued by other monks after Florence's death

Flores, Juan José (hwän' hōsā' flō'rās), 1800–1864, president of Ecuador (1830–34, 1839–45), b Puerto Cabello, Venezuela An able commander under Bolívar in the War of Independence, Flores led (1830) the secession of Ecuador from the Colombian union and became its first president A Conservative who supported entrenched privileges, especially those of the Church, he was soon opposed by a Liberal opposition under ROCAFUERTE, who succeeded him as president Flores was twice reelected but, accused of dictatorial ambitions, was exiled Returning in 1860 with GARCÍA MORENO, he served as army chief until his death

Flores (flō'rĭz, Port flō'rĭsh), island, in the N Atlantic, the most westerly of the Azores

Flores (flō'rās), island (6,627 sq mi , pop including offshore islands 626,684), East Indonesia, one of the Lesser Sundas It is W of Timor Largely mountainous, it is 220 mi long and 40 mi wide The inhabitants in the west are mainly Malayans, those in the east are Papuans The principal products are sandalwood, copra, coffee, rice, beeswax, and cinnamon Ende is the chief town and port Flores was opened to trade in 1618 by the Dutch East India Company The Flores Sea is north of the island and S of Celebes

Floresville (flō'rĭsvĭl), city (pop 1,708), co seat of Wilson co , S Texas, on the San Antonio river and SE of San Antonio It is in a farm region that produces especially peanuts and watermelons

Florey, Sir Howard Walter, 1898–, Australian pathologist. He was educated at Adelaide Univ. and at Cambridge and Oxford and returned to Oxford as professor of pathology in 1935 Florey shared the 1945 Nobel Prize in Physiology and Medicine with Sir Alexander Fleming and Ernst B Chain for work on penicillin. In 1939, under a Rockefeller grant, Florey and his associates began work on penicillin and proved its effectiveness against many harmful bacteria With Dr. Norman Heatley, Florey visited the United States in 1941 to seek aid in finding a method of producing large quantities of penicillin.

Florham Park, borough (pop 1,609), NE N J , E of Morristown, settled 1655, inc 1899.

Florianópolis (flō"rēänä'pōlĭs), city (pop 25,253), capital and chief port of Santa Catarina state, SE Brazil, on Santa Catarina Island It is connected with the mainland by a suspension bridge Founded (1700) as Desterro by colonists from São Paulo and renamed (1893) for Floriano PEIXOTO, it is today a busy commercial city in a rich agricultural region There are light industries

Florida (flō'rĭdu), state (58,560 sq mi ; 1940 pop 1,897,414, 1949 estimated pop. 2,494,000), extreme SE United States, admitted 1845 as the 27th state (slaveholding) TALLAHASSEE is the capital, JACKSONVILLE, MIAMI, and TAMPA the largest cities Florida is bounded on the east by the Atlantic Ocean, on the west by the Gulf of Mexico, on the north by Georgia and Alabama (with the Perdido river the line in the northwest) A long, low peninsula, it is in the south separated from Cuba by the Straits of Florida Entirely within the temperate zone, Florida is influenced by the surrounding subtropical waters, the pleasant mild climate, beautiful scenery, and subtropical plants and animals attract many tourists and winter residents Though the state is best known for its resorts and the citrus fruit it produces, the economy, like the topography, is diversified Truck, fruit, and vegetable farming, fishing, lumbering and production of naval stores, phosphate mining (most of the U S phosphates come from Florida), and cattle raising are the principal activities Cities on the Atlantic coast, besides Jacksonville and Miami, are SAINT AUGUSTINE (the oldest in the nation), WEST PALM BEACH, and KEY WEST, on the Gulf are Tampa, SAINT PETERSBURG, and PENSACOLA The rolling, pine-clad hills of N Florida rise to the highest part of the peninsula (a little more than 300 ft) The central Florida region abounds in lakes and has ORLANDO as chief city Most of S Florida is covered by the unique EVERGLADES, S of Lake OKEECHOBEE—the region and the lake rivaling the SAINT JOHNS river (the principal waterway) and the FLORIDA KEYS as notable topographic features Though the peninsula was doubtless sighted by earlier navigators, its history begins with Juan PONCE DE LEÓN, who, seeking the island of Bimini, supposed to be N of Cuba, landed near the site of St Augustine in April, 1513 He claimed for Spain what he thought was an island, naming it Florida probably because it was then the Easter season (*Pascua florida*) The expeditions of other Spanish adventurers, notably Pánfilo de NARVÁEZ and Hernando DE SOTO, established the fact that Florida was not an island and gave Spain her claim to the vast region now comprising most of the SE United States, the whole being known as Florida But it was the activity of the French which led to actual Spanish settlement In May, 1562, Jean RIBAUT discovered the St Johns river, and two years later René de LAUDONNIÈRE built Fort Caroline at its mouth Alarmed at this encroachment, Philip II commissioned Pedro MENÉNDEZ DE AVILES to drive out the French, which he did, ruthlessly With Menéndez, founder of St Augustine (1565), Spanish colonization in Florida began The region presented difficulties, with no precious metals to spur conquest, as in Mexico and Peru, with more or less infertile soil (Spanish Florida was never self-sufficient agriculturally), and with Indians not in the least docile However, the Spanish were compelled to hold it because of its strategic situation athwart the Straits of Florida, through which rich treasure ships from the south sailed for Spain Soldiers and missionaries (first Jesuits and then Franciscans) established especially thriving posts in the area known as Guale (the SEA ISLANDS and coast of present Georgia and South Carolina) But the English, energetically expanding their American colonial holdings after 1607, threatened Florida St Augustine was several times attacked by English corsairs and in 1702–3 was besieged by Gov James Moore of South Carolina The establishment of Georgia and its steady growth under James E OGLETHORPE, who defeated (1742) the Spanish in the battle of Bloody Marsh on St Simons Island, made Florida's northern boundary the St Marys river The French, operating from their posts in the Mississippi valley, also troubled the hard-pressed Spanish The Indian fur trade was the great prize in this struggle, which was tied to the French and Indian Wars and the European conflicts Spain's last-minute entry on the side of France against England in the Seven Years War cost her (1763) Florida St Augustine and Pensacola were made the respective capitals of East Florida and West Florida. Under the British (1763–83), the Floridas made great economic progress The influx of English settlers reached a peak in the American Revolution when Tories flocked to the region from the north Patriot forces twice attempted invasion, but on the whole the Floridas were little touched by the war By the terms of the Treaty of Paris in 1783, they were returned to Spain, but her hold was extremely tenuous, especially in West Florida (see WEST FLORIDA CONTROVERSY). British traders and agents still had powerful influence, and in the War of 1812 Pensacola was a British base until captured by Andrew Jackson in 1814 In 1819, after years of diplomatic wrangling, the Adams-Onís treaty provided for the sale of Florida to the United States Official U S occupation took place in 1821, with Jackson as governor, and Florida, with its present boundaries, was organized as a territory in 1822. Settlers poured in from the neighboring states, especially into the area around the newly founded capital of Tallahassee Here flourished a plantation economy like that of the rest of the South, with cotton and tobacco the chief crops The whites, gradually expanding southward, displaced the SEMINOLE INDIANS, and a group of Seminoles, under OSCEOLA, resisted attempts to remove them to the West Indian wars seriously impeded Florida's development Florida seceded on Jan 10, 1861 State troops took the navy yard at Pensacola, but the Federals held Fort Pickens (see PICKENS, FORT) and in 1862–63 captured the coastal cities of Fernandina, Jacksonville, St Augustine, and Tampa Florida gave important supplies to the Confederacy, particularly salt and cattle The most important Civil War engagement fought in Florida was the battle of OLUSTEE (Feb 20, 1864), a Confederate victory. Florida suffered less than other Southern states in RECONSTRUCTION days, but scalawags and carpetbaggers controlled the government until the election of 1876 A new constitution (1885), under which the state is still governed, replaced the Reconstruction charter of 1868 Northern capitalists such as Henry B Plant and Henry M FLAGLER contributed greatly to Florida's modern development Their railroads and hotels stimulated the growth of the resort trade Close to Cuba, Florida has always been interested in the affairs of that island Cuban revolutionaries received sanctuary and aid in Florida, and the state enthusiastically supported and profited economically by the Spanish-American War, in which Tampa was the chief U S base The drainage of the Everglades was also important to the state's progress The first intensive reclamation work began in the administration of Gov Napoleon B BROWARD (1905–9) and precipitated one of the state's periodic land booms The most famous of these, starting after the First World War, reached its peak in 1925 when land values reached fantastic heights, only to collapse completely the following year Like other states Florida weathered the depression with the help of the Federal government, one of the New Deal projects was the FLORIDA SHIP CANAL In the Second World War, Florida prospered from army, navy, and air force installations The Univ of Florida, at Gainesville, is the state's leading institution of higher education Others are the Univ of Miami, at Coral Gables, Florida State Univ and Florida Agricultural and Mechanical College, at Tallahassee, Rollins College, at Winter Park, Florida Southern College, at Lakeland, John B Stetson Univ , at De Land, Barry College, at Miami, and Bethune-Cookman College, at Daytona Beach See Woodbury Lowery, *The Spanish Settlements within the Present Limits of the United States, 1513–1561* (1901) and *The Spanish Settlements within the Present Limits of the United States Florida, 1562–1574* (1905), W W Davis, *The Civil War and Reconstruction in Florida* (1913), C M Brevard, *A History of Florida* (1924–25), Federal Writers Project, *Florida a Guide to the Southernmost State* (1939), K T Abbey, *Florida—Land of Change* (1941), Thomas Barbour, *That Vanishing Eden a Naturalist's Florida* (1944), S W Martin, *Florida during the Territorial Days, 1821–1845* (1945), R W Patrick, *Florida under Five Flags* (1946)

Florida: see CONFEDERATE CRUISERS

Florida, Straits of, SE and S of Florida, between the Florida Keys and Cuba The Gulf Stream here passes from the Gulf of Mexico to the Atlantic Ocean

Florida, University of, at Gainesville, land-grant and state supported, chiefly for men, chartered and opened 1853 as a seminary at Ocala, Fla , moved 1906 after state schools were united The General College (junior, founded 1935) pioneered in modern curriculum and guidance plans There are also colleges of agriculture, arts and sciences, business administration, education, engineering, and law, and physical education, health, and athletics, schools of architecture and allied arts, forestry, and pharmacy, and the P K Yonge Demonstration School The Inter-American Institute and the state museum are here

Florida Agricultural and Mechanical College, at Tallahassee, Negro, land-grant and state supported, coeducational; chartered and opened 1887 as a normal school, renamed 1909 It has divisions of agriculture, education, home economics, liberal arts and sciences, nurses' training and health, and mechanic arts

Floridablanca or **Florida Blanca, José Moñino, conde de** (hōsā' mōnyē'nō kōn'dā dā flōrē'dhä blängˈkä), 1792–1808, Spanish statesman After the expulsion of the Jesuits from Spain (1767) he was sent to

Rome as ambassador to obtain the papal suppression of the Society of Jesus He was ennobled (1773) for the success of his mission In 1777 Charles III appointed him premier. Under Floridablanca absolutism reached its peak, but his internal reforms, especially financial, were beneficial and the economic life of the country was greatly improved He made peace and economic treaties with the Turks and with Morocco and reached agreement with Portugal, but was reluctantly drawn into war with England in the American Revolution He adopted a reactionary policy toward the French Revolution and advocated a coalition against France A few years after the accession of Charles IV the rise of Godoy led to Floridablanca's dismissal (1792) He was imprisoned for three years During the French invasion (see PENINSULAR WAR), Floridablanca became (1808) president of the Central Junta, but he died shortly after moving to Seville

Florida Keys, long chain of small coral and limestone islands or reefs, forming the southern tip of Florida. Between them and the mainland of Florida lies Florida Bay, while the Straits of Florida separate them from Cuba Many of the islands are habitable, the best known are Key Largo, Saddle Bunch Keys, and Key West, on which is the city of Key West They are noted for their commercial fisheries and for their resorts In Sept, 1935, the keys were swept by a hurricane which took many lives and destroyed thousands of homes and many miles of highway and railroad Most of them are joined to the mainland by a highway (passable since 1938, formally opened 1944), replacing the railroad destroyed in the 1935 hurricane

Florida Ship Canal, planned to follow a sea-level route across N Florida from the Atlantic at the mouth of the St Johns river to the Gulf of Mexico near Port Inglis, via the St Johns, Oklawaha, and Withlacoochee rivers The canal was to be c 200 mi long, at least 30 ft deep, and from 250 to 400 ft wide Work was started in Sept, 1935, with $5,000,000 of Federal relief funds, and was abandoned after Congress refused in March, 1936, to make grants for the project

Florida Southern College, at Lakeland, Methodist, coeducational, chartered and opened 1886, long known as Southern College It has a citrus laboratory and a nonsectarian religious center, with buildings designed by Frank Lloyd Wright

Florida State University, at Tallahassee, coeducational, chartered and opened 1905 as Florida State College for Women, renamed 1947 It has a college of arts and sciences and schools of education, home economics, library science, and music

Florio, John (flō'rēō), 1553?–1625, English author, b London, of Italian parentage He is chiefly remembered for his famous translation (1603) of the essays of Montaigne He wrote works on Italian grammar and compiled an Italo-English dictionary, *A World of Words* (1598) See F A Yates, *John Florio* (1934)

Floris, Frans (frans' flō'ris), c 1517–1570, Flemish painter, son of an Antwerp stonecutter His real name was Frans de Vriendt He studied in Liége and Rome Returning to Antwerp in 1540, he opened a large school and enjoyed the patronage of William of Orange and of many Flemish and Spanish notables Floris exemplifies the overpowering influence of Italy on many Flemish painters of his period, the so-called mannerists Although he was a good painter, with an excellent gift for composition, his work suffers from artificiality Characteristic are his *Last Judgment* (Brussels), *Lot and His Daughters* (Dresden), and *Fall of the Rebellious Angels* (Antwerp) In addition to such ambitious figure compositions, Floris produced several excellent portraits and etchings

Florissant, city (pop 1,369), E Mo , on the Missouri river and near St Louis It was settled by the French in 1785 and called St Ferdinand later by the Spanish, its present name was made official in 1939 The Church of St Ferdinand (1821) and other old buildings remain The Jesuit St Stanislaus Seminary (1823) was rebuilt in 1840–49, here Father De Smet was ordained in 1827

Flossmoor, village (pop 1,270), NE Ill , a suburb of Chicago, inc 1924

flotation process, in metallurgy, a process for the concentration of an ore before treatment to extract its metal The crude ore is ground to a fine powder and mixed with water, oil, and a small quantity of acid When air is blown through the mixture, a froth of oil is formed on top which holds the mineral, the waste material (gangue) settles to the bottom The froth is skimmed off, upon distillation the oil vaporizes and the mineral is left behind Copper sulphide ore is effectively concentrated by this method

Flötner or **Flettner, Peter** (pā'tur flōt'nûr, flĕt'nûr), c 1485–1546, German medalist and craftsman, possibly Swiss by birth He was active in decorative sculpture, wood carving, and lesser crafts, making medals and plaques and furnishing designs for silversmiths He was in Nuremberg by 1522 and did most of his work there Flotner is now regarded as a pioneer of the German Renaissance His *Kunstbuch* was published in 1549 In the Metropolitan Museum are five of his bronze plaques illustrating biblical episodes

Flotow, Friedrich von (frē'drĭkh fŭn flō'tō), 1812–83, German operatic composer Of his 29 operas only *Alessandro Stradella* (1844) and *Martha* (1847) remain popular

flotsam, jetsam, and ligan (flŏt'sum, jĕt'sum, lī'gun) [O.Fr], in maritime law, goods lost at sea as distinguished from WRECK, those goods which come to shore The goods which remain floating on the surface are called flotsam (or floatsam or flotsan), while jetsam refers to goods thrown overboard which sink and remain under water Ligan (or lagan) (lă'gŭn) designates those goods which go down with a vessel or which are sunk in the sea and have a buoy or floating object attached to them as a mark of ownership or in order that they may be found again Such goods found by other persons must be returned to the owner, while flotsam and jetsam must be returned only if the owner makes a proper claim The rules of SALVAGE apply to all three types of goods See JETTISON

flounder, name applied sometimes to any FLATFISH (except the true soles of Europe) and sometimes restricted to certain members of one family (Pleuronectidae) The under side of the flattened body is whitish, and the upper side is usually some shade of brown or olive, often mottled Many species can change their color and pattern, apparently at will, to blend with their background Flounders are found mostly in salt water but also swim up rivers They are abundant in North American waters and in parts of Europe Many are also called flukes The delicate white flesh is much used for food, when boned it is often marketed as sole

flour, finely ground, usually sifted, meal of GRAIN, such as wheat, rye, corn, rice, or buckwheat, of farinaceous plants, such as the potato, and of cassava, peas, beans, and peanuts In particular it signifies finely ground and bolted flour of WHEAT, which forms the largest proportion of all flour milled in the United States, Canada, and Western Europe MILLET and DURRA are ground in India and China Rye is much used for BREAD in N Europe, buckwheat in the Netherlands and Russia, and corn in the United States Rice may be used for bread in combination with other grains richer in GLUTEN Wheat and rye flour can be used in baking leavened bread, as they contain gluten in sufficient amount to retain the gas formed by the action of yeast Corn flour, rich in fats and starches, is a favorite for making quick breads True graham or whole-wheat flour contains the whole grain, unbolted It will not keep long, as the germ contains fats and ferments which cause deterioration when exposed to the air Some graham flour is made by adding bran to low-grade flour Wheat flour is separated into grades by milling In the United States, patent flour, freed of the bran and most of the germ, is the highest grade, clear flour is the second grade, and red dog, a low-grade residue, is used for animal feed and in paste and sizing "Straight" flour is a mixture of patent and clear grades The composition of flour depends on the type of wheat and the milling processes, gluten is the chief protein, starch the principal carbohydrate, although some sucrose, invert sugar, and dextrin may be present Gluten, or diabetic, flour has much of the starch removed On the market are prepared flours, such as the self-rising, which contains a leavening agent, and numerous cake, pancake, and pastry mixes requiring only the addition of water Flour improves up to six months if stored under conditions permitting the enzyme action which gives better baking qualities Good flour, rich in gluten, has a creamy color and adhesive quality Since 1908 the United States requires that bleached flours be so labeled Although bleaching by the proper methods is not harmful, it may conceal the use of inferior flours See S C Prescott and B E Proctor, *Food Technology* (1937), P A Amos, *Processes of Flour Manufacture* (rev ed, 1938)

Flourens, Pierre (Marie Jean Pierre Flourens) (pyĕr' flōōrăs'), 1794–1867, French physiologist He demonstrated the respiratory center in the medulla and the function of the cerebellum in muscular coordination and studied bone formation He was long a professor at the Collège de France

Flower, Benjamin Orange, 1858–1918, American editor, b Albion, Ill , grandson of George Flower He established the *American Spectator* (1886) in Boston and founded the *Arena* (1889), merging the two and editing them, except for a few years, until 1909 The *Arena*, a leading liberal publication, played a large role in the muckraking era of magazine journalism, supporting such new writers as Stephen Crane, Upton Sinclair, Frank Norris, and Jack London, not so much by literary agreement as by moralistic enthusiasm From 1909 to 1911 Flower edited the *Twentieth Century Magazine* and, convinced that Roman Catholicism endangered democracy, spent his later years conducting a bitter anti-Catholic crusade through a paper called the *Menace*

Flower, George, 1788–1862, pioneer settler of Illinois, b Hertfordshire, England. He toured the United States in 1816, and Flower and his friend Morris Birkbeck undertook a huge settlement scheme in Edwards co , Ill The two fell out, but much land was settled and Albion, Ill , was founded Flower wrote *History of the English Settlement in Edwards County* (published by the Chicago Historical Society, 1882). He was later prominent in the fight against legalizing slavery in Illinois.

Flower, Richard, 1761–1829, British settler in the United States, father of George Flower He emigrated (1818) to Illinois, to the settlement founded by his son and Morris Birkbeck When William Cobbett criticized the settlement, Flower answered in his *Letters from Illinois* (1822)

Flower, Roswell Pettibone, 1835–99, American politician, U S Congressman (1881–83, 1889–91) and governor of New York (1892–94), b Theresa (near Alexandria Bay), N Y He removed in 1869 to New York city, where he became a prosperous securities broker and a Democratic political leader His election to Congress in the "golden canvass" against William Waldorf Astor in 1881 and his election to the governorship of New York over J S. Fassett in 1891 were both accomplished with the help of Tammany and were generally regarded as triumphs of corruption at the polls

flower, name for the specialized part of a plant containing the sexual organs, commonly applied to SEED plants only A flower, then, contains the organs of reproduction of one or both sexes, surrounded usually by showy parts (inconspicuous in some) and normally producing seed Flowers vary considerably, but a typical one consists of the following parts, beginning with the outermost the CALYX, made up of green sepals, the COROLLA, composed of colored petals, the stamens, which bear the powdery POLLEN—the male element of flowers, and the pistil or pistils at the base of which is the ovary containing the egg or female element After the transfer of the pollen to a pistil (known as POLLINATION) a tube from the pollen grain grows down the inside of the pistil and causes fertilization of the egg From this fertilization FRUIT and seed develop Both sexes may be borne in a single flower or separated in different flowers Among the variations in the types of flowers is that found in the composites, a very large group of plants of which the daisy is a member In this group what appears to be a single flower is in reality a head of many small flowers The outer ring of petallike flowers are called ray flowers and are often sterile The central portion of the head is composed of disk flowers, very small tubular florets containing nearly always both kinds of sex organs Another type of flower is that represented by the Jack-in-the-pulpit, dogwood, and poinsettia, which have many small and inconspicuous true flowers surrounded by a showy bract or bracts—the whole commonly called a "flower " The color, fragrance, and form of flowers have made them from earliest times of aesthetic value to man Their arrangement for decoration is a studied art in Japan Their fragrance has been utilized in PERFUME A "language of flowers" was formerly popular for sending messages, usually of amorous intent, the flowers selected conveying a definite meaning, in the 19th cent several books were written on this subject Flowers have, of course, long been glorified in the arts, and they have occurred as emblematic devices in heraldry (ROSE), in religion (LOTUS), and in politics (VIOLET) Most countries have some one flower considered or proclaimed emblematic of that country Among these national floral emblems are edelweiss (Switzerland), cornflower (Germany), lotus (Egypt), forget-me-not (Alaska), fleur-de-lis (France), rose (England), and thistle (Scotland) There has been no one flower selected to represent the United States For the flowers of the various states of the United States, see STATE FLOWERS See R J Pool, *Flowers and Flowering Plants* (1929)

flowering almond, ornamental spring-blooming shrub of the genus *Amygdalus* (or *Prunus*), not the true almond but closely related to the plum, cherry, and apricot and hardy except in the northernmost states The pink or white blossoms usually appear before the leaves and cover the bush, double-flowered kinds are most often seen There are several other shrubs, somewhat similar in appearance, that are known as flowering almond

flowering maple see ABUTILON

flowering quince, plants of the genus *Chaenomeles* (sometimes *Cydonia*), Asiatic shrubs cultivated elsewhere for the early-spring flowers The best known, a fairly hardy spiny bush called also **Japanese** quince and japonica, has glossy leaves and waxy blossoms usually in shades of red The yellowish fruits are sometimes used in preserves

Floyd, John Buchanan, 1807–63, U S Secretary of War (1857–60) and Confederate general, b Smithfield, Va , grad South Carolina College, 1829. After failing as a lawyer and cotton planter in Arkansas, he returned to Virginia and practiced law at Abingdon He served in the state assembly (1847–48, 1855) and was governor (1849–52) His cabinet post was a reward for aiding in Buchanan's election Though a states' rights man, Floyd opposed secession. However, he maintained that Major Robert Anderson's removal from Fort Moultrie to Fort SUMTER in Charleston harbor was

contrary to his orders. When Buchanan refused to allow him to order Anderson back he resigned (Dec.) and became an ardent secessionist The President, meanwhile, had requested his resignation because of irregular and unauthorised practices in the War Dept , which involved an apparent loss of $870,000 Feeling was bitter against him in the North, although the belief that before he resigned he conveniently transferred large quantities of arms to Southern arsenals has since been discounted However, his inefficient administration of the War Dept certainly was no help to the Union later As a Confederate brigadier general in the Civil War, serving first under Lee in the western section of Virginia, Floyd was equally incompetent After his defeat at Fort DONELSON, Jefferson Davis, who nursed an old quarrel with Floyd, promptly removed him from command

Floyd, William, 1734–1821, American Revolutionary patriot, signer of the Declaration of Independence, b Brookhaven, N Y He served (1774–77, 1778–83) in the Continental Congress and later was a U S Congressman from New York (1789–91)

Floydada (floidă'dŭ), town (pop 2,726), co seat of Floyd co , NW Texas, NE of Lubbock on the Llano Estacado, settled c 1889, inc 1909 The region produces grain sorghums, alfalfa, wheat, cotton, poultry, and dairy products

Fludd or Flud, Robert (both flŭd), 1574–1637, English mystic philosopher Educated at Oxford and on the Continent, he became a London physician He made many scientific experiments and is said to have invented the barometer From his study of Paracelsus he arrived at the theory that spiritual and physical truth are identical His mystical pantheism centered about God as the all-pervading form of which the world and man are manifestations Gassendi, Kepler, and others attacked his doctrines Fludd, in several works, defended the Rosicrucians His major works included *Utriusque cosmi minoris et majoris technica historia* (1617–21) and *Philosophia Moysaica* (1638, Eng tr , *Mosaicall Philosophy*, 1659) See A E Waite, *The Real History of the Rosicrucians* (1887), R F Craven, *Robert Fludd, the English Rosicrucian* (1902)

fluke, parasitic flatworm which belongs to the class Trematoda of the phylum Platyhelminthes In parts of the Orient, humans may become infested with a liver fluke by eating raw fish and with a lung fluke from raw crabs Blood flukes are widely prevalent in Egypt and are found in parts of tropical America They may enter the human body in drinking water or may penetrate the skin of bathers Intestinal flukes attack man and pigs The cause of liver rot, a fatal condition of sheep and other herbivorous animals, is the liver fluke *Fasciola hepatica* Like many other flukes it spends part of its life in another animal, a species of snail For the flatfish sometimes known as a fluke, see FLOUNDER

flume : see SLUICE

fluorescence (floo"ŭre'suns), luminescence in which light of a visible color is emitted from a substance under stimulation or excitation by light waves of certain lengths and by some other means The light is given off only while the stimulation continues, in this it differs from the phenomenon of phosphorescence, in which light continues to be emitted after the excitation by other radiation has ceased Fluorescence of certain rocks and other substances had been observed for hundreds of years before its nature was understood Probably the first to explain it was Sir George G Stokes, who named the phenomenon after fluorite, a strongly fluorescent mineral Stokes is credited with discovering (1852) that fluorescence can be induced in certain substances by stimulation with ultraviolet light He formulated Stokes's law, which states that the wave length of the fluorescent light is always greater than that of the exciting radiation (there are, however, some exceptions) Later it was discovered that certain organic and inorganic substances can be made to fluoresce by activation not only with ultraviolet light but also with visible light, infrared radiation, X rays, radio waves, cathode rays, friction, heat, pressure, and some other excitants. Fluorescent substances, sometimes also known as phosphors, are used in paints and coatings, but their chief use is in fluorescent lighting. A. E Becquerel constructed a fluorescent lamp and described (1867) the preparation of fluorescent tubes basically similar to those made today Thomas A. Edison also developed a fluorescent lamp. Considerable progress in developing fluorescent lighting was made in several European countries, and during the 1920s high-voltage fluorescent tubes were used in advertising signs. In the United States the first practical hot-cathode, low-voltage, incandescent lamp was marketed in 1938 This is the form of lamp commonly used. It consists of a long, sealed glass tube with an electrode at each end, argon gas and a small amount of mercury are contained within the tube The inside surface of the tube is coated with a mixture of fluorescent powders, and when an electric discharge is maintained through the mercury vapor the ultraviolet light thus produced is absorbed by the fluorescent coating, and as a result of this excitation visible light is emitted The fluorescent powders are prepared either from fluorescent minerals or, less commonly, by synthesis Different colors of light are obtained by mixing powders in varying proportions Among the powders used are silicates (often zinc silicate and zinc beryllium silicate) and wolframates (or tungstates) The design of the lamps varies somewhat according to use. Soon after the hot-cathode fluorescent lamp came into use the more general use of cold-cathode fluorescent tubing (previously used chiefly in outdoor advertising signs) was promoted, but it is employed less commonly than the hot-cathode lamps. Fluorescent lighting is widely used in factories, offices, stores, public buildings, and homes

fluorine (floo'urēn, -rĭn), the most active nonmetallic element (symbol=F; for physical constants, see ELEMENT, table), a yellowish, poisonous, and highly corrosive gas It is a member of the HALOGEN family of elements It combines actively without the application of heat with most other elements except chlorine, helium, nitrogen, oxygen, and the inert gases (argon, neon, krypton, xenon) It attacks gold, copper, and platinum very slightly With hydrogen it forms hydrogen fluoride, and the water solution is known as hydrofluoric acid Because of its activity fluorine does not occur free (uncombined) in nature CRYOLITE and FLUORITE (or fluor spar, its chief commercial source) are important compounds. The gas was first prepared by Henri Moissan in 1886 by electrolysis of a solution of hydrogen fluoride containing potassium hydrogen (acid) fluoride Fluorine is of importance only in its compounds, which include hydrofluoric acid, used in metallurgy and etching, and some that are used as insecticides

fluorite (floo'urīt) or **fluor spar** (floo'ur spar), a mineral appearing in various colors, e g , green, yellow-brown, rose, and red Chemically, it is calcium fluoride, a compound of calcium and fluorine Its crystals, commonly cubic, are transparent or translucent and under certain conditions exhibit fluorescence The mineral also occurs in granular and massive forms Fluorite is found in various parts of the world, especially in England, in Germany, and in Kentucky and Illinois in the United States Its chief use is as a flux in METALLURGY, but it is also employed in the preparation of hydrofluoric acid and in the manufacture of opal glass and enamel, some of its more perfect crystals are used for making lenses and prisms

fluoroscope (floo'ruskōp), device used in medicine for diagnosis It involves the use of the X ray, the apparatus itself consists essentially of a pyramidal box with the large end fitted with a fluorescent screen and the small end with an aperture for the observer's eyes Since certain harmless bismuth salts do not permit the passage of the X rays, when a patient has been given a copious dose of these salts and is then placed in such a position that the abdomen is between the fluorescent screen and the X-ray source, the course of the bismuth through the alimentary canal can be seen in outline

fluor spar: see FLUORITE

Flushing (flŭ'shĭng), Dutch *Vlissingen* (vlĭ'sĭng-un), municipality (pop 19,430), Zeeland prov., SW Netherlands, a port on the southern coast of Walcheren island It is a terminus for boats crossing the English Channel from Harwich, England, and has oil refineries, shipyards, and machinery and metallurgical plants One of the first Dutch towns to rebel (1572) against Spain, Flushing has always held a strategic position dominating the mouth of the Scheldt. In the Napoleonic Wars a British expedition briefly wrested (1809) Flushing from the French In the Second World War, British commando troops took Flushing in Nov , 1944, thus clearing the entrance to Antwerp Admiral de Ruyter was born here

Flushing, 1 Village (pop 1,806), S Mich , on the Flint river and NW of Flint, settled 1833, inc 1877 Numerous Indian mounds are near by 2 Residential section of N Queens borough of New York city, SE N Y It was chartered in 1645 to English settlers by the Dutch West India Company and named Vlissingen, which became Flushing QUEENS COLLEGE is here, the Bowne House (1661) and the Quaker meetinghouse (c 1696) are also of interest In 1939 and 1940 the New York World's Fair was held at Flushing Meadows (now a park); this was later the site of meetings of the General Assembly of the United Nations See Haynes Trebor, *Colonial Flushing* (1945) 3 Village (pop 1,217), E Ohio, W of Wheeling, W.Va , in a coal area, settled 1809, inc 1840

flute, in music, generic term for such wind instruments as the FIFE, the FLAGEOLET, PANPIPES, the PICCOLO, and the RECORDER. The principal modern flute is the transverse flute, in which air is blown across a hole in its side, the vibrating edges of the hole set a column of air vibrating, thus producing the tone The origin of this type of flute was very early It underwent improvements in the baroque period and was introduced into the opera orchestra by Lully in 1677 In the classical period, the transverse flute replaced the less expressive recorder, which was generally employed in the time of Bach and Handel In the 19th cent. the transverse flute assumed substantially its present form with the improvements of Theobald Boehm (1794?–1881). He ascertained the acoustically correct size and placing of the holes and devised an ingenious system of keys to cover them. The flute may be of wood or metal and is one of the most expressive instruments of the modern orchestra It also has a considerable solo literature See Theobald Boehm, *Flute and Flute-Playing in Acoustical, Technical, and Artistic Aspects* (1871; Eng tr , 1908), David Ehrlich, *The History of the Flute from Ancient Times to Böhm's Invention* (1921)

flux. see METALLURGY. For magnetic flux, see MAGNETISM.

Fly, largest river of New Guinea, rising in the Victor Emmanuel Range in the Territory of New Guinea and flowing southeast 650 mi through the Territory of Papua to the Gulf of Papua For c 50 mi. of its course it forms the boundary between Netherlands New Guinea and the Territory of Papua It is navigable for 500 mi by steam launch.

fly, name for many winged insects, but properly restricted to certain members of the order Diptera, which includes the housefly, gnat, midge, and mosquito Only one pair of wings is functional A pair of knobbed threadlike structures, the halteres, which aid in balancing, are vestiges of the second pair of wings Many flies are harmful either as carriers of disease or as destroyers of crops Some parasitize harmful insects Vinegar flies of the genus *Drosophila* are used in the study of heredity The larvae or maggots of some species of blowfly are sometimes used to cleanse wounds and diseased bone

flycatcher, name of various members of an Old World family of songbirds, the Muscicapidae For some members of the New World tyrant flycatcher family (Tyrannidae), see KINGBIRD, PEWEE; PHOEBE, SCISSOR-TAILED FLYCATCHER

Flygare-Carlen, Emilie Smith, Swed *Flygare-Carlén* (flü'garĕ"-kaalān'), 1807–92, Swedish novelist Upon the death of her first husband she turned to writing, and her first novel, *Valdemar Klein* (1838), met with success In 1841 she married J G Carlen, and their home in Stockholm became a literary gathering place With *The Rose of Thistle Island* (1842, Eng tr , 1844) she found her proper milieu for her stories—sea life on the Bohuslan skerries where her childhood was spent Her later books include *A Night by Bullar Lake* (1847), *A Merchant's House on the Skerry* (1859), and her *Reminiscences of Swedish Literary Life* (1878)

flying animals. Birds and insects are the only large group of animals in which the chief method of locomotion is by FLIGHT Among mammals only the BAT is capable of true flight See also FLYING FISH, FLYING SQUIRREL, LIZARD

Flying Dutchman, according to sailors, an ominous apparition of a full-rigged ship seen near the Cape of Good Hope Its captain is said to be doomed to sail forever, because of a blasphemous oath he made A form of the story is used in Wagner's opera *Der fliegende Holländer*

flying fish, name for various gliding fish found in warm seas and usually traveling in schools Some have only the pectoral or anterior paired fins enlarged and winglike, e g , those of the genus *Exocoetus*, often seen in the N Atlantic, which are usually less than a foot long In others, e g , the Catalina flying fish (*Cypselurus*) which is about 18 in. long, the pelvic or hind paired fins are also enlarged. Flying fish rise into the air, sometimes to a height of 25 ft , after swimming rapidly underwater and then "taxiing" along the surface, propelled by movements of the tail It is generally agreed that they do not flap the wings but merely glide With favorable winds some are said by observers to remain aloft for a distance of 400 yd Their flesh is palatable The flying gurnard (*Cephalacanthus*) can glide for a short distance.

flying fox. see BAT

flying squirrel, name applied chiefly to certain nocturnal tree squirrels most abundant in Asia but found also in North America and Europe They do not really fly but glide from heights with the fold of furry skin, which extends along each side of the body, spread like a parachute The broad flat tail acts as a rudder. The animal's soft fur is some shade of brown or gray above. It nests in tree cavities, often a woodpecker's hole The North American tree squirrel (*Glaucomys*) is 9 to 14 in. in total length

Flynn, Edward Joseph, 1892–, American political leader, b New York city, grad Fordham law school, 1909 He practiced law in New York city and served (1917–21) in the New York state legislature He became leader of the Democratic party in Bronx co. and a power in New York and national politics. He succeeded (1940) James A FARLEY as national chairman of the Democratic party and successfully directed Franklin Roosevelt's third-term presidential campaign Named (1943) envoy to Australia by President Roosevelt, Flynn quit as Democratic national chairman, but when his appointment was not confirmed by the U S Senate, he returned to the Democratic National Committee. He described his political experiences in *You're the Boss* (1947).

Flynt, Josiah, 1869–1907, American author, b. Appleton, Wis., studied at the Univ. of Berlin. His real name was Josiah Flynt Willard. After living as a hobo for years, he wrote *Tramping with Tramps* (1899), *Notes of an Itinerant Policeman* (1900), some fiction, and his autobiography, *My Life* (1908).

flywheel, heavy metal wheel attached to a drive shaft, with most of its weight concentrated at the circumference. It is used on engines and other machines to equalise energy exerted and work done and thereby prevent great changes in velocity. Developed by James Watt in his work on the steam engine, it serves to carry the rotation past the dead center which occurs at the end of each piston stroke. Its kinetic energy fulfills a similar need in other machines

Foakes-Jackson, Frederick John: see JACKSON, FREDERICK JOHN FOAKES-

Foca, Turkey see PHOCAEA

Foch, Ferdinand (fĕrdēnäⁿ' fôsh'), 1851–1929, marshal of France. Imbued with the desire for revenge after the Franco-Prussian War, he embarked upon a military career, becoming a professor at the École de Guerre and, later, director of that institute. At the beginning of the First World War, Foch was responsible, with Joffre and Galliéni, for stopping the German advance at the Marne (Sept., 1914). He participated in the first battle of Ypres (1915) and that of the Somme (1916), and, after a brief eclipse, he was appointed (1917) chief of the French general staff. In March, 1918, Foch assumed the unified command of the British, French, and American armies. In this capacity, he was perhaps more responsible than any other one man for the winning of the war. See B. H. Liddell Hart, *Reputations, Ten Years After* (1928) and *Foch, the Man of Orléans* (1932), Charles Bugnet, *Foch Speaks* (Eng. tr., 1929).

Focşani (fôk-shan', -shä'nĕ), town (pop. 27,960), E Rumania, in Moldavia, NW of Galaţi, at the foot of the Transylvanian Alps. It is a trade center for wine, lumber, and grain and has textile and other manufactures. Here in 1789 the Austrians and Russians defeated the Turks. In the First World War the German-Rumanian armistice was signed here in Dec., 1917.

focus. In optics, the point at which rays converge after reflection by a MIRROR or refraction by a LENS is known as a real focus, the imaginary point from which rays appear to have diverged after reflection by a convex mirror or refraction by a diverging lens is known as a virtual focus

foetus see FETUS

fog, aggregation of water droplets immediately above the surface of the earth or water, similar to a cloud. A light or thin fog is usually called a mist. Fog may occur either when the moisture content of the air is increased beyond the saturation point or when the air is cooled below the dew point, in either case condensation of the excess moisture takes place on the microscopic dust particles (condensation nuclei) in the atmosphere. When caused by increase of moisture content, fog results from the evaporation of warm water into cold air, occurring either when cold air streams over a warm water surface (steam fog) or when a warm rain falls through a layer of cold air near the ground (frontal fog). More important is the occurrence when the air is cooled below dew point, the fog being caused by radiation of heat from the earth during a calm cloudless night, with subsequent cooling, by conduction, of the air adjacent to the ground (radiation fog), by the flow of warm air over a cold land or water surface (advection fog), or by air ascending a slope and cooling by expansion (upslope fog). Fog commonly found in valleys and depressions in the morning, especially during autumn, is of the radiation type, which, because of its shallow nature, is dissipated by the sun's heat as the day progresses. On the other hand, the extensive fog banks occurring frequently along the coasts of Newfoundland and Labrador are of the advective type and, being generally quite deep, often persist for days at a time, greatly hindering shipping and aviation activity. The "pea-soup" fogs of London result mainly from the large amount of industrial smoke in the air over the city, which, in addition to providing numerous nuclei for condensation, contributes a darkening effect in itself

Fogarty, Thomas, 1873–1938, American illustrator and art teacher, b. New York city, studied at the Art Students League. He taught at the League from 1908 to 1922. Among the books which Fogarty illustrated are Jacob Riis's *Making of an American* and several of David Grayson's

Fogazzaro, Antonio (äntô'nyō fōgät-tsa'rō), 1842–1911, Italian novelist and poet. Born of a well-to-do family and not obliged to earn his living, he studied but did not practice law. In 1874, at 32, he published his first work, a poem, *Miranda*. His famous novel *Malombra* (1881, Eng. tr., *The Woman*, 1907) was followed by a number of fictional works, involved, full of "characters," humorous, and recalling the 19th-century English novelists. They include *Daniele Cortis* (1885; Eng. tr., 1887); *Piccolo mondo antico* (1896, Eng. tr., *The Patriot*, 1906), one of the great Italian novels of the later 19th cent.; and its three sequels, *Piccolo mondo moderno* (1901; Eng. tr., *The Sinner*, 1907), *Leila* (1905; Eng. tr., *The Saint*, 1906), and *Leila* (1911). See Tommaso Gallarati-Scotti, *Life of Antonio Fogazzaro* (1920, Eng. tr., 1922).

Fogelberg, Bengt Erland (bĕngt' ĕr'länd fō'gulbĕr"-yü), 1786–1854, Swedish sculptor. He studied in Stockholm, in Paris, and in Rome, where he lived for many years. His statues of Greek and Norse mythological figures, such as *Venus Victrix*, *Odin*, and *Thor*, are in the Stockholm Museum. He also made portrait statues of bygone Swedish heroes including Gustavus Adolphus and Birger Jarl. Charles XIV made him court sculptor just before his death.

Fogg, George Gilman, 1813–81, American journalist, b. Meredith Center, N.H., grad. Dartmouth, 1839. Interested in politics, he was active in the Free-Soil movement and in the formation of the Republican party. He was influential largely through the *Independent Democrat*, which he founded (1846) in Concord, N.H. From 1861 to 1865 he was U.S. minister to Switzerland.

Foggia (fôd'jä), city (pop. 57,234), capital of Foggia prov., Apulia, S Italy. It is an important communications center and the main wheat market of S Italy. Since ancient times it has been the custom to store grain in huge holes dug in the squares of the city. Foggia was a favorite residence of Emperor Frederick II. There is a greatly restored 12th-century cathedral, only a fine portal is left of Frederick's castle. Foggia was the chief German air base in S Italy during the Second World War and suffered heavy damage from Allied bombing.

Fogo (fō'gō), town (1945 pop. 1,036), on Fogo Island, N.F., on the north coast.

Fogo Island, area 96 sq. mi., off NE Newfoundland, N of Hamilton Bay. East of it 25 mi. are two islets, the Funks, the last breeding place of the great auk, which became extinct after it was driven from here. Cape Fogo is on the northeast coast.

Föhr (fûr), island (32 sq. mi.; pop. c.11,200), off Schleswig-Holstein, N Germany, in the North Sea, one of the North Frisian Islands. Agriculture, fishing, and digging oysters are the main occupations. The principal town, Wyk (pop. 5,948), is a bathing resort.

foie gras (fwä grä') [Fr.,=fat liver], livers of fat geese. Duck livers may also be used, but are considered inferior because the fat melts too readily. The birds, penned in close coops to prevent exercise, are systematically fed to the limit of their capacity. Under this treatment the livers are brought to weigh 2 or 3 lb. or more. *Foie gras* was prized by epicures in Egypt, Greece, and Rome, but the fattening of geese for their livers became a lost art during the Middle Ages except in Strasbourg. The industry was revived in the 18th cent. following the invention of *pâté de foie gras* by Close (or Clausse), a chef brought to Alsace by a French governor of the province. The *pâté* is made by cooking fresh livers, reducing them to a paste delicately seasoned with wine and aromatics and combining it with truffles. The making of *foie gras* has become a famous industry of Strasbourg and of Toulouse, France. The product is exported to all parts of the world in several forms—the esteemed *pâté; foie gras au naturel*, the plain cooked livers, a sausage, and a purée.

Foix, Gaston de (gastō' du fwä'), 1489–1512, duke of Nemours, French general in the ITALIAN WARS, nephew of King Louis XII. As commander of the French army in Italy in 1512, he proved his outstanding ability, making his small army highly effective by the use of surprise and forced marches. He relieved Bologna, defeated the Venetians at Isola della Scala and Brescia, and successfully laid siege to Ravenna, where he was killed.

Foix (fwa), town (pop. 6,026), capital of ARIÈGE dept., S France, on the Ariège. Today a market center with a bauxite industry, it was the capital of the countship of Foix, which in the 11th cent. was detached from the countship of Carcassone for Roger, first count of Foix. His successors rose to great power. Though they supported their suzerains, Raymond VI and Raymond VII of Toulouse in the ALBIGENSIAN CRUSADE, they ultimately retained their lands, to which they added, by marriage, the viscounty of BÉARN. The most famous of these counts was GASTON III (Gaston Phoebus). In 1401 the line of Foix-Grailly succeeded the extinct direct line. Francis Phoebus in 1479 inherited the kingdom of NAVARRE from his mother, Leonora, his sister, Catherine, succeeded him. Through her marriage (1494) with Jean d'Albret, she brought her possessions to the house of ALBRET, whose heir became king of France in 1589 as Henry IV. Foix, united with the crownland in 1607, continued as a province under the jurisdiction of the parlement of Toulouse.

Fokine, Michel (mēshĕl' fôkēn', Rus. fô'kyĭn), 1880–1942, Russian ballet dancer and choreographer. He studied at the Imperial Theatrical School (1889–98) and danced at the Imperial Theater, Petrograd. Here his choreographical reforms won Nijinsky, Pavlova, and Mordkin as followers. He created *The Dying Swan* for Pavlova in 1905. In 1909 he took to Paris a company of dancers which became Diaghilev's Russian Ballet. In his choreographical work (1909–14) for this company, based on the old system of training but with elimination of rigid traditions, Fokine founded modern ballet. He became a citizen of the United States (1932), where he formed several companies and conducted a ballet school. His numerous choreographical works include *Acis et Galatée*, *Les Sylphides*, *Petrouchka*, *Prince Igor*, *Le Coq d'Or*, *Scheherazade*, *L'Oiseau de feu*, and *Bluebeard*. See C. W. Beaumont, *Michel Fokine and His Ballets* (1935), Grace Robert, *The Borzoi Book of Ballets* (1946).

Fokker, Anton Hermann Gerard (än'tōn hĕr'mən gā'rärt fô'kûr), 1890–1939, American airplane constructor, b. Java. In 1912 he erected an airplane factory at Johannesthal, Germany, and a year later he established a factory also at Schwerin. In the First World War he became famous as the constructor of the Fokker triplanes and biplanes, the combat planes employed by the German army. After the war he turned to the development of commercial aircraft, establishing the Fokker Aircraft Works in the Netherlands. In 1922 he came to the United States and was later naturalized. He was for a time president of the Fokker Aircraft Corporation of America.

Folcroft (fōl'krôft), borough (pop. 1,592), SE Pa., near Philadelphia, inc. 1927.

fold, in geology, a bent or deformed arrangement of stratified rock. Although stratified rocks are normally deposited on the earth's surface in horizontal layers (see STRATIFICATION), they are frequently found inclined or curved upward or downward from the horizontal. Arches or upfolds in stratified rock are called anticlines, troughs or downfolds, synclines. A third type of fold, the monocline, slopes in but one direction, it is more correctly called a flexure and generally passes into a fault. An imaginary line drawn along the crest of an anticline or the trough of a syncline is its axis, the two sides curving away from the axis are the limbs. If both limbs, dipping in opposite directions, make the same angle with the horizontal, and if an imaginary axial plane passed through the axis, and the center of the fold is perpendicular and divides the fold into two equal halves, the fold is symmetrical, if the limbs make unequal angles, and if the axial plane is inclined and does not bisect the fold, the fold is asymmetric. If one limb lies partly under the other, and the axial plane is inclined, the fold is overturned, if one limb lies almost completely under the other, and the axial plane is almost horizontal, the fold is recumbent. The axis of a fold cannot be indefinitely extended parallel to the horizontal, but plunges or emerges as the fold tapers off to a plane. Certain domes are very short anticlines with axes plunging at both ends, while some basins, similarly, are synclinal structures. Folds are commonly formed at some distance below the surface, but complete folds or portions of folds are exposed by erosion. Anticlines frequently have their crests eroded, till only the worn-down stumps of the two limbs remain, in a similar manner, younger rock may occupy the trough of a syncline so that only the edges of the limbs project above the surface. The nature of the fold can generally be determined, however, from the arrangement of the outcrops, or exposed portions, thus, two outcrops dipping toward each other mark a syncline, and two outcrops dipping away from each other, an anticline. Folds on a grand scale, extending, for example, most of the length of a continent, are known as geosynclines and geanticlines. The immediate cause of folding is generally conceded to be the horizontal compression of the earth's surface, anticlines being squeezed up by this compression and synclines formed between anticlines. The problem of the ultimate cause of fold formation is similar to that of fault formation, both being earth movements involved in MOUNTAIN building.

Földes, Jolan (yō'län fûl'dĕsh), Hung. *Földes Jolán*, 1902–, Hungarian novelist. Her novel *The Street of the Fishing Cat* (1936, Eng. tr., 1937) won the All-Nations Prize.

Folengo, Teofilo (tāō'fēlō fōlĕng'gō), 1491–1544, Italian burlesque poet, who used the pseudonym Merlinus Coccaius or Merlino Coccajo. He became a benedictine monk, but left his monastery c.1515 to become a wandering poet, returning to it c. 1527. Folengo was the first of the macaronic poets (mixing Latin and the vernacular and adding Latin endings to Italian words). His *Baldus* is a burlesque of the chivalric romance preceding *Don Quixote*. There is evidence in *Pantagruel* that *Baldus* was known to Rabelais.

Foley, John Henry, 1818–74, Irish sculptor, studied at the Royal Academy of Arts. He executed many important commissions, including the figure of Prince Albert and the group *Asia* for the Albert Memorial and statues of Sir James Outram (Calcutta) and Stonewall Jackson (Richmond, Va.). He was the designer of the seal of the Confederate States of America.

Folger, Charles James (fōl'jûr), 1818–84, U.S. Secretary of the Treasury (1881–84), b. Nantucket, Mass., grad. Hobart College, 1836. A lawyer of Geneva, N.Y., he held judicial posts and was (1861–69) a state senator. Opposition to slavery caused

him to turn from the Democratic to the Republican party, but in 1870 he was the candidate of both parties for the post of associate justice of the state court of appeals—a post he held except when chief justice briefly As Secretary of the Treasury under President Arthur he reduced the public debt and initiated civil service administration in his department He was defeated in the race for governorship of New York in 1882 by Grover Cleveland

Folger, Henry Clay, 1857–1930, American capitalist and collector of Shakspeariana, grad Amherst College, 1879, and Columbia School of Law, 1881 His connection with Standard Oil companies, beginning in 1879, continued until his retirement 49 years later as chairman of the board of the Standard Oil Company of New York He became a Shakspere admirer in his college days, and study made him a discerning and enthusiastic collector His wife, **Emily Jordan Folger** (d 1936), was his ardent associate in this work Their collection, quietly acquired, became one of the largest in the country and extremely valuable The **Folger Shakespeare Library,** east of the Library of Congress, Washington, D C , was dedicated in 1932

Folger, Peter, 1617–90, British settler on Nantucket He was associated with Thomas Mayhew on Marthas Vineyard, becoming missionary, schoolmaster, and surveyor, but in 1659 he went to Nantucket as surveyor He moved there in 1663, added other duties to those he possessed in Marthas Vineyard, and became a leader in the community He was a Baptist and was opposed to the intolerance of the Massachusetts leaders He wrote *A Looking Glass for the Times* (1676), which his grandson, Benjamin Franklin, described as a defense of liberty of conscience in "homespun verse—written with a good deal of decent plainness and manly freedom "

Folger Shakespeare Library. see FOLGER, HENRY CLAY

Folgore da San Geminiano (fōl'gōrā dä sän jāmēnyä'nō), late 13th-century Italian poet He wrote a cycle of sonnets on the seasons, interspersed with satire upon the manners of the youth of his day For translations of his poems, see D G Rossetti, *The Early Italian Poets* (ed by E G Gardner, 1904), and Lorna De Lucchi, *An Anthology of Italian Poems* (1922)

Foligno (fōlē'nyō), city (pop 10,694), Umbria, central Italy It is a commercial center, manufacturing cotton and wool textiles and paper It has a Romanesque cathedral (12th cent) and several notable churches and palaces A local school of painting flourished in the 15th cent

folk dance, primitive, tribal, or racial form of the DANCE, sometimes the survival of some ancient ceremony or festival The term is used also to include characteristic national dances, country dances, and figure dances in costume to folk tunes Many children's games, such as "London Bridge" and "The Farmer in the Dell," are traditional folk dances Good examples are the Spanish alemana and FANDANGO, the Bohemian POLKA, the Hungarian czardas, the Irish JIG, the HIGHLAND FLING, and the English MORRIS DANCE, sword dance, and Maypole dance American folk dances, such as the VIRGINIA REEL and "Pop Goes the Weasel," are largely derived from European sources Early in the 20th cent Cecil James SHARP, founder of the English Folk Dance Society, made a notable collection of English folk songs and dances, including many from the S Appalachian Mts The American Folk Dance Society has done much to preserve the knowledge of old American country dances, and a similar interest has developed in many other countries Folk dancing is often taught in schools, and it is becoming increasingly popular as a form of recreation See Beth Tolman and Ralph Page, *The Country Dance Book* (popular ed , 1944), Anne S Duggan and others, *Folk Dance Library* (5 vols , 1948), Margot Mayo, *American Square Dance* (2d ed , 1948)

Folkestone (fōk'stun), municipal borough (1931 pop 35,889, 1947 estimated pop 41,810), Kent, England, on the Channel at the foot of chalk hills WSW of Dover. It is a summer resort and seaport The **parade of the Leas,** along the cliffs, terminates at a war memorial There are vestiges of Roman occupation in the vicinity, and an 11th-century parish church is restored Folkestone has a good harbor, used by fishing vessels and passenger ships to Boulogne and other continental ports Folkestone is the birthplace of William Harvey The town suffered frequent air raids and bombardment in the Second World War

Folketing see RIGSDAG.

folklore, in its widest extent, the body of oral traditions, art, and superstitions of an ancient or a modern society It includes folk dances, folk songs, folk medicine (the use of magical charms and herbs), and folk tales (myths, rhymes, and proverbs) The study of folklore (a name first used in the middle of the 19th cent) originally was the domain of the antiquarian, but the simultaneous rise of European romanticism, with its interest in the past, and of nationalism, with its stress on the indigenous, made study of folklore a serious pursuit Folk and fairy tales were collected and are being collected today in even greater quantity. Folk heroes (e g , Frederick Barbarossa in Germany, Robin Hood in England, the Cid in Spain, and Paul Bunyan and John Henry in the United States), both semihistoric and imaginary, received much attention Theories to explain folk tales—particularly to explain away the abhorrent and fantastic elements—were legion Max Müller, a philologist, interpreted the legends as linguistic corruptions, Jakob Grimm saw them as corrupted cosmic allegories, the German school considered them as personified elements of nature; Edward Tylor and Andrew Lang held them to be survivals from a savage society, and more recently the psychoanalytical school finds them fraught with sexual symbolism Today anthropologists regard folk tales as an imaginative expression by a social group of its desires, attitudes, and cultural values They use tests to determine whether the tale is the result of diffusion or independent invention Almost every country has a folklore society which collects, analyzes, and publishes folk material (e g , the English Folklore Society, which published *Folklore,* and the American Folklore Society, which publishes the *Journal of American Folklore*) See B A Botkin, *A Treasury of American Folklore* (1944), *Funk and Wagnalls Standard Dictionary of Folklore, Mythology, and Legend* (ed by Maria Leach, 1949)

Folks, Homer (fōks), 1867–, American social worker, b Hanover, Mich , grad Harvard, 1890 As secretary of the State Charities Aid Association of New York for many years (after 1893), he helped draft and secure much important and progressive legislation in the fields of child welfare, probation, mental hygiene, and public health He acted as special adviser (1900) in relief activities to the military government of Cuba and conducted surveys (1917–19) in Europe for the American Red Cross His writings include *The Care of Destitute, Neglected, and Delinquent Children* (1900) and *The Human Costs of War* (1920)

folk school, form of adult education which in its most widely known form originated in Denmark in the middle of the 19th cent The idea as originally conceived by Bishop Nikolai GRUNDTVIG was to stimulate the intellectual life of young adults (generally 18 to 25) of rural Denmark, to foster patriotism and strengthen religious conviction, and to provide some agricultural and vocational training The first school, established in Schleswig in 1844, was moved across the Danish border after Schleswig passed to Prussia The movement then gained impetus and numerous schools were established, with national history and literature emphasized in the curriculum The courses were shortened to five months in the winter and three months in the summer The schools were of great influence on the civic life of rural Denmark and helped measurably to improve the condition of the small farmer whose products were marketed through cooperative societies The folk-school idea spread throughout Europe, with local adaptations in plan In the United States notable experiments in this form of adult education were instituted at Rome, Ga , and at Brasstown, N C , where the John C Campbell Folk School was founded in 1925 See H W Foght, *The Danish Folk High Schools* (1914), Martin Hegland, *The Danish People's High Schools* (1915), J K Hart, *Light from the North* (1927), O D Campbell, *Danish Folk School* (1928), Holger Begtrup, *The Folk High Schools of Denmark* (1936)

folk song, music of anonymous composition, transmitted orally, and consisting of pure melody The theory long held that folk songs were composed by the people has been reinterpreted by recent scholars, who assume that each folk song began as the creation of one person and that the group's contribution lies in the alterations, which are sometimes improvements, made as the song is transmitted National traits are observable in folk song, even in the case of songs transplanted from one country to another There is scarcely any people whose folk song is wholly indigenous, a notable instance of transplanting is in the examples of the English BALLAD found in various parts of the United States Bela Bartok did outstanding work in the collecting and notating of authentic folk songs of Central Europe, and the influence of this work is shown in his compositions The Russian nationalists—Glinka and "The Five"—made use of the rich store of Russian folk song On the other hand, folk song is often found to have been influenced by art music, this is particularly true of 17th- and 18th-century European folk song Some American scholars include as folk song certain songs of traceable authorship, e g , *Dixie* The study of the folk song was greatly facilitated by the invention of the phonograph, for the folk songs of many peoples can be only approximately and with difficulty written down in conventional Western notation See CHANTEY, SPIRITUAL, bibliography under BALLAD See Cecil Sharp, *English Folk Song* (1907), Ralph Vaughan Williams, *National Music* (1934), Leonhard Deutsch, *A Treasury of the World's Finest Folk Song* (1942), Olin Downes and Elie Siegmeister, *A Treasury of American Song* (rev ed , 1943), J A. Lomax and Alan Lomax, *Folk Song, U S.A* (1948)

Folkston, city (pop 1,024), co seat of Charlton co., SE Ga , SE of Waycross and near the St. Marys river, here the Fla. line, in a lumber area.

folkways, term coined by William Graham SUMNER to define more clearly those group habits and guides to conduct usually denoted as CUSTOM. Those behavior patterns which become reinforced by group approval and sometimes coerced by moral sanctions are called mores by Sumner The mores of a culture form the basis of social law The total folkways of a group, which include its traditions, manners, usages, mores, and laws, represent its culture By emphasizing the cultural distinctiveness of such patterns and their selective cumulation, Sumner provided in *folkways* a useful addition to cultural concepts. The term has failed, however, to maintain the currency it once received in the literature of social science See W G. Sumner, *Folkways* (1907)

Follansbee (fōl'ŭnzbē), steel-manufacturing town (pop. 4,834), W Va , in the Northern Panhandle, on the Ohio and S of Weirton, inc 1906 Tar and chemicals are also produced

Follen, Charles (Karl Theodor Christian Follen) (fō'lun), 1796–1840, American educator, b Giessen, Germany, educated at the Univ of Giessen After serving (1813–15) against Napoleon, he taught in 1818 at the Univ of Jena and from 1820 to 1823 at the Univ of Basel, but was dismissed in both instances because of his liberal political views In 1824 he came to the United States and in 1825 joined the faculty of Harvard to teach ethics, history, and German, his was the first course in German offered in America In 1828 he married Eliza Lee Cabot of Boston, a marriage which brought him into an intellectual and liberal circle that included W E Channing and Henry Ware He became an American citizen in 1830 His identification with the New England antislavery movement led to his dismissal (1835) from Harvard, and he devoted the remainder of his life, as lecturer, writer, and Unitarian minister, to reform movements See biography by G W Spindler (1917) His associate in reform work was his wife, **Eliza Lee (Cabot) Follen,** 1787–1860, who edited his works (5 vols , 1841–42), to which she appended a memoir She became influential as a writer in the Unitarian movement as well as in antislavery agitation and in promotion of women's education

Folquet de Marseille (fōlkā' du marsā'yu), 1150–1231, Provençal troubadour, noted for his songs of gallantry and love He took orders and rose to be archbishop of Toulouse He became notorious as the chief prosecutor of the Albigensian Crusade against the heretics of Provence and lived to persecute his former fellow singers Dante awarded him a place in Paradise

Folsom (fōl'sum), city (pop c 2,400), central Calif , on the American river and ENE of Sacramento, founded 1855, inc 1946 The town was on the road to the gold fields, and the first steam railroad in California was built from Sacramento to Folsom in 1856 Folsom is the seat of a state prison

Folsom culture (fōl'sum, fōl'–), early North American culture known through artifacts first excavated (1926) near Folsom, E of Raton, N Mex The artifacts include chipped flint points known as Folsom points and a variety of other stone implements The Folsom points are shaped somewhat like a laurel leaf and show a distinct lengthwise groove on each face It is believed that they were probably javelin heads Remains of extinct mammals including the bison, camel, and mastodon have been found in association with Folsom points There is evidence that many of the animals were cooked and eaten where they were killed Since the first finds were made, numerous other sites in W and SW United States and some sites in Canada have yielded evidences of Folsom culture No remains of Folsom man have yet been discovered The Folsom findings are significant in furnishing evidence that indicates, according to some scientists, the existence of man in North America from 15,000 to 25,000 years ago Others hold that man reached North America between 7,000 and 10,000 years ago See F C Hibben, *Lost Americans* (1946)

Folwell, William Watts (fōl'wul), 1833–1929, American educator and historian, b Romulus, Seneca co , N Y , grad Hobart College, 1857 He taught mathematics at Hobart, studied in Germany, served in the Union army in the Civil War, and later taught at Kenyon College As first president of the Univ of Minnesota (1869–84), he developed a broad, forward-looking educational program Later (1884–1907) he was librarian and professor of political science there In 1872 he helped initiate the Minnesota geological and natural history survey He also was active in Minneapolis and state affairs Much of his scholarly *History of Minnesota* (4 vols , 1921–30) was completed after his 90th year His autobiography and letters were published in 1933

Fomors (fō'mōrz) [Irish, =overseas], in Irish tradition, as recorded in *The Book of Invasions,* a foreign invading people who attacked the FIRBOLGS and defeated them They were supposed to come from Scandinavia They were defeated by the TUATHA DE DANANN.

Fonda (fŏn'dù) **1** Town (pop 1,188), NW Iowa, W of Fort Dodge **2** Industrial village (pop 1,123), co seat of Montgomery co, E central N Y, on the Mohawk and W of Amsterdam, inc 1850 It is a freight transfer point Gloves and silk fabrics are made here

Fond du Lac (fŏn' dù lăk", jŏō lăk"), industrial city (pop 27,209), co seat of Fond du Lac co, E Wis, at the south end of Lake Winnebago and on the Fond du Lac, NW of Milwaukee, settled c 1835, inc 1852 From its beginning as a French fur-trading post in the late 18th cent, Fond du Lac grew to be a lumbering town and, after the coming of the railroad, into an industrial city with railroad shops, limestone quarries, and various manufactures It also attracts visitors with its resort facilities In the 18th cent the term Fond du Lac was applied to many regions around the Great Lakes, including the bay near Keweenaw peninsula

Fonseca, Juan Rodríguez de (hwän' rōdrē'gĕth dā fōnsä'kä), 1451–1524, Spanish prelate He was bishop successively of Badajoz, Palencia, Córdoba, and Burgos and later archbishop of Rossano As head of the department of affairs of the Indies, he greatly hampered, after 1493, the explorations of Columbus and was later an enemy of Hernán Cortés

Fonseca, Manuel Deodoro da (manwĕl' dŭdō'rō dä fōnsä'ku), 1827–92, first president of Brazil (1891) A leader of the discontented militarists who helped overturn the empire (Nov, 1889), he headed the provisional government which established the republic In 1891, Fonseca was elected president by the constituent assembly Attempting to seize absolute power, he was forced to resign (Nov, 1891) and was succeeded by Vice President Floriano PEIXOTO

Fonseca, Gulf of (fōnsä'ka), inlet of the Pacific, c 50 mi long and 30 mi wide, Central America In a volcanic area, it is a natural but shallow harbor shared by Nicaragua, Honduras and Salvador Honduras has ports on Tigre Island, La Unión, Salvador, is on the gulf Nicaragua leased (1916) rights on the gulf to the United States as an adjunct of the NICARAGUA CANAL, causing serious protests from Salvador, which were upheld by the Central American Court of Justice but ignored by the United States and Nicaragua

Fontaine, Pierre François Léonard (pyĕr' frŭswä' läônär' fôtĕn'), 1762–1853, French architect He was known chiefly for the work which, beginning in 1794, he did jointly with Charles PERCIER, the development of the Empire style in France was almost exclusively an expression of their talents After Napoleon's fall the partnership dissolved (1814), and Fontaine thereafter practiced as court architect in the reigns of Louis XVIII, Charles X, and Louis Philippe He laid out the Rue de Rivoli in Paris, enlarged the Palais Royal, of which he also wrote a history, and published a number of books on architecture

Fontainebleau (fōtĕnblō'), town (pop 13,361), Seine-et-Marne dept, N France, SE of Paris It is a favorite spring and autumn resort It was long a royal residence, chiefly because of the excellent hunting in the vast Forest of Fontainebleau Louis IV resided, Philip IV and Louis XIII were born, here Francis I built the magnificent palace, chief glory of French Renaissance architecture, which was expanded by Henry IV Benvenuto Cellini was one of the artists who decorated the interior The palace witnessed important events ~here Louis XIV signed (1685) the revocation of the Edict of Nantes, Pope Pius VII was imprisoned here (1812–14), and here Napoleon signed his first abdication (1814)

Fontainebleau school see BARBIZON SCHOOL

Fontaine-de-Vaucluse, France see VAUCLUSE

Fontana, Carlo (kär'lō fōntä'nä), 1634–1714, Italian architect Like his master, Bernini, he worked in the debased baroque style at Rome His designs included a new façade for the much-rebuilt Church of Santa Maria in Trastevere (1702) He wrote a work on the Vatican and several engineering treatises

Fontana, Domenico (dōmä'nēkō), 1543–1607, Italian architect He went to Rome, where he built the Sistine Chapel in the Church of Santa Maria Maggiore (c 1580) for Cardinal Peretti When his patron was made pope (Sixtus V), Fontana played a leading part in the great rebuilding of Rome He designed the Lateran palace (1588) and portions of the Vatican, notably the library (1588) An engineer as well as an architect, he built, with his brother Giovanni, the great aqueduct and fountain known as the Acqua Felice (1587) and in 1586 erected the obelisk in front of St Peter's, a feat which won him wide renown With Giacomo della Porta, he completed the dome of St Peter's, following the model left by Michelangelo On the death of Sixtus V, Fontana's Roman career collapsed, he withdrew to Naples, where he built the imposing royal palace (1600) and where he died before the execution of his magnificent designs for the improvement of the harbor

Fontana, Prospero (prō'spārō), 1512–97, Italian painter He aided Primaticcio in the decoration of Fontainebleau but was chiefly active in Bologna, where most of his work remains His *Entombment* (Bologna) is characteristic. His daughter **Lavinia Fontana** (lävē'nyä), 1552–1614?, was a fashionable portrait painter in Bologna and Rome Her two self-portraits (one, Pitti Gall, Florence, the other, St Luke's Acad, Rome) and a portrait of Pope Gregory XIII are well-known works

Fontane, Theodor (tā'ōdôr fōntä'nu), 1819–98, German novelist, poet, and critic Trained as an apothecary, he found his way into journalism and wrote a book of poems published in 1851 After 10 years on the staff of the *Kreuzzeitung*, he was commissioned to write a history of the Franco-Prussian War, went to the front, and was captured After a month's imprisonment, he returned to journalism and served for 19 years, chiefly as a dramatic critic, on the *Vossische Zeitung* When almost 60 he began writing the prose fiction which is his chief claim to distinction, although he excelled as a ballad poet His novels, which blend realism with poetic style and artistic form, include *L'Adultera* (1882), *Irrungen, Wirrungen* (1888, Eng tr, *Trials and Tribulations*, 1917), and *Effi Briest* (1895, Eng tr, 1913–15) He also wrote three novelettes, an account of his imprisonment, travel books, and the autobiographical *Meine Kinderjahre* (1894, Eng tr of extracts, *My Childhood Days*, 1913–15) See Kenneth Hayens, *Theodor Fontane a Critical Study* (1920)

Fontanes, Louis, marquis de (lwē' markē' du fôtan'), 1757–1821, French statesman and poet He was the chief intermediary between Napoleon and the men of letters of the time and was the author of the poems *Le Jour des morts* and *Les Tombeaux de Saint-Denis* His collected works (1839) contain a biography by Sainte-Beuve

Fontanet, battle of, see FONTENOY, France

Fontanne, Lynn (fŏntăn'), 1887?–, American actress, b England, popular on the English as well as the American stage She made her first appearance in the New York theater in 1910 In 1924 she joined the Theatre Guild, New York city She has appeared notably in *The Guardsman*, *Strange Interlude*, *Elizabeth the Queen*, *Reunion in Vienna*, *Design for Living*, *The Taming of the Shrew*, *Idiot's Delight*, *There Shall Be No Night*, *O Mistress Mine*, and *I Know My Love* In most of her roles her husband, Alfred Lunt, whom she married in 1922, has played opposite her as co-star

Fonte, Jacopo della see QUERCIA

Fontenailles, battle of see FONTENOY, France

Fontenelle, Bernard le Bovier de (bĕrn är' lu bôvyā' du fōtunĕl'), 1657–1757, French author, nephew of Corneille He wrote poems, operas and tragedies but found his true forte in the popularization of science, writing in this vein *Entretiens sur la pluralite des mondes* (1686), his chief work

Fontenoy (fôn'tunoi, Fr fōtunwä'), village (pop 742), Hainaut prov, Belgium, SE of Tournai Here in 1745 Maurice de Saxe, in his most celebrated victory, led the French against the British and their allies under the duke of Cumberland in the War of the Austrian Succession

Fontenoy (fôn'tunoi, Fr fōtūnwä'), small village, Yonne dept, N central France, near Auxerre It is the reputed site of a battle in A D 841 when Charles II of France and Louis the German checked their elder brother, Emperor LOTHAIR I The battle led to the Oath of Strasbourg (see STRASBOURG, OATH OF) and the Treaty of Verdun (see VERDUN, TREATY OF) Fontenoy is also known as Fontenay, Fontanet, or Fontenailles

Fonthill, village (pop 1,000), S Ont, NW of Welland

Foochow (fōō'chou'), Mandarin *Fu-chou*, city (pop 300,377), capital of Fukien prov, China, a port on the Min-kiang delta After the OPIUM WAR (1839–42) it was established as a TREATY PORT About 1850 it was the principal Chinese port and the world's largest tea-exporting center Its importance declined because of the decreased demand for Fukien tea and because of harbor silting, which bars large vessels Bamboo paper and umbrellas are manufactured, and fruits are canned here In the Second World War, Foochow was captured by the Japanese in Oct, 1944, and recovered in May, 1945 It fell to the Communists in 1949

food, see COOKERY, DIET, FROZEN FOODS, NUTRITION; VITAMINS

food adulteration, the act of intentionally debasing the quality of goods offered for sale either by the admixture or substitution of inferior substances or by the removal of some valuable constituent to be used in another form for separate sale The classics contain allusions to wine makers and dealers who colored and flavored their wine In England as early as the 13th cent, bakers cheapened their wares or scanted the weight, and law makers for the first time made an effort to prevent fraudulent dealings on the part of butchers and beermakers In the 18th and early 19th cent in England, coffee, tea, and cocoa were protected against "sophistication" by parliamentary laws, passed not so much in the interest of the consumer as to keep up internal revenues About the middle of the 19th cent chemical and microscopical knowledge had advanced so far that food substances could be analyzed, and the subject of food adulteration began to be studied from the standpoint of the rights and welfare of the consumer The London *Lancet* in 1851 conducted a special investigation In 1855 a parliamentary commission was appointed, and in 1860 the first food law framed in the interest of the purchaser was passed This law, lacking means of enforcement, remained in large measure ineffective until 1872, when penalties for violation and officials of administration were provided In the United States the Pure Food and Drugs Act of 1906 was the result of a long and stormy campaign led by Dr Harvey W WILEY This law, amended in 1912, 1913, and 1919, declared in effect that food is adulterated if it is mixed or packed with another substance so as to reduce or lower or injuriously affect its quality and strength, if any substance has been substituted, wholly or in part, if any valuable constituent has been wholly or in part abstracted, if it has been mixed, colored, powdered, coated, or stained to conceal damage or inferiority, if poisonous or deleterious substances have been added, if it consists wholly or in part of filthy, putrid, or decomposed animal or vegetable substance, or if the product be from a diseased animal or one that died otherwise than by slaughter The act was superseded in 1938 by the stricter Food, Drug, and Cosmetic Act administered since 1940 by the Food and Drug Administration of the Federal Security Agency, which is charged with enforcing truthful and informative labeling of essential commodities, maintaining staff laboratories and formulating definitions and standards promoting fair dealing in the interests of the consumer The Wheeler-Lea Act (1938) makes unlawful false advertising as well as misbranding, the placing on packages of false or misleading statements of weight, qualities, and place of manufacture Imported goods which violate the provisions of the act may be denied admittance to the country and if not exported within a given time may be destroyed The Federal law controls traffic from one state to another and is supplemented by local regulations, which require food handlers to be licensed to prevent the spread of tuberculosis, typhoid, and syphilis and which provide for the inspection by health officers of meat and other foods, of restaurants, and of dairies and cold storage methods Foods often misbranded or adulterated are coffee, tea, milk and cream, butter, cheese, olive oil, bread and flour, breakfast foods and prepared cereals, canned vegetables, vinegar, spices, candy, syrups, and soft drinks Distilled liquors may be entirely synthetic and contain dilute alcohol, raisin or prune syrup, creosote, caramel, and glucose Many special meat products are put up in small amounts and sold as delicacies at high prices, such as "potted" meats and various kinds of sausage, most of these are special preparations using inferior qualities of meat See F A Filby, *A History of Food Adulteration and Analysis* (1934), R D Lamb, *American Chamber of Horrors* (1936), C R Martin, *Practical Food Inspection* (3d ed, 1948)

Food and Agriculture Organization (FAO), agency of the United Nations It developed out of the conference on food and agriculture held at Hot Springs, Va, in May, 1943 The constitution was formally adopted in Oct, 1945, and the FAO became an agency of the United Nations in Dec, 1946 In 1950 there were 68 countries that belonged to the FAO including some which were not members of the United Nations The organization is governed by a conference composed of the entire membership and meeting at least once biennially and by a council consisting of 18 members Operations of the staff are managed by the director general The objective of the FAO is to contribute toward an expanding world economy by bettering the conditions of rural life, improving agricultural production and distribution, and raising the level of nutrition The FAO has no mandatory powers but seeks by making investigations, publishing reports, and organizing conferences to accomplish its purposes The program operations are conducted by standing committees on agriculture, fisheries, rural welfare, and the like Regional conferences exist in Europe, the Near East, the Far East, and Latin America Among the activities of the FAO are devising plans of food allocation and offering technical aid to members in increasing forestry yield, improving seeds, and developing serums and vaccines

Food, Drug, and Cosmetic Act: see FOOD ADULTERATION

food poisoning, name applied to a number of illnesses marked by gastrointestinal disturbances and other symptoms and caused by eating food contaminated with poisonous substances Formerly the expression "ptomaine poisoning" was used for many kinds of food poisoning, but this term has been generally replaced Ptomaines are produced by the action of bacteria of decay on proteins and are not known to cause illness There are several chief causes of food poisoning, including the presence of bacterial toxins in the food, especially toxins produced by species of *Staphylococcus* and *Salmonella* and by *Clostridium botulinum* (see BOTULISM), the presence of poisonous inorganic chemicals in the food, and the presence of poisonous organic substances in the plant or animal material used for food Staphylococcus poisoning is believed to be the commonest form, the organisms can reach the food from the air or through

contact with a handler, and if the food and temperature are suitable the bacteria grow and form toxin The symptoms (nausea, vomiting, diarrhea, and acute prostration) usually appear from 2½ to 3 hr after eating the contaminated food, in general recovery is quite rapid Among the foods that have produced staphylococcus poisoning are bakery products filled with custard and cream, milk, sausage, ham, tongue, and other cured meats Preventive measures include the reheating to a certain temperature of cream-filled baked goods after the filling has been added and the refrigeration of the products after baking Refrigeration of ham and other meats is essential Many other foods also can cause poisoning if unrefrigerated for a few hours Frozen foods may produce staphylococcus poisoning if not kept under constant refrigeration before using Food poisoning caused by bacteria of the genus *Salmonella* is believed to be produced by ingesting with the food large numbers of the living bacteria. Symptoms usually develop within from 7 to 72 hr , the onset is, as a rule, sudden, and the symptoms are similar to those of staphylococcus poisoning with the addition of abdominal pain (often the first symptom), headache, and chill Contamination of the food is frequently caused by the excreta of rodents and houseflies that harbor the bacteria, the infection can also be transmitted by humans Cooking usually destroys the germs The disease is not common in the United States Chemical poisoning from foods sometimes results from the accidental mixing with foods of poisonous materials to be used for exterminating rodents and insect pests It also occasionally occurs as a result of reactions between some foods and certain kinds of cooking utensils (a chart is given in G. M Dack, *Food Poisoning*, rev ed , 1949) Food in opened cans if kept properly refrigerated does not cause food poisoning Toxic materials can be present in food without giving it a bad odor Among the plants that contain materials causing poisoning are poisonous species of mushrooms, leaves of rhubarb, Italian fava beans and the pollen of the fava bean flower, snakeroot, and water hemlock Poisoning sometimes is caused by eating mussels, clams, and other shellfish, as well as fish, the cause is not always known Some cases of poisoning by mussels have been traced to certain plankton on which the mussels feed

food preservation. From the most primitive ages man has given some attention to the preservation of the food which he secured uncertainly and with great effort Simple processes, growing out of accident, observation, and experience, were employed long before the reasons for their effectiveness were understood. Among the products of early food conservation were cheese and butter, wine and raisins, pemmican, sausage, bacon, and parched grain When modern science began to investigate the causes of decomposition or spoiling of food, it pointed the way to a wider application of preservative agencies already in use and to the discovery of new ones Before 1860 all changes in food were explained on the theory of "spontaneous generation " Pasteur demonstrated that ferments, molds, and some forms of putrefaction were caused by the presence of minute organisms widely distributed in air, water, and soil These require for life and activity certain definite conditions of heat, air, moisture, etc , and if food is made unfavorable to their growth, it is said to "keep" or be preserved Processes of preservation may be generally classified as drying, heating, refrigeration, and the use of chemicals or other particular agencies Drying was early used for fruits, grains, vegetables, fish, and meat It was sometimes combined with parching, as in the toasted oatmeal of the Scotch or the parched corn of the American Indian Modern applications of this primitive device are seen in dried or dehydrated fruits and vegetables, dried milk, and egg powder Meat is dried on a commercial scale by meat-packing establishments The early method of drying was by the direct action of the sun's rays, in modern industry the process is hastened by complex apparatus and chemical agencies Sugar was early combined with drying The process of heating was known and used centuries before its action was understood (See CANNING) One of the most important modern applications of the heat principle is in the PASTEURIZATION of milk Food may be preserved in its original state for a great length of time by REFRIGERATION (see also FROZEN FOODS) Chemical and other agencies include salting, smoking, the use of vinegar, alcohol, saltpeter, and spices, the use of sugar in combination with drying or density, the exclusion of air; and the use, in recent years, of such chemicals as formalin, benzoic acid, alum, lime, salicylic acid, and boric acid to arrest microorganic growth and preserve color. The excessive or unacknowledged use of these chemical agencies has been legislated against by most governments The use of salt for preserving food is very primitive, references to it being found in the earliest literatures Smoking preserves food partly because of the drying action of the heat and partly because the smoke coagulates the albumen on the outside of the meat and so forms a sort of protective coating. Vinegar and other acids inhibit bacteriological action; strong alcohol acts in a similar way Good wine will keep almost indefinitely, and fruit "brandied" or placed in a 15 to 20 percent alcoholic medium is well preserved The exclusion of air, nowadays accomplished by hermetic sealing, is an old device, formerly practiced by pouring hot oil over potted meat or fish, by coating food with fat as in pemmican, or by burying vegetables in the earth or in sand. The modern use of melted paraffin achieves the same result The secret of preserving eggs for household use in a natural condition lies in excluding air from their shells, which are porous, and this may be accomplished by coating them with vaseline or other fat or by immersing them in "water glass" or sodium silicate See W. W. Chenwyth, *How to Preserve Food* (1945).

fool, absurdly irresponsible person, often subject to spells of mirth or melancholy. Some fools are benevolent, others are cunning and malevolent In all countries from ancient times and extending into the 18th cent , mental and physical deformity provided amusement Attached to noble and royal courts were dwarfs, cripples, idiots, albinos, and monsters In the East, in ancient Greece and Rome, and in the Aztec court of Montezuma there were fools whose practice was much the same as those of medieval France, Spain, and England The court fool, however, frequently was not mentally deficient For the freedom to indulge in satire, tricks, and repartee, many men of keen insight and caustic wit obtained powerful patronage by assuming the role of fool. The clown or jester was common in Elizabethan drama, and with the fool's garb the actor gained the freedom of the fool The costume, which was hung with bells, usually consisted of a varicolored coat, tight breeches with legs of different colors—occasionally a long petticoat was worn—and a cap which fitted close to the head or fell over the shoulders in the form of asses' ears One of the buffoon's capers was to inflict blows with an inflated bladder at the end of a staff or scepter This, the fool's bauble, bore at the other end a grotesque head or a fox's tail Till Eulenspiegel and Robin Goodfellow are mythical fools See Barbara Swain, *Fools and Folly* (1932), Enid Welsford, *The Fool* (1936)

Fools, Feast of, burlesque religious festival of the Middle Ages It was somewhat similar to the Roman Saturnalia and was observed on or about the Feast of the Circumcision A boy or young man in the role of bishop (the boy-bishop) conducted the ceremonies, which degenerated into a travesty of the sacred rites of the Church

Foot, Samuel Augustus, 1780–1846, American politician, b Cheshire, Conn , grad Yale, 1797 He served as a Democratic Republican in the Connecticut legislature (1817–18, 1821–23, 1825–26) and in the U S House of Representatives (1819–21, 1823–25) before he was U S Senator (1827–33) In the Senate he became prominent by offering (1829) the FOOT RESOLUTION He was again (1833) elected—this time as a Whig—to the House of Representatives, but resigned to become governor of Connecticut His name appears sometimes as Foote, and Andrew Hull FOOTE was his son

Foot, Solomon, 1802–66, U S Senator from Vermont (1851–66), b Cornwall, Vt , grad Middlebury College, 1826 He taught school, studied law, and was admitted to the bar in 1831 Foot served several terms in the state legislature and was in the U S House of Representatives (1843–47) His antislavery convictions carried him into the new Republican party As Senator he was recognized as a master of parliamentary law (he was often president pro tempore) and established many customs in the Senate's procedure

foot, organ at the extremity of one or both pairs of limbs, found in most higher vertebrates and used chiefly as a base for supporting the body and for locomotion on land or in the water Its form depends upon the arrangement of the bones In man seven bones form the heel, five parallel metatarsals form the long arch, and their lower ends form the transverse arch, which is affected in FLAT FOOT Each toe has three phalanges except the great toe, which has two There are many joints between various bones and a complex arrangement of small muscles Branches of the nerves and arteries of the leg supply the foot The foot is subject to injuries and disorders, e g , CORN, BUNION, and SPRAIN. See D J Morton, *The Human Foot* (1935)

foot and mouth disease, highly communicable disease of cattle, sheep, swine, goats, and other cloven-footed animals It is caused by a virus and is characterized by an eruption of vesicles or blisters on the mucous membranes, especially of the mouth, feet, and udder The discharge from the vesicles is heavily infected with the virus, and the saliva becomes a chief agent by which the disease is spread Thus animals may develop the disease as a result of direct contact with infected animals or indirectly through food, water, soil, barns, and other contaminated materials. Human handlers can infect healthy animals after tending diseased ones. Occasionally humans become victims, but the illness in adults is usually a light one. An epidemic of the disease causes enormous losses to the cattle industry. Occasional outbreaks occur in the United States; in Europe and South America the disease is more prevalent. In 1946 the disease broke out in Mexico and continued for several years. The only certain method of control is believed to be the slaughter and deep burial of all infected animals, complete disinfection of the area where sick animals have lived, and the maintenance of strict quarantine

football, in the United States, a game played by two opposing teams of 11 men each—a fullback, two halfbacks, a quarterback, a center, two guards, two tackles and two ends. Substitution of players is practically unlimited, and in recent years it has been common for large squads to use one full team for offense and another for defense. The football field is level, measures 100 by 53⅓ yd , is marked off by latitudinal stripes every 10 yd , and is flanked on each end by an end zone 10 yd. long At the end of each end zone stand H-shaped goal posts not quite 20 ft high, with the crossbar 10 ft. from the ground and with the vertical posts 18½ ft apart Play is directed toward moving the football —an inflated, leather, prolate spheroid ball, often called the "pigskin"—across the opponent's goal line This done, a team scores a touchdown, counting six points. The game is divided into two halves, each having two periods, or quarters, of 15 min At the end of each of the first three quarters, the teams exchange goals Each half is begun by a kickoff, which also initiates play after every score (except a safety) In addition to the touchdown, points are scored by kicking the ball over the crossbar between the goal posts (a field goal), counting three points, and by downing a man in possession of the ball behind his own goal line (a safety), counting two points An additional point may be made after a touchdown, either by kicking the ball through the goal or by running with or passing the ball over the goal line In advancing the ball a team may run or pass (forward or laterally or a combination of both), but it must gain 10 yd in four tries (or downs), else yield possession of the ball to its opponent It may also lose possession if one of its ball carriers fumbles and an opposing player recovers the ball When a team is not likely to gain 10 yds in four downs, it often kicks, or punts, the ball downfield, usually on fourth down Standard scrimmage formations on the offense are the T-formation, the double wing-back, and the single wing-back Forward passing and open-field running are features of the game that most thrill the average spectator, and blocking and tackling make football one of the most rugged sports played Football players wear helmets, kidney guards, hip and shoulder braces, and other protective equipment Four men—the referee, umpire, field judge, and head linesman—officiate in a game, and penalties are meted out for roughing, tripping, and the like and for a host of technical violations The game and its rules, as a matter of fact, have become extremely complex, and it is no reflection on the intelligence of the spectators to say that many of them have only a hazy idea of what is taking place on the gridiron, as the playing field is also called However, with added color provided by bands, cheering sections, and other touches, college football is not only the most popular spectator sport of the fall season but also a big business The revenue from football often finances all other sports in many colleges Despite the strict amateur code of the National Collegiate Athletic Association and its member conferences in the various sections of the country, the subsidization of football players is widespread among the colleges, some pay money and gifts outright, others use more devious means Alumni, anxious that their alma mater have a winning team, figure prominently in this practice In this fashion football is played in American colleges today, but the game underwent long development Games called *harpaston* and *harpastrum* were played in Greece and Rome and bore resemblance to modern football These games were carried over through the Middle Ages down to present times in Tuscany and Florence under the name *calcio* Meanwhile a rugged, unprincipled type of football took root in England in the Middle Ages, and despite several royal edicts banning the game from time to time, football was popular among the masses until the early 19th cent Different forms of the game were soon developed at the various English public schools—Rugby, Eton, Harrow, and others—each type governed largely by local requirements. Two main games finally emerged One was primarily a kicking game, which later became association football, or SOCCER; the other, dating from 1823, was Rugby football, in which carrying the ball and tackling were permitted. In 1871 the Rugby Football Union was formed, and a set of rules was adopted A type of association football was played in New England from the colonial period In 1869 at New Brunswick, N.J., Rutgers and Princeton played the first intercollegiate football match in America. In 1873 a convention was held at which Columbia, Princeton, Rutgers, and Yale were represented, a set of rules was adopted, and the foundation was laid for intercollegiate matches. The rules of American football were drastically altered after Harvard

played (1875) McGill Univ of Canada under Rugby rules College football coaching became professionalized in the 1890s, and from the beginning of the 20th cent, despite constant protests against the death toll of the game, football has enjoyed tremendous popularity as a collegiate sport Rules concerning the field, scoring, playing time, downs, scrimmage, substitution, officials, and equipment have undergone several changes, and the general trend has been toward making the game safer. In 1902 the first Rose Bowl football game was played, and this postseason tournament has been conducted annually since 1916 Other popular annual, postseason, collegiate football games are the Sugar Bowl, the East-West Shrine, the Orange Bowl, the Sun Bowl, and the Cotton Bowl games Organized professional football in America dates from 1920, when the American Professional Football Association was formed with a membership of 10 clubs The A.P.F.A. was reorganized several times, and in 1922 it was renamed the National Football League. Professional football differs from college football in several specific ways, e g , the goal posts are on the goal lines, not at the rear of the end zones Football is also played by high schools and clubs Six-man football, played by teams of six on a diminutive field, was invented in 1934 In touch football, touching the ball carrier with both hands takes the place of tackling Famous personalities in football, past and present, are Sam Baugh, Jay Berwanger, Dana X Bible, Bernard W Bierman, Felix O ("Doc") Blanchard, Charles E Brickley, Chris K Cagle, Walter C Camp, James Crowley, Glenn W Davis, Harry Gilmer, George Gipp, Harold ("Red") Grange, Walter Heffelfinger, William F Henry, Donald Hutson, Elmer Layden, Frank Leahy, Lou Little, Sidney Luckman, Alvin N ("Bo") McMillan, Bronko Nagurski, Ernest A Nevers, Marshall ("Ma") Newell, David O'Brien, Benny Oosterbaan, Knute K Rockne, Frank Sinkwich, A Alonzo Stagg, Kenneth Strong, Harry A Stuhldreher, James C Thorpe, Glenn S ("Pop") Warner, and Robert C Zuppke See L H Baker, *Football Facts and Figures* (1945), Lamont Buchanan, *The Story of Football* (1947), H O Crisler, *Modern Football* (1949)

Foote, Andrew Hull, 1806–63, American naval officer, b New Haven, Conn , son of Samuel A Foote He was appointed a midshipman in 1822 An enthusiastic temperance reformer, Foote, while executive officer of the *Cumberland* (1843–45), made her the first temperance ship of the navy He was largely responsible for ending the alcohol ration in the navy in 1862 From 1849 to 1851 he was active against the slave trade on the African coast and later wrote *Africa and the American Problem* (1854) In 1856, while commanding the *Portsmouth* at Canton, China, he led a small naval force which captured the four barrier forts in reprisal for acts against the American flag In the Civil War, Foote was given command of naval operations on the upper Mississippi river (1861) His flotilla of gunboats and mortars cooperated brilliantly with the army in the victories at Fort Henry, Fort Donelson, and Island No 10 He was promoted rear admiral for his work, but wounds received at Fort Donelson forced him to retire from active service See biography by J M Hoppin (1874)

Foote, Arthur William, 1853–1937, American organist, teacher, and composer, b Salem, Mass , pupil of J K Paine at Harvard He was organist (1878–1910) at the First Unitarian Church in Boston, where he taught for many years His compositions, conservative and showing his admiration for Brahms, include sacred choruses, chamber music, choral settings of Longfellow's poems—*The Farewell of Hiawatha* (1886), *The Wreck of the Hesperus* (1888), and *The Skeleton in Armor* (1893)—songs, and the orchestral works *Francesca da Rimini* (1893) and *Four Character Pieces after Omar Khayyam* (1912)

Foote, Henry Stuart, 1804–80, U S Senator (1847–52) and governor of Mississippi (1852–54), b Fauquier co , Va , grad Washington College (now Washington and Lee Univ), 1819 He studied law and, admitted to the bar in 1823, moved to Alabama and then to Mississippi Foote, an able criminal lawyer, practiced in several different towns there and also edited newspapers After a visit to Texas he wrote *Texas and the Texans* (1841, facsimile reproduction, 1935) In the U S. Senate, Foote's aversion to states' rights doctrines emphasized his antagonism to his Mississippi colleague, Jefferson Davis, with whom he actually traded blows (Foote also fought several duels in his day) He defeated Davis for the governorship in 1851, but that was the last Union Whig victory in antebellum Mississippi Rejected for the Senate, he resigned the governorship just before the end of his term and moved to California, where he was again defeated (1856) for the Senate by a narrow margin. Foote moved eastward again in 1858, settling in Tennessee. In the Confederate congress for four years his consistent opposition both to Davis and to the continuation of the Civil War caused him to participate in peace schemes His *War of the Rebellion* (1866) tells his story Stoutly maintaining his Unionist principles, he was to the South something like what Clement L. Vallandigham was to the North. After the war Foote supported the national Republican administrations, and in 1878 he was appointed superintendent of the U S mint at New Orleans His *Casket of Reminiscences* (1874) and *The Bench and Bar of the South and Southwest* (1876) contain contemporary and personal history of the time

Foote, Lucius Harwood, 1826–1913, American diplomat, b. Herkimer co , N Y. He attended Knox College and Western Reserve Univ In 1853 he went overland to California, where he was admitted to the bar He was successively municipal judge, collector of the port at Sacramento, state adjutant general, and consul (1879–82) at Valparaiso, Chile For some months he acted as chargé d'affaires In 1883 he went as minister to Korea, the first regular diplomat from a Western power to that country When in 1884 his post was reduced to that of minister resident, he resigned, returning to San Francisco to live He became prominent in that city's intellectual life and wrote verse, including *The Wooing of the Rose and Other Poems* (1911)

Foote, Mary Hallock, 1847–1938, American author and illustrator, b Milton, N Y. In 1876 she married Arthur De Wint Foote; thereafter she lived in the Far West and wrote about it in stories and novels, including *Led-Horse Claim* (1883), *Coeur d'Alene* (1894), *A Touch of Sun and Other Stories* (1903), and *The Ground Swell* (1919) An occasional illustrator of books and magazines, she did sketches for some of Longfellow's poems.

Foote, Samuel, 1720–77, actor, wit, and dramatist He dissipated a fortune at Oxford and failed to earn a degree, and in 1744 went on the stage, where his small talent was always eclipsed by Garrick It is as a wit (Johnson pronounced him "irresistible") that he is remembered From 1747, at the Haymarket Theatre, London, he produced such programs as *Diversions of the Morning*, in which his ability to mimic and his jarring satire had free rein Foote's farcical comedies include *The Knights* (1749), *The Minor* (1760), *The Orators* (1762), and *The Maid of Bath* (1771). He was buried in Westminster Abbey.

Foote, Samuel Augustus see Foot, Samuel A

foot-pound: see work

Foot Resolution, offered in 1829 by Samuel A Foot in the U S Senate This resolution instructed the committee on public lands to inquire into the limiting of public-land sale The Jacksonian Democrats, who wished to encourage migration to the West, opposed the resolution, the New England manufacturing interests, who demanded a ready labor supply, backed it When the Foot Resolution was introduced, the advocates of states' rights saw an opportunity to coalesce with the interests of the West This touched off (1830) the dramatic debates between Robert Hayne and Daniel Webster

Footscray (fo͝ots'krā'), industrial center (pop 53,484), Victoria, Australia, western suburb of Melbourne. There is an ammunition plant

Foppa, Vincenzo (vēnchān'tsō fôp'pä), c 1427–c 1515, Italian painter He settled in Pavia about 1456 and founded the Lombard school, which exercised a notable influence upon northern Italian art until the advent of Leonardo da Vinci Foppa executed many important works in Pavia and Milan, most of which have been destroyed Among his best-known works are the fresco *Martyrdom of St Sebastian* (Milan), a fine altarpiece in Santa Maria di Castello, Savona, and *Crucifixion* (Bergamo) A *Madonna* is in the J G Johnson Collection, Philadelphia, and another in the Davis Collection, Newport, R I , the National Gallery of Art, Washington, D C , has a *St Christopher* and a *Madonna* See Constance Ffoulkes, *Vincenzo Foppa of Brescia* (1909)

Forain, Jean Louis (zhäⁿ' lwē' fôrē'), 1852–1931, French painter, etcher, and lithographer One of the foremost etchers of his day, Forain is best known for his political cartoons and social satires In this field he is the most notable follower of Daumier. His work enlivened a large number of publications, including *Vie moderne*, *Gravache*, *Parisien*, *Figaro*, and the New York *Herald* In 1898 he founded with Caran d'Ache the short-lived *Psst* His early training was academic, but his work shows the influence of Manet and Degas After the First World War, Forain retired from illustrating for journals and devoted himself to painting

Foraker, Joseph Benson (fôr'ukĭr), 1846–1917, American political leader, b Highland co , Ohio After service in the Civil War, he was graduated from Cornell Univ in 1869 A lawyer of Cincinnati, he became a judge of the superior court and was governor of Ohio (1886–90) and U S Senator (1897–1909) He supported McKinley's policies and imperialism At Mark Hanna's death he became the undisputed Republican boss of Ohio His second term in the Senate was marked by notable clashes with Theodore Roosevelt. Foraker, in many ways a progressive governor, became an able Old-Guard Senator He led the opposition to the Hepburn bill on railroad rebates in 1906 and opposed the direct election of U S Senators His political career was ended when in the election campaign of 1908 W R. Hearst revealed that Foraker had accepted from the Standard Oil Company large retainers as well as a loan to purchase the *Ohio State Journal*. He was defeated for the Republican nomination to the Senate in 1914 by Warren G Harding His *Notes of a Busy Life* (2 vols , 1916), is a primary source for the political history of the period His wife was **Julia Bundy Foraker,** 1847–1933, b Jackson co., Ohio She vividly pictured the social life of the time in *I Would Live It Again* (1932).

foraminifera (fôrăˌmĭnĭ'fĭrə), members of an order of protozoa, nearly all of which have a shell The majority secrete a shell of calcium carbonate, a few have skeletons of chitin and silica, and some primitive forms make agglutinized shells of silt and other particles Foraminifers inhabit all oceans and a few species live in fresh and brackish water Most species are less than one millimeter in diameter Many are bottom-living, others pelagic Large areas of the ooze on the ocean bottom are called globigerina ooze and are composed largely of the discarded skeletons of foraminifera of the genus *Globigerina*, which form a soft, limy deposit Layers of limestone or chalk such as are found in Dover, England, and in Alabama and Mississippi solidified from similar deposits of ooze in ancient seas Limestone used in some Egyptian pyramids contains skeletons of foraminifera, especially of nummulites, forms which have coin-shaped skeletons Fossil foraminifera are an aid in identifying subsurface formations, especially in petroleum investigations See J A. Cushman, *Foraminifera Their Classification and Economic Use* (3d ed , 1940)

Forbes, Duncan, 1685–1747, Scottish statesman, known as Forbes of Culloden, after the name of his estate As lord advocate (1725–37) and lord president of the court of session (1737–47) his influence and diplomacy did much to consolidate the union of England and Scotland He actively opposed the rebels in 1715 and 1745 and urged lenient treatment in pacifying the country. Meantime he wrote occasional theological tracts. See biography by George Menary (1936)

Forbes, Edward, 1815–54, British zoologist His researches in ocean life advanced the science of paleontology He served as professor of botany at King's College, London, naturalist on the surveying ship *Beacon* on a voyage to Asia Minor, curator of the museum of the Geological Society, and paleontologist with the British Geological Survey His valuable collections were left to the college museum at the Univ of Edinburgh, where he was professor of natural history for a short time before his death His writings include *History of British Starfishes* (1841) and, with Sylvanus Hanley, *History of British Mollusca* (4 vols , 1848–53)

Forbes, Edwin, 1839–95, American illustrator, etcher, and painter, b New York city He was employed as special artist for *Frank Leslie's Illustrated Newspaper*, in which appeared, throughout the Civil War his trenchant drawings of camp and battlefield *Life Studies of the Great Army*, a series of copperplate etchings from his war sketches, are in Washington, D C Forbes's paintings consist chiefly of landscapes, such as *Orange County Pasture* and *Sheep Pasture—Evening*

Forbes, James David, 1809–68, Scottish physicist and glacialist A professor of natural philosophy at the Univ of Edinburgh (1833–59) and principal of the United College at St Andrews (later Univ of St Andrews) from 1859, he is noted for his discovery of the polarization of heat He was a pioneer in the scientific study of glaciers

Forbes, John, 1710 59, British general in the French and Indian Wars, b Fifeshire, Scotland. He entered the army in 1735, won distinction and promotion in the War of the Austrian Succession, and in 1757 was made a colonel and was sent to reinforce the expedition against Louisburg Courageous, thorough, and particularly able as quartermaster, he was promoted (Dec , 1757) brigadier general (in America only) and assigned to command an expedition to take the French stronghold at the forks of the Ohio (see Duquesne, Fort) Forbes decided not to use the road Gen. Edward Braddock had taken to his disastrous defeat on the same mission in 1755. Instead he moved (1758) his force of nearly 7,000 men in short hops through W Pennsylvania, establishing successive depots as he went West of Raytown (now Bedford) he cut a wagon road over the Alleghenies, which, later known as Forbes Road, became a chief highway of Western emigration An advance column under Major James Grant was severely repulsed on the night of Sept 13–14 while making a reconnaissance in force Prisoners captured in a subsequent skirmish (Nov 12) in which George Washington, senior colonel of the two Virginia regiments, fared unhappily, revealed that the French were weak. Washington, however, was given command of one of the three brigades into which Forbes then divided his army to assure fullest mobility in a quick thrust at Duquesne But the French garrison decamped (Nov 24), and Forbes raised his flag over the burned fort, promptly renamed Fort Pitt, on Nov 25 without further fighting See A. P. James, ed , *Writings of General John Forbes Relating to His Service in North America* (1938), D. S. Freeman, *George Washington*, Vol II (1948).

Forbes, John Murray, 1813–98, American capitalist, b Bordeaux, France, of American parents A nephew of James and Thomas Perkins, he entered his uncles' counting house in Boston and was sent as agent to Canton At 24 he returned with an independent fortune, which he invested in varied enterprises, mostly maritime Interested in Western railroads, he organized in 1846 a company which purchased the uncompleted Michigan Central and extended it E to Buffalo and W to Chicago He undertook to complete and develop the Chicago, Burlington & Quincy from Chicago to the Mississippi and afterwards across Iowa At different times he served as president of both these railroads He also built the Hannibal & St Joseph in Missouri His railroad financing was conservative, and his roads were marked by a stability which was rare in that period of rapid expansion See S F Hughes, ed, *Letters and Recollections of John Murray Forbes* (2 vols, 1899), H G Pearson, *An American Railroad Builder* (1911)

Forbes, Robert Bennet, 1804–89, American sea captain and merchant, b near Boston, brother of John Murray Forbes When 13 years of age he went to China on a ship belonging to his uncles, James and Thomas Perkins of Boston, and at 20, as captain, he took a ship around the world for them He later managed stores in China for Russell & Company, with which Perkins & Company had merged to form the largest firm trading in China He recouped heavy losses after the panic of 1837 Returning to Boston in 1840, he became part owner of many vessels He was also a shipbuilder, one of the pioneers in New England in adopting the screw propeller and iron hulls for steamships In the Civil War he privately built a number of warships for the Union and supervised the construction by the government of nine gunboats He took great interest in humanitarian movements for sailors and in lifesaving devices and wrote numerous pamphlets and articles See his reminiscences (1876, 3d ed, 1892), J B Connolly, *Canton Captains* (1942)

Forbes, Stephen Alfred, 1844–1930, American zoologist, b Calhoun co, Ill, Ph D Univ of Indiana, 1884 He studied medicine but turned to natural history In 1872 he became curator of the museum of the Illinois state natural history society In 1877 the museum became the state laboratory of natural history, and Forbes was made its director, he continued in charge of his division when it became (1917) a part of the Illinois Natural History Survey He was professor (1884–1921) at the Univ of Illinois and dean (1888–1905) of its college of science A pioneer in developing the science of ecology in America, he made important studies of habitats and also wrote many works on economic entomology, ornithology, and ichthyology

Forbes, William Cameron, 1870–, American business executive and diplomat, b Milton, Mass, grad Harvard, 1892 He entered the mercantile house of his grandfather, John Murray FORBES, in Boston and was a partner in the firm after 1899 He later became an executive in many large companies Appointed (1904) to the Philippine Commission by President Theodore Roosevelt, W Cameron Forbes held several administrative posts there before he served (1909–13) as governor general of the islands He was a member of the Wood-Forbes Commission, which was sent (1921) by President W G Harding to the Philippines The commission's report did much to guide U S policy concerning the Philippines in the 1920s He was later (1930) chairman of a commission to study conditions in Haiti, served (1931–32) as ambassador to Japan at the time of the Manchurian crisis, and led (1935) an economic mission to the Far East He wrote *Philippine Islands* (1929) A pioneer player of polo in America, he also wrote *As to Polo* (6th ed, 1929).

Forbes-Robertson, Sir Johnston, 1853–1937, English actor From 1874 he appeared with the Bancrofts, John Hare, Henry Irving, and Mary Anderson—with her he went for the first time to the United States In 1889 he made his first signal success in *The Profligate*, by Pinero, played at the Garrick Theatre, London He played many Shakspearian roles, including Hamlet (1898) In 1900 he married Gertrude Elliott, with whom he played in *The Light That Failed*, after Kipling's novel, in Shaw's comedy, *Caesar and Cleopatra*, and in other plays For two seasons he played, both in England and in the United States, *The Passing of the Third Floor Back* by C R Kennedy He was knighted in 1913 See his autobiographical *Player under Three Reigns* (1925)

Forbidden City, China. see PEIPING and CHINESE ARCHITECTURE

Forbin, Claude, comte de (klōd' kōt' dŭ fôrbĕ'), 1656–1733, French naval commander He fought in the Antilles (1680) and in Duquesne's Algerian campaign (1682–83) and from 1685 to 1687 was grand admiral and generalissimo of the king of Siam He distinguished himself in the War of the Grand Alliance and the War of the Spanish Succession Forbin failed (1708) in an attempt to land the Old Pretender in Scotland His memoirs were published in 1829

Forbush, Edward Howe (fôr'bŏŏsh), 1858–1929, American ornithologist, b Quincy, Mass. Having begun his scientific work as a taxidermist and collector of natural history specimens, he later (1880–91) served the Worcester (Mass) Natural History Society as curator and president. He was director of the division of ornithology of the state board of agriculture from 1893 to 1908 and returned to the post in 1921 From 1908 he was state ornithologist. He headed (1891–1900) a state commission for control of the gypsy moth His works include *The Gypsy Moth* (1896) and *Birds of Massachusetts and Other New England States* (3 vols, 1925–29, abridged and revised as *Natural History of the Birds of Eastern and Central North America*, 1939).

Force, Peter, 1790–1868, American historian, b near Paterson, N J He served in the War of 1812 and afterwards established himself in Washington, D C., as a printer Entering local politics, he was at different times president of both the city council and the board of aldermen and was mayor of Washington (1836–40) His *National Journal*, established in 1823 to support John Quincy Adams for the presidency, continued as a daily from 1824 to 1831 He issued for many years the *National Calendar*, a yearbook of historical and statistical information, and edited four volumes of rare documents, *Tracts and Other Papers Relating Principally to the Origin, Settlement, and Progress of the Colonies in North America* (1836–46). His project for publishing early American documents, national, state, and private, dealing with colonial and American history down to 1789, was authorized by Congress but discontinued before completion The resulting *American Archives* (9 vols, 1837–53), the work by which Force is chiefly known, covers only the years 1774–76 Force's large collections were purchased by the Library of Congress

force, in physics, commonly defined as any "push" or "pull" acting on a body It is described more definitely as that effort acting to change the state of motion of a body, i e, its acceleration or the direction in which it is moving, or to change its state of rest Forces are measured in pounds, grams, or kilograms, depending upon the system of weights being used For example, to suspend a body weighing 10 lb a force of 10 lb is necessary, the force applied to the body is called the effort, and the weight of the body resisting it is called the resistance In a state of equilibrium, effort and resistance are equal and are acting in opposite directions For every force there is an equal and opposite force The direction in which a force is acting, as well as its magnitude, must be known to determine what effect it will produce when applied to a given body For example, if two forces acting upon a body at right angles to each other with a combined effort sufficient to move the body are represented graphically by arrows drawn to scale (i e, with a unit of length representing a unit of force), the direction of the body will be along the diagonal of a parallelogram constructed on the arrows This figure is called a parallelogram of forces The single force necessary to accomplish this same movement would act along this diagonal, and its magnitude is represented by the length of the diagonal This single force is called the resultant of the two forces, and a force equal in magnitude but acting in the opposite direction is the equilibrant of the two forces If two forces are acting in the same direction, their resultant is equal in magnitude to their sum, if they are acting in opposite directions, it is equal to their difference Forces can be applied to certain bodies to produce rotation, e g, to a LEVER bar fastened at its center and free to turn around that point The amount of force necessary to produce rotation decreases proportionally as the point of application is moved farther and farther from the point at which the bar is fastened, i e, from the axis The product of the distance from the axis and the numerical value of the force is called the moment of force In engineering, in the designing of structures and machines, the forces acting upon the various parts must be determined so that stress and strain can be anticipated and the STRENGTH OF MATERIALS be sufficient to meet the necessary demands A rotating part, for example, is acted upon by centrifugal force, i e, a force acting to make it fly off at a tangent from its definite path around the center This force must be balanced, if equilibrium is to be maintained, by a centripetal force, i e, a force acting in the opposite direction and toward the center, holding the body in its regular path. Certain measurements of force are based upon the velocity that a force can impart to a given mass in a unit of time In the cgs (centimeter-gram-second) system the unit of force is the DYNE, in the English system it is the POUNDAL, that force which will impart to a mass of one pound an acceleration of one foot per second in one second Newton's laws of MOTION govern the action of forces upon a body at rest and in motion The force of gravity is the pull of the earth upon other bodies (see GRAVITATION) The force acting upon a unit area is called PRESSURE For field of force, see MAGNETISM, for electromotive force, see VOLT.

force bill, popular name for several laws in U S history, notably the act of March 2, 1833, and the Reconstruction acts of May 31, 1870, Feb 28, 1871, and April 20, 1871. The first force bill, passed in response to South Carolina's ordinance of NULLIFICATION, empowered President Andrew Jackson to use the army and navy, if necessary, to enforce the laws of Congress, specifically the tariff measures to which South Carolina had objected so violently. In the second set of force bills or "enforcement acts," as they were also called, the radical Republicans controlling Congress strengthened their Reconstruction program for the South by imposing severe penalties on those Southerners who tried to obstruct it The act of May 31, 1870, designed to enforce the Fifteenth Amendment, provided heavy penalties of fine and imprisonment for anyone preventing qualified citizens (in this case Negroes) from voting Such cases were to come under the jurisdiction of the Federal courts Congressional elections were placed exclusively under Federal control, and the President was authorized to use the armed forces Even more drastic, but in a similar vein, was the act of Feb 28, 1871 The act of April 20, 1871, inspired by the activities of the Ku Klux Klan, declared the acts of armed combinations tantamount to rebellion and empowered the President to suspend the privilege of habeas corpus in lawless areas This U. S Grant did in certain counties of South Carolina Hundreds were indicted, fined, and imprisoned, and the act was partially responsible for the subsequent decline of the Klan.

Ford, Edsel Bryant see FORD, HENRY.

Ford, Edward Onslow, 1852–1901, English sculptor Of his portrait statues, memorials, and bronze statuettes, perhaps most famous is his Shelley Memorial (University College, Oxford)

Ford, Ford Madox, 1873–1939, English novelist and poet, grandson of Ford Madox Brown, English painter He changed his name legally from Ford Madox Hueffer in 1919 While helping Joseph Conrad master English, he collaborated with him on *The Inheritors* (1901), *Romance* (1901), and other novels and in 1924 wrote a memoir, *Joseph Conrad* In 1908 he established the *English Review*, which he edited until 1911 and which drew among its distinguished contributors Conrad, Hardy, Galsworthy, Masefield, and William James In his *Transatlantic Review* (1924, Paris) he "discovered" James Joyce and Ernest Hemingway Among his more than 60 books are volumes of criticism and reminiscences about the literary figures he had known, such as *Return to Yesterday* (1932), and four novels of the First World War See biography by Douglas Goldring (1949)

Ford, Guy Stanton, 1873–, American historian, educator, and editor, b Salem, Kenosha co, Wis, grad Univ of Wisconsin (Litt B, 1895), Ph D Columbia, 1903 He also studied (1899–1900) at the Univ of Berlin Ford was an instructor and then an assistant professor of history at Yale (1901–6) and professor at the Univ of Illinois (1906–13) before becoming professor and dean of the graduate school at the Univ of Minnesota (1913–38) He was president of Minnesota from 1938 to 1941 (he had been acting president in 1931–32 and 1937–38) and chairman of the university press there from 1925 to 1941 In Sept, 1941, he became executive secretary of the American Historical Association and managing editor of the *American Historical Review* (from 1921 to 1927 he was chairman of its board of editors) His books include *Hanover and Prussia, 1795–1803 a Study in Neutrality* (1903), *Stein and the Era of Reform in Prussia* (1922), *Science and Civilization* (1933), and *On and Off the Campus* (1938)

Ford, Henry, 1863–1947, American industrialist, pioneer automobile manufacturer, b Dearborn, Mich He showed mechanical aptitude at an early age and left (1879) his father's farm to work as an apprentice in a Detroit machine shop He soon returned to his home, but after considerable experimentation with power-driven vehicles, he removed (1887) to Detroit again and worked as a machinist and engineer with the Edison Company While he was advancing in his work for the electric company, Ford was also working on his own and completed (1892) his first AUTOMOBILE Resigning (1899) from the Edison Company, he launched the Detroit Automobile Company, but a disagreement with his associates led him to organize (1903), in partnership with James COUZENS, the Dodge brothers, and others, the Ford Motor Company In 1907 he purchased the stock of most of his associates, and thereafter the Ford family remained in control of the company. By cutting the costs of production, by gaining control of raw materials and the means of distribution, by adapting the conveyor belt and assembly line to automobile production, and by featuring an inexpensive, standardized car, Henry Ford was soon able to outdistance all his competitors and become the largest automobile producer in the world. He came to be regarded as the apostle of mass production. In 1909 he designed the Model T, over 15,000,000 cars were sold before this model was discontinued (1928) and a new design—the Model A—was created to meet growing competition. Highly publicized for paying wages considerably above the average, Ford originated in 1914—the year he created a sensation by

announcing that henceforth his workers would receive $5 for an eight-hour day—a profit-sharing plan which would distribute up to $30,000,000 annually among his employees In 1915, in an effort to end the First World War, he headed a privately sponsored peace expedition to Europe that failed dismally, but after the American entry into the war he was a leading producer of ambulances, airplanes, munitions, tanks, and submarine chasers In 1918 he ran unsuccessfully for U S Senator on the Democratic ticket After weathering a severe financial crisis in 1921, he began producing high-priced motor cars along with other vehicles and founded branch firms in England and in other European countries Strongly opposed to trade unionism, Ford—who incurred considerable antagonism because of his paternalistic attitude toward his employees and his statements on political and social questions—stubbornly resisted union organization in his factories by the United Automobile Workers until 1941 Although a staunch isolationist before the Second World War, Ford again converted his factories to the production of war material after 1941 In 1945 he retired His numerous philanthropies included $7,500,000 for the Henry Ford Hospital in Detroit and $5,000,000 for a museum in Dearborn, where in 1933 he established GREENFIELD VILLAGE—a reproduction of an early American village He wrote, in collaboration with Samuel Crowther, *My Life and Work* (1923), *Today and Tomorrow* (1926), *Moving Forward* (1931), and *Edison as I Knew Him* (1930) See biographies by W A Simmonds (1943), C C Caldwell (1947), and K T Sward (1948), W C Richards, *The Last Billionaire* (1948) His son, **Edsel Bryant Ford**, 1893–1943, b Detroit, shared in the control of the vast Ford industrial interests He was president of the Ford Motor Company from 1919 until his death Henry Ford, in the midst of the Second World War, once more became (1943) president of the company, but he retired when his grandson, **Henry Ford II**, 1917–, b Detroit, succeeded him in 1945

Ford, John, b 1586, English dramatist, admitted to the Middle Temple in 1602 but not known to have practiced law Besides collaborating with Dekker and Rowley in *The Witch of Edmonton* (1621) and other plays, he wrote independently several more, including *'Tis Pity She's a Whore* in 1633 and *Perkin Warbeck* in 1634 Unsuccessful in his humor and no master of plot, he was skillful in portraying pathos and tragedy Swinburne praised the "metrical regulation" of his verse The date of Ford's death is not known See studies by M J Sargeaunt (1935), S B Ewing (1940), and G F Sensabaugh (1945)

Ford, John, 1895–, American moving-picture director, whose real name is Sean O'Feeney, b Cape Elizabeth, Maine He was a property man in a Hollywood studio in 1914, but soon rose to the rank of director A craftsman of great distinction, Ford has directed such films as *The Lost Patrol*, *The Informer*, which received much critical acclaim, *Stagecoach*, *Grapes of Wrath*, *The Long Voyage Home*, and *How Green Was My Valley* He directed two notable government documentary films, *December 7th* and *Midway*

Ford, Patrick, 1835-1913, American journalist, b Galway, Ireland He was brought, an orphan, to the United States in 1842 and attended public schools and the Latin School in Boston Having served his apprenticeship in the printing office of William Lloyd Garrison, he began his newspaper career in 1855 and was later editor and publisher (1859–60) of the Boston *Sunday Times* After serving in the Civil War he edited the Charleston, S C, *Gazette* until 1870, when he moved to New York City and founded the *Irish World*, a paper devoted to the cause of Irish independence He raised money for the cause, organized more than 2,500 American branches of the Irish Land League, and in his editorials attacked England's policies in Ireland, these writings were collected as *A Criminal History of the British Empire* (1881) He also wrote *The Irish Question and American Statesmen* (1885) He was one of the founders of the Greenback party

Ford, Paul Leicester, 1865–1902, American historian and novelist, b Brooklyn, N Y, privately educated His father, Gordon L Ford, possessed probably the best library of Americana in the country, Paul edited rare material from this library in *Winnowings in American History* (with W C Ford, 15 vols, 1890-91) and made valuable bibliographies, those on Hamilton (1886) and Franklin (1889) being notable He edited many important early American writings, such as *Pamphlets on the Constitution of the United States . 1787–88* (1888) and the *Writings of Thomas Jefferson* (10 vols, 1892–99). His *True George Washington* (1896) was the first to present Washington as human and fallible Ford wrote several novels, two extremely popular—*Janice Meredith: a Story of the American Revolution* (1899) and *The Honorable Peter Stirling* (1894), both of which were dramatized later At 37 Ford was shot by his disinherited brother Malcolm, who then shot himself.

Ford, Worthington Chauncey, 1858–1941, American historian and editor, b Brooklyn, N Y. He was educated at the Polytechnic Institute of Brooklyn and at Columbia He was joint editor, with his brother Paul Leicester Ford, of *Winnowings in American History* (15 vols, 1890–91) While chief of the manuscripts division of the Library of Congress (1902–9), Ford edited the first 15 volumes of the new edition of the *Journals of the Continental Congress* From 1909 to his retirement in 1929 he was editor of the Massachusetts Historical Society and lectured on historical manuscripts at Harvard Ford edited *The Writings of George Washington* (14 vols, 1889–93) and wrote a standard biography of Washington (1900), edited *The Writings of John Quincy Adams* (7 vols, 1913-17), *A Cycle of Adams Letters, 1861–1865* (1920), and *Letters of Henry Adams* (2 vols, 1930–38), and other volumes of correspondence and documents, and wrote many articles and monographs on historical and literary subjects

ford, shallow place in a river, lake, or other water which may be crossed on horseback or in a vehicle Around the crossings habitually forded cities sprang up, hence fords came to be the sites of numerous river towns They have been of particular importance in migrations and in the deployment of armies in campaigns and have therefore been frequently fortified Place names, such as Oxford, Hertford, Hereford, Ashford, Milford, Stafford, Guilford, and Redford, testify to the strategic positions fords have had in historical development

Ford City, Ont see EAST WINDSOR

Ford City, industrial borough (pop 5,795), W Pa, on the Allegheny river and NE of Pittsburgh, laid out 1871, inc 1889 Various types of glass products are manufactured here

Fordham University (fôr'dŭm), in New York city, Catholic (Jesuit), partly coeducational, opened 1841 by Bishop Hughes (later archbishop) as St John's College, chartered 1846 as a university, renamed 1905 The university includes Fordham College, a college of pharmacy, and schools of adult education, business, education, law, and social service Fordham is noted for seismography work The university proper is in the Bronx, but part is in the Woolworth Building in lower Manhattan

Fordney, Joseph Warren, 1853–1932, American Congressman, b Blackford co, Ind He went to Michigan as a youth and became prominent in the lumber business, acquiring a fortune Elected to the House of Representatives in 1899, he served until 1923 as a conservative Republican As chairman of the ways and means committee in 1921, he was able to embody his high protectionist convictions in the Fordney-McCumber Tariff Act

Fords Island, Oahu, T H, in Pearl Harbor The island, site of Luke Field (est 1919), suffered damages during the Japanese attack (Dec 7, 1941) on Pearl Harbor

Fordun, John of, d c 1385, Scottish chronicler, probably a priest of the cathedral at Aberdeen He may have traveled in the British Isles collecting information for a history of Scotland He completed his chronicle to 1153 and left extensive notes, known as "Gesta annalia," continuing the history to 1385 In the 15th cent his work was interpolated and continued to the death of James I (1437) as the *Scotichronicon*, reputedly by Walter BOWER Fordun's chronicle, reliable for its contemporary parts, is the source for much of the early history of Scotland His work was edited by W F Skene as the *Chronica gentis Scotorum* (1871, tr by F J H Skene, 1872)

Fordyce (fôr'dīs), city (pop 3,429), co seat of Dallas co, S central Ark, SW of Pine Bluff It is a rail center and has lumber mills and cotton gins

Forefathers' Day, celebrated by New Englanders Dec 21, in commemoration of the landing of the Pilgrims in 1620 on Plymouth Rock It was first observed in 1769

foreign agent see ESPIONAGE

foreign exchange, written or telegraphic orders for the payment of money by a person or bank under a currency system different from that used by the issuer The rate of exchange is the price in home money for a unit of foreign money Exchange is almost the sole business means of international payment A merchant in the United States may owe a merchant in England £100 The former secures from an American bank its check for £100 drawn on a London bank with whom the American bank has a deposit The American bank charges its customer slightly more than the prevailing rate of exchange, taking the difference as profit Foreign exchange is handled in many other ways The chief demand is from importers of goods, borrowers of foreign capital, immigrants, and travelers The banks act as middlemen See E S Furniss, *Foreign Exchange* (1922), J W Gantenbein, *Financial Questions in United States Foreign Policy* (1939), F A Southard and others, *Foreign Exchange Practice and Policy* (1940).

Foreign Legion. The French Foreign Legion is a volunteer infantry regiment composed chiefly, in its enlisted ranks, of foreigners who find in it a chance for a new life Although foreigners had served in many French armies previously, King Louis Philippe is credited with having created (1831) this specific foreign legion Originally intended to pacify ALGERIA, where it is normally stationed, it also helped to complete (1926) the pacification of MOROCCO, guarded other troubled spots of the French colonial empire, and fought in the First World War It was virtually broken up during the Second World War and was reorganized in 1946 A large number of the new legionnaires were recruited from among German prisoners of war From antiquity, there have been many other foreign legions, e g, a British legion participated in the Carlist Wars in Spain under Sir George de Lacey Evans, and in the Spanish civil war of 1936–39 the International Brigade fought on the Loyalist side The French Foreign Legion has been romanticized in numerous books, films, plays, and songs

Foreign Ministers, Council of, informal international organization Future meetings of the American, British, and Russian ministers were planned at the Yalta Conference (Feb, 1945) In accordance with the agreements reached at the POTSDAM CONFERENCE, the ministers met at London, then at Moscow late in 1945 in order to discuss the problems connected with the settlement of the Second World War At the Moscow Conference it was decided to draft peace treaties with Italy, Rumania, Hungary, Bulgaria, and Finland, to establish an 11-power Far Eastern Commission and an 11-power Allied Council for Japan, and to set up an atomic energy commission within the United Nations The ministers also set up the Council of Deputy Foreign Ministers, meeting at London, for the purpose of preparing the work of the foreign ministers between their meetings Despite harrowing difficulties and protracted quarrels on matters of procedure, the Council of Foreign Ministers (to which France was admitted in 1946) steered the peace conference which met at Paris in 1946 to a successful conclusion The peace treaties with Italy, Rumania, Hungary, Bulgaria, and Finland were drafted, and remaining difficulties concerning the Free Territory of Trieste were ironed out after much talking at a meeting in New York (Nov–Dec, 1946) The deputies of the "Big Four" began talks on peace treaties with Germany and Austria early in 1947, and in March and April the foreign ministers themselves met again at Moscow Nothing was accomplished except the formal dissolution of Prussia, and a new attempt was made (Nov–Dec, 1947) to reach agreement on Germany and Austria when the foreign ministers met at London. The conference marked a disastrous turn in the relations between the USSR and the other three powers, and it disbanded, without having accomplished anything, in a hail of mutual recriminations The deputies, however, continued negotiations A new meeting (Sept, 1948) at Paris, regarding the disposition of the former Italian colonies, was also a failure The council was revived in June, 1949, when the foreign ministers, meeting at Paris, reached an agreement ending the Soviet blockade of Berlin

foreign missions see MISSIONS

foreign service see DIPLOMATIC SERVICE and CONSULAR SERVICE

Forel, Auguste or **August** (ōgüst' fôrĕl'), 1848–1931, Swiss psychiatrist and entomologist He began as a boy the study of ants which later influenced his approach to psychiatry As director (1879–98) of the cantonal asylum at Burgholzli, he instituted humane methods of treatment and the use of occupational therapy He made contributions to the study of hypnotism (*Der Hypnotismus*, 1889) and of sexual problems His works include *Les Fourmis de la Suisse* (1874) and other books on ants See his autobiography, *Out of My Life and Work* (Eng tr, 1937)

Forel, François Alphonse (frāswa' alfôs'), 1841–1912, Swiss physician and naturalist He was professor of anatomy and physiology at the Univ of Lausanne He studied the Swiss glaciers and lakes and was a founder of the Swiss seismological institute

Foreland, North, and **South Foreland,** headlands of Kent, England, forming part of the boundary of the roadstead called the Downs South Foreland, with two lighthouses, is 4 mi NE of Dover, and North Foreland, with one lighthouse, is near Margate Both are chalk cliff formations The defeat of the Dutch under De Ruyter in 1666 is associated with the Forelands

Foreman, Ark see NEW ROCKY COMFORT

forensic medicine see MEDICAL JURISPRUDENCE

Forest, town (pop 1,570), S Ont, near Lake Huron and NE of Sarnia It is in a farming and fruit-growing district

Forest. 1 Town (pop 2,735), co seat of Scott co, central Miss, E of Jackson It is in Bienville National Forest and is the headquarters **2** Village (pop 1,083), NW Ohio, E of Lima

forest, plant community in which trees are dominant Forests of the world can be broadly divided into three types, equatorial or tropical rain-belt forests, deciduous forests, and coniferous forests Equatorial forests are marked by luxuriant growth, with a variety of species of trees, rarely grouped in a pure stand Mahogany, ebony, and wild rubber trees are scattered among other species. Sometimes equatorial forests are called evergreen because the leaves are not shed simultaneously

throughout the forest; most of the trees are believed, however, to drop and renew their leaves annually but sporadically Many of the taller trees have outgrowths around the lower part of the trunk which act as buttresses to help prevent uprooting by the wind. Woody climbing vines (called lianas) rooted in the soil strive to reach the sunlight through the forest canopy by crawling up the tree trunks, often they span the distance from tree to tree Epiphytes such as orchids are abundant In some regions of less dense growth and in temporary clearings are found members of the banana, arrowroot, ginger, and canna families Equatorial forests are found especially in the basins of the Amazon and Congo rivers and in much of the East Indian region Conifers appear in the equatorial area only at high elevations, e g , in parts of E Africa In temperate latitudes occur both deciduous and coniferous forests In the Northern Hemisphere there is a broad belt of boreal forest stretching across the continents in the higher latitudes In the northernmost limits bordering the tundra regions the conifers are reduced to a few stunted species In the less rigorous climates the species are more numerous, and aspens, birches, and some other deciduous trees are mixed with the conifers Because of their resistance to cold and drought, the conifers represent the climax growth of regions above about 40° N lat , below that latitude the deciduous trees are dominant except in some dry interiors of continents where the conifers are better able to survive In the Southern Hemisphere, because of the tapering of the land masses, forests are not as extensive in high latitudes as in the Northern Hemisphere, scattered forest areas are found in S Chile, Tasmania, and New Zealand In Australia there are forests in a rather narrow strip on the east coast and in a portion of the southwestern region In the United States the forest growth varies somewhat in different regions In the northeastern section the most numerous species include birch (yellow, gray, and paper birches), aspen, maple (sugar and red), ash (black and white), oak (several species), balsam, hemlock, pine (white, Norway, Jack, and pitch), tamarack, and arborvitae Timber trees of the Appalachian region include species of ash, basswood, hickory, and oak and also black cherry, black walnut, black locust, northern white pine, red spruce, and hemlock In the states of the Great Lakes regions the common trees include oaks (white, red, burr, scarlet, and black), hickory, and green ash, less commonly occur the black cherry, butternut, elm, basswood, black walnut, sugar maple, and yellow poplar On the coastal plains bordering the Atlantic Ocean and the Gulf of Mexico there are bottom lands (sedimentary deposits along the shore) on which some 50 species of hardwood trees are found and greater areas where pines (chiefly longleaf, shortleaf, loblolly, and slash pine) are dominant In the swamps of the South are found bald cypress and tupelo Characteristic of the Rocky Mt region are ponderosa (or western yellow) pine, Douglas fir, lodgepole pine, Engelmann spruce, western white pine, and, in some areas, larch. On the N Pacific coast are vast stands of timber, chiefly spruce (of which the Sitka spruce is of great commercial importance), Douglas fir, western hemlock, and western red cedar, farther south the firs gradually diminish and the pines are more numerous In the California fog belt the redwood is dominant The existing forests are the remnant of the vast expanses found by the white man on his arrival in America His coming initiated the destruction of forests (not only by clearing for settlements but by widespread fires) which continued for several centuries before any effective steps were taken to conserve remaining forests and to reforest denuded areas With the growth of the conservation movement came a greater awareness of the vital importance of forests in helping to conserve water, prevent erosion and floods, provide homes for wildlife, supply timber, beautify the land, and afford recreation Forestry or silviculture is the scientific development and management of forest lands Great areas of forest land in the United States are now preserved as NATIONAL FORESTS, national parks, and state, county, and municipal parks Attempts to prevent destruction by forest fires include the maintenance of watchtowers, radio communication systems, airplanes for transporting men and equipment to inaccessible spots, and many types of fire apparatus Education of the public to reduce the number of fires caused by carelessness is of great importance See E G Cheyney, *American Silvics and Silviculture* (1942), S H Holbrook, *Burning an Empire* (1943), R H D. Boerker, *Behold Our Green Mansions* (1945), S A Wilde, *Forest Soils and Forest Growth* (1946), R. G Lillard, *The Great Forest* (1947), Richard St B Baker, *Green Glory* (1948), J. T Hazard, *Our Living Forests* (1948)

forestalling · see ENGROSSING.

Forest City 1 City (pop 2,545), co seat of Winnebago co , N Iowa, S of the Minn. line, NW of Mason City, in a farm area, platted 1856, inc 1879 Waldorf College (junior, coeducational) is here Pilot Knob State Park is near by 2 Textile-mill town (pop 5,035), W N C., SE of Asheville 3 Borough (pop 4,266), NE Pa., NNE of Scranton, laid out 1871 Anthracite and textiles are produced here.

Forester, Cecil Scott, 1899–, English author, b Egypt, educated in England A prolific author, he is remembered for *Payment Deferred* (1924), a psychological murder story, and for his novels of the royal navy in the days of sail, especially the series about Horatio Hornblower, naval officer during the Napoleonic Wars

Forester, Fanny: see JUDSON, EMILY (CHUBBUCK)

Forester, Frank, pseud of **Henry William Herbert,** 1807–58, American writer and editor, b London, grad Cambridge, 1830 Involved in debt, he emigrated to America and edited (1833–35) the *American Monthly Magazine* His first work, *The Brothers* (1835), and other novels were generally popular, but he is best known for standard sports' manuals written under his pseudonym These include his *Field Sports of the United States* (1849), *Fish and Fishing of the United States* (1849), and *The Young Sportsman's Complete Manual* (1856) See biography by W S Hunt (1927), bibliography by W M Van Winkle and D A Randall (1936)

Forester, sawmill town (pop 1,306), W Ark , in the Ouachita Mts , inc 1932 A U S wildlife preserve is near by

Forest Grove, city (pop 2,449), NW Oregon, W of Portland, in an agricultural, lumbering, and fishing area, founded 1849, inc 1872 It is the site of Pacific Univ (coeducational, 1849)

Forest Hill, village (pop 11,757), S Ont , a suburb of Toronto

Forest Hills. 1 Residential section of central Queens borough of New York city, SE N Y At the West Side Tennis Club here national and international matches are held 2 Borough (pop 5,248), Allegheny co , SW Pa , near Pittsburgh, inc 1920

Forest Lake, village (pop 1,120), E Minn , N of St Paul It is the center of a resort area

Forest Park, village (pop 14,840), NE Ill , western residential suburb of Chicago, inc 1907 It has large greenhouses and some manufactures Near by is a large veterans' memorial hospital

Forez (fôrā'), hilly region, E central France, in the Massif Central, mostly in Loire dept ROANNE is the chief town A medieval county, it was annexed (1531) to the French crownland and incorporated into Lyonnais prov

Forfar (fôr'fur), burgh (pop 9,659), county town of Angus, Scotland, NNE of Dundee and on the east end of Forfar Loch Biscuits are manufactured The town cross is on the site of a former royal castle taken by Robert the Bruce in 1308 Restenneth Priory is near by

Forfarshire · see ANGUS, county

forgery (fôr'jurē), in criminal law, willful fabrication or alteration of a written document with the intent fraudulently to injure the interests of another The crime may be committed even though the fraudulent scheme fails The forgery of government obligations—e g , money, bonds, postage stamps—constitutes the separate offense of COUNTERFEITING Typical examples of forgery are making insertions or alterations in otherwise valid documents and appending another's signature to a document without permission It is, of course, lawful to sign another's signature as his attorney or representative so long as there is no plan to commit fraud Most instances of forgery occur in connection with instruments for the payment of money The crime may also concern documents of title, e g , deeds, or public documents, including birth and marriage certificates In the United States forgery ordinarily is a state crime, but to send forged documents through the post office may constitute the Federal crime of mail fraud

forget-me-not, any plant of the genus *Myosotis,* annual, biennial, or perennial herbs of the Old and New Worlds, popular for borders and rock gardens The small blue flowers (sometimes white or pink) are a symbol of faithfulness The common forget-me-not (*Myosotis palustris* or *scorpioides*) has become naturalized in North America and is the floral emblem of Alaska Forget-me-nots are sometimes called scorpion grass, and other plants have shared the name forget-me-not

forging, working metals by heating followed by hammering or rolling Like FOUNDING or casting, it was practiced in prehistoric time, probably first in ASIA The first metals worked were copper, gold, silver, and the alloy of copper and tin called bronze Forging was practiced in pre-Columbian America, copper, gold, and silver were forged Some African tribes have great skill in forging iron The importance of metals in human progress is indicated by the names BRONZE AGE and IRON AGE The handicraft methods of forging may be seen in any blacksmith shop, the main feature of which is regularly the forge In the forge the metal is heated, commonly to a red or a white heat. Charcoal and coke are preferred fuels, because they produce an intense and easily regulated heat and because they are free from impurities that would injure the metal The heat is increased by driving air into the fire, typically by a bellows When the metal is hot enough, it is taken from the fire by tongs, is placed on the anvil, is hammered to the desired shape, and is tempered by being thrust into water. The details of the process, such as the smith's signals to his helper, register an ancient tradition Forging has often reached the level of art, as shown, for example, in medieval hinges. Machine methods include the use of power hammers and of rollers Forging increases the toughness of iron and steel, while casting makes them brittle See L C Jones, *Forging and Smithing* (1924); R H. Harcourt, *Elementary Forge Practice* (3d ed , 1938), Thomas Moore, *Practical Handbook of Smithing and Forging* (3d ed , 1942).

fork. As an agricultural implement, the fork is very ancient. Wooden forks used in Egypt and elsewhere have been preserved, and the earliest forks were probably forked sticks. Table forks were used first in 15th-century Italy, in Elizabethan England they were ridiculed as a foreign novelty

Forlì, Melozzo da. see MELOZZO DA FORLÌ

Forlì (fôrlē'), city (pop 33,505), capital of Forlì prov , Emilia-Romagna, N central Italy, in Romagna. It is an agricultural center, with silk, dye, felt, and soap manufactures A Roman town on the Aemilian Way, Forlì became a free commune in the 11th cent After much strife between rival families, the Ordelaffi secured power for almost two centuries In 1504 Forlì became part of the Papal States There are a 14th-century citadel, a fine clock tower, an art gallery, and several churches

form, in philosophy, a term to which various technical meanings have been attached With Plato, the Ideas are the forms of things, entities corresponding to the concepts of genera, possessing substantial reality and independent of the changes of particular phenomena With Aristotle, form is always correlative with matter; both are necessary aspects of reality With St Thomas Aquinas, forms are either pure ("subsistent") or inherent in matter Pure forms are conceived as active intelligences, the lowest of them being the human soul With Bacon, the forms of natural phenomena are the laws or uniformities of nature which it is the object of science to discover With Kant space and time are the forms of our sensibility, the categories, the forms of the understanding

formaldehyde (fôrmal'dihīd), simple ALDEHYDE, a gaseous compound of carbon, hydrogen, and oxygen, having a strong suffocating odor, boiling at −21°C and solidifying at −92°C , soluble in water, alcohol, and ether Formaldehyde is used in the preparation of certain dyes and in the production of such synthetic substances as BAKELITE and other plastics and synthetic resins Like other aldehydes it is subject to POLYMERIZATION Commercially, formaldehyde is prepared by passing methyl alcohol vapor mixed with air over hot copper or other substance which acts as a catalyst, causing partial oxidation of the alcohol The oxidation of formaldehyde yields formic acid **Formalin,** the 40 percent water solution of formaldehyde, is used commonly as an antiseptic and disinfectant and as a preservative for biological materials It is poisonous and should not be used as a preservative in foods By the evaporation of formalin, a white crystalline substance, paraformaldehyde, is obtained, which yields formaldehyde when heated and has been used consequently, in the form of candles, for the disinfection of rooms

formic acid [Latin, =belonging to ants], an organic ACID, a colorless, corrosive liquid with a sharp odor, boiling at 100 8°C and solidifying at 8 4°C It is the first, or lowest, member of the fatty-acid series and a compound of hydrogen, carbon, and oxygen; its molecule consists of one hydrogen atom linked to the carboxyl radical (a carbon atom, two oxygen atoms, and one hydrogen atom) It occurs in the bodies of red ants, in the sting of the bee, and in other insects The acid is prepared in various ways e g., by the vigorous oxidation of methyl alcohol or by further oxidation of formaldehyde, by distilling oxalic acid or heating it with glycerin, or from sodium formate It forms salts called formates When heated it decomposes to yield carbon monoxide and water

Formosa (fôrmō'su), Chinese *Taiwan* or *T'ai-wan* (both tī'wan'), province (13,885 sq mi , pop 6,173,035), China The capital is Taipeh Formosa, an island in the Pacific Ocean, is separated from the mainland of S China by the Formosa Strait The heavily forested hills and mountains of central and E Formosa rise to Mt Morrison, c 13,600 ft high, the loftiest peak This area produces some minerals, chiefly gold, silver, copper, and coal, but its main resources are forest products, including valuable hardwoods and the bulk of the world's supply of natural camphor The broad coastal plain in the west supports most of the island's population and is the chief agricultural zone Formosa, with a semitropical climate and rainfall ranging from moderate to heavy, produces large food surpluses Rice is the chief crop, sweet potatoes, sugar cane, and tea (the oolong variety) are also important Flour is milled, sugar is refined, and there are varied light manufactures About 2,500 mi. of rail lines link the hinterland with the island's overseas ports, including Tainan and Kilung The name Formosa {Port ,=beautiful} reflects Portugal's effort in the early 17th cent to use

the island, then inhabited only by primitive tribes, as a trade base The Dutch had displaced the Portuguese as the dominant power when (1661) Koxinga, a general of the Ming dynasty of China, seized Formosa, which was not captured by the Ch'ing dynasty until 1683 Chinese farmers, crowded out of neighboring Kwangtung and Fukien provs , emigrated in such numbers as to overwhelm the aboriginal population Japan, attracted by the island's strategic and economic importance, gained it by the Treaty of Shimonoseki (1895) after the First Chino-Japanese War Under Japan's control the island was exploited for the benefit of the home economy, but, except for technicians and merchants, it was scarcely used for Japanese colonization During the Second World War, Formosa was heavily bombed by American planes At the end of hostilities (1945) it was returned to China In 1949 when the Communists were sweeping through most of China, the Nationalist government fortified Formosa for a last-ditch stand See James W Davidson, *The Island of Formosa* (1903), A J Grajdanzov, *Formosa Today* (1942)

Formosus (fôrmō'sus), c 816–896, pope (891–96), probably a Roman, successor of Stephen VI and predecessor of Boniface VI As bishop of Porto, he became a power in the Church He was excommunicated by JOHN VIII for leading the party which opposed John's coronation of Charles the Bald Later, he was restored and was subsequently elected pope Involved in the dispute over the imperial power, he sided against the dukes of Spoleto, whose growing power was menacing the papacy However, he was forced to crown the duke of Spoleto, Guido, and his son Lambert Formosus encouraged ARNULF to invade Italy and crowned (896) him emperor When the Spoletos came into power, after Formosus' death, his grave was desecrated, and his pontificate declared invalid In 897 he was reburied John XI validated his acts

formula, in chemistry, commonly an expression written to represent a chemical COMPOUND, which indicates the elements making up one molecule of the compound and the proportion of each element by weight For example, the chemical formula for water is H_2O The SYMBOL H represents hydrogen, and the symbol O, oxygen The number 2 (called a subscript) written below the line indicates that two atoms of hydrogen are present, the absence of any subscript following O indicates that only one atom of O is present From the formula for water it is therefore seen that one molecule of it is composed of two atoms of hydrogen and one atom of oxygen The formula also shows that 2 parts by weight of hydrogen (2 x the ATOMIC WEIGHT, which is 1) and 16 parts by weight of oxygen (1x16, the atomic weight of oxygen) are combined to form 18 parts by weight of water From the formula for common salt, NaCl, it can be learned that salt is a compound of the elements sodium (symbol = Na) and chlorine (symbol = Cl), that a molecule of it consists of one atom of sodium and one of chlorine, and that 23 parts by weight of sodium combines with 35 5 parts by weight of chlorine (the atomic weight of sodium = 23, of chlorine = 35 5) to form 58 5 parts by weight of salt (see MOLECULAR WEIGHT) Although a formula indicates the elements, the number of atoms, and the weights of the elements present in a compound, it does not represent the arrangement of the atoms in a molecule This arrangement is indicated by the graphic or structural formula which is especially important in organic chemistry since some compounds have the same number of identical elements but differ in the arrangement of the atoms (see ISOMERISM) Certain elements often react as a single atom and remain grouped together in a compound, the combination being known as a RADICAL A chemical reaction is represented in an EQUATION which consists of several formulas

formula, in mathematics and physics a statement in symbols of the relationship between certain quantities The quantities are usually expressed by letters, and the way in which they are related is indicated by algebraic symbols For example, $A = \pi r^2$ is the formula for the area, A, of a circle of radius r The symbol π means a certain constant (see PI)

Forney, John Wien, 1817–81, American journalist, b Lancaster, Pa He edited the Lancaster *Intelligencer* (1837–45) and the Democratic *Pennsylvanian* in Philadelphia (1845–53) From 1851 to 1856 he was clerk of the U S House of Representatives He helped elect James Buchanan to the presidency in 1856, but, failing to receive a political reward, he later opposed Buchanan's administration and supported Stephen A Douglas in the Philadelphia *Press*, which he established in 1857 Later Forney became a Republican and was (1861–68) secretary of the U S Senate He edited the Washington *Daily Morning Chronicle*, supporting Abraham Lincoln and, for a time, Andrew Johnson, but later joined the attack on Johnson He sold (1870) his Washington paper, again became a Democrat, and wrote Gen Winfield S. Hancock's campaign biography in 1880. He also wrote *Anecdotes of Public Men* (2 vols , 1873–81) and *The New Nobility* (1881)

Forney, town (pop. 1,295), N Texas, E of Dallas, in a blackland area; settled 1872, inc. 1910.

Fornfelt, city (pop 1,504), SE Mo , near the Mississippi below Cape Girardeau, in a farm area

Forres (fŏ'rĭs, -rĭz), burgh (pop 4,169), Morayshire, Scotland, on the Findhorn river It is an ancient town with rich associations in legend and history It is one of the places where, according to tradition, Macbeth murdered Duncan Noteworthy are Sweno's Stone, a carved monument 23 ft high, probably erected to commemorate a victory over the Danes, Nelson's Tower, on wooded Cluny Hill, and the Witches' Stone Whisky is distilled here

Forrest, Edwin, 1806–72, American actor, of Scottish and German descent He first appeared as Young Norval in Home's *Douglas* at the Walnut Street Theater, Philadelphia (1820), gained experience supporting Edmund Kean in Shakesperian roles; and in 1826 first established himself as one of the great tragedians of the century in the role of Othello at New York He had rugged vigor and as Lear, Macbeth, Hamlet, Virginius, and Spartacus played with great force and insight He married (1837) Catherine Sinclair, an English actress, who in 1852 brought against him a sensational divorce suit In England in 1845 his Macbeth was hissed by partisans of Macready, and Forrest himself hissed his rival at Edinburgh These incidents precipitated the Astor Place riot of 1849, a demonstration against Macready at New York by partisans of Forrest in which many were killed Through the storms occasioned by the violence of his temperament his reputation as an actor remained unshaken, and his last appearance as Richelieu in Boston (1871) was an occasion of widespread regret He bequeathed a large share of his fortune to found the Edwin Forrest Home for Retired Actors in Philadelphia See biographies by W R Alger (1877), Lawrence Barrett (1882), Gabriel Harrison (1889), and M J Moses (1929)

Forrest, French, 1796–1866, American naval officer, b St Marys co , Md , entered the navy as a midshipman in 1811 He distinguished himself in the Mexican War, was head of the Washington navy yard (1856–57), and commanded the Brazil Squadron (1858–59) In 1861 Forrest resigned from the U S Navy and in June was commissioned in the Confederate navy While head of the Norfolk navy yard he supervised the armoring of the *Merrimac* He commanded the James River Squadron in 1863–64

Forrest, John Forrest, 1st **Baron,** 1847–1918, Australian explorer and statesman In 1869 he led an expedition to the west of Lake Barlee in search of the missing LEICHHARDT and the following year followed Evre's route in the reverse direction, from Perth along the Bight to Adelaide After other explorations he became surveyor general of Western Australia (1883) and its first premier (1890–1901) In 1901 he became postmaster general of the commonwealth Successively he was commonwealth minister of defense (1901–3), minister of home affairs (1903–4), and treasurer (1905–7, 1909–10, 1913–14, and 1917–18) His writings include *Explorations in Australia* (1875) and *Western Australia* (1884–87)

Forrest, Nathan Bedford, 1821–77, Confederate general, b Bedford co , Tenn (his birthplace is now in Marshall co) At the beginning of the Civil War, Forrest, a wealthy citizen of Memphis, organized a cavalry force which he led at Fort Donelson (Feb , 1862) and Shiloh (April) He assumed command of a cavalry brigade in the Army of Tennessee (June) and in July captured a large Union garrison at Murfreesboro He was made a brigadier general With a newly recruited command he effectively cut Grant's communications in a raid through W Tennessee (Dec , 1862) After foiling a Union attempt to cut the railroad between Chattanooga and Atlanta (May, 1863), Forrest participated in the CHATTANOOGA CAMPAIGN until trouble with Braxton Bragg led him to accept a command in N Mississippi He was promoted major general (Dec , 1863), captured Fort PILLOW (April, 1864), defeated a superior force at Brices Cross Roads, Miss (June), and held Gen A J Smith to a drawn battle at Tupelo, Miss (July) These Union failures against Forrest caused Sherman, then advancing on Atlanta, much concern for his communications Forrest commanded all the cavalry under J B HOOD in that general's Tennessee campaign (Nov - Dec , 1864) and was promoted lieutenant general (Feb , 1865) He surrendered shortly after his defeat at Selma, Ala , in April After the war he engaged for a time in railroading and also was important in the activities of the KU KLUX KLAN Forrest, probably the greatest Confederate cavalryman, is one of the most interesting figures of the war Legends of his exploits still persist in the South See biographies by J A Wyeth (1899), E W Sheppard (1930), A N Lytle (1931), and R S. Henry (1944)

Forrestal, James Vincent (fŏ'rĭstăl), 1892–1949, U S Secretary of the Navy (1944–47) and Secretary of Defense (1947–49), b Beacon, N Y After study at Princeton, he became a naval aviator in the First World War and later (1923) began a career as an investment banker He was appointed administrative assistant to President F. D Roosevelt (June, 1940), Undersecretary of the Navy (Aug , 1940), and Secretary of the Navy (1944) as successor to Frank Knox With the reorganization of the departments of war and the navy, he became Secretary of Defense. He headed the National Military Establishment Illness forced his resignation and caused his suicide

Forrest City, rail and trade city (pop 5,099), co seat of St Francis co , E Ark , at the foot of Crowley's Ridge, in an area producing peaches, cotton, and rice, settled c.1808, inc 1871 A U S soil conservation project is near by

Forster, Edward Morgan, 1879-, English novelist Educated at King's College, Cambridge, he there came to know G Dickinson Lowes, whose biography he wrote in 1934 He lived in Italy, visited India in 1912 and 1922, and during the First World War was stationed in Egypt He and others started the *Independent Review* in 1903, and in 1920 he was editor of the *Daily Herald*, a labor paper His novels are noted for their subtlety, wit, and irony *Where Angels Fear to Tread* (1905), *The Longest Journey* (1907), *A Room with a View* (1908), *Howard's End* (1910), *A Passage to India* (1924), his best-known work (Everyman's Library edition has notes added by Forster) His short stories are collected in *The Celestial Omnibus* (1911) and *The Eternal Moment* (1928) He is best seen as a critic in *Aspects of the Novel* (1927) and the miscellany, *Abinger Harvest* (1936) See studies by Rose Macaulay (1938) and Lionel Trilling (1943)

Förster, Ernst (ĕrnst' fûrs'tûr), 1800–1885, German painter, lithographer, and art critic He painted frescoes for the Univ of Bonn and the royal palace, Munich Förster discovered the Jacopo de Avanso frescoes in the San Giorgio Chapel, Padua He wrote a history of German art, a work on Italian art, and a life of Peter von Cornelius and edited the works of his father-in-law, Jean Paul RICHTER.

Forster, François (frăswa' fôrstĕr'), 1790–1872, French steel engraver, one of the foremost of his time He is noted for his engravings of the paintings of Raphael, Leonardo da Vinci, F P Gérard, and Gros

Forster, Georg (gā'ôrg fôr'stûr), 1754–94, German naturalist, traveler, and author, who accompanied Capt James Cook on a voyage around the world He was for a time professor at Kassel and at Vilna After the outbreak of the French Revolution, he was involved in an attempt to incorporate Mainz with France His account of a voyage around the world, an early scientific travel book, was published in 1777 His father, **Johann Reinhold Forster** (yō'hän rīn'hōlt), 1729–98, naturalist and teacher, was for a time in the employ of Catherine the Great He also accompanied Cook

Forster, John, 1812–76, English biographer and critic He early became literary and dramatic critic of the London *Examiner*, which he later edited (1847–56) His *Lives of the Statesmen of the Commonwealth* (5 vols , 1836–39) first brought him literary fame, but he is best known for his *Life of Charles Dickens* (3 vols , 1872–74), one of the great biographies of the period He also wrote lives of Goldsmith (1848), Landor (1869), and Swift (Vol I only, 1875) See Richard Renton, *John Forster and His Friendships* (1912)

Forster, William Edward, 1818–86, British statesman He entered Parliament in 1861 and, together with Bright and Cobden, opposed recognition of the Confederated States of America His compromise elementary education act (1870) provided aid for existing schools, established supplementary nondenominational "board schools," and was the foundation for the English system of national compulsory education In 1880 he went (unwillingly) to Ireland as chief secretary, but his opposition to Parnell and his stern enforcement of the law made him so unpopular that attempts were made on his life He resigned in 1882 See Frank Smith, *A History of English Elementary Education 1760–1902* (1931)

Forsyth, Andrew Russell (fôrsĭth'), 1858–1942, Scottish mathematician He was professor of mathematics at Cambridge (1895–1910) and then at the Imperial College of Science, London (1913–23) He was the author of works on differential equations (1885, 1890–1906), the theory of functions (1893), and differential geometry He also wrote *Calculus of Variations* (1927), *Geometry of Four Dimensions* (1930), and *Intrinsic Geometry of Ideal Space* (1935)

Forsyth, John, 1780–1841, American statesman, b Fredericksburg, Va , grad Princeton, 1799 He began law practice in Augusta, Ga , and was attorney general of the state He was in the House of Representatives from 1813 until his election to the Senate in 1818 In Feb , 1819, he resigned to become minister to Spain, where he was able to secure the ratification of the treaty of 1819 whereby Florida was ceded to the United States He again served in the House of Representatives from 1823 until elected governor of Georgia in 1827 He was again U S Senator (1829–34), resigning to become Secretary of State under Andrew Jackson, an office which he continued to hold during Van Buren's administration In his second term in the Senate, Forsyth supported Jackson's policies, particularly in the nullification controversy in Georgia. He was a leader in the agitation for removing the southern Indian tribes beyond the Mississippi. As Secretary

of State he was chiefly concerned with French spoliation claims, the question of the annexation of Texas, the troubles concerning the rebellion in Canada, including the *Caroline* incident, and the dispute over the Maine boundary

Forsyth, Thomas, 1771-1833, American frontiersman, b Detroit, Mich He early entered the Indian trade, spent several winters at Saginaw, and later made his headquarters at Peoria, Ill He served as subagent of Indian affairs for the region, (1812–19) and in the War of 1812 did much to protect the settlements and furnish information regarding Indian movements His influence kept the Potawatami neutral From 1819 to 1830 he was a full agent in charge of the Sac and Fox and was stationed at Fort Armstrong

Forsyth (fôrsith', fôr'sĭth) **1** City (pop 2,372), co seat of Monroe co, central Ga, NW of Macon, in a farm area, inc 1822 It processes cotton and lumber and manufactures textiles "Hill Arden," in classic revival style, dates from 1822 The city is the seat of Bessie Tift College **2** City (pop 1,696), co seat of Rosebud co, SE Mont, on the Yellowstone river, inc 1904

forsythia (–sĭth'ĭă, –sĭ'thēu), any plant of the genus *Forsythia*, Old World shrubs with abundant yellow flowers that appear in the spring before the leaves It is easily cultivated and popular for its early color The common cultivated kinds, called also golden bell, are Oriental or hybrid in origin The branches are often forced into bloom indoors

Fort, Paul (pōl' fôr'), 1872–, French poet, one of the SYMBOLISTS His chief distinction rests in his use of "rhythmical prose," especially in the *Ballades françaises* (Vol I, 1897) See Amy Lowell, *Six French Poets* (rev ed, 1916)

Fortaleza (fôrtulā'zu), city (pop 140,901), capital of Ceará state, NE Brazil, a port on the Atlantic Founded in 1609, it became a center of the great sugar plantations of NE Brazil in colonial times Cultivation of cotton came later, and the city processes sugar and cotton today It ships these, coffee, hides from the cattle-grazing interior, and, more important, exotic products such as carnauba wax, oiticica oil, rutile, and castor beans The modern, spacious city has several technical schools Fortaleza is known also for its lace and its wood carving The climate is tropical The city was formerly known to foreigners as Ceará

Fort Anne National Park, N S see ANNAPOLIS ROYAL

Fort Atkinson, city (pop 6,153), S Wis, SE of Madison, on the Rock River and NE of Lake Koshkonong, settled 1836, inc 1878 It is a trade and shipping center for a dairy region William D Hoard began the *Hoard's Dairyman* here (1885)

Fort Augustus, village, Inverness-shire, Scotland, on the Caledonian Canal at the head of Loch Ness Barracks established here in 1716 for protection against Highlanders were reinforced in 1730 by General Wade, who named the station after William Augustus, duke of Cumberland In 1876 the buildings were occupied by a Benedictine abbey

Fort Beauséjour National Park, N S see BEAUSÉJOUR, FORT

Fort Benton, city (pop 1,227), co seat of Chouteau co, N central Mont, on the Missouri and NE of Great Falls Growing around a post founded by the American Fur Company in 1846, it was laid out in 1865 and incorporated in 1883 The post was first reached by steamboat in 1859 and as head of navigation on the Missouri it was long the port of entry for gold seekers and for cattlemen The fort was used as a garrison in the Indian troubles for some years after 1870 The city is a farm trade center

Fort Bragg, city (pop 3,235), N Calif, on the coast NNW of San Francisco, in a timber, fishing, and farm region, founded 1850, inc 1889 An army post was built here in 1857 and named for Braxton Bragg, who was its first commandant

Fort Branch, town (pop 1,552), Gibson co, SW Ind, S of Princeton

Fort Bridger State Park, SW Wyo, E of Evanston and on Blacks Fork of the Green River The supply post, founded by James Bridger in 1843, became a station on the Oregon and other trails From 1853 to 1857 the Mormons took possession of Fort Bridger but retreated into Utah with the coming of government troops sent out against them Bridger then leased the post to the government It was maintained as a fort until 1890. Some of the original buildings still survive

Fort Collins, city (pop 12,251), co seat of Larimer co, N Colo, N of Denver and on the Cache la Poudre river, settled around a fortification (1864–71), inc 1883 It is the trade, shipping, and processing center for a rich farm area raising grain, sugar beets, and livestock It is the seat of the COLORADO AGRICULTURAL AND MECHANICAL COLLEGE and is the headquarters for Roosevelt National Forest Near by are several diversion dams of the COLORADO–BIG THOMPSON PROJECT

Fort Coulonge (kōōlōzh'), village (pop 1,072), SW Que, at the junction of the Ottawa and Coulonge rivers E of Pembroke It was founded in 1680 as a fur-trading post

Fort Davis, unincorporated town (pop c 1,000), co seat of Jeff Davis co, W Texas, SE of El Paso and in the Davis Mts Settled near a frontier army post, established in 1854 and abandoned in 1891, the town is a ranching center now much visited by tourists viewing the mountains The Univ of Texas maintains, with assistance from the Univ of Chicago, McDonald Observatory founded in 1932 on Mt Locke near by

Fort-de-France (fôr-du-frās'), city (pop 66,006), capital of MARTINIQUE dept, French West Indies Formerly called Fort-Royal, it is a port with a deep, landlocked harbor on W Martinique and handles nearly all the island's commerce, exporting sugar and rum In spite of its fine harbor, Fort-de-France did not become the chief commercial city until the destruction of SAINT-PIERRE in 1902

Fort Deposit, town (pop 1,351), S central Ala, SW of Montgomery, in the Black Belt, settled on the site of a fort established c 1813

Fort Dodge, city (pop 22,904), co seat of Webster co, central Iowa, on the Des Moines river and NNW of Des Moines, settled c 1846 Fort Clarke, established here in 1850, was named Fort Dodge (for Henry Dodge) in 1851 and was in 1853 abandoned The town was laid out in 1854 and incorporated in 1869 In an agricultural (corn, poultry, hogs) and mining area, it is a rail, distributing, and industrial center with gypsum mills and farm-product processing plants An important gypsum bed is here, coal and clay are also found The city has a junior college and an art gallery

Fort Donelson National Military Park see DONELSON, FORT

Fort Edward, village (pop 3,620), E N Y, on the Hudson where the Champlain division of the Barge Canal enters and near Hudson Falls, inc 1849 The fort was built (1755) by Phineas Lyman to guard the portage between the Hudson and Lake Champlain, Burgoyne occupied it briefly in 1777 Paper milling is the chief industry

Fort Erie, town (pop 6,595), S Ont, on the Canadian side of the Niagara river opposite Buffalo, N Y, with which it is connected by the Peace Bridge Bridgeburg was united with Fort Erie in 1931 A number of branch factories of U S firms are here Fort Erie was built in 1764 by Captain Montressor and was taken from the British in the War of 1812 by American forces, who in turn in Aug, 1814, withstood successfully a siege by a superior British force, but afterwards blew up and abandoned the stronghold The site was long desolate, the modern town being a growth of the 20th cent The fort has been considerably restored

Fortescue, Sir John (fôr'tĭsku), c 1394–c 1476, English jurist He was chief justice of the Court of King's Bench from 1442 until 1460, when he was deposed by Edward IV as a follower of the house of Lancaster In 1471 he became reconciled with Edward Fortescue's *De laudibus legum Angliae* [in praise of English laws] (1470) is a rudimentary description of current legal practices His *De natura legis naturae* [concerning the nature of natural law] (1463), defending the Lancastrian claim, was retracted in *The Governance of England* (c 1471), which advocated rule by a permanent staff of trained councilors of the king

Fort Fairfield, town (pop 5,607), NE Maine, settled 1816, inc 1858 In a potato-growing area, it is a port of entry and commercial center on the Aroostook at the New Brunswick line

Fort Frances, town (pop 5,897), W Ont, on Rainy River, opposite International Falls, Minn It was once a Hudson's Bay Company post and is now chiefly a lumbering center with sawmills and a pulp and paper factory Steamers ply regularly down Rainy River to Lake of the Woods and Kenora Fort Frances is the starting point for canoe and hunting and fishing trips in this forested, rock-bound area

Fort Frederica National Monument. see SEA ISLANDS

Fort Gaines, city (pop 1,357), co seat of Clay co, SW Ga, on a bluff overlooking the Chattahoochee river (here spanned by a cantilever bridge) and S of Columbus, inc 1830 It is the trade center for a diversified farm area

Fort George, formerly **Big River,** W Que, the longest river (c 550 mi) flowing into Hudson Bay from the east It rises on the Labrador plateau and flows almost straight west

Fort Gibson, town (pop 1,233), E Okla, on the Grand River near its junction with the Arkansas and near Muskogee One of the oldest settlements in the state, it was founded in 1824 and was a vital U S military post for many years Fort Gibson Dam (2,850 ft long and 110 ft high) in the Grand River was authorized by Congress in 1941 for completion in 1949 Built for flood control and power, it forms a reservoir covering about 51,000 acres

Forth, river of Scotland It is formed by the streams Avondhu and Duchray Water, which rise near Ben Lomond in Stirlingshire and join near Aberfoyle The Forth then flows c 50 mi past Stirling to Alloa, receiving the Teith, Devon, and other streams and crossing or bordering Stirlingshire, Perthshire, and Clackmannanshire The **Firth of Forth** extends c 50 mi from Alloa to the North Sea and is from 1 to 18 mi wide It is crossed at Kincardine, below Alloa, by a road bridge (1936) with a swing span of 300 ft At Queensferry it is spanned by a famous cantilever railroad bridge (5,330 ft long), built by Sir John Fowler and Sir Benjamin Baker, completed in 1890. Above Queensferry is the roadstead St. Margaret's Hope Rosyth, on the bay, is a naval base Bass Rock and the Isle of May guard the entrance to the firth, other islands are Inchkeith and Incheolm Rivers flowing into the firth include the Leven, Esk, Avon, and Cairon.

Fortier, Alcée (ălsā' fôrtyā'), 1856–1914, American educator and historian, b St James Parish, La, educated at the Univ of Virginia His career was associated with the Univ of Louisiana (later Tulane Univ) He taught French at Tulane after 1880, becoming professor of Romance languages in 1894 His most important works are his *History of Louisiana* (4 vols, 1904) and his studies of the Creoles and of Louisiana folklore He also wrote historical works and literary criticism in French He was director of the Louisiana Historical Society for many years

fortification. Some types of building for defense appeared with the beginning of organized warfare, as a settlement or camp had to be defended against a war party The attacked naturally took advantage of all natural means of defense—trees, rocks, and the like—and improved upon them One striking example of this process was the retreat of the Indians of the present SW United States to mesas and to the shelves of canyon walls which could be readily defended against nomadic warriors (see CLIFF DWELLINGS and PUEBLO INDIANS) Palisades made of wood and rather elaborate stockades are developed for protecting villages even among peoples of very simple material culture In the Near East city walls appeared very early, and the old cities of Mesopotamia had walls of mud or sun-dried brick to withstand invaders The citadel, a fort or fortified section within the city, appeared early as well, as did the isolated fort, a structure built for defending strategic spots (such as a river ford), for garrisoning fighters on the frontier, and for offering a haven of refuge to the people of a region Permanent or semipermanent fortifications developed Some of them had quite considerable strength against the weapons of ancient times Thus the walls of Troy in Homer's *Iliad* were reckoned as being invulnerable, and therefore the ruse of the wooden horse to take the city The Phoenician coastal cities were also walled strongly and offered sturdy resistance to Assyrian and Persian conquerors, and Jerusalem long was defended against Roman machines To overcome such means of defense siegecraft developed early with means of undermining or tunneling under the walls, casting stones or blazing arrows over the walls, and battering in the gates In the West the building of fortifications along whole stretches of frontier reached a high point with the Romans, who strung out walls along the Danube and Rhine and in England (e g, HADRIAN'S WALL) Some of these had elaborate systems of watchtowers, with provisions for garrisoning men along the wall and methods of transporting troops and supplies by road and canal In the East the famous Great Wall of China (see CHINA, GREAT WALL OF) was an even more ambitious undertaking of the same type The Romans, with their highly developed skill in engineering, also developed field fortifications in their camps (*castra*) With the breakdown of Roman authority and the increase of raids and incursions of invading hordes from the north and east, fortification on the grand scale had to be surrendered in favor of local protection, and in the Middle Ages, when petty warfare was the regular order of the day, the typical fortifications were town walls of masonry, great citadels in the cities, and that most typical of medieval military institutions, the CASTLE It is interesting that similar local fortifications became the rule in the anarchic warfare in China and India and in feudal Japan In the West the castles and citadels (developed to a high point by the Moors in Spain) were not proof against the attacks of the catapult, the crossbow, the BATTERING RAM, and mining and sapping, but many of them were defensible against all but long siege The masonry walls were even proof against early use of gunpowder, but the development of ARTILLERY in the 15th cent diminished the value of the castle to the vanishing point, and one of the great military problems of the Renaissance and the succeeding centuries was to develop fortifications to withstand artillery. Walls were cut down, and the moat that surrounded the medieval castle was deepened to afford greater protection New fortifications were set in the ditches and were buttressed to withstand heavy shot Defense guns were mounted behind earthen ramparts Bulwarks of various types were developed to protect the fortress In fortifications with towers (roundels) connected by walls (curtains), there were areas that could not be covered by defensive fire from the towers This condition led to the construction of artillery positions at angles to the main wall, the bastions, and the proper distribution of bastions became the main preoccupation of military engineering That science reached a new high point in the wars of Louis XIV. Sebastien le Prestre de VAUBAN, who worked out fortifications and siege

methods in the late 17th cent , has perhaps the most illustrious name in the history of fortifications. His methods, supported by the work of others such as the Dutch Menno van Coehorn and the French Marc René, marquis de Montalembert, were to be basic in fortification for centuries The detached fort as support for the outer defenses of the fortress chain was introduced to create a sort of entrenched camp between the citadel of the fortress and the outer edges Old methods of palisades, moats, and abatis (felled trees set with sharpened points) and the like were used The trend toward spreading the chain of defense (the enceinte) wider was hastened in the 19th cent by the development of explosive shells and heavier artillery and the increased use of curved fire Circles and lines of smaller forts and intrenched camps, connected by belt-line railroads, girdled cities and guarded strategic points on frontiers Batteries were dispersed and artillery was placed in revolving or disappearing cupolas of subterranean bases, and the pillbox (a subterranean concrete room with observation towers and machine guns) was developed The system of a chain of detached forts around a citadel was predominant in Europe at the time of the First World War The Belgian fortresses, which were thought impregnable, fell with ease to the Germans in 1914, and the ring system of fortification was discredited The resistance of French concrete forts to even the heaviest fire, however, seemed to offer a promise of permanent defense fortification The result was the undertaking of the MAGINOT LINE This elaborate system of pillboxes, forts, and underground communications demanded great expense, but in the Second World War it was quickly outflanked in May, 1940, and proved useless, the question as to whether it would have been effective if carried clear to the coast of the English Channel is still somewhat argued, but the elaborate fixed fortification was discredited by the fate of the Maginot Line and of the expensive Belgian forts Despite the value of the defense in depth of the German Siegfried Line, which withstood heavy assault in the attack of 1944 until overpowered, and despite the usefulness of the Russian Stalin Line in channeling the German attack on Russia, the predominant note in the war was field, rather than fixed, fortification The use of underground shelters against air attack was effective and led to plans for extensive underground fortifications The Japanese on the Pacific islands made effective use of the ancient devices of earth and log fortifications on the same principle as the most ancient type Indeed, with the emphasis on mobile warfare and the use of armored columns and airplanes, the theory of fortification seemed to return to the idea of the temporary and even improvised shelter from a war party, intended mainly to delay the invaders until a stronger force could be brought into action against them The land mine, the tank trap, the pillbox, and the foxhole replaced the fortress Whether these conditions will hold in the future no one can say Even less can the effect of the atomic bomb on the theories of fortification be foretold

Fort Jameson (jām'sun), town (pop 3,217), SE Northern Rhodesia, on Nyasaland border It was a station on a notorious slave-trade route to the coast in the 19th cent There is trade in cotton and tobacco

Fort Jefferson National Monument, 86 82 acres, off S Florida, on Garden Key, an island of the Dry Tortugas, 60 mi W of Key West, est 1935 There is a fine brick sanctuary on the island The fort, unfinished, was begun in 1846 to guard the Straits of Florida It became a Federal prison in 1863, and Dr Samuel A MUDD was imprisoned here for four years The largest masonry fortification in the Western Hemisphere, it is surrounded by high thick walls and by a moat 70 ft wide said to have been filled with sharks to prevent the escape of prisoners and hence was known as Shark Island

Fort Kent, town (pop 5,363), N Maine, settled 1829 by Acadians, inc 1869 It is a port of entry on the St John at the influx of the Fish and a potato-processing center

Fort Laramie National Monument, 214 41 acres, E Wyo , SE of Casper Fort Laramie, on the west bank of the Laramie 2 mi above its junction with the North Platte, was founded (1834) as a trading post by Sublette and Campbell It came into the possession of the American Fur Company in 1836 In 1849 it became a U S military post, which in subsequent years was a major stopping place on the OVERLAND TRAIL The fort was garrisoned until 1890 In 1938 it was made a national monument See L R Hafen and F M Young, *Fort Laramie and the Pageant of the West* (1938).

Fort Lauderdale (lô'durdāl), city (pop 17,996), co seat of Broward co , SE Fla , N of Miami, on the Atlantic coast, settled around a fort built (1837) in the Seminole War. On New River and a navigable canal to Lake Okeechobee, the city is a shipping center for fruits and vegetables and a resort center for deep-sea fishermen and yachtsmen Near by are Port Everglades (a fine artificial port and a port of entry) and a Seminole Indian reservation

Fort Lee, borough (pop 9,468), NE N J , on the Hudson, connected with New York by ferry, settled 1700, inc 1904 The fort built here to command the Hudson was abandoned Nov 20, 1776, by General Greene after Fort Washington, on the opposite shore, fell to the British Fort Lee was an early center of the moving-picture industry

Fort Lupton, town (pop 1,692), N Colo , NNE of Denver, founded c 1872, inc 1890 It is the processing center for a farm and dairy area Coal mines are in the region The site of Fort Lupton (1836-44), a fur-trading post, is near by

Fort McHenry National Monument and Historic Shrine: see MCHENRY, FORT

Fort McMurray, settlement, N Alta , on the west bank of the Athabaska river and near Waterways It is the chief base for air travel to the central part of the Northwest Territories It was originally a fur-trading post of the North West Company named Fort of the Forks, it was taken over by the Hudson's Bay Company in 1821

Fort Madison, city (pop 14,063), a co seat (since 1838) of Lee co , SE Iowa, on the Mississippi (here spanned by a bridge) below Burlington Fort Madison, a U S trading post, was established here in 1808 but when besieged by Indians was abandoned and burned in 1813 The settlement, made in 1833, was incorporated in 1838 Formerly a river port and now a rail, commercial, and industrial center in an agricultural area, it processes farm products and makes fountain pens, farm tools, and paints The state penitentiary is here

Fort Marion National Monument, renamed (1942) Castillo de San Marcos National Monument see SAINT AUGUSTINE, Fla

Fort Matanzas National Monument. see SAINT AUGUSTINE, Fla

Fort Meade, city (pop 1,992), central Fla , ESE of Tampa, in a farm, timber, and quarry area It was settled around a fort established here in the mid-19th cent Kissengen Springs, a resort, is near by

Fort Mill, textile-mill town (pop 2,919), N S C , near the N C line S of Charlotte, N C

Fort Morgan, city (pop 4,884), co seat of Morgan co , NE Colo , NE of Denver and on the South Platte river, settled on the site of an early army post, inc 1887 It is the trade and processing center for a rich farm area yielding sugar beets, grain, dairy products, and livestock

Fort Myers, city (pop 10,604), co seat of Lee co , SW Fla , on the Caloosahatchee river near the Gulf Fort Harvie, built (1841) in the Seminole War and renamed in 1850, was held by Federals in the Civil War and attacked by Confederates in Feb , 1865 The city grew up around the fort in a region of rich tropical vegetation, including numerous varieties of royal palms It ships citrus fruits, winter vegetables, fish, and cattle In the 1920s its growth as a resort was rapid Thomas A Edison wintered at Fort Myers and experimented here for many years

Fort Necessity National Battlefield Site: see NECESSITY, FORT

Fort Nelson, settlement and government post, N British Columbia, on the Alaska Highway and the Fort Nelson river and N of Dawson Creek A Hudson's Bay Company post (1800) is still occupied

Fort Nelson, river of N British Columbia, 180 mi long, a tributary of the Liard

Fort Payne, city (pop 4,424), co seat of De Kalb co , NE Ala , NE of Gadsden, in a farm area, founded 1889 Coal, iron, clay, and fuller's earth are found in the region Near by is the site of a Cherokee settlement

Fort Peck Dam, NE Mont , in the Missouri river, not far above the mouth of the Milk river Construction of the huge, earth-filled structure, 21,026 ft long and 250 ft high, began in 1933 and was substantially complete by 1940 Begun as a Federal project for improvement of navigation and for flood control, it was finally used also for hydroelectric power and for irrigation (see also MISSOURI RIVER BASIN PROJECT) The unincorporated town of Fort Peck (pop 1,816) was built to house project employees Glasgow, Mont , is near by

Fort Pierce, city (pop 8,040), co seat of St Lucie co , SE Fla , on Indian River, which is here connected with the Atlantic by Fort Pierce Inlet The city (inc 1901) grew around a fort built in 1838 to guard against the Indians A distributing center with a good harbor and rail facilities, it ships fruit, vegetables, fish, and lumber To the west is Halpatiokee Swamp

Fort Plain, village (pop 2,770), E central N Y , on the Mohawk between Amsterdam and Little Falls, settled 1723, inc 1832 Rayon fabrics are made here It is named for a fort built (1776) to protect the valley against Indian and Loyalist raids

Fort Pulaski National Monument see PULASKI, FORT

Fort Recovery, village (pop 1,123), W Ohio, on the Wabash and at the Ind line A rural trading center, it takes its name from the fort established by Anthony Wayne in 1791

Fortress Monroe: see MONROE, FORT

Fortrose, burgh (pop 875), Ross and Cromarty co , Scotland, on Moray Firth It is a seaside resort It was the site of a monastery in the 6th cent and became the seat of a bishopric in 1124 The stones of the ruined cathedral were used by Cromwell to strengthen fortifications at Inverness

Fort-Royal, Martinique see FORT-DE-FRANCE

Fort Saint John, settlement, N British Columbia, on the Alaska Highway and N of Dawson Creek, at the beginning of the Sikanny Trail A North West Company post established in 1805 is still operated by the Hudson's Bay Company

Fort Scott, city (pop 10,557), co seat of Bourbon co , SE Kansas, near the Mo line N of Pittsburg, inc 1860 A military post, established in 1842, was abandoned in 1855, the city grew up around it During the Civil War the fort was rebuilt, some of its buildings are still standing The city is a railroad, trading, and manufacturing center in a dairying and farming region, it makes dairy products, cement, and flour A junior college is at Fort Scott

Fort Smith, city (1940 pop 36,584, 1949 special census pop 50,724), a co seat of Sebastian co , NW Ark , at the Okla boundary where the Arkansas and Poteau rivers join Founded as a military post in 1817, it was an important supply point during the 1848 gold rush It was first incorporated in 1842 The city is the major industrial center of the state, with furniture, glass, textile, and scissors factories among its industries and with near-by supplies of coal, gas, and zinc It is also a rail and trade center for a diversified farm area A national Civil War cemetery, the Old Fort, and other old buildings are here, near by is a branch of the state tuberculosis sanatorium

Fort Stockton, city (1940 pop 3,294, 1947 estimated pop 4,200), co seat of Pecos co , W Texas, on a plateau W of the Pecos Comanche Springs, outside the town, once offered camping grounds for Indians and for overlanders bound (1849–50) for California, here was founded (1859) the army post (now in ruins) around which the city grew The large springs now furnish water for irrigated farms Fort Stockton also ships wool, mohair, and cattle from surrounding ranches, benefits from oil fields to the east, and entertains tourists

Fort Sumner, village (pop 1,669), co seat of De Baca co , E N Mex , NNE of Roswell It is the trade and shipping center of a farm and livestock area Near by are Alamogordo Dam and the ruins of Fort Sumner (built 1862), which was once a major military post

Fort Sumter National Monument: see SUMTER, FORT

Fort Thomas, residential city (pop 11,034), N Ky , on the Ohio and near Newport, inc 1867 Fort Thomas military reservation, a U S army post, was established here in 1887

Fortuna (fôrtōō'nu) [Latin,=fortune], in Roman religion, popular oracular goddess of chance, corresponding to the Greek Tyche She was represented with a rudder, a globe, and a cornucopia She was probably originally a goddess of fertility

Fortuna (fôrtōō'nu, -tū'nu), town (pop 1,413), N Calif , on the Eel river, S of Eureka and near the coast, in a lumbering region, inc 1906

Fortunate Isles or **Isles of the Blest,** in classical and Celtic legend, islands in the Western Ocean There the souls of favored mortals were received by the gods and lived happily in a paradise Belief in the islands long persisted, and the Canaries and the Madeira Islands were sometimes identified with them See BRENDAN, SAINT

Fortunatus (–nā'–) [Latin,=fortunate], Christian, probably Corinthian 1 Cor 16 17,18

Fortunatus (Venantius Honorius Clementianus Fortunatus) (vēn'in'shus hônô'rēus klēmēn"shē'nus), d c 600, Latin poet, b near Treviso, Italy A priest in Gaul, he wrote a long poem on St Martin of Tours and the hymn *Vexilla Regis prodeunt*, sung on Good Friday in the Roman Catholic Church A hymn written by him supplied the first line and the meter for the later *Pange lingua* He was the last of the Gallic Latin poets

Fortune, Robert, 1813-80, British botanist He traveled in the Orient for the Royal Horticultural Society and later for the East India Company and brought back to England a number of chrysanthemums, the Japanese anemone, tree peonies, the kumquat, and other plants His experiments with the tea plant founded its cultivation in India He wrote *Three Years' Wanderings in the Northern Provinces of China* (1847)

Fortune, Timothy Thomas, 1856-1928, American Negro journalist, b Marianna, Fla , son of a Reconstruction legislator Educated at Howard Univ , he went to New York c 1882 and became editor of the *Globe*, a Negro daily, editing it for the remainder of his life A militant advocate of industrial education for the Negro, he was the author of *Land, Labor, and Politics in the South* (1884) and *The Negro in Politics* (1885)

Fortune Bay, c 80 mi long, S N F A large number of fishing villages are on its shores, the French islands of Grand and Little Miquelon and St Pierre are at its mouth

fortunetelling, practice of foretelling the future or destiny of an individual Some means used include divination, astrology, crystal gazing, palmistry, numerology, and the inspection of playing cards or

tea leaves Fortunetelling for money is punishable by law in England and in parts of the United States

Fortuny, Mariano (märēä'nō fôrtōō'nē), 1838?–1874, Spanish genre painter Sent to Morocco (1859) to paint war scenes, he made many brilliant sketches of Oriental life His little canvases are characterized by an extreme facility and vivacity. He is represented in the Museo de Arte Moderno, Madrid, and in the Metropolitan Museum The Walters Art Gallery, Baltimore, has his well-known *Snake Charmers* Fortuny was also an accomplished etcher and water-colorist. His early death cut short a brilliant career

Fort Valley, city (pop 4,953), co. seat of Peach co., S central Ga., E of Columbus and SW of Macon, in a farm area, settled c 1836, inc 1856 Fort Valley State College (Negro, coeducational, 1895) is here

Fortville, town (pop 1,463), central Ind., NE of Indianapolis, laid out 1849. Chemicals are manufactured here Fort Benjamin Harrison is near by

Fort Wayne, city (pop 118,410), co. seat of Allen co., NE Ind., where the St Joseph and the St Marys join to form the Maumee At this strategic point of water transport between the Great Lakes and the Ohio, the Miami Indians had their chief town before the French founded a trading post sometime shortly after 1680 The elder sieur de Vincennes seems to have established (1704) a fort, which was burned (1747) by the Indians, rebuilt (1750), occupied (1760) by the British, and taken by the Indians in Pontiac's Rebellion The Miami successfully opposed the Americans under Josiah Harmar, who burned (1790) their town, but they were subdued by Anthony Wayne, who built (1794) the fort that bore his name There was further Indian fighting in the War of 1812, but afterward the peaceful fur-trading center began to grow It was incorporated as a town in 1829 and as a city in 1840 A century later it was the second largest city in the state, a key railroad and shipping point, and an industrial metropolis Meat is packed, other foodstuffs are processed, and the varied manufactures include electrical products, tools and machinery, paper, and hosiery Fort Wayne is the seat of Concordia College (junior, Lutheran, for men, 1839) and Fort Wayne Art School There is a state school for the feeble-minded See documents in B J Griswold, *Fort Wayne, Gateway of the West, 1802–1813* (1927)

Fort William, city (pop 30,585), W Ont., at the outlet of the Kaministikwia river on the northwest shore of Lake Superior With PORT ARTHUR, its twin city, 3 mi distant, it forms the westernmost Canadian port of the Great Lakes waterway and owes its importance to being the transfer and bulk-breaking point for the export and import trade of W Canada Both the Canadian National and Canadian Pacific railways have terminal facilities at the port, and the Canadian Pacific has there one of the largest coal docks in the world The harbor, one of the best on the Great Lakes, is formed by the three channel mouths of the Kaministikwia and is lined with large elevators There are also flour mills, lumber mills, pulp and paper mills, foundries and machine shops, and shipbuilding yards Kakabeka Falls in the vicinity furnish abundant water power An earlier fort at this point was known as Fort Kaministiquia Fort William, named for William McGillivray of the North West Company, was erected in 1801 when the company moved its headquarters from the GRAND PORTAGE, which was found to be in U S territory Until the union of the North West Company and the Hudson's Bay Company in 1821 the fort was the headquarters of the traders and the transfer point for their supplies, which went inland to all the Canadian Northwest by the Kaministikwia route

Fort William, burgh (1931 pop 2,524, 1948 estimated pop, 3,170), Inverness-shire, Scotland, on Loch Linnhe, near Ben Nevis It is a tourist center for the Highlands The fort was built by General Monck in 1655, strengthened and renamed under William III in 1690, besieged by the Jacobites in 1715 and 1746, and demolished in 1890 There is a museum with Jacobite relics Fort William, with an important aluminum industry, was damaged by a German plane in 1940

Fort Worth, *city* (1940 pop 177,662, 1948 estimated pop 268,000), co. seat of Tarrant co., N Texas, W of Dallas, settled 1843, inc 1873 It is at the point where the West Fork joins the Clear Fork of the Trinity An army post (Camp Worth, later Fort Worth) was established in 1847, and after the Civil War the town was an Old West cow town The first railroad, completed in 1876 by heroic efforts of the citizens, helped make Fort Worth a meatpacking city Later wheat growing made it a center for milling and shipping grain, and in the 20th cent it was enriched by refineries and other oil and gas industries It is the focus of nine railroads, several air lines (there is also a U.S. military air base), and good highways It expanded greatly in the First World War and more particularly in the Second World War, and the metropolitan area was estimated in 1948 to have some 334,000 inhabitants Aircraft making was added to the city's diverse and growing industries. Fort Worth is the seat of TEXAS CHRISTIAN UNIVERSITY, Texas Wesleyan College (Methodist; coeducational), and Southwestern Baptist Theological Seminary It has many parks and a well-known botanic garden Three reservoirs on the West Fork—Lake Worth, Eagle Mountain Lake, and Lake Bridgeport—serve the city Near by the U S Public Health Service Hospital was founded in 1936

Forty Fort, residential borough (pop 6,293), NE Pa., on the Susquehanna near Wilkes-Barre; settled 1772 on the site of the fort of that name From the fort the militia of the WYOMING VALLEY marched to engage British and Indians (1778) Near by is the Colonel Denison House, built in 1790

Fort Yukon (yōō'kŏn), village (pop 274), NE Alaska, on the Yukon Flats, where the Porcupine river enters the Yukon, just N of the Arctic Circle On the Yukon Flats in 1847 the Hudson's Bay Company built a trading post, which had to be abandoned in 1869 when it was proved that the site was within the borders of Alaska The village is one of the foremost trading points of the N Alaska region It was an outfitting point for some of the gold seekers in the Klondike in the time of the great rush, but is now again principally a trapping center

forum (fō'rum) [Latin, =market place], market and meeting place in ancient Roman towns in Italy and later in the provinces, corresponding to the Greek agora Here private and public affairs were discussed, ceremonies and assemblies held, orations delivered, edicts announced, and justice administered By extension the word *forum* may indicate in modern usage the meeting itself The forum was usually square or rectangular in shape and had, among other buildings, a basilica with shops, the public treasury, the curia, and a prison, under Greek influence colonnades were introduced The old Roman Forum extended in a marshy valley from Capitoline Hill southeast along the Palatine Hill When, much later, the Basilica of Constantine and the Triumphal Arch of Titus were added, it reached almost to the Colosseum The valley was crossed by a small stream emptying into the Tiber, which drained the area and was canalized underground probably in the 6th cent B C to become the greatest sewer, the Cloaca Maxima (a portion of which still exists) It was 14 ft high and 10½ ft wide At the SW end of the Forum was the temple of Vesta and near by the house of the vestals Next, as an entrance to the Forum proper, was the Arch of Augustus, having on one side the temple of deified Julius Caesar and on the other that of Castor and Pollux Behind it was a building, now the Church of Santa Maria Antiqua with fine 8th-century frescoes Along the southwest side of the Forum was the Basilica Julia, along its northeast side the Basilica Aemilia and the curia, where the senate met The Forum was closed to the northwest by the Arch of Septimius Severus and by the rostra, platforms adorned with beaks of captured vessels, from which tribunes, consuls, and orators made their speeches Beyond them, toward Capitoline Hill, were temples, among them the Temple of Concord, one of the richest, and the temple of Saturn, one of the oldest, housing the treasury In the central area were several smaller monuments In imperial times the old Forum became inadequate, the emperors built new fora to the northeast, from the Basilica of Constantine to the valley between the Capitoline and Quirinal On the southeast were the Forum of Vespasian with the Temple of Peace surrounded by a colonnade, next the Forum of Nerva, followed by that of Augustus with the temple of Mars Southwest of it was the smaller Forum of Julius Caesar, a colonnade enclosing the temple of Venus Beyond the Forum of Augustus was the Forum of Trajan, a vast colonnaded square, then the Basilica Ulpia, then the two libraries with, between them, the wonderful Column of Trajan, which is still standing, the temple of Trajan closed the Emperors' fora to the northwest. With their polychrome marble pavements and grandiose colonnades, these fora were much more splendid than the old Forum In the 4th cent the decay of the old Forum began, earthquakes, fires, and the barbarian invasions did the rest In the Middle Ages materials from the fora were used to build new monuments throughout the city Only in the 19th and 20th cent were systematic excavations made to bring to light what was left. The fora are now, with the Palatine and Colosseum, an imposing complex of ruins, testifying to the grandiosity of ancient Rome See Isabel Lovell, *Stories in Stone from the Roman Forum* (1926)

Forum Appii (ă'pēī) see APPII FORUM.

Foscolo, Ugo (ōō'gō fō'skōlō), 1778–1827, Italian poet and patriot His name was originally Niccolò Foscolo He joined the French army after the Revolution and fought against Austria and Russia, went to Switzerland in 1813 when the Austrians entered Italy, and then to London, where he died He was the author of two tragedies; a novel, *The Last Letters of Jacopo Ortis* (1796–1802; Eng. tr., 1818), which exercised great influence on later writers, translations, critical essays, and lyric verse, of which the *Sepulchres* (1807) is perhaps the finest example. Selections from his verse have appeared in Lorna De Lucchi, *An Anthology of Italian Poems* (1922).

Fosdick, Charles Austin, 1842–1915, American author, b Randolph, N Y In the Civil War he enlisted in the Mississippi squadron of the U.S navy His experiences there and elsewhere furnished him material for the popular boys' books he wrote under the name Harry Castlemon. His nearly 60 novels appeared between 1864 and 1904 in series, such as the "Gunboat" series (*Frank on the Mississippi, Frank before Vicksburg*), "Rod and Gun" series, "Afloat and Ashore" series, and the "Pony Express" series

Fosdick, Harry Emerson (fŏz'dĭk), 1878–, American clergyman, b Buffalo, N.Y, grad Colgate Univ, 1900, and Union Theological Seminary, 1904 Ordained a Baptist minister in 1903, he was pastor in Montclair, N J., until 1915 From that year until 1946 Dr. Fosdick was professor of practical theology at Union Theological Seminary He became pastor of the Park Ave Baptist Church, New York, in 1926, this was transformed into the Riverside Church in 1930, when the congregation and Dr Fosdick moved to an impressive new structure on Riverside Drive He served there until 1946, when he became pastor emeritus His position as a Modernist leader in the Fundamentalist controversies of the 1920s and his forceful, practical sermons won wide recognition His radio addresses were nationally broadcast Among his writings are *The Meaning of Prayer* (1915), *Twelve Tests of Character* (1923), *A Guide to Understanding the Bible* (1938), *On Being a Real Person* (1943), *A Great Time to Be Alive* (1944), and *The Man from Nazareth, as His Contemporaries Saw Him* (1949)

Fosdick, Raymond Blaine, 1883–, American administrator, b Buffalo, N Y, grad Princeton, 1905, and New York Law School, 1908, brother of Harry Emerson Fosdick A lawyer, he was (1910–14) commissioner of accounts for New York city He went to Europe (1913) as a representative of the Rockefeller Bureau of Social Hygiene to study police organization, and he later wrote on European and American police systems He was sent (1916) as special representative of the War Dept on the Mexican border and served (1918–19) in the same capacity in France Fosdick was undersecretary general of the League of Nations in 1919 and 1920 He was active in numerous philanthropic organizations and served (1936–48) as president of the Rockefeller Foundation

Foss, Sam Walter, 1858–1911, American journalist and librarian, b. Candia, N H, grad Brown, 1882 In 1883 he became part owner and editor of the Lynn, Mass., *Saturday Union*, writing a humorous column, which led to writing for humorous weeklies and the New York *Sun* In 1887 he became editor of the *Yankee Blade* and editorial writer for the Boston *Globe* From 1898 until his death he was head of the Somerville public library He is best known for his poem "The House by the Side of the Road" See biography by M S Woodward (1922)

Fossano, Ambrogio Stefani da see BORGOGNONE

Fosse Way (fŏs'wā'), early Roman road in England, supposed to have gone from Isca Dumnoniorum (Exeter) NE past Aquae Solis (Bath), Corinium (Cirencester), and Ratae (Leicester) to Lindum (Lincoln) It intersected Watling Street See ROMAN ROADS! See Thomas Codrington, *Roman Roads in Britain* (new ed, 1918)

fossil (fŏs'ĭl), remains or imprints of plants or animals preserved from prehistoric times by natural methods Fossils are found in sedimentary rock, asphalt deposits, and coal and sometimes in amber and certain other materials Fossilization of skeletal structures or other hard parts is most common, only rarely are flesh and other soft parts preserved Conditions which were conducive to the formation of fossils include quick burial in moist sediment or other material that tends to prevent weathering and exclude oxygen and bacteria, thereby preventing decay. Shells and bones embedded in sediment in past geologic time, under conditions suitable for preservation, left exact reproductions of both external and internal structures Sometimes after such specimens were enclosed in the rock formed from the hardened sediments, water percolating through the ground dissolved out the shell and other structures, leaving a space within which only the form was preserved This is known as a natural mold. When such molds are discovered by fossil hunters, casts can be made from them by pouring in plastic materials If such holes are filled with mineral matter by subsurface water, natural casts are formed Molds of insects that lived many millions of years ago are sometimes found preserved in amber These were formed by the enveloping of an insect in the sticky resin which became amber, through the years the delicate tissues thus surrounded dried until little remained except the mold So perfectly formed are these molds that detailed microscopic studies can be made of the minute structure Molds of thin objects such as leaves are usually known as imprints. Impressions of dinosaur skin have aided scientists in making restorations of these animals. Imprints of footprints and

trails left by both vertebrate and invertebrate animals are also valuable aids to studies of prehistoric life Coprolites are fossilized excrement material; if it is possible to determine their source they are useful in revealing the feeding habits of the animals. Entire animals of the late Pleistocene have sometimes been preserved In Siberia some 50 specimens of woolly mammoths and a long-horned rhinoceros were found preserved in ice with even the skin and flesh intact. Several specimens of the woolly rhinoceros bearing some skin and flesh have been found in oil-saturated soils in Poland Skeletal remains have been preserved as a result of the engulfment of an animal's body in ancient asphalt pits, bogs, and quicksand At Rancho La Brea, near Los Angeles, Calif., asphalt deposits have yielded a rich variety of skeletons of birds and mammals. Some fossils have been found buried in volcanic ash, such fossil deposits exist in the Cenozoic rocks of the W United States Petrifaction is another method of preservation of both plant and animal remains. This can occur in several ways Mineral matter from underground water may be deposited in the interstices of porous materials, e g , bones and some shells, making the material more compact and more stonelike and thus protecting it against disintegration The original material may be entirely replaced with mineral matter, molecule by molecule, so that the original appearance and the microscopic structure are retained, as in petrified wood Sometimes, on the other hand, all details of structure are lost in the replacement of organic matter by minerals, and only the form of the original is retained In shales are sometimes found the silhouettes of plant tissues (more rarely of animals) formed by the carbon residue of the organism after the volatile elements have been driven off The scientific study of fossils is paleontology Not until c 1800 were fossils generally recognized as the remains of living things of the past and accepted as an invaluable record of the past See R S Lull, *Fossils* (1931), C L Fenton, *World of Fossils* (1933)

Fossil Cycad National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Fossombroni, Vittorio (vēt-tō'rēō fôs-sōmbrō'nē), 1754–1844, Italian diplomat He was foreign minister of Tuscany (1796–99). Napoleon made him senator, entrusted him with important missions, and made him a count After the restoration (1814) Grand Duke Ferdinand III of Tuscany named him prime minister, and he held the post for 30 years

Fosston, village (pop 1,271), NW Minn , WNW of Bemidji, in a farm area, settled 1884

Foster, Abby Kelley, or **Abigail Kelley Foster,** 1810–87, American abolitionist and advocate of woman's rights, b near Amherst, Mass She taught in several towns in Massachusetts before she began her crusade against slavery Her early speeches were attended with disorder, and as a woman speaking before mixed audiences she was subjected to persecution She married (1845) Stephen S Foster, abolitionist and reformer After 1850 she was more prominent as an advocate of woman's rights than as an abolitionist

Foster, Benjamin, 1852–1926, American landscape painter and art critic, b North Anson, Maine, pupil of Abbott Thayer He was art critic for the New York *Evening Post* and the *Nation* Among his pictures are *In Connecticut Hills* (Metropolitan Mus), *Misty Moonlight Night* (Brooklyn Mus), and *Lulled by the Murmuring Stream* (Luxembourg Mus , Paris)

Foster, Charles, 1828–1904, American political leader, b Seneca co , Ohio He was long identified with the business interests of Fostoria, Ohio—named for C W Foster, his father He entered Republican party politics, serving (1871–79) in the U S House of Representatives, Foster became a member of the Committee on Ways and Means and aided in exposing (1874) fraudulent contracts in connection with the U S Treasury Dept He was twice (1879, 1881) elected governor of Ohio and urged several progressive reforms He favored the taxation of saloons and sponsored a popular vote on the prohibition question A declared bimetallist, he was appointed in 1891 Secretary of the Treasury by President Benjamin Harrison, serving till 1893

Foster, Sir George Eulas, 1847–1931, Canadian statesman, b New Brunswick, educated at the Univ of New Brunswick He was professor of classics (1873–79) in the Univ of New Brunswick In 1882 he was elected to the Canadian House of Commons and, except for four years, remained a member until 1921, when he was appointed to the Senate In his long political life he held portfolios in a number of Conservative administrations, he was minister of marine and fisheries (1885–88) in the Macdonald government, minister of finance (1888–96), and minister of trade and commerce (1911–21) He was a Canadian delegate (1918–19) to the Paris Peace Conference and chairman (1920–21) of the Canadian delegation to the first assembly of the League of Nations, of which he was made vice president. In 1920 Foster was acting prime minister of Canada during the absence of Sir Robert Borden because of illness See his memoirs (ed. by W. S. Wallace, 1933).

Foster, Hannah Webster, 1759–1840, American novelist, b Boston. She married the Rev John Foster of Brighton, Mass , in 1785 Her novel, *The Coquette, or, The History of Eliza Wharton* (1797, facsimile edition by H R Brown, 1939), was one of the earliest and most popular American novels, but was almost as didactic as her other book, *The Boarding School, or, Lessons of a Preceptress to Her Pupils* (1798)

Foster, John Watson, 1836–1917, American diplomat, b Pike co , Ind , grad Indiana Univ (B.A , 1855, M A , 1858). After study at Harvard Law School, Foster practiced (1857–61) at Evansville, Ind , and then served (1861–65) with the Union army in the Civil War He later edited (1865–69) the Evansville *Daily Journal* and was (1869–73) postmaster of that city He was a leader of the state Republican party, and, becoming interested in international law and international relations, he served as minister to Mexico (1873–80), minister to Russia (1880–81), and minister to Spain (1883–85) He was (1892–93) Secretary of State under President Benjamin Harrison, represented (1893) the United States in arbitration of the Bering Sea Fur-Seal Controversy, acted (1894) for China in negotiations for the treaty with Japan, and attended several international arbitration conferences His numerous books include *A Century of American Diplomacy, 1776–1876* (1900), *The Practice of Diplomacy* (1906), and *Diplomatic Memoirs* (1909)

Foster, John Wells, 1815–73, American geologist and paleontologist, b Brimfield, Mass , grad Wesleyan Univ , 1834 He studied law and practiced at Zanesville, Ohio In 1837 he became an assistant on the geological survey of Ohio He made a thorough study of the great central coal bed of Ohio and of the Carboniferous limestone deposits near Columbus In 1847 he assisted Charles T Jackson in a geological survey of Michigan The reports of this survey established the richness and variety of the mineral resources of the Lake Superior region and were of far-reaching importance In 1869 Foster was made president of the American Association for the Advancement of Science He wrote *The Mississippi Valley* (1869), *Mineral Wealth and Railroad Development* (1872), and *Prehistoric Races of the United States of America* (1873)

Foster, Myles Birket, 1825–99, English water-color painter, wood engraver, and illustrator Some of his work appeared in early numbers of *Punch* and of the *Illustrated London News*, later he illustrated with wood engravings and steel etchings the works of English and American poets See H M Cundall, *Birket Foster, R W S* (1906)

Foster, Stephen Collins, 1826–64, American song writer and composer, b Lawrenceville (now part of Pittsburgh), Pa His was a pioneer family, observant of his talent for music but without understanding of it, consequently he had no formal musical education Only after a few of his songs had been successful did he decide on music as a profession His knowledge of the Negro was gained from minstrel shows, for which many of his songs were written In their utter simplicity his Negro dialect songs are often thought of as folk music The first edition of *Old Folks at Home* (1851) carried the name of E P Christy as author and composor By special arrangement with Foster, Christy, the manager of Christy's Minstrels, sang many of Foster's songs before they were published Foster felt that prejudice against his 'Ethiopian songs" existed, and he was at first unwilling to risk his reputation by having his name appear on them He had little aptitude for business, and his returns were never commensurate with the popularity of his songs Excessive drinking and extreme poverty marked his last years He died in Bellevue Hospital, New York, as a result of a fall in his room in a Bowery lodginghouse Banality entered into his work, but the songs that have remained popular, such as *Oh! Susannah* (1848), *Camptown Races* (1850), *Old Folks at Home* (1851), *My Old Kentucky Home* (1853), *Jeanie with the Light Brown Hair* (1854), and *Old Black Joe* (1860), are unpretentious and genuine See biographies by H V Milligan (1920) and J T Howard (1934), Morrison Foster, *My Brother Stephen* (1932), Evelyn Foster Morneweck, *Chronicles of Stephen Foster's Family* (1944).

Foster, William Zebulon, 1881–, American Communist leader, b Taunton, Mass An itinerant worker in many different occupations, he was first affiliated with the Socialist party, next with the I W W , and then with the A F of L In his early years as a laborer he became profoundly influenced by Marxism His activities among steelworkers were climaxed by his leadership of the famous steel strike of 1919 With the organization of the American Communist party (1919–21), he was a prominent leader and was presidential candidate in 1924, 1928, and 1932. In 1930 he was displaced as party head by Earl BROWDER. On Browder's fall Foster became (1945) national chairman He was charged in 1948 with advocating the overthrow of the U S government, but because of ill-health he did not go on trial (1949) with 11 other top Communists. Many of his personal experiences are recounted in *From Bryan to Stalin* (1937) and *Pages from a Worker's Life* (1939).

Foster, rural town (pop. 1,237), W R L; set off from Scituate and inc. 1781.

Fostoria (fôstô'rēŭ), city (pop 13,453), NW Ohio, S of Toledo Industrial, trade, and shipping center for a livestock and farm area, it was established in 1854 by the union of Risdon and Rome villages Carbon and machine parts are among the manufactures

Fothergill, John (fŏ'dhurgĭl), 1712–80, English physician, a Quaker of Yorkshire He practiced with great success in London, wrote an account of an epidemic of diphtheritic and scarlatinal sore throat (1748), and worked for improvement in jails and in sanitation At Upton, Essex, he maintained a noted botanic garden to which John and William Bartram contributed He took active part in an attempt to reconcile the American colonies See study by R H Fox (1919)

Fotheringhay (fŏdh'urĭng-gā), village, Northamptonshire, England, on the Nene and SW of Peterborough Fotheringhay Castle (12th cent) was the birthplace of Richard III and the scene of the imprisonment and execution (1587) of Mary Queen of Scots The 15th-century church has a monument to Edward (killed at Agincourt, 1415) and Richard, dukes of York

Foucault, Jean Bernard Léon (zhäⁿ' bĕrnär' lā' fōōkō'), 1819–68, French physicist. Known especially for his research on the speed of light, he determined its velocity in air and found that its speed in water and other media diminished in proportion to the index of refraction He originated the Foucault PENDULUM, with which he demonstrated the earth's rotation He also improved astronomical instruments, invented (1852) the gyroscope, and investigated the carbon arc and the eddy current (known also as the Foucault current), an electric current induced in metal by a moving magnetic field From 1855, he was physicist at the Paris Observatory

Fouché, Joseph (shōzĕf' fōōshā'), 1759–1820, French minister of police A teacher in the schools of the Oratorian order, he joined the French Revolution and was elected to the Convention (1792) Early a Girondist, he became a Jacobin, supported the Terror, and assisted Collot d'Herbois in the ruthless massacre (1793) of the counterrevolutionists in Lyons He was instrumental in the overthrow of Robespierre (1794), acted as spy for Barras, and became envoy to Holland (1798) and minister of police (1799) Always an opportunist, he closed the Jacobin clubs and helped Napoleon's coup d'état of 18 Brumaire As police minister under the Consulate, he organized a ruthlessly efficient spy system, but his duplicity caused his dismissal (1802) He was, however, made a senator and continued to maintain an unofficial espionage system He discovered the CADOUDAL plot (1804) and was reappointed police minister in the same year One of the indispensable men of the Napoleonic empire, Fouché is sometimes considered the father of the modern police state, however this may be, his reforms of the criminal police were a lasting achievement In 1809 he was created duke of Otranto as reward for his defense of Antwerp during Napoleon's absence in Austria Shortly afterward, he began secret negotiations with the English Dismissed again and replaced by Savary (1810), he fled to Italy but soon afterward returned In 1813 Napoleon made him governor of Illyria, and in 1814–15 he served both Napoleon and Louis XVIII After the second Bourbon restoration he was forced out of office and sent as ambassador to Saxony He soon fell into total disgrace, was exiled, and died in obscurity in Trieste. See Stefan Zweig, *Fouché* (Eng tr , 1930)

Foucquet: see FOUQUET

Fougères (fōōzhĕr'), town (pop 18,599), Ille-et-Vilaine dept , N France It is an old Breton town with picturesque fortifications

Fouillée, Alfred Jules Émile (älfrĕd' shül' āmēl' fōōyā'), 1838–1912, self-educated French philosopher and sociologist Until 1875, when he retired, he was a teacher at various French universities Fouillée regarded it as his particular work to "reconcile idealism and naturalism " To achieve this synthesis of Platonism and modern science, he developed the conception of *idées-forces*, in which ideas are inseparable from action This motor theory of consciousness makes ideas the agent of change and progress Fouillée expanded this idea of self-consciousness into a metaphysics (*L'Avenir de la métaphysique*, 1889) In the sphere of sociology and ethics he stressed the interdependence of the individual and society Chief among his philosophical writings are *Critique des systèmes de morale contemporaine* (1883), *L'Évolutionnisme des idées-forces* (1890), and *La Psychologie des idées-forces* (1893)

Foula (fōō'lä), island, 5 sq. mi , off N Scotland, one of the Shetland Islands Its cliffs rise to a height of 1,220 ft and are a haunt of seafowl

Fould, Achille (äshĕl' fōōld), 1800–1867, French financier and politician He began his political life as a deputy (1842) and had some financial influence in the formation of the provisional government in 1848 He served four times under Louis Napoleon as minister of finance and for a time was minister

of state His one great accomplishment was the reduction (1863) of the floating debt by a loan

Foulis, Andrew (foulz), 1712–75, and **Robert Foulis,** 1707–76, Scottish printers, brothers They worked in partnership as printers to the Univ of Glasgow Their publications were famous both for beauty and for accuracy; their *Horace* was overpraised as faultless Change in taste has impaired the prestige of their typography, which is criticized as pretty and elegant but lacking in character, it represents high achievement in a style of the time

Foulness (foul'nĕs'), island, Essex, England, at the mouth of the Crouch Foulness Point is at the northeast tip

Foulques see FULK

foundation, institution provided with funds for work in charity, education, or research Hospitals, schools, and orphanages supported by kings or by the Church in the Middle Ages were, in a sense, foundations, but according to the modern use of the term a foundation is usually established by private philanthropy One of the earliest American foundations was Benjamin Franklin's bequest to the cities of Boston and Philadelphia of £1,000 each, to be loaned to "young married artificers of good character" Large philanthropic foundations developed in the United States after the middle of the 19th cent , with the growth of private fortunes One of the oldest is the SMITHSONIAN INSTITUTION, founded in 1846 by James Smithson Andrew Carnegie and John D Rockefeller established foundations which have done valuable work in education and medical research Among other famous foundations are the Rhodes Scholarships, established by Cecil RHODES, the literary and artistic fellowships given by the Guggenheim family, and the Russell Sage Foundation Foundations supported by individual contributions are conducting important research in medicine, particularly in poliomyelitis, cancer, and heart disease

founding or casting, the shaping of metals by melting and pouring into molds The place where the work is done is called a foundry Like FORGING, founding was practiced in prehistoric time, probably first in Asia The mold used in casting iron or steel is regularly of sand or loam given the desired form by the pressure of a wooden pattern As the metal shrinks in solidifying, the pattern is made slightly larger than the casting desired If the casting is to be hollow, the mold includes a core The hardness of a casting is increased by rapid cooling, chilled steel is a product of this process Cast iron and cast steel are more brittle than iron and steel worked by forging Metal molds are used in some kinds of casting, as in type founding and die-casting The casting of bronze statues is an intricate process, requiring great skill See R H Palmer, *Foundry Practice* (4th ed , 1929), R G G Moldenke, *The Principles of Iron Founding* (2d ed , 1930), C E Schubert, *Foundry Practice* (3d ed , 1946)

founding hospital, institution for receiving and caring for children abandoned by their parents In Athens and in Rome until the 4th cent , undesired children were left or exposed in appointed places The Second Nicene Council in 787 ordered the establishment of foundling hospitals in all large cities The famous hospital founded by the Society of St Vincent de Paul in Paris in 1670 receives destitute children and juvenile delinquents as well as foundlings In England deserted children are supported in workhouses or other institutions by the parish in which they are found Under the Soviet regime, Russia has homes for children and homes for married and unmarried mothers with children, as well as state premiums to nursing mothers to prevent desertion In France, if a deserted child's parents cannot be found, it is supported by the state and placed in a private family In the United States, foundling hospitals were started before 1860 by Catholic nuns, Protestant churches, and private individuals The first was St Vincent's Infant Asylum of Baltimore (1856) Foundlings are assigned to the county poor farm in some states, elsewhere public or private maternity hospitals care for them, or they are boarded in supervised private families See CHILDREN, DEPENDENT See Homer Folks, *The Care of Destitute, Neglected, and Delinquent Children* (1900)

fountain, natural or artificially conveyed flow of water which either simply issues from an orifice and is received into a basin or is so disposed with architecture or sculpture as to form an effective decoration In ancient Greece columnar shrines were built over springs and dedicated to deities or nymphs In ancient Rome fountains fed by the great aqueduct system furnished water to the people in the streets, in the villa gardens, and in town houses Though there were few public fountains in the Middle Ages, beautiful examples remain, especially in Italy, where also splendid Renaissance fountains, showing the full artistic exuberance of the period, are found even in the smallest village square or the least pretentious villa The development of the great 16th- and 17th-century villas, with their hillside gardens and natural water sources, called forth amazing ingenuity in water decoration In the Villa d'Este at Tivoli and the villas at Frascati, near Rome, the various disposals of water constituted an integral element of the garden composition In France the gardens of the palace of Versailles, designed by LE NÔTRE, embodied a vast scheme of water adornment, with elaborate sculptural treatment The supply, held in a reservoir at Marly, was raised 500 ft above the Seine by machinery In fountains the theatrical trend of the baroque period found expression In keeping with the violently animated postures of the sculptured nymphs, sea horses, and dolphins, the water issued splashing over the rims of the uppermost bowls and down upon artificial rocks and shells A colossal figure of Neptune was a favorite motive, as in famous examples at Florence, Bologna, and Rome Bernini designed in Rome the superbly simple fountains in St Peter's Square, the grotesque fountains in Piazza Navona, and the fountain of Trevi, the last being perhaps the most dramatic of the baroque examples In sharp contrast with these are the fountains of Mohammedan countries, which dispense with gushing water, an inconspicuous trickle often forming the source In their gardens the water lies in quiet pools and long, narrow channels Of the type employing basins and sculpture, the Fountain of the Lions, in the ALHAMBRA, Granada, is a noted specimen Invariably a fountain for ablutions stands in the courtyard of a MOSQUE In Oriental cities the public fountains are entirely enclosed within structures richly finished in marbles and ceramics and with wide projecting roofs Drinks are given to the passer-by through a metal grille Fine examples are numerous in Istanbul, Cairo, and Damascus The modern public drinking fountain is usually of strictly utilitarian design, American landscape artists are, however, encouraging the use of the ornamental fountain with definite success Many private gardens show the happy results of artistic designing

Fountain Hill, borough (pop 4,804), E Pa , on the Lehigh river between Allentown and Bethlehem

Fountain Inn, town (pop 1,346), NW S C , SSE of Greenville, in a farm area

Fountains Abbey, ruined Cistercian abbey, West Riding of Yorkshire, England, SW of Ripon It was built in the 12th cent

Fouqué, Friedrich Heinrich Karl, Baron de la Motte- (frē'drĭkh hĭn'rĭkh karl' barōn' dŭ la môt'-fōōkā'), 1777–1843, German poet and novelist He wrote many chivalric romances, tales, and plays based on Norse mythology, but is chiefly remembered for his fairy tale of the nymph who had no soul, *Undine* (1811), of which there have been innumerable editions in English, and for the patriotic song *Frisch auf, zum fröhlichen Jagen* (1813)

Fouquet or **Foucquet, Jean** or **Jehan** (all zhäⁿ' fōō-kā'), c 1415–c 1480, French painter and illuminator He is usually considered the founder of the 15th-century school of French painting which combined the art of the Van Eycks and that of the early Florentines He was summoned to Rome to paint the portrait of Pope Eugenius IV (now lost) He was court painter to Charles VII and Louis XI and a protégé of Agnes Sorel and of Étienne Chevalier, treasurer of Charles VII Although a very famous artist in his own time, little is known of his life, and his importance as a painter was not generally recognized until the exhibition of French primitives in 1904 brought to light the scope of his talents His best-known paintings include a diptych, one wing of which represents Agnes Sorel as the Virgin (Antwerp) and the other a kneeling figure of Étienne Chevalier, and his portrait of Charles VII (Louvre) He is also famous for his illuminations in the duc de Berry's Book of Hours (Chantilly) and those for the French translations of Boccaccio and Josephus' *Antiquities of the Jews* (Bibliothèque nationale) See studies by Georges Lafenestre (1905, in French), Trenchard Cox (1931), and Paul Wechsler (1949)

Fouquet or **Foucquet, Nicolas** (nē-kôlä'), 1615–80, superintendent of finance (1653–61) under Louis XIV of France His loyalty to Mazarin during the Fronde helped to secure his position By his transactions with the financiers, to whom he allowed huge profits, he impoverished the treasury and accumulated a huge personal fortune He spent large sums on his house at Vaux, on art and book collections, and on lavish entertainments He was also a leading patron of literary men, among them Molière and La Fontaine Aroused by Colbert's reports of Fouquet's mismanagement and jealous of the magnificence of a fete he attended at Vaux, Louis XIV ordered Fouquet's arrest in 1661 His trial revealed little evidence of unusual guilt Fouquet was sentenced (1664) to banishment, but the king, still resentful, "commuted" the sentence to life imprisonment Prior to his disgrace, Fouquet had acquired the titles of viscount of Mélun and of Vaux and marquis of Belle-Isle

Fouquier-Tinville, Antoine Quentin (äⁿtwan' kätĕ' fōōkyā'-tăvēl'), 1746–95, French revolutionist, public accuser before the Revolutionary Tribunal (March, 1793–July, 1794) He personified the ruthlessness of the REIGN OF TERROR Among the many victims of his prosecution the most famous was Marie Antoinette After the fall of Robespierre, Fouquier-Tinville was guillotined. See biography by Alphonse Dunoyer (Eng. tr , 1913)

Fourcroy, Antoine François, comte de (äⁿtwän' frăswä' kōt' dŭ fōōrkrōōä'), 1755–1809, French chemist He was a pioneer in animal and plant chemistry and collaborated with Lavoisier and others in reforming the system of chemical nomenclature He was professor from 1784 at the Jardin du Roi (later the Jardin des Plantes), Paris, held public offices during the Revolution, and as director general of public instruction from 1801 instituted reforms in the French system of higher education He was made a count in 1809 His writings include *The Philosophy of Chemistry* (1792; Eng tr , 1795) and *A General System of Chemical Knowledge* (11 vols , 1801–2, Eng tr , 1804)

Four Forest Cantons, the, Ger *Die Vier Waldstätten* (dē fēr' vält'shtĕtŭn), the cantons of UNTERWALDEN, SCHWYZ, URI, and LUCERNE, the first Swiss communities to win their freedom The Lake of the Four Forest Cantons is called in English the Lake of LUCERNE

Four Freedoms In his message to Congress proposing lend-lease legislation (Jan 6, 1941), President Franklin D Roosevelt stated that Four Freedoms should prevail everywhere in the world—freedom of speech and expression, freedom of worship, freedom from want, and freedom from fear These were substantially incorporated (Aug , 1941) in the ATLANTIC CHARTER

Four-H clubs or **4-H clubs,** organizations for boys and girls living in rural communities In the United States they are operated by the Extension Service of the Dept of Agriculture They are part of an educational program, initiated in 1914, designed to improve methods of agriculture and home economics, to promote high ideals of civic responsibility, and to provide training for community leadership The name is derived from the fourfold purpose of improving head, heart, hands, and health, the club motto is "Learn by doing" The 4-H clubs are active not only in the continental United States but also in Hawaii, Puerto Rico, and Alaska, the movement has spread to other countries, especially in W Europe

Four Horsemen of the Apocalypse (ăpŏk'ŭlĭps), allegorical figures in the Bible Rev 6 1–8 The rider on the white horse has many interpretations—one is that he represents Christ, the rider on the red horse is war, on the black horse is famine, and on the pale horse, death

Fourier, Charles (François Marie Charles Fourier) (sharl' fōōryā', frăswä' marē'), 1772–1837, French social philosopher Coming from a bourgeois family and working as a salesman and clerk, he gradually evolved a sort of utopian socialism in negation of his mercantile background In his *Théorie des quatre mouvements* (1808) and later works he developed his idea that the passions of man would in a natural state attain harmony The social organization allowing for such development was to be based on the "phalanx," an economic unit composed of 1,620 people Members would live in the *phalanstère* (or phalanstery), a community building, with work to be divided among people according to their natural inclinations This arrangement was to destroy artificial restraints put upon natural man by civilization Fourier, however, was not ready to discard capitalism altogether, basically his ideal was an agricultural society, systematically arranged His collected works have been published (1888–90) See biography by Charles Pellarin (Eng tr. of 2d ed , 1848) **Fourierism** obtained a number of converts in France, and several newspapers spread the doctrines, although followers did not succeed in establishing a lasting colony there After Fourier's death, his principal disciple, Victor Prosper CONSIDÉRANT, tried to found a colony in Texas Albert BRISBANE and Horace GREELEY were the principal figures in the sudden and wide development of colonies in the United States BROOK FARM was for a time Fourierist The most successful of the communities was the North American Phalanx at Red Bank, N J The movement declined after 1850

Fourier, Jean Baptiste Joseph, Baron (fōō'rēā", fōō'rēur, Fr zhäⁿ' bätēst' zhōzĕf' barō' fōōryā'), 1768–1830, French mathematician and physicist He was noted for his researches on heat and on numerical equations He originated Fourier's theorem on vibratory motion and the Fourier series, which provided a method for representing discontinuous functions by a trigonometric series Fourier was professor (1795–98) at the École polytechnique, Paris, accompanied Napoleon I to Egypt, and was prefect of Isère (1802–15) In 1808 he was made a baron He wrote *Théorie analytique de la chaleur* (1822) His scientific writings were collected in two volumes (1888–90)

Four Lakes, chain of canalized lakes, S Wis These are Waubesa, Kegonsa, Mendota, and Monona, between the last two lies Madison, the state capital Largest of the four is Mendota (c 6 mi long), on which is the campus of the Univ of Wisconsin. Indian mounds are in the vicinity of the lakes

Fournier, Pierre Simon (pyĕr' sēmô' fōōrnyā'), 1712–68, Parisian type founder. He devised the

first point system for measuring and naming sizes of type He designed a number of type faces and many typographic ornaments and was the author of *Manuel typographique* (2 vols , 1764–66)

Four-Power Treaty · see NAVAL CONFERENCES

Fourteen Points, formulation of a peace program, presented by U S President Woodrow WILSON in an address before both houses of Congress on Jan 8, 1918. The message, though intensely idealistic in tone, had certain very practical aims It was intended to reach the people and liberal leaders of the Central Powers as a seductive appeal for peace, in which purpose it was successful It was intended also to serve notice upon the Allies that the United States would not be a party to a selfish peace, and it was planned to appeal for the support of the liberal elements in Allied countries in achieving an unselfish settlement It was intended to stimulate moral fervor at home Finally it was hoped that the points would provide a framework for peace discussions The message immediately gave Wilson the position of moral leadership of the Allies and furnished him with a tremendous diplomatic weapon as long as the war persisted In this period few stopped to analyze the practical implications of its far-reaching principles or realized that it cut across the secret treaties of the Allies After the Armistice opposition to the points quickly crystallized, and the actual treaty (see VERSAILLES, TREATY OF) represented a compromise or defeat of many of them The first five points were general in nature and may be summarized as follows (1) "open covenants openly arrived at", (2) freedom of the seas in peace and war, (3) removal of economic barriers between nations as far as possible, (4) reduction of armaments to needs for domestic safety, (5) adjustment of colonial claims with concern for the wishes and interests of the inhabitants as well as for the titles of rival claimants The next eight points referred to specific questions (6) evacuation and general restoration of conquered territories in Russia, (7) preservation of Belgian sovereignty, (8) settlement of the Alsace-Lorraine question, (9) redrawing of Italian frontiers according to nationalities, (10) the division of Austria-Hungary in conformance to its nationalities, (11) the redrawing of Balkan boundaries with reference to historically established allegiance and nationalities, (12) Turkish control only of their own peoples and freedom of navigation through the Dardanelles, (13) the establishment of an independent Poland with access to the sea The last point (14) was a provision for "a general association of nations under specific covenants" See Ray Stannard Baker, *Woodrow Wilson and World Settlement* (1923)

Fourteenth Amendment, to the U S Constitution, adopted 1868 The amendment comprises five sections Section 1 will be discussed later in detail Section 2 provides for apportionment of membership in the House of Representatives on the basis of the whole state population, excluding Indians not taxed A supplemental provision, intended to protect Negro suffrage but never implemented, allows reduction of the congressional representation of a state if male citizens over 21 years old are forbidden to vote The main effective constitutional guarantee of Negro suffrage has been the Fifteenth Amendment (adopted 1870), which forbids the United States or any state to abridge the right to vote on account of race, color, or previous condition of servitude Section 3 of the Fourteenth Amendment excluded from political office persons who, having sworn to uphold the U S Constitution (e g , army officers and members of Congress), violated this oath by aiding the Confederacy in the Civil War, but Congress by a two-thirds vote of each house could remove this disability Section 4 confirms the public debt but makes void all claims arising from credit extended to the Confederacy or from the loss of slaves By Section 5 Congress is empowered to enact legislation enforcing the foregoing sections Section 1 of the amendment declares substantially that all persons born or naturalized in the United States are American citizens and citizens of the state of residence, the citizenship of Negroes was thereby established and the effect of the DRED SCOTT CASE was overcome The section forbids the states to abridge the privileges and immunities of U S citizens, to deprive any person of life, liberty, or property without due process of law (a similar provision restraining the Federal government is in the Fifth Amendment), and to deny any person the equal protection of the laws Section 1 has been used extensively by the U S Supreme Court to test the validity of state legislation The privileges and immunities of citizenship have never been defined by a majority of the court, but some justices have argued that among the activities envisaged are freedom to cross state boundaries and freedom to gather for peaceable discussion of legislation The court has preferred to base its decisions on the due-process and the equal-protection clauses, which apply to all persons (the term *person* was soon applied to corporations as well as human beings) irrespective of citizenship In the early view of the court any deprivation of life, liberty, or property simply meant the punishment for crime. The requirements of due process would be met by fair procedure, including notice to the defendant, and an open trial with the right to counsel In time, however, the court concluded that due process was not limited to procedural considerations but had a substantive aspect as well Thus, even if proper legal procedure were observed, the grounds on which a person was deprived of life, liberty, or property might in themselves violate due process The constitutionality of much state legislation was opened to question, and so many laws were attacked that at certain times about one third of the cases before the Supreme Court dealt with due process The court did not stipulate limitations on traditional exercises of the POLICE POWER, such as the ordinary criminal law and the regulation of NUISANCE (see SLAUGHTERHOUSE CASES) However, it did severely restrain the power of the states to legislate on economic matters The court held that only businesses "dedicated to the public interest," e g , utility companies, might be regulated by the states and that state laws which limited the hours of work of women were an unwarranted interference with liberty of contract The equal-protection clause, which was also brought to bear on the economic legislation of the states, was held to invalidate restraints on corporations from which other businesses were exempted In several early cases this clause was used to foster individual economic rights, with the court striking down state laws which prevented aliens from pursuing certain occupations However, Negroes who claimed that the discrimination which they suffered at the hands of private persons (e g , exclusion from hotels) denied them the equal protection of law were refused redress by the court, which has always held that the Fourteenth Amendment was concerned with official state action only The court later enunciated the view that the states might provide segregated facilities for Negroes (e g , in education) so long as they were equal to those afforded white persons, this is the so-called "separate but equal" doctrine Except that state regulations of working conditions and hours of employment were permitted after a time, the court substantially maintained the views outlined above until the 1930s, when drastic reinterpretations were made (For factors producing the change, see SUPREME COURT, UNITED STATES) The court thereafter permitted state legislatures to make economic regulations without regard to the question whether the businesses concerned were dedicated to the public interest The states, it was also held, might meet the requirements of equal protection even if distinctions based upon "reasonable classifications" were made Thus, corporations, with their great potential power and size, might reasonably be subjected to severer restrictions than other types of business organizations While the states were given greater freedom in enacting economic legislation, their power to limit personal liberties was brought under greater restraint In a number of decisions it was held that the provisions of the First Amendment to the Constitution of the United States were made applicable to the states by the substantive aspect of the due-process clause Thus, the states, just as the Federal government, were forbidden to favor or suppress any religious establishment or to deny freedom of speech, of the press, and of peaceable assembly Only when the exercise of these rights created a "clear and present danger" of some grave evil might the states take repressive steps The court has not found such danger in most cases of peaceable picketing (defined as a form of speech) or in the distribution of religious and political propaganda, despite objectionable littering of the streets The court condemned all voluntary religious instruction in public schools as aid to establishments of religion With the new attitude of the court, the equal-protection clause became one of the main weapons of Negroes determined to enjoy the same rights as white persons Although the "separate but equal" doctrine was never repudiated, there were decisions that certain Negro schools in the South were inferior Where separate schools of equal quality were lacking, Negroes were to be admitted to the regular state institutions See C W Collins, *The Fourteenth Amendment and the States* (1912)

fourth dimension · see SPACE TIME.

Fourth of July, Independence Day, or **July Fourth,** U S holiday, commemorating the adoption of DECLARATION OF INDEPENDENCE It is the anniversary of the adoption of the final draft of the declaration, and the reason why this was chosen rather than any of several other days is obscure, but celebration of it began in the American Revolution It has ever since been the patriotic holiday par excellence Traditionally it has been celebrated with firing of guns and fireworks, parades, open-air meetings, and patriotic speeches Today local ordinances prevent much of the former display of fireworks and use of firearms.

Fowey (foi), municipal borough (1931 pop 2,382, 1943 estimated pop 2,255), Cornwall, England, SW of Plymouth at the mouth of the Fowey river It was of maritime importance in the 14th cent and is still a seaport and fishing town Place House was built during Henry VII's reign There are ruins of St Catherine's Fort overlooking the harbor At Pridmouth near by are fossils and minerals of geological and archaeological interest Castle Dore, a few miles north, is believed to be the castle of King Mark of Cornwall and thus is associated with the story of Tristram and Isolde "The Haven" was the residence of Sir Arthur Quiller-Couch The export of kaolin and fish curing are local industries

Fowke, Gerard (fouk), 1855–1933, American archaeologist, whose name was originally Gerard Smith, b Maysville, Ky Known especially for his study of the Ohio valley, he recorded his findings in *Archaeological History of Ohio* (1902) and *The Evolution of the Ohio River* (1933) He also investigated aboriginal remains in the E United States (1885–88, 1891–93) and alleged Norse remains near Boston (1894, 1896), explored (1898) Vancouver Island and the Amur river region, Siberia, made ethnological studies in the Hawaiian Islands (1920), and examined (1921–26) caves in the Ozark Mts and Indian sites in several states

fowl · see POULTRY

Fowler, Charles Henry, 1837–1908, American Methodist bishop, b Canada, grad Genesee College (later Syracuse Univ), 1859, and Garrett Biblical Institute, 1861 For 11 years he held pastorates in Chicago churches He was president of Northwestern Univ from 1873 to 1876 After his election as bishop in 1884, he traveled in several mission fields and helped found the universities of Peking and Nanking in China, Nebraska Wesleyan Univ , and the Twentieth Century Forward Movement

Fowler, Henry Watson, 1858–1933, English lexicographer, educated at Oxford Both he and his brother, F G Fowler, had been teachers before they retired and entered the literary world with a translation of Lucian They collaborated also on *The King's English* (1906), a trenchant and witty book of modern English usage and misusage, and on an abridgment of the *Oxford English Dictionary* (in one volume, 1911) F G Fowler died in 1918 as a result of war service, and H W Fowler, who had also served in the First World War, completed alone *A Dictionary of Modern English Usage* (1926) Though many of the decisions and opinions expressed are debatable, these works became standard desk equipment for writers, editors, and all those interested in the usages of modern English

Fowler, Sir John, 1817–98, English engineer With his partner, Benjamin Baker, he designed and built the Forth Bridge (1882–90) He was also a designer and supervisor of the London underground railway In 1885 he was knighted

Fowler, Thomas, 1736–1801, English physician With an apothecary named Hughes he introduced a solution of potassium arsenite called Fowler's solution He wrote *Medical Reports of the Effects of Arsenic* (1786)

Fowler 1 Town (pop 1,531), S central Calif , in the San Joaquin Valley near Fresno, inc 1908 Raisins and nuts are packed here 2 Residential town (pop 1,903), co seat of Benton co , NW Ind , NW of Lafayette, laid out 1871

Fowlerville, village (pop 1,118), S Mich , between Detroit and Lansing, in a rich farm area, settled c 1836, inc 1871

Fowliang (fōō'lēäng'), Mandarin *Fou-liang,* city (pop 86,744), NE Kiangsi prov , China, on the Chang river It has been celebrated since the 6th cent A D for porcelain made from the white clay found near Poyang Lake to the west The city was formerly named Kingtehchen

Fox, Charles James, 1749–1806, English statesman and orator He entered Parliament in 1768 and by 1770 had been made an admiralty lord under Lord North Disagreeing with North over the king's marriage bill and other policies, he was dismissed (1774), went into bitter opposition, and lent his remarkable oratorical genius to attacking the government's policy in the American war, which he feared would lead to separation Despite the king's objection, he became foreign secretary in Rockingham's Whig ministry (1782) and aided the cause of Irish self-government by supporting the repeal of POYNINGS's LAW and by other acts In 1782 he advocated separate treaties of peace with America and France and lost office when Lord Shelburne, who opposed this view, succeeded Rockingham Fox, still a leader of the Whigs, associated himself now with the Tory opposition headed by his old enemy, Lord North, to insure Shelburne's defeat. Fox became foreign minister again His coalition fell (1783) on the issue of vesting the government of India in a commission, which George III defeated by his personal influence in the House of Lords Though disliked by the king, Fox was on intimate terms with the prince of Wales (George IV) Fox became committed after 1789 to a policy opposed to that of William Pitt, by favoring the French Revolution and demanding British nonintervention He objected to the suppression of civil liberties in wartime and urged such measures as parliamentary reform and political freedom for Catholics and dissenters At Pitt's death he became (1806) for a few months foreign secretary in the "ministry

of all the talents" Abolition of the slave trade, which he proposed and urged, was passed in 1807, after his death Fox combined with dissolute habits rare sweetness of character and tremendous courage and skill in debate See biographies by G. O Trevelyan (1880), J L Hammond (1903), John Drinkwater (1928), C F Hobhouse (1935), and E C P Lascelles (1936).

Fox, Dixon Ryan, 1887–1945, American historian and educator, b Potsdam, N Y Educated at the state teachers college at Potsdam (1903–7) and Columbia (B A., 1911, M A., 1912, Ph D., 1917), he taught at Columbia from 1912 to 1934, becoming full professor in 1927 From 1934 to his death he was president of Union College and chancellor of Union Univ His writings include *The Decline of Aristocracy in the Politics of New York* (1919), biographies of the historian Herbert L Osgood, his father-in-law (1924), and of Caleb Heathcote (1926), *Ideas in Motion* (1935), and *Yankees and Yorkers* (1940) Fox was a leader of research in social history and with Arthur M. Schlesinger, Sr., was editor of the excellent "A History of American Life" series *The Completion of Independence, 1790–1830*, Vol V (1944) in the series, was written by John A Krout and Fox As president (1929–45) of the New York State Historical Association he inspired and guided the publication of its notable *History of the State of New York* (ed by Alexander C Flick, 10 vols , 1933–37)

Fox, Fontaine Talbot, Jr, 1884–, American cartoonist, b Louisville, Ky He was cartoonist (1906–15) for Louisville papers and for the Chicago *Evening Post*, after 1915 his cartoons were syndicated He is best known for his *Toonerville Trolley* cartoons

Fox, George, 1624–91, English religious leader, founder of the Society of FRIENDS As a boy, he was apprenticed to a shoemaker and wool dealer By nature serious and contemplative, at the age of 19 Fox entered upon a wandering quest for spiritual enlightenment Turning from clergymen and churches, he arrived at the belief that "every man is enlightened by the divine light of Christ," the "inward light" which reveals God within man In 1647 he began to preach the convictions that filled his life with light Although often the victim of mob brutality and eight times imprisoned between 1649 and 1675, Fox won many followers, especially among groups of SEPARATISTS He did not design to start a new sect, but the expanding movement needed organization and form In 1668 he prepared the first pattern of organization, which was for some years to serve as the discipline of the Society of Friends. The London Yearly Meeting was started in 1671 To confirm his followers in their beliefs and to spread the truths, Fox went in 1671 to the West Indies and to America, where he made arduous journeys to various colonies scattered between New England and North Carolina Twice later he visited Holland His sincerity, serenity, fearlessness, and powerful preaching are attested to by a number of his contemporaries His journal (1694, with a preface by William Penn) has appeared in various editions See *George Fox an Autobiography* (ed by R M Jones, 2 vols , 1903–4), studies by R M Jones (1930), A N. Brayshaw (1933), and R H King (1940)

Fox, Gustavus Vasa, 1821–83, American naval officer, b Saugus, Mass., appointed a midshipman in 1838 He resigned from the navy in 1856, but in April, 1861, commanded the expedition which attempted to relieve the garrison at Fort SUMTER Fox was chief clerk of the Dept of the Navy from May to Aug , 1861, when the post of Assistant Secretary of the Navy was created for him He held that office till May, 1866 His honesty, efficiency, and wide knowledge of naval affairs were of incalculable benefit to the Union cause See his *Confidential Correspondence* (1918–19)

Fox, Henry Richard Vassall see HOLLAND, HENRY RICHARD VASSALL FOX, 3D BARON

Fox, John, Jr., 1862–1919, American novelist, b Paris, Ky., grad. Harvard, 1883 In the intervals of sporadic journalism he was in business in Big Stone Gap, Va , and there knew the mountain folk who are characters in his several picturesque, romantic, and sentimentalized novels *The Little Shepherd of Kingdom Come* (1903) and *The Trail of the Lonesome Pine* (1908) were immensely popular novels

Fox or **Foxe, Luke,** 1586–1635, English explorer As a master mariner, he set forth in 1631 to hunt for the Northwest Passage to the East He explored the west shore of Hudson Bay, satisfied himself that there was no passage through it, and returned that same year to England, where his *Northwest Fox; or, Fox from the North-West Passage* was published (1635, ed. by R M Christy, 1894) At about the time that Fox was in Hudson Bay, Thomas James was there, also conducting a search for the Northwest Passage.

Fox, Margaret, 1836 93, American spiritualist, b. Bath, near Kingston, Ont The family moved to Wayne co , N Y , when she was a child She claimed to have established communication with the spirit world by means of spirit rappings and, with her sisters, Katharine and Leah, toured the United States and Europe. The Fox sisters gained much notice and notoriety. In 1888 Margaret admitted that the effects were fraudulent She also created a sensation by claiming to be the common-law wife of the arctic explorer, Elisha Kent Kane.

Fox. 1 River, c 176 mi long, rising in central Wisconsin and flowing southwest to within c 1½ mi of Portage, on the Wisconsin river, with which it is connected by a ship canal Thence it flows irregularly NE to Green Bay, at the city of Green Bay The river, principal tributary of which is the Wolf, enters Lake Winnebago from the west at Oshkosh and drains from the northern end at Menasha Above the lake it is known as the Upper Fox, below the lake, as the Lower Fox Rapids at points along its course furnish water power Appleton, Kaukauna, and De Pere are on the Fox The river was a well-known route of early explorers, missionaries, and traders into Wisconsin and the Northwest Forts, missions, and trading posts were established along its course Louis Jolliet and Father Marquette were the first white men to reach (1673) the Mississippi by way of the Fox-Wisconsin portage 2 River rising in SE Wisconsin between Milwaukee and Lake Geneva and flowing SSW to the Illinois at Ottawa, Ill

fox, predatory animal of the dog family Its fur is generally long and thick, and the bushy tail is usually longer than that of the wolf It is an intelligent animal and shows great skill in outwitting its enemies Small animals, berries, and fruits form most of its food The red fox (*Vulpes*) inhabits parts of Europe and Asia, N Africa, and most of Canada and the United States Various races differ in color and markings, but the coat is usually reddish, the end of the tail is white, and the back of the ears are marked with black. Silver, black, and cross fox are color phases, one or more of which may appear in any red fox litter Silver fox pelts are valuable and much used in the trade, many are from animals raised in captivity in North America The thick, fine underfur is overlaid with black hairs about 3 in long some of which are partially white The natural all-black pelts are rare and expensive Cross fox is yellowish to pale orange, often with some white-tipped hairs and with black cross-shaped markings on the shoulders and back Breeders have developed a platinum fox The arctic fox has a circumpolar range Usually the short-haired summer coat, brownish above and white below, changes to a long white winter coat, the white fox of trade Another phase remains grayish or brownish throughout the year and is known as blue fox The gray fox is found over most of the United States and from Mexico to N South America

Foxboro, town (pop 6,303), SE Mass , SW of Boston, settled 1704, inc 1778 Indicating, recording, and precision instruments are produced A state mental hospital is here

Fox Chapel, borough (pop 1,080), Allegheny co., SW Pa , near Pittsburgh, inc 1934

Foxcroft, Maine see DOVER-FOXCROFT

Foxe, John, 1516–87, English clergyman, author of the noted *Book of Martyrs* He early became a Protestant and on Mary Tudor's accession fled from England to Strasbourg In Strasbourg was printed (1554) a volume in Latin, giving the history of the persecution of Protestant reformers to c 1500 —the first part of the work which became known popularly as the *Book of Martyrs* Foxe moved to Basel, and there was published (1559) the first complete edition, in Latin, of his history of the Christian martyrs to about the end of Mary Tudor's reign Returning to England, he was ordained (1560) and in 1563 became a prebendary in the cathedral at Salisbury He was connected also with the printing business of John Day, who issued (1563) the first complete English edition of Foxe's master work as *The Acts and Monuments of These Latter and Perilous Dayes* The *Book of Martyrs* was widely read, and its influence was extensive, although as history it is not altogether trustworthy. It has passed through many editions See J F Mosley, *John Foxe and His Book* (1940)

Foxe, Luke. see FOX, LUKE

Foxe Channel, arm of Hudson Bay, 200 mi long and 90 to 200 mi wide, SE Franklin dist and E Keewatin dist , Northwest Territories, between Southampton Island and Melville Peninsula on the west and Baffin Island on the east It connects Hudson Bay and Hudson Strait with Foxe Basin, a widen- of the channel between Baffin Island and Melville Peninsula

foxglove, any species of the genus *Digitalis*, Old World biennial or perennial herbs The common or purple foxglove (cultivated also in other colors) is usually biennial, and the tall spikelike spikes of flowers—early-summer blooming—are popular for borders Each blossom, likened to the finger of a glove or an elongated bell, points downward from the stalk. In England where it grows wild the plant has long been associated with the fairies, as evidenced by a few of its many names fairy thimbles, fairy bells, fairy cap, and fairies'-petticoat From the leaves of this plant, which is poisonous, is obtained the drug digitalis (dĭj"ĭtăl'ĭs, -tā'lĭs), valuable in the treatment of heart ailments

foxhound. see HOUND

Fox Indians: see SAC AND FOX INDIANS.

Fox Islands: see ALEUTIAN ISLANDS.

Fox Lake. 1 Resort village (pop. 1,110), extreme NE Ill., near the Wis line; inc. 1906. 2 City (pop 1,016), central Wis , on Fox Lake and SW of Fond du Lac, settled 1838, inc. as a village 1893, as a city 1938

Fox Point, village (pop. 1,180), SE Wis., on Lake Michigan N of Milwaukee; settled c 1840 by Dutch, inc 1926

fox terrier: see TERRIER

fox trot, American ballroom dance that evolved from ragtime and became known c 1912 It was soon introduced to Europe In duple time and danced with an easy pace, it is more of a rhythm scheme or step pattern than a strict form and has given rise to countless variants, such as the "Charleston," the "slow" fox trot, and "swing"

Foy, Maximilien Sébastien (mäksēmēlyē' sābastyē' fwä), 1775–1825, French general and orator He fought in the Napoleonic Wars and was elected a deputy in 1819 His eloquent defense of public liberties made him extremely popular

Foyle (foil), river formed by the junction of the Mourne and the Finn at Strabane, Co Tyrone, Northern Ireland Its estuary, on the northern coast, forms a navigable inlet, 15 mi long, known as Lough Foyle Londonderry is on the Foyle

F. P. A. see ADAMS, FRANKLIN PIERCE

Fra Angelico see ANGELICO, FRA

Fracastoro, Girolamo (jĕrō'lämō frăkästō'rō), 1483–1553, Italian physician and poet He was born in Verona, where he practiced after studying at Padua He made careful studies of epidemic diseases and attributed their spread to the transmission of tiny particles or seeds of contagion by contact, either direct or indirect, or even without contact over long distances He wrote a long poem on syphilis from the title of which the disease takes its name

Frackville, borough (pop 8,035), E Pa , NNW of Pottsville, settled 1852, laid out 1861, inc 1876 Anthracite is mined here on a large scale

fraction [Latin, =breaking], in arithmetic, an expression representing a part, or several equal parts, of a unit In writing a fraction, e g , $\frac{2}{5}$ or $\frac{1}{3}$, the number after or below the bar represents the total number of parts into which the unit has been divided This number is called the denominator The number before or above the bar, the numerator, denotes how many of the equal parts of the unit have been taken The expression $\frac{2}{5}$, then, represents that two of the five parts of the unit or quantity have been taken When the numerator is less than the denominator, the fraction is proper, i e , less than unity When the reverse is true, e g , $\frac{5}{2}$, the fraction is improper, i e , greater than unity A fraction has been reduced to its lowest terms when the numerator and denominator are not divisible by any common divisor except 1, e g , when $\frac{4}{6}$ is reduced to $\frac{2}{3}$ When a fraction is written with a whole number, e g , $3\frac{1}{2}$, the expression is called a mixed number This may also be written as an improper fraction, as $\frac{7}{2}$, since three is equal to six halves, and by adding the one half, the total becomes seven halves, or $\frac{7}{2}$ When fractions having the same denominator, as $\frac{3}{10}$ and $\frac{4}{10}$, are added, the numerators only are added and their sum is then written over the common denominator $\frac{3}{10}+\frac{4}{10}=\frac{7}{10}$ Fractions having unlike denominators, e g , $\frac{1}{4}$ and $\frac{1}{6}$, must first be converted into fractions having a common denominator, a denominator into which each denominator may be divided, before addition may be performed In the case of $\frac{1}{4}$ and $\frac{1}{6}$, for example, the lowest number into which both 4 and 6 are divisible is 12 When both fractions are converted into fractions having this number as a denominator, then $\frac{1}{4}$ becomes $\frac{3}{12}$, and $\frac{1}{6}$ becomes $\frac{2}{12}$ The change is accomplished in the same way in both cases, the denominator being divided into the 12 and the numerator being multiplied by the result of this division The addition then is performed as in the case of fractions having the same denominator $\frac{1}{4}+\frac{1}{6}=\frac{3}{12}+\frac{2}{12}=\frac{5}{12}$ In subtraction, the numerator and the denominator are subjected to the same preliminary procedure, but then the numerators of the converted fractions are subtracted $\frac{1}{4}-\frac{1}{6}=\frac{3}{12}-\frac{2}{12}=\frac{1}{12}$ In multiplication, the numerators of the fractions are multiplied together as are the denominators without any changing being necessary $\frac{3}{5}\times\frac{3}{5}=\frac{9}{15}$. It should be noted that the result, here $\frac{9}{15}$, may be reduced to $\frac{3}{5}$ by dividing both numerator and denominator by 3 The division of one fraction by another, e g., $\frac{3}{5}\div\frac{1}{2}$, is performed by inverting the divisor and multiplying $\frac{3}{5}\div\frac{1}{2}=\frac{3}{5}\times\frac{2}{1}=\frac{6}{5}$ The same rules apply to the addition, subtraction, multiplication, and division of fractions in which the numerators and denominators are algebraic expressions. The present notation for fractions is of Hindu origin, but some types of fractions were used by the Egyptians before 1600 B C., as shown by the Ahmes papyrus (see ALGEBRA). A later way of representing fractions is by decimal notation (see DECIMAL SYSTEM).

fracture, a breaking, especially of a bone Fractures may be simple, greenstick, or compound A simple

fracture is one in which the overlying skin is unbroken. The break may not be noticed if the bone is not displaced. A greenstick fracture is one in which one side of the bone is broken, and the other bent. This type of partial fracture is common in children. A compound fracture is one in which the broken bone is in communication with the external air through a wound of the overlying structures. Splinting or immobilising the separated parts is essential before moving the individual in order to avoid further injury. The proper setting of broken bones and the application of casts requires the services of a physician. X ray is used to determine the position of fractured bones and also to indicate the presence and amount of callus formation during the healing process. In certain types of fracture, metal pins are employed to immobilise the parts. Skull and jaw fractures require special treatment. In some cases surgery is indicated in the reduction of fractures. Hemorrhage and shock accompanying fracture should be treated, and sedation given when necessary.

Fra Diavolo (frä' dēāl'vōlō) [Ital.=brother devil], 1771–1806, Italian bandit and soldier, whose real name was Michele Pezza. In 1799 he resisted the French invasion of the kingdom of Naples, and in 1806 he entered the service of the king against the French, but he was captured and hanged. The plot of Auber's opera, *Fra Diavolo* (libretto by Scribe), is in no respect historical.

Fragonard, Jean Honoré (shā' ōnōrā' frägōnär'), 1732–1806, French painter. He studied with Chardin, Carle Vanloo, and above all with Boucher, whose style he assimilated. He won the Prix de Rome and studied in Italy from 1755 to 1761. In 1765 he was admitted to the Académie royale de Peinture et de Sculpture for his *Coresus and Callirrhoé* (Louvre), but thereafter he devoted himself to painting scenes of love and gallantry for the court. Characteristic examples are *Love's Vow*, *The Swing* (Wallace Coll., London), and *The Shift Removed* (Louvre). Ruined by the Revolution, he retired to Grasse, where he decorated the house of his friend Maubert with the beautiful panels *Roman de l'amour et de la jeunesse*, originally intended for Mme du Barry (Frick Coll., New York). Fragonard is well represented in the Wallace Collection, London, in the Louvre, and in many French provincial museums. See studies (in French) by Roger Portalis (1889) and Pierre de Nolhac (1906).

Framingham (frā'mĭng-hăm"), town (pop. 23,214), E. Mass., on the Sudbury between Worcester and Boston, settled 1650, inc. 1700. Paper and paper novelties are produced. MASSACHUSETTS STATE TEACHERS COLLEGE is here.

Framlingham (frām'lĭng-um), market town, Suffolk, East, England. The old castle, now in ruins, was the refuge of Queen Mary after the death of Edward VI and was formerly the family seat of the Howards, dukes of Norfolk. The fine flint church, with a high tower, has monuments to the Howards, including the poet Henry Howard, earl of Surrey.

Frampton, Sir George James, 1860–1928, English sculptor, studied with Frith and with Mercié in Paris. Much of his work was done in more than one material, combining colored marble, bronze, ivory, and enamel. Well known are his *Peter Pan* (Kensington Gardens) and the Edith Cavell Memorial (London).

France, Anatole (anatōl' frās'), pseud. of **Jacques Anatole Thibault** (zhak', tĭbō'), 1844–1924, French writer. His early fiction was characterised by a somewhat sentimental charm, e.g., *Le Crime de Sylvestre Bonnard* (1881, Eng. tr., 1906), his first successful novel, and *Le Livre de mon ami* (1885; Eng. tr., *My Friend's Book*, 1913), the first of a series of autobiographical novels. Half his work appeared in periodicals and newspapers. After the Dreyfus Affair (in which he supported Zola) his work was slanted more to political satire, and the skill in irony which was seen in *Thaïs* (pub. 1890 though volume bears date 1891, Eng. tr., 1909), *La Rôtisserie de la reine Pédauque* (1893; Eng. tr., *At the Sign of the Reine Pédauque*, 1912), and *Le Lys rouge* (1894, Eng. tr., *The Red Lily*, 1908) was developed with full force in *L'Île des pingouins* (1908, Eng. tr., *Penguin Island*, 1909) and *La Révolte des anges* (1914, Eng. tr., *The Revolt of the Angels*, 1914). He also wrote a life of Joan of Arc (1908, Eng. tr., 1909). France's liaison with Mme de Caillavet, lasting 27 years, had a profound influence on his work; she spurred his ambition and saved him from material concern. In 1896 he was elected to the French Academy, and he was awarded the 1921 Nobel PRIZE IN LITERATURE. See biographies by J. L. May (1924), J. J. Brousson (Eng. tr., 1925), and E. P. Dargan (1937); Barry Cerf, *Anatole France: the Degeneration of a Great Artist* (1926); Nicolas Ségur, *Conversations with Anatole France* (Eng. tr., 1926), J. M. Pouquet, *The Last Salon. Anatole France and His Muse* (Eng. tr., 1927); H. M. Chevalier, *The Ironic Temper* (1932).

France, republic (212,700 sq. mi.; pop. 40,502,513), W. Europe. The chief member of the FRENCH UNION, it is called Metropolitan France as distinguished from Overseas France. It is washed by the English Channel in the north, the Atlantic Ocean with the Gulf of Biscay in the west, and the Mediterranean in the south. The natural land frontiers are the PYRENEES, which separate it from Spain, in the southwest, the ALPS, which separate it from Italy, in the southeast, the JURA mts., forming the Swiss border, in the east, and the Rhine, which is part of the French border with Germany. In the northeast, where France touches on Germany, Luxembourg, and Belgium, the frontier follows no natural line and is most exposed to attack. Since the French Revolution of 1789, France has had an extremely uniform and centralized administration. The central government at PARIS appoints the prefects who administer the 90 departments of Metropolitan France. The departments are subdivided into *arrondissements*, cantons, and communes. The communes, which are the towns, are administered by mayors who, though elected by municipal councils, are responsible to the prefects. There are elected departmental councils and *conseils d'arrondissement*, but local self-government is minimal. Despite its administrative uniformity, which also extends to the educational system, and despite its centralization, which is an important factor in its cultural life, France has retained the striking diversity of its natural regions. These regions for the most part coincide with the old historic provinces, abolished by the French Revolution, which still are the basic cultural, economic, and geographic divisions of France. France N. of the LOIRE river has as its center the province of ÎLE-DE-FRANCE, this takes up the greater part of the Paris basin, a fertile depression drained by the SEINE and the MARNE. The Paris basin is the heart of France. It is surrounded by the provinces of CHAMPAGNE and LORRAINE in the east, ARTOIS, PICARDY, FRENCH FLANDERS (see NORD dept.), and NORMANDY in the northeast and north, BRITTANY, MAINE, and ANJOU in the west; and TOURAINE, ORLÉANAIS, NIVERNAIS, and BURGUNDY in the south. Farther east, between the VOSGES mts. and the Rhine, is ALSACE, S. of Alsace, along the Jura, is FRANCHE-COMTÉ. Central France is occupied by the rugged mountains of the MASSIF CENTRAL, with a largely ungrateful soil. It comprises the provinces of BOURBONNAIS, MARCHE, LIMOUSIN, AUVERGNE, and LYONNAIS. To the east of the RHONE, which divides the Massif Central and the Alps, are SAVOY, DAUPHINÉ, and PROVENCE. Here are some of the highest peaks of Europe, notably MONT BLANC. The Rhone valley widens into a plain near its delta on the Mediterranean; part of the coast of Provence forms the celebrated French RIVIERA. LANGUEDOC extends from the CÉVENNES mts. to the Mediterranean coast W. of the Rhone. CORSICA lies off the Mediterranean coast. The southwestern part of France comprises the small Pyrenean provinces of ROUSSILLON, FOIX, BÉARN, and French NAVARRE and the vast provinces of GASCONY and GUIENNE. The last two constitute the great Aquitanian plain, drained by the GARONNE and the DORDOGNE, which extends to the Atlantic Ocean. The central section of the Atlantic coast, between the GIRONDE and the Loire, is occupied by the provinces of SAINTONGE, ANGOUMOIS, AUNIS, and POITOU. The backbone of French economy is agriculture, in which France is almost self-sufficient. The larger part of French soil is owned by small independent farmers, whose industry and thrift are proverbial. The richest agricultural districts lie in the north, while fruitgrowing and cattle raising are very important in the south. French wines are celebrated and are exported to all countries. The best-known vineyards are in Burgundy and Champagne, in the Loire and Rhone valleys, and in the BORDEAUX region. French industries are concentrated in Paris, center of its luxury and fashion industry, and in the Parisian suburbs; in the coal region of Nord dept., in the iron-ore basin of Lorraine, in the heavy industrial cities of SAINT-ÉTIENNE, LE CREUSOT, and CLERMONT-FERRAND; in the textile centers of LYONS, LILLE, and ROUBAIX; in the great wine centers, RHEIMS, ÉPERNAY, DIJON, COGNAC, and Bordeaux, and in the chief ports, ROUEN, LE HAVRE, CHERBOURG, BREST, SAINT-NAZAIRE, NANTES, Bordeaux, TOULON, and MARSEILLES. Other important or famous cities are NANCY, STRASBOURG, ORLÉANS, TOURS, TROYES, TOULOUSE, ARLES, NÎMES, and NICE. Only some 20 French cities have more than 100,000 inhabitants, and only Paris exceeds the million mark. The larger part of the French live in small towns and villages, and even in the larger cities many Frenchmen remain conscious of their link with the soil. The population of France is no longer expanding, the number of deaths sometimes exceeding that of births. Many foreigners have settled in France as industrial and agricultural workers, notably Italians in the southeast and Poles in the northern mining districts. Many former German prisoners of war chose to remain in France after the Second World War. Even apart from these immigrants, France shows great ethnic diversity. German is spoken in Alsace and parts of Lorraine and some Flemish in French Flanders. In Celtic Brittany, Breton is still cultivated, as is Basque in the BAYONNE region. Although the Latin cultural tradition has triumphed in all France, the north of France shows some Germanic admixture, in contrast with the distinctly Latin south. Roman Catholicism is by far the largest religious body in France. Separation of Church and state was made final in 1905–6. The educational level is high. Among the 16 universities of France the largest are those of Paris, Lyons, Bordeaux, Toulouse, Lille, AIX-EN-PROVENCE, MONTPELLIER, Strasbourg, RENNES, and GRENOBLE.

Ancient Gaul and the Birth of France. Some of the earliest anthropological and archaeological remains in Europe have been found in France, yet little is known of France before the Roman conquest (1st cent. B.C.). The country was then known as GAUL. It was inhabited largely by Celts (see CELT), called Gauls by the Romans, who had mingled with still older populations, and by BASQUES in present Gascony. Some of the Gallic tribes, however, undoubtedly were Germanic. The Mediterranean coast, notably Marseilles, had long been settled by Greek and Phoenician traders, and Provence was colonized by Rome in the 2d cent. B.C. The conquest of Gaul by Julius Caesar (see GALLIC WARS) was carried out between 58 and 51 B.C. and became final with the defeat of VERCINGETORIX. Before Caesar's arrival Gaul was ruled by tribal chieftains and, compared to Italy, was in a low state of material culture. Early in the course of the five centuries of Roman rule that followed, Gaul accepted Latin speech and Roman law, developed a distinct Gallo-Roman civilization, and sprouted many large and prosperous cities. Christianity, introduced in the 1st cent., spread rapidly. Gaul was a Christian, Latin, highly civilized, populous, and prosperous country when, early in the 5th cent., the barbarian invasions began to engulf the Roman world. Among the Germanic tribes that descended upon fertile Gaul, the VISIGOTHS, FRANKS, and BURGUNDII were most important in French history. Moribund Rome and its governors in Gaul sought, by alliances, to play the barbarians off against each other. Thus Aetius defeated (451) the Huns under Attila near modern Châlons-sur-Marne with the help of the Franks. But in 486 (10 years after the traditional date for the fall of Rome) the Franks, under their chieftain CLOVIS, routed Syagrius, last Roman governor of Gaul, at Soissons. Clovis made himself ruler of all the Franks, conquered S. Gaul from the Visigoths, and made W. Germany subject after his victory (496) over the Alemanni. He accepted Christianity, extinguished the Arian heresy, and founded a dynasty, the MEROVINGIANS—but he failed to provide for the unity of Gaul when he divided his lands among his sons at his death. Throughout the 6th and 7th cent., Gaul was torn by the fratricidal strife between the Merovingian kings of NEUSTRIA and of AUSTRASIA, the two realms that ultimately emerged from the division and were united only for brief periods under a sole ruler. The Merovingians remained barbarian, illiterate, and cruel and soon also became dissipated and indolent. Gaul was depopulated, the cities in ruins, commerce destroyed, the arts and sciences ignored. The only remnant of Roman civilization was the Church, but in the 8th cent. even the Church stood threatened by extinction when Gaul was invaded by the Saracens. Yet a more rigorous dynasty, the CAROLINGIANS, had in the meantime come to rule Austrasia and Neustria as mayors of the palace in the name of the decadent Merovingian kings. In 732 CHARLES MARTEL rallied the Franks and decisively defeated the Saracens between Poitiers and Tours. His son, PEPIN THE SHORT, dethroned the last Merovingian in 751 and proclaimed himself king with the sanction of the pope. His son was CHARLEMAGNE. Crowned emperor of the West in 800, Charlemagne expanded his lands by far-flung conquests. He gave his subjects an efficient administration, created an admirable legal system, and labored for the rebirth of learning, piety, and the arts. He left a reborn France and Germany to his son, Emperor LOUIS I, but on Louis's death, the empire was again divided. In 843 the three brothers, CHARLES II, king of the West Franks, LOUIS THE GERMAN, and Emperor LOTHAIR I, redivided their territories (see VERDUN, TREATY OF). From that date the existence of France as a separate kingdom is generally reckoned. Carolingian rule declined rapidly while society was undergoing momentous changes that had their roots centuries earlier, changes that produced FEUDALISM and established the MANORIAL SYSTEM in France. The central authority of the kings was increasingly usurped by the feudal lords. Among the most powerful of these were the dukes of AQUITAINE and of Burgundy and the counts of FLANDERS, of Toulouse, of BLOIS and of Anjou. In 911 the NORSEMEN, who long had raided France, obtained Normandy, of which ROLLO was the first duke. When the Carolingian dynasty died out in France (987), the nobles chose HUGH CAPET their king. The early CAPETIANS, as Hugh's dynasty is called, were dukes of Francia, a small territory around Paris. Their power was nonexistent in the rest of France. Yet by patient, unremitting effort they gradually extended their domain, raised the

castles of robber barons, and held their own against the great feudatories Louis VI began the process The towns, never dead, were regaining their population and wealth. Drawing together for their common defense (see COMMUNE), the townspeople won increasingly advantageous charters from the king and from their feudal lords Commerce revived and the great fairs of Champagne, situated on the busy commercial route between Flanders and S Europe, made France a meeting place for European merchants The CLUNIAC ORDER and the revival of theological learning at Paris (which was to make the SORBONNE the fountainhead of SCHOLASTICISM) gave France tremendous prestige in Christendom This process of rebirth reached its height in the 13th cent It was aided by the foremost role that France played in the CRUSADES, first preached at Clermont in 1095 The crusaders established the French ideal of chivalry, personified in Louis IX (Saint Louis), in most of Europe French courtly poetry and manners became European models, and the French language began to radiate beyond its boundaries In England, French manners and culture predominated among the nobles after the Norman Conquest (1066) The fact that the English kings were also French nobles, holding or claiming vast fiefs in France, brought the two nations into centuries of conflict The first stage of this conflict began with the marriage (1152) of HENRY II, king of England and duke of Normandy, with ELEANOR OF AQUITAINE, divorced wife of Louis VII of France Eleanor claimed a vast part of France as her heritage This stage ended with the victory (1204) of Louis's successor, PHILIP II (Philip Augustus) over King JOHN of England In the battle of BOUVINES (1214) Philip II solidly established the military prestige of France Under Philip II a new France emerged The crusade against the ALBIGENSES netted the crown the huge fiefs of the counts of Toulouse in S France, and the royal domain (i e , the territory directly subject to the king, rather than to feudal lords) now formed the larger part of the kingdom The towns and their prosperous guilds flourished, the roads were safer than since Charlemagne Louis IX (1226–70) organized an efficient and equitable civil and judicial system PHILIP IV, though inclined toward absolutism, was the first to call (1302) the STATES-GENERAL, to which he gave account of his acts and into which he incorporated the burgher class The kings, particularly Philip IV, asserted the royal authority against the Church Serfdom had by then virtually ceased, and although customary law remained in force (except in S France, where Roman law had always persisted), the institution of feudalism itself was largely supplanted by the central authority of the crown Yet, within a few years after the death (1328) of Charles IV, last of the direct Capetians, France was stopped on its road to unification and threatened in its national existence by more than a century of warfare

The Making of a Nation In 1328 the house of VALOIS, a younger branch of the Capetians, succeeded to the crown with PHILIP VI The succession was contested by Philip's remote cousin, EDWARD III of England, who in 1337 proclaimed himself king of France The dynastic struggle known as the HUNDRED YEARS WAR (1337–1453), actually a series of wars and truces, was complicated by many secondary issues, notably the civil troubles in Flanders and the War of the BRETON SUCCESSION The French defeats at CRÉCY (1346) and POITIERS (1356), the Black Death epidemic, the Parisian insurrection under Étienne MARCEL (1357–58), the JACQUERIE (peasant revolt) of 1358, and the pillaging bands of ÉCORCHEURS plunged France into anarchy and forced JOHN II to accept the humiliating Treaty of BRÉTIGNY (1360) Under CHARLES V, however, Bertrand DU GUESCLIN recovered (1369–73) all lost territories except Calais and the Bordeaux region France was scarcely recovering when, in 1407, the terrible civil strife between ARMAGNACS AND BURGUNDIANS began and when (1415) HENRY V of England renewed the war and crushed France at AGINCOURT In 1420 CHARLES VI made Henry V his heir, to the detriment of the dauphin, later CHARLES VII (see TROYES, TREATY OF) The dauphin assumed the royal title in 1422, but his authority extended over only a small area England held most of France, including Paris. Powerful Burgundy, under PHILIP THE GOOD, was allied with England At this dark hour appeared JOAN OF ARC, the Maid of Orléans, who rallied the dauphin's followers and in 1429 stood by the dauphin's side as he was crowned at Rheims The tide turned In 1435 Burgundy, though exacting exorbitant concessions, allied itself with France (see ARRAS, TREATY OF) In 1453 the English lost their last hold on French soil outside CALAIS It was left for LOUIS XI (1461–83) to destroy the power of the last great feudal lords and to incorporate into the royal domain almost all of present France He was aided by the downfall (1477) of CHARLES THE BOLD of Burgundy and by the extinction of the ANGEVIN dynasty Brittany was united with France shortly afterward (see ANNE OF BRITTANY), and the larger part of the fiefs held by the BOURBON family was confiscated in 1527 Under the reigns (1483–1560) of CHARLES VIII, LOUIS XII, FRANCIS I, HENRY II, and FRANCIS II, France proved its amazing recuperative powers despite the heavy drain imposed on its resources by the ITALIAN WARS (1494–1559) This first phase of the imperialistic struggle between France and the house of Hapsburg ended with the triumph of Hapsburg Spain in the Treaty of CATEAU-CAMBRÉSIS It also served to introduce the Italian Renaissance into France (see FRENCH ART, FRENCH LITERATURE) At the same time the Reformation gained a great following among all classes (see HUGUENOTS) In 1560 the religious conflict flared up in the first of the ferocious civil wars (see RELIGION, WARS OF) that tore France asunder during the reigns (1560–89) of the last Valois kings, CHARLES IX and HENRY III The Catholics, led by the ambitious GUISE family, eventually united into the Catholic LEAGUE and obtained Spanish support against the Protestant Henry of Navarre, designated heir of Henry III Navarre was supported by the moderate Catholics as well as by the Protestants He defeated the League but had to accept Catholicism before being allowed to enter long-beleaguered Paris (1594) As HENRY IV he became the first Bourbon king of France. With his great minister, SULLY, he made France prosperous again and encouraged French explorers in Canada His assassination (1610) by a Catholic fanatic marked the end of religious tolerance in France for nearly two centuries Under his successor, LOUIS XIII, and during the minority of LOUIS XIV, two great statesmen shaped the destinies of the kingdom Cardinal RICHELIEU and Cardinal MAZARIN They led France to victory in the THIRTY YEARS WAR (1618–48), which France entered openly in 1635 on the side of the Protestant powers against Hapsburg Austria and Spain Austria was humbled in 1648 (see WESTPHALIA, PEACE OF), Spain in 1559 (see PYRENEES, PEACE OF THE). At home, Richelieu destroyed the power of the Huguenots, and Mazarin overcame the nobles in the wars of the FRONDE Louis XIV, aided by the genius of Jean Baptiste COLBERT and François LOUVOIS, completed Mazarin's work of centralization He raised the position of the kingship to a dignity and prestige until then unknown in France, and by his conquests and his magnificence made France the first power in Europe and his court at VERSAILLES the cynosure of the world Yet his passion for warfare undermined French finances and his persecution of the Huguenots depopulated whole provinces His successes in the War of DEVOLUTION (1667–68) against Spain and the Dutch War (see DUTCH WARS) of 1672–78 inspired all Europe with fear of French hegemony and resulted in the isolation of France The War of the GRAND ALLIANCE against Louis XIV began to turn the tide, the War of the SPANISH SUCCESSION (1701–14), though it did not end with a clear victory over France, marked the end of French expansion in Europe In CANADA and LOUISIANA the reign of Louis XIV saw the height of French power in America France, at the end of Louis's reign, was exhausted from its attempt at primacy, yet so great was its latent strength and wealth that it could—and did—recover prosperity within a few years The existence of France as a unified, centralized nation and as a world power must be dated from the reign of Louis XIV

The Ancien Régime and the New France LOUIS XV inherited a unified France, but a France still dressed in patches of its feudal past The "absolute" power of the king was hedged in by a stupendous multitude of dusty charters and special privileges, held by families, guilds, monopolies, communes, and provinces, and by the clergy and nobles In N France, where customary law prevailed, justice varied from one village to the next Taxes, though onerous, were raised inefficiently, partly by the farmers general (see FARMING, IN TAXATION), partly by the state Some taxes (e g , the *vingtième*) were imposed on all Frenchmen according to their wealth, others were arbitrary Commerce, based on MERCANTILISM, was hampered by restrictive regulations, monopolies, and internal tariff barriers Government bookkeeping was chaotic Colbert had reorganized the administration by curtailing the power of the provincial governors and by creating new administrative units, called intendancies The intendants were trusted civil servants who carried out the policies of the central government, but their discretionary powers were wide In several provinces, notably Brittany, the local assemblies of the three estates persisted and occasionally proved unruly The edicts of the king himself had to be registered by the often intractable Parlement of Paris (see PARLEMENT) In the complexities of civil, administrative, and fiscal law only lawyers found their profit To the wealthy commercial and industrial bourgeoisie, who had become the dominant class in the 17th and 18th cent , they seemed intolerable. Free trade became the rallying cry of the PHYSIOCRATS and of such liberals as TURGOT. Its intellectual counterpart, free thought, was propagated by the philosophers of the ENLIGHTENMENT The peasants, though by no means as uniformly poor and oppressed as is often thought, resented their tax burden, particularly the feudal dues and services, which were slight but irritating A large proportion of farmers were landowners and serfdom had virtually disappeared, but this fact made the remaining feudal privileges the more intolerable The greatest paradox of 18th-century France was the near-bankruptcy of the state amid the prosperity of the nation The honest administration of Cardinal FLEURY had barely extricated France from the disastrous failure of the MISSISSIPPI SCHEME, when Louis XV plunged into the WAR OF THE AUSTRIAN SUCCESSION and the SEVEN YEARS WAR Not only was the treasury drained, but France lost its empire in India and North America and its prestige in Europe Turgot's reforms early in the reign of LOUIS XVI were cut short in 1776 Still hoping to take vengeance on England, France supported the American Revolution All French liberals hailed the gesture, but not its result, a huge political debt In 1788 the government was bankrupt NECKER was called to repair the irreparable, and the States-General were convoked for the first time since Henry IV Thus began the upheaval that shook Europe from 1789 to 1815 (see FRENCH REVOLUTION, FRENCH REVOLUTIONARY WARS, DIRECTORY, CONSULATE, NAPOLEON I) France executed its king, resisted the invasions of a European coalition, and ridded itself of the REIGN OF TERROR and of ROBESPIERRE only to fall under the dictatorship of a victorious general, Bonaparte From the Napoleonic epic nothing remained after Waterloo except a powerful legend But Napoleonic administration and law (see CODE NAPOLÉON) remained almost unchanged to the present day Of the *ancien régime*, nothing survived

Modern France The French Revolution and Napoleon made France into a uniform, bureaucratic state and brought about the triumph of the bourgeoisie The Congress of Vienna (see VIENNA, CONGRESS OF) assigned to France approximately its present-day boundaries and also restored King LOUIS XVIII The king joined the HOLY ALLIANCE, but sought a moderate and conciliatory policy at home Not so his successor, CHARLES X, champion of the ultraroyalists His efforts to restore absolutism were the more dangerous because France had become more centralized The new bourgeoisie, intending to reap the fruit of the INDUSTRIAL REVOLUTION, joined the radical Left and ousted Charles X in the JULY REVOLUTION of 1830 The July Monarchy (1830–48) under LOUIS PHILIPPE, the "citizen king," was a frank plutocracy, it was intolerable to the new urban proletariat (particularly in Paris), whose rights were ignored, and it became suspect to the liberals when Louis Philippe took on authoritarian airs The combined forces of opposition overthrew the July Monarchy in the FEBRUARY REVOLUTION of 1848 This was at first distinctly radical, but the Conservative bourgeoisie triumphed in the JUNE DAYS, and in Dec , 1848, Louis Napoleon Bonaparte, nephew of Napoleon I, became president of the Second Republic In 1852, by a coup d'état, Bonaparte became emperor as NAPOLEON III He emulated his uncle's autocratic regime at home and embarked on a questionable foreign policy and on adventurous but unrewarding wars The Second Empire was, however, a period of colonial expansion and of material prosperity In 1863 Napoleon instituted a more liberal and democratic government His rule ended disastrously in the FRANCO-PRUSSIAN WAR (1870–71) Alsace and Lorraine were lost to France until 1918 The third Republic (1871–1940) was born and ended in defeat After the suppression by the provisional government under Adolphe THIERS of the COMMUNE OF PARIS (1871), Marshal MACMAHON, a royalist sympathizer, was elected president (1873) But for the intransigence of Henri, comte de CHAMBORD (the legitimist pretender), France might again have become a monarchy A republican constitution was finally adopted in 1875 The two houses of parliament (the chamber of deputies and the senate) were characterized by their multiparty composition As the various parties combined, separated, and recombined into political blocs, cabinets succeeded each other in quick succession After the rapid rise and fall of General BOULANGER, the stability of France was once more shaken by the DREYFUS AFFAIR, which discredited the monarchists and reactionaries and brought the anticlerical but otherwise moderate Radical Socialists to power Socialism, led by GUESDE and JAURÈS, rose as a major force, but its pacifism antagonized the considerable body of Frenchmen to whom revenge upon Germany seemed the foremost duty In foreign policy the years before 1914 were marked by continuing French colonial expansion in Africa and Asia. This brought France into conflict with Great Britain (see FASHODA INCIDENT) and later with Germany (see MOROCCO) Eventually, France, England, and Russia allied themselves to balance the German-Austrian-Italian combination (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) In the FIRST WORLD WAR (1914–18) France claimed the major share of the Allied victory and CLEMENCEAU was the

outstanding leader At the Paris Peace Conference (see VERSAILLES, TREATY OF), France obtained satisfaction, but its failure to honor its WAR DEBTS to the United States and its occupation (1923-25) of the RUHR when Germany failed to pay REPARATIONS cost France some of its popularity in America Outstanding among French political figures of the 1920s were POINCARÉ, HERRIOT, and BRIAND At the DISARMAMENT CONFERENCE France insisted on French security against possible German aggression The economic crisis of 1929 hit France severely, and politics were envenomed by scandals such as the STAVISKY AFFAIR A coalition of Socialists, Radical Socialists, and Communists won the elections of 1936 and the first Popular Front government under Léon BLUM effected many social and economic reforms Conservative opposition undid much of its work during a succession of increasingly less radical Popular Front governments Édouard DALADIER capped the appeasement policy toward Nazi Germany and Fascist Italy and Spain by making France a party to the MUNICH PACT (1938) After the outbreak (1939) of the Second WORLD WAR he was replaced by Paul REYNAUD In May-June, 1940, France was ignominiously defeated by Germany Marshal PÉTAIN, who signed the armistice, became head of the reactionary VICHY GOVERNMENT which had authority over the unoccupied part of France and which became a German tool In the meantime Gen Charles de GAULLE proclaimed, from London, the continued resistance of the "Free French" to Germany At first a small group, the Free French grew in prestige after the success of their forces in SYRIA, Madagascar, and North Africa The Allied invasion (Nov , 1942) of North Africa resulted (1943) in the establishment of a provisional French government at Algiers and in the total occupation of Metropolitan France by German troops De Gaulle's government moved to Paris after its liberation (Aug , 1944) and was subsequently recognized by the Allies By the end of 1945 the Allies had expelled the Germans from France France had suffered considerable damage in the brief campaign of 1940 German occupation was extremely costly and oppressive Thousands were executed and hundreds of thousands worked as slave laborers in Germany In the liberation of France, Free French military forces as well as the Forces of the Interior —the armed resistance within France— took a heroic and invaluable part Severe Allied bombings preceded the invasion of Normandy (June 6, 1944), the liberation campaign itself caused much additional ruin In 1945 French economy was virtually at a standstill Inflation and the black market seemed insuperable problems Politically, France was reduced to a second-rate power, although it became one of the five great powers in the United Nations and shared in the occupation of Germany However, France rallied once more With American aid (see EUROPEAN RECOVERY PROGRAM), French economy seemed, at least on the surface, to have substantially recovered by 1949 Immediately after the liberation, the Socialist and Communist parties dominated the scene, and a considerable part of French economy was nationalized After 1947 a progressive Catholic party—the Popular Republican Movement—emerged and with the moderate wing of the Socialists held the majority The rightist elements joined in opposition under De Gaulle The Fourth Republic began officially in Dec , 1946, when the new constitution came into effect The constitution reorganized the French Empire and, for France itself, established a parliament composed of a national assembly and of a much weakened upper house, called the council of the republic France joined (1948) in an alliance with Great Britain, Belgium, the Netherlands, and Luxembourg, and in 1948 adhered to the NORTH ATLANTIC TREATY A fine geographic study is Jean Brunhes, *Géographie humaine de la France* (2 vols , 1920-26) For early French historians, see Auguste Molinier, *Les sources de l'histoire de France* (6 vols , 1901-6) Jules MICHELET, though in many ways outdated, is still regarded by many as the greatest of French historians Among recent general histories of France, those edited by Ernest LAVISSE and Gabriel HANOTAUX are outstanding A monumental multivolume work is the *National History of France*, edited by F Funck-Brentano (Eng tr still in progress, 1913–) Short general histories include those by Victor Duruy (1889, in Fr , several Eng trs), A M Robinson Ducloux (1918, in Eng), Jacques Bainville (Eng tr , 1926), Charles Seignobos (Eng tr , 1933), and Albert Guérard (1946, in Eng) See also J S C Bridge, *History of France from the Death of Louis XI* (4 vols , 1921-29) Authors of important historical works on France are, for the medieval period, Achille LUCHAIRE and FUSTEL DE COULANGES, for the 17th cent , VOLTAIRE, for the French Revolution and Napoleon I, Hippolyte TAINE, Alphonse AULARD, Albert MATHIEZ, and Frédéric MASSON, for the history of the working class, Émile LEVASSEUR, for cultural history, Alfred RAMBAUD See Émile Bourgeois, *History of Modern France* (2 vols , 1919), S. B. Clough, *France. a History of National Economics, 1789-1939* (1939); D. W. Brogan, *France under the Republic* (1940)

Francesca, Piero della see PIERO DELLA FRANCESCA

Francesca da Rimini (frānsĕ'skŭ dŭ rĭ'mĭnē, Ital frānchā'skä dä rē'mēnē), 13th cent , daughter of Guido da Polenta of Ravenna She was married by proxy to Giovanni Malatesta, the Lame, lord of Rimini, the proxy was Giovanni's young and handsome brother, Paolo, who became Francesca's lover Giovanni, discovering their guilt, killed them This story was immortalized by Dante in the *Divine Comedy* and is also the subject of works by Stephen Phillips, Leigh Hunt, Silvio Pellico, and D'Annunzio, of a symphonic poem by Tchaikovsky, and of paintings by Ingres, Cabanel, Watts, Ary Scheffer, and others

Franceschi, Piero de' see PIERO DELLA FRANCESCA

Franceschini, Baldassare (bäldäs-sā'rā franchĕskē'-nē), 1611–89, Florentine painter, pupil of his father, an alabaster sculptor His works include the *Coronation of the Virgin*, a fresco (Church of the Annunziata, Florence), paintings in the Nicolini Chapel, Church of Santa Croce, Florence, *St John the Evangelist* (Church of Santa Chiara, Volterra), and *Madonna and Child* (Walters Art Gall , Baltimore)

Franceschini, Marcantonio (märkäntō'nyō), 1648–1729, Italian painter of the Bolognese school One of his finest works, a fresco representing episodes in the history of the republic, painted for the Council Palace at Genoa, was destroyed Among the best of his extant works are the cupola and ceiling frescoes and an altarpiece, *The Death of Joseph*, in the Church of Corpus Domini, Bologna, damaged in the Second World War, frescoes in the Pallavicini and Durazzo palaces, Genoa, and the *Annunciation* (Bologna)

Francesco di Stefano see PESELLINO, IL

Frances Xavier Cabrini, Saint see CABRINI, SAINT FRANCES XAVIER

Franche-Comté (frāsh-kōtā') or **Free County of Burgundy,** region and former province, E France It is now administratively divided into Haute-Saône, Doubs, and Jura depts The JURA mts , which form its border with Switzerland, are in the east, the Vosges mts rise in the north The Doubs and the upper Saône are the chief rivers Franche-Comté is largely an agricultural region, with stock raising and dairying in the Jura, which has dense pine forests and extensive grazing lands The chief industrial products are clocks, watches, machines, and plastics Dôle was the capital until 1676, BESANÇON, which until 1648 was not politically a part of Franche-Comté, was the later capital and remains the chief city Other towns are MONTBÉLIARD, which also has a separate history, Lons-le-Saunier, and Saint-Claude Originally comprised in the First Kingdom of BURGUNDY, the territory was united in the 9th cent as the Free County of Burgundy, or Franche-Comté, a fief held from the kings of Transjurane Burgundy, later (933–1032) kings of ARLES With Arles it passed (1034) to the Holy Roman Empire, but the allegiance was generally tenuous, and for six and a half centuries Franche-Comté was perpetually invaded and contested by France, Germany, Burgundy, Switzerland, and Spain Philip the Bold, duke of Burgundy, acquired Franche-Comté by marriage, but after the defeat and death (1477) of CHARLES THE BOLD it passed to Archduke Maximilian (later Emperor Maximilian I), who gave it to his son, Philip I of Spain Governed by native officials and by its PARLEMENT at Dôle, it enjoyed relative autonomy under the Spanish crown The Wars of Religion (16th cent) resulted in the occupation by France of the fortified towns In the Thirty Years War the county was laid waste first by the Catholics under Gallas, then by the Protestants under Bernhard of Saxe-Weimar LOUIS XIV conquered Franche-Comté in 1668 and again in 1674 and obtained its cession from Spain in 1678 Though the parlement continued to function after its transfer (1676) to Besançon, the provincial legislature was abolished, and Franche-Comté became an integral part of France

Franchère, Gabriel (gäbrēĕl' frāshĕr'), 1786–1863, American fur trader, b Montreal He entered the service of Pacific Fur Company for the venture in founding the post of ASTORIA on the Columbia river and was one of the members of the expedition who went to the Pacific coast by sea in the *Tonquin* He was a busy member of the enterprise and wrote one of the most valuable records of it in his *Rélation d'un voyage à la coté du Nord Ouest* (1820, Eng tr , *Narrative of a Voyage to the Northwest Coast*, 1854) When the post was sold to the North West Company, he entered the employ of that concern and made an overland trip to Montreal in 1814 In 1834 he became agent of the American Fur Company at Sault Ste Marie, and after 1839 he was in business for himself He was called to Washington to confer on the matter of ownership of Oregon when British-U S tension over the question was great in the mid-1840s

Franchet d'Esperey, Louis Félix Marie (lwē' fālĕks' märē' frāshā' dāspŭrā'), 1856–1942, marshal of France He commanded the French 5th Army in the battle of the Marne in 1914, the Army of the East in 1916, and the Army of the North in 1917 In June, 1918, he took command at Salonica, where the Allies were stalled He brilliantly accomplished the downfall of the Bulgarian armies and led the Allies to victory in the Balkans

franchise, a right specifically conferred by the government, especially the privilege conferred by the municipality of using its streets to supply public utilities, such as electricity, telephone, and street cars or buses. Franchises may not be revoked without the consent of the grantee unless so stipulated in the contract They may be forfeited by the grantees' violation of terms, and the government may take back granted rights by eminent domain proceedings with tender of just compensation Franchises are subject to reasonable policing Everything not specifically granted in a franchise is interpreted as not granted Franchise provisions usually include tenure, compensation to the grantor, the services, rates, and extensions, labor and strike regulations, capitalization, and reversion to the grantor In politics, the franchise is the right to vote In the United States, the states, with some restrictions from the Federal Constitution, govern the qualifications of voters By the Fourteenth and Fifteenth amendments, states cannot deny suffrage to male residents over 21 years of age "on account of race, color, or previous condition of servitude " The Nineteenth Amendment confers suffrage upon women

Francia (frän'chä), c 1450–1517, Italian painter, goldsmith, and medalist of the early Bolognese school, whose real name was Francesco Raibolini Until the age of 40 he was famous chiefly as a goldsmith and engraver of nielli and of dies for medals His first paintings, such as the *Madonna Enthroned* (Bologna) and *St Stephen* (Borghese Palace, Rome), show the influence of Lorenzo Costa, with whom he worked for a time His later works reflect that of Perugino and Raphael Among the most noted are *Crucifixion* (Louvre), *Madonna and Saints* and *Pietà* (National Gall , London), and *Assumption* (Church of San Frediano, Lucca) Others include *Head of the Virgin* (Pa Acad of the Fine Arts), *Madonna* (Gardner Mus , Boston), a portrait of Federigo Gonzaga (Metropolitan Mus), *Madonna and Child* (National Gall of Art, Washington, D C) See studies by J M Ady (1881) and G C Williamson (1907)

Francia, José Gaspar Rodríguez (hōsā' gäspar' rōdrē'gäs frän'sya), 1766 1840, dictator of Paraguay and creator of its national independence, known as El Supremo Incorruptible, of superior cultural attainments for his epoch, he took part in the bloodless revolution against Spain (1811), was first consul, finally declared himself dictator in 1814, and ruled until his death He limited the power of the Church and kept the aristocracy in subjection He was harsh with his enemies and intransigent with foreigners Cutting off Paraguay from the rest of the world and limiting trade to his personal supervision he gained international ill will but effectively stimulated the growth of local industry and agriculture See E L White, *El Supremo* (1916)

Francia Bigio (frän"chä bäbē'jō), 1482–1525, Florentine painter, whose real name was Francesco di Cristofano Bigi In the Convent of the Servi, Florence, Francia Bigio painted *The Marriage of the Virgin*, his masterpiece, which he mutilated because the friars uncovered the painting before its completion. He collaborated with his master, Andrea del Sarto, on *The Departure of John the Baptist for the Desert* and *The Meeting of the Baptist with Jesus* (Convent dello Scalzo) Other works are the fresco, *The Triumph of Cicero* (Poggio a Caiano, near Florence), and several remarkable portraits of young men, including one in the National Gallery, London, and one in the National Gallery of Art, Washington, D C He was at his best in portraiture

Francis, Saint, or **Saint Francis of Assisi** (usē'zē), 1182?–1226, founder of the Franciscans, one of the greatest of Christian saints, b Assisi, Umbria, Italy His baptismal name was Giovanni (John), his father's name was Pietro di Bernardone, from his birth Giovanni di Bernardone was called Francesco (Francis) [Ital , *Frenchman*], because his father was a frequent and recent traveler in France The name Francis (and its equivalents in other languages) owes its great popularity to St Francis and those named after him, for before him it was a name rarely given Pietro di Bernardone was a wealthy merchant, and his son's early life was ordinary The 20-year old Francis was taken prisoner in a battle between Assisi and Perugia and spent a year in prison in Perugia Two years after his return he set out for the wars in Apulia, but illness forced him home again He now underwent a conversion which turned him from the worldly (but certainly not riotous) life he had been leading He became markedly devout and ascetic, exchanged his gay clothes for rags, and went on a pilgrimage to Rome (1206) A series of events now revealed strikingly the characteristics that Francis was always to exemplify humility, love of absolute poverty, singular devotion to other men, and joyous religious fervor In 1209 as he was hearing Mass, the words of Jesus in the Gospel (Mat 10 7–10) bidding his apostles to go forth on their

mission struck Francis as a call. So he set out, still a layman, to preach, when a little group had gathered about him, they went to Rome to see the pope (INNOCENT III), who gave them oral permission to live in the manner Francis had chosen Thus began the Franciscan order of friars, an entirely new type of order in the Church. They wandered about Umbria and through Italy preaching the Gospel, working to pay for their very simple needs The expansion of the friars was amazing In 1212 St CLARE began to follow St Francis, and the Poor Clares (Second Order of St Francis) were established Francis not only sent the brothers abroad but went himself—to Dalmatia, to France, to Spain, and in 1219–20 to the Holy Land On his way to Palestine he stopped at Damietta and preached to the sultan A growing dissension in his order recalled him from Palestine, and after his return (1221) a great assembly was held at the little chapel of the Portiuncola near Assisi, with which Francis's career was closely identified There the saint laid down his active leadership of the order, for it was now, he felt, too unwieldy to command He continued his preaching and the composition of his rule and sponsored the Franciscan tertiaries (third order of St Francis) Two years before his death (1224) occurred the most famous of the wonderful events of his life He received the STIGMATA as he prayed on the Monte della Verna, he had a vision and was afflicted with the wounds of the Crucifixion, from which he suffered for the rest of his life The objective reality of these wounds is so well testified that the most critical of modern scholars accept it Francis died Oct. 3, 1226, and was mourned throughout the country Two years later Pope GREGORY IX, who had been his patron and friend, canonized him, his feast is Oct 4 The sources for the life of St Francis are two lives by THOMAS OF CELANO and the biography by St BONAVENTURE Later medieval works are the *Legenda trium sociorum* and the *Speculum perfectionis* Fortunately there is another work, which, by no means biographical or historical, gives unequaled insight into the personality of the saint and his companions, this is the Italian *Fioretti di San Francesco* [little flowers of St Francis], a series of short anecdotes From the *Fioretti* come many of the most beautiful stories of St Francis, and they exemplify in the most simple form his love of nature and of man, a love so great that he preached one time to the birds at Alviano His spirit breathes too in the *Canticо del sole* [hymn of the sun], which he may have written, and in the rules for his orders Artistic and literary representations of St Francis are innumerable, the churches of Assisi contain many famous paintings, e g, by Giotto In the early 20th cent the documents of St Francis's life became the object of an analysis modeled on the scriptural higher criticism, it was even proved to the satisfaction of some that St Francis never lived Those studies are now valueless, because of the great advances in medieval history made since 1920 There are many biographies, e g, that of G K Chesterton See also Father Cuthbert, *St Francis of Assisi* (1933)

Francis I, 1708–65, emperor (1745–65), duke of Lorraine (1729–37), grand duke of Tuscany (1737–65) He succeeded his father in Lorraine, but agreed (1735) to cede his duchy to Stanislaus I of Poland in exchange for the right of succession to Tuscany (see POLISH SUCCESSION, WAR OF THE) He married (1736) MARIA THERESA, heiress of all Hapsburg lands In 1737 the last Medici ruler of Tuscany died Francis succeeded him and carried out several long-needed reforms In 1740 Maria Theresa entered into her inheritance, which was immediately contested in the War of the AUSTRIAN SUCCESSION (1740–48) by an alliance headed by Frederick II of Prussia In the separate Treaty of Dresden (1745) between Frederick and Maria Theresa, Frederick promised his vote in the imperial election for Francis, who was promptly elected emperor to succeed CHARLES VII Francis I took little part in the government, which was in the hands of Maria Theresa and of Kaunitz The founder of the house of Hapsburg-Lorraine, he was succeeded as emperor by his eldest son, Joseph II, and as grand duke of Tuscany by his younger son, Leopold (later Emperor Leopold II)

Francis II, 1768–1835, last emperor of the Holy Roman Empire (1792–1806), first emperor of Austria (as Francis I, 1804–35), king of Bohemia and of Hungary (1792–1835) He succeeded his father, Leopold II, and was immediately faced with the problem of the French Revolution, which was to take the life of his aunt, Marie Antoinette Francis became involved in the FRENCH REVOLUTIONARY WARS. His armies were defeated by Napoleon Bonaparte, by the Treaty of CAMPO FORMIO (1797) he ceded the left bank of the Rhine to France but obtained Venetia and Dalmatia In 1798 he joined the Second Coalition against France, was again defeated, and in the Treaty of Lunéville (1801) consented to the virtual dissolution of the HOLY ROMAN EMPIRE, which was formally ended (1806) after the Austrian rout at AUSTERLITZ (see also PRESSBURG, TREATY OF) Francis had assumed the title emperor of Austria in 1804 In 1809 he again declared war on NAPOLEON I, who was then involved in difficulties in Spain. Francis's brother, Archduke CHARLES, defeated Napoleon at Aspern, but was crushed at Wagram. Napoleon entered Vienna and imposed on Francis the Treaty of SCHÖNBRUNN. In 1810 Francis consented to the marriage of his daughter, MARIE LOUISE, to Napoleon This marriage was arranged largely by METTERNICH, who throughout Francis's reign remained the dominant figure in Austrian politics In Aug, 1813, Francis joined Russia, Prussia, and England in their war against Napoleon He presided (1814–15) over the Congress of Vienna (see VIENNA, CONGRESS OF), in which Austria, after all its humiliations, emerged as the leading power in Europe Francis was one of the chief architects of the HOLY ALLIANCE The events of the first part of his reign shaped the reactionary views of his later years Though eclipsed by Metternich, he was a capable ruler He was succeeded by his son Ferdinand See W C Langsam, *Francis the Good the Education of an Emperor, 1768–1792* (1949)

Francis I, 1494–1547, king of France (1515–47), known as Francis of Angoulême before he succeeded his cousin and father-in-law, Louis XII He resumed the ITALIAN WARS, beginning his reign with the recovery of Milan through the brilliant victory at Marignano (1515) A candidate for the imperial crown (1519), he was defeated by Emperor CHARLES V, whose supremacy in Europe Francis was to contest in four wars In 1520 Francis tried to secure the support of Henry VIII of England by the interview of the FIELD OF THE CLOTH OF GOLD Though put off by Henry with vague promises, he began his first war against the emperor (1521–25) He was defeated at La Bicocca (1522) and at Pavia (1525), where he was captured Having, in his own words, 'lost all save life and honor," Francis regained his freedom by consenting to the Treaty of Madrid (1526), he renounced his claims in Italy, agreed to surrender Burgundy to the emperor, and abandoned the suzerainty of Flanders and Artois Resolved to violate a treaty signed under duress, Francis created the League of Cognac (1526) with Pope Clement VII, Henry VIII, Venice, and Florence and commenced his second war against Charles (1527–29) It ended, unfavorably for Francis, with the Treaty of Cambrai (see CAMBRAI, TREATY OF), which left Burgundy to France but otherwise duplicated the Treaty of Madrid Francis fulfilled its terms and, largely through the influence of Anne de MONTMORENCY, kept peace until 1536, when he invaded Savoy and Piedmont in a third attempt to regain Milan Charles retorted by invading Provence, and in 1538 a 10-year truce was arranged at Nice In 1542, with the support of SULEIMAN I of Turkey, Francis for the fourth time attacked the emperor, who allied himself (1543) with Henry VIII. Francis's victory at Ceresole (1544) was offset by the allied invasion of France in the same year By the Treaty of Crépy (1544) Francis restored peace with the emperor and relinquished his claims to Naples, Flanders, and Artois Peace with England (1546) confirmed the loss of Boulogne Despite Francis's failures, his reign was a brilliant period His CONCORDAT with the pope and his alliance with SWITZERLAND (both in 1516) were positive achievements His alliance with Turkey, his anti-Hapsburg policy, and his interest in Canada, which Jacques CARTIER was exploring, became the traditional French foreign policy for two centuries. Francis's absolutist leanings, his persecution of Protestants and WALDENSES (1545), his ruinous expenditures for foreign wars, and the prodigality of his court foreshadowed some aspects of the reign of Louis XIV However, Francis lacked Louis's firmness of purpose and was easily influenced by his successive ministers and mistresses and by his mother, LOUISE OF SAVOY Bold, unscrupulous, talented, and dissolute, Francis was the typical Renaissance monarch In his reign, the French Renaissance saw its fullest development Leonardo da Vinci, Cellini, and Andrea del Sarto worked at his court Francis and his sister, MARGARET OF NAVARRE, were the patrons of RABELAIS, MAROT, and BUDÉ, he also laid the foundation of the COLLÈGE DE FRANCE The composer, JOSQUIN DES PRÉS died and the poets of the PLÉIADE were born during his reign The sculptor Jean GOUJON rivaled the Italians without imitating them. The most permanent monuments to Francis's reign, however, are the châteaux of the Loire, notably CHAMBORD, and the royal residence at FONTAINEBLEAU He was succeeded by his son, Henry II See biography by Francis Hackett (1935), J S C Bridge, *A History of France from the Death of Louis XI*, Vol. V (1936).

Francis II, 1544–60, king of France (1559–60), son of Henry II and Catherine de' Medici He married (1558) Mary Queen of Scots (Mary Stuart), and during his brief reign the government was in the hands of her uncles, François and Charles de GUISE Their ruthless persecution of Protestantism led to the conspiracy of AMBOISE During Francis's reign French Protestantism, became a political force Francis was succeeded by his brother, Charles IX.

Francis I, 1777–1830, king of the Two Sicilies (1825–30), son and successor of Ferdinand I. He continued his father's ruthless and reactionary policy, and his court was notorious for waste and corruption His son, Ferdinand II, succeeded him

Francis II, 1836–94, last king of the Two Sicilies (1859–61), son and successor of Ferdinand II A weak ruler, he let his ministers follow his father's reactionary policy. Faced with the growing movement for Italian unity (see RISORGIMENTO), he sided first with Austria When he sought the alliance of Victor Emmanuel II it was too late, GARIBALDI had conquered Sicily and was marching (1860) upon Naples Francis fled to Gaeta There he and his queen, Maria of Bavaria (sister of Empress Elizabeth of Austria), resisted gallantly until 1861, when they surrendered to Victor Emmanuel They went into exile, at first in Rome, then in Paris

Francis, c 1554–1584, French prince, duke of Alençon and Anjou; youngest son of Henry II of France Though ill-shapen, pockmarked, and endowed with a curiously formed nose, he was twice (1572, 1579–81) considered a possible husband for Queen Elizabeth of England, who affectionately called him "her frog " In the Wars of Religion, Francis at first sided with the Huguenots and the moderate Catholics and intrigued against his brother, Charles IX, and his mother, Catherine de' Medici When William the Silent offered him (1580) the rule of the Netherlands, then in rebellion against Spain, he accepted In 1582 he sailed from England to take possession of his lands and was accepted as duke of Brabant, duke of Gelderland, count of Flanders, and lord of Friesland His attempt, by brutal and treacherous means, to obtain absolute power over his new domains met the armed resistance of his subjects and cost him the support of Elizabeth He was forced to withdraw in 1583 His death opened the French succession to Henry of Navarre (later Henry IV)

Francis II, 1435–88, duke of Brittany He succeeded (1458) his uncle Arthur III Francis's policy was almost from the beginning one of struggling with the French crown for the independence of his duchy He entered the League of the Public Weal (1465) against Louis XI, and he invaded Normandy in 1467 Though forced to sign the Peace of Ancenis (1468), he continued to intrigue against Louis and finally entered a feudal rebellion against Louis's successor, Charles VIII, who decisively defeated him in 1488 After this loss and Francis's death, his daughter, ANNE OF BRITTANY, was married to Charles VIII

Francis, David Rowland, 1850–1927, U S Secretary of the Interior (1896–97), b Richmond, Ky, grad Washington Univ, 1870 He established a large grain business in St Louis, entered politics, and served (1885–89) as mayor in a reform administration and later (1889–93) as governor of Missouri As a member of Cleveland's cabinet, he obtained a presidential proclamation setting aside millions of acres as forest reserves Francis was a leading promoter and official of the Louisiana Purchase Exposition of 1903–4 He became ambassador to Russia in 1916 and remained at his post after the Russian Revolution in efforts to keep Russia united with the Allies He wrote *Russia from the American Embassy* (1921), and his memoirs and letters were published in 1928

Francis, Sir Philip, 1740–1818, English pamphleteer He is one of the men reputed to be the author of the JUNIUS letters Appointed (1773) to the council of Bengal, he came into conflict with Warren HASTINGS The upshot of the trouble was a duel in which he was wounded (1780) He was a member of Parliament from 1784 to 1807 except for a short interval and took an active part in the impeachment proceedings against Hastings He contributed political articles to periodicals and wrote numerous pamphlets

Francis Borgia, Saint (bôr'jə), 1510–72, Spanish Roman Catholic reformer, third general of the Jesuits (see JESUS, SOCIETY OF). He was a member of the famous BORGIA family, a great-grandson of Pope Alexander VI and duke of Gandia in his own right In 1528 he went to the court of Charles V, who favored him In 1539 the empress died and Francis was appointed to accompany her to her burial, that errand turned him to religion After his wife's death (1546) he resolved to enter the Jesuits He settled his affairs and went (1550) to St Ignatius in Rome, one of his first deeds was to give the society the money to build the Roman College In 1551 he resigned his duchy and was ordained, he began at once to preach in Spain In 1556 he was given charge of all Jesuit missions abroad. His work was varied and successful, he attracted some of the finest young men in Spain into the society, he built permanent homes, he maintained the discipline, and he established the missions to the New World In 1565, on the death of Lainez, Francis was made general of his order. His work was now the same as in Spain, on a larger scale He was largely responsible for the Jesuit missions in the northern and eastern lands, and because of his noble connections, he had no trouble in allaying any political troubles that arose. He edited the Jesuit

rule and the *Spiritual Exercises*, and he is sometimes called "the second founder of the Jesuits"; he was one of the great figures of the Catholic Reform. He was on the closest terms of cooperation and intimacy with Pius V and Charles Borromeo Feast Oct. 10. See Margaret Yeo, *The Greatest of the Borgias* (1936)

Franciscans (frănsĭs'kănz), members of several Roman Catholic religious orders following the rule of St Francis (approved by Honorius III, 1223) There are three organizations of Franciscan friars the Friars Minor (formerly called Observants), one of the largest orders in the Church, the Friars Minor Capuchin (see Capuchins), less in numbers but one of the greater orders, and the Friars Minor Conventual The division arose from movements within the order essaying a return to the strict poverty of the founder Within 50 years of St Francis's foundation the order had a very strong wing of zealots, the Spirituals, who deplored the convents and any settled life They allied themselves with the anarchical monks who were preaching the vagaries of Joachim of Floris St Bonaventure tried to reconcile the factions of the order, but the Spirituals grew stronger and saw one of their heroes made pope as St Celestine V His abdication made their agitation one of the major social and religious problems of Italy So far as the order was concerned, John XXII settled the matter by putting the Franciscans on a level with every other order with respect to owning property corporately (1322), he also put a stop (1323) to a Franciscan boast that their way was more nearly perfect than any other In the following years a movement developed toward restoring primitive practice, the friars of this tendency (Observants) gained recognition within the order and eventually were made independent (1517) by Leo X Soon afterwards a movement among the Observants established the Capuchins (1525) as a still stricter adherence to the rule All of the Franciscan orders have shared in home and foreign missions, the Franciscans were in many parts of America the missionaries par excellence They have had a constant role in education and were leaders in medieval university life They have had a major place in preaching among Catholics from them come the Stations of the Cross and the Christmas Crib Since the 15th cent the Observants have been charged with the care of Roman Catholic interests in the Holy Places in Palestine Besides the friars the Franciscans include the Poor Clares, the order of nuns founded by St Clare, and countless members of the third order, men and women, some living in communities, many living in the world There are scores of religious communities of sisters of every sort of charitable mission who are regular Franciscan tertiaries Of canonized and beatified saints far more have been Franciscans than members of any other order The best known of them is perhaps St Anthony of Padua The Franciscans were called Gray Friars Their habit is now typically brown For the place of Franciscans among orders, see Monasticism See Father James, *The Franciscans* (1930), R M Huber, *A Documented History of the Franciscan Order* (1944)

Francis Ferdinand, 1863–1914, Austrian archduke, heir apparent of his great-uncle, Emperor Francis Joseph of Austria-Hungary He married, morganatically, a Czech lady, Sophie Chotek, who was created duchess of Hohenberg He withdrew from the court of Vienna, where his wife was subjected to constant humiliation, and labored for the reorganization of the Austro-Hungarian Monarchy He probably intended to transform the dual monarchy into a triple monarchy by creating a Slavic kingdom under the leadership of Croatia Francis Joseph was cool to the plan, and Serbia, anxious for its prestige among the Slavic Balkan nations, dreaded it On June 28, 1914, Francis Ferdinand and his wife were assassinated at Sarajevo (now in Yugoslavia), by Gavrilo Princip, a Serbian nationalist His death was the occasion for the ultimatum addressed to Serbia by Count Berchtold and thus led directly to the outbreak of the First World War

Francis Joseph, 1830–1916, emperor of Austria (1848–1916), king of Hungary (1867–1916), nephew of Ferdinand, who abdicated in his favor His long reign began in the stormy days of revolution and ended in the midst of the First World War In that troubled period of growing nationalism he held the many peoples of his empire together He subdued Hungary (1849) and in the same year defeated Victor Emmanuel II of Sardinia In the Italian War of 1859, in which he faced Napoleon III and Victor Emmanuel, he lost Lombardy to Sardinia by the Treaty of Villafranca di Verona In the Austro-Prussian War (1866) his only territorial loss was that of Venetia to Italy, but his crushing defeat resulted in the loss of Austrian influence over German affairs and in the ascendancy of Prussia Constant pressure from Hungary led to the reorganization (1867) of the empire as a dual monarchy—the Austro-Hungarian Monarchy. In 1879 Francis Joseph joined Germany in an alliance which later also included Italy (see Triple Alliance and Triple Entente). His reign, though it brought material prosperity, was disturbed by the discontent of the national minorities, notably the Slavs. When Russian Pan-Slavism backed up Serbia, particularly after the annexation of Bosnia and Hercegovina (1908), a situation was created that helped bring on the First World War Francis Joseph's private life was beset by the tragedies of his wife, Empress Elizabeth, his brother, Maximilian of Mexico, and his son, Archduke Rudolf In 1914 the heir apparent, Francis Ferdinand, was assassinated, and his death was the spark that set off the First World War Francis Joseph died before the empire actually fell apart under the impact of military defeat, as it did under his successor, Charles I See biographies by Joseph Redlich (Eng tr, 1929), Karl Tschuppik (Eng tr, 1930), and Eugene Bagger (1927), C W Clark, *Franz Joseph and Bismarck* (1934)

Francis of Paula, Saint (pō'lu), 1416?–1507, Italian ascetic, b Paola, Calabria He entered the Franciscans early and left them to live as a hermit A little community grew up about him, and eventually (1474) it was recognized by the pope Out of it grew a small, austere order of hermits, the Minims St Francis was called to the deathbed of Louis XI of France, and Charles VIII and Louis XII helped his work Feast April 2

Francis of Sales, Saint, 1567–1622, Savoyard Roman Catholic preacher, Doctor of the Church He was a member of an aristocratic family and was trained for the law, but entered the priesthood against his father's wishes (1593) His first years in the priesthood he spent in the district of Chablais preaching to its Protestant inhabitants He was credited with many conversions In 1599 he was made coadjutor bishop, and in 1602 bishop, of Geneva, he resided at Annecy in near-by Savoy His fame as a preacher spread abroad, and from 1600 until his death he delivered Lent and Advent sermons in many of the great cities of France In his diocese he set up schools and paid especial attention to the poorer parishes With St Jane Frances de Chantal he founded the Order of the Visitation for women who could not undergo the austerities of the great orders St Francis had a warmhearted affection for all people, and he preached constantly the theme that everyone, however busy, could have a spiritual life His spirit and aims show clearly in his two masterpieces of religious writing, *L'Introduction à la vie dévote* [introduction to the devout life] and *Traité sur l'amour de Dieu* [treatise on the love of God] Both have had great popularity and rank high among Christian classics St Francis's ideas, through his works, have had an important part in developing the modern Roman Catholic emphasis on loving God as a friend rather than on fearing him as a judge Feast Jan 29 See Henry Bordeaux, *Saint Francis de Sales* (Eng tr, 1929), Michael Muller, *Saint Francis de Sales* (1937)

Francis Xavier, Saint (zā'vyur), 1506–52, Basque Jesuit missionary, called the Apostle to the Indies, b Spanish Navarre, of noble parents He studied in Paris (1525–34), where he became intimate with St Ignatius of Loyola, with whom he and five others took the vow in Montmartre, which made them the nucleus of the Society of Jesus (see Jesus, Society of) In 1536–37 he went to Venice, where he worked in the hospitals, he was ordained there with Ignatius (1537) He worked at Rome with Ignatius for the new order until 1540, when he left for Portugal to join a mission the king was sending to Goa St Francis left Lisbon in 1541 with a brief as papal nuncio At Goa he immediately began to preach and was very successful After five months he went to the pearl fisheries of W India and spent 15 months on the coast from Ceylon northwards After a second stay in Goa he sailed to Malacca (1545), which he left in 1546 for the Moluccas, in 1547 he went back to Malacca Meanwhile more Jesuits were coming to India, and St Francis assigned them to missions he had started In 1549 he set sail for Japan and landed at Kagoshima He and his companions remained in Japan for more than two years and set up many Christian communities He went back to Goa (1552) and set out for China with a Portuguese embassy On his way he died on the island of Chang-chuen-shan (St John) He is buried at Goa St Francis was one of the greatest of Christian missionaries, his travels covered many thousands of miles in 11 years, and his successes in preaching and in personal conversion were tremendous He was characterized by boundless energy, invariable kindness, personal magnetism, and a singular combination of profound mysticism and common sense Feast Dec 3 See Theodore Maynard, *The Odyssey of Francis Xavier* (1936).

Franck, family of painters see Francken

Franck, César Auguste (sāsăr' ōgüst' frăk'), 1822–90, Belgian-French composer and organist He studied at the conservatories of Liége and Paris, taking prizes in piano, composition, and organ In 1858 he became organist of Ste Clotilde, Paris, where he demonstrated great skill in the art of improvisation. From 1872 until his death he was professor of organ at the Paris Conservatoire Much of his finest composition was for the organ, and organ style is present in his works for other instruments Among his most significant works are the Symphony in D Minor (1886–88), *Variations symphoniques* (1885) for piano and orchestra; *Prélude, choral et fugue* (1884) and *Prélude, aria et final* (1888) for piano, *La Rédemption* (1874) and *Les Béatitudes* (1869–79), oratorios, a violin sonata (1886), and *Trois Chorals* for organ (1890). Sincerity and profound simplicity mark his music, which was little acclaimed during his lifetime See biographies by Vincent d'Indy (Eng tr, 1910), Norman Demuth (1950), and John Horton (1950).

Franck, Hans: see Lützelburger, Hans

Franck, James, 1882–, German physicist He was professor of physics at Göttingen and at Johns Hopkins (1935–38) and professor of physical chemistry at the Univ of Chicago from 1938 He specialized in atomic structure With Gustav Hertz he shared the 1925 Nobel Prize in Physics for their discovery of the laws governing the effect of the impact of the electron on the atom

Franck, Sebastian (sābās'tyän frangk'), 1499–1543, German religious writer He was a Roman Catholic priest who came under the influence of the Reformation, but he shortly broke with the Lutherans also and for the liberal views expressed in his *Chronica* (1531) was banished from Strasbourg He founded printing presses at Ulm and Basel and wrote vigorously, mostly in defense of extremely liberal religious views

Francke, August Herman (ou'gŏost hĕr'măn frăng'ku), 1663–1727, German Protestant minister and philanthropist In 1686, encouraged by Philipp Jakob Spener, he helped found the *Collegium philobiblicum* for systematic study of the Scriptures. He became a leading exponent of Pietism c 1689 and from 1692 served as professor at the Univ of Halle and as pastor in a near-by town He founded at Halle the Francke Institutes, which still exist They started in 1695 with a paupers' school at his parsonage It grew rapidly and other institutions were added until, by Francke's death, over 2,200 children were being served The institutes exerted strong influence on the growth of Prussian education See H E F Guericke, *A H Francke* (1827, Eng tr, 1837)

Francke, Kuno (kōō'nō), 1855–1930, German-American philologist, b Kiel, Germany, educated at Kiel, Berlin, Jena, and Munich. He taught at Harvard from 1884 and was professor of German literature (1896–1905) and of the history of German culture (1905–17) His literary works were intended to portray German literature and civilization to Americans He was known as a broad-minded and tolerant scholar and was the prime mover in the building of the Germanic museum of Harvard Univ

Francken or **Franck** (frang'kŭ, frăngk), family of Flemish painters in the 16th and 17th cent Prominent members were **Hieronymus Francken** (hē"rō'nĭmōōs), c 1540–1610, student of Floris, who decorated the palace at Fontainebleau, his brother **Frans Francken** (frăns), c 1542–1616, also a student of Floris, whose altarpiece in the Antwerp cathedral is a characteristic work, **Frans Francken II**, 1581–1642, son of the first Frans, who studied in Italy and was influenced by Rubens and whose *Works of Mercy* (Antwerp) and *Prodigal Son* (Louvre) are well known, and his son, **Frans Francken III**, 1607–67, a follower of Rubens and the painter of *Moses Striking the Rock* (Vienna)

Franco, Francisco (franthē'skō fran'kō), 1892–, Spanish general and dictator He became a general at the age of 32 after organizing the Spanish Foreign Legion in Morocco and successfully cooperating with Marshal Pétain in the war against Abd-el-Krim He continued a purely military career and in 1934 was appointed chief of the general staff by the rightist government then in power He suppressed (1934) the uprising of the miners in Asturias When the Popular Front came to power (1936), Franco was made military governor of the Canaries, a post which amounted to exile In July, 1936, civil war broke out in Spain Franco flew to Morocco, from there took troops to Spain, and joined the Insurgents He became chief of the Insurgent government in Oct, 1936, dissolved all political parties save the Falange in 1937, and in the same year took formal oath as *Caudillo* [leader] His provisional capital was Burgos With German and Italian help he brought the civil war to a triumphant conclusion in March, 1939 In Aug, 1939, he enlarged his dictatorial powers and also became premier He succeeded in keeping Spain out of the Second World War despite the pressure brought on him by Mussolini and Hitler and despite the fact that Spain was a major member of the Axis In 1942 he dismissed the head of the Falange, his brother-in-law Ramón Serrano Suñer, and began to reduce the power of the Falange Though his major support in the civil war came from monarchists, Franco put off the issue of restoration The law of succession promulgated by him in 1947 and approved by a docile Cortes declared Spain a kingdom, with Franco acting as regent, pending the actual installment of a king. See Herbert Feis, *The Spanish Story* (1948) See also Spain

Franco-German War, 1870–71 see FRANCO-PRUSSIAN WAR

Franconia (frăngkō'nēă), Ger *Franken* (frăng'kun), one of the basic duchies of medieval Germany, created in the 9th cent and named after the Franks It stretched from the western bank of the Rhine eastward along both banks of the Main and included the cities of Speyer, Worms, Mainz, Frankfurt, Würzburg, Fulda, Heidelberg, Heilbronn, and Bamberg Duke Conrad of Franconia was elected (911) German king as Conrad I, but was unable to keep the royal crown in his family As a result of the rebellion of Duke Eberhard, Otto I seized the duchy in 939 and partitioned it, vast territories passed to the loyal clergy, notably to the bishops of Würzburg and Bamberg and the abbot of Fulda Two nominal duchies—that of Western or Rhenish Franconia and that of Eastern Franconia, dominated by the bishops of WÜRZBURG—emerged Rhenish Franconia, which gave the empire the Franconian or Salian dynasty (1024–1125, Conrad II, Henry III, Henry IV, and Henry V), broke up into the free cities of Frankfurt and Worms, the ecclesiastic states of Mainz and Speyer, the Rhenish Palatinate, the landgraviate of Hesse, and other territories Eastern Franconia was awarded (11th cent) to the Swabian house of Hohenstaufen, but the title fell into disuse until it was again assumed (15th cent) by the bishops of Würzburg The margraviates of Ansbach and Bayreuth, under the Franconian branch of the house of Hohenzollern, were the main secular territories in Eastern Franconia The division (16th cent) of the Holy Roman Empire into circles resulted in the creation of the Franconian circle, including the bishoprics of Würzburg and Bayreuth, the free imperial city of Nuremberg, and the cities of Ansbach and Bayreuth Most of Eastern Franconia passed to Bavaria between 1806 and 1815, and in 1837 Louis I revived the name Franconia by creating the provinces of Lower, Middle, and Upper Franconia

Lower Franconia, Ger *Unterfranken* (3,277 sq mi , pop 984,395), has its capital at Würzburg Occupying the northwestern part of Bavaria, it is traversed by the Main valley It is primarily agricultural and contains the forested SPESSART hills Among its cities are Aschaffenburg, Schweinfurt, and Bad Kissingen

Middle Franconia, Ger *Mittelfranken* (2,941 sq mi , pop 1,209,844), in N central Bavaria, is a hilly, fertile region, drained by the Altmühl and Pegnitz rivers Ansbach is the capital, Nuremberg, Fürth, and Erlangen are important industrial and cultural centers

Upper Franconia, Ger *Oberfranken* (2,897 sq mi , pop 1,076,438), occupies the northeastern corner of Bavaria and includes the FRANKENWALD and the FICHTELGEBIRGE near the Czech border Bayreuth, the capital, and Bamberg, Coburg, and Hof are the chief cities and industrial centers Both Middle and Upper Franconia, being former Hohenzollern domains, are predominantly Protestant

Franconia Mountains (frăngkō'nēă), range in the White Mts , N N H , rising to 5,249 ft in Mt Lafayette **Franconia Notch,** west of the range, is a beautiful defile c 6 mi long, passing the Old Man of the Mountain or the Profile (jutting cliffs forming the "Great Stone Face" of Hawthorne's story), Profile and Echo lakes, and the Flume The area is included in White Mountain National Forest A tramway up Profile or Cannon Mt near Echo Lake was opened in 1938 The village **Franconia,** northwest of the notch, is a resort

Franco-Prussian War or **Franco-German War,** 1870–71 The emergence of Prussia as the leading German power and the increasing unification of the German states were viewed with apprehension by NAPOLEON III after the Prussian victory in the AUSTRO-PRUSSIAN WAR of 1866 BISMARCK, at the same time, deliberately encouraged the growing rift between Prussia and France in order to bring the states of S Germany into a national union He made sure of Russian and Italian neutrality and counted —correctly—on British neutrality War preparations were pushed on both sides, with remarkable inefficiency in France and with astounding thoroughness in Prussia The immediate pretext for war presented itself when the throne of Spain was offered to a prince of the house of Hohenzollern-Sigmaringen, a branch of the ruling house of Prussia The offer, at first accepted on Bismarck's advice, was rejected (July 12) after a strong French protest But the aggressive French foreign minister, the duc de Gramont, insisted on further Prussian assurances, which King William I of Prussia (later Emperor WILLIAM I) refused Bismarck, by publishing the famous EMS DISPATCH, enflamed French feeling, and on July 19 France declared war Partly because they believed France the aggressor, the states of S Germany enthusiastically joined the North German Confederation—just as Bismarck had hoped The military conduct of the war was, for the Germans, in the hands of Helmuth Karl Bernhard von MOLTKE, a military genius On the French side, Napoleon III took active command, but it soon devolved on Marshal BAZAINE On Aug 4, 1870, the Germans crossed the border into Alsace They defeated the French at Wissembourg, pushed the French under Marshal MACMAHON to Châlons-sur-Marne, and forced a wedge between MacMahon's forces and those of Bazaine, centered on Metz Bazaine, attempting to join MacMahon, was defeated at VIONVILLE (Aug 16) and Gravelotte (Aug 18) and returned to Metz The Germans began their march on Paris On Sept 1 the attempt of Napoleon III and MacMahon to rescue Bazaine led to disaster at Sedan The emperor and 100,000 of his men were captured On the news of Sedan a bloodless revolution in Paris occurred Napoleon was deposed, and a provisional government of national defense was formed under General TROCHU, Léon GAMBETTA, and Jules FAVRE Paris was invested by the Germans on Sept 19, and a grueling siege began Gambetta escaped from Paris in a balloon to organize resistance in the provinces FAIDHERBE made a gallant stand on the Loire, CHANZY in the north, and BOURBAKI in the east, but the surrender (Oct 27) of Bazaine, with a garrison of 180,000 men, made such resistance useless Paris, however, held out until Jan 28, 1871, suffering several months of famine Though Bismarck and Adolphe THIERS signed an armistice on the same day, the fortress of BELFORT resisted until Feb 16 Thiers was named chief of the executive power, and provision was made for the election of a French national assembly, which met at Bordeaux The assembly accepted (March 1) the preliminary peace agreement, which was formalized in the Treaty of Frankfurt (ratified May 21, 1871) France agreed to pay an indemnity of $1,000,000,000 within three years—an indemnity fully paid before the term expired ALSACE, except the Territory of Belfort, and a large part of LORRAINE were ceded to Germany, which on Jan 18, 1871, had been proclaimed an empire under William I, in the Hall of Mirrors at Versailles Paris refused to disarm and to submit to the Thiers regime, and the COMMUNE OF PARIS was formed The French troops loyal to Thiers began the second siege of Paris (April–May, 1871) After the cruel suppression of the commune, peace returned to France Besides establishing the Third French Republic and the German Empire, the Franco-Prussian War had other far-reaching results Desire for revenge guided French policy for the following half century Prussian militarism had triumphed and laid the groundwork for German imperialistic ventures The Papal States, no longer protected by Napoleon III, were annexed by Italy, which thus completed its unification These and other effects were among the chain of causes that helped to set off the First World War

Francowich, Matthias. see FLACIUS ILLYRICUS, MATTHIAS

francs-tireurs (frā-tēr'ur'), in warfare, guerrilla fighters, without uniform and without a formal connection with a regular army Their usual fighting method is to attack the enemy singly or in small bands, frequently posting themselves behind trees or walls and picking off enemy soldiers with rifles The term was best known in the Franco-Prussian War, when the Germans punished captured francs-tireurs drastically Today the word is more or less of a technical term in military law

Frank, Bruno, (brōō'nō frăngk'), 1887–1945, German novelist and dramatist His later novels, well known in English, are notable for dramatic conception and, in the historical field, for the application of modern psychological reactions to figures of the past His novels include *The Days of the King* (1924, Eng tr , 1927), *Trenck* (1926, Eng tr , 1928), *A Man Called Cervantes* (1934, Eng tr , 1934), *Lost Heritage* (1937, Eng tr , 1937), a story of refugees, and *One Fair Daughter* (1943, Eng tr , 1943) His plays include *Twelve Thousand* (1927, Eng tr , 1928) and *Storm in a Teacup* (1930, produced in the United States as *Storm over Patsy*, 1937) He contributed to *The Ten Commandments* (1944) Exiled from Germany in 1933, he came to the United States in 1937 He died at Beverly Hills, Calif

Frank, Glenn, 1887–1940, American editor and educator, b Queen City, Mo , grad Northwestern Univ , 1912 He was assistant to the president of Northwestern Univ from 1912 to 1916 In 1919 Frank joined the staff of the *Century Magazine*, becoming editor in 1921 In 1925 he was appointed president of the Univ of Wisconsin and was ousted from the position by Governor La Follette in 1937 Editor of *Rural Progress* from 1937, he was also active in the Republican party and was campaigning for the position of Senator from Wisconsin when he was in a fatal automobile accident His works include *The Politics of Industry* (1919), *An American Looks at His World* (1923), and *America's Hour of Decision* (1934)

Frank, Jacob, *c* 1726–1791, Polish-Jewish sectarian and adventurer, b Podolia His real name was Jankiev Lebowicz He was founder of the Frankists, a semi-Christian Jewish sect, which was an anti-Talmudic outgrowth of the mysticism of the false Messiah, Sabbatai Zevi After traveling in Turkey, where he was called Frank and where he joined the Sabbatean sect, he returned (*c*1755) to Podolia Posing as a Messiah, Frank gathered a following, by whom he was addressed as "holy master." Professing to find in the cabala the doctrine of Trinitarianism and feigning conversion to Catholicism, he and the Frankists were baptized in 1759 in Lvov. The Church, however, soon became suspicious of the sincerity of its new converts, and in 1760 Frank was arrested in Warsaw on a charge of heresy and imprisoned in the fortress of Chenstochov, he was released in 1773 after that section of Poland came into Russian possession Moving to Moravia, he enjoyed for a time the favor of Maria Theresa of Austria, who believed him a disseminator of Christianity When she discovered his sectarianism, Frank fled to Offenbach, Germany, where he lived in luxury supplied by Polish and Moravian Frankists Upon his death his daughter Eve became "holy mistress" of the Frankists She died in 1816 The sect eventually died out, most of its members having become true Catholics

Frank, Leonhard (lā'ônhärt frăngk'), 1882–, German expressionist novelist and dramatist His first novel was *The Robber Band* (1914, Eng tr , 1928), to which he wrote a sequel, *The Singers* (1925, Eng tr , 1932) *The Cause of the Crime* (1920, Eng tr , 1928) was followed by such works as *A Middle-Class Man* (1924, Eng tr , 1930) and *Carl and Anna* (1927, Eng tr , 1929), his best-known novel, which was dramatized in 1929 *In the Last Coach* (1925, Eng tr , 1935) was a volume of short stories His writing, somewhat sensational, is psychological in method, antimilitaristic, and anticommunistic

Frank, Tenney (tĕ'nē frăngk'), 1876–1939, American historian, b Clay Center, Kansas, grad Univ of Kansas (B A , 1896, M A , 1898), Ph D Univ of Chicago, 1899 He taught Latin at the Univ of Chicago and at Bryn Mawr and was a professor at Johns Hopkins after 1919 He gained note for his meticulous research and his original conclusions about the forces of the history of Rome Perhaps his most widely known work is the textbook, *A History of Rome* (1923), but he was the author of several distinguished books, including *Roman Imperialism* (1914), *Vergil a Biography* (1922), *Economic History of Rome* (1920, rev ed , 1927), *Roman Buildings of the Republic* (1924), *Catullus and Horace* (1928), *Life and Literature of the Roman Republic* (1930), and *Aspects of Social Behavior in Ancient Rome* (1931)

Frankel, Zacharias (zăk'kurī'us frang'kul), 1801–75, Jewish theologian, called the founder of historical Judaism, b Prague, d Breslau Frankel believed that research based on scholarship was the only basis of reform In 1851 he was elected head of the new conservative rabbinical seminary of Breslau He wrote *Introduction to the Mishna* (1859)

Frankenmuth, village (pop 1,100), S Mich , on the Cass river and SE of Saginaw, settled 1845 by Germans, inc 1904 The vicinity abounds in Indian relics, and this site was part of an Indian reservation (1819–47)

Frankenstein (frăng'kənstīn), a German student who in *Frankenstein, or, The Modern Prometheus* (1818), a horror tale by Mary Wollstonecraft SHELLEY, creates a monster which ultimately destroys him The name is often inaccurately used to mean an invention or creation which gets out of control or destroys its originator

Frankenwald (frang'kunvält), wooded plateau, Upper Franconia, NE Bavaria, between the Fichtelgebirge and the Thuringian Forest It rises to c 2,600 ft

Frankford, village (pop 1,144), S Ont , on the Trent river and W of Belleville It has paper milling, canneries, and a hydroelectric station

Frankfort (frăngk'furt) **1** City (pop 13,706), co seat of Clinton co , W central Ind , NW of Indianapolis, laid out 1830 A trading center for an apple-growing region, it produces packed meat, enameled sheet metal, and brass fittings **2** City (pop 1,243), NE Kansas, E of the Big Blue River and NW of Topeka, in a wheat and corn area, founded 1867, inc 1875 **3** City (pop 11,492), state capital, and co seat of Franklin co , N Ky , on both banks of the Kentucky river It lies between Louisville and Lexington Settlement began in 1779, the city was organized in 1786 by Gen James WILKINSON and was selected as the capital in 1792 It is the trade and shipping center for a bluegrass area yielding farm products and limestone, among its manufactures are whisky, shoes, and twine The city, with many fine old houses and gardens, contains numerous places of interest—the present capitol (1909), the old capitol (1827–30), which houses the state historical society, Liberty Hall (built 1796 and said to have been designed by Thomas Jefferson), and the old cemetery with the graves of Daniel and Rebecca Boone and Richard M Johnson The Kentucky State College for Negroes (land grant, coeducational, 1886) is here The city is the site of the state institute for the feeble-minded The state penitentiary was moved to La Grange in 1940 **4** City (pop 1,642), N Mich , on Lake Michigan near the mouth of the Betsie river and W of Traverse City, settled 1870, inc as a village 1885, as a city 1935 It is a resort, fruit-shipping, and fishing center Indian relics are found near by. **5** Industrial village (pop 3,859), E central N Y , on the Mohawk and SE of Utica; settled in the 18th cent , inc. 1863.

Frankfurt (frängk'fŭrt, Ger frängk'fōōrt) or **Frankfurt-am-Main** (ăm mīn'), city (1939 pop 553,464, including suburbs; 1946 pop 424,065, 1949 estimated pop 490,000), Hesse, W Germany, on the Main river It is also known, in English, as Frankfort A historic, cultural, industrial, commercial, and financial center, Frankfurt also is a river port and a transportation hub Its main industries produce chemicals and pharmaceutical articles, machinery, electric equipment, and clothing The western suburb of Hoechst is the seat of the former I G Farben industry (the great chemical cartel) Frankfurt also is a publishing center and the seat of a university (opened 1914) The city occupies the site of a Roman settlement and became (8th cent) a royal residence under Charlemagne After the Treaty of Verdun (843) it was briefly the capital of the kingdom of the Eastern Franks (i e , Germany) A free city from 1219 and a free imperial city from 1372, Frankfurt was designated in the Golden Bull (1356) of Emperor Charles IV as the seat of the imperial elections, which took place in a chapel of the Church of St Bartholomew After the emperors ceased to be crowned by the popes, the coronation ceremonies also took place (1562–1792) at Frankfurt The emperors-elect, after being crowned at St Bartholomew's by the archbishop-elector of Mainz, proceeded with medieval pageantry to banquet in the city hall, called *Römer* because the emperors-elect were actually crowned kings of the Romans The coronation (1764) of Joseph II has been described in the autobiography of Goethe, the most illustrious native of Frankfurt The prosperity of Frankfurt has been due mainly to its famous fairs, first mentioned in 1240, which continue to be held twice a year The Jews played an important part in the history of the city from the Middle Ages until the advent of Hitler The banking family of Rothschild had its origin here Frankfurt accepted the Reformation in 1530, was a member (1536–47) of the Schmalkaldic League, and was occupied many times in the wars of the 17th and 18th cent After the dissolution (1806) of the Holy Roman Empire, Frankfurt was included in the ecclesiastic principality of Regensburg and Aschaffenburg, created by Napoleon I for Karl Theodor von Dalberg, this was converted in 1810 into the grand duchy of Frankfurt, also under Dalberg The Congress of Vienna (1814–15) restored Frankfurt to the status of a free city and made it the seat of the diet of the GERMAN CONFEDERATION The FRANKFURT PARLIAMENT met here in 1848–49 Having sided with Austria in the Austro-Prussian War of 1866, Frankfurt was annexed by Prussia and became part of the province of Hesse-Nassau After the First World War, Frankfurt was briefly occupied by French troops In the Second World War it suffered very severe damage The old part of the city was almost completely destroyed Among its historic landmarks were the *Römer*, the Gothic Catholic Church of St Bartholomew, also called the coronation cathedral (under reconstruction), the house in which Goethe was born (under reconstruction), the Lutheran Church of St Paul, where the Frankfurt Parliament met (rebuilt), and the ancestral home of the Rothschild banking family On the other hand, the modern administration building of the I G Farben concern was undamaged and became (1945) the headquarters of the U S occupation forces in Germany In the post-war years Frankfurt recovered its economic importance

Frankfurt, Treaty of, 1871 see VERSAILLES, TREATY OF, 1871

Frankfurt-am-Main see FRANKFURT

Frankfurt-an-der-Oder (-ăn-dĕr-ō'dûr), city (1939 pop 83,669, 1946 pop 51,577), Brandenburg, E Germany, on the Oder river The section on the east bank of the Oder (1946 pop 1,689) was placed under Polish administration in 1945 and is called Slubice by the Poles Frankfurt manufactures machinery, textiles, and foodstuffs (notably frankfurter sausages) Chartered in 1253, it joined (14th cent) the Hanseatic League and became an important commercial center Frankfurt was frequently besieged, notably in 1631, when it was stormed and sacked by the Swedes under Gustavus II The university founded here in 1506 was transferred to Breslau in 1811 Heinrich von Kleist was born here

Frankfurter, Felix, 1882–, American jurist, Associate Justice of the U S Supreme Court (1939–), b Vienna, Austria, grad College of the City of New York, 1902, and Harvard Law School, 1906 He was assistant U S attorney (1906–10) in New York and legal officer (1911–14) in the Bureau of Insular Affairs A professor (1914–39) at Harvard Law School, Frankfurter was intermittently appointed to government administrative posts Appointed to the Supreme Court by President Roosevelt, he continued his devotion to the liberal tradition—first manifested by his remarks (1927) on the Sacco-Vanzetti Case He wrote *The Public and Its Government* (1930) and edited *Cases under the Interstate Commerce Act* (1922), *Mr Justice Holmes* (1931), *Cases on Federal Jurisdiction* (1931), and *Mr Justice Brandeis* (1932) Frankfurter's lectures appear in *Law and Politics* (ed by Archibald MacLeish and E F Prichard, 1939), and selected opinions are in *The Constitutional World of Mr Justice Frankfurter* (ed by S J Konefsky, 1949)

Frankfurt Parliament, 1848–49 As a result of the liberal revolution that swept the German states early in 1848, a preliminary assembly (Ger *Vorparlament*) met at Frankfurt in March, 1848, and called an assembly, the Frankfurt Parliament, which met on May 18 at the Church of St Paul Its president was Heinrich von GAGERN, and its members (representing all political complexions) included the foremost German figures of the time The purpose of the parliament was to plan the unification of Germany Having suspended (June, 1848) the diet of the German Confederation, the assembly appointed Archduke John of Austria regent of Germany and head of the provisional (and virtually nonexisting) executive power While the parliament was lengthily debating various schemes of union and while it was diverted from its purpose by the war with Denmark over the SCHLESWIG-HOLSTEIN question, the German state governments, notably those of Austria and Prussia, suppressed the revolutionary movement and thus undermined the very basis of the Frankfurt assembly At last, in March, 1849, the parliament adopted a federal constitution of the German states (excluding Austria), with a parliamentary government and an hereditary emperor FREDERICK WILLIAM IV of Prussia was chosen emperor but refused to accept the crown from a popularly elected assembly and thus caused the failure of the entire scheme His attempt to substitute a union scheme of his own was smothered by Austria through the Treaty of OLMÜTZ (1850) The parliament broke up in 1849, and in 1850 the diet of the German Confederation was restored The constitution drafted by the Frankfurt Parliament influenced that of the NORTH GERMAN CONFEDERATION in 1866

frankincense, resin of an East African and Arabian tree of the genus *Boswellia*, which is gathered in irregular lumps for use in INCENSE in religious ceremonies—a use it has had since Old Testament (Ex 30 34) times It was formerly regarded as a remedy for various diseases and was used in embalming and fumigation Another name for frankincense is olibanum The Norway spruce yields a resin called common frankincense, which, when melted in water, becomes Burgundy pitch See also MYRRH

Frankland, Sir Edward, 1825–99, English chemist He studied under Bunsen and Liebig and taught at several English institutions In working on the synthesis and isolation of compounds he evolved the theory of valence He made studies of water purification, of flame and luminosity with Tyndall, and of gases with Lockyer, with whom he discovered helium His work on water purification was continued by his son, **Percy Faraday Frankland,** 1858–1946, also a chemist, who with his wife, Grace Toynbee Frankland, conducted bacteriological studies He wrote *Micro-organisms in Water* (1894) and *Life of Pasteur* (1897)

Franklin, Ann Smith, 1696–1763, American printer, sister-in-law of Benjamin Franklin After the death (1735) of her husband, James Franklin, Ann carried on his commercial printing business, in Newport, R I , aided by two daughters and her son James She printed a series of almanacs written by Joseph Stafford and published (1728–35) by James Franklin, but afterwards written (1736–41) by Ann herself She published the Newport *Mercury* and, as colony printer, printed many legal documents as well as the paper money of the colony In 1748 her son James became her partner, and after his death she was aided by Samuel Hall, but until her death she was the manager of her flourishing business

Franklin, Benjamin, 1706–90, American statesman, printer, scientist, and writer, b Boston Franklin, who was to become a worldly-wise, highly civilized man who won the respect of Europe for his attainments, began humbly enough The son of a tallow chandler and soapmaker, he left school at 10 years of age to help his father Disliking the work of the shop, he was apprenticed to his half brother James, a printer and the publisher of the *New England Courant*, to which young Ben secretly contributed After much disagreement he left his brother's employment and went (1723) to Philadelphia to work as a printer Industry and thrift—which he was to praise much later—helped him to better himself After a short stay in London (1724–26), he returned and in 1729 acquired an interest in the *Pennsylvania Gazette* As owner and editor after 1730, he made the periodical popular His commonsense philosophy and his neatly turned phrases won public attention in the *Gazette*, in the later *General Magazine*, and especially in his *Poor Richard's Almanack*, which he published from 1732 to 1757 Many sayings of Poor Richard, praising prudence, common sense, and honesty, are today standard American proverbs Franklin also interested himself in selling books, established a circulating library, organized the American Philosophical Society, helped to establish (1751) an academy which grew to be the Univ of Pennsylvania, and brought about civic reforms Meanwhile he had steadily extended his own knowledge by study of foreign languages, philosophy, and science He repeated the experiments of other scientists and showed his usual practical bent by inventing such diverse things as bifocal spectacles and a harmonica The phenomenon of electricity interested him deeply, and in 1748 he turned his printing business over to his foreman, intending to devote his life to science His spectacular experiment of flying a kite in a thunderstorm, which proved the identity of lightning and electricity, was but one of a series of investigations that won him recognition from the leading scientists in England and on the Continent He took local public offices and served long (1753 - 74) as deputy postmaster general of the colonies As such he reorganized the postal system, making it both efficient and profitable His status as a public figure grew steadily A Pennsylvania delegate to the ALBANY CONGRESS (1754), he proposed there a plan of union for the colonies, which was accepted by the delegates but later rejected by both the provincial assemblies and the British government He worked for the British cause in the French and Indian War, especially by providing transportation for the ill-fated expedition led by Edward Braddock against Fort Duquesne He was a leader of the popular party in Pennsylvania against the proprietors and in 1757 was sent to England to present the case against the Penns He won (1760) for the colony the right to tax the Penn estates but advised moderation in applying the right He returned to America for two years (1762– - 64) but was in England when the Stamp Act caused a furor Again he showed prudent moderation, he protested the act but asked the colonists to obey the law, thus losing some popularity in the colonies until he stoutly defended American rights at the time of the debates on repeal of the act He was made agent for Georgia (1768), New Jersey (1769), and Massachusetts (1770) and seriously considered making his home in England, where his scientific attainments, his brilliant mind, and his social gifts of wit and urbanity had gained him a high place As trouble between the British government and the colonies grew with the approach of the American Revolution, however, Franklin's deep love for his native land and his devotion to individual freedom brought him back (1775) to America There, while his son William Franklin was becoming a leader of the Loyalists, Benjamin Franklin became one of the greatest statesmen of the American Revolution and of the new-born nation He was a delegate to the Continental Congress, was appointed postmaster general, and was sent to Canada with Samuel Chase and Charles Carroll of Carrollton to persuade the people of Canada to join the patriot cause He was appointed (1776) to the committee that drafted the Declaration of Independence, which he signed. Late in 1776 he sailed to France to join Arthur LEE and Silas DEANE in their diplomatic efforts for the new republic Franklin, with a high reputation in France well supported by his winning presence, did much to gain French recognition of the new republic in 1778 He helped to direct U S naval operations and was a general and successful agent in Europe—the sole one after suspicions and quarrels caused Congress to annul the powers of the other American commissioners He was chosen (1781) as one of the American diplomats to negotiate peace with Great Britain and laid the groundwork for the treaty before John JAY and John ADAMS arrived British naval victory in the West Indies made the final treaty less advantageous to the United States than Franklin's original draft The Treaty of Paris was, in contradiction of the orders of Congress, concluded in 1783 without the concurrence of France, because Jay and Adams distrusted the French Franklin returned in 1785 to America and was made president of the Pennsylvania executive council The last great service rendered to his country by this "wisest American," as he is sometimes called, was his part in the Federal Constitutional Convention of 1787 Though his proposal of a single-chamber congress was rejected, he helped to direct the compromise that brought the Constitution of the United States into being Though not completely satisfied with the finished product, he worked earnestly for its ratification His writings are still widely known today, especially his autobiography (covering only his early years), which is generally considered one of the finest autobiographies in any language and has appeared in innumerable editions (see especially that of Max Farrand, 1949) His writings have been edited in a collected edition by A H Smyth (10 vols , 1905–7) and in many selected editions, such as that by F L Mott and C E Jorgenson (1936) and that by Nathan G Goodman in *A Franklin Reader* (1945) See biographies by S G Fisher (1899), Paul Leicester Ford (1899), Bernard Fay (1929), and Carl Van Doren (1938)

Franklin, Christine Ladd-: see LADD-FRANKLIN, CHRISTINE

Franklin, Edward Curtis, 1862–1937, American chemist, b Kansas, grad Univ of Kansas, 1888, Ph D Johns Hopkins, 1894 He taught at the Univ of Kansas (1888–1903) and at Stanford

(1903–29; as professor of organic chemistry from 1906) An authority on liquid ammonia, he served in the First World War as an expert on chemical warfare His works include *The Nitrogen System of Compounds* (1935).

Franklin, Sir John, 1786–1847, British explorer in N Canada Entering the navy in 1801, he saw service in the battle of Trafalgar. On his first overland expedition (1819–22) in N Canada, his party crossed the barren grounds from Great Slave Lake to the Arctic coast at the mouth of the Coppermine river and explored along the coast eastward for c.175 mi In his *Narrative of a Journey to the Shores of the Polar Sea* (1823), Franklin describes this journey On his next expedition (1825–27), the party descended the Mackenzie river and surveyed another long stretch of the Arctic shore line—westward to Return Reef (c 160 mi from Point Barrow, Alaska) and eastward to the mouth of the Coppermine By way of the Coppermine he went to Great Bear Lake, where he built Fort Franklin Franklin's *Narrative of a Second Expedition to the Shores of the Polar Sea* (1828) is an account of these feats On both of these expeditions he was accompanied by Sir George Back After serving (1836–43) as governor of Van Diemen's Land (now Tasmania), Franklin set out in the *Erebus* and the *Terror* in 1845 to search for the Northwest Passage When, three years later, no word from him had been received, there was dispatched the first of the more than 40 parties that in the following years were to search the arctic regions for traces of the expedition Although the geographical knowledge gained by the searchers was immense, no clues as to Franklin's fate were revealed with much clarity until John Rae, in 1853–54, and later (1857–59) Sir Francis McClintock found evidence of the great arctic tragedy Franklin's ships had been frozen in the ice between Victoria Island and King William Island After his death in 1847, the survivors abandoned ship in the spring of 1848 and undertook to make their way southward over the frozen wastes off Boothia Peninsula toward civilization Of the entire expedition of some 129 men, not one survived See biographies of Franklin by A H Markham (1891) and H D Traill (1896), the life, diaries, and correspondence of his wife, Lady Jane Franklin (ed by W F Rawnsley, 1923), R J Cyriax, *Sir John Franklin's Last Arctic Expedition* (1939)

Franklin, William, c 1730–1813, last royal governor of New Jersey, natural son of Benjamin Franklin He grew up in Philadelphia, saw service in the French and Indian War and was comptroller of the general post office (1754–56) in Philadelphia In 1757 he went with his father to England, where he studied law and so engaged influential friends that he was appointed (1763) governor of New Jersey His charm won him attention, but his love for aristocracy and strong attachment to England and British authority soon made him unpopular with the patriots After the American Revolution started, he sided with the Loyalists and quarreled bitterly with his father The New Jersey congress ordered (1776) his arrest, and he was imprisoned in Connecticut until he was exchanged in 1778 William Franklin in 1782 went to England, never to return In 1784 he was reconciled with his father, who wrote his famous autobiography to benefit William

Franklin, William Buel, 1823–1903, Union general in the Civil War, b York, Pa, grad West Point, 1843 He served in the Mexican War and was superintending engineer on the construction of the Capitol dome in Washington In the Civil War he was made a brigadier general of volunteers (May, 1861) and commanded a brigade at the first battle of Bull Run (July 21, 1861) He fought under McClellan in the Peninsular campaign and in the Antietam campaign and under Burnside in the battle of Fredericksburg Burnside held him partially responsible for that defeat and ordered his dismissal from the Army of the Potomac Franklin later commanded under N P Banks in the Red River expedition

Franklin, William Suddards, 1863–1930, American physicist, b Kansas, grad Univ of Kansas, 1887 He taught at Lehigh Univ (1897–1915) and at Massachusetts Institute of Technology (1917–29) He worked on the theory of alternating currents and contributed to technical education through a number of books

Franklin, William Temple, 1760–1823, American writer, b London, natural son of William Franklin He was brought (1774) to America by his grandfather, Benjamin Franklin, whose secretary he became and whose writings he edited

Franklin [for Sir John Franklin], provisional district, area 549,253 sq. mi, one of the three provisional districts of the Northwest Territories, est 1895 It comprises the islands of the Arctic Archipelago and Boothia and Melville peninsulas In 1897 the boundaries were defined by an order in council, and in 1926 the area was made a game preserve Fur trading is the chief occupation of the Eskimo population, and trading posts include those at Cambridge Bay, Frobisher Bay, and Pangnirtung In the Second World War the region became strategically important, with U S.–Canadian air bases and weather stations; since the war it has been an arctic military training ground.

Franklin. **1** Village (pop 523), SE Idaho, at the Utah line It was the first permanent settlement in Idaho, founded in 1860 by a party of Mormons, who, believing themselves to be still in Utah, set up a school and introduced irrigation. Fruit and vegetables are processed here **2** City (pop 6,264), co seat of Johnson co, S central Ind, S of Indianapolis, laid out 1822 A trading center for an agricultural area, it manufactures automobile parts, rayon, and household appliances Franklin College of Indiana (Baptist, coeducational, 1837) is here **3** City (pop 3,940), co seat of Simpson co, S Ky, SSW of Bowling Green and near the Tenn line, founded 1820 It is a trade center and shipping point for an area producing timber and farm products (especially strawberries) **4** Town (pop 4,274), parish seat of St. Mary parish, S La, on Bayou Teche, founded 1800 In a rich sugar-producing area, it has a refinery **5** Wool-textile town (pop 7,303), SE Mass, near the R I line and SW of Boston, settled 1660, set off from Wrentham 1778 A memorial marks the birthplace of Horace Mann **6** City (pop 1,272), co seat of Franklin co, S Nebr, on the Republican and S of Kearney, inc 1879 **7** City (pop 6,749), S central N H, at the junction of the Winnipesaukee and the Pemigewasset, which here form the Merrimack, settled 1764, inc as a town 1828, as a city 1895 Textiles and hosiery are among its products Near the Congregational church is a bust of Daniel Webster, who was born in a section at that time in Salisbury **8** Borough (pop 4,009), NW N J, in a region of hills and lakes, inc 1913 It has important zinc mines Theodore Frelinghuysen was born here **9** Town (pop 1,249), co seat of Macon co, W N C, near the Ga line SW of Asheville Lumbering, mining (mica, talc, kaolin), and farming are carried on Franklin is headquarters for Nantahala National Forest, and near by is a state game refuge **10** Village (pop 4,511), SW Ohio, on the Great Miami river and S of Dayton, laid out 1795 It produces paper and roofing material **11** Borough (pop 2,297), Cambria co, W Pa, near Johnstown **12** City (pop 9,948), co seat of Venango co, NW Pa, on the Allegheny and near Oil City, laid out 1795, inc as a borough 1828, as a city 1868 Its manufactures include oil-well equipment, railroad supplies, boilers, and machinery Dairying is done here Franklin is on the site of an Indian town **13** Town (pop 4,120), co seat of Williamson co, central Tenn, on the Harpeth river and S of Nashville The surrounding fertile farm area, settled before 1800, has phosphate mines and timber Franklin was the scene of fighting in the Civil War, the most severe being that on Nov 30, 1864, in the Tennessee campaign of J B Hood Thomas Hart Benton began his law practice here **14** Town (pop 1,087), co seat of Robertson co, E central Texas, SE of Waco, in a farm area, settled 1880, inc 1912 **15** Town (pop 1,021), NW Vt, NE of St Albans, at the Canadian line, granted 1789 It includes the resort Lake Carmi **16** Town (pop 3,466), SE Va, on the Blackwater river and SW of Portsmouth, in a farm area, inc 1876 Paper bags are made here

Franklin, State of, government (1784–88) formed by the inhabitants of Washington, Sullivan, and Greene counties in present E Tennessee after North Carolina ceded (June, 1784) its western lands to the United States Following preliminary conventions at Jonesboro (Aug. and Dec, 1784), the first assembly, meeting at Greeneville early in 1785, elected John Sevier governor for a three-year term, established courts, appointed magistrates, levied taxes, and enacted laws A permanent constitution was adopted in Nov, 1785 Unable to secure congressional recognition and pressed by North Carolina in its attempt to reestablish jurisdiction (in Dec, 1784, North Carolina repealed the act ceding the lands), Sevier's government passed out of existence when the terms of its officers expired The region reverted temporarily to North Carolina See S C Williams, *History of the Lost State of Franklin* (1924)

Franklin and Marshall College, at Lancaster, Pa, Evangelical-Reformed, for men, formed 1853 by a merger of two colleges Franklin College was chartered and opened in 1787 by Benjamin Franklin and others Marshall College, named for John Marshall, was chartered and opened in 1836 at Mercersburg as an outgrowth of a seminary, its preparatory department became Mercersburg Academy

Franklin Institute, in Philadelphia, for the promotion of mechanic arts, chartered and opened 1824, the first of its kind in the United States It was named for Benjamin Franklin An important research center, it has sponsored lectures, both popular and technical, and special exhibitions. In 1933 the institute opened the Fels Planetarium and in 1934 a large applied-science museum. The library contains a remarkable technical collection The institute has published a journal since 1825 and awards medals and certificates for meritorious inventions in the physical sciences. In 1925 it established the Bartol Research Foundation (physics), now housed at Swarthmore College, and in 1935 the Biochemical Research Foundation.

Franklin Lakes, borough (pop. 1,203), NE N.J; inc 1922.

Franklin Park, village (pop. 3,007), NE Ill., western suburb of Chicago, inc 1892.

Franklinton. **1** Town (pop. 1,579), parish seat of Washington parish, SE La, near Bogalusa; laid out 1821, chartered 1861. It ships cotton and vegetables and has a tung-oil plant **2** Town (pop 1,273), N N C, NE of Durham It is a shipping center for tobacco and cotton and has textile and lumber mills.

Franklinville, village (pop. 1,884), W N Y., SE of Buffalo, settled 1806, inc 1874. Cutlery and tin cans are made here.

Franks, group of Germanic tribes They were (3d cent A D) settled along the lower and middle Rhine The Salian Franks, in the north, and the Ripuarian Franks, in the south, had separate law codes (see Germanic laws) The Salian Franks became allies of the Roman Empire in the 4th cent and moved southward into Gaul In the late 5th cent their leader, Clovis, permanently united the Salian and Ripuarian Franks, accepted Catholicism, and founded the Frankish empire By the conquest of Burgundy, Thuringia, and Bavaria, of the territories of the Alemanni and Saxons, and of the kingdom of the Lombards, the Frankish empire grew (6th–8th cent) to include most of France, the Low Countries, Germany W of the Elbe, Austria, Switzerland, and N and central Italy Under its first dynasty, the Merovingians, the empire was, for most of the time, divided into several kingdoms, notably Neustria in the west and Austrasia in the east Internal warfare among the kingdoms was nearly chronic, and the state of civilization was very low, only the Church, represented by such men as St Gregory of Tours, kept alive the remnants of Gallo-Roman culture In the 8th cent began the rule of the Carolingians, first as mayors of the palace, then—from 751—as kings of the reunited Frankish domains Charlemagne, crowned emperor in 800, was the greatest Frankish ruler His empire was partitioned in 843 (see Verdun, Treaty of) and again in 870 by the Treaty of Mersen The kingdom of the Western Franks, who merged with the far more numerous Gallo-Roman population of Gaul, became the kingdom of France, the kingdom of the Eastern Franks, who retained their Germanic speech, became Germany Both France and the region of Franconia in Germany derive their names from the Franks

Franks, Sir Augustus Wollaston, 1826–97, English archaeologist and authority on the medieval period M A Cambridge Univ, 1852 Entering the British Museum in 1851, he became in 1866 keeper of the department of British and medieval antiquities and ethnology Most of his collections are in the British Museum, among them an 8th-century Northumbrian carved-bone casket He was a fellow of the Royal Society and was knighted in 1894 He compiled catalogues of various collections and wrote on ceramics

Franks, Sir Oliver Shewell (shōō'ul), 1905–, British statesman Educated at Oxford, he taught philosophy there, at the Univ of Chicago (1935), and at Glasgow Univ During the Second World War he served in the ministry of supply and was knighted in 1946 He led the European conference for economic cooperation (1947) and the following year was appointed ambassador to the United States

Frankston, town (pop 1,216), E Texas, near Palestine and in the valley of the Neches It has sawmills and ships truck

Frantiskovy Lazne, Bohemia see Franzensbad

Franz, Robert (rō'bĕrt frants'), 1815–92, German composer of about 350 lieder, intimate songs, usually in strophic form, which have some of the feeling of folk song The first of them were published in 1843 and were praised by Schumann in his *Neue Zeitschrift für Musik*

Franzen, Frans Michael, Swed *Franzén* (frāns' mē'kāĕl frānsān'), 1772–1847, Swedish bishop and poet, b Finland His *Ode to Gustaf Philip Creutz* (1797) marks the beginning of romantic lyric poetry in Sweden Several of his poems are included in *The Oxford Book of Scandinavian Verse* (1925)

Franzensbad (frän'tsunsbat"), Czech *Františkovy Lázně* (fran'tĭshkôvĭ läz'nyĕ), watering place (pop. 2,283), NW Bohemia, Czechoslovakia, near the German border It has extensive peat deposits and 27 mineral springs

Franz Josef Land (frāns' jō'zĕf, frants' yō'zĕf), Rus *Zemlya Frantsa Iosifa*, archipelago, area c.8,000 sq mi, off Archangel oblast, RSFSR, in the Arctic Ocean, N of Novaya Zemlya It consists of 85 islands, including Aleksandra Land, George Land, Wilczek Land, Graham Bell Island, and Hooker and Rudolf islands, which are the sites of government observation stations and of settlements on Tikhaya and Teplits bays. Some 90 percent of Franz Josef Land is covered by ice, interspersed with poor lichen vegetation; the average mean temperature is 6.5°F. It was discovered in 1873 by

Karl Weyprecht and Julius von Payer, leaders of an Austrian expedition, and was subsequently more fully explored by expeditions such as those led by Frederick George Jackson (1894–97), Fridtjof Nansen (who spent the winter of 1895–96 in Frans Josef Land), Walter Wellman (1898–99), the duke of the Abruzzi (1899–1900), and Anthony Fiala (1903–5). In 1926 the USSR claimed the archipelago, which is sometimes called Fridtjof Nansen Land, a name proposed (1930) by the Soviet Academy of Sciences but never officially adopted.

Franz Joseph, emperor of Austria and king of Hungary see Francis Joseph

Franz Joseph Spitze, Czechoslovakia see Tatra

Frascati (fräskä'tē), town (pop 10,660), Latium, central Italy, beautifully situated in the Alban Hills near the site of ancient Tusculum It is a summer resort famous for its wine and its fine villas (16th and 17th cent) and gardens Frascati was German headquarters in the Second World War The town and its villas, including the famous Villa Aldobrandini and Villa Torlonia, suffered severely from Allied bombings

Frasch, Herman (fräsh), 1851–1914, American chemist, b Württemberg He came to the United States in 1868 and studied in Philadelphia Although he worked out a process for the refining of paraffin and several for petroleum and for the preparation of various commercially important substances, e g , sodium carbonate, he is best known for the Frasch process

Frasch process [for Herman Frasch], a process for the extraction of sulphur from deposits Three pipes, one inside the other, are sunk to the bottom of the sulphur bed Water heated under pressure to a temperature well above the melting point of the sulphur is conducted down the outer pipe, and air under pressure down through the innermost pipe Their combined action melts the sulphur and forces it to the surface through the middle pipe, from which it is drawn off

Fraser, Alexander Campbell, 1819–1914, Scottish philosopher He was professor at the Univ of Edinburgh From 1850 to 1857 he edited the *North British Review* He is best known for his edition of the works of George Berkeley (4 vols , 1871) His own philosophy, a "theistic faith," is set forth autobiographically in *Biographia Philosophica* (1904) Other principal works are biographies of Berkeley (1881) and Thomas Reid (1898) and his *Philosophy of Theism* (1895–96)

Fraser, Claud Lovat, 1890–1921, English scenic artist and illustrator He served (1915–16) in the Durham Light Infantry and was gassed He illustrated several books, but is best known for his production of *The Beggar's Opera* (1920) and *As You Like It* (1920) His death at 31 cut short a promising career See study by John Drinkwater and A D Rutherston (1923)

Fraser, James Baillie, 1783–1856, Scottish traveler and author He traveled in Nepal (1815) and participated in two missions to Persia (1821, 1833–34) He wrote accounts of his journeys, valuable because he traveled in regions that had seldom been visited by Europeans

Fraser, James Earle, 1876–, American sculptor, b Winona, Minn , studied at the Art Institute of Chicago and in Paris The best known of his many works are *The End of the Trail* (San Francisco), the designs of Indian head and buffalo on the American five-cent piece, Harriman Fountain (Arden, N Y), sarcophagus of Bishop Potter (Cathedral of St John the Divine, New York), *Journey through Life* (Rock Creek Cemetery, Washington, D C), statue of Alexander Hamilton (Treasury Building, Washington, D C), John Ericsson monument (Washington, D C), John Hay Memorial (Cleveland), *Pioneers* and *Discoverers* (Memorial Bridge, Chicago), *Lewis and Clark* and Thomas Jefferson monument (Jefferson City, Mo), and *Victory* (Bank of Montreal, Canada) His excellent portrait busts include those of Theodore Roosevelt (Senate Chamber, Washington, D C) and Augustus Saint-Gaudens (Hall of Fame, New York Univ) His wife, **Laura Gardin Fraser,** 1889–, is Chicago, is a sculptor of force and originality, particularly in animal modeling and in designing coins and medals Examples of her work are *Reclining Elks* for the Elks Memorial Building, Chicago, and the Charles A Lindbergh Congressional Medal

Fraser, Simon: see Lovat, Simon Fraser, 12th Baron

Fraser, Simon, 1776?–1862, Canadian explorer and fur trader Born in Bennington, Vt , he was taken to Canada as a child He entered the service of the North West Company in 1792, and in 1802 he was made a partner In 1805 he was chosen to inaugurate the company's operations beyond the Rocky Mts , and after exploring and establishing trading posts on the upper reaches of the Fraser river, he and John Stuart and 20 companions in 1808 explored the same river to tidewater In point of view of dangers it was one of the most difficult exploration trips on record in North America He was disappointed to discover that it was not the Columbia as he had hoped, and he declined knighthood for the achievement. In 1811 Fraser was placed in charge of the important Red River department of his company, where he came into conflict with the earl of Selkirk over the Red River Settlement See F W Howay, *British Columbia* (1928)

Fraser, chief river of British Columbia It rises on the west slope of Yellowhead Pass, in the Rocky Mts , and flows c 350 mi NW through the Rocky Mt trench to Prince George, thence south and west c 500 mi to the Strait of Georgia, S of Vancouver Yale, Chilliwack, Mission, and New Westminster are on its lower course Its chief tributaries are the Nechako, Quesnel, Thompson, Chilcotin, Blackwater, and Lillooet rivers It is navigable to Yale, c 80 mi from the mouth Above this is the Fraser river canyon, noted for its scenery, its mountain walls rise more than 3,000 ft high The river was discovered by Sir Alexander Mackenzie, who followed its upper course on his expedition (1793) to the Pacific, and takes its name from Simon Fraser, who in 1808 followed it to its mouth, establishing a number of fur-trading posts It was a domain of the fur traders until the gold rush of 1858 and the discovery of gold (1859) in the Cariboo dist on its upper reaches, when the government built a road to serve the valley and settlement began

Fraserburgh (frā'zûrburu), burgh (1931 pop 9,720, 1948 estimated pop 10,877), Aberdeenshire, Scotland, N of Aberdeen, on a bay S of Kinnairds Head Near the burgh, on the headland, is the old castle of the Frasers (Sir Alexander Fraser founded the town in the 16th cent), now a lighthouse The burgh, having a fine harbor, is one of the chief centers of herring fishing in Scotland

Fraser Island or **Great Sandy Island,** area 66 sq mi , off SE Queensland, Australia, forming the eastern shore of Hervey Bay Sandy and wooded, it is 80 mi long and 15 mi wide

Frat see Euphrates

fraternal orders. The pioneer of the fraternal orders in the United States was Blue Lodge Freemasonry, which preserved much of the code and spirit of a medieval guild Men who were not stone masons by occupation welcomed the opportunity to share such a fellowship as guildsmen had enjoyed In the United States the passing of the neighborhood as a social unit left a void comparable to that left by the passing of the guild The fraternal order, like the neighborhood, gives men companionship and common interests The "lodge" system of local organization and meetings and the use of symbol and ritual have been adopted by the Odd Fellows and many other fraternal orders that have taken places beside the Masonic orders In addition to the orders for men, there are orders for women and orders that admit both men and women Charity is generally inculcated and practiced Some orders give fixed allowances to members while they are ill, and some orders provide life insurance for their members Some are committed to special interests and others abstain, as organizations, from partisanship and permit no discussion of politics or religion in their meetings

fraternity, in American colleges, a student secret society formed for social purposes, into which members are initiated by invitation Fraternities are usually named by two or three Greek letters and are also known as Greek-letter societies, women's Greek-letter societies are commonly called sororities The oldest Greek-letter society is Phi Beta Kappa, founded (1776) at the College of William and Mary, Williamsburg, Va It soon became a scholarship honor society After 1830 the literary societies which existed in many colleges were slowly supplanted by fraternities modeled on the three established (1825–27) at Union College After 1870 many professional and honorary fraternities were established to give recognition to scholarship in various fields Some Greek-letter societies have only one local organization or chapter, others are nationally organized with chapters in several institutions Fraternities are forbidden in some colleges because of opposition to secret societies and to the defects of the fraternity system The Interfraternity Conference (1909) and the National Panhellenic Congress (1929) were established to consult on the common interests of American fraternities and sororities See *Baird's Manual of American College Fraternities* (1927)

fraud, in law, willful misrepresentation intended to deprive another of some right The offense, generally only a tort, may also constitute the crime of false pretenses Frauds are either "actual" or "constructive" An actual fraud requires that the act be motivated by the desire to deceive another to his hurt, while a constructive fraud is a presumption of overreaching conduct which arises when a profit is made from a relation of trust (see fiduciary) The courts have found it undesirable to make a rigid definition of the type of misrepresentation which amounts to actual fraud and have preferred to consider individually the factors in each case. The misrepresentation may be a positive lie, a failure to disclose information, or even a statement made in reckless disregard of possible inaccuracy. Actual fraud can never be the result of accident or negligence, because of the requirement that the act be intended to deceive. The question of commission may depend upon the competence and commercial knowledge of the alleged victim Thus dealings with a minor, a lunatic, a feeble-minded person, a drunkard, or (in former times) a married woman are scrutinized more closely than dealings with an experienced businessman. A lawsuit based upon actual or constructive fraud must specify the fraudulent act, the plaintiff's reliance on it, and the loss suffered. The remedy granted to the plaintiff in most cases is either compensatory (and possibly punitive) damages for the injury or cancellation of the contract or other agreement and the restoration of the parties to their former status In a few states both damages and cancellation are available In certain suits based upon a contract fraud may be interposed as a defense

Frauds, Statute of. see contract

Frauenfeld (frou'ünfĕlt), town (pop 9,581), capital of Thurgau canton, Switzerland It has an 11th-century castle and a museum with local antiquities There are aluminum and food industries

Fraunces, Samuel (frôn'sĭs), c 1722–1795, American innkeeper, proprietor of the historic **Fraunces Tavern** in New York city This building at the corner of Broad and Pearl streets was the De Lancey mansion before Fraunces, a West Indian of French and Negro blood, purchased it in 1762 and opened it as the Queen's Head Tavern It became famous for its wines and food and was a gathering place of the Sons of Liberty and other organizations before the American Revolution and for British officers during their occupation of the city Fraunces himself was a patriot, and his tavern was the center of the celebration on the occasion of the British evacuation of New York In its Long Room, George Washington bade farewell (1783) to his officers Fraunces sold the tavern in 1785 When Washington returned (1789) to New York as President, Fraunces became steward of his household, maintaining that position until 1794, even after Philadelphia was made the capital The tavern, now owned by the Sons of the Revolution (not the Sons of the American Revolution), is still open to the public as a restaurant and possesses many historical objects and documents See W H Bayles, *Old Taverns of New York* (1915), H R Drowne, *A Sketch of Fraunces Tavern* (1919)

Fraunhofer, Joseph von (yō'zĕf fŭn froun'hōfur), 1787–1826, German optician and physicist He worked as a glass cutter and optician and became famous for making and polishing achromatic lenses He invented a micrometer and a heliometer and improved optical instruments He was the first to study carefully and to map the dark lines in the solar spectrum called Fraunhofer lines

Fray Bentos (frī'bān'tōs), city (1941 estimated pop. 9,500), SW Uruguay, a port on the Uruguay river Founded in 1859 as Independencia and renamed for an 18th-century religious hermit of the region, Fray Bentos has some of the largest meat-packing and beef-products industries in the republic It exports frozen and canned meats, hides, and wool

Frayser's Farm see Seven Days battles

Frazee, John, 1790–1852, American pioneer sculptor, b Rahway, N J Without formal instruction, he advanced from stone carving to portrait busts, including those of Daniel Webster, John Marshall, and other notables The portrait of John Wells (St Paul's Church, New York) is said to be the first marble bust executed in this country by a native American The Pennsylvania Academy of the Fine Arts owns the original cast of a self-portrait

Frazee (frāzē'), village (pop 1,167), W Minn., SE of Detroit Lakes, in a resort region

Frazer, Sir James George, 1854–1941, Scottish classicist and anthropologist, b Glasgow, educated at the universities of Glasgow and Cambridge He is known especially for his masterpiece, *The Golden Bough*, published originally in two volumes, in successive editions it was enlarged to 12 volumes It is a study in magic and religion, based on remarkably broad and reliable knowledge and written with fine literary skill It traces many myths and rites to the prehistoric beginnings of agriculture An abridged edition in one volume was prepared by the author His many other writings include *Totemism and Exogamy* (1910), a translation, in six volumes, of the *Description of Greece* by Pausanias, with a commentary, *Adonis* (1932), and *Anthologia Anthropologica* (4 vols , 1938–39) See study by R A Downie (1940)

Freas, Thomas Bruce (frēs), 1868–1928, American chemist, b near Newark, Ohio, grad Stanford Univ , 1896 He taught at the Univ of Chicago (1904–11) and at Columbia Univ (from 1911) A specialist in laboratory apparatus and management, he invented the standard Freas ovens and thermostats and a sun motor

Fréchette, Louis Honoré (lwē' ônôrā' frāshĕt'), 1839–1908, French Canadian poet, b Lévis, Que., studied at Laval, McGill, and Queen's universities. In 1861 he became associate editor of the *Journal de Québec* and two years later published *Mes Loisirs*, his first volume of verse He worked (1865–71) as a journalist in Chicago and while there wrote *La Voix d'un exilé* (1866–68). Returning to Canada, he served in Parliament (1874–78),

tried journalism again, and in 1889 received a government clerkship, which he held until his death His volumes of poetry include *Les Oiseaux de neige* (1879), on old Quebec, and *La Légende d'un peuple* (1887), an epic of the French Canadians, several of his works were crowned by the French Academy, a distinction he was the first Canadian poet to achieve His collected poems appeared in 1908 Uneven in quality, his poetry shows, nevertheless, genuine feeling for nature and for the heroic history of French Canada

freckles, circumscribed patches of pigment varying in size (usually small), forming mainly on the face, arms, and hands as a result of exposure to the sun They occur especially on the skin of blond and red-haired individuals Bleaching and peeling applications used in an attempt to remove them may result in skin irritations

Fredegunde (frĕ"dugŭn'dŭ), c 545–597, Frankish queen The mistress of CHILPERIC I of Neustria, she became his wife after inducing him to murder his wife Galswintha She and BRUNHILDA were the leading figures in the long war (567 613) between Neustria and Austrasia She procured the deaths of Sigebert I of Austrasia and of her own stepchildren, after Chilperic's death (584) she acted as regent for her son CLOTAIRE II

Frederic, Harold, 1856–98, American novelist, b Utica, N Y He was in succession office boy, reporter, and editor of the Utica *Observer* and from 1882 to 1884 was editor of the Albany *Evening Journal* After 1884 he remained in Europe as foreign correspondent for the New York *Times*, winning a high reputation for his work His earlier novels deal chiefly with the Mohawk valley, the best of them was *In the Valley* (1890), a story of the Revolution *Marsena and Other Stories of the Wartime* (1894), dealing with the Civil War, and *The Market Place* (1899) are worthy of mention, but his masterpiece is *The Damnation of Theron Ware* (1896), a study of moral degeneration in character

Frederica, town (pop 645), S central Del , on the Murderkill and S of Dover At Barratt's Chapel (c 1780) near here annual services commemorate the organization of the Methodist Episcopal Church

Fredericia (frēdurī'shu, Dan frĭdhurē'tsvĭă), city (pop 22,963), E Jutland, Denmark, a port on the Little Belt It grew around a 17th-century fortress, of which ruins remain

Frederick I or Frederick Barbarossa (burburô'su) [Ital ,=red beard], c 1122–1190, emperor (1155–90) and German king (1152–90), son of Frederick of HOHENSTAUFEN, duke of Swabia, nephew and successor of CONRAD III His mother, Judith, was a Guelph (see GUELPHS) and Frederick frequently acted as mediator between his uncle Conrad and his Guelph cousin, HENRY THE LION He accompanied Conrad on the Second Crusade Frederick's coronation as emperor in Rome was delayed by unrest in Germany and by the revolutionary commune of Rome, established in 1144 and headed by ARNOLD OF BRESCIA In 1152 Frederick pacified Germany by proclaiming a general land peace (extended to the whole empire in 1158), and in 1156 he satisfied Henry the Lion by restoring the duchy of Bavaria to him, at the same time erecting Austria into a new duchy In a treaty (1153) with the exiled pope, EUGENE III, Frederick promised to reinstate Eugene in Rome and to assist him against Roger II of Sicily He entered Italy in 1154, was crowned in Rome (June 18, 1155), and on the same day put down the rebellious Romans However, he failed to assist the new pope, ADRIAN IV, against Roger's successor, William I of Sicily, and returned to Germany on the following day Adrian, obliged to ally himself (1156) with William, turned against Frederick At the Diet of Besançon (1157) the papal legate presented a letter in which the pope strongly implied that the empire was held in fief from the pope Frederick replied in a manifesto that he held the throne "through the election of the princes from God alone" and proceeded to invade Italy Adrian explained that he had not intended that interpretation of his words, but *no sooner* had Frederick's army turned its back on Italy than Milan began the conquest of Lombardy Frederick returned to Italy, seized Milan, and at the Diet of Roncaglia (1158) laid claim, as emperor and king of the Lombards, to all regalian rights, including the appointment of an imperial *podestà* in every town This belated attempt to reimpose feudalism on the burghers of the Italian communes led to the revolt of Milan, Brescia, Crema, and their allies, secretly encouraged by Adrian IV After a long siege, Frederick stormed and burned Milan (1162). Moreover he set up an antipope to Adrian's successor, ALEXANDER III, who excommunicated him Frederick withdrew temporarily, but returned in 1166, captured Rome, and was preparing to attack the pope's Sicilian allies when his army was decimated by an epidemic In 1167 the Italian communes joined in the LOMBARD LEAGUE, and Frederick retreated, with difficulty, to Germany In 1174, he began his fifth Italian campaign, which ended with his defeat (1176) at Legnano by the Lombard League At Anagni he agreed (1176) to recognize Alexander III, who restored him (1177) to communion. The Peace of Constance (1183) satisfied the League's demands After his return to Germany, Frederick brought about the downfall of Henry the Lion, whose large duchies were partitioned, Frederick's changes of the German map were of lasting consequence At the Diet of Mainz (1184) the emperor celebrated his own glory in fabulous pomp, and at the Diet of Nuremberg (1188) he promulgated new laws supplementing the land peace of 1158 He married (1186) his son and successor, Henry (later HENRY VI), to Constance, heiress of Sicily In March, 1188, Frederick took the Cross, and he set out on the Third Crusade (see CRUSADES) in 1189 He was drowned in Cilicia Legend, however, has him still alive, awaiting German unification in the KYFFHAUSER Among the positive and lasting achievements of Frederick's reign are the foundations of new towns, the increase of trade, and the colonization and Christianization of Slavic lands in E Germany In his administrative reforms the emperor was ably assisted by his chancellor, Rainald of Dassel Frederick has left a profound impression on the German mind, but despite his undoubted qualities he did not comprehend the salient trend of his time the rise of the burgher class

Frederick II, 1194–1250, emperor (1220–50) and German king (1212–50), king of Sicily (1197–1250), and king of Jerusalem (1229–50), son of Emperor Henry VI and of Empress CONSTANCE Born in Sicily, he was elected king of the Germans at Frankfurt in 1196 At his father's death, his uncle, PHILIP OF SWABIA, failed to hold the German magnates to this election, but his mother secured his investiture as king of Sicily from Pope INNOCENT III Frederick's minority (1197–1208) was disturbed by war between his Norman mother and his father's German followers and later by war between the Germans and the pope, who became his guardian on his mother's death (1198) The invasion of Apulia by Emperor OTTO IV (1210) led Innocent to promote the coronation of Frederick as German king even though this meant putting a HOHENSTAUFEN against a Guelph In Dec , 1212, Frederick was elected at Frankfurt and crowned at Mainz, in 1215, on Otto's formal deposition, he was recrowned at Aachen and took the Cross He later had cause to repent his crusading vow, reminded of it by HONORIUS III, he repeatedly secured postponements Equally troublesome was his promise (1216) to separate Sicily from the empire by surrendering Sicily to a regency for his infant son, Henry, he broke this pledge by securing (1220) the election of Henry as king of the Romans on the occasion of his own imperial coronation at Rome The success of Frederick's early rule in Germany (1212–20) was due largely to his lavishness with imperial lands and rights In his Sicilian kingdom he pursued the reverse of his German policy, he suppressed the barons and fought against the Saracens, recovered alienated demesne, and began his legislative reforms In 1224 he founded the university at Naples Having married (1225) Yolande, daughter of JOHN OF BRIENNE, he claimed the crown of Jerusalem, but again postponed his departure on crusade and gave further offense to the pope by claiming Spoleto and by reasserting, at the Diet of Cremona (1226), the imperial claim to Lombardy The LOMBARD LEAGUE was immediately revived On the insistent demand of Pope GREGORY IX, Frederick embarked on crusade (Sept , 1227), but fell ill, turned back, and was excommunicated In 1228 he finally embarked His "crusade," actually a state visit, was a diplomatic victory At Jaffa he made a treaty by which Jerusalem, Nazareth, and Bethlehem were surrendered to the Christians with the Mosque of Omar being left to the Moslems, and in 1229 he was crowned king at Jerusalem The pope denounced the treaty (which the Moslems were soon to violate) and caused the invasion of Frederick's kingdom Frederick returned in 1229 and in 1230 signed with the pope the Treaty of San Germano, by which he made important concessions In 1231 Frederick issued a new body of laws for Sicily—the *Liber Augustalis*—which marked advances in humanizing penal law and in rationalizing procedure He reorganized the Sicilian fisc At the same time young Henry was forced by the German lay princes to grant them practically absolute authority within their territories and to curb the growing independence of the towns Henry rebelled against his father (1234), but Frederick easily deposed and imprisoned his son (1235) At the Diet of Mainz (1235) Frederick issued a land peace establishing an imperial court of justice to try all cases except those involving the great vassals This land peace is one of the great monuments of imperial legislation In 1236 he undertook a successful campaign against the Lombard cities, but in March, 1239, Gregory IX joined the Lombards and excommunicated the emperor Frederick issued a circular against the pope and seized most of the Papal States, in May, 1241, he captured a general council en route from Genoa to Rome, and he was threatening Rome when Gregory died While emperor and pope were thus at swords' points, Europe was threatened by a Mongol invasion (1241) Only Wenceslaus I of Bohemia opposed serious resistance, but the Mongols withdrew on the death of their leader, Otogai After the election (1243) of INNOCENT IV, Frederick offered sweeping concessions to the pope and his allies, but agreement was delayed, and the pope fled (1244) to Lyons. After deposing Frederick at the Council of Lyons (1245), Innocent gave the emperor's foes the privileges of Crusaders Frederick again appealed to the world. The election (1246) of an antiking to young CONRAD IV plunged Germany into civil war The war in Italy turned in Frederick's favor in 1250, but in December he died of dysentery Frederick II was one of the most arresting figures of the Middle Ages Norman and German in ancestry, but essentially a Sicilian, Frederick felt always a stranger in Germany He spent most of his time in Italy and Sicily Yet his able government benefited Germany as well His legal reforms set up an efficient and economical administration Himself an expert trader with far-flung business affairs, Frederick encouraged commerce and soon expanded it to Spain, Morocco, and Egypt Agriculture and industry were likewise fostered Towns, while at first somewhat curbed, enjoyed a more generous treatment in later years of his reign, and many developed into important trade centers Frederick was also a gifted artist and scientist A poet himself, he was surrounded by Provençal troubadours and German minnesingers He patronized science and philosophy and interested himself in medicine, mathematics, astronomy, and astrology His *De arte venandi cum avibus*, treating of hawking as well as of the anatomy and the life of birds, was the first modern ornithology Frederick's personality was a curious mixture of German-Christian and Byzantine-Moslem influences Though Christian, he maintained a harem, though he was constantly at outs with the papacy, he ruthlessly persecuted heretics, though he was sensitive to art and poetry, he could be extremely cruel His boundless hate of the papal opposition brought the conflict between emperors and popes to a high pitch With Frederick's death the house of Hohenstaufen fell, and the great days of the empire ended The interregnum (see HOLY ROMAN EMPIRE) ended only with the election (1273) of Rudolf I of Hapsburg See the splendid biography by Ernst Kantorowicz (1929, in German, Eng *tr* , 1931)

Frederick III, 1415–93, emperor (crowned 1452) and German king (1440–93), duke of Styria (1435–93) He became head of the house of HAPSBURG at the death (1439) of his distant cousin, Albert II, whom he succeeded as German king, being elected in 1440 His chief interest throughout his long reign lay in the aggrandizement of his family, an ambition succinctly expressed in the anagram AEIOU, with which he marked all his books and plate, after his death a note in his handwriting was found, explaining these letters as signifying *Austriae est imperare orbi universo* [Latin,=it is Austria's destiny to rule the whole world] or *Alles Erdreich ist Österreich untertan* [Ger ,=all the earth is subject to Austria] He made considerable progress toward that end by reuniting all the Hapsburg family lands under his own branch, by marrying (1477) his son, the later Emperor MAXIMILIAN I, to MARY OF BURGUNDY, and by thus setting the pattern for the subsequent marriages and successions through which the Hapsburgs were to dominate a large part of the globe However, he failed to establish himself as regent in Bohemia and Hungary for his young nephew, Ladislaus Posthumus (see LADISLAUS V), and after Ladislaus's death (1457) he had to relinquish Bohemia to GEORGE OF PODEBRAD and Hungary to MATTHIAS CORVINUS His succession to Ladislaus as duke of Austria was long challenged by the dukes of Carinthia and Tyrol But Frederick had the advantage of longevity over his rivals, who died, moreover, without direct heirs In 1485 Matthias Corvinus, who had invaded Bohemia and Austria, occupied Vienna, and Frederick was expelled from Austria, but Matthias died in 1490, and Frederick recovered his possessions As emperor, Frederick was indolent, except in matters regarding his personal aggrandizement Guided by his secretary, the brilliant Aeneas Silvius Piccolomini (later Pope PIUS II), he supported Pope EUGENE IV against Antipope Felix V (see AMADEUS VIII) In a secret agreement (1446) Frederick was promised in exchange an imperial coronation at Rome and various subsidies and revenues Again without consulting the diet, he signed the Concordat of Vienna (1448), by which Pope NICHOLAS V recovered the revenues and privileges of which the Council of Basel (see BASEL, COUNCIL OF) had deprived the pope In 1449, Frederick having already withdrawn his safe-conducts from its members, the council was dissolved and the schism came to an end Frederick III was the last emperor crowned at Rome (March, 1452) The fall of Constantinople (1453) brought forth a general demand for a new crusade, but Frederick turned a deaf ear In 1473 Frederick had an interview at Trier with CHARLES THE BOLD of Burgundy, the emperor's sudden departure—or flight—ended negotiations, but the subsequent marriage of Maximilian and the heiress of the slain and defeated

duke netted Austria a huge and cheap prize. In 1486 Frederick had Maximilian elected king of the Romans, and after 1490 he resigned most of his duties to his son At no time did Frederick make any particular effort to impose the imperial authority on the German princes Though he has been much criticized for this weakness he may possibly have foreseen the futility of such an effort, instead, he laid the foundations of the Hapsburg monarchy, one of the most authoritarian in history Frederick was an amateur astrologist, alchemist, humanist, and gardener

Frederick III, 1831–88, emperor of Germany, king of Prussia (March–June, 1888), son and successor of William I In 1858 he married VICTORIA, the princess royal of England, who exerted considerable influence over him Frederick was a liberal and a patron of art and learning He was popular, and much good was expected of his reign, but he died of cancer of the throat soon after his accession and was succeeded by his son, William II His diary of the Franco-Prussian War of 1870–71 has been translated into English

Frederick III, 1609–70, king of Denmark and Norway (1648–70), son and successor of Christian IV He at first made great concessions to the powerful nobles but later asserted his own power In 1657 war with Sweden recommenced CHARLES X of Sweden forced Denmark to accept the humiliating Treaty of Roskilde (1658) Charles X soon renewed the war, and it was only through the heroic defense of Copenhagen by Frederick that the Danish kingdom was preserved from utter destruction The Netherlands and Brandenburg, allies of Denmark, then assisted in repulsing the Swedes, and the peace of Copenhagen was made (1660) Denmark lost Skane, Halland, and Blekinge to Sweden The devastation of the war had a tremendous effect not only in impoverishing the king and the nation but in bringing to a head the opposition to the nobles By a coup d'état (1660) the monarchy was declared hereditary The King's Law (*Kongelov*), which was drawn up in 1665 by Frederick's chief minister, GRIFFENFELD, made Denmark an absolute monarchy It was not published until after Frederick's death Frederick was succeeded by his son, Christian V

Frederick IV, 1671–1730, king of Denmark and Norway (1699–1730), son and successor of CHRISTIAN V He allied himself (1699) with Augustus II of Poland and Saxony and with Peter I of Russia against CHARLES XII of Sweden in the NORTHERN WAR, but was forced to sign the humiliating Treaty of Travendal in 1700 Still hoping to recover S Sweden (lost in 1660) and to assure Danish rule in Schleswig, he again entered the war in 1709 In the peace treaties of 1720–21 Denmark renounced S Sweden but obtained Schleswig Frederick IV was industrious and able He systematized absolute monarchy, built schools, abolished serfdom, attempted to repair the damage caused by the war, and reduced the national debt He was succeeded by his son, Christian VI

Frederick V, 1723–66, king of Denmark and Norway (1746–66), son and successor of Christian VI Frederick's reign was one of commercial expansion and prosperity Loans, subsidies, and treaties aided industry, and a strong protective system was introduced The condition of the peasantry, however, remained poor In 1757 a commission was appointed to study agricultural affairs During Frederick's rule foreign affairs were conducted by J H E BERNSTORFF Frederick was succeeded by his son, Christian VII

Frederick VI, 1768–1839, king of Denmark (1808–39) and of Norway (1808–14), son and successor of CHRISTIAN VII After the court party had executed Struensee, expelled Frederick's mother, Caroline Matilda, and imposed their will on the demented king (1772), Frederick grew up under the guardianship of the dowager queen In 1784 by a peaceful coup d'état he established himself as regent He made the younger BERNSTORFF minister, and liberal reforms were instituted Except for a short war with Sweden (1788), peace reigned in a prosperous Denmark until the close of the century Denmark clung to its neutrality in the French Revolutionary Wars, but its opposition to the British ruling on neutral shipping resulted in the English attack on the Danish fleet (see COPENHAGEN, BATTLE OF, 1801) Again in 1807 England attacked neutral DENMARK and bombarded COPENHAGEN Frederick thereupon allied himself with Napoleon I and was punished at the Congress of Vienna (1814) by the transfer of Norway from Denmark to Sweden As compensation he received Rugen and Swedish Pomerania, which he exchanged with Prussia for the duchy of Lauenburg Frederick VI, who had no male issue, was succeeded by his cousin, Christian VIII

Frederick VII, 1808–63, king of Denmark, duke of Schleswig, Holstein, and Lauenburg (1848–63), son and successor of CHRISTIAN VIII The vexed SCHLESWIG-HOLSTEIN question continued during his reign The crisis precipitated by the adoption of the liberal constitution of 1849 was tentatively settled by the Berlin Treaty (1850) and the London Protocol (1852). However, the constitution was modified in 1854, in 1857, and in 1863, the last change once more offended the Germans and led to war between Denmark and Prussia under his successor, CHRISTIAN IX Numerous liberal reforms, such as emancipation of slaves in the colonies, freedom of the press, and civil marriage, were incorporated into Danish law in Frederick VII's reign

Frederick VIII, 1843–1912, king of Denmark (1906–12), son and successor of Christian IX He fought in the war with Prussia in 1864 and always retained an interest in military affairs He was succeeded by his son, Christian X Another son became king of Norway as Haakon VII

Frederick IX, 1899–, king of Denmark (1947–), son and successor of Christian X He visited the United States in 1939

Frederick I, 1657–1713, first king of Prussia (1701–13) He succeeded his father, Frederick William the Great Elector, in Brandenburg (1688) He made PRUSSIA a kingdom and in 1701 was crowned at Königsberg His rule was mediocre, and his extravagant expenses drained the finances of Prussia Frederick was a patron of Leibniz He was succeeded by his son, King Frederick William I, founder of Prussian greatness

Frederick II or **Frederick the Great,** 1712–86, king of Prussia (1740–86), son and successor of FREDERICK WILLIAM I His coarse and tyrannical father despised Prince Frederick, who showed a taste for French art and literature and no interest in government and war Ill feeling between father and son reached a climax when 18-year-old Frederick, who had been repeatedly humiliated and ill-treated, planned to escape from Germany Frederick was arrested, was forced to witness the beheading of his friend and accomplice, Lieutenant Katte, and himself only narrowly escaped a death sentence Having submitted to his father, Frederick was released He married Elizabeth of Brunswick-Bevern (1733), but separated from her shortly afterward and for the rest of his life showed no interest in women He spent the next few years at Rheinsberg, where he wrote his *Anti-Machiavel*, an idealistic refutation of Machiavelli, and began his long correspondence with VOLTAIRE Frederick William continued to regard him as an effeminate aesthete incapable of ruling a country, but immediately upon his accession Frederick showed the qualities of leadership, decision, and cynical disregard for treaties which characterized his reign In the War of the AUSTRIAN SUCCESSION (1740–48) against MARIA THERESA, Frederick invaded Silesia without warning, simultaneously offering his aid to Maria Theresa if she ceded a portion of Silesia to him A brilliant campaigner, Frederick acted with utter disregard of his allies, notably France, and twice concluded separate peace treaties with Maria Theresa (1742, 1745), both times securing Upper and Lower Silesia for Prussia In the SEVEN YEARS WAR (1756–63) Frederick faced a strong coalition including Austria, Russia, and France, with Great Britain his only strong ally Victorious at Rossbach and Leuthen (1758) he was routed (1759) at Kunersdorf by the Austro-Russians, who in 1760 occupied Berlin In that dark period, it is said, Frederick was on the verge of suicide However, the accession (1762) of his admirer, Peter III of Russia, took Russia out of the war and opened Frederick's way to victory The Peace of Hubertusburg (1763) left Frederick his previous conquests and made Prussia the foremost military power in Europe Frederick was brilliantly assisted by his principal generals, SEYDLITZ, James KEITH, FERDINAND of Brunswick, LEOPOLD I of Anhalt-Dessau, ZIETEN, and others His tactics were studied and admired by Napoleon Bonaparte and exerted great influence on the art of warfare By the first partition of Poland (see POLAND, PARTITIONS OF), in 1772, he vastly expanded the limits of Prussia His rivalry with Austria persisted Frederick was the instigator of the War of the BAVARIAN SUCCESSION (1778–79) and created (1785) the Fürstenbund [league of princes] which thwarted the schemes of Emperor JOSEPH II He continued his father's internal policies His first care was the strength and discipline of his army A "benevolent despot," he instituted important legal and penal reforms, set up trade monopolies to create new industries, forwarded education, and accomplished internal improvements such as drainage projects, roads, and canals He was economical to the point of avarice, and his grasping taxation system made him unpopular in his old age Though he improved the lot of his own serfs, the nobility was more firmly entrenched in its privileges after his reign than ever before He was tolerant in religious matters, but personally was intolerant of all religion, professing atheism to his intimates Cold and curt, he relaxed only during his famous midnight suppers at SANS SOUCI, his residence at Potsdam There, surrounded by his intimates—mostly Frenchmen—he permitted complete freedom His circle included Voltaire (who broke with him in 1753 but who later resumed his friendship from a safe distance), d'Alembert, La Mettrie, and Maupertuis Frederick's wit was corrosive and icy He wrote inconsequential poetry and remarkable prose on politics, history, military science, and philosophy Nearly all his writings were in French for he considered German fit only for stableboys He failed to appreciate such men as Lessing and Goethe, who were among his most ardent admirers In music his taste was highly developed A pupil of Quantz, he played the flute creditably He composed marches, concertos for the flute, and other pieces (a few of which are still performed) and was among the first to appreciate the greatness of J S Bach Frederick's personal appearance in his later years—small, sharp-featured, untidy, and snuff-stained—has become part of the legend of "Old Fritz." Himself an enemy of nationalism, he has been worshiped by German nationalists of later times He was succeeded by his nephew, Frederick William II See J D E Preuss, ed., *Œuvres de Frédéric le Grand* (30 vols, 1846–57) See also biographies by Carlyle and Macaulay, both classics, and the more scholarly studies by Ernest Lavisse (Eng tr, 1891), Pierre Gaxotte (Eng tr, 1942), and G P Gooch (1947)

Frederick III, king of Prussia see FREDERICK III, emperor of Germany

Frederick II, 1272–1337, king of Sicily (1296–1337), third son of Peter III of Aragon He is sometimes called Frederick III When his brother became (1291) king of Aragon as JAMES II, Frederick was regent for him in Sicily In 1295, however, James renounced Sicily in favor of his rival, CHARLES II of Naples The Sicilians rebelled and crowned Frederick A war ensued in which Frederick fought his own brother, now Charles's ally At the Peace of Caltabelotta (1302) Charles II and Pope Boniface recognized Frederick as king of Trinacria (an ancient name for Sicily) for his lifetime, but were promised its reversion to the Angevin dynasty of Naples at Frederick's death Though Frederick married a daughter of Charles II, war with Naples broke out again in 1313 Frederick, allied successively with Emperors HENRY VII and LOUIS IV, resumed the title king of Sicily and had his son Peter crowned with him in 1322 The war continued after Frederick's death

Frederick III (Frederick the Pious), 1515–76, elector palatine (1559–76) He inclined toward Calvinism and in 1563 caused the HEIDELBERG CATECHISM to be drawn up He was involved in quarrels with the Lutheran princes, notably with Augustus, elector of Saxony

Frederick IV, 1574–1610, elector palatine (1592–1610) An opponent of the Catholics and the Hapsburgs, he actively promoted (1608) a league of Protestant princes—the Protestant or Evangelical League, which he headed, its life was neither long nor prosperous His son, Frederick V, was known as Frederick the Winter King

Frederick V, elector palatine see FREDERICK THE WINTER KING

Frederick I, c 1372–1440, elector of Brandenburg (1415–40), founder of the greatness of the Hohenzollerns He was Frederick VI, burgrave of Nuremberg, and did good service for Emperor SIGISMUND, who made him vicar and captain general of the margraviate of Brandenburg He first appeared in Brandenburg in 1412 and spent years in quelling the rebellious nobles The aid of the archbishop of Magdeburg, wise concessions to nobles, and the use of superior artillery enabled him to pacify the territory, with which he was formally invested In 1420 he inherited Bayreuth and Ansbach, thus uniting the Hohenzollern lands He fought the Hussites, but broke with Sigismund Frederick was unable to realize his own ambitions in the empire At his death, the Hohenzollern territories were divided, but the family had a firm hold on Brandenburg

Frederick I or **Frederick the Warlike,** 1369–1428, elector of Saxony (1425–28) He was involved in disputes with his brothers and his uncles over division of his father's territory He and his brother William founded (1409) the university at Leipzig In 1425 he was left sole ruler of his father's territories and was invested with the electoral duchy which had been given him by Emperor Sigismund for his services against the Hussites In 1426 he was defeated by the Hussites at Aussig

Frederick III or **Frederick the Wise,** 1463–1525, elector of Saxony (1486–1525) At Wittenberg he founded (1502) the university where LUTHER and MELANCHTHON taught It was on the orders of the elector that Luther, on his way back from Worms to Wittenberg, was kidnaped by kindly hands and subjected to gentle imprisonment for his own protection in the Wartburg Frederick, however, never talked with Luther face to face and remained a Catholic, though he is thought to have inclined toward adopting the doctrines of the Reformation He was of a gentle and winning disposition and splendid character

Frederick, John Towner, 1893–, American novelist and editor, b near Corning, Iowa, grad State Univ of Iowa, 1915 He taught at Northwestern Univ from 1930 until 1944, going then to Notre Dame His novels include *Druda* (1923) and *Green Bush* (1925) In 1915 he founded the *Midland*, a little magazine which perished in 1933 with the depression, but which during its existence was remarkable for discovery of talented writers.

Frederick. 1 City (pop. 15,802), co seat of Frederick co , NW Md., near the Monocacy, in a farm area; settled 1746 The city produces brushes, hosiery, clothing, cooking utensils, pumps, and canned goods Frederick was a stop on the road to the Ohio valley and an important grain trading center Francis Scott Key Monument, Barbara Fritchie's home, Hood College (Evangelical and Reformed; for women, 1893), and the state school for the deaf are here Near by the battle of MONOCACY (1864) was fought 2 City (pop 5,109), seat of Tillman co , SW Okla , near the Red River, in a farm area Cotton processing is the chief industry There is here a collection of fossils and prehistoric implements

Frederick Augustus I, 1750–1827, king (1806–27) and elector (1763–1806) of Saxony, grand duke of Warsaw (1807–14) He sided with the allies in the French Revolutionary Wars and joined Prussia in the campaign of 1806 against Napoleon I However, after the French victory at Jena, he made a separate peace with Napoleon, with whose approval he took the title king of Saxony Napoleon also made him nominal ruler of the grand duchy of Warsaw Frederick Augustus did not abandon his alliance with Napoleon in time and as a result lost a large part of Saxony to Prussia at the Congress of Vienna (1815)

Frederick Augustus III, 1865–1932, king of Saxony (1904–18) The German revolution forced him to abdicate The bluff heartiness of his character made him very popular and gave rise to innumerable anecdotes of somewhat elementary humor

Frederick Augustus I, elector of Saxony see AUGUSTUS II, king of Poland

Frederick Augustus II, elector of Saxony see AUGUSTUS III, king of Poland

Frederick Augustus, 1763–1827, duke of York and Albany, second son of George III of England. Though he proved (1793–95) an incompetent general against the French, he was made field marshal in 1795 and commander in chief in 1798 and set about removing the corruption which riddled the army His good work was interrupted in 1809, when he was accused of bribery in promotions promised by his former mistress to young officers He was cleared and reappointed in 1811 The duke was heir to the throne after his father's death (1820) but died before his elder brother, George IV

Frederick Barbarossa: see FREDERICK I, emperor

Frederick Henry, 1584–1647, prince of Orange, son of William the Silent and Louise de Coligny He became stadholder of the United Netherlands upon the death (1625) of his brother, MAURICE OF NASSAU The Netherlands were still struggling to maintain their independence from Spain An able diplomat, he maintained friendship with France and in 1635 concluded an alliance with France and Sweden against the Hapsburgs in the THIRTY YEARS WAR By the capture of the frontier forts of 's Hertogenbosch (1629), Maastricht (1632), and Breda (1637), he became famous as a master of siegecraft In 1631 the United Provs showed their trust in his leadership by declaring the stadholderate hereditary in his family The period of his rule is known as "the Golden Age of Frederick Henry" because of the remarkable state of the arts (represented by such men as Rembrandt and Frans Hals), of the sciences, and of the commerce, prosperity, and prestige of the Netherlands. One year after his death the independence of the Netherlands was recognized in the Peace of Westphalia His son, William II, succeeded him as stadholder

Frederick Louis, 1707–51, prince of Wales, b Hanover, eldest son of George II of England By his wife, the Princess Augusta of Saxe-Gotha, he had several children, the eldest of whom became George III A coarse, unhappy, dissolute man, Frederick's marital and financial difficulties intensified his estrangement from his father His political opposition to the king and to Robert Walpole was used and furthered by Viscount Bolingbroke and later by William Pitt (earl of Chatham) See Sir George Young, *Poor Fred the People's Prince* (1937), Averyl Edwards, *Frederick Louis* (1947)

Fredericksburg. 1 Town (pop 3,544), co seat of Gillespie co., S central Texas, W of Austin, inc 1928 Founded by Germans in 1846, the long, neat town has persisted in German stone architecture, German speech, and German customs The citizens are busy with varied small industries and with handling and shipping farm produce and the wool, cattle, and mohair of surrounding ranches as well as granite quarried near by Hunting and fishing bring visitors 2 City (pop 10,066), N Va , on the Rappahannock and N of Richmond, settled 1671, laid out 1727, inc. as a town 1781, as a city 1879 A city of fine old houses and historic interest, Fredericksburg attracts many tourists It is also a farm trade center with flour, textile, cellophane, and other industries Its old houses include that in which Mary Washington lived (1774–89), "Kenmore," the home of Washington's sister, the Rising Sun Tavern (c 1760, a rendezvous for American patriots in the Revolution), James Monroe's law office, and the home of John Paul Jones. Mary Washington College (now affiliated with the Univ. of Virginia) is here. Near by are WAKEFIELD (Washington's birthplace) and Fredericksburg and Spotsylvania County Battlefields Memorial (2,420 71 acres, est 1927), commemorating the Civil War battles of Fredericksburg, CHANCELLORSVILLE, Wilderness, and Spotsylvania Courthouse (see WILDERNESS CAMPAIGN). See J. T Goolrick, *Historic Fredericksburg* (2d ed , 1922), A T Embrey, *History of Fredericksburg* (1937)

Fredericksburg, battle of, in the Civil War, fought Dec 13, 1862, at Fredericksburg, Va In Nov , 1862, the Union general, Ambrose BURNSIDE, moved his three "grand divisions" under W B Franklin, E V Sumner, and Joseph Hooker to the north side of the Rappahannock river opposite Fredericksburg, his objective was Richmond Delay in bringing up pontoons prevented Burnside from seizing the heights on the south bank immediately. R E LEE, having anticipated the move, soon confronted him from those heights with James Longstreet's 1st Corps, which was shortly joined by Stonewall Jackson's 2d The Federals crossed on Dec 11–12 and attacked Lee on Dec 13 After Jackson had repulsed Franklin's attack on the Confederate right, Burnside ordered Sumner to storm Longstreet's impregnable position on Marye's Heights Successive charges brought death to droves of gallant Union troops Burnside's subordinates protested against renewing the foolhardy assaults, and on Dec 15 the Federals made an undisturbed withdrawal to the north bank Union losses, more than twice the Confederate, were over 12,000 The defeat caused profound depression throughout the North See G F R Henderson, *The Campaign of Fredericksburg* (1886, 3d ed , 1891)

Frederick the Fair, c 1286–1330, German antiking (1314–26), duke of Austria, son of King Albert I On the death of Henry VII he was elected by the Hapsburg party as rival king to Emperor Louis IV He was captured in 1322 by Louis and renounced all his rights in 1326

Frederick the Great see FREDERICK II, king of Prussia

Frederick the Warlike: see FREDERICK I, elector of Saxony

Frederick the Winter King, 1596–1632, king of Bohemia (1619–20), elector palatine (as Frederick V), son of Frederick IV The Protestant diet of Bohemia, denouncing the Catholic Ferdinand (Emperor FERDINAND II), chose Frederick as king Frederick accepted but failed to equip an army against the emperor and did not receive the aid expected from his father-in-law, James I of England His supporters were routed at the White Mt (1620) Frederick thus lost Bohemia, from his short tenure came the jeering name, the Winter King He was put under the ban of the empire and, after the defeat of his few allies, was stripped of all his remaining territories The electorate was transferred to Maximilian I of Bavaria (see ELECTORS). These struggles were the first campaigns of the THIRTY YEARS WAR The Hanoverian kings of England were descended from Frederick and his wife, ELIZABETH

Frederick the Wise. see FREDERICK III, elector of Saxony

Fredericktown. 1 City (pop 3,414), co seat of Madison co , SE Mo , on a branch of the St Francis river, in the Ozarks, founded 1819 Lead, cobalt, copper, zinc, and iron deposits are in the region Clark National Forest is near by 2 Village (pop 1,297), N central Ohio, S of Mansfield, laid out 1807

Frederick William I, 1688–1740, king of Prussia (1713–40), son and successor of Frederick I His reign is remarkable for his administrative reforms He practiced the most rigid economy at his death there was a large surplus in the treasury The Prussian army was organized into an efficient instrument of war In the War of the Polish Succession, his troops fought against the French Known as the soldier-king, Frederick William had a mania for military drill and a weakness for collecting six-footers for his guard His tastes were coarse, and he had a profound contempt for his gifted heir, who was to succeed him as FREDERICK II and whom he had nearly executed for desertion See R R. Ergang, *The Potsdam Führer* (1941)

Frederick William II, 1744–97, king of Prussia (1786–97), nephew and successor of Frederick II. He joined the European coalition in support of Louis XVI and fought in the early campaigns of the French Revolutionary Wars, financial difficulties and the problem of the eastern frontier led him to make a separate peace at Basel (1795) He joined in the second and third Polish partitions (1793 and 1795, see POLAND, PARTITIONS OF) His extravagance left a ruined exchequer. He was a patron of the arts and an amateur cellist, Mozart dedicated three string quartets to him His son, Frederick William III, succeeded him

Frederick William III, 1770–1840, king of Prussia (1797–1840), son and successor of Frederick William II. Well intentioned but weak and vacillating, he endeavored to maintain neutrality in the Napoleonic Wars In 1806 events forced him to take up arms against France The crushing defeat at Jena and the humiliating Treaty of TILSIT (1807) served to waken the king to the need of reconstruction in Prussia. Unable to carry through the reforms himself, he was far-sighted enough to appoint capable ministers and to give them a free hand The reforms of Karl vom und zum STEIN, Karl August von HARDENBERG, and SCHARNHORST prepared the way for the Prussian war against Napoleon and laid the basis of the modern Prussian state. Forced to send an auxiliary force to aid Napoleon's Russian campaign, the king was finally persuaded to support the Convention of Tauroggen (see TAUROGGEN), concluded with the Russians by his general, Yorck von Wartenburg A few weeks later a military alliance with Russia was signed, and in March, 1813, the king declared war on France After Napoleon's defeat and the Congress of Vienna, which he attended, Frederick William became increasingly reactionary He joined the HOLY ALLIANCE and refused to grant the constitution he had promised His consort, Queen LOUISE, who had been far more popular than the king, died in 1810 His elder son, Frederick William IV, succeeded him. His second son was to become Emperor William I.

Frederick William IV, 1795–1861, king of Prussia (1840–61), son and successor of Frederick William III A romanticist, a mystic, and, at first, a very confused liberal, he amused himself with vague schemes of reform—which actually granted nothing—until the outbreak of revolution in Prussia in March, 1848 After crushing the revolutionists, he imposed (Dec , 1848) an extremely conservative constitution on Prussia Frederick William refused the crown of a united Germany offered him (1849) by the FRANKFURT PARLIAMENT on the ground that a monarch by divine right could not receive authority from an elected assembly In 1848 the first Prusso-Danish War over SCHLESWIG-HOLSTEIN took place Frederick William's scheme for a German union was prevented by Austria in the Treaty of OLMÜTZ (1850) In 1857 his mental condition necessitated a temporary (which later became a permanent) regency of his brother and successor, William I

Frederick William, former crown prince of Germany see WILLIAM

Frederick William, known as **the Great Elector,** 1620–88, elector of Brandenburg (1640–88), son and successor of George William At his accession the scattered lands of the Hohenzollerns were devastated and depopulated by the THIRTY YEARS WAR Beginning with few resources and no dependable troops, Frederick William raised an efficient army He improved relations with Sweden, France, and the Netherlands At the Peace of Westphalia, E Pomerania and other territories were secured to him, and in the years 1648–60, Frederick William aimed at the leadership of the north German states His sovereignty over Prussia (previously subordinate to Poland and threatened by Sweden) was recognized at the Peace of OLIVA (1660) Desire to consolidate his widely scattered lands and fear of French domination directed his policy When CHARLES XI and the Swedes, as allies of France, invaded his lands, Frederick William repulsed them in the brilliant victory of Fehrbellin (1675) and thus increased his prestige He laid the foundation of the Prussian state by strengthening central administration, husbanding the resources of his lands, and improving communication (he constructed the Friedrich Wilhelm Canal). His son became king of Prussia as Frederick I

Frederick William, 1771–1815, duke of Brunswick, German military hero On the death (1806) of his father, CHARLES WILLIAM FERDINAND, his duchy was seized by Napoleon and added to the kingdom of Westphalia When war broke out between France and Austria in 1809, Frederick William formed a free corps, the "Black Brunswickers," and in a dashing foray advanced through Germany and captured Brunswick He soon was hopelessly cut off but succeeded in fleeing to England. Returning in 1813, he took possession of his duchy, but he was soon afterward killed at Quatre Bras in the Waterloo campaign

Fredericton, city (pop 10,062), provincial capital (since 1788), S central N B , on the St. John river and NW of St John, founded 1785 by United Empire Loyalists It is the seat of Parliament House and Government House and of the Univ. of New Brunswick (see NEW BRUNSWICK, UNIVERSITY OF). It has an Anglican cathedral (built 1849), the Maritime Forest Ranger School, and a dominion experiment station, with farms It is the center of the provincial lumber trade, with woodworking and leather-goods manufacturing, and is also a hunting and fishing center. The city is named for Prince Frederick, son of George III

Frederiksberg, Denmark. see COPENHAGEN

Frederiksborg (frĭdh'rĭksbôr), castle in NE Zealand, Denmark, NNW of Copenhagen Built (17th cent) by Christian IV, it is now a museum. In the castle church several Danish kings were crowned

Frederikshaab (frĭdh'rĭks-hôp), district (pop. 1,432), SW Greenland. It contains important cryolite mines at Ivigtut The settlement of Frederikshaab (pop. 634) is the administrative center.

Frederikshald, Norway. see HALDEN.

Frederikshavn (frĭdh'rĭks-houn), city (pop. 16,827), N Jutland, Denmark, a port on the Kattegat.

Frederiksted (frĕ'drĭkstĕd), city (pop 2,498), port on St. Croix, Virgin Islands of the United States

Fredonia. 1 City (pop. 3,524), co. seat of Wilson co., SE Kansas, NNW of Independence; founded 1868, inc. 1871. It has cement works and is near oil fields 2 Village (pop. 5,738), W N Y, near Lake Erie and S of Dunkirk, in a grape region, inc. 1829 Wine and grape juice are made here It is the seat of a state teachers college.

Fredonian Rebellion, 1826, in Texas history, a premature attempt to make Texas independent from Mexico An American, Haden Edwards, and his brother had undertaken to make settlements on a land grant where there were already some Mexican settlers, some American squatters, and some Cherokee Indians—in E Texas around Nacogdoches Haden Edwards tried to oust those settlers who could not show clear title, and the resultant trouble led the Mexican government to revoke his charter The hot-headed Edwards decided, against the advice of Stephen F Austin, to take up arms He expected the Americans in Texas and Louisiana and some of the Indians to take his part, but he could gather only a few men for the army of his hastily constituted state of Fredonia, and the whole scheme fell apart at the approach of a Mexican force The incident served, however, to draw the attention of the Mexican and U S. governments to the culture conflict in Texas

Fredrikshald, Norway: see Halden

Fredriksstein, Norway see Halden

Fredrikstad (frĕ'drĭkstä"), city (pop 14,369), Ostfold co , SE Norway, a port on an inlet of the Oslo Fjord, at the mouth of the Glomma It is a lumber center Its 16th-century fortress has been preserved

free association: see association, psychoanalysis

Freeburg, village (pop 1,507), SW Ill , SE of East St Louis near Belleville, in a mine and farm area, inc 1859

Free Church of Scotland: see Scotland, Free Church of

Freedmen's Bureau, U S government agency, formed to aid and protect the newly freed Negroes in the South after the Civil War. It was established by an act of March 3, 1865, under the name "bureau of refugees, freedmen, and abandoned lands" and was to function for one year after the close of the war A bill extending its life indefinitely and greatly increasing its powers was vetoed (Feb 19, 1866) by President Andrew Johnson, who viewed the legislation as an unwarranted (and unconstitutional) continuation of war powers in peacetime The veto marked the beginning of the President's long and unsuccessful fight with the radical Republican Congress over Reconstruction In slightly different form, the bill was passed over Johnson's veto on July 16, 1866 Organized under the War Dept , with Gen Oliver O Howard as its commissioner, and thus backed by military force, the bureau was one of the most powerful instruments of Reconstruction Howard divided the ex-slave states, including the border slave states which had remained in the Union, into 10 districts, each headed by an assistant commissioner The bureau's work consisted chiefly of five kinds of activity—relief work for both blacks and whites in war-stricken areas, regulation of Negro labor under the new conditions, administration of justice in cases concerning the Negro, management of abandoned and confiscated property, and support of education for Negroes Its career has been characterized as "a mixture of welfare and abuse, of genuine service and shameful corruption " In its relief and educational activities the bureau compiled an excellent record, which, however, was too often marred by the excesses of its agents (from both military and civil life) in the local offices, who "varied all the way from unselfish philanthropists to narrow-minded busybodies and thieves " The more responsible officials of the bureau had a difficult time in convincing the Negro that his dream of "forty acres and a mule," often deliberately inspired by unscrupulous agents, was not to be Ultimately the bureau became little more than a political machine, organizing the black vote for the Republican party, and as such was thoroughly hated in the South When, under the congressional plan of Reconstruction, new state governments based on Negro suffrage were organized in the south (with many agents holding various offices), the work of the Freedmen's Bureau was discontinued (July 1, 1869) Its educational activities, however, were carried on for another three years See P S Peirce, *The Freedmen's Bureau* (1904), L J Webster, *The Operation of the Freedmen's Bureau in South Carolina* (1916); J W. De Forest, *A Union Officer in the Reconstruction* (1948)

Freedom, industrial borough (pop 3,227), W Pa , on the Ohio river and NW of Pittsburgh, settled 1832, inc 1838 An oil works and an undertaking-supply factory are here.

freedom: see liberty.

freedom of speech, of the press, of the seas: see speech, freedom of, etc

freedom of the will, in philosophy, the doctrine that the will of the individual can, and does, determine at least some of the acts of the individual. It has been opposed to the various types of determinism The doctrine of freedom is virtually unprovable from a scientific point of view, the chief evidence for it in philosophy being faith which arises from the conscious feeling that man is free. Kant maintained that the dependence of the phenomenal world on the mind for interpretation makes freedom possible, and the categorical imperative implies its actuality. In theology the problem of freedom is important for its relation to the sins of men who are created by God See grace and Pelagianism

Freehold, borough (pop 6,952), co. seat (since 1715) of Monmouth co , E central N J , E of Trenton, settled before 1700, called Monmouth Courthouse 1715–1801, inc as a town 1867, as a borough 1919 It is a farm trade center with large rug works and liquor distilleries Of interest are the 94-foot war memorial shaft (1884) near the courthouse, the collections in the county historical association building (1931), a race track (opened 1873, reopened 1937), Hankinson House (1755), and, 3 mi. northwest, the Tennent Church (1751) The battle of Monmouth (see Monmouth, battle of) took place near by Philip Freneau lived in Freehold

freehold. see tenure

Freeland, industrial borough (pop 6,593), NE Pa , S of Wilkes-Barre, laid out 1868, inc 1876 It has textile mills and anthracite collieries

Freeman, Douglas Southall, 1886–, American editor and historian, b Lynchburg, Va , grad Richmond College, 1904, Ph D Johns Hopkins, 1908 He was editor of the Richmond *News Leader* from 1915 to 1949, when he retired to devote most of his time to historical writing An authority on military strategy and on the military history of the Civil War, Freeman wrote *R E Lee* (4 vols , 1934–35), which won the 1935 Pulitzer Prize for biography, and *Lee's Lieutenants* (3 vols , 1942–44) The first two volumes of his projected six-volume biography of George Washington appeared in 1948 He edited *A Calendar of Confederate Papers* (1908) and also wrote *Virginia, a Gentle Dominion* (1924), *The South to Posterity* (1939), and *John Stewart Bryan* (1947)

Freeman, Edward Augustus, 1823–92, English historian, educated at Oxford He devoted his life to intense and careful literary and historical work and gained a great reputation In 1884 he was made regius professor of modern history at Oxford His major work was the monumental *History of the Norman Conquest* (6 vols , 1867–79), which minimized the results of the Norman Conquest and glorified Teutonic influences His extreme views have since been generally conceded to be in error, but his care in his work, his dependence upon sources, and his deep understanding of politics give him a secure place as a historian His lectures, *Methods of Historical Study* (1886), set forth ideas that were influential Unfortunately his narrow understanding of the scope of sources and his great interest in politics also affected British history writing His own voluminous writings included not only other works in British history, such as *The Reign of William Rufus* (2 vols , 1882), but also studies in ancient history such as his *History of Sicily from Earliest Times* (4 vols , 1891–94, incomplete, covering the period to 289 B C) and other works in various fields such as *Byzantine History in the Early Middle Ages* (1900)

Freeman, Mary Eleanor Wilkins, 1852–1930, American novelist and story writer, b Randolph, Mass She lived there or in Brattleboro, Vt , until her marriage to Dr Charles Freeman, after which she lived in Metuchen, N J Her stories of rural New England are honest, realistic pictures of a severe and frustrating social life The best of them are collected in *A Humble Romance and Other Stories* (1887) and *A New England Nun and Other Stories* (1891) There are many other volumes of stories, a play, and several undistinguished novels See her *Selected Stories* (ed with an introduction by H W Lanier, 1927)

Freemansburg, borough (pop 1,728), E Pa , on the Lehigh and SW of Easton, settled c 1760, inc 1856 Zinc products are made here

Freeman's Farm, battle of: see Saratoga campaign

Freeman-Thomas, Freeman: see Willingdon, Freeman-Freeman-Thomas, 1st marquess of

Freemasonry, the teachings and practices of the secret fraternal order of Free and Accepted Masons The order has many adherents in many parts of the world. Its claims to ancient origins are not universally accepted, but organizations of "operative" masons, builders in stone, existed in the Middle Ages, with symbols and rites closely related to those of modern "speculative" masonry, which does not work in stone but preserves much of the form and spirit of a medieval guild The medieval masonic documents are evidently based on old established custom By some it is thought probable that organizations of builders in stone originated almost as early as their distinct craft and that ancient ways are embodied in modern Freemasonry. Custom is the supreme authority in the order A masonic body that seeks to overthrow custom in an essential ceases to be recognized as masonic. The admission of an atheist or a woman to membership would be a departure from custom of this kind The teachings of the order include obedience to the law of the land; and for this reason there is no international organization of Masons, but the organization in each nation is independent of all others Charity is enjoined on Masons and practiced by them, but they have no fixed system of doles. Each member is the judge of what he can and should do to relieve distress If a "lodge," or local organization, makes a gift, it is upon consideration of the special case, and the gift is quite without publicity Masonic charity is not limited to Masons or their families, though special obligations to these are recognized. The methods by which the doctrines of Masonry are imparted are typically the ancient methods of symbol and ritual Freemasonry has encountered opposition, partly from those who object to all secret societies, of which the Masonic is the strongest In the United States the chief instance of opposition was the Anti-Masonic party All higher Masonic degrees are based on the three degrees of the Blue Lodge—Entered Apprentice, Fellowcraft, and Master Mason Higher degrees include those of the Royal Arch Masons, the Knights Templar, and the Scottish Rite Masons Affiliated organizations include the Order of the Mystic Shrine, to which only those with high Masonic degrees are eligible, the Order of the Eastern Star, to which women are admitted, and Acacia, for Masons who are college students A list of distinguished Masons would include Goethe, in Germany, Burns, in Scotland, and Washington, in the United States See R. F Gould, *The History of Freemasonry throughout the World* (6 vols , rev ed , 1936), J F Newton, *The Builders* (9th ed , 1927)

Freeport. 1 City (pop 22,366), co seat of Stephenson co , N Ill , W of Rockford, settled 1835, inc 1855 It is a trade and manufacturing center in a farm and dairy region, among its products are cheese, toys, and batteries The city was the scene of an important Lincoln-Douglas debate (1858), in which Douglas expounded his famous "Freeport doctrine " Near by occurred a battle with Black Hawk's Indian forces 2 Town (pop 2,764), SW Maine, on Casco Bay between Portland and Brunswick, settled c 1700, inc 1789 In a tavern here were signed (1820) papers preliminary to the admission of Maine into the Union as a state Freeport grew as a fishing, shipping, and shipbuilding center, crab-meat packing is a later industry Near by is a sandy region, the Desert of Maine 3 Village (pop 20,410), on the south shore of Long Island, SE N Y , settled c 1650, inc 1892 It is a resort and deep-sea-fishing center and has varied industries 4 Industrial borough (pop 2,710), SW Pa , on the Allegheny river and NE of Pittsburgh, settled c 1792, laid out c 1800 Coal mining, brick-making, and dairying are done here 5 City (1940 pop 2,579, 1947 estimated pop 8,900), S Texas, at the mouth of the Brazos SSW of Houston A port from the 1820s, it was inconsiderable until sulphur production made it important in the second decade of the 20th cent Improvement of the port and development in the '30s and in the Second World War gave it a plant for taking magnesium from brine and other chemical industries It is the center of the booming industrial area called Brazosport, which includes Velasco and other towns. The Intracoastal Waterway crosses the Brazos here

free port, port, or section of a port, exempt from customs duties and regulations. Goods may be landed at a free port for storage and handling, and they may even in some places be made into manufactures Duty is charged only if the goods are moved from the free port into the adjacent territory Free ports originated in the late Middle Ages, when the burdensome tariffs charged by many petty states were threatening ruin to recently revived maritime commerce The high tariffs later levied in the period of mercantilism necessitated additional free ports Cities of the Hanseatic League were among the earliest free ports The system was extended to Leghorn and Genoa in the 16th cent and to other Italian cities, as well as Marseilles, Bayonne, and Dunkirk, in the 18th cent In the 19th cent the danger of smuggling caused the closing of many free ports In the United States bonded warehouses served some of the functions of the free port That arrangement permits goods to be stored and processed in specially licensed warehouses if a bond exceeding the amount of the customs duties is first posted In 1934 the Foreign Trade Zones Act authorized the establishment of free ports in the United States, but with a prohibition of manufacturing In 1937 the first American free port was opened at Stapleton, Staten Island, N Y

Freer, Charles Lang (frēr), 1856–1919, American art collector, b. Kingston, N Y He gave to the Smithsonian Institution of Washington, D C., his entire collection and the building (designed according to his direction) which houses it, called the Freer Gallery of Art A railway and industrial capitalist, he retired from active business in 1900, devoting the rest of his life to art collecting. His taste for the works of Whistler and of Oriental masters, and discovery of a close kinship between the two, re-

sulted in a warm friendship with Whistler and the development of an unrivaled collection of his works, this included the Peacock Room from the Leyland house, London, which had Whistler decorations The gallery also contains a fine collection of Chinese and Japanese paintings and art objects and a remarkable collection of antique glazed pottery, with examples from Egypt, Babylonia, Persia, India, China, Korea, and Japan

Freer (frēr), city (pop 2,346), SW Texas, WNW of Corpus Christi, inc 1938 Once a ranching town, it grew rapidly with the production of oil and gas

freesia, decorative, fragrant flower of the genus *Freesia,* South African herbs grown from corms, largely in greenhouses for winter and spring blossoming The flowers, yellow or white or tinted various colors, are borne at the end of the stem in a spike that turns at nearly a right angle Freesia culture requires a cool place

free silver. The free coinage of silver became a popular proposal in the United States soon after the panic of 1873, and it was a major political issue in the next quarter century The hard times of 1873-78 stimulated advocacy of cheap money, and the GREENBACK PARTY offered presidential candidates several times and flourished in local elections, especially in 1876 and 1878 The market price of silver fell fast after 1873, because of American and European demonitization of silver and because of increases in mine production Inflationists, not getting paper-money expansion, turned to silver, for free coinage of silver would serve their purpose as would greenbacks, so long as a silver dollar was worth intrinsically less than a gold dollar Silver-mining interests also wanted silver coinage to aid their business The ensuing demands for unlimited silver coinage led to the compromise BLAND-ALLISON ACT of 1878, providing for definitely limited coinage Sectional lines over money were becoming sharply drawn The financial East favored sound money and the gold standard The indebted agrarian classes of the South and West demanded inflation, to ease debt burdens in the face of falling prices of farm products Their silver demands were reinforced by Western silver-mining interests As the prosperity of the early '80s vanished, demands arose again for free silver By 1890 the political strength of the silver advocates, especially in the West, was so great that the Sherman SILVER PURCHASE ACT, another compromise, was passed, to replace the Bland-Allison Act and to provide for greater government purchase of silver The West's discontent was still more emphasized by the rise of the POPULIST PARTY, with demands including free silver The silver advocates were no longer content with compromise measures and were displeased by the candidacy of Grover Cleveland in 1892 They were enraged when the panic of 1893 brought repeal of the Sherman Silver Purchase Act By the middle of his second term, Cleveland's Western and Southern opponents had captured the Democratic party In 1896 free silver became the major issue of a presidential campaign when W J BRYAN made it the chief plank of his platform McKinley's victory over Bryan then and again in 1900, coupled with increasing gold supplies and returning prosperity, minimized free silver as a political issue Subsequent ideas for monetary expansion have largely taken other forms Yet the silver bloc, partly inspired by Nevada interests, continued active and secured mandatory legislation for heavy Treasury purchases of silver under F D Roosevelt See A B Hepburn, *History of Coinage and Currency in the United States* (1924), H T Peck, *20 Years of the Republic* (1905), W J Bryan, *The First Battle* (1896)

Free-Soil party, in U S history, a political party which came into existence in 1847 48 chiefly because of rising opposition to the extension of slavery into any of the territories newly acquired from Mexico The struggle over the WILMOT PROVISO in Congress helped to consolidate the Free-Soil forces, which were composed of those New York Democrats known as BARNBURNERS, the anti-slavery Whigs, and members of the former LIBERTY PARTY These forces met in mass convention at Buffalo in Aug , 1848, where the party was formally organized and Martin Van Buren and Charles F Adams (1807-86) chosen as its candidates for President and Vice President respectively The platform also declared for a homestead law, internal improvements, and a tariff for revenue only It polled 291,263 votes and, by giving New York state to the Whigs, was a decisive factor in making Zachary Taylor President The Compromise of 1850 supposedly settled the slavery issue, and the Barnburner element went back to its old allegiance A few radical antislavery men kept the organization in existence and gave John P Hale 156,667 votes for President in 1852 In 1854 the party was absorbed into the new Republican party See T C Smith, *The Liberty and Free Soil Parties in the Northwest* (1897)

freethinkers, those who arrive at conclusions, particularly in questions of religion, by employing the rules of reason while rejecting supernatural authority or ecclesiastical tradition The name came into general use in the early part of the 18th cent., soon after the publication of a book by Anthony Collins, *Discourse of Freethinking Occasioned by the Rise and Growth of a Sect Called Freethinkers* (1713) Societies and groups were usually indicated by the word In particular it denoted the deists in England The development in England has resulted in the formation of such groups as the National Secular Society and the Rationalist Press Association In France the movement for free thought is associated with the time, prior to and during the French Revolution, when reading and debating clubs were organized throughout the country The movement was aided by the growth of scientific investigation and discovery (e g , Darwinian evolution) which seemed to disclose the inadequacy of a literal interpretation of the Scriptures In the United States the organizations which have been established to further this movement are the American Rationalist Association, the American Secular Union, and the Freethinkers of America The International Order for Ethics and Culture, organized at Berlin in 1908, is designed to investigate the ethical factors in society without theological or metaphysical bias

Freetown, city (pop 55,358), capital of Sierra Leone, a port on the Atlantic Ocean It was founded in 1787 by the British as a settlement for liberated slaves Diamonds, gold, chromite, and palm oil are exported There is a college

Freetown, rural town (pop 1,584), SE Mass , N of New Bedford, settled 1675, inc 1683 It includes East Freetown village

free trade, in modern usage, trade or commerce carried on without duties to curtail imports or without bounties to encourage home production The basic argument for free trade is territorial division of labor that each region should produce what it can most cheaply and best and should exchange its products for those it is less able to produce rather than restrict the importation of goods produced more cheaply elsewhere as a means of raising prices at home (see PROTECTION) Free trade within the national borders, almost axiomatic in modern thinking, only came about as states abolished domestic trade barriers France began this abolition in the 17th cent under Colbert's ministry, the German states, in the Zollverein movement after 1818 In England domestic free trade is of long standing In the United States the desire to assure freedom from internal barriers was a factor in calling the Constitutional Convention England, the classic free-trade nation, evolved the term "free trade" during agitation for removal of the privileges of the chartered companies Later, free trade implied a desire for a moderate tariff policy, especially in regard to trade with France In the 18th cent Adam Smith's endorsement of free trade in his *Wealth of Nations* came at a time when England's industry was growing more rapidly than that of other nations and when her manufacturers wished to import cheap food for their laborers and cheap raw materials for their factories The distress of the working classes under the CORN LAWS lent cogency to the arguments of the industrialists In 1846 the agitation of the Anti-Corn Law League, led by Cobden, secured repeal of the tariff on grain, following the outbreak of a disastrous famine in Ireland Full free trade was established under Gladstone in 1869 After the First World War, Britain reintroduced protection and a system of empire preference in an attempt to establish a greater measure of economic autonomy France, despite the arguments of the 18th-century physiocrats (who decried a tax on commerce as pointless since land, not trade, was the true source of wealth), has generally followed an anti-free-trade policy, as have other European nations Throughout most of its history, the United States has followed high-tariff policies despite the strong protests of a large opposed minority In the period of international economic dislocation in the 1930s, the United States reversed earlier policy to sign reciprocal trade treaties with many foreign governments, embracing a policy of selective tariff reduction for mixed economic and political reasons Trade barriers have been increasingly viewed as promoting international discord See CUSTOMS, INTERNATIONAL REVENUE, TARIFF

free verse or **vers libre** (vĕr' lē'bru), term loosely used for rhymed or unrhymed verse made free of conventional and traditional limitations and restrictions in regard to metrical structure Cadence, especially the cadence of common speech, is often substituted for rhythmical meter Some modern verslibrists have said that the biblical Song of Solomon, part of the writings of Sir Thomas Browne, and certain poems of Matthew Arnold are essentially free verse The appellation free verse has been applied to the irregular poetry of Whitman, the verse of the French poets Gustave Kahn and Paul Fort, and to some of the poetry of such writers in English as Ezra Pound, Amy Lowell, H D , John Gould Fletcher, Alfred Kreymborg, Richard Aldington, T S Eliot, Archibald MacLeish, Conrad Aiken, and Gertrude Stein

freezing, see MELTING POINT and REFRIGERATION.

Freiberg (frī'bûrg, Ger frī'bĕrk), city (pop 42,303), Saxony, E Germany, between Dresden and Chemnitz, in a region of silver and lead mines Settled by miners in the 12th cent., it has a famous mining academy (founded 1765), the mines themselves are no longer worked. Precision instruments are made here In the Thirty Years War, Freiberg resisted a siege by the Swedes (1642-43), and in the Seven Years War it was the scene (1762) of a Prussian victory over the Austrians

Freiburg, Switzerland see FRIBOURG

Freiburg im Breisgau (frī'bûrg ĭm brīs'gou), city (pop 93,075), S Baden, W Germany, near the Rhine and at the edge of the Black Forest Primarily a cultural center, it is an archiepiscopal see and the seat of a famous university, founded in 1457 After 1945 it became the capital of the French-occupied part of Baden Founded in 1120, it passed, with the rest of the BREISGAU, to the Hapsburgs in 1368 In the Thirty Years War the Bavarians and Austrians were defeated here (1644) by the French under Turenne and Louis II de Condé The French held Freiburg from 1677 to 1697 and again (1744-49) in the War of the Austrian Succession In 1805 Freiburg passed to Baden The splendid cathedral (13th cent), which is partly Romanesque, partly Gothic, was lightly damaged in the Second World War Many other historic buildings remain

freight, originally goods carried by water, now, especially in the United States, extended to goods sent by land It does not include some goods for which arrangements are made for quick passage, as baggage, mail, and express Railroads use various kinds of cars for carrying different kinds of freight, such as gondola cars for sand and coal, stockcars for livestock, tank cars for oil, and refrigerator cars for perishable foods Much of the loading and unloading is done by machinery The INTERSTATE COMMERCE COMMISSION has some authority over rates, to prevent excessive or discriminatory charges Ocean freight, formerly carried by sailing vessels, is now carried by steamships of regular steamship lines or by tramp steamers, free to go where they may find most profit If freight charges are not prepaid, the carrier has a lien on the goods to secure payment on delivery The contract between shipper and carrier is called a bill of lading The railroads have met competition from trucks by speeding up deliveries through better locomotives, lighter weight cars, new methods of routing, and improved handling at terminals See P H Middleton, *Freight Transport in the United States* (1945)

Freiligrath, Ferdinand (frī'dēnänt frī'lĭkhrat), 1810-76, German poet Fled by the revolutionary spirit in 1841, he expressed such sentiments in his *Ein Glaubensbekenntniss* [a confession of faith] (1844) that he was forced to flee He returned in 1848 but was again forced to leave Germany after the publication of his *Neuere politische und soziale Gedichte* (1850) He spent the years 1851-68 in England and translated Burns, Tennyson, and Longfellow's *Song of Hiawatha* Among his best-known poems are "Ruhe in der Geliebten" and "O Lieb'," which was set as a song by Liszt and used as the motto of the composer's piano arrangement, the third *Liebestraum* See selection of Freiligrath's works tr by his daughter, Mrs Freiligrath-Kroeker (1867)

Freimund Raimar see RÜCKERT, FRIEDRICH.

Freising (frī'zĭng), city (pop. 24,482), Upper Bavaria, on the Isar river It has manufactures of motors, textiles, and brewery implements The cathedral was started in the 8th cent Freising was founded in 724 by St Corbinian, and its bishops held temporal power until the see was secularized in 1803 The diocese was restored in 1817, the archbishop of Munich being also bishop of Freising

Fréjus (frāzhüs'), town (pop 5,587), Var dept , SE France, in Provence, near the Mediterranean Its port, founded by the Romans, is silted and has been replaced by that of nearby SAINT-RAPHAËL There are important Roman ruins and a cathedral with a 5th-century baptistery Fréjus suffered in the Allied invasion of 1944

Frelinghuysen, Frederick Theodore (frē'lĭnghī"zun), 1817-85, U S Secretary of State (1881-85), b Millstone, Somerset co , N J , grad Rutgers, 1836 He studied law in the office of his uncle, Theodore Frelinghuysen, who had adopted him when he was three, and on admission to the bar in 1839 inherited his uncle's practice Frelinghuysen, a Republican, was attorney general of New Jersey (1861-66) and U S Senator (1866-69, 1871-77) In the Senate he supported the radical Republican Reconstruction program and later was associated with the "Stalwarts" led by Roscoe Conkling On the death of James A Garfield and the accession of Chester A Arthur to the presidency, James G Blaine resigned as Secretary of State to be succeeded (Dec , 1881) by Frelinghuysen Frelinghuysen canceled Blaine's plans for a Pan American Congress and urged reciprocity agreements with Latin American countries. Unable, like his predecessors, to persuade Great Britain to modify the terms of the Clayton-Bulwer Treaty, he negotiated (Dec., 1884) a treaty with Nicaragua allowing the United States the right to build a canal there under joint ownership of the two countries. However, Grover Cleve-

land, when he became President, withdrew the treaty from consideration by the Senate Frelinghuysen generally carried on a patient, pacifistic policy throughout Arthur's term. See S F Bemis, ed, *The American Secretaries of State and Their Diplomacy*, Vol VIII (1928)

Frelinghuysen, Theodore, 1787–1862, American statesman, b Franklin, N J, grad Princeton, 1804 Admitted to the bar in 1808, he practiced law in Newark and soon gained political prominence As U S Senator (1829–35), he won renown for his speech opposing the removal of the Cherokee and other southern Indians to lands W of the Mississippi Elected mayor of Newark in 1836, he served until 1839, when he became chancellor of New York Univ In 1844, he was vice presidential candidate on the Whig ticket with Henry Clay From 1850 until his death, Frelinghuysen was president of Rutgers College A deeply religious man, he was associated prominently with numerous religious and charitable organizations and contributed amply to them Frederick Theodore Frelinghuysen was a nephew and adopted son

Fremantle (frē'măn"tul, frī'muntul), principal port (pop 18,783) of Western Australia, SW of Perth, at the mouth of the Swan river and at the terminus of the Trans-Australian RR, founded 1829 The chief exports are wheat, wool, fruit, and flour Fremantle North (pop 2,945) and Fremantle East (pop 6,198) are not included in the municipality of Fremantle

Frémiet, Emmanuel (ĕmänüĕl' frāmyā'), 1824–1910, French sculptor, pupil and nephew of Rude He was noted for his animal and historical figures His *Wounded Dog* (Luxembourg Mus, Paris) and his equestrian statue of Joan of Arc (Place des Pyramides, Paris), a replica of which is in Fairmount Park, Philadelphia, are well-known, vigorous works Portrait statues include De Lesseps (Port Said) and Colonel Howard (Baltimore)

Frémont, Jessie Benton (frē'mŏnt), 1824–1902, American author, b Lexington, Va, daughter of Thomas L Benton and wife of John Charles Frémont Her elopement with the dashing Frémont caused a momentary break with her father, but the breach was healed She was very helpful to her husband, aiding him in writing his reports and encouraging his exploits She wrote a defensive account of his humiliation in the Civil War in *The Story of the Guard* (1863) When their fortune was lost, she helped to support the household with her pen, turning out chiefly books recounting her own experiences—*A Year of American Travel* (1878), *Souvenirs of My Time* (1887), *Far West Sketches* (1890), and *The Will and the Way Stories* (1891), She also helped her husband write his memoirs See biography by C C Phillips (1935) Irving Stone, *Immortal Wife* (1944), is a fictionalized version of her life

Frémont, John Charles, 1813–90, American explorer, soldier, and political leader, b Savannah, Ga, son of a French refugee and a woman of a Virginia tidewater family Showing a restless disposition early, he was forced to leave Charleston College (which later granted him a degree) He taught mathematics to U S naval cadets and through the influence of Joel R Poinsett he became an assistant to Joseph Nicolas Nicollet on a surveying expedition (1838–41) between the upper Mississippi river and the Missouri He was thus introduced to the West, where he was to win his triumphs He eloped with Jessie, daughter of Senator Thomas H Benton, who became reconciled to the match and helped his son-in-law secure command of an expedition to explore the Des Moines river in 1841 The next year he headed an expedition to the Rocky Mts with Kit Carson as guide, and in 1843, with first Thomas Fitzpatrick and then Carson as guide, he went to Oregon, starting in haste after secret warning from his wife that he was about to be recalled He explored the Nevada country, crossed the Sierra Nevada to California, and returned home by a more southerly route His enthusiastic reports created wide interest in Western scenery and Western concerns In 1845 he was off again, going to California as trouble brewed with Mexico and the Mexican War was in the making In California under his influence American settlers there raised the standard of revolt against the Mexican authorities and set up (1846) the Bear Flag republic at Sonoma He also turned to support Commodore Robert F Stockton, who appointed (1847) him governor of California After the arrival of Stephen W. Kearny as conqueror, there was trouble Frémont, refusing to obey the orders of Kearny, was arrested, court-martialed, and found guilty The penalty was remitted by President Polk, but Frémont, proud and injured, resigned from government service He in 1848 led a party in an ill-judged and disastrous effort to locate passes for a transcontinental railroad His fortunes literally as well as figuratively climbed after gold was discovered on his large California estate, though he was deprived of some of his wealth by the sharp practice of others He became one of the first U S Senators from California, serving briefly in 1850–51 Frémont, deeply interested in the Free-Soil party, was one of the prominent leaders when that group was merged into the Republican party, and the Republicans chose him as presidential candidate in 1856 He did not win, but he was generally recognized as a national hero and was at the peak of his career The descent was rapid In the Civil War he was given command of the Western Dept, issued an order confiscating the property of Missouri rebels, and was promptly removed His quarrel with the Blair family (see Blair, Francis Preston, 1821–75) cost him dearly He was given a new command, but when placed under the orders of John Pope, he resigned, without glory In 1870 ill-judged efforts to build a railroad to the Pacific—accompanied by actions of his agents that roused sharp criticism—cost him his fortune Beggared, he struggled on, loyally supported by his wife In 1878 he was made governor of Arizona Territory and served until 1882 In 1890 he was belatedly given a pension, but did not live long to enjoy it The Pathfinder, as he was sometimes called, is one of the most controversial figures of Western history His critics call him braggart and charlatan, his friends point to his courage, his handling of men, and his determination to open the West Certainly he did much to publicize the West His early reports were combined as *Report of the Exploring Expedition to the Rocky Mountains in the Year 1842, and to Oregon and North California in the Years 1843–44* (1845) His memoirs (1887) were disappointing and incomplete The standard biography is Allan Nevins, *Frémont the Pathmarker of the West* (1939) An adverse report is the biography by Cardinal Goodwin (1930) See also R J Bartlett, *John C. Frémont and the Republican Party* (1930)

Fremont (frē'mŏnt) **1** City (pop 2,520), S Mich, NE of Muskegon, settled 1855, inc as a village 1875, as a city 1911 Canned baby food is made Numerous Indian sites and mounds are near by **2** City (pop 11,862), co seat of Dodge co, E Nebr, on the Platte and WNW of Omaha, founded 1856, inc 1858 Trade center for a grain-growing, dairying, and grazing prairie area, it processes and ships farm products Midland College (Lutheran, coeducational, 1887) is here The town was named for J C Frémont **3** Town (pop 1,264), E central N C, SSW of Rocky Mount, in a tobacco region **4** City (pop 14,710), co seat of Sandusky co, N Ohio, on the Sandusky river and SE of Toledo It is an industrial and trade center After the War of 1812 two towns, Croghansville and Lower Sandusky, were settled, they were united in 1829 as Lower Sandusky and named Fremont in 1849, for J C Frémont Automobile parts, surgical instruments, and cutlery are made here Spiegel Grove State Park has the home and tomb of Rutherford B Hayes

Fremont Peak, 13,730 ft high, W Wyo, in the Wind River Range

Fremstad, Olive Nayan (frĕm'stăd), 1870?–, Swedish-American operatic soprano, pupil of Lilli Lehmann She came to the United States as a child After her European debut (Cologne, 1898), she returned to the United States and sang at the Metropolitan Opera, New York (1903–14) She was best known for Wagnerian roles

Fremy, Edmond (ĕdmō' frāmē'), 1814–94, French chemist He was professor of chemistry (from 1850) and director (1879–91) at the Museum of Natural History, Paris His work on iron, steel, sulphuric acid, fats, and vegetable coloring was of industrial importance He also prepared anhydrous hydrogen fluoride, studied fermentation, and originated a process for making artificial rubies He directed the publication of the *Encyclopédie chimique* (10 vols, 1882–94)

French, Alice, pseud **Octave Thanet,** 1850–1934, American novelist, b Andover, Mass She lived for many years in Davenport, Iowa, and most of her stories picture what she observed in Iowa and in Arkansas in the '80s and '90s Two collections of short stories, *Stories of a Western Town* (1893) and *Stories That End Well* (1911), have special interest Of her novels, *Expiation* (1890), *The Missionary Sheriff* (1897), and *The Man of the Hour* (1905) were best known

French, Daniel Chester, 1850–1931, American sculptor, b Exeter, N H, studied in Boston, under Rimmer, and in Florence His first commission, *The Minuteman* (Concord, Mass), was executed when he was 23 Some of the best of his statues and memorials are John Harvard and the bust of Ralph Waldo Emerson (Harvard Univ), *Death and the Young Sculptor*, Milmore Memorial (Boston), bronze doors (Boston Public Library), *Mourning Victory*, Melvin Memorial (Concord, Mass), Lewis Cass (rotunda of the Capitol, Washington, D C), *Dr Gallaudet and His First Pupil* and the heroic Lincoln in the Lincoln Memorial, Washington, D C, groups representing the four continents (customhouse, New York), *Alma Mater* (Columbia Univ), Richard Morris Hunt Memorial and *Memory* (Metropolitan Mus), the standing Lincoln (Lincoln, Nebr), General Oglethorpe (Savannah, Ga), and six heroic figures in the capitol, St Paul, Minn. He executed the impressive figure *The Republic* for the World's Columbian Exposition, Chicago. In collaboration with Edward C. Potter he made the equestrian statues General Grant (Philadelphia), General Washington (Paris), and General Joseph Hooker (Boston) See biography by his daughter, M F Cresson (1947)

French, John Denton Pinkstone, 1st **earl of Ypres** (ē'pur), 1852–1925, British general After long active service in the army, during which he served in the Sudan (1884–85) and in the South African War (1899–1902), he became field marshal in 1913 He commanded the British Expeditionary Force in France and Belgium from the outbreak of the First World War to Dec, 1915, when he was replaced by Sir Douglas Haig His title, bestowed in 1922, commemorates the four-year defense of the Belgian town of Ypres by the British forces He wrote *1914* (1919)

French, river issuing from Lake Nipissing, S Ont, and flowing 50 mi WSW to Georgian Bay of Lake Huron, NW of Parry Sound

French Academy, first and chief constituent of the Institut de France, hence an organism of the French state It was founded (as the Académie française, later Académie française) by Cardinal Richelieu, its nucleus being a coterie of literary men who met informally in the early 1630s to discuss rhetoric and criticism In 1635 the academy received the royal letters patent (registered by the Parlement of Paris in 1637) Its aims included chiefly the governance of French literary effort, grammar, orthography, and rhetoric The number of members was soon fixed at 40 (called often, because of their former motto, "the forty immortals") and was established as self-perpetuating, with a veto of elections reserved to the official *protecteur*, or patron, later to the state The earliest members included Chapelain, Guez de Balzac, Voiture, and Racan The first prominent activity of the society was the criticism of the *Cid* of Corneille After Richelieu's death (1642) the patronate went (1643) to Pierre Séguier, the chancellor, on his death (1672), King Louis XIV assumed the position of *protecteur*, which remained ever after a prerogative of the head of the French state The suppression of the academies in 1793 ended the French Academy, it was seen again in the second class of Napoleon's Institut (1803), and the old name and organization was "restored" in the first division of the Institut of 1816 The work of the French Academy has chiefly consisted of the preparation and revision of a dictionary (1st ed, 1694, 8th ed, 1932–35) and of a grammar (1932) The very conservative attitude of these books toward orthography, new words, and grammatical development has earned much criticism The academy, however, has never claimed to legislate, but simply to record forms, legislation on orthography and grammar under the Third Republic was made a function of the minister of public instruction The awarding of literary prizes has been an important function of the French Academy, and in the 19th cent its nonpartisanship encouraged the general recognition of the academy as a suitable trustee for the distribution of eleemosynary funds and prizes for courage and civic virtue The literary conservatism of the academy has been often judged by the failure of certain writers to attain membership, the most prominent of these are perhaps Molière, La Rochefoucauld, Saint-Simon, Rousseau, Honoré de Balzac, Lamennais, Flaubert, Stendhal, Zola, and Proust But not all omissions from the academy roster are attributable to literary criteria, for personal respectability and loyalty to the existing state have always been conditions of membership The members of the academy have traditionally included eminent Frenchmen of other than literary fame, such were the ecclesiastical historian Duchesne and the generals Foch and Pétain

French and Indian Wars, 1689–1763, the name given by American historians to the North American colonial wars between Great Britain and France in the late 17th and the 18th cent They were really campaigns in the world-wide struggle for empire and were roughly linked to wars of the European coalitions At the time they were viewed in Europe as only an unimportant aspect of the struggle, and, although the stakes were Canada, the American West, and the West Indies, the fortunes of war in Europe had more effect in determining the winner than the fighting in the disputed territory itself To the settlers in America, however, the rivalry of the two powers was of immediate concern, for the fighting meant not only raids by the French or the British but also the horrors of Indian border warfare The conflict may be looked on, from the American viewpoint, as a single war with interruptions The ultimate aim—domination of the eastern part of the continent—was the same, and the methods—capture of the seaboard strongholds and the little Western forts and attacks on frontier settlements—were the same The first of the wars, King William's War, corresponds to the European War of the Grand Alliance (1688–97) It was marked in America principally by frontier attacks on the British colonies and by the taking of Port Royal (now Annapolis Royal, Nova Scotia) by British colonial forces under Sir William Phips in 1690 The British were unable to take Quebec and the French commander,

Frontenac, attacked the British coast. The peace that followed the Treaty of RYSWICK in 1697 was short-lived, and shortly the colonies were plunged into war again Queen Anne's War (1701–13) corresponds to the War of the SPANISH SUCCESSION, The frontier was again washed in blood, the French and Indian raid (1704) on Deerfield, Mass , was especially notable Another British attempt to take Quebec, this time by naval attack, failed Port Royal, and with it ACADIA, fell (1710) to an expedition under Francis Nicholson and was confirmed to the British in the peace treaty (see UTRECHT, PEACE OF), as were the fur-trading posts about Hudson Bay, which had suffered in the long warfare Hostilities lapsed for years until trouble between England and Spain (which had been marked by trouble in the South in Queen Anne's War) led to the so-called War of Jenkins's Ear, which merged into the War of the AUSTRIAN SUCCESSION The American phase, King George's War, did not begin until 1745 In that year a Massachusetts-planned expedition under William PEPPERRELL with a British fleet under Sir Peter Warren took LOUISBURG Border warfare was severe but not conclusive The Treaty of AIX-LA-CHAPELLE (1748) returned Louisburg to France, but the hostile feelings that had been aroused did not die Rivalry for the West, particularly for the valley of the upper Ohio, prepared the way for another war In 1749 a group of Virginians interested in Western lands formed the OHIO COMPANY, and in that same year the French were investigating possibilities of occupying the upper Ohio region The French were first to act, moving S from Canada and founding two forts Robert DINWIDDIE, governor of Virginia, sent two emissaries, young George WASHINGTON and Christopher GIST, to protest The contest between the Ohio Company and the French was now joined and hinged on possession of the spot where the Monongahela and the Allegheny join to form the Ohio (the site of Pittsburgh) Men of the Ohio Company started a fort there but were expelled by the French, who built Fort Duquesne in 1754. Dinwiddie, after attempting to get aid from the other colonies, sent out an expedition under Washington He defeated a small force of French and Indians but had to withdraw and, building Fort NECESSITY, held his ground until forced to surrender (July, 1754) The British colonies, alarmed by French activities at their back door, attempted to correlate their activities in the ALBANY CONGRESS War had thus broken out before fighting began in Europe in the SEVEN YEARS WAR The American conflict, the last and by far the most important of the series, is usually called simply the French and Indian War The British undertook to capture the French forts in the West —not only Duquesne, but also Fort FRONTENAC, Fort NIAGARA, and the posts at TICONDEROGA and CROWN POINT They also set out to take Louisburg and the French cities on the St Lawrence, Quebec and Montreal In their attempts they at first failed The expedition led by Edward BRADDOCK against Duquesne in 1755 was a costly fiasco, and the attempt by Admiral Boscawen against Canada and the first expedition against Niagara were fruitless When the British ministry of the elder William Pitt was reconstituted, Pitt was able to supervise the war in America after 1757 Affairs took a better turn for the British Lord Jeffrey AMHERST in 1758 took Louisburg, where James WOLFE distinguished himself In that year, Gen John FORBES took Fort Duquesne (which became Fort Pitt) The French MONTCALM, one of the great commanders of his time, distinguished himself (1758) by repulsing the attack of James ABERCROMBY on Ticonderoga The next year that fort fell to Amherst In the West too, the hold of Sir William JOHNSON over the Iroquois and the activities of border troops under his general command—most spectacular, perhaps, the rangers under Robert ROGERS—reduced French holdings and influence The war became a climactic fight for the St Lawrence, with Montcalm pitted against the brilliant Wolfe The climax came in the open battle (1759) on the Plains of Abraham (see ABRAHAM, PLAINS OF) Both Wolfe and Montcalm were killed, but Quebec fell to the British In 1760 Montreal also fell, and the war was over The Treaty of Paris in 1763 (see PARIS, TREATY OF) ended French control of Canada, which went with the West to Great Britain The wars had helped to bring about changes in the British colonies. The divergence from the mother country, fundamentally based on the ocean-wide distance, had been accented by differences between the European and the American view of policies in the conflict The preoccupation of the home government with the French threat had allowed the colonies freer range to develop their institutions, while at the same time the colonies had been dependent on British arms and felt immediately less dependent when the war was done In various ways the French and Indian Wars prepared the way for the American Revolution The classic works in English on the conflict are those of Francis PARKMAN See William Wood, *The Passing of New France* (1915), G. M. Wrong, *The Conquest of New France* (1918); L. H Gipson, *The British Empire before the American Revolution*, Vols IV–VII (with individual titles, 1939–49).

French architecture began in the 11th cent. to develop a characteristic national style Based on the patterns of ROMANESQUE ARCHITECTURE, the Norman style, which grew into Gothic, originated in N France (see NORMAN ARCHITECTURE and GOTHIC ARCHITECTURE) After the 15th cent , Italian influence molded in France a Renaissance style (see RENAISSANCE ARCHITECTURE) which was further altered into BAROQUE The late baroque refinement known as ROCOCO was preeminent in France but was supplanted by the EMPIRE STYLE, a form of classic revival The 19th cent in France, as elsewhere, was mostly eclectic, consisting of a number of romantic revivals In the 20th cent , France became a leader in MODERN ARCHITECTURE, producing some of the foremost new designs

French art. Artistic remains in France date back to the Paleolithic age, and abundant examples attest the art of the periods of Roman and barbarian occupation as well as the Christian art of the subsequent Carolingian and Merovingian periods During the Middle Ages artistic production centered about the church and the feudal court In the Romanesque period (11th–12th cent) monasticism encouraged the development of manuscript illumination and the minor arts Important schools of sculpture centered in the regions of Languedoc and Burgundy The hierarchic austerity characteristic of Romanesque conventions was softened in the period of GOTHIC ART (13th–15th cent) by tendencies toward idealization and naturalism These tendencies are manifest in the sculpture of Rheims and Amiens cathedrals, where the figures show greater variety of pose and articulation and are less severely architectonic than those of the preceding Romanesque period Cathedral architecture gave impulse to the development of the art of stained glass which reached its height in such windows as those of the cathedral at Chartres Paris was a center of a school of manuscript illuminators Painting was strongly influenced by Netherlandish and Italian art Toward the end of the Gothic period these influences began to be harmonized in terms of a distinctly national style marked by a taste for formal simplicity and elegance such as is manifest in the works of Jean Fouquet In the 16th cent there was a strong wave of Italian influence Francis I employed Francesco Primaticcio of Bologna as artistic director, and a school of French painters worked in an Italianate manner at the palace of Fontainebleau In the art of the principal sculptor, Jean Goujon, a sense of native grace mitigates the dryness of the imported style During the baroque period (17th and early 18th cent) enthusiasm for classical antiquity, combined with a cult of rationalism, encouraged the development of a monumental and formalized art The most important painters were Nicolas Poussin and Claude Lorrain The movement toward political centralization, culminating in the absolute monarchy of Louis XIV, was attended by aesthetic authoritarianism with a consolidation and control of artistic production in the service of the state The French Academy was chartered in 1635 The Gobelins factory was established in 1661 Typical of the age was the painting of Charles Le Brun and Pierre Mignard and the sculpture of François Girardon, Pierre Puget, and Antoine Covsevox After the ascension of Louis XV, baroque monumentality was replaced by the lighter, more animated spirit of the rococo style, which had early manifestation in the art of J A Watteau Although François Boucher and J H Fragonard succeeded Le Brun as official painters, there was little attempt to impose the decorative sensuous style favored by the court Such artists as the painter J B Chardin and the sculptor J A Houdon exhibited quite independent tendencies Characteristic gracefulness and delicacy prevailed in the minor arts, exemplified in the bronze work of Jacques Caffieri and in Sèvres porcelains produced at the royal potteries established in 1745 at Vincennes and moved to Sèvres in 1753 Toward the end of the century reaction against the frivolity of court art and interest in new archaeological excavations encouraged the rise of the neoclassical style which flourished with state sanction under Directory, Consulate, and Empire As its principal exponent, the painter J L David wielded authoritarian influence over the national taste After neoclassicism, no single style predominated Rather, individual artists gave definition to a variety of movements J A D Ingres succeeded David as leading academician and favored an essentially linear and meticulously finished style in part inspired by a new enthusiasm for the art of the Italian primitives Opposed to the academic discipline were the romantic painters led by Eugène Delacroix. These expressed the liberal and revolutionary tendencies of the age in terms of an emotionally expressive rather than descriptive use of bold brushwork and color effects At the same time that romanticism championed subjective emotion and the taste for exotic subject matter, various currents of realism had notable exponents in Honoré Daumier, J B C. Corot, and Gustave Courbet Revived interest in landscape was manifest in the paintings of the Barbizon school. After the middle of the century, interest in rendering purely visual effects and in expressing transient and accidental aspects of nature resulted in the emergence of the impressionist movement, which was formally launched with the exposition of 1874 Impressionism drew allegiance from a variety of highly individual artists including Manet, Monet, Renoir, Degas, and Pissaro Cézanne drew inspiration from the impressionist group, but rejected their emphasis on transient effects and evolved an independent approach based on the expression of the fundamental characteristics of shapes and spatial effects Toward the end of the 19th cent a post-impressionist reaction against impressionistic naturalism manifested itself in the work of Seurat, Van Gogh, and Gauguin This reaction combined with the influence of Cézanne and a new current of interest in the art of primitive peoples to give rise to the early 20th-century movements of fauvism and cubism The discoveries of Freudian psychology and a reaction after the First World War against the decorative and formal emphasis of the pre-war art resulted in the emergence of the surrealist movement, which became well defined during the 1920s Paris had become the artistic center of Europe in the 19th cent and continued as a cosmopolitan center and source of aesthetic inspiration in the 20th cent Among the leading contemporary artists are Matisse, Rouault, Braque, and Picasso, who although not a French native is to be associated with the school of Paris In comparison with painting, 19th-century sculpture on the whole maintained more conservative trends In the first half of the cent François Rude infused his works with an animation that marked a break with the neoclassic conventions A L Barye, notable for his animal sculptures, and J B Carpeaux, leading sculptor of the time of the Second Empire, exemplify tendencies towards naturalism and an interest in rendering effects of movement that reached their culmination in the second half of the century in the sculpture of Auguste Rodin More conservative and eclectic trends were revealed in the works of Emmanuel Frémiet, Henri Chapu, and P A Bartholomé The end of the 19th and the beginning of the 20th cent saw a reaction against the effects of surface realism and saw new emphasis on movement of the earlier sculpture A new emphasis on relatively static, simplified forms was shown in the works of the leading sculptor, Aristide Maillol The break with the 18th-century tradition effected by the Revolution, combined with increasing substitution of machine for hand labor and the predominance of bourgeois taste, resulted in a marked decline in quality of design and craftsmanship in 19th-century decorative arts On the whole a heavy-handed eclecticism prevailed Various elements from the styles of the Louis XIV and Louis XV periods were combined with surviving neoclassic forms In the 20th cent there was an attempt to revive the craftsman tradition and to introduce nonderivative designs Leading artists such as Maillol and Matisse furnished tapestry and textile designs New tendencies toward simplification and functionalism were manifest in the furniture of the modern style See Edmond Goncourt and Jules Goncourt, *French XVIII Century Painters* (1874, Eng tr , 1949), Louis Dimier, *French Painting in the XVI Century* (1904), Gabriel Mourey, *French Art of the Nineteenth Century* (1928), Charles Terrasse, *French Painting in the Twentieth Century* (1939); R H Wilenski, *Modern French Painters* (1940)

French brier see BRIER

French Broad River, rising in W North Carolina in the Blue Ridge and flowing N to Asheville, then WNW into E Tennessee to a point near Knoxville, where it joins the Holston to form the Tennessee

French Cameroons: see CAMEROONS

French Congo: see FRENCH EQUATORIAL AFRICA

French East India Company. see EAST INDIA COMPANY, FRENCH

French Equatorial Africa, group of four French overseas territories (c 970,000 sq mi , pop c 4,131,000), W Africa. Until 1910 the territories were called French Congo Brazzaville is the capital Of the constituent territories Gabon (or Gabun or Gaboon) and Middle Congo are on the Atlantic coast, Ubangi-Shari and Chad lie inland. The land boundaries of French Equatorial Africa are Niger, Nigeria, French Cameroons, and Rio Muni on the west, Cabinda and Belgian Congo on the south, the Belgian Congo and the Anglo-Egyptian Sudan on the east, and Libya on the north The border with the Belgian Congo is largely marked by the Bornu, Ubangi, and Congo rivers. There is a coastal lowland with important ports at Libreville and Pointe Noire The south has a coastal range and c.300,000 sq mi of tropical forest, which yield rubber and hardwoods The central region, watered by the Ubangi and Shari rivers, produces cotton, coffee, and peanuts. The north is desert with some oases and areas where cattle are grazed There are several short railroads, but transport mainly depends upon a sparse network of roads which connects the coastal towns with the interior and the towns on the Congo. Little European interest was manifested in the area until, following some preliminary

exploration, France founded Libreville in 1849 French authority was gradually extended southward, and by 1894 the present boundaries were established by agreement with other European powers French Equatorial Africa is ruled by a governor general; there is a governor over each constituent territory. In the French parliament one representative sits for Gabon and the Middle Congo and one for Ubangi-Shari and Chad See André Gide, *Travels in the Congo* (Eng tr, 1934)

French Establishments in Oceania (ōshĕn'ēə), colony (1,554 sq. mi., pop 55,734) formed in 1903 to embrace 105 islands constituting the French possessions in the S Pacific, with the capital at Papeete on Tahiti, Society Islands The five main groups in the colony are the SOCIETY ISLANDS, MARQUESAS ISLANDS, TUBUAI ISLANDS, TUAMOTU ISLANDS, and GAMBIER ISLANDS The colony is also called the French Settlements of Oceania and, popularly, French Oceania

French Guiana. see GUIANA.

French Guinea (gĭ'nē), Fr. *Guinée* (gēnā'), overseas territory (c 95,000 sq. mi., pop c 2,125,000), French West Africa, on the Atlantic Ocean Conakry is the capital The territory is bounded on the north by Portuguese Guinea, Senegal, and French Sudan, on the east by the Ivory Coast, and on the south by Sierra Leone and Liberia Products of the swampy coastal zone include bananas and palm oil The interior, comprising plateaus and mountainous regions, produces rubber, lumber, coffee, meat, and hides There are a few modern roads and a railroad Some Portuguese settlements were made along the coast in the 16th cent., but they were soon abandoned because of difficult navigation France gained control in the mid-19th cent., annexing the area under the name Rivières du Sud [rivers of the south] and making it part of Senegal A separate territory was created in 1890 French Guinea is represented in the parliament of France

French horn or **horn**, brass wind musical instrument, consisting of a metal tube of relatively narrow conical bore It was developed out of the 18th-century hunting horn To increase its compass, in the late 18th cent it was made with finger holes and later with crooks, which could be inserted to lengthen it It was given valves in the 1820s, the valve horn was first scored for in Halévy's *La Juive* (1835), but did not supersede the older hand horn (so-called because before the use of valves, stopping by placing the right hand into the bell was an important part of the technique) until later in the century Stopping is now employed for special effects The instrument has a considerable solo literature, is very important in the orchestra, and is difficult to play It is a transposing instrument, the horn in F has been most common since the late 19th cent

French India, overseas territory (193 sq mi., pop 317,259) of France, in India The capital is PONDICHÉRY The territory comprises four settlements, Karikal, Mahé, Pondichéry, and Yanaon (or Yanam), and it formerly included Chandernagor. In 1948 France agreed to allow plebiscites on the question of merger with India, however, the plebiscites were postponed except in CHANDERNAGOR.

French Indo-China see INDO-CHINA.

French language, Romance language. See LANGUAGE (table)

French Lick, resort town (pop 2,042), S Ind., NW of Louisville, Ky Mineral water is obtained from sulphur springs here It was a French trading post in the colonial period

French literature, written in standard modern French and in the earlier forms of the language, dialects of N France This excludes both Provençal with its brilliant poetry and the voluminous Latin literature of medieval France The first French literary monuments are grand court entertainment, the CHANSONS DE GESTE, evoking the history of the Christian West, and the politer Celtic romances of Christian de Troyes Modification of these heroic genres led to the long verse romances and their modifications, e g, the philosophical ROMAN DE LA ROSE and the witty REYNARD THE FOX. Shorter animal satires than this are found in Marie de France and among the fabliaux, anecdotal rhymed pieces which are probably the nearest there is to popular literature of the day. The French lyric had in the 12th to 13th cent. a development like that of the TROUBADOURS, but far less elaborate. Medieval lyric poets include Christine de Pisan, Charles, duc d'Orleans, and the unique François Villon French prose began in the writings of chroniclers and historians, as Villehardouin, Joinville, Froissart, and Comines. In the late Middle Ages the MIRACLE PLAY developed, this was enormously popular and survived into the 16th cent. It has no continuity with later French drama. The Renaissance reoriented French letters toward Italy and the classics; the chief 16th-century writers to combine old French influence with the new ideas are Marot and Rabelais Less in the French tradition are Montaigne, Calvin, and Margaret of Navarre. Reaction against Italian tendencies appeared in the work of Ronsard (and the Pléiade) and the critic Malherbe, in whom is encountered the zeal for the correct word that has marked French writing ever since. The Bourbon monarchy brought stability and prosperity, and Paris became a brilliant cultural center. The 17th cent was the period of French classicism in the theater Corneille, Racine, and Molière; in lyric and satire, Jean de la Fontaine and Boileau, and in fields of prose, Pascal, Mme de Sévigné, Bossuet, Mme de la Fayette, La Rochefoucauld, and La Bruyère Fénelon and the duc de Saint-Simon belong to this age and the next as well. This 17th-century period, the time of the founding of the French Academy and the Comédie Française, has had unique influence on French letters The writers of the time vary among themselves, but all share in having a style that is clear, witty, polished, and restrained and in occupying themselves chiefly with the subtleties of human behavior. The brilliance of classicism induced imitation, and the 18th cent is in imaginative literature a decline, a few of its writers are still read for literary merit, e g, Regnard, Le Sage, Prévost d'Exiles, Beaumarchais, and André Chénier For the most part, however, it is the politico-philosophical content of their writing which maintains their repute, among these are Montesquieu, Diderot, and Alembert of the *Encyclopédie*, Voltaire, Rousseau, Mme de Staël, and Benjamin Constant The Revolution was contemporary with the rise of romanticism, not very different from the analogous literary developments in England and Germany Celebrated figures were Châteaubriand, Bernardin de Saint-Pierre, and Lamartine, Hugo at the apogee, and the poets Musset, Gautier, and Vigny The typically romantic Dumas père and Dumas fils are relegated by critics to a second grade of merit. The first great 19th-century novelists, Mérimée, Stendhal, George Sand, and Balzac, lead out of romanticism into the realism of Flaubert Subsequently the naturalism of Zola proved less successful and contrasted with the narrative virtuosity of Maupassant and Daudet In the 19th cent the "schools" or cliques of writers developed as a feature of Parisian letters—the PARNASSIANS, led by Leconte de Lisle, the circle of the Goncourt brothers, the SYMBOLISTS, who gathered around Mallarmé, and the decadents, who revived Baudelaire The greatest poets often belonged to no one school, such are Verlaine and Rimbaud, Jammes, Péguy, and, especially, Valéry Historical, critical, and polemical prose is always a major field of French letters, important 19th-century figures were the historians Thierry, Michelet, and Guizot, the critics Taine, Sainte-Beuve, Brunetière, and Faguet, and the mordant publicist Anatole France Important playwrights after 1870 were Maeterlinck (a Belgian), Rostand, Cocteau, and Sartre The chief genre of 20th-century French is the novel, intensively cultivated, representative modern novelists are Bourget, Loti, Barrès, Rolland, Colette, Barbusse, Bordeaux, Gide, Giraudoux, the influential Proust, Mauriac, Malraux, Romains, Aragon, and Bernanos See general works by George Saintsbury (1882), Lytton Strachey (1912), Kathleen Butler (1923), Maurice Baring (1928), F. E Guyer (1932), and W A Nitze and E P Dargan (3d ed., 1938), works on the 17th cent by E. F Jourdain (1912), Arthur Tilley (1929), and C. R Bagley (1937); works on the 19th and 20th cent by Pierre de Bacourt and J W. Cunliffe (1923), G N Henning (rev ed, 1935), and M H Stansbury (1935)

Frenchman Bay, inlet of the Atlantic, S Maine, between NE Mt Desert Island and the mainland

French Morocco. see MOROCCO

French North Africa, general name for ALGERIA, French MOROCCO, and TUNISIA From 1923 to 1935 there were annual French North African conferences that sought to establish economic and political cooperation among these territories In 1935 a permanent Mediterranean and North African high commission was created for that task

French Oceania see FRENCH ESTABLISHMENTS IN OCEANIA

French Revolution, the revolution of world importance which began in France in 1789 Students disagree in evaluating the various factors that brought about the cataclysm Among the indirect causes, one of the most important certainly was the rise of capitalism and the commercial expansion of the 17th and 18th cent To some extent at least, the Revolution came not because France was backward, but because her development had advanced too rapidly for constitutional change. In the fixed order of the *ancien régime*, the newly risen bourgeois class was unable to exercise the political and social influence to which its economic position entitled it. Louis XIV, by consolidating absolute monarchy, had destroyed the roots of feudalism, yet its outward forms persisted and became increasingly irritating France was still ruled by the privileged classes—the nobility and the clergy—who supplemented their diminishing funds by augmenting their corruption, while the productive classes bore the costs Discontent was also seething among the entirely new class of industrial workers, for whom there was no place under the old system As for the peasants, their condition had always been wretched, and feudal abuses struck them especially hard. A few serfs still existed in certain provinces in 1789, a larger minority were landowners; for the most part, however, they were tenant farmers, subject to feudal dues, to the avarice of the royal agents who were FARMING the taxes, to the CORVÉE, to military service, tithes, and other impositions Backward agricultural methods and internal tariff barriers caused recurrent famines which netted fortunes to grain speculators The *ancien régime*, economically outdated, was undermined intellectually by the apostles of the "Age of Reason" VOLTAIRE attacked the Church and absolutism, DIDEROT and the ENCYCLOPÉDIE propagated scientific materialism, LOCKE and MONTESQUIEU made English constitutionalism fashionable, and CONDORCET preached the bible of progress Most direct in his influence on revolutionary thought was J J. ROUSSEAU, especially through his dogma of popular sovereignty Economic reform, advocated by the PHYSIOCRATS and attempted (1774–76) by TURGOT, was thwarted by the unwillingness of the nobles and the clergy to sacrifice any privileges The direct cause of the Revolution was the chaotic state of public finance Jacques NECKER vainly sought by economy to reduce the gigantic public debt French participation in the American Revolution increased the debt, and Necker's successor, CALONNE, called an Assembly of Notables (1787), hoping to avert bankruptcy by inducing the privileged classes to share in the financial burden, they refused LOMÉNIE DE BRIENNE succeeded Calonne His attempts to procure money ran afoul of the Parlement of Paris (see PARLEMENT) which forced the calling of the STATES-GENERAL Elections were ordered in 1788, and on May 5, 1789, for the first time since 1614, the States-General met at Versailles The chief purpose of LOUIS XVI and of Necker, who had been recalled, was to obtain the assembly's consent to a general fiscal reform Each of the three estates—clergy, nobility, and the third estate or commons—was encouraged to present its particular grievances to the crown Innumerable *cahiers* (lists of grievances) came pouring in from the provinces, and it became clear that sweeping political and social reforms, far exceeding the object of its meeting, were expected from the States-General The aspirations of the bourgeoisie were fully expressed by SIEYÈS in a widely circulated pamphlet, which implied that the third estate and the nation were virtually identical The question soon arose whether the estates should meet separately and vote by order or meet jointly and vote by head (thus assuring a majority for the third estate) As Louis XVI wavered, the deputies of the third estate defiantly proclaimed themselves the National Assembly (June 17), on their invitation many members of the lower clergy and a few nobles joined them When the king had their meeting place closed, they adjourned to an indoor tennis court and there took an oath (June 20) not to separate until a constitution had been made On June 27 the king yielded and legalized the National Assembly At the same time, however, he surrounded Versailles with troops and let himself be persuaded by a court faction, led by Queen MARIE ANTOINETTE, to dismiss Necker (July 11) A Paris mob, incited by the journalist DESMOULINS, revolted and, on July 14, stormed the BASTILLE prison Louis XVI meekly recalled Necker and sanctioned the establishment of the commune as the new city government of Paris The National Guard was organized under the marquis de LAFAYETTE This first outbreak of violence presently spread throughout France Peasants were burning châteaux and terrorizing their landlords, while the government, afraid of bloodshed, stood by powerless On Aug 4 the nobles and clergy in the Assembly, driven partly by terror, partly by a hysterical outburst of generosity, relinquished all their privileges, abolishing in one night the entire feudal structure of France Radical political clubs, notably the JACOBINS, were gaining strength in Paris Rumors of counterrevolutionary court intrigues were circulated, and on Oct 5, 1789, a Parisian mob, probably incited by agents of the radical Louis Philippe, duc d'ORLÉANS, marched to Versailles Lafayette was barely able to save the lives of the king and the queen, who were taken to the Tuileries palace in Paris The Assembly was also removed to Paris Louis XVI was now virtual prisoner of the commune Honoré de MIRABEAU, the unofficial leader of the Assembly, foreseeing the uncontrolled revolution that the king's weakness was about to unleash, vainly strove to restore strength to the executive branch. But the Constituent Assembly (as the National Assembly was called in its new capacity) was working in the opposite direction, drafting a constitution which reduced the executive to impotence. The DECLARATION OF THE RIGHTS OF MAN was reluctantly approved by the king, the constitution itself, completed in 1791, created a limited monarchy with a unicameral legislature elected by voters with property qualifications Of gravest consequence were the Assembly's antireligious measures. Church lands were nationalized (1789), religious orders suppressed (1790), and the clergy required (July, 1790) to take oath on the state-controlled Civil Constitution of the Clergy. Few priests obeyed; troubles broke out, especially in the pious rural districts,

and Louis XVI, though forced to assent, was shaken out of his apathy by his bitterness at the loss of his personal freedom of worship Numerous princes and nobles had already fled abroad (see ÉMIGRÉS), Louis decided to join them and to get foreign aid to restore his authority The flight (June 20–21, 1791) was arrested at Varennes, and the king and queen were brought back in humiliation Louis accepted the constitution On Oct 1, 1791, the Legislative Assembly convened Its right wing consisted of FEUILLANTS, who also held the cabinet posts, most deputies were middle-of-the-roaders, whose indecision was exploited by the Jacobins and their offshoots, the GIRONDISTS and the CORDELIERS Jacobinism was gaining, Liberty, Equality, Fraternity, became the watchword, the SANS-CULOTTES adopted workingmen's dress, red bonnets were worn to symbolize the new era, liberty poles were set up. Meanwhile the early sympathy abroad for the Revolution was turning to hatred Émigrés were inciting the courts of Europe to intervene, in France, war was advocated by the royalists as a means to restore the old regime and also by most republicans, who either wished to spread the revolution abroad or hoped that the threat of invasion would rally the nation to their cause The Feuillant ministers fell and were succeeded by Girondists On April 20, 1792, war was declared on Austria, and the FRENCH REVOLUTIONARY WARS began Early reverses and rumors of treason by the king brought on the abortive insurrection of June 20 and the fatal one of Aug 10, 1792, when a mob stormed the Tuileries and massacred the royal Swiss guards The Assembly, with which the royal family sought asylum, suspended Louis XVI and ordered elections for a new body, the National Convention Meanwhile the Paris commune, dominated by DANTON and MARAT, assumed all police power Mass arrests of royalist sympathizers were followed (Sept 2–3) by the September massacres, in which "spontaneous" mobs entered jails throughout France and killed hundreds of prisoners On Sept 21, 1792, the Convention held its first meeting It immediately abolished the monarchy, set up the First Republic, and proceeded to try the king for treason His conviction and execution (Jan , 1793) provoked royalist insurrections, notably in La VENDÉE, and resulted in England's joining the war The Convention undertook the foreign wars with vigor but was itself torn by the struggle between the Girondists and the MOUNTAIN (Jacobins and extreme left) The Girondists were crushed (June, 1793) largely through the efforts of Marat and of ROBESPIERRE, who now controlled the Jacobins A republican constitution was adopted, but it never became active, instead the Convention established a dictatorship operating through the Committee of Public Safety, the Committee of General Security, and numerous agencies such as the Revolutionary Tribunal The REIGN OF TERROR began Thousands of royalists, Girondists, and mere suspects fell before the guillotine After the execution of Marie Antoinette (Oct , 1793), Robespierre began to strike at his own ranks The duke of Orléans was one of the first to go, Jacques René HÉBERT, who at the head of the commune had embarked on wild reforms, changing the calendar and introducing the worship of a goddess of Reason, fell in his turn in March, 1794, and Danton, who had tried to limit the butchery, was guillotined in April The Terror also took on economic aspects Maximum prices and wages were fixed, and acceptance of the inflated paper currency, the ASSIGNATS, was severely enforced Robespierre even tried to impose his religious convictions, proclaiming (June, 1794) the cult of the Supreme Being The final excesses of the Great Terror frightened the Convention into the coup of 9 THERMIDOR (July 27, 1794), Robespierre was executed (July 28) and a period of relative reaction set in The new constitution of 1795, setting up the DIRECTORY and a bicameral legislature, went into effect after the insurrection of VENDÉMIAIRE (Oct , 1795) had been put down The rule of the Directory was marked by corruption, incompetence, bankruptcy, and constant intrigues The fantastic communist conspiracy of BABEUF was nipped in the bud, but the coup d'état of 18 FRUCTIDOR (Sept 4, 1797) resulted in a reorientation of the Directory toward the left Military reverses (1799) brought France to the brink of disaster, when Napoleon Bonaparte, the hero of the Italian campaign, returned from his Egyptian expedition and, with the support of the army and several government members, overthrew the Directory on 18 BRUMAIRE (Nov 19, 1799) and established the CONSULATE Until the RESTORATION of the Bourbons (1814), NAPOLEON I was the real ruler of France The French Revolution, though it seemed a failure in 1795 and appeared nullified in 1815, actually had incalculable effects In France, the bourgeois and capitalist class was established as the dominating power, feudalism was dead, social justice was introduced by the CODE NAPOLÉON, and Paris became the center of European liberal thought The Revolutionary and Napoleonic Wars tore down the ancient structure of Europe, hastened the advent of nationalism, and inaugurated the era of modern, total warfare. In the arts and literature, romanticism received a powerful impetus. The attempts during the Restoration and the HOLY ALLIANCE to undo the Revolution resulted in the upheavals of 1830 and 1848, and the attempts of the proletariat to gain advantages from the Revolution of 1789, though they failed, foreshadowed the emergence of MARXISM in the 19th cent Partisanship among historians of the French Revolution still is the rule, and interpretations differ widely See the older works by MIGNET, THIERS, MICHELET, LAMARTINE, TOCQUEVILLE, LOUIS BLANC, QUINET, and TAINE, the great modern studies by AULARD and MATHIEZ, the diplomatic history by Albert SOREL, the Socialist interpretation of JAURÈS, Pierre Gaxotte, *La Revolution française* (1928, in French), a royalist account The classical but inaccurate English work is by Thomas CARLYLE See also Louis Madelin, *The French Revolution* (Eng tr , 1916), C D Hazen, *The French Revolution* (1932), L R Gottschalk, *The Era of the French Revolution* (1929), Crane Brinton, *A Decade of Revolution* (1934), J H Thompson, *The French Revolution* (1945) On the historiography of the French Revolution, see Paul Farmer, *France Reviews Its Revolutionary Origins* (1944)

French Revolutionary calendar, the official CALENDAR of France, Nov 24, 1793–Dec 31, 1805 Its introduction was decreed by the Convention on Oct 5, 1793, but it was computed from Sept 22, 1792, the autumnal equinox and the day after the proclamation of the republic Supposedly philosophical in its basis, it was divided into 12 months of 30 days (their names were invented by FABRE D'ÉGLANTINE) Vendémiaire (vintage month), Brumaire (fog), Frimaire (sleet), Nivôse (snow), Pluviôse (rain), Ventôse (wind), Germinal (seed), Floréal (blossom), Prairial (pasture), Messidor (harvest), Thermidor or Fervidor (heat), and Fructidor (fruit) The remaining five days, called sans-culottides, were feast days, they were named for the Virtues, Genius, Labor, Reason, and Rewards, respectively In leap years (the years III, VII, and XI) the extra day, the last of the year, was Revolution Day The first day of the year (1 Vendémiaire) of year I, II, III, V, VI, and VII fell on Sept 22 of the corresponding year A D , in the years IV, VIII, IX, X, XI, XIII, and XIV, it fell on Sept 23, in the year XII, it fell on Sept 24 There was no week, the months being divided into three decades, with every 10th day (*décadi*) a day of rest For the outstanding events known by the names of the revolutionary months in which they occurred, see VENDÉMIAIRE, BRUMAIRE, THERMIDOR, FRUCTIDOR

French Revolutionary Wars, 1792–1802 The FRENCH REVOLUTION aroused in foreign lands the hostility of monarchs, nobles, and clergy, who feared the spread of republican ideas to the lower classes abroad Ceaseless ÉMIGRÉ intrigues in 1791 led the Austrian and Prussian rulers to make the declaration of Pillnitz, stating that the cause of the French monarch was common to all the crowned heads of Europe French public opinion was aroused When the Girondists obtained control of the Assembly, an ultimatum was sent to Emperor Francis II, demanding that he withdraw his troops from the frontier and expel the émigrés from his dominions War was almost inevitable It was desired by the republicans, who—with the notable exceptions of Robespierre and Marat—believed that war would sweep aside the Bourbons and propagate the revolution abroad, and by the royalists, who hoped that victory would restore Louis XVI to popularity On April 20, 1792, the king declared war on Austria Opposed only by undisciplined bands of French soldiers, the allied Austrian and Prussian forces under CHARLES WILLIAM FERDINAND, duke of Brunswick, quickly crossed the frontier and began to march on Paris An allied manifesto, threatening to raze Paris if the royal family were harmed, enraged the revolutionists and led to suspension of the monarchy The comte de ROCHAMBEAU, commanding the northern sector, and the marquis de LAFAYETTE, commanding the center, resigned Their able successors, the generals DUMOURIEZ and KELLERMANN, turned the tide when they repulsed the invaders at Valmy (Sept 20, 1792) Dumouriez now advanced on the Austrian Netherlands (Belgium), which he seized after winning the battle of Jemappes (Nov 6), while CUSTINE captured Mainz and advanced on Frankfurt Late in 1792 the Convention proclaimed the French determination to carry the Revolution to the oppressed of all Europe This and the execution of Louis XVI provoked Great Britain, Holland, and Spain to join Austria and Prussia in the First Coalition against France Sardinia had already declared war after France had seized Savoy and Nice (Sept , 1792) On Feb 1, 1793, France declared war on England and Holland, and on March 7, on Spain Things rapidly turned against France Dumouriez, defeated at Neerwinden (March 18) by the Austrians under Frederick of Saxe-Coburg, deserted to the enemy, revolt broke out in the VENDÉE, and Custine lost Mainz to the Prussians (July 23). In the emergency the first Committee of Public Safety was created (April 6), and a *levée en masse* (universal conscription) was decreed in August. The committee, guided by the genius of Lazare CARNOT, raised 14 new armies, revolutionary commissioners were attached to the commands, defeated generals, like Custine, were executed "to encourage the others" These energetic measures soon bore fruit By the end of 1793 the allies had been driven from France In 1794 the new French commanders, JOURDAN and PICHEGRU, took the offensive. Jourdan, having defeated the Austrians at Fleurus (June 26, 1794), drove S along the Rhine as far as Mannheim, Pichegru seized the Low Countries On May 16, 1795, Holland, now transformed into the BATAVIAN REPUBLIC, made peace Prussia on April 5, 1795, signed a separate peace (the first Treaty of Basel), ceding the left bank of the Rhine to France, Spain made peace on July 22 (second Treaty of Basel) Warfare against Austria and Sardinia continued under the newly established Directory Carnot gradually evolved a plan calling for a three-pronged attack Jourdan was to advance southeastward from the Low Countries, Jean Victor MOREAU was to strike at S Germany, and Napoleon Bonaparte was to conquer Piedmont and Lombardy, cross the Austrian Alps, and join with Moreau and Jourdan During 1795, the French overran Baden, Württemberg, and Bavaria, but in 1796 the new Austrian commander, Archduke CHARLES, took the offensive, defeating first Jourdan, then Moreau, both of whom had retreated to the Rhine by Sept , 1796 On the Italian front, where a starving French army had been engaged in desultory and defensive operations until Bonaparte's arrival in 1796, one victory followed another (for details of the Italian campaign, see NAPOLEON I) Sardinia submitted in May, 1796, and in April, 1797, the preliminary peace of Leoben with Austria was signed by Bonaparte, just as Moreau had resumed his offensive in Germany The armistice was confirmed by the Treaty of CAMPO FORMIO (Oct , 1797) England, however, remained in the war, retaining naval superiority thanks to such able commanders as Samuel HOOD, Earl HOWE, John JERVIS, and Horatio NELSON Bonaparte's plan to attack the British Empire by way of Egypt was doomed by Nelson's naval triumph at Aboukir in Aug , 1798 Meanwhile, France again aroused the ire of the European powers by creating the CISALPINE REPUBLIC and the Roman Republic (see PAPAL STATES) and by invading Switzerland, which was transformed into the HELVETIC REPUBLIC Under the leadership of Tsar Paul I a Second Coalition was formed by Russia, Austria, England, Turkey, Portugal, and Naples Naples was defeated and transformed into the PARTHENOPEAN REPUBLIC (Jan , 1799), but in N Italy the Austrians and the Russians drove out the French, and in Aug , 1799, General SUVAROV crossed the Alps into Switzerland, where Archduke Charles had already won a victory at Zurich over MASSÉNA (June 4–7) However, disunity between the Austrians and the Russians resulted in disastrous defeats in Switzerland, and Suvarov, after a masterly retreat through the Alps, returned to Russia (Sept Oct , 1799) At this juncture, Bonaparte returned from Egypt and by the coup d'état of 18 Brumaire established himself as First Consul (Nov , 1799) The coalition was weakened by Russia's withdrawal, and Napoleon feverishly prepared a campaign to recoup French losses The campaign of 1800 was decisive In Italy, Napoleon, after crossing the St Bernard Pass, crushed the Austrians at Marengo (June 14), in Germany, Moreau crossed the Rhine and demolished allied opposition at Hohenlinden (Dec 3, 1800) With the Peace of Lunéville—a more severe version of the Treaty of Campo Formio— Austria was forced out of the war (Feb 9, 1801) Great Britain, however, continued victorious, taking Malta (Sept , 1800) and compelling the French to surrender in Egypt (Aug , 1801) When Denmark, encouraged by France, defied British supremacy of the seas, Lord Nelson destroyed the Danish fleet in the battle of Copenhagen (April 2, 1801) Nevertheless, England was war-weary and, after Pitt's retirement, consented to the Treaty of Amiens (March 27, 1802), by which all conquests were restored to France Malta was to be restored to the Knights Hospitalers (England's refusal to execute this stipulation was to lead to the resumption of warfare in 1803, see NAPOLEON I) Peace had already been made with Naples (March, 1801) and with Portugal (Sept , 1801), and in Oct , 1802, France signed a treaty restoring Egypt to Turkey The chief results of the French Revolutionary Wars were the triumph of the French Revolution, the emergence of national armies, and the rise of Napoleon

French Settlements of Oceania: see FRENCH ESTABLISHMENTS IN OCEANIA

French Somaliland. see SOMALILAND, FRENCH.

French Sudan (sōōdăn'), officially **Soudan,** French overseas territory (c 470,000 sq mi , pop c 3,797,000), French West Africa The capital is Bamako. French West Africa is surrounded by French territory Senegal and Mauritania are on the west, Algeria is on the north, Niger is on the east, and Upper Volta, the Ivory Coast, and French Guinea are on the south In the south, traversed by the Niger and Senegal rivers, there are fertile areas where peanuts, corn, sesame, and cotton are raised.

Elsewhere the country is arid and at most supports grazing. Exports travel by rail to Dakar French conquest of the region was completed in 1896 Today the territory is represented in the French parliament.

Frenchtown, borough (pop 1,238), W N J , on the Delaware and W of Flemington, inc. 1867

French Union, Fr *Union Française* (ünyō' frāsĕz'), name given by the French constitution of 1946 to the political organism composed of the French republic and associated states The French republic consists of Metropolitan France (i e , the 90 departments of continental France and Corsica), of the government general of Algeria (divided into the three overseas departments of North Algeria and the territories of South Algeria), of the overseas departments of Martinique, Guadeloupe, Réunion, and French Guiana, of the overseas territories of French West Africa, French Equatorial Africa, Madagascar, Comoro Islands, French Somaliland, the French Settlements in India (i e , Pondichéry, Karikal, Mahé, and Yanaon), New Caledonia, the French Settlements in Oceania, and Saint-Pierre and Miquelon, of Togoland and the Cameroons, held under United Nations trusteeship, and of the Anglo-French condominium of the New Hebrides The associated states in the French Union are the protectorate of Morocco, the protectorate of Tunisia, and Indo-China (including, as of 1950, Viet Nam, Cambodia, and Laos) The president of the French republic is also president of the French Union He presides over the high council of the French Union, composed of representatives of the French government and of the associated states The assembly of the French Union is a representative body, half of its members represent Metropolitan France, the other half represent the overseas departments and territories and the associated states The high council and the assembly of the French Union should not be confused with the council of the republic and the national assembly, which constitute the upper and lower chambers of the French republic. The overseas departments and the French citizens residing in the overseas territories are, however, represented (as of 1950) by 75 deputies in the national assembly and by 65 members in the council of the republic

Frenchville, town (pop 1,566), NE Maine, on the St John below Fort Kent, in a potato area, settled by Acadians, inc 1869

French West Africa, group of eight French overseas territories (c 1,800,000 sq mi , pop c 15,996,000) The capital is Dakar The constituent territories (all individually represented in the French parliament) are DAHOMEY, FRENCH GUINEA, FRENCH SUDAN, IVORY COAST, MAURITANIA, NIGER, SENEGAL, and UPPER VOLTA French West Africa is ruled by a governor general.

French West Indies see WEST INDIES

Freneau, Philip (frēnō'), 1752–1832, American poet and journalist, b New York City, grad Princeton, 1771, classmate of James Madison During the Revolution, Freneau served as soldier and privateer, and out of his capture and imprisonment aboard the brig *Aurora* in 1780 came his poem "The British Prison Ship " Later he returned to the sea twice as a captain (1785–89, 1802–4) Our first professional journalist, he was a powerful propagandist and satirist for the American Revolution and Jeffersonian democracy He edited various papers, including the partisan *National Gazette* (Philadelphia, 1791–93), for Jefferson He was usually involved in editorial quarrels, and, influential though he was, none of his papers was profitable His political and satirical poems now have value only for the historian, but his place as the earliest important American lyric poet is secured by such poems as "The Wild Honeysuckle," "The Indian Burying Ground," and "Eutaw Springs " He lived his last years in retirement near Monmouth, N J , and died when he lost his way in a snowstorm See his *Poems* (ed by F L Pattee, 3 vols , 1902–7) and *Last Poems* (ed by Lewis Leary, 1946), definitive biography by Lewis Leary (1941)

Frenssen, Gustav (gōō'stäf frĕn'sun), 1863–1945?, German novelist His writings are drawn from the life of a Holstein village where he served as pastor until 1902 His sober though poetic novels, with political and theological infusions, include the highly successful *Jörn Uhl* (1901, Eng tr , 1905), *Holyland* (1905, Eng tr , 1906), *Peter Moor's Journey to Southwest Africa* (1907, Eng tr , 1908), *Klaus Heinrich Baas* (1909, Eng tr , 1911), and *The Pastor of Poggsee* (1921, Eng tr , 1931) Other translated works are *Village Sermons* (1899, Eng tr , 1924) and the autobiographical *The Anvil* (1926, Eng tr , 1930)

frequency see RADIO FREQUENCY, SOUND, VIBRATION, WAVE

frequency modulation, method of radio transmission and reception perfected by Edwin H ARMSTRONG and usually referred to as FM, in contrast to AM or amplitude modulation, the older system. Frequency modulation eliminates noise and provides great improvement in fidelity The basic difference between the two types of operation is that in an AM transmission the carrier wave is constant in frequency and varies in amplitude (strength) according to the sounds present at the microphone, while in FM the carrier is constant in amplitude and varies in frequency Constant amplitude is the element responsible for FM's noise-reducing feature, since most noise is manifested in amplitude variations and FM receivers are insensitive to these This condition is achieved by the inclusion of limiter and discriminator stages, the circuits of which are responsive only to changes in carrier frequency The radio detector can perform in a single stage the same function as the limiter-discriminator combination and is often favored for this saving in space and materials The other stages of an FM receiver are similar in operation to corresponding parts of an AM receiver, although more care is required in their design and assembly if FM's advantages of noise reduction and higher fidelity are to be realized

Frere, Sir Henry Bartle Edward (frēr), 1815–84, British diplomat and administrator, nephew of John Hookham Frere He distinguished himself in India (particularly in the Sepoy Rebellion) and was (1862–67) governor of Bombay In 1872 he negotiated a treaty with the sultan of Zanzibar for the abolition of the slave trade As governor of Cape Colony and high commissioner of British South Africa (1877–80) Frere had to deal with the Zulu War and trouble with the Kafirs and Boers See biography by John Martineau (1895)

Frere, John Hookham, 1769–1846, English satirist, diplomat, and translator He was a member of Parliament (1796–1802), and he and his friend George Canning wrote brilliant parodies and satires for the political newspaper, the *Anti-Jacobin* (1797) He was undersecretary of state (1799–1800) and minister to Lisbon (1800–1802) and Madrid (1802–4, 1808–9) He was recalled after the British military failures in the Peninsular War in 1809 Thereafter he devoted himself to writing and lived mostly in Malta Frere's best work is in his metrical translations from Aristophanes (*The Acharnians, The Birds, The Frogs, The Knights*—all 1839) See his works with a memoir by Sir Bartle Frere (1874)

Fréret, Nicolas (nēkôlä' frārā'), 1688–1749, French scholar He was imprisoned in the Bastille (1714–15) for maintaining, in a paper for the Academy of Inscriptions, that the Franks were in origin a Germanic people (as they were) instead of a people of Greco-Latin descent (as the French believed they were) In retirement after his release, he devoted himself to his studies and was one of the first Europeans to study Chinese In 1742 he became permanent secretary of the academy

Fréron, Élie (ālē' frārō'), 1719–76, French critic and journalist His critical journal, *Année littéraire,* virulently attacked the *philosophes* of the Enlightenment, and Voltaire made him a butt of his jokes Particularly well-known is Voltaire's quatrain.

L'autre jour, au fond d'un vallon,
Un serpent mordit Jean Fréron
Que pensez-vous qu'il arriva?
Ce fut le serpent qui creva!

Fréron, Louis Marie Stanislas (lwē' marē' stänēsläs'), 1754–1802, French revolutionist, son of Élie Fréron He founded (1790) the radical journal, *Orateur du peuple,* became a member of the Convention, and took a part in the Reign of Terror, but after the fall of Robespierre (1794) he sided with the Thermidorian reaction He died as a member of the expedition to Haiti

fresco (frĕ'skō) [Ital ,=fresh], in its pure form the art of painting upon damp, fresh, lime plaster In Renaissance Italy it was called *buon fresco* to distinguish it from *fresco secco,* which was executed upon dry plaster with pigments having a glue or casein base In true fresco the binder is provided by the lime of the plaster, this in drying forms a calcium carbonate which incorporates the pigment with the material of the wall During the Renaissance it was customary to prepare cartoons of the same dimensions as the contemplated fresco These were transferred by pouncing to the rough plastered wall On this, the finish coat of plaster (*intonaco*) made of fine sand, lime, and marble dust was applied in small sections daily On each section while it was damp a part of the drawing was transferred and painted Any portion not completed at the end of the day was scraped off A large fresco therefore consists of many small sections each painted in a day and often planned to coincide with the contours of objects represented to make the joinings inconspicuous As not all colors are lime proof, fresco does not permit as large a palette as oil, nor can it rival the freedom of manipulation and delicate transitions of oil as a medium But these very limitations are often advantageous in mural decoration, for which its clear luminous color, fine surface, and permanence make it an ideal medium The technique has not altered substantially since the 15th cent , when it was widely practiced by most of the great masters of the Italian Renaissance Neglected in the 19th cent , fresco was revived in the 20th by such artists as Diego Rivera, José Clemente Orozco, Portinari, and many other mural painters

Frescobaldi, Girolamo (jĕrō'lämō frāskōbäl'dē), 1583–1644, Italian organist and composer, from childhood a prodigious performer He was organist at St Peter's in Rome from 1608 until near the end of his life, and huge audiences came to hear him play and improvise Through his pupil Froberger, who carried his style to Germany, he was a strong influence on German organists and composers through the time of Bach He composed five-part madrigals and works for organ, the latter being of greater significance

Freshfield, Douglas William, 1845–1934, British explorer and mountaineer A prominent member of the Royal Geographical Society, he did pioneer climbing in the Caucasus, the Himalayas, and the mountainous regions of many other countries He edited (1872–80) the *Alpine Journal* and wrote *The Exploration of the Caucasus* (1896), *Italian Alps* (1875, new ed , 1937), *Round Kangchenjunga* (1903), a biography of H B de Saussure (1921), and *Below the Snow Line* (1923)

Freshwater, bathing resort, on the Isle of Wight, England, E of the Needles "Farringford," Tennyson's residence, is near here

Fresnel, Augustin Jean (ōgustē' zhä' frānĕl') 1788–1827, French physicist and engineer He is known for his research on light, especially on conditions governing interference phenomena in polarized light and on double refraction His work supported the wave theory of light and the concept of transverse vibrations in light waves, which he analyzed mathematically He devised a method of producing circularly polarized light and promoted the replacement of mirrors by compound lenses in lighthouses He served as a government engineer during most of his career

Fresnillo (frāsnē'yō), city (pop 24,614), Zacatecas, N central Mexico Founded in 1554 by Francisco de IBARRA, Fresnillo became, with Zacatecas, the center of a fabulously rich mining area, especially for silver It is the seat of a well-known mining school

Fresno (frĕz'nō), city (pop 60,685), co seat of Fresno co , S central Calif , near the San Joaquin and the Fresno rivers, founded 1872, inc 1885 It is a railroad, processing, marketing, and shipping center in the fertile San Joaquin Valley, particularly a center of the dried fruit and sweet-wine industry The county produces large quantities of grapes, raisins, and figs The city's manufactures include clothing, cottonseed and olive oil, and machinery Fresno State College (coeducational, 1911) is here

Fretum Herculeum see GIBRALTAR

fretwork, architectural or interior feature in decorative openwork It may be flat, when the design is executed with a fret saw and the work related to scroll sawing, or in relief carving, much employed in Eastern countries The patterns may embody the allover frets of the Orient, characters in Arabic or Persian, or the more familiar Greek fret designs in various adaptations, all lending themselves readily to such work

Freud, Sigmund (froid, Ger zēk'mōont froit'), 1856–1939, Austrian psychiatrist, founder of PSYCHOANALYSIS Born in Moravia, he lived most of his life in Vienna, receiving his medical degree from the university in 1881 With the National Socialist occupation of Austria, Freud fled (1938) to England, where he died His medical career began with studies (1885–86) under J M Charcot in Paris, soon after his return to Vienna he began his famous collaboration with Josef Breuer on the use of hypnosis in the treatment of hysteria Their paper, *On the Psychical Mechanism of Hysterical Phenomena* (1893, Eng tr , 1909), more fully developed in *Studien über Hysterie* (1895), marked the beginnings of psychoanalysis by the discovery that the symptoms of hysterical patients—directly traceable to psychic trauma in earlier life—represent undischarged emotional energy (conversion) The therapy, called the cathartic method, consisted of having the patient recall and reproduce the forgotten scenes while under hypnosis This work was poorly received by the medical profession, and the two men soon separated over Freud's growing conviction that the undefined energy causing conversion was sexual in nature Freud then rejected hypnosis and devised a technique called free association (see ASSOCIATION), which would allow emotionally charged material which the individual had repressed in his unconscious to emerge to conscious recognition Further works, *The Interpretation of Dreams* (1900, Eng tr , 1913), *The Psychopathology of Everyday Life* (1904, Eng tr , 1914), and *Three Contributions to the Sexual Theory* (1905, Eng tr , 1910), increased the bitter antagonism against Freud, and he worked alone until 1906, when he was joined by the Swiss psychiatrists Eugen Bleuler and C G Jung, the Austrian Alfred Adler, and others In 1908 Bleuler, Freud, and Jung founded the journal *Jahrbuch für psychoanalytische und psychopathologische Forschungen,* and in 1909 the movement first received public recognition when Freud and Jung were invited to give a series of lectures at Clark Univ , Worcester, Mass In 1910 the International Psychoanalytical Association was formed with Jung as president, but the harmony of the movement was short-lived; between 1911 and 1913 both Jung and Adler resigned,

forming their own schools in protest to Freud's emphasis on infantile sexuality and the Oedipus complex Although these men, and others who later broke away, disclaim the Freudian theories, the basic structure of analysis is still Freudian, and disagreement lies in the degree of emphasis placed on concepts largely originated by Freud. He considered his last contribution to psychoanalytic theory to be *The Ego and the Id* (1923, Eng tr., 1927), after which he reverted to earlier cultural preoccupations *Totem and Tabu* (1913, Eng tr., 1918), an investigation of the origins of religion and morality, and *Moses and Monotheism* (1939, Eng tr , 1939) are the result of his application of psychoanalytic theory to cultural problems Freudian theory has had wide impact, influencing anthropology, education, and art and literature (see SURREALISM and EXPRESSIONISM) Other works include *A General Introduction to Psychoanalysis* (1910, Eng tr , 1920) and *New Introductory Lectures on Psycho-analysis* (1933) See his *Basic Writings* (tr and ed by A A Brill, 1938) and his autobiography (1925, Eng tr , rev ed , 1935), Fritz Wittels, *Freud and His Time* (1931), Theodor Reik, *From Thirty Years with Freud* (Eng tr., 1940)

Frey and Freyja (frī, frī'yŭ), Scandinavian god and goddess, brother and sister, deities of fertility, love, and matrimony and of light and peace Frey's chief shrine was at Uppsala, Sweden Freyja appears in legend riding a pig or drawn by cats Freyja and FRIGG were easily confused, and Freyja gradually supplanted the other

Freycinet, Charles de (shärl' dŭ frāsēnā'), 1828–1923, French statesman Elected to the senate (1876), he shared in a number of cabinets at various posts—public works, foreign affairs, war, and premier He worked for rapprochements with England and Russia (see TRIPLE ALLIANCE AND TRIPLE ENTENTE), and in 1894 a Franco-Russian military convention was signed Freycinet was minister of war when (1899) a second court-martial convicted Alfred Dreyfus of treason (see DREYFUS AFFAIR)

Freycinet, Louis Claude Desaulses de (lwē' klōd' dūsōls'), 1779–1842, French marine officer He was assigned (1800) to a French exploring expedition in Australian waters and after his return (1805) to Paris edited the maps and reports of the trip In 1817, accompanied by Arago and other scientists, he sailed in command of the *Uranie* to make observations in geography, ethnology, astronomy, and meteorology and to collect specimens of flora and fauna After visiting Australia and the Marianas, Hawaiian, and other Pacific islands, Freycinet lost his ship off the Falkland Islands The expedition's records and collections were saved, and Freycinet returned to Paris in 1820 He edited the scientific findings and the narrative of the journey, which appeared as *Voyage autour du monde* (13 vols , 1824–44)

Freyre, Gilberto (jēlbĕr'tō frā'ru), 1900–, Brazilian sociologist and anthropologist, b Recife, Pernambuco, grad. Baylor Univ , 1920, M A. Columbia, 1922 He taught and traveled much and gave lectures in many countries, especially in the United States For opposition to the government he was briefly imprisoned in 1934, but he was even then highly honored in Brazil He established himself with world-wide note as a social historian His linked masterpieces, *Casa grande e senzala* (1933, Eng tr , *The Masters and the Slaves*, 1946) and *Sobrados y mucambros* (1936), are an anthropological and social history of the plantation system of NE Brazil One of his many other works is *Brazil: an Interpretation* (1945, written in English).

Freytag, Georg Wilhelm Friedrich (grā'ŏrk vĭl'hĕlm frē'drĭkh frī'tak), 1788-1861, German Orientalist He compiled an Arabic-Latin lexicon (4 vols , 1830–37) and translated and edited several Arabic works

Freytag, Gustav (gōō'stäf frī'täk), 1816–95, German novelist and playwright He taught at the Univ of Breslau, edited the *Grenzboten* (1848–61), and, after writing several successful plays, produced *The Journalists* (1852, Eng tr , 1888), an adroit comedy of small-town life and politics which is his most lasting work for the stage Among his other works, best known today are his novels *Soll und Haben* (1855, Eng tr , *Debit and Credit*, 1856) and *Die verlorene Handschrift* (1861, Eng tr , *The Lost Manuscript*, 1865) and his *Technique of the Drama* (1863, Eng tr , 1895) Freytag also published an ambitious series of novels based on German history, *Die Ahnen* (1872–80; Eng. tr of selections, *Ingo*, 1873, and *Ingraban*, 1873), and works of history, criticism, and biography.

Friant Dam, central Calif , in the San Joaquin river, E of Fresno; completed 1944. It is 320 ft high and 3,430 ft long. The reservoir, Millerton Lake, attracts fishermen Friant Dam, the Madera Canal, and the Friant-Kern Canal are part of the CENTRAL VALLEY PROJECT.

friar, member of one of certain Roman Catholic religious orders, notably the DOMINICANS (Black Friars), FRANCISCANS (Gray Friars), CARMELITES (White Friars), and Austin Friars (see AUGUSTINIANS). They differ from monks in their goal, to extend the Christian life throughout society, and in the highly centralized organization. Originally they owned no property corporately—hence the term "mendicant orders" for them. This restriction was removed by the Council of Trent. See MONASTICISM.

friar's balsam, a tincture (alcoholic solution) of BENZOIN, storax, aloes, and tolu balsam. It is known in pharmacy as *Tinctura benzoini composita* and is used medicinally for wounds, abrasions, and ulcers, and in certain throat infections BENZOIC ACID is the chief active agent

Fribourg (frī'bŭrg, Fr frēbōōr'), Ger *Freiburg* (frī'bōōrk), canton (645 sq mi , pop 152,053), Switzerland, on the northern slopes of the Alps. It is known for its cheese and cattle Its original settlement and present capital is **Fribourg** (pop 26,045), a picturesque town on the Sarine river There are diversified food industries Fribourg was founded in 1157 by a duke of Zähringen, then passed successively to the houses of Kyburg, Hapsburg, and Savoy and in 1481 became a member of the Swiss Confederation An episcopal residence, it has a university and the Cathedral of St Nicolas (14th–15th cent) A large majority of the population is Catholic.

Frick, Henry Clay, 1849–1919, American capitalist, b. Westmoreland co , Pa He worked on his father's farm, was a store clerk, and did bookkeeping before he and several associates organized (1871) Frick & Company to operate coke ovens in the Connellsville coal district He strengthened his position in the Panic of 1873 by buying out embarrassed competitors and soon held a key place in the industry Andrew CARNEGIE, in order to control a business so vital to steelmaking, acquired heavy interests in Frick's organization Frick, in turn, was given large holdings in the Carnegie company, and because of his managerial ability, he was made (1889) chairman of the steel company. He played a key role in the organization (1892) of the Carnegie Steel Company, and as its acting head Frick engineered a large expansion of the company by buying out competing companies and acquiring many holdings in railroad securities and in Lake Superior iron-ore lands Frick, frequently over Carnegie's protest, dealt in strong-handed fashion with the workingmen of the company, and his adamant stand resulted in a pitched battle in the strike (1892) at Homestead, Pa —one of the most famous strikes in U S history He was largely responsible for the antiunion policy which characterized the steel industry for many decades Disputes between Frick and Carnegie led to a fight between them for control, and in 1899 Frick resigned He became a director of the U S Steel Corp and turned to other interests, chiefly railroads His mansion in New York city, together with his art collection and endowment of $15,000,000, was willed to the public as a museum Princeton Univ and the city of Pittsburgh also benefited from his philanthropies See biography by G B M Harvey (1928)

friction, the resistance offered to the sliding or rolling of one surface over another. Friction depends upon several factors It depends in part upon the degree of smoothness of the surfaces in contact For example, between pieces of ice it is very small, whereas between pieces of sandpaper or other extremely rough surfaces it is very large. Since, in view of the kinetic molecular theory of MATTER (see also MOLECULE), a perfectly smooth surface is physically impossible, there is always some resistance to any movement between surfaces in contact In addition, the adhesive or attractive force that acts between different materials, in greater or less degree, is instrumental in producing friction Two of the most important factors that cause friction are the chemical nature of the bodies in contact, i e , whether they are made of wood, metal, or some other material, and the magnitude of the force holding them together. When a body is moving over a horizontal surface, the force with which it presses down against the surface is equal to the weight of the body, i e , to the pull of gravity upon it An increase in the weight causes an increase in the amount of resistance offered to the relative motion of the surfaces in contact. However, although friction depends upon the weight and the nature of the bodies in contact, it does not depend upon the extent or area of the surfaces in contact or upon the speed at which they are moving. The so-called **coefficient of friction** is the quotient obtained by dividing the value of the force necessary to move one body over another at a constant speed by the weight of the body For example, if a force of 4 lb is needed to move a body weighing 10 lb over another horizontal body at a constant speed, the coefficient of friction is 4/10 or 0 4. Since different materials in contact yield different results, the coefficient of friction is not the same when a body is moved over different kinds of surfaces, even though the weight is constant If a wooden body of given weight is moved first over a wooden surface, then over a metal surface, and finally over a stone surface, the coefficient differs with each change It is, however, constant for any two given kinds of material and for this reason is of great help to engineers in anticipating the amount of friction between any two surfaces of known materials. This force of friction can be calculated by multiplying the known coefficient of friction between the two materials used (this coefficient of friction is determined by experiment) by the total pressure that will act between them. Friction is important in machines. Without friction the wheels of a locomotive could not "grip" the rails, nor could power be transmitted by belts. On the other hand, in the moving parts of machines a minimum of friction is required, in excess it produces heat, which causes expansion, the locking of the moving parts, and consequent destruction. LUBRICATION is important in minimizing friction as are also such devices as ball BEARINGS. Rolling friction is less than sliding friction; starting friction is greater than that observed when a body is moving along at an even speed **Fluid friction** is observed in the flow of liquids and gases Its causes are similar to those responsible for friction between solid surfaces, for it also depends upon the chemical nature of the fluid and the nature of the surface over which the fluid is flowing The tendency of the liquid to flow, i e , its degree of viscosity, is another important factor Fluid friction is affected by increased velocities, and the modern streamline is the result of engineers' efforts to minimize it.

Frida, Emil Bohuslav see VRCHLICKY, JAROSLAV.

Friday: see SABBATH and WEEK.

Fridigern: see FRITIGERN

Fridtjof Nansen Land see FRANZ JOSEF LAND

Fried, Alfred Hermann (äl'frät hĕr'män frēt'), 1864–1921, German pacifist, b. Vienna He moved to Berlin, where he was a bookseller and a writer. After 1891 he devoted himself to the peace movement, founding the Deutsche Friedensgesellschaft [German league for peace], editing and contributing to pacifist journals, and writing books He shared the 1911 Nobel Peace Prize with Tobias Asser. After the outbreak of the First World War, Fried went to Switzerland, and when peace was restored he returned to Vienna He edited the periodical the *Friedenswarte* from 1899 Among his works are *Das Abrustungsproblem* [the disarmament problem] (1905), *Handbuch der Friedensbewegung* [handbook of the peace movement] (2 vols , 1911–13), and *Mein Kriegs-Tagebuch* [my journal of the war] (1918–20)

friedcakes see DOUGHNUTS

Friedel, Charles (shärl' frādĕl'), 1832–99, French chemist and mineralogist, b Strasbourg He was professor of mineralogy (1877–84) and of organic chemistry (from 1884) at the Sorbonne He worked on crystals and silicon compounds and on the artificial production of minerals With J. M Crafts he developed a widely used technique, the Friedel-Crafts reaction (in which anhydrous aluminum chloride is used as a catalyst), for preparing certain hydrocarbons and ketones

Friedland, Czech *Frýdlant* (both frēt'länt), town (pop 4,308), N Bohemia, Czechoslovakia, at the foot of the Sudetes It manufactures linen Its castle, now a museum, was the seat of the duchy of Friedland, awarded to WALLENSTEIN in 1625

Friedland (frēt'länt), city (pop 4,417), former East Prussia, since 1945 in the Kaliningrad (Königsberg) oblast of the RSFSR Its official Russian name is Pravdinsk (prav'dynsk) It is an agricultural center and a horse market Here in 1807 Napoleon I defeated the Prussians in a battle that led to the fall of Königsberg and the Treaty of Tilsit

Friedlander, Leo (frēd'lăndur), 1890–, American sculptor, b New York city, studied in New York, Paris, Brussels, and at the American Academy in Rome His many decorative works include sculptures on Washington Memorial Arch, Valley Forge, Pa , figures on the altar of St Thomas's Church, Frankfort, Pa , three figures for the main entrance of the Masonic Temple, Detroit, reliefs for the National Chamber of Commerce, Washington, D C , main central pediment of the Museum of the City of New York, façades for the Jefferson County (Ala) Courthouse, *Three Wise Men* for a private chapel, Berkeley, Calif , groups for the R C A. Building, Rockefeller Center, New York City; statues for the Oregon state capitol; and *Bacchante* (Metropolitan Mus).

Friedlingen (frēt'lĭng-ŭn), hamlet, SW Baden, SW Germany, near the Rhine and opposite Basel. Here in 1702 the French under Villars defeated the imperialist troops under Louis of Baden in the War of the Spanish Succession

Friedmann, Meir (mī'ŭr frēt'män), 1831–1908, Hungarian Semitic scholar He rendered valuable service in the field of scientific criticism of Rabbinic texts. Friedmann's editions of the Midrash are standard.

Friedrichshafen (frē'drĭkhshä"fun), town (pop. 15,356), S Württemberg, SW Germany, on the Lake of Constance. It manufactures machine parts and is the home of the Zeppelin works, which were destroyed during the Second World War by air raids Much of the rest of the town was also damaged. Buchhorn—as Friedrichshafen was named from its first mention (9th cent.) until 1811—became an imperial city in 1275. It passed to Bavaria in 1802 and to Württemberg in 1810. The

baroque ducal castle (originally a Benedictine abbey) and its church were both built in the late 17th cent. and have escaped war damage

Friedrichsruh (frē'drĭkhsrōō'), village, Schleswig-Holstein, N Germany Here Otto von Bismarck retired to his estate, which contains his mausoleum.

Friend, city (pop. 1,109), SE Nebr., WSW of Lincoln, in a farming area, founded c 1873.

Friendly Islands: see TONGA.

Friends, Society of, religious body originating in England in the middle of the 17th cent. under George FOX The members are commonly called Quakers Claiming that no theologically trained priest and no outward rite are needed to establish communion between the soul and its God, Fox taught that everyone could receive whatever understanding and guidance in divine truth he might need from the "inward light" supplied in his own heart by the Holy Spirit Many of his early converts were from among groups of SEPARATISTS Almost imperceptibly his followers were banded together into a new group of Christian believers Calling themselves Children of Light, Friends in the Truth, and Friends, they eventually agreed upon the name Religious Society of Friends Their popular name from early days was Quakers, either because they were so called by a judge whom Fox bade to "tremble at the word of the Lord" or because the early Friends were wont to tremble with emotion during their religious meetings The Friends regard the sacraments of the church as nonessential to Christian life They refused to attend worship in the Established Church and to pay tithes They resisted the requirement to take oaths and opposed war, refusing to bear arms Believing in the equality of all men and women, they would not remove their hats before alleged superiors Consequently, persecution was often their lot until the Toleration Act of 1689, but their numbers and their missionary zeal increased They sent representatives to the Continent and to America, Asia, and Africa They found a wide field of activity in philanthropic movements, taking the lead in the effort to abolish slavery The Friends worked for prison reform (e.g., Elizabeth FRY), for improvement in insane asylums, for mitigation of the penal code (especially abolition of capital punishment), and for the betterment of common education In colonial America they often met with severe condemnation and some persecution, except in Rhode Island and in Pennsylvania, where in 1682 William PENN settled his famous colony Though because of conscience Friends could not take an active part in the Revolutionary War, they were loyal in upholding the new national government Among noted American abolitionists were John WOOLMAN, Lucretia MOTT, and J. G. WHITTIER In 1827 questions arising in connection with the preaching of Elias HICKS divided the American Friends into two groups, "Hicksites," who placed emphasis upon the individual's belief as guided by revelation to his own spirit, and "Orthodox," who gave to the elders the duty of decision as to soundness of doctrine At the same time there was an "evangelical" revival among Friends in the Western states, with a tendency to discard many of the old forms and distinctions Another break occurred in 1845 in New England, when the adherents of John Wilbur set up a new yearly meeting in protest against what they considered dangerous departure from the teachings and ways of the early Friends Two superficial marks of Friends have been generally disappearing —the plain language, in which the Friends used "thee" to all men as a mark of equality, and the plain gray dress, the broad-brimmed men's hats, and the women's bonnets The Friends have long been workers in the cause of peace and international understanding The accomplishments in relief and reconstruction abroad achieved by the American Friends Service Committee, organized in 1917, are widely recognized This body and the Service Council of the British Society of Friends were jointly awarded the 1947 Nobel Peace Prize Educational activity among the Friends has resulted in the establishment and support of a number of excellent schools and colleges Missionary effort is extensive Avoiding liturgies and all elaboration that they fear might interfere with the direct guidance of the Holy Spirit, the "Inner Light," the Friends meet for worship without set form and frequently without stated leaders Any member is at liberty to follow the impulse of the spirit in prayer, praise, or exhortation A meeting may be spent entirely in silent receptivity and communion Ministers are not required to have special training, any man or woman who experiences the call to the work and gives evidence of his sincerity may be recorded as a minister In recent years, however, many of the Friends who seek the ministry have studied at theological schools The organization of the Society of Friends includes meetings for worship and monthly, quarterly, and yearly meetings. In the United States, the old lines of division between Orthodox, Hicksite, and Conservative (or Wilburite) Friends indicate no important differences, their common aims and interests draw them closely together. A general meeting held in Philadelphia in 1946 was attended by representatives from all the Quaker bodies, indicating the beginning of a new era of unity See T. E. Harvey, *The Rise of the Quakers* (1905); Rufus M. Jones, I. Sharpless, and A. M. Gummere, *The Quakers in the American Colonies* (1911), Rufus M. Jones, *The Later Periods of Quakerism* (2 vols., 1921), Auguste Jorns, *Quakers as Pioneers in Social Work* (Eng. tr., 1931), L. M. Wright, *The Literary Life of the Early Friends* (1932), Elbert Russell, *The History of Quakerism* (1942), Sidney Lucas, comp., *The Quaker Message* (1948), W. W. Comfort, *Quakers in the Modern World* (1949)

Friendship, 1 Fishing town (pop. 747), S Maine, near Rockland, settled 1743, inc. 1807 2 Village (pop. 1,148), W. N. Y., NE of Olean, inc. 1898. It has several manufactures

Friern Barnet (frī'ûrn bär'nŭt), urban district (1931 pop. 23,101, 1943 estimated pop. 26,100), Middlesex, England, in the London metropolitan area

Fries, Elias Magnus (ēlā'ăs măng'nŭs frēs'), 1794–1878, Swedish botanist He was the founder of the modern classification of fungi and lichens and taught at the Univ. of Uppsala (1834–59) His works include *Systema mycologicum* (3 vols., 1821–32) and *Icones selectae Hymenomycetum* (2 vols., 1867–84)

Fries, Jakob Friedrich (yä'kôp frē'drĭkh frēs'), 1773–1843, German philosopher He was a professor at Heidelberg and Jena His liberal political teachings caused the suspension of his lectures at Jena for many years He maintained that an adequate theory of knowledge must await the development of a true science of psychology His important work was *Neue Kritik der Vernunft* [new critique of reason) (3 vols., 1807)

Fries, John, c 1750–1818, American rebel, b Montgomery co., Pa After serving in the American Revolution, Fries became a traveling auctioneer Strongly opposed to the Federal property taxes levied (1798) for a possible war with France, he stirred the Pennsylvania Germans into an uprising (called Fries's Rebellion) against assessors and collectors He had from Federal troops, but his hiding place was betrayed by his dog, and he was arrested and sentenced to death He was pardoned by President John Adams

Fries (frēz), town (pop. 1,677), SW Va., on the New River and SW of Roanoke, inc. 1901–2

Frieseke, Frederick Carl (frē'zĭku), 1874–1939, American painter, b Owosso, Mich., studied at the Art Institute of Chicago and in Paris Under the influence of French impressionism he rapidly developed a highly popular style His paintings often show a woman out of doors painted in very light, bright colors Frieseke spent most of his working life in Paris and was recipient of many awards and honors at home and abroad He is represented in museums throughout the United States, in Odessa and Venice, and in the Luxembourg Mus., Paris *The Toilet* (Metropolitan Mus.) is a characteristic work

Friesland (frēz'lund, Dutch frēs'lant) or **Frisia** (frĭ'zhu), province (1,325 sq. mi., pop. 456,623), N Netherlands It comprises several of the West FRISIAN ISLANDS along the North Sea coast and borders on the Ijsselmeer in the west Leeuwarden is the capital A great dairying and cattle-raising country, Friesland has fertile land near the coast line and sandy heath and fenland in the interior It is drained by numerous canals and small rivers and has many lakes The Frisians, a Germanic people probably closely akin to the Anglo-Saxons, were conquered by the Franks in the 8th cent Their language still is spoken by a large part of the population In the Middle Ages, Frisia extended from the Scheldt river in the west to the Weser in the east and was a dependency of the counts of HOLLAND When Holland passed (1433) to the house of Burgundy, the authority of the Burgundian dukes was not recognized by the independent-minded Frisians In 1498 Emperor Maximilian I bestowed all Frisia on Duke Albert of Saxony Albert also was unable to establish his authority, and in 1515 his son for a payment restored the country to Maximilian, whose grandson, Emperor Charles V, reduced it by force in 1523 (EAST FRIESLAND, created a county in 1454, was not included in the transfer and its history became separate.) Friesland joined (1579) in the Union of Utrecht against Spanish domination, but it continued to appoint its own stadholders until 1748, when its stadholder, Prince William IV of Orange, became sole and hereditary stadholder of all the United Provs. of the Netherlands

Friesz, Othon (Achille Émile Othon Friesz) (ôtô' frēĕs', äshēl' āmēl'), 1879–, French painter, studied under Bonnat at the École des Beaux-Arts He was early attracted to impressionism, and his work shows this influence But his calligraphic style and color are highly personal and contemporary He is best known for his landscapes and marines, often with figures, and is represented in galleries of contemporary painting everywhere His *Marka* (Art Inst., Chicago) is characteristic

frieze, in architecture, the member of an entablature between the architrave and the cornice The Doric frieze alternates the metope and the triglyph, that of the other orders is plain or sculptured. Greek work shows figures in high relief, a 5th-century B.C. example is that of the treasury of the Cnidians, Delphi Roman and Renaissance examples, a notable one being on the temple of Vesta, Tivoli (1st cent. B.C.), display acanthus foliage, festoons, or conventional ornament, and the frieze frequently is pulvinated or convexly curved The term is likewise used to designate that part of the wall immediately below the ceiling, usually receiving a continuous ornamental band

frigate (frĭ'gĭt), originally a long narrow type of vessel used on the Mediterranean and propelled by either oars or sail or by both Later the term was used to designate a type of warship which was the cruiser of a hundred years ago and was largely employed as a commerce raider During the latter part of the 18th cent. and part of the 19th cent., frigates as a class were fast, square-rigged sailing vessels, with two gun decks carrying from 24 to 50 guns Frigates were the warships of the last days of sail The famous CONSTITUTION (launched in 1797) is a frigate of this period

Frigg or **Frigga,** in Germanic mythology, wife of WODEN She became confused with the Scandinavian goddess Freyja (see FREY AND FREYJA) and from being an earth-goddess seems to have turned into a goddess of fertility and love, hence, from her likeness to Venus, the Latin day of Venus became in Germanic-speaking countries Frigg's day (Friday) She appears in Richard Wagner's operas as Freia

frijole (frēhō'lē), used mostly in the plural **frijoles** (frēhō'lēz) [from Span. *frijol*, plural *frijoles*] In Mexico and the Spanish American countries, any cultivated bean of the genus *Phaseolus* is called by that general name In particular, it refers to the small, flat, black bean which ranks next to maize in importance as an article of diet and is an ingredient of many dishes It is probably of South American origin and belongs to the same family as the bean introduced into Europe in the 16th cent. from which sprang many of the modern garden varieties

Frimaire: see FRENCH REVOLUTIONARY CALENDAR

Friml, Rudolf (Charles Rudolf Friml) (frĭ'mul), 1881?–, American composer, b Prague, pupil of Dvorak He came to the United States in 1901 with Jan Kubelik Friml is best known for his light operas *The Firefly* (1912), *High Jinks* (1913), *Rose Marie* (1924), and *The Vagabond King* (1925)

Frimley and Camberley, urban district (pop 16,532), Surrey, England, near Farnborough N of Aldershot Bret Harte is buried here

fringeflower see BUTTERFLY FLOWER

Friou (frēōō'), Romance language See LANGUAGE (table)

Frisches Haff (frĭ'shus haf'), Pol. *Zalew Wiślany*, lagoon, c 60 mi. long and covering 322 sq. mi., on the coast of East Prussia It lies between the Nogat and Pregel rivers and is cut off from the Bay of Danzig by a narrow spit of land (the Frische Nehrung) except at the strait of the Pillauer Tief

Frischlin, Philipp Nikodemus (fē'lĭp nēkōdā'mōos frĭsh'lēn), 1547–90, German philologist, dramatist, and poet He was known not only for his work in editing Vergil and for his graceful Latin writings, but also for his spirited defense of Protestantism and for an adventurous career which ended in an attempted escape from prison

Frishmuth, Harriet Whitney (frĭsh'mŭth), 1880–, American sculptor, b Philadelphia, studied with Gutzon Borglum, H. A. McNeil, and Rodin Her work, mostly of nudes, is spirited, excellent in technique and design Well-known examples include *The Vine* and *Slavonic Dance* (Metropolitan Mus.), *Joy of the Waters* (Dayton, Ohio), bust of President Woodrow Wilson (capitol, Richmond, Va.), and *Play Days* (Dallas, Texas)

Frisi, Paolo (pä'ōlō frē'zē), 1728–84, Italian mathematician and astronomer He was professor at Pisa (1756?–1764) and at Milan (1764–77) and was noted as an authority on hydraulics He is credited with introducing lightning rods into Italy His works include *Cosmographia physica et mathematica* (2 vols., 1774–75)

Frisia: see FRIESLAND

Frisian Islands (frĭ'zhŭn), chain of islands, off the coasts of the Netherlands, Germany, and Denmark, in the North Sea The West Frisian Islands, belonging to the Netherlands, are off the shores of North Holland, Friesland, and Groningen provs. and include the islands of Texel, Vlieland, Terschelling, and Ameland The East Frisian Islands, belonging to Germany, are east of the mouth of the Ems and include NORDERNEY and Borkum The North Frisian Islands, off the coast of Schleswig-Holstein, Germany, and S Jutland, Denmark, include SYLT, FÖHR, and ROMO Fishing and stock raising are the main sources of livelihood on all the Frisian Islands There are many bathing resorts

Frisian language, Germanic language of the Frisian Islands and near-by coasts, the language most like English See LANGUAGE (table)

Frith or **Fryth, John** (both frĭth), 1503–33, English Protestant martyr He aided William Tyndale in translating the New Testament After a short time

in prison, suspected of heresy. Frith went to Germany in 1528 and was in Marburg, where he again assisted Tyndale. Upon his return to England in 1532, Frith was arrested and imprisoned. Firm in his denial of transubstantiation and purgatory, he was burned at Smithfield as a heretic. He was a man of great learning and ability. His works were edited (1573) by John Foxe.

Frith, William Powell, 1819–1909, English genre painter. His early paintings were illustrations, such as his *Scene from a Sentimental Journey* (Victoria and Albert Mus.). Later he painted many popular pictures of English life, among them *Derby Day* (National Gall., London) and *The Railway Station* (Leicester Mus.). See his autobiography (1887).

Frithjof (frē'tyôf), hero of an Icelandic saga of the late 13th or early 14th cent. Frithjof was supposed to have lived in the 8th cent. or earlier. The legends concerning him are the basis of the well-known poem *Frithjof's Saga* (1825) by the Swedish poet Esaias Tegnér.

Fritigern (frĭ'tĭgûrn), d. c 380, Visigothic chieftain. A rival of ATHANARIC for leadership of the VISIGOTHS, he adopted Arian Christianity and, with his followers, crossed (376) the Danube into Roman territory with the permission of Emperor VALENS. Rebelling against the Roman officials in 377, he defeated and slew Emperor Valens in the battle of Adrianople (378), a defeat from which Rome never recovered. His subsequent ravages of the Balkan Peninsula were ended only by his death. He is also known as Fridigern.

Friuli (frōō'lē), historic region, now divided between Friuli–Venezia Giulia, NE Italy, and Slovenia, NW Yugoslavia. Extending from the E Alps to the Adriatic, it includes in the east a fertile plain and part of the KARST region. UDINE and GORIZIA are the principal cities. The inhabitants are Italians in the west and Slovenes in the east. Friuli derives its name from the Roman city of Forum Iulii (modern Cividale). Occupied by the Romans (2d cent. B.C.), Friuli became a Lombard duchy (6th–8th cent.) and a Frankish march. Before A.D. 1000 it was divided into the counties of Gorizia (east) and Friuli (west). The western county passed (11th cent.) to the patriarchs of AQUILEIA, who made Udine their capital. In 1420 it went to Venice, and the name Friuli lost its political meaning. After the counts of Gorizia became extinct (1500), that county was incorporated in the Hapsburg possessions; attempts of Venice to acquire it were unsuccessful. With the treaties of Campo Formio (1797) and of Paris (1814, 1815) all Friuli became Austrian. After the Austro-Prussian War, Austria ceded (1866) W Friuli (i.e., Udine prov.) to Italy. During the First World War, Friuli was a battlefield. In 1919 E Friuli was also awarded to Italy, with Istria and Trieste. It formed the region of VENEZIA GIULIA. The Italian peace treaty of 1947 gave E Friuli (but not Gorizia) to Yugoslavia. The name Friuli was officially revived when Friuli–Venezia Giulia was formed as a region of Italy.

Friuli-Venezia Giulia (frēōō'lē-vānā'tsyä jōō'lyä), autonomous region (2,948 sq. mi., pop. 837,000), NE Italy, on the Yugoslav border. Comprising W Friuli, it extends from the E Alps to the Adriatic and is divided into the provinces of Udine and Gorizia. Udine is the capital. The region was formed after the Second World War by merging the province of Udine, formerly in Venetia, with the areas of the former VENEZIA GIULIA region that were left to Italy.

Fröbel, Friedrich Wilhelm August see FROEBEL.

Froben, Johannes (ō̂hä'nus frō'bun), 1460–1527, German printer. He established himself at Basel and there in 1516 printed the Greek New Testament, edited by Erasmus, with his Latin translation. Erasmus edited many publications of Froben, contributing to the fame of Froben's press for scholarly texts.

Frobenius, Leo (lā'ō frōbā'nēōōs), 1873–1938, German archaeologist and anthropologist. An authority on prehistoric art and culture, especially of Africa, he organized 12 expeditions to Africa between 1904 and 1935. He founded (1922) the Institute for Cultural Morphology, Frankfurt, where he established a noted collection of facsimiles of prehistoric paintings and engravings.

Froberger, Johann Jakob (yō'hän yä'kōp frō'bĕrgur), 1616–67, German organist and composer, pupil of Frescobaldi, whose style he transmitted to Germany. Froberger was one of the first to write harpsichord suites.

Frobisher, Sir Martin (frō'bĭshur), 1535?–1594, English mariner. Going to sea as a lad, he later made the friendship of Sir Humphrey GILBERT, through whom he became interested in the NORTHWEST PASSAGE. Licensed by Queen Elizabeth and backed by a group of merchants adventurers, Frobisher made three voyages (1576, 1577, and 1578) to the ARCTIC REGIONS in search of it. On his first voyage he sailed into Frobisher Bay, S Baffin Island, and from its shores brought back some black ore thought to contain gold. Returning to Baffin Island on his next two journeys, he explored Frobisher Bay to its head and penetrated a short distance up Hudson Strait. Since his geographical discovery was slight and no gold was revealed in his cargoes of ore, Frobisher's name was for a time under a cloud, but he won new glory in 1585 as commander of a ship in Sir Francis Drake's expedition to the West Indies and a knighthood for his services with Drake and Sir John Hawkins in the defeat of the Spanish Armada in 1588. He died as the result of wounds received at Brest during an English campaign against the Spanish. The narratives of his voyages, first published in 1578, have passed through several editions. *The Three Voyages of Martin Frobisher* by George Best was edited from the original 1578 text by Vilhjalmur Stefansson (1937). See biography by William McFee (1928).

Frobisher Bay, arm of the Atlantic, cutting into SE Baffin Island, Northwest Territories. It is 150 mi. long and 20 to 40 mi. wide, with steep, deeply indented shores and numerous islets. On its southwest side the Grinnell and Southeast Icecaps rise to c. 3,000 ft., extending tongues into the bay. At its head is Frobisher Bay trading post and an air base. The bay was discovered (1576) by Sir Martin Frobisher on an expedition in search of the Northwest Passage and until 1860 was believed to be a strait separating Baffin Island from another island.

Froding, Gustaf, Swed. *Fröding* (gŭs'täv frû'dĭng), 1860–1911, Swedish lyric poet. His first two volumes of poems, *Guitar and Concertina* (1891) and *New Poems* (1894), both translated into English in 1925, assured his popularity. His complete works (16 vols., 1917–23) contains an introduction and commentary by R. G. Berg. Several of his poems are included in *The Oxford Book of Scandinavian Verse* (1925), a selection in English, with an introduction by C. W. Stork, appeared in 1916.

Frodingham, Lincolnshire, England: see SCUNTHORPE AND FRODINGHAM.

Froebel, Friedrich Wilhelm August (frā'bul, frō-, Ger. frē'drĭkh vĭl'hĕlm ou'gōost frû'bul), 1782–1852, German educator and founder of the KINDERGARTEN system, b. Oberweissbach, Thuringia. He had an unhappy childhood and very little formal schooling, learning what he could from wide reading and close observation of nature. He studied for a short time at the Univ. of Jena. He was studying architecture at Frankfurt when he was persuaded by Gruner, master of the model school at Frankfurt, to become a teacher. He visited Pestalozzi at Yverdon and then returned to Gottingen and Berlin to study. In 1813 he joined Lutzow's Black Troops and saw active service. While serving in the army he met Heinrich Langethal and Wilhelm Middendorff, with whom he was associated throughout the rest of his career. He returned to Berlin, where he was given a position in the mineralogical museum of the Univ. of Berlin. In 1816 he founded at Griesheim a school (later moved to Keilhau) called the Universal German Educational Institute, here other teachers came to study his methods. Early in 1837 he went to Bad Blankenburg (near Keilhau), where he shortly opened the first kindergarten. In 1849 he founded a kindergarten training school at Liebenstein, but a blow which hastened his death was an edict forbidding the establishment of kindergartens. Froebel was influenced greatly by the philosophy of Fichte and Schelling. His educational system is based on a belief in the underlying unity of nature, which is God, so that religious training is a fundamental principle. Froebel stressed the importance of pleasant surroundings, self-activity, and physical training in the development of the child. His most important work is *Menschenerziehung* (1826, Eng. tr., *The Education of Man*, 1877). The translation by Susan Blow of his *Mutter- und Kose-Lieder* (1844) is called *Mother Play* (1895). Other works translated into English are *Letters on the Kindergarten* (1891), *Froebel's Chief Writings on Education* (1912), and his fragmentary autobiography. His name is also written Fröbel. See biographies by H. C. Bowen (1894) and A. B. Hanschmann (Eng. tr., 1897), W. H. Kilpatrick, *Froebel's Kindergarten Principles* (1916).

frog, an amphibian which usually lives in quiet fresh water or in the woods. The skin is smooth, usually some shade of green or brown, often spotted. Irritating or poisonous secretions are produced by the skin glands of some species. Most frogs hibernate underwater in the mud over the winter and lay their eggs in early spring. The eggs are fertilized as they are laid. A gelatinous covering secreted by the female surrounds each egg. It causes the eggs to adhere in a mass and gives them buoyancy and some protection. A small tadpole hatches from the egg, usually in from 3 to 10 days. During this larval stage the animal breathes first by external then by internal gills, feeds on water plants, and swims by means of its tail, which is later absorbed by the body. Before the end of the first summer most frogs, except the BULLFROG, have completed the metamorphosis from the fish-like form to that of the lung-breathing, tailless, carnivorous adult. Growth to the full adult size usually takes several years. Insects and worms are captured by thrusting out the sticky, forked tongue attached at the front of the lower jaw. Among the edible frogs in the United States are the leopard frog, the pickerel frog, the green frog, the common and the southern bullfrogs, and the Oregon red-legged frog. The wood frog with its fawn or brown body blends with the fallen leaves in the woods which it frequents. The TREE FROG or tree toad is arboreal. In Europe and in parts of Asia and Africa the edible frog is abundant. The flying frog of Asia uses its large webbed feet as parachutes when it leaps from trees. Some tropical species eat rats, bats, and snakes. See M. C. Dickerson, *The Frog Book* (1906), A. A. Wright and A. H. Wright, *Handbook of Frogs and Toads* (1942), P. A. Morris, *They Hop and Crawl* (1944).

Frohman, Charles, 1860–1915, American theatrical manager and producer, b. Sandusky, Ohio. Starting his career as a box-office clerk in Brooklyn, N.Y., Frohman became a successful producer with Bronson Howard's *Shenandoah* (1889). In 1893 he organized the Empire Theatre Stock Company, gradually acquiring five other New York theaters, and later headed the Theatrical Syndicate. He was known for his ability to develop talent, and his stars included Julia Marlowe, Maude Adams, John Drew, Henry Miller, Annie Russell, Ethel Barrymore, and William Gillette. In 1897 he leased the Duke of York's Theatre, London, introducing plays there as well as in the United States. Clyde Fitch, J. M. Barrie, and Rostand were among the playwrights he promoted. The system of exchange of successful plays between London and New York was largely a result of Frohman's efforts. Charles Frohman was lost with the *Lusitania*. See biography by I. F. Marcosson and Daniel Frohman (1916).

Frohman, Daniel, 1851–1940, American theatrical manager, b. Sandusky, Ohio, brother of Charles Frohman. He became manager of small traveling theatrical companies c. 1871 and in 1879 settled in New York. He was manager of the Fifth Avenue and of the Madison Square theaters until 1885. For a time Augustin Daly's business manager, Frohman was eventually manager and part owner of the Lyceum Theatre, where his stock company was based. He was for many years president of the Actors' Fund of America. He was the author of *Encore* (1937) and the autobiographical *Memories of a Manager* (1911) and *Daniel Frohman Presents* (1935).

Froissart, Jean (zhäⁿ' frŭwäsär'), c 1337–1410?, French chronicler, poet, and courtier, b. Valenciennes. He studied for the priesthood and was ordained, but his life was decidedly worldly. As a protégé of Queen Philippa of England, he went to England (1361–66), visited the court of David II of Scotland, and accompanied (1366) Edward the Black Prince on his campaign in Gascony. He visited England twice more (1367, 1394) and traveled widely in the Low Countries and in Italy. In the South of France he saw the brilliant court of GASTON III of Foix, which he later described in a famous passage. Nothing is known of his life after 1404, his death date is merely traditional. His chronicle continues that of Jean le Bel, canon of Liége, and covers the history of Western Europe from the early 14th cent. to 1400, i.e., the first half of the Hundred Years War. The first book describes the struggle between England and France, the second, the revolutions of Flanders and Brabant, the Wat Tyler rebellion, and sundry other subjects, the third, the events of Spain and Portugal, the last, the conditions in France and in England at the end of the century. In literary merit Froissart's chronicle ranks high above all similar efforts in any European language. Its historical value suffers from the very qualities that make for its literary greatness—it is personal, unobjective, enthusiastic, inaccurate, and ramified in its digressions to the point of confusion. Froissart's sympathy was with the established order—or disorder—of his time, his moral sense was not offended by the cutthroat activities of the men whom he presented as models of chivalry and prowess. As an artist, Froissart is nearly unexcelled. He saw with wide-open eyes and heard with insatiable ears, and what he saw and heard he put down with a directness, brilliance, and gusto that have lost none of their freshness in four and a half centuries. He showed little concern for historical or psychological motivation, yet few historians have brought to life an era and have put flesh on the bones of history as successfully as Froissart. Froissart personally witnessed many of the events he described, and he obtained much of his other material from eyewitnesses. Apart from a tedious romance, *Méliador*, Froissart's poetry is charming and light, it somewhat influenced Chaucer, whom Froissart probably knew personally. The standard English translation (1523–25) of the chronicles by John Bourchier, Lord Berners, is available in many editions.

Frome (frōōm), urban district (pop. 10,739), Somerset, England, on the Frome river and S of Bath. It is a trade center. It was formerly, and is still occasionally, called Frome Selwood, from Selwood Forest in the vicinity. The parish church of St. John the Baptist dates from the 14th cent., but has been much restored. The town's chief manufacture has long been wool, but flour, plastics, and acetylene are also produced.

Froment, Nicolas (nēkôlä' frômä'), fl 2d half of 15th cent, French painter While in the service (1461–80) of René of Anjou at Avignon, he painted the *Resurrection of Lazarus* (Avignon) and the triptych *The Burning Bush* (cathedral, Aix) He is credited also with the paintings of René and his wife, Jeanne Laval, on a diptych

Fromentin, Eugène (ùzhĕn' frômätĕ'), 1820–76, French painter and art critic After studying in Paris under Cabat, he traveled in the Orient and painted Moorish subjects His *Quarry* and *Fellah Women* (both Louvre) and *Arabs Crossing a Ford* (Metropolitan Mus) are good examples of his work Fromentin is perhaps best known for his book of art criticism, *Maîtres d'autrefois* (1876)

Fronde (frōd), 1648–53, a series of outbreaks during the minority of Louis XIV, caused by the efforts of the Parlement of Paris—the high court of justice—to limit the growing authority of the crown, by the personal ambitions of discontented nobles, and by the grievances of the people against the financial burdens suffered under Richelieu and Mazarin The period, 1648–49, of the **Fronde of the Parlement**, began with the refusal of the parlement to register a new fiscal edict The government, in retaliation, arrested several members of the parlement, notably Broussel, but the Parisian populace rose in protest and barricaded the streets (Aug, 1648) Broussel had to be released, and Mazarin with the court retired from Paris Agitation continued, and early in 1649 Mazarin ordered Paris to be blockaded The order was carried out by Louis II de Condé, whose brother, Armand de Conti, commanded the rebel forces Mme de Longueville, Frédéric Maurice de Bouillon, and Paul de Gondi, later Cardinal de Retz, were the other leaders of the Fronde A compromise peace was arranged between the parlement and the court at Rueil in March, 1649 Condé's overbearing attitude and intrigues caused his arrest by Mazarin in Jan, 1650, and precipitated a second outbreak, the **Fronde of the Princes** Mme de Longueville called on Turenne for aid in releasing her brother Government troops defeated Turenne and his Spanish allies at Rethel (1650), but Mazarin was forced to yield when Retz, Mme de Chevreuse, Gaston d'Orléans, and François de Beaufort all united in demanding Condé's release Mazarin fled to Germany in Feb, 1651, but the victorious nobles soon fell out among themselves and Condé left Paris to take up open warfare against the government Though joined by Gaston, Beaufort, Conti, and the provincial parlements of S France, Condé lost his principal support in Turenne, who went over to the government's side after Louis XIV reached his majority In Dec, 1651, Mazarin was recalled Condé concluded an alliance with Spain, but was defeated by Turenne at the Faubourg Saint-Antoine and was saved from capture only through Mlle de Montpensier, who admitted him and his army into Paris There his arrogant conduct alienated the people As the Fronde disintegrated, Mazarin once more left France to clear the air for a reconciliation In October the king returned to Paris, Mazarin followed in Feb, 1653 The princes soon made peace with the government, except Condé, who commanded the Spanish forces against France until the Peace of the Pyrenees (1659) The Fronde resulted in the humiliation of the nobles, the stabilization of royal authority, and the further disruption of French economy See J B Perkins, *France under Mazarin* (2 vols, 1886)

Frontenac, Louis de Buade, comte de (frôn'tĭnăk, Fr lwē' du büad' kôt' du frôtunak'), 1620–98, French governor of New France His early military career was spent in service in the Low Countries, Italy, and Germany Appointed in 1672 to the post in New France, he entered with vigor upon a course that would have resulted in considerable political independence for Canada, but was curbed by the royal government in France because his policy was not acceptable to Louis XIV and his minister, Colbert Adding to the power of the council in New France, they reduced that of the governor Frontenac was involved in long quarrels with the Jesuits, with the intendant, and with the governor of Montreal, but he dealt wisely and successfully with the Indians, forwarded explorations by Jolliet, Marquette, and La Salle, and aided in the establishment of forts and posts in the new French territory When disagreements among the heads of the colony caused division and confusion, Frontenac was recalled to France in 1682 However, the following years were so distressing because of the havoc worked by the Iroquois and the succeeding governors, La Barre and Denonville, that Frontenac was sent back to Canada as governor in 1689 He energetically warred upon the Iroquois, who submitted at last in 1696, and he sought to restrain the British in the French and Indian Wars Sir William Phips's fleet was driven back from before Quebec, Boston was attacked, and incursions were made along the coast of New England and as far south as New Jersey The governor died soon afterward at Quebec See Francis Parkman, *Count Frontenac and New France under Louis XIV* (1877), W. D. Le Sueur, *Count Frontenac* (1906); G. M. Wrong, *The Rise and Fall of New France* (1928)

Frontenac (frôn'tĭnăk), coal-mining city (pop 1,766), SE Kansas, near Pittsburg, laid out 1887, inc 1895

Frontenac, Fort, on the site of Kingston, Ont, Canada La Salle was made commandant (1673) of the original fort It was reestablished (1696) by the comte de Frontenac and was captured by Edward Bradstreet in 1758, the victory giving the British control of Lake Ontario

frontier, borderland, in various senses It may be used to mean the actual border between two countries (as in the phrase "crossing the frontier") or the region about an international boundary In U S history, however, it means the border area of white settlement, vital in the conquest of the land between Atlantic and Pacific The importance of the westward movement of the population in the British colonies established on the seaboard of North America was clear even to colonial commentators, and the lure of the frontier—with its wide lands attracting the discontented, the oppressed, the ambitious, and the restive—was a factor in American history that was not ignored by the historians of the republic even in early days The theory that the frontier was a governing factor (if not the governing factor) in developing U S. civilization as distinct from that of other nations, was, however, to await the pronouncements of Frederick Jackson Turner in 1893 Stated in a highly oversimplified way, the thesis is that American democracy was shaped by the frontier, by the contest of the settler with the wilderness—not only the woodland wilderness of the East and the Great Lakes but the grassy wilderness of the prairies, and the rocky wilderness of the Western mountains. The wilderness is a formidable adversary, and man did not always win, but in the contest he learned self-reliance, and on his lonely farm he and his heroic mate and children became assured of equality with any man and resentful of class distinctions and any attempts at civic and social coercion In the last decades a tremendous amount of research and writing has been done on the history and meaning of the frontier Its history has been traced from the beginnings as a European seaboard frontier, to the frontier of the fall line and that of the Appalachian Mts The heart of the matter is the history from 1763 (when pioneers were venturing over the mountains) to what is called the formal extinction of the frontier (if defined as a large habitable area with a population of less than 6 per sq mi) as shown by the census of 1890 There is no question that this process of peopling the West is a central theme in U S history, and the belief that it shaped American thought and character is now almost universally accepted It has been pointed out, however, that other factors were of telling weight (e g, industrialization), that individualism on the frontier has been perhaps overemphasized, and that the frontier farming community was possibly not as classless as it has been pictured Many studies have been devoted to the fur-trade frontier, the mining frontier, the grazing frontier, and other types of frontier, but emphasis has been to a good extent on the solid achievements of the farming frontier and on the central United States That this theory of the frontier cannot be applied elsewhere with any degree of success is no valid criticism, it is an explanation of what occurred, not intended as a law of the universe Somewhat similar developments may be seen in other parts of the world, as in the spread of population into and from the state of São Paulo, Brazil, in the peopling of the Pampa in Argentina, and in some of the development of the Union of South Africa In group and government-controlled development of a frontier (as in the Soviet exploitation of Siberia) the conditions are likely to be widely different, although there, too, resourcefulness (albeit supported resourcefulness) is pitted against a wilderness See F J Turner, *The Frontier in American History* (1920) and *Early Writings* (compiled by Everett E Edwards, with an introduction by Fulmer Mood, 1938), F L Paxson, *History of the American Frontier* (1924), R E Riegel, *America Moves West* (1930), R A Billington and J B Hedges, *Westward Expansion* (1949)

Frontinus (Sextus Julius Frontinus) (frŏntī'nŭs), fl A D 74, Roman administrator and writer As governor of Britain from A D 74 or A D 75 to A D. 78, he reduced the Silures and pacified Britain within its borders, it was this work, successfully done, which probably rendered possible the achievements of Frontinus' successor, Agricola The most interesting civil position he held in Rome was as *curator aquarum* or water commissioner From this experience he wrote his *De aquis urbis Romae*, which treats exhaustively of the water supply of Rome, with complete descriptions and history of the aqueducts Frontinus' *Strategematica*, a tactical study, is also well written and interesting

Fronto (Marcus Cornelius Fronto) (frŏn'tō), fl. 2d cent, Roman teacher and rhetorician, b Africa. He was the tutor of Marcus Aurelius, and Antoninus Pius made him consul in 143 A successful teacher and government official, Fronto was an admirer of the early Latin writers and tried unsuccessfully to bring about a renaissance His extant letters (discovered by Angelo Mai and published in 1815–23) reveal a fondness for an archaic and recondite vocabulary

Front Range, part of the Rocky Mts, extending c 300 mi SE and S from SE Wyoming through central Colorado to the Arkansas river near Canon City The range, which at the north includes the Laramie Mts, stretches along the eastern edge of the Rockies and faces the Great Plains It forms part of the Continental Divide in Colorado Pikes Peak is in the southern part of the range Among other summits are Grays Peak, Mt Evans, Longs Peak, Mt Meeker, Arapahoe Peak, and James Peak Rocky Mountain National Park lies in a portion of the range

Front Royal, town (pop 3,831), N Va, on the South Fork of the Shenandoah and S of Winchester, at the northern end of the Skyline Drive, inc 1788 It is near Shenandoah National Park and George Washington National Forest The courthouse of Warren co is here The town has large rayon mills It is the seat of Randolph-Macon Academy, near by is a U S army remount station On May 23, 1862, Stonewall Jackson, in his Shenandoah Valley campaign, routed a detachment under Gen N P Banks here

Frost, Arthur Burdett, 1851–1928, American illustrator and cartoonist, b Philadelphia, pupil of Thomas Eakins at the Pennsylvania Academy of the Fine Arts He worked chiefly in New York and became one of the most popular illustrators of his time He executed a number of comic series of line sketches in story sequence, such as *Stuff and Nonsense* and *The Bull Calf and Other Stories*, and produced many illustrations for *Harper's Magazine*, *Collier's*, and *Scribner's* and some admirable book illustrations, particularly those for the "Uncle Remus" stories His most characteristic drawings portray certain American countryside types—the plantation Negro, the farmer, the sportsman with his animals—with humor and drama and with a freshness and zing that won for Frost a large following

Frost, Edwin Brant, 1866–1935, American astronomer, b Brattleboro, Vt, grad Dartmouth (B A, 1886), studied in Germany and at Strasbourg From 1892 to 1898 he was a member of the astronomy department at Dartmouth At the Univ of Chicago he became professor of astrophysics in 1898 and director of Yerkes Observatory in 1905 and retired as emeritus professor and director in 1932 His investigations have been particularly in the spectroscopy of the stars, sunspots, and the thermal radiation of the sun He contributed papers to many astronomical journals and from 1902 was editor of the *Astrophysical Journal* Among his works are the autobiographical *An Astronomer's Life* (1934) and *Let's Look at the Stars* (1935)

Frost, Robert, 1875–, American poet, b San Francisco When he was 10 his father died, his Scottish mother moved to Lawrence, Mass, where he grew up In 1892 Frost entered Dartmouth, but was unable to endure the academic routine He worked as a bobbin boy, married at 20 Elinor Miriam White, and attended Harvard two years (1897–99) He tried many jobs, cobbling, editing, and teaching, and settled on a farm near Derry, N H, in 1900 To eke out a living, he also taught English at the Pinkerton Academy in Derry (1905–11) and psychology at the New Hampshire State Normal School (1911–12) In England (1912–15) he met other poets, who honored him, and his first two books of poetry, long denied publication, appeared—*A Boy's Will* (1913) and *North of Boston* (1914) *North of Boston* includes "Mending Wall," "The Death of the Hired Man," and "After Apple-picking" He found himself famous when he returned to America, and in 1916 in *A Mountain Interval* such favorites appeared as "The Road Not Taken," "Brown's Descent," and "The Oven Bird" He taught English and was poet in residence at Amherst much of the time from 1916 to 1943 except for intervals at the Univ of Michigan (1921–23, 1925–26) and Harvard (1936, 1939–42) In 1943 he was made George Ticknor fellow in the humanities at Dartmouth He has taught in the summer Breadloaf School of English, which he helped to found at Middlebury College, Vt, in 1920 His later volumes of poetry include *New Hampshire* (1923), *West-running Brook* (1928), *A Further Range* (1936), *A Witness Tree* (1942), *A Masque of Reason* (1945), *Steeple Bush* (1947), *A Masque of Mercy* (1947), collected editions (1930, 1939), and his *Complete Poems* (1949) He was awarded the Pulitzer Prize for poetry in 1924, 1931, 1937, and 1943 Frost has been called a classic poet, his an authentic New England voice He writes with clarity and conversational ease poems which appeal to all kinds of readers of verse and which are extremely quotable Unsurpassed in genre studies of New England characters, he is also hailed as a subtle symbolist See an anthology of criticisms, *Recognition of Robert Frost* (ed by Richard Thornton, 1938), Lawrance Thompson, *Fire and Ice* (1942), biographical bibliography by Louis Mertins and Esther Mertins, *The Intervals of Robert Frost* (1947)

frost or **hoarfrost,** light feathery deposit of ice, often of curious and delicate pattern, caused by the condensation of water vapor, directly in the crystalline form, on surfaces whose temperatures are below freezing. In manner of formation frost is identical to dew, except that dew forms only when the temperature of the surface upon which the moisture is condensed is above freezing The dates on which killing frosts (frosts destructive to vegetation and staple agricultural products) occur vary considerably. The first and last killing frosts average before Sept 1 and after June 1 in the northern and central Rocky Mt. region, and after Dec 1 and before March 1 along the Gulf coast and parts of California and S Arizona, and at intermediate dates in other regions Maps showing the GROWING SEASON and probable date of occurrence of frost may be obtained from the U S Weather Bureau, Washington, D C The Weather Bureau stations issue warnings when frost is likely to occur, these warnings are broadcast by radio, and are telegraphed or telephoned to farmers and fruitgrowers, who may protect their crops accordingly Methods of protection vary small flower beds and vegetable gardens are commonly protected by a screen or cloth which prevents excessive radiation from the earth and from the plants, while in orchards, especially in California and Florida, simple oil-burning stoves or smudge pots placed at intervals throughout the orchard are used to heat the air sufficiently to prevent frost Huge fans operated by gasoline engines have been used in lemon groves to prevent freezing by circulating the air Valleys are more subject to frosts than slopes, since cold air "slides down hill" and settles in depressions Therefore topography is a factor in the occurrence of frost, as are altitude, latitude, location with reference to large bodies of water, and the other factors determining temperature Orchards and citrus fruit groves are usually planted on slopes Frost, an element of climate, is an important agent of erosion Frost heaving is a factor of consideration in engineering construction, especially in highway foundations In England the word *frost* denotes freezing weather and *degrees of frost* means the number of degrees that the temperature falls below the freezing point. See *Frost and the Prevention of Frost Damage* (U S Dept of Agriculture, Farmers' Bul 1588)

frostbite, injury resulting from exposure to cold which freezes body tissue, causing it to appear grayish white The face, ears, hands, and feet are most apt to be affected Prolonged exposure to cold, especially when there is a high wind and when an individual is fatigued, in poor health, or insufficiently protected by clothing, is apt to result in frostbite The injured part should be gradually thawed by contact with another part of the body, by covering with extra clothing, or by exposure to cool air or cold water Rubbing with snow is harmful since it may bruise and tear the tissue and cause gangrene Exposure to heat is also dangerous A milder form of injury from exposure to cold is known as chilblains As a result of local disturbance of circulation the area affected becomes purplish and there are sensations of burning and itching

Frostburg, resort and trading town (pop 7,659), NW Md , W of Cumberland, in a coal-mining area, settled c 1812 A state teachers college is here, and a state park is near by

Frostproof, town (pop 1,704), central Fla , SW of Lake Kissimmee and between Reedy and Clinch lakes Citrus fruit is canned and packed here

frostweed or **frostflower,** name for several plants which under certain conditions produce radiating ribbons of ice from the base of the stem The ice evidently is exuded from a break in the stem after a sudden frost, but the phenomenon has not been fully studied Genera in which the ice ribbons are most often seen include *Pluchea, Helianthemum,* and *Verbesina* Other plants are called frostflower.

Frothingham, Octavius Brooks (frŏdh'-), 1822–95, American clergyman, b Boston, grad Harvard, 1843, and Harvard Divinity School, 1846 While he was a Unitarian minister in Salem (1847–55) he came under the influence of Theodore Parker In 1859 he organized the Third Unitarian Church of New York, but his doctrines were soon too liberal for orthodox Unitarianism and his followers from all faiths organized the Independent Society Frothingham was president of the Free Religious Association in Boston, 1867–78, until his health broke down In addition to writing sermons and such religious books as his widely read *Religion of Humanity* (1872), Frothingham became historian of the liberalism of his day *Transcendentalism in New England* (1876) and *Boston Unitarianism, 1820–1850* (1890) are today still useful, as are his substantial biographies of his liberal friends, Theodore Parker (1874), Gerrit Smith (1877), and George Ripley (1882) See his *Recollections and Impressions, 1822–90* (1891).

Froude, James Anthony (frōōd), 1818–94, English historian Educated at Oxford, he took deacon's orders, but after coming under the influence of the Oxford movement, he later abandoned the path of Newman and became a skeptic His record of this course in *The Nemesis of Faith* (1849) led to his resignation from an Oxford fellowship He became an intimate friend of Thomas Carlyle, whom he admired extravagantly, and devoted himself to writing and lecturing. In 1872–73 he came to the United States and lectured on Irish questions, and later he traveled in many parts of the British Empire In 1892 he became regius professor of modern history at Oxford. His most important work is *The History of England from the Fall of Wolsey to the Defeat of the Spanish Armada* (12 vols , 1856–70) An indefatigable worker, Froude produced an almost incredible number of volumes. Among his best-known works are *Short Studies on Great Subjects* (4 vols , 1867–82), *The English in Ireland in the Eighteenth Century* (3 vols., 1872–74), *English Seamen in the Sixteenth Century* (1892), several books on Thomas Carlyle and his wife, and biographies of Julius Caesar, Erasmus, and Disraeli He also wrote works on the empire, with a strong imperialist slant, notable among these is *Oceana* (1886) As literature, Froude's works are superb, his style is graceful and fluent, his opinions are competently and clearly expressed As history, they leave much to be desired, his numerous prejudices color all his writing, and he was prone to factual errors Nevertheless, his interest in social questions, his tireless curiosity concerning the past, and the very volume of his work with its independent conclusions give the books value See W H Dunn, *Froude and Carlyle* (1930)

Froude, William, 1810–79, English engineer and naval architect, educated at Oxford, brother of J A Froude In 1837 he worked on the Bristol and Exeter railroad, constructing the line from Whitehall Tunnel to Exeter He studied the motion of a ship among waves, demonstrating that the rolling of a ship could be reduced by a deep bilge keel This fact and his conclusions on the relationship between construction design, efficiency, and power in screwships were extensively used by the British navy He also constructed a dynamometer for measuring the power of large marine engines

frozen foods have been employed by northern peoples from prehistoric times Eskimos throw freshcaught fish on the ice to freeze, and weather-frozen fish have been a trade staple of the Great Lakes region since the mid-19th cent Brine and cold-room convection methods were in use in Europe and America from c 1860 for freezing meat products, fish, poultry, and broken-out eggs By 1905 small fruits were frozen for manufacturers of preserves, bakery products, and ice cream Freezing prevents food spoilage by inhibiting microorganic and enzyme action Deterioration is rapid after thawing, since reactivated organisms attack cells injured by ice crystals The slow sharp freezing is exemplified by early methods In quick freezing, inaugurated commercially for fish in 1925, rapid chilling yields small ice crystals and gives less time for the diffusion of salts and water for microorganic action Several methods of quick freezing include direct contact with the refrigerator, indirect cooling by contact of the product with refrigerated pans, sheaths, metal belts, or plates, cold blasts, or combination methods The rapid growth of the industry has been due to labor- and space-saving features of frozen foods and to preservation with fewer changes in taste, flavor, and appearance than by other methods, it has been paralleled by the development of suitable containers and of specialized methods of transportation, storage, and retailing An increasing variety of quick-frozen fruits, vegetables, juices, meats, and cooked foods is available Domestic preparation of foods for freezing has become common since the establishment of community locker plants and the manufacture of small freezing units See D K Tressler and C F Evers, *The Freezing Preservation of Foods* (2d ed , 1947)

Fructidor (frük'tĭdôr, Fr früktēdôr'), 12th month of the FRENCH REVOLUTIONARY CALENDAR The coup d'état of 18 Fructidor (Sept. 4, 1797), in which General Augereau was a key figure, removed Lazare Carnot and François de Barthélemy from the Directory and was generally directed against the conservatives in the government

fructose (frōōk'tōs, frük'-), **levulose** (lĭv'yŭlōs), or **fruit sugar,** a sugar much sweeter than cane sugar or sucrose, found in honey and in the fruit and other parts of plants Chemically it is a CARBOHYDRATE, its molecule consisting of 6 atoms of carbon, 12 of hydrogen, and 6 of oxygen It has the same chemical formula (see ISOMERISM) as GLUCOSE, with which it is commonly associated in nature and with which it occurs when ordinary cane sugar (SUCROSE) is boiled with water and sulphuric acid It reacts with FEHLING'S SOLUTION and can be differentiated from its isomers (glucose and galactose) by the fact that it forms a red precipitate when treated with a solution of resorcin in hydrochloric acid.

Frug, Simeon Grigoryevich (sēmyōn' grēgôr'yŭvĭch frōōk'), 1860–1916, Russian-Jewish lyricist and writer His poems appeared in Russian and Jewish periodicals under various pseudonyms. They were popular especially with the working classes.

fruit, the fully developed seed-producing organ of a FLOWER Botanically it is the OVARY of the pistil, which occupies the central position in the flower and is the female reproductive organ. The seedlike fruit (see GRAIN) of grasses is commonly called seed, and many food fruits are popularly called vegetables (e.g , beans and tomatoes). Fruits are generally broadly divided into two groups, dry fruits and fleshy fruits. Dry fruits are usually eaten for the seed, and fleshy fruits for the pulp surrounding the seed. Of the dry fruits, important kinds include the grain and the NUT, but there are also several other types. The more common fleshy fruits are botanically classed as pome (with a central seed-bearing core, e.g., apple and pear), drupe (with a central stone or pit containing usually one seed, e g , cherry and peach), berry (with many seeds, e g., tomato, blueberry, and grape), or aggregate fruit (many small drupelike parts united into one structure and popularly called a berry, e g , blackberry and raspberry). Fruit has been a human food probably from the beginning of man's history, it is the first food mentioned in the Bible Fruits were particularly valued by the American Indian who cooked the dried fleshy fruits with many of their dishes As items of food, fruits are eaten raw or cooked or variously preserved by canning (often as a jelly or pickle), freezing, or drying. New hybrid fruits are often introduced See also SEED

Fruita (frōō'tŭ), town (pop 1,460), W Colo , near the Utah line NW of Grand Junction, in a farm area; inc. 1894 Colorado National Monument is near by

fruit fly, common name for certain insects of the family Trypetidae, the larvae of which bore through fruits or other parts of the plant Among those which cause great damage to fruit in North America are the apple or blueberry maggot, the currant and gooseberry fruit fly, and the cherry fruit fly In the warmer parts of the New World the Mexican, the West Indian, and the papaya fruit flies are serious pests The Mediterranean fruit fly, a native of the Old World and destructive to numerous soft-skinned fruits in many tropical and subtropical areas, was found in Florida in 1929 and eradicated there at great cost The Old World olive fly and the melon fly of the Hawaiian Islands are harmful *Drosophila melanogaster,* known as the vinegar, fruit, or pomace fly, is a valuable laboratory insect for studies in genetics

fruit sugar. see FRUCTOSE

Frundsberg, Georg von (gā'ôrk fŭn frōōnts'bĕrk), 1473–1527, German commander in the service of Emperors Maximilian I and CHARLES V He was the principal organizer and commander of the lansquenets [Ger *Landsknechte*], a mercenary army In the ITALIAN WARS, Frundsberg contributed to the victories of La Bicocca (1522) and Pavia (1525) over the French He then helped to end the Peasants' War in Germany, but in 1527 returned to Italy to force Pope CLEMENT VII out of the League of Cognac While trying to pacify a mutiny caused by the announcement of a truce (the troops' pay was in arrear), Frundsberg was struck by apoplexy The troops continued their march on Rome under Charles de BOURBON and subjected the city to a thorough sack

Frunze, Mikhail Vasilyevich (mĭkhŭyēl' vŭsē'lyŭvĭch frōōn'zĕ), 1885–1925, Russian general. A revolutionist, he was exiled (1914) to Siberia, but returned to take part in the October Revolution of 1917 He commanded in the campaigns by which the Soviets recovered Russian Turkistan from A V. Kolchak and the Crimea from P N Wrangel. As people's commissar for the army and navy (1924–25) he reorganized the armed forces. The principal Soviet military academy is named for him

Frunze (frōōn'zĕ), city (1926 pop. 36,610, 1939 pop. 92,659, 1948 estimated pop , 140,000), capital of Frunze oblast and the Kirghiz SSR, on a branch of the Turkistan RR The center of a fertile, irrigated, agricultural area, it processes meat, flour, tobacco, leather, and wool and manufactures agricultural machinery There are several colleges, museums, and theaters Founded in 1878 as a Russian fortress and formerly called Pishpek, it was renamed in 1925 for N. V. Frunze, who was born here. Until 1924, when it was reached by the Turkstb RR, it was a small trading town

Fry, Sir Edward, 1827–1918, English lawyer. In 1877 he was made a judge of the high court of justice, and he served (1883–92) as judge of the court of appeal Later he arbitrated several important international disputes Fry wrote *Specific Performance of Contracts* (1858). See memoir by Agnes Fry (1921)

Fry, Elizabeth (Gurney), 1780–1845, English prison reformer and philanthropist A deeply religious Quaker, she led religious services. From 1813 she worked untiringly for improvement of the conditions of women in Newgate prison, advocating separation of the sexes, employment, and religious training The success of her methods at Newgate impressed the government and were tried in other prisons. For several years she traveled in Europe, visiting penal institutions. Her other philanthropies included the founding of soup kitchens in London See her memoirs (ed. by her daughters, 1847); biography by J. P. Whitney (new ed., 1945)

Fry, Roger Elliott, 1866–1934, English art critic and painter, grad. Cambridge. He was instrumental in

introducing Cézanne and the postimpressionists to England From 1905 to 1910 he was curator of paintings at the Metropolitan Museum A collection, *Last Lectures*, appeared posthumously (1939) See biography by Virginia Woolf (1940)

Fry, Sherry Edmundson, 1879–, American sculptor, b Creston, Iowa, studied in Chicago and Paris and at the American Academy in Rome His work, which is found in many American cities, includes *Modesty* (Metropolitan Mus), decorative sculptures of the pediments for the Henry C Frick house, New York, and for the Clark Mausoleum, Los Angeles, and the statue *Mahaska, Indian Chief* (Oskaloosa, Iowa) and one of Ira Allen (Univ of Vermont)

Fryeburg (frī'bûrg), town (pop 1,726), SW Maine, on the Saco near the N H line, settled 1762, inc 1777 It is a resort in a beautiful region Wood products are made Here in 1725 Indians brought to a disastrous end Lovewell's expedition against them Robert E Peary lived in Fryeburg as a boy and surveyed in the area

Fryth, John see FRITH, JOHN

Fuad I (Ahmed Fuad Pasha (fo͞o-ädˊ), 1868–1936, first king of modern Egypt, son of the deposed khedive, Ismail Pasha Fuad was educated in Europe In 1890 he returned to Egypt and was concerned with military and cultural affairs, founding (1906) the Univ of Cairo Fuad's brother Hussein Kamil succeeded (1914) the deposed khedive Abbas Hilmi The succession went to Fuad on Hussein's death (1917). Fuad acquired the title king in 1922, although the final dissolution of the British dominion in Egypt was delayed until 1923 Fuad's difficulties with the WAFD party led him, in 1928, to abrogate the constitution of 1923 and substitute a new constitution providing for a parliament with advisory powers only Great agitation compelled him, in 1935, to restore the earlier constitution On his death he was succeeded by his son Farouk I

Fuchs, Leonhard (lā'ônhärt fo͞oks'), 1501–66, German physician and botanist. His compendium of medicinal and edible plants, *De historia stirpium* (1542), based in part on Dioscorides' herbal, was long a standard work He was professor of medicine at the Univ of Tübingen from 1535 The genus *Fuchsia* is named for him

fuchsia (fū'shu, fo͞ok'sē-u) [for Leonard FUCHS], any plant of the genus *Fuchsia*, mostly tropical American shrubs, cultivated elsewhere as pot or summer bedding plants and also outdoors in mild climates, they are occasionally used as hedges The pendulous flowers are usually of various shades of red, sometimes with purple Most common fuchsias are hybrids Some species have edible berries and some yield a dye The American Fuchsia Society encourages the cultivation of the plant

fuchsine (fo͞ok'sĭn) or **magenta** (mujĕn'tu), bright red dyestuff consisting of the mixed hydrochlorides or acetates of rosaniline and pararosaniline It is composed of small crystals possessing a brilliant green sheen, which when dissolved produce a red solution, this dyes animal fibers directly and vegetable fibers after mordanting The solution is used as a stain in biology

Fuego, Tierra del see TIERRA DEL FUEGO

fuel, material which can be burned in the presence of air to produce heat for industrial, locomotive, and domestic purposes Various forms of fuel are used, but the chemical principle involved in their COMBUSTION is essentially the same The reaction is one of rapid oxidation involving the union of both the carbon and hydrogen (the important constituents of fuels) with oxygen and one in which heat energy is liberated (an exothermic reaction) The more common solid fuels are coal, coke, charcoal, peat, wood, and briquettes Of the gaseous fuels, coal gas, natural gas, producer gas, and water gas are especially important Others are acetylene, air gas (a mixture of air and certain volatile hydrocarbons, of varying composition, used also as an illuminant), blast furnace gas (essentially carbon monoxide), carbon monoxide, oil gas (from petroleum), and hydrogen The liquid fuels include PETROLEUM (the crude oil) and the products obtained from it, e g , petroleum ether, gasoline, kerosene, and the fuel oil (the residual fraction) used commonly in Diesel engines, and alcohol Fuels are valued according to the amount of heat, in calories or B T U , which a unit weight can produce The storage and handling of fuel is in itself an important industry See J S S Brame and J G King, *Fuel Solid, Liquid, Gaseous* (4th ed , 1935), A R Carr and C W Selheimer, *Fuels and Their Utilization* (1940), Kalman Steiner, *Fuels and Fuel Burners* (1947)

Fuente Obejuna or **Fuenteovejuna** (both fwänˊtā ōvähōōˊnä), town (pop 5,688), Córdoba prov , S Spain, in Andalusia In 1430 it was given to the Knights of Calatrava The revolt of the people against a tyrannical governor is pictured in a play by Lope de Vega The palace of the Knights of Calatrava, formerly a Moorish castle, is now the parish church The town is noted for its honey

Fuenterrabía (fwänˊtĕr-rä'bēä), city (pop. 1,193), Guipúzcoa prov., N Spain, in the Basque Provs, on the French frontier near the Gulf of Biscay. Once an important fortress, it was repeatedly besieged by the French, notably by Condé in 1638 without success The town has preserved its medieval character and its medieval fishermen's guild.

Fuentes de Oñoro (fwänˊtās dā ōnyōˊrō), village, Salamanca prov , W Spain, in Leon, near the Portuguese border It was the scene of two bloody engagements between the British under Wellington and the French under Masséna (May 3 and 5, 1811) in the Peninsular War The French were compelled to retire

Fuertes, Louis Agassiz (fo͞oˊĕrtĕs), 1874–1927, American artist and naturalist, b Ithaca, N Y , grad Cornell Univ , 1897 His paintings of birds appear in most of the leading American ornithological works published in the latter half of his lifetime He is also known for his murals and for his habitat groups at the American Museum of Natural History With W H Osgood he made a scientific expedition to Ethiopia (1926–27), *Artist and Naturalist in Ethiopia* (1936) is a joint account Fuertes was accidentally killed a few months after his return

Fuessli, Johann Heinrich see FUSELI, HENRY

Fugger (fo͞oˊgur), German family of merchant princes The foundation of their wealth was laid by Johann Fugger, allegedly a weaver, who moved to Augsburg c 1380 His descendants built up the family fortune by trade and banking With Jacob Fugger II (1459 1525), called Jacob the Rich, the house entered its zenith It owned extensive real estate, merchant fleets, and palatial establishments throughout Europe Jacob's fortune was largely built on a virtual monopoly in the mining and trading of silver, copper, and mercury He lent immense sums to Emperor Maximilian I and secured the election (1519) of Charles V as emperor by bribing the electors The emperor ennobled the family and granted them sovereign rights over their lands, including that of coining their own money Then the richest family in Europe, the Fuggers were generous as patrons of the arts and learning and as philanthropists, notably at Augsburg, their residence Under Raimund Fugger (1489–1535) and Anton Fugger (1493–1560) the house reached the limits of its power and fortune Its decline paralleled that of the Hapsburgs, whose wars the Fuggers financed Several descendants were prominent but except for some real estate, little is left of the once fabulous wealth See Richard Ehrenberg, *Capital and Finance in the Age of the Renaissance* (Eng tr , 1928), Jacob Strieder, *Jacob Fugger the Rich* (Eng tr , 1931)

fugitive slave laws, in U S history the Federal acts of 1793 and 1850 providing for the return between states of escaped Negro slaves Similar laws existing in both North and South in colonial days applied also to white indentured servants and to Indian slaves As slavery was abolished in the Northern states they became lax in enforcing the 1793 law, to the great irritation of the South, and as abolitionist sentiment developed, organized efforts to circumvent the law took form in the UNDERGROUND RAILROAD Many Northern states also passed personal-liberty laws which allowed fugitives a jury trial, and others passed laws forbidding state officials to help capture alleged fugitive slaves or to lodge them in state jails As a concession to the South a second and more rigorous fugitive slave law was passed as part of the COMPROMISE of 1850 By it "all good citizens" were "commanded to aid and assist [Federal marshals and their deputies] in the prompt and efficient execution of this law," and heavy penalties were imposed upon anyone who assisted Negroes to escape from bondage When apprehended, an alleged fugitive was taken before a Federal court or commissioner. He was not only denied a jury trial but his testimony was not admitted, while the statement of the master claiming ownership, even though absent, was taken as the main evidence The law was so weighted against the fugitives that many Northerners, formerly unconcerned, were now aroused to opposition New personal-liberty laws contradicting the legislation of 1850 (and described, with some justice, by Southerners as equivalent to South Carolina's notorious ordinance of nullification) were passed in most of the Northern states Abolitionists fearlessly defied the 1850 act, often mobbing Federal officials in attempts to rescue fugitives In Boston, for instance, the "good citizens," including some of the foremost Brahmans, stormed the Federal courthouse, but failed to free the escaped Virginia slave Anthony Burns, however, it was thought expedient to have 1,100 soldiers guard him when he was marched aboard ship for his return to bondage In Lancaster co , Pa , a riot broke out when a Federal official ordered Quaker bystanders to help catch a runaway, the Quakers were prosecuted, but not convicted Other notable fugitive slave cases arose in Northern courts, and the trials further stirred up public opinion both North and South The whole dispute probably served not less than the question of the extension of slavery into the territories to set the two sections at each other's throats. The actions of Northern states in nullifying the fugitive slave laws or rendering "useless any attempt to execute them" were cited (Dec. 24, 1860) by South Carolina as one cause for secession Both acts were finally repealed by Congress on June 28, 1864 See M G McDougall, *Fugitive Slaves, 1619–1865* (1891)

fugue (fūg) [Fr , from Ital , =flight], in music, a polyphonic composition in which imitation is a basic principle Fugues are in several voices, usually three or four, each part being called a voice whether the fugue is vocal or instrumental A melody called the subject makes its entry in each voice successively, alternating between the tonic and dominant When a voice has stated the subject, it often follows with a countersubject Passages in which the subject appears are called expositions, others are called episodes Expositions other than the opening one often modulate The various devices of counterpoint are often, though not necessarily, employed The fugue was created in the 17th cent , mainly in Germany Composers important in its development are Sweelinck, Froberger, and Buxtehude The peak of fugal practice is reached in the works of J S Bach, whose last work, *The Art of the Fugue* (1749), treats a single fugue-subject in 16 fugues and 4 canons Practically all the devices known to fugal writing are employed therein with great artistry Mozart and Beethoven adapted fugal writing to classical style, but few fugues were composed thereafter until the 20th cent , which has seen revived interest in fugal style See Ebenezer Prout, *Fugal Analysis* (1892), C M Kitson, *The Elements of Fugal Construction* (1929), M F Bukofzer, *Music in the Baroque Era* (1947)

Führich, Joseph von (yōˊzĕf fün fuˊrĭkh), 1800–1876, Austrian painter, designer, and engraver, studied at Prague Academy and in 1826 joined the German Nazarenes in Rome Most of his life was spent in Prague and in Vienna, where he was a professor in the Academy His paintings are usually of biblical subjects in landscape settings They include frescoes in the churches of St John of Nepomuk and Altlerchenfeld, Vienna, and *Mary's Journey over the Mountain* (Vienna) He achieved greater success with his designs for woodcuts and steel engravings, such as the series for Thomas à Kempis, the Prodigal Son, and the Psalter and the etchings for the Lord's Prayer and Triumph of Christ

Fujiyama, Fuji-yama (both fo͞oˊjēyäˈmä, fo͞oˊjēˈyämə), **Mount Fuji,** or **Fuji-san** (fo͞oˊjēsänˊ), peak, 12,389 ft high, sacred and celebrated mountain of central Honshu, Japan It is the highest elevation of the island and a volcano dormant since 1707 Its symmetrical cone rises WSW of Tokyo to a crater c 2,000 ft in diameter Fujiyama is a familiar subject of Japanese artists The peak is the central feature of Fuji-Hakone National Park

Fukien (fo͞oˊkyĕnˊ), Mandarin *Fu-chien*, province (46,376 sq mi , pop 11,053,860), on the south coast of China, on the China Sea The capital is Foochow The climate is warm and very moist, the terrain mostly hilly or mountainous. Of the ports on the heavily indented coast, AMOY, the only one which can accommodate large vessels, handles most of the foreign trade, although there is a little at FOOCHOW Fishing boats use the many small harbors About a tenth of the land is arable, chiefly very fertile delta Not enough rice is grown for the population's needs Tropical vegetables are cultivated, and sweet potatoes are a staple of the poor On the hills tea is grown, but the former great tea market has been largely lost to India and Japan Despite poor conservation practices, the extensive forests on the mountains provide a considerable lumber industry, chiefly fir and pine Fukien was a major copper-mining area during the T'ang dynasty, but now its mineral resources are scarcely exploited Excellent pottery is made from local clay Many rivers, navigable only by small boats, rise in the mountains The Min-kiang, the most important, runs west, emptying below Foochow Chinese painters have often depicted its gorges and the surrounding hills Because so many places are isolated, Fukien has perhaps the largest number of dialects of any province The people are diverse Most derive from local Chinese stocks, but many are descendants of ancient Hakka migrants from northern provinces or of non-Chinese aborigines. Lack of economic opportunity has led several million Fukienese to emigrate abroad The money they send home provides much of the province's wealth

Fukui (fo͞okōōˊēˈ), city (1940 pop 94,595, 1947 pop. 77,320), capital of Fukui prefecture, central Honshu, Japan It is a major textile center, silk making has been carried on here for many centuries, and today rayon is also made Bombed (1945) in the Second World War, the city was the scene in 1948 of a disastrous earthquake Fukui prefecture has extensive raw-silk, poultry, and fishing industries Its chief port is Tsuruga

Fukuoka (fo͞okōōˊōkäˈ), city (1947 pop. 328,548), capital of Fukuoka prefecture N Kyushu, Japan, a port on Hakata Bay It is a textile and paper-products center and the seat of the Kyushu Imperial Univ The ancient port area, Hakata, was early one of the chief ports of Japan The Mongols sought to take it in 1274 and 1281 Fukuoka prefecture embraces the important industrial centers of Ko-

kura, Moji, Wakamatsu, Yawata, Kurume, and Omuta Chikuho, the largest coal field of Japan, lies in the prefecture

Fukushima (fo͞okō'shēmä), city (1947 pop 86,763), capital of Fukushima prefecture, N Honshu, Japan. It is a silk-textile center

Fulani (fo͞olä'nē), people of NW Africa, numbering some 2,000,000, chiefly in N Nigeria They are of Hamitic stock and mainly Moslem in religion, and they appear to have migrated from the Sahara to the Niger river region In the early 19th cent groups of Fulani conquered some of the Hausa states of Nigeria setting up emirates in their place British military expeditions were needed in the late 19th cent to subjugate them A small percentage of the Fulani are seminomadic cattle herders, the majority are settled farmers or city dwellers

Fulda, Ludwig (lo͞ot'vĭkh fo͞ol'dä), 1862–1939, German dramatist and poet A skillful translator of Ibsen, Molière, Shakspere's sonnets, and the Spanish dramatists, he was a resourceful playwright His works for the stage include *By Ourselves* (1886, Eng tr, 1907), *The Lost Paradise* (1890, Eng tr, 1897), *Der Talisman* (1893), one of the outstanding successes of its period, and *The Pirate* (1911), which was freely adapted by S N Behrman in 1942

Fulda (fo͞ol'dä), city (pop 37,190), Hesse, W Germany, in former Hesse-Nassau, on the Fulda river It grew from the Benedictine abbey founded in 744 by St Boniface From this abbey, long a cultural center, Christianity spread through central Germany The abbots of Fulda ruled the town and the surrounding area as princes of the Holy Roman Empire, and in 1752 they were raised to the rank of prince-bishops Secularized in 1802, Fulda passed (1815) to Electoral Hesse (after 1866 part of the Prussian prov of Hesse-Nassau) Still an episcopal see, Fulda is the meeting place of the annual conference of the Catholic bishops of Germany and has a theological seminary Many of its historic buildings were damaged in the Second World War, but have since then been restored These include notably the baroque cathedral, in the crypt of which St Boniface is buried, the Church of St Michael (9th cent), in Carolingian style, two 10th-century churches, and the baroque château Fulda has textile and chemical industries and is an agricultural market center

Fulgens and Lucrece (fo͞ol'jənz, lo͞okrēs'), play by Henry Medwall, probably produced in 1497 It was the first English play to have a secular and romantic theme See edition by F S Boas and A W Reed (1926)

Fulham (fo͞ol'əm), metropolitan borough (1931 pop 150,928, 1948 estimated pop 123,300) of SW London, England, N of the Thames and opposite Putney A palace of the bishops of London and the tombs of various bishops are in Fulham

Fulk (fo͝ok), 1092–1143, king of Jerusalem (1131–43), count of Anjou (1109–29), great-grandson of Fulk Nerra He made his first journey to the Holy Land in 1120 He returned there in 1129, making his son, Geoffrey IV (Geoffrey Plantagenet), count of Anjou Having married Melisende, daughter of King Baldwin II of Jerusalem, he succeeded his father-in-law in 1131 Fulk's reign was disturbed by dissensions among the Latin princes and by raids of the Turks, whose prisoner he was for a short time in 1137 He was succeeded as king of Jerusalem by his son, Baldwin III

Fulk Nerra (nĕrä'), 972–1040, count of Anjou (987–1040) Continuously at war with his neighbors (Brittany, Blois, Touraine), he vastly increased his territories, notably by seizing Saumur He built numerous castles on his borders and was the founder of Angevin greatness Fulk Nerra went on several pilgrimages to the Holy Land

Fulk of Neuilly, Fr *Foulques de Neuilly* (fo͞olk' du nûyē'), d 1201, French preacher His sermons and alleged miracles gave him a wide popular following in N France, and in 1199 Pope Innocent III appointed him to preach a new crusade (the Fourth Crusade) Tremendous crowds heard him, but he lost his following when the suspicion spread that he had misused some funds he had collected

Fuller, George, 1822–84, American portrait, figure, and landscape painter, b Deerfield, Mass, pupil of Henry K Brown at Albany He first practiced portraiture in Boston and later in New York, where he became (1857) a member of the National Academy Success came in the last decade of his life, when the originality of treatment, richness of tone, and pictorial qualities of his later works awakened widespread interest Among Fuller's best canvases are *Nydia, And She Was a Witch, The Quadroon,* and *Head of a Boy* (Metropolitan Mus), *Winifred Dysart* (Worcester, Mass, Art Mus), *Turkey Pasture, Kentucky, Romany Girl,* and *Arethusa* (Mus of Fine Arts, Boston)

Fuller, Henry Blake, 1857–1929, American novelist and man of letters, b Chicago Avowedly influenced by W D Howells and Henry James, he divided his interest between European and Chicago scenes Among his romantic novels laid in Europe are *The Chevalier of Pensieri-Vani* (1890) and *The Chatelaine of La Trinité* (1892) His novels of Chicago life are early examples of American realism and had an influence on later writers, these novels include *The Cliff-Dwellers* (1893), *With the Procession* (1895), and *On the Stairs* (1918) He wrote many short stories and essays, editorials (1910–14) for the Chicago *Record-Herald,* and book reviews for the Chicago *Evening Post* From the founding of the magazine *Poetry* in 1912 until his death, he was one of its important advisers See study by C M Griffin (1939)

Fuller, John Frederick Charles, 1878–, English soldier He saw active service in the South African War and in the First World War He recognized the importance of mechanized warfare, and as general staff officer of the tank corps he planned the stunning tank attack at Cambrai His ideas, expressed in *Tanks in the Great War* (1920), *On Future Warfare* (1928), and other works, had a great effect on military thinking on the Continent His military analysis was much broader than championing armored warfare, and he established himself as one of the leading military commentators of the day He retired in 1930 but was active as an analyst in the Second World War Among his other works are *Foundations of the Science of War* (1926), *The Generalship of Ulysses S Grant* (1929), *The Dragon's Teeth* (1932), *War and Western Civilization* (1932), and *The Second World War* (1948)

Fuller, Loie, 1862–1928, American dancer, b Fullersburg (now part of Hinsdale), Ill She toured with stock companies and in 1891 appeared in New York as a dancer She gained fame for her "Serpentine Dance," by which, with the use of voluminous draperies and colored lights, she achieved new effects in dancing In later years she conducted a school of dancing in Paris She wrote *Fifteen Years of a Dancer's Life* (1913)

Fuller, Margaret (Sarah Margaret Fuller), 1810–50, American writer and lecturer, b Cambridgeport (now part of Cambridge), Mass, daughter of Timothy Fuller, lawyer Although her works are little read now, she was one of the most influential personalities of her day in American literary circles She was a precocious child and was forced by her father through an education which impaired her health but gave her a broad knowledge of European literature Her first published work was *Conversations with Goethe* (1839), a translation of Eckermann's work, it was followed in 1842 by a translation of the Gunderode-Arnim correspondence A stimulating talker, she established in Boston ladies' conversation classes on social and literary topics From these discussions grew her statement of the feminist position, *Woman in the Nineteenth Century* (1845) She was one of the transcendentalists and edited their journal, the *Dial,* for its first two years Although she has been erroneously identified as Zenobia in Hawthorne's *Blithedale Romance,* she was never in sympathy with the Brook Farm experiment upon which the book is based More recognizable is Lowell's caricature of her as Miranda in the *Fable for Critics* Horace Greeley, attracted by her writings, including *Summer on the Lakes in 1843* (1844), called her to New York as literary critic of the New York *Tribune,* from which were republished her *Papers on Literature and Art* (1846) In 1847 Margaret went to Rome, where she married the Marchese Ossoli, a follower of Mazzini, and with him took part in the revolution of 1848–49 In 1850, while returning to the United States, she was drowned with her husband and infant son when the vessel was wrecked off Fire Island Her works were republished incompletely by her brother, Arthur Fuller, and her love letters were edited by Julia Ward Howe See her memoirs (ed by R W Emerson, W H Channing, and J F Clarke, 1852) and *The Writings of Margaret Fuller* (selected and ed by Mason Wade, 1941), biographies by Julia Ward Howe (1883), T W Higginson (1884), Mason Wade (1940), and Madeline B Stern (1942)

Fuller, Melville Weston, 1833–1910, Chief Justice of the U S Supreme Court (1888–1910), b Augusta, Maine, grad Bowdoin College, 1853 He studied at Harvard Law School, and after 1856 he became a prominent lawyer in Chicago and acquired a national reputation in Democratic politics He was appointed to the Supreme Court bench by President Cleveland In his opinions he leaned toward strict construction of the Constitution Justice Fuller also served as a commissioner to help settle the Venezuela Boundary Dispute and was a member (1900–1910) of the Permanent Court of Arbitration (the Hague Tribunal) See biography by Willard L King (1950)

Fuller, Thomas, 1608–61, English clergyman and writer He was an able preacher and was noted as a wit A moderate Anglican, he adhered to the royalist cause during the civil war and was appointed a royal chaplain after the Restoration He is best remembered for his posthumously published *Worthies of England* (1662), an invaluable store of antiquarian information His other works include a *History of the Holy Warre* (1643), *The Holy State and the Profane State* (1642), and *The Church History of Britain* (1655) See biographies by John Bailey (1874) and Dean Lyman (1935)

fuller's earth, mineral substance characterized by the property of absorbing basic colors and removing them from oils It is composed mainly of alumina, silica, iron oxides, lime, magnesia, and water, in extremely variable proportions, and is generally classified as a sedimentary CLAY In color it may be whitish, buff, brown, green, olive, or blue It is semiplastic or nonplastic and may or may not disintegrate easily in water It was originally used in the fulling of wool, but is now used chiefly in bleaching and clarifying petroleum and secondarily in refining edible oils It is also put to a number of miscellaneous uses Fuller's earth is mined in many parts of the United States, Georgia and Florida being leading producers, and in England near Reigate and Nutfield and near Bath Before it can be used it has to be crushed and dried

Fullerton, Lady Georgiana Charlotte, 1812–85, English novelist and philanthropist Her novels, written from the point of view of a devout Roman Catholic, include *Ellen Middleton* (1844), *Grantley Manor* (1847), *Lady-Bird* (1852), and *Too Strange Not to Be True* (1864) She also translated novels from the French and wrote several biographies See A S Driscoll, *Literary Convent Women* (1928)

Fullerton 1 City (pop 10,442), S Calif, SE of Los Angeles, inc 1904 It is the industrial and processing center of a region producing citrus fruits, vegetables, walnuts, and petroleum A coeducational junior college is here 2 City (pop 1,707), co seat of Nance co, E central Nebr, on the Loup river in a prairie region W of Columbus, platted 1878 Dairy products are made here

fulminate (fo͝ol'mĭnāt), any salt of fulminic acid, but most commonly the name is used to indicate fulminate of mercury, a highly explosive crystalline compound of mercury, carbon, nitrogen, and oxygen Mixed with potassium chlorate, it is used as a detonator (approximately 4 parts mercury fulminate to 1 part potassium chlorate) It is formed when mercury is treated with nitric acid in the presence of alcohol The fulminate of silver is even more explosive

Fulton, Robert, 1765–1815, American inventor, engineer, and painter, b not far from Lancaster, Pa He was a man remarkable for his wide talents and his mechanical genius An expert gunsmith by the time of the American Revolution, he later turned to painting landscapes and portraits in Philadelphia from 1782 to 1786 In England and France he gained some notice with his painting, but his eager interest went into canal engineering and into inventing machinery He worked at making underwater torpedoes and submarines as well as other mechanical devices In 1802 he contracted to build a steamboat for Robert R Livingston, who held a monopoly on steamboat navigation on the Hudson He built the vessel using an English engine, and in 1807 the *Clermont* was launched with considerable fanfare A number of men had built steamboats before Fulton (see STEAMSHIP), including John Fitch and William Symington, but to the popular American mind Fulton, the maker of the first one to be commercially successful in American waters, became the inventor of the steamboat The *Clermont* marked an epoch in American history Fulton also designed other vessels, among them a steam warship See H W Dickinson, *Robert Fulton* (1913), W B Parsons, *Robert Fulton and the Submarine* (1922), C B Lowe, *Quicksilver Bob* (1946)

Fulton. 1 City (pop 2,585), NW Ill, on the Mississippi opposite Clinton, Iowa, inc 1859 It is a trade and shipping center for a farm area 2 City (pop 3,308), SW Ky, 88W of Paducah and at the Tenn line, settled 1860, inc 1874 A railroad center in a farm area, the city also has food-processing plants, a cotton gin, and garment factories SOUTH FULTON, Tenn, which is contiguous, has its own city government but no post office 3 Town (pop 1,154), co seat of Itawamba co, NE Miss, near the Tombigbee N of Columbus, in a farm and timber area, settled 1848, inc 1850 4 City (pop 8,297), co seat of Callaway co, central Mo, NE of Jefferson City, in a farm area, founded 1825, inc 1859 Firebrick and shoes are made here The county has extensive fire-clay deposits The city is the seat of Westminster College (Presbyterian, for men, 1851), William Woods College (junior, for women), and state institutions for the deaf and the insane 5 City (pop 13,362), N N Y, on the Oswego river and the Barge Canal and NW of Syracuse, inc as a village 1835, as a city 1902 Candy, paper products, and woolen goods are made here

Fulvia (fo͝ol'vēə), d 40 B C, Roman woman She was wife, in turn, of P Clodius, Q Scribonius Curio, and (44 B C) Marc Antony, to whom she remained completely loyal She had been attacked (in the *Philippics*) by Cicero, whose tongue she pierced with a needle when his head was brought to Rome (43 B C) She led a revolt in Antony's interest against Augustus, was defeated at Perusia (40 B C), and died at Sicyon See E G Sihler, *Cicero of Arpinum* (1914)

fumigation (fo͞oməgā'shən), disinfection by means of noxious fumes usually derived from formaldehyde or sulphur Such a procedure was formerly thought essential in rooms which had housed persons with communicable diseases Since fresh air, sunlight, and thorough scrubbing of walls and the contents

of the room have been proven effective, fumigation is no longer a common practice

fumitory [Latin, =smoke of the earth], any plant of the genus *Fumaria*, Old World herbs of which the common fumitory (*Fumaria officinalis*) is naturalized in North America It resembles the squirrel corn, to which it is related, but has purplish flowers tipped with red The leaves were long considered to have purifying qualities and were used for scurvy and disorders of the skin and eyes and for other medicinal purposes A related plant known as climbing fumitory, Allegheny vine, or mountain fringe is *Adlumia fungosa*, a native North American vine sometimes cultivated

Funafuti (fōōnəfōō'tē), chief atoll (1 sq mi , pop. 528) of the ELLICE ISLANDS, S Pacific There are 30 islets on a reef c 13 mi long The island was discovered in 1819 by Captain De Peyster and was included in the British colony of Gilbert and Ellice Islands in 1915 An expedition led by Sir Edgeworth David arrived here (1897) and proved the Darwinian theory of atoll formation In the Second World War the island was occupied in 1943 by U S forces, and naval and air bases were established (1945)

Funchal (fōōnshal'), city (pop 54,033), on Madeira, a port on the south coast of the island The changing beauty of the surrounding scenery and the unchanging softness of the climate make it a most attractive resort There is a 15th-century cathedral

function, in mathematics, a quantity of varying numerical value (a variable) whose value is determined by the value of one or more other such quantities, known as independent variables For example, the distance a body falls is a function of the time it is allowed to fall, the volume of an expanding sphere is a function of the length of its radius, x^2 is a function of x

fundamentalism, religious movement arising among conservative members of various Protestant denominations early in the 20th cent , with the object of maintaining traditional interpretations of the Bible and of what they believe to be the fundamental doctrines of the Christian faith It was the outcome of a long existing difference of belief as to the possibility of reconciling the findings of science with the teachings of the Christian churches The stand of the liberals, or modernists, in the matter is that there is not necessarily any conflict between the two But in 1909 a group of those who felt that the orthodox truths of Christianity were in danger organized a protest, which was circulated in a 12-volume publication, *The Fundamentals* (1910–12) Five points of doctrine were set forth as fundamental They are the Virgin birth, the physical resurrection of Christ, the inerrancy of the Scriptures, the vicarious atonement, and the physical second coming of Christ Separations arose within denominations, even within the individual congregation In 1923 the bishops of the Episcopal Church issued at Dallas, Texas, a pastoral letter requiring literal acceptance of the creeds Particular cases arose in different places and in various denominations Dr Harry Emerson Fosdick who, although a Baptist, was a preacher in the First Presbyterian Church, New York, was requested to accept the required standards of doctrine in order to continue his ministry in that church Instead, he withdrew. The struggle against instruction in the schools in subjects considered a threat to orthodoxy was climaxed in a trial in Dayton, Tenn Here, in 1925, William Jennings BRYAN, a fundamentalist leader, won the state's case against J T Scopes, accused of teaching evolution in the public schools Aggressive fundamentalism was particularly strong in the South and in agricultural districts in the 1920s See S G Cole, *The History o Fundamentalism* (1931)

Fundamental Orders, in U S history, the basic law of Connecticut colony from 1639 to 1662, formally adopted (Jan 14, 1639) by representatives from the towns of Hartford, Wethersfield, and Windsor, meeting at Hartford Thomas Hooker, John Haynes, and Roger Ludlow were most influential in framing the document, which was not "the first written constitution that shaped a government," as it has been popularly called Nor did it mark the beginning of a "commonwealth democracy," another misconception fostered by 19th-century historians straining hard to mark the foundations of American democracy Its provisions for voting (see CONNECTICUT) reveal how little democratic it really was This, however, is no reflection on the importance or soundness of the document, for political democracy, as we know it today, was virtually nonexistent in the 17th cent except in such rare cases as the colony under Roger Williams Indeed the Puritans regarded unconfined democracy as an aberration of man's mind To them only the most substantial, respectable, and reliable Christians were considered worthy to build up a community essentially religious in design The Fundamental Orders consisted of a preamble and 11 orders or laws The preamble bound the inhabitants of the three towns to be governed in all things by the orders that followed, and these were similar to the statute laws of other New England colonies, differing only in that they were combined together in a brief, clear, compact frame of government (Ludlow, a lawyer, is thought to be chiefly responsible for the excellence of the final form) The government or "combination," as Hooker called it, confirmed the system already functioning in the three towns since 1636 and closely resembled the Massachusetts model The main concern of the Fundamental Orders was the welfare of the community, not of the individual, who always had to give way if the needs of the community at large so required it Connecticut's charter of 1662 superseded and was largely based on the Fundamental Orders See C M Andrews, *The Colonial Period of American History*, Vol II (1936)

Fundy, Bay of, large inlet of the Atlantic Ocean, 170 mi long and 30 to 50 mi wide, between New Brunswick and SW Nova Scotia It is celebrated for its tide or BORE which in its upper arms, Chignecto Bay and the Minas Basin, reaches 40 to 50 ft in height At low tide wide flats are laid bare and the long estuaries of the rivers are drained Some of the flats have been diked off and are very fertile, particularly on Minas Basin, where the early Acadian settlers began the practice of reclamation Tides in the bay are strong and treacherous Annapolis Royal on the Nova Scotia side of the bay is the oldest settlement in Canada St John, N B , is the chief port on the bay

Fundy National Park, 79 5 sq mi , S N B , on the Bay of Fundy, between the upper Salmon and Goose rivers and ENE of St John, est 1949 It has high bluffs on the shore line, and the wooded interior is being developed as a recreation area

funeral customs The prevalence of a religious spirit and the general incomprehension of the mystery of death among human beings are the essential basis for the universal practice of funeral rites Such rites may serve to mark the passage of a person from life into death, to secure the welfare of the dead, and to protect the living from the dead Disposal of the dead may be by BURIAL (e g , in a GRAVE or tomb, or under a BARROW or CAIRN), by CREMATION, by exposure (e g , in a tower of silence, see PARSIS), by committal to the deep (often classed with burial), or by other methods The preparation of the corpse is usually most elaborate when it is to be buried (see COFFIN, EMBALMING, MUMMY) It is a general practice to bury or burn with the dead such things as were dear in life and may be valuable in death, and the most elaborate form this has ever taken was in EGYPTIAN RELIGION, for the burial of kings and others (see PYRAMIDS) SUTTEE and the practice of killing slaves with their master are undoubtedly examples of this Funeral ceremonies, perhaps the most highly traditionalized of all human practices, have certain widespread features These include evidences of mourning, such as the wearing of black and in some countries the use of hired mourners, funeral feasts and watching the dead, of which the WAKE is a composite example, and the religious ceremonies proper These differ according to religious belief, Roman Catholic funerals are entirely occupied with praying for the repose of the soul in PURGATORY (see REQUIEM), a eulogy being incidental, while Protestant funerals nearly always assume the welfare of the soul and tend to comfort or edify the living The harshness of death customs may be evident in the fact that persons who have little respect for religious or other tradition nearly always provide their dead with decent funerals See B S Puckle, *Funeral Customs* (1926), R P Lee, *Burial Customs* (1929), Effie Bendann, *Death Customs* (1930), A C Rush, *Death and Burial in Christian Antiquity* (1941)

Fünfkirchen, Hungary see PECS

fungicide (fŭn'jĭsīd") [Latin, =fungus killing], any substance used to destroy fungi Sulphur compounds, long used to destroy fungi on plants, have been supplemented by other chemicals, especially by compounds of copper, such as BORDEAUX MIXTURE and BURGUNDY MIXTURE, and of mercury Fungicides, including formaldehyde, are applied also to seeds and soil for the destruction of vegetative spores Plant fungicides are usually applied by SPRAYING or dusting Fungicides used on wood to prevent the development of fungi causing dry rot include creosote oils, zinc chloride, borax, and copper compounds Organic and metallic salts toxic to fungi are used to make fabrics resistant to mildew See Hubert Martin, *Scientific Principles of Plant Protection* (3d ed , 1940), J G Horsfall, *Fungicides and Their Action* (1945), D E H Frear, *Chemistry of Insecticides, Fungicides, and Herbicides* (2d ed , 1948)

fungus (fŭng'gŭs), plural **fungi** (fŭn'jī), plant without chlorophyll belonging to the Thallophyta, one of the four main divisions of the plant kingdom Like the ALGAE the fungi lack true roots, stems, and leaves Unlike the algae they are unable to manufacture food by photosynthesis and must live either parasitically (on living things) or saprophytically (on dead organic matter) Fungi reproduce by fission, budding, and spore formation They bear no flowers, seeds, or fruits Included in the fungi are BACTERIA, MILDEW, MOLD, MUSHROOM, RUST, SMUT, YEAST, PUFFBALL, TRUFFLE, and the bracket fungi, which grow on trees and stumps. The slime molds are usually considered fungi although their position is controversial See E C Large, *The Advance of the Fungi* (1940)

Funk, Casimir (kä'zĭmēr fōōngk'), 1884–, American biochemist, b Poland, Ph D Univ of Bern, Switzerland, 1904 He came to the United States in 1915 and was naturalized in 1920 Credited with the discovery of vitamins, Funk stirred public interest with his paper (1912) on vitamin-deficiency diseases He coined the term *vitamine* (now vitamin) and later postulated the existence of four such materials (B_1, B_2, C, D) which he stated were necessary for normal health and for the prevention of deficiency diseases Funk contributed to knowledge of the hormones of the pituitary and sex glands and emphasized the importance of the balance between hormones and vitamins He is the author of *Vitamines* (Eng tr , 1922)

Funston, Frederick, 1865–1917, U S general, b New Carlisle, Ohio He was a newspaper reporter and a field agent (1888–95) of the Dept of Agriculture, exploring Death Valley and the Yukon Love of adventure led him to enlist in the army of Máximo Gómez y Báez to help win Cuban independence from Spain This experience led to his being called to head a Kansas regiment in the Spanish-American War Though his troops took no active part in the war itself, they were sent to the Philippine Islands to help put down the insurrection there When his army discharge papers were already made out, Funston by a daring feat captured the insurgent leader, Emilio AGUINALDO Instead of leaving the army he became a brigadier general In 1914 when U S troops entered VERACRUZ, he was given command of the occupying troops, and as major general he commanded later in wars on the Mexican border He wrote *Memories of Two Wars* (1911)

Fuquay Springs (fōō'kwā), town (pop 1,323), central N C , SSW of Raleigh It has a tobacco market and lumber and hosiery mills

fur, hairy covering of an animal, especially the skins of such animals as have thick, soft, close-growing hair next to the skin itself and coarser protective hair above it The underhair is often called the underfur or fur proper, the outer hairs are the guard hairs, the whole, when dried, is the pelt The term *fur* is extended to dressed sheep and lamb skins when they are prepared for wearing with the hair kept on and (usually) curled (persian lamb, karakul, astrakhan, and mouton) Pony hides when used for clothing may also be called fur Since far back in prehistoric days furs have been used for clothing by man, and numerous varieties of animal skins have been and still are used Since many animals change the color of their coat from winter to summer, it is possible to have two different types of fur from the same species (e g , Arctic hare, Arctic fox) Some of the more prized furs are sable, marten, and fisher (all of the genus *Martes*), the related mink and ermine (of the genus *Mustela*), and the chinchilla from South America The staple fur of the great fur-trading days in North America was the beaver, though the fur seal was the object of different but highly lucrative fur hunts The humbler muskrat and the otter also have loomed important Ocelot, wildcat, the common house cat, the marmot, the nutria, the raccoon, the hare, and the rabbit produce somewhat cheaper furs While beaver and seal are prized for their durability, such furs as the squirrel and the skunk are prized especially for their delicacy of texture Fox furs have been much esteemed, and the rare wild silver fox and Pribelof blue fox are sought after, though silver fox is now much bred on fur farms Other furs are also now grown extensively by fur farming, which has, indeed, developed in the United States and Canada into a major industry in the 20th cent The hunting of wild furs still continues as an important occupation in wilderness sections, notably in N Canada, Alaska, Mongolia, and Siberia The finer wild furs come from the more northerly regions, where the climate causes the animals to produce sleeker and better pelts In more northerly regions, too, man finds furs indispensable as clothing (e g , the Eskimo) This is not to say that good furs have not been produced and utilized in more southerly regions The Indians in the present SE United States trapped animals for furs, and Louisiana has yielded large quantities In the more populated and temperate regions of the world, however, only small pockets of territory retain enough wild animal life to be good for fur hunting This condition has been true for centuries and has a bearing on the fact that furs have in trade always been luxury goods and were early connected with royalty and nobility (e g , sable and ermine) not only in Western Europe but in the Orient as well Fur trade has gone on since antiquity, but it reached its apogee as organized exploitation of the wilderness of North America and Asia from the 17th to the early 19th cent The desire for furs was an important factor in the commercial life of all the British seaboard colonies in North America, but its effect in opening the wilderness was even more striking in Canada, where the rivers and lakes offered avenues to the heart of the continent The licensed traders (including such eminent men as La Salle) and the

coureurs de bois thrust far into the wilderness and bought furs from even the remote tribes of Indians The speed with which fur traders (like the missionaries, but in another cause) got half-way across the continent was remarkable The Great Lakes region was being pretty thoroughly exploited by men buying furs from the Indians before the end of the 17th cent The effect on the Indians who got the white man's goods (including firearms and liquor, not to speak of the white men's diseases) in exchange for the furs was cataclysmic, native cultures were overturned This process occurred also among the natives of far NE Siberia as Russian traders reached that remote region in the 18th cent The *promyshlenniki* [fur traders] pushed even farther across the icy seas and prepared the way for the long Russian occupation of ALASKA The greatest of the British companies, the HUDSON'S BAY COMPANY, contended after 1670 with the French traders in Canada, and after Canada became British in 1763, with French and Scottish traders based on Montreal The NORTH WEST COMPANY was created, and rivalry was bitter until the two companies were combined in 1821, taking the name Hudson's Bay Company The largest of the companies in the United States was John Jacob Astor's AMERICAN FUR COMPANY, which also came into conflict with the North West Company, notably in 1812–13 at the Pacific coast establishment of ASTORIA By that time the Canadian traders had strung their posts out clear across the continent (first crossed in the north by Sir Alexander MACKENZIE) and were at the door of the Russians in Alaska A U S law in 1816 excluded British traders from the United States, and many British fur traders who had helped to build the Old Northwest were reluctantly compelled to become U S citizens The trade in the United States was now pushing west ahead of the advancing line of settlement, and the rich fur territories of the upper Missouri river, which had been tapped earlier by such traders as Manuel Lisa and Andrew Henry, attracted attention After the first expedition of William Henry Ashley in 1823, the now-celebrated MOUNTAIN MEN (chief among them Kit Carson, Jim Bridger, and Thomas Fitzpatrick), who were trappers more than they were traders, made the Rocky Mt West known The popularity of the beaver hat had helped make the demand for the staple article of the American fur trade beaver, enormous, but fashion changed, and the beaver hat declined in importance The fur trade declined with it An equally important factor was the advance of settlement, for the trade in wild furs could not flourish on a large scale near farms Finally, there was the depletion of the stock of beaver and other fur-bearing animals, hunted relentlessly for centuries, the square miles of beaver country were shrinking to acres The day of the fur trader was ended in the 1840s in the United States and S Canada, but only after he had humbly and anonymously contributed untold amounts of geographical knowledge and lore learned from the Indians to the development of both nations The depletion of fur-bearing animals was strikingly shown in the fate of the sea otter on the Northwest Coast, which had brought fortunes to mariners taking the prized skins to China in the last decade of the 18th cent The threat of similar complete extinction of the fur seal later led to the international quarrel called the BERING SEA FUR-SEAL CONTROVERSY The preparation and sale of furs remains, however, a very considerable business The dressing and dyeing of furs, the matching and the cutting to make fine fur coats and other garments occupy the labors of a great many people, concentrated in a few great fur markets of the world This luxury trade is an integral part of modern economy, and the skills involved are complex Dressing and dyeing have, indeed, reached new heights and such unnatural (though beautiful) products as blue mink are a market commonplace To protect the public against possible misrepresentations laws have been adopted, such as the requirement that the true[name of the fur be given last (e.g , what once was called Hudson seal is now Hudson seal-dyed muskrat) There are innumerable studies of the history of the fur trade, many of them monographs on particular areas or particular traders. Among the more general works are H. M Chittenden, *The American Fur Trade of the Far West* (3 vols , 1902), C A Vandiveer, *The Fur-Trade and Early Western Exploration* (1929); H. A. Innis, *The Fur Trade in Canada* (1930), G. L Nute, *The Voyageur* (1931), R H Fisher, *The Russian Fur Trade, 1550–1700* (1943), S R. Tompkins, *Alaska* (1945); Bernard De Voto, *Across the Wide Missouri* (1948). See also Max Bachrach, *Fur a Practical Treatise* (rev. ed , 1946), the periodical *Fur Trade Journal*.

fur farming, practice of raising animals in captivity for their fur. Sheep were domesticated early in Asia and fur farming might be said to have begun then with the use of karakul and other valuable pelts as furs The raising of animals for fur grew with the sharp decline in fur trapping in Canada and the N United States, and in the 20th cent it grew to be quite a sizable business, particularly in Canada and Alaska Fur farming has expanded also in many portions of the United States Most common are probably the fox farms, which have developed new subspecies of foxes more desirable for their fur Mink farms are being increasingly operated and are improving the breeds of mink. Until recently there has been great prejudice against farm furs, but with the steady development of the industry it is being recognised that in some cases the highly bred furs are superior to the wild furs See F G Ashbrook, *Fur Farming for Profit* (rev ed , 1948)

furfural (fûr'fŭrăl") or **furfuraldehyde** [from Latin, =bran], an oily liquid boiling at 161°–162°C , commonly used as a solvent It has a pleasant aromatic odor and is colorless, but upon exposure to the air it turns dark brown or black It is soluble in alcohol and ether and somewhat soluble in water. An organic compound composed of carbon, hydrogen, and oxygen, it is the ALDEHYDE of pyromucic acid, with properties similar to those of benzaldehyde It is a derivative of furan and is prepared commercially by the distillation of cornstalks and corncobs, husks of oat and peanut, and other waste products, as well as of wood tar, bran, and sugar It forms molding resins with acetone and phenol Furfural is employed also in making some deodorants, disinfectants, preservatives, and a black enamel and in paint removers It was discovered by Johann Wolfgang Doberemer.

Furies see ERINYES

Furka (fo͝or'ka), road, Switzerland, linking Uri and Valais cantons Built (1864–66) chiefly for military reasons, it crosses Furka Pass, 7,990 ft high A rail line goes through Furka Tunnel

Furman University. see GREENVILLE, S C

furnace. There are many kinds of furnaces, the type depending upon the use to which the heat produced within it is put Most familiar are the furnaces used in the heating of buildings In the hot-air furnace, fuel is burned within an inner wall, and air, led into a space between the inner and the outer wall, is heated and is led away to the various rooms of the building Hot-water furnaces, by which water is heated and led through pipes to radiators, and furnaces which turn water to steam to be used for heating purposes are common The KILN is a kind of furnace In metallurgy, the separation of many metals from their ores is accomplished by the use of various kinds of furnaces, e g , the BLAST FURNACE and the REVERBERATORY FURNACE The structure of these furnaces makes possible a good control of temperature. In the production of STEEL, however, the open-hearth furnace and the Bessemer converter are used in the treatment of cast iron Electric furnaces are extensively used in the production of high-grade steels for use in making steel alloys and for the manufacture of high-speed tools Heat is generated in these furnaces because of the very high resistance offered to the passage of an electric current Either an arc is produced between the negative and positive electrodes of the current is passed through a mixture of materials which have low conductivity Of the former type is the Héroult electric furnace used in making high-grade steels In the preparation of phosphorus from calcium phosphate, this compound of phosphorus is mixed with sand and carbon (charcoal) and treated in the electric furnace The electric current passing from one electrode to the other through the mass causes the extremely high temperature needed to bring about the chemical action which results in the production of free phosphorus Graphite is produced from coal in the electric furnace, carbon disulphide is prepared by the direct combination of sulphur and carbon in the high temperature, and the extremely hard carborundum is made by the combination of carbon and silicon (from sand) Nitrogen is obtained from the air (in the Birkeland-Eyde process) by passing a stream of air through a high-tension arc produced in an electric furnace The nitrogen and oxygen of the air then combine to form nitric oxide

Furneaux Islands (fûr'nō), group in Bass Strait between Tasmania, to which it belongs, and Australia The largest is Flinders Island The islands produce sheep, dairy products, and tin They were discovered in 1773 by Tobias Furneaux, British navigator, after whom they were named

Furness, Horace Howard (fûr'nĭs), 1833–1912, American Shakspearian scholar, b Philadelphia, grad Harvard, 1854, son of William Henry Furness Editor of the New Variorum edition of Shakspere, he was succeeded on death by his son, **Horace Howard Furness, Jr.,** 1865–1930, who gave his father's Shakesperian library to the Univ. of Pennsylvania

Furness, William Henry, 1802–96, American Unitarian clergyman and author, b. Boston, grad Harvard, 1820, and Cambridge Theological Seminary, 1823 For 50 years (1825–75) he was active minister of the First Unitarian Church, Philadelphia, as pastor emeritus, he continued preaching. For some 40 years he was also active in the antislavery movement. Among his literary works are a number of studies of the life of Jesus, hymns, and translations of German prose and poetry.

Furness, hilly district of Lancashire, England, forming a peninsula between the estuary of the Duddon and Morecambe Bay. The northern portion is part of the Lake District In the southwest are the rich iron mines and great engineering works which center at Barrow-in-Furness. Furness Abbey, near Barrow, was a wealthy institution, founded for Benedictines in 1127, the ruins are noteworthy.

Furniss, Harry, 1854–1925, British caricaturist, illustrator, and lecturer. He early contributed to the *Illustrated London News* and served (1880–94) on the staff of *Punch* There his cartoons and humorous illustrations were long a popular feature. He illustrated many books, including Lewis Carroll's *Sylvie and Bruno* and complete editions of Dickens and Thackeray Furniss also wrote and illustrated humorous books, such as *Confessions of a Caricaturist* (1901) and *Harry Furniss at Home* (1903)

furniture, properly such movables as chairs, tables, and beds It is extended to include draperies, rugs, mirrors, lamps, stoves, and other furnishings In its gradual evolution from periods of earliest civilization, the history of furniture parallels the progress of culture Furniture has been made in a great variety of materials and decorated by many methods, the most usual being INLAYING, painting or gilding, WOOD CARVING, veneering, and MARQUETRY Western furniture has drawn motifs of ornament from four chief sources, Egyptian, Asiatic (Persian and Chinese), Greek, and Gothic Probably the first pieces demanded by use were the CHEST, the stool (prototype of the CHAIR), the TABLE, and the BED From remote times Oriental furniture has exhibited carving and inlay on ebony and teak Egyptian pieces 6,000 years old display an advanced form of woodworking, structure, and decoration and are characterized by inlays of gold and ivory and by supports carved to represent animal forms The Greeks favored the low couch, the TRIPOD, and a chair with graceful, curved outlines The Romans adopted Greek and Etruscan forms and during the imperial period developed many ornately decorated variations The heavily carved Gothic furniture reflected styles in architecture The Renaissance brought, under Italian influence, richly decorated pieces designed specifically for domestic interiors. Many European countries developed characteristic styles expressive of southern exuberance or of northern restraint and conforming to periods of INTERIOR DECORATION Peasant pieces were in general solid, painted or rudely carved, and slow to change in style Provincial pieces followed, in simplified form and in native woods, the period styles developed in the centers of culture France became a leading influence with the LOUIS PERIOD STYLES, DIRECTOIRE STYLE, and EMPIRE STYLE English period styles include Elizabethan, in oak, with huge, bulbous supports, Jacobean, lighter and more comfortable, with spiral supports, William and Mary, introducing curved outlines, the trumpet leg, and the inverted-cup foot, Queen Anne, in walnut, characterized by cyma curves, the cabriole leg, and the broken pediment, Georgian, with its fine cabinetwork in a number of styles set by such designers as CHIPPENDALE, HEPPLEWHITE, the brothers Robert ADAM and James Adam, and SHERATON Early American furniture adapted current English styles in utilitarian form and in native woods—pine, maple, cherry Later PHYFE, SAVERY, John GODDARD, and other expert cabinetmakers added walnut and mahogany The late 19th cent brought mass production of machine-made furniture and saw a phase of bad taste in golden oak of rococo design followed by a reaction in America to the Mission style of rectilinear construction in weathered oak. In the 20th cent , French and English period styles were revived and many attempts were made to develop a new style The contemporary trend is toward functional design, free use of bleached wood, plywood, tubular steel, glass, and synthetic materials, low, horizontal lines, built-in pieces and unit furniture, and chairs that follow body contours See H D Eberlein and Abbot McClure, *The Practical Book of Period Furniture* (1914), Joseph Aronson, *The Encyclopedia of Furniture* (1938), L E Cotchett, *The Evolution of Furniture* (1939)

Furnivall, Frederick James (fûr'nĭvûl), 1825–1910, English philologist, one of the promoters of the *Oxford English Dictionary*, educated at Cambridge He helped to found several learned societies, including the Early English Text Society He also assisted in the organization of the Working Men's College, London

Fürst, Julius (vo͞o͝l'vo͞os fürst'), 1805–73, German Orientalist, of Jewish origin He was one of the most distinguished Semitic scholars of his time. Not only successful as a literary historian, he was among the first to apply scientific principles to the study of Semitic linguistics.

Fürth (fürt), city (pop. 95,369), Middle Franconia, Bavaria, on the Regnitz river, near Nuremberg. It manufactures machinery, precision instruments, textiles, glass, and other articles. Founded in 793, Fürth rose to importance when the Jews who were denied entrance into Nuremberg settled here (14th cent.). Gustavus II of Sweden made it his headquarters and fought an indecisive battle here with Wallenstein in 1632. Fürth was a terminal of the

first German railroad (Nuremberg-Fürth, opened 1835). It was damaged in the Second World War.
fur trade: see FUR.
Furtwängler, Adolf (ä'dôlf fo͝ort'vĕng-lûr), 1853–1907, German archaeologist, authority on ancient vases and gems. He made important excavations at Olympia, Aegina, and Orchomenus and wrote the authoritative *Meisterwerke der griechischen Plastik* [masterpieces of Greek sculpture] (1893), a smaller edition of which was later translated into English, *Die antiken Gemmen* [antique gems] (1900); and, with Karl Reichhold, *Griechische Vasenmalerei* [Greek vase paintings] (1900–1904).
Furtwängler, Wilhelm (vĭl'hĕlm), 1886–, German conductor. He began his career conducting opera in Lübeck (1911–15) and Mannheim (1915–19). In 1922 he succeeded Arthur Nikisch as conductor of the Berlin Philharmonic Orchestra. He appeared as guest conductor with the New York Philharmonic from 1925 to 1928 and as its permanent conductor in the season of 1937–38. In 1934 he resigned his post with the Berlin Philharmonic when the Nazis banned the performance of Paul Hindemith's music. He returned, however, and conducted that orchestra during the Second World War. He was tried by the American military government in Germany and in 1947 was cleared of charges that he had collaborated with the Nazis.
furuncle see BOIL.
Fury and Hecla Strait (fyo͝o'rē, hĕk'lə), narrow channel, N Canada, between Baffin Island and the north tip of Melville Peninsula. It connects Foxe Basin with the Gulf of Boothia. It was discovered by Sir William E. Parry in 1822 and named for his ships. The strait is nearly always ice-blocked, even in summer.
furze [O.E.], any plant of the Old World genus *Ulex*, spiny, nearly leafless shrubs with fragrant yellow pealike blossoms. The common furze (*Ulex europaeus*), called also gorse and whin and naturalized in parts of the United States, has been variously used as a sand binder, low hedge, and, in Europe, for fuel and winter fodder.
Fusan, Korea: see PUSAN.
fuse, electric, a safety device in an ELECTRIC CIRCUIT which automatically "breaks" the circuit, stopping the flow of electricity when the current exceeds the amount which can be safely carried. The common house fuse consists of a thin strip of low-melting alloy enclosed in an insulated case of porcelain or glass with a mica top. When too heavy a current in the circuit raises the temperature of the conductors above the danger point, the alloy strip melts, breaking the circuit, and the fuse is said to have "blown out." In the cartridge fuse the alloy strip is merely covered with an asbestos wrapping. A circuit breaker is employed where a fuse is not practical. It is essentially a switch which is opened by an electromagnet.
Fuseli, Henry (fo͞o'zlē), 1741–1825, Anglo-Swiss painter and draughtsman, b. Zurich, known also as Johann Heinrich Fuessli or Füssli. He came to England c.1763 and studied in London. He also spent a few years in Italy, where he made the studies for his famous series of nine paintings for John Boydell's Shakespeare Gallery. Returning to England, he exhibited *The Nightmare*. His paintings include a series illustrating Milton, but he is perhaps at his best in his dramatic drawings and sketches, of which he left over 800. Fuseli admired William Blake and gave him much needed aid and encouragement. Some of his lectures as professor of painting at the Royal Academy have been published. See biography by John Knowles prefacing Fuseli's collected works (1831), Paul Ganz, *The Drawings of Henry Fuseli* (1949).
fusel oil (fo͞o'zəl) [Ger., =inferior liquor], oily, colorless liquid with a disagreeable odor and taste. It is a mixture of alcohols (largely amyl alcohols) and fatty acids, occurring in the alcoholic fermentation of organic materials and, after imperfect distillation of these fermentation products, as an impurity in the distilled liquor. Fusel oil is used as a solvent in the manufacture of certain lacquers and enamels (it dissolves nitrocellulose). Its effect upon the human system is detrimental.
Fushun (fo͞o'shōōn'), city and county (pop. 59,953), NE Liaoning prov., China. The city is connected by rail with Shenyang and Talien. The Fushun coal mine, one of the largest in the world, has been in operation since the 12th cent. A.D. It provides most of the coal for the South Manchurian RR.
fusion, in physics: see MELTING POINT and HEAT.
Füssli, Johann Heinrich: see FUSELI, HENRY.
Fust, Johann, d. 1466, printer at Mainz. Johann GUTENBERG borrowed substantial sums of money from Fust, a goldsmith and money lender. When Gutenberg was unable to repay these sums, his press and types became Fust's property. In partnership with his son-in-law, Peter Schoffer, Fust carried on the work begun by Gutenberg. Fust and Schöffer were the first to print in colors (1457), using red and blue inks as well as black. They printed the first dated book (1457). Greek type was first used in 1465, by Fust and Schoffer in Mainz and by Conrad Sweynheym and Pannartz at Subiaco, near Rome. After the death of Fust, Schoffer continued the work theretofore done in partnership with him.
Fust or **Faust, Johann**, fl. 16th cent.: see FAUST.
Fustel de Coulanges, Numa Denis (nümä' dənē' fo͞stĕl' du kōōlänzh'), 1830–89, French historian. His masterly study, *La cité antique* (1864, Eng. tr., *The Ancient City*, 1874), stressed the influence of religion on the development of the Greek cities and of Rome. He lost his professorship at the Univ. of Strasbourg after Strasbourg became German and turned to medieval history. The result was a work of profound and original scholarship, *Histoire des institutions politiques de l'ancienne France* (6 vols., 1882–92, rev. ed. by Camille Jullian, 6 vols., 1905–14). In it Fustel attacked the general belief in the Germanic origin of feudalism and the manorial system and advanced instead a forceful argument tracing these institutions to Roman influences. His beliefs were widely attacked, but they opened the way for new interpretations of early medieval history.
fustic (fŭ'stĭk), wood of a tree (*Chlorophora tinctoria*) of the tropical forests of Central America and South America. From the heartwood is obtained a dye, also called fustic, which produces yellow, brown, and olive colors and is used chiefly for dyeing woolens. It has to a large extent been superseded by anilne dyes. Sometimes the dye is called old fustic to distinguish it from a substitute material known as young fustic or zante fustic which is obtained from the smoke tree *Rhus cotinus*.
futurism, Italian school of painting, sculpture, and literature which flourished from 1909, when Filippo Tommaso Marinetti's first manifesto of futurism appeared, until c. 1915. Carlo Carrà, Luigi Russolo, Gino Severini, and Giacomo Balla were the leading painters, Umberto Boccioni the chief sculptor of the group. They strove to portray movement and the dynamic character of 20th century life. Futurism glorified danger, war, and the machine age and, in theory at least, favored the growth of fascism.
Fyn (fün), island (1,149 sq. mi., pop. 338,013), Denmark, in the Baltic Sea, separated in the west from S Jutland by the Little Belt and in the east from Zealand by the Great Belt. Odense, Svenborg, and Nyborg are the chief cities. The second largest of the Danish isles, Fyn is a fertile agricultural lowland and has extensive dairy farming and cattle breeding.
Fyne, Loch (lŏkh fin'), arm of the Firth of Clyde, Argyllshire, Scotland. It extends 40 mi. N and NE from the Sound of Bute and is 1 to 5 mi. wide. The shore has numerous small lochs (e.g., Gilp and East Tarbert) and glens. The loch has long been famous for its herring fisheries. The Crinan Canal terminates at Lochgilphead. The leading city on Loch Fyne is Inveraray.
Fyt, Jan (yän' fit'), 1611–61, Flemish animal painter and etcher, second only to Frans Snyders, with whom he studied. He was early admitted to the painters' guild of Antwerp. In 1631 he went to Italy, where he remained 10 years. Returning to Antwerp in 1641, he enjoyed a high reputation in his field, collaborating frequently with Rubens, De Crayer, and Jordaens. Among his noted works are *Eagle's Feast* (Antwerp) and *Game and Fruit* (Vienna). The Metropolitan Museum has five studies of dead game.
Fyzabad or **Faizabad** (both fī'zŭbăd), town, E central United Provs., India, joint municipality with AJODHYA (total pop. 57,632). Fyzabad enjoyed its greatest glory as the capital (1724–75) of the kingdom of Oudh (1724–1856). The mausoleum (c. 1816) of a royal consort is one of the finest buildings. The town has sugar refineries and trades in produce.

G

G, seventh letter of the ALPHABET. It is a usual symbol for a voiced velar stop, as in the English *go*. It was originally a differentiated form of Greek gamma, which has C as its formal Roman correspondent. In MUSICAL NOTATION G represents a note in the scale.
Ga, chemical symbol of the element GALLIUM.
Gaal (gā'əl), leader of the Shechemites in their uprising against Abimelech. Judges 9:26–57.
Gaash (gā'ăsh), hill in Mt. Ephraim. Here Joshua was buried. Joshua 24:30, Judges 2:9, 2 Sam. 23:30, 1 Chron. 11:32.
Gaba (gā'bə), variant of GEBA.
Gabb, William More, 1839–78, American paleontologist, b. Philadelphia, trained largely under James Hall. He was paleontologist (1862–65) on the Geological Survey of California and wrote most of the two volumes dealing with paleontology in the survey's reports. He traveled over Lower California on muleback in 1867 and prepared the first adequate geological interpretation, as well as a geological map, of the peninsula. Three years' work in Santo Domingo followed, and a map and geological study of that country resulted. In 1873 he went to Costa Rica to survey the province of Talamanca. He prepared studies on the geography and Indian tribes of the region, but was stricken with tropical fever and never finished his reports. He was the chief American authority of his day on the marine forms of the Cretaceous period and, as a pioneer in the field, described several hundred new forms.
Gabbai (gă'bī) [Heb., =collector of tribute], Benjamite. Neh. 11:8.
Gabbatha (gă'bəthə) [Heb., =high place], yard or porch where Pilate sat in judgment on Jesus. John 19:13.
Gabelentz, Hans Conon von der (häns' kō'nôn fən dĕr gä'bəlĕnts), 1807–74, German linguist. He showed the broad lines of affinity among Pacific languages. A remarkable polyglot, he spoke 30 languages well and knew some 40 others.
Gabelsberger, Franz Xaver (frants' ksä'vər' gä'bəlsbĕr'gûr), 1789–1849, German stenographer. He invented a popular German shorthand system.
Gabès (gä'bĕs), town (pop. 22,512), E Tunisia, on the Gulf of Gabès, an arm of the Mediterranean. It is a fishing port and the center of an oasis noted for its date palms. A settlement was founded here by the Phoenicians.
Gabii (gā'bē-ī), ancient town of Latium, 12 mi. E of Rome on the road to Praeneste. Legend says that Romulus was reared here. One of the most important of the Latin cities, it supposedly resisted a siege by Lucius Tarquinius Superbus, but it was early overshadowed by Rome and had lost all importance even in the days of the republic. In the Middle Ages the city of Castiglione rose on the site.
Gabinius, Aulus (ô'lŭs gŭbĭ'nē-ŭs), 100 B.C.–c. 48 B.C., Roman statesman and general. When tribune of the plebs he conferred (*Lex Gabinia*) upon POMPEY command of the war against the pirates and, as consul (58 B.C.), in alliance with P. CLODIUS, he contributed to the exile of CICERO. He went to Syria as proconsul (57 B.C.), and restored Ptolemy XI to the throne of Egypt. On return to Rome he was impeached (54 B.C.) and exiled notwithstanding a defense by Cicero (undertaken at Pompey's behest). In the civil war he fought for Caesar, but took no active part against Pompey.
Gabirol: see IBN GABIROL, SOLOMON BEN JUDAH.
Gable, Clark, 1901–, American moving-picture actor, b. Cadiz, Ohio. After acting in stock companies and on Broadway, he began his career in moving pictures in 1930. Among the many films in which he has starred are *Susan Lenox*, *It Happened One Night* (in which he demonstrated his skill as a comedian), *Mutiny on the Bounty*, *San Francisco*, *Parnell*, *Saratoga*, and *Gone with the Wind*.
gable, in architecture, the vertical wall area (generally triangular) occurring beneath the ridge line of a roof and bounded by the sloping sides of the roof surface. In classical architecture it is called the PEDIMENT.
Gablonz: see JABLONEC NAD NISOU.
Gabon: see FRENCH EQUATORIAL AFRICA.
Gaboriau, Émile (āmēl' gabôryō'), 1835–73, French writer of popular detective stories, creator of M. Lecoq and Père Tabaret. He was one of the first writers of this genre and was immensely popular in English as well as in French. His works include *L'Affaire Lerouge* (1866; Eng. tr., *The Widow Lerouge*, 1891), *Le Dossier No. 113* (1867, Eng. tr., 1899), *Monsieur Lecoq* (1868, Eng. tr., 1880), and *La Corde au cou* (1873, Eng. tr., *In Peril of His Life*, 1883).
Gabriel (gā'–) [Heb., =man of God], archangel, the divine herald. In the Bible he appears to Daniel (twice), to Zacharias, and to the Virgin Mary in the Annunciation (see MARY). Dan. 8:16, 9:21, Luke 1:19, 26, 27. Christian tradition makes Gabriel the archangel trumpeter of the Last Judgment. 1 Thes. 4:16. In Islam, Gabriel revealed the Koran to Mohammed, becoming the angel of truth. In art and literature Gabriel is mainly treated as the angel of the Annunciation or in the Last Day. In the Annunciation he often carries a lily, properly the symbol of the Virgin. He is often represented on churches with trumpet raised and facing east, ready to proclaim the Second Coming. Feast, March 24.
Gabriel, Jacques Ange (shäk' äzh' gäbrĕl'), c. 1698–1782, French architect. Descendant of a long line of architects, he ranks as the most distinguished French architect of his century. He gave French architecture the elements of classical repose, purity of form, and restraint. He was appointed (1742) first architect to the king and for 30 years worked for Louis XV at Versailles, Compiègne, and other royal residences. In 1753 he designed Place Louis

XV (now Place de la Concorde), one of the beauty spots of modern Paris He designed also the twin palaces north of the square and (1748) the theater of the palace of Versailles In 1752 he commenced the vast École militaire in Paris, completed by A T Brongniart, and in 1755 began work on the unfinished parts of the Louvre, which he later had to suspend In 1768 he finished the Petit Trianon in the gardens of Versailles, which exemplifies the highest architectural attainment of 18th-century France

Gabrieli, Andrea (ändrā'ē, gäbrē'lē), 1510–86, Italian organist and composer, pupil of Adrian Willaert In 1536 he was a chorister at St Mark's Cathedral, Venice, where, in 1566, he became organist at the second organ He composed madrigals, motets, Masses, and *ricercari* and *canzoni* for organ He was the teacher of Sweelinck, of Hans Leo Hassler, and of his nephew **Giovanni Gabrieli** (jōvän'nō), 1557–1612 He lived for a time in Munich, possibly as the pupil of Lasso, and c 1584 became organist at the first organ of St Mark's In his works elements of the transition from the Renaissance to the baroque are seen, particularly in his differentiation of the choral and solo ensembles and in specific directions, in his later works, concerning the instrumentation His *Sonata pian'e forte*, published in his *Sacrae symphoniae* (1597), employs the baroque use of contrasts in dynamics and represents the beginnings of modern orchestration

Gabrilowitsch, Ossip (ô'sĭp gŭbrĭlô'vĭch), 1878–1936, Russian-American pianist and conductor, pupil of Anton Rubinstein at the St Petersburg Conservatory and of Leschetizky His debut was made in Berlin in 1896 He was well known both as a brilliant pianist and as conductor of the Munich Konzertverein Orchestra, 1910–14, and the Detroit Symphony Orchestra, 1918–36 He married Clara Clemens, concert singer, daughter of Mark Twain

Gabun see FRENCH EQUATORIAL AFRICA

Gad [Heb , =fortune] **1** Son of Jacob and Zilpah and eponymous founder of one of the tribes of Israel Its allotment was half of Gilead, E of the Jordan and NE of the Dead Sea This was the land best suited to the pastoral life, which Gad, like Reuben, continued after the years in Egypt Gad was captured by Tiglath-pileser Gen 30 11, 35 26, 49 19, Num 2 14, 13 15, 32 1,2,34, Deut 3 12, 33 20, Joshua 13 24, 1 Chron 5 18,26, 12 8,14 **2** Seer of David's reign He wrote one of the lost histories, he worked with Nathan in planning the musical services 1 Sam 22 5, 2 Sam 24 11–19, 1 Chron 21 9–19, 29 29, 2 Chron 29 25

Gadames, Libya see GHADAMES

Gadara (gă'durŭ), ancient city, Trans-Jordan, SE of the Sea of Galilee It was in the Decapolis, Vespasian destroyed it Extensive ruins mark the probable site The terms *Gadarenes, Gergesenes,* and *Gerasenes* appear variously for the locale of the celebrated miracle of the possessed swine They probably refer to an obscure town on the east shore of the lake Mat 8 28, Mark 5 1, Luke 8 26

Gaddi (gă'dī), Manassite sent by Moses into Canaan Num 13 11

Gaddi (gad'dē), celebrated family of Florentine artists **Gaddo Gaddi** (gad'dō), c 1260–c 1333, painter and mosaicist, is said by Vasari to have been associated with Cimabue and Giotto Among the mosaics attributed to him are those in the portico of Santa Maria Maggiore, Rome, and *Coronation of the Virgin,* over the portal in the Florence cathedral His son, **Taddeo Gaddi** (tad-dā'ō), c 1300–c 1366, painter and architect, the most talented pupil and the godson of Giotto, whom he assisted for 24 years, was the leader of Florentine painting after his master's death His works include the ceiling painting and a series of frescoes representing scenes from the life of the Virgin, in the Baroncelli Chapel in Santa Croce, Florence, the fine *Last Supper* in the refectory of the same church, remains of frescoes in San Francesco, Pisa, altarpieces (Naples and the Uffizi), *Madonna with Sants* (Santa Felicita, Florence), a series of episodes from the lives of Christ and of St Francis, formerly in Santa Croce and now in the Florence Academy, a predella with scenes from the life of St Lawrence (Brooklyn Mus), and an altarpiece, *Madonna and Child with Sants* (Metropolitan Mus) The architectural achievements attributed to him are the completion of Giotto's work on the Campanile, Florence, and the planning of Ponte Vecchio Taddeo's son, **AgnoloGaddi**(a'nyōlō), c 1350–1396, a pupil of his father and of Giovanni di Milano, was also a follower of Giotto His works, though deficient in design, are decorative, good in color, and inclined to realism, with dignified and well-drawn figures His works include the frescoes *Discovery of the Cross* (Santa Croce, Florence), the series representing the legends of the *Holy Girdle* (cathedral, Prato), and four paintings in the National Gallery of Art, Washington, D C Agnolo was the master of Cennino Cennini His brother, **Giovanni Gaddi** (jōvän'nē), d 1383, was also a painter of considerable talent, most of whose work was destroyed in the remodeling of Santo Spirito, Florence His promising career was cut short by early death

Gaddiel (gă'dēĭl, gădī'ŭl), leader of Zebulun sent by Moses to explore Canaan Num. 13 10

Gade, Niels Vilhelm (nēls' vĭl'hĕlm gä'dhŭ), 1817–90, Danish composer He studied in Leipsig (1843–48), where he met Mendelssohn and Schumann His eight symphonies, his chamber music, and his cantatas are essentially Scandinavian but they show the influence of German romanticism.

Gades see CÁDIZ

gadfly, name applied to the HORSEFLY or breeze fly and sometimes to the BOTFLY

Gadhelic (gudĕ'lĭk), same as Goidelic or Gaelic, a classification of Celtic languages See LANGUAGE (table)

Gadi (gā'dī), father of Menahem, king of Israel. 2 Kings 15 14,17

Gadir see CÁDIZ

gadolinium (gădōlĭ'nēum), rare metallic element (symbol=Gd, for physical constants, see ELEMENT, table), a metal of the RARE EARTHS The rare-earth gadolinia, the oxide of the metal, was obtained by J C G de Marignac in 1880 and by P E L de Boisbaudran in 1886 and was named for the mineral gadolinite, from which it was extracted

Gadsden, Christopher, 1724–1805, American Revolutionary leader, b Charleston, S C , educated in England He returned to Charleston (1746) and became a wealthy merchant At the Stamp Act Congress (1765) he was one of the first to urge colonial union against England's policy of taxation Gadsden served in the Continental Congress (1774–76) and favored independence In the struggle over the South Carolina constitution in 1778 he was a radical, favoring separation of Church and state and popular election of senators He was captured when the British took Charleston (1780), and imprisonment by the British broke his health He later helped to secure ratification of the Constitution and still later opposed the Jeffersonians

Gadsden, James, 1788–1858, American railroad promoter and diplomat, b Charleston, S C , grad Yale, 1806, grandson of Christopher Gadsden He served in the War of 1812, under Andrew Jackson against the Seminole Indians, and, later, as commissioner to remove the Seminole to their reservation in Florida He was a promoter of railroads and advocated a Southern rail system which would control the trade of the South and the West and free those regions from their dependency on the North To further this end he promoted Southern commercial conventions and at a convention in Memphis in 1845 boldly urged the construction of a railroad to the Pacific In 1853, when his friend Jefferson Davis was Secretary of War in Pierce's cabinet, Gadsden was appointed minister to Mexico, to negotiate for territory along the border The result was the GADSDEN PURCHASE He was recalled (1856) for exceeding his instructions and retired to Charleston

Gadsden, industrial city (pop 36,975), co seat of Etowah co , NE Ala , near the Lookout Mts NE of Birmingham, founded c 1845, inc 1871 Alabama City was annexed in 1932 Iron, coal, limestone, sand, clay, and timber are found in the area There are metal and textile industries and a large tire and rubber plant

Gadsden Purchase, strip of land purchased (1853) by the United States from Mexico The Treaty of Guadalupe Hidalgo (1848) had described the U S – Mexico boundary vaguely, and President Franklin Pierce wanted to insure U S possession of the Mesilla Valley near the Rio Grande—the most practicable route for a southern railroad to the Pacific James GADSDEN negotiated the purchase, and the U S Senate ratified (1854) it by a narrow margin The area of 45,535 sq mi , purchased for $10,000,000, now forms extreme S New Mexico and Arizona S of the Gila

Gadshill (gădz'hĭl), low hill, Kent, England, near Rochester It is noted as the scene of Falstaff's robberies in Shakspere's *Henry IV* "Gadshill Place" was the home of Charles Dickens from 1856 until his death in 1870

Gaea (jē'u) [Gr ,=earth], Greek earth-goddess, daughter of CHAOS, and mother of URANUS and PONTUS Her children by Uranus were the Cyclopes, the Hecatoncheires, and the Titans (see TITAN) To Pontus she bore five sea-deities—Nereus, Thaumas, Ceto, Phorcus, and Eurybia She was worshiped as the mother of all things, a counselor of gods and men The oracles of DELPHI and Olympia traced their origin to her The Romans identified her with Tellus

Gaelic (gā'lĭk), the Celtic languages spoken in Ireland and Highland Scotland Generally the form spoken in Ireland is known as Irish, that in Scotland as Scottish or Scottish Gaelic Gaelic may also be used to include Manx Erse is sometimes used as a *synonym* for Gaelic See LANGUAGE (table)

Gaelic literature, literature of Gaelic-speaking Ireland and Scotland Irish literature is conventionally divided into Old Irish (before 900), Middle Irish (until 1350), Late Middle, or Early Modern, Irish (until 1650), and Modern Irish (from 1650) Scottish Gaelic has become separate from Irish Gaelic in modern times only The old literary monuments of Irish survive in Middle Irish manuscripts, copies of older ones, the chief are the Book of the Dun Cow, the Book of Leinster, the Yellow Book of Lecan, the Book of Ballymote, and the Speckled Book. Middle Irish literature consists of romances or sagas, which fall into two groups—the Red Branch cycle (sometimes called the Ulster cycle) and the Fenian cycle The first of these deals with an Ireland populated with swaggering pagan heroes, greatest of whom is CUCHULAIN, central personage of the Ulster legends and of the great monument *Táin Bó Cúalnge* [the cattle raid of Cooley] The form of the Irish saga is the same as that of the Icelandic saga, which may have borrowed the form from Ireland, the narrative is in prose, but the dialogue, when it is impassioned, is in verse Irish saga is not Homeric in style, as its heights are lyrical A characteristic of all older Celtic literature is a beautiful simplicity and terseness varied by an exaggerated heaping of epithet and detail Some scholars allocate the inspiration of the Ulster sagas to the conquering Celtic aristocracy of Ireland, and the cycle of the Fenians (see FENIAN MOVEMENT) to the aboriginal conquered inhabitants At any rate, the Fenian literature is in its present form much later in origin than the Ulster saga, for paganism is modified, and Christianity is represented as coming in the extreme old age of OSSIAN, the poet of the Fenians *Acallam na Senorach* [colloquy of the ancients], a discussion between Ossian and Patrick, is the chief Fenian text A most artistic Fenian work is *The Pursuit of Diarmuid and Grainne* The air of the Fenian literature is gentler than that of the Ulster saga the lyric sings not so much of war and death as of love and nature and separation The themes and tales of the Red Branch died from popular memory long ago, except for the tale of DEIRDRE, but the Fenian legends survived into modern times, especially in Scotland, whence came the garbled *Ossian* to excite Europe in the 18th cent Middle Irish prose and poetry dealt not only with more literary forms, but with law, medicine, topography, and ecclesiastical subjects These make up great collections and many translations of continental works, a large portion are valuable not only as they throw light on Irish history (e g , the innumerable annals and the law collections) but also on medieval culture in general In ancient Ireland the poet held a privileged position, and apparently in Ireland, as probably in Wales, Christianity gave the poets a kind of national position as guardians of the native tradition, successors of the pagan priests After the coming of the Norman-English in the 12th and 13th cent the poets became the spokesmen of Gaelic culture Among them three may be mentioned, the courtly, patriotic Gilbride Albanach McNamee (13th cent), the religious poet Donough Mor O'Daly (13th cent), and Teig Og O'Higgins (15th cent) The late medieval prose includes one of the most celebrated Gaelic narrative collections, *The Three Sorrows of Story-telling,* which includes the immortal Deirdre The 16th and 17th cent saw a great poetic revival and the rise of modern Irish prose At this time Gaelic Ireland was fighting her losing battle with England, and Gaelic literature became more passionately patriotic and more militantly Catholic as the English conquered The best-known bard of the time is Teig Dall O'Higgins (d 1591), who lived with one family or another, singing the praises of each with melodious verse Quite different, but just as capable, was Eochy O'Hussey, poet of the Maguires of Fermanagh, who had one of the most patriotic and cultured courts of the country Eochy is the poet of the dying Gaelic Catholic Ireland, undaunted, passionate, and beautiful Before Cromwell came to Ireland, bardic poetry had begun to decline The 16th- and 17th-century prose in Ireland is transitional, it begins with some delightful tales in Middle Irish and comes to its fruition with Geoffrey Keating (1570–c 1650), whose religious works and monumental historical study of Ireland are the foundation of Modern Irish literature The greatest Irish scholar of the time was Michael O'CLERY, among other students of Gaelic culture are some English-speaking Protestants, notably Bedell, bishop of Kilmore and Ardagh, translator of the Old Testament Bedell's Bible is a fine piece of Gaelic, but it had little influence among the predominantly Catholic Irish The penal age of Ireland may be dated from Cromwell's arrival (1649), and Gaelic literature served to keep alive the old culture of the submerged Catholics From Louvain, Belgium, came a stream of religious books in Gaelic, these circulated around Ireland, how it is not known In Ireland the popular poetry was largely in the hands of wandering poets, who repeated the old stories and made new songs on the dolorous events of the time Chief of these was Anthony Raftery, of whom Donn BYRNE has written There is a great bulk of the verse of the poets of penal times, much of it lovely The penal times in Ireland were hardly over before Irish Gaelic received a great blow, this was the potato famine of 1847 The terrible depopulation of Ireland hurt most the Gaelic West, and the proportion of Gaelic speakers in Ireland dropped in three years from more than three fourths to one quarter In the 19th cent., Irish scholarship came into its own again and resulted, through the efforts of John O'Donovan, Eugene O'Curry, and

Standish Hayes O'Grady, in a Gaelic literary revival A great part in the revival itself was held by the Gaelic League and Douglas Hyde The principal figures in this new Gaelic literature were Canon Peter O'Leary (d 1920), Patrick O'Connor (d 1928), the gifted and noble Patrick Henry Pearse (d 1916), and Maurice O'Sullivan The connections between Gaelic Scotland and Gaelic Ireland were close until the rise of Presbyterianism in Scotland But since the 16th cent, Scottish Gaelic has had a literature of its own Very interesting are the remains contained in the Book of the Dean of Lismore and the Fernaig MS Here the Fenian cycle is well represented The great event of modern Scottish Gaelic culture is "the '45," when Bonnie Prince Charlie (Charles Edward Stuart) came back There was a great burst of poetry after the '45 that defied the repressive measures of Parliament and mourned the English triumph The poet par excellence of the rebellion was Alexander Macdonald (MacMaster Alasdair) He was more original than Duncan Ban McIntyre, whose poems hark back to older forms and older subjects At the end of the century came Macpherson's *Ossian* In the 19th and 20th cent a number of Highland poets and prose writers used Gaelic for their medium In general the Scottish Gaels have preserved their language and literary activity better abroad (e g , in Nova Scotia) than the Irish, but at home Scottish Gaelic is disappearing faster than Irish Most of the monuments of Gaelic literature have been translated into English, e g , by Lady Gregory, Eleanor Hull, Tom Peete Cross, and (for Scotland) James MacGregor See Douglas Hyde, *Literary History of Ireland* (1899), A S De Blácam, *Gaelic Literature Surveyed* (1933)

Gaertner, Joseph see GÄRTNER, JOSEPH

Gaeta (gä'ta), city (pop 4,967), S Latium, central Italy, a seaport Between the promontory on which Gaeta is built and the Italian mainland lies the Gulf of Gaeta The coast from Gaeta to Formia was a favorite resort of the ancient Romans A prosperous duchy from the 9th to the 12th cent, Gaeta lost its independence to the Normans and shared thereafter the fortunes of the kingdom of Naples The citadel and port were strongly fortified Pope Pius IX took refuge here (1848-49) The fall of Gaeta to Victor Emmanuel II of Sardinia after a long siege (1860-61) marked the end of the rule of FRANCIS II over the kingdom of the two Sicilies There is a fine 13th-century campanile The cathedral and other medieval buildings were seriously damaged in the Second World War

Gaffney, city (pop 7,636), co seat of Cherokee co , NW S C , NE of Spartanburg near the N C line, in a farm area, inc 1875 It has textile mills Limestone College (for women, 1845) is here

Gafsa (gäf'sa), town (pop 11,320), S central Tunisia, in an oasis It is in a region rich in phosphates, whose exports, together with dates, olives, and woolen goods The town was destroyed by Marius in the war against Jugurtha and was rebuilt under the Roman Empire The region about Gafsa (ancient Capsa) has yielded artifacts of an upper Paleolithic culture (Capsian) of North Africa and S Europe, probably contemporaneous with the Aurignacian culture

Gág, Wanda (gag), 1893-1946, American artist and writer for children, b New Ulm, Minn , studied at St Paul and Minneapolis art schools and at the Art Students League of New York Distinguished especially for her lithographs, she illustrated *Tales from Grimm* (1936) and *Snow White and the Seven Dwarfs* (1938) Among her own gay and imaginative books for children are the popular *Wultions of Cats* (1928), *The Funny Thing* (1929), and *Nothing at All* (1941) See her autobiographical *Growing Pains* (1940), biography by A O Scott (1949)

Gage, Henry Phelps: see GAGE, SIMON HENRY

Gage, Lyman Judson, 1836-1927, American banker and statesman, b Madison co , N Y After banking employment, he went (1855) to Chicago and there became (1891) president of the First National Bank of Chicago He declined President Cleveland's offer to appoint him Secretary of the Treasury, but after Gage supported William McKinley against William Jennings Bryan, he became (1896) President McKinley's Secretary of Treasury He won public approval for his conduct of fiscal affairs during the Spanish-American War, but resigned (1902) under President Theodore Roosevelt

Gage, Matilda Joslyn, 1826-98, American woman suffrage leader, b Cicero, N Y Joining the woman's rights movement in 1853, she edited in Syracuse, N Y , the *National Citizen*, a feminist journal In 1881 she collaborated with Elizabeth Cady Stanton and Susan B Anthony in their *History of Woman Suffrage* She was president of the National Woman Suffrage Association from 1875 to 1876

Gage, Simon Henry, 1851-1944, American biologist, b Maryland, N Y , grad Cornell Univ (B S , 1877) From 1878 to 1908 he taught at Cornell Besides important work in comparative histology and embryology, he is known for his standard work, *The Microscope* (1881, 17th ed , 1941) His first wife, **Susanna (Phelps) Gage,** 1857-1915, b Morrisville, N Y , grad Cornell (Ph B , 1880), was well known among scientists for her work in comparative anatomy Their son, **Henry Phelps Gage,** 1886-, b Ithaca, N Y , Ph D Cornell, 1911, after 1911 was in charge of the optical laboratories at the Corning Glass Works, Corning, N Y With his father he wrote *Optic Projection* (1914)

Gage, Thomas, d 1656, English traveler. Sent to Spain to study, he became (1603) a Dominican He lived and traveled among the Indians of Central America from 1625 to 1637, when he returned to Europe In 1641 he went to England, renouncing Catholicism and becoming an Anglican clergyman In 1654 he went as chaplain with an expedition to the West Indies and died in Jamaica His chief claim to fame is as the author of *The English-American His Travail by Sea and Land, or, A New Survey of the West Indies* (1648)

Gage, Thomas, 1721-87, British general in North America He came to America (1754) with Gen Edward Braddock and took part in the ill-fated expedition against Fort Duquesne (1755) Later in the French and Indian War he served under James Abercromby and Jeffrey Amherst Gage was appointed (1760) governor at Montreal and later succeeded Amherst (1763) as commander in chief of British forces in North America He thus had a highly significant post in the years when trouble between the colonists and the British government grew, and the soldiers were cordially disliked by many of the colonies In the critical year of 1774 he was chosen to succeed Thomas HUTCHINSON as governor of Massachusetts, where affairs were most critical He tried to put down the dissident forces in the colony and to enforce the Intolerable Acts He it was who ordered the arrest of Samuel Adams and John Hancock In April, 1775, he sent soldiers to seize military stores at Concord, and the colonial militia resisted, the battles of Lexington and Concord on April 19 began the American Revolution In Oct , 1775, he resigned, Gen William Howe succeeded him See his correspondence (ed by C E Carter, 1933)

Gager, Charles Stuart (gā'jur), 1872-1943, American botanist and educator, b Norwich, N Y , Ph D Cornell Univ , 1902 From 1910 he was director of the Brooklyn Botanic Garden Among his publications are *Effects of the Rays of Radium on Plants* (1908), *Heredity and Evolution in Plants* (1920), *The Relation between Science and Theology* (1925), and *The Plant World* (1931)

Gagern, Heinrich, Freiherr von (hīn'rĭkh frī'hĕr fŏn gä'gûrn), 1799-1880, German statesman A Hessian parliamentary leader and a conspicuous advocate of German unity, he became (1848) president of the FRANKFURT PARLIAMENT He at first favored Prussian leadership and the exclusion of Austria from German affairs, but later reversed his stand

gag rules, procedural rules in force in the U S House of Representatives from 1836 to 1844 With the growth of antislavery feeling after the founding of the American Anti-Slavery Society in 1833 the House was deluged with thousands of antislavery petitions, especially of the variety praying for the abolition of slavery in the District of Columbia Southerners, with the aid of Northern Democrats, secured passage of the gag rules, which prevented the discussion of antislavery proposals in the House The fight to secure the right of petition, waged virtually singlehandedly, and brilliantly, by John Quincy Adams, aroused the North, and the gag rules were repealed They had the effect of strengthening the cause of the ABOLITIONISTS

Gagry (gä'grē), city (1940 estimated pop 12,000), Abkhaz ASSR, Georgian SSR, on the Black Sea and at the foot of the Greater Caucasus It is a subtropical health resort

Gaham (gā'hŭm), nephew of Abraham Gen 22 24

Gahar (gā'här), Nethinim family returning with Zerubbabel Ezra 2 47, Neh 7 49

Gaillard, David Du Bose (gā'lŭrd), 1859-1913, American army engineer, b Clarendon co , S C , grad West Point He established a reputation for the execution of difficult engineering projects involving hydraulic work and channel dredging His *Wave Action in Relation to Engineering Structures* (1904) is considered authoritative on its subject In 1908 he was sent to assist General GOETHALS on the PANAMA CANAL and was given charge of the central division, which included the excavation of Culebra Cut, acknowledged to be the most difficult portion of the undertaking His success was gained at the cost of his health National regret at his death led President Wilson to change the name of the cut from Culebra to Gaillard

Gaillardet, Théodore Frédéric (tāôdôr' frādārēk gäyärdā'), 1808-82, French journalist He collaborated with Dumas père in writing *La Tour de Nesle*, a play produced with great success in Paris in 1832 Subsequent misunderstanding over it involved the two in a duel in which neither was injured Gaillardet arrived in the United States in 1837, and after three years of travel and reporting for French newspapers, he settled in New York city He edited the *Courrier des Etats-Unis* until 1848, making it the leading French newspaper in the country He returned to France in 1848, but frequently visited America. His *L'Aristocratie en Amérique* (1883) ranks among the more brilliant interpretations of America by a foreigner

gaillardia (gālär'-) [from Gaillard, a Fr botanist] or **blanketflower,** any plant of the genus *Gaillardia*, chiefly western American herbs with showy heads of composite flowers The heads are red or yellow or both, usually with dark purple centers Gaillardias are easily grown, long-blooming annuals, biennials, or perennials and are popular for bedding and cutting.

Gaines, Edmund Pendleton, 1777-1849, U S army officer, b Culpeper co , Va , brother of George S Gaines He spent his boyhood in Tennessee and at the age of 20 joined the U S army He surveyed (1801-4) Gaines Trace between Nashville and Natchez Later (1804) in Alabama, he arrested Aaron BURR and then testified at the Burr trial in Richmond For his service in the War of 1812 he received many citations Sent as a commissioner to treat with the Creek Indians, he served under Andrew Jackson in the Creek and Seminole campaigns He later took part in the Black Hawk War and led an expedition in the war in Florida There he fell into dispute with Gen Winfield SCOTT, and a court of inquiry censured them both Gaines was in command of the Western Dept of the army at the opening of the Mexican War and faced court-martial for calling for volunteers on his own authority He defended himself so ably that the charges were dismissed

Gaines, George Strother, c 1784-1873, Alabama pioneer, b Stokes co , N C , brother of Edmund P Gaines From 1806 to 1819 he was U S factor and Indian agent at SAINT STEPHENS, strategic post on the Tombigbee river near the disputed West Florida boundary He became a particular friend of the Choctaw Indians, thus giving the United States control over their territory and trade, and his influence kept them from joining Tecumseh's confederation against the Americans He opened Gaines Trace, from the Tennessee river to the Tombigbee, and aided the settlers who poured into the Alabama country after 1816 When the Choctaw Indians were to be removed beyond the Mississippi, they insisted that Gaines join their chiefs in selecting them lands, and Gaines later accompanied them again in their migration He served (1825-27) in the Alabama senate and later gained wealth as a merchant in Mobile, retiring in 1856 to his plantation at State Line, Miss See biography by J W Silver (1949)

Gaines's Mill see SEVEN DAYS BATTLES

Gainesville [for Gen E P Gaines] **1** City (pop 13,757), co seat of Alachua co , N central Fla , SW of Jacksonville, founded c 1854, inc 1869 The first settlement here, a trading post, was made in 1830, just before the Seminole War The city is a resort and an industrial and shipping center dealing in naval stores, lumber, citrus fruits, vegetables, and, notably, tung oil The Univ of Florida (see FLORIDA, UNIVERSITY OF) is here North of the city is a state institution for the feeble-minded Paynes Prairie, a large marsh, lies to the south **2** City (pop 10 243), co seat of Hall co , N Ga , near the Chattahoochee river NE of Atlanta, in the Blue Ridge foothills, inc 1821 It is a trade and industrial center (with textile mills) in a farm area Brenau College (for women, 1878) is here, near by is Riverside Military Academy In 1936 a tornado severely damaged the city **3** City (1940 pop 9,651, 1947 estimated pop 12 000), co seat of Cooke co , N Texas, on the Elm fork of the Trinity and NNW of Dallas, founded 1850, inc 1873 It was founded on the California Trail and later was a notous cow town, a stopping point on the Chisholm Trail just below a Red River crossing Respectability grew with the planting of cotton and small grains, and Gainesville has a prosperous cluster of processing plants for the farms of the region as well as an oil refinery for neighboring oil fields and various small factories The city is proud of its many trees and of its highly successful community circus, founded in 1930 There is a junior college At Gainesville is the state training school for delinquent girls

Gainsborough, Thomas (gānz'buru), 1727-88, English portrait and landscape painter, one of the greatest of all English artists, b Sudbury, ninth son of an impecunious cloth merchant He was apprenticed at 14 to a silversmith in London There he was discovered by the French engraver Hubert Gravelot, who made him his assistant and pupil, and by the painter Francis Hayman, who, it is said, taught him to sow wild oats In 1745 he returned to Sudbury There he promptly married Margaret Burr, whose stable temperament and whose income of £200 a year were decisive in establishing him in his career From then on, first in Ipswich, then in Bath, and finally in London, he worked as a fashionable portrait painter, gradually acquiring a large, lucrative practice and rivaling Sir Joshua Reynolds himself Unlike Sir Joshua, however, Gainsborough had little taste for the high society he painted He spent much spare time in painting landscapes, for which he found small sale They were among the first great landscapes painted in England and have rarely been surpassed Gainsborough is famous for the elegance of his portraits,

and his pictures of women in particular have an extreme delicacy and refinement As a colorist he has had few rivals among English painters His best works have a quivering life achieved by that running play of delicate but undisguised brush strokes which is found in Rubens and Renoir They have a light and airy quality, with greens and blues predominating Unlike most portrait painters of his day, Gainsborough is said to have painted all parts of his pictures himself Gainsborough is well represented in the national galleries of London, Ireland, and Scotland, in the Wallace Collection, London, and in many private collections In America there are beautiful Gainsboroughs in the Metropolitan Museum and the Frick Collection, New York, the Art Institute of Chicago, the Henry E Huntington Art Gallery, San Marino, Calif , and the museums of Cincinnati, Boston, Philadelphia, and St Louis Out of his large number of famous pictures may be cited *Perdita* (Wallace Coll , London), *The Blue Boy* (Huntington Art Gall , San Marino, Calif), *Lady Innes*, and *The Mall* (Frick Coll , New York) See biographies by Sir Walter Armstrong (1906), Max Rothschild (1909), W T Whitley (1915), H T. Stokes (1925), and Mary Woodall (1949)

Gainsborough, urban district (pop 18,689), in the Parts of Lindsey, Lincolnshire, England, on the Trent and NW of Lincoln It is the St Ogg's of George Eliot's *Mill on the Floss* The Congregational Church was built in memory of John Robinson, pastor of the Pilgrim Fathers in Holland, who was born near here The Old Hall was supposedly built by John of Gaunt The town is of very early establishment, King Sweyn made it his capital and died here

Gairdner, James (gârd'nur), 1828-1912, British historian, b Edinburgh An official of the Public Record Office (1846-93), he devoted his leisure to historical writing and editing With J S Brewer he edited the *Calendar of Letters and Papers of the Reign of Henry VIII* (21 vols , 1856-1910), and he made several editions of the *Paston Letters* His writings include a biography of Richard III (1878), a biography of Henry VII (1889), and *Lollardy and the Reformation in England* (4 vols , 1908-13, with memoir of Gairdner by William Hunt in Vol IV)

Gairdner, Lake (gârd'nur), shallow salt lake, area 1,840 sq mi , South Australia, at the base of Eyre Peninsula It is partly dry in the summer

Gairloch (gâr'lŏkh), parish (pop 2,376), Ross and Cromarty co , Scotland, on Gairloch (an inlet) at the mouth of the Flowerdale, W of Loch Maree It is a summer resort with good fishing and bathing

Gaiseric (gī'surĭk) or **Genseric** (gĕn'surĭk, jĕn'-), c 390-477, king of the Vandals (428-77), one of the ablest of the barbarian invaders of the Roman Empire He led (429) his people from Spain into Africa and quickly subdued a large territory, which was surrendered to him by treaty in 435 He took Carthage in 439, sent a fleet to raid Sicily in 440, and secured an advantageous peace in 442 He then dispossessed many Roman landowners and persecuted the Catholic clergy, meanwhile gaining control of the Mediterranean through his pirate fleets In 455 he sacked Rome In 460 and 468 he caused the failure of expeditions sent against him by MAJORIAN and LEO I respectively By the time of his peace with Zeno (476), his territories included Roman Africa, Sicily, Sardinia, Corsica, and the Balearic Islands

Gaithersburg (gā'thûrzbûrg), milling town (pop 1,021), W central Md , NW of Washington, D C , in a stock-farming area A U S Coast and Geodetic Observatory is here

Gaius (gā'yus) **1** Corinthian Christian, Paul's host Rom 16 23 **2** Corinthian baptized by Paul 1 Cor 1 14. **3** Companion of Paul, native of Derbe Acts 20 4 **4** Macedonian companion of Paul Acts 19 29 **5** Christian to whom 3 John is addressed It is not known which, if any, of these men are identical

Gaius (gā'ŭs, gī'-), 2d cent , Roman jurist He is known for the *Institutes*, a legal textbook which contributed materially to our knowledge of early Roman law and which was much used in the compilation of the CORPUS JURIS CIVILIS

galactose: see LACTOSE

Galahad, Sir (găl'uhăd), son of Sir Lancelot and the purest knight of King Arthur's ROUND TABLE As such he was vouchsafed a vision of the Holy GRAIL See ARTHURIAN LEGEND.

Galal (gă'-), two Levites, sons of Asaph and Jeduthun 1 Chron 9 15,16, Neh 11.17

Galápagos Islands (gulă'pûgŏs, -gûs, gulä'-) [Span , =tortoises], Pacific archipelago (3,029 sq. mi., 1944 estimated pop , 661), c 650 mi. W of Ecuador and c 1,000 mi SW of the Panama Canal, on the equator Officially named in Spanish the Archipiélago de Colón, the islands belong to Ecuador and during the Second World War served as a vital air base. They were discovered (1535) by Tomás de Berlanga and named for the gigantic (up to 500 lb.) land tortoises which are today dying out. Of 13 main islands the largest is Albemarle (officially Isabela), c 75 mi long Largely desolate lava piles, the islands have little vegetation or cultivable soil except for the higher volcanic mountains, which have heavy rains from the prevailing trade winds and are mantled on their upper slopes by dense jungles. The climate is mild because of the cool Humboldt Current What has brought fame to the islands is their wild life Besides the tortoises, there are sea and land iguanas and hosts of land and sea birds, such as the flightless cormorant, which exists nowhere else. Shore lagoons teem with sights of marine life Early travelers to this naturalists' paradise, now a protected wildlife sanctuary, were astonished by the tameness of nearly all the species. The Galápagos were visited (1835) by Charles Darwin in the famous voyage of the *Beagle* Although buccaneers, seeking food, made some inroads on the fauna, real depredations did not begin until the arrival in the 19th cent of the whalers and then the oilers, who killed the tortoises wholesale for food and oil fat Still, the Galápagos remain one of the few places in the world where naturalists can study living survivals of species arrested at various evolutionary stages See William Beebe, *Galapagos World's End* (1924)

Galashiels (găl"ushēlz'), burgh (pop 13,102), Selkirkshire, Scotland, on Gala Water and NW of Melrose Since late in the 16th cent it has been known for wool manufacture—chiefly tweeds. The Catrail, a Pictish earthwork, is near

Galata see ISTANBUL

Galatea (gălutē'ù), in Greek mythology **1** Nereid, daughter of Nereus and Doris She was loved by the one-eyed and uncouth giant, Polyphemus, who made a love song for her She and her preferred lover, Acis, listened in secret to Polyphemus' song, but he discovered them and killed Acis **2** Statue of a girl made by the sculptor PYGMALION The marble girl was so beautiful that the artist prayed that she might be brought to life Aphrodite granted his request

Galati or **Galatz** (both galats'), city (pop 80,411), E Rumania, in Moldavia, on the lower Danube and c 120 mi NE of Bucharest It is a major inland port, a fishing center, the base of the Rumanian Danube flotilla, and the see of an Orthodox bishop Timber and grain are the chief exports The city, of medieval origin, became an international trading center in the 16th cent and was a free port from 1834 to 1883 It was the seat (1856-1939) of the European Danube Navigation Commission Its large Jewish population was much reduced during the Second World War, and its harbor installations were partly demolished (1944) by the retreating Germans The 16th-century Cathedral of St George contains the tomb of Mazeppa

Galatia (gŭlā'shu) [from Gr ,=Gaul], ancient territory of central Asia Minor, in the present Turkey (around Ankara). It was so called from its inhabitants, the Gauls, who invaded from the west and conquered it in the 3d cent B C Originally composed of parts of Phrygia and Cappadocia, the territory taken by the Gauls increased until it extended from Bithynia and Pontus on the north to Pamphylia on the south About 230 B C , Attalus I, king of Pergamus, checked the advance of the Gauls and greatly reduced the limits of Galatia In 189 B C it became subject to the Romans and in 25 B C was constituted a Roman province, at first much larger than old Galatia, but later (A D 72) reduced to its smaller scope The chief city was Ancyra (present Ankara)

Galatians (gulā'shunz), epistle of the New Testament, the ninth book in the usual order It was written by St PAUL to Christians of central Asia Minor, probably those of S Galatia It may have been the earliest-written epistle (A D c 48), or, as many critics hold, it may date A D c 56 Like ROMANS, which is longer, Galatians treats justification, the spiritual process whereby the Christian enters into his peculiar relation with God The Galatians had acquired the belief that circumcision was essential to Christians as to Jews, which entailed, as Paul thought, the basic error of continuing the old dispensation of Moses, under which obedience to the Law was the means of salvation Thus would vitiate the whole of Christian freedom won for men on the Cross The main section of the book deals first with the specific question (1 6–2 21) and gives a lengthy account of St Paul's discussion with St Peter and St James on the matter The central part, on justification by faith (3 1–5 12), is of great importance in Christian theology

Galatz, Rumania see GALATI

Galax (gā'lăks), town (pop 3,195), SW Va , near the N C line SW of Roanoke, founded 1903, inc 1906 It is an industrial city producing lumber, textile, and glass products and evaporated milk The galax shrub is gathered and shipped.

galax (gā'lăks"), low-growing evergreen plant (*Galax aphylla*), native to mountain woods from Virginia to Georgia Its heart-shaped, shining green leaves, which turn to bronze in the fall, last well when cut and are widely used in floral decorations It has spikes of white flowers and can be planted as a ground cover in moist, shaded locations Beetleweed is another name. Some species of *Shortia* resemble galax, often called fringed galax is the species *Shortia soldanelloides* (or *Schizocodon soldanelloides*), native to Japan.

Galaxy: see MILKY WAY SYSTEM.

Galba (Servius Sulpicius Galba) (găl'bù), 3 B.C.–A.D 69, Roman emperor (A.D.68–A.D.69). A member of an ancient Roman family, he distinguished himself in a political and military career as praetor (A.D. 20), governor of Aquitania, consul (A D 33), commander in Gaul (from which he expelled invading Germans), and governor of Hispania Tarraconensis (A D. 60). In A.D 68, when insurrection against NERO broke out, Galba was shortly proclaimed emperor by his soldiers. After some uncertainty and danger to Galba, Nero was murdered in Rome and Galba succeeded. His reign was distinguished by an honest but parsimonious administration After a few months a rebellion took place Galba was killed, and Otho succeeded

Galdhopiggen. see JOTUNHEIM

Galdós, Benito Pérez. see PÉREZ GALDÓS, BENITO

Gale, Elbridge, 1824–1907, American horticulturist, b. Bennington, Vt He taught horticulture and was superintendent of the nursery at the Kansas State Agricultural College from 1871 to 1878 In 1884 he moved to Florida, where he specialized in the cultivation of subtropical fruits Certain mango trees, imported from India by the U S Dept of Agriculture, were sent to him, and he was successful in saving a single specimen of the Mulgoba variety, a favorite variety in Florida He contributed greatly to the knowledge of the conditions and methods favorable to the growing and propagation of the mango.

Gale, George Washington, 1789–1861, American educator, b Stanford, N Y , grad Union College, 1814, and Princeton Theological Seminary, 1819 In 1827 he founded Oneida Institute at Whitesboro, N Y , where students paid for their instruction by doing manual labor He planned a college in the West to be similarly maintained and organized a land company which founded Galesburg, Ill From the proceeds he established Knox Manual Labor College in 1837, the manual labor feature was later dropped and the institution became KNOX COLLEGE Gale served as trustee and taught literature and moral philosophy there until in 1857

Gale, Zona, 1874–1938, American novelist, b. Portage, Wis , grad Univ of Wisconsin, 1895 She worked on Milwaukee newspapers from 1899 to 1901 and then for three years on the New York *World* Her volume of stories *Friendship Village* (1908) first won her recognition and was followed by others which idealized small-town life--*Neighborhood Stories* (1914), *Peace in Friendship Village* (1919), and others The novels *Birth* (1918) and *Miss Lulu Bett* (1920) were ventures into realism, the latter sharply satiric Miss Gale's dramatization of *Miss Lulu Bett* won the Pulitzer Prize in 1921 Later novels include *Faint Perfume* (1923), *Borgia* (1929), and *Papa La Fleur* (1933) Miss Gale married William Llywelyn Breese in 1928 See biography by August Derleth, *Still Small Voice* (1940).

Galeed (gă'lēĭd), **Jegar-sahadutha** (jē'gär-sā"hudū'thu) [Heb ,=mound of testimony], or **Mizpah** (mĭz'pù) [Heb ,=watch tower], cairn, raised by Jacob and Laban to mark their covenant The so-called "Mizpah benediction" given here was a mutual warning, not a blessing Gen 31 44–55

Galen (gā'lun), c 130–c 200, physician and writer, b Pergamum, of Greek parents After study in Greece and Asia Minor and at Alexandria, he returned to Pergamum, where he served as physician to the gladiatorial school. He resided chiefly in Rome from c 162 Noted for his lectures and writings, he established a large practice and became court physician to Marcus Aurelius He is credited with writing some 500 treatises, most of them on medicine and philosophy, at least 83 of his medical works are extant He correlated earlier medical knowledge in all fields with his own discoveries (based in part on experimentation and on dissection of animals) and systematized medicine in accordance with his theories, which emphasized purposive creation Until the 16th cent his authority was virtually undisputed and this, by discouraging original investigation, hampered medical progress His work in anatomy and physiology is especially notable He demonstrated that arteries carry blood instead of air, and added greatly to knowledge of the brain, nerves, spinal cord, and pulse

Galena (gulē'nu) **1** City (pop 4,126), co seat of Jo Daviess co , extreme NW Ill , on the Galena river near the Mississippi, settled c 1820, laid out and given its present name 1826, inc 1835. The region, rich in lead and zinc deposits, was frequented by French miners as early as the first part of the 18th cent. From 1807, when the U.S government took the mines under its protection, until the 1860s, Galena was the prosperous center of the lead area of NW Illinois and SW Wisconsin and a bustling river port Its importance diminished with the decline of its mining enterprises and the diversion of its river traffic to the railroads. Today it is the trade and shipping point of a dairy-farm area, among its manufactures are dairy products, beer, gloves, and stoves. The home of Ulysses S. Grant here is now a state museum. The city, perched on the bluffs above the river, has many old and beautiful buildings and a museum of history and art

2 City (pop, 4,375), extreme SE Kansas, near the Mo. and Okla. lines, founded when lead was discovered here and inc. 1877. It is a lead- and zinc-mining town with smelters and mills

galena (gŭlē'nŭ) or **lead glance,** lustrous, blue-gray mineral crystallizing usually in cubes, sometimes in octahedrons It is the most important ore and the principal source of lead It consists chiefly of lead sulphide but frequently contains silver (it is mined for this metal in some localities) and sometimes also compounds of copper, cadmium, arsenic, bismuth, and zinc It is widely distributed throughout the world, occurring in veins and lumps and occasionally in bed deposits, in Missouri, Idaho, Iowa, Wisconsin, and Utah in the United States (leading producer of lead) and in Australia, Canada, England, France, and Mexico Galena crystals were once much used in radio "crystal" sets

Galerius (Caius Galerius Valerius Maximinianus) (gălēr'ēus), d 310, Roman emperor (305–10) Diocletian appointed him Caesar for the eastern part of the empire in 293 (Constantius I was Caesar of the West) He had to conduct hard campaigns in Pannonia and Asia Defeated by the Persians in 296, he retrieved his reputation by a resounding victory over them in 297 On the abdication of Diocletian and Maximian in 305, he and Constantius succeeded as emperors Galerius tried to increase his power, and after Constantius died in 306, he recognized Severus as coemperor in the West Severus and he attempted without success to put down the claims of MAXENTIUS After they were defeated and Severus was captured, Galerius had Diocletian approve the appointment of Licinius as emperor of the West Constantius' son Constantine (CONSTANTINE I) and Maximin Daia (see MAXIMIN) now both claimed power Galerius died before the confusion was cleared by the victory of Constantine Galerius had prompted the persecution of Christians under Diocletian but issued an edict of toleration shortly before his death

Galesburg. **1** City (pop 28,876), co seat of Knox co, W Ill, WNW of Peoria, in a farm, livestock, and coal area, founded 1836, inc 1841 A trade, rail, and manufacturing center, it is a division headquarters for the Burlington RR and has railroad shops, its manufactures include iron and steel products, bricks, and agricultural implements It is the seat of KNOX COLLEGE The town and the college were founded by a group of Presbyterians from the Mohawk valley, N Y, under George Washington GALE Galesburg is the birthplace of Carl Sandburg See E F Calkins, *They Broke the Prairie* (1937) **2** City (pop 1,040), SW Mich, between Kalamazoo and Battle Creek, in a farm region, settled 1829, inc as a village 1869, as a city 1931 W R Shafter was born here

Galesville, city (pop 1,147), W Wis, N of La Crosse, settled 1854, inc as a village 1887, as a city 1942 Dairy products are made

Galeton (gāl'tun), industrial borough (pop 1,820), N central Pa, E of Coudersport in the Alleghenies, inc 1896 A resort center, it has a glove factory

Galiani, Ferdinando (fārdēnän'dō gälyä'nē), 1728–87, Italian savant and economist, educated for the Church His *Della moneta* [on money] (1750), written as a very young man, was a classic analysis of value Sent to Paris in 1759 as secretary of the Neapolitan embassy, Abbé Galiani became famous as a wit He later wrote on the tariff and especially on trade in grain in his remarkable *Dialogues sur le commerce des blés* (1770) Galiani's easy style and the absence in his writings of the solemnity characteristic of most economists are deceptive, in fact, Galiani largely created the modern theory of value and the relativistic, historical approach to economics He opposed the dogmatism of mercantilism as well as that of physiocracy Galiani was an intimate of the circle of Holbach and Mme d'Épinay

Galich (gä'lĭch), Pol *Halicz* (hä'lĭch), city (pop 4,386), NW Ukraine, N of Stanislav, in the Carpathian foothills and on the Dniester river A historic city with medieval remains, it became (c 1134) the capital of the dukes of Przemysl and later of the duchy of Galich, which united (1188) with the duchy of Vladimir (see VLADIMIR-VOLHYNSKIY) In the 13th cent, Galich-Vladimir (which then included GALICIA and VOLHYNIA), extended as far east as Kiev Forced to accept Tatar rule (1245), Duke Daniel sought to secure aid from the West and united the church of Galich with that of Rome (1254), but except for an ephemeral title—king of Ruthenia—he obtained nothing By 1340 the duchy had disintegrated The wars between Lithuania and Poland over it ended (1366) with partition, the western section passed to Poland, the eastern section to Lithuania Galich itself soon became an insignificant town of Galicia

Galicia (gūlĭ'shu), Pol *Galicja*, former Austrian crownland, covering the slopes of the N Carpathians and plains to the north It is drained by the tributaries of the upper Dniester and by the southern tributaries of the upper Vistula Mainly agricultural and pastoral, it also has mineral resources, notably oil wells around DROGOBYCH and BORISLAV, exploited since the middle of the 19th cent Lvov (Lemberg) was the capital; other important cities are Cracow, Przemysl, Tarnow, Tarnopol, Kolomea, Stryy, Nowy Sacz, and Rzeszow Galicia took its origin in the duchy of GALICH, the region passed to Poland in the 14th cent With the first partition of Poland (1772) most of Galicia passed to Austria Until 1848 an abortive Polish insurrection in Galicia served as pretext for the annexation of CRACOW, an independent republic since 1815, by Austria. In 1848 Cracow and Lvov were centers of revolution against Austria, and in 1861 Galicia won limited autonomy, including representation in the Austrian parliament, where Galician deputies formed a powerful bloc Polish, spoken in the section of Galicia W of the San river, and Ukrainian, spoken E of the San, became official languages along with German However, the growing Ukrainian nationalist movement resulted in demands for increased political and cultural rights, or even for independence, in E Galicia The Polish independence movement also gained ground, but in the First World War the Polish legions, organized in Galicia by Marshal Pilsudski, fought under Austrian command until 1917 Galicia was a battleground throughout that war, in 1918 the Poles, having proclaimed national independence, wrested W Galicia from Austria and fought the troops of the newly established Ukrainian republic in E Galicia, forcing them to withdraw The Paris Peace Conference (1919) assigned E Galicia to Poland pending a plebiscite scheduled for 1944, however, in a treaty (1920) with the Ukrainians, upheld by the Polish-Soviet Treaty of Riga (1921), Poland obtained full title to E Galicia By the Polish-Soviet treaty of 1945, most of E Galicia was awarded to the Ukraine

Galicia (gulĭ'shu), region (10,984 sq mi, pop 2,495, 860), NW Spain, S of the Bay of Biscay, E of the Atlantic Ocean, and N of Portugal It comprises the provinces of La Coruña, Lugo, Orense, and Pontevedra It is mostly mountainous, with several swift rivers, of which the Miño is the most important Agriculture, cattle raising, and fishing are the chief sources of livelihood The mineral resources of the region, chiefly iron and tin, were known to the Romans, but are now little exploited In the 5th to 6th cent A D, Galicia was the center of the kingdom of the Germanic Suevi It was liberated (8th–9th cent) from the Moors by the king of Asturias In the Middle Ages the shrine of Santiago de Compostela was a center of culture, and it remains one of the great places of pilgrimage of Christendom The strong spirit of independence of the Galicians was shown in the Middle Ages by the frequent rebellions of the feudal lords against the royal authority and again in the 19th cent by the popular resistance to Napoleon I The Galician dialect is closely related to Portuguese A remarkable cultural and literary revival took place here in the 19th cent

Galigai, Leonora see CONCINI, CONCINO

Galilee (gă'lĭlē), region, N Palestine, roughly the portion north of the plain of Esdraelon It was one of the richest sections of the country Galilee was the chief scene of the ministry of Jesus Christ The lake, the countryside, and the towns—Cana, Capernaum, Tiberias, Nazareth—are repeatedly referred to in the Gospels Jesus himself was called the Galilean, and local fishermen became his disciples Joshua 20 7, 21 32, 1 Kings 9 11, 2 Kings 15 29, Isa 9 1, Mat 26 69–75, John 7 52

Galilee, Sea of, small fresh-water lake, NE Palestine, through which the Jordan flows In the Old Testament it is called the Sea of Chinnereth or Chinneroth, in the New Testament it is named variously from near-by geographical features—Galilee, Gennesaret, or Tiberias The modern Arabic name, Bahr Tabariyeh, continues the last of these In the time of Christ there were nine flourishing towns on its shores, of these the principal relic is a village on the site of Tiberias The lake is 680 ft below the level of the Mediterranean It is mentioned often in the Gospels, see also Joshua 12 3, 13 27, Num 34 11

Galilei, Vincenzo (vēnchĕn'tsō gälēlā'ō), d 1591, Italian lutanist, singer, writer, and composer, father of Galileo As a member of the Florentine *camerata* (see OPERA), he was one of the first to compose recitatives Thoroughly trained in the contrapuntal tradition of the Renaissance, he wrote the first literary attack on counterpoint, *Dialogo della musica antica e della moderna* (1581), he is thus a pioneer of the baroque era

Galileo (Galileo Galilei) (gă"lĭlē'ō, gälēlā'ō gälēlā'ē), 1564–1642, great Italian astronomer, mathematician, and physicist By his persistent investigation of natural laws he laid foundations for modern experimental science, and by the construction of astronomical telescopes he greatly enlarged man's vision and conception of the universe He gave a mathematical formulation to many physical laws His early studies, at the Univ of Pisa, were directed toward a medical career, but Galileo's inclination toward mathematics and physical science grew irresistible It is said that, at the age of 18, in the cathedral of Pisa, he timed the oscillations of a swinging lamp by means of his pulse beats and found the time for each swing the same, no matter what the amplitude of the oscillation, thus discovering the isochronism of the pendulum, which he verified by experiment Galileo soon became known through his invention of a hydrostatic balance and his treatise on the center of gravity of solid bodies While professor (1589–92) at the Univ of Pisa, he initiated his experiments concerning the laws of bodies in motion, which brought results so contradictory to the accepted teachings of Aristotle that strong antagonism was aroused He found that bodies of different weights fall with equal velocities and with a uniform acceleration He is said to have demonstrated this from the Leaning Tower of Pisa, but the story has been disputed He also found that the path of a projectile is a parabola, and he is credited with conclusions foreshadowing Newton's laws of motion In 1592 he began lecturing on mathematics at the Univ of Padua, where he remained for 18 years, attracting students from all over Europe There, in 1609, having heard reports of a simple magnifying instrument put together by a spectacle maker in Holland, he constructed the first complete astronomical telescope Improving it until the magnifying power brought an object more than 30 times nearer, he manufactured numbers of instruments to fill the European demand Exploring the heavens with his new aid, Galileo discovered that the moon, shining with reflected light, had an uneven, mountainous surface and that the Milky Way was made up of numberless stars On Jan 7, 1610, he discovered four satellites of Jupiter He observed and studied the phases of Venus and the spots on the sun, brought to view by the telescope His investigations confirmed his acceptance of the Copernican theory of the solar system, but he did not openly declare a doctrine so opposed to accepted beliefs until 1613, when he issued a work on sunspots Meanwhile, in 1610, he had gone to Florence as philosopher and mathematician to Cosimo II de' Medici, grand duke of Tuscany, and as mathematician (without residence or teaching requirements) at the Univ of Pisa In 1611 he visited Rome to display the telescope to the papal court In 1616 the system of Copernicus was denounced as dangerous to faith, and Galileo summoned to Rome, was warned not to uphold it or teach it But, after a period of quiet study near Florence, he published in 1632 his *Dialogo sopra i due massimi sistemi del mondo* [dialogue on the two chief systems of the world], which stated conclusions supporting the system of Copernicus Again summoned to Rome, he was tried (1633) by the Inquisition and brought to the point of making an abjuration of all beliefs and writings that hold the sun to be the central body and the earth a moving body revolving with the other planets about it Since 1761, accounts of the trial have concluded with the legendary statement that Galileo as he arose from his knees exclaimed *sotto voce*, "*E pur si muove*" [nevertheless it does move] An indefinite period of imprisonment was soon ended, and the scientist, after an enforced residence in Siena, was allowed to live in seclusion at Arcetri near Florence, where, in spite of infirmities and, at the last, blindness, he continued actively the pursuit of scientific truth until his death His last book, *Dialogues concerning Two New Sciences* (Eng tr, 3d ed, 1939) appeared in 1638 See biographies by J J Fahie (1903) and Emile Namer (Eng tr, 1931), Zsolt Harsanyi, *The Star-Gazer* (Eng tr, 1939), a fictional biography

Galion (gāl'yun), city (pop 8,685), N central Ohio, SW of Mansfield, in a farm area, settled 1831 by Pennsylvania Germans Automobile hoists, burial vaults, and road-making machinery are made here.

Galitzin or **Galitsin** see GALLITZIN

Gall (gôl), c 1840–1894, war chief of the Sioux Indians, b South Dakota He refused to accept the treaty of 1868 by which he would have been confined to a reservation, joined SITTING BULL and other dissident chiefs, and was a lieutenant of Sitting Bull in the great defeat of Custer on the Little Bighorn in 1876 He retreated to Canada but after a quarrel with Sitting Bull, returned and surrendered at Poplar, Mont He became a farmer on the reservation and with his friend, James McLaughlin, the Indian agent, did much to better relations between Indians and whites See James McLaughlin, *My Friend the Indian* (1910), C A Eastman, *Indian Heroes and Great Chieftains* (1915)

gall, in physiology see BILE

gall (gôl), abnormal growth of plant tissue resulting from a stimulus by an agent external to the plant, commonly a gall insect, a mite, a fungus, or mechanical irritation (e g the rubbing together of two branches) Of these agents the most common are the gall insects (e g, certain aphids, wasps, midges, beetles, thrips, and moths) and mites Various insects produce galls on buds, leaves, petioles, flower heads, stems, bark, and roots; usually the same type of gall is produced by a gall maker even on different hosts. Frequently they form when the larvae hatch out from insect eggs that have been laid in the plant tissue, it is believed that the larva produces an irritating substance that causes the abnormal growth The gall tissue sometimes provides food for the growing larvae Galls vary in size and shape. Rather commonly seen are small cone-shaped structures formed by certain

aphids on witch hazel The eggs are laid on twigs and branches in the fall and the stem mothers, which hatch in the spring, migrate to the lower surface of the leaves, as the nymphs feed, the upper surface of the leaf thickens The females produce their young within the hollow cones formed by the thickening As these galls become crowded some winged forms develop and fly to birch trees where another generation is produced, a later generation returns to the witch hazel Galls are often seen on goldenrod, a spherical stem gall is formed by a small fly Its eggs are laid on the stem, and the larvae bore into the stem causing a gall to form, by fall it is about as large as a hickory nut Galls have long been a source of tannin and of a good quality of permanent ink The Aleppo gall formed on several species of oak in Eastern Europe and W Asia has been used in making ink for official use by various governments The Aleppo gall and some other galls resembling nuts are sometimes called gallnuts or nutgalls Among the harmful gall formers are the Hessian fly, clover-leaf midge, chrysanthemum midge, and pear-leaf blister mite

Gallagher, William Davis, 1808–94, American poet and editor, b Philadelphia He grew up in Ohio, wrote for the Cincinnati *Gazette* for some 10 years and for other Western newspapers, and promoted Western literature as editor of several short-lived periodicals, among them the *Hesperian* (1838–39) His verse was often original in subject and notable for nature descriptions, though imitative in form It appeared chiefly in his *Erato* (3 vols , 1835–37) and in *Miami Woods* (1881) His short stories and essays are useful in any study of frontier literature of the period

Gallait, Louis (lwē′ galā′), 1810–87, Belgian painter, studied at Tournai Academy and at Antwerp He settled in Paris in 1834 His numerous historical works (upon which his fame chiefly rests) were exhibited at the Belgian salons and attracted wide attention He was finally induced to return to Brussels to head a school of historical painting His principal works are *Christ Healing the Blind* (cathedral, Tournai), *Montaigne Visiting Tasso in Prison*, painted for the Belgian king, *The Capture of Antioch by Godfrey of Bouillon* (Versailles), *Abdication of Charles V* and *The Plague at Tournai* (Brussels), *The Minstrel Boy* (Metropolitan Mus), four oil paintings and an aquarelle (Walters Art Gall , Baltimore)

Galland, Antoine (ätwan′ galā′), 1646–1715, French Orientalist He was the first to translate the Arabian *Thousand and One Nights* into any European language

Galla Placidia (gă′lu plusī′dēu), d 450, Roman empress of the West, daughter of Theodosius I Captured by ALARIC I in the course of his Italian campaign, she remained among the Visigoths as a hostage and in 414 married Alaric's successor ATAULF After the murder of Ataulf (415), she was ill-treated by Sigeric, but she was returned to her brother HONORIUS by Wallia (416) In 417 she married the general Constantius, who in 421, shortly before his death, was made coemperor as CONSTANTIUS III In 423 she quarreled with Honorius and took refuge at the court of Theodosius II, after the death of Honorius, she became regent for her son VALENTINIAN III, whom Theodosius placed on the throne after overthrowing the usurper John She exercised great influence over her son till her death, but left the government largely in the hands of AETIUS

Gallas, Matthias, Graf von (mätē′as graf fŭn gă′lăs), 1584–1647, Austrian general in the THIRTY YEARS WAR He served under TILLY in Germany until 1629, then entered Italy and, with Johann Aldringen, took Mantua (1630) As field marshal under WALLENSTEIN, he took the side of the emperor in the contest which ended in the death of the commander (1634) Gallas succeeded to a large part of Wallenstein's duchy of Friedland and to the actual command of the armies (nominally under the emperor's son) At Nordlingen (1634) he defeated the Swedes and BERNHARD OF SAXE-WEIMAR In 1637 Gallas was unsuccessful against Baner and, having yielded Pomerania to the Swedes and retired to Bohemia (1638), he lost his command He was restored (1643) but, after the failure of the north German campaign (1644), retired

Gallatin, Albert (gă′lutĭn), 1761–1849, American statesman and financier, b Geneva, Switzerland Left an orphan at nine, Gallatin was reared by his patrician relatives and was given an excellent education He came to the United States in 1780 and later settled (1784) in W Pennsylvania, where he established an estate "Friendship Hill" A member of the Pennsylvania constitutional convention in 1789, he also served in the state legislature from 1790 to 1792 Although elected U S Senator in 1793, he was deprived (1794) of his office by the Federalist-controlled Senate because of his short stay in the country and was also unfairly criticized by his political enemies for his efforts to restrain the Western farmers in the WHISKY REBELLION (1794). As a member of the U S Congress (1794–1801), Gallatin became a recognized leader of the Democratic Republican minority and was active in advocating financial reform and in opposing war with France. As Secretary of the Treasury under Thomas Jefferson, Gallatin, undertook to reshape the country's financial policy from Federalist to Jeffersonian principles and reduced the country's debt, despite the war against the Barbary States and despite the Louisiana Purchase He helped to curtail appropriations for the armed forces and opposed the WAR HAWKS because he believed that the Federal money should go to realizing the democratic vision of a broadly expanding internal economy His responsibility for U S unpreparedness in the War of 1812 is, however, highly debatable In the war he journeyed to Russia (1813) in an attempt to secure Russian mediation for ending the war When Great Britain showed willingness to negotiate directly, he was a key figure in negotiating the Treaty of Ghent He later served as minister to France (1815–23) and minister to Great Britain (1826–27) Gallatin was president of the National (later Gallatin) Bank in New York city He was an authority on banking and finance He was also greatly interested in the Indians, wrote papers on them, and in 1842 was responsible for founding the American Ethnological Society The contributions of this moderate and many-sided man to American democracy have perhaps not been fully recognized despite a notable biography (1879) by Henry Adams Gallatin's papers and writings have never been properly collated and edited The family he founded has contributed many distinguished men

Gallatin. 1 City (pop 1,642), co seat of Daviess co , NW Mo , on the Grand River and ENE of St Joseph, in a farm area, laid out 1837 Near by is the site of Adam-ondi-Ahman, a thriving Mormon settlement in the 1830s **2** Town (pop 4,829), co seat of Sumner co , N Tenn , NE of Nashville and near the Cumberland river, founded 1802 It is a tobacco, farm and livestock center Shoes are manufactured here A number of fine antebellum houses are in the area In the Civil War the town, with its Union garrison, was captured (Aug , 1862) by Gen John H Morgan

Gallatin, river, 120 mi long, NW Mont , rising in the mountains of the northwest corner of Yellowstone National Park It flows N between Madison and Gallatin ranges, then northwest to join the Madison and Jefferson rivers at the Three Forks of the Missouri

Gallaudet, Thomas Hopkins (gă″lôdĕt′), 1787–1851, American educator of the deaf, b Philadelphia, grad Andover Theological Seminary In England and France he studied methods of education in schools for the deaf and in Hartford, Conn , he founded (1817) the first such free school in America He was interested also in many other philanthropies See biography by E M Gallaudet (1888) His oldest son, **Thomas Gallaudet,** 1822–1902, was ordained (1851) as an Episcopal priest He devoted most of his time to missionary work among the deaf, founding St Ann's Church for Deaf-Mutes in New York city and the Gallaudet Home for aged deaf-mutes at Poughkeepsie, N Y **Edward Miner Gallaudet,** 1837–1917, youngest son of Thomas Hopkins Gallaudet, opened a school for deaf-mutes in Washington, D C , the upper branch of this became Gallaudet College One of the most progressive teachers in his field, he studied European methods and wrote many articles

gall bladder, pear-shaped sac lodged under the right lobe of the liver It acts as a storehouse for BILE Gall stones (concretions) may form in the gall bladder and in the bile ducts Inflammation of the gall bladder is a fairly common disorder especially in women over 40 Individuals who have had typhoid fever may become carriers of the disease as a result of the retention of typhoid bacilli in the gall bladder

Galle, Johann Gottfried (yō′hän gôt′frēt gă′lə), 1812–1910, German astronomer He is noted for his discovery of the planet Neptune, Sept 23, 1846, by following the guidance of calculations by LEVERRIER Galle was then a member of the staff of the Berlin Observatory and had discovered three comets In 1851 he became professor of astronomy at Breslau and director of the observatory there His particular field of research was meteorology

Galle (gāl), city (pop 49,038), on Ceylon, a port on the southwest coast, on the Indian Ocean Famous as a mart in ancient times, it rose to new importance under Portuguese rule (1507–1604), when it became the chief port of Ceylon With the construction (1885) of a modern harbor at Colombo, much shipping deserted Galle In the older part of the city Dutch ruins abound

Gallegos, Rómulo (rō′mōlō gäyā′gōs), 1884–, Venezuelan novelist and statesman He lived in Spain from 1931 until the death of the dictator Juan Vicente Gómez in 1935, when he returned to his country to engage in politics He became president in Feb , 1948, but was overthrown by a conservative military coup in November He is best known as the author of the powerful novel of the Venezuelan plains, *Doña Bárbara* (1929, Eng tr , 1931) The landscape is to a certain degree the protagonist of the novel, the cruel and sensual Doña Bárbara symbolizing barbarism, which is defeated in the end by civilizing influences Other important works are *Cantaclaro* (1931) and *Canaima* (1935).

Gallen-Kallela, Akseli Valdemar (äk′sālē väl′dämär gälən′-käl′älä), 1865–1931, Finnish painter; student of Bouguereau He was noted for his murals Most of his work is in Helsinki

galleon (gă′lēun), type of ocean-going sailing vessels used by the Spanish in the 15th and 16th cent They were large, cumbersome, three-masted, and square-rigged The bow and stern were both high, and the stern was square and ornamented with elaborate carvings Galleons were much used to transport treasure and goods from the Americas There were three or four decks The disadvantage of the galleon was its unwieldiness, which was shown most clearly in the defeat of the Spanish Armada (1588), in which the galleons were unable to cope with the smaller and swifter English vessels

galley, long, narrow vessels of ancient and medieval times, propelled mostly by oars but also fitted with sails They were used by the Greeks and Romans The earliest type of these vessels was sometimes 150 ft long with 50 oars The rowers were in ancient times slaves or prisoners of war and in modern times convicts, in both cases usually chained to the seats Galleys were decked at the bow and stern but were otherwise open Benches were placed along the sides for the rowers, the center of the vessel being used for cargo The ordinary number of banks of oars was three, these were the triremes Smaller and more manageable vessels (the biremes) had two banks Galleys grew very large, reputedly to as many as 40 banks of oars These were again abandoned for the smaller vessels by the 1st cent B C When the vessels were used for war, the sides were so arranged that they could be raised to afford protection for the rowers The Romans in war used hooks to fasten on to enemy vessels and carried bridges for boarding The French and Venetians used galleys in the Mediterranean until the 17th cent In modern usage the galley is the kitchen of a ship The name is also used for a light clinker-built boat

gallic acid, colorless, crystalline solid, an organic acid occurring free in nature, e g , in gallnuts, sumach, and tea, and obtained usually from the tannins (tannic acid) by hydrolysis with sulphuric acid It is soluble in hot water, but very slightly in cold When heated it decomposes at 220°C to pyrogallic acid (PYROGALLOL) and carbon dioxide Gallic acid is used sometimes in medicine as an astringent and disinfectant

Gallicanism (gă′lĭkənĭzm), theory that the French monarch had special rights in the Roman Catholic Church in France Although it is a chapter in the long struggle between the papacy and Catholic princes (see INVESTITURE, CHURCH AND STATE, PHILIP IV, BONIFACE VIII), Gallicanism had peculiar intellectual claims These were born at the Univ of Paris in the Great Schism (see SCHISM, GREAT) The teaching was that general councils supersede popes and that the French king had special rights of control over the Church in France So stated Charles VII in the Pragmatic Sanction of Bourges (1438), which legalized in France the anti-papal measures of the Council of Basel Francis I repealed the act (1518), at the time of the Concordat of 1516, a sweeping papal surrender of rights of appointment The concordat was revoked in 1561, and the struggle resumed In the quarrel between LOUIS XIV and INNOCENT XI, Louis had an assembly of bishops pass the "Four Gallican Articles of 1682," providing that kings are not subject to the pope, that general councils supersede the pope, that the pope must respect local custom, and that papal decrees do not bind unless accepted by the whole Church INNOCENT XII patched things up in 1693, Louis abandoned Gallican theory, but insisted on appointing bishops and giving permission for publication of papal decrees and for visits of papal legates Gallicanism was much encouraged by the Jansenists and remained fashionable at court The Civil Constitution of the Clergy adopted in the French Revolution had Gallican antecedents, and Napoleon made some Gallican additions to the Concordat of 1801 after its signature The theory of Gallicanism in the Roman Catholic Church is impossible since the enunciation of papal infallibility at the Vatican Council In estimating the practical effect of the theory of Gallicanism it is significant that the Spanish kings gained over the Church in their realms greater powers than the French without ever publicizing theoretical claims comparable to Gallicanism See C S Phillips, *The Church in France, 1848–1907* (1936)

Galli-Curci, Amelita (ämälē′tä gal′lē-kōr′chē), 1889–, Italian-American coloratura soprano, studied piano at the Royal Conservatory, Milan With Mascagni's encouragement, she turned to singing, in which she was her own teacher She made her debut in Rome in 1909 as Gilda in *Rigoletto*, after tours of Italy, Spain, and South America, her American debut (Chicago, 1916) was made in the same role She sang with the Chicago Opera Company until 1926 and with the Metropolitan, New York, from 1921 until 1930, when she left opera for the concert stage After a throat operation in 1936, she returned briefly to concert and opera and then retired. See biography by C. E. Le Massena (1945).

Gallic Wars (gă'lĭk), the campaigns in GAUL of Julius CAESAR in his two terms as proconsul of Cisalpine Gaul, Transalpine Gaul, and Illyricum (58 B C -51 B C) Caesar's first campaign was to prevent the Helvetii (who lived N of the Lake of Geneva) from crossing the Roman province (Provence) on their way to a new home in SW Gaul They had started from the Alps northwestward, Caesar in pursuit, but he cut them in two as they crossed the Saône, and pursued the van to BIBRACTE, where he defeated them Now the Aedui asked Caesar's help against the German ARIOVISTUS, whom Caesar routed In 57 B C Caesar pacified Belgica (between the Seine and the Rhine) In the winter of the same year an anti-Roman confederacy was formed, and in 56 B C, Caesar attacked the ringleaders of it, the Veneti, who had a fleet in what is now the Gulf of Morbihan, Brittany He defeated them by building boats of his own In 55 B C, Caesar went to the Low Countries to repel some Germans and, as a punitive measure, crossed the Rhine on a bridge he built near Cologne Then he went to Britain on a brief exploring expedition In 54 B C he invaded Britain seriously and took hostages The following winter the legions were separately quartered, because of the scarcity of food, and some Belgian tribes led by AMBIORIX raised a revolt One legion was cut to pieces and another, under Q CICERO, was in dire straits when Caesar arrived and routed the rebels In 53 B C, Caesar put down another Belgian revolt and entered Germany again But the real test came when, in the dead of winter, Caesar, in Italy, learned that all central, E, and N Gaul had raised a revolt, organized by VERCINGETORIX With incredible speed and brilliant tactics Caesar crossed the Alps and stifled the Gauls After 51 B C, when Caesar moved around the country putting down the last signs of disorder, Gaul did not revolt Caesar's Gallic Wars were the theater in which he displayed his abilities, and his organization of the new territory was the seed of modern France When Caesar became proconsul he received, beyond the Alps, a wide strip along the Mediterranean, when he gave up his command, it included everything from the Rhine to the Pyrenees, from the Alps to the Atlantic The prime source is, of course, Caesar's own commentaries, *De bello Gallico*

Galli da Bibiena see BIBIENA, GALLI DA

Galliéni, Joseph Simon (zhôzĕf' sēmō' gälyānē'), 1849–1916, French general and colonial administrator He did good service in Senegal, Tonkin, and Madagascar Military governor of Paris after the outbreak of the First World War, he was a major figure in the French victory of the Marne (Sept, 1914) Although the credit for the victory was and is disputed, it seems fairly clear that it was Galliéni who first saw the significance of the German move and urged JOFFRE into action The movement of the troops from Paris to the battle front in commandeered taxicabs was one of the most spectacular incidents of the war Galliéni later became minister of war under Briand (1915) Trouble, which Galliéni attempted to prevent, arose with Joffre When the cabinet refused to support Galliéni in a proposed reorganization of the command, he resigned on a plea of ill-health (1916) He died after an operation and was made a marshal posthumously (1921) Galliéni wrote several books on his colonial career and colonial affairs.

Gallienus (Publius Licinius Valerianus Egnatius) (gă"lĭē'nŭs), d 268, Roman emperor, as the colleague (253–60) of his father, VALERIAN, and alone (260–68) He had checked the Alemanni near Milan, when his father was in the East, and even after the capture of Valerian he was successful, but later the provinces had become too rebellious for the control of the mediocre Gallienus The dissolution of the empire first became inevitable in his reign, one of the most ineffective of the 3d cent Postumus established his independence in Gaul, and in the east ODENATHUS, spreading the conquests of Palmyra, was recognized A force sent by Gallienus against ZENOBIA was defeated. Gallienus was murdered by his men at Milan, where he was resisting a revolt, eventually suppressed by CLAUDIUS II

Galliffet, Gaston Alexandre Auguste, marquis de (gästô' älĕksă'dru ôgust' markē' dŭ gälēfă'), 1830–1909, French general He fought in the Crimean War, in colonial conquests, in the Mexican expedition, and in the Franco-Prussian War His cruel suppression of the COMMUNE OF PARIS (1871) won him a reputation as a strong man, together with the undying hatred of revolutionists and Socialists He later reorganized the French cavalry In the crucial time of the Dreyfus Affair he became minister of war (1899–1900), restoring peace and order in the army

Gallim (gă'lĭm), unidentified place, Palestine 1 Sam 25 44, Isa 10 30

Gallinas (gälyē'nas), cape on La Goajira peninsula, NE Colombia It is the northernmost point of South America

Gallio (Junius Annaeus Gallio), (gă'lēō), d A.D 65?, Roman administrator, brother of the philosopher Seneca. His name was originally Lucius Annaeus Novatus. Gallio was proconsul for Claudius in Achaea He was of an easygoing temperament When the Jews haled Paul before him he refused judgment on a question of Jewish religious law and later would not interfere between Sosthenes and his Greek assailants Acts 18 12–17

Gallipoli (gŭlĭ'pulē), Turkish *Gelibolu* (gulē'bōlōō), city (pop 16,496), European Turkey, a port at the eastern end of the DARDANELLES, near the neck of the GALLIPOLI PENINSULA Occupied by the Ottoman Turks in 1354, it has always been a strategic point in the defense of Constantinople

Gallipoli campaign, 1915, Allied expedition in the First World War, for the purpose of gaining control of the DARDANELLES, capturing Constantinople, and establishing contact with Russia through the Black Sea The idea of forcing the Straits was originally promoted by Winston S Churchill, until 1915 first lord of the admiralty After the failure (March, 1915) of a British naval expedition to the Straits, the Allies decided in favor of a land campaign On April 24 English, Australian, and New Zealand troops debarked at various points of the Gallipoli Peninsula, while a French force landed on the Asiatic side Meanwhile the Turks, commanded by LIMAN VON SANDERS, had had time to reinforce their defenses Putting up stubborn resistance, they prevented the Allies from joining and from making any important gains (Among the Turkish officers, Mustafa Kemal, later known as Kemal Ataturk, distinguished himself in the fighting) Cooperation was poor among the Allies and between the land forces and the British naval squadron stationed at Moudros, on the island of Lemnos A second landing (Aug, 1915) at Suvla, on the west coast of the peninsula, was equally futile After months of costly fighting, the Allied commander, Sir Ian Hamilton, was replaced (Oct, 1915) by Sir Charles Munro, who planned the Allied evacuation, successfully completed on Jan 9, 1916

Gallipoli Peninsula, Latin *Chersonesus Thracica*, peninsula, c 60 mi long, European Turkey, extending southwestward between the Aegean Sea and the DARDANELLES The port of Gallipoli gives it its name It was the scene of the Gallipoli campaign (see separate article) of 1915 and was (1920–36) part of the demilitarized Zone of the Straits

Gallipolis (gă"lĭpulēs'), city (pop 7,832), co seat of Gallia co, SE Ohio, on the Ohio river, settled 1790 by French immigrants, inc as a city 1865 Near by is the state hospital for epileptics (1890), oldest in the country A roller-gate dam was completed (1938) on the Ohio near by

Gallitzin (gulĭt'sĭn), Rus *Golytsyn* (gŭlyē'tsĭn), Russian princely family Among many alternate spellings are Galitzin, Galytzin, and Galitsin **Vasily Vasilyevich Gallitzin** (vŭsē'lyĕ vŭsē'lyuvĭch), d 1619, helped to enthrone the first false DIMITRI, but later joined the Shuiski conspiracy against him When sent to offer the Russian crown to Prince Ladislaus of Poland, he was thrown into prison and died there **Vasily Vasilyevich Gallitzin**, 1643–1714, was the lover and chief counselor of the regent SOPHIA ALEKSEYEVNA After Sophia's downfall (1689) he was exiled to Siberia by Peter I **Boris Alekseyevich Gallitzin** (bŭrēs' ŭlyĭksyā'lvĭch), 1654–1714, was the tutor of Peter I and helped to depose Sophia Alekseyevna He was regent in Russia during Peter's first foreign tour **Dmitri Mikhailovich Gallitzin** (dumē'trē mēkhī'luvĭch), 1665–1737, held important administrative posts, was ambassador to Turkey and Poland, and fought with distinction against Sweden in the Northern War After the death (1730) of Peter II, he led the group which forced Empress ANNA to sign articles limiting her power After Anna began to rule absolutely, she had Gallitzin sentenced to death but later commuted his sentence to exile **Mikhail Mikhailovich Gallitzin** (mēkhĭyē'l'), 1675–1730, commanded the Russian operations in Finland (1714–21) during the Northern War and was responsible for the Treaty of Nystad As governor of Finland he was extremely popular with the Finns **Aleksandr Mikhailovich Gallitzin** (ŭlyksän'dur), 1718–83, Russian field marshal, distinguished himself in the Seven Years War and in the Russo-Turkish Wars **Dmitri Alekseyevich Gallitzin**, 1735–1803, was Russian ambassador at Paris (1765–73) and later at The Hague He was a friend of Diderot and Voltaire He was the father of Demetrius Augustine Gallitzin (see separate article) **Aleksandr Nikolayevich Gallitzin** (nyĭkŭl'ûvĭch), 1773?–1844, a statesman of liberal tendencies, was an influential counselor of Alexander I He was procurator of the holy synod and minister of education, but lost his influence after the accession of Nicholas I **Nikolai Borisovich Gallitzin** (nyĭkŭl' bŭrē'suvĭch), 1794–1866, was an amateur musician and a patron of Beethoven, who dedicated quartets (Opus 127, Opus 130, and Opus 132) and his overture *Consecration of the House* to him **Nikolai Dmitreyevich Gallitzin** (dumē'trĕûvĭch), 1856–1925, was appointed prime minister in 1916 He was unable to stem the revolution of Feb, 1917.

Gallitzin, Demetrius Augustine, 1770–1840, American frontier missionary, son of Dmitri Alekseyevich Gallitzin. The young prince followed his mother into the Roman Catholic Church and determined to devote himself to church work in America He was trained in the seminary at Baltimore, was ordained a priest in 1795, and began itinerant missionary work among the frontiersmen and Indians of SW Pennsylvania, where he was known as Father Smith. At much expense to himself he founded (1799) the Catholic colony of Loretto near Gallitzin (which is named for him) There he lived, refusing to return to claim his patrimony in Russia and refusing ecclesiastical preferment There he died and is buried

Gallitzin (gulĭt'sĭn), borough (pop 3,618), SW Pa, in the Alleghenies W of Altoona, settled c 1796 It was named for the missionary Prince Demetrius Gallitzin

gallium (gă'lēum), metallic element (symbol=Ga, for physical constants, see ELEMENT, table), silver gray and relatively soft, being of the same hardness as lead It is not ordinarily affected by air but when red-hot is oxidized slightly It dissolves in both hydrochloric and nitric acids and at high temperatures reacts with water Although widely distributed, the element does not occur in appreciable quantities It is found with zinc ores, especially zinc blende, from which it is separated Because it is liquid over a wide range of temperatures, it finds limited use in place of mercury in thermometers for high temperatures The element was discovered spectroscopically in 1875 by P E L de Boisbaudran, its properties were predicted with striking accuracy by MENDELEJEFF, who classified it with aluminum (which it resembles) in the periodic system Its spectrum exhibits two violet lines

Gallivare, Sweden see NORRBOTTEN

Galloway, Beverly Thomas, 1863–1938, American botanist, b Millersburg, Mo He served with the U S Dept of Agriculture in various capacities, being chief of the Bureau of Plant Industry (1901–12), pathologist of the division of vegetable pathology and physiology (1888–1900) and of the division of plant exploration and introduction (1916–33), and assistant secretary of the Dept of Agriculture (1913–14)

Galloway, Charles Betts, 1849–1909, American Methodist bishop, b Kosciusko, Miss, grad Univ of Mississippi, 1868 He was influential in his state and in other parts of the South as a promoter of education and better race relations He was a powerful and popular speaker and showed courage in his liberal attitude toward the Negro Galloway became a bishop in 1886 See biography by W A Candler (1927)

Galloway, Joseph, c 1731–1803, American Loyalist leader, b West River (near Annapolis), Md Galloway was a prominent lawyer with an interest in commerce and in speculation in Western lands He entered the Pennsylvania assembly in 1756 and soon joined Benjamin Franklin in petitioning the king to abolish the proprietary government of the Penns Galloway understood both sides of the growing conflict between the colonies and the British government, and he believed it could be settled by legal means, especially by a written constitution for the empire He presented a plan for a constitution and for conciliation to the First Continental Congress and refused to serve again when it was rejected He tried to remain neutral in the American Revolution but was forced by the hostility of the patriots to seek safety by joining Sir William Howe after the British occupied Philadelphia He acted as civil administrator of the city Later (1778) Galloway went to England and became the spokesman of American Loyalists living there See J P Boyd, *Anglo-American Union* (1941)

Galloway, district of SW Scotland, comprising Wigtownshire and Kirkcudbrightshire The Rhinns, or Rinns, of Galloway is a rocky peninsula of Wigtownshire, its southern extremity is called the Mull of Galloway The black, hornless Galloway cattle have long been bred in this region Dairying is the principal industry Galloway is not an official or political division The chief towns are Castle Douglas, Stranraer, and Portpatrick See G Scott-Moncrieff, *The Lowlands of Scotland* (1939)

gallstone see CALCULUS, in medicine

Gallup, George Horace, 1901–, American public-opinion statistician, originator of the Gallup poll to measure public opinion (1935), b Jefferson, Iowa, grad State Univ of Iowa (B A, 1923, Ph D, 1928) After teaching journalism at Drake Univ (1928–31) and at Northwestern Univ (1931–32), he founded the American Institute of Public Opinion (1935) and the Audience Research Institute (1939), both of Princeton, N J *A Guide to Public Opinion Polls* appeared in 1944 While the Gallup poll had erred only 7 percent or less in previous presidential elections, it, like other public-opinion polls, prophesied the election of Dewey rather than of Truman in 1948 See N C Meier and H W Saunders, eds, *Polls and Public Opinion* (1949)

Gallup, town (pop 7,041, alt 6,503 ft), co. seat of McKinley co, NW N Mex, on the Puerco river and near the Ariz line, founded c 1879, inc 1891 It is a rail and trade center in an important coal-mining area and is a shipping point for wool and livestock In the heart of the Indian country, it is

a trade and distribution center for the near-by reservations and pueblos and the scene of an intertribal Indian ceremonial, held in August

Gallus (Caius Vibius Trebonianus Gallus) (gā'lŭs), d 253 or 254, Roman emperor after 251. He fought in the eastern campaign that proved fatal to DECIUS Gallus became emperor and made Hostilianus, Decius' son, his colleague He signed a treaty with the barbarians, agreeing to pay tribute. In 252 or 253 a new invasion was repelled in the Danube valley by the general Aemilianus, whose troops proclaimed him emperor Gallus sent VALERIAN to put down the sedition Aemilianus entered Italy, and the army murdered Gallus Aemilianus succeeded, and Valerian followed soon afterward

Galois, Évariste (āvärĕst' gulwa'), 1811–32, French mathematician At the age of 17 he had evolved original concepts on the theory of algebra He made important contributions to the theory of equations, the theory of numbers, and the theory of functions and was a pioneer in establishing the theory of groups in algebraic substitutions Galois was twice imprisoned for his republican sympathies He was killed in a duel with a political opponent See Leopold Infeld, *Whom the Gods Love* (1947)

Galswintha (gălswĭn'thŭ), d 567, Frankish queen, sister of BRUNHILDA. She was the wife of CHILPERIC I of Neustria, by whom she was murdered

Galsworthy, John (gôlz'wûrdhē, gălz'–), 1867–1933, English novelist and dramatist After studying at Oxford and being admitted to the bar he traveled extensively His plays, often concerned with social problems, began with *The Silver Box* (1906), *Joy* (1907), *Strife* (1909), and *Justice* (1910), others which followed include *The Fugitive* (1913), *The Mob* (1914), *The Skin Game* (1920), *Loyalties* (1922), and *The Roof* (1929) His novels, written over a period of 27 years, disclose the limited social consciousness and predictable point of view of upper-middle-class families in the late Victorian and Edwardian eras Most of the novels dealing with the Forsyte family are grouped in three trilogies *A Man of Property* (1906), *Indian Summer of a Forsyte* (1918, a short interlude), *In Chancery* (1920) *Awakening* (1920, another interlude), and *To Let* (1921) were republished as *The Forsyte Saga* (1922) The second trilogy, made up of *The White Monkey* (1924), *A Silent Wooing* (1928, interlude), *The Silver Spoon* (1926), *Passers By* (1928, interlude), and *Swan Song* (1928), was republished as *A Modern Comedy* (1928) The third group, *Maid in Waiting* (1931), *Flowering Wilderness* (1932), and *One More River* (1933), was collected as *End of the Chapter* (1935) Other stories concerning the Forsytes are *Four Forsyte Stories* (1929), *On Forsyte 'Change* (1930), and *Forsytes, Pendyces, and Others* (with a foreword by his wife, 1935). Among his other books are the novels *Island Pharisees* (1908), *Fraternity* (1909), *The Patrician* (1911), *The Dark Flower* (1911), and the volume of short stories, *Caravan* (1925) In 1932 he received the Nobel Prize in Literature His poems were collected in 1934 His letters to Edward Garnett, from 1900 to 1932, were published in 1934, many more are in the *Life and Letters* (1935) edited by H. V. Marrot See studies by Leon Schalit (1929) and Herman Ould (1934), *Memories of John Galsworthy* by his sister, M E Reynolds (1937)

Galt, Sir Alexander Tilloch (tĭ'lŭk gôlt'), 1817–93, Canadian statesman, b England; son of John Galt In 1835 he went to Canada in the service of the British American Land Company He directed (1844–55) the affairs of this company and was interested in other business enterprises, particularly in the promotion of railroads (notably the Grand Trunk, of which he was a director) He was a member of the Canadian legislative assembly (1853–67) and of the Canadian House of Commons (1867–72) Although in 1849 Galt had signed the manifesto favoring the annexation of Canada by the United States, he became one of the most persistent and influential leaders of the movement for confederation of the Canadian provinces, and when he accepted (1858) the portfolio of minister of finance in the Cartier-Macdonald administration, it was on the understanding that the government would work to achieve confederation. In 1859, in answer to England's protests against the protective tariff newly adopted by Canada, Galt penned a noted statement in which he declared that Canada must be allowed control of its financial policies While serving as minister of finance (1858–62, 1864–66) he was an influential member of the two conferences (1864) on confederation and of the London Conference which resulted in the British North America Act. He became (1867) minister of finance in the first dominion government, but he resigned in 1868 because of disagreement with Prime Minister John Alexander Macdonald and in 1872 retired from Parliament He was the dominant member of the Halifax Fisheries Commission, appointed under the Treaty of Washington, which won for Canada a large award from the United States From 1880 to 1883 he served (on appointment by Macdonald) as Canadian high commissioner in London, the first to hold that position In the last 10 years of his life he was interested in various business enterprises in W Canada, among which was the development of coal deposits in Alberta, in this connection he founded LETHBRIDGE See biography by O. D Skelton (1920).

Galt, John (gôlt), 1779–1839, Scottish novelist and founder of the CANADA COMPANY (1826). While traveling in the Mediterranean as a young man, he formed a literary friendship with Lord Byron In 1826 he went to Canada for the Canada Company, founding there in 1827 the town of Guelph and encouraging Canadian immigration He returned to England in 1829 and devoted the rest of his life to literature His best-known works are *The Ayrshire Legatees* (1820) and *Annals of the Parish* (1821), novels in Scottish dialect of Scottish country life, and *Laurie Todd* (1830), a novel of an American immigrant His other writings include *Life of Lord Byron* (1830), an autobiography (1833), and *Literary Life and Miscellanies* (1834) See biography by J W Aberdein (1936), critical study by F H Lyell (1942)

Galt, industrial city (pop 15,346), S Ont., on the Grand River and WNW of Hamilton It was founded in 1816

Galton, Sir Francis (gôl'tun), 1822–1911, English scientist, founder of eugenics, cousin of Charles Darwin He turned from his early work in meteorology (recorded in *Meteorographica*, 1863) to the study of heredity and EUGENICS (a term which he coined) His works include *Hereditary Genius* (1869), *English Men of Science* (1874), *Inquiries into Human Faculty* (1883), *Natural Inheritance* (1889), and *Eugenics* (1905) His will provided for a chair of eugenics at the Univ of London. He was knighted in 1909 See his *Memories of My Life* (1908), study by Karl Pearson (1914–30)

Galuppi, Baldassare (bäldäs-sā'rā galōōp'pē), 1706–85, Italian composer He was choirmaster at St Mark's in Venice from 1762 to 1765 His compositions include oratorios, chamber music, and over 100 operas He is immortalized in Robert Browning's poem "A Toccata of Galuppi's."

Galva, city (pop 2,812), NW Ill., SE of Rock Island, in a coal and farm area, founded 1854, inc 1867 Its manufactures include farm implements and hardware Lake Calhoun lies to the south Near by is BISHOP HILL.

Galvani, Luigi (lwē'jē galvä'nē), 1737–98, Italian physician He was professor of anatomy from 1762 at the Univ of Bologna and was noted as a surgeon and for research in comparative anatomy During experiments on muscle and nerve preparations of frogs, he noticed the contraction of a frog's leg touched with charged metal He devised an arc of two metals with which contractions could be induced and in 1791 published his results, attributing the source of electricity to the animal tissue The explanation was disputed by Volta, who claimed that the electricity originated in the metallic arc. The controversy focused attention on electricity in animals and stimulated research in electrotherapy and on electric currents Many terms in electricity are derived from Galvani's name

galvanizing, term commonly applied to the operation of coating a metal, usually iron or steel, with a protective covering of zinc Galvanized iron is prepared either by dipping iron, from which rust has been removed by the action of sulphuric acid, into molten zinc so that a thin layer of the zinc remains on the surface of the iron upon removal or by a method of electroplating Iron is also coated with zinc by a method in which it is first covered with zinc dust and then baked an alloy is formed at the surface, the resulting product being known as sherardized iron Sheets of pure iron, copper iron, and various steels, as well as wire and netting, are commonly galvanized, since the zinc coating resists oxidation and the action of moisture very successfully Furthermore, when the coating is broken or pierced some protection is still afforded, since the zinc reacts with the corroding agent first

galvanometer (gălvənŏ'mutur), instrument used to determine the presence of a current in a conductor, the direction of flow, and the strength of the current All galvanometers are based upon Hans C Oersted's discovery that a magnetic needle is deflected by the passage of an electric current along a conductor. When an electric current is flowing in a conductor, the magnetic needle tends to turn at right angles to the conductor so that its north-south direction is parallel to the lines of force around the conductor and its north pole points in the direction in which these lines of force flow. In general, the extent to which the needle turns is dependent upon the strength of the current. In the first galvanometers, a magnetic needle free to turn was hung in a coil of wire. Later, as in the modern galvanometers, the magnet was fixed and the coil made movable Modern galvanometers are of this movable-coil type and are called d'Arsonval galvanometers (after Arsène d'Arsonval) The ammeter is a form of galvanometer with a scale which indicates the number of amperes It consists of a moving coil (to which a pointer is attached) suspended between the poles of a fixed permanent magnet and has a shunt arrangement which allows only a proportional part of the current to pass through the coil. The voltmeter is a moving-coil galvanometer which has a high-resistance coil and which indicates the number of volts of the current Because of the high-resistance coil, the greater the electromotive force of the current, the greater the deflection of the needle

Galveston (găl'vustun) [for Bernardo de Gálvez], city (pop 60,862), co seat of Galveston co., on Galveston Island, S Texas The island lies across the entrance to Galveston Bay, an inlet of the Gulf of Mexico The Spanish knew the bay and the island early, it was probably here that Cabeza de Vaca was shipwrecked in 1528 The bay was explored in the late 18th cent., and later the island was outlaw country occupied sporadically by adventurers, revolutionists, and buccaneers of the early 19th cent., notably the crews and hangers-on of Jean LAFFITE Settlement began in the 1830s, and the good natural port came gradually into its own despite scourges of yellow fever, hurricanes, and occupation for a few months (1862) by a small Union force in the Civil War In 1900 hurricane winds struck Galveston, driving water across the low sandy island, killing thousands, and leaving the city in ruins Rebuilding led to the inauguration (1901) of municipal commission government in the United States and to the building of a protective sea wall (ultimately more than 7 mi long, 17 ft high) Two long causeways connect the city with the mainland, and railroads and trucks bring cotton, sulphur, rice, flour, and other products to Galveston to be stored, processed, and shipped over the world Despite the ship channel to larger Houston, Galveston remains a key port of entry It is also the home of large fishing and shrimping fleets. It is, too, a beach resort, with its attractions enhanced by pink and white oleanders, rich bougainvillea, and other subtropical blooms Fort Travis (est. 1898) and Fort Crockett (est 1897–99) were active in the Second World War. At Galveston is the Univ of Texas medical school and a group of hospitals

Gálvez, Bernardo de (bĕrnär'dhō dā gäl'vāth) c 1746–1786, governor of Louisiana, b Málaga prov., Spain. He served in the Spanish army in Portugal, New Spain, and Algiers before coming to Louisiana in 1776 as the young commandant of the troops stationed there. The favorite protégé of his powerful uncle, José de Gálvez, he assumed the governorship on Jan 1, 1777 His enlightened rule and marriage to a Creole beauty made him very popular In the American Revolution, Gálvez first played the role of benevolent neutral to the patriots American frontiersmen were supplied with arms and supplies through the agency which he permitted Oliver Pollock to establish at New Orleans After Spain declared war on England in 1779, he became a most active ally, capturing Baton Rouge and Natchez (1779), Mobile (1780), and Pensacola (1781) His taking of Pensacola was a particularly gallant exploit These victories were largely responsible for the British cession of both East and West Florida to Spain in the peace settlement of 1783 In Spain (1783–84), he was richly rewarded for his services, being made count of Gálvez, lieutenant general of the royal armies, and captain general of Louisiana and the Floridas He became, in addition, captain general of Cuba (1784) and, in 1785, succeeding his father, Matías de GÁLVEZ, viceroy of New Spain See J W Caughey, *Bernardo de Gálvez in Louisiana, 1776–1783* (1934).

Gálvez, José de (hōsā' dā gäl'vĕth), 1720–87, Spanish colonial administrator, visitor general to New Spain (1765–72) After a thorough inspection of the viceroyalty, he engineered the dismissal of the viceroy (1766). Under the successor in office, the marqués de CROIX, Gálvez held actual power War against the northern Indians opened the way for expansion of the realm, and the development of defenses made it more secure against foreign enemies After his return to Spain (1772), Gálvez became the leading spirit of the Council of the Indies, minister general of the Indies (1775), and councilor of state. He was responsible for two ordinances that profoundly affected the colonial policy of Spain—that of 1778, which established restricted free trade to replace the narrow mercantile policy of earlier days, and that of 1786, which made sweeping changes in colonial administration and set up a system of intendancies modeled on the French. He was rewarded for his services with the title marqués de la Sonora. His influence advanced the fortunes of his brother, Matías de Gálvez, and of his nephew, Bernardo de Gálvez. See H. I Priestley, *José de Gálvez* (1916)

Gálvez, Matías de (mätē'äs), 1717–84, Spanish colonial administrator, captain general of Guatemala (1779), viceroy of New Spain (1783–84), brother of José de Gálvez. He was succeeded as viceroy by his son, Bernardo de Gálvez

Galway (gôl'wā), maritime county (2,293 sq. mi.; pop. 165,201), W Ireland, in Connaught. The county town is Galway, a port, formerly of great importance, on Galway Bay The county is divided into two sections by Lough Corrib CONNEMARA, a picturesque mountainous district (Benbaun rises to 2,395 ft.), lies to the west. To the

east stretches a rolling plain, partially covered with bogs The principal rivers are the Shannon and its tributary, the Suck. The shore line is extremely irregular, and there are numerous islands, the chief of which are the Aran Islands, lying off the mouth of Galway Bay. The chief industries are agriculture (wheat, oats, and potatoes) and fishing (salmon) There are numerous round towers, dating from Celtic times, and other vestiges of ancient habitation After the Anglo-Norman invasion of Ireland the region came under the control of the De Burghs or Burkes

Galway (gôl'wā), urban district (pop 20,437), county town of Co Galway, Ireland, on the north side of Galway Bay near the mouth of the Corrib In 1124 it was a fort of the men of Connaught Fragments of the walls built in the 13th cent remain The town was taken by Ludlow in 1652 and by General van Ginkel, after the battle of Aughrim, in 1691. The Church of St Nicholas dates from 1320 and a Franciscan friary from 1296 The Lynch Stone in Market St commemorates the execution by the lord mayor, James Lynch Fitzstephen, of his own son for murder Claddagh is a quarter of the town inhabited by fishermen Galway has a good harbor and exports agricultural produce, salmon, herring, marble, and woolen goods Noteworthy is the building of University College, constituent of the National Univ of Ireland

Galway Bay, inlet of the Atlantic, 30 mi long and 23 mi wide, at its entrance on the west coast of Ireland, in Counties Galway and Clare The Aran Islands protect its entrance, and there are many other islands in the bay

Galytsin or **Galytzin:** see GALLITZIN

Gama, Vasco da (vä'skō du gä'mu, Port vash'kō dä gä'mû), c 1460–1524, Portuguese navigator, the first European to journey by sea to India His epochal voyage (1497-99) was made at the order of MANUEL I With four vessels, he rounded the Cape of Good Hope, passed the easternmost point reached by Bartholomew DIAZ in 1488, continued up the east coast of Africa to Malindi and sailed across the Indian Ocean to Calicut This voyage opened up a way for Europe to reach the wealth of the Indies It was perhaps the most significant event of Portuguese history, for out of it grew the Portuguese Empire Immediately Portugal gained great riches Gama dictated the instructions for Cabral's voyage to India (1500-1502), and in 1502 he himself led a fleet of 20 ships on his second India voyage With this force he attempted to establish Portuguese power in Indian waters and sought to secure the submission of a number of chiefs on the African coast He was harsh in his methods and was not so good an administrator as many of the Portuguese captains who later went to the East, but he was the first, and he was fittingly honored with many tributes and the title of count of Vidigueira In 1524 he was sent back to India as viceroy, but he died soon after his arrival Gama's voyage is the subject of Camoens's epic *The Lusiads* See *A Journal of the First Voyage of Vasco da Gama* (1898), the journal of one of Gama's subordinates, G Corrêa, *The Three Voyages of Vasco da Gama and His Viceroyalty* (1869), K G Jayne, *Vasco da Gama and His Successors* (1910), Edgar Prestage, *The Portuguese Pioneers* (1933)

Gamaliel (gumā'lēûl) [Heb ,=recompense of God] **1** Manassite chief Num 1 10 **2** Teacher of the Law, at whose feet Paul had learned He recommended leniency toward Christians Acts 5 34, 22 3. From nonbiblical sources it is known that he was a doctor of the law of the school of Hillel

Gamaliel of Jabneh, fl A D 100, Hebrew scholar, grandson of the Gamaliel who taught Paul the Law He was recognized even by the Romans as a leader of his people He strengthened the morale of the Jews and made two important innovations in Jewish ritual, adding the 18 benedictions to the daily prayers and substituting for the paschal sacrifice the simple service still used His purpose was to retain the spirit of Judaism after the destruction of Jerusalem

Gambarelli, surname of two Florentine painters see ROSSELLINO

Gambetta, Léon (lāôⁿ gäbĕtä'), 1838–82, French statesman and orator A lawyer, he achieved some note as an opponent of the Second Empire He was elected deputy and joined the parliamentary opposition (1869–70) After the FRANCO-PRUSSIAN WAR had precipitated the downfall of the empire, he became prominent in the provisional government and urged his compatriots to defend themselves against the onward sweep of the victorious Germans His spectacular escape from Paris in a balloon, his organization of a government of national defense, and his gallant opposition to the Prussian forces won popular sympathy over the world He bitterly opposed the Treaty of Frankfurt and bent every effort toward creating the Third Republic A moderate, he opposed the monarchists and the radicals and, especially after THIERS was gone, took up an opportunist course in opposing the conservatives and President MACMAHON. He shaped the constitution of the Third Republic. After 1879 he was a power behind the ministries as president of the chamber. He became prime minister (1881–82) at the head of a highly unpopular and short-lived ministry He was a firm anticlerical, a vigorous republican, and a fervent advocate of revenge against Germany He died as the result of an accidental gunshot wound in his hand Though he was at the time unpopular, his memory was later highly revered See Harold Stannard, *Gambetta and the Foundation of the Third Republic* (1921), J P T Bury, *Gambetta and the National Defense* (1936)

Gambia (gām'bēu), British colony and protectorate (4,033 sq mi , pop c 250,000), W Africa, on the Atlantic Ocean Bathurst is the capital Gambia, a narrow enclave (average width 20 mi) in Senegal, borders both banks of the Gambia river for c 200 mi above its mouth The river, which rises in Senegal and flows c 600 mi W to the Atlantic, has a wide estuary, and is navigable throughout Gambia It is the chief communications artery The colony (69 sq mi) comprises mainly St Mary's Island (on which Bathurst is located) and several inland sections The country is largely inhabited by Moslem Negro tribesmen It is suited to agriculture, and large quantities of peanuts are raised for export Portuguese explorers established several settlements near the mouth of the Gambia river in the mid-15th cent The British became dominant in the early 17th cent and were never permanently dislodged despite repeated French and Dutch assaults The present boundaries of Gambia were established in 1888, and the division between the protectorate and the colony was made in 1902 See J. M Gray, *A History of the Gambia* (1940)

Gambier (gām'bĕr), village (pop 470), central Ohio, E of Mt Vernon KENYON COLLEGE is here

Gambier Islands (gām'bĕr) or **Mangareva** (man"-garä'vä), coral group, S Pacific, near the southeast end of the Tuamotu Islands The islands are part of FRENCH ESTABLISHMENTS IN OCEANIA The group comprises four islands and many uninhabited islets within a reef having a circumference of 40 mi Mangareva (pop 553), the largest and only important island, is the seat of Rikitea, the capital It was discovered in 1797 by the British and annexed by France in 1881 The islands have copra and coffee plantations and pearl fisheries The natives are Polynesians

Gamble, Hamilton Rowan, 1798–1864, American political leader, b Winchester, Va , grad Hampden-Sydney College He began to practice law in Missouri, where from 1851 to 1855 he was presiding justice of the state supreme court When the state convention deposed Gov C F JACKSON and other secessionists among the state officials, Gamble, who opposed secession, was appointed provisional governor (1861–64) Gamble reorganized the administration and the state militia (which he used against the Confederate guerrillas) He proposed a system of compensation to free the slaves gradually The radical Unionists, wanting immediate and unconditional emancipation, unsuccessfully tried to force his resignation

gambling or **gaming,** the betting of money and valuables on, and often the participation in, games of chance and skill In England and in the United States, before statutes were passed which made it unlawful, gambling was not a crime at common law if it were conducted privately If it were public in nature and open to all comers, gambling became criminal as a public nuisance, and those who participated in such activities or who conducted gambling establishments were subject to prosecution In the United States, the provisions of the common law have been limited in varying degrees by the statutes of the several states Some prohibit certain games entirely, others prohibit wagering of money on them, and still others allow wagering up to a certain amount but not in excess, or forbid public wagers, or prohibit betting by minors In about one third of the states gambling in the form of parimutuel betting on horse races has been legalized and provides both state and local governments with large revenues Nevada sanctions many types of gambling The LOTTERY is a common form of gambling, and games involving playing cards or dice usually involve wagering In recent years betting on popular sports such as baseball, basketball, and football, though illegal, has increased tremendously Organized sport, however, has frowned on the practice ever since the "Black Sox" scandal of the 1919 world series in baseball. Nevertheless, instances of professional gamblers attempting to "fix" sporting events still occur In contests which are sure to be closely contested, the gambling brokers, or "bookies," as they are popularly called, usually establish two sets of odds, one for each side of the bet, so that no matter what the outcome of the contest they are bound to profit In this and in many other ways easily demonstrated by mathematics the odds are so heavily stacked against a better that in the long run he is almost certain to lose Yet gambling flourishes in the United States, usually under the control of a criminal element and with the blessings of corrupt police officials These last two aspects of organized gambling led to a nation-wide newspaper campaign in 1949–50, and in 1950 a U S. Senate subcommittee began an investigation of crime aimed primarily at gambling See Herbert Asbury, *Sucker's Progress* (1938), Ernest E Blanche, *You Can't Win* (1949), Horace C Levinson, *The Science of Chance from Probability to Statistics* (1950)

gamboge (gămbōj') [Fr ,=Cambodia], a gum RESIN, bright reddish yellow, obtained by evaporation from the sap of certain trees (genus *Garcinia*) native to Siam, Indo-China, and Ceylon It is used as a yellow pigment in paints and varnishes and also as a purgative

gambrel roof, one having double slopes on each side of a ridge and with gabled end walls The lower slope is more steep than the upper one The gambrel roof is characteristic of early American domestic buildings in New Jersey, E New York, and parts of New England It is distinctive in so-called Dutch colonial houses

Gambrinus (gămbrī'nus), mythical Flemish king, to whom is attributed the invention of beer Attempts have been made to connect him with a duke of Brabant—John I or, in a mixture of Dutch and Latin, Jan Primus—but without any sound basis Identification with other historical characters also seems groundless

game laws, restrictions on the hunting or capture of wild game, whether bird, beast, or fish. After the Norman Conquest stringent game laws, known as the Forest Laws, which made hunting the sole privilege of the king and his nobles, were enacted in England Other feudal states of Europe had similar laws English laws were progressively softened after the 16th cent , and in the 19th cent. they were so modified that anyone who obtained a hunting license might hunt game In the United States, on the other hand, game laws have been directed at protecting wildlife from indiscriminate slaughter by trappers, hunters, and fishermen The almost total extermination of the buffalo in the 19th cent pointed up the need for such conservation Almost all states have game laws of this conservational type Common protective devices include designation of a closed season during which game may not be captured or killed, limitation of the age, size, or sex of the game hunted, the requirement of licenses before game can be hunted, even in the open season, the prohibition of the sale or possession of any game after a certain period has elapsed after the termination of the open season, and the prohibition of transportation or sale outside the state See G B Grinnell and Charles Sheldon, ed , *Hunting and Conservation* (1925), R H Connery, *Governmental Problems in Wild Life Conservation* (1935), S S Hayden, *International Protection of Wild Life* (1942)

Gamelin, Maurice Gustave (mōrēs' güstäv' gămălĕ'), 1872–, French general He served on Marshal Joffre's staff in the First World War and was made chief of the French general staff (1931), commander in chief of all French forces (June, 1939), and generalissimo of the Allied forces at the outbreak of the Second World War (Sept , 1939) Considering France ill prepared for war, Gamelin relied on the MAGINOT LINE and on passive warfare In May, 1940, Germany began to overrun France, and on May 19 Gamelin was replaced by General Weygand Arrested by the Vichy government, Gamelin was one of the defendants at the abortive trial at RIOM He was freed from imprisonment in Germany in 1945

gamete see REPRODUCTION.

gaming see GAMBLING

Gammadims (gă'mudĭmz), obscure proper name Ezek 27 11

gamma ray see RAY, RADIUM, RADIOACTIVITY

Gammer Gurton's Needle, the second extant English comedy, acted at Christ's College, Cambridge, in 1566 and first published in 1575 It contains the famous old drinking song with a refrain beginning, "Back and side go bare, go bare " The author, "Mr S ," was long supposed to be John Still (1543?–1608), fellow of Cambridge, later master of St John's and Trinity colleges and bishop of Bath and Wells It is much more probable that "Mr S " was William Stevenson (d 1575), fellow of Christ's College, Cambridge The same play may have been staged as early as 1560 under the title *Dyccon of Bedlam*, a work no longer extant but recorded as published in 1563

Gamow, George (gă'mŏv), 1904–, Russian-American theoretical physicist His earlier researches in nuclear physics were carried on at the Univ of Leningrad and at the universities of Copenhagen and Cambridge After serving as professor at Leningrad (1931–33), he came to the United States and joined (1934) the faculty of George Washington Univ , at Washington, D C He formulated a theory of radioactive decay (1928) and worked on the application of nuclear physics to problems of stellar evolution His more recent work is on atomic structure He has served with U S government agencies His writings include *Constitution of Atomic Nuclei* (1931, 3d ed , with C L Critchfield, *Theory of Atomic Nucleus*, 1949), *Mr. Tompkins in Wonderland* (1939), *The Birth and Death of the Sun* (1940), *The Biography of the Earth* (1941), *Mr Tompkins Explores the*

Atom (1944), *Atomic Energy in Cosmic and Human Life* (1946), and *One, Two, Three ... Infinity* (1947)

Gamul (gä'mŭl) [Heb ,=weaned], chief priest 1 Chron. 24 17

Gananoque (gănunŏk'wē-wu), town (pop 4,044), S Ont , at the junction of the St. Lawrence and the Gananoque, SW of Brockville and E of Kingston, founded 1798 It has steel- and copperworks

Gand, Belgium see GHENT

Gandak (gŭn'dŭk), river, c 300 mi long, rising in N central Nepal It flows SE through Bihar state, India, to join the Ganges river

Gander, airport, E N F , developed on a large scale by Canada in the Second World War

Gandersheim (gan'durshīm), town (pop 5,350), Brunswick, NW Germany It is known for its former abbey, where the nun HROSWITHA (10th cent) wrote her Latin poems and dramas

Gandhi, Mohandas Karamchand (mō"hundus' kŭ"-rumchŭnd' gan'dē, gän'dē), 1869–1948, Indian political leader, educated in India and London He was admitted to the bar in 1889 While in South Africa, Gandhi gave up (c 1900) his law practice to fight legislation directed against his countrymen After c 1905 he completely eschewed Western ways and thereafter lived abstinently in accordance with Hindu ethics and dressed in a loin cloth and blanket or shawl Asserting the unity of mankind under one God, throughout his life he preached the Christian and Moslem scriptures along with the Hindu He returned (1915) to India and actively supported the First World War in the hope of hastening India's freedom Later, opposing British policy, he organized several *Satyagraha* (nonviolent resistance) campaigns, but he discontinued them when, against his wishes, disorders ensued His program, including a free, united India, the revival of home industries, especially textile manufacture, and the abolition of untouchability (see CASTE), was vigorously espoused, even when he was imprisoned The title Mahatma [great souled], which Gandhi repudiated, reflected personal prestige so high that he could exact political concessions by threatening "fasts unto death" and could unify the diverse elements of the Indian National Congress, which he headed several times He was imprisoned (1930) for violating the government salt monopoly by publicly extracting salt from sea water, but he was released to attend (1931) the London Round Table Conference on India as the sole representative of the Indian National Congress In 1939, by fasting and *Satyagraha*, he compelled several Indian princely states to grant democratic reforms When the Second World War broke out in Europe, Gandhi expressed his abhorence of fascism, but he believed the Axis powers should be opposed with passive resistance only In 1942, after rejection of his offer to cooperate with Great Britain in the war if India were immediately freed, he called for *Satyagraha* and was interned until 1944 He was a major figure in the post-war conferences with Viscount Mountbatten and Mahomed Ali Jinnah which led to India's independence and partition (to Gandhi's intense disappointment) into a Hindu state (India) and a Moslem state (Pakistan) When violence broke out between the main religious communities, Gandhi resorted to fasts and tours of disturbed areas to check it When holding (Jan 30, 1948) a prayer and pacification meeting at New Delhi, he was shot fatally by a Hindu who blamed him for the partitioning of India As Gandhi's ashes, following Hindu custom, were deposited in the sacred Ganges river at Allahabad, the Indian government swore to uphold his ideals Some of his editorials and essays were collected in *Young India* (1923), and his autobiography, first published in 1924, was restored in 1948 See Sir Sarvepalli Radhakrishnan, ed , *Mahatma Gandhi Essays and Reflections on His Life and Work* (2d ed , 1949), biographies by Romain Rolland (2d ed , 1930), G E G Catlin (1948), and Vincent Sheean (1949)

Gandía, city (pop 16,795), Valencia prov , E Spain in a fertile garden region yielding fruit and vegetables Several members of a branch of the Borja or BORGIA family were dukes of Gandía The title belongs now to a related family The palace of the Borgias now houses a Jesuit college

Gandzha, Azerbaijan see KIROVABAD

gang, group of people organized for a common purpose, often criminal Gangs of outlaws have long been known in frontier sections of the United States or wherever governmental authority has been weak Modern criminal gangs are largely urban and the product of an industrial society These are highly organized and have been aided by knowledge of modern big-business techniques and by corrupt political practices Their activities center around gambling, prostitution, the sale of illegal liquor and drugs, and racketeering (the violent attempt to control prices and wages) Intergang rivalries have led to frequent murders Juvenile gangs, especially characteristic of city slums, are primarily recreation groups Deprived of adequate facilities and guidance, however, their search for excitement may take an antisocial turn They are also susceptible to the influence of older criminal gangs. Many members become juvenile delinquents, some eventually joining the adult gangs Recent programs for prevention of juvenile delinquency include attempts to guide the activities of gangs (often keeping them intact) into constructive channels, through boys' clubs, the Boy Scouts, and similar groups For material on juvenile and adolescent gangs, see F M Thrasher, *The Gang* (2d rev ed , 1936), and W F Whyte, *Street Corner Society* (1943) Herbert Asbury's *Gangs of New York* (new ed , 1947) and Craig Thompson and Allen Raymond's *Gang Rule in New York* (1940) deal with adult criminal gangs

Ganges (găn'jēz) or **Ganga** (gŭng'gu), river, c 1,560 mi long, India, rising in the S Himalaya foothills in the N United Provs It is perhaps the most sacred river of India On its generally southeastern course through the United Provs , it supplies water to extensive irrigation works and passes the especially holy bathing sites at Allahabad (where it and the Jumna join) and at Benares The Ganges continues W across Bihar state to West Bengal state, where it divides into the HOOGHLY river and the Padma river, its main channel The area between these two rivers constitutes the rice-growing Ganges delta, parts of which are fertilized by annual silt deposit The Padma flows SE through East Bengal prov , Pakistan, to be joined by the Brahmaputra river (here the Jamuna) The united streams empty into the Bay of Bengal through many channels, chiefly that of the Meghna river

Gangotri (gŭng"gō'trē), Hindu mountain shrine, N United Provs , India, near the source of the Ganges The small temple was built in the 18th cent

gangrene or **mortification,** death of tissue resulting from lack of nourishment through interference with blood supply The dead tissue finally breaks down and falls away Gangrene occurs most commonly in parts of the arm or leg, but it may affect any organ It may result from severe injury, e g , war wounds and crushing of a part of the body by a vehicle, from a diabetic condition, or from various circulatory diseases and pressure or other obstructions to circulation It may be dry or wet Some cases result from infection with bacteria, as in gas gangrene of war wounds Sulfanilamide is effective in preventing and curing gas gangrene Early treatment of gangrene includes stimulating the blood supply, rest, and elevating the part affected Surgical treatment is often necessary to save life

Ganja, Azerbaijan see KIROVABAD

gannet (găn'ĭt) or **solan goose** (sō'lŭn), large white sea bird related to the pelican The common gannet of the N Atlantic breeds in the British Isles, in the Gaspé region of Canada, and on Bird Island in the Gulf of St Lawrence It dives for fish from high in the air into the water, sometimes to a depth of 80 to 90 ft Subcutaneous air spaces connecting with the lungs probably lessen the force of its impact with the water Its nest on a rocky ledge contains a single egg The boobies are tropical sea birds of the same family

Gannett, Ezra Stiles (gă'nĭt), 1801–71, American Unitarian minister, b Cambridge, Mass , grad Harvard, 1820, and Harvard Divinity School, 1823 In 1824 he became assistant to William Ellery Channing of the Federal St Church, Boston After Channing's death in 1842 he succeeded to the pastorate He was a leader of conservative Unitarianism in opposition to transcendentalism See biography by W C Gannett (1875)

Gannett, Henry (gă'nĭt), 1846–1914, American geographer, b Bath, Maine, grad Harvard (B S , 1869, M E , 1870) His first work as topographer was on the Hayden Survey (see HAYDEN, FERDINAND VANDEVFER) After 1882 he was chief geographer of the U S Geological Survey His work as geographer of the 10th, 11th, and 15th censuses improved the system of census taking From work on these censuses and the Philippine, Cuban, and Puerto Rican censuses as well, he became interested in place names, and his efforts to resolve difficulties caused by confusion of names finally led to the establishment (1890) of the U S Board of Geographical Names He served as chairman until 1910 He advanced the sciences of geography and map making in America His books include *Physiographic Types* (1898–1900) and *Topographical Maps of United States Showing Physiographic Types* (1907)

Gannett Peak, 13,785 ft high, W central Wyo , in the Wind River Range, highest point in Wyoming

Ganong, William Francis (gunŏng'), 1864–1941, American botanist and educator, b Canada From 1894 to 1932 he was professor of botany and director of the botanical garden at Smith College His writings include *The Living Plant* (1913) and *Textbook of Botany for Colleges* (1916)

Gansevoort, Peter (găns'vōort), 1749–1812, American Revolutionary hero, b Albany, N Y He served in the Quebec campaign and in 1777 was in command of Fort Schuyler (former Fort Stanwix) In the Saratoga campaign he gallantly defended that post against British siege under Gen Barry ST LEGER until reports that Gen Benedict Arnold was approaching frightened the British into retreat He also played a distinguished part in the campaign (1779) of Gen John Sullivan against the Iroquois and the Loyalists in W New York

Ganso, Emil, 1895–1941, American painter and etcher, b. Halberstadt, Germany He early came to America, where he achieved a high reputation as a landscape, figure, and still-life painter In 1933 he was awarded a Guggenheim fellowship and spent a year in Europe In 1940 he joined the art faculty of the Univ of Iowa He is represented in principal museums throughout the country His *Girl in Chemise* (Whitney Mus , New York) is characteristic of his happy and vital style

Gantt, Henry Lawrence, 1861–1919, American industrial engineer, b Calvert co , Md , grad Johns Hopkins, 1880, and Stevens Institute of Technology, 1884 He became interested in industrial management and after 1899 was associated with Frederick W TAYLOR in this field He devised the Gantt chart and wrote *Work, Wages, and Profits* (1913), *Industrial Leadership* (1916), and *Organizing for Work* (1919) See biography by L P Alford (1934), Wallace Clark, *The Gantt Chart* (1922)

Ganymede (gă'nĭmēd), in Greek mythology, boy of great beauty carried off by Zeus to be his cupbearer According to a late variation Zeus, in the form of an eagle, caught him up to Olympus

Gaon of Wilna see ELIJAH BEN SOLOMON

Gap (gap), city (pop 11,086), capital of Hautes-Alpes dept , SE France It lies at the foot of the Dauphiné Alps

Garamond, Claude (klōd' gărămō'), d 1561, Parisian designer and maker of printing types He is held traditionally to have learned his art from Geofroy TORY Types designed by Garamond were used in the printeries of the ESTIENNE family, COLINES, PLANTIN, and BODONI, and types used by the ELZEVIR family were based on his designs His royal Greek type (*grecs du roi*) imitated the Greek writing of a scholar of his time (Angelos Vergetios) His roman and italic types, however, were innovations in being designed as metal types, not as imitations of handwriting His roman letter forms won general acceptance in France and elsewhere and were a chief influence in establishing the roman letter as standard, in place of the gothic or black letter Some modern type designs given his name are not closely related to his, but are based on types that were mistakenly attributed to him

Garand, John Cantius (gă'rund), 1888–, American inventor, b near Montreal, Canada He came to the United States when young and became a citizen in 1920 He was a toolmaker, worked in the U S Bureau of Standards, and later, when a civil employee of the U S army's armory at Springfield, Mass , invented a semiautomatic rifle which was adopted in 1936 by the U S army and later by the marine corps It works on the principle of expanding gas and fires from 50 to 80 shots per minute as compared with the 20 of the Springfield rifle, which it replaced

Garat, Dominique Joseph (dōmēnēk' zhozĕf' garä'), 1749–1833, French revolutionist He was minister of justice during the trial (1792) of Louis XVI, whom he had to inform of his death sentence As minister of the interior (1793) Garat showed weakness and lack of foresight Jailed for a time in the Terror, he later filled various high posts under the Directory and the Consulate Napoleon made him a senator and a count Forced into retirement after the Restoration, Garat devoted himself to writing works of reminiscence and history, notably the *Mémoire sur M Suard et le dix-huitième siècle* (1820)

Garay, Juan de (hwan' du gärī'), c 1528–1583, Spanish conquistador in South America, refounder of Buenos Aires He came to Peru (1544) in the train of the first viceroy, Blasco Nuñez Vela, and was active against Gonzalo Pizarro in the civil war From 1548 to 1568 his activity, as a soldier and colonizer, was centered in Upper Peru (present Bolivia) Moving to Asunción (Paraguay) in 1568, he quickly became prominent in the provincial government He founded Santa Fe (in present Argentina) in 1573 He was named lieutenant governor of the provinces of the Río de la Plata in 1574 and continued in this office through changing governments until his death With colonists from Asunción, he made a permanent settlement in 1580 at Buenos Aires, which, first founded by Pedro de MENDOZA, had been abandoned since 1541 See Paul Groussac, *Mendoza y Garay* (2d ed , 1916, in Spanish)

garbage see REFUSE

Garber, Daniel, 1880–, American landscape painter, b North Manchester, Ind , studied at the Cincinnati Art Academy, at the Pennsylvania Academy of the Fine Arts, and in France He won many awards for his atmospheric landscapes which are represented in the Metropolitan Museum, National Gallery of Art and Corcoran Gallery, Washington, D C , Art Institute of Chicago, Carnegie Institute of Pittsburgh, Albright Art Gallery, Buffalo, Pennsylvania Academy of the Fine Arts, and Museum of Science and Art, Los Angeles

Garber, city (pop 1,086), N Okla , NE of Enid, in wheat country; inc as a town 1901, as a city 1920

Garbett, Cyril Forster (gär'bĭt), 1875–, English prelate, archbishop of York, educated at Oxford He was assistant curate of Portsea (1900–9) and then vicar there (1909–19) He became bishop of Southwark in 1919 and was translated to the bishopric of

Winchester in 1932 In 1942 he was made archbishop of York His recent books include *The Claims of the Church of England* (1947) and *Watchman, What of the Night?* (1948)

Garbo, Greta, 1905–, American moving-picture actress, whose real name is Greta Lovisa Gustafsson, b Stockholm, Sweden She attended the dramatic school of the Royal Theater, Stockholm, and her success in the Swedish film *The Atonement of Gosta Berling* brought her to Hollywood There her beauty and the restraint of her acting won her fame in such films as *Flesh and the Devil*, *Anna Christie* (the first film in which she spoke), *As You Desire Me*, *Susan Lenox Her Fall and Rise*, *Queen Christina*, *Anna Karenina*, *Camille*, and *Ninotchka*

Garborg, Arne Evensen (ärʹnu āʹvənsn gärbôrg), 1851–1924, Norwegian poet and novelist In his weekly *Fedraheim*, founded in 1877, he championed the use as a literary language of Landsmaal, the language of the peasants based on Old Norse He translated the *Odyssey* into Landsmaal His novels, of the naturalistic school, were widely translated into other European languages and one, *Peace* (1892), appeared in English (1929) A verse cycle, *The Hill Innocent* (1895), was very popular

Garcés, Francisco Tomás Hermenegildo (franchĕʹskō tōmasʹ ārmənāhĕlʹdō garsĕsʹ), 1738–81, Spanish missionary explorer in the Southwest, b Aragon Sent as missionary (1768) to San Xavier del Bac in the present Arizona, he accompanied Juan Bautista de Anza overland to California in 1775 In 1775 he again went with Anza, but separated from him and explored the Mojave region and on returning made a journey (1776) to the Hopi villages He established missions in the Yuma region in 1779 and when the Indians revolted was clubbed to death His diaries are translated in Elliott Coues, *On the Trail of a Spanish Pioneer* (1900)

García, Manuel del Popolo Vicente (mänwĕlʹ dĕl pōpōʹlō vĕthänʹtā garthēʹä), 1775–1832, Spanish tenor, teacher, impresario, and composer of a number of operas very popular in their time After several successful seasons in Paris, he created the role of Count Almaviva in Rossini's *Barber of Seville* in Rome in 1816 He founded a school of singing in London and organized an opera company which included his wife, his son, and his daughter, Maria Malibran He was the first to produce opera in Italian in New York (1825–26) and in Mexico (1827–28) Pauline Viardot-García was also his daughter His son, **Manuel Patricio Rodríguez García** (pätrēʹthyō rōdrēʹgäth), 1805–1906, left the operatic stage in 1829 to teach at the Paris Conservatoire (1830–48) and the Royal Academy, London (1848–95) He invented the laryngoscope (1854) Jenny Lind and Mathilde Marchesi were among his pupils See biography by M S MacKinlay (1908)

García Calderón, Francisco (fränsēʹskō gärsēʹä kaldārōnʹ), 1883–, Peruvian writer His father was president of Peru and his brother, Ventura García Calderón, gained a reputation as a literary critic Francisco García Calderón lived for many years in France, where he represented his country in diplomatic service and wrote (in French) *Latin America Its Rise and Progress* (Eng tr , 1913), a history of all Latin America In it he emphasizes Latin tradition, explains the importance of the *caudillo*, and subscribes to the idea that these countries should be ruled by an elite rather than through democratic processes Other works are *Hombres e ideas de nuestro tiempo* (1907) and *Profesores de idealismo* (1909), both written in a vivid and correct style and valuable primarily for their analysis of contemporary historical events and characters

García Gutiérrez, Antonio (äntōʹnyō garthēʹä gōōtyĕrʹrĕth), 1812–84, Spanish playwright He was a soldier when his best-known play, *El trovador* [the troubadour], was staged in 1836 Verdi's opera *Il Trovatore* (1853) is based on this, and his *Simon Boccanegra* on García Gutiérrez's play of that name Later in his life Gutiérrez was appointed consul in Genoa and chairman of the National Archaeological Museum of Spain His last successful play was *Venganza catalana* (1864) See Nicholson B Adams, *The Romantic Dramas of García Gutiérrez* (1922)

García Icazbalceta, Joaquín (hwäkēnʹ garsēʹä ēkasbəlsäʹtä), 1824–94, Mexican philologist, bibliographer, and historian He edited the works of many early Mexican writers, helped edit the *Diccionario universal de historia y geografía* (1853–56), compiled the *Bibliografía mexicana del siglo XVI* (1880), wrote the masterly biography *Don Fray Juan de Zumárraga* (1881), collected an incomplete *Vocabulario de mexicanismos*, and translated foreign historical works, notably W H Prescott's *Conquest of Mexico*

García Lorca, Federico (fädhārēʹkō garthēʹä lôrʹkä), 1899–1936, Spanish poet and dramatist The spirit and folklore of his native Andalusia pervade his work The multiple aspects of his talent as lecturer, folklorist, musician, and codirector of the theatrical group "La Barraca" (under the Spanish Republican government) are indicative of his rich personality His first book, in prose, *Impresiones y paisajes* [impressions and landscapes] (1918), was followed by *Libro de poemas* (1921), in the year that he went to Madrid He became the most popular poet of his generation with *Romancero gitano* [the gypsy balladeer] (1928) Some of his later poetry includes *Llanto por Ignacio Sánchez Mejías* (1935, Eng tr , *Lament for the Death of a Bullfighter*, 1937) and *Poeta en Nueva York* (1940, Eng tr , *The Poet in New York*, 1940), written when he lived in New York in 1929 His plays include farces and tragedies Between 1927 and 1931 he wrote *La zapatera prodigiosa* [the shoemaker's wonderful wife], *Amor de don Perlimplín con Belisa en su jardín* [love of Don Perlimplín and Belisa in his garden] and *Retablillo de don Cristóbal* [within the picture frame of Don Cristóbal] In 1935 *Doña Rosita la soltera* [Doña Rosita the spinster] was staged Some of his plays have been translated, *Bodas de sangre*, a rural tragedy, as *Blood Wedding* (1939) and *Yerma* and others in *From Lorca's Theatre* (1941) A selection of his poems was translated by Stephen Spender and J L Gili (1939) He was shot at Granada soon after the outbreak of the civil war See biography by Edwin Honig (1944), Arturo Barea, *Lorca the Poet and His People* (Eng tr , 1949)

García Moreno, Gabriel (gabrēĕlʹ garsēʹä mōräʹnō), 1821–75, president of Ecuador (1861–65, 1869–75), b Guayaquil A sincere religious mystic, he gradually became obsessed with the idea of Roman Catholic supremacy As president he promulgated new constitutions (1861, 1869) and signed (1862) a concordat with the Church by which the civil power became the guarantor and executor of the Church's independence and granted to it control over education State patronage ceased, inquisitional methods were restored A storm of liberal opposition was vigorously suppressed Between terms as president he retained his hold by installing puppets He was reelected in 1869 and granted additional extravagant privileges to the clerics (in 1873 he dedicated Ecuador to the Sacred Heart of Jesus), he also took extraordinary powers for himself The fanaticism and despotism of the tall, severe *caudillo* are much more remembered than his ability as an administrator who put his country on a sound financial basis and introduced material reforms He died when set upon near the capitol steps by liberal assassins, who stabbed and split his skull with a machete

García y Iñigues, Calixto (kalĕkʹstō garsēʹä ē ēnyēʹgĕs), 1836–98, Cuban revolutionist, a leader in the insurrection against Spain called the Ten Years War (1868–78) Captured and imprisoned until 1878, he entered upon revolutionary activities immediately after his release, but was again arrested In 1895 he came to the United States, and shortly afterwards played an important part in the revolution and the Spanish-American War in Cuba, particularly distinguishing himself at El Caney Sent as a member of a committee to discuss Cuban affairs with McKinley in 1898, he died in Washington His name has become a byword in the United States because of Elbert Hubbard's inspirational essay, *A Message to Garcia*

Garcilaso de la Vega (garthēläʹsō dā la vāʹgä), 1503?–1536, Spanish lyric poet of the Renaissance A soldier of Emperor Charles V, he traveled in Spain, Italy, and France and died in a reckless attack on a castle in Provence He was the perfect embodiment of the gifted courtier of his period With his friend Boscán, he was chiefly responsible for the renovation of Spanish poetry by adapting to it in a variety of combinations the 11-syllable line characteristic of Italian poetry His works include sonnets, elegies, odes, and three eclogues

Garcilaso de la Vega (gärsēläʹsō dā lā vāʹgä), 1539?–1616, Peruvian historian, son of the Spanish conquistador Sebastián Garcilaso de la Vega and an Incan princess and therefore called the Inca He grew up in Peru amid the bloody quarrels of the post-Conquest period Going to Spain (c 1560), he first served in the army and then began his literary career Best known of his works is the *Royal Commentaries of Peru* (1609–1617?, Eng tr , 1688), a valuable source of information about the conquest of Peru and the lives and legends of the Incas

Gard (gär), department (2,271 sq mi , pop 393,279), S France, in Languedoc, on the Mediterranean and on the right bank of the Rhone Nîmes is the capital The Gard river, a tributary of the Rhone, is crossed at Remoulins by the Pont-du-Gard aqueduct

Garda, Lake, Ital *Lago di Garda* (läʹgō dē gurʹdä) or *Benaco* (bänäʹkō), largest lake of N Italy, 32 mi long and covering 143 sq mi , between Lombardy on the west and Venetia on the east The northern tip, with Riva di Trento, is an Alpine resort Here the Sarca river enters the lake At the southern end, on the north Italian plain, it leaves the lake as the Mincio Long celebrated for their beauty and mild climate, the shores are dotted with vineyards Resorts are Torbole, Maderno, and Gardone ‖

Garden, Alexander, c 1730–1791, Scottish-American naturalist and physician He settled in Charleston, S C , where he collected plant and animal specimens, discovered new species (including the amphibians known as the congo snake or congo eel and the siren or mud eel), and corresponded with European naturalists, including Linnaeus The gardenia was named for him.

Garden, Mary, 1877–, American operatic soprano, b Aberdeen, Scotland, studied in Paris Her debut (1900) was in the title role of Charpentier's *Louise*, at the Opéra-Comique, Paris In 1902 she created the role of Mélisande in Debussy's *Pelléas et Mélisande* Most famous of her roles were Louise, Mélisande, and Thaïs, in which role she made her American debut (New York, 1907) with the Manhattan Opera Company In 1909 she sang in the American revival of Richard Strauss's *Salomé* She was a member of the Chicago Opera Company, of which she was director for one season (1921–22). Her vivid portrayal of character was praised more highly than her singing

garden, piece of ground devoted to the cultivation of flowers, herbs, vegetables, or small fruits, for either utility or pleasure It may range in size from the small dooryard plot to the public botanic garden or commercial truck garden Ornamental gardens were cultivated by the Egyptians, Greeks, and Romans, and the hanging gardens of Babylon were among the Seven Wonders of the World Modern landscaping of the garden was developed in Italy Most cities have public gardens where new plants and good horticultural practices are introduced to the public Adjuncts of the garden are the cold frame, the hotbed, and the greenhouse, the first example of which was made in the Jardin des Plantes, in Paris A garden may be devoted entirely to one kind of plant, e g , aquatic plants, alpine plants, or herbs During both world wars the home vegetable garden played an important part in food production The roof garden is beginning to appear frequently in crowded cities Home gardens are aided and encouraged by many local and regional garden clubs, which often hold contests and flower shows See also horticulture General books on gardens include James Bush-Brown and Louise Bush-Brown, *America's Garden Book* (1939), Montague Free, *Gardening* (1947), Woman's Home Companion, *Garden Book* (1947)

Gardena (gärdēʹnu), city (1940 pop 5,909, 1948 special census pop 12,976), in Inglewood township, S Calif , S of Los Angeles, inc 1930 Fruits, vegetables, and poultry are raised in the area

Gardena, Val (väl gärdāʹnä), Ger *Grödnertal* (grēdʹnərtäl), Alpine valley, Trentino-Alto Adige, N Italy Its scenery attracts many tourists Ortisei is the best-known resort Wood carving (mainly of toys), is a traditional home industry

Garden City. 1 City (pop 6,285), co seat of Finney co , SW Kansas, on the Arkansas, founded 1878, inc 1887 It is a trade center in a well-irrigated farming and dairying region producing mainly sugar beets The city has a beet-sugar refinery An agricultural experiment station is here **2** Residential city (pop 4,096), SE Mich , near Dearborn, in a farm area, inc as a village 1927, as a city 1934 **3** Village (pop 11,223), on W Long Island, SE N Y , near Hempstead, founded c 1869, inc 1919 A residential and industrial suburb of New York city, it has a large publishing business, factories making aviation parts and supplies, and two airfields—Mitchell Field (military) and Roosevelt Field Garden City is the seat of an Episcopal cathedral, Adelphi College (coeducational, 1896), the Cathedral School of St Mary for girls, and St Paul's School for boys

garden city, urban residential and industrial community surrounded by a rural belt, established with a predetermined maximum population and area and with ownership vested in the community The name is commonly applied to any community planned to secure the advantages of both city and country life, although the purpose of a true garden city is also to encourage decentralization of industry The idea originated as a method of preventing the massing of population in metropolitan centers which followed the Industrial Revolution The garden city was foreshadowed in Robert Owen's proposal to create new communities in the country, in Charles Fourier's advocacy of phalansteries, and in James Silk Buckingham's plan (1849) for an ideal city It found partial expression, especially in England, in the building of workmen's dwellings near factories already situated in rural areas and in new communities built to house workers in industries that were moved to the country to take advantage of lower land values Notable among centers established in England by industrialists are Saltaire, founded (1851) by Sir Titus Salt, Bournville founded (1879) by George Cadbury, and Port Sunlight, near Birkenhead, founded (1887) by Sir William Lever The term "garden city" was introduced, and the ideal city effectively presented, by Sir Ebenezer Howard in his book *To-morrow a Peaceful Path to Real Reform* (1898), it was revised (1902) under the title *Garden Cities of To-morrow* (reedited by F J Osborn, 1946) Howard organized a garden-city association (1899) in England and secured backing for the establishment of Letchworth (1903) and Welwyn Garden City (1920) The garden-city idea spread rapidly in Europe and the United States but commonly resulted in residential suburbs such as Hilversum, Holland, Forest Hills, L.I., N Y ; and Mariemont, near Cincinnati The ideal was more fully realized in satellite communities

in rural areas at a moderate distance from a large city, such as Radburn, N.J., and the greenbelt towns (organized between 1936 and 1938 by the Federal Resettlement Administration), Greenbelt, Md., Greendale, Wis., and Greenhills, Ohio. Most satellite towns, however, fail to attain Howard's ideal, since local industries are insufficient to provide employment for the inhabitants, many of whom commute to work in larger centers. The congestion and destruction incident to the Second World War stimulated the garden-city movement, especially in England. The open layout of garden cities has influenced the development of CITY PLANNING. See C. B. Purdom, *The Building of Satellite Towns* (1925), F. J. Osborn, *Green-Belt Cities: the British Contribution* (1946).

gardenia (gärdē'nyu) [for Alexander GARDEN], any plant of the genus *Gardenia*, shrubs or small trees of the subtropical Old World. The common gardenia, called also Cape jasmine (*Gardenia jasminoides*), is a popular corsage flower, waxy white and heavily fragrant, with thick glossy evergreen leaves. It is cultivated outdoors in the S United States or in greenhouses in the North and is propagated by cuttings. The true jasmine is not related to the Cape jasmine. See also CAMELLIA.

Garden of the Gods, area near Colorado Springs, central Colo., noted for its curious rock formations, the result of erosion. The various grotesque groups have fanciful names. It is a popular resort.

Gardiner, Sir Christopher, fl. 1630–32, personage in the early history of the Massachusetts Bay colony. His dramatic career has puzzled historians and provided inspiration for a number of literary works, particularly for one of the stories in Henry W. Longfellow's *Tales of a Wayside Inn*. The Puritans found Gardiner and a young woman when they landed in 1630. Accused of having deserted several wives in Europe, he was later discovered to be an agent of Sir Ferdinando GORGES, who claimed title to the land the Puritans occupied. Gardiner went to Maine and then to England, where, in 1632, he was one of the leading witnesses before the privy council in Gorges's attempt to have the Massachusetts charter revoked.

Gardiner, James, 1688–1745, Scottish colonel. He was famed for his reckless daring, fought under Marlborough, and lost his life at the battle of Prestonpans, fighting the Jacobite rebels.

Gardiner, Lion, 1599–1663, British colonist in America. Under contract with patentees of Connecticut, Gardiner designed and erected (1635–36) the blockhouse at Saybrook, which he defended in the Pequot War. He purchased (1639) Gardiner's Island from the Indians and there founded the first English colony in present New York.

Gardiner, Samuel Rawson, 1829–1902, English historian. He was educated at Christ's Church, Oxford, and for much of his life was a professor of modern history at King's College, London, as well as at Bedford College and other schools. His life work was his thorough, careful history of the Puritan Revolution in England, and it was based on researches into all the sources in England and in such foreign archives as those in Paris, Rome, and Simancas. His history appeared as several separate works, later regrouped into three—*The History of England from the Accession of James I to the Outbreak of the Great Civil War, 1603–1642* (10 vols., 1863–82, reissued 1883–84), *History of the Great Civil War, 1642–1649* (3 vols., 1886–91, reissued in 4 vols., 1893), and *History of the Commonwealth and Protectorate, 1649–1660* (3 vols., 1895–1901), which was interrupted by his death at the year 1656 and was carried on by Sir Charles Firth in his *Last Years of the Protectorate* (2 vols., 1909). Gardiner also wrote many textbooks, edited the *Constitutional Documents of the Puritan Revolution* (1889, 2d ed., 1899), wrote a biography of Oliver Cromwell (1899), and was for 10 years after 1891 editor of the *English Historical Review*. He was granted a civil-list pension in 1882 and became Ford lecturer at Oxford in 1896. See biography by H. B. Learned (1902), R. P. Usher, *A Critical Study of the Historical Method of Samuel Rawson Gardiner* (1916).

Gardiner, Silvester or **Sylvester**, 1708–86, American colonial physician and landowner, b. South Kingstown, R.I. He studied medicine in London and Paris, built up a large practice in Boston, and established a chain of apothecary shops. He was the chief promoter of the Kennebec Company which obtained a large strip of land on either side of the Kennebec river in Maine. He built the towns of Pittston and Gardiner in the development of this holding. Because Gardiner was an ardent Loyalist, his land was confiscated at the beginning of the American Revolution, and he fled to Halifax and later to England. He returned to America in 1785 and recovered part of his land in Maine, but his Boston property had been destroyed.

Gardiner, Stephen, 1483–1555, English prelate, educated at Cambridge. He became secretary to Thomas (later Cardinal) WOLSEY and later secured the favor of Henry VIII by a mission to Rome to further the king's plans for divorce from Katharine of Aragon. He was made bishop of Winchester (1531) and wrote *De vera obedientia* (1535), justifying the royal supremacy although denying a doctrinal reformation. Thomas Cromwell's fall was in part due to him, and he was partly responsible for the Six Articles, which reaffirmed the king's adherence to medieval church doctrines as against those of the Reformation. After the accession of Edward VI he was deprived of his bishopric and put in the Tower for five years. When Mary came to the throne, he was restored to his see and made lord high chancellor. Gardiner was condemned by Catholics for his support of royal supremacy and by Protestants for his opposition to Reformation doctrines. See J. A. Muller, *Stephen Gardiner and the Tudor Reaction* (1926).

Gardiner (gärd'nur), city (pop. 6,044), SW Maine, on the Kennebec below Augusta, founded 1760, inc. as a town 1803, as a city 1850. Dams, mills, and other works were built here after 1803. In 1823 Benjamin Hale established in Gardiner the first technical school in America. In 1936 a tablet was unveiled on the common to Edwin Arlington Robinson, who spent his youth here.

Gardiners Island, 3,000 acres, in Gardiners Bay between the two flukelike peninsulas of E Long Island, SE N.Y., settled 1639 by Lion GARDINER. Gardiners Point, an island of 14 acres, lies to the north.

Gardner, Erle Stanley, 1889–, American detective-story writer, b. Malden, Mass. He has lived chiefly in California, there he worked in lawyers' offices and studied at night and was admitted to the bar in 1911. About 1923 he began writing magazine stories, and since the publication (1933) of *The Case of the Velvet Claws* he has produced two or more books a year, noted for their fast action and clever legal devices. His leading characters are Perry Mason in one series and Douglas Selby and Terry Clane in others. Gardner writes also under several pseudonyms, including A. A. Fair.

Gardner, Ernest Arthur: see GARDNER, PERCY.

Gardner, Isabella Stewart, 1840–1924, American art collector, b. New York city. She lived in Boston following her marriage. After the Civil War her home became known for brilliant social affairs and as a center for gatherings of painters, literary people, musicians, and other celebrities. Her lifelong interest in design and art collecting led her to acquire many works of the masters and many valuable contemporary canvases. Her husband cooperated in her plan to create an art museum, Fenway Court was built after the Venetian manner to house their valuable collection and was willed to the city of Boston as a public museum to be preserved without change. See Morris Carter, *Isabella Stewart Gardner and Fenway Court* (1925), Arthur Pope and J. D. Hatch, Jr., eds., *The Isabella Stewart Gardner Museum: Reproductions of Paintings* (1935).

Gardner, Percy, 1846–1937, English classical archaeologist. He was educated at Christ's College, Cambridge. From 1887 to 1925 he was professor of archaeology at Oxford, where he was instrumental in building up the archaeology department and its library and collections. His works include *The Types of Greek Coins* (1883), *New Chapters in Greek History* (1892), *A Manual of Greek Antiquities* (with F. B. Jevons, 1895), *Principles of Greek Art* (1913), *A History of Ancient Coinage* (1918), and *New Chapters in Greek Art* (1926). His brother **Ernest Arthur Gardner**, 1862–1939, was educated at Cambridge. He served as director of the British School of Archaeology at Athens (1887–95) and as professor of archaeology (1896–1929) and vice chancellor at the Univ. of London. He took a prominent part in excavations in the Near East, particularly in Megalopolis and in Paphos. His principal work is *Handbook of Greek Sculpture* (1897, rev. ed., 1915). Other works include *Religion and Art in Ancient Greece* (1910), *The Art of Greece* (1925), and *Greece and the Aegean* (1933).

Gardner, city (pop. 20,206), N central Mass., NNW of Worcester, settled 1764, inc. as a town 1785, as a city 1923. Its furniture industry dates from c. 1805. Oil stoves are also produced. There is a state farm for the mentally ill.

Gareb (gā'-) **1** Member of David's guard of 30 men. 2 Sam. 23:38, 1 Chron. 11:40. **2** Unidentified hill, in the vicinity of Jerusalem. Jer. 31:39.

Gare Loch (lōkh), long narrow inlet of the Firth of Clyde, Dumbartonshire, Scotland.

Garey, Thomas Andrew, 1830–1909, American pioneer in citrus culture, b. Cincinnati. He traveled from Iowa to California by ox team (1849–52). In 1865 he built a citrus nursery on land now a commercial street in Los Angeles. The market for young citrus trees grew, and Garey introduced new varieties, one of which was a lemon called by him Garey's Eureka. It became one of two main varieties of lemon grown in California. His *Orange Culture in California* (1882) was a valuable work.

Garfield, Harry Augustus, 1863–1942, American educator, b. Hiram, Ohio, grad. Williams College, 1885, studied law at Columbia Univ., son of President James A. Garfield. From 1888 to 1903 he practiced law in Cleveland, Ohio, where he was active in civic affairs and also taught law at Western Reserve Univ. He was professor of politics at Princeton Univ. from 1903 to 1908 and president of Williams College from 1908 until his retirement in 1934. He served as U.S. fuel administrator in 1917–19 and in 1921 founded the Institute of Politics at Williams College.

Garfield, James Abram, 1831–81, 20th President of the United States. Born on a frontier farm in Cuyahoga co., Ohio, he spent his early years in poverty, and his education was obtained only through sacrifices. As a youth he worked as farmer, carpenter, and canal boatman, but after graduation (1856) from Williams College, he became a teacher of ancient languages and literature at the Western Reserve Eclectic Institute at Hiram, Ohio (the name was later changed, largely through his influence, to Hiram Institute), and later (1857–61) was its principal. He was also a lay preacher of the Disciples of Christ, was admitted (1859) to the bar, and was elected an antislavery state senator. He volunteered eagerly in the Union army and rose in rank. He was a major general of volunteers when he resigned (1863) to take his seat as Representative in Congress. He was a regular Republican, unhesitatingly following his party's program of radical Reconstruction, and later of hard-money deflationism and opposition to civil service reform. On the tariff issue he straddled. He was prominent in the settlement of the disputed election of 1876, but in 1880 he was still only moderately well known nationally. He was campaign manager for John Sherman in the Republican convention but on the 36th ballot was himself chosen as compromise candidate for President. U. S. Grant, who had wanted the nomination, and his supporter, Roscoe CONKLING, gave Garfield only formal aid in the election—and allegedly even that was conditioned on a promise of a share in the President's political favors. After Garfield had defeated W. S. Hancock and was President, he passed over Conkling's "Stalwarts" in his appointments and appointed James G. Blaine, Conkling's political enemy, Secretary of State. War was thus declared between the President and the most important faction of the Republican party. Garfield won the first round of the fight, getting his appointee for the New York port collectorship approved over Conkling's objections. He began prosecution of the STAR ROUTE frauds. Constantly harassed by office seekers, President Garfield met his death through one of them. On July 2, 1881, he was shot by Charles J. Guiteau. On Sept. 19 he died, and Chester A. Arthur succeeded to the presidency. Garfield was a brilliant orator and an able, knowing, and charming man. He had shown little originality or force in his 17 years as Congressman, and his early death prevented him from showing whether or not he might have demonstrated statesmanship as President. See biography by R. G. Caldwell (1931), T. C. Smith, *Life and Letters of James Abram Garfield* (1925).

Garfield, James Rudolph, 1865–1950, U.S. Secretary of the Interior (1907–9), b. Hiram, Ohio, grad. Williams, 1885, son of President James A. Garfield. After study at the Columbia Univ. School of Law, he was admitted (1888) to the Ohio bar and became a Cleveland lawyer. He also entered politics. He was a member of the U.S. Civil Service Commission (1902–3) and commissioner of corporations in the Dept. of Commerce and Labor (1903–7) before being given a cabinet post under Theodore Roosevelt. He supported Roosevelt's conservation policies. In the 1912 election he aided Roosevelt and the Progressives in their unsuccessful bid for power.

Garfield, industrial city (pop. 28,044), NE N.J., on the Passaic river and ENE of Passaic, inc. as a borough 1898, as a city 1917. Hydraulic equipment and chemicals are made here.

Garfield Heights, city (pop. 16,989, 1920 pop. 2,550), NE Ohio, near Cleveland, founded 1904, inc. 1932.

garfish, marine fish with a long, slender body and a long, pointed, toothed beak, found in most temperate and warm waters. It sometimes enters rivers. About 50 species are known. Some reach a length of 5 or 6 ft. They swim near the surface and are swift and predaceous. When pursuing smaller fish they often leap over obstacles. The flesh of garfish is palatable, but the green color of the bones is sometimes repellent. Other names include needlefish and bilfish. See also GAR PIKE.

Gargano (gärgä'nō), mountainous peninsula, Apulia, S Italy, projecting into the Adriatic. Monte Calvo (3,463 ft.) is the highest point.

Gargarus, Mount, Turkey: see IDA MOUNTAINS.

gargoyle (gär'goil), decorative spout projecting from a building so as to throw out the rain water from its roof. The term may apply to the water outlets in the form of lion heads upon the cornices of Greek and Roman buildings and to other such spouts, but usually refers to the highly interesting Gothic examples carved in the form of grotesque composite monsters leaning far outward from parapets and cornices. Those of Notre Dame, Paris, are perhaps the most familiar. On churches they are in stone, while the gargoyles of minor and domestic buildings more often are of lead.

Garian (gärēän'), town, Tripolitania, Libya. The native population lives in a centuries-old sub-

terranean town; above ground is a European settlement established by Italy as a garrison

Garibaldi, Giuseppe (gärĭbôl'dē, Ital jōōzĕp'pā garēbäl'dē), 1807–82, Italian patriot and soldier, a leading figure in the RISORGIMENTO. He was born at Nice (then in the kingdom of Sardinia) and as a youth entered the Sardinian navy. Under the influence of MAZZINI he became involved in an unsuccessful republican plot and fled (1835) to South America. There he gained his first experience in irregular warfare. He served Rio Grande do Sul in its rebellion against Brazil (during the minority of Pedro II and fought (1836–46) in the Uruguayan civil war, winning fame for his heroism. In Uruguay he met Anita, his faithful companion until her death in 1849. When revolution swept over Europe in 1848 Garabaldi found a new theater of action. Though a convinced republican, he joined the forces of King Charles Albert of Sardinia in the war against Austria. After the Sardinian defeat he went to Rome (1849) and, at the head of some improvised forces, fought for MAZZINI's short-lived Roman republic against the French forces intervening for Pope Pius IX. During his spectacular retreat across central Italy, Anita died. He was refused asylum by the king of Sardinia and came to the United States. Soon he resumed his seafaring life, but in 1851 he returned to Italy and bought part of the island of Caprera, N of Sardinia. By then he had definitely renounced the dream of an Italian republic and gave his support to the realistic policy of CAVOUR, publicly declaring that the monarchy as represented by VICTOR EMMANUEL II should be the basis of Italian unity. Garibaldi's popularity won many of MAZZINI's republican followers for the monarchist cause. Garibaldi took part in the war of 1859 against Austria. After the Treaty of VILLAFRANCA DI VERONA he violently attacked Cavour and denounced the cession of Savoy and his native Nice to France. In 1860, with Victor Emmanuel's connivance, Garibaldi embarked on the crowning enterprise of his life—the conquest of the kingdom of the Two Sicilies. With 1,000 volunteers, the Red Shirts, he landed (May, 1860) in Sicily, which had rebelled against King FRANCIS II, and conquered the island in a spectacularly daring campaign. He then crossed to the mainland, took Naples, and won a decisive battle on the Volturno river. MAZZINI wanted to make liberated S Italy a republic while the populace acclaimed Garibaldi as ruler, but Garibaldi himself remained faithful to his pledge to Victor Emmanuel. After meeting the king at Teano, near Naples, he relinquished his conquests to Sardinia and retired to Caprera. Shortly afterward (1861) Victor Emmanuel was proclaimed king of a united Italy. Only the PAPAL STATES remained outside the new kingdom. In 1862 Garibaldi led a volunteer corps against Rome, but the king, fearing international intervention, sent an Italian army which defeated Garibaldi at Aspromonte. Garibaldi was amnestied. He commanded a volunteer unit in the Austro-Prussian War of 1866 and in 1867 was defeated by French and papal forces at Mentana while attempting once again to capture Rome. In the Franco-Prussian War of 1870–71 he commanded a group of French and Italian volunteers and won a battle near Dijon (1871). Garibaldi was elected to the Italian parliament in 1874, but his political career was unimportant. He remained a popular hero of Italians the world over. See his autobiography (Eng. tr., 1889); G. M. Trevelyan, *Garibaldi and the Making of Italy* (1911)

Garibaldi, Giuseppe, or **Peppino Garibaldi** (pāp-pē'nō), 1879–1950, Italian general, son of RICCIOTTI GARIBALDI. He fought for Britain in the Boer War, took part in a Venezuelan revolution, commanded Greek troops in the Balkan Wars, and in the First World War commanded a legion of Italian volunteers. His opposition to Mussolini caused him to emigrate to the United States in 1924.

Garibaldi, Ricciotti (rēt-chōt'tē), 1847–1924, Italian patriot, b Uruguay, son of Giuseppe GARIBALDI. He fought with his father in Italy in 1866, 1867, and 1870–71.

Garigliano (gärēlyä'nō), name of the LIRI river, S central Italy, below its junction with the Rapido near Cassino. It separates Latium from Campania and empties into the Tyrrhenian Sea E of Gaeta. A strategic battleground since antiquity, it was the scene (1503) of Gonzalo Fernández de Córdoba's victory over Louis XII of France in the Italian Wars and was the scene of heavy fighting (1943–44) in the Second World War during the Allied drive on Rome and the battle for CASSINO.

Garland, Augustus Hill, 1832–99, American lawyer, U. S. Attorney General (1885–89), b Tipton co., Tenn., grad. St. Joseph's College, Bardstown, Ky., 1849. He became a prominent Arkansas lawyer and was admitted to practice before the U. S. Supreme Court in 1860. In the Civil War he served in the Confederate House of Representatives (1861–64) and Senate (1864–65). After the war, he was pardoned by President Johnson. His application to resume practice before the Supreme Court was denied because of the "test oath" of loyalty required from former Confederates by a congressional act of Jan., 1865. This led to *Ex parte Garland* (1867), a Supreme Court case in which Garland successfully pleaded that since the act was an ex post facto law it was unconstitutional. He was elected to the U. S. Senate in 1867 but was refused his seat. As governor of Arkansas (1874–76) Garland was influential in straightening out an involved financial situation which he inherited from preceding carpetbagger administrations. He served in the U. S. Senate from 1877 to 1885, when he resigned to accept President Cleveland's appointment as Attorney General. He wrote *Experiences in the Supreme Court of the United States* (1898) and, with Robert Ralston, *A Treatise on the Constitution and Jurisdiction of the United States Courts* (1898)

Garland, Hamlin, 1860–1940, American poet and author, b near West Salem, Wis. His family moved to an Iowa farm, where he worked while he went to school. He took up land in Dakota, but in 1884 left for Boston, and in the next few years he broadened his education and learned painfully to write. In 1893 he was established in Chicago. His first book, *Main-travelled Roads* (1891), and the later *Other Main-travelled Roads* (1910) contain stories of the Middle West, the region he was to celebrate for 40 years in verse, stories, and autobiography. These early tales bitterly picture the harsh futility of farm lives, he urged the single tax and populist doctrines in the novels *Jason Edwards, an Average Man* (1892) and *A Spoil of Office* (1892), but returned to realistic prairie stories in such works as *A Little Norsk* (1892) and *Rose of Dutcher's Coolly* (1895). The autobiographical *Son of the Middle Border* (1917) has become an American classic. *A Daughter of the Middle Border* (1921), though it won a Pulitzer Prize, is less great, and his many books of reminiscence which followed are discursive. Garland also wrote a biography of U. S. Grant (1898) and several works on spiritualism

Garland, town (1940 pop. 2,233, 1947 estimated pop. 6,500), N Texas, NE of, and near, Dallas. It is an industrial suburb producing aircraft, automobile tires, and other articles

garlic [O. E., = spear leek], perennial herb of the same genus as the onion and like it used for flavoring food, especially in the Old World, where it has been known from ancient times. The garlic of commerce is *Allium sativum*. The bulb consists of small bulbils known as cloves, and it is these that are most often used for culinary purposes and in propagating the plant. Garlic oil has been used in medicine, chiefly as a stimulant. Other species of *Allium*, native or naturalized in North America, are called wild garlic. The most common wild garlic is *Allium vineale*, naturalized from Europe and in some regions a troublesome weed in the spring because of the odor and taste imparted to the milk of cows feeding upon the plant

Garman, Samuel, 1843–1927, American ichthyologist, b Indiana co., Pa., grad. Illinois State Normal Univ., 1870. A pupil and friend of Louis Agassiz, he became a curator at the Museum of Comparative Zoology at Harvard and made several scientific expeditions. His chief work was *The Plagiostoma* (1913), on sharks, skates, and rays

Garmisch-Partenkirchen (gär'mĭsh-pär"tunkĭr'khun), town (pop. 24,624), Upper Bavaria. It is an international winter resort in the Bavarian Alps, at the foot of the ZUGSPITZE. The Olympic winter games of 1936 were held here. There are a Romanesque church and an 18th-century church to which pilgrimages are made

Garmite, obscure tribal name. 1 Chron. 4:19.

Garmo Peak, USSR: see STALIN PEAK

Garneau, François Xavier (frăswä' zavyä' gärnō'), 1809–66, French Canadian historian, b Quebec, educated at the Quebec seminary. In 1830 he became a notary, but later he was appointed translator to the legislative assembly of Lower Canada and then secretary of the municipal council of Quebec. In these official positions he found time to bring to completion his distinguished *Histoire du Canada* (3 vols., 1845–48, 2d ed., with added material, 1852). It is said that he undertook his history under the sting of a remark made by Lord Durham that the French Canadians were a people "without a history and without a literature" and the taunts of the young English clerks in the notary's office, who took delight in reminding him that he was the son of a conquered race. His *Histoire du Canada*, which he was correcting and revising until his death, covers the period from the founding of Canada to the union of the two Canadas in 1841. It passed through three editions in Garneau's lifetime and has been reprinted as recently as 1946. The fifth and sixth editions (1913–20), prepared by Hector Garneau, the author's grandson, brought the work up to date by adding the results of later research. The work has also appeared in abridged editions for classroom use and in an English translation. Garneau's history was welcomed with great enthusiasm, and French Canadian literature, particularly poetry, has never completely broken away from its spell. His work is a massive and scrupulously careful compilation of facts, laboriously gathered long before any work had been done to make the archives accessible to research workers, through it runs a vibrant current of patriotic feeling. Its captivating style has helped it to hold its place among the distinguished works of Canadian literature. There are several biographies of Garneau in French

Garner, John Nance, 1869–, Vice President of the United States (1933–41), b Red River co., Texas. He received an irregular country schooling, read law, and was admitted (1890) to the bar. He served (1898–1902) in the Texas legislature and then (1902) was elected to Congress. His seniority standing made (1921) him the ranking minority member of the Committee on Ways and Means, and subsequently he became minority leader in Congress. With the shift to Democratic control in 1931 he was elected speaker of the House. After 30 years of service in Congress, Garner was in 1932 elected Vice President under President Roosevelt and in 1936 was reelected. He opposed Roosevelt's third-term candidacy and retired (1941) from politics.

Garner, town (pop. 1,549), co. seat of Hancock co., N central Iowa, W of Mason City and on the Iowa river, in a dairy and farm area; inc. 1881.

Garnet, Henry see GARNETT, HENRY

Garnet, Henry Highland (gär'nĭt), 1815–82, American abolitionist clergyman, b Kent co., Md. Born a slave, he escaped in 1826 and was educated under Beriah Green at Oneida Institute, Whitestone, N.Y. An eloquent speaker, he became a leading abolitionist. His radicalism, particularly in a speech at Buffalo in 1843, in which he called upon slaves to rise and slay their masters, caused his influence to decline. He was opposed and superseded in leadership by Frederick DOUGLASS. Garnet held Presbyterian pastorates in Troy, N.Y., in New York city, and, after the Civil War, in Washington. In 1881 he was appointed minister to Liberia, but he died two months after his arrival there

garnet (gär'nĭt), name given to a group of minerals some members of which are used as gems. The garnets are double silicates, one of the metallic elements being calcium, magnesium, ferrous iron, or manganese and the other being aluminum, ferric iron, or chromium. Crystals are of the cubic system. Six varieties (of which there are also intermediate forms) are distinguished according to composition—grossularite (calcium-aluminum), pyrope (magnesium-aluminum), spessartite (manganese-aluminum), almandite (iron-aluminum), andradite (calcium-iron), and uvarovite (calcium-chromium). Grossularite is some shade of red, green, yellow, or brown depending on the impurities. If pure it would be colorless. The yellow and brown stones, coming chiefly from Ceylon, are used as gems under the names essonite (or hessonite) and cinnamon stone, sometimes they are miscalled HYACINTH. Grossularite is found also in the Transvaal, in Mexico, and in Oregon. The ruby-red pyrope from Bohemia, South Africa, and Arizona is the most popular variety of garnet and is sold as Cape ruby and Arizona ruby. Rhodolite, a mixture of pyrope and almandite from North Carolina, is rose-red or purple. Spessartite, brown to brownish-red garnet from Bavaria, Ceylon, and parts of the United States, is little used for jewelry. Deep red, transparent almandite is the carbuncle, it was formerly a very popular gem. There are also brownish-red and black varieties of almandite, sometimes used as abrasives. Almandites come chiefly from Brazil, India, and Ceylon. Australia and parts of the United States are also important sources. Andradite, a very common variety, is usually some shade of red, black, brown, yellow, or green. Of gem varieties there are topazolite, similar in color and transparency to TOPAZ, demantoid, a green variety with a high dispersion and adamantine luster, sometimes miscalled olivine and Uralian emerald, and black melanite. Demantoid is found in the Urals, and the other andradites come chiefly from Europe and the United States. Uvarovite, an emerald-green variety from Russia, is rarely suitable for gem use. Garnet occurs in many different kinds of rocks—grossularite, in metamorphosed impure limestones, pyrope, in basic igneous rocks, spessartite, in granitic rocks, almandite, in schists and other metamorphic rocks, as well as in igneous rocks, andradite, in serpentine, and uvarovite, chiefly in serpentine. Because of their comparative softness, garnets are not precious stones. They are extensively sold as imitations of more prized varieties

Garnett, Constance (Beach) see GARNETT, RICHARD.

Garnett, David (gär'nĭt), 1892–, English novelist; son of Edward and Constance Garnett. With Francis Meynell he was a partner (1923–32) in the Nonesuch Press. Garnett's short novel, *Lady into Fox* (1923), won acclaim for its unusual subject and imaginative quality. His later works include *A Man in the Zoo* (1924), *Go She Must!* (1927), and a factual report, *War in the Air* (1941). He edited the letters of T. E. Lawrence (1939) and works by Henry James and others.

Garnett, Edward: see GARNETT, RICHARD.

Garnett, or Garnet, Henry, 1555?–1606, English Jesuit. He was converted to Catholicism and in

1575 became a Jesuit After some years on the Continent he returned as a missionary to England (1587) and became superior of the English Jesuits He is principally remembered as one of the priests accused of taking part in the GUNPOWDER PLOT Garnett admitted to knowledge of the plot as confessor to two of the conspirators, was convicted of treason on confusing evidence, and was executed

Garnett, Richard, 1835–1906, English librarian and author, from 1851 connected with the British Museum, which he served with great distinction Owing to his efforts the printing of the catalogue, discontinued since 1841, was resumed in 1880 From 1890 until his retirement in 1899 he was keeper of the printed books Besides writing voluminous essays, biographies, and novels, he contributed to *The Encyclopaedia Britannica* and *The Dictionary of National Biography* and discovered hitherto unpublished Shelley fragments (*Relics of Shelley*, 1862) His works include *The Twilight of the Gods* (1888), *History of Italian Literature* (1897), *Essays in Librarianship and Bibliography* (1899), and *The Age of Dryden* (1895) He also wrote biographies of Carlyle (1887), Emerson (1888), Milton (1890), and Coleridge (1904) His son was **Edward Garnett,** 1868–1937, critic, essayist, and dramatist As a literary adviser, Edward encouraged and guided many writers He published, with valuable introductions, his letters from Conrad and Galsworthy See also his *Hogarth* (1911) **Constance (Beach) Garnett,** 1862–1946, Edward's wife, was famous for her translations from the Russian David GARNETT is their son

Garnett (gär'nĕt), city (pop 2,607), co seat of Anderson co , E Kansas, S of Lawrence, founded 1856, inc as a town 1861, as a city 1870 Edgar Lee Masters was born here Oil fields are in the county

Garnier, Charles (Saint Charles Garnier) (sharl' garnyā'), 1606-49, French missionary in North America, a Jesuit He entered the Society of Jesus in 1624 and went as a missionary to Canada in 1636 He was one of the missionaries among the Huron Indians and was killed by the Iroquois He is one of the group (including Isaac Jogues and Jean de Brébeuf) called the Martyrs of North America or the Jesuit Martyrs of North America, who were canonized in 1930 Feast Sept 26 or (among the Jesuits) March 16

Garnier, Jean Louis Charles (zhäⁿ' lwē' sharl'), 1825–98, French architect Garnier studied at the École des Beaux-Arts and won the Grand Prix de Rome (1848) He was awarded the commission for the Opéra in Paris (1863–75), which is his principal work, it provided an impressive focus for the new boulevards of G E Haussmann's city planning It is an ornate interpretation of Renaissance architecture, especially noted for the grand staircase Garnier built also the casino at Monte Carlo and the observatory at Nice

Garnier, Marie Joseph François (marē' zhôzĕf' fräswä'), 1839–73, French explorer and naval officer usually known as Francis Garnier He served (1860–62) against Annam and China, then in the administration of Cochin China In 1866–68 he accompanied Doudart de Lagrée's expedition through Cambodia, Laos, and Yunnan The route followed, largely unknown to European geographers, was accurately mapped On the death of the leader en route, Garnier led the party down the Yangtze to Shanghai After taking part in the defense of Paris against the Prussians (1870–71), which he described in *La Siège de Paris* (1871), he returned to the Far East In the Tonkin expedition of 1873 he captured Hanoi, but was killed there He wrote *Voyage d'exploration en Indo-Chine* (1873)

Garnier, Robert (rôbĕr'), 1534–90, French dramatic poet He wrote closet dramas in the manner of Seneca *Les Juifves* [the Jewish women] (1583), certainly the best, has been successfully produced in the 20th cent

garnierite (gär'nēərīt"), pale apple-green, amorphous mineral, chemically a silicate of nickel and magnesium It is an important ore of NICKEL found at New Caledonia and also in the United States in Oregon

Garnier-Pagès, Étienne Joseph Louis (ātyĕn' zhôzĕf' lwē' gärnyā'-pāzhĕs'), 1801–41, French politician, brother of Louis Antoine Garnier-Pagès He was a leading figure in the opposition to the Restoration and to the July Monarchy

Garnier-Pagès, Louis Antoine, (ätwan'), 1803–78, French politician, brother of Étienne Joseph Louis Garnier-Pagès He succeeded to his brother's seat in the chamber of deputies He opposed the July Monarchy and after the FEBRUARY REVOLUTION of 1848 was mayor of Paris and finance minister in the provisional government After 1864 he was a member of the parliamentary opposition to Napoleon III, and in 1870–71 he was a member of the government of national defense

garnishment, process of attaching debts owed or goods belonging to a defendant and in the hands of a third party The garnishment consists of a warning to the third party not to deliver the goods or money due to the defendant, but to hold them awaiting the outcome of the plaintiff's suit. The third party, the garnishee, after the warning holds the goods or debt as a trustee for the winner in the pending suit

Garofalo, Il (ēl garō'fälō), 1481–1559, Italian painter, one of the foremost artists of the Ferrarese school, whose real name was Benvenuto Tisi or Tisio He worked chiefly in the churches and palaces of Ferrara, Bologna, and Rome Examples of his art are numerous and well preserved, especially in Ferrara—*Adoration of the Magi* and *Resurrection of Lazarus*, in the museum, *The Kiss of Judas*, in the Church of San Francesco, *Madonna Enthroned* and the beautiful frescoes of SS Peter and Paul in the cathedral Other notable examples are *Sacrifice to Ceres* (National Gall , London), *St Nicholas Reviving the Birds* and *St Nicholas Asked to Revive a Dead Child* (Metropolitan Mus), *The Baptism of Christ* and *The Meditation of St Jerome* (National Gall of Art, Washington, D C), and many fine examples in the Vatican, Borghese Palace, and the Capitol, Rome, in the Uffizi and Pitti galleries, Florence, and in the Louvre

Garofalo, Raffaele (raf"fäā'lā), 1851–1934, Italian jurist and criminologist He studied at the Univ of Naples, where he later taught law and criminal procedure With Lombroso and Ferri, he founded the school of Italian positivists and helped (1892) to prepare a new code of penal procedure His *Criminologia* (1885) was translated into English by R W Millar (1914)

Garonne (garôn'), river, 402 mi long, SW France, in Gascony, Languedoc, and Guienne Rising in the central Pyrenees just inside Spain, it flows roughly NE to Toulouse, where it swings northwest, passing Agen and Bordeaux, to join the Dordogne and form the GIRONDE The Garonne receives nearly all the smaller rivers of SW France (Gers, Ariège, Tarn, Lot), but it is navigable only in its lower course Its flow is very irregular, and a lateral canal has been constructed from Toulouse to the Gironde

Garonne, Haute see HAUTE-GARONNE

gar pike, fresh-water fish found in the E and S United States, Central America, Mexico, and the West Indies The cylindrical body is armored with platelike scales, and the snoutlike jaws bear sharp teeth Gars are not palatable and are voracious feeders on more useful fish Among the several species are the alligator gar, the short-nosed gar, and the long-nosed gar The name garfish is sometimes used for the gar pike but is more correctly applied to the salt-water gar

Garretson, James Edmund, 1828–95, American pioneer in oral surgery, b Wilmington, Del , M D Univ of Pennsylvania, 1859 From 1874 he taught at Philadelphia Dental College (now part of Temple Univ), serving as dean from 1880 His textbook on oral surgery (1869) was the first and long the standard work in its field Under the name John Darby he published many popular books, the inspiration of a Garretsonian Society

Garrett, João Batista de Almeida see ALMEIDA GARRETT, JOÃO BATISTA DE

Garrett, Thomas, 1789–1871, American abolitionist, b Upper Darby, Pa A Quaker, he joined the Pennsylvania Abolition Society in 1818 At Wilmington, Del , where he became a hardware merchant and toolmaker, he made his home a station on the UNDERGROUND RAILROAD, helping 2,700 slaves to freedom He was not convicted until 1848, when the fine imposed took all his resources Friends helped him rebuild and he continued to aid slaves See W H Siebert, *The Underground Railroad from Slavery to Freedom* (1898)

Garrett, city (pop 4,285), NE Ind , N of Fort Wayne near Auburn It is a trading center for farmers

Garrettson, Freeborn, 1752–1827, American Methodist preacher, b Maryland At the time of his conversion to Methodism (1775), he freed his slaves and began his travels as a preacher In 1784 he went through the South, summoning preachers for the conference at which the Methodist Episcopal Church of the United States was organized and at which he was ordained He organized congregations in E New York and W New England, at the request of John Wesley, he wrote *The Experience and Travels of Mr Freeborn Garrettson* (1791) His zeal and travels helped greatly in the spread of his denomination in America See biography by E S Tipple (1910)

Garrettsville, village (pop 1,264), NE Ohio, SE of Cleveland HIRAM COLLEGE is 4 mi from here

Garrey, Walter Eugene, 1874–, American physiologist, b Reedsville, Wis , M D Rush Medical College, 1909 He taught in several colleges and was professor at Vanderbilt Univ from 1921 to 1944 His researches were especially in cardiac neurology and physiology

Garrick, David, 1717–79, English actor and manager He left the employ of his uncle, a wine exporter in Lisbon, to enter Dr Johnson's academy at Lichfield and six months later went with Johnson to London, where he set up a wine shop He began his great theatrical career by performing in his own play *Lethe* in 1740 and by his association with Peg Woffington A chance appearance as Harlequin at Gifford's Theatre, Goodman's Fields, led to an engagement at Ipswich, where, under the name Lyddal, he played Chamont in Otway's *Orphan*, Aboan in Southerne's *Oroonoko*, and Sir Harry Wildair in Farquhar's *Constant Couple* in 1741 After his appearance as Richard III the same year he was the idol of London and was engaged for the following year at Drury Lane There, from 1742 to 1745, his greatest roles were Hamlet, Macbeth, King Lear, and Abel Drugger in Jonson's *Alchemist* Short in stature but mercurial in presence, he had a simplicity of manner and diction that swept the declamatory school from the stage In 1747 Garrick became patentee and manager of Drury Lane He made important stage reforms—seating the audience in the body of the theater, introducing a system of invisible lighting, dressing the plays for their periods, employing the great stage designer Loutherburg, and establishing admission by ticket only Garrick was one of the circle of 18th-century notables that surrounded Johnson at "The Club" Besides training actors for his company and composing prologues and epilogues, he wrote *The Lying Valet* (1741), *Miss in Her Teens* (1747), and *The Irish Widow* (1772), and collaborated with George Colman the elder in writing *The Clandestine Marriage* (1766) His last appearance was in 1776 as Don Felix in *The Wonder!* by Susannah Centlivre His portrait was painted by Reynolds, Hogarth, and Gainsborough He was buried in Westminster Abbey Garrick appears in Boswell's *Johnson* See also Garrick's *Private Correspondence* (with memoir by James Boaden, 2 vols , 1831–32), biographies by Percy Fitzgerald (1868), F M W Parsons (1906), F A Hedgcock (1912), E P Stein (1938), and Margaret Barton (1948)

Garrison, Lindley Miller, 1864–1932, U S Secretary of War (1913–16), b Camden, N J , LL B Univ of Pennsylvania, 1885 After practicing law in New Jersey and in Philadelphia, Garrison served (1904–13) as vice chancellor of New Jersey President Wilson appointed (1913) him Secretary of War, but he resigned (1916) primarily because Wilson opposed his preparedness program

Garrison, William Lloyd, 1805–79, American abolitionist, b Newburyport, Mass He supplemented his limited schooling by a seven-year apprenticeship (1818–25) on the Newburyport *Herald*, became (1826) editor of the unsuccessful Newburyport *Free Press*, and in 1829 went to Baltimore to aid Benjamin LUNDY in publishing the *Genius of Universal Emancipation* This episode ended (1830) in his imprisonment seven weeks for libel On Jan 1, 1831, he published the first number of the *Liberator*, a paper which he continued for 35 years (the last number was dated Dec 29, 1865), or until after the Thirteenth Amendment had been adopted His leading article in the first number ended with these words, "I am in earnest—I will not equivocate I will not excuse—I will not retreat a single inch—and *I will be heard*" They indicate Garrison's uncompromising stand for immediate and complete abolition of slavery Though its circulation was never over 3,000, the *Liberator* became famous (notorious, to Southerners), for its editor wrote in startling and quotable language Garrison, a philosophical nonresistant, believed in the use of neither force nor the ballot to gain his end, but this only seemed to make his writing all the more militant, not to say inflammatory His reliance was wholly upon moral persuasion, but his intemperate language antagonized many Bitter attacks on the moderate antislavery element won him enemies in the North, and his opposition to political action divided the abolitionist host, but he did not swerve from his course In 1835 he suffered violence at the hands of a well-dressed Boston mob and thereby won a valuable convert to his cause in Wendell PHILLIPS Garrison opposed the work of the American Colonization Society in his *Thoughts on African Colonization* (1832) He was active in organizing (1831) the New England Anti-Slavery Society and in 1833 the American Anti-Slavery Society, of which he was president (1843–65) in its declining years Garrison crusaded for other reforms which he united with abolitionism, notably woman suffrage and prohibition, and since he demanded complete adherence to all his beliefs, he really had a small following He went to the extreme of advocating Northern secession from the Union because the Constitution, which Garrison characterized as "a covenant with death and an agreement with Hell," permitted slavery He publicly burned the Constitution at an abolitionist meeting in Framingham, Mass , on July 4, 1854, and opposed the Civil War until Lincoln issued the Emancipation Proclamation That Garrison was the foremost leader of the antislavery cause, a view generally held in the 19th cent and recently revived by his latest biographer, has been characterized as a "New England myth" The weight of historical evidence seems to indicate strongly that, while Garrison continued to make much noise, the effective fight against slavery was carried on by less well-known men who, for all their idealism, tackled the problem in a realistic manner (see ABOLITIONISTS) Garrison, a difficult personality, was not a good organizer. Even so, his contribution to the cause, though it was not as mighty as many consider it, was important. See

William Lloyd Garrison . . . His Life Told by His Children (4 vols, 1885–89); biography by Lindsay Swift (1911), G H Barnes, *The Antislavery Impulse, 1830–1844* (1933), Ralph Korngold, *Two Friends of Man* (1950)

Garrison, city (pop 1,117), W central N Dak, between Bismarck and Minot, in a lignite-mining and poultry area, inc 1920

Garry, Spokane (gă'rē), 1811–92, American missionary, a chief of the Spokane Indians He was educated at the expense of the Hudson's Bay Company at the mission school in Fort Garry (present Winnipeg) Converted to Christianity, he returned to his people, established a native school, and introduced Christian forms of worship He worked for friendship with the whites and helped to keep some of the tribes from joining the insurrection led by Chief JOSEPH His last years were, however, embittered by the incursions of the whites

Garry, Fort, early trading post on the site of the present city of WINNIPEG, Man It was founded in 1821 and named for Nicholas Garry, director of the Hudson's Bay Company, who was there in that year to arrange for the union of the Hudson's Bay Company and the North West Company The old fort was demolished in 1852, a larger one of the same name having been begun in 1835 Until the city was founded (1800s), the fort was the center and seat of authority in the Manitoba region It was captured by Louis RIEL in the rebellion of 1869 It was sold in 1882 and has been torn down, except for the gate which stands opposite the present Canadian National Railways station Lower Fort Garry, on the Red River, 19 mi below Fort Garry, was built in 1831 and still stands

Garshin, Vsevolod Mikhailovich (fusyĕ'vulŭt mĕkhī'luvĭch gar'shĭn), 1855–88, Russian short-story writer The story which first won him fame was "Four Days" (1877), "The Scarlet Blossom" (1883) is usually considered his masterpiece These with others, translated in *The Signal and Other Stories* (1912), are animated by a profound pity for mankind Garshin suffered intermittently from a mental disorder which ultimately led him to suicide

Garstang, John, 1876–, English archaeologist He was professor of archaeology at the Univ of Liverpool from 1907 to 1941, when he became professor emeritus He began conducting archaeological research in 1897 and directed expeditions in England, Africa, Asia Minor, and Palestine He was director of the British School of Archaeology at Jerusalem (1919–26) Among his writings are *Meroë, the City of the Ethiopians* (1911), *The Hittite Empire* (1929), *Foundations of Bible History Joshua, Judges* (1931), and *Prehistoric Mersin* (1950)

Garter, Order of the, oldest and most important of the orders of knighthood in England, instituted (c 1346) by Edward III The story of its origin in the restoration to the countess of Salisbury of her garter, with the remark, *Honi soit qui mal y pense*, "May he be shamed who thinks ill of it," is not accepted The original number of the knights was 25, to which was added the sovereign, but the membership has been extended and may include the queen and noble women The emblem of the order is a dark blue ribbon edged with gold, bearing the motto given above and worn by men on the left leg below the knee and by women on the left arm There is also an elaborate gold and enamel collar, or a blue ribbon from which hangs the emblem of St George, the patron saint of the order The abbreviation of the title, written after the name of the holder, is K G

Garter King-of-Arms, see HERALDS' COLLEGE

garter snake, common harmless snake of North America usually about 2 ft long Garter snakes are striped or banded lengthwise, and some are spotted Less aquatic than the related water snakes, they frequent dry places as well as swamps and marshes They prey only on cold-blooded animals, chiefly frogs, toads, small fish, and earthworms The common garter snake of the NE United States varies in color and pattern but is usually blackish or brownish with three yellow stripes The young are born alive in litters of about 30 to 65 or more The ribbon snake is a garter snake which prefers wet places

Garth, Sir Samuel, 1661–1719, English poet and physician, b Yorkshire, educated at Cambridge He advocated free dispensaries for treatment of the poor His satirical poem in couplet form called *The Dispensary* was published in 1699

Gärtner or **Gaertner, Joseph** (both yō'zĕf gĕrt'nur), 1732–91, German botanist He taught in Germany and at St Petersburg (1768–70), where he also directed the botanical gardens Gärtner wrote a standard work on the morphology of fruits and seeds *De fructibus et seminibus plantarum* (2 vols, 1788–91)

Garvan, Francis Patrick, 1875–1937, American lawyer, b East Hartford, Conn, grad New York Law School, 1899 He was assistant district attorney in New York city (1900–1910) and later (1919–23) dean of the law school of Fordham Univ In 1919 he was appointed alien property custodian by the U.S. government. He organized the Chemical Foundation, Inc, to develop German patents seized by the United States and thus did much to establish the American chemical industry

Garvey, Marcus, 1887–1940, American Negro leader, b Jamaica, in the West Indies A printer and editor, he turned to the racial problem and organized (1914) the Universal Negro Improvement Association. When he went (1917) to New York, he founded another branch of his association and became leader of what was essentially a Negro nationalist movement His association had the broad purposes of promoting unity among Negroes in many lands, of improving conditions in all Negro communities, and of developing independent Negro nations in Africa which would attain their own high civilization The project which captured public imagination was a Black Star Line Steamship Company to render triangular service between New York, the West Indies, and Africa After a total of $500,000 was subscribed, the project did not materialize, and Garvey was convicted (1925) of fraud for misusing the funds He served two years in an Atlanta prison and was deported to Jamaica, where he was elected several times to the Kingston council

Garvin, Lucius Fayette Clark, 1841–1922, governor of Rhode Island (1903–4), b Knoxville, Tenn, grad Amherst, 1862, and Harvard medical school, 1867 He practiced his profession in the mill village of Lonsdale, R I After reading *Progress and Poverty* by Henry George he became an enthusiastic single taxer He served 13 terms in the state assembly and three in the senate A perennial Democratic candidate for Congress and the governorship, he was elected chief executive in 1902 and 1903 That a Democrat and single taxer should be elected in Aldrich's Republican, machine-controlled state is an index to Garvin's personality and energy Since the state senate was Republican, however, he lacked legislative support He wrote on the single tax and economic questions

Garwood, industrial borough (pop 3,622), NE N J, W of Elizabeth, inc 1903 Paper products are made here

Gary, Elbert Henry, 1846–1927, American lawyer and industrialist, b near Wheaton, Ill, grad Union College of Law, Chicago, 1868 Rising rapidly as a corporation lawyer, he was for a time mayor of Wheaton and served two terms as county judge—afterwards always being known as Judge Gary His able organization of the American Steel and Wire Company prepared the way for J Pierpont Morgan to entrust him with the organization of the Federal Steel Company in 1898 and in 1901 with the organization of the enormous U S Steel Corp As chairman of the board of directors of the corporation, Gary was the dominant personality in the company until his death He closely directed its physical expansion and aided in founding the steel town, GARY, Ind (named for him) He adopted a policy of cooperation of management in the industry, and out of his noted "Gary dinners," where policy was discussed and informal agreements reached, grew the American Iron and Steel Institute In 1919 the Supreme Court ended the efforts of the U S government to dissolve the corporation as a monopoly Gary believed in high wages, promoted welfare and safety measures for employees, and introduced a scheme of employee stock ownership He was, however, adamantly opposed to recognizing labor unions and insisted on the open shop This policy and the notoriously long hours in the steel industry helped to bring on the bitter steel strike of 1919 It failed, but Gary later, under pressure of public opinion, shortened the working hours See biography by I M Tarbell (1925)

Gary, James Albert, 1833–1920, U S Postmaster General (1897–98), b near New London, Conn, grad Allegheny College, 1854 He was a partner with his father in, and ultimately owner of, cotton mills on the Patapsco river, in Maryland, and later had wide holdings Though defeated in the races for the House (1870, 1872) and the Maryland governorship (1879), he was the Republican leader in his state from 1872 to his death As President McKinley's Postmaster General, he urged founding of a postal savings bank

Gary, city (pop 111,719), NW Ind, at the southern end of Lake Michigan 25 mi SE of Chicago The land was purchased by the U S Steel Corp in 1905, and the city was chartered and named for Elbert H Gary in 1906 A great steel center for the world, it is midway between iron-ore beds of the Northwest and coal areas of the East and Southeast It has excellent railroad facilities, and the Calumet rivers have been converted into lake harbors The city also produces Portland cement, mechanical parts, and tin plate It has many parks and a well-planned system of boulevards

Gary plan: see SCHOOL

gas. 1 In general usage, the term *gas* is applied to any of a number of substances appearing in nature in the gaseous state under ordinary conditions of pressure and temperature It is used especially for illuminating gases such as air gas, coal gas, natural gas, oil gas, producer gas, and water gas A "gas" may be a chemical element, a chemical compound, or a mixture. The atmosphere of the earth is a mixture of gases Gaseous elements include hydrogen, helium, argon, chlorine, fluorine, krypton, neon, nitrogen, oxygen, and xenon Some common gaseous compounds are acetylene, ammonia, carbon dioxide, carbon monoxide, hydrogen sulphide, methane or marsh gas, and sulphur dioxide There are a number of varieties of POISON GAS, some of which are used in chemical warfare, for certain kinds of insecticides, and in fumigation LAUGHING GAS is often used for anesthesia in dentistry, ETHER, a liquid under ordinary conditions, volatilizes on slight rises in temperature Gasoline is often called gas The compression of certain gases forms the basis of one modern method of REFRIGERATION 2 In physics, gas is one of the three states in which matter occurs, i e, that state, as distinguished from solid and liquid, in which a substance exhibits neither definite shape nor definite volume Gases flow, as do liquids, into the shape of a containing vessel and for this reason are classed with liquids as fluids According to the kinetic molecular theory of MATTER, the molecules of a substance in the gaseous state move at a greater speed, and the distance between the molecules is greater, than in either a liquid or a solid The force of cohesion between the molecules of a gas is practically imperceptible, a condition which accounts for the fact that gases when unconfined are capable of unlimited DIFFUSION When a gas diffuses into a liquid and is held there, it is said to have undergone absorption by the liquid Certain solids are able to hold the molecules of gases upon their surfaces by adhesion, a phenomenon known as ADSORPTION Gases exhibit a number of uniform properties They are easily compressible, i e, a volume of gas can be reduced quite readily by COMPRESSION to a small fraction of itself Under great enough pressure any gas can be liquefied, but it must first be cooled below its critical temperature before it undergoes LIQUEFACTION According to Boyle's law, as the pressure on a gas is increased (the temperature being held constant), the volume of the gas decreases in direct proportion Deviations are noted in this behavior when a gas already under great pressure is compressed still more and approaches liquefaction Gases exert pressure against the sides of the vessel in which they are contained This pressure is the result of the continuous bombardment of the rapidly moving molecules against the confining walls Since heat is the kinetic energy of the molecules, when more is added and the temperature of the gas is raised the bombardment intensifies and an increase in the pressure results If a gas is confined so that its volume cannot become greater, the increase in its pressure upon the containing vessel is directly proportional to the increase in temperature (For the behavior of mixtures of gases, see DALTON'S LAW) According to Charles's law, if the pressure on a gas is constant, its volume is directly proportional to its temperature In all calculations of changes in the volume of gases and in the pressure upon them, when a change of temperature is involved a special scale known as the Kelvin or absolute scale is used Gases show uniformity also in their molecular structure and chemical activity Avogadro discovered that there are the same number of molecules in equal volumes of all gases measured under standard conditions of pressure and temperature This led to the conclusion that each molecule of an elemental gas, such as hydrogen, oxygen, and chlorine, consists of two atoms and therefore that the relative weight of a molecule, i e, the molecular weight of the gas, can be computed by multiplying the ATOMIC WEIGHT by two Another example of the uniformity of the behavior of gases is shown in the law of combining volumes as advanced in GAY-LUSSAC'S LAW, but probably the most striking illustration is that demonstrated experimentally by Avogadro If the molecular weight of any gas is measured out in grams under standard conditions of pressure and temperature, the volume of this quantity of any gas, known as the gram-molecular volume or molar volume, is found to be 22 4 liters

Gasca, Pedro de la (pā'drō dā lä gäs'kä), c 1485–1567? Spanish colonial administrator A Roman Catholic priest as well as a lawyer, he was selected by Emperor Charles V to restore order in Peru, was given full discretionary and executive powers as president of the *audiencia* of Lima, and was ordered to repeal the hated New Laws of LAS CASAS He arrived in 1547 after the death of the viceroy Blasco NÚÑEZ VELA Tactful, judicious, but unyielding, he wisely offered pardon to all and repealed the New Laws before mustering his forces and entering the field against Gonsalo PIZARRO, whom he defeated in 1548 and ordered executed Some semblance of order was restored to Peru, but he worked strictly along opportunistic lines Never having asked or accepted reward for service to the crown, he was made after his return to Spain in 1550 bishop of Sigüenza and Palencia

Gas City, city (pop 3,488), E central Ind, SE of Marion Glass is made here The city grew when a natural-gas boom occurred here in 1887.

Gascoigne, George (găskoin'), c 1539–1577, English poet, important as a pioneer in many fields of Eng-

lish literature The first essay on prosody in English appeared in the revision of his *Hundreth Sundrie Flowres* (1573) titled *The Posies of George Gascoigne* (1575), the first prose comedy in English, *Supposes* (1566), was his translation of Ariosto's *I suppositi*, the first Greek tragedy in English to be staged, *Jocasta* (1566), he translated from an Italian version of Euripides' *Phoenician Women*, and the first original nondramatic blank verse in English was in his satire *The Steele Glas* (1576) See studies by F E Schelling (1906) and C T Prouty (1942)

Gascoine, Sir William (gäs'koin), 1350?–1419, English jurist. He studied at Gray's Inn, became a king's sergeant in 1397, and became attorney to the duke of Hereford (later Henry IV) on his banishment He was made chief justice in 1400 Tradition supports the few extant facts which indicate his impartiality, dignity, and strength of character as a judge The story that Gascoine was a member of the court that condemned the earl marshal, Thomas Mowbray, and Richard Scrope, archbishop of York, is highly improbable, also improbable is the story (referred to by Shakspere in *Henry IV*, Part 2) that Gascoine committed Prince Henry (later Henry V) to prison for contempt of court

Gasconade (gäskŭnād'), river rising in S Missouri, in the Ozarks E of Springfield, and flowing northeast c 265 mi to the Missouri near Gasconade, E of Jefferson City

Gascony (gă'skunē), Fr *Gascogne* (gaskô'nyu), region and former province, SW France It is now occupied by the departments of Landes, Gers, and Hautes-Pyrénées and parts of Basses-Pyrénées, Lot-et-Garonne, Tarn-et-Garonne, and Haute-Garonne The sandy and swampy LANDES along the Atlantic coast, the majestic PYRENEES forming the border with Spain, and the hilly ARMAGNAC region between the Adour and the Garonne rivers are the main components of Gascony Fishing, stock raising, winegrowing, brandy distilling and the tourist trade are characteristic industries The historical capital is Auch, other towns are Bayonne, Biarritz, Luchon, Tarbes, and Lourdes Under the Romans the region was known first as Aquitania Propria, later as Novempopulana, and was inhabited by the Vascones or BASQUES, who since Paleolithic times had lived in the lands N and S of the Pyrenees Except in the region SW of the Adour, with Bayonne as its center, where the Basque language and customs have persisted to the present, Latin soon became the tongue of Novempopulana Conquered by the Visigoths (5th cent) and by the Franks (6th cent), Novempopulana was invaded in turn by Basque-speaking peoples from S of the Pyrenees, who in 601 set up the duchy of Vasconia or Gascony. Its limits fluctuated as the Basques fought the Visigoths, the Franks, and the Arabs throughout the Merovingian period Charlemagne forced the duke of Gascony to recognize Louis the Pious, king of Aquitaine, as his suzerain Early in the 9th cent the Basques lost interest in the lands N of the Adour, and Gascony, invaded by the Northmen, fell into anarchy and split up into small counties and seignories Meanwhile the dukes of AQUITAINE expanded southward and in the 11th cent united Gascony with their duchy Only Lower NAVARRE and BÉARN continued separate Gascony shared the fate of Aquitaine, passed under English control in 1152, and was a major battleground in the Hundred Years War, when the war was finished, it was completely recovered by France Gascony was then not a political unit; most of its territory was held by the counts of Armagnac, the counts of FOIX, and the lords of ALBRET All these lands passed, through marriage and inheritance, to Henry of Navarre, who became king of France as Henry IV in 1589 and united them to the royal domain in 1607 The province was divided under the jurisdictions of the parlements of Bordeaux and of Toulouse

gas engine see INTERNAL-COMBUSTION ENGINE.

Gashmu (-mū), the same as GESHEM

Gaskell, Elizabeth Cleghorn (Stevenson) (gă'skŭl), 1810–65, English novelist Her mother died when Mrs. Gaskell was only 13 months old and she was brought up in Knutsford, Cheshire, the background of *Ruth* (1853) and of *Cranford* (1853), her classic tale of British village life first published in Dickens's magazine, *Household Words* *Mary Barton* (1848) and *North and South* (1855) are novels of industrial life in Manchester, where she lived with her husband, who was a Unitarian minister Other novels were *Sylvia's Lovers* (1863) and *Wives and Daughters* (1866), unfinished at the time of her death This last work and *Cranford* relegated the moral to the background, while her other books succeeded as social commentaries. She was the biographer of Charlotte Brontë, but the first edition (1857) of the masterly biography roused such a furor for its statements concerning the Brontë family, particularly Branwell, that a libel suit was threatened See biographies by A S. Whitfield (1929), G. De W. Sanders (1929), and E. S. Haldane (1930); *Letters of Mrs. Gaskell and Charles Eliot Norton, 1855–1865* (ed by Jane Whitehill, 1932); L. P. Stebbins, *A Victorian Album* (1946).

gasoline, light, volatile, fuel oil, a mixture of hydrocarbons, obtained in the fractional distillation and "cracking" of petroleum and widely used as a fuel for gas engines, for cooking, and as an organic solvent It is obtained also from NATURAL GAS In England it is called petrol Ethyl gasoline contains lead tetraethyl, which acts upon the gasoline-air mixture in a motor, reducing the rate of combustion and permitting a higher compression ratio, thus stopping engine "knocking"

gasoline engine see INTERNAL-COMBUSTION ENGINE

Gaspar see WISE MEN OF THE EAST

Gasparri, Pietro (pyā'trō gäspär'rē), 1852–1934, Italian churchman, cardinal of the Roman Church He taught canon law at the Catholic Institute in Paris (1879–98) and was apostolic delegate thereafter in South America After his return he was asked by Pius X to direct the great codification of the canon law, and he received for his excellent work the cardinal's hat (1907) Just after the outbreak of the First World War (1914) Benedict XV made Cardinal Gasparri papal secretary of state, and he worked untiringly, first for peace, then for a solution of the difficulties growing out of the war Pius XI retained his services, which he brought to a culmination in the LATERAN TREATY of 1929, ending the Roman question, establishing an agreement between Italy and the papacy, and setting up VATICAN CITY He retired in 1930 and was succeeded by his pupil, Eugenio Pacelli, who later became pope as Pius XII Gasparri is the author of a widely used catechism

Gaspé, Philippe Aubert de (fēlēp' ōbĕr' dŭ gäspā'), 1786–1871, French Canadian author His *Les Anciens Canadiens* (1863), a classic of French Canadian literature, several times translated into English, is valuable for its pictures of life and customs in Quebec at the end of the 18th cent His *Mémoires* (1866) are also of historical interest

Gaspé (gäspā'), village (pop 924), E Que , on Gaspé Bay near the eastern extremity of Gaspé Peninsula It is a trade center and a tourist resort Jacques Cartier landed here in 1534, seeking refuge from a storm, and took possession for France

Gaspé, Cape, eastern extremity of Gaspé Peninsula, E Que , on the Gulf of St Lawrence

Gaspé Bay, deep inlet of the Gulf of St Lawrence, 22 mi long and 6 mi wide, E Que , at the east end of Gaspé Peninsula The village of Gaspé is near the head of the bay

Gaspee (gă'spē', gäspē'), British revenue cutter, burned (June 10, 1772) at Namquit (now Gaspee) Point in the present city of Warwick on the western shore of Narragansett Bay, R I The vessel arrived in March, 1772, to enforce the obnoxious revenue laws in an area where virtually the whole citizenry was engaged in smuggling, and her presence was decidedly unwelcome Her captain provoked the navigators of the bay further by the manner in which he carried out his duties On June 9, 1772, the *Gaspee* was lured aground c 7 mi S of Providence while giving chase to a suspect A group of prominent Providence men, including John Brown and Samuel Whipple, decided to burn the ship, and Capt Abraham WHIPPLE led the raiders They boarded the *Gaspee*, wounded the captain, captured the crew, and then burned the vessel to the water's edge Gov Joseph Wanton, in the difficult position of having to enforce British regulations without offending his constituents (Rhode Island elected its own governor), admirably solved the situation by issuing proclamations for the arrest of the officially unknown offenders and then doing practically nothing about them Despite a large reward offered by the British, the names of the men involved, though well known in Providence, were not revealed until after the outbreak of the American Revolution The incident was one of the more famous colonial acts of defiance in the troubled years before independence

Gaspé Peninsula, tongue of land, E Que , between the estuary of the St Lawrence river on the north and Chaleur Bay on the south, extending eastward into the Gulf of St Lawrence It is c 150 mi long and 60 to 90 mi broad Its backbone is an extension of the Appalachian mountain system and is known in its highest part as the Shickshock Mts Tabletop Mt (4,160 ft) is the highest elevation in SE Canada The interior of the peninsula is a mountain wilderness, completely forested and with numerous mountain streams and lakes, offering excellent hunting and fishing Settlement is almost wholly confined to the coastal rim, but a few miles wide, where there is a succession of picturesque villages whose inhabitants live by a combination of agriculture and fishing (chiefly cod) The inhabitants on the north and northeast are chiefly French Canadian, and on the south and southeast a mixture of French Canadian, Acadian, Scottish, Irish, and English The coast with its combination of mountain and sea, with many bold headlands, is famed for its beauty. A highway completely encircling the peninsula was opened in 1928. The chief towns are Gaspé, Matane, Percé, Chandler, and New Carlisle See J M. Clark, *The Gaspé* (1935); D. C Hogner, *Summer Roads to Gaspé* (1939); Doris Montgomery, *The Gaspé Coast in Focus* (1940).

Gasperi, Alcide de: see DE GASPERI, ALCIDE.

Gasquet, Francis Aidan (gă'skĭt), 1846–1929, English Roman Catholic scholar, cardinal of the Roman Church, a Benedictine. He is best known for his historical studies, principally of religious and social life in England in the Middle Ages and the Reformation His work has brought about considerable change in the prevailing views of the Reformation in England Notable among his works are *Henry VIII and the English Monasteries* (1888), *The Great Pestilence, A D 1348–9* (1893, 2d ed , with title *The Black Death of 1348 and 1349*, 1908), *The Old English Bible and Other Essays* (1897), *The Eve of the Reformation* (1899), *English Monastic Life* (1904), and *Monastic Life in the Middle Ages* (1922, essays) Pius X appointed him president of a commission to revise the Vulgate He was made a cardinal in 1914 and appointed prefect of the Vatican archives in 1918

Gass, Patrick, 1771–1870, American explorer, member of the LEWIS AND CLARK EXPEDITION, b Perry co , Pa His journal of the trip across the continent first appeared in 1807 and was widely read Gass later fought under Andrew Jackson against the Creeks and in the War of 1812 See edition of the journal by J K Hosmer (1904).

Gassaway, town (pop. 1,429), central W Va , on the Elk river and NE of Charleston, founded 1904 It has railroad shops

Gassendi, Pierre (pyĕr' gäsändē'), 1592–1655, French philosopher and scientist A teacher and a priest, Gassendi taught at Digne, Aix, and the Royal College at Paris and held several church offices In all his activities he emphasized the importance of experimental research, and his materialism is supposed to have influenced Leibniz He ranked with the leading mathematicians of his day He violently opposed the authoritarianism of Aristotle, especially in the *Exercitationes paradoxicae adversus Aristoteleos* (1624) He revived the atomic theory of Epicurus, thereby opposing the Cartesian school, and attempted to reconcile atomism with the teachings of the Church His works include *De vita, moribus, et doctrina Epicuri* (1647) and *Syntagma philosophiae Epicuri* (1649)

Gasser, Herbert Spencer (gă'sur), 1888–, American physiologist, b Platteville, Wis , grad Univ of Wisconsin (B A , 1910, M A , 1911), M D Johns Hopkins, 1915 He shared the 1944 Nobel Prize in Physiology and Medicine with Joseph Erlanger for their work on the electrophysiology of nerves, using a cathode-ray oscillograph Gasser became director of the Rockefeller Institute for Medical Research in 1935 He was formerly professor of physiology at the medical college of Cornell Univ (1931–35)

Gasset, José Ortega see ORTEGA Y GASSET, JOSÉ

Gastein (gä'stīn), valley and resort area in Salzburg, W central Austria, on the northern slope of the Hohe Tauern Some gold and silver are mined in long-worked mines Bad Gastein, one of the most fashionable bathing places of Europe, has radium thermal springs, its water is also piped to Bad Hofgastein, another resort By the **Gastein Convention** (1865) Austria assumed the administration of Holstein, and Prussia that of Schleswig (see SCHLESWIG-HOLSTEIN)

Gaster, Moses (gas'tur), 1856–1939, Rumanian-Jewish scholar and writer, grad Univ of Bucharest, 1873, Ph D Univ of Leipzig, 1877 He taught language and literature at the Univ of Bucharest from 1881 to 1885, when he was expelled from the country for his championship of the Jewish cause Settling in England, he was a lecturer at Oxford (1886–91) and principal of Judith Montefiore College (1890–96) From 1887 until his retirement in 1919, he was chief rabbi of the Sephardic communities in England For some years he was active in the Zionist movement and was vice president of the first Zionist congress in Basel (1897) He is the author of many works on theological, historical, and literary subjects, including *History of Rumanian Popular Literature* (1883), a new edition of the Sephardic prayer book (5 vols , 1901–6), and *Example of the Rabbis* (1924)

Gaston III, 1331–91, count of Foix and viscount of Béarn (1343–91) He was surnamed Phoebus because of his handsome appearance A typical feudal lord of his time, he was constantly embroiled in warfare with his neighbor, the count of Armagnac, supported the kings of France against England, but rebelled when Charles VI cancelled (1380) his appointment as governor of Languedoc, and was a passionate huntsman His brilliant court at Orthez has been made famous by Froissart, who visited it and who showered praise on Gaston in his chronicles. He was a patron of art and literature and himself wrote a treatise on the hunting of wild beasts and birds of prey

Gaston, Herbert Earle (gă'stŭn), 1881–, American journalist and public official, b Linn co , Oregon After study at the Univ. of Washington (1903–4) and the Univ of Chicago (1904–6), he worked on several newspapers throughout the country He was appointed (1931) deputy commissioner of the New York state conservation commission, was assistant to the Secretary of the Treasury (1933–39) and Assistant Secretary of the Treasury (1939–45). He also held several other important executive posts concurrently. He later became vice chairman

(1945) and chairman (1949) of the Federal export-import bank.

Gaston, William, 1778–1844, American jurist, b New Bern, N C , grad. College of New Jersey (now Princeton Univ.), 1796. After practicing law in his native city, he served a number of terms as a Federalist in each house of the state legislature, earning a reputation as a framer of legislation. While in the U S Congress (1813–17) during the War of 1812, he was a sharp critic of the administration's war program From 1833 until his death, Gaston, one of the few Roman Catholics in the state, was a justice of the North Carolina supreme court, winning respect for the clarity and liberality of his opinions As a delegate to the state constitutional convention he promoted liberal policies as to suffrage and representation He declined several national positions to continue his work as a judge and speaker in North Carolina. See biography by J H Schauinger (1949).

Gaston de Foix: see FOIX, GASTON DE

Gastonia (găstō'nēu), city (pop. 21,313), co seat of Gaston co., W central N C , W of Charlotte, in the piedmont, inc 1877 It is an important textile-mill center, and in 1935 a large tire-fabric factory was established here Gastonia has city-manager government Near by are the state orthopedic hospital and KINGS MOUNTAIN battlefield In a serious cotton-mill strike in 1929 several lives were lost

gastric juice, secretion of cells in the lining of the stomach It contains pepsin, a digestive enzyme which acts on proteins, and rennin, which curdles milk Hydrochloric acid, essential in the digestion of proteins, is also a component of the gastric juice Ulcers of the stomach may result from an over-secretion of hydrochloric acid, an under-secretion may result in nausea and vomiting A decrease or lack of hydrochloric acid is associated with such conditions as malnutrition, pernicious anemia, chronic gastritis, and carcinoma of the stomach

Gastrikland, Swed *Gästrikland* (yĕ'strĭkländ"), historic province, E central Sweden It is now administratively part of GAVLEBORG CO

gastropod. see MOLLUSK

Gat, Libya see GHAT

Gata, Sierra de (syĕ'rä dā gä'tä), mountain range, W Spain Between the valleys of the Douro and Tagus, it separates Leon from Estremadura

Gatam (gā'-), son of ELIPHAZ 1

Gatchina (gä'chēnū), city (pop 18,589), RSFSR, SSW of Leningrad It developed around the imperial palace (built 1766–70), used as a summer residence since the reign of Paul I The city was the scene (1917–19) of severe battles in the Russian civil war and was occupied (1941–44) by the Germans in the Second World War during the siege of Leningrad The palace (now a museum) was looted by the Germans

Gate City, trade town (pop 1,565), extreme SW Va , in the Clinch Mts near the Tenn line, settled in the late 18th cent , inc. 1892 The courthouse of Scott co is here Natural Tunnel (100–200 ft high, 130 ft wide, and c 900 ft long) is near by

Gates, Frederick Taylor, 1853–1929, American Baptist clergyman and educator After helping to raise funds for the founding of the new Univ of Chicago, he became assistant to John D Rockefeller in business and philanthropic activities In this capacity he organized the General Education Board, the Rockefeller Foundation, and the Rockefeller Institute for Medical Research

Gates, George Augustus, 1851–1912, American educator, b. Topsham, Vt , grad Dartmouth, 1873, and Andover Theological Seminary, 1888, and entered the ministry From 1887 to 1900 he was president of Grinnell College, which became, under his leadership, a noted center of cultural and religious liberalism He later served as president of Pomona College (1901–9) and of Fisk Univ His distinguished administrative career was cut short by a railroad accident, and in 1912 he committed suicide See biography by his wife, Isabel Smith Gates (1915)

Gates, Horatio, 1727–1806, American Revolutionary general, b Maldon, Essex, England He arrived in America to fight in the French and Indian War and saw action with Gen. Edward Braddock, at Fort Herkimer (near present Herkimer, N Y), and in the expedition against Martinique He returned to England (1765), resigned from the army, and returned to America (1772) to settle in what is now West Virginia At the start of the American Revolution, he joined the patriot cause as a general and played a part in training American troops outside Boston In 1776 Gates was given a command in the north under the supreme command of Philip J. Schuyler, whom he replaced as commander in the SARATOGA CAMPAIGN (1777). The overwhelming success of the Americans in defeating General Burgoyne made Gates a national hero, and the Continental Congress appointed him president of the board of war. Modern historians have tended to give less credit to Gates and more to Benedict Arnold, Daniel Morgan, and other subordinates, but the matter is debatable At the time Gates was considered a serious rival of Washington, and the aim of the so-called CONWAY CABAL was to make Gates commander in chief. Gates's part in this unsuccessful plan has never been fully determined In June, 1780, he was ordered south to command in the Carolinas (see CAROLINA CAMPAIGN) Poorly organized supply, badly trained troops, and hasty planning paved the way for a disgraceful defeat at Camden (1780), and Gates outdistanced his staff and men in riding away from the disaster He was plunged into deep disgrace and was superseded by Nathanael GREENE. There was never any official investigation of the affair, and Gates rejoined (1782) the army at Newburgh, N Y He freed his slaves in 1790 and moved to New York, where he spent the rest of his life See biography by S W Patterson (1941)

Gates, John Warne, 1855–1911, American financier and promoter, b near Chicago He found a market for wire fencing on the Western plains, began the manufacture of it in St Louis, and, by a succession of consolidations and promotion schemes, organized (1898) the American Steel and Wire Company He became a conspicuous operator on grain and stock exchanges and later, interesting himself in oil, became prominent in the development of Port Arthur, Texas See R I Warshow, *Bet-a-Million Gates* (1932).

Gates, Sir Thomas, fl 1585–1621, colonial governor of Virginia (1611–14) He was knighted for his services under Robert Devereux, 2d earl of Essex, in the successful expedition against Cádiz in 1596. Gates, who had been a lieutenant in the expedition (1585–86) under Sir Francis Drake which removed Sir Walter Ralegh's first colony from Roanoke Island, was the first named of the grantees in the original charter (1606) of the London Company, which founded Virginia In 1609 he commanded, as deputy governor, the "third supply" to the colony, a fleet of nine ships with over 500 colonists Two of the ships, including Gates's *Sea Venture*, were wrecked in the Bermudas (the story of this wreck as subsequently written by William Strachey, a survivor, inspired Shakspere's *Tempest*). The survivors supported themselves for 10 months in the Bermudas before they completed two pinnaces in which they finally reached Jamestown in May, 1610 Arriving at the end of the "starving time" to find that only about 10 percent of the nearly 500 colonists had survived the rigorous winter, Gates resolved to abandon the colony He had actually proceeded down the bay on the way to England in June when he was met by the governor, Lord DE LA WARR, heading a new relief At De la Warr's orders the settlers turned back to Jamestown That autumn Gates returned to England, leaving Sir Thomas Dale in charge, and in Aug , 1611, he reappeared at Jamestown with a new expedition containing 300 persons (including his wife and daughters) and many cattle and swine Since De la Warr had returned to England in March, Gates was now governor until March, 1614, when he also went back to England He planned further expeditions to Virginia, but they never materialized He is thought to have died in the East Indies in 1621 See Alexander Brown, *The Genesis of the United States* (1890)

Gateshead (gāts'hĕd), county borough (1931 pop 122,447, 1947 estimated pop 114,940), Durham, England It is on the Tyne opposite Newcastle, with which it is connected by several bridges The parish Church of St Mary dates from the 12th cent or earlier but has been rebuilt Gateshead has locomotive works and railroad shops Shipbuilding and the manufacture of glass, iron goods, cables, and chemicals are important There are coal mines in the vicinity, and Gateshead Fell is noted for its grindstone quarries.

Gatesville, city (1940 pop 3,177, 1947 estimated pop 5,000), co seat of Coryell co , central Texas, on the Leon river and WSW of Waco The area has cotton, grain, and poultry farms A state training school for delinquent boys is here Fort Gates, a long-vanished military post, was established near by in 1849

Gath (gāth) [Heb , =wine press], unidentified royal city of the Philistines, on the borders of Judah It was the birthplace of Goliath, and it was a place of refuge for David in the outlaw years Later he had a loyal bodyguard of Gittites, i e , inhabitants of Gath. Joshua 11 22, 13 3, 1 Sam 5 8, 6 17, 17 4, 23,52; 21.10, 2 Sam 6 10, 15 18, 21 19, 2 Kings 12 17, 1 Chron 7 21, 18 1, 2 Chron 11 8, 26 6, Amos 6 2

Gathas: see ZOROASTRIANISM

Gath-hepher (–hē'fûr) [Heb , =wine press of the hole], town, Palestine, near Nazareth It was the home of Jonah. 2 Kings 14 25 Gittah-hepher Joshua 29 13

Gath-rimmon [Heb , =wine press of the pomegranate tree] **1** Town, W central Palestine Joshua 19 45, 21 24; 1 Chron 6 69 **2** See IBLEAM

Gatineau (gă'tĭnō"), village (pop 2,822), SW Que , E of Hull and on the north shore of the Ottawa below the junction of the Gatineau river

Gatineau, river of SW Quebec, rising in the Laurentians and flowing 230 mi S to the Ottawa river at Hull, opposite Ottawa It has several rapids and hydroelectric power plants

Gatlinburg, city (estimated permanent pop 2,000), E Tenn., SE of Knoxville, near the foot of Mt. Le Conte in Great Smoky Mountains National Park. The park headquarters are near Gatlinburg It is a resort, with several museums, a settlement school, and handicraft workshops

Gatling, Richard Jordan, 1818–1903, American inventor, b Winton, Hertford co , N C He invented agricultural implements, which he manufactured in St Louis, and then studied medicine in Indiana, but he is remembered as the creator of a multiple-firing gun which was the precursor of the modern MACHINE GUN He offered the Gatling gun to the Union army in the Civil War and successfully demonstrated it in Dec , 1862, but it was not accepted by the Ordnance Dept until 1866, when the Civil War was ended It was long used by the U S army until replaced by more modern types His name is dubiously immortalized in the word *gat*, slang for a gun, usually meaning an automatic pistol

Gatschet, Albert Samuel (gă'chĕt), 1832–1907, American ethnologist, b Switzerland A linguist trained in the universities of Bern and Berlin, he was after his arrival in the United States a pioneer in the scientific study of American Indian languages In 1877 he became ethnologist of the U S Geological Survey, and in 1879 he went to the newly organized Bureau of American Ethnology His many reports and records were valuable, a study of the Klamath Indians published in 1890 particularly won praise

Gatti, Bernardino (bĕr"närdē'nō gät'tē), c 1495–1575, Italian painter of the Lombard school, called Il Sojaro or Sogliaro (sōlyä'rō) [the cooper], pupil and imitator of Correggio He completed Pordenone's frescoes of the Madonna in Santa Maria di Campagna, Piacenza Important examples of his work are *Pietà* (Church of La Maddalena, Parma), an altarpiece, *Madonna and Donors* (cathedral, Pavia), the beautiful *Assumption* (cupola of the Church of Madonna della Steccata, Parma), *Nativity* (Church of San Pietro, Cremona), *Crucifixion* and *Ecce Homo* (Naples), and *The Miracle of the Multiplication of the Loaves*, a large and richly colored painting (refectory of San Pietro, Cremona)

Gatti-Casazza, Giulio (jōō'lyō gät'tē-käzät'tsä), 1869–1940, Italian operatic manager He was educated to be a naval engineer, but in 1893 he succeeded his father as director of the municipal theater at Ferrara He became director of La Scala Opera Company, Milan, in 1898, leaving in 1908 to direct the Metropolitan Opera, New York In 1935 he retired and returned to Italy His first wife was the singer Frances Alda His autobiography, *Memories of the Opera* (1941), was published posthumously.

Gatty, Harold, 1903–, American aviator, b Australia He studied navigation at the Royal Australian Naval College and sailed for 10 years on merchant vessels He came to the United States in 1927 and became interested in aeronautics In 1931 he circumnavigated the globe with Wiley Post in eight days With Post he wrote *Around the World in Eight Days* (1931)

Gatun Lake, artificial lake (alt 85 ft , area 163 38 sq mi), Panama Canal Zone, formed by impounding the waters of the Chagres river Gatun Dam, 1½ mi long and 105 ft high, controls the level of the lake, which is used as part of the canal route The lower Chagres river valley, now submerged, was first selected as a transisthmian route in 1848 by John Lloyd STEPHENS

gaucho (gou'chō), a cowboy of the Argentine PAMPA, commonly a mestizo The typical gaucho, a familiar figure since the early 18th cent , is a daring, skillful horseman and plainsman, with an independent nature and a love for adventure and for wandering As Indian fighter, as revolutionary soldier, and as campaigner in frequent internal struggles he has played a significant role in national life The immigration of large numbers of European farmers to the Pampa in the late 19th cent marked the beginning of his gradual disappearance The *pajador*, a wandering minstrel of the plain, is a type of gaucho The gaucho occupies an important place in the literature of Argentina (and of Uruguay and Paraguay, where he is also known) and is especially glorified in *Martín Fierro* by José HERNÁNDEZ

Gaudeamus igitur (gou"dāä'mōōs ĭ'gĭtōōr") [Latin, =let us rejoice therefore], probably the most widely known of modern student songs Though the variant forms of it did not appear in print until the middle of the 18th cent and its present form was not set until 1781, it is based on student songs that go back at least to the 13th cent Its Latin verses are very fine. It seems to have originated in parodies of, and borrowing from, religious songs

Gauden, John (gô'dĭn), 1605–62, English clergyman He claimed to have written the EIKON BASILIKE (1649), a tract in defense of Charles I, which drew in reply the resounding *Eikonoklastes* of Milton *Eikon Basilike* was either written by Gauden or compiled from notes of Charles I After the Restoration, Gauden was bishop of Exeter (1660–62) and of Worcester (1662)

Gaudier-Brzeska, Henri (ärē' gōdyā'-bûrzĕska'), 1891–1915, French sculptor, the chief exponent of vorticism in sculpture Educated in England and Germany, Henri Gaudier added his wife's name, Brzeska, to his own after his return to France in

1910 He was killed in the First World War at the age of 24 He is known for his animal sculptures and his abstract figures, *The Dancer*, *The Singer*, and *The Embracers* See study by Ezra Pound (1916), H S Ede, *Savage Messiah* (1931).

Gaugamela: see ARBELA

Gauguin, Paul (pôl' gōgĕ'), 1848–1903, French painter, b Paris, son of a journalist and a French-Peruvian mother First a sailor, then a successful banker in Paris with painting for a hobby, Gauguin began life as a painter at the age of 35 In 1883 he gave up his position in the bank and soon after separated from his wife and children and devoted himself to his art He allied himself with the impressionist group and in 1886 contributed 19 pictures to the last impressionist exhibition The following year he sold all his possessions and went to Martinique, but illness forced him to return within a year The following years were spent between Paris and Brittany with a short but pregnant stay at Arles with Van Gogh In 1891 Gauguin sold 30 canvases and with the proceeds went to Tahiti, where he spent two years, painted some of his finest pictures, and wrote *Noa Noa* (Eng tr, 1924), an autobiographical novel of Tahiti In 1893 he returned to France, collected a legacy, and exhibited his work, rousing some interest but making very little money Disheartened and ill, he again set out for the South Seas in 1895 There his last years were spent in considerable discomfort of mind and body, but he painted until the end He died at Atuona in the Marquesas Islands Today his paintings are highly prized His figure compositions, gorgeous in color and highly decorative, have won him a place among the greatest of modern masters Classed as a postimpressionist, Gauguin did much to restore the interest of painters in the fundamentals of color and pattern for their own sake Beautiful examples of his work are to be seen in private collections and in public galleries in Europe and America, including the Louvre, the Luxembourg Museum, Paris, the Metropolitan Museum, and the Art Institute of Chicago *Ia Orana Maria* (*Ave Maria*) is in the Lewisohn Collection, New York In addition to his painting Gauguin produced some fine wood carvings and lithographs Somerset Maugham's *Moon and Sixpence* is based on the life of Gauguin See *Paul Gauguin's Intimate Journals* (with preface by Emil Gauguin, Eng tr, 1931) and *Letters to His Wife and Friends* (ed by Maurice Malingue, Eng tr, 1949), Pola Gauguin, *My Father, Paul Gauguin* (Eng tr, 1937), biography by Robert Burnett (1938)

Gaul, Alfred Robert, 1837-1913, English composer He wrote numerous cantatas, of which *The Holy City* (1882) is most famous

Gaul, Gilbert William, 1855–1919, American painter of military scenes and of Western life, b Jersey City, N J His battle scenes are valuable for their accuracy and have been used to illustrate books on the Civil War *Battery H in Action* is in Toledo, Ohio, and *Exchange of Prisoners* is in the Democratic Club, New York city

Gaul (gôl), Latin *Gallia* (gă'lēu), ancient designation for the land S and W of the Rhine, W of the Alps, and N of the Pyrenees The name was extended by the Romans to include Italy from Lucca and Rimini northwards, excluding Liguria This extension of the name is derived from its settlers of the 4th and 3d cent B C —invading Celts, who were called Gauls by the Romans Their cousins in Gaul proper (modern France) probably had been there since 600 B C at least, for the Greeks of Massilia (Marseilles) knew them The Gaul in Italy was called Cisalpine Gaul [on this side the Alps], in distinction to Transalpine Gaul, Cisalpine Gaul was divided into Cispadane Gaul [on this side the Po] and Transpadane Gaul By 100 B C, Rome had acquired S Transalpine Gaul, and by the time of Julius CAESAR it had been pacified It was usually called the Province (*Provincia*, hence modern Provence), and it included a strip 100 mi wide along the sea from the E Pyrenees northeastward and up the Rhone valley nearly to Lyons Julius Caesar conquered Gaul in the GALLIC WARS (58 B C –51 B C) He is the best ancient source on ancient Gaul, and he has immortalized its three ethnic divisions, Aquitania (S of the Garonne), Gaul proper (modern central France), and Belgica (very roughly Belgium) Aquitania was probably inhabited by the ancestors of the Basques, and the Belgae were probably Celts, like the rest of the Gauls The Romanization of Gaul went very rapidly Its great administrative divisions were Narbonensis (the old Province), Aquitania, now including as much to the north of the Garonne as to the south, Lugdunensis, a narrow central strip (Brittany, Normandy, and the Saône valley), and Belgica, including most of the rest Upper and Lower Germany were taken from Gaul, these included the upper Rhine, Alsace, W Switzerland, and the Franche-Comté, and E Belgium, S Netherlands, and the Rhineland After Caesar's conquest the only serious attempt to rebel against Rome was the rising of Postumus (A D. 257), but Gallo-Roman civilization was too strong to fall before anything but the Germans of the 5th and 6th cent In Roman Gaul it often became customary to call the chief center of a tribe by the tribe's name, using a plural case in *-s* Similarly the country around about would be called by an adjective or compounded form of the tribal name Many of these names survive today The principal tribes of Gaul (with the modern survivals or locations) were Abrincati (Avranches), Aedui; Allobroges; Ambiani (Amiens); Andecavi (Angers, Anjou), Atrebates (Arras), Baiocassi (Bayeux), Bellovaci (Beauvais), Bituriges (Bourges, Berry), Caduci (Cahors, Quercy); Carnutes (Chartres), Catalauni (Châlons), Cenomani (Le Mans, Maine), Eburovici (Évreux), Helvetii; Lemovices (Limoges, Limousin), Lingones (Langres), Lexovii (Lisieux), Meldae (Meaux), Namnetes (Nantes), Nervii, Parisii (Paris), Petrocorii (Périgueux, Périgord), Pictones or Pictavi (Poitiers, Poitou), Redones (Rennes, Breton *Roazon*), Remi (Rheims), Ruteni (Rodez), Santones (Saintes), Senones (Sens), Sequani, in the Franche-Comté, Silvanecti (Senlis), Suessiones (Soissons), Treveri (Trier, French *Trèves*), Tricassi (Troyes), Turones (Tours, Touraine), Veneti (Vannes, Breton *Gwened*) Gallo-Roman civilization was essentially the extension of the villa system (see FEUDALISM) A landed aristocracy grew up, employing the laborers, who made up the principal part of the population The influence of Christianity forwarded the local organization about the cities The greatest testimony to the stability and thoroughness of the culture of Roman Gaul is the survival of the Latin language as French For history and bibliography, see FRANCE

Gauley Bridge, unincorporated village (pop 937), S central W Va, at the confluence of the New and Gauley rivers to form the Kanawha In the building of a tunnel (1930–32) through near-by Gauley Mt a number of workers died of silicosis, a congressional investigation resulted

Gaulle, Charles de (shārl' du gōl'), 1890–, French general and politician, grad Saint-Cyr He served with distinction in the First World War until his capture in 1916 In 1921 he served under Gen Maxime Weygand in Poland In his then-neglected work, *The Army of the Future* (1934, Eng tr, 1941), he foresaw and advocated the mobile and motorized type of warfare by which Germany was to conquer France in 1940 In the Second World War, promoted brigadier general (1940) and made undersecretary of war under Premier Paul Reynaud, he opposed the Franco-German armistice and fled to London, where he organized the Free French forces He was sentenced to death *in absentia* by a French military court In Oct, 1940, after rallying several French colonies to his movement, he formed the Council of Defense for the French Empire, which was transformed (Sept, 1941) into the Free French National Committee The growing Free French forces were successful in Syria, Madagascar, and North Africa Gaulle became (June, 1943) co-president with Gen Henri Honoré GIRAUD of the newly formed French Committee of National Liberation at Algiers Though the U S Dept of State was hostile to him, he succeeded in forcing Giraud out of the committee, which was proclaimed the provisional government in June, 1944 His government, not fully recognized by the principal Allies until Oct, 1944, returned to Paris on Aug 26 Unanimously elected provisional president of the new French republic (Nov, 1945), he resigned (Jan, 1946) when the leftist parties ceased to support him Always a believer in his personal mission, he remained in retirement only briefly Most of the rightist elements having gathered under his banner, he became (1947) head of a new party which claimed not to be a party but nevertheless took part in subsequent elections—the Reunion of the French People In several important speeches he violently attacked the constitution of the Fourth Republic, denounced Soviet Russia as an enemy as dangerous as Nazi Germany, advocated the rebirth of France as a military power, and damned the institution of party politics André MALRAUX became one of his most eloquent adherents The Gaullists scored successes in local elections in 1947 and in the 1948 elections for the upper house and with the Communists formed the opposition to the government coalition (moderate Socialists and progressive Catholics)

Gaulli, Giovanni Battista (jōvän'nē bät-tēs'ta gäōl'lē), 1639–1709, Italian painter, called Il Baciccio, noted for his frescoes and figures of children *St Francis Xavier Taken Up to Heaven* (vault of the Church of Il Gesù, Rome) is his most noted work Others are *Four Cardinal Virtues* (Church of Sant' Agnese, Rome), *St John Preaching* (Dijon), and a self-portrait (Uffizi)

Gaunt, John of · see JOHN OF GAUNT

Gaur (gour), ancient city, West Bengal state, India. Gaur, earlier the metropolis of the Hindu kings of Bengal, was captured (1198) by Moslems and remained a center of their culture until it was abandoned in the late 16th cent The Kadam Rasul Mosque (1530), erected over a stone supposedly bearing the imprint of Mohammed's foot, is still a place of worship The best-preserved structure is the finely carved Golden, or Eunuch's, Mosque

Gauss, Christian (gous), 1878–, American educator, dean of Princeton (1925–45), b. Ann Arbor, Mich, grad Univ of Michigan, 1898 He taught modern languages at the Univ of Michigan and at Lehigh Univ before going (1907) to Princeton as professor of modern languages After 1925 he was dean Upon his retirement in 1945, he became dean emeritus Among his books are *Life in College* (1930), *A Primer for Tomorrow* (1934), and *American Thought* (1947)

Gauss, Karl Friedrich (kärl' frē'drĭkh gous'), 1777–1855, German mathematician and astronomer He was professor and director of the observatory at Gottingen from 1807 He made notable contributions in several branches of mathematics and wrote *Disquisitiones arithmeticae* (1801) on the theory of numbers Also significant was his method of solving binomial equations He investigated the geometry of curved surfaces and demonstrated that by elementary geometry a circle can be divided into 17 equal arcs He propounded the method of least squares He was an authority on geodesy and a pioneer in applying mathematical theory to electricity and magnetism The unit of intensity of a magnetic field (now known as the oersted) was called the gauss until 1932, when this term was applied to the unit of magnetic induction.

Gautama · see BUDDHA

Gautier, Émile Félix (āmēl' fālĕks' gōtyā'), 1864–1940, French geographer, an authority on Algiers, the Sahara, and the French African possessions He explored W Madagascar (1892–94) and traversed the Sahara in various directions His books include *Madagascar* (1902), *Le Sahara* (1923, 2d ed, 1928, Eng tr, *Sahara, the Great Desert*, 1935), *L'Islamisation de l'Afrique du Nord* (1927), and *Un siècle de colonisation* (1930)

Gautier, Théophile (tāôfēl'), 1811–72, French poet, novelist, and critic His theory of plasticity, that words should be used as the painter and sculptor use their tools, is illustrated in his volume of poems *España* (1845) His belief that art is itself a creator of beauty—art for art's sake—is exemplified in his *Émaux et camees* (1852) These poems, like carefully tooled "enamels" and "cameos," were made to appeal to the eye or ear rather than to the mind His other works include *Albertus* (1833), *Mademoiselle de Maupin* (1835), *La Comédie de la mort* (1838), *Capitaine Fracasse* (1863), and *L'Histoire de l'art dramatique en France* (1858–59) His complete works have been translated into English He prepared the way for the Parnassians and symbolists in their reaction against romanticism His daughter, **Judith Gautier** (zhudēt'), 1850–1918, was married to the poet Catulle Mendès and then to Pierre Loti, with whom she wrote *La Fille du ciel* (1911, Eng tr, *The Daughter of Heaven*, 1912) Her novels were usually on Oriental subjects

Gavarni (gavarnē'), pseud of **Guillaume Sulpice Chevalier** (gēyōm' sulpēs' shuvalyā'), 1804–66, French caricaturist and lithographer He was first known for the amusing drawings of costumes which appeared in the *Mode* and for his illustrations for Balzac's *Peau de chagrin* He founded a short-lived publication, the *Journal des gens du monde*, and on its failure was for a short time imprisoned for his debts He next contributed satirical drawings to *Charivari* Gavarni's last work, appearing mostly in the *Illustration*, reflects a more bitter attitude A trip to London in 1847 is supposed to have filled him with horror at the sight of working-class conditions there Gavarni produced over 8,000 drawings, water colors, and lithographs See studies (in French) by Eugène Forgues (1887) and Edmond and Jules de Goncourt (new ed, 1896)

Gavarnie (gavarnē'), village (pop 186), Hautes-Pyrénées dept, SW France, in the central Pyrenees Near by are a celebrated waterfall, 1,385 ft high, and a gigantic natural amphitheater, the **Cirque de Gavarnie** (sērk' du) From its bottom, with an altitude of c 5,740 ft, the amphitheater rises in concentric levels and is enclosed by crests higher than 9,000 ft The famous BRÈCHE DE ROLAND is a cleft in one of the crests

Gavazzi, Alessandro (älĕs-sän'drō gävät'tsē), 1809–89, Italian preacher and patriot A Barnabite monk, he left the order in 1848 Because of his liberal ideas he emigrated from the Papal States to London, where he led an antipapal campaign Upon his return to Italy (1859) he was twice Garibaldi's army chaplain (1860, 1866) Later he organized in Rome the Free Christian Church in Italy, also known as the Evangelical Church in Italy

Gavdos: see CLAUDA.

gavelkind (gă'vulkīnd) [Irish,=family tenure], a custom of inheritance of lands held in socage tenure, whereby all the sons of a holder of an estate in land share equally in such lands upon the death of the father Most of the lands in England were held in gavelkind tenure prior to the Norman Conquest in 1066, and the custom of dividing lands among the male heirs is still preserved in parts of England, notably Kent This system of inheritance of lands is to be contrasted with BOROUGH-ENGLISH and PRIMOGENITURE

Gaveston, Piers (pērs' gă'vŭstun), d 1312, favorite of EDWARD II of England. Son of a Gascon knight

at the court of Edward I, he was a boyhood playmate of Edward II and acquired tremendous influence over him Edward I exiled him (1307), but he returned on his friend's accession, was made earl of Cornwall, and married the new king's niece. When Edward was absent in France (1308), Gaveston was regent His greed and arrogance aroused strong hostility among the barons, who forced him to leave England, but Edward made him lord lieutenant of Ireland (1308–9) The lords ordainers who controlled England after the barons' victory once more banished him (1311) On his return the barons rose, captured him, and put him to death

gavial. see CROCODILE

Gavle, Swed *Gävle* (yĕv'lŭ), city (pop 43,250), co. seat of Gavleborg co , E Sweden, a seaport NNW of Stockholm Chartered in 1446, it is the oldest and largest city of NORRLAND Though icebound for three months of the year, the port, equipped with ore docks, exports some of the KOPPARBERG co products Gavle also has important wood-pulp, textile, tobacco, and chemical industries

Gavleborg, Swed *Gävleborgs län* (yĕv'lubôr"yus lĕn'), county (7,609 sq mi , pop 275,436), E central Sweden It comprises, roughly, the historical provinces of Gastrikland, in the south, and Halsingland, in the north, both on the Baltic coast Its abundant timber supplies large sawmills and papermills, at Sandviken and Hofors there are important ironworks Other occupations are fishing and agriculture GAVLE is the county seat, and SODERHAMN the main port

gavotte (guvŏt'), originally a peasant dance of the Gavots, inhabitants of the Gap region in France It was introduced at the court of Louis XIV and was used by Lully in his ballets and operas and by Couperin and Bach in their keyboard suites

Gawain, Sir, knight see ARTHURIAN LEGEND and PARSIFAL, for *Gawain and the Green Knight,* see PEARL, THE

Gay, Delphine see GIRARDIN, DELPHINE GAY DE

Gay, Edward, 1837–1928, American landscape painter, b Dublin, Ireland Brought to the United States in 1848, he studied in Albany, N Y , and subsequently in Germany His work is distinguished by an admirable rendering of sunlight His *Broad Acres* was presented to the Metropolitan Museum by the American Art Association (1887). He became a member of the National Academy in 1907 GAY is represented in the National Gallery of Art, Washington, D C , the Art Institute of Chicago, and the Layton Museum, Milwaukee

Gay, John, 1685–1732, English playwright and poet, b Barnstaple, Devon Among his friends were the wits of the day and powerful courtiers Gay is famous for *The Beggar s Opera* (1728, music arranged by PEPUSCH), a BALLAD OPERA very successful then and in revivals as late as 1930 A sequel, *Polly,* was suppressed in 1728 because it offended Sir Robert Walpole and was not produced until 1777 The realism and satire of *The Beggar's Opera* had been lacking in Gay's earlier plays, *The What D'Ye Call It* (1715) and *Three Hours after Marriage* (1717, written with Pope and Arbuthnot). Gay's best-known poems are *The Shepherd's Week* (1714), humorous pastorals, *Trivia* (1716), an amusing description of London street life, and *Fables* (1727), satiric tales See biography by W H Irving (1940)

Gay, Walter, 1856–1937, American painter, b Hingham, Mass , studied in Paris under Léon Bonnat He lived in Paris most of his life and after 1879 exhibited yearly in the Salon Among his earlier paintings are *Bénédicite* (Amiens), *The Cigarette Makers* (Luxembourg Mus , Paris), and *The Spinners* (Metropolitan Mus) In his later work he eliminated figures and became famous for his paintings of elegant 18th-century interiors These are represented in the Metropolitan Museum by *Green Salon* and *Chinese Objects*

Gaya (gī'ŭ), city (pop 105,223), W central Bihar state, India Hindu pilgrims visit the temple of Vishnupad [Sanskrit, =Vishnu's footstep], a plain building surrounding a depression in a rock BUDDH GAYA, the site of Buddha's enlightenment, is 6 mi. to the south

Gayarré, Charles Étienne Arthur (gīyarā'), 1805–95, historian of Louisiana, b New Orleans After studying law in Philadelphia, he returned home and was elected to the state legislature Rapid political advances were climaxed by his election at 30 years of age to the U S Senate, but ill-health compelled him to resign his seat at once He spent the next seven years in France, where he did much documentary research for his history Upon his return he was again elected to the legislature, and from 1846 to 1853 he served efficiently as Louisiana secretary of state Defeated for Congress in 1853, he retired from politics, but he continued to be prominent in state affairs and a leader of Louisiana literary circles until his death He wrote a number of novels and an interesting book on *Philip II of Spain* (1866), but his chief work was his *History of Louisiana* (4 vols , 1851–66) The 1903 edition has a biographical sketch by Grace King.

gay-feather: see BLAZING STAR.

Gay Head, western tip of Martha's Vineyard, in Gay Head town (pop. 127; settled 1669, inc. 1870). The high clay cliffs have been topped by a lighthouse since 1799 The town has an Indian village

Gayley, Charles Mills, 1858–1932, American educator and author Born of missionary parents in Shanghai, China, he was educated in England and at the Univ of Michigan There he taught Latin (1880–86) and after a year's study in Germany was appointed professor of English (1887–89) He was professor of English at the Univ of California from 1889 until his retirement in 1923 Gayley is known for his *Classic Myths in English Literature* (1893) and his studies of English drama, poetry, and criticism, which include *Plays of Our Forefathers* (1907), *Beaumont the Dramatist* (1913) and the editing of *Representative English Comedies* (4 vols , 1903–36)

Gaylord. 1 City (pop 2,055), co seat of Otsego co , N Mich , NE of Traverse City, in a farm and resort area, inc as a village 1881, as a city 1922 A state tuberculosis sanatorium is near by. The Dearborn Colony, a "back-to-the-land" movement, was begun near here in 1932 2 Village (pop 1,049), co seat of Sibley co , S Minn , SW of Minneapolis; platted 1881 It is a farm trade center

Gay-Lussac, Joseph Louis (zhôzĕf' lwē' gā'-lusăk'), 1778–1850, French chemist and physicist He was professor in Paris at the Polytechnic School (from 1809), at the Faculty of Sciences (1809–32), and at the Jardin des Plantes (from 1832) He served also as a member of the chamber of deputies (1831–39) and of the chamber of peers (from 1839) In 1804 he made two balloon ascensions, attaining on the second a height of about 7,016 meters (more than 23,000 ft), to test magnetism and the composition of the atmosphere at high altitudes Noted also in the field of analytical chemistry, he studied prussic acid, discovered cyanogen, and made advances in industrial chemistry He collaborated with L J Thénard on the decomposition and synthesis of boric acid, from which they isolated (1808) boron, in the study of the properties of iodine, and in improving on Davy's method of isolating alkali metals Gay-Lussac also invented an alcoholometer and a hydrometer In physics he is known especially for his work on gases In 1802 he discovered independently that a gas at constant pressure expands, for each degree of temperature, by a constant fraction (about $^1/_{273}$) of its volume at 0°C This law, first discovered (1787) by J A C Charles is known as Charles's law or as Gay-Lussac's law However, the term **Gay-Lussac's law** is more commonly applied to another law of gases, the law of combining volumes, which Gay-Lussac was the first to formulate (c 1808) This law states that the volumes of gases that interact to give a gaseous product are in the ratio of small whole numbers to each other and each bears a similar relation to the volume of the product For example, since 2 volumes of hydrogen combine with 1 volume of oxygen to form 2 volumes of steam the volume of hydrogen is to that of oxygen as 2 1, the volume of hydrogen is to that of steam as 2 2 (or 1 1), and the volume of oxygen is to the volume of steam as 1 2.

Gaynor, William Jay, 1849–1913, U S political leader, mayor of New York city, b Oneida co , N Y He rose to prominence as a civic reformer in Brooklyn and, as justice of the New York supreme court (1893–1909), continued to oppose municipal graft Tammany named him candidate and he won the 1909 election but soon lost Tammany support by his reform program—which was not highly successful His strong and unconventional personality made him a spectacular figure of his time

Gayoso de Lemos, Manuel (mänwĕl' gīō'sō dā lā'mōs), c 1752–1799, governor of Louisiana (1797–99) In 1787 he was appointed governor of the newly organized Dist of Natchez, under the orders of the governor of Louisiana He encouraged American settlement on Spanish soil and interested a number of Americans, notably Gen. James WILKINSON, in his intrigues to separate the American West from the United States Spanish forts were built at Walnut Hills (Vicksburg) and Chickasaw Bluffs, and alliances were concluded with the Indian tribes of the Southwest By the terms of a treaty negotiated in 1795, Spain agreed to relinquish the Natchez region to the United States, but Gayoso de Lemos, on secret orders, delayed evacuation until 1798 He succeeded the baron de Carondelet as governor of Louisiana in 1797 and spent his last years in strengthening the province's defense against an expected American invasion He was an able administrator and a man of much personal charm See A P Whitaker, *The Spanish-American Frontier* (1927)

Gaza, Theodore (gā'zu, gă'zu), c 1398–c 1478, Greek scholar, b Salonica When the Turks attacked Constantinople, he went to Italy, where he was one of the greatest classical scholars and humanists of the Renaissance He had the Este family, Pope Nicholas V, and Cardinal BESSARION as patrons and was responsible for spreading Greek learning from Ferrara, Rome, and Naples His Greek grammar was printed (1495) by Aldus Manutius

Gaza (gā'zŭ) or **Ghuzzeh** (gŭ'zu), town (pop. c 18,000), SW Palestine, near the Mediterranean Anciently it was one of the chief cities of the Philistines. Here Samson brought down the Temple on his captors and himself Gaza was besieged five months by Alexander the Great and during the wars of the Maccabees and in the Crusades. The town has long been of commercial importance, the meeting place of caravans between Egypt and Syria The modern city is inhabited mainly by Moslems Gen 10 19, Joshua 10 41, 11 22, 15 47, Judges 1 18,16, 1 Sam 6 17, Jer 47 1, Amos 1 6, 7, Zeph 2 4, Zech 9 5, 1 Mac 11 61–62, Acts 8 26 Azzah Deut 2 23, 1 Kings 4.24 The city is in territory claimed by Jordan

gazelle (gŭzĕl'), graceful antelope of the genus *Gazella* A number of species are found chiefly in Africa but also in parts of central and SW Asia and India Gazelles are rather small (usually between 2 and 3 ft high at the shoulder) fleet animals, generally fawn in color Some are strikingly marked with black and white In many the horns are ringed and curve backwards Formerly abundant, they are now much reduced in number.

Gazer (gā'-), the same as GEZER

gazetteer (gă"zutēr'), dictionary or encyclopedia listing alphabetically the names of cities, rivers, and other features of the earth and giving some information about each The term *gazetteer* originally was applied to one who wrote a gazette It was first used in its modern sense early in the 18th cent , after the publication (1703) by Lawrence Echard of the *Gazetteer's or Newsman's Interpreter,* a geographical index But lists of place names, with descriptions, had been made as early as the 6th cent , part of the gazetteer of Stephen of Byzantium, of this time, is extant The 19th cent , when geographical knowledge and the need for having geographical facts readily available had both increased greatly, was the great period of development of gazetteer making Attempts were made to produce complete gazetteers, necessitating several volumes Famous gazetteers include Johnston's (Scotland, 1850), Blackie's (Scotland, 1850), Bouillet's (France, 1857), Ritter's (Germany, 1874), Longman's (England, 1895), Garollo's (Italy, 1898), and Lippincott's (United States, 1865), later editions of many of these have appeared Many states of the United States and most countries of the world have separate gazetteers

Gazez (gā'zĕz) [Heb , =shearer], name of a son and of a grandson of Caleb 1 Chron 2 46

Gaziantep (gă"zēäntăp'), formerly **Aintab** (īntăb'), city (pop 62,873), S Turkey It has textile manufactures A strategic place in the Crusades, it was taken by Saladin in 1183 It was the center of Turkish resistance (1920–21) to the French occupation of Syria Surrendered to the French after a six-month siege, it was returned to Turkey late in 1921

Gazira (guzē'ru) or **Gezira** (juzē'ru), region, area c 7,500 sq mi , Anglo-Egyptian Sudan, occupying the tract between the White Nile and the Blue Nile Irrigation works built since 1925 have opened part of the region to agriculture, and much of the cotton crop of the Anglo-Egyptian Sudan is produced here

Gazzam (gă'zăm) [Heb , =devouring], family returning with Zerubbabel Ezra 2 48, Neh 7 51

Gd, chemical symbol of the element GADOLINIUM.

Gdansk: see DANZIG

Gdynia (gudĭn'yu), Ger *Gdingen,* city (pop 77,829), NW Poland, a Baltic seaport on the Gulf of Danzig Gdynia was constructed after 1921 to end the dependence of Poland on the port of Danzig By 1931 Gdynia handled more freight than Danzig and was a leading Baltic port It also became the main naval base and shipbuilding center of Poland In the Second World War, Gdynia was annexed to Germany Although the harbor was damaged, the city suffered relatively little damage and by 1946 was again an important commercial port, handling 3,743,000 tons of freight in that year It is a center of food and metal industries, and there are resorts near by

Ge, chemical symbol of the element GERMANIUM

gearing, in a machine, the contrivances that transmit motion from one part to another by means of teeth or of friction wheels It is one of the oldest means of transmitting motion and is still preferred to other means, such as the belt and rope drive and the chain drive, if the distance of transmission is short or if a minimum of slippage is desired **Spur gearing** consists of wheels with teeth at right angles to their shafts If each of two interlocking spur wheels has its teeth on the outer surface of the wheel, rotation is transmitted to the driven shaft in a direction opposite to that of the driving shaft To transmit rotation in the same direction, one spur wheel has teeth on the inside face of its rim. By varying the diameter of spur wheels, variation of speed is obtained A small spur wheel is called a spur pinion A rack and pinion consists of a pinion engaging and transferring motion to a rack (a series of teeth in a straight line on a flat surface). The rack and pinion changes rotary motion to straight-line motion. **Bevel gearing** is used to transmit rotary motion to shafts that are not parallel to the driving shaft and intersect it at an angle. A bevel gear has its toothed edge slanting or inclined. Two

shafts equipped with bevel gears at one end, as in the differential gearing of the automobile, and intersecting at right angles can thus transmit rotary motion **Screw gearing** or **worm gearing** transmits motion by a screwlike action, one gear being an external screw, for example, and the other an ordinary toothed wheel **Friction gearing** transmits motion by the friction of surfaces in contact with each other, without the use of teeth See William Stanıar, *Mechanical Power Transmission* (1928), H. E. Merritt, *Gears* (2d ed , 1946)

Geary, John White (gēr'ē), 1819–73, American politician and Union general in the Civil War, b. Mt Pleasant, Pa., grad Jefferson College (now Washington and Jefferson College, Washington, Pa.) He commanded a Pennsylvania regiment in the Mexican War, serving with distinction in the campaign against Mexico city In San Francisco from 1849 to 1852, Geary was the first U S postmaster, the last alcalde, and the first mayor President Pierce appointed him governor of "bleeding" KANSAS in July, 1856 His energy and firmness brought peace to the territory for the first time in many months, but the meeting of the determined proslavery legislature (Jan , 1857) and the discovery that little support could be expected from the incoming President Buchanan led Geary to resign (March) In the Civil War, Geary was made a brigadier general of volunteers in April, 1862 He was wounded at Cedar Mt (1862), commanded a division of the Army of the Potomac at Chancellorsville and Gettysburg (1863), distinguished himself under Joseph Hooker in the Chattanooga campaign (1864), and fought in W T Sherman's campaigns (1864–65) He was brevetted major general of volunteers in Jan , 1865 Geary, elected governor of Pennsylvania in 1866, held that office until shortly before his death. See biography by H M Tinkcom (1940)

Geary (gâr'ē, gēr'ē), city (pop 1,634), W central Okla., near the North Canadian river W of Oklahoma City. It is a trade and processing center for a wheat-growing district. A U.S soil conservation camp is near by

Geba (gē'ba) [Heb ,=hill], town, Palestine, c 5 mi NNW of Jerusalem, now called Jeba (jā'bə) Here Jonathan slaughtered the Philistines Joshua 21 17, 1 Sam 13 3; 1 Kings 15 22, 2 Kings 23 8, 1 Chron 6 60, Neh 11 31, Isa 10 29 Gaba Joshua 18 24, Ezra 2 26, Neh 7 30

Gebal (gē'–), biblical name of BYBLOS

Gebel Aulia or **Jebel Aulia** (both jĕ'bul ou'lēə), village, central Anglo-Egyptian Sudan, on the White Nile Near by is a large dam used in controlling the flow of the Nile

Geber (gē'–) [Heb ,=man] **1** Father of a steward of Solomon. 1 Kings 4.13 **2** Steward of Solomon 1 Kings 4 19

Geber (gā'bûr, jē'bur) or **Jabir** (jā'bur, ja'bēr), 8th cent., Arabian alchemist and physician He is believed to have lived at Kufa and at Baghdad A great number of works on alchemy, many of them unpublished, have been attributed to him, but scholars disagree as to their authenticity Recent studies indicate that many of the works in Latin, formerly considered translations from the Arabic issued under the Latinized form (Geber) of the name, are spurious and originated c 1100 or later and that many of the extant works in Arabic were written by later Arabian alchemists and issued under Jabir's name. The works influenced the development of medieval alchemy and indicate the use of laboratory experiments They perpetuated the theory that metals are composed of mercury and sulphur and can be transmuted into gold Some of the Latin works were translated into English in 1678 and reedited in 1928 with an introduction by E J. Holmyard, whose translation of several of the Arabic works appeared in 1928

Gebhardt, Eduard von (ā'dōōärt fŭn gēp'härt), 1838–1925, German painter, studied in St Petersburg and Karlsruhe and at the Düsseldorf Academy, where he later became professor He painted religious subjects in the costumes of the 15th and 16th cent Of his numerous works his realistic *Last Supper* is characteristic Gebhardt also painted portraits and murals

Gebim (gē'–), unidentified place Isa. 10 31.

Ged, William (gĕd), 1690–1749, Scottish inventor. In 1725 he patented a process of making STEREOTYPE plates for printing He printed three books from plates that he made, but did not establish his process commercially

Gedaliah (gĕdŭlī'ə) [Heb ,=God is great]. **1** Son of Jeremiah's protector Ahikam and guardian under Nebuchadnezzar of the Jews exempt from the Captivity He was treacherously murdered, and the day of death in the seventh month is still observed as a Jewish fast Jer 40–41. **2** Musician 1 Chron 25 3,9 **3** Ancestor of Zephaniah. Zeph 1 1 **4** Opponent of Jeremiah Jer. 38 1. **5** One who had a foreign wife Ezra 10 18

Geddes, Auckland Campbell Geddes, Baron (gĕ'dĭs), 1879–, British diplomat and statesman; brother of Sir Eric Geddes He was professor of anatomy at Edinburgh, Dublin, and McGill universities. During the First World War he held various ministerial posts, serving (1916–17) as director of recruiting. He was president of the Board of Trade (1919–20) and dealt successfully with the crisis in the coal industry. From 1920 to 1924 he was British ambassador to the United States and was later director of several important companies.

Geddes, James, 1763–1838, American engineer and lawyer, b near Carlisle, Pa He settled in Onondaga co , N Y , and engaged in the production of salt near the site of Syracuse He served in the state legislature and as county judge and later (1813–15) in Congress In 1808 he made a survey for a waterway between the Great Lakes and the Hudson river Rapidly becoming a leading authority on waterways, he was made engineer for the Erie and the Champlain canals and surveyed (1827), for the U S government, a canal route from the Chesapeake to the Ohio

Geddes, Norman Bel, 1893–, American scenic painter, designer, and film director, b Adrian, Mich He was originator of the modernistic style in shopwindow displays. His first New York production was Cadman's *Shanewis* (1918) at the Metropolitan Opera House *The Miracle* is probably his most popular work He designed the General Motors Corp exhibit, the "Futurama," at the New York World's Fair He wrote *A Project for a Theatrical Presentation of the Divine Comedy of Dante Alighieri* (1924) and *Horizons* (1932).

Geddes, Sir Patrick, 1854–1932, Scottish biologist and sociologist, distinguished especially in town planning He received his biological training in Huxley's laboratory, from the beginning he was concerned to relate biological knowledge with civic welfare His conviction of the importance of environment led to the organization of University Hall in Edinburgh as a center of student life and to his plan for the reconstruction of Edinburgh, with eventual elimination of slums He was selected by Zionist leaders to design the Hebrew Univ building at Jerusalem and to plan the enlargement of the city In biology, Sir Patrick was an authority on the evolution of sex, collaborating with Sir J Arthur Thomson in several works on the subject Other books by Geddes include *City Development* (1904) and *Cities in Evolution* (1915) Geddes held professorships at Edinburgh, London, Aberdeen, St Andrews, and Bombay and at his death was director of the Scots College, Montpellier, France; in 1932 he was knighted for his services to education The publishing house of Geddes and Colleagues issued chiefly Celtic books See A D. Defries, *The Interpreter Geddes* (1927), Philip Boardman, *Patrick Geddes* (1944)

Geddington (gĕd'–), village, Northamptonshire, England It is the site of one of the remaining Eleanor Crosses (see ELEANOR OF CASTILE)

Gedeon (gē'dēun), the same as GIDEON.

Geder (gē'–) [Heb ,=wall] see BETH-GADER.

Gederah (gēdē'ru, gē'dŭ–) [Heb ,=fold], town, SW Palestine. Joshua 15 36 The town, within the state of Israel, has been the site of a Zionist agricultural settlement since the late 19th cent. The name is also spelled Gedera

Gederoth (gēdē'rōth, gē'dŭ–) [Heb.,=folds], town, SW Palestine, not far from Jamnia Joshua 15.41; 2 Chron 28 18

Gederothaim (gē"druthā'ĭm) [Heb ,=two folds], unidentified Judahite town, SW Palestine Joshua 15 36

Gedor (gē'–) [Heb ,=wall] **1** Ancestor of Saul 1 Chron 8.31; 9.37 **2, 3** Two Judahite families. 1 Chron. 4 4,18 **4** Judahite town, probably the modern Jedur N of Hebron. Joshua 15 58 **5** Home of two of David's archers 1 Chron. 12 7.

Gedrosia (jĭdrō'shə), ancient coastal region corresponding to modern Makran, i e , SE Iran and SW Baluchistan. It was crossed by Alexander the Great

Geefs, Willem or **Guillaume** (wĭl'ŭm, gēyōm' gāfs'), 1806?–1883, Belgian sculptor, most distinguished of six brothers, all sculptors Examples of his work are the statues of General Belliard and King Leopold I and the mausoleum of Frédéric, comte de Mérode, all in Brussels. **Fanny Isabelle Marie (Corr) Geefs,** 1814–83, wife of Willem, was a genre painter.

Geel (khāl), town (pop 21,950), Antwerp prov., N Belgium. It is famed for its large colony of insane people, living not in institutions, but in private families The tradition of the town centers about St Dymphna, a 6th-century Irish virgin martyr at whose shrine demoniacs are said to have been healed. The colony dates from the 14th cent. The name is sometimes spelled Gheel.

Geelong (jĕlŏng', –lŏng'), city (metropolitan pop 44,561), Victoria, Australia, on Corio Bay (western arm of Port Phillip Bay), SW of Melbourne It is a port with woolen mills, meat-packing plants, and automobile plants. Wool, wheat, meat, and hides are the principal exports. Gold was discovered in the vicinity in 1851.

Geertgen van Haarlem (gärt'gun vän här'lŭm), fl. latter half of 15th cent , Dutch painter, the earliest known in Haarlem. He is sometimes called Gerard van Haarlem and also Geertgen van Sint Jans because he lived with the Knights of St John For them he painted a triptych, the wings of which (a *Pietà* and *Legend of the Bones of St. John the Baptist*) are in the Liechtenstein Gallery, Vienna. Among the works attributed to him are *Lazarus* (Louvre) and *Nativity* (National Gall , London) These paintings reveal him as an artist of considerable power and originality. See W. M. Conway, *The Van Eycks and Their Followers* (1921)

Geez (gēĕz'), classical Ethiopic language. See LANGUAGE (table).

Geffrard, Nicholas Fabre (nĭkōlà' fà'brŭ shĕfrär'), 1806–79, president of Haiti (1859–67). He took part (1843) in the revolt against Boyer and led the insurrection that overthrew SOULOUQUE in 1859 Although he tried to reform the government he was harassed by recurrent counterrevolutions and could accomplish little He was exiled in 1867.

Gegenbaur, Karl (kärl' gā'gŭnbou"ûr), 1826–1903, German anatomist. A professor at the universities of Jena (1855–73) and Heidelberg (1873–1901), he was influential as a teacher. He emphasized the value of comparative anatomy in the study of evolution and of homologies. He showed (1861) that the eggs of vertebrates are single cells His most comprehensive work is *Vergleichende Anatomie der Wirbeltiere* (2 vols , 1898–1901).

Gehazi (gēhā'zī), Elisha's dishonest servant. 2 Kings 5, 8

Gehenna. see HELL.

Gehrig, Henry Louis (Lou Gehrig) (lōō' gā'rĭg), 1903–41, American baseball player, b. New York city He studied at Columbia. After he was signed up by the New York Yankees of the American League, he played (1923–24) with the Hartford team in the Eastern League As the first baseman (1925–39) of the Yankees, Gehrig established the record of playing 2,130 consecutive league games, batted 361 in seven world series, and broke many other major-league records. The "Iron Horse," as he was known to admirers, had a lifetime batting average of 341, batting over .300 for 12 consecutive years He four times won the most-valuable-player award Stricken by a rare type of paralysis, Gehrig retired from baseball in 1939 and served (1940–41) as a parole commissioner in New York city. See biographies by Richard Hubler (1941) and Frank Graham (1942)

Geibel, Adam (gī'bəl), 1855–1933, blind American organist and composer, b Germany He studied in Philadelphia, where he was active as organist and choral director, and here he formed the Adam Geibel Music Company He is best known for his choruses for men's voices and his tune for *Stand Up, Stand Up for Jesus*

Geibel, Emanuel von (āmà'nōōĕl fŭn), 1815–84, German poet He studied theology at Bonn, traveled in Greece, was pensioned by Frederick William of Prussia, and in 1852 became professor of German literature at Munich at the invitation of King Louis At first one of the revolutionary poets, he became more conservative From 1848 to 1870 he was the representative poet of Germany; his lyric verse, if somewhat sentimental, was elegant in form and powerful in expression Among his works were *Poems* (1840) and *New Poems* (1857, Eng tr of selections from both volumes, 1864) and the dramas *Brunhild* (1855, Eng tr , 1879) and *Sophonisba* (1869), which won the Schiller Prize

Geiger, Abraham (ä'brəhäm gī'gur), 1810–74, German rabbi, Semitic scholar and Orientalist, theologian, and foremost exponent of the reform movement He was a prolific writer His great work is *Urschrift und Übersetzungen der Bibel* [text and translations of the Bible] (1857) He helped found the Jewish theological review *Zeitschrift für jüdische Theologie* in 1835 In 1870 he became chief rabbi of the Berlin congregations and director of the newly established seminary for Jewish science

Geiger, Roy Stanley (gī'gur), 1885–1947, American marine general, b Middleburg, Fla , grad John B Stetson Univ law school, 1907 He fought in the marine air arm in the First World War In the Second World War he fought at Guadalcanal, Bougainville, Guam, and Okinawa and served as director of U S Marine Corps aviation (1942–43) When Gen. Simon B. Buckner, 10th Army commander on Okinawa, was killed (June, 1945), Geiger succeeded him and was made lieutenant general. Shortly thereafter Geiger became commander of the Fleet Marine Force in the Pacific.

Geiger counter (gī'gur), instrument for the detection and quantitative determination of ionizing particles, such as beta rays and cosmic rays. Variously designed for different uses, it consists generally of a glass tube with a thin metal cylinder inside serving as one electrode and a needle as the other electrode. In a similar instrument, the Geiger-Müller counter, a thin, taut wire is used instead of a needle. A current is sent through, sufficiently weak to just fail to pass from one electrode to the other through the gas which has been sealed into the tube The gas is ionized whenever the counter is brought near radioactive substances, however little the quantity and however faint the emanations. The ionized particles of gas carry the current from electrode to electrode, thus completing a circuit. Once established, the current is amplified by an electronic device so that it can indicate by an audible click the presence of ionized particles. Since the gas quickly returns to normal,

it permits each new particle or ray to register once more, making counting possible. The instrument can also register ionization by a pointer and scale. It finds use in the detection of cosmic rays and of lost or otherwise unlocated radioactivity Counters enable radioactive tracers or substances exposed to ionization to be followed as they make their way through complex organisms such as the human body. In medicine Geiger counters have found several successful uses in the location of malignancies

Geijer, Erik Gustav (ā'rĭk gŭs'tăv yī'ur), 1783–1847, Swedish historian and poet He taught history at the Univ of Uppsala and edited a source collection of Swedish history. His *History of the Swedes* (Eng tr, 1845), terminating with the reign of Queen Christina, is his best-known work. Geijer also wrote hymns, lyrics, and songs which enjoyed wide popularity In 1838 he created considerable stir by his conversion from conservatism to liberalism and reform

Geijerstam, Gustaf af (gŭs'tăv ăv yā'yurstăm), 1858–1909, Swedish novelist His realistic novels of peasant life show Russian influence, among these are *Poor Folk* (1884) and *Pastor Hallin* (1887) He also wrote problem novels and popular studies of modern marriage in the small town Among his later works are *My Boys* (1896, Eng tr, 1933), *The Book about Little Brother* (1900, Eng tr, 1921), and *Woman Power* (1901, Eng tr, 1927)

Geikie, Sir Archibald (gē'kē), 1835–1924, British geologist, educated at the Univ of Edinburgh He joined the Geological Survey of Scotland, becoming its director in 1867 He was professor of geology at the Univ of Edinburgh (1871-82) and director general of the Geological Survey of the United Kingdom (1882–1901) He was knighted in 1891 His numerous publications include *Outlines of Field Geology* (1876), *Text-Book of Geology* (1882), and *The Founders of Geology* (1897, 2d ed, 1906) See his autobiography (1924) His brother, **James Geikie**, 1839–1915, was also a geologist, a specialist in glacial geology He wrote *The Great Ice Age* (1874), *Earth Sculpture* (1898), and *Structural and Field Geology* (1905, 5th ed, 1940)

geisha (gā'shŭ), Japanese professional entertainer, skilled in dancing and in repartee The training of the geisha begins in childhood, and after her apprenticeship is over she is usually under contract for a number of years The geisha is a courtesan, and her status varies in different cities and in different houses Many geisha live luxuriously and are able to influence state policies All receive the same fee, but the amount that they actually earn rests upon a rigid classification of their beauty and accomplishments A geisha may marry, but she always bears a certain stigma In 1937 the geisha won certain privileges through a strike

Geissler, Heinrich (hīn'rĭkh gīs'lur), 1814-79, German mechanic and inventor He worked as a glass blower and in 1854 established at Bonn a factory for making scientific apparatus His many inventions include a vacuum mercury pump and the **Geissler tube.** This is a gas discharge tube in which light is produced when an electric discharge passes through the rarefied gas in the tube. The color of the glow depends on the gas used The tubes are made in a variety of shapes and are especially useful in spectroscopy

Geistown (gīs'toun), borough (pop 1,037), SW Pa., SE of Johnstown

Geitner, Ernst August (ĕrnst' ou'gōst gīt'nur), 1783–1852, German industrial chemist He discovered German silver (or nickel silver) and worked on the use of certain salts as mordants for dyes He wrote popular works on chemistry and technology

Gela (jē'lŭ, Ital jā'lä), city (pop 31,918), SW Sicily, Italy, on the Mediterranean From the 13th cent until 1927 it was known as Terranova di Sicilia Founded *c* 690 B C by Greek colonists, it became so flourishing as to found in turn (*c* 580 B C) Acragas, the later Agrigento The height of its prosperity was reached under the tyrants GELON and Hippocrates in the 5th cent In 282 B C Mamertine mercenaries (see MESSINA) destroyed the city and Phintias, tyrant of Acragas, resettled the inhabitants at the new city of Phintias (now Licata) There are few ancient remains, but in the near-by necropolis Greek vases and other objects have been found. Modern Gela was probably founded—as Terranova di Sicilia—by Emperor Frederick II in 1230 The city was a landing point in the Allied invasion of Sicily (1943) The surrounding region is the center of cotton growing in Sicily, and cereals are also produced

Gelasius I, Saint (jĭlā'shēŭs), d 496, pope (492–96), an African; successor of St Felix III and predecessor of Anastasius II. He was a firm upholder of the papal supremacy in a dispute with Anastasius, the Byzantine emperor; this contest was an opening wedge in the struggle between Constantinople and Rome. Gelasius was supposed to have been the author of the *Gelasian Sacramentary*, a 6th-century compilation. Many of his letters and some of his polemical writings remain. Feast, Nov. 21.

Gelasius II, d. 1119, pope (1118–19), an Italian (b Gaeta) named Giovanni Caetani, successor of PASCHAL II and predecessor of CALIXTUS II. He was elected in protest against the weakness of Paschal's opposition to Emperor Henry V over INVESTITURE The Frangipani, Romans of the emperor's party, threw Gelasius in prison, but the people delivered him and forced his captor to beg forgiveness In March, 1118, soon after Gelasius' election, Henry V advanced on Rome, and the pope fled to Gaeta There he was ordained priest and consecrated bishop Henry set up an antipope as Gregory VIII, and Gelasius excommunicated them Later in the year the pope went to France, where he was welcomed He was about to call a council when he died

gelatin, glutinous material or animal jelly obtained from the supporting structures (e g, hoofs, bones, and tendons) of vertebrate animals by the action of boiling water or dilute acid The process of manufacture is a complex one which involves removing foreign substances, boiling the material (usually in distilled water in aluminum vessels to prevent contamination, and purifying it of all chemicals used in freeing the gelatin from the connective tissues The final product in its purest form is brittle, transparent, colorless, tasteless, and odorless and has the distinguishing property of dissolving in hot water and congealing when cold In contact with cold water it takes up from 5 to 10 times its own weight and swells to an elastic, transparent mass Gelatin, being readily digested and absorbed, is a good food for children and invalids It is important in fine cookery as a vehicle for other materials, in the form of jelled soups, molded meats and salads, and frozen desserts Preparations of it are used in the home manufacture of jam, jellies, and preserves to insure jellification of fruit juices It is used in the drying and preserving of fruits and meats, in the glazing of coffee, and in the preparation of powdered milk and other powdered foods Bakeries use it in making meringues, éclairs, and other delicacies In confectionery making it is used as the basis of taffy, nougat, marshmallows, and fondant Ice-cream manufacture employs it to maintain a permanent emulsion of other ingredients and thus to give body to the finished product Added to cows' milk for the feeding of babies it prevents the formation of large curds In scientific processes gelatin is widely employed, being used in electrotyping, photography, waterproofing, and dyeing and in coating microscopic slides It is used as a culture medium for bacteriological research and also to make coatings for pills and capsules, court plaster, and some surgical dressings It affords a base for ointments and pastes, such as toothpaste, it is an emulsifying agent useful in making liquid combinations and various sprays. In its less pure forms gelatin is known as glue and size Vegetable gelatin, or AGAR, is derived from East Indian seaweeds

Gelderland, Guelderland (both gĕl'durlund, Dutch khĕl'durlänt), or **Guelders** (gĕl'durz), province (1,939 sq mi, pop 1,019,799), E and central Netherlands, S of the Ijsselmeer and bordering on Germany in the east. Arnheim, the capital, and Nijmegen and Apeldoorn are the chief cities It is drained by the Ijssel and by the Lower Rhine and Waal, which enclose the Betuwe, a fertile agricultural lowland, in the southwest The Veluwe, near the Ijsselmeer, is an unproductive hilly heathland The duchy of Gelderland was conquered (1473) by Charles the Bold of Burgundy, after whose death it passed to the house of Hapsburg It joined (1579) the Union of Utrecht of the Netherlands against Spain Part of Gelderland, including the ducal capital, Geldern (pop 5,776), was ceded (1715) by the Netherlands to Prussia.

Gelée, Claude · see CLAUDE LORRAIN

Gelert, Johannes Sophus (gĕ'lurt), 1852–1923, American sculptor, b Denmark He settled in the United States in 1887 His work includes the Haymarket monument and a statue of Hans Christian Andersen (both Chicago) and *Denmark* (customhouse, New York)

Gelibolu, Turkey, see GALLIPOLI

Gelilloth (gĕ'lĭlŏth, gēlĭ'-) [Heb ,=circles], boundary landmark, S Palestine, between Benjamin and Judah Joshua 18 17. It is probably the same as the Gilgal of Joshua 15 7

Gell, Sir William (gĕl), 1777–1836, English archaeologist and traveler, grad Cambridge, 1798 He served as chamberlain to Caroline, consort of George IV, and accompanied her to Italy in 1814 In 1820 he settled in Italy, living in Naples and Rome. His original drawings of classical ruins are in the British Museum Among his works, which he illustrated, are *Topography of Troy* (1804), *Pompeiana* (1817–19), *Journey in the Morea* (1823), and *Topography of Rome* (1834)

Gellée, Claude: see CLAUDE LORRAIN.

Gellert, Christian Fürchtegott (krĭs'tyan fürkh'tū-gŏt gĕ'lurt), 1715–69, German poet and moralist He was professor of literature and moral philosophy at Leipsig. His works include the popular *Fabeln und Erzählungen* (1746, Eng tr, *Fables and Other Poems*, 1850), the Richardsonian *Leben der schwedischen Gräfin von G——* (1746, Eng tr, *The Life of the Swedish Countess von G——*, 1752), a pioneer work in German domestic fiction, *Geistliche Oden und Lieder* (1757), hymns which are classics, and several plays Gellert was the great arbiter of literary taste in his time

Gelligaer (gĕlĭgar', gŏthlĭ-), urban district (1931 pop 41,043; 1947 estimated pop 36,140), Glamorganshire, Wales, N of Cardiff. It is in a mining region

Gellius, Aulus (jĕl'yus), fl 2d cent, Latin writer He was a lawyer who spent at least a year in Athens and wrote *Noctes Atticae* [Attic nights], a collection of discussions of law, antiquities, and sundry other subjects in 20 books (of which 19 and a fraction survive). The work is chiefly valuable as a storehouse of quotations from lost works

Gelon (jē'lŏn), d 478 B C, Greek Sicilian ruler Tyrant of Gela, his native city, he interfered in the struggle for power in Syracuse (485 B C) and made himself the leader of the popular party there From this time he ruled Syracuse and dominated Greek Sicily In 480 B C Hamilcar and his Carthaginians attacked Sicily in great force, landing at Panormus and advancing to besiege Gelon's father-in-law, Theron of Acragas in Himera Gelon came to raise the siege and crushed the Carthaginian army This victory made a tremendous sensation in the W Mediterranean, and it was the first great blow to Punic prestige It is celebrated by Pindar in his great *First Pythian*. Gelon was succeeded by HIERO I

Gelsenkirchen (gĕl'zunkĭr'khun), city (1939 pop 317,568, 1946 pop 265,793), Westphalia, NW Germany, adjoining Essen It is a major industrial and coal-mining center of the RUHR district It grew rapidly in the late 19th cent and in 1928 absorbed the neighboring towns of Buer and Horst About half of the city was destroyed in the Second World War

gem, substance of either mineral or organic origin used for adornment The qualities required in gems are beauty, rarity, and durability The beauty of a gem depends primarily upon its optical properties, which impart its luster, fire, and color, the durability depends upon hardness and tendency to cleave or fracture The physical properties by which gems are distinguished from each other are form of the CRYSTAL, index of refraction of light, HARDNESS, presence or absence of cleavage, type of fracture (conchoidal, even, or uneven) in stones without cleavage, specific gravity, color, streak (color of the powder as determined by rubbing it over white unglazed porcelain), luster (appearance of the surface in reflected light—adamantine, vitreous, resinous, greasy, silky, or pearly), and transparency Minor properties which serve to identify some stones are chatoyancy, opalescence, asterism, play of color, fluorescence, phosphorescence, iridescence, and electrical properties Artificial and imitation gems are of various kinds Synthetic stones are made in the laboratory out of the same chemical elements as natural stones Synthetic rubies, sapphires, and other varieties of gem corundum have been commercially produced, minute artificial diamonds too small to have commercial value have also been produced Synthetic stones may sometimes be detected by the presence of air bubbles, which when numerous cause a cloudy appearance, by having curved, rather than straight striae, and by their unnatural color Doublets are made by combining a crown or upper part, which is a thin slice of either the true stone or some inferior but hard gem, with a lower part of the true stone, a substitute stone, colored glass, or colored paste Triplets generally consist of a layer of a paste between two genuine stones of poor color Paste gems usually contain lead and are consequently very soft, they soon lose their brilliance and color Imitation pearls are glass or plastic beads coated with a preparation made from fish scales Cultured pearls are usually made by inserting a small bead into the shell of the oyster Gems are generally cut to bring out their natural color and brilliancy and to remove flaws In the cabochon cut the upper surface of the stone is smoothed and rounded into a simple curve of any degree of convexity, the lower surface may be concave, convex, or flat All the remaining cuts have flat facets. In the table cut the facets of the natural octahedron are ground to smoothness and polished, one facet, the table, is ground much larger than any other and made the top of the gem, while the opposite facet, the culet, is left quite small The rose cut consists of a flat base and (usually) 24 triangular facets—resembling a cabochon with facets. The brilliant cut is scientifically designed to bring out the maximum brilliancy of the stone The crown of a brilliant consists of a table and 32 smaller facets, of which 8 are quadrilaterals and 24 are triangles, the base, of a culet and 24 larger facets, of which 8 are quadrilaterals and 16 are triangles The base and crown are separated by a girdle The brilliant has certain proportions—in general the depth of the crown is one third the depth of the stone and the width of the table one half the width of the stone. The trap cut or step cut consists of a table and quadrangular facets, above and below the girdle, having their horizontal edges parallel Diamond cutting and the cutting of other precious stones are distinct trades. In diamond cutting the stone is

first cleaved to remove excrescences or to break it into smaller stones, by making a groove in the surface in the direction of the grain, inserting a steel knife, and striking the back of the knife a sharp blow The next process was formerly bruting, i e , roughly shaping two stones by rubbing them against one another In modern practice the stones are sawed with a revolving wheel coated on its rim with diamond powder, and then are shaped by inserting a holder or dop containing one diamond into a turning lathe which revolves it against a stationary diamond The cutting of the facets and the polishing are done by a revolving iron wheel charged with diamond dust After the facets are cut the diamonds are cleaned and are ready for sale. Stones other than diamonds are cleaved or slit by a revolving diamond-dusted wheel, then faceted by being pressed against a lap charged with diamond dust or a carborundum wheel, and polished with a softer abrasive Most, and in the case of some gems all, of the work of faceting is done with only the eye of the workman as guide The precious stones are DIAMOND, some forms of CORUNDUM (RUBY, SAPPHIRE, Oriental emerald, Oriental topaz, Oriental amethyst), and EMERALD The chief semi-precious stones are AQUAMARINE, AMETHYST, TOPAZ, GARNET, TOURMALINE, spinel, peridot, ZIRCON, CHRYSOBERYL, QUARTZ, OPAL, TURQUOISE, MOONSTONE, and JADE. The organic gems are PEARL, AMBER, CORAL, and JET, of which pearl is usually counted as a precious stone Gems are used as seals and talismans, and there are many superstitions associated with them For birthstones, see MONTH See H P Whitlock, *The Story of the Gems* (1936), L J Spencer, *A Key to Precious Stones* (rev ed , 1946), Frances Rogers and Alice Beard *5000 Years of Gems and Jewelry* (rev ed , 1947), E H Kraus and C B Slawson, *Gems and Gem Materials* (5th ed , 1948), R M Pearl, *Popular Gemology* (1948), Marcus Baerwald and Tom Mahoney, *Gems and Jewelry Today* (1949)

Gemalli (gĕmä'lē) [Heb , =owner of camels], father of Ammiel the spy Num 13 12

Gemara: see TALMUD

Gemariah (gĕmurī'ə) [Heb , =completion by God] 1 Jewish noble favorable to Jeremiah and Baruch Jer 36. 2 Envoy to Nebuchadnezzar Jer 29 3

Gémier, Firmin (fērmē' zhămyā'), 1869-1933, French actor and director His Paris debut (1892) was at the Théâtre Libre of André Antoine, whose lifelong friend he became In 1906 he succeeded Antoine as director of the Théâtre Antoine and from 1922 to 1930 was director of the Odéon In 1924 he toured the United States, at the invitation of the Dept of State, and Canada His Théâtre Ambulant (1911) and his direction of the Théâtre National Populaire (from 1930) were among his attempts to bring the theater to the people With Antoine he sought to bring naturalism of speech and gesture to the stage Celebrated for his portrayal of Shylock in *The Merchant of Venice*, he also acted in plays of G B Shaw, Gerhart Hauptmann, Ibsen, and Eugene O'Neill, as well as contemporary French dramatists

Gemini (jĕ'mĭnē) [Latin, =twins], in astronomy, a zodiacal constellation on the side of the Milky Way opposite from Orion It is pictured as the figures of the twin heroes Castor and Pollux, with the two brightest stars in the constellation representing the heads of the figures These two stars are Alpha Geminorum or Castor and Beta Geminorum or Pollux Pollux is actually the brighter of the two, although Castor was formerly considered to be and was therefore given the Alpha designation Castor, a white star, lies a little to the northeast of Pollux and is a visual double star, each of its two components is a spectroscopic binary Pollux, a yellow star, is a multiple star with at least six components The sun is in the constellation at the time of the summer solstice Gemini is the third sign of the zodiac

Geminiani, Francesco (frĭnchā'skō jămēnya'nē), d 1762, Italian composer and violinist, pupil of Corelli He composed music for strings and wrote on methods of playing various stringed instruments His *Art of Playing the Violin* (1740) was the first work of its kind for violin

Gemistus, Georgius (jôr'jus jĭmĭ'stŭs) fl 1st half of 15th cent , Greek Platonic philosopher, called Plethon (plē'thŏn), b Byzantium He represented the Orthodox Church at the Council of Florence in 1439, led Cosimo de' Medici to found the Florentine Academy, and inspired the enthusiastic study of Plato that characterized the Italian Renaissance He rejected Aristotle's criticisms of Plato but did not always distinguish Plato's doctrine from the Neoplatonic

Gemmi (gĕ'mē), pass, 7,640 ft high, in the Bernese Alps, Switzerland, connecting Bern and Valais cantons.

Gemniczer, Wenzel: see JAMNITZER

gender, in grammar, subclassification of a form class (or PART OF SPEECH) in which the members of the subclass have characteristic features of agreement with other words The term *gender* is usually restricted to such a classification of nouns or nounlike words and is not usually considered to include the classification of NUMBER. An example of gender in French is *la viande* [the meat] vs. *le vin* [the wine], where *la* and *le* [both the] differ in form, marking *viande* and *vin* as of different genders The terms for these genders, feminine and masculine, respectively, serve to recall that most French nouns referring to males are masculine, and most referring to females are feminine In German, Russian, and Latin there are three genders, called masculine, feminine, and neuter A two-gender distinction between animate and inanimate is widespread, e g , in Algonquian languages Some Bantu languages have 10 genders English nouns may be divided into gender classes according to the personal pronoun used to refer, these do not match sex classes, e g , *she*, corresponding to *the ship* The grammatical device of concord or agreement is bound up with gender-type distinctions By it one word bears a formal signal to show it has something to do with some other word, thus, in *la viande* the form of *la* shows that it has something to do with a member of the feminine gender class, and it may be said to agree with, or to be in concord with, *viande* English has concord in inflection for number, e g , the *man runs* vs *the men run* Concord is found in many Indo-European, Bantu, Finno-Ugric, and Semitic languages, but it is far from universal in languages Few languages have the rhyming ornateness of Latin concord See Edward Sapir, *Language* (1921)

gene (jēn), ultimate units by which hereditary characters are transmitted in animals and plants Genes are contained in the chromosomes and are believed to be arranged in a single row extending the length of the chromosome Many scientists have long believed that genes are of the chemical nature of nucleoproteins (compounds of a nucleic acid and protein) In 1949 Arthur E Mirsky reported the discovery that a nucleoprotein desoxyribonucleic acid forms one of the constituents of the gene Genes are too small to be visible with ordinary high-power microscopes, but the development of the electron microscope has facilitated studies of them Some believe that they approximate viruses in size Much of the knowledge of genes has been obtained through studies of a species of vinegar fly, *Drosophila melanogaster*, in which the chromosomes of the salivary glands are especially large, and also from studies of corn (*Zea mays*) In *Drosophila* some 500 genes have been discovered, estimates as to the total number of genes range from more than 1,000 to more than 10,000 In *Drosophila* certain genes have been identified which determine eye color, the size and shape of wings, and certain other characters, and the gene for each character appears to have a definite locus or position in the chromosome It is believed that thousands of genes are present in the chromosomes of man How the genes act to control the development of specific morphological characters is not well understood It is generally believed that their influence is exerted through the control of biochemical reactions, some believe that their action is similar to that of enzymes The scientific study of the method of inheritance is GENETICS

genealogy (jē"nēŏ'lŭjē, -ä'lŭjē, jē"nē-) That the study of human pedigrees is of great antiquity is indicated by their prominent place in the Bible Ancient Greeks and Romans traced their ancestry to gods and heroes, and primitive tribes often claim descent from bears, wolves, and other animals In the Middle Ages, Trojans were favored as ancestors and were created for the purpose The British were understood to be descended from a Trojan Brutus, the Franks, from Francus, the Turks, from Turcus The rise of feudalism made possessions and status depend on genealogy, and the study flourished In less degree, this condition continues in some countries, as England, to the present day In America, pedigree is less decisive as to status and property, and interest in genealogy has been limited to a smaller percentage of the population Some societies emphasize it, limiting membership to descendants of ancestors of a given group, as soldiers in the American Revolution Genealogies necessarily omit many ancestors who may be of biological significance The incredible number of the ancestors of an individual, since each child has two parents, was shown in Blackstone's *Commentaries on the Laws of England* Examples of English genealogies are the books of Burke, Collins, and others on the peerage Many libraries have departments of genealogy, where genealogies of families may be inspected See Gilbert H Doane, *Searching for Your Ancestors* (1937)

Genée, Adeline (ädŭlēn' zhunā'), 1878–, Danish dancer She made her debut at 10 in Christiania and at 17 was *première danseuse* of the Staattheater at Stettin, Germany She toured the United States in 1908 and 1912. Genée was one of the last stars of traditional ballet She married Frank S N Isitt in 1910 and retired in 1914

Genelli, Bonaventura (bōnävăntōō'rä jänĕl'lē), 1798–1868, German painter and illustrator, studied at the Berlin Academy and in Rome He painted mythological and biblical subjects, such as *Triumph of Bacchus and Ariadne* and *Abraham and the Angels*, but his greatest success was in illustrating. Among the best are 48 outline illustrations for Homer, 36 for Dante, and copperplate illustrations for *Life of a Profligate*

General Grant National Park, E Calif. The park was abolished in March, 1940, and its lands were made part of Kings Canyon National Park

General Land Office, established (1812) in the U S Treasury Dept and transferred (1849) to the U S Dept of the Interior Empowered to survey, manage, and dispose of the public domain, the office administered the preemption acts, homestead acts, and all legislation affecting public lands After 1900 it was more concerned with conservation of the remaining land In 1946 it was consolidated with the Grazing Service into the Bureau of Land Management

general strike, sympathetic cessation of work by all or a majority of the workers in all industries and public utilities of a locality or nation Such a stoppage may be economic if it is for the purpose of redressing some grievance or pressing upon the employer a series of demands economic in nature It is political if called for the purpose of wresting some concession from the government or if used to set off a chain of events culminating in the overthrow of the existing government The political strike has been advocated by the syndicalists and to a certain extent by anarchistic movements Practically unknown in the United States and Canada, except for some local instances (e g , Seattle, 1919, Winnipeg, 1919, San Francisco, 1934), the general strike has been a powerful weapon in the hands of European labor from the latter part of the 19th cent General strikes in Belgium in 1893 and 1902 won universal manhood suffrage, in Italy, a general strike (1904) protested against the use of troops to break up strikes, a general strike (1905) in Russia resulted in the issuance of the October Manifesto, instituting some sorely needed reforms, a general strike (1909) in Sweden, called against the repeated use of the lockout by employers, ended in complete surrender of the workmen, a general strike (1919) in Germany successfully warded off a rightist putsch In 1926 a general strike in England involving over 3,000,000 workers was called in sympathetic protest against the national lockout of the coal miners, but the strikers were forced to capitulate when it became clear that the government was able to keep essential services running and when only 50 percent of the workers answered the strike call In France a general strike, which failed, was called (1938) to protest against a government decree lengthening hours and penalizing strikers In 1947 localized general strikes were called in Italy and France by the Communist parties in protest against policies of the governments in power See W H Crook, *The General Strike* (1931)

generator, machine used to change mechanical energy into electrical energy The action principle is that of electromagnetic INDUCTION, a phenomenon discovered by Michael Faraday in 1831 A simple generator consists essentially of a magnet between the poles of which a coil of wire rotates In turning, the coil cuts the magnetic lines of force of the magnetic field lying between the poles of the magnet (see MAGNETISM) The cutting of these lines of force causes a current of electricity to be generated in the coil The current is led from the coil into a closed circuit by means of metal strips called brushes which press against the coil without interfering with its rotation Because, in turning, the coil cuts the lines of force first in one direction and then in the other, the electric current flows from it first in one direction and then in the opposite direction Such a current is called an alternating current (AC), and a generator producing it is an alternating-current (AC) generator or alternator A current flowing in one direction (although still pulsating) is obtained by the use of a device called a commutator When this device is employed, the generator is known as a direct-current (DC) generator Commercial generators are of both types Although the same principle is involved as in the simple generator, the construction and arrangement of the two essential parts (magnet and coil) of the commercial generator are much complicated by the need for producing a current that is not pulsating A number of coils are used and are wound in various ways around a core of metal consisting usually of strips bound together to make up the so-called ARMATURE The number of magnetic poles is often increased, as in the multipolar generator The ELECTROMAGNET is commonly employed in the dynamo instead of the permanent magnet found in the magneto (the dynamo and the magneto being types of generators) The magnetism is produced by leading the current generated in the armature over a wire wound around the field magnets Two distinct types of field-magnet windings are used In the shunt-winding type, only a part of the current is sent through the many coils around the field magnets In this type, when a large current is used in the external circuit, a drop in voltage occurs In the series-winding type, the whole current from the armature is conducted over a few turns of thick wire about the field magnets When the current in the external circuit increases, the voltage increases The compound-winding type is a combina-

tion of both and produces a constant voltage Not in all generators do the field magnets remain stationary while the armature revolves (direct-current generators are usually of this type) In some types, the armature is held stationary and the magnets rotate (alternating-current generators are usually of this type) Various sources are used for the mechanical energy which causes the moving part to revolve Some generators are driven by steam engines and turbines, others by gasoline or oil engines Most important of all to industry, however, are those driven by water power, generators of this type driven by powerful water turbines are used in the great hydroelectric plants

Genesee (jĕnusē′), river, c 158 mi long, rising in N Pennsylvania in the Allegheny Mts and flowing northerly through New York state, crossing the Barge Canal, to Lake Ontario at Rochester Its valley is noted for its beauty and fertility On the upper Genesee lies Letchworth State Park, N Y, with a scenic gorge and waterfalls

Geneseo (jĕnusē′ō) **1** City (pop 3,824), NW Ill, E of Moline and on the Illinois and Mississippi Canal, settled 1836, inc 1855 It is a farm trade center A state fish hatchery is near by **2** Farm trade village (pop 2,144), co seat of Livingston co, W central N Y, on the Genesee and SW of Rochester, inc 1832 Geneseo was settled c 1790 by James Wadsworth, whose descendants have been prominent in the town It is the seat of a state teachers college Soap and meal are made here

Genesis (jĕ′nusĭs) [Gr, =origin], first book of the Old Testament, first of the five books of the Law (the Pentateuch or Torah) ascribed by tradition to Moses It is a religious account of the origin of the Hebrew people, its contents may be outlined as follows first, the divine origin of the race whence the Hebrews sprang (1-11), including accounts of the creation and man's first disobedience (1–3), of Cain and Abel (4), and of Noah (9–10), second, the career of God's special servant Abraham (12–24), including the stories of Hagar and Ishmael (16, 21), of Lot (18–19), of the sacrifice of Isaac (22), and especially of God's summons to Palestine and His promises (12, 13, 15, 17), third, the career of Isaac (25–26), and, fourth, the life of Jacob, who was called Israel (27–50), including his replacement of Esau (27), his vision of a ladder (28), his wrestling with an angel (32), and the extensive story of his son Joseph, with the migration of the family to Egypt (37–50) Genesis is written with a straight narrative simplicity that has made it a favorite among Bible books Its importance in Jewish and Christian thought is inestimable Controversy over its interpretation and its literary history has been extensive For critical views of its composition and works on the book, see OLD TESTAMENT

Genesis, Little. see PSEUDEPIGRAPHA

Genêt, Edmond Charles Édouard (ĕdmō′ shärl′ ādwär′ zhünā′), 1763–1834, French diplomat, known as Citizen Genêt He had served as a French representative in Berlin, Vienna, and St Petersburg before the French Revolution, which he heartily endorsed, and he continued in Russia until 1792 Sent as minister to the United States in 1793, he was met with wild acclaim by the numerous pro-French Jeffersonians, but President Washington, anxious to preserve U S neutrality in the French Revolutionary Wars, was cold to the demonstrations Genêt's efforts to raise troops to strike at Spanish Florida and to commission privateers to prey on British commerce were not approved by Washington The President, backed by pro-British Alexander Hamilton, forbade the French privateers to use U S ports as bases, despite the warm public approval Genêt challenged Washington's authority by threatening to appeal to the American people, and the U S government demanded his recall Before he could go back to France, his party, the GIRONDISTS, had fallen, and his return would have meant the guillotine Washington therefore refused to allow his extradition Genêt remained in America and married the daughter of Gov George Clinton of New York

genetics (junĕ′tĭks), scientific study of heredity The growth of the science dates from 1900, when Hugo De Vries, K E Correns, and Erich Tschermak-Seysenegg in the course of their own research independently rediscovered the work of Gregor MENDEL on inheritance These three scientists, working in different countries, arrived at a general concept of segregation of units of heredity and of a random recombination of such units to explain the variations which they observed and then discovered that Mendel had presented similar conclusions in 1866 Under the stimulus of these discoveries a more widespread interest in the mechanism of heredity was aroused and through genetic studies much has been learned, although much yet remains to be clarified With the discovery of the CHROMOSOME and of the GENE scientists found the physical basis of the transmission of hereditary characters Modifications of Mendel's principles developed as knowledge of the chromosomes increased the discovery of the presence of numerous genes in the same chromosome shed light on the tendency of certain characters to be inherited together, the discoveries that some characters are sex-linked (i e, are transmitted by genes present only in the sex chromosomes) and that interaction of different genes rather than the presence of a single factor generally determines the presence of characters helped to account for some apparent deviations from Mendelian ratios The expression "Mendelian heredity" is now generally used for transmission of characters by the chromosomes Certain terms are commonly used in explanations of inheritance When two parent organisms (plants or animals) differ in a given character (e g, tallness and dwarfness in garden peas), one or the other of the characters appears in the offspring or first filial (called F_1) generation, the character which appears (tallness, in the example given) is said to be dominant When indicating the genotype (gene composition) of an individual, the dominant character is usually represented by the capitalized initial letter of one of the characters The character which does not appear in the first generation produced by crossing two parents which are homozygous for that character is a recessive character, although it does not appear in the first generation it is carried in the genes of this generation, which are therefore said to be hybrids (The recessive character is usually represented by a small letter) Crosses between members of the F_1 generation produce offspring (the F_2 or second filial generation) among which approximately three quarters of the number show the dominant character and one quarter the recessive Of those displaying the dominant character only one third are homozygous for that character (i e, contain only genes for tallness) and two thirds are heterozygous (i e, their chromosomes contain one factor for the dominant character and one for the recessive) Two such contrasting characters as tallness and dwarfness (or in animals such characters as eye color) are called alleles (or allelomorphs) Each organism inherits one member of each of these allelic pairs from each parent, and each body cell, being ultimately derived from the fertilized egg, contains the same chromosome composition In the formation of sex cells or gametes by animals and plants which normally reproduce by a union of a male and a female cell, a process called meiosis, or reduction division, occurs In this process the chromosomes become paired off, and divisions of the cells occur which result in only one set of chromosomes (or one half the number of chromosomes characteristic of the species) entering each mature sex cell It is at this process that the segregation of pairs of alleles is accomplished Recombination of characters then occurs at random when two sex cells unite By the union of the two sex cells (each containing one half the normal number of chromosomes), the original chromosome number is restored Since great numbers of characters are simultaneously inherited, the process is a complex one, but in general the hereditary pattern can be followed for individual characters through working out the ratios on the basis of the Mendelian laws Deviations from the expected results sometimes develop because of chromosome aberrations and gene MUTATION Most of the knowledge of chromosome structure and of the behavior of genes has come from studies of the vinegar or fruit fly (*Drosophila*) The work of T H Morgan and his followers on *Drosophila melanogaster* was the basis of much of the progress in genetics in the United States Certain other small laboratory animals and also plants are sometimes used Such specimens are chosen largely because of their ability to reproduce rapidly so that many generations can be studied over relatively short periods For obvious reasons human beings are poor subjects for genetic studies, however, much has been learned from the lower forms of life that aids understanding of heredity in humans Also, by tracing the appearance of certain abnormal characters (e g, hemophilia, color blindness, and certain mental diseases and anatomical defects) through a number of generations the inheritability of these conditions has been established See E W Sinnott and L C Dunn, *Principles of Genetics* (3d ed, 1939), T G Dobzhansky, *Genetics and the Origin of the Species* (1941), J B S Haldane, *New Paths in Genetics* (1942), H B Glass, *Genes and the Man* (1943), H J Muller and others, *Genetics, Medicine, and Man* (1947), H P Riley, *Introduction to Genetics and Cytogenetics* (1948), G L Jepsen, *Genetics, Paleontology, and Evolution* (1949)

Geneva (jünē′vu), Fr *Genève* (zhunĕv′), canton (109 sq mi, pop 174,855), Switzerland, at the southwest tip of the Lake of Geneva In the gap between the Jura and the Alps, it is almost entirely surrounded by French territory Its rural sections produce mainly fruits, vegetables, and wine Its history is that of its capital, **Geneva** (pop 124,431), which the Rhone, emerging from the lake, divides into two parts, the older section is on the left bank A cultural and financial center, Geneva also produces machinery and instruments, aluminum ware, watches, and clothes An ancient settlement of the Allobroges, Geneva was included in Roman Gaul, became an episcopal see under the Roman Empire, and passed to the Burgundians (5th cent), to the Franks (6th cent.), to Transjurane BURGUNDY (9th–11th cent), and to the Holy Roman Empire The bishops of Geneva gradually absorbed the powers of the feudal counts of Geneva and in 1124 became temporal rulers of the city To limit the episcopal authority, the citizens placed themselves (1285) under the protection of the counts (later dukes) of SAVOY, in 1387 they won extensive rights of self-rule However, by gradually transforming the bishops into their tools, the dukes nearly succeeded in mastering the city by the beginning of the 16th cent Incensed, the citizens allied themselves with two SWISS cantons—Fribourg and Bern—expelled the bishop (1533), and accepted the Reformation preached by Guillaume FAREL (1536) The arrival of CALVIN thrust upon Geneva a role of world importance as the focal point of the REFORMATION In 1602 Geneva repulsed an attempt at recapture by Charles Emmanuel I of Savoy With its population swelled by Protestant refugees, notably HUGUENOTS, Geneva became a cosmopolitan and intellectual center, especially in the 18th cent, when the stern theocracy of Calvin had mellowed into patrician rule VOLTAIRE settled here, J J Rousseau, H B de Saussure, Jacques Necker, Albert Gallatin, and P E Dumont were among the versatile sons of Geneva in the 18th cent The city, annexed to France from 1798 to 1814, joined Switzerland as a canton in 1815 It was given a liberal constitution in 1842 In 1864 Geneva was made the seat of the International RED CROSS, it has also been the seat of the League of Nations (1920–46), the International Labor Organization, and other international bodies Among its historical buildings are the Cathedral of St Pierre and the town hall The League of Nations Palace is situated in one of the city's numerous parks The Univ of Geneva (founded as an academy by Calvin) faces the imposing Reformation monument The crescent-shaped **Lake of Geneva** or **Lake Leman**, between Switzerland and France, is 45 mi long and from 2 to 9 mi wide Its maximum depth is 1,017 ft, and its average altitude 1,220 ft The main feeder and only outlet is the Rhone Its shores are dotted with villas and resorts, and its beauty has been a favorite theme with many writers (notably Rousseau and Byron) The northern (Swiss) shore is bounded by sloping vineyards and orchards, the southern (French) shore by the French Alps Its waters are deeply blue and remarkably transparent They are subject to sudden changes of level, known as seiches Fishing is an important industry

Geneva (junē′vu) **1** Town (pop 2,803), co seat of Geneva co, SE Ala, on the Choctawhatchee river near the Fla line, settled 1836, inc 1872 It is a trade center, and clothing is made **2** City (pop 4,101), co seat of Kane co, NE Ill, W of Chicago and on the Fox river, founded c 1833, inc 1867 The state training school for girls is here **3** City (pop 1,888), co seat of Fillmore co, SE Nebr, WSW of Lincoln, laid out 1858 It is a livestock-shipping and farm-trade center in a prairie region A school for delinquent girls is here **4** City (pop 15,555), W central N Y, at the north end of Seneca Lake and SE of Rochester, in a fertile region, settled 1788, inc as a village 1812, as a city 1898 It is a trade center with nurseries and varied manufactures, including optical goods and cutlery Hobart College and William Smith College (see COLLEGES OF THE SENECA, THE) and a state agricultural experiment station connected with Cornell Univ are here **5** Village (pop 4,171), NE Ohio, near Lake Erie SW of Ashtabula, settled 1802, inc 1867 It has greenhouses and manufactures garden tools **6** Town, Utah see PROVO, city

Geneva, Lake, c 8 mi long, SE Wis, near the Ill border On its shores are the camps of several religious and social organizations and the summer homes of many residents of Chicago, Milwaukee, and other cities of the region Yerkes Observatory is at Williams Bay near the western end of the lake, the city of Lake Geneva is at the eastern end

Geneva, Lake of. see GENEVA, Switzerland

Geneva Arbitration. see ALABAMA CLAIMS

Geneva College see BEAVER FALLS, Pa

Geneva Convention: see RED CROSS

Geneva Protocol see PROTOCOL

Genevieve, Saint (jĕ′nuvēv), d 512, patron saint of Paris A nun renowned for good works, she is said to have averted, by fasting and prayer, an expected attack of Attila the Hun on Paris Feast Jan

Genga, Girolamo (jĕrō′lumō jĕng′gä), 1476?–1551, Italian painter, architect, and sculptor of the Umbrian school, pupil of Signorelli and Perugino He is revealed at his best as a painter in his series of frescoes for Petrucci Palace, Siena, *Resurrection* (Church of Santa Caterina da Siena, Rome); and *Disputation of the Four Fathers of the Church* (Brera, Milan) He was appointed ducal architect at Urbino, and his later years were devoted to architectural works

Genghis Khan: see JENGHIZ KHAN

Genichesk Strait see AZOV, SEA OF

genie see JINNI

Génissiat Dam (shānēsyä′), Ain dept, E central France, in the Rhone river, near Bellegarde and the Swiss frontier and c 20 mi S of Geneva, begun 1937, inaugurated 1948 It is part of a project for devel-

oping and making navigable the entire Rhone valley from Geneva to Marseilles—a plan that antedates and somewhat resembles the Tennessee Valley Authority The Génissiat hydroelectric plant is the largest in France and, next to the Dneproges dam in the USSR, probably the largest in Europe Construction has begun on power lines to connect it and secondary plants with the Paris and Lyons industrial regions. The navigation project is related to a Swiss plan for connecting the Lake of Geneva with the Rhine, thus permitting direct traffic from Marseilles to Rotterdam via Geneva and Basel Operated by a semiprivate company, the project is to a large extent under government control

genista: see BROOM

genitive (jĕn'-) [Latin, = genetic], in Latin grammar, CASE typically used to refer to a possessor The term is used in the grammar of other languages, but the phenomenon referred to may not resemble a Latin genitive closely, thus a Latin genitive will be translated by a number of different cases in Finnish English *his* and *father's* are said to be genitive, or, more often, possessive Most English nouns have no such case

genius, in Roman religion, guardian spirit of a man, a family, or a state, giving guidance and help In some instances, a place had its genius As the guardian spirit of an individual, the genius corresponded to the Greek demon, best known by the demon whom Socrates implicitly obeyed The genius of the head of a Roman household was one of the household gods Notable achievements or high intellectual powers of an individual were attributed to his genius, and ultimately a man of achievements suggesting a divine gift was said to have genius or to be a genius

Genk (khĕngk), town (pop 29,098), Limburg prov., E Belgium, NNE of Hasselt It is a market center, and there are coal mines near by

Gennesaret (gĕnĕ'surĕt) 1 See GALILEE, SEA OF 2 Fertile plain, NW of the Sea of Galilee Mat 14 34, Mark 6 53.

Genoa (jĕ'nōwu), Ital *Genova* (jānō'vä), city (pop 512,313, with suburbs, 634,646), capital of Liguria and of Genoa prov, NW Italy Beautifully situated on the Italian RIVIERA, it is the chief seaport of Italy and rivals Marseilles as leading Mediterranean port. An ancient town of the Ligures, it flourished under Roman rule Around the 10th cent it developed into a free commune governed by consuls Its maritime power increased steadily. Helped by Pisa, Genoa drove the Arabs from Corsica and Sardinia Rivalry over Sardinia resulted in long wars with Pisa, and Genoa finally triumphed in the naval battle of Meloria (1284) The Crusades brought Genoa great wealth The republic acquired possessions and trading privileges in areas from Spain to the CRIMEA Its expansion was largely financed by a group of merchants who in 1408 organized a powerful bank, the Banco San Giorgio Genoese policy in the Orient clashed with the ambitions of Venice, and long wars resulted, ending with the Peace of Turin (1381), which slightly favored Venice Meanwhile the Genoese republic was weakened by factional strife of Guelphs and Ghibellines, of nobles and the popular party In 1339 the first doge for life was elected Although Genoa gradually gained control of the cities of LIGURIA, it little by little lost its outlying possessions Rival factions resorted to foreign aid France and Milan in turn controlled the city, although nominal independence was preserved The power of Genoa was revived by Andrea DORIA, who wrote a new constitution in 1528, the Fieschi conspiracy (1547) against his dictatorship failed Later, however, came periods of Spanish, French, and Austrian control The Austrians were expelled by a popular uprising in 1746, but in 1768 Genoa had to cede CORSICA, its last outlying possession, to France In 1797 French military pressure resulted in the end of aristocratic rule and the formation of the Ligurian Republic, which Napoleon I formally annexed to France in 1805. The Congress of Vienna (1815) united Genoa and Liguria with the kingdom of Sardinia The city suffered heavily from Allied naval and aerial bombardments in the Second World War. Among its notable buildings, all more or less severely damaged, are the Cathedral of San Lorenzo (rebuilt in 1100 and frequently restored), the palace of the doges, the richly decorated churches of the Annunciation and of St Ambrose, the medieval Church of San Donato, and the many Renaissance palaces built for Genoa's aristocratic families. The city is surrounded by ancient walls and forts, and the steep and narrow streets of the harbor section are very picturesque Genoa has several museums and a university (originally a Jesuit college) As an outlet for Central Europe, Genoa handles extensive passenger and freight traffic; its harbor facilities have recently been greatly modernized The city is also an industrial center with large shipyards and automobile and airplane motor factories Genoa gave many navigators to the world, foremost among them Columbus. Massini and Paganini were also born here.

Genoa (jənō'ə) 1 City (pop. 1,290), NE Ill., W of Elgin, in a farm area, inc 1911. 2 Village (pop 1,231), E central Nebr., on the Loup river near the Platte and NW of Lincoln, in a prairie region; settled 1857 by Mormons An old Pawnee village has been excavated near by 3 Unincorporated town (pop c 150), extreme W Nev , SW of Carson City Founded c 1849 as Mormon Station and renamed in 1855, it was a post on the early road to California, the first permanent settlement in the present Nevada, and for a time provisional capital of the Territory 4 Village (pop 1,455), NW Ohio, SE of Toledo, settled 1835 as Stony Ridge Station, renamed Venice 1853 but recorded as Genoa, inc 1868 Limestone products are made here

Genoa, Conference of (jĕ'nōwu) On April 10, 1922, representatives of 34 nations met at Genoa, Italy, in an attempt to reconstruct European commerce and finance The occasion of the conference was the announcement that, despite its repudiation of the national debt incurred in the tsarist regime, the Soviet government would discuss that question at an international assembly In the negotiations the creditor nations, all of whom were represented but the United States, demanded recognition of the repudiated debt, compensation for the confiscated property of foreigners, and the establishment of a judicial system to enforce future contracts The Soviet representatives, headed by Chicherin, agreed to recognize the debt only upon condition that the Russian war debt be canceled, that compensation be made for damages caused by Allied forces in their post-war intervention, and that extensive credits be granted to the new government Some progress was made in the negotiations, but the announcement of the Treaty of Rapallo (see RAPALLO, TREATY OF, 1922), by Germany and the USSR caused fear and distrust, while the divergent purposes of the former Allies made cooperation on major issues impossible The conference adjourned on May 19

Genova, Italy see GENOA

Genovesi, Antonio (äntō'nyō jānōvā'zē), 1712–69, Italian philosopher and economist, a pioneer in writing philosophy in Italian instead of in Latin Genovesi introduced new ideas, particularly those of Locke, into Italy, and this introduction was bitterly opposed by the scholastics In his works he strove for a balancing of idealism and sensualism His book *Lezioni di commercio* (1765), the first inclusive work in economics in Italy, stressed human wants as the basis of economic theory Other writings include *Disciplinarum metaphysicarum elementa* (1743)

genre (zhä'rə) [Fr], type of easel painting which has for its subject matter intimate scenes from everyday life In Western art it originated in the 16th cent and has flourished ever since, probably reaching its highest development in 17th-century Holland Ter Borch, Vermeer, De Hooch, and Steen excelled in genre

gens (jĕnz), ancient Roman family group It was the counterpart of what is known in other societies as a clan or sib, the members were descended (or assumed to be descended) from a common ancestor, whose name was used by all the members of the gens as a family or gentile name Among the Romans the second name was the gens name (e.g., *Tullius* in Marcus Tullius Cicero), and descent was traced in the male line only, not in both the male and female lines The members were united in worship of the common ancestor, and marriage within the gens was generally more or less frowned upon The Roman patriarchal family, a group within the gens, in many of its features became the legal pattern for the European family The Greek gens (*genos*) was similar to the Roman See H W. Johnston, *Private Life of the Romans* (1903).

Gensan, Korea see WONSAN.

Genseric see GAISERIC.

Genth, Frederick Augustus (gĕnt), 1820–93, German-American chemist and mineralogist, b Germany, studied at the universities of Heidelburg and Marburg He emigrated (1848) to the United States and established (1850) a chemical laboratory in Philadelphia A specialist in the study of minerals, he identified 23 new kinds including one named in his honor, genthite (gĕn'thīt) He maintained his commercial laboratory while serving as professor of chemistry at the Univ of Pennsylvania (1872–88)

Genth, Lillian Mathilde (gĕnth), 1876–, American figure painter, b Philadelphia, studied with Elliott Daingerfield and with Whistler Her delicately colored figures against a landscape background are found in many museums throughout the United States She became a member of the National Academy of Design in 1908

gentian (jĕn'shu), any plant of the genera *Gentiana* and *Dasystephana* (both sometimes combined as a single genus—*Gentiana*), widely distributed herbs of many species, chiefly perennial and fall blooming Gentian flowers are of various colors but predominantly blue. The fringed gentian (*Gentiana crinita*), on which the poet Bryant wrote, is annual or biennial and one of the loveliest wild flowers It has been nearly exterminated from its native habitat in E North America and is difficult to grow in gardens There is a similar species in the West also called fringed gentian. The bottle, closed, or blind gentian (*Dasystephana*, or *Gentiana, andrewsii*) has clusters of deep blue (rarely white) flowers that remain closed or nearly so Since ancient times the European yellow gentian (*Gentiana lutea*) has been highly valued for the rhizome and roots used as a stomachic and bitter tonic, reputedly discovered by King Gentius of Illyria. It has also been used in alcoholic beverages A number of alpine gentians are valued for rock gardens See David Wilke, *Gentians* (1936)

Gentile, Giovanni (jōvän'nē jäntē'lā), 1875–1944. Italian philosopher and educator He taught philosophy in several Italian universities and for many years contributed to the magazine of Benedetto Croce In 1920 he founded the *Giornale critico della filosofia italiana*. An early supporter of the Fascist movement, he has been called the philosopher of Fascism In 1922 he was made a senator and until 1924 was minister of public instruction While in this office he reformed the structure of public education He also directed the work of the new *Enciclopedia italiana*. Gentile's philosophy, called actual idealism, is a form of neo-Hegelian idealism and was developed in *Teoria generale dello spirito come atto puro* (1916, Eng. tr , *The Theory of Mind as Pure Act*, 1922) See studies by Pasquale Romanelli (1938) and R W Holmes (1938)

Gentile da Fabriano (dä fabrēä'nō), c 1370–1427?, Italian painter, the first great representative of the Umbrian school and among the most outstanding of the primitives He is known to have been in Venice c 1411 and had an important influence on the Venetian painters In 1421 he executed his masterpiece, *The Adoration of the Magi*, for Santa Trinità, Florence (now in the Uffizi), subsequently he was engaged upon numerous works for churches of Brescia and Perugia and upon the charming *Madonna* in the Orvieto cathedral In 1427 he went to Rome to decorate the Church of St John Lateran with frescoes depicting the life of St John the Baptist and also painted the *Holy Family* for the Church of Santa Maria Maggiore Gentile painted in the spirit and manner of the older school, with the glowing color and lavish use of gilt ornamentation of the early Umbrian painters, and his technical skill was far superior to that of most of his contemporaries Other examples of his art are *Presentation in the Temple* (Louvre), *Madonna and Child* (Venice), *Madonna in Glory*, (Milan), and *Madonna and Child* (National Gall of Art, Washington, D C)

Gentile da Foligno (dä fōlē'nyō), d 1348, Italian physician, b Bologna He practiced medicine in Bologna and in Perugia Summoned to Padua because of the illness of the ruler, Ubertino of Carrara, he remained as lecturer on medicine at the university (1337–45) His activities in combating the Black Death led to his death from the disease Among his extant writings are his plague tractates, *Consilia contra pestilentiam*

Gentileschi, Orazio (ōrä'tsēō jäntēlā'skē), c 1562–1647, Florentine painter His surname was Lomi, but he adopted that of an uncle He was a brother, and a pupil of Aurelio Lomi, and he studied in Rome, where he was associated with Agostino Tassi in the decoration of palace interiors He also painted frescoes in Santa Maria Maggiore and in the Lateran After spending several years in Genoa and in France, he settled in England (1626) at the invitation of Charles I Van Dyck painted his portrait and included it in his series of illustrious men Gentileschi's principal works include *The Annunciation* (San Siro, Genoa), *Flight into Egypt* (Louvre), *Joseph and Potiphar's Wife* (Hampton Court, England), and *Moses Saved from the Waters* (Madrid) He also painted numerous portraits His daughter and pupil, **Artemisia Gentileschi** (ärtämē'zyä), 1590–c 1642, studied under Guido Reni and achieved renown for her spirited execution and admirable chiaroscuro, excelling her father in portraiture About 1638 she visited England, where she was in great demand as a portraitist Among her works are *Judith and Holofernes* (Uffizi), *Mary Magdalen* (Pitti Gall , Florence), *Christ among the Doctors* (N Y Historical Society), and a self-portrait (Hampton Court)

Gentili, Alberico (älbārē'kō jäntē'lē), 1552–1608, Italian writer on international law Forced to leave Italy because of his Protestantism, he went to England (1580), where he became regius professor of civil law and in 1605 advocate for the king of Spain in the British admiralty court His *De legationibus* (1585) had great influence in shaping modern diplomatic practice, and his *De jure belli* [on the law of war] (1598) was one of the early important works on international law to which Grotius was indebted

gentlemen's agreement, in business, a private agreement among rivals as to prices to be charged, goods handled, or areas served Such informal, verbal, and temporary arrangements are common in local trade and are not unknown in larger enterprises. Although not necessarily against public interest, they offer easy opportunity for exploitation, and they have been forbidden by the Sherman Anti-Trust Act as conspiracies in restraint of trade. Their secrecy renders detection and law enforcement difficult They are not illegal in Great Britain unless they include an illegal act, when they are against common law. At one time open-price associations

met regularly in the United States, at which members quoted prices which were openly discussed without agreements being reached, but the courts held these less definite understandings illegal. In American history, the gentlemen's agreement refers to an agreement between the United States and Japan in 1907 that Japan should stop the emigration of her laborers to the United States and that the United States should stop discrimination against Japanese. This agreement was ended in 1924 by the act of Congress excluding immigration from Japan, as immigration from China had been previously excluded.

Gentz, Friedrich von (frē'drĭkh fŭn gĕnts'), 1764–1832, German publicist A disciple of Kant and a lifelong admirer of the English political system of checks and balances, Gentz soon turned away from his early enthusiasm for the French Revolution. At first in Berlin and after 1802 in Vienna, he conducted a relentless polemical campaign against Napoleon I. In 1812 he became secretary to Metternich and thus a powerful figure in Austrian and European politics He was secretary of the congresses of Vienna, Aachen, Troppau, Laibach, and Verona and was the brain of the Holy Alliance Some of his writings, all in exemplary style, were published as *Staatschriften und Briefe* (2 vols, 1921) He also translated Burke's *Reflections on the French Revolution* See P R Sweet, *Friedrich von Gentz Defender of the Old Order* (1941); Golo Mann, *Secretary of Europe* (1946)

Genubath (gĕnū'–), son of the exile Hadad and an Egyptian princess He was reared with Pharaoh's sons 1 Kings 11 20

Genung, John Franklin (jĭn'ŭng'), 1850–1919, American educator and author, b Willseyville, N Y, Ph D Leipzig, He taught at Amherst College from 1882 and is well known for his studies on biblical interpretation These include *The Epic of the Inner Life* (1891), *The Hebrew Literature of Wisdom* (1906), and *A Guidebook to Biblical Literature* (1919) He also wrote *The Working Principles of Rhetoric* (1901) and *The Life Indeed* (with biographical sketch of Genung by J. M Tyler, 1921)

genu varum see BOWLEGS

geodesy (jē-ŏd'ŭsē) [Gr ,=dividing the earth] or **geodetic surveying,** theory and practice of determining the position of points on the earth's surface and the dimensions of areas so large that the curvature of the earth must be taken into account It is distinguished from plane SURVEYING, the operations of which are executed without regard to the earth's curvature In geodetic surveying, two stations many miles apart are selected and the latitude and longitude of each is determined by astronomical means The line between these two points, the base line, is measured The position of a third station is determined by the angle it makes with each end of the base line This process, called triangulation, is continued until the whole area to be surveyed is mapped For marking a triangulation station the U S Coast and Geodetic Survey uses a bronze disk suitably marked and with a projection on the bottom for anchoring in a concrete block Where the curvature of the earth is great or where there are hills or high trees between stations, towers are built, so that one station may be seen from another See G L Hosmer, *Geodesy* (2d ed , 1930), H O Sharp, *Elements of Geodetic Surveying* (1940), G D Whitmore, *Geodetic Surveying* (1942)

Geoffrey (jĕf'rē), 1158–86, duke of Brittany (1171–86); son of Henry II of England He was designated as heir of Brittany in 1169, being selected as the future husband of Constance, heiress of Brittany, whom he married in 1181 With his brothers he rebelled against Henry (1173–74) and was subsequently involved (1182–4) in territorial disputes with his brother Richard (later RICHARD I) Geoffrey died in Paris while forming an alliance with Philip II of France against Henry II

Geoffrey IV, known as Geoffrey Plantaganet (plăn-tăj'ŭnĕt) [O Fr ,=sprig of broom; he usually wore a sprig in his helmet], 1113–51, count of Anjou (1129–51); son of FULK, count of Anjou and king of Jerusalem He married, probably in 1128, MATILDA, daughter of Henry I of England and widow of Emperor Henry V. After Henry I's death (1135) Geoffrey, hitherto occupied in complex feuds with Angevin barons and rival nobles, undertook to conquer Normandy, to which he laid claim through his wife After 1139 Matilda attempted the conquest of England from Stephen Geoffrey did not accompany her, being still engaged in the conquest of Normandy, which he completed in 1144 In 1147 he undertook a crusade with Louis VII of France. In 1151, just before his death, Geoffrey and Matilda secured the ratification of their cession of Normandy to their son Henry (later Henry II of England), who founded the English ANGEVIN dynasty Geoffrey is also called the Fair.

Geoffrey of Monmouth (mŏn'mŭth), c.1100–1154, English author, bishop of St. Asaph after 1152 He was probably born at Monmouth and was possibly a son of one of the Bretons there. His most famous work, the *Historia regum Britanniae*, supposedly a chronicle of the kings of Britain, is one of the chief sources for the ARTHURIAN LEGEND. Geoffrey was the first to write a coherent account of Arthur, although many parts of the later stories are not found in his work He drew information from the writings of Bede, Gildas, Nennius, the Welsh chronicles, and oral tradition, and, adding much from his own imagination, he wove the whole into a fictional narrative in the form of a history His statement that he translated from an ancient British book is not now generally accepted His work had great influence on Wace, Layamon, and many chroniclers of the Middle Ages Another work, the *Vita Merlini*, which also influenced later stories of Arthur and Merlin, is now commonly attributed to Geoffrey

Geoffrin, Marie Thérèse (Rodet) (marē'tārā'rōdā' zhôfrē'), 1699–1777, French woman of letters Her salon at Paris was for 40 years a center of the ENLIGHTENMENT

Geoffroy Saint-Hilaire, Étienne (āt'yĕn' zhôfrōā' sĕtēlĕr'), 1772–1844, French zoologist He was professor at the Museum of Natural History (1793–1840) and also at the Faculty of Sciences (from 1809), both in Paris, and was a member (1798–1801) of Napoleon's scientific staff in Egypt He expressed in his *Philosophie anatomique* (2 vols , 1818–22) and in other works his theory that all animals conform to a single plan of structure; this attracted many supporters but was strongly opposed by Cuvier His son, **Isidore Geoffroy Saint-Hilaire** (ēzēdôr'), 1805–61, also a zoologist, was an authority on deviations from normal structure He succeeded to his father's professorship at the museum and was also professor at the Faculty of Sciences from 1850

geography, the science which observes, catalogues, analyzes, and correlates the facts of the differentiation of the areas on the earth's surface It was first systematically studied by the Greeks While Thales of Miletus was probably the exponent of a spherical earth, Aristotle was first to demonstrate its sphericity and to delimit its habitable parts Eratosthenes was perhaps the first true geographer He was followed by Strabo, whose interest in man's adaptation to his physical environment broadened a field previously concerned primarily with mathematical relationships The work of Ptolemy was the culmination of Greek geographic learning, which was passed on to the Arabs, who maintained the vitality of the science during the Middle Ages Revival of geographic interest beyond the Moslem world followed the journeys of Marco Polo, the increase of trade with the East, and the great voyages of EXPLORATION which culminated in the discovery of America The 16th and 17th cent brought the reincarnation of sound theoretical geography in the form of textbooks (Varenius's *Geographia generalis*) and maps (Mercator) The modern period may be said to begin toward the end of the 18th cent with the work of Alexander von Humboldt and Karl Ritter Henceforth two principal methods of approach to geography can be distinguished, the systematic and the regional The systematic approach was spurred by the rapidly widening knowledge of the physical and social sciences upon which geography must draw, while the regional approach, which integrates the results of systematic study and focuses them upon a particular place or area on the surface of the globe, received its impetus from man's discovery and penetration of vast new regions and from his desire for a complete inventory of the resources at his command. In the course of the last century emphasis has shifted several times from one approach to the other, but the mutual dependence of these two interconnected points of view in geography has been emphasized by Alfred Hettner and many others In the study of geography two main branches can be distinguished—physical and human (or cultural) geography The first, based on the physical sciences, studies the world's surface, the distribution of land and sea, and the shape, position, and size of the continents in relation to the cosmic influences which affect the globe, CLIMATE, land form (geomorphology), and SOIL are examined as to origin and are classified as to distribution Drawing on the biological sciences, fauna and flora are brought into the areal pattern Human geography places man in his physical setting and studies his relations with that environment, as well as his conscious activities and continuous progress in adapting himself to it and in transforming it to his needs Human geography may in turn be subdivided into economic geography, political geography (with its 20th century offshoot—GEOPOLITICS), and social geography (anthropogeography, demography), which all overlap While geography is a composite science, deriving its working materials from other sciences, it uses the data in a different context, integrating them in a study of areal differentiation in the world Important contributions to the development of geographic concepts were made by Baron von Richthofen, Albrecht Penck, and Friedrich Ratzel in Germany; P M. J. Vidal de la Blache and Jean Brunhes in France; and William Morris Davis and Ellen Churchill Semple in the United States Geographic knowledge is today being spread by teachers and researchers in many of the nation's universities, by agencies of the Federal government, by authors of textbooks, compilers of gazetteers, and cartographers, by scientific expeditions, and by the work of such noted geographic institutes as the Royal Geographical Society (1830, England), the American Geographical Society (1852, United States), and the Société de Géographie (1821, France) For a historical and methodological survey, see R E. Dickinson and O J R Howarth, *The Making of Geography* (1933), Richard Hartshorne, *The Nature of Geography* (1940), J Oliver Thomson, *History of Ancient Geography* (1948) For descriptive geography, see articles on countries, continents, oceans, and other major physical features

Geok-Tepe (gŏk'-tyĭpyĕ', gūk'-tĕpā'), town (1948 pop over 2,000), Turkmen SSR, on the Trans-Caspian RR, near the Iranian border A Turkmen fortress, it was taken in 1881 by the Russians under M D Skobelev and A N. Kuropatkin after a 500-mile march from Tashkent. That new step in Russian expansion toward Iran provoked some hostility in Great Britain Important remains of an ancient civilization have been discovered in the region

Geological Survey, United States, bureau organized under the Dept of the Interior in 1879 to unify and centralize the work already undertaken by separate surveys under Clarence King, F V Hayden, George W Wheeler, and J W. Powell The functions of the bureau cover the exploration of the country to gather information as to geological structure, the preparation of geological maps and of topographical maps of all parts of the country, showing surface features, the examination of natural resources with a view to their development, studying problems of irrigation and water power, the classification of public lands, and the publication of papers, bulletins, and maps, based upon the surveys made The work is divided among four branches, geologic, topographic, water resources, and conservation

geology (jē-ŏl'ŭjē), the science of the EARTH considered with respect to its structure, composition, and history and to the processes which alter the arrangement of its parts Geology depends to a large extent upon the conclusions of chemistry, physics, mineralogy, biology, and astronomy It may for convenience be divided into several fields Petrology deals with the composition and nature of rocks, structural geology, with their arrangement and disposition, including their stratification, geomorphology, with the origin of land forms, physiography, with the distribution of rock structures into land forms, as MOUNTAIN, PLATEAU, PLAIN, and VALLEY, dynamic geology, with the forces involved in geological processes, as EROSION, the formation of folds and faults, the upbuilding of continents and mountains, metamorphism, the activities of volcanoes, and the generation of earthquakes, cosmology, with the early history of the earth and with the various hypotheses about the earth's origin, as the NEBULAR HYPOTHESIS and the PLANETESIMAL HYPOTHESIS Historical geology sets forth the record of the earth's development which geologists postulate from the structure and composition of rocks and from the positions and relationships of the fossil plants and animals found in them, the study of which is the special province of PALEONTOLOGY Historical geologists divide all time since the deposition of the earliest known rocks (approximately a billion and a half years) into five grand divisions—ARCHEOZOIC ERA, PROTEROZOIC ERA, PALEOZOIC ERA, MESOZOIC ERA, and CENOZOIC ERA Each of these is supposed to have marked a new stage in the development of life and to have been brought to a close by profound changes in the disposition of the earth's continents and mountains The geologic cycle, which runs through all historical geology, consists of a period of mountain and continent building, followed by one of erosion, followed in turn by a new period of elevation Economic geology is especially concerned with rocks and rock structures so far as they are useful to man Among the ancients, observations on phenomena of earth structure and processes are found in the writings of such men as Aristotle, Lucretius, Strabo, and Seneca This portion of the Aristotelian tradition was preserved in the early Middle Ages by Avicenna Geological speculation was later one of the interests of Leonardo da Vinci In the 17th cent , cosmogonists, chief among them Descartes and Leibnis, brought forward speculative views on the origin and history of the earth The modern science of geology really arose in the 18th cent , with the work of such men as BUFFON, Guettard, Desmarest, Pallas, and De SAUSSURE Abraham Gottlob WERNER, in spite of the many errors of his specific doctrines and the energy which he diverted from new discoveries into the fruitless controversy between Neptunians and Plutonians, performed a great service for the science by the force and vigor of his personality. In the hands of such men as BUCH, DOLOMIEU, FAUJAS DE SAINT-FOND, DE LA BECHE, SEDGWICK, MURCHISON, LAMARCK, CUVIER, William SMITH, and Sir James Hall, an increasingly experimental trend became evident. James HUTTON laid the

theoretical foundations for much of the modern science with his doctrine of UNIFORMISM, which was first popularised by John Playfair and which, in the 19th cent., replaced the opposing doctrine of CATASTROPHISM, largely through the work of Sir Charles LYELL. Geology in the 19th cent was influenced also by the work of Charles Darwin and enriched by the researches of Louis Agassiz, in the 20th cent valuable new hypotheses were advanced by T C CHAMBERLIN, Sir James JEANS, and Alfred WEGENER See V T Allen, *This Earth of Ours* (1939); E B Branson and W A Tarr, *Introduction to Geology* (2d ed , 1941), George Gamow, *Biography of the Earth* (1941), Charles Schuchert and C O Dunbar, *A Textbook of Geology* (2 parts, 4th ed , 1941), A C Seward, *Geology for Everyman* (1943), Arthur Holmes, *Principles of Physical Geology* (1944), O D von Engeln, *Geomorphology* (4th ed , 1947), H D Thompson, *Fundamentals of Earth Science* (1947), K K Landes, *Geology and Man* (1948), C R Longwell and others, *Physical Geology* (3d ed , 1948), F R Shepard, *Submarine Geology* (1948), C O Dunbar, *Historical Geology* (1949), C M Nevin, *Principles of Structural Geology* (4th ed , 1949), H H Read, *Geology* (1949)

Geometric style, in architecture see DECORATED STYLE

geometry, branch of mathematics which deals with the properties of space and the relations of figures within it Some of the more common geometries are plane, solid, spherical, analytical, descriptive, and differential Plane geometry is the study of figures which lie entirely in one plane, e g , lines, angles, plane triangles and other polygons, and circles Solid geometry deals with solid or three-dimensional figures, e g , cones, cubes, and spheres Spherical geometry is the study of figures drawn on the surface of a sphere These elementary geometries as taught in the high schools follow closely the elements of EUCLID and so are presented in terms of a system of axioms The more advanced geometries also have an axiomatic basis, but axioms are frequently less formally stressed than in the study of the elementary geometries In analytical geometry the geometric relations between various curves are studied by means of the algebraic relations between certain equations made to correspond to the curves by a coordinate system Any method of geometry based on a coordinate system is called an analytic method, whereas the Euclidean type of argument which makes the proof depend on the properties of the figures directly instead of on their algebraic counterparts is called synthetic Descriptive geometry, the study of the reproduction of solid figures upon a plane, is usually treated synthetically, it is important in architecture and engineering Differential geometry, the theory of those properties of figures describable in terms of calculus, must be studied analytically The development of geometry is a long and rich tale traceable from its beginnings in the Babyloian and Egyptian geometry of a few empirically determined statements about surveying problems, through the Greeks' organized axiomatic study of figures *per se* and the analytic method initiated by Descartes, to the modern geometries in which spaces other than that in which we live are studied Modern geometry includes the study of non-Euclidean spaces, Riemannian geometry, spaces of abstract elements, and topology See W C Graustein, *Differential Geometry* (1935), C H Sisam, *Analytic Geometry* (1936), W G Smith, *Practical Descriptive Geometry* (1936)

geomorphology (jē″ôrfŏ′lujē, jē″u-), study of the origin and evolution of the earth's topographic features It developed after 1890 as a result of William Morris Davis's concept of the geomorphic cycle, the theory that land forms pass through a series of well-organized stages in an inorganic evolution The term is often considered to be synonymous with the older term *physiography*, which, however, treats of a broader, less specialized subject

Geonim, Hebrew scholars see SCRIBE

geopolitics, science of applying geographical principles to world politics Its chief exponent was Karl HAUSHOFER, who was influenced by the theories of Sir Halford John Mackinder Haushofer was a close adviser to Hitler, thus the general principles of geopolitics were adapted to the requirements of German nationalism Haushofer distinguished between static nations, i e , those which had reached their optimum of population and expansion, and dynamic nations, i e , countries with a rapidly expanding population, needing more *Lebensraum* [living space], and therefore justifiedly aggressive. Dynamic nations are growing and living, static nations, declining and dying The "oceanic countries" (e g., the British Empire) must make room for the continental nations These are primarily the chief peoples of the great Eurasian land mass ("world island") and of the American continent Russia forms the "heart land" of the "world island," therefore its conquest was necessary for German plans of world hegemony A fascinating game of ideas, geopolitics has found a wide following throughout the world. Its practical application proved detrimental to Germany. See Andreas Dorpalen, *The World of General Haushofer* (1942), Robert Strausz-Hupé, *Geopolitics* (1942), Johannes Mattern, *Geopolitik Doctrine of National Self-Sufficiency and Empire* (1942), H W Weigert, *Generals and Geographers* (1942), H J Mackinder, *Democratic Ideals and Reality* (1942), J F Horrabin, *An Outline of Political Geography* (1942).

George, Saint, 4th cent ?, patron of England He was perhaps a soldier in the imperial army who died for the faith in Asia Minor Gibbon's identification of him with GEORGE OF CAPPADOCIA is false St. George is one of the great saints of the Eastern Church Anciently the patron of soldiers, he was adopted by England in the late Middle Ages and before the Reformation had almost replaced St Edward the Confessor In old plays and in art St George is the slayer of the dragon, *The Golden Legend* did much for the extension of the tale The Red Cross Knight of Spenser's *Faërie Queene* is St George and stands for the Church of England St George's Cross is red, and it appears in the Union Jack Feast April 23

George I (George Louis), 1660–1727, king of Great Britain and Ireland (1714–27) Great-grandson of James I, he was elector of Hanover and succeeded Queen Anne to be the first British sovereign of the house of HANOVER under the provisions of the Act of SETTLEMENT He was personally unpopular because of his German manners, because of his German mistresses, whom he made the countess of Darlington and the duchess of Kendal, because of the unhappy divorce of his wife, SOPHIA DOROTHEA, and because of his inability to speak English His indifference to English government left his power largely in the hands of his ministers and allowed the formation of the first real cabnet government Yet, despite the rising of the JACOBITES under the earl of Mar (1715) and the disastrous collapse of the SOUTH SEA COMPANY (1720–21), his crown was never in danger, for he stood to Englishmen as the guarantee of the "revolution settlement" against a return of the Stuarts Before 1721, his reign witnessed the consolidation of Whig power and the international guarantee in 1718 by the Quadruple Alliance (England, Holland, France, and the Empire) of the Hanoverian succession and the status quo of the Peace of Utrecht (1713) Rising to power in the South Sea Bubble crisis, Sir Robert WALPOLE dominated the end of the reign, beginning his long virtual prime ministership (1721–42) See Lewis Melville, *The First George in Hanover and England* (1908), Basil Williams, *The Whig Supremacy, 1714–60* (1939)

George II (George Augustus), 1683–1760, king of Great Britain and Ireland (1727–60), son and successor of George I Though devoted to Hanover, George was more active in the English government than his father had been CAROLINE OF ANSPACH, whom he married in 1705, exerted a subtle and good influence on him and furthered the ascendancy of the great Whig minister, Robert Walpole, whose power continued until 1742 The early part of the reign was peaceful and notably prosperous However, just as George had quarreled with his father over personal matters, so his son, FREDERICK LOUIS, proved even more opposed to the king In the War of the AUSTRIAN SUCCESSION (1741–48) George led his troops in person at the battle of Dettingen (1743)—the last time a British sovereign did so In 1745–46 the last rising of the Jacobites was suppressed England was expanding as a commercial and colonial power and clashed with France in India and in America as well as in Europe in the complex struggle known as the SEVEN YEARS WAR (1756–63) William Pitt (later earl of Chatham) united the Whigs behind his vigorous war policy in 1757 and before the death of the old king was able to show him that England would be victorious, in spite of the fact that George had for years hated and underestimated Pitt He was succeeded by George III See J D G Davies, *A King in Toils* (1938), Basil Williams, *The Whig Supremacy, 1714–60* (1939).

George III (George William Frederick), 1738–1820, king of Great Britain and Ireland (1760–1820), son of Frederick Louis, prince of Wales, and grandson of George II, whom he succeeded In 1761 he married Charlotte Sophia, princess of Mecklenburg-Strelitz Influenced in youth by his mother and by Viscount Bolingbroke's *Idea of a Patriot King*, he determined that he would rule as well as reign He ended the long ascendancy of the Whigs by securing the resignation of William Pitt (see CHATHAM, WILLIAM PITT, 1ST EARL OF) as prime minister (1761) Minister succeeded minister—Lord Bute, Lord Rockingham, Chatham, and the duke of Grafton—until in Lord North the king found one who would do his bidding During the '60s the Sugar Act (1764), the Stamp Act (1765), and other taxation devices were preparing trouble in America, while the case of John WILKES (1763–69) was linking George's name with tyranny at home India and Canada were won in the Seven Years War (1756–63) The long ministry of North (1770–82) produced a policy of coercion in America so offensive and a military effort so ill-directed (see GERMAIN, GEORGE SACKVILLE) that the colonies fought successfully for their independence (see AMERICAN REVOLUTION), demonstrating the incompetence of the king's personal government, which rested upon lavish dispensation of patronage. Brief ministries of Rockingham, Shelburne, Portland, and Fox and North were followed by the long one of William Pitt (1783–1801), which, although it represented no complete surrender of king to Parliament, marked the end of attempts by British sovereigns to control the ministry. Pitt infused new life into the Tory party partly because of the dangers of the war with France (see FRENCH REVOLUTION and NAPOLEON) and was able to improve trade, set up better governments in Canada and India, and unite Ireland with England When George refused assent to Catholic Emancipation, Pitt resigned. The king, who had had intermittent periods of insanity since 1780, in 1810 became permanently insane, and the prince of Wales (later George IV) was made regent The growth of UTILITARIANISM had a liberalizing influence during the regency The long reign of the stubborn, conscientious George III saw major developments in England —the Industrial Revolution and its attendant problems changed the appearance of the country and the balance of its economy In art, portraiture, landscape painting, and sculpture flourished (see ENGLISH ART), and in letters the romantic movement had its rise and extraordinary flowering. See editions of George III's correspondence by John Fortescue (6 vols , 1928, additions and corrections by L B Namier, 1937), by Bonamy Dobrée (1935), and by Romney Sedgwick (1939), biographies by J D G Davies (1936), C E Vulliamy (1937), D G Barnes (1939), G M Bonstead (1940), M S Guttmacher, *America's Last King an Interpretation of the Madness of George III* (1941)

George IV (George Augustus Frederick), 1762–1830, king of Great Britain and Ireland (1820–30), son and successor to George III In 1785 he married Maria Anne FITZHERBERT, a Roman Catholic To secure parliamentary settlement of his enormous debts, he allowed Charles James Fox (1787) to deny the marriage and in 1795 made a political marriage with Princess CAROLINE OF BRUNSWICK Within a year he had turned against her, and his persecution of Caroline, especially in 1820–21, added to his already great unpopularity. In constant and open opposition to his father, he had supported the Whigs since his first friendship with Fox in 1781 Often put in temporary control, due to George III's fits of insanity, he became regent in 1811 when the king became permanently incapacitated Now, and later as king, he took little part in affairs, while unsuccessfully playing politics in the matter of appointments Despite his early Whig connections, he ruled as regent and king through Tory ministers, and even opposed the liberal views of George Canning and Robert Peel concerning Catholic Emancipation and foreign policy As prince of Wales and regent he was the leader of a profligate society, and as king he was hated for his extravagance, dissolute habits, and meanness of character He was succeeded by William IV See his letters from the years 1812–30 (ed by Arthur Aspinall, 3 vols , 1938), biography by Roger Fulford (rev ed , 1949)

George V (George Frederick Ernest Albert), 1865–1936, king of Great Britain and Ireland (1910–36), second son of Edward VII, whom he succeeded At the age of 12 he commenced a naval career, during which he visited many parts of the empire He became heir apparent on the death (1892) of his elder brother, the duke of Clarence, and in 1893 married Victoria Mary, daughter of the duke of Teck After his coronation (1911) George V visited India, where he held a durbar at Delhi, and throughout his reign he maintained a lively interest in empire affairs He was particularly interested in the social welfare of England and while keeping to his constitutional position occasionally played a decisive personal part in political controversies In 1916, during the First World War, he abandoned all German titles and changed the name of the royal house from Saxe-Coburg-Gotha to Windsor. The 25th anniversary of his accession (May 6, 1935) was celebrated with impressive festivities On his death (Jan 20, 1936) he was succeeded by his eldest son, Edward VIII His second son, on the abdication of Edward, took the throne as George VI See biography by John Gore (official biography, 1941), Philip Gibbs, ed , *Life and Times of King George V* (1936)

George VI, 1895–, king of Great Britain (1936–), second son of George V, successor of his brother, EDWARD VIII He attended the royal naval colleges at Osborne and Dartmouth and in 1916 served in the battle of Jutland Later he was in the Royal Air Force He studied at Cambridge for a time after the war, was created duke of York in 1920, and married (1923) Lady Elizabeth Bowes-Lyon. Their first child, Princess ELIZABETH, was born in 1926 Their second daughter, Princess Margaret Rose, was born in 1930 Upon the abdication of Edward VIII, George became king on Dec 11, 1936. He and his consort, Elizabeth, were crowned in Westminster Abbey, May 12, 1937. They made a state visit to France

in July, 1938, and an unprecedented royal voyage to Canada and the United States in 1939 In the Second World War the king worked to keep up British morale by visiting bombed areas, inspecting war plants, and touring theaters of war action In 1947 the royal family made a state visit and tour of South Africa, and a similar scheduled tour of Australia and New Zealand, set for 1949, was postponed indefinitely because of the king's illness at the end of 1948

George V, 1819–78, last king of Hanover (1851–66), son and successor of Ernest Augustus He sided with Austria in the Austro-Prussian War (1866) The blind king lost his throne, and Hanover was annexed to Prussia

George I, 1845–1913, king of the Hellenes (1863–1913), second son of Christian IX of Denmark On the deposition (1862) of OTTO I, he was elected to succeed on the throne of Greece He introduced (1863) a democratic constitution, acquired (1881) Thessaly and part of Epirus from Turkey, and in 1896 declared war on Turkey in order to aid the insurrection in CRETE Though badly defeated (1897), Greece eventually annexed Crete in 1908 George saw Greece through the first of the BALKAN WARS but was assassinated before the outbreak of the second VENIZELOS was the outstanding political figure in George's reign George married Grand Duchess Olga, a niece of Alexander II of Russia He was succeeded by his son Constantine

George II, 1890–1947, king of the Hellenes (1922–23, 1935–47), eldest son and successor of King CONSTANTINE He married (1921) Elizabeth of Rumania, sister of Prince Carol of Rumania (later Carol II), who married George's sister Helen George's marriage was no more fortunate than his sister's, in 1935 Elizabeth divorced him for desertion Hostility to the dynasty was such that George was compelled to leave GREECE in 1923, a plebiscite shortly afterward established a republic George spent his exile in Rumania and later in London Restored to his throne in 1935, King George allowed his premier, METAXAS, to set up a dictatorship (1936) After the conquest of Greece by Germany and Italy in the Second World War, George fled (1941) his country He spent most of his second exile in London In 1942 he visited the United States When Greece was liberated (1944) the question of the king's return was a major issue in the Greek civil war that began in Dec , 1944 George returned only in 1946, after a plebiscite had decided in favor of the monarchy George II was never popular in Greece but it was hoped that his return would end the resistance of the Communist rebel army and prevent Greece from falling under Soviet influence Though strongly backed by Great Britain and the United States, King George's government and army failed to defeat the rebels, and civil war continued after George was succeeded by his brother Paul

George, David Lloyd see LLOYD GEORGE, DAVID

George, Henry, 1839–97, American economist, founder of the single-tax movement, b Philadelphia, of a poor but deeply religious family His formal education was cut short at 14, and in 1857 he emigrated to California, here he worked at various occupations before turning to newspaper writing in San Francisco George's experience in a number of trades, his desperate poverty while supporting a family, and the examples of financial rapacity that came to his attention as wage earner and newspaperman gave impetus to his reformist tendencies George saw that poverty accompanied and even surpassed the increase in national wealth He believed that the answer to this seeming paradox lay in the fact that the economic rent of land and the unearned increase in land values profited a few individuals rather than the community whose existence made the land valuable He believed that a single tax on land would meet all the costs of government and even leave a surplus, besides unburdening labor and capital of taxes on their output He first outlined the doctrine in the pamphlet *Our Land and Land Policy* (1871) and set himself to write a more elaborate treatise, which appeared under the title *Progress and Poverty* (1879), this sold millions of copies all over the world In 1880 George moved to New York and spent the remainder of his life writing and lecturing He supported the Irish Land League and various economic and political reforms In 1886 he ran for mayor of New York city on a reform platform, and the incumbent Tammany machine was forced to go outside its ranks to find in Abram S HEWITT a man strong enough to oppose him Hewitt won, but George without a party organization polled a heavy vote, running ahead of the Republican Theodore ROOSEVELT In 1897 George ran again but died just before the election Clear presentation and moral fervor rather than originality make George's ideas outstanding His theories have influenced tax legislation in Australia and in parts of Canada, in the United States, and in certain nations of Western Europe See biographies by Henry George, Jr (1900) and Anna George de Mille (ed by D C Shoemaker, 1950), G. R Geiger, *Philosophy of Henry George* (1933).

George, James Zachariah, 1826–97, American jurist and legislator, b Monroe co , Ga He moved to Mississippi in 1834 and, after serving in the Mexican War, was admitted to the bar George became a prominent lawyer and was long reporter and later (1879–81) chief justice of the state supreme court A signer of Mississippi's secession ordinance and a Confederate brigadier general in the Civil War, he was a leader in the struggle for "white supremacy" in Mississippi in the Reconstruction period George wrote the "grandfather clause," effectively ending Negro suffrage, in the Mississippi constitution of 1890, which he later defended on the floor of the U S Senate, where he served from 1881 until his death His unfinished *Political History of Slavery in the United States* (1915) contains a biographical sketch by W H Leavell

George, Stefan (shtā'fän gā'ôr'gu), 1868–1933, German poet, leader of the revolt against realism in German literature He was much influenced by Baudelaire, Mallarmé, and other French symbolists in the creation of his aesthetic doctrine George devoted himself to the ennobling of German culture, and his lyrics bear somewhat the imprint of the poet in an "ivory tower," but their fine classicism, their beautiful and melodious words, and the austerity of George's pure art raised him to the position of being a major poet He had a tremendous influence on younger poets, not only through his verse but through the literary organ of his circle, *Blätter für die Kunst*, founded in 1892 Perhaps the most notable of his disciples was Rainer Maria RILKE George was also a gifted translator and made versions of many French and English poets and of Dante He left Germany when the Nazis came to power, ignoring an invitation to join the Prussian Academy, but ironically was adopted as the national poet after his death His poems include *Hymnen* (1890), *Algabal* (1892), *Die Buchr der Hirten* [book of the shepherds] (1895), *Das Jahr der Seele* [the soul's year] (1897), *Der Teppich des Lebens* [tapestry of life] (1899), *Der siebente Ring* [the seventh ring] (1907), *Der Stern des Bundes* [the star of the covenant] (1914), and *Das neue Reich* [the new kingdom] (1928) For translations, see Martin Sommerfeld, *George, Hofmannsthal, Rilke* (1938), *Poems* (tr by C N Valhope and Ernst Morwitz, 1943)

George, William Reuben, 1866–1936, American philanthropist, b West Dryden, N Y A successful self-made businessman, he became interested in underprivileged problem children and in 1895 founded the GEORGE JUNIOR REPUBLIC

George, town (pop 1,107), extreme NW Iowa, near the Minn line, inc 1887

George, river of N Quebec It flows north almost parallel to the Labrador coast and empties into Ungava Bay on Hudson Strait It is 365 mi long, including Indian House Lake through which it flows

George, Fort, British Columbia see PRINCE GEORGE

George, Lake, 33 mi long and 1 to 3 mi wide, NE N Y , in the foothills of the Adirondacks and S of Lake Champlain, into which it drains through a short outlet The lake, with numerous small islands, is the center of a resort area Discovered by Isaac Jogues in 1646, it was named Lac du St Sacrament by him, but Sir William Johnson renamed it for the English king in 1755 Lake George Battleground Park, with the ruins of Fort George (1759), is at the south end of the lake, as are the ruins of Fort William Henry (1755) The area was a battleground in the French and Indian War and the Revolution

George Junior Republic, community at Freeville, N Y , founded 1895 by William Reuben GEORGE for neglected and maladjusted adolescents (16–21 years) The community is a miniature republic, with full self-government and administration for the members All must work on the farm or in the community's industries Schooling is provided Similar junior republics have been established in other states and countries See W R George, *The Junior Republic* (1910)

George of Cappadocia (kăpudō'shu), d 361, Arian churchman Constantius II made him patriarch of Alexandria instead of St ANTHANASIUS (357) His oppression of Catholics and pagans made him hated, and the mob soon drove him out In 361 he returned, but when Julian acceded he was thrown into prison and, later, lynched Gibbon's identification with St George was not serious, nor is he to be confused with George of Laodicea

George of Laodicea (lāŏ"dĭsē'u), d c 363, Arian churchman, made bishop of Laodicea (335) He was excommunicated at Sardica (343) He appeared later at various councils, always among the moderates Learned and good, he is not to be confused with George of Cappadocia

George of Podebrad (pō'dyĕbrat), 1420–71, king of Bohemia (1458–71) A Bohemian nobleman, he became the leader of the UTRAQUISTS (the moderate Hussites) He seized Prague (1448) during the minority of King LADISLAUS V, was elected "administrator" by the Bohemian diet, and continued to govern the country after the formal accession (1453) of Ladislaus His relations with Ladislaus were friendly In Ladislaus's reign, George ended the anarchy of the interregnum, restored the power of the courts, recovered alienated crownlands, and secured the recognition of the central government at Prague in the Bohemian dependencies, Moravia, Silesia, and Lusatia Ladislaus died in 1457 and George was elected king in 1458 Emperor FREDERICK III formally invested him with the kingdom in 1459 When in 1462 Pope PIUS II abolished the Compactata—the compromise by which the pope recognized the Utraquists as members of the Catholic Church—George promptly declared his loyalty to them, an immediate break with Rome was averted through the mediation of Frederick III In 1466, however, Pope PAUL II excommunicated George, declared him deposed, and enlisted the aid of the emperor and MATTHIAS CORVINUS, king of Hungary, against him Matthias won Moravia and most of Silesia and Lusatia, in 1469 the Catholic party in Bohemia proclaimed him king However, George, at the head of the Utraquists, expelled Matthias To strengthen his position he had signed a treaty with Casimir IV of Poland, naming Casimir's son as his successor As a result, Ladislaus II (later, as ULADISLAUS II, also king of Hungary) became king on George's death George of Podebrad unsuccessfully proposed a European alliance against the Turks Bohemia recovered peace and prosperity in his reign, which, however, was marked by the persecution of the Bohemian and Moravian Brethren

George of Trebizond (trĕ'bĭzŏnd), c 1396–1486, Greek scholar, who took part in the revival of learning in Italy, b Crete Settling in Venice, he taught Greek, philosophy, and rhetoric there and in Vicenza before going to Rome in 1442 He became known as a translator of Aristotle and enjoyed the favor of the popes Eugene IV and Nicholas V Under Paul II he was papal abbreviator He made translations of Plato and translated into Latin some Greek patristic writings

George Pepperdine College see LOS ANGELES, Calif

Georgetown, principal settlement on Ascension island, in the Atlantic Ocean

Georgetown, city (pop 73,541), capital and largest city of British GUIANA, a port at the mouth of the Demerara river Known as Stabroek when the Dutch controlled present British Guiana, the city was renamed Georgetown in 1812 after the British had occupied the colony in the Napoleonic Wars It has wide, tree-lined streets, many with lily-covered canals reminiscent of the Dutch period Below sea level at high tide, it is protected by a mole The monotony of a muggy climate is partially relieved by year-round ocean winds With but few exceptions, most of the buildings and residences are of wood The tropical botanic gardens are among the finest in the world and the markets operated by East Indians are curious transplantings of Asiatic culture By way of river traffic and short rail lines Georgetown receives the products which constitute its chief exports—sugar, rum, timber, gold, and bauxite

Georgetown, town (pop 2,562), S Ont , on the Credit river and W of Toronto It is a manufacturing and farming center

Georgetown. 1 Town (pop 1,820), co seat of Sussex co , S Del , inc 1869 Renowned among its historic buildings is the county courthouse Near by are the county jail, with a whipping post, and a state school for the feeble-minded **2** Part (since 1895) of WASHINGTON, D C , on the Potomac near the confluence of Rock Creek It was settled c 1665, laid out in 1751, and incorporated as a town in 1789 Georgetown, in 1790 a part of the land granted by Maryland to the Federal government for a national capital, was a patrician town, its many fine old houses still lend it charm, among them Bellevue and DUMBARTON OAKS GEORGETOWN UNIVERSITY is here **3** City (pop 3,235), E Ill , S of Danville, in a farm and coal area, laid out 1827, inc 1869 **4** City (pop 4,420), co seat of Scott co , N Ky , N of Lexington, settled 1776 as a pioneer station, inc 1790 It grew up around the Royal Spring, which still supplies the city's water Georgetown is a processing center in the bluegrass farm region It is the seat of Georgetown College and has many fine old houses **5** Town (pop 1,803), NE Mass , E of Lawrence, settled 1639, set off from Rowley 1838 **6** Village (pop 1,848), co seat of Brown co , SW Ohio, near the Ohio SE of Cincinnati, laid out 1819 It is a trade center for a farm and tobacco area, and shoes are manufactured The boyhood home of U S Grant and the school he attended are here, his birthplace, Point Pleasant, is west, and near it is Grant Memorial State Park, with a museum **7** City (pop 5,559), co seat of Georgetown co , E S C , at the head of Winyah Bay, c 15 mi from the ocean Here four rivers (the Pee Dee, Waccamaw, Black, and Sampit) enter the bay It is a port of entry, a resort, and a shipping center, with lumbering activities and paper mills Founded in the early 18th cent., it flourished for a time as a shipping point for rice, indigo, and naval stores to Great Britain and the West Indies The Church of Prince George (parish organized in 1721) dates from the 1740s **8** City (pop 3,682), co seat of Williamson co , central Texas, at the point N of Austin where two branches form the San Gabriel river, founded 1848, inc 1871.

It is the market for sheep and goat ranches to the west, processes some cotton from the south and east, and also processes dairy products and poultry The city has a settled, almost ancient air It is the seat of Southwestern Univ (Methodist, coeducational, 1873)

Georgetown University, in the Georgetown section of Washington, D C , Catholic (Jesuit), mainly for men, opened 1791 by Bishop Carroll (later archbishop), chartered 1815, the oldest U S Catholic college It has a college of arts and sciences and schools of dentistry, foreign service, law, and medicine. Woodstock (Md) College is affiliated There are institutes for brain and chemo-medical research and a seismograph

George Washington Birthplace National Monument see WAKEFIELD

George Washington Bridge, vehicular suspension bridge over the Hudson, between Manhattan, borough of New York city and Fort Lee, N J , constructed in 1927–31 It has a main span 3,500 ft long and 250 ft. above the water. Cass Gilbert was the consulting architect, and O H Ammann, chief engineer of the Port of New York Authority, was in general charge of the planning and construction

George Washington University, at Washington, D C , nonsectarian, coeducational, chartered 1821 as Columbian College, opened 1822, became a university 1873 It received its present name in 1904 Besides Columbian College and a junior college, it has schools of education, engineering, government, law, pharmacy, and medicine and an inter-American center

George William, 1597–1640, elector of Brandenburg (1619–40) Mild and irresolute, he failed to turn the strategic position of Brandenburg to advantage in the THIRTY YEARS WAR His possessions were devastated by both armies George William, after a long neutrality, was in 1631 forced into a Swedish alliance by his brother-in-law, Gustavus Adolphus, but after the Swedish defeat at Nordlingen (1634), he changed sides and, influenced by his minister, Adam von Schwarzenberg, allied himself with the emperor (Treaty of Prague, 1635). The Swedes ravaged N Brandenberg Discouraged by the invasions and misfortunes of his realm, George William retired to Konigsberg (1638), leaving the state to Schwarzenberg's management He was succeeded by his son, Frederick William

Georgia, USSR see GEORGIAN SOVIET SOCIALIST REPUBLIC

Georgia, state (58,876 sq mi , 1940 pop 3,123,723, 1949 estimated pop 3,196,000), SE United States, last founded (1733) of the Thirteen Colonies The most important cities are ATLANTA (the capital and the largest), SAVANNAH, AUGUSTA, MACON, COLUMBUS, ROME, ATHENS, and BRUNSWICK Georgia is bounded on the north by Tennessee and North Carolina, on the east by South Carolina and the Atlantic Ocean, on the south by Florida, and on the west by Alabama There are three main topographical divisions Extending inland from the coast, which is edged by the SEA ISLANDS, is the low coastal plain, covering the southern half of the state Mountainous N Georgia is comprised in the Appalachian plateau, the valley and ridge province (of the Appalachian Valley), and the Blue Ridge province Bridging these two sections and embracing about one third of the state, in middle Georgia, is the *piedmont* plateau Georgia is well drained by many rivers, chief of which are the SAVANNAH, forming the boundary with South Carolina, the OCMULGEE and the Oconee, which merge in the southeast to form the Altamaha, the CHATTAHOOCHEE, which forms part of the Alabama boundary and joins with the Flint in the extreme southwest corner of the state to form the Apalachicola, and the SAINT MARYS, rising in large OKEFENOKEE SWAMP, which forms part of the Georgia-Florida line Except for the mountain area, the climate is generally mild, long summers and short winters are the usual rule Primarily an agricultural state, Georgia produces cotton, corn, tobacco, hay, oats, sweet potatoes, peaches, pecans, watermelons, and pimento Stock raising (with meat packing), dairying, and the coastal fisheries are also important Since it is heavily wooded, principally in pine, the state derives much income from lumbering and the production of naval stores It also has valuable mineral deposits in clay (especially kaolin), granite, and marble Cotton textiles dominate its diversified manufactures The route of Hernando DE SOTO took him across Georgia, and the Spanish later established missions and garrisons on the Sea Islands Georgia was included in the grant Charles II made (1663) to the eight lords proprietors of Carolina Spain, which claimed the whole eastern half of the present United States, protested the grant and in 1670 (when Charleston, S C , was founded) brought the English to agree that actual possession would determine ownership The English-Spanish contest for the territory between Charleston and St Augustine continued intermittently for almost a century, and South Carolina's threatened position before the Spanish (the Indians and the French were also feared) was a prime reason for establishing Georgia—as a buffer colony. Georgia's chief founder, James E. OGLETHORPE, was also motivated by humanitarian interest in creating a refuge for imprisoned English debtors, although, actually, few of this class arrived In June, 1732, Oglethorpe and 19 associates, chief of whom was the earl of EGMONT, received a charter from George II (for whom the colony was named), constituting them as a board of trustees to manage the colony According to the charter, Georgia included all the land between the Savannah and Altamaha rivers from the Atlantic coast to the headwaters of these streams and thence to the "South Seas" Great care was taken in choosing the colonists, who, led by Oglethorpe, reached Charleston in Jan , 1733 On a bluff c 18 mi from the mouth of the Savannah river, Oglethorpe laid out the first town, Savannah, in Feb , 1733 After winning the friendship of the CREEK INDIANS he built forts along the rivers and on the islands An expedition against St Augustine (1740) failed, but on July 7, 1742, near Fort Frederica on St Simons Island, Oglethorpe defeated the Spanish in the battle of Bloody Marsh, thereby effectively ending their claim to the land N of the St Marys river The cosmopolitan population of the new colony included Englishmen, Welshmen, Scotch Highlanders, Germans (persecuted Salsburg Lutherans and Moravians), Piedmontese, and Swiss Jews, Catholics, and settlers from other American colonies were at first barred The two classes of immigrants—charity settlers, who were financed by the trustees, and adventurers, who paid their own way (and came to receive the best land grants)—were required to plant a specified number of mulberry trees, the trustees planned to have Georgia produce all the silk England needed, a scheme that shortly came to nothing Strong spirits and Negro slavery were prohibited These and other restrictions impeded growth and by the time Georgia became a royal colony in 1754, most of them had been abolished As a royal colony Georgia fitted perfectly into the British mercantilist system, exporting rice, indigo, skins, lumber, naval stores, beef, and pork to England and buying there the manufactured articles it needed Its citizens were slower to resent those acts of the crown which exasperated the other colonies, but news of the battle of Lexington aroused the patriots, who seized the government at Savannah in July, 1775 Tory and patriot sentiment were about equally divided, with the older colonists generally loyal to England, while the younger ones, born in Georgia, were usually found on the Revolutionary side Exposed to Floridians on the south and Indians on the west, both loyal to the king, the patriots, strongest in the upcountry, fared badly After retaking Savannah in 1778, the British held virtually every important place in Georgia until the end of the war Although Georgia was the first Southern state to ratify (1788) the Constitution, it early took a strong states' rights stand In *Chisholm* vs *Georgia* (1793), the U S Supreme Court held that an individual could sue a state, a decision equally obnoxious to Georgia and to other states, it was later nullified by the Eleventh Amendment Further difficulties with the Federal government stemmed from the related problems of Indian removal and land speculation (see YAZOO LAND CLAIMS) In 1802 Georgia assumed its present boundaries when it ceded its western lands (later organized as the states of Mississippi and Alabama) to the United States in return for $1,250,000 and a pledge that the Indians would be removed The Creeks yielded their lands in 1825, but the CHEROKEE INDIANS set themselves up as an independent nation in 1827. John Marshall's decision in *Worcester* vs *Georgia* (1832) held that the state had no jurisdiction over the Cherokee, but President Jackson declined to support the Chief Justice, and in 1838 John ROSS was forced to lead his people west The invention, in 1793, of the cotton gin by Eli WHITNEY had stimulated the desire for large landholdings, and internal improvements, especially canals and railroads, facilitated Georgia's expansion to its western border Although committed to slavery, Georgia in antebellum days had the outstanding pro-Union leaders of the South in Alexander H STEPHENS, Robert TOOMBS, and Howell COBB But successive defeats on the national scene, culminating in the election of Lincoln, increased separatist sentiments, and on Jan 19, 1861, Georgia seceded and later joined the Confederacy. The coast was soon blockaded by the Union navy, and in April, 1862, Fort Pulaski (see PULASKI, FORT), which had been seized by the state in Jan , 1861, was recaptured by the Federals The wartime administration of Gov Joseph E BROWN, ardent protector of Georgia's interests, was a thorn in the side of Jefferson Davis and the Confederacy Georgia became a major battlefield in the Civil War when, in 1864, Gen W T SHERMAN launched his successful ATLANTA CAMPAIGN. Sherman's subsequent march through Georgia, from Atlanta to the sea, resulting in the fall (Dec., 1864) of Savannah, was a triumph of destruction, never forgotten by Georgians With wise leadership and few carpetbaggers, Georgia made a rapid political recovery in RECONSTRUCTION days, being definitely readmitted to the Union in 1870 after it approved the Fifteenth Amendment (the Thirteenth and Fourteenth amendments had been ratified earlier). However, it took the state some time to recover from the financial skulduggery of Gov. Rufus B. Bullock's administration (1868–71), which had existed with the support of Federal troops A more serious effect of the war was the dislocation of agriculture, formerly almost entirely dependent on the Negro, resulting in the breakup of the large plantations and the rise of farm tenancy. Offsetting this was the rise of a new industrial era, whose prophet was Henry W GRADY, characterized by the remarkable growth of Atlanta, which succeeded Milledgeville as capital in 1868 The trend away from the one-crop system became marked at the turn of the century with the introduction of peach cultivation, and agricultural diversification was practiced more widely with the coming of the boll weevil after the First World War Although Georgia's agricultural resources were partially depleted by soil erosion, the state weathered the depression, which brought about a movement back to the land, better than most Georgia's recent political history has been turbulent In 1941 the board of regents of the state university system, handpicked by Gov Eugene TALMADGE, discharged three educators alleged to have advocated racial equality in the schools This act caused national and Southern educational associations to remove state institutions temporarily from their accredited lists and led to Talmadge's defeat by Ellis G ARNALL in the 1942 Democratic primary Youth played an influential role in Arnall's victory, and in 1943 Georgia became the first state to grant the vote to 18-year-olds A new constitution, replacing an older one of 1877, was adopted in Aug , 1945 It confirmed earlier reforms, notably those concerning the penal system, which had won nation-wide notoriety in the 1930s In 1946 thousands of Negroes, for the first time, voted (on the strength of a U S Supreme Court decision) in the Democratic primary By the county-unit system in primary elections peculiar to Georgia (held constitutional by the Supreme Court in April, 1950), Talmadge won the gubernatorial nomination, although he was second in the popular vote After his formal election as governor in Nov , 1946, Talmadge died The new constitution provided no method of selecting a governor on the death of a governor-elect Arnall recognized M E Thompson, the lieutenant governor-elect as his rightful successor, but the legislature proclaimed Herman Talmadge, son of Eugene, governor, on the basis of his having received the most write-in votes in the election In March, 1947, the state supreme court declared for Thompson, and he held office until Nov , 1948, when Herman Talmadge, victor in a special primary, was inaugurated Leading schools in the university system of Georgia, which includes all state-supported institutions of higher learning, are the Univ of Georgia, at Athens, Georgia Institute of Technology, at Atlanta, Georgia State College for Women, at Milledgeville, Georgia Teachers College, at Collegeboro, Georgia State Womans College, at Valdosta, Albany State College, at Albany, Fort Valley State College, at Fort Valley, and Georgia State College, at Savannah There is a municipally supported university system for Negroes in the capital (see ATLANTA) Among the outstanding private and denominational colleges are Emory Univ , Clark College, and Morris Brown College, all at Atlanta, Paine College, at Augusta, Agnes Scott College, at Decatur, Bessie Tift College, at Forsyth, Brenau College, at Gainesville, La Grange College, at La Grange, Mercer Univ and Wesleyan College, both at Macon, and Shorter College, at Rome See H E Bolton and Mary Ross, *The Debatable Land* (1925), J T Lanning, *The Spanish Missions of Georgia* (1935), Federal Writers' Project, *Georgia: a Guide to Its Towns and Countryside* (1940), Hal Steed, *Georgia, Unfinished State* (1942), E Merton Coulter, *Georgia a Short History* (1947), E K Ware, *A Constitutional History of Georgia* (1947)

Georgia, town (pop 1,008), NW Vt , S of St Albans, chartered 1763 The town hall was built as a church in 1800

Georgia, Strait of, channel, c 150 mi long, between the mainland of British Columbia and Vancouver Island, connecting Puget Sound with Queen Charlotte Sound It forms part of the famous inland steamship passage to Alaska

Georgia, University of, at Athens, land-grant and state supported, for men and women It had the first state university charter (1785), its first college (Franklin) opened in 1801 (see BALDWIN, ABRAHAM, and HALL, LYMAN) It includes colleges of agriculture, arts and sciences (Franklin), and education; schools of commerce, forestry, home economics, journalism, law (Lumpkin), pharmacy, and veterinary medicine, and a university press See E M Coulter, *College Life in the Old South* (1928)

Georgia Institute of Technology, at Atlanta; state supported, for men; chartered 1885, opened 1888. It has university courses in architecture, chemistry, engineering, and industrial management.

Georgiana, town (pop. 1,627), S central Ala., SSW of Montgomery, in a cotton, truck, and lumber area; settled 1824, inc. 1869.

Georgian Bay, large northeastern extension of Lake Huron, S Ont., separated from Lake Huron by the long Manitoulin Island and by the Saugeen Peninsula. It is c.120 mi. long and c 50 mi wide Rivers draining the lake areas of S Ontario flow into it, they include the French river, which, with North Channel, the northern connection of Georgian Bay with Lake Huron, forms part of the old voyageur's trading route from Montreal to the northwest Georgian Bay is connected with Lake Ontario by the Severn river and Trent Canal Many of the well-timbered, rock-bound islands of Georgian Bay are summer resorts The **Georgian Bay Islands National Park** (3,458 acres, est 1929) includes 30 of the islands

Georgian Military Road, highway, 133 mi long, USSR, across the Greater Caucasus, linking Tiflis (Georgian SSR) with DZAUDZHIKAU (RSFSR) Built in the early 19th cent, it follows an ancient route used for centuries by merchants and invaders It passes through the DARYAL gorge, skirts Mt Kazbek, and crosses the Caucasian crest at an altitude of 7,815 ft In the 19th cent, during the struggle between the Russians and the Caucasian mountaineers, the road was protected by military outposts

Georgian Soviet Socialist Republic or **Georgia,** Georgian *Sakartvelo* (säkärt'vĕlô), Rus *Gruziya* (grōō'zēē), constituent republic (c 29,400 sq mi, 1946 estimated pop 3,600,000), USSR, in W Transcaucasia TIFLIS is the capital The republic borders on the Black Sea in the west, on Turkey and the Armenian SSR in the south, on the Azerbaijan SSR in the east, and on the RSFSR in the north. Georgia includes the ABKHAZ ASSR, the ADZHAR ASSR, and the South Ossetian Autonomous Oblast (see OSSETIA). It extends, roughly, from the crest of the Greater CAUCASUS southward across the valleys of the KURA and RION rivers to the Lesser Caucasus Its climate and vegetation varies from the humid subtropical Black Sea lowland of MINGRELIA to the high mountainous crest and to the dry Kura steppes in the east Fruit, tea, tobacco, mulberry trees (for silk), and vineyards (particularly in KAKHETIA) are cultivated in the warmer districts The IMERETIA region is rich in manganese, mined particularly at Chiatura Manganese, petroleum products, tobacco, citrus fruit, wine, and tea are the chief exports, they are shipped from the ports of Batum, Poti, and Sukhum A coastal rail line, the GEORGIAN MILITARY ROAD, and the OSSETIAN MILITARY ROAD connect Georgia with the rest of the USSR About two thirds of the population are Georgians speaking a South Caucasian language Among the minorities are Armenians, Azerbaijani Turks, Ossetians, Russians, Adzhars, Abkhaz, and Greeks The Georgian Church is one of the oldest Orthodox Eastern foundations, and there has been a standard Georgian literary language flourishing with a Christian literature since the 3d cent Known to the ancients as COLCHIS (in the west) and IBERIA (in the east), Georgia developed as a kingdom about the 4th cent B C MTSKHET was its earliest capital The Persian Sassanidae, who ruled the country from the 3d cent, A D, were expelled c 400, and in the 6th cent began the rule of a branch of the Armenian Bagratid dynasty, which continued, with interruptions, until the beginning of the 19th cent Georgia has varied greatly in size in the course of its history and was frequently overrun by invaders Alp Arslan held it in the 11th cent, but King David II again expelled the Seljuks, and in the 12th and 13th cent Georgia under Queen Thamar reached its greatest expansion and cultural flowering. From that period dates the national poem, *The Knight in the Tiger Skin*, by Rustaveli Ravaged (14th cent) by the Mongols, Georgia revived only to be sacked again by Tamerlane (c 1400) In the 15th cent the Mongols withdrew, but Georgia was divided by King Alexander I into three kingdoms (Imeritia, Kakhetia, and Kartlilia or Georgia proper) among his sons Hard pressed by the Afghans, the Persians, and the Turks, Georgia accepted (18th cent) vassalage to Russia in exchange for assistance The last king, George XIII, abdicated (1801) in favor of the tsar Abkhasia, Mingrelia, and Kakhetia were acquired by Russia from Turkey between 1803 and 1829 Briefly independent after the Russian Revolution of 1917, Georgia became a soviet republic in 1921 and joined the USSR in 1922 as a member of the Transcaucasian Soviet Federated Socialist Republic In 1936 it became a separate union republic Its territory was increased later (1944) by the addition of parts of the former Karachai and Chechen-Ingush autonomous oblasts

Georgian style, mode in English architecture and the allied arts of the reigns (1714–1820) of George I, George II, and George III All the English works of the 18th cent, or so-called late Renaissance, show remarkably consistent characteristics. The Georgian style, based upon the principles of Andrea PALLADIO introduced into England by Inigo Jones and Sir Christopher Wren, resolved these into a distinctive national style. Publications aiding the new fashion included Palladio's drawings in an edition of the *Antiquities of Rome*, *The Architecture of Andrea Palladio* (revised by Giacomo Leoni, 1742), and *Ruins of the Palace of Diocletian in Dalmatia* (1764) by Robert Adam. Canons controlling the proportioning of the ORDERS OF ARCHITECTURE and based upon the teachings of Palladio and other Italians were formulated anew by Sir William CHAMBERS in his *Treatise on the Decorative Part of Civil Architecture* (1759), with the result that the earlier naïveté of proportions and detail vanished before the new classic correctness In all buildings symmetry was the first consideration and was attained even at the sacrifice of comfort and convenience A vast increase in population and the birth of industrialism brought an increasing demand for formal mansions for the aristocracy and for dwelling houses for the middle classes A purely English type of dwelling, somewhat standardized as to plan and materials, was produced for the needs of town and country The use of brick had become common under William of Orange (William III), as an element of Dutch influence, and was popularized by Sir Christopher Wren The brick house, with courses and cornices of white stone and trimmings of white painted woodwork, became particularly typical of Georgian façades Houses were of two general types, the simple block plan and the central block with flanking wings, as in Kedleston Hall, Derbyshire, designed by James Paine and executed by the Adam brothers The inclusion of corridors was an innovation of the period and added to the privacy and convenience of the interiors The prevailing desire for elegance was reflected in even modest residences, while the appropriate furniture, created by great cabinetmakers such as Chippendale, Hepplewhite, and Sheraton, was augmented by the porcelains, rugs, and wallpapers of the Orient New types of public, commercial, civic, and governmental architecture arose, examples of which are St James's Club, by Robert Adam, the Old Admiralty, Whitehall, by Thomas Ripley, the treasury and Horse Guards buildings, by William Kent, Somerset House, by Sir William Chambers, the Bank of England, by Sir John Soane, and monumental street groupings such as those by John Wood and his son at Bath and by the Adam brothers at London Among notable churches are St Martin's-in-the-Fields and St Mary-le-Strand, both by James Gibbs, other important architects of the style were Nicholas Hawksmoor, George Dance, the elder, James Gandon, Sir John Vanbrugh, and Henry Holland American buildings and arts of the period, which closely resemble their English prototypes, are usually designated as Colonial

Georgia State College for Women see MILLEDGEVILLE

Georgia State Womans College see VALDOSTA

Georgiaville, R I see SMITHFIELD

Georgiyevsk (gĕôr'gĕlfsk), city (pop 22,597), S Stavropol Territory, RSFSR, in the northern foothills of the Greater Caucasus, an agricultural center It was founded (1777) as a Russian fortress Here in 1783 was signed the agreement by which Georgia became a vassal of Russia

Gepidae see GERMANS

Gera (gā'–), Benjamite Gen 46.21, 1 Chron 8 3

Gera (gā'rä), city (pop 89,212), Thuringia, E central Germany, on the White Elster river and SSW of Leipzig It is an important textile center First mentioned in the 10th cent, Gera was chartered in 1224 It was largely destroyed by fire in 1780 Until 1918 Gera was the capital of the principality of REUSS (younger line) Among the notable buildings are the 16th-century city hall and the Osterstein Palace, built (1686–1735) on the site of an earlier fortress

Geraldton, town (pop 2,979), central Ont, NE of Fort William, in a lumbering and mining area

Gérando, Joseph Marie de (zhôzĕf' marē' də shärädô'), 1772–1842, French philosopher and statesman Joining the insurrectionary forces against the revolutionary government in Lyons, he was condemned to death (1793), but escaped abroad Under the empire he held several administrative offices in France, Italy, and Spain He was a member of the Academy of Moral and Political Sciences from 1832 and was made a peer in 1837 He did much for the education of the laboring classes and of deaf-mutes His philosophical writings are partly based on the system of Condillac

geranium, popular name for much-cultivated house and bedding plants of the genus *Pelargonium*, chiefly South African One of the most popular is the hybrid Lady Washington Many geraniums are cultivated for their scented leaves (e g, lemon and rose), some of these yield an oil used in perfume Rose geranium leaves are added to jellies to give a delicate flavor The related true genus *Geranium* is widely distributed, the several species native to America are usually called wild geranium or crane's-bill These have pink to purple flowers and long-beaked fruits The common wild geranium or spotted crane's-bill (*Geranium maculatum*) has astringent roots that have been used medicinally

Gerar (gē'rär), unidentified place, SW Palestine, near Gaza Here lived Abraham and Isaac, and hither Asa pursued the Ethiopians Gen 10 19, 20.1, 26.1,6,17,20,26, 2 Chron. 14.13,14.

Gérard, Étienne Maurice (ātyĕn' mōrĕs' zhärär'), 1773–1852, marshal of France He served with distinction in the French Revolutionary and Napoleonic Wars and was created count by Napoleon In the Waterloo campaign he served with gallantry at Ligny After an exile he returned to France in 1817, became a deputy of the opposition, helped in the Revolution of 1830, was twice minister of war in the July Monarchy, was made a marshal (1831), and led the French expedition to BELGIUM, taking Antwerp in 1832

Gérard, François Pascal Simon, Baron (frāswä' paskal' sēmō' härō' zhärär'), 1770–1837, French portrait and historical painter, b Rome In Paris, after brief study under Pajou and others, he became a favorite pupil of David, who influenced such works as the *Psyche Receiving the Kiss of Cupid* and the *Daphnis and Chloë*, both in the Louvre As a leading portraitist, he was patronized by the court during the empire and the Bourbon restoration Louis XVIII appointed him court painter in 1814 Examples of his historical paintings are in the Versailles Museum Characteristic of his art is a studied elegance and meticulous finish best exemplified in such portraits as those of the Countess Regnault de Saint-Jean-d'Angély (1798, Louvre) and Mme Récamier (1802, Petit Palais)

Gerard, James Watson (jürärd'), 1867–, U S ambassador to Germany (1913–17), b Geneseo, N Y, grad Columbia, 1890, and New York Law School, 1892 He practiced law in New York city and served (1908–13) as associate justice of the New York supreme court As ambassador to Germany, he handled many delicate negotiations, including those concerning the German submarine campaigns in the First World War He was recalled two months before the United States declared war His impressions of the period are found in *My Four Years in Germany* (1917) and *Face to Face with Kaiserism* (1918)

Gérard, Jean Ignace Isidore (zhä' ēnyäs' ēzēdôr' zhärär'), 1803–47, French caricaturist, illustrator, and lithographer, also known as Grandville His spirited caricatures of social and political life are noted He contributed to many periodicals and published numerous collections of his drawings and lithographs, such as *Les Métamorphoses du jour*, *Les Tribulations de la petite propriété*, *Le Convoi de la liberté*, and *La Basse-Cour* He illustrated Hugo's *Life of Napoleon* and La Fontaine's *Fables*

Gerard, John (jĕ'rärd, jürärd'), 1545–1612, English botanist and barber-surgeon He compiled a catalogue (1596) of the plants in his garden, the first of its kind to be published He is best known for his *Herball* (1597), largely an adaptation of other works to which he added folklore and some original observations

Gérardmer (zhärärmā'), town (pop 3,368) Vosges dept, E France Formerly a popular resort in the Vosges mts, it was almost completely destroyed in the Second World War

Gerardo dalle Notti see HONTHORST, GERARD VAN

Gerard of Cremona (jürärd', krĭmō'nu), 1114?–1187, Italian scholar He lived most of his life at Toledo, where he had access to the great Arabic scientific works Gerard translated the *Almagest* and Avicenna into Latin and by so doing introduced them to Western Europe

Gerard van Haarlem see GEERTGEN VAN HAARLEM

Gerasa (jĕ'rüsu), **Gerash,** or **Jerash** (both jĕ'räsh, jurash'), ancient city of the Decapolis, SW of Damascus, in present Jordan It has been sometimes identified with the biblical RAMOTH-GILEAD According to Josephus it was captured (83 B C) by Alexander Jannaeus and rebuilt (A D 65) by the Romans Though twice destroyed thereafter, it was a flourishing city in the 2d and 3d cent Under the Greeks it was devoted to the worship of Artemis The site of Gerasa, which is not the biblical country of the Gerasenes, is covered with interesting Roman ruins, including a long colonnaded street with more than a hundred columns still standing, a great theater and a smaller one, and many temples A colony of Circassians lives among the ruins

Gerasenes (gĕr'ùsēnz) see GADARA.

Gerash, ancient city see GERASA

Géraud, André (ädrā' zhärō'), pseud **Pertinax,** 1882–, French journalist, grad Univ of Bordeaux He was London correspondent for the *Echo de Paris* from 1908 to 1914 and its foreign editor from 1917, when he first used his pseudonym He left in 1938 to become editor of *Europe nouvelle* His articles on foreign policy, advocating a French-British alliance against German aggression, attracted wide attention and appeared in many English and American papers He took refuge (1940–45) in the United States, where he continued to write on European politics Among his works are *Le Partage de Rome* (1929) and *Les Fossoyeurs* (1943, Eng tr, *The Gravediggers*, 1944)

Gerbert see SYLVESTER II

Gergesenes (gûr'gùsēnz) see GADARA

Gerhard, William Wood (gär'härd), 1809–72, American physician, b Philadelphia, grad Dickinson College (B A., 1826), M D Univ of Pennsylvania, 1830. In Paris he studied and worked with P. C. A

Louis In 1837 he wrote a paper in which he clearly distinguished between typhoid and typhus fever From 1838 he taught at the medical school of the Univ of Pennsylvania He was a specialist in diseases of the chest and author of *Lectures on the Diagnosis, Pathology, and Treatment of the Diseases of the Chest* (1842)

Gerhardt, Charles Frédéric (shärl frädārēk' zhārar'), 1816–56, French chemist, b Strasbourg He revived the theory of acid radicals, which he called the theory of residues, and did valuable research in organic chemistry, especially on the anhydrides of organic acids He contributed to the development of the atomic-weight theory

Gerhardt, Elena (ālā'na gĕr'härt), 1883–, German mezzo-soprano She made her debut in 1903, appeared briefly in opera, and then devoted herself to concert and oratorio, achieving distinction as an interpreter of German lieder Her American debut was in 1912

Gerhardt, Paul, 1607–76, German hymn writer and clergyman Some of his hymns, among the greatest in the German language, are much used in English translations See also HYMN

Gerhart, Emanuel Vogel (gär'hart), 1817–1904, American minister of the German Reformed Church and educator, b Freeburg, Pa, grad Marshall College 1838, and studied theology Gerhart was president of Heidelberg College (1851–55), of Franklin and Marshall College (1855–66), and of the theological seminary first at Mercersburg and then at Lancaster, Pa (1868–1904)

Géricault, Jean Louis André Théodore (zhä' lwē' ändrā' tāōdōr' zhārēkō'), 1791–1824, French painter He studied with Antoine Vernet and with Pierre Guérin, in whose studio he met Delacroix In 1812 he exhibited his *Cavalry Officer on Horseback* (Louvre) and in 1814 the *Wounded Cuirassier* From 1817 to 1819 he studied in Rome On his return to Paris he exhibited his famous *Raft of the Medusa* (Louvre), a large painting of a group of shipwrecked men at sea The extraordinarily free conception and realistic handling of this theme awoke a storm of protest from the followers of the classical school and ushered in romanticism in French painting In 1820 Géricault exhibited the picture in London and won general acclaim His three years' stay in England was productive of a number of fine paintings of horses, including *The Village Forge, Horse Fed by a Child,* and the famous *Epsom Derby* (Louvre) He also modeled a few small figures and made excellent lithographs A fall from a horse in England resulted in Géricault's death in Paris His active life as an artist lasted little over 10 years, but it sufficed to place him among the best painters of his century His enlivening influence on French painting was immediate and lasting

Gering (gĕr'ĭng), city (pop 3,104), co seat of Scotts Bluff co, W Nebr, on the North Platte opposite SCOTTSBLUFF, founded 1887, inc 1890 A railroad division point, it is the industrial and trade center of an irrigated region producing sugar beets, alfalfa, and livestock and has a beet-sugar factory Scotts Bluff National Monument is near by

Gérin-Lajoie, Antoine (ätwän' zhārē'-läzhwä'), 1824–82, French Canadian author and journalist, b Yamachiche, Que He composed his best-known poem, the song *Un Canadien errant,* while still in school After editing (1845–52) the *Minerve* he entered the employment of the government and spent his later life as assistant librarian of Parliament His most popular works, the two novels *Jean Rivard le défricheur* (1874) and *Jean Rivard l'économiste* (1876), idealize the simple life of the French Canadian habitants He also wrote *Dix Ans au Canada, de 1840 à 1850,* a history of the government during that crucial decade

Gerizim (gĕ'rĭsĭm, gĕrī'–), mountain, central Palestine In Arabic it is called Jebel et-Tor Nablus, the ancient Shechem, lies in the valley between Gerizim and Mt Ebal Gerizim was considered by the Samaritans as the only place proper for worshiping God An ancient reading, Gerizim, is used in Deut 27 4, instead of Ebal The Maccabean leader, John Hyrcanus, destroyed the 300-year-old Samaritan temple here c 130 B C Joshua 8 33, Judges 9 7, John 4 20,21 The peak is in territory claimed by Jordan

Gerlachovka, Czechoslovakia see TATRA

Gerlsdorfer Spitze, Czechoslovakia see TATRA

germ, term commonly applied to any minute organism that causes disease Included among germs are the pathogenic forms of bacteria, protozoa, molds, viruses, and rickettsia (very minute forms having some characteristics of bacteria) The germ theory of disease (i e, the theory that disease is caused by the introduction of germs into another living organism) was finally accepted largely as a result of the experiments of Pasteur which were lent strength by Lister's use of antiseptic methods in reducing infection For methods of combating germs, see ANTISEPTIC, DISINFECTANT, GERMICIDE The expression *germ plasm* is often used in biology to indicate the living material that is passed on from one generation to another in the sex cells, as opposed to somatoplasm, all the living matter other than the germ plasm of the organism. The word *germ* is sometimes used also for a seed or a portion of a seed

Germain, George Sackville, 1st **Viscount Sackville** (jôrj'mun, –mān), 1716–85, British soldier and statesman He was known as Lord George Sackville until 1770, when under the terms of a will he took the name Germain Sackville's early military career, in the War of the Austrian Succession and the Seven Years War, ended in courtmartial and dismissal (1760) for insubordination to Ferdinand of Brunswick at the battle of Minden (1759) A member of Parliament intermittently from 1741, he attached himself to Lord North and was his secretary of state for the colonies (1775–82) With the earl of Sandwich, incompetent first lord of the admiralty, he must share much blame for the British reverses in America He and John Burgoyne were the chief authors of a triple plan (see SARATOGA CAMPAIGN) to end the American Revolution However, his vague orders to Sir William Howe to join Burgoyne possibly lost Burgoyne the campaign of 1777, while the confusion in the plans of Cornwallis and Sir Henry Clinton, arising from Germain's ignorance of American geography and American temperament, contributed largely to the disaster at Yorktown He was created viscount in 1782

Germain, Sophie (sôfē' zhĕrmē'), 1776–1831, French mathematician Although self-taught, she mastered mathematics and corresponded with J L Lagrange and K F Gauss She is known especially for her study of the vibrations of elastic lamellae

German, Sir Edward, 1862–1936, English composer, whose name was originally Edward German Jones He is best known for his incidental music to Shakspere's *Richard III* (1889), *Henry VIII* (1892), and *As You Like It* (1896) and for his light operas *Merrie England* (1902) and *Tom Jones* (1907) He was knighted in 1928

German architecture took an individual character with the Christianization of the Germanic people and the beginning of monastery building ROMANESQUE ARCHITECTURE persisted for a long time until the GOTHIC ARCHITECTURE of France penetrated to Germany It was supplanted in the 16th cent by RENAISSANCE ARCHITECTURE, which in turn developed into BAROQUE The ROCOCO of the 18th cent was popular in Germany, the 19th cent brought a uniquely German style, the BIEDERMEIER In the 20th cent Germany took the lead in MODERN ARCHITECTURE, chiefly through the efforts of Walter Gropius's BAUHAUS school

German art. The earliest extant examples of German art, in the form of ivory book covers, stem from Carolingian times Around the year 1000 German art became more extensive, this early style is Romanesque To this period belong miniature book decorations, massive bronze works such as doors and crucifixes in various cathedrals, and some painted windows The beginning of the 13th cent brought the less massive shapes and decorative linear design which developed into pure Gothic Germany's comparative isolation from the rest of the continent, lasting until the end of the 15th cent, resulted in sculpture and painting which were among the finest in the Gothic style and easily distinguished from French Gothic The cathedrals of Cologne, Strasbourg, Bamberg, and Nuremberg were built during this time In painting, altarpieces became the foremost projects, while glass painting was still popular and sculpture concentrated on religious objects In the 15th cent crafts also received much attention and schools of goldsmiths and silversmiths, wood carvers, potters, and stoneware makers began to spring up About 1400 the so-called late Gothic emerged, with softer, more rounded figures The workshop of Hans Multscher at Ulm for the first time gives us the name of an artist, with Stephan Lochner he was much influenced by the Flemish work of the brothers Van Eyck Martin Schongauer, painting at the same time, developed a more individual style, characterized by delicate and curving lines Hans Holbein, the elder, and Michael Pacher also enriched the 15th cent with their work But by far the outstanding artist of the century was Albrecht Durer, who paved the way from Gothic into the next, more Italianate period He devoted himself not only to painting but also to drawing and to woodcuts, which he gave a new popularity lasting until c 1520, when they were superseded by copperplate, at which Durer also excelled Having studied in Venice, he is chiefly responsible for bringing the Renaissance to Germany, where the Italian style was adapted to the national spirit Painting in the 16th cent was at its height in Germany and led the other arts Hans Holbein, the younger, Mathias Grünewald, Albrecht Altdorfer, Lucas Cranach, the younger, and Hans Baldung were leading painters of that age The end of the century saw a change to baroque from the pure Renaissance style and with it a revival of sculpture, bronzes being especially fine Ceiling decoration also became popular The rococo style began (c 1730) with the Tischbein family and Angelika Kauffmann, its chief exponents in painting In this time, too, the small Dresden china figures and groups became very popular, with the workshops at Meissen producing exquisite miniature statuettes The monumental statues of J G Schadow, such as the one of Frederick the Great, were regarded as the model for a century of subsequent German plastic art A R Mengs marked the transition to a romantic classicism modeled on the art of Rome, and J F Overbeck, Schadow-Godenhaus, Peter von Cornelius, and Schnorr von Carolsfeld banded together to form a group of Nazarenes active at Rome Active entirely in Germany were Alfred Rethel, leader of a school of historical painting He and A F E von Menzel both worked in woodcut as well and were responsible for the 19th-century revival of that medium The BIEDERMEIER period brought to the fore such genre painters as the Austrian Moritz von Schwind and Karl Spitzweg A new wave of romanticism in the late 19th cent emerged, having been foreshadowed earlier in the century by the softly illuminated landscapes of C D Friedrich Anselm von Feuerbach, Arnold Boecklin, and Hans von Marées were influenced by Italian painting Such painters as Hans Thoma combined a realism of technique with a romanticism of subject matter In the early 20th cent the Secessionists, led by Max Liebermann, brought new realism to painting, often taking for its subject matter the daily life of poor and simple people Impressionism made some inroads on German art, but was quickly replaced by still more modern techniques The Blaue Reiter (Blue Riders) group of abstractionists, whose colors were highly emotional, was composed of Franz Marc, Lyonel Feininger, who was Germany's foremost cubist, Paul Klee, and Vasily Kandinsky, who originated purely abstract art This group furthered expressionism, a term coined by them to mean the expression of purely subjective emotions Several of these same artists also taught at the BAUHAUS, led by Walter Gropius, assisted by Moholy-Nagy This establishment became the chief breeding place of functionalism and encouraged experimentation and abstraction with the ideal of combining artistic beauty with usefulness Its preoccupation with industrial arts as well as with such comparatively new forms as photography and moving pictures had far-reaching effects The Hitler regime, however, discouraged any but academic art, and Germany in the 1930s ceased for the time being to be of artistic significance See Harold Picton, *Early German Art and Its Origins* (1939)

German Baptist Brethren see DUNKARDS

German Catholics, religious sect founded in 1844 by dissidents from the Roman Catholic Church It was led by excommunicated priests, Johannes Czerski of Schneidemuhl, Posen, and Johannes Ronge of Breslau Their congregations, "Christian Apostolic Catholics," gained adherence for their mild rejection of Catholic practices A council was held at Berlin in 1847 Again in 1859 there was an accretion (from the "Free Congregations") The group then became the "Religious Society of Free Congregations" Few congregations now exist

German Confederation, 1815–66 The Congress of Vienna provided for a confederation consisting of 38 sovereign powers These originally were the German states (including the free cities), the emperor of Austria, the king of Denmark (in his capacity as duke of Holstein and Lauenburg), the king of England (in his capacity as king of Hanover), and the king of the Netherlands (for the duchy of Luxemboung) By 1866 the number of members was reduced to 33 The act of confederation provided for the introduction of a constitution in every member state, but this proposal was not generally carried out before 1848 The central diet met at Frankfurt under the presidency of Austria Unanimity was required for all its decisions, and the delegates' votes were bound to instructions from their respective governments The diet thus was virtually powerless The strong reactionary influence of METTERNICH dominated the confederation until 1848, when the liberal revolutions that swept Germany resulted in the creation of the FRANKFURT PARLIAMENT The diet, interrupted for a time, was resumed in 1850 By the convention agreed upon at OLMÜTZ Austrian leadership was restored, but the AUSTRO-PRUSSIAN WAR led to the dissolution of the confederation and the establishment of the NORTH GERMAN CONFEDERATION under Prussian leadership

German East Africa, former German colony, area c 370,000 sq mi, E Africa After the First World War it was divided into three parts Kionga (c 400 sq mi) was annexed to Mozambique, and the League of Nations granted a mandate over TANGANYIKA to Great Britain and a mandate over RUANDA-URUNDI to Belgium In 1946 the mandates were constituted trust territories of the United Nations under the administration of the former mandatory powers

Germanic languages, subfamily of Indo-European of which English and German, the standard language of Germany, are members. See LANGUAGE (table)

Germanic laws. The customary laws of the GERMANS before their contact with the Romans is unknown to us except through casual references of ancient authors and inferences from the codes com-

piled after the tribes had invaded the Roman Empire These codes (called *leges barbarorum*) dating from the 5th to the 9th cent , are usually divided into four groups, the Gothic (Visigothic, Burgundian, and Ostrogothic), the Frankish (Salic, Ripuarian, Chamavian, and Thuringian), the Saxon (Saxon, Anglo-Saxon, and Frisian), and the Bavarian (Alemannic and Bavarian) The Langobardic or Lombard laws are sometimes classed with the Saxon The Roman population under Germanic rule continued to live under Roman law, for law was regarded as personal, not territorial Their law was codified in the Gothic and Burgundian kingdoms and was applied to Roman subjects and the Church (the *leges Romanae* or *leges Romanorum*) Another type of legislation distinct from these was the Frankish capitulary (see CAPITULARIES) The *leges barbarorum* were sometimes called *pactus* (e g , *Pactus Alamannorum*), because people and ruler cooperated in their enactment. It is now generally agreed that the laws were substantially Germanic, though the form in which they were cast was a more or less crude imitation of Roman codes Roman influence was generally strong, since German customs had been thrown into a new pattern by Roman contacts when these compilations were drawn up, all except the Anglo-Saxon are in Latin, though interspersed with Germanic legal terms For the most part, the *leges barbarorum* deal with penal law and legal procedure, some of the older ones are merely lists of compositions to be paid for specific personal injuries (see WERGILD) Private and public law are scantily treated Much material can, however, be found concerning landholding (one of these provisions became the basis for the Salic law of succession) and the personal relationships that governed public law Many of the codes are important Oldest is the *Codex Euricianus* by King Euric, the personal law of the Visigoths, a related code was adopted in 506 under ALARIC II, the *Lex Romana Visigothorum* or *Breviary of Alaric*, for the Roman subjects Both were later superseded (c 654) by the *Lex Visigothorum* or *Liber iudicorum* compiled under CHINDASWINTH and RECESWINTH, this for the first time applied to Goths and Romans alike In the 13th cent it was translated into Spanish as the *Fuero juzgo* The *Lex Gundobada* (*Lex Gombette*) was adopted (c 501) for Burgundians and for cases involving both Burgundians and Romans, while the *Lex Romana Burgundsorum* (c 506), also from the reign of Gundobad, applied only to the Romans in the Burgundian kingdom Because of a mistake in copying, it has come to be known as *Papianus* or Papian law, it was gradually replaced by the *Breviary of Alaric* The most accomplished Germanic code was the *Edictum Rotharis*, promulgated in 643 Together with the Italian legislation of the Holy Roman emperors (the *Capitulare Langobardicum*), it became the basis for a renaissance of jurisprudence in Italy and maintained itself till the revival of Justinian's CORPUS JURIS CIVILIS in the 13th cent Its influence reaches to the threshold of modern times As to the Franks and more northerly Germans, their codes were less elaborate and they had none for Romans Most ancient and also most important was the law of the Salian Franks, *Lex Salica*, first compiled (c 508–11) under CLOVIS I, which exerted great influence, for it was the fundamental law of the Merovingian and Carolingian rulers and later of the Holy Roman emperors The *Lex Saxonum* and the *Lex Anglorum et Verinorum* probably owe their compilation to the initiative of Charlemagne, the *Lex Ripuaria* of the Ripuarian Franks, the *Lex Baiuvariorum*, and *Lex Alamannorum* are distinguished by inclusions of public law Our knowledge of the early German laws is much hampered by the faultiness of manuscripts, many are known only in fragments The standard studies of the codes were made in German by Heinrich Brunner and Richard Schroder

Germanic religion. Tacitus' *Germania* and *Beowulf* are our best sources on Germanic religion It was polytheistic, somewhat like GREEK RELIGION, in having, apparently, Olympian gods and chthonian (underworld) gods reasonably distinct Its three or four principal gods were WODEN (Odin), Tiw (Tyr), FREY AND FREYJA, and an earth-goddess Sacrifices, oracles, and fertility rites were probably commonly practiced The festivals of the year were probably seasonal, in spring and autumn The mythology was not extensively developed, although story-telling was greatly cultivated From the later works, such as the NIBELUNGENLIED, many mythical ideas can be gained, e g , that sun worship and phallic worship were important The ideas of death were, it seems, somewhat similar to those of the Greeks in having a special place for heroes After Christianity had been adopted in Iceland, the oldest direct material on Germanic myth was set down, in the *Elder* and *Younger Eddas* (see EDDA) There is no doubt that the highly developed cosmogony and eschatology of Icelandic literature were primarily the interest of poets and that they were heavily influenced by Christian ideas, this is especially true of such mythological features as RAGNAROK, BIFROST, YGGDRASILL, the NORNS, VALHALLA, FENRIS, and HEIMDALL. Other features making Norse mythology different from that of the other German peoples are the isolation of the Old Norse and the longer development of the system Late modifications of old, originally Germanic ideas are probably THOR (strength), FRIGG, BALDER (light), LOKI (fire as evil), the Aesir (Olympian gods), and the VALKYRIES (probably originally something like elemental death spirits) Norse mythology has been very popular in later literature

Germanicus, A D 41?–A D 55 see BRITANNICUS

Germanicus Caesar (jurmā'nĭkŭs), 15 B C –A D 19, Roman general, son of Drusus Senior and nephew of the Emperor TIBERIUS His wife was AGRIPPINA I He fought in Pannonia and Dalmatia and received a triumph He subsequently received command in Germany The widespread mutiny of A D 14 was largely put down by Germanicus' efforts He took advantage of an opportunity to attack ARMINIUS, but was not at first successful In A D 16 he attacked the Germans again and defeated them signally at the Weser Tiberius recalled Germanicus and put Germanicus' brother Drusus in his stead Sent to the East, Germanicus accomplished little, except for the pacification of Asia Minor, because of the enmity of Cn Calpurnius Piso After a visit to Egypt, Germanicus died suddenly, supposedly of poison administered by Piso at Tiberius' request One of Germanicus' brothers was Emperor CLAUDIUS I AGRIPPINA II and Emperor CALIGULA were his children

germanium (jurmā'nēŭm), rare metallic element, gray, brittle (symbol=Ge, for physical constants, see ELEMENT, table) It was described with striking accuracy by MENDELEJEFF according to his periodic table, and called by him ekasilicon, before its discovery by Clemens Winkler in 1886 It resembles tin and lead It occurs in a few minerals, e g , argyrodite (in combination with silver and sulphur), zinc blend (zinc and sulphur), and tantalite (iron, manganese, and columbium) It forms compounds with oxygen (oxides), chlorine (chlorides), and fluorine (a fluoride) and with carbon and hydrogen (an ethide)

German language, a Germanic language See LANGUAGE (table)

German literature includes not only the literature of Germany but a considerable portion of Swiss literature and virtually all Austrian writings The earliest known written work in German literature is a 4th-century translation of the Bible into Gothic Other writings of the period up to c 1050 are generally religious or epic in character and are written in Latin or in Old High German, they include the *Lay of Hildebrand*, the works of Otfried (c 870), the *Waltharilied* (c 925), and the later *Anegenge* (1080) The succeeding period of Middle High German (11th–14th cent) is characterized by chivalric writings, such as *Orendel* and translations of the *Song of Roland* and the *Alexanderlied*, by the epics of Hartmann von Aue, by Gottfried von Strassburg's *Tristan*, and by the works of Wolfram von Eschenbach A little later came the works of the Austrian Walther von der Vogelweide, Neidhart, Konrad von Würzburg, and Wernher der Gartenaere and the popularization of the NIBELUNGENLIED and the *Wolfdietrich* saga After Hugo von Trimberg and the Swiss Ulrich Boner a period of decadence began as chivalry yielded to the city as influence An outstanding figure of this time is the satirist Sebastian Brant A German Bible appeared (1468) and the folk epic *Reynard the Fox* (*Reinke de Vos* or *Reinecke Fuchs*) In the 16th cent a revival of classicism, due in part to the activities of the Dutchman Erasmus, competed with the effects of the Reformation, the latter having slightly more weight in the literature of the period, which includes the works of Ulrich von Hutten, Luther (whose translation of the Bible, 1522–34, became the model of German prose for later writers), the Swiss Zwingli, Hans Sachs, and Fischart At this time also appeared the Faust legend and the folk epic *Till Eulenspiegel* With the 17th cent there was a decline, the result in great part of the Thirty Years War The few leading figures of the time were Rollenhagen, Angelus Silesius, Grimmelshausen, Hofmannswaldau, and Opitz the metrical reformer The great age of German literature opened in the 18th cent with Gellert, the Swiss critic Bodmer, and Gottsched, who paved the way for Klopstock's *Messias*, the works of Kleist, and the critical writings of Lessing To this period roughly belong the works of the Swiss Gessner The period known as *Sturm und Drang* embraced the works of Herder, Wieland, Goethe (greatest figure in German literature), Schiller, and Burger Romanticism appeared with the Schlegels, Arnim, Brentano, Chamisso, Holderlin, Schleiermacher, Tieck, Richter, E T A Hoffmann, Heine, Werner, Immermann, and Grillparzer It was at this time that the revolutionary groups, such as Young Germany, appeared Hebbel, Otto Ludwig, and Richard Wagner exerted a profound influence upon the drama, the lyrics of Lenau and Ruckert were published Somewhat apart from these main streams of German writing are the works of the Swiss Zschokke and Gotthelf. The last third of the 19th cent was admittedly less brilliant, although fine works were written by Freytag, Fontane, Storm, Raabe, and Rosegger, and the Swiss Gottfried Keller produced one of the great novels of the age Another Swiss, C F Meyer, was distinguished as poet and short-story writer Foremost figures in verse were also the philosopher Nietzsche and the poets Liliencron and Dehmel Holz's unceasing championing of naturalism prepared the critics for Hauptmann and Sudermann, whose activities carry over into the 20th cent In this century have flourished such authors as Stefan George, Hofmannsthal, the Swiss Spitteler, Rilke, Unruh, Thomas and Heinrich Mann, Wedekind, Werfel, Toller, Kaiser, Bahr, Schnitzler, Frenssen, Thiess, Wassermann, Feuchtwanger, and Arnold and Stefan Zweig and such expressionists as Sorge, Klabund, Kaiser, and Brecht Younger writers include experimenters such as Doblin, Anna Seghers and Kafka Preoccupation with the First World War yielded gradually to a more tranquil outlook until the coming of Nazism made residence at home intolerable or unsafe for the great majority of important German authors and dispersed them among other lands, many have continued their activities in the United States Much of modern German writing has been translated and has attracted considerable attention in this country See histories of German literature by Kuno Francke (latest ed), J G Robertson (1931), Wilhelm Scherer (Eng tr , 1906), and Calvin Thomas (1928), E K Bennett, *A History of the German Novelli* (1934), Jethro Bithell, *Modern German Literature* (1939), Norman MacLeod, *German Lyric Poetry* (1940), William Rose, *Men, Myths, and Movements in German Literature* (1931), Oskar Walzel, *German Romanticism* (Eng tr , 1932), Bayard Q Morgan, *A Critical Bibliography of German Literature in English Translation* (1938)

German measles see MEASLES

German New Guinea see NEW GUINEA, TERRITORY OF

German Ocean see NORTH SEA

German Order see TEUTONIC KNIGHTS

German Reformed Church see EVANGELICAL AND REFORMED CHURCH

Germans, great ethnic complex of Europe, a basic stock in the composition of the peoples of Sweden, Norway, Denmark, Iceland, Germany, Austria, Switzerland, N Italy, the Netherlands, Belgium, Luxembourg, N and central France, Lowland Scotland, and England Their appearance in history necessarily coincides with their contact with the Romans Little is known from history of the Germans before Christ, except in regard to the defeat of some of them by Marius c 100 B C From archaeology it is clear that their rise as a determining factor in the history of Europe came about the beginning of the Christian era with the general breakup of Celtic culture in central Europe The northern part of Germany and the shores of the Baltic were the homes of the Germans before their great expansion southward, southeastward, and westward The prime sources for the culture and distribution of the Germans are Tacitus' *Germania* and *Agricola* Caesar's *Commentaries*, remnants of old Germanic institutions in later ages, and archaeological remains Caesar noticed that there were people along the Rhine who were not Celtic, but apart from their greater barbarity and warlikeness, when compared with the Gauls, his *Commentaries* tell little As the centuries of the Christian era passed, the Germans became increasingly troublesome to the Roman Empire The VANDALS in the east and OSTROGOTHS in the east were the first to attack the empire seriously The Ostrogoths were a part of the Gothic people, often called the East Germanic whose language (Gothic) was the first Germanic language to be set down in writing The Goths apparently moved SE from the Vistula to the Balkans, thence W across Europe The Germans probably retained a certain ethnic solidarity until the 2d or 3d cent , but later they broke into many peoples Chief among these were the ALEMANNI, the ANGLO SAXONS, the Burgundii (see BURGUNDY), the LOMBARDS, the SAXONS, and the VISIGOTHS The Scandinavians, a large group, included the Icelanders, who produced the first Germanic literature (see OLD NORSE LITERATURE) Many other tribes appeared at various periods of ancient and medieval history The Chamavi were in the 1st cent N of the Rhine and SE of the Zuider Zee, later they seem to have moved southward and joined with the Frankish people The Cimbri may not have been Germans, if they were, they were the first Germanic people to enter Italy They entered Transalpine Gaul late in the 2d cent B C and fought with Roman armies in several places, c 103 B C they began a migration to Italy with some Helvetii and Teutons and were crushed by MARIUS (101 B C) on the Raudian Fields, N Italy The Eruli or Heruli, perhaps originally dwelling in Jutland, were allied to the Goths and assisted ODOACER in the final defeat of the Roman emperor by the Germans (476) The Gepidae were a Gothic people who moved southward from the Baltic at the Vistula into the Hungarian plain W of the Danube There they were overwhelmed by ATTILA, but sur-

vived, only to be defeated by THEODORIC (489) and by the Lombards and Avars (566) They disappeared thereafter. The Marcomanni lived N of the Danube in Germany in the 1st and 2d cent , forming a constant threat to the Roman border, Marcus Aurelius defeated them in the Marcomannic War They moved into the country of the Celtic Boii and probably expanded later into Bavaria, where they seem to be the same as the Baiuoarii or Boiarii, ancestors of the Bavarians The Suebi or Suevi are mentioned by Tacitus as a central German people, but their identity is not clear, the Alemanni may have been the same or, more likely, nearly related to them. They gave their name to SWABIA. The Teutons may have been Celtic, they defeated the Cimbri in 103 B C and were crushed by Marius at Aquae Sextiae By an extension of their name the Germanic peoples are sometimes called Teutonic See LANGUAGE, GERMANIC LAW, GERMANIC RELIGION; GERMANY

German silver, alloy of copper, zinc, and nickel discovered by E A GEITNER It is silver white, for this property originally receiving its name, but today the use of the term *silver* is prohibited for alloys not containing that element In composition German silver varies, the percentage of the three elements ranging approximately as follows copper, from 50 to 61 6 percent, zinc, from 19 to 17 2 percent, nickel, from 30 to 21 1 percent, the proportion is always specified in commercial alloys It is extensively used because of its hardness, toughness, and resistance to corrosion for making articles such as tableware (which is commonly silver plated), tea and coffee pots, and jugs Because of its high electrical resistance it is used also in heating coils

German Southwest Africa see SOUTH-WEST AFRICA

Germantown, 1 Village (pop 2,095), SW Ohio, SW of Dayton, in a productive tobacco area, laid out 1814 2 Residential section of Philadelphia, Pa , on Wissahickon Creek, settled by Germans c 1683, laid out 1684, inc 1689 It grew slowly until just before the Revolution and was one of the earliest American centers of printing and publishing. In 1854 it was annexed to the city of Philadelphia The Howe House and several other colonial houses, inns, and churches are standing When the British occupied Philadelphia after the battle of Brandywine, the greater part of the army encamped at Germantown Washington decided to attack the camp and on Oct 4, 1777, advanced, Gen John Sullivan commanding the right wing and Gen Nathanael Greene the left The attack was well planned, but failed chiefly because an unexpected skirmish delayed Greene and a fog confused the troops Losses were heavy on both sides It was the last important engagement conducted by Washington before he went to VALLEY FORGE for the winter

Germanus of Auxerre, Saint (jûrmā'nŭs, ôsĕr'), d 448, Gaulish churchman, bishop of Auxerre (after c 418). St Patrick was under his tutelage for a dozen years. Popes Celestine and Leo sent him to England (430, 447) to combat Pelagianism, on the first occasion he was accompanied by the deacon Palladius, first recorded missionary to Ireland On this trip, also, Germanus led the Britons in the defeat, traditionally near Mold, Wales, of an Irish and Pictish marauding party As it was Easter, the war cry was Alleluia, and the battle is called the Alleluia Victory Germanus was popular in Celtic Britain. Feast July 31

German Volga Republic, former autonomous Soviet Socialist republic, RSFSR, on the lower Volga It was constituted in 1923 Its largely German population was descended from colonists who settled here in the reign of Catherine II In 1941, as a consequence of the German invasion of Russia, the republic was dissolved and the German population deported to Siberia

Germany, Ger. *Deutschland* (doich'lant) or *Deutsches Reich* (doi'chŭs rīkh') [German commonwealth or empire], largest country of Central Europe It borders on the Baltic Sea, Denmark, and the North Sea in the north, the Netherlands, Belgium, Luxembourg, and France in the west, Switzerland, Austria, and Czechoslovakia in the south, and Poland in the east. Because of the failure of the Allies of the Second World War to reach agreement concerning a peace treaty with Germany, Germany (as of April, 1950) has no settled boundaries, no unified government, no well-defined status among the family of nations, and no permanent internal organization. It has been under military occupation since 1945. Under the Weimar constitution adopted in 1919 and suspended in 1933, Germany was a federal republic comprising 17 states. Berlin was the federal capital The boundaries of the Weimar Republic were those fixed by the Versailles Treaty of 1919 (see VERSAILLES, TREATY OF) According to the 1933 census—the last census taken before the boundary changes that began with the annexation (1938) of Austria—Germany had an area of 180,935 sq mi and a population of 62,411,190 (For the division of Germany into military occupation zones in 1945, for its administrative reorganization, and for its split into Western Germany and Eastern Germany, see end of article) The 17 states of the Weimar Republic were PRUSSIA, BAVARIA, SAXONY, WÜRTTEMBERG, BADEN, THURINGIA, HESSE, Mecklenburg-Schwerin (see MECKLENBURG), OLDENBURG, BRUNSWICK, ANHALT, LIPPE, Mecklenburg-Strelitz, SCHAUMBURG-LIPPE, and the free cities of HAMBURG, BREMEN, and LÜBECK. With the exception of Prussia, which included the relatively recently acquired provinces of Hanover, Prussian Saxony, Schleswig-Holstein, and Hesse-Nassau, these states represented, roughly, the main historic divisions of Germany. The state boundaries, however, only rarely corresponded to natural geographic and economic divisions S Germany, which includes Bavaria, Württemberg, Baden, S Hesse, and the Rhenish Palatinate, extends roughly from the RHINE in the west to the BOHEMIAN FOREST in the east, and from the Rhine, the Lake of Constance, and the Bavarian Alps in the south to the central German highlands in the north It is drained by the Danube, the Neckar, and the Main Rising to the Zugspitze (9,721 ft) in the Bavarian Alps, it consists of plateaus and of forested mountains, e g., the BLACK FOREST and the highlands of SWABIA) Though largely agricultural, S Germany contains many important industrial and commercial cities, notably MUNICH, AUGSBURG, NUREMBERG, STUTTGART, MANNHEIM, KARLSRUHE, FRANKFURT, MAINZ, and DARMSTADT. The Rhine and Neckar valleys are famous for their wines The western frontier of Germany follows the Rhine in the south, but swings W of the Rhine near Karlsruhe, the area of Germany W of the Rhine constitutes the Rhenish PALATINATE and the RHINELAND, a part of former Prussia, with the cities of COLOGNE, AACHEN, DÜSSELDORF, BONN, TRIER, and COBLENZ (at the confluence of the Rhine and the MOSELLE) The southern section of the Rhineland, which contains the Eifel and Hunsrück mts , is largely agricultural and has famous vineyards The north is heavily industrialized and is economically connected with the RUHR basin, one of the great industrial agglomerations of the world, which extends E of the Rhine from Dusseldorf, in WESTPHALIA The states and provinces of N Germany—Westphalia, HANOVER, Oldenburg, Bremen, Hamburg, SCHLESWIG-HOLSTEIN, Mecklenburg, BRANDENBURG, and POMERANIA—form the central part of the North European Plain Drained by the WESER, the ELBE, and the ODER rivers, they are, despite their generally poor soil, largely agricultural Potatoes and beets are typical crops Cattle raising is important in parts of the region Berlin is the greatest industrial center of all Germany and its chief inland port, Bremen and Hamburg are the main North Sea ports, Kiel is the main Baltic port Fishing is an important occupation along the entire northern coast. Former EAST PRUSSIA and Upper and Lower SILESIA, with an important industrial district, were detached from Germany in 1945 and placed under Polish administration (except N East Prussia, awarded to the USSR) The central section of Germany comprises SAXONY, with the great industrial centers of LEIPZIG, DRESDEN, and CHEMNITZ, former Prussian Saxony, with MAGDEBURG and HALLE, S Hanover, with GÖTTINGEN, the state and the city of BRUNSWICK, Anhalt, with DESSAU, Hesse-Nassau, with KASSEL, and Thuringia, with WEIMAR, ERFURT, and JENA There are several mountain formations, notably the HARZ, the Thuringian Forest, and the ERZGEBIRGE, which forms the Czechoslovak border The Rhineland, S Germany, and the mountains of central Germany constitute the most beautiful sections of the country and attract many tourists Although the German industries are concentrated in relatively small areas, they employ nearly half the total population Germany possesses many mineral resources, but only coal in sufficient quantity, and thus depends on the import of raw materials and the export of finished products (machinery, optical and precision instruments, chemicals, electric apparatus, textiles, and food products). Food imports are necessary to supplement domestic crops As of 1933 the majority (c.64 percent) of Germans were Lutheran Protestants, the rest being mostly Roman Catholics. Catholicism is strongest in Bavaria, the Rhineland, and Silesia. The educational level of Germany is very high, among its many universities those at Berlin, Göttingen, Bonn, Heidelberg, and Halle are world famous

Germany before 1871. Various phases of the early, medieval, and early modern history of Germany are covered in the articles GERMANS; GERMANIC LAWS, GERMANIC RELIGION; HOLY ROMAN EMPIRE, PRUSSIA, GERMAN CONFEDERATION, NORTH GERMAN CONFEDERATION The following survey is intended as a very general outline. The Romans conquered (1st cent B.C.-1st cent A D) the regions W of the Rhine and S of the Danube and penetrated (12 B.C.-9 B C) as far E as the Elbe. However, after the German victory in the TEUTOBURG FOREST (A.D. 9) Rome kept only the provinces of Lower and Upper Germany (roughly, the present Low Countries, Lorraine, and Alsace) and parts of S Germany, included in Rhaetia prov. From the late 1st cent. to the 3d cent the Romans also held the *Agri Decumates*, including Baden and Swabia, protected against Germanic inroads by a fortified line (Latin *limes*). In the period of the great migrations (4th-5th cent.) the German tribes (who did not all come from present Germany) overran and destroyed the Roman Empire, while Slavic tribes occupied Germany E of the Elbe The ANGLO-SAXONS had established themselves in Britain by the 6th cent , the FRANKS had taken over nearly all of present France, W and S Germany, and Thuringia CLOVIS, who first united the Franks late in the 5th cent., accepted Christianity, and St. BONIFACE in the 8th cent spread the gospel in the areas acquired by Clovis's successors In 751 Pepin the Short deposed the dynasty of the MEROVINGIANS and established his own, that of the CAROLINGIANS His son CHARLEMAGNE conquered the SAXONS and extended the Frankish domain in Germany to the Elbe He was crowned emperor at Rome in 800 In the first division (843) of Charlemagne's empire (see VERDUN, TREATY OF) the kingdom of the Eastern Franks, under LOUIS THE GERMAN, emerged as the nucleus of the German state It was increased at the Treaty of MERSEN (870) by the addition of part of LOTHARINGIA, but was soon divided among Louis's sons CARLOMAN, LOUIS THE YOUNGER, and CHARLES III (Charles the Fat) Emperor ARNULF reunited the kingdom, but during his reign and that of his son, LOUIS THE CHILD, last of the Carolingian kings of Germany, the Norsemen, Slavs, and Magyars began their devastating inroads while the growth of FEUDALISM weakened the royal power The dukes of Franconia, Swabia, Bavaria, Saxony, and Upper and Lower Lorraine emerged as the most powerful magnates of Germany. They elected the Franconian duke CONRAD I as king on the death (911) of Louis the Child Conrad's reign was spent in struggles against the Magyars and against the rebellious dukes, one of whom (Henry the Fowler of Saxony) succeeded him as HENRY I Henry restored some of the royal authority, took territory from the Slavs, and secured the election of his son, OTTO I, as his successor. Henry's chief accomplishment was, perhaps, his creation of walled towns, out of which grew many of the chief German cities The Holy Roman Empire came into existence with the imperial coronation (962) of Otto I (A list of Otto's successors until 1806 is appended to the article HOLY ROMAN EMPIRE) As a result of their difficult double role as emperors and German kings, Otto's successors allowed the German dukes and their vassals to increase their power at the expense of the central authority, which was further undermined by the struggle between emperors and popes Emperor FREDERICK I, one of the most energetic German medieval rulers, broke the power of HENRY THE LION of Saxony and Bavaria By partitioning (1180) Henry's domains he destroyed the last great German duchy Until the dissolution of the Holy Roman Empire, Germany remained a patchwork of innumerable petty temporal and ecclesiastic principalities and free cities The campaigns of the 12th and 13th cent against the Slavs (see WENDS) brought about a tremendous eastward expansion The margraviate of BRANDENBURG and the domain of the TEUTONIC KNIGHTS, from which the Prussian state was to emerge centuries later, thus came into existence The turbulent reign (1212-50) of Emperor FREDERICK II left Germany in a state of anarchy Several rival kings appeared, but none held wide authority, and the lawlessness of the robber barons prevailed The dark period of the Great Interregnum ended with the election (1273) of RUDOLF I, count of Hapsburg (see HAPSBURG), as German king, but neither he nor his successors could create a centralized monarchy Germany thus fell out of step with the great kingdoms of Western Europe—France, England, and Spain—where the trend was toward increasing centralization Against the anarchic tendency of the nobles the emperors relied chiefly on the prosperous cities, which formed into leagues for their common defense and interests—e g , the HANSEATIC LEAGUE and the SWABIAN LEAGUE German commerce and banking knew tremendous prosperity in the late 15th and early 16th cent during the heyday of such merchant princes as the FUGGER and WELSER families of Augsburg. With the help of the capitalist cities Emperor CHARLES V put down the rebellious lesser nobility (see SICKINGEN, FRANZ VON) and the more serious revolt of the peasants (see PEASANTS' WAR). At the same time, however, the REFORMATION created an abyss between the Catholic emperors and the Protestants among the powerful princes. The defeat of the peasants prolonged the existence of serfdom, which in Western Europe had disappeared or was disappearing, the Reformation set the stage for the final blow against German unity—the THIRTY YEARS WAR (1618-48). The chief theater of the war, Germany was reduced to misery and starvation, lost a large part of its population, and became, through the Peace of Westphalia (see WESTPHALIA, PEACE OF), a loose confederation of petty princes under the nominal suzerainty of the emperor. The most powerful German state to emerge from the wars of the 17th and 18th cent. was PRUSSIA, which under FREDERICK II success-

fully challenged the military might of AUSTRIA and became a European power. The influence of the French Revolution and the wars of NAPOLEON I swept away the moribund Holy Roman Empire and forced the German states, notably Prussia, to accept long-needed social reforms. Though humiliated by Napoleon, Prussia played a major part in his ultimate defeat and gained considerable territory at the Congress of Vienna (see VIENNA, CONGRESS OF), which redrew the German map in 1814–15 However, Austria obtained the leading position in the GERMAN CONFEDERATION, set up by the Congress, and Germany was dominated by the reactionary policies of METTERNICH and the HOLY ALLIANCE German nationalism, at that time linked with liberalism, burst into action in the Revolution of 1848, which shook all the German states However, the revolutionists were soon put down, and the FRANKFURT PARLIAMENT, having failed to obtain the unification of Germany, disbanded Prussia received humiliating treatment from Austria in the Treaty of OLMÜTZ (1850) BISMARCK, who in 1862 took charge of Prussian policy, resolved on the course of creating a "Little Germany" (i e a Germany without Austria), under Prussian leadership In the AUSTRO-PRUSSIAN WAR of 1866 Prussia triumphed over its rival, and Austria was excluded from the newly created NORTH GERMAN CONFEDERATION By the FRANCO-PRUSSIAN WAR of 1870–71 Bismarck attained his goal WILLIAM I of Prussia was proclaimed emperor of Germany by the assembled German princes in the Palace of Versailles (1871) The peace treaty with France gave Germany ALSACE and LORRAINE and made it the chief power of continental Europe The unification of Germany had been greatly aided by the gradual economic unification wrought by the ZOLLVEREIN and by the Industrial Revolution, which, though it came relatively late to Germany, progressed with extraordinary speed By 1871 Germany had, within less than a century, overtaken its neighbors economically as well as politically and militarily.

From Bismarck to Hitler Having united Germany, Bismarck, who directed German policy until 1890, sought to consolidate the new state and to establish peaceful relations with its neighbors He struggled with little success against the Catholic Church (see KULTURKAMPF) and was unable to stem the rise of German socialism by coercive legislation Changing his tactics, he achieved a *modus vivendi* with the Church and weakened the socialist cause by securing the passage in the Reichstag [federal parliament] of far-reaching SOCIAL SECURITY laws that served as models for the rest of the world Reconciliation with Austria led to an alliance (1879), joined in 1882 by Italy (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) Simultaneously, Bismarck kept alive the THREE EMPERORS' LEAGUE of Germany, Austria-Hungary, and Russia He was able to weather the Liberal opposition and retained his chancellorship during the brief reign (1888) of FREDERICK III, but was dismissed in 1890 by the self-willed WILLIAM II Even before William's accession Germany had begun its colonial penetration of Africa, but it was under William II that German colonial expansion began to collide seriously with British and French interests (For a list of former German colonies, see MANDATES) Equally serious threats to peace were the increasing commercial and naval rivalry with England, German influence in Ottoman affairs (e g , in the construction of the BAGHDAD RAILWAY), and German support of the Austrian Balkan policy, which clashed with Russian interests (see EASTERN QUESTION) The two successive crises over MOROCCO helped to create and strengthen the Triple Entente of France, Russia, and England, which faced Germany and its allies (see CENTRAL POWERS) in the First WORLD WAR (1914–18) Exhausted rather than defeated, Germany was obliged to accept the Allied armistice terms and, in 1919, the harsh peace terms of Versailles William fled and abdicated (Nov , 1918) after the outbreak of a Social Democratic revolution, which swept the rulers of the German states from their thrones A democratic federal constitution was adopted at Weimar Friedrich EBERT was the first president His middle-of-the-road government suppressed attempts by the radical left (see SPARTACUS PARTY) and by the extreme right (see KAPP, WOLFGANG) to seize power However, the economic crisis of the post-war years, marked by mass unemployment and by extreme currency inflation, strengthened the extremist parties and wiped out a large fraction of the middle class The assassinations of ERBERGER and of RATHENAU were symptomatic of the terrorist tactics adopted by the extreme nationalists, who soon were to merge in the National Socialist party under the leadership of Adolf HITLER The election (1925) of HINDENBURG to succeed Ebert as president was a nationalist victory, but under the successive cabinets (1923–32) of Wilhelm MARX, Hans LUTHER, Hermann Müller, and Heinrich BRÜNING the Social Democrats, the Catholic Center party, and the conservative German People's party succeeded, by precarious coalitions, in keeping the extremists in check. Luther, with the help of Hjalmar SCHACHT, consolidated the German economy, and Gustav STRESEMANN, as foreign minister from 1923 to 1929, secured the easing of the terms of the Treaty of Versailles, particularly with regard to German REPARATIONS payments, and the admission (1926) of Germany into the League of Nations Germany was well on its way to recovery by 1929, but soon afterward the world economic crisis once more created mass unemployment and the virtual bankruptcy of the state The crisis brought huge electoral gains to the Communists and, particularly, to the National Socialists; a state of extreme political tension grew Franz von PAPEN, succeeding (1932) Brüning as chancellor, lifted the ban on the National Socialist militia Late in 1932, after two successive elections had failed to create a workable parliamentary majority, Papen resigned, and SCHLEICHER became chancellor He failed to obtain the cooperation of either Hindenburg or the Social Democrats in using radical measures to preserve the republic, on his resignation, Hindenburg appointed (Jan , 1933) Hitler as chancellor at the head of a coalition cabinet of National Socialists and German Nationalists (monarchists) Despite their terroristic measures after the REICHSTAG fire (which served as pretext for outlawing the Communists), the National Socialists fell short of an absolute majority in the elections of March, 1933 Hitler, however, obtained dictatorial powers through an enabling act voted by an overwhelming majority of the Reichstag The Third Reich, successor of the Holy Roman and Wilhelminian empires, had begun Its history is partly covered in the articles NATIONAL SOCIALISM and WORLD WAR, SECOND) Within a year Hitler's dictatorship had become absolute, resting on the terror inspired by his ruthless militia and his SECRET POLICE The CONCENTRATION CAMP became the fate of his opponents, anti-Semitism was enacted into law and eventually led to the murder of more than 5,000,000 European Jews Science, the arts, and scholarship bowed, with but isolated protests, to the doctrines of the party in power, and the vast majority of Germans welcomed what they considered the rebirth of German strength The powers of the state governments were abolished, and every aspect of German life was centralized Repudiating the military clauses of the Treaty of Versailles, Hitler geared German economy to intensive rearmament, this and large-scale public works such as the construction of superhighways (primarily intended for strategic purposes) remedied the unemployment situation but depressed the general standard of living German remilitarization of the Rhineland (1936) was shortly followed by an alliance with Fascist Italy (see AXIS), German interference in the Spanish civil war of 1936–39, German annexation of Austria (March, 1938), and German demands for parts of Czechoslovakia The MUNICH PACT (Sept , 1938), by which Germany gained large sections of Bohemia, was the culmination of French and British attempts to appease Germany In March, 1939, Germany annexed Bohemia and Moravia and the Memel district, and in April Hitler began to threaten Poland In a surprise move, on Aug 23 he secured Russian neutrality by concluding a nonaggression pact with the USSR, and on Sept 1, 1939, he cut short negotiations regarding DANZIG and the POLISH CORRIDOR and ordered the invasion of Poland The Second World War resulted After the major part of Europe had been brought under the German heel, the war turned out still more disastrously for Germany than the First World War By the end of April, 1945, nearly all Germany was occupied by Allied troops and most major German cities lay in ruins The heavy German military and civilian casualties and the destruction of property did not, however, balance the millions of lives destroyed by the German occupation authorities in the countries of Europe, the sufferings of millions of foreign slave laborers who had been put to work for the German war machine, and the general disruption of Europe caused by German aggression

Post-war Germany After the suicide—still unproved—of Hitler in April, 1945, Admiral DOENITZ took over the government On May 7–8 the unconditional surrender to the Allies was signed, and shortly afterward Doenitz's government was dissolved by the Allies, whose military commanders in Germany took over the functions of government The Allied plan for Germany, sketched at the YALTA CONFERENCE, was implemented at the POTSDAM CONFERENCE (Aug , 1945) Germany (save the areas transferred to the USSR and to Polish administration) was divided into four occupation zones The Russian zone (41,379 sq mi ; 1946 pop 17,313,734) included Saxony, Anhalt, Thurmgia, Mecklenburg, and the former Prussian provinces of Saxony, Brandenburg, Pomerania, and Silesia (except the parts under Polish administration). The U S zone (41,490 sq mi , 1946 pop 17,254,945) comprised Bavaria, N Württemberg, N Baden, most of Hesse and Hesse-Nassau, Bremen (an enclave in the British zone) and parts of the former Prussian Rhine Province The British zone (37,721 sq mi , 1946 pop 22,304,509) consisted of Brunswick, Oldenburg, Hamburg, Lippe, Schaumburg-Lippe, the former Prussian provinces of Schleswig-Holstein, Hanover, and Westphalia, and the N Rhineland The French zone (15,527 sq mi ; 1946 pop 5,077,816) comprised S Baden, S Württemberg, the Rhenish Palatinate, Rhenish Hesse, part of the Rhineland, and the SAAR TERRITORY (not included in the figures) Berlin (344 sq mi , 1946 pop 3,199,938) was divided into four zones separately occupied by the four powers, and was made the seat of a four-power control council, authorized to take economic and administrative measures regarding Germany as a whole Allied disagreements, based mainly on conflicting interpretations of the decisions taken at Potsdam, weakened the control council from the start, and in 1948 the Soviet representatives ceased to attend the council meetings Local German governments were soon set up in all four zones The new states thus created were in the Soviet zone—Brandenburg, Mecklenburg, Thurmgia, Saxony, and SAXONY-ANHALT; in the U S. zone—Bavaria, Bremen, Hesse, and WÜRTTEMBERG-BADEN, in the British zone—NORTH RHINE-WESTPHALIA, LOWER SAXONY, Schleswig-Holstein, and Hamburg, in the French zone—RHINELAND-PALATINATE, WÜRTTEMBERG-HOHENZOLLERN, and Baden The National Socialist party and affiliated organizations were outlawed throughout Germany, and many persons were indicted and were convicted of WAR CRIMES Other parties, however, were permitted to form In the Soviet zone the Communist-dominated Socialist Unity party soon gained the upper hand, in the three Western zones the Christian Democrats and Social Democrats obtained the largest votes While a program of sovietization was carried out in Eastern Germany, the Western Allies abandoned the drastic Morgenthau Plan (named after Henry MORGENTHAU, Jr), but substituted no clearly discernible program The REPARATIONS question was a major stumbling block in Allied attempts to arrive at a peace treaty, and the cleavage between Russia and the three other powers became complete in 1948 On the occasion when the Western Powers introduced a separate currency the Soviet authorities blockaded (1948–49) the western sectors of BERLIN The final lifting of the blockade did not heal the division of Germany into East and West A constituent assembly of the West German states met (1948) and adopted (1949) a federal constitution for Western Germany, of which Bonn became the temporary capital Meanwhile a similar assembly adopted (1949) a constitution for the more centralized "Democratic German Republic," consisting of the Soviet zone, with its capital at Berlin Theodor Heuss became first president of Western Germany, Kurt Adenauer became its first chancellor, heading a conservative cabinet (excluding the Social Democrats) The Communists Wilhelm Pieck and Otto Grotewohl became, respectively president and premier of Eastern Germany, with a Communist-controlled coalition cabinet Economically, the split was disastrous for Germany, its western and eastern parts being interdependent Politically, it hindered a genuine rebirth of the German democratic tradition by fanning nationalist feeling in both halves of the country The primary source for the earliest German history is the *Germania* of TACITUS, the chief source collection for medieval German history is the MONUMENTA GERMANIAE HISTORICA Historical writing flourished in 19th-century Germany, and the monumental works of RANKE, SYBEL, and TREITSCHKE, covering German history, are indispensable to the modern student See W H Dawson, *Germany and the Germans* (2 vols , 1894) and *The Evolution of Modern Germany* (rev ed , 1919), Moritz Ritter, *Deutsche Geschichte im Zeitalter der Gegenreformation und des Dreissigjährigen Krieges* (3 vols , 1889–1908), Karl Hampe, *Deutsche Kaisergeschichte* (1909), J S Schapiro, *Social Reform and the Reformation* (1909); A W Ward and Spenser Wilkinson, *Germany 1815–90* (3 vols , 1916–18), G P Gooch, *Germany and the French Revolution* (1920), *Germany* (1925), and *Studies in German History* (1948), C B Hoover, *Germany Enters the Third Reich* (1933), Konrad Heiden, *A History of National Socialism* (1935); Raphael Lemkin, *Axis Rule in Occupied Europe* (1944), Prince Hubertus zu Loewenstein, *The Germans in History* (1945), Veit Valentin, *The German People* (1946), L D Clay, *Decision in Germany* (1950) See also bibliographies under HOLY ROMAN EMPIRE and PRUSSIA

Germersheim (gĕr'mûrs-hīm"), town (pop 4,848), Rhenish Palatinate, W Germany, on the Rhine and S of Speyer Of Roman origin, it was a residence of the Frankish kings and was chartered as an imperial city in 1276

germicide (jûr'mĭsīd), chemical substance capable of killing germs It is not necessarily effective in destroying the resistant spores formed by some germs, but destroys, in addition to bacteria, other disease-causing microbes A bactericide, on the other hand, kills only bacteria The term *germicide* is synonymous with chemical disinfectant. There are, however, other agents of disinfection (e g , heat) to which the name of germicide is not applied

Among the substances having germicidal action are alcohol (50 percent to 70 percent alcohol being the only concentrations with much effect against germs), boric acid (a weak germicide), chlorine and chlorine compounds (e g , Dakin's solution), iodine, phenol (or carbolic acid), the cresols (like phenol, derivation products of coal tar and wood), silver nitrate, hydrogen peroxide, and zinc peroxide Most substances capable of killing germs tend to be harmful to living tissue and must therefore be used only according to instructions given by a doctor or by the manufacturer Some body secretions e g , saliva, gastric juice, and lysozyme (present in tears, sputum, and nasal mucous membrane), act as germicides toward certain pathogenic microorganisms

Germinal, see FRENCH REVOLUTIONARY CALENDAR

germination, in a seed, the resumption of growth of the embryo after a period of dormancy, varying much in length, and the emergence of the young plant from the seed The food stored in the endosperm or in the cotyledons provides energy for the early stages in the process Germination requires suitable conditions of temperature, moisture, and oxygen supply Some seeds require light, others darkness, and many are unaffected by light conditions Some seed, e g , that of many grasses, can germinate almost immediately after falling The embryos of others must undergo a period (from a season to many years) of slow development or of dormancy in the seed Viability of seed ranges from a few days to (rarely) about 50 years Germination of seeds of the Asiatic lotus after more than 100 years is reported Most garden crops yield best results if seed is planted within a year after ripening The percentage of germination decreases with age The use of seed tested for germination prevents the planting of old or poorly germinating seed

Germiston (jûr'mĭstun), city (pop 103,880), S Transvaal, Union of South Africa, on the Witwatersrand Gold is smelted and refined

Gérôme, Jean Léon (zhäⁿ' lāō' zhārōm'), 1824–1904, French historical and genre painter He enjoyed a high reputation in his day A good draughtsman and facile illustrator, he produced a large number of paintings, meticulous in execution and archæologically conscientious His *Age of Augustus and the Birth of Christ* (Amiens), *Gladiators before Cæsar* (Chantilly), and *Death of Cæsar* are well known In his last years he gave up painting for sculpture Gérôme is represented in several American galleries and in the Luxembourg Museum in Paris

Gerona (hārō'nä), city (pop 28,752), capital of Gerona prov , NE Spain, in Catalonia A manufacturing center on the Oñar river, Gerona dates from Roman times, and the old town has preserved its medieval aspect It was captured (1015) from the Moors by the counts of Barcelona In the Peninsular War Gerona heroically resisted the French (1808–9) The Gothic cathedral (14–16th cent) has a single nave 73 ft wide and a Romanesque cloister Noteworthy are also the Romanesque Church of San Pedro and the Church of San Feliu

Geronimo (jurŏ'numō), c 1829–1909, chief of a Chiricahua band of the Apache Indians, b Arizona He resented the restrictions placed upon his people by the whites and was often in trouble After the Chiricahua were herded into the White Mountain Reservation, he and some followers (including a son of Cochise) escaped to Mexico in 1882 and terrorized Arizona by brutal raids He surrendered to Gen George CROOK and returned to the reservation but in 1885 left again In 1886 he agreed to surrender to Crook but broke his word and escaped Crook was relieved of command at his own request In 1886 Geronimo and his small group surrendered to Gen Nelson A MILES It is said that the surrender was made on condition that the braves could join their families in Florida, they were not freed but were imprisoned in Fort Pickens, Fla Some, among them Geronimo, were later settled in Alabama, then moved to Fort Sill in present Oklahoma He dictated his autobiography to S M Barrett See Britton Davis, *The Truth about Geronimo* (1929)

Gerontius (jurŏn'shus), d 411, Roman general, a Briton He followed the usurper Constantine and was left in charge of Spain, where he set up (409) his own candidate, called Maximus, as emperor, at the same time inviting or permitting the entrance of the Alani, Suevi, and Vandals In 411 he besieged Constantine at Arles, but at the approach of Constantius (later Emperor CONSTANTIUS III), his troops deserted, he escaped to Spain, but was assassinated

Gerry, Elbridge (gĕ'rē), 1744–1814, American statesman, b Marblehead, Mass , grad Harvard, 1762 In Marblehead he joined his father and brothers in the business of shipping codfish to the southern colonies, Spain, and the West Indies He was elected (1772) to the Massachusetts General Court, became a follower of Samuel Adams, and took a leading part in the patriot agitation preceding the American Revolution He was (1774–76) a member of the provincial congresses and of the Committee of Safety On the night before the battles of Lexington and Concord he narrowly escaped capture by a British detachment Afterwards as chairman of the state committee of supply he worked energetically to procure supplies for the army gathering around Boston In Jan , 1776, he left for Philadelphia to attend the Continental Congress, of which he was a member until 1785, although he absented himself in 1781–82 He voted for and signed both the Declaration of Independence and the Articles of Confederation With his brothers at Marblehead, he carried on a large trade with Spain and other countries and procured articles needed by the Continental forces Gerry after the war was an opponent of a large standing army and of a stronger central government However, his views were modified by SHAYS'S REBELLION, and he consented to be a delegate to the Federal Constitutional Convention of 1787 There he was one of the most frequent speakers, and while realizing the need of a stronger union, he opposed those leaders who were anxious to consolidate power in the proposed central government He refused to sign the completed Constitution, for reasons stated in his published message to the Massachusetts legislature, entitled *Observations on the New Constitution by a Columbian Patriot* (1788) Most of these objections were later met by the first 10 amendments Serving (1789–93) in the first two U S Congresses, he won attention by objecting to the placing of the Treasury Dept under one head, on the ground that it gave too much power to one man He advocated a commission of three instead In 1797 President Adams appointed him, together with C C PINCKNEY and John MARSHALL, on a mission to France in a new attempt to secure a recognition of U S rights from Napoleon and Talleyrand (see XYZ AFFAIR) He was elected governor of Massachusetts in 1810 and reelected in 1811 In his second term the Jeffersonians, desiring to retain their control of the state, rearranged in a grotesque shape the election districts in their favor, a political maneuver then named by his opponents and since known as GERRYMANDER (from his name and salamander) It resulted in Gerry's defeat for reelection in 1812, but he was immediately nominated for Vice President on the ticket with James Madison, and he was elected He loyally supported the War of 1812, though his Massachusetts constituency was opposed to it He died in office

Gerry, Elbridge Thomas, 1837–1927, American reformer, b New York city, grad Columbia, 1857, grandson of Elbridge Gerry Admitted (1860) to the New York bar, he came to be adviser to the American Society for the Prevention of Cruelty to Animals, and not long afterward he became interested in child welfare In 1874 he founded, with the help of Henry Bergh, the New York Society for the Prevention of Cruelty to Children (called sometimes the Gerry Society) He ended by devoting most of his attention to this cause, which became national in scope He was also interested in other humanitarian movements

gerrymander (jĕ'rēmăn"dur), in U S politics, rearrangement of voting districts so as to favor the party in power The origin of the term, though by no means the origin of the practice, was in such an arrangement made in Massachusetts when Elbridge GERRY was governor To secure favorable districts extremely irregular boundary lines are sometimes necessary See E C Griffith, *The Rise and Development of the Gerrymander* (1907)

Gers (zhĕr), department (2,429 sq mi , pop 190,405), SW France, at the foot of the Pyrenees Named for a tributary of the Garonne, it corresponds roughly to the old Gascon country of ARMAGNAC Auch is the capital

Gershom (gûr'–) [Heb ,=banishment] **1** Moses' first son. Ex 2 21,22, 18 2–6, 1 Chron 23 14 **2** See GERSHON **3** One of Ezra's companions Ezra 8 2

Gershom ben Judah (gûr'shum bĕn jōō'du), b 960, d 1040 or 1028, rabbi, religious poet, and scholar, b Metz He was also called Me'or ha-Golah [light of the exile] He died in Mayence, where he had founded a Talmudic academy He revised the Mishna and was very influential

Gershon (gûr'–) [Heb ,=banishment], Levi's first son Gen 46 11, Num 3 21, 1 Chron 6 1 Gershom 1 Chron 6 16–20

Gershon, Levi ben. see GERSONIDES

Gershwin, George (gursh'wĭn), 1898–1937, American composer, b Brooklyn, N Y , of Russian parentage He studied harmony with Rubin Goldmark, but most of his musical training was received in "tin-pan alley," where he worked as a "song plugger" for a publisher of popular music His songs for musical shows, such as *Embraceable You, The Man I Love, Swanee,* and *Lady Be Good,* are masterpieces of their genre He wrote the music for many musical comedies, including George White's *Scandals* (1920–24) and George S Kaufman's *Of Thee I Sing* (1931), which won the Pulitzer Prize His principal larger compositions are *Rhapsody in Blue* (1923), the classic example of symphonic jazz, his Piano Concerto in F (1925), *An American in Paris* (1928), a tone poem incorporating elements of jazz as well as realistic sound effects, and *Porgy and Bess* (Boston, 1935), a folk opera about Negro life, from which comes the immortal song *Summertime.* In 1937 he composed music for three moving pictures, one of which, *The Goldwyn Follies,* was left unfinished at his death His brother Ira (1896–) wrote the lyrics for most of his best songs

Gerson, John (Jean Charlier de Gerson) (gûr'sŭn, zhäⁿ' shārlyā' dŭ zhārsō'), 1363–1429, French ecclesiastical statesman and writer He studied (1377–94) under Pierre d'AILLY at the Univ of Paris, where he took his doctorate in theology and succeeded Ailly as chancellor (1395) Both Ailly and Gerson were anxious to end the Great Schism (see SCHISM, GREAT) When they were unsuccessful in having both Benedict XIII (see LUNA, PEDRO DE) and Gregory XII resign, they began to urge that the schism be ended by action of a general council The Council of Pisa resulted, and Gerson wrote a tract (1409) to defend it This is a classic statement of the conciliar theory—that a council can supersede the pope when the good of the Church requires it Gerson was not at Pisa, but he did attend (1414) the Council of Constance (see CONSTANCE, COUNCIL OF) as head of the French delegation There, he supported Ailly in ending the schism and led in the condemnation of John Huss But Gerson had made a bad enemy in John the Fearless, duke of Burgundy, from 1408 he had publicly demanded that John do penance for the murder of Louis, duc d'Orléans Fearing John, Gerson went from Constance not home to France but to Vienna, to teach From 1419 he lived in Lyons, where he wrote many works, chiefly theological, and a tract defending Joan of Arc He strongly condemned the *Roman de la Rose* of Jean de Meung as immoral Gerson opposed the philosophy of William of Occam, and as chancellor he began the change to realism as the official philosophy of the Univ of Paris His conciliar theories were later condemned Gerson was a man of holy life See biography by J L Connolly (1928)

Gersonides (gursō'nĭdēz) or **Levi ben Gershon** (lē'vī bĕn gûr'shun), 1288–1344, Jewish philosopher, called also Rab Ba G, from the initials of his Hebrew name, b Languedoc He edited the writings of Averroes, the Pentateuch, and various scientific works His chief work was the *Milchamoth Adonai* [the wars of the Lord], an elaborate treatise modeled after the *Moreh Nebukim* of Maimonides It is mainly a systematic criticism of the agnosticism of Maimonides from an Averroistic point of view The camera obscura and other inventions are attributed to Gersonides

Gersoppa, Falls of (gursō'pu), cataract of the Sharavati river, on the border of Mysore state and Bombay state It is one of the most spectacular natural beauties of India The river cuts through the Western Ghats to fall in four cascades, of which the highest is c 830 ft

Gerster, Arpad Geyza Charles (gur'stur), 1848–1923, American surgeon, b Kosice, M D Vienna, 1872 In 1873 he emigrated to Brooklyn A pioneer in aseptic surgery, he wrote the first American manual on the subject (1888) and taught at New York Polyclinic and at Columbia (from 1916) See his *Recollections of a New York Surgeon* (1917)

Gertrude, Saint, 1256–1302, German nun, called St Gertrude the Great The account of her revelations (of which the second book is authentic) is important in the history of mysticism Benedictines and Cistercians alike claim St Gertrude Feast Nov 15

Gervase and Protase, Saints (jûr'vās, prō'tās), 2d cent , Christian martyrs of Milan, possibly twins Nothing certain is known of their lives Feast June 19

Gervase of Canterbury, d c 1210, English chronicler A monk of Christ Church, Cambridge, he wrote an account of the reigns of Stephen, Henry II, and Richard I His *Chronica* is an ecclesiastical history of Canterbury, the *Gesta regum* a general history of the kings of England into the reign of John

Gervase of Tilbury, fl 1200, medieval author, Born in England, he spent most of his life on the Continent in the service of various patrons He became marshal of the kingdom of Arles under Emperor Otto IV, for whom he wrote the *Otia imperialia,* a miscellany of legend, history, and politics It is the only extant work of Gervase

Gervinus, Georg Gottfried (gā'ôrk gôt'frēt gĕrvē'nōōs), 1805–71, German historian and literary critic A liberal, he was one of the seven professors dismissed in 1837 from the Univ. of GÖTTINGEN, he also was (1848–49) a member of the Frankfurt Parliament His chief works are *Geschichte der deutschen Dichtung* [history of German literature] (5 vols , 1835–42) and *Geschichte des neunzehnten Jahrhunderts* [history of the 19th century] (8 vols , 1855–66)

Gesenius, Wilhelm (vĭl'hĕlm gā'zā'nyŏōs), 1786–1842, German Orientalist, one of the greatest Hebrew and biblical scholars He is principally known for his *Hebrew Grammar,* which has been reedited so many times that it bears only a resemblance to the original Perhaps his finest work was his biblical commentary He was, in this, a moderate rationalist, and he aroused bitter opposition. He was one of the first to open Semitic to scientific

study, because of his point of view that Hebrew and its sister languages were not sacrosanct, as most contemporary Christians thought them. See E. F. Miller, *The Influence of Gesenius on Hebrew Lexicography* (1927).

Gesham (gē'–), descendant of Caleb 1 Chron. 2.47.

Geshem (gē'–), Arabian leader who opposed Nehemiah in the rebuilding of Jerusalem Neh 2 19, 6 1,2 Gashmu Neh 6 6

Geshur (gē'shur) or **Geshuri** (gĕ'shūrī, gēshū'rī). **1** Small kingdom which remained in the territory allotted to Manasseh It occupied barren land NE of the Sea of Galilee A daughter of one of its kings married David and was the mother of Absalom Deut 3 14, Joshua 12 5, 13 11 2 Sam 3 3, 15 8 **2** Aboriginal people in Philistia. Joshua 13 2, 1 Sam 27 8

Gesner, Abraham (gĕ'snur), 1797–1864, Canadian geologist, studied medicine in London For a while he practiced in Nova Scotia He was commissioned to make a geological survey of New Brunswick (1838) and of Prince Edward Island (1846) In 1852 he discovered kerosene oil and in 1853 introduced its use into the United States He wrote *A Practical Treatise on Coal, Petroleum, and Other Distilled Oils* (1861)

Gesner, Konrad von (kôn'rät fŭn gĕs'nur), 1516–65, Swiss scholar, noted as a physician, biologist, philologist, and bibliographer He practiced medicine in several European cities and spent his last years at Zurich as physician and teacher His works include *Historia plantarum*, written in 1541, *Bibliotheca universalis* (4 vols , 1545–55), an index to Greek, Latin, and Hebrew writers, and *Historia animalium* (5 vols , 1551–87), which assembled from many sources the known material on animals Most of his botanical writings were first published in *Opera botanica* (2 vols , 1751–71)

Gessner, Salomon (zä'lōmōn gĕs'nur), 1730–88, Swiss poet, landscape painter, and etcher His poems and "idyllic prose pastorals" were very popular in his day. The best known is *Der Tod Abels* (1758, Eng tr , *The Death of Abel*, 1761) Gessner's collected writings were published in numerous editions, the last in 1841, and his influence upon European literature, though difficult to appreciate today, was extraordinary His etchings, which are superior to his paintings, include numerous ornamental plates for *Der Tod Abels* and the other pastorals See Bertha Reed, *The Influence of Salomon Gessner upon English Literature* (1905)

Gestalt (gushtält') [Ger , =form], school of psychology which interprets phenomena as organized wholes rather than as aggregates of distinct parts and which maintains that the whole is greater than the sum of its parts Begun in Germany, the movement was transferred to the United States in the 1930s The term was coined by Charles von Ehrenfels in 1890, and after 1895 investigation was carried out along lines suggested by him In 1912 the movement was given further impetus by Max Wertheimer, Wolfgang Kohler, and Kurt Koffka Two basic laws were derived from early experimentation that of membership character, which states that each element of a pattern, through a dynamic participation, alters its individuality in becoming a constituent of the whole, and that concerning *Prägnanz*, the dynamic attribute of self-fulfillment in all structured wholes, which allows, for instance, small gaps in a drawn figure to be disregarded The body-mind problem is solved by proposing a structural correspondence between the sensory process and the corresponding extrasensory mental process Important contributions to personality and social psychology were made by a related school headed by Kurt Lewin See Kurt Lewin, *Dynamic Theory of Personality* (Eng tr , 1935), Max Wertheimer, *Productive Thinking* (1945), Wolfgang Kohler, *Gestalt Psychology* (rev. ed , 1947)

Gestapo see SECRET POLICE

Gesta Romanorum (jĕ'stŭ rō"munō'rŭm) [Latin, = deeds of the Romans], medieval collection of Latin stories (having very little to do with actual Roman history), each tale characterized by a moral Printed in the 15th cent , it had probably been first collected several centuries earlier Many of the stories were used later by Chaucer, Shakspere, and others

gestation: see PREGNANCY

Getae see DACIA

Gether (gē'thur), descendant of Shem Gen 10 23, 1 Chron 1 17

Gethsemane (gĕthsĕ'munē) [Heb , = wine press], olive grove or garden near the foot of the Mt of Olives E of Jerusalem, the scene of the agony and betrayal of Jesus Christ Mark 14 32, Mat 26 36

Gettysburg (gĕ'tēzburg) **1** Borough (pop 5,916), co seat of Adams co , S Pa , near the Md border, laid out c 1780, inc 1806 Named for Gen James Gettys, to whom the site was granted by William Penn, it is the seat of Gettysburg College (Lutheran, coeducational, 1832) and Lutheran Theological Seminary Gettysburg National Military Park (2,534 acres, est 1895) includes the national cemetery and is the shrine of the battlefield of Gettysburg (see GETTYSBURG CAMPAIGN) **2** City (pop 1,324), co. seat of Potter co , central S Dak , SW of Aberdeen, founded in the 1880s by Civil War veterans. The Cheyenne River Indian Reservation is near

Gettysburg Address, delivered by Abraham Lincoln on Nov 19, 1863, at the dedication of the national cemetery on the Civil War battlefield of Gettysburg, Pa It is one of the most famous and most quoted of modern speeches The final version of the address prepared by Lincoln, differing in detail from the spoken address, reads "Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated, can long endure We are met on a great battle-field of that war We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live It is altogether fitting and proper that we should do this But, in a larger sense, we can not dedicate—we can not consecrate—we can not hallow—this ground The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract The world will little note, nor long remember what we say here, but it can never forget what they did here It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced It is rather for us to be here dedicated to the great task remaining before us—that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion—that we here highly resolve that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom—and that government of the people, by the people, for the people, shall not perish from the earth " See W E Barton, *Lincoln at Gettysburg* (1930)

Gettysburg campaign, June–July, 1863, of the Civil War After his victory in the battle of CHANCELLORSVILLE, R E LEE undertook a second invasion of the North The reorganized Army of Northern Virginia crossed the Potomac via the Shenandoah Valley, which R S Ewell (2d Corps), as leader of the advance, swept clear of Union forces By late June, Ewell was seriously threatening Harrisburg, Pa , while Lee, with James LONGSTREET (1st Corps) and A P Hill (3d Corps), was at Chambersburg, Pa However, with the absence of his cavalry under J E B STUART, which was raiding between the Union army and Washington, Lee was unable to determine the enemy's strength and movements When he finally learned that G G MEADE (who had just replaced Joseph HOOKER in command of the Union army) was concentrating N of the Potomac, he ordered the concentration of his own force Meade, intending to make his stand at Pipe Creek in Maryland, sent ahead John F Reynolds, commanding the left wing, to delay Lee But on July 1, John Buford's cavalry, covering Reynolds, came into contact with Harry Heth's division of Hill's corps on the Chambersburg pike just W of Gettysburg The environs of Gettysburg thus became the unintended site of the greatest battle of the war (July 1–3, 1863) The Federals had the best of Hill until midafternoon, when, outflanked by Ewell, advancing from the north, they were driven to Cemetery Hill, south of the town Ewell failed to press further, although he probably could have taken the position On the recommendation of W S HANCOCK, Meade abandoned his Pipe Creek plans and hurried up his whole force Against the Union right on July 2, Longstreet led the main attack, which was not delivered till about 4 P M , the Army of the Potomac thus had time to consolidate its strong position The Confederates took the Peach Orchard but were repulsed in attempting to seize Round Top and Little Round Top, commanding eminences at the south end of Cemetery Ridge On the Union right, Ewell carried Culp's Hill but was beaten off at Cemetery Hill Meade's counterattack on the morning of July 3 retook Culp's Hill Lee ordered Longstreet to attack the Union center with G E Pickett's division, supported by part of Hill's corps (c 15,000 men in all) After a bombardment of the Union position by the massed Confederate artillery, PICKETT moved forward in his famous charge In the face of terrific artillery and rifle fire, the gallant Southerners reached and momentarily held the first Union line But Pickett's support gave way, and Hancock drove him back with tremendous losses Meanwhile Stuart's cavalry, in an attempt to get at the Union right and rear, was defeated by D M Gregg Both armies, exhausted, held their positions until the night of July 4, when Lee withdrew High water in the Potomac delayed his crossing back to Virginia, but Meade did not attack him in force The Union army, which had been more numerous, lost 23,000 men in killed, wounded, and missing, the Confederate, 20,000 Gettysburg was the turning point of the war, thereafter the fortunes of the Confederacy went into a marked decline See Cecil Battine, *The Crisis of the Confederacy* (1905), D S Freeman, *R. E. Lee*, Vol III (1935), E S Miers and R A Brown, eds , *Gettysburg* (1948)

Geuel (gū'ĕl), tribal chief of Gad Num 13 15

Geulincx, Arnold (gû'lĭngks), 1624–69, Belgian Cartesian philosopher He taught at Louvain and Leiden With Malebranche and others he formulated the doctrine of OCCASIONALISM He argued that although mind and matter operate separately they are in a harmony controlled by God This doctrine anticipated Leibniz's theory of preestablished harmony His principal work is *Metaphysica vera* (1691)

Gevaert, François Auguste (frāswa' ōgüst' guvärt'), 1828–1908, Belgian composer and musicologist In 1871 he became director of the Brussels Conservatory, where he made many improvements He composed a number of operas, but is more important as author of a treatise on instrumentation and other writings

Gex (zhĕks), town (pop 1,237), Ain dept , E central France, near Geneva, Switzerland The territory of Gex passed from the medieval counts of Geneva to the dukes of Savoy, was conquered (1536) by the Swiss, and in 1601 was ceded to France by the Treaty of Lyons The Congress of Vienna (1815) gave the region a special customs status

Geyer, Henry Sheffie (gī'ŭr), 1790–1859, American lawyer and political leader, b Frederick, Md After serving in the War of 1812, he moved to St Louis, where he built up an excellent law practice He served several terms in the Missouri legislature and occupied (1851–57) the U S Senate seat formerly held by Thomas H Benton Geyer was the leading counsel for the slaveowner in the DRED SCOTT CASE, and his arguments greatly influenced Chief Justice Taney's opinion

geyser (gī'zŭr) [Icelandic], a hot spring that intermittently erupts hot water and steam, throwing it from a few to several hundred feet into the air Geysers occur almost exclusively in Iceland, New Zealand, and Yellowstone National Park Geyser action in Iceland was studied and explained by R W Bunsen Water—chiefly rain water, but partly of subterranean origin—fills a crack in the ground and becomes heated by the contact of vapors from igneous ROCK below If the crack or tube is crooked, the heat fails to circulate by convection and is concentrated in one section of the tube, well below the surface There the water may rise above 100°C without boiling, because of the pressure of the water above, which raises the boiling point, but when at last it does turn to steam it raises the upper part of the column of water, causing it to overflow This reduces the pressure on the water below, a great deal is abruptly converted into steam, and the whole column —steam and water— is forced to erupt Geysers often build up cones of silica called geyserite around their vents "Old Faithful" in Yellowstone Park usually erupts at intervals of about 60 min Mud geysers are eruptive mud springs See C M Bauer, *The Story of Yellowstone Geysers* (1937)

Geysir (gā'sĭr), hot spring, SW Iceland, c 56 mi W of Reykjavik Although in medieval times it erupted three times daily, weeks now elapse between its eruptions, which last about 20 min The height and temperature of the jet are variable, reaching up to 200 ft and 180°F There are numerous hot springs in the neighborhood Other springs of a similar nature have taken the English name geyser from the Geysir

Gezelle, Guido (gĕ'dō khuzĕ'lu), 1830–99, Flemish poet, b Bruges, forerunner of the Flemish literary revival and one of the leading modern poets in his language In a half-dozen volumes of lyrics he revealed a deep love of nature and a mystical religious feeling, expressed in unpretentious, beautiful language He was a Roman Catholic priest See the partial English translation by Maude Sweepstone (1937)

Gezer (gē'–), natural fortress, Palestine, on a ridge south of the road from Jerusalem to Jaffa, S of Lydda Its position guarding the road has always given it importance In the Bible it figures in the wars of Joshua, David, and the Maccabees, it was several times a scene of battle in the Crusades Joshua 10 33, 12 12, 16 3, 21 21, Judges 1 29, 1 Kings 9 16,17, 1 Chron 6 67, 7 28, 20 4 Gazer 2 Sam 5 25, 1 Chron 14 16 See GOB

Gezira see GAZIRA

Ghadames or **Gadames** (both gŭdä'mĕs), town (pop 2,405), W Tripolitania, Libya, in an oasis of the Sahara It has long been an important caravan junction It was ceded by France to Libya after the First World War, reoccupied by France in 1943, and put under a provisional Tunisian administration in 1948

Gharapuri see ELEPHANTA

Ghat or **Gat** (both gät), walled town (pop 2,056), SW Tripolitania, Libya, in an oasis of the Sahara It has long been an important caravan center It was occupied by the French in 1943

Ghats (gōts, gats), two mountain ranges of S India, the Western Ghats and the Eastern Ghats The Western Ghats, averaging 3,000 ft in height, extend, with only one major break (the Palghat Gap), c 1,000 mi along the west coast from N Bombay state to the southern tip of India at Cape Comorin Mt Dodabetta (8,760 ft) in the Nilgiri Hills section in W Madras state is the highest point Lumber, cinchona, tea, and coffee are

the principal products of the range, which precipitates the southwest monsoon winds and brings heavy rain to the narrow coastal strip while keeping the interior relatively dry The Eastern Ghats, averaging 2,200 ft in elevation, extend c 1,000 mi along the east coasts of Orissa and Madras states. This broken range edges a wide coastal plain

Ghazali see AL-GAZEL

Ghazipur (gə'zēpōōr'), town (pop 31,326), SE United Provs, India, on the Ganges river It contains the tomb of Lord Cornwallis, who died here in 1805 It is the headquarters of the opium monopoly of the Indian government Perfume is distilled

Ghazni (gŭz'nē), town (pop over 10,000), central Afghanistan It was flourishing by the 7th cent, but its glory was under the Turkish Ghaznivid dynasty (962–c 1155), which was continued at Lahore, India, till 1186 The greatest ruler, MAHMUD OF GHAZNI, ruled from the Caspian to the Ganges The kings of Ghor destroyed Ghazni in 1149 but later (1173) made it their secondary capital Ogotai, a son of Jenghiz, completed its downfall in 1221 Both destroyers spared, however, Mahmud's tomb and two high columns outside the city Ghazni's strong fortress was taken by the British in 1839 and 1842 in the Afghan wars Today it is a market center

ghee (gē) [ultimately from Sanskrit], the clarified BUTTER of India It is a common article of diet there, used in making and seasoning a great variety of dishes It is used, too, in medicine and as one of the most ancient sacrificial materials in the practice of Hinduism The best quality is made from cow's milk, though the milk of the buffalo is also used, the usual process being to melt or boil butter to evaporate the water and to strain or skim off the solid residue Only the oil of the butter is left, and this may be bottled or put in covered jars (sometimes with aromatic essences) and kept for some years

Gheel, Belgium see GEEL

Ghent (gĕnt), Flemish *Gent* (khĕnt), Fr *Gand* (gā), city (pop 162,488, with suburbs c 228,800), capital of East Flanders prov, N Belgium, at the confluence of the Scheldt (Escaut) and Lys rivers and at the focus of a network of canals It is the second largest port and the chief textile center of Belgium, an episcopal see, the seat of a university (founded 1816), and a rich art center One of the oldest cities and the historic capital of FLANDERS, Ghent grew around the fortress built (9th cent) by the first count of Flanders on a small island The town soon spread to near-by islets, still connected by numerous bridges By the 13th cent it had grown into a major cloth-manufacturing center, rivaled only by Bruges and Ypres Medieval Ghent was an industrial city in the modern sense of the word Its four chief guilds—weavers, fullers, shearers, and dyers—comprised the majority of its working population There was social conflict between the "lesser folk" and the rich bourgeoisie, strikes and insurrections were frequent Ghent enjoyed vast communal liberties and played a leading part in the turbulent history of Flanders in the 14th cent, particularly under the leadership of Jacob van ARTEVELDE and Philip van ARTEVELDE The radical weavers' party continued to hold Ghent even after the defeat and death (1382) of Philip van Artevelde at Roosebeke, and in 1385 the weavers made a favorable peace with Philip the Bold of Burgundy, who had inherited Flanders in the previous year Ghent retained all its liberties and privileges until 1453, when as the result of an unsuccessful rebellion they were drastically curtailed by Philip the Good They were restored (1477) by MARY OF BURGUNDY through the Great Privilege, promulgated at Ghent Mary's marriage (1477) with Archduke Maximilian (later Emperor Maximilian I) also took place here, and their children were kept virtual prisoners by the Ghenters after Mary's death (1482) It was only in 1485 that Maximilian was able to make himself master of the rebellious city and to obtain the release of his son Philip, duke of Burgundy (later also Philip I of Castile) Philip's son, the later Emperor Charles V, was born and reared at Ghent In 1537 Ghent refused a subsidy requested by Charles, and in 1539 open rebellion broke out Charles hastened to Flanders, suppressed (1540) the rebellion, abrogated the liberties of Ghent, and established a garrison to prevent further outbreaks Ghent joined (1576) William the Silent in the revolt of Flanders against Spain, the Pacification of Ghent, signed here in the same year, was an alliance of the provinces of the Netherlands and of William the Silent for the purpose of driving the Spanish out of the country (see NETHERLANDS). The capture (1584) of Ghent by the Spanish under Alessandro Farnese completed the recovery of Flanders by the house of Hapsburg, under whose rule it remained until the French Revolution (see NETHERLANDS, AUSTRIAN AND SPANISH). Among the many fine medieval and Renaissance buildings of Ghent are the ruins of the Abbey of St. Bavon (founded 10th cent.) and of the imposing castle (12th cent) of the counts of Flanders; the Cathedral of St Bavon (13th–16th cent.), the cloth hall (16th cent); the 14th-century belfry, a tall square tower containing a celebrated carillon; and the churches of St Nicholas (13th cent) and St James (12th cent) Ghent suffered no serious damage in either world war. Flemish painting flourished at Ghent under the Burgundian dynasty (15th cent.), Hugo van der Goes worked here most of his life and the masterpiece of Huybrecht van Eyck and Jan van Eyck, *The Adoration of the Lamb*, is the altarpiece of the Cathedral of St Bavon

Ghent, Treaty of, 1814, agreement ending the WAR OF 1812 between the United States and Great Britain It was signed at Ghent, Belgium on Dec 24, 1814, and ratified by the U S Senate on Feb 17, 1815 The American commissioners were John Q ADAMS, James A BAYARD, Henry CLAY, Jonathan Russell, and Albert GALLATIN, a strong delegation, with Gallatin playing the leading role Negotiations were begun in August, with the recent victories of Napoleon giving the British an advantage reinforced by the burning of the Capitol at Washington shortly afterwards Only the victory of Macdonough at Plattsburg and the threat of further hostilities in Europe induced the British to give up their demands to control the Great Lakes and elect an Indian state under British control in the country NW of the Ohio Thus the agreement to restore territory and places taken by either party was a diplomatic victory for America It was provided that commissions would be set up to determine the boundary from the St Croix river W to Lake of the Woods Both parties were to use their best endeavors to abolish the slave trade No mention was made of the fisheries question, the impressment of American seamen, or the rights of neutral commerce since the British commissioners followed their instructions and refused to discuss these questions

Gherardesca, Ugolino della: see UGOLINO DELLA GHERARDESCA

gherkin see CUCUMBER

ghetto (gĕ'tō), section of a city in which Jews lived In the early Middle Ages their segregation in separate streets or localities was voluntary The first compulsory ghettos were in Spain and Portugal at the end of the 14th cent The ghetto was typically walled, with gates that were closed at a certain hour each night, and all Jews had to be inside the gate at that hour or suffer penalties The reason generally given for compulsory ghettos was that the faith of Christians would be weakened by the presence of Jews Within the ghetto the inhabitants were usually autonomous, with their own courts of law and their own culture Outside the ghetto walls Jews were forced to wear a badge, usually of yellow The institutions commonly to be found in the ghetto were a house for the sick and the poor, public baths, a bakehouse, a slaughterhouse, sometimes a guesthouse, a place of justice, and a school (often connected with the synagogue) The most famous ghetto was that of Frankfurt, to which Jews were compelled to move by a city ordinance of 1460 Crowded into a narrow section, it underwent several disastrous fires The ghetto in Venice was established in 1516 after long negotiations between the city and the Jews In 1870 the last ghetto, in Rome, was abolished The term, however, has been frequently applied to the sections in any large city in which the majority of inhabitants are Jews See Louis Wirth, *The Ghetto* (1928)

Ghibellines. see GUELPHS AND GHIBELLINES, HOHENSTAUFEN

Ghiberti, Lorenzo (lōrăn'tsō gēbĕr'tē), c 1378–1455, Florentine sculptor His study of goldsmithing with his stepfather later influenced his work in bronze He also studied painting In 1401 he won a competition for a bronze portal for the baptistery at Florence His trial panel, in the style of Andrea Pisano's earlier door, hangs in the Bargello beside that of Brunelleschi, his closest rival. Ghiberti worked on the great door (now the north portal) from 1403 to 1424 On 20 panels scenes from the life of Christ are shown in relief, on four, Fathers of the Church, on four others, the Evangelists Framing these reliefs is a graceful molding, with busts of prophets and sibyls set at all intersections After 1425 the artist devoted himself to the execution of the doors for the eastern entrance to the baptistery These Michelangelo declared fit to be the portals of Paradise They portray, in 10 square panels, scenes from the Old Testament By varying the proportions and using many planes of relief, Ghiberti achieved an effect of perspective that gives the panels a pictorial quality unequaled elsewhere in sculpture Other works of Ghiberti, including three statues for the Church of Or San Michele, Florence, do not attain the level of his bronze doors Of his goldsmith's art, no known examples remain

Ghilan, Iran see GILAN

Ghirlandaio or **Ghirlandajo, Domenico** (both· dōmā'nēkō gērlända'yō), 1449–94, Florentine painter, whose family name was Bigordi The son and pupil of Tommaso Bigordi, a goldsmith, he studied painting and mosaics under Alesso Baldovinetti Essentially a fresco painter, Ghirlandaio contributed immeasurably to the development of that art His earliest frescoes, *St Jerome* and the *Last Supper* (Vespucci Chapel and the refectory of the Church of Ognissanti, Florence), have perished Between 1475 and 1485 he painted the frescoes portraying the life of St Fina (Fina Chapel, Collegiate Church in San Gimignano) and the St Zenobius fresco in the Palazzo Vecchio, Florence Summoned to Rome by Pope Sixtus IV, he painted *The Calling of Peter and Andrew* (Sistine Chapel, Rome) These works reveal the dignity, balance, grace, and fine architectural settings typical of Ghirlandaio's art Portraits of contemporaries often are introduced In 1485 he completed the frescoes in the Sassetti Chapel in Santa Trinità, Florence, depicting scenes from the life of St Francis, with views of Florence in the background These magnificent paintings reflect the influence of Masaccio and are notable for admirable portraiture, realism, color, and technique. He also painted the altarpiece, *Adoration of the Shepherds*, in that chapel In 1490 Ghirlandaio completed his frescoes in the choir of Santa Maria Novella, Florence, a vast conception with innumerable portraits of distinguished men and women in contemporary dress with Florentine settings of the time of Lorenzo the Magnificent Here, too he painted the altarpiece, *Virgin in Glory* Other works are *The Visitation* (Louvre), *Adoration of the Magi* (Hospital of the Innocenti, Florence), *Adoration of the Magi* (Uffizi), *Christ in Glory* (abbey, Volterra), *St Dominic* and *St Michael* (National Gall of Art, Washington, D C); and a portrait of Francesco Sassetti with his son (Bache Coll, New York) He was the great depicter of Florentine life He employed many assistants, and his influence was tremendous Among his numerous pupils was the great Michelangelo See G S Davies, *Ghirlandaio* (1908) His son **Ridolfo Ghirlandaio** (rēdôl'fō), 1483–1561, Florentine painter, studied with Piero de Cosimo and Francesco Granacci and was influenced by Leonardo da Vinci and by Raphael, who highly esteemed his talents and vainly urged him to go to Rome His chief works are *Coronation of the Virgin* (Louvre), *Assumption* (cathedral, Prato), *The Procession to Calvary* (National Gall, London), *Portrait of a Lady* (Pitti Gall, Florence), *St Zenobius Raising a Dead Child* and *The Burial of St Zenobius* (Uffizi), and a portrait of Taddeo Taddei (National Gall of Art, Washington, D C)

Ghor (gōr) or **Ghur** (gōōr), mountainous region, W central Afghanistan A powerful Moslem dynasty was established here in the 12th cent Its two outstanding rulers were Ala ad-Din Jahansoz [world-burner] (reign 1149 56), who wrecked Ghazni and completely destroyed Bust, the old capital of Kandahar, and Ghiyath ad-Din The dynasty was conquered (1215) by Mohammed of Khorezm The region's Persian population was supplanted in the next century or two by Mongols

Ghor, the, in Palestine see DEAD SEA

ghost see APPARITION

ghost dance, central ritual of the messianic religion instituted by a Paiute Indian called Wovoka It lasted five successive days, being danced each night and on the last night kept up until morning Hypnotic trances and shaking, not unlike those of the old frontier camp meetings among whites, accompanied this ceremony, which was supposed to be repeated every six weeks The dance originated among the Paiute c 1870 and remained with that tribe until c 1887, when other tribes sent delegates to Wovoka to learn his teachings and ritual In a remarkably short time the religion spread to most of the Western tribes, and the ritual, largely because it was a feature of the Sioux uprising of 1890, became a subject of great interest to the American people

Ghur, Afghanistan see GHOR

Ghuzzeh, Palestine see GAZA

Gisc, Pierre de (pyĕr' du shĕsk'), c 1380–1427, favorite of Charles VII of France Rumor accused him of having poisoned his first wife and of other indelicate acts His misuse of funds set aside for the war against England made him unpopular. His enemies arrested and drowned him

Giacosa, Giuseppe (jōōzĕp'pā jäkō'zä), 1847–1906, Italian dramatic poet With *Una partita a scacchi* [a game of checkers] (1872) he won his first success From that time he devoted himself to playwriting, turning from romanticism to the social dramas which have been played all over the Western world and which are notable for sanity, simplicity, and perceptiveness Among his plays are *Triste amori* (1888, Eng tr, *Unhappy Love*, in *Poet Lore*, Vol XXVII, 1916); *La Dame de Challant*, written in French for Bernhardt and produced by her in New York in 1891 in the author's presence; *Come le foglie* (1900, Eng tr, *As the Leaves Fall*, 1911); and *Il più forte* (1904, Eng tr, *The Stronger*, 1913) Giacosa also collaborated with Luigi Illica in writing the librettos of Puccini's operas *La Bohème* (1896; Eng tr, 1898), *Tosca* (1899, Eng. tr., 1900), and *Madame Butterfly* (1903; Eng tr., 1905).

Giah (gī'ə), place, near Gibeon 2 Sam 2 24.

Giambono, Michele (mēkā'lā jämbō'nō), fl 1420–62, Venetian mosaicist and painter, whose real name was Michele Giovanni Boni, follower of Gentile da Fabriano. Of the few authenticated

mosaic works produced by him, the most important are probably the brilliantly colored *Nativity* and *Presentation in the Temple* (St Mark's, Venice). Among his notable paintings are *The Redeemer with Saints*, a polyptych (Venice); *St Mark* (National Gall , London), *Christ Rising from the Tomb* (Metropolitan Mus), and *St. Peter* (National Gall of Art, Washington, D.C.)

Giannini, Dusolina (jänē'nē), 1904–, American dramatic soprano, b Philadelphia, pupil of Marcella Sembrich She made her concert debut in New York in 1923 and her operatic debut in Hamburg in 1925 In both concert and opera she had achieved success in Europe, the United States, and Australia when she was engaged by the Metropolitan Opera Company in 1936 She joined the faculty of the Juilliard School of Music in 1947

Giannotti, Donato (dōna'tō jän-nōt'tē), 1492–1573, Italian political economist, b Florence He studied at Pisa and in 1527 became secretary of the supreme council of the Florentine republic After the Medici returned to power (1530), he lived in exile Giannotti, whose precepts resemble those of Machiavelli, explained his political theory in several books An ideal government, he believed, was a fusion of aristocratic, monarchical, and democratic institutions He also wrote the comedy *Vecchio amoroso* [old man in love] (1536)

giant. In the mythology of various peoples, e g , the Greeks, Germans, and Celts, giants were manlike beings of great size and strength who warred unsuccessfully with the gods Giants, e g , Goliath, are described in the Bible (Gen 6 4, 1 Sam 17, 2 Sam 21) They survive in medieval and later folklore, as in the story of Jack the Giant Killer There are strains and groups of large men, but there is no race of giants, and no skeletons of such a race have been found Bones of the mammoth and the mastodon have been mistaken for bones of giants Gigantism in humans results from an over-secretion in childhood of the growth hormone of the anterior lobe of the pituitary gland An excessive enlargement of the jaw, the hands, and the feet of an adult is not gigantism but results from a condition called acromegaly, caused by an over-secretion of the growth hormone in the adult years

Giant Mountains see RIESENGEBIRGE

giant orders see ORDERS OF ARCHITECTURE.

giant panda: see PANDA

Giant's Causeway, headland on the north coast of Co Antrim, Northern Ireland, NE of Coleraine, extending 3 mi along the coast The headland consists of many thousands of basaltic columns of volcanic origin, forming three natural platforms (Little, Middle, and Grand Causeway) There are several large caves and rock formations with imaginative names—Giant's Amphitheater, Giant's Chair, Giant's Chimney According to legend, the Causeway was built for giants to travel across to Scotland A ship of the Armada was wrecked in Spanish Bay, toward the east

Giauque, William Francis (jēōk'), 1895–, American chemist, b Niagara Falls, Ont , grad Univ of California (B S , 1920, Ph D , 1922) A member of the faculty of the Univ of California from 1922, he became professor in 1934 He was awarded the 1949 Nobel Prize in Chemistry for his studies of the properties of substances at extremely low temperatures In addition to discovering the adiabatic demagnetization method of producing temperatures approaching absolute zero, he is also known as the discoverer (with H L Johnson, 1929) of the second and third isotopes of oxygen

Gibault, Pierre (pyĕr' zhēbō'), 1737–1804, Roman Catholic missionary priest in America, patriot in the American Revolution, b Montreal He was sent to the Illinois country When Kaskaskia (in his parish) was captured by George Rogers CLARK in 1778, the priest and the frontier soldier became friends, and Father Gibault swore allegiance to the commonwealth of Virginia He was of tremendous assistance to Clark in winning the people of Vincennes to the patriot cause and in raising a force for the recapture of Vincennes in 1779 Gibault later resided in Vincennes (1785–89) and Cahokia (1789–90), then, after the government had refused to grant land for a seminary, moved to New Madrid (now in Missouri) in Spanish territory

Gibbar (gi'bär), family which returned with Zerubbabel. **Ezra** 2 20 In a similar list, Neh 7 25, Gibeon appears instead, Gibbar may then stand for Gibeon, and the children of Gibbar are then Gibeonites

Gibbethon (gi'bŭ-), unidentified town, W Palestine. **Joshua** 19 44; 21 23, 1 Kings 15 27; 16 17

Gibbon, Edward (gi'bun), 1737–94, English historian, author of the monumental *Decline and Fall of the Roman Empire* His childhood was sickly, and he had little formal education but read enormously and omnivorously He went at 15 to Magdalen College, Oxford, but was forced to leave because of his conversion to Roman Catholicism. His father sent him (1753) to Lausanne, where he was formally reconverted to Protestantism. Actually he became a skeptic and later greatly offended the pious by his famous chapters of historical criticism of Christianity in his great work. In Lausanne he fell in love with the penniless daughter of a pastor, Suzanne Curchod (who was later to be the great intellectual, Mme Necker) The two were engaged to be married, but Gibbon's father refused consent Gibbon "sighed as a lover" but "obeyed as a son" and gave up the match He left Lausanne in 1758 It was on a visit to Rome that he conceived the idea of his magnificent and panoramic history This appeared as *The History of the Decline and Fall of the Roman Empire* (6 vols , 1776–88), and won immediate acclaim, despite some harsh criticism Gibbon himself was assured of the greatness of his work, which is, indeed, one of the most-read historical works of modern times Gibbon, himself, was not, however, accorded much personal admiration He moved in the high circles of society and was a member of the literary circle of Samuel JOHNSON, but he was personally unprepossessing Short (under 5 ft), bulbously fat, always dressed in ornate and vivid clothes that flattered his vanity but not his appearance, and affected in manner and speech, he was a figure of ridicule The salons buzzed with stories mocking him He entered upon a short and highly inglorious political career, serving as a member of Parliament from 1774 to 1783 He violently opposed the American Revolution, though later he was to look with favor on the more radical French Revolution In 1783 he withdrew to Lausanne, where he completed his great work One of the fascinating things about Gibbon is the disparity between his personal character and his work, a disparity not resolved by his own *Memoirs of His Life and Writings*, commonly called the *Autobiography*, which first appeared in the edition of his miscellaneous works by Lord Sheffield in 1796 The autobiography is, however, one of the most subtle and interesting works of its kind in English An edition of Gibbon's original six drafts appeared as *The Autobiographies* in 1896 Editions of the *Decline and Fall* are legion The modern standard edition is that of J B Bury (7 vols , 1896–1900) A bibliography of the works of Gibbon by Jane E Norton appeared in 1941 | See biography by D M Low (1937)

Gibbon, John, 1827–96, Union general in the Civil War, b near Holmesburg (now part of Philadelphia), Pa , grad West Point, 1847 Made a brigadier general of volunteers (1862), he commanded a brigade at the second battle of Bull Run, at South Mt , and at Antietam and led a division in the battles from Fredericksburg (1862) through the Wilderness campaign (1864) In the final operations against Lee, Gibbon led the 24th Corps, Army of the James After the war he fought in the Indian campaigns in the West He commanded one of the columns that moved against the Sioux in 1876 The Nez Percé under Chief Joseph defeated him at Big Hole in W Montana in 1877 He wrote *Personal Recollections of the Civil War* (1928)

gibbon (gi'bŭn), smallest of the anthropoid apes, found in SE Asia and the East Indies Gibbons have slender bodies and very long arms and can travel through the trees with great speed and agility On the ground they often walk erect They live in family groups and are monogamous Fruits, leaves, insects, spiders, small birds, and eggs make up their diet

Gibbons, Abigail Hopper, 1801–93, American abolitionist and philanthropist, b Philadelphia, daughter of Isaac Tatem HOPPER She was active in many reforms, especially in the improvement of prison conditions In 1833 she married **James Sloan Gibbons,** 1810–92, a banker, who became a co-worker in her philanthropies Both were abolitionists, and the home of the Gibbons in New York city became a refuge for runaway slaves James Gibbons also wrote several books on finance

Gibbons, Grinling, 1648–1721, English wood carver and sculptor, reputedly b Rotterdam From the reign of Charles II to that of George I he was master wood carver to the crown, and Sir Christopher Wren engaged his skill in architectural decoration Many great English houses contain carvings by Gibbons He designed and carved the choir stalls in St Paul's, London, and the ornamental woodwork in the library of Trinity College, Cambridge Other works include a marble font in St James's, Piccadilly, and a bronze statue of James II, in St James's Park, London A stairway carved by Gibbons for the house of the earl of Essex is in the Metropolitan Museum

Gibbons, James, 1834–1921, American churchman, cardinal of the Roman Church, b Baltimore He studied at St Charles College, near Baltimore Ordained in 1861, he became secretary to the archbishop of Baltimore (1865), vicar apostolic of North Carolina (1868), bishop of Richmond (1872), and coadjutor to the archbishop of Baltimore in 1877 His superior died the same year, and Bishop Gibbons succeeded He was created cardinal in 1886 Cardinal Gibbons was chiefly interested in the Church and in America He was convinced of the blessings of democracy for the Church, and he was continually mentioning them abroad He was very successful in his relations with Protestants, and he was the friend of Presidents Cleveland, Theodore Roosevelt, and Taft He defended the Knights of Labor when they were condemned in Canada as a secret society Cardinal Gibbons persuaded the pope that the Knights of Labor were not secret in a canonical definition, i e , the organization had no pledge prejudicial to the confessional, and the ban was raised Cardinal Gibbons's principal work is *The Faith of Our Fathers* (1876), an apology for Catholicism written for conservative Protestants, it has gone through many editions *Our Christian Heritage* (1889) and *The Ambassador of Christ* (1896) were also widely read

Gibbons, James Sloan. see GIBBONS, ABIGAIL H

Gibbons, Orlando, 1583–1625, English organist and composer, the youngest and last of the great Elizabethans He became organist of the Chapel Royal in 1604, court virginalist in 1606, and organist at Westminster Abbey in 1623 His compositions include madrigals, English anthems and services, and music for strings and for virginal His brothers, Edward Gibbons (c 1570–c 1650) and Ellis Gibbons (1573–1603), were composers of a few pieces, and his son Christopher Gibbons (1615–76) was organist of Westminster Abbey and left some compositions See E H Fellowes, *Orlando Gibbons* (1925)

Gibbons vs. Ogden, case, decided in 1824 by the U S Supreme Court Aaron Ogden, the plaintiff, had purchased an interest in the monopoly to operate steamboats which New York state had granted to Robert Fulton and Robert Livingston Ogden brought suit in New York against Thomas Gibbons, the defendant, for operating a rival steamboat service between New York city and the New Jersey ports Gibbons lost his case and appealed to the U S Supreme Court, which reversed the decision At issue was the scope of the commerce clause of Article I, Section 1, of the Constitution, this provides that Congress shall have the power to "regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes " Chief Justice John MARSHALL held that the New York monopoly was an unconstitutional interference with the power of Congress over interstate commerce He condemned the view that the states and the Federal government are equal sovereignties and that the states may adopt valid legislation in fields where Congress has constitutional authority to act Although the states have unlimited power in regard to certain subjects, e g , intrastate commerce, Congress is supreme within its limited sphere of action This decision was highly influential in its explication of the Federal structure of the United States

Gibbs, James (gĭbz), 1682–1754, English architect, studied in Rome under Carlo Fontana Returning to England in 1709, he was appointed a member of the commission authorized to build 50 churches in London Only 10 of these were completed, they include two of Gibbs's most distinguished works, St Mary-le-Strand (1714–17) and St Martin's-in-the-Fields (1722–26), the latter formed a basic inspiration for many of the steepled churches of the colonial period in America Gibbs did considerable work for the universities, including the circular Radcliffe Camera at Oxford (1737–48), considered his finest design, and the Senate House at Cambridge, where from 1722 onward he was constantly employed He designed also many town and country residences His works show the distinction characteristic of the Georgian period and of Sir Christopher Wren, by whom he was chiefly influenced He wrote *A Book of Architecture* (1728) and *Rules for Drawing the Several Parts of Architecture* (1732)

Gibbs, Josiah Willard, 1839–1903, noted American mathematical physicist, b New Haven, Conn , grad Yale, 1858 He studied abroad and was professor of mathematical physics at Yale from 1871 His great contributions to science were in the field of thermodynamics His *Scientific Papers* (1906) were collected after his death *Vector Analysis* (1901) was written by E B Wilson from Gibbs's lectures, his *Collected Works* appeared in 1928 See W L Miller, *Method of Willard Gibbs in Chemical Thermodynamics* (1925), Muriel Rukeyser, *Willard Gibbs* (1942)

Gibbs, Oliver Wolcott, 1822–1908, American chemist b New York city, grad Columbia, 1841 He was professor at the College of the City of New York (1849–63) and at Harvard was professor of science (1863–87) and also dean of the Lawrence Scientific School (1863–71) and of the School of Mining (1865–68) He made important studies of complex compounds of cobalt and of platinum metals

Gibbs, Sir Philip, 1877–, English journalist and author He was a reporter and free-lance writer until the First World War, in which he so distinguished himself as a front-line correspondent for the *Daily Chronicle* (London) that he was knighted in 1920 Among his many novels are *The Street of Adventure* (i e , Fleet St , 1909), *The Middle of the Road* (1922), and *This Vettle Danger* (1939) He wrote valuable reports of the First World War and astute commentaries on world events He is the brother of Arthur Hamilton Gibbs (1888–), novelist, and Cosmo Hamilton (1879?–1942), novelist and playwright.

Gibbs, Willard: see GIBBS, JOSIAH WILLARD.

Gibea (gi'bēū), name of Caleb's grandson occurring in a list of Judahite towns 1 Chron. 2 49. It is possibly the same as Gibeah 2.

Gibeah (gĭb'ēŭ) [Heb ,=hill] **1** Home town of Saul, somewhere between Jerusalem and Ramah Judges 19 12, 1 Sam 10 26, 11 4, 13, 14, Isa 10 29. **2** Town, S Palestine, somewhere S of Hebron Joshua 15 57 The Gibeah of 2 Chron 13 2 may be the same as either of these or a different place See also GIBEA

Gibeon (gĭ'bŭn) [Heb ,=hill], ancient town, NNW of Jerusalem, now called El Jib Its alliance with Israel saved its inhabitants from destruction, but not from slavery Joshua 9, 10, 21.17; 2 Sam. 21 1–9 See also GIBEAR

Giblite, inhabitant of BYBLOS

Gibraltar (jĭbrôl'tûr), town (1931 pop 21,372, including garrison), constituting a British crown colony Gibraltar is built at the northwestern end of the Rock of Gibraltar (anc *Calpe*), which is one of the PILLARS OF HERCULES The rock itself forms a peninsula of S Spain, at the east end of the Strait of Gibraltar The strait (anc *Fretum Herculeum*),1 from 8½ to 23 mi wide, joins the Mediterranean Sea with the Atlantic The peninsula is connected with the mainland by a low sandy area of neutral ground West of the peninsula is the Bay of Gibraltar, an inlet of the strait There is a safe enclosed harbor of nearly 450 acres The highest point of the rock is 1,408 ft above sea level, the length 2¾ mi, the width ¾ mi The southern terminus is Europa Point The rock is of Jurassic limestone and contains caves in which some valuable archaeological finds have been made The name Gibraltar derives from the Arabian name, Jebel-al-Tarik [mount of Tarik], which dates from the capture of the peninsula by the Moorish leader Tarik in 711 The Spanish captured the peninsula in 1309 and held it until 1333, when it was retaken by the Moors In 1462 the Spaniards regained it The English have maintained possession of the peninsula since 1704, though it was subjected to unsuccessful sieges by the Spanish and French in 1704, by the Spanish in 1726, and again by the Spanish and French in 1779–83 The town is a free port, and because it is a fortress, its civil population is kept small Most of its laboring class live in the neighboring Spanish town of La Línea de la Concepción Gibraltar serves as a port of call and coaling station and handles some transit trade During the First World War it was used as a naval station Its importance increased during the Second World War, largely because of Italy's entrance into the war on the side of the Axis and the fall of France Its fortifications were strengthened and an elaborate system of underground tunnels constructed It was subjected to bombing attacks throughout 1940–41 but no important damage was done See G T Garratt, *Gibraltar and the Mediterranean* (1939)

Gibsland, town (pop 1,023), NW La , E of Shreveport, founded c 1885 It is the shipping and railroad center for a truck-farm area A training school for Negroes is here

Gibson, Charles Dana, 1867–1944, American illustrator, b Roxbury, Mass , studied at the Art Students League and in Paris His work for *Life*, *Century*, *Harper's*, *Scribner's*, *Collier's Weekly*, and other magazines established him as one of the leading exponents of black-and-white art in America He is perhaps best known as the delineator of the well-bred American woman in her various activities and as the creator of the celebrated Gibson Girl His drawings are notable for simplicity of design and brilliant execution, for humor and forceful characterization He illustrated numerous books, notably Anthony Hope's *Prisoner of Zenda* and R H Davis's *Soldiers of Fortune* Among the books of his drawings are *The Education of Mr Pipp* (1899), *The Americans* (1900), *A Widow and Her Friends* (1901), and *The Social Ladder* (1902) See Fairfax Downey, *Portrait of an Era, as Drawn by C D Gibson* (1936)

Gibson, Hugh, 1883–, American diplomat, b Los Angeles, grad École libre des Sciences politiques, Paris, 1907 He immediately entered the U S diplomatic service, and after 1908 he held various legation and embassy secretaryships in numerous Latin American and European countries After performing many important special missions in the First World War, Gibson was appointed (1919) minister to the newly created Poland He later served as minister (1924–27) to Switzerland, ambassador (1927–33, 1937–38) to Belgium and Luxembourg, and ambassador (1933–37) to Brazil He meanwhile attended several international conferences on disarmament. He also was (1935) a member of the mediatory group to end the Chaco War between Bolivia and Paraguay In 1938 he retired His several books include *Belgium* (1939), *The Road to Foreign Policy* (1944), and, in collaboration with Herbert Hoover, *The Basis of Lasting Peace* (1945)

Gibson, John, 1740–1822, American frontiersman, b. Lancaster, Pa After taking part in the capture of Fort Duquesne (renamed Fort Pitt) in the French and Indian War, he became an Indian trader there He was captured by Indians in Pontiac's Rebellion and served in Lord Dunmore's War. In the American Revolution he was principally useful in dealing with the Western Indians For a time he was commander at Fort Pitt. Later he was living in Pennsylvania at the time of the Whisky Rebellion and earned much animosity from his neighbors by siding with the government He served (1800–1816) as secretary of Indiana Territory and was of great aid to William Henry Harrison.

Gibson, John, 1790–1866, English sculptor of the classical school His early promise gained him admirers, and in 1817 he was sent to Rome There he worked successively in the studios of Canova and Thorvaldsen He lived chiefly in Rome, although most of his commissions came from England Among his best-known works are *Queen Victoria Supported by Justice and Clemency* (Westminster Palace), two reliefs, *The Hours Leading the Horses of the Sun* and *Phaeton* (Fitzwilliam Coll , Cambridge), and *Hunter and Dog* Gibson, invoking the precedent of the Greeks, endeavored to popularize tinted statues See biography by Lady Eastlake (1870), containing his autobiography.

Gibson, John Bannister, 1780–1853, American jurist, b Carlisle, Pa , grad Dickinson College, 1800, nephew of John Gibson He studied law, practiced law, and served (1810–12) in the state legislature before being appointed as judge In 1816 he became an associate justice and in 1827 the chief justice of the Pennsylvania supreme court His diligent study made him an authority on the common law, and his many forceful, well-worded decisions, based on principles rather than precedents, showed great ability to adapt the law to a particular society, did much to mold Pennsylvania law, and had great influence elsewhere See T P Roberts, *Memoirs of John Bannister Gibson* (1890)

Gibson, Paris, 1830–1920, American pioneer, b Brownfield, Maine, grad Bowdoin College, 1851 After serving in the Maine legislature, he moved to Minneapolis, where he built the first flour mill and started woolen mills He by 1879 he was in Fort Benton, Mont , where he became a sheep raiser Realizing the industrial value of the great falls of the Missouri, he promoted and planned the city of Great Falls, becoming its first mayor He pioneered in power mining, in railroading, and in sheep raising in Montana As U S Senator (1901–5) he presented advanced Western views on conservation, reclamation, and homestead legislation

Gibson, Randall Lee, 1832–92, Confederate general, b Woodford co , Ky , grad Yale, 1853, and Univ of Louisiana (now Tulane Univ) law school, 1855 Gibson served in most of the Western campaigns of the Civil War, first as an artillery officer and later as commander of an infantry brigade After the war he practiced law in New Orleans and later was a U S Representative (1875–83) and Senator (1883–92) He was Paul Tulane's agent in organizing Tulane Univ and became the first president of the board of administrators

Gibson, Wilfrid Wilson, 1878–, English poet One of the leaders of protest against mere prettiness in poetry, he writes of the obscure and lowly His many volumes of verse include *Daily Bread* (1910), *Fires* (1912), *Livelihood* (1917), *Hill-Tracks* (1918), *I Heard a Sailor* (1925), *Fuel* (1934), and *Solway Ford and Other Poems* (1945)

Gibson, William Hamilton, 1850–96, American illustrator, lecturer, and author, b Sandy Hook, N J , studied at Brooklyn Polytechnic Institute He lectured upon natural history subjects He first illustrated botanical drawings for the *American Agriculturalist* He also worked for *Harper's* and the *Art Journal* and was among the illustrators of *Picturesque America* His drawing was minutely detailed and his color delicately tinted Among his numerous books are *Camp Life in the Woods* (1882), *Our Edible Toadstools and Mushrooms* (1895), and *Eye Spy* (1897)

Gibsonburg, village (pop 2,169), N Ohio, near Fremont, founded 1871 It has limestone quarries

Gibson City, city (pop 2,401), central Ill , E of Bloomington, inc 1894 It is the trade and processing center of a farm area

Gibsonville, town (pop 1,753), central N C , E of Greensboro, in a corn, wheat, and tobacco area

Giddalti (gĭddăl'tī) [Heb ,=I have praised], temple musician 1 Chron 25 4,29

Giddel (gĭ'-) [Heb ,=gigantic], name of two families which returned with Zerubbabel Ezra 2 47,56, Neh 7 49,58

Giddings, Franklin Henry (gĭ'dĭngz), 1855–1931, American sociologist, b Fairfield co , Conn , grad Union College His early experience was in journalism In 1894 he became professor of sociology at Columbia, where he earned a name as a brilliant teacher His explanation of social phenomena was based on the principle of "consciousness of kind." He encouraged statistical studies in sociology His most important works are *The Principles of Sociology* (1896), *Democracy and Empire* (1900), *Studies in the Theory of Human Society* (1922), and *The Scientific Study of Human Society* (1924)

Giddings, Joshua Reed, 1795–1864, American abolitionist, b. Tioga Point (now Athens), Pa A successful lawyer in Jefferson, Ohio, he represented the Western Reserve in Congress (1838–59). For his militant antislavery tactics he was censured (1842) by Congress and resigned, but was promptly re-elected despite the opposition of his party (Whig) He became a Free-Soiler in 1848 and a Republican in 1854. After 1861 he was consul general to Canada See biography by his son-in-law, George W. Julian (1892)

Giddings, city (pop 2,166), co seat of Lee co , S central Texas, E of Austin; founded 1872 by Wends It is the center for a truck-farming, dairying, and poultry-raising area Serbin, near by, was (1855) the first Wend settlement in Texas

Gide, André Paul Guillaume (ăndrā' pōl' gēyōm' zhĕd'), 1869–, French author One of the most distinguished of contemporary novelists and a leader of French liberal thought, Gide founded (1909) the *Nouvelle Revue française*, which remained an outstanding and influential literary review until 1940 Gide's conflict between his emotional nature and his Huguenot background results in a moral fiction which is often interjected with autobiography Works in this category include *The Immoralist* (1902, Eng tr , 1930), *Strait Is the Gate* (1909, Eng tr , 1924), *Two Symphonies* (1919, Eng tr , 1931), and *The Counterfeiters* (copyright 1925, Eng tr., 1927) His *Travels in the Congo* (1927, Eng tr , 1929) and *Retour du Tchad* (1928), the results of travels in Africa, led to a reform of the French colonial policy Most of his works have been translated into English. His own translations of Tagore's *Gitanjali*, Shakspere's *Antony and Cleopatra* and *Hamlet*, and Blake's *Marriage of Heaven and Hell* are outstanding In 1947 he received the Nobel Prize in Literature See his autobiography *If It Die* (1926, Eng tr , 1935) and his journals (1939, Eng tr by Justin O'Brien, 1947–49) See Klaus Mann, *André Gide and the Crisis of Modern Thought* (1943), V M Ames, *André Gide* (1947)

Gide, Charles (shärl), 1847–1932, French economist A professor at the universities of Bordeaux, Montpellier, and Paris, Gide was also an expert on international monetary problems He played an important part in the cooperative movement, and his *Consumers' Co-operative Societies* (1904, Eng tr from 3d French ed , 1921) is a classic in the field. His other works include *Principles of Political Economy* (1883, Eng tr from 24d ed , 1924) and, with Charles Rist, *History of Economic Doctrines* (1909, Eng tr from 2d ed , 1915) See Karl Walter, ed, *Co-operation and Charles Gide* (1933)

Gideon (gĭ'dēun) [Heb ,=hewer], **Gedeon** (gĕ'dēun) [Gr from Heb], **Jerubbaal** (-rŭ'bāal, -rubā'ul) [Heb ,=let Baal plead], or **Jerubbesheth** (jĕrŭ'bu-, jĕ'rubĕ'-) [Heb ,=let shame plead], judge of Israel An interesting event in his oracle of the fleece He laid the fleece in the open for two nights On the first morning the fleece was wet and the ground dry whereas on the second morning the fleece was dry and the ground was wet Considering this a favorable omen he went into battle, won, and freed Israel from Midianite oppressors Judges 6–8, Heb 11 32 Jerubbaal Judges 6 30–32, 7 1 Jerubbesheth 2 Sam 11 21 For the relation between these names, see BAAL

Gideon, Peter Miller, 1820–99, American horticulturist, b Woodstock, Ohio He lived in Minnesota from 1853, and for several years he was superintendent of the state experimental farm at Lake Minnetonka, Minn He is known especially for his work in pomology he developed the "Wealthy," "Peter," and "Gideon" varieties of apples as well as several varieties of crab apples

Gideon, city (pop 1,606), SE Mo , SE of Poplar Bluff, inc 1909

Gideoni (gĭdēō'nī) [Heb ,=one who lays low], father of ABIDAN

Gideons see BIBLE SOCIETIES

Gideonse, Harry David (gĭ'dēunz), 1901–, American educator, b Rotterdam, Netherlands, grad Columbia (B S , 1923, M A , 1924) He came to the United States in 1904 He taught economics at Columbia (1924–26), Rutgers Univ (1928–30), and the Univ of Chicago (1930–38) His *Higher Learning in a Democracy* (1937), a rebuttal to Robert Hutchins's *Higher Learning in America*, forced Gideonse to leave Chicago He was appointed (1939) president of Brooklyn College

Gidom (gī'dŏm), place, Palestine Judges 20 45

Gielgud, John (gĭl'gŏōd), 1904–, English actor. A grandnephew of Ellen Terry, he was reared in the atmosphere of the theater and made his debut at the Old Vic in 1921 He established himself as an actor of the first rank in such roles as Romeo, Ferdinand in *The Tempest*, and Oswald in *Ghosts*, but his greatest portrayal was Hamlet, which he first gave in 1929–30 and which he repeated numerous times in England and in the United States (1936–37) Among the many other plays in which he starred are *King Richard II* and *The Merchant of Venice*, *The School for Scandal*, and Robinson Jeffers's *Medea* See his autobiography, *Early Stages* (1939), study by Rosamond Gilder (1937)

Giers, Nikolai Karlovich (nyĭkulĭ' kar'luvĭch gĕyĕrs'), 1820–95, Russian statesman. After serving in diplomatic posts abroad, he was made (1875) director of Eastern affairs in the foreign affairs ministry. In 1882 he succeeded Prince Aleksandr M GORCHAKOV as minister and remained in this post throughout the reign of Alexander III, whose policy of peace he promoted. Giers sought to preserve a secret al-

liance (see THREE EMPERORS' LEAGUE) with Germany despite the growing unpopularity of that country, but in 1890 Chancellor Caprivi of Germany denounced the treaty, and Giers was forced to enter upon an alliance with France in 1891 This agreement was the nucleus of the Triple Entente (see TRIPLE ALLIANCE AND TRIPLE ENTENTE)

Gies, William John (gīs), 1872–, American biological chemist, b Reisterstown, Md , grad Gettysburg College (B S , 1893), Ph D Yale, 1897 He was professor of biochemistry at Columbia Univ from 1907. He was secretary of the faculty of the College of Physicians and Surgeons (1905–21), consulting chemist of the New York Botanical Garden (1902–21), and pathological chemist of Bellevue Hospital (1910–21) From 1921 to 1931 he was in charge of a survey for the Carnegie Foundation of dental education He wrote textbooks, *Biochemical Researches* (8 vols , 1903–27), and many articles, besides editing scientific journals, notably, after 1919, *The Journal of Dental Research* He held the offices of secretary and president of the International Association for Dental Research

Giesebrecht, Wilhelm von (vĭl'hĕlm fŭn gē'zŭbrĕkht), 1814–89, German historian One of the most gifted students of Ranke, he later taught at the Univ of Königsberg His *Geschichte der deutschen Kaiserzeit* [history of the imperial period of Germany] (5 vols , 1855–88) is a monument of scholarship as well as literature Though Giesebrecht worked on it for more than half of his adult life, he left it unfinished, terminating with the reign of Emperor Frederick I

Gieseking, Walter (văl'tur gē'zŭking), 1895–, concert pianist, b Lyons, France, of German parentage, grad Hanover Municipal Conservatory, 1916 Having toured Europe from 1920, he made his debut in the United States in 1926 Considered supreme in the interpretation of impressionistic music, particularly that of Debussy, he frequently appeared here with great success until 1939, when he returned to Germany In 1945 the American military government prohibited his appearance before Allied troops in Europe, but revoked its decision in 1947 A New York engagement in Jan , 1949, was canceled when the Dept of Justice questioned his right to appear here

Giessen (gē'sŭn), city (pop 31,601, with suburbs 39,709), Hesse, W Germany, in Upper Hesse, on the Lahn river and N of Frankfurt It has varied manufactures From 1607 until 1945 Giessen was the seat of a well-known Protestant university, now converted into an agricultural and veterinary college An academy for medical research was founded here in 1949 In the Second World War the city, including its historic buildings, was heavily damaged

Giffard (zhē'fär), town (pop 4,909), S Que , on the St Lawrence near Quebec city

Gifford, Robert Swain (gĭ'furd), 1840–1905, American landscape painter, b Naushon island, Mass , studied with Van Beest, a Dutch marine painter in New Bedford, Mass Gifford settled in New York in 1866 He visited the West Coast in 1869 in order to illustrate *Picturesque America* Later he sketched in Europe, North Africa, and Egypt Moorland and seashore were his favorite subjects He became a member of the National Academy of Design in 1878 Among Gifford's paintings are *Barney's Joy Cliff* and *Near the Coast* (both Metropolitan Mus) and *October on Massachusetts Coast* (Corcoran Gall)

Gifford, Sanford Robinson, 1823–80, American landscape painter, b near Kingston, N Y , studied at Brown Univ and at the National Academy of Design, New York He was influenced by Thomas Cole From 1855 to 1860 he traveled and sketched in Europe, the picturesqueness of the Alps and Austria and the beauties of Italy being translated emotionally and poetically in his painting He returned to America to serve in the Civil War Among his many works are *Villa Malta* (National Gall of Art, Washington, D C) and *Twoli* (Metropolitan Mus) He became a member of the National Academy in 1854

Gifford, William, 1756–1826, English journalist and critic He was editor (1797–98) of the *Anti-Jacobin* and first editor (1809–24) of the archconservative *Quarterly Review* As a critic Gifford adhered to the principles of the old school, his writings are frequently marred by harsh and short-sighted opposition to young and "radical" poets His most famous poems are *The Baviad* (1791) and *The Maeviad* (1795), satirizing the English DELLA-CRUSCANS Gifford translated Juvenal (1802) and Persius (1821) and edited the works of Massinger, Jonson, and John Ford See biography by R B Clark (1930)

gift, voluntary transfer of property from one person to another without any compensation for it and without any obligation of an agreement or contract The one who gives is the donor; the one who receives the gift, the donee. There are two main classes of gifts, gifts *inter vivos* and gifts *causa mortis* The former is an outright transfer of property, the ordinary type of gift A gift *causa mortis*, on the other hand, resembles a WILL and LEGACY It is a gift made by a person in expectation of imminent death. The donor in such a situation may make a gift by delivering the goods or note or whatever is the subject of the gift to the donee, and such a gift is not complete until the donor actually dies This is the important aspect of the gift *causa mortis* It may be revoked by the donor at any time before his death, if he lives, he automatically recovers the gift It is a gift on condition of death following it The ordinary gift *inter vivos* is complete and unconditional as soon as the delivery of the gift is made The nature of the gift is of considerable importance in taxation In both types of gifts, it is essential that there be an actual and full delivery of the article given The delivery may be by handing to the donee or by giving it to some other person for the donee, but in all cases the delivery must be such as to take the property given out of the hands and the control of the donor Commonly gifts are spoken of as involving both real estate and personal property The law does not recognize a true gift of real estate, for real estate can be transferred only by deed or will Gifts in law are only of personal property A promise to deliver a gift in the future, or a promise to make a gift, unless under seal or made under very unusual circumstances, can not be legally enforced Primitive exchange, between individuals and between groups, is largely a matter of gifts, which avoid the complications of barter or sale and make for cooperation Within a household, barter and sale often have no place In Europe for many centuries such economic units as the monastery and the manor were essentially without barter or sale The stable civilizations of Egypt and China were similarly organized In the ancient civilizations of Mexico, Central America, and Peru, sale and barter were absent or exceptional

Gifu (gē'fōō), city (1940 pop 172,340, 1947 pop 166,995), capital of Gifu prefecture, central Honshu, Japan The headquarters (16th cent) of Nobunaga, it is today a manufacturing and railroad center and the seat of Nawa Entomological Institute Gifu prefecture yields charcoal, lumber, and agricultural products

Gigli, Beniamino (bĕnyamē'nō jē'lyē), 1890 , Italian tenor He made his debut (1914) at Rovigo, Italy, as Enzo in *La Gioconda* At the Metropolitan Opera, New York, he was leading tenor in French and Italian operas from 1920 to 1932, he made guest appearances in the season of 1938–39

gigue see JIG

Gihon (gī'hŏn) [Heb , =impetuous], a river of Eden Gen 2 13

Gijón (hĕhōn'), city (pop 72,053), Oviedo prov , N Spain, in Asturias, a seaport on the Bay of Biscay It is the largest city of Asturias and exports the rich mineral resources of the hinterland There are mechanical, chemical, and various other industries Of pre-Roman origin, Gijón was one of the first places recaptured from the Moors early in the 8th cent and flourished under the first Asturian kings In 1588 the Spanish Armada, defeated by the English, took refuge here In the Spanish civil war (1936–39) Gijón was the last northern port to fall to the Insurgents (1937)

Gil, Emilio Portes see PORTES GIL, EMILIO

Gila (hē'lu), river rising in the mountains of W New Mexico and flowing in long curves in New Mexico and west entirely across Arizona to the Colorado near Yuma, Ariz The "Valley of the Sun" was occupied at various places by early peoples who farmed by irrigation, and it is dotted with ruins Many Indians live in the valley today In the region of the headwaters are the Gila National Forest and the government-preserved "unimproved" Gila Wilderness Area (entered via Silver City, N Mex , but not with automobile) There are irrigation dams in New Mexico, and in Arizona the COOLIDGE DAM is on the middle river, just below the junction of the San Francisco The lower Gila has other irrigation and reclamation projects, as do its lower tributaries, notably in the SALT RIVER VALLEY See Ross Calvin, *River of the Sun* (1946)

Gila Cliff Dwellings National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Gilalai (gĭ'lulā, gĭlā'lāĭ, gĭlulā'ĭ), one of Ezra's musicians Neh 12 36

gila monster (hē'lu) or **beaded lizard,** a species of *Heloderma*, the only genus of poisonous lizards It is found in the deserts of the SW United States It averages about 18 in in length, and the skin is covered with tuberclelike scales Its stout, clumsy body has a marbled appearance, a combination of black with orange or pink, yellow, or dull white The tail acts as a food reservoir Because the poison glands are in the lower jaw and the grooved teeth through which the venom enters the victim are rather far back in the mouth, the reptile must embed its teeth deeply in a certain position in order to give a fatal bite The only other definitely known species is the black and yellow Mexican gila monster

Gilan or **Ghilan** (both gēlän'), region, NW Iran, between the Elburz Mts and the Caspian Sea It was formerly a province with the capital at Resht Its products include rice, fruit, silk, and tobacco The mountainous southern part, densely wooded, is called Dailam. Gilan was held by Russia (1723–32) and was (1920–21) a Soviet republic.

Gilberd, William: see GILBERT, WILLIAM.

Gilbert, Sir Alfred, 1854–1934, English sculptor and goldsmith, studied in Paris, Rome, and Florence The Italian Renaissance was his lifelong source of inspiration In 1883 he attracted attention with his *Perseus Arming* (bronze replica, Metropolitan Mus) He is best known for such public memorials as the Shaftesbury Memorial Fountain (Piccadilly, London) and those to Queen Victoria (Winchester), the duke of Clarence (Windsor Chapel), and Queen Alexandra (Marlborough House) Despite continued success Gilbert was critical of his sculpture, much of which he destroyed He preferred to be considered a goldsmith

Gilbert, Cass (gĭl'burt), 1859–1934, American architect, b Zanesville, Ohio, studied at the Massachusetts Institute of Technology and in Europe In 1880 he entered the employ of McKim, Mead, and White, New York city, and three years later opened his own office in St Paul, Minn After a successful career there he returned in 1899 to New York Gilbert became widely known with the Woolworth Building, New York This 60-story office building was the first satisfactory SKYSCRAPER Though it made use of Gothic motives, the building achieved, by its use of continuous vertical lines, a form then novel This and his design for the U S army supply base, Brooklyn (1918), have exerted a considerable influence upon contemporary architecture Among Gilbert's other conspicuous works are the New York Life Insurance Company Building and the Federal Courts Building, New York, the U S Treasury Annex, the U S Chamber of Commerce, and the Supreme Court Building, Washington, D C., public libraries in Detroit, St Louis, and New Haven, Conn , the state capitol, St Paul, Minn , and the Essex co courthouse, Newark, N J He was consulting architect for the George Washington Bridge over the Hudson

Gilbert, Charles Kendall, 1878–, American Episcopal bishop, b Bainbridge, N Y , grad Hamilton College and General Theological Seminary Ordained in 1906, he was rector in New Dorp, N Y , Millbrook, N Y , and Scarsdale, N Y He edited the *Churchman* from 1912 to 1918 and served from 1920 to 1930 as executive secretary of the social service commission of the diocese of New York From 1930 to 1946 he was suffragan bishop of New York, in 1947 he became bishop of New York

Gilbert, Grove Karl, 1843–1918, American geologist, b Rochester, N Y , grad Univ of Rochester, 1862 When the U S Geological Survey was created in the Dept of the Interior in 1879 (to replace four surveys in the Depts of the Interior and War), Gilbert was appointed senior geologist His *Report on the Geology of the Henry Mountains* (1877) contains the first description of a laccolithic mountain group, a form of mountain structure which he was the first to recognize and explain One of the publications of the Geological Survey is Gilbert's *Lake Bonneville* (1890), a study of the ancient lake of which Great Salt Lake is the remnant He mapped the ancient shores and outlets of the Great Lakes and was the first to recognize that the successive levels of the lakes were caused by the barrier of the receding glacier, which cut off the natural drainage of the region He also published notable studies on Niagara Falls and Niagara river, the glaciation and morphology of the Sierra Nevada, and hydraulic mining debris in the Sierra Nevada He accompanied the Harriman Alaskan expedition and wrote the volume *Glaciers and Glaciation* in its reports See biography by W M Davis in the *Memoirs* of the National Academy of Sciences, Vol XXI (1926)

Gilbert, Henry Franklin Belknap, 1868–1928, American composer, b Somerville, Mass , pupil of Edward MacDowell He was an associate of Arthur Farwell and was active with the Wa-Wan Press In most of his music he made use of Negro folk tunes Outstanding among his works are his *Comedy Overture on Negro Themes* (Boston, 1911), *Negro Rhapsody* (1913), and *Dance in the Place Congo* (Metropolitan Opera, 1918)

Gilbert, Sir Humphrey, 1539?–1583, English soldier, navigator, and explorer, educated at Eton and Oxford, half brother of Sir Walter RALEIGH Knighted (1570) for his service in the campaigns in Ireland, he later (1572) served in the Netherlands Becoming convinced of the existence of a NORTHWEST PASSAGE, he set forth his theories in his famous *Discourse* (ed , with some additions, by George Gascoigne in 1576), which led to the voyages of Martin FROBISHER and John DAVIS and long motivated English exploration in the northern regions In 1578 Queen Elizabeth granted Gilbert a patent authorizing him to explore and to found colonies in America or other lands of his finding His first expedition, undertaken the same year, failed completely, but upon his second voyage (1583) he reached Newfoundland Entering the harbor of present-day St John's, he took possession of the region in the name of the queen and assumed authority as governor over the colony of fishermen he found there Still in search of the Northwest Passage, he explored to the southwest, but the loss of one of his ships and other disasters

led to his decision to return to England The little vessel in which Gilbert insisted upon casting his lot was lost in a storm in the Azores The narrative of Gilbert's voyage by Edward Hayes is included with other documents in *Sir Humfrey Gylberte and His Enterprise* (ed by Carlos Slafter, 1903). See also D. B. Quinn, ed., *The Voyages and Colonising Enterprises of Sir Humphrey Gilbert* (1940), biography by W G Gosling (1911)

Gilbert, Sir John, 1817–97, English historical painter and illustrator. He painted chiefly medieval subjects, such as *Richard II Resigning the Crown* (Liverpool Gall) He is best known, however, for his many vigorous illustrations of the works of British and American poets and above all for the more than 800 illustrations for Howard Staunton's edition (1857–60) of Shakspere Gilbert also contributed to *Punch* and the *Illustrated London News*

Gilbert, Sir John Thomas, 1829–98, Irish historian and antiquary Secretary of the Public Record Office in Dublin during its brief existence from 1867 to 1875, he devoted most of his life to writing such works as a *History of the City of Dublin* (3 vols, 1854–59) and to the calendaring and publication of much valuable source material for Irish history, such as his *Ancient Historical Irish Manuscripts* (1861) and *Crede Mihi* (1897), the register of the archbishops of Dublin before 1275 See biography by his wife, Lady Gilbert (2 vols, 1905)

Gilbert or **Gilberd, William,** c 1540–1603, English physician and scientist, M D Cambridge Univ, 1569 He was president of the College of Physicians and was physician to Queen Elizabeth and to James I He is especially noted for his studies of magnetism, described in his *De magnete* (1600, Eng tr, with biography, by P F Mottelay, 1893, and by Gilbert Club, 1900) This work formed a foundation for the work of others on magnetism and electricity

Gilbert, Sir William Schwenck, 1836–1911, English playwright and poet He first became known as the author of *Bab Ballads*, amusing but often bitter and cynical poems, published in the magazine *Fun* and collected in 1869 In 1871 he began a collaboration with Arthur Sullivan, lasting about 20 years, which resulted in the popular operettas for which they are famous Gilbert as librettist and Sullivan as composer produced together many works, of which the best known are *Trial by Jury* (1875), *H M S Pinafore* (1878), *The Pirates of Penzance* (1879), *Patience* (1881), *Iolanthe* (1882), *Princess Ida* (1884), *The Mikado* (1885), *Ruddigore* (1887), *The Yeomen of the Guard* (1888), and *The Gondoliers* (1889) Gilbert's lyrics are those of a metrical craftsman His satire is incisive comment on the Victorian period The Savoy Theatre, built by Richard D'Oyly Carte in 1881 to house Gilbert and Sullivan operas, gave them the name Savoy operas, a devotee, actor, or producer of the operas is called a Savoyard About 1890 a quarrel between Gilbert and Sullivan terminated their collaboration Thereafter neither of them produced anything to equal their joint works Gilbert died of heart failure while attempting to rescue a girl from drowning His poems and plays were collected in 1947 The librettos were published as *The Savoy Operas* (1926) See H A Lytton, *The Secrets of a Savoyard* (1921), Sidney Dark and L K Rowland-Brown, *W S Gilbert His Life and Letters* (1925), Isaac Goldberg, *The Story of Gilbert and Sullivan, or, The Compleat Savoyard* (1928), Hesketh Pearson, *Gilbert and Sullivan* (1935), W A Darlington, *The World of Gilbert and Sullivan* (1950)

Gilbert, village (pop 2,504), NE Minn, on the Mesabi iron range and SE of Virginia, in a region of lakes and forests, founded 1907, inc 1909

Gilbert and Ellice Islands (ĭl'ĭs), British colony (375 sq mi, pop 36,000), central and S Pacific, established in 1915 and placed under the Western Pacific High Commission at Suva, Fiji The colony includes the GILBERT ISLANDS, ELLICE ISLANDS, OCEAN ISLAND, FANNING ISLAND, WASHINGTON ISLAND, CHRISTMAS ISLAND, and part of the PHOENIX ISLANDS Before the Second World War the administrative headquarters were at Ocean Island, they are now at Tarawa in the Gilbert Islands The inhabitants are Polynesians and Micronesians The chief exports of the colony are copra and phosphate Most of the islands are strategically important

Gilbert de la Porrée (zhēlbĕr' du lä pôrā'), 1076–1154, French scholastic philosopher, b Poitiers He taught for 20 years at Chartres, where he was for some time chancellor He later lectured at Paris In 1142 he was made bishop of Poitiers He was twice accused of heresy Gilbert's works—*De sex principiis*, an elucidation of Aristotle's last six categories, and his commentary on the *De trinitate* ascribed to Boethius—reveal his somewhat obscure position in scholastic realism, which he held in a moderated form

Gilbert Islands, group of atolls (144 sq mi; pop 27,824), central Pacific, belonging to Great Britain The group includes 10 islands north of the equator, TARAWA, MAKIN, Little Makin, MARAKEI, Abaiang, Maiana, Nukunau, Abemama, Kuria, and Aranuka, and 6 islands of the Kingsmill Group south of the equator, Nonouti, Tabiteuea, Beru, Onotoa, Tamana, and Arorae Tarawa is the capital and port of the colony There are coconut and palm trees, but the soil is poor and yields only taro Some copra is exported The rainfall ranges from 150 in on the northern islands to 15 in on the southern islands, which suffer from periodic droughts The natives are Micronesian The islands were discovered in 1764 by Captain Byron and were visited in 1856 by Hiram Bingham, who translated the Bible into Gilbertese In 1892 the group became a British protectorate and in 1915 was included in the Gilbert and Ellice Islands colony In the Second World War, Tarawa, Makin, Abaiang, Marakei, and Abemama were occupied (1941) by the Japanese Regained in 1943 by U S forces, they became Allied bases for attacking the Marshall Islands

Gilberton, borough (pop 3,710), E Pa, near Frackville, inc 1873 Anthracite mining is done here

Gilboa (-bō'-), ridge, Palestine It runs SE from Jezreel, cutting off part of the plain of Esdraelon from the Jordan Here Saul was defeated and killed 1 Sam 28 4, 31, 2 Sam 1 21

Gildas, Saint (gĭl'dəs), d 570, British historian, possibly a Welsh monk, although little is known about him Shortly before 547 he wrote the *De excidio et conquestu Britanniae*, a Latin history of Britain dealing with the Roman invasion and the Anglo-Saxon conquest of England Its obscure wording has led to numerous theories regarding its meaning and origin, but it remains the earliest authority for the period Gildas is said to have gone to Brittany and to have founded the monastery named after him near Vannes, but this is uncertain

Gilder, Richard Watson (gĭl'dər), 1844–1909, American editor and poet, b Bordentown, N J, self-educated He was a volunteer private during the Civil War In 1869 he became an editor of *Hours at Home*, which merged with *Scribner's Monthly* in 1870 Just before the magazine became the *Century*, Gilder succeeded J G Holland as its editor (1881) and so remained until his death The *Century* was always a leading publication during his life In 1874 he married an artist, Helena de Kave, and their home was the literary and artistic center where the Authors' Club was founded (1882) His poetry, somewhat uneven in quality, includes *The New Day* (1875) and *The Fire Divine* (1907) He also wrote *Lincoln, the Leader* (1909), *Lincoln's Genius for Expression* (1909), and *Grover Cleveland* (1910) See his letters (ed by his daughter, Rosamund Gilder, 1916) His sister was **Jeannette Leonard Gilder,** 1849–1916, American editor and novelist, b Flushing, L I, N Y She was an assistant editor of *Scribner's Monthly* With her brother Joseph Gilder, she was coeditor of the *Critic* from 1881 to 1885, after which she was sole editor until 1906 She was a keen dramatic and music critic, at one time conducting a department in the New York *Herald* Her novels, *The Autobiography of a Tomboy* (1900) and *The Tomboy at Work* (1904), were widely read

Gildersleeve, Basil Lanneau (gĭl'dərslēv), 1831–1924, American classical scholar, b Charleston, S C, grad Princeton, 1849 After study at Gottingen, he was professor of Greek at the Univ of Virginia from 1856 to 1876, except for service in the Confederate cavalry in the Civil War From 1876 to 1915 he was a professor at Johns Hopkins He had high repute as a teacher and did much scholarly work, but he is most widely remembered for his much-used *Latin Grammar* (1867)

Gildersleeve, Virginia Crocheron, 1877–, American educator, b New York city, grad Columbia (B A, Barnard, 1899, Ph D, 1908) After 1900 she was associated with Barnard, first as professor and later as dean from 1911 until she retired in 1947 She was a founder and twice president of the International Federation of University Women, chairman of the American Council on Education and of the educational council advisory to the navy on Women's Reserve, the only woman member of the U S delegation to the San Francisco Conference in 1945, and a member of the advisory commission on education sent to Japan in 1946

Gil de Taboada y de Lemos, Francisco (fränthĕ'skō hĕl' dā täbō'dhä ē dā lā'mōs), d 1809, Spanish colonial administrator After serving as viceroy of New Granada (1789), he was viceroy of Peru (1790–96) In Peru he introduced administrative and moral reforms, encouraged the arts, and sent out exploring expeditions Returning to Spain, he became a member of the governing junta after Ferdinand VII fled before Napoleon

gilding, process of applying to a surface a thin layer of real or imitation gold The process is employed on wood, metal, ivory, leather, paper, glass, porcelain, and fabrics and used to embellish or preserve statuary and the decorative elements, domes, and vaults of buildings Gold, or a substitute, may be applied in leaf form to a surface prepared to receive it by a treatment of size, mercury, acid, or heat The applied leaf is burnished or left matte The oldest method of gilding metals probably consists in coating the metal with gold amalgam and volatilizing the mercury by heat. In chemical methods, employed mainly for metal surfaces, the gold in suspension is subjected to evaporation or heat, resulting in a residual deposit on the treated surface Mechanical and chemical gilding of metals has been largely superseded by electroplating (see PLATING). The art of gilding is of ancient origin It was lavishly employed in Egypt, Greece, and Rome and during the Renaissance and has been used continuously in the Orient

gilds: see GUILDS

Gilead (gĭl'ēăd) [Heb, =witness cairn] **1** Eponym of the Gileadites, grandson of Manasseh Num 26 29, 27 1, 1 Chron 2 2 **2** Gadite. 1 Chron 5 14 **3** Jephthah's father Judges 11 1,2. **4** Mountain mentioned in Judges 7 3 in a passage the text of which is obscure **5** Fertile, mountainous region, NE of the Dead Sea It was allotted to Reuben, Gad, and Manasseh and was noted for its spices, myrrh, and balm It was the home of Jair, Jephthah, and Elijah, and here Jacob met Laban, Ishbosheth was once its king, and in it David found refuge from Absalom. Syria and Assyria overran it, and Hosea denounced it It has been called variously Mt Gilead, Land of Gilead, and Gilead Gen 31 21,25, 37 25, Deut 3 12–17, Judges 5 17, 10 3, 11, 20 1, 1 Sam 13 7, 2 Sam 2 9, 19 31, 24 6, 1 Kings 4 13, 17 1, 2 Kings 10 3; 15 25, Jer 8 22, Hosea 6 8, 12 11, Amos 1 3,13

Giles, William Branch (jīlz), 1762–1830, American statesman, b Amelia co, Va, grad College of New Jersey (now Princeton Univ), 1781 After practicing as a lawyer in Petersburg, Va, he entered the U S House of Representatives as an anti-Federalist in 1790 There he opposed the establishment of the Bank of the United States and in 1793 brought charges of corruption against Alexander Hamilton, these were rejected Resigning in 1798, he was a member of the Virginia legislature (1798–1800), but in 1801 was again elected to Congress From 1804 to 1815 he was a U S Senator He took a leading part in the impeachment of Justice Samuel Chase, was active in factional contests within the Jeffersonian party, and vigorously directed his hostility against Albert Gallatin and James Monroe Giles was again a Virginia legislator for several terms, was governor of Virginia (1827–30), and took part in the state constitutional convention (1829–30) His career was marred by the intense personal animosities he held *Political Miscellanies* (1829) contains a number of his speeches and letters See biography by D R Anderson (1914)

Giles Land: see SPITSBERGEN

Gilgal (gĭl'găl) [Heb, =circle] **1** First encampment of the Israelites W of the Jordan Joshua 4 20, 5 10, 1 Sam 13 4, Hosea 4 15, Amos 4 4 **2** Place, N of Lydda, scene of Elijah's translation 2 Kings 2 1, 4 38 **3, 4, 5** Places otherwise unidentified Joshua 12 23, 15 7, Deut 11 30 See GELILOTH

Gilgamesh (gĭl'gəmĕsh), hero of a Babylonian legend, which was made into an epic of about 3,000 lines written on 12 tablets About half of the work remains It was found in the library of Assurbani-pal at Nineveh It tells of the adventures of the mighty Gilgamesh, how he spurned Ishtar, how he met and wandered with his friend Enkidu (half bull and half man), and how he sought the key to immortality possessed by Ut-napishtim, his ancestor Gilgamesh was apparently originally a Sumerian king

Gill, Sir David (gĭl), 1843–1914, Scottish astronomer While director of the private observatory of Lord Lindsay in Aberdeenshire, he organized an expedition to Mauritius to observe the transit of Venus (1874) and in 1877 planned and conducted an expedition to Ascension island for the observation of Mars to determine the solar parallax As astronomer royal of the Cape of Good Hope (1879–1907), he carried out the geodetic survey of Natal and Cape Colony and organized the geodetic survey of Rhodesia He was a leader in the use of photography in the preparation of star catalogues His survey of the heavens of the Southern Hemisphere (with J C Kapteyn) is known as *The Cape Photographic Durchmusterung for the Equinox 1875* (1896–1900) This work extended Argelander's *Bonn Durchmusterung* to the south pole Gill was knighted in 1900 His writings include *A Determination of the Solar Parallax and Mass of the Moon* (1897) and *History and Description of the Royal Observatory, Cape of Good Hope* (1913)

Gill, Eric Rowland, 1882–1940, English sculptor and wood engraver The son of a nonconformist minister, he became a Catholic His work includes *Madonna and Child; Stations of the Cross* (Westminster Cathedral, London), and *Christ Driving the Moneylenders out of the Church*, for the war memorial at the Univ of Leeds Believing that the designer should be his own craftsman, he carved his sculpture directly from the stone His books, expressing his views on art and life, include *Essay on Typography* (1931), *Clothes* (1934), *Money and Morals* (1934), *Work and Leisure* (1935), and *Work and Property* (1937) See his autobiography (1941) and letters (ed by Walter Shewring, 1949), study by J. P Thorp (1929).

Gill, Theodore Nicholas, 1837–1914, American zoologist, b New York city, privately educated He was associated with George Washington Univ, from 1866 (as professor of zoology, 1884–1910) and

was assistant librarian at the Library of Congress (1866–75). Famed as a taxonomist, he wrote *Catalogue of the Fishes of the East Coast of North America* (1861–73), *Arrangement of the Families of Fishes* (1872), and *Arrangement of the Families of Mammals* (1872). See biography by W. H. Dall (1917).

gill (gĭl), respiratory organ of many aquatic animals. In the fish, gills are throughout life the chief organ of respiration Blood flowing through the tiny vessels which permeate the gill filaments absorbs oxygen and releases carbon dioxide The filaments are attached along the outer edge of a cartilaginous or bony branchial or gill arch Projections from the inner edge of the arch are called gill rakers These are present except in fish which eat whole fish and other large food and serve to strain the food from the water which enters the mouth and flows out through the gill clefts or slits between the gills A gill cover or operculum is present in many fish Gills different in structure from those of the fish are the respiratory organs in developing amphibians and in the adult of some forms and in mollusks, echinoderms, and crustaceans Aquatic larvae of insects have gills permeated by air tubes

Gillem, Alvan Cullem (gĭl'ŭm), 1830–75, Union general in the Civil War, b Jackson co, Tenn, grad West Point, 1851 In the early part of the Civil War he fought in the Tennessee campaigns. His friend Andrew Johnson, then military governor of Tennessee, appointed him state adjutant general in June, 1863 In August, Gillem was made a brigadier general of volunteers, and after his campaign against Confederate bands in E Tennessee (1864) he was brevetted major general of volunteers (April, 1865) He commanded the Dist of East Tennessee after the war and was prominent in the reorganization of the state government In 1868 he was given command of Mississippi and Arkansas, where—to the displeasure of the radicals—he made Reconstruction comparatively easy After Johnson was no longer President, Gillem was removed to the Texas frontier In 1873 he commanded against the Modoc Indians in California

Gillespie, Mabel (gĭlĕ'spē), 1867–1923, American social worker and labor organizer, b St Paul, Minn She studied (1898-1900) at Radcliffe, then became secretary of the Boston Associated Charities, in which capacity she interested herself in the problems of workingwomen. She was active in investigating labor conditions in Massachusetts and New York, serving as executive secretary of the state child labor committee and the Consumers' League in New York and, after 1909, as secretary of the Boston Women's Trade Union League She exercised great influence in securing improved social legislation in Massachusetts In 1919 she was a founder of the Trade Union College, Boston

Gillespie, city (pop 4,440), SW Ill, NNE of St Louis, in a coal area, inc 1869

Gillett, Ezra Hall (jlĕt'), 1823–75, American Presbyterian clergyman and historian, b Colchester, Conn, grad Yale, 1841, and Union Theological Seminary, 1844 After serving (1845–70) as pastor in Harlem, New York city, he became professor of political science in the Univ of the City of New York (now New York Univ) He began the McAlpin Collection of British history and theology for the library of Union Theological Seminary Among Gillett's writings are *The Life and Times of John Huss* (1863)

Gillett, city (pop 1,145), NE Wis, on a tributary of the Oconto and NW of Green Bay, inc as a village 1900, as a city 1944

Gillette, William (jlĕt'), 1853–1937, American actor and playwright, b Hartford, Conn His New York debut in Mark Twain's *Gilded Age* (1877) was shortly followed by his own first play, *The Professor* (1881), which appeared at the Madison Square Theatre, then under his management In the same year *Esmeralda*, written with Frances Hodgson Burnett, established his success *Held by the Enemy* (1886) was the first of his popular Civil War plays, the second being *Secret Service* (1896) Both won him high personal praise With *Sherlock Holmes* (1899), however, Gillette scored his lasting triumph, creating a play and a character with which he was permanently associated He later appeared in Barrie's *Admirable Crichton* and *Dear Brutus* In retirement from 1932, Gillette returned in 1935–36 to tour in *Three Wise Fools*

Gillette, town (pop 2,177), co seat of Campbell co, NE Wyo, SE of Sheridan It is a trade center for a grain, livestock, oil, and coal area Near by is a Univ of Wyoming farm experiment station

Gilliam, David Tod (gĭl'yŭm), 1844–1923, American gynecologist, b Hebron, Ohio, M D Medical College of Ohio, 1871 From 1879 he was professor at Starling Medical College, Columbus He originated (1899) the Gilliam operation for displacement of the uterus He wrote *The Essentials of Pathology* (1883) and *Practical Gynecology* (1903)

Gillingham (jĭl'ĭng-ŭm), municipal borough (1931 pop 61,536; 1947 estimated pop 62,810), Kent, England, on the Medway and adjacent to Chatham. There is a fragment of the former palace of the archbishops of Canterbury Industrially the town is dependent upon the Chatham dockyards, the fruit orchards in the vicinity, and the manufacture of bricks, cement, and electrical equipment. It is the site of a naval hospital.

Gilliss, James Melville (gĭl'ĭs), 1811–65, American astronomer, b Georgetown, D C. He entered the navy in 1826 and was made first an assistant and in 1837 superintendent of the Depot of Charts and Instruments He began making the first astronomical observations for the government, and it was largely upon his representations that the U S naval observatory was established in 1841 He was commissioned to organize and equip it In 1861, after the resignation of M F Maury, he became superintendent of the observatory He led an expedition (1849–52) to Santiago, Chile, which studied the southern constellations and made observations for the determination of the solar parallax Its report was published in four volumes He made later journeys to observe solar eclipses Under his guidance the naval observatory began effective cooperation with other research observatories and commenced the publication of its observations See G A Weber, *The Naval Observatory* (1926)

Gillmore, Quincy Adams (gĭl'môr), 1825–88, Union general in the Civil War, b Lorain co, Ohio, grad West Point, 1849 Gillmore, a captain of engineers, captured Fort Pulaski in April, 1862, and shortly afterward was made a brigadier general of volunteers Commanding the 10th Army Corps and the Dept of the South (1863–64), he had charge of operations against Charleston Although he reduced Fort Sumter to ruins, the Confederate force there did not surrender Gillmore fought with the Army of the James at Drewrys Bluff (May, 1864), commanded two divisions in the defense of Washington against Early's raid (July), and again commanded the Dept of the South in 1865 After the war he was active in army engineering work and in 1879 was made president of the Mississippi River Commission

Gillow, Robert, d 1773, English furniture manufacturer and designer, founder of a firm of cabinetmakers prominent for two centuries They produced the original type of billiard table, a telescoping dining table, and the Davenport desk

Gillray, James (gĭl'rā), 1757–1815, English caricaturist and illustrator, studied at the Royal Academy and on the Continent His earliest cartoon, *Paddy on Horseback*, appeared in 1779 He illustrated Goldsmith's *Deserted Village* (1784) and published *John Bull and His Family Landing at Boulogne* (1792) He became famous with his caricatures of the court of George III His masterly delineations, vigorous, often subtle, though sometimes vulgar, numbered more than 12,000 Among his best-known cartoons are *A Connoisseur Examining a Cooper* (1792), *A New Way to Pay the National Debt* (1796), *Social Elements in Skating* (1805), and *A Rake's Progress at the University* (1806)

gillyflower see CARNATION; STOCK, WALLFLOWER

Gilman, Arthur (gĭl'mun), 1837–1909, American educator and writer, b Alton, Ill, M A Williams, 1867 After a brief career as a banker, he turned to writing and later was connected with the Riverside Press, Cambridge He was instrumental in establishing Radcliffe College and in 1886 founded at Cambridge the Gilman School for Girls His numerous historical and literary works include *The Story of Rome* (1886), *The Making of the American Nation* (1887), and an edition of Chaucer

Gilman, Charlotte Perkins, 1860–1935, American feminist and reformer, b Hartford, Conn, great-granddaughter of Lyman Beecher She married in 1884 C W Stetson and in 1900 George H Gilman Prominent as a lecturer and writer on the labor movement and feminism, she edited the *Forerunner*, a liberal journal Among her many books are *Women and Economics* (1898), *Concerning Children* (1900), *Human Work* (1904), and *This Man-made World* (1911) Her verses were collected in *This Our World* (1898) Incurably ill, she committed suicide See her autobiography, *The Living of Charlotte Perkins Gilman* (1935)

Gilman, Daniel Coit, 1831–1908, American educator, first president of Johns Hopkins Univ, b Norwich, Conn, grad Yale, 1852 After serving as attaché (1853–55) of the American legation at St Petersburg, he returned to Yale and was active in planning and raising funds for the founding of Sheffield Scientific School From 1856 to 1865 he was librarian of Yale College and was also concerned with improving the New Haven public school system Appointed (1863) professor of geography at Sheffield Scientific School, he became secretary and librarian as well in 1866 He resigned these posts in 1872 to become president of the newly organized Univ of California His work there was hampered by the state legislature, and in 1875 Gilman accepted the call to establish and become first president of Johns Hopkins Univ. at Baltimore. Before being formally installed as president in 1876, he spent a year studying university organization and selecting an outstanding staff of teachers and scholars Gilman was also active in founding Johns Hopkins Hospital (1889) and Johns Hopkins Medical School (1893) He founded and was long president of the Charity Organization of Baltimore and served as a trustee of the John F. Slater and Peabody Education funds and as a member of the General Education Board. He retired from Johns Hopkins in 1901, but accepted the presidency (1902–4) of the newly founded Carnegie Institution of Washington. His books include biographies of James Monroe and James Dwight Dana, a collection of addresses entitled *University Problems* (1898), and *The Launching of a University* (1906) See biographies by Fabian Franklin (1910) and Abraham Flexner (1946)

Gilman, Lawrence, 1878–1939, American music critic and author, b Flushing, L I, N Y He was music critic for *Harper's Weekly* (1901–13) and the *North American Review* (1915–23), and in 1923 he succeeded H E Krehbiel as music critic for the New York *Herald Tribune*, a post he held until his death An able and highly respected critic, he wrote (1921–39) the program notes for the New York Philharmonic Society and the Philadelphia Orchestra and also many books on music, including *Aspects of Modern Opera* (1909), *Edward MacDowell* (rev ed, 1909), *Wagner's Operas* (1937), and *Toscanini and Great Music* (1938)

Gilman (gĭl'mun), city (pop 1,554), E Ill, E of Peoria, in a farm area, inc 1867

Gilmer, Thomas Walker, 1802–44, U S. Secretary of the Navy (Feb, 1844), b Albemarle co, Va He practiced law, served (1829–36, 1839) in the Virginia legislature, and was elected (1840) governor of Virginia As Congressman (1841–44), he was a spokesman for the Tyler administration Appointed Secretary of the Navy, Gilmer, on board the *Princeton* with other government officials, was killed by a gun explosion This accident brought to the fore the question of succession to the presidency in the event of wholesale death of public officials

Gilmer (gĭl'mur), city (pop 3,138), E Texas, NW of Shreveport, La, settled 1858, inc 1902 It was transformed from a pine-woods lumbering and farming town to a bustling oil city in the 1930s

Gilmor, Harry (gĭl'môr), 1838–83, Confederate cavalry leader, b near Baltimore, Md With a small force he effectively waged guerrilla warfare in the Shenandoah Valley and W Maryland In 1864 Gilmor covered the advance of J A Early on Washington He reluctantly obeyed his superiors in burning Chambersburg, Pa (July, 1864) Sheridan's scouts captured him in Feb, 1865 See his *Four Years in the Saddle* (1866)

Gilmore, Patrick Sarsfield (gĭl'môr), 1829–92, American bandmaster, b near Dublin, Ireland He organized his own band in Boston in 1859 The first of his spectacular music festivals took place in New Orleans in 1864 and was followed by bigger ones in Boston—the National Peace Jubilee (1869) and the World Peace Jubilee (1872), in which a 20,000-voice chorus proved impossibly large Gilmore wrote the words and music of *When Johnny Comes Marching Home*, a popular Civil War song

Giloh (gī'lō), unidentified town, S central Palestine Joshua 15 51 The adjective is Gilonite 2 Sam 15 12, 23 34 See PELONITE

Gilpin, Charles Sidney (gĭl'pĭn), 1878–1930, American Negro actor, b Richmond, Va In singing troupes, stock companies, and vaudeville he toured the United States, until in 1916 he became manager of a Negro stock company in New York city He appeared in Drinkwater's *Abraham Lincoln* in 1919 and with great artistic distinction in the title role of Eugene O'Neill's *Emperor Jones* in 1920–24

Gilpin, Henry Dilworth, 1801–60, American public official, U S Attorney General (1840–41), b Lancaster, England He practiced law in Pennsylvania and served as U S district attorney in this state An ardent Jacksonian Democrat, Gilpin was solicitor of the Treasury (1837–40) and then was Attorney General in President Van Buren's cabinet He was also interested in literary and historical work and edited the papers of James Madison (3 vols, 1840)

Gilroy (gĭlroi'), city (pop 3,615), W Calif, SE of San Jose, chartered 1870 It is a processing center for the farms and orchards of the Santa Clara Valley The city has oil refineries and wineries To the northeast are medicinal hot springs

Gil Vicente see VICENTE, GIL

Gimbel (gĭm'bŭl), family of American merchants and philanthropists **Adam Gimbel,** 1817–96, b Bavaria, emigrated (1835) to the United States and traveled up and down the Mississippi peddling notions He set up (1842) a small business in Vincennes, Ind, and there expanded it considerably over a period of 40 years He sold his business to join his sons, **Jacob Gimbel,** 1850–1922, b, Vincennes, and **Isaac Gimbel,** 1857–1931, b Vincennes, who had opened in the 1880s a successful department store in Milwaukee, Wis In 1894 the Gimbels founded a large department store in Philadelphia, and in 1910 a store was opened in New York city under the direction of Jacob Gimbel—who donated much to Jewish charities. Other businesses were absorbed, and Saks and Company was purchased in 1923. Branch stores were also opened in Pittsburgh, Chicago, Detroit, Beverly Hills, Calif., and other cities **Charles Gimbel,** 1861–1932, b. Vincennes, for many years headed the Philadelphia establishment and was active in

many philanthropies of the city Another brother, **Ellis A. Gimbel**, 1865–1950, b Vincennes, headed the department stores for several years and was the founder of the Gimbel Awards The three other sons of Adam Gimbel, Louis S , Daniel, and Benedict, were also connected with the firm **Bernard F. Gimbel**, 1885–, b Vincennes, son of Isaac Gimbel, became president of Gimbel Brothers, Inc , in 1927

Gimli (gĭm'lē), village (pop 1,045), S Man , on the west shore of Lake Winnipeg and N of Winnipeg It was the first Icelandic settlement in Manitoba

Gimzo (gĭm'zō) [Heb , =sycamore], town, SW Palestine, just SW of Lydda, now called Jimzu It was conquered by the Philistines in Ahaz's time 2 Chron 28 18

gin [archaic *geneva*, from Dutch from O Fr. from Latin, =juniper], spirituous liquor distilled chiefly from fermented cereals, malted and unmalted, and flavored with juniper berries It originated in Holland (whence the name Hollands, or Holland gin) but is now manufactured also in other countries, chiefly England and the United States A type of gin developed in England is known as London gin Dry gin has been highly rectified "Old Tom" gin is sweetened for use as a liqueur Sloe gin is flavored with fresh sloes instead of juniper Spurious gin is fabricated by diluting with water alcohol flavored with juniper extract, turpentine, and other ingredients

Ginath (gī'-), father of Tibni 1 Kings 16 21, 22

Giner de los Ríos, Francisco (franthē'skō hēnär' dā lōs rē'ōs), 1839–1915, Spanish educator and philosopher He founded the Institución Libre de Enseñanza, a school which sought to develop a spirit of inquiry in its students, it did much to reform teaching methods in Spain and to shape contemporary liberal politics there Giner influenced greatly the generation who attended the institution In his work on the philosophy of law Giner attempted to reconcile positivist and rational trends His collected works were published (1916–27) in 18 volumes

ginger, perennial plant (*Zingiber officinale*) of the tropics and its underground branching rootstalk of commercial importance The plant has long, narrow, alternate, and grasslike leaves and flowers borne on separate stems It is easily propagated by the rootstalk, which is about the thickness of a man's finger, and has become one of the most widespread of the spices It is not found in the wild state but is believed to be native to S Asia, where it has been an article of commerce from ancient times Ginger was known to the Greeks and Romans and had reached England before the Norman Conquest It is marketed as preserved or green ginger—produced mostly in China—or as dried or cured ginger Preserved ginger is boiled, peeled, candied, and sold either in syrup or coated with powdered sugar Dried ginger is variously prepared for the market, sometimes with a coating of lime Ginger is used in medicine as a stimulant and a carminative and in cookery (usually powdered) as a condiment, particularly in curries, the oil flavors several beverages, e g , ginger ale Wild ginger is a North American herb with a ginger-flavored rootstalk

ginger ale, sweetened beverage made of carbonated water flavored with ginger and other ingredients Ginger beer is an unrelated beverage, properly a fermented drink brewed from ginger and bitter vegetables

Ginkel, Godart van, 1st earl of Athlone (vän gĭng'kul, Dutch khō'därt van khĭng'kul, ăthlōn'), 1630–1703, Dutch general in the service of Prince William of Orange (WILLIAM III of England) In the War of the Grand Alliance, after the battle of the Boyne (1690), Ginkel became commander in chief of the army in Ireland, capturing Ballymore and Athlone, defeating the forces of James II at Aughrim, and taking Limerick, where peace was made In the War of the Spanish Succession he commanded the Dutch wing of the forces of the duke of Marlborough

ginkgo (gĭngk'gō, gĭng'kō, jĭngk'gō, jĭng'kō) [Jap from Chinese, =silver apricot] or **maidenhair tree**, tall, slender, picturesque deciduous tree (*Ginkgo biloba*), native to the Orient, but planted for ornament and shade in Europe and America It has irregular and sparse branches and fan-shaped leaves It is interesting as a "living fossil," being the sole surviving example of a large group of trees that existed in geologic times Its form has not changed in millions of years, as is shown by fossils widely scattered over Europe and Asia In China it is considered a sacred tree and is planted near temples The kernel of the fruit is highly esteemed by the Asiatics as a food, but the pulp surrounding it is foul-odored

Ginn, Edwin (gĭn), 1838–1914, American publisher and philanthropist, b Orland, Maine, grad Tufts College, 1862 In 1867 he started in Boston his publishing business, which as Ginn, Heath & Co after 1881 and as Ginn & Company after 1885 was notable as a publisher of grammar school texts Ginn aided and organized educational work for the peace movement, and his endowment of the World Peace Foundation in 1910 gave continuity to its educational program.

Ginnetho (gĭ'nēthō, gĭnē'-) [Heb , =gardener], priest who returned with Zerubbabel. Neh. 12 4. He is undoubtedly the same as **Ginnethon** (gĭ'nēthŏn, gĭnē'-), mentioned in Neh 10.6 and 12 16

Ginsburg, Christian David (gĭns'bûrg), 1831–1914, English Hebrew scholar, b Warsaw He was converted to Christianity in 1846 and settled in England, He translated (1857) the Song of Songs, with a critical commentary, but is best known for his Masoretic studies, including Hebrew and English editions of Jacob ben Hayyim's *Introduction to the Rabbinic Bible* (1867), Elias Levita's *Massoret ha-Massoret* (1867), and *The Massorah* (4 vols , 1880–1905)

ginseng (jĭn'sĕng"), name for species of the genus *Panax*, perennial herbs of North America and Asia The true ginseng (*Panax schinseng* or *ginseng*) is native to E Asia and has long been prized by the Chinese as a panacea The large demand for this plant led to a search for a substitute—found in one of the American species, *P quinquefolium*, native E of the Rockies but nearly exterminated. It is now marketed chiefly from cultivation but requires a few years to mature the roots properly Both species have leaves of five leaflets, a cluster of small flowers, and red berries See *Ginseng Diseases and Their Control* and *Ginseng Culture* (U S Dept of Agriculture, Farmers' Buls 736 and 1184)

Gioberti, Vincenzo (vēnchän'tsō jōbĕr'tē), 1801–52, Italian philosopher, statesman, and political writer, b Turin Ordained a priest in 1825, he went into exile (1833–48) at Paris and Brussels because of his liberal political ideas In 1848 he became deputy, senator, and finally premier of the kingdom of Sardinia, but he resigned after the Austrian victory over the Sardinians at Novara (1849) After a short term as minister to Paris, he retired to private life At first a republican, favoring a federation of Italian states under papal arbitration, he later advocated the complete unification of Italy as a constitutional monarchy

Giocondo, Fra Giovanni (frä' jōvän'nē jōkōn'dō), c 1435–1515, Italian architect, engineer, and antiquary A Franciscan friar, he was accomplished in philosophy, archaeology, and classical literature, but is best known for his architectural and engineering works He designed a drainage system for the lagoons of Venice, built the fortifications of Treviso, and is universally credited with the design of the Palazzo del Consiglio (1476) at Verona, an elegant arcaded monument of the early Renaissance He accompanied Charles VIII to France in 1495 as court architect, his only known remaining work of that period is the Pont Notre Dame in Paris

Gioia or **Gioja, Melchiorre** (both mälkyôr'rā jō'yä), 1767–1829, Italian economist and political theorist An early advocate of the unification of Italy, he was several times imprisoned, once on charges of association with the Carbonari movement He opposed the doctrines of Adam Smith, insisting on the economic duty of the state He also conducted important statistical studies His chief works are *Del merito e delle ricompense* [concerning merit and rewards] (1818–19) and *Filosofia della statistica* [philosophy of statistics] (1829–30)

Giolitti, Giovanni (jōvän'nē jōlēt'tē), 1842–1928, Italian statesman, five times premier (1892–93, 1903–5, 1906–9, 1911–14, 1920–21) He and Sonnino were the leading Italian political figures in the years before the First World War A leftist, but not a Socialist, he favored the organization of labor unions and was responsible for important social reforms He opposed Italian participation in the First World War In the troubled period of his fifth premiership, Italy made a treaty with Yugoslavia to settle the FIUME dispute and acquired the Dodecanese from Turkey After 1924 he opposed Mussolini He left memoirs (Eng tr , 1923)

Giono, Jean (zhäⁿ' jōnō'), 1895–, French novelist, b Provence His semi-autobiographical novel, *Jean le bleu* (1932, Eng tr , *Blue Boy*, 1946), explores the development of his early tastes into maturity Among his best works are three short novels, *Colline* (1920, Eng tr , *Hill of Destiny*, 1929), *Un de Baumugnes* (1929, Eng tr , *Lovers Are Never Losers*, 1931), and *Regain* (1930, Eng tr , *Harvest*, 1939) He also wrote *Le Chant du monde* (1934, Eng tr , *The Song of the World*, 1937) and a short story "La Femme du boulanger" (1935, film version with English title, *The Baker's Wife*, 1939) A pacifist, Giono expressed his revolt in *Refus d'obéissance* (book form, 1937) In 1939 he translated Melville's *Moby Dick* into French

Giordano, Luca (lōō'kä jōrda'nō), 1632–1705, Italian painter of the Neapolitan school; pupil of Ribera and Pietro da Cortona He was called Fa Presto because of the rapidity with which he painted He copied the works of the great masters with amazing facility and ultimately based his style upon that of Veronese and Cortona Giordano lived in Naples, but in 1679 and again in 1683 was invited to Florence by the grand duke to decorate the cupola of the Corsini Chapel and to decorate a ceiling in the Palazzo Riccardi In 1692 on invitation of Charles II of Spain, he went to Madrid, where he remained eight years and produced numerous works in oil and in fresco, achieving fame and wealth On the death of Charles, he accompanied Philip V to Naples. His pictures are in the leading European galleries, particularly those of Madrid, Vienna, and Naples His best-known frescoes in Naples include *The Story of Judith* (San Martino); *Christ Expelling the Traders from the Temple* (San Filippo Neri), and those in Santa Brigida In Spain he painted admirable frescoes in the Chapel of San Lorenzo and in the Escorial, Madrid, and in the churches and palaces of Madrid and Toledo. Another example is *The Birth of John the Baptist* (Metropolitan Mus)

Giordano, Umberto (ōōmbĕr'tō), 1867–1948, Italian composer of operas *Andrea Chénier* (1896) and *Madame Sans-Gêne* (1915), a comedy, are best known

Giorgio, Francesco di (franchä'skō dē jōr'jō), 1439–1502, Italian engineer, architect, painter, and sculptor, b Siena With Renaissance versatility he worked as military architect and engineer, first at Siena (1463–78) and later in the service of the duke of Urbino, made a model for the dome of the Milan cathedral (1480), and invented the mines used in the siege of Naples in 1495 In sculpture he is remembered for his work in the choir of the Siena cathedral, his paintings, which show the influence of Fra Filippo Lippi, are mostly in Siena, *The Rape of Europa* is in the Louvre and *The Chess Players* in the Metropolitan Museum His treatise *Trattato di architettura civile e militare* was edited by Cesare Saluzzo in 1841 See study by A. S Weller (1944)

Giorgione (jōrjō'nā), c 1478–1510, Venetian painter, b Castelfranco Veneto, fellow student of Titian under Giovanni Bellini in Venice Giorgione was known also as Zorgo of Zorgi da Castelfranco and as Giorgio Barbarelli Almost nothing is known of his life except that he worked in Venice, undertook various important commissions in oil and fresco, and died of the plague in his early 30s Legend concedes him every personal charm A great innovator, he is credited with having been the formative influence in the lives of Titian, Pordenone, Sebastiano del Piombo, and Jacopo Palma il Vecchio Thus, in a sense, 16th-century Venetian painting stems from him No absolute was his domination that it is impossible to separate with certainty his work from that of his imitators His frescoes are practically obliterated The list of his extant works in oil is computed variously at from 4 to 70 But if Giorgione himself is an unknown quantity the Giorgionesque is not It was a new departure in Venetian painting both in technique and in spirit Technically it introduced a greater fusion of all forms and a subordination of local color to the pervading tone, in which the differences express primarily form in space This revolution was accomplished simultaneously by Leonardo, but whereas Leonardo tended to suppress color in his somewhat opaque shadows, the colors of Giorgione are luminous and warm In spirit the Giorgionesque was liberating The ostensible subject no longer limited the artist but became a pretext for self-expression The Virgin steps out of her architectural setting and becomes part of an idyllic landscape bathed in a general light The specific works associated with Giorgione himself have the poetic quality of a bucolic dreamworld never recaptured by his famous followers Among the best authenticated are *Madonna with SS Francis and Liberale* (cathedral, Castelfranco Veneto), *The Three Philosophers* (Vienna), and the Giovanelli landscape with figures (Venice) Also celebrated, if more dubious, are *Concert champêtre* (Louvre), *The Concert* (Pitti Palace), *Judgment of Solomon* and *Trial of Moses* (Uffizi), *Madonna with SS Roch and Antony* (Prado), *Venus and Cupid in a Landscape* (National Gall of Art, Washington, D C), a portrait in the Metropolitan Museum See studies by Herbert Cook (1900) and G M Richter (1937)

Giottino (jōt-tē'nō), early Florentine painter of the school of Giotto. He is supposed to have lived in the first half of the 14th cent and has been variously identified with Giotto di Stefano and Maso di Banco It is possible that the work of more than one man has been associated with this name He has been credited with frescoes in Santa Croce, Florence, and in the lower church of St Francis in Assisi and a fine *Pietà* in the Uffizi, works of great beauty and refinement See Osvald Sirén, *Giotto and Some of His Followers* (Eng tr , 1917)

Giotto (Giotto di Bondone) jōt'tō dē bōndō'nā), c 1266–c 1337, Florentine painter and architect More than any other one man he may be said to have determined the course of painting in Europe He reputedly was born at Colle, near Florence, the son of a landowner There are records of his residence at Florence at various periods from 1311 to 1336. Tradition says that he was a pupil of Cimabue, but modern critics see in his earliest works evidences of the Roman school. He early turned from the rigidity and conventionalism of contemporary Italo-Byzantine painting to the study of nature and, despite the limited technical knowledge at his command, gave new life to the art of painting in Italy. Giotto was, above all, the perfector of form and movement. His figures are graceful, dignified, natural, and individual. The

faces and gestures are expressive and lifelike; drapery and architecture are handled with simplicity and skill, movement is free and unconstrained Earnestness and dramatic force characterize all his works, and though he had but scant knowledge of linear perspective and chiaroscuro, his mature art has never been surpassed in ease and grace of pose and in the decorative effect achieved by composition and color In breaking the bonds of Byzantine tradition, Giotto undoubtedly was influenced by the naturalistic trend in sculpture inaugurated by the Pisani and by the Franciscan movement in religion His earliest extant works are probably the celebrated frescoes in the Church of St Francis in Assisi, the beautiful and well-preserved *Allegories*, *The Glorification of St Francis*, and *The Life of the Virgin and Christ* (10 scenes, including the *Crucifixion*) in the transepts and the *Miracles of St Francis*, all in the lower church In 1298 he was in Rome, where he executed for Cardinal Stefaneschi the famous *Navicella*, a mosaic (now in the portico of St Peter's), and an altarpiece for the high altar of St Peter's (now in the sacristy) About 1305 he decorated the Scrovegni (Arena) Chapel at Padua This series of 38 frescoes are counted among the greatest works of Italian art and are the best preserved of Giotto's works Painted in three rows on either side wall, they deal with biblical subjects, the *Life of Christ*, *Vices and Virtues*, *Savior in Glory*, and the superb *Last Judgment* Giotto probably was one of the band of wandering painters who traversed Italy, decorating chapels, churches, monasteries, and palaces Among numerous works attributed to him, many of which have perished, are the frescoes in the Church of Santa Croce, Florence, *Life of St Francis* in the Bardi Chapel and *St John the Baptist* and *St John the Evangelist* in the Peruzzi Chapel Such fragments as have escaped the restorer's hand place them among the great masterpieces of the world's art Striking episodes pictured are *The Funeral of St Francis*, *Ascension of St John*, *Birth of the Baptist*, and *The Dance of Salome* Of Giotto's fewer panel pictures, the most famous are the *Virgin and Child Enthroned* (Florence), *Stigmatization of St Francis* (Louvre), and *Presentation in the Temple* (Gardner Mus , Boston) On the death of Arnolfo di Cambio, Giotto was made director of the works of Santa Maria del Fiore, in Rome, he designed the west front of the cathedral and the campanile, the lower part of which, together with the sculptured decorations, were completed from his designs before his death Later the tower was modified to some extent by Andrea Pisano and Francesco Talenti, but the unique and richly decorated structure, always known as Giotto's Tower, remains a monument to the genius of its original designer His reforms in painting were carried throughout Italy by his many pupils and followers Giotto's popularity as a great Florentine and artist is attested in literature by Dante and Petrarch, by Boccaccio, Sacchetti, and Villani The *Epiphany* and eight panels, *Scenes from Holy Subjects*, attributed to the school of Giotto, are in the Metropolitan Museum, the National Gallery of Art, Washington, D C , has a *Madonna and Child* The master's later years were devoted chiefly to architecture See biography by Basil De Sélincourt (1905), Oxvald Sirén, *Giotto and Some of His Followers* (Eng tr , 1917), Bernard Berenson, *A Sienese Painter of the Franciscan Legend* (1920)

Giovanni da Bologna see BOLOGNA, GIOVANNI DA

Giovanni da Fiesole see ANGELICO, FRA

Giovanni delle Bande Nere: See MEDICI, GIOVANNI DE'

Giovanni di Pietro see SPAGNA, LO

Gippsland (gĭps'lănd), rural district, 13,655 sq mi , SE Victoria, Australia, E of Melbourne Partly mountainous and forested, the area has fertile plains producing corn, oats, and sugar beets There are deposits of coal, gold, and bauxite Sale is the principal center

Gipson, Lawrence Henry (gĭp'sun), 1880–, American historian, b Greeley, Colo , grad Univ of Idaho, 1903 A Rhodes scholar (B A Oxford, 1907), he also studied at the Univ of Chicago and at Yale (Ph D , 1918) Gipson was an assistant in history at the Univ of Idaho (1903–4), professor at the College of Idaho (1907–10), and professor of history (1911–17) and of history and political science (1918–24) at Wabash College From 1924 to 1946 he was professor of history and head of the department of history and government at Lehigh Univ In 1947 he became research professor of history at Lehigh Gipson is an outstanding authority on the British Empire in the 18th cent , especially, though not exclusively, on its American colonies His outstanding work, *The British Empire before the American Revolution* (7 vols , 1936–49), is a comprehensive study, which is generally considered to have made Francis Parkman's writings on the same period obsolete as history. The seven volumes are either subtitled or separately titled as follows *Great Britain and Ireland; The Southern Plantations, The Northern Plantations* (these first three were all published in 1936), *Zones of International Friction North America, South of the Great Lakes Region, 1748–1754* (1939), *Zones of International Friction the Great Lakes Frontier, Canada, the West Indies, India, 1748–1754* (1942); *The Great War for the Empire the Years of Defeat, 1754–57* (1946), and *The Great War for the Empire Victorious Years, 1758–1760* (1949) Other of his works include *Jared Ingersoll* (1920), the section on the United States in Howard C Barnard, ed , *The Expansion of the Anglo-Saxon Nations* (1920), *Studies in Connecticut Colonial Taxation* (1931), and *Some Reflections upon the American Revolution and Other Essays in American Colonial History* (1942) He also edited *The Moravian Indian Mission on White River Diaries and Letters* (1938)

gipsy, see GYPSY

giraffe (jĭrăf'), ruminant mammal of Africa living in open country S of the Sahara Tallest of animals, a male may be 18 ft from hoof to crown The long neck has only the usual seven vertebrae The short horns are covered with skin and hair Giraffes are protectively colored with large sandy to chestnut angular spots closely spaced on the lighter background They feed chiefly on leaves of acacia and mimosa, using their extensible tongues and mobile lips to secure the food They can do without water for long intervals The giraffe can outrun most of its enemies and is usually hunted on horseback Destroyed for its hide and flesh, it is reduced in numbers and in some areas exterminated It is now protected

Giralda (jĭrăl'du, Span hĕral'da), celebrated tower adjoining the cathedral of Seville, Spain It was built (1163–84) to serve as minaret to the main mosque of Seville, on the site of which the cathedral now stands In 1568 it was converted into a bell tower by the addition of an ornate Renaissance superstructure on the simple square Moorish tower, a weathervane, or *giraldillo*, in the shape of a crowning figure representing Faith, gave the tower its name The original square minaret, with an interior ramp, is 197 ft high, the superstructure adds 123 ft

Giraldi, Giovanni Battista (jōvan'nē bat-tē'sta jĕral'dē), 1504–73, Italian author, known also as Cinthio, Cintio, Cinzio, or Cynthus He wrote tragedies, lyric verse, and tales Some of the stories in his *Hecatommathi* (one hundred tales) (1565) were translated by Whetstone and other 16th-century English writers, and Shakspere derived the plots of *Othello* and *Measure for Measure* from two of them

Giraldus Cambrensis (jĭrăl'dus kămbrĕn'sĭs), c 1146–1223, Norman-Welsh churchman, called also Gerald de Barri He was of noble parentage His ecclesiastical career was distinguished for independence and zeal Giraldus' ambition was to be bishop of Monmouth, but although nominated in 1176, 1198, and 1214, he was not elected, probably because he was known to desire to make St David's a primal see independent of Canterbury He was associated (from 1184) with the king and court of England His historical works include two descriptive works on Ireland (resulting from a visit) and *Descriptio Cambriae* [description of Wales] He is most valuable when writing from personal experience, and he provides frequent glimpses of medieval life and folklore He also wrote autobiographical works, lives of churchmen, pastoral admonitions, Latin poetry, and treatises on the rights of the see of St David's See *The Autobiography of Giraldus Cambrensis* (ed and tr by H E Butler, 1937)

Girard, Charles (jĭrard'), 1822–95, American physician and zoologist, b Mulhouse, Alsace He became an assistant to Louis Agassiz in Neuchâtel, Switzerland, and in 1848 accompanied Agassiz to the United States Girard graduated from Georgetown Univ (M D , 1856) and was affiliated with the Smithsonian Institution (1850–59) His works include *Herpetology* (1858), based on studies of reptiles collected by the Charles Wilkes expedition (1838–42), *Contributions to the Natural History of the Fresh Water Fishes of North America* (1851), and *Life in Its Physical Aspects* (1855) After the Civil War, Girard, who was a Confederate officer, left the country for Paris, where he devoted himself to medicine

Girard, Stephen (jĭrard'), 1750–1831, American merchant, banker, and philanthropist, b Bordeaux, France Girard went to sea and at the age of 23 was a captain He landed in New York in 1774 and was employed to sail for a merchant there In 1776 he settled in Philadelphia as shipowner and merchant He gained wealth and interested himself in the Bank of the United States When its charter was not renewed, he set up his own bank in Philadelphia He helped to finance the United States in the War of 1812, and in 1816 he subscribed much money for the Second Bank of the United States Girard gave of his own personal service in the yellow-fever epidemic of 1793 He contributed to the improvement of Philadelphia He bequeathed several million dollars to found Girard College, an educational institution for poor white orphan boys The presumptive heirs sued, but they failed See J B McMaster, *The Life and Times of Stephen Girard* (1918), C A Herrick, *Stephen Girard, Founder* (1923), H E Wildes, *Lonely Midas* (1943)

Girard (jĭrard') **1** City (pop 1,741), central Ill , S of Springfield, in a coal and farm area, inc 1855 **2** City (pop 2,554), co seat of Crawford co , SE Kansas, NW of Pittsburg, founded 1868, inc as a town 1869, as a city 1871 **3** City (pop 9,805), NE Ohio, on the Mahoning river and NW of Youngstown, settled c 1800 Metal products and leather are made here **4** Borough (pop 1,732), NW Pa , near Lake Erie SW of Erie, trading and residential center, settled c 1800, inc 1846

Girard College, in Philadelphia, nonsectarian, for fatherless boys (mainly from Pennsylvania), a free home, secondary school, and junior college, opened 1848 with a bequest, now grown to a huge endowment, from Stephen GIRARD Vocational and academic training are combined

Girardin, Delphine Gay de (dĕlfēn' gā' du zhĭrardĕ'), 1804–55, French woman of letters, wife of Émile de Girardin Under the pseudonym Vicomte Charles de Launay, she wrote fiction, including *Stories of an Old Maid* (1856, Eng tr , 1856) and, in collaboration with others, *The Cross of Berny* (1857, Eng tr , 1873) She also wrote popular comedies and verse Most successful, however, were the sketches published as *Parisian Letters* (1836–48, collected ed , 1856, Eng tr in part, 1851) Her literary salon was noted for its brilliance

Girardin, Émile de (ămĕl'), 1806–81, French journalist, editor of a conservative paper, *La Presse* (1836–56, 1862–66), which marked the beginning of cheap journalism in France He later edited *La Liberté* (1866–70) and joined *La France* in 1874 He served for a time in the chamber of deputies and always took a lively interest in politics He wrote many journalistic works on politics and on social questions as well as plays and novels

Girardon, François (frăswa' zhĕrardō'), 1628–1715, French sculptor, born of humble parents Chancellor Séguier, observing his talent, sent him to study in Paris with François Anguier and later to Rome On his return he was commissioned with much of the decorative sculpture in the gardens of Versailles under the direction of Le Brun He is best known for his *Tomb of Richelieu* at the Sorbonne His famous equestrian statue of Louis XIV was destroyed in the Revolution

Girardot (hĕrardōt'), city (pop 22,557), central Colombia Founded c 1850 on the upper Magdalena, Girardot, a commercial center, is a hub of rail, highway, water, and air transportation Coffee is the chief product

Girardville, borough (pop 4,602), E Pa , NW of Pottsville, settled c 1832, inc 1872 Anthracite is mined here

Giraud, Henri Honoré (ārē' ōnōrā' shĕrō'), 1879–1949, French general, grad Saint-Cyr He served through the First World War, except for a short imprisonment in Germany, from which he escaped, and distinguished himself in the Riff campaign (1925–26) Captured by the Germans again in May, 1940, he made a dramatic escape (April, 1942) to unoccupied France and from there, with Allied help, to Gibraltar (Nov , 1942) He took part in the Allied landing in North Africa, where he was given command of all French armed forces On Darlan's assassination (Dec , 1942), he succeeded as high commissioner of French North and West Africa His conservatism earned him the opposition of the Free French Committee of General de Gaulle After they met fruitlessly at the CASABLANCA CONFERENCE, a semblance of union was finally effected in June, 1943, through the formation at Algiers of the French Committee of National Liberation, with the two generals as co-presidents Despite the strong backing given him by the United States, Giraud was removed (Nov 9) from the co-presidency by the National Committee He remained commander in chief until April 14, 1944, when he was forced into virtual retirement

Giraudoux, Jean (zhā' zhĕrōdō'), 1882–1944, French novelist and dramatist His portraiture of French provincial life in *Les Provinciales* (1909) established his reputation Participation in the First World War inspired *Lectures pour une ombre* [readings for a shadow] (1917), and *Amica America* (1918) is an account of his experiences in the United States *Suzanne et le Pacifique* (1921, Eng tr , 1923) is one of his most popular novels In 1928 Giraudoux commenced a successful career as a dramatist with *Siegfried* (Eng tr , 1930), an adaptation of his novel *Siegfried et le Limousin* (1922, Eng tr , *My Friend from Limousin*, 1923) Other plays include *Amphitryon 38* (1929, Eng tr , 1937), *La Folle de Chaillot* (1945, Eng tr , *The Madwoman of Chaillot*, 1948), and *Intermezzo* (1933, Eng tr , *The Enchanted*, 1950)

girder, a beam of wood or metal supported at each end and carrying smaller or secondary beams Girders are used extensively in construction work, such as buildings, bridges, and ships In building a house, when the span of wooden floor beams is limited by the length of material available, beams may rest at one end on the wall and at the other on a girder This girder may be supported by posts or columns A girder, either of wood or of metal, may be in one piece or several pieces bolted together

girdle, belt or band worn around the body, originally to confine loose garments, later to hold arms or

small belongings The flowing dress of the early Greeks and Romans, both men and women, was gathered into ribbons or bands of wool, leather, or metal, often highly ornamented The Hebrews wore a belt, cord, or sash, which held up the robe, braced the thighs, or carried the pens and inkhorn of the scribe. The sash was a sign of rank, richly embroidered with silk and gold The ceremonial priestly girdles were elaborately prescribed The girdle confining the heavy tunic of early European peoples was massive with metal clasps and bosses With the fitted garments of the Middle Ages, the belt assumed a more ornamental and ceremonial nature The knightly belt, splendid with gems and goldsmith's work, held the sword or displayed insignia In medieval Europe, until the 15th cent, the girdle was an important part of woman's dress, varying in style and materials The girdle is symbolic of strength, of alertness, and of personality intact To gird the loins, to have the girdle loosened, or to be girded by other hands than one's own were highly significant acts Folklore records the girdle which could exorcise demons or confer invisibility By an ancient custom, a bankrupt laid off his girdle in open court See Herbert Norris, *Costume and Fashion* (1939), K M Lester and B V Oerke, *An Illustrated History of Accessories of Dress* (1940)

Giresun (gĕrusōōn′), town (pop 12,431), N Turkey, a Black Sea port The ancient Cerasus, it was famous in antiquity for its cherry trees, the word *cherry* is derived from its name, which formerly also appeared as Kerasun (kĕrăsōōn′)

Girgashite or **Girgasite** (both gûr′gu–), Canaanite nation, whose land was occupied by Israel Gen 10 16, 15 21, Deut 7 1, Joshua 3 10, 24 11 Neh 9 8, 1 Chron 1 14

Girgenti, Italy see AGRIGENTO

Girl Scouts, organization founded (1912) in Savannah, Ga, by Mrs Juliette Gordon Low (1860–1927), who had been a leader of Girl Guide troops in England The membership is divided into three age groups—Brownies (7 to 9), Intermediate Girl Scouts (10 to 13), and Senior Girl Scouts (14 to 16) Girls of every race, color, national origin, and economic group are eligible Good citizenship and service to others are stressed in their activities, which cover 11 different fields—agriculture, arts and crafts, community life, health and safety, homemaking, international friendship, literature and dramatics, music and dancing, nature, the outdoors, and sports and games Camping is an important phase of their training From 1917 the organization has published a monthly magazine, the *American Girl*

Girnar (gĭrnŭr′), sacred mountain, c 3,500 ft high, Saurashtra, India The Neminath (restored A D 1278) is the largest and possibly the oldest of its Jain temples

Girodet-Trioson, Anne Louis (ăn′ lwē′ zhērōdā′-trēōzō′), 1767–1824, French painter, student of David His name was originally Girodet de Roussy He won the Prix de Rome and while in Italy painted the *Sleeping Endymion* (Louvre), which brought him early recognition During the Revolution he painted in Naples for the king of Spain, and under the empire he returned to Paris, where he painted a series of compositions for Malmaison Among his best-known paintings are *The Deluge* and *Atala at the Tomb* (Louvre) and *The Revolt at Cairo* and *The Surrender of Vienna* (Versailles) Girodet's work is often taxed with inconsistency His classical training and marked romantic tendencies are sometimes at variance

Gironde (zhērōd′), department (4,141 sq mi , pop 858,381), SW France, on the Atlantic BORDEAUX is the capital

Gironde, estuary, 40 mi long and from 3 to 7 mi wide, SW France, formed by the Garonne and Dordogne rivers, which join c 12 mi N of Bordeaux Between the MÉDOC and the Cotes vineyards, it is the great artery of the BORDEAUX wine region

Girondists (jĭrŏn′dĭsts), Fr *Girondins* (zhērōdĕ′), group of moderate republicans in the FRENCH REVOLUTION, so called because the central members of the original group were the deputies of the Gironde dept. (1791) At first affiliated with the JACOBINS, they split with them when the extremists of the Commune of Paris gained leadership over the club Led at first by BRISSOT DE WARVILLE, the Girondists were called Brissotins. Other notable members were VERGNIAUD, CONDORCET, DUMOURIEZ, Thomas PAINE, and Jean Marie and Manon Jeanne ROLAND DE LA PLATIÈRE Representative of the educated middle class of the provinces, the Girondists held high ideals of democratic humanitarianism and classic simplicity, but they lacked effectiveness in practical politics The Girondists were very strong early in 1792, succeeding, against Jacobin opposition, in having war declared on Austria. However, though still strong in the Convention of 1792, they lost the initiative to the MOUNTAIN They sympathized with Louis XVI during his trial, but voted against him at the crucial moment. The growing power of the extremists, led by MARAT, DANTON, and ROBESPIERRE, drove the Girondists more and more toward reaction. The treason of Dumouries (March, 1793) further weakened their position, and on May 31 the moment was ripe for Marat to lead a workers' revolt against the Convention As a result, 29 Girondists were expelled from the Convention on June 2, Brissot, Vergniaud, and other leaders were executed In July, Charlotte CORDAY assassinated Marat, and the Jacobins retaliated with a new wave of executions. Now joined by the royalists, the Girondist remnants revolted openly in the provinces, particularly in Normandy, Lyons, Bordeaux, Marseilles, and Toulon, but their efforts were drowned in blood

Girtin, Thomas, 1775–1802, English draughtsman and water-colorist He was apprenticed to an engraver but early devoted himself to topographical drawing In 1792 he met J M W Turner, and the two became great friends Girtin was among the first to paint naturalistically in water color, abandoning the tinted drawing for a direct painting technique In this he anticipated the 19th-century water color He was also an admirable draughtsman Famous drawings are his *Tynemouth, View on the Wharf,* and *Kirkstall Abbey* (Victoria and Albert Mus). Girtin is represented in many important British galleries He died at 27

Girton College (gûr′tun), English college for women, founded (1869) at Hitchin, Hertfordshire, by Emily DAVIES In 1873 the college was moved to its present site 2 mi from Cambridge The students are admitted to the Cambridge Univ lectures and on completing the university requirements are granted a degree-certificate Girton was recognized as a college in the university in 1948

Girty, Simon (gûr′tē), 1741–1818, American frontiersman, known as the white renegade, b near Harrisburg, Pa After three years of captivity with the Indians, he acted as an interpreter around Fort Pitt (1759–74) He served as a scout under Simon Kenton in Lord Dunmore's War and in the Revolution was in the pay of the Continentals until 1778, when he joined the British at Detroit Girty led or participated in many savage Indian raids and was known for his cruelty He was feared, hated, and despised by most frontiersmen In the Indian wars in Ohio late in the 18th cent , he took part in General St Clair's defeat (1791) and fought against Gen Anthony Wayne at Fallen Timbers (1794) When the British surrendered Detroit (1796), Girty moved into Canada and afterward lived on a British pension See biography by Thomas Boyd (1928)

Girvan (gûr′vun), burgh (pop 5,292), Ayrshire, Scotland, at the mouth of the Girvan river SW of Ayr and opposite Ailsa Craig It is a summer resort, a port for the fertile Girvan valley, and a fishing town, with a woolen industry

Giry, Arthur (ärtür′ zhērē′), 1848–99, French historian, an authority on early French institutions He wrote, in collaboration with André Réville, *The Emancipation of the Medieval Towns* (Eng tr , 1907) and is the author of the *Manuel de diplomatique* (new ed , 2 vols , 1925), a standard work on the scientific study of documents

Gisborne (gĭz′bôrn), borough (pop 14,765, metropolitan pop 16,984), on NE North Island, New Zealand, on Poverty Bay It is a resort and a port, exporting wool, frozen meat, and dairy goods

Gish, Lillian (gĭsh), 1896–, American stage and moving-picture actress, b Springfield, Ohio In 1900 she made her stage debut and later obtained acting experience in stock companies She first appeared in moving pictures in 1914 for the Biograph Company under the direction of D W Griffith In *The Birth of a Nation* she had a great success, and she added to her stature in such silent films as *Broken Blossoms, Way down East, Orphans of the Storm, The White Sister, The Wind,* and *Camille* After 1930 she returned to the stage, where she was a notable Ophelia with John Gielgud (1936) and played the part of Mrs Day in *Life with Father* Her sister, **Dorothy Gish,** 1898–, a well-known moving-picture actress, appeared in such films as *Hearts of the World, Orphans of the Storm, Romola, Nell Gwyn,* and *Madame Pompadour*

Gispa (gĭ′spŭ), one of the overseers of the Nethinim. Neh 11 21

Gissing, George (gĭs′ĭng), 1857–1903, English author. His novels reflect the influence of Dickens and of the French naturalists as well as his own bitter poverty in their concern with the sordid life of the very poor He visited America (1876–77) and wrote several short stories (1877) for the Chicago *Tribune* His best-known novel is *New Grub Street* (1891); his many others include *Workers in the Dawn* (1880), *The Nether World* (1889), *Born in Exile* (1892), *The Odd Women* (1893), *In the Year of Jubilee* (1894), and *The Whirlpool* (1897). The somewhat autobiographic *Private Papers of Henry Ryecroft* (1903), the historical novel *Veranilda* (1904), and *By the Ionian Sea* (1901) all reflect his lifelong devotion to the classics See his *Letters to Members of His Family* (1927); biographies by F A Swinnerton (1912), May Yates (1922), and S V Gapp (1936).

Gist, Christopher (gĭst), c.1706–1759, American frontiersman, b Maryland. Commissioned by the OHIO COMPANY to explore their Western lands, he in 1750 descended the Ohio river, explored E Kentucky, and crossed to Roanoke, N.C., having penetrated the Kentucky region 18 years before the more celebrated Daniel Boone. The next season he more carefully traversed and mapped the Ohio watershed in western Virginia. He accompanied George Washington in 1753–54 on his historic trip to warn the French out of the Ohio valley and on the journey twice saved Washington's life On Gen Edward Braddock's expedition (1755) against Fort Duquesne he served as a guide He died of smallpox in the Cherokee country, where he had gone to enlist the aid of that tribe against the French He was an expert woodsman and surveyor and was highly regarded by his contemporaries See *Christopher Gist's Journals* (ed. by W M Darlington, 1893).

Gist, William Henry, 1807–74, American politician, b Charleston, S C educated at South Carolina College After managing his family's extensive planting interests he entered politics, serving in the lower house of the state legislature (1840–44), in the state senate (1844–56), and as governor (1858–60) He was an ardent advocate of secession, and when Abraham Lincoln's election seemed assured he called the special session of the legislature which provided for the secession convention

Gittah-hepher (gĭ′tu-hē′fur) see GATH-HEPHER

Gittaim (gĭ′tăĭm, gĭtā′ĭm) [Heb ,=two wine presses], unidentified town, S central Palestine 2 Sam 4 3, Neh 11 33.

Gittite (gĭt′–), inhabitant of GATH

Gittith (gĭt′–), in the titles of Pss 8, 81, and 84, apparently the name of the tune or instrument to which the psalm was to be sung

Giulio Romano (jōō′lyō rōma′nō), c 1492–1546, Italian painter, architect, and decorator, whose real name was Giulio Pippi He was the favorite pupil of Raphael and while still a youth was entrusted with the painting of most of the frescoes in the loggias (from designs by Raphael) and a group of figures in the Stanza of the Incendio di Borgo in the Vatican and also, together with Gianfrancesco Penni, with the decoration of the ceiling of the Villa Farnesina, all in Rome After the death of Raphael he completed the frescoes of the life of Constantine in the Vatican as well as Raphael's *Coronation of the Virgin* and *Transfiguration* (both Vatican Gall) In 1524 he entered the service of the duke of Mantua, for whom he executed paintings and architectural and engineering projects. He reconstructed the cathedral, established a school of art, and designed the near-by Church of San Benedetto He was the architect of the ducal palace and rebuilt the Palazzo del Te, decorating both of them with celebrated frescoes In 1546 he was appointed architect to St Peter's but died in the same year Well-known oils include *The Stoning of St Stephen* (Church of Santo Stefano, Genoa) and *Adoration of the Kings* (Louvre) A superb practitioner, Romano is often lacking in color and sensibility He is sometimes considered the first academic painter

Giunta Pisano (jōōn′ta pēza′nō), fl 1241–55, Italian painter of Pisa Among the extant works attributed to him are two large *Crucifixions,* one in Santi Raineri e Leonardo, Pisa, and the other in Santa Maria degli Angeli at Assisi He is also believed to have painted a *Crucifixion with the Franciscan, Father Elias,* in the upper church of St Francis at Assisi, which has perished

Giurgiu (jōōr′jōō), town (pop 30,197), S Rumania, in Walachia, on the Danube opposite Ruse, Bulgaria An inland port, it is linked by four pipe lines with the Ploesti oil fields The city was founded (17th cent) on the site of an older town by Genoese merchants, who named it San Giorgio It was important in the wars between Walachia and Turkey (16th cent) and in the Russo-Turkish Wars and was rebuilt after partial destruction in the First World War

Giusti, Giuseppe (jōōzēp′pā jōōs′tē), 1809–50, Italian satirical poet and patriot He directed his polemics against Austria as the oppressor of his native Tuscany and against the society of his time His verse is filled with peculiarities of Tuscan dialect, and this, together with its contemporary character, has worked against its popularity Some of his poetry was translated by W D Howells in *Modern Italian Poets* (1887) and by Lorna de' Lucchi in *An Anthology of Italian Poems* (1922), the famous "Saint Ambrose" is in the second collection

Givatayim (gĭvatä′yĭm), town (pop c 7,500), central Israel, near Tel-Aviv; founded 1942 Industries include printing and food processing

Gizeh or **Giza** (both. gē′zu), town (pop 68,520), Egypt, on the Nile opposite Cairo. The pyramid of Khufu (Cheops) and the Great Sphinx are not far (c 5 mi) to the west. Archaeological research in the vicinity has disclosed the tomb of Khufu's mother and that of his daughter. The town today is a marketing center with a large cigarette factory, and it is a resort area for Cairo.

Gizonite (gĭ′zō–). see JASHEN.

Gjellerup, Karl Adolf (kärl′ ä′dôlf yĕ′lŭrōōp), 1857–1919, Danish poet and novelist, b. Zealand. His early novels, largely autobiographical, include *The Young Denmark* (1879) and *The Disciple of the Teutons* (1882). In 1884 he published *Romulus,*

following this with some experiments in drama, *Tamyris* (1887) and *Herman Vandel* (1891) Some of his later writing shows the influence of his study of Buddhism Many of his later works were written in German *Minna* (1889) was translated into English in 1913, and the legendary romance *The Pilgrim Kamanita* (1906) in 1911 He shared with Henrik Pontoppidan the 1917 Nobel Prize in Literature.

Glace Bay (glās'), coal-mining town (pop 25,147), on Cape Breton Island, N S , on the northeast coast The mines began to be developed toward the end of the 19th cent They extend for more than a mile under the sea and are among the best equipped in the world Glace Bay has a good harbor and a large deep-sea fishing fleet The Marconi wireless tower at Table Head near by in 1902 sent the first transatlantic wireless message

glacial periods (glā'shŭl) In the PLEISTOCENE EPOCH, in the CARBONIFEROUS PERIOD and the PERMIAN PERIOD of the PALEOZOIC ERA, and in Huronian time of the PROTEROZOIC ERA, large areas of the earth's surface were subjected to an extremely cold climate, as a result of which great ice sheets extended over the land More or less extensive continental glaciations may have occurred also at other times No satisfactory theory of the cause of the occurrence of glacial periods has yet been evolved The earliest conception was that the earth's history is one of progressive cooling This conception, formed when only one glacial period, the Pleistocene, was known, lost its validity when the existence of earlier glacial periods, after which the earth again became warm, was established Among the explanations that have since been suggested are elevation of the glaciated regions into higher altitudes, changes in the direction of ocean currents, shifting of the earth's AXIS, shifting of the continents over the earth's surface, loss of heat from the earth's surface through reduction of the carbon dioxide content of the atmosphere, cutting off of solar heat by a blanket of volcanic dust, variation of solar radiation, and changes in the relative position of the earth and the sun The study of glacial periods owed its first impetus to Louis AGASSIZ, whose conception of the Pleistocene Ice Age was presented in his address before the Helvetic Society (1837) and in his *Études sur les glaciers* (1840) See A P Coleman, *Ice Ages, Recent and Ancient* (1926) and *The Last Million Years* (1941)

glacier (glā'shŭr), a moving mass of ice, formed in the Alpine and in the polar regions by the compacting of snow into *névé* and then into granular ice and set in motion outward and downward by the pressure of the accumulated mass Glaciers are of four chief types Valley or mountain glaciers are tongues of moving ice sent out by mountain snow fields into valleys originally formed by streams They follow the courses of the valleys and are held in by the valley walls In the Alps there are more than 1,200 valley glaciers Piedmont glaciers, which occur only in high latitudes, are formed by the spreading of valley glaciers at their point of emergence from their valleys or by the confluence of several valley glaciers Small ice sheets known as ice caps are flattened, somewhat dome-shaped glaciers spreading out horizontally in all directions and covering mountains and valleys alike Continental glaciers are ice sheets of huge extent The only continental glaciers now in existence are the ice sheets of Greenland and Antarctica, but in the GLACIAL PERIODS of the world's geological history they were far more widespread Glaciers are of considerable importance in the alteration of topography, and their work includes EROSION, transportation, and deposition Mountain glaciers carve out amphitheaterlike vertical-walled valley heads, or cirques, at their sources They transform V-shaped valleys into U-shaped valleys by grinding away the projecting bases of slopes and cliffs and leveling the floors of the valleys, in this process tributary valleys are frequently left "hanging," with their outlets high above the new valley floor When the tributary valleys contain streams, waterfalls and cascades are formed Elevations over which glaciers pass usually are left with gently sloping sides in the direction from which the glacier approached (stoss sides) and rougher lee sides Humps and bosses of rock so shaped are known as *roches moutonnées* The debris of glacial erosion is carried upon, within, and underneath the ice The debris frozen into the underside of the glacier acts as a further EROSIVE agent, polishing the underlying rock and leaving scratches or STRIAE running in the direction of the movement of the glacier Glacial deposits are known as DRIFT The melting of the ice in summer forms glacial streams flowing under the ice, while the retreat of a large glacier sometimes leaves a temporary glacial lake, such as Lake AGASSIZ Fjords generally owe their origin to glaciers A glacier moves as a solid rather than as a liquid, as indicated by the formation of CREVASSES The center part of a glacier moves more rapidly than the sides and the surface more rapidly than the bottom, because the sides and bottom are held back by friction The rate of flow depends largely on the volume of ice in movement, the slope of the ground over which it is moving, the slope of the upper surface of the ice, the amount of water the ice contains, the amount of debris it carries, the temperature, and the friction it encounters Glaciers are always in movement, but the extent of the apparent movement depends on the rate of advance and the rate of melting i e , if the ice melts at its edge faster than it moves forward, the edge of the glacier retreats, if it moves more rapidly than it melts, the edge advances, it is stationary only if the rate of movement and the rate of melting are the same The causes of glacial movement are exceedingly complex and doubtless are not all operative on the same glacier at the same time Important elements in glacier movement are melting under pressure followed by refreezing, which tends to push the mass in the direction of least resistance, sliding or shearing of layers of ice one on top of the other, and rearrangement of the granules when pressure causes melting See R F Flint, *Glacial Geology and the Pleistocene Epoch* (1947)

Glacier Bay National Monument, 2,297,598 acres, SE Alaska, est 1925 It is remarkable for the many glaciers flowing into the sea

Glacier National Park, 521 sq mi , SE British Columbia, in the Selkirk Mts , est 1886 It contains extensive glaciated areas, Illecillewaet Glacier is one of the outstanding features of the park Snow-capped peaks, with densely forested lower slopes, include Mt Dawson, Mt Sir Donald, and Mt Bonney, with the resort village of Glacier at its base No motor roads span the beautiful, rugged terrain of the park, which is crossed by the main line of the Canadian Pacific Railway The park is administered from Field, also the headquarters of Yoho National Park

Glacier National Park, 997,695 acres, NW Mont , est 1910 Straddling the Continental Divide, the park has more than 60 glaciers, more than 200 glacier-fed lakes (largest Lake McDonald and St Mary Lake), high peaks (highest Mt Cleveland, 10,438 ft), sheer precipices, large forests, waterfalls, and a wealth of wild flowers It was joined (1932) to the contiguous Canadian park, Waterton Lakes National Park, in the Waterton-Glacier International Peace Park, the administrations are separate but cooperate closely

Glackens, William James, 1870–1938, American landscape and genre painter and illustrator, b Philadelphia, studied at the Pennsylvania Academy of the Fine Arts and in Paris Long an illustrator for Philadelphia and New York newspapers and magazines, Glackens first exhibited his paintings with The EIGHT and achieved fame as a brilliant painter of the contemporary scene His early works are dark, but he soon acquired the high key and much of the technique of the French impressionist school His *Parade, Washington Square* (Whitney Mus , New York) is characteristic of his later work, which is in many leading American galleries

Gladbeck (glät'bĕk), city (pop 61,497), Westphalia, NW Germany It is an industrial center of the Ruhr district

Gladden, Washington, 1836–1918, American clergyman, writer, and lecturer, b Pottsgrove, Pa He was pastor of the First Congregational Church, Columbus, Ohio, from 1882 until his death His many books helped to popularize modernist views and to spread his philosophy of applying Christian principles to social problems Among his works are *Who Wrote the Bible?* (1891) and *Social Salvation* (1902) His *Ultima Veritas and Other Verses* (1912) contains his hymn, *O Master, Let Me Walk with Thee* See his *Recollections* (1909)

Gladewater (glād'wô"tur), city (pop 4,454), E Texas, W of Shreveport, La , and near the Sabine It boomed after the East Texas oil field was discovered in 1930 At the near-by oil town of Hawkins is Jarvis Christian College for Negroes

gladiators (glă'dēā"turz) [Latin =swordsmen], in ancient Rome, a class of professional fighters, who performed for exhibition Gladiatorial combats usually took place in amphitheaters They probably were introduced from Etruria and originally were funeral games The gladiators would be paired off to fight each other, usually to the number of about 100 couples, although in the imperial shows there were sometimes as many as 5,000 There were different classes of gladiators, armed and armored differently Thus a heavily armored man might be opposed to a *retiarius*, who fought almost naked, with a net and a trident as his sole weapons (The outcome was by no means sure) Often gladiators were made to fight wild beasts A defeated gladiator was usually killed by the victor unless the people expressed their desire that he be spared At first, gladiators were invariably slaves or prisoners, including Christians They normally underwent rigid training, and many gained immense popularity Later impoverished freemen also sought a living as gladiators, and finally even members of the ruling classes took part in gladiatorial combats on an amateur basis Constantine I forbade gladiatorial games, but they actually continued until A.D. 405 Some gladiators, led by SPARTACUS, took part in the third of the SERVILE WARS (73 B.C.–71B C.),

gladiolus (glădēō'lus), any plant of the genus *Gladiolus* (glădī'ŭlŭs), tender cormous-rooted plants, most of the garden kinds are hybrids of plants native to Africa The gladiolus is related to IRIS and has sword-shaped leaves and long stalks of beautiful flowers, often in pastel shades, particularly popular as cut flowers The plants grow best in a well-drained soil with plenty of sunlight The American Gladiolus Society fosters cultivation of the flower

Gladkov, Feodor Vasilyevich (fyô'dur vŭsē'lyuvĭch glätkôf'), 1883–, Russian author His childhood and youth were passed in poverty, tramping along the Volga fisheries and in the N Caucasus, where he worked at various trades and obtained elementary schooling Influenced by the writings of Lermontov, Dostoyevsky, and Nekrasov, he wrote his first short story, "Towards the Light," which was published in a provincial newspaper in 1899 He became famous with his novel *Cement* (1926, Eng tr , 1929), laid in the period of post-revolution reconstruction

Gladstone, Herbert John Gladstone, 1st **Viscount** (glăd'stŏn, -stun), 1854-1930, English statesman, studied at Eton and Oxford, son of W E Gladstone A member of Parliament from 1880 to 1910, he held various offices, was chief whip of the Liberal party (1899–1905), and served as home secretary (1905–10) He was created (1910) viscount and was the first governor general and high commissioner for South Africa (1910–14) His two books about his father are *W E Gladstone* (1918) and *After Thirty Years* (1928)

Gladstone, William Ewart, 1809–98, British statesman, dominant personality of the Liberal party from 1868 till 1894 A great orator and a master of finance, he had no fixed political principles, yet achieved many great political and administrative reforms As a young Tory entering Parliament in 1833, he was a protégé of Sir Robert Peel, who made him undersecretary of war and colonies (1834–35) His first publication, *The State in Its Relation with the Church* (1838), embarrassed his supporters, but his talents still commanded attention in the party. On Peel's return to power (1841), Gladstone became vice president of the Board of Trade and in 1843 became its president, but soon resigned As colonial secretary (1845–46) he resigned with Peel in the party split that followed repeal of the corn laws His attitude toward free trade and the colonies drew him toward the Liberals, and he served the 4th earl of Aberdeen, Palmerston, and Lord John Russell as chancellor of the exchequer (1852–55, 1859–66) Retrenchment and free trade marked his policy His budgets, which he defended with eloquence in the Commons, showed great facility in distributing the tax burden Gladstone's parliamentary reform bill of 1866 failed, but that passed by DISRAELI in 1867 was largely Gladstone's through the process of amendment Gladstone, at the peak of his career, served as prime minister four times (1868–74, 1880–85, 1886, and 1892–94) In his first ministry the Church of Ireland was disestablished (1869) to free Catholics from the necessity of paying tithes to support the Anglican church and an Irish land act was passed (see IRISH LAND QUESTION) to protect the peasantry He achieved important reforms—changes in English civil service, the vote by ballot, abolition of the sale of commissions in the army, educational expansion, and court reorganization Conservative reaction to reforms and a weak foreign policy defeated him in 1874, and he turned to his intellectual pursuits, which had already resulted in *Studies on Homer and the Homeric Age* (3 vols , 1858) and *Juventus Mundi* (1869) Popular discontent with Disraeli's pro-Turkish policy and with the Zulu and Afghan wars brought Gladstone back in 1880 A more effective Irish land act was passed (1881), and two parliamentary reform bills (1884, 1885) practically gave manhood suffrage to England and redistributed the seats in the House of Commons The army's failure to relieve C G Gordon at Khartum helped to bring his ministry to an end (1885) Gladstone's advocacy of HOME RULE for Ireland ended his third ministry (1886) after a few months and split the Liberal party so that the Conservatives were in power for the next six years Gladstone also split with the Irish leader, Charles Stewart PARNELL, because of the divorce case in which Parnell was involved Again, in 1892, Gladstone staked the ministry's life upon Irish Home Rule and resigned (1894), broken in health, after the Lords defeated his bill in 1893 The Liberal ministry continued under the earl of Rosebery He himself compiled *Gleanings of Past Years, 1843–1878* (7 vols , 1879), and theological works, including *The Impregnable Rock of Holy Scripture* (rev ed , 1892), attracted attention Many of his speeches and letters have been collected, e g , his correspondence with Palmerston (ed by Philip Guedalla, 1928) and his letters to his wife, (ed by A T Bassett, 1936) The classic biography is that by John Morley (3 vols , 1903) See biographies by W P Hall (1931), Francis Birrell (1933), and G T Garratt (1936), Paul Knaplund, *Gladstone and Britain's Imperial Policy* (1927) and *Gladstone's Foreign Policy* (1935), W. E Williams,

The Rise of Gladstone to the Leadership of the Liberal Party, 1859 to 1868 (1935), books by his son Viscount Gladstone

Gladstone (glăd'stŏn) **1** City (pop 4,972), W Upper Peninsula, N Mich , on an inlet of Green Bay and N of Escanaba, founded 1887, inc 1889 It manufactures plywood, flooring, and veneers **2** Residential city (pop 1,629), NW Oregon, S of Portland, inc 1911

Gladwin, Henry, 1729–91, British army officer in colonial America, b Derbyshire, England He served in the disastrous campaign of Edward Braddock and in other actions in the French and Indian War but is best remembered for his defense of Detroit in Pontiac's Rebellion

Gladwin, city (pop 1,600), co seat of Gladwin co , N Mich , on the Cedar river and NW of Bay City, in a farm and resort region, settled 1865, inc as a village 1885, as a city 1893 The Saginaw Trail of the Indians crossed this site A state park is here

Glaisher, James (glā'shur), 1809–1903, English meteorologist and balloonist He served as superintendent of the department of meteorology and magnetism at Greenwich Observatory from 1838 to 1874 He established the Meteorological Society in 1850 and later became one of the founders of the Aeronautical Society of Great Britain Between 1862 and 1866 he made a series of balloon ascensions with Henry T Coxwell in the interest of science He wrote many scientific books and papers, his best-known work being *Travels in the Air* (1867, in French, Eng tr , 1871)

Glamis (glămz, in Shakspere also glā'mĭs) parish (pop 985) and village, Angus, Scotland Malcolm II died in this vicinity (1034), and a sculptured cross in the village is known as King Malcolm's Gravestone Macbeth was thane of Glamis, and the castle, seat of the earl of Strathmore, is one of the places erroneously claimed to be the scene of Duncan's murder Elizabeth, queen consort of George VI, was born here

Glamorganshire (glumôr'gunshĭr) or **Glamorgan,** maritime county (813 sq mi , 1931 pop 1,225,717, 1948 estimated pop 1,183,440) S Wales, on the Bristol Channel The county seat is Cardiff The mountainous northern region of the country is worked for its rich coal deposits, and the fertile coastal plain is devoted to dairy farming and cattle grazing The Taff, the Neath and the Tawe are the principal rivers The great mineral wealth of the county has made it one of the chief industrial districts of the British Isles There are notable ironworks and copper manufactures The county contains more than half the entire population of Wales There are vestiges in Glamorganshire of its occupation by the Romans In the 11th cent began the conquest by English Norman barons, who organized it as a county palatine There was long border fighting The great industrial development began in the latter half of the 18th cent and continued increasingly thereafter In the 1920s the area was stricken by a severe industrial depression which brought much unemployment and poverty, but since the Second World War conditions have improved Cardiff and Swansea are important British ports. Rhondda and Merthyr Tydfil are other important industrial centers Richard Llewellyn's novel, *How Green Was My Valley* (1940), gives a picture of the 19th-century spread of industrialism typical of the area

gland, organ which secretes a substance from materials which its cells extract from the blood This substance, usually a fluid, may be a secretion useful to the body, or it may be waste material (see excretion) A gland varies from a single cell, which occurs even in invertebrates, to a complex system of tubes which finally unite and open on some surface by a large duct The salivary glands, the breast, and the liver are of the complex type Another type, the endocrine or ductless glands, produce secretions called hormones which are taken up directly from the gland by the blood, no duct being present The thyroid, adrenals, and pituitary are examples of this type Some glands produce both a secretion which flows from a duct and a hormone which is taken up by the blood, e g , the liver, ovary, and testis Glands are subject to infection, decreased or increased activity, and tumors

glanders, chronic disease of horses, asses, mules, and some other animals It is caused by a form of bacterium (*Pfrefferella mallei*) and is characterized by the formation of nodules or tubercles which degenerate, forming a cheeselike material If the nodules form on cutaneous (skin) tissues, they become ulcerated Different forms of the disease attack the lungs, the nasal passages, or the cutaneous tissue (this form of the disease being known as farcy) Lesions form in the lungs in almost all cases Man is susceptible to the disease, and the mortality rate is high Infected animals can be detected by means of a test using an extract of the bacteria

Glanvill or Glanvil, Joseph (glăn'vĭl), 1636–80, English clergyman and philosopher. He was chaplain in ordinary to Charles II and prebendary of the cathedral at Worcester Exponent of occasionalism and precursor of Hume, Glanvill sought to prove the inefficacy of all secondary causes, which he regarded as merely the occasion of the activity of the first cause, God This was presented in *The Vanity of Dogmatizing* (1661), recast as *Scepsis scientifica* (1665), and republished (1931) by the Facsimile Text Society Although in later life Glanvill attested to a belief in witchcraft, his appreciation of the scientific method is evidenced by *Plus Ultra, or, The Progress and Advancement of Knowledge since the Days of Aristotle* (1668) See Ferris Greenslet, *Joseph Glanvill* (1900), M E Prior, *Joseph Glanvill Witchcraft and Seventeenth-Century Science* (1932)

Glanvill or **Glanville, Ranulf de** (rā'nŭlf), d 1190, English jurist He served Henry II in many offices, finally as chief justiciar after 1180 One of the great works of English law, the *Tractatus de legibus et consuetudinibus regni Angliae* [treatise on the laws and customs of the realm of England] was ascribed to him, though he probably did not write it The compilation, much used by Bracton, was based on the common law growing up in the royal courts See edition by G E Woodbine (1932)

Glanville, Bartholomew de see Bartholomew de Glanville

Glanville, Ranulf de see Glanvill, Ranulf de

Glarus (glä'rus), Fr *Glaris* (glȧrēs'), canton (264 sq mi , pop 34,771), Switzerland, S of the Wallensee It is mountainous and pastoral, with forests and meadows in the valleys There are hydroelectrical and textile industries The chief river is the Linth, and the highest peak is the Tödi (11,887 ft) Glarus joined the Swiss Confederation in 1352 The inhabitants are mainly German-speaking Protestants The capital is **Glarus** (pop 5,266) Zwingli was a parish priest here from 1506 to 1516

Glas, John, 1695–1773, Scottish minister, founder of an independent Presbyterian sect whose members were often called Glassites He believed that national churches and civil interference in religious matters are not authorized in the Scriptures These views found expression in his *Testimony of the King of Martyrs* (1727) Glas was deposed from the ministry in 1730, he formed an independent congregation at Dundee The Glassite church moved to Perth in 1733, where it was joined by Robert Sandeman, who later took the lead in extending the movement to England and America There the Glassites were known as Sandemanians

Glasgow, Ellen (glăs'gō), 1874–1945, American novelist, privately educated She was born in Richmond, Va , where she lived all her life In revolt against the romantic treatment of Southern life prevalent when she began writing, Miss Glasgow presented in fiction a social history of Virginia since 1850, stressing the emergence of a dominant middle class Her first popularly successful novel was *The Voice of the People* (1900), followed in 1902 by *The Battleground*, a story of the Civil War The theme of the changing status of women also recurs from *Virginia* (1913) and *Life and Gabriella* (1916) through *Barren Ground* (1925), *They Stooped to Folly* (1929), *Vein of Iron* (1935), *In This Our Life* (1941, Pulitzer Prize, 1942), and others Her increasingly skillful use of satire is perhaps strongest in *The Romantic Comedians* (1926) See her critical prefaces collected in *A Certain Measure* (1943)

Glasgow (glăs'gō, -kō, glăz'gō), independent burgh or county of a city (1931 pop 1,088,461, 1948 estimated pop 1,106,072), Scotland, on the Clyde It is the largest city of Scotland and rivals Birmingham in size Most of the city is in Lanarkshire but it spreads also into Renfrewshire and Dumbartonshire Since the construction of harbor works in 1740, the Clyde has been navigable to this point for large vessels, and Glasgow is the most important seaport of Scotland, with huge shipyards It is a great industrial city, with wealth but with large slum areas Besides shipbuilding its industries include tanning, textile weaving (wool, cotton, and rayon), brass casting, and the manufacture of chemicals, paper, soap, biscuits, and tobacco The site of Glasgow was early occupied Excavations have uncovered implements of the Stone and Bronze Ages A bishopric is supposed to have been founded in the 6th cent by St Mungo (St Kentigern), it was restored in 1115, and the 12th-century cathedral is St Mungo's Glasgow's art museums include the Corporation Art Galleries and the Institute of Fine Arts Sir John Lavery was leader of the Glasgow school of art of the late 19th cent — young painters who broke with tradition Air raids in 1941 damaged the city, and especially the shipyards The Univ of Glasgow was founded in 1451 by Bishop Turnbull The present buildings were begun in 1870 and house faculties of arts, science, engineering, medicine, law, and theology The undergraduates are distinguished by their short red gowns

Glasgow. 1 City (pop 5,815), co seat of Barren co , S Ky , E of Bowling Green, founded 1799 It is the trade center for a timber, oil, livestock, and farm area and has tobacco warehouses and flour and lumber mills A state fish hatchery is near **2** City (pop 1,490), N central Mo , on the Missouri and SW of Moberly, laid out 1836, inc. 1845. It is a shipping point for cattle and grain **3** City (pop. 3,799), co seat of Valley co , NE Mont , on the Milk river, founded 1887. A brisk cow town on the Northern Pacific in the 19th cent , it later became a grain-shipping point and a center of the Milk river project It grew more important with the building of Fort Peck Dam

Glaspell, Susan (glăs'pĕl), 1882–1948, American author and playwright, b Davenport, Iowa, grad Drake Univ. and studied at the Univ. of Chicago Before her marriage to George Cram Cook (1913) she had written several novels, with him she became associated with the Little Theater movement through the Provincetown Players, of which he was director and for which she wrote several plays Her plays include the poignant *Trifles* (1917), *Inheritors* (1921), and *Alison's House* (1930), based on the life of Emily Dickinson and awarded the 1931 Pulitzer Prize in drama Her later novels include *Brook Evans* (1928) and *The Fugitive's Return* (1929) *The Road to the Temple* (1926) is a biography of Cook

Glass, Carter, 1858–1946, American statesman, U S Senator (1920–46), Secretary of the Treasury (1918–20), b Lynchburg, Va He learned the printer's trade and became owner of the Lynchburg *Daily News* and *Daily Advance* Glass became prominent in local politics, then served (1908–18) in the House of Representatives As chairman of the House Committee on Banking and Currency, he was active in the framing of the Federal Reserve System In 1918 he became Secretary of the Treasury under Woodrow Wilson, but in 1920 he resigned to become Senator by appointment He was elected Senator for the balance of the term and was reelected four times He violently opposed President Franklin D Roosevelt's monetary and New Deal policies, but supported Roosevelt's foreign policy See biography by Rixey Smith and Norman Beasley (1939)

Glass, Hugh, fl 1822–33, trapper in the American West He told a story of sailing and capture first by Jean Laffite and then by Indians before he gained his freedom in St Louis in 1822 The experience while on an expedition in the Missouri river country, of being mauled by a grizzly bear and left for dead and of his dragging himself 100 mi to Fort Kiowa, is related in John G Neihardt's *Song of Hugh Glass* He was probably killed by the Blackfoot Indians, c 1833

Glass, Montague Marsden, 1877–1934, American humorist and playwright, b England, educated at the College of the City of New York and at New York Univ He won fame for his humorous delineations of American Jewish life and character, especially in the "cloak and suit trade" *Potash and Perlmutter* (1910) and *Abe and Mawruss* (1911) were both successful in magazine story form They proved equally popular as plays when he dramatized them, the first in collaboration with Charles Klein, the second with R C Megrue

glass, hard substance, usually brittle and transparent, commonly composed chiefly of silicates and an alkali fused at high temperature Innumerable kinds of glass may be produced by varying the raw materials, the manner and degree of heating, and the method and rate of annealing and cooling Most glass is a mixture of silicon, usually in the form of silica obtained from beds of fine sand or from pulverized sandstone, an alkali to lower the melting point, usually a form of soda or, for finer glass, potash, lime as a stabilizer, and cullet (waste glass) to assist in melting the mixture The properties of glass are varied by adding other substances, commonly in the form of oxides, e g , lead, for brilliance and weight, boron, for thermal and electrical resistance, barium, to increase the refractive index, as in optical glass, cadmium, to cut out infrared rays, metallic oxides, to impart color, and manganese, for decolorizing Man has used glass from prehistoric times, at first fashioning small objects from natural glass such as obsidian, a volcanic glass, or from the immensely valuable rock crystal, a colorless, transparent quartz whose brilliance and clarity are emulated in manufactured glass The term "crystal glass," derived from rock crystal, was at first applied to clear, highly refractive glass, it has come to denote in the trade a high-grade, colorless glass and is sometimes applied to any fine hand-blown glass, including colored glass The place and date of origin of manufactured glass are not known, glass was probably derived from glazes in Neolithic times Glass was made in prehistoric times in the Far East, India, and Egypt The industry was well established in Egypt by the 16th cent B C , and extant examples include opaque, colored glass pressed into a mold or built up by repeatedly dipping a core into molten glass The Romans attained a skill unequaled until modern times They made hollow ware, small windowpanes, and artistic glassware, such as the cameo-cut Portland vase and millefiori vessels produced from bundles of thin glass rods of many colors Except in Constantinople, little is known of glassmaking in Europe from the fall of Rome until the 10th cent , when stained glass came into use Venice was the leader in making fine glassware for almost four centuries after the Crusades and attempted to monopolize the industry by strict control at Murano of glassworkers, who were severely penalized for betraying the secrets of the art The Venetians were famous for

their mirrors, beads, and ornamental glass—thin, graceful vessels, crackled, opaqued, crystal, millefiori, marbled, colored, engraved, or enameled Bohemia was noted in the 17th cent for its engraved and enameled glass, for ruby glass containing gold, and for glass cut by the method used on rock crystal After the invention (c 1688) of a process for casting glass, France was for many years supreme in the manufacture of plate glass such as that used to line the Galerie des Glaces at Versailles Late in the 17th cent England began to make flint glass, whose lead oxide content imparted a brilliance and softness that made it suitable for cut glass The first glass manufactory in America was built in 1608, and glass was carried in the first cargo exported to England Another short-lived glass factory dating from c 1621 specialized in minting beads used as a medium of exchange with the Indians Although other glasshouses were operated in the colonies, especially in New Amsterdam, the first successful and enduring large-scale glasshouse was set up by Caspar Wistar in New Jersey in 1739 Some of the finest colonial glassware was produced in the Pennsylvania glasshouses of H W Stiegel The industry underwent a radical change with the invention (c 1827 of a glass-pressing machine, which was established in practical use by Deming Jarves in his Boston and Sandwich Glass Company (1825–88), whose Sandwich glass was in great demand Although glassware is still made in the E United States the production centers have shifted to fuel-producing areas of Ohio, Pennsylvania, and West Virginia The processes of glassmaking have remained the same from ancient times The materials are fused at high temperatures in seasoned fire-clay containers, boiled down, skimmed, and cooled several hundred degrees, then the molten glass (called metal) is ladled or poured into molds and pressed, or is blown (sometimes into molds), or is drawn The shaped glass is annealed to relieve stresses caused by manipulation, then is slowly cooled Small crucibles have been largely superseded by huge beehive-shaped pots or by tanks, some of these operate continuously, the metal being withdrawn at one end as the raw materials are fed in at the other end The glass, formerly annealed on shelves in a melting furnace, is now usually carried on rollers through annealing ovens (lehrs) Although today most hollow vessels such as light bulbs or containers are machine blown, fine ornamental hollow ware is still made by gathering a mass of glass at the end of a long, iron blowpipe, blowing it into a pear-shaped bulb which is rolled on an oiled slab (marver), shaped with tools, and then reblown, often into a mold, the glass is reheated periodically in a small furnace (glory hole) It is finally transferred to an iron rod (pontil) attached to the base of the vessel, and the lip is shaped and smoothed Methods of decoration include cutting, copper-wheel engraving, etching with hydrofluoric acid, enameling, gilding, and painting Exceptionally fine blown glassware has been designed by such artists as René Lalique and Maurice Marinot in France, Edvard Hald and Simon Gate in Sweden, and L C Tiffany and Sidney Waugh in the United States The scientific study of glass was initiated in the 19th cent in Germany by Ernst Abbe, who improved optical glass New forms of glass, new applications, and new methods of production have revolutionized the industry Glass has become invaluable in architecture, illumination, electrical transmission, instruments for scientific research, spectacles, cooking utensils, and containers Sheet glass, at first produced by rotating a bulb of blown glass until it was flattened into a disk, was later blown into a cylinder which was slit lengthwise, reheated, and allowed to flatten out, today it is drawn into sheets by a continuous process Plate glass differs from it by being rolled, ground, and polished Safety glass is made of plate glass, so tempered that, when broken, it crumbles into small, rounded pieces, it may also be laminated, i e , two or more sheets are cemented by a plastic that prevents the glass from scattering if broken Glass may be drawn into continuous filaments (fiber glass), which are used in textiles and for electrical insulating tape, or produced in the form of short staple fibers (glass wool) used as insulating material, the fibers may be granulated for use as sound absorbers or in filters or may be spun into textile fibers Other recently developed forms of glass include foam glass, a black spongy substance used for rafts, life preservers, and insulation, glass blocks (mold-pressed halves fused into a unit enclosing a partial vacuum), designed to bend light rays or to diffuse them and made with varying degrees of light transmission, and polaroid glass, which reduces glare by polarizing light See N H Moore, *Old Glass, European and American* (1924), L D Skelley, *Modern Fine Glass* (1937), Raymond McGrath and A C Frost, *Glass in Architecture and Decoration* (1937); Frances Rogers and Alice Beard, *5000 Years of Glass* (1937), G S McKearin and Helen McKearin, *American Glass* (1941); C J Phillips, *Glass the Miracle Maker* (2d ed , 1948)

Glassboro, borough (pop 4,925), SW N J , S of Camden, settled 1775, inc. 1920 It is a farm trade center and the seat of a state teachers college (1923) It has glassworks

Glasse, Hannah, fl 1747, writer of a popular English cookbook *Art of Cookery* (1747) She is also credited with writing *The Compleat Confectioner* and *The Servant's Directory*, both published in 1770

Glassites' see Glas, John.

Glassport, industrial borough (pop 8,748), SW Pa , on the Monongahela and SSE of Pittsburgh, inc. 1902 It manufactures glass and steel

glass snake, legless lizard of the genus *Ophisaurus* found in the S and central United States It averages about 2 ft in length, and its shiny scaled body is gray or greenish brown, sometimes striped, above, the sides are darker with light lines, and the ventral surface is whitish The long tail, either whole or in sections, breaks easily from the body, a new, usually shorter, tail without a real backbone grows to replace it Unlike the snakes it has eyelids and ear openings, and the tongue is broad Insects, worms, and small snails form much of its diet It is a burrowing creature found in fields and dry meadows, and it seldom appears above ground by day The European species is about 3 to 4 ft long

Glastonbury, municipal borough (pop 4,514), Somerset, England, SW of Wells, in a region of orchards and meadows It is a place of many legends One tells that St Joseph of Arimathea founded here the first Christian church in England On Wearyall Hill he rested his staff, which rooted and became the Glastonbury thorn, blooming annually on Christmas Eve This local species of hawthorn was almost destroyed by the superstition-hating Puritans Another story identifies Glastonbury as the Isle of Avalon of Arthurian legend King Ine of Wessex built Glastonbury Abbey in the 8th cent This abbey was refounded by St Dunstan in 946, burned in 1184, rebuilt by Henry II, and suppressed by Henry VIII In the Middle Ages it was a center of learning and an object of pilgrimages The abbot's kitchen and parts of the chapel remain Lake-village remains have been found near by, there is a museum of antiquities See J A Robinson, *Two Glastonbury Legends* (1926)

Glastonbury, industrial town (pop 6,632), central Conn , on the Connecticut below Hartford, settled c 1650, inc 1690 It has several 17th century houses

Glatz (glăts) or **Kłodzko,** Pol *Kłodzko* (kwôtsˈkô), city (pop 22,814), Lower Silesia, on the Glatzer Neisse river It is a commercial and administrative center Glatz was transferred to Polish administration by the Potsdam Conference (1945) Dating from the 10th cent , it was the capital of a county created in 1462 It was seized by Frederick II of Prussia in the War of the Austrian Succession and was formally ceded to Prussia in 1745 The **Glatzer Gebirge** (glăˈtsur gubĭrˈgu), a range in the Sudetes, culminates at 4,672 ft in the Grosser Schneeberg (grōˈsur shnāˈbĕrk") (Czech *Kralický Sněžník*, Pol *Śnieżnik*), SE of Glatz, on the Czechoslovak border

Glatzer Neisse see Neisse

Glauber, Johann Rudolf (yōˈhän rōōˈdôlf glouˈbur), 1604–68, German alchemist A predecessor of scientific chemists, Glauber made many practical advances in analytical chemistry, he devised new procedures and was the first to prepare several compounds, including Glauber's salt Little is known of his life, but he is believed to have settled in Holland c 1648

Glauber's salt [for J R Glauber], name for hydrated sodium sulphate, a compound of sodium, sulphur, and oxygen with 10 molecules of water Upon exposure to the air it effloresces The anhydrous salt is found in various parts of the world —in salt deposits in Europe and the SW United States, especially in California and Arizona, in mineral springs, and in sea water It was first prepared by treating common salt with sulphuric acid It is used as a mild laxative

glaucoma (glôkōˈmu) [Gr , =cataract of the eye], disease of the eye, characterized by increased tension within the eyeball It occurs commonly in individuals over 40 Pressure may result in changes which terminate in blindness One or both eyes may be affected Symptoms of the disease include seeing colored halos around lights, sudden onset of pain in the eye and diminished acuteness of vision The cause of the disease is obscure In some cases surgery may relieve the condition

Glaucus (glôˈkus), in Greek legend **1** Sea-god who loved Scylla **2** Hero of Troy in the Trojan War who exchanged his golden armor for the bronze armor of his hereditary friend Diomed on the battlefield (*Iliad*, 6) **3** Son of Sisyphus and father of Bellerophon He was killed by his own horses, and his ghost sometimes appeared to horses racing in the Isthmian games

glaze, vitreous layer coating pottery, to give the surface finish or afford a ground for decorative painting Glazes, transparent, white, or colored and of many kinds to suit the nature of the pottery, are fired on the clay, usually in the biscuit stage On stoneware a salt glaze is produced by putting salt in the fires at the right point Of the various artificial mixtures used for glazes, that for whiteware contains borax and lead which are made insoluble by "fritting" before being mixed with other substances No lead is used for porcelain The coloring agents are oxides of different metals

Glazunov, Aleksandr Konstantinovich (ălyĭksändrˈ kŭnstăntyēnôˈvĭch glăzōōˈnôf), 1865–1936, Russian composer, director of the St Petersburg Conservatory, 1906–17 He assisted his teacher, Rimsky-Korsakov, in completing Borodin's unfinished opera, *Prince Igor* Glazunov's early works reflect the spirit of Russian nationalism, but Western influences are discernible in his later works He wrote eight symphonies, a piano concerto and a violin concerto, ballets, chamber music, and orchestral tone poems See M D Calvocoressi and Gerald Abraham *Masters of Russian Music* (1936)

glee, in music an unaccompanied song for three or more male solo voices in harmony An exclusively English form, glees were composed mainly between 1750 and 1830, after which time the part songs of the Victorian composers displaced them The most famous glee was *Glorious Apollo* by Samuel Webbe (1740–1816) Many societies for the performance of glees flourished in England in the 18th cent In the United States the term "glee club," usually referring to any men's choral organization, is sometimes extended to mixed groups

Gleiwitz (glīˈvĭts) or **Gliwice** (glēvēˈtsĕ), city (pop 95,980), Upper Silesia, transferred to Polish administration in 1945 (see Silesia) It now has an entirely Polish population A center of the Katowice mining region, it also manufactures metal products, chemicals, foodstuffs, and clothes Gleiwitz, incorporated in 1276, was ceded by Austria to Prussia in 1742 The city suffered damage during the Second World War

Gleizes, Albert Léon (ălbĕrˈ lāôˈ glēzˈ), 1881 , French cubist painter and illustrator He was among the outstanding cubists in the Salon des Indépendants of 1911, and his work has been consistently geometric and intellectual in character He is represented in the Museum of Modern Art, New York Gleizes is well known also as an illustrator and as a writer and lecturer on art and aesthetic theory

Glenalmond (glēnăˈmund), valley of the Almond river, Perthshire, Scotland It is the site of the traditional grave of Ossian Trinity College (1841), a public school for boys, is here

Glen Carbon, village (pop 1,091), SW Ill , just NE of St Louis, in a coal area, inc 1892

Glencoe (glĕnˈkō) **1** Residential village (pop 6,825), NE Ill , near Chicago, settled 1836, inc 1869 **2** City (pop 2,387), co seat of McLeod co , S central Minn , WSW of Minneapolis, platted 1855 It is a farm trade and cattle-shipping center

Glencoe (glĕnkōˈ), valley of the Coe river, Argyllshire, Scotland, extending c 10 mi above its mouth at Loch Leven The town Ballachulish is near the glen, which is overhung by lofty mountains, now owned by the National Trust The glen has Ossian's Cave Here in Feb , 1692, the Macdonald clan was massacred by its traditional enemies, the Campbells, with English soldiers, under the orders of Sir John Dalrymple, secretary of state to William III

Glen Cove, city (pop 12,415), on the north shore of Long Island, SE N Y , settled 1668, inc as a city 1918 Carbon paper and typewriter ribbon are made The Webb Institute of Naval Architecture, formerly in the Bronx, was moved here in 1947

Glendale. 1 City (pop 4,855), S central Ariz , in the Salt River Valley, inc 1910 **2** City (pop 82,582), S Calif , N of Los Angeles, inc 1906 It was laid out in 1886 on part of a ranch that had been the first Spanish land grant in California Glendale has a large airport and oil refineries and manufactures aircraft, clay products, and glass A coeducational junior college and Forest Lawn Memorial Park cemetery are here. **3** City (pop 2,526), E Mo , near St Louis **4** Village (pop 2,359), SW Ohio, residential suburb of Cincinnati, laid out 1852 **5** Residential town (pop 1,348), W Va , on the Ohio, in the industrial Northern Panhandle near Moundsville, inc 1924 A toy factory and Reynolds Memorial Hospital are here

Glendale, battle of see Seven Days battles

Glendalough (glĕnˈdulōˈ), wooded valley, Co Wicklow, Ireland, W of Wicklow It is noted for the ruins of the Seven Churches (a development of a 6th-century ecclesiastical foundation of St Kevin), a round tower, and Kevin's Cross (a granite monolith) A cave in the face of the rocky mountainside, above the lake that lies at the foot of the vale, is the legendary retreat of St Kevin

Glendive (glĕnˈdīv), city (pop 4,524), co seat of Dawson co , E Mont , on the Yellowstone river and NE of Miles City, inc 1902 Laid out in 1880, it was settled in 1881 with the arrival of the Northern Pacific and grew rapidly as a cattle-shipping center Today it is the center of an agricultural district and has railroad shops

Glendora, city (pop 2,822), in Monrovia township, S Calif , E of Los Angeles, in a rich citrus-fruit area, founded 1887, inc 1911

Glendower see Owen Glendower

Glen Echo, town (pop 395), W central Md , a resort near the Potomac river 6 mi NW of Washington, D C.

Glenelg(glĕnĕlg'), town (pop 13,867), South Australia, on an inlet of Gulf St Vincent It is a southwest suburb of Adelaide and a summer resort Here in 1836 South Australia was proclaimed a British colony

Glenelg, shallow river of SW Victoria, Australia, rising near the Grampians and flowing 280 mi to Discovery Bay at the South Australian border

Glen Ellyn, residential village (pop 8,055), NE Ill , W of Chicago; platted 1851, inc 1892

Glenmora, town (pop 1,452), central La , SW of Alexandria, in a farm area, settled 1898, inc 1913

Glenns Ferry, village (pop 1,290), SW Idaho, on the Snake and SE of Boise, laid out 1883 Near by was Three Island Ford of the Oregon Trail The ferry was established in 1865 The town is today a railroad center It is included in the King Hill irrigation project

Glennville, city (pop 1,674), SE Ga , WSW of Savannah, in a farm area

Glenolden (glĕnōl'dun), residential borough (pop 4,825), SE Pa , near Philadelphia, settled c 1654, inc 1894 Pharmaceutical supplies are made here

Glen Ridge, suburban residential borough (pop 7,331), NE N J , NW of Newark, settled early in the 19th cent , inc 1895

Glen Rock. 1 Borough (pop 5,177), NE N J , SW of Ridgewood, settled c 1710, inc 1896 **2** Borough (pop 1,412), SE Pa , near the Md boundary S of York, inc 1860

Glenrock, town (pop 1,014), E central Wyo , on Deer Creek near the North Platte river and E of Casper, in an oil region Near by is the site of Deer Creek Station (1861), a military post on the Oregon Trail

Glen Rose, city (pop 1,050), co seat of Somervell co , N central Texas, on the Paluxy near its junction with the Brazos and SW of Fort Worth, inc 1926 Mineral springs and rugged scenery make Glen Rose a small health and vacation resort There are dinosaur tracks in limestone near by

Glen Roy, valley, Inverness-shire, Scotland The Parallel Roads of Glen Roy are three terraces on each side of the valley, at corresponding heights One theory holds that they represent the water levels of ancient lakes Ben Nevis is near the valley

Glens Falls, city (pop 18,836), E N Y , on the Hudson and N of Saratoga Springs, settled 1763, inc as a village 1839, as a city 1908 The falls of the Hudson provide water power, and the city has paper and pulp mills, clothing factories, and other works Charles Evans Hughes was born here

Glenview, residential village (pop 2,500), NE Ill , north suburb of Chicago, inc 1899

Glenwood. 1 City (pop 4,501), co seat (since 1853) of Mills co , SW Iowa, near the Missouri river S of Council Bluffs, founded by Mormons, inc 1857 The state institution (1876) for feeble-minded children is here **2** City (pop 2,564), co seat of Pope co , W Minn , on Lake Minnewaska S of Alexandria, platted 1866, inc as a village 1881, as a city 1912 Henrik Shipstead lived here

Glenwood Springs, resort city (pop 2,253, alt 5,823 ft), co seat of Garfield co , NW Colo , on the Colorado, laid out 1883, inc 1885 It has mineral springs and is headquarters for the White River National Forest

Glidden, Joseph Farwell, 1813–1906, American farmer b Charlestown, N H He invented the form of twisted barbed wire now in common use He was stimulated to experiments of his own by an exhibit of an early type of barbed wire at the county fair of De Kalb co , Ill , in 1873, and in 1874 he received a patent for an ingenious form of twisted wire which kept the barbs in place This eventually won preeminence over a great many early barbed-wire patents See A G Warren, "Barbed Wire Who Invented It " in *Iron Age,* June 24, 1926

glider, type of aircraft similar in form to an airplane but with no motive power except gravity and the effect of natural air currents One of the earliest pioneers in gliding was Otto Lilienthal of Germany, who between 1890 and 1896 made many successful flights covering distances up to 1,000 ft He illustrated the superiority of curved over flat surfaces in flight Lilienthal was killed in 1896 when a sudden gust of wind upset his glider Following him, among others, came Percy Pilcher of England, Henri Farman of France, and Octave Chanute and John J Montgomery of the United States They launched their gliders from elevated positions or by running forward with the machine, maintaining stability while in flight by balancing their own bodies Chanute obtained stability by making parts of the plane movable In 1900 the Wright brothers constructed and flew many gliders They were the first to introduce landing skids, which are still standard equipment on present-day gliders In 1911 Orville Wright flew in a glider for nearly 10 min., a record of long standing Modern gliders are launched by means of an elastic cord, rope, or cable which is attached to the front and pulled by a launching crew (12 men), a winch, a tow car, or a tow plane In the Second World War troop-transport gliders were used for aerial invasion The gliders were launched and towed by cargo airplanes to the invasion area, where they were released. Gliders are piloted by manipulating conventional AIRFOIL controls. Under favorable conditions the gravity potential can be repeatedly utilised by piloting the craft through updrafts of air, a practice known as soaring See J P Andrews, *Gliding and Soaring* (1944); Terence Horsley, *Soaring Flight* (1946), A C Douglas, *Gliding and Advanced Soaring* (1947)

Glière, Reinhold Moritzovich (rĭn'hōlt mōrētsô'vĭch glēĕr'), 1875–, Russian composer His early work was nationalistic, but he later added romantic and impressionistic elements After the 1917 revolution, he adapted his work to Soviet subjects His works include a Lisbian tone poem, *The Sirens* (1908), operas, *Shakh-Senem* (1923–34), based on Azerbaijan folk music, and *Rachel* (1942), after Maupassant, ballets, including *The Red Poppy* (Moscow, 1927), with a revolutionary subject; and *Ilya Mouromets* (1909–11), his third symphony He became professor of composition (1913) and director (1914) of the Kiev Conservatory and a professor (1920) at the Moscow Conservatory

Glinka, Mikhail Ivanovich (mēkhōōĭl' ēvän'ôvĭch glĭn'kä), 1804-57, first of the nationalist school of Russian composers He led somewhat the life of a dilettante and composed only a few significant works Notable among these were his two operas, *A Life for the Tsar* (1836) and *Russlan and Ludmilla* (1842), and a symphonic work, *Kamarinskaya* (1884) See M D Calvocoressi and Gerald Abraham, *Masters of Russian Music* (1936).

Glittertind. see JOTUNHEIM

Gliwice, Upper Silesia see GLEIWITZ

Globe, city (pop 6,141), co seat of Gila co , E Ariz , in foothills near the Pinal Mts , settled 1876, inc 1907 Though copper had been discovered earlier (1872), a silver boom built the city, and only later did Globe become for decades a big copper center MIAMI, ARIZ , was established later Asbestos has been mined near by Ranching still fills the town with cowboys, and an Apache reservation is near

globe, spherical body used to illustrate the earth (terrestrial globe) or the sky (celestial globe) The terrestrial globe is the only means of representing sizes and shapes of continents and oceans without distortion of shape, inaccuracy of angles and direction, or mistakes in the relative area The only inaccuracy consists in the fact that globes are spherical, while the equatorial diameter of the earth exceeds the polar one by 27 mi Globes came into use as soon as the idea of the spherical form of the earth became prevalent Probably the oldest globe was constructed by the Greek geographer Crates in the 2d cent B C In modern times the first globes were made by Martin Behaim of Nuremberg in 1492 and by Leonardo da Vinci shortly afterwards One of the earliest globes constructed (1500) after the discovery of America is in the New York Public Library Most globes are made with a diameter of 12 in The largest globe, with a diameter of 128 ft , was set up on the Champs Élysées in Paris in 1824 The most famous globe in the United States is the two-ton revolving aluminum globe exhibited in the New York *News* Building It has a diameter of 12 ft Globes are generally made of paper pulp, plaster, metal, or wood and are covered with paper segments upon which map features are engraved or printed On celestial globes the stars are represented in positions corresponding to their actual situation on the sky If a celestial globe is brought into correct position, a line drawn from its center to any star marked on its surface will, if followed to the sky, focus the actual star

globe amaranth, annual plant (*Gomphrena globosa*), grown in gardens for the chaffy, dome-shaped heads of flowers, available in a number of colors The flowers are on long, stiff, branching stems and are popular for winter bouquets and holiday wreaths and decorations, for which they are best when picked and dried shortly before they have fully matured (*see* EVERLASTING) The globe amaranth, sometimes called bachelor's-button, is related to the true AMARANTH

globeflower, any plant of the genus *Trollius,* hardy perennials of moist north temperate regions, some native to America Related to the buttercups, they have similar but larger flowers of white, yellow, orange, or purple *Trollius europaeus,* with blossoms globe shaped from the incurving flower parts, is most commonly cultivated

Globe Theatre, famous London playhouse, built 1598, where most of Shakspere's plays were first presented It was burned in 1613, rebuilt in 1614, and destroyed by the Puritans in 1644 See E K Chambers, *Elizabethan Stage* (1923), J C Adams, *The Globe Playhouse* (1945)

Glocester (glŏs'tŭr), town (pop 2,099), NW R I ; set off from Providence and inc 1731 Near Chepachet village, which is in the center of the town, is a monument to Thomas W Dorr, who gathered his men here

glockenspiel (glŏ'kŭnspēl, Ger glô'kŭnshpēl) [Ger , =bell-play], percussion instrument The medieval glockenspiel was a sort of miniature carillon, sometimes played mechanically by means of a rotating cylinder with pins stuck in it. In the 16th cent. it was given a keyboard. The 18th-century glockenspiel had metal bars instead of bells, and in the romantic period the keyboard disappeared and the bars were struck by hammers Mosart, in *Die Zauberflöte,* Wagner, Puccini, and Mahler have all employed the glockenspiel in their scores

Glogau (glō'gou) or **Glogow,** Pol. *Glogów* (gwô'gōōf), town (1939 pop 33,500; 1946 pop. 1,681), Lower Silesia, on the Oder river and NW of Breslau. It was transferred to Polish administration by the Potsdam Conference (1945). It became (1249) the capital of a Silesian principality ruled, until 1506, by a branch of the Polish Piast dynasty. From 1331 it was under Bohemian suzerainty As a result of the War of the Austrian Succession, Glogau passed (1745) to Prussia Glogau retained some fine medieval architecture until the Second World War, when it was virtually destroyed The present population is entirely Polish.

Glomma (glô'mä), chief river of Norway, rising in the highlands S of Trondheim Fjord and flowing c 375 mi roughly parallel to the Swedish border to Fredenikstad, on the Skagerrak The largest and last of its 23 falls are at SARPSBORG and furnish power to the large lumber and cellulose industries between Sarpsborg and Frederikstad Between these points the river is navigable

Gloria in excelsis (ĕksĕl'sĭs) [Latin, =glory in the highest], the *Angelic Hymn* or greater DOXOLOGY, ancient Christian hymn beginning, "Glory be to God on high, and on earth, peace, good will towards men " An amplification of Luke 2 14, it was of Greek origin and took its place in the Roman MASS about the beginning of the 6th cent In the Mass it follows the *Kyrie,* but in the Anglican communion it is just before the benediction In both services it is omitted at certain seasons

Gloria Patri (pät'rē) [Latin, =glory (be) to the Father], the lesser DOXOLOGY, brief Christian hymn in praise of the Persons of the Trinity The second clause was added after the Arian controversy The hymn is much used in the Roman office, in the Anglican morning and evening prayers, and in Protestant services in general

Glorious Revolution, in English history, the events of the years 1688–89 which resulted in the deposition of JAMES II and the accession of WILLIAM III and MARY II to the English throne It is also called the Bloodless Revolution The restoration of Charles II in 1660 was met with misgivings by many Englishmen, who suspected the Stuarts of Catholic and absolutist leanings After James II's accession (1685) his overt Catholicism and the birth of a Catholic prince who would succeed to the throne united the hitherto-loyal Tories with the Whigs in a common opposition to James Seven Whig and Tory leaders, including the earl of DANBY, sent an invitation to William of Orange in Holland and his consort, Mary, Protestant daughter of James, to come to the aid of England William landed at Torbay with an army. James's forces under John Churchill (later duke of Marlborough) deserted him, and James fled to France (Dec , 1688) where his queen and his son had preceded him Early the following year William and Mary accepted the invitation of Parliament to rule as joint sovereigns The DECLARATION OF RIGHTS (1688) and the BILL OF RIGHTS (1689) redefined the relationship of monarch and subjects and barred any future Catholic succession to the throne The Glorious Revolution was a triumph of parliamentary authority over the "divine right" of kings The ultimate ascendancy of Parliament was never thereafter successfully disputed in England See G M Trevelyan, *The English Revolution, 1688–1689* (1939)

glory lily, any species of the genus *Gloriosa,* tuberous-rooted climbing plants of tropical Africa and Asia, cultivated in conservatories or out of doors, but not hardy The plant climbs by means of tendrillike leaf tips; it blooms in summer and fall with yellow, orange, or red lilylike flowers *Gloriosa superba* is also called climbing lily

gloss, explanatory note on a word or words of a text, usually written between the lines or in a margin of a manuscript In copying a manuscript, sometimes a copyist incorporated a gloss in the text, so that the copy departs from the original Often the gloss is in a language different from that of the text Old glosses on the Bible have value as evidence of tradition, as have glosses in civil and canon law.

Glossop (glŏs'ŭp), municipal borough (1931 pop 19,509; 1943 estimated pop. 20,001), Derbyshire, England, E of Manchester at the border of the Peak Glossop is the chief cotton-manufacturing city of Derby

Gloster (glŏs'tur), town (pop. 1,232), SW Miss , W of McComb near the La line, in a farm area, inc 1884

Gloucester, Gilbert de Clare, 8th **earl of** (glô'stûr, glŏ'–), 1243–95, English nobleman He married (1253) Alice of Angoulême, niece of HENRY III, and succeeded his father, Richard, as earl of Gloucester in 1262 He was a leader of the baronial party under Simon de MONTFORT, earl of Leicester, in opposition to Henry III, who surrendered to Gloucester after the battle of Lewes (1264). Gloucester aided the prince (later EDWARD I) against Leicester in 1265, returned to the baronial party in 1266, but finally joined the royal cause and

aided in Edward I's accession to the throne (1272). His first marriage was annulled, and in 1290 he married Edward's daughter Joan He also held the titles of earl of Clare and earl of Hertford, as did his son by Joan, **Gilbert de Clare, 9th earl of Gloucester,** 1291–1314, who served several times as regent of England and was killed at the battle of Bannockburn.

Gloucester, Henry William Frederick Albert, duke of, 1900–, English prince; third son of George V and brother of Edward VIII and George VI He was created duke in 1928 He was educated at Sandhurst and made the army his career, serving as a major general in the Second World War He was governor general of Australia from 1945 to 1947

Gloucester, Humphrey, duke of, 1391–1447, English nobleman, son of Henry IV and Mary Bohun He was well educated and had a great interest in humanist scholarship After the accession of his brother as Henry V, Humphrey was created duke of Gloucester and earl of Cambridge (1414), served in Henry's French campaign, and was wounded at the battle of Agincourt (1415) In 1420–21 he remained in England as regent during Henry's absence When the infant Henry VI succeeded his father as king of England and inherited his grandfather's claim as king of France, Gloucester's elder brother John of Lancaster, duke of Bedford, became protector, but was so completely occupied in France that during his absences Gloucester served under him as protector in England, with a council Gloucester's ensuing struggle for power against his uncle, Henry Beaufort, forced Bedford to return from France several times to reconcile them Gloucester's marriage (c 1422) to Jacqueline of Hainault lasted until 1425, when, after their disastrous military expedition to Hainault, he returned with Eleanor Cobham, his mistress, to England A papal decree of 1428 invalidated his former marriage and permitted him to marry Eleanor, but he was severely criticized In 1429 the council crowned the boy Henry king, and Beaufort's ascendancy increased After the death of Bedford in 1435, Gloucester was the heir to the throne, but his influence with the young king waned as he advocated continuing the unsuccessful war in France When Eleanor, Gloucester's wife, was imprisoned in 1441 for sorcery against the king, Gloucester's political importance practically ended Gloucester was suspected of plotting Henry's death and in 1447 was arrested, but fell sick and died in custody He was known as "Good Duke Humphrey," perhaps from his benefactions to scholars and men of letters He corresponded with the leaders of the new Italian humanism, had translations made from the Greek classics, and collected a considerable library He was a patron of Oxford Univ , and his gift of books formed the nucleus later restored and developed by Sir Thomas Bodley into the Bodleian Library See biography by K H Vickers (1907)

Gloucester, Richard de Clare, 7th earl of, 1222–62, English nobleman He succeeded his father, Gilbert, as earl in 1230 For some years Richard vacillated in his allegiance to HENRY III, he served the king in diplomatic missions to Scotland and Germany, but in the Mad Parliament (1258, see PARLIAMENT) he was a leader of the baronial party Gloucester and Simon de MONTFORT, earl of Leicester, were now the leading political figures in England and soon were rivals Later Gloucester alternately supported and quarreled with the king and Prince Edward Gloucester also held the titles of earl of Clare and earl of Hertford

Gloucester, Robert, earl of, d 1147, English nobleman, illegitimate son of Henry I The king created for him the earldom of Gloucester (c 1121) After his father's death (1135), Robert refused to claim the throne in opposition to the king's nephew, STEPHEN, to whom he did conditional homage in 1136, in 1138, however, they quarreled, Robert's estates were seized, the barons arose against Stephen, and Robert declared for the claim of his half sister, Empress MATILDA Stephen surrendered to Robert's forces in 1141, but later, in protecting Matilda's retreat from Winchester, Robert was captured by the royalists He was later exchanged for Stephen, who had been imprisoned at Bristol He went to France to get the aid of Geoffrey Plantagenet and returned to England with Henry (later Henry II) Robert held the Angevin party together and consistently labored for Matilda's cause

Gloucester, Thomas of Woodstock, duke of, 1355–97, English nobleman, seventh son of Edward III He was betrothed (1374) to Eleanor Bohun, a rich heiress, and became earl of Buckingham at the coronation of RICHARD II (1377) He was the king's lieutenant in France (1380), but returned to England after the failure of his siege of Nantes In 1385 he was created duke of Gloucester and soon emerged as the head of the baronial party whose opposition to the king culminated in the Merciless Parliament (1388) and the exile of the earls of Oxford and Suffolk, favorite royal ministers When the king regained his power in 1389, Gloucester, aided by Lancaster and Northumberland, made his peace with the king, whom he accompanied to Ireland in 1394 Gloucester by his opposition to the royal policy of peace with France and by efforts at another conspiracy provoked his own arrest by Richard (1397) He was imprisoned, convicted of treason, and died, probably killed at the king's command.

Gloucester, county, England: see GLOUCESTERSHIRE

Gloucester (glŏs'tûr, glô'stûr), county borough (1931 pop 52,937, 1947 estimated pop 64,100), Gloucestershire, England, on the Severn and NE of Bristol It is on the site of the Roman Glevum In 681 OSRIC founded an abbey where Gloucester's cathedral now stands. Parts of the cathedral date from the 11th cent , its high central tower from 1450 Gloucester is an industrial city with manufactures of railroad equipment, chemicals, farm machinery, and electrical goods The Three Choirs Festival is held here every third year

Gloucester (glŏs'tûr) **1** City (pop 24,046), NE Mass , on Cape Ann It is at the head of the excellent Gloucester Harbor, which is protected by a breakwater built from Eastern Point and which for over three centuries has been used by fishing ships Colonists landed in 1623, Gloucester was incorporated as a town in 1642, as a city in 1873 It is a port of entry Gloucester's development as a summer resort and artists' center began late in the 19th cent It is also a great fish-processing center The famous bronze *Fisherman* is a memorial to the thousands of Gloucestermen lost at sea The Hammond Museum houses valuable art collections The city has furnished material for authors as well as artists See Kipling, *Captains Courageous*, the works of James B Connolly, Raymond McFarland, *The Masts of Gloucester* (1937) **2** Village, E Va , on Middle Peninsula between the York and Rappahannock rivers, near Chesapeake Bay, founded 1769 The courthouse (1766) of Gloucester co and an old debtors' prison are here

Gloucester City, industrial city (pop 13,692), SW N J , on the Delaware below Camden, site of Fort Nassau (built 1623), settled 1682 by Friends, laid out 1687, inc 1868 Asbestos, cork, and paper products are made here

Gloucestershire or **Gloucester** (glŏ'stûrshĭr, glô'-), county (1,255 sq m , 1931 pop 786,000, 1948 estimated pop 916,100), W England The county seat is Gloucester In the eastern part of the county are the Cotswold Hills, devoted largely to sheep grazing, in the center is the fertile valley of the Severn river (with its chief tributaries, the Upper Avon, the Lower Avon, and the Wye), devoted to dairy farming (Gloucester cheese), and in the west, on the Welsh border, is the Forest of Dean Cirencester and Gloucester were centers of networks of Roman roads The region became part of the Anglo-Saxon kingdom of Mercia It was organized as a county in the 15th cent and is especially rich in ecclesiastical remains Manufacturing is chiefly centered around the great port of Bristol

Glouster (glou'stûr), village (pop. 2,847), SE Ohio, N of Athens There are coal mines here

glove, hand covering with a separate sheath for each finger. Cave dwellers' relics, sewn with leather thongs, as well as allusions in the writings of Homer and Herodotus, show the glove's antiquity In England, probably worn first (8th–9th cent) as a sign of rank, it became after the Norman Conquest an important part of dress, being necessary to the sport of falconry The gloves of church and lay dignitaries were rich with jewels and symbolic embroidery, huntsmen and warriors wore gauntlets of leather sewn over metal plates Ladies in the 13th cent used long linen gloves for ornament, and by the 16th cent , gloves of silk, worsted, or leather were generally worn Queen Elizabeth was famous for her richly laced, jeweled, and embroidered gauntlets In the Middle Ages the glove had symbolic uses, it was removed before superiors and in church, worn in the hat as a favor or as a token of allegiance, thrown down as a gage or challenge, and taken up in acceptance of battle A folded glove was a pledge of the fulfillment of a contract; lords bestowed gloves as tokens of privilege, vassals received them to signify service A guild of glovemakers was incorporated in France in 1190, and one in London c 1600 Glovemaking in France, early noted for its excellence, is an important industry, the kid-glove trade centering at Paris and Grenoble England specializes in heavy leather products such as capeskin In the United States, glovemaking began in 1760 when a settlement of Scottish glovers was established at Gloversville, N Y , here in 1810 gloves were first sold by the dozen New York state is the center of the glove industry in America Modern gloves are made of fabrics, plain or knitted; of leather from almost every variety of animal hide, and of rubber, used in surgical, laboratory, and household work Leather for gloves is dressed by specialized processes, cut with dies, and sewn both by hand and by machine See K. M. Lester and B V Oerke, *An Illustrated History of ... Accessories of Dress* (1940), C C Collins, *Love of a Glove* (1945).

Glover, Jose (glŭv'ûr), d 1638, English nonconformist minister, generally considered the father of printing in the British colonies of North America. He visited (c 1634) New England and on his return to England solicited support for what became Harvard College He also bought a printing press and equipment and contracted for the services of Stephen DAYE and his household (including Matthew DAYE) Glover died on the voyage to America. His wife came into control of the printing equipment, and Stephen and Matthew Daye worked for her.

Gloversville (glŭv'–), city (pop. 23,329), E central N Y , N of Johnstown, inc 1890 Gloves have been made since the early 19th cent , and other leather goods are produced.

glowworm, name applied to the luminescent larva and wingless female of certain beetles or fireflies chiefly of the families Lampyridae and Phengodidae The common European glowworm is the wingless female of the beetle *Lampyris noctiluca* Its greenish light, emitted from cells of the posterior abdominal segments, is believed to attract the males

gloxinia [for B P Gloxin, 18th-century German botanist], tuberous-rooted Brazilian herb (*Sinningia speciosa*), cultivated in several forms as a pot plant It has large, gorgeously colored, bell-shaped flowers borne above velvety leaves The plants, propagated by leaf cuttings or seeds, require a dry rest period *Gloxinia* is also a name for a genus of tropical plants not in cultivation

glucinum · see BERYLLIUM

Gluck, Alma (glŏk), 1884–1938, American soprano, b Bucharest, Rumania Her real name was Reba Fiersohn She sang at the Metropolitan Opera, New York, from 1909 to 1912 and afterward sang mainly in concerts She was one of the first singers to make phonograph records and attained great popularity through that medium In 1914 she was married to Efrem Zimbalist

Gluck, Christoph Willibald von (krĭs'tŏf vĭl'lēbält fŏn), 1714–87, operatic composer, b Bavaria, studied in Prague and later in Italy His first 10 operas were successfully performed in Italy in the years 1741–45 He visited London (1746–47), where he met Handel In 1752 Gluck became conductor of the private orchestra of Prince Sachsenhildburghausen He was director of the court opera at Vienna from 1754 until his resignation in 1764 He was appointed imperial court composer in 1774 After an apoplectic stroke in 1779 he lived in retirement His early operas, some with Metastasio as librettist, were in the Italian tradition With *Orfeo ed Euridice* (Vienna, 1762) he began his reform of the opera, inspired by classical Greek drama He gave greater unity to text and music and eliminated the meaningless coloratura of the arias To Ranieri Calzabigi, the librettist of *Orfeo* and of *Alceste* (Vienna, 1767), he gave much of the credit for his new operatic style His influence on later composers was felt mainly in his principles of composition In 1777 Gluck produced his *Armide*, and Niccolò Piccinni his *Roland*, both settings of plays by Quinault, written at the instigation of Parisian literati This was the climax of the controversy between Gluck's supporters and the proponents of pure Italian opera As to which was the winner, the critics all rendered verdicts which were in accord with their prepossessions Gluck's last important work, *Iphigénie en Tauride* (Paris, 1779), is considered his masterpiece See Ernest Newman, *Gluck and the Opera* (1895), biographies by Martin Cooper (1935) and Alfred Einstein (Eng tr , 1936)

glucose, dextrose, or **grape sugar.** Commonly, the term *glucose* is used to designate a sweet syrupy liquid known also as corn syrup (because it is obtained commercially from cornstarch by HYDROLYSIS) It is not as sweet as cane sugar, but is used extensively in making candy, chewing gum, jams, jellies, preserves, and table syrups and for various other purposes This "glucose," however, is actually a mixture of substances, included among them being the sugar maltose The term *glucose* is used in chemistry to indicate d-glucose, dextroglucose, or dextrose, a CARBOHYDRATE It is found in fruit juices with other sugars (as in grapes), as a product in photosynthesis, and normally in the blood of various animals (blood sugar) An excess occurs in the blood and in the urine of man under certain conditions resulting from disease, as in diabetes Dextrose is a white, crystalline solid There are a number of forms having the same chemical formula (6 atoms of carbon, 12 of hydrogen, and 6 of oxygen) which differ in the arrangement of the atoms in the molecule, and some also differ in optical properties Dextrose or d-glucose is changed by yeast in fermentation into ALCOHOL and carbon dioxide Its presence is indicated by the use of FEHLING'S SOLUTION, and various modifications of this test are used in determining its occurrence in urine Another test involves heating it with picric acid and an alkali, the presence of glucose causes the solution to turn red. Glucose was discovered by J L Proust

glue: see ADHESIVE

gluten (glōō'tĕn) [Latin,=glue], albuminous substance, tough, elastic, almost tasteless, and insolu-

ble in water. It is found in hard or northern wheat and is the constituent which makes good flour for yeast bread Its composition includes, approximately, carbon 53 per cent, hydrogen 7 per cent, nitrogen 15 to 18 per cent, sulphur 1 per cent It is obtained from wheat by washing in water and is used in the manufacture of breadstuffs for a diabetic diet

glutton see WOLVERINE

glycerin, glycerine (both gl'ĭsərĭn), or **glycerol** (gl'ĭsərôl, -rōl), an ALCOHOL, a colorless, odorless liquid with a sweet taste, boiling at 290°C and melting at between 17°C and 18°C It mixes readily with alcohol and with water in all proportions and is hygroscopic (takes on water from the air) With acids it forms esters, with fatty acids it forms oils and fats, which upon heating break up into their fatty acids and glycerol again, with nitric acid it forms *nitroglycerin* It is widely used, e g , in the manufacture of certain perfumes, cosmetics, and inks for rubber stamps, in medicine, in the manufacture of explosives, and in antifreeze mixtures Its chief source is as a by-product in the manufacture of soap, fats when treated with alkalies forming soap and glycerin

glycogen (glī'kujĕn, -jun), a CARBOHYDRATE, known also as animal starch because it occurs almost exclusively in animal cells (with the possible exception of the fungi among the plants), being the form in which carbohydrates are stored in animals It is made up of molecules of d-glucose, to which it reverts upon hydrolysis The animal cell, particularly the cells of the liver and the skeletal muscles, apparently can convert an excess of glucose, or blood sugar, into glycogen to be stored for later use It is stored especially in the liver It has been suggested by some that in man the phenomenon of the "second wind," which occurs during continued violent exercise, results from added energy liberated by the chemical activity following the release of glycogen from storage In muscular activity (see MUSCLES) the glycogen is decomposed to lactic acid, and energy is released Some of the lactic acid thus formed is later converted to glycogen again In physical properties, the substance resembles plant starch, and when mixed with water it forms an opalescent colloid With iodine, however, it produces a reddish brown, or a red, instead of the dark blue of plant starch

Glycon (glī'kŏn), c 1st cent B C , Athenian sculptor, who executed the FARNESE HERCULES

Glyndebourne Festivals (glĭn'dŭbûrn, glīn'bôrn), operatic festivals, begun in 1934 by John Christie, an English organ builder, at his estate at Glyndebourne, near Lewes, Sussex The first few festivals were devoted to Mozart, but other composers later were included

Glyptothek (glŭp"tōtāk'), museum in Munich, founded by Louis I of Bavaria to house his collection of ancient and modern sculptures Among these is the famous Barberini fawn (300 B C) The Ionic building, designed by Leo von Klenze, was constructed between 1816 and 1830 and was destroyed in the Second World War, the collections, however, were saved

Gmelin, Johann Georg (yō'hän gā'ôrk gmā'lĭn), 1709–55, German naturalist In the service of the Academy of Sciences, St Petersburg (1727–47, professor from 1731), he was assigned (1733–43) to Bering's scientific staff in Siberia He wrote accounts of his travels and of Siberian flora He taught at the Univ of Tübingen from 1749 His nephew **Samuel Gottlieb Gmelin** (zä'mōōĕl gōt'lēp), 1744–74, a German botanist and professor from 1766 at the Academy of Sciences, St Petersburg, made scientific expeditions in SE Russia

Gmelin, Leopold (lā'ōpōlt), 1788–1853, German chemist He taught (1813–51) at the Univ of Heidelberg and was noted for his research on the chemistry of digestion and for his discovery of potassium ferrocyanide He wrote treatises on digestion and a standard *Handbook of Chemistry* (2 vols , 1817–19, Eng tr , 1848–72)

Gmelin, Samuel Gottlieb: see GMELIN, JOHANN GEORG

Gmünd, Germany see SCHWABISCH GMÜND.

Gmunden, Austria see SALZKAMMERGUT

Gnadenhutten (jĭnä'dünhŭ"tun), rural village (pop 876), E central Ohio, W of Steubenville and on the Tuscarawas river A state memorial park marks the site of the Gnadenhutten massacre (1782), where a force of white men slaughtered a settlement of 96 Christian Indians

gnat (năt), name for various small flies of the order Diptera The BLACK FLY is a pest to humans and to most other warm-blooded animals Several species of fungus gnats injure mushrooms and a variety of greenhouse plants The potato scab gnat bores through potato tubers Gall gnats and midges damage many plants In England mosquitoes are also known as gnats

Gneisenau, August, Graf Neithardt von (ou'gōōst grä'f' nīt'härt fŏn gnī'zunou), 1760–1831, Prussian field marshal In the Napoleonic Wars he fought at Jena (1806), won fame for his valiant defense of Kolberg (1807), and was Blücher's chief of staff in the campaign of 1813–14 and the Waterloo campaign (1815) He also assisted SCHARNHORST in effecting military reforms He died while commanding an expedition to repress the Polish insurrection

gneiss (nīs), metamorphic rock characterized by alternating light and dark bands, differing in mineral composition The bands are coarser than those of SCHIST The light bands are generally composed of quartz and feldspar Gneisses usually are altered from granite or some other igneous rock, but may be altered from sedimentary rocks

Gneist, Rudolf von (rōō'dôlf fŏn gnīst'), 1816–95, German jurist Widely learned in English and continental administrative law, he tried through his teaching at the Univ of Berlin and through holding public office to reform the working of the constitution in Prussia and to make administration a cooperative function of citizens, local officials, and the central government

Gnesen, Poland see GNIEZNO.

Gniezno (gunyĕz'nō) or **Gnesen** (gunā'zŭn), town (pop 30,292), Poland, 30 mi NE of Poznan The legendary cradle of the Polish nation, Gniezno was the first capital of Poland At the Congress of Gniezno (1000) the metropolitan see of Poland was established here, and according to some historians, BOLESLAUS I was recognized as king of Poland by Emperor Otto III The city passed to Prussia in 1793 and again in 1815 In 1821 the archiepiscopal see was transferred to Poznan Returned to Poland in 1919, Gniezno was annexed to Germany during the Second World War and suffered no damage It is noted for its 10th-century cathedral Chiefly a trade center, Gniezno has also clothing, leather, food, and printing industries

gnome (nōm), in medieval folklore, a dwarf spirit connected with mountains and mines They are usually represented as misshapen They are elfin and usually unfriendly.

gnomon see SUNDIAL

Gnosticism (nŏ'stĭsĭzm), religious and philosophical movement of the late Hellenistic and early Christian eras The concept that salvation is to be sought through knowledge rather than faith, ritual, or good works was the unifying principle which blended scattered bits of ideas The definition of *gnosis* [knowledge] as concern with the Eternal was present in earlier Greek philosophy Hellenistic mystery cults had been concerned with destiny, an evil which, they taught, man resists with *gnosis* Gnostic elements existed in the doctrines of the ESSENES and the THERAPEUTAE, who taught that eternal life is attained through knowledge of the Divine, mystically revealed These Jewish sects rejected the Old Testament concept of God as Righteousness and Creator and emphasized instead love of Divine Wisdom Christian Gnostics denied the Jewish foundations of Christianity and wholly rejected the Old Testament (see MARCION) The dualism of Gnosticism was strengthened by the influence of Eastern cults such as Zoroastrianism The need for redemption was common to many creeds, and Gnostics added it to the idea of Wisdom After the 1st cent A D , Christ was accepted, but as an emanation from the First Cause Magic, a common feature of Hellenistic cults, was incorporated into Gnostic ritual, even though the Gnostics taught that God is Intellect, to be sought with the mind Later Gnostics, particularly VALENTINUS, developed a complex doctrine based on all these concepts and held together by the current influence of NEOPLATONISM They taught that through the worship of Sophia (wisdom) the work of the creator (Demiurge) of the material world was repudiated, and the individual led to the Savior, an eon who redeemed man by freeing the soul from the thrall of matter One must contemplate also the other eons, who dwelt in the heavenly Pleroma between Sophia and Jesus and reflected Truth These Gnostics divided mankind into three classes Gnostics were spiritual (pneumatic) and required no aid for their certain salvation Christians who rejected Gnosticism were animal (psychic), and might, through faith in Jesus Christ, attain a lesser salvation The rest of men were called corporeal (hylic), they lacked a divine spark and would never be saved Such a doctrine might inspire extreme asceticism (as in the Alexandrian school of Valentinus) or extreme licentiousness (as in the sect of CARPOCRATES) Cultism characterized the OPHITES SIMON MAGUS, the magician mentioned in Acts 8 9-24 was frequently cited by early Church Fathers as a prominent Gnostic Our knowledge of Gnosticism is derived from extant Coptic texts, especially *Pistis Sophia* and *Jeu*, from the *Odes of Solomon* and other Wisdom literature of the PSEUDEPIGRAPHA, and from the refutations of early Christian writers, notably St Irenaeus, St Hippolytus, and St Clement of Alexandria Gnosticism stimulated Christianity to formulate a doctrine, since, for the first time, the new faith had to declare heretical and suppress a system which threatened it Gnosticism merged with MANICHAEISM, which adopted many of its ideas The MANDAEANS are the only surviving Gnostic sect See Ernesto Buonaiuti, *Gnostic Fragments* (1924), *Pistis Sophia* (tr by George Horner, 1924); F C Burkitt, *Church and Gnosis* (1932), L. G Rylands, *The Beginnings of Gnostic Christianity* (1940).

gnu (nōō), South African antelope with a rather oxlike appearance Two species of the genus *Connochaetes* are probably the best known The white-tailed gnu or black wildebeest once abundant on the plains and grasslands is now believed to be extinct in the wild state but is preserved on some farms in South Africa and in zoological gardens It is dark brown or blackish, and the males stand about 4 ft. high at the shoulder. Both sexes have horns, the head is rather broad, and long tufts of hair stand erect on the muzzle and hang from the throat and between the forelegs, a stiff upright mane extends from the horns to the shoulder The legs are slender, and the tail is long and white (except at the base where it is brown) The brindled gnu or blue wildebeest is bluish gray in color with indistinct brown markings on the sides of the body It is larger than the white-tailed gnu (*males* about 4½ *ft* at the shoulder), but the head is less broad Although much reduced in numbers it is still found in small herds.

Goa (gō'ä), Portuguese colony (1,469 sq mi , pop 540,925), W India, on the coast and bordered by Bombay state It was founded by Afonso de Albuquerque in 1510 from territory which he seized from the sultanate of Bijapur Old Goa (pop 2,707), the original capital of the colony, was a prosperous city in the late 16th cent A cathedral, churches, and several palaces survive from this period The most notable structure is the Church of Bom Jesus, here is the tomb of St Francis Xavier, whose missionary work (1542–52) was so successful that today about half the population of the colony is Catholic Old Goa's trade declined in the 17th and 18th cent , and in 1842 the capital was moved to New Goa or Pangim (pop 14,213), which had recently been built It is now the headquarters of Portuguese India

Goat, the see CAPRICORNUS

goat, ruminant animal with hollow horns, related to the sheep It was early domesticated, probably first in Persia from the wild bezoar goat or pasan The true goats belong to the genus *Capra* of the family Bovidae and are of Old World origin, although domesticated forms are distributed throughout the world Goats are raised for milk and for wool In some regions the flesh is eaten As milk animals they are far more numerous in the Old World than in the New, although the number of registered animals in the United States has increased markedly in recent years The milk has a high mineral content and small fat globules and is more easily digested than cow's milk by some children, invalids, and older people Goat's milk is also made into cheese Among the chief breeds of milk goats in North America are the Toggenburg goat (developed in Toggenburg, Switzerland), the first purebred milk goat imported (1893) into the United States, the Saanen goat, which also originated in Switzerland, the Nubian breed, the result of crosses between African and English stock, and the French Alpine goat Many pedigreed goats, especially the milk goats, are hornless Most numerous of the goats in the United States are the Angora goats, whose clipped wool is known as MOHAIR Texas is the leading state in the number of Angoras raised The Rocky Mountain goat is not a true goat The IBEX is one of the true wild goats See W L McWalt, *Improved Milk Goats* (1942), C A Leach, *Aids to Goat Keeping* (5th ed , 1946)

Goath (gō'ăth), unidentified place, near Jerusalem Jer 31 39

Goat Island. **1** See YERBA BUENA ISLAND, Calif **2** Island, W N Y , in the Niagara river, lying between the American and the Canadian falls

goatsbeard, common name (because of the fuzzy dandelionlike fruits) for two species of *Tragopogon*, tall, narrow-leaved plants with purple or yellow flowers in large flat heads They are native to Europe, but are naturalized in North America and sometimes weedy The purple goatsbeard or salsify (*Tragopogon porrifolius*), known also as oyster plant and vegetable oyster, is widely cultivated for the long edible root, oysterlike in flavor The roots may be left in the ground over winter and dug as needed The yellow goatsbeard or meadow salsify (*Tragopogon pratensis*), sometimes called go-to-bed-at-noon because the flowers open early in the morning and close at midday, is seldom cultivated Other plants having similar names are the black salsify (*Scorzonera hispanica*), with a root like that of the salsify in flavor and use, but black skinned, and with leaves used in salads, and another plant called goatsbeard (*Aruncus sylvester*), related to the spiraeas and cultivated for its small white flowers

Gob [Heb , =cistern], town, SW Palestine 2 Sam 21 18,19 In the parallel passage, 1 Chron. 20 4, GEZER is given instead

Gobat, Charles Albert (shärl' älbĕr' gōbä'), 1843–1914, Swiss statesman. He wrote on international law and helped found an international peace bureau He received, with Élie Ducommun, the 1902 Nobel Peace Prize

Gobelins, Manufacture nationale des (gōbŭlĕ'), state-controlled tapestry manufactory in Paris It was founded as a dye works in the mid-15th cent by brothers, Gilles and Jehan Gobelin, and in 1601

a tapestry works operated by two Flemish weavers, Marc de Comans and François de la Planche, was added The establishment was controlled by the Gobelin family until its purchase in 1662 by Louis XIV Other tapestry works were united with it when it was reorganized in 1667 by Colbert as a royal tapestry and furniture works with Charles Le Brun as director and chief designer After 1697 the Gobelins specialized in tapestry, doing both low- and high-warp weaving until the 19th cent , then high warp only was done, since this was easier for the weaver to watch The Gobelins factory has always been noted for excellence of materials, dyes, and workmanship, it originated the exquisite Gobelin blue Famous tapestries from its looms include a set based on copies of Raphael's frescoes in the Vatican and 14 great pieces commemorating the achievements of Louis XIV

Gobi (gō'bē), Mandarin *Sha-mo*, sandy desert of China and Mongolia It covers some 500,000 sq mi , extending c 1,500 mi from the Great Khingan mts , Manchuria, to Sinkiang prov , China It is a plateau averaging c 3,000 ft in altitude Nearly all the soil has been stripped off by the prevailing northwesterly winds and deposited in N central China as loess The scanty grasslands support a small population, chiefly pastoral Mongols There are few roads, and most transportation is by camel caravan. Many paleontological finds, including dinosaur eggs, have been made in the Gobi See Mildred Cable and F L French, *The Gobi Desert* (1944)

Gobineau, Joseph Arthur, comte de (zhôzĕf' ärtür' kōt' dŭ gôbĕnō'), 1816–82, French man of letters and diplomat The chief early French exponent of the theory of Nordic supremacy, he was strongly antidemocratic and anti-Semitic His chief work was *Essai sur l'inégalité des races humaines* (1853–55, Eng tr , *The Inequality of Human Races*, 1915) He also wrote artistic short stories, of which the *Nouvelles asiatiques* (1876, Eng tr , *Five Oriental Tales*, 1925) are typical

goblin, in folklore, a misshapen dwarfed creature haunting dark places, of capricious or malevolent disposition He is of the same type as the elf

God, divinity of the three great monotheistic religions, Judaism, Christianity, and Islam In the Old Testament various names are used YHWH is the most celebrated of these, the Hebrews considered the name ineffable and substituted, in reading, the name *Adonai* [my Lord] The ineffable name, or tetragrammaton [Gr ,=four-letter form], is of unknown origin, the reconstruction *Jehovah* was based on a mistake, and the form Yahweh is not now regarded as reliable The name *Jah* occurring in names such as Elijah is a form of YHWH The commonest name for God in the Old Testament is *Elohim*, a plural form, but used as a singular when speaking of God, in some books a new singular of Elohim is used The name *El*, not connected with Elohim, is also used, especially in proper names, e g Elijah, it is connected etymologically with the name *Allah*, used by Arabs (Christians as well as Moslems) and all Moslems as the name of God The name *Shaddai*, used with other words and in names (e g , Zurishaddai), appears rarely Of these names only Adonai has a satisfactory etymology It is generally not possible to tell from English translations of the Bible what was the exact form of the name of God in the original The general conception of God may be said to be that of an infinite being (often a personality but not necessarily anthropomorphic) who is supremely good, who created the world, who knows all and can do all, who is transcendent over and immanent in the world, and who loves mankind By the majority of Christians He is believed to have lived on earth in the flesh as Jesus Christ (see Trinity) The Old Testament shows changing views of God The attitude of believers has generally been that God, unchanging, revealed Himself more and more to Israel Critics of the rational schools of the 19th cent developed a view of the Bible as a history of Judaism without benefit of divine intervention in the world They see a series of stages in which God was first held by the Jews as simply the head of a tribal pantheon, then gradually assumed all the attributes of His fellow divinities, but was still worshiped more or less idolatrously Gradually, according to these scholars, the Jews considered their God as more and more powerful until they made Him creator and ruler of all men but still preferring Israel as His special people His higher attributes of goodness, love, and mercy the critics consider as very late in this development Although the idea of God, through its long acceptance by Jews, Christians, and Moslems, has come to be associated with the concept of a good, infinite personality, in recent times the name has been extended to many principles of an utterly different sort, thus, a philosopher may speak of his unifying idea (e g , cosmic energy, mind, world soul, number) as God There are several famous demonstrations of the existence of God The argument from the First Cause maintains that since in the world every effect has its cause behind it (and every actuality its potentiality), the first effect (and first actuality) in the world must have had its cause (and potentiality), which was in itself both cause and effect (and potentiality and actuality), i e , God The cosmological argument maintains that since the world and all that is in it seem to have no necessary or absolute (nonrelative) existence, an independent existence (God) must be implied for the world as the explanation of its relations The teleological argument maintains that, since from a comprehensive view of nature and the world everything seems to exist according to a certain great plan, a planner (God) must be postulated The ontological argument maintains that since the human conception of God is the highest conception humanly possible and since the highest conception humanly possible must have existence as one attribute, God must exist Immanuel Kant believed that he refuted these arguments and the converse propositions (in his antinomies) He did not touch upon the empirical, nonscholastic contention that God has been claimed to have been perceived by so many persons of good credit that He must exist Mystics make this claim bluntly (see mysticism) See religion, animism, Babylonian religion, deists, Egyptian religion, Germanic religion, Greek religion, Hinduism, myth, pantheism, Roman religion

Godalming (gŏd'ŭlmĭng), municipal borough (1931 pop 10,401, 1943 estimated pop 13,040), Surrey, England, SW of London It is the site of Charterhouse, a public school founded in 1611 at London and removed to Godalming in 1872

Godard, Benjamin Louis Paul (bāzhamĕ' lwē' pôl' gôdär'), 1849–95, French composer and violinist, studied at the Paris Conservatoire He is remembered for the *Berceuse* from his opera *Jocelyn* (1888) His other compositions include symphonies, concertos, chamber music, and songs

Godavari (gōda'vurē), river, c 900 mi long, W India, rising in the Western Ghats, Bombay state It is sacred to Hindus It flows through Hyderabad state westward, then southwest along the border of Hyderabad and Madras state, and empties into the Bay of Bengal through the many channels of its delta in Madras state

Godbout, Joseph Adélard (zhôzĕf' ädälär' gŏdbōō'), 1892–, Canadian politician, b Quebec prov , educated at an agricultural school in Quebec and at Massachusetts Agricultural College (now the Univ of Massachusetts) Elected (1929) as a Liberal to the Quebec legislature, he was appointed (1930) minister of agriculture in the province, and in 1936 he served as premier but was defeated in the elections of that year Godbout again became premier in 1939 and held this post until 1944, when he yielded his premiership to Maurice Duplessis, leader of the Union Nationale

Goddard, Henry Herbert (gŏ'durd), 1866–, American psychologist, b Vassalboro, Maine, grad Haverford College, 1887 He was one of the first in America to make systematic hereditary studies of feeblemindedness, for which his chronicle *The Kallikak Family* (1912) is famous He was director of research (1906–18) at the Training School for Feeble-Minded Children, Vineland, N J , director (1918–22) of the Ohio State Bureau of Juvenile Research, and professor (1922–38) at Ohio State Univ His publications include *Feeble-Mindedness Its Causes and Consequences* (1914) and *The School Training of Gifted Children* (1927)

Goddard, John, 1724–85, maker of early American furniture, b Dartmouth, Mass He worked in Newport, R I , and is recognized as one of the finest cabinetmakers in early America Examples of his work are rare He is noted for his stately pieces, especially secretaries, on which he developed the block-front design, often surmounted by finely executed carvings in a shell motif

Goddard, Paul Beck, 1811–66, American physician and scientist, b Baltimore, grad Washington (now Trinity) College, Hartford, Conn (B A , 1828), M D , Univ of Pennsylvania, 1832 Later he became professor of anatomy at the Univ of Pennsylvania He wrote many illustrated medical works on the nerves and arteries and on genitourinary disorders After Daguerre's work in photography was made known, Goddard experimented with sun photography and in 1839 announced his discovery that a bromine vapor heightened the impression on silver plate The following year a similar announcement of this use of bromine was made independently by John Frederick Goddard in London

Goddard, Pliny Earle, 1869–1928, American ethnologist, b Lewiston, Maine, grad Earlham College, 1892 He became a missionary to the Hupa Indians of California His monographs, *Life and Culture of the Hupa* (1903) and *The Morphology of the Hupa Language* (1905), made him a recognized authority on the Athapascan stock After teaching anthropology at the Univ of California (1906–9), he was associated with the American Museum of Natural History as assistant curator and, from 1914, as curator of anthropology Among his other works are *Indians of the Northwest Coast* (1924) and *Indians of the Southwest* (1927)

Goddard College, see Barre, Vt

Godden, Rumer (gŏ'dŭn), 1907–, Anglo-Indian novelist, b Sussex She lived as a child in India and after schooling in England returned to open and run a dancing school in Calcutta After marriage to Laurence S Foster, she gave up the school and devoted herself to writing and to her family Her novels, notable often for their exotic backgrounds and always for their subtle characterization, include *Chinese Puzzle* (1936), *Black Narcissus* (1939), *Gypsy, Gypsy* (1940), *Breakfast with the Nikolides* (1942), and *The River* (1946) *A Candle for St Jude* (1948) is set in a ballet school, while *Take Three Tenses* (both novel and play forms, 1945, title in England, *A Fugue in Time*) is an experiment in technique. *In Noah's Ark* (1949) is a story in verse

Godefroy (gôdfruwä'), family of French scholars

Denis Godefroy (dünĕ'), 1549–1622, was a Calvinist who fled (c 1580) to Geneva and later became a professor of law at Strasbourg and Heidelberg He compiled an edition (1583) of the *Corpus Juris Civilis*, which may be called the first modern edition His son, **Théodore Godefroy** (tāôdôr'), 1580–1649, became a Catholic, was royal historiographer of France, and took part in the negotiation of the Peace of Westphalia Another son, **Jacques Godefroy** (zhäk), 1587–1622, was a Calvinist and professor of law at Geneva His edition of the Theodosian Code (1665) is one of the masterpieces of legal scholarship The commentary is still much used

Goderich (gŏd'rĭch, gōd'-), town (pop 4,557), S Ont , on Lake Huron and NW of London The largest shipping point on the Canadian side of the lake, the town is in a fruitgrowing, fishing, and farming area

Godesberg, Germany see Bad Godesberg

Godey, Louis Antoine (gō'dē), 1804–78, American publisher, b New York city He was joint founder in 1830 of the *Lady's Book*, known after his partner's withdrawal as *Godey's Lady's Book* He guided the policies of this first famous and successful woman's magazine and in 1837 made Mrs Sarah Josepha Hale its editor He was the sole owner until 1877

Godfrey, Thomas, 1704–49, American mathematician and glazier, b near Philadelphia He was a glazier's apprentice, and when a young man he glazed the windows of Independence Hall Without any formal education, he studied mathematics and astronomy and in 1730 improved Davis's mariner's quadrant His priority was disputed with John Hadley, who had made a similar invention in England, and the Royal Society settled the matter by rewarding both

Godfrey of Bouillon (bōōyôN'), c 1058–1100, Crusader, duke of Lower Lorraine He fought for Emperor Henry IV against Pope Gregory VII and against Rudolf of Swabia and was rewarded (c 1088) with the duchy, which he claimed in the right of his mother With his brother Baldwin, he was among the first to set out for Jerusalem on the First Crusade (1096) On the way to Constantinople, he allowed his army to pillage the countryside, but after his arrival he made peace with Alexius I (Jan , 1097) He played a minor role at Nicaea and Antioch, but achieved prominence in the siege of Jerusalem (1099) and was elected ruler of the city after its capture, having refused the title of king on religious grounds, he was designated advocate of the Holy Sepulchre He subsequently fought at the battle of Ascalon (1099) and laid several Syrian towns under tribute Godfrey was distinguished among the Crusaders for his piety and simplicity As the first Latin ruler of Jerusalem, he became the central figure of various legends, and his deeds were glorified in the chansons de geste His brother, Baldwin I, succeeded him as ruler of Jerusalem and took the title king

Godfrey of Strasbourg see Gottfried von Strassburg

Godfrey of Viterbo (vētĕr'bō), 12th cent , German or Italian writer He spent most of his life in Italy as a priest attached to the courts of Emperors Conrad III, Frederick I, and Henry VI He sided with them against the pope in their politico-ecclesiastical quarrels, but he was not a strong partisan His only work of any value today is a long Latin poem, *Gesta Friderici*, an account of Frederick from the point of view of an eyewitness His *Pantheon*, a universal history, was tremendously popular for the next two or three centuries, but it abounds in fable and fantasy

Godhavn (gôdh'houn), settlement (pop 319), W Greenland, a port on S Disko island and on Disko Bay It is the administrative center of Godhavn dist (pop 5,537) and of N Greenland It is a fishing base and has a radio station, a hospital, and a biological research station

Godin, Louis (lwē'gôdĕ'), 1704–60, French astronomer A member of a commission sent (1735) to Peru to measure an arc of the meridian, he remained there as professor of mathematics at Lima; he was later director of the naval academy at Cádiz He made seismological studies of earthquakes at Lima and at Lisbon

Godiva, Lady (gŏdī'vù), fl c 1040–1080, wife of Leofric, earl of Mercia and lord of Coventry Begun in medieval chronicle and surviving in several forms, the legend about her is that in order to obtain remission of excessive taxation of the people she obeyed her husband's mandate to ride naked through the town. All shutters were closed, and

the one man who looked out earned the name of Peeping Tom Michael Drayton (1613), Tennyson (1842), and others made her the subject of poems A bronze statue of her by Sir William Reid Dick was erected in Coventry in 1949

Godkin, Edwin Lawrence (gŏd'kĭn), 1831–1902, American editor, b Moyne, Ireland, of English parentage. His idealism found expression in his *History of Hungary and the Magyars* (1853) and won him the job of correspondent (1853–55) to the London *Daily News* during the Crimean War In 1856 he came to the United States and studied law, and during the Civil War he traveled in the South, sending letters to the *Daily News* In 1865 he established the *Nation* on stockholders' money but shortly after was compelled to buy the paper to maintain it In 1881 he became an editor of the New York *Evening Post* and in 1883 editor in chief, carrying the *Nation*, by then an influential critical weekly, with him as a weekly in connection with the *Post* He was absolutely independent politically and attacked the carpetbag regime, corruption under Grant, free silver, organized labor, and high tariffs His self-assurance and integrity gave his opinion weight among editors as well as readers He wrote *Problems of Modern Democracy* (1896) and *Unforeseen Tendencies of Democracy* (1898) See Rollo Ogden, *Life and Letters of Edwin Lawrence Godkin* (2 vols , 1907).

Godman, John Davidson, 1794–1830, American anatomist and naturalist, b Annapolis, Md , grad Univ of Maryland, 1818 After teaching at the Medical College of Ohio (1821), he became head of the Philadelphia School of Anatomy, where he wrote *Anatomical Investigations* (1824) In 1826 he became professor of anatomy at Rutgers Medical College, but resigned because of ill-health A naturalist by avocation, his *American Natural History* (3 vols , 1826–28) was a pioneer American work in this field. He also wrote *Rambles of a Naturalist* (1833)

Godolphin, Sidney Godolphin, 1st **earl of** (gŭdŏl'fĭn), 1645–1712, English statesman He served as lord treasurer at various times in the reigns of James II, William III, and Anne His son married Marlborough's daughter in 1698, the political fortunes of the two men were thereafter united, and Godolphin's financial ability supported the general's great military victories When Marlborough and his supporters lost popularity, Queen Anne dismissed Godolphin (1710)

Godoy, Manuel de (mänwāl' dā gōdoi'), 1767–1851, Spanish statesman An army officer, he won the favor of Queen MARÍA LUISA, whose lover he became, and rose rapidly at the court of CHARLES IV The king made him chief minister (1793) and heaped honors upon him Godoy favored war on revolutionary France (1793), but in 1795 he made peace (the second Treaty of Basel) and was awarded the title *príncipe de la Paz* [prince of the peace] Other titles held by him were duke of Alcudia, duke of Sueca, prince of Balsano, generalissimo, and admiral. After a brief eclipse, Godoy returned to power in 1801 His alliance (1805) with Napoleon I involved Spain in war with England and led to the Franco-Spanish defeat at Trafalgar The unpopularity of Godoy's corrupt government became acute after Godoy concluded the Convention of Fontainebleau (1807) with Napoleon (see PENINSULAR WAR). Prince Ferdinand (later FERDINAND VII) led the opposition and in 1808 was proclaimed king after Charles IV's first abdication Godoy, arrested (for his own safety from mob fury), was later allowed to go into exile He died at Paris. His memoirs (6 vols , 1836–38) have been translated into English

God Save the King (or **Queen**), English national anthem. Its words (of which there have been many versions) and its music are both of uncertain origin The tune has most often been ascribed to Henry Carey, but without substantiation Besides its association with the song AMERICA, the tune has inspired words in Danish, Dutch, German, Russian, and other languages In 1946, at the order of King George VI, the nationalistic second stanza was deleted and one written in the 19th cent by a clergyman, W. E Hockson, was substituted It is, in substance, a prayer for world peace See W H Cummings, *God Save the King* (1902), O G. Sonneck, *Report on "Star-spangled Banner," "Hail Columbia," "America," and "Yankee Doodle"* (1909); P A Scholes, *"God Save the King!" Its History and Romance* (1942).

Godthaab (gŏt'hôp), town (pop. 1,021), on SW Greenland, a port on the Godthaab Fjord It is the capital of Godthaab dist (pop 1,962) and of S Greenland Founded (1721) by Hans EGEDE, it was the first Danish colony in Greenland. The U.S and Canadian consulates in Greenland are located here Near by are the remains of Vesterbygd, a 10th-century Norse settlement.

Godunov, Boris (bŭrēs' gŭdōnôf'), c.1551–1605, tsar of Russia (1598–1605) A favorite of IVAN IV (Ivan the Terrible), he married his sister to Ivan's son and heir, Feodor At Ivan's death (1584) Boris became a member of the regency for the young Feodor I The "strong man" of the reign, he virtually acted as sole regent. The murder (1591) of Feodor's younger brother, the tsarevich DMITRI, is generally laid to Boris. Upon Feodor's death (1598), a *zemsky sobor* (popular assembly) chose Boris as successor. In his regency he had brought about important changes, Siberia was recolonized, land lost to Sweden was won back, the Muscovite church was organized as a separate patriarchate on equal footing with other Eastern churches, and the ukase of 1587 limited the right of the peasants to transfer themselves from one property owner to another Boris while tsar ruled with strength and judgment, but he lost popular support When the false Dmitri invaded Russia in 1604, he gained many adherents Boris died in the midst of the struggle, and his son, FEODOR II, was unable to defend his throne The career of Boris Godunov is the subject of a drama by Pushkin which became the basis of Moussorgsky's opera

Godwin or **Godwine** (both gŏd'wĭn), d 1053, English statesman His parentage is uncertain He became chief adviser to King Canute, was made earl of Wessex, and was given great wealth and lands After Canute's death Godwin and Queen Emma, Canute's widow, supported the claims to the throne of her son by Canute, HARTHACANUTE, against those of HAROLD HAREFOOT, Canute's son by Ælgifu of Northampton Godwin apparently permitted the murder of another claimant to the throne, Alfred Ætheling, son of Queen Emma by her first husband, Æthelred II, and brother of Edward (later Edward the Confessor) This brutality seems to have earned him the enmity of Harthacanute and of Edward, who succeeded Harthacanute Yet the king married Godwin's daughter (1045), and Godwin was the most powerful earl in England He, however, opposed the king's French favorites When Edward commanded Godwin to harry Dover because of bad treatment of EUSTACE II of Boulogne by the men of Dover, Godwin refused Edward seized the opportunity to exile Godwin and his sons (1051) However, in 1052, taking advantage of the popular dislike of the king's Norman friends, Godwin and his sons led an armed invasion of England, and the settlement they forced restored Godwin to his former importance and outlawed many of the French newcomers. Godwin was succeeded as earl of Wessex by his son HAROLD.

Godwin, Mary Wollstonecraft: see WOLLSTONECRAFT, MARY

Godwin, Parke, 1816–1904, American journalist, b. Paterson, N J , grad Princeton, 1834 He became associated on the New York *Evening Post* with William Cullen BRYANT, whose daughter he married He later published a biography of Bryant (1883) and edited his works (4 vols , 1883–84) He retained his connection with the *Post* nearly 45 years, following Bryant as editor in 1878, but, because of differences with the owners, he resigned in 1881 and became editor of the *Commercial Advertiser* Godwin was sympathetic with Brook Farm and with Fourierism, wrote *A Popular View of the Doctrines of Fourier* (1844), and for a time edited the *Harbinger*, the Fourierist magazine He translated part of Goethe's autobiography (1846–47) and other works from the German and collected many of his own numerous magazine articles into book form He was long prominent in the political, social, and literary life of New York city See Allan Nevins, *The Evening Post* (1922)

Godwin, William, 1756-1836, English author and political philosopher Son of a dissenting minister and in his youth a minister himself, he gave up preaching for a literary career. The materialism that pervaded his work is exemplified in *An Enquiry concerning the Principles of Political Justice and Its Influence on General Virtue and Happiness* (1793), an anarchistic polemic based on a psychology that assumes that experience is dominant in shaping character and that men are ultimately guided by reason, social distinction, marriage, and centralized government he thought should, ideally, be abolished These views he illustrated in his novel, *The Adventures of Caleb Williams* (1794), he retracted his views on marriage, however, in two later novels, *St Leon* (1799) and *Fleetwood, or, The New Man of Feeling* (1805) In 1797 Godwin married Mary Wollstonecraft, who died the same year giving birth to a daughter, Mary He remarried in 1801, and in 1805 established a small juvenile publishing business, his last years were an unceasing struggle against poverty and debt Godwin's works strongly influenced his younger contemporaries, particularly SHELLEY, whose elopement with Mary (1814) drew from Godwin an exhibition of sternness at variance with his earlier views, however, he was later reconciled to their marriage Godwin's other works include several more novels, *History of the Commonwealth of England* (4 vols , 1824–28), and some fables, essays, and unsuccessful plays See biography by F. K. Brown (1926), H. N Brailsford, *Shelley, Godwin, and Their Circle* (1913).

Godwin-Austen, Henry Haversham, 1834–1923, English topographer and geologist. An officer in the British army (1851–77), he was assigned to several government surveys in N India, especially in the Himalayas. He explored and surveyed the region around Mt. Godwin-Austen (in the Karakorum range), which was named for him.

Godwin-Austen, Mount, or **K2,** peak, 28,250 ft high, Kashmir, in the Karakorum range. After Mt. Everest it is the highest elevation in the world No expedition has succeeded in reaching the summit An American party in 1939 attained the greatest altitude, 27,500 ft.

Godwine: see GODWIN (d 1053).

Goebbels, Paul Joseph (poul' yōzĕf gŭ'buls), 1897–1945, German National Socialist propagandist A clubfoot kept him from war service He was graduated from the Univ. of Heidelberg (Ph D , 1921), began a journalistic career and wrote some novels, fell under the spell of Hitler, and early joined the National Socialist party In 1927 he founded the *Angriff*, chief organ of the party In 1928 he was elected to the Reichstag, in 1933 Hitler made him "minister of popular enlightenment," i e , propaganda minister This position gave him complete control over radio, press, cinema, and theater, later all German art was regimented in the "national chamber of culture," of which Goebbels was chairman Goebbels placed his undeniably brilliant intelligence and his insight into mass psychology entirely at the service of his party As an orator he was second only to Hitler in his ability to hypnotize his audience In his staging of mass meetings and parades he was unsurpassed Utterly cynical, he seems to have held no particular belief except the self-justification of power. By exploiting mob emotions to the maximum, by raising bald lying to an art, by employing all modern facilities for spreading untruth, Goebbels helped Hitler into power and popularized National Socialism abroad Goebbels was one of the few Nazi leaders who remained loyal to Hitler until the end In April, 1945, he and his family took poison while Berlin was falling to Russian troops See *The Goebbels Diaries* (1942–43, Eng. tr by L P Lochner, 1948), Curt Riess, *Joseph Goebbels: the Devil's Advocate* (1948)

Goering or **Göring, Hermann Wilhelm** (both hĕr'män vĭl'hĕlm gu'rĭng), 1893–1946, German National Socialist leader. In the First World War he was a hero of the German air force An early member of the Nazi party, he participated (1923) with Hitler and Ludendorff in the Munich "beer-hall putsch" and after its failure lived in Sweden until 1927 He was elected (1928) to the Reichstag and in 1932 became its president When Hitler came to power (1933) he made Goering air minister of Germany and prime minister of Prussia Until 1936 he headed the Gestapo (secret police), which he founded. He was implicated in the REICHSTAG fire trial by the defendants, who accused him of having instigated the fire himself in order to create a pretext for giving Hitler dictatorial powers Having obtained (1936) the directorship of the Four Year Plan, he supplanted Hjalmar SCHACHT in 1937 and was virtual dictator of German economy until 1943, when his economic powers were transferred to Walter Funk and Albert Speer Goering was responsible for the rearmament program which made the German war machine the most powerful in Europe His slogan, "guns instead of butter," became proverbial He deserves particular credit for the creation of the German air force In 1939 Hitler designated Goering as his successor and in 1940 made him marshal of the empire, a unique rank Goering was notorious for his love of high-sounding titles ("imperial master of the hunt" being one of them), of extraordinary uniforms and decorations of pageantry, pomp, and excessive hospitality, and of voluntary or enforced gifts Behind a façade of humor, which encouraged uncounted jokes on his spectacular weaknesses and corpulence, he hid a vindictive temperament He was a connoisseur of the arts and accumulated, by fair and foul means, a fabulous art collection His financial and industrial interests were wide and ramified Several years after the death of his Swedish wife, Karin, Goering married, with adequate fanfare, the actress Emmi Sonnemann In the Second World War he was responsible for the total air war waged by Germany, his immense popularity in Germany declined after the Allied air forces, despite Goering's emphatic predictions to the contrary, began to lay Germany waste He surrendered (May, 1945) to American troops and was the chief defendant at the Nuremberg trial for war crimes (1945–46) While imprisoned, he was cured of his addiction to drugs, which he had acquired in the First World War He defended himself with brilliant cynicism, but was convicted and sentenced to death. Two hours before his scheduled hanging, he committed suicide by swallowing a poison capsule which he had cleverly concealed from his captors

Goes, Hugo van der (hōō'gō vän dĕr gōōs'), d. 1482, painter of the Early Flemish school. He was probably of Dutch extraction, but seems to have early settled in Ghent, where he organized the festivities for the marriage of Charles the Bold and was dean of the painters' guild. In 1475 he retired to a monastery near Brussels. There many notables visited him to see his work or to have their portraits painted. His most important and only well-authenticated surviving work is the splendid altarpiece (Uffizi) painted c.1476 for Tommaso Portinari.

Less monumental than the work of the Van Eycks, it is painted with the same realism and richness of detail and with perhaps more intimacy. The central panel depicts an *Adoration of the Shepherds*, the wings containing portraits of the donor and his family with saints. Beautiful paintings attributed to Van der Goes are in the galleries of Vienna, Bruges, and New York. See studies by Joseph Destrée (1914) and Kurt Pfister (1923)

Goethals, George Washington (gō'thlz), 1858–1928, U S army engineer, b Brooklyn, N Y, grad West Point, 1880. After serving on various inland water projects (1882–1900), he had charge of the fortification of Narragansett Bay and New Bedford (1900–1905) When John F Stevens, chief engineer of the PANAMA CANAL, resigned (1907), Goethals was appointed in his place He found the difficulty of the work increased by the climate, yellow fever, labor troubles, unexpected complications in building the locks, and crumbling substrata in the Culebra Cut By taking intense personal interest in the men and expressing satisfaction in their individual achievements, he created an atmosphere of cooperation which aided materially in the success of the project, completed ahead of schedule He was governor of the Canal Zone (1914–16) In the First World War he was briefly (1917) general manager of the Emergency Fleet Corporation, then (Jan–April, 1918) head of the Bureau of Purchase and Supplies, and finally assistant chief of staff in charge of supplies See biography by J. B Bishop and Farnham Bishop (1930)

Goethe, Johann Wolfgang von (yō'hän vôlf'gäng fŭn gû'tu), 1749-1832, German poet, dramatist, novelist, and scientist His genius embraced most fields of human endeavor, his long and fruitful life was not the least of his accomplishments He was born at Frankfurt, the son of Imperial Councillor Johann Kaspar Goethe (1710–82), a wealthy dilettante, and of Katherina Elisabeth Textor Goethe (1731–1808), daughter of the mayor of Frankfurt Goethe himself describes his happy and sheltered childhood at Frankfurt in his autobiography His father, a rather unbending and slightly eccentric man, undertook his education, his mother the poet described as a warm and gay person, to whom he owed his "happy nature and delight in spinning tales." In 1765 Goethe went to Leipzig to study law There, besides indulging in dissipations which ended (1768) with a hemorrhage and a long period of convalescence at Frankfurt, Goethe also took lessons in drawing and painting, for which he was talented His early poetic attempts found little encouragement in Leipzig In 1770–71 he completed his law studies in Strasbourg, where the acquaintance of Herder and of protagonists of the STURM UND DRANG movement filled him with enthusiasm for Shakspere and for German's medieval past Here also he met Friederike Brion, daughter of the pastor of near-by Sesenheim, and here he composed some of his early lyric poems Among the lasting influences of Goethe's youth were those of J J Rousseau and of Spinoza Rousseau appealed to Goethe's innate love of nature, Spinoza's somewhat cold pantheism was transformed by Goethe into a mystic and poetical feeling for nature in its ever-changing aspects It was during this period that Goethe began his lifelong study of animals and plants and his research in biological morphology The year 1772, which Goethe spent as a lawyer at the imperial court of justice at Wetzlar, was crucial in his literary career. Here he completed the drama *Götz von Berlichingen* (see BERLICHINGEN, GÖTZ VON), a pure product of *Sturm und Drang*, by which he first attracted public notice Still more important was his unhappy love for Charlotte Buff, who was engaged to another man, Goethe, on the verge of suicide, left Wetzlar and overcame his despair by writing the epistolary novel *Die Leiden des jungen Werthers* [the sorrows of young Werther] (1774), which made him famous overnight and was soon translated into many languages, including Chinese. While the writing of *Werther* had helped Goethe back to stability, its effect on the public was precisely the opposite, for it encourated morbid sensibility After an unsettled existence in Germany and Switzerland, Goethe was invited (1775) to visit CHARLES AUGUSTUS, duke of Saxe-Weimar, at whose court he was to spend the rest of his life For 10 years Goethe was chief minister of state at Weimar and acquitted himself of his many duties in exemplary manner. Ennobled by the duke, he later retained only the directorship of the state theater and of the scientific institutions. A trip to Italy (1786–88) fired his enthusiasm for the classical ideal, its importance as a turning point in Goethe's aesthetic outlook has, however, been exaggerated, for Goethe had been attracted toward classicism before his journey, and his later manner was above the confines imposed by the labels "classic" and "romantic" Goethe recast (1787) his drama *Iphigenie auf Tauris*, originally written in prose (1779), and completed the psychological dramas *Egmont* (1788) and *Torquato Tasso* (1789). These and *Römische Elegien* (1788), the domestic epic *Hermann und Dorothea* (1797), *Winckelmann und sein Jahrhundert* [WINCKELMANN and his century] (1805), a work of aesthetic criticism, and the travel account, *Die italienische Reise* (1816–17), are the chief works of Goethe written under the classical impact. During the same period Goethe worked on the novel *Wilhelm Meisters Lehrjahre* [the apprenticeship of Wilhelm Meister], begun in 1777 and published in 1796, it was translated (1824) by Thomas Carlyle. This was destined to become the prototype of the German *Bildungsroman*, or novel of character development, just as his *Wahlverwandtschaften* [elective affinities] (1809) influenced the German psychological novel In 1792 Goethe accompanied Duke Charles Augustus as official historiographer in the allied campaign against revolutionary France Goethe's sense of justice and of historic evolution made him appreciate the principles involved in the French Revolution, but his love of order and his patrician respect for constituted authority caused him to condemn the methods of the revolutionists A reformer in his own small state, Goethe, wished to see revolutions accomplished from above Of a projected dramatic trilogy on the theme of revolution, Goethe completed only the first part, *Die natürliche Tochter* [the natural daughter] His chief production in 1794 was his epic version of Reynard the Fox [*Reineke Fuchs*] In the same year began his friendship with Friedrich von SCHILLER Schiller's death (1805) marked a definite break in Goethe's life In 1808 he published the first part of the work which occupied him from adolescence until old age, the dramatic poem FAUST The second part was published only after his death Goethe completely recast the traditional Faust legend and made it one of the greatest poetic and philosophic creations the world possesses His main departure from the original is no doubt the salvation of Faust, the erring seeker, in the mystic last scene of the second part. The first part, which derives its dramatic impact from the tragedy of Marguerite (Gretchen), cannot be considered separately from the less dramatic, more allegorical, and infinitely more elusive second part, for the entire drama, beginning with the wager between God and the devil in the prologue, leads up to Faust's redemption Of the many women who had passed through Goethe's life, probably the most intellectual was Charlotte von STEIN, his long liaison with her was ended with his departure for Italy After his return he established a household with Christiane Vulpius (1765–1816), who bore him (1789) a son, August (d 1830), but whom he married legally only in 1806 Goethe refused to share in the patriotic hysteria that swept Germany in the wars against Napoleon in 1813–15. Napoleon had met Goethe at Erfurt in 1808, and his remark, "Voilà un homme!" [there is a man!], aptly summed up Goethe's personality The poet's admiration for Napoleon found expression in his translation of Manzoni's ode on the death of Napoleon, *Il cinque maggio* Increasingly aloof from national, political, or even literary partisanship, he became more and more the Olympian divinity, to whose shrine at Weimar all Europe flocked His time was increasingly devoted to science His approach to science was one of sensuous experience and poetic intuition, his pantheistic outlook made him attach equal significance to outward form and inner substance "All things transitory are but symbols" (*Faust*, Part II) Goethe guessed at a common origin of all living matter and discovered (1784), as evidence of evolution, the rudiment of the intermaxillary bone in man Though he did not anticipate Darwin's theory of natural selection, he made it possible by corroborating the evolutionary theories of Buffon and Lamarck His admitted aversion toward mathematical physics caused him to attack, with stubborn violence, Newton's theory of light as inadequate (e g, in his *Zur Farbenlehre*, 1810) Goethe attached equal importance to his scientific and his poetic writings, and the two aspects of his creation cannot be viewed independently Youthfully creative to the end, Goethe continued to produce poetry and fiction *Dichtung und Wahrheit* [poetry and truth], his charming autobiography, covering the years up to 1775, was published from 1811 to 1833 *Westöstlicher Diwan* (1819), a collection of exquisite lyrics, strikes an entirely new note in Occidental poetry, due to Goethe's reading of the Persian poets, notably Hafiz His young friend Marianne von Willemer contributed several poems to the *Diwan*, in which she figures as Suleika. Goethe's unsuccessful marriage offer (1822) to 18-year-old Ulrike von Levetzow, whom he met at Marienbad, inspired his poems *Trilogie der Leidenschaft* [trilogy of passion], which were among his finest Finally, in 1829, appeared the last installment of *Wilhelm Meisters Wanderjahre* [the travel years of Wilhelm Meister], a somewhat disconnected series of short stories, and in 1831, very shortly before his death, the last line of Faust was finished Goethe is buried, beside Schiller, in the ducal crypt at Weimar. Goethe was an amateur cellist; he knew French, English, Italian, Latin, Greek, and Hebrew, and he translated works by Diderot, Voltaire, Benvenuto Cellini, Byron, and others, he was an accomplished horseman, swimmer, and skater, he had occupied himself, at various periods of his life, with theology, medicine, and archaeology, he acted, in his earlier years, on the Weimar stage, he edited various literary, artistic, and scientific periodicals, and he corresponded extensively, notably with the composer Zelter and with Schiller, Byron, Carlyle, and Manzoni. In his aim to make his life a concrete example of the fullest potentialities of man he succeeded as perhaps did no other In his appearance he was handsome in youth and imposing in old age The bulk of Goethe's work is immense, the most recent complete edition is the so-called Weimar edition (133 vols in 140, 1887-1919) Most of Goethe's best-known works have been translated into English, and many of his most popular poems are as familiar in English as in German—e g, "Nur wer die Sehnsucht kennt" [only the lonely heart], "Kennst du das Land" [know'st thou the land], and *Der Erlkönig* These and many others have often been set to music Goethe's lyric poems are unsurpassed in German literature, but many of the finest defy translation, such are the simple and moving "Über allen Gipfeln ist Ruh," "Wanderers Nachtlied," and "An den Mond" Among his ballads, *Der Erlkönig*, *Der König in Thule*, *Der Zauberlehrling* [the sorcerer's apprentice], and *Die Braut von Corinth* are deservedly the most celebrated The opinions of Goethe are recorded not only in his own writings, but also in conversations recorded by his faithful secretary J P. Eckermann and by others The literature on Goethe is vast, both his life and his work are too complex and—on the surface at least—too often inconsistent to allow an easy approach or a unanimous judgment Among biographies available in English are those by G H Lewes (2 vols, 1855), Abraham Hayward (1877), James Sime (1888), Albert Bielschowsky (Eng tr, 3 vols, 1905), Georg Brandes (Eng tr, 2 vols, 1924), and J G Robertson (1927) Among recent biographies in German that by Friedrich Gundolf (1916) must be mentioned Ludwig Lewisohn edited *Goethe the Story of a Man* (2 vols, 1949), told in selections from Goethe's own words and the words of his contemporaries, this is among the most valuable contributions to recent Goethe literature Literary and biographical studies are legion Among them are the well-known essays by Carlyle and Emerson The following works are, or contain, more recent appraisals George Santayana, *Three Philosophical Poets* (1910), Barker Fairley, *Goethe as Revealed in His Poetry* (1932) and *A Study of Goethe* (1947), André Gide, *Imaginary Interviews* (Eng tr, 1944), Ernst Cassirer, *Rousseau, Kant, Goethe* (Eng tr, 1945), Thomas Mann, *Essays of Three Decades* (Eng tr, 1947), Albert Schweitzer, *Goethe Four Studies* (Eng tr, 1949), Karl Vietor, *Goethe the Poet* (Eng tr, 1949), Ludwig Lewisohn, *The Magic Word* (1950), Rudolf Magnus, *Goethe as a Scientist* (Eng tr, 1949) Several English Goethe anthologies appeared on the occasion of the 200th anniversary of Goethe's birth Among them are *The Permanent Goethe* (ed by Thomas Mann, 1948), *Goethe's World* (ed by Berthold Biermann, 1949), *Goethe Wisdom and Experience* (selected by Ludwig Curtius, 1949)

Goff, Emmet Stull, 1852-1902, American economic botanist, b near Elmira, N Y from 1882 to 1889 he was horticulturist at the agricultural experiment station at Geneva, N Y, and from 1889 he was professor of horticulture at the Univ of Wisconsin, as well as horticulturist at the state experimental station in Madison He was a leader in the development of the use of spraying to combat harmful insects and fungi, and he invented a device for using kerosene in spray pumps for that purpose Goff conducted important researches on the root systems of plants, made studies of budding, and developed new, hardy varieties of plums His works include *Principles of Plant Culture* (1897), *Lessons in Pomology* (1899), and, with D. D Mavne, *First Principles of Agriculture* (1904)

Goffe, William, c.1605–c 1679, English Puritan, one of the REGICIDES A personal adherent of Oliver and Richard Cromwell, he fought in the civil war and served in Parliament under them He was excepted from the Act of Indemnity (at the Restoration) and fled to America where, after short periods in Cambridge, New Haven, and Guilford he lived in seclusion at Hadley, Mass The tradition that he headed the citizens in repelling an Indian attack was used by Scott in his *Peveril of the Peak* and by Cooper in his *Wept of Wish-ton-Wish* He is also the subject of "The Gray Champion" in Hawthorne's *Twice-told Tales*

Goffstown, town (pop 4,247), S N H, WNW of Manchester, inc 1761 Granted in 1734 by Massachusetts, it was regranted in 1748 by the MASONIAN PROPRIETORS

Gog, in the Bible **1** Reubenite 1 Chron. 5.4 **2** In the prophecy in Ezek 38-39, a leader who will attack Israel and be defeated Magog is his country Gog is often identified with the Scythians The same theme is used in Rev 20 8, where the assailants are Gog and Magog

Gogarty, Oliver St. John (gō'gärtē), 1878–, Irish author and wit, a surgeon He is most famous as the character Buck Mulligan in James Joyce's *Ulysses*. His own early reminiscences of his friends

in the Irish literary renaissance, especially Joyce and W B Yeats, are in *As I Was Going down Sackville Street* (1937, rev ed 1939) and *Mourning Becomes Mrs Spendlove* (1948) *Selected Poems* (1913) contains his best poetry He was a senator of the Irish Free State from 1922 to 1936

Gogebic (gōgē'bik, gōjē'bik), range, c 80 mi long, extending westward from the W Upper Peninsula, N Mich , into N Wisconsin, known for its iron deposits The name Penokee is sometimes given to the western end, sometimes to that part in Wisconsin, and, rarely, to the whole range

Gogh, Vincent van (vän gō', Dutch vinsənt' vän khôkh'), 1853–90, postimpressionist painter, b Netherlands, son of a clergyman As a youth he abandoned his position with a picture dealer to preach to the miners, but was soon dismissed as an evangelist for misplaced zeal In 1880, 10 years before his death, he decided to be a painter His early pictures such as *The Potato Eaters* were very dark In 1886 after many hardships and several abortive romances, he joined his younger brother Théo in Paris There he met Pissarro, Toulouse-Lautrec, Degas, and Gauguin and began to paint the brilliantly colored and dynamic pictures that later made him famous Two years later in ill-health, he took a house in Arles, where he was joined by Gauguin During this period he developed very rapidly, painted an incredible number of pictures, and had his first attack of madness He was confined first to the Arles Hospital, then to the asylum at Saint-Remy The remaining two years of his life he was subject to violent attacks, but was sane for long intervals and continued to paint pictures of extraordinary beauty and intensity In 1890, despairing of his cure, he shot himself Perhaps no painter has expressed so poignantly as Van Gogh the rapture of mere vision His magnificent and unique landscapes, portraits, and still lifes are familiar to all lovers of modern painting and are prized in private collections and famous galleries in Europe and America A few notable examples are *L'Arlésienne, Bedroom at Arles* (Art Inst , Chicago), *Sunflowers* (Louvre), and *The Starry Night* (Mus of Modern Art, New York) See *Letters of Vincent van Gogh to His Brother, 1872–1886* (2 vols , Eng tr , 1927), Julius Meier-Graefe, *Vincent van Gogh* (2 vols , Eng tr , 1922)

Gogmagog (gōg'măgŏg), low chalk hills, Cambridgeshire, England

Gogol, Nikolai Vasilyevich (nyĭkulĭ' vŭsē'lyuvĭch gô'gul), 1809–52, Russian short-story writer, novelist, and playwright He was the herald of realism in Russian literature Of Cossack origin, he first won literary success with fanciful and romantic tales of the old Cossack realm of the Ukraine in *Evenings on a Farm near Dikanka* (1831, Eng tr 1926) In romantic vein also were two of the tales in *Mirgorod* (1835, Eng tr 1928), especially "Taras Bulba," in which the old free Cossackdom is evoked The tales which followed were more realistic, especially *The Overcoat* (1842, many English translations), dealing with the humble and downtrodden of St Petersburg Gogol's masterpiece is the long novel *Dead Souls* (1842, many English translations), the "souls" being serfs who even in death are pawns of the gentry The novel is a vast canvas of Russian country life prior to the emancipation Gogol was prevented from continuing *Dead Souls* by a religious and moral crisis in which he sought to whitewash serfdom As a dramatist Gogol's fame rests chiefly on *Revizor* (*The Inspector-General*, 1836, often translated), a satire of provincial officialdom rich in characterization His play *The Marriage* (1842) had great influence on Ostrovski and other playwrights and with *The Gamblers* (1842) is available in English (1927) See biographies by Janko Lavrin (1926) and Vladimir Nabokov (1944)

Gogra (gō'grē), river, c 600 mi long, rising in SW Tibet and flowing through Nepal into India It joins the Ganges in W Bihar state The Gogra is a great shipping artery

Goiânia (goiā'nyu), city (pop 14,943), capital of Goiás state, central Brazil, on the interior plateau of Brazil It was planned in 1933 to replace Goiás city as state capital and did replace it in 1937 (when still under construction) It is an ultra-modern city, a shipping point for cattle and minerals, and the seat of several technical schools

Goiás (goush') state (240,300 sq mi , 1949 estimated pop 997,636), central Brazil Goiânia is the capital Goiás is a landlocked plateau crossed by mountain ranges Some of the rivers (notably the Tocantins and the Araguaia) are in the Amazon system, some flow S in the Paraná system Though mining prospectors from São Paulo arrived in the 17th cent and there were small gold rushes in the 18th cent , the state is still unexploited It has much untapped mineral wealth (quartz crystals, diamonds, nickel, and chromium) The wide savannas are given over to cattle, and there are tobacco farms Goiânia was built to replace the old (18th cent) and fever-ridden city of Goiás as capital A site in Goiás has been chosen for the future capital of Brazil The name formerly was Goyaz.

Goidelic, same as Gadhelic or Gaelic, a classification in the Celtic languages See LANGUAGE (table)

goiter see THYROID GLAND.

Gokcha, Armenian SSR see SEVAN.

Golan (gō'-) [Heb ,=circuit], refuge city, somewhere in Manasseh E of the Jordan Deut. 4 43, Joshua 20 8, 21 27, 1 Chron 6 71

Golconda (gŏlkŏn'du), deserted city, Hyderabad state, India The capital (1364–1512) of the Bahmani kingdom, it was captured (1512) and was capital of the so-called kingdom of Golconda until 1589 After the Golconda domain was conquered (1687) by Aurangzeb, the city declined The main feature of Golconda is its medieval fort on a hill 400 ft high There are many ruined palaces and mosques The city at its peak was so famed for its wealth that its name was a byword in English. It was a diamond-cutting center

Golconda, town (pop 1,301), co seat of Pope co , SE Ill., on the Ohio and N of Paducah, Ky , in a farm area, inc 1845 Fluor spar is mined near by

gold, metallic element (symbol=Au [Latin *aurum*], for physical constants, see ELEMENT, table) Very ductile and the most malleable of the metals, it can be beaten into extremely thin sheets (see GOLD LEAF) In ability to conduct electricity only silver and copper are superior Chemically inactive, it is neither corroded by moisture nor affected by oxygen or ordinary acids, it reacts, however, with chlorine and other halogens and is attacked by aqua regia (a mixture of nitric and hydrochloric acid which liberates chlorine) and by selenic acid It forms both univalent (aurous) compounds and trivalent (auric) compounds A relatively soft metal, it is usually hardened by alloying with copper, silver, or other metals White gold, a substitute for platinum, is an alloy of gold with platinum, palladium, nickel, or nickel and zinc Green gold, also used by jewelers, is usually an alloy of gold with silver Alloys of gold with copper are a reddish yellow and are used for coinage and jewelry The natural alloy with silver is electrum, with bismuth, maldonite The gold content of an alloy is commonly stated in carats, a carat being $^1/_{24}$ part by weight of the total mass Pure gold is therefore 24 carats fine, an alloy that is 75 percent gold is 18 carats fine Gold is widely distributed on the earth, although large amounts are present also in sea water, the cost of current methods for recovering it exceeds its value Most gold is found in the metallic state in the form of dust, grains, flakes, or nuggets It occurs, usually in association with silver or other metals, in quartz veins or lodes and in alluvial placer deposits Placer deposits are worked by panning, dredging, and hydraulic mining Gold is extracted from its ores by mechanical means and separated from other metals by chemical processes, notably the CYANIDE PROCESS, the AMALGAMATION PROCESS, and the chlorination process (in this the ore is oxidized and chlorinated and the gold precipitated with hydrogen sulphide) Gold occurs also in compounds, notably the telluride Gold has been known from prehistoric times and was possibly the first metal used by man. It was valued for ornaments (see GOLDWORK), and magical efficacy was attributed to it In the Middle Ages alchemists sought to transmute baser metals into gold The quest for gold stimulated European explorations and conquests in the Western Hemisphere Discoveries of gold, notably in California (1848), Victoria, Australia (1851), the WITWATERSRAND (1884), and the KLONDIKE (1896), were followed by great influxes of prospectors to the sites Gold production was stimulated by an advance (1934) in the value of gold to $35 a troy ounce The chief producers are the Union of South Africa, the USSR, Canada, and the United States (especially the Western mountain states, notably California) Gold is a generally accepted means of balancing international accounts and has been a favored metal for the backing of currency (see BIMETALLISM and MONEY) See W H Emmons, *Gold Deposits of the World* (1937), T K Rose and W A. C Newman, *Metallurgy of Gold* (7th ed , revised, 1937)

goldbeating see GOLD LEAF

Goldberg, Rube, 1883–, American cartoonist, whose full name is Reuben Lucius Goldberg After drawing (1904–7) cartoons for San Francisco newspapers, he moved to New York There he worked (1907–21) for the New York *Evening Mail* until his cartoons became syndicated (1921) He originated, among others, the successful comic strip "Boob McNutt" and the panel series "Foolish Questions " He is known for his panels showing fabulously involved machinery for simple operations He was appointed (1938) political cartoonist for the New York *Sun*. A one-man show of his cartoons was held (1942) in the J P Morgan house, New York, where a Goldberg mural covered an entire wall.

Goldberger, Joseph, 1874–1929, American medical research worker, b Austria-Hungary, grad Bellevue Hospital Medical College, 1895 He came to the United States at the age of six He joined the U.S Public Health Service in 1899, specializing in preventive medicine, infectious diseases, and nutrition. Working on PELLAGRA, he discovered the cause to be the deficiency of a nutritive factor which he called "pellagra preventive" (P-P) and which is now known to be niacin (or nicotinic acid). See biography by R P. Parsons (1943).

Gold Coast, British colony and protectorates (91,690 sq mi , pop 4,095,276), W Africa The capital is Accra The Gold Coast comprises the crown colony of Gold Coast (23,490 sq mi , pop 2,194,466) with the capital at Cape Coast, British TOGOLAND, and the inland protectorates of NORTHERN TERRITORIES and ASHANTI It is bordered on the north by French West Africa, on the east by French Togoland, and on the west by the Ivory Coast The coast (c 350 mi) of the crown colony is flat, swampy, and exposed except for the harbor at Takoradi Behind this sandy foreshore is a grass strip gradually widening from a few yards near Takoradi to 50 mi at the Volta, the largest river of the country The forest region to the north, broken by steep ridges and hills, is well watered by streams, especially in the western portion, where gold, from which the country derives its name, is still panned and mined Manganese, bauxite, diamonds, hardwoods, and cacao are other important products There are railroads to Kumasi in Ashanti and highways to the cattle-raising region of the Northern Territories The earliest European settlement in the crown colony was made by Portugal in 1482 at Elmina for the trade in gold and slaves Holland and Great Britain soon followed The British crown colony was created in 1874 There is a college near Accra See W E F Ward, *A History of the Gold Coast* (1948)

Golden, city (pop 3,175, alt c 5,600 ft), co seat of Jefferson co , N central Colo , just W of Denver, in a coal, gold, clay, and farm area A resort city and clay-products manufacturing center, it was founded in 1859, it served as the territorial capital from 1862 to 1867 and was incorporated in 1886 COLORADO SCHOOL OF MINES and the state industrial school for boys are here On near-by Lookout Mt is the grave of Buffalo Bill

Golden Age, in classical mythology see AGE

Golden Ass, The see APULEIUS, LUCIUS

Golden Bough, The see FRAZER, SIR JAMES

golden bull. For the Golden Bull in the history of the Holy Roman Empire, see ELECTORS, for the Golden Bull in Hungarian history, see ANDREW II

golden chain see LABURNUM

Goldendale, town (pop 1,584), co seat of Klickitat co , S Wash , S of Yakima, in a farm and lumber area

Golden Fleece, in Greek mythology, the magic fleece of a ram given by Hermes to Nephele, the wife of Athamas According to one version of the story, when Athamas' second wife, Ino, out of jealousy planned death for Nephele's children, Phrixus and Helle, the ram carried them away When Phrixus arrived at Colchis, he sacrificed the ram and hung the fleece in a wood guarded by a dragon The ram became the constellation Aries Phrixus married a daughter of Aëtes, king of Colchis The quest of JASON and the Argonaut band was for the Golden Fleece, which Jason took after fulfilling tasks put upon him by Aëtes

Golden Gate, strait, 5 mi long and 1 to 2 mi wide, W Calif , between San Francisco Bay and the Pacific Ocean

Golden Gate Bridge, W Calif , across the Golden Gate from San Francisco to Marin co , built 1933–37 Its over-all length is 9,266 ft , and the span across the strait is 4,200 ft long J B Strauss was the chief engineer

Golden Gate International Exposition, 1939–40, held at Treasure Island in San Francisco Bay The theme of the exposition was the Pacific basin—the American West Coast and the Far East, with suggestions of Maya, Inca, Malayan, and Cambodian influence The illumination was spectacularly beautiful, as were the horticultural displays Among the art exhibits was a remarkably fine collection of old masters

golden glow, double variety (*Rudbeckia laeinata hortensia*) of a native North American coneflower closely related to the black-eyed Susan A tall perennial, it is cultivated for the abundance of long-blooming yellow heads of flowers

Golden Horde, Mongol host, so called because of the magnificence of the camp of its leader, BATU KHAN, grandson of Jenghiz Khan The Tatar empire (see TATARS) of the Golden Horde, also called the Kipchak khanate, was founded in the mid-13th cent and comprised most of Russia The khans, with their capital at SARAI on the Volga, ruled part of the empire directly, the rest (e g , the grand duchy of Moscow) being merely tributary The Golden Horde itself was, at first, tributary to the Great Khan at Karakorum, and it took part in Kublai Khan's conquest of S China Among its early rulers were shamanists, Christians, and Moslems, but after 1314 Islam became the official religion Complete religious tolerance continued throughout the existence of the empire. The victory (1380) of Dmitri Donskoi, grand duke of Moscow, over Khan Mamai at Kulikovo marked the ascendancy of Moscow and the decline of the Golden Horde. Soon afterward the Golden Horde passed under the suzerainty of Tamerlane, but after Tamerlane's death (1405) the empire broke up into the independent khanates of ASTRAKHAN,

KAZAN, CRIMEA, and SIBIR. In 1480 Ivan III of Moscow shook off completely the Tatar yoke The period of the Golden Horde immensely influenced the development of RUSSIA

Golden Horn see ISTANBUL

Golden Legend, The, collection of saints' lives written in the 13th cent by JACOBUS DE VORAGINA It was originally entitled *Legenda sanctorum* [readings in the lives of the saints] but soon came to be called *Legenda aurea* [the golden legend] because of its popularity, which continued until the Reformation It is a saints' calendar, with an introduction for each division of the year and a section on each great feast day (including those of OUR LORD) It is a compilation of wonder stories, governed by the moral purpose of presenting the ideals of saintly living and not critical or historical in purpose, it was a devotional book rather than a real collection of biographies. It was early translated from Latin into the vernacular languages, and William Caxton published one of the English translations The fantastic impossibility of some of the stories (accepted less out of sheer credulity than in the belief that moral truth overrides mere fact) and the simple, graceless style of the Latin brought the scorn of Renaissance humanists Only recently has it been recognized that the book is highly valuable as a repository of medieval folklore An excellent, somewhat abridged adaptation by Granger Ryan and Helmut Ripperger appeared in 1941

goldenrod, any species of the large genus *Solidago,* chiefly North American herbs which bloom in late summer and autumn They are characterized by small yellow (rarely white) composite flowers usually clustered along the end of a wandlike stem Goldenrods were formerly considered responsible for most cases of hay fever, a theory no longer held They attracted commercial attention when certain species were found to contain rubber Some species, occasionally called dyer's-weed, have yielded a dye The fragrant leaves of one species—the sweet goldenrod or Blue Mountain tea (*Solidago odora*)—have been used as a medicinal infusion and a tea The goldenrod adds decoration to field and roadside in so many parts of the United States that it has been chosen as the state flower of Alabama, Kentucky, and Nebraska and has been suggested for the national flower

Golden Rule, a saying of Jesus, "As ye would that men should do to you, do ye also to them likewise" Luke 6 31, Mat 7 12 It is stated negatively in Tobit 4 15

golden tuft see ALYSSUM

Golden Valley, village (pop 2,048), E Minn , western suburb of Minneapolis

Goldfield, town (pop 554), SW Nevada, S of Tonopah Gold was discovered here in 1902, and after an early period of disappointment, large yields of high-quality gold were extracted A rush in 1903 built a lusty city, which was soon remarkable for its exuberant elegance, with a theater, a large hotel (still standing), and various fine residences Tex Rickard, a saloonkeeper here, promoted the noted prize fight between Joe Gans and Battling Nelson in 1906 A strike by the miners caused Federal troops to be brought to Goldfield in 1907 Production climbed to its height in 1910, then fell off Goldfield declined almost as fast as it had risen

goldfinch, name of several finches of Europe and America In North America the eastern goldfinch (thistle bird or wild canary) is an all-year resident over most of the continent except in the Far North In spring the male has vivid yellow and black plumage, the rest of the year he is olive yellow like his mate Goldfinches are gay, gregarious birds with an ecstatic, musical song They feed on seeds and insect pests There are several Western forms The British goldfinch was introduced several times, never successfully, into the NE United States, where it is occasionally seen It has a cinnamon-brown back, yellow and black wings, and a red face

goldfish, fresh-water fish of the carp and minnow family much used in aquariums and ponds Native to China, it was first domesticated there centuries ago from the wild form, an olive-colored carplike fish usually from 8 to 12 in long It reverts to this type when it escapes from domestication Breeders in Japan, China, and America have developed bizarre varieties with fan, fringe, and veil tails, sometimes double or triple finned Some have bulging "telescope" eyes The majority of those bred commercially have a metallic sheen, usually of red or gold, white, silver, or black These are known as scaled goldfish The less popularly known forms called scaleless actually have transparent scales and appear in bright red, blue, shades of purple, and variegated calico patterns Goldfish are marketed in lengths ranging from 1 to 4 in The common goldfish, the simplest form, is the one bred extensively in the United States See W T Innes, *Goldfish Varieties and Water Gardens* (1947).

Goldingen, Latvia see KULDIGA

gold leaf, gold beaten into thin sheets or leaves It is used in certain GILDING processes and is usually sold, interleaved with soft paper, in books of 25 leaves, each about 3¼ in square and approximately $^{1}/_{300,000}$ to $^{1}/_{250,000}$ in thick. The gold is alloyed to produce the desired hue and to offset its tendency to stickiness It is cast into ingots, rolled, annealed, cut into small squares which are hammered between sheets of vellum, then twice quartered and rebeaten between sheets of goldbeater's skin, a membrane from the intestines of oxen The extreme thinness to which gold can be beaten without disintegrating is said to be about $^{1}/_{300,000}$ in Substitutes for gold leaf include Dutch gold (tombac), a copper alloy, and silver leaf which is colored after application

Goldman, Edwin Franko, 1878–, American bandmaster and composer, b Louisville, Ky , pupil of Dvorak at the National Conservatory of Music, New York He was solo cornetist (1895–1905) of the orchestra of the Metropolitan Opera Company In 1918 he organized the Goldman BAND. He composed nearly 100 marches for it and wrote manuals on cornet playing and band techniques

Goldman, Emma, 1869–1940, American anarchist, b Russia She came to Rochester, N Y , in 1886 and worked there in clothing factories After 1889 she was active in the anarchist movement, and her speeches attracted attention throughout the United States In 1893 she was imprisoned for inciting to riot From 1906 she was associated with Alexander BERKMAN in publishing the anarchist paper *Mother Earth* In 1916 she was imprisoned for publicly advocating birth control, and in 1917 for obstructing the draft With Berkman she was deported in 1919 to Russia but left that country in 1921 because of her disagreement with the Bolshevik government In 1926 she married James Colton, a Welshman She was permitted to reenter the United States for a lecture tour in 1924 on condition that she refrain from public discussion of politics She took an active part in the Spanish civil war in 1936 She died in Toronto See her *Living My Life* (1931) Other writings include *Anarchism and Other Essays* (1911), *Social Significance of Modern Drama* (1914), and *My Disillusionment in Russia* (1923)

Goldmark, Karl, 1830–1915, Hungarian composer He is known for his concert overture *Sakuntala* (1865), his symphony *A Rustic Wedding,* and his opera *The Queen of Sheba* (1875), showing the influence of Wagner's early works His nephew, **Rubin Goldmark,** 1872–1936, b New York city, was educated in New York and Vienna, and was a pupil in composition of Dvorak From 1924 until his death he taught composition at the Juilliard Graduate School He was the teacher of many prominent American composers His compositions include the orchestral works *Samson* (1914), *Requiem* (1919), inspired by Lincoln's Gettysburg Address, *The Call of the Plains,* and *Negro Rhapsody*

Goldoni, Carlo (kär'lō gōldō'nē), 1707–93, Italian dramatist His comedies have a resemblance to those of Molière Aside from their great merits of wit, gaiety, and skillful construction, they established a new Italian character comedy in place of the old *commedia dell' arte* Goldoni's last work and his memoirs (1787, Eng tr , 1814) were written in French Many of his 120 comedies have been translated Among the most notable are *Un curioso accidente* (1750, Eng tr , *The Odd Mistake,* 1814), *La locandiera* (1753, Eng tr , *The Mistress of the Inn,* 1856), *La bottega del caffè* (1753, Eng tr , *The Coffee House,* 1925), *Il ventaglio* (1763, Eng tr , *The Fan,* 1911), *Il burbero benefico* (1771, Eng tr , *The Beneficent Bear,* 1849), and *La buona figliuola* (1756, Eng tr , *The Accomplished Maid,* 1767), which was set to music by Puccini See biography by H C Chatfield-Taylor (1913)

Goldsboro, city (pop 17,274), co seat of Wayne co , E central N C , near the Neuse river SE of Raleigh, in the coastal plains region, settled c 1840, inc 1847 It is an important market for bright-leaf tobacco and the trade and shipping center for a large truck and cotton area It has varied manufactures An orphans' home is here

Goldsborough, Louis Malesherbes, 1805–77, American naval officer, b Washington, D C Appointed a midshipman in 1812, he saw active service in the Mediterranean and in the Mexican War and was superintendent (1853–57) of Annapolis In the Civil War, Goldsborough, commanding the North Atlantic Blockading Squadron, directed the fleet which supported Gen A E BURNSIDE in the successful expedition against the North Carolina coast (1862) His James River Squadron was defeated at Drewrys Bluff in the Peninsular campaign (May, 1862) Goldsborough maintained that he could not take Richmond without supporting successes on land by McClellan The Dept of the Navy thought otherwise, and the James River Squadron was given to Charles Wilkes as an independent command Goldsborough was subsequently relieved at his own request but remained in the navy till 1873 He was made rear admiral in 1862

Goldschmidt, Meir Aaron, Dan *Meïr* (mī'ur ä'rōn gōl'shmĭt), 1819–87, Danish editor and author, of Jewish parentage He founded the critical weeklies *Corsaren* (1840) and *North and South* (1847) In his novel *The Jew* (1845, Eng tr , *The Jew of Denmark,* 1852) the home life of a Jewish family is pictured One of his most successful novels was *Homeless* (1853–57, Eng. tr , 3 vols , 1861), *The Heir* (1863; Eng. tr , 1865) is the first Danish novel to deal with the problem of divorce His outlook on life was influenced by the writings of Linnaeus and Swedenborg

Goldschmidt, Otto (ō'tō gōlt'shmĭt), 1829–1907, German conductor, pupil of Mendelssohn and Chopin In 1851 he came to the United States as conductor of concerts featuring Jenny Lind, whom he married in 1852 He founded (1875) the London Bach Choir, which he conducted until 1885 His compositions include piano pieces and an oratorio

Goldschmidt, Richard Benedikt (gōld'shmĭt), 1878–, American zoologist and geneticist, b Germany, Ph D Heidelberg, 1902 He taught at the Univ of Munich (1903–14) and was at the Kaiser Wilhelm Institute, Berlin, from 1914 to 1936 (as director from 1921) In 1936 he came to the United States and served as professor of zoology at the Univ of California (1936–48) His works include *The Mechanism and Physiology of Sex Determination* (1923), *Ascaris the Biologist's Story of Life* (1937), *Physiological Genetics* (1938), and *The Material Basis of Evolution* (1940)

Goldsmith, Oliver, 1730?–1774, British poet, dramatist, and novelist, b Ireland, perhaps in Co Roscommon, grad Trinity College, Dublin, 1749 Refused ordination, he went first to the Univ of Edinburgh and then to Leiden, ostensibly to study medicine He traveled through Western Europe and may have obtained a medical degree After his return to England in 1756 he was unsuccessful as a physician, and destitution forced him to hack writing His *Enquiry into the Present State of Polite Learning in Europe* (1759) first brought him favorable notice, and his fame grew with *The Citizen of the World* (2 vols , 1762), a collection of his "Chinese Letters" from the *Public Ledger* Next appeared the long poem *The Traveller* (1764), of the same type he made more famous in *The Deserted Village* (1770) His only novel, *The Vicar of Wakefield* (1766), was a masterpiece of domestic literature, the quiet adventures of Dr Primrose and his family are probably based on those of Goldsmith's father, also a clergyman The novel contains the poems "Elegy on the Death of a Mad Dog" and "When Lovely Woman Stoops to Folly" His comedies *The Good-natured Man* (1768) and *She Stoops to Conquer* (1773), which injected a new note of realism into the sentimental plays of the period, were popular then and in many revivals Goldsmith brought his charm even to his hack work, such as the epistolary *History of the World* (2 vols , 1764), *The History of Little Goody Two-Shoes* (1765) is anonymous but is possibly by him Though he earned a great deal of money, his improvidence kept him poor He was the friend of most of the literary and artistic great of his day, including Johnson, Burke, Reynolds, and Garrick See his collected letters (ed by K C Balderston, 1928) and *New Essays* (ed by R S Crane, 1927), biographies by Sir James Prior (2 vols , 1837), John Forster (2 vols , 1854), Austin Dobson (1888), and Stephen Gwynn (1935)

gold standard see BIMETALLISM and MONEY.

Goldthwaite, Anne (gōld'thwāt), 1874?–1944, American painter and etcher, b Montgomery, Ala , studied at the National Academy of Design and in Paris She taught at the Art Students League after 1920 Among her paintings and etchings (in many galleries in the United States and France) is a still life, *Window at Night* (Metropolitan Mus)

Goldthwaite, town (pop 1,414), co seat of Mills co , central Texas, in hilly country W of Waco Ranches here produce sheep, goats, and cattle, and there are dairy and poultry farms as well as fields of peanuts and grain

goldwork. Early craftsmen developed much skill in fashioning gold into JEWELRY, bowls, cups, plates, and altarpieces and in decorating arms, usually by inlaying in other metals Egyptian jewelry, some dating from 2000 B C , embraces rings, bracelets, necklaces, and other ornaments, sometimes set with precious stones Examples may be seen in museums in Cairo, London, New York, and elsewhere Similar, but fewer, remains have been found in Assyria, Phoenician specimens are more plentiful, of greater variety, and of exceptionally fine workmanship Minoan goldwork from the mainland and Crete (c 2000 B C) includes openwork, embossing, inlay, or jeweled amulets, weapons, vases, masks, boxes, and drinking vessels Early Greek goldwork was excavated by Schliemann at Tiryns and Mycenae Among Oriental countries, Persia is outstanding for the beauty of its goldwork (5th–4th cent B C), as shown in the Oxus (British Mus) and Susa (Louvre) treasures, and later periods continued the traditions India had many centers—Delhi, Cutch, Lucknow, Punjab—noted for goldwork and other metalwork Important examples are in the British Museum and the Victoria and Albert Museum Modern Tibetan goldwork is of superior craftsmanship Scarcity of the metal made Chinese goldwork rare, though the pommel of a dagger (3d cent B C) remains Silverwork was more abundant in early periods Skilled Chinese artisans have continued to create designs of great delicacy Greek goldwork (500–200 B C) displays exquisite filigree, and many guilloche, fret, and wave motifs The Etruscans copied Greek technique and designs, so that there is little to set

their work apart until a later period of over-ornateness The Romans also followed Greek forms, but developed massive mountings enriched with precious stones. Among the few gold objects remaining are a bowl, discovered at Rennes (Bibliothèque nationale); the casket of Projecta (British Mus), and coins. Later work became heavy Italian 14th-century goldworkers produced a wealth of ecclesiastical crosses, reliquaries, sacred vessels, and altar fronts In the Renaissance most artists were trained as goldsmiths and created jewelry and ornaments of a high order CELLINI was especially noted Spain is best represented by her church pieces—elaborate Gothic and Renaissance chalices and unique monstrances In Gaul, from the early Christian era, there were expert craftsmen creating objects in gold, the Carolingians introducing relief work and other ornament from Italy The 13th-century cup of the kings of France (British Mus) is a culmination of French artistry in goldwork French boxes of the 18th cent are notable The Celts in Ireland were noted for their skill, their medieval products including the Ardagh chalice and the Tara brooch, of intricate design and fine workmanship Anglo-Saxons employed spiral, animal, and interlacing ornament, Kent being a center for 6th- and 7th-century goldsmiths Germans produced many cups and tankards and under the leadership of JAMNITZER were influenced by the Renaissance work in Italy Russia and other European countries also produced considerable goldwork In the Western Hemisphere, Mexico, Peru, Costa Rica, and Panama have possessed excellent goldsmiths from early times See Nelson Dawson, *Goldsmiths' and Silversmiths' Work* (1907)

golem (gō'lŭm) [Heb ,=embryo or anything incompletely developed], in medieval Jewish legend, an automatonlike servant made of clay and given life by means of a charm, or *shem* [Heb ,=name, or the name of God] *Golems* were attributed in Jewish legend to several rabbis in different European countries The most famous legend centered around Rabbi Löw, of 16th-century Prague After molding the golem and endowing the clay creature with life, Rabbi Löw was forced to destroy it after it ran amuck The golem legends are often said to have been a morale builder to oppressed Jews in medieval Europe In 1920 Rabbi Low's story was produced as a moving picture in Germany

golf, game played with specially made clubs and balls, on an outdoor course called links The game became identified with Scotland, where it has enjoyed great popularity since the 15th cent and where several golf clubs were organized in the 18th cent The Royal and Ancient Golf Club of St Andrews, Scotland, founded in 1774, became the international shrine of golf, and its basic rules are accepted throughout the world The British Open tournaments, played annually, were begun in 1860 The game began to be popular in the United States after 1888, when the St Andrews Golf Club of Yonkers, N Y , was formed by John G Reid. Today many municipal courses afford playing opportunity to those who have no access to country clubs or privately owned courses The U S Golf Association, founded in 1894, is the governing body of the game and conducts annual tournaments, including the National Amateur, the National Open (for amateur and professional players), and the National Women's Amateur championships In 1916 the U S. Professional Golfers Association was founded Famous international golf trophies won in competition between British and U S teams are the Walker Cup (amateur), the Ryder Cup (professional), and the Curtis Cup (women) The standard golf course, usually more than 6,000 yd around, is divided into 18 consecutively numbered holes varying in length from 100 to 650 yd from tee to green A player drives his ball (1 68 in in diameter, 1.62 oz in weight, with a pitted, gutta-percha surface) from the tee, his object being to reach the green and there sink the ball in a hole or cup (4½ in in diameter, 4 in deep, and marked by a flag) with as few strokes as possible Between the tee and the green—a smooth surface of closely cropped grass or sometimes firmly packed sand- is the fairway, often bounded by tall grass and trees (the rough) and containing natural or artificial obstacles (hazards), such as water, sand pits, and mounds (traps) A complete set of golf clubs now consists of four woods (driver, brassie, spoon, and cleek) and 10 irons (driving iron, mid-iron, mid-mashie, mashie-iron, mashie, spade-mashie, mashie-niblick, lofter, niblick, and putter) The woods, standardized with the numbers 1 through 4, are used for long drives, and the irons, standardized 1 through 10, are used for shorter shots The putter is used only on the green The game may be played by two (a twosome), three (a threesome) or four players (a foursome), each using a separate ball Strictly speaking, however, a twosome is a single, and a foursome should be played with one ball to each pair of partners, who play their ball on alternate shots In match play, as in the U.S. National Amateur tournaments, the winner is determined on the basis of the number of holes won from an opponent; in medal play, as in the U.S National Open tournament, victory is decided by the lowest stroke total taken in two trips over the entire course, or 36 holes The most famous figure of golf in recent times is Robert Tyre (Bobby) Jones, Jr , who won in 1930 the U S National Amateur, the U S National Open, the British Amateur, and the British Open championships, a feat never equaled before or since Other outstanding golfers include Glenna Collett (Glenna Collett Vare), Thomas Henry Cotton, Mildred Babe Didrickson (Mildred Didrickson Zaharias), Walter Hagen, Ben Hogan, Lawson Little, Jr , John Byron Nelson, Jr , Gene Sarazen, Sam Snead, and Michael and William Turnesa See H B Martin, *Fifty Years of American Golf* (1936), R S Francis, *Golf Its Rules and Decisions* (1937), H W Wind, *The Story of American Golf* (1948)

Golgi, Camillo (kämēl'lō gōl'jē), 1844–1926, Italian physician, noted as a neurologist and histologist He shared with Ramón y Cajal the 1906 Nobel Prize in Physiology and Medicine for work on the structure of the nervous system He introduced (c 1870) a method of staining nerve tissue with silver nitrate, which he used (1883) to demonstrate certain nerve cells (Golgi cells) in the central nervous system He observed (1909) the Golgi apparatus, a part of the cytoplasm distinguishable by special staining and known as the Golgi bodies when in the form of separate particles He recognized that the three types of malaria are caused by different protozoan organisms Golgi taught at the Univ of Pavia from 1875

Golgotha (gōl'gŭthu), the same as CALVARY

Goliad (gō'lēăd), city (pop 1,446), co seat of Goliad co , S Texas, on the San Antonio river and SE of San Antonio A market town for a farm region, it draws its importance from its long past A Spanish mission, first founded on Lavaca Bay in 1722 and moved to present Victoria co in 1726, was established in 1749 at Goliad, then called La Bahia An unthriving frontier town, it was captured and briefly held by filibustering expeditions from the United States in 1812 and 1821 After the Texas Revolution began, the Texans seized it Col J W FANNIN was in command when the Mexican advance into Texas began in 1836 When Fannin evacuated Goliad with more than 300 men and headed for Victoria, he was overtaken by the Mexicans and on March 19, 1836, after a hopeless battle, surrendered unconditionally On March 27 most of the prisoners were shot in cold blood by the Mexicans This Goliad massacre contributed to the battle cry of the victorious Texans at San Jacinto, "Remember the Alamo! Remember Goliad!" The American settlement grew up across the river, the restored mission and the ruins of the old presidio are today in a state park The ruins of another mission (1754) are a few miles to the southwest

Goliardic songs (gōlēär'dĭk), Late Latin poetry written by "wandering scholars " The scholars were university students who were going to or from a university or from one to another, scholars who had completed their studies but were unable to buy benefices, unfrocked priests, and runaway monks or clerks They begged their way from place to place, finding temporary lodgment in cities or monasteries First appearing in large numbers in the 11th cent , the *vagi* or *vagantes* increased until there was a veritable plague of vagabond clerks over Europe Formerly it was believed that in the 13th cent they actually constituted themselves into a burlesque religious order, but it is now more commonly thought that the *ordo vagorum* with Bishop Golias as grand master was merely a literary fiction The name given the scholars, *Goliards*, is of uncertain origin, it may have been derived from the legendary archpoet, Bishop Golias (Goliath), whom some have attempted to identify with Abelard The Church began to take strong measures c 1230 against these makers of verse and scandal, and the Goliards thereafter declined, though their continued existence is proved by later Church edicts against them Their poetry, in lilting Latin verse with stressed rhymes, has some similarity to medieval hymns in form but is the reverse in content Most Goliardic songs are licentious, written in praise of light love, of wine, and of the vagabond's life They attack the Church and churchmen viciously For the most part the songs are anonymous or pseudonymous Some of the best are attributed to Archipoeta, or the Archpoet, who wrote between 1161 and 1165, others to Primus, who was Hugo d'Orléans, a scholar of the early 12th cent A large group of them were once erroneously attributed to Walter MAP The songs are frequently all called *carmina burana* from the title of the collection edited by J A Schmeller (1847) There are collections of Goliardic verse and studies of the Goliards by French, German, and Italian scholars Translations into English appear in *The Cambridge Songs* (ed by Karl Breul, 1915), J A Symonds, *Wine, Women, and Song* (1884), Helen Waddell, *Medieval Latin Lyrics* (1929), and George F. Whicher, *Goliard Poets* (1949). See Helen Waddell, *The Wandering Scholars* (1927).

Goliath (gōlī'ŭth), gigantic Philistine, who challenged the Israelites. The young David, fortified by faith, accepted the challenge and killed him with a stone from a sling. 1 Sam 17, 21.9; 22.10; 2 Sam 21 19.

Gollancz, Sir Hermann (gō'lănts), 1852–1930, English rabbi and authority on Hebrew language and literature He was professor of Hebrew (1902–24) at University College, London. In 1902 he edited an English version of the Bible for Jewish use. His publications include translations from Hebrew and Aramaic He was knighted in 1923

Golovnin, Vasily Mikhailovich (vŭsē'lyē mēkhī'lŭvĭch gŭlŭvnyĕn'), 1776–1831, Russian explorer and writer He was sent in 1807 to make a geographical survey of Kamchatka and the Russian possessions in Alaska, was imprisoned by the Japanese in 1811–13, and made a second trip to Kamchatka in 1817–19 He wrote *Narrative of My Captivity in Japan, 1811–1813* (1816; Eng trs , 1818, 1824)

Goltz, Colmar, Freiherr von der (kōl'mär frī'hĕr fŏn dur gōlts'), 1843–1916, Prussian general and military historian He reorganized the Turkish army (1883–95), and in the First World War he commanded a Turkish army in Mesopotamia His reputation rests on his writings, notably *The Nation in Arms* (1883, Eng tr , 1913)

Goltzius, Hendrik (hĕn'drĭk gōlt'sēŏs), 1558–1617, Dutch line engraver and painter, son of a glass painter He early established himself as a printer in Haarlem, whither he returned after extensive travel in Italy and Germany As an engraver he was extremely versatile, imitating successfully the styles of Lucas van Leyden and Dürer He is best known for his engravings after the work of these and of various Italian masters and for his engraved portraits He produced over 300 plates of great virtuosity

Golytsin: see GALLITZIN

Gomberg, Moses (gŏm'bûrg), 1866–1947, American chemist, b Russia After studying in Russia he came to the United States and was graduated from the Univ of Michigan (B S , 1890) From 1893 to 1936 he taught organic chemistry at the Univ of Michigan He is internationally known for his researches in organic chemistry, including work on trivalent carbon and free radicals, tautomerism in the triphenylmethane series, and ethylene chlorhydrin

Gombos, Julius (gûm'bûsh), Hung *Gömbös Gyula* (dyō'lō), 1886–1936, Hungarian statesman and officer After the First World War he became a leading figure in the nationalist and revisionist movement He was minister of war under the premiership of Bethlen (1921–31) and of Julius Karolyi (1931–32) In Sept , 1932, Gombos became premier He ruthlessly crushed all opposition, curtailed freedom of the press and political liberties, and introduced anti-Semitic bills in the legislature Though favoring a national brand of fascism at home, Gombos opposed the spread of Nazi German influence and for this purpose drew close to Italy and Austria After his sudden death, however, the drift of Hungary toward the Rome-Berlin Axis became inevitable

Gomel (gō'mĕl, -mul, Rus gō'mĭl), city (pop 144,169), capital of Gomel oblast, SE Belorussia, on the Sozh, a tributary of the Dnieper It manufactures agricultural implements, electrical goods, textiles, and glass Dating from the 12th cent , it passed (1772) to Russia in the first Polish partition Until the Second World War about 40 percent of the population was Jewish Gomel was the scene of pogroms in 1905 It was held (1941–43) by the Germans, and most of the Jews who had stayed behind were exterminated

Gomer (gō'ĕr) [Heb ,=finish] **1** Concubine of the prophet Hosea Hosea 1 3 **2** Son of Japheth and eponym of a people, probably the Cimmerians Gen 10 2, 1 Chron 1 5, Ezek 38 6.

Gomes, Antonio Carlos (ănto'nyō kär'lōsh gō'mĭsh), 1836–96, Brazilian composer, studied in Rio de Janeiro and at the Conservatory of Milan His operas, such as *Il Guarany* (1870), often employ Brazilian subjects, but their style, influenced by Verdi, is Italian

Gómez, José Miguel (hōsā' mēgāl' gō'mĕs), 1858–1921, president of Cuba (1909–13) He took part in the Ten Years War (1868–78) and the successful revolution begun in 1895 A liberal, he was defeated for the presidency in 1906 by ESTRADA PALMA, but led an uprising which caused U S intervention and his own successful election Affable and popular, he made some attempt to increase Cuba's material progress, but his administration was marred by corrupt practices He was succeeded by Mario G MENOCAL Supporting Alfredo ZAYAS against Menocal in 1916, Gómes charged fraud and revolted, but was captured In 1920 he unsuccessfully ran against Zayas and again charged fraud. He died in New York city

Gómez, Juan Vicente (hwän' vēsān'tā), 1857–1935, CAUDILLO of Venezuela (1908–35) Of Indian and white parentage, Gómes was born on a ranch near San Cristóbal in the W Andes and grew up as a nearly illiterate cattle herdsman. He catapulted upon the national scene in 1899 when he led his guerrilla henchmen in support of Cipriano CASTRO, under whom he was vice president When Castro was overthrown, Gómes became president, and although he relinquished the title for long intervals, he ruled steadily from his estate near MARACAY. Congress conferred on him the title El Bene-

mérito [the meritorious] but his enemies dubbed him El Bagre [the catfish] because of an obvious facial resemblance enhanced by a bushy mustache Though cordial and simple in manner, Gómes was an absolute tyrant whose secret police ferreted out opposition and subjected victims to imprisonment and torture But, shrewd and industrious, he was also a patriot who brought his country economic stability Even before the oil development at Lake Maracaibo after 1918, he had put Venezuela on a sound financial basis, he was noted for fair dealing with foreign investors, and the capital thus attracted made it possible for him to make Venezuela a modern nation of railroads, highways, and other public works As he enriched the nation, so he made himself enormously wealthy Nepotism was rife Though unmarried, he sired between 80 and 100 offspring, and many of these as well as his local henchmen filled civil positions; he dominated them and other men by savage force of character See biography by Thomas Rourke (1936)

Gómez de Avellaneda, Gertrudis (hĕrtrōō'dhēs gō'-mĕth dā āvĕlyänä'dhä), 1814–73, Spanish poet, b Puerto Príncipe (now Camagüey), Cuba She went to Spain in 1836 and there led a troubled life An unfortunate love affair in Seville is reflected in several passionate poems inscribed "A Él" [to him], among the best of her poems, which are generally considered among the finest of the Spanish romantic period Her later years were tranquil She returned to Cuba in 1860 with much honor but stayed only briefly Besides her poems, she wrote problem novels such as *Sab* (1841) and *Espatolino* (1844) and dramas including *Alfonso Munio* (1844) and two religious plays, *Saúl* (1849) and *Baltasar* (1858)

Gómez Palacio (gō'mĕs pälä'syō), city (pop 25,558), Durango, N Mexico, across the Nazas river from Torreón Practically a suburb of the larger city, it handles on a smaller scale the same agricultural and industrial produce

Gómez y Báez, Máximo (mäk'sēmō, ē bä'ĕs), 1826?–1905, Cuban revolutionist, b Dominican Republic He served in the Spanish army there and in Cuba, but joined the Cuban revolutionists in 1868 and became commander in chief in 1873 At the end (1878) of the Ten Years War, he left Cuba, but returned to serve in the revolution of 1895 Friendly toward the Americans, Gómez was deposed from his command in 1899 for accepting money for his army from the United States

Gomme, Sir Laurence (George Laurence Gomme) (gŏm), 1853–1916, English archaeologist and folklorist A lecturer at the London School of Economics, he was an authority on the history of London and a founder of the Folklore Society He edited the *Archaeological Review*, the *Folklore Journal*, and *Antiquary* Two of his books are *Folklore as an Historical Science* (1908) and *The Making of London* (1912)

Gomorrah or **Gomorrha** (both gŭmŏr'ŭ), city, destroyed with Sodom

Gompers, Samuel (gŏm'pûrz), 1850–1924, American labor leader, b London He came to America with his parents in 1863 He worked as a cigar maker and in 1864 joined the local union, being its president from 1874 to 1881, when he helped found the Federation of Organized Trades and Labor Unions This, reorganized in 1886, became the American Federation of Labor, of which Gompers was first president and of which he remained president, except for the year 1895, until his death He directed the successful battle with the Knights of Labor for supremacy, kept free from political entanglements in the early days, and refused to entertain various cooperative business plans, socialistic ideas, and radical programs, maintaining that more wages, shorter hours, and greater freedom were the just aims of labor As his name appeared more and more frequently in connection with crises in labor troubles he was recognized as a public figure, and his pronouncements carried much weight During the First World War, as head of the War Committee on Labor, which he organized, and as a member of the Council of National Defense, he helped to hold organized labor loyal to the government program A man of great personal integrity, he did much to make organized labor respected See his autobiography, *Seventy Years of Life and Labor* (1925, new ed, 1943), L S Reed, *The Labor Philosophy of Samuel Gompers* (1930), R H Harvey, *Samuel Gompers, Champion of the Toiling Masses* (1935)

Gona (gō'nä), town, on SE New Guinea, in the Territory of Papua, NE of Port Moresby In the Second World War the Japanese made it a base for their unsuccessful drive on Port Moresby

Gonâves (gônäv'), city (pop c 15,000), capital of Artibonite dept, NW Haiti, a port on the Gulf of Gonâves, at the northern limit of the Artibonite plain Together with Saint-Marc at the plain's southern edge, it exports the agricultural products of the region, chiefly cotton, sugar, bananas, coffee, and logwood Here in 1804 Haitian independence was proclaimed and Dessalines, first of the Negro emperors, was crowned. The Gulf of Gonâves, in the pincers of the mountainous northern and southern peninsulas of Haiti, is usually brilliantly blue.

Gonçalves Dias, Antonio (äntō'nyō gônsäl'vĭsh dē'-ûsh), 1823–64, Brazilian poet A leading writer of the romantic school, he is known to every Brazilian for his nostalgic poem beginning "Minha terra tem palmeiras onde canta o sabiá" [in my homeland there are palm trees where the sabiá is singing], which might be called the national Brazilian poem His volumes of poetry include *Primeiros cantos* (1846), *Segundos cantos* (1848), and *Ultimos cantos* (1851), and he also wrote a drama, *Leonor de Mendonça* (1847), and compiled a dictionary of the language of the Tupi (Guarani) Indians (1858)

Goncharov, Ivan Aleksandrovich (gŭnchär' tĭlyĭksän'-drŭvĭch gŭnchŭrôf'), 1812–91, Russian novelist. Three of his novels have been translated—*A Common Story* (1847, Eng tr, 1894), *The Precipice* (1869, Eng tr, 1915), and *Oblomov* (1858, Eng trs, 1915, 1929), a minute portrayal of the indolent and passively submissive type of gentleman common in Russia c 1860 The author's fame rests on this work, which has given the Russian language the word *Oblomovism*. He also wrote *The Frigate Pallas* (1858), based on a journey to Japan

Goncourt, Edmond Louis Antoine Huot de (ĕdmō' lwē' ätwän' uō' dŭ gōkōōr'), 1822–96, and **Jules Alfred Huot de Goncourt** (zhül' älfrĕd'), 1830–70, French authors, brothers They were known, for their close association in art and literature, as "les deux Goncourt" They began as artists, touring France in 1849 and keeping notes which were presently to turn them toward literature They were art critics and historians of art, unsuccessful dramatists, promoters of Japanese art, and, in collaboration, the authors of a number of well-known novels of the naturalist school, including *Charles Demailly* (1860), *Sœur Philomène* (1861), *Renée Mauperin* (1864, Eng tr, 1887), *Germinie Lacerteux* (1865), *Manette Salomon* (1867), *Mme Gervaisais* (1869), and a study, *The Woman of the Eighteenth Century* (1862, Eng tr, 1927) After his brother's death Edmond wrote *La Fille Élisa* (1878), *Les Frères Zemganno* (1879), and *Chérie* (1884) In 1851 the brothers began the *Journal des Goncourt* (9 vols, 1887–96, Eng tr of selections by Lewis Galantière, 1937), an immensely successful publication devoted to an intimate account of Parisian society for 40 years The brothers affected an elaborated and contorted style, employed telegraphic brevity on occasion, and often selected subjects of sensational value Their work paved the way for both naturalism and impressionism In his will Edmond provided for the founding of the Goncourt Academy (officially recognized 1903), which makes an annual award, the Goncourt Prize, for fiction

Gond (gŏnd), ethnic group (c 3,000,000), India The population is centered in Madhya Pradesh, where four Gond dynasties ruled (14th–18th cent) The Gonds, predominantly Hindu, are mainly organized into low-caste tribes of simple culture

Gondar (gŏn'dur), town (pop 15,000), NW Ethiopia It was the Ethiopian capital from c 1650 until 1867, when it was nearly destroyed by Emperor Theodore in the course of civil war There are remains of palaces and churches of the 17th and 18th cent. Gondar was the last outpost in Italian East Africa to fall (1941) to Great Britain in the Second World War

Gondi, Paul de see Retz, Jean François Paul de Gondi, Cardinal de

Gondola, Giovanni: see Gundulic, Ivan

gondola (gŏn'dŭlu), type of boat used on the canals of Venice since the 11th cent Gondolas are long, narrow, and flat-bottomed, with high tapering prows and sterns They average in size about 30 ft long by 4 ft wide The operator, known as a gondolier, stands in the stern and propels the boat with a single oar A curtained cabin in the center of the boat accommodates from four to eight persons Once gondolas were gaily colored and decorated with rich embroideries, but they are now required by law to be somber black

Gondomar, Diego Sarmiento de Acuña, conde de (gōn'dōmar', Span, dyä'gō särmyĕn'tō dā äkōō'-nya kōn'dā dā gōndōmar'), 1567?–1626, Spanish ambassador to England (1613–18, 1620–22) He gained great influence over James I and dissuaded him from giving real assistance to his son-in-law, Frederick the Winter King, at the outset of the Thirty Years War Gondomar was highly unpopular in England He was attacked in Thomas Middleton's play *A Game at Chess*

gong, percussion instrument consisting of a disk with upturned edges, usually made of bronze and struck with a mallet or drumstick It is of Oriental origin and is also called tam-tam French composers of the period of the French Revolution made use of it in orchestral music, as have some composers of the 19th and 20th cent European gongs are usually of indeterminate pitch

Góngora y Argote, Luis de (lwĕs' dä gōn'gōrä ē ärgō'tä), 1561–1627, Spanish poet He studied in Salamanca and became a priest He was a poet of elegance and genius, whose wit and solid culture led to the rise of the tendency bearing his name—Gongorism—which is the equivalent in Spanish literature of euphuism in England He wrote ballads, sonnets, and other short traditional verses, but his fame rests on his longer works, which include *Panegyrico al duque de Lerma*, *Fábula de Polifemo y Galatea* and the *Soledades* The use of the metaphor and the hyperbaton in a new and creative manner, with mythology as a source of inspiration, are outstanding characteristics of his style Góngora was the last of the great poets of the Golden Age His influence on modern poetry has been great

gonorrhea (gŏnurē'u), infectious venereal disease caused by the gonococcus (*Neisseria gonorrheae*) It is in most instances transmitted to the genital organs by direct contact It attacks the genitourinary tract in both males and females and spreads to adjacent structures Through the lymphatic system it may be carried to other parts of the body, producing various severe infections Diagnosis is based on the history and symptoms and on the examination of stained smears from the genitourinary tract or from joint-fluid exudate Intradermal tests are useful in diagnosis, but only after a lapse of several weeks following the initial infection The condition is treated with sulfa drugs, penicillin, and diathermy Conjunctivitis in the newborn (*ophthalmia neonatorum*) is caused, in the majority of cases, by the gonococcus, transmitted to the infant at birth from the genital tract of the mother Blindness resulting from gonorrhea has been reduced by the practice of placing one drop of one-percent silver nitrate solution in each eye of every infant at birth (Crede's method of treatment)

Gonsalvo de Córdoba: see Fernández de Córdoba, Gonzalo

Gonville and Caius College. see Cambridge University

Gonzaga (gōntsa'ga), Italian princely house which ruled Mantua (1328–1708), Montferrat (1536–1708), and Guastalla (1539–1746) The family name is derived from the castle of Gonzaga, a village near Mantua **Luigi Gonzaga** (lwē'jē), 1267–1360, became captain general of Mantua in 1328 The power of his descendants grew in the 14th cent, and in 1433 Emperor Sigismund made **Gian Francesco Gonzaga** (jän' fränchä'skō), d 1444, marquis of Mantua His grandson, **Francesco Gonzaga,** d 1519, married Isabella d'Este He led the allied troops which defeated (1495) Charles VIII of France at Fornovo During the Italian Wars, Francesco and Isabella had great difficulty in preserving the independence of Mantua Francesco fought in turn for Venice for the French, and for Pope Julius II The court of Mantua, long a center of the arts and letters, was particularly brilliant under Francesco and Isabella Their son and successor, **Federico** or **Federigo Gonzaga** (fädārē'kō, fädārē'gō), 1500–1540, was made duke of Mantua (1530) by Emperor Charles V In 1536 he acquired Montferrat, which continued to be claimed by Savoy His brother **Ercole Gonzaga** (ĕr'kōlä), 1505–63, cardinal of the Roman Church, was long regent of the duchy He furthered learning and the arts and presided over the Council of Trent A younger brother, **Ferrante Gonzaga** (fĕr-ran'tä), 1507–57, was generalissimo of Emperor Charles V in Italy, France, and Flanders He acquired (1539) the county of Guastalla, which remained with his direct descendants until their extinction in 1746, in 1748 it was annexed to the duchy of Parma In 1627 the senior male line of the older branch, ruling Mantua and Montferrat, became extinct A cadet line, established in France, had succeeded, by marriage, to the duchies of Nevers and Nivernais and Rethel, and in 1627 began to claim the succession to Mantua and Montferrat Its claim was strengthened by the marriage of Maria Gonzaga, sole heiress of the senior line, with Charles de Rethel, son of the duke of Nevers France supported the Nevers branch, while Spain supported the claims of the Guastalla branch War between France and Spain broke out over the contested succession and helped to draw France into the Thirty Years War The Nevers branch ultimately won and ruled Mantua and Montferrat until it in turn became extinct (1708) during the War of the Spanish Succession Austria then annexed Mantua, and Savoy annexed Montferrat

Gonzaga University: see Spokane, Wash

Gonzales, Ambrose Elliott (gŏnzä'lĭs), 1857–1926, American editor and author, b Adams Run, S C He was founder and editor (1891–1922) of the Columbia, S C, *State*, a progressive reform paper organized to oppose the Tillman regime in South Carolina His four books of short stories—*The Black Border* (1922), *With Aesop along the Black Border* (1924), *The Captain* (1924), and *Laguerre a Gascon of the Black Border* (1924)—capture the mentality and customs as well as the dialect of the Gullah Negroes His brother, **Narciso Gener Gonzales,** 1858–1903, helped found the *State* He was shot and killed by James H Tillman, nephew of Benjamin Tillman Narciso's *In Darkest Cuba* (1922) has an introduction by A E Gonzales which contains biographical material

Gonzales, Richard Alonzo, 1928–, American tennis player, who is commonly known by the nickname "Pancho" Gonzales, b Los Angeles At the age of 15 Gonzales, of Mexican parentage, excelled at tennis, and after service (1945–47) in the U S navy, he returned to the game and established an inter-

national reputation He won the U S national singles and the U S clay court titles in both 1948 and 1949 In 1949 Gonzales also was a member of the U S team that won the Davis Cup, and with Frank Parker he took the French and British doubles championships Gonzales turned professional (Sept , 1949), and in 1949–50 played John A (Jack) Kramer in a cross-country tournament

Gonzales (gunsä'lĭs), city (pop 4,722), co seat of Gonzales co , S central Texas, near the Guadalupe river and ENE of San Antonio The old city, founded in 1825 as administrative center of Green De Witt's colony, spreads out from squares that were a double plaza of Spanish style On Oct 2, 1835, the men of Gonzales dispersed Mexican cavalry in the first battle of the Texas Revolution, a park at Cost, to the southwest, encloses the battlefield At Ottine, to the northwest, is the botanically interesting Palmetto State Park The prosperous farm region yields cotton and poultry

González, Fernán see FERNÁN GONZALEZ

González de Ávila, Gil (hĕl' gŏnthä'lĕth dā ä'vēla), d 1543, Spanish conquistador In 1522 he conquered Nicaragua, but fled to avoid trouble with Pedrarias His claims were usurped (1524) by Francisco FERNANDEZ DE CÓRDOBA

González de Ávila, Gil, 1578?–1658 Spanish historian The royal chronicler of Castile and the Indies, he wrote a history of the Church in the Spanish colonies

González Martínez, Enrique (änrē'kā gōnsä'lĕs martē'nĕs), 1871–, Mexican poet He worked as a physician for 17 years and on the side wrote poetry which showed the influence of Rubén Darío and the French symbolists After going to Mexico city in 1911 he turned against MODERNISMO and derided it, writing as the first line of one of his poems in *Los senderos ocultos* [hidden paths] (1911) the famous exhortation, "Wring the necks of the deceitful swans " He served in later years as a diplomat in Argentina, Chile, and Spain He collected and edited his poetry in three volumes of *Poesías* (1938–40)

goober see PEANUT

Gooch, Sir Daniel (gōōch), 1816–89, English mechanical engineer A designer of locomotives, he was made (1837) locomotive superintendent of the Great Western Railway For laying a transatlantic cable (1864) he was made a baronet (1866)

Gooch, George Peabody, 1873–, English historian, educated at King's College, Univ of London, and Trinity College, Cambridge He had practical experience in politics as a Liberal member of Parliament from 1906 to 1910, and his interest in democratic political ideas was expressed especially in his *History of Democratic Ideas in the Seventeenth Century* (1898, new ed , with additions by Harold J Laski, 1927) and *Political Thought in England from Bacon to Halifax* (1914) He also studied the impact of political ideas on history in *Germany and the French Revolution* (1920) Gooch was associated with Harold W V Temperley in diplomatic studies, they edited *British Documents on the Origins of the War, 1898–1938* (13 vols , 1926–38) His critical bibliography, *Recent Revelations of European Diplomacy* (1927, 4th ed , 1941), is pleasant as well as valuable With Sir Adolphus W Ward he edited *The Cambridge History of British Foreign Policy, 1783–1919* (3 vols , 1922–23) Gooch also became an authority on the history of Germany and wrote a useful survey of that country in the time of the Weimar Republic, *Germany* (1925), a biography of Frederick II (1947); and essays in *Studies in German History* (1948) His *History and Historians in the Nineteenth Century* (1913, 2d ed , 1946) is one of the most valuable books of modern historiography Among his numerous other works is the textbook, *History of Modern Europe, 1878–1919* (1923). Gooch's historical writing is characterized by a scrupulous attention to detail

Gooch, Sir William, 1681–1751, colonial governor of Virginia (1727–49), b Yarmouth, England He came to Virginia after distinguished service with the British army Nominally, Gooch was only lieutenant governor, but actually he was the real chief executive in the colony for 22 years He defended the colonists before the Board of Trade, was an influence in their favor with Parliament, promoted tobacco growing, and generally got on well with the burgesses His resignation because of failing health was profoundly regretted by the Virginians Gooch was created baronet in 1746 and promoted major general in 1747. See biography by P S Flippin (1926)

Good, James Isaac, 1850–1924, American clergyman of the German Reformed Church, b York, Pa He held pastorates in York, Philadelphia, and Reading, Pa , and in 1890 became professor in the School of Theology of Ursinus College (from 1898 in Philadelphia) He was dean from 1893 to 1907, when he became professor of church history and liturgics at the Central Theological Seminary, Dayton, Ohio He was the author of more than 20 books, chiefly on the origins and history of the Reformed Church in Germany and the United States

Goodale, George Lincoln (gōō'dāl), 1839–1923, American botanist and educator, b Saco, Maine, grad Amherst, 1860, M D Harvard, 1863 From 1872 he taught at Harvard, serving as professor of botany (1878–88) and as professor of natural history (1888–1909) His writings and lectures aroused much interest in botany Goodale wrote some of the earliest works on plant physiology and histology and was one of the first to use lantern slides to illustrate his talks His works include *The Wild-Flowers of America* (1876)

Goode, George Brown (gōōd), 1851–96, American ichthyologist and museum administrator, b New Albany, Ind , grad Wesleyan Univ , 1870 He became assistant director of the National Museum, Washington, D C (1878), was U S commissioner of fisheries (1887–88), and was assistant secretary of the Smithsonian Institution (from 1887) Among his many works on fishes are *Catalogue of the Fishes of the Bermudas* (1876), *The Natural and Economical History of the American Menhaden* (1879), and, with others, *The Fisheries and Fishery Industries of the United States* (7 vols , 1884–87), *American Fishes* (1888), and *Oceanic Ichthyology* (1895)

Goode, John Paul, 1862–1932, American geographer, b Stewartville, Minn , grad Univ of Minnesota, 1889, Ph D Univ of Pennsylvania, 1901 He taught geography at the Univ of Pennsylvania (1901–17) and at the Univ of Chicago (1917–28) He edited many maps and books on geography, including the well-known *Goode's School Atlas* (1923, many later editions)

Goodell, William (gōōdĕl'), 1792–1867, American missionary in the Near East, b Templeton, Mass , grad Dartmouth College and Andover Theological Seminary He went in 1823, for the American Board of Commissioners for Foreign Missions, to Beyrouth, Syria, where he established the Congregationalist mission In 1831 he went to Constantinople and there established a mission for the Armenians of the city His translation of the Bible into Armeno-Turkish occupied 20 years The success of Congregational missions in Turkey is largely founded upon his work His memoirs were edited by E D G Prime under the title *Forty Years in the Turkish Empire* (1876)

Goodenough's Island see RAROTONGA

Good Friday [probably from *God's Friday*], anniversary of Jesus' death on the cross, the Friday before EASTER, observed from the first as a day of mourning and penitence In Roman Catholic and Orthodox churches there is no Mass, and communion is not given, the Mass of the Presanctified, sung on the day, is simply the priest's communion with a previously consecrated Host Other special services are adoration of the Cross (creeping to the Cross) and the Three Hours, a public meditation on the Seven Last Words An old English custom of Good Friday was making hot cross buns Good Friday is a legal holiday in many countries and in some states of the United States

Good Hope, Cape of see CAPE PROVINCE.

Goodhue, Bertram Grosvenor, 1869–1924, American architect, b Pomfret, Conn He studied under James Renwick in New York and (1891) entered the office of Ralph Adams CRAM in Boston Later he was made a partner in this firm, but left it (1914) to begin independent practice Goodhue was particularly successful in evolving a distinctive style for his ecclesiastical work, which was Gothic in form yet permeated with a modern spirit Examples are the churches of St Thomas and of St Vincent Ferrer, New York, and the buildings of the U S Military Academy at West Point In his later years he turned from historic design and endeavored to create forms more harmonious with contemporary life and methods of construction, but he died before he could fully accomplish this aim The most important works of this last period are the building at Washington, D C , to house the National Academy of Sciences and National Research Council and the state capitol, Lincoln, Nebr Among his other works are St Bartholomew's Church and the Chapel of the Intercession, New York, and the First Baptist Church, Pittsburgh See biography by C H Whitaker (1925)

Gooding, city (pop 2,568), co seat of Gooding co , S Idaho, on the Little Wood river and W of Shoshone, in the MINIDOKA PROJECT Founded in 1883, the town was opened in 1907 A state school for the deaf and the blind is here

Goodland. 1 Town (pop 1,097), Newton co , NW Ind , near the Ill boundary **2** City (pop 3,306), co seat of Sherman co , NW Kansas, near the Colorado line, inc 1887 To the west is the highest elevation in Kansas—c 4,000 ft Fossils have been found in the region

Goodman, Benny (Benjamin David Goodman), 1909–, American clarinetist and band leader, b Chicago, of Russian parents He grew up in Chicago in the period when jazz, brought by Negro musicians from New Orleans, was flourishing there, and he had the opportunity to hear (and eventually to play beside) some of the outstanding jazz musicians of the era Having played the clarinet for many years in Chicago and later (1925) in California, he went to New York in 1928, where in 1934 he organized his own orchestra and became associated with the development of swing music. Through the media of radio and moving pictures his orchestra became nationally famous. He has also achieved some success in classical music for clarinet, particularly the music of Mozart Bartok's *Contrasts* (1938), for violin, clarinet, and piano, was written for Goodman and Joseph Szigeti See the autobiographical *The Kingdom of Swing* (with Irving Kolodin, 1939)

Goodnews Bay, inlet of Kuskokwim Bay, SW Alaska. Platinum and osmiridium are found here

Goodnight, Charles, 1836–1929, Texas cattleman, b Macoupin co , Ill He went to Texas in 1846, where he joined the Texas Rangers and became a noted scout and Indian fighter He later pioneered in cattle ranching in New Mexico and Colorado and in 1866 laid out the Goodnight cattle trail from Texas to Wyoming In 1877, in partnership with John Adair, he established in the Texas Panhandle the J A Ranch of nearly 1,000,000 acres, on which he maintained about 100,000 head of cattle He improved his herds by crossing shorthorns and Herefords with the native longhorns By crossing bison and polled Angus cattle he produced the first herd of cattalo. He also bred bison and is thereby credited with preserving the remnant of the South Plains herd In 1880 he organized the Panhandle Stockman's Association, which suppressed lawlessness and introduced purebred cattle

Goodnow, Frank Johnson (gōōd'nō), 1859–1939, American authority on government, grad Amherst (B A , 1879, M A , 1887) and Columbia (LL B , 1882) After study abroad, he taught administrative law at Columbia Univ for 30 years, was an adviser (1913–14) to the revolutionary Chinese government on drafting the new constitution, and was president (1914–29) of Johns Hopkins Univ He is best remembered as a pioneer in the study of modern municipal government, and most of his works deal with administrative law and municipal government

Goodrich, Annie Warburton, 1866–, American nurse b New Brunswick, N J , grad New York Hospital, 1892, in nursing As director of nurses at the Henry St Settlement, as professor of nursing and health at Teachers College, Columbia Univ (1914–23), as dean of the Army School of Nursing (1918–19), and as professor and dean of the Yale Univ School of Nursing (1923–39, dean emeritus from 1939), she did much to raise standards of education and practice in her profession She wrote *The Social and Ethical Significance of Nursing* (1932)

Goodrich, Chauncey Allen, 1790–1860, American lexicographer, b New Haven, Conn , grad Yale, 1810 A professor of rhetoric at Yale, he married Noah Webster's daughter Julia Goodrich edited the 1847 revision of Webster's unabridged dictionary

Goodrich, Samuel Griswold, pseud **Peter Parley,** 1793–1860, American editor and writer of juvenile stories, b Ridgefield, Conn In 1816 he entered publishing and by 1822 was writing juveniles On a trip to England in 1823 he met Hannah More whose work he had long admired It was she who gave him the idea for the *Peter Parley Tales*, famous sugar-coated moralistic stories of instruction In 1826 he founded the *Token*, in which many of Hawthorne's stories first appeared He founded and edited (1841–50) a juvenile magazine, *Robert Merry's Museum* From 1851 to 1853 he was American consul in Paris Because of the quantity of his works, authorship of some is doubtful See his *Recollections of a Lifetime* (1856)

Goodspeed, Edgar Johnson, 1871–, American Greek scholar, b Quincy, Ill , grad Denison Univ (B A , 1890, D D , 1928) and Univ of Chicago (B D , 1897, Ph D , 1898) He taught at the Univ of Chicago from 1898 to 1937 and gained recognition as a biblical critic He is principally known for his new translation of the Bible *The New Testament—an American Translation* appeared in 1923, the wide esteem given it was extended also to *The Complete Bible—an American Translation* (with J M P Smith, 1939)

Good Thief or **Penitent Thief,** the malefactor crucified with Jesus who did not revile Him, Jesus promised him Paradise that day Luke 23 39–43 In the Roman martyrology his feast is March 25 His name in tradition is Dismas or Desmas, that of the other thief Gesmas

Good Water, town (pop 1,028), E central Ala , SE of Birmingham, in a farm area, inc 1875

Goodwin, Nat (Nathaniel Goodwin), 1857–1919, American actor, b Boston In 1875 he became a popular actor at Tony Pastor's Theatre, New York, his natural gifts of comedy and mimicry winning success in vaudeville acts Later, playing more serious parts, he won fame in England and the United States in American plays such as *In Mizzoura* (1893) and *Nathan Hale* (1898) He triumphed as Fagin in Dickens's *Oliver Twist* He returned to vaudeville in 1911

Goodwin Sands, 10-mile stretch of shoals and sand bars, lying off the east coast of Kent, England It forms a breakwater east of the roadstead called the Downs The shifting sands do not allow the construction of lighthouses, but there are several lightships and numerous buoys and foghorns Shipwrecks were formerly frequent on the Sands. Traditionally, the Sands were once a fertile isle called Lomea, the property of Earl Godwin.

Goodyear, Charles, 1800–1860, American inventor, b New Haven, Conn , originator of vulcanized rubber He failed in his earlier business ventures and was in jail for debt when he began his experiments with rubber, searching for a way to prevent it from sticking and melting in hot weather He experimented endlessly, kneading various chemicals into the raw rubber Some success was achieved in 1837 with a patented acid and metal coating, but the real process of vulcanization was not discovered until 1839 He spent further years in perfecting the process, which was patented in 1844 Goodyear had carried on his researches in the face of poverty and debt and was forced to market his patent rights for a fraction of their value He spent the years 1852-58 in Europe and established the rubber business there He wrote *Green Elastic and Its Varieties* (1853) See studies by R F Wolf (1939) and A C Regli (1941) His son **Charles Goodyear,** 1833-96, b Germantown, Pa , assisted him in the manufacturing and marketing of rubber articles, but later turned to shoe manufacturing, being one of the first to see the application of Howe's sewing machine to the making of shoes He organized in 1871 the Goodyear Boot & Shoe Machinery Company of New York to manufacture machines He was only partially successful until the consolidation in 1880 with Gordon McKay, his chief competitor See F J Allen, *The Shoe Industry, Old and New* (1916)

Googe, Barnabe (gōōj, gōō), 1540–94, English poet His *Eglogs, Epytaphes, and Sonettes* (1563) are early English pastoral poems

Goole (gōōl), urban district (pop 20,239), West Riding of Yorkshire, England, at the confluence of the Ouse and Don rivers WSW of Hull It has extensive dockyards and a good harbor, coal and textiles are exported, and shipbuilding, iron casting, sugar refining, flour milling, and the making of farm machinery and chemicals are leading industries There are passenger lines to Amsterdam, Copenhagen, and other continental ports

goose, wild and domesticated bird related to the duck and the swan The usual general term is goose, but goose is the exact term for the female, gander that for the male In North America the common Canada or wild goose is known by its honking call and by the migrating V-shaped flocks in spring and fall Other wild geese are the BRANT and the blue, the snow, and the white-fronted or laughing geese Among the domestic geese are the popular Toulouse or gray goose (descended from the graylag of Europe), the African goose, the Embden goose, and the Oriental breeds (developed from the wild Chinese goose) Geese were raised in early days by the Romans and other Europeans and were sacred in Egypt 4,000 years ago Forcible feeding is used to fatten geese and to enlarge the liver for use in making *pâté de foie gras* See F H Kortright, *The Ducks, Geese, and Swans of North America* (1943), *Goose Raising* (U S Dept of Agriculture, Farmers' Bul 767)

gooseberry (gōōz'–, gōōs'–), fruit of a wild and cultivated bush (*Ribes* or *Grossularia*) of the North Temperate Zone, related to the currant In England the gooseberry is very popular both as a fresh dessert fruit and in preserves Though the European species bear much larger fruit than the North American, they are little cultivated in the United States because of their susceptibility to various fungus diseases The cultivation of gooseberries is prohibited in some localities because the plant is a host to the white-pine BLISTER RUST The native species are sometimes grown in gardens

Goose Creek, Texas see BAYTOWN

goosefoot, any plant of the genus *Chenopodium,* such as the LAMB'S-QUARTERS

Goossens, Eugene (gōō'sunz), 1893–, English conductor and composer, of Belgian parentage, studied in Bruges and Liverpool and with C V Stanford at the Royal College of Music He was first violinist (1911–15) of the Queen's Hall Orchestra, afterward conducting Sir Thomas Beecham's opera company until 1920 He conducted the orchestra of Diaghilev's ballet company from 1919 until 1923, when he came to the United States to conduct the Rochester Philharmonic He was conductor of the Cincinnati Symphony Orchestra from 1931 until 1947 At that time he became resident conductor of the Sydney Symphony Orchestra and director of the New South Wales Conservatory of Music He has appeared as guest conductor of the major orchestras of England and the United States His compositions include two operas with librettos by Arnold Bennett, *Judith* (1925, London, 1929) and *Don Juan de Mañara* (London, 1937), orchestral music, songs, and chamber music, including a piano trio, *Five Impressions of a Holiday* (1914), in which Ravel's influence is evident His brother Leon (1897–) is a noted oboe virtuoso who first appeared in the United States in 1928 His father, Eugène Goossens (1867–), and his grandfather, Eugène Goossens (1845–1906), were also conductors

gopher (gō'fur) or **pocket gopher,** rodent of North America and Central America In the United States the chief genera are the Western (*Thomomys*) and the Eastern (*Geomys*) gophers The gopher is gray, buff, or dark brown, with a total length of 7 to 14 in Fur-lined pouches which open on the outside of its cheeks are used for carrying food and nesting material A burrowing animal, it lives and does most of its foraging underground, feeding chiefly on roots and tubers Sometimes it emerges for a change of diet Its extensive, ramifying tunnels sometimes damage earth dams and banks It is of some value as an agent of soil aeration and in forming humus by burying organic matter Minnesota is called the Gopher State

Göppingen (gû'pĭng-un), city (pop 35,784), N Württemberg, ESE of Stuttgart It is a railroad transportation center and has industries producing machinery, precision instruments, chemicals, and textiles Göppingen mineral water is exported Chartered in 1029, the city was twice (1125, 1782) devastated by fire It has retained a 15th-century church and a 16th-century castle The ruined Hohenstaufen castle is near by

Gorakhpur (gō'rŭkpōor″), town (pop 98,977), E central United Provs , India, founded c 1400 It is really a collection of agricultural villages

Gorboduc (gôr'bŭdŭk), legendary early British king mentioned by Geoffrey of Monmouth He divided his kingdom in his lifetime between his sons Ferrex and Porrex and thereby created murderous strife *Gorboduc, or Ferrex and Porrex,* the first English blank verse tragedy presented on a London stage was given by the players of the Inner Temple in 1562 The first three acts were probably by Thomas Norton, the last two by Thomas SACKVILLE, and the whole shows the influence of its Senecan models

Gorchakov, Aleksandr Mikhailovich, Prince (ŭlyĭksan'dur mĭkhī'luvĭch, gûrchŭkôf'), 1798–1883, Russian statesman He succeeded Nesselrode in 1856 after serving (1854 56) as ambassador at Vienna Brilliant, witty, gifted, Gorchakov was the outstanding diplomat of Alexander II's reign His chief aim was to nullify the disastrous Treaty of Paris that closed the Crimean War Friendly with Bismarck, generally hostile to Austria, he maintained Russian neutrality in the Austro-Prussian War of 1866 and in the Franco-Prussian War of 1870–71 Later, however, he was frightened at the rumors of new trouble between Germany and France and indicated that Russia would in such case side with France However, the THREE EMPERORS' LEAGUE of Austria, Russia, and Prussia was formed during Gorchakov's administration Gorchakov opposed the Russo-Turkish War of 1877–78 and the accompanying agreement with Austria, he represented Russia at the Congress of Berlin (1878), where the advantages gained in the war were largely lost (see RUSSO-TURKISH WARS, SAN STEFANO, TREATY OF, BERLIN, CONGRESS OF) He resigned in 1882, and Russia soon drifted from his policies His successor was Nikolai K Giers

Gorchakov, Mikhail Dmitreyevich, Prince (mĭkhŭyl' dumē'trĕuvĭch), 1793–1861, Russian general He rose through service in the Russo-Turkish War of 1828–29, the suppression of the Polish insurrection (1830–31), and the campaign in Hungary (1849) as well as through semipolitical service, to become chief of staff in 1853 He succeeded Aleksandr S Menshikov as Russian commander in chief in the Crimean War, where he conducted the heroic defense of Sevastopol

Gordian I (Marcus Antonius Gordianus Africanus) (gôr'dēun), d 238, Roman emperor He was a Roman of great wealth and was colleague in the consulship with Caracalla and with Alexander Severus, who appointed him proconsul in Africa After the usurpation of MAXIMIN the dissatisfaction of Africa broke into revolt, and Gordian was made emperor (238) with his son Gordian II (192–238) as colleague They were recognized by the people and senate in Rome Soon, however, a partisan of Maximin attacked them in Carthage Gordian II was killed, and his father committed suicide When the news of this arrived in Rome, the senate named two new emperors, Balbinus and Pupienus Gordian II's son, Gordian III (c 223–244), was made Caesar Balbinus and Pupienus defeated and killed Maximin, but were soon murdered by the Praetorians, whereupon Gordian III became emperor (238–44) In 242 Gordian opened the temple of Janus (a sign of war) for the last time and went to attack the Persians in Mesopotamia He defeated them, but his best general, his father-in-law, died The troops became disorderly, and PHILIP (Philip the Arabian) contrived Gordian's murder

Gordian knot see GORDIUS

Gordin, Jacob Mikhailovich, 1853–1909, American writer of Yiddish plays, b Russia He was for some years a teacher and a newspaper writer in St Petersburg, Odessa, and elsewhere In 1880 he founded the Bible Brotherhood, a reform movement in Judaism After this was suppressed, he left Russia in 1891 for the United States In New York he found the Yiddish stage in need of good plays, and for the rest of his life he wrote, translated, and adapted plays in the vernacular Among the best of these were *Siberia, God, Man, and the Devil; The Jewish King Lear; The Jewish Sappho,* and *The Kreutzer Sonata* (an English translation was produced in 1907) His collected plays were published (1910) in Yiddish in New York.

Gordius (gôr'dēŭs), legendary king of Phrygia and founder of its capital, Gordium An oracle had foretold that a wagon would bring to the people a king who would put an end to their troubles. When Gordius, a peasant, appeared in his wagon, he was hailed as king In gratitude, Gordius dedicated his wagon to Zeus The pole of the wagon was fastened to the yoke with an intricate knot of bark which defied all efforts to untie it This was the Gordian knot An oracle declared that he who untied it would become the ruler of all Asia When Alexander the Great came to Gordium, he examined the knot, then with one blow of his sword severed it Upon this story is based the familiar figure, "to cut the Gordian knot," meaning to solve a perplexing problem by a single bold action

Gordon, Adam Lindsay, 1833–70, Australian poet, b in the Azores In 1853 he went to South Australia, where he joined the mounted police and later became famous as a steeplechase rider and horse owner His works include *Sea Spray and Smoke Drift* (1867), *Ashtaroth* (1867), and the vigorous *Bush Ballads and Galloping Rhymes* (1870) His collected poems (ed by F M Robb) were published in 1912

Gordon, Charles George, 1833–85, British soldier and administrator He served in the Crimean War, went to China in the expedition of 1860, taking part in the capture of Peking (Peiping), and in 1863 he took over the command of F T WARD, who had raised a Chinese army to suppress the Taiping Rebellion For the achievements of this "ever-victorious army" he was popularly known as Chinese Gordon In 1873 he entered the service of the khedive of Egypt in the Egyptian Sudan, becoming governor of the Sudan in 1877 He resigned in 1880 and went to Mauritius In his absence, the Mahdi acquired control, Gordon therefore returned in 1884 to place himself at the head of the Egyptians in an attempt to crush the power of the Mahdi He was besieged at Khartoum for 10 months, the relief expedition finally dispatched from England reaching the garrison two days after it had been stormed by the Moslems, who killed Gordon Gordon was a religious, courageous man, devoted to duty The Gladstone government fell in 1885 partly because of popular indignation at Gordon's death. See his journals at Khartoum (1885), his letters (ed by D C Boulger, 1884), and letters to his sister (1888), biographies by D C Boulger (1896) and H E. Wortham (1933)

Gordon, Charles William, pseud **Ralph Connor,** 1860-1937, Canadian clergyman and novelist His popular stories were based on his experiences as a Presbyterian missionary in the lumber and mining camps of the Canadian Northwest Of the long list of his somewhat didactic and romantic novels, the most widely read are *The Sky Pilot* (1899) and *The Man from Glengarry* (1901) See his autobiography, *Postscript to Adventure* (1938)

Gordon, George, earls of Huntly see HUNTLY

Gordon, Lord George, 1751–93, English agitator, responsible for the tragic Gordon riots in London (June 2–7, 1780) Great damage was done, and probably more than 300 persons were among the injured and killed The riots arose from a Protestant demonstration against the removal of civil restrictions from Roman Catholics, but passed into an orgy of destruction, jail deliveries, and plunder Some 21 rioters were executed, but Gordon was acquitted because he was clearly deranged Dickens vividly described the riots in *Barnaby Rudge* See biography by Percy Colson (1937)

Gordon, George Byron, 1870–1927, American anthropologist, b Prince Edward Island, Sc D Harvard, 1894 He headed the Harvard expedition which from 1894 to 1900 conducted the field work at the ruins of Copán in Honduras From 1903 until his death he was connected with the Univ of Pennsylvania, after 1910 being director of the university museum His books concern his work at Copán, his sojourn in Alaska, and travels in Europe

Gordon, George Henry, 1824?–1886, Union general in the Civil War, b Charlestown, Mass , grad West Point, 1846 He fought under Scott in the Mexican War, resigned from the army in 1854, and subsequently practiced law in Boston In 1861 Gordon raised and became colonel of a Massachusetts regiment Made a brigadier general of volunteers in 1862, he fought in most of the Virginia campaigns of that year, took part in the operations against Charleston, S C (1863–64), and Mobile, Ala (1865), and commanded in E Virginia in the last months of the war He wrote several books concerning his Civil War service

Gordon, John Brown, 1832–1904, Confederate general and Georgia statesman, b Upson co , Ga He was educated at the Univ of Georgia and studied law Gordon began his Civil War service as an infantry captain and so distinguished himself through four years of campaigning in the Virginia area that at Lee's surrender he was a lieutenant general commanding a corps His fighting in the WILDERNESS CAMPAIGN and in the Shenandoah Valley under J A EARLY in 1864 was particularly brilliant After the war he became an outstanding leader in Georgia politics With Alfred H Colquitt and Joseph E. Brown, he dominated the state govern-

ment for many years He was U S Senator (1873–80, 1891–97) and governor (1886–90) Despite charges that he mixed politics and railroad affairs, he was the idol of his state throughout his long career See his *Reminiscences of the Civil War* (1903), D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Gordon, Sir John Watson-, 1788–1864, Scottish portrait painter, b Edinburgh He took the name Gordon in 1826 After the death of Raeburn he was the leading portraitist in Scotland, enjoying a large practice and many honors Famous portraits are those of Sir Walter Scott (National Gall , Edinburgh) and Thomas De Quincey and Sir David Brewster (National Portrait Gall , London)

Gordon, Leon, 1830–92, Russian-Hebrew novelist and poet, b Vilna His name in patronymic style was Jehudah Löb ben Asher As teacher and writer he was one of the leaders in the renaissance of progressive culture among the Jews and was an indefatigable foe of obscurantism He wrote in both Hebrew and Russian, his influence upon Hebrew letters has not waned A complete edition of his works was published (1928–35) in Tel-Aviv See biography by A B Rhine (1910)

Gordon, Patrick, 1635–99, Scottish soldier of fortune and Russian general After serving alternately on both sides in the war between Sweden and Poland, he entered the Russian army (1661) and became the devoted friend of Peter the Great The greatest service he rendered Peter was his aid in thwarting the aims of Peter's half sister SOPHIA ALEKSEYEVNA in 1689 Parts of Gordon's diary were published as *Passages from the Diary of General Patrick Gordon of Auchleuchries* (1859)

Gordon. 1 Town (pop 1,524), central Ga , just E of Macon 2 City (pop 1,967), NW Nebr , in the Niobrara valley near the S Dak line, inc 1921 It is a shipping and trading center for an agricultural area 3 Borough (pop 1,062), E Pa , NW of Pottsville, settled 1856, inc 1891 Anthracite is mined

Gordon Highlanders, kilted Scottish infantry regiment in the British army It was raised in 1794 and named for George Gordon, 5th duke of Gordon, who was prominent in its early history The regiment has had a distinguished record in the British army since that time. It is no longer limited to men of Scottish origin

Gordon riots see GORDON, LORD GEORGE

Gore, Charles (gôr), 1853–1932, English prelate and theologian As head librarian at Pusey House, Oxford, (1884–93), his influence was extensive among the undergraduates In 1890, as editor of *Lux Mundi*, he was looked upon as leader of a Modernist trend in the High Church party Because the views on the incarnation of Christ expressed in his Bampton Lectures (1891) were questioned, he resigned his post He was canon of Westminster from 1894 to 1902 In 1902 he was chosen bishop of Worcester, in 1905 bishop of Birmingham, and in 1911 bishop of Oxford Among his many works are *The Church and the Ministry* (1889), *The New Theology and the Old Religion* (1908), *Belief in God* (1921), *Christ and Society* (1928), *Jesus of Nazareth* (1929), and *The Philosophy of the Good Life* (1930) See G. L Prestige, *The Life of Charles Gore, a Great Englishman* (1935)

Goremykin, Ivan Longinovich (ēvan lŏn-gē'nûvĭch gŭryĭmĭ'kĭn), 1839 1917, Russian statesman A conservative and an obedient servant of the emperor, he was chosen (1906) to succeed Count WITTE as chief minister The opposition of the DUMA to his incompetent and reactionary government led to the Duma's dissolution as well as to Goremykin's dismissal in the same year From 1914 to 1916 he again served as prime minister He was killed by the Bolsheviks

Gorenko, Anna Andreyevna see AKHMATOVA, ANNA

Gore Range, Rocky Mts , see PARK RANGE

Gorgan (gôrgän') or **Jurjan** (jôrjän'), city (1947 estimated pop 21,376), N Iran, c 25 mi. E of the Caspian. It is the center of a region that yields rice and has extensive marshes and forests This area, the ancient Hyrcania, was the homeland of the Kajar or Qajar dynasty The city was formerly Asterabad.

Gorgas, William Crawford (gôr'gŭs), 1854–1920, American disease and sanitation expert, surgeon general of the United States, b Mobile, Ala , grad Bellevue Hospital Medical College, 1879 He served with the U.S. army medical corps after 1880 He was stricken with yellow fever while he was stationed at Fort Brown, Texas. Gorgas soon recovered and thereafter remained immune to the disease. In 1898 he was sent to Cuba as sanitation director. Applying the findings of Carlos J FINLAY and Walter REED, Gorgas after a short time permanently rid Havana of yellow fever. He then went (1904) to the Isthmus of Panama, where amid administrative difficulties he succeeded in cleansing the Canal Zone of the dreaded yellow fever by eliminating the breeding places of mosquitoes and segregating stricken patients He improved health conditions in the cities of Colón and Panama while insuring the completion of the Panama Canal These events he discussed in his book, *Sanitation in Panama* (1915). He later made several trips to clear up disease-infested places throughout the world, and he made notable progress in Guayaquil, Ecuador—a city long scourged with yellow fever. He served (1914–19) as surgeon general of the United States and was attached, after 1916, to the International Health Board See biography by Marie Gorgas and B. J Hendrick (1924).

Gorges, Sir Ferdinando (gôr'jĭs), c.1566–1647, British colonizer, proprietor of Maine He was knighted for his services at the siege of Rouen (1591) and was subsequently (1596–1602, 1604–29) military governor of Plymouth, England. The voyages of George Weymouth to the New England coast stirred his interest and led to his resolve to colonize the region He was a leading figure in the Plymouth Company, chartered in 1606, and one of the two chief backers of the Sagadahoc colony which was planted in 1607 at the mouth of the Kennebec river, Maine, and failed in 1608 Gorges, in the following years, directed the many fishing and trading expeditions which the company carried on along the New England coast and defended its monopoly of the fisheries He procured the services of Capt John SMITH to head a new settlement, but three successive expeditions met grief soon after leaving harbor and Smith withdrew in complete discouragement. In 1620 Gorges's influence procured for the members of the old company a revised charter in which their territory, for the first time called "New England," was established as lying between lat 40° and 48° N They reconstituted themselves as the Great Council of New England, and grants were made to the individual members in the hope that they would become more interested in the project Interest, however, centered in the more southern ventures, and Gorges found no financial support The Pilgrim colony at Plymouth, patented under the Virginia Company, had mistakenly settled within the bounds of the New England Council grant, but in 1621 received a patent from the council and had Gorges's fatherly interest henceforth Not so the Massachusetts Bay and Salem colonies, which were regarded as intruders and against which Sir Ferdinando carried on a long struggle in England on the ground that their patent was irregular In order to make the whole of New England a royal colony, over which Gorges was to be governor general, the council surrendered its charter in 1634 The remaining territory of New England was to be divided between the eight lords of the council, who were to hold it under new patents, but because of the growing intensity of the struggle between king and Parliament at home the new arrangement was never consummated, and the Puritan commonwealth of Massachusetts was left free Gorges received title to the province of Maine in 1639, but was unable in the face of existing events in England to raise funds to colonize his domain His grant passed to his heirs, who so neglected the province that the settlers petitioned to be taken under the government of Massachusetts His grandson, **Ferdinando Gorges,** 1630–1718, in 1677 finally sold to Massachusetts all rights to Maine for £1,250 See James P Baxter, ed , *Sir Ferdinando Gorges and His Province of Maine* (3 vols , 1890), Henry S Burrage, *Gorges and the Grant of the Province of Maine* (1923)

Gorgey, Arthur (gôr'gĕĭ), Hung *Görgey*, 1818–1916, Hungarian general He fought the Austrians in 1848–49 as a commander of the Hungarian republican army. He captured Buda (May, 1849), but when Russia sent aid to the Austrians, Gorgey decided to surrender to the Russians rather than continue a lost cause. He forced Louis KOSSUTH, with whom he had had many differences, to resign Gorgey was interned in Austria until 1867

Gorgias (gôr'jŭs), c 485–c 380 B C , Greek Sophist From his native city, Leontini, Sicily, he went to Athens, seeking aid against the Syracusans He settled in Athens, where he taught and practiced rhetoric Gorgias drew upon the negative aspect of the Eleatic philosophers, especially Zeno of Elea, and formulated a nihilistic philosophy His three propositions were nothing exists, if anything does exist, it cannot be known, if it can be known, the knowledge of it cannot be communicated Objective truth being thus impossible, there remains only the Sophist's art, persuasion Gorgias' fame is preserved in the dialogue of Plato that bears his name

Gorgon (gôr'gŭn), in Greek mythology, a female monster The chief of them was MEDUSA, but she had two sisters who were also Gorgons, Stheno and Euryale They were the daughters of Phorcus and Ceto They were so hideous that men looking upon them turned to stone. The winged, snake-haired Gorgon was much represented in Greek art

Gorham. 1 Town (pop 3,494), SW Maine, just W of Portland, granted 1728, inc 1764 A garrison house was built on Fort Hill in the French and Indian Wars The McLellan House, of handmade brick, and a few other 18th-century houses remain A state teachers college is here 2 Town (pop 2,597), NE N H , at the juncture of the Androscoggin and the Peabody S of Berlin and on the northern edge of the White Mountain National Forest, settled c 1805, inc 1836 Within sight of the Presidential Range, it is a center of lumbering and resort activities, a large paper mill is here, and a winter sports carnival is held yearly

Gori (gô'rē), city (pop. 10,547), central Georgian SSR, on the Kura river, in an orchard and garden district. An ancient fortress, it passed in 1801 to Russia. Much of the town was destroyed by an earthquake in 1920. J V. Stalin was born here

gorilla, anthropoid ape native to western equatorial Africa Largest of the great apes, the males reach a height of from 5 to 6 ft and weigh from 300 to 600 lb Usually terrestrial, gorillas walk on all fours with the hands doubled under. At night the males sleep at the base of a tree, with the females and young in platform nests above Gorillas are chiefly vegetarian Long in danger of extinction, they are among the animals protected in Albert National Park established (1922) in the Belgian Congo largely through the efforts of Carl E Akeley See Akeley, *In Brightest Africa* (1923), W K Gregory and H C Raven, *In Quest of Gorillas* (1937)

Gorinchem (khô'rĭn-khŭm, khôr'kum) or **Gorkum** (khôr'kum), municipality (pop 15,163), South Holland prov., SW Netherlands, on the Upper Merwede river. It is a manufacturing center. Mentioned from the 13th cent , it rose to commercial importance in the 15th cent. It was captured by the Beggars of the Sea in 1572 The 16th-century Bethlehem House is now a museum.

Goring, George Goring, Baron, 1608–57, English royalist commander in the civil war He was a court gallant who had previously served in the Dutch army In 1641 a group of army officers formed the first army plot with the intent of asserting the king's will against Parliament by force Goring, then governor of Portsmouth, was one of the principal figures Dissatisfied, he betrayed it to the parliamentarians In 1642 after playing a double game, Goring declared for the king but was never very stable He held high commands until 1645, but his considerable ability as a general was offset by his ambition and the intrigues which were disastrous for the royalist cause

Göring, Hermann Wilhelm. see GOERING, HERMANN WILHELM

Gorizia (gôrē'tsēä), Ger *Görz* (gûrts), city (pop 30,265), capital of Gorizia prov , Friuli-Venezia Giulia, NE Italy It is a center of communications and industry on the Isonzo river and on the Yugoslav border In historic FRIULI, the city was the seat of a county (c 1060–1500), it then passed to the Hapsburgs, but preserved a remarkable autonomy until the 18th cent The Austrian crownland of Gorz-Gradisca was included in Küstenland prov until 1918 In the First World War, Gorizia and the surrounding area in the Karst were bloody battlefields The Italians under the duke of Aosta took Gorizia in 1916, evacuated it in 1917, and recovered it in 1918 The city suffered heavy damage, but was reconstructed On a hill overlooking the city is a 15th-century castle

Gorki, Maxim (mŭksyēm gôr'kĭ), pseud of **Aleksey Maximovich Pyeshkov,** 1868–1936, Russian short-story writer, novelist, and playwright He was one of the leading influences of his age on literature, both at home and abroad Gorki was born at Nizhni Novgorod (now Gorki) on the Volga, which was a major influence on his life At 12 he left his squalid home and through years of vagabondage acquainted himself thoroughly with all types of men Out of the understanding thus acquired, he began in 1892 to write short stories, full of energy and vitality "Twenty-six Men and a Girl" (1898), "Chelkash" (1895), and "Malva" (1899) have all appeared in English in different collections Like his later plays, these deal with the "ex-people," as Gorki called them, of human society In these he saw the hope of the future He turned c.1900 to the novel, abandoning romanticism for social realism *Foma Gordeyev* (1899, Eng tr , 1901), *Three of Them* (1901, Eng tr , 1902), *Mother* (1907, Eng tr , 1907), and *The Confession* (1908, Eng tr , 1916) are his best novels of this period Turning to the drama, Gorki won success with the internationally famous drama of the slums, *The Lower Depths* (1902, Eng tr , 1912; also tr as *At the Bottom*, *Submerged*, and *A Night's Lodging*) A companion piece to this is *The Smug Citizen* (1902, Eng. tr , 1906), a drama of the bourgeoisie Gorki took an active part in the 1905 revolution and when it failed went abroad Though absent, he still carried on a publishing project known as *Znanie* which provided an outlet for young liberal writers Gorki's autobiographical sketches include *My Childhood* (1913, Eng tr , 1915) In 1925 he returned to the novel in *The Artamonov Affair* (Eng tr , *Decadence*, 1927), which shows the effect of the revolution on a greedy mercantile dynasty. In 1928 Gorki went back to Russia, where he was given a royal welcome There he wrote *The Life of Klim Samgin* (1927–36), a long novel covering the whole revolutionary period from 1880 to 1934 Gorki saw this as the crowning work of his life, but critical opinion finds it overlong and lumbering It has been translated in four parts, *Bystander* (1930), *The Magnet* (1931), *Other Fires* (1933), and *The Specter* (1938) Of value are his reminiscences of various figures (Andreyev, Blok, Chekhov, Tolstoy), available in one volume, *Reminiscences* (1946). In the treason trial of 1938 it was charged that Gorki had been poisoned. See *The Last Plays of Maxim Gorky* (1937); *A Book of*

Short Stories by Maxim Gorki (1947); Alexander Kaun, *Maxim Gorky and His Russia* (1940), Filia Holtsman, *The Young Maxim Gorky* (1948)

Gorki or **Gorky** (both gôr'kĭ), formerly **Nizhni Novgorod** (nĭzh'nĭ nôv'gurŏd, Rus nyĭzh'nyĭ nôv'gurŭt), city (1926 pop. 222,356; 1939 pop 644,116; 1946 est. pop. 900,000), capital of Gorki oblast, central European RSFSR, on the right bank of the Volga and at the mouth of the Oka. It is a major transportation and industrial center, producing rolling stock, locomotives, automobiles, Diesel engines, heavy machinery, electric equipment, and chemicals The city was founded in 1221 by a prince of Vladimir as an outpost against the Mordovinians and the Eastern Bulgars Nizhni Novgorod became an important trading center and, in 1350, the capital of a principality which fell to Moscow in 1393 Repeatedly sacked by Tatar raids (15th and 16th cent), it was in 1611 the place of assembly of the Russian army that liberated Moscow from Polish occupation The famous annual fairs of Nizhni Novgorod were held—except during the Russian Revolution and civil war—from 1817 to 1930 The industrial growth of the city dates from the mid-19th cent and increased in pace after the revolution. Nizhni Novgorod was renamed in 1932 for Maxim Gorki, who was born here Its oldest section is the turreted kremlin, dating from the 13th cent , it includes a palace and two 13th-century cathedrals Gorki has a university and several technical schools

Gorki (gôr'kĭ) or **Gorki Leninskoye** (lyĕ'nyĭnskŭyu), village, RSFSR, c 17 mi SSE of Moscow It was the country home of Lenin, who died here, and has a memorial museum

Gorkum, Netherlands see GORINCHEM.

Gorky· see GORKI

Gorlice (gôrlē'tsĕ), town (pop 6,100), Poland, 60 mi SE of Cracow, in the Carpathians It has a petroleum industry In the First World War the Austro-German forces defeated (1915) the Russians in the vicinity

Görlitz (gûr'lĭts), city (pop 90,947), Lower Silesia, E Germany, on the Gorlitzer (or Lusatian) Neisse river The chief city of Lusatia, it manufactures textiles, machinery, glass, and beer It was (1377–96) the seat of a duchy and flourished throughout the Middle Ages As a Bohemian dependency, Görlitz passed to the Hapsburgs in 1526 In 1635 the Treaty of Prague awarded it to Saxony, and in 1815 the Congress of Vienna gave it to Prussia After the Second World War, in which Görlitz suffered some damage, the part of the city on the left bank of the Neisse (pop 85,686) was incorporated into Russian-occupied Saxony, while the section on the right bank (pop 5,261) passed under Polish administration The Polish name is Zgorzelec Jakob Boehme lived here

Görlitzer Neisse see NEISSE

Gorlovka (gôr'lufkŭ), city (1926 pop 23,215, 1939 pop 108,693), SE Ukraine, in the Donets Basin It is a major coal-mining and industrial center

Gorman, Arthur Pue, 1839–1906, American politician, b Woodstock, Md Six years in the Maryland house of representatives and five years in the state senate were followed by election to the U S Senate in 1880 He had by this time become practically the Democratic boss of Maryland As chairman of the Democratic National Committee in 1884, he directed Cleveland's successful campaign for the presidency His share in the Wilson-Gorman Tariff Act of 1894 consisted in leading a group of Senators, who, by over 600 amendments, turned the low-tariff Wilson Bill into a high-tariff act, as high as the act passed by the Republicans in 1883 Cleveland declared the bill a betrayal of the Democratic stand and denounced it, allowing it to become law without his signature Gorman, who had become one of his party's leaders in the Senate, was defeated in 1898, but was returned again in 1903 and served as minority leader until his death

Gorman, city (pop 1,157), N central Texas, SW of Fort Worth, founded 1890, inc 1902 The region, once oil producing, now mainly grows peanuts

Gorno-Altai and **Gorno-Altaisk**, RSFSR see MOUNTAIN-ALTAI

Gorno-Badakhshan, Tadzhik SSR see MOUNTAIN-BADAKHSHAN

Gorodetsky, Sergei Mitrofanovich (sĭrgā' mētrŭfā'nuvĭch gŭrŭdyĕt'skĭ), 1884–, Russian poet With Gumilev, he founded the Acmeist school of poetry His chief work was *Vital Sap* (1907), in which he attempted to create a Russian mythology

Görres, Joseph von (Johann Joseph von Görres) (yō'sĕf fŭn gû'rus), 1776–1848, German journalist and author He supported the French Revolution and advocated the union of the Rhine provinces with France, but was later turned against the Revolution From 1806 to 1808 he lived in Heidelberg and became a member of the Heidelberg romanticists who were seeking their material in German history. Görres became a liberal nationalist, and his hatred for Napoleon set his views From 1814 to 1816 he edited the *Rheinische Merkur*, the most influential paper in Germany It was suppressed in the period of reaction A fervent Roman Catholic, Görres took up the cause of ultramontanism under the protection of Louis I of Bavaria His numerous books deal with politics, religion, and earlier German literature and folklore, and he influenced the entire intellectual movement of his time He collected and edited the well-known *Deutsche Volksbücher* [German folk books] (1807) and edited the medieval epic *Lohengrin* (1813) His best-known political work is *Germany and the Revolution* (1819, Eng tr , 1820)

gorse· see FURZE

Gorter, Herman (hĕr'man gôr'tur), 1864–1927, Dutch poet. He wrote two notable long poems, *Mei* (1889), in impressionistic style, and *Pan* (1912), instinct with the Marxian socialism to which Gorter devoted his later talents, especially in journalism

Gorton, Samuel, c 1592–1677, one of the founders of Rhode Island, b near Manchester, England Seeking religious freedom, he came to America (1637) but, because of his unorthodox religious teachings, was banished successively from Boston and Plymouth At Portsmouth, R I , he joined Anne Hutchinson in ousting William CODDINGTON (1639) but on Coddington's return to power was himself turned out In 1642, after a characteristically turbulent stay in Providence, Gorton bought Indian land south of that town and founded Shawomet Massachusetts authorities, with designs on that territory, jailed him (1643) for holding erroneous religious opinions The earl of Warwick finally obtained for Gorton freedom from molestation on his land, which he renamed (1648) Warwick and on which he preached to colonists and Indians His followers called themselves "Gortonites" for many decades after his death His tenets included denial of the Trinity, denial of actual heaven and hell, and a belief that every man should be his own intercessor

Gortyna (gôrtĭ'nu), ancient city, S central Crete, near the foot of Mt Ida It was second in importance only to Cnossus in Crete Near it was the famous Labyrinth Under Rome it was the metropolis of the island An inscription of a code of laws of inheritance, marriage, divorce, and the like was found on a wall in Gortyna in 1884

Görtz, Georg Heinrich von (gā'ôrk hīn'rĭkh fŭn gûrts'), 1668–1719, Swedish statesman, a German While in the service of Frederick V, duke of Holstein-Gottorp, he was largely responsible for the duke's alliance with Sweden, which threatened Danish power in Schleswig-Holstein He won the favor of CHARLES XII of Sweden and became his chief minister (1714) An able diplomat, he tried to improve the position of Sweden by conducting peace negotiations with Russia (1718) to end the Northern War, but Charles would make no concessions Despite the exhaustion of Sweden, Charles invaded Norway (1718) The unpopular measures of the reign were blamed upon Gortz, and after Charles's death he was executed on charges of treason

Goryn (gô'rĭnyu), Pol *Horyń* (hô'rĭnyu), river of the USSR It rises 65 mi E of Lvov and flows 400 mi N into the Pripet

Görz see GORIZIA

Gorzow Wielkopolski see LANDSBERG AN DER WARTHE

Goschen, George Joachim Goschen, 1st Viscount (gō'shun), 1831–1907, English statesman A leading financier, he was sent to Cairo (1876) to help plan the conversion of the Egyptian debt He was ambassador to Turkey (1880–81) As chancellor of the exchequer (1886–92) he converted part of the national debt Later he advocated free trade and was an energetic first lord of the admiralty (1895–1900) See his *Theory of Foreign Exchanges* (first written 1861, 4th ed , with biographical preface by B F Hopper, 1932)

Gosford, Archibald Acheson, 2d **earl of** (gŏz'fûrd), 1776–1849, governor in chief of British North America (1835–37) In 1835 he was appointed by the Melbourne government governor in chief of British North America—excepting Newfoundland—and a royal commissioner to inquire into the state of affairs in Lower Canada His policy of "conciliation without concession" toward Papineau and the French Canadian patriots alienated the English element without winning the French extremists He resigned on Nov 14, 1837, on the eve of the rebellion of 1837 Returned to England, he opposed the Act of Union in the House of Lords in 1840, but without success.

Gosforth (gŏs'fûrth) **1** Village, Cumberland, England, near Wastwater It has a famous Viking cross, 14½ ft high, dating probably from the 7th cent., in its decorations, Norse mythology and Christian lore are blended. **2** Urban district (1913 pop 18,044, 1943 estimated pop 20,270), Northumberland, England, N of Newcastle-on-Tyne It is a coal-mining center On its racecourse George Stephenson built his first locomotive (1814)

goshawk (gŏs'hôk), fearless and relentless hawk of the Old World and North America The Eastern goshawk male is about 22 in long, and the female is about 24 in. Both sexes (in adult plumage) have a black crown and a white stripe over the red eye, the upper parts are blue gray and the under parts white, finely barred with gray. They are very destructive to poultry and to game birds, especially to the ruffed grouse and ptarmigan There is a Western goshawk with darker plumage

Goshen (gō'shŭn) **1** Fertile part of Egypt occupied by the Israelites Gen 47 6, Ex 8 22, 9 26 **2** Unidentified region, S Palestine Joshua 10 41, 11 16 **3** Town of Judah Joshua 15 51

Goshen. 1 Town (pop 778), NW Conn , in the Litchfield Hills, settled and inc 1739 It is the birthplace of Asaph Hall Goshen produced cheese in commercial quantities as early as 1792 **2** City (pop 11,375), co seat of Elkhart co , N Ind , on the east bank of the Elkhart and c 25 mi SE of South Bend, settled c 1830, inc 1868 It is a distributing point for a fertile agricultural area and produces radios, phonographs, refrigerators, and special production machinery A large Mennonite population maintains its own customs Goshen College (Mennonite, coeducational, 1894) is here **3** Village (pop 3,074), co seat of Orange co , SE N.Y , SE of Middletown, in a dairy and truck-garden region, settled during the 18th cent , inc 1809 The Good Time track is the scene of the Hambletonian and other horse races; the Historic or Harriman track is also at Goshen

Goslar (gŏs'lar), city (pop 35,663), Brunswick, central Germany, at the northern foot of the Harz mts Since its foundation (10th cent) it has been a mining center Its silver mines are no longer worked, but copper, lead, zinc, iron, and sulphur are extracted, and there are varied manufactures Goslar was a favorite residence of many early German kings and emperors and was the scene of several imperial diets It long was a member of the Hanseatic League and was a free imperial city until 1802 Awarded to Hanover in 1815, it was transferred to Brunswick in 1941 The city has completely preserved its medieval character The Zwinger, a round tower dating from the 16th cent , is a remnant of its old fortifications The Kaiserhaus, a large Romanesque palace, was built (mid-11th cent) for Emperor Henry III There are several Romanesque and Gothic churches, a Gothic city hall, and many half-timbered houses

Gosnold, Bartholomew (gŏz'nōld), fl 1572–1607, English explorer and colonizer In 1602 he commanded the *Concord* on a voyage of exploration, in which he navigated the coast from Maine to Narragansett Bay, naming Cape Cod and several islands and building a small fort on Cuttyhunk, westernmost of the Elizabeth Islands In 1606 he commanded the *God Speed*, which carried a portion of the first settlers to Virginia. He protested against the site of Jamestown but was overruled and several months later died there of malaria For accounts by Gabriel Archer and John Brereton on the 1602 voyage, see Massachusetts Historical Society, *Collections*, Vol XXVIII (1843)

Gospel [M E ,=good news, cf *evangel* from Gr ,= good news], one of the four biographies of Jesus which begin the New Testament The Gospels are named MATTHEW, MARK, LUKE, and JOHN The first three are called SYNOPTIC GOSPELS because of their chronological order and apparent relationship The solemn reading of the Gospel of the day is a special feature of the liturgy in many churches In the Western Church the congregation stands when it is read, at High Mass it is sung by the deacon in the sanctuary on the left side (congregation's left), hence called the Gospel side, lights are carried, and the book is censed In Eastern rites, before the reading of the Gospel there is a solemn procession through the nave to the sanctuary, with lights and incense Formerly the Gospel (i e , a book of the Gospels) was used instead of the Bible for the oath in courts in Christian countries This sort of honor paid to the book resulted in some of the glories of ILLUMINATION, e g , the Lindisfarne Gospels (see LINDISFARNE) and the Book of KELLS For apocryphal Gospels, see PSEUDEPIGRAPHA

Gosplan (gŭsplan'), abbreviation for *Gosudarstvennaya planovaya komissiya* [Rus ,=state planning commission] The Gosplan was organized in the USSR in 1921 to facilitate the recovery of Russian industry from the ravages of the First World War and the civil war The Gosplan plans the Five Year Plans

Gosport (gŏs'-), municipal borough (1931 pop 38,-338, 1947 estimated pop 48,290), Hampshire, England, on Portsmouth Harbour opposite Portsmouth It is a port, the site of a royal victualing yard, naval barracks, and Haslar Hospital for seamen Holy Trinity Church has an organ on which Handel played Once a fishing village, Gosport now has a coast trade, and yachts and sails are made

Gossaert or **Gossart, Jan** see MABUSE, JAN DE

Gosse, Sir Edmund William (gŏs), 1849–1928, English poet and critic He was assistant librarian in the British Museum at 17, Clark lecturer in English literature at Trinity College, Cambridge (1884–90), and librarian of the House of Lords (1904–14) He was praised for his verse in *On Viol and Flute* (1873), *King Erik* (1876), *New Poems* (1879), and other volumes Through his excellent criticisms, he introduced English readers to Ibsen and other Scandinavian writers and to some modern French writers and painters Among the many biographies he wrote were those of Gray (1882), Donne (1899),

Jeremy Taylor (1904), Sir Thomas Browne (1905), Ibsen (1907), Swinburne (1917), and Congreve (rev ed, 1924) *Father and Son* (1907) describes his relation with his father, Philip Henry Gosse (1810–88), English naturalist and author of zoological works, whose biography he had written (1890) Sir Edmund was knighted in 1925 See his essays on Scandinavian poetry and *Studies in the Literature of Northern Europe* (1879), biography by Sir Evan Charteris (1931)

Gossec, François Joseph (frăswä' zhōzĕf' gōsĕk'), 1734–1829, Belgian composer, who lived in Paris after 1751, pupil of Rameau He founded the École royale de Chant in 1784 and later taught composition in its successor school, the Paris Conservatoire He composed many operas, string quartets, and a Requiem, his symphonies, published (1754) before Haydn's, were the first written in France

Gossen, Hermann Heinrich (hĕr'mán hĭn'rĭkh gō'sən), 1810–58, German economist, little known in his lifetime His great work, *Entwicklung der Gesetze des menschlichen Verkehrs und der daraus fliessenden Regeln fur menschliches Handeln* [development of the law of human intercourse and its resulting rule for human behavior] (1854), anticipated the theory of marginal utility as formulated by Jevons and others

Gosson, Stephen (gŏs'ĭn), 1554–1624, English playwright and pamphleteer, a clergyman, b Canterbury, educated at Corpus Christi College, Oxford His plays are lost, but his attack on plays, poetry, and other amusements in *The School of Abuse* (1579) evoked in reply Thomas Lodge's *Defense of Playes* (1579?) and Sir Philip Sidney's *Apologie for Poetrie* (1595) See study by William A Ringler (1942)

Got, François Jules Edmond (frăswä' zhul' ĕdmō' gō'), 1822–1901, French actor He made his debut at the Comédie Française in 1844 and in 1850 was made a member of the company Got was considered one of the finest exponents of the classical school of acting and was the most popular comedian of his time in French classical drama and in such plays as Augier's *Le Fils de Giboyer* and *Les Fourchambault* He made his farewell appearance in 1895

Gota, Swed *Göta älv* (yōō'tə ĕlv'), river, 56 mi long, SW Sweden, draining Vanern lake into the Kattegat It is part of the **Gota Canal,** a 240-mile system of rivers, lakes and canals, which crosses S Sweden from Goteborg to Stockholm The canal, completed in 1832, passes around the TROLLHÄTTAN falls, it ascends and descends 300 ft by means of 58 locks

Gotaland or **Gotarike.** see SWEDEN

Goteborg or **Gothenburg** (gō'thunbûrg, gō'tun–), Swed *Göteborg* (yōōtubôr'yu), city (pop 325,563), SW Sweden, co seat of Goteborg and Bohus co, a seaport at the mouth of the Gota river on the Kattegat It is an important shipping center and the second largest city of Sweden, with shipyards, ball-bearing factories, and porcelain works Goteborg is the seat of a Lutheran bishop, of a university (founded 1887), and of several academies and technical schools It was made a free port in 1922 and is the site of a large annual fair Founded in 1619 by Gustavus II, it was planned by Dutch architects and has retained much of its handsome and stately architecture The ancient city wall has been razed, but the moat remains In 1865 the city originated the Goteborg licensing system for the control of liquor sales, which still is the basis of Swedish LIQUOR LAWS

Goteborg and Bohus, Swed *Goteborg och Bohus län* (yōōtûbôr'yu ō bōō'hus lĕn"), county (1,989 sq mi, pop 510,896), SW Sweden, on the Kattegat It comprises the historic province of BOHUSLÄN and the city of Goteborg, its county seat The chief occupations are fishing, dairying, vegetable growing, and stone quarrying There is a large textile plant at Uddevalla, and there are paper mills at Munkedal

Goteborg licensing system: see LIQUOR LAWS

Gotha (gō'thu, –tə, Ger gō'tä), city (pop 57,639), Thuringia, central Germany It is a manufacturing center, producing railroad cars, machinery, electrical equipment, precision instruments, and a number of other articles First mentioned as a town in 1189, it passed (1485) to the Ernestine line of the Saxon house of WETTIN and became (1640) the capital of the duchy of Saxe-Gotha (from 1826 to 1918, of SAXE-COBURG-GOTHA) Gotha has long been a center of geographic research and publishing The well-known house of Justus Perthes began in 1764 the publication of the *Almanach de Gotha,* an authoritative reference work on the royal houses and the nobility of Europe, publication was not resumed after the Second World War In 1875 the German Socialist groups held a congress at Gotha and united in the Social Democratic party Among the chief historic buildings of Gotha are the ducal palace of Friedenstein (1643–57) and the Friedrichstal Palace (1712), an early 15th-century church, the 16th-century city hall, and parts of a 13th-century Augustine monastery The Leina canal (built 1366–69) brings water to Gotha from the near-by Thuringian Forest The city suffered considerable damage in the Second World War

Gotham (gō'tŭm), village, Nottinghamshire, England Its inhabitants early acquired a reputation for doing ridiculous things, such as trying to drown an eel The stories, collected in the *Merry Tales of Gotham* probably first in the 16th cent, are conjectured to have arisen in the efforts of the townspeople to appear to be fools and thus prevent King John from residing in the town or establishing a highway through it

Gotham (gō'tŭm, in New York gŏth'ŭm), name first used for New York city by Washington Irving and others in the *Salmagundi Papers,* with satirical reference to Gotham, England

Gothenburg see GOTEBORG

Gothenburg (gŏth'unbûrg), city (pop 2,330), S Nebr, on the Platte river and SE of North Platte, in an alfalfa and hay area, settled 1882, inc 1884 A fur-trading post, founded (1854) on the Oregon Trail near by and used (1860–61) as a pony-express station, was moved here in 1931

Gothic architecture, style of building practiced in Europe in the 13th, 14th, and 15th cent, sometimes called pointed style for the conspicuous use of the pointed ARCH and VAULT The term *Gothic* first came into use in the Renaissance as synonymous with barbarous, an adjective then applied to the architecture of the Middle Ages Though all medieval pointed architecture has been classed as Gothic, the style in its most complete and consistent embodiment is seen primarily in France and there only in a few supreme works, such as the cathedral at Amiens In these was attained the goal of an open skeleton of stone, supporting stone vaulting, with each member of the entire building fulfilling a calculated and indispensable function, both structurally and artistically The various arts and crafts developed a related stylistic character and were skillfully used to enrich the great buildings When the 11th-century Romanesque builders of N Europe substituted for the wooden roofing stone vaulting built up of small stones over the side aisles and the nave, their buildings called into play the principles of elasticity and equilibrium to which the high organizing of thrust and counterthrust in Gothic architecture gave eventual stability The introduction of diagonal ribs to support and strengthen the groined vaults was an early and important move These, with the transverse and longitudinal ribs which had already come into use, constituted an independent skeleton frame for the vault masonry With the development of vertical piers to receive this frame at each bay along the walls of nave and side aisles, the walls themselves no longer were needed for support, they could be thin and would permit the use of large windows The advent of the pointed arch (early 12th cent) decreased the lateral thrust and brought greater height and lightness to the vault surfaces and greater flexibility in the covering of oblong areas In the developed Gothic structural organism the great thrusts of the main vaults and roof were collected at points of support where the outward thrust was transferred over the side aisles by a system of flying buttresses (see BUTTRESS) to massive vertical stacks of masonry in the outer walls of the aisles, while the lessened downward thrust of the main vaults was carried by the main piers to the foundations below This interrelation of vaults, thrusts, and supports was termed *articulation* and on it depended the stability of the whole structure As the full possibilities of this skeleton method of construction were understood, extraordinary lightness of effect became possible, as exemplified in such cathedrals as those of Amiens and Bourges, lending plausibility to the statement, "vaults of stone supported on walls of glass," since the stone framework became less and less visually predominant in the interior Upon these fundamental elements of pointed arches, vaults, ribs, piers, and buttresses builders composed effects steadily increasing in variety and audacity In Notre Dame, Paris (1163–c 1230), the skeleton method of construction received its earliest complete expression, while Amiens (1220–88), the loftiest of all completed Gothic cathedrals, displays the fully evolved French church The evolution of the French Gothic churches culminated in the double aisles and side chapels flanking the nave, the elaborated east end with its greatly expanded chevet, the great transept with east and west arms, and the two or more magnificent towers The four periods of French Gothic are Transitional Gothic (1134–80), marking the change from Romanesque to Developed Gothic work, in which both round and pointed arches occur and the structural system is explored, but not perfected, as in the cathedral at Noyon, Developed Gothic (1180–1270), marking the structural and decorative culmination of Gothic architecture for France and indeed the rest of Europe, as in Rheims, Amiens, and Bourges cathedrals, Rayonnant Gothic (mainly 14th cent), a period of application of Developed Gothic principals to smaller structures with an evident loss of strength and vitality in design, as in Saint-Ouen, Rouen, and the choir of St Urban at Troyes, Flamboyant Gothic (mainly 15th cent), marked by an exuberant use of decoration built on a system of compound (flamelike) curves and other decorative devices, as in the Church of St Maclou, Rouen, and in the transept façade of the Évreux cathedral. In England the latter half of the 12th cent saw the transition from massive Norman or Romanesque building to Gothic The pointed arch became established in the late 12th cent, and English Gothic was only at the point of readiness at a time when France was already producing its great works French influences upon English builders, only indirect except for Westminster Abbey, definitely ceased after the early part of the 13th cent English building passed through three merging but definable phases Early English (late 12th–13th cent), with simplicity and statelness, retaining structurally much of the Romanesque, as in Salisbury's cathedral and in the nave and west front of the cathedral at Wells, Decorated style, also termed Geometric or Curvilinear (14th cent), increasingly rich with elaborate tracery (e g, Bristol Cathedral), and Perpendicular style (late 14th–middle 16th cent) —thus termed from the character of its tracery and paneling and distinguished by the development of the FAN VAULT and by much collegiate and manor-house construction, e g, St George's Chapel (1481–1537), Windsor, and Henry VII's chapel (1502–20), Westminster Abbey The latter part of this phase (1485–1558) is also identified as Tudor In England, Gothic church plans exhibited elongated east arms, with square rather than apsidal termination, single aisles, with rarity of side chapels, small east transepts, in addition to the great transepts, frequent cloisters, and a prominent central tower, sometimes crowned by a tall spire In Germany, Gothic architecture borrowed from France in the 13th cent In the Cologne cathedral (commenced c 1248) the eastern arm was copied from Amiens Interpenetrating moldings and other elaborate effects in masonry carving, as well as fine figure sculpture, were characteristic In Italy, Gothic building in general confined itself to the external and decorative features of the style, with the enduring influences of classic Roman design and materials always in the background The Milan cathedral (1386–1813), influenced by German Gothic, is the most important example, while the doges' palace, Venice, exemplifies the richly decorative Venetian Gothic In Spain, French monuments were the chief inspiration, while the decorative elements took a graceful and distinctive character from classic and Moorish influences, and there, as in Italy, the constructive essence of Gothic architecture was subordinated Church interiors, lofty and boldly impressive, were decorative and even sensational in quality, as in Seville (begun 1401), the largest medieval cathedral in Europe, Burgos (begun 1221), and Toledo (1227), with a French plan resembling Bourges The medieval sculptors produced everywhere superb ornamental details and figure sculptures Stained glass encouraged the enlargement of window tracery In the north its use contributed the chief adornment of church interiors, giving a unique and inspiring splendor of color See MEDIEVAL ART See C H Moore, *Development and Character of Gothic Architecture* (1899), T G Jackson, *Gothic Architecture in France, England, and Italy* (1915)

Gothic art see MEDIEVAL ART

Gothic language, East Germanic language The earliest literary remains in any Germanic tongue are in the Gothic Bible of ULFILAS See LANGUAGE (table)

Gothic revival, a phase of taste, chiefly confined to England and America and reaching its maximum popularity c 1850 Though the movement remained a faddish and superficial emulation of the arts of the Middle Ages, yet out of it emerged some capable exponents and some works of merit Architectural evidences of the change may be seen as early as 1770 in Strawberry Hill, near London, in the imitation Gothic abbey redesigned by Horace Walpole as a country residence In 1841 A W N Pugin wrote *The True Principles of Pointed or Christian Architecture,* later the textbook of the revival The English Church supported the movement, restoring a large number of medieval ecclesiastical edifices Sir George Gilbert Scott was the noted English restorer of the day, while France found the requisite talents in the great Viollet-le-Duc The new enthusiasm traveled quickly to the United States, where, early in the 19th cent, the architects Benjamin Latrobe and Maximilian Godefroy had already been experimenting with Gothic motives Meanwhile the CLASSIC REVIVAL had reached full development, and the two causes came into headlong conflict with their respective exponents taking sides in a battle of the styles, as it has been termed In England a decided triumph for the Gothicists came with the construction of the Houses of Parliament (1840) in Perpendicular Gothic, by Sir Charles Barry In the United States the style was exploited chiefly for its romantic and picturesque side, with little knowledge of its true values Used largely in residences and tinctured with Victorian taste, it degenerated into triviality and actual ugliness However, the work of Richard Upjohn and of James Renwick pointed the way to the expert modern use of Gothic by many able architects, including R A Cram and B. G. Goodhue.

In England the revival produced a permanent good effect, and it revived interest in the decorative arts, with the work of the Middle Ages as inspiration This was the arts and crafts movement of the 1870s and 1880s, with William Morris and his group as the most effectual leaders Much of the minor architecture and of the popular arts and cabinetmaking of the revival, though of no high artistic rank, yet reveal good craftsmanship and a naïve charm See A E Addison, *Romanticism and the Gothic Revival* (1938)

Gothic romance, a type of NOVEL which flourished in the late 18th and early 19th cent in England The mystery of each tale is heavily tinged with horror derived from a gloomy background of medieval architecture and with terror of the supernatural The *Castle of Otranto* by Horace Walpole was the forerunner of the type which flourished in the works of Mrs Ann RADCLIFFE, Matthew Gregory LEWIS, and Charles R MATURIN and in the novel *Frankenstein* by Mary Shelley

Gothic type · see TYPE

Goths. see OSTROGOTHS and VISIGOTHS

Gotland (gôt'lund), Swed *Gotlands län* (gôt'lants lĕn'), island county (1,225 sq mi , pop 59,505), SE Sweden, in the Baltic Sea off the coast of Kalmar co It comprises the islands of Gotland, FARO, Karlso, Sando, and others Gotland is a limestone plateau with a few hills and with steep coasts Its temperate climate and fertile soil favor the growing of wheat, rye, sugar beets, and vegetables Other industries are fishing and cementmaking Wisby is the county seat The historic province of Gotland is coextensive with the administrative county Archaeological remains indicate that Gotland, inhabited since the Stone Age, was nearly depopulated by a climatic change to intense cold between 600 and 300 B C Ancient Roman, Arabic, and Anglo-Saxon coins demonstrate early wide commercial activity In the 12th cent German merchants settled at WISBY, which became one of the chief towns of the HANSEATIC LEAGUE From the 11th to the 14th cent Gotland prospered as the trade center of the North However, the Wisby merchants, in trying to maintain exclusive trade privileges, clashed with the peasant-traders of the island, who had achieved great prosperity The resulting conflicts left Gotland open to conquest (1280) by the Swedish king, Magnus I (Magnus Ladulas) Lubeck soon took away much of its commerce, and fires and plagues in the 14th cent reduced its population Gotland was devastated (1361) and conquered (1362) by WALDEMAR IV of Denmark, who, however, again had to yield it to the Hanseatic League by the Peace of Stralsund (1370) In the subsequent wars between the Hansa and the Scandinavian kingdoms, Gotland served as a base of operations for pirates, who terrorized the entire North By the Treaty of Stettin (1570) Gotland passed under Danish rule, in 1645 it was regained by Sweden Many ruins of castles and churches recall its important role in the past

Goto-retto (gōtō'-rĕt'tō), group of islands (249 sq mi , pop 154,207), in the East China Sea, off W Kyushu, Japan Administratively they are part of Nagasaki prefecture They yield large quantities of ornamental coral

Gottfried von Strassburg (gôt'frēt fŭn shtras'bŏŏrk), fl 13th cent German epic poet He is thought to have been official scribe of Strasbourg, but little is known of him As author of the Middle High German epic *Tristan* (c 1210) he ranks as one of the great medieval German poets and surpasses all the other epic writers of his period in artistry, fluency, and psychological interest His style, usually smooth and always artistic, is often capricious and mannered, and in some respects he is inferior to Wolfram von Eschenbach *Tristan* breaks off at the point where Tristan meets Isolt of the White Hands The poem was concluded by two different poets, Ulrich von Türheim and Heinrich von Freiberg The second of these (c 1300) was by far the better poet See TRISTRAM AND ISOLDE See also translation of *Tristan* by Jessie Weston (1899)

Gottheil, Gustav (gôt'hīl), 1827–1903, American reform rabbi, b Prussia, educated at the universities of Berlin and Halle He served as assistant (1855–60) in the Berlin Reform Temple and as rabbi (1860–73) in Manchester, England From 1873 until his retirement in 1899 he was assistant rabbi and then rabbi of Temple Emanu-El, New York City His influence on reformed Judaism in the United States was great, he was the founder of several Jewish societies and a governor of the Cincinnati Hebrew Union College In 1886 he prepared the first American Jewish hymnbook, upon which the Union Hymnal of most of the American reformed congregations is based See biography by his son, Richard Gottheil (1936)

Gottheil, Richard James Horatio, 1862–1936, American Orientalist and Semitic scholar, b Manchester, England, grad Columbia Univ., 1881, Ph D Univ of Leipzig, 1886, son of Gustav Gottheil He taught Semitic languages at Columbia Univ from 1886 (as professor from 1887), and he was head of the Oriental department of the New York Public Library from 1896. An ardent Zionist, he was interested in the rebuilding of Palestine and was head (1909–10) of the American School of Archaeology at Jerusalem His contributions to the study of Syriac are noteworthy His works include *The Syriac Grammar of Mar Elia of Zobha* (1887), *The Syriac-Arabic Glosses of Isha bar Ali* (1908–28), many articles in *The Jewish Encyclopedia*, of which he was an editor, and a biography of his father (1936)

Gotthelf, Jeremias (yärĕmē'as gôt'hĕlf), 1797–1854, Swiss author and clergyman, whose real name was Albert Bitzius He spent most of his adult life as Protestant pastor in the Emmental, Bern canton, where he took an ardent and active interest in the education and economic improvement of the then poverty-stricken rural population His political thought was conservative, and his writings constitute largely a crusade against the materialistic and irreligious spirit of the time His novels, partly written in the Swiss-German idiom, have survived their immediate application because of their high literary merit and originality Gotthelf, sometimes called the first of the German naturalist school, had a profound insight in the psychology of his characters—mostly Bernese peasants —and his style is distinguished for its realistic vigor Best known among his novels are *Uli der Knecht* [Ulric the farmhand] (1840) and *Uli der Pächter* [Ulric the tenant] (1849)

Göttingen (gû'tĭng-un), city (pop 68 577), S Hanover, W central Germany, on the Leine river and NE of Kassel It has manufactures of optical and precision instruments and other industries, but its fame rests on its university, founded in 1737 by Elector George Augustus (later George II of England) First mentioned in the 10th cent , Göttingen received (c 1200) a city charter and joined the Hanseatic League When, in 1837, King Ernest Augustus revoked the constitution of Hanover, seven professors of the Univ of Göttingen issued a strong protest and were summarily dismissed They were the brothers Jakob and Karl Grimm, the founders of comparative philology, the historian and critic Gervinus, the historian Dahlmann, the physicist W E Weber, the Orientalist G H A von Ewald, and the jurist Wilhelm Eduard Albrecht In those times such a breach of academic freedom was still considered an outrage, and the reputation of the university accordingly declined It was revived at the end of the 19th cent thanks to the departments of mathematics and physics, which ranked among the world's best The mathematical tradition of Göttingen dates back to Karl Friedrich Gauss, who was born here and taught at the university Göttingen was also the seat of the *Göttinger Dichterbund* or *Göttinger Hain* a group of early romantic poets, founded here in 1772 by J H Voss and others The city, virtually undamaged in the Second World War has the typical quiet and pleasant character of a German university town and has preserved much of its medieval architecture

Gottschalk or **Gottschalck** (both gôt'shalk), d c 868, German theologian, son of the count of Saxony He was placed as a lad in the monastery of Fulda (c 822) He did not wish to be a monk but was forced by RABANUS MAURUS, his superior, to remain In 827 a synod freed him of his vows, but he went to the monastery of Orbais, where he was ordained a priest He soon began to teach an extreme doctrine of predestination, holding that God had selected in advance whom He would save and whom condemn He preached in Italy and elsewhere Rabanus and HINCMAR worked to suppress him, and Gottschalk was condemned in 848 and 849, deposed from the priesthood, and imprisoned in the Monastery of Hautvillers Gottschalk's heterodoxy was much discussed, it was apparently derived from a too stringent interpretation of St Augustine

Gottschalk, Louis Moreau (gôt'shôk), 1829–69, American pianist, b New Orleans, of English-French parentage He studied in Paris Chopin and Berlioz praised his playing, he appeared successfully in Europe, the United States, and South America The musical value of his programs, however, was slight His own salon pieces, such as *The Last Hope* and *The Dying Poet*, were immensely popular See his *Notes of a Pianist* (1881), biographies by Paul Lapin (Eng tr , 1852) and Octavia Hensel (1870)

Gottsched, Johann Christoph (yō'hän krĭs'tôf gôt'shät), 1700–1766, German poet and critic, professor of poetry at Leipzig He was the most influential critic of his time until the Swiss Bodmer and J J Breitinger successfully combated his theories In addition to critical works he produced a bibliography of German dramatic literature, the *Nöthiger Vorrath* (1757–65) Gottsched made a valiant attempt to reform the German stage He organized his own company and opened a theater in which Karoline NEUBER was the leading spirit He adapted *The Dying Cato* (1731) from plays by Deschamps and Addison, his wife, Luise Adelgunde Viktoria Gottsched wrote successful comedies and adaptations for his players His work for the theater was later ruthlessly attacked by LESSING

Götz von Berlichingen: see BERLICHINGEN, GÖTZ VON

gouache · see WATER-COLOR PAINTING

Goucher College (gou'chur), at Baltimore and Towson, Md , nonsectarian, for women, chartered 1885, opened 1888 by Methodists Formerly called the Woman's College of Baltimore, it was renamed in 1910 for its president, John Franklin Goucher (1890–1908), and his wife, who were among the founders Building on the new campus near Towson began in 1940 See history by A H Knipp and T F Thomas (1938)

Gouda (gou'du, Dutch khou'da), municipality (pop 36,991), South Holland prov , W Netherlands, ENE of Rotterdam It has pottery and other manufactures and is an important cheese market Gouda was chartered in 1272 and was a cloth-manufacturing center in the Middle Ages Erasmus received his first schooling at Gouda, before his removal (1475) to Deventer, in 1486 he entered a near-by Augustinian monastery Gouda has kept its Gothic town hall (15th cent) and a fine 16th-century church, the Sint Janskerk or Groote Kerk

Goudy, Frederic William, 1865–1947, American type designer, b Bloomington, Ill He did printing, and his wife, Bertha M Sprinks Goudy, acted as typesetter He is noted as the most prolific type designer in history Kennerley, Deepdene, Garamont, and Forum are only a few of his more than 100 type faces He is the author of *The Alphabet* (1918), *Elements of Lettering* (1922), and *Typologia* (1940) See his *Half Century of Type Design and Typography, 1895–1945* (1946)

Gough, John Bartholomew (gŏf), 1817–86, American temperance lecturer, b England Dramatically diverted from alcoholism by a temperance pledge (1842), he devoted the rest of his life to lecturing for the cause in America and England, winning thousands of followers His autobiography (1845) was supplemented in 1869 *Tiger! Tiger!* (1930) by Honoré Morrow is a fictionized biography

Gough, Richard, 1735–1809, English antiquary, authority on British topography His valuable collection of books and manuscripts is in the Bodleian Library, Oxford Chief among his many works are *Anecdotes of British Topography* (1768, enlarged as *British Topography*, 2 vols , 1780) and *Sepulchral Monuments* (4 vols , 1786–99)

Gouin, Sir Jean Lomer (zhäⁿ lômĕr' gwĕ'), 1861–1929, Canadian political leader, b Quebec prov , educated at Laval Univ In 1844 he was called to the bar of Quebec For 15 years (1905–20) he was Liberal prime minister and attorney general of Quebec Knighted in 1908, Sir Lomer served (1921–24) as minister of justice in Mackenzie King's administration In 1929 he was appointed lieutenant-governor of Quebec, but he died several months after he took office

Goujon, Jean (zhäⁿ' gōōzhōⁿ'), c 1510–c 1566, French Renaissance sculptor and architect Much of his work consisted in decorations in low relief for buildings or monuments He was the first French sculptor to free himself completely from the medieval tradition While his work reflects the Italian Renaissance, it is unmistakably French and highly original He was associated with Pierre LESCOT, architect of the Louvre, and was employed on the churches of Saint-Maclou, Rouen, and Saint-Germain-l'Auxerrois, Paris[1] Two reliefs from the latter are in the Louvre Later he worked on the châteaux at Écouen and Anet and at the Louvre He made the celebrated decorations for the *Fountain of the Innocents*, Paris, some of which have since been removed to the Louvre Among his decorations on the Louvre itself are the reliefs on the staircase of Henry II and the caryatids of the *Tribune of Caryatids* Goujon, a Huguenot, died in exile in Italy See studies by Reginald Lister (1903) and Paul Vitry (1908, in French)

Gould, Augustus Addison (gōōld), 1805–66, American naturalist, b New Ipswich, N H , M D Harvard, 1830 A pioneer in American conchology, he described the mollusks gathered by the Wilkes expedition and wrote and illustrated the *Report on the Invertebrata of Massachusetts* (1841) With Louis Agassiz he wrote *Principles of Zoölogy* (1848)

Gould, Benjamin Apthorp, 1824–96, American astronomer, b Boston, grad Harvard, 1844, Ph D Univ of Göttingen, 1848 He did notable work in developing and organizing the longitude department of the U S Coast Survey, with which he was connected from 1852 to 1867 He was among the first to employ the Atlantic cable (1866) to establish relations in longitude between stations in Europe and in America He founded the *Astronomical Journal* (1849) and was director (1855–59) of Dudley Observatory, Albany, N Y After organizing for the Argentine republic a national observatory at Córdoba, he undertook (1870) observations there which resulted in two valuable works, *Uranometria argentina* (1879) and *Catálogo de zonas estelares* (1884) This zone catalogue included 73,160 stars Before returning (1885) to the United States he established a system of meteorological stations in Argentina extending as far south as Tierra del Fuego

Gould, Sir Francis Carruthers, 1844–1925, English caricaturist He was political cartoonist on the *Pall Mall Gazette*, 1887-92, and later on the *West-*

minster Gazette, where he became assistant editor. Among his independent publications are *Tales Told in a Zoo* (1900) and *Froissart's Modern Chronicles* (1902, 1908)

Gould, George Jay, 1864–1923, U S railroad owner, b. New York city; son of Jay Gould He was associated with his father, inherited all the holdings on Jay Gould's death, and adopted daring policies To compete with E H Harriman he bought the Denver & Rio Grande RR, but Harriman bought the Southern Pacific and bottled up the Gould roads. Gould then purchased the Western Pacific and completed it to San Francisco to get an outlet to the sea In the east he also bought or built lines from Toledo to Baltimore via Pittsburgh to give the Wabash RR an outlet to the Atlantic and to challenge the monopoly of the Pennsylvania RR He seemed to have a transcontinental system in his grasp, but his financing was unsound, and he crashed in the Panic of 1907 All the roads had been lost by 1918

Gould, George Milbry, 1848–1922, American ophthalmologist, b Auburn, Maine, M D Jefferson Medical College, Philadelphia, 1888 He introduced the cemented bifocal lens and described the constitutional effect of eyestrain He edited *American Medicine* (which he founded) and other journals, and, besides standard medical dictionaries, wrote *Biographic Clinics* (1903–9), *Concerning Lafcadio Hearn* (1908), and, with Laura Stedman (later his second wife), *Life and Letters of Edmund Clarence Stedman* (1910)

Gould, Jay, 1836–92, American capitalist, b Delaware co, N Y He rose from being a country-store clerk and surveyor's assistant to control of half the railroad mileage in the Southwest, of New York city's elevated railroads, and of the Western Union Telegraph Company With savings of $5,000 at 21 he became a speculator, particularly in small railroads After some years he became a director of the ERIE RAILROAD Aided by James FISK and Daniel DREW, he defeated Cornelius VANDERBILT for control of this road and manipulated its stocks in the interest of himself and his group, including "Boss" Tweed The Gould-Fisk scheme to corner gold in 1869 caused the BLACK FRIDAY panic Public protest forced the Gould group out of the Erie, Gould, the last, going in 1872 He then bought into the Union Pacific and other Western roads By sharp practice he gained control of four lines which made up the Gould system After his death his estate and interests were managed by his son, George Jay GOULD

Gould, Thomas Ridgeway, 1818–81, American sculptor, b Boston, studied with W W Story A prosperous merchant before the Civil War, he merely amused himself with sculpture However, after suffering financial reverses, he earned a living as a sculptor He made portrait busts of Junius Brutus Booth and of Emerson and other prominent Bostonians An imaginary portrait statue of King Kamehameha I is in Honolulu Of the popular *West Wind* he made seven replicas He died in Florence, where he had opened a studio in 1868

Gouldsboro (gōōlz'–, gōōldz'–), resort town (pop 1,068), SE Maine, SE of Bangor, on Frenchman Bay opposite Bar Harbor, inc 1739

Gounod, Charles François (shārl' fräswä' gōōnō'), 1818–93, French composer, studied at the Paris Conservatoire and received the Grand Prix de Rome in 1839 His fame rests chiefly on his operas *Faust* (1859) and *Romeo and Juliet* (1867), but one other opera, *Mireille* (1864), had some success His oratorios *La Rédemption* (1882) and *Mors et vita* (1885), his funeral cantata, *Gallia* (1870), and his *Messe à Sainte Cécile* (1882) are worthy of note He spent some years in the study of theology and greatly admired the church music of Palestrina See his *Mémoires d'un artiste* (Eng tr, 1896)

Goupil, René (Saint René Goupil) (runā' gōōpēl'), c.1607–1642, French martyr missionary, canonized in 1930 He came to Canada in 1640, spent two years assisting the Jesuits, and at the request of Father Isaac JOGUES accompanied him on his return to the Huron Indians from Quebec in 1642 Captured on the journey by Iroquois, they were enslaved and cruelly tortured At this time Goupil took his vows. Not long afterward he was tomahawked near the site of the present Auriesville, N Y. He was one of the group known as the Jesuit Martyrs of North America Feast Sept 26 or (among the Jesuits) March 16.

gourd (gōrd, gōōrd) [O Fr. from Latin], popular name for plants of several genera that bear fruits of various forms which are used for ornament and as utensils, drinking cups, dippers, and bowls Some gourds are hard shelled and durable, others are not The genus *Lagenaria* includes the calabash, snake (*Trichosanthes anguina* is also called snake gourd), dipper, and bottle gourds. The genus *Luffa* includes the rag or dishcloth gourd or vegetable sponge—called in the S United States the California okra—which has an edible, spongelike inner part, sometimes dried and used as a cloth Yellow-flowered gourds belong to a variety of the PUMPKIN The gourd under which Jonah is supposed to have rested (Jonah 4 6) has been identified both with gourds and with the castor bean. In Europe the term *gourd* is used generally for plants of the genus *Cucurbita*, which includes both the squash and pumpkin See L H Bailey, *The Garden of Gourds* (1937), *Useful and Ornamental Gourds* (U.S. Dept of Agriculture, Farmers' Bul. 1849)

Gourgaud, Gaspard (gäspär' gōōrgō'), 1783–1852, French general He served under Napoleon, whom he accompanied to St Helena and whose memoirs he helped to prepare Louis Philippe, under whom he served after his return to France, created him a baron and a peer Gourgaud wrote books on the Napoleonic empire

Gourgues, Dominique de (dōmēnēk' dŭ gōōrg'), c.1530–1593, French soldier and adventurer He served in the Italian Wars, was captured by the Spanish, then by the Turks, served as galley slave under both, and after his release led expeditions to Africa and South America Stirred by the massacre (1565) of the Huguenot colony of Jean RIBAUT on the Florida coast, he fitted out three ships and, joining forces with the Indians of the region, captured the Spanish forts on the same coast He ruthlessly put all the surviving garrison to death and nailed to a tree a sign saying, "Hanged, not as Spaniards, but as traitors, robbers, and murderers," in reply to the Spanish claim that Ribaut's colonists were "hanged, not as Frenchmen, but as Lutherans and heretics"

Gourlay, Robert Fleming (gōōr'lē), 1778–1863, Scottish writer and agitator, b Fifeshire, educated at St Andrews Univ He came to Upper Canada in 1817 and at Kingston attempted to establish himself as a land agent, but he quickly discovered that land grants were largely controlled by the powerful clique known as the Family Compact Gourlay circulated throughout the province a noted questionnaire, replies to which indicated clearly that the difficulty in obtaining unclouded title to land was a major cause for discontent At his instigation a convention of pioneer farmers from all over Upper Canada met (1818) at York to discuss their grievances Alarmed at this threat to their power, the Family Compact contrived to have Gourlay arrested and imprisoned, after an unfair trial, he was banished (1819) from the province as a seditious alien He returned to Scotland and later published in London his *Statistical Account of Upper Canada* (1822) While living in the United States, where he went c 1836, he wrote his autobiographical *The Banished Briton and Neptunian*, which was printed (1843) in 38 parts In 1842 the Parliament of United Canada declared Gourlay's sentence null and void, but he did not return to Canada until 1856 He attempted to enter the legislative assembly but was defeated, and he went back (c 1860) to Scotland In addition to his books he wrote a number of pamphlets

Gourmont, Remy de (rumē' dŭ gōōrmō'), 1858–1915, French critic and novelist, leading critical apologist for the SYMBOLISTS Although his views were broad and seemingly contradictory, he was consistent in opposing traditionalism and defending new literary departures He was for many years a contributor to the *Mercure de France* His novels, stories, and plays reveal no one style but are always analytic in their character study Two of his better-known novels are *Les Chevaux de Diomède* (1897, Eng tr, *The Horses of Diomedes*, 1923) and *Un Cœur virginal* (1907, Eng tr, *A Virgin Heart*, 1921) See Amy Lowell, *Six French Poets* (rev. ed, 1916)

Gournay, Vincent de (vēsä' dŭ gōōrnā'), 1712–59, French economist, precursor of the PHYSIOCRATS and of Adam Smith. A wealthy merchant, he had connections, and traveled, in Spain, England, Holland, and Germany and from 1751 to 1758 was in government service as intendant of commerce He translated and annotated the work of Josiah CHILD and gathered around him a group of men interested in reforming the economy of France and in abolishing trade restrictions His favorite phrase was "*Laissez faire, laissez passer*," and he is generally credited with being its originator

Gourock (gōō'rŭk), burgh (pop 8,845), Renfrewshire, Scotland, WNW of Greenock and on the south shore of the Firth of Clyde It has a good harbor and is a yachting center, summer resort, and terminus of steamship lines

gout, disease characterized by actute paroxysmal arthritis A large amount of uric acid is present in the blood. Deposits of sodium urate crystals are found in the subcutaneous tissues of joints or of the ear, and frequently there are terminal lesions in the kidneys The cause of gout is not known It occurs more frequently in males than females and generally after the age of 35 Heredity and alcoholic and dietary excesses are predisposing factors Symptoms include swelling, redness, and tenderness of the joints, especially the joint of the great toe, the ankle or the knee may be the first of the joints attacked. Gouty arthritis recurs and may become chronic. Treatment consists of resting the affected part and the use of cathartics and hot-water compresses The drug colchicine relieves pain and may abort an attack. Regulation of the diet is necessary.

Gouthière, Pierre (pyĕr' gōōtyĕr'), 1740–1806, French metalworker. The greatest artist of ornamental bronzes of the period of Louis XVI, he produced a vast number of superb cast and chiseled gilt bronzes, executed chiefly for the adornment of fine clocks, Oriental and Sèvres porcelains, and objects of furniture. Among his patrons were the duc d'Aumont and Mme du Barry The Wallace Collection in London includes a celebrated red jasper bowl adorned by Gouthière which had belonged to Du Barry, a noted clock bearing his signature, and many others of his finest productions.

Gouverneur (gŭvurnŏr'), village (pop 4,478), N N Y, on the Oswegatchie and S of Ogdensburg; laid out 1787, inc 1850. Talc, lead, zinc, and marble are its chief products. The town was named for Gouverneur Morris, whose mansion still stands

government, system of social control fixed by laws promulgated by those who can enforce them by definite penalties Laws of political government are sanctioned ultimately by the authority of physical force, and the body politic promulgating and enforcing the laws is the state The power of the national government may be limited by certain powers delegated or reserved to smaller political divisions, as the states in the United States Power may be vested in an individual, as in autocracies and monarchies, or in a small class, as in oligarchies Oligarchies are known as aristocracies when the dominating class is the most privileged and when the power is hereditary or racial Democracies allow the people to participate more or less directly in actual government, and dictatorships combine certain features of autocracy with the minimum of democracy Whatever the form of government, its power rests upon the consent of a more or less large proportion of the governed, whose composite will is synonymous with the state and who can control the major physical force within the community Governments may be unitary—i e, with the central government controlling local matters—or they may be federal or confederated, according to the degree of unity between the national and local governments The law determining the form of government is called the CONSTITUTION, whether it is written, as in the United States, or unwritten, as in Great Britain See also POLITICAL SCIENCE See J W Burgess, *The Foundations of Political Science* (1933), W F Willoughby, *The Government of Modern States* (rev and enl ed, 1936), E S Griffith, *Modern Government in Action* (1942), C E Merriam, *Public & Private Government* (1944), R M MacIver, *The Web of Government* (1947), Herman Finer, *The Theory and Practice of Modern Government* (rev ed, 1949)

governor, in the United States, the chief executive of each state, elected by the people, in the British dependencies, the representative of the crown, an appointed officer The functions of the governor of a state are lessened by the fact that many state bureaus have elective heads, and appointments by the governor are almost always subject to ratification by the state senate An annual conference of governors has developed from the conference called (1908) by President Theodore Roosevelt to discuss conservation of natural resources Later conferences have discussed marriage, divorce, child labor, capital punishment, and other questions on which state laws are not uniform, flood control, labor problems, state control over intrastate commerce (1911), and, at the end of the Second World War (1945), the return of state powers by the Federal government Governors of territories and dependencies are appointed by the President and are removable at his will. See W B Munro, *Government of the United States* (1936)

governor, automatic device used to regulate and control speed, pressure, or other variables in the functioning of an engine or other machine The constant-speed governor serves to keep the speed of an engine constant under changes in load and steam pressure It is of the centrifugal type, with weights or flyballs attached to the ends of arms These arms are arranged, like the spokes of wheels, around a central spindle They are connected to the steam-inlet valve (commonly called the governor valve) and are so attached as to extend farther from the spindle as the speed of the engine increases until, at a predetermined point of extension they force the governor valve to close. Varying degrees of closure and the speeds at which they shall occur can be set in advance Where changes are required while an engine is in operation, a variable-speed governor is employed. A governor synchronizing device is used to equalize the speed of two or more engines driving electric generators, before they engage the generators Another type of speed governor consists essentially of an oil pump, driven from an engine shaft, in which the oil pressure, changing in proportion to the change of engine speed, closes or opens the governor valve by means of a spring arrangement. An overspeed governor, generally used on steam turbines, acts as a safety device by stopping the machine when its speed is too great for safety

Gouvion-Saint-Cyr, Laurent, marquis de (lōrä' märkē' dŭ gōōvyō'-sĕ'-sēr'), 1764–1830, marshal of France He served in the French Revolutionary and Napoleonic Wars, and after the Bourbon restoration he was twice (1815, 1817–19) minister of

war. He wrote on the Napoleonic Wars and left memoirs.

Govan (gŭ'vən), parish (pop. 364,801) of SW Glasgow, Scotland, on the south shore of the Clyde It is in Lanarkshire It has extensive shipbuilding yards and manufactures chemicals, asbestos, and machine tools

government ownership: see PUBLIC OWNERSHIP.

Government Printing Office, United States, authorized (1860) by joint resolution of Congress and purchased (1861) for $135,000 by congressional appropriation The activities of the Government Printing Office were defined in the Printing Act of 1895, and today its plant in Washington, D C , is probably the largest in the world The Government Printing Office executes orders for printing and binding placed by Congress, Federal departments, and Federal agencies, distributes government publications, and reprints documents for public purchase

Governors Island, in Upper New York Bay, S of Manhattan Island Known as Nutten (Nooten, Nut) Island after the Dutch governor of New Netherland, Wouter Van Twiller, bought it (1637) from the Indians, it had several names before the present one was adopted in 1784 because the colonial governors lived there A race track built here in 1784 lasted until 1797 Its historic landmarks include Fort Jay, completed in the early 19th cent , and the military prison Castle Williams (built 1807–11) In 1878 the island became headquarters of the 2d Corps Area Shortly after 1900 the Federal government reclaimed eroded land, bringing the area to 173 acres

Gowanda (gōwän'də), village (pop 3,156), W N Y , on Cattaraugus Creek and E of Dunkirk, settled 1810, inc 1848 Tanning and gluemaking are its chief industries Near by is the Gowanda State Homeopathic Hospital for mental disorders

Gower, John (gou'ur, gôr), d 1408, English poet He was the best-known contemporary and friend of Chaucer, who called him "Moral Gower " Apparently he was a Kentish landowner who lived in London until his last years, when he became blind and retired as a layman to the priory of St Mary Overey His major works are the *Speculum Meditantis* (in French verse, known also as *Mirour de l'omme* and written c 1376–1379), a religious allegory, valuable for its picture of contemporary society, the *Vox Clamantis* (in Latin verse), an expression of the terror of the wealthy at the Peasants' Revolt under Wat TYLER and a protest against the evil practices of men, and the *Confessio Amantis* (in English verse, completed c 1393), his masterpiece, a collection of stories written at the suggestion of Richard II, illustrating the Seven Deadly Sins Among his minor works are *Cinkante Balades*, which are love poems in French, and *In Praise of Peace*, a poem in English See his complete works (ed by G C Macaulay, 1899–1902), study by G C Fox (1931), J E Wells, *A Manual of the Writings in Middle English* (1916 and supplements)

Gower (gou'ur), peninsula c 15 mi long and 5 mi wide, Glamorganshire, Wales, SW of Swansea It is of limestone, and there are numerous caves and fine scenery There are several resorts on the coast Brandy Cove is known as a former haunt of smugglers Paleolithic and Bronze Age relics have been found here

Gowrie, earls of see RUTHVEN, family

Gowrie, town (pop 1,028), W central Iowa, SSW of Fort Dodge, inc 1870 Dairying is done here

Gowrie, Carse of (kärs, kārs, gou'rē), fertile area, Perthshire, Scotland, between Perth and Dundee

Goya y Lucientes, Francisco José de (frənthē'skō hōsā' dā gō'yä ē lōōthēän'(tās), 1746–1828, Spanish painter and etcher, b near Saragossa, of humble parents He studied in Saragossa and Madrid and then in Rome, leading an obscure but tumultuous youth, devoted as much to sowing his wild oats as to advancing his art He returned to Madrid c 1775 and married Soon after his return he was employed in painting a series of tapestry designs for the royal manufactory of Santa Barbara, in Huelva prov These were executed as oil paintings, and their brilliance and daring soon focused royal attention on his talent Later, in 1786 and again in 1791, he added to this series These paintings, which can be admired as such apart from their decorative function, show Goya in a lighter vein Depicting scenes of popular life, they are painted with freedom, gaiety, and charm He became court painter to Charles III in 1786 and during the reign of Charles IV and María Luisa was a great favorite at court. His royal portraits are painted with extraordinary candor and realism The life of the court was frankly libertine and that of Goya seems to have been no exception Rightly or wrongly his name is linked with that of the duquesa de Alba, of whom he painted many delightful portraits Almost all the notables of Madrid posed for him If he could be brutally frank he could be exquisitely tender, and in many of his portraits of women and children one finds a kind of sensibility not to be seen in the work of any earlier master. Despite his great success and productivity in this field, Goya never ceased to explore others. From 1790 to 1800 appeared his *Caprichos*, a series of etchings in the nature of grotesque social satire They were followed by a similar series, the *Proverbios*, the *Tauromaquia* [the bullfight], and the terrible *Desastres de la guerra* [the disasters of war] These magnificent etchings were suggested by the Peninsular War. They constitute almost an indictment of mankind and are not the work of a reformer bent on correcting specific abuses but the spontaneous reaction of a sensitive man in a world given over to war and corruption Only his credit at court made their publication possible As a religious painter Goya was generally less successful, but his frescoes in the Church of San Antonio de la Florida, Madrid, are justly famous Throughout the Napoleonic period Goya retained favor under changing regimes At 70 he retired to his villa, called the Quinta del Sordo because of his deafness There he decorated his walls with a series of somber paintings of macabre subjects, such as *Saturn Devouring His Children*, *Witches' Sabbath*, and *The Three Fates* (all Prado) His last years were spent in voluntary exile in Bordeaux Goya is generally conceded to be the greatest painter of his century, the worthiest successor of the masters of the baroque, and the forerunner of the great French painters of the 19th cent All phases of his large and varied production can be appreciated only in Madrid He is represented in many European and American galleries, notably in the Hispanic Society of America, the Metropolitan Museum, and the Frick Collection, all in New York, and in the museums of Boston and Chicago His self-portrait is in the New York Public Library See studies by A F Calvert (1908), Hugh Stokes (1914), Aureliano de Beruete y Moret (Eng tr , 1922), Charles Poore (1938), and Antonina Vallentin (1949)

Goyaz, Brazil see GOIÁS

Goyen, Jan Josephszoon van (yän' yō'zufsōn van gō'yun), 1596–1656, Dutch landscape painter, studied at Leiden and Haarlem In 1631 he settled at The Hague, where he became dean of the painters' guild and prospered His typically Dutch landscapes of harbors, canals, riverbanks, and winter scenes with skaters and sleighs are naturalistically painted in a grayish-green tonality He was one of the first landscape painters to sacrifice minute detail for atmospheric effect and space, and he had a considerable influence on later Dutch landscapists His paintings are in many collections in Europe and America Famous examples are *Panorama of The Hague* (The Hague), *Banks of a Canal* (Louvre), and *View of Dordrecht* (Rijks Mus) The Metropolitan Museum contains five fine landscapes, and the Pennsylvania Academy of the Fine Arts two

Gozan (gō'–), fertile country bordering on the HABOR, to which the Assyrians carried the Israelites 2 Kings 17 6, 18 11, 19 12, Isa 37 12

Gozlin (gōzlĕ'), c 805–886, French cleric He was abbot of Saint-Germain-des-Prés and of Saint-Denis and served as chancellor under the emperors Charles II and Charles III and the French kings Louis II and Louis III In 883 he was made bishop of Paris He had the fortifications strengthened and was one of the leaders of the defense against the Normans (885–86), but died in the siege

Gozzi, Carlo, Conte (kär'lō kōn'tā gôt'tsē), 1720–1806, Italian dramatist He wrote comedies based on the old *commedia dell' arte* To ridicule Goldoni, his adversary, he conceived the idea of dramatizing the tales of Basile's *Pentamerone*, thus founding the fable play in Italy His *Fiaba dell' amore della tre melarancie* (1761, later set to music by Prokofiev as *The Love for the Three Oranges*) was so successful that Gozzi continued to produce more plays of the type, among them *Re Turandot* (1762), made into an opera by Puccini These were written in Venetian dialect and were very popular in their day See Gozzi's memoirs (1797, Eng tr with a critical essay by J A Symonds, 1890), Hedwig Russack, *Gozzi in Germany* (1930)

Gozzi, Gasparo (gä'spärō), 1713–86, Italian critic and poet, brother of Carlo GOZZI He wrote dramas and stories in prose and verse and founded the *Gazzetta veneta* (1760) and the *Osservatore veneto* (1761), which was modeled on the *Spectator* Among his volumes of verse is the *Sermoni* His sympathetic criticism of Dante, *Difesa di Dante* (1758), contributed to the 19th-century revival of interest in Dante

Gozzoli, Benozzo (bānôt'tsō gôt'tsōlē), 1420–97, Florentine painter, whose real name was Benozzo di Lese After assisting Fra Angelico in Rome and Orvieto, he settled (1499) in Montefalco, where he painted many important works, all of which show the influence of Fra Angelico Among them are a *Madonna and Child with Saints* (Church of San Fortunato), with an altarpiece, *St Thomas Receiving the Girdle of the Virgin* (now in the Vatican), and frescoes depicting the life of St Francis, a *Madonna and Child*, a *Crucifixion*, and scenes from the life of St Sebastian (all Monastery of San Francesco) He returned to Florence c 1459 and there painted the famous *Journey of the Magi to Bethlehem* (Riccardi Palace) In San Gimignano he painted for the Church of Sant' Agostino *St Sebastian Protecting the City from the Plague*, a *Crucifixion*, and frescoes from the life of St. Augustine and, in the Pieve, a *Martyrdom of St. Sebastian* and other frescoes Between 1468 and 1485 he produced his largest and most important work, the vast series of 24 frescoes in Campo Santo, Pisa, with subjects taken from the Old Testament Among his easel pictures are *The Triumph of St Thomas Aquinas* (Louvre), the *Virgin and Child* (National Gall , London), and *St Ursula with Angels and Donor* (National Gall of Art, Washington, D C) In the Metropolitan Museum are panels of an altarpiece attributed to Gozzoli Gozzoli's art is notable for its charm and naturalness and for its decorative quality, the style is animated, the technique smooth, the color clear and bright. See study by Hugh Stokes (1904)

GPU see SECRET POLICE

Graaf, Reinier de (rīnēr' dŭ grāf'), 1641–73, Dutch physician He wrote a pioneer work (1664) on the nature and function of pancreatic juice He studied the generative organs and discovered and described (1672) follicles of the ovary known as Graafian follicles or Graafian vesicles.

Graaff Reinet (grāf' rī'nut), town (pop 13,467), Cape Prov , Union of South Africa, in the Karroo; founded 1786 Fruits and flowers are grown.

Grabau, Amadeus William (grä'bou), 1870–1946, American paleontologist, b Cedarburg, Wis , educated at Massachusetts Institute of Technology and at Harvard He was professor of paleontology at Columbia Univ and at the National Univ , Peiping, chief paleontologist, China Geological Survey from 1920, and, from 1925, dean of the Peiping Laboratory of Natural History Among his works are *Principles of Stratigraphy* (1913), *Textbook of Geology* (1920–21), *Evolution of the Earth* (1921), and *Stratigraphy of China* (1924–25) In 1901 he married Mary Antin

Grabbe, Christian Dietrich (krĭs'tyän dē'trĭkh grä'bu), 1801–36, German dramatist His plays in verse were frequently powerful, but uneven, bizarre, and often grotesque Among them are *Don Juan und Faust* (1829) and the historical dramas *Friedrich Barbarossa* (1829), *Heinrich VI* (1830), and *Napoleon* (1831)

Graça Aranha, José Pereira da (zhōōzā' pĕrā'ru du grä'sä ara'nyu), 1868–1931, Brazilian writer He was a diplomat and occupied public posts He wrote a number of fine critical essays and a well-known play (*Malazarte*, 1911), but his fame rests chiefly upon his realistic novels and particularly on *Canaan* (1902, Eng tr , 1920), which presents a gloomy picture of Brazilian culture

Gracchi (grä'kī), two Roman statesmen and social reformers, brothers, sons of Tiberius Sempronius Gracchus, general in Spain, censor (169), and twice consul (177, 163 B C), and of CORNELIA, daughter of SCIPIO AFRICANUS MAJOR The brothers were brought up with great care by their mother

Tiberius Sempronius Gracchus (tĭbēr'ēŭs sĕmprō'-nēŭs), d 133 B C , the elder of the Gracchi, fought at Carthage (146 B C) and in Spain (137 B C), where he made a treaty with Numantia to save his troops from certain annihilation Alarmed at the state of Italy and the provinces, where the middle class and the yeoman peasantry were being completely eliminated by concentration of wealth and lands in the hands of a few, Tiberius stood for the tribunate of the people for 133 B C as an avowed reformer On his election he immediately proposed and succeeded in passing the Sempronian Law (*Lex Sempronia Agraria*), a modification of the Licinian Rogations (see AGRARIAN LAWS), to redistribute the public lands which the rich had taken over Tiberius' colleague, Octavius, vetoed the law, and Tiberius, by holding at once an unconstitutional referendum, deposed Octavius Later in the year Attalus, king of Pergamum, died and bequeathed his property to Rome, and Tiberius proposed to use the bequest to provide capital for the paupers who were to settle the lands allotted under the Sempronian Law It was now election time and Tiberius renominated himself, the senate declared this illegal and had the election postponed In a great riot on the following day Tiberius was murdered The first three commissioners to administer the allotment were Tiberius, his father-in-law, Appius Claudius, and his brother,

Caius Sempronius Gracchus (kā'ŭs), d 121 B C After Tiberius' murder Caius was (126 B C) quaestor to Sardinia But driven, it is said, by a dream of his brother, he returned to Rome to run for tribune for 123 B C The situation was as bad as when Tiberius had come into power the allotment had fallen into desuetude, and the optimates were all-powerful; as a result the people elected Caius, who was already publicly committed to avenging his brother and to completing his work On his election Caius initiated a series of remarkable social reforms, including a law providing a maximum price for grain, the possible difference between the actual price and the maximum to be made up out of the public treasury The cardinal purpose of this *Lex Frumentaria* was to benefit the small landholders by reappropriating the proceeds of the tax on allotted lands The senate, which had formerly used this money for the aggrandizement of the optimate, was now required to use it for the good of the poor

Caius now won over the Roman men of wealth (the equites or knights) by granting them control over the judgeships which had heretofore belonged to the senate. This *Lex Judiciaria* seems to have worked far better than the older system. He also gratified the knights by farming out the taxes of Asia to the highest bidder Caius was reelected to office for 122 B C and proceeded with his great schemes, always increasing checks on the consuls and the senate, but the optimates gained over M. Livius Drusus, another tribune, who proceeded to outbid Caius for popularity Caius was defeated for reelection for 121 B C Soon after his term was over repeal of his measures was proposed, and in the ensuing riots Caius was killed Within 10 years the reaction had annulled every Gracchan reform, and the social and political war began again, this time to culminate in the fatal and bloody struggle of Marius and Sulla See A H Beesley, *The Gracchi, Marius, and Sulla*, (1895), C W C Oman, *Seven Roman Statesmen* (1934)

Grace, William Russell, 1832–1904, American capitalist, b Queenstown, Ireland He was in business in England and Peru before establishing (1865) W R Grace & Company in New York city After Peru's defeat at the hands of Chile, Grace was among those who underwrote the Peruvian national debt, in return for extensive business concessions These concessions were held by the Peruvian Confederation, Ltd , with a board largely of British bondholders, but controlled by Grace The Grace firm established, after 1895, branches in many Latin American countries and took over steamship operations begun in 1891 In 1880 Grace became the first Roman Catholic mayor of New York city and headed two reform administrations in opposition to Tammany

grace, in Christian theology, the free favor of God towards men which is necessary for their salvation A distinction is made between natural graces (e g , the gift of life) and supernatural graces, by which God makes man (born sinful because of ORIGINAL SIN) capable of enjoying eternal life In general, the term *grace* is restricted to supernatural grace, usually considered as the keystone of the whole Christian theological system Supernatural grace is usually defined as being actual or sanctifying Actual grace turns the soul to God, sanctifying grace confirms and perpetuates the ends of this conversion and makes the soul habitually good Most theologies, except in CALVINISM, wishing to maintain man's freedom in addition to God's complete freedom in granting grace, distinguish prevenient grace, which makes man's will free, from cooperating grace, by which God assists to salvation the free man who seeks it When God seems to confer on a man such grace that his conversion appears inevitable, the grace is said to be efficacious The apparent difficulty of holding that grace may be efficacious while man is free was explained by St THOMAS AQUINAS on the ground that it was a peculiar nature of this grace granted to some men that it should be irresistable, it was of this doctrine that MOLINA and the Molinists fell afoul Differing in effect from efficacious grace is merely sufficient grace, which, while sufficient to conversion, may be rejected by man at will Calvinism rejects merely sufficient grace, holding instead that grace is irresistible In every Christian theology God is considered to grant grace quite freely since its gift is far greater than man can merit As to what men are offered His grace, there is great difference The generality hold that it is offered to men who place no obstacle in the way of salvation rather than to those who neglect what ways to grace they have been given, the JANSENISTS, however, believed that grace was not given outside the Church, and the Calvinists hold that it is offered only to those predestined to election Sanctifying grace may be said to succeed justification as actual grace precedes it The operation of sanctifying grace brings holiness to the individual soul The indwelling of God in the soul and the soul's actual participation in God's nature (in an undefinable manner) are the perfections of sanctifying grace As to the means of grace there is a serious cleavage in Christianity, notably in regard to sacramental grace According to Catholics and Orthodox, the grace accompanying a SACRAMENT is *ex opere operato*, i e , by God's ordinance the sacrament actually confers grace, the good disposition of the minister being unimportant and that of the recipient being not always a condition, Protestants hold that the sacraments are *ex opere operantis*, i e , the disposition of minister and recipient is all-important, and that the sacrament is the sign, not the means, of grace Certain Christian systems have developed quite different ideas of grace (e g , the Society of FRIENDS, who deny original sin) The great emphasis on grace is a distinction of Christianity In recent years Christian liberals and modernists have largely lost interest in the theological aspect of grace

Graces, three Greek goddesses, daughters of ZEUS and EURYNOME The Graces were Aglaia (ăglā'ŭ), Thalia (thălī'ŭ), and Euphrosyne (ūfrŏs'ĭnē). They were personifications of beauty and charm, often associated with the Muses, Dionysus, Eros, and Aphrodite The Greeks called the Graces Charites (see CHARIS), and the Romans called them Gratiae (grā'shē)

Graceville. **1** City (pop. 1,181) NW Fla , NW of Tallahassee near the Ala line, in a farm and limestone area It has trade in peanuts, watermelons, and lumber. **2** Village (pop 1,020), W Minn , N of Ortonville, in a farm and dairy region

Gracián, Baltasar (bältəsär' grəthyän'), 1601–58, Spanish Jesuit philosopher and writer. He was a scholar and a satirist who frequently expressed himself in epigrams *El héroe* (1637), *El político* (1640), and his book on Gongorism, *Agudeza y arte de ingenio* (1648, expanded from an edition of 1642), were followed by his masterpiece, *El criticón*, published in three parts (1651–57) It has been called the Spanish *Pilgrim's Progress* His *Oráculo manual y arte de prudencia* (1647, Eng tr , *The Art of Worldly Wisdom*) was admired and translated by Schopenhauer Gracián was confined to a monastery after writing *El criticón* See biography by Aubrey F G Bell (1921)

Gracias a Dios (grä'syəs ä dyōs'), cape, Nicaragua, at the border of Honduras, on the Caribbean Sea at the mouth of the Segovia river Columbus discovered it on his fourth voyage

Graciosa (grəsyō'sə) island, W of Portugal, in the N Atlantic, one of the central AZORES The chief town is Santa Cruz

grackle, name applied to some members of the family of New World orioles, blackbirds, meadow larks, bobolinks, and cowbirds The plumage of the purple or common grackle of the Atlantic coastal region is black with metallic hues, iridescent in the sunlight It feeds on grain and harmful insects, but it is a cannibalistic nest robber Grackles invade cities and roost in huge flocks in shade trees Inland and W to the Rocky Mts the bronzed grackle replaces the purple grackle, in the South are found the Florida and boat-tailed grackles, in Texas and Mexico the great-tailed grackles or jackdaws

gradation see ABLAUT

Gradisca (grädē'skä), small town, Friuli–Venezia Giulia, NE Italy, on the Isonzo river and near the Yugoslav border With Gorizia (Gorz) it formed until 1919 the crownland of Gorz-Gradisca in the Austrian province of Küstenland

Gradle, Henry, 1855–1911, American bacteriologist, b near Frankfurt-am-Main, M D Northwestern Univ , 1874 After studying under Robert Koch and others he taught at Northwestern, he specialized in diseases of the eye, ear, nose, and throat His *Bacteria and the Germ Theory of Disease* (1883) was a pioneer American work in its field

Grado, Italy see AQUILEIA

Grady, Henry Woodfin, 1850–89, American journalist and orator, b Athens, Ga , grad Univ of Georgia, 1868 In 1879 a gift from Cyrus W Field enabled him to buy into the Atlanta *Constitution* He gained fame with his editorials and addresses reconciling North and South and particularly with his stirring speech "The New South," delivered in New York in 1886 See R B Nixon, *Henry W Grady, Spokesman of the New South* (1943)

Graecia Magna see MAGNA GRAECIA

Graefe or **Gräfe, Albrecht von** (both əl'brĕkht fŭn grā'fə), 1828-70, German ophthalmologist He is known for his contributions to surgery of the eye, especially the introduction of iridotomy in the treatment of glaucoma and iritis and of a new technique in operations for cataract He established (1850) an eye clinic in Berlin, taught at the Univ of Berlin from 1853, and founded (1855) *Archiv für Ophthalmologie*, a leading journal in this field, in which he published many of his discoveries His father, **Karl Ferdinand von Graefe** (kärl' fĕr'dēnänt), 1787–1840, a German surgeon born in Warsaw, was a pioneer in plastic surgery and in the treatment of wounds

Graetz, Heinrich see GRÄTZ, HEINRICH

Graevius, Johann Georg (yō'hän gā'ôrk grā'vē ŭs), 1632–1703, German antiquary, whose German name was Grave or Greffe He was historiographer to William III of England He is remembered for his vast catalogues of Roman and Italian antiquities, which were long used

Graf or **Graff, Urs** (ōors), c 1485–c 1527 Swiss wood engraver, etcher, painter, and goldsmith, studied at Basel He was influenced by the work of Dürer and Hans Baldung He executed over 100 woodcuts, 200 drawings, and numerous etchings Among the woodcuts are 25 called *The Passion of Our Savior*, printed in 1506

Gräfe, Albrecht von see GRAEFE, ALBRECHT VON

graffito (graf-fē'tō), method of ornamenting architectural plaster surfaces The designs are produced by scratching a top coat of plaster to reveal an under coat of contrasting and deeper color The incised decoration upon the plaster finish of Egyptian walls is a comparable technique Graffito is a development in Italian decorative art of the 15th and 16th cent , being then used to treat the entire façades of buildings as great formal mural decorations Around windows and doors were architectural borders depicting pilasters, colonnettes, and caryatids, while remaining surfaces were covered with medallions, garlands, and arabesque bands Fine examples remain, especially at Florence, while the medium has occasionally been revived in modern buildings Over a ground coat of plaster is laid a colored coat, generally umber or black Upon this a finish coat, usually white or cream-colored, is applied to form a thin but firm textured surface which will not crack Full-size charcoal cartoons in which the designs have been pricked are laid against this surface and the patterns transferred by means of pouncing with a bag of charcoal The scraping and scratching of the top surface is then done with metal instruments, the work being planned in small portions which can be executed before the plaster has dried and set Graffito decoration is applied to pottery by coating an unfired piece with a contrasting color of clay and scratching a design through it to show the color underneath The slip ware of the Pennsylvania Germans is a good example of graffito work It is also called sgraffito

Grafly, Charles (grăf'lĭ), 1862–1929, American sculptor and teacher, b Philadelphia, studied at the Pennsylvania Academy of the Fine Arts and in Paris His portrait busts are well known, and his statues and groups combine symbolism of idea with realistic treatment Especially noted are *Symbol of Life*, a small bronze, *Fountain of Man* (for the Pan-American Exposition, Buffalo, 1901), *England* and *France* (customhouse, New York), *Pioneer Mother Monument* (San Francisco), and the General Meade Memorial (Washington, D C)

graft, surgical, portion of tissue used by the plastic surgeon to replace a defect The tissue, e g , skin, bone, periosteum, or cartilage, replaces corresponding structures to repair scars, e g , from burns or war wounds Skin may be grafted from other portions of the body of the patient or from some other individual The part is usually transferred with the original blood supply attached to it, those original vessels being severed after the grafted tissue has become established

grafting, horticultural practice of uniting parts of two plants so that they grow as one The scion or scion, the part grafted on the rooted part or stock, may be a single bud, as in BUDDING, or a twig cutting with several buds The stock may be a mature plant, such as an apple tree, or it may be a root The most important reason for grafting is propagation (especially of seedless plants or those that do not grow true from seed), it is also used for dwarfing, for increasing the productivity of fruit trees, for making a plant more adaptable to soil or climate, and in tree surgery Grafting has been known since Roman times at least and is extensively practiced by nurserymen and other horticulturists Only closely related plants can usually be successfully grafted, and the process is, as a rule begun while the scion is dormant and the stock just beginning growth There are many forms of grafting See L H Bailey, *Nursery Manual* (1920), M G Kains and L M McQuesten, *Propagation of Plants* (rev ed , 1942)

Grafton, Richard, d c 1572 London printer In 1539 with Edward Whitchurch he printed the Great Bible in black letter He printed the first edition of the Book of Common Prayer, also in black letter Grafton was printer to King Edward VI, and he earned a minor place among English chroniclers

Grafton **1** City (pop 1,110), SW Ill , at the confluence of the Illinois and the Mississippi, inc 1853 Pere Marquette State Park is near by **2** Rural town (pop 7,457) S central Mass , SE of Worcester, settled 1718 on the site of an Indian village, inc 1735 Textiles are produced In 1935 it was chosen as a typical New England village for the filming of Eugene O'Neill's *Ah! Wilderness* **3** City (pop 4,070), co seat of Walsh co , NE N Dak , on the Park river and NNW of Grand Forks, in the Red River valley wheat region, inc 1883 It is an important shipping point for grain and livestock A state school for the feeble-minded is here **4** Rail city (pop 7,431), co seat of Taylor co , N W Va , on the Tygart river and near Fairmont, in a mining area, settled 1852 Glass products are made here It is the seat of a national cemetery Near by is Tygart Reservoir Dam **5** Village (pop 1,150), E Wis , on the Milwaukee river and N of Milwaukee, inc 1896

Graham, Catherine Sawbridge Macaulay. see MACAULAY, CATHERINE SAWBRIDGE

Graham, Frank Porter, 1886–, American university president and U S Senator (1949–), b Fayetteville, N C , grad Univ of North Carolina, 1909, M A Columbia, 1915 After 1915 he taught history at the Univ of North Carolina and later (1930) became president of the university Liberal in his views, Graham held numerous U S government positions and served (1948) as U S. representative to the United Nations committee for arranging a truce in Indonesia He was appointed (March, 1949) to fill an unexpired term in the U S Senate

Graham, Hugh: see ATHOLSTAN, HUGH GRAHAM, 1ST BARON.

Graham, James: see MONTROSE, JAMES GRAHAM, 5TH EARL AND 1ST MARQUESS OF

Graham, Martha, American dancer and teacher of the dance, b Pittsburgh She attended the Denishawn School, Los Angeles, and made her debut in

Ted Shawn's *Xochitl* (1920). She remained with the Denishawn company from 1919 to 1923, but left to dance in musical revues and to make her independent debut (1926) She first appeared with her own group of dancers in 1929 Some of the dances which have established her as a leading figure in modern dance are *Frontier*, *American Provincials*, *Every Soul Is a Circus*, *Letter to the World*, and *Appalachian Spring* See *Martha Graham* (ed by Merle Armitage, 1937), Barbara Morgan, *Martha Graham* (1941)

Graham, Robert, later **Robert Cunninghame-Graham**, d 1797?, Scottish lyric poet He is noted particularly as the author of the lyric, "If Doughty Deeds My Lady Please " While he was in Parliament (1794–96), he proposed a bill of rights, which was rejected but which in some ways foreshadowed the Reform Bill of 1832 Upon succeeding to the Finlaystoun estates in 1796, he added to his name the surname Cunninghame

Graham, Robert Bontine Cunninghame- see CUNNINGHAME GRAHAM, ROBERT BONTINE

Graham, Sylvester, 1794–1851, American reformer and Presbyterian minister, b West Suffield, Conn He advocated a vegetable diet as a cure for intemperance and the use of coarsely ground wholewheat flour Graham flour was named for him Other tenets of his—such as fresh air while sleeping, light, loose clothing, vegetables and fruits in the diet—have gained acceptance He wrote *Treatise on Bread and Bread-making* (1837) and *Lectures on the Science of Human Life* (1839)

Graham, Thomas, 1805–69, Scottish chemist, best known for his research in DIFFUSION in both gases and liquids which led to his formulation of GRAHAM'S LAW His discovery that certain substances (e g , glue, gelatin, starch) pass through a membrane more slowly than others (inorganic salts, e g , common salt or sodium chloride) led him to draw a distinction between the two groups, calling the former (the slower) colloids and the latter crystalloids In this connection he discovered DIALYSIS His work was the earliest in colloidal chemistry His investigation of phosphoric acid led to the present chemical concept of polybasic acids

Graham, William Alexander, 1804-75, American statesman, b Lincoln co , N C , grad Univ of North Carolina, 1824 A lawyer, he served several terms in the state legislature and three years (1840–43) in the U S Senate As governor of North Carolina (1845 49), he was especially interested in the development of the state's railroads He was Secretary of the Navy (1850–52) in President Fillmore's cabinet and the unsuccessful candidate for Vice President on the Whig ticket with Gen Winfield Scott in 1852 Graham was a leader of the element in North Carolina which advocated compromise rather than secession, but ultimately he supported the Confederacy Elected to the Confederate senate in 1864, he urged peace and a resumption of responsibility to the Union

Graham. 1 Textile-mill town (pop 4 339), co seat of Alamance co , central N C , E of Greensboro, est 1849 **2** City (pop 5,175), co seat of Young co , N Texas, S of Wichita Falls, founded 1872 Ranching, oil, and farming support the industries of Graham, which packs meat and makes saddles, has oil refineries and a carbon-black plant, mills flour and feedstuffs, and extracts cottonseed oil Near by is Possum Kingdom Lake, a reservoir in the Brazos river conservation project

Graham Coast see GRAHAM LAND

Grahame, Kenneth, 1859-1931, English author A secretary of the Bank of England from 1898 to 1908, he wrote *The Golden Age* (1895) and *Dream Days* (1898), scenes of his childhood in England, and *The Wind in the Willows* (1908), all children's classics The last was dramatized by A A Milne as *Toad of Toad Hall* (1929) Grahame's warm and charming books have retained their popularity He compiled the *Cambridge Book of Poetry for Young People* (1916) See biography by Patrick Chalmers (1935), Elspeth Grahame, *First Whisper of "The Wind in the Willows"* (1945)

Grahame-White, Claude, 1879–, English aviator, aeronautical engineer, and author An automobile engineer, in 1909 he took up aviation and started the first British flying school at Pau He was the first Englishman to be given a certificate of proficiency as an aviator His writings include *The Aeroplane, Past, Present, and Future* (1911), *Learning to Fly* (1914), and *Flying an Eptome and a Forecast* (1930)

Graham Island, off the coast of British Columbia, northernmost and largest of the QUEEN CHARLOTTE ISLANDS

Graham Land or **Graham Coast**, name given by the British to Palmer Peninsula in ANTARCTICA The British do not recognize the discovery by Nathaniel Brown Palmer and claim the area by virtue of John Biscoe's discovery of Enderby Land Officially Graham Coast (once thought to be islands) is attached to the Falkland Islands

Graham of Claverhouse, see DUNDEE, JOHN GRAHAM OF CLAVERHOUSE, 1ST VISCOUNT

Graham's law [for Thomas Graham] states that the rate of DIFFUSION of a gas is inversely proportional to the square root of its density.

Grahamstown, town (pop 22,913), S Cape Prov , Union of South Africa, founded 1812 It exports wool, dairy products, and fruit. It is the seat of Rhodes University College

Grail, Holy, a feature of medieval legend and literature. It appears variously as a chalice, a cup, or a dish and sometimes as a stone or a caldron into which a bleeding lance drips blood It was identified by Christians as the chalice of the Last Supper brought to England by St Joseph of Arimathea Miraculous in its powers, it could provide food and healing However, it would be revealed only to a pure knight, and the Grail Quest appears in different stories In ARTHURIAN LEGEND the purest knight is variously PARSIFAL or Galahad The Grail is one of the most difficult problems of Arthurian legend, introducing as it does features of Christian story, Celtic myth, and ancient fertility cults See R S Loomis, *Celtic Myth and Arthurian Romance* (1927) and *Arthurian Tradition & Chrétien de Troyes* (1949)

grain, collective name given to the cereal grasses, to certain other plants, such as buckwheat, which are grown for the same purpose, and to their edible seeds The seeds, whole or ground into meal or flour, supply the principal food of the human race and of some domestic animals All grains are termed corn, but this name generally is restricted specifically to the chief grain of a region—in England to wheat, in Scotland, to oats, in America, to Indian corn The principal grain crops of the world are wheat, Indian corn, oats, barley, rye, and rice All the staple grains were domesticated in the Neolithic period The growing of grains was a potent influence in causing men to live in permanent communities, where what was sown might be harvested and stored Many religious beliefs and rites are associated with grains The cereals derive their name from Ceres, the Roman goddess of grain The cultivation of their corn by the American Indians was accompanied by elaborate rites Grain has been an article of commerce in various civilizations See publications of the U S Dept of Agriculture

grain alcohol see ETHYL ALCOHOL

Grain Coast, W Africa, on the Atlantic Ocean It is nearly identical with the coast of Liberia It is named for the early export of "grains of Paradise," i e , the seed of the melegueta pepper

Grainger, Percy Aldridge (grān'jur), 1882–, Australian-American pianist and composer, studied with Busoni He was a friend and disciple of Grieg, whose music he has often played He came to the United States in 1914, having already established a wide reputation as pianist and composer His interest in folk music is exemplified in his many settings of folk tunes as songs, orchestral pieces, and piano pieces

graining, process of painting by which natural wood grain is imitated It was common practice in the late 19th cent to "grain" cheap, soft woods to give them the appearance of rare, expensive ones A light general tone with the brush was followed by darker streaks applied with a comb and wiped with a rag This art is rarely practiced today except in matching old work The term is also applied to mechanical methods for producing an artificial texture of any kind, as in bookbinding

Gram, Hans Christian Joachim (grām, Dan hāns krĭs'tĭ an yō'ăkĭm gram'), 1853 1938, Danish physician He was professor (1891 1923) at the Univ of Copenhagen He developed (c 1883) a differential staining method (Gram method) useful in identifying and classifying bacteria The organisms are immersed successively in a solution of gentian violet or certain other dyes, then in an alkaline solution of iodine used as a mordant, and finally in a decolorizer such as alcohol or acetone Bacteria that retain the dye are known as Gram positive, those that are decolorized are said to be Gram negative

gramicidin see ANTIBIOTIC SUBSTANCES

grammar, description of the structure of a language A grammar has two necessary subjects, the sounds and the meaningful combinations of sounds The sounds are studied in phonetics and phonemics, see PHONETICS The description of the meaningful forms is the morphology, a minimal meaningful unit is a morpheme, e g , *hat* or *-s* (in *hats*) Some morphemes have variations in their form, as *wife* (with *f*) vs *wives* (with *v*), such phenomena are the subject of morphophonemics English morphology is mainly concerned with INFLECTION and derivation (see ETYMOLOGY) In English, as in many other languages, a normal sort of free entity consists of one or several morphemes bound together, this is a word Such a word may be conveniently studied as a unit, and the study of the arrangement of words may be set apart and called syntax But many languages string morphemes together in long sequences so that defining a word is of no use, in such case there may be no place for a section called syntax, for the whole burden falls on the morphology The list of morphemes of a language, or lexicon, is often not put in a grammar but isolated in a DICTIONARY (or vocabulary) A grammar describing a language objectively is a descriptive grammar School grammars of one's own standard language are not descriptive, but prescriptive, i e , rule books like books of etiquette, hence the prevalence of such popular terms as *right*, *wrong*, *correct*, and *grammatical* instead of more exact terms such as *standard*, *substandard*, or *colloquial* Prescriptive grammars have popularized many unsound notions, e g , the primacy of WRITING in language, the superiority of archaic features, and the role of etymology in meaning The term *historical grammar* refers to a history of the structure of a language See Leonard Bloomfield, *Language* (1933), Charles C Fries, *American English Grammar* (1940)

Grammont (grämōN'), Flemish *Geraardsbergen* (khā'rärtsbĕr"khun), town (pop 11,115), East Flanders prov , Belgium, on the Dender river It is a textile center There is a 15th-century Gothic town hall

Gramont, Agénor, prince de Bidache, duc de Guiche et de (ażhānôr' prĕs' du bēdash' duk' dū gēsh ā du grämōN'), 1819–80, French diplomat In 1870 he became foreign minister in the cabinet of Émile Ollivier It was on his instructions that the French ambassador to Prussia, Benedetti, had the ill-fated interview with William I which led to the publication of the Ems DISPATCH and thus to the Franco-Prussian War He defended his actions in *La France et la Prusse avant la guerre* (1872)

Gramont, Philibert, comte de (fēlēbĕr' kōt'), 1621 1707, French courtier of Louis XIV's court He lived in England (1663–64) while in disgrace for having attempted to rival Louis in a love affair During his banishment he was prominent at Charles II's court, where he married Elizabeth Hamilton It was to her brother, Anthony HAMILTON, that the aged courtier gave the anecdotal material Hamilton used in writing Gramont's memoirs The memoirs, though they show Gramont a witty and insolent cad, are an invaluable source for the social history of his period The spelling Grammont, always used in the title of the memoirs, is an old error

Grampians, mountain system, cutting NE–SW across central Scotland and separating the Highlands from the Lowlands The highest peak is Ben Nevis (4 406 ft) Other heights are Macdhui, Cruachan, Cairngorm, and Cairntoul The mountains are the source of the headwaters of the Dee, Don, Spey, Findhorn Esk, Tay, and Forth RIVERS The scenery is wild and magnificent on the precipitous northern side, the south side has a more gentle slope, with extensive deer forests

Gran, Hungary see ESZTERGOM

Granada (grənä'dä, Span grāna'dha), city (1946 estimated pop 28,442), W Nicaragua, on Lake Nicaragua Founded in 1524 by Francisco FERNÁNDEZ DE CÓRDOBA, Granada, in a rich agricultural region and with ample Indian labor, has been the stronghold of Nicaragua's landed aristocracy With independence from Spain in 1821, it became the Conservative center, engaging in bloody rivalry with LEÓN, the city of the Liberals The struggle led to the founding (1855) of MANAGUA Granada was captured (1855) by the filibuster, William WALKER With rail connections to Managua, it controls the extensive commerce on Lake Nicaragua in sugar, coffee, hides, cotton, and indigo

Granada (grənä'dä, Span grāna'dha), city (pop 140 941), capital of Granada prov , S Spain, in Andalusia Picturesquely situated in view of the Sierra Nevada, it is a tourist center, attractive because of its long history One of the great monuments of Moorish civilization, it was originally a Moorish fortress and became (1238) the seat of the kingdom of Granada last refuge of the MOORS whom the Christian reconquest had driven south The kingdom occupied the present provinces of Almería and Málaga and parts of Jaén and Cádiz The concentration of Moorish civilization in Granada gave the city great splendor and made it a center of commerce, industry, art, and science It was, however, racked by continuous feuds among the noble families, notably the Zegrís and the Abencerrages The state in dissolution was conquered in the reign of BOABDIL by Ferdinand V and Isabella I With the surrender (Jan , 1492) of Granada itself, the Moors lost their last hold in Spain, and the kingdom was united with Castile Granada became an archiepiscopal see and, in the 16th cent , the seat of a university In the 20th cent several new industries (sugar refineries ironworks, food-processing plants) developed here The best-known part of Granada is the ALHAMBRA, the ancient Moorish citadel and royal palace, which dominates the city from a hill On the same hill is the imposing palace of Emperor Charles V The Palacio del Generalife, summer residence of the Moorish kings, has celebrated gardens Among the Christian constructions are the 16th-century cathedral, in late Gothic and PLATERESQUE style, the adjoining royal chapel, containing the tombs of Ferdinand and Isabella, and a Carthusian monastery (16th cent) See Washington Irving, *The Conquest of Granada* and *The Alhambra*, both classic works

Granados y Campiña, Enrique (ānrē'kā grənä'dōs ē kämpē'nya), 1867–1916, Spanish composer Like his countryman Albéniz, his most significant works are those for the piano *Goyescas* (1912–14), a set

of piano pieces which later formed the basis for an opera of the same name, is his outstanding work The opera, the most popular of his four, was produced in New York in 1916 Granados was present, and while making the return voyage was drowned when the English channel steamer *Sussex* was torpedoed by a German submarine See Gilbert Chase, *The Music of Spain* (1941)

Granbury, city (pop 1,166), co. seat of Hood co., N Texas, on the Brazos and SW of Fort Worth, in a farm area, settled c 1860, inc 1873

Granby (grăn'bĭ, grăm'bĭ), city (pop 14,197), S Que., on the North Yamaska and E of Montreal In a dairying, apple-growing, and fur-farming area, it has textile mills and manufactures furniture and rubber products

Granby (grăn'bĭ, grăm'bĭ). **1** Rural town (pop 1,544), N Conn., at the Mass line, settled c 1664, inc 1786 It includes part of the McLean Game Refuge **2** Rural town (pop 1,085), W Mass., NE of Holyoke, settled 1727, inc 1768 **3** City (pop 1,455), SW Mo., SE of Joplin, settled in the 1850s It is in a farm area of the Ozarks which also has zinc and lead mines

Gran Chaco see CHACO.

Gran Chimu. see CHANCHAN

Grand, Sarah, 1862–1943, English novelist and feminist, b Ireland Her real name was Frances Elisabeth Clarke M'Fall She was six times mayor of Bath (1923–24, 1925–30) and is remembered for *The Heavenly Twins,* a best seller of 1893

Grand Alliance, War of the, 1688–97, war between France and a coalition of European powers, known as the League of AUGSBURG (and, after 1689, as the Grand Alliance) Louis XIV of France took advantage of the absence of Emperor Leopold I on a campaign against the Turks and of the promised support of James II of England to invade the empire and devastate (1689) the Palatinate The revolution in England overthrew James, and William, prince of Orange, became William III of England (1688–89). In an attempt to keep William from leading troops to the Continent, Louis supported a counterrevolution in Ireland but was frustrated at the battle of the Boyne (1690) The naval war, of which the first major battle was the French victory at Beachy Head (1690), was practically ended by the English victory of La Hogue (1692) On land, however, Louis and Vauban took Namur (1692), Marshal LUXEMBOURG was victorious at Fleurus (1690) over the Dutch and at Steenkerke (1692) and Neerwinden (1693) over William III, and the duke of Savoy was defeated at Marsaglia by CATINAT (1693) while another French army entered Catalonia The exhaustion of the belligerents and the defection of Savoy from the Grand Alliance (1696) finally led to the Treaty of RYSWICK This war was known on the American continent as King William's War (see FRENCH AND INDIAN WARS).

Grand Army of the Republic, organization established by Civil War veterans of the Union army and navy. Dr. Benjamin F Stephenson, former surgeon of the 14th Illinois Infantry, was the principal figure in founding the G A R The first post was formed (April 6, 1866) at Decatur, Ill., and at the first national encampment, held at Indianapolis, Ind., on Nov 20, 1866, 10 states and the District of Columbia were represented Gen Stephen A Hurlbut, the first commander in chief, was succeeded by Gen John A Logan, who was followed in office by Gen Ambrose E Burnside They were the most prominent military men to head the G.A.R. Membership increased rapidly in the 1880s so that by 1890, when the G A R reached its peak, over 400,000 members were reported The members sought to strengthen the bonds of comradeship, to preserve the memory of their fallen comrades (they secured the general adoption of MEMORIAL DAY to achieve this purpose), to give aid to soldiers' widows and orphans and to handicapped veterans, and, most of all, to fight for pension increases and other benefits Though the organization was nonpolitical, G A R members were overwhelmingly Republican, and they formed a reliable bloc of that party's strength in the years up to 1900. Soldier preference in Federal appointments became the rule, and pension legislation was usually enacted by the Republicans with their support in mind The *National Tribune,* a paper founded (1877) by George E. Lemon, powerful pensions attorney of Washington, D C, kept G A R members posted on pension matters The organization scored a great victory in 1879 with the passage of the Arrears of Pension Act, which led many more veterans to apply for pensions Only those who suffered disabilities in service were theoretically entitled to pensions, but it became the practice for lenient Congressmen to introduce private pension bills These were almost always granted until Grover Cleveland, the first President to examine the bills critically, found many of them to be fraudulent and forthwith vetoed hundreds of them The fact that Cleveland was a Democrat further confirmed G.A.R. members in their staunch Republicanism. Auxiliary societies associated with the G.A.R were the Sons of Veterans (1881), the Women's Relief Corps (1883), and the Ladies of the Grand Army of the Republic (1886). The United Confederate Veterans was organized in 1889, but this organization never had a membership (less than 50,000 at its peak) approaching that of the G A R With the coming of the 20th cent. the G.A.R declined rapidly in numbers and influence. The 83d and last encampment was also held at Indianapolis, on Aug 28–31, 1949, with six of the 16 surviving members in attendance See R B Beath, *History of the Grand Army of the Republic* (1889); J. W Oliver, *History of Civil War Military Pensions, 1861–1885* (1917)

Grand Bahama. see BAHAMA ISLANDS

Grand Bank, town (1945 pop 2,331), S N F, on the southeast shore of Fortune Bay and SW of St John's It is an important base for the Grand Bank fisheries

Grand Banks, submarine plateau, off SE Newfoundland, c 50 mi E of Cape Race, extending northeast-southwest some 300 mi and being c 200 mi wide Many of the shallower ridges bear names of their own The depth is usually between 20 and 100 fathoms The Gulf Stream sweeps along the eastern edge of the Banks, sometimes crossing the southern part, but the greater part of the Banks are in the Labrador Current The mingling of the two streams helps to account for the abundant marine life existing there The Grand Banks are probably the most important cod-fishing region in the world and are frequented annually by some 100,000 fishermen, chiefly from Canada, the United States, Great Britain, and France The meeting of the cold and warm streams causes a persistent fog The fishing is hazardous because it is in the path of icebergs carried down by the Labrador Current and near the path of transatlantic steamers Government patrol ships have lessened the dangers

Grand Blanc (grănd' blăngk'), residential city (pop 1,012), S Mich., on the Thread river and SE of Flint, settled 1823, inc 1930

Grand Canal, Chinese *Yün-ho* [transit river], longest canal of China, c 850 mi long, extending from Hangchow to Tientsin The oldest portion, connecting the Yellow and Yangtse rivers, was completed under emperor Yang Ti (reigned A D 605–17) The remainder, including an extension to Peiping which is now filled in, was constructed during the Yüan dynasty (1206–1368) The water level in the canal is maintained by stone gates, which divert the water Outlets to several large lakes, including Hungtse and Tai, prevent flooding The Grand Canal is the only extensive north-south waterway of the China Plain, but widespread silting has reduced its former economic importance

Grand Canary: see CANARY ISLANDS

Grand Canyon, gorge, roughly a mile deep, 4 to 18 mi wide, and 217 mi long, of the Colorado river, NW ARIZ The canyon shows in the strata exposed by erosion the story of long geological change—uplift, erosion, submergence in the sea, deposition of materials on the sea floor, then the same sequence repeated, most of the stages with records of particular plant and animal life—from the Archeozoic era to the present The varicolored strata, the steep and embayed rims, and the isolated towers, "temples," mesas, and other eroded rock forms in the chasm catch the light of sun and shadow and glow with changing hues of intense, air-filling beauty The first white man to see the canyon was García López de CÁRDENAS in 1540 J W POWELL took a party through the canyon in a boat in 1869 In 1919 the Federal government expanded a national monument established in 1908 to become Grand Canyon National Park (now 645,295.91 acres), which contains 105 mi of the canyon, in 1932 an adjacent area was made the Grand Canyon National Monument (now 196,051 acres) See works of J W Powell, publications of the National Park Service, C E Dutton, "Report," in U S Geological Survey, *Second Annual Report* (1882)

Grand Coulee Dam (kōō'lē), NE central Wash., in the Columbia river and WNW of Spokane Construction was begun in 1933, and the dam went into operation in 1941 as a unit in a project to harness the Columbia river for power, irrigation, and flood control The dam, one of the largest in the world (4,300 ft long and 550 ft high), backs up huge Roosevelt Lake (151 mi long), which is being developed for recreational use The city of **Grand Coulee** (pop 3,659, inc 1935) was established by the Federal government as the construction and operation base for the dam

Grand Detour, unincorporated village, N Ill., SW of Rockford and on the Rock River It was founded in 1835 by Leonard ANDRUS, with John DEERE associated in building (1837) the first Grand Detour steel plow The Grand Detour factory later moved to DIXON In 1937 a centennial celebration of the building of the steel plow was held

Grande Prairie (grād prā'rē'), town (pop 2,267), W Alta., 250 mi. NW of Edmonton. It is the chief business center for the Peace river valley farming area. There are an airport, a dominion land office, and the district courts and offices. The Northern Winter Carnival is held here annually.

Grand Falls. 1 Town (pop 1,806), W N.B., on the St. John river. The falls in the river here and its mile-long gorge attract many visitors. There is a large hydroelectric development **2** TOWN (1945 pop 4,508), central N.F., on the Exploits river and NW of St. John's. There are large paper mills here

Grand Falls, spectacular waterfalls of the upper Hamilton river, S Labrador The river here narrows to 200 ft., negotiates a series of rapids over a distance of 4 mi, then falls 245 ft., leaping the inland plateau into McLean Canyon, from which sheer cliffs rise several hundred feet on either side The river then flows 12 mi. through the canyon over a further series of rapids The total fall from the rapids above the main falls to the end of McLean Canyon is 1,038 ft The falls were discovered by a trader of the Hudson's Bay Company named McLean and were rediscovered, having been generally forgotten, in 1891

Grandfield, town (pop 1,116), SW Okla., near the Texas boundary; inc 1909

Grand Forks, city (pop 1,259), S British Columbia, at the confluence of the Granby and Kettle rivers near the Wash border and NNW of Spokane. It has a great smelter and is the center of a fruit-growing area

Grand Forks, city (pop. 20,228), co. seat of Grand Forks co., E N Dak., at the confluence of the Red and Red Lake rivers N of Fargo, settled 1871, organized as a village 1879, inc 1881 with the coming of the railroad It was early a trading post and became an important distributing and industrial center In a great spring-wheat region, it has grain elevators and flour mills, built and operated by the state, creameries, and meat-packing plants The Univ of North Dakota (see NORTH DAKOTA, UNIVERSITY OF) is here The state fair and the all-American turkey show are annual events

Grandgent, Charles Hall (grăn'jĕnt), 1862–1939, American philologist, b Dorchester, Mass., grad Harvard, 1883 After study abroad, he taught Romance languages at Harvard (1886–89, 1896–1932) A distinguished student of the Italian language and Italian literature (especially Dante), he wrote several standard works

Grand Haven, city (pop 8,799), co. seat of Ottawa co., S Mich., on Lake Michigan at the mouth of the Grand and NW of Grand Rapids, inc 1867 It is a resort and commercial fishing center, and its lake port ships quantities of grapes and celery Printing presses, tools, and plumbing fixtures are among its manufactures A U S coast guard station is here Grand Haven State Park is near by

Grand Island. 1 City (pop 19,130), co. seat of Hall co., S Nebr., on the Platte and W of Lincoln, settled 1857 by Germans, laid out 1866 by the Union Pacific, inc 1871 A railroad, manufacturing, and shipping center for a livestock, agricultural, and dairy area, it has railroad repair shops and produces beet sugar and dairy foods It is known as a horse, mule, and cattle market The city has a Roman Catholic cathedral and a fine airport Near by are a state park and the U S Central Monitoring Station, radio-broadcasting checking point **2** Town (pop 1,055), W N Y, comprising a group of islands in the Niagara river NW of Buffalo It was once (c 1827–c 1840) the center of W New York's orchard industry

Grand Island, N Mich., in Lake Superior N of Munising One of Michigan's largest islands (c 13,000 acres) and heavily wooded, it is a resort area and has a game refuge

Grand Isle, town (pop 1,574), NE Maine, on the St John between Fort Kent and Van Buren, inc 1869

Grand Junction. 1 City (pop 12,479), co. seat of Mesa co., W Colo., at the junction of the Gunnison river with the Colorado near the Utah line, founded 1881, inc 1882 It is the shipping and processing center for a large livestock and irrigated farm area A junior college is here The city is headquarters for Grand Mesa National Forest, and Colorado National Monument is near by **2** Town (pop 1,125), central Iowa, W of Boone, inc 1873

Grand Lake. 1 Lake, c 2 mi long and c 1 mi wide, N central Colo., at the west border of Rocky Mountain National Park A resort center, it is the scene of an annual yachting regatta. The lake is included in the COLORADO–BIG THOMPSON PROJECT **2** See GRAND RIVER DAM, Okla

Grand Ledge, city (pop 3,899), S Mich., on the Grand and near Lansing, settled c 1848, inc as a village 1871, as a city 1893 There are soft-coal deposits here, and sandstone found near the river is used for tile and clay products Near by is Grand Ledge Park, and east of the city is the Seventh-Day Adventist Campground

Grand Manan (munăn'), island (pop 2,457), c 16 mi long and c 7 mi wide, S N B, in the Bay of Fundy near the entrance to Passamaquoddy Bay and 15 mi SE of Eastport, Maine. On the north and west sides are bold cliffs, rising 200 ft. to 400 ft high, visible from the Maine coast. The principal villages and harbors, North Head, Grand Harbor, and Seal Cove, are on the south and east sides The chief occupation is fishing, and the island is a summer resort It was settled after the Revolutionary War by Loyalists; its possession was disputed by the United States until 1817.

Grand'Mère (grā'mĕr'), city (pop 8,608), S Que., on the St. Maurice and NNW of Trois Rivières.

The Grand'Mère falls furnish power for paper and pulp mills.

Grand Panjandrum (păn"jăn'drŭm), mocking term applied to a self-important person It derives from a bit of nonsense written by the 18th-century wit Samuel Foote to test the ability of the actor Charles Macklin at learning a senseless passage after Macklin had boasted of his memory The passage contained the words "and the Grand Panjandrum himself, with the little round button at top"

Grand Portage (pōr'tĭj), nine-mile carrying place, famous in the history of the American fur trade, in the extreme northeast corner of present Minnesota It led from Lake Superior northward to a widening of the Pigeon river A halting place for *voyageurs* and an important depot for fur trade, it seems to have already been in use when Vérendrye used it in 1731 Its chief importance occurred after the French regime when the North West Company maintained its headquarters here until the establishment of FORT WILLIAM

Grand Prairie, city (1940 pop 1,595,†1947 estimated pop 7,000), N Texas, WSW of, and near, Dallas This industrial suburb has a large aircraft plant

Grand Pré (grăn' prā', Fr grā prā') [Fr ,=large field], village (1948 estimated pop 250), N N S , on the shores of Minas Basin, an arm of the Bay of Fundy It is famous as an early settlement of the Acadians and as the home of the heroine of Longfellow's *Evangeline* The old village, founded c 1675, stood near the present one, the site is marked by a group of old willows, a well, and several cellar holes Horton Landing at the mouth of the Gaspereau river near by was the embarkation point of the refugees The fertile diked meadow flats from which the village takes its name yield excellent hay There is an Evangeline statue by L P Hébert See J F Herbin, *Grand Pré* (1898), G P Bible, *The Acadians* (1906)

Grand Rapids. **1** City (pop 164,292), co seat of Kent co , S Mich , on the Grand and NW of Lansing, inc as a village 1838, as a city 1850 Several Indian villages and a trading post were once here Logs floated down the river and converted into lumber were the origin of the furniture which Grand Rapids now produces in great quantity The city is a distributing and industrial center for an area yielding fruit, farm produce, gypsum, and gravel Among the city's manufactures are railroad equipment, phonographs, gases, automobile parts, metal products, and paints and varnishes It has an art gallery, a furniture museum, and a symphony orchestra and is the seat of Calvin College (Christian Reformed, coeducational, 1876) and Aquinas College (Catholic, coeducational) **2** Village (pop 4,875), co seat of Itasca co , N central Minn , on the Mississippi and NW of Duluth, in a region of woods, lakes, and streams, settled 1877, inc 1891 It has paper mills The North Central Experiment Station of the state university is here, as well as the North Central School of Agriculture

Grand River **1** River in Labrador see HAMILTON, river **2** River, 165 mi long, S Ont , flowing into Lake Erie at Port Maitland It passes a number of important towns and villages and is navigable for 70 mi from its mouth **3** Former name of the OTTAWA river, E Ont and W Que

Grand River. **1** See COLORADO, river **2** River rising in SW Iowa, near Creston, and flowing c 215 mi SE through NW Missouri to the Missouri river just after passing Brunswick **3** River, c 260 mi long, rising in S Michigan and flowing N to Lansing, then NW and W past Grand Rapids to Lake Michigan at Grand Haven It is navigable to Grand Rapids **4** River rising in SW North Dakota and flowing c 209 mi ESE through South Dakota to the Missouri near Mobridge On it is the Bureau of Reclamation's Shadehill Dam (begun 1948), an item of the Missouri river basin project **5** River in Oklahoma see NEOSHO, river, and GRAND RIVER DAM

Grand River Dam, NE Okla , in the Grand River (local name of the NEOSHO) and SE of Vinita Built for power and for flood control, it was completed, with Federal aid, in 1941 It has a 6,565-foot multiple-arch construction It is also known as Pensacola Dam Grand Lake, created by the dam, is a recreational center

Grand Saline (sūlĭn', să'lĭn), city (pop 1,641), E Texas, E of Dallas, in the northeast corner of the state It has one of the largest U S salt mines, and at Van, near by, oil was discovered in 1929

Grandson (grăsō), Ger *Grandsee* town (pop 1,726), Vaud canton, Switzerland, on the Lake of Neuchâtel Here the Swiss Confederates defeated CHARLES THE BOLD of Burgundy in 1476. The name also appears as Granson.

Grand Teton National Park (grănd" tē'tŏn', tē'tŏn), 94,892 92 acres, NW Wyo , S of Yellowstone National Park and E of Idaho; est. 1929 The park is 27 mi. long and from 3 to 9 mi wide and is bounded on the north and the east by Jackson Hole National Monument and Jackson Lake. It embraces the most scenic portion of the Teton Range. Among its array of towering peaks are Grand Teton (13,747 ft.), highest of the range, Middle Teton (12,700 ft.), South Teton (12,500 ft), Mt. Owen (13,400 ft), and Mt Moran (12,100 ft) The first three are the TROIS TETONS [three breasts], so called by French Canadian fur traders Teton glacier is the larger of the two glaciers on Grand Teton Of the numerous small lakes in the park, Jenny Lake is the largest A further gift of land, not included in the area given above, was made to the government by John D Rockefeller, Jr , in 1949.

Grand Tower, city (pop 1,043), S Ill , on the Mississippi and NNW of Cairo, inc 1872 The 60-foot rock (about an acre in area) for which the city is named is in the river here

Grandview, city (pop 1,449), S Wash , SE of Yakima, in a farm area; founded 1905, inc 1919.

Grandview Heights, village (pop. 6,960), central Ohio, near Columbus

Grandville · see GÉRARD, JEAN IGNACE ISIDORE.

Grandville, city (pop 1,566), S Mich , on the Grand and SW of Grand Rapids, in a farm area, inc as a village 1887, as a city 1933 Hardware is made

Granet, François Marius (fräswa' märyüs' grănā'), 1775–1849, French painter, student of David He is famous for his paintings of church interiors — among them his numerous versions of the *Choir of the Capuchin Monastery* and his *Interior of the Basilica of St Francis of Assisi* (all Louvre)—and for his *Franciscan Friars in Choir* (Metropolitan Mus) He bequeathed much of his best work and also his fine collection of paintings to the museum of his native AIX

Grangemouth (grānj'mŭth, -mouth), burgh (1931 pop 11,799, 1948 estimated pop 15,498), Stirlingshire, Scotland, on the Forth estuary at the terminus of the Forth and Clyde Canal and NE of Falkirk It has extensive docks and shipyards, other industries are oil refining and soapmaking Here some of the earliest experiments in steam navigation were made In 1802 the *Charlotte Dundas* was launched at Grangemouth

Granger, Francis (grān'jûr), 1792–1868, American political leader, b Suffield, Conn , grad Yale, 1811, son of Gideon Granger He practiced law in Canandaigua, N Y , and served (1826–28, 1830–32) in the New York state legislature He was associated with Thurlow Weed as a prominent leader of the ANTI-MASONIC PARTY and was twice (1830, 1832) defeated as its nominee He was elected as a Whig to Congress in 1834 Appointed Postmaster General by William Henry Harrison, Granger resigned (1841) with other cabinet members at Harrison's death After another term (1841–43) in Congress, he did not run for office again Instead, he became a leader of the conservative Whigs who opposed their party's drift toward radical anti-slavery views He broke (1845) with Weed over the annexation of Texas, favored the Compromise of 1850, and with a small minority known as the Silver Grays withdrew (1850) from the Whig convention at Syracuse when resolutions were adopted endorsing William H Seward's opposition to the compromise measures

Granger, Gideon, 1767–1822, American political leader, b Suffield, Conn , grad Yale, 1787, father of Francis Granger A lawyer in Suffield, Granger was elected to the legislature in 1792 He became an Anti-Federalist, and, as leader of the Connecticut Democratic Republicans, he actively supported Jefferson in the 1800 presidential campaign The next year Jefferson appointed him Postmaster General Leaving this position in 1814, Granger settled a few years later at Canandaigua, N Y , where he became an ardent supporter of De Witt Clinton and the Erie Canal project

Granger, James, 1723–76, English clergyman, print collector, and biographer His *Biographical History of England from Egbert the Great to the Revolution* (2 vols , 1769) was increased to six volumes by other hands and published with blank pages for the insertion of extra illustrations So many books were robbed of steel engravings to put into the *History* that such mutilation came to be known as *grangerizing*

Granger, city (pop 1,723), central Texas, NNE of Austin, in a rich blackland farming area.

Granger movement, American agrarian movement taking its name from the National Grange of the Patrons of Husbandry, an organization founded in 1867 by Oliver H KELLEY and six associates Its local units were called granges and its members grangers It grew slowly until after the Panic of 1873, when it expanded rapidly, reaching its membership peak in 1875 Though established originally for social and educational purposes, the local granges became political forums and increased in numbers as channels of farmer protest against economic abuses of the day They sought to correct these abuses partly through cooperative enterprise They were in part successful with stores, elevators, and mills, but ran into financial trouble in attempting to manufacture farm machinery Through political activity the grangers captured several state legislatures in the Middle West and secured the passage in Illinois, Wisconsin, Minnesota, and Iowa of the so-called Granger laws, setting or authorizing maximum rates for railroads and establishing state railroad commissions to administer the new legislation There was also legislation covering warehouses and elevators Railroads and other parties challenged the constitutionality of these laws in the so-called Granger Cases The U S Supreme Court in 1876 by the decision in MUNN VS ILLINOIS established as constitutional the principle of public regulation of private utilities devoted to public use The Granger movement thus revealed the farmer as a political power and forced the older parties to give more attention to his demands Inadequacy of state regulation led to demands for national legislation After 1876 the GREENBACK PARTY, the Farmers' Alliance, and, finally, the Populist party expressed much of the agrarian protest, and the granges relapsed into being social organizations They continued to exist in the East, especially in New England, where they had been least active politically See S J Buck, *The Granger Movement* (1913)

Granges (grăzh'), Ger *Grenchen* (grăn'khŭn), town (pop 10,939), Solothurn canton, Switzerland It has a large watch industry

Grangesberg, Sweden see KOPPARBERG

Grangeville, city (pop 1,929), co. seat of Idaho co , N central Idaho, in a wheat-growing section of the Camas Prairie, settled 1876, inc 1897 During the 1898 gold rush it was an important outfitting point It is a center of the old Nez Perce country around the sources of the Clearwater and is the headquarters of Nez Perce National Forest

Granicus (grunī'kŭs), ancient name of a small river of Mysia, Asia Minor, flowing NNE to the Propontis It is now the Turkish Kocabas Here Alexander the Great in 334 B C won his first great victory over the Persians Here too in 73 B C the Romans under Lucullus defeated Mithridates VI of Pontus

Granite, city (pop, 1,058), SW Okla , near the North Fork of the Red River and the Wichita Mts , in a granite-quarrying district, settled and inc 1900 A state reformatory is here

granite, a rock of coarse granular structure, composed typically of quartz, alkali feldspar, and mica The quartz and feldspar are always present, tourmaline, hornblende, or certain other minerals are sometimes present It is believed that granite was formed by the cooling of molten rock under pressure and that it underlies all stratified rocks Some granites are the oldest of known rocks, but granites continued to be formed through successive geologic periods Sometimes granite is the surface rock of level country, but much more commonly it has been brought to the surface by disturbances of the earth's crust Though the feldspar in it sometimes decomposes, granite is typically a very hard rock and takes a high polish It is usually red or gray A red variety is the stone of the ancient Egyptian obelisks, gray was used for Roman columns, and granites of many kinds are now used for buildings and monuments

Granite City, industrial city (pop 22,974), SW Ill , on the Mississippi above St Louis, inc. 1896 A rail center, it developed with the establishment of its steel mills and foundries in 1892–93 Its manufactures include metal products, railroad and automotive parts, and kitchen utensils.

Granite Falls. **1** City (pop 2,388), co seat of Yellow Medicine co , W Minn , at falls of the Minnesota, platted 1872, inc as a village 1879, as a city 1889 It is a farm trade center Andrew J Volstead lived here **2** Town (pop 1,873), W N C , NNW of Charlotte It has varied industries

Granite Peak, 12,850 ft high, S Mont , in the Absaroka Range NE of Yellowstone National Park, highest peak in Montana

Graniteville, unincorporated cotton-milling town (pop c 2 500), W S C , near Aiken It was founded in 1846 as the state's first mill town by William GREGG

Granja, La see SAN ILDEFONSO

Granjon, Robert (grăn'jun, Fr rôbĕr' grăzhô'), fl 1545–88, French designer of type and printer He began his work in Paris and afterward worked in Lyons, Antwerp, and Rome The types that he designed and made included roman, italic, Greek, Hebrew, and Syriac He is known especially for his *caractères de civilité*, based on a beautiful French handwriting and intended to take the place in France that italic type then held in Italy The greater legibility of italic has contributed to the disuse of *caractères de civilité* Printers who used types designed and made by Granjon included Christophe Plantin, of Antwerp.

Gran Paradiso (grän" päradē'zō), mountain, 13,320 ft high, NW Italy, S of Aosta, highest Alpine peak entirely in Italian territory It was made a national park in 1922

Gran Quivira National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Gran Sasso d'Italia (grän sä's'sō dētä'lyä), mountain group, Abruzzi, S central Italy, between Aquila and Teramo, highest of the Apennines The highest peak is Monte Corno or Corno Grande (9,557 ft) Campo Imperatore, a mountaineering and skiing resort, may be reached by cable car. Mussolini was confined here after his fall and was rescued by German parachute troops on Sept. 12, 1943

Granson, Switzerland see GRANDSON.

Grant, Asahel, 1807–44, American physician and missionary to the Nestorians around Urmia, W

Persia He was born in Marshall, N Y Grant's book on the Nestorians, published in 1841, contains valuable descriptions of the people at that time

Grant, Duncan James Corrowr, 1885–, British painter and designer, b Scotland His works, which show the influence of the French modernists, include *Lemon Gatherers*, *The Tightrope Walker*, and *Hammock* He has designed stage settings

Grant, Sir Francis, 1803–78, Scottish portrait painter He was self-taught in painting, for which he abandoned the law He began as a painter of hunting scenes (*The Melton Hunt* and *The Cottesmore Hunt*), but rose to success as a fashionable portrait painter Among his sitters were Scott, Macaulay, Disraeli, Palmerston, and Landseer Sir Francis was president of the Royal Academy, 1866–78

Grant, George Monro, 1835–1902, Canadian minister, educator, and author, b Nova Scotia, educated at the Univ of Glasgow Ordained (1860) in the Presbyterian ministry, he was pastor (1863–77) of a church in Halifax, N S From 1877 to 1902 he was principal of Queen's Univ., Kingston, under him the university made great gains in size and prestige, and Grant became a notable figure in the educational world of his day He wrote articles for many periodicals in Canada, the United States, and England and several books, best known of which is *Ocean to Ocean* (1873, rev ed , 1925), an account of the expedition of 1872 of Sir Sandford Fleming, chief engineer of the Canadian Pacific Railway Grant served as secretary of the expedition, his book aroused much interest in the Canadian West See biography by W L Grant and Frederick Hamilton (1904)

Grant, Robert, 1852–1940, American jurist and novelist, b Boston, grad Harvard, 1873 A prominent Boston judge, he was one of three men appointed to advise Governor Fuller on the SACCO-VANZETTI CASE The best known of Grant's many novels was *Unleavened Bread* (1900) See his autobiography, *Fourscore* (1934)

Grant, Ulysses Simpson, 1822–85, commander in chief of the Union army in the Civil War, 18th President of the United States, originally named Hiram Ulysses Grant, b Point Pleasant, near New Richmond, Ohio He spent his youth in Georgetown, Ohio, was graduated from West Point in 1843, served creditably in the Mexican War, and resigned from the army in 1854 Grant was a dismal failure in civil life He was a clerk in his father's leather store in Galena, Ill , when the Civil War broke out He was commissioned colonel of the 21st Illinois Volunteers in June, 1861, and in August became a brigadier general of volunteers Grant assumed command of the Dist of Cairo, Ill , in September and fought his first battle, an indecisive affair, at Belmont, Mo , on Nov 9, 1861 In Feb , 1862, aided by Union gunboats, he captured Fort Henry on the Tennessee river and Fort Donelson (see DONELSON, FORT) on the Cumberland This was the first major Union victory, and Lincoln at once made him a major general of volunteers However, in April at Shiloh (see SHILOH, BATTLE OF), the arrival of the army of Gen D C BUELL probably saved him from defeat The VICKSBURG CAMPAIGN (1862–63) was one of Grant's greatest successes After repeated failures to get at the city, he made a brilliant advance in cooperation with a fleet and finally took Vicksburg by siege The victory of Braxton Bragg, the Confederate general at Chickamauga (see CHATTANOOGA CAMPAIGN), led to Grant's accession to the supreme command in the West, Oct , 1863 At Chattanooga in November his forces thoroughly defeated Bragg The President, in March, 1864, made him commander in chief with rank of lieutenant general, a grade especially revived by Congress for him Grant himself directed G G Meade's Army of the Potomac against Lee in the WILDERNESS CAMPAIGN His policy of wearing Lee out by sheer attrition was effective, though it resulted in the horrible slaughter of Spotsylvania and Cold Harbor Failing to carry PETERSBURG by assault in June, 1864, Grant had that city under partial siege till April, 1865 P H Sheridan's victory at FIVE FORKS made Petersburg and Richmond no longer tenable Lee retreated, but was cut off at APPOMATTOX COURTHOUSE, where he surrendered, receiving generous terms from Grant, April 9, 1865 Criticized as a butcher (unjustly, say some military historians), Grant went about the distasteful business of war realistically and grimly His campaigns, executed with a skill which increased with experience, were successful largely because he had a clear perception of the elemental military doctrine that the destruction of the enemy's main armies was the principal objective in warfare He also was notably wise in supporting good commanders, W T SHERMAN, P H SHERIDAN, and G H THOMAS Made a full general in 1866, he was the first U S citizen after Washington to hold that rank Grant at first seemed to favor the RECONSTRUCTION policy of President Andrew JOHNSON In April, 1867, Johnson appointed him Secretary of War ad interim, replacing E M. Stanton Johnson expected him to hold the office against Stanton and thus bring about a court test of the constitutionality of the TENURE OF OFFICE ACT, but Grant turned the office back to Stanton when the Senate refused to sanction his removal It was apparent then that the general had thrown in his lot with the radical Republicans The inevitable choice of the Republicans for President, Grant was victorious over the Democratic candidate, Horatio Seymour, in 1868. Characterized chiefly by bitter partisan politics and shameless corruption, his administrations were a national disgrace. He was possibly the most ill-fitted man for the office the nation ever had as chief executive The punitive Reconstruction program of the radicals was pushed with new vigor, and monetary legislation favorable to the commercial and industrial interests was passed (see GREENBACK) The President associated with disreputable politicians and financiers, James Fisk and Jay Gould deceived him when they tried to corner the gold market in 1869 (see BLACK FRIDAY) In foreign affairs, however, much was accomplished by the able Secretary of State, Hamilton FISH The party unanimously renominated Grant in 1872, and he was reelected easily over Horace Greeley, the candidate of the LIBERAL REPUBLICAN PARTY and the Democrats. Toward the end of his second term his Secretary of War, William W Belknap, and his private secretary, Orville E Babcock, were implicated in graft scandals Through the loyalty of the honest but deceived Grant, both escaped punishment The two years following his retirement from the White House were spent in making a triumphal tour of the globe In 1880 the Republican "Old Guard," led by Roscoe Conkling, tried to secure another nomination for Grant but failed He took up his residence in New York city, where he invested his money in a fraudulent private banking business which collapsed in 1884, leaving Grant bankrupt Fatally ill from cancer of the throat, he set about writing his *Personal Memoirs* (2 vols , 1885–86) in order to provide for his family He died a few days after the manuscript was completed As solid and unpolished as Grant himself, these memoirs rank among the great military narratives of history The remains of the general and his wife lie in Grant's Tomb (completed 1897), in New York city See biographies by Hamlin Garland (1920) and R R McCormick (1934), A L Conger, *The Rise of U S Grant* (1929), J F C Fuller, *The Generalship of U S Grant* (1929), W B Hesseltine, *Ulysses S Grant, Politician* (1935), Horace Green, *General Grant's Last Stand* (1936), Allan Nevins, *Hamilton Fish the Inner History of the Grant Administration* (1936), A H Burne, *Lee, Grant, and Sherman* (1939), Lloyd Lewis, *Captain Sam Grant* (1950)

Granta, river, England see CAM

Grant City, city (pop 1,209), co seat of Worth co , NW Mo , near the Iowa boundary, in a farm area, settled 1864

Grantham (grăn'tum, grăn'thum), municipal borough (1931 pop 19,711, 1943 estimated pop 20,000), in the Parts of Kesteven, Lincolnshire, England, SSW of Lincoln, on the Witham and on the ancient Ermine Street It is the site of St Wulfram's Church, mainly 13th cent , with its 280-foot steeple, of Angel Inn, where in 1483 Richard III condemned the duke of Buckingham to death, of a bronze statue (on St Peter's Hill) of Sir Isaac Newton, who attended King's School in Grantham, and of George Hotel, described in Dickens's *Nicholas Nickleby* An Eleanor Cross was erected in Grantham (see ELEANOR OF CASTILE) Here, in 1643, Oliver Cromwell won his first victory over the royalists There are two libraries of old books

Grants Pass, city (pop 6,028), co seat of Josephine co , SW Oregon, W of Medford and on the Rogue river, inc 1887 It is the commercial center of a large irrigated district producing fruits and dairy products, lumbering and mining are also carried on The city is headquarters for Siskiyou National Forest

Grantsville, 1 City (pop 1,242), N central Utah, S of Great Salt Lake and NW of Tooele, settled 1850 by Mormons, inc 1867 The region is given over to grain, turkey raising, and grazing 2 Town (pop 1,052), co seat of Calhoun co , W central W Va , on the Little Kanawha river and SE of Parkersburg, in a livestock and dairy area, laid out 1866

Grantville, town (pop 1,267), W Ga , SW of Atlanta

Granvelle, Antoine Perrenot de (ătwan' pĕrunō' dŭ grăvĕl'), 1517–86, statesman in the service of Emperor Charles V and Philip II of Spain, cardinal of the Roman Church He was born at Besançon (then an imperial city), the son of Nicolas Perrenot de Granvelle (c 1485–1550), an imperial councilor to whose post he succeeded The younger Granvelle negotiated the marriage of the Infante Philip (later Philip II) to Queen Mary I of England After Philip's accession (1556) he became chief adviser to MARGARET OF PARMA, regent of the Netherlands His introduction of Spanish troops and of the Spanish Inquisition into the Netherlands infuriated all Dutch and Flemish patriots, Protestants and Catholics alike. William the Silent and Egmont and Hoorn headed the opposition. In 1564 Granvelle was advised by Philip II to retire to Besançon Granvelle subsequently served Philip as viceroy of Naples and adviser on Italian affairs. A part of his magnificent library is still preserved at his house in Besançon

Granville, Granville George Leveson-Gower, 2d **Earl,** 1815–91, British statesman He entered Parliament as a Whig in 1836 and served as foreign minister under Lord John Russell (1851–2) and under Gladstone (1870–74, 1880–85) As colonial secretary (1868–70) he had a large part in passing the bills which disestablished the Church of Ireland and began reforms in Irish land tenure.

Granville, John Carteret, 1st **Earl,** 1690–1763, British statesman While ambassador to Sweden (1719–21), he performed notable service as mediator in bringing about the treaties which ended the NORTHERN WAR After service as a secretary of state (1721–24) in Robert Walpole's cabinet, a period marked by constant jealousy between the two, he was lord lieutenant of Ireland (1724–30) He took the advice of his friend, Jonathan SWIFT, on Irish questions and was able to quiet the disturbances in that country For the next 12 years he was a leader of the opposition which in 1742 accomplished Walpole's downfall He became chief figure in the new cabinet, but was soon unpopular because he supported the king's Hanoverian policies and aided Maria Theresa in the War of the Austrian Succession President of the privy council (1751–63), he successfully opposed William Pitt's determination to declare war on Spain in 1761 See biography by W B Pemberton (1936), Basil Williams, *Carteret and Newcastle* (1943)

Granville, town (pop 26,949), New South Wales, Australia, W of Sydney, in the metropolitan area A manufacturing center, it has iron foundries, furniture factories, and flour mills

Granville (grăvēl'), town (pop 9,037), Manche dept , NW France, in Normandy This old fishing port on the English Channel was damaged in the Second World War

Granville (grăn'vĭl) **1** Village (pop 1,038), N Ill , SW of La Salle, in a coal and farm area, inc 1861 **2** Village (pop 3,173), E N Y , near the Vt line, settled 1780, inc 1885 It has slate quarries Roofing materials are made here **3** Village (pop 1,502), central Ohio, NE of Columbus, in a diversified farming area, settled 1805, inc 1832 It is the seat of Denison Univ (Baptist; coeducational, 1831)

Granville-Barker, Harley Granville, 1877–1946, English dramatist, actor, and producer As actor and producer for the STAGE Society in London, he introduced many of G B Shaw's plays He adapted the work of several continental writers—Schnitzler, Brieux, Martínez Sierra, and Serafín and Joaquín Álvarez Quintero Among his own plays, dealing usually with social problems, are *The Marrying of Ann Leete* (1901), *The Voysey Inheritance* (1905), *Waste* (1907), and *Madras House* (1910) His later works, chiefly on acting and stage technique, include *Prefaces to Shakespeare* (4 series, 1927–45) and *On Dramatic Method* (1931)

grape, name for vines of the genus *Vitis*, extensively cultivated throughout the Northern Hemisphere, and also for their fruits *Vitis vinifera*, which probably originated in the Mediterranean region and W Asia, is the grape (often called "the vine") of agriculture known from ancient times and frequently mentioned in the Bible At present it is cultivated in the Old World and in California but attempts to cultivate it in E North America have failed because of unfavorable climate and its susceptibility to disease Varieties of this species are used for making most WINE and for the RAISIN Grapes cultivated in North America E of the Rockies are all derived from native American species or are hybrids of American grapes and *Vitis vinifera* These include the muscadine varieties (scuppernong, James, Eden, and others) of the Gulf and Southeastern states and the labrusca varieties (among them the Concord, Catawba, and Delaware grapes) of the East and North There are numerous hybrids of all groups In art and literature the grape has been a symbol of revelry and joy See T V Munson, *Foundations of American Grape Culture* (1909), U P Hedrick, *Manual of American Grape-Growing* (1919), *Grape Propagation, Pruning, and Training* and *Grape Districts and Varieties in the United States* (U S Dept of Agriculture, Farmers' Buls 471 and 1689)

grapefruit or **pomelo** (pō'mulō), citrus fruit (*Citrus paradisi*), related to the orange and the lemon. Grapefruit is so named because it grows in bunches The large, globular edible fruits weigh 4 or 5 lb Although its origin may have been in SE Asia, the grapefruit as known today is probably the result of a seedling sport which appeared in the West Indies and which, in 1809, was introduced into Florida Since c 1900 it has been an important commercial product Florida, Texas, and California lead in its production in the United States The fruit has been much improved through selection of superior varieties, and now most trees are propagated by budding The grapefruit like all citrus fruits is valued for its vitamin content and alkaline reaction. The shaddock or pummelo is a closely related species (*C maxima*), popular in India and other parts of Asia and considered by some to be the progenitor of the grapefruit

grape hyacinth, any plant of the genus *Muscari*, early-spring-blooming low bulbous plants of the

Old World, with narrow leaves and small nodding flowers in a dense spikelike cluster The blue-flowered kinds are most common The grape hyacinth is popular for colonizing effects, does not require lifting, and easily becomes naturalized It may be increased by seeds or offsets

grape ivy: see IVY

Grapeland, town (pop 1,327), E Texas, SSE of Palestine, inc 1924 In an oil area, the town has refineries and recycling plants It also has sawmills and canning plants

grape sugar, see GLUCOSE

Grapevine, city (pop 1,043), N Texas, NE of, and near, Fort Worth, in a blackland farming area, settled 1854, inc 1907

graph, geometrical figure which shows relationships between quantities Statistics makes extensive use of both bar graphs, in which the lengths of the various bars show the quantities to be compared, and line graphs In line graphs the relationship to be studied is treated as a function and is plotted as in a coordinate system, such a system consists of two straight lines intersecting at right angles and each line has a unit length or scale indicated on it The position of any point in the same coordinate system can be described by giving its distances (with plus and minus signs to indicate respectively the distances to the right and left or up and down) from these lines In mathematics interest is almost exclusively in line graphs and what these reveal about the functions they represent

graphite (grăf'īt), an allotropic form of CARBON, known also as plumbago and black lead It is dark gray or black, crystalline (often in the form of shippery scales), greasy, and soft, with a metallic luster It is a good conductor of electricity and does not fuse at very high temperatures or burn easily It occurs in nature in grayish-black masses, amorphous or crystalline and containing impurities, and is obtained in various parts of the world—in the United States (amorphous) in Nevada, Michigan, and Rhode Island and (crystalline) in Alabama and North Carolina, in Brazil, in the British Isles and on the Continent, and in Ceylon, Madagascar, and Siberia It is also prepared artificially by treating hard coal in the electric furnaces, a process discovered by E G Acheson The uses of graphite are wide and diverse The so-called "lead" of pencils is in reality a mixture of graphite with clay Crucibles required to withstand high temperatures and also electrodes are commonly made of graphite It is used also in stove polish, in some paints, and as a lubricant

Gras, Félix (fālĕks' grăs'), 1844–1901, French Provençal writer He wrote poetry and was the author of novels, including *Li Rouge dóu Miejour* (1896, Eng tr, *The Reds of the Midi*, 1896), outstanding in Provençal prose

Grasmere, village, Westmorland, England, near the lake named Grasmere and NW of Ambleside Dove Cottage was the home of Wordsworth from 1799 until 1808, it now contains a Wordsworth museum Wordsworth, his wife, his sister Dorothy, his children, and Hartley Coleridge are buried in the churchyard of St Oswald's De Quincey and Samuel Taylor Coleridge also lived in Grasmere The lake, about a mile long, has a single island

grass, any plant of the important and widely distributed family Gramineæ, comprising more than 3,500 species The grasses are characterized by hollow, jointed stems and bladelike leaves Their inconspicuous, wind-pollinated flowers are in spikes, and the cereal grains are typical of their seedlike fruits The grasses include the hay and pasture grasses, e g, timothy and bluegrass, the cereals, sugar cane, and bamboo Popularly the word *grass* is used chiefly for species grown for hay and pasture and those cultivated for ornament, e g, ribbon grass and pampas grass It is loosely used also for plants which are not true grasses but which resemble them, e g, clover and alfalfa, which, like some true grasses, are used for hay and pasture The cereal grasses, including, for example, barley, wheat, rye, and Indian corn, have held a dominant place in agriculture since its beginnings in the Neolithic period Men and domestic animals are largely dependent on them for food The use of grasses to make a LAWN on both private and public grounds makes them important ornamental plants See U S Dept of Agriculture, *Grass the Yearbook of Agriculture* (1948)

Grasse, François Joseph Paul, comte de (frāswa' zhōzĕf' pōl' kōt' du grăs'), 1723–88, French admiral. In 1781, in command of a French fleet sent to cooperate with the Continental forces in the American Revolution, he defeated a British naval force under Admiral Hood and captured Tobago Then he came N to Virginia at the request of Washington and Rochambeau There he used his fleet to blockade the York and James rivers, thus bottling up Cornwallis at Yorktown He outmaneuvered and defeated a British force under Admiral Graves, and men from his ships also took part in the land fight Thus his was the crucial part in the great victory of the YORKTOWN CAMPAIGN It is ironic that after the Revolution was won Admiral de Grasse was severely defeated (1782) by Admiral Rodney in the West Indies

Grasse (grăs), town (pop 13,731), Alpes-Maritimes dept., SE France. It is an old town beautifully situated in the hills above Cannes Though it was destroyed by Francis I in 1536 to prevent the advance of Emperor Charles V, it has preserved a splendid early Gothic cathedral Surrounded by fields of flowers and rose gardens, Grasse is a center of the French perfumery industry Fragonard was born here

grasshopper, name used to refer to insects of two families of the order Orthoptera Most of the common grasshoppers and the locusts comprise the family of short-horned grasshoppers in which the antennae are shorter than the body The family of long-horned grasshoppers includes the katydid, the meadow grasshopper, and the Mormon, the sand, and the cave or camel crickets In the short-horned grasshoppers the auditory organ is on the first abdominal segment In the long-horned species it is on the foreleg Most grasshoppers have a narrow, flexible but firm pair of fore wings or wing covers and a pair of membranous underwings, often brightly colored They have powerful jumping legs Their jaws are strong Many eat vegetation but some are partly carnivorous Sounds are made chiefly by the males, by rubbing a portion of the hind leg against the fore wing or by rubbing a fore and a hind wing together The metamorphosis is gradual At times, especially during dry spells, locusts migrate in vast swarms destroying all vegetation in their path Serious crop losses are suffered in the Middle Western United States and in parts of South America and the Old World Mass starvation has resulted in some countries The desert locust is believed to have caused such plagues in biblical times Spreading poisonous bran mixtures on fields is a method of control See bulletins of the U S Dept of Agriculture

Grassi, Giovanni Battista (jōvän'nē bat-tē'sta grăs'sē), 1854–1925, Italian zoologist He demonstrated (1898) that the *Anopheles* mosquito carries the plasmodium of malaria in its digestive tract He is known also for his research on parasites, on migrations and metamorphosis in eels, on the phylloxera disease of the vine, and on termites

Grassmann, Hermann Günther (hĕr'man gun'tur grus'man), 1809–77, German mathematician and Sanskrit scholar, educated in Berlin He invented a new algebra of vectors (somewhat similar to quaternions) called *Ausdehnunglehre* (1878) He composed a dictionary and a translation of the Rig-Veda (1875, 1876–77) The linguistic law reformulated by him holds that in Indo-European bases, especially in Sanskrit and Greek, successive syllables may not commence with aspirates

grass-of-Parnassus, any plant of the genus *Parnassia*, small hardy herbs—not grass—of the North Temperate Zone The flowers, yellow or white, are conspicuously veined and solitary It is sometimes cultivated in damp or shady spots

Grass Valley, city (pop 5,701), N central Calif, NE of Sacramento, settled 1849, inc 1861 It is in a rich gold-mining area in the Sacramento valley The home of Lola Montez, who lived here from 1852 to 1854, is preserved, as is the childhood home of Lotta Crabtree

Grasty, Charles Henry, 1863–1924, American newspaper publisher and editor, b Fincastle, Va, educated at the Univ of Missouri From 1892 to 1908 he was publisher and editor of the Baltimore *News*, and from 1910 to 1914 publisher and editor of the Baltimore *Sun*, which he enlarged and to which he added an evening edition One of the ablest First World War correspondents, he sent dispatches to the New York *Times* and to Western papers He wrote *Flashes from the Front* (1918)

Gratiae see GRACES

Gratian (grā'shun), 359–83, Roman emperor of the West (375–83) At the death of his father VALENTINIAN I, he accepted the army's election of VALENTINIAN II as his colleague and took Britain, Gaul, and Spain as his own share of the empire, acting as guardian for Valentinian in Italy, Illyricum, and Africa After the death of VALENS (378), he made THEODOSIUS I emperor of the East Gratian fought successfully against the barbarians He took St AMBROSE as an adviser and vigorously attacked paganism, ordering the removal of the altar of Victory from the senate house and the confiscation of the revenues of the vestal virgins and refusing the title Pontifex Maximus Toward the end of his reign he neglected public affairs for hunting In 383 he was assassinated by MAXIMUS

Gratian, fl 1140, Italian canonist, founder of the science of CANON LAW Almost nothing is known of his life beyond the fact that he was a monk, almost certainly Camaldolite, and that he taught at the convent of SS Felix and Nabor (San Felice) in Bologna He was apparently very learned in scholasticism and Roman law About 1140 (perhaps a little later) appeared his great work, commonly known as the *Decretum* He appears to have called it *Concordia discordantium canonum* It is a synthesis of church law, divided into three parts the first deals with sources and principles of canon law and with ecclesiastical persons, the second, with ecclesiastical jurisdiction and property and to some extent with marriage and penance, the third, with sacraments and liturgy Gratian by his method makes the compilation a systematic treatise, his commentaries, the *dicta Gratiani*, make up a large part of the work Though the *Decretum* was private in character, it was used by the later popes and became the kernel of the *Corpus juris canonici*

Gratiot, Charles (grā'shut), 1752–1817, American fur trader, b Lausanne, Switzerland He entered the fur trade in Montreal, in 1769, and by 1777 had established a post at Cahokia, Ill When that place was captured (1778) by George Rogers Clark, he moved to St Louis, where he was a leading trader Late in life he was associated with John Jacob Astor

Gratiot Charles, 1786?–1855, American army engineer, b St Louis, grad West Point, 1806, son of Charles Gratiot (1752–1817) He was chief engineer of the army and inspector at West Point until 1838, when he was dismissed from the army on charges of irregularity in disbursement of government funds

Grattan, Henry (grăt'tn), 1746–1820, Irish patriot statesman He entered the Irish Parliament (1775) and became known at once as a brilliant orator and an advocate of increased freedom for Ireland The Irish Parliament was then made up largely of members appointed by the great Anglo-Irish landholders and was only free to accept the measures of the British privy council, which was supreme After repeated efforts Grattan led a successful fight for the independence of the Irish Parliament from the English government (1782) through repeal of Poynings's Law The Parliament thus freed is called Grattan's Parliament (1782–89) He tried to eliminate corruption in Irish government and advocated Catholic Emancipation as the only means for making the Irish Parliament representative, in 1792 he gained Catholics the right to vote in Ireland, and in 1794–95 the government agreed to allow Catholics to sit in Parliament, but was overruled by George III It is generally agreed that this as much as any single factor encouraged the Rising of '98 (see FITZGERALD, LORD EDWARD, and TONE, WOLFE) Before this (1797) Grattan had retired in indignation at the government's policy In 1800, on the last day of the debate on the union with England, Grattan bought a seat in the Irish Parliament and made the greatest speech of his career, but was unable to prevent the Act of Union from being adopted He sat in the British Parliament from 1805, taking little part except to support Catholic Emancipation See memoirs of Henry Grattan, Jr (1839–46), biography by Roger McHugh (1938)

Gratz, Barnard (grăts), 1738–1801, American merchant, b Langendorf, Upper Silesia Having worked in his cousin's countinghouse in London, Gratz came to Philadelphia (1754), where he became a fur trader Within a few years he and his brother Michael Gratz (1740–1811) established a firm that acquired tracts of land in Ohio, Kentucky, Indiana, and Illinois for pioneer settlement and ran boats on the Ohio river The brothers signed the non-importation resolutions against the Stamp Act and gave invaluable aid to the patriot cause in the American Revolution when they ran supplies through the British blockade Later, Barnard helped to amend Pennsylvania's and Maryland's constitutions so that Jews could hold office Michael was the father of Rebecca Gratz See W V Byars, ed, *B and M Gratz* (1916)

Grätz or **Graetz, Heinrich** (both hīn'rĭkh grĕts'), 1817–91, German-Jewish historian, exegete, and champion of orthodox Judaism His greatest claim to fame rests upon his *Geschichte der Juden* (11 vols, 1853–75), of which there have been numerous English translations as *History of the Jews*

Gratz, Rebecca (grăts), 1781–1869, American philanthropist, b Philadelphia, daughter of Michael Gratz Well known for her philanthropies in Philadelphia, she is remembered chiefly as the probable prototype of Rebecca in Scott's *Ivanhoe*, her charm and beauty having been described to Scott by Washington Irving Her letters were edited by David Philipson (1929) See biography by R G Osterweis (1935)

Graubunden, see GRISONS

Graudenz see GRUDZIADZ

Graun, Karl Heinrich (karl hīn'rĭkh groun'), 1704–59, German composer, best known for his oratorio *Der Tod Jesu* (1755), for many years performed annually in Germany As musical director to Frederick the Great, who wrote the libretto of Graun's *Montezuma* (1755), he was also director of the opera at Berlin, where his own Italianate operas and those of Johann Hasse dominated the stage

Graupner, Gottlieb (Johann Christian Gottlieb Graupner) (gōt'lēp group'nur), 1767–1836, German-American musician, b near Hanover He played the oboe in a regimental band in Hanover but left in 1788 and went to England, where he is believed to have played in an orchestra conducted by Haydn in 1791–92 After a few years in England he came to America, settling shortly in Charleston, S C, there he played in the City Theatre Orchestra and in 1796 married an English actress and singer who had come to Charleston from the Bos-

ton stage. The Graupners settled in Boston in 1798 and were for nearly a quarter of a century leading figures in its musical life. Graupner was active as music publisher and dealer, teacher of piano and the orchestral instruments, player of the oboe and double bass, and a founder of the Handel and Haydn Society. He organized (c 1810) the Philharmonic Society, which gave concerts until 1824; its importance in the development of the cultural life of Boston is inestimable See H. E. Johnson, *Musical Interludes in Boston* (1943)

Grau San Martín, Ramón (rämōn' grou' sän märtēn'), 1887–, president of Cuba (Sept , 1933–Jan , 1934, 1944–48), b. Pinar del Río. Physician and teacher at the Univ of Havana, Grau San Martín opposed Gerardo Machado. He then joined with student radicals and the military junta that ousted Carlos Manuel de Céspedes and instituted sweeping social reforms Grau was in turn removed from office by a coup led by Fulgencio Batista. He lost to Batista in 1940, but defeated the latter's candidate in the free election of 1944 and as president launched a program of social and economic readjustment He was succeeded in 1948 by a member of his party, Carlos Prío Socarrás

grave, place of interment of a corpse. It is usually constructed or excavated to conform to the requirements of rites of BURIAL, but sometimes a location, such as an unoccupied cave, is selected for reasons of convenience. Frequently graves are marked, in order that the living may avoid or be reminded to propitiate the spirits of the dead or that the memory of the deceased may continue to be cherished Such emotional associations reinforced by awe and tradition often have created shrines of grave sites FUNERAL CUSTOMS may decree inclusion in the grave of the equipment of the living, e g , weapons, food, and vessels Because graves are far less often disturbed than are former habitation sites, they provide invaluable source material for the archaeologist See also CEMETERY.

gravel, water-worn particles of rock, i e , stones and pebbles, usually round in form and intermediate in size between sand grains and boulders Deposits of gravel are formed as a result of the WEATHERING of rocks and the erosive and concentrating action of rivers and tides Gravel is composed of various kinds of rock, quartz being the most common. Under certain conditions gravel sometimes becomes consolidated into conglomerate It is used extensively in road building and for making concrete For road building it should be of a durable nature and contain a certain percentage of clay to act as a binder When used as a coarse aggregate for CONCRETE, it must be clean and free from clay and all organic matter Commercially, it is classified according to the size of the particles

Gravelbourg, town (pop 1,079), S Sask , SW of Moose Jaw. The College of Gravelbourg (Catholic) here is affiliated with Ottawa Univ

Gravelines (grävlēn'), town (pop 1,788), Nord dept., N France, between Calais and Dunkirk Now a small Channel port, it was early fortified, with ramparts dating from the 16th and 17th cent Here in 1558 the Spanish defeated the French.

Gravelotte: see SAINT-PRIVAT

Gravenhage, 's, Netherlands see HAGUE, THE.

Gravenhurst (grā'vunhûrst), town (pop 2,122), S Ont , just N of Toronto Chiefly a health resort, with three large sanatoriums, it has dairying, boatbuilding, and mining

Graves, Alfred Percival, 1846–1931, Irish poet, b Dublin An inspector of schools, he was twice president of the Irish literary society and a collector of many volumes of Irish music and folk songs He wrote the popular ballad *Father O'Flynn*, collected with others in his *Irish Poems* (1908) See his autobiography, *To Return to All That* (1930) Robert R Graves is his son

Graves, Bibb, 1873–1942, governor of Alabama (1927–31, 1935–39), b Hope Hull, near Montgomery, Ala., grad Univ of Alabama, 1894, and Yale Law School, 1896 He was colonel of a field artillery regiment in the First World War. Under his two administrations as governor the convict-leasing system was abolished and advances were made in education

Graves, Frank Pierrepont, 1869–, American educator, b Brooklyn, N Y., grad Columbia (B A , 1890, Ph.D., 1912) He taught Greek and classical philology at Tufts (1891–96), was president of the Univ of Wyoming (1896–98) and of the Univ of Washington (1898–1908), and later served as professor of education and dean at the Univ of Missouri, Ohio State Univ , and the Univ of Pennsylvania From 1921 until his retirement in 1940 he was commissioner of education and president of the Univ of the State of New York. He is the author of several works on Greek and the history of education and of three volumes of addresses and papers.

Graves, Henry Solon, 1871–, American forester, b. Marietta, Ohio He was chief of the U S. Forest Service from 1910 to 1920 and dean of the school of forestry at Yale from 1922 to 1939 His chief work has been for forest conservation Among his writings are *Forest Mensuration* (1906) and *Principles of Handling Woodlands* (1911).

Graves, Robert Ranke, 1895–, English poet and novelist; son of Alfred Perceval Graves He has written poetry—e g., *Collected Poems* (1938) and *Poems, 1938–1945* (1946)—and literary criticism, including *Survey of Modernist Poetry* (with Laura Riding, 1928), but he is best known for his historical novels. These include *I, Claudius* (1934) and its sequel, *Claudius the God* (1934), *Sergeant Lamb's America* (American title, 1940), and *Proceed, Sergeant Lamb* (1941). *The White Goddess* (1948), a work on poetic myth, was followed by a related novel, *Watch the North Wind Rise* (1949) Graves also wrote *Lawrence and the Arabian Adventure* (American title, 1928) See his *Good-bye to All That* (1929) and *But It Still Goes On* (1930), which are autobiographical

Graves, Thomas Graves, Baron, 1725?–1802, British admiral He served in the navy in the War of the Spanish Succession and the Seven Years War. In July, 1781, he was made commander in chief in North American waters In Sept , 1781, his fleet unexpectedly met the superior French fleet under Admiral de Grasse at the mouth of Chesapeake Bay and in the resulting action was worsted Graves returned to New York, refitted, and, with additional ships and the army of Sir Henry Clinton on board, returned, but arrived too late to prevent the surrender of Lord Cornwallis at Yorktown The French fleet had also been reinforced, so that Graves did not attack, but returned to New York and resigned his command In the French Revolutionary Wars, Graves was made second in command of the Channel Fleet, played a leading part in 1794, and for his conduct was raised to the peerage.

Graves, William Sidney, 1865–1940, American army officer, b Hill co , Texas, grad West Point, 1889 He served (1899–1901) in the Philippines and commanded (1918–20) American forces in Siberia The story of his conduct of the Siberian forces is told in his *America's Siberian Adventures* (1941)

Gravesend (grāv'sĕnd'), municipal borough (1931 pop 35,495, 1947 estimated pop 42,390), Kent, England, on the southern bank of the Thames SE of London and opposite Tilbury The town's industries include shipbuilding, metal casting, and the making of soap, leather, and paper Rosherville Gardens was formerly a resort of Londoners. Pocahontas is buried in the parish churchyard, memorial windows of this church (St. George's) were provided by the ladies of Virginia The town is the headquarters of the Royal Thames Yacht Club. It has been for centuries the place of the official reception of London's distinguished visitors and the starting point of expeditions It is a station of pilots and customhouse officers

Graves's disease · see THYROID GLAND

Gravier, Jacques (shak' grāvyā'), 1651–1708, French Jesuit missionary to the Illinois Indians He went to Canada in 1685 He was sent west to the St Ignace mission at Mackinac in 1687 and thence (1688) to Illinois to aid Father Allouez with the tribes of that region He succeeded Father Allouez as vicar general of Illinois Except for three years at St Ignace, Gravier spent the remainder of his life with the Illinois Indians, reducing their language to writing and preparing a grammar for it. He journeyed to New Orleans in 1700 and in 1706

gravitation. In his law of gravitation, Isaac Newton states that all bodies in the universe, from the heavenly bodies down to the smallest particles of matter, have a mutual attraction for one another Because it involves all kinds of bodies, it is often known as the law of universal gravitation This force of attraction acting between all bodies to pull them together is in direct proportion to the product of the masses of the bodies under consideration and varies inversely as the square of the distance between them Experiment has shown (so far as experiment can yet show) that no matter what the circumstances gravitation is always acting between two given bodies and can under no known circumstances be destroyed. The gravitation constant is the force which a body with a mass of one gram exerts upon another body with the same mass at a distance of one centimeter. Although the law of gravitation was discovered by Newton (i e , was first stated by him), the work of Johannes Kepler was important in making its formulation possible In substantiating its universal application, the experiments of Cavendish were of primary significance in their startlingly accurate results and conclusions **Gravity** is commonly used synonymously with gravitation, but in correct usage a definite distinction is made Whereas gravitation is the attractive force acting to draw any bodies together, gravity indicates that force in operation between the earth and other bodies, i e., that acting to draw bodies towards the earth. It is affected by the centrifugal force set up by the earth's rotation, and its direction is not, therefore, on a straight line with the center of the earth. The force of gravity between the earth and another body is the cause of that body's having weight (as distinguished from MASS) The force can be considered as acting upon the whole body at a definite point (the center of gravity) within the body Since the force of gravity varies in different localities, the weight of a body also varies, depending upon the place in which it is measured. Gravity gives to a falling body a uniform acceleration, i.e., causes the speed at which it falls to increase a uniform amount for each second of time that it is falling This increase in velocity per unit of time is known as the acceleration of gravity Although a feather falls to the ground much more slowly than a lead ball, for example, this variation is caused by air resistance and not by the differences in mass and volume. This has been demonstrated many times, first by Galileo's classic experiment in which solid metal balls of different mass and volume but all heavy enough to make the effect of air resistance upon them not noticeable were dropped from a tower simultaneously and struck the ground at the same time and subsequently by many other experiments in which very different kinds of bodies, as lead shot and feathers, gave the same results when allowed to fall through a vacuum In experimental work, however, the acceleration of gravity has been found to differ somewhat, though very slightly, in different localities and at different altitudes above sea level For example, at Key West, Fla , the increase in velocity per second is 32 11 ft per second, whereas at Ootacamund, India, at an altitude of 7,220 ft., it is 32 08 ft. per second To reach an average value, data so obtained are first "reduced to sea level" by the addition or subtraction of various carefully determined "correction" values and then compared. Because the differences are found to be so small, the value for the acceleration of gravity used commonly as a standard in ordinary calculations is 32 ft (or 980 cm) per second per second at sea level A body starting from rest and falling freely would have a velocity of 32 ft. per second at the end of the first second, of 64 ft. per second at the end of the second second, of 96 ft. per second at the end of the third, and so on, the increase in velocity each second being 32 ft per second

Gray, Asa, 1810–88, America's leading botanist and taxonomist, b. Oneida co., N.Y As professor of natural history at Harvard from 1842, he was the teacher of many eminent botanists Through his voluminous writings in periodicals and his well-known textbooks, he helped to popularize the study of botany His *Manual of the Botany of Northern United States* (1848) and its later revisions remain outstanding in the field Among his other works are *Elements of Botany* (1836), *How Plants Grow* (1858), *How Plants Behave* (1872), *Darwiniana* (1876), and *Natural Science and Religion* (1880) He was one of Darwin's early supporters With John Torrey he attempted a new and natural classification of plants. See J. L. Gray, *Letters of Asa Gray* (1893)

Gray, Elisha, 1835–1901, American inventor, b Barnesville, Ohio He patented many electrical devices, most of them having to do with the telegraph His telautograph for transmitting handwriting and line drawing has been widely used While experimenting in 1875 with the idea of sending musical notes by wire, as a means to multiple telegraphy, he hit upon the idea of transmitting the human voice and early in 1876 filed with the patent office a caveat for such an invention. Bell's final patent had been registered just a few hours before The Western Union Telegraph Company, which acquired both Gray's and Edison's patents was defeated by the Bell Telephone Company in one of the most famous patent controversies in American history

Gray, George, 1840–1925, American jurist, b New Castle, Del , grad Princeton, 1859 He studied at Harvard Law School and became a lawyer and a politician Gray was the attorney general of Delaware from 1879 to 1885 and U S Senator from 1885 to 1899 On many occasions from 1898 to 1916 he was a U.S member of commissions to arbitrate differences between the United States and other countries—notably in drawing up the treaty that ended the Spanish-American War, in negotiating a settlement of the dispute over fisheries of the N Atlantic, and in calming trouble with Mexico in 1916. He was also (1900–1920) on the panel of the Permanent Court of Arbitration at The Hague He was chairman of Theodore Roosevelt's commission to arbitrate the 1902 anthracite coal strike and served as labor arbitrator

Gray, Gordon, 1909–, U S Secretary of the Army (1949–50), b Baltimore, grad Univ. of North Carolina, 1930, LL.B Yale, 1933. He practiced law, entered newspaper publishing, and served (1938–42) in the North Carolina legislature. In the Second World War he enlisted in the U.S. army as a private and rose to the rank of captain. After discharge, he was again (1946) elected to the North Carolina legislature, but resigned (1947) to become Assistant Secretary of the Army when the country's defenses were reorganized He succeeded Kenneth C Royall and resigned to become president of the Univ of North Carolina

Gray, Henry Peters, 1819–77, American painter, b New York city. He studied in Europe the works of the Old Masters Of his portraits, that of William Cullen Bryant is in the New York Historical Society Other works include *Cupid Begging His Arrow* (Pa Acad. of the Fine Arts); *Judgment*

of Paris (Corcoran Gall.); and *Wages of War, Cleopatra Dissolving the Pearl,* and *Greek Lovers* (Metropolitan Mus.). Gray was president of the National Academy of Design from 1869 to 1871

Gray, Horace, 1828–1902, American jurist, Associate Justice of the U S Supreme Court (1881–1902), b. Boston, grad Harvard (B A , 1845; LL.B., 1849) At first a reporter (1854–61) to the Massachusetts supreme court, he later entered into law partnership with Ebenezer R Hoar Defeated (1800) in the race for Massachusetts attorney general, he was appointed (1864) to the state supreme court and later (1873) became chief justice of the court. He was appointed by President Chester A Arthur to the U S Supreme Court, where he served the last 21 years of his life Gray on his own initiative while in law school began analytical case study as an approach to the historical development of law principles, and as a lawyer and jurist he was noted for his use of precedent cases

Gray, John Chipman, 1839–1915, American lawyer and teacher, b Brighton, Mass., grad Harvard, 1859, and Harvard Law School, 1861 After serving in the Civil War he began his practice in Boston and in 1869 began a connection with Harvard Law School as teacher He continued both practice and teaching until the last years of his life and was Royall professor at Harvard from 1883 until 1913 He became one of the leading advocates of the case system of teaching law He was a recognized authority both in England and America on the law of real property. Besides his *Select Cases . on the Law of Property* (6 vols , 1888–92), he wrote *Restraints on the Alienation of Property* (1883), *The Rule against Perpetuities* (1886), and *The Nature and Sources of the Law* (1909) See Roland Gray, *John Chipman Gray* (1917)

Gray, John Purdue, 1825–86, American alienist, b. Centre co , Pa , M D Univ of Pennsylvania, 1848 An advocate of humane treatment of the insane, he was from 1854 medical superintendent of the state asylum at Utica, N.Y., and editor of the *American Journal of Insanity*

Gray, Robert, 1755–1806, American sea captain, discoverer of the Columbia river, b Tiverton, R I He probably served in the Continental navy in the American Revolution In 1787 he and John Kendrick were sent by Boston merchants to the Northwest coast, with two vessels, the *Columbia Rediviva* and the sloop *Lady Washington* In 1789 Gray was transferred in command to the *Columbia,* took a rich cargo of sea otter skins to Canton, and in 1790 was back in Boston, the first American to circumnavigate the globe In 1791 he was back on the Northwest Coast and wintered there On May 11, 1792, he took the *Columbia* past the dangerous bar and up the river later named after the ship Though Spanish and English navigators—notably Bruno Heceta, John Meares, and George Vancouver —had been familiar with the bar at the Columbia's mouth, Gray was the first to enter the river itself

Gray, Thomas, 1716–71, English poet The son of a scrivener, Gray was educated at Eton, where he met Horace Walpole, and at Peterhouse, Cambridge, which he left without a degree in 1738 He began a grand tour of the Continent with Walpole in 1739 They quarreled in Italy in 1741, and Gray returned to England to live with his mother at Stoke Poges As a commoner he went back to the seclusion of Cambridge in 1742 and received his LL B in 1744 In the same year he became reconciled with Walpole Gray refused the laureateship in 1757, and in 1768 he was made professor of modern history at Cambridge His first poems, including "To Spring," "On a Distant Prospect of Eton College," and "Sonnet upon the Death of Richard West," were written in 1742 After years of revision he finished his famous "An Elegy Written in a Country Churchyard" in 1750 He completed "The Progress of Poesy" in 1754, "The Bard" in 1757, and "The Fatal Sisters" and "The Descent of Odin" in 1761 Gray was a transitional poet, and his work—from the classicism of the 1742 poems to the romantic tendencies of "The Descent of Odin" —illustrates the evolution of English poetry in the 18th cent In his own day his work met with the hostility of Dr. Johnson, while after Gray's death his poetry drew the censure of Wordsworth and Coleridge Although he produced a quantity of prose, Gray did not write a large amount of poetry His method of composition—he often spent years revising a poem—resulted instead in a handful of finely finished poems characterized by a melodic smoothness Much of Gray's poetry is tinged with melancholy, and even more of his poems reflect his extensive learning, for he was well acquainted not only with the classics, but with Old Norse, Welsh, and Icelandic literature as well He had little interest in publication, and he had the misfortune to have William Mason for his first editor, a man with singular incompetence and a complete lack of understanding of Gray's temperament Gray's letters, which reveal a fund of humor, a talent for picturesque description, and a strong sense of loyalty, are among the finest in the English language See his correspondence (ed by Paget Toynbee and Leonard Whibley, 1935), biographies by Edmund Gosse (1882) and W. P Jones (1937), Lord David Cecil, *Two Quiet Lives· Dorothy Osborne, Thomas Gray* (1948).

Gray, town (pop 1,378), SW Maine, between Portland and Auburn; settled c 1750, inc. 1778. It includes the villages of Gray, Dry Mills (site of a large fish hatchery and a game farm), and North Gray (site of an early woolen mill).

Gray Eminence: see Joseph, Father

Grayling, city (pop 2,124), co seat of Crawford co , N Mich , on the Au Sable and ESE of Traverse City; settled 1872, inc as a village 1903, as a city 1935 Hartwick Pines State Park and a military training camp are near here

grayling, game fish related to the salmon and found chiefly in clear, cold, fresh waters of the Northern Hemisphere. It has a high dorsal fin and is usually vivid with mixed purples and blues, but is sometimes marked with red, blue, purple, or green. The generic name *Thymallus* refers to the odor of wild thyme which pervades freshly caught specimens The flesh is delicious In North America are found the arctic or Alaska grayling, said to reach a weight of 4 lb , the now scarce Michigan grayling, and the Montana grayling, which some authorities consider a slightly duller color phase of the Michigan form The common grayling (*Thymallus thymallus*) inhabits European rivers, and a related form is found in Siberia

Grays Harbor, inlet of the Pacific Ocean, W Wash , into which the Chehalis river empties. Aberdeen and Hoquiam are on its shores

Gray's Inn· see Inns of Court

Grays Lake or **Grayslake,** resort village (pop 1,182), NE Ill , NNW of Chicago, inc 1895

Grayson, Cary Travers, 1878–1938, American naval officer and surgeon, b Culpeper co , Va As a physician he entered (1903) the U S navy, was graduated (1904) from the navy medical school, and after further service and study became (1916) medical director with the rank of rear admiral He was personal physician to Theodore Roosevelt, William Howard Taft, and Woodrow Wilson He was twice (1933, 1937) inaugural committee chairman for Franklin D Roosevelt and was chosen (1935) chairman of the American Red Cross

Grayson, David: see Baker, Ray Stannard

Grayson, town (pop 1,176), co seat of Carter co , E Ky , SW of Ashland, in an area of clay, iron, and coal deposits and farms Kentucky Christian College is here Near by are Carter and Cascade limestone caves and several natural bridges

Grays Peak, 14,274 ft high, N central Colo , in the Front Range of the Rocky Mts

Grays Thurrock, former urban district (1931 pop 18,173), since 1936 part of Thurrock urban district (1947 estimated pop 73,980), Essex, England, on the Thames below London Remains of extinct mammals have been found in the chalk pits near the town Near here are fine examples of the ancient excavations known as deneholes

Grayville, city (pop 2,240), SE Ill , on the Wabash river and NW of Evansville, Ind , in a farming area, inc 1851

Graz (grats), city (pop 219,974), capital of Styria, SE Austria, on the Mur and 80 mi SW of Vienna The second largest city of Austria, it was founded probably in the 12th cent and is built around the Schlossberg, on which there are the Uhrturm [clock tower] and the ruins of a 15th-century fortress, demolished by the French in 1809 Graz has a Gothic cathedral, several medieval churches (13th-15th cent), and a town hall (19th cent) built in Renaissance style The Landhaus [provincial parliament] dates from the 16th cent The Johanneum museum (founded 1811) is one of the finest in Austria At the state university, founded in the 16th cent , Kepler taught for several years Graz is a tourist center and has a large metal industry

Graziani, Rodolfo (rôdôl'fô grätsēä'nē), 1882–, Italian marshal After service in the African colonies and in the First World War, he won fame in Libya (1921–29) by his pacification of the Senussi tribesmen He was made (1935) commander in Italian Somaliland His prosecution of the southern campaign in the Italo-Ethiopian war won him much acclaim in Italy He was promoted marshal and served (1936–37) as viceroy of Ethiopia An attempt on his life was punished by numerous executions. Graziani was created marquis of Neghelli (1937), was made chief of staff of the Italian army (1939), and became governor of Libya (1940) In the Second World War, Graziani's army was completely routed (winter 1940–41) by the British in the Libyan campaign, and Graziani resigned his command Arrested in 1945, Graziani was indicted for high treason. His trial, begun in 1948, was suspended in 1949

Grazzini, Antonio Francesco (äntō'nyō fränchā'skō grät-tsē'nē), 1503–84, Italian author, one of the founders of the Accademia della Crusca (see Italian literature), an apothecary by trade He took the name Il Lasca [the roach] as a member of the Accademia degli Umidi, each of whose members had to assume the name of a fish He is best known for his stories under the title *Le Cene* [the suppers], tales which deal with Florentine life For translations, see Thomas Roscoe, *The Italian Novelists* (1825)

grease, lubricating material used to reduce friction between surfaces where a substance thicker than oil is required. The most commonly used greases are made from a mineral oil thickened with a soap having a metal base (usually calcium or lime, sodium or caustic soda, aluminum, or lead) Calcium soap greases are much used as axle grease, waterpump grease, and pressure-gun grease and on oilfield pumping equipment Sodium soap greases are used for automotive wheel bearings and steering-sector lubrication and similar purposes and for ball bearings and roller bearings (for which the grease used generally contains a base of both calcium and soda) Greases for lubricating concrete mixers, mechanical digging apparatus, tractor rollers, and parts of other machines working at low speed and bearing heavy loads are made from mixtures of mineral oil and solid materials such as graphite, mica, asbestos fibers, and talc Greases must be carefully selected according to the purpose for which they are to be used, they must be of the proper texture, thickness, and melting point in order to be useful

greasewood, shrubby plant (*Sarcobatus vermiculatus*) of the goosefoot family, having a very hard yellow wood It grows abundantly on the alkali soils of the W United States Cattle and sheep feed on the leaves, and the wood is used locally for fuel The name is also applied to similar plants common to the same regions, e g , the creosote bush (*Larrea tridentata*) and the salt bush (*Atriplex*)

Great Australian Bight, wide bay of the Indian Ocean, indenting the south coast of Australia

Great Awakening, series of religious revivals which swept over the American colonies about the middle of the 18th cent It resulted in doctrinal changes and influenced social and political thought It may be said to have begun in New Jersey under the evangelical preaching of Theodorus Frelinghuysen of the Dutch Reformed Church and Gilbert Tennent of the Presbyterian denomination, Tennent became the leading figure of the Great Awakening in the Middle Colonies In New England it was started by the stirring preaching of Jonathan Edwards of Northampton Other preachers followed these, and with the tour (1739–41) of George Whitefield, one of the most famous preachers of his day, the isolated streams of revivalism united and flowed into all the colonies The revival reached the South with the preaching (1748–59) of Samuel Davies among the Presbyterians of Virginia, with the great success of the Baptists in North Carolina in the 1760s, and with the rapid spread of Methodism shortly before the Revolution In New England the movement died out rapidly, leaving behind bitter doctrinal disputes between the "New Lights" and the "Old Lights," the latter led by Charles Chauncy, a Boston clergyman, who opposed the revivalist movement as extravagant and impermanent The theology of the "New Lights," a slightly modified Calvinism, crystallized into the Edwardian or New England theology which became dominant in W New England, while the liberal doctrines of the "Old Lights," strong in Boston and the vicinity, were destined to develop into the Universalist or Unitarian positions A similar division between "New Sides" and "Old Sides" took place in the Middle Colonies, causing a schism (1741–58) in the Presbyterian Church In Virginia the rapid growth of dissenting sects was a leading factor in the overthrow of the Established Church and the passage of the religious liberty act after the Revolution The Great Awakening also resulted in an outburst of missionary effort among the Indians, represented by David Brainerd, Eleazar Wheelock, and Samuel Kirkland, in the first movement of importance against slavery, and in various humanitarian undertakings It led to the founding of a number of academies and colleges, notably Princeton, Brown, Rutgers, and Dartmouth It served to build up interests that were intercolonial in character, to increase opposition to the Anglican Church and the royal officials who supported it, and to create a democratic spirit in religion that was allied to the insistence on political home rule See Joseph Tracy, *A History of the Revival of Religion in the Time of Edwards and Whitefield* (1842), C H Maxson, *The Great Awakening in the Middle Colonies* (1920), W M. Gewehr, *The Great Awakening in Virginia* (1930)

Great Barrier Reef, largest coral reef in the world, in the Coral Sea, forming a natural breakwater for the coast of Queensland, Australia It is 1,250 mi. long, and the channel separating it from the mainland is from 10 to 100 mi wide The islets contained within the reef have coral gardens and unusual marine life

Great Barrington, town (pop 5,824), SW Mass., on the Housatonic, in the Berkshires near the N Y line, settled 1726, set off from Sheffield 1761 Many old houses remain, including the home of William Cullen Bryant, who was town clerk, 1816–25. An annual fair is held The town is a summer resort and a ski center.

Great Basin, an interior region of the W United States, between the west wall of the Rocky Mts and the east wall of the Sierra Nevada and extending SE to the Colorado Plateau and SW to the

Sonoran Desert Covering an area of over 200,000 sq mi , it is approximately triangular in shape, with the widest part at the north The Great Basin proper includes areas in Oregon and Idaho most of Nevada, the west half of Utah, and a portion of SE California The larger basin region is sometimes defined as including the interior areas between the drainage basins of the Columbia, Colorado, and Rio Grande rivers The surface of the Great Basin is characterized by a series of rugged north-south mountain ranges, divided by deep, flat valleys The altitude varies from thousands of feet above sea level to 280 ft below in Death Valley National Monument in the south Little rain falls in the Basin and its streams find no ultimate outlet to the ocean The Humboldt river, largest in the area, disappears in Humboldt Sink The Carson river is dispersed in Carson Sink The lakes are generally saline In some early geological age two great lakes, Bonneville and Lahontan, covered the greater part of the northern section Great Salt Lake, Utah Lake, and Sevier Lake are remnants of Lake Bonneville, Lake Lahontan survives in Pyramid, Winnemucca, and Walker lakes In his expeditions of 1843–45, J C Frémont explored parts of the Great Basin and gave it its name Gold, silver, and other minerals are found here Where irrigation has been developed, farming is successfully carried on

Great Bear Lake, large lake, c 175 mi long and 25 to 45 mi wide, N central Mackenzie dist , Northwest Territories It is drained to the west by Great Bear river, which flows c 100 mi into the Mackenzie river Because of its northern latitude the lake's waters are open only about four months a year It was discovered by traders of the North West Company c 1800, and a trading post was established there Fort Franklin on its southwest shore was built by Sir John Franklin in 1825 Discoveries of rich radium ores on the eastern end in 1930 caused much mining excitement in the years immediately following Eldorado Mines is on this side of the lake

Great Belt · see Belt, Great

Great Bend, city (pop 9,044), co seat of Barton co , central Kansas, on the Arkansas and on the old Santa Fe and Chisholm trails, inc 1872 It is a trade center for a grain region In the 1930s the area's oil and natural-gas resources were tapped Fort Zarah, an early post east of the town, was abandoned in 1869 The Federal game preserve of Cheyenne Bottoms is near by

Great Berge, Union of South Africa see Paarl

Great Berkhampstead, Berkhampstead, or Berkhamsted (all bûrk'umstĕd, bärk'–), urban district (1931 pop 8,052, 1943 estimated pop 16,000), Hertfordshire, England It is the site of a royal castle dating from the 11th cent in which Edgar Atheling submitted to William the Conqueror, Thomas à Becket lived, and Henry II held court John II of France was imprisoned in the castle after Poitiers The castle was pulled down in the 16th cent and replaced by Berkhamsted House, where Charles I spent part of his boyhood There is a 16th-century grammar school William Cowper was born in the former rectory

Great Blasket, Ireland see Blasket Islands

Great Britain, largest of the British Isles Politically the name has been given since the Act of Union (1707) to England, Scotland, and Wales Together with Northern Ireland they constitute the United Kingdom, which formerly included all of Ireland The island was originally called Britain That heading has a sketch of its history and geography until the Germanic invasions of the 5th and 6th cent Its history thereafter is treated in England, Scotland (until 1707), and Wales (until 1284).

The Growth of Empire Upon the accession of James VI of Scotland as James I of England in 1603, the crowns of the two countries had been joined, permanently as it transpired, and Scotland's history paralleled England's thereafter When England was involved in the War of the Spanish Succession against France (despite the early successes of the duke of Marlborough), the threat of Scottish Jacobites to enthrone an exiled Stuart in Scotland after Queen Anne's death instead of accepting an English sovereign of the house of Hanover presented a possibility of disruption of the country and of the growing empire To avoid this Scotland was united to England in 1707, the Scottish Parliament and privy council were absorbed by those of Great Britain, but no change occurred in London except for extension of representation to Scotland The government remained that described under *England.* Thus, despite opposition by the Jacobites, George I succeeded (1714) Anne and introduced the Hanoverian line of rulers In the reigns of William III and Anne, the founding of the Bank of England (1694) and the creation of the permanent national debt coincided with, and were part of, mercantile England's growing dominance of world trade and finance England's empire was rapidly established, partly as the victorious outcome of rivalry with Holland and France confirmed by the Peace of Utrecht (1713–14) The reigns of George I, George II, and George III were a period of internal stability, of expansion and of the development of the cabinet as the central organ of government under Sir Robert Walpole and under the rival party leaders of the late 18th cent , among them William Pitt, earl of Chatham, his son William Pitt, Charles James Fox, and Edmund Burke It was a period of great achievement in literature and the arts and of the glorification of common sense In the continuing struggle with France, Great Britain fought both France and Spain in the European war called the War of the Austrian Succession From the Seven Years War which was ended by the Peace of Paris in 1763, Britain emerged as mistress of the seas That peace confirmed the British predominance in India which had been won by the East India Company under Robert Clive and was to be consolidated by the administrator Warren Hastings In North America the treaty granted to Great Britain immensely increased territory conquered by James Wolfe and lesser-known heroes of empire in the last of the French and Indian Wars The American Revolution caused a serious loss to the empire, but it was soon more than made up Settlements of Australia and New Zealand resulted from the explorations by Capt James Cook Further, England gained great power and improved lines of control and empire communication in the French Revolutionary Wars and those with Napoleon I, in which Horatio Nelson on the sea and Arthur Wellesley, duke of Wellington, on land won new victories, ending with the downfall of Napoleon at Waterloo (1815). George Canning and Viscount Castlereagh shaped British foreign policy A by-product of the Napoleonic Wars was the War of 1812 Meanwhile British political conservatism in reaction to the French Revolution delayed legislation which should have kept pace with the great changes brought about by the inclosures and other 18th-century changes of agricultural methods, by a tremendously increasing population, and by the Industrial Revolution, which began in the latter half of the century In particular these changes resulted in the shift of population in England from the south and east to the north and the Midlands In Scotland, Glasgow grew rapidly to be the largest city, skilled workmen were concentrated in the Tyne and Forth shipyards The rising demand for wool in the early years of the 19th cent caused many Scots to be driven from their lands, which were then turned into sheep pastures Uneasy Ireland had obtained an independent Parliament in 1782, but needed reforms in that Parliament were denied, and rebellion broke out in 1798 The English remedy was to unite England and a reluctant Ireland (1800), with Irish representation in the British Parliament The problem of Ireland was thereby only made more acute Catholic Emancipation, promised in 1800, occurred only in 1829, and the Church of Ireland was not disestablished until 1869. Absentee landlordism continued, with the attendant evils of poverty and hatred of the English.

Commercial Leadership of the World George IV (prince regent before becoming king) was followed by William IV, and he was succeeded by Victoria, upon whose succession the throne of Hanover was separated from that of Great Britain Her reign, the longest in British history (1837–1901), covered the greater part of the 19th cent. England reached in this century the height of commercial and industrial prosperity. Chief among the political issues was the delayed political reform, achieved with difficulty, but with a minimum of violence (as in Chartism), in the Reform Bills of 1832, 1867, and 1884, which admitted to the franchise first the great new middle class and then the working class Humanitarian and economic legislation (the factory acts, poor laws, and prohibition of the slave trade) removed some of the abuses of English social life After 1832 the reformed Parliament under the pressure of the rising new Liberal party ended slavery and paid indemnities to the slaveowners throughout the empire The profitable trade with the United States had lent force to the arguments for free trade and laissez faire by Adam Smith, Jeremy Bentham, and John Stuart Mill Richard Cobden and John Bright led agitation for the repeal of the corn laws, which was finally achieved through the agency of Sir Robert Peel When Peel, however, made free trade the policy of Great Britain, he split the Conservative party he led In this period a deliberate policy of colonial representative self-government was started, beginning with Canada, and it was combined with controlled emigration from overpopulated Great Britain At the demand of Australians the transportation of criminals to Australia was stopped in mid-century, and self-government was set up there India continued to be expanded by conquest and annexation, in the course of which British military force was used, and the government was in 1833 brought under the colonial office British trade was worldwide and prosperous under the protection of the British navy Great Britain's commercial interests brought on the Opium War with China in 1840, with its resultant British opening of five Chinese ports and British control of Hong Kong Great Britain, under the leadership of Viscount Palmerston, also took part in the Crimean War. The dominating statesmen of the later part of Victoria's reign were the Liberal, William Ewart Gladstone, and the Conservative, Benjamin Disraeli Gladstone brought about many reforms. He attempted to solve the problem of Ireland by the disestablishment of the Church of Ireland in 1869 and by various acts concerning the Irish Land Question and was defeated finally when attempting to obtain Home Rule for Ireland. Gladstone's foreign policy, which kept England out of the Franco-Prussian War of 1870, was called weak That of Disraeli was to strengthen the empire He directed the purchase of the Suez Canal in 1875, his protests over the Russo-Turkish War of 1877 resulted in the temporary settlement of the Eastern Question at the Congress of Berlin in 1878, under him also was initiated the system of dual control with France in Egypt Problems of government and expansion of the empire (see British Empire) were major concerns of the home government and led to open warfare at the end of the century in the South African War With the height of prosperity in the latter half of Victoria's reign came an outpouring of private philanthropy and widespread moral earnestness Also, subservience to propriety became marked and seriously hampered improvement in the position of woman well into the 20th cent The administration of government was improved by the foundation of the civil service, and efforts were made to provide and regulate primary and secondary education on national lines Trade unions became increasingly the spokesmen of laborers and laid the foundations of the organizations which were to have great political power in the next century

Before the Second World War Victoria was succeeded by her son Edward VII, who was in 1910 succeeded by George V In internal policy the first years of Edward VII's reign were devoted to the tariff-reform question (see Chamberlain, Joseph) and matters of economic and social progress—old-age pensions, woman suffrage, and child welfare The financial measures sponsored by David Lloyd George brought about the struggle that resulted in drastic reduction of the power of the House of Lords (1911), thus signalizing the collapse of the nobility, which had been undermined in the 19th cent More important was the trend of foreign affairs Naval and colonial rivalry with Germany helped to drive Great Britain into an alliance with France and Russia (see Triple Alliance and Triple Entente) As the complexion of foreign affairs changed (as in the crises over Morocco), Great Britain was drawn closer and closer to the Allies In 1914 Sir Edward Grey made valiant efforts to prevent the outbreak of war, but after the violation of Belgian neutrality, Great Britain plunged into the First World War (see World War, First) Years of fighting drained Great Britain of wealth and man power, despite the extensive participation of the dominions, and Lloyd George, who at the head of a coalition ministry had replaced Herbert Asquith as premier in 1916, was unable to satisfy the British by the gains made in the Treaty of Versailles (see Versailles, Treaty of) Years of disillusion and difficulty began To such general problems as disarmament, reparations, and war debts were added complex economic problems, difficult reorganization and administration of the British Empire, and the new relation with the Irish Free State The alignment of the older parties (Conservative and Liberal, the heirs of Tory and Whig) was upset by the tremendous and rapid growth of the Labour party, fostered by the gloomy economic outlook and unemployment The first victory of the Labour party made Ramsay MacDonald premier in 1924. Labor troubles grew more and more tense and produced the general strike of 1926 The maintenance of economic stability became an even more pressing problem with the world-wide economic depression In 1931 a crisis in government was reached A coalition government, headed by MacDonald, but largely Conservative in tone, was organized Desperate measures were attempted, the gold standard was abandoned, payments of war debts were repudiated, free trade was supplanted by protection with preferential tariffs within the empire and with treaty nations The Ottawa Agreements of 1931 initiated the new policy of economic alignment in the empire Even so, Great Britain recovered only slowly from the depression of the early 1930s New industries, such as automobile and electric-goods manufacture, flourished, but older industries, such as coal mining and cotton textile manufacture, were hindered by obsolescence of equipment and methods and by growing trade rivalry from abroad, particularly from the United States Unemployment continued high, especially in such distressed areas as S Wales and the industrial Midlands. Stanley Baldwin succeeded (June, 1935) Ramsay MacDonald as prime minister and was succeeded (May, 1937) by Neville Chamberlain. No general elections were held. Edward VIII became king (Jan , 1936) on the death of his father, George V, but abdicated the following December because

of official opposition to his intended marriage to an American divorcee, Wallis Warfield Simpson (see WINDSOR, WALLIS WARFIELD, DUCHESS OF) He was succeeded by GEORGE VI, whose coronation (May, 1937) was the occasion for an Imperial Conference in London The policy of preferential tariffs was maintained to hold the empire together The years prior to the outbreak of the Second World War were largely engrossed by futile attempts to stem or divert the rising tide of aggression by Germany and Italy The LEAGUE OF NATIONS, in which Britain was a leader, declined politically, notably with the failure to halt the Italian conquest of Ethiopia (1935–36) British prestige declined further because of the nonintervention policy in Spain, where Hitler and Mussolini were openly assisting Francisco Franco Germany rearmed and occupied the Rhineland unopposed. Japanese aggression in China continued unchecked The policy of appeasement of the AXIS Powers became the symbol of the Chamberlain government and reached its climax in the MUNICH PACT of Sept , 1938, which Hitler flouted a few months later by seizing all of Czechoslovakia Italy invaded Albania Anthony EDEN had already resigned as British foreign minister in protest against government policy In March, 1939, Germany occupied Austria Great Britain began, tardily, to rearm, instituted military conscription, and sought, along with France, to build an "anti-aggression front" Guarantees were offered Greece and Rumania in April, 1939, and a pact was signed with Turkey, but France and England failed, most significantly, to reach an understanding with Russia In April, too, Britain agreed to come to Poland's aid if that country were attacked In Aug , 1939, the world was shocked to learn of the Soviet-German accord, and war was recognized as inevitable

The Second World War and Social Change On Sept 1, 1939, Germany loosed an attack on Poland Great Britain and France declared war on Sept 3, and all the dominions of the British Empire, except Ireland, followed suit (see WORLD WAR, SECOND) Chamberlain broadened his cabinet to include Labour party representatives, but after the German occupation of Denmark the following April and the disastrous British defeat in Norway, Chamberlain resigned (May 10, 1940) and was replaced by Winston L S CHURCHILL, who had an anti-Hitler reputation and military experience as assets France fell on June 22, and the gloom of the situation was only partially lightened by the heroic rescue of thousands of troops from DUNKIRK (May–June, 1940) Great Britain, now virtually alone, steeled itself for an expected invasion which did not materialize Instead there began the scourge of bombing The Royal Air Force rose courageously to its victorious struggle in the contest that has become known as the Battle of Britain The vast damage inflicted on Coventry and Plymouth, however, was typical of many cities, and great areas of London were burned to the ground Outstanding in the global warfare in which Great Britain engaged in the following years were such military leaders as Bernard Law MONTGOMERY, Harold R L G ALEXANDER, Archibald WAVELL, Air Chief Marshal Arthur William TEDDER, and Lord Louis MOUNTBATTEN Increasing assistance to Great Britain came from the United States In Sept , 1940, the United States agreed to give Britain 50 destroyers in return for leases on a number of Atlantic naval and air bases, and in March, 1941, President Roosevelt signed the act making LEND-LEASE aid to Britain possible In Aug , 1941, Roosevelt and Churchill met at sea and proclaimed the ATLANTIC CHARTER On June 22, 1941, Germany attacked the USSR, and in December Japan struck at American and British possessions in the Pacific Great Britain had gained two great allies The Big Three drew closer together, and their wartime accord led to the UNITED NATIONS Great Britain participated in a long series of international conferences during the war (see CASABLANCA CONFERENCE, CAIRO CONFERENCE, MOSCOW CONFERENCES, POTSDAM CONFERENCE, QUEBEC CONFERENCE, TEHERAN CONFERENCE, YALTA CONFERENCE) In many ways Great Britain's military picture was at its bleakest in the autumn of 1942, but Churchill's coalition government remained stable Labour members, however, such as Clement R ATTLEE, Ernest BEVIN, Sir Stafford CRIPPS, and Herbert MORRISON, cooperated only with the understanding that there were to be great advances in socialization after victory was achieved A third or more of the British people were engaged in the armed forces or in services and industry directly related to the war Women as well as men were mobilized for work in the armed services, the factories, and the fields Britons lowered their living standards to those of Spartan rigor and cultivated their farms and gardens so intensively as to raise England's degree of food self-sufficiency from one third to one half Enormous numbers of troops, including millions of Americans, poured into the little island prior to the Normandy invasion of the Continent, further straining the country's economy. Germany surrendered May 7, 1945, and Japan three months later (Aug. 14). Already Great Britain had begun to make plans for the post-war world England was committed to a partial occupation of Germany, had taken part in guiding the destinies of Italy and Greece, and participated actively in the United Nations organization The war, however, had wrought effects on England which were, as yet, little appreciated Six years of strenuous war effort and great damage from enemy action had seriously weakened Britain's economy Leadership in world trade and shipping had passed to the United States, the bonds of the empire were strained, and the political outlook of the people in the 10 years since the last general elections had moved farther to the left The Labour members of the cabinet withdrew in May, 1945, and general elections were held in July The result was an overwhelming victory for the socialist program of the Labour party Clement Attlee, the new prime minister, replaced Churchill at the Potsdam Conference which was then in progress Ernest Bevin became foreign minister Foreign policy, however, was not greatly affected by the change of leadership Britain attempted to maintain the friendship of both the United States and the USSR The occupation of Germany settled into a rivalry between East and West, and there were mutual recriminations concerning Russian influence in Eastern Europe and Iran and British activities in Greece and Italy The Labour government offered India its freedom, which, after much difficult negotiation, was achieved by the establishment of the dominions of Pakistan and India and the final British withdrawal in June, 1948 The question of the protectorate over PALESTINE Britain resigned to the deliberations of the United Nations, and British administrators withdrew from Palestine in 1948 In March, 1948, England signed a 50-year pact with France, Belgium, Luxembourg, and the Netherlands, but declined to unite so closely with a Western European union against Russia as Churchill advocated The sudden termination of lend-lease arrangements with the United States made apparent the precarious internal financial condition of Great Britain In July, 1946, the United States extended to Great Britain a loan of $3,750,000,000, which was intended to tide Britain over the three to five years considered necessary for the readjustment of British industry and trade England undertook to adopt world free-trade principles and continued the wartime controls of its economy The loan proved insufficient for a number of reasons British industry, notably coal, failed to revive as quickly as anticipated, foreign commitments, particularly in Germany, were a heavy strain, the country was stricken with a severe cold spell and subsequent floods early in 1947, and both inflation in the United States and the vast quantity of imports from America quickly depleted England's dollar reserve Additional financial assistance from the dominions and relaxed terms on the U S loan were inadequate to meet Britain's needs In less than two years the entire sum of the loan was expended In 1948 more U S aid (see EUROPEAN RECOVERY PROGRAM) was extended to Britain to meet the crisis Meanwhile the situation improved somewhat Late in 1947 England began once more to export coal Other exports were pushed relentlessly, though it meant continued privation at home By 1948 England was shipping great quantities of tractors, automobiles, and luxury items to the United States All efforts, nevertheless, did not sufficiently meet the contingencies, and late in 1949 Great Britain was forced to devalue the pound in terms of dollars from $4 03 to $2 80, despite the danger of an increased cost of living at home Nationalization of industry and extension of social-security provisions were pursued vigorously under the Labour government The Bank of England, the coal industry, cable and wireless facilities, and civil aviation were nationalized in the Labour government's first year, and internal transport shortly thereafter In July, 1948, the huge program of socialized medicine was instituted Power over agricultural production was increased, financial allowances were made to the parents of children, the minimum educational age was raised from 14 to 16 years, and public housing was pushed After its initial impetus the socialization program slowed somewhat Steel was the first great manufacturing industry to be voted under government control (to be implemented in 1951) Shortly before the legal termination of Parliament the Labour government called for a new general election (Feb , 1950) The result, in the reconstituted House of Commons, was extremely close The Labour party gained a majority by the narrowest margin Attlee declined to appeal again to the electorate and continued as prime minister, with Herbert Morrison as president of the council, Ernest Bevin as minister of foreign affairs, and Sir Stafford Cripps as chancellor of the exchequer Strict party discipline enabled the government to defeat opposition motions of censure on the vital steel and housing programs, and the Conservatives, under the leadership of Churchill, possibly from the conviction that conditions would inevitably worsen for a time, declined to press for a dissolution of the government For a list of British kings, see the article ENGLAND Additional bibliography is to be found in the articles BRITAIN, BRITISH EMPIRE, ENGLAND, ENGLISH LANGUAGE, and ENGLISH LITERATURE. See also A W Ward and others, ed., *The Cambridge Modern History* (14 vols , 1902–26), A W Ward and G P Gooch, ed , *The Cambridge History of British Foreign Policy, 1783–1919* (3 vols , 1922–23), H D Traill, *Social England* (6 vols , 1901–4), H M S Croome and R J Hammond, *Economic History of Britain* (1947), J H Jackson, *England since the Industrial Revolution, 1815–1918* (new ed , 1948), G D H. Cole and R W Postgate, *The Common People, 1746–1946* (4th ed , 1949), Elie Halévy, *History of the English People in the Nineteenth Century* (rev. ed , 2 vols , 1949), Keith Hutchinson, *The Decline and Fall of British Capitalism* (1950)

Great Chebeague Island (shĭbēg′) or **Chebeague Island,** SW Maine, in Casco Bay It is a resort and residential island of about 2,000 acres Chebeague Island village is on the east shore

great Dane, large dog with a short-haired, sleek coat of which the color may be brindled, fawn, blue, black, or harlequin (white with black spots) The male should stand not less than 30 in at the shoulder It is a strong, graceful dog and when well trained is a valuable guard dog Its origin is obscure Dogs closely resembling the great Dane lived in ancient times in Egypt, Greece, and China and probably in England in the 1st cent A.D. Descriptions of hunts testify to their use in Germany in the 16th cent for hunting wild boars, bears, and wolves In 1880 breeders and judges in Germany drew up official points for judging the breed and adopted the name *Deutsche dogge* to replace the numerous earlier names It is not known why the name suggesting Danish origin was originally used

Great Divide see CONTINENTAL DIVIDE

Great Dividing Range, general name for the mountains and plateaus roughly paralleling the east and southeast coasts of Australia and forming the watershed between the rivers flowing to the Coral and Tasman seas and those flowing to the Gulf of Carpentaria and the Indian Ocean Among the many parts of the system are the Australian Alps (with Mt Kosciusko, 7,305 ft , the highest peak of Australia), the McPherson Range, the New England Range, the Blue Mts , and the Grampians

Great Elector, the see FREDERICK WILLIAM

Greater Lebanon see LEBANON

Great Falls, city (pop 29,928), co seat of Cascade co , N central Mont , on the Missouri opposite the mouth of the Sun river and near the falls that give the city its name Founded (1883) by Paris Gibson with the help of James J HILL to be an industrial city and incorporated in 1888, it is highly industrialized and is the center of large hydroelectric-power development Besides a large zinc-reduction plant (across the river), copper refineries, and a wire mill, there are flour mills, a packing plant, an oil refinery, and other plants The city is also a port of entry and the market for an irrigated farm district and the Sun river project It is, too, a communications center, with a much-used airport. The log cabin of the cowboy artist Charles M Russell is preserved as a museum Outside the city is Giant Springs, discharging a large flow of water to the Missouri

Great Fish, river see BACK, SIR GEORGE

Great Glen, depression extending NE–SW across Scotland See CALEDONIAN CANAL, NESS, LOCH

Great Harwood, urban district (1931 pop 12,789, 1943 estimated pop 11,500), Lancashire, England, near Blackburn It is a cotton-mill town, with collieries in the vicinity

Great Lakes, group of five fresh-water lakes in the central part of North America, between Canada and the United States They are Lake SUPERIOR, Lake MICHIGAN (the only one entirely within the United States), Lake HURON, Lake ERIE, and Lake ONTARIO, out of which flows the SAINT LAWRENCE river From Duluth, Minn , at the western end of Lake Superior, to the outlet of Lake Ontario they stretch 1,160 m The international boundary passes approximately through the center of all except Lake Michigan French traders were the first white men to see any of the Great Lakes, possibly Étienne Brulé visited Lake Huron c 1612 or earlier. In 1615 Samuel de Champlain voyaged on Lake Huron and Lake Ontario The *Griffon,* under La Salle, sailed (1679) from Lake Erie to Green Bay, an arm of Lake Michigan The Great Lakes region was a prize for which the English and French in North America struggled for many years With the close of the American Revolution and after the War of 1812 had finally ended the long contest for possession of the Great Lakes, settlement of the region was rapid The opening (1825) of the Erie Canal accelerated the development of commerce on the lakes They carry the products of an immensely productive, widespread area, great quantities of iron ore and grain, much coal, petroleum, and steel, and countless manufactured articles are shipped from April until December, when ice closes most of the ports and winter storms hinder extensive navigation Fishing and shipbuilding are also impor-

tant industries A number of large industrial cities lie along the Great Lakes, which are connected with the Mississippi river and the Gulf of Mexico by the Illinois river waterway The New York State Barge Canal links them with the Hudson river and the Atlantic The GREAT LAKES-SAINT LAWRENCE SEAWAY AND POWER PROJECT for improved navigation and hydroelectric power has long been under discussion See Walter Havighurst, *The Long Ships Passing the Story of the Great Lakes* (1942), Harlan Hatcher, *The Great Lakes* (1944)

Great Lakes-Saint Lawrence Seaway and Power Project, proposal by the governments of the United States and Canada to deepen the existing waterway from the western end of Lake Superior to the Atlantic via the SAINT LAWRENCE river, for passage by ocean-going vessels and for the creation of new water-power sites The project is intended to apply particularly to the portion of the river between Lake Ontario and Montreal Here the canals which by-pass the numerous rapids are too shallow to provide deep-draft navigation In 1932 a treaty providing for the joint development and use of the St. Lawrence basin was signed by the United States and Canada, but it was not ratified by the U S Senate In 1941 an agreement, embodying the main features of the earlier treaty, was reached between the two governments and drawn up in the form of a bill, which was not passed by the U S Congress See F. N Menefee, *The St Lawrence Seaway* (1940), Tom Ireland, *The Great Lakes-St Lawrence Seaway and Power Project* (1946)

Great Lebanon: see LEBANON

Great Malvern, England see MALVERN

Great Meadows see NECESSITY, FORT

Great Miami (mīă'mu,-ĕ) or **Miami,** river rising in W Ohio and winding generally southwest c 160 mi , passing Dayton and joining the Ohio river at the Ind line After the severe flood of 1913, retarding basins were built in the Miami valley The Little Miami, to the east and generally parallel, enters the Ohio at Cincinnati.

Great Mother of the Gods, in ancient religions, Mother Earth, goddess of motherhood and of wild things, the great symbol of fertility Ancient peoples worshiped her under many names and aspects In Greece she was Gaea, Rhea, and, in later times, Demeter, Artemis, and Aphrodite The Romans knew her as Magna Mater and Bona Dea and in specialized phases as Diana and Venus Cybele in Phrygia and Isis in Egypt represented the Great Mother The Phoenicians worshiped her as Astarte, and the Babylonians and Assyrians as Ishtar In Greece she lost her place in literature to Hera and other Olympian gods See FERTILITY RITES.

Great Neck, residential village (pop 6,167), on the north shore of Long Island, SE N Y , near New York city, inc 1921

Great Neck Estates, residential village (pop 1,969), on the north shore of Long Island, SE N Y , inc 1911

Great Neck Plaza, residential village (pop 2 031), on the north shore of Long Island, SE N Y , inc 1930

Great Northern Peninsula or **Petit Nord Peninsula,** comprising NW Newfoundland, extending 170 mi NNE from Bonne Bay on the west to Cape Bauld and bounded on the east by White Bay The Long Range, along the west coast, rises to 2,060 ft in Gros Morne

Great Ouse, river, England see OUSE 1

Great Plains, high, extensive grasslands of the W United States and Canada They are a sloping plateau between the Rocky Mts on the west and the level prairies of the Mississippi valley on the east They start in W Canada and continue S to the Llano Estacado and the South Plains in the Texas Panhandle They are generally level, treeless, and semiarid In the United States they include the western part of the Dakotas, Nebraska, Kansas, and Oklahoma, the eastern part of Montana, Wyoming, Colorado, and New Mexico, and the northwestern part of Texas They slope gently down from the foothills of the Rockies at an elevation of 6,000 ft, to merge into the prairies at an elevation of 2,000 ft The Platte, Republican, Kansas, Arkansas, Cimmaron, and Canadian rivers flow generally from west to east The land is natural grazing land, and attempts to make it into wheat-farming country have brought some difficulties and some disasters from drought See the masterly study by Walter Prescott Webb, *The Great Plains* (1931)

Great Pyrenees, large white dog believed to be descended from the mastiff Its existence in Europe is said to date from earlier than 1000 B C , its original home is thought to be central Asia or Siberia An intelligent and devoted guard dog, the Great Pyrenees was during many centuries the guardian of shepherds and flocks especially in the mountains of Europe, in France he was long a favorite guard dog on large estates and at court The breed was recognized by the American Kennel Club in 1933 and from that time was bred in North America. It makes a devoted and gentle companion dog. Males stand from 27 to 32 in. at the shoulder and weigh from 100 to 125 lb. The head is large, the body rather massive, and the tail plumed Well protected against severe weather, the dog has a long, heavy outer coat and a thick, fine undercoat When the coat is not entirely white, it has some markings of gray or varying shades of tan.

Great Rift Valley, geological FAULT system of E Africa and SW Asia. It extends roughly from lat 35° N to lat. 20° S The northernmost extension runs S through Syria, the Jordan valley, the Dead Sea, and the Gulf of Aqaba. It continues into the trough of the Red Sea and at the southern end branches into the Gulf of Aden The main section of the valley in Africa continues from the Red Sea SW across Ethiopia and S across Kenya, Tanganyika, and W Mozambique Many small lakes in Ethiopia and several long narrow lakes, notably Lakes Rudolf and Nyasa, lie on its course Just N of Lake Nyasa there is a western branch, which runs north, chiefly along the eastern border of the Belgian Congo On the map it is strikingly marked by a chain of lakes, including Lakes Tanganyika and Kivu and Edward Nyanza and Albert Nyanza. Between these two branches lies Victoria Nyanza. The Great Rift Valley ranges in elevation from 1,300 ft below sea level (the floor of the Dead Sea) to 6,000 ft above sea level in S Kenya Erosion has concealed some sections, but in places, notably in Kenya, there are sheer cliffs several thousand feet high Many geologists believe that the faulting was associated with the volcanic activity which gave rise to Mt Elgon and Mt Kilimanjaro

Great Salt Lake, shallow body of briny water, N Utah, just W of the Wasatch Range Fed by the Weber, Jordan, and Bear rivers, the lake is the largest W of the Mississippi but varies in size and depth from year to year and with changes in the weather, the average depth is a little more than 12 ft It is a remnant of ancient Lake Bonneville, which went through great changes and was at one time about a thousand feet deep Various levels are shown by marks on the emerging mountains and by rich soil deposits on the benches to the east There are islands in the lake, the largest being Antelope Island, several become peninsulas when the water is low A long promontory extends from the northern shore The heavy brine supports no life except brine shrimp, and to the west are dead wastes of salt desert, a barrier for frontiersmen and in the 20th cent a racing ground for automobiles Salt is extracted from the lake for commerce James Bridger is usually credited with being the first white man to see the lake (in 1825), but there is much debate about the matter The lake was surveyed in 1849-50 by a government party under Howard Stansbury A railroad cutoff to Lucin (completed 1903) crosses the lake See Dale L Morgan, *The Great Salt Lake* (1947)

Great Salt Plains Dam, NW Okla , in Salt Fork, a tributary of the Arkansas river The dam, 5,700 ft long and 68½ ft high, was authorized in 1936 as a Federal project and completed, except for recreational facilities, in 1948 Designed for flood control and for a wild-fowl refuge, it forms a large reservoir in a salt-encrusted plains area

Great Sand Dunes National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Great Sandy Island, Australia see FRASER ISLAND

Great Schism see SCHISM, GREAT

Great Slave Lake, c 10,700 sq mi , S Mackenzie dist , Northwest Territories, named for the Slave (Dogrib) Indians It is c 310 mi long and 12 to 68 mi. wide and is drained at its west end by the Mackenzie river The western shores are wooded, but the long east and north arms reach into tundra-like country Samuel Hearne discovered it in 1771 Gold was discovered in the 1930s on the north shore, and the town of YELLOWKNIFE was established as a mining center The chief rivers flowing into it are the Hay in the southwest and the **Great Slave** or **Slave,** which enters at about the middle of the south shore near Fort Resolution Great Slave river is the name given to the central stream of the Mackenzie system for its 310-mile course between Lake Athabaska and Great Slave Lake Shortly after it leaves the west end of Lake Athabaska it is joined by the Peace river It is navigable for steamers except for the rapids where it breaks through the Cariboo Hills Here a wagon road portage 16 mi long exists At the foot of the portage is Fort Smith, the most important settlement on the river

Great Smoky Mountains, part of the Appalachian system, W N C and E Tenn., between Asheville and Knoxville and between the French Broad and Little Tennessee rivers Part of the group, including some of the highest peaks, was set aside in 1926 as a national park, which was established in 1930 and dedicated in 1940 (229,588.3 acres in North Carolina, 231,415 49 acres in Tennessee). The park is a favorite resort area, with its rich variety of flowers and trees, beautiful lakes and streams (stocked with fish), and unspoiled mountain and woodland scenery The highest peak, Clingmans Dome, rises to 6,642 ft , and 15 other peaks are over 6,000 ft. high. Park headquarters are near Gatlinburg, Tenn., a small resort at the foot of Mt. Le Conte. Other towns near the region are Bryson City, N.C , and Newport, Tenn. There are museums of Indian and pioneer handcraft. Trails have been marked for hikers See G W. McCoy, *Guide to the Great Smoky Mountains National Park* (rev. ed., 1935); Roderick Peattie, ed , *The Great Smokies and the Blue Ridge* (1943)

Great South Bay, protected bay with several inlets from the Atlantic, SE N Y., between the south shore of Long Island and the OUTER BARRIER It extends c 45 mi. from an inlet near Rockaway Beach to Moriches Bay Long Beach, Jones Beach and other state parks, and Fire Island are on the Outer Barrier The bay is crossed by several highway bridges

Great Stone Face: see FRANCONIA MOUNTAINS

Great Trek see TREK

Great Wall of China see CHINA, GREAT WALL OF

Great Whale, river, rising in Apiskigamish Lake, N central Que , flowing 365 mi W into Hudson Bay There are several falls in the river

Great Yarmouth, Norfolk, England see YARMOUTH

grebe (grēb), diving bird related to the loon, of almost world-wide distribution, and found on lakes and oceans Grebes have short wings, a vestigial tail, smooth plumage, and long, individually webbed toes When in danger they dive with amazing speed The feet are far back on the body and are used as a rudder and to help propel them in the water They swim expertly with the body submerged to any desired depth and are good fliers, but move awkwardly on land They eat insects, crustacea, fish, and some vegetable matter Unique among birds is their habit of swallowing feathers Unusual courtship ceremonies, which include dancing in pairs in the water, are found among grebes Their loosely constructed nests of aquatic plants are placed on floating vegetation or fastened to water plants Many grebes conceal their eggs with plant material when they leave the nest The young are often carried on the backs of swimming adults Probably the best-known representative in the Western Hemisphere is the pied-billed grebe which is locally called dabchick, water witch, helldiver, and didapper Other grebes are the western and Holboell's grebes of North America and the eared and the horned grebes of parts of North America, Europe, Asia, and Africa There is a flightless South American species Grebes were formerly much hunted for their silky breast feathers used in millinery

Greco, El (ĕl grĕ'kō), c 1541-1614, Greek painter in Spain, b Candia, Crete His real name was Domenicos Theotocopoulos, of which several Italian and Spanish versions are current There is no reliable information concerning his youth He is known to have studied in Venice, probably under Titian, and to have painted in Rome In 1577 he was established in Toledo at work on the altar of the Church of Santo Domingo el Antiguo The center painting of this group, the *Assumption*, now in the Art Institute of Chicago, shows marked Italian influence His next great works, *El espolio* (cathedral, Toledo) and *San Mauricio* (Escorial) indicate a rapid development The second was commissioned by Philip II but seems to have dissatisfied him In any case Greco remained in Toledo, then an abandoned and rapidly dwindling capital whose proud and recalcitrant nobility were driven wholesale into the Church as their only remaining vocation He has left superb portraits of their ascetic faces, and in the foreground of his famous *Burial of the Conde de Orgaz* (Church of Santo Tomé, Toledo) it is they who are assembled at the funeral of the count, whose soul is seen ascending to Christ in the upper part of the painting This masterpiece, painted in 1586, was followed by many others in which the artist, now mature, brought into play every resource of his dynamic art to express religious ecstasy Flamelike lines, accentuated by vivid high lights, elongated and distorted figures, and vibrant color contrasted with subtle grays—these combine to produce a unique art Among the many great works of this period are the *Baptism*, *Crucifixion*, and *Resurrection* (Prado), portrait of the inquisitor Cardinal Don Fernando Niño de Guevara (Metropolitan Mus), two similar versions of St Jerome (one in the National Gall , London; one in the Frick Coll , New York), and a long series of paintings of St Francis. In his old age all of El Greco's characteristics became accentuated To his last period belong such works as the *Assumption* (Church of San Vicente Anejo, Toledo), *Adoration* (Church of Santo Domingo el Antiguo, Toledo), of which an unfinished version is in the Metropolitan Museum, *Pentecost* (Prado), and portrait of Hortensio Félix Paravicino (Mus. of Fine Arts, Boston) The debt to El Greco of the later Spanish masters is incalculable He unquestionably influenced Velásquez, who knew and admired his work. In his own day his admirers seem to have been intellectuals. Paravicino, the court preacher, was his friend and apologist. Overshadowed by the more popular masterpieces of Velásquez and Murillo, his work became less and less known, especially outside of Spain. It is only in the 20th cent. that he has become widely celebrated. Modern criticism ranks him among the

very greatest artists of the baroque. Splendid examples of his vast production exist in many European and American galleries and collections He is best seen in Toledo, Madrid, and the Escorial. A museum has been devoted to his work in what is said to have been his home in Toledo See study by M. Legendre and A Hartmann (1937); Julius Meier-Graefe, *The Spanish Journey* (Eng. tr., 1927); *The Paintings of El Greco* (with biographical note by Ludwig Goldscheider, 1938)

Greece, Gr *Hellas* or *Ellas*, kingdom (50,147 sq mi ; pop 7,347,002, exclusive of the Dodecanese, acquired from Italy in 1947), SE Europe Athens is the capital Greece occupies the southernmost part of the Balkan Peninsula and numerous islands (9,854 sq mi) in the Ionian and Aegean seas These parts of the Mediterranean wash the Greek mainland in, respectively, the west, south, and east The northern land frontier touches Albania, Yugoslavia, Bulgaria, and Turkey Most of Greece is mountainous terrain, cut by small, rapid rivers with some fertile valleys. Continental Greece is cut into two sections at the Isthmus of Corinth To the north of the isthmus extend the regions of ATTICA, BOEOTIA, S EPIRUS, THESSALY, S MACEDONIA, the CHALCIDICE peninsula, and W THRACE, to the south of the isthmus and the Gulf of Corinth lies the PELOPONNESUS, a peninsula terminating in Cape Matapan At various times in its history Greece included all of Epirus, Macedonia, and Thrace, part of Asia Minor, and MAGNA GRAECIA The largest islands of Greece are EUBOEA, NE of Attica, and CRETE, SE of the Peloponnesus The IONIAN ISLANDS include CORFU, CEPHALONIA, and ZANTE The Greek Archipelago in the Aegean includes THASOS, SAMOTHRACE, LESBOS, CHIOS, SAMOS, and other islands of the SPORADES, the CYCLADES (notably NAXOS, PAROS, and DELOS), and the DODECANESE (notably RHODES) Most of the important cities of modern Greece are situated in the more prosperous north, these are, besides Athens, the ports of Piraeus (part of Greater Athens), Salonica, and Kavalla Patras is the largest city and port of the Peloponnesus Most of the great cities of ancient Greece (Corinth, Sparta, Thebes, Achaea, Argos, Mycenae, Olympia, Messene) have sunk to very little importance Though predominantly agricultural, Greece grows only about half of the food consumed by its poverty-stricken and frugal population Except in Epirus, the "granary of Greece," most crops are for export (tobacco, olives, grapes, and figs), usually in processed form (olive oil, raisins, currants, dried figs, and wine) Thousands of years of intensive sheep and goat raising have helped to erode the soil and make it unfit for farming Greek exports are supplemented by mineral resources (high-grade iron ore, iron pyrites, magnesite, chromite, and emery) and by its sponge fisheries Only lignite is available for Greek industries, which are mostly small, the hydroelectric potential, though great, is as yet little exploited The modern Greek people are only partly descended from the ancient Greeks, having mingled in the course of the ages with the numerous invaders of the Balkans The religion of the majority is Greek Orthodox. The Greek primate is the archbishop of Athens, who recognizes the Eastern patriarch of Constantinople

Ancient Greece This section gives a brief, general account of the history of ancient Greece Important aspects of ancient Greek culture are covered under separate articles—GREEK ARCHITECTURE, GREEK ART, GREEK LANGUAGE, GREEK LITERATURE, GREEK MUSIC, and GREEK RELIGION See also the articles on the cities, e.g., ATHENS, SPARTA, CORINTH, and THEBES Archaeological remains show that Greece had a long prehistory, from at least the New Stone Age By the Bronze Age important cultures had developed The AEGEAN CIVILIZATION had several phases, two of the most important being the MINOAN CIVILIZATION and the MYCENAEAN CIVILIZATION These cultures had disappeared by 1100 B.C Probably well before that time Greek-speaking peoples had been moving into the peninsula from the north and blending with the older population Possibly the Achaeans represented an early wave of the migration The Aeolians and the Ionians, traditional branches of the Greek people, apparently preceded the Dorians, who migrated into Greece before 1000 B C The Ionians, moving forth, possibly as refugees, possibly as conquerors, settled in the Ionian Islands and on the shores of Asia Minor, which became a part of the Greek world. After the Dorian invasion, the peoples of Greece under the influence of the divisive geography developed the CITY-STATE; small units developed into minor kingdoms Homeric Greece was dependent on the agriculture of relatively unproductive fields but was already open to the sea Though the Greeks never rivaled the Phoenicians or the later Carthaginians and Romans as mariners, the sea offered them an opportunity for expansion and commerce In the 8th, 7th, and 6th cent. B C , the Greeks sent out colonies, which became separate city-states, from the Black Sea and the Bosporus (where Byzantium was founded) to Sicily, S Italy, Mediterranean France, the northern shores of Africa, and Spain These colonies (Magna Graecia) had a great influence on the history of the Greek mainland, where the city-states were developing in quarrelsome freedom Because of their independence, the cities developed separately, each in its own fashion The militaristic Sparta was thus unique in its constitutional and social development. Elsewhere there was a general pattern of development, varied with each particular instance The monarchies yielded to aristocracies, which were in turn replaced by tyrants, who usually gained power by espousing the cause of the underprivileged peasants and merchants and by the use of force Though usually the tyrants tried to establish dynasties, the bold established by their families did not long persist Peisistratus, Hipparchus, and Hippias in Athens and the later Gelon, Dionysius the Elder, and Dionysius the Younger in Sicily were typical examples of tyrants On the Greek mainland the tyrannies soon yielded to oligarchies or to democracies tempered by limited citizenship and slaveholding, it was in Greece that the idea of political democracy came into being The warring city-states had a sense of unity, all considered themselves as Hellenes, and religious unity gave rise to leagues known as amphictyonies, notably the great amphictyony centered at Delphi The celebration of common contests such as the Olympic games also fostered unity. But as the expanding Persian Empire threatened to engulf Greece, the Ionian cities in Asia Minor when they revolted against Persia in 499 B C got little help from Greece, and the mainland cities were but poorly united in the PERSIAN WARS that lasted until 449 B C Out of the successful war, however, came the powerful surge of Greek civilization. Athens, in particular, with the support of the DELIAN LEAGUE as the basis of an empire, developed into glory and in the age of Pericles flowered into a culture that left its mark on all succeeding ages Drama and poetry, art, architecture, and philosophy flourished then and vigorous intellectual life was so well founded that it continued long after political misfortunes This was the true Hellas, the fountainhead of Western civilization A catalogue of the great in Greece of those times would be a list of names familiar to schoolboys in the present day, among them Aeschylus, Sophocles, Euripides Aristophanes, Phidias, Socrates, Plato, Aristotle Though Athens succumbed in the PELOPONNESIAN WAR (431–404 B C) and grim Sparta triumphed briefly before continued fighting gave the hegemony to Corinth and to Thebes the civilization that had been created lived on When PHILIP II of Macedon fell upon the warring city-states and won Greece by conquering Athenians and Thebans in the battle of CHAERONEA (338 B C), his military leadership only paved the way for his son ALEXANDER THE GREAT, to spread Greek civilization over the known Western world and across Asia to India The great days were, however, past, and the empire of Alexander was torn apart by his warring generals after his death (see DIADOCHI, PTOLEMY I, SELEUCUS I, ANTIGONUS I, DEMETRIUS I) in the period from 323 to 276 B.C Some Greek cities formed the AETOLIAN LEAGUE to shake off Macedonian rule, but others in the ACHAEAN LEAGUE took the Macedonian side The Greek city-states continued to nurse their ambitions and rivalries, while Macedonia under the Antigonids became thoroughly Hellenized Incessant warfare weakened Greece more and more, while the power of Rome was rising In 146 B C the remnants of the Greek states fell definitively into the hands of Rome, and Greece was thereafter a backwater in the Roman Empire The cities long retained a measure of independence but lost political and economic importance Hellenism, however, had triumphed, and the intellectual supremacy continued for many centuries The Byzantine Empire was thoroughly Greek in origin, and the HELLENISTIC CIVILIZATION, though it centered elsewhere, spread Greek influence and handed the Greek heritage to later ages The Greeks were the first to write narrative secular history, and the works of HERODOTUS, THUCYDIDES, XENOPHON, and POLYBIUS are basic sources of knowledge as well as classics of world literature. The histories of Greece by George Grote (rev ed , 12 vols., 1906), Ernst Curtius (Eng. tr., 5 vols , 1892), and Adolf Holm (Eng tr , 4 vols , 1894–98) were long standard and remain useful J B Bury, *The History of Greece to the Death of Alexander the Great* (rev ed , 1913), is still standard See *The Cambridge Ancient History* Vols II-IX (1924–32), Michael Rostovtseff, *A History of the Ancient World*, Vol I (2d ed , 1930), G L Dickinson, *The Greek View of Life* (1925), A E Zimmern, *The Greek Commonwealth* (rev ed., 1931), M Cary, *A History of the Greek World from 323 to 146 B C* (1939), W. W Jaeger, *Paideia* (Eng tr , 3 vols , 1939–45)

Medieval and modern Greece. From the division (395 A D) of the Roman Empire into East and West, until the conquest (15th cent) of Greece by the Ottoman Turks, Greece shared the fortunes and vicissitudes of the BYZANTINE EMPIRE The victory (378) of the VISIGOTHS over Emperor Valens at Adrianople marked the beginning of the frequent barbarian invasions of Greece, the Huns, Avars, Slavs, and Bulgars followed, leaving devastation behind them. Greek power and prestige were restored by the Macedonian dynasty of Byzantine emperors (867–1025), however, the center of the Greek world was CONSTANTINOPLE, not Greece proper, which ever since the Roman conquest had been reduced to a provincial status. In the 11th cent. began the Turkish inroads into the empire, the Norman attacks on Epirus, and the age of the CRUSADES. The Fourth Crusade led (1204) to the temporary disintegration of the Byzantine Empire and the creation of a feudal state (see CONSTANTINOPLE, LATIN EMPIRE OF) under the rule of Flemish, Flemish, and Italian nobles and of Venice The restored Byzantine Empire (1261–1453) recovered only parts of Greece, most of which continued under the rule of French and Italian princes until its conquest by the Turks (completed in 1456) Venice retained Crete until 1669 and the Ionian Islands until 1797, in its numerous wars with Turkey it also held Athens, Euboea, and several other ports and islands for brief intermittent periods prior to 1718 Under the OTTOMAN EMPIRE, Greece was merely one of the many exploited territories of the sultans The Turks practiced a policy of religious tolerance, but otherwise their regime was grasping and oppressive Many Greek families (notably the PHANARIOTS) played an important part in the administration of the empire, and the Greek merchants living in Constantinople and in the ports of Asia Minor (notably SMYRNA) knew much prosperity; but Greece itself sank into obscurity and poverty In the early 19th cent Greek dreams of independence revived and were stimulated by the growing spirit of nationalism, by the influence of the French Revolution, by the Turkish reverses in the Russo-Turkish Wars, by the rebellion of ALI PASHA, and by the sympathetic attitude of Alexander I of Russia, whose foreign minister, CAPO D'ISTRIA, was a Greek In 1821 the Greek War of Independence began under the leadership of Alexander and Demetrios YPSILANTI The rebellion was unsuccessful at first, but European sentiment was overwhelmingly in favor of Greece Financial aid poured in, and many foreign volunteers (of whom Lord BYRON was the most celebrated) joined the Greek forces Russia and England agreed (1826) to mediate between the Greeks and Turkey, and in 1827 the Greek political factions set aside their bitter rivalries to elect Capo d'Istria president of Greece In the same year England, Russia, and France joined in demanding an armistice. Turkey having refused, the allied fleet attacked and defeated the fleet of MOHAMMED ALI, viceroy of Egypt and the sultan's chief supporter against the Greeks, in the battle of Navarino Only Russia, however, declared war on Turkey (1828, see RUSSO-TURKISH WARS) Defeated, Turkey accepted the Treaty of Adrianople (1829) and recognized Greece as an autonomous principality In 1832 Greece obtained recognition of its complete independence by the European powers and a northward extension of its border Civil war had broken out in 1831 after the assassination of Capo d'Istria, but in 1832 the powers chose, and Greece accepted, a Bavarian prince as king of the Hellenes OTTO I was authoritarian and unpopular He was deposed (1862) and a Danish prince was chosen (1863) as King GEORGE I A democratic constitution was immediately introduced, and in 1881 Greece acquired Thessaly and part of Epirus Nationalist agitation in favor of a Cretan insurrection against the Turks led to the Greco-Turkish War of 1896–97, Greece was defeated, but because of the pressure of the powers Crete was eventually made independent and later (1913) incorporated into Greece VENIZELOS and ZAIMIS were the outstanding Greek political figures in the following decades In the BALKAN WARS (1912–13) Greece obtained SE Macedonia and W Thrace, the frontier with newly independent ALBANIA gave a larger part of Epirus to Greece but failed to satisfy either Greece or Albania and has remained in dispute King CONSTANTINE favored neutrality in the First World War, but the pro-Allied Venizelos negotiated (1915) an agreement allowing the Allies to land troops at Salonica (see SALONICA CAMPAIGNS). Constantine, however, refused to join the Allies fully, dismissed Venizelos, and incurred an Allied blockade of Greece. In 1916 Venizelos organized a rebel government at Salonica, and in 1917 Constantine abdicated in favor of his younger son, ALEXANDER Venizelos replaced Zaimis as premier, and Greece fully entered the war At the peace conference (see NEUILLY, TREATY OF, and SÈVRES, TREATY OF) Greece was rewarded with the Bulgarian coast on the Aegean and with what remained of European Turkey except the Zone of the Straits The district of Smyrna was placed under Greek administration pending a plebiscite Encouraged by the Allies, the Greeks invaded (1921) Asia Minor, but were resoundingly defeated (1922) by the Turkish nationalist forces under Kemal ATATURK The Treaty of Lausanne (1923) restored the Maritsa river as the Greco-Turkish frontier in Europe A separate agreement provided for the compulsory exchange of populations Under the supervision of a League of Nations commission nearly 2,000,000 Greeks of

Asia Minor were settled in Greece, and c 800,000 Turks and 80,000 Bulgarians left Greece and were resettled in their respective countries Constantine, who had returned after the death (1920) of King Alexander, was again deposed in 1922 GEORGE II succeeded him only to be promptly expelled himself (1923), and in 1924 a republic was proclaimed The years 1924–35 were a period of violent political strife, coups d'état, and countercoups, in which KONDOURIOTIS, PANGALOS, Panayoti TSALDARIS, Zaimis, and Venizelos were the chief protagonists, it culminated in the unsuccessful rebellion (1935) of the Venizelists in Crete Their defeat marked the death of the republic General KONDYLIS ousted Tsaldaris and arranged for a plebiscite which brought about the return of George II (the republicans abstained from voting) Within a year a dictatorship was set up under Premier METAXAS, who was fully supported by the king In its foreign relations, Greece had abandoned its anti-Turkish policy in 1934 by entering the BALKAN ENTENTE with Yugoslavia, Rumania, and Turkey When the Second World War broke out (1939) Greece remained neutral In Oct , 1940, however, Italy (since 1939 in possession of Albania) charged Greece with mistreatment of its Albanian minority and, after a farcical ultimatum, invaded Greece The Greeks resisted successfully, carrying the war into S Albania When Germany began to gather troops on the Greek borders in Rumania and Bulgaria, Greece allowed the landing of a British expeditionary force in March, 1941 In April, Germany attacked Yugoslavia and Greece By April 27 the Greek mainland was in German hands, and by May 30 Crete had also fallen The Greek government fled to Cairo, then to England, and in 1943 settled in Cairo German occupation, in which Bulgarian and Italian troops shared, plunged Greece into abject misery Resistance grew despite the most ruthless reprisals, the successive puppet governments set up by the Axis were failures Guerrilla bands controlled large rural areas, but late in 1943 sporadic civil war broke out between the leftist guerrilla group (ELAS) and the rightist one (EDES) The guerrillas held most of Greece after the Germans had begun to evacuate their forces in Sept , 1944 British troops landed, and by November all Germans were expelled The appalling financial and economic conditions faced by the Greek government on its return to Athens were complicated by an explosive political situation The return of George II was postponed pending a plebiscite, but in Dec , 1941, fighting broke out between the British troops and the ELAS, which refused the British order to disarm Eventually, upon the personal intervention of Winston Churchill, an uneasy truce was made and a regency established under Archbishop Damaskinos of Athens While cabinets replaced each other in rapid succession, guerrilla fighting went on all over Greece In the northern mountain districts Communist-led bands waged successful warfare and eventually (1947) proclaimed a rival government The charges by the Greek government, supported by Britain and the United States, that Albania, Yugoslavia, and Bulgaria were aiding the rebel army created a violent controversy in the United Nations between the Western and the Soviet blocs In Sept , 1946, a plebiscite decided for the return of George II, who died in 1947 and was succeeded by his brother PAUL As the civil war continued and Great Britain was unable to extend further financial and military support to the Greek government, U S President TRUMAN announced (March, 1947) the "Truman Doctrine," by which the United States gave Greece $300,000,000 in military and economic aid and sent a group of officers to advise the Greek army By 1949 the rebels had suffered severe setbacks The war was marked by brutality on both sides Economic conditions were depressing, and charges of incompetency and corruption were hurled against the Greek government from non-Communist as well as Communist quarters Much was done, however, by the Red Cross and by relief agencies to bring some temporary comfort to the starving refugees from civil war areas and to the miserable and diseased orphans left by the Second World War and the civil war Political freedom was necessarily somewhat curtailed The unicameral legislature, dominated by the Populist (royalist) party of Constantine Tsaldaris, operated under the constitution of 1911, which it was empowered to revise The Communist party was outlawed See George Finlay, *History of Greece from Its Conquest by the Romans* (7 vols , 1877), W A Philips, *The War of Greek Independence* (1897), William Miller, *A History of the Greek People* (1922) and *Modern Greece* (1928), N S Kaltchas, *Introduction to the Constitutional History of Modern Greece* (1940), E S Forster, *Short History of Modern Greece* (2d ed , 1946), *Report on the Greeks* (pub by the Twentieth Century Fund, 1949)

Greek Anthology, collection of Greek epigrams or short poems, which, in its latest form, includes poetry representing every period of Greek literature to the decadence of Byzantium Meleager made (probably between 90 and 80 B C) a collection of epigrams which he called the *Garland* Later Philip of Thessalonica (1st cent. A D), Agathias (6th cent) and others made additions or new collections Early in the 10th cent Constantius Cephalas made a compilation which is known as the *Palatine Anthology* because the sole manuscript was found in the library of the count palatine in Heidelberg. In the first half of the 14th cent a monk, Planudes Maximus, rearranged this collection and made additions while leaving out many epigrams This Planudian version was used until the *Palatine Anthology* was rediscovered in 1606 See J A Symonds, *Studies of the Greek Poets* (3d ed , 1893)

Greek architecture arose on the shores of the Aegean Sea Palaces of the MINOAN CIVILIZATION remain at Cnossus and Phaestus, Crete Of the later MYCENAEAN CIVILIZATION, remaining examples are the Lion's Gate at Mycenae and palaces at Mycenae and Tiryns When the Dorians migrated into Greece (before 1000 B C) true Hellenic culture commenced, and the architecture which eventually developed seems to have borrowed little or nothing from the preceding local civilisations The Dorians either brought their other building forms from areas of Europe or from Asia or created them in Greece with such rapidity that between the 10th and the 6th cent B C a definite system of construction was established However, prior to the creation of the great marble temples of the 5th cent , there were undoubtedly evolutionary stages in which walls were of sun-dried bricks and roofs, columns, and uprights were of wood The Heræum at Olympia, considered the most ancient temple yet discovered, is illustrative of such a stage and also, in later alterations to it (700 B C), of the beginnings of the Doric temple of stone Of the three great styles or ORDERS OF ARCHITECTURE (Doric, Ionic, and Corinthian), the Doric was the earliest and the one in which the noblest monuments were erected Between 700 B C and the Roman occupation (146 B C), all the chief works were produced The period in which all true masterpieces were erected extended from 480 B C to 323 B C , it includes the reign of Pericles, in which the architects Callicrates, Mnesicles, and Ictinus flourished and in which the PARTHENON and other great works were produced The products of the following Hellenistic period shows a decline from the Athenian tradition and reveal Asiatic influences. The Greeks had their masonry without mortar but with joints cut to great exactness Marbles were not generally used until the 5th cent B C Where coarse stonework or crude bricks were used, a coating, composed of marble dust and lime and rubbed and highly polished, was applied to them. Even marble itself was sometimes so treated Though Greek buildings long were thought to have been the unbroken white of the marble, colors and gilding were customarily applied for emphasizing decorative sculpture and certain details, and remaining traces of these have been found Having found in the simple column and lintel an adequate method of construction, they used it exclusively, drawing from it the maximum of dignity and beauty Of the principle of the triangular truss they remained entirely ignorant For the origin of the DORIC ORDER there are many theories The great remaining examples of the 6th cent B C are found chiefly in Sicily and at Paestum in Italy After 500 B C the archaic features of the Doric disappeared, harmonic proportions were achieved, and the final exquisitely adjusted type took form at Athens, in the Hephaesteum (465 B C), the Parthenon (447–432 B C), and the Propylaea (437–432 B C) The Greek colonies of the Asia Minor coast had evolved their own special order, the IONIC ORDER, stamped with Oriental influences This style appeared in temples in Greece proper after 500 B C , challenging with its slenderly proportioned columns and carved enrichments the supremacy of the simple, sturdy Doric The most magnificent Ionic temples were those at Miletus In Greece proper the Ionic appeared in but one temple of first importance, the ERECHTHEUM at Athens, and otherwise was restricted to minor buildings, as the temple of Nike Apteros, Athens (438 B C), and to interiors as in the Propylaea, Athens The third Greek order, the still more ornate CORINTHIAN ORDER, appeared in this period, but was little used The chief examples, both at Athens, are the choragic monument of Lysicrates (c 335 B C) and the Tower of the Winds (100 B C –35 B C) Greek cities were often built in the vicinity of a steep hill called an acropolis, which served as a citadel and upon which the principal temples were located for safety, the Acropolis at Athens being the most celebrated example Throughout Greece numerous temples existed Many illustrated the most rudimentary temple type—a simple rectangular chamber called naos, the side walls extending to the front to form terminations for an open entrance porch containing two columns This loggia was sometimes repeated at the other end The next stage was the forming of free-standing porticoes, then a continuing of columns, flanking sides and ends, the naos thus being completely surrounded by a colonnade This type was termed peripteral and was exemplified in most of the important monuments of the great period. In dipteral temples the surrounding colonnade was doubled. Into these few general types minor variations were introduced, relating mainly to the number of columns and their disposition No public mass worship took place within the temples, the naos being designed primarily to house the statue of the deity The structures of the culminating period are unique for the subtle proportionings and refinements of all the members, which are integrated into a superbly adjusted whole To prevent an appearance of sagging, as in the temple platform (stylobate), or of concavity, as in the outlines of columns, subtly curved or slanting lines were substituted for straight or vertical ones and served as optical corrections To insure the desired proportions and delicate relationships, a body of traditional formulas was accumulated, using mathematical and geometrical devices The Greeks built, also, monumental tombs, agorae or public meeting places, stoae or colonnaded shelters, stadiums, palaestrae or gymnasiums for athletic training, propylaea or entrance gateways to cities, and open-air theaters After the passing of power from Athens and Sparta to Asia Minor with its prosperous cities, such as Ephesus and Miletus, the pure traditions of the mainland were lost Hellenistic architecture thus arose (4th–3d cent B C), with florid and opulent elements and rather complicated planning and design City planning, ignored by the mainland Greeks, was cultivated by the Hellenistic architects, among them Hippodamus, from them the Romans doubtless acquired their concepts of monumental civic design

Greek art. The Aegean basin was a center of artistic activity from early times (see AEGEAN CIVILIZATION) Two great cultures—the MINOAN CIVILIZATION and the MYCENAEAN CIVILIZATION—had flowered into complex and delicate art forms Before 1000 B C , invasions of Dorians and other barbarian tribes from the north laid waste the earlier Aegean cultures Although there was probably a transition from the Mycenaean phase and a continued play of Mediterranean influences, the nature of these and the role of the invaders in establishing the foundations of Greek art remain a subject of controversy Certainly the pottery of the period from c 900 B C to 700 B C with its completely abstract, mathematical systems of design already displayed a kind of simplicity and rationality of composition which was to be distinctive of Greek art throughout its development Between 700 and 600 B C this geometric style gave way to new interest in representation, and Oriental influence encouraged the use of floral and arabesque designs During the archaic period (c 625–480 B C) sculpture definitely emerged as a principal form of artistic expression Dating from the beginning of this period are magnificent statues of nude walking youths, *kouroi*, which suggest Egyptian prototypes but which are distinctive in stylization and tension of movement (e g , *Kouros* Metropolitan Mus), and draped female sculptures which suggest Near Eastern influence (e g , *Hera of Samos*, Louvre) Of later date are many statues of youths and maidens, principally to be found in the Acropolis Museum, Athens, and the groups of figures from the pediments of the temple of Aphaia at Aegina, which reveal an increased concern with the expression of anatomical structure and greater refinement of surface detail Vase painters depicted mythological scenes and, towards the end of the archaic period, many scenes from contemporary life Outstanding was the Athenian school of black-figured vase painting led by Exekias (e g , amphora by Exekias, Vatican) The appearance of the red-figured style of vase painting, c 525 B C , showed increased concern with the rendering of three-dimensional space and naturalistic detail Euthymides and Euphronius were among the great early masters in this medium (e g , cup by Euphronius, Louvre) About a generation later masterpieces were produced by the painters Brygos and Duris As this style developed throughout the 5th cent there was an increasing tendency toward representational illusion In the early classical or transitional period (c 480–450 B C) a new humanism began to find its aesthetic expression in terms of a perfect balance between verisimilitude and abstraction of form The largest surviving single group of sculpture is from the temple of Zeus at Olympia Although certain conventions in rendering hair and draperies persist from the archaic period, the magnificent marble figures from the pediments reveal a new kind of insight into the structure of the human figure A rare surviving work in bronze is the famous *Charioteer* (museum, Delphi) The height of the classical period or Golden Age (c 450–400 B C) was the time of Pericles and Thucydides, of the great dramatists Sophocles and Euripides, and of the young Socrates The aesthetic ideal based on the representation of human character as an expression of a divine system embodying a rational ethic and ordered reality was integral to the culture Polycletus sought to arrive at a rational norm for the structure of the ideal human figure Roman imitations of his sculptures give some notion of this ideal The most magnificent original sculptures from this period are those from the temples of

the Athenian Acropolis Earliest of these are the Parthenon sculptures including the frieze representing the Panathenaic procession and the pedimental sculptures, most of which are now in the British Museum The sculptors are anonymous, but Phidias is believed to have been the inspiring genius although he himself is known to have executed only a gigantic gold and ivory statue of Athena that once stood in the cella of the temple Somewhat later in date are the sculptures of the Hephaesteum, the Erechtheum, and Nike Balustrade In the late classical period (400–300 B C) there was increased emphasis on emotion Works attributed to Praxiteles are characterized by elegance of proportion, graceful beauty, and sensuous differentiation of textures Powerful emotional effects are typical of the sculpture in the style of Scopas, and a new feeling for individualization and three-dimensional movement appeared in the art of Lysippus Between 500 and 300 B C there flourished an abundance of great artistic personalities Other sculptors of the period were Myron, Cresilas, Timotheus, and Bryaxis, and the painters included Polygnotus, Apollodorus, Zeuxis, Parrhasius, and Apelles Aside from literary references, little is known about the actual work of these men The style of the sculptors is adduced from fragments and Roman copies Even less is known about the painters From the vase paintings some reconstruction of the Greek school of mural painting is possible With the conquests of Alexander the Great, Greek art entered its last great phase, the Hellenistic period The importance of Athens gradually declined, and cultural centers rose at Pergamum, Rhodes, and Alexandria Masterpieces of this period include the *Victory of Samothrace* and *Aphrodite of Melos* (both Louvre) and the *Pergamum Frieze* (formerly in the Berlin Mus) Especially charming among the minor arts are terra-cotta figurines from Tanagra (Boeotia) These characteristically represent common human types, emotions, and experiences Marked tendencies towards heightening spatial illusionism are revealed in sculpture and, to judge from Roman copies, prevailed also in painting (e g , *Odyssey Landscapes*, Vatican) About 100 B C began the transition from Greek to Roman art The famous statue *Laocoön and His Sons* (Vatican) seems already to embody a kind of physical realism more Roman than Greek in flavor Although the artistic culture of Greece declined at this time, its influence was of paramount importance during the Roman and Byzantine periods, and it has continued to be an inspiring force throughout the history of Western culture See Gisela Richter, *Sculpture and Sculptors of the Greeks* (1930), J D Beazley and Bernard Ashmole, *Greek Sculpture and Painting* (1932)

Greek Church see ORTHODOX EASTERN CHURCH

Greek fire, inflammable substance, a "liquid" fire, said to have been invented by Callinicus of Heliopolis, who, at Constantinople in the reign of Constantine Pogonatus, used it to set fire to enemy ships Its use by the Byzantine Greeks was common in the early Middle Ages, but its chemical nature is not definitely known Apparently it contained sulphur and various easily inflammable materials together with some other substance, e g , lime, which reacts with water, enough heat being evolved to raise the temperatures of the other materials to the kindling point

Greek language, Indo-European language Modern Greek is derived from the standard Greek (or Koine) of the Hellenistic world The New Testament is written in a form of this See LANGUAGE (table)

Greek-letter society see FRATERNITY

Greek literature, ancient European literature begins in Greek literature, and Greek literature begins in HOMER The *Iliad* and the *Odyssey* became the greatest unifying influence in Greek life There were other epic poems, which have been lost, but the works of HESIOD, first didactic poet, are in epic form The so-called *Homeric Hymns* are dated 800–500 B C Only fragments remain of most Greek poets, as of the elegiacs CALLINUS, TYRTAEUS, THEOGNIS, SOLON, PHOCYLIDES, XENOPHANES, SEMONIDES OF AMORGOS, ARCHILOCHUS, and HIPPONAX The most personal Greek poetry is the lyric of ALCAEUS, SAPPHO, and ANACREON The Dorian lyric for choral performance, developed with ALCMAN, IBYCUS, and STESICHORUS, came to fruition in PINDAR and SIMONIDES and the lesser BACCHYLIDES Out of the song and dance in the ceremonies honoring Dionysus at Athens came the drama It is remarkable that within a century TRAGEDY had grown from a mere dithyrambic chorus to the flowering of dramatic genius in three of the greatest tragedians the world has known—AESCHYLUS, SOPHOCLES, and EURIPIDES Those of their tragedies that survive are a part of living literature today. The same is true of ARISTOPHANES, the greatest exponent of the Attic Old Comedy. Other names are connected with his (notably Cratinus and Eupolis), but little is known of them. The rowdy horseplay of these dramas gave way to the more sedate and decent Middle Comedy and finally to the New Comedy, which set the form of comedy for the rest of literary history, the best-known name of Greek Middle Comedy is Menander History writing also came into organic being in Greece with the rich and diffuse work of HERODOTUS, the precise and exhaustive accounts of THUCYDIDES, and the rushing narrative of XENOPHON Philosophy also reached a peak in the brief flowering of Athenian literature, the works of PLATO and ARISTOTLE have had almost incalculable effect in the shaping of the thought of the Western world Somewhat less in its effect on modern thought but of immense importance in ancient times was the ORATORY of Greece Among the celebrated orators were ANDOCIDES, LYSIAS, ANTIPHON, ISOCRATES, ISAEUS, AESCHINES, and the greatest of them all—DEMOSTHENES "Classical" Greek literature is said to end with Aristotle and Demosthenes (4th cent B C) All of the best classical writers have certain common characteristics economy of words, simple directness and moderation of expression, subtlety of thought, fresh enthusiasm, and attention to form The next period of Greek literature was at its height in Hellenistic Alexandria, where literature was a profession There were many philosophers, critics, dramatists, poets, historians, and some verbose librarians In general, specialization of learning resulted in many works that have no appeal for the modern reader except the scholar Many of the works were imitative, some were vulgar Yet today Hellenistic literature is held in much higher esteem than it was by the humanists of the Renaissance and their successors The poems of CALLIMACHUS, the bucolics of THEOCRITUS, and even the panting epic of APOLLONIUS RHODIUS are recognized as major works of world literature The production of literary works just before and after the birth of Christ was enormous, but artificiality and self-conscious aesthetic predominated in poetry and drama, and pedantry supplanted thought in most of the learned works The dominance of Rome in the ancient world did not end Greek literature but did dim it To be sure, there were great names—the historians POLYBIUS, JOSEPHUS, and DION CASSIUS, the immortal biographer, PLUTARCH, the philosophers PHILO and DION CHRYSOSTOM, and the novelist LUCIAN—yet the conscious cultivation of Greek writing in general produced works that seem strained and unreal, with one great exception in the philosophical meditations of Marcus Aurelius With Christianity, Greek writing took a new turn, and much of the writing of the Greek Fathers of the Church is eloquent Religion dominated in the literature of the Byzantine Empire, a vast treasury of writing that is not generally well known to the West with the exception of some historians (e g , PROCOPIUS, ANNA COMNENA, George ACROPOLITA, and Emperor JOHN VI) and some anthologists (e g , PHOTIUS) The series of the Loeb Classical Library offers text and translations of most of the extant ancient Greek literature See G Lowes Dickinson, *The Greek View of Life* (7th ed , 1925), A W Pickard-Cambridge, *Dithyramb, Tragedy, and Comedy* (1927), Gilbert Norwood, *Greek Comedy* (1930), H D F Kitto, *Greek Tragedy* (1939), Werner Jaeger, *Paideia* (Eng tr , 3 vols , 1939–44), H J Rose, *Handbook of Greek Literature from Homer to the Age of Lucian* (3d ed , 1948), Moses Hadas, *A History of Greek Literature* (1950)

Greek literature, modern Under Turkish rule, Greek literature virtually ceased, except in Crete The founding of the revolutionary society Philike Hetairea in the beginning of the 19th cent , however, furnished not only the intellectual cadre for the War of Independence but the pioneers of the post-war nationalist revival which awakened a modern Greek literature Adamantios Korais or Coraïs (1748 1833), one of the patriotic intellectuals, created a literary style more heavily indebted to the classical Greek than to the living language of his time But the Greeks had been so completely cut off from their classical tradition by centuries of Turkish occupation and the successful revolution had created such a militant pride in the new nation that there were many champions of a demotic literary style Throughout the rest of the 19th cent and into the 20th, the reformed classical and the demotic styles were each upheld by uncompromising adherents, a controversy which was high-lighted by a riot in Athens (1901) over the publication of a vulgate translation of the New Testament Alexandros RANGABE was the outstanding literary figure of the classical trend, a poet and dramatist, he also wrote the first important history of modern Greek literature Demetrios Vernadakis (1834-1907) and Spyridon Vasiliadis (1845-74) were 19th-century dramatists who wrote romantic plays in classical speech forms The demotic style, however, won increasing acceptance in all the literary genres This was particularly true in poetry, which has flourished above all other forms in modern Greek literature—in the beginning as celebrations of the heroic exploits in the revolution but later chiefly lyric The verse of the Ionian poets in the middle and late 19th cent —the works of Dionysios Solomos (1798–1857), whose "Ode to Liberty" became the lyrics of the national anthem, Andreas Kalvos (1796–1869), Andreas Lascaratos (1811–1901), and Aristotle Valaoritis (1824–79)—freely used the vernacular Stephen Martzokis (1855 1913), a disciple of the Ionian school, and Konstantinos Hadzopoulos (1868-) composed lyrics in the popular idiom The early works of George Drossinis (1859–) and Kostes PALAMAS, the outstanding Greek poets of recent times, were written in the classical style, but both came to express themselves in modern Greek, Drossinis winning great popularity among the people and Palamas receiving the greater acclaim from the critics at home and abroad The trend to free verse, represented by Angellos Sikelianos (1884–), rests on the demotic style In prose the plays and short stories of Ioannis Psichare (1854–1929) firmly established the use of the vernacular, and the short stories of Alexandros Papadiamitis (1851–1911) and Argyris Eftaliotis (1849–1924) expressed indigenous themes in the language of the people The demotic style has also been favored by the principal modern dramatists, including the naturalists Ioannis Kambisis (1872–1902), Spyros Melas (1880-), and Gregorios Xenopoulos (1867–), and the symbolist Demetrios Tangopoulos (1867–1926) For translations, see Rae Dalven, ed , *Modern Greek Poetry* (1949)

Greek music The music of ancient Greece was evidently a highly developed art Although there exists a plethora of literary, philosophical, and theoretical treatises concerning it, only about a dozen musical examples are extant, most of which originated after 440 B C , when the classical period of Greek music came to an end The earliest Greek music was associated with and inseparable from poetry and dancing It was entirely monodic, there was no harmony as we understand the term Its melodic system was based upon the modes (see MODE) Music was believed, according to the doctrine of ethos, to have emotional and moral influence, and each mode was associated with definite types of emotion A discussion of the moral significance of music is to be found in the third book of Plato's *Republic* The chief instruments were the aulos (a wind instrument of the oboe type), associated with the cult of Dionysius, and the KITHARA, associated with the cult of Apollo Two systems of notation, a vocal notation and an instrumental notation, were employed, both using letters and both decipherable today, largely because of the *Introduction to Music* of Alypius (A D c 360) Early in Greek music's history it was given a physical basis Pythagoras is usually given credit for a large share of the application of science to music, but his exact contribution is not known Lasus of Hermione (c 500 B C) discovered that vibration is the cause of sound The outstanding musical theorist was ARISTOXENUS OF TARENTUM See Curt Sachs, *The Rise of Music in the Ancient World* (1943), P H Lang, *Music in Western Civilization* (1941)

Greek religion The sources and history of Greek myth are the subject of much argument and conjecture Religious beliefs in ancient Greece were complex and often contradictory There was a basic animism, with reverence for river-gods, sea-gods, nymphs, gods and goddesses of fertility, and disembodied demons (both universal natural powers and particular tutelary spirits) This was, however, complicated by the confusion of local deities, who were roughly identified with corresponding deities of other places and confounded with them As time went on and the literary treatment of the myths was intensified, systematization occurred and a certain straining of identification took place, creating further contradictions Moreover, as in most polytheistic systems, certain cults (notably the Great Mother of the Gods) were imported knowingly Even in the time of Homer, when the gods were pictured anthropomorphically, there was no question of ethics or morals as applied to, or dictated by, these supernatural beings The cult of the hero, particularly the eponymous hero who is the ancestor of a family, a group, or a whole people, was known from the earliest times In popular religion the hero to a certain extent remained only a ghost, a revenant to inspire fear in the living, but in the expanding cults the heroes and the gods became inextricably mixed in legends, as did nymphs and river-gods The characteristics and stories of the great gods were drawn from many sources, some stemmed from the worship of the Greeks before they invaded the peninsula from the north, some came from the Minoan and Mycenean civilizations, some were brought in from Asia and Egypt The chief and the ruler of the gods in the more or less regularized system was ZEUS He was surrounded by the other great gods, who were thought of as living on the top of Mt Olympus (or sometimes in the air above it) but free to wander about the world at will There were many, among them HERA (Zeus' wife), APOLLO, ARTEMIS, ARES, HERMES, APHRODITE, ATHENA, POSEIDON, and DEMETER These were the Olympian gods There were also chthonian or underworld gods, who were worshiped with libations, often poured out at night to assuage the dark powers of the underworld and death—for the domain of the departed spirits was Hades beneath the earth, the abode of Pluto and

his wife, Persephone Persephone was the daughter of the corn goddess, Demeter, and the connection of the underworld with the growth, death, and resurrection of vegetation gave rise to one of the most important of religious developments, the ELEUSINIAN MYSTERIES There were other mysteries as well (e.g., the Orphic Mysteries), and the worship of DIONYSUS was connected with them Though Athena was the goddess par excellence of Athens, the greatest festival there was that of Dionysus The mysteries were important for their strong ethical and moral teachings. Unlike most of the priests and priestesses of the local temples, the priests of the mysteries occupied an exalted place. So did the priests and priestesses of the great oracles (see ORACLE), such as those at Delphi and Dodona By the 5th cent B C literal belief in the gods had begun to fade in the minds of the educated but at that time emerged the dematerialization of the gods into great forces that enabled philosophers and poets to picture a cosmos in which moral struggle was paramount The ideas of crime, guilt, retribution, punishment, and the goals of the good life were expressed in the great Greek dramas The development of philosophic systems replaced the old simple myths, though among the peasantry the simple customs and FERTILITY RITES continued See MYTH See W W Hyde, *Greek Religion and Its Survivals* (1923), Martin P Nilsson, *History of Greek Religion* (Eng tr, 1925) and *Greek Popular Religion* (1940)

Greek revival: see CLASSIC REVIVAL

Greeley, Horace, 1811–72, American newspaper editor, founder of the New York *Tribune*, b Amherst, N H His irregular schooling, ending at 15, was followed by a four-year apprenticeship (1826–30) on a country weekly at East Poultney, Vt When the paper failed, he went briefly to Erie co, Pa, where his impoverished farming family had moved In Aug, 1831, he came to New York city, worked as a newspaper compositor, and in Jan, 1833, opened a job printing office in partnership with another printer Greeley's great interest in public questions led him to found (1834), with a new partner, the *New Yorker*, a weekly journal "devoted to literature, the arts and sciences," which he edited ably but unprofitably for seven years He supplemented his income by writing regularly for the *Daily Whig* and by editing Whig campaign sheets, the *Jeffersonian* in 1838 and the *Log Cabin* in 1840 His success in political journalism cemented Greeley's friendship with Thurlow WEED and William H SEWARD, Whig leaders in New York state, and with their encouragement he issued the first number of the New York *Tribune* on April 10, 1841 He edited this paper for over 30 years; during much of that time it was the greatest single journalistic influence in the country Actually, there were three *Tribunes* The *Daily Tribune* was published every morning and evening except Sunday (with the Civil War there also came Sunday issues) In Sept, 1841, Greeley converted the *New Yorker* into the *Weekly Tribune*, and in 1842 he also began the *Semi-Weekly Tribune*, which stressed literary matters more than the other editions did All three, however, carried the same editorials, and Greeley alone shaped the editorial policy. From the first Greeley's object was to provide for the laboring classes a paper which should be as cheap as those of his rivals, but cleaner and more intelligent Sensational police news and objectionable medical advertising were eliminated from the *Tribune* Greeley's chief editorial assistant for 15 years after 1846 was Charles A DANA, the first managing editor on any American newspaper Beginning in 1849 George RIPLEY conducted for 30 years the first regular literary and book review department in a U S newspaper Other talented men also joined Greeley's staff (he was the first editor to allow by-lines), but his own clear, timely, vigorous editorials were the feature which made the *Tribune* known and quoted throughout the nation. Although Greeley styled both himself and his paper Whig, they were conservative only in so far as they thundered for a protective tariff Other causes that Greeley promoted were hardly Whig-inspired. He advocated the organization of labor and led the way by organizing *Tribune* printers New York printers elected (1850) him the first president of their chapel, the first in the nation, the "Big Six," as it later came to be known He also believed that a successful business should share its profits and ownership with its employees, and this practice was naturally observed on the *Tribune* He advocated temperance and a homestead law because he felt that these too would elevate the condition of labor He supported woman's rights and opposed all monopoly, including large land grants to railroads, which he felt would lead to monopoly. He gave space in his paper to Fourierism when that movement was at its height and sponsored several experiments in cooperative living, including, later, the colony named for him at GREELEY, Colo Even Karl MARX contributed to the *Tribune*, from London "Greeley'a isms," as scoffers contemptuously called his plans for social reform, annoyed many *Tribune* readers, but he never apologized for them, and the paper continued to grow. After 1850 slavery overshadowed all other questions, and Greeley's antislavery views became more intense as the crisis approached. He opposed the Mexican War and the Compromise of 1850, and some of his best editorials were directed against the Kansas-Nebraska Bill. In this period the circulation (a total of 200,000 by 1860) of the *Weekly Tribune* became so extensive in the rural districts of the West that Bayard Taylor could declare that it "comes next to the Bible" Everyone had heard and thousands had acted on his advice, "Go West, young man, go West" Greeley was one of the first editors to join the Republican party, and he was a delegate to the national organizing convention at Pittsburgh in Feb, 1856 Out of political pique he had broken with Weed and Seward in 1854 and, barred as a New York delegate to the 1860 Republican convention at Chicago, he attended as a representative of Oregon. He was a leader in the successful fight to prevent Seward's nomination, and though at first favoring Edward Bates, he eventually threw his support to Abraham Lincoln Seward and Weed had their revenge by later blocking Greeley's election to the U S Senate (he had served in the House of Representatives from Dec, 1848, to March, 1849). Greeley's course in the Civil War lost him many admirers At first he was disposed to let the "erring sisters go in peace," but soon came around to vigorous support of the war. However, he persistently denounced Lincoln's policy of conciliating the border slave states On Aug 19, 1862, he published over his signature in the *Tribune* an open letter to the President, which he titled "The Prayer of Twenty Millions," demanding that Lincoln commit himself definitely to emancipation Lincoln's reply (Aug 22) "to an old friend, whose heart I have always supposed to be right" was masterly (see EMANCIPATION PROCLAMATION) Only reluctantly and belatedly did he support Lincoln for reelection in 1864 His humanitarian hatred of war led him to advocate peace negotiations of any sort, often to the embarrassment of the administration In 1864 Lincoln sent him on what turned out to be a futile mission to Canada to treat with Confederate emissaries When the war finally ended and Reconstruction set in, Greeley, though he favored Negro suffrage, advocated amnesty for all Southerners He was one of those who signed the bail bond to release Jefferson Davis from prison, and this magnanimous act cost him half the subscriptions to the *Weekly Tribune* Greeley supported Ulysses S Grant during the first years of his administration, but came to resent what he considered Grant's subserviency to that wing of the Republican party in New York state dominated by Roscoe Conkling In 1871 he began to encourage the movement which grew into the LIBERAL REPUBLICAN PARTY and avidly sought the nomination for President in 1872 The new party's Cincinnati convention was cleverly stampeded toward Greeley, much to the disappointment of many of the reformers Though the Democrats also endorsed him, many of them refused to support a man who had spent his life opposing the principles, especially a tariff for revenue only, for which they had stood. During the campaign all Greeley's shortcomings were caricatured, and he was denounced as a traitor and a crank Despite his strenuous campaign he was thoroughly defeated by Grant His disappointment at the result and his sorrow at the death of his wife a few days before the election unbalanced his mind, and he died insane on Nov 29 The tragedy brought the shocked nation to a realization of how much it owed him Greeley wrote *The American Conflict* (1866), a history of the Civil War, and the autobiographical *Recollections of a Busy Life* (1868) His other books, while interesting, were journalistic in character. See biographies by W A Linn (1904), Don C Seitz (1926), and Henry L Stoddard (1946), Constance M. Rourke, *Trumpets of Jubilee* (1927), Ralph R. Fahrney, *Horace Greeley and the Tribune in the Civil War* (1936), and Jeter A. Isley, *Horace Greeley and the Republican Party, 1853–1861 a Study of the New York Tribune* (1947).

Greeley, city (pop 15,995), co seat of Weld co., N Colo, NNE of Denver near the South Platte river, inc 1885 Here Horace GREELEY through his agent, Nathan C Meeker, founded (1870) the cooperative Union Colony Greeley is the rail, trade, and processing center for a rich irrigated farm area. The Colorado State College of Education is here.

Greely, Adolphus Washington, 1844–1935, American army officer and arctic explorer, b. Newburyport, Mass. Entering the Union army at 17, he emerged a brevet major of volunteers at the end of the Civil War. In 1881, as a lieutenant in the regular army, Greely was given command of a U S. expedition to establish one of a chain of international circumpolar meteorological stations. Although he was without previous arctic experience, he and his party performed notable feats of exploration, many hitherto unknown miles along the northwest coast of Greenland were added to the map, Ellesmere Island was crossed to the west shore, and Lt. James B. Lockwood achieved a new northern record of 83° 24'. Relief ships failed to reach Greely's party, which in camp at Cape Sabine was visited by starvation; when the third relief vessel, under command of Winfield Scott Schley, arrived in 1884, all but Greely and six others had perished. The survivors were in a dying condition, and one died on the homeward journey Greely's account is his *Three Years of Arctic Service* (1886), another record is the diary of David L Brainard, published as *Six Came Back* (ed by B R James, 1940). Promoted chief signal officer and brigadier general in 1887 and later (1906) major general, Greely made a name for himself as builder of telegraphic communications for the army in Puerto Rico, Cuba, the Philippine Islands, and Alaska. He was director of relief operations after the San Francisco earthquake He was retired in 1908 The Congressional Medal of Honor was awarded him in 1935. His writings include *Handbook of Alaska* (rev ed., 1925) and *The Polar Regions in the Twentieth Century* (1928) See his autobiographical *Reminiscences of Adventure and Service* (1927), biography by William Mitchell (1936)

Green, Alice Stopford: see GREEN, JOHN RICHARD

Green, Andrew Haswell, 1820–1903, American civic leader, b Worcester, Mass He read law under Samuel J TILDEN and became his partner Prominent in civic affairs of New York city, he held a number of offices, was largely responsible for much of the park system (notably Riverside Drive, Morningside, and Fort Washington parks), and accomplished financial reform He is, however, remembered as the chief advocate of the merging of the surrounding cities with New York to make Greater New York He was chairman of the commission that in 1897 drew up the plan by which Greater New York was established in 1898 He also helped to bring about the union of the Astor and Lenox foundations into the New York Public Library with funds left by Tilden See biography by John Foord (1913)

Green, Anna Katharine, 1846–1935, American detective-story writer, b Brooklyn, N Y, grad Ripley Female College, Poultney, Vt, 1867 Her thrillers, characterized by logicality and a knowledge of criminal law, popularized the master detective Her first and best-known book, *The Leavenworth Case* (1878), dramatized in 1892 for her actor-husband, Charles Rohlfs, is still read Her last work was *The Step on the Stair* (1922).

Green, Bartholomew, 1666–1732, early American printer, b Cambridge, Mass The son of Samuel GREEN, he fell heir in 1692 to his father's press in Cambridge and moved it to Boston He had the patronage of the government and of the college and became the foremost printer in New England He printed the Boston *News-Letter*, first American newspaper, for John Campbell from its inception in 1704 until his death, except for four years, and in 1722 he became the publisher also His son-in-law, John Draper, succeeded to the *News-Letter*

Green, Duff, 1791–1875, American journalist and politician, b Woodford co, Ky After service in the War of 1812, he settled in Missouri, where he devoted himself to politics and to business and was editor of the St Louis *Enquirer* He moved (1825) to Washington, D C, purchased the *United States Telegraph*, and backed Andrew Jackson for President After Jackson was elected (1828), Green's newspaper became the administration organ and Green was admitted to Jackson's Kitchen Cabinet He soon backed John C Calhoun, his son-in-law, against Jackson in the nullification controversy, however, and thereafter he increasingly defended the South on the issues of slavery and the tariff He left (1836) the *Telegraph*, and—having staunchly supported the Harrison-Tyler ticket in 1840—he was appointed by President John Tyler as unofficial agent abroad to probe opinion on the Texas and Oregon questions and on trade and tariff matters He was also sent to Texas and Mexico on diplomatic missions He started (1844) in New York city the *Republic*, a newspaper devoted to tariff reduction and sympathetic toward the South. He became increasingly involved in Southern industrial developments and railroad building He had secured charters and funds for a Southern Pacific railroad and was about to start construction when the Civil War began. During the war he operated various ironworks for the Confederacy

Green, George, 1793–1841, English mathematician, largely self-taught until, in 1833, he entered Caius College, Cambridge He became one of the foremost mathematicians of his age. He was especially interested in the equilibrium of fluids and was the first to introduce the potential in its application to the theories of the magnetic and electric fields His papers were edited, with a memoir, by N. M Ferrers (1871).

Green, Hetty Howland (Robinson), 1835–1916, American financier, b New Bedford, Mass. She inherited a large fortune from her father and managed it so shrewdly that she was considered the greatest woman financier in the world Her wealth was estimated at $100,000,000 See Boyden Sparkes and S. T. Moore, *Hetty Green, a Woman Who Loved Money* (1930).

Green, John Richard, 1837–83, English historian Educated at Jesus College, Oxford, he became an Anglican clergyman in 1860 In 1869 ill-health and his increasingly liberal views led him to give up his London curacy and to become librarian of Lambeth Palace, supporting himself by writing for periodicals His first historical work, *A Short History of the English People* (1874), was immediately popular and remains a work of high literary merit As history it showed a marked emphasis on social rather than political change and stressed the significance of local events in the larger national picture He expanded the *Short History* into a less popular four-volume *History of the English People* (1877–80) His later works were *The Making of England* (1882) and *The Conquest of England* (1883), not quite finished when he died of tuberculosis and edited by his widow She was **Alice Stopford Green,** 1848–1929, also a historian Among her competent works on English and Irish history are a biography of Henry II (1888) and *History of the Irish State to 1014* (1925). She returned to live in Dublin and became a member of the Irish Senate in 1922 See Leslie Stephen, ed , *Letters of J R Green* (1901), G P Gooch, *History and Historians in the Nineteenth Century* (1913)

Green, Julian, 1900–, French writer, b. Paris, of American parentage. He studied (1919–22) at the Univ of Virginia and lived in the United States from 1940 until 1945, but otherwise has resided in France His novels, which he has preferred to write in French, are somber psychological tales, the best of which include *The Closed Garden* (1927, Eng tr , 1928), *The Dark Journey* (1929, Eng tr , 1929), *The Dreamer* (1934; Eng tr , 1934), and *Midnight* (1936, Eng tr , 1936) See his journals (1938–39, Eng tr , *Personal Record*, 1939) and his *Memories of Happy Days* (1942)

Green, Paul, 1894–, American author, b Lillington, N C , grad Univ of North Carolina, 1921 In plays, short stories, and a novel he has depicted realistically the folk life of the South, especially of Negroes, the tenant white class, and those close to the soil His plays include *In Abraham's Bosom* (1926, awarded the Pulitzer Prize for drama, 1927), *The Field God* (1927), *The House of Connelly* (1931), and *Native Son* (with Richard Wright, from Wright's novel, 1941) He has also written two symphonic dramas, *The Lost Colony* (1937) and *The Common Glory* (1948), both about colonial history, short stories collected in *Wide Fields* (1928) and *Salvation on a String* (1946), a novel, *Laughing Pioneer* (1932), and *Hawthorne Tree* (1944), concerning the theater See biographical sketch by B H Clark (1928)

Green, Samuel, 1615–1702, early American printer He established himself at Cambridge, Mass , in 1649, using a press owned by Henry Dunster, president of Harvard He succeeded Stephen DAYE and was the only printer in the colonies until 1665 Green was given the press sent to the colony in 1654 by the Society for the Propagation of the Gospel in New England, on which were printed John Eliot's Indian tracts and the Indian Bible, most famous of Green's imprints He continued in business until 1692, when his son Bartholomew GREEN succeeded him, his imprints number nearly 300, among them editions of the *Bay Psalm Book* and *The Book of the General Lawes and Libertyes*

Green, Samuel Bowdlear, 1859–1910, American horticulturist, b Chelsea, Mass , grad Massachusetts Agricultural College, 1879 He spent 13 years gaining a wide practical experience on farms, in nurseries, in experiment stations, in the horticultural department at the Massachusetts Agricultural College, and at the Minnesota Experiment Station In 1888 he began his long period of service on the faculty of the Univ of Minnesota, first as professor of horticulture and later as professor also of forestry He was one of the editors of *Farm and Fireside* after 1888 He wrote practical guides in forestry as well as *Amateur Fruit Growing* (1894), *Vegetable Gardening* (1896), and *Farm Wind-Breaks and Shelter-Belts* (1906)

Green, Samuel Swett, 1837–1918, American librarian, b Worcester, Mass , grad Harvard College, 1858, and Harvard Divinity School, 1864 He was librarian of the Worcester, Mass , Free Public Library (1871–1909) and was head of the Free Public Library Commission of Massachusetts from its beginning in 1890. One of the founders of the American Library Association, he was its delegate to the International Congress of Librarians at London in 1877, its president in 1891, and president of the World's Congress of Librarians at Chicago in 1893 His writings include *The Public Library Movement in the United States, 1853–1893* (1913) See biography by R. K. Shaw (1926)

Green, Seth, 1817–88, pioneer American pisciculturist, b. Rochester, N Y He began his experiments in the artificial hatching of trout and salmon and continued with other kinds of fish, especially shad; this he transplanted from its native Atlantic waters to the Pacific, where it became more abundant than in the original habitat Green is credited with making fish breeding practical on a large scale. Besides various articles on angling, he wrote *Trout Culture* (1870), *Home Fishing and Home Waters* (1888), and *Fish Hatching and Fish Catching* (with R. B Roosevelt, 1879)

Green, Thomas Hill, 1836–82, English neo-Hegelian philosopher Educated at Oxford, he was professor of moral philosophy there from 1878 until his death. Green, in his *Prolegomena to Ethics* (1883), produced a powerful force on the thinking of the latter half of 19th-century England Empiricism and sensationalism had dominated English thought, making conduct a theory and knowledge unmeaningful Together with T H Gross, Green examined Hume's philosophy from the viewpoint of idealism Green submitted that the fact of consciousness was evidence that made knowledge and morality possible Both in the individual and in society, moral ideas change, a belief which he emphasized by his famous statement, "Rules are made for man and not man for rules" Self-determination is present when man is conscious of his own desires, and freedom occurs when man identifies himself with what he considers morally good. Politically, Green was a liberal, believing that government must represent general will and that when it failed to do so it should be changed His ethics are believed to have influenced such modern philosophers as John Dewey and A N Whitehead Another of his writings is *Lectures on the Principles of Political Obligation* (1895) See Y L Chin, *Political Theory of Thomas Hill Green* (1920), J C McKirachan, *The Temporal and the Eternal in the Philosophy of Thomas Hill Green* (1941)

Green, William, 1873–, American labor leader, president of the American Federation of Labor (1924–), b Coshocton, Ohio He rose through the ranks of the United Mine Workers of America, of which organization he was (1912–24) secretary-treasurer Green was elected—with backing from John L LEWIS—as president of the A F of L to succeed Samuel Gompers He led the organization of skilled labor into craft unions and gradually built up A F of L membership After eight of the largest unions in the A F of L split away (1935) under the leadership of John L Lewis and formed the Congress of Industrial Organization to organize workers into industrial unions, Green led the A F of L in the subsequent struggle with the C I O Green set forth his philosophy in *Labor and Democracy* (1939)

Greenaway, Kate, 1846–1901, English illustrator and water-color painter She is famous for her fanciful, humorous, delicately colored delineations of child life She influenced children's clothing and the illustrating of children's books Among the books for which she provided text as well as illustrations are *Under the Window* (1879), *A Day in a Child's Life* (1881), and *The Language of Flowers* (1885) See Covelle Newcomb, *The Secret Door* (1946)

greenback. In 1862 in the exigencies of the Civil War the U S government first issued legal tender notes (popularly called greenbacks) which were placed on a par with notes backed by specie By the end of the war such notes were outstanding to the amount of more than $4,000,000 They had been issued as temporary, and in accordance with the Funding Act of 1866 Secretary of State Hugh MCCULLOCH began retiring them The hard times of 1867 caused many, especially among Western farmers, to demand that the currency should be inflated rather than contracted, and Congress suspended the retirement George H PENDLETON advanced the so-called Ohio Idea, recommending that all government bonds not specifying payment in specie should be paid in greenbacks John SHERMAN, more conservative, was nevertheless willing to let the greenbacks stay in circulation on a redemption basis The question was warmly debated in 1868 and was ended by a compromise, which left greenbacks to the amount of $356,000,000 in circulation The law creating them was declared constitutional in the later LEGAL TENDER CASES, and the matter rested until the Panic of 1873 The hard-hit agrarians then wanted to inflate the currency with more greenbacks President U S Grant was firmly opposed and vetoed the inflation bill of 1874 Though the Greenback party worked hard to oppose them, the conservatives triumphed in Jan , 1875, with the Resumption Act, which fixed Jan 1, 1879, as the date for redeeming the greenbacks in specie The Secretary of the Treasury accumulated a gold reserve of $100,000,000, and confidence in the government was so great that few greenbacks were presented for surrender in 1879 Congress provided in 1878 that the greenbacks then outstanding ($346,681,000) remain a permanent part of the currency See Wesley Clair Mitchell, *A History of the Greenbacks* (1903)

Greenback party, in U.S history, political organization formed in the years 1874–76 to promote currency expansion The members were principally farmers of the West and the South, stricken by the Panic of 1873, they saw salvation in expansion of the currency, for inflated currency would wipe out farm debts contracted in times of high prices They were opposed by the conservatives, who managed to get the Resumption Act of 1875 passed The Greenbackers had in 1874 hoped to capture the Democratic party, but the nomination of Samuel J Tilden killed that hope, and the Greenback party nominated Peter COOPER, its own candidate for President, in 1876 The Greenbackers got only 81,737 votes In 1878, however, some labor organizations, embittered by the labor troubles of 1877, united with the advocates of cheap money in the Greenback-Labor party They polled over 1,000,000 votes and elected 14 Representatives to Congress that year. In the presidential election of 1880 the vote for the Greenback-Labor candidate, James B. WEAVER, was just a little over 300,000, and when the candidate in 1884, Gen Benjamin Franklin BUTLER (1818–93) did very badly, the party dissolved Some members joined the Union Labor party in 1888, but more of them went back to the old parties Later many became Populists

Green Bay, city (pop. 46,235), co seat of Brown co., NE Wis , at the mouth of the Fox and on Green Bay, inc 1854 Here Jean Nicolet established (1634) a trading post, and Father Allouez carried on (1669) missionary activities A host of other French explorers, traders, and missionaries—including Nicolas PERROT, Louis Jolliet, and Father Marquette—visited the region, and the permanent settlement, the oldest in the state, is dated at 1701 Augustin LANGLADE was the chief figure in the thriving fur trade of early years After 1717 the French maintained a fort, which the British took over in 1761 and held until PONTIAC'S REBELLION The French settlement La Baye became Green Bay The old inhabitants resented the coming of the British and later of the Americans, who built (1816) Fort Howard here after the War of 1812, but gradually old and new loyalties were fused The fur trade at this key to the Fox-Wisconsin water route was dominated in the early 19th cent by the American Fur Company, but as lumbering and farming expanded, especially after the opening of the Erie Canal, furs lost their importance The first newspaper in Wisconsin was established here in 1833, and Green Bay grew lustily Today, with one of the best of the Great Lakes harbors, it is a port of entry, with heavy shipping, much wholesale and jobbing trade, and thriving industries, notably papermaking and cheese processing The Neville Museum has Nicolas Perrot's silver ostensorium (see DE PERE) The city's name has been given luster in the sports world by the professional football team, the Green Bay Packers

Green Bay, western arm of Lake Michigan, c 100 mi long, bordering part of the Michigan Upper Peninsula and deeply indenting the NE Wisconsin shore

Greenbelt, town (1940 pop 2,831; 1946 estimated pop 10,000), W central Md , near Washington, D C ; chartered 1937 Its city-manager government was the first in the state Greenbelt was planned and built by the Federal Resettlement Administration as the first of three experimental model communities (the others are Greenhills, Ohio, and Greendale, Wis) Its population, composed largely of government workers from Washington, has moderate-priced housing and school, shopping, and recreational facilities, set in a GARDEN CITY surrounded by a broad belt of park All businesses are cooperatively owned by the townspeople See O K Fulmer, *Greenbelt* (1941)

Greenbrier, river rising in E West Virginia and flowing southwest, parallel to the Va line. It joins the New River near Hinton.

greenbrier. see SMILAX

Greencastle. **1** City (pop 4,872), co seat of Putnam co , W central Ind , WSW of Indianapolis, laid out 1822 The city is a trading center for a farming region, and cement is made Greencastle is the seat of DePauw Univ (Methodist, coeducational, 1837) **2** Industrial borough (pop 2,511), S Pa , SSW of Chambersburg, laid out 1784, inc 1805 It produces textiles, machinery, and canned goods Sheep raising is done here

Green Cove Springs, town (pop 1,752), co. seat of Clay co , NE Fla , on the west bank of the St Johns river and S of Jacksonville, settled 1830 on the site of an Indian village It is a mineral-springs resort in a farming, stock-raising, and lumbering area Near by are the Penney Memorial Community for retired ministers and the site of an early-18th-century Spanish fort

Greendale. **1** Town (pop 1,548), SE Ind , near Lawrenceburg N of Aurora Whisky is distilled here **2** Village (pop 2,527), SE Wis , near Milwaukee, inc 1938 It is one of the garden cities of the Federal Resettlement Administration (see GREENBELT, Md)

Greene, Albert Gorton, 1802–68, American poet and jurist, b Providence, R I , grad Brown, 1820 He was a city official and magistrate in Providence and is remembered for his humorous poem "Old Grimes" His library is now part of the Harris Collection of American Poetry at Brown Univ

Greene, Evarts Boutell, 1870–1947, American historian, b Kobe, Japan, where his parents were missionaries He was educated at Northwestern Univ , Harvard (B A , 1890, M A , 1891, Ph D , 1893), and the Univ of Berlin (1893–94) In 1894 he began teaching American history at the Univ of Illinois, where from 1897 to 1923 he was a professor He was also dean of the college of arts and literature at Illinois from 1906 to 1913 Called to Columbia Univ in 1923, Greene was appointed (1926) the first De Witt Clinton professor of history and held

this chair until his retirement in 1939 From 1936 to 1939 he also served as chairman of the Institute of Japanese Studies at Columbia Greene was a noted authority upon the colonial and Revolutionary periods of American history His principal works were *The Provincial Governor in the English Colonies of North America* (1898); *The Government of Illinois· Its History and Administration* (1904); *Provincial America, 1690–1740* ("American Nation" series, 1905), *The Foundations of American Nationality* (1922, rev ed, 1935), *A New Englander in Japan Daniel Crosby Greene* (1927), a biography of his father, *A Guide to the Principal Sources for Early American History (1600–1800) in the City of New York* (with Richard B. Morris, 1929); *American Population before the Federal Census of 1790* (with Virginia D Harrington, 1932); *Religion and the State the Making and Testing of an American Tradition* (1941), and *The Revolutionary Generation, 1763–1790* ("History of American Life" series, Vol IV, 1943)

Greene, George Sears, 1801–99, American civil engineer, Union general in the Civil War, b Apponaug (in Warwick), R I, grad West Point, 1823 He resigned from the army in 1836 and for many years was engaged chiefly in railroad construction Greene was an engineer for the Croton water system of New York city before and after his Civil War service. Made a brigadier general of volunteers (1862), he served at the second battle of Bull Run and in the Antietam, Chancellorsville, and Gettysburg campaigns He was severely wounded in the Chattanooga campaign (1863) Later he was with W T Sherman in North Carolina (1865) His engineering work after the war included the planning of a sewer system for Washington, D C, and the building of water-supply systems in other cities

Greene, Graham, 1904-, English writer, educated at Oxford He was on the staff of the London *Times* (1926–30) and the *Spectator* (1935-39) In the Second World War he served at the foreign office, with special duties in West Africa (1942–43) His novels and short stories, often dramatic in plot, are subtle in characterization and are colored by his Catholicism Among his works are *The Man Within* (1929), *Stamboul Train* (1932), *The Confidential Agent* (1939), *The Power and the Glory* (1940, American title, *Labyrinthine Ways*), *British Dramatists* (1942), *The Ministry of Fear* (1943), *The Heart of the Matter* (1948), and *Nineteen Stories* (1949)

Greene, Nathanael, 1742–86, American Revolutionary general, b Warwick, R I An iron founder, he became active in colonial politics and served (1770–72, 1775) in the Rhode Island assembly At the beginning of the American Revolution, he commanded a detachment of militia at the siege of Boston and was in charge of the city after the British evacuation (1776) He helped plan the defense of New York (1776), but illness kept him from the battle of Long Island He was with Washington (1776–77) at Trenton, Brandywine, Germantown, and Valley Forge In 1778 he became quartermaster general while still holding his field command. Greene reorganized the department, found supplies for the army, and rendered fine service in this capacity He displayed notable ability at organization, which appeared also in his field work He fought (1778) at Monmouth and in the Rhode Island campaign and was president (1780) of the court-martial board that sentenced Major John André. After Gates was defeated at Camden (1780), Greene became the commander in the CAROLINA CAMPAIGN He reorganized the southern army, and he and his lieutenants (notably Daniel Morgan and Light-Horse Harry Lee), with aid of partisan bands under Francis Marion, Thomas Sumter, and Andrew Pickens, turned the tide in Carolina Greene's forces were defeated at Guilford Courthouse, Hobkirks Hill, and Eutaw Springs, but each time the British victory ended in British retreat, and he pushed south to surround Charleston until the British evacuated it (1782) The campaign is generally considered an example of excellent strategy, and Greene's generalship is much admired To get supplies for the Continental army Greene often had been forced to endorse personal notes After the war the dishonesty of a contractor forced him to sell his estates to honor these pledges The people of Georgia, however, gave him a plantation See biography by his grandson, G. W Greene (3 vols, 1867–71)

Greene, Robert, 1558?–1592, English dramatist, poet, and miscellaneous writer, grad. Cambridge (B A., 1579, M A, 1583). His series of popular, short romantic "novels," written in the manner of Lyly's *Euphues* include *Euphues His Censure to Philautus* (1587), *Pandosto* (1588), from which Shakspere drew the plot for *A Winter's Tale*, and *Menaphon* (1590) His best dramas were history freely used, *Friar Bacon and Friar Bungay* (1594) and *The Scottish History of James IV* (1598), he collaborated with Thomas Lodge in *A Looking Glass for London and England* (1594). He also wrote didactic tracts and many pamphlets, those on cony-catching portrayed his sordid London. Greene's *Groatsworth of Wit Bought with a Million of Repentance* (1592) is a famous alleged reference to Shakspere, and another tract led to a quarrel between Gabriel HARVEY and Thomas NASHE. *A Quip for an Upstart Courtier* (1592) is an allegory of social conflict. See his *Life and Complete Works* (ed by A. B Grosart, 15 vols., 1881–86), fictionized biography by Gwyn Jones, *A Garland of Bays* (1938)

Greene. 1 Town (pop 1,303), NE Iowa, on the Shell Rock River and NW of Waterloo, inc 1879 **2** Village (pop 1,431), S central N Y, on the Chenango and NE of Binghamton, settled 1792, inc. 1842. Silk goods and furniture are made

Greeneville, town (pop 6,784), co seat of Greene co, NE Tenn, SW of Johnson City, in a tobacco and farm area In 1785 it succeeded Jonesboro as capital of the short-lived State of Franklin (see FRANKLIN, STATE OF), the site of the capitol is marked. Andrew Johnson's home, tailor shop, and grave here are in Andrew Johnson National Monument (17.08 acres, est 1942) Greeneville has a monument to Gen John H Morgan, who was killed here during the Civil War Tusculum College (coeducational, 1794) and a tobacco experiment station of the Univ of Tennessee College of Agriculture are near by David Crockett was born at Limestone, to the northeast

Greenfield. 1 City (pop 1,006), SW central Ill, W of Springfield, in a farm and coal area, inc 1867 **2** City (pop 4,821), co seat of Hancock co, central Ind, E of, and near, Indianapolis, settled 1828, inc 1850 It is the birthplace of James Whitcomb Riley **3** Town (pop 1,869), co seat of Adair co, SW Iowa, WSW of Des Moines, in a farm and livestock region, settled 1841, inc 1876 **4** Town (pop 15,672), co seat of Franklin co, NW Mass, near the confluence of the Deerfield with the Connecticut, settled 1686, set off from Deerfield 1753 Tools and machine parts are made here It is the eastern terminus of the Mohawk Trail Asher Benjamin was born here. **5** City (pop 1,353), co seat of Dade co, SW Mo, NE of Joplin, in a farm area, settled 1841 **6** Village (pop 4,228), S central Ohio, W of Chillicothe, in a rich farming area, platted 1798, inc 1841 It has varied industries (including shoemaking) and stone quarries **7** Town (pop 1,509), W Tenn, N of Jackson, in a farm area

Greenfield Park, town (pop 1,819), S Que, near Montreal

Greenfield Village, reproduction of an early American village, established (1933) by Henry Ford at Dearborn, Mich, as part of the Edison Institute A white-spired church, a town hall, an inn, a school, a courthouse, a general store, a firehouse, and other buildings are grouped about a typical New England village green Many of the structures were brought from their original location, others are faithful reconstructions Among them are Edison's Menlo Park workshop and Fort Myers laboratory, a McGuffey group including a school in which classes are regularly held, Noah Webster's birthplace, Stephen Foster's home, Luther Burbank's birthplace and office, and the Wright brothers' cycle shop and home Mills and craft shops illustrate early methods of production of flour, cider, sorghum, textiles, pewter ware, pottery, bricks, and Sandwich glass, and the village has a blacksmith shop, a cobbler's shop, a cooperage, and a tintype studio. See W A Simonds, *Henry Ford and Greenfield Village* (1938)

green fly see APHID

Greenhills, village (pop 2,677), SW Ohio, near Cincinnati, est 1938 by the Federal Resettlement Administration, inc 1939 See GREENBELT, Md.

greenhouse, enclosed glass house, constructed on a metal or wood frame and used for growing plants in regulated temperatures and humidity Greenhouses range from an unheated small room, carrying a few plants over the winter, to an immense heated glass building, or hothouse, covering acres of ground and used for forcing flowers or fruits out of season Greenhouses have long been used for holding plants over cold seasons and to some extent for growing hothouse fruit, but only in this century has the greenhouse been used for vegetable forcing. Now millions of dollars' worth of plant products are raised yearly under glass For use and construction, see W J Wright, *Greenhouses Their Construction and Equipment* (rev ed, 1946), E D Chabot, *Greenhouse Gardening for Everyone* (1946)

Green Island, industrial village (pop 3,988), on an island in the Hudson, E N Y, between Troy and Watervliet, inc 1869. Machinery is made here.

Greenland, Dan *Grønland*, Danish colony (c 840,000 sq mi, pop 21,412), an island largely within the Arctic Circle It is surrounded by the Arctic Ocean (in the north), the Greenland Sea (in the west), Denmark Strait (in the southwest), between Greenland and Iceland, the Atlantic Ocean (in the south), and Davis Strait and Baffin Bay (in the west), which separate it from Baffin Island (Canada) Geologically it is part of the Canadian shield. Greenland is 1,660 mi long from Cape Farewell (lat. 59° 46' N) to Cape Morris K Jesup (lat 83° 39' N) and a maximum of 700 mi wide. Except for c 132,000 sq mi of coastland, an ice sheet covers the island. The extreme northern peninsula (Peary Land) has no ice cap The thickness of the ice sheet exceeds 8,000 ft in some places, where soundings have been taken. The ice mass moves outward from the center, entering the sea in walls or debouching in glaciers. The HUMBOLDT GLACIER is the largest. The rapidly moving glaciers (one was observed to move more than 100 ft. a day) "calve" tremendous icebergs, notably into Davis Strait, through which they frequently reach Atlantic ship lanes Cold winds rush out from the interior, rendering the weather uncertain and foggy. A polar ocean current flows south along the entire east coast and around Cape Farewell, carrying immense ice floes which render the approach to the east coast hazardous The NORTH ATLANTIC DRIFT gives the southwest coast a warmer climate and heavy rainfall Basalt mountains border the coast, which is broken by many deep fjords More than 90 per cent of the population live along the west coast Greenland is administered by a board of governors at Copenhagen, directly responsible to the Danish premier There are two main territorial divisions, East Greenland (pop 1,372) and West Greenland (pop 20,040) West Greenland is in turn divided into North Greenland and South Greenland, each with a governor and a provincial assembly, meeting at GODHAVN and GODTHAAB respectively Other important settlements are Julianehaab, Frederikshaab, Egedesminde, Sukkertoppen, and Upernivik (west coast) and Angmagssalik (east coast) There are only some 500 Europeans, the native Greenlanders are of mixed Eskimo and Danish ancestry (see ESKIMO). Fishing and seal hunting are their means of livelihood The entire trade of Greenland is a state monopoly, and only such vessels (Danish and foreign alike) as have special permission may enter Greenland ports The chief resources of the island are mineral deposits, as yet only partly explored The chief source of revenue is CRYOLITE, mined at Ivigtut Coal is mined on Disko island, and a large lead deposit was found in 1948 on the east coast. Agriculture and sheep raising are very limited and exist only in the southwest, vegetation being arctic in character The polar bear, musk ox, polar wolf, ermine, lemming, arctic hare, and reindeer are the chief land animals Sea birds (ducks, gulls, auks) are hunted for their flesh, eggs, and down Greenland was discovered and colonized (c 982) by ERIC THE RED, who named it Greenland in order to make it sound attractive for potential settlers From here LEIF ERICSSON sailed to North America (1003) Greenland became a bishopric (1110, and ruins of churches of that period remain In 1261 the colony came under Norwegian rule, but in the 14th and 15th cent it was neglected and the colonists died out Sir Martin Frobisher and John Davis rediscovered Greenland in the 16th cent, but found no trace of Norsemen Other explorers looking for the NORTHWEST PASSAGE subsequently charted the coast Modern colonization was begun (1721) by the Norwegian missionary, Hans EGEDE Danish trading posts were established shortly afterward and colonization was furthered by the deportation of undesirable subjects to Greenland The early Danish governors brutally exploited the natives, who soon began to suffer from the white man's diseases Tuberculosis remains a major problem In 1815, at the Congress of Vienna, Denmark retained the colony through an oversight of the delegates, who detached Norway from Denmark, but forgot to mention the outlying Norwegian possessions In the 19th and 20th cent, Greenland was explored and mapped by numerous arctic explorers In the Second World War, after the German occupation (1940) of Denmark, the United States invoked the Monroe Doctrine for Greenland, established (1940) a consulate at Godthaab, and reached an agreement (1941) with the Danish minister at Washington which permitted the establishment of American army, air, and naval bases and meteorological stations The agreement was repudiated by the Danish government in 1941, but recognized after the liberation (1945) of Denmark Two American air bases on the west coast were still maintained in 1949 A Five Year Plan for the raising of the Greenlanders' economic, educational, and hygienic standards was drafted in 1946 by the board of governors and a Greenland deputation See Vilhjalmur Stefansson, *Greenland* (1942).

Greenland Sea, arm of the Arctic Ocean, off the northeast coast of Greenland It is the main outlet of the Arctic Ocean to the Atlantic Because of drifting arctic ice, the northern part is rarely open to navigation By some geographers, the Greenland Sea is considered a part of the Norwegian Sea

Greenleaf, Simon, 1783–1853, American writer on legal subjects, b Newburyport, Mass A member of the Maine bar, he early enjoyed a high reputation for legal scholarship With the admission (1820) of Maine as a state, he was elected to a term in the legislature and was appointed reporter of the Maine supreme court In 1833 he resigned this position and accepted the invitation of Joseph Story to become a professor of law at Harvard Much of the excellence of Harvard Law School is attributed to these men. Greenleaf's *Treatise on the Law of Evidence* (3 vols, 1842–53) for many years was the standard American work on the subject Another long-used text was his revision (5 vols, 1849–50) of William Cruise's *Digest of the Law of Real Property*

Greenman, Jesse More, 1867–, American botanist and educator, authority on the flora of Mexico and the W United States, b North East, Pa He was assistant at Gray's Herbarium, Harvard, assistant curator at the Field Museum of Natural History, Chicago; and assistant professor of botany at the Univ of Chicago (1908–13) In 1913 he became affiliated with Washington Univ , St Louis, serving as professor of botany (1917–45) and also as curator of the Missouri Botanical Garden

Green Mountain Boys, popular name of partisan armed bands in what is today Vermont. When c 1770, settlers and land speculators came into the region under grants from New Hampshire (see NEW HAMPSHIRE GRANTS), they were faced with ejectment by the New York officials, since the land was claimed by New York. They banded together in irregular armed groups to defend their lands Ethan ALLEN was the chief leader, his brothers were also prominent, as was Seth WARNER Their methods were threat, intimidation, and actual violence against the Yorkers, and they managed to keep the region free from New York control, establishing instead a separate government (see VERMONT) In the American Revolution the Green Mountain Boys figured prominently when under Allen's leadership they captured Ticonderoga in 1775 They were not so successful in the Quebec campaign, but in 1777 Seth Warner led them to victory at Bennington—one of the notable achievements of the patriots in the Saratoga campaign

Green Mountains, range of the Appalachians, extending N-S through Vermont and rising to 4,393 ft. in Mt Mansfield NW of Montpelier The peaks are generally low and rounded and well forested There are fertile valleys, and some of the many streams provide water power, the mountains yield marble and granite Famed for their beauty, they are a favorite resort, site of many summer homes Much of the area is a U S forest reserve The Long Trail was built by the Green Mountain Club (Rutland, Vt) for hikers, it extends 260 mi from Massachusetts to Canada, with shelters at frequent intervals See Green Mountain Club, *Guide Book of the Long Trail* (latest ed), W C O'Kane, *Trails and Summits of the Green Mountains* (1926)

Greenock (grē'nuk, grī'–, grē'–), burgh (1931 pop 78,949, 1948 estimated pop 79,470), Renfrewshire, Scotland, WNW of Glasgow It is on the south shore of the Firth of Clyde, along which there is an esplanade Improvement of the harbor was begun in 1707, there are now extensive docks, and shipping and shipbuilding are important industries Others are aluminum casting, wool weaving, and sugar refining, and boilers and chemicals are made Greenock is the birthplace of James Watt, who is commemorated by Watt Institution and a statue by Chantrey Burns's "Highland Mary" (Mary Campbell) was buried in the cemetery of West Kirk The church (founded 1591), with windows by William Morris, Burne-Jones, D G Rossetti, and Ford Madox Brown, was removed to Seafield, near Greenock town, because of the extension of shipyards Greenock has an unusually heavy rainfall It was a debarkation port for American troops in the Second World War

Greenough, Horatio (grē'nō), 1805–52, American sculptor, b Boston, grad Harvard, 1824, and studied in Italy under Thorvaldsen He worked in Florence from 1829 to 1851 Greenough was the first important American sculptor A protégé of Washington Allston and a friend of James Fenimore Cooper, he was a man of ideas in advance of his time His colossal statue of Washington, commissioned for the rotunda of the Capitol, was found too heavy for the floor and was set up in the grounds, later to be placed in the Smithsonian Institution building *The Rescue* is on the east stairway of the Capitol. See his *Travels, Observations, and Experiences of a Yankee Stonecutter* (1852) and his letters (ed by Frances B Greenough, 1887), A T Gardner, *Yankee Stonecutters* (1945) His brother, **Richard Saltonstall Greenough,** 1819–1904, also a sculptor, spent much of his life in Europe

Greenport, village (pop 3,259), near the northeastern tip of Long Island, SE N Y , inc 1838 It is a commercial town with oyster-fishing and boatbuilding industries

Green River, town (pop 2,640, alt c 6,100 ft), co. seat of Sweetwater co., SW Wyo , on the Green River, founded 1868, inc 1891 It is a rail and trade center for a forest, livestock, and farm area

Green River. 1 River rising in central Kentucky, near Stanford, and flowing WNW to the Ohio near Evansville, Ind. **2** River, 730 mi long, rising in W Wyoming in the Wind River Range and flowing generally S through W Wyoming and E Utah (with a loop in the northwestern corner of Colorado) to the Colorado river in SE Utah It flows through the Canyon of the Lodore in Dinosaur National Monument Largest tributary of the Colorado, the Green receives the Yampa and White rivers from the east, from the west it is fed by Blacks Fork and the Duchesne, Price, and San Rafael rivers The Federal government has made plans for extensive irrigation and hydroelectric power projects in the Green River basin

Greens, political faction see BLUES AND GREENS

Greensboro. 1 Town (pop 2,034), co seat of Hale co , W central Ala , S of Tuscaloosa, in the Black Belt cotton area, settled c 1816, inc 1823 **2** City (pop 2,459), co seat of Greene co , NE Ga , ESE of Atlanta, laid out 1786, inc 1803 It is a processing center (*with cotton mills*) in a farm and dairy area **3** City (pop 59,319), co seat of Guilford co , central N C , E of Winston-Salem, in the piedmont, settled 1749, laid out 1808 The city is a textile-manufacturing center and is noted for its numerous educational institutions It is the seat of Greensboro College (Methodist, for women, 1838), Bennett College (Negro; Methodist, for women, 1873), Woman's College of the Univ of North Carolina (see NORTH CAROLINA, WOMAN'S COLLEGE OF THE UNIVERSITY OF), the Agricultural and Technical College of North Carolina (see NORTH CAROLINA, AGRICULTURAL AND TECHNICAL COLLEGE OF), Immanuel Lutheran College (Negro, coeducational), and Guilford College (Friends, coeducational, 1834) O Henry was born here The battle of GUILFORD COURTHOUSE occurred near by

Greensburg. 1 City (pop 6,065), co seat of Decatur co , SE Ind , c 50 mi SE of Indianapolis, settled 1822, inc 1859 It is a shipping point for tobacco and a farm trading center The area yields oil **2** City (pop 1,417), co seat of Kiowa co , S Kansas, W of Wichita, in a livestock and wheat area, inc 1886 **3** Town (pop 1,176), co seat of Green co , S Ky , SSE of Louisville and on the Green River, in a timber, tobacco, and grain area, settled c 1780 as Glovers Station **4** City (pop 16,743), co seat of Westmoreland co , SW Pa , SE of Pittsburgh, settled 1782, inc 1799 Coke, plumbing supplies, metal products, and glass are made here Seton Hill College (Catholic, for women, 1883) is in the city Col Henry Bouquet defeated Indian warriors of Pontiac near Greensburg (1763) and opened up W Pennsylvania for settlement The city was named for Nathanael Greene, Revolutionary War general

Greentown, residential town (pop 1,060), N central Ind , near Kokomo, founded 1848

Greentree, borough (pop 1,880), Allegheny co , SW Pa , near Pittsburgh, inc 1885

Greenup. 1 Village (pop 1,410), E Ill , SW of Terre Haute, Ind , in a farm area, founded 1836, inc 1855 **2** Town (pop 1,063), co seat of Greenup co , N Ky , on the Ohio and NW of Ashland, in a farm area The Raceland track is south

Greenville. 1 City (pop 5,075), co seat of Butler co , S central Ala , SSW of Montgomery, in a cotton, truck, and pecan area, settled 1819 **2** Town (pop 1,114), N Fla , E of Tallahassee near the Ga line, founded in the mid-19th cent It is a lumber-milling center **3** City (pop 3,391), co seat of Bond co , SW Ill , in a farm, coal, and natural-gas area, ENE of St Louis, settled 1815, inc 1855 Evaporated milk is one of the city's products Greenville College (coeducational) is here **4** City (pop 2,347), co seat of Muhlenberg co, W Ky , S of Owensboro It is a trade and processing center in an area of farms, coal, oil, clay pits, and timber **5** Town (pop 1,955), central Maine, at the southern end of Moosehead Lake, settled 1824, inc 1836 It is the headquarters for travel and sports in this area **6** City (pop 5,321), S Mich , on the Flat River and NE of Grand Rapids, in a farm area, inc as a village 1867, as a city 1871 It ships potatoes and makes refrigerators and machinery **7** City (pop 20,892), co seat of Washington co , W Miss , on the Mississippi and NW of Jackson, inc 1870 It is the trade, processing, and shipping center of the rich Mississippi-Yazoo delta, producing especially cotton The destructive flood of 1927 caused the building of higher levees and creation of a lake, which enters the river 4 mi below Greenville See W A Percy, *Lanterns on the Levee* (1941), D L Cohn, *Where I Was Born and Raised* (1948) **8** Town (pop 1,236), S N H , on the Souhegan and W of Nashua, inc 1872 The river furnishes power for textile mills Jonas Chickering was born here **9** Town (pop 12,674), co seat of Pitt co , E N C , on the Tar river and ESE of Raleigh, founded 1786 It is a great tobacco market East Carolina Teachers College is here **10** City (pop 7,745), co seat of Darke co , W Ohio, NW of Dayton, laid out 1808, inc 1838 Gen Anthony Wayne built (1793) Fort Greenville here as a base for his Indian campaign After his victory at FALLEN TIMBERS, Wayne returned and in 1795 negotiated a treaty (Treaty of Greenville) with the Indians, who ceded a large part of the Old Northwest to the United States The fort was then abandoned. In 1805 Tecumseh and his brother the Shawnee Prophet lived here A memorial marks the site of the signing of the Treaty of Greenville **11** Industrial borough (pop 8,149), W Pa , near the Ohio boundary NE of Youngstown, Ohio, settled c 1796, laid out 1798, inc 1837 A trading center for an agricultural area, it is the site of Thiel College **12** City (pop 34,734), co seat of Greenville co , NW S C , in the piedmont near the Blue Ridge and on Reedy river, laid out 1797 as Pleasantburg, renamed 1831 One of the principal industrial and commercial centers of the SE United States, it has many large textile mills, farm-produce processing and packing plants, and other factories It is the center of a large industrial region of mill towns Textile Hall is the scene of the biennial Southern Textile Exposition and of the annual South Carolina Singing Convention. Furman Univ (Baptist, 1825), with which Greenville Woman's College was coordinated in 1933, and Bob Jones Univ. are here **13** City (pop. 13,995), co seat of Hunt co , E Texas, NE of Dallas; settled 1846, inc 1874 It is known as the rich center of a prosperous blackland cotton region in the northeast corner of the state and has processing plants and small industries

green vitriol see COPPERAS

Greenwich (grī'nij, grē'–), metropolitan borough (1931 pop 100,924, 1948 estimated pop 84,410) of SE London, England, on the Thames. Among its features are the Royal Naval College and Greenwich Hospital, on the site of a royal residence where Henry VIII, Mary, and Elizabeth were born and where Edward VI died Greenwich "whitebait dinners," held for cabinet members at the close of sessions of Parliament, were discontinued c 1890 Geographic longitude is figured from the prime meridian at Greenwich Formerly the Royal Observatory was on a hill 180 ft high in Greenwich Park (185 acres) at lat 51° 28′ 38.1″ N and long. 0° Sir Christopher Wren chose the site and designed the first buildings, for which Charles II in 1675 had granted £500 Because of the glare of London street lights and neon signs officials decided to remove the observatory, the move began in 1946. Controlled by the British admiralty, the observatory staff has made regular meteorological and magnetic observations since 1838 and has taken almost daily photographs of the sun since 1873 The National Maritime Museum was opened in Greenwich in 1937

Greenwich. 1 (grē'nich, grī'nich, grēn'wich) Residential and resort town (pop. 35,509), SW Conn , on Long Island Sound It includes the villages of Greenwich, Riverside, Old Greenwich, and Cos Cob. This area was bought from Indians in 1640 Tryon's men invaded it in 1779, a house (1731) from which Putnam traditionally made a dramatic escape from the British is preserved The town is the seat of Edgewood (1910), a pioneer progressive coeducational school, and Rosemary Hall for girls (1890) There is a publishing house, and some manufacturing is done Audubon Nature Center, a 400-acre wildlife sanctuary near here, was opened in 1943 **2** (grēn'wich) Village, SW N J , on the Cohansey near its influx into the Delaware and SW of Bridgeton It was an early seaport and the scene of a tea-burning "party," 1774 There are pre-Revolutionary houses **3** (grēn'wich) Industrial village (pop 2,270), E N Y , E of Saratoga Springs, in a farm area, inc 1809 Clothing and paper are made here

Greenwich Village (grē'nich, grī'nich), residential district of lower Manhattan, New York city, extending roughly from 14th St S to Houston St. (hou'stun) and from Washington Square W to the Hudson river A separate village in the colonial period, it was later an exclusive residential part of the city whose center lay farther south Around 1910 it gained renown as the home and workshop of nonconformist artists, writers, and theater people. Barns and old houses along the narrow, crooked streets were converted into eating places, night clubs, and shops The Village acquired a reputation for bohemianism and attracts many visitors. The region is still the home of a number of artists. Outdoor art exhibits are held semiannually See Floyd Dell, *Homecoming an Autobiography* (1933), Albert Parry, *Garrets and Pretenders a History of Bohemianism in America* (1933), Caroline F Ware, *Greenwich Village, 1920–1930* (1935), H W Lanier, *Greenwich Village Today & Yesterday* (1949)

Greenwood, Grace, pseud of **Sara Jane Clarke Lippincott,** 1823–1904, American author, b Pompey, N Y In 1853 she married Leander K Lippincott and with him edited the juvenile monthly, *Little Pilgrim* She was one of the first women newspaper correspondents, and her letters from Washington and Europe appeared in leading papers throughout the United States Among her works are *Greenwood Leaves* (1850) and *Haps and Mishaps of a Tour in Europe* (1854)

Greenwood 1 Coal-shipping town (pop 1,219), a co seat of Sebastian co , W Ark , SE of Fort Smith. **2** Town (pop 2,499), central Ind , S of, and near, Indianapolis Automobile parts and household appliances are manufactured here. **3** City (pop. 14,767), co seat of Leflore co , W central Miss , on the Yazoo and N of Jackson, settled 1834, inc 1844 It is an important processing, marketing, and shipping center in a productive cotton region. **4** City (pop 13,020), co seat of Greenwood co., W S C , WNW of Columbia, settled 1824, inc. as a town 1857, as a city 1927 City-manager government was adopted in 1939 It is the center of a fertile farm area yielding cotton and diversified crops and has textile and lumber mills, foundries, machine shops, and food-processing plants Lander College (Methodist, for women, 1872), Brewer Normal Institute (Negro), and an orphanage are here Near by are a state park and the Buzzard Roost hydroelectric development on the Saluda.

Greenwood Lake, c.7 mi. long, bisected by the N.Y.–N J border, in hilly country It is a resort.

Greer, David Hummell, 1844–1919, American Episcopal bishop b Wheeling, W Va , grad Washington College, 1862, and studied at the Episcopal theological school at Gambier, Ohio (now Kenyon College) He became rector of St Bartholomew's Church, New York, in 1888 Made bishop coadjutor of the diocese of New York in 1904, he succeeded Bishop Potter in 1908 Under Bishop Greer the construction of the Cathedral of St John the Divine made progress See biography by C. L. Slattery (1921)

Greer, textile-mill town (pop 2,940), NW S.C., between Spartanburg and Greenville

Greet, Ben (Sir Philip Ben Greet), 1857–1936, English actor and theatrical manager He began outdoor performances of Shakspere in England in 1886 In 1890 he formed a company which toured England until 1902 and then appeared in the United States (1902–14, 1929–32) in Shakspere and in the morality play *Everyman*. He was knighted in 1929.

Gregg, David McMurtrie, 1833–1916, Union general in the Civil War, b Huntingdon, Pa , grad West Point, 1855 Gregg served with the cavalry of the Army of the Potomac and was particularly distinguished in the fighting of July 3 at Gettysburg, when he checked Jeb Stuart's attempt to get to the Union rear

Gregg, Josiah, 1806–50, American trader and historian of the SANTA FE TRAIL, b Overton co , Tenn He removed with his family to Illinois (1812) and to Missouri (1815). He gained wide knowledge from his diverse readings He journeyed to Santa Fe for the first time in 1831 and later, having become a trader, made many expeditions, sometimes going as far as Chihuahua, in Mexico He recorded his observations, which were published as *Commerce of the Prairies* (1844), later regarded as a classic of American frontier history and literature He served under Gen John W Wool in the Mexican War and in 1849 joined the California gold rush He died when leading a prospecting party across the Coast Range in the winter See his diary and letters (ed by M. G Fulton, 1941–44)

Gregg, William, 1800–1867, "father of Southern cotton manufacture," b Monongalia co , Va (now W Va) He established a jewelry business in Columbia, S C (1824), and in Charleston (1838), but then turned to cotton manufacture in a small mill near Edgefield, S C His energies thus were devoted to building up industrial resources in the South that might compare with those in the North His views were expressed in *Essays on Domestic Industry* (1845), articles published first in the Charleston *Courier* Having fought for a favorable attitude toward corporations, Gregg formed a company to establish (1846) Graniteville, the first Southern mill town, built with local materials and labor and consisting of a large mill and houses for its 300 employees The mill continued to operate under his personal direction through financial depression and the Civil War, and it brought him steady profits He introduced an advanced factory-welfare program for the community. In the state legislature (1856–57) his interest in economic issues was directed toward the strengthening of industrial enterprises. See biography by Broadus Mitchell (1928)

Grégoire, Henri (ārĕ' grāgwär'), 1750–1831, French priest, writer, and revolutionist. A Jansenist in tendency, he advocated a Gallican church and the participation of the lower clergy in the church government Elected to the States-General (1789), he supported the French Revolution, fighting for the abolition of clerical and noble privileges and for the emancipation of slaves in the French colonies. He took the oath to the civil constitution of the clergy (not recognized by Rome) and became constitutional bishop of Blois (1791–1801) A member of the Convention, he clung to his own religious beliefs throughout the Terror and fought for religious toleration under the Directory As a senator under the Consulate, Grégoire opposed the CONCORDAT OF 1801 and resigned his see but continued to function as a simple priest Although he voted against the proclamation of the empire, he was created a count by Napoleon In 1819 he was elected a deputy, but, as a dissident priest and a radical, he was refused a seat in the chamber Grégoire died obscure and poor. His works deal principally with Jansenism, racial equality, and international cooperation. Some have been translated He also wrote memoirs.

Gregoras, Nicephorus (nisĕ'fûrûs grĕ'gûrûs), c 1295–c.1359, Byzantine historian and theologian, one of the most learned men of his time He was a partisan of the union of the Orthodox Eastern Church with Rome and fell into disgrace (1351) as a result of his opponents' victory. Among his scientific and philosophical works is a plan for a calendar reform similar to that effected by Pope Gregory XIII two centuries later. His chief book is the *Roman History*, covering the period 1204–1359. This and the *Histories* of John Cantacusene (Emperor John VI) are the only sources for 14th-century Byzantine history.

Gregorian chant: see PLAIN SONG.

Gregorovius, Ferdinand (grĕgûrō'vēûs, Ger. fĕr'dēnänt grā"gôrō'vôôs), 1821–91, German historian. He spent many years at Rome, during which he produced his *History of the City of Rome in the Middle Ages* (8 vols., 1859–72, Eng. tr , 1894–1900). Other works include his *Life of the Emperor Hadrian* (1851, Eng. tr , 1898). He is considered one of the greatest authorities on Italy and particularly on Rome.

Gregory I, Saint (Saint Gregory the Great), c 540–604, pope (590–604), a Roman, successor of Pelagius II and predecessor of Sabinian. A Doctor of the Church, he was distinguished for his spiritual and temporal leadership. He was of patrician family and was made prefect of Rome, but, feeling the call to monasticism, he converted (c.575) his home and others of his houses into Benedictine convents Later (c.586), he reluctantly became abbot In 578 he was made a deacon of Rome, from 579 to c 586 he was ambassador at Constantinople, then he served as chief adviser of Pelagius II. When commencing a missionary voyage to England, he was recalled to Rome and accomplished his aim only by sending St AUGUSTINE OF CANTERBURY (596) and a later mission (601). He was elected pope by acclamation, accepting against his will The two chief features of Gregory's lasting work are the enforcement of the papal supremacy and the establishment of the temporal position of the pope Gregory not only legislated minutely and carefully for his immediate charges, but he interfered when necessary outside Italy, e.g., he attacked Donatism in Africa and simony in Gaul Most significantly, he refused to recognize "ecumenical" as a title of the patriarch of Constantinople, since that title was not consistent with the divine vicegerency of the pope Gregory's action helped to divide Constantinople and Rome, but his general behavior became a momentous precedent The exarch of Ravenna, representative of the emperor in the West, claimed jurisdiction over Rome, and Gregory acknowledged it *de jure* But the exarch, Romanus, would do nothing to help the city when it was threatened by a Lombard attack in 592 Gregory, as bishop of Rome, took command and negotiated a peace which the exarch ignored, attacking the Lombards, who returned to Rome Since Romanus deferred making peace, Gregory began independent negotiations, a new affront to the imperial dignity and an extralegal act In his dealings with the Lombards and the exarch, Gregory showed that if the emperor would not defend the pope, the pope would defend himself and by doing so would make himself temporally independent. Thus he set a precedent which enabled the papacy to prevent the total destruction of Rome Yet Gregory was the important exponent of the doctrine of divided powers the emperor was God's vicar in things temporal, the pope in things spiritual Gregory's encouragement of monasticism was significant historically, and his insistence on clerical celibacy and the exemption of the clergy from civil courts bore great fruit later Gregory's works included *Moralia* (Eng tr., *Morals on the Book of Job*, 1844–50), *Dialogues*, lives of saints, including St Benedict, *Liber pastoralis curae* (various Eng trs , *Pastoral Care*, *Pastoral Charge*, and *Pastoral Rule*), homilies on the Gospel, and many invaluable letters The Gregorian Sacramentary, a revision of the Gelasian Sacramentary (see GELASIUS I, SAINT), and the Gregorian antiphonary are spurious St Gregory contributed to the development of the Gregorian chant or PLAIN SONG Feast March 12 See F H Dudden, *Gregory the Great* (1905), Peter Batiffol, *Saint Gregory the Great* (1929), Cuthbert Butler, *Western Mysticism* (1922)

Gregory II, Saint, d 731, pope (715–31), a Roman, successor of Constantine and predecessor of St Gregory III He was illustrious in the Church before his election As pope he vigorously opposed Leo III, who tried to enforce ICONOCLASM in Italy by an imperial edict Gregory wrote that the emperor could not decide tenets of faith and that, if Leo persisted, the pope would hinder collection of the imperial levy In so doing, he temporarily ended the traditional enmity between himself and the Lombards, who were drawn into a partial alliance with him through their defense of images and their opposition to the exarch of Ravenna. Gregory's stand on images was upheld by St. ZACHARIAS Gregory was deeply interested in the mission of St. BONIFACE in Germany. Feast Feb. 11.

Gregory VII, Saint, d. 1085, pope (1073–85), an Italian (b near Rome) named Hildebrand (Ital *Ildebrando*), successor of Alexander II and predecessor of VICTOR III. He was one of the greatest of popes He was a Benedictine and came to the attention of the archbishop who later was made pope as Gregory VI. Gregory VI made Hildebrand his chaplain, and the young man accompanied the pope in his exile in Germany. Under Leo IX, Hildebrand became the chief papal adviser in temporal affairs, as administrator of the Patrimony of St Peter he took from the Italian nobles the ecclesiastical property they were holding and restored the papal finances. He was even more vigorous in suppressing the corruption in the important monastery under his charge, St Paul's without the Walls In Leo's pontificate the Hildebrandine reform got under way, a movement vigorously promoted by Hildebrand all his life The chief abuses to be combated were simony (the sale of ecclesiastical office, honor, or dignity), domination of church appointments by laymen (lay INVESTITURE), and violation of the law of celibacy for the clergy The reform was opposed by many of the clergy and most of the upper classes of laymen, in Germany and in France especially, but the people were behind Hildebrand Under Leo's successors, Victor II and Stephen X, Hildebrand followed his course, for now he was the chief personality in the Curia Under Nicholas II, Hildebrand accomplished two significant measures—the papal election was taken out of the hands of the Romans and put into the college of cardinals (nevertheless Gregory VII was elected by the older method), and a treaty was signed with the Normans of S Italy (1059) By these acts the election of reformers in the papacy was assured and the pope was protected from the interference of the German king Hildebrand's course was not easy, for a powerful party opposing reform in Rome and abroad had formed early, this party gained great strength from laymen who feared ecclesiastical domination This group set up several antipopes and profited often by Hildebrand's intractability and relentlessness where reform was concerned By 1073 the struggle was reaching a climax, for it appeared evident that the young German king, HENRY IV, must attach himself to the party opposing reform in the empire in order to proceed with his course of establishing his power and humbling the duchies In that year Alexander II died and Hildebrand was made pope as Gregory VII His reign was marked by reform and even more by the first great clash of the long-continued struggle between pope and king for universal power—a struggle that dominated medieval political history Decrees from the Holy See forbade under pain of excommunication clerical marriage (or concubinage), simony, and lay investiture and put teeth into the legislation by degrading guilty clerics and by forbidding the faithful to use their ministrations The outcry against these measures was loud and many of them were openly flouted, but Gregory's legates went about Europe putting the decrees into effect In 1076 the rupture between pope and German king over investiture brought Henry under excommunication The decree lost Henry much of his support, and in 1077 he humbled himself at CANOSSA and begged for readmission to the Church In the German civil war that succeeded Henry's reconciliation Gregory remained neutral until 1080, when the pope and Henry fell out, Henry was excommunicated, and an imperial antipope, GUIBERT OF RAVENNA (Clement III), was set up This time Gregory's appeal to the Christian world against the emperor failed, for many bishops sided with Henry, and Henry's rival in the empire died, the civil war came to an end and Henry marched into Italy to avenge himself on the pope He first attacked Rome in 1082, and in 1083 took the city, Gregory retired into the Castel Sant' Angelo, whence he was rescued by his Norman ally, ROBERT GUISCARD The Normans were quickly expelled from the city by the Romans, and Gregory went with them He died in Salerno after a year of exile, shorn of nearly all of his support but that of the Normans His last words are said to have been, "I have loved justice and hated iniquity, therefore I die in exile" Gregory did more than any other person to make the medieval papacy what it was He strove always for the superiority of the Church over the state, and many of his claims to ecclesiastical prerogative (e g , as to his suzerainty over all sovereigns) were never realized; they certainly ended in uniting his enemies against him and in accomplishing his material ruin. But his contributions to his Church are incalculable, for at a time when the Church seemed ready to fall into disunion he united it under the Holy See, when the morals of the clergy had become a scandal to the people, Gregory set an irreproachable example and enforced the law of the Church with unanswerable authority, and when the influence of powerful laymen was threatening the integrity of the ecclesiastical constitution, he resisted with all his strength He was canonized in 1728. Feast May 25 See W. F Barry, *The Papal Monarchy*, "Story of the Nations" series, A J. S. Macdonald, *Hildebrand* (1932); J P Whitney, *Hildebrandine Essays* (1932); R W Carlyle and A J. Carlyle, *A History of Medieval Political Theory in the West* (5 vols., 1903–28).

Gregory IX, 1145–1241, pope (1227–41), an Italian (b. Anagni) named Ugolino di Segni; successor of HONORIUS III and predecessor of Celestine IV Under his uncle, INNOCENT III, he was a dominant figure in the Curia and was employed on various missions He was especially active as a mediator in wars between Italian cities. He was friendly with St. Dominic and St Francis and was made first cardinal protector of the Franciscans at St Francis's request. On the death of HONORIUS III,

whose principal adviser he was, he was elected pope and immediately reopened hostilities with Emperor FREDERICK II. He commanded Frederick to keep his vow to go on crusade and excommunicated him when he delayed (1227) The imperialists in Rome broke into insurrection, and the pope fled to Viterbo and Perugia In spite of making the crusade, Frederick remained under the ban until 1230. Five or six years later the struggle broke out again, this time over Italian liberties Gregory excommunicated Frederick and ordered his dethronement Frederick prevented publication of the bulls in Germany and blocked a general council summoned by Gregory Gregory died, at 96, when Frederick was about to attack the city Gregory ordered the collection of the decretals, a step toward codifying canon law

Gregory X, d 1276, pope (1271–76), an Italian (b Piacenza) named Tedaldo Visconti, successor of CLEMENT IV and predecessor of INNOCENT V After Clement IV's death the cardinals took 34 months (the longest time ever taken) to elect a pope Gregory was archdeacon of Liége when elected and neither a cardinal nor a priest. At the time he was in the Holy Land, and the restoration of the East to Christendom was his chief endeavor He was a conciliator in European politics and helped to end civil war in Germany by supporting the election of Rudolf of Hapsburg as emperor He convoked the Second Council of Lyons (1274) and led it particularly in the (ephemeral) reunion with the Orthodox Church of Constantinople, in establishing the strict law of the conclave for papal elections, and in reforms of clerical life on every level Gregory's most important legislation was a canon of the council drastically regulating activities of the mendicant orders, but providing special protection for the Franciscans and the Dominicans Gregory was beatified in 1713

Gregory XI, 1330–78, pope (1370–78), a Frenchman named Pierre Roger de Beaufort, successor of URBAN V and predecessor of URBAN VI He was famous for a blameless life and great learning Urban V had made an unsuccessful attempt to remove the papacy from Avignon to Rome (1367–70), and from the time of his election Gregory heard prophetic admonitions to go to Rome, from St Bridget of Sweden and then from St CATHERINE OF SIENA, who visited him But the entire Avignon court was opposed, and Italy was inhospitable In the first years of Gregory's rule, Bernabò Visconti of Milan was at war with the pope, who defeated him with the hired aid of Sir John de HAWKWOOD (1374) A struggle with Florence and Milan ensued This ended with the interdict on Florence and Catherine's mission to Avignon Finally the pope consented to Catherine's pleas and moved to Rome (1376–77) Fighting went on in Italy, with the papal army led by the ruthless Robert of Geneva Gregory issued the first condemnation of teachings of WYCLIF He was the last French pope The elections after his death began the Great SCHISM

Gregory XII, c 1327–1417, pope (1406–15), a Venetian named Angelo Correr, successor of Innocent VII and predecessor of MARTIN V He is recognized as the canonical pope during his period in the Great SCHISM He was a man of ability and experience, and he agreed before his election at Rome that he would resign if the Avignon antipope, Benedict XIII (see LUNA, PEDRO DE), would also After extended negotiations between pope and antipope which came to nothing, Gregory created four new cardinals, in spite of an agreement against new creations His cardinals now deserted him and joined most of Benedict's cardinals in convoking the Council of Pisa (1409, see PISA, COUNCIL OF) Before the council met, Gregory had no support left but Rimini, Naples, and Venice The council declared pope and antipope deposed and elected a new antipope, Alexander V It was partially to do this that the conciliar theory was devised—a theory important again at Constance and at Basel While the Council of Pisa was meeting (1409) Gregory had a council of his own at Cividale (NE of Venice), this, like Pisa, has never since been considered as ecumenical After years of ecclesiastical confusion, the Council of Constance (see CONSTANCE, COUNCIL OF) was convened, and to bring peace Gregory resigned, the council having recognized him as canonical pope Carlo Malatesta, lord of Rimini, was the only prince consistently loyal to Gregory

Gregory XIII, 1502–85, pope (1572–85), an Italian (b Bologna) named Ugo Buoncompagni, successor of St PIUS V and predecessor of SIXTUS V He is best known for his work on the CALENDAR, and for him the reformed calendar is called Gregorian He was one of the popes of the Catholic Reform He was prominent at the Council of Trent (1545, 1559–63; see TRENT, COUNCIL OF) and in the work of reform thereafter He was created (1564) cardinal and later was legate to Spain Gregory's absorbing interests were the education of the clergy and the conversion of Protestants. He especially patronized the Jesuits, whom he encouraged on their many missions, particularly in N Europe and in Japan. He proposed the deposition of Queen Elisabeth, and he advocated no compromise with German Protestants. He has been much condemned for a public thanksgiving at Rome for the massacre of SAINT BARTHOLOMEW'S DAY, but he had been told that it was the suppression of a rebellion He issued a new edition of the canon law His government of the Papal States was execrable

Gregory XVI, 1765–1846, pope (1831–46), an Italian (b Belluno) named Bartolomeo Alberto Capellari, successor of Pius VIII and predecessor of PIUS IX He became in 1783 a Camaldolite and (1820) was created cardinal and prefect of the propaganda Gregory was a conservative, and he was continually denounced by liberals all over Europe His most famous act was the condemnation of LAMENNAIS with the encyclical *Mirari vos* (1832) In 1831 the CARBONARI outbreaks spread to Rome, and only Austrian help suppressed them He nearly came to an open break over anticlerical legislation in Spain and Portugal, and he had a long controversy with Prussia Gregory was actively interested in propagating the faith in England and the United States

Gregory, Augusta (Persse) Gregory, Lady, 1859–1932, Irish author and playwright She was one of the founders of the ABBEY THEATRE and for many years devoted all her talents to it, managing, directing, and writing For performance there she wrote her most successful pieces—short sketches from Irish life, such as *Spreading the News* (1904), *The Gaol Gate* (1906), *The Rising of the Moon* (1907), *The Workhouse Ward* (1907), and *Hyacinth Halvey* (1907) Her longer historical plays, e g *Grania* (1912), are well written, but they have had little success outside Ireland Among her other works are *Cuchulain of Muirthemne* (1902), *The Kiltartan History Book* (1909), and *Our Irish Theatre* (1913) Her journals (ed by Lennox Robinson, 1946) give a vivid account of the Irish literary movement from 1916 until 1930

Gregory, Horace, 1898–, American poet and critic, b Milwaukee, Wis, grad Univ of Wisconsin (1923) He went to New York in 1923, contributed verse to several magazines, and in 1925 married the poet Marya Zaturenska He began teaching English literature at Sarah Lawrence College in 1934 Among his volumes of verse are *Chelsea Rooming House* (1930), *Chorus for Survival* (1945), and *Poems, 1930–1940* (1941) He has also translated the poems of Catullus, written a biography of D H Lawrence, *Pilgrim of the Apocalypse* (1933), and written two critical works, *The Shield of Achilles* (1944) and, with his wife, *A History of American Poetry, 1900–1940* (1946)

Gregory, James, 1638–75, Scottish mathematician He invented a reflecting telescope (1661) which he described in his *Optica promota* (1663) In 1668 he became professor of mathematics at the Univ of St Andrews and, in 1674, professor of mathematics at the Univ of Edinburgh He originated a photometric mode of measuring the distance of stars and wrote *Geometriae pars universalis* (1668) and *Exercitationes geometricae* (1668) See study by H W Turnbull (1939)

Gregory, John, 1879–, American sculptor, b London His sculptures, which show somewhat the influence of the archaic Greek, include decorative works and garden statues, such as *Wood Nymph, Bacchante; Orpheus and Dancing Panther, Philomela* (bronze replica in the Metropolitan Mus); and *Tiny Venus*, a marble fountain figure These are all on private estates Other works are *Lancelot* (memorial panel, Corcoran Gall), *The Voyage* (floor relief, Cunard Building, New York), and the *Four Seasons* (reliefs for the Huntington Mausoleum, San Marino, Calif)

Gregory, Thomas Watt, 1861–1933, U S Attorney General (1914–19), b Crawfordsville, (now Crawford), Lowndes co, Miss, grad Univ. of Texas in law, 1885 A lawyer of Austin, Texas, he became prominent because of his trust prosecutions, notably of the Waters-Pierce and Standard Oil companies, first in Texas and then before the U S Supreme Court He was special assistant to the U S Attorney General in charge of prosecuting the New York, New Haven & Hartford RR in 1913 When McReynolds became a Supreme Court Justice, Gregory succeeded him as U S Attorney General, serving through the First World War period

Gregory, William King, 1876–, American paleontologist, b New York city, grad. Columbia (B A, 1900, Ph D, 1910) He taught at Columbia after 1907, becoming professor emeritus in 1945 Known especially for his work in comparative anatomy, he influenced through his teaching and writing the development of that branch of zoology He became curator of the department of comparative anatomy (1921) and of the department of ichthyology (1925) in the American Museum of Natural History, New York city Besides many scientific papers, his works include *Orders of Mammals* (1910), *Structure and Relations of Notharctus* (1919), *Origin and Evolution of the Human Dentition* (1922), *Our Face from Fish to Man* (1929), and *In Quest of Gorillas* (with H C Raven, 1937).

Gregory, city (pop. 1,246), S S.Dak., near the Nebr line SSE of Pierre. After the territory was opened to white settlement (1904), Gregory became the trade center for a livestock and agricultural region

Gregory Nazianzen, Saint (năzēăn'zĭn), c.330–390, Cappadocian theologian, Doctor of the Church, one of the Four Fathers of the Greek Church He is sometimes called Gregory Theologus He studied widely in his youth and was from his student days intimate with St Basil the Great Basil appointed the unwilling Gregory to a bishopric, and Gregory succeeded him as principal leader of the conciliatory party in the Church In 379 Gregory was chosen as Catholic bishop of Constantinople There by his preaching he wrought a great revival of Catholicism He was deposed by the chicanery of an Alexandrian, but the first Council of Constantinople restored him When St Meletius died during the session, he took the chair, but on failing to settle the Antiochene schism, he gave up his patriarchate and went home In him were combined unimpeachable orthodoxy, exceptional modesty, and Christian charity Feast May 9

Gregory of Nyssa, Saint (nĭs'ŭ), d 394?, Cappadocian theologian, one of the Four Fathers of the Greek Church, brother of St. BASIL THE GREAT He became bishop of Nyssa, Cappadocia, in 371, was removed in 376, and was restored in 378 His fame rests on his theological works, principally controversial, against Eunomius, against Apollinarians, and against Jews and pagans (*Oratio catechetica*) He is one of the great Catholic expositors on the Trinity, redemption, and grace Feast March 9

Gregory of Tours, Saint, 538–94, French historian, bishop of Tours (from 573), b Clermont-Ferrand, of a prominent family He had a distinguished and successful career as bishop Gregory wrote accounts of miracles of the saints, an astronomical work to determine movable feasts, and a commentary on the Psalms His masterpiece, *Historia Francorum* [history of the Franks], in 10 books, is a universal history Its account of contemporary events is of great importance Gregory's Late Latin is interesting linguistically Feast Nov 17 See O. M Dalton, *Gregory of Tours* (1927)

Gregory Thaumaturgus, Saint (thô"mutûr'gus) [Gr., =wonder-worker], c 213–c 270, Greek Father of the Church, bishop of Neocaesarea He is said to have converted his diocese completely to Christianity 85. Gregory's principal interest is his understanding of his friend and teacher, ORIGEN who is constantly mentioned in his works Feast Nov 17

Gregory the Illuminator, Saint, 257?–332?, churchman, called the Apostle of Armenia He was first catholicus, or metropolitan, of Armenia and is revered as founder of the ARMENIAN CHURCH

Greifswald (grīfs'vält), city (pop 43,590), Pomerania, NE Germany It has varied manufactures Founded in 1241, Greifswald joined the Hanseatic League in 1281 and was part of Swedish Pomerania from 1648 to 1807 Greifswald has a university, founded in 1456

Grein, Jacob Thomas (grīn), 1862–1935, English dramatic critic and theatrical manager, b Amsterdam, Holland He became an English citizen in 1895. Grein founded the Independent Theatre, London, in 1891, modeled after the Théâtre Libre of Antoine in Paris Here he presented plays then unacceptable to English commercial theaters, such as Ibsen's *Ghosts* and *The Wild Duck* and Shaw's *Widowers' Houses* He was dramatic critic for the *Sunday Times* and other newspapers and in 1923 founded the People's Theatre, London In 1925 he was appointed English consul general to Liberia His works on the theater include *Dramatic Criticism* (1899–1905), *The World of the Theatre* (1920), and *The New World of the Theatre* (1924)

Greiz (grīts), city (pop 45,410), Thuringia, central Germany It was until 1918 the capital of the principality of REUSS (older line) It has textile, paper, and chemical manufactures

Grellet, Stephen (grĕlĕt'), 1773–1855, Quaker missionary, b France, son of well-to-do Catholic parents His name originally was Étienne de Grellet du Mabilier Fleeing at the time of the Revolution, he eventually came (1795) to the United States, where at Newtown (now part of Queens borough), L I, he was converted to the beliefs of the Quakers. In 1796 he joined the Society of Friends, in 1798 he was recorded a minister of that body He engaged in trade in New York city, from the profits of which he financed his extraordinary missionary tours In America they extended through all the settled parts W to Illinois, N into Canada, and S to New Orleans Four extended tours were made in Europe, where every major country was visited, interviews were granted to Grellet by many of the reigning sovereigns He was deeply interested in education, in prison and hospital conditions, in provision for the poor, and in other social problems He inquired into conditions and made recommendations in every country which he visited His memoirs (2 vols, 1860) were edited by Benjamin Seebohm See W. W. Comfort, *Stephen Grellet, 1773–1855* (1942).

Grenada (grĭnā'du), island, area c 119 sq. mi, British West Indies It is part of Grenada colony (133 sq mi, pop 72,055), in the WINDWARD ISLANDS The colony includes the southern half of the archipelago known as the Grenadines. The capital is SAINT GEORGE'S. Volcanic, mountainous, with crater

lakes, Grenada has a healthful climate, moderate temperature, and ample rainfall Sugar and rum are produced for local use, but have been superseded as exports by cacao, nutmegs, mace, cotton, lime oil, and bananas Only about 2 percent of the population is white; the remainder is Negro Although English is the dominant language, a French patois is also commonly spoken From the discovery by Columbus in 1498 until French settlement began in 1650, Grenada was uncolonised Twice thereafter (1762, 1779) it changed hands between England and France, but in 1783 became permanently British

Grenada (grĭnā'dŭ), city (pop 5,831), co seat of Grenada co, N central Miss, on the Yalobusha and NW of Greenwood, in a cotton and timber area, settled in the early 1830s, inc 1836

grenade (grĭnād'), small shell filled with explosives, gas, or chemicals, either thrown by hand or projected from a rifle It may explode on contact or by means of a fuse Grenades were in use as early as the 15th cent, and men trained to use them were called *grenadiers* As the *grenade* fell into disfavor, however, the name grenadier was used for a member of various elite guards, such as those of Frederick II of Prussia and Napoleon I Grenades were reintroduced into wide use in the Russo-Japanese War They were an important weapon in the First World War and were in general use in the Second World War

grenadine. see POMEGRANATE

Grenadines. see GRENADA and WINDWARD ISLANDS

Grenfell, Bernard Pyne (grĕn'fĕl), 1869–1926, English classical scholar and Egyptologist With Arthur Surridge Hunt he discovered at Oxyrhynchus the Logia of Jesus (see AGRAPHA OF JESUS) He became in 1908 professor of papyrology at Oxford and helped edit the *Oxyrhynchus Papyri* (9 vols, 1897–1912) and other similar works

Grenfell, Sir Wilfred Thomason, 1865–1940, English medical missionary, famous for his work among Labrador fishermen and Eskimo After serving as a missionary to fishermen of the North Sea, Dr Grenfell went to Labrador in 1892 During his more than 40 years of selfless and distinguished service there and in Newfoundland, he built hospitals and nursing stations, established cooperative stores, agricultural centers, schools, libraries, and orphanages, and opened the King George V Seamen's Institute in St John's, Newfoundland, in 1912 That same year the International Grenfell Association consolidated the work of the English, American, and Canadian branches supporting his mission Grenfell cruised annually in the hospital steamer, *Strathcona II*, keeping in touch with his centers of missionary work Among his many books are his autobiography (*Forty Years for Labrador*, 1932) and *The Romance of Labrador* (1934) See Basil J Mathews, *Wilfred Grenfell, the Master Mariner* (1930), E H Hayes, *Grenfell, the Labrador Pioneer* (1946 ed)

Grenoble (grŭnō'bŭl, Fr grunō'blu), city (pop 97,287), capital of Isère dept, SE France, beautifully situated on the Isère river at the foot of the Alps It is the historic capital and chief city of DAUPHINÉ, with paper, cement, and electrical industries, and has a famous university founded in 1339 Among its many handsome buildings are the cathedral (12th–13th cent), the Church of St André (13th–14th cent), with the tomb of Bayard, the Renaissance palace of the dauphins (now the courthouse), and a very fine art museum Another museum is devoted to Stendhal, who was born here Near Grenoble is the Grande CHARTREUSE

Grenville, George, 1712–70, British statesman He entered Parliament in 1741, held several cabinet posts, and was prime minister (1763–65) At first a friend of George III, he alienated even the king by initiating the unpopular prosecution of John WILKES at home and provoking unrest in America by the ill-advised STAMP ACT of 1765

Grenville, George Nugent Temple, 1st **marquess of Buckingham,** 1753–1813, British statesman, son of George Grenville He sat in the House of Commons as a Whig (1774–79) and opposed Lord North's policy of coercion of the American colonies While lord lieutenant of Ireland (1782–83) he furthered the legislative independence of the country In his second tenure of the office (1787–89) his policies met with severe criticism and he resigned

Grenville, Sir Richard, 1542–91, English naval hero, cousin of Sir Walter Ralegh He commanded a fleet of seven vessels carrying the first colonists to ROANOKE ISLAND in 1585 In 1591 he was second in command of the *Revenge* in Sir Thomas Howard's fleet which went to capture Spanish treasure ships homeward bound Sir Thomas withdrew on finding the odds against him too heavy, but the *Revenge* became separated from the rest of the fleet, and Grenville tried to break through the Spanish line He fought 15 Spanish ships all one evening and night, was mortally wounded, and finally captured His exploit is celebrated in Tennyson's poem, "The Revenge" Grenville appears in Charles Kingsley's novel, *Westward Ho!* See biography by A L Rowse (1937)

Grenville, William Wyndham Grenville, Baron, 1759–1834, British statesman, son of George Grenville and cousin of William Pitt. After holding minor offices he was Pitt's foreign secretary (1791–1801) and in 1806 formed the "ministry of all the talents" which abolished the slave trade

Grenville, rock system see ARCHEOZOIC ERA

Grenzmark Posen-West Prussia (grĕnts'mark pō'zŭn–), former province (2,978 sq mi, pop 332,485) of Prussia, formed in 1922 from those sections of the old provinces of Posen and West Prussia remaining in Germany after 1919 Its capital was Schneidemuhl In 1937 the province was reduced to district status and incorporated in POMERANIA, in 1945 it was placed under Polish administration

Gresham, Sir Thomas (grĕ'shum), 1519?–1579, English merchant and financier As the royal financial agent in Antwerp after 1551 he proved himself very able, though his methods were frequently more effective than ethical. After Elizabeth's accession to the throne he spent most of his time in London but went on missions, diplomatic and financial He also accumulated a great private fortune as banker, mercer, and merchant He was the principal figure in the founding of the Royal Exchange, and he endowed Gresham College in London His name has been given to **Gresham's law,** the economic principle that in the circulation of money, "bad money drives out good," i e, when depreciated, mutilated, or debased coinage (or currency) is in concurrent circulation with money of high value in terms of precious metals, the good money automatically disappears It was thought that Gresham was the first to state the principle, but it has now been shown that it was stated long before his time and that he did not even formulate it See J W Burgon, *Life and Times of Sir Thomas Gresham* (1839), biography by F R Salter (1925)

Gresham, Walter Quintin, 1832–95, American statesman, b Harrison co, Ind He attended the Univ of Indiana, practiced law, and fought in the Union army in the Civil War President U S Grant appointed (1883) him district judge in Indiana and President Chester A Arthur chose him as Postmaster General (1883) and Secretary of the Treasury (1884), but he was soon made circuit judge (1884) He supported Grover Cleveland on the tariff issue in 1892 and declined the Populist nomination for President He served (1893–95) ably as Secretary of State under President Cleveland See biography by his wife, Matilda McGrain Gresham (1919)

Gresham, town (pop 1,951), NW Oregon, E of Portland, in a fruitgrowing region, inc 1905 The Multnomah County Fair is held here

Gresham's law see GRESHAM, SIR THOMAS

Gresset, Jean Baptiste Louis (zhäⁿ' baptēst' lwō' grĕsā'), 1709–77, French poet He was the author of a mock epic, *Vairvert* (1734), and of a satirical comedy, *Le Méchant* (1747)

Gretchaninov, Aleksandr Tichonovich (ŭlyĭks in'dur tēkŏnō'vĭch grĕchanē'nŏf), 1864–, Russian composer, pupil of Rimsky-Korsakov at the St Petersburg Conservatory Among his works are four symphonies, two operas, and a setting of the Russian Orthodox service, but he is best known for his many songs and sacred choral works He made a European tour in 1922 and moved to Paris in 1925 There he lived until 1939, when he came to the United States (naturalized 1946) His autobiography (in Russian) was published in Paris (1934) His music is romantic and eclectic

Gretna, city (pop 10,879), parish seat of Jefferson parish, SE La, just S of New Orleans Founded in the early 19th cent as Mechanicsham, it was merged in 1913 with McDonoghville, founded by John McDonogh It has small manufactures

Gretna Green or **Gretna,** parish (pop 2,857) and village, Dumfriesshire, Scotland, on the English border It was famous as a place of runaway marriages from 1754 until 1856, when a law was passed requiring that one of the parties to marriage in Scotland reside in Scotland for at least 21 days before issuance of the license In the First World War the government established a great munitions factory near the village

Grétry, André Ernest Modeste (ädrā' ĕrnĕst' mōdĕst' grātrē'), 1741?–1813, French operatic composer, master of the 18th-century *opéra comique* He combined the melodic grace of Italy with the delicate imagination, simplicity, lyricism, and rhythmic finesse of the French His masterpiece is *Richard Cœur-de-Lion* (1784)

Greuze, Jean Baptiste (zhäⁿ' baptēst' grŭz'), 1725–1805, French genre and portrait painter He studied at the Académie royale de Peinture et de Sculpture and won recognition in 1755 with his *Blind Man Deceived* He traveled in Italy and on his return painted a series of pictures of a somewhat moralizing character—*The Village Bride, The Father's Curse, The Wicked Son Punished, The Broken Pitcher* (all Louvre) His vogue as a genre painter was great A tireless worker in love with his art, he attempted to put into painting the aesthetic theories of Diderot As a portraitist Greuze counted among his sitters the dauphin, Robespierre, and Napoleon (all Versailles) In the Revolution he lost both fortune and popularity and died in extreme poverty Fine examples of his work are in the Louvre, the Wallace Collection, London, the Edinburgh National Gallery, and the Metropolitan Museum

Greville, Charles Cavendish Fulke (grĕv'ĭl), 1794–1865, English diarist As clerk of the Council in Ordinary (1821–59), he was closely associated with Wellington, Palmerston, and other political leaders of the reigns of George IV, William IV, and Victoria His memoirs (1874–87, ed by Lytton Strachey and Roger Fulford, 1938) are an invaluable record of the period

Greville, Fulke: see BROOKE, FULKE GREVILLE, 1ST BARON

Grévy, Jules (zhül' grāvē'), 1807–91, French statesman, president of the French republic (1879–87) He was prominent as a leftist politician in the Second Republic, but opposed Napoleon III and was inactive from 1851 until 1868, when he became a deputy President of the national assembly (1871–73) and of the chamber of deputies (1876), he was chosen to succeed MacMahon as president of France He served with quiet dignity as a moderate republican and was reelected, but in 1887 he was forced to resign because of the revelations concerning his son-in-law's traffic in decorations of honor Sadi Carnot succeeded him

Grew, Joseph Clark, 1880–, American diplomat, U S ambassador to Japan (1932–41), b Boston, grad Harvard, 1902 At first a clerk in the American consulate in Cairo, he held posts of increasing importance in different capitals until in 1924 he became Undersecretary of State After serving (1927–32) as ambassador to Turkey he was appointed ambassador to Japan and remained there until the attack on Pearl Harbor He afterwards was special assistant (1942–44) to Secretary of State Cordell Hull and then (1944–45) Undersecretary of State

Grew, Nehemiah, 1641–1712, English botanist and physician He practiced medicine in London and made important microscopic studies of plants His observations of sex in plants were probably the first His most noted book is his *Anatomy of Plants* (1682), in which are included a number of papers on chemistry He was also author of *Anatomy of Vegetables Begun* (1672) and *Comparative Anatomy of Trunks* (1675)

Grey, Albert Henry George Grey, 4th **Earl,** 1851–1917, English statesman, educated at Cambridge, grandson of the 2d Earl Grey In 1880 he entered the House of Commons as a Liberal, but he lost his seat as a result of his opposition to Gladstone's Home Rule Bill of 1886 Grey returned to Parliament as a member of the House of Lords when he succeeded his uncle in the earldom in 1894 Administrator (1896–97) of Rhodesia, he was appointed governor general of Canada in 1904 In this post he served with such success that his term of office was twice extended (to 1911) at the request of the Canadian government See Harold Begbie, *Albert, Fourth Earl Grey a Last Word* (3d ed, 1918)

Grey, Charles Grey, 2d **Earl,** 1764–1845, British statesman, prime minister (1830–34) He cooperated in impeaching Warren Hastings, introduced the motion to impeach the younger Pitt, and opposed the union of Ireland with England He succeeded Charles James Fox as foreign secretary and leader of the House of Commons, putting through Wilberforce's measure to abolish the African slave trade (1807) As prime minister, he secured the passage of the Reform Bill of 1832 by forcing William IV to create enough Whig peers to carry it in the House of Lords See biography by G M Trevelyan (1929)

Grey, Edward see GREY OF FALLODON, EDWARD GREY, 1ST VISCOUNT

Grey, Sir George, 1812–98, British administrator He explored the Swan river district in Australia (1838) and later was governor of South Australia (1841–45), of New Zealand (1845–54), and of Cape Colony (1854–60) He was again governor of New Zealand (1861–68), and after brief residence in London he returned to live in New Zealand and served (1877–79) as premier, advocating radical reforms all later adopted *Polynesian Mythology* (1855) is his most important book See biographies by W L Rees (1892), G C Henderson (1907), and James Collier (1909)

Grey, Lady Jane, 1537–54, candidate for the throne of England She was the daughter of Henry Grey, earl of Dorset (later duke of Suffolk), and Frances Brandon, niece of Henry VIII She became a ward of Lord Seymour of Sudeley, who tried unsuccessfully to bring about a marriage between her and Edward VI Upon Seymour's execution for treason she fell under the control of the duke of Northumberland, who married her to his youngest son, Lord Guilford Dudley Northumberland persuaded the boy king, Edward, to reverse his father's order of succession and name Lady Jane to follow him on the throne. After Edward's death Lady Jane was unwillingly proclaimed queen (July 10, 1553) The English people, however, were in favor of MARY I, and the army of Northumberland disappeared After nine days as nominal queen, Lady Jane was imprisoned Because of her youth and innocence her life would probably have been spared had not her father joined the rebellion of Sir Thomas

WYATT Lady Jane, her husband, and her father were beheaded See R P Davey, *The Nine Days' Queen* (1910)

Grey, Zane, 1875–1939, American novelist, b Zanesville, Ohio, grad Univ of Pennsylvania, 1896 His melodramatic tales of the West and Southwest are vivid in topographical detail, but improbable in character and situation A prolific writer, Grey was best known for his first popular novel, *Riders of the Purple Sage* (1912) Many of his stories have been successfully filmed

Greybull (grā'bŏōl), town (pop 1,828), N Wyo , on the Bighorn river, settled 1904, inc 1912 It is an oil-refining center

greyhound, tall, slender dog, with narrow, pointed nose and, usually, a silky gray coat of short hair The greyhound is exceedingly graceful in form and in its movements and is very swift He is trained for racing and sometimes achieves a speed of more than 35 mi an hour The breed is so old that its origin is unknown, a similar dog was known to the Greeks and Egyptians The Italian greyhound is a toy breed prized for many centuries as a pet See also WHIPPET

Greylock, peak, 3,491 ft high, NW Mass , in the Berkshires SW of North Adams, highest point in the state The summit, included in a state reservation, is accessible by motor

Grey of Fallodon, Edward Grey, 1st Viscount (fă'lŏdun, -ludŭn), 1862–1933, British statesman He became foreign secretary (1905) in the difficult period preceding the First World War He encouraged the understanding with France and Russia, opposed German designs in North Africa (1911), and fostered peace in the Balkans (1913) His great efforts toward peace in Europe failed to avert the war and he resigned in 1916 He was ambassador to the United States (1919–20) with special reference to peace negotiations and gave encouragement to the League of Nations His chief publications are *Twenty-five Years, 1892–1916* (1926), *Fallodon Papers* (1926), and *Speeches on Foreign Affairs, 1904–1914* (1931) See biography by G M Trevelyan (1937)

Grey Owl or **Wa-Sha-Quon-Asin,** 1888–1938, Canadian author and lecturer He represented himself as an Apache Indian, but the facts about his birth are obscure As a guide and forest ranger in Ontario and Quebec, he had great success in taming beaver and other wild creatures He became an ardent advocate of conservation and in 1920 was appointed conservation officer at Prince Albert National Park, Sask In his later years he wrote several books, among them *The Men of the Last Frontier* (1932), *The Adventures of Sajo and Her Beaver People* (1935), and *Tales of an Empty Cabin* (1936) He also lectured in England and America See biographies by Harper Cory (rev ed , 1936) and Lovat Dickson (1939)

Greytown, Nicaragua see SAN JUAN DEL NORTE

Griboyedov, Aleksandr Sergeyevich (ūlyĭksan'dur sirgā'uvĭch grĭbuyĕ'dŏf), 1795–1829, Russian playwright His fame rests upon a single play, *The Misfortune of Being Clever* (1825, Eng tr , 1914), a satire in rhymed iambics directed against Moscow society It owes something to Molière's *Misanthrope*, but is typically Russian in scene and characters Griboyedov's letters are much read

grid, in the vacuum TUBE, a fine wire spiral or mesh surrounding but insulated from the cathode and in turn surrounded by but insulated from the plate Modern tubes may contain several such grids, e g , screen grid, suppressor grid, and control grid The control grid is the one usually referred to simply as the grid Its function is to control the stream of electrons from cathode to plate The action is based on the principle of repulsion and attraction between electrically charged bodies The grid is normally more negative than the cathode This condition, called bias, may be achieved in several ways—by the use of a cathode resistor, grid-leak resistor, bias-cell, or C battery Electrons emitted by the cathode—themselves being negatively charged—are impeded by the grid in their drift toward the plate The signal input to the tube is a varying voltage which is applied to the grid, making it now less, now more negative, permitting now more, now fewer electrons to pass to the plate beyond, a point of high positive potential and, consequently, much greater attraction

Gridley, Charles Vernon, 1844–98, U S naval officer, b Logansport, Ind , grad Annapolis, 1863 He was in the Civil War battle of Mobile Bay and continued in naval service He was flagship commander under George Dewey at Manila in 1898 It was to him that Dewey said, "You may fire when you are ready, Gridley " Already in ill-health, Gridley died en route home

Gridley, Richard, 1711–96, American military engineer, b Boston He came to prominence in the French and Indian Wars, taking part in the capture of Louisburg by William Pepperrell in 1745, serving under William Johnson in the Crown Point expedition and the building of Fort William Henry on Fort George in 1755, and participating in the capture of Quebec in 1760. The British rewarded him with the Magdalen Islands in the Gulf of St Lawrence, and he lived there for a time. In the American Revolution he took the patriot side He was chief engineer of the Continental army (1775–76), and under William Prescott he supervised the building of breastworks at Breed's Hill (see BUNKER HILL, BATTLE OF)

Gridley, city (pop 2,338), N central Calif , N of Sacramento, in a diversified farming area, inc 1905

Grieg, Edvard Hagerup (ĕd'vär hä'gurōōp grĕg'), 1843–1907, Norwegian composer, studied at the Leipzig Conservatory Under the influence of N W Gade, he at first wrote in the idiom of German romanticism, but after 1864, when the composer Richard Nordraak (1842–66) had introduced him to Norwegian folk music, his music showed strong Norwegian nationalism In 1864 he became conductor of the Philharmonic Society of Christiania, and the following year he established the Academy of Music there Grieg's lyrical gift produced the finest music in small forms—songs and piano pieces, the Piano Concerto in A Minor (1868) is the one large work by which he is known In 1874 Ibsen asked him to write the incidental music for *Peer Gynt* The play was produced the following year, Grieg's music, in the form of two orchestral suites, became his most popular work He also wrote three violin sonatas and some chamber music See David Monrad-Johansen, *Edvard Grieg* (Eng tr , 1938), H T Finck, *Grieg and His Music* (rev ed , 1929)

Grien, Hans Baldung see BALDUNG, HANS

Grier, Robert Cooper (grēr), 1794–1870, American jurist, Associate Justice of the U S Supreme Court (1846–70), b Cumberland co , Pa , grad Dickinson College, 1812 He was admitted (1817) to the bar and early acquired a large practice He served (1833–46) as district court judge and was then appointed Associate Justice of the Supreme Court by President Polk In a period when decisions on sectional issues aroused political furor, Grier concurred (1857) in the Dred Scott decision and was accused of undue Southern sympathy During the Civil War, however, he remained strongly loyal to the Union, and he wrote the opinion in the Prize Cases which upheld the President's power to blockade the Southern ports After the war he maintained his independent attitude by opposing radical Reconstruction measures when they were brought before the Supreme Court

Grierson, Sir George Abraham, 1851–1941, Irish philologist Besides writing grammars of many modern Indian vernaculars, he directed compilation of the great *Linguistic Survey of India* (19 vols , 1894–1927)

Griffenfeld, Peder Schumacher, Count (pā'dhur shōō'makhur, grĭ'funfĕlt), 1635–99, Danish statesman The son of a merchant, he completed his education in the Netherlands, Germany, and England He became secretary to FREDERICK III (1665) and drew up the *Kongelov* [king's law] which established absolute rule in Denmark, he delivered (1670) the document, kept secret until Frederick's death, to CHRISTIAN V From 1671 until his fall in 1676, Griffenfeld dominated the Danish government In 1673 he was created count He encouraged trade and industry and centralized the administration The nobles opposed him because he was a bourgeois and a spokesman for absolutism His peace policy, through which he hoped to restore Denmark to the rank of a great power, alienated the army Denmark was drawn into war with Sweden (1675), Griffenfeld's plans were overruled He was imprisoned and tried for treason on trivial evidence, the death sentence was commuted to life imprisonment

Griffes, Charles Tomlinson (grĭ'fĭs), 1884–1920, American composer, b Elmira, N Y , pupil of Humperdinck in Germany Outstanding larger compositions are *The Pleasure-Dome of Kubla Khan* (Boston, 1920), for orchestra, his *Poem*, for flute and orchestra (1918), and *Roman Sketches* (1915–16), for piano, from which *The White Peacock* is a popular selection His piano sonata (pub 1921) represents his mature style, in which he was free from the earlier influences of German romanticism and of impressionism See biography by E M Maisel (1943)

Griffin, Eugene, 1855–1907, American electrical engineer, b Ellsworth, Maine, grad West Point, 1875 He participated in the geographical survey in the Southwest and served as engineer in the military department of the East As assistant engineer in the District of Columbia (1886–88), he made an extensive investigation of the use of electricity in the United States and published a report on the adaptability of electricity for street railways In 1889 he became an executive in the Thomson-Houston Electric Company, using his influence to promote streetcar transportation throughout the country After the consolidation with the Edison Company to form the General Electric Company, in 1892, he became vice president of that company He served in the Spanish-American War

Griffin, Gerald, 1803–40, Irish novelist and poet. His best novel, *The Collegians, or, The Colleen Bawn* (1829), was dramatised by Dion Boucicault in 1859 His own play, *Gisippus*, was successfully produced in 1842

Griffin, city (pop 13,222), co. seat of Spalding co , W central Ga , 8 of Atlanta, in a fertile agricultural area yielding cotton and other products, laid out 1840, inc 1843. It has cotton mills and farm-product processing plants Near by is a state agricultural experiment station

griffin, in ancient and medieval mythology, an animal usually represented as a cross between a lion and an eagle The place of the griffin in ancient sculpture is conspicuous, as in that of the Assyrians and the Persians It appears in heraldry symbolizing vigilance Its origin is traced to the Hittites The biblical griffin is probably the osprey

Griffing Park, town (pop 1,344), E Texas, near Beaumont, inc 1929

Griffith, Arthur, 1872–1922, Irish statesman, founder of SINN FEIN He was a journalist from his youth, and his principal service to his cause was the propaganda of his newspapers, which repeatedly failed and were revived under new names—*The United Irishman*, literarily his best paper (1899–1906), *Sinn Féin, Eire, Scissors and Paste, Nationality*, and *Eire Og* In *Sinn Féin* and *Eire* he did his most influential work in advancing the Irish Ireland ideal He was imprisoned several times by the authorities, especially for his opposition to recruiting in Ireland (1916–18) At the first DÁIL ÉIREANN he was elected vice president, and in DE VALERA'S absence (1919–20) he was in command of the revolution Griffith naturally succeeded when De Valera resigned the presidency to oppose the treaty, and he was first president (1922) of the constitutional Free State He died suddenly at the beginning of the civil war His edition of John Mitchel's *Jail Journal* appeared in 1940

Griffith, David Wark, 1875–1948, American moving-picture director and producer, b La Grange, Ky After appearing in stock companies (1897–1906), Griffith was given the leading role in Edwin S Porter's moving picture *Rescued from an Eagle's Nest* (1907) His association with the Biograph Company started in 1908, when he wrote scenarios and acted in several productions In that year he became a director for Biograph and had as his assistant the expert cameraman and inventor G W Bitzer In the work which followed, Griffith evolved the principles and formed the patterns of moving-picture technique He changed a camera in mid-scene, used crosscutting, introduced the flash back, the long shot, the close-up, the fade-in, the fade-out, accelerated editing, and made the first American film of four reels, *Judith of Bethulia* (1913) The first notable long American film, *The Birth of a Nation* (1915), sums up all of Griffith's experiments and discoveries and is a landmark in the history of the moving picture Among his other important films are *Intolerance* (1915), the first "spectacle" film, *Hearts of the World* (1917), *Broken Blossoms* (1919), *Way Down East* (1920), and *Orphans of the Storm* (1921) See Mrs D W Griffith, *When the Movies Were Young* (1925), Iris Barry, *D W Griffith, American Film Master* (1940)

Griffith, town (pop 2,116), Lake co., NW Ind , SE of Chicago, settled 1891, inc 1904

Griffiths, Ann, 1776–1805, Welsh poet and hymn writer She wrote 76 hymns, published after her death, all notable for intensity of feeling, extraordinary radiance, and poignant simplicity

Griffiths, David, 1867–1935, American botanist, b Wales In 1900 he became professor of botany at the Univ of Arizona, and after 1901 he was affiliated with the U S Dept of Agriculture He has written bulletins on the forage and range conditions of the Western states

Griffiths, John Willis, 1809–82, American naval architect, b New York city By the ships he built —particularly the steamships he designed for the Collins line in the 1850s—and by his *Treatise on Marine and Naval Architecture* (1853), he exercised much influence on American naval architecture

Griggs, John William, 1849–1927, American lawyer and cabinet officer, b Newton, N J , grad Lafayette College, 1868 He practiced law at Paterson, N J , and became politically prominent He was Republican governor of New Jersey (1896–98), Attorney General under President McKinley (1898–1901), and a member of the Permanent Court of Arbitration (1901–12)

Griggsville, city (pop 1,266), W central Ill , W of Springfield, in a farm area, inc 1878

Grignard, Victor (vēktôr' grēnyar'), 1871–1935, French chemist He shared the 1912 Nobel Prize in Chemistry for his work in organic synthesis based on his discovery (1901) of the Grignard reagent He taught at the Univ of Nancy (1909–19) and at the Univ of Lyons (from 1919)

Grignard reagent, a halogen compound formed by the reaction of an alkyl halide with metallic magnesium in the absence of water It is widely used in combination with other substances to synthesize certain alcohols and other organic compounds, the synthesis involves the reaction known as the Grignard reaction

Grigorovich, Dmitri Vasilyevich (dumē'trē vŭsē'lyuvĭch grĭgurô'vĭch), 1822–99, Russian novelist He was strongly influenced by George Sand and was a forerunner of Turgenev in his novels of peasant life—*The Village* (1846), *Anton Goremyka* (1847), and *The Fishermen* (1855, Eng. tr , 1916)

He portrays the peasant realistically and with compassion

Grijalva, Juan de (hwän' dā grēhäl'vä), d 1527, Spanish explorer, commander of an expedition for the purpose of furthering the discoveries of FERNÁNDEZ DE CORDOBA Leaving Santiago de Cuba in April, 1518, he sailed to Yucatán and explored the coast of Mexico at least as far as the neighborhood of Veracruz Grijalva was the first Spaniard to hear of the empire of Montezuma In 1523 he went to Mexico; later he took part in the conquest of Nicaragua.

Grijalva, river rising in N Guatemala and flowing NW into S Mexico and generally N through Chiapas and Tabasco to the Gulf of Campeche It is navigable for c 60 mi Several branches of the USUMACINTA flow into it. Named for Juan de Grijalva, who discovered it in 1518, the river is also called the RIO Grande de Chiapas in the highland region

grille, in architecture, a system of bars, usually of decorative metalwork, forming an openwork barrier or enclosure In its usual materials of wrought iron or bronze, it has been a favored subject for decorative treatment in all periods Besides its almost universal function of protecting window and door openings, the grille since early medieval times has been used widely as an ornamental enclosure, especially in churches, for tombs, chapels, or shrines An early authenticated example is of pierced bronze in the Church of the Nativity at Bethlehem (5th or 6th cent) Other notable grilles are those around the tombs of the Scalas, Verona (13th cent), that which formerly enclosed the tomb of Edward IV, St George's Chapel, Windsor (15th cent); and the railing of the tomb of Emperor Maximilian I, Innsbruck, Austria (16th cent) The Renaissance was notable for its lavish employment of decorative metalwork, in England one of the great names is that of Jean Tijou (17th cent) who executed many notable grilles at St Paul's Cathedral and Hampton Court Palace, in 18th-century France the works of Jean Lamour, especially at Nancy, are noteworthy But it was in Spain that the Renaissance grille reached its height in the *rejas* or monumental altar and choir screens in the great cathedrals, usually of wrought iron gilded In modern times the grille has been marked by the appearance of new forms, some of which possess no merit except novelty, others, especially at the hands of masters such as Edgar Brandt, achieve real beauty.

Grillparzer, Franz (frants' grĭl'pärtsĕr), 1791–1872, Austrian dramatist and civil servant As a dramatist he is often mentioned with Goethe and Schiller Among his plays, notable for their power and poetic beauty, are *Die Ahnfrau* (1817), a trilogy, *Das goldene Vlies* (1819–22), *Der Traum ein Leben* (1817–34), his most romantic work, which influenced among others Hauptmann and Maeterlinck, the lyric tragedy based on the story of Hero and Leander, *Des Meeres und der Liebe Wellen* (1819), and the posthumous *Die Jüdin von Toledo* (Eng tr , *The Jewess of Toledo*, 1913–15) He is also noted for the finely wrought *Novelle, Der arme Spielmann* (1848, Eng tr , *The Poor Minstrel*, 1913–15), perhaps his most artistically perfect work See J F Coar, *Studies in German Literature in the 19th Century* (1903)

Grimald, Grimalde, or **Grimoald, Nicholas** (grĭm'-ŏld), 1519–62, English poet, educated at Cambridge and Oxford He contributed 40 poems to Tottel's miscellany (1557) and wrote two Latin dramas

Grimaldi (grēmäl'dē), race of men of the Paleolithic period The concept of this race is based on studies of two skeletons found in the early 20th cent in one of the Grimaldi caverns in NW Italy at the French border These skeletons, one of a woman and one of a youth, have some Negroid characters, but whether they really represent a Negroid race is controversial At another level in the same cave and also in the other Grimaldi caves, a number of skeletons of Cro-Magnon man have been discovered.

Grimaldi, Francesco Maria (frānchä'skō märē'ä grēmäl'dē) 1618?–1663, Italian physicist and Jesuit priest. He was the first to describe the fringes which bound the shadow of an object illuminated by a small point of light and which are caused by the diffraction of light.

Grimaldi, Giovanni Francesco (jōvän'nē), 1606–80, Italian painter, architect, and engraver, called Il Bolognese, pupil of the Carracci and of Francesco Albani With the exception of two years in France (1649–51), where he decorated the Masarin Palace and other buildings under the patronage of Cardinal Masarin, most of his life was spent in Rome He was employed as architect and painter by different popes His paintings, chiefly landscapes in the manner of the Carracci, are found in the Borghese and Colonna galleries and the Quirinal, Rome, the Louvre, and the Imperial Gallery, Vienna. Several etchings of his own landscapes and of the works of Titian and the Carracci attest his skill in that art.

Grimaldi, Joseph (grĭmäl'dē), 1779–1837, English pantomime actor and clown. He made his debut at the age of three in *Robinson Crusoe* at Sadler's Wells, London. He performed there and at Drury Lane for many years, and by the time he played clown in his production of *Mother Goose* at Covent Garden in 1806 he was a legend. He last appeared in *Harlequin Hoax* (1828) A master of grimace and of pantomime stagecraft, he was so beloved that the gallery clamored for his songs long after his death See his memoirs (ed by Charles Dickens, 1838), A E Wilson, *King Panto* (1935)

Grimké, Angelina Emily (grĭm'kē), 1805–79, American abolitionist and advocate of woman's rights, b Charleston, S C. Converted to the Quaker faith by her elder sister Sarah Moore GRIMKÉ, Angelina nevertheless felt frustrated in her strong desire to do something worth while for humanity until, in 1835, she came upon some pamphlets issued by the American Anti-Slavery Society Immediately she became an abolitionist and wrote *An Appeal to the Christian Women of the South* (1836) as a testimony of her conversion She enlisted Sarah in the anti-slavery crusade, and the two, after attending the convention of the "Seventy," the society's select group of agents trained by Theodore D WELD, began speaking among the society's women's auxiliaries around New York city At first they were not particularly effective, but after further tutoring by Weld they began to attract more favorable attention Angelina, in fact, developed into an orator of considerable power. Invited (1837) to lecture in Massachusetts, the sisters created a sensation there, men as well as women flocking to hear them Neither was beautiful, but they were obviously ladies of distinction Angelina's three appearances before the Massachusetts legislative committee on antislavery petitions early in 1838 constituted a triumph. However, conservatives, especially Congregational clergymen, began to condemn "females [who took] an obtrusive and ostentatious part in measures of reform," and the question of woman's rights soon divided antislavery adherents In this split the Grimké sisters at first enrolled under the banner of William Lloyd GARRISON, who loudly proclaimed his devotion to the theory of woman's rights. Weld and other more effective leaders of the abolition crusade such as John Greenleaf Whittier, who, in practice, were actually more favorable to woman's rights than Garrison and his extremists, urged the sisters to avoid controversy over the question lest the antislavery cause be hopelessly wrecked through dissension. When in Feb , 1838, Angelina accepted Weld's proposal of marriage, she recanted her Garrisonian opinions, and Sarah too soon came to hold the view that no matter how important the cause of woman's rights might be, it or any other extraneous doctrine should not serve to weaken the larger cause of abolition Angelina's ill-health after her marriage led her to abandon the lecture platform, but "Carolina's high-souled daughters," as the sisters were called, continued to aid Weld in his work and maintained a lasting, lively interest in the causes to which they had contributed so much See Catherine H Birney, *The Grimké Sisters* (1885), G H Barnes and D L Dumond, ed , *Letters of Theodore Dwight Weld, Angelina Grimké Weld, and Sarah Grimké, 1822–1844* (2 vols , 1934)

Grimké, Archibald Henry, 1849–1930, American Negro author and crusader for Negro advancement, b near Charleston, S C The son of a white father and a slave mother, he was graduated from Lincoln Univ (B A , 1870, M A , 1872) and, aided by his aunt, Sarah Moore Grimké, from Harvard (LL B , 1874) He then practiced law in Boston. Besides many articles in different periodicals on race problems and pamphlets published by the American Negro Academy, of which he was president (1903–16), he wrote biographies of William Lloyd Garrison (1891) and Charles Sumner (1892) From 1894 to 1898 he was American consul to Santo Domingo In 1919 he was awarded the Spingarn medal by the National Association for the Advancement of Colored People for his services in behalf of the Negro

Grimké, Sarah Moore, 1792–1873, American abolitionist and advocate of woman's rights, b Charleston, S C Her father, John Faucheraud Grimké (1752–1819), served in the American Revolution and was long senior associate judge (virtually chief justice) of the South Carolina supreme court, and her brother, Frederick Grimké (1791–1863), was also a supreme court justice, in Ohio Another distinguished lawyer brother, Thomas Smith Grimké (1786–1834), was an organizer of the American Temperance Society and the American Peace Society Although Sarah's father had the reputation of being a stern judge, he was unusual for his day in having a high regard for the intellectual capacities of women, and Sarah profited from her close association with him and her brother Thomas. Thomas moved her to question the authority of the Episcopal Church, and on a visit to Philadelphia, Sarah joined the Society of Friends She converted her younger sister Angelina to the Quaker faith, and the two left the "ungentle, uncongenial air" of Charleston, as Angelina described it in Jan., 1832, and removed to the North permanently. Angelina, becoming an abolitionist in 1835, in turn converted Sarah, and these two timid daughters of an aristocratic slaveholding family became the first women who dared to speak in public for the Negro slave and then for woman's rights. Sarah wrote *An Epistle to the Clergy of the Southern States* (1836), urging abolition, and *Letters on the Equality of the Sexes and the Condition of Woman* (1838). In 1838 the sisters persuaded their mother to give them, as their share of the family estate, slaves, whom they promptly freed. For further details on Sarah's activities and for bibliography, see GRIMKÉ, ANGELINA EMILY.

Grimm, Friedrich Melchior (frē'drĭkh mĕl'khôr grĭm'), 1723–1807, German man of letters in France, b Regensburg His series of periodical letters from abroad (1753–74), *Correspondance littéraire* (1st complete ed , 1829–30), is a source for the ENLIGHTENMENT. He was made a baron of the Holy Roman Empire

Grimm, Jakob Ludwig Karl (yä'kôp lōōd'vĭkh), 1785–1863, German philologist, one of the great founders of comparative philology Interested principally in the relationship between the various Germanic languages, he first fully stated GRIMM'S LAW His German grammar (1819–37) and his *German Mythology* (1835, Eng tr , 1880–88) were works of first importance He is world famous for his collection and publication of German folk tales, commonly known as *Grimm's Fairy Tales* (1812–15), in which he collaborated with his brother, **Wilhelm Karl Grimm** (vĭl' hĕlm), 1786–1859. The brothers Grimm also planned and inaugurated the great German dictionary, of which Vol I appeared in 1852

Grimmelshausen, Hans Jakob Christoffel von (häns' yä'kôp krĭs'tôfûl fŭn grĭ'mûlshou"zŭn), 1625?–1676, German novelist At the age of 10 he was kidnaped by soldiers and forced to remain in the army Later he succeeded in educating himself and became a magistrate and man of letters Of his various satires and other works, the most famous is the translated picaresque novel, *The Adventurous Simplicius Simplicissimus* (1669, known as *Simplicissimus*), written under one of his numerous pseudonyms It is characterized by misanthropy, vigor, humor, and strong character drawing.

Grimm's law, principle of relationships in Indo-European languages, first observed by Jakob Grimm in 1822 It shows that primitive tenues (k, t, p) become aspirates in Low German (e g , English) and medias in High German (German), that primitive aspirates (gh, dh, bh) become medias in Low German, tenues in High German, and that primitive medias (g, d, b) become tenues in Low German, aspirates in High German In English, aspirates are h, th, f, medias, g, d, b, tenues, k, t, p In German, medias are h, d, f, tenues, k, t, p; aspirates, ch, z, f Words representing Grimm's law are, initially, Latin *pater*, English *father*, German *Vater*, in the dental, Latin *frater*, English *brother*, German *Bruder;* initially, Sanskrit *dhar*, English *draw*, German *tragen*, initially, Latin *decem*, English *ten*, German *zehn*

Grimoald, Nicholas see GRIMALD, NICHOLAS

Grimsby (grĭmz'bē), town (pop 2,331), S Ont , on Lake Ontario between Hamilton and St Catharines It is the center of a fruit-farming district, has small manufactures, and is a summer resort

Grimsby, county borough (1931 pop 92,458, 1947 estimated pop 90,390), in the Parts of Lindsey, Lincolnshire, England, at the mouth of the Humber river and SE of Hull It is the largest fishing port in Great Britain, the docks, begun in 1849, cover more than 100 acres, and there are passenger steamship lines to the Continent Grimsby has an extensive trade in fish, coal, and timber Cleethorpes is a resort suburb

Grimsel (grĭm'zŭl), pass, 7,159 ft high, between the Rhone and Aar valleys, Switzerland The modern Grimsel Road (built 1891–94), over the pass, connects the canton of Bern with Valais. The dammed Grimsel Lake, near by, supplies water to the Handegg power station, which is one of the largest in Switzerland

Grindelwald (grĭn'dûlvält), resort (resident pop 2,916), Bern canton, Switzerland, at the foot of the Eiger, Schreckhorn and Wetterhorn and of the Upper and Lower Grindelwald Glaciers

grinding and polishing includes shaping, sharpening, polishing, and finishing a metallic or other surface by means of a grinding machine The grinding machine consists essentially of an abrasive rotating wheel against which is pressed the surface to be treated Machines vary in type and abrasive action according to the material to be worked upon The simplest forms are the familiar hand-driven grindstone and the emery wheel, both of which are called nonprecision grinders; precision grinders are machine tools capable of accuracy within *thousandths of an inch*

grindstone, an abrasive stone shaped and mounted to turn as a wheel. It is used dry or with water, for the coarser grinding of edge tools and implements, such as the ax and the scythe.

Gringore, Pierre (pyĕr' grĕgôr'), c.1475–c 1539, French dramatist and poet. He produced mysteries and wrote the *Jeu du prince des sots* (1512), a dramatic work on contemporary political subjects. By an old error his name appears often as Gringoire.

Grinnell, George Bird (grĭnĕl'), 1849–1938, American naturalist and student of Indian life, b. Brook-

lyn, N.Y., grad Yale (B A , 1870; Ph D , 1880). He accompanied Custer's Black Hills expedition as naturalist (1874), was with William Ludlow's expedition to Yellowstone Park (1875), and was a member of the Harriman Alaska expedition, 1899 He was editor of *Forest and Stream* from 1876 to 1911 and was prominent in preservation of wildlife and conservation movements He organized the first Audubon Society and was an organizer of the New York Zoological Society In 1885 he discovered the glacier in Montana which now bears his name and was influential in legislation which led to the establishment (1910) of Glacier National Park He is best known, however, for his books on the Plains Indians, such as *Pawnee Hero Stories* (1889), *Blackfoot Lodge Tales* (1892), *The Story of the Indian* (1895), *The Indians of Today* (1911), *The Fighting Cheyennes* (1915), *The Cheyenne Indians* (1923), and *By Cheyenne Campfires* (1926)

Grinnell, Josiah Bushnell, 1821–91, American pioneer, clergyman, and abolitionist, b New Haven, near Middlebury, Vt , grad Auburn Theological Seminary, 1847 As pastor (1851–52) of the First Congregational Church in Washington, D C , he created a sensation by preaching an antislavery sermon, which cost him his pastorate It was to him that Horace Greeley gave the famous advice, "Go West, young man, go West!" Go Grinnell did —to Iowa, where he founded (1854) the town of Grinnell and gave land and buildings (1859) to Iowa College, which was later named Grinnell College An abolitionist political leader, he aided in the formation of the Republican party He also helped to extend education in Iowa, to promote railroads, and to aid agriculture and stock raising (especially by introducing new breeds) See the autobiographical *Men and Events of Forty Years* (1891), biography by C E Payne (1938)

Grinnell, city (pop 5,210), central Iowa, between Des Moines and Iowa City, inc 1865 It was founded by Josiah Bushnell GRINNELL in 1854 and named for him **Grinnell College** (nonsectarian, coeducational) was chartered as Iowa College in 1847 and opened in 1848 at Davenport by pioneer Congregational missionaries The school moved in 1859 when Grinnell donated land and a building, the college was named for him in 1909

grippe see INFLUENZA

Gripsholm (grĭps-hôlm'), castle, SE Sweden, on Malaren lake and near Stockholm Now a museum, it was begun in 1537 by Gustavus I

Griqualand see TRANSKEIAN TERRITORIES

Gris, Juan (hwän' grēs'), 1887–1927, Spanish cubist painter, whose real name was José Victoriano González After studying in Madrid he settled (1906) in Paris, where he held (1912) his first exhibition at the Salon des Indépendents His early work, such as the *Portrait of Picasso* of 1910, is very similar to Picasso's style of the same period, but Gris's cubism remained pure and subjective The majority of his works are still lifes, both in oils and in collage, he also executed several portraits The Museum of Modern Art, New York, owns several still lifes, but most of his pictures are in private collections See study by D H Kahnweiler (1947)

Griselda (grĭzĕl'dŭ), long-suffering heroine of medieval story, supposedly drawn from the marquise of Saluzzo (11th cent), whose husband, to test her devotion, subjected her to numerous trials The story was used by Boccaccio in the *Decameron*, by Chaucer in the Clerke's Tale, and by Dekker in the comedy *Patient Grisel*

Grisi, Giulia (jōō'lyä grē'zē), 1811–69, Italian operatic soprano She toured the United States in 1854 with Giuseppe Mario, whom she married in 1856 Roles were written for her by Bellini, in *I Puritani*, and by Donizetti, in *Don Pasquale* Her first teacher was her sister, **Giuditta Grisi** (jōōdēt'tä), 1805–40, a messo-soprano, who married and retired in 1834

Gris-Nez, Cape (grē-nā'), cliff, N France, projecting into the Strait of Dover, SW of Calais and 21 mi from the English coast It has a lighthouse

Grisons (grēsôns', Fr grēsôN'), Ger *Graubünden* (groubün'dŭn), canton (2,746 sq mi , pop 128,247), Switzerland, bordering on Italy and Austria The largest and most scarcely populated of the cantons, it has pastures, Alpine peaks and glaciers, forests, hydroelectrical stations, and some cultivated valleys The ENGADINE Valley and the Swiss National Park, in the eastern part of the canton, attract large tourist traffic Part of Rhaetia under the Roman Empire, the territory preserved Roman laws and customs, though it nominally passed to the Ostrogoths (493) and to the Franks (537) In the 9th cent the bishops of CHUR, its present capital, began to attain prominence in the region, their power was checked and gradually broken by three local leagues founded between 1367 and 1436—the League of God's House, the Gray League (which gave its name to the canton), and the League of Ten Jurisdictions The three leagues, composed of communes and feudal lords, allied and joined with the Swiss Confederation In 1512 they conquered the Valtellina from Milan Only part of the population accepted the Reformation (1524–26). In the Thirty Years War the country was rent by bloody strife between the Catholic party, siding with Spain and the emperor, and the Protestants, siding with Venice and France With the VALTELLINA the chief bone of contention, the struggle was one of European importance In 1799 the Grisons were forced by French arms to enter the Helvetic Republic, and in 1803 they became a Swiss canton under Napoleon's Act of Mediation The Valtellina was definitely lost at the Congress of Vienna (1815) In 1937 Romansh, a Rhaetic dialect spoken by almost a third of the population, was made a national language A smaller minority speak Italian, and the rest, German

Griswold, Matthew (grĭz'wŭld), 1714–99, American jurist and statesman, b Lyme, Conn Admitted to the bar in 1743, he was very learned in the law and also took a small part in Connecticut politics As deputy governor (1769–84) before and during the American Revolution he was ex officio judge of the highest court in Connecticut, and by his wisdom contributed much to the new state in troubled times He was later governor and presided over the state convention that ratified the Constitution. Roger Griswold was his son

Griswold, Roger, 1762–1812, American politician, leader of New England Federalism, b Lyme, Conn , grad Yale, 1780, son of Matthew Griswold A Connecticut lawyer, he entered politics and, as U S Congressman (1794–1805), was a vigorous Federalist and a virulent critic of Jefferson's administration, going so far as seriously to advocate the separation of New England from the Union He was lieutenant governor of Connecticut (1809–11) and governor (1811–12) In the last office he expressed Connecticut's attitude toward the war with England by withholding the state militia from the command of Federal officers, thereby causing a test case on the clause in the Constitution dealing with the authority of the President to requisition the state militia

Griswold, Rufus Wilmot, 1815–57, American author and editor, b Benson, Vt He was an itinerant printer and journalist and settled in New York as a protégé of Horace Greeley As editor of *Graham's Magazine* (1842–43) and of the *International Monthly Magazine* (1850–52) and as anthologist of *The Poets and Poetry of America* (1842) and many similar books, he was influential and was able to help such writers as Alice Cary, Charles G Leland, and Bayard Taylor He had known Edgar Allan Poe since 1842 and on Poe's death was named his literary executor The obituary he wrote emphasized all the scandals attached to Poe's name His edition of Poe's writings was conscientious, but in editing the letters he added passages favorable to himself and had them published as Poe's own His most important book was *The Republican Court, or, American Society in the Days of Washington* (1855) See his selected letters and papers (ed by his son, W McC Griswold, 1898), biography by Joy Bayless (1943)

Griswold. 1 Town (pop 5,343), SE Conn , bordered on the west by the Quinebaug, settled c 1690, inc 1815 It includes the textile-producing borough Jewett City (pop 3,682, chartered 1895) 2 Town (pop 1,132), SW Iowa, on the East Nishnabotna river and E of Council Bluffs, inc 1880 It is a trade and manufacturing center for a rich corn area Cold Springs State Park is not far

grits, coarsely ground grain, usually wheat, oats, or maize, with the hulls removed It is used as a vegetable dish or as a breakfast food

grizzly bear see BEAR

Grocyn, William (grō'sĭn), 1446?–1519, English humanist An associate of John COLET and Thomas LINACRE, he reputedly introduced the teaching of Greek at Oxford

Grödnertal, Italy see GARDENA, VAL

Grodno (grôd'nô), city (1931 pop 49,818), capital of Grodno oblast, Belorussia, on the Niemen and 45 mi NE of Bialystok Dating from at least the 10th cent and once the capital of an independent principality, it was included (13th cent) in the grand duchy of Lithuania In 1673 it became a seat of Polish diets, the last of which (1793) was forced to consent to the second partition of Poland In 1795 STANISLAUS II abdicated here, the city passed to Russia and became a provincial capital It reverted to Poland in 1921 and was ceded to the USSR in 1945 The medieval castle was restored in the 1930s Ruins of the ducal residence are the oldest example of secular brick architecture in this part of Europe Grodno, which produces agricultural machinery, cloth, and tobacco, is a transportation and commercial center Here Stephen Bathory and the Polish novelist Orzeszkowa died Grodno oblast (5,000 sq mi ; pop 800,000) is largely a lowland, which has the 257,300-acre Grodno Forest (mostly pine) and phosphate deposits

Groesbeck (grōs'bĕk), city (pop 2,272), co seat of Limestone co , E central Texas, E of Waco It is a market town with small industries in a region growing cotton and other crops and yielding dairy products, clay, timber, and oil

grog, originally a mixture of rum and water The term is now applied to almost any unsweetened mixture of spirits and water, hot or cold, and it is sometimes used for any intoxicating drink hence, grogshop, groggy.

groin, in architecture see VAULT

Grolier de Servières, Jean, vicomte d'Aguisy (grôl'yēr, Fr. zhäN' grôlyā' du sĕrvyĕr' vēkôt' dägēzē'), 1479–1565, French book collector While he was French ambassador in Italy (1510–15), he made the acquaintance of Aldus Manutius, the Italian printer and scholar Grolier's library consisted of some 3,000 richly bound volumes, which remained in his family until dispersed in 1675 About 350 volumes are now known to be in existence, many are in the Bibliothèque nationale These books bear their owner's *ex libris*, "J Grolerii et amicorum," which probably indicates that he also secured copies of the book for his friends A New York club of bibliophiles, the Grolier Club (1884), is named after him See Brander Matthews, *Bookbindings . with an Account of the Grolier Club* (1895)

Gromyko, Andrei Andreyevich (ŭndrā' ŭndrā'uvĭch grŭmē'kŭ), 1909–, Russian diplomat He was Soviet ambassador at Washington (1943–46) and chief permanent Soviet delegate to the United Nations (1946–48) In 1949 he was made chief deputy foreign minister of the USSR

Grongar Hill (grŏng'gär), Caermarthenshire, Wales, near the Towy river It is celebrated in a poem by John Dyer, who lived near here

Groningen (khrō'nĭng-un), province (898 sq mi , pop 447,423), N Netherlands, bordering on Germany in the east and the North Sea in the north Groningen is the capital It has a fertile coastal strip; the interior consists largely of reclaimed fenland and peat bogs and is drained by numerous canals Cattle raising, dairying, and agriculture are the chief resources Its history is that of its capital

Groningen, municipality (pop 131,210), capital of Groningen prov , N Netherlands It is an important trading center, with grain and cattle markets, sugar refineries, and various manufactures The Univ of Groningen was founded in 1614 Dating from the early Middle Ages, Groningen passed (11th cent) under the temporal power of the bishops of Utrecht In fact, however, it soon gained virtual independence, joined (1284) the Hanseatic League, and gained control over the central section of Friesland, which constitutes Groningen prov Groningen joined (1579) the Union of Utrecht for the independence of the Netherlands, was taken (1580) by the Spaniards under Alexander Farnese, and was retaken (1594) by the Dutch under Maurice of Nassau There are several fine churches, notably the Martinikerk (15th cent) and the Nieuwe Kerk (17th cent.). Josef Israëls and H. W Mesdag were born here

Gronlund, Laurence (grŏn'lund), 1846–99, American Socialist, b Denmark, educated at the Univ of Copenhagen He came to America in 1867 and became a lawyer in Chicago His *Cooperative Commonwealth* (1884), the first adequate exposition in the English language of German socialism, went through many editions and was influential both in America and in England He wrote *Our Destiny* (1891), *The New Economy* (1898), *Socializing a State* (1898), and a number of pamphlets against the single-tax doctrines of Henry George He lectured in all parts of the country and, for a time, was an executive of the Socialist Labor party

Groote, Gerard or Geert (khä'rart, khärt', khrō'tŭ), 1340–84, Dutch Roman Catholic reformer He studied at Paris and elsewhere and because of his learning in theology, philosophy, jurisprudence, and medicine, he was appointed professor at Cologne Converted from a worldly life c 1374, he retired to a Carthusian monastery near Arnhem, urged probably by John RUYSBROECK He was ordained deacon, but never priest, and under episcopal auspices he preached all over the Netherlands, denouncing clergy and laity impartially and turning many souls to religion In 1383 his clerical enemies procured an episcopal ban on his preaching In his preaching period he formed the Brothers of Common Life, or Modern Devotion, a voluntary monastic communal organization Before his death he asked his followers to become Augustinian canons His society and the Augustinians he inspired were pioneers in a general reform of German monastic life His works reveal his deep devotion Among them possibly should be included *The Following* (or *Imitation*) *of Christ* (Latin *De imitatione Christi*, Dutch *De Navolging van Christus*), of long-disputed authorship It has been argued that this is Groote's spiritual journal written in Middle Dutch, of which THOMAS Á KEMPIS arranged an "official" version The countless English translations of this work were from Thomas's version until the translation by Joseph Malaise, S J , *The Following of Christ* (1937) Whatever the version or author, this little book of meditation and admonition, written in a simple and vigorous style and informed with a gentle piety, is established, after the Scriptures, as the most popular devotional book of Christendom See A Hyma, *The Christian Renaissance* (1924)

Groote Eylandt (grōōt ī'lŭnd) [Dutch, =large island], area 950 sq mi , off N Australia, largest island in the Gulf of Carpentaria Barren and rocky, it is an aboriginal reservation

Groote Schuur (khrō'tŭ Skhūr') [Afrikaans, =large barn], estate, Capetown, Cape Prov., Union of

South Africa Formerly the residence of Cecil Rhodes, it is now occupied by the Union premier. On the estate are some buildings of the university at Capetown.

Gropius, Walter (väl'tûr grō'pēōōs), 1883–, German architect, one of the leaders of modern "functional" architecture. His Fagus factory buildings (1912) at Alfeld, with their walls of glass, metal spandrels, and discerning use of purely industrial features, were among the most advanced works in Europe In his buildings for the Cologne Exposition (1914), using extensive areas of glass, modern engineering and materials received a frank architectural expression After the First World War, Gropius became (1919) director of the Weimar School of Art, reorganising it as the Bauhaus It was moved in 1925 to Dessau The complete set of new buildings for it which Gropius designed (1926) remains one of his finest achievements He built the Staattheater at Jena (1922), some experimental houses at Stuttgart (1927), and designed residences, workers' dwellings, and industrial buildings He practiced (1934–37) in London with Maxwell Fry and in 1937 came to America, where he headed the school of architecture at Harvard See his *New Architecture and the Bauhaus* (Eng tr , 1935)

Gropper, William, 1897–, American painter and cartoonist, b New York city From the age of 14 he earned his living by working in sweatshops and restaurants and studied art at night at the New York School of Fine and Applied Art and at the Ferrer School, New York under Henri and Bellows He resigned as reporter on the New York *Tribune* in 1919 and went to work for the *Rebel Worker* because of his class sympathies, subsequently his radical cartoons in the *New Masses* and other publications had a wide and enthusiastic audience In 1927 he visited Russia, and his book *Fifty-six Drawings of U S S R* was published in 1928 His first exhibition of oil paintings in 1936 was the outcome of long years of study and gained him immediate recognition as a painter The following year he was awarded a Guggenheim fellowship Works by him are in many American galleries and in the Museum of Western Art, Moscow, and his murals are in the post office of Freeport, L I , and in the Dept of the Interior Building, Washington, D C *The Senate* (Mus of Modern Art, New York) is a good example of his bold, satiric style

Gros, Antoine Jean, Baron (ätwän' shä' barō' grō'), 1771–1835, French painter, studied with his father, a miniaturist, and with the classicist J L David He attracted the attention of Napoleon in 1793 and followed the army as an inspector at reviews In 1797 he was commissioned to select spoils to enrich the Louvre Between 1802 and 1808 he painted his three most famous pictures, *The Plague at Jaffa* and *The Battle of Eylau* (both Louvre) and *The Battle of Aboukir* (Versailles) These paintings had a realism little in keeping with his professed classicism, to which he vainly strove to return In spite of many honors under the Restoration he became more and more discouraged and in 1835 drowned himself in the Seine Gros had many pupils who later were famous

grosbeak (grōs'bēk) [i e , *great beak*], name used (generally in combination) for various birds, especially for some of the FINCH family They have large, conical bills and bright summer plumage, and most of them are 8 or 9 in long The rose-breasted grosbeak is striking with its white bill and summer plumage of black and white accented by a rose-red breast Its lovely song is somewhat similar to a robin's Sometimes called potato-bug bird, it destroys these and other insects Among other well-known grosbeaks are the cardinal, or Virginia nightingale, the pine grosbeak of the Old and New Worlds, which feeds on conifer seeds and wild fruits, and the western or black-headed grosbeak, an enemy of scale insects, codling moths, and flower beetles The common European grosbeak is the hawfinch

Grose, Francis (grōs), 1731?–1791, English antiquary and draughtsman He wrote—and in some cases illustrated—works on the antiquities of England and Wales, Scotland, and Ireland, *A Treatise on Ancient Armour and Weapons*, and the *Classical Dictionary of the Vulgar Tongue* (1785), which was reprinted in 1931 with biographical and critical sketch and commentary by Eric Partridge

Groseilliers, Médard Chouart, sieur des (mädar' shwär' syûr dù grōsāyā'), 1618?–c.1690, French trader and explorer in North America He was the brother-in-law of Pierre Esprit RADISSON and his companion in his great journeys

Gros Morne (grō' môrn'), mountain, 2,666 ft high, W N F , in the Long Range N of Bonne Bay, highest elevation in Newfoundland

Gross, Charles (grōs), 1857–1909, American historian, b Troy, N Y , grad Williams, 1878, Ph D Univ of Gottingen, 1883. From 1888 to his death he taught history at Harvard, becoming professor in 1901 His *Gild Merchant* (2 vols , 1890) a work of remarkable research, remains standard. He was also the author of the important *Bibliography of British Municipal History* (1897) and the monumental *Sources and Literature of English History from the Earliest Times to About 1485* (1900, rev ed., 1915), a book used by every worker in medieval or early English history

Gross, Samuel David, 1805–84, American surgeon, b near Easton, Pa , M.D Jefferson Medical College, Philadelphia, 1828 He taught at the medical colleges of several universities and at Jefferson from 1856 He made outstanding contributions to his profession as teacher of pathological anatomy and surgery, as inventor of surgical instruments and techniques, as author of *Elements of Pathological Anatomy* (1839), *A System of Surgery* (1859), and other works, and as a founder of the American Medical Association See his autobiography (1887)

Gross Beeren (grōsbā'run), village, Brandenburg, S of Berlin Here, in 1813, Friedrich Wilhelm von Bülow, using the Prussian militia for the first time, defeated the French under Oudinot

Grosse, Aristid V. (grō'su), 1905–, American chemist, b Russia, D Eng , Technische Hochschule, Berlin-Charlottenburg, 1927 He came to the United States in 1930 (naturalized 1937), taught at the Univ of Chicago (1931–40), and worked (1940–43) at Columbia Univ on uranium fission, he was associated with atomic-bomb research of the "Manhattan District " An authority on synthetic rubber, he served as consultant (1942–43) to the War Production Board and as director (1943–48) of research of the Houdry Process Corp , Philadelphia In 1948 he became president of the Research Institute of Temple Univ Grosse has worked also on radioactivity, isotopes, and catalytic chemistry of hydrocarbons, he isolated (1927) an oxide of protactinium

Grosse Pointe (grōs' point'), residential city (pop 6,179), SE Mich , a suburb of Detroit, on Lake St Clair, inc as a village 1879, as a city 1934

Grosse Pointe Farms, residential village (pop 7,217), SE Mich , a suburb of Detroit, on Lake St Clair, inc 1893 The mansion of John Dodge and the Alger House, a branch of the Detroit Institute of Arts, are points of interest

Grosse Pointe Park, residential village (pop 12,640), SE Mich , a suburb of Detroit, on Lake St Clair, inc 1907

Grosse Pointe Woods, residential village (pop 2,805), SE Mich , a suburb of Detroit, inc 1926 as Lochmoor, name changed 1939

Grosseteste, Robert (grōs'tēst), c 1170–1253, English prelate Educated at Oxford and Paris, he became one of the most learned men of his time He taught at Oxford for a number of years and had probably become its first chancellor by 1221 In 1232 he resigned his ecclesiastical preferments and became rector of the Franciscans at Oxford He was the principal founder of the Oxford Franciscan school, which profoundly influenced medieval thought and the development of the Franciscan order His most illustrious pupils, Adam MARSH and Roger BACON, continued Grosseteste's work at Oxford when he was made (1235) bishop of Lincoln, the most populous see of England As bishop, he was an indefatigable administrator and zealous reformer, visiting the monasteries, assigning suitable candidates to parish offices, and preaching to the people Grosseteste fought for the maintenance of Magna Carta He thwarted efforts of HENRY III to control ecclesiastical appointments and as a member of the great council supported the reforms of Simon de MONTFORT Grosseteste was a strong upholder of the papal prerogative, but he did not hesitate to censure INNOCENT IV for his excessive exactions and the Curia for its corruption and indolence Above all, Grosseteste was a deep and prolific scholar whose activities made Oxford a university center He knew both Greek and Hebrew, and his translations of, and commentaries on, Aristotle served as a foundation for the development of SCHOLASTICISM under St ALBERTUS MAGNUS and St THOMAS AQUINAS His hundreds of writings include treatises on physics, on mathematics, on astronomy, and on psychology, pastoral works, and polemical poems in French for the layman Many spurious works, including the *Summa philosophiae*, were attributed to him because of his rare learning For 50 years after his death he was revered in his diocese as a saint There is no definitive life of Grosseteste, and few of his writings are translated into English Three treatises are translated in Richard McKeon, *Selections from Medieval Philosophers* (1928–31) See L M Friedman, *Robert Grosseteste and the Jews* (1934), B C Boulter, *Robert Grosseteste* (1936), S H Thomson, *The Writings of Robert Grosseteste* (1940)

Grossglockner (grōs'glôknur), peak, 12,460 ft. high, Austria, highest of the HOHE TAUERN of Austria First ascended in 1800, it is now traversed by the Grossglocknerstrasse, a magnificent Alpine highway rising up to 8,215 ft The great Pasterze glacier descends the peak

Grossgörschen or **Gross Görschen,** Germany see LÜTZEN.

Grossi, Tommaso (tôm-mä'zō grôs'sē), 1791–1853, Italian novelist and poet; friend of Manzoni. His historical novel *Marco Visconti* (1834, Eng. tr., 1836) was many times reprinted. Other works include *I Lombardi alla Prima Crociata* [the Lombards in the First Crusade] (1826) and lyrics in the Milanese dialect

Grossmith, George (grōs'mĭth), 1847–1912, English singer and comedian. At the Opéra-Comique, Paris (1877), and at the Savoy Theatre, London (1877–89), he gained fame when he created the chief roles in the operettas of W S Gilbert and A S Sullivan See Stanley Naylor, *Gaiety and George Grossmith* (1913) His brother, **Weedon Grossmith,** 1853–1919, was well known in pantomime and light comedy His whimsical book, *The Diary of a Nobody* (1892), written in collaboration with his brother George, has often been reprinted See his autobiography, *From Studio to Stage* (1913)

Grossvenediger: see HOHE TAUERN.

Grosswardein, Rumania see ORADEA.

Grosvenor, Gilbert Hovey (hŭ'vē grōv'nur), 1875–, American editor, b Constantinople, Turkey, grad Amherst, 1897 As director of the National Geographic Society from 1899 and editor of the *National Geographic Magazine* from 1903, he encouraged world-wide exploration and greatly increased the circulation of his magazine, especially by using illustrations

Grosvenor Gallery, founded in London (1877) by Sir Coutts Lindsay for the independent exhibition (opening May 1 annually) of paintings and sculpture by established artists, both Academicians and moderns being represented There is no jury The gallery has the atmosphere of the private dwelling for which the work shown usually is destined

Grosvenor Square (grōv'nur), fashionable residential section in Mayfair, W London, England, planned 1695 by Sir Richard Grosvenor Among its famous residents have been Lord Chesterfield, Lord North, the earl of Shaftesbury, John Wilkes, and Walter Hines Page It was used as the headquarters of American troops in Great Britain in the Second World War

Gros Ventre Indians (grō vä'tru) [Fr , =big belly], name used by the French for two quite distinct North American Indian tribes One was the Atsina, a detached band of the ARAPAHO INDIANS, of Algonquian linguistic stock, the other was the HIDATSA INDIANS of Siouan linguistic stock. The Indian sign language designated the two groups by somewhat similar gestures on the torso, one referring to the Hidatsa chest tattoos and the other conveying the meaning "always hungry" (i e , beggars) to designate the Atsina The name is now generally confined to the Atsina, who in the 18th cent , practicing the Plains culture, ranged between the Missouri and Saskatchewan rivers under the protection of the powerful Blackfoot Indians to the west Today the Atsina live with the Assiniboin Indians on the Fort Belknap Reservation in Montana and number some 1,000

Grosz, George (grōs), 1893–, German painter and caricaturist in America, b Berlin He studied at the Dresden Academy from 1909 to 1912 and at the school of decorative arts in Berlin Before the First World War he contributed drawings on proletarian themes to *Illustration* and other German periodicals During the war he was twice drafted and discharged In 1917 he joined the Dadaist art movement in Berlin In post-war Germany, Grosz was famous for his vitriolic, satirical drawings of bourgeois society Not even the most radical publications dared to print them always, and many appeared in pamphlet form A nightmare world, a true inferno, is made visible and credible with a few jagged pen-and-ink lines This bitter labor continued until 1924, when he began to paint a little In 1933 he accepted a position as art instructor at the Art Students League, New York, and came to America with his wife and sons After that as teacher, draughtsman, and water-colorist, he played a larger and larger role in the art of his adopted country In 1937 he was awarded a Guggenheim fellowship, and in 1938 he became an American citizen Grosz's drawings are perhaps the most terrible indictment of post-war Europe Two collections of his drawings were published in 1945 See his autobiographical, *A Big Yes and a Little No* (1946)

Grote, George (grōt), 1794–1871, English historian of ancient Greece The son of a wealthy banker, he attended Charterhouse but not a university, being required to work in the family bank He pursued his studies in classical literature and history by himself One of Jeremy Bentham's circle of friends, he pushed his own utilitarian economic and political doctrines as a member of Parliament (1832–41). Thereafter he spent his efforts for public improvement on the Univ of London His great work, his *History of Greece* (12 vols., 1846–56), was begun to refute the conservative history written by William Mitford and is colored by Grote's liberal and democratic sentiments His careful workmanship, however, and his singularly wide and practical sympathy with Greek life make the book a classic of historical writing Among his other works are *Plato and the Other Companions of Socrates* (3 vols , 1865) and the unfinished *Aristotle* (ed. by Alexander Bain and G. C. Robertson, 2 vols , 1872). See H L Grote, *The Personal Life of George Grote* (2d ed , 1873), G P. Gooch, *History and Historians in the Nineteenth Century* (2d ed., 1946).

Grotefend, Georg Friedrich (gā'ôrk frē'drĭkh grō'tufĕnt), 1775–1853, German archaeologist and phi-

ologist. He specialized in Latin and Italian and wrote works on the Umbrian and Oscan languages and other subjects, but his greatest achievement was deciphering cuneiform inscriptions of Persia

Groth, Klaus (klōus' grōt'), 1819–99, German poet, whose use of Low German as a literary medium has been the cause of much controversy One of the best German lyric poets and an excellent writer of fiction, he was awarded the Schiller Prize in 1890 His most famous work is *Quick born* [fresh springs] (1852) For translations, see MAX MÜLLER, *Chips from a German Workshop* (1867–75), Vol. III

Grotius, Hugo (grō'shus), 1583–1645, Dutch jurist and humanist, whose Dutch name appears as Hugh de Groot He studied at the Univ of Leiden and became a lawyer when 15 years old In his youth he wrote plays and verse in Latin and edited classical texts In Dutch political affairs Grotius supported OLDENBARNEVELDT against MAURICE OF NASSAU Maurice, having gained power, in 1619 had Grotius condemned to prison for life, but he made a daring escape in 1621 and fled to Paris There, expanding certain views he had earlier recorded but had never published, he wrote *De jure belli ac pacis* [concerning the law of war and peace] (1625, definitive ed , 1631), usually considered the first definitive text on international law In it Grotius contended that natural law prescribed rules of conduct for nations as well as for private individuals He derived much of the specific content of international law from the Bible and from classical history Although he did not condemn war as an instrument of national policy, he maintained that it was criminal to wage war except for certain causes Much of his book is an attempt to make the conditions of warfare more humane by inducing respect for private persons and their property Grotius returned briefly to Holland in 1631, but was forced to flee in 1632 From 1635 to 1645 he represented Sweden at the French court The last years of Grotius were largely devoted to an attempt to reconcile the sects into which Christianity was divided He proposed unity on the basis of commonly held tenets and avoidance of doctrinal disputes He also accomplished valuable work in exegesis of the Bible See A D White, *Seven Great Statesmen* (1910), biography by W S M Knight (1925)

Groton (grō'tun) **1** Town (pop 10,910), SE Conn , on the Thames, here bridged to New London (1943), settled c 1650 It includes Groton borough (pop 4,719) and West Mystic It is the site of Fort Griswold (1775), unsuccessfully defended against the British in 1781 On the Thames above the borough is a U S submarine base and a U S coast guard training school, in the world wars Groton was a leading submarine-building base Silas Deane was born here **2** Town (pop 2,550), N Mass , NW of Boston It was incorporated in 1655 but was destroyed in King Philip's War, rebuilt, it was several times attacked by Indians Paper is produced There are some old buildings The famous Groton School for boys (preparatory) was founded here in 1884 Lowthorpe School of Landscape Architecture is also in the town **3** Industrial village (pop 2,087), W central N Y , W of Cortland, inc 1860 Typewriters are made here

Grouchy, Emmanuel, marquis de (ĕmänüĕl' märkē' dŭ grōōshē'), 1766-1847, French general in the French Revolutionary and Napoleonic Wars Made a marshal in the Hundred Days, he was largely responsible for Napoleon's disaster in the WATERLOO CAMPAIGN through his failure to prevent the Prussians from joining the English

ground bass (bās), short musical phrase constantly reiterated in the bass of a composition, with variations in the upper parts It was often used by composers of the 17th cent in England (e g , by Purcell in *Dido's Lament* from his *Dido and Aeneas*) The Italian and German composers of the baroque period used the device also J S Bach and Buxtehude composed grounds, but in them pure form they are rare in Handel's works

ground hog, see WOODCHUCK

ground ivy, trailing perennial plant (*Glecoma*, or *Nepeta, hederacea*) related to the mints, native to the Old World but naturalized in the New It has rounded leaves and small, commonly purple flowers Of a weedy nature, it is a good ground cover, even in shade Ground ivy was formerly used as a brewing ingredient and was considered medicinal—it is still sometimes used as a domestic remedy—but in quantity is reported to poison horses Gill-over-the-ground is another of its many names

ground laurel: see TRAILING ARBUTUS

groundnut, a name for various plants, among them the PEANUT

ground pine, name for several plants, particularly species of CLUB MOSS

groundsel, any plant of the very large genus *Senecio*, herbs and (in the tropics) shrubs or trees, of wide distribution The composite flowers are yellow in North American species, which have clusters of usually small, somewhat daisylike heads, the rays are absent in some, e g , the common groundsel (*Senecio vulgaris*) naturalized from Europe A few groundsels have been found to be poisonous to livestock, while others are useful for grazing Some species of the genus are better known as ragworts. The golden ragwort or squawweed (*Senecio aureus*) has been used as an emmenagogue and a vulnerary by both Indian and white man Other species have also been used medicinally The groundsel tree (*Baccharis halimifolia*) is a small tree or shrub of the East Coast of the United States, its fruit is conspicuous because of the white down (pappus), and the plant is sometimes cultivated

ground squirrel, rodent of the squirrel family The name is applied chiefly to the genus *Citellus* (or *Spermophilus*) of North America, Europe, and Asia, as well as *Xerus*, the African ground squirrel, and to the chipmunk In North America about 31 species are found, chiefly in the West Some destroy crops but also eat insects and mice In the colder regions they sleep underground from fall to spring The striped ground squirrel (*Citellus tridecemlineatus*) of the Great Plains and prairies of North America is cinnamon or buff above with longitudinal white-spotted, dark brown or black stripes alternating with narrow white stripes Some species carry bubonic plague, Rocky Mountain spotted fever, and tularemia

group insurance see INSURANCE

group medicine see MEDICINE

grouse (grous), game bird of the colder parts of the Northern Hemisphere, where about 25 species occur Grouse are henlike, terrestrial birds, protectively plumaged in shades of red, brown, and gray The nostrils are entirely hidden by feathers, and the legs are partially or completely feathered Among the American birds of the group are the eastern ruffed grouse (sometimes called partridge or pheasant), a forest bird noted for its drumming mating call made by beating the air with its wings, the SAGE GROUSE, the PTARMIGAN, and the PRAIRIE CHICKEN The European capercaillie and black grouse and the red grouse of Great Britain are well known See H M Hall, *The Ruffed Grouse* (1947)

Grove, Sir George, 1820–1900, English musicographer, whose *Dictionary of Music and Musicians* (1879–89) has become a standard reference work Originally an engineer, he assisted in the erection of the Crystal Palace and for many years annotated the programs of the concerts there From these notes he later drew material for *Beethoven and His Nine Symphonies* (rev ed , 1896, first pub 1884) He served as editor (1868–83) of *Macmillan's Magazine*, and directed the Royal College of Music from 1888 to 1894 In 1883 he was knighted See C L Graves, *The Life and Letters of Sir George Grove* (1903)

Grove, Robert Moses, 1900–, American baseball player, b Lonaconing, Md A left-handed pitcher and therefore called "Lefty" Grove, he won over 100 games (1920-25) for the Baltimore Orioles of the International League Playing (1925–33) for the Philadelphia Athletics, he attained in 1931 the season pitching record of 31 victories against four defeats for a percentage of 886 and equaled the American League mark of 16 consecutive victories He was traded to the Boston Red Sox in 1934 and played with them until 1941 During his 17 years of major-league pitching, Grove won 300 and lost 141 games for a lifetime pitching percentage of 680, he struck out over 2,000 batters

Grove, Sir William Robert, 1811–96, English judge A physicist by avocation, his investigation in the field of electrochemistry led to his invention of the Grove cell (see CELL, in electricity)

Grove, town (pop 1,093), NE Okla , near the Mo border It ships farm products

Grove City. 1 Village (pop 1,787), central Ohio, near Columbus, in a rich agricultural and truck-gardening area There is horse racing here **2** Industrial borough (pop 6,296), W Pa , NNW of Pittsburgh, settled 1798, laid out 1844, inc 1883 It manufactures gas and gasoline engines Grove City College (coeducational, 1876) is here

Groveland, town (pop 2,122), NE Mass , on the Merrimack below Haverhill, settled c 1639, set off from Bradford 1850

Groveport, village (pop 1,052), central Ohio, SE of Columbus

Grow, Galusha Aaron, 1823–1907, American political leader, b Ashford (now Eastford), Windham co , Conn , grad Amherst College, 1844 He was admitted (1847) to the bar and became a law partner of DAVID WILMOT at Towanda, Pa He took (1850) Wilmot's place in Congress and held office until 1863 As speaker of the House (1861–63) Grow was able to put through the Homestead Act of 1862, in the absence of Southern opposition A gerrymander, which made his district Democratic, resulted (1862) in his defeat for reelection It was not until 1893 that he again returned to Congress to serve 10 more years He still maintained his interests in Western land problems See biography by J T Du Bois and G S Mathews (1917)

growing pains: see RHEUMATISM

growing season, period during which plant growth can take place In temperate regions it is the time between the last killing FROST in the spring and the first killing frost in the fall, when growth activity stops or begins to decline. The amount of plant growth is determined by other elements as well as length of the growing season In some arctic regions the growing season is very short, but plant growth is luxuriant, because the sun shines for so large a proportion of each day that the total amount of sunlight and heat is as great as that of temperate regions which have a longer growing season In tropical climates the amount of available moisture is often the determining factor for plant growth, during periods of drought dormancy is induced The length and other elements of the growing season are determinants of the crops grown in a region crops which require a long growing season must be grown in low latitudes or near large bodies of water in higher latitudes, while plants which mature rapidly may be grown farther north and farther south of the equator See John Asch, *The Story of Plants* (1948)

growth, in biology, the development of a plant or animal from its early stages Increase in size, cell division, and differentiation of tissues are usually involved in the developmental processes The growth of living things is often called growth by intussusception, or growth from within In this process the substances which make growth possible are distributed through the body of the organism and are, by complex processes, incorporated into the living material This method of growth is in contrast to growth by accretion, or increase in size by the addition of material externally, growth by accretion is exemplified in the growth of crystals There are many unsolved problems concerning growth of living things Some of these problems are the concern of the science called morphogenesis, or the origin of form, the mechanisms by which living matter develops into the form characteristic of a given species are not well understood Through the chromosomes of the sex cells are transmitted those factors that result in the offspring's having the characteristics of the parent species, but the biochemical processes by which this is brought about cannot be adequately explained Normally each kind of plant and animal ceases to increase in size when a certain limit has been reached After that the growth process consists chiefly of the repair of tissues In human beings and some other higher mammals a hormone secreted by the anterior lobe of the pituitary gland is believed to be concerned with growth Malfunctions of the gland are associated with the conditions of dwarfism and giantism Vitamins, especially vitamin A, also influence growth, vitamin D and the minerals calcium and phosphorus are essential to normal, healthy growth of bones and teeth

Grozny (grôz'nē), city (pop 172,468), capital of Grozny oblast, RSFSR, at the northern foot of the Greater Caucasus It is the industrial center of a major oil district, exploited since 1893, and is linked by pipe line with Makhachkala on the Caspian Sea, with Tuapse on the Black Sea, and with the Donets Basin Grozny was founded (1818) as a Russian fortress and became a city in 1870 In the Second World War it was the objective of a German army which, however, was stopped (1942) c 50 mi to the west

grub see LARVA

Gruber, Franz (frants' grōō'bûr), 1787–1863, Austrian organist His one published composition is the tune for Josef Mohr's poem *Silent Night*

Gruber, Johann Gottfried (yō'hän gôt'frēt), 1774–1851, German encyclopedist He was associated with Johann Samuel Ersch in work on the great encyclopedia known as Ersch and Gruber's After the death of Ersch, he became the editor, continuing the work from Vol XVIII to Vol LIV He was a professor at Wittenberg and Halle Herder and Wieland were his friends and are subjects of books by him Goethe was also a friend

Grub Street, in London, not far W of Finsbury Circus, since 1830 named Milton St It was once famous as the residence of poor authors and journalists and was used as a symbol of literary hack work by Dr Samuel Johnson and others George Gissing called a novel *New Grub Street*

Grudziadz, Pol *Grudziądz* (grōō'jôts), Ger *Graudenz* (grou'dĕnts), city (pop 36,805), Pomorze prov , NW Poland, on the Vistula It passed to Prussia in 1772 and was restored to Poland in 1919 Its fortress, built by Frederick II, was resolutely defended (1807) by the Prussian general G R Courbière against Napoleon Grudziadz suffered heavy damage during the Second World War. Chiefly a trade center, it has also several industries (metals, chemicals, food, electrical goods, and printing)

Gruenberg, Louis (grōō'unbûrg), 1884–, American composer, b Russia, pupil in piano and composition of Busoni After his debut in Berlin in 1912 as a pianist, he played for a number of years both in Europe and in the United States His early compositions, such as *Daniel Jazz* (1923) for tenor and small orchestra and his *Jazz Suite* for orchestra (1925), show his interest in jazz as an element of serious music He has written much orchestral and chamber music, but better known are the operas *Jack and the Beanstalk* (1930), a satire, with libretto by John Erskine, and *The Emperor Jones* (New York, 1933), an operatic version of O'Neill's play, considered outstanding among American operas. In 1940 he began to compose for moving pictures.

Gruening, Ernest Henry (grō'nĭng), 1887–, American administrator, journalist, and author, governor of Alaska (1939–), b. New York city, grad. Harvard (B.A., 1907; M.D., 1912). He became interested in journalism and worked on Boston newspapers until 1917. From 1920 to 1923 he edited the *Nation*, directed publicity for Robert La Follette's campaign for the presidency, and founded (1927) the Portland, Maine, *Evening News*. He edited *These United States* (1923) and also wrote the highly regarded *Mexico and Its Heritage* (1929). After directing (1934–39) the territories and island possessions division of the U.S. Dept. of the Interior and after heading (1935–37) the Puerto Rico Reconstruction Administration, he was appointed governor of Alaska.

Gruffydd ap Llewelyn (grŭf'fĭdh ap lōōĕ'lĭn, grĭ'fĭdh, thlōōĕ'lĭn), d. 1063, ruler of Wales (1039–63), one of the ablest of early Welsh princes. He united Wales, expanded the boundaries, and restored the national spirit. He was at first successful against the English, but his power was broken by HAROLD in two invasions (1062–63). His defeat plunged Wales into confusion and paved the way for the conquest of Wales by the Normans. The name also appears as Griffith ap Llewelyn.

Grün, Hans Baldung see BALDUNG, HANS.

Grünberg (grün'bĕrk) or **Zielona Gora**, Pol. *Zielona Góra* (zhĕlô'nä gōō'ra), town (1939 pop. 26,076, 1946 pop. 15,738), Lower Silesia, transferred to Polish administration in 1945 (see SILESIA). Founded probably in 1222, it reached its flower c. 1430. A church dates from 1272, the town hall from 1321. The town suffered minor damage in the Second World War. A trade center, it is noted for its wines.

Grundtvig, Nikolai Frederik Severin (nĭkôlī' frĭ'dhŭrĭk sĕvurēn' grōōnt'vĭg), 1783–1872, Danish writer and educator, founder of the Danish FOLK SCHOOL. He entered the ministry but came into conflict with the church authorities and was forbidden to preach; he was reinstated, however, in 1832 and in 1861 was made titular bishop. His *Northern Mythology* (1808) was an epoch-making work. It was followed by a long epic poem, *The Decline of Heroic Life in the North* (2 vols., 1809–11). He edited *Dannevirke*, a polemical journal, from 1816 to 1819. An ardent champion of education for the masses, Grundtvig evolved the system of folk high schools which has attracted widespread interest in other countries and wrote several books in this field. See Noëlle Davies, *Education for Life* (1931). His son, **Svend Hersleb Grundtvig** (svän' hĕr'slĕb), 1824–83, was professor of Scandinavian philology at the Univ. of Copenhagen. He produced a five-volume collection of Danish folk songs and several volumes of Danish fairy tales which have been translated into English.

Grundy, Felix, 1777–1840, American political leader, b. Berkeley co., Va. He practiced law, was (1800–1805) in the Kentucky legislature, and served (1806–7) on the Kentucky supreme court. He moved to Nashville, Tenn., where he became a noted criminal lawyer. A member (1811–14) of Congress, he joined the "war hawks" in strongly urging the War of 1812. He then served (1819–25) in the Tennessee legislature. His political power in Tennessee forced Andrew Jackson to keep his support, and Grundy succeeded to John H. Eaton's seat in the U.S. Senate when Eaton entered (1829) Jackson's cabinet. Grundy gave Jackson little support in the nullification crisis, but was reelected (1834) despite Jackson's opposition. He was appointed (1837) Attorney General by President Van Buren and resigned (1839) to return to the Senate.

Grundy, coal-mining town (pop. 1,476), extreme SW Va., near the Ky. and W. Va. lines. The courthouse of Buchanan co. is here.

Grundy Center, town (pop. 2,012), co. seat of Grundy co., central Iowa, SW of Waterloo, inc. 1877. It is a trade center for a rich agricultural area. Here Herbert Quick, born near by, attended a country school, which is preserved.

Grünewald, Mathias (matĕ'ăs grü'nuvält), c. 1480–c. 1530, German religious painter. He worked chiefly in his native Aschaffenburg and in Mainz under the patronage of the archbishop of Mainz. His work is characterized by a dramatic intensity unique in German painting. A great colorist and powerful realist, Grünewald is best known as the painter of the passion of Christ. Famous *Crucifixions* are in the museums of Basel and elsewhere, and another forms part of his celebrated masterpiece, the *Isenheim Altarpiece* (Colmar). In these tragic and somber paintings the physical agony of Christ is portrayed with harrowing realism and unmitigated horror.

Grünwald, battle of, 1410 see TANNENBERG.

Grütli, Switzerland see RÜTLI.

Gruyère (grüyĕr'), Ger. *Greyerz* (grī'ĕrts), area in Fribourg canton, Switzerland. It is known for its cattle breeding and for the production of the Gruyère cheese. One of the towns is **Gruyères** (pop. 1,356). It has well-preserved medieval architecture.

Gryphius, Andreas (ändrā'ăs grü'fēōōs), 1616–64, German poet and dramatist. He wrote in Latin, new High German, and Silesian dialect. An impoverished orphan, he was enabled by patronage to study and travel; in 1647 he became syndic of Glogau. He wrote tragedies, e.g., *Leo Armenius* and *Cardenio und Celinde*; lively comedies, e.g., *Horribilicribrifax*, *Peter Squenz*, and *Das Gelibte Dornrose*, and odes, epigrams, lyrics, and religious verse.

Guadalajara (gwä"dhälähä'rä), city (pop. 229,235), capital of Jalisco, W Mexico, the second largest city of Mexico. A spacious and beautiful city on a plain over 5,000 ft. high and surrounded by mountains, Guadalajara is a modern commercial metropolis with many picturesque survivals of Spanish colonial living. The mild, clear, dry climate has made it a popular health resort. Founded by Cristóbal de Oñate in 1530 or 1531 under the orders of Nuño de GUZMÁN, Guadalajara was moved twice because of Indian raids before and during the MIXTÓN WAR before it was permanently established in 1542—the date chosen as its official founding. It became the seat of the *audiencia* of NUEVA GALICIA. Easily captured (1810) by HIDALGO Y COSTILLA in the war against Spain, the city was the center of reform activities. Again in 1858, in the War of Reform, it was briefly occupied by the liberals under Benito JUÁREZ. Impressive among the public buildings are the cathedral, finished in 1618 after more than 50 years of work, and the governor's palace, begun in 1643. The cathedral, containing a painting by Murillo, *The Assumption of the Blessed Virgin*, has been partially destroyed several times by earthquake and is a conglomerate of architectural styles. The governor's palace, where the central stairway has been decorated with murals by J. C. Orozco, is an excellent example of Spanish colonial architecture. The Univ. of Guadalajara and the orphanage chapel also contain Orozco murals. There is considerable local industry, aided by through rail service to the United States and by a hydroelectric plant utilizing the Juanacatlán falls on the Santiago river. Some coal is mined in the region. The most famous products of Guadalajara and its environs are handmade glassware and pottery so intricately designed and finely worked that it ranks among the best in Mexico.

Guadalajara, city (pop. 21,466), capital of Guadalajara prov., central Spain, in New Castile, on the Henares river. A Roman settlement, it belonged to the Moors from the 8th to the 11th cent. During the Spanish civil war (1936–39) the engagement called the battle of Guadalajara (March 11–20, 1937) was actually fought near Brihuega, c. 15 mi. to the northeast. An Insurgent force (mostly Italian "volunteers") moving toward Madrid was crushingly defeated by the Loyalists. The most notable landmark of the city, the Palacio del Infantado, badly damaged in the civil war, has been restored.

Guadalcanal (gwädulkunäl'), volcanic island (2,500 sq. mi., pop. c. 14,000), S Pacific, one of the SOLOMON ISLANDS. Honiara, capital of the Solomons, is here. Guadalcanal is largely jungle with mountains as high as c. 8,000 ft. (Mt. Popomanseu); there are coconut plantations and a few gold mines. In the Second World War the island was occupied in 1942 by the Japanese. The chief airfield, Henderson Field, was captured in 1943 by U.S. forces after bitter naval and jungle fighting. The battles of Cape Esperance and Lunga Point were important. U.S. victories: see S. E. Morison, *History of United States Naval Operations in World War II*, Vol. V (1949).

Guadalquivir (gwä"dhälkĭvēr'), river, c. 350 mi. long, S Spain, in Andalusia. Its source is in the Sierra de Cazorla, and the river flows SW past Baeza, Córdoba, and Seville into the Atlantic near Sanlúcar de Barrameda. In its middle course it traverses a populous, fertile region (growing grapes, olives, and fruit) at the foot of the Sierra Morena; its lower course crosses extensive marshlands (Las Marismas). The Genil is its main tributary. The action of the tide is noticeable as far as Seville, which is the head of navigation for vessels of moderate size, smaller boats reach Córdoba.

Guadalupe (gwä"dhälōō'pā), village, Cáceres prov., W central Spain, in Estremadura. It is noted for its monastery (formerly Hieronymites, now Franciscan) and the shrine of Our Lady of Guadalupe, whose cult was transferred in the 16th cent. to GUADALUPE HIDALGO, Mexico.

Guadalupe, Sierra de (sĕĕ'rä dā gwädhälōō'pā), mountain range, W Spain, in Estremadura, between the Tagus and Guadiana rivers. The highest elevation is c. 4,700 ft.

Guadalupe Hidalgo (gwädhälōō'pā ēdäl'gō, wä–), shrine, central Mexico, in the Federal District. The basilica of Guadalupe containing the shrine of Our Lady of Guadalupe (feast Dec. 12) is one of the principal shrines of Christendom and the focal point of the greatest pilgrimage in the Western Hemisphere. In 1531 an Indian, Juan Diego, reported to Archbishop Zumárraga his miraculous visions of the Virgin on the hill of Tepeyacac. The spot was renamed Guadalupe in honor of the shrine of Our Lady of Guadalupe, Spain. To this was added later the name of the revolutionary priest of 1810, HIDALGO Y COSTILLA, who adopted her banner as his standard. She is the patroness of Mexico, especially beloved by Mexican Indians. The **Treaty of Guadalupe Hidalgo**, signed Feb. 2, 1848, ended the MEXICAN WAR. Long negotiations of the U.S. special agent, Nicholas P. TRIST, with Santa Anna had come to nothing during the war, but after the fall of Mexico city, negotiations were begun in earnest. Trist, though he had been recalled, decided to ignore his orders and finished the treaty. By it Mexico recognized Texas as a U.S. possession and ceded the present California, Nevada, Utah, parts of Colorado and Wyoming, almost all New Mexico, and Arizona N of the Gila (see GADSDEN PURCHASE), the United States agreed to pay Mexico $15,000,000 and to assume American claims against Mexico. The treaty was ratified by the U.S. Senate in March and by the Mexican Congress in May, 1848.

Guadalupe Mountains (gwädŭlōōp'), SE N. Mex. and W. Texas. Guadalupe Peak (8,751 ft.), the highest point in Texas, and El Capitan (8,078 ft.), also in Texas, are in the range. West of Guadalupe Peak are salt lakes and salt flats.

Guadalupe Victoria (gwädhälōō'pā vēktôr'ya), 1786?–1843, Mexican general, first president of Mexico (1824–29), whose real name was Manuel Félix Fernández. He joined (1811) the revolution proclaimed by HIDALGO Y COSTILLA, and even after the defeat and death of MORELOS Y PAVÓN he continued, as a fugitive, to support the revolutionary cause. His name, Guadalupe Victoria [Our Lady of Guadalupe Triumphant], was adopted in honor of the revolutionary standard. The achievement of independence under Agustín de ITURBIDE did not satisfy him, but he adhered to the Plan of IGUALA (1821). Two years later he joined SANTA ANNA in his revolt against Iturbide's empire. Guadalupe Victoria was chosen as a member of the provisional government and then as president. Factional strife between the conservatives and liberals marred his administration, and the conservatives, under Vice President BRAVO, started an unsuccessful revolt.

Guadarrama, Sierra de (sĕĕ'rä dā gwädhärä'mä), mountain range rising from the plateau of central Spain, N of Madrid, between the Tagus and Duero rivers. Several peaks exceed 6,500 ft., Peñalara (c. 7,900 ft.) is the highest.

Guadeloupe (gôdulōōp', gwä–), overseas department of Metropolitan France (687 sq. mi., pop. 278,464), in the Leeward Islands, West Indies. The capital is BASSE-TERRE. The department comprises the following principal islands: Basse-Terre (Guadeloupe proper) and Grand-Terre, which are separated by a narrow and shallow channel of the sea, the Rivière Salée, to make a double island (583 sq. mi., pop. 226,957), Marie Galante (58 sq. mi., pop. 29,349) and Les Saintes (5 sq. mi., pop. 11,358) immediately to the south, Désirade (10 sq. mi., pop. 1,581) to the east, and more than 100 mi. to the north St. Barthélemy (9 sq. mi., pop. 2,231) and SAINT MARTIN. Basse-Terre, volcanic in origin and extremely rugged, has the highest mountain in the Lesser Antilles—the dormant volcano Grande Soufrière or La Soufrière, 4,869 ft. high. Basse-Terre is settled along the coasts and produces bananas, coffee, cacao, and vanilla. On Grande-Terre and Marie Galante are low limestone hills with little rainfall; sugar cane is raised, and sugar and rum are manufactured, chiefly at POINTE-À-PITRE. The other islands are of small economic value. Subject to hurricanes which sweep over the low eastern parts, the islands have a generally mild and humid climate. The population is almost entirely Negro, speaking a French patois, many among the whites are descendants of the original settlers. Discovered by Columbus in 1493, Guadeloupe, the double island, was only feebly colonized by the Spanish and was finally abandoned in 1604. In 1635 the French began settlement, and from then until 1815, when it was ultimately confirmed as French, Guadeloupe was hotly contested with the English, who captured and lost it several times. After the fall of France (1940) in the Second World War, the governor adhered to the Vichy government, but in 1942 a political and economic agreement was reached with the United States. In 1946 the colony became a department, and a prefect replaced the governor as executive officer.

Guadet, Marguerite Élie (märgürĕt' ālē' gwädā'), 1758–94, French revolutionist, a leader of the GIRONDISTS. Outlawed for his attacks on Robespierre and Marat, he hid for 10 months before being captured and executed.

Guadiana (gwädhyä'nä), river, c. 500 mi. long, central Spain and S Portugal. While some locate its source in the La Mancha plateau, others assume that the Záncara river takes the name of Guadiana below Ciudad Real. From here the Guadiana flows generally W across Castile and Estremadura past Badajoz, where it turns south and marks the Spanish-Portuguese frontier, except for a short section within Portugal. It empties into the Gulf of Cádiz in the Atlantic.

Guadix (gwädhĕsh'), city (pop. 18,318), Granada prov., S Spain, in Andalusia. It was a Roman colony and under the Visigoths an episcopal see. There

are Roman ruins, remains of a Moorish castle, and an 18th-century cathedral The sugar industry is notable.

Guaira, La (lä gwī'rä), town (pop 10,103), N Venezuela, a port on the Caribbean. Founded in 1577 as the outlet for CARACAS, it is connected by rail and concrete highway with the capital and is administered by the Federal District Chief exports include coffee, tobacco, cacao, hides, and lumber.

Guam (gwäm), island (203 sq mi , pop 22,290), W Pacific, belonging to the United States, largest, most populous, and southernmost of the MARIANAS ISLANDS It is c 30 mi long and 4 to 10 mi wide, the southern part of the island is mountainous, rising to 1,334 ft In the fertile valleys are grown rice, coconuts, coffee, cacao, tobacco, pineapples, and indigo The principal export is copra AGANA, the seat of the government, was completely destroyed during the Second World War APRA HARBOR is near by The inhabitants of Guam are chiefly Chamorros Discovered (1521) by Magellan, after 1696 the island belonged to Spain It was taken by the United States in 1898 in the Spanish-American War Since 1917 it has been under the Dept of the Navy and is governed by a naval officer, advised by a native congress The island is divided into 15 municipalities In 1935 Guam became a stop on the Pan American Airways transpacific route. Congress in 1941 approved appropriations for the improvement of Guam as an advance base for the U S fleet, but before this could be accomplished, the Japanese attacked (Dec 7, 1941) and Guam fell on Dec 9 Americans landed on Guam July 20, 1944, and after a bloody fight regained control of the island It became a major base of air and sea operations for the rest of the war Appropriations were made in 1946 for the rehabilitation of Agana and Agat

Guanabacoa (gwä"näbäkō'ä), city (pop 21,999), Cuba, residential suburb of Havana Mineral springs and beautiful countryside have made it a summer resort for residents of Havana since the 17th cent

Guanabara Bay (gwänōbä'ru), inlet of the Atlantic, SE Brazil Rio de Janeiro is on its southwest The bay, also called Rio de Janeiro Bay, is noted for its beauty.

guanaco (gwäna'kō) or **huanaco** (hwänw'kō), wild South American mammal of the camel family, found in the Andes It is believed that the llama and the alpaca were domesticated from the guanaco It stands about 3½ ft high at the shoulder and is brown on the back and sides, with light under parts and a dark face Indians rely on its flesh for much of their food and make its hide into clothing and other coverings and its bones into various implements Winter cold and the increase in the use of grazing land reduced its numbers

Guanahani see SAN SALVADOR, island

Guanajuato (gwänähwa'tō), state (11,805 sq mi , 1946 estimated pop 1,244,281), central Mexico, on the central plateau The state has a high average elevation (6,000 ft), which gives it a moderately cool, healthful climate, and is crossed in the north by transverse ranges (some reaching altitudes of 11,000 ft) of the Sierra Madre Occidental, in the south are fertile plains supporting stock raising and producing wheat, corn, beans, alfalfa, barley, and canary seed The LERMA, with its tributaries, is the chief river system By far the most important activity is mining The leading mining state in Mexico, noted for its enormous output of silver and gold, Guanajuato also produces mercury, lead, tin, copper, and opals Industrial products from the cities—Guanajuato, CELAYA, LEÓN, and IRAPUATO—include flour, textiles, straw hats, saddle and leather goods, and wines Joined with Querétaro, the state was a Spanish intendancy until 1824 The capital, **Guanajuato** (pop 23,521, alt 6,700 ft), founded in 1554, is in the central part of the state in the Cañada de Marfil [ivory ravine], a precipitous ravine encircled by barren hills It has narrow, winding, steep cobblestone streets, sometimes paved out by stone steps, and the ground underneath is honeycombed with silver-mine shafts There are several noteworthy colonial churches and buildings, among them the Alhóndiga de Granaditas [public granary], besieged and captured (1810) by HIDALGO Y COSTILLA at the outset of the war against Spain Because of its geographical position and economic importance, Guanajuato figured prominently in the wars and revolutions that racked Mexico in the 19th and the early 20th cent

guano (gwä'nō), fertilizer material composed of the dried excrement of sea birds collected from equatorial coasts—especially from the coast of Peru, where it has been used as fertilizer for at least 700 years Its discovery by Europeans in the early 19th cent is said to have started the use of artificial manures The Peruvian deposits have been practically exhausted, and other guanos—the excrement of bats, fish, and whales—have been introduced

Guantánamo (gwäntä'nämō), city (pop 42,445), SE Cuba. Connected by rail and highway with Santiago de Cuba, it is a large sugar center It is c 20 mi inland from its port, Caimanera, on land-locked **Guantánamo Bay**, where the United States maintains a naval station

Guaporé (gwäpōrā'), river, c 750 mi. long, rising in the mountains of Mato Grosso state, W Brazil It flows northwest through rain forest and is the Brazil-Bolivia border for some distance before it flows into the Mamoré A territory of Brazil, created out of Amazonas and Mato Grosso in 1942, is named Guaporé. The river is also called the Itênes or Itênez

Guaraní Indians (gwärānē'), people of the Tupi-Guaraní linguistic stock, on the north and east coasts of South America from the Guianas to the Río de la Plata and W to the Paraná, Uruguay, and Paraguay rivers Today the term *Tupí* or *Tupinamba* is generally used for the Brazilian Indians of the Amazon region and the term *Guaraní* for the groups in S Brazil and Paraguay At the coming of the white man, most Guaraní went naked, although in some sections the women wore a garment covering the body from breast to knee and men wore a loincloth (*chiripá*) They lived in patrilineal communities, sometimes as large as 60 families, and had no central government, each of the numerous tribes was governed by a cacique They never planted twice in their small farms (*conucos*) and were therefore seminomadic They ate maize, manioc, beans, and squash, supplementing this diet with fish, game, and wild fruits Polygamy was practiced, and girls were betrothed soon after puberty Their gods were unconcerned with the affairs of men, and there were no idols or sanctuaries They had no funeral rites and buried a man in the hut in which he had lived, deserting it at once Guaraní is still spoken all over Paraguay

Guarda (gwär'du), city (pop 6,598), capital of Guarda dist , N central Portugal, in old Beira prov (now in Beira Alta) On the lower slopes of the Serra da Estrela, it is still high enough to be very cold in winter It has an old fort, a castle, a cathedral, and a hospital for lung diseases

Guardi, Francesco (franchä'skō gwar'dē), 1712–93, Venetian landscape and architectural painter A pupil and follower of Canaletto, he developed a freer style of great brilliance His many charming landscapes are in the galleries of London, Paris, Venice, and Boston The Metropolitan Museum and the National Gallery of Art, Washington, D C , have three each

Guardia, Tomás (tōmas' gwär'dēä), 1832–82, president of Costa Rica An army general, he led a revolt that placed a provisional president in office and then himself took control and ruled the country from 1870 to 1882 with only brief interruptions Under a repressive military dictatorship, he exiled the leading families and halted the destructive Liberal-Conservative rivalry, thus making constitutional government possible Guardia undertook the costly railroad from ocean to ocean, construction was directed by Minor Cooper KEITH

guardian and ward. Guardianship is the relation between a guardian and his ward, whereby the person, or the property, or both, of an INFANT, an insane person, or a spendthrift is placed under the management and control of the guardian for the benefit of the ward The three principal classes of guardianship over infants are testamentary, by nature, and by judicial appointment In the first, the father of an infant has the right to appoint the guardian in his will, the guardian acting under the authority of the will In many states the mother is given this same right by statute Guardianship by nature is the natural guardianship arising out of the relation of PARENT AND CHILD. At common law it belongs first to the father, and after his death to the mother, and in default of both to the grandfather, the grandmother, or next of kin It extends to the person of the child only and not to the separate property of the child The rights and duties of the guardian by nature are usually treated as those of a parent rather than of a guardian The guardian by judicial appointment is one appointed by the court which by statute is given the jurisdiction over such relations A court may, where no testamentary guardian has been appointed by the will of a deceased parent, appoint a guardian for the children The selection of the guardian, if not made by the parent, is generally at the discretion of the ward if over the age of 14 The welfare of the ward being primary, a guardian either of the person or of the property may be set aside by the court at its discretion The same person is usually appointed guardian of the person and the property of the ward, but this is not necessary, the two being legally separate The guardian is held to standards of prudence such as a businessman would exercise in his own affairs He is bound by the fiduciary relationship existing between his ward and himself and must render an accounting both annually and at the termination of the guardianship

Guarini, Giovanni Battista (jōvän'nē bät-tē'stä gwarē'nē), 1537–1612, Italian poet, attached to the court of Ferrara His *Pastor Fido* (1590, first Eng tr , 1602), a pastoral drama, rivaled Tasso's *Aminta*

Guarino da Verona (gwärē'nō dä vārō'nä), 1370–1460, Italian humanist, considered the first among teachers of his time. He translated various Greek and Latin classics and wrote a Latin grammar

Guarneri (gwärnā'rē) or **Guarnerius** (gwarnēr'ēus), family of violinmakers of Cremona Italy The first craftsman of the family was **Andrea Guarneri** (ändrā'a), c.1626–1698, a pupil of Niccolò Amati His two sons, who were his pupils, surpassed him in his work They were **Pietro Giovanni Guarneri** (pyā'trō jōvän'nē), 1655–c 1740, and **Giuseppe Giovan Battista Guarneri** (jōzĕp'pā jōvan' bät-tē'stä), 1666–c 1738, who made even finer violins than his elder brother His son **Pietro Guarneri**, 1695–1765?, was also a successful craftsman The greatest violinmaker of all the family was **Giuseppe Guarneri**, 1687?–1745, grandnephew of Andrea, called "del Gesù" because he signed his labels with a cross and the letters IHS See W H Hill, *The Violin-Makers of the Guarneri Family* (1931)

Guastalla (gwästal'lä), town (pop 13,723), Emilia, N Italy, near the right bank of the Po In 1539 Guastalla was bought by Ferrante GONZAGA of Mantua, it was made a duchy in 1621 The Guastalla branch of the Gonzagas became extinct in 1746, and the duchy passed to Parma (1748) In 1806 Napoleon I conferred Guastalla on his sister, Pauline Borghese but it later reverted to Parma

Guatemala (gwätəma'lə), republic (c 48,000 sq mi , 1946 estimated pop 3,546,624), the most populous and the second largest country of Central America The capital is Guatemala The country is bounded on the north and west by Mexico, on the east by British Honduras and the Caribbean, on the southeast and east by Honduras and Salvador, and on the southwest by the Pacific Guatemala has two principal climatic regions, the cool highlands and the tropical areas of the Pacific coast, the Caribbean coast, and the jungles of PETÉN (vast lowland producing hardwoods and chicle) The highlands, extending from CHIAPAS to the borders of Salvador and Honduras, are the most thickly populated region The rugged main range, reaching altitudes over 11,000 ft , is flanked for its entire length on the Pacific side by a chain of volcanoes (some active), beginning with TACANÁ on the Mexican border and including TAJUMULCO and AGUA Volcanic eruptions and great floods have plagued Guatemala since its beginning, the flood of 1949 was particularly disastrous The northwest section is fertile and is under intense cultivation by Indians, who comprise approximately 65 percent of the population, most of them own their fields Except in large urban centers such as QUEZALTENANGO, their cultural pattern predominates The Maya-Quiché (see QUICHÉ) were defeated (1523–24) by the Spanish conquistador, Pedro de ALVARADO, who became captain general of Guatemala The capital later was ANTIGUA The conquerors found little of the gold they sought (today Guatemalan mines yield only small amounts of chromium and antimony), but the fertile soil produced ample foodstuffs, and from the Pacific slopes came hardwoods, sugar cane, cattle, and cochineal These were the main source of wealth until the late 19th cent , when development and exportation of coffee and bananas outstripped all other sources of revenue The semiarid southeastern highlands are drained by the MOTAGUA river PUERTO BARRIOS near its mouth has, since the construction of the International Railways of Central America, exceeded the Pacific ports, SAN JOSÉ and Champerico, in volume of trade The lower Motagua valley, in the tropical belt, is under intensive banana cultivation To the north is the Lake Izabal–Río Dulce system (see IZABAL, LAKE), eastern outlet of transport during colonial times Besides the railroad, Guatemala is served by international and local air lines and has an extensive highway system With the exception of Negroes and Caribs on the eastern coast, the chief source of agricultural labor (providing subsistence in foodstuffs and the vital manpower to cultivate the coffee farms and, additionally, to maintain municipal and state projects) is Indian The Indians were exploited in the Spanish Conquest, and their condition has not improved greatly It was partly alleviated by Jorge UBICO, who abolished (1936) labor indebtedness but the law requiring public labor was not repealed Industrial workers in the textile mills are largely Spanish-speaking ladinos (Indian handicraft also produces fine textiles) Cigarettes, printing, cement, and leather goods are produced, and Guatemala has other industries, notably distilleries, flour mills, and sugar refineries Petroleum products and most manufactures are imported, creating a deficit offset by coffee and bananas, which account for approximately 90 percent of exports Guatemala's political history has been turbulent Gaining independence from Spain (1821), it was briefly annexed to Iturbide's Mexican Empire and then became the nucleus of the CENTRAL AMERICAN FEDERATION (1823–38) Guatemalan interference in the affairs of other Central American nations during the 19th cent and part of the 20th under the Conservative dictatorships of Rafael CARRERA and Manuel ESTRADA CABRERA and under the Liberal, Justo Rufino BARRIOS, caused intense hostility in the other nations and

led finally to the Washington Conference of 1907, which established the Central American Court of Justice Even under Juan José Arévalo (elected in 1944), Guatemala continued to show interest in other Spanish American countries A long-standing boundary dispute with Honduras was settled (1933) by arbitration That with Great Britain over sovereignty in British Honduras began in 1859 and has been argued with varying force, giving rise to an incident in 1948 that ended with Britain's offer to submit the matter to the International Court of Justice In the Second World War after Guatemala's declaration of war against the Axis powers, property that had gradually been acquired by many of German descent since the late 19th cent (about one fourth of all privately owned land) was expropriated The tremendous influx of new ideas and the doubling of national income, both outgrowths of the war, and the control of immense land areas by the government have catapulted Guatemala from a feudal to a socialistic economy, with consequent strains on the political and social life of all classes of the people See D G Munro, *The Five Republics of Central America* (1918), C L Jones, *Guatemala Past and Present* (1940), George Wythe, *Industry in Latin America* (1945), Ralph Hancock, *The Rainbow Republics* (1947)

Guatemala, city (1946 estimated pop 241,335), S central Guatemala, capital and largest city of the republic, in a broad highland valley Its full name is Santiago de los Caballeros de Guatemala la Nueva The climate is equable the year round, with some cold nights during the winter months It is the largest city in Central America, with a cosmopolitan atmosphere and many fine public buildings erected during the regime of Gen Jorge Ubico Served by international and local airways, the International Railways of Central America, and the Inter-American Highway, it is the nerve center of Guatemala for export and import and for distribution of local industrial and agricultural products The surrounding valley is made fertile by the deposit of volcanic ash To the city's markets come the fruits and vegetables of the tropical coasts and temperate highlands and native handicrafts, textiles, and manufactures Much of the produce is carried in from the countryside by Indians and sold by them in the market stalls The business center offers every kind of foreign import—principally from the United States since the Second World War, which brought about a swift expansion and change in the life of the city The Univ of San Carlos de Guatemala is an outstanding institution of higher learning The present city is the third permanent capital of Guatemala and was founded in 1776 after Antigua was abandoned An earthquake destroyed Guatemala city in 1917–18, but it was rebuilt on the same site

Guatémoc or Guatemozín. see Cuauhtémoc

guava (gwä'vu), small tree or shrub belonging to the myrtle family, native to tropical America and naturalised in many tropical regions The common tropical guava (*Psidium guajava*) has smooth greenish-brown bark and white flowers The fruit, a fleshy berry with many hard seeds, is round or oval, ranging in diameter from 1 to 4 in , and the rind is usually yellow Sweet and musky in flavor, the flesh of the fruit may be white, pink, or red, depending on the variety The strawberry guava (*P cattleyanum*), a native of Brazil produces a round, red fruit with a rough rind and reddish pulp and a supposed strawberry flavor and makes good preserves At the time of the Spanish explorations the guava was found from Peru to Mexico, it is now profitably cultivated in Florida and California The fruit is too perishable to ship easily, and much of it is made into jelly

Guayama (gwīyä'mä), city (pop 16,913), SE Puerto Rico Founded in 1736, it is one of the oldest settlements on the island It is the headquarters of an irrigation and electrification project Besides sugar cane, which is cultivated extensively, coffee, tobacco, and subsistence crops are raised

Guayaquil (gwīukēl'), city (1944 estimated pop 172,948), W Ecuador, on the Guayas river c 40 mi inland from the Gulf of Guayaquil It is the Pacific port and the largest city of the nation Founded by Benalcázar in 1535, Guayaquil was often subjected in the 17th cent to attacks by buccaneers It was destroyed repeatedly by fires in the 18th and the 19th cent. and frequently was scourged by yellow fever until the sanitation work of W C Gorgas It was severely damaged by earthquake in 1942 The port facilities are modern, and the city has an attractive river front and many old colonial buildings During the dry season (July to Dec) cacao beans, Ecuador's chief source of revenue, are spread on many of the city's streets to cure Besides cacao, exports include tagua nuts, cattle, sugar, coffee, alligator skins, and Panama hats Though a railroad links Guayaquil with Quito, the cost of this transport over the Andes is almost prohibitive, while a river network in the valley between the coast range and the Andes makes Guayaquil the metropolis of the coastal region Air lines link it to Panama and Peru Occupation of Guayaquil in 1821 by patriot forces under Sucre was the first major step in the final liberation of Ecuador from Spain Here in 1822 occurred the fateful meeting between Simón Bolívar and José de San Martín that was to influence greatly the course of independence in South America

Guaymas (gwī'mäs), city (pop 8,796), Sonora, NW Mexico, a port on the Gulf of California On the main western rail line, Guaymas is the seaport for Hermosillo and the interior Though the harbor is poor, wheat, cotton, tobacco, gold, silver, hides, and pearls are exported Two quick-freezing plants have increased the importance of fish products It is a popular resort for Gulf fishing

Gubbio (gōō'byō), town (pop 7,432), Umbria, central Italy, 20 mi NE of Perugia It was an ancient town of the Umbrians (coins and the Iguvine Tables were found here) and also flourished under the Romans It was a free commune in the 11th cent and passed under the Montefeltro family of Urbino in 1378 and under the popes in 1626 There was a local school of painting Beautiful ceramics were made here in the 16th cent The city has a marked medieval aspect, among its notable buildings are the palace of the consuls (14th cent), the town hall, the early Renaissance ducal palace, and several churches

Gudbrandsdal (gōō'bränsdäl"), valley, central Norway It extends from Lillehammer on Mjosa lake northwestward to the Dovrefjell A rich agricultural and timber district, it is also important for its horse breeding Many Gudbrandsdal farmers trace their ancestry back to saga times, and the population has preserved its own dialect and customs Much of the action in Ibsen's *Peer Gynt* is laid in the Gudbrandsdal In the Second World War there was severe fighting here during the German invasion of Norway (1940)

Guden (gōō'dun), Dan *Gudenaa* (gōō'dhunô"), river, 98 mi long, Jutland, Denmark The only Danish river of importance, it flows generally north, traversing several lakes, past Silkeborg, then northeastward past Randers to Randers Fjord and the Kattegat It is partly navigable and has salmon

Gudgodah (gŭd'gōdù, gŭdgō'–), desert camping place see Hor-hagidgad

Gudmundsson, Kristmann, Icelandic *Guðmundsson* (krist'man gvüdh'munsŏn), 1902–, Icelandic novelist He lived in Norway from 1924 to 1937 and has written in both Norwegian and Icelandic He excels in the romantic type of story, displaying a keen psychological insight His books have been widely translated, e g , *The Bridal Gown* (1927, Eng tr , 1931), *Morning of Life* (1929, Eng tr , 1936), and *Winged Citadel* (1937, Eng tr , 1940)

Gudrun (gōō'drōōn) or **Kudrun** (kōō'–), in Germanic literature **1** Heroine of the Volsungasaga, married first to Sigurd (see Siegfried), then to Atli (Attila the Hun) She corresponds to Kriemhild of the Nibelungenlied, but is fiercer Wagner's Gutrune (in the *Götterdämmerung*) is a wholly subordinate character, playing the traditional role of robbing Brunhild of Siegfried **2** Heroine and title person of an anonymous Middle High German epic written (c 1210–1220) after the *Nibelungenlied* It is neither so interesting nor so savage as its predecessor **3** Principal character of the Icelandic *Laxdaelasaga*, made known to English readers by William Morris through his "Lovers of Gudrun" in *The Earthly Paradise* The tale is based on the saga

Guébriant, Jean Baptiste Budes, comte de (shä' bäptēst' büd' kōt' du gäbrēä'), 1602–43, marshal of France and general in the Thirty Years War He commanded the French auxiliaries of Bernhard of Saxe-Weimar and succeeded to his command Guébriant, with Swedish aid, defeated the imperial troops at Wolfenbüttel (1641) He was killed at Rottweil

Guebwiller, Ballon de, France see Vosges, mountains

Guelderland or **Guelders,** Netherlands see Gelderland

guelder-rose see high-bush cranberry

Guelph (gwĕlf), city (pop 23,273), S Ont , on the Speed river and NW of Hamilton It is an industrial city with packing plants, paper mills, and clothing manufactures, in the center of a rich farm area The Ontario Agricultural College, with an experimental farm, is here, and a provincial fair and stock show is held annually Guelph was founded by John Galt in 1827 and named by him after the family name of the royal house

Guelphs (gwĕlfs), highly ramified European dynasty, tracing its descent from Guelph I or Welf I (9th cent), father-in-law of Emperor Louis I Guelph III (d 1055) was made (1047) duke of Carinthia and margrave of Verona Without male heirs, he was succeeded by his nephew, Guelph d'Este IV, ancestor of the dukes of Ferrara and Modena (see Este) and of the Guelphic dukes of Bavaria and Saxony (see Henry the Proud and Henry the Lion) His daughter Judith married Frederick II of Hohenstaufen, their son, Emperor Frederick I, thus united in his person the two chief rival houses of Germany It was, however, during the reign of Frederick I that the strife between Guelphs and Hohenstaufen reached its acute stage and set off the chronic civil war between Guelphs and Ghibellines in Italy After 1180 only the duchy of Brunswick remained to the descendants of Henry the Lion The line of Brunswick-Lüneburg or Hanover ascended (1714) the throne of Great Britain in the person of George I Because of the Salic law of succession Hanover was separated (1837) from the British crown on the accession of Queen Victoria After the deposition (1866) of George V, last king of Hanover, the so-called Guelphic party was founded and unsuccessfully sought to restore the kingdom

Guelphs and Ghibellines (gwĕlfs, gĭ'bulēnz, -līnz), opposing political factions during the later Middle Ages The parties originated in the rivalry of two princely houses of Germany, the Welfs or Guelphs, who were dukes of Saxony and Bavaria, and the Hohenstaufen (the name Ghibelline is supposedly derived from Waiblingen, a Hohenstaufen castle) The struggle began under Conrad III with the rebellions of Henry the Proud and Henry the Lion and reached its highest pitch under Frederick I, who in 1180 deprived Henry the Lion of most of his lands In Italy (except Venice) the party names were perpetuated by the two rival factions which, for centuries, were to plunge the country into internal warfare At first the Italian Guelphs were members of the papal party, opposing the Hohenstaufen emperors during the wars of investiture, they included most of the great cities, particularly those of the Lombard League and Bologna, Florence, and Genoa The Ghibellines were mostly found among the great noble families and petty tyrants such as Ezzelino da Romano, Castruccio Castracani, the Della Scala of Verona, the Montefeltro of Urbino, and the Visconti of Milan (though Milan itself was Guelph), they also included several cities, notably Pisa and Arezzo However, the individual cities themselves were also divided between the two factions In Rome the Ghibellines were represented by the pope's enemies, notably the Colonna, and by the republicans In S Italy the terms were seldom used, though the Angevin kings of Naples were strongly Guelph The party names soon lost their original connotation, and local feuds disturbed the party alignments Thus, for instance, the Guelphs of Florence, after the Ghibellines had been expelled, soon divided into Blacks and Whites By the 15th cent the names fell into disuse Guelph-Ghibelline warfare had ruined the peace of Italy and prolonged all the evils of partisanship At no time did either party clearly represent any particular political doctrine or social class See Oscar Browning, *Guelphs and Ghibellines* (1894)

Guenever or **Guenevere,** King Arthur's queen see Arthurian legend

Guercino (gwĕrchē'nō), 1591?–1666, Italian eclectic painter, whose real name was Giovanni Francesco Barbieri The influence of Caravaggio and of Guido, his great contemporary, is apparent in much of his work Among the 250 or more paintings left by him are 106 large altarpieces *St Petronilla*, his masterpiece, is now in the capitol, Rome, other examples are in the Uffizi and Pitti galleries, Florence, the Louvre, the Brera, Milan, and Bologna Gallery

Guéret (gārā'), town (pop 8,239), capital of Creuse dept , central France, a market center It was the capital of the county of Marche

Guericke, Otto von (ō'tō fŭn gā'rĭku), 1602 86, German physicist, noted for his study of pneumatics In the course of attempts to create a vacuum he made the first air pump He devised the Magdeburg hemispheres to demonstrate the pressure of air These were two metal hemispheres fitted together to form a globe, when the air was pumped out, it is said to have required 16 horses to pull the hemispheres apart Guericke also invented a machine to generate electricity He was burgomaster (1648–81) of Magdeburg

Guérin, Jules (jōlz' gā'rĭn), 1866–1946, American mural painter and illustrator, b St Louis His illustrations appeared in leading magazines He executed decorations for the Lincoln Memorial, Washington, D C , for the Pennsylvania RR station, New York, for the Federal Reserve Bank, San Francisco, for the Civic Opera, the Merchandise Mart, and the Illinois Merchants' Bank, Chicago, for the Union Trust Bank and Cleveland Terminal, Cleveland, and for the Louisiana state capitol, Baton Rouge He was director of decorations and color at the Panama-Pacific Exposition (1915) and became a member of the National Academy of Design in 1931

Guérin, Maurice de (Georges Maurice de Guérin) (mōrēs' dù gārĕ"), 1810–39, French writer He was educated at the Collège Stanislas and taught there, was for a time a follower of Lamennais, married, contributed a few articles to periodicals, and died young, leaving two fragmentary poems in prose, *Le Centaure* and *La Bacchante*, a handful of poems, letters, journals, and miscellaneous bits of prose His work, infused with a strange mingling of pantheism and Christian mysticism, has a classic purity of form First edited by G. S. Trébutien and Barbey d'Aurevilly as *Reliquiae* (1861, republished as *Journal, lettres, et poèmes*), his collected works have been augmented in the many later editions

Essentially a "poet's poet," Guérin is important more for the interest that later literary men have taken in his tragic life and his works than for the works themselves Matthew Arnold wrote essays on Guérin and his sister, **Eugénie de Guérin** (ûzhānē'), 1805–48, who collected her brother's writings and herself wrote prose of rare charm. Her journals and letters were gathered slowly Interest in the Guérins has been strong in foreign lands as well as in France See *Journal of Eugénie de Guérin* (Eng tr , 1865, new ed , 1866), *Journal of Maurice de Guérin* (Eng tr , 1891), and *From Centaur to Cross* (Eng tr , 1929).

Guérin, Pierre Narcisse, Baron (pyĕr' närsēs' bärō' gărē'), 1774–1833, French painter He won enthusiastic recognition in 1800 for his *Marius Sextus* (Louvre) A worthy exponent of the classicism of J L David, he was made professor at the École des Beaux-Arts in 1814 He counted among his pupils Delacroix, Géricault, and Ary Scheffer, who were destined to launch the romantic school Guérin enjoyed many honors under varying regimes Among his best works are *Aeneas and Dido*, *Clytemnestra*, and *Andromache*, all in the Louvre

Guernica (gĕrnē'kä), historic town, Vizcaya prov , N Spain, in the Basque Provs The oak of Guernica, under which the diet of Vizcaya used to meet, is a symbol of the lost liberties of the Basques In April, 1937, German planes, sent to aid the Insurgents in the Spanish civil war, bombed and destroyed Guernica The indiscriminate bombing of women and children aroused world opinion and became a symbol of fascist brutality The event inspired one of Picasso's most celebrated paintings

Guernsey, Egbert (gûrn'zē), 1823–1903, American physician, b Litchfield, Conn , studied medicine at New York Univ A leader of the homeopathic school, he taught in the New York Homeopathic Medical College and founded a maternity hospital He founded (1872) and edited the *Medical Union* (later the *Medical Times*) and wrote *Homeopathic Domestic Practice* (1853, later called *Domestic Practice*)

Guernsey (gûrn'zē), triangular island, area 25 sq mi , in the English Channel, second in size of the CHANNEL ISLANDS Guernsey, bailiwick (pop 40,588) includes Alderney, Sark, Herm, Jethou, and smaller islands Guernsey has a low beach in the north and bold rocky cliffs along the south shore The shipping and distributing center and chief town is St Peter Port, on the east coast Exports include dairy products, fruits, flowers, and vegetables for city markets, blue granite, and Guernsey cattle Victor Hugo lived in St Peter Port for more than 15 years

Guernsey cattle, breed of dairy cattle related to the Jersey breed, descendants of ancestral members from the islands of Alderney, Guernsey, and Sark They are larger than the Jersey and fawn-colored marked with white, characteristically having a white shield on the forehead The average milk yield is a little higher than that of the Jersey but the milk is slightly less rich

Guerra Junqueiro, Abilio (äbē'lyō gĕ'rə zhōōnkā'rō), 1873–1923, Portuguese poet A hot revolutionary, he wrote violent satiric poems, attacking conservatism, romanticism, and the Church, among them *A morte de Dom Jôas* [the death of Don Juan] (1874) and *A velhice do Padre Eterno* [the old age of the Eternal Father] (1895) He also wrote simple, touching lyrics such as those in *Os simples* (1892)

Guerrazzi, Francesco Domenico (frāncha'skō dōmā'nēkō gwär-rat'tsē), 1804–73, Italian patriot and writer He was born in Leghorn, where he practiced law A radical republican and nationalist, he was repeatedly imprisoned for his patriotic activities He became a minister and dictator (1848–49) of Tuscany in the revolutionary government and on its fall was imprisoned and was exiled until 1859 He sat until 1870 in the Italian parliament Of his historical novels the best known is *L'assedio di Firenze* [the siege of Florence]

Guerrero, Vicente (vĕsān'tā gĕrā'rō), 1782–1831, Mexican revolutionist and president (April–Dec , 1829) He fought under the command of MORELOS Y PAVÓN, spreading the revolution in the South Guerrero won victory after victory When Morelos was defeated and executed, Guerrero continued to wage guerrilla warfare, harassing the royalists He fought on when most of the revolutionary leaders had been defeated or had given up the struggle for freedom When Agustín de ITURBIDE was sent out in 1820 to defeat him, Guerrero won minor victories over Iturbide's troops but was persuaded to adhere to the Plan of IGUALA (1821) and to accept Iturbide's leadership Thus the revolution lost its popular cast and passed into the hands of the landowning creoles and the clergy Guerrero accepted Iturbide's empire in 1822 but later joined the revolution begun by SANTA ANNA The flimsy structure of Iturbide's government fell, and Guerrero was elected a member of the provisional government He became a liberal party leader in opposition to the conservative, Nicolás BRAVO, and helped to put down Bravo's revolution against President GUADALUPE VICTORIA (1828) Defeated in the election of 1828, Guerrero charged fraud and, with the help of Santa Anna, led a successful revolution and was made president (1829) In his administration the Spanish invaders of Mexico were driven back by Santa Anna Dec , 1829, Anastasio BUSTAMANTE, the vice president, led a revolt against Guerrero, who retired to the South, where he conducted sporadic warfare throughout 1830 He was finally captured and shot See biography by W F Sprague (1939)

Guerrero, state (24,887 sq mi , 1946 estimated pop 858,325), SW Mexico, on the Pacific The capital is CHILPANCINGO Dominated by the Sierra Madre del Sur, which reaches 12,149 ft in the Pico de Teotepec, Guerrero is extremely mountainous except for a narrow coastal strip, which has a good harbor at ACAPULCO The major river is the Río de las BALSAS The climate of the coast and the deep valleys is hot, rainy, and unhealthful, but the highlands are temperate and drier Growing of coffee, tobacco, cotton, sugar cane, cocoa, and cereals and breeding of cattle are the chief means of livelihood From extensive forests come rubber, vanilla, and woods for cabinetwork and for dyes Although mineral resources remain generally unworked, there are deposits of gold, silver, lead, mercury, iron, coal, precious stones, and sulphur The silverwork of TAXCO is famous In Chilpancingo, TIXTLA, and other towns, cotton and leather goods, cigarettes, cane products, mescal, and tequila are manufactured In the Spanish colonial period and later Guerrero was divided among Michoacán, Mexico (state), Puebla, and Oaxaca and did not become a state until 1849 Prominent in the war against the Spanish (1810–21), the state was named later for Vicente GUERRERO, one of the revolutionary leaders, who accepted Agustín de Iturbide's Plan of IGUALA At AYUTLA in 1854 the Plan of Ayutla was proclaimed against Santa Anna's tyranny

Guerrière see CONSTITUTION, ship

guerrilla warfare (gərĭl'lə) [Span , =little war], fighting by small armed bands independent of regularly organized and official military forces Discipline is less rigid with them than with regular soldiers, as it depends entirely on the personality of their leader Sometimes they merely constitute robber bands using the war as a cover for their plundering and like pirates on the sea, are not entitled, when captured, to the privileges of ordinary prisoners of war, this class is usually executed as robbers and murderers More often they are partisans, akin to seagoing privateers, under a leader who is commissioned by the power he is fighting for When partisans obey the laws of civilized warfare they are entitled on capture to be treated as ordinary prisoners of war Very often, however, they are executed by their captors Guerrilla warfare has played a great part in modern history Large-scale guerrilla fighting accompanied the American Revolution Farmers, hidden behind trees or walls, aimed their rifles at retreating redcoats after the battle of Lexington, and throughout the colonies they continued to harass the British regulars till their capitulation at Yorktown Particularly in the South was guerrilla fighting effective The development of guerrilla tactics there under such famous partisan leaders as Francis MARION, Andrew PICKENS, and Thomas SUMTER has been called the great contribution of the American Revolution to the history of warfare The name guerrilla itself was coined during the Peninsular War (1808–14), when Spanish partisans under able leaders such as Francisco MINA proved unconquerable even before the military genius of Napoleon From Spain the use of the term spread to Latin America and thence to the United States The "bushwhacking" and "jayhawking" of proslavery and antislavery forces in "bleeding" Kansas in the late 1850s were species of guerrilla fighting In the American Civil War, William C QUANTRILL, who operated in Missouri and Kansas, was the most notorious Confederate guerrilla leader However, John S MOSBY, eternal gadfly to Union forces in N Virginia, was doubtless the most effective Southern partisan leader Guerrilla fighting also flourished in the mountainous sections of West Virginia and Tennessee and in Kentucky during the Civil War The Germans suffered so much from French partisans (francs-tireurs) in the Franco-Prussian War of 1870–71 that Field Marshal von Moltke ordered all prisoners who were not fully uniformed and led by regular army officers to be shot The death penalty was even prescribed for a refusal to betray comrades Much of the long-drawn-out military activity of the U S army in the Philippines after the Spanish-American War was against Filipino and Moro guerrilla bands Guerrilla warfare has been characteristic of much fighting in Latin America, and Francisco (Pancho) VILLA and Augusto C SANDINO were leaders who caused no little trouble In the First World War the most spectacular theater of guerrilla operations was the Arabian peninsula, where under the leadership of T E LAWRENCE and Feisal al Husein (later Feisal I) various Arab bands were effectively used against the ordinarily much superior Turkish forces Chinese resistance against Japanese aggression after 1937 was due as much to small partisan bands as to regular Chinese armies, and Spanish republican partisans delayed Franco's victory in the Spanish civil war In the Second World War partisans were especially important in the Balkans and in Russia The Germans were never able to establish a complete hold on Yugoslavia because of the small but well-equipped bands of the Communist partisan leader TITO In the Soviet Union guerrilla warfare was even taught at the military academy and was so brilliantly organized that it constituted a continual threat to the German rear and contributed greatly to the German disaster on the Eastern Front French guerrillas (the *maquis*) aided Allied airmen downed in combat and were of tremendous help to Allied ground forces after the landing in Normandy Guerrillas were also active in Greece, Italy, Poland, the Philippines, China, and most other countries occupied by the Axis powers When captured the partisans were treated with utmost cruelty by the Germans and Japanese Shortly before their surrender the Germans organized a guerrilla movement called the Werewolf, but it failed to achieve any results

Guerrini, Olindo (ōlēn'dō gwär-rē'nō), 1845–1916, Italian poet His *Postuma* (1877) and some later volumes of poetry were published under the pseudonym Lorenzo Stecchetti (lōrān'tsō stāk-kāt'tē) Guerrini also wrote humorous verse in the Venetian dialect He was a leader of the *verismo* school of literature, opposed to the classicism of Giosuè Carducci

Gueslin, Bertrand du see DU GUESCLIN, BERTRAND

Guesde, Jules (zhül' gĕd'), 1845–1922, French socialist, whose real name was BASILE Exiled for his support of the Paris commune, he became a confirmed Marxist after 1876 and, with Paul Lafargue, led in advocating socialism in France and a policy of non-compromise with the existing government Guesde was largely responsible for the formation (1905) of the unified Parti socialiste, which marked the triumph of Marxism over variant forms of French organized socialism He was a deputy (1893–1921) and served in the cabinet during the First World War, when his patriotism overcame his former uncompromising stand He wrote many socialist pamphlets and articles

Guess, George see SEQUOYA

Guest, Lady Charlotte (Bertie), 1812–95, English author who translated (pub 1838–49) the MABINOGION Her second husband was Charles Schreiber

Guest, Edwin, 1800 1880, English archaeologist and philologist Practically the founder of the Philological Society (1842), he wrote articles on English philology and on archaeology, especially the remains of Roman Britain Guest's writings are still valuable for their extensive materials cited His only book was *A History of English Rhythms* (1838, ed by W W Skeat, 1882), his papers were republished as *Origines Celticae* (ed by William Stubbs and C Deedes, 2 vols , 1883)

Gueux (gû) [Fr , =beggars] In 1566 more than 2,000 Dutch and Flemish nobles and burghers (both Protestants and Catholics) signed a document—the so-called Compromise of Breda—by which they bound themselves in solemn oath to resist the curtailment of liberties imposed by the Spanish government in the NETHERLANDS The document was drafted chiefly by Philip van MARNIX Its radical tone displeased the great nobles, on the advice of William the Silent the original wording was considerably toned down when, in the same year, a petition on behalf of the signers of the compromise was presented to the regent, Margaret of Parma Margaret's adviser, Barlaymont, referred to the petitioners as "these beggars," whereupon the revolutionary party adopted both the sobriquet and the insignia of beggars In 1569 the term "Beggars of the Sea" (Fr *Gueux de la mer*) came to be applied to crews of patriotic privateers chartered by WILLIAM THE SILENT to harass Spanish shipping, their most notable action was the raising of the siege of LEIDEN (1574) In later years the crews degenerated into ordinary pirates

Guevara, Antonio de (antō'nyō dā gəvär'rä), 1480?–1545, Spanish moralist and chronicler His most famous book is a didactic novel, *Libro llamado Relox de príncipes* (1529), often called *Libro áureo del emperador Marco Aurelio*, of which there were early English translations under various titles The best known of these are *The Golden Book of Marcus Aurelius* (1535), translated by Baron Berners, and *The Dial of Princes* (1557), translated by Sir Thomas North, which was once thought to have given rise to the euphuistic school of English literature *Menosprecio de corte y alabanza de aldea* (1539) contrasts life in court and in the country His *Epístolas familiares* (1539 45) was translated as *Golden Epistles* (1593)

Guevara, Luis Vélez de see VÉLEZ DE GUEVARA

Gueydan (gādan', gā'dun), town (pop 1,506), SW La , in the bayou region, inc 1899

Guggenheim (gōō'gunhīm), family of American industrialists and philanthropists **Meyer Guggenheim,** 1828–1905, b Aargau canton, Switzerland, came (1847) to the United States, prospered as a retail merchant in Philadelphia, and in time built up a flourishing business importing Swiss embroidery When nearly 60 he purchased from friends

some Colorado mining property. Sensing that sure profits were in processing rather than in mining, he built large smelters in Colorado and Mexico and a refinery at Perth Amboy, N J The expansion of the Guggenheim enterprises was accelerated by seven well-trained sons—Isaac, Daniel, Murry, Solomon, Benjamin, Simon, and William—who filled strategic places in the Guggenheim organization **Daniel Guggenheim**, 1856–1930, b Philadelphia, was largely responsible for combining (1901) the Guggenheim interests with the American Smelting and Refining Company, of which he became president. He thus headed an industrial empire which mined copper and nitrate in Chile, tin in Bolivia, gold in Alaska, and diamonds in Africa The Daniel and Florence Guggenheim Foundation and the Guggenheim Fund for the Promotion of Aeronautics represent his principal philanthropies His son, **Harry Frank Guggenheim**, 1890–, b West End, N J , fought in two world wars, served in international conferences, and was (1929–33) ambassador to Cuba Daniel's brother, **Simon Guggenheim**, 1867–1941, b Philadelphia, served (1907–13) as U S Senator. With his wife he established (1925) in memory of their son the John Simon Guggenheim Memorial Foundation, which annually grants fellowships to scholars, writers, and artists Another brother of Daniel, **Solomon Robert Guggenheim**, 1861–1949, b Philadelphia, established a foundation to increase public appreciation of nonobjective art See Harvey O'Connor, *The Guggenheims* (1937)

Guiana (gēä'nu, gēä'nū), region, NE South America, bounded by the Orinoco, by the Casiquiare channel connecting the Orinoco with the Río Negro, by the Amazon, and by the Atlantic It includes SE Venezuela, part of N Brazil, and Dutch, British, and French Guiana In a narrower sense, the name is restricted to the three colonies Most of the GUIANA HIGHLANDS is in Venezuela A southeastern extension of the highlands, and geologically a part of them, though separated from them by the valleys of the upper Río BRANCO and the ESSEQUIBO, is the low Tumuc-Humac range Descending from the plateaus in gigantic waterfalls such as KAIETEUR FALLS and flowing among low mountains, the rivers pass through savannas, tropical rain forests, and coastal mangrove swamps and lagoons They are navigable only for short distances because of frequent falls and rapids, a feature which has seriously handicapped exploitation of the region. The coastal zone, from 15 to 50 mi wide, contains rich deposits of alluvium carried by ocean currents from the Amazon and piled up in long mud bars The Dutch and subsequently the English reclaimed near the centers of population much of the tidal lands for planting sugar cane and rice, but the acreage is tiny in comparison to Guiana as a whole Virtually the only other agricultural activities are the Bush Negroes' fields of subsistence crops on the savannas of the interior Together with scattered tribes of Indians, with whom generally they do not intermingle, the bush Negroes are practically an independent people, descendants of freed slaves or MAROONS. Ever since the emancipation of the slaves in the 19th cent., labor shortage has proved a second important handicap to material advancement, partially offset in British Guiana by importing East Indians until the emigration was prohibited by the Indian government Most of coastal Guiana suffers from a monotonous and muggy heat Rainfall is heavy Except in the British and Dutch centers of population, where modern sanitation measures have been taken, tropical fevers are prevalent The legend of EL DORADO existed in Guiana, but the difficulty of finding easy wealth kept the Spaniards out and left the coast open to the commercial enterprises of the Dutch, English, and French, spurred on at first by the tales of Sir Walter Raleigh, who voyaged there in 1595 The Dutch were first to settle, but ownership of the territory was to change hands many times before the present arrangement. **British Guiana** (83,000 sq mi., pop 375,819, exclusive of native Indians) is a crown colony and westernmost of the three. The capital is GEORGETOWN on the Demerara river, and the colony is sometimes called Demerara The population is polyglot—about 3 percent white, about 3 percent Indian, about 42 percent East Indian, about 38 percent Negro, and the rest various mixtures Most prosperous of the three colonies, British Guiana exports sugar, rum, rice, hardwoods, balata, and quantities of gold, diamonds, and bauxite The diamond fields on the Mazaruni river rank next to the African fields, the bauxite mines are among the world's major sources of aluminum In 1630 the British had begun settlement of Surinam (present Dutch Guiana), and by the middle of the century were casting covetous glances toward the prosperous Dutch settlements to the northwest—Essequibo, Berbice, and Pomeroon in present British Guiana During the DUTCH WARS the English captured (1665) the Dutch settlements, but by the Treaty of Breda (1667) the Dutch not only regained them but also, in exchange for New Netherland (New York), the British title to present Dutch Guiana Dutch control was briefly interrupted (1780) by English capture of the principal towns, but in 1782 the French wrested control from the British, and by the Treaty of Paris (1783) Dutch ownership was restored. Again, in the French Revolutionary Wars, England seized all the Dutch possessions in Guiana. Restored to the Netherlands by the Peace of Amiens (1802), the colonies were once more captured (1803) by the British and held until the Congress of Vienna (1815), when Great Britain was permanently awarded what is today British Guiana and the Netherlands was confirmed in its ownership of Surinam—a reversal of the original pattern of settlement. The colonies of Essequibo, Berbice, and Demerara were united Gold was discovered in 1884 and speeded British expansion toward the Orinoco delta, a trend bitterly resented by Venezuela. The VENEZUELA BOUNDARY DISPUTE ensued In 1940 the United States acquired 99-year leases to defense bases in the colony See William Beebe, *Jungle Peace* (1918), Evelyn Waugh, *Ninety-two Days* (1934), P A Zahl, *To the Lost World* (1939) **Dutch Guiana, Netherlands Guiana**, or **Surinam** (sōōrĭnäm', -näm'), Dutch *Suriname* (55,143 sq mi , pop 203,580, including Indians and bush Negroes), lies between British and French Guiana The capital is PARAMARIBO While the Negro element predominates, the population also includes Javanese, East Indians, native Indians, Brazilian Jewish refugees, and a few fugitives from the French penal camps Of the chief exports—rum, coffee, timber, and bauxite—bauxite is shipped almost entirely to the United States Although the first Dutch expedition to the Guianan coast took place in 1597–98, it was 1616 before a colony was established on the Essequibo in present British Guiana To exploit the territory the Dutch West India Company was founded in 1621 The Dutch hold on the coast was interrupted by the English (as told in the account of British Guiana), by French attacks, and by a disastrous slave insurrection (1762–63) The Treaty of Breda gave the present Dutch Guiana to the Netherlands, and when the Congress of Vienna reapportioned the territory of Guiana in 1815, the Dutch lost the colonies they had founded but secured permanent title to Surinam Late in 1949 the colony was made autonomous within the Dutch empire See M J Herskovits and F S Herskovits, *Surname Folk-Lore* (1937), P H Hiss, *Netherlands America* (1943) **French Guiana**, Fr *La Guyane Française* (c 34,740 sq mi , pop 28,537, excluding the floating population of the interior), is E of Dutch Guiana In 1946 it became a department of Metropolitan France The region comprises the colony proper, a coastal area some 25 mi wide, and the interior Territory of Inini (c 30,300 sq mi , pop 5,024), which was administered separately from 1930 to 1947 The capital is CAYENNE The French possession is less prosperous than the British or the Dutch Plantations produce practically nothing for export The only economic mainstay has been gold, discovered in 1853 French Guiana was used as a penal colony and place of exile in the days of the French Revolution, and Napoleon III strengthened its status as a prison for hardened criminals Escaped and paroled prisoners have settled in the colony In 1946 France halted the transportation of prisoners to Guiana and began removing those still in the prisons and the camps on the tropical coastal rivers and on islands such as the Îles du Salut, the most famous of which is DEVIL'S ISLAND The first important French settlement in the region was founded at Cayenne in 1643 In the Dutch Wars of Louis XIV, Cayenne in 1676 was captured by the Dutch but was later retaken During the Napoleonic Wars, Cayenne was occupied (1808–17) by the Portuguese, but the Congress of Vienna had restored the colony in 1815.

Guiana Highlands, mountainous tableland, mostly in Venezuela, bounded by the Orinoco and Amazon basins and the coastal lowlands of British Guiana. RORAIMA is the highest mountain The Guiana Highlands consist of vast plateaus of crystalline rocks overlaid by sandstone and lava caps The tablelands rise one after another in sheer escarpments hundreds to thousands of feet high, like gargantuan steps, and rivers pouring over the edges create magnificent waterfalls, such as Kukenaam (2,000 ft high) and ANGEL FALLS Vegetation ranges from open grasslands to semideciduous tropical rain forests Quantities of gold have been mined in the El Callao area c 125 mi S of CIUDAD BOLÍVAR, and some diamonds have been obtained Fabulous deposits of iron ore remain almost untouched, for though potentially a source of great mineral and agricultural wealth, the region of the Guiana Highlands is one of the most inaccessible wilderness areas of the world

Guibert of Ravenna (gwĭ'bûrt, gēbĕr'), d. 1100, Italian churchman (b Parma), antipope (1080–1100) with the name Clement III He was imperial chancellor of Italy (1057–63) and always opposed the papal reform efforts, so he led the party which repudiated Pope Alexander II HENRY IV made him archbishop of Ravenna (1072), and Guibert continued to intrigue against GREGORY VII In 1080 after Henry was excommunicated, he summoned a council which declared the pope deposed and chose Guibert The antipope entered Rome in 1083, in Henry's train, and was enthroned in 1084 He crowned the emperor. His name is sometimes spelled Wibert

Guicciardini, Francesco (frănchä'skō gwēt-chärdē'nē), 1483–1540, Italian historian and statesman He represented (1512) his native Florence at the court of Spain, held several offices in the Florentine government, and entered (1516) the service of Pope Leo X. He was appointed governor of Modena (1516), commissary of the papal army (1521), and president of the Romagna (1524) After 1527, when he lost his high office as a result of the invasion of the Papal States by the army of Emperor Charles V, Guicciardini devoted himself chiefly to writing His history of Italy, written in his maturity and covering the period 1492–1534 (i e , the period of the Italian Wars), is the masterwork of Italian historical literature of the Renaissance It is distinguished by its objectivity and its clear-eyed analysis of motives, events, and persons. A follower of Machiavelli, Guicciardini had scant regard for ethics in politics and has been accused of cynical realism. His history of Florence, covering the period from 1378 to 1509, written during his youth, was published only in 1859 It has all the merits of the later work, and in addition that of extreme simplicity and directness of style. Guicciardini also wrote a collection of maxims, translated as *Counsels and Reflections* (1890).

guidance, concept that education must promote the efficient and happy life of the individual student The disruption of community and family life by the complexities of industrial civilization made it apparent that experts in guidance should be trained to handle problems of individual adjustment Though the need for attention to the whole individual has been recognized by educators since Socrates, only during the 20th cent has a body of information developed This development, occurring largely in the United States, was the result of two influences John Dewey and others insisted that the object of education should be to stimulate the fullest possible growth of the individual and that the unique qualities of individuality require individual handling for adequate development, in this same period, social and economic developments stimulated a great increase in school enrollment These two forces encouraged a reexamination of the curriculums and methods of secondary schools with special reference to the needs of students who did not plan to enter college The academic curriculum was revised to fit their cultural and vocational requirements (see VOCATIONAL TRAINING) Early guidance programs dealt with the immediate problem of vocational placement In an industrial economy, machinery for bringing together jobs and workers was essential, and the problem was complicated by the unrealistic ambitions of many young people To meet the need, vocational counselors assumed the duties of helping people understand their potentialities and liabilities and of helping them make intelligent vocational decisions The Boston Vocational Bureau was organized in 1908, and since then many schools, municipalities, states, and private organizations have instituted vocational counseling services With the development of aptitude testing, commercial organizations were formed to analyze the client's abilities and to furnish advice Schools, especially those in industrial areas, organized testing and placement services, many of them in cooperation with interested Federal and state agencies The U S. Employment Service has been an active force in establishing standards and methods of vocational guidance The personnel departments of many large corporations have instituted systems of guidance to promote the better utilization of their man power At the conclusion of the Second World War the Veterans' Administration set up an ambitious vocational and educational guidance program Every person who served in the armed forces honorably and more than 90 days was eligible under the law for vocational advisement by trained advisers The field of guidance includes educational counsel which goes beyond vocational considerations into questions of avocation, creative interests, financial resources, and family background In so far as guidance enters the field of personal and social adjustment, counselors must be conversant with the psychology of personality Virtually all teachers colleges offer major courses in guidance, and graduate schools of education grant advanced degrees in the field See W V Bingham, *Aptitudes and Aptitude Testing* (1937), R M Strang, *Pupil Personnel and Guidance* (1940), J. M Brewer, *History of Vocational Guidance* (1942), A. E. Traxler, *Techniques of Guidance: Tests, Records, and Counseling* (1945).

Guidi, Tommaso: see MASACCIO.

Guido d'Arezzo (gwē'dō därĕt'tsō) or **Guido Aretinus** (ărĭtī'nus), c.990–1050, Italian Benedictine monk. His chief contributions to musical notation are two—he added two lines to the two (one red, one yellow) already serving as a staff, and he made use of both the lines and the spaces. His

theoretical work, *Micrologus* (c.1040), is one of the principal sources of our knowledge of organum An important innovation of his was the solmization syllables (sometimes called, after him, Aretinian syllables). He observed that each line of a well-known hymn to St John began a note higher than the previous line and, as an aid to memorising, used the first syllable of each line to indicate the successive tones of the hexachord *Ut* queant laxis; *Resonare* fibris, *Mira* gestorum, *Famuli* tuorum, *Solve* polluti, *Labii* reatum; Sancte Joannes As the octave superseded the hexachord, an additional syllable *si* or *ti* was added, and for nearly 200 years *ut* has been replaced by *do* as being more singable Other revisions which have been suggested from time to time have not survived Guido's system was such as is called a movable-do system today, each hexachord beginning with *ut* and ending with *la*, even when transposed In this manner these syllables became the basis of the tonic sol-fa system of MUSICAL NOTATION Fixed-do systems, wherein do is always C no matter what the key of the music, have also been employed in the teaching of sight singing SOLFÈGE is the commonest fixed-do system

Guido of Siena (sē'nä), 13th cent, Italian painter whose identity is doubtful All that is known of him is an inscription on a large and almost completely repainted *Virgin and Child Enthroned* (formerly in San Domenico at Siena, now in the Palazzo Pubblico), which reads, "Guido de Senis" and bears the date 1221 Some authorities claim this should read 1281 and ascribe the work to Guido Graziani, a Sienese artist of the later 13th cent, but modern experts incline to the earlier date—a fact which, if true, makes this artist the predecessor of Cimabue and establishes the Sienese rather than the Florentine school as the first to revive painting in Italy after the Byzantine dominance

Guido Reni (rā'nē), 1575–1642, Italian painter, b near Bologna As a child he entered the studio of the Flemish painter Denis Calvaert About 1595 he became, for a short time, a pupil of the Carracci, who were then at the height of their popularity Such works as the *Virgin in Glory with Saints* (Bologna) and his copy of Annibale Carracci's *St Roch Distributing Alms* won him early acclaim By 1598 he was commissioned by the government to execute decorative frescoes on the façade of the Palazzo Pubblico in honor of Pope Clement VIII's visit to Bologna In 1600 he made the first of his many trips to Rome, which was to become the center of his activities for more than 20 years He became a rival of Caravaggio, whose work clearly influenced his famous *Crucifixion of St Peter* (Vatican) About 1607–9 he worked on frescoes in the Church of San Gregorio Magno (Rome) Here, in his rendering of such scenes as *God the Father above a Concert of Angels*, he already displays the grandeur of style and golden and silver tonality characteristic of his most renowned work, the *Aurora* fresco in the Rospighosi Palace, Rome, executed some five years later for his patron Pope Paul V In 1620 he was commissioned by Cardinal Aldobrandini to execute the frescoes in the cathedral at Ravenna, which include the famous scene *Israelites Gathering the Manna* During the latter part of his life he returned to Bologna, where he established his own academy Among his many works, well represented in European museums, are the so-called Beatrice Cenci portrait (Corsini Gall, Rome), *Atalanta and Hippomenes* (Naples), and many versions of such subjects as the *Ecce Homo* (examples in the National Gall, London, and the Louvre), *Mater Dolorosa* (examples in the Corsini Gall), and *Penitent Magdalen* (examples in the Louvre and the Liechtenstein Gall, Vienna) He also executed many engravings based on paintings of his own or of other artists Guido's eclecticism and his tendency towards a voluptuous sentimentality are characteristic of the Italian baroque art of his period During the 17th and 18th cent he was esteemed as one of the great masters of all time Since then, with change in taste, his reputation has declined

Guienne, Fr *Guyenne* (both gēĕn', gwĕn') [like Aquitaine, from Latin *Aquitania*], region and former province, SW France The term meant different territories at different times Guienne as it existed from the time of Henry IV to the French Revolution covered the present departments of Gironde, Dordogne, Lot, Lot-et-Garonne, and Aveyron It thus has no geographic unity but includes part of the Aquitaine basin and part of the MASSIF CENTRAL. BORDEAUX is the historic capital, the chief port, and the center of the wine industry Guienne was synonymous with AQUITAINE until the HUNDRED YEARS WAR It passed to England (1152) by the marriage of ELEANOR OF AQUITAINE to Henry II By 1453 Guienne was reconquered by France To its main components—Bordelais, PÉRIGORD, and Agenois (see AGEN)—two former dependencies of Toulouse were added, QUERCY and ROUERGUE Guienne was under the jurisdiction of the PARLEMENT of Bordeaux

Guilbert, Yvette (ēvĕt' gēlbĕr'), 1869–1944, French *chanteuse* Her repertoire included songs and sketches of life in the Latin Quarter and, later, romantic ballads of the Middle Ages The charm of her expressions, mannerisms, and gestures overcame the barrier of language on her seven visits to the United States between 1895 and 1922 She wrote *How to Sing a Song* (1919) and an autobiography, *The Song of My Life* (1929)

Guildford (gil'fûrd), municipal borough (1931 pop 30,754, 1947 estimated pop 47,930), county town of Surrey, England, on the Wey and SW of London On its steep High St are Abbot's Hospital (a home for old men and women, founded 1619 by Archbishop Abbot), the grammar school (1509), the guildhall (17th cent), and the Church of St Mary (partly Norman) The ruins of a Norman castle stand on a mound A cathedral (founded 1927) is being erected Sheep and cattle fairs are held in Guildford Lewis Carroll is buried here In Malory's *Morte d'Arthur*, Astolat, the home of Elaine, is identified with Guildford (see ARTHURIAN LEGEND)

guilds or **gilds** (both gĭldz), economic and social associations of persons in the same business or plying the same craft, typical of Western Europe in the Middle Ages Distinctively membership was never by class but by profession or trade, and the primary functions were to establish control over that profession or trade in a locality, to set standards of workmanship and price, to protect the particular business from capricious exactions, to prevent encroachment of members of the trade or craft from other localities, and to establish status for members of the guild in society Similar associations of both merchants and craftsmen have been known at various times and places Greek merchants' associations were of considerable significance in the Hellenistic period, and in Roman times Each provincial city had its various *collegia* (some of which were economic guilds as well as clubs), while the capital city and later that other capital city, Constantinople, had efficiently organized *corpora* Under the centralizing power of the Roman emperors these tended to be reduced to subservience and to become mere administrative tools of the government This process was completed in the compulsory membership imposed in the Byzantine Empire after the barbarian invasions had made such compulsion impossible in the West These guilds were continued in the East and in some of the cities of Italy, notably Ravenna, where they persisted at least until the 10th cent Their effect on the creation of medieval guilds is, however, at best debatable Some scholars have found the origin of guilds in old tribal organisms of the Germans or in religious associations At any rate, when spontaneous associations of merchants began to spring up, they seem to have been intended for protection of commerce in perilous times of feudal and insecure local governments These merchant guilds (or guilds merchant) became extremely powerful as lucrative trade in the Mediterranean and across Europe increased Some of the Italian merchant guilds, such as those of Genoa and Florence, became dominant in the local government Likewise in England and in some of the cities of Germany the guilds of merchants exercised enormous power in the growing towns—though it should perhaps be noted that the organization of the commune long antedated the guild and in most cases control by a guild meant capture, rather than development, of power Commerce was less and less of a local affair, and the associations in some cases tended to become huge intercity leagues for the development and protection of trade The most striking example was the HANSEATIC LEAGUE of N Europe, which established some of its own trading cities and controlled them The merchant guilds had a vast effect on what is known as the Commercial Revolution No less important were the craft guilds, the associations of artisans of a particular trade, e g, the weavers guild and the fullers guild These grew with great rapidity as towns developed in the 12th cent and tended to share power with the merchants or even, in some cases, to supplant them in power Generally the members were divided into masters, apprentices, and journeymen The masters were the owners of the shops and the trainers of the apprentices The apprentices were bound to the masters, they were accepted for a stipulated sum paid to the masters for training and were given a bare living for a number of years, the amount paid and the length of time were set by the guild and varied from one craft to another and one place to another The apprentices were strictly under the control of the masters, but the conditions of control were set by custom and by some guild regulation The third class in the guild was made up of journeymen, men who had finished their training as apprentices but could not attain the status of masters (for the number of masters was limited) The guild reflected the medieval desire for ordering society, and its aim was generally a rather static permanence Each guild set the terms of its craft, forms of labor, standard of product (e g, the weight of a loaf of bread), and methods of sale, all these things were, however, subject to royal and national law as coherent nations developed in the West The relationship of the feudal ruler to the guilds was ideally one of cooperation Actually the wealthy guilds were able to secure immunity from interference by noble or king either by paying large sums of money, promising future benefits, or by intimidation Sometimes, as in the weaving towns of Flanders, the guilds were leaders of revolt against feudal authority (e g, BRUGES and GHENT) The tendency in the industrial towns was, thus, for the guilds to assume dominance in municipal government, and traces of that control persist in much of the local government of Western Europe today The guilds of London (see LIVERY COMPANIES) had wide social obligations and prominence in the city government The strengthening of the power of the nations in the 15th and 16th cent tended to make royal power greater, and the king in some instances was able to reduce the guilds to subservience The improvement of communications, the expansion of trade with the introduction of foreign-made goods, and finally the appearance of the capitalist and the entrepreneur heralded the end of the guild system The guilds, with all their wealth and power, were not equipped to adapt themselves to the expanding economies They tended to guard their monopolies jealously and to oppose change In many instances the number of masters in a trade was limited further as time went on, and the number of journeymen with no hope of becoming masters increased, naturally this situation bred discontent Prices for apprenticeship in many cases rose exorbitantly, and the trend toward hereditary membership in the guilds—always present—became very marked Masters were succeeded by sons and nephews, and apprentices were accepted only if they had proper family connections Thus the development of new trade and new industry fell to the capitalists, who adapted themselves to new demands in the age of exploration and expansion By the 17th cent the power of the guilds had withered in England It persisted longer on the Continent In France the attempt of Colbert to meld the guilds into the national economy was not successful, and guild monopolies continued to flourish in the 18th cent Turgot's attempt to abolish them failed, and it was not until 1791 in the French Revolution that the guilds were swept away In E Europe guilds grew numerous in the great market cities, and the power of some (e g, those of Novgorod and Cracow) long persisted Elsewhere in the world associations of merchants and of craftsmen developed early and seemed to show the same pattern of flourishing as protective devices in periods when the central government was weak and as instruments of the government in regulating trade and industry when the government was strong In India, as early Buddhist writings show, guilds were highly developed before the time of the Maurya empire, and they continued in existence long after British control was established, thus spanning some 2,000 years The history of the Indian guilds was individual because of conflict and compromise with the caste system The guilds in Japan were opposed and weakened by the stronger medieval rulers, but they were later used under the shogunate as powerful regulatory devices, they were swept away in the Meiji restoration in 1868 In China guilds were of unknown antiquity and persisted as powerful bodies into the 20th cent In the Western world today the name *guild* is used for all sorts of associations that have no connection with the medieval institution (e g, theater guilds and guilds of literary workers) Some of the great professional associations (e g, in medicine and law) fulfill some of the old functions of guilds but are rarely given the name See Charles Gross, *The Gild Merchant* (1890), Emile Levasseur, *Histoire des classes ouvrières et de l'industrie en France avant 1789* (2d ed, 2 vol, Eng tr, 1900-1901), Henri Pirenne, *Belgian Democracy* (Eng tr, 1910), L F Salzman, *English Industries of the Middle Ages* (rev ed, 1913) and *English Life in the Middle Ages* (1926), Henri Sée, *Economic and Social Conditions in France during the Eighteenth Century* (Eng tr, 1927); Stella Kramer, *The English Craft Guild* (1927), H B Morse, *The Gilds of China* (2d ed, 1932), George Unwin, *Guilds and Companies of London* (3d ed, 1939), R S Smith, *The Spanish Gild Merchant* (1940), George Clune, *The Medieval Gild System* (1943)

guild socialism, type of socialism developed in England, advocating a system of industrial self-government through national worker-controlled guilds The theory, as originated by Arthur J Penty in his *Restoration of the Gild System* (1906), stressed the spirit of the medieval craft guilds. In later elaborations by A R Orage, S G Hobson, and G D H Cole, aspects of Marxism and SYNDICALISM were adopted Guild socialists held that workers should work for control of industry rather than for political reform The function of the state in a guild-organized society was to be that of an administrative unit and owner of the means of production, to it the guilds would pay rent, while remaining independent In 1915 the National Guilds League was created with a number of notable speakers, including Bertrand Russell Several working guilds were formed, but with the collapse

of the chief one (National Building Guild), the movement waned, and the League was dissolved in 1925 During its existence it had considerable influence on British trade unions See G. D H Cole, *Guild Socialism Restated* (1920), Niles Carpenter, *Guild Socialism* (1922)

Guilford (gĭl'fûrd). **1** Town (pop 3,544), S Conn., on Long Island Sound E of New Haven, settled 1639 It includes Guilford borough (pop 1,986) and several hamlets It has some of the oldest houses in the state, the stone Whitfield House (1639–40) was restored (1936) as a WPA project Abraham Baldwin and Fitz-Greene Halleck were born in Guilford Castings are made here **2** Industrial town (pop 1,752), central Maine, on the Piscataquis above Dover-Foxcroft, settled 1803, inc 1816

Guilford College see GREENSBORO, N.C.

Guilford Courthouse, battle of, in the CAROLINA CAMPAIGN of the American Revolution, fought March 15, 1781 The site is included in a national military park (148 8 acres, est 1917) near Greensboro, N C

Guillaume, Charles Édouard (shärl' ādwar' gēyōm'), 1861–1938, French physicist, b Switzerland He was with the Bureau of International Weights and Measures, Sèvres, from 1883 and was its director from 1915 His work on the thermal expansion of metals led to his discovery of several important alloys, among them invar, a nickel-iron alloy (36 percent nickel), which exhibits practically no thermal expansion and is consequently much used in making scientific instruments, and platinite, also a nickel-iron alloy (46 percent nickel), expanding in the same ratio as platinum, for which it is substituted in the manufacture of electric-light bulbs For this work he received the 1920 Nobel Prize in Physics

Guillaume de Lorris (du lôrē'), c 1215–c 1278, French poet, author of the first part of the ROMAN DE LA ROSE His family name is also spelled Louiy, Lory, and Lorrys

Guillaumet, Gustave Achille (güstav' ashēl' gēyōmā'), 1840–87, French genre and landscape painter His chief subjects are Algerian The Luxembourg Museum in Paris has his *Evening Prayer in the Desert* and *Wool Spinners at Bou-Saada*, and his *Arab Market in Tocrua* is in the Lille Museum He wrote *Tableaux algériens* (1880) Guillaumet won (1863) the Prix de Rome, and he was a member of the Legion of Honor

Guillén, Jorge (hôr'hā gēlyān'), 1893–, Spanish poet. He taught Spanish literature at the universities of Murcia and Seville and in Paris After the Spanish civil war he came (1939) to the United States and taught Spanish at Wellesley College His poems are collected in successive editions of *Cantico* (1928, 1936, 1945), increasing in each new edition the number of poems and deepening his poetic vision Guillén is considered the most intellectual of all Spanish poets of the 20th cent , he has been compared to Paul Valéry, whose work he translated into Spanish

Guillén, Nicolás (nēkōlās' gēyān'), 1904–, Cuban poet Interpreter and exponent of the Afro-Cuban poetry—the so-called *poesía negra*, an original genre developed in the Caribbean —he wrote poetry that is intensely racial, in *Motivos de son* (1930) and *Sóngoro cosongo* (1931) he interprets the Negro soul through native incantations, dances, and street cries These early poems are profoundly sensuous and are based fundamentally on rhythm Later poems show more of Guillén's extensive knowledge of Spanish literature Some of his poems appear in H R Hays, ed , *12 Spanish American Poets* (1943)

Guilmant, Félix Alexandre (fālēks' alĕksä'dru gēlmä'), 1837–1911, French organist, one of the foremost performers of his day He taught at the Schola Cantorum, of which he was a founder, and at the Paris Conservatoire, where Marcel Dupré and Joseph Bonnet were among his pupils He composed much organ music

Guimarães or **Guimarães** (both gē"murā'ĕsh), city (pop. 12,568), NW Portugal, SE of Braga It has textile and cutlery manufactures, but its importance is historical. This was the seat of Duke Henry of Burgundy and of his son, Alfonso I, first king of Portugal Alfonso VII of Leon took (1127) Guimarães by siege and forced Alfonso of Portugal to swear fealty, but the Portuguese later established his independence Guimarães was a favorite royal residence It has a noted old castle

Guimaras (gēmär'äs'), island (223 sq mi , 1939 pop 37,797), Philippine Islands, between Negros and Panay. It is 25 mi long and 10 mi wide, its chief products are rice, hemp, cotton, and tobacco

Guimerá, Angel (än'shĕl gēmārä'), 1845–1924, Catalan poet and dramatist His first successful play, *Mar i cel* [sea and sky] (1888), was followed by many others, among them *Maria Rosa* (1894) and *Terra baixa* (1896, Eng tr , *Marta of the Lowlands*, 1914). These were translated by his contemporary, Echegaray, into Spanish He surpassed Echegaray as a poet but resembles him in his romantic themes and the passions which he portrays on the stage.

Guin (gwĭn), town (pop. 1,175), NW Ala , near the Miss line c.70 mi. NW of Birmingham, in an agricultural area.

Guinea (gĭ'nē), term applied to part of the coast of W Africa The name may be derived from an ancient kingdom in the W Sudan or from the town of Jenné In the widest current sense Guinea includes the coast extending from Senegal to Nigeria inclusively, but it is sometimes limited to smaller areas Portuguese Guinea and French Guinea occupy part of this coast NEW GUINEA is a large island N of Australia

Guinea, Gulf of, large open arm of the Atlantic Ocean, within the great bend in the west coast of Africa It is usually taken to extend from the W Gold Coast to the mouth of the Congo Bays belonging to the gulf include the Bight of Benin and the Bight of Biafra.

guinea fowl, breed of domestic poultry related to the pheasant, developed originally from wild species of Africa It is raised, usually in a semiwild state, in many parts of the world Its flesh, resembling that of game birds, is increasingly demanded by restaurants In the United States there are numerous farms in the Middle West and the South Of the three domestic varieties (the pearl, the white, and the lavender), the pearl, with its uniformly white-dotted purplish-gray plumage, is the commonest

guinea pig, domesticated form of the cavy, descended from wild species of South America It was raised by the Incas and has long been used as food in South America There are a number of varieties, some with short, smooth hair and others with longer hair, and a great range of color combinations, including mixtures of black and white and many shades of brown They grow to a length of about 10 in and a weight of about one pound In North America the guinea pig is sometimes a pet but is chiefly a laboratory animal used for testing serums and antitoxins and for experiments in genetics and nutrition

Guinegate (gēngät'), village, Pas-de-Calais dept , N France, near Saint-Omer It was the scene of two French defeats In 1479 Archduke Maximilian (later Emperor MAXIMILIAN I) defeated a force of LOUIS XI during their contest for the Burgundian succession In 1513 English and imperial forces under Henry VIII defeated an army of LOUIS XII in the second BATTLE OF THE SPURS

Guinevere, King Arthur's queen see ARTHURIAN LEGEND

Guiney, Louise Imogen (gĭ'nē), 1861–1920, American poet and essayist, b Boston, educated at the Sacred Heart convent, Elmhurst, Providence, R I From 1901 she lived in England, where she continued the writing of her poems and essays Among her works are *A Little English Gallery* (1894) and *The Martyr's Idyl and Shorter Poems* (1899) Her annotated anthology of Catholic verse was completed by Geoffrey Bliss and Edward O'Brien as *Recusant Poets* (1939), but her critical life of Henry Vaughan has remained unfinished and unpublished See her collected poems, *Happy Ending* (1927), and her letters (ed by Grace Guiney, 1926), biographies by Alice Brown (1921) and E M Tenison (1923)

Guinicelli or **Guinizelli, Guido** (gwē'dō gwēnēchĕl'lē, gwēnētsĕl'lē), c 1240–1276?, Italian poet His work was greatly admired by Dante At first he imitated the Provençal poets, but afterwards turned to philosophical treatment of erotic themes His verse is characterized by brilliance of imagery and profundity of thought, and his influence on the amorous poetry of his time was great Translations appear in D G Rossetti, *The Early Italian Poets* (1861), and Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

guipure. see LACE.

Guipúzcoa, Spain see BASQUE PROVINCES

Güiraldes, Ricardo (rēkär'dō gwēral'dĕs), 1886–1927, Argentine novelist, poet, and short-story writer He spent his boyhood on a ranch where he learned the ways of the gauchos, later traveling abroad and widening his culture Known as an "advanced" poet, he applied post-modernist techniques to Argentine regional themes, even in his novels and short stories His masterpiece, *Don Segundo Sombra* (1926, Eng tr , *Shadows in the Pampas*, 1935), in part autobiographical, captured the heroic spirit of the gaucho The central figure ends by retaining his legendary freedom even though he works on an *estancia* and is no longer "lord of the plains" *Xamaica* (1923), another introspective novel, was also well received

Guisborough (gĭz'–), urban district (1931 pop 6,306, 1943 estimated pop 8,300), North Riding of Yorkshire, England, at the foot of the Cleveland Hills ESE of Middlesbrough It is a market town There are remains of a priory founded in 1119 by Robert the Bruce

Guiscard, Norman rulers in Sicily see ROBERT GUISCARD and ROGER I

Guise (gēz, gwēz), influential ducal family of France It was founded as a cadet branch of the ruling house of LORRAINE by **Claude de Lorraine,** 1st **duc de Guise** (klōd' dŏ lôrĕn'), 1496–1550, who received the French fiefs of his father, René II, duke of Lorraine and Bar In 1513 Claude connected himself by marriage with the French royal family He fought in the Italian Wars under Francis I and was wounded at Marignano, as governor of Champagne he fought successfully against the English and the imperial troops. He was created a duke and peer by Francis I, who, however, ultimately came to regard him with distrust. His daughter, MARY OF GUISE, married James V of Scotland and was the mother of Mary Queen of Scots (Mary Stuart) His son **François de Lorraine, 2d duc de Guise** (frāswä'), 1519–63, French Catholic statesman and general, became conspicuous, at the accession of Henry II, as the rival for power of Anne de MONTMORENCY He distinguished himself in the defense of Metz against the duque de Alba (1552), was the leader of the party favorable to the war in Italy against Philip II of Spain, and in 1558 took Calais from the English He and his brother, the Cardinal de Lorraine, were given absolute control of the government under Francis II, who had married their niece, Mary Stuart Their arrogance, their persecution of the Protestants, and their enmity toward the princes of Bourbon and Condé led to the conspiracy of AMBOISE, which they suppressed (1560) When the death of Francis and the appearance of CATHERINE DE' MEDICI as regent had deprived the brothers of power (1560), the duke joined with Montmorency and Marshal Saint-André in the "triumvirate" which, at the head of the Catholic party, opposed itself both to the HUGUENOTS and to the tolerant policy of the regent (1561) The massacre of the Protestants at Vassy by Guise's servants having brought about the outbreak of the Wars of RELIGION (1562–98), Guise took the field against the Huguenots He was assassinated shortly after his victory at Dreux (1562) His brother **Charles de Guise, Cardinal de Lorraine** (shärl), c 1525–1574, while in power during the reign of Francis II was largely responsible for the persecution of the Protestants (1559–60). At the Colloquy of POISSY (1561) he defended Catholicism against Theodore BEZA, at the Council of Trent (1562–63) he at first upheld the independence of the Gallican church but later reversed his position and attempted to have the decrees of the council proclaimed in France He subsequently negotiated with Philip II of Spain for Spanish support of the Catholic cause in France After the downfall of Michel de L'HÔPITAL he temporarily returned to power (1567–70) He was the most consummate politician and master of intrigue in his family and the most generally hated of its members His nephew **Henri de Lorraine,** 3d **duc de Guise** (ānrē'), 1550–88, son of François, fought on the Catholic side in the Wars of Religion and cooperated with Catherine de' Medici in planning the massacre of SAINT BARTHOLOMEW'S DAY After the peace of 1576 he formed the Catholic League (see LEAGUE), of which King HENRY III, though secretly fearing it, became the nominal head After the death of FRANCIS, duke of Alençon and Anjou (1584), he revived (1585) the League in opposition to the Protestant Henry of Navarre, the heir presumptive (later King HENRY IV) Guise, as the defender of the Catholic faith, became immensely popular and overshadowed the king, upon whom he attempted to force the complete program of the League Allegedly, he even had designs on the royal throne He instigated the revolt of the Parisians against the king on the Day of the Barricades (May 12, 1588) and took control of the city He subsequently became reconciled to the king, who, however, procured his assassination His brother **Louis de Lorraine, Cardinal de Guise** (lwē), 1555–88, was killed at the same time After their death the leadership of the League devolved upon their brother, Charles, duc de MAYENNE **Henri de Lorraine,** 5th **duc de Guise,** 1614–64, grandson of the 3d duke, was archbishop of Rheims but became duke after the death of his brother (1639) and of his father (1640) He conspired against Richelieu (1641) and was forced to live for a time in exile in Flanders In 1647 he took part, as representative of the house of Anjou, in the insurrection of MASANIELLO at Naples Captured by the Spanish (1648), he was a prisoner till 1652 He made a new attack on Naples in 1654, then returned to Paris, where, as grand chamberlain, he played a prominent role in the social life of the court See H D Sedgwick, *The House of Guise* (1938), H N Williams, *The Brood of False Lorraine* (1918)

Guise, Jean d'Orléans, duc de: see ORLÉANS, family

Guise (gēz), town (pop 5,947), Aisne dept , N France, in Picardy, near Saint-Quentin It has the ruins of the ancestral castle of the house of Guise A large cooperative iron plant (*familistère* Godin) was founded here in 1859 by Jean Baptiste André Godin, a disciple of Charles Fourier, it is considered a model of its kind. Guise suffered damage in the Second World War

guitar (gĭtär'), musical instrument having from four to seven strings or pairs of strings which are plucked with the fingers or with a plectrum Its neck is usually fretted, and its body has a flat back and sides which curve inward It appeared as early as the 12th cent in Spain, with which country it is particularly associated It was very popular there in the 16th cent , when much music was written for it In the 19th cent, there was revived interest in the guitar, aroused largely by the playing of Francesco Tarrega (1852–1909), one of the greatest guitar players of all time His pupil

Andrés Segovia (1896–) is the greatest contemporary guitarist.

Guiteras, Juan (hwän' gētā'räs), 1852–1925, Cuban physician, b Matanzas, M D Univ. of Pennsylvania, 1873. He served on the Yellow Fever Commission in Havana (1879), was professor of pathology at the Univ of Pennsylvania (1889–99) and of tropical diseases at the Univ of Havana from 1900 He specialized in yellow fever and also contributed work on filariasis and hookworm disease

Guiterman, Arthur (gī'tûrmün), 1871–1943, American poet, b Vienna, of American parentage, grad College of the City of New York, 1891 Librettist of an opera by Walter Damrosch, *A Man without a Country* (produced in New York, 1937–38), Guiterman is remembered for humorous verse and ballads. His volumes of verse, often using American history and legend for subject, include *The Laughing Muse* (1915), *I Sing the Pioneer* (1926), and *Lyric Laughter* (1939)

Guitry, Lucien Germain (lüsyē' zhěrmē' gētrē'), 1860–1925, French actor He studied at the Paris Conservatoire and in 1878 made his debut in *La Dame aux camélias* at the Gymnase He played nine years at the Michel Theater, St Petersburg, and returned to Paris to become stage director (1902) at the Comédie Française and director and actor (1902–9) at the Théâtre de la Renaissance Here and at other theaters he won fame in Dounay's *Amant*, Anatole France's *Crainquebille*, Zola's *L'Assommoir*, Sacha Guitry's *Pasteur*, and in the plays of Henri Bernstein One of the first exponents of realistic drama, Guitry had power and restraint and is ranked with the greatest actors of the French theater His son **Sacha Guitry** (sāshā'), 1885–, actor and dramatist, was a prolific writer for the theater from the age of 21 His skillful and witty dramas include *Nono* (1905), *Deburau* (1918), *Jean de la Fontaine* (1922), and *Mozart* (1925) An accomplished actor, he appeared in his own plays and directed and acted in moving pictures, the best of which are *The Story of a Cheat* (1937) and *Pearls of the Crown* (1938) He was arrested on charges of collaboration with the Nazis in 1945 but was released in 1946 See his memoirs, *If Memory Serves* (Eng tr , 1935)

Guizot, François (frāswa' gēzō'), 1787–1874, French statesman and historian He came of a Protestant family of Nîmes, was educated at Geneva, and commenced a legal career in Paris in 1805, but soon took up literary work and became a professor of modern history at the Univ of Paris His friendship with Royer-Collard and his sympathy with the Doctrinaires (moderate royalists) drew him into minor political office, but it was as historian and political theorist that Guizot was first known He was drawn into the July Revolution of 1830 and became one of the leading intellectual exponents of the bourgeois July Monarchy of Louis Philippe As minister of public instruction (1832–37), Guizot introduced a new system of primary education (1833) Drifting more and more into conservatism, Guizot became (1840) the chief power in the ministry nominally headed by Soult, who had displaced the more liberal Thiers as premier In 1847 Guizot became premier His complacent acceptance of the established order led to his overthrow in the February Revolution of 1848 On the following day (Feb, 24) Louis Philippe abdicated Guizot devoted the rest of his life to writing He ranks very high as a historian The best known of his many works, *Histoire de la révolution d'Angleterre* [history of the revolution in England] (2 vols , 1826–27), illustrates his insistence on the critical approach and his devotion to original sources as well as his intense admiration for middle-of-the-road British revolutionism He also wrote *Mémoires pour servir à l'histoire de mon temps* [memoirs to serve as a history of my time] (8 vols , 1858–67) and the brilliant *General History of Civilization in Modern Europe* (6 vols , 1820–32, Eng tr by William Hazlitt, 3 vols , 1846) The last work, never completed, covers principally the civilization of France up to the 14th cent

Gujarat (gŏŏjürät'), region of India, comprising N Bombay state and the Kathiawar peninsula It was a center of Jainism in the Hindu Anhilvada kingdom (founded c 755), which fell (1233) to the sultanate of Delhi In 1401 Gujarat became an independent Moslem kingdom. Its immense wealth invited attack Portugal wrested from it (1509) the colony of Diu, and in 1572 the kingdom was annexed to the Mogul empire

Gujarati (gŏŏ"jürä'tē), Indo-Iranian language See Language (table).

Gujranwala (gŏŏj'ruwä'lù), town (pop 84,545), N West Punjab prov , Pakistan A mausoleum houses some of the ashes of Ranjit Singh, the great Sikh ruler Cloth and metal implements are made

Gulbarga (gŭl'bûrgä'), town (pop 53,551), SW Hyderabad state, India It was the capital of the Bahmani kingdom (1347–c 1500) until 1432 The large 13th-century mosque is modeled after that in Córdoba, Spain. There is cotton spinning and weaving

Gulbranssen, Trygve (trŭg'vù gŏŏl'bränsun), 1894–, Norwegian novelist. Among his books, which have won wide popularity, are *Beyond Sing the Woods* (1933, Eng tr , 1936) and *The Wind from the Mountain* (1934, Eng tr., 1937)

Gulek Bogaz, Turkey· see Cilician Gates

Gulf, unincorporated town, S Texas, SW of Houston and between Bay City and Matagorda Bay It has large sulphur deposits

Gulf. For names beginning thus, see second part, e g., for Gulf of Mexico, see Mexico, Gulf of

Gulfport. 1 Town (pop 1,581), W Fla , a suburb of St Petersburg 2 City (pop 15,195), co seat of Harrison co , SE Miss , on Mississippi Sound just W of Biloxi, in a farm area, settled 1891 as the site for a railroad terminus, inc as a town 1898, as a city 1904 In 1902 its fine artificial harbor was opened, and the city developed as an important lumber-shipping center It is a port of entry With the depletion of the timber resources, Gulfport extended its shipping facilities and turned to various industries and to a growing tourist and resort trade A large veterans' hospital is here, and Gulf Park College (junior) for girls is near by

Gulf Stream, best known of the ocean currents It was found in 1513 by Ponce de León The Gulf Stream originates in the Gulf of Mexico, passes through the Straits of Florida in a breadth of 50 mi , and then flows northeast parallel to the U S coast and separated from it by a narrow strip of cold water ("cold wall") Its average speed is 4 mi per hour At the beginning of the Gulf Stream the temperature is 80°F but it drops as the stream moves north At the same time the Gulf Stream becomes slower and spreads out and finally merges with the North Atlantic Drift At lat 40° N and long 60° W the Gulf Stream cannot longer be distinguished from the rest of the ocean drift It is a common error to confound the Gulf Stream with the North Atlantic Drift and to attribute the warmth of Western Europe to it The Gulf Stream is a result of the general vertical circulation of the ocean, the cold water from the north sinks down, while the warm water of the equatorial region rises and flows north above the cold current

gulfweed, any seaweed of the genus Sargassum, one of the brown algae of tropical waters commonly floating in large patches in the Sargasso Sea and the Gulf Stream It was formerly thought to cover the Sargasso Sea, where it was observed by Columbus, and to make navigation impossible, but it actually occurs only in drifts Numerous air sacs, resembling berries, cause the branching plant to float Gulfweed is sometimes called sea lentil

Gulick, Luther Halsey (gŭ'lĭk), 1865–1918, American pioneer in physical education, b Honolulu, of American missionary parents He studied at Oberlin College, Sargent School of Physical Training (now part of Boston Univ), and New York Univ medical college (M D , 1889) From 1887 to 1903 he was secretary of the physical training department of the Y M C A He devised the emblem of the organization and, with James Naismith, originated the game of basketball He was director of physical training in the New York city public schools from 1903 to 1908, in 1907 he founded the child hygiene department of the Russell Sage Foundation, directing it until his retirement in 1913 With others he founded (1910) the Camp Fire Girls movement He devoted much of his time to associations interested in hygiene and physical education, wrote several books in these fields, and lectured extensively In 1917 he surveyed the work of the Y M C A in France, returning to write his last and best-known book, *The Dynamic of Manhood* (1917)

Gulick, Luther Halsey, 1892–, American educator, b Osaka, Japan, grad Oberlin College, 1914 He studied at the Training School for Public Service, New York, and at Columbia Univ (Ph D , 1920) and became a specialist in municipal finance and administration He is director of the New York Bureau of Municipal Research and the Institute of Public Administration and president of the Tax Research Foundation He was professor of municipal science and administration at Columbia Univ (1931–42) and director and editor of the reports of the New York State Inquiry on Public Service Personnel (1933–35) and of the Regent's Inquiry into Public Education (1935–39) He became special assistant to the U S Treasury in 1941 He is author of *Evolution of the Budget in Massachusetts* (1920) and *An Adventure in Democracy* (1928) and co-author of numerous works on governmental, financial, administrative, and personnel problems

Gulistan, Treaty of (gōōlĭstän'), 1813, signed by Russia and Iran at Gulistan, a village in Azerbaijan SSR It ended the Russo-Persian war which had begun in 1804 Persia ceded the khanates forming the present Azerbaijan SSR and renounced its claim on Georgia and Dagestan

gull, any of a group of aquatic birds of the same family as the tern and found near all oceans and many inland waters. The name sea gull is commonly applied to the herring gull, a subspecies of the common European gull, found on the Atlantic and Pacific coasts of Canada and the United States, as well as inland. Gulls are larger and have heavier bodies than terns They have webbed feet and strong bills, hooked at the end. Their plumage is usually gray and white with black on the wings and tail They have long, slender wings and are strong fliers Although gulls eat fish, clams, and grasshoppers, most of them feed chiefly on wastes in harbors and bays and are useful scavengers They feed on the surface and often roost in flocks on the water They are protected in most states

Gullah, dialect see Sea Islands

Gulliver's Travels, great satirical work of Jonathan Swift, in four parts (1726) It describes the voyages of Lemuel Gulliver to Lilliput, where the people are tiny, and to Brobdingnag, where they are huge, to Laputa and its neighbor Lagado, peopled with philosophers and men of science, and to the land of the Houyhnhnms where horses behave with reason and men (Yahoos) behave as beasts In spite of its political and social satire, its fairy-tale quality has made it a children's classic

Gullstrand, Allvar (äl'vär gül'stränd), 1862–1930, Swedish ophthalmologist. He was professor (1894–1927) successively of eye therapy and of optics at the Univ of Uppsala He applied the methods of physical mathematics to the study of optical images and of the refraction of light in the eye For this work he received the 1911 Nobel Prize in Physiology and Medicine He is noted also for his research on astigmatism and for improving the ophthalmoscope and corrective lenses for use after removal of a cataract from the eye

gum, term used commonly, but loosely, to include a wide variety of substances obtained from plants, usually as exudations, somewhat similar in appearance and general characteristics In this classification, however, many substances not true gums are included, among them many resins, so-called gum resins, and such substances as frankincense, myrrh, labdanum, copal, amber, chicle, and rubber (gum elastic, India rubber) True gums are complex organic substances mostly obtained from plants, some of which are soluble in water and others of which, although insoluble in water, swell up by absorbing large quantities of it With water they form thick, gluey fluids Their chemical nature is complex In general, they contain in various proportions carbon, hydrogen, oxygen, and such metals as calcium, magnesium, and potassium in the form of salts of various organic acids Gum arabic, or gum acacia, is a typical, water-soluble gum obtained from various plants of the genus *Acacia*, chiefly those found in Africa It varies in color from white to red and is used extensively in making inks, adhesives, and confections, in the textile industry for filling fabrics, and in medicine as an emollient Gum senegal is very similar Among the gum resins (mixtures of gums and resins) are ammoniac, asafetida, bdellium, gamboge, and myrrh See also tragacanth See C L Mantell, *The Water-soluble Gums* (1947)

gum ammoniac see ammoniac

Gumbinnen (gōōmbĭ'nŭn) or **Gusev** (gōō'syĭf), town (1939 pop 24,534), former East Prussia It is an important market for cattle In the First World War it was briefly occupied (1914–15) by Russian troops, who again took it in 1945 Under the Potsdam Agreement (1945) it was placed under Russian administration Incorporated into the RSFSR, it was renamed Gusev

gumbo, another name for okra, also applied in the West to a rich, black, alkali alluvial soil, which is soapy or sticky when wet

Gumilev, Nikolai Stepanovich (nyĭkulī styĭpä'nuvĭch gōōmĕlyôf'), 1886–1921, Russian poet With Gorodetsky he founded (1912) the Acmeist school of poetry He traveled widely in Europe and, especially, in Africa, and his poems are full of elements foreign and exotic *The Pillar of Fire* (1912) contains his best work He was executed by the Bolsheviks for alleged conspiratorial activities

Gumma (gōōm'mä), prefecture, central Honshu, Japan See Maebashi, the capital

Gumplowicz, Ludwig (lōōt'vĭkh gōōm'plōvĭch), 1838–1909, Austrian sociologist, political scientist, and jurist From 1897 to 1909 he was a professor at Graz He held that social development rose out of conflict, first among races, then among states, then among other social groups His theories, influential though extreme, are expressed chiefly in *Der Rassenkampf* [race conflict] (1883) and in *Grundriss der Soziologie* (1885, Eng tr , *The Outlines of Sociology*, 1889)

Gumri, Armenian SSR see Leninakan

gum tragacanth· see tragacanth

gum tree see eucalyptus For other gum trees, see black gum and sweet gum

gun, in general, any weapon discharging explosives. Specifically, it refers to artillery and to the firearm (including rifle, machine gun, and revolver) The sporting gun, which is a smoothbore weapon discharging small shot (see shotgun), has had a classification apart from the military weapon since rifled barrels were adopted for belligerent use See also musket

gunboat, small warship for use on rivers and along coasts, in places inaccessible to vessels of larger displacement One of the first steel gunboats was built by the East India Company in 1839 In the American Civil War both sides used as gunboats, on the Mississippi and other rivers, any boat that had an engine and had room to mount a gun.

guncotton, explosive substance, formed by the action of a cold mixture of nitric and sulphuric acids on cotton (cellulose) and resembling the original unrefined cotton in appearance A compound of the elements carbon, hydrogen, oxygen, and nitrogen, its chemical formula indicates the presence either of three nitrate groups, when it is called a trinitrate, or of six nitrate groups, when it is called a hexanitrate. The higher nitrates (guncotton) are not soluble in water, chloroform, ether, alcohol, or a mixture of ether and alcohol and are distinguished from the lower nitrates (soluble guncotton, see PYROXYLIN) in this respect Guncotton burns when ignited, but is exploded, when either wet or dry, by the use of a detonator, such as fulminate of mercury. It is used in torpedoes, in blasting, when it is commonly mixed with NITROGLYCERIN to form blasting gelatin, in underwater blasting and submarine mines, and in the smokeless POWDER, cordite. See also SCHÖNBEIN, CHRISTIAN FRIEDRICH

Gundulic, Ivan (ē'vän gōōndō'lĭch), or **Giovanni Gondola** (jōvän'nē gōndō'lä), 1588–1638, Croatian poet He was born in Ragusa (Dubrovnik) of an aristocratic Dalmatian family and held high office in the city As a poet he began by imitating Italian models In his greatest work, the epic poem *Osman* (1626), based on the wars of Poland with the Turks, there is strong Slavonic feeling, and traces are found of ancient native song He was the foremost South Slav poet of his period

Guni (gū'nī). **1** Son of Naphtali Gen 46 24; Num 26 48. **2** Descendant of Gad. 1 Chron 5.15

Gunib (gōōnyēp'), village, central Dagestan, RSFSR, in the E Greater Caucasus A strong, natural fortress, it was important in the Caucasian wars of the 19th cent Here SHAMYL made his last stand against the Russians and was captured (1859)

gun metal, a BRONZE, an alloy of copper, tin, and a small amount of zinc Although originally used extensively for making guns (from which it gets its name), it has been superseded by steel, and it is now chiefly employed in the manufacture (casting) of machine parts The so-called "88-10-2" (copper-tin-zinc) alloy is the "government bronze," composed of 88 percent of copper, 10 percent tin, and 2 percent zinc The percentages of the constituent elements are varied slightly in gun metals produced for various purposes The metal commonly called gun metal today is very often steel treated to simulate the bronze alloy In other cases, copper and tin are used alone, in still others, copper, tin, and lead are employed

Gunnarsson, Gunnar (gū'när gū'närsŏn), 1889–, Icelandic novelist In 1907 he went to Denmark, where he obtained his secondary schooling, and later he traveled in Italy In 1938 Gunnarsson returned to Iceland. His early works were written in Danish, but were later translated into Icelandic. *Guest the One-eyed* (4 vols , 1912–14, Eng tr , 1920) is an Icelandic family saga, *Seven Days' Darkness* (1920, Eng tr , 1930) reflects his concern with the problem of war. *The Heath Laments* (1940) is written in Icelandic His autobiographical *The Church on the Mountain* (5 vols , 1924–28) has been partially translated as *Ships in the Sky* (1938) and *The Night and the Dream* (1938) Gunnarsson is a leading interpreter of modern Iceland

Gunnison. 1 Town (pop 2,177, alt c 7,680 ft), co seat of Gunnison co , W central Colo , on the Gunnison river, in a farm, mine, and resort area, laid out 1879 as a silver-mining town, inc 1880 Western State College of Colorado (coeducational) is here The town is the headquarters for Gunnison National Forest **2** City (pop 1,115), central Utah, near the Sevier river, founded 1860, inc 1893. It is in a poultry and irrigated sugar-beet area

Gunnison, river formed in W central Colorado by the junction of the Taylor and East rivers and flowing SW, W, and NW to the Colorado at Grand Junction Its courses through magnificent canyons, notably the Black Canyon of the Gunnison (see NATIONAL PARKS AND MONUMENTS, table) An irrigation project diverts water from the river through the Gunnison Tunnel (1905–9), 30,582 ft long.

gunpowder, an explosive mixture of potassium nitrate (75 percent) sulphur (10 percent), and carbon (15 percent) in the form of charcoal An increase in the percentage of saltpeter (potassium nitrate) increases the speed of combustion The chemical activity involves the reduction of the saltpeter, the oxygen being used for the combustion of the carbon and sulphur Gunpowder has been much used for BLASTING and formerly was commonly employed in guns, but, because of the large quantity of solid matter formed when it was exploded, it has been largely superseded by smokeless POWDER Another form of powder containing potassium chlorate instead of the nitrate is commonly used in fireworks and in matches The invention of gunpowder is obscure The origin of gunpowder was probably Chinese, for it seems to have been known in China at least as early as the 9th cent. and was there used for making firecrackers. There is some evidence that it came to Europe through the Arabs Roger BACON was long credited with inventing it because a formula for making it is given in a work attributed to him and some German scholars have called the alchemist-monk Berthold Schwarz the inventor, but it is now generally agreed that it was introduced and not invented in Europe in the 14th cent. It revolutionized warfare completely, and ultimately played a large part in the alteration of European patterns of living from medieval to modern It was, of course, improved in later centuries The scientist Lavoisier turned his attention to it, and it was Lavoisier's improved powder that Eleuthère Irenée du Pont de Nemours started to make (1802) in his powdermill, which was to be the kernel of the gigantic Du Pont enterprises.

Gunpowder Plot, frustrated plan to blow up the British houses of Parliament and King James I on Nov. 5, 1605, the day set for the king to open Parliament The confusion resulting from this crime was intended to be the beginning of a great rising of English Catholics, who were distressed by the increased severity of penal laws against their religion The conspirators, who began plotting early in 1604, expanded their number to a point where secrecy was impossible They included Robert Catesby, the originator, John and Christopher Wright, Robert Keyes, Thomas and Robert Winter, Guy Fawkes, a soldier who had been serving in Flanders, Thomas Percy, John Grant, Sir Everard Digby, Francis Tresham, and Thomas Bates. Percy hired a cellar under the House of Lords, in which 36 barrels of powder, overlaid with iron bars and firewood, were secretly stored The conspiracy was brought to light through a mysterious letter received by Lord Monteagle, a brother-in-law of Tresham, on Oct 26, urging him not to attend Parliament on the opening day The 1st earl of Salisbury and others, to whom the plot was made known, took steps leading to the discovery of the materials and the arrest of Fawkes as he entered the cellar Other conspirators, overtaken in flight or seized afterward, were killed outright, imprisoned, or executed Among those executed was Henry Garnett, the provincial of the English Jesuits, who had known of the conspiracy While the plot was the work of a small number of men, it damaged all English Catholics and led to an unfortunate increase in the harshness of laws against them Guy Fawkes Day, Nov 5, is still celebrated as an English holiday, on which effigies of the conspirator are burned See S R Gardiner, *What the Gunpowder Plot Was* (1896), John Gerard, *What Was the Gunpowder Plot?* (1897), Donald Carswell, ed , *Trial of Guy Fawkes* (1934)

Gunsaulus, Frank Wakeley (gŭnsô'lŭs), 1856–1921, American Congregational clergyman and lecturer, b Chesterville, Ohio, grad. Ohio Weslevan Univ , 1875 Ordained a minister of the Methodist Church in 1875, he entered the Congregational ministry in 1879 He then filled pastorates in Ohio, Massachusetts, Maryland, and Chicago From 1899 to 1919 he preached to large congregations in the independent Central Church, Chicago, resigning to devote his energies fully to the Armour Institute of Technology (now Illinois Institute of Technology), of which he was president from its establishment in 1893 In the affairs of the city he took a leading part, and he was noted throughout the country as a lecturer His writings include *The Man of Galilee* (1899), *Paths to Power* (1905), and *Martin Luther and the Morning Hour in Europe* (1917)

Gunter, Edmund, 1581–1626, English mathematician and astronomer, educated at Westminster School, London, and Christ Church, Oxford In 1618 he invented a small portable quadrant He discovered (1622) the variation of the magnetic compass His Gunter's chain is a surveyor's chain graduated on the decimal scale, and his Gunter's sector or scale is graduated according to the line of numbers of sines and tangents He is said to have been the first to use the words *cosine* and *cotangent* He wrote *Canon triangulorum* (1620); his collected works were published in 1624.

Guntersville, city (pop, 4,398), co. seat of Marshall co , NE Ala , a port on the Tennessee and NNW of Gadsden, in a farm area; founded c 1818 on a Cherokee site It has textile mills Guntersville Dam near by, built by TVA, flooded much of the surrounding farm lands but provided new navigation and resort opportunities

Günther, Johann Christian (yō'hän krīs'tyän gün'tur), 1695–1723, German poet His unhappy life finds expression in his verse, which is characterized by passion and depth of feeling, naturalness, and vigor and which inspired the young Goethe Perhaps his best-known poem is "Brothers, Let's Be Merry," a drinking song

Gunton, George, 1845–1919, American economist, b England In 1874 he came to Fall River, Mass His activities as a labor leader prevented his obtaining employment there in his trade as a weaver, and in 1878 he became manager of *Labor Standard* Appointed (1889) director of economics and sociology for the Y M C.A of North America, he founded in 1890, in association with the Rev. Heber Newton, the Institute of Social Economics, in New York city, and the *Social Economist* (known after 1896 as *Gunton's Magazine*), which he edited until 1904 He wrote *Wealth and Progress* (1887), *Principles of Social Economy* (1891), *Trusts and the Public* (1899), and, with Hayes Robbins, *Outlines of Social Economics* (1900) and *Outlines of Political Science* (1901).

Guntram (gŭn'trŭm), c.525–593, Frankish king of Burgundy and Orléans (561–93), son of Clotaire I His interventions in the wars of his relatives had as their object the maintenance of the balance of power; thus he aided his nephew, Childebert II, against Fredegunde and supported Clotaire II against Childebert He finally ranged himself on the side of Childebert, to whom he left his dominions His orthodoxy and his pacific policy caused him to be called a saint by the Roman Church Feast March 28.

Guntur (gōōntōōr'), town (pop 83,599), NE Madras state, India. It was founded by the French in the 18th cent. and ceded to Great Britain in 1823 It is a railroad junction and a cotton and tobacco mart. Cotton cloth is woven

guppy or **rainbow fish,** small fish (*Lebistes reticulatus*) abundant in parts of South America and a popular aquarium fish It can survive temperatures from 65° to 100°F. The rainbow colors of the inch-long male are marked with black spots and bars. The greenish-gray female is about 1½ in long From 12 to 25 living young are produced every few weeks The adults are cannibalistic Guppies are used in heredity studies, in the tropics they help to check malaria by eating mosquito larvae

Gupta (gōōp'tŭ), dynasty, 320?–544?, of N India It was founded by Chandragupta I (reigned 320?–380?) At its height it ruled most of India N of the Narbada river The dynasty saw a revival of Hindu culture The drama, with Kalidasa the most noted writer, flourished Painting (examples are found in the Ajanta caves) and bronze castings were perfected Pataliputra and Ajodhya were the Gupta capitals

Gur (gūr), ascent near Ibleam. 2 Kings 9 27

Gur-baal (gur-bā'ăl) [Heb ,=abode of Baal], unidentified district, Arabia 2 Chron 26.7

Gurdon, lumber and rail city (pop 2,045), SW Ark , SW of Arkadelphia

Gurkha (gōōr'kŭ), ethnic group of Nepal, mainly of Mongoloid stock and predominantly Hindu in religion The Gurkhas have dominated Nepal since the 18th cent Great Britain formerly recruited large military contingents from this warlike people and the term *Gurkha* was often loosely applied to any Nepalese soldier in British service

Gurney, Edmund, 1847–88, English psychologist He was a founder (1882) of the Society for Psychical Research He wrote *The Power of Sound* (1880)

Gusev, former East Prussia see GUMBINNEN

Gustavus I (Gustavus Vasa) (gŭstā'vŭs vä'sŭ), 1496–1560, king of Sweden (1523–60) Known as Gustavus Eriksson before his coronation, he was the son of Erik Johansson, a Swedish senator and follower of the STURE family He early acquired his hatred for the Danes when he was treacherously imprisoned by CHRISTIAN II In 1520 his father was one of the nobles killed in the massacre of Stockholm Having escaped imprisonment, Gustavus led the peasants of Dalarna to victory over the Danes and was elected (1521) protector of Sweden In 1523 the Riksdag at Strangnas elected him king and deposed, for the second time, the archbishop Gustav Trolle, who had joined Christian II in opposing Gustavus Thus the KALMAR UNION of the Scandinavian countries was dissolved, and the first step toward the Reformation was taken The Riksdag at Vasteras (1527) established a national Protestant church Confiscation of church property helped to replenish the exhausted treasury A national army was organized, and an efficient navy was built As a result of a Danish-Swedish victory over Lübeck (1537) Sweden was liberated from the economic grasp of the Hanseatic League Native industries were developed and foreign trade expanded Gustavus firmly established the royal authority, crushed several peasant and clerical revolts, and in 1544, by the Pact of Succession, made the throne hereditary in the Vasa family His reign, which marked the rise of Sweden as a modern national state, also was distinguished by the translation (1526) of the New Testament into Swedish, a milestone in Swedish literature

Gustavus II (Gustavus Adolphus), 1594–1632, king of Sweden (1611–32), son and successor of Charles IX His excellent education, his personal endowments, and his early experience in the field and in affairs of state prepared him for the crucial role he was to play in the history of his country and in that of Europe With the help of his great chancellor, Axel OXENSTIERNA, he insured internal stability by granting concessions to the turbulent nobility and terminated (1613) the KALMAR WAR by buying off the Danes This enabled him to undertake a successful campaign against Russia, which was forced to cede Ingermanland (1617) Gustavus Adolphus at first intended to stay out of the THIRTY YEARS WAR, which had begun in 1618 However, his resumption (1621) of the intermittent warfare between the Swedish and the Polish branches of the house of VASA led to his entry into the vast conflict His primary objects in invading Poland were to consolidate Swedish hegemony over the Baltic by acquiring Polish LIVONIA and to reduce the threat

represented by the Catholic SIGISMUND III of Poland against Swedish Protestantism. The imperial victories in the Thirty Years War soon caused the king to draw closer to the German Protestant princes In 1628 he promised his aid to CHRISTIAN IV of Denmark in the defense of Stralsund In 1629, through the mediation of Cardinal Richelieu, he obtained the favorable truce of Altmark with Poland, gaining a large part of Livonia and several good Baltic ports; a secret treaty with France promised a French subsidy if he entered Germany In 1630 the king landed with 16,000 troops in Pomerania, these soon were augmented until 40,000 were at his disposal Gustavus's invasion of Mecklenburg failed when the Mecklenburgers refused to heed his appeal to rise against WALLENSTEIN Early in 1631 the Franco-Swedish treaty was openly ratified at Bärwalde, and after the fall of MAGDEBURG (which Gustavus did nothing to prevent), Saxony and Brandenburg accepted the king's conditions for an alliance with Sweden The spectacular sweep of the Swedish army through Germany now began In Sept, 1631, Gustavus defeated TILLY at Breitenfeld near Leipzig in the first Protestant victory of the war He now marched west, reaching Mainz by Christmas, while the Saxon army moved into Bohemia Resuming his campaign early in 1632, Gustavus returned east, defeating (April) the imperial troops at the crossing of the Lech (where Tilly was mortally wounded), and entered Bavaria Wallenstein, reinstated by the emperor, speedily put a large army into the field and forced the king to fall back on Nuremberg, where he entrenched himself Wallenstein set up his camp at a short distance, and there the two armies remained facing each other for more than two months (July–Sept, 1632) without giving battle At last Gustavus attacked Wallenstein's camp He failed and retired toward Würzburg, leaving a strong garrison at Nuremberg Wallenstein now invaded unprotected Saxony, causing Gustavus to hasten north At Lützen the two armies met on Nov 16 The Swedes won the battle but Gustavus was killed Oxenstierna continued to direct Swedish policy under Gustavus's daughter, Queen Christina, while Baner, and later Torstensson, took his place in the field In military organization and strategy, Gustavus Adolphus was ahead of his time While most powers relied on mercenary troops, he organized a national standing army which distinguished itself by its discipline and its relatively high moral standard Deeply religious, the king desired his soldiers to behave like a truly Christian army and took stern measures against the common practices of looting, raping, and torturing, this changed soon after his death His successes were due partly to this discipline, partly to his use of small, mobile units, and partly to the superiority of his firearms Though he was deeply interested in the internal progress of his kingdom, the chief credit for the development of Swedish industries and for the final and administrative reforms of his reign belongs to Oxenstierna See J L Stevens, *History of Gustavus Adolphus* (1884), B H Liddell Hart, *Great Captains Unveiled* (1929), G F MacMunn, *Gustavus Adolphus, the Lion of the North* (1931), N G Ahnlund, *Gustav Adolf the Great* (1940)

Gustavus III, 1746–92, king of Sweden (1771–92), son and successor of Adolphus Frederick When Gustavus ascended the throne, he found his kingdom torn by civil strife To the conflicting interests of peasants, nobles, priests, and officials was added the struggle between the aggressive, pro-French "Hat" party and the more conservative pro-Russian "Cap" party His efforts at conciliation having failed, the king resolved to place himself in complete control by a coup d'état After assuring himself of French support, he arranged a sham revolt On the pretense of crushing the insurrection, he secured the support of the army and navy He then imposed upon the estates a new constitution which restored to the sovereign the prerogatives lost by his predecessors (1772) He immediately inaugurated a policy of rigid financial reform, made his fleet one of the most powerful in Europe, and proclaimed complete religious toleration His extravagance and emulation of the court of Versailles, however, offset many of his improvements On account of the aggressive policy of Empress Catherine II, Gustavus embarked upon a war with Russia (1788), first forcing the rebellious Swedish gentry to promise their support An officers' mutiny threatened the campaign with disaster, but when the Danes invaded Sweden at Catherine's instigation, the king rallied the lower classes, and, with the moral support of Prussia and England, repulsed the attackers In a second coup d'état, Gustavus strengthened the regal authority (1789) The next year he defeated the Russians, who then entered a defensive alliance with him He was attempting to form a coalition to intervene in the French Revolution when he was assassinated by a representative of the nobles Gustavus, a gifted and learned monarch, was author of important dramas and poems He patronized science and literature and founded the Swedish academy (1786). He was succeeded by his son, Gustavus IV See R. N Bain, *Gustavus III and His Contemporaries, 1746–92* (1894)

Gustavus IV (Gustavus Adolphus), 1778–1837, king of Sweden (1792–1809) On the assassination of his father, Gustavus III, he succeeded under the regency of his uncle, the duke of Sodermanland (later King CHARLES XIII), a liberal Attaining his majority in 1796, Gustavus dismissed his uncle's ministers and embarked on a thoroughly reactionary policy at home and on a foreign policy directed against the French Revolution In 1805 he joined the third coalition against Napoleon I Swedish Pomerania was occupied by the French, and Finland was lost (1808) to Russia, which in 1807 had made peace with France at TILSIT His despotism, his mental unbalance, and his disastrous policy led to his enforced abdication (1809) The crown was tendered to Charles XIII, and Gustavus's descendants were barred from succession Gustavus IV spent most of his exile as "Colonel Gustafsson" at St. Gall, Switzerland, where he died He left memoirs

Gustavus V, 1858–, king of Sweden (1907–), son and successor of Oscar II During his reign Sweden evolved toward advanced democracy and economic prosperity and avoided involvement in two world wars The king, however, upheld the reality and dignity of the royal power Fond of traveling and good living, Gustavus V preserved youthful vigor even in his old age and until very late years was famed as a redoubtable tennis player He married (1881) Victoria of Baden (d 1930) His heir is his son, Crown Prince Gustavus Adolphus

Gustavus Adolphus see GUSTAVUS II and GUSTAVUS IV

Gustavus Adolphus College, see SAINT PETER, MINN

Gustine, city (pop 1,355), central Calif, W of Merced, in the San Joaquin Valley, inc 1915

gut: see CATGUT

Gutenberg, Johann (gōō'tŭnbûrg, Ger vō'hän gōō'tunbĕrk), c 1397 1468, German printer, believed to have been the first European to print with movable types cast in molds Similar PRINTING had been done earlier in Korea, but there is no evidence that the Korean printing was known in Europe in Gutenberg's time Europeans who have been thought by some to have preceded Gutenberg in the practice of his art include Laurens Janszoon KOSTER, of Holland, and Pamfilo CASTALDI, of Italy Gutenberg's name does not appear on any printing attributed to him, and details of his life and work remain doubtful The evidence indicates that he was born in Mainz, that his father's name was Gensfleisch, and that his mother's maiden name or the name of her birthplace or of land that belonged to her was Gutenberg His use of the name Gutenberg instead of Gensfleisch was not out of harmony with the customs of the time Gutenberg is believed to have lived in Strasbourg for some years, and there is some evidence that in 1536 or 1537 he may have made his great invention there, but he returned to Mainz, and in this city the printing attributed to him was produced Mainz was the center from which skillful printers went to other European cities The masterpiece of Gutenberg's press was the MAZARIN BIBLE He borrowed money from the goldsmith Johann FUST, was unable to repay it, and lost his press and types Fust continued the work of printing with his son-in-law, Peter Schöffer There is a Gutenberg Museum in Mainz, and there are statues of him, though his form and features are unknown See D B Updike, *Printing Types* (2d ed, 1937), Otto W Fuhrmann, *The Five Hundredth Anniversary of the Invention of Printing* (1937)

Guthrie, Sir James, 1859–1930, Scottish painter, one of the leaders of the Glasgow school His early genre pictures, such as *Funeral Service in the Highlands* (Glasgow Gall), were painted in heavy impasto, but his later works, largely portraits, are more restrained The influence of impressionism is seen throughout Guthrie's best portraits include one of his mother and those of Major Hotchkiss, Professor Jack, and Mrs Watson

Guthrie, Samuel, 1782–1848, American physician, b Brimfield, Mass In Sackets Harbor, N Y, where he settled after serving as surgeon in the War of 1812, he invented a percussion powder and a punch lock for exploding it, thus making obsolete the flintlock musket. In 1831 he discovered chloroform, anticipating by a few months its discovery by Eugène Soubeiran in France and Justus von Liebig in Germany

Guthrie, Thomas Anstey, see ANSTEY, F

Guthrie, 1 City (pop 1,253), S Ky, SE of Hopkinsville and at the Tenn line, settled 1860 It is a railroad center in a farm area 2 City (pop 10,018), co seat of Logan co., central Okla, near the Cimarron N of Oklahoma City Founded in 1889, it was the territorial and then the state capital until 1910, when Oklahoma City became the capital after a bitter struggle. Guthrie is the commercial center of a farming and dairying section and a center for Masonic activities. Mineral Wells Park is near Guthrie, as is LANGSTON UNIVERSITY

Guthrie Center, town (pop. 2 066), co. seat of Guthrie co., W central Iowa, W of Des Moines, inc. 1880 Spring Brook State Park is near by

Gutiérrez, Juan María (hwän' märē'ä gōōtyĕ'rĕs), 1809–78, Argentine poet and scholar A follower of Esteban ECHEVERRÍA, he took part in the conspiracy of the Asociación de Mayo and was exiled by Juan Manuel ROSAS He began his literary career as a romantic with a nativist poem, *Los amores del payador* [the loves of the gaucho minstrel] (1838). After the fall of Rosas, he participated in the constitutional convention, served as foreign minister, and was rector of the Univ of Buenos Aires for many years He helped to forward free education, was a literary critic of note, and helped to forward the Americanizing of literature, as in his collection of poems written by Spanish Americans, *América poética* (1846)

Gutiérrez Nájera, Manuel (mänwĕl' gōōtyĕ'rĕs nä'hĕra), 1859–95, Mexican poet One of the precursors of MODERNISMO, he founded the literary periodical the *Revista azul* His elegant poetry, edited after his death, is delicately musical and wistfully sad, it reflects the influence of Bécquer and of the French symbolists and shows the transition from romanticism to modernism He also wrote exquisite prose, notably in *Cuentos frágiles* [fragile stories] (1883) and *Cuentos de color de humo* [stories in the color of the earth] (1898) See Nell Walker, *The Life and Works of Manuel Gutiérrez Nájera* (1927)

gutta-percha [Malay], solidified milky juice of various Malayan evergreen trees (especially *Palaquium gutta* and *P oblongifolia*) It does not dissolve in water, but under water of high temperature becomes plastic and easy to manipulate Unlike caoutchouc it is nonelastic In trade it is handled in the form of reddish or gray bricks. It is used for insulation (particularly for submarine cables), golf balls, telephone receivers, adhesives, waterproofing materials, and other purposes

Guttenberg (gŭ'tunbûrg) 1 Town (pop 1,860), NE Iowa, on the Mississippi and NW of Dubuque, first settled 1834, colonized and named by German immigrants 1845, inc 1851 A lock and dam of the Mississippi canalization project were completed here in 1937 2 Town (pop 6,200), NE N J, near the Hudson and NE of Jersey City, inc 1859

Gutzkow, Karl Ferdinand (kärl' fĕr'dēnänt gōōts'kō), 1811–78, German novelist and dramatist He entered journalism in 1831 and became one of the leaders of the group known as Young Germany For his *Wally die Zweiflerin* [Wally the doubter] (1835), which was excessively frank for the time and expressed skeptical religious views, he spent three months in jail His career was one of constant controversy and difficulties, later in his life his mind failed His writing greatly influenced feminism and the social and political thought of his day His fiction, among which is the nine-volume novel, *Die Ritter vom Geiste* [knights of the spirit] (1850–52), is important in the history of the modern German novel He also produced several plays, among them the comedy *Sword and Queue* (1843, Eng tr, 1913–15) and the drama *Uriel Acosta* (1847, Eng tr, 1913–15), which, though derivative, is perhaps his best work See L A Willoughby, *The Romantic Movement in Germany* (1930), O P Schinnerer, *Woman in the Life and Work of Gutzkow* (1924)

Guy, Thomas, 1645?–1724, English philanthropist, founder of Guy's Hospital, London (1721) As a printer and bookseller, Guy amassed a fortune, which he devoted to private and institutional charity He contributed largely to St Thomas's Hospital and Christ's Hospital in London and founded an almshouse in Tamworth, Staffordshire

Guyenne see GUIENNE

Guyer, Michael Frederic (gī'ur), 1874–, American zoologist, b Plattsburg, Mo, grad. Univ of Chicago (B S, 1894) He was head of the biology department (1900–1911) at the Univ of Cincinnati and professor of zoology (1911–45) at the Univ of Wisconsin A specialist in genetics and cellular biology, he wrote *Animal Micrology* (1906, 4th ed, 1936) and *Animal Biology* (1931, 4th ed, 1948)

Guymon (gī'mŭn), city (pop 2,290), co seat of Texas co., NW Okla, near the North Canadian river in the Panhandle wheatlands, inc 1905 A U S soil conservation station and the Panhandle Agricultural and Mechanical College are near by

Guy of Chauliac. see CHAULIAC, GUY DE

Guy of Lusignan (lusēnyäN'), d 1194, king of Jerusalem (1186–92) and of Cyprus (1192–94), second husband of Sibylla, sister of King BALDWIN IV of Jerusalem In 1183 he was briefly regent for his brother-in-law, who was incapacitated by leprosy, but when Baldwin V, Guy's stepson, was made king, the Latin nobles forced Guy to yield command to RAYMOND of Tripoli On Baldwin V's death (1186) Guy was chosen king with the support of Reginald of Châtillon He was defeated and captured (1187) by SALADIN at the decisive battle of Hattin, which led to the fall of Jerusalem Released in 1188, he laid siege (1189) to ACRE, which was captured (1191) in the Third Crusade with the help of Richard I of England and Philip II of France After the death (1190) of Sibylla, Guy's right to the throne was contested by CONRAD, MARQUESS OF MONTFERRAT, who was supported by

Philip II In spite of Richard I's support, Guy was compelled (1192) to resign his title, but was given the island of Cyprus His descendants (see LUSIGNAN) ruled Cyprus and Lesser Armenia He was succeeded by his brother, AMALRIC II

Guy of Warwick (wôr'ĭk), English legendary hero, popularized by a 13th- or 14th-century rhymed romance telling how Guy fought for and won the earl of Warwick's daughter and how he saved England from the Danes by killing the giant Colbrand in single combat It was tremendously popular in the Middle Ages and in a new versified form in the 17th and 18th cent

Guyon, Jeanne Marie Bouvier de la Motte (zhän' mārē' bōōvyā' du la mŏt' gēôvō'), 1648–1717, French mystic and author of writings dealing largely with QUIETISM Confined by the government (1688) in a convent because of her heretical opinions and her correspondence with Miguel de MOLINOS, she was released through the efforts of Mme de Maintenon She was later imprisoned (1695–1702) in the Bastille Her collected works appeared (1767–91) in 40 volumes See her autobiography (*Eng tr*, 1897), biography by T C Upham (1847)

Guyot, Arnold Henry (arnōld' ārē' gēyō'), 1807–84, Swiss naturalist and geographer He was a friend of Louis AGASSIZ, by whom he was persuaded to come to America (1848) He lectured at Lowell Institute, Boston, and from 1855 was professor of geology and physical geography at Princeton He investigated glaciers and conducted meteorological observations which led to the foundation of the U S Weather Bureau His writings include *Meteorological and Physical Tables* (1852) and *Memoir of Louis Agassiz* (1883)

Guys, Constantin (Ernestus Adolphus Hyacinthus Constantinus Guys) (gois), 1805?–1892, French draughtsman, b Flushing, Holland He accompanied Byron in the Greek struggle for liberty in 1824, then served in the French army until 1830 His friend Charles Baudelaire early recognized his talent, but his work was known to the public only as that of an anonymous artist on the staff of the *Illustrated London News*, in which his superb drawings in line and wash were badly reproduced in wood engraving Most of them deal with the high life of his period, but he also served as war artist in the Crimean War and in his impecunious old age depicted the vices of the poor Since his death Guys has come to be recognized as one of the most brilliant and original artists of a brilliant period See P G Konody, *The Painter of Victorian Life* (with an essay by Charles Baudelaire, 1930)

Guyton de Morveau, Louis Bernard, Baron (lwē' bĕrnär' barō' gētō' du môrvō'), 1737–1816, French chemist and lawyer He wrote the chemical section of the *Encyclopédie méthodique* (Vol I, 1786) and collaborated with Lavoisier and others in establishing a system of chemical nomenclature He taught chemistry (1794–1805) at the École polytechnique, Paris, served in the Legislative Assembly and in the National Convention during the French Revolution, and was master of the mint (1800–1814) In 1811 he was created baron

Guzmán, Nuño de (nōō'nyō dā gōōthmän'), or **Núñez Beltrán de Guzmán** (nōō'nyĕth bĕlträn'), d 1544, Spanish conquistador After serving as governor of Pánuco (NE Mexico), he became president of the first *audiencia* of New Spain (1528) His notorious rule brought an outcry from the colonists, in 1530 the *audiencia* was excommunicated by Bishop ZUMÁRRAGA, later it was replaced by a second *audiencia* Meanwhile, Guzmán left Mexico city (Dec , 1529) and with the help of his lieutenant, Cristóbal de Oñate, conquered NUEVA GALICIA and was responsible for the founding of Culiacán and Guadalajara He blocked several expeditions sent out by CORTÉS, his bitter rival. Guzmán's conquest was, however, not very productive He stirred up trouble with the Indians and with his own men Superseded in the governorship, he was imprisoned (1536–38), then he returned to Spain, where he died in obscurity

Guzmán or Ciudad Guzmán (syōōdhädh' gōōsmän'), city (pop 22,170), Jalisco, W Mexico Formerly called Zapotlán el Grande, it is an agricultural town with some minor industries and is the starting point for ascents of the Nevado de Colima (14,235 ft. high) and the smoking volcano, Colima (12,631 ft. high) The town was almost completely destroyed by earthquake in 1810

Guzmán Blanco, Antonio (äntō'nyō gōōsmän' blän'kō), 1829–99, president of Venezuela, a *caudillo* who dominated the nation from 1870 to 1888 Son of the founder of the Liberal party, Guzmán Blanco was a magnetic and energetic figure with considerable diplomatic and administrative ability He became a general in the revolution that deposed PÁEZ and was vice president (1863–68) in the Liberal administration that followed In 1870 he led a successful counterrevolution against MONAGAS and was elected president A benevolent despot, he alternately suppressed and supported the Church, he opposed political freedom, but made free education compulsory, he reformed governmental administration and instituted many public works that brought material advancement to Venezuela The egocentric Guzmán Blanco filled Venezuela with portraits and statues of himself. Several times he relinquished his office to make diplomatic and pleasure trips to Europe but kept control of the country through presidential puppets, notably Joaquín CRESPO In 1888, when he was abroad, his power was destroyed by revolution He spent the rest of his life in Paris

Guzmán de Alfarache: see ALEMÁN, MATEO.

Gwalior (gwä'lôr), former princely state (26,008 sq mi ; pop 4,006,159), central India It consisted of one large territory and numerous enclaves Wheat, millet, oilseed, and cotton are the leading crops The state was formed in the mid-18th cent by Ranoji Sindhia, a Mahratta chief who became independent of the peshwa (hereditary Mahratta prime minister) Forces of Gwalior overran much of central India until they were checked by the British in the early 19th cent , and the state was temporarily annexed to the British domain It was restored to the Sindhias in 1886 Gwalior merged with Madhya Bharat in 1948

Gwalior, town (pop 34,488), Madhya Bharat, India, adjoining Lashkar It lies at the foot of Gwalior fort, a stronghold on a hill c 300 ft high The fort is surrounded by battlemented walls pierced by six imposing gateways Within the walls are elaborately carved palaces and temples The town has food-processing and other light industries

Gwilt, Joseph (gwĭlt), 1784–1863, British architect, archaeologist, and writer, known chiefly for his *Encyclopaedia of Architecture, Historical, Theoretical, and Practical* (8 vols , 1842) Among his other books are *Scenography, or, Examples of Shades and Shadows, with Rules for Their Projection* (1822), an edition of Sir William Chambers's *Treatise on the Decorative Part of Civil Architecture*, with annotations (1825), a translation of Vitruvius (1826), and *Elements of Architectural Criticism* (1837)

Gwin, William McKendree, 1805–85, American politician, b Sumner co , Tenn , grad Transylvania Univ , 1828 Having taken a degree in medicine, he practiced in Clinton, Miss , until 1833 He represented Mississippi in the U S Congress (1841–43), but, conditions not proving favorable for a political career in that state, he went to California in 1849 There Gwin threw himself into the movement for statehood, stumping the territory for the project He was an outstanding leader in the state constitutional convention One of the first U S Senators from California (1850–55, 1857–61) and chief spokesman for the slavery interests there, he became involved in several turbulent battles with his ambitious antislavery rival, David C BRODERICK In the Civil War he was imprisoned briefly in the North For part of the war he went to France, where he unsuccessfully attempted to interest Napoleon III in a scheme for colonizing N Mexico with Southerners He is credited with promoting the first pony express (1860)

Gwinnett, Button, c 1735–1777, American Revolutionary patriot, signer of the Declaration of Independence, b Gloucestershire, England Gwinnett, a delegate to the Continental Congress (1775–77) from Georgia, fought a duel with Lachlan McIntosh, who was his personal and political rival Gwinnett was fatally wounded His signature, one of the rarest of American holographs, is extremely valuable See biography by C F Jenkins (1926)

Gwyn, or Gwynn, Eleanor (Nell Gwyn), 1650–87, English actress An orange seller in the Theatre Royal, she made her debut at Drury Lane as Cydaria in Dryden's *Indian Emperor* in 1665 Her forte was in comic roles and in her witty renditions of prologues and epilogues, in which she appeared until 1682 In 1669 she became the mistress of Charles II and bore him two sons, one of whom was created the duke of St Albans Her portrait was painted by Sir John Lely, and she appears in Pepys's *Diary* and Scott's *Peveril of the Peak* See Clifford Bax, *Pretty Witty Nell* (1932)

Gylippus (jĭlĭ'pus), fl 415–404 B C , Spartan commander in the Peloponnesian War He was sent to help Syracuse in the defense against Athenian attack, and it was his resourcefulness and skill combined with Athenian ineptitude that brought about one of the greatest defeats Athens suffered (413 B C) Later he was banished for stealing public money

gymnastics, exercises for the balanced development of the body practiced usually in a room or building called a gymnasium In Greece the gymnasium was originally a place of training for the OLYMPIC GAMES and other athletic contests, and the Lyceum and Academy of Athens were large enough for cavalry parades, besides containing a running track, pits for jumping, and ranges for throwing the discus and javelin By the end of the 4th cent B C the gymnasium became an educational and cultural center for Greek youths Public gymnasiums were built in Rome by Nero and Commodus, but were never as popular as in Greece Modern gymnastics date from the early 19th cent., when Ludwig Jahn established several *Turnplätze* in Berlin. Gymnastics spread on the Continent, to England, then to the United States, and became part of the modern Olympic meets. Gymnastics (see PHYSICAL EDUCATION) became part of the American school curriculum, was adopted by the army, and became a featured college sport in the United States. Besides free calisthenics, the principal gymnastic events in the United States are the side and long horse, the parallel and horizontal bars, Indian-club swinging, rope climbing, the flying rings, and tumbling. Except for rope climbing, which is scored on speed, events are scored as follows 60 points for variety, beauty, and difficulty of combination, 40 points for execution and general form, and 10 points for approach and retreat In team play, the most points for all events wins The Amateur Athletic Union holds annual events for both men and women See N E Bukh, *Primary Gymnastics* (5th ed , 1939), W D West, *The Gymnast's Manual* (1942), L C Drew, *Individual Gymnastics* (5th ed , 1945), and K A Knudsen, *A Textbook of Gymnastics* (2d ed , 1947–48)

Gympie (gĭm'pē), city (pop 8,413), Queensland, Australia, N of Brisbane It is a dairying and agricultural center producing bananas and sugar cane A silver mine is near by Gympie was formerly a gold-mining center

Gyongyos, Hung *Gyongyös* (dyûn'dyûsh), city (pop 24,086), N Hungary, at the foot of the Matra Mts It has a large Franciscan college and is the trading center for the excellent wine grown in the vicinity

Gyor, Hung *Győr* (dyûr), Ger *Raab*, city (pop 57,192), NW Hungary, near the Czechoslovak border and at the confluence of the Raab river with an arm of the Danube It is the chief textile center of Hungary and has important machine manufactures Built on the site of a Roman camp, Gyor became an episcopal see (1001) and a royal free town (1743) It was occupied by the French in 1809 In 1849 the Hungarian revolutionary forces were decisively defeated near Gyor by the Austrians The cathedral, which dates from the 12th cent , was rebuilt in the 17th cent

Gyp (shĕp), pseud of **Sibylle Gabrielle Marie Antoinette de Riquetti de Mirabeau, comtesse de Martel de Janville** (sēbēl' gäbrēĕl' marē' ätwänĕt' du rēkĕtē' du mērabō' kōtĕs' du martĕl' du zhävēl'), 1850–1932, French author She wrote a long series of novels, very popular in their day

Gypsophila, see BABY'S-BREATH

gypsum (jĭp'sum), mineral composed of calcium sulphate (calcium, sulphur, and oxygen) with two molecules of water It occurs in many places and in many forms A transparent crystalline variety is selenite A massive gypsum of delicate color and texture, readily worked into ornamental vases, boxes, and the like, is called alabaster A lustrous gypsum with fibrous structure, called satin spar, is used in jewelry and for other ornaments, but it is soft and easily marred Plaster of Paris, a fine white powder, is produced by heating gypsum to expel the water If this powder is moistened and then allowed to dry, it becomes hard, or sets It is used in making casts of sculpture and plaster casts used in medicine

gypsy or gipsy (both jĭp'sē) [from *Egypt*, because of an idea that gypsies came from a certain Little Egypt], nomadic people found on every continent and appearing first, according to record, in Eastern Europe in the 15 cent The gypsies live in small groups, usually unattached to the soil, and they have made their living usually by trading, especially horse trading, the women are famous as fortune-tellers Wherever the gypsies have gone a few persons native to the land have joined them Many wandering bands which are not ethnically related to them are called gypsies, such are the British and Irish Tinkers and many American "gypsies." Gypsies are swarthy, short, and lightly built; the men are usually handsome, the women often beautiful The theory is held that they are of partial East Indian origin, descendants of migrants from India some six centuries ago, with features that indicate some intermixture with the populations amid which they live The language, called Romany (rŏ' munē), is an Indo-Iranian language (see LANGUAGE, table), closely related to the languages of NW India, and their dialects also are heavily influenced by the speech of their nongypsy neighbors. Gypsies profess the religion of their country probably the greater number are Roman Catholic or Orthodox, because of the great gypsy centers in Hungary and Rumania They have many customs of their own, and their tenacity of them, especially of their marriage customs, has caused them trouble from many governments There are no reliable statistics on the gypsies, but they probably number more than 1,000,000 In the depression and Second World War the Eastern European countries (where most gypsies live) undertook to curb their nomadic habit of life by requiring them to register, to go to school and learn trades, and to observe certain rules of sanitation. Many were inducted into the army See George Borrow, *The Zincali* (1841), *Lavengro* (1851), and *The Romany Rye* (1857), I H Brown, *Gypsy Fires in America* (1924), Charles Godfrey Leland, *Gypsies* (1924), W F Starkie, *Ragglet-taggle* (1933), Martin Block, *The Gypsies: Their Life and Their Customs* (1939)

gypsy moth, European insect of which the larva is destructive to almost all forest and fruit trees It escaped from an imported collection of silk-pro-

ducing caterpillars with which a French naturalist was experimenting in Massachusetts and became established there c.1869 Unchecked for about 20 years, it became too abundant to make extermination possible, although millions of dollars have been spent in the attempt In the United States it is confined to the northeastern portion The adult male is a yellowish-brown moth, the female whitish, and the forewings of both are marked with dark lines The dark brown or black larva is about 2 in long and has yellow markings and rows of tubercles, some blue and some red, which bear long hairs Young larvae, buoyant because of hairs with air sacs, are carried long distances by the wind Spraying the trees and covering the egg masses with arsenate of lead, banding trees with burlap and destroying the egg clusters laid on it, and breeding natural enemies are methods of control. See H. A. Bess and others, *Forest Site Conditions and the Gypsy Moth* (1948).

gyrocompass: see GYROSCOPE.

gyroplane: see AUTOGIRO

gyroscope (jī'rŭskōp), a rotating wheel which is enabled to move with varying degrees of freedom about a second axis This secondary movement, called "precession," is the azimuthal motion of the spin axis of a top The instrument's first notable use was in the first half of the 19th cent , in giving visual demonstration of the earth's rotation The gyroscope was invented in 1852 by Foucault In the second half of the 19th cent , with the invention of the electrically driven rotor, its uses multiplied It became possible to rotate the wheel at desired speeds without interfering with the precession Practical applications are in giant gyroscopic ship stabilizers to counteract rolling, in recording instruments for registration of smoothness and irregularity of movement, and in directional instruments such as the gyrocompass Unaffected by magnetic variations, its spinning axis when brought in line with the north-south axis of the earth provides an unerring point of reference When coupled to a ship's steering gear it enables a course to be held more steadily than a human could hold it Even more numerous than its maritime applications are those it affords in aeronautical equipment It is the nucleus of the automatic pilot which can take over the guidance of a plane to a given destination Certain toys for children operate on the gyroscope principle See Martin Davidson, ed., *The Gyroscope and Its Applications* (1946)

Gyula (dyōō'lŏ), city (pop 25,169), SE Hungary, on the White Koros river near the Rumanian border. It has a fine château and an old castle.

H

H, eighth letter of the ALPHABET It is a usual symbol for a voiceless glottal spirant, as in *house* In some Greek alphabets eta, the long e, had this form, for short Greek e see E In chemistry H is the symbol for the element HYDROGEN

Haag, Carl (hāg), 1820–1915, English painter, b Germany He was court painter to the duke of Saxe-Coburg-Gotha and, later, to Queen Victoria After settling in England (1847), he devoted himself entirely to water colors He traveled extensively, spending considerable time with the Bedouins in the desert Among his finest works are Bavarian and Tyrolean landscapes and views of the Holy Land and of Bedouin life

Haag, Den, Netherlands see HAGUE, THE

Haahashtari (hä"hähsh'tärĭ, -häshtä'-), descendant of Judah 1 Chron 4 6

Haakon I (hä'kun, Nor hô'kōōn) (Haakon the Good), c 915–961, king of Norway (c 935–961), son of Harold I He was brought up as a Christian at the court of King Athelstan in England His brother, Eric Bloodyaxe, had succeeded Harold as chief king, but the other sons of Harold refused to obey Eric and helped Haakon seize power Haakon strengthened the national army and fleet, but failed in his effort to introduce Christianity He died from a battle wound Eric's sons succeeded him

Haakon IV (Haakon Haakonsson), 1204–63, king of Norway (1217–63), illegitimate son of Haakon III and grandson of Sverre Secretly reared by the Birkebeiner (see SVERRE), he was chosen king (1217) on the death of Haakon III's successor, King Inge Haakon Haakonsson overcame the rival claims of Earl Skule (Inge's brother), and in 1223 a great council reaffirmed his kingship at Bergen Skule, after a renewed attempt at rebellion, was slain by the Birkebeiner in 1240 In 1247 Haakon, now recognized by Pope Innocent IV, was solemnly crowned at Bergen Under Haakon IV medieval Norway reached its zenith Iceland and Greenland were acquired, and important legal reforms were carried out His court was splendid, and Old Norse literature flowered during his reign SNORRI STURLUSON for some time lived at Haakon's court Haakon died at Kirkwall in the Orkney Islands when campaigning against Scotland He was succeeded by his son, Magnus VI

Haakon VII, 1872–, king of Norway Formerly Prince Charles, second son of King Frederick VIII of Denmark, he was elected to the throne on the separation of Norway from Sweden in 1905 and took the name Haakon He married Princess Maud, third daughter of Edward VII of England, in 1896 As a result of the German occupation of Norway (1940–45) in the Second World War, Haakon with his ministers fled to England, where he headed a government in exile His return to Oslo (1945) was the occasion for nation-wide rejoicing

Haardt, Georges Marie (shôzh' märē' ärt', härt'), 1886–1932, French explorer He crossed the Sahara by automobile and made the north to south journey across Africa in the same manner In April, 1931, he led a trans-Asian motor expedition, one party of which started from Beyrouth, Syria, and the other from Peiping, China, to meet in Sinkiang They returned to Peiping in Feb , 1932, after an 8,000-mile journey With Louis Audouin-Dubreuil he wrote *Across the Sahara by Motor Car* (Eng tr , 1924)

Haarlem (här'lŭm), municipality (pop 155,759), capital of North Holland prov , W Netherlands, W of Amsterdam and near the North Sea coast It is the center of the chief Dutch flower-growing district and exports bulbs (particularly of tulips) to all parts of the world. There also are machinery, shipbuilding, and textile industries Haarlem is the see of a Roman Catholic bishop. It was chartered in 1245. In the Dutch rebellion against Spain it was sacked (1573) after a long siege In the 17th cent it was a center of Dutch painting, Frans Hals, Jacob van Ruisdael, and Adriaen van Ostade worked here. The tulip craze penetrated from Turkey to the Netherlands at the same period, and it is since the 17th cent that Haarlem has been the world center of tulip breeding On the Groote Markt, the central square, stands the Church of St Bavo or Groote Kerk (15th cent) Near by is the Stadhuis [city hall], formerly a palace of the counts of Holland, begun in 1250 There also are many fine medieval gabled houses L J Koster was born at Haarlem The popular tale of the boy of Haarlem who stopped a leak in the dike with his finger is entirely legendary and probably of American origin The name was formerly also spelled Harlem, and Harlem in New York City is named for it

Haas, Maurice Frederick Hendrick de. see DE HAAS, MAURICE FREDERICK HENDRICK

Haase, Hugo (hōō'gō hä'zu), 1863–1919, German revolutionist, a Socialist leader He steadfastly opposed the First World War and in 1916 split with the Majority Socialists under EBERT, who replaced him as leader in the Reichstag In 1917 Haase and his followers formed the Independent Socialists He was one of the foremost figures of the revolution in Nov , 1918, and was a leader of the commission that took over the government with the downfall of the empire, but the Independent Socialists were unwilling to accept the "bourgeois revolution" of the Social Democrats and withdrew Haase was murdered by a personal enemy

Habacuc (hubă'kuk), variant of HABAKKUK

Habaiah (hăbā'ĭ'u, hăbā'yu) [Heb ,=God has hidden], priestly family Ezra 2 61, Neh 7 63

Habakkuk (hŭbă'kŭk, hă'bukŭk) [Heb ,=embrace], **Habacuc** (hŭbă'kŭk), or **Habbacuc** (hubă'kuk), book of the Old Testament, eighth of the books of the Minor Prophets It is a set of poems, perhaps three (1 1–2 4, 2 5–20, 3), on the punishment of the wicked by God, using the Chaldeans as His instrument, and the triumph of divine justice and mercy The third (3) resembles a psalm and has a musical direction like one The prophet and his time are unknown A prophet of this name is mentioned in the story of BEL AND THE DRAGON. For bibliography, see OLD TESTAMENT

Habana, Cuba see HAVANA

Habaziniah (hă"bŭzĭnī'u), ancestor of Jaazaniah the Rechabite Jer 35 3

Habbacuc (hubă'kuk), variant of HABAKKUK

Habberton, John, 1842–1921, American author and journalist, b Brooklyn, N Y His most popular books were the humorous story of a bachelor uncle and two small nephews, *Helen's Babies* (1876), and a sequel, *Budge & Toddie* (1908) His other fiction, a play, and a biography of Washington were less successful

habeas corpus (hā'bēŭs kôr'pŭs) [Latin, =you may have the body], writ directed by a judge to some person who is detaining another, commanding him to bring the body of the person in his custody at a specified time to a specified place for a specified purpose It is mentioned as early as the 14th cent in England and was formalized in the Habeas Corpus Act of 1679 The privilege of the use of this writ as a safeguard against illegal imprisonment was highly regarded by the British colonists in America, and wrongful refusals to issue the writ were one of the grievances before the American Revolution As a result, it is provided in the Constitution of the United States that the privilege of the writ of habeas corpus shall not be suspended, unless when, in cases of rebellion or invasion, the public safety may require it

Haber, Fritz (hä'bur), 1868–1934, German chemist. He was professor of physical chemistry at Berlin, director of the Kaiser Wilhelm Institute, and winner of the 1918 Nobel Prize in Chemistry He invented the HABER PROCESS

Habermann, Hugo, Baron von (hōō'gō barōn' fŭn hä'burmän), 1849–1929, German portrait and figure painter A pupil of Karl von Piloty at the Munich Academy, he became instructor there in 1905 Among his well-known works are *Piloty's Studio*, *The Monk*, and *In a Studio* and *Portrait of a Lady* (both: Metropolitan Mus).

Haber process [for Fritz Haber], commercial process for the synthesis of ammonia by the direct combination of nitrogen and hydrogen The gases, mixed in correct proportion for reaction, are heated under pressure (up to 1,000 atmospheres pressure, at 400°–600°C) and passed over a catalyst The ammonia gas formed is removed by solution in water or by liquefaction The pure nitrogen for the operation is obtained from liquid air

Habersham, James (hă'bŭrshŭm), 1712–75, colonial statesman, acting governor of Georgia (1771–73), b Beverley, Yorkshire, England He came to Georgia (1738) and was associated with George WHITEFIELD and the Bethesda Orphanage until he became (1744) a merchant He favored the introduction of slavery into the colony and played an important role in the colonial politics after Georgia became a royal province Unlike his son Joseph, he was a strong Loyalist and dissolved (1773) the assembly for its radical actions as the American Revolution was brewing

Habersham, Joseph, 1751–1815, patriot leader in the American Revolution and U S Postmaster General (1795–1801), b Savannah, Ga , son of James Habersham He was from the first active in the Revolutionary cause and rose to be a colonel in the Continental army He also served in the Continental Congress and was a member of the Georgia convention that ratified the Constitution of the United States After service in the cabinet, he was (1802–15) president of the Georgia branch of the Bank of the United States

Habington, William (hăb'-), 1605–54, English poet His one volume of verse, *Castara* (1634), included originally only love poems to his wife, Lucy (daughter of Sir William Herbert), but was revised in 1640 to include a number of sacred poems He was also author of a play, *The Queen of Aragon* (1640)

Habor (hā-), tributary of the Euphrates, now called Khabur It enters the river from the north below Deir, Syria Along it, in Gozan, the Israelite captives from Samaria were settled 2 Kings 17 6, 18 11

Habsburg, family see HAPSBURG

Habsburg (hŭps'bōōrk), castle, Aargau canton, Switzerland, near the Aar river Built c 1020, it was in the 12th and 13th cent the seat of the counts of Habsburg or HAPSBURG

Hachaliah (hăkulī'u), Nehemiah's father Neh 1 1, 10 1

Hachijo-shima (hă"chējō'-shĭma), second largest island of the Izu-shichito group, Japan It has two active volcanoes

Hachilah (hă'klu), unidentified hill, S Palestine 1 Sam 23 19, 26 1, 3

Hachmoni (hăk'mōnī) or **Hachmonite** (-nīt), name of a family 1 Chron 11 11, 27 32 Tachmonite. 2 Sam 23 8 The passages are obscure

hackberry, name for plants of the genus *Celtis*, deciduous trees or shrubs widely distributed and often cultivated The hackberry (sometimes called sugarberry) commonly has warty bark, elmlike leaves, and small edible fruit, palatable to bird and man Witches'-brooms (abnormal bunchy growths of twigs) are often present Old World kinds, usually called nettle trees, have stronger and more useful wood than American See also LOTUS

Hackensack, city (pop 26,279), co seat of Bergen co , NE N J , on the Hackensack and NW of New York city, settled 1639 by Dutch, inc as a city 1921 It was the scene of several engagements in the Revolution The city grew as a commercial center and later as a residential and industrial suburb of New York The first Dutch Reformed church, built in 1696, was later rebuilt and enlarged The county buildings are notable Samuel Cooper, Confederate general, was born here

Hackensack, river rising in SE New York, W of Haverstraw, and flowing generally south c 50 mi , past Hackensack and Ridgefield Park in New Jersey to Newark Bay Near the bay it flows through a salt-marsh area which is known as the Hackensack Meadows.

Hackett, James Henry, 1800–1871, American actor, b New York city. He was most successful in roles in which he impersonated American comedy types, and several such parts were written for him. His Falstaff was successful both in England and the United States. He also managed several theaters and wrote a volume of comments on Shakspere (1863). His son, **James Keteltas Hackett,** 1869–1926, b. Wolfe Island, Ont., was also an actor. One of the first matinee idols, he was outstanding in such romantic plays as *The Prisoner of Zenda* and *Rupert of Hentzau*, adaptations of Anthony Hope's novels. In 1895 he joined Daniel Frohman's stock company in New York and married (1897) its leading lady, Mary Mannering, with whom he appeared in Alfred Sutro's *Walls of Jericho* (1905). See M. J. Moses, *Famous Actor-Families in America* (1906).

Hackettstown, town (pop. 3,289), NW N.J., in the fertile Musconetcong valley W of Dover; inc. 1853. Centenary Junior College for girls is here.

hackmatack see LARCH

Hackney, metropolitan borough (1931 pop. 215,333, 1948 estimated pop. 172,900) of NE London, England. It was once an exclusive residential district. St. John's parish church has a 16th-century tower.

Haco. For rulers of Norway named thus, see HAAKON.

Hadad (hā'–). **1** Son of Ishmael. 1 Chron. 1 30. Hadar Gen. 25 15. **2** King of Edom. Gen. 36 35, 1 Chron. 1 46. **3** Last king of Edom. 1 Chron. 1 50. Hadar Gen. 36 39. **4** Scion of the kings of Edom, who escaped Joab's massacre. He fled to Egypt and married the Pharaoh's sister-in-law. Later he seems to have relieved Edom from Solomon's oppression. 1 Kings 11 14–25.

Hadadezer (hădudē'zur), king of Zobah, who led a Syrian coalition against David. The allies were eventually defeated and became tributaries. 2 Sam. 8 3–12, 1 Kings 11.23. Hadareser. 2 Sam. 10 16,19, 1 Chron. 18.3–10, 19 16,19.

Hadadrimmon (hă"dădrĭm'ŭ), proper name, perhaps of a place, occurring in Zech. 12 11. It is a compound of the names of two Syrian gods.

Hadar (hā'dăr), variant of HADAD **1, 3.**

Hadarezer (hădūrē'zŭr), variant of HADADEZER.

Hadashah (hă'dŭshŭ, hŭdă'–), unidentified town, SW Palestine. Joshua 15 37.

Hadassah (hudă'su) [Heb., =myrtle], Hebrew name of ESTHER. Esther 2 7.

Hadassah (hŭdă'su), the women's Zionist organization of America, founded by Henrietta Szold in 1912. It has done important work in Palestine with medical service, child welfare, and aid to refugees. Its principal activities in the United States are educational and charitable work.

Hadattah, in the Bible. see HAZOR **6.**

Haddam, town (pop. 2,069), S Conn., bisected by the Connecticut river, settled 1662, inc. 1668. It has some old houses. Metal products are made.

Haddington, county, Scotland. see EAST LOTHIAN.

Haddington, burgh (pop. 4,405), co. seat of East Lothian, Scotland, on the Tyne and E of Edinburgh. The cruciform parish church of St. Mary (12th or 13th cent.) is called the "Lamp of the Lothians." Jane Welsh Carlyle is buried in the church. Knox Institute commemorates John Knox, who was born in Giffordgate, a suburb. Haddington. There is a 15th-century bridge across the river to Nungate. The burgh has wool and hosiery mills.

Haddingtonshire: see EAST LOTHIAN.

haddock, food fish of the N Atlantic very similar to the cod, but with a black instead of a white lateral line from gill to tail. It averages from 2 to 4 lb., reaching a maximum of about 17 lb. The annual catch in North America usually outweighs that of other Atlantic food fish. The haddock's flesh is tender, white, and flaky. Smoked, it is finnan haddie, originally a product of Scotland and now prepared also in the United States.

Haddonfield, borough (pop. 9,742), SW N.J., a suburb of Camden, settled 1682, inc. 1875. Of interest is Indian King Tavern (1750), where the first state legislature met in 1777. British and Hessians camped here in the Revolution.

Haddon Heights, borough (pop. 5,555), SW N.J., near Haddonfield, laid out c. 1891, inc. 1904.

Haden, Sir Francis Seymour (hā'dŭn), 1818–1910, English etcher, writer, and surgeon. He was a successful practicing surgeon in London (1847–87) and founded the hospital for incurables there, but is best known as an etcher and an authority on etching. He was a lover of the classical etching of Rembrandt and did much to familiarize the public with Rembrandt's work. Haden's writings include *The Etched Work of Rembrandt Critically Reconsidered* (1877), *About Etching* (1879), and *The Relative Claims of Etching and Engraving to Rank as Fine Arts* (1883). His own works, for the most part hard-ground etchings and dry points, are of a very high quality. Among the best known of his 251 plates are *Thames Fisherman, Breaking Up of the Agamemnon, Calais Pier* (after J. M. W. Turner), *Sunset in Ireland, A By-Road in Tipperary,* and *Early Morning in Richmond.* The best collections of Haden's work are in the New York Public Library; the Albright Art Gallery, Buffalo; the Metropolitan Museum; and the British Museum. Haden was knighted in 1894. See catalogue by H. N. Harrington (1910).

Hadera (hudă'rä), town (pop. c.10,000), central Israel, near the Mediterranean coast. Near by are the ruins of Caesarea Palestinae. Hadera was founded in 1890 by Jewish settlers, who drained vast malarial swamps and planted groves of citrus fruit and fields of grain. Building materials are manufactured.

Hadersley (hă'dhŭrslĕv), Ger. *Hadersleben,* (hă'–durslā"bun), city (pop. 17,583), SE Jutland, a seaport on the Hadersley Fjord, an inlet of the Little Belt. As part of N Schleswig, it was under Prussia from 1864 to 1920.

Hades. see HELL and PLUTO.

Hadewijch (hă'dŭvĭkh), fl. early 13th cent., Dutch mystical poet, a nun. Her works, beautiful lyrics on the love of God and letters and visions in prose, are a monument alike of early Dutch literature and of Roman Catholic mysticism.

Hadfield, Sir Robert Abbott, 1858–1940, English metallurgist. For his discovery of manganese steel (1883) and many other metallurgical discoveries and inventions he was knighted in 1908, was made a baronet in 1917, and received numerous international honors. His works include *Metallurgy and Its Influence on Modern Progress* (1926) and *Faraday and His Metallurgical Researches* (1931).

Hadhramaut. see HADRAMAUT.

Hadid (hă'–), town, NE of Lydda, settled by Benjamites after the Exile. Ezra 2 33, Neh. 7 37, 11 34.

Hading, Jane (ădĕ'), 1859–1941, French actress, whose real name was Jeanne Alfrédine Tréfouret (shăn' ălfrădĕn' trāfōōrā'). Her performances in Ohnet's *Maître de Forges,* and in Lavedan's *Prince d'Aurec* met with success, but she rose to fame when she created the title role in Daudet's *Sapho* and in Sardou's *Marcelle.*

Hadlai (hădlā'ī, hăd'lāī, hăd'lī) [Heb., =resting], Ephraimite. 2 Chron. 28 12.

Hadley, Arthur Twining, 1856–1930, American economist and educator, b. New Haven, Conn., son of James Hadley. A graduate (1876) of Yale, he was on the faculty (1879–99) and later was president (1899–1921) of the university. As president of Yale, Hadley guided the wide expansion and improvement of the university. His *Railroad Transportation* (1885), the first comprehensive treatment of the subject, was long a standard work, and he served on several government commissions dealing with railroad problems. His other works include *Economics: an Account of the Relations between Private Property and Public Welfare* (1896), a strong defense of capitalism, *Undercurrents in American Politics* (1915), *The Conflict between Liberty and Equality* (1925), and *Education and Government* (1934). See biography by his son Morris Hadley (1948).

Hadley, Henry Kimball, 1871–1937, American composer and conductor, b. Somerville, Mass., studied at the New England Conservatory and in Vienna. He composed and conducted in Europe from 1904 until 1909. Upon his return he became conductor of the Seattle Symphony Orchestra. From 1911 to 1915 he was conductor of the San Francisco Symphony Orchestra. Neither self-consciously modern nor typically American in style, he composed with craftsmanship and facility in all forms. His best-known works are his opera *Cleopatra's Night* (New York, 1920) and the orchestral works *Salome* (1907) and *The Culprit Fay* (1909).

Hadley, Herbert Spencer, 1872–1927, American lawyer, b. Olathe, Kansas, grad. Univ. of Kansas (B.A., 1892) and Northwestern Univ. (LL.B., 1894). As attorney general of Missouri (1904–8), he successfully prosecuted the Standard Oil Company for violating the state antitrust law. He was governor of Missouri from 1909 to 1913 and was a prominent Roosevelt Republican. In 1923 he became chancellor of Washington Univ. in St. Louis. He was on the committee of the American Law Institute which prepared the *Code of Criminal Procedure,* a model code published in 1930.

Hadley, James, 1821–72, American philologist, b. Fairfield, Herkimer co., N.Y., grad. Yale, 1842. He became a tutor (1845), an assistant professor (1848), and a professor (1851) of Greek at Yale. His *Greek Grammar* (1860) was long a noted text; *Introduction to Roman Law* (1873) contains his valuable lectures on that subject, and *Essays Philological and Critical* (1873) was a posthumous selection of his papers. Arthur Twining Hadley was his son.

Hadley, town (pop. 2,576), W Mass., on the Connecticut opposite Northampton; settled 1659, inc. 1661. Paper mills are here. There are several 18th-century buildings. The regicides Whalley and Goffe lived for years in Hadley.

Hadoram (hŭdō'rŭm). **1** The same as JORAM **3.** **2** Descendant of Eber. Gen. 10.27; 1 Chron. 1 21. **3** The same as ADONIRAM.

Hadrach (hā'drăk), region, Syria. Zech. 9.1.

Hadramaut or **Hadhramaut** (both: hădrŭmout', –mŏt'), region, Arabia, on the Gulf of Aden and the Arabian Sea, occupying approximately the central portion of the Aden protectorate. The chief port and city is Mukalla. The Hadramaut extends c.400 mi. from east to west. It consists of a narrow, arid coastal plain, a broad plateau averaging 4,500 ft. high, a region of deeply sunk wadis (watercourses), and an escarpment fronting on the desert. The sedentary population, the Hadranis, live in towns built along the wadis and harvest rich crops of wheat, maize, millet, dates, coconuts, and coffee. On the plateau the Bedouins raise sheep and goats. The Hadramaut is called HAZARMAVETH in the Bible.

Hadrian. For popes of that name, see ADRIAN.

Hadrian (hā'drēŭn) or **Adrian,** A.D. 76–138, Roman emperor (117–38), whose name in full was Publius Aelius Hadrianus. He was born in Spain. Left orphaned, he was the ward of Trajan. As a commander (especially in Dacia) and an administrator he distinguished himself. Nevertheless, Trajan's choice of Hadrian as his successor, announced after Trajan's death, caused some chagrin in Rome. Hadrian's reign was vigorous and judicious. He proved his military skill in pacifying Moesia, was generous in offering circuses and giving alms to the poor, and enlarged and reformed the civil service. He abandoned the aggressive policy of Trajan in Asia and withdrew to the boundary of the Euphrates. In Germany he built great protective walls, and in BRITAIN (which he visited) he had Hadrian's Wall built. In Palestine he proved himself ruthless. His Romanizing policy awoke opposition, he put down the insurrection of BAR KOCHBA with great severity, followed out his plan of building a temple of Jupiter Capitolinus on the ruined Temple, and renamed Jerusalem Aelia Capitolina. He traveled much in the empire, interesting himself in all the local affairs of state and adorning the provincial cities, but from 131 to his death he lived more or less quietly in Rome and in his villa at Tibur, cultivating the arts. He was learned in Greek and was accomplished in poetry and music. He patronized artists, and his regard for the young ANTINOÜS is imperishably recorded by sculptors and architects. He built the Arch of Hadrian in Athens, built the extant Pantheon, added to the Roman Forum, and erected a mausoleum at Rome (now Castel Sant' Angelo). He set up a new and more humanitarian law code. As his successor he chose ANTONINUS PIUS. See B. W. Henderson, *Life and Principate of the Emperor Hadrian* (1923), biography by Sulamith Ish-Kishor (1935).

Hadrian's Mausoleum or **Hadrian's Mole:** see CASTEL SANT' ANGELO.

Hadrian's Wall, ancient Roman wall, 73½ mi. long, across the narrow part of the island of Great Britain from Wallsend on the Tyne river to Bowness at the head of Solway Firth. It was built A.D. c.121–127 by Emperor Hadrian, probably connecting forts of Agricola, and was added to by Severus a century later. Fragments of the wall, 6 ft. high and 8 ft. thick, and many of the "mile stations" (stone forts along the wall constructed every Roman mile) remain. The British government has undertaken the preservation of the wall, which is one of the largest and most significant of the remains of Roman occupation. See R. G. Collingwood and J. N. L. Myres, *Roman Britain and the English Settlements* (2d ed., 1937).

Hadrumetum see SOUSSE, Tunisia.

Haeckel, Ernst Heinrich (ĕrnst' hīn'rĭkh hĕ'kŭl), 1834–1919, German biologist and philosopher. He taught (1862–1909) at the Univ. of Jena. An early exponent of Darwinism in Germany, he evolved a mechanistic form of MONISM based on his interpretation of Darwin's theories and set forth in his speculative popular works on science, *Generelle Morphologie* (1866), *The History of Creation* (1868, Eng. tr., 1906), and *The Evolution of Man* (1874, Eng. tr., 1910). Although many of his conclusions have been proved erroneous, they attracted a large following and stimulated research. He developed a theory of RECAPITULATION illustrated by his gastraea theory wherein he postulated a hypothetical ancestral form (gastrula) represented by the gastrula stage of individual development. He is known also for his study of invertebrate marine organisms, especially the Radiolaria and sponges.

Haedui: see AEDUI.

haemo–, for words beginning thus see HEMO–.

Hafiz (hăfĭz') [Arabic, =one who knows the Koran by heart], d. 1389?, Persian lyric poet, b. Shiraz. His real name was Shams-ud-Din Mohammed. He was a teacher of the Koran and was in close association with dervishes, whom he continually satirized. According to Moslem criticism he was a SUFI, and in this light they interpret his passionate lines as allegorical. Critics of the West generally incline to construe them literally. His lyrics are always vehement, especially his amatory verses, his drinking songs, and his invective. Hafiz's favorite form is the gazel, in rhyming couplets, comparable to the sonnet. He is buried in a splendid tomb near Shiraz.

Hafnafjord, Icelandic *Hafnarfjörður* (häp'närfyûr"dhür), town (pop. 4,596), SW Iceland, S of Reykjavik. A distribution and shipping center, it has a good harbor and a fishing fleet. During the 15th and 16th cent. German and English traders fought over the port.

hafnium (hăf'nēŭm), metallic element (symbol= Hf, for physical constants see ELEMENT, table). It is widely distributed, appearing associated with zirconium, with which it was confused for some time because of its properties. It has as yet no commercial importance The element was first obtained in 1923 by Dirk Coster and Georg von Hevesy, who gave it its name and to whom is commonly accredited its discovery, although its existence had been recognized previously A substance known as celtium which Georges Urbain had described in 1911 was for a time erroneously thought to be element 72 in the periodic table, the position later filled by hafnium

Hafrs Fjord or **Hafs Fjord** (both· hăfs'fyôrd), inlet of the North Sea, SW Norway, near Stavanger Here in 872 HAROLD I of Norway won a decisive victory

Hagab (hā'–), family which returned from the Exile. Ezra 2 46.

Hagaba or **Hagabah** (both hă'gubŭ), family of Nethinim. Neh 7 48; Ezra 2 45

Hagar (hā'gur) [Heb ,=flight] or **Agar** (ā'gŭr), handmaid of Abraham's wife Sarah and mother of his eldest son, Ishmael She and her son were sent out into the wilderness because of Sarah's jealousy An angel comforted her there Gen 16 21 9–21 St Paul uses Hagar as a symbol for the bondage of the Old Law Gal 4 24 The Hagarites, Hagrites, or Agarenes were a tribe hostile to Israel and probably had nothing to do with Hagar 1 Chron 5 10, Ps 83 6, Baruch 3 23

Hagen, Hermann August (hā 'man ou'gōost hā'gun), 1817–93, German-American entomologist, b Königsberg From 1870 he held at Harvard the first chair devoted solely to entomology to be established in the United States His *Bibliotheca entomologica* (2 vols , 1862–63) was one of the most used working tools of the entomologist for the rest of the century He wrote over 400 papers, describing new European and American insects, including fossil forms

Hagen, Johannes Georg (yōhā'nŭs gā'ôrk hā'gŭn), 1847–1930, American astronomer and mathematician, b Austria A Jesuit, he came in 1880 to the United States to teach In 1888 he was made director of the astronomical observatory at Georgetown Univ , Washington, D C , where he remained until called to Rome in 1906 to be at the head of the Vatican Observatory Much of his research and writing was devoted to the variable stars and to nebulae and cosmic clouds

Hagen, Walter (hā'gŭn), 1892–, American golfer, b Rochester, N Y Hagen won the U S National Open championship in 1914 and again in 1919, he took the British Open title in 1922, 1924, 1928, and 1929 "The Haig," as he is called by golfing fans, also won the U S Professional Golfers Association championship five times (1921, 1924–27) and several other golf titles, including the French Open (1920) and the Australian Open (1931) championships

Hagen (hā'gun), city (pop 126,516), Westphalia, NW Germany It is an industrial center of the Ruhr district, with large iron and steel foundries and machinery plants Though mentioned in the 9th cent , it became a city only in 1746, and its growth is recent In the Second World War, Hagen was very heavily damaged

Hagerstown (hā'gŭrstoun) 1 Town (pop 1,638), E Ind , NW of Richmond. It is a farm trading center and produces machinery **2** City (pop 32,491), co seat of Washington co , NW Md , NW of Frederick in the Cumberland Valley, settled 1762 It is the trading center of an agricultural area and produces organs, furniture, flour, airplanes, cement, shoes, and paper goods Its historic importance comes from its nearness to Antietam and Gettysburg In a near-by state park is Fort Frederick, a restored French and Indian War bastion

Hagersville, village (pop 1,455), S Ont , SW of Hamilton

haggada· see HALAKAH

Haggai (hă'gāĭ) [Heb.,=festival] or **Aggeus** (ăgē'ŭs), book of the Old Testament, 10th of the books of the Minor Prophets, dated 520–519 B C , at Jerusalem, after the return from captivity It is a call to renew work on restoring the Temple (Ezra 4–5) and is addressed to the leader Zerubbabel and the high priest Joshua, saying that the new Temple will be less in material splendor than Solomon's, but its glory will be greater, this embodies a Messianic prophecy (2 7). For bibliography, see OLD TESTAMENT.

Haggard, Sir Henry Rider, 1856–1925, English novelist South Africa, where he served as master of the High Court in the Transvaal, was the scene of many of his highly popular romances *Dawn* (1884), *King Solomon's Mines* (1885), *Allan Quatermain* (1887), and *She* (1887), all in rough but colorful prose, are among his best-known works. He also wrote *The Poor and the Land* (1905), a study of colonization in South Africa; travel sketches; works on agricultural problems; an autobiography, *The Days of My Life* (1926). He was knighted in 1912.

Haggeri (hă'gŭrĭ, hăgē'rĭ), father of MIBHAR.

Haggi (hă'gī) [Heb.,=festive], founder of a Gadite family. Gen. 46.16; Num. 26.15.

Haggiah (hŭgī'ŭ) [Heb.,=festival of God], Merarite Levite 1 Chron. 6 30

Haggith [Heb ,=dancing], mother of ADONIJAH 1.

Hagia Sophia (hā'jŭ sōfē'ŭ, hă'jŭ, hă'gyŭ) [Gr ,= Holy Wisdom] or **Santa Sophia** (sän'tŭ sōfī'u), Turkish *Ayа Sofia*, originally a Christian church at Constantinople, later a mosque, but now converted into a museum of Byzantine art. The supreme masterpiece of Byzantine architecture and one of the world's greatest buildings, it stands on the site of an earlier basilican church erected by Constantius II in 360, some 30 years after Byzantium had become the capital of the Roman Empire This was burned in 404 and rebuilt by Theodosius II in 415, only to be again destroyed by fire in 532 The present structure, entirely fireproof, was built in 532–37 by Emperor Justinian on designs of his imperial architects Anthemius of Tralles and Isidorus of Miletus As a result of severe earthquakes in 553 and 557 the dome collapsed in 558, but was rebuilt by 563 in the form which it has since preserved despite two other reconstructions in 994 and 1356 With the Turkish conquest of Constantinople in 1453, Hagia Sophia became a mosque, and in subsequent years all the interior figure mosaics were obscured under coatings of plaster and painted ornament, while most of the Christian symbols elsewhere were obliterated The four slender minarets, which rise so strikingly at the outer corners of the structure, were added singly and at different times, the crescent supplanted the cross on the summit of the dome, and the altar and the pulpit were replaced by the customary Mohammedan furnishings The spacious nave is covered by a lofty central dome Pendentives make possible its support on a square framework of four huge equal arches, of which the two at east and west are extended and buttressed by great half domes, while the half domes in turn are carried on smaller semidomed exedrae A vast oblong interior, 102 ft by 265 ft , is thus created from a succession of domical elements which build up to a climax in the main dome, 102 ft in diameter and 184 ft high, and in which opens a corona of 40 arched windows shedding a flood of light to the interior At the east end of the nave is the vaulted sanctuary apse, and at the west end a great narthex or vestibule, beyond which an exonarthex opens to the forecourt or atrium Flanking the nave to the north and south are side aisles with galleries over them Their massive vaults, carried at both levels by monolithic columns of green and white marble and purple porphyry, serve as buttresses to receive the thrust of the great dome and its supporting arches, while other buttressing masses are posed above the gallery roofs and hence removed from sight The vast interior is thus wholly free from suggestion of ponderous load, and its effect is that of a weightless golden shell which seems to possess a miraculous inherent stability In one structural organism are epitomized the Roman methods of construction, modified and enriched by new aesthetic theories and realized in strikingly colorful materials and ornamental techniques, which, though often considered Eastern, are in fact the logical outgrowth of trends already apparent in Roman imperial buildings of the first three centuries A D All interior surfaces are sheathed with polychrome marbles and gold mosaic, incrusted upon the brick core of the structure, most of the magnificent figure mosaics have been cleaned and restored to view by American archaeologists Externally, the broad smooth surfaces of stuccoed walls and the great unconcealed masses of vaults and domes pile up impressively. Hagia Sophia served as model for several of the great Turkish mosques of Constantinople See E H Swift, *Hagia Sophia* (1940)

Hagios Ilias (hī'ŏs ēlyē'ŭs) or **Mount Saint Elias,** name of several peaks in Greece The highest (7,895 ft) is in the S Peloponnesus, SW of Sparta, and is the chief peak of the Taygetus mts

Hague, Arnold (hăg), 1840–1917, American geologist, b. Boston, grad Yale, 1863 With S F Emmons in 1866 he joined the Fortieth Parallel Survey (under Clarence King), and together they wrote the second volume, *Descriptive Geology*, of the Survey's report Hague served as government geologist in Guatemala and in N China and with the U S Geological Survey from 1879 In 1883 he was given charge of the Yellowstone Park survey, and most of his subsequent publications deal with his work in that region, including the *Geology of the Yellowstone National Park* (1899) and *Atlas of Yellowstone National Park* (1904) See memoir and complete bibliography in the *Bulletin of the Geological Society of America*, Vol XXIX (1918) An elder brother, **James Duncan Hague,** 1836–1908, also became associated with the Fortieth Parallel Survey and wrote for its report the third volume, *Mining Industry*.

Hague, Frank, 1876–, Democratic political boss, former mayor of Jersey City, N J , b Jersey City He began his political career by working in the sheriff's office in Hudson co. and later as a member of the street and water board of Jersey City In 1913 Hague was elected to the board of commissioners, from 1917 to 1947 he was mayor of Jersey City, and after 1922 was a member of the Democratic National Committee A powerful boss, Hague's political influence spread through state and national politics His attempts to oust the C I O and the American Civil Liberties Union from Jersey City were frustrated by a U S Supreme Court ruling in 1939 He lost much of his power in the 1948 election. See D D McKean, *Boss: the Hague Machine in Action* (1940)

Hague, James Duncan see HAGUE, ARNOLD

Hague, The (hăg), Dutch 's *Gravenhaage* (skhrävünhä'khu) or *Den Haag* (dun häkh'), Fr. *La Haye* (lä ā'), municipality (pop 523,703), capital of South Holland prov and seat of the government of the Netherlands. It is situated c 30 mi SW of Amsterdam and 4 mi. from the North Sea, on which is the popular resort of SCHEVENINGEN The *de facto* capital of the Netherlands, The Hague is the seat of the Dutch royal court, of the Dutch legislature, of the Dutch supreme court of justice, of the International Court of Justice, and of the foreign embassies It is almost wholly residential The Hague was (13th cent) the site of a hunting lodge of the counts of Holland ('s Gravenhaage means the count's wood) In 1250 William, count of Holland, began the construction of a palace, around which a town grew in the 14th and 15th cent In 1586 the States-General of the United Provs of the Netherlands convened in The Hague, which became the residence of the stadholders and the capital of the Dutch republic In the 18th cent The Hague rose to be one of the chief diplomatic and intellectual centers of Europe From 1815 it has been the Dutch royal residence. It was greatly expanded and beautified in the 19th cent by King William II and now is considered one of the finest cities of Europe In 1899 the First Hague Conference met here on the initiative of Nicholas II of Russia, ever since, The Hague has been a center for the promotion of international justice and arbitration In the Second World War several city blocks were destroyed by bombing Among the landmarks of The Hague is the Binnenhof, which grew out of the 13th-century palace and which now houses both chambers of the legislature, it contains the 13th-century Hall of Knights (Dutch *Ridderzaal*) Near by is the Gevangenenpoort, the 14th-century prison where Jan de Witt and Cornelius de Witt were murdered in 1672 The Mauritshuis, a Renaissance structure built as a private residence for John Maurice of Nassau, is now an art museum and contains several of the greatest works of REMBRANDT The Peace Palace (Dutch *Vredespaleis*), completed in 1913, has housed the Permanent Court of Arbitration, the Permanent Court of International Justice, and, since 1945, the International Court of Justice Among the other notable buildings are the royal palace, the Groote Kerk, a Gothic church built in the 15th and 16th cent , the Nieuwe Kerk, containing Spinoza's tomb, and the 16th-century city hall The center of the city is the Plein, a square flanked by government buildings

Hague, La (lä äg'), cape, NW France, W of Cherbourg, extending into the English Channel from the Cotentin peninsula

Hague Conferences (hăg), term for the International Peace Conference of 1899 and the Second International Peace Conference of 1907, both proposed by Russia and meeting at The Hague. These are called usually the First Hague Conference and the Second Hague Conference Neither succeeded in the main announced purpose of effecting a reduction in armaments, but a number of declarations and conventions respecting the laws of war were adopted and were later ratified by many states Ratified prohibitions of aerial bombardment and of the use of submarine mines and poison gas proved ineffective, but more heed was given to conventions respecting the rights of neutral shipping (particularly respecting contraband) and the protection of noncombatants A substantial achievement was the founding of the Permanent Court of Arbitration, popularly called the HAGUE TRIBUNAL However, no state ratified the convention providing for an international PRIZE court with compulsory jurisdiction A third conference scheduled for 1916 was canceled because of the First World War In the attempt to formulate certain rules of international law, the Hague Conferences furnished an example to the League of Nations and the United Nations See J B Scott, *The Hague Conventions and Declarations* (3d ed , 1918)

Hague Tribunal, popular name for the Permanent Court of Arbitration established in 1899 by a convention of the First Hague Conference Its headquarters are at The Hague In 1950 there were 48 countries adhering to the convention Each member nation may appoint to the court up to four jurists versed in international law, and in 1950 there were some 130 jurists on the panel. A case is initiated when two or more nations sign a *compromis*, an agreement to submit a dispute to arbitration The disputants may either select arbitrators from the panel to hear their case or they may have two arbitrators choose an umpire before whom the hearing will be held. Tribunals sit at The Hague

unless another place is specified in the *compromis*. The Hague Tribunal is administered by the Bureau of Registry, which has custody of archives, and by the Permanent Council, which is composed of the diplomatic envoys of member nations accredited to The Hague. The tribunal has arbitrated more than 20 international disputes Important cases were the North Atlantic Coast Fisheries Arbitration (1910) between the United States and Great Britain and an arbitration (1904) of part of the VENEZUELA CLAIMS After the First World War the Hague Tribunal lost most of its importance to the WORLD COURT, which was in 1945 superseded by the INTERNATIONAL COURT OF JUSTICE.

Hahn, Otto (ōt'ō hän'), 1879–, German chemist and physicist His important contributions in the field of radioactivity include the discovery of several radioactive substances, the development of methods of separating radioactive particles and of studying chemical problems by the use of radioactive indicators, and the formation of artificial radioactive elements by bombarding uranium and thorium with neutrons He received the 1944 Nobel Prize in Chemistry for splitting the uranium atom (1939) and discovering the possibility of chain reactions The development of the atom bomb was based on this work Hahn was a member of the Kaiser Wilhelm Institute of Chemistry, Berlin, from 1912 and director from 1928 to 1944 He was in Allied custody (1944–46) and on his return to Germany became head of the Kaiser Wilhelm Gesellschaft, Gottingen (later reorganized as the Max Planck Gesellschaft)

Hähnel, Ernst Julius (ĕrnst' yōō'lyōōs hā'nul), 1811–91, German sculptor He executed decorations in reliefs and statues for the museum and the opera house in Dresden. Among his monuments and portrait statues were those of Beethoven, Leibniz, and Frederick Augustus II Hahnel treated ideal subjects in the neoclassic manner, though in portraiture he showed a moderate degree of realism

Hahnemann, Samuel (hä'numun, Ger zä'mōōĕl hä'nūman), 1755–1843, German physician, founder of HOMEOPATHY He expounded his system in *Organon of the Rational Art of Healing* (1810, Eng tr, 1913) He practiced in Leipzig, Cothen, and Paris and, despite opposition, gained a large following See biographies by R W Hobhouse (1933) and Martin Gumpert (1945)

Hahnemann Medical College and Hospital, in Philadelphia, chartered 1848 as the Homeopathic Medical College of Pennsylvania Certain faculty members organized (1866–67) the Hahnemann Medical College of Philadelphia, this was reunited (1869) with the Homeopathic Medical College of Pennsylvania, taking the name of the latter. In 1885 it assumed its present name

Hai (hā'ī), variant of AI 1

Haida Indians (hī'dŭ), North American Indian tribe living on the Queen Charlotte Islands, off British Columbia, and on the southern end of the Prince of Wales Island, off Alaska They speak the Haida language, which comprises its own family (also called Skittagetan, for a supposed relationship, see ATHAPASCAN) In physical and cultural characteristics they are closely related to the Tlingit and the Tsimshian Indians, the three tribes belong to the Pacific Northwest cultural area Before the advent (early 19th cent) of white fur traders, the Haida lived in large cedar plank houses, fished for salmon, and hunted sea mammals Their society was divided into the Raven and Eagle clans, and their customs featured the conspicuous display of wealth (see POTLATCH). They then numbered some 8,000, but by 1880 disease, particularly smallpox and venereal infections, had reduced them to some 2,000 Today most of the Haida are employed in extracting dogfish oil and in canning salmon They also sell carved wooden figures, for which they are especially noted, to tourists and traders See J R Swanton, *Contributions to the Ethnology of the Haida* (1905); Charles Harrison, *Ancient Warriors of the North Pacific* (1925).

Haidar Alī see HYDER ALI

Haidar Pasha, Turkey see HAYDARPASA.

Haifa (hī'fä), seaport (1944 estimated pop 128,800), NW Palestine, on the Mediterranean It is at the foot of Mt Carmel, which creates a bay here The harbor, developed by the British, is one of the biggest of the Mediterranean ports Haifa, the chief city of N Palestine, is growing industrially, it is the terminus of a pipe line from Iraq

Haig, Douglas Haig, 1st **Earl,** 1861–1928, British soldier He saw active service in the Sudan (1898) and South Africa (1899–1902) before commanding the 1st Army in France (1914–15) upon outbreak of the First World War He was made British commander in chief (1915) His generalship was notable for its painstaking qualities rather than its brilliance He preserved the confidence of the British people throughout the war, despite the antagonism between him and Prime Minister Lloyd George. See *Sir Douglas Haig's Despatches (1915–19)* (ed. by J. H. Boraston, 1919); biographies by John Charteris (1929) and Duff Cooper (1936)

Haight, Charles Coolidge (hāt), 1841–1917, American architect. His works include several buildings of the old Columbia Univ. campus on Madison Ave. and the General Theological Seminary in New York city and buildings at Yale Univ He was a leading influence in the adaptation of English collegiate Gothic in America.

Hail or **Hail** (both hā'ĕl, hīl), city (pop. c.15,000), N central Saudi Arabia. It was the capital of the independent emirate of Jebel Shammar, which Ibn Saud conquered in 1921 and added to his domain.

hail, form of precipitation occurring usually over small areas in very hot weather at the beginning of a violent THUNDERSTORM The nucleus of the hailstone is carried up in the turbulent air characteristic of the first part of thunderstorms, it is coated with snow in the cold upper areas, it drops or is carried down, where it is coated with water, and it is again carried up, where it is frozen and coated with snow This process is repeated as long as the violence of the air currents overbalances the weight of the hailstones

Hailar (hī'lär'), Mandarin *Hai-la-ehr,* city (pop. 16,140), capital of Hingan prov, NE China. There is trade in horses and hides The city was formerly called Hulun

Hailes, David Dalrymple, Lord see DALRYMPLE.

Haile Selassie (hī'lē sŭlä'sē, sūlä'sē) [Amharic, =power of the Trinity], 1891–, emperor of Ethiopia, originally named Tafari Makonnen, grandson of Menelik II He was educated at a French mission school As governor of several Ethiopian provinces he held the title RAS. When Lij Yasu, the emperor who succeeded Menelik, became a Mohammedan, Ras Tafari, a Coptic Christian, compelled his deposition and established Menelik's daughter Judith as empress with himself as regent Supporters of Lij Yasu waged guerrilla warfare until 1921, when he was captured In 1928 Ras Tafari was crowned king of Ethiopia, and in 1930, after Judith's death, he became emperor under his present name He attempted internal reforms, especially in Shoa, the central part of Ethiopia, which was most effectively under his control He took great pride in the suppression of slavery When Italy invaded Ethiopia in 1935, he personally led defending troops in the field In May, 1936, when further resistance was hopeless, he fled to British protection, Twice (1936, 1938) he vainly appealed to the League of Nations for effective action against Italy Most of his exile was spent in retirement near Bath, England In 1940, after Italy entered the Second World War, Great Britain flew Haile Selassie to the Anglo-Egyptian Sudan to rally his people In Jan, 1941, he reentered Ethiopia and in May regained his throne at Addis Ababa His main efforts during and after the war were to consolidate his country and to encourage education. See biography by Princess Asfa Yilma (1936)

Hailey, city (pop 1,443, alt 5,342 ft), co seat of Blaine co, S central Idaho, laid out 1881, inc as a village 1903, as a city 1909 It is the headquarters of Sawtooth National Forest, the center of near-by mining, lumbering, stock-raising, and farming activities, and a resort town The Sawtooth Mts lie to the north

Haileybury, town (pop 2,268), E Ont, N of North Bay and on Lake Timiskaming, founded 1903, inc 1905 It is a distributing and residential center for a region of silver, gold, and cobalt mines It has pulp and lumber mills and an airport and is a popular ski resort The town was rebuilt after almost total destruction by fire in 1922

Haileyville, city (pop 1,183), SE Okla, contiguous to HARTSHORNE, settled c 1890

Hainan or **Hai-nan** (hī'nan'), island (11,400 sq mi, pop 2,116,700), off Kwangtung prov, China It is separated from the mainland by Hainan Strait (15 mi wide) and is bordered on the west by the Gulf of Tonkin and on the east by the China Sea Hoihow is the chief port Since the climate is hot and wet, the coastal lowlands yield heavy crops of rice, tobacco, and sugar cane The mountainous inland region is densely forested and rich in minerals Japan held Hainan from 1939 to the end of the Second World War

Hainaut (ĕnō'), province (1,437 sq mi, pop 1,190,543), SW Belgium, bordering in the west on France. Mons is the capital Other important cities are Charleroi and Tournai Drained by the Escaut (Scheldt), the Sambre, the Dender, and the Charleroi-Brussels Canal, the province is partly agricultural, with cattle raising and dairying in the south, but its chief importance is due to the coal mines of the BORINAGE region and to its old industries—textiles in the north and metal manufactures in the south. Hainaut is predominantly French-speaking The county of Hainaut was created in the 9th cent, and in the divisions of the Carolingian empire became a fief of Lotharingia Count Reginar Long-Neck made himself master (10th cent) of the duchy of Lower Lorraine, which continued under his elder son (see LOTHARINGIA) while his younger son inherited Hainaut The widow of Reginar V married (1036) Count Baldwin V of FLANDERS, but at his death (1070) Hainaut and Flanders were again separated. In 1191 Flanders once more passed, through marriage, to the counts of Hainaut. Baldwin VI of Hainaut (as Baldwin IX, count of Flanders) took part in the Fourth Crusade and became (1204) emperor of Constantinople as BALDWIN I. After his death the two counties were ruled by his daughters, Joan and Margaret, and their husbands, but in 1278 they were again separated, Flanders passing to Guy of Dampierre and Hainaut to John of Avesnes, both grandsons of Margaret John of Avesnes was also count of HOLLAND, and the two fiefs were united under rulers who raised them to a position of importance in European affairs in the 14th cent Philippa of Hainaut married Edward III of England and Countess Margaret married Emperor Louis IV In 1433 Philip the Good of Burgundy added Hainaut and Holland to his dominions after overcoming the resistance of his cousin, Countess Jacqueline Hainaut remained under the house of Burgundy until the death (1482) of MARY OF BURGUNDY, when its history became that of the Austrian Netherlands (see NETHERLANDS, AUSTRIAN AND SPANISH) By the treaties of the Pyrenees (1659) and of Nijmegen (1678) parts of Hainaut, including Valenciennes, were permanently annexed to France, they form part of the present NORD dept. Hainaut was formerly spelled Hainault

Haines (hānz), village (pop. 357), SE Alaska, on Chilkoot Inlet of Lynn Canal, SSW of Skagway A fur-trading post was established here in 1867, and later a U S army post was established Fishing and fur farming are carried on, and the town has a good harbor In the Second World War a road, known as the Haines Cutoff, was built to connect with the Alaska Highway at Haines Junction, Yukon territory, providing a short land route to the interior.

Haines City, city (pop 3,890), central Fla, ENE of Tampa and NNW of Lake Kissimmee It is a shipping center for a citrus-fruit area A military institute is here, and at near-by Lake Alfred is an agricultural experiment station

Hainisch, Michael (mī'khāĕl hī'nĭsh), 1858–1940, president of Austria (1920–28), son of Marianne Hainisch, founder of the Austrian feminist movement He was a leading agriculturist and a writer of note Politically acceptable to all majority parties, he was elected first president of the new republic in 1920 and was reelected in 1924 In 1930 he was minister of commerce and communications in the Schober cabinet and in the same year represented Austria at the League of Nations economic conference Throughout his political career Hainisch strongly favored a union of Austria and Germany

Haiphong (hīfŏng'), city (pop c 73,000), Indo-China, main port and naval base of Tonkin on a small island at the confluence of two rivers 55 mi ESE of Hanoi Its exports are rice, corn, zinc, tin, and cotton Haiphong has cement, glass, and tin-smelting plants, rice mills, and brick kilns. It was developed in 1874 as a French naval base

hair, modified skin structure, consisting of a shaft and a root which is expanded into a hair bulb embedded in the dermis of the skin A single hair is a delicate filament growing from the hair follicle, collectively, the term hair applies to all of these filaments which cover the skin Hairs vary in character, e g, in coarseness, length, color, and form, and also in accordance with age, sex, and race Growth of hair continues for varying periods, reaches a resting interval, and is then shed The hair of the scalp passes through this cycle in about four years The eyebrows, the eyelashes, and the hair of the axillary region and other parts of the body have shorter life cycles See also BALDNESS

hairdressing, one of the earliest steps in the development of COSTUME Primitive men plastered their hair with clay and tied into it trophies and badges to signalize their feats and qualities Among women, a band to keep the hair from the eyes was the forerunner of the fillet Much early hairdressing is ceremonial and traditional, as in the feather tufts or stiffened coronet of some savages, the queue of the Chinese, the tonsure, the flowing locks of the maid, and the bound or cut tresses of the wife Dishevelled hair, sprinkled with ashes, has been long a sign of mourning, anointing and adorning the hair has been symbolical of joy From ancient times hair has been dyed, bleached, curled, braided, waxed and oiled, hennaed, powdered with gold or other substances, cut, shaved, mixed with false hair, perfumed, covered with a wig, or adorned with beads, jewels, feathers, ribbons, combs, pins, nets, and flowers, natural and artificial Short hair was often a sign of servitude, as among the Greeks, Celts, and Germans until in the 11th cent the Church forbade long hair to men The extremely high coiffure for women and the elaborate WIG for men were in vogue in the 17th and 18th cent. The French Revolution brought only temporary simplicity, for with the middle of the 19th cent came the huge waterfalls, or chignons, of false hair Methods of modern hairdressing are but variants of the old, to which chemistry and the mechanical arts lend greater efficiency.

hairworm or **horsehair worm,** long, slender, unsegmented roundworm usually included in the phylum Nemathelminthes. The larvae are parasitic, usu-

ally in the body of an aquatic insect larva and later in another insect, such as a beetle or grasshopper. After developing to maturity they escape from the second host into the water, where they live as adults The superstition that the worm developed from a horsehair gave it its name

Haiti (hā'tē), Fr. *Haïti* (āētē'), republic (c 10,700 sq. mi ; 1944 estimated pop. 3,000,000), West Indies, on the western third of the mountainous island of HISPANIOLA The capital is PORT-AU-PRINCE. After its discovery by Columbus in 1492, the region now known as Haiti was ignored by the Spanish and consequently in the 17th cent became a base for English and French buccaneering Gradually French colonists, importing African slaves, began to develop rich sugar plantations on the northern coast (the Plaine-du-Nord about CAP-HAÏTIEN), and finally Spain, unable to support its claim, ceded Haiti (Saint-Domingue as it was then called) to France in 1697 The pattern of settlement took the French south in the 18th cent , and society became stratified into Frenchmen, creoles, freed Negroes, and Negro slaves Politically and socially Haiti was a tinderbox, the spark was the French Revolution After an abortive uprising under Vincent Ogé, the entire structure of Haitian society collapsed The Negroes formed into guerrilla bands under the remarkable leadership of TOUSSAINT L'OUVERTURE During the war between France and England, when the English invaded Haiti in 1793, Toussaint maintained an uneasy alliance with the mulatto André RIGAUD and cooperated with the remnant of French governmental authority In 1795 Spain ceded its part of the island, SANTO DOMINGO, to France, and in 1801 Toussaint conquered it In 1802 Napoleon sent General LECLERC with a huge punitive force to restore French rule, but Leclerc was unable to conquer the interior A peace was patched up, and Toussaint, taken by trickery, died in a French prison But the revolt went on, the French were forced to withdraw, and Haiti's complete independence, proclaimed at GONAÏVES in 1804, was confirmed by the defeat of Gen Marie Louise Ferrand The remaining whites were expelled Jacques DESSALINES, the first Negro emperor, was assassinated, and Haiti was divided between Henri CHRISTOPHE and Alexandre PÉTION, each struggling unsuccessfully to rule the whole nation After their deaths Haiti was unified by J P BOYER, who also (1822–44) brought Santo Domingo under Haitian control The overthrow (1858) of SOULOUQUE by N F GEFFRARD ended the last of the Negro emperor reigns But anarchy persisted, heightened by the struggle of mulatto against Negro, and, slipping backward, Haiti became a country of primitive agricultural economy with heavy international indebtedness The ruinous financial position caused the United States to exercise a customs receivership over the country from 1905 to 1941 In 1915 the Haitian congress was forced to accept an agreement permitting American control, two years later the resident U S naval commander dissolved the Haitian congress and dictated a new constitution Although financial, sanitary, and material progress increased under American control, Haiti and other Latin American nations bitterly protested against violation of sovereignty, and a U S Senate investigating committee found in 1921 that the avowed purpose of preparing the Haitians for reliable self-government had been ignored Continued complaints led in 1930 to recommendation by the Forbes Commission of gradual withdrawal, which was completed in 1934 Since Haiti's preeminence in sugar production was destroyed by the civil strife of the 19th cent and crop diversification was enforced by law after the collapse of the sugar market in 1926, coffee accounts for about 50 percent of exports, followed by cotton, sugar, sisal, bananas, and cacao There is little manufacturing Since the middle of the 19th cent Haiti has been dominated by the mulattoes, who have clung to the French cultural tradition, while the Negroes (about 95 percent of the population) follow Dahomey African cultural patterns with only a smattering of French They speak a patois and practice a more or less communal type of agriculture. Their religion is predominantly Roman Catholic, but African nature gods are still worshiped, and *vodun* (voodoo) rites are prevalent On his small, fertile farm lands, producing a variety of crops, the Negro raises only enough to keep himself well fed and lives in poverty. The security offered by the American occupation caused an unforeseen result—an enormous increase in population Long overcrowded (at present Haiti has a very dense population—c 280 per square mile), Haitians have filtered across the undemarcated boundary into the Dominican Republic Frequent border clashes culminated in 1937 in the bloody massacre of between 10,000 and 15,000 Haitians by Dominican troops See H P Davis, *Black Democracy* (1928), M J Herskovits, *Life in a Haitian Valley* (1937), J G Leyburn, *The Haitian People* (1942), L L. Montague, *Haiti and the United States* (1940).

Hajduki Wielkie, Poland. see CHORZOW.

Hajj Omar (hăj' ō'măr), 1797–1865, Moslem religious leader of Africa. He was chieftain of the large Tukulor domain in Senegal. Bitterly resenting the encroachments of the French, he began in 1855 a holy war against them Faidherbe, the French governor, suffered some early defeats, but in the last phase of the intermittent warfare Hajj Omar was driven north and committed suicide to avoid capture His sons quarreled over his domain until 1890, when it was incorporated into French territory

Hakata see FUKUOKA.

Hakkatan (hă'kutăn, hăkă'tăn) [Heb ,=the small], family returned from the Exile Ezra 8 12

Hakkoz (hă'kŏz) [Heb , =the thistle], the same as Koz

Hakluyt, Richard (hăk'lōōt), 1552?–1616, English geographer He was graduated in 1574 from Oxford, where he later lectured on geography A passionate interest in the history of discovery led him to collect and publish narratives of voyages and travels He was active in promoting English discovery and colonization, especially in North America, and was a member of the London Virginia Company His chief work, called by J A Froude "the prose epic of the English nation," was *The Principal Navigations, Voyages, Traffics, and Discoveries of the English Nation* (3 vols , 1598–1600), an enlargement of a one-volume version (1589) Other publications include *Divers Voyages touching the Discovery of America and the Islands Adjacent* (1582) and an account of the discoveries of Hernando De Soto under the title *Virginia Richly Valued* (1609) Manuscripts left at his death were included by Samuel Purchas in his *Pilgrims* (4 folios, 1625), others are preserved at the Bodleian Library, Oxford The publication of narratives of early explorations has been continued by the Hakluyt Society, founded in 1846 See G B Parks, *Richard Hakluyt and the English Voyages* (1928), E G R Taylor, ed , *The Original Writings & Correspondence of the Two Richard Hakluyts* (1935)

Hakodate (hakō'da'tā), city (1947 pop 211,441), extreme SW Hokkaido, Japan, a port on Tsugaru Strait Opened (1854) to U S ships and a little later to general foreign trade, it is today the chief port of the island and a commercial and industrial center, with ironworks, shipyards, and an extensive fishing industry

Hakon. For rulers of Norway named thus, see HAAKON

Hakone (ha"kō'nā), resort region of mountains, lakes, and hot springs, central Honshu, Japan It is included in Fuji-Hakone National Park, of which the central feature is Fujiyama

Hakupha (hăku'fu), family returned from the Exile. Ezra 2 51, Neh 7 53

Hal (āl), Flemish *Halle* (ha'lu), town (pop 17,421), Brabant prov , Belgium, SSW of Brussels It is a market center and has textile manufactures Its 14th-century Gothic church contains a celebrated miraculous image of the Virgin and is a place of pilgrimage

halacha, see HALAKAH

Halah (hā'lŭ) unidentified place of upper Mesopotamia 2 Kings 17 6, 18 11, 1 Chron 5 26

Halak (hă'-) [Heb ,=smooth], unidentified mountain, near Mt Seir Joshua 11 17, 12 7

halakah or **halacha** (both hala'kha, halakha'), that part of the MIDRASH and the TALMUD which embraces the legal statutes and ordinances of the unwritten commentaries based upon the teachings of the Old Testament It consists of interpretations of the Scriptures and of legal decisions affecting conduct—religious, political, and civil. In contradistinction to the halakah is the haggada, also based upon the Scriptures and the oral traditions, which is the aesthetic and literary element of the Oral Law, illustrating its application through parables, legends, tales, and allegories After the Talmud was finished, both these elements were extracted and amplified

Halbe, Max (maks'hal'bu), 1865-1915, German naturalistic dramatist and novelist, influenced by Ibsen and Hauptmann His most lasting work is the drama *Jugend* (1893, Eng tr , *When Love Is Young*, 1904) Other plays include *Mutter Erde* (1897, Eng tr , *Mother Earth*, 1913–15) and *Haus Rosenhagen* (1901, Eng tr , *The Rosenhagens*, 1910) Two of his novels are *Die Tat des Dietrich Stobäus* [the deed of Dietrich Stobäus] (1910) and *Jo* (1917) *Jahrhundertwende* [the turn of the century] (1935) tells of his life from 1893 to 1914

Halberstadt (hal'bŭrshtat), city (pop 47,652), in the former Prussian province of Saxony, central Germany, SW of Magdeburg It is a railroad center with varied manufactures An episcopal see since 814, it was burned (1179) by HENRY THE LION, after whose fall (1180) the bishopric of Halberstadt was given in temporal fief to the bishops by Emperor Frederick I It was annexed (1648) by Brandenburg. Among its many fine medieval buildings are the Liebfrauenkirche (12th cent) and the cathedral (13th-17th cent , heavily damaged in the Second World War)

Halcyone (hălsī'ŭnē) [Gr ,=kingfisher], in Greek mythology, daughter of Aeolus and wife of Ceÿx (sē'ĭks). When her husband drowned while on his way to consult the oracle of Apollo, Halcyone from grief threw herself into the sea The gods, from compassion, changed the pair into kingfishers or halcyons, and Zeus forbade the winds to blow seven days before and seven days after the winter solstice, the breeding season of the halcyon. The expression "halcyon days" (hăl'sēun) comes from this myth and figuratively means a time of peace and tranquillity. Another legend says that they were changed to birds because they called themselves Zeus and Hera

Haldane, John Scott (hôl'dān), 1860–1936, English scientist He served as government adviser on public health, and he made important studies in respiration and in gasometry of the blood and contributed to industrial hygiene by his researches in factory ventilation and problems of health and safety in mining He founded and was joint editor of the *Journal of Hygiene*. His works include *New Physiology* (1919), *Respiration* (1922), *Gases and Liquids* (1928), *The Sciences and Philosophy* (1929), and *Materialism* (1932) See study by A H. Simpson (1938) His son, **John Burdon Sanderson Haldane,** 1892–, professor of biometry at University College, London, from 1937, is known for his work in the application of mathematics to biology and for his graphic expositions of science for the layman His works include *Animal Biology* (with J S Huxley, 1927), *Enzymes* (1930), *Marxist Philosophy and the Sciences* (1939), *Adventures of a Biologist* (1940), *New Paths in Genetics* (1941), *Science Advances* (1947), and *What Is Life?* (1947)

Haldane of Cloan, Richard Burdon Haldane, 1st **Viscount,** 1856–1928, British statesman and philosophical writer He entered the House of Commons as a Liberal (1885) As Campbell-Bannerman's war secretary (1905–12) he effected drastic army reforms, creating the territorial forces and an imperial general staff On a diplomatic mission to Germany (1912), he rejected a proposal of British neutrality in any war into which Germany might be drawn His tenure of the office as lord chancellor (1912–15) ended after outbreak of the First World War, when popular clamor mistakenly attacked him as pro-German In Ramsay MacDonald's first short Labour ministry (1924) he was again lord chancellor He was first chancellor of the Univ of Bristol and was elected lord rector of Edinburgh His books include *Pathway to Reality* (1903), *Reign of Relativity* (1921), *The Philosophy of Humanism* (1922), *Selected Addresses and Essays* (1928), and an autobiography (1929) See biography by Frederick Maurice (2 vols , 1937–39)

Haldeman, Samuel Stehman (hôl'dumŭn), 1812–80, American naturalist and philologist, b. Locust Grove, Pa He was professor of natural history (1851–55) and of comparative philology (1868–80) at the Univ of Pennsylvania He made significant studies of fresh-water mollusks In addition to zoological monographs he wrote a number of works on philology

Halden (hal'dŭn), city (pop 9,149), co seat of Ostfold co , SE Norway, a seaport on the Skagerrak near the Swedish border There are cellulose, wood pulp, paper, and other industries Fredriksten was its fortress, when besieging it Charles XII of Sweden received (1718) his fatal wound Halden was also known as Fredrikshald and Frederikshald

Haldimand, Sir Frederick (hôl'dĭmund), 1718–91, British general and colonial governor of Quebec, b Neuchâtel canton, Switzerland A soldier of fortune in several European armies before joining (1754) the British forces, he commanded a battalion in America in the last of the French and Indian Wars Later he was military governor (1762–64) of Trois Rivières dist in Quebec, commander in chief (1767–73) in Florida, which then extended to the Mississippi, and commander in chief of North America (1773–74) during Thomas Gage's absence in England His patience with the colonists during the episode of the Boston Tea Party helped to prevent hostilities at the time Recalled to England at the opening of the American Revolution because it was considered best to have a person of English birth in chief command, he was sent (1778) to Quebec to replace Guy CARLETON as governor There, aided by his native knowledge of French, he succeeded in keeping the loyalty of the French Canadians when France was aiding the Americans He efficiently organized the defenses of the province, inaugurated a system of canals, and provided admirably for the Loyalist refugees from the revolting colonies In 1784 he returned to England His papers, in the British Museum, have been a leading historical source See biography by J. N. McIlwraith (1904)

Hale, Benjamin, 1797–1863, American educator, b Newburyport, Mass , grad Bowdoin, 1818 He served as tutor at Bowdoin and in 1823 founded and became principal of Gardiner Lyceum, Gardiner, Maine, where he organized practical technical courses which were widely influential He was professor of chemistry and mineralogy at Dartmouth from 1827 to 1835 and was active also as an Episcopal minister In 1836 he became president of Geneva (now Hobart) College at Geneva, N Y. Before his retirement in 1858, Hale liberal-,

ised the curriculum of the college, stabilised its finances, and increased its reputation. See A. D. White, *The Work of Benjamin Hale* (1911).

Hale, Edward Everett, 1822–1909, American author and Unitarian clergyman, b Boston, grad Harvard, 1839. He was the nephew of Edward Everett and the brother of Lucretia P Hale He was pastor of a church in Worcester, Mass (1842–56), and of one in Boston (1856–1903) and was widely influential as a reformer and prolific writer of magazine articles From 1903 until his death he was chaplain of the U S Senate His famous short novel, *The Man without a Country*, was published anonymously in the *Atlantic Monthly* in 1863 Of his voluminous writings the best are *Franklin in France* (1887–88), the autobiographical *New England Boyhood* (1893), and *Memories of a Hundred Years* (1902) See E E Hale, Jr, *The Life and Letters of Edward Everett Hale* (1917)

Hale, Eugene, 1836–1918, American statesman, b Turner, Maine He practiced law at Ellsworth, Maine, and was (1867–68) a member of the Maine legislature. He served (1869–79) in the U S. House of Representatives and gained leadership in naval affairs He allied himself with the regular Republicans and became closely united with James G Blaine Hale declined appointments as Postmaster General by President U S Grant and as Secretary of the Navy by President Rutherford B Hayes He was (1881–1911) in the U S Senate, where he upheld the protective tariff and opposed many measures demanded by progressives He also opposed American expansion during and after the Spanish-American War, even losing interest in naval development at this time After 1900 he was attacked for lack of sympathy with Theodore Roosevelt His son, **Frederick Hale,** 1874–, b Detroit, grad Harvard, 1898, was (1917–41) Senator from Maine, and he too showed special interest in naval affairs

Hale, George Ellery, 1868–1938, American astronomer, b Chicago, grad Massachusetts Institute of Technology, 1890 He is noted as the organizer of three great observatories, Mt Palomar Observatory, Yerkes Observatory (which he directed, 1895–1905), and Mt Wilson Observatory (director, 1904–23) The inventor of the spectrohelograph, he was an outstanding authority on solar vortaces and magnetic fields From 1895 he was joint editor of the *Astrophysical Journal* Besides technical monographs he wrote *Depths of the Universe* (1924), *Beyond the Milky Way* (1926), and *Signals from the Stars* (1932)

Hale, Horatio Emmons, 1817–96, American ethnologist, b. Newport, N H ; son of Sarah Josepha Hale He served as ethnologist on the Charles Wilkes exploring expedition (1838–42) and wrote Vol VI, entitled *Ethnography and Philology*, of the expedition's reports He also wrote *An International Idiom* (1890), a study of the Chinook jargon, and many significant papers on American Indian languages

Hale, John Parker, 1806–73, American politician, b Rochester, N H , grad Bowdoin College, 1827 He practiced law at Dover, N H , and had remarkable success with juries He was U S. district attorney (1834–41) and served in the House of Representatives (1843–45) His refusal to vote for the annexation of Texas caused his expulsion from the Democratic party He then (1847–53) served in the Senate as an independent and was nominated (1852) for President by the Free-Soil party Again (1855–64) in the Senate, he was accused of questionable practices as naval committee chairman, and he was defeated (1864) for reelection He was minister to Spain (1865–69)

Hale, Lucretia Peabody, 1820–1900, American author, b Boston, sister of Edward Everett Hale She is chiefly remembered for her amusing stories for children, *The Peterkin Papers* (1880) and *The Last of the Peterkins* (1886)

Hale, Sir Matthew, 1609–76, English jurist He was successively a judge in the Court of Common Pleas (1654), chief baron of the Exchequer (1660), and chief justice of the Court of King's Bench (1671), and he served under both Oliver Cromwell and the crown. Hale is best known for his scholarly works on criminal law, including *Pleas of the Crown* (1678) and *History of the Pleas of the Crown* (1685). His *History of the Common Law of England* (1713) was a pioneer work

Hale, Nathan, 1755–76, American patriot in the American Revolution, b. Coventry, Conn , grad Yale, 1773. A young schoolteacher when the Revolution broke out, he was commissioned an officer in the Connecticut militia, served in the siege of Boston, then went to take part in operations in New York He volunteered for the dangerous mission of getting information about the British forces on Long Island, where he went in the easy disguise of a schoolmaster He was discovered, captured (possibly by Robert Rogers), and hanged without trial He is remembered especially for the statement he is said to have uttered on the gallows, "I only regret that I have but one life to lose for my country." See biography by H P. Johnston (1914), Morton Pennypacker, *General Washington's Spies on Long Island and in New York* (1939); D. G Seymour, *Documentary Life of Nathan Hale* (privately printed, 1941).

Hale, Nathan, 1784–1863, American journalist; nephew of Nathan Hale, patriot and spy He owned and published (1814–54) the Boston *Daily Advertiser*, the first successful daily in New England, and used in it the then new device of the editorial He also organized and was president (1831–49) of the Boston and Worcester RR. Edward Everett Hale was his son.

Hale, Philip, 1854–1934, American music critic, b. Norwich, Vt , grad Yale, 1876, studied music in Germany and France. He was music critic of the Boston *Post* (1890–91), Boston *Journal* (1891–1903), and Boston *Herald* (1903–34) and annotated the program notes of the Boston Symphony Orchestra from 1901 until his death A collection of his writings, *Boston Symphony Programme Notes*, was published in 1935

Hale, Philip Leslie, 1865–1931, American painter, art critic, and teacher, b Boston He taught for 30 years at the Museum of Fine Arts, Boston Two of his paintings are *The Girl with the Muff* and *Madonna of the Porcelain Tub*. He was the son of Edward Everett Hale His *Jan Vermeer* was published in 1913

Hale, Sarah Josepha (Buell), 1788–1879, American author and editor, b near Newport, N H Left a widow in 1822 with five children to support, she became editor in 1828 of the *Ladies' Magazine*, Boston, and in 1837 of *Godey's Lady's Book*, Philadelphia, where she remained over 40 years The illustrated *Lady's Book* strongly influenced fashions and manners Although Mrs Hale was no feminist, she constantly urged the higher education of women She also advocated a national Thanksgiving holiday Her authorship of "Mary Had a Little Lamb," published in her *Poems for Our Children* (1830), has been disputed Horatio Emmons Hale was her son See Ruth Finley, *The Lady of Godey's* (1931)

Hale, William Bayard, 1869–1924, American journalist, b Richmond, Ind , educated at Boston and Harvard universities He left the ministry c 1900 to become a star feature writer and special correspondent He wrote an official biography of Woodrow Wilson (1912), helped in the publicity campaign to elect him, and gave a report as confidential agent in Mexico (1913) which probably influenced the President against Huerta In 1915 Hale turned propaganda adviser for Germany until the United States entered the war He was denounced and ostracized in 1918 and lived in Europe the rest of his life See biography of Woodrow Wilson by Ray Stannard Baker, Vols III-IV (1931), G S Viereck, *Spreading Germs of Hate* (1930)

Hale, William Gardner, 1849–1928, American classical scholar, b Savannah, Ga , grad Harvard, 1870 He was professor of Latin in Cornell (1880–92) and in the Univ of Chicago (1892–1919) He was a leader in the foundation of the American School of Classical Studies at Rome Classical syntax was his chief interest, and he was one of the few scholars who applied linguistic methods to its study.

Haleakala (hä″lää″kalä′), mountain, 10,032 ft high, on E Maui, T H. In Hawaii National Park, it is the largest inactive crater in the world, 2,000 ft deep, 7 5 mi long, 2 4 mi wide, and 20 mi in circumference Rare silver sword plants are found.

Haleb, Syria: see Aleppo.

Haledon (hāl′dun), borough (pop 5,303), NE N J., NW of Paterson, inc 1908

Hales, Alexander of. see Alexander of Hales

Hales, John, 1584–1656, English clergyman and scholar, often alluded to as the Ever-Memorable He won distinction by his lectures on Greek at Oxford, his preaching, and his writings From 1613 to 1649 he held a fellowship at Eton College He attended the Synod of Dort (1618–19) His attitude of religious tolerance found expression in *Schism and Schismatics*, written c 1636 and published anonymously in 1642 Archbishop Laud in 1639 made Hales a canon of Windsor, but he was ejected from that post in 1642 and from his Eton fellowship in 1649 His remaining years, under the Commonwealth, were spent in obscurity and poverty In the *Golden Remains of the Ever Memorable Mr John Hales* (1659), with a preface by John Pearson, are included a number of his writings

Hales, Stephen, 1677–1761, English clergyman and physiologist From 1709 he was perpetual curate of Teddington His experimental studies in both animal and plant physiology were outstanding contributions to the progress of science In his investigations of circulation he made the first measurements of blood pressure by inserting a tube in a horse's artery Plant physiology was given impetus by his work on transpiration, root pressure, circulation of sap, and the relationship between green plants and air His mechanical inventions included apparatus for ventilating buildings Some of his studies are described in his *Vegetable Staticks* (1727), *Haemostaticks* (1733), and *A Description of Ventilators* (1743).

Halévy, Jacques François Fromental Élie (ählā′ frāswä′ frômätäl′ älē′ älāvē′), 1799–1862, French operatic composer. He studied with Cherubini at the Paris Conservatoire, where he became a professor in 1827. Bizet, who later became his son-in-law, was one of his pupils. His one big success was *La Juive* (1835), although others, such as the comic opera *L'Eclair* (1835) and *La Reine de Chypre* (1841), enjoyed popularity in their time. His style today seems unpolished and repetitious, but at his best he reveals a fine melodic gift and a sense for dramatic effectiveness.

Halévy, Joseph (ähōzĕf′), 1827–1908, Jewish-French Orientalist and biblical critic, b Adrianople, Turkey. He made a report on the Falashas, deciphered Sabean and Himyaritic inscriptions, and argued that the Sumerians never existed at all, their literature being merely Babylonian literature in a secret writing.

Halevy, Judah: see Judah ha-Levi.

Halévy, Ludovic (lüdôvēk′ älāvē′), 1834–1908, French librettist. His first great success was the libretto, with Henri Crémieux, to *Orphée aux enfers* (1858) by Jacques Offenbach. Later, collaborating with Henri Meilhac, Halévy wrote the libretto to Bizet's *Carmen* (1875).

Haleyville, city (pop 2,427), NW Ala., S of Florence near William B. Bankhead National Forest.

half-timber house, type of construction of the Middle Ages in N Europe, used chiefly for dwellings Some French examples date from the 12th cent , and in the 13th cent the medium had reached high development In this form of construction the skeleton frame of the building, with all supporting and bracing members, was of timber, usually oak The outside enclosing walls were of wattle and daub, plaster, or brick, the material being used as a filling between the exposed structural timbers The work of the 14th, 15th, and 16th cent gave increasing decorative emphasis to the timbers, which had richly carved Gothic or Renaissance ornament Many cottages, farmhouses, and manors in England used half-timber, but in France and Germany it was chiefly employed for town dwellings In these three countries many fine examples remain, particularly in the Rhine towns of Germany and at Rouen, Lisieux, and Caen in France. Half-timber, used in some of the 17th-century dwellings of the American colonists, proved unsuited to the climate and was soon abandoned for more weather-tight methods Primarily it was an honest and organic constructive method, and the many modern attempts to use it for its purely decorative value are often meretricious See A W. Jackson, *The Half-Timber House* (1912)

half tone· see photoengraving and printing.

Half-Way Covenant, a doctrinal decision of the Congregational churches in New England The first generation of Congregationalists had decided that only adults with personal experience of conversion were eligible to full membership but that children shared in the covenant of their parents and therefore should be admitted to all the privileges of the church except the Lord's Supper The question arose (c 1650) whether this privilege should be extended to the children of these children, even though the parents of the second generation may have confessed no experience which brought them into full communion It was proposed (1657) and adopted (1662) by a church synod that the privileges should be extended The measure, to which the nickname Half-Way Covenant became attached, provoked much controversy and was never adopted by all the churches Portions of many congregations seceded to form new settlements, among these Newark, N J

Halhul (hāl′hŭl), mountain town, S Palestine, just N of Hebron Joshua 15 58

Hali (hā′lī) [Heb ,=necklace], unidentified town, N Palestine Joshua 19 25

Haliartus (hălēär′tus), locality in Boeotia, NW of Thebes Here Lysander fell in battle leading the Spartans against the Boeotians in 395 B C

Haliburton, Thomas Chandler (hă′lĭbûrtun), pseud. **Sam Slick,** 1796–1865, Canadian jurist and author, b Windsor, N S His *Historical and Statistical Account of Nova Scotia* (1829) was the first history of that province A judge of the court of common pleas in 1829 and a judge of the provincial supreme court in 1841, he retired in 1856 His popular series of the sayings and doings of Sam Slick had begun in 1835 in the newspaper the *Nova Scotian* and were collected in *The Clockmaker* (1836) He continued writing about his Yankee character, a medium for humor and satire, in *The Attaché, or, Sam Slick in England* (4 vols , 1843–44) and *Sam Slick's Wise Saws and Modern Instances* (1853) Haliburton lived in England after 1856 and was a member of the House of Commons from 1859 until his death He wrote several other humorous or historical works See biographies by V. L. O Chittick (1924) and J D Logan (1925)

halibut, important food fish, largest of the flatfish, belonging to the genus *Hyppoglossus* Two species are known, one in the N Atlantic and one in the N Pacific A voracious eater of smaller fish, the halibut has a large mouth and strong, sharp teeth Females sometimes weigh 500 lb or more, the male rarely more than 50 lb The flesh of the small fish is most palatable. Halibut-liver oil is rich in vitamins A and D.

Halicarnassus (hă'lĭkärnă'sŭs), ancient city of Caria, SW Asia Minor, on the Ceramic Gulf (now the Gulf of Kos) and on the site of the modern city of Bodrum, Turkey. Halicarnassus was a Greek foundation but there were Carian inhabitants, and except for a brief period in the 5th cent B C., the city was not intimately concerned with Greek affairs A dynasty of Carian kings in the 4th cent. was made famous by MAUSOLUS, whose wife built him a magnificent tomb (see MAUSOLEUM), considered one of the SEVEN WONDERS OF THE WORLD. Alexander the Great partly destroyed the city by fire It was the birthplace of Herodotus and of Dionysius of Halicarnassus

Halicz, Ukrainian SSR: see GALICH.

Halide Edib (hälē'dē ă'dēp), 1885?–, Turkish feminist and writer, grad Constantinople College for Women, 1901 She became an enthusiastic supporter of the nationalist cause, escaping from British surveillance in Constantinople to Angora and serving there as soldier and correspondent. Mustapha Kemal (Ataturk) appointed her minister of education in charge of reorganizing the schools of Syria Having divorced her first husband, in 1917 she married Dr Adnan Bey, speaker of the national assembly at Angora When Mustapha Kemal established the dictatorship, Halide Edib and her husband went into voluntary exile for five years in protest At that time she wrote two autobiographical books, *Memoirs* (Eng tr, 1926) and *The Turkish Ordeal* (Eng tr, 1928) She was already well known as a novelist in Turkey, her *Shirt of Flame* was translated into English in 1924 In 1928 she lectured at the Williamstown (Mass) Institute of Politics, and in 1931 she returned to the United States to lecture at Barnard College and elsewhere Her *Turkey Faces West* appeared in English in 1930

Haliden Hill (hăl'ĭdĕn), Northumberland, England, near Berwick, overlooking the Tweed Edward III defeated the Scots here on July 19, 1333

Halifax, Charles Montagu, earl of (hă'lĭfăks, hă'lĭf-), 1661–1715, English statesman He and Matthew Prior were co-authors of a parody of *The Hind and the Panther* of John Dryden entitled *The Town and the Country Mouse* (1687) As lord of the treasury Halifax persuaded the House of Commons (1692) to negotiate a huge loan, thus establishing the British national debt In 1694 he adopted William Paterson's proposal to found the Bank of England and was appointed chancellor of the exchequer. The following year he designated Isaac Newton as warden of the mint to effect a recoinage (the cost of which was met by a window tax) and issued the first exchequer bills He succeeded Godolphin as prime minister (1697–99) and was twice impeached for breach of trust (1701, 1703) but not convicted He was appointed first lord of the treasury in 1714

Halifax, Edward Frederick Lindley Wood, 1st **earl of,** 1881–, British statesman He entered the House of Commons (1910) as a Conservative and became colonial undersecretary (1921) and president of the Board of Education (1924) and of the Board of Agriculture (1924–25) As governor general of India (1926–31), he was confronted with the boycott of the Simon parliamentary commission by the Indian extremists, whom he sought to conciliate Created Baron Irwin in 1926, he succeeded his father as Viscount Halifax in 1934 and was created 1st earl of Halifax in 1944 He became leader of the House of Lords in 1935, in which year he also served as secretary of state for war Halifax was appointed foreign secretary in 1938, upon the resignation of Anthony Eden, and played an important part in the negotiations with Germany that led to the MUNICH PACT (Sept, 1938), he was attacked by his opponents as an advocate of appeasement Early in 1939 he supported Prime Minister Neville Chamberlain in his assertion of British-French solidarity in Feb, 1939 In 1940 he was succeeded as foreign minister by Anthony Eden, and from 1941 to 1946 he was ambassador to the United States He wrote *John Keble* (1932), his speeches are collected as *Indian Problems* (1932), *Speeches on Foreign Policy* (1940), and *American Speeches* (1947) See Alan C Johnson, *Viscount Halifax* (1941)

Halifax, George Savile, 1st **marquess of,** 1633–95, English statesman A royalist, he aided in the Restoration, became a privy councilor (1672), and, in spite of his anti-Catholic convictions, opposed the bill (1679) to exclude the Catholic duke of York (later James II) from the succession He supported James as king until he saw that the revolution which came in 1688 would be inevitable Then he actively furthered the accession of William III Halifax's most famous pamphlet, *The Character of a Trimmer* (written 1684, pub. 1688), describes the virtues of his middle course in politics and religion See his works (ed. by Walter Raleigh, 1912), H C Foxcroft, *A Character of the Trimmer* (1946)

Halifax, city (pop 70,488; metropolitan pop 91,829), provincial capital, S N S, on a small rocky peninsula reaching out into a fine harbor, inc. 1842. It is the largest city and chief port of Nova Scotia and is the eastern terminus of Canada's two great railway systems and of its transcontinental airway, it is the chief port of the dominion when the St. Lawrence is closed in winter. Halifax was founded in 1749 and named for the earl of Halifax, then president of the Board of Trade and Plantations It was intended from the first as a British naval stronghold comparable to that of France at Louisburg; it played its part as a naval base in the expedition against Louisburg in 1758, against the colonies in the American Revolution, and against the United States in the War of 1812. The Citadel, a massive old fortress, dominates the hill around which the city is built, the more effective modern fortifications are less noticeable During both world wars the port was an important naval and air base, convoy terminal, and embarkation center In 1917 a vessel carrying explosives was rammed in the harbor, causing an explosion which killed c.1,800 people, injured 20,000 others, and destroyed the northern part of the city, in 1945 an explosion at the Royal Canadian Navy Arsenal rocked the city Halifax has a large fishing fleet and exports dried fish and lobsters and other produce Its many industries include shipbuilding, sugar refining, oil refining (at near-by Imperoyal), meat packing, and furniture making DALHOUSIE UNIVERSITY, Nova Scotia Technical College, St Mary's College, and Holy Heart Seminary (theology) are here Places of interest include the Province House (1818); the Government House (1800); St Paul's Church, the oldest Anglican church in Canada, a gift of George II to his new colony, and Point Pleasant Park, on the northwest arm of the harbor The Halifax *Gazette*, founded in 1752 and the first newspaper in Canada, still exists as the *Nova Scotia Royal Gazette* See W C Borrett, *Historic Halifax* (1948), T H Raddall, *Halifax Warden of the North* (2d ed, 1949)

Halifax, county borough (1931 pop 98,115, 1947 estimated pop 95,820), West Riding of Yorkshire, England, on a small tributary of the Calder and SW of Leeds Noteworthy are the Akroyd museum and art gallery, the 18th-century Piece Hall in which piece goods were displayed in the early days of cloth manufacture in Halifax, the 15th-century parish church of St John the Baptist, the Renaissance town hall designed by Sir Charles Barry, and Heath Grammar School (1585) Defoe is supposed to have written part of *Robinson Crusoe* at the Rose and Crown Inn, in Back Lane The borough's industries include the manufacture of carpets, cotton, wool, and worsted goods, machinery, and chemicals

Halifax 1 Town (pop 374), co seat of Halifax co, N N C on the Roanoke river and NE of Raleigh, settled c 1750 It is the site of the first constitutional convention (1776) of North Carolina, several 18th-century buildings remain The area grows and processes peanuts and cotton **2** Town (pop 536), S Va, on the Banister river near the N C boundary, inc 1875. The courthouse of Halifax co is here

Hall, Asaph (ā'sŭf), 1829–1907, American astronomer, b Goshen, Conn After special studies at the Univ of Michigan he became an assistant in the astronomical observatory of Harvard in 1857 In 1862 he joined the staff of the U S Naval Observatory at Washington, D C, was professor of mathematics there from 1863 to 1891, and was a member of many government expeditions From 1895 to 1901 he was professor of astronomy at Harvard He is noted for the discovery (1877) of the two satellites of Mars See biography by G. W Hill (1908).

Hall, Basil, 1788–1844, British naval officer and traveler. In the service from 1802 to 1823, he commanded vessels on scientific assignments and voyages of exploration and wrote accounts of them in *Fragments of Voyages and Travels* (1831–33) in three series, each series in three volumes, in the *Account of a Voyage of Discovery to the West Coast of Corea* (1818), and in his *Journal Written on the Coasts of Chile, Peru, and Mexico* (2 vols, 1823). After leaving the navy he traveled in the United States, his *Travels in North America* (3 vols, 1829) forming a valuable description of America The letters of his wife Margaret Hunter Hall, during this period were printed in 1931 under the title *The Aristocratic Journey*

Hall, Charles Francis, 1821–71, American arctic explorer, b Rochester, N H He became interested in the many search expeditions for Sir John Franklin's party. With Eskimo companions he explored (1860–62) the southeast coast of Baffin Island, finding traces of Sir Martin Frobisher's party but none of Franklin's His *Arctic Researches and Life among the Esquimaux* (1864) is a narrative of this journey On his second arctic expedition (1864–69) he found traces of the fate of Franklin's party on Boothia Peninsula and King William Island and in his searching added much to the geographical knowledge of the whole area. In 1871 he was placed in command of a government expedition to the North Pole. In the *Polaris* his party went northward in the passages between Greenland and Ellesmere Island to the Arctic Ocean and achieved a new northern record of 82° 11'. Hall died of apoplexy at the party's wintering harbor.

Hall, Charles Martin, 1863–1914, American chemist, b Thompson, Ohio, grad Oberlin (B A, 1885, M A, 1893) In 1886 he discovered the electrolytic process for the preparation of ALUMINUM which made possible its large-scale production. His manufacturing company became the Aluminum Company of America. Hall made a large bequest to Oberlin.

Hall, Edward, d 1547, English chronicler He wrote *The Union of the Noble and Ilustre Famelies of Lancastre and York* (1542), usually called *Hall's Chronicle*. A glorification of the Tudors, it is interesting chiefly for the light it sheds on social life early in the reign of Henry VIII and for the use Shakspere made of it in his historical plays

Hall, Edwin Herbert, 1855–1938, American physicist, b Gorham, Maine, grad Bowdoin (B A, 1875) He taught at Harvard from 1881 (professor of physics, 1895–1921) Hall wrote textbooks and manuals which remolded the teaching of secondary school physics and did important work in thermodynamics In 1879 he discovered a phenomenon known as the Hall effect, a deflection of the lines of flow of an electric current passing through a metal conductor when it is placed in a magnetic field He also made important contributions to the theory of thermoelectric action and thermal conduction in metals, to knowledge of electromagnetic and thermomagnetic effects in soft iron, and to other related fields of study His works include a number of texts in physics and the *Dual Theory of Conduction in Metals* (1938)

Hall, Granville Stanley, 1846–1924, American psychologist and educator, b Ashfield, Mass, grad Williams, 1867 G Stanley Hall taught at Antioch and at Harvard, studied experimental psychology in Germany, and in 1882 organized at Johns Hopkins a psychological laboratory, which rapidly took a leading position in the field He founded (1887) the *American Journal of Psychology* and was one of the organizers (1891) of the American Psychological Association. As first president (1889–1920) of Clark Univ, he raised it to high rank for its courses in education. Among his works are *The Contents of Children's Minds on Entering School* (1894), which inaugurated the child-study movement in the United States; *Adolescence* (1904), *Educational Problems* (1911), *Jesus the Christ, in the Light of Psychology* (1917), and his autobiography (1923) See biographies by L. N Wilson (1914), E L Thorndike (1928), and Lorine Pruette (1926)

Hall, James, 1793–1868, American author, jurist, and banker, b Philadelphia After fighting in the War of 1812, he settled in the frontier state of Illinois Here he was a circuit judge and state treasurer and established the first literary periodical W of Ohio, the *Illinois Monthly Magazine* (1830–32) He continued it (1833–36) as the *Western Monthly Magazine* in Cincinnati when he became a banker there Among his many writings are vivid first-hand accounts of the Middle West frontier—the half-romantic *Legends of the West* (1832) and *Sketches of History, Life, and Manners in the West* (2 vols, 1834–35) He also collaborated with T L McKenney in the illustrated *History of the Indian Tribes of North America* (3 vols, 1836–44) See biography by John T Flanagan (1941).

Hall, James, 1811–98, American geologist, b Hingham, Mass, grad Rensselaer School (later Rensselaer Polytechnic Institute), 1832 An authority on stratigraphy and invertebrate paleontology, he joined the New York state geological survey in 1836 and in 1893 became state geologist for New York He wrote *The Geology of New York* (1843) and *New York State Natural History Survey* (1847–94), a monumental report on the paleontology of the state, his work formed the basis for the later geological histories of North America He also served, briefly, as state geologist for Iowa and Wisconsin and was director of the New York State Museum at Albany (1866–94) See J M Clarke, *James Hall of Albany* (1921)

Hall, Joseph, 1574–1656, English prelate and author Educated at Emmanuel College, Cambridge, he was bishop of Exeter, 1627–41, and of Norwich, 1641–47 He was noted for his satires, especially the verse *Virgidemiarum* (1597–98), the prose *Mundus Alter et Idem* (1605, ed by Huntingdon Brown, 1937), and *Characters of Virtues and Vices* (1608), for his devotional *Meditations and Vows* (1605), and for his writings on the bitter church controversy of his time (*Episcopacy by Divine Right Asserted*, 1640, and others) He was imprisoned, then released, but his living was confiscated He described this period in *Hard Measure* (1647)

Hall, Lyman, 1724–90, American Revolutionary patriot, signer of the Declaration of Independence, b Wallingford, Conn, grad Yale, 1747. He was a Congregational minister for some time before practicing medicine. Hall moved to Georgia, became a political leader, and was sent (1775) to the Continental Congress as a delegate from St John's Parish before the colony sent any official delegation. Hall served until 1780, when he returned to Georgia He became governor in 1783 It was at his suggestion that Georgia chartered a state university in 1785

Hall, Marshall, 1790–1857, English physician and physiologist, M.D. Univ of Edinburgh, 1812 He practiced medicine in Nottingham and in London He was opposed to bloodletting The Hall method of artificial respiration was devised by him. As a

result of his experiments with animals he advanced the theory of reflex action in a paper before the Royal Society (1833), despite some opposition the theory was later universally accepted. His works also include *The Diagnosis of Diseases* (1817) and *Memoirs on the Nervous System* (1837).

Hall, Robert, 1764–1831, English Baptist minister, considered the foremost pulpit orator of his time His celebrated sermon, "On the Death of the Princess Charlotte," was delivered (1817) at Leicester. His works include *Modern Infidelity Considered with Respect to Its Influence on Society* (1800)

Hall, Samuel Read, 1795–1877, American educator and clergyman, b Croydon, N H After teaching in Rumford, Maine, and Fitchburg, Mass , he founded (1823) at Concord, Vt , a training school for teachers, one of the first in the United States He later became principal of the teachers' seminary at Philips Academy (1830–37), of Holmes Plymouth Academy (1837–40), and of Craftsbury Academy, to which he added a teachers' training department (1840–46) From 1846 to 1875 he held pastorates at Brownington and at Granby, Vt He wrote numerous textbooks, and his famous *Lectures on School-Keeping* (1829) were republished in 1929, with a biography of Hall and a bibliography of his works by A D Wright and G. E Gardner.

Hall, Walter Henry, 1862–1935, American organist and choral conductor, b England Coming to the United States in 1883, he played in various churches and in 1893 founded the Brooklyn Oratorio Society In 1909 he joined the faculty of Columbia Univ , where he was professor of choral and church music from 1913 to 1930

Hall, Winfield Scott, 1861–1942, American physiologist and educator, b Batavia, Ill , M D Northwestern Univ. (1888) He was professor of physiology at Northwestern Univ from 1895 to 1919. His many writings, largely for lay readers, deal with physiology and sex hygiene.

Hall, Austria. see Solbad Hall in Tirol.

Hall, Wurttemberg. see Schwäbisch Hall

hall, a communicating passageway, in medieval buildings the large and high main room. In the primitive feudal castle of N Europe it was the single apartment, and in it lord and retainers lounged, ate, and slept From the hearth in its center the smoke rose to an outlet in the roof At one end was the raised dais reserved for the master and those of his own rank With developing amenities extra spaces were added for cooking and sleeping, and the hall advanced beyond its early rude and unfinished appearance In English manor houses of the 14th and 15th cent the characteristic great hall was covered by a fine open-timber roof, heated by one or more huge fireplaces, and lighted with lofty windows often arranged in deep, projecting bays Westminster Hall, part of the ancient royal palace commenced in the 11th cent. and rebuilt in the 14th, was the most splendid By the 17th cent , with the addition of drawing room, library and bedrooms, the hall of the English house was no longer of great size and dominance The English colleges of the Middle Ages and Renaissance also had halls or commons, chiefly for dining, which were architecturally similar to the baronial examples Some were covered with fine fan vaults, others with timber roofs as at Christ Church, Oxford, perhaps the most splendid hall next to Westminster The various guilds of N Europe had their halls, especially impressive in Flanders, e g , the cloth halls at Bruges, Brussels, and Ypres In Italy communal independence produced the remarkable series of local civic halls, often with imposing towers, as at Siena and Florence The word *Hall* came to be used in the title of many great English houses (Haddon Hall) and similarly in that of some Southern estates in the American colonies. See J. A. Gotch *Growth of the English House* (1909).

Hall, Fort, trading post, SE Idaho, on the Snake river and not far from the present Pocatello It was built by Nathaniel J Wyeth in 1834, sold by him to the Hudson's Bay Company in 1836, and occupied by that company until about 1856 It was a main stopping point on the Oregon Trail W of Fort Bridger. Soldiers campaigning against the Indians were quartered here in the '50s and early '60s The ruins were destroyed in the floods of 1862 and 1864 See Jennie B Brown, *Fort Hall on the Oregon Trail* (1932)

Hallam, Arthur Henry (hăl'ŭm), 1811–33, English poet and essayist, son of Henry Hallam His early death inspired his close friend Alfred Tennyson to write *In Memoriam*

Hallam, Henry, 1777–1859, English historian Educated at Eton and Christ's Church, Oxford, he was an active barrister until 1812, when he inherited large properties, and was given the sinecure commissionership of stamps The historical works he thereafter wrote reveal his conservative Whig viewpoint and his interest in legal and institutional history, but also show an accuracy and a knowledge of original sources unequaled before his day. His works include *A View of the State of Europe during the Middle Ages* (2 vols , 1818) and *The Constitutional History of England from the Accession of Henry VII to the Death of George II* (2 vols., 1827).

Hallam, Lewis, d. 1754, Anglo-American actor and manager. He arrived from England with his company in 1752 and opened at Williamsburg, Va., in Shakspere's *Merchant of Venice* The next year he built a theater in New York, where he presented Elizabethan and Restoration dramas, farces, and operettas. In 1754 his company opened in Philadelphia, against vigorous opposition, with Rowe's *Fair Penitent.* He toured the South and then went to Jamaica; here he died, and his organization disbanded. The performances of his company began the history of the theater in the United States His son, **Lewis Hallam, Jr.,** c 1740–1808, was also an actor and manager He appeared in his father's company and in the American Company, formed in 1758 by his mother and David Douglass, her second husband He was excellent in comedy, appeared in tragedy, and in 1767 played in Thomas Godfrey's *Prince of Parthia,* the first play written by an American and produced on the American stage by a professional company.

Halland, Swed *Hallands län* (hä'lănts lĕn'), county (1,902 sq. mi , pop 155,257), SW Sweden, on the Kattegat It is coextensive with the historic province of Halland, conquered from Denmark by Charles X of Sweden in 1658 The county seat is Halmstad

Hallandale, town (pop 1,827), SE Fla , on the Atlantic coast N of Miami, inc 1927

Hallé, Sir Charles (hă'lē), 1819–95, German-English conductor and pianist, originally named Karl Halle As a young pianist in Paris he knew Chopin, Liszt, and Berlioz During the Revolution of 1848 he moved to England There in 1857 he founded the Hallé Orchestra in Manchester He was knighted in 1888 He conducted many music festivals and was a noted educator At the founding (1893) of the Royal Manchester College of Music, he became principal See the partly autobiographical *Life and Letters of Sir Charles Hallé* (ed by C E Hallé and Marie Hallé, 1896)

Halle (hä'lŭ), city (pop 222,505), in the former Prussian province of Saxony, central Germany, on the Saale river and NW of Leipzig After the Second World War, which it survived without appreciable damage, Halle became the capital of the newly founded state of Saxony-Anhalt, under Russian military occupation Mentioned in the 9th cent , it later passed under the archbishops of Magdeburg, with whom the townspeople were frequently at war, accepted the Reformation (1544), and was annexed to Brandenburg in 1648 The famous Univ of Halle was founded in 1694, and in 1817 it absorbed the Univ of Wittenberg Here, in 1695, A H Francke founded a school for paupers, first of the Francke Institutes The first Bible Society was founded at Halle in 1710 Among the finest buildings of Halle are the Gothic Red Tower and Marienkirche [church of Our Lady], both on the medieval market place Handel was born in Halle Near the city are important salt and potash mines and saline springs

Halleck, Fitz-Greene (hăl'ĭk), 1790–1867, American poet and satirist, b Guilford, Conn He was joint author, with Joseph Rodman Drake, of the humorous "Croaker Papers," most of which were printed in the New York *Evening Post* in 1819, and wrote a long satire, *Fanny* (1819), in the style of Byron's *Beppo* His poem "Marco Bozzaris," popular as a recitation, and his elegy on the death of Drake were the best known of his graceful verses For many years he was personal secretary to John Jacob Astor See biographies by J G Wilson (1869) and N F. Adkins (1930)

Halleck, Henry Wager, 1815–72, Union general in the Civil War, b Oneida co , N Y , grad West Point, 1839 He entered the Corps of Engineers and became an expert on fortifications, his *Elements of Military Art and Science* (1846) was influential in the Civil War In the Mexican War he served in California, holding various positions in the military government there After the war he helped frame the new state's constitution Halleck resigned from the army in 1853 and entered the leading law firm of the state He compiled *A Collection of Mining Laws of Spain and Mexico* (1859) and wrote a treatise on international law (1861). In the Civil War he was made a major general in the regular army (Aug , 1861) and was sent to succeed J C Frémont in command of the Dept of the Missouri In March, 1862, the departments of the Ohio and Kansas were added to his command. Although he was an able organizer, the prestige given him by the successes of U S Grant, D C. Buell, S R Curtis, and John Pope—all under Halleck's command—was unwarranted. After Shiloh (April) he took the field himself and advanced on Corinth, which Beauregard abandoned in May In July, 1862, he was appointed general in chief with the understanding that he was to remain in Washington as military adviser to the President and the Secretary of War. His position, between the politicians and the generals, was not a happy one, and he was grateful when, upon Grant's being given supreme command in March, 1864, he was demoted to chief of staff He remained in the army after the war and was commanding the Division of the South at the time of his death

Hallein (hä'lĭn), town (pop. 14,150), Salzburg, W central Austria, near the German border. It has saltworks and varied manufactures. Its 18th-century church is a shrine of pilgrimage.

hallel (hŭlăl', hă'lĕl) [Heb.=praise], certain of the Psalms sung, as in the days of the Temple, every morning of Hanukkah,] at the Passover service, and on most other Jewish holidays

Hallelujah (hă'lŭ lōō'yŭ) or **Alleluia** (ă'lŭlū'yŭ) [Heb.=praise the Lord], joyful expression used in Hebrew worship, of Pss. 104–6, 111–13, 115–17, 135, 146–50. Christian liturgies make wide use of it, particularly at Easter time. The *Hallelujah Chorus* is the brilliant concluding piece of Part II of Handel's *Messiah*

Haller, Albrecht von (äl'brĕkht fŏn hä'lûr), 1708–77, Swiss scientist and author. He had already won distinction as botanist and poet when he was appointed (1736) professor of anatomy, medicine, and botany at the Univ. of Göttingen There he carried on the researches in experimental physiology for which he is especially famed and on which he based his theory of the irritability (known today as contractility) of muscle tissue, set forth in *A Dissertation on the Sensible and Irritable Parts of Animals* (1732, Eng tr , 1936) He returned (1753) to his native Bern where he continued his researches and took part in public affairs Among his voluminous writings are *Elementa physiologiae corporis humani* (8 vols , 1757–66); noted works on bibliography and medical history, a volume of poems, *Versuch schweizerischer Gedichte* (1732), enlarged in subsequent editions, and novels of political satire including *Usong* (1771) and *Alfred* (1773)

Hallet, Étienne Sulpice (ātyĕn' sülpēs' ală'), 1755–1825, French architect He came (c 1789) to the United States where he became known as Stephen Hallet Before the opening of the public competition for the design of the Capitol, at Washington, D C , Hallet had submitted to Thomas Jefferson, then Secretary of State, designs of a Louis XVI type, with a monumental central dome, and had been encouraged to prepare additional studies to meet the approval of the President and the commissioners In 1793, however, the design submitted by William Thornton was approved and adopted by the President, who, in justice to Hallet, retained him as supervisor of the execution of Thornton's plans Hallet, however, criticized Thornton's scheme, attempted to introduce alterations to it, and was dismissed.

Hallet, Stephen: see Hallet, Étienne Sulpice.

Hallettsville (hă'lĭtsvĭl), city (pop 1,581), co seat of Lavaca co , S Texas, on the Lavaca river and WSW of Houston, in a diversified farm area

Halley, Edmund (hă'lĭ), 1656–1742, English astronomer and mathematician He is particularly noted as the first astronomer to predict the return of a comet and the first to point out the use of a transit of Venus in determining the parallax of the sun In 1676 he went to St Helena to observe the southern skies and as a result made a catalogue of 341 stars of the Southern Hemisphere He financed the publication of Isaac Newton's *Principia* and helped to prepare it for the press On the basis of Newton's theory, Halley calculated the orbit of the great comet of 1682—since known as Halley's comet In 1720 he was made astronomer royal He observed the moon through the complete revolution of its nodes, this took 18 years Other discoveries of Halley are the proper motions of the stars, the long inequality of Jupiter and Saturn, and the acceleration of the moon's mean motion His noted synopsis of known comets appeared in 1705, his *Tabulae astronomicae* (1749, Eng tr , 1752) was published posthumously See his *Correspondence and Papers* (ed by E F MacPike, 1932)

Halley's comet, periodic comet named for Edmund Halley, who observed it in 1682 and identified it as the one observed in 1531 and 1607 Its next return, early in 1759, was close to the time he predicted. The most recent appearance was in 1910

hallmark, a mark impressed on silverwork or goldwork to signify official approval of the standard of purity of the metal, also called plate mark The hallmark was introduced by statute in England in 1300 and enforced by the Goldsmiths' Hall, London. Similar marks, many of them unofficial, were used on the Continent and in America. Other marks used on plate include one for the place of assay, a date mark, usually a letter, the maker's touch, at first a symbol, later his initials or name, a duty mark, to signify payment of a tax, the artisan's mark Marks have also been used on plated ware, baser metals, and pottery

Hallock, Gerard, 1800–1866, American journalist, b Plainfield, Mass , grad. Williams, 1819, brother of William Allen Hallock After working on several newspapers, chiefly religious, he served as editor (1828–61 of the New York *Journal of Commerce.* In this position he was active in establishing cooperative news-gathering services, and in 1856 he became president of the General News Association of the City of New York, a consolidation of such services. He opposed Abraham Lincoln's election in 1860 and defended the South to such a degree that after the Civil War broke out the *Journal of Commerce* was excluded from the mails, whereupon he retired.

Hallock, village (pop 1,353), co seat of Kittson co, NW Minn, in the Red River valley near the Canadian boundary, platted 1879, inc 1887 It is a center for hunting and fishing

Hall of Fame, national shrine established (1900) at New York Univ The Hall of Fame, which overlooks the Harlem river on the campus at University Heights, New York city, was instituted by Chancellor John J MacCracken from a $250,000 donation by Finley J Shepherd The names of 50 outstanding Americans—selected by over 100 leading American men and women from every state in the union—were inscribed on bronze tablets in 1900 and 5 were to be added each fifth year This plan has not been followed with any great regularity, but numerous other names were chosen later See R V Johnson, *Your Hall of Fame* (1935)

Hallohesh (hălō-) [Heb ,=the enchanter], signer of the covenant Neh 10 24

Halloween see ALL SAINTS.

Hallowell (hŏl'ōwĕl), city (pop 2,906), SW Maine, on the Kennebec below Augusta, settled c 1754, inc as a town 1771 It then included the present Augusta, the part comprising modern Hallowell was an important center in colonial days One of Maine's first two academies was established here in 1791, the other, at South Berwick, still exists Hallowell granite quarries supplied stone for the state capitol and other important buildings.

Halls, town (pop 1,511), W Tenn, NNE of Memphis, in a cotton, timber, and farm area

Hallstatt (hăl'shtăt), summer resort (pop 1,494), Upper Austria, in the SALZKAMMERGUT, on the Lake of Hallstatt The region yields salt In the middle of the 19th cent a near-by cemetery yielded prehistoric remains, perhaps Celtic, of a culture known as the Hallstatt culture (see IRON AGE)

Hallstead, residential borough (pop 1,293), NE Pa, N of Scranton at the N Y border, inc 1874 Meat-packing is done here

hallucination, false sensory perception characterized by a lack of external stimulus The two most common types of hallucination are hearing voices or noises (auditory) and seeing people or things (visual) when nothing is present Hallucinations play a prominent part in schizophrenia and are considered an important aid to the psychiatrist in his attempt to understand the underlying emotional conflicts of the psychotic patient However, hallucinations occur to normal people under emotional stress or in great fatigue One of the best known is the fata morgana, where the exhausted and thirsty traveler in the desert thinks he sees an oasis While there is no unanimity of opinion in the interpretation of hallucinations, the view most commonly held among psychiatrists is that they are symbolic representations of repressed wishes

Halm, Friedrich (frē'drĭkh halm), 1806–71, Austrian dramatist, whose real name was Baron Eligius von Münch-Bellinghausen A follower of Grillparzer, he wrote historical plays, among them *Griselda* (1834, Eng tr, 1840), *Der Sohn der Wildnis* (1843, Eng tr, *Ingomar the Barbarian*, 1859), and *Der Fechter von Ravenna* (1854, Eng tr, *The Gladiator of Ravenna*, 1859), and a few short tales

Halmahera (hälmähā'rä) or **Jailolo** (jīlō'lō), island (7,505 sq mi, pop including near-by Morotai 83,743), East Indonesia, between New Guinea on the east and Celebes on the west Largest of the Moluccas and resembling Celebes in irregularity of shape, it has four rocky peninsulas separated by three deep bays The island is mountainous for the most part and has several active volcanoes The chief products are nutmeg, resin, sago, rice, tobacco, and coconuts. There are anchorages at Jailolo (or Djailolo) and at Weda In the Second World War, Halmahera was a major Japanese air base, which was neutralized by Sept, 1944 The island is sometimes called Jilolo or Gilolo

Halmstad (hälm'städ"), industrial town (pop, 32,474), co seat of Halland co, SW Sweden, a seaport on the Kattegat Near by are mineral and sea-water baths

halo, in art, a circle or disk of light around the head of a divinity or saint See NIMBUS

halo, in physics, a circle of light surrounding the sun or the moon It may be white or it may show the colors of the spectrum more or less blurred, with the red on the inside Halos are produced when the light from the sun or the moon is refracted and reflected by ice crystals in the atmosphere, usually in a thin layer of high cirro-stratus clouds Under certain circumstances, a second or outer halo appears, fainter than the inner one. At times another ring, white and luminous, is seen lying parallel with the horizon and passing through the source of light. On this parhelic circle mock suns, or parhelia, sometimes appear, a single mock sun, the anthelion, directly opposite the sun, may be added. Near the poles, halos are more brilliant and complex than in other parts of the world. The theory attributing their formation to the presence of ice crystals was first given by the French philosopher Descartes. The study of Auguste Bravais on the subject is considered most authoritative. Similar to a halo and sometimes confused with it is the CORONA.

halogen (hă'lŭjun) [Gr. *halo*=salt; *-gen* (as in *genetics*)=bearing], any member of the family of very active elements consisting of FLUORINE, CHLORINE, BROMINE, and IODINE Chemically the halogens resemble one another closely, all being monovalent and nonmetallic and all forming negative ions Fluorine, a gas, is the lightest and the most active, displacing the others of the family from compounds and even displacing oxygen from water Iodine, a solid, although the least active of the family, is less active only than oxygen among the other nonmetals The halogens combine with other elements to form BROMIDE, CHLORIDE, CHLORATE, and other compounds Some common compounds are salt, iodoform, calomel, chloroform, corrosive sublimate, sal ammoniac, fluorite, and bleaching powder

Halohesh (hălō'-) [Heb ,=HALLOHESH], father of Shallum, ruler in Jerusalem. Neh 3 12

Hals, Frans (frans' hăls'), c 1580–1666, Dutch master, second only to Rembrandt as a painter of portraits and of portrait groups, b Antwerp He spent most of his life in Haarlem, where he studied with Karel van Mander and early established a high reputation Nevertheless much of his long life was passed in poverty because of his improvident habits Hals loved drink and gay company He is said to have abused his first wife, but his second marriage was happy and he reared a family of 10 children It was an expansive and prosperous period in Holland, following the emancipation of the country The civic guards were in the habit of commissioning group portraits of their various companies, and Hals painted large canvases of them in full regalia Some of these "corporation pictures" are among his finest works Each man is caught in a characteristic pose, and the entire group is portrayed with amazing naturalness, vivacity, and informality He also painted many single portraits and studies of low-life types As he progressed he abandoned the heavy browns of his youthful work and developed a cool palette, alternating blacks and grays with brilliant and sparkling color Much of his best work was done from 1625 to 1640 In 1644 he was dean of the painters' guild His possessions were distrained for debt in 1652, and difficult years followed In 1664, two years before his death, he was granted a pension by the town In that year, at the age of 84, he painted two famous masterpieces, *The Governors of the Almshouse* and *Lady Governors of the Almshouse* (both Haarlem) These somber portrait groups have the same brilliant lighting and cool clarity as his gayer canvases Hals is unexcelled as a virtuoso in seizing momentary effects and giving them authentic life He worked rapidly, with bold and sure brush strokes, painting details of costume with the same gusto as the lineaments of his sitters His subjects are usually painted in full light without mystery, with the utmost frankness and economy of means After his death his work waned in popularity until the middle of the 19th cent, when its greatness was again recognized It is best seen in the Haarlem collection, but splendid examples are in important collections everywhere Among his masterpieces may be mentioned *Archers of St George* (three paintings), *Archers of St Adrian* (two paintings), and *Governors of St Elizabeth Hospital* (Haarlem), *The Rael and Blaeuw Company*, *Married Couple*, and *The Merry Drinker* (Rijks Mus), *Laughing Cavalier* (Wallace Coll, London), portrait of Descartes (Louvre), *Hulle Bobbe*, and *The Smoker* (Metropolitan Mus) Hals is well represented in the museums of Boston, Chicago, and Philadelphia and in the Frick Collection, New York The Metropolitan Museum has nine paintings See studies by G S Davies (1902), E W Moes (1909), and Joséphin Péladan (1912) His son **Frans Hals,** c 1620–c 1669, was a skillful painter of still life and rustic scenes His *Vanitas* is characteristic **Dirk Hals** (dĭrk), c 1591 1656, brother of the elder Frans Hals specialized in festivals and drinking scenes, his *Merry Party* (National Gall, London) being characteristic

Halsey, William Frederick (hŏl'sē), 1882–, American admiral, b Elizabeth, N J, grad Annapolis, 1904 He commanded destroyers in the First World War, and after 1935 he served with naval air units He led (Jan, 1942) a spectacular carrier raid against the Marshall Islands and Gilbert Islands and during the Solomons campaign he assumed command of the South Pacific area As commander (1944–45) of the U S 3d Fleet, he commanded the naval action in the Philippines and led (July, 1945) the sea-borne bombardment of Japan. He was promoted (Nov, 1945) to admiral of the fleet ("five-star admiral"), but he retired (March, 1947) from the navy because of ill-health His experiences in the Second World War were published as *Admiral Halsey's Story* (1947)

Halsingborg, Swed *Hälsingborg* (hĕlsĭngbôr'yù), city (pop 66,820), Malmohus co, S Sweden, a seaport on the Oresund opposite Elsinore, Denmark, to which there is a railway ferry From the 9th cent, Halsingborg has been a trade center and stronghold A high square tower remains of its medieval fortress. In 1658 it was ceded by Denmark to Sweden, it was seized and plundered by the Danes in 1676 and regained by Sweden in 1710. It is an important grain center, processes copper, and has sugar refineries, rubber works, breweries, and superphosphate works To the northeast are the only coal field in Sweden and the deposits of clay used in the Halsingborg potteries

Halsingland, Swed *Hälsingland* (hĕl'sĭng-länd"), historic province, E central Sweden It is now administratively part of GAVLEBORG co

Halstead (hŏl'stĭd), city (pop 1,397), S central Kansas, WSW of Newton, founded 1873, inc 1877 A trade center, it ships wheat and cattle

Halsted, William Stewart (hŏl'stĭd), 1852–1922, American surgeon, b New York city, M D College of Physicians and Surgeons, 1877. He practiced in New York and in 1886 became the first professor of surgery at Johns Hopkins, where he was associated with Sir William Osler, W H Welch, and H A Kelly in developing the great medical school and hospital His surgical contributions include an operative technique based on minimum injury of tissues, anesthesia by the injection of cocaine into the nerves, a method of operating for cancer of the breast and for hernia, experimental work on the thyroid, and the introduction of the use of rubber gloves See his *Surgical Papers* (1928), study by W. G. MacCallum (1930)

Halys, river of Asia Minor see KIZIL IRMAK.

Ham [Heb ,=swarthy] 1 Son of Noah and father of Cush, Mizraim, Phut, and Canaan Gen 9, 10 **2** Unidentified country of the Zuzims Gen 14 5 **3** Name used in connection with the cities of Simeon 1 Chron. 4 40 The "Land of Ham" is a designation for Egypt Ps 105 23,27, 106 22 The Hamitic languages were named after the son of Noah see LANGUAGE

ham, hind leg of a hog above the hock joint, usually prepared for food by curing or smoking Ham is one of the earliest of preserved meats, originally made in the home, now a leading product of the meat-packing industry The flavor and quality of ham depend on the age, condition, and feeding of the swine and on the smoke used in curing The Westphalian hams of Germany are smoked with juniper brush, birchwood also is used in N Europe, hickory is favored in the United States The delicate flavor of the relatively lean Virginia ham is attributed in part to the roots, acorns, and nuts upon which the hogs feed

Hama (hä'mä), city (pop 50,400), N Syria, on the Orontes A city of great antiquity, it was a center of the Hittites and has yielded material on the Hittite culture As Hamath it is mentioned often in the Bible and is called the northern boundary of Israel The Assyrians under Shalmaneser III were attacking the city in the 9th cent, and it passed under Assyrian dominion Later it was included in the Persian Empire, was conquered by Alexander the Great, and after his death was claimed by the Seleucid kings It was renamed Epiphania by Antiochus IV (Antiochus Epiphanes) Hama was later under Rome and the Byzantine Empire, and in the 7th cent it was taken by the Arabs The Christian Crusaders held it briefly, and later it was given to Turkish control The learned prince Abu-l-Fida ruled it early in the 14th cent Despite Islamic rule, Christianity persisted in the city Formerly the silk, woolen, and cotton goods of Hama were famous The grain from the surrounding fertile plains is still of importance, and the city, commanding the upper Orontes valley, has commercial and strategic standing Old water wheels, some as much as 90 ft in diameter, still bring the water up from the Orontes to Hama for irrigation Hemath is the AV form, Hamath RV, in Amos 6 14 The Hamath-zobah taken by Solomon may be Hama, or it may be a city of Zobah E of the Jordan 2 Chron 8 3

Hamadan (hä'mudän, hămudän'), city (pop 103,874), W Iran, at the foot of Mt Elvend It has an altitude of 6,280 ft In ancient times it was the capital of Media, ECBATANA. Though primarily the market place of a fertile province, Hamadan produces carpets and metal and leather goods It contains an American mission, Avicenna's tomb, and an ornate 12th-century Seljuk mausoleum The traditional tomb of Esther is here

Hamaguchi, Yuko (yōō'kō hämä'gōōchē), 1870–1931, Japanese statesman He was finance minister (1924–26) and home minister (1926–27) before becoming in 1927 the president of the Minseito party, to which he gave strong leadership Appointed prime minister in 1929, he formed a party cabinet, which attempted unsuccessfully to combat economic depression by deflation and retrenchment, pursued a conciliatory policy toward China, and adhered to the naval-limitation treaty of 1930 These measures were unpopular with the militarists He was shot by a fanatic in Nov, 1930, and died in April, 1931

Hamamatsu (hämä'mätsōō), city (1947 pop 125,767), Shizuoka prefecture, central Honshu, Japan, on the Philippine Sea It is a cotton-textile center

Haman (hā'-) or **Aman** (ā'-), favored minister of Ahasuerus He commanded that all Jews be put to death. ESTHER interceded for her people, and Haman was hanged on the gallows he had set up for Mordecai. Esther 3–7.

Hamar (hä'mär), city (pop 10,183), co. seat of Hedmark co., SE Norway, on Mjosa lake. It is the center of a rich agricultural district and produces machinery and leather goods. It also is a popular skiing resort. Hamar was founded (1152) as an episcopal see by Nicholas Breakspear (later Pope ADRIAN IV) and is now a Lutheran see. There are remains of the 12th-century cathedral, but modern Hamar dates only from the 19th cent. There was fighting at Hamar during the German invasion (1940) of Norway in the Second World War.

Hamasa (hämä'sä, humä'su) [Arabic,=bravery], one of the great anthologies of Arabic literature. It was gathered together by ABU TAMMAM when he was snowbound in Hamadan where he had access to an excellent library. There are 10 books of poems, classified by subject. Some of them are selections from long poems. This is one of the treasuries of early Arabic poetry, and the poems are of exceptional beauty.

Hamath or **Hamath-zoba**, Syria: see HAMA.

Hambach (häm'bäkh), village (pop 3,274), Rhenish Palatinate, W Germany, near Speyer. It was the scene (1832) of the **Hambacher Fest**, a gathering of German democrats advocating political reform.

Hambidge, Jay (häm'bĭj), 1867–1924, American writer and artist, b. Canada. His exhaustive measurements of Greek vases and classical temples led him to a discovery of mathematical principles which he considered to have been consciously employed by ancient Egyptian and Greek designers. These principles, christened DYNAMIC SYMMETRY, were first expounded in informal lectures which Hambidge delivered in 1917. Later developed into an extensive system of application and given publicity by books and articles, they aroused wide discussion among artists. Instruction based upon the system is given in some American schools of art. Hambidge's writings include *Dynamic Symmetry: the Greek Vase* (1920), *Dynamic Symmetry in Composition as Used by the Greek Arts* (1923); *The Parthenon and Other Greek Temples: Their Dynamic Symmetry* (1924); and *The Elements of Dynamic Symmetry* (1926), the last composed of articles originally appearing in the *Diagonal*, a magazine published by Hambidge in 1919–20.

Hambletonian (hämbultō'nēun), 1849–76, American trotting horse, foaled at Chester, N.Y. Originally owned by Jonas Seely, Hambletonian was bought for little money by Bill Rysdyk and won few honors as a trotting horse. But Hambletonian, a very muscular bay with well-formed hind legs, became the foundation sire of the strain of trotting horses bearing his name. The Hambletonian Association, formed in 1923 to promote trotting races, offered a stake for three-year-old trotters, and the famous Hambletonian trotting event—also named for Rysdyk's horse—first took place in Syracuse in 1926. Since 1927 the Hambletonian has been held annually in August at Goshen, N.Y.

Hamburg (häm'bûrg, Ger. häm'bo͝ork), state (288 sq mi., pop. 1,403,300), N Germany, composed mainly of the free Hansa city of **Hamburg**, on the Elbe near its entrance into the North Sea. Although the volume of Hamburg's trade in 1948 was only about 25 percent of the pre-war volume, it remains the largest seaport of Germany, with great shipyards, machinery plants, chemical industries, an important fishing fleet, and a free port. It has numerous technical and medical institutes, a university (founded 1919), and an active cultural and musical life. Hamburg originated in the castle of Hammaburg, built by Charlemagne. It became (834) an archiepiscopal see (united in 848 with the archdiocese of Bremen) and quickly grew to commercial importance. The alliance (1241) of Hamburg with Lübeck was the basis of the HANSEATIC LEAGUE, of which Hamburg was one of the leading cities. A free imperial city from the 13th cent., Hamburg continued to prosper through the centuries. In 1558 the first German stock exchange was founded here. Hamburg accepted the Reformation. In 1815 it joined the German Confederation as a separate state, it retained its statehood after joining the new German Empire (1871) and the Weimar Republic (1919). In 1938 its outlying port, CUXHAVEN, was ceded to Prussia, but the formerly Prussian city of ALTONA (1934 pop. 241,970) was incorporated with Hamburg. Economically, Cuxhaven remains part of Hamburg. In the Second World War at least half of the city was devastated by gigantic fires set off by British air raids. Many of the fine buildings (both historic and modern), for which Hamburg was famed, were destroyed. Human losses were exceedingly heavy. Hamburg was incorporated (1945) in the British zone of occupation, and in 1949 it joined the West German state. The city has been governed since the Middle Ages by a senate.

Hamburg. 1 Lumber-milling town (pop. 1,939), co. seat of Ashley co., SE Ark., near Louisiana. A state game refuge is near by. 2 City (pop. 2,187), extreme SW Iowa, on the Nishnabotna river near the Mo. line; inc. 1867. It has a large nursery. 3 Borough (pop. 1,116), NW N.J., N of Franklin; inc. 1920. Its "Gingerbread Castle" is reminiscent of various fairy tales. 4 Village (pop. 5,467), W N.Y., S of Buffalo, in a truck-farming area; settled c 1808, inc. 1874. 5 Borough (pop. 3,717), SE Pa., NNW of Reading, inc. 1837. It is a farm trade center. A tuberculosis sanatorium is here.

Hamden, town (pop. 23,373), S Conn.; settled c.1664, set off from New Haven 1786. The site of Eli Whitney's arms factory is marked, and his model barn (1816) is preserved. Firearms are still produced, and also other metal products.

Hämeenlinna (hä'mānlĭn"nä), Swed. *Tavastehus* (tĭvä'stühüs"), city (pop. 10,017), SW Finland. Located on a lake, the town grew around a Swedish castle built in 1249 and was incorporated in 1638. It has plywood mills, spool mills, and a teachers college. The beautiful Aulanko Park, a recreation area, is near by.

Hameln (hä'mŭln) or **Hamelin** (hä'mŭlĭn), city (pop. 41,711), Hanover, NW Germany, on the Weser river. It is chiefly known as the scene of the legend of the PIED PIPER OF HAMELIN. Frescoes illustrating the legend adorn the so-called Ratcatcher's House (built 1602–3). An ancient Saxon settlement, Hameln became a missionary outpost c 750, received city rights c 1200, and, while frequently changing hands, acquired considerable independence. It was a member of the Hanseatic League (1426–1572). Though somewhat damaged in the Second World War, it retained many historic buildings, notably the Rattenkrug (built 1568), the museum (1569), and the Wedding House (1612–13). Hameln is primarily a transportation center.

Hamhung (häm'hûng'), Jap. *Kanko*, city (1944 pop. 112,184), North Korea. Metalware and cotton textiles are manufactured. Coal mines are near by.

Hamilcar (hämĭl'kär, hŭmĭl'kär), fl. 480 B.C., Carthaginian general. Little is known of him, though his name tells that he was a member of the Barca family. He commanded an army against Gelon and the Greeks in Sicily, who severely defeated him (480 B.C.) at Himera.

Hamilcar Barca [Punic *barca*,=lightning], d. 228 B.C., Carthaginian military commander. He was assigned the command in Sicily in 246 B.C. in the First Punic War. (Possibly he was identical with the Hamilcar commanding there from 260 B.C.) From mountain bases near Palermo he made repeated raids on the Romans and relieved the Punic garrison in Lilybaeum. By the peace, which surrendered Sicily, his unbeaten troops withdrew without submission. The mercenaries shortly afterward revolted and besieged Carthage, but Hamilcar caught and destroyed them in the defile of the Axe (238). After this his popularity made him virtual dictator. He now (237) set out to conquer Spain as a new base against Rome and had won a considerable territory when he fell in battle. Hamilcar was probably the ablest general and statesman Carthage had before his son HANNIBAL.

Hamilton, Alexander, 1757–1804, American statesman, b. Nevis, in the West Indies. The brilliant and ambitious youngster was sent to New York, where he entered King's College (now Columbia) in 1774. In the troubles leading to the American Revolution, he wrote articles and pamphlets espousing the patriot cause so well that the works were then popularly attributed to John JAY. In the war he became a captain of artillery, attracted George Washington's notice, and, as Washington's secretary and aide-de-camp, performed invaluable services. Wishing more active service, he left Washington's staff in 1781 and performed brilliantly in the field at Yorktown. His marriage to Elizabeth Schuyler, daughter of Gen. Philip J. SCHUYLER, connected him with an old New York family. He was a lawyer in New York city and a member of the Continental Congress. By 1780 he had already outlined a plan of government with more Federal authority than that of the Continental Congress, and he worked steadily to establish the new state. As a delegate to the Annapolis Convention and to the Federal Constitutional Convention, he was a strong proponent of a centralized government. When the Constitution was drafted, he did much to get it ratified, particularly by his contributions to the FEDERALIST PAPERS. In New York, Hamilton fought vigorously against the opposition of George CLINTON to the Constitution, and of all the advocates of the new instrument of government Hamilton had perhaps the strongest voice of any except James MADISON. He was one of the giants of the young republic. As Secretary of the Treasury under George Washington he had an opportunity to show his financial genius. He planned to put the finances of the country on a stable basis, and he had his program ready before the first Congress under the Constitution met. The Hamiltonian system, which he unfolded over the years, was based on the proposition of running the country like a sound business venture. He proposed to pay the domestic debt in full, to have the Federal government assume state debts, to establish the Bank of the United States, to raise excise taxes, and to impose protective tariffs. Thus he favored strengthening the Federal government at the expense of the states and tying the administration more or less tightly to the moneyed interests. Hamilton himself was a well-to-do lawyer and banker (he had founded the Bank of New York), and his own high connections aroused suspicion in the less conservative members of the government. Though Washington wished to avoid parties, two groups came into existence almost immediately and crystallized into the FEDERALIST PARTY, with Hamilton and John Adams as its leaders, and the ANTI-FEDERALISTS, under the leadership of Thomas JEFFERSON. Hamilton's program was vigorously opposed. He was not allowed to offer his first financial report on the floor of Congress, principally because his opponents feared his powers of eloquent and persuasive oratory. The assumption of state debts was achieved only when Jefferson swung votes to it on the understanding that Hamilton would lend his influence to locating the national capital in the South—an early example of political logrolling. The Bank of the United States was established, but Hamilton had to defend its creation against vigorous opposition and resorted to the argument that the Federal government has "implied powers" as well as explicit powers under the Constitution, an argument later very powerful when used by Chief Justice MARSHALL to strengthen the national government. The protective tariff Hamilton did not obtain, and the raising of excise taxes caused difficulties, notably an uproar in W Pennsylvania known as the WHISKY REBELLION. In foreign affairs, Hamilton favored friendship with Great Britain and supported JAY'S TREATY (1794), he was opposed to the French Revolution and encouraged strong measures against France in the "near-war" of 1798—measures bitterly opposed by the pro-French Jefferson. By that time, John Adams was President, for, though Hamilton was perhaps the most brilliant and powerful of the Federalists, he was not in complete command of the party (he had even resigned his cabinet post in 1795 largely for financial reasons), and the successful candidate for President was another conservative, John Adams. There was little personal liking between these two, and friction between them grew in the course of the Adams administration, largely because Adams felt that Hamilton's attempts to dictate policies were unwarranted. Both were swept under when in the election of 1800 the wave of Jeffersonian democracy rolled in. Because the Constitution had been drawn without provision for separate votes for President and Vice President, the votes for the Anti-Federalist—now called Republican or Democratic Republican (see DEMOCRATIC PARTY)—candidates were equal in number. Hamilton's influence made Jefferson President and Aaron BURR Vice President—an outcome in accord with the popular will. Burr was, however, disgruntled, and when in 1804 Hamilton again thwarted Burr, keeping him from the governorship of New York, trouble followed. Burr accused Hamilton of having called him a "dangerous" man and when Hamilton replied evasively to the charge—which was probably just—challenged him to a duel. The two men met at Weehawken Heights, N.J., and Hamilton was mortally wounded. He left an enduring political legacy. It is customary in American history to view political theories and policies through the decades as either Hamiltonian or Jeffersonian. Though Jefferson's broader democracy has generally attracted more admirers than Hamilton's belief that the powers of government should rest with "the wealthy, the good, and the wise," the opposition of their views can easily be oversimplified. Certainly Hamilton's vision of the future America as a land wealthy from busy trade and busier industry proved more accurate than Jefferson's dream of a land dominated by free, small farmers. The distrust that haunted the dark, handsome, egotistical, and aristocratic Hamilton in his lifetime has continued, and he has perhaps never received his due as a founder and molder of the United States. His papers were edited by his grandson, John C. Hamilton (7 vols., 1850–51), and by Henry Cabot Lodge (9 vols., 1885–86), and various additions to these have been published (e.g., in *Papers on Public Credit, Commerce, and Finance*, ed. by Samuel McKee, Jr., 1934), but a definitive edition has not yet been issued. See biographies by Henry Cabot Lodge (1882), H. J. Ford (1920), David Loth (1939), and Nathan Schachner (1946); Gertrude Atherton's novel, *The Conqueror* (rev. ed., 1918).

Hamilton, Alice, 1869–, American physician and educator, b. New York city, M.D. Univ. of Michigan (1893), studied (1895–96) in Leipzig and Munich. Pioneering in research in hygiene and in industrial diseases, she became the first woman faculty member (1919) of Harvard. In 1935 she was made emeritus professor of industrial medicine of Harvard Medical School. As an outstanding authority on ailments contracted through chemicals and working conditions in industry, her services were utilized by the state of Illinois, the U.S. Dept. of Commerce, and the health committee of the League of Nations. Her writings include *Industrial Poisons in the United States* (1925), *Industrial Toxicology* (1934), and the autobiographical work, *Exploring the Dangerous Trades* (1943).

Hamilton, Andrew, d. 1703, colonial governor of New Jersey, b. Scotland. Becoming deputy governor of East Jersey in 1687, Hamilton defended the proprietors against popular opposition and shortly

had to leave the colony. In 1692 he was commissioned governor of East and West Jersey, but after five years of wise administration, was removed by the proprietors to please the crown When he was recalled he could not restore authority Appointed deputy postmaster general for the colonies in 1692, Hamilton induced several colonies to set up uniform postal rates. In 1701 he was appointed by William PENN deputy governor of Pennsylvania and served until his death

Hamilton, Andrew, 1676–1741, colonial American lawyer, defender of John Peter ZENGER, b Scotland He was brought by his family to Virginia (1679) and later moved to Pennsylvania, where he held office and was a prominent lawyer The governing party in New York disbarred all local lawyers who ventured to defend Zenger, Hamilton was brought in and by brilliant defense freed (1735) Zenger and helped to establish freedom of the press in America. See biography by A B Konkle (1941)

Hamilton, Andrew Jackson, 1815–75, provisional governor of Texas (1865–66), b Huntsville, Ala Moving to Texas in 1846, he served (1850) as attorney general, was a member of the legislature (1851–53), and in 1859 was elected as a Unionist to the U S House of Representatives, where he tried to check secessionist sentiment He returned (1861) to the state legislature, but with the outbreak of the Civil War he was regarded as a traitor and fled to Washington Abraham Lincoln appointed him a brigadier general of volunteers and military governor of Texas, and in June, 1865, he was made provisional governor by Andrew Johnson Hamilton's course in the early days of Reconstruction has been generally recognized as both courageous and wise Within a year he had established order and turned the state over to officials elected under a new constitution, only to have much of his work undone by the radical Republican plan of Reconstruction For a time he worked with the military authorities, who appointed (1866) him to the Texas supreme court But his opposition to Negro suffrage and to the disenfranchisement of the whites led him to become a leader of the conservative Republicans

Hamilton, Anthony, c 1645–1719, Scottish author of the French *Mémoires du comte de Grammont,* b Ireland He fought in the Dutch Wars for Louis XIV Later he fought for James II at the Boyne (1690) and went to live at the exiles' court at Saint-Germain-en-Laye He was a master of French and wrote much Hamilton's principal work was the memoirs (1713') of his brother-in-law, Philibert GRAMONT, these are rather racy, malicious, and gay than profound or exact The account of life at Charles II's court is especially well known See the annotated translation of Peter Quennell (1930), Ruth Clark, *Anthony Hamilton* (1921)

Hamilton, Emma, Lady, c 1765–1815, English beauty A fascinating woman, she was the mistress of Charles Greville, then of Sir William Hamilton, ambassador to Naples, whom she married She gained enormous influence with Queen Marie Caroline Her intimacy with Horatio NELSON began in 1798, and in 1801 she bore him a daughter, Horatia Nelson, already married, was so infatuated that he risked insubordination to remain in Naples with her His dying request that England provide for her was but poorly granted, and she died in want after running through his modest fortune Portraits of her were painted by many of the famous artists of her day, many are by Romney See biography by Walter Sichel (1905), study by Marjorie Bowen (1935)

Hamilton, Gail: see DODGE, MARY ABIGAIL

Hamilton, Henry, d 1796, British army officer He served in Canada and the West Indies in the French and Indian War In 1775 he became lieutenant governor of Detroit In the American Revolution, Hamilton was hated by Americans and accused of being a "hair buyer"—i e , one who paid bounties to Indians for scalps taken in their raids on frontier settlements George Rogers Clark in 1778 led his forces against the British in the West and captured (1779) Hamilton at Vincennes He later had administrative posts in Canada, Bermuda, and the West Indies. For bibliography, see CLARK, GEORGE ROGERS.

Hamilton, Sir Ian Standish Monteith (ā'un, mŏnt-tĕth'), 1853–1947, British soldier, b Corfu He served in many campaigns in the East and in Africa and was military attaché with the Japanese in the Russo-Japanese War In the First World War he commanded the Mediterranean Expeditionary Force (1915) and was relieved of his command after the abortive GALLIPOLI CAMPAIGN His later years were devoted to pacifistic activities His books include *The Millennium?* (1918), *Gallipoli Diary* (1920), and *Listening for the Drums* (1944)

Hamilton, James, 2d **Baron Hamilton** and **1st earl of Arran,** 1477?–1529, Scottish nobleman; son of James Hamilton, 1st Lord Hamilton, and Mary, daughter of King JAMES II. He was privy councilor to JAMES IV and was created earl of Arran (1503) He went on various embassies and an unsuccessful campaign to aid France After the marriage of Archibald DOUGLAS, 6th earl of Angus, to the queen mother, Margaret, Arran was in opposition, supporting the duke of Albany for regent. Angus's rupture with his wife and Albany's departure to France brought Arran the regency (1522–24) On Angus's return to Scotland (1524) Arran had to come to terms with him, assisting him in keeping the boy king, James V, prisoner. When Angus fell, Arran changed sides to the royal party

Hamilton, James, 2d **earl of Arran,** d. 1575, Scottish nobleman, duke of Châtelhérault in France; son of James Hamilton, 1st earl of ARRAN He was a leader of the Protestants in his youth and joined the English party against Cardinal BEATON After the success of his party and his appointment as protector of Scotland (1542) he turned Catholic and joined the French party (1543–44) He consented to the marriage of the young MARY QUEEN OF SCOTS to the dauphin (FRANCIS II), and gave up his regency to the queen mother, MARY OF GUISE (1554) He rejoined the Protestants, met many misfortunes, and fled Scotland when Queen Mary married Darnley (1564) In 1569 he returned to Scotland and was later imprisoned, although he had recognized JAMES VI (James I of England) as king He was freed, but went into rebellion, was defeated, and became reconciled, nominally at least, to James

Hamilton, James, 3d **earl of Arran,** 1530–1609, Scottish nobleman, son of James Hamilton, 2d earl of Arran He spent some years in France (1550–58) as a soldier, but his espousal of Protestantism brought his recall to Scotland, where his father, with the concurrence of John Knox, unsuccessfully tried to marry him to MARY QUEEN OF SCOTS He was on good terms with Elizabeth of England, who probably backed him for the regency in Scotland, but also declined his proposal of marriage He was a bitter enemy of the earl of Bothwell Arran succeeded to his father's estates in 1575, but was declared insane and put under the care of his brother, John Hamilton, 1st marquess of Hamilton The Arran estates and title were forfeited to James Stuart (see STUART, JAMES, EARL OF ARRAN) in 1580 but restored in 1585 Arran, however, never regained his sanity and remained in confinement for the remainder of his life

Hamilton, James Douglas, 4th **duke of,** 1658–1712, Scottish nobleman He served at the courts of Charles II and James II and remained, after his grudging acceptance of William III, a sympathizer with the JACOBITES Briefly imprisoned in 1689, he retired to Scotland in 1690 He became duke of Hamilton in 1698 and in the Scottish Parliament opposed union of Scotland with England, but he entered the united Parliament in 1708 Coming into favor in the Tory regime after 1710, he was made privy councilor (1710), duke of Brandon (English) in 1711, and ambassador to Paris (1714) He was killed in a duel by Lord Mohun before he could go to France Suspicion of foul play caused the Tories to accuse the Whigs of murdering him because of fear that he was to engineer from France a Jacobite restoration

Hamilton, James Hamilton, 3d **marquess** and 1st **duke of,** 1606–49, Scottish nobleman, grandson of the 1st marquess He became marquess of Hamilton (Scottish) and earl of Cambridge (English) at his father's death (1625) and was privy councilor in Scotland (1628) and Charles I's principal adviser for Scottish affairs He raised an army (1630–33) to fight for the count palatine in the Thirty Years War, but his expedition failed He tried, as Charles' commissioner, to pacify the COVENANTERS (1638) and, failing, raised a force to fight them. Later he pretended to conciliate them in order to learn their plans He was suspected in Scotland and disliked for the monopolies he held by patent of the crown In 1641 occurred the incident devised by the earl of MONTROSE, to seize and probably murder Hamilton, his brother, and the marquess of ARGYLL In 1643 he was created duke, but in 1644 was imprisoned by Charles on suspicion of treachery and was freed only by parliamentary troops in 1646 He and his Scots soldiers fought for Charles at Preston (1648) and were defeated and captured by John Lambert and Oliver Cromwell He was taken to London There he was found guilty of treason by the same court which condemned Charles I and was executed

Hamilton, James, 1786–1857, governor of South Carolina (1830–32), b Charleston, S C He practiced law in Charleston after his return from service in the War of 1812 In the U S House of Representatives (1822–29), he was at first a leader of the Jacksonian Democrats, but his increasing opposition to a high tariff led him to become a firm advocate of states' rights His championship of nullification won him the governorship of South Carolina, and he presided over the convention which passed the nullification ordinance Upon his retirement as governor he was placed in command of the state militia, which he organized to resist Federal coercion, but he willingly accepted the compromise tariff of 1833, regarding it as a vindication of his political course His enthusiasm for Texas independence was accompanied by large gifts of money and was acknowledged by Texas with a grant of land In 1839 he went to Europe as a diplomatic agent for Texas, securing recognition and commercial treaties from France, Belgium, the Netherlands, and Great Britain, but failing to secure loans of money While attempting a settlement with Mexico, involving the payment of $5,000,000, he was recalled and his work was repudiated by Sam Houston. Until he drowned in the Gulf of Mexico he sought reimbursement for the money owed him by Texas.

Hamilton, John Hamilton, 1st **marquess of,** 1532–1604, Scottish nobleman; second son of James Hamilton, 2d earl of Arran. He was in his earlier years hostile to the cause of Mary Queen of Scots. The death of his father in 1575 made him the nearest heir to the throne of Scotland after James VI and placed him at the head of the Hamilton family by virtue of the insanity of his elder brother James, 3d earl of Arran Hamilton's part in the murder of the regent, the 1st earl of Murray, led to a heated feud with Murray's relative, Sir William Douglas Hamilton fled to England and thence to France, where he tried unsuccessfully to secure support He returned to ask for Elizabeth's aid With other banished lords he returned to Scotland in 1585, was reconciled to James VI, and thenceforward enjoyed possession of his family's estates (except for the earldom of Arran which had passed to James STUART) and the favor and confidence of the king He was created marquess in 1599 His grandson was James Hamilton, 3d marquess and 1st duke of Hamilton

Hamilton, Patrick, 1504?–1528, Scottish reformer and martyr While at St Andrews, he was suspected of Lutheran sympathies He fled (1527) to Germany, where, during his short stay, he was associated with William Tyndale and probably with Luther and Melanchthon In Germany he wrote *Loci communes,* known as *Patrick's Places,* embodying the doctrines of the Reformation When Hamilton returned in 1527 to Scotland, he was charged with heresy, sentenced by Archbishop Beaton, and burned at the stake in 1528 See biographies by Peter Lorimer (in *Precursors of John Knox,* 1857) and T P Johnston (1882)

Hamilton, William Hamilton, 2d **duke of,** 1616–51, Scottish nobleman He was a partisan of the Stuarts during the civil wars (see PURITAN REVOLUTION) With his brother James Hamilton, 1st duke of HAMILTON, he gained favor with Charles I of England He was created (1639) earl of Lanark and made (1640) secretary of state for Scotland He was arrested by Charles's orders in 1643 with his brother for supposed implication in the latter's intrigues, but he escaped He regained favor when he went in 1646 as one of the Scottish commissioners to treat with Charles at Newcastle In 1647 he signed for the Scots the treaty known as the engagement with Charles, and he helped to organize the second civil war After the defeat at Preston (1648), he fled to Holland but returned in 1650 with Charles II and joined the Scottish invasion of England He died of wounds received at the battle of Worcester

Hamilton, William, 1704–54, Scottish poet His best poem was "The Braes of Yarrow" See his *Poems and Songs* (ed by J Paterson, 1850)

Hamilton, Sir William, 1730–1803, English diplomat and archaeologist, ambassador to Naples (1764–1800) He is chiefly remembered as the husband of Emma, Lady Hamilton, mistress of Horatio Nelson His fine collection of antiquities from Pompeii was sold to the British Museum in 1772. His publications include *Antiquités étrusques, grecques et romaines* (1766–67) and *Mount Vesuvius* (1772)

Hamilton, Sir William, 1788–1856, Scottish philosopher He was widely interested in law, physiology, and literature and was professor of history and philosophy at the Univ of Edinburgh. Hamilton helped to reestablish the waning fame of the Scottish school of metaphysicians His "Philosophy of the Unconditioned" (1829), a critique of Cousin's *Cours de philosophie* published in the *Edinburgh Review,* publicized his views upon the infinite, which he considered unknowable. He conceived of the world that man knows as finite and conditioned in terms of space, time, and degree He was a stimulating teacher, and his emphasis on Aristotle and the German philosophers broadened the English academic outlook His son, Francis, published his *Lectures on Metaphysics and Logic* (ed by H L Mansel and John Veitch, 4 vols , 1859–60)

Hamilton, Sir William Rowan, 1805–65, British mathematician, b Dublin He was professor of astronomy at the Univ of Dublin from 1827 and later royal astronomer His contributions include his research on light rays and his development of the theory of quaternions He was knighted in 1835

Hamilton, city (pop c 3,000), chief port and capital of Bermuda, on Bermuda island At the head of Great Sound, a huge lagoon protected by coral reefs, Hamilton is the focus of Bermuda's governmental, commercial, and social life It is laid out geometrically

Hamilton, city (pop 166,337), S Ont., on Hamilton Harbour at the head of Lake Ontario, SW of Toronto and NW of Buffalo, N Y It is at the foot of the Niagara escarpment, and behind it rises a high bluff There is steamship connection with other lake ports and with Montreal. It is an important

lake port and rail and air center, and its industries include steel, cotton and knitting mills, tobacco processing, automobile plants, and railroad shops. A notable fruit-raising region surrounds it. Educational institutions include McMaster Univ (Baptist; coeducational, 1887), a provincial normal school, a technical school, a collegiate institute, and a conservatory of music Dundurn Castle in Dundern Park has a museum The city was laid out in 1813 by George Hamilton

Hamilton, borough (pop 21,982, metropolitan pop. 26,401), on N North Island, New Zealand, on the Waikato river and SSE of Auckland It produces dairy foods and timber

Hamilton, burgh (1931 pop 37,862, 1948 estimated pop 40,883), Lanarkshire, Scotland, near the junction of the Avon with the Clyde SE of Glasgow It has coal and iron mines and engineering works Hamilton Palace, seat of the dukes of Hamilton, was razed in 1919, because it was endangered by coal mines Rudolf Hess landed on the Hamilton estate near here after his flight from Germany in May, 1941.

Hamilton. 1 Town (pop 1,002), co seat of Marion co , NW Ala , near the Miss line NW of Birmingham, in a farm area, settled c 1818 **2** City (pop 1,642), W Ill , on the Mississippi opposite Keokuk, Iowa, with which it is connected by a bridge, inc 1859 It is a farm trading and shipping center. **3** Town (pop 2,037), NE Mass , W of Gloucester, settled 1638, set off from Ipswich 1793 **4** City (pop 1,655), NW Mo , E of St Joseph, settled c 1855, inc 1868 It is a lumber, grain, and livestock center **5** City (pop 2,332), co seat of Ravalli co., W Mont , on the Bitterroot river, inc 1894 In this farm and dairy region Marcus Daly had an estate and model farm **6** Village (pop 1,790), central N Y , SW of Utica, settled 1795, inc 1816 COLGATE UNIVERSITY is here **7** Industrial city (pop 50,592), co seat of Butler co , SW Ohio, N of Cincinnati and on the Great Miami, inc 1810 It was settled on the site of Fort Hamilton, built in 1791 by Arthur ST CLAIR A manufacturing center, it produces various metal products, paper-mill machinery, and paper Development followed the building of a water-power plant (1852) and the arrival of railroads in the mid-19th cent William Dean Howells lived here as a boy **8** City (pop 2,716), co seat of Hamilton co , central Texas, W of Waco It has a flour mill and serves many poultry farms A natural-gas field is near by

Hamilton, river, 600 mi long, S Labrador It issues as the Ashuanipi river from Ashuanipi Lake, near the Quebec border, flows in a great arc north, then southeast through a series of lakes to the GRAND FALLS, where it becomes the Hamilton At the falls it drops 1,038 ft over a distance of 16 mi , with a main fall of 245 ft Below the Grand Falls it flows southeasterly, then ENE to Lake Melville Its waters pass Rigolet and reach the Atlantic through Hamilton Inlet. The falls and rapids made early exploration difficult. The river was formerly called the Grand River.

Hamilton, Mount, peak, 4,372 ft high, W Calif , in the Coast Range just E of San Jose It is the site of Lick Observatory (built 1876–88), directed by the Univ of California

Hamilton College, at Clinton, N.Y , nonsectarian, for men, chartered 1812, originating from an academy founded by Samuel KIRKLAND Among its graduates are Elihu Root and Alexander Woollcott

Hamilton Inlet, large bay on the Labrador coast At its narrows is Rigolet, a post of the Hudson's Bay Company

Hamitic languages: see LANGUAGE (table)

Hamlet, town (pop. 5,111), S N C , WSW of Fayetteville near the S C line It is a trade and shipping center for a fruitgrowing area

Hamlet, by many considered Shakspere's greatest play and one of the greatest works in the world's literature. The story itself dates back to primitive Germanic times and was first recorded by the 12th-century Danish scholar SAXO GRAMMATICUS in *Historia Danica* (c 1200) Here Prince Amleth's father has been killed by the usurping uncle, the murder is common knowledge, and the young prince feigns madness to save his own life and to await revenge Returning from England, where he has married the king's daughter, he finds the court celebrating a false report of his death Amleth, still pretending insanity, tricks all into drunkenness, sets the hall afire, kills his uncle, and proclaims himself king. An Elizabethan dramatist, probably Thomas Kyd, made the tale into a Senecan play of revenge, a form highly popular with his audience When Shakspere in 1601–2 rewrote this early play, which belonged to his company, he retained the events of his predecessor's plot, but with characteristic genius he shifted the emphasis from the external circumstances which prevent Hamlet from revenge to the complexity of Hamlet's own nature. To this day the greatness of the play consists essentially in the brilliance and impenetrability of Hamlet's character. Many critics and actors have attempted to interpret the hero, but no agreement is likely to be reached, and repeated readings of the text itself will prove more rewarding than any commentary For some indication of the extensive literature on *Hamlet*, see A. A. Raven, *Hamlet Bibliography and Reference Guide, 1877 to 1935* (1936), and the suggested reading under the article SHAKSPERE.

Hamlin, Alfred Dwight Foster, 1855–1926, American architect and teacher, b Constantinople, grad. Amherst, 1875, studied at the Massachusetts Institute of Technology and the École des Beaux-Arts He began practice with the firm of McKim, Mead, and White, but after 1883 taught architecture at Columbia Univ , he became professor of the history of architecture in 1904 and director of the School of Architecture in 1911 His chief writings are *Text-Book of the History of Architecture* (1896, rev ed , 1928) and *History of Ornament* (1916–23) His son, **Talbot Faulkner Hamlin,** 1889–, librarian of Avery Library, Columbia Univ , and later professor of architecture, wrote *Some European Architectural Libraries* (1939), *Architecture through the Ages* (1940), *Greek Revival Architecture in America* (1944), and *Architecture an Art for all Men* (1947)

Hamlin, Hannibal, 1809–91, Vice President of the United States (1861–65), b. Paris, Maine Admitted to the bar in 1833, he practiced at Hampden, Maine He was a Maine legislator (1836–40, 1847), a U S Representative (1843–47), and a U S Senator (1848–57) As a Democrat he supported Franklin Pierce's administration, but his increasing anti-slavery leanings led him to join the Republican party in 1856, in the same year he became governor of Maine. After a few weeks he resigned to reenter the U S. Senate, where he became increasingly prominent Geographical and political considerations made him a natural choice as Abraham Lincoln's running mate in 1860 As Vice President during the Civil War he presided over the Senate with ability and took part in a variety of governmental wartime activities He was again a member of the U S. Senate (1869–81), supporting the Reconstruction and economic policies of his party. From 1881 to 1882 he was minister to Spain. See biography by his grandson Charles E Hamlin (1899)

Hamlin, city (pop 2,406), W central Texas, NW of Abilene Oil and gypsum have made the fortune of the city Gypsum cement and plaster are produced, and there is a chick hatchery

Hamline University see SAINT PAUL, Minn

Hamm (ham), city (pop 49,751), Westphalia, NW Germany, on the Lippe river It is the largest railroad center of the Ruhr district and has iron and steel foundries Founded (1226) as the capital of the county of Mark, it later passed to Cleves and thence to Brandenburg It suffered great hardship in the Thirty Years War and in the Seven Years War and was very heavily damaged in the Second World War The Gothic city hall (15th cent) and the Church of St Paul (c 1300) were destroyed

Hamm (ham), village, grand duchy of Luxembourg, 3 mi. E of Luxembourg There is a large American military cemetery. Gen George S Patton is buried here

Hammath (hăm'-) [Heb , =warm springs], fortified Naphtalite city Joshua 19 35 It is probably the Hammon of 1 Chron 6 76 and the Hammoth-dor of Joshua 21 32 Hammam on the Sea of Galilee, S of Tiberias, is on the site of Hammath

Hammedatha (-dă'duthu, -udă'thu), father of Haman Esther 3 1

Hammelech (hă'mĕlĕk) [Heb , =the king], in the Bible, form occurring in Jer 36 26 and 38 6 The translators of AV took it for a name, but it is better translated "the king"

hammer. Men without hammers pound with clubs and with stones held in the hand The club and the hammerstone are believed to share with the digging stick (see SPADE) the distinction of having been used as tools before any tools were made by man One of the first tools man made was the hammer Its history begins in the Neolithic period Typically a hammer consists of two parts, the head and the handle Weighting the striking end of a club by attaching a hammerstone to it formed a hammer This was improved by shaping the stone so that the handle might be attached more firmly and so that the blows of the hammer might be more effective The wooden handle was commonly bent around the stone head, which was grooved to receive it. From the hammer of stone the stone AX was developed Both were primarily tools but were used also as weapons Hammers of bronze and of other metals did not make the hammer of stone obsolete Sometimes a hole was drilled through the stone head of a hammer to receive the handle A hole for the handle became a usual detail in the design of hammerheads of metal The Romans varied the design of their iron hammerheads to adapt them to different purposes Modern hammers with steel heads are made for driving nails and for shaping metals The power hammer came into use c 1840 The stone hammer is the emblem of Thor. See also PNEUMATIC APPLIANCES AND TOOLS See Thomas Hibben, *The Carpenter's Tool Chest* (1933), E M. Wyatt, *Common Woodworking Tools* (1936); A P Morgan, *Tools* (1948).

Hammerfest (hă'mŭrfĕst), city (pop. 3,588), Finnmark co., N Norway, a port on small Kval island It is the northernmost city of Europe, but its harbor is always ice free. A fishing, whaling, and sealing center, Hammerfest exports cod-liver oil, train oil, furs, and fish. Incorporated in 1789, it was destroyed by fire in 1890 and was reconstructed on entirely modern lines It served as a German naval base in the Second World War. Before evacuating the city, the Germans demolished it thoroughly, but reconstruction was soon begun.

Hammer-Purgstall, Joseph, Baron von (yō'zĕf fŭn hă'mŭr-pōōrk'shtal), 1774–1856, Austrian diplomat and Orientalist An assiduous worker, he spent his life trying to make the literature and lore of Persia, Arabia, and Turkey known in Germany He influenced Rückert, and his translation of the Persian poet Hafis inspired Goethe's *Divan*

Hammersmith, metropolitan borough (1931 pop 135,523, 1948 estimated pop 115,800) of W London, England, just W of Kensington Here were the Kelmscott Press, founded by William Morris, and the Doves Press of Cobden-Sanderson St Paul's School for boys was founded in 1509 by John Colet Milton and Pepys were both at St Paul's before going to Cambridge

Hammerstein, Oscar (hă'mŭrstĭn), 1847–1919, German-American operatic impresario He made his fortune on a cigar-making machine In 1888 he built the Harlem Opera House, and in 1892 the Manhattan Opera House The scene of his principal activities, however, was a second Manhattan Opera House, built in 1906, where he gave noteworthy productions, brought many fine singers to the United States, and introduced *Louise, Pelléas et Mélisande,* and *Elektra* to the American public In 1910 the Metropolitan Opera Company bought his interests, stipulating that he was to produce no more operas in the United States for 10 years Upon the failure (1913) of an operatic venture in London, he returned to New York and built the American Opera House (later called the Lexington Opera House), but his plans to produce opera there were halted by court order

Hammerstein, Oscar, 2d, 1895–, American lyricist and librettist, b New York city, grad Columbia, 1916, grandson of Oscar Hammerstein. With the composer Richard Rodgers he has brought to the stage the musicals *Oklahoma!* (1943), *Carousel* (1945), *Allegro* (1947), and *South Pacific* (1949) All but *Allegro* made theatrical history by running for great lengths of time, notable also is the fact that serious plots and sometimes tragic overtones are employed, contrary to previous musical tradition Earlier, Hammerstein had written books and lyrics for *Rose Marie* (1924), with music by Rudolf Friml, *Desert Song* (1926) and *New Moon* (1928), both with music by Sigmund Romberg, and *Show Boat* (1927), to Jerome Kern's score

Hammett, Dashiell (dăshĕl'), 1894–, American writer of detective fiction, b Eastern Shore of Maryland He had been a detective and a reviewer of detective fiction when his first novel, *Red Harvest* (1929), appeared Among his best works are *The Maltese Falcon* (1930) and *The Glass Key* (1931) *The Thin Man* (1932) was so successful as a moving picture that Hammett has since written little except film plays His fiction is fast-paced and realistic and his dialogue excellent He was a founder of the "tough" school of detective fiction

hammock, suspended bed, usually of canvas, netting, or leather The hammock and its name were introduced to Europeans by Columbus, who learned of them from American Indians Hammocks of heavy canvas were formerly much used by sailors, especially in naval vessels, and were suspended at night from hooks in the deck beams and stowed away during the day

Hammoleketh (-mŏ'lŭkĕth) [Heb , =the queen], mother of Ishod 1 Chron 7 18

Hammon, Jupiter, c 1720–c.1800, American Negro poet, a Long Island slave His religious poem *An Evening Thought,* printed in 1761, preceded the publication of Phillis Wheatley's poems In 1786, in an address before the African Society of New York, Hammon advised his fellow slaves not to revolt and advocated that the masters should free their slaves voluntarily. See Vernon Loggins, *The Negro Author* (1931)

Hammon. 1 Unidentified Asherite town. Joshua 19 28 **2** See HAMMATH

Hammond, James Henry, 1807–64, governor of South Carolina (1842–44), b. Newberry co , S C , grad South Carolina College (now the Univ. of South Carolina), 1825. A lawyer and the owner of large plantations on the Savannah river, Hammond from the days of the nullification movement was firm in his belief that it was to the interest of Southern states to secede from the Union. This belief he voiced boldly (1835–36) in the U S. House of Representatives in speeches opposing antislavery petitions and other actions of abolitionists As governor he considered the times, marked by the turmoil over the tariff of 1842, ripe for secession. He attended the Nashville Convention of 1850, but adjudged its results ineffective. In 1857 he was elected to the U S. Senate and there, in reply to William Seward, made his famous "Cotton is King" speech Strangely enough, as the crisis approached he be-

gan to doubt the wisdom of secession, thinking the South could attain its desired ends within the Union. He later supported the Confederacy, though he criticized the government of Jefferson Davis. See biography by Elisabeth Merritt (1923).

Hammond, John Hays, 1855–1936, American mining engineer, b. San Francisco, grad Yale, 1876 After studying in Germany he became attached (1880) to the U S Geological Survey, examining California gold fields. Afterwards he met with several adventures in the Southwest, in Mexico, and in the Andes while doing engineering work He went (1893) to South Africa and was soon employed by Cecil Rhodes Involved (1895–96) in the Jameson raid, Hammond was captured and sentenced to death by the Boers He was soon released upon payment of $125,000, and he returned to the United States in 1900 He was associated with important financial interests, promoting many mining and hydroelectric projects He served (1922–23) as chairman of the U.S. Coal Commission See his autobiography (1935). His son **John Hays Hammond, Jr**, 1888–, b San Francisco, grad Yale, 1910, gained note as an inventor and an electrical engineer He became a director of the Radio Corp of America His numerous inventions include torpedoes for coastal defense, incendiary projectiles, and radio, telegraphic, and telephonic apparatus

Hammond, Laurens, 1895–, American manufacturer and inventor, b Evanston, Ill , M E Cornell Univ , 1916 Originally a manufacturer of electric clocks, he later turned to the invention and manufacture of electric musical instruments The pipeless Hammond organ, first marketed in 1935, produces sounds by amplified electrical vibrations, the Novachord imitates the tones of orchestral instruments

Hammond. 1 City (pop 70,184), NW Ind , near Lake Michigan between Gary and Chicago, on the Grand Calumet, settled 1851, inc 1884 It is an important industrial center in the Calumet region and has railroad repair shops, chemical works, surgical-supply factories, and soap plants The impetus for its early growth was the location of abattoirs here **2** City (pop 6,033), SE La , E of Baton Rouge, settled 1855, inc 1888 It is called the "strawberry capital of America " A state experiment station and Southeastern Louisiana College are here

Hammondsport, village (pop 1,112), S N Y , at the southern end of Keuka Lake, in a grape region, inc 1871 Champagne and other wines are produced Glenn Curtiss was born in the village and made aviation experiments here

Hammonton, town (pop 7,668), S central N J , SE of Camden, settled in the 1850s, inc 1866 It is the center of a fruit region, with canneries and a cooperative market

Hammoth-dor (hăm'-) see HAMMATH

Hammurabi (hăm'ōōrä'bē), fl 2100 B C , king of BABYLONIA, known from his many letters and his law code He was a founder of the greatness of Babylon, and the letters reveal his imperial interest in the whole Tigris and Euphrates valley His code of laws is one of the greatest of ancient codes, it is carved on a diorite column, in 3,600 lines of cuneiform, it was found at Susa and is now at Paris It is particularly strong in prohibitions of defrauding the helpless, and it is genuinely humanitarian One savage feature is the retributive nature of the punishment, which follows "an eye for an eye" literally The biblical Amraphel, ally of CHEDORLAOMER, is identified by some with Hammurabi Other systems of dating place Hammurabi much later, possibly c 1700 B C

Hamonah (hămō'nu) [Heb , =multitude], name to be given a city in the prophecy in Ezek 39 16

Hamon-gog (hā'-) [Heb , =multitude of Gog], name to be given a valley in the prophecy in Ezek 39 11–16

Hamor (hā'-) [Heb , =she-ass], head of the family of whom Abraham bought his tomb Gen 34 2–31 Emmor Acts 7 16

Hampden, John (hămp'dŭn, hăm'dŭn), 1594–1643, English statesman, cousin of Oliver Cromwell He served in Parliament from 1621 His conviction in 1637 for refusing to pay ship money, a tax historically imposed only in the maritime counties, inflamed popular resentment against Charles I Hampden was one of the five members whose attempted arrest by Charles in person (1642) helped to precipitate the civil war He raised a regiment for the parliamentarians, fought at Edgehill and Reading, and was mortally wounded at Chalgrove Field, fighting Prince Rupert His stalwart resistance to Charles made Hampden a popular hero of the parliamentarians See biography by Hugh Williamson (1933)

Hampden, Walter (hăm'dŭn), 1879–, American actor, whose real name was Walter Hampden Dougherty, b. Brooklyn, N.Y After studying acting in Paris he made his stage debut in London (1901) in classical repertory. In 1907 he returned to the United States, supporting Nazimova in an Ibsen series and later appearing with distinction in Kennedy's *Servant in the House* and in Shaksperian drama. After 1923 he acted with his own company in a variety of works which included Ibsen's *Enemy of the People* and *Caponsacchi* (Arthur Goodrich's adaptation from Browning's *Ring and the Book*) and in Brian Hooker's adaptation of Rostand's *Cyrano de Bergerac*

Hampden (hăm'dun, hămp'-). **1** Town (pop 2,591), S Maine, on the west bank of the Penobscot below Bangor; settled 1767, inc 1794 In Sept , 1814, the village was plundered by a British force from Castine A park commemorates Dorothea Dix, born in Hampden **2** Rural town (pop 1,023), S Mass , settled c 1740, set off from Springfield 1878

Hampden-Sydney College, at Hampden-Sydney, Va , near Farmville, for men, opened by Presbyterians as an academy 1776, chartered as a college 1783

Hampshire (hămp'shĭr, -shûr) or **Hants** (hănts), maritime county (1,649 sq mi , 1931 pop 1,102,770, 1948 estimated pop 1,106,310), S England. The area and population are of the mainland only, which is the administrative county of Southampton The old county of Hampshire includes also the Isle of WIGHT WINCHESTER, the county town, is famous for its cathedral and its public school Hampshire is undulating and is crossed by two chalk downs, rising in places to more than 1,000 ft The principal rivers are the Test, the Itchen, and the East Avon The region is devoted to sheep raising and dairy farming It also has extensive shipbuilding and a large maritime trade SOUTHAMPTON, on Southampton Water, which extends northwest from the confluence of the Solent and the Spithead, is one of the chief ports of Britain Portsmouth is also an important port Hampshire was the nucleus of the Anglo-Saxon kingdom of Wessex and has numerous historical and literary associations Since the Local Government Act of 1888 the mainland has officially been known as the county of Southampton See Arthur Mee, *Hampshire with the Isle of Wight* (1939)

Hampshire sheep, breed of large sheep native to Hampshire, England, where they were derived by crossbreeding Southdowns, Cotswolds, and other existing breeds The sheep is hornless and has a black face and black legs It has spread widely over the world on farms and on the range, and is one of the leading breeds in the United States, being popular in both the East and the West for the production of market lambs

Hampstead (hămp'stĭd, hăm'-), metropolitan borough (1931 pop 88,947, 1948 estimated pop 95,480) of NW London, England It is a residential district, popular with writers and artists Among those who have lived here are Keats, Constable, Du Maurier, and Kate Greenaway **Hampstead Heath,** a public park of 869 acres, is on a hill above Old Hampstead

Hampton, Wade, c 1752–1835, American planter and general, b Halifax co , Va After serving as a colonel under Gen Thomas Sumter in the American Revolution, he took part in South Carolina politics, opposing the ratification of the Federal Constitution and serving as a U S Representative (1795–97, 1803–5) He developed large cotton plantations in South Carolina before 1800, held sugar plantations in Mississippi after 1811, and was reputed to be the wealthiest planter of his day in America A major general in the War of 1812, he was given command of a force which was to march from N New York to the St Lawrence and then, after effecting a union with Gen James Wilkinson's army, move against Montreal He was turned back in the battle of CHATEAUGAY, blamed by Wilkinson for the failure of the campaign, and resigned his command Wade Hampton (1818–1902) was his grandson

Hampton, Wade, 1818–1902, Confederate general, b. Charleston, S C , grad South Carolina College (now Univ of South Carolina), 1836, grandson of Wade Hampton (c 1752–1835) Hampton, a wealthy planter, served in the South Carolina legislature from 1852 to 1861 In the Civil War he raised Hampton's Legion, which he led at the first battle of Bull Run He commanded an infantry brigade in the Peninsular campaign, being made a brigadier general in May, 1862, but in July was given a brigade in the cavalry of J E B STUART He was active in most of Stuart's operations, (1862–64), and when Jeb was killed in 1864, Hampton succeeded him as commander of the cavalry corps Handicapped by lack of mounts, he was still a match for the numerically superior Union cavalry in fighting around Richmond and Petersburg In Jan., 1865, Hampton took part of his force to the Carolinas, where he was engaged in covering J E Johnston's army until the surrender to Sherman He had been promoted lieutenant general in Feb , 1865 In the memorable election of 1876, the Democrats of South Carolina were led to victory by Hampton, their candidate for governor Daniel H Chamberlain, the carpetbagger incumbent, disputed the result, but when, in April, 1877, Federal troops were withdrawn, he had no support More for this political triumph, which restored home rule, than for his military prowess is Hampton a state hero He was reelected in 1878 and until 1890 was the dominant figure in South Carolina politics In that year Benjamin TILLMAN led his forces in a successful revolt against Hampton's rule, and Hampton, who had served in the U S. Senate after 1879, was defeated for reelection. He was (1893–99) commissioner of Pacific railroads. See E L Wells, *Hampton and His Cavalry* (1899) and *Hampton and Reconstruction* (1907), A B Williams, *Hampton and His Red Shirts* (1935), D S. Freeman, *Lee's Lieutenants* (3 vols , 1942–44), M. W. Wellman, *Gaunt in Gray* (1949)

Hampton, former urban district (1931 pop. 13,061), since 1937 part of Twickenham, Middlesex, England, on the Thames and WSW of London David Garrick's house is here **Hampton Court Palace** was built by Cardinal Wolsey in 1515 as his private residence After his downfall it was taken by Henry VIII and continued to be a royal residence to the time of George II William III had part of it torn down and rebuilt by Christopher Wren It has an art gallery and gardens open to the public Many of its rooms are occupied by royal pensioners See Edward Yates, *Hampton Court* (1935) **The Hampton Court Conference** was held in 1604, early in the reign of James I, to seek a basis of agreement between the Puritans and the Established Church Its results were most unsatisfactory to the Puritans, and many Puritan clergymen were expelled

Hampton. 1 City (pop 4,006), co seat of Franklin co , N Iowa, S of Mason City, founded 1856, inc 1870 It is a trade and processing center in a farm and livestock area Beeds Lake State Park is near by **2** Town (pop 2,137), SE N H , S of Portsmouth, inc 1639 Hampton Beach is a resort The town is the birthplace of Henry Dearborn Whittier lived at "Elmfield " **3** City (pop 5,898), SE Va , one of the ports of HAMPTON ROADS The courthouse of Elizabeth City co is here One of the oldest continuous English settlements in the country, Hampton was settled in 1610 on the site of an Indian village, laid out in 1680, and incorporated as a town in 1849, as a city in 1908 It was sacked by the British in 1813 and in 1861 was burned by Confederates It has important fisheries and ships large quantities of oysters and crabs Near by is Langley Field, a U S army air base opened in 1917 The city is the seat of **Hampton Institute** (Negro, nonsectarian, coeducational), opened in 1868, chartered in 1870, and called a normal and agricultural institute until 1930 It became a college in 1920 and has divisions of agriculture, business, education, home economics, trades and industries, and general education It was founded by the American Missionary Association through the efforts of Samuel C Armstrong and planned as "education for life " Booker T Washington and other early Tuskegee teachers studied at Hampton Institute Indians attended from 1878 to 1923 It is the best-endowed school for Negroes and was the first to become internationally known Students perform much of the manual labor There is an anthropology museum

Hampton Court Conference and **Hampton Court Palace** see HAMPTON, England

Hampton Institute see HAMPTON, Va

Hampton Roads, roadstead, SE Va , between Old Point Comfort and Sewall Point, through which the waters of the James, Nansemond, and Elizabeth rivers pass into Chesapeake Bay Four miles long and 40 ft deep, it is one of the finest natural harbors in the world, with Newport News and Hampton on the north and Norfolk and Portsmouth on the south Newport News, Norfolk, and Portsmouth constitute the Port of Hampton Roads, under the State Port Authority of Virginia (1926) —one of the busiest U S seaports The roads have long been important to the U S navy, and the operating base at Norfolk is headquarters of the Atlantic Fleet The Civil War battle of Hampton Roads (March, 1862) was featured by the fight between the ironclads MONITOR AND MERRIMAC

Hampton Roads Peace Conference, meeting held on Feb 3, 1865, on board the Union transport *River Queen* in Hampton Roads with the object of ending the Civil War President Lincoln and Secretary William H Seward represented the Union, and A H Stephens, R M T Hunter, and J A Campbell, the Confederacy It was brought about through the efforts of Francis P BLAIR (1791–1876) Unofficially, but with Lincoln's knowledge, Blair had discussed with Jefferson Davis the possibility of restoring peace through a united opposition to European intervention in Mexico Lincoln's terms—reunion, acceptance of emancipation, immediate cessation of hostilities, and the disbanding of all Confederate forces—proved unacceptable to the South, and the conference failed.

hamster, small rodent native to the temperate parts of Europe and of W Asia It has a rather thickset body growing to a length of about 6 in , and its hairy tail is only ½ in long The coat is usually some shade of brown or gray above, sometimes black or marked with black, and the under parts are white The head is relatively broad, the ears round, and there are large internal cheek pouches In the wild state it feeds in summer on small animals and in winter lives on grain which it stores in quantities in underground chambers It was introduced in the United States as a laboratory animal and as a pet

Hamsun, Knut (kŭn'ōōt' hăm'sōōn), 1859–, Norwegian novelist. He led a wandering life and on his

second visit to America (1886–88) worked as a streetcar conductor in Chicago, as a lecturer in Minneapolis, and as a harvest hand in the wheat fields of North Dakota. Returning to Europe, he published a scathing book on the cultural life of modern America (1889) and the novel *Hunger* (1890, Eng tr , 1899), which, for its unprecedented naturalism, aroused a great deal of criticism. In Paris, Hamsun wrote *Pan* (1894), an immediate success. He wrote a trilogy of plays, a volume of lyrics (1903), and in 1917 the novel *The Growth of the Soil* (Eng. tr , 1920), which was awarded the 1920 Nobel Prize in Literature Later works are *Vagabonds* (1927; Eng tr., 1930), *The Road Leads On* (1933; Eng tr , 1934), and *The Ring Is Closed* (1936, Eng tr , 1937). In the Second World War, Hamsun lost his popularity because of his open acceptance and approval of the German invasion of his country He was tried as a collaborationist in 1947 and fined $85,000. See H. A Larsen, *Knut Hamsun* (1922), Alrik Gustafson, *Six Scandinavian Novelists* (1940).

Hamtramck (hămtrā'mĭk), city (pop. 49,839), SE Mich , within the confines of Detroit, inc as a village 1901, as a city 1922 Its population, largely Polish, grew mainly after the coming of the automobile industry c 1910 Metal and roofing products and machinery are made Hamtramck's public school system under the leadership of M. R Keyworth (1923–35) undertook a notable plan of education for democracy.

Hamuel (hā'mū'ĕl), Simeon's grandson 1 Chron. 4 26

Hamul (hā'mŭl), grandson of Judah Gen. 46 12

Hamun-i-Helmand (hämōōn'-ē-hĕl'mund), marshy lake, area 5,000 sq mi , on the border of Iran and Afghanistan It is fed by the Helmand, the Farah, and other rivers It sometimes overflows into the Gaud-i-Zireh, another swamp

Hamutal (hămū'-), mother of Jehoahaz and Zedekiah. 2 Kings 23.31, 24 18, Jer 52 1

Han (hän), dynasty of China, which ruled from 202 B C. to A D 220 Liu Pang, the first Han emperor, had been a minor official under the Ch'in dynasty After the fall of the Ch'in he advanced from the Hwai river valley to conquer the feudal kingdoms to the north and south and the strategic area at the confluence of the Wei and Yellow rivers. In this fruitful region guarded by the Yellow River to the east and the Tsingling mts to the south, the Han emperors ruled for 400 years with one interruption, A D c.9 an agrarian reformer seized the throne and established the Hsin dynasty, which divided the Early or Western Han period from the Later or Eastern Han period, which began A D c.25 The entire Han era was one of political and cultural centralization and expansion. The writing brush and paper and ink came into wide use, the consequent modification of the written characters led to editing of texts which scholars until then had inscribed on stone. The first dictionary and the first encyclopedic history of China were compiled. The coming of Buddhism increased cultural ties with India and other parts of the Near East Trade with border tribes was increased to pacify them and to gain their allegiance The dynasty collapsed A.D. c 220 and was followed by some 350 years of smaller political units, including the Three Kingdoms and the Tsin and the Sui dynasties

Han (hän), river, c.800 mi long, rising in SW Shensi prov., China It flows E through Shensi prov. and SE through Hupeh prov to join the Yangtse river At the junction of the rivers lie the cities of Hankow, Wuchang, and Hanyang Much of the Han is navigable

Hanaford, Phoebe Ann (Coffin) (hă'nufurd), 1829–1921, American Universalist minister She was the first woman to be regularly ordained (1868) in New England.

Hananeel (hănă'nēĭl, hăn'ŭmēl), son of Jeremiah's uncle Shallum Jer 32.7–9,12,44

Hanan (hā'-) [Heb ,=merciful] 1 Reader with Ezra in explaining the law. Neh 8 7 2 Sealer of the covenant, probably the same as the preceding Neh. 10.10. 3 Descendant of Saul. 1 Chron 8 38, 9.44. 4 One of David's guard. 1 Chron 11 43 5 One of Nehemiah's treasurers. Neh 13 13 6 Father of men who had a room in the Temple Jer. 35.4 7, 8 Sealers of the covenant Neh. 10 22,26. 9 Family of Nethinim Ezra 2.46, Neh. 7.49. 10 Benjamite chief. 1 Chron. 8.23.

Hananeel (hănă'nēĭl, hă'nŭnēl) [Heb.,=God is gracious], tower, on the Jerusalem wall. Neh. 3 1, 12.39, Jer. 31.38; Zech. 14.10.

Hanani (hă'nŭnī, hănā'-) [Heb.,=gracious]. 1 Chief singer of David. 1 Chron. 25 4,25. 2 Seer who reproved Asa 2 Chron. 16 7. Apparently this is the father of Jehu 1 Kings 16 1,7. 3 Governor of Jerusalem. Neh. 1 2; 7.2. 4 Priest. Ezra 10.20. 5 Singer. Neh. 12.36.

Hananiah (hănŭnī'ŭ) [Heb.,=grace of God] 1 One of the Three Holy Children 2 False prophet. Jer. 28. 3 Son of Zerubbabel. 1 Chron 3 19 4 Musician. 1 Chron 25.23. 5 Father of Zedekiah 4. 6 Grandfather of Irijah. 7 Benjamite 1 Chron. 8.24 8 Captain under King Uzziah. 2 Chron. 26.11. 9 Man who had a foreign wife. Ezra 10.28. 10 Sealer of the covenant. Neh. 10.23. 11, 12 Repairers of the wall. Neh. 3.8,30. 13 Chief priest. Neh 12.12. 14 Priest at the dedication of the walls Neh. 12 41 15 Governor in Jerusalem. Neh. 7.2,3 Ananias and Annas are Greek forms of this name.

Hanau (hä'nou), city (1939 pop. 42,191; 1946 pop. 22,067), Hesse-Nassau, W Germany, on the Main and Kinzig rivers. It has a diamond-polishing and jewelry industry. It suffered heavily in the Second World War. Jakob and Wilhelm Grimm were born here

Hancock, John, 1737–93, American Revolutionary patriot, signer of the Declaration of Independence, b Braintree, Mass , grad Harvard, 1754 From an uncle he inherited Boston's leading mercantile firm, and naturally he opposed the Stamp Act (1765) and other British trade restrictions In 1768 his ship *Liberty* was seized as a smuggler and confiscated by the crown A riot ensued, and later the ship was burned Hancock was hailed as a martyr and elected (1769) to the General Court, where he joined Samuel Adams in advocating resistance to England Gen Thomas Gage issued a warrant for their arrest, but during the confusion of the battles of Lexington and Concord, which began the American Revolution, they escaped Hancock was a member (1775–80) and president (1775–77) of the Continental Congress His name appears first on the Declaration of Independence, and the term "John Hancock" is often used to mean a signature He was governor of Massachusetts (1780–85, 1787–93) See biographies by Lorenzo Sears (1912) and H S Allan (1948)

Hancock, Winfield Scott, 1824–86, Union general in the Civil War, b Montgomery Square, near Norristown, Pa , grad West Point, 1844. He served with distinction in the Mexican War and was chief quartermaster on the Pacific coast when the Civil War broke out. Made a brigadier general of volunteers in Sept , 1861, Hancock fought in the Peninsular campaign (1862), in the Antietam campaign he succeeded to the command of a division His command was heavily engaged in the battles of Fredericksburg (1862) and Chancellorsville (1863) In the Gettysburg campaign Hancock, now commanding the 2d Corps was most conspicuous Gen George G Meade chose to fight at Gettysburg on his recommendation, and in the last two days of the battle Hancock was foremost in repulsing the Confederate attacks, particularly Pickett's charge on July 3, 1863 He was severely wounded Hancock led the 2d Corps in the Wilderness campaign and in the operations around Petersburg until Nov , 1864, when he left to recruit a new corps His course as chief of the military department of Louisiana and Texas after the war was characterized by a wise humanity, which was not approved by the radicals in Congress He was transferred to another command at his own request The Democratic party nominated him for President in 1880, on his military record Garfield defeated him, but with only a slight popular plurality See Almira Hancock, *Reminiscences of Winfield Scott Hancock* (1887), biography by F A Walker (1895)

Hancock. 1 City (pop 5,554), Keweenaw peninsula, extreme N Mich , on the Portage Lake Ship Canal, in a copper region, platted 1859, inc as a village 1875, as a city 1903 There are foundries and machine shops Suomi College and Theological Seminary (Finnish) is in Hancock 2 Resort village (pop 1,581), S N Y , at the junction of the east and west branches of the Delaware SE of Binghamton, inc 1888 Wood alcohol is made here

hand, terminal portion of the arm. The hand includes the digits (the fingers and thumb) the bones of which are called phalanges, the metacarpus or hand proper, and the carpus or wrist The human hand contains eight bones in the wrist, five long, parallel metacarpals, and three phalanges in each finger and two in the thumb In man and certain other higher mammals, structural modifications permit the performance of intricate motions. In apes, the hand is chiefly a prehensile organ, whereas in man, in addition to prehensile ability, the hand is capable of skillful performances, e.g , writing, sewing, and the fingering of musical instruments These motions are made possible by the action of small muscles completely within the hand and of tendons of the arm muscles and by the coordination of nerve structures

handball, indoor and outdoor ball game played by two or four persons on a one-wall or four-wall court In the one-wall game, the court is 20 ft. by 34 ft The short line, from behind which the ball is served, is marked off 16 ft from, and parallel to, the wall, which is 16 ft. high. The player hits the ball—made of hard rubber, 1⅞ in. in diameter, and weighing 2 3 oz.—with either of his hands, against the wall before or after it has struck the floor once. His object is to keep the ball out of reach of the opponent (who tries to strike it back against the wall) but within bounds of the court. A point is scored only when the nonserver cannot return the ball against the wall. The serve changes hands when the server cannot return the ball, and the first player or first pair of partners to get 21 points wins. In the four-wall game, the court, 23 ft. by 46 ft., is surrounded by three walls 23 ft. high and a back wall 12 ft. high. Though the ball is played off all four walls, the scoring is similar in principle to the one-wall game. Special gloves are used to protect the hands. Four-wall handball was played in Ireland and England for many centuries and was introduced in the 1870s into the United States, where its popularity declined in the 20th cent. with the innovation of the one-wall game. Famous names in handball are Philip Casey, John Cavanagh, and Joseph P. Platack. See Amateur Athletic Union of the United States, *Official Rules. Handball* (1944).

Handel, George Frideric (hăn'dĕl), 1685–1759, German-English composer, b Halle His name originally was Georg Friedrich Handel. Intended by his father, a barber-surgeon, for a legal career, he displayed such musical talent that he was sent to Zachau, organist of the Liebfrauenkirche, Halle, with whom he studied for three years He studied law at the Univ. of Halle but left (1703) to join the opera orchestra at Hamburg There, in 1705, his first two operas, *Almira* and *Nero*, were successfully produced He went to Italy, where the operas *Rodrigo* (Florence, 1707) and *Agrippina* (Venice, 1709) were produced, the latter very successfully. Domenico Scarlatti bested him in contest at the harpsichord, though as an organist Handel was considered without peers In 1710 he became musical director to the elector of Hanover. In 1711 he produced his opera *Rinaldo* in London. He again visited England in 1712 and lived there the rest of his life, for in 1714 the elector became George I of England In 1719 an opera company, the Royal Academy of Music, was formed under the musical direction of Handel, Attilio Ariosti, and Giovanni Battista Bononcini, all of whom composed operas for it It failed in 1728, having been dealt the death blow by John Gay's *Beggar's Opera* Handel continued trying to present Italian opera in London until 1741, when his last opera, *Deidamia*, failed Much of Handel's finest music is to be found in his 46 operas despite their neglect Among them are *Atalanta* (1736), *Berenice* (1737), and *Serse* (1738), which contains the tenor aria now known as *Largo* His *Messiah* was presented in Dublin in 1742 Stylistically it stands apart from the rest of his oratorios (32 in all), and its immense popularity has led many to believe that Handel was primarily a church composer Other outstanding oratorios are *Acis and Galatea* (1720), *Esther* (1732), *Israel in Egypt* (1736–37), *Samson* (1743), and *Judas Maccabeus* (1747) He also composed over 100 Italian solo cantatas, two books of harpsichord suites (1720, 1733), three sets of six organ concertos (1738, 1743, 1760, the last book published posthumously), and anthems for the coronation of George II, which has been used for all subsequent coronations While the fabulous duke of Chandos was his patron, he composed the 11 Chandos Anthems (1716–19) Handel's sight became affected in 1751, though by 1753 he was totally blind, he continued to conduct performances of his works for some time He was buried in Westminster Abbey See his letters and writings (ed by E H Muller, 1935), biographies by W S Rockstro (1883), E J Dent (1935), C F A Williams (rev ed , 1935), Herbert Weinstock (1948), and Newman Flower (rev ed , 1947), R. M Myers, *Handel's Messiah* (1948)

handicraft. see arts and crafts

handkerchief. In classical Greece pieces of fine cotton, often perfumed, were known as mouth or perspiration cloths From the 1st cent B C Roman men used an oblong of linen (the *sudarium*) chiefly to wipe perspiration from the face and hands During the empire the handkerchief was used by patricians of both sexes It was dropped by the praetors as a starting signal in the games and was waved by spectators as a sign of approval In the Middle Ages it was conspicuously displayed by the wealthy, but did not come into general use until the Renaissance Silk, cambric, and lawn lavishly embroidered or laced became fashionable The handkerchief carried in the left hand of the officiating priest in the early Christian church evolved into a folded band which by the 12th cent had become the maniple, worn on the left arm.

Handsome Lake, 1735?–1815, Seneca Indian religious prophet, half brother of Cornplanter After a long illness he had a vision (c 1800) and began to preach new religious beliefs His moral teachings showed some likeness to Christian ethics and had a profound effect among the Iroquois tribes. He advocated giving up the Indian mode of life and taking up agriculture, much to the disgust of Red Jacket Though Christian missionaries opposed Handsome Lake's religion, it nevertheless persisted alongside Christianity. See *The Code of Handsome Lake* (tr. by A. C. Parker, 1913).

Handsworth, suburb of Birmingham, England The Soho ironworks of Boulton and Watt were here

handwriting. Modern handwriting is a development from medieval calligraphy through the Italian hand, a Renaissance simplification of the manuscript writing. A crabbed clerk's style of the late Middle Ages produced the secretary hand, which has given some elements to Anglo-American writing. The Gothic hand is a conservative, German

adaptation of manuscript lettering. Spencerian writing was a 19th-century attempt to restore ornate elegance and the Palmer method and other American systems are utilitarian.

Handy, William Christopher, 1873–, American Negro composer, b. Florence, Ala. In 1896 he began to play the cornet in a minstrel show, with which he toured for many years. Briefly in 1900 he was a member of the faculty of a Negro college in Alabama. He was the first to set down the BLUES, and with his *Memphis Blues* (1912), first written as an election song in 1909, he established Memphis as its home. His songs, such as *St. Louis Blues* (1914) and *Beale Street Blues* (1917), are the classic examples of their type. He was publisher of many of his own compositions and is author of several books, including *Blues: an Anthology* (1926) and his *Collection of Negro Spirituals* (1938). See his autobiography, *Father of the Blues* (1941)

Hanes (hā'nēz), unidentified place, Egypt. Isa. 30 4

Hanford, city (pop. 8,234), co. seat of Kings co., S central Calif., 8 of Fresno, inc. 1891. It is a trade and processing center in the fertile San Joaquin Valley.

hangar (hăng'ur), building for housing and servicing airplanes. Hangars are usually fireproof and are equipped for fire fighting and for carrying out minor repairs. Airship sheds (for lighter-than-air craft) are often called hangars.

Hangchow or **Hang-chou** (both hăng'chou'), city (pop. 606,146), capital of Chekiang prov., E China. It is a port on the Chientang river, near Hangchow Bay. Hangchow was founded A.D. 606. During the 12th cent. it was the capital of the Southern Sung dynasty. Famous for its splendid buildings before its near destruction (1861) by Taiping rebels, Hangchow has a charming natural setting that still attracts many visitors. One of the most beautiful places in the city is Lake Si, 12 mi. in circumference, surrounded by high wooded hills. A railroad junction at the southern terminus of the Grand Canal, the city is a major shipping center. Cloth is manufactured. The Japanese held Hangchow from 1938 until the end of the Second World War, and it fell to the Communists in 1949. **Hangchow Bay,** c.80 mi. long, an arm of the East China Sea, begins at the mouth of the Chientang river. When the tide is coming in, the funnel shape of the bay creates a spectacular bore, 5 to 15 ft. high, which sweeps past Hangchow.

Hanging Gardens of Babylon see BABYLON.

Hango, Finland: see HANKO.

Haniel (hā'nĭĕl, hunī'–) [Heb., =God's grace], Asherite chief. 1 Chron. 7:39.

Hankinson, city (pop. 1,420), SE N.Dak., SW of Wahpeton near the S.Dak. line, inc. 1912. It is in a grain and poultry farm area.

Hanko (hang'kō), Swed. *Hangö* (hăng'ö"), city (pop. 5,363), SW Finland, on a small peninsula projecting into the Baltic Sea. It is a seaport and bathing resort, the harbor is kept ice-free. After the Finnish-Russian War of 1939–40 the Hanko peninsula was leased to the USSR for 30 years as a naval base, but in the Finnish-Russian armistice of 1944 the USSR exchanged it for a 50-year lease on the Porkkala district.

Hankow (hăng'kou"), Mandarin *Han-k'ou,* city (pop. 641,513), E Hupeh prov., China. Its administration is independent of the province. It is at the junction of the Han river with the Yangtse and near Wuchang and Hanyang. Hankow was opened as a TREATY PORT in 1862. The city, a major commercial center, is served by the Peiping-Canton RR, and its harbor accommodates ocean-going vessels.

Hanley, part (since 1910) of STOKE-ON-TRENT, Staffordshire, England, in the Potteries district. It is the birthplace of Arnold Bennett.

Hann, Julius (yōō'lyōōs hän'), 1839–1921, Austrian meteorologist. He became professor of physics in the Univ. of Vienna, founded, edited, and contributed to a meteorological journal, and for the second half of his life was associated with the Central Meteorological Institute in Vienna. His works include the often quoted *Handbuch der Klimatologie* (1897, Eng. tr., 1903) and *Lehrbuch der Meteorologie* (1901). Hann is still one of the foremost authorities in his field. See biography by G. C. Simpson (1925).

Hanna, Marcus Alonzo, 1837–1904, American capitalist and politician, b. New Lisbon (now Lisbon), Ohio. He attended Western Reserve Univ. a short time, then entered his father's wholesale grocery and commission business at Cleveland in 1858. He became a partner in 1862 and rapidly developed as a characteristic American capitalist of the Gilded Age. He became a dealer in coal and iron and was soon interested in coal and iron mines, furnaces, lake shipping and shipbuilding, a bank, a newspaper, an opera house, and a street-railway system. He was active in politics and by 1890 was the ruling Republican power in Ohio. He was instrumental in having William McKINLEY elected governor of Ohio in 1891 and again in 1893. He saved McKinley's reputation when financial ruin threatened, groomed him for the presidency in 1895, and was responsible for his nomination by the Republicans in 1896. Hanna, as chairman of the Republican National Committee, boldly made that campaign a defense of business and property against the doctrines of the Democrats enunciated by William Jennings Bryan, and on that basis secured heavy financial contributions from "big business." He was appointed Senator from Ohio in 1897 after John SHERMAN resigned, nominated the same year for the short and long terms, and subsequently elected for both. He advocated construction of the Panama Canal, opposing the Nicaraguan route, and supported ship subsidies. He was sympathetic toward organized labor. Hanna was a great party boss who significantly exemplified the union between business and politics for purposes of economic policy rather than for personal graft. See biographies by Herbert Croly (1912) and Thomas Beer (1929).

Hanna, town (pop. 1,756), SE Alta., NE of Calgary. There are coal fields around the town.

Hanna, town (pop. 1,127, alt. c.6,780 ft.), S central Wyo., in a coal area, settled 1887, inc. 1936. Near by is the site of Fort Halleck (1862), which protected the overland stage.

Hannah [Heb., =grace], Samuel's mother. Her song is recalled in the MAGNIFICAT. 1 Sam. 1, 2:1–26. The names Anna and Ann are variants of Hannah.

Hannathon (hă'nu–), unidentified place, N Palestine. Joshua 19:14.

Hannay, James Owen, pseud. **George A. Birmingham,** 1865–, Anglo-Irish novelist and Church of Ireland clergyman, b. Belfast. His theological writings were published under his own name, but his humorous novels of Irish life appeared under his pseudonym. These include *Spanish Gold* (1908), *General John Regan* (1913), a play as well as a novel, and *The Smuggler's Cave* (1926).

Hannegan, Robert Emmet, 1903–49, U.S. Postmaster General (1945–47), b. St. Louis, grad. St. Louis Univ. (LL.B., 1925). A lawyer, he entered St. Louis ward politics in 1933 and became (1934) chairman of the city Democratic committee. After efficient administration (1942–43) as collector of internal revenue for E. Missouri, he was named Federal commissioner of internal revenue by President F. D. ROOSEVELT. He succeeded Frank G. WALKER as Democratic national chairman (1944–47) and as Postmaster General.

Hannibal [Punic, =grace of Baal], 247–182? B.C., Carthaginian general, the greatest opponent Rome ever met. From his father, HAMILCAR BARCA, the gallant defender of Sicily in the First Punic War (see PUNIC WARS), he learned hatred of Rome. He succeeded as general in Spain on the death of his brother-in-law, HASDRUBAL, in 221. After consolidating his position for two years, he laid siege to Saguntum, friendly to Rome, and stormed it eight months later. Carthage supported him, and Rome declared war (the Second Punic War, 218–201). With a comparatively small army of picked troops, Hannibal set out to invade Italy by the little-known route overland. He easily fought his way through the Pyrenees and reached the Rhone before the Romans could block his crossing. He moved up the valley to avoid their army, and crossed the Alps. This crossing of the Alps, with a full baggage train and elephants, is one of the remarkable feats of history. Which pass he used is unknown, it may have been the Mont Genèvre or the Little St. Bernard. He descended into Italy and with his superior cavalry overran the Po valley, winning recruits from the Gallic tribes. A Roman force tried to stop him on the Trebbia (near Piacenza) only to be wiped out. In the spring of 217 he crossed the Apennines and marched toward Rome. At Lake Trasimeno he destroyed the main Roman army, but he avoided the strong walls of Rome and moved southward to stir up a general revolt. In 216 the Romans, having replaced the cautious FABIUS Cunctator, advanced and gave battle at Cannae, but by brilliant cavalry tactics Hannibal managed to surround the entire force and cut it to pieces. S Italy now largely went over to him, including the important city Capua. Insufficiently supported from home, he could not assail Rome and had to content himself with ravaging and with reducing smaller places. In 212 the tide turned against him. In 211 the Romans retook Capua, despite his rapid march to within 3 mi. of Rome to entice them away. In 207 he fought his way for the last time into a position near Rome, but the defeat and death of his brother HASDRUBAL on the Metaurus (207) made his position hopeless, and he withdrew into the mountains of Bruttium (the Abruzzi). Recalled to Carthage in 203 to check the victorious advance of Scipio (see SCIPIO AFRICANUS MAJOR) in Africa, he was decisively beaten at Zama, after a close battle (202). On the conclusion of peace (201), Hannibal became the chief minister of state, reformed the government, and, without extra taxation, paid the heavy tribute imposed by Rome. Rome now demanded his person (c.195), and he went into voluntary exile, stopping with Antiochus III of Syria. Later when, in Bithynia, he was about to be delivered to the Romans, he poisoned himself. Though our knowledge of him is entirely through his enemies, Hannibal appears to have been both just and merciful. His ability to raise troops on foreign soil and to hold their constant loyalty has never been surpassed, and for tactical genius and indomitable energy he has had few equals. See biography by T. A. Dodge (1893). See also bibliography under ROME.

Hannibal, city (pop. 20,865), NE Mo., on the Mississippi and S of Quincy, Ill., founded 1819. A river port, railroad center, and industrial city, it has varied manufactures, including shoes, cement, lumber products, steel, and car wheels. Hannibal-La Grange College (junior, coeducational) is here. The city is famous as the boyhood home of Mark TWAIN; a museum, a statue, a lighthouse, and a bridge across the Mississippi commemorate him. The Hatch dairy experiment station and Saverton Dam are near by.

Haniel (hă'nĭĕl) [Heb., =HANIEL], Manassite prince. Num. 34:23.

Hanno, fl. c.470? B.C., Carthaginian navigator. He founded seven towns on the Atlantic shore of Morocco and probably explored to Sierra Leone. See Wilfred Schoff, ed., *The Periplus of Hanno* (1913).

Hanno, fl. 250–200 B.C., Carthaginian statesman, leader of the conservative land-owning party and consistent opponent of the Barca family. His refusal to pay Hamilcar's mercenaries brought on their great revolt (240–238 B.C.). He favored expansion in Africa (where he extended the Carthaginian conquests to Theveste) and friendship with Rome. Hanno's unwillingness to send help overseas was a factor in Hannibal's final failure in Italy.

Hannover, Germany: see HANOVER.

Hanoch (hā'nuk) [Heb., =ENOCH]. **1** Son of Midian. Gen. 25:4. Henoch. 1 Chron. 1:33. **2** Reuben's eldest son. Gen. 46:9, 1 Chron. 5:3, Ex. 6:14, Num. 26:5.

Hanoi (hă'noi, hūnoi'), city (pop. c.132,000), Indo-China, capital of Tonkin, on the right bank of the Red River. Placed at the center of a network of roads and waterways and connected by rail with Saigon and Kunming, Hanoi is an important shipping center for agricultural and industrial products. The main industries are processing of rice, distilling, tanning and leatherworking, and woodworking. The city consists of the old Annamese town and modern European-style business and residential sections. The 19th-century citadel is largely in ruins. Besides modern public buildings (including a university), the city contains a number of Annamese monuments. The city was from the 7th cent. the seat of the Chinese rulers of Annam and after the 15th cent. an Annamese capital. One of its Annamese names, Dong Kinh, was corrupted by Europeans into Tonkin. Hanoi was occupied by the French briefly in 1873 and again in 1882, from 1902 to the Second World War it was the seat of the French governor general of Indo-China. From 1945 till late 1946 it was the capital of the Viet Nam government, in Dec., 1946, it saw violent fighting between French and Annamese.

Hanotaux, Gabriel (gabrĭĕl' ănôtō'), 1853–1944, French historian and statesman. Twice minister of foreign affairs (1894–95, 1895–98), he greatly furthered the Franco-Russian rapprochement. His chief fame is as a historian, notably as the author of *Contemporary France* (4 vols., 1903–8; Eng. tr., 4 vols., 1903–9) and *Histoire de la fondation de la troisième république* (4 vols., 1925–26). He also edited the multi-volume *Histoire de la nation française.*

Hanover (hă'nōvur), Ger. *Hannover* (hänō'vûr, –fur), former province (1939 area 14,960 sq. mi., 1939 pop. 3,457,477) of Prussia, NW Germany. After the Second World War it was incorporated into the newly formed state of LOWER SAXONY, under British military occupation. Hanover, Osnabrück, Hildesheim, Emden, Lüneburg, Celle, and Göttingen are the principal cities. Very irregular in outline, the province stretched from the Dutch border and the North Sea in the northwest to the HARZ mts. in the southeast. Most of its area is agricultural lowland producing grain, potatoes, and sugar beets. Stock raising is important. Some oil, potash, and coal are mined. The name Hanover originally applied only to the city. Most of the territory was comprised in the duchy of Brunswick, which the house of the GUELPHS retained after 1180. In the repeated subdivisions of Brunswick among the various branches of the family, the branch of Brunswick-Lüneburg emerged as the most powerful. The dukes of Brunswick-Lüneburg played an important part in the Thirty Years War on the Protestant side, and in 1692 Duke Ernest Augustus was raised to the rank of elector. His lands became known as the electorate of Hanover. The marriage of Ernest Augustus to SOPHIA, granddaughter of James I of England, brought (1714) the English throne to his son, Elector George Louis (GEORGE I of England). Personal union of Great Britain and Hanover continued under the house of Hanover (see separate article). Napoleon I gave the electorate to Prussia (1806), but in 1807 he assigned part of Hanover to the kingdom of Westphalia under his brother Jérôme Bonaparte, adding the rest in 1810. In 1813 Great Britain regained possession, and in 1815 the Congress of Vienna raised Hanover to a kingdom, with membership in the GERMAN CONFEDERATION. At the accession (1837) of Queen Victoria in

England, Hanover was separated from the British crown because of the Salic law of succession ERNEST AUGUSTUS, son of George III, became king of Hanover and began his reactionary reign by rescinding the Hanoverian constitution, thus evoking the well-known protest of the seven professors of GÖTTINGEN, the Revolution of 1848 restored the constitution His son, GEORGE V, succeeded in 1851 He sided with Austria in the AUSTRO-PRUSSIAN War (1866) and, as a consequence, lost his kingdom, which was made a Prussian province

Hanover, town (pop 3,290), S Ont , on the Saugeen river and S of Owen Sound

Hanover, Ger *Hannover,* city (1939 pop 470,950, 1946 pop 357,040), NW Germany, on the Leine river An important industrial and commercial center, it produces automobile tires, machinery, iron, steel, and other industrial items It is also an important communications center and has several technical and professional schools After the Second World War, during which more than half of the city was destroyed, Hanover became the capital of the British-occupied state of LOWER SAXONY Dating from the 12th cent , Hanover joined (1386) the Hanseatic League After 1692 it became the capital of the electorate (after 1815 kingdom, after 1866 province) of Hanover (see separate article) Of the important buildings bombed in the Second World War, the Marktkirche (a 14th-century church), the Leineschloss (an 18th-century château), the Gothic city hall, and some others were rebuilt The Leineschloss contains the tombs of Elector Ernest Augustus and his wife Sophia and of George I of England The house of Leibniz, who spent his last years at Hanover, was totally destroyed

Hanover (hă'nōvur) **1** Town (pop 2,875), SE Mass , SE of Boston, settled 1649, set off from Scituate and Abington 1727 Ammunition materials are made here The Samuel Stetson House dates from c 1694 **2** Town (pop 3,425), W N H , near the Connecticut NW of Lebanon, granted 1761 to Connecticut men It is the seat of DARTMOUTH COLLEGE James Freeman Clarke, Henry Fowle Durant, and Laura Bridgman were born here **3** Borough (pop 13,076), SE Pa , E of Gettysburg, inc 1815 Harness-racing horses are bred in this principally agricultural area The first Civil War battle N of the Mason-Dixon line was fought here in 1863 **4** Village, E Va , N of Richmond Patrick Henry long made his home here and here pleaded (1763) his first important case in the courthouse (c 1735) of Hanover co Near by on the Pamunkey river is the decayed village of Hanovertown, which nearly became state capital (1751) In 1864 Grant crossed the Pamunkey here in his attempt to take Richmond

Hanover, house of, royal family, of Guelphic origin (see HANOVER, province), whose accession to the throne of England was established by the Act of SETTLEMENT (1701) and whose claim was based on descent from James I The first Hanoverian king (in 1714) of Great Britain was GEORGE I, elector of Hanover, grandson of James's daughter ELIZABETH, queen of Bohemia, and son of SOPHIA, electress of Hanover His successors were GEORGE II, GEORGE III, GEORGE IV, and WILLIAM IV The Salic law barred women from the succession in Hanover, and when Victoria came (1837) to the British throne, the crowns of Hanover (a kingdom after 1815) and Great Britain were separated After Victoria's marriage the British royal house was that of WETTIN ERNEST AUGUSTUS, son of George III, became king of Hanover and was succeeded by GEORGE V, who lost the crown in 1866

Hansa. see HANSEATIC LEAGUE

Hansard (hăn'surd) Reports of the proceedings of the British Parliament were long printed by Luke Hansard (1752–1828) and his sons Although Hansard began printing them, partly from newspaper reports, in 1774, they were recognized as official in 1803 The reports are now published by His Majesty's Stationery Office, but the name Hansard is still conventionally applied to them

Hanseatic League (hăn"sēă'tĭk, hăn"zē–) or **Hanse towns** (hăns), mercantile league of medieval German towns It was amorphous in character, to date its origin exactly is impossible Originally a *hansa* seems to have been a company of individual traders to foreign lands After the German push eastward and the settlement of German towns in the Slavic lands of the Baltic, the merchant guilds and town associations led, in the 13th cent , to leagues The most notable was the company of German merchants in Gotland with headquarters at WISBY They pushed east and founded a branch establishment at NOVGOROD. The privileges granted Cologne merchants in London were extended to other Germans, and a hanse of German merchants was formed with a guildhall, later the famous STEELYARD Political troubles in the Holy Roman Empire and the difficulties of seafaring merchants—pirates, regulations against foreign merchants, excessive customs—fostered closer union of German towns. In 1241 LÜBECK and HAMBURG concluded a treaty of mutual protection Other cities soon joined this protective association and a strong league grew up, with Lübeck, the central town of the Baltic trade, as leader. Though ports and inland towns from Holland to Poland belonged to the league, the north German cities remained the principal members The league vigorously extended its operations, founding its principal foreign branches (factories) at BRUGES and BERGEN The Hanse towns reached their summit in their victories over WALDEMAR IV of Denmark, gaining the Treaty of Stralsund (1370), which gave them a virtual trade monopoly in Scandinavia They maintained their hegemony for a century thereafter and waged numerous wars, but the formal organization, dating from 1358, marked the end of Hanseatic rise, and the diets of the members meeting at Lübeck were not very significant The number of members fluctuated, though it seems to have been generally a little over 70 Internal dissensions, lack of political assistance from German rulers, the growth of centralized foreign states and consequent loss of Hanseatic privileges, the progress of Dutch and English shipping, and various changes in trade—all these operated against the league The political organization of the league, always subordinate, lost significance in the 16th cent and in the 17th the league itself practically dissolved, though the name has lived on in Lübeck, Hamburg, and BREMEN The complexion of the league as a European organization is unique The customs of training apprentices in the towns and the foreign branches and the general customs of the league are of great interest See Helen Zimmern, *Hansa Towns* (1889), Wilson King, *Chronicles of Three Free Cities, Hamburg, Bremen, Lübeck* (1914), E G Nash, *Hansa* (1929), E R Daenell, *Die Blütezeit der deutschen Hanse* (2 vols , 1905 6)

Hansen, Emil Christian (ĭmēl' krĭs'tyan han'sun), 1842-1909, Danish botanist An authority on fungi, he developed a technique of cultivating pure strains of yeasts, this revolutionized the manufacture of yeast and its use in brewing From 1879 Hansen was head of the physiology department of the Carlsberg Laboratory, Copenhagen

Hansen, Marcus Lee (hăn'sun), 1892–1938, American historian, b Neenah, Wis , grad State Univ of Iowa (B A , 1916, M A , 1917), Ph D Harvard, 1924 He spent almost four years in Europe gathering material for his studies on immigration For *The Atlantic Migration, 1607–1860* (1940), first volume of a projected trilogy, he was awarded (posthumously) the 1941 Pulitzer Prize for history In 1928 he began teaching history at the Univ of Illinois, where he was made full professor in 1930 Among his other books are *Old Fort Snelling, 1819–1858* (1918), *Welfare Campaigns in Iowa* (1920), *German Schemes of Colonization before 1860* (1924), and *The Immigrant in American History* (posthumous, 1940)

Hansen, Martin Alfred (mar'tēn al'frud hăn'sun), 1909–, Danish novelist In the Second World War he worked on the underground newspaper *Folk and Freedom* and contributed poems and stories to the illegal anthology *A Fire Is Burning* (1944–45) His novels include *Colonies* (1937) and *Happy Christopher* (1945)

Hansen, Peter Andreas (pē'tûr ăndrē'ăs), 1795–1874, Danish astronomer, b Schleswig He was director from 1825 of the observatory at Seeberg (near Gotha) which was moved (1859) to Gotha He revised the lunar theory and compiled *Tables de la lune* (1857), which was widely used in the preparation of nautical almanacs He also compiled (with C F R Olufsen) *Tables du soleil* (1853, supplement, 1857)

Hanse towns see HANSEATIC LEAGUE

Hanson, Howard, 1896–, American composer and educator, b Wahoo, Nebr In 1921 he went to Rome, the first composer to enter the American Academy there Upon his return (1924) he became director of the Eastman School of Music, Rochester, N Y , where he established his American Composers Concerts His *Merry Mount* (New York, 1944) ranks high among American operas Most popular of his works are his *Romantic Symphony* (Symphony No 2, 1930), *The Lament for Beowulf* (1925), for chorus and orchestra, and the symphonic poems *Lux Aeterna* (1923) and *Pan and the Priest* (1926)

Hanson, John, 1715–83, first "President of the United States in Congress Assembled," b Charles co , Maryland He served in the Maryland provincial legislature, was active in the patriot cause in the Revolution, and was (1780–82) a member of the Continental Congress and of the Congress of the Confederation Since he was the first President (1781–82) to serve the one-year term under the Articles of Confederation, Hanson is often referred to as the first President of the United States, but his duties were merely those of a presiding officer and bore no relation to the duties of the President under the Constitution. See biography by Seymour Wemyss Smith (1932)

Hanson, town (pop 2,570), SE Mass , SSE of Boston, settled 1632, set off from Pembroke 1820

Hansteen, Christopher (krĭstô'fûr hăn'stăn), 1784–1873, Norwegian astronomer and physicist He was noted especially for his work on terrestrial magnetism. He traveled in Finland and Norway to obtain data for determining the earth's magnetic poles and made magnetic observations in Siberia (1828–30). He directed a triangulation of Norway and taught at the Univ of Christiania from 1814

Hanswurst (hăns'vôrst"), traditional clown of the German stage A fat, vulgar, gluttonous peasant in a green peaked cap, he dominated comedy and insinuated his presence into serious drama In the first half of the 18th cent he was banished from the stage in the reform movement begun by Gottsched and Karoline Neuber

Hants: see HAMPSHIRE

Hanukkah (hu'nōkă), Jewish holiday, the Festival of Lights or the Feast of the Maccabees, also transliterated Chanukah It was instituted by Judas Maccabaeus and his brothers in 165 B C to celebrate the dedication of the new sacrificial altar in the Temple of Jerusalem where, three years earlier, one had been erected on the same day by Antiochus Epiphanes (Antiochus IV) to serve as a pagan altar upon which the Jews were to offer sacrifices to heathen deities The festival occurs usually in December and lasts eight days The principal feature is the lighting of special Hanukkah candles, one the first evening, two the second, and so forth

Hanun (hā'–) (Heb , =favored) **1** King of Ammon His insolent reception of David's messengers brought on a disastrous war 2 Sam 10, 1 Chron 19 He may be the same as SHOBI. **2, 3** Two workers on the wall Neh 3 13,30

Hanway, Jonas, 1712–86, English philanthropist He is said to have introduced the use of the umbrella in London After traveling widely in Persia and spending some time in St Petersburg, he returned to England and devoted himself to numerous reform movements and philanthropies, founding hospitals and homes, establishing Sunday schools, and working for the alleviation of the condition of chimney sweeps and of foundlings He wrote on a variety of subjects See biographies by R E Jayne (1929) and J H Hutchins (1940)

Hanyang or **Han-yang** (han'yang'), city (pop 69,483), E Hupeh prov , China It is at the juncture of the Han river with the Yangtse river and near Hankow and Wuchang Hanyang contains large steelworks and ironworks

Hapeville, residential city (pop 5,059), NW Ga , southern suburb of Atlanta, inc 1891

Hapgood, Norman, 1868–1937, American editor, b Chicago, grad Harvard, 1890, and Harvard Law School, 1893 He was a leading figure in American magazine journalism in the first two decades of the 20th cent , especially as editor (1903–12) of *Collier's Weekly* when that periodical was engaged in a fight for pure foods, conservation of natural resources, and other causes He afterwards edited *Harper's Weekly* (1913–16) and *Hearst's International* (1923 25) He served as U S minister to Denmark in 1919 His books include *Literary Statesmen* (1897), biographies of Lincoln, Washington, and Daniel Webster, *The Stage in America* (1901), *Industry and Progress* (1911), and his autobiography, *The Changing Years* (1930)

Haphraim (hăfrā'ĭm), border town of Issachar Joshua 19,19

Hapsburg or **Habsburg** (both hăpsbûrg, Ger hăps'bōōrk), ruling house of AUSTRIA from 1282 to 1918 Its original holdings were in NW Switzerland and in Alsace The family tree can be traced with certainty to the 10th cent The first to assume the name Hapsburg, after a castle in Aargau, Switzerland, was Otto (d 1111) His grandson, Count Albert III (d 1199), inherited (1173) vast estates in Upper Alsace, Switzerland, and Baden, as did Albert's son, Rudolf II (1160?–1232), and Rudolf's son, Albert IV (d c 1240) These acquisitions were facilitated by the extinction of the houses of Lenzburg, ZAHRINGEN, and KYBURG Albert's son, Count Rudolf IV, was elected (1273) German king as RUDOLF I In 1276 he forced king Ottocar II of Bohemia to surrender Austria, Carinthia, Styria, and Carniola, which became (1282) hereditary Hapsburg possessions Rudolf's son was German king as ALBERT I During his rule SWITZERLAND began to free itself from Hapsburg domination, but with its vast new acquisitions the family had risen to European importance Although the various Austrian duchies were held by the different branches issued from Albert, the Hapsburg possessions as a whole were held together by a family law and could not be alienated from the family or inherited by females In 1363 TYROL was added to the Hapsburg lands Albert V of Austria, great-great-grandson of King Albert I, married a daughter of Emperor SIGISMUND, succeeded him as king of Bohemia and Hungary, and was chosen (1438) German king as ALBERT II His son, LADISLAUS V, king of Bohemia and Hungary, was by-passed in the imperial election of 1440 in favor of his distant cousin, Frederick, duke of Styria, who became emperor as FREDERICK III Though it remained elective, the imperial dignity was, by tradition, conferred on the head of the house of Hapsburg from 1438 until 1806 (for a complete list of emperors, see HOLY ROMAN EMPIRE) During the rule of Frederick III and of his son, MAXIMILIAN I, a series of European marriages vastly increased the Hapsburg hereditary domains, giving rise to the motto, *Bella gerant alii; tu, felix*

Austria, nube [let others wage war; thou, happy Austria, marry] The marriage of Maximilian I and MARY OF BURGUNDY brought most of the Low Countries (see NETHERLANDS, AUSTRIAN AND SPANISH). The marriage of Maximilian and Mary's son, Philip I, to Joanna of Castile, brought their elder son, Emperor CHARLES V, to the throne of SPAIN The marriage of Philip and Joanna's younger son, Ferdinand, to Anna, daughter of Louis II of BOHEMIA and HUNGARY, strengthened the Hapsburg hold over these two kingdoms The epitome of Hapsburg greatness was reached under Emperor Charles V, who also placed much of Italy under Hapsburg control From Peru to the Carpathians, the house of Austria ruled an empire "where the sun never set" During Charles's rule, also, the family became committed to the defense of Catholicism against the Reformation Charles V divided his empire between his son, PHILIP II of Spain, and his brother, Ferdinand of Austria, Bohemia, and Hungary, who on Charles's death succeeded as Emperor FERDINAND I. In their struggle against the French monarchy and against Protestantism, the Spanish and Austrian branches sided together, notably in the Thirty Years War (1618–48), in the Third Dutch War (1672–78), and in the War of the Grand Alliance (1688–97) These wars considerably weakened the imperial authority of the Hapsburgs and cost them several territories, notably Alsace, Franche-Comté, Artois, and part of Flanders and Hainaut, but at the same time the reconquest of Hungary from the Turks amply compensated them in the east for their losses in the west The Spanish branch of the Hapsburgs ended in 1700 with King CHARLES II His death precipitated the War of the SPANISH SUCCESSION (1701–14), which forced the Hapsburgs to relinquish their claims to Spain but left them the Austrian Netherlands and Lombardy Emperor CHARLES VI, who had no male heir, changed the Hapsburg law of inheritance by the PRAGMATIC SANCTION, which guaranteed the succession of his daughter, MARIA THERESA, to all Hapsburg domains and to Hungary In the War of the AUSTRIAN SUCCESSION (1740–48) and SEVEN YEARS WAR (1756–63), Maria Theresa successfully defended her heritage, losing only Silesia (a Bohemian dependency) to Prussia Her chief rival claimant, Elector Charles Albert of Bavaria, died in 1745 He was elected emperor in 1742 as Charles VII, but his election cannot be said to have interrupted the Hapsburg line of emperors, for as grandson of Emperor Leopold I and as son-in-law of Emperor Joseph I, he claimed to be the rightful heir of the house of Hapsburg He was succeeded (1745) as emperor by Maria Theresa's husband, FRANCIS I, grand duke of Tuscany and former duke of Lorraine Their son, JOSEPH II, was one of the greatest Hapsburg rulers and an ardent reformer With him began the line of **Hapsburg-Lorraine.** TUSCANY was separated (1790) from the family lands and continued until 1860 (with the interruption caused by the French Revolutionary and Napoleonic Wars) under a younger branch of the Hapsburg-Lorraine family The duchy of MODENA, acquired by marriage in 1806, was also ruled until 1859 by still another branch The main branch of the house was continued by Joseph II's brother, Emperor Leopold II, and by Leopold's son, Emperor FRANCIS II Francis was the last ruler of the Holy Roman Empire, in 1806 he assumed the title Francis I, emperor of Austria Though repeatedly humbled by Napoleon I, he emerged at the Congress of Vienna (1815) as one of the most powerful European monarchs With him the history of the house of Hapsburg became definitely identical with that of Austria His son, Ferdinand, was forced to abdicate (1848) in favor of FRANCIS JOSEPH During Francis Joseph's long reign (1848–1916) Austria lost Lombardy and Venetia and had to yield leadership in German affairs to Prussia In 1867 the entire Hapsburg empire was reorganized as the AUSTRO-HUNGARIAN MONARCHY The assassination (1914) of the heir apparent, FRANCIS FERDINAND, precipitated the First World War It was left for Emperor CHARLES I to witness the defeat and dissolution of Austria-Hungary Charles abdicated in 1918 His claims were transmitted to his son, Archduke OTTO The titles archduke and archduchess have been in use since the 15th cent. for every member of the family.

Hara, Takashi (tä'kä'shē hä'rä), 1854–1921, Japanese statesman, prime minister (1918–21) He was the first commoner to become prime minister and the first to form a party cabinet in accordance with principles of parliamentary government The leader of the Seiyukai party, he was a skillful politician and in policy largely an opportunist His administration was notable for the expedition to Siberia, the independence movement in Korea, Japanese participation in the Paris Peace Conference, labor unrest, and naval armament He was assassinated by a fanatic

Hara (hä'rü), unidentified town. 1 Chron 5 26.

Haradah (hä'rüdü), unidentified desert encampment. Num. 33.24,25

Harahan, village (pop. 1,082), SE La., near New Orleans, in a farming and dairying section.

hara-kiri (hä'rü-kēr'ē, hä'ru-) [Jap., =belly-cutting], the national Japanese form of honorable suicide. Obligatory hara-kiri was performed by the noble or official who disobeyed or was disloyal to the emperor He received a jeweled dagger sent by the ruler, and with great formality he took the dagger and disemboweled himself His second then cut his neck with a sword, and the dagger was sent to the emperor Voluntary hara-kiri is still occasionally performed after private or national misfortunes or to protest against a false national policy Obligatory hara-kiri was abolished in 1868 Hara-kiri was performed by some prominent Japanese on the death of Emperor Yoshihito in accordance with the ancient custom of "following in death"

Harald see HAROLD

Haran (hā'lăn) 1 Abraham's brother Gen 11 26, 27,29 **2** Caleb's son 1 Chron 2 46 **3** Levite 1 Chron 23 9

Haran (hā'rān) or **Harran** (ha'ran), ancient city of Mesopotamia, now in SE Asiatic Turkey, SE of Urfa. It was an important center on the trade route from Nineveh to Carchemish and the seat of the Assyrian moon-god Frequently mentioned in the Bible, it was the home of Abraham's family after the migration from Ur The Greek form of the name is Charan or Charran In Roman times it was CARRHAE and was the scene of a disastrous Roman defeat in 53 B C

Harar or **Harrar** (both ha'rur), city (pop 40,000), E central Ethiopia Little of note survives from the 16th cent., when it was a center of Moslem power in Ethiopia It is a walled city Harar trades in coffee and other products of the rich agricultural plateau on which it is situated

Hararite (hă'ru-), obscure epithet used of five names in the lists of mighty men 2 Sam 23 11,33, 1 Chron 11 34,35

Harbin (här'bĭn), Mandarin *Ha-ehr-pin*, Rus *Kharbin*, city (pop 637,573), Sunkiang prov., China Its administration is independent of the province Harbin is on the Sungari river It was unimportant until Russia was granted (1896) a concession and built a modern section alongside the old Chinese town Today Harbin is the major trade and communications center of central Manchuria It is the junction of the Chinese Eastern RR and the South Manchurian RR and is the main port on the Sungari river Soy beans and their products constitute the largest exports There is food processing and railroad maintenance Although Russia surrendered its concession in 1924, c 100,000 Russians still live in Harbin

Harbona or Harbonah (both –bō'nu), chamberlain of King Ahasuerus Esther 1 10, 7 9

harbor see PORT

Harbor Beach, city (pop 2,186), N Mich., on Lake Huron and NE of Bay City, settled 1837, inc as a village 1882, as a city 1909 It is a resort and fishing center Wheat and corn products are made Frank Murphy was born here

Harbord, James Guthrie, 1866–1947, American army officer, b Bloomington, Ill., grad Kansas State Agricultural College, 1886 He joined (1889) the army as a private and saw service in Cuba and in the Philippines Appointed (1917) chief of staff of the American Expeditionary Force in France by Gen John J Pershing, Harbord commanded the marine brigade at Château-Thierry and the 2d Division in the Soissons offensive He retired (1922) from the army and became a business executive He wrote *Leaves from a War Diary* (1925) and *The American Expeditionary Force* (1929)

Harbor Springs, resort city (pop 1,423), N Mich., on Little Traverse Bay of Lake Michigan, inc as a village 1881, as a city 1932 It has a good landlocked harbor There were Ottawa and other Indian villages near here See U. P Hedrick, *The Land of the Crooked Tree* (1948)

Harbour Grace, town (1945 pop 2,065), E N F, W of St. John's and on the west coast of Conception Bay An airport is just outside the town.

Harbour Island see BAHAMA ISLANDS

Harburg-Wilhelmsburg (har'bōōrk-vĭl'hĕlmsbōōrk), industrial port of Hamburg, N Germany, on the Elbe It belonged to Hanover prov of Prussia until its incorporation (1938) with Hamburg

Harcourt, Sir William George Granville Venables Vernon, 1827–1904, English statesman A brilliant parliamentarian, a Liberal leader, and a supporter of Gladstone, he entered Parliament in 1868 and had a notable career as solicitor general (1873–74), home secretary (1880–85), and chancellor of the exchequer (1886, 1892–95) In his 1894–95 budgets he devised a new system of death duties and extended graduated taxation. He was also a noted writer on international law. See biography by A. G Gardiner (1923)

Hardanger Fjord (härdäng'ür fyôrd'), second largest fjord of Norway, penetrating 114 mi. from the Atlantic into Hordaland co., SW Norway A southern branch, the Sor Fjord (Nor. *Sør Fjord*), cleaves the Hardanger Vidda, a barren and rocky plateau, for 25 mi., at its head are the village of Odda and the famous Skjeggedalsfoss, a waterfall 525 ft. high An eastern branch, the Eid Fjord, extends 15 mi to the quaint village of Vik Near Vik is the Voringfoss (Nor. *Vøringfoss*), a waterfall 535 ft high. The valleys of the Hardanger region are fertile and dotted with picturesque villages Embroidering and violin making are traditional home industries The beautiful Hardanger region is a favorite tourist area The Hardangerfjell, which extends inland from the fjord, is a mountain mass rising to 6,153 ft. in the Hardangerjokel (Nor. *Hardangerjøkel*)

Hardecanute see HARTHACANUTE.

Hardee, William Joseph, 1815–73, Confederate general, b Camden co., Ga., grad West Point, 1838 He served with distinction in the Mexican War and compiled *Rifle and Light Infantry Tactics*, a standard army textbook of the time (1853–55) When Georgia seceded, he resigned his lieutenant colonelcy and became a Confederate brigadier general After organizing an Arkansas brigade, he joined A S Johnston's army and fought at Shiloh (April, 1862) Hardee, promoted lieutenant general in October, was an able corps commander in the Army of Tennessee, fighting under Braxton BRAGG at Perryville, Murfreesboro, and Missionary Ridge and under J E Johnston and Hood in the ATLANTA CAMPAIGN He commanded against W T SHERMAN in Georgia and South Carolina (1864–65), abandoning Savannah and Charleston to that general and surrendering to him in North Carolina in April, 1865

Hardeeville, town (pop 1,361), extreme S S C, near the Savannah SW of Beaufort It has sawmills

Harden, Sir Arthur (har'dun), 1865–1940, English biochemist For many years he was professor of biochemistry at the Univ of London and head of the biochemical department of Lister Institute For his researches in alcoholic fermentation—in the course of which he established the character of zymase and discovered that, in addition to zymase, other yeast enzymes are concerned with fermentation—he shared with Hans von Euler-Chelpin the 1929 Nobel Prize in Chemistry He was knighted in 1936

Harden, Maximilian (mäk"sēmē'lyan här'dün), 1861–1927, German journalist, whose real name was Witkowski One of the leading publicists of his time, he was an admirer of Bismarck After the fall of Bismarck he made his paper, the *Zukunft*, well known by his unsparing attacks on the men surrounding William II He accomplished much good, but his methods were not always too scrupulous In the First World War he continued his daring career by his censures of military leaders. He also sharply criticized the statesmen of the German republic Essentially he was a popular journalist appealing to mass prejudices and beliefs He wrote a number of books, the most important being *Germany, France, and England* (Eng tr, 1924) and *I Meet My Contemporaries* (Eng tr, 1925).

Hardenberg, Georg Friedrich Philipp von. see NOVALIS

Hardenberg, Karl August, Fürst von (kärl' ou'gōōst fürst' fŭn har'dunbĕrk), 1750–1822, Prussian statesman, b electorate of Hanover After service for Hanover and Brunswick, he became administrator of Ansbach and Bayreuth and soon afterward entered the Prussian service As Prussian delegate he signed the Treaty of Basel (1795) with France He became chief minister in charge of foreign affairs (1804–6), but was dismissed upon pressure from Napoleon I After war had broken out a few months later, Hardenberg was recalled to the ministry in 1807, only to be ousted again by the Treaty of Tilsit In 1810 he was made chancellor He continued the reform program begun by Karl vom und zum STEIN, abolishing trade monopolies, turning feudal lands into freeholds, and emancipating the Jews In 1813 he persuaded the vacillating FREDERICK WILLIAM III to join the coalition against Napoleon As delegate to the Congress of Vienna and afterward, he lost prestige and came more and more under the conservative sway of Metternich He remained in office until his death

Hardenbergh, Henry Janeway, 1847–1918, American architect He was designer of the Plaza and old Waldorf-Astoria hotels, New York city, and the Copley Plaza, Boston An associate of the National Academy of Design, he was also a founder of the Municipal Art Society and the American Fine Arts Society, his building for the latter is considered his finest work

hardening, in metallurgy, the treatment of metals or alloys to produce hardness either throughout or at the surface Various methods are employed, depending upon the effect required STEEL, for example, is given great hardness by the introduction of various other metals to form alloy steels and by treatment with heat Some other alloys, after heat treatment, become harder gradually until they reach their maximum hardness This slow hardening is known as age-hardening When a hard surface, but a tough rather than hard and brittle interior, is required for some object (e g., various tools and machine parts) made of low-carbon steel or of wrought iron, a process known as case hardening is commonly employed The object to be treated is covered with carbonaceous material (charcoal itself is commonly used) and subjected to intense heat Under these conditions, the carbon and iron combine at the surface of the object to form a thin layer or "skin" of extreme hardness.

The interior part remains as it was originally, retaining its toughness The thickness of the hard layer depends in part upon the length of time that the object is heated in contact with the carbon As a result, the time required for the process varies, depending upon the thickness of the layer desired Nitrogen hardening or nitriding is a form of casehardening in which nitrogen is used as the hardening agent instead of carbon The object is treated with ammonia gas at a temperature of about 500°C Chill hardening or chilling also produces a hard exterior In this process, however, the result is obtained by chilling the exterior more rapidly than the interior and without the use of carbon or other substance Chill hardening is employed in making wheels for railroad cars and other objects When fused metal is poured into a mold, that entering first (which forms the outer surface of the finished object) is chilled by the mold and hardens rapidly to form the hard outer surface Objects are also hardened by plunging them into a bath of some cooling liquid, e g , water or oil They are then subjected to TEMPERING or ANNEALING

hardening of the arteries: see ARTERIOSCLEROSIS.

hardhack or **steeplebush,** North American SPIRAEA (*Spiraea tomentosa*), sometimes cultivated for the spire-shaped cluster of small rose or white flowers that bloom in late summer The plants have been used as an astringent and tonic

Hardicanute · see HARTHACANUTE

Hardie, James Keir (kēr' här'dē), 1856–1915, Scottish labor leader, a coal miner He founded the Independent Labour party (1893), was the first independent workers' representative in Parliament, and led the Labour party in the House of Commons He wrote *From Serfdom to Socialism* (1907) and *After Twenty Years* (1913). See biography by J. B Glasier (1915).

Hardin, John, 1753–92, American Indian fighter, b Fauquier co , Va He served in Lord Dunmore's War (1774) and was a noted member of Daniel Morgan's riflemen during the Revolution His services at Saratoga were particularly noteworthy He moved to Washington co , Ky , in 1786 and afterwards took part in many expeditions against the Indians N of the Ohio, winning general recognition for his courage and his ability as a woodsman and a leader of men He was sent in 1792 to negotiate a treaty with the Miami Indians and was murdered by Indians at what is now Hardin, Ohio

Hardin, John Wesley, 1853–95, American desperado, b Bonham, Texas In the lawless violence of the frontier the boy early became a gambler and a gunman, but succeeded by his shooting skill and the help of friends to escape capture until 1877, when he was sentenced to 25 years for killing a sheriff. He studied law in prison and, pardoned in 1894, began practice in El Paso but was shot down a year later by a local constable See his autobiography (1896), Thomas Ripley, *They Died with Their Boots On* (1935)

Hardin, city (pop. 1,886), co. seat of Big Horn co., S Mont , on the Bighorn river and E of Billings, inc 1911. It is near the Crow Indian Reservation

Harding, Chester, 1792–1866, American portrait painter, b Conway, Mass , mostly self-taught He worked as an itinerant portrait painter long enough to enable him to study at the Pennsylvania Academy of Design Later he practiced in St Louis, Washington, and Boston and had three years of artistic and social success in London On returning to America he became the fashionable painter of Boston His principal portraits are those of Sir Archibald Alison, the historian, the dukes of Sussex and Hamilton; Lord Aberdeen, Daniel Webster (one in the Bar Association, New York, and one in the Cincinnati Art Mus), John Randolph (Corcoran Gall.), Mrs Thomas B Coolidge and Mrs. Blake (Metropolitan Mus), Chief Justice Marshall; Henry Clay; and Washington Allston.

Harding, Stephen: see STEPHEN HARDING, SAINT.

Harding, Warren Gamaliel (gumā'lēəl), 1865–1923, 28th President of the United States (1921–23), b Bloomington Grove, Morrow co , Ohio After study (1879–82) at Ohio Central College, he moved with his family to the county seat, Marion, Ohio, where he devoted himself to journalism. He bought the Marion *Star*, built up the newspaper, and became a member of the small group which dominated local affairs He entered Ohio Republican politics as a partisan of Joseph B FORAKER, was (1899–1903) a member of the state legislature, and served as lieutenant governor (1904–5), but he was defeated (1910) as Republican candidate for governor His talent for public speaking and his affable personality won Harding the support of the political leaders as well as of the people and enabled him to rise into national politics, he was picked to nominate William Howard Taft at the convention of 1912, and he was elected (1914) to the U S Senate after winning the nomination from Foraker His six-year stay in the Senate was undistinguished, for he followed the party whips on domestic legislation and Henry Cabot Lodge on issues concerning the peace In 1920 Harding was nominated for the presidency largely through the efforts of a group of Senators after successive balloting for Gen. Leonard Wood and Frank O. LOWDEN had deadlocked the Republican convention. His vague pronouncements on the League of Nations and his noncommittal utterances in the campaign (he coined the word *normalcy* to express the social and economic conditions he promised to the nation) helped him to win the election, defeating the Democratic candidate, James M Cox, by an impressive majority The administration that followed was marked by one achievement, the calling of the Washington Conference (see NAVAL CONFERENCES) Harding, conscious of his own limitations, had promised to rely on a cabinet of "best minds," but unfortunately he chose—along with more capable advisers—men who lacked any sense of public responsibility At the time of the legislative deadlock of 1923 came rumors of scandals in the Veterans' Bureau and in the Depts of the Interior and Justice In the midst of these rumors Harding died suddenly (Aug , 1923) in San Francisco on his return from a journey to Alaska Thus he was not troubled by the exposure of the TEAPOT DOME scandal and was spared the humiliation of seeing his appointees, Secretary of Interior Albert B FALL and Attorney General Harry M DAUGHERTY brought to the bar of justice Lesser scandals were also exposed, and Harding's administration has been stigmatised as one of the most corrupt in American history See William Allen White, *Masks in a Pageant* (1928); Samuel Hopkins Adams, *Incredible Era* (1939)

Hardin-Simmons University see ABILENE, Texas.

hardness, property of matter, commonly described as the resistance of a substance to being scratched by another substance Degree of hardness is relative, different substances being compared with one another Mohs's scale of hardness (named for Friedrich Mohs), used commonly in mineralogy, lists certain minerals in order of hardness talc, 1, gypsum, 2, calcite, 3, fluorspar, 4, apatite, 5, feldspar, 6, quartz, 7, topaz, 8, corundum, 9, diamond, 10 The listing indicates merely that gypsum (hardness=2) is harder than—i e , capable of scratching—talc (hardness=1) or that calcite (hardness=3) is harder than either talc or gypsum The listing does not indicate that gypsum (2) is twice as hard as talc (1) or that calcite (3) is three times as hard The difference in hardness between one substance and the next higher in the list is not constant for all The hardness of many minerals not listed falls between that of those included For example, the hardness of barite is 3 3 Other tables of hardness have been compiled which include a much greater number and variety of substances The solid elements have been so classified, carbon (of which the diamond is an allotropic form) being hardest and listed as 10, with cesium the softest, being rated as 0 2, the same degree of hardness as wax (hardness=0 2 at 0°C). The hardness numeral of the Brinell scale is based upon the indentation produced when pressure is exerted on a sphere of the substance. The value so obtained has a direct relation to the tensile strength of the substance The degree of hardness of any substance is believed to be dependent upon the cohesive forces between the molecules of the substance at its surface

Hardouin, Jean (zhā' ärdwē'), 1646–1729, French classical scholar, a Jesuit His works *Nummi antiqui* [ancient medals] (1864) and *Conciliorum collectio* [collection of councils] (1724) were of great value in the 18th cent His work was characterized by an excessive boldness of hypothesis, e g , he maintained that most works of classical literature were not genuine but Renaissance forgeries.

Hardouin, Jules: see MANSART, JULES HARDOUIN.

hardpan, condition of the soil or the subsoil in which the soil grains become cemented together forming a hard, impervious mass It is disadvantageous to farming, particularly because it interferes with the circulation of moisture in the soil and with the growth of roots through the soil When the condition is caused by the filling of the air spaces in the soil with fine particles of clay the subsoil is called a clay pan Thus usually occurs in said soil

Hardwar (hŭrdwär'), town (pop 40,823), NW United Provs., India. It is on the Ganges river near a gorge through the Siwalik Hills Annual and duodecennial pilgrimages are associated with the town's Hindu temples (c 10th cent)

Hardwick. 1 Rural town (pop 2,154), central Mass , WNW of Worcester, settled 1737, inc. 1739. 2 Town (pop 2,605), N central Vt , NNE of Montpelier, settled before 1800. It is a granite-quarrying center.

Hardwicke, Philip Yorke, 1st earl of, 1690–1764, English judge. As lord chancellor (1737–56) he welded much that was vague in equity into a coherent system and established the principle that equity must follow its precedents. He was active in suppressing the Jacobite rising of 1745. See biography by George Harris (3 vols., 1847).

hardwood, name used for any hard, close-grained wood and also for the wood of any deciduous tree as contrasted with the softwood of coniferous trees Actually the wood of many deciduous trees is softer than that of many conifers so that the name is not always indicative of the physical qualities of the wood. A transverse section of a hardwood tree shows pores (really the cross sections of longitudinal vessels or ducts), often visible to the naked eye The softwoods do not have these pores Among the numerous hardwoods are chestnut, oak, maple, ash, ebony, mahogany, and teak. See H. P. Brown, *Commercial Timbers of the United States* (1940).

Hardy, Alexandre (älĕksäN'drŭ ärdē'), b between 1569 and 1575, d 1631 or 1632, French dramatist He is author of more than 600 plays, the best of those surviving is perhaps *Mariamne*, a tragedy Hardy clearly foreshadows the work of CORNEILLE.

Hardy, Arthur Sherburne (här'dē), 1847–1930, American novelist and diplomat, b. Andover, Mass , grad. West Point A professor of mathematics and civil engineering, he later became successful as a writer of popular fiction. His best-known novels are *The Wind of Destiny* (1886) and *Passe Rose* (1889) He served as minister to several European countries from 1897 to 1905.

Hardy, Thomas, 1840–1928, English novelist and poet, b near Dorchester, in the part of England known in his novels as WESSEX He was early apprenticed to a church architect, but soon turned to literature, and in 1871 his first novel, *Desperate Remedies*, was published anonymously *Under the Greenwood Tree* (1872) was more successful, and *Far from the Madding Crowd* (1874), published in the year of his marriage to Emma Gifford, won for Hardy a leading place among contemporary novelists The Wessex novels which followed, Hardy classified as novels of character and environment *The Return of the Native* (1878), *The Mayor of Casterbridge* (1886), *The Woodlanders* (1887), *Tess of the D'Urbervilles* (1891), and *Jude the Obscure* (1896) are generally considered the finest So violently were his novels, especially the last two, denounced as books depicting indecency and immorality that Hardy wrote no more of them, but devoted himself to poetry, which he had long preferred *Wessex Poems* appeared in 1898, *Poems of the Past and the Present* in 1901, and then his poetical drama, *The Dynasts* (1904–8) Begun as an epic on the Napoleonic era, it finally became a vehicle for the expression of Hardy's mature views of man, nature, and the unconscious supernatural will which governs the universe From 1909 to his death Hardy wrote several volumes of lyric poetry, outstanding among which are *Satires of Circumstance* (1914), *Moments of Vision* (1917), and the posthumously published *Winter Words* (1928) Hardy also wrote distinguished short stories (*Wessex Tales*, 1888, *Life's Little Ironies*, 1894) Hardy's first wife died in 1912, and in 1914 he married Florence Emily Dugdale, who later became his literary executor and biographer Hardy himself died Jan 11, 1928, at Max Gate, the home which he had built after his own plans, his ashes were buried in Westminster Abbey See biography by his wife, F E. Hardy (2 vols , 1928–30); Hermann Lea, *Thomas Hardy's Wessex* (1913), biographical or critical studies by S C Chew (1928), W R Rutland (1938), C J Weber (1940, 1946), Edmund Blunden (1942), David Cecil (1946), J G Southworth (1947), and A. J Guérard (1949)

Hardyng, John, 1378–1465?, English chronicler In the service of Sir Henry Percy, he was at the battle of Shrewsbury (1403), where Percy was killed Later serving Sir Robert Umfreville, he was made constable of a castle in Kyme, Lincolnshire. He was sent to Scotland to gather evidence of the feudal submission of Scotland to the English crown, but the documents he presented to the English court were much later proved to be forgeries, perhaps by him. He wrote a long rhymed chronicle of English history, which in its first version (carrying events to 1436) has a Lancastrian tinge, in the next a Yorkist bias, and in the one given to Edward IV (carrying events to 1461) still a Yorkist flavor There are other variant copies, all of antiquarian interest only.

Hare, Augustus John Cuthbert, 1834–1903, English author His works include *Walks in Rome* (1871) and other continental guidebooks and an autobiography (1896–1900) See Shane Leslie, *Men Were Different* (1937).

Hare, Sir John, 1844–1921, English actor-manager, whose real name was John Fairs He gained a reputation for his acting in T. W. Robertson's plays with the Prince of Wales's company, London (1865–74), and in 1875 became manager with Kendal of the Court Theatre, London, where Ellen Terry often played. He managed the St James Theatre (1879–88), in association with Kendal and his wife, and the Garrick Theatre (1889–95) His best-known roles were in *A Pair of Spectacles* and *The Gay Lord Quex*. He was knighted in 1907.

Hare, Robert, 1781–1858, American chemist b. Philadelphia. He was professor of chemistry (1819–47) at the medical college of the Univ. of Pennsylvania. He invented the oxyhydrogen blowpipe and a calorimotor, built an electric furnace, and worked on salts. See biography by E. F. Smith (1917).

hare, mammal of North America, Europe, Asia, and Africa, formerly considered a rodent, now usually placed in the order Lagomorpha. True hares (genus *Lepus*) have longer ears and hind legs than

rabbits. At birth they are covered with hair and the eyes are open. North American hares include the varying hare or snowshoe rabbit and the jack rabbit, whose ears are sometimes one third of the body length Both can travel at 30 mi or more an hour In northern regions and at high altitudes the brownish or grayish coat is usually shed and replaced by a white winter coat The arctic hare has a circumpolar distribution The European hare is a large species native to central and W Europe and introduced into North America

harebell, bluebell, or bluebells-of-Scotland, slender wiry-stemmed perennial bellflower (*Campanula rotundifolia*) native to Europe, Asia, and North America It has one or more blue (occasionally white), bell-shaped blossoms A species of SQUILL is also called harebell

harelip, a cleft lip, a deformity caused by the failure of premaxillary and maxillary bones to unite during development The condition may occur unilaterally or bilaterally, it may be complete or incomplete, and it may be associated with a cleft of the palate Surgery to reduce the condition properly is usually begun in very early infancy

harem (hâ'rum) [Arabic], women's apartments in a Moslem household Islam enjoins strict seclusion for women The most famous harem, that of the sultans of Turkey, dates from the 15th cent with the building of the old and new seraglios or palaces on Seraglio Point, Constantinople. It was abolished with the downfall (1909) of Abdu-l-Hamid II The sultan's harem often contained several hundred women—*kadins* (with status similar to that of wife), concubines, and servants—all subject to the control of the sultan's mother and guarded by eunuchs In India the harem is called a purdah or zenana, in Persia, a zenana See N. M. Penzer, *The Harem* (1936)

Haren, Willem van (wĭl'um van ha'run), 1710–68, Dutch poet, b Friesland, of a noble family His chief work is an epic poem, *Friso* (1760) His brother, **Onno Zwier van Haren** (ôn'nō zvēr'), 1713–79, also a poet, wrote patriotic verse, notably a series about the Gueux, entitled first *Aan de Vaderland* (1769), in final form *De Geuzen*

Hareph (hâ'rĕf), Judah's descendant 1 Chron 2 51

Hareth (hâ'–), forest, apparently near ADULLAM 1 Sam 22 5

Harewood, Henry George Charles Lascelles, 6th **earl of** (lă'sulz, hăr'wo͝od, hâr'–), 1882–1947, British soldier He held diplomatic posts in Rome and Canada and served with distinction in the First World War In 1922 he married Princess Mary, only daughter of George V He had two sons In 1929 he succeeded his father in the earldom

Harfleur (ärflûr'), town (pop 5,052), Seine-Inférieure dept, N France, in Normandy, at the mouth of the Seine A flourishing Channel port during the later Middle Ages, it declined with the growth of Le Havre The siege and capture (1415) of Harfleur by HENRY V of England is described by Shakspere

Hargreaves, James (här'grēvz), d 1778, Englishman who is generally believed to have invented the spinning jenny (see SPINNING) c 1765

Harhaiah (–hāī'ŭ, –hâ'yu), father of UZZIEL 6

Harhas (hâr'hăs), ancestor of Huldah's husband 2 Kings 22 14 Hasrah 2 Chron 34 22

Harhur, postexilic family Ezra 2 51, Neh 7 53

Hari, Mata see MATA HARI

Harim (hâ'–) **1** Family of priests in the return from the Exile Neh 12 15 Rehum Neh 12 3 **2** Another family of priests in the return from the Exile Ezra 2.39, 10 21, Neh 7 42, 10 5 **3** Priest, probably the ancestor of **2** 1 Chron 24 8 **4** Family of laymen in the return from the Exile Ezra 2 32, 10 31, Neh 7 35, 10 27. **5** Father, or family, of a repairer of the wall, probably the same as **1**, **2**, or **4** Neh 3.11.

Harington, Sir John, 1561–1612, English author At the command of Queen Elizabeth he translated (1591) Ariosto's *Orlando Furioso* He fell from grace at court because of his Rabelaisian *Metamorphose of Ajax* (1596), but later was restored to favor His personal letters sketched a vigorous portrait of Elizabethan life See his *Letters and Epigrams* (ed by N E. McClure, 1930)

Hariph (hâ'rĭf), a signer of the covenant. Neh 7 24, 10 19 Jorah Ezra 2 18.

Hariri (Abu Mohammed al-Kasim al-Hariri) (hărē'rē), 1054–1122, Arabian writer of Basra His principal work is one of the most popular of Arabian books. It is called *Makamat* [assemblies], the name of a literary genre that was much affected at this time It consists of 50 episodes, in which an old rogue, Abu Zaid, goes from place to place earning his living by his clever talk and his wits. It is written in an almost euphuistic style

Hari Rud (hâ'rē rōōd'), river, 650 mi long, rising in central Afghanistan It flows westward through barren hills and past the fertile valley of Herat, then turns north as the boundary between Iran and the Turkmen SSR and finally disappears in the steppes S of Kara Kum In the USSR it is called the Tejend, and in ancient times it was the Arius

Härjedalen, Swed. *Härjedalen* (här'yŭdă"lŭn), historic province, W central Sweden. It is now administratively part of JAMTLAND co.

Harkness, Edward Stephen, 1874–1940, American philanthropist, b Cleveland He inherited a fortune from his father, a partner of Rockefeller His extensive philanthropies, many of them anonymous, were extended especially to colleges, hospitals, and museums He served as president of the Commonwealth Fund, established by his mother

Harkness, William, 1837–1903, American astronomer, b. Scotland, grad Univ of Rochester, 1858 In 1862 he became an aid in the U.S. Naval Observatory, and in 1865–66, on a journey from Philadelphia to San Francisco in the monitor *Monadnock*, he studied the deviations of the compass and terrestrial magnetism While observing the total solar eclipse of Aug , 1869, he discovered the coronal line K 1474 As one of the original members of the Transit of Venus Commission, he was given charge of the party sent to Hobart, Tasmania, in 1874. He observed the transit of 1882 at Washington, D C He was astronomical director of the Naval Observatory (1894–99) and director of the *American Ephemeris and Nautical Almanac* (1897–99) He was responsible for great improvements in the apparatus of the observatory and invented several instruments, notably the spherometer caliper

Harlan, James, 1820–99, U S Senator from Iowa, b Clark co., Ill , grad. Indiana Asbury Univ (now DePauw Univ), 1845 Principal of Iowa City College, he became in 1853 president of Iowa Wesleyan Univ and was a leader of the Free-Soil movement in Iowa He was elected (1855) to the U S Senate, vacated the seat in 1857 because the election was irregular, but was immediately reelected and served until 1865 Harlan was in charge of legislation connected with a railroad to the Pacific and was interested in educational land grants and a homestead law In 1865 he was appointed Secretary of the Interior by Abraham Lincoln, but he resigned in July, 1866, because of opposition to President Andrew Johnson's policies Reentering the U S Senate (1867–73), he voted for Johnson's impeachment and generally supported the radical Republican Reconstruction program. His defeat in 1872 by William B Allison closed his official career See biography by Johnson Brigham (1913)

Harlan, John Marshall, 1833–1911, American jurist, b Boyle co , Ky., grad Centre College, 1850 Admitted to the bar in 1853, he served in the Civil War as a colonel in the Union army until 1863, when he became attorney general of Kentucky He took a leading part in the violent political struggles of the day, becoming after the war a leader of the conservative Republicans, but he was defeated for the governorship in 1872 and 1875 As head of the Kentucky delegation to the Republican national convention in 1876, he played a leading role in the nomination of Rutherford B Hayes In Oct , 1877, Hayes appointed him to the U S Supreme Court, on which he was to serve for almost 34 years A man of strong and independent convictions and, on the whole, a strict constructionist, he became known as a "dissenter " In the "insular cases" (1901) he protested against a decision which would not give the inhabitants of the nation's new possessions the full benefits of the Constitution He upheld the police power of the states, dissented in the civil-rights cases (1883) and the income-tax (1894), and argued that the court had no right to read the word *unreasonable* into the Sherman Act in the decisions against the Standard Oil and American Tobacco trusts In 1893 he served by President Benjamin Harrison's appointment on the tribunal to settle the Bering Sea Fur-Seal Controversy at Paris See F B Clark, *The Constitutional Doctrines of Justice Harlan* (1915)

Harlan, 1 City (pop 3,727), co seat of Shelby co , W Iowa, NE of Council Bluffs, in a farm and livestock area, settled 1858, inc 1879 **2** City (pop 5,122), co seat of Harlan co , E Ky , in the Cumberlands near the Va. line, in the heart of a coal region, settled 1819 After the railroad's arrival in 1911, Harlan developed as a shipping point for coal and lumber Conflicts between coal operators and miners in Harlan co have been frequent and bitter After 20 years of strife the mines were unionized in 1941 Indian mounds in the area have yielded many relics

Harland, Henry, 1861–1905, American novelist Born in St. Petersburg, Russia, he traveled extensively in Europe during his childhood before studying at Harvard His first novels were written under the pseudonym Sidney Luska and dealt with immigrant Jewish life. In 1889 he abandoned this type of writing and left America to live in London There he became associated with the Bodley Head press He developed a light, highly polished prose style and with Aubrey Beardsley founded the YELLOW BOOK (1894–97), of which he was literary editor and to which he contributed stories Most popular of Harland's books was *The Cardinal's Snuff Box* (1900)

Harland, Marion, pseud. of **Mary Virginia Hawes Terhune,** 1831–1922, American novelist and author of books on cookery and housekeeping, b Amelia co., Va. Her *Common Sense in the Household* (1871) was one of the first works of its kind. See *Marion Harland's Autobiography* (1910)

Harlech (hâr'lĕkh, –lĕk, hăr'lĕ), village, Merionethshire, Wales, on the coast Its 13th-century castle stands on a rocky point overlooking the sea. Its heroic defense against the Yorkists (1468) is the theme of the Welsh battle song, *The March of the Men of Harlech* Harlech has the best golf course in Wales

Harleian Library (hăr'lēun, hărlē'ŭn), manuscript collection of over 7,000 volumes and over 14,000 original legal documents, formed by Robert Harley, 1st earl of Oxford, and his son Edward Harley, 2d earl of Oxford In 1753 it was purchased for £10,000 by the British government and with the collections of Sir Robert Bruce Cotton and Sir Hans Sloane formed the basis of the British Museum library

Harlem, town (pop 1,166), N Mont , NE of Great Falls and on the Milk river project, inc 1910 Fort Belknap Indian Reservation is near by

Harlem, congested residential and business section of upper Manhattan, New York city, bounded roughly by Central Park and 110th St , East River and Harlem River, 168th St , and Amsterdam Ave and Morningside Park The Dutch settlement Nieuw Haarlem was established by Peter Stuyvesant in 1658, and the area was a rural one until transportation facilities linked it with lower Manhattan in the 19th cent The rapid influx of Negroes that began in the decade 1910–20 resulted in great overcrowding Harlem, with a population of over 400,000, is the largest Negro community in the country Puerto Ricans and other Latin Americans and some Italians also live in the area, where the physical and social evils of poverty, congestion, and discrimination are well illustrated The 1930s brought public housing projects, and the 1940s saw further attempts to relieve unfavorable conditions To the west of Harlem, near the present site of Columbia Univ , Continental forces stopped (Sept 16, 1776) the British advance up Manhattan Island in the American Revolutionary battle of Harlem Heights See Claude McKay, *Harlem Negro Metropolis* (1940), Roi Ottley, *New World a-Coming Inside Black America* (1943)

Harlem River, navigable tidal channel, SE N Y , within the confines of New York city and separating Manhattan Island from the borough of the Bronx. With short Spuyten Duyvil Creek, now a ship canal, it is 8 mi long and connects the Hudson and the East River (at HELL GATE channel) Its bridges include High Bridge (1848) and Washington, or Harlem, Bridge (1888)

Harlequin (hâr'lukwĭn), stock character derived from the pantomime of the Italian COMMEDIA DELL' ARTE of the 16th and 17th cent He usually played opposite COLUMBINE, sometimes as her father He was masked, dressed in motley colors, and always carried a bat, the ancestor of the slapstick Originally a servant or an adventurer, he later appeared in many guises but was always a nimble dancer and acrobat, a wit, a dreamer, and a grotesque rogue In later English pantomime he is mute, more mischievous, and invisible to clown and pantaloon, his rivals for Columbine See C W. Beaumont, *The History of Harlequin* (1926)

Harley, Robert, 1st **earl of Oxford** and **Earl Mortimer,** 1661–1724, English statesman and bibliophile His career, which illustrates the power of personal connections and intrigue in the politics of his day, began when he was a member of Parliament as a Whig in the reign of William III His sympathies shifted, and before Queen ANNE took the throne he was a rival of Henry ST JOHN as Tory leader He was made a secretary of state (1704) and a commissioner (1706) for negotiating the union with Scotland but was forced out of office in 1708 by MARLBOROUGH and GODOLPHIN His influence on the queen through his kinswoman Mrs Masham (later Lady MASHAM) continued, however, and brought him to power with St John after the Whigs fell in 1710 In 1711 his personal popularity, wavering despite the journalistic services of Swift and Defoe, was bolstered by sympathy after an attempt on his life Created earl and made lord high treasurer, he consolidated his power and was virtual prime minister until 1714 Early negotiations for peace, undertaken secretly while he still talked war, led to the end of the War of the SPANISH SUCCESSION by the Peace of Utrecht (1713) Harley also instituted the plan that led to the scandal of the SOUTH SEA BUBBLE He and St John, now Viscount Bolingbroke, struggled for power, and Harley, after he had lost the friendship of Lady Masham, lost (1714) his office After the accession of George I, he was imprisoned (1715) and impeached (1716) for his conduct of the peace negotiations and for dealings with the JACOBITES, but he was acquitted The manuscript collection gathered by Harley and his son Edward constitute the HARLEIAN LIBRARY in the British Museum See biographies by E S. Roscoe (1902) and O B Miller (1925)

Harlingen (hâr'lĭngŭn), city (1940 pop 13,306, 1947 estimated pop 18,500), extreme S Texas, NW of Brownsville Founded c.1904 with the coming of the railroad, it grew when the culture and packing of citrus and other fruits, truck, and cotton developed in the irrigated lower Rio Grande valley. It has canneries, a quick-freezing plant, cotton-processing plants, and small factories.

Harlowton (här'lōtŭn), city (pop 1,547), co seat of Wheatland co, central Mont, on the Musselshell river, inc 1917. It has railroad shops and a large flour mill

Harmar, Josiah, 1753–1813, American army officer, b Philadelphia He served throughout the American Revolution, first under George Washington in the North and then under Nathanael Greene in the South He became in 1785 commander of the forces on the Ohio river, was promoted (1787) brigadier general, and led (1790) an expedition against the Shawnee and Miami Indians in the valleys of the Scioto and Maumee rivers His expedition was inconclusive and had to be followed by that of Arthur St Clair Harmar resigned (1792) from service and held office (1793–99) as adjutant general of Pennsylvania

Harmensen, Jacob · see Arminius, Jacobus

Harmhab (härm'hăb) or **Horemheb** (hō'rĕmhēb'), fl. 1350 B C, king of ancient Egypt, founder of the XIX dynasty A powerful noble under Ikhnaton, he seems to have been chief officer of state under the successors of that ruler, especially Tut-ankhamen Harmhab himself became king c 1350 B C He repaired the temples of Amon, abandoned or demolished buildings erected under Ikhnaton, and by untiring effort suppressed corruption in the government and restored prosperity to Egypt He was succeeded (c 1315) by Ramses I

Harmodius and Aristogiton (härmō'dēus, ă"rĭstŏjī'tŭn), d c 514 B C, Athenian patriots Hipparchus, the tyrant, tried to supplant Aristogiton in the affection of Harmodius, but, his advances being scorned, he avenged himself by publicly insulting Harmodius' sister In return the friends planned to assassinate Hipparchus and his brother Hippias The plans miscarried, Hipparchus was killed, but Hippias was not hurt Harmodius was killed on the spot, and Aristogiton was executed In spite of their mixed motives they were soon made heroes of Athens A public statue was erected, and coins were struck with their image Verses about them (ascribed to Callistratus) became the war song of liberty-loving Athens

Harmon, Judson, 1846–1927, U S Attorney General and governor of Ohio, b Newton, Ohio, grad Denison Univ, 1866, and Cincinnati Law School, 1869 He was a lawyer and a judge in Cincinnati for many years and served (1895–97) ably as U S Attorney General under President Cleveland He was elected (1908) governor of Ohio on the Democratic ticket, thus breaking a long Republican rule He was reelected in 1910, defeating Warren G Harding As governor he put through many reforms, including a corrupt-practices act, a workmen's compensation act, and Ohio's ratification of the Sixteenth and Seventeenth amendments of the U S Constitution

Harmonia, in Greek legend, the wife of Cadmus A robe and a necklace given her on her wedding day caused misfortune to all who wore them

harmonic, subsidiary musical tone produced by the vibration of segments of a sound-producing body The fundamental tone, also called the first partial, of a vibrating string or column of air, by whose frequency the tone is identified, is produced by its vibration as a whole The quality, or timbre, of a tone is determined by the number of its harmonics which are heard and their relative intensity The rate of vibration of halves, thirds, quarters, etc, of the vibrating body is respectively twice, three times, four times, etc, that of its whole length Only the first 16 harmonics are audible to the human ear Harmonics are also called upper partials and overtones, although the term *overtones* includes a number of sounds which are not musical.

harmonica. **1** The simplest of the musical instruments employing free reeds, also known as the mouth organ or French harp It was probably invented in 1829 by Sir Charles Wheatstone, who called his instrument the aeolina The reeds are set in a small narrow case of wood or metal For each reed there is a hole, through which one draws or blows air with the mouth Commonly the instrument is diatonic, having a compass of about two octaves, but its comparatively few virtuoso players use larger instruments having the full chromatic scale The cheapness and extremely small size of the harmonica adapt it well to class instruction among school children, but it remains a novelty in concert music **2** Musical glasses, introduced in Dublin in 1743 by Richard Pockrich, played upon in London by Gluck in 1746, and improved by Benjamin Franklin c 1761 Franklin's instrument consisted of a series of glass bowls, graduated in size and fitting inside one another They were supported by a horizontal spindle passing through all of the bowls As the spindle was made to revolve by means of a lever, the edges of the bowls passed through a trough filled with water. Contact of the player's fingertip with the moistened revolving edges of the bowls produced the sound A later form of the instrument had a keyboard Both Mozart and Beethoven, as well as a few lesser composers, wrote works for it **3** Strips of metal or glass, played upon with hammers or, later, having a keyboard, as described by Berlioz in his treatise upon instrumentation.

harmonium: see reed organ.

Harmony, borough (pop 846), Butler co, W Pa, NE of Zelienople It was the first settlement (1805) of the Harmony Society.

harmony, in music, the simultaneous sounding of two or more tones and, especially, the study of chords and their relations Harmony was the last in the development of what may be considered the basic elements of modern music—harmony, melody, rhythm, and tone quality or timbre Although polyphony contains sounds which to our ears are chords, horizontal or melodic considerations took precedence over the vertical or harmonic aspect until about the 16th cent, when the idea of chords had been definitely established Rameau, in 1722, presented the idea that different groupings of the same notes were but inversions of the same chord During the 18th cent the concept of tonality—taking a certain chord as the key center of a composition and the major and minor modes as its basis—became general The polyphonic music of Bach has a definite harmonic structure As the system of triads and their relations was explored, the principle of modulation appeared and composers developed freer concepts of tonality, finally, in the 20th cent, some have discarded tonality in favor of music which is composed in terms of horizontal contrapuntal lines See Lawrence Abbott, *The Listener's Book on Harmony* (1941), Walter Piston, *Harmony* (1941)

Harmony Society, religious society founded by German Separatists under the leadership of George Rapp The Harmonists (or Rappites) held property in common and subscribed to the austere doctrines of their leader, including that of celibacy In 1805 the society founded the village of Harmony, Pa, developing it into a prosperous agricultural and industrial community Led by Rapp, the Harmonists moved in 1814–15 to Indiana, founding another Harmony They prospered there too, but in 1825 sold their holdings to Robert Owen (see New Harmony) and returned to Pennsylvania to create their third village at Economy (now Ambridge), NW of Pittsburgh In 1832 a part of the colony, under "Count Leon," a German adventurer, withdrew to form a separate community. The society was weakened by the death of Rapp, dwindled as the members grew older, and went out of existence after 1906 See Aaron Williams, *The Harmony Society* (1866), John S Duss, *The Harmonists* (1943)

Harmsworth, Alfred Charles William · see Northcliffe, Alfred Charles William Harmsworth, Viscount

Harmsworth, Harold Sidney: see Rothermere, Harold Sidney Harmsworth, 1st Viscount

Harnack, Adolf von (ä'dôlf fŭn har'nak), 1851–1930, German theologian and church historian He was professor of church history successively in the universities of Leipzig, Giessen, Marburg and Berlin He was director (1905–21) of the Royal Library, Berlin, and president of the scientific research foundation, Kaiser Wilhelm Institute His great work, *Lehrbuch der Dogmengeschichte* (4 vols, 1886–90, Eng tr, *The History of Dogma*, 7 vols, 1895–1900), has exerted an important influence upon modern theological study Other translated works include *Monasticism Its Ideals and Its History* (1895), *What Is Christianity?* (1901), *The Apostles' Creed* (1901), *The Expansion of Christianity in the First Three Centuries* (2 vols, 1904–5), and *Luke the Physician* (1907)

Harnepher (har'nēfur, härnē'fur), son of Zophah the Asherite 1 Chron 7 36

harness. Wheeled vehicles and plows drawn by animals were inventions of the Bronze Age, if harness was used earlier, in the Neolithic period, possibly for dogs drawing travois and sledges, the Bronze Age at least gave it new importance Goats are sometimes driven in harness, as are oxen, but oxen usually draw their loads by a wooden yoke, without harness The typical harness is for horses It is usually of leather with some metal parts, the hames (two curved pieces in the harness of draft animals, to which the traces are fastened) are sometimes of steel and sometimes of wood The power of the horse is applied at the shoulders, either to a collar or to a breastband—a band crossing the shoulders below the neck Harnesses, therefore, are of two main kinds—the collar harness and the breast harness Either may be used in driving one horse, but the breast harness is lighter and simpler and is usually preferred The collar harness is commonly used when two horses are driven abreast, since the neck yoke, by which the pole or tongue of a vehicle is held in place, is conveniently attached to the collar of each horse by a strap The horse draws his load by straps called traces or tugs. He is controlled by reins or lines attached to the bit, which is held in his mouth by the bridle Other parts of the harness are designed to add to the efficiency, comfort, or beauty of the horse In America when harnesses were made by handicraftsmen, a typical sign of the harness shop was a life-size wooden horse, on which harness might be displayed. Many of these wooden horses are now in museums where they serve as the chargers of armed knights.

Harney, William Selby, 1800–1889, American general, b Haysboro, near Nashville, Tenn. He entered the army in 1818 and gained a colonel's rank in the Florida Indian campaigns Ranking cavalry officer under Scott in the Mexican War, Harney was disliked by that general, who arbitrarily relieved him of his command and had him court-martialed for resuming it in defiance of orders Harney apologized, but at the same time appealed to superiors in Washington, who supported him Restored to his position, he performed brilliantly at Cerro Gordo (1847) In the Platte country after the war, Harney defeated the Sioux As commander of the Dept of Oregon, he ordered (1859) the occupation of San Juan Island, which the British claimed, the San Juan Boundary Dispute was thus brought to a crisis For this action he was recalled At the opening of the Civil War, Harney commanded the Dept of the West, with headquarters in St Louis He agreed with Gen Sterling Price of the pro-secessionist Missouri militia to make no hostile move if the militia kept the peace The radical Unionists, irked at his conciliatory policy, had him deprived of his command in May, 1861, he was retired in 1863 See biography by L U Reavis (1878)

Harney Peak, 7,242 ft high, SW S Dak, NNE of Custer, highest point of the Black Hills and of the state Mt Rushmore is northeast

Harnosand, Swed *Härnösand* (härnûsand'), seaport (pop 13,709), co seat of Vasternorrland co, NE Sweden, at the mouth of the Angerman river It is a Lutheran episcopal see Its harbor, though icebound in winter, is a center for the coastwise trade of N Sweden and exports timber, tar, cellulose, and wood pulp Settled in the 14th cent and incorporated in 1585, it was plundered and burned by the Russians in 1721 It is said to have been the first European town to be electrically lighted (1885)

Harod (hă'–) [Heb, =trembling], spring, near Mt Gilboa, where Gideon tested his men Judges 7 1–8

Haroeh (hă'rōĕ, hărō'ĕ) [Heb, =the seer], descendant of Judah 1 Chron 2 52

Harold, 1022?–1066, king of England (1066), rival of William I (William the Conqueror) The son of Godwin, earl of Wessex, he belonged to the most powerful noble family of England in the reign of Edward the Confessor Through Godwin's rise Harold was made earl of a part of East Anglia The fall of Godwin in 1051, however, involved the family and all went into exile Harold went to Ireland, where he recruited a strong force and brought it to the English coast In 1053 he joined his father and brothers in the expedition against England Godwin recovered power, and Harold was restored to his old earldom He was not as high in the favor of the king as his brother Tostig, but his succession to the earldom of Wessex and to great estates at his father's death made Harold the most powerful figure in England except the king, and he aspired to become heir to the throne He gained some glory by a great campaign against the Welsh leader Gruffyd ap Llywelyn in 1062–63 About this time Harold, on a ship in the English Channel, was driven by an adverse wind to the coast of Ponthieu The count of Ponthieu seized him but was, as William's vassal, forced to surrender him to William of Normandy Harold was compelled to take an oath to support William's candidacy to the English throne and also agreed to marry his daughter Returning to England, Harold renounced his oath as one of coercion When the Northumbrians revolted against Harold's brother Tostig and chose Morkere in his place as earl of Northumbria, Harold took Morkere's part The family was thus divided when Edward the Confessor died, naming Harold his heir instead of Edgar Atheling Harold succeeded to the throne also as the choice of the council William of Normandy immediately undertook an invasion At the same time, Tostig, with Harold III of Norway, invaded England from the north Harold went north and soundly defeated them (Sept 25) at the battle of Stamford Bridge, in which both Tostig and Harold III were slain Then the harassed king hurried south to oppose William, who had landed at Pevensey (see Norman Conquest) Harold established his forces in hastily built earthworks near Hastings They fought valiantly but were finally put to rout, and Harold himself was killed

Harold I or **Harold Fairhair,** Norse *Harald Haarfagre*, c 850–c 933, first king of Norway, son of the petty king Halfdan the Black He initiated a series of battles against the other petty kings, climaxed by a great victory at Hafrs Fjord (872) which made him ruler of Norway After being defeated, many of the Viking rulers fled to Iceland This conquest was also the impelling force in driving forth the Vikings to conquer Normandy under Rollo Harold conquered the Shetland and the Orkney Islands On his death his lands were divided among his sons, Eric Bloodyaxe being made overlord

Harold III or **Harold Hardrada** (härdrä'dŭ), Norse *Harald Hardrådi* (Harold stern council), d 1066, king of Norway (1046–66), half brother of Olaf II After Olaf's defeat (1030), Harold went to serve Zoë, the Byzantine empress, in campaigns against the Seljuk Turks, but returned (1042) to Scandinavia to join the revolt against Magnus I. Made

joint king in 1046, he became sole king in 1047 and led in the turbulent warfare of the time He greatly affected the history of England In 1066 he accompanied TOSTIG, the exiled earl of Northumbria, on an invasion of N England At the same time William of Normandy was preparing an invasion of S England The hard-pressed king of the English, HAROLD, defeated the Norse invasion at Stamford Bridge, and both Harold III and Tostig fell in the battle But the way was prepared for the Norman Conquest

Harold Bluetooth, d c 985, king of Denmark Succeeding his father, Gorm the Old, in 935, he tried to assert suzerainty over Norway but was defeated by the Germans and forced to accept Christianity, which he thus introduced to Denmark He was defeated and killed in battle with his son's forces.

Harold Fairhair see HAROLD I

Harold Hardrada see HAROLD III

Harold Harefoot, d 1040, king of England (1037–40), illegitimate son of CANUTE and Ælfgifu of Northampton On his father's death (1035) he and his half brother Harthacanute struggled for control of England A compromise was reached by which Harold should be regent in Harthacanute's absence in Denmark By 1037 Ælfgifu succeeded in having her son recognized as king His brief reign was one of bloodshed and confusion, and he died as Harthacanute was preparing to invade England and claim his throne

Haronite (hā'–), in the Bible, apparently a copyist's error for Harodite 1 Chron 11 27

Harosheth (–rō'–), unidentified place, the home or camp of Sisera Judges 4 2,13,16

Haroun al-Rashid see HARUN-AL-RASHID

harp, stringed musical instrument of ancient origin, whose strings are plucked with the fingers It went from Syria to Europe, and very early became popular in the British Isles, particularly in Ireland, it was certainly known in England and Wales in the 10th cent During the 15th cent it began to be made, as it is today, in three parts—sound box, neck, and pillar The strings are stretched between the sound box and the neck, into the neck, usually curved inward, are fastened the tuning pegs During the Renaissance its compass was increased, and the baroque period gave it its characteristic ornamentation Originally it was diatonic, but chromatic harps, having strings for each tone of the chromatic scale, appeared late in the 16th cent More practical were the harps made in the late 17th cent in Tyrol, strung diatonically and equipped with hooks capable of altering the pitch of any string by a semitone Pedals were devised for this purpose c 1720 in Germany, but the perfecting of the harp and its admission to the orchestra awaited the invention (c 1810) of the double-action pedals by Sébastien Érard Its principal use in the orchestra as well as most of its solo repertoire dates from the late 19th cent See W H Grattan-Flood, *The Story of the Harp* (1905)

harp, aeolian · see AEOLIAN HARP

Harpenden (har'pundun), urban district (1931 pop 13,750, 1943 estimated pop 14,750), Hertfordshire, England, NW of London It is the site of Rothamsted Experimental Station (for agricultural research)

Harper, Ida Husted, 1851–1931, American woman suffragist Allied with the woman-suffrage movement from 1898, she became the official reporter and historian of the National American Woman Suffrage Association She wrote *The Life and Works of Susan B Anthony* (3 vols, 1898–1908) and later volumes (IV–VI, 1900–1922) of the *History of Woman Suffrage* started by Susan B Anthony, who also contributed to Vol IV

Harper, William Rainey, 1856–1906, American educator and Hebrew scholar, b New Concord, Ohio, grad Muskingum College, 1870, Ph D Yale, 1875 In 1879 he became an instructor in Hebrew at Baptist Union Theological Seminary, Chicago He was appointed professor in 1880 and wrote several texts on Hebrew language and literature After 1883 he gave courses also at Chautauqua Institution In 1886 Harper went to Yale as professor of Semitic languages, resigning in 1891 to become the first president of the Univ of Chicago See biography by T W Goodspeed (1928)

Harper, city (pop 1,695), S Kansas, SW of Wichita, in a wheat area, settled 1877, inc 1880

Harpers Ferry, town (pop 665), easternmost W Va, on bluffs at the confluence of the Potomac and Shenandoah rivers, c 55 mi NW of Washington, D C, inc 1763 Its beautiful location at a point where the rivers break through the Blue Ridge has made it a tourist center In 1747 Robert Harper established a ferry here—hence the name An important U S arsenal was located here in 1796 This was seized by John BROWN in his raid of Oct 16, 1859 Harpers Ferry was important in the Civil War as a key to the Shenandoah Valley Virginia militia seized it on April 18, 1861, but on June 15 Gen J E Johnston abandoned it on the advance of Union forces under Gen Robert Patterson In Lee's ANTIETAM CAMPAIGN, Stonewall Jackson captured the town with its garrison of 11,000 men, but after Lee's retreat it again fell into Union hands Similarly, in the Gettysburg campaign, the town was abandoned to the Confederate army and later recovered, to be held by the Union for the rest of the war Storer College (junior) for Negroes, here, has an interesting history museum

Harpignies, Henri Joseph (ärē' zhōzĕf' arpēnyē'), 1819–1916, French landscape painter, follower of Corot He traveled in Italy but painted chiefly at Fontainebleau and Auvergne and on the banks of the Allier His landscapes are distinguished for their serene light and broad treatment He is represented in the Luxembourg Museum, Paris, and in the museums of Lille, Orléans, and Grenoble His *Moonrise* is in the Metropolitan Museum.

Harpocrates (harpŏ'krutēz), Egyptian deity, child of Osiris, and in EGYPTIAN RELIGION identified with Horus He was one of the Egyptian gods who grew very popular in Rome He was represented as a small boy with his finger on his lip and came to be considered the god of silence

harpoon (harpōōn'), weapon used for spearing whales and large fish The early type was a flat triangular piece of metal with barbed edges and with a socket for attaching a wooden handle, to the end of which a long rope was fastened The modern weapon usually has but one barb or point, with a pivoted crosspiece to prevent its withdrawal Harpoons are used to capture the whale, which is commonly killed by driving a lance into the vital parts Harpoons may be thrown by hand or fired from guns These guns are 4 to 5 ft long, weigh about 75 lb, and discharge a harpoon weighing about 100 lb Svend Foyn, a Norwegian, invented a harpoon c 1856 with an explosive-filled tip which kills the whale A later invention is a harpoon propelled by air pressure and having a valve which opens as it strikes the whale, thus admitting air to hasten death and to keep the whale afloat

harpsichord, stringed musical instrument played from a keyboard Its strings are plucked by quills or jacks, while those of the clavichord and the piano are struck with hammers The harpsichord originated in the 14th cent, in the 15th cent, Venice was the center of its manufacture, and at this time its prevailing shape was winglike, similar to that of a grand piano The square harpsichord, often called SPINET, became more common in the 16th cent, when harpsichord making in the northern countries surpassed that of Italy Perhaps the greatest craftsmen of all were the Ruckers family of Antwerp, who worked from the late 16th cent through most of the 17th cent Varying the touch in harpsichord playing does not alter the quality or volume of tone, to compensate for this fact, octave couplers and various stops which alter the tone in several ways were introduced Contrast in volume and in tone color is made easier by the addition of a second keyboard, found on German harpsichords from the late 16th cent and on Italian ones from c 1665 In the 19th cent the prominence of the harpsichord was usurped by the piano See Philip James, *Early Keyboard Instruments from Their Beginning to the Year 1820* (1930)

Harpswell, resort town (pop 1,305), SW Maine, on a peninsula and islands in Casco Bay NE of Portland, settled 1720, inc 1758 In Harpswell Center is the church (1843) where Elijah Kellogg preached

Harput (har'pōōt), town (pop 2,095), E central Turkey, near Elazig It long was an administrative and trading center, but has been replaced by Elazig There is an ancient Jacobite convent In 1895 the Christian population of Harput suffered heavily in the Armenian massacre The name formerly was spelled Kharput

Harpy, in Greek religion, predatory monster with the head of a woman and the body, wings, and claws of a bird The Harpies were daughters of Electra, the sea nymph, and Thaumas

harpy, large bird of prey, named from the winged monsters of Greek mythology, found from S Mexico to Brazil It is from 38 to 40 in long The Aztecs called it the "winged wolf"

Harran, Mesopotamia see HARAN.

Harrar, Ethiopia see HARAR

Harricanaw (hărĭkă'nô), river, 250 mi long, rising in W Quebec N of Abitibi Lake, flowing northwest across the Ont line, and emptying into James Bay at Hannah Bay It is navigable for 50 mi

Harriman, Edward Henry, 1848–1909, American railroad executive, b Hempstead, Nassau co, N Y He became a stockbroker in New York city and soon entered the railroad field He attracted attention by able management of the Illinois Central RR, of which he became a director (1883) and vice president (1887) He became executive committee chairman of the Union Pacific in 1898 and repossessed for it the Oregon Short Line By purchase of the holdings of Collis P HUNTINGTON, he secured control not only of the Southern Pacific RR, but also of the Central Pacific RR His attempt to control the Chicago, Burlington & Quincy RR for entrance into Chicago was blocked by James J HILL in a struggle famous in American financial history He later joined with Hill and Morgan in forming the Northern Securities Company, a holding company to prevent railroad competition This was ordered dissolved by the U S Supreme Court Harriman used the financial strength of his roads to buy widely and speculatively in railroad stocks elsewhere His practices were investigated and condemned by the Interstate Commerce Commission (1907) He conducted the Harriman Alaskan expedition of 1899, a scientific undertaking, sponsored boys' clubs, and pledged $1,000,000 and 10,000 acres of forest land to New York state for park purposes This reservation, now 42,500 acres, is in the Palisades Interstate Park See biographies by George Kennan (1922) and H J Eckenrode and P W Wight (1933)

Harriman, William Averell, 1891–, U S Secretary of Commerce (1946–48), grad Yale, 1913, son of E H Harriman Expanding his railroad inheritance, W Averell Harriman became (1934) board chairman of the Union Pacific and was also a banker and shipbuilder He was administrative officer (1934–35) of the NRA and an official (1937–40) in the Dept of Commerce, then became (1941) chief overseas administrator of lend-lease He was ambassador to the USSR (1943–46) and to Great Britain (March–Sept 1946) After serving (1946–48) as Secretary of Commerce, he was appointed (April, 1948) U S representative abroad for the EUROPEAN RECOVERY PROGRAM

Harriman, city (pop 5,620), E Tenn, W of Knoxville and near the Tennessee river, platted 1889, inc 1891 In a farm area, it is a railroad shipping point and a trade center and has textile mills and other plants

Harrington, James, 1611–77, English political writer His *Commonwealth of Oceana* (1656) was a picture of a utopian society based on a sort of patrician agrarianism and the ballot He extended the elective principle and believed in the division of powers of government He also advocated the written constitution Harrington's ideas seem to have been drawn from Plato, Machiavelli, and the example of the republic of Venice Penn's government in Pennsylvania is said to owe much to the *Oceana*, and traces of Harrington's thought are to be seen in other British colonies in America and in the doctrines of the American Revolution and the French Revolution See H F Russell Smith, *Harrington and His Oceana* (1914)

Harrington, Mark Walrod, 1848–1926, American astronomer and meteorologist, grad Univ of Michigan, 1868 He became professor of astronomy and director of the observatory at the Univ of Michigan in 1879 In 1891 he became chief of the U S Weather Bureau and was president of the Univ of Washington (1895–97) He founded the *American Meteorological Journal* and was its editor (1884–92) He wrote *About the Weather* (1899)

Harrington, city (pop 2,113), S central Del, S of Dover, inc 1869 It is a trading center, and the Kent and Sussex Fairgrounds are here

Harrington Park, borough (pop 1,389), NE N J, NE of Paterson, inc 1904

Harriot, Thomas (hă'rĕut), 1560–1621, English mathematician and astronomer He was tutor to Sir Walter Raleigh, who sent him in 1585 to Virginia as surveyor with Sir Richard Grenville Returning to England, Harriot wrote *A Brief and True Report of the New Found Land of Virginia* (1588), one of the earliest known large-scale statistical surveys He made valuable contributions to the science of algebra, introducing new symbols and notation His *Artis analyticae praxis* appeared in 1631

Harris, Sir Arthur Travers, 1892–, British air chief marshal After serving for a time in an African infantry regiment in the First World War, "Bert" Harris transferred to the air force and was given command of the first English night-flying unit Prominent in the Royal Air Force from its beginning, he was chief of the bomber command (1942–45) and proponent of the saturation bombing tactics used against German targets

Harris, Chapin Aaron, 1806–60, American dentist, b Pompey, N Y One of the founders of dentistry as a profession, he was the author of *The Dental Art* (1839, later called *Principles and Practice of Dental Surgery*) and *Dictionary of Dental Science* (1849) and founder (1840) of the first dental school—the Baltimore College of Dental Surgery (now part of the Univ of Maryland) He also founded the *American Journal of Dental Science* (1839)

Harris, Elisha, 1824–84, American physician, b Westminster, Vt, M D College of Physicians and Surgeons, 1849 He was one of the chief founders of the U S Sanitary Commission and was a leader in organizing sanitary work in New York city, aiding in the survey of 1864 and establishing the city's first free vaccination service He was a founder and first secretary of the American Public Health Association and in 1880 became a commissioner of the newly formed New York state board of health

Harris, Frank, 1856–1931, British-American author, b Galway, Ireland He studied at the Univ of Kansas, became an American citizen, and, returning to England, edited successively the *Evening News*, the *Fortnightly Review*, the *Saturday Review*, and *Vanity Fair* He knew many of the younger writers of the day, including George Bernard Shaw and H G Wells, both of whom he later claimed to have discovered Among his books were collections of short stories, *Montes the Matador* (1900) and *Veils of Isis* (1915), five series of rather scandalous

Contemporary Portraits (1915–27), biographies of Oscar Wilde (1916) and G B Shaw (1931), and his autobiographies, *My Reminiscences as a Cowboy* (1930) and the deliberately frank *My Life and Loves* (3 vols , 1923–27) See biographies by H K Lunn (1932) and E. M Root (1947)

Harris, George Washington, 1814–69, American humorist, b near Pittsburgh He lived in and near Knoxville, Tenn , working as steamboat captain, metalworker, farmer, and railroad man, among other vocations His *Sut Lovingood Yarns* (1867) are humorous dialect stories supposedly told by a rough mountaineer of the Great Smoky region

Harris, Isham Green (I'shum), 1818–97, American political leader, b Franklin co , Tenn Admitted to the bar in 1841, he was elected in 1847 to the Tennessee senate Harris, a states' rights Democrat, served (1849–53) in Congress and was elected governor of Tennessee in 1857 and reelected in 1859 and 1861 It was largely through his efforts that Tennessee joined the Confederacy in May, 1861 Forced by Union victories to leave the state, he served upon the staffs of different Confederate generals from 1862 to 1865, when he fled to Mexico and then to England In 1867 he returned to practice law in Memphis From 1877 to his death he was a U S Senator from Tennessee

Harris, James, 1709–80, English grammarian He wrote *Hermes* (1751), an elaborate treatise on universal grammar, most celebrated in its day

Harris, Joel Chandler, 1848–1908, American author, b Eatonton, Ga He is famous for his "Uncle Remus" stories, first published in the Atlanta *Constitution*, with which he was associated from 1876 to 1900 His stories and sketches made the paper famous even outside Georgia. his first collection, *Uncle Remus· His Songs and His Sayings* (1881), gained world-wide fame, especially for the "Tar-Baby" story The demand for more "Uncle Remus" books was met by *Nights with Uncle Remus* (1883) and a series issued until 1918 Harris first gave literary form to Negro folklore, and his stories accurately represent the Negro dialect of middle Georgia His record of the white Georgia cracker is equally accurate, in such works as *Mingo and Other Sketches in Black and White* (1884) and *Free Joe and Other Sketches* (1887) His home in Atlanta is now an Uncle Remus memorial See biography by Julia C Harris (1918)

Harris, Robert, 1849–1919, Canadian portrait and landscape painter, b North Wales He came to Prince Edward Island in 1859 He studied art in London and Paris and was a charter member of the Royal Canadian Academy (1882), of which he was president from 1893 to 1906 Most of his life was spent in Montreal His painting *Fathers of Confederation* was destroyed in the fire at the Ottawa Parliament buildings in 1916

Harris, Roy, 1898–, American composer, b Lincoln co , Okla , pupil of Arthur Farwell and Nadia Boulanger He began to compose c 1925, and even before his technique was very well developed his compositions displayed the vital and personal emotional expression which is characteristic of all his works Significant works are his *Symphony 1933* (Boston, 1934), *When Johnny Comes Marching Home* (1934), an "American overture", his Symphony for Voices (1936), to poems by Walt Whitman, his Third Symphony (1939), his Folksong Symphony (1940), and his Fifth Symphony (1943) Outstanding among his numerous works of chamber music is his Piano Quintet (1936) While not attempting to use techniques of composition which would label him as a modernist, he does occasionally employ such devices as polytonality and irregular metrical patterns A strong gift for melodic invention is evident in his works He was head of the composition department (1934–38) of the Westminster Choir College, Princeton, N J , and composer in residence (1941–42) at Cornell Univ and in 1945 became musical director of the Office of War Information

Harris, Thaddeus William, 1795–1856, American entomologist, b Dorchester, Mass , grad Harvard, 1815 He was librarian at Harvard from 1831 He made the study of insects his hobby and taught and wrote about them. Through his classic *Treatise on Some of the Insects of New England Which Are Injurious to Vegetation* (1842) he did much to establish economic entomology in the United States

Harris, Thomas Lake, 1823–1906, American Christian mystic He was born in England and was brought to America as a child In 1845 he was called to the pulpit of the Fourth Universalist Society, New York, but three years later, deeply impressed by spiritualism, Harris organized the First Independent Christian Society in that city At this period he dictated long poems for which he claimed to have received inspiration while in trances. He wove the ideas of Swedenborgianism into his religious teachings Under his leadership, the Brotherhood of the New Life, to which adherents had been drawn in Great Britain as well as the United States, established a community in Wassaic, N Y (1861), later moving it to near-by Amenia (1863–67), and in 1867 to Brocton, near Buffalo, where it was known as Salem-on-Erie In that year Laurence OLIPHANT joined this communal religious settlement. Harris and part of the community moved to Santa Rosa, Calif , in 1875; Oliphant in 1881 broke completely with Harris. Ten years later Harris left the Santa Rosa community See H W Schneider and George Lawton, *A Prophet and a Pilgrim* (1942)

Harris, Townsend, 1804–78, American merchant and diplomat, b Sandy Hill, Washington co., N Y A merchant in New York city for many years, he became (1846) a member of the board of education and helped obtain the legislation chartering the present College of the City of New York Appointed (1855) consul general to Japan, he arrived at Shimoda in 1856, the first U S diplomat in Japan after that country had been opened up by Commodore Matthew C Perry In 1859 Harris was raised to be minister Having previously negotiated a commercial treaty with Siam, he won the confidence of the Japanese and obtained a commercial treaty (1858) notably moderate in its demands See M. E Cosenza, ed , *The Complete Journal of Townsend Harris* (1930), Carl Crow, *He Opened the Door of Japan* (1939)

Harris, William Torrey, 1835–1909, American educator and philosopher, b Windham co , Conn , educated at Yale He was superintendent (1868–80) of the St Louis public school system and was U S commissioner of education (1889–1906) In 1873, with Susan Blow, he established in St Louis the first permanent kindergarten in America He interpreted German philosophical thought, particularly Hegelianism, through his books and in the pages of the *Journal of Speculative Philosophy*, which he founded and edited (1867–93) His books include *Hegel's Logic* (1890) and *The Psychologic Foundations of Education* (1898) See biography by J S Roberts (1924), K F Leidecker, *Yankee Teacher* (1946)

Harris, southern part of LEWIS WITH HARRIS, Outer Hebrides, Scotland Harris is part of Inverness-shire and has an area of 123,752 acres It is famous for its hand-woven tweeds

Harrisburg 1 Town (pop 1,193), co seat of Poinsett co , NE Ark , S of Jonesboro 2 City (pop 11,453), co seat of Saline co , S Ill , N of Paducah, Ky , in a coal, grain, and timber area, platted in the 1850s, inc 1861 An industrial center, the city has flour mills and brick and tile factories It is headquarters for Shawnee National Forest, which lies to the south 3 City (pop 83,893), state capital, and co seat of Dauphin co , SE Pa , laid out 1785, inc as a borough 1791, as a city 1860 It is an important railroad center, with coal and iron mines near by, and produces iron, steel, brick, and lumber products Situated on the Susquehanna river, the city has numerous parks and bathing beaches Buildings include the capitol, a state library, a museum, and a hospital for the insane It was settled by representatives of many German religious sects and by Scotch-Irish In 1812 it became the state capital and first grew as a canal and railroad center See G P Donehoo, *Harrisburg, the City Beautiful* (1927)

Harrison, Benjamin, 1726?–1791, American Revolutionary patriot, signer of the Declaration of Independence, b "Berkeley," Charles City co , Va , educated at the College of William and Mary As a member of the house of burgesses (1749–75), he protested against the Stamp Act (1765) He was a delegate to the Continental Congress (1774–78) and later governor of Virginia (1781–84) His son William Henry Harrison and his great-grandson Benjamin Harrison were U S presidents

Harrison, Benjamin, 1833–1901, 23d President of the United States (1889–93), b North Bend, near Cincinnati, Ohio, grad Miami Univ , 1852, grandson of William Henry Harrison After reading law in Cincinnati, he removed (1854) to Indianapolis, where he was a lawyer and politician He served in the Civil War as commander of an Indiana volunteer regiment and in 1865 was brevetted brigadier general of volunteers A well-established corporation lawyer, he was (1881–87) a Republican Senator but was defeated for reelection He followed all Republican policies faithfully and achieved some notice by supporting a bill to give Alaska a frame of government The Republicans chose him (1888) presidential candidate against Grover Cleveland He was elected in the electoral college, though Cleveland had the larger popular vote Harrison as President approved all regular Republican measures, including the highly protective McKinley Tariff Act His moderate stand on civil service reform displeased both reformers and spoilsmen The first Pan-American Conference was held (1889) in his administration Defeated for reelection in 1892 by Cleveland, Harrison returned to his Indianapolis law practice He later represented Venezuela in the Venezuela Boundary Dispute. Harrison wrote *This Country of Ours* (1897) and *Views of an Ex-President* (1901)

Harrison, Birge: see HARRISON, LOVELL BIRGE.

Harrison, Carter Henry, 1825–93, American politician, mayor of Chicago, b near Lexington, Ky , grad. Yale, 1845. After travel in Europe, he settled in Chicago to practice law. He served (1875–79) in Congress, was elected mayor of Chicago in 1879, and served four successive terms A Democrat, he was defeated for governor of Illinois in 1884 He was elected (1893) World's Fair mayor Soon afterward his colorful career was cut short by assassination His son, **Carter Henry Harrison**, 1860–, b. Chicago, was also mayor of Chicago five times (1897–1905, 1911–15) See biography by C O Johnson (1928)

Harrison, Constance Cary, 1843–1920, American novelist, b Fairfax co , Va In 1867 she married Burton Norvell Harrison, who had been secretary to Jefferson Davis After their removal to New York she wrote essays, magazine articles, and several novels of the social life of the '80s and '90s Among the novels are *Bellhaven Tales* (1892), *Sweet Bells Out of Tune* (1892), and *The Anglomaniacs* (1899) See her autobiographical *Recollections Grave and Gay* (1911)

Harrison, Frederic, 1831–1923, English jurist, historian, and sociologist. Called to the bar in 1858, he became deeply interested in labor legislation, he was a member of the Commission for Trades Unions (1867–69) In 1869–70 he became secretary to the Commission for the Digest of the Law and in 1877–89 was professor of jurisprudence and international law under the Council of Legal Education At the same time he was rising to prominence as the leader of English positivism, becoming cofounder of, and contributor to, the *Positivist Review* and president of the English Positivist Committee A voluminous and interesting author, he wrote studies of the law, of politics, and of literature, biographies, a novel, and a long poem See his *Creed of a Layman* (1907), *Autobiographic Memoirs* (2 vols , 1911), and *De Senectute* (1923), Austin Harris, *Frederic Harrison· Thoughts and Memories* (1926)

Harrison, Henry Sydnor, 1880–1930, American novelist, b Sewanee, Tenn , grad Columbia, 1900 He was on the staff of the Richmond *Times-Dispatch* from 1902 to 1910 His best-known novel is *Queed* (1911), others are *V V's Eyes* (1913), *Angela's Business* (1915), and *Saint Teresa* (1922)

Harrison, Jane Ellen, 1850–1928, English classical scholar A fellow and lecturer in classical archaeology at Newnham College, Cambridge, she applied archaeological discoveries in the interpretation of Greek religion Her works include *Myths of the Odyssey in Art and Literature* (1882), *Greek Vase Painting* (with D S MacColl, 1894), *Prolegomena to the Study of Greek Religion* (1903), *Themis* (1912), *Ancient Art and Ritual* (1913), and *Epilegomena to the Study of Greek Religion* (1921) She made translations from the Russian See her delightful autobiography, *Reminiscences of a Student's Life* (1925)

Harrison, Lovell Birge, 1854–1929, American landscape and figure painter, known as Birge Harrison, b Philadelphia, studied in Philadelphia and in Paris, brother of Thomas Alexander Harrison He was a member of the National Academy of Design and director of the summer school of the Art Students League at Woodstock, N Y He was a frequent contributor to magazines and wrote *Landscape Painting* (1909) He is best known for his snow scenes and nocturnal effects Among his principal works are *November* (Marseilles), *Fifth Avenue at Twilight* (Detroit), and *Glimpse of the St Lawrence* and *Autumn Sunset* (Pa Acad of the Fine Arts)

Harrison, Pat (Byron Patton Harrison), 1881–1941, U S Congressman, b Copiah co , Miss He studied at Louisiana State Univ and after 1902 practiced law in Mississippi He served in the U S House of Representatives (1911–19) and in the U S Senate from 1919 until his death He became (1933) chairman of the Senate finance committee and was active in putting early New Deal legislation through Congress He was opposed to President Franklin D Roosevelt's tax measures, but supported his foreign policy

Harrison, Richard Berry, 1864–1935, American Negro actor, b Canada He is remembered for his playing of "De Lawd" in Marc Connelly's *Green Pastures* (1930–35)

Harrison, Ross Granville, 1870–, American biologist and anatomist, b Germantown, Pa , Ph D Johns Hopkins, 1894 He taught at Johns Hopkins (1896–1907) and went to Yale in 1907, serving as professor of comparative anatomy (1907–27) and as Sterling professor of biology (1927–38) He is internationally known for his work on muscle-nerve relationships in the embryo, on the regeneration and outgrowth of peripheral nerves, and on tissue culture

Harrison, Thomas Alexander, 1853–1930, American marine, landscape, and figure painter, b Philadelphia, studied in Philadelphia and with Bastien-Lepage in Paris He first attracted attention with his *Châteaux en Espagne* in the Salon of 1882, Paris Among his works are *Arcady* and *Solitude* (Luxembourg Mus , Paris), *Castles in Spain* (Metropolitan Mus); *The Wave* (Pa Acad of the Fine Arts), *Twilight* (Corcoran Gall), *Marine* (Philadelphia), and *Amateurs* (Art Inst , Chicago). He became a member of the National Academy in 1901

Harrison, William, 1534–93, English clergyman, topographer, and chronologist, educated at Cambridge and Oxford. He was rector in Radwinter,

Essex, after 1559 and became canon of Windsor in 1586. He wrote the description of England in *The Chronicles of England, Scotland, and Ireland* of Raphael Holinshed and probably translated the description of Scotland by Boece in the same work.

Harrison, William Henry, 1773–1841, 9th President of the United States (1841), b. "Berkeley," Charles City co , Va ; son of Benjamin[Harrison(1726?–1791) and grandfather of Benjamin Harrison (1833–1901). He attended Hampden-Sydney College and studied medicine under Benjamin Rush in Philadelphia before joining (1791) the army and taking part in campaigns against the Indians in the Old Northwest In 1798 he resigned to become secretary of the Northwest Territory, and the next year he became territorial delegate to Congress He helped secure the division of the territory into Ohio and Indiana and served (1800–1812) as governor of Indiana Territory at Vincennes He was perhaps more important than any other man in opening Ohio and Indiana to white settlement, negotiating a number of treaties with the Indians, notably the Treaty of Fort Wayne (1809). Indian opposition to American advance then concentrated in hostile demonstrations directed by TECUMSEH Harrison gathered a force and marched against the Indian chief At Tippecanoe river Harrison encamped and on the night of Nov 6–7, 1811, threw back an Indian attack This was the victory of Tippecanoe, the Indians were not decisively defeated, and the battle changed the aspect of affairs little In the War of 1812, after the debacle of Gen William Hull, Harrison was made commander in the Northwest The advance section of his troops was badly defeated (Jan , 1813) by Gen Henry A Proctor, but Harrison established himself at Fort Meigs at the rapids of the Maumee river and withstood two British attacks After Oliver H Perry's victory on Lake Erie had cut Proctor's supply line, Harrison advanced, took (Sept 15, 1813) Detroit, and advanced to defeat Proctor and establish American hegemony in the West at the battle of the Thames river on Oct 5, 1813 (see THAMES, BATTLE OF THE), in which Tecumseh was killed Later Harrison concluded treaties with the Indians—Greenville (1814) and Spring Wells (1815)—that ushered in an era of peace and white expansion in the Old Northwest He served in the House of Representatives (1816–19) and the Senate (1825–28) He was appointed (1828) minister to Colombia but was recalled (1829) by Andrew Jackson Harrison was a supporter of Henry Clay, and his political fortunes fell in Jackson's time He was even reduced to being a county recorder to support his family His fortunes rose again, however, as his position was enhanced as a compromise Whig candidate between Clay and Daniel Webster A group of Whig Anti-Masons nominated him for President in 1836, and in 1840 Webster went over to Harrison's candidacy for the presidency as a Whig Clay, bitterly disappointed at not getting the nomination himself, had to support Harrison too The campaign that followed was the first of the "rip-roaring" campaigns in U S history Harrison and his running mate, John TYLER, were transformed by publicity Harrison was made into a simple backwoods frontiersman, Tyler into his faithful lieutenant The "Log Cabin and Hard Cider" campaign was launched in answer to ill-judged jeers from the supporters of the Democratic candidate, Martin VAN BUREN Van Buren was pictured as an effete, "silver-spoon" man, Harrison as a rugged Westerner, despite his Virginia upbringing "Tippecanoe and Tyler too" won—partly because the Panic of 1837 had turned many against Van Buren Harrison then selected a brilliant Whig cabinet headed by Webster and with a program outlined by Clay, but the strain of the campaign was too much Harrison died a month later, Tyler became President, and the WHIG PARTY fell to pieces See biographies by D B Goebel (1926), Freeman Cleaves (1839), and J A. Green (1941)

Harrison. 1 City (pop 4,238), co seat of Boone co , NW Ark , in the Ozarks, platted c 1860, inc 1876 It is the commercial and industrial center of an area producing fruit, lumber, livestock and poultry Diamond Cave, with its interesting stalactites and stalagmites, is near by **2** Town (pop 1,026), SW Maine, at the northern end of Long Lake W of Auburn; inc 1805 **3** Town (pop 14,171), NE N J., industrial suburb of Newark, inc 1869 Ink, machine parts, metal products, and chemicals are made here **4** Unincorporated village (pop 6,307) in Harrison town (pop 11,783), SE N Y , in Westchester co , between Mamaroneck and Rye **5** Village (pop 1,656), SW Ohio, on the Ind line NW of Cincinnati, in a farm area, laid out 1813 It is contiguous to West Harrison, a town (pop 311) in Indiana There are varied industries

Harrisonburg, industrial city (pop 8,768), N Va , in the Shenandoah Valley NNE of Staunton, settled 1739. In a fertile farm area producing poultry, dairy products, livestock, and fruits, the city also has a shoe factory. The courthouse of Rockingham co. and Madison College, a state teachers college for women, are here. Harrisonburg is the headquarters of George Washington National Forest.

Harrisonville, city (pop. 2,322), co. seat of Cass co., W Mo., 8E of Kansas City, in a farm area; laid out 1837.

Harriston, town (pop. 1,305), S Ont., on the Maitland river and NW of Guelph, is a lumber and dairy-farming region.

Harrisville. 1 Village, R.I.: see BURRILLVILLE. **2** Residential town (pop. 1,338), co seat of Ritchie co , NW W Va., E of Parkersburg, in an oil and stock area, platted 1822.

Harrod, James, 1742–93, American frontiersman, b Bedford co., Pa. He fought in the French and Indian Wars and in 1773 made a journey down the Ohio river to Kentucky. In 1774 he returned to Kentucky with 31 men and began a settlement later named Harrodsburg in his honor—the first settlement in the state Later he opposed the colonization schemes of Richard HENDERSON and his Transylvania Company In 1777, 1779, and 1782 he took part in campaigns against the Indians and was a member of the Virginia assembly (1779). He disappeared mysteriously from home and never returned, having probably been murdered.

Harrodsburg, city (pop 4,673), co seat of Mercer co , central Ky , S of Frankfort It is a trade center in a bluegrass area producing livestock, grain, and tobacco It is also a tourist and resort city, with mineral springs Harrodsburg is the oldest settlement in the state, it was founded in 1774 by James HARROD One of the settlement's early leaders was George Rogers CLARK The city has a number of interesting early-19th-century buildings Pioneer Memorial State Park here contains a replica of old Fort Harrod (where the state's first school was conducted) and the cabin in which Nancy Hanks and Thomas Lincoln were married

Harrogate (hăr'ŏgĭt, -gāt), municipal borough (1931 pop 39,770, 1947 estimated pop 50,210), West Riding of Yorkshire, England High Harrogate is on a moor c 250 ft above Low Harrogate The borough is a health resort, having a good climate (dry and bracing on the uplands and mild in the lower portions) and more than 80 springs

Harrow, town (pop 1,166), S Ont , near Lake Erie and S of Windsor It is in a farming region

Harrow or Harrow-on-the-Hill, urban district (1931 pop 26,380, 1947 estimated pop 219,340), Middlesex, England, WNW of London It is the seat of Harrow, one of the great public schools of England The school was founded in 1571 and has among its illustrious graduates Byron, Galsworthy, Peel, and Palmerston St Mary's Church on the school grounds was founded by Lanfranc and rebuilt in the 14th cent In 1934 Harrow urban district began absorbing near-by areas, including Wealdstone

harrow, cultivating implement used for breaking up and pulverizing soil, for leveling it after plowing, for covering seeds, and for weeding There are several types—some have curved or slanting teeth, others have metal disks capable of breaking up the hard, dry soils on which they are most used The first "harrow" was probably a small tree or a branch dragged over soil to smooth it Ladderlike harrows of bamboo are used in India

Harrowing of Hell, the victorious descent of Jesus Christ into hell after his death, to release the souls held captive there and confound the rulers of hell This is not a Christian dogma, but an idea ancient in Christianity, some analogous idea is behind the phrase of the Apostles' Creed (see CREED), "He descended into hell" (omitted by the Nicene Creed) The Gospel of Nicodemus, one of the PSEUDEPIGRAPHA, gives an elaborate account of the Harrowing of Hell, and the story became very popular in the Middle Ages, thus it is told in the *Cursor Mundi* *The Harrowing of Hell* is the name of a 13th-century dialogue, sometimes called the first English religious drama See Early English Text Society, *The Middle English Harrowing of Hell and Gospel of Nicodemus* (1907)

Harrow-on-the-Hill, England see HARROW

Harsanyi, Zsolt (shôlt' hŏr'shänyĭ), Hung *Harsányi Zsolt*, 1887–1943, Hungarian novelist, especially noted for his fictionized biographies Among his translated works are the life of Franz Liszt (1936, Eng tr , *Hungarian Melody*, 1936, American title, *Immortal Franz*, 1937), of Galileo (1937, Eng tr , *The Star-Gazer*, 1939), and of Rubens (1940, Eng tr , *Lover of Life*, 1942).

Harsha (hûr'shù), d 647, Indian emperor He became (606) king of a state in the upper Ganges valley, and by 612 he had forged nearly all India N of the Narbada river into an empire His capital at Kanauj was an artistic and literary center, and Harsha is reputed to have been a distinguished poet and dramatist A Hindu early in life, he later became a devout Buddhist and forbade the killing of animals in his realm After Harsha's death, N India relapsed into anarchy

Harsha (hăr'shù), family returned from the Exile. Ezra 2 52, Neh. 7.54.

Hart, Albert Bushnell, 1854–1943, American historian, b Clarkesville, Greene co., Pa , grad Harvard, 1880, Ph.D Univ. of Freiburg, 1883 He began teaching history at Harvard in 1883, became a full professor in 1897, and from 1910 to his retirement in 1926 was professor of government Hart was a prodigious worker who was responsible for the publication of about 100 volumes, notably the "American Nation" series (28 vols , 1904–18), of which he was editor and for which he wrote Vol XVI, *Slavery and Abolition, 1831–1841* (1906), and Vol XXVI, *National Ideals Historically Traced* (1907). He also edited *Epochs of American History* (4 vols., 1891–1926), contributing *Formation of the Union, 1750–1829* (Vol II, 1892; new ed , 1925) to the series; *American History Told by Contemporaries* (5 vols , 1897–1929), *Source Readers in American History* (5 vols , 1901–27), *American Patriots and Statesmen from Washington to Lincoln* (5 vols , 1916); and *Commonwealth History of Massachusetts* (5 vols , 1927–30) He was joint editor, with Edward Channing, of *American History Leaflets* (1892–1910) and, with Andrew C McLaughlin, of the *Cyclopedia of American Government* (3 vols , 1914). With Channing again he also compiled the *Guide to the Study and Reading of American History* (1896, revised and augmented ed by Channing, Hart, and Frederick J Turner, 1912), still the most valuable single-volume bibliography of American history Hart also edited, with Herbert E Bolton, the *American History Atlas* (1918; 4th ed , revised, with Bolton and David M Matteson, 1940) and was editor of *The American Yearbook* (1911–20, 1923–32) Long an admirer and supporter of his Harvard classmate Theodore Roosevelt, he edited, with Herbert R Ferleger, the *Theodore Roosevelt Cyclopedia* (1941) Of the individual books he wrote, *Salmon Portland Chase* (1899), *The Foundations of American Foreign Policy* (1901), and *Actual Government as Applied under American Conditions* (1903, 4th ed , 1919) were probably most important Despite his teaching duties and the heavy working schedule that this impressive production must have entailed, "Bushy," as he was affectionately known to Harvard men, found time to participate in public affairs. He represented Harvard at the Massachusetts constitutional convention of 1917, being chairman of its committee on amendment and codification After his retirement he was a member and historian (1926–32) of the U S commission for celebrating the 200th anniversary of George Washington's birth

Hart, Basil Henry Liddell: see LIDDELL HART, BASIL HENRY

Hart, Charles Henry, 1847–1918, American writer and art expert, b Philadelphia An injury (1894) forced him to relinquish his law practice, and he turned to letters and art He became an authority on historical portraiture, exposing numerous spurious works, and was director of the Pennsylvania Academy of the Fine Arts (1882–1902) and chairman of the committee on retrospective American art at the Chicago exposition, 1893 Among his writings are *Edward Savage, Painter and Engraver* (1905), *Who Was the Mother of Franklin's Son?* (1911), and, with E Biddle, *Memoirs of the Life and Works of Jean Houdon* (1912)

Hart, George Overbury, 1868–1933, American water-color painter, etcher, and lithographer, b Cairo, Ill , known as "Pop" Hart As a boy he worked in his father's glue factory in Cairo Early in life he began his travels to strange corners of the world where he painted the life of everyday people for his own pleasure In 1907 he built himself a shack at Coytesville, N J , which was to be his only home In 1912 he began painting moving-picture sets in the summers but continued to travel each winter Late in life he received wide recognition, particularly for his genial and vigorous water colors He is represented in many museums and collections His *Watching and Weighing the Birds, Mexico* (Carnegie Inst , Pittsburgh) is characteristic

Hart, Hastings Hornell, 1851–1932, American penologist, b Brookfield, Ohio, grad Oberlin, 1875, and Andover Theological Seminary, 1880 He was a clerk (1875–77) in the U S Indian Service and was pastor (1880–83) of a Congregational church in Worthington, Minn While secretary (1883–98) of the Minnesota state board of correction and charities, he effected many institutional reform measures From 1898 to 1908 he was superintendent of the Illinois Children's Home and Aid Society and was secretary of the committee which framed for Illinois one of the first juvenile court laws in the United States Director of the child-helping department of the Russell Sage Foundation from 1908 to 1924, he became (1924) the foundation's consultant in delinquency and penology He made numerous investigations of state prison systems and wrote several penological studies

Hart, James MacDougal, 1828–1901, American landscape painter, b Scotland A vice president of the National Academy of Design, he did much to cultivate a public taste for natural scenery Several of his paintings are *Drove at the Ford* (Corcoran Gall), *Pasture Scene* (Metropolitan Mus), *In the Autumn Woods* (Sayles Memorial Hall, Brown Univ); and *Adirondacks* (Walters Art Gall , Baltimore). His brother **William Hart,** 1823–94, also a landscape painter, was first president of the Brooklyn Academy of Design He was an organizer and president of the American Water Color Society. His work is characterised by its meticulous detail. Two of his paintings are *Scene at Napanoch* and *Adirondack Lake, Morning* (Metropolitan Mus).

Hart, Joel Tanner, 1810–77, American sculptor, b Winchester, Ky He began as a stonecutter and attained great vogue as a maker of busts and statues. His bust of Henry Clay for Richmond, Va , was repeated for Louisville, Ky , and New Orleans. Andrew Jackson also posed for him Some of his busts are in the Corcoran Gallery He lived mostly in Florence after 1849 He worked for 30 years on a group, *Woman Triumphant*, but never completed it.

Hart, John, 1711?–1779, American Revolutionary patriot, signer of the Declaration of Independence, b Stonington, Conn Moving to Hopewell, N J , as a youth, he became prosperous as a farmer and a miller. He was a member of the provincial assembly (1761–71), of several provincial congresses, and of the Continental Congress

Hart, William. see HART, JAMES MACDOUGAL

Hart, William S., 1870–1946, American stage and moving-picture actor, b Newburgh, N Y From 1895 to 1914 he appeared on Broadway and in road companies, starring in *Ben Hur*, *The Squaw Man*, *The Virginian*, and *The Barrier* and in Shakesperian dramas After 1914 he performed in moving pictures Some of the silent films that made him famous include *The Last Card*, *Wild Bill Hickok*, *The Toll Gate*, *Square Deal Sanderson*, *Two-Gun Hicks*, *Hell's Hinges*, and *Tumbleweeds* He was the prototype of "the strong, silent man of the West "

Hart, village (pop 1,922), co seat of Oceana co , S Mich , on the Pentwater river and N of Muskegon, in a fruit area, inc 1885

Harte, Bret (Francis Bret Harte) (hart), 1836–1902, American writer of short stories, novels, and humorous verse, b Albany, N Y After youthful experiences as gold seeker, schoolteacher, and itinerant journalist in California, he began his sketches in prose and verse of mining-camp life in the California of his day In 1863 he was appointed secretary of the U S branch mint in San Francisco In 1868 he helped to establish, and then edited, the *Overland Monthly*, in which for several years his famous stories of Western local color appeared, including "The Luck of Roaring Camp," "The Outcasts of Poker Flat," and the humorous poem "Plain Language from Truthful James " In 1871 he settled in New York, he was U S consul in Germany and Scotland from 1878 to 1885 The remainder of his life was spent near London, where he continued to write prolifically but with less success than in earlier years Among his many books are *The Luck of Roaring Camp and Other Tales* (1870) and *Tales of the Argonauts* (1875) See his letters (ed by G. B Harte, 1926) and *Representative Selections* (ed by J B Harrison, 1941), biography by G R Stewart (1931)

hartebeest, (här'tĭbēst*), name for several species of large antelopes of Africa The name is usually restricted to members of the genus *Alcelaphus* (or *Bubalis*), although sometimes antelopes of other genera, e g , the bontebok and the blesbok, are also called hartebeests The Bubal hartebeest (*Alcelaphus buselaphus*, formerly abundant in North Africa) is believed by some authorities to be extinct, although others maintain that there are survivors in Algeria Its coat is reddish or fawn, the horns ringed and pointed and somewhat curved to form a U shape, its shoulder height is about 3½ ft The somewhat larger red hartebeest (*Alcelaphus caama*) is native to the southern parts of Africa Although much reduced in numbers, several subspecies survive

Hartford. **1** Town (pop 1,494), SE Ala , SW of Dothan near the Fla line, founded 1894 **2** City (pop 1,189), W Ark , near Oklahoma and S of Fort Smith, founded 1899 **3** City (pop 166,267), state capital, and co seat of Hartford co , central Conn , on the west bank of the Connecticut river It was settled as Newtown, 1635–36, under Thomas Hooker and Samuel Stone on the site of a Dutch trading post (1633) and was incorporated in 1784 One of the earliest and strongest colonies and until 1875 joint capital with New Haven, it developed as a commercial, industrial, and cultural center The insurance business for which Hartford is internationally famous was begun in 1794 Other industries produce firearms, typewriters, airplane parts, tools, and brushes The city is a port of entry. The Hartford *Courant*, founded in 1764, is one of America's oldest newspapers The city was the home of the Hartford Wits or Connecticut Wits Henry Barnard, Harriet Beecher Stowe, Lydia Huntley Sigourney, Charles Dudley Warner, Mark Twain (his home, built in 1873, became a library), and Horace Bushnell lived here Hartford is the birthplace of Noah Webster, John Fiske, and the elder J P. Morgan Points of interest include Bushnell Park, Horace Bushnell Memorial (1930), the old statehouse (1796, designed by Bulfinch), and the capitol (1872, by Richard M. Upjohn) The site of the CHARTER OAK is marked The state library and supreme court building (1910) has Stuart's full-length *Washington* and other treasures. Trinity College (for men, 1823), Hartford Seminary Foundation, and a state trade school are here Libraries, museums, parks (notably a rose garden), an art school, and state institutions for the handicapped are here There is a municipal airport A city manager–council government was adopted in 1947. **4** Village (pop. 1,842), SW Ill., on the Mississippi above St Louis, inc 1920 **5** City (pop. 1,385), co. seat of Ohio co , W Ky , on the Rough River and SSE of Owensboro, in a coal, oil, limestone and farm area, founded c 1790 **6** Village (pop 1,694), SW Mich , between Benton Harbor and Kalamazoo, inc 1877. Market center of a fruit area, it has a factory making wreaths treated for permanence Indian mounds are near by **7** Town (pop 4,978), E Vt , on the Connecticut and White rivers, E of Rutland, settled 1765 It includes the industrial and commercial center WHITE RIVER JUNCTION and the residential village Hartford It is the birthplace of Horace Wells **8** Industrial city (pop. 3,910), E Wis , on the Rubicon and NW of Milwaukee, settled 1844, inc 1883

Hartford City, city (pop 6,946), co seat of Blackford co , E Ind , N of Muncie, settled 1832, laid out 1839 Natural gas and oil fields are near, and the surrounding country is a rich agricultural district The town has a jute-board factory

Hartford Convention, Dec 15, 1814–Jan 4, 1815, meeting of 26 delegates to consider the problems of New England in the WAR OF 1812, held at Hartford, Conn The conservatives in New England had opposed the Embargo Act of 1807 and other government measures before the war, and the more extreme of them continued opposition to the government after fighting had begun Though manufacturing (fostered by isolation) and contraband trade brought wealth to the section, "Mr Madison's War" and war expenses became steadily more repugnant to the more reactionary New Englanders The Federalists, notably those who had been leaders in the ESSEX JUNTO, encouraged disaffection The New England states were reluctant to surrender their militia to national service (see GRISWOLD, ROGER)—especially when New England was threatened with invasion in 1814 The Federal loan of 1814 got almost no support in New England, despite prosperity there Talk of a separate peace between New England and Great Britain was common in New England taverns, especially after the Embargo Act of 1813 At that time Timothy PICKERING suggested a meeting of representatives of the dissident states, but the idea did not take hold immediately Not until Oct , 1814, did Massachusetts send out invitations to the other New England states for a conference Only the true conservatives viewed the plan with warmth In all the states there was a strong majority loyal to the Union New Hampshire and Vermont sent no official delegates, though unofficial delegates, popularly chosen by the Federalists, did come The convention was thoroughly Federalist The meetings were secret and not too much is actually known of them, although a report was issued by the convention, the journals were published years later, and Theodore DWIGHT (1764–1846) wrote a history of the meetings Harrison Gray OTIS (1765–1848) was a leader, George CABOT presided, and Dwight was secretary The proposal to secede from the Union was discussed, the grievances of New England were reviewed, and such matters as the use of the militia were threshed out The extremists did not prevail, and the report rather lamely recommended that secession, if it came at all, should be gradual and should be executed in peaceful times The news of Andrew Jackson's victory at New Orleans and of the Treaty of Ghent made any recommendation of the convention a dead letter Though some later historians have adduced many circumstances to excuse the convention, the fact remains that it was the creation of a dissident group in the midst of a national war. Its importance is twofold it continued the view of states' rights that was the refuge of minority groups, a view to be expressed later in another section by nullification and secession, it all but destroyed the Federalist party politically, since the Federalists were unable to regain lost prestige See Henry Adams, *History of the United States during the Administrations of Jefferson and Madison* (9 vols , 1889–91), S E Morison, *Life and Letters of Harrison Gray Otis* (1913)

Hartford Wits see CONNECTICUT WITS

Harthacanute (har'thăkunūt), **Hardicanute,** or **Hardecanute** (both har'dĭkunūt), d 1042, king of Denmark (1035–42) and of England (1040–42), son of CANUTE On his father's death (1035) he succeeded to the throne of Denmark, where he was already underking In England his illegitimate half brother, HAROLD HAREFOOT, first acted as regent, then as king (1037–40), while Harthacanute in Denmark was reaching a settlement with Magnus I of Norway Harold's death in 1040 allowed Harthacanute to take over the English throne peaceably, although he arrived in England with 62 warships His reign was quarrelsome and oppressive, but by indicating as his heir Edward (later EDWARD THE CONFESSOR) he averted a possible dynastic struggle when his own death ended the male line of the royal Danish house in England

Hartington, Spencer Compton Cavendish, marquess of: see DEVONSHIRE, SPENCER COMPTON CAVENDISH, 8TH DUKE OF.

Hartington, city (pop 1,688), co seat of Cedar co., NE Nebr., near the Missouri WNW of Sioux City, Iowa; inc 1883.

Hartland. **1** Town (pop 1,240), central Maine, on the Sebasticook and NE of Skowhegan; settled c 1800, inc. 1820 Farm produce is canned. **2** Town (pop. 1,306), E Vt , along the Connecticut S of Hartford, settled 1763 from Connecticut It is known for its annual horse show

Hartlepool (härt'lē–, härt'ōl–), municipal borough (1931 pop 20,537, 1943 estimated pop 17,870), Durham, England, N of the Tees estuary A convent was founded here in 640 It is a seaport, whose early establishment is testified by fragments of an old town wall and gate There are more than 350 acres of docks, and trade in coal and timber, especially, is very great Other industries are shipbuilding and iron, steel, and cement manufacturing Hartlepool was bombed by Germans in the First World War Its suburbs are Throston, Seranton, and Seaton Carew

Hartley, David, 1705–57, English physician and philosopher, founder of associational psychology In his *Observations on Man* (2 vols , 1749), he explained all mental phenomena as due to sensations arising from vibrations of the white medullary substance of the brain and spinal cord He did not identify the soul with the brain, but he conceived the whole mind as resulting from the association of simple sensations, very much as Condillac had already done See ASSOCIATIONISM

Hartley, Jonathan Scott, 1845–1912, American sculptor, b Albany, N Y He is noted for his portrait busts, among them John Gilbert as Sir Peter Teazle, John Drew as Sir Lucius O'Trigger, and George Inness Some of his public works are the Daguerre monument, Washington, D C , and statues of Ericsson and Alfred the Great, Appellate Courthouse, New York

Hartley, Marsden, 1878–1943, American landscape and still-life painter, b Lewiston, Maine He was educated in Cleveland but early went to New York, where he studied under William Chase and at the National Academy of Design In 1909 his landscapes were shown at the Stieglitz gallery During the next 12 years he made three trips to Europe and one to the Southwest, his work showed the influence successively of the French and German moderns He exhibited in Munich with Klee and Kandinsky His reputation was established about 1921, and in 1930 he was awarded a Guggenheim fellowship His later work was largely representational although at one time he was an abstract painter His *Kinsman Falls* (Whitney Mus , New York) is characteristic

Hartley, town (pop 1,503), NW Iowa, NE of Sioux City, inc 1888 It is a farm trade and dairying center

Hartmann, Eduard von (ā'dōōart fŭn hart'man), 1842–1906, German philosopher His *Philosophy of the Unconscious* appeared in 1869 (Eng tr , 3 vols , 1884, new ed , 1931) By the unconscious, Hartmann meant the inexplicable forces of nature which activate the universe, whether in atoms, organisms, or the world process Hartmann stressed misery rather than happiness, seeing the world process as a constant struggle between blind impulse and reason The only possibility of ultimate happiness was in non-willing

Hartmann von Aue (hart'man fŭn ou'u), c 1170–c 1220, German poet He wrote the chivalric romances *Erec* and *Iwain*, the religious legend *Gregorius*, the idyl *Der arme Heinrich* [wretched Henry], upon which Longfellow based his *Golden Legend*, and a few excellent lyrics For a translation of *Der arme Heinrich*, see C H Bell, *Peasant Life in Old German Epics* (1931)

Hartselle (hart'sĕl), city (pop 2,584), N central Ala , just S of Decatur, in an area producing cotton, corn, vegetables, and minerals, founded 1870, inc 1875

hartshorn, spirits of see AMMONIA

Hartshorne (härts'hôrn), city (pop. 2,596), SE Okla , in an agricultural and coal-mining area, settled c 1890

Hartsville. **1** Town (pop 5,399), NE S C , ENE of Columbia It is a trade and processing center in a cotton area Coker College (for women, 1908) is here An experimental seed farm is near by **2** City (pop 1,095), co seat of Trousdale co , N Tenn , near the Cumberland river ENE of Nashville, settled in the early 1800s, inc 1913 In the Civil War, Gen John H Morgan defeated (Dec , 1862) Federals garrisoned here

Hartwell, city (pop 2,372), co seat of Hart co., NE Ga , near the S C line NE of Athens; inc. 1856 It is a trade and shipping center for a cotton and corn area The city was named for Nancy Hart, Revolutionary heroine

Harum (hā'–), descendant of Judah 1 Chron 4 8

Harumaph (hărū'–, hă'rū–), father of **JEDAIAH 2.**

Harun-al-Rashid (hărōōn-ăl-răshēd', hă'rōōn-ălră'shĭd) [Arabic,=Aaron the Upright], c 764–809, 5th and most famous ABBASID caliph (786–809) He succeeded his brother Musa al-Hadi, fourth caliph, a year after the death of his father, MAHDI, the third caliph. In his youth he had been very successful as a general in invasions of Asia Minor,

on one of these he reached the Bosphorus. Harun's empire included all SW Asia and the northern part of Africa, but by the end of his caliphate much of Africa had withdrawn from all but nominal obedience. He had diplomatic relations with China and is reputed to have been in communication with Charlemagne. The most famous incident of his career was the fall of the Barmecides, a Persian family which had become very powerful under Mahdi Yahya the Barmecide had aided Harun to the caliphate, and he and his sons were in high favor until 798, when the caliph threw them in prison and confiscated their land, the reasons for this are not known, but it was probably a result of an extended intrigue by the Arabian group at court Harun was repeatedly faced with insurrections in his empire These grew more frequent after the fall of the Barmecides, who were adroit statesmen After this Harun's prime minister was Fazl ibn-Rabi Harun was a munificent patron of letters and of arts, and under him Baghdad was at its apogee He became a great figure for the Arabs, who tell many of the stories of the *Thousand and One Nights* about him

Harunobu, Suzuki (sōōzōō'kē hä'rōō'nō'bōō), c 1725–1770, Japanese painter, illustrator, and color-print artist In 1765 he introduced multiple color printing with wood blocks, then he devoted himself to designing *kakemono*, revolutionizing such work by changing the size of prints and using color for every detail except the human face From popular portrayals of actors and courtesans, he progressed to interpretations of domestic life and graceful figures of young girls He achieved rich color effects

Haruphite (hărū'fīt, hăr'ūfīt), obscure designation of Shephatiah 1 Chron 12 5

Haruz (hā'-) [Heb ,=active], father of Meshullemeth 2 Kings 21 19

Harvard, John (här'vurd), 1607 38, chief founder of Harvard College, b Southwark, England, M A Emmanuel College, Cambridge, 1635 He migrated in 1637 to Charlestown, Mass , where he was assistant to the pastor and teaching elder of the First Church He bequeathed £780 (half his estate) and his library of 320 volumes toward the foundation of a new college at Cambridge, Mass , which was named in his honor

Harvard 1 City (pop 3,121), N Ill , near the Wisline NE of Rockford, inc 1867 It is a railroad junction (with shops) in a dairy area 2 Town (pop 1,790), E central Mass , NW of Boston, settled 1704, inc 1732 In the town are a Shaker house, an Indian museum, a Harvard Univ observatory, and "Fruitlands," once scene of a community founded by Bronson Alcott

Harvard, Mount, peak, 14,399 ft high, W central Colo , in the Sawatch Mts of the Rockies

Harvard University, mainly at Cambridge, Mass , nonsectarian, mainly for men, founded 1636 by a grant of the Massachusetts Bay colony, opened 1638, chartered 1650 In 1638 the endowment was increased by a bequest from John Harvard, for whom the college was named in 1639 The first board of overseers was appointed in 1637, in 1650 the college was made a corporation, consisting of the president, five fellows, and the treasurer From that time the control was vested jointly in the board of overseers and the corporation (the fellows) In its early years the college was closely allied, first with the Congregational Church, then with the Unitarian, but in 1851 representation of the clergy on the board of overseers ceased to be obligatory Harvard's presidents have included Henry Dunster (1640 54), Increase Mather, Josiah Quincy the younger, Edward Everett, Charles W Eliot (in whose long administration, 1869–1909 Harvard was transformed from a New England college to a great university), A Lawrence Lowell, and James B Conant Eliot introduced the elective system, in Lowell's administration innovations included the tutorial system, general examinations, and a reorganization of the residence halls Besides Harvard College, the university includes graduate schools of divinity (1810), law (1817), arts and sciences (1872, with journalism), education (1920), engineering (1935, reorganization of Lawrence Scientific School of 1847), public administration (1935), and design (1936, reorganization of architecture, landscape architecture, and regional planning faculties) and, in Boston, schools of business administration (1908), medicine (1782), public health (1922), and dental medicine (1941) Radcliffe College for women is affiliated One of the largest libraries in America is housed in the Widener Memorial Library and other buildings There are astronomical observatories at Cambridge (1843), Harvard, Mass , Climax, Colo , near Leadville, and Bloemfontein, South Africa Rotch meteorological observatory is at Blue Hill, Mass , near Milton The University Museum contains the Peabody Museum of Archaeology and Ethnology (1866) and the Museum of Comparative Zoology (1859) The Fogg Museum of Art (1894) is used as a laboratory and training center Botanical collections are found in the Botanic Garden (1807), the Gray and Farlow herbariums, the Bussey Institution (formerly an agricultural school, now a research station), the Harvard Forest (Petersham, Mass), and the Arnold Arboretum (1872, with Atkins Institution in Cuba) The Harvard-Yenching Institute (for aid in China) was founded in 1928 Later buildings have been planned to harmonize with the old ones in the Harvard Yard In sports, rivalry is traditional with Yale University, the second New England college Harvard Univ Press, established in 1913, publishes a number of scholarly series (including the Loeb Classical Library) and the *Harvard Law Review* See histories by S A Eliot (1848), A S Pier (1913), J H. Gardiner (1914), and S E Morison (1936)

harvest, the gathered crop of one planting or of all plantings It may consist of the grain from one field or of all the products of the fields and orchards The climax of the year's labors wherever the soil is cultivated, the gathering of the harvest has been celebrated from time immemorial, by both primitive and civilized peoples, with merrymaking or with the performance of symbolic rites The corn mother, symbolizing the spirit of the grain—barley, wheat, or rye—was a common figure of harvest time Usually made of the last or the best sheaf cut, it was carried in triumph from the field, drenched with water to invoke rain for the next season, and burned or otherwise ceremonially treated Other European harvest customs, such as the baking of a loaf in the figure of a child out of the best or first sheaf cut, suggest ancient sacrifical rites of harvest time The ripening of the corn was celebrated by the American Indians, that of rice by primitive East Indian tribes The druids had harvest festivals, and the name of the Roman harvest rites—the Cerealia—is related to our word *cereal* Although modern machinery has taken the place of hand harvesting, we still celebrate the harvest season on Thanksgiving Day

harvestman see Daddy Longlegs

harvest moon, the full moon occurring nearest to the autumnal equinox (Sept 23) when the sun in its annual course crosses the celestial equator from north to south At that time because of the position of the moon's path with relation to the horizon, the retardation, or later rising every night, of the moon is at its minimum For this reason, on several nights in succession the moon rise is at nearly the same hour and there is full moonlight almost from sunset to sunrise when the sky is unclouded

Harvey, Eli, 1860–, American sculptor, b Ogden, Ohio, studied at the Academy of Fine Arts, Cincinnati His special field is animal sculpture, such as decorations for the Lion House, New York Zoological Gardens, and the recumbent lions for the Eton Mausoleum, Toronto

Harvey, Gabriel, 1545?–1630, English poet and miscellaneous writer He studied at Cambridge and became a fellow of Pembroke Hall There he exercised a strong influence over his friend Edmund Spenser, who later celebrated Harvey as Hobbinol in *The Shepheard's Calendar* In 1578 Harvey became a fellow of Trinity Hall and began the study of law, but the publication of some satirical verses in 1579 involved him in considerable trouble, and in 1585 his appointment as master of Trinity Hall was recalled Contemptuous references to Robert Greene and Thomas Nashe by Harvey's brother Richard led to a literary quarrel and elicited Gabriel Harvey's famous *Foure Letters* (1592), a scurrilous post-mortem attack on Greene Thomas Nashe took up the cudgels, and the war was terminated in 1599 by the intervention of the government only after bitter assaults on both sides, including pamphlets by Harvey, *Pierce's Supererogation* and *A New Letter of Noble Contents* in 1593 and possibly *The Trimming of Thomas Nashe* in 1597 Henceforward Harvey lived in retirement at his home in Saffron Walden See introduction by A B Grosart to his edition (1884–85) of Harvey's works, E G Harman, *Gabriel Harvey and Thomas Nashe* (1923)

Harvey, George Brinton McClellan, 1864–1928, American journalist and diplomat, b Caledonia co , Vt In association with William C Whitney, he acquired a fortune and bought (1899) the *North American Review*, and, with the backing of J P Morgan, he assumed control (1901) of *Harper's Weekly* Harvey retired (1913) from the editorship of *Harper's Weekly*, but later (1918) founded *Harvey's Weekly* as a medium for virulent attacks on Woodrow Wilson, the administration, and the peace negotiations Harvey supported (1920) the candidacy of Warren G Harding and aided in the preparation of the Harding campaign speeches After Harding's election, Harvey was appointed ambassador to Great Britain See biography by W F Johnson (1929)

Harvey, William, 1578–1657, English physiologist, studied at Cambridge and under Hieronymus Fabricius in Padua (1598–1602) He practiced in London, where he was a member of the College of Physicians and was court physician and where he lectured on the circulation of the blood as early as 1616 Amplifying and correcting the observations of his predecessors—Galen, Vesalius, Servetus, Realdus Columbus, and Caesalpinus—he demonstrated the function of the heart as a muscular pump and the complete circulation of the blood except for the capillary system, which, lacking the microscope, he did not discover His famous *Exercitatio anatomica de motu cordis et sanguinis* (1628) was published in Frankfurt The *Exercitationes de generatione animalium* (1651) comprises his researches in embryology (see the *Analyses* by A W Meyer, 1936) See studies by Sir D'Arcy Power (1897) and A E Malloch (1929)

Harvey, William Henry, 1811–66, Irish botanist An authority on algae, he wrote *A Manual of the British Algae* (1841), *Phycologia Britannica* (4 vols , 1846–51), and *Phycologia Australica* (5 vols , 1858–63), which are classics in their field He spent several years in South Africa, and as a result of his studies there, he wrote, with O W. Sonder, *Flora Capensis* (7 vols , 1859–1925)

Harvey, William Hope, 1851–1936, American writer on economics, called Coin Harvey, b Buffalo, Putnam co , W Va He studied at Marshall College, practiced law and interested himself in monetary problems He was a vigorous advocate of bimetallism at the time the argument over coinage of silver was at its height His sturdy pamphleteering had great influence on the Populist party, and his demand for free coinage of silver was given full expression when William Jennings Bryan ran for President in 1896 Bryan's famous "cross of gold" speech in 1896 embodied Harvey's ideas Harvey himself ran for President in 1932 after he organized the Liberty party He wrote *Coin's Financial School* (1894), *Coin on Money, Trusts, and Imperialism* (1899), and *The Remedy* (1915)

Harvey 1 City (pop 17,878), NE Ill , just S of Chicago, inc 1895 It manufactures stoves, automobile parts, and other metal products Thornton Junior College (coeducational) is here 2 City (pop 1,851), central N Dak , on the Sheyenne river and between Minot and Jamestown, inc 1906 It is a railway division point

Harwich (hăr'ĭj), municipal borough (pop 12,046), Essex England, at the estuary of the Stour and the Orwell The port is fortified and is the chief naval station (especially for submarines and destroyers) on the east coast It was frequently attacked from the air in 1940–41 There are passenger and trade lines to Antwerp and other continental ports

Harwich (har'wĭch), town (pop 2,535), SE Mass , on Cape Cod W of Chatham, settled c 1670, inc 1694 It includes several resort villages

Harwinton, town (pop 1,112), NW Conn , on the Naugatuck in a hilly region W of Hartford, settled 1730, inc 1737

Harz (härts), densely forested mountain range, central Germany, extending c 60 mi between the Elbe and Weser rivers and occupying parts of Hanover and Saxony provs , Brunswick, and Anhalt The Upper Harz, in the northwest, is rich in silver, iron, lead, and copper, it culminates in the Brocken, the legendary scene of the Walpurgis Nacht There are many popular vacation and health resorts, notably Bad Harzburg, Braunlage, and Schierke At the foot of the Harz are the ancient cities of Eisleben, Quedlinburg, Halberstadt, Blankenburg, Wernigerode, Goslar, and Nordhausen

Hasa, El (ĕl hä'sə, hă'sə), region, NE Saudi Arabia, on the Persian Gulf. Hofuf is the chief town El Hasa was tributary to Turkey (though taken by the Egyptians under Ibrahim Pasha) until its conquest by Ibn Saud in 1914 There is extensive oil drilling, especially near the Bahrein Islands

Hasadiah ((hăsədī'ə) [Heb ,=God loves], one of Zerubbabel's sons 1 Chron 3 20

Hasan (hə'sän), c 625–c 669, 5th caliph, son of Ali and Fatima (daughter of Mohammed the Prophet) When Ali was killed in 661 Hasan became caliph, but he was not strong enough to withstand the threat of arms of the Omayyads and under pressure abdicated in favor of Muawiya He retired to Medina His more active brother, Hussein, took up the family cause Later the Shiites believed that Hasan had been murdered The name also appears incorrectly as Hassan

Hasbeya (hasbā'ə), small town, S Lebanon, at the foot of Mt Hermon It was a center of the Druses from the 13th cent to the 19th cent , and the Khulwat el-Bujad, a sacred shrine of the Druses is on the hillside Much of the population is Christian, with some Jews

Hasbrouck Heights (hăz'brōōk), residential borough (pop 6,716), NE N J , S of Hackensack, settled c 1685, inc 1894 The Teterboro airport is near

Hasdrubal (hăz'drōōbl), d 221 B C , Carthaginian general He fought under his father-in-law, Hamilcar Barca, in Africa and in Spain, where he succeeded (228 B C) Hamilcar as general He increased the empire in Spain and, by treaty with Rome, fixed its northern boundary at the Ebro Hasdrubal founded Cartagena

Hasdrubal, d 207 B C , Carthaginian general, son of Hamilcar Barca His brother Hannibal, on leaving for Italy, deputed Spain to Hasdrubal's command Hasdrubal conducted a long campaign against the Scipios, who prevented him from joining Hannibal at a critical moment in 216 B C Both Scipios fell in battle, but in 209 the son of P Cornelius Scipio took Cartagena Hasdrubal eluded him by crossing the Pyrenees at their western ex-

tremity and, after crossing the Alps, arrived in central Italy. On the Metaurus (207 B C) he met the army of C Claudius Nero Hasdrubal fell, and his head was thrown into Hannibal's camp Hasdrubal's defeat is considered decisive in the Second Punic War, for it prevented Hannibal from receiving the only aid, even indirect, which was proffered him from Carthage

Hasenuah (hăsĭnū'ă) [Heb ,= the hated woman], Benjamite 1 Chron 9 7

Hashabiah (–ăbĭ'ă) [Heb ,= God has noticed] 1 Chief priest Ezra 8 24 2 Priest Neh 12 21 3, 4, 5 Chief Levites 1 Chron 27 17, 2 Chron 35 9, Neh. 12 24 6 Kohathite 1 Chron 26 30 7 Harpist. 1 Chron 25 3,19 8, 9, 10 Merarites 1 Chron 6 45, 9 14, Ezra 8 19 11 Sealer of the covenant Neh. 10 11 12, 13 Levites in the Temple Neh. 11.15,22 14 Worker on the wall Neh 3 17

Hashabnah (hăshăb'nă) [Heb ,=whom God has regarded], signer of the covenant Neh 10 25

Hashabniah (hă"shăbnī'ă) [Heb ,=whom God has regarded] 1 Father of a repairer of the wall Neh. 3.10 2 Signer of the covenant Neh 9 5

Hashbadana (–bă'–), companion of Ezra Neh 8 4

Hashem (hă'–), the same as JASHEN

hashish (hă'shĭsh, hă'shēsh), name used chiefly in Asiatic countries for a narcotic and inebriant substance prepared from the hemp plant (*Cannabis sativa*) Several parts of the plant are used in making different preparations which are known by a variety of names, e g , bhang, charas, ganja, and kif The name hashish is sometimes limited to an extract prepared from the leaves, and sometimes it is used to refer to a product of the flowering tops of the plants The different products are chewed, smoked, or taken in liquid form, and their effects on the user are caused by certain resinous substances In parts of South America, Mexico, and the United States the flowers of the same species of hemp are used to make MARIJUANA

Hashmonah (–mō'nă), unidentified desert place of encampment Num 33 29, 30

Hashub (hă'–) [Heb ,=intelligent] 1,2 Repairers of the wall Neh 3 11,23 3 Signer of the covenant Neh 10 23 4 Merarite Neh 11 15 Hasshub 1 Chron 9 14

Hashubah (hushōō'bă) [Heb ,=esteem], one of Zerubbabel's sons 1 Chron 3 20

Hashum (hă'–) 1 Family returned with Zerubbabel, several of whom had foreign wives Ezra 2 19, 10 33, Neh 7 22, 10 18 2 Companion of EZRA at his reading of the law Neh 8 4

Hashupha (hushū'fu), the same as HASUPHA

Hasidim (hăsē'dĭm) or **Assideans** (ăsĭdē'ănz) [Heb , =pious], originally the most rigid adherents of Judaism in contradistinction to those Jews whom Hellenistic influences were beginning to affect The sect developed between 300 B C and 175 B C When Simon the Just was high priest of Judaea, the Jews became divided into those who adopted new and pagan customs and those who clung to the strict old traditions to the point of fanaticism When Antiochus IV decreed that the Jews should eat the flesh of swine and offer sacrifices to the Greek gods, it was the Hasidim who led the resistance and rallied the Jews to choose death in preference to violation of their laws The modern sect of Hasidim was founded in Europe in the 18th cent by BAAL-SCHEM-TOV It developed out of opposition to the inflexible rationalism of the Talmud and is characterized by a belief in miracles and in the immediate approach of the Messiah, emotional exaltation in prayer, and communion with God through ecstasy These doctrines exercised a great appeal for the uneducated masses and spread with great rapidity The sect aroused much opposition among the Talmudists, who in 1781 pronounced the Hasidim heretics. The sect still has adherents, but it has lost its original enthusiasm. The leaders of the modern Hasidim are called Zaddikim. They are supposed to have achieved so perfect a state of holiness that they can serve as mediators between God and the common people Since the office is hereditary and the Zaddikim are supported by contributions from the people, the system has degenerated into one of exploitation The name is also transliterated as Chassidim For the modern Hasidim, see D. L Mekler, *Miracle Men* (1936).

Haskell (hă'skŭl) 1 Farm trading town (pop 1,572), NE central Okla , near the Arkansas river SE of Tulsa, founded 1903. Historic Indian sites are in the vicinity 2 City (pop. 3,051), co seat of Haskell co , W central Texas, N of Abilene, settled 1882, inc 1907 Long a cow town in mesquite-brush country, it now serves farmers and dairymen as well as some ranches.

Haskins, Charles Homer, 1870–1937, American historian, b Meadville, Pa , grad. Johns Hopkins (B A , 1887, Ph D., 1890) After serving as instructor of history at Johns Hopkins, Haskins taught (1890–1902) at the Univ. of Wisconsin At Harvard (1902–31) he was a professor of history, political science, and medieval history, becoming professor emeritus in 1931 From 1918 to 1919 he served as chief of the division of Western Europe on the American commission at the Paris Peace Conference. A member of many learned groups, he was chairman (1920–26) of the American Council of Learned Societies and president (1926–27) of the Medieval Academy of America. His reputation as an outstanding scholar, particularly in medieval history, was earned through such books as *The Normans in European History* (1915), *Norman Institutions* (1918), *The Rise of Universities* (1923), *Studies in the History of Mediaeval Science* (1924), *The Renaissance of the Twelfth Century* (1927), and *Studies in Mediaeval Culture* (1929)

Haslemere (hā'zŭlmēr), urban district (1931 pop 4,339, 1943 estimated pop. 10,100), Surrey, England, SW of Guilford It is a market town and is noted as a center of arts and crafts and for its music festivals George Eliot lived at Shottermill near by. The church contains a window by Burne-Jones in memory of Tennyson, who lived near here, and the grave of John Tyndall

Hasmoneans: see MACCABEES

Hasrah (hăs'ru), the same as HARHAS.

Hassam, Childe (chĭld' hă'sum), 1859–1935, American painter and etcher, b Boston, pupil of Jules Lefebvre and G R Boulanger in Paris. His fine landscapes and interiors show the strong influence of impressionism Examples of his work are *Isles of Shoals, Church at Gloucester,* and *July 14th Rue Daunou* (Metropolitan Mus), *The New York Window, Broad and Wall Streets; The Little June Idyll, Aphrodite, The Strawberry Tea-Set,* and *Evening Bells* He is represented in the Pennsylvania Academy of the Fine Arts, Art Institute of Chicago, Museum of Fine Arts, Boston, Corcoran Gallery, and museums in Cincinnati, St Louis, Worcester, Mass , Portland, Oregon, and Savannah, Ga He became a member of the National Academy of Design in 1906

Hassan · see HASAN

Hasse, Johann Adolph (yō'hän a'dôlf ha'su), 1699–1783, German composer, pupil of Alessandro Scarlatti His musical style was thoroughly Italianized He composed Masses, oratorios, sonatas, and symphonies, but was known chiefly as an opera composer He was court composer (1721–60) at Dresden, his operas were also performed in London (where he was a rival of Handel), in Venice, and in Vienna He wrote melodiously and with understanding of the voice and of dramatic construction His wife, Faustina Bordoni Hasse (1693–1783), because of her technical excellence, was regarded as one of the greatest singers of her time

Hasselt (ha'sŭlt), city (pop. 28,638), capital of Limburg prov , E Belgium, in the Campine, near the Albert Canal. Here the Dutch defeated (1831) the Belgians Hasselt is noted for its processions on the Feast of the Assumption (Aug 15)

Hassenaah (hăsē'nă'ă), family name of workers on the wall Neh 3 3 Senaah Ezra 2 35, Neh 7 38

Hasshub (hă'shŭb), variant of HASHUB

Hassler, Ferdinand Rudolph (hă'slŭr), 1770–1843, American geodesist, b Switzerland, studied at the Univ of Bern He is known for his work in organizing the U S Coast and Geodetic Survey Coming to America in 1805, he won Jefferson's aid in his plan for a survey of the Atlantic seacoast, and from 1816 to 1818 he was in charge of the work Then he was excluded by a law which required that only military and naval men be employed in the work In 1832 he was again appointed to head the coast survey, which had lapsed since his previous work His original survey work has not had to be repeated, and his standards in the first scientific bureau helped to establish those for later government scientific work See biography by Florian Cajori (1929)

Hasting (hă'stĭng), fl last half of 9th cent , Viking leader, called Hasting the Pirate He ravaged the coasts of France, Spain, and Italy, went into Morocco, plundered in the south of France, and took a fleet to England late in Alfred's reign

Hastings, Francis Rawdon-Hastings, 1st **marquess** of (hă'stĭngz), 1754–1826, British soldier and administrator In the American Revolution he distinguished himself at Bunker Hill, at Charleston, and in the Carolina campaign (1781) On his return to England, he was active in the House of Lords and was a partisan of the prince of Wales (later George IV) He became 2d earl of Moira in 1793 As governor general of India (1813–21) he waged war on the Gurkhas (1816), the marauding Pindaris, and the Mahratta confederacy (1817), meanwhile maintaining a vigorous and progressive government. He was governor of Malta when he died. See his private journal (ed by his daughter, the marchioness of Bute, 1858).

Hastings, Serranus Clinton, 1814–93, American judge, b Jefferson co , N Y. He was admitted to the Indiana bar in 1836 and moved to Iowa soon afterward He served in the first Iowa territorial legislature and in 1846 became the first representative of Iowa in Congress. In 1849 he moved to California and was chief justice of the state supreme court while the fusion of common law and Spanish custom was being effected. He established and endowed Hastings College of Law in San Francisco, now part of the Univ. of California.

Hastings, Thomas, 1784–1872, American composer b. Washington, Conn. Of his hymns, *Rock of Ages* is most famous. He compiled several books of hymns, including *Musica Sacra* (1816) and *Spiritual Songs* (with Lowell Mason, 1831). His *History of Forty Choirs* (1854) describes his activities with church choirs. See F. J. Metcalf, *American Writers and Compilers of Sacred Music* (1925)

Hastings, Thomas, 1860–1929, American architect, b. New York city, grad École des Beaux-Arts, Paris He worked in the office of McKim, Mead, and White, New York, and in 1886 commenced practice in partnership with John M. Carrère Two large hotels at St. Augustine, Fla., were the first of the firm's many important works, of which the New York Public Library is their best known Hastings's designs after the death of Carrère (1911) included the Chapel of St. Ambrose in the Cathedral of St John the Divine, the architectural ensemble of the 59th St Plaza, and the Standard Oil Building, all in New York city, and the memorial amphitheater, Arlington Va

Hastings, Warren, 1732–1818, first governor general of British India Employed (1750) as a clerk by the East India Company, he soon became manager of a trading post, fought beside Robert CLIVE in the recapture of Calcutta (1756), and was made the British resident at a Bengal factory. Good service there brought an appointment to the Calcutta council (1761), but Hastings returned to England (1764) disgusted with the corruption of the administration in Bengal In 1769 he joined the Madras council, and later he became governor of Bengal (1771) and governor general of India in 1774 His aggressive policy of judicial and financial reform, law codification, and the suppression of banditry reestablished British prestige in India Attention was given to cultural matters, and a dangerous Mahratta conspiracy, supported by France, was suppressed The governor was sometimes high-handed—he put British troops at the disposal of the nawab of Oudh, and he used questionable means in recovering from the dowager of Oudh moneys unlawfully withheld from the state He was not, however, personally corrupt, nor did he sanction cruelty Yet he met constant opposition in his council and in England and narrowly escaped recall He resigned in 1784 and returned to England, where he was charged with high crimes and misdemeanors by Edmund BURKE and Sir Philip Francis, whom he had wounded in a duel in India He was impeached in 1787, and the trial dragged on to ultimate acquittal in 1795, despite the bitter prosecution of Burke, Francis, Richard B Sheridan, and C J Fox Hastings's fortune was spent in the defense, but the East India Company contributed to his later support He became popular, was made a privy councilor (1814), and maintained a lively interest in affairs See his letters to his wife (ed by S C Grier, 1905), essay on him by T B M Macaulay, biography by A M. Davies (1935), bibliography by Vera Ward (1932)

Hastings, county borough (pop 63,360), Sussex East, England, SE of London and on the south coast of England The site was occupied in Roman times and probably earlier There are remains of a castle of the time of William the Conqueror and two churches of the 11th and 13th cent Hastings is backed by cliffs and has a 3-mile marine esplanade, pleasure grounds, and bathing beaches St Leonards, the new section of the town, is a residential watering place The place was made famous by the battle of Hastings, which took place on a hill, sometimes called Senlac, inland from the town, on Oct 14, 1066, between the Normans under William duke of Normandy (William the Conqueror, later William I) and the Saxons under HAROLD This battle, one of the most celebrated in history, was won by William's smaller but better-trained and better-equipped force after a whole day's fighting This was the first and most decisive victory of the NORMAN CONQUEST Hastings is one of the CINQUE PORTS

Hastings, borough (pop 14,623; metropolitan pop 20,330), on E North Island, New Zealand, S of Napier. It has a fruit cannery and a dehydration plant

Hastings, 1 Town (pop 1,035), NE Fla , near the east bank of the St Johns river SW of St Augustine It ships potatoes, and there is an agricultural experiment station here 2 City (pop 5,175), co seat of Barry co , S Mich , WSW of Lansing and on a tributary of the Grand, settled c 1836, inc. as a village 1855, as a city 1871 Piston rings and metal-working machinery are made. Indian mounds are near 3 City (pop 5,662), co seat of Dakota co , E Minn , SE of St Paul and on the Mississippi opposite the confluence of the St Croix, platted 1853, inc 1857 It is a farm trade and manufacturing center A state mental hospital (1900) is here. 4 City (pop. 15,145), co seat of Adams co , S Nebr , S of Grand Island, founded 1872, inc 1874. Trade, railroad, and industrial center for a great wheat area, it produces brick, farm machinery, flour, and dairy products It is the seat of Hastings College (Presbyterian; coeducational, 1882) and has a regional museum. A state hospital for the insane is near by. 5 Borough (pop. 2,105), SW Pa , NW of Altoona; inc. 1894.

Hastings-on-Hudson, residential and industrial village (pop. 7,057), SE N.Y., in Westchester co., on

the east bank of the Hudson and N of Yonkers; inc. 1879. Chemicals and copper wire are made

Hasupha (hŭsū'fŭ) [Heb.,=naked], family of Nethinim. Ezra 2 43. Hsshupha. Neh. 7.46

Haswell, Charles Haynes (hāz'wŭl), 1809–1907, American engineer, b New York city. He designed and superintended the construction of the engines in the first steam vessels of the U.S navy, notably in the *Fulton, Mississippi, Missouri,* and *Michigan.* He became (1884) engineer in chief of the navy and wrote a number of manuals, the best known being the *Mechanics' and Engineers' Pocket-Book of Tables, Rules, and Formulas* (1842; 77th ed 1920) ¶ He also wrote *Reminiscences of an Octogenarian* (1896).

hat, a HEADDRESS distinguished from a CAP OF HOOD by having a continuous brim Greeks and Romans wore hats, mostly for protection when traveling, northern European people used head covers of hide or leather, and a square hat was used about the time of the First Crusade FELT hats were made in the Middle Ages, and beaver hats were worn by English dignitaries Since the 16th cent , millinery has been an important part of dress The top hat appeared early in the 19th cent., and the soft felt worn by Kossuth (1849) started a new fashion in America Hats are made of felt—the derby or bowler of heavily stiffened felt, of silk or plush, as in 18th-century Italy, or of straw of two distinct types Straw hats woven like baskets are the Panamas, Bangkoks, Neapolitans, and Manilas, made in Ecuador, Colombia, Peru, Japan, the Philippines, and Switzerland, the Tuscan or Leghorn straws are woven in plaits Hatmaking in America, from colonial days up to 1870, was done by hand The cardinal's scarlet hat, usually called the red hat, has a broad brim and a flat, low crown From each side hangs a cluster of 15 tassels The hat is not worn after the pope places it on the cardinal's head

Hatach (hā'tăk), Esther's eunuch Esther 4 5,6,9,10.

Hatay, Turkey see ALEXANDRETTA, SANJAK OF

Hatboro, borough (pop 2,605), SE Pa , N of, and near, Philadelphia, settled in the first half of the 18th cent , inc. 1871 Stoves are made here

Hatch, Edwin, 1835–89, English theologian and educator After teaching (1859–67) in Canada, he became vice principal of St Mary Hall (no longer in existence), Oxford, in 1867 In 1884 he also became university reader in ecclesiastical history His Bampton Lectures (1880) appeared as *The Organization of the Early Christian Churches* (1881) and his Hibbert Lectures (1888) as *The Influence of Greek Ideas upon the Christian Church* (1890).

Hatch, William Henry, 1833–96, U S Congressman (1879–95), b Scott co , Ky He was admitted (1854) to the bar and moved to Hannibal, Mo. He became prominent in Democratic politics in Missouri and was elected to the U S House of Representatives He devoted himself to agricultural legislation and became chairman of the Committee on Agriculture He successfully pushed through Congress the act (1884) creating the Bureau of Animal Industry, the Hatch Act (1887), which provided for direct Federal aid for the study of scientific agriculture, and the act (1889) which elevated the Dept of Agriculture to the status of an executive department in the cabinet

hatchet see AX and TOMAHAWK

Hatfield, 1 Town (pop 2,210), W Mass , on the Connecticut above Northampton, settled 1661, set off from Hadley 1670 It survived several Indian raids in the 1670s Barium sulphate is mined in the town 2 Borough (pop 1,301), Montgomery co , SE Pa , N of Philadelphia, settled 1860, inc 1898

Hathath (hā'-) [Heb ,=fear], son of Othniel. 1 Chron 4 13

Hathaway, Anne: see SHAKSPERE, WILLIAM.

Hathor: see EGYPTIAN RELIGION

Hatipha (hāt'fŭ, hā'tĭf-), family returned from the Exile Ezra 2 54, Neh 7 56

Hatita (hā'tĭtŭ, hātī'-) [Heb ,=digging] family in the return Ezra 2 42, Neh 7 45

Hatshepsut: see THUTMOSE I

Hatteras, Cape (hă'tŭrŭs), promontory on a low sandy island, off E North Carolina, E of Pamlico Sound A point of danger to Atlantic shipping because of frequent storms, it has been marked by lighthouses since 1798 The second, and most famous, was in service from 1870 to 1936 A project to set up the Cape Hatteras National Seashore Recreational Area was authorized in 1937

Hattiesburg, city (pop 21,026), co seat of Forrest co , SE Miss , on the Leaf river and SE of Jackson, settled in the early 1880s It is the rail, trade, and industrial center of a farm and timber area, among the city's products are lumber, explosives, chemicals, naval stores, and silk cloth. Mississippi Southern College, a state-supported teachers college (coeducational, 1910) is here In near-by De Soto National Forest a large army training station, Camp Shelby, was completed in 1941.

Hattil (hă'tĭl), family which returned from the Exile. Ezra 2 57; Neh. 7.59.

Hatton, Sir Christopher, 1540–91, English courtier. He became a favorite of Queen ELIZABETH, whose attention he is said to have attracted by his graceful dancing at a court masque. Offices, honors, and lands were given to him. He was knighted and acted as Elizabeth's spokesman and from 1587 to his death was lord chancellor. He was a patron of literature, especially as a friend of Spenser, and he himself wrote the fourth act of *Tancred and Gismund* (1591), a tragedy by Robert Wilmot, Henry Noel, and Hatton Ely Place in Holborn, formerly in the possession of the bishops of Ely, was granted to him, and the name of the beautiful garden there was changed to Hatton Garden.

Hattush. 1, 2 Descendants of David 1 Chron 3 22, Ezra 8.2 3 Signer of the covenant. Neh 10 4, 12 2 4 Worker on the wall Neh 3 10

Hauff, Wilhelm (vĭl'hĕlm houf'), 1802–27, German novelist and short-story writer His *Lichtenstein* (1826) was one of the earliest and most popular German historical novels Some of his tales have been translated into English as *Fairy Tales* (1910) and *Caravan Tales* (1912)

Haugen, Gilbert N. (hou'gun), 1859–1933, U S Congressman (1899–1933), b Rock co , Wis He had a grammar school education, entered business at an early age and became a successful banker in Iowa He held many local offices in Iowa and served (1894–98) in the state legislature before becoming a Republican member of the U S House of Representatives Interesting himself in farm problems, Haugen became chairman of the House Committee on Agriculture He was responsible for the Packer Control and Stockyard Act and helped pave the way for the Federal farm relief bill (1933)

Haugesund (hou'gusŏn), city (pop 18,407), Rogaland co , SW Norway a North Sea port It has a large fishing fleet and a fish-processing industry There are numerous viking monuments near by, notably the grave of Harold I

Haugwitz, Heinrich, Graf von (hīn'rĭkh graf' fŭn houk'vĭts), b 1752, d 1831 or 1832, Prussian foreign minister under Frederick William II and Frederick William III In 1805–6 he sought, by inglorious negotiations, to avoid a break between Prussia and Napoleon I When Prussia was drawn into the war and crushed at Jena (1806) Haugwitz retired He died at Venice

Haupt, Herman (houpt), 1817–1905, American civil engineer, b. Philadelphia, grad. West Point, 1835 In 1856 he became chief engineer of the Hoosac Tunnel in the Berkshires He was appointed chief of construction and transportation on U S military railroads (1862), and he developed the principles of using the railroads in war Having introduced the use of compressed air in construction and mining machinery, he became (1892) president of the General Compressed Air & Power Company. His authoritative *General Theory of Bridge Construction* (1851) went through a number of editions. Other books were *Military Bridges* (1864), *Tunneling by Machinery* (1876), and *Reminiscences* (1901)

Hauptmann, Bruno Richard, 1899–1936, convicted kidnaper and murderer, b Germany The infant son of Charles A LINDBERGH was abducted (March 1, 1932) at Hopewell, N J and a ransom of $50,000 for his release was paid through the intercession of Dr John F Condon The child's battered body was found (May 12, 1932) near Hopewell, and on Sept 19, 1934, Hauptmann, an immigrant carpenter, was found with part of the ransom. In a sensational trial at Flemington, N J , he was convicted of murder Hauptmann maintained his innocence to the last, and although temporarily reprieved, he was electrocuted, April 3, 1936 See S B Whipple, *The Trial of Bruno Richard Hauptmann* (1937)

Hauptmann, Gerhart Johann Robert (gĕr'hart yō'hän rō'bĕrt houpt'män), 1862–1946, German poet, dramatist, and novelist, a leading figure in modern German literature After early experimental works, he turned to the new naturalism and wrote the play *Before Dawn* (1889; Eng tr , 1909) This was followed by *Lonely Lives* (1891, Eng tr , 1898) and the famous tragedy *The Weavers* (1892, Eng tr , 1899) With the dream play *Hannele* (1893, Eng tr , 1894) he assumed a romantic medium, and in his most popular play, *The Sunken Bell* (1897, Eng tr , 1898), he surrendered completely to this style Realism was again evident in the tragedies *Drayman Henschel* (1899, Eng tr , 1913) and *Rose Bernd* (1903, Eng tr , 1913), which are among the great works of the modern German theater. His mastery of prose narrative is shown in such novels as his autobiographical *The Fool in Christ, Emanuel Quint* (1910, Eng tr , 1911) and *The Heretic of Soana* (1918, Eng tr , 1923) Many honors came to Hauptmann, among them the 1912 Nobel Prize in Literature He supported the Nazi regime in his old age His complete dramatic works were published in English in 1912–17 See Camillo von Klenze, *From Goethe to Hauptmann* (1926).

Hauraki Gulf (houra'kē,-rä'kē), arm of the Pacific Ocean, in N North Island, New Zealand, forming the entrance to the harbor of Auckland

Hauran (houräN') [Heb ,=hollow or cavernous land], district, SW Syria, E of the Jordan river. The name is derived from the numerous caverns, many at one time inhabited, in the mountainous northeast Hauran is largely a treeless region, including conical volcanic peaks, barren lava fields, and much rich lava soil. Most of the inhabitants are Druses, who migrated here from Lebanon in recent times At least in part, Hauran belonged to the biblical kingdom of BASHAN, which the Israelites conquered Designated the northeastern boundary of the Promised Land (Ezek 47 16,18), Hauran was later the Roman province of Auranitis It was converted to Christianity by the late 2d cent. Great havoc was wreaked by an Arab invasion in the early 7th cent There are many ancient towns in which the buildings, including the furniture, are made entirely of lava. Some 300 of these "giant cities of Bashan" have been located. Inscriptions in Greek, Latin, Arabic, and Sabrean (southern Arabic) are abundant

Hausa or **Haussa** (both hou'su, -sä), Negro people, numbering over 5,000,000, chiefly in N Nigeria and the adjacent Niger territory The Hausa are almost exclusively Moslem and practice agriculture Their widespread trading activities have contributed to make their language a lingua franca in much of W Africa Most of the Hausa sultanates were conquered by the Fulani in the early 19th cent

Hauser, Kaspar (kas'par hou'zur), 1812?–1833, mysterious German foundling. He appeared in Nuremberg in 1828 in a state of semi-idiocy, producing dubious documents and giving an incoherent account of his past, which, he said, he spent in a dark prison hole He awakened immediate interest and sympathy, and his intelligence developed with amazing speed. In 1829 he wrote his autobiography, which was published and spread his fame, and in 1832 the earl of Stanhope, interested in him, assumed responsibility for his education The boy's death from a knife wound was regarded as a political assassination by those who believed him—without any serious grounds—to be the son of the grand duke of Baden by his first wife Others believe that the wound was self-inflicted and that Hauser was a psychopath Much has been written on him, he is the subject of Jakob Wassermann's novel *Caspar Hauser* (Eng tr , 1928). See Andrew Lang, *Historical Mysteries* (1904)

Haushofer, Karl (karl' hous'hōfur), 1869–1946, German geographer, chief exponent of GEOPOLITICS After a successful military career he became (1921) professor of geography at Munich Among his students was Rudolf Hess, who introduced Haushofer to Hitler Haushofer is believed to have virtually dictated the chapters on foreign policy in *Mein Kampf* He remained one of Hitler's closest advisers on foreign affairs In 1946 Haushofer and his wife committed suicide by poisoning Haushofer's writings were much influenced by those of Sir Halford John Mackinder They include *Geopolitik des Pazifischen Ozeans* (1925), *Bausteine zur Geopolitik* (1928), and *Weltpolitik von heute* (1934) Haushofer also edited the periodical, *Zeitschrift fur Geopolitik.* For bibliography, see GEOPOLITICS. See E A Walsh, *Total Power* (1948).

Haussa see HAUSA

Haussmann, Georges Eugène, Baron (shôrzh' ûzhĕn' barō ōsmän'), 1809–91, French civic official and city planner Distinguished for his bold alterations to the layout of Paris under Napoleon III, he is largely responsible for the city's present appearance To create adequate traffic circulation, old streets were widened and new ones cut, while the great railway stations were placed in a circle outside the old city and provided with broad approaches For the enhancement of monuments, open spaces and vistas were contrived, including the Place de l'Opéra, the Étoile, and the Place de la Nation, which became focusing points for radiating avenues The fine Bois de Boulogne was laid out in the bend of the Seine, as well as a number of smaller parks The Boulevard Haussmann in Paris commemorates his name

hautboy see OBOE

Haute-Garonne (ōt"-garôn'), department (2,458 sq mi , pop 512,260), S France, in Gascony and Languedoc It touches on Spain in the Pyrenees near Luchon Toulouse is the capital

Haute-Loire (-lwar'), department (1,931 sq mi , pop 228,676), S central France, in VELAY and AUVERGNE Le Puy is the capital

Haute-Marne (-märn'), department (2 416 sq mi , pop. 181,840), NE France, drained by the upper Marne and the Meuse It is part of CHAMPAGNE In the south rises the LANGRES PLATEAU Chaumont is the departmental capital

Hautes-Alpes (ōt"-sälp'), department (2,178 sq mi , pop 84,932), SE France, in DAUPHINÉ, bordering on Italy Gap is the capital

Haute-Saône (ōt"-sōn'), department (2,075 sq mi , pop 202,573), E France, in FRANCHE-COMTÉ, traversed in the west by the Saône river and in the east by the Vosges mts Vesoul is the capital.

Haute-Savoie (-savwa'), department (1,775 sq mi , pop 270,468), E France, in SAVOY, bordering on Switzerland and Italy. The Alps rise here from the Lake of Geneva and culminate in Mont Blanc Annecy is the capital.

Hautes-Pyrénées (-pērānā'), department (1,751 sq mi , pop. 201,954), SW France, in GASCONY. It rises in the south to some of the highest peaks of the PYRENEES, which form the border with Spain Tarbes is the capital.

Haute-Vienne (-vyĕn'), department (2,145 sq mi ; pop. 336,313), W central France, traversed by the Vienne river It occupies parts of LIMOUSIN and MARCHE LIMOGES is the capital.

Haute-Volta, see UPPER VOLTA

Haut-Rhin (ō"-rĕ'), department (1,354 sq mi.; pop. 471,705), E France, occupying Lower ALSACE. Colmar is the capital

Haüy, René Just, Abbé (rənā' zhüst' äbā' ü̇ē'), 1743-1822, French mineralogist, an authority on crystals He discovered the geometric law of crystallization and wrote many books and papers on crystallography He was professor at the Museum of Natural History, Paris, from 1802

Havana (hüvă'nü) Span *La Habana* (lä äva'nä), city (pop 676,376), W Cuba, capital of Havana prov and of Cuba, largest city and chief port of the West Indies Founded c 1515 probably by Diego de VELÁZQUEZ, Havana has long been strategically and commercially important In the city's capacious harbor, under the protection of MORRO CASTLE, the Spanish treasure galleons assembled for the return voyage to Spain, and the city tempted many buccaneers In the French and Indian War, Havana fell to a British and American force under Admiral Sir George Pocock and the 3d earl of Albemarle in 1762 The U S battleship MAINE was blown up in the harbor in Feb , 1898 After Cuba gained independence from Spain, U S forces in the 20th cent improved sanitary conditions and abolished yellow fever from Havana An important rail, air, and shipping center, the city handles about two thirds of Cuba's imports and about one fifth of its exports—sugar, tropical fruits, and almost all the tobacco crop Cigars, liquors, straw hats, perfumes, and other lesser items are made In the old city are fine examples of colonial architecture, but the new city, built almost entirely from sugar revenues, is completely modern, with superb boulevards, impressive public buildings (notably the lavishly decorated and gilt-domed capitol), and magnificent residences Good hotels and entertainment have made it a popular winter tourist resort Although the climate is hot and humid, sea winds lower the average annual temperature to 77° F Hurricanes have caused severe damage

Havana (hüvă'nü) 1 Town (pop 1,221), NW Fla , between Tallahassee and the Ga line, in a tobacco area, settled 1904, inc 1906 It processes timber **2** City (pop 3,999), co seat of Mason co , W central Ill , below Peoria on the Illinois, opposite the mouth of the Spoon, founded 1827, inc 1853 It was early important as a river port, with a large fishing industry The city is the trade and industrial center for a farm region, a lake resort area is near by A marker notes the site of a Lincoln-Douglas debate in 1858 A U S waterfowl refuge and a state nursery are near Havana

Havelock, Sir Henry (hăv'lŏk), 1795–1857, British general In the Sepoy Rebellion (1857) he recaptured Cawnpore, but was too late to save the British population from massacre Later he was commander of the famous besieged garrison at Lucknow until relieved by Sir Colin Campbell. See biography by Archibald Forbes (1897)

Havelock (hăv'lŏk), village (pop 1,113), S Ont., ENE of Peterborough, in a farming district

Havelok the Dane, English 14th-century metrical romance, telling the story of a prince brought up as a peasant who comes into his own The poem is full of common elements of folk tale and myth but its hero can probably be identified with a historical person, the 10th-century Amlaibh (Olaf) Cuaran, who was defeated at BRUNANBURH and who ruled at different times as king of Northumberland and of Dublin Some have connected the story with Hamlet

Havemeyer, Henry Osborne (hă'vumĕ"yur), 1847–1907, American industrialist, b New York city He inherited large family interests in sugar refining and, with his brother Theodore, built them up A large part of his notable art collection was bequeathed in 1929 by his widow to the Metropolitan Museum of Art

Haverfield, Francis John (hă'vurfēld), 1860–1919, English historian and archaeologist Educated at Oxford, he also worked under Theodor Mommsen. In 1907 he became Camden professor of ancient history at Oxford He was the first scientific historian of Roman Britain. His works include *The Romanization of Roman Britain* (1905), *Ancient Town Planning* (1913), and *The Roman Occupation of Britain* (1924), many monographs, and the authoritative chapters he contributed to the *Victoria History of the Counties of England.*

Haverford College, at Haverford, Pa., near Philadelphia, Friends, for men, opened 1833, called a school until 1856. Its Quakeriana collection is notable

Haverfordwest (hă'vürfürdwĕst'), municipal borough (pop. 6,121), county town of Pembrokeshire, Wales, on a hill above the Western Cleddau It has woolen mills There are ruins of a 12th-century castle and remains of a 12th-century Augustinian priory

Haverhill (hă'vurĭl) 1 City (pop 46,752), NE Mass , on the Merrimack and N of Boston; settled 1640, inc. as a town 1645, as a city 1869. It is one of the country's leading producers of shoes. Shipping containers are also made here Whittier's birthplace (built 1688) is preserved. Bradford Junior College for women is here **2** Town (pop 3,487), W N H , on the Connecticut river above Hanover; inc 1763

Havers, Clopton (hă'vürz, hă'–), c 1650–1702, English physician and anatomist. His noteworthy contribution to medicine was his study of the structure and manner of growth of bone The characteristic canals within the bones are known as Haversian canals His study is reported in *Osteologia nova* (1691).

Haverstraw (hă'vürstrô), village (pop 5,909), SE N Y , on the west bank of the Hudson opposite Ossining, in the foothills of the Ramapo Mts , inc. 1854 Bricks and clothing are made Letchworth Village, a state institution for mental defectives, is near by.

Havilah (hă'vĭlû, hüvī'lu) **1, 2** Descendants of Noah Gen 10 7,29, 1 Chron 1 9,23 **3** Region, probably to be identified with some part of N or NE Arabia Gen 2 11, 25 18, 1 Sam 15 18

Havoth-jair (hă'vŏth-jā'ür) [Heb ,=tents of Jair], group of villages in Bashan and Gilead, E of the Jordan They were named for Jair son of Manasseh or for Jair the judge Num 32 41, Judges 10 4 Bashan-havoth-jair Deut 3 14 The "towns of Jair" also are mentioned in Joshua 13 30, 1 Kings 4 13, and 1 Chron 2 23

Havre (hă'vu), city (pop 6,427), co seat of Hill co , N Mont , NE of Great Falls and on the Milk river, inc 1893 A farm center founded (1887) with the coming of the railroad, it has an experimental farm run by Montana State College Northern Montana College (junior) is at Havre Some miles away are the remains of Fort Assiniboine (est 1879)

Havre, Le (lu a'vru), city (1936 pop 161,760; 1946 pop. 105,491), Seine-Inférieure dept , N France, at the mouth of the Seine on the English Channel. The most important transatlantic port of France, it was founded (1517) as Havre-de-Grace by Francis I During the Second World War the water front with its modern installations and part of the city were heavily damaged, but reconstruction was begun soon after the city was liberated in 1944

Havre de Grace (hăv'ur du grās', grās'), city (pop 4,967), NE Md , on Chesapeake Bay at the mouth of the Susquehanna and NE of Baltimore, inc. 1785 It is a banking, trading, and railroad center; quarrying and canning are important, and chemical products are made here Its race track is world famous An automobile bridge was built over the Susquehanna in 1940

haw, name for several plants, particularly the HAWTHORN and its fruit and the BLACK HAW

Hawaii (huwī'ē, huwä'yu, havī'ē), formerly **Owyhee** (ōwē'hē), island (4,021 sq mi ; pop 73,276), largest and southernmost of the HAWAIIAN ISLANDS Geologically the youngest of the group, Hawaii is made up of three great mountain masses, MAUNA LOA MAUNA KEA, and Hualalai Mauna Loa with its KILAUEA crater are included in the HAWAII NATIONAL PARK The northeast and north coasts of the island are rugged with high cliffs, the west and south coasts are generally at sea level, with a few good bathing beaches The climate ranges from the tropical heat of the southern coastal areas to the icy chill of the mountain summits Vast lava deserts (Kau and S Kona) contrast strikingly with the fern and bamboo forests There are many waterfalls An unusual black-sand beach is on the southeast part of the island Parker Ranch at the foot of Mauna Kea covers 500,000 acres and produces most of the meat for the Territory There is a good motor road around the island, and a railroad skirts the scenic northeastern coast, which is the chief sugar-cane area Sisal is the principal product of the southern coast KONA in the western part, the coffee belt of the islands, is also known for its health resorts and for the deep-sea fishing off its coast Near by is the ancient City of Refuge *Heiau* (ancient temples) are scattered all over the island Parts of the northeast coast are vulnerable to tidal waves, Hilo, the chief port and county seat, has been the scene of several tidal-wave disasters, the most recent occurring in 1946

Hawaii, University of, at Honolulu; land grant and territorial, coeducational, chartered 1907, opened 1908 as the College of Agriculture and Mechanic Arts, known as the College of Hawaii 1911–20 It has colleges of arts and sciences, agriculture, applied science, and education, an agricultural experiment station, agriculture and home economics extension services, a psychological and psychopathic clinic, a legislative reference bureau, a volcano laboratory, and an aquarium. The Hawaii School of Religion is affiliated

Hawaiian Islands, group of 20 islands (6,420 sq. mi , pop. 423,330), central Pacific, c 2,400 mi. from San Francisco A territory of the United States, the group is officially known as the Territory of Hawaii and has a governor appointed by the U.S. President and Congress The capital is HONOLULU. The islands, formerly called the Sandwich Islands, are of volcanic origin and are fringed with coral reefs. They are mountainous, generally fertile, and have a notably fine climate. The two principal islands are HAWAII, the largest and geologically the youngest of the group, and OAHU, the most important and seat of the territorial government and of the Univ. of Hawaii Others of importance are LANAI, NIIHAU, and KAHOOLAWE. The territory is divided into four counties—Hawaii, Honolulu, Maui, and Kauai. Some of the largest active and inactive volcanoes in the world are found on Hawaii and Maui MAUNA KEA (13,784 ft) and MAUNA LOA (13,675 ft , with the crater Kilauea on its eastern slope) are volcanic mountains on Hawaii On Maui there is HALEAKALA (10,032 ft). Vegetation is generally luxuriant, with giant fern forests in Hawaii National Park Niihau and Kahoolawe, however, are arid islands, with little vegetation. Many species of birds and domestic animals have been successfully introduced on the islands. There are few wild animals other than wild boars and goats, and there are no snakes The coastal waters teem with fish Sugar cane and pineapples, grown chiefly on large company-owned plantations, are the chief products and the basis of the principal industries Coffee is grown chiefly in the Kona dist of Hawaii. Other products are rice (raised mostly on Kauai), sisal, cotton, and meat Most of the trade is with the United States The islands lie at the junction of the principal Pacific shipping routes and are connected with the Atlantic lines via the Panama Canal and Cape Horn. There is interisland steamship and airplane service, Honolulu, the territorial capital and chief port, is connected by steamship and by airplane with the mainland, the Orient, and Australia The U.S government maintains a naval base and dry dock at PEARL HARBOR, Oahu, and there are large military and air bases on the same island At the time the islands were discovered (1778) by Captain James Cook, they were under the rule of four warring native kings In 1810, KAMEHAMEHA I became sole sovereign of all the islands, and in the peace that followed his conquests, agriculture and commerce were promoted As a result of his hospitality towards American traders, the sandalwood trade with China reached its height during his reign Native religion collapsed with the death of Kamehameha, and the missionaries arriving in 1820 found the natives eager to embrace a new belief With the help of the missionaries, the Hawaiians evolved a written language, and the year 1839 saw the appearance of the first Hawaiian constitution and the Hawaiian translation of the Bible Some missionaries resigned from the mission and established small firms which are operated today by their descendants who belong to the Big Five, a group of industrial firms exerting powerful influence over the economy of the islands. The sandalwood trade, which declined with the virtual disappearance of the wood, was replaced by the sugar industry, which became the source of Hawaiian prosperity when King Kalakaua won (1875) American agreement for reciprocal trade A few years later, the commercial cultivation of pineapples was begun, but it was not until the second decade of the 20th cent that large canneries were established and export was conducted on a large scale Tourist trade grew to large proportions in the 1930s, after skillful advertising and the construction of luxury hotels gave it fresh impetus. Toward the end of the 19th cent , agitation for constitutional reform led to the deposition (1893) of Queen LILIUOKALANI A provisional government was set up, and this, when annexation to the United States was refused by President Cleveland, was supplanted by a republic (1894), with Sanford B DOLE as president Annexation was accomplished in 1898, and in 1900 the islands were constituted a territory with Dole as governor A joint Congressional committee recommended to Congress (1937) that the consideration of statehood for Hawaii be postponed In 1940 a territorial plebiscite was held, which showed that the majority of Hawaiians favored statehood. During the Second World War, the islands were the chief Pacific outposts for U S. forces and were under martial law (Dec. 7, 1941–March, 1943). Many ethnic and cultural groups are represented The Chinese, answering the call for labor in the sugar industry, were the first of the large groups of immigrants to arrive (starting in 1852), and the Filipinos were the last (after 1906). With the exception of the Koreans, the other immigrant groups—including Portuguese, Germans, Japanese, and Puerto Ricans came in the later part of the 19th cent. The mixture of nationalities sometimes gives rise to racial friction, and laws have been passed to prevent this by reforms in the administration of the police departments and courts. Education in the Territory is free and compulsory, and the rate of literacy is high. The Japanese, representing a third of the population, were feared for many years as a possible menace to national defense, but during the Second World War there were no official reports of Japanese sabotage. The original native culture of the Hawaiians was one of the most advanced of Polynesian civilizations, but it has shrunk as wars and diseases in the 18th and 19th cent. and in more recent years intermarriage with other races caused

a sharp decrease in the number of pure-blooded Hawaiians. See Joseph Barber, Jr., *Hawaii, Restless Rampart* (1941), W.R Castle, *Hawaii, Past and Present* (1924); T. B. Clark, *Paradise, Limited* (1941); R. S Kuykendall, *History of Hawaii* (1938); H W. Bradley, *The American Frontier in Hawaii* (1942); H. G. Pratt, *Hawaii, Off-Shore Territory* (1944)

Hawaii National Park, 173,404 6 acres, comprising two areas on Hawaii and Maui islands The park includes KILAUEA with its fire pit, called Halemaumau, and MAUNA LOA with the active Mokuaweoweo crater on its summit, on the island of Hawaii. On Maui the park area is the HALEAKALA section Hawaii National Park was created by act of Congress in 1916 and placed under the Dept of the Interior Its main features are tropical vegetation, fern forests, and volcanoes In the Haleakala area the rare silver sword plant, once in great abundance, is now protected

Hawarden (hä'wardun), city (pop 2,681), NW Iowa, on the Big Sioux river and N of Sioux City; inc 1887 Oak Grove State Park is near by

Hawarden (hôr'dŭn, har'-), market town, Flintshire, Wales, W of Chester There are ruins of the keep of a 13th-century castle overlooking the Dee, in the grounds of Hawarden Castle (built 1752), the home of Gladstone until his death there in 1898 Gladstone established St Deniol's Hostel and library for theological students The Early English church has a window by Burne-Jones

Hawes, Stephen, c 1475–1530, English poet A disciple of Lydgate, his two best-known works are allegories somewhat in the manner of Chaucer and anticipatory of Spenser, but inferior to both—his *Example of Virtue* (1504?) and the longer *Pastime of Pleasure* (1509)

Haw-Haw, Lord. see JOYCE, WILLIAM

Hawick (hô'lk), burgh (pop 17,059), Roxburghshire, Scotland, on the Teviot and SE of Edinburgh The castle at Branxholm or Branksome, to the southwest, is the Branksome Hall of Sir Walter Scott's *Lay of the Last Minstrel* Mote or Moot Hill is an artificial mound 50 ft high The house of the Douglases of Drumlanrig, said to be the only building not burned in 1570 by the earl of Sussex, remains There are several very old churches—one supposed to be on the site of a church of St Mary founded by St Cuthbert in the 7th cent Hawick is a center for woolen and hosiery manufacture In the Riding of the Marches, a local celebration held in June, a mounted procession rides along the parish boundaries

hawk, bird of prey of the same family as the eagle, the kite, and the osprey It is a short-winged bird, strong and swift in flight The female is usually larger than the male It stuns its prey and carries it off with its sharply clawed feet and tears the flesh with its hooked bill The indigestible parts are regurgitated in pellets The only completely harmful North American hawks are the sharp-shinned hawk, which eats all kinds of small birds, the larger but similar Cooper's or chicken hawk, and the GOSHAWK Among the hawks which are largely beneficial because they destroy so many rodents and insect pests are the American and the ferruginous rough-legged hawks and the broad-winged, the red-tailed, and the red-shouldered hawks The marsh hawk destroys game in some localities The name hawk is used for some birds of the FALCON family

Hawke of Towton, Edward Hawke, 1st **Baron** (hôk, tou'tŭn), 1705–81, British admiral His defeat of the French fleet in Quiberon Bay (1759) decided the naval outcome of the Seven Years War and saved England from possible invasion His long naval career began in 1720, and some years after his great victory he was first lord of the admiralty (1766–71)

Hawker, Robert Stephen, 1803–75, English poet He was vicar of Morwenstow from 1834 He is best remembered for his *Cornish Ballads* (1869), in which the "Song of the Western Men" has the refrain beginning, "And shall Trelawny die?" His other poetical works include *Reeds Shaken with the Wind* (1843, 1844) and a mystical poem, *The Quest of the Sangraal* (1864) See *The Life and Letters of R S Hawker* by his son-in-law, C E Byles (1905), studies by S Baring-Gould (1876) and M F Burrows (1926)

hawker: see PEDDLER

Hawkesbury, town (pop 6,263), SE Ont., on the Ottawa river and W of Montreal It has lumber and paper mills The Canadian International Paper Company has erected a garden city within the town limits

Hawkesworth, John, 1715?–1773, English author He succeeded his friend Samuel Johnson in 1744 as reporter of parliamentary debates in the *Gentleman's Magazine* With Johnson and Joseph Warton he wrote the *Adventurer* (1752–54), an essay periodical; in 1754–55 he edited Swift's works.

hawking: see FALCONRY.

Hawkins, Sir Anthony Hope: see HOPE, ANTHONY

Hawkins or **Hawkyns, Sir John,** 1532–95, English mariner He was bred to the sea and learned the value of Negroes as merchandise on a number of early voyages. In 1562–63 and in 1564 he led extremely profitable expeditions which captured slaves on the African coast and sold them, despite Spanish prohibition, to Spanish ports both in Europe and the West Indies Hawkins set out again in 1567, plundered Portuguese ships, carried off hundreds of Negroes, and peddled them in ports along the Spanish Main At San Juan de Ulúa he fell afoul of a Spanish squadron and barely escaped with two of his boats, one of which was commanded by Sir Francis DRAKE His reputation somewhat diminished, Hawkins recouped some of his losses by muleting (with the connivance of Elisabeth's chief minister, Lord Burghley) the king of Spain of £40,000 by pretending to betray the English interest In 1572 he entered Parliament and subsequently became treasurer and comptroller of the navy In this capacity he made a number of important improvements in ship construction and rigging, although it is probable that he used his office to his personal financial advantage In the great defeat of the Spanish Armada (1588), Hawkins commanded the *Victory* and was knighted for his services In 1594 he set out on a new expedition to the West Indies under Drake, but died and was buried at sea off Puerto Rico See biographies by J A Williamson (1927) and Philip Gosse (1930) His son was **Sir Richard Hawkins,** 1562?–1622 He served under Drake in the 1585 expedition to the West Indies, commanded the *Swallow* in the defeat of the Spanish Armada, and served under his father in 1590 He commanded an expedition in the ship *Dainty* which set out in 1593, sailed down the Brazilian coast and through the Strait of Magellan, plundered Valparaiso, and took a number of prizes, but was captured by two Spanish ships Hawkins was imprisoned, taken to Peru, and sent to Spain (1597), where he remained in prison until 1602 He later served in Parliament and was knighted (1603), and, as vice admiral, he was active in defending the Devonshire coast from pirates He served also in a disastrous expedition (1620–21) against the Barbary pirates

Hawkinsville, city (pop 3,000), co seat of Pulaski co., central Ga., on the Ocmulgee river and S of Macon, inc 1830 It is a trade and processing center in a cotton, peanut, and dairy area

Hawks, Frank Monroe, 1897–1938, American aviator, b Marshalltown, Iowa He moved to California, where he learned to fly and taught flying in the army (1917–19) Among his numerous speed records were those established in two nonstop flights from Los Angeles to New York, one in 1929 and one in 1933 He was killed in an airplane crash at East Aurora, N Y He wrote *Speed* (1931) and *Once to Every Pilot* (1936)

Hawkshaw, Sir John, 1811–91, English engineer. He was consulted on most of the great engineering projects of his time, his greatest work was as engineer of the Severn Tunnel

Hawksmoor, Nicholas, 1661–1736, English architect, known chiefly for works which he did as employee and associate of Sir Christopher Wren and Sir John Vanbrugh Under Wren he was deputy surveyor in the construction of Chelsea Hospital and Greenwich Hospital in London He assisted Wren in the construction of St Paul's Cathedral (1675–1710) and the buildings at Queen's College, Oxford (1692–95) With Vanbrugh he was associated in building Castle Howard and Blenheim Palace Under the act of 1708, Hawksmoor was appointed one of the architects for designing 50 churches for London Of the six which he built, the best are Christ Church, Spitalfields, and St George's, Bloomsbury At Oxford he designed the gateway to Queen's College and the North Quadrangle of All Souls' College His designs show an individual method of design considerably influenced by the Italian baroque See study by H S Goodhart-Rendel (1924)

hawkweed, any species of the genus *Hieracium*, widely distributed perennials They have small, dandelionlike flower heads of yellow, orange, red, or white, usually clustered at the top of the flower stem A few species are cultivated in gardens, especially on rocky soil where few plants thrive, and some Western species are utilized for forage, but the hawkweeds are regarded in the East chiefly as weeds, the orange or tawny hawkweed or devil's-paintbrush being considered one of the worst weeds of New England, where it often makes whole fields a ruddy orange The king devil is a yellow-flowered species According to tradition, hawks sharpened their eyesight with hawkweed

Hawkwood, Sir John de, d 1394, English soldier. He fought in France with the Black Prince and was knighted (perhaps by Edward III) With his "white company" of mercenaries, he entered Italy (1362) and became a condottiere, serving sometimes one republic, sometimes another, but finally accepting a pension from the Florentines to fight in their behalf

Hawley, Joseph, 1723–88, American Revolutionary patriot, b Northampton, Mass He was a leader of the opposition to the revivalist preaching of Jonathan EDWARDS He served in the Massachusetts General Court, where he became prominent in the struggle for political freedom before the Revolution. A leader of pre-Revolutionary activities in W Massachusetts, he was a strong supporter and frequent correspondent of John Adams. See biography by E F. Brown (1931).

Hawley. 1 Village (pop. 1,122), W Minn., E of Moorhead; settled c 1870 It is a farm trade and shipping center A state game refuge is near. 2 Borough (pop 1,778), NE Pa., E of Scranton, settled 1803, inc 1884 In heavily wooded country, it is a hunting and fishing center. There are also small textile mills

Hawley-Smoot Tariff Act (hô'lē-smōōt'), 1930, passed by the U S Congress President Herbert Hoover desired a limited upward revision of tariff rates with general increases on farm products and adjustment of a few industrial rates. A congressional joint committee, however, in compromising the differences between a high Senate tariff bill and a higher House tariff bill, arrived at new high rates by generally adopting the increased rates of the Senate on farm products and those of the House on manufactures Despite wide protest, the tariff act, called the Hawley-Smoot Tariff Act, was signed (June, 1930) by President Hoover The act —which brought the U S tariff to the highest protective level yet in the history of the United States—brought retaliatory tariff acts from foreign countries, and American foreign trade suffered a sharp decline

Haworth, Sir Walter Norman (harth), 1883–1950, English biochemist He was professor and director of the department of chemistry at the Univ of Birmingham from 1925 to 1948 For his work on the carbohydrates and vitamin C he shared with Paul Karrer the 1937 Nobel Prize in Chemistry In 1947 he was knighted

Haworth (hô'uth, hou'-, hô'wurth), former urban district (pop 5,911) and village, since 1939 part of Keighley, West Riding of Yorkshire, England Patrick Brontë and his family lived in the parsonage, which now houses the Brontë museum and library All the Brontes but Anne are buried at Haworth

Haworth (hä'wurth), borough (pop 1,419), NE N J., ENE of Paterson, inc 1894

hawthorn, any species of the large genus *Crataegus*, widely distributed shrubs or small trees particularly prevalent in E North America They commonly have thorns, clusters of white flowers, and orange red, or yellow fruits, some have rose flowers and some have blue or black fruits The fruits (usually called haws) of a few are edible and are used for jelly Hawthorns are often cultivated for ornament and in Europe particularly, for hedges The flowers were long used in celebrating May Day in England, and the hawthorn, haw, whitethorn, thorn, or may, as it is variously known, has been a favorite symbol of spring in English poetry Many legends glorify it, e g , that of the Glastonbury thorn (see GLASTONBURY, England), Two species are considered common English hawthorn or may, *Crataegus oxyacantha* and *monogyna* The common American hawthorn is *Crataegus coccinea*, usually called scarlet or red haw (as are other similar species), it has bright red fruits A hawthorn is the state flower of Missouri Hawthorns have very hard wood, which is chiefly used for tool handles and small items A viburnum is usually called BLACK HAW

Hawthorne, Charles Webster, 1872–1930, American portrait and genre painter, b Lodi, Ill., studied in New York He taught in the Art Students League and the New York School of Art and in 1899 started his own school, the Cape Cod School of Art, at Provincetown, Mass He won many prizes for *Trousseau* (Metropolitan Mus.) Other works are *Venetian Girl* (Worcester, Mass., Art Mus.) and paintings in the Corcoran Gallery, Rhode Island School of Design, Providence, Art Institute of Chicago, Peabody Institute, Baltimore, Hackley Gallery, Muskegon, Mich., and Buffalo, St Louis, Syracuse, and Detroit art museums He became a member of the National Academy of Design in 1911 See *Hawthorne on Painting* (1938)

Hawthorne, Nathaniel, 1804–64, American novelist and short-story writer, b Salem, Mass., grad Bowdoin, 1825, son of a ship captain who spelled his name Hathorne From his widowed mother, almost a recluse, the boy had learned solitary ways, and after he finished college he spent 12 years in the seclusion of his home, supporting himself by literary hack work and writing his unsuccessful novel *Fanshawe* (1828) Magazine stories first made him known and were collected as *Twice-told Tales* (1837, second series, 1842) With his later stories they remain among the best American short stories When journalistic work proved uncongenial, he took a political appointment to earn his living (as he was to do twice later), becoming measurer at the Boston customhouse In 1841 he tried life at Brook Farm In 1842 he married Sophia Peabody, through whom he had come to know the transcendentalists Emerson, Thoreau, Margaret Fuller, and others, and his book *Mosses from an Old Manse* (1846) was written at the home in Concord where he took his bride In Salem, when he was surveyor of the port (1846–49), he began his masterpiece, *The Scarlet Letter* (1850) In this novel the preoccupation with the brooding,

gloomy spirit of Puritan New England which had permeated his short stories reached its greatest expression His use of symbolism, his swift evocation of atmosphere and setting, and his rhythmic prose disclosed a master of romantic fiction. For this and later stories of the Puritan mind, he has been called the founder of the American psychological novel Living on the estate "Tanglewood," near Lenox, Mass , Hawthorne wrote the novel he liked best of his works, *The House of the Seven Gables* (1851), and there became the friend of his admirer, Herman Melville Back in Concord, he finished *The Blithedale Romance* (1852), based on his months at Brook Farm, and soon, in return for a campaign biography of his college friend Franklin Pierce (1852), he was appointed U S consul at Liverpool, England His three years there and his travels in Italy resulted in *The Marble Faun* (1860), a novel set in Italy, and *Our Old Home* (1863), travel sketches of England He died on a trip to the White Mts with Franklin Pierce Among his four unfinished pieces was a novel, *Septimius Felton* (1872) His *Wonder-Book* (1852) and *Tanglewood Tales* (1853) have remained children's favorites See Hawthorne's *American Notebooks* and *English Notebooks* (both ed by Randall Stewart, 1932, 1941). Passages from them and from the French and Italian notebooks had been selected by Hawthorne's wife and published in 1868-72 See *Hawthorne's Short Stories* (ed by Newton Arvin, 1946) and *The Portable Hawthorne* (ed by Malcolm Cowley, 1948), studies by Hawthorne's son-in-law G. P Lathrop (1876), Henry James (1879), Hawthorne's daughter, Rose H Lathrop (1897), and Robert Cantwell (1948), biographies by G E Woodberry (1902), A Mather Jackson (1940), and Randall Stewart (1948) His son, **Julian Hawthorne,** 1846–1934, wrote the standard biography, *Nathaniel Hawthorne and His Wife* (1885), as well as novels, including *A Fool of Nature* (1896), and short stories See his memoirs (ed by his wife, E G Hawthorne, 1938)

Hawthorne, 1 City (1940 pop 8,263, 1948 special census pop 14,131), in Inglewood township, S Calif., SW of Los Angeles, in an oil and truck-farm area, inc 1922 It has aircraft and other industries **2** Borough (pop 12,610), NE N J , NNE of Paterson, settled 1850, inc 1898 Chemical products are made here

Haxtun (hăk'stŭn), town (pop 985), NE Colo , near the South Platte, in a farm area, inc 1909

Hay, John: see TWEEDDALE, JOHN HAY, 2D EARL AND 1ST MARQUESS OF

Hay, John, 1838–1905, American author and diplomat, b Salem, Ind , grad Brown Univ , 1858 He read law at Springfield, Ill , where he met Abraham LINCOLN He accompanied Lincoln to Washington and was his assistant private secretary until the assassination The next five years he spent in minor posts in the American legations at Paris, Vienna, and Madrid Then followed five years of journalism in New York city, with publication of magazine articles, his *Castilian Days* (1871), and his *Pike County Ballads* (1871) Marriage to a daughter of a wealthy Cleveland financier enabled him to be a man of letters, to travel, and to fill political posts of distinction He became Assistant Secretary of State in 1879 and moved to Washington, where he became the intimate of Henry ADAMS and Clarence KING In this period he wrote a social novel, *The Breadwinners* (pub anonymously, 1883), and, with John G Nicolay, the monumental *Abraham Lincoln: a History* (10 vols , 1890), a work for which the two had gathered material with Lincoln's permission when they were his secretaries. In March, 1897, McKinley appointed Hay ambassador to Great Britain, and there he served his country ably during the Spanish-American War From Sept , 1898, until his death he was Secretary of State under McKinley and Theodore Roosevelt Under McKinley he was a maker of policies, but Roosevelt said Hay was "a fine figurehead " Hay was responsible for the Open Door policy (1899), which stressed equality of trade opportunity in China; for American participation in the international demonstration against the Boxers (1900), and for the HAY-PAUNCEFOTE TREATY See biographies by W R. Thayer (1915) and Tyler Dennett (1933).

Hay, Oliver Perry, 1846–1930, American paleontologist, b Jefferson co., Ind., grad. Eureka College (B A , 1870). He taught at Butler Univ , Indianapolis (1879–92) and served with the Field Museum of Natural History, the American Museum of Natural History, and the Carnegie Institution and on the geological surveys of Arkansas, Indiana, and Iowa He made studies of Pleistocene vertebrates of North America and wrote several works in this field.

Hay, river, c.350 mi long, rising in NE British Columbia N of Peace river, crossing NW Alberta, and flowing into Great Slave Lake.

hay, wild or cultivated plants, such as grasses and legumes, dried and cured for use as food for livestock. It is an important factor in cattle raising Hay is one of the leading crops of the United States, where it is grown mainly for home consumption Timothy, alfalfa, and clover are the principal crops used for hay. Because haymaking processes must be carried on quickly for best results, modern power machinery for cutting, raking, loading, and baling has been developed to take the place of the scythe and hand rake Brown hay is hay which has been allowed to ferment See U S Dept of Agriculture *Grass the Yearbook of Agriculture* (1948)

Haya de la Torre, Víctor Raúl (vēk'tôr räōōl' ä'yä dä lä tô'rĕ), 1895–, Peruvian political leader, founder of the APRA party (Alianza Popular Revolucionario Americana) The members of the party are known as Apristas A student radical, he was exiled in 1920 and spent eight years traveling before returning to Peru He campaigned unsuccessfully for the presidency in 1931, was imprisoned for 15 months, and ran by proxy in 1936. Because APRA advocates overthrow of the oligarchy which has ruled Peru since independence was won, it was outlawed from 1931 to 1945, when Bustamante became president with Aprista support The APRA movement has also become a profoundly significant trend in Latin America A social and economic force rooted deeply in demands for the underprivileged, it seeks alleviation of oppression, particularly oppression of the Indian The successful coup of Manuel Odría in Nov , 1948, caused Haya de la Torre to find refuge in the Colombian embassy A bitter Colombian-Peruvian exchange followed

Haydarpasa (hī'därpäshä'), railroad terminus, Turkey, on the Asiatic side of Istanbul and included in the Istanbul city limits. It is sometimes spelled Haidar Pasha.

Hayden, Ferdinand Vandiveer (hā'dun) 1829–87, American geologist, b. Westfield, Mass , grad Oberlin, 1850, M D Albany Medical College, 1853 Chiefly through the influence of James Hall, his interest in geology was aroused and he engaged in geological expeditions, Hayden first explored the Badlands (with F B Meek) and later the upper Missouri valley After serving as a surgeon in the Civil War, he taught geology (1865–72) at the Univ of Pennsylvania. In 1867 he undertook for the government a survey of Nebraska, later he headed (1872–79) the survey of the territories His notable work, especially in the Rocky Mt region, resulted in his appointment to the newly created U S Geological Survey, he was in charge (1879–86) of the Montana division Largely through his efforts, Yellowstone National Park was created

Haydn, Franz Joseph (fränts' yō'zĕf hī'dn), 1732–1809, Austrian composer As a boy he sang in the choir at St Stephen's, Vienna, and beyond this his early musical training was scanty Most of his enormous musical output was produced during the 29 years of his service as musical director to the Princes ESTERHAZY, beginning in 1761 Haydn visited London in 1791 and again in 1794 During the earlier visit he received the degree of doctor of music from Oxford Univ , and on that occasion his Oxford Symphony (composed, 1788) was performed The last important creations of his old age were his two great oratorios, *The Creation* (1799) and *The Seasons* (1800) Throughout his creative life he composed string quartets, some of which influenced Mozart, whose own quartets influenced the later ones of Haydn For the court of the Esterhazys, Haydn composed a number of operatic works which served as training for his later oratorios It is impossible to say just how many symphonies he wrote, the count of 104 by the scholar Mandyczewski is generally accepted Many are known by nicknames such as Farewell Symphony (1772), Toy Symphony (1788), Surprise Symphony (1791), Military Symphony (1794), Clock Symphony (1794), Drum Roll Symphony (1794), and London Symphony (1795). Outstanding also are the Symphony No 88 in G (1786) and the Symphony No 99 in E Flat (1793–94) In his symphonies and those of Mozart, sonata form reaches perfection Haydn also composed piano sonatas, songs, choruses, Masses, chamber music for various instruments, and *The Seven Last Words*, originally written (c 1785) for orchestra, on commission from the cathedral at Cádiz, and later arranged by Haydn for string quartet and as a choral work Haydn's younger brother, Johann Michael Haydn (1737–1806), was a composer, musical director to the archbishop of Salsburg for many years, and a teacher of Weber See biography of Franz Joseph Haydn by Karl Geiringer (1946)

Haydon, Benjamin Robert, 1786–1846, English painter and writer His ambitions involved him in many difficulties and despite some early successes he was always in debt. During one of his imprisonments for debt in 1827 he painted *Mock Election* (Buckingham Palace), a fine picture which was purchased from him by George IV. Other admirable works include *Lazarus* (National Gall , London), *Agony in the Garden* (Victoria and Albert Mus), and *Punch and Judy* (Tate Gall., London) Haydon was a popular teacher, writer, and lecturer and included among his admirers most of the great literary figures of his day His lectures on design (later published) were delivered in many cities His continued lack of financial success drove him to suicide at the age of 60. See his *Correspondence and Table-Talk* (1876) and his autobiography and journals (1926 ed., with introduction by Aldous Huxley); biography by Eric George (1948).

Hayes, Carlton Joseph Huntley, 1882–, American historian and diplomat, b. Afton, Chenango co., N Y., grad. Columbia (B A , 1904; M.A., 1905, Ph D , 1909). He began teaching history at Columbia in 1907, became a full professor in 1919, and from 1935 to his retirement in Jan., 1950, held the Seth Low chair of history Hayes is especially noted for his studies in nationalism, *Essays on Nationalism* (1926) and *The Historical Evolution of Modern Nationalism* (1931) A forceful teacher, he also inspired his students to further research in this field. Other works include *An Introduction to the Sources Relating to the Germanic Invasions* (1909), *British Social Politics* (1913), *France, a Nation of Patriots* (1930), and *A Generation of Materialism (1871–1900)* (1941). Of his many textbooks (the earlier ones were often written in collaboration with Parker T Moon), *A Political and Cultural History of Modern Europe* (2 vols , 1932–36, rev ed , 1939) is best known, a more recent one is *History of Europe*, with Marshall W. Baldwin and Charles W Cole (1949) Hayes served as a captain in military intelligence in the First World War and wrote *A Brief History of the Great War* (1920) He had been converted to Catholicism in his undergraduate days and became one of the leading Catholic laymen in the United States. The period from May, 1942, to March, 1945, when he was U S ambassador to Spain, he records in *Wartime Mission in Spain, 1942–1945* (1945). Although anti-Franco elements criticized him as being too friendly with the Spanish dictator, it was generally held that he played an important role in preventing an outright Spanish alliance with the Axis in the Second World War Hayes was long cochairman (1925–45) of the National Conference of Christians and Jews

Hayes, Harvey Cornelius, 1878–, American physicist, b North Fenton, N Y , grad Harvard (B A , 1907) From 1917 he served as research physicist of the U S navy His most notable contribution is the invention of the sonic depth finder, a practical instrument for use in mapping the ocean floor

Hayes, Helen, 1900–, American actress, whose maiden name was Helen Hayes Brown, b Washington, D C She made her Broadway debut in 1908 in *Old Dutch*, a musical comedy Her performances in *Dear Brutus*, *Mary of Scotland*, *Caesar and Cleopatra*, and *What Every Woman Knows* made her popular, and her portrayal (1935–39) of the title role in Laurence Housman's *Victoria Regina* established her as an actress of the first rank Her more recent appearances have been in *Twelfth Night*, *Harriet*, and *Happy Birthday* Some of the films in which she has starred are *The Sin of Madelon Claudet*, *Arrowsmith*, and *Farewell to Arms* She married (1928) the playwright Charles MacArthur See Catherine Hayes Brown, *Letters to Mary* (1940)

Hayes, Isaac Israel, 1832–81, American arctic explorer, b Chester co , Pa , M D Univ. of Pennsylvania, 1853 While serving as ship's surgeon on the second expedition (1853–55) of E K KANE, Hayes led an exploring party across Kane Basin and northward along the east shore of Ellesmere Island. On his own expedition (1860–61) he sought an open seaway to the North Pole, which he incorrectly believed he had found at a point which seems to have been the south end of Kennedy Channel His astronomer had died during the early part of the expedition, and Hayes's astronomical calculations were inaccurate In 1869 he made another journey to Greenland, on which he was accompanied by the marine artist, William Bradford Hayes wrote several books on his arctic experiences, including *Cast Away in the Cold* (1868) and *The Land of Desolation* (1872)

Hayes, Patrick Joseph, 1867–1938, American churchman, archbishop of New York (1919–38), cardinal of the Roman Church, b New York city, educated at Manhattan College, at Catholic Univ , and at Rome. He was ordained in 1892, and became chancellor of the archdiocese of New York (1903) and auxiliary to Archbishop John M FARLEY (1914). He succeeded as archbishop in 1919 and was created cardinal in 1924 Cardinal Hayes manifested great interest in social and industrial reforms, especially in the administration of F D Roosevelt He organized the Catholic Charities of New York, which became one of the principal American agencies of social work Cardinal Hayes was greatly loved and revered by all classes and creeds His death and his burial in the crypt of St Patrick's Cathedral were the occasion of a great popular demonstration of mourning See John B Kelly, *Cardinal Hayes: One of Ourselves* (1941).

Hayes, Roland, 1887–, American Negro tenor, b. Curryville, Ga , studied at Fisk Univ. and with private teachers in Boston and in Europe. Born into a poor family, he secured his education under very difficult circumstances, and finally, past the age of 30, he achieved recognition both in Europe and in the United States as a great singer of Negro spirituals and of the art-song repertoire. See MacKinley Helm, *Angel Mo' and Her Son, Roland Hayes* (1942).

Hayes, Rutherford Birchard, 1822–93, 19th President of the United States (1877–81), b. Delaware, Ohio, grad. Kenyon College, 1843, and Harvard Law School, 1845 He became a moderately successful lawyer in Cincinnati and was made (1858) city solicitor In the Civil War he began as a major of volunteers, took part in some 50 engagements, was several times wounded, and rose in rank to be (1865) major general of volunteers Elected to Congress while still in the field, he served (1865–67) as a regular Republican, quietly supporting the radical Reconstruction program He was three times (1867, 1869, 1875) elected governor of Ohio and was chosen as the Republican candidate for President in 1876, opposing Samuel J TILDEN, the Democratic candidate The election was one of the most significant in U.S history, for it marked the resurgence of the Democrats and the political reentry of the South into the Union The chaotic political conditions brought on by Reconstruction resulted in disputed elections in South Carolina, Florida, Louisiana, and Oregon Congress created an electoral commission to decide the elections The commission awarded all disputed returns to Hayes and thereby gave him a majority of one in the electoral college Needless to say, the decisions were obviously partisan, and the resultant indignation had some effect on Hayes's administration, which was generally conservative and efficient and no more He withdrew Federal troops from Louisiana and South Carolina, and the Reconstruction era was ended His conciliatory policy toward the South and his genuine interest in civil service reform alienated important Republican groups, notably that led by Roscoe CONKLING An advocate of hard money, he vetoed the BLAND-ALLISON ACT, which was passed over his veto, and provided for resumption of specie payments in gold At the end of his term he retired to become active in philanthropic foundations See his diaries and letters (ed by C R Williams, 5 vols , 1922–26), biographies by C R Williams (1914) and H J Eckenrode and P W Wight (1930)

Hayes, river of NE Manitoba, rising in the lake region NE of Lake Winnipeg, and flowing generally northeast c 300 mi to Hudson Bay It was the chief route used by Hudson's Bay Company traders from Hudson Bay to Lake Winnipeg and the interior, York Factory, an important establishment of the company is at its mouth

hay fever, INFLAMMATION of the mucous membrane of nose and eyes resulting from a specific sensitivity to certain foreign substances, usually the POLLEN of plants (see ASTHMA) It usually recurs each year, the exact time depending upon the time of flowering of the plant There is itching, sneezing, swelling, and discharge associated with the congestion and there are many degrees of severity of the attack The discomfort can be lessened by local astringents. To prevent attacks some persons choose a suitable place of residence away from the plant during flowering season The substance which causes hay fever can be determined by skin tests It is possible to desensitize some individuals by means of injections prepared from the offending agent

Hay-Herrán Treaty (hā"-hĕrän'), concerning the Panama Canal, was signed by Secretary of State John Hay of the United States and Foreign Minister Tomás Herrán of Colombia on Jan 22, 1903 The treaty provided that the New Panama Canal Company, which held an option on the canal route, might sell its properties to the United States, Colombia was to lease a strip of land across the Isthmus of Panama to the United States for construction of a canal, and the United States was to pay Colombia $10,000,000 and, after nine years, an annuity of $250,000 Although it did not give the United States complete governmental control over the proposed canal zone, the treaty was ratified by the U S. Senate Fear of "Yankee imperialism" and of the loss of national sovereignty, plus the insufficiency of the proposed money payments, caused the Colombian congress to decline ratification of the treaty. See D C Miner, *The Fight for the Panama Route* (1940)

Hayley, William, 1745–1820, English poet and biographer. His biography (1803–4) of his close friend Cowper was illustrated by Blake during a three-year residence with Hayley Although his dramas, essays, and odes are forgotten and his biographies of Milton (1796) and Romney (1809) superseded, he was once so popular a poet that he was offered the laureateship, which he declined. See his memoirs (ed by John Johnson, 1823).

Haymarket Square riot, outbreak of violence in Chicago on May 4, 1886 Demands for an eight-hour working day became increasingly widespread among American laborers in the 1880s. This issue caused trouble. A demonstration, largely staged by a small group of anarchists in Chicago caused a crowd of some 1,500 people to gather at Haymarket Square. When policemen attempted to disperse the meeting, a bomb exploded and rioting ensued. Seven policemen and four other persons were killed, while over 100 were wounded. Public indignation rose rapidly, and punishment was demanded. Eight anarchist leaders were tried, but no evidence was produced that they had made or thrown the bomb. They were, however, convicted of inciting violence Four were hanged, one committed suicide, and the remaining three—after having served in prison for seven years—were pardoned (1893) by John P Altgeld, governor of Illinois, on the ground that the trial had been unjust The incident was frequently used by the adversaries of organized labor to discredit the waning KNIGHTS OF LABOR movement See Henry David, *History of the Haymarket Affair* (1936)

Hayne, Isaac, 1745–81, soldier in the American Revolution, b Colleton District, S C He became a planter there and manufactured arms for the Revolutionary forces Upon the destruction by the British of the ironworks, he became a soldier in the Continental army After Charleston fell, he was paroled and returned to his plantation Because of desperate illness in his family he found it expedient to swear allegiance to the British, having been assured by them, so he thought, that military service would not be required of him Therefore when ordered to military service by them, he considered his agreement violated and again enlisted in the colonial forces On subsequent capture he was hanged as a spy without trial, an act which greatly angered the Americans

Hayne, Paul Hamilton, 1830–86, American poet, b. Charleston, S C, grad Charleston College His first book of poems came out in 1855 Too frail for active service, he was an aide to the Confederate General Pickens in the Civil War and wrote spirited war poems After the war, his home and library destroyed, he took refuge on a small estate in Georgia, working in his garden for food and lightening his poverty by writing poems and corresponding with literary friends and admirers, among them the younger Southern writers, Lanier, Timrod, and Scollard In 1873 he edited the works of Timrod His own works include *Legends and Lyrics* (1872), *The Mountain of the Lovers* (1875), and collected poems (1882) See his letters, ed by D M McKeithan (1944) and Charles Duffy (1945)

Hayne, Robert Young, 1791–1839, American statesman, b. Colleton District, S C Having served in the South Carolina state legislature (1814–18) and as attorney general of South Carolina (1818–22), Hayne was a U S Senator (1823–32) and gained attention as the leading Southern spokesman against the tariff His famous debate with Daniel Webster in Jan , 1830, precipitated by the FOOT RESOLUTION, covered all the issues of political and economic difference between the South and the North, in it Hayne upheld the doctrines of states' rights and nullification, thus provoking Webster's impassioned defense of a nationalistic interpretation of the Constitution Hayne retired (1832) from the Senate in favor of John C Calhoun and was governor of South Carolina (1832–34) at the time the nullification convention met The compromise which Henry Clay procured satisfied him, and his influence ameliorated the ensuing high feeling After a year as mayor of Charleston, Hayne devoted the rest of his life to railroad projects to ally the West with the South, but with little success See biography by T D Jervey (1909)

Haynes, Elwood, 1857–1925, American automobile inventor and manufacturer, b Portland, Ind , grad Worcester Polytechnic Institute, 1881 While working as field superintendent for a natural gas company in Kokomo, Ind , he designed a gasoline automobile, with which he made successful tests on July 4, 1894 This was of the "horseless carriage" type, Haynes gave it to the Smithsonian Institution in 1910 In 1895 he formed his own manufacturing company and in later years made many improvements in design and construction He invented a number of alloys, including one of cobalt and chromium used in the manufacture of cutting instruments

Haynes, John, c 1594–1654, colonial governor of Massachusetts and then of Connecticut He emigrated (1633) to Massachusetts and as governor (1635) banished Roger Williams, an act he later regretted Haynes moved (1637) to Hartford, Conn , and became (1639) the first governor of Connecticut under the FUNDAMENTAL ORDERS He held the office on alternate years until his death He urged the union of the New England colonies and later served as Connecticut commissioner to the New England Confederation

Haynesville, town (pop 2,418), NW La , near Arkansas, in a cotton and oil district, inc 1861

Hay-Pauncefote Treaty (hā"-pôns'fōōt), negotiated in 1901 by Secretary of State John HAY, for the United States, and Julian Pauncefote, 1st Baron PAUNCEFOTE OF PRESTON, British ambassador to the United States, for Great Britain It replaced the CLAYTON-BULWER TREATY and established the supremacy of the United States in the Caribbean. The original draft of the treaty was signed on Feb. 5, 1900 It provided for a neutralized canal, to be governed by rules similar to the Suez Canal regulations adopted at Constantinople in 1888, and, most important, it authorized the United States to construct and manage the transisthmian canal This draft was ratified by the U S Senate on Dec. 20, 1900, with three amendments—abrogation of the Clayton-Bulwer Treaty, provision for the fortification of the canal, and deletion of the article providing that other powers join the treaty Since Great Britain refused to ratify the treaty as amended, a revised treaty was signed by Hay and Pauncefote on Nov 18, 1901, and was ratified by the U S Senate on Dec 16, 1901 A compromise, it superseded the Clayton-Bulwer Treaty, provided that the United States might construct a canal and have full control of its management and regulation, retained nominally the principle of neutrality under the sole guarantee of the United States, provided that the canal be open to ships of all nations on equal terms, and omitted the clause contained in the first draft forbidding fortifications The Panama Canal Act, passed in 1912, which exempted from tolls American ships engaged in coastwise trade, was protested by Great Britain as a violation of the treaty and was repealed in 1914 through the efforts of President Woodrow Wilson See S F Bemis, *A Diplomatic History of the United States* (1936)

Hays, Arthur Garfield, 1881–, American lawyer, b Rochester, N Y , grad Columbia (B A , 1902, LL B , 1905). He was admitted (1905) to the bar and practiced in New York city He was active in many cases concerned with civil liberties, he distinguished himself as a defense attorney in the Scopes Case (1925) in Tennessee, in the Sacco-Vanzetti Case (1927), and in the case (1933) involving the burning of the German Reichstag He is the director of the American Civil Liberties Union and conducted (1937) the investigation of civil liberties in Puerto Rico He wrote *Let Freedom Ring* (1928), *Trial by Prejudice* (1933), and *Democracy Works* (1939)

Hays, William Harrison, 1879–, American moving-picture executive, b Sullivan, Ind , grad Wabash College, 1900 Will H Hays became active in Indiana political affairs, was chairman of the Republican state committee, and served (1918–21) as chairman of the Republican National Committee He was (1921–22) Postmaster General under President Harding As president (1922–45) of the Motion Picture Producers and Distributors of America, he administered the moving-picture moral code—popularly called the "Hays Code"—which was promulgated (1934) by agreement of the leaders of the moving-picture industry

Hays, William Jacob, 1830–75, American painter of Western scenes and wild life, b New York city Noteworthy examples of his work are *Wounded Buffalo*, *The Stampede*, *Herd on the Move*, and *Prairie Dog Village* He also made excellent studies of flowers, fruit, and game birds

Hays, city (pop 6,385), co seat of Ellis co , W central Kansas, W of Salina, inc 1885 It was founded in 1867 near Fort Hays, established in 1865 for protection against the Indians and abandoned in 1889 In an agricultural and livestock area, it prospered after 1936 with the development of near-by oil fields Fort Hays Kansas State College and an agricultural experiment station are here

Hayti (hā'tē), city (pop 2,628), extreme SE Mo , near the Mississippi It ships cotton and other farm products

Hayward, Abraham, 1801–84, English lawyer and essayist Editor of the *Law Magazine*, he contributed to many periodicals, including the *Quarterly Review*, and translated Goethe's *Faust* "The Art of Dining" (1852) is his best-known essay

Hayward. 1 City (pop 6,736), W Calif , SE of Oakland, founded 1854, inc 1876 It is a large poultry center Canning is done here, and poultry-farm equipment and feeds are produced 2 Resort city (pop 1,571), co seat of Sawyer co , NW Wis , on the Namekagon and SE of Superior, in a lake and woods region, settled 1881, inc 1915 Camp Hayward, for migratory workers, was established here in 1934 Two state fish hatcheries and a government nursery are near by

Haywood, Eliza (Fowler), 1693?–1756, English novelist Her libelous references in *Memoirs of a Certain Island Adjacent to Utopia* (1725) prompted Pope to satirize her in *The Dunciad* Her periodical the *Female Spectator* (1744–46) was followed by some 70 books the best were the novels *The History of Miss Betty Thoughtless* (1751) and *The History of Jemmy and Jenny Jessamy* (1753) See biography by G F Whicher (1915)

Haywood, William Dudley, 1869–1928, American labor leader, b Salt Lake City, Utah. He began mining at 15 years of age In 1896 he joined the newly organized Western Federation of Miners, and in 1900 he became a member of the executive board and national secretary-treasurer of the organization, with headquarters in Denver His leadership was militant, and he was often accused of inciting to violence, especially in the Colorado troubles culminating in the Cripple Creek strike (1904), which he led He was also accused of instigating the assassination of Idaho's governor in 1905, but was acquitted in a trial in which he was defended by Clarence S Darrow and which attracted nation-wide attention In 1905 he was one of the organizers of the INDUSTRIAL WORKERS OF THE WORLD He joined the Socialist party and became a member of its national executive board,

but because of his advocacy of violence was forced out of the party. He led the famous Lawrence and Paterson textile workers' strikes in 1912 and 1913 Repudiating the crafts union ideal and the co-operation policy of the American Federation of Labor, he preached the class struggle, no compromise, mass action doctrines of the I W W When the United States entered the First World War, he was arrested on a charge of sedition, was tried, convicted, and sentenced to 20 years' imprisonment. While awaiting a new trial in 1921, he forfeited bail and escaped to Russia He wrote many articles and prepared his own autobiography, published as *Bill Haywood's Book* (1929) See P. F. Brissenden, *The I W W* (2d ed , 1920)

Hazael (hă'zāĕl, hŭzā'ĭl), fl 840 B C , king of Damascus, successor and murderer of BENHADAD **2** From the Bible he appears as the ally of the party of Elisha in Israel and later as the conqueror, for he took all the Hebrew possessions E of the Jordan, ravaged Judah, and rendered Israel impotent From inscriptions of Shalmaneser of Assyria it appears that Hazael withstood an attack by the Assyrian army and kept Damascus, Syria, and Palestine independent He was succeeded by his son Benhadad 1 Kings 19 15, 2 Kings 8–10

Hazaiah (hăzā'yu, hă"zāĭ'u) [Heb ,=God decides], descendant of Judah Neh 11 5

Hazar-addar (hā'zar–), boundary town, S Palestine Num 34 4 In the parallel verse, Joshua 15 3, textual error seems to have made two names, Hezron and Adar, out of one

Hazard, Ebenezer (hă'zurd), 1744–1817, American public official and historian, b Philadelphia, grad Princeton, 1762 He became a publisher in New York city. He was appointed (1775) first postmaster of the city under the Continental Congress, made (1776) surveyor general of the Continental Post Office and in 1782 succeeded Richard BACHE as Postmaster General This office he held until Sept , 1789, when, under the new Federal Constitution, the Post Office establishment was reorganized Under him the mail was first carried in stagecoaches on main routes, displacing the old horse-and-rider system He edited two volumes of *Historical Collections* (1792–94)

Hazard, Paul (pôl' ăzar'), 1878–1944, French scholar He began his teaching at the Univ of Lyons in 1910, and his success was immediate After the First World War he taught (1919–25) at the Sorbonne and in 1925 was appointed to the chair of comparative literature in the Collège de France In alternate years between 1932 and 1940 he was a visiting lecturer at Columbia Recognized as one of the outstanding authorities on comparative literature, Hazard was elected to the French Academy in 1939 Appointed (1941) president of the Univ of Paris, he was rejected by the Germans and taught in Paris and Lyons until his death Among his important writings are *Histoire de la littérature française* (comp with Joseph Bédier, 2 vols , 1923–24), *Les Livres, les enfants et les hommes* (1932, Eng tr , *Books, Children & Men*, 1944), and *La Crise de la conscience européenne* (3 vols , 1935)

Hazard (hă'zurd), city (pop 7,397), co seat of Perry co , E Ky , on the North Fork of the Kentucky river, in the Cumberland foothills It is the trade and shipping center for an important coal area which also yields oil, gas, and timber Oil is refined in the city The surrounding mountain regions are sparsely settled and isolated The Frontier Nursing Service is at Hyden, to the southwest, and the Hindman Settlement School, on Troublesome Creek, is NE of Hazard

Hazar-enan (hă'zar-ē'–) [Heb ,=village of springs], unidentified northern boundary limit of Israel Num 34 9, Ezek 47 17, 48 1

Hazar-gaddah (hă'zar-gă'du) [Heb ,=village of fortune], town, S Palestine Joshua 15 27

Hazar-hatticon (hă'zar-hă'tĭ–) [Heb ,=the middle village], town of Israel Ezek 47 16

Hazarmaveth (hă'zarmă'–), son of Joktan and eponym of the country now called HADRAMAUT Gen. 10 26, 1 Chron 1 20

Hazar-shual (–shō'ŭl) [Heb ,=fox village], unidentified town, S Palestine Joshua 15 28, 19 3, 1 Chron. 4 28, Neh 11 27

Hazar-susah (hă'zar-sū'su) or **Hazar-susim** (–sū'–) [both Heb ,=horse village], town, S Palestine Joshua 19 5, 1 Chron 4 31

haze, a lack of transparency in the atmosphere caused by suspended dust or salt particles or by minute water droplets (smaller and less numerous than in fog). A hazy condition prevalent on hot days, known as optical haze, or "shimmer," is caused by unequal heating of the air, which results in unequal refraction of light as it passes through air of varying density. In haze there is no visible obscuration of near-by objects, but distant objects are blurred and details of landscape and color disappear.

Hazebrouck (ăzbrōōk'), **town** (pop 11,896), **Nord** dept , N France, in Flanders. It has a textile industry.

hazel, any plant of the genus *Corylus*, shrubs or small trees with foliage similar to the related alders The flowers are produced before the leaves, the male in catkins, the female inconspicuous, both on the same tree Hazels are also called filbert, although this is more strictly a name for two European kinds (and their hybrids) cultivated chiefly in Europe for the filbert nuts of commerce American hazels are rarely cultivated for the edible nuts that are often gathered but seldom sold Cobnut is another name, particularly for a third European kind Winter hasel and WITCH HAZEL are not related to hazel

Hazel Crest, village (pop 1,299), NE Ill , near Chicago, inc 1911

Hazelelponi (hă'zĕlĕlpō'nī), Judahite woman. 1 Chron 4 3

Hazelwood, town (pop 1,508), W N C , WSW of Asheville, in the Blue Ridge resort area

Hazen, William Babcock, 1830–87, American general, b West Hartford, near Hartford, Vt , grad West Point, 1855 In the Civil War he fought at Shiloh, Perryville, and Murfreesboro and in the Chattanooga campaign. Promoted major general of volunteers (1864), he led a division in Sherman's campaign through Georgia and the Carolinas After the war he served many years in the West His criticism of army contracts and the post-trader system led to exposure of the Belknap scandals in the War Dept (see BELKNAP, WILLIAM WORTH) Hazen was appointed chief signal officer in 1880 As ex officio head of the Weather Bureau, he organized the polar expedition of Adolphus W GREELY See his *Narrative of Military Service* (1885)

Hazerim (huzē'rĭm, hă'zu–) [Heb ,= villages], unidentified place Deut 2 23 Perhaps it represents a common noun

Hazeroth (huzē'rŏth, hă'zu–) [Heb ,=camping grounds], camp of the Hebrews, N of Mt Sinai. Num 11 35, 12 16, 33 17, Deut 1 1

Hazezon-tamar (hă'zŭzŏn-tā'mär) see EN-GEDI

Haziel (hā'zēĕl, hăzī'–) [Heb ,=God's vision], Gershonite Levite 1 Chron 23 9

Hazlehurst (hā'zulhûrst) **1** City (pop 1,732), co seat of Jeff Davis co , SE Ga , near the Altamaha river WSW of Savannah, settled in late 1850s, inc 1891 It is a market for tobacco **2** City (pop 3,124), co seat of Copiah co , SW Miss , SSW of Jackson, founded 1857, inc 1865 It is the shipping center for a fruit and vegetable area

Hazleton (hā'zultun), industrial city (pop 38,009), E Pa , S of Wilkes-Barre, settled 1780, laid out 1836, inc as a borough 1856, as a city 1892 It has anthracite mines and textile mills and a wire and cable industry established through the voluntary contributions of its citizens The highest elevation of the anthracite region (1,750 ft above sea level) is near the city

Hazlitt, William, 1778–1830, English essayist After an informal education which included theology, art, and philosophy, he began writing for newspapers and periodicals He acted as parliamentary reporter and theatrical critic for the *Morning Chronicle* and later contributed to Leigh Hunt's *Examiner*, the *Edinburgh Review*, the *London Magazine*, and the *New Monthly* The best of Hazlitt's enthusiastic and penetrating literary criticism is collected in *Characters of Shakespear's Plays* (1817), *Lectures on the English Poets* (1818), *Lectures on the English Comic Writers* (1819), *Table Talk* (1821–22), and *The Spirit of the Age* (1825), portraits of his contemporaries With Coleridge, Hazlitt led the move for a new view of Shakspere and Elizabethan drama, in general he showed keen insight in his judgments on contemporary writers and actors as well as on past authors Hazlitt is one of the masters of the English essay, displaying a keen intellect, sensibility, and wide interests in such essays as "On Going a Journey," "My First Acquaintance with Poets," "On the Feeling of Immortality in Youth " Hazlitt was well acquainted with Wordsworth, Coleridge, Southey, Lamb, and many other prominent men of his time, although his obstinate independence and uncertain temper frequently alienated his friends, even his enemies had to respect his honesty and ability His admiration of Napoleon, of whom he wrote a biography (1828–30), was the exception to his lifelong liberal tendencies See his collected works (ed by P P Howe, 1930 34), biographies by P P Howe (rev ed , 1928) and C M Maclean (1944) *The Memoirs of William Hazlitt* (1867) is by his grandson, **William Carew Hazlitt,** 1834–1913, bibliographer Among W C Hazlitt's works are a valuable *Handbook to the Popular Poetical and Dramatic Literature of Great Britain* (1867) and its supplements and *Four Generations of a Literary Family the Hazlitts* (2 vols , 1897)

Hazo (hā'–), nephew of Abraham Gen 22 22

Hazor (hā'–) **1** Fortified city, somewhere in N Palestine, which Joshua destroyed and Solomon rebuilt Joshua 11 1, 19 36, 1 Kings 9 15, 2 Kings 15 29 **2** Unidentified town, Palestine Joshua 15 23 **3** See KERIOTH **2** **4** Unidentified place, near Jerusalem, occupied after the Exile Neh 11 33 **5** A district, Arabia Jer. 49 28–33. **6** Unidentified town, S Palestine. Joshua 15 25. AV gives at this point "Hazor, Hadattah," but RV is more likely correct with Hasor-hadattah.

H. D.: see DOOLITTLE, HILDA.

He, chemical symbol of the element HELIUM.

Head, Sir Edmund Walker, 1805–68, British administrator in Canada; cousin of Sir Francis Bond Head. As governor (1847–54) of New Brunswick he so successfully discharged his duties that he was appointed lieutenant governor of Canada in 1854, but increasing friction between Upper and Lower Canada made his tenure of office a period of difficulties and he retired from office in 1861 An able linguist, he prepared an edition of Franz T. Kugler's *Handbook of Painting: the German, Flemish, Dutch, Spanish, and French Schools* (1854) and translated from the Icelandic *Viga-Glum's Saga* (1866)

Head, Sir Francis Bond, 1793–1875, British administrator in Canada His experience as an officer in the British army, as the manager of a mine in South America, and as assistant poor-law commissioner for Kent, England, had little prepared Head for the post of lieutenant governor of Canada, to which he was appointed in 1835 An unsubstantiated story has it that this appointment was offered to him by mistake, it was intended for his cousin, Sir Edmund Walker Head Sir Francis's reactionary policy in Canada, which announced itself shortly after his arrival, and his alliance with the Family Compact estranged Robert Baldwin and the moderate reformers and drove William Lyon Mackenzie and other radical reformers into open rebellion in 1837. Head quelled this uprising (he had resigned before it broke out but had not been relieved of his post) and left Canada early in 1838, never again to hold public office He wrote a number of books, those dealing with his experiences in Canada are *A Narrative* (1839) and *The Emigrant* (1847).

head, portion of the body of an animal which bears sense organs, a mouth, and usually the entrance to the respiratory tract The lowest forms of animal life have no head Some invertebrates, e g , worms, have a slightly differentiated anterior portion suggestive of a head region, others, e g , insects, have a well-defined head Among vertebrates the head is most highly developed and forms a definite body region In the lower classes of the vertebrates, i e , fish, amphibia, and reptiles, the head is joined directly with the trunk of the body, but in the birds and mammals a third body region, the neck, separates the head and trunk In birds and mammals the skeletal portion of the head is a bony skull, of which the portion called the cranium surrounds and protects the brain

headache, pain in the head which varies in location, duration, and severity It is often caused by eyestrain or disease of the eye (GLAUCOMA), SINUS INFECTION, CONSTIPATION, FEVER, exhaustion, and excessive stimulation by emotion or by drugs In children it may be caused by adenoids Many drugs are commonly used to relieve the pain However, these give only temporary relief, and in the case of nephritis and other diseases headache is a sign of toxemia and is not relieved by headache remedies The use of histamine has been reported as beneficial in the treatment of some headaches See also MIGRAINE

headdress, the head covering or decoration, protective or ceremonial, which has been an important part of COSTUME from primitive ages Its style is governed in general by climate, available materials, religion or superstition, and the stage of development The most primitive form consisted of varied styles of HAIRDRESSING Protective head coverings include the hat, cap, hood, turban, helmet, and veil Ceremonial headdress includes all head coverings and hairdressing that indicate rank, profession, sex, or religion, as well as those worn in ritualistic ceremonies, games, and contests Of such are the feathered war bonnet of the American Indian, the peacock feathers of the Manchu, the academic cap, the nun's coif and veil, the cardinal's hat, the headdress of the Oriental wife, the marriage crowns, and the judge's wig The ritualistic headdress and also the mask are complex in their symbolism See K M Lester and B V Oerke, *Illustrated History of Accessories of Dress* (1940)

head-hunting. Taking the head of a slain enemy occurs sporadically throughout the world, and its persistence from the times of early man to the 20th cent indicates not only the assignment of a trophy value to the head, but also the frequent association of the head with a source of sanctity and power Head-hunting practices are not easily eliminated, the need to acquire status through prowess or spiritual reinforcement is too strong in some societies to be effectively legislated against The South American Jibaro remove the skull and shrink the head through curing

Headland, town (pop 2,052), SE Ala , N of Dothan, in a farm area. It has timber-processing plants A state agricultural experiment station is here

Healdsburg (hēldz'bûrg), city (pop 2,507), W Calif , on the Russian river and N of San Francisco, founded 1852, inc 1874 It is the trade and processing center of a fruit and grape area

Healdton (hēl'tun), oil town (pop. 2,067), S Okla., near Ardmore.

health: see HYGIENE and PUBLIC HEALTH.

health insurance, prepayment plan providing cash indemnities or services for medical care or disability It is effected by compulsory national in-

surance plans, usually tied in with a social-security program, or by voluntary plans, either commercial or nonprofit. Compulsory accident and sickness insurance was initiated (1883–84) in Germany by Bismarck; was adopted by England, France, Chile, the USSR, and other nations after the First World War; and in England was extended by the National Insurance Act (1946), coordinated with the National Health Service Although the responsibility of governments to make available to all people the resources of medical science for the prevention and cure of illness is widely recognized, the fear that government socialization of medicine might entail regimentation deleterious to the progress of medicine and to individual freedom of choice has prevented compulsory legislation in many countries Voluntary health insurance, although valuable in cushioning the financial distress consequent to prolonged illness, not only fails to cover many people but must limit benefits in order to avoid prohibitive rates In the United States it dates from c 1850 and was at first provided chiefly by cooperative mutual benefit and fraternal beneficiary associations Limited coverage by commercial companies was inaugurated at this period, and subsequently many plans were established by industries and by labor unions Since the 1920s emphasis has been on hospitalization and medical care policies, enabling laws have been passed by most states Many plans have been set up by societies of practicing physicians and by group organizations of practicing physicians, but the largest enrollment has been in Blue Cross plans. These are community-sponsored, nonprofit hospital service plans based on contracts with both hospitals and subscribers and approved by the American Hospital Association, which has been active in promoting and coordinating the plans The movement was initiated in the 1930s, by 1947 there were 87 plans (27 of them operating on a state-wide basis) with a total enrollment of over 24,000,000 subscribers Physicians' services are usually covered by separate plans, notably the Blue Shield plans, operated under the auspices of medical societies Most general voluntary plans accept subscribers in groups or as individuals without medical examination and regardless of income, extend coverage to dependents, and exclude accidents and diseases covered by workmen's compensation laws See Franz Goldmann, *Voluntary Medical Care Insurance in the United States* (1948)

Healy, George Peter Alexander, 1813–94, American painter, b Boston He began painting portraits at 18 and, disregarding background, concentrated on producing a good likeness Examples of his art are the portraits of Louis Philippe, François Guizot, and a self-portrait (Uffizi), Daniel Webster and Longfellow (Mus of Fine Arts, Boston), Mrs John C Cruger and a self-portrait (Metropolitan Mus), in Washington, D C, Chief Justice Taney (Capitol) and a series of the Presidents (Corcoran Gall), and Lincoln (Newberry Library, Chicago) His best-known historical compositions are *Webster Replying to Hayne* (Faneuil Hall, Boston) and *Franklin Urging the Claims of the American Colonies before Louis XVI* See his *Reminiscences of a Portrait Painter* (1894)

Healy, Timothy Michael, 1855–1931, Irish statesman, first governor general of the Irish Free State (1922–27) He belonged to a family of Nationalist politicians and members of Parliament and himself served (1880–1918) in the British Parliament He was C S Parnell's secretary until the divorce proceedings began, but with his colleagues left Parnell when Gladstone repudiated him Thereafter Healy became more and more lonely in politics, voting as he pleased, but always in favor of Irish measures He was continually censured for his sharp-tongued remarks and was once imprisoned Although he had nothing to do with Sinn Fein, he resigned to give a Sinn Feiner his seat In the meantime he practiced at the bar, especially in the interests of Irish tenants and suffragettes On the foundation of the Free State he was appointed representative of the crown by George V and showed a remarkable spirit of conciliation and prudence He resigned in 1927 See biography by Liam O'Flaherty (1927).

Heard, Gerald (hûrd), 1889–, English essayist Active in the cooperative movement in Ireland and England from 1912 until 1927, he came to the United States in 1937 His best works are the philosophical essays *Ascent of Humanity* (1929), *The Social Substance of Religion* (1931), and *The Source of Civilization* (1937) His *Dialogue in the Desert* appeared in 1942 He is the author of several successful detective stories, e g, *A Taste for Honey* (1941)

hearing, special sense of the body by which sound is appreciated Vibrations collected by the outer ear pass through the external auditory canal and are registered on the tympanic membrane (eardrum) In the middle ear, the vibrations are transmitted by way of the tiny ear bones, the malleus, incus, and stapes, and are passed through the oval window of the inner ear to the fluid-filled sacs in the cochlea The cochlea of the internal ear, a spiral tube resembling a snail shell, contains the organ of Corti; here specialised cells receive the vibrations conveyed by movements of the fluid in the cochlea, and nerve impulses are generated which reach the cerebrum through the auditory nerve The range of hearing in different individuals and in the ears of the same individual may vary considerably See also DEAFNESS

Hearn, Lafcadio (läfka'dēō hûrn'), 1850–1904, multinational author of works in English, b Leucadio, Ionian Islands, of Irish-Greek parentage He was educated in Ireland, England, and France In 1869 he emigrated to the United States and, handicapped by partial blindness and a morbid sense of inferiority, lived miserably by odd jobs and occasional newspaper work His "Fantastics," a series of weird sketches appearing in a New Orleans paper, first attracted attention for originality and finished style His first published book was *One of Cleopatra's Nights* (1882), a translation of six Gautier stories. This was followed by *Gombo Zhèbes* (1885), a collection of Negro-French proverbs, *Some Chinese Ghosts* (1887), *Chita* (1888), and *Two Years in the French West Indies* (1890) In 1890 he went to Japan, commissioned to write a series of articles for an American publisher There he spent the rest of his life He married a Japanese woman, taught in Japanese universities, and became a Japanese citizen, taking the name Yakumo Koizumi In his later works, which include *Glimpses of Unfamiliar Japan* (1894) and *Japan an Attempt at Interpretation* (1904), he interpreted Japanese thought and life to the Western world See Elizabeth Bisland, *The Life and Letters of Lafcadio Hearn* (1906) and *The Japanese Letters of Lafcadio Hearn* (1910), Setsuoko Koizumi, *Reminiscences of Lafcadio Hearn* (1918), Kazuo Koizumi, *Father and I* (1935), biography by Vera McWilliams (1946), introduction by Malcolm Cowley to *The Selected Writings of Lafcadio Hearn* (ed by Henry Goodman, 1949)

Hearne, Samuel (hûrn), 1745–92, British fur trader, explorer in N Canada He entered the British navy at the age of 11 and saw service in the naval battles of the Seven Years War In 1766 he was engaged by the Hudson's Bay Company, and he was mate of the sloop *Churchill*, serving at and about Fort Prince of Wales (Fort Churchill) until 1768, when he was made mate of the brigantine *Charlotte* In 1769 he was chosen to head a land expedition to the north to investigate Indian reports of a great river and large copper mines His first attempt was thwarted by the infidelity of Indian guides In Feb, 1770, he set out again, discovered Dubawnt Lake, and reached the barren grounds before the breaking of his quadrant caused him to return once more In Dec, 1770, guided by a Chipewyan Indian, he set off on the third and successful expedition, which took him across the barren grounds to the Coppermine river and down to its mouth He came back by Great Slave Lake and arrived at Fort Prince of Wales on June 30, 1772 Although the copper mines proved disappointing, the trip was of great importance In spite of his inaccurate geographical data, Hearne opened an unknown territory, small parts of which have been unexplored since; he gave an accurate and valuable account of the Chipewyan Indians, and he proved that there was no short Northwest Passage In June, 1774, Hearne set out from York Factory and established Cumberland House for the Saskatchewan trade, the first inland post of the Hudson's Bay Company He returned in 1775 and set off immediately again for the west but was recalled to Fort Prince of Wales, where he was put in charge until the French captured the fort in 1782 Hearne, apparently taken to Europe as a prisoner, returned to Canada in 1783, where he remained until 1787 His *Journey from Prince of Wales's Fort on Hudson's Bay to the Northern Ocean* appeared in 1795 See the Champlain Society editions of that work (ed by J B Tyrrell, 1911) and of his later journals (ed by J B Tyrrell, 1934)

Hearne (hûrn), city (pop 3,511), E central Texas, SE of Waco, settled 1868, inc 1871 In the Brazos bottom lands, it has cotton processing, railroad shops, a gravel industry, and much farm trade

Hearst, George (hûrst), 1820–91, American mining magnate, U S Senator (1886–91), b Franklin co, Mo He went to California in 1850 and became a mining prospector and geologist He successfully selected and invested in numerous mining properties, notably the Ophir in Nevada, the Homestake in South Dakota, and the Anaconda in Montana. He bought (1880) the San Francisco *Examiner*, which his son William Randolph Hearst managed after 1887 An unsuccessful Democratic candidate (1885) for U S Senator, George Hearst was later appointed (1886) and then (1888) elected to the Senate His wife, Phoebe Apperson Hearst (1842–1919), became a prominent philanthropist and donated freely to the Univ of California for buildings, expeditions, and facilities For bibliography, see HEARST, WILLIAM RANDOLPH

Hearst, William Randolph, 1863–, American journalist and publisher, b San Francisco, studied at Harvard. He persuaded his father, George Hearst, to place him in charge of the San Francisco *Examiner*, where he conducted profitable journalistic experiments In 1895 he invaded New York with his purchase of the *Morning Journal* and with the aid of some $7,000,000 entrenched himself for a bitter war with other "yellow" journals Hearst provided good news coverage, bought distinctive talent, enticed employees of other papers from their jobs with higher salaries and greater prestige, increased the size of his paper while decreasing its price, and, above all, was luridly sensational By the time he established his superiority, funds were almost exhausted, but he had gained a foothold for the beginning of the great newspaper empire he was eventually to erect He was a member of the House of Representatives (1903–7) but was defeated as candidate for mayor of New York city in 1905 and 1909 and for governor of New York in 1906 His ranch in San Simeon, Calif, is famed for its collection of art, the overflow of which has been gradually disposed of in private sales See biographies by Ferdinand Lundberg (1936) and Oliver Carlson and E S Bates (1936)

Heart, river rising in SW North Dakota, in the low prairie country between the Little Missouri and the Missouri After being joined by the small Green River E of Dickinson, it flows c 180 mi E to the Missouri at Mandan The Heart is included in the MISSOURI RIVER BASIN PROJECT

heart, hollow muscular organ which maintains the circulation of the blood It lies in the thorax between the lungs and beneath the sternum (breast bone) and is enclosed in a membranous sac, the pericardium The shape of the heart is that of an irregular cone, its apex is directed downward and slightly toward the left It consists of four chambers, two auricles and two ventricles, the right and left sides are separated by a septum The blood is received by the auricles and ejected by the ventricles (see CIRCULATION OF THE BLOOD) The heart structure is supplied by the coronary circulation The weight of the heart ranges from 10 to 12 oz in the male and from 8 to 10 oz in the female Normally the heart has a rhythmic beat of about 72 pulsations per minute, this varies with activity and in disease The heart musculature and valves are subject to infection from disease, e g, rheumatic heart disease, endocarditis, and syphilis Arteriosclerosis may result in occlusion of the coronary arteries (see ANGINA PECTORIS) Increased blood pressure may cause enlargement of the heart and weakening of the heart musculature, thus interfering with its normal function In prenatal life, the blood passes directly from the right to the left auricle through an opening, the foramen ovale, which normally closes at birth, when this fails to close, and the defect persists, the individual suffers from a lack of complete oxygenation of the blood, and the skin has a bluish tinge

hearts, card game played by from two to eight players with an ordinary deck. All the cards are dealt to the players When a card is led, each hand must follow suit if possible The object is to avoid taking tricks which contain cards of the heart suit, but a larger premium is given if every heart card is taken In black lady, a popular variation of hearts, the queen of spades is to be equally avoided Other variations include domino hearts, auction hearts, and cancellation hearts See R L Frey, ed, *The New Complete Hoyle* (1947)

heartsease, name for several plants, particularly the PANSY and a VIOLET

heat, a form of ENERGY into which other forms of energy are convertible It is described according to the kinetic molecular theory of MATTER as the kinetic energy of the molecule i e, the energy of motion that the molecule possesses The most important source of heat is the sun, but it is obtained also as a result of many natural phenomena It results commonly, for example, from friction, from many chemical reactions, as in the combustion of fuels, from the compression of substances (because molecules, when forced close together, lose in velocity and give off their excess kinetic energy, i e, heat), from impact, as when a bullet or some other object strikes a surface, and from the passage of an electric current over a high resistance, as in electric toasters, irons, and stoves Heat is measured qualitatively and quantitatively TEMPERATURE is a qualitative measurement, for it indicates the relative "hotness" or "coldness" of a body as compared to a standard, it is determined by the THERMOMETER On the other hand, for indicating a quantity or amount of heat either of two unit measurements is used, the CALORIE or the BRITISH THERMAL UNIT (B T U) When heat is added to a body its temperature rises, but to bring about this increase in relative "hotness" a definite quantity of heat must be added for each degree rise in temperature, the quantity needed depending upon the nature of the substance This amount of heat necessary to raise the temperature of one gram of a substance one degree centigrade is called the specific heat of that substance The specific heat of water, for example, is approximately one calorie When heat is added to a body, the body also undergoes a definite amount of expansion with each degree rise in temperature Change of state of a substance is brought about by the addition or subtraction of heat The amount of heat necessary to change a unit mass of a given substance from the

solid to the liquid state at its melting point is known as its latent heat of fusion, the amount needed to change a unit mass of a substance from the liquid to the gas at its boiling point is called its heat of vaporization (see VAPORIZATION) Both quantities are specific for a given substance The transmission of heat is brought about in any of three ways—CONDUCTION, CONVECTION, or RADIATION Until late in the 18th cent, heat was generally held to be a kind of fluid known as caloric, and explanations of natural phenomena in which heat was involved were made on that basis At that time the work of Count Benjamin T Rumford and Sir Humphrey Davy questioned and refuted this theory and presented the idea that heat was related to motion The relationship between mechanical energy and thermal or heat energy was first determined by Sir James P Joule, who found by experiment how much work was required to raise the temperature of a unit weight of water one degree Fahrenheit This relationship is called the mechanical equivalent of heat The apparatus used by Joule in his well-known experiment consisted essentially of an insulated container for the water, with a paddle wheel set in it Weights attached to the shaft of the paddle wheel caused it to rotate when the weights were allowed to fall This rotation generated heat through friction which in turn raised the temperature of the water Since the work done by the falling weights is the product of the weights and the distance they fall, a comparison is possible between the work done and the amount of heat generated It has been found that approximately 778 foot-pounds of work raise the temperature of one pound of water one degree Fahrenheit Since the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit is defined as one B T U, then approximately 778 foot-pounds of work is equivalent to one B T U Practical application of various physical principles connected with heat are common, as in the HEATING and VENTILATION of buildings and homes, in the COOLING SYSTEM, in REFRIGERATION, and in the operation of the STEAM ENGINE and the INTERNAL-COMBUSTION ENGINE

heath (hēth), level or rolling wasteland with a growth of characteristic dry-land shrubs In Great Britain its characteristic shrub is the HEATHER, called also **heath** The conversion of heath land into agricultural land has been often attempted, sometimes with success, as notably in Denmark Typically the problem is financial, the expense often makes the process unprofitable

Heathcote, Caleb (hēth'kŭt, hĕth'-), 1666–1721, merchant and public official in colonial New York, b Derbyshire, England He arrived in New York in 1692 He became a member of the governor's council and, in Westchester co, a colonel of militia, presiding judge in the courts of sessions, prerogatives, and common pleas, and after 1690 mayor of Westchester borough town All these positions he retained throughout his life Later he held the offices of mayor of New York city (1711–13) and surveyor general of customs for all northern colonies He engaged in contracting, milling, and land speculation in large tracts in Westchester, Dutchess, and Ulster counties In 1701 he received the manor of Scarsdale (Westchester co), the last to be granted in the British colonies His enthusiasm for the Anglican Church led him to take five missionary journeys into Connecticut, and both there and in Westchester he established new congregations See D R FOX, *Caleb Heathcote, Gentleman Colonist* (1926)

heather, name for an evergreen shrub (*Calluna vulgaris*) of the Old World, often applied also to species of the closely related genus *Erica*, more properly distinguished as heath, but heath and heather are often used interchangeably. The true or common **heather**—the heather of Scotland—sometimes called ling, is a rosy- or white-flowered species represented in cultivation by red- and purple-flowered forms also, the flowers are long lasting It has short, scalelike, overlapping leaves and numerous branches that have been used for brooms Heather is found in E North America—supposedly introduced. Of the **heaths**, or *Erica*, there are a large number of species. These, like heather, are Old World evergreen shrubs but have spreading, needlelike leaves and white, rose, or yellow flowers, they are often cultivated by florists Other plants, particularly of the same family, are sometimes called heath See also BRIER

Heathfield, 1st Baron: see ELIOTT, GEORGE AUGUSTUS, 1st Baron HEATHFIELD OF GIBRALTAR

heating. With the development of the human habitation, methods of heating progressed from the open fire to the fireplace with a chimney, the STOVE, and finally to the modern hot-air, hot-water, and steam-heating systems In designing the heating equipment of a building, attention must be given to its VENTILATION. When a building is simply heated and no change of air takes place, the atmosphere becomes vitiated and unhealthful. The open grate, still extensively used as a main source of heat in the parts of Europe where winters are not severe and in the S United States, maintains circulation by drawing the air from the room up the chimney, fresh air coming in through the various openings It is, however, very inefficient, for about 80 percent of the heat generated passes up the chimney Also, a separate unit is required for every room heated, and the fires require much attention While the stove is more efficient than the open grate, it does not create a natural ventilation, is likely to overheat the room and cause the air to be very dry, and allows injurious gases to escape Heating by a hot-air system has many advantages over the old methods The firebox has an enclosing sheet-metal casing used as an air chamber, from which pipes are led to various parts of the house The heating unit is in the basement, the air, heated in the casing, rises through the pipes and enters the rooms through outlets, or registers, placed near the floor and fitted with an arrangement for shutting off the supply of hot air Fresh air may be admitted to the casing by an inlet from outdoors, and, by placing a water chamber in or near the heated air, the humidity may be controlled to a certain degree The hot-water system has a boiler for heating the water, which is circulated by connecting pipes through radiators placed in the various rooms The circulation is dependent on the fact that, like hot air, hot water will rise, while the cooled water returns to the boiler In the steam-heating system, steam generated in a boiler is circulated by its own pressure through radiators There are in general two systems, the single-pipe system and the vacuum system The single-pipe system has a large main located in the basement, from which pipes are led to the radiators, the condensate running back through the same pipe The air in the system is forced out by the steam through valves placed on the radiators These valves automatically close as soon as the steam reaches them The vacuum system, used in large buildings, has a pipe leading to each radiator and also a return pipe Attached to the return pipe is a pump which creates a partial vacuum, thereby improving circulation In many large buildings, such as theaters, public libraries, and municipal buildings, heating and ventilation are combined in one system, the fresh air being drawn in from the outside atmosphere by fans and passed over a series of steam coils until it is heated It then passes on through the ducts to the various parts of the building This system is also used for heating ships Experiments are being made in utilizing solar energy for heating buildings See A M Daniels, *Fundamentals of Heating* (1930), J R Allen and others, *Heating and Air Conditioning* (6th ed, 1946), R W Shoemaker, *Radiant Heating* (1948)

heat stroke: see SUNSTROKE

heaven, in Christian theology, the state of bliss in which God is seen face to face This is called the Beatific Vision The souls of the good abide in heaven forever, and the glorified bodies shall be united in heaven to the souls after the general RESURRECTION on JUDGMENT DAY The Roman Catholic Church teaches that before entering heaven many souls must pass through PURGATORY to be made ready The Orthodox churches hold a doctrine somewhat similar, but not so definite In the popular mind and in literature heaven is often represented as full of material delights Much of the conventional imagery—e g, golden streets—is based on Revelation Poetical names for heaven are Paradise, Holy City, and New Jerusalem ISLAM is commonly accused of teaching that heaven is full of delights of the flesh, but there is good ground for supposing that the passages of the Koran telling the delights of heaven are allegorical Outside Christianity and Islam, the ideas of the otherworld do not usually include eternal bliss open to all the virtuous See ELYSIAN FIELDS, FORTUNATE ISLES, VALHALLA, ZOROASTER

Heavener (hĕv'nûr), railroad city (pop 2,215), E Okla, near the Ouachita Mts, in a farm and coal area, founded c 1896 A fish hatchery and an agricultural experiment station are near by

heaves (hēvz), disease affecting the respiration of horses There is permanent dilatation of the air sacs of the lungs of the horse, leading to loss of elasticity of the lungs. A chronic cough, wheezing, and difficulty in exhaling are characteristic In severe cases the nostrils are dilated Its cause is not definitely known Indigestion usually accompanies it, and improper feeding, leading to overdistention, makes the condition worse Once developed, it can be relieved only by limiting roughage in diet, by feeding only clean hay, and by rest after feeding

Heaviside, Oliver (hĕ'vēsĭd), 1850–1925, English physicist He did valuable work in telephony and early in the 20th cent developed his theory that a conducting layer exists in the upper atmosphere. The same conclusion was reached by Arthur E Kennelly, its existence was proven, and it is known both as the Kennelly-Heaviside layer and as the Heaviside layer. It is a stratum of ionized gas which conducts, reflects, and refracts radio waves. Its effect varies with the length and frequency of the radio waves, some seem to pass through the layer into space, while others are conducted long distances and are reflected back to earth

heavy hydrogen: see HYDROGEN

heavy spar: see BARITE

heavy water see WATER.

Hebbel, Christian Friedrich (krĭs'tyän frē'drĭkh hĕ'bûl), 1813–63, German dramatic poet, considered the most powerful tragic dramatist of the Germany of his period Humbly born, he was largely self-educated. Hegel's historical theories influenced his work, which links the last of romanticism with the new realism His first play, *Judith* (1839), was followed by *Maria Magdalena* (1844, Eng tr, 1913–15), *Herod and Mariamne* (1850, Eng tr, 1912), *Agnes Bernauer* (1852, Eng tr, 1909), *Gyges and His Ring* (1853, Eng tr, 1914), and the trilogy *The Nibelungs* (1855–60, Eng tr, 1903) He also wrote three volumes of poems (1842, 1848, 1857) and interesting early diaries (1885–87) See Edna Purdie, *Friedrich Hebbel* (1932)

Hebbronville, unincorporated town (pop c 2,500), co seat of Jim Hogg co., S Texas, E of Laredo. The semiarid plains have oil fields and ranches

Hebburn, urban district (1931 pop 24,123; 1943 estimated pop, 22,700), Durham, England, on the Tyne below Newcastle It has shipbuilding and engineering works and electrical industries

Hebe (hē'bē), in Greek mythology, goddess of youth, daughter of Zeus and Hera She was the cupbearer of the Olympian gods and the personal attendant of Hera Later tradition invested her with the power to make old people young again, and it is said that she rejuvenated Hercules after his ascent to Olympus According to one legend she resigned her office when she married Hercules, but according to another she was dismissed in consequence of an injury Hebe is sometimes considered one of the OLYMPIAN gods The Romans called her Juventas, and there were several temples to her at Rome

Heber (hē'bûr) **1** Eponym of the Hebrews Luke 3 35 Eber Gen 10 21 **2** Kenite, husband of Jael Judges 4 11,17, 5 24 **3, 4** Benjamites 1 Chron 8 17,22 **5** Gadite 1 Chron 5 13 **6** Judahite 1 Chron 4 18 **7** Asherite Gen 46 17, Num 26 45, 1 Chron 7 31,32 **8** Priest Neh 12 20

Heber, Reginald, 1783–1826, English clergyman and hymn writer He became bishop of Calcutta in 1823 Several volumes of his poems and of his sermons were published, but he is best known as the author of the familiar hymns *The Son of God Goes Forth to War, Holy, Holy, Holy,* and *From Greenland's Icy Mountains* He also wrote *Narrative of a Journey through India* (1828) and edited the works of Jeremy Taylor See *The Poetical Works of Reginald Heber* (1841), biography by his wife, Amelia Heber (1830)

Heber (hē'bûr), city (pop 2,748, alt 5,595 ft), co seat of Wasatch co, N central Utah, SE of Salt Lake City, settled 1859 by Mormons It is a trade center of a ranching area "Hot pots" (hot-water pools of extinct geysers) are near by

Heber Springs, resort town (pop 1,656), co seat of Cleburne co, N central Ark, in a mineral-spring area of the Ozark Mts, laid out 1881

Hébert, Jacques René (zhäk' rənā' ābĕr'), 1757–94, French Revolutionary journalist He won the support of the working classes through his virulent paper *Père Duchesne* and was prominent in the CORDELIERS He became then intellectual leader after Marat's death Hébert was largely responsible for the tightening of the maximum price laws in the REIGN OF TERROR and for the Law of Suspects Violently atheistic, he and CHAUMETTE were the founders of the extreme cult of the worship of Reason Hébert's power over the Paris commune threatened the position of Robespierre An alleged attempt of the Hébertists to seize power served as pretext for their suppression, and Hébert was guillotined The defeat of Hébertism signified the victory of the propertied middle classes over the extremist left

Hébert, Louis (lwē' ābĕr'), d 1027, French pioneer, known as the first Canadian farmer A Paris apothecary, he spent 10 years (1604–14) in Acadia, and at Port Royal (now Annapolis Royal, N S) he made some attempts to farm Soon after his return to France, Hébert, at the urging of his friend Champlain, again set forth for Canada With his family he settled at Quebec in 1617, the first permanent settler and farmer in Canada. In 1623 he received a grant of land on the site of what is now Upper Town, Quebec.

Hébert, Louis Philippe (lwē' fēlēp' ābĕr'), 1850–1917, Canadian sculptor Elected to the Canadian Academy in 1883, he was the most noted sculptor and monument designer of his time in Canada His works include patriotic statues of Queen Victoria, Sir Georges Cartier, and Sir John Macdonald (Ottawa), Laval (Quebec), and King Edward and Maisonneuve (Montreal). After his death, the *Evangeline* statue for Grand Pré, N S, was executed from his design by his son, Henri Hébert, also a sculptor

Hébertville (ā"bâr'vĭl), village (pop 1,025), S Que., SE of Lake St John and W of Arvida, in a lumbering and dairy-farming region.

Hebrew language, Semitic language of the Canaanite group See LANGUAGE (table).

Hebrew literature. The great monument of the earliest period of Hebrew literature is the OLD TESTAMENT, and the APOCRYPHA was also produced before the conquest of Judaea by Titus The literature of the Jews developed mainly in the Hebrew language, although there were also works in Greek, Aramaic, and Arabic In the 2d cent. began the Talmudic period, which lasted well into the 6th cent ; in these centuries the great anonymous encyclopedic work of religious and civil law, the TALMUD, was compiled, edited, and interpreted The MIDRASH—a collection of HALAKAH (found also in the Talmud) and haggadic material—likewise forms part of the Hebrew literature of that period In the 4th cent the TARGUM to the Pentateuch and to the Prophets was finished The 6th and 7th cent saw the development of the MASORA in Palestine In Babylonia meanwhile many valuable additions to Hebrew literature were made by the Geonim (see SCRIBE) after the 6th cent Commentaries on the Talmud and haggadic material continued to be written until the 11th cent , when the Babylonian academies were suppressed and the center of Jewish literary activity shifted to Spain There, and to some extent in Italy, Hebrew literature flourished for centuries The chief language used was Arabic, the finest work was accomplished in the realm of poetry—which was influenced by Arabian and Indian literature—and philosophy Philology, exegesis, and codification also flourished Literature on philosophy and ethics was subsequently eclipsed by writings on MYSTICISM (see CABALA), and by the 14th cent the great cabalistic work, the *Zohar*, appeared Famous scholars and authors of Hebrew literature in the Middle Ages were AHA OF SHABCHA, SAADIA BEN JOSEPH AL-FAYUMI, DUNASH BEN TAMIM, DUNASH BEN LABRAT, GERSCHOM BEN JUDAH, AL-FASI, Solomon ben Judah IBN GABIROL, RASHI, JUDAH HA-LEVI, Abraham ben Meir IBN EZRA, MAIMONIDES, IMMANUEL BEN SOLOMON, ISAAC ABRAVANEL, and Joseph ben Ephraim CARO In the persecutions following the Crusades, when the Jews were driven from country to country, they clung to their literature—which leaned increasingly to mysticism and asceticism —and especially to the Old Testament On the threshold of the transition from the old isolated life was the poet Moses Hayyim LUZZATTO—a contemporary of the Gaon of Vilna, ELIJAH BEN SOLOMON - but the modern period of Hebrew literature really began with Moses MENDELSSOHN While Nachman Kohen KROCHMAL and Solomon Judah Rapoport were contributing to biblical criticism and historical scholarship, writers such as Peretz (Peter) Smolenskin were devoting themselves to Haskalah, or literature of enlightenment, intended to shake the Jews of Central Europe from their medieval attitudes Other important names of the more recent period are the scholar Joseph HALÉVY, the poet Leon GORDON, the novelist Solomon Yakob Abramovich, whose pseudonym was MENDELE MOCHER SEFORIM, and the poet and journalist Hayyim Nahman BIALIK The rise of ZIONISM particularly reflected in the writings of Asher Ginzberg (Ahad Ha'am), gave Hebrew literature fresh impetus, and Palestine became again the center of publication in Hebrew Hebrew was proclaimed the national language of the Jews, and after the establishment (1948) of the state of Israel, greater opportunities were given to Hebrew writers and scholars Outside of Israel, the writing of the Jews is ordinarily in the language of the countries in which they live or in YIDDISH, the literary use of which developed rapidly after the middle of the 19th cent See Nahum Slouschz ben David, *The Renascence of Hebrew Literature, 1743–1885* (1909), H T Fowler, *The History of the Literature of Ancient Israel from the Earliest Times to 135 B C* (1912), R H Charles, ed , *Apocrypha and Pseudepigrapha of the Old Testament in English* (1913), A S Waldstein, *The Evolution of Modern Hebrew Literature, 1850–1912* (1910), Meyer Waxman, *The History of Jewish Literature from the Close of the Bible to Our Own Days* (3 vols , 1930–36), Lewis Browne, ed , *The Wisdom of Israel* (1945)

Hebrew music see JEWISH MUSIC

Hebrews. For history, see JEWS, for religion, see JUDAISM.

Hebrews, epistle of the New Testament, the 19th book in the usual order It was traditionally ascribed to St Paul, but few critics accept his authorship It was written before A D 90 The epistle is a treatise on the superiority of the new religion over the old (Judaism) The first part (1.1–4.13) is an argument that the mediator of the New Covenant, Christ, is superior to the angels (1–2) and to Moses (3 1–6), the mediator of the Old, it closes with an exhortation to faith in the form of a commentary on Ps. 95 7–11 (3 7–4 13) The second part (4 14–10 18) treats the priesthood of Jesus Christ (the order of Melchisedek), which replaces the priesthood of the Jews (the order of Aaron), it ends with the sacrifice by Christ of Himself as taking away sin (9–10 18) The doctrine is followed by an exhortation (10 19–12 13) to perseverance in the faith, including a famous chapter (11) on faith in Old Testament lives. The teaching of Hebrews is very significant in the history of theology

Hebrews, Gospel according to the: see PSEUDEPIGRAPHA

Hebrew University, at Jerusalem First proposed in 1882, it was formally opened in 1925. The institutes of chemistry, microbiology, and Jewish studies had opened in 1924 The faculty of humanities was established in 1928; of biological sciences, 1931, of science, 1935 The pre-faculty of medicine for postgraduate study was established in 1936, and the Hebrew Univ–Hadassah Medical School opened 1949 In 1940, in connection with the agricultural research station at Rehoboth, the school of agriculture was opened In 1950 the Weizmann Institute of Science was merged with the university, Albert Einstein was elected president of the American joint board of directors Serge Koussevitzky gave (1950) to the university his library of music

Hebrides (hĕ'brĭdēz) or **Western Islands,** group of more than 500 islands, off W and NW Scotland, in Ross and Cromarty co , Inverness-shire, and Argyllshire Less than a fifth are inhabited The Outer Hebrides (sometimes also referred to as the Long Island) are separated from the mainland and from the Inner Hebrides by the straits of Minch and Little Minch and the Sea of the Hebrides and extend for 130 mi from the Butt of Lewis on LEWIS WITH HARRIS to Barra Head island Other islands are North Uist, Benbecula, South Uist, BARRA, the FLANNAN ISLANDS (Seven Hunters), and SAINT KILDA The Inner Hebrides include the islands of SKYE, RAASAY, Rum, EIGG, COLL, Tyree, Ulva, STAFFA, IONA, MULL, SCARBA, COLONSAY, ORONSAY, JURA, and ISLAY Fishing, farming, sheep grazing, manufacturing of tweeds and other woolens, quarrying (slate), and catering to tourists are the chief means of livelihood The original Celtic inhabitants were conquered by the Norwegians, who held the Southern Islands, as they called them, until 1266 From that time until 1346 various native Scottish chiefs ruled, and then the Macdonalds established themselves as lords of the isles From the 15th the Hebrides belonged to the crown of Scotland The tales of Sir Walter Scott and of William Black did much to make the islands famous The climate is mild and humid, the scenery is beautiful—rock, moor, lake, forest, bog, mountain, and valley There are interesting prehistoric and ancient historical remains and geological structures Much emigration of the inhabitants has taken place from the overpopulated islands, especially to Canada in the 20th cent See James Boswell, *The Journal of a Tour to the Hebrides with Samuel Johnson* (1785), A A MacGregor, *The Haunted Isles* (1933)

Hebrides, New see NEW HEBRIDES

Hebron (hĕ'brun) **1** Kohathite Levite Ex 6 18, Num 3 19, 1 Chron 6 2,18, 23 12 **2** Judahite 1 Chron 2 42,43

Hebron, city (1944 estimated pop 24,560), S Palestine, c 20 mi SW of Jerusalem Its modern Arabic name is El-Khalil (ĕlkhälēl') [Arabic, = friend (of God), i e , Abraham] The city antedates the biblical record, which first mentions its connection with Abraham Here Abraham established the family tomb David lived at Hebron, and Absalom began his revolt here As an important city it has figured in every Palestinian war, Maccabean, Roman, and Crusaders' Hebron was very early named Kirjath-arba [Heb ,=city of ARBA], and Mamre (mām'rē) [Heb ,=fat] was another name for the city or part of it There was always a considerable Jewish population In 1929 one of the worst of the Arab attacks on Jews took place here The city is a shrine of Moslems and Jews Gen 13 18, 14 24, 23, 35 27, Num 13 22, Joshua 10 36, 14 13, 15 13, 54, 20 7, 21 11,13, Judges 1 10, 2 Sam 2; 3, 5, 15 7, 2 Chron 11 10, Neh 11 25 For a different Hebron, see ADDON **5**

Hebron. 1 City (pop 1,909), co seat of Thayer co , SE Nebr , on the Little Blue and SW of Lincoln, founded 1869 **2** City (pop 1,267), SW N Dak , W of Bismarck, inc 1916 Bricks are manufactured from near-by clay deposits A state university mining experiment station is here

Hecataeus (hĕk"ətē'us), fl 500 B C , Greek traveler of Miletus His genealogies and descriptions of the known earth were considered predecessors of Herodotus' work. He took part in the Ionian rebellion against Persia

Hecate (hĕ'kətē, hĕ'kāt), in Greek mythology, mysterious moon-goddess, daughter of the TITAN Coeus After taking an active part in the search for PERSEPHONE, Hecate was Persephone's attendant in the underworld, where she had the power to conjure up phantoms, dreams, and the spirits of the dead; in this aspect she was the goddess of ghosts presiding over witchcraft and sorcery In the upper world, she haunted graveyards and crossroads Although she carried a torch and brandished a sword and was a giantess, she was invisible to all eyes except those of the dog, who howled to announce her presence. The Athenians sacrificed dogs and black female lambs to her Hecate was often thought of as amalgamated with other moon-goddesses such as ARTEMIS and SELENE, and as a result she is represented in Greek art with three heads or three bodies as in the statue of Hecate by Alcamenes

Hecht, Selig (hĕkt), 1892–1947, American biophysicist, b Austria He was brought to the United States in 1898 and was graduated from the College of the City of New York (B S , 1913) and from Harvard (Ph D , 1917) After organizing the laboratory of biophysics at Columbia Univ , he was professor of biophysics there from 1928 He pioneered in applying physiochemical principles to sensory physiology and is known for his determination of minimal quantal requirements at the threshold of vision and for his successful laboratory regeneration of visual purple An advocate of popular scientific education, he wrote *Explaining the Atom* (1947)

Hecker, Friedrich Franz Karl (frē'drĭkh fränts' karl' hĕ'kur), 1811–81, German revolutionist He was the spokesman of the radical republicans at the Preliminary Parliament of Frankfurt (1848) and a leader in the unsuccessful Baden uprising of 1848 Forced into exile, he settled permanently in the United States and became a leader of the German-Americans of Illinois A Republican, he supported Lincoln and fought in the Civil War He took part in the Liberal Republican movement of 1872

Hecker, Isaac Thomas, 1819–88, American Roman Catholic priest, founder of the Paulist Fathers, son of Prussian immigrants Feeling the general discontent of his day in the dying Puritanism of New England, he associated with the transcendentalists, stayed for a short time at Brook Farm, and was a friend of Thoreau, Emerson, Bronson Alcott, and Orestes Brownson Still dissatisfied, he entered (1844) the Catholic Church, joined the Redemptorist order, and was ordained priest (1849) He returned from abroad (1851) and worked with immigrant Catholics in the United States He was a successful missionary, but his intense zeal, doubts of his own worthiness, ill-health, and his fixed purpose caused a somewhat stormy career Difficulties with his order caused him to be expelled, but the pope dispensed him and his colleagues of their vows and allowed them in 1858 to found the Missionary Priests of St Paul the Apostle (the Paulist Fathers)—an order that achieved prominence in the United States Father Hecker, who was the superior until his death, founded the Paulist organ, the *Catholic World* Though ideas allegedly based on those of Hecker were later condemned as the heresy of "Americanism," neither Father Hecker nor any other American priest was ever charged with holding them See biography by Walter Elliott (1891), V F Holden, *The Early Years of Isaac Thomas Hecker* (1939), Katherine Burton, *Celestial Homespun* (1943, semifictional)

Heckewelder, John Gottlieb Ernestus (hĕ'kuvĭldur), 1743–1823, Moravian missionary in America, b Bedford, England Coming (1754) to Bethlehem, Pa , with his parents, he later was indentured to a cedar cooper, while acting occasionally as a messenger to the Indians on the Susquehanna By 1771 he was an accredited missionary and assistant to David ZEISBERGER After years with the Pennsylvania Indians who had been removed to Ohio, he retired to Bethlehem, Pa in 1786, but he aided the U S government on several occasions with Indian treaties In 1801 he managed the Indian lands at Gnadenhutten, and he supervised the removal of the Indians to Canada He spent his last years writing numerous accounts of Indian life, notably his *Account of the History, Manners, and Customs of the Indian Nations, Who Once Inhabited Pennsylvania* (1819)

Hector, in the *Iliad*, leader of the Trojan forces in the TROJAN WAR, greatest of the Trojan heroes He was famous for courage in battle and devotion to his people He was the eldest son of Priam and Hecuba, the brother of Paris, the husband of Andromache, and the father of Astyanax He was killed by ACHILLES in revenge for the death of PATROCLUS In later times Hector was worshiped in Boeotia and the Troad Hector is a prominent character in Shakspere's *Troilus and Cressida*

Hector, village (pop 1,044), S central Minn , E of Olivia, in a farming region.

Hecuba (hĕ'kyōbə), in Greek legend, queen of Troy, wife of PRIAM The most famous of her many children were Hector, Cassandra, Paris, Troilus, Polyxena, Helenus, and Deiphobus After the Trojan War she was taken as a slave by Odysseus She left the last of her children, Polydorus, in the care of King Polymnestor of Thrace, who murdered the child Hecuba, in revenge, blinded the king and killed his children She is a prominent character in two plays by Euripides

Heda, Willem Claasz (vĭl'ĭm kläs' hä'dä), 1594–c 1678, Dutch still-life painter His excellent studies of tempting viands are seen in many important European galleries

Hedge, Frederic Henry, 1805–90, American Unitarian clergyman and author, b Cambridge, Mass educated in Germany and at Harvard He held several New England pastorates In 1836 he joined R W Emerson and others in forming the group of transcendentalists sometimes called the "Hedge Club" because it often met when Hedge came to Boston from Maine. His edition of *Prose Writers*

of Germany (1848) established him as a German scholar He wrote for periodicals, edited (1857–61) the *Christian Examiner*, and wrote *Reason in Religion* (1865) and many other books He was professor of ecclesiastical history in the Harvard Divinity School (1857–76) and professor of German in Harvard (1872–81) See biography by O. W. Long (1940)

hedge [Indo-Eur.], ornamental or protective barrier composed of shrubs or small trees growing in close rows The plants may be allowed to grow naturally or they may be trimmed to various heights and forms In the formal gardens of other days, hedges were often pruned to resemble statuary Some of the popular hedge plants are box, privet, barberry, buckthorn, hawthorn, lilac, Osage orange, Japanese yew, Carolina and Canadian hemlock, and dwarf burning bush See Donald Wyman, *Hedges, Windbreaks, and Screens* (1938)

hedgehog, insectivorous, nocturnal, hibernating Old World animal related to the shrew and the mole It has spines among its hairs and can roll itself up into a ball like the American porcupine which is incorrectly called hedgehog

Hedin, Sven Anders (svĕn' än'dûrs hēdēn'), 1865–, Swedish explorer in central Asia Following soon after Przhevalsky, Hedin explored the Kunlun and Trans-Himalaya ranges and discovered the sources of the Brahmaputra and the Indus rivers, his account was published in *Scientific Results of a Journey in Central Asia, 1899–1902* (8 vols, 1904–8) and in *Transhimalaya* (3 vols, 1909–12) His explorations in Tibet were reported in *Southern Tibet* (12 vols, 1917–22). Hedin also wrote popular accounts of his travels, including *Across the Gobi Desert* (1931), *Jehol, City of Emperors* (1931); *The Conquest of Tibet* (1934), and a trilogy, *The Flight of the Big Horse* (1936), *The Silk Road* (1938), and *The Wandering Lake* (1940), dealing with a journey into Sinkiang prov, China. Hedin, who in the First World War publicly expressed support for Germany, in 1940 accepted an offer by Hitler to head a committee for the care of refugees. See his *My Life as an Explorer* (1925)

Hedjaz: see HEJAZ

Hedmark (hĕd'märk), county (10,586 sq mi.; pop. 157,256), SE Norway, bordering on Sweden in the east Hamar is the county seat Hedmark is the chief forest area of Norway. Lumbering is the main industry, especially along the upper valley of the Glomma river

hedonism (hē'dŭnĭzm, hĕ'–) [from Gr, =pleasure], the doctrine that pleasure is the highest good Ancient hedonism expressed itself in two ways. the cruder form was that proposed by ARISTIPPUS and the early CYRENAICS, who believed that pleasure was achieved by the complete gratification of all one's sensual desires, on the other hand, Democritus and EPICURUS, though accepting the primacy of pleasure, taught that it could best be attained through the rational control of one's desires The eudaemonism of ARISTOTLE is not properly hedonistic, as he emphasizes the superiority of happiness over pleasure, he saw the latter as a transient state, the former the result of inner harmony While ancient hedonism was egoistic, the modern hedonism of the British philosophers is universalistic in that it is conceived in a social sense—"the greatest happiness for the greatest number" (the term *happiness* is closer to the Aristotelian term *pleasure*) Its modern expression is in UTILITARIANISM. Among its foremost exponents are Herbert Spencer and Leslie Stephen and their predecessors, David Hume, Jeremy Bentham, J S. Mill, Henry Sidgwick, and Sir William Hamilton

Hedrick, Ulysses Prentiss (hĕ'drĭk), 1870–, American horticulturist, b Independence, Iowa, grad. Michigan Agricultural College (B S, 1893, M S, 1895) He taught botany and horticulture at several colleges and served with the state agricultural experiment station of New York as horticulturist (1905–30) and as director (1928–37) His many works on cultivation of fruits include *Grapes of New York* (1908), *Cyclopedia of Hardy Fruits* (1922; 2d ed., 1938), *Pears of New York* (with others, 1922), *Small Fruits of New York* (with others, 1923), and *Systematic Pomology* (1925). He also wrote *History of Agriculture in the State of New York* (1933), *The Land of the Crooked Tree* (1948), and *History of Horticulture in America to 1860* (1950).

Hedwig, Johann (yō'hän hät'vĭkh), 1730–99, German botanist, b Transylvania. He was an authority on the lower plants, especially mosses, and was professor at the Univ. of Leipzig from 1786. The moss *Hedwigia* is named for him.

Heem, Jan Davidszoon de (yän' dä'vĕtsōn dŭ hām'), 1606–c 1683, Dutch painter of fruit and flower pieces, one of the most celebrated still-life painters of Holland He studied with his father, David de Heem, also a still-life painter His paintings, about 100 in number, are found in leading European galleries The Metropolitan Museum possesses three excellent specimens. His son and pupil, **Cornelis de Heem** (kôr'nā'lĭs), c 1631–1695, painted flower pieces in the manner of his father and with considerable skill, but without his father's genius

Heemskerck, Maarten van (mär'tŭn vän hāms'kĕrk), 1498–1574, Dutch painter. His family name was Van Veen He studied in Haarlem under Scorel and in Rome His Italianate paintings (showing the influence of Michelangelo) won him a high reputation in Haarlem, where he was made dean of the painters' guild in 1540 and where much of his best work remains His *St Luke Painting the Portrait of the Virgin* is characteristic The Metropolitan Museum has his portrait of his father.

Heerlen (hār'lŭn), municipality (pop 56,335), Limburg prov., SE Netherlands, ENE of Maastricht. It is a coal-mining center and has textile, stoneware, cement, and other manufactures.

Heflin, James Thomas, 1869–, U S. Senator from Alabama (1920–31), b Randolph co., Ala. Educated at Southern Univ. and at the present Alabama Polytechnic Institute, he was admitted to the bar in 1893 Heflin practiced law in Lafayette, Ala, where he was mayor (1893–94) He served in the state house of representatives (1896–98) and in the U S House of Representatives (1904–20) before entering the Senate Known at first as "Cotton Tom" because of his championing of the Southern farmer, Heflin later became a violently anti-Catholic crusader and supporter of "white supremacy," famous for his theatrical oratory and distinctive dress His opposition to Al Smith in 1928 promoted Heflin's defeat for reelection in 1930, and in subsequent elections he was unsuccessful in regaining office See A A Michie and Frank Ryhlick, *Dixie Demagogues* (1939).

Heflin, lumber town (pop 1,684), co seat of Cleburne co, NE Ala, near the Tallapoosa river and the Ga boundary and E of Anniston; settled 1883, inc 1892

Hegai (hĕ'gāī) or **Hege** (hĕ'gē), chamberlain of Ahasuerus. Esther 2 3,8,15.

hegari: see SORGHUM

Hege, same as HEGAI.

Hegel, Georg Wilhelm Friedrich (gā'ôrk vĭl'hĕlm frē'drĭkh hā'gŭl), 1770–1831, German philosopher, b. Stuttgart, son of a government clerk Educated in theology at Tübingen, he acted as a private tutor at Bern and Frankfurt In 1801 he became *Privatdocent* and in 1805 professor at the Univ of Jena While considered a follower of Schelling, he was developing his own system, which he first presented in *Phenomenology of Mind* (1807) During the Napoleonic occupation Hegel edited (1807–8) a newspaper, which he left to become rector (1808–16) of a *Gymnasium* at Nuremberg He then returned to professorships at Heidelberg (1816–18) and Berlin (1818–31), where he became famous. In his lectures at Berlin he set forth the system elaborated in his books. Chief among these were *Science of Logic* (1812–16), *Encyclopedia of the Philosophical Sciences* (1817), an outline of his whole philosophy, and *Philosophy of Right* (1821). He also wrote books on ethics, aesthetics, history, and religion His interests were wide, and all were incorporated into his unified philosophy His absolute idealism envisaged a world-soul that develops out of, and is known through, the dialectical logic In this dialectic, one concept (thesis) inevitably generates its opposite (antithesis), and the interaction of these leads to a new concept (synthesis) This in turn continues the dialectic in a new triad Hegel thought that Kant's categories did not go far enough Thus, the idea of being is basic, but it evokes its antithesis, not being, and the two are not mutually exclusive for they necessarily produce the synthesis, becoming The study of nature and mind reveal reason as it realizes itself in cosmology and history. The world process is the absolute, the active principle which does not transcend reality but exists through and in it The universe develops by a self-creating plan, proceeding from astral bodies to the world, from the mineral kingdom to the vegetable, from the vegetable kingdom to the animal In society the same progress can be discovered, man's activities lead to property, which leads to law Out of the relationship between the individual and law develops the synthesis of ethics, where both the interdependence and the freedom of individuals interact to produce the state. The state thus is a totality above all individuals, and since it is a unit, its highest development is rule by monarchy Such a state is an embodiment of the absolute idea. In his study of history, Hegel reviews the story of states which hold sway over lesser peoples until a higher representative of the absolute evolves Though much of his development was questionable, the concept of the conflict of cultures stimulated historical analysis Hegel considered art as a closer approach to the absolute than government In the history of art he distinguishes three periods—the Oriental, the Greek, and the romantic. He found that the modern romantic form of art cannot encompass the magnitude of the Christian ideal Religion thus is close to art as it is to all development Hegel taught that religion moved from worship of nature through a series of stages to Christianity, where Christ represents the union of God and man, of spirit and matter Philosophy goes beyond religion, for it enables man to comprehend the absolute. The whole system presents nearly insurmountable difficulties of comprehension, and any short restatement is bound to be incomplete and misleading. Hegel has stimulated many subsequent philosophies, some of which have been distortions Thus, the Hegelian theory of the state was the guiding force of the Young Hegelians, who sought the unification of Germany Hegelian dialectic appealed strongly to the socialists, especially Lassalle and Karl Marx, and the Marxian dialectic continued in the doctrines of Lenin and his followers After Hegel's death his philosophies of history, aesthetics, and religion were collated from lecture notes and published. See Sidney Hook, *From Hegel to Marx* (1936), Israel Knox, *The Aesthetic Theories of Kant, Hegel, and Schopenhauer* (1936), G R C Mure, *An Introduction to Hegel* (1940), Herbert Marcuse, *Hegel and the Rise of Modern Social Theory* (1941)

hegemony (hĭjĕ'mŭnē, hē–, hĕ'jumō"nē, hĕ'gu–) [Gr, =leadership], dominance, especially of one Greek city-state over others The free Greek city-states produced the best soldiers in the world, but the governments so weakened themselves by wars over hegemony that they fell prey to Macedon and later to Rome When the city-states lost their independence, they lost their cultural leadership of the world and their significance in history The greatest of the wars over hegemony was the Peloponnesian War, between Athens and Sparta, each strengthened by allies The subjugation of all GREECE by Macedon resulted

hegira or **hejira** (hĕj'ĭru, a more etymological pronunciation would be hĕ'jĭru) [Arabic *hijra*=departure], the flight of the prophet MOHAMMED from Mecca, June, 622 He fled to escape his enemies in his native city and went to Yathrib, where he became ruler, Yathrib changed its name to MEDINA The Mohammedan era is dated from the hegira (really from July 16, 622, the beginning of the year), because the Prophet had no opportunity to lay the foundation of ISLAM until he came to Medina The abbreviation A H is used before years of the hegira, like A D in Christendom

Heiberg, Gunnar Edvard Rode (gōō'nur ĕd'vär rō'dŭ hī'bĕr), 1857–1929, Norwegian dramatist Director of the Bergen National Theater (1884–88), he was author of successful plays, including *Tante Ulrikke* (1883), *The Balcony* (1894, Eng tr, 1922), *King Midas* (1900), a satire on Bjornson, and *The Tragedy of Love* (1904, Eng tr in T H Dickinson, *Chief Contemporary Dramatists*, Ser 2, 1921)

Heiberg, Johan Ludvig (yōhän' lōōdh'vē hī'bĕr), 1791–1860, Danish poet, dramatist, and critic, director of the National Theater In 1814 he wrote *The Marionette Theater* He studied in France from 1819 to 1822, and was for three years professor of Danish at Kiel Returning to Copenhagen, he composed many vaudevilles, based on French models but Danish in subject and humor He edited and wrote for several influential critical journals and published a number of plays, including *The Hill of the Elves* (1828), the most frequently performed Danish play

Heidegger, Martin (mär'tēn hī'dĕgur), 1889–, German philosopher He was professor at the Univ of Marburg (1923–28) and at the Univ. of Berlin (1928–33) and was rector at Berlin after 1933 Heidegger is regarded as the father of atheistic existentialism, and the most popular exponent of this school, Jean Paul Sartre, studied under him Combining two theories current in European thought during the 19th cent —the phenomenology of Husserl and part of EXISTENTIALISM as promulgated by Kierkegaard—Heidegger built an ontology of human existence From Kierkegaard he takes as his problem the tragic nature of being in a finite world and the sense of anguish and forlornness which oppresses man as he recognizes the inevitable limits of his life From phenomenology he accepts introspection and subjective examination as legitimate tools for the analysis of human nature, thereby rejecting the restraints and consolations of conventional philosophical and religious method. Since man is the only being capable of questioning himself, he is the only being in which existence precedes essence By questioning he may comprehend the nature of existence and, accepting its conditions within the essential relationships of the individual to the world and to other existents, he may transcend the everyday world of the non-inquiring anyone and assert his essence and destiny through "Resolute Decision" This solution is secular and depersonalized, differing in these aspects from the position of Kierkegaard, who answers the problem through the individual's escape from brutal reality into the plane of faith Heidegger's thesis is presented in *Sein und Zeit* (1927, Eng tr, *Existence and Being*, 1949), a work which was an important source for Sartre's *L'Être et le néant*. Other writings include *Vom Wesen des Grundes* (1929), *Kant und das Problem der Metaphysik* (1929), *Was ist Metaphysik?* (1929) and *Hölderlin und das Wesen der Dichtung* (1936).

Heidelberg (hī'dŭlbûrg, Ger. hī'dulbĕrk) city (pop, 111,766), N Baden, W Germany, celebrated chiefly for its university and student life. It is idyllically situated on the Neckar, in a valley covered with orchards and vineyards, and has a famous castle (15th–17th cent.) and several medi-

eval and Renaissance houses and churches The castle cellar contains the Heidelberg Tun, a gigantic wine cask with a capacity of about 49,000 gal In the Second World War, Heidelberg suffered no important damage First mentioned in the 12th cent, Heidelberg was acquired (1225) by the count palatine of the Rhine and until 1720 was the residence of the electors palatine (see PALATINATE) It was devastated in 1622 by imperial troops under Tilly and in 1689 and 1693 by the French The Univ of Heidelberg (Ruprecht-Karl-Universität) was founded in 1386 by Elector Rupert I It became a bulwark of the Reformation in the 16th cent, declined after the Thirty Years War, and, recovering after the Napoleonic Wars, became the most famous university of Germany Student life in 19th-century Heidelberg, with its duels, songs, and romance, has been much publicized in various adaptations of a novel, *Karl Heinrich*, by Wilhelm MEYER-FÖRSTER Actually, Heidelberg was and remains also a center of serious studies and has produced generations of scholars as well as dueling scars The **Heidelberg Catechism** was a profession of faith of the German Reformed (Calvinistic) Church, drawn up on the request of Elector Frederick III and published in 1563 It gained wide repute and was adopted by several REFORMED CHURCHES

Heidelberg (hī'dŭlbûrg), borough (pop 2,239), Allegheny co, SW Pa, near Pittsburgh

Heidelberg College see TIFFIN, Ohio

Heidelberg man see MAN, PRIMITIVE

Heidenstam, Verner von (vĕr'nûr fŭn hī'dunstăm), 1859-1940, Swedish lyric poet, novelist, and essayist His first volume of poetry, *Pilgrimage and Wanderyears* (1888), challenged the contemporary naturalistic, utilitarian Swedish literature *Poems* (1895) and *New Poems* (1915) established Heidenstam as one of Sweden's great lyric poets In the historical novels *The Charles Men* (1897-98, Eng tr, 1920), *Saint Birgitta's Pilgrimage* (1901), and *The Tree of the Folkungs* (2 vols, 1905-7, Eng tr, 1925) he evoked a sense of the continuing unity of a nation's past and present in its cultural development In such essays as "Renaissance" (1889) the theme of nationalism is further developed In 1916 the Nobel Prize in Literature was awarded to Heidenstam Some of his poems have been translated as *Sweden's Laureate Selected Poems* (tr by C W Stork, 1919) See Alrik Gustafson, *Six Scandinavian Novelists* (1940)

Heifetz, Jascha (yä'shŭ hī'fĭts), 1901-, Russian-American violinist At the age of six he made his debut in his native city, Vilna, afterward becoming a pupil of Leopold Auer at the St Petersburg Conservatory After playing with great success in Europe, he came to the United States in 1917, he has been ranked as one of the world's foremost violinists He has transcribed a number of works for the violin and, under the pseudonym Jim Hoyl, is the composer of one or two popular songs

Heijermans, Herman (hĕr'măn hī'urmăns), 1864-1924, Dutch dramatist He was of Jewish descent, and much of his work treated life among the Dutch Jews His dramas include *Op Hoop van Zegen* (1900, Eng tr, *The Good Hope*, 1928)

Heijo, Korea see PYONGYANG

Heilbronn (hīlbrŏn'), city (pop 52,745), N Württemberg, W Germany, on the Neckar It has machinery, tool, and other manufactures Of pre-Carolingian origin, Heilbronn became a free imperial city in 1281 Though it suffered in the wars of the 16th cent, particularly in the Peasants' War, Heilbronn rose to great commercial prosperity in the late 16th and early 17th cent In the 19th cent it acquired industrial importance In the Second World War most of the old city was destroyed The Götzenturm, a tower built in 1392, mentioned in Goethe's *Götz von Berlichingen*, is undamaged Götz von Berlichingen was a prisoner here in 1522

Heiligenblut (hī'lĭgunblōōt'), village in Carinthia, W central Austria, at the foot of the GROSSGLOCKNER It is a famous place of pilgrimage, in its Gothic church (1483) is a vial which according to tradition contains some of Christ's blood

Heilprin, Angelo (hīl'prĭn), 1853-1907, American naturalist, b Hungary He was brought to the United States in 1856, but was educated abroad. He was long associated with the Academy of Natural Sciences and the Wagner Free Institute of Science, both in Philadelphia He accompanied Peary on his first arctic expedition (1891) and headed the relief expedition of 1892, as described in his *Arctic Problem* (1893) His books include descriptions of his travels and two works on the eruption of Mont Pelée

Heilungkiang (hā'lōōng'kyäng', -jĕang'), Mandarin *Hei-lung-chiang*, province (99,522 sq mi, pop. 2,860,037), NE China. The capital is Peian This province, a part of Manchuria, was created in 1945 from the eastern section of the former province of Heilungkiang. On the north and west the Amur river separates Heilungkiang from the USSR The chief range of this largely mountainous province is the Little Khingan The southern region, crossed by the Nonni river, is economically the most important, and it alone has railroad service Most of its inhabitants are Chinese, who raise soybeans and grains in exportable surplus The Manchu and Mongol inhabitants of the north are pastoral nomads In 1949 the Communists made W Heilungkiang a part of the Inner Mongolian Autonomous Region.

Heimdall (hām'dal), in Norse mythology, the watchman of Asgard He lives at the end of the bridge BIFROST

Heine, Heinrich (hīn'rĭkh hī'nu), 1797-1856, German poet, b Düsseldorf, of a poor Jewish family A rich uncle gave him a start in business and, after Heinrich's dismal failure, sent him to law school at Bonn and Göttingen He left Göttingen after a duel and was in Berlin for a time There Rahel von Varnhagen introduced him into a literary circle, and in 1822 *Gedichte* appeared, his first volume of poems In 1825 he nominally embraced Christianity in order to be qualified by Göttingen as a lawyer, but he did not enter legal or civil service His early poems and his tragedies, *Almansor* and *William Ratcliff*, failed to gain public approval, but he sprang into fame with the exquisite prose of the first of his sketches of travel, *Die Harzreise* [the Harz journey] (1826), and the lyrics and ballads of his *Buch der Lieder* [book of songs] (1827) In sympathy with the liberal and nationalistic revolutionary ideals of Young Germany, he considered himself "a son of the French Revolution" In 1831 he left Germany for Paris, where he remained for the rest of his life He was correspondent for German newspapers, was for a time a Saint-Simonist, and for many years received a pension from the French government He married Eugénie Mirat (called Mathilde), who had been his mistress, but his marriage was unhappy Heine's life was embittered by his own temperament He quarreled violently with almost all his friends, and he issued frequent polemics against his enemies His piercing wit made matters worse In 1848 he was first stricken with the syphilis of the spine that condemned him to his "mattress grave" from 1849 until his death In his last years he was cared for by his faithful "Mouche," the woman who used the pen name Camille Selden Heine's work has been interpreted and reinterpreted by later critics in the light of Jewish influences the conflict of his romanticism and his revolutionary tenets, his devotion to classical literature, and his reaction to the anti-Semitic elements of his time Whatever may have been the forces shaping his art, Heine's lyrics and ballads are recognized as among the finest in world literature Many of his poems were set to music by Schubert Brahms, and Schumann and are still widely sung, the *Lorelei* is the most notable example His later poems (*Neue Gedichte*, 1847, and *Letzte Gedichte*, 1853) lack some of the fervor and fine music of his earlier lyrics but are still of first quality His satires both in verse (e g, *Atta Troll*) and in prose (such as his castigation of Germany in *Deutschland*) display his barbed wit and his penetrating criticisms of the social order His works are among the best of the 19th cent Best known of them are the *Reisebilder* [pictures of travels], in the manner of *Die Harzreise* These appeared in 1827, 1830, and 1831 Almost all Heine's works have been translated into English, but the translation of his lyrics has been, for the most part, unsuccessful because their value depends so much upon their tender cadences and the subtle relationships of word and thought The entire works of Heine were banned during the Nazi regime, which attributed "Die Lorelei" to an unknown author C G Leland, Sir Robert Randolph Garran, Elisabeth Sharp, E A Bowring, Havelock Ellis, Humbert Wolfe, and Louis Untermeyer have been among his translators Among the early important works on Heine in English are the essay by Matthew Arnold in *Essays in Criticism* (1865) and biographies by William Stigand (1880) and William Sharp (1888) Among later biographies are Lewis Browne and Elsa Wethl, *That Man Heine* (1927), H G Atkins, *Heine* (1929), Antonina Vallentin, *Poet in Exile* (1934), and Louis Untermeyer, *Heinrich Heine, Paradox and Poet* (1937) See also *The Poetry and Prose of Heinrich Heine* (ed by Frederic Ewen, 1948).

Heinrich, Anthony Philip, 1781-1861, American composer, conductor, and violinist, b Schönbüchel, Bohemia He settled in the United States in 1816, spending some time in Philadelphia and Pittsburgh In Kentucky (1818-23), he gave a number of concerts in which he figured as composer, conductor, pianist, and violinist In one he presented Beethoven's First Symphony, the first performance in America of any Beethoven symphony He was later active in Boston, London, the Continent, and New York, where he died

Heinse, Johann Jakob Wilhelm (yō'hän yä'kŏp vĭl'hĕlm hīn'zu), 1749-1803, German art critic and novelist His best-known work is the utopian romance *Ardinghello und die glückseligen Inseln* (1787, Eng tr, *Ardinghello, or, An Artist's Rambles in Sicily*, 1839)

Heinsius, Daniel (hīn'sēus), 1580-1655, Dutch classicist One of the most famous of Renaissance scholars, he edited many Latin authors, composed fine Latin poetry, and wrote in Dutch as well His son, **Nikolaas Heinsius** (nē'kōlus), 1620-81, was almost as famous as his father, but rather for his Latin poetry (which is unrivaled in elegance among moderns) than for his scholarship, somewhat less brilliant than his father's

Heintzelman, Samuel Peter (hīn'tsulmŭn), 1805-80, Union general in the Civil War, b Manheim, Pa, grad West Point, 1826 He fought at both battles of Bull Run (1861, 1862) and in the PENINSULAR CAMPAIGN

Heinze, Frederick Augustus (hīn'zē), 1869-1914, American copper magnate, b Brooklyn, N Y He went (1889) to Butte, Mont, as engineer for a mining company His clever operations in promoting ventures pushed him forward In 1893 he organized the Montana Ore Purchasing Company, built a smelter, and soon was cutting in on the claims of the Amalgamated Copper Company, which was controlled by Standard Oil Brilliant and aggressive, F Augustus Heinze was a more striking figure than William A Clark or Marcus Daly He won sympathy as a knight pitted against the "interests," but he was ultimately unsuccessful In 1906 he sold most of his holdings, and the United Copper Company, which he founded, went down in the Panic of 1907 See C B Glasscock, *The War of the Copper Kings* (1935)

heir, person designated by law to succeed to the ownership of property of another if that other does not make a contrary disposition of it by WILL. A person who takes a legacy left to him by will is not an heir but a legatee The property which the heir receives is his inheritance Originally the common law confined the term *heir* to an inheritor of real estate, the persons to whom the personal property of the deceased went were called the next of kin or the distributees The group of heirs of a man may differ from the group which the law recognizes as his next of kin, but the law which dictates the constitution of both groups is now largely statutory, and in many states of the United States the statutes have abolished all distinction When title to property is in a living man and his heirs, the meaning is merely that the man has absolute ownership of the property and can do what he wishes with it An heir apparent survives the owner of it An heir presumptive is in the same position except that his claim may be superseded, as by the birth of one more closely related to the owner These terms are much used with regard to dynastic succession, an heir apparent is in such connection the undisputed heir to the throne if he survives the incumbent, an heir presumptive is one who will inherit the throne unless some unforeseen event intervenes—especially the birth of a child to the incumbent

Heisenberg, Werner (vĕr'nur hī'zunbĕrk), 1901-, German physicist For his theory of quantum mechanics (1925) and the discovery of allotropic forms of hydrogen he received the 1932 Nobel Prize in Physics In 1927 he enunciated the principle of uncertainty (or indeterminancy) which held that it is impossible to determine at the same time both the position and the velocity of an electron, he suggested, therefore, that laws governing subatomic phenomena should be stated in terms of observable properties, such as intensity and frequency of radiation Heisenberg taught at the universities of Leipzig (1927-41) and Berlin (1942-45) and became director (1942) of the Kaiser Wilhelm Institute of Physics (reorganized as the Max Planck Institute of Physics)

Heiser, Victor George (hī'zur), 1873-, American physician and public health specialist, b Pennsylvania, M D Jefferson Medical College, Philadelphia, 1897 He joined (1898) the U S Public Health Service as an assistant surgeon and served on special missions abroad In 1903 he was appointed chief quarantine officer of the immigration service in the Philippine Islands, where he remained as director of health (1905-15), he was instrumental in establishing there many hospitals and the medical school connected with the Univ of the Philippines Subsequently, as associate director (1915-34) of the International Health Division, Rockefeller Foundation, he visited scores of lands studying and organizing the work of combating disease Plague, cholera, smallpox, hookworm, leprosy, and malaria are some of the diseases against which his efforts were directed After retiring (1934) from his position with the Rockefeller Foundation, he worked as consultant in public and industrial health In addition to his technical works he wrote *An American Doctor's Odyssey* (1936), *You're the Doctor* (1939), and *Toughen Up, America* (1941)

Hejaz or **Hedjaz** (both hĕjăz', hĕjaz'), region, NW Saudi Arabia, on the Gulf of Aqaba and the Red Sea, extending south to about lat 20° N The region is mainly a mountain range and plateau, both lying between the narrow, low coastal strip and the interior desert There are several oases and some wadis (watercourses) where crops are raised Each year many Moslem pilgrims come into the Hejaz to visit the holy cities of Mecca and Medina, and infidels are excluded from much of the region Originally a province of Turkey, the Hejaz was in 1916 proclaimed independent by Husein ibn Ali, the sherif of Mecca, who with the aid of T. E. Lawrence

destroyed Turkish authority. Husein in 1924 was himself defeated by Ibn Saud, founder of SAUDI ARABIA, who annexed his domain

hejira. see HEGIRA

Hekla (hĕk'lä), volcano, 4,746 ft high, SW Iceland. A score of eruptions have been recorded since 1004; the worst occurred in 1766 Inactive after 1913, the volcano erupted again in 1947

Hel (hĕl), in Norse myth, goddess of death She is ruler of the underworld, which lies under one of Yggdrasill's roots Her name is probably identical with HELL, but she makes no distinction between good and bad The name is also given to her abode

Helah (hē'lä), wife of Ashur 1 Chron 4 5

Helam (hē'-), unidentified place, Syria, where **David** defeated Hadarezer 2 Sam 10 16,19

Helbah (hĕl'bu) [Heb ,=fat], unidentified town, NE Palestine Judges 1.31

Helbon [Heb ,=fat], ancient place, Syria, NNW of Damascus It was noted for its wine Ezek 27 18

Held, Anna, 18737-1918, American musical comedy actress, b Paris. She is remembered for her beauty and charm as well as for her tempestuous off-stage life After she had small singing and dancing parts in Paris, success came to her when Florenz Ziegfeld (whom she subsequently married) persuaded her to come to America to star in the first of his lavish productions, *A Parlor Match* (1896). She was long a favorite on the New York stage, some of her outstanding roles being *The Little Duchess* (1903-4), *Mlle Napoleon* (1905-6), and *Miss Innocence* (1909-10)

Heldai (hĕl'dāī) 1 See HELEB 2 Man who was to have a memorial in the temple Zech 6.10 Helem Zech 6 14

Heleb (hē'-), mighty man. 2 Sam 23 22 Heled 1 Chron 11 30 He may be the captain Heldai of 1 Chron 27 15.

Heled (hē'-), the same as HELEB

Helek (hē'-) [Heb ,=portion], descendant of Manasseh Num 26 30

Helem (hē'-) [Heb ,=blow] 1 Asherite 1 Chron 7 35 2 The same as HELDAI 2

Helen, in Greek legend, the most beautiful of all women She was the daughter of LEDA and Zeus, who came to Leda as a swan Helen was therefore born from an egg Her half sister was CLYTEMNESTRA, her half brothers CASTOR AND POLLUX Late legend says she was so beautiful even as a child that Theseus could not resist carrying her off, and Castor and Pollux pursued him and brought their sister back Late legend also says that all the nobles of Greece sought her hand in marriage and agreed to support the rights of the man fortunate enough to become her husband In Homer as in the later writings her husband was MENELAUS When PARIS decided to award the APPLE OF DISCORD to APHRODITE, she had to make good her promise to give him the fairest woman in the world. Therefore with her aid Paris abducted Helen to Troy, where she was his wife The chiefs and nobles then undertook a war to recover her and avenge Menelaus This was the TROJAN WAR, the subject of Homer's *Iliad* and of countless later legends When the war was finished, Helen returned quietly to Sparta with Menelaus She bore him but one child, HERMIONE Another version of Helen's story is that she did not go to Troy at all but was taken to Egypt, where she remained until her husband came to reclaim her while a phantom Helen went to Troy, this was the version favored by Euripides By some students of myths she is considered a "faded goddess," i e , an ancient goddess reduced to human form

Helena, Saint (hĕ'lunu), c 248 328?, mother of Constantine I (Constantine the Great) She became Christian in 313 According to tradition she found the relic of the True Cross near Calvary at Jerusalem (an event usually called the Invention of the Cross), she is also said to have identified the location of the Holy Sepulcher A popular tradition made her British Feast Aug 18

Helena (hĕ'lunu) 1 City (pop 8,546), co seat of Phillips co , E Ark , on the Mississippi and SW of Memphis, Tenn , inc 1856. A rail center and river port, it ships cotton, lumber, and food products. Cottonseed oil and woolen goods are made In 1863 a battle occurred here, resulting in a Union victory 2 Town (pop 1,073), S central Ga., contiguous to McRae, SE of Macon and on the Little Ocmulgee river, in a farm and dairy area 3 City (pop 15,056), state capital, and co seat of Lewis and Clark co., W central Mont , inc 1881 Founded after discovery of gold in Last Chance Gulch (1864), the town grew rapidly, and in 1874 a general election ratified the choice of Helena to replace Virginia City as territorial capital In the 1890s it maintained its position as state capital against the rivalry of Anaconda. Rich silver strikes in the neighborhood kept the mining wealth high, and Helena still depends on mining as well as on the ranching and farming of the Prickly Pear valley In 1935 an earthquake severely damaged the city Helena is the seat of Carroll College (Catholic, for men, 1910) and of a veterans' hospital (formerly Fort Harrison, an army post)

Helensburgh (hĕ'lnzbûrû), burgh (pop 8,893), Dumbartonshire, Scotland, on the north shore of the Clyde. A resort, it is a point of departure for steamers to Garelochhead, Dunoon, Glasgow, and Greenock It was named for the wife of Sir James Colquhoun, who founded it in 1777.

Heleph (hē'lĕf) [Heb ,=exchange], unidentified town, NE Palestine. Joshua 19 33

Helez (hē'-) 1 One of David's guard. 2 Sam. 23 26, 1 Chron 11 27. 2 Descendant of Jerahmeel 1 Chron 2 39.

Helgoland (hĕl'gōländ", Ger hĕl'gōlänt") or **Heligoland** (hĕ'lĭgōländ"), island, area less than 150 acres, Germany, in the North Sea, c 40 mi NNW of Cuxhaven. Formed of constantly eroding red sandstone, it rises c 160 ft. above the sea and is covered by grazing land of an intense green. Its picturesqueness made it a favorite tourist resort before the Second World War Formerly a Danish possession, the island was occupied by the English in 1807 and formally ceded to England in 1814 In 1890 Great Britain traded it to Germany for Zanzibar The German fortifications were razed according to the terms of the Treaty of Versailles, but in 1936 Germany refortified Helgoland and in the Second World War used it as a naval base In 1947 the British occupation authorities, after evacuating its population (mostly fishermen), blew up the fortifications and part of the island in the largest known non-atomic blast

Helgoland Bight, indentation in the coast of the North Sea S and E of Helgoland, Germany Here in 1914 the British defeated the Germans in the first serious naval battle of the First World War.

Heli (hē'lī), father of St Joseph Luke 3.23.

Heliand (hē'lēund, hĕ'lēänd) [Old Saxon, =Savior], Old Saxon poem of 5,983 lines, a narrative of the life of Christ in alliterative verse, written c 825

Helianthus. see SUNFLOWER

Helicon (hĕ'lĭkŏn), Gr *Elikon* (ĕlē'kôn), mountain group, central Greece, in Boeotia It is c 25 mi long and rises to 5,736 ft In Greek legend it was the abode of the MUSES. The fountains of Hippocrene and Aganippe are on the slopes of Mt Helicon The temple of the Muses was situated in the eastern part of the mountain, at the foot of which were Thespiae and Ascra, home of Hesiod

helicopter (hĕ'lĭkŏptur, hē') [Gr ,=spiral winged], type of rotor aircraft in which lift is obtained by means of one or more power-driven horizontal propellers This method of flight was one of the earliest considered, Leonardo da Vinci, in the 16th cent , described its possibilities Although the helicopter has not been extensively used for long-distance transportation, it has proved of great value for certain special purposes, e g , air-sea rescue and some kinds of aeromagnetic surveying Its particular fitness for these and similar purposes lies in the high degree of maneuverability and of control of the craft possible even down to zero air speed See H F Gregory, *Anything a Horse Can Do* (1944), C B F Macaulay, *The Helicopters Are Coming* (1944), C L Morris, *Pioneering the Helicopter* (1945), A H Stevens, Jr , *The How of the Helicopter* (1946)

Heligoland· see HELGOLAND

Heliodorus (hē"lēōdō'rŭs), fl 175 B C , Syrian statesman The treasurer of Seleucus IV (Seleucus Philopator), he murdered the king, hoping to usurp the throne According to 2 Mac 3 he entered the Temple at Jerusalem, but in attempting to take the treasure he was prevented by three angels Josephus does not mention this incident It is depicted in a fresco by Raphael at the Vatican

Heliodorus of Emesa (ĕ'mŭsŭ), fl 2d or 3d cent , Syrian Greek writer He wrote the romance *Aethiopica*, one of the oldest and best of surviving Greek romances He was a native of Emesa, but little else is known surely of his life. He possibly antedates ACHILLES TATIUS

Heliogabalus (hē"lēōgă'bŭlŭs) or **Elagabalus** (ĕlŭgă'bŭlŭs), c 205–222, Roman emperor (218–22) He was a priest of the sun-god at Emesa and was named Varius Avitus Bassianus. He was a cousin of CARACALLA; according to the claims (almost certainly false) of his ambitious mother and grandmother, he was the son of Caracalla. He was chosen by the troops in Syria as emperor in opposition to the legitimate heir, MACRINUS When Macrinus was defeated and slain at Antioch, Heliogabalus became emperor as Marcus Aurelius Antoninus His reign was a tragic farce He imported the cult of which he was priest, and Rome was shocked and disgusted by the indecency of the rites as well as by the private life of the emperor, who gave high offices to an actor, a charioteer, and a barber His grandmother, Julia Maesa, induced him to adopt his young cousin, but Heliogabalus later tried to have the boy killed To the regret of no one Heliogabalus and his mother were murdered in a Pretorian uprising. The young cousin, ALEXANDER SEVERUS, succeeded

heliograph (hē'lēŭgrăf) [Gr ,=sun-writer], signaling device consisting of a mirror set to reflect sunlight and shuttered so that messages may be transmitted in ordinary telegraphic code by means of long and short flashes. The heliostat is a similar device which reflects a beam of light on a distant spot The spectroheliograph, invented (1890) independently by George E. Hale and H. A. Deslandres, combines the principle of the heliostat and the spectroscope and is used to photograph the sun in the study of the sun's atmospheres.

Hélion, Jean (zhäⁿ' ālyō), 1904–, French abstractionist painter. His works are studiously devoid of literal content and bear no titles. Settling (1932) in the United States, he has since held numerous one-man shows; the Museum of Modern Art, New York, owns one of his compositions, and others are in private collections. His experiences of capture and escape from a German prison camp while fighting with the French in the Second World War are described by him in *They Shall Not Have Me* (1943)

Heliopolis (hēlĭŏ'pŭlĭs) [Gr ,=city of the sun], ancient city, N Egypt, in the Nile delta a few miles below Cairo It was noted as the center of sun worship, and its god Ra or Re became (c 2600 B C) the state deity, when Thebes became capital (c 2160 B C), the god Amon was joined with him as Amon-Ra or Amon-Re (see EGYPTIAN RELIGION). Heliopolis was under the New Empire (c 1580–c 1090) the seat of the viceroy for N Egypt The obelisks called Cleopatra's Needles were erected here Its schools of philosophy and astronomy, said to have been visited by Plato, declined after the founding of Alexandria in 332 B C , but the city never wholly lost importance until the Christian era The Egyptian name was On, and by this name it appears in the Bible as the shrine to which Joseph's father-in-law was attached Gen 41 45,50, 46 20 Elsewhere in the Bible, Heliopolis is referred to as Beth-shemesh and Aven.

Heliopolis, Syria see BAALBEK

Helios (hē'lĭŏs) [Gr ,=sun], in Greek religion, sun-god, son of the Titans Hyperion and Theia, husband of the nymph Clymene, and father of PHAËTHON Helios had a magnificent eastern palace He left it every morning in a golden chariot drawn by four immortal horses for another palace in the west The islands of Rhodes and Sicily (where he pastured his cattle) were sacred to Helios In Rhodes he was the national god, and the famous Colossus represented him. In later times Apollo was frequently identified with Helios, but generally Helios, the great eye of the world, represented the sun in its material or diurnal aspects and Apollo represented it in its spiritual aspects In the *Odyssey* Helios shipwrecked Odysseus and his men after they had partaken of his sacred cattle Helios was called Sol by the Romans

heliotrope (hē'-) [Gr ,=sun-turning], any plant of the genus *Heliotropium*, widely distributed herbs or shrubs some of which are cultivated, usually as annuals, for garden or pot plants or for cut flowers The small white to purple clustered blossoms are very fragrant The heliotrope is also called turnsole, because of its turning toward the sun, both names were formerly applied to any such plant \ valerian is known as garden heliotrope, and the sweet coltsfoot as winter heliotrope Heliotrope is also a name for the BLOODSTONE

helium (hē'lēum) [Gr ,=sun], colorless, odorless, tasteless gaseous element (symbol=He, for physical constants, see ELEMENT, table) It is about one seventh as heavy as air, and only hydrogen is lighter It is extremely inert and is grouped in the periodic table with neon, argon, krypton, xenon, and radon Because of its nonflammability and lightness it is the most satisfactory gas for balloons and airships Because of its low solubility in the human blood, it is useful as a component (as a substitute for nitrogen) of the "air" supplied to deep-sea divers and caisson workers and in the chambers used to accustom them gradually to normal pressures Its rarity, its cost of production, and the monopoly on its commercial production held by the United States has limited its use in other parts of the world, the gas is found in natural gas in the oil fields chiefly in Texas and Kansas It occurs also in uranium ores and in some mineral waters, but it is not available from these sources for industrial use Sir Norman Lockyer investigated (1868) a substance whose spectrum P J C Janssen had observed while studying the chromosphere of the sun in India during the total eclipse of 1868. Lockyer recognized it as a new element and named it helium Part of this research was carried on with Edward Frankland. W F Hillebrand later obtained helium by the action of an acid on a uranium ore, but he did not recognize that the gas evolved was helium Sir William Ramsay repeated the experiment using a different uranium ore, cleveite, and obtained a gas identical with helium As a result he announced, in 1895, the isolation of helium on earth. The alpha rays which emanate from radium are composed of the nuclei of helium atoms

Helkai (hĕl'kāī, hĕlkā'ī) [Heb.,=whose portion is God], priest with Zerubbabel. Neh 12 15.

Helkath, unidentified town, N Palestine. Joshua 19.25· 21 31. Hukok 1 Chron. 6.75

Helkath-hazzurim (-hă'zû-), field, where 12 champions of David fought 12 champions of Ishbosheth 2 Sam. 2.12–17.

hell, in Christian theology, the eternal abode of the souls damned by the judgment of God. Its characteristic is that the souls in hell are deprived forever

of the sight of God. The punishment of hell is generally analogised to earthly fire Hell has been treated in legend and literature, especially in the *Divine Comedy* of Dante A constant feature is Satan or Lucifer, considered as the ruler of hell Analogous to hell are conceptions of other religions Islam has a hell that is virtually the same The Sheol or Tophet of the ancient Jews is a gloomy place of departed souls, where they are not tormented, but wander about unhappy The ethical aspect was apparently gradually developed, and Sheol became much like the hell of Christianity Gehenna, in the New Testament, which drew its name from the Vale of HINNOM, was certainly a place of punishment. Among the Greeks the great underworld was Hades, ruled by a king, called Hades, MINOS, or PLUTO, and by PERSEPHONE It was like the Hebrew Sheol, unpleasant and gloomy, the general place of the departed The river STYX was said to surround it, CHARON was the ferryman, and CERBERUS guarded the entrance to Hades The Romans called this underworld also Orcus, Dis (a name for Pluto), and, poetically, Avernus. The principal description of Hades is in the *Odyssey*, and Vergil makes Aeneas visit Hades Tartarus, below Hades, was a place of torment for the very wicked The idea of Hel appearing in the elaborate cosmology of the *Edda* was probably heavily influenced by Christian writings It is a general underworld abode for the departed and the place of the damned. See HEAVEN and SIN.

Hellas: see GREECE

Helle see PHRIXUS

hellebore (hĕl'ŭ-) [Gr], name for plants of the genus *Helleborus*, Eurasian perennials with attractive palmately divided leaves and flowers of various colors. Hellebores are noted for their early blooming, particularly the black hellebore or CHRISTMAS ROSE Some are both poisonous and medicinal Species of the unrelated genus *Veratrum*—which are also poisonous and medicinal and which yield an insecticide—are variously known as false, or American, hellebore and white hellebore

Hellen, in Greek mythology, eponymous ancestor of the Hellenes or Greeks He was the son of Deucalion and Pyrrha (in some accounts, the son of Zeus), father of Aeolus, Dorus (ancestor of the Dorians), and Xuthus

Hellenism, the culture, ideals, and pattern of life of ancient Greece in classical times It usually means primarily the culture of Athens and the related cities in the Age of Pericles The term is also used to apply to the ideals of later writers and thinkers who draw their inspiration from ancient Greece Frequently it is contrasted with Hebraism, Hellenism then meaning pagan joy, freedom, and love of life as contrasted with the more serious, even gloomy, ethic of the Old Testament The Hellenic period came to an end with the conquest of Alexander the Great in the 4th cent B C It was succeeded by the Hellenistic civilization See GREECE, GREEK ARCHITECTURE, GREEK ART, GREEK LITERATURE, GREEK RELIGION

Hellenistic civilization (hĕ"lĭnĭ'stĭk) The conquests of Alexander the Great spread Hellenism immediately over the Near East and far into Asia After his death in 323 B C, the influence of Greek civilization continued to expand over the Mediterranean world and W Asia The wars of the DIADOCHI marked, it is true, the breakup of Alexander's brief empire, but the establishment of Macedonian dynasties in Egypt and Syria and Persia (the Ptolemies and the Seleucidae) helped to mold the world of that day into a wider unity of trade and learning While the city-states of Greece itself tended to stagnate, elsewhere cities and states grew and flourished Of these the chief was Alexandria So great a force did Alexandria exert in commerce, letters, and art that this period is occasionally called the Alexandrian Age, and the end of Hellenistic civilization is generally set at the final triumph of Roman power in Alexandria in the 1st cent B C Pergamum was also prominent, and there were other cities, great and small, of influence (e g , Dura). The bounds of the known world were extended somewhat by navigators, who learned, for example, about the North Sea The upsurge of commerce brought wealth to merchants and in general to the upper classes, and the Hellenistic era was marked by a great increase in physical comfort, better housing, and better food for the well to do Thus wealth was also reflected in a tendency toward the ornate and superimpressive in architecture, although town plans and buildings of the period have proportions and grace rarely excelled It should be noted, however, that the increase of wealth did not reach the poor, who in general were more impoverished than before and benefited only from the capricious benevolence of the rulers and the wealthy—and of course from the indirect gains of beautification of the cities Greek was the fashionable language of the educated world, and education was much more widespread than ever before. The result was a great increase of volume in literature and a tendency for writing to divide into popular literature for the wide audience and specialized writing for narrow, highly intellectual circles. Thus learning of the academic sort flourished as it never had before, and the libraries of Alexandria and Pergamum were centers of literary criticism, the compiling of anthologies and catalogues, and the construction of treatises (often in verse) containing all sorts of miscellaneous learning (e g , on word use, grammar, and mythology) The literature of the Hellenistic period has been stigmatized since the Renaissance as imitative and ponderous, but actually there was a great richness in some of the writing Not only were there outstanding poets such as Callimachus and Theocritus but there were also new forms that emerged, such as the complicated but frequently charming romances and the works of Lucian. Similarly some of the finest—and some of the most familiar—ancient sculpture to survive to our day are Alexandrian (e g , the Venus of Milo and the Dying Gaul) Philosophical disputation was popular among the educated, and while much of the discussion was stale, the contributions of the Stoics and the Epicureans to the world were very great The greatest contribution of the age was the actual expansion of art, education, and wealth and the preservation and enrichment of the Greek heritage for the use of Rome and succeeding civilizations As Rome gradually overshadowed the Mediterranean world, the Romans learned much from the peoples they conquered, and Hellenistic civilization was submerged rather than extinguished See W. W. Tarn, *Hellenistic Civilization* (2d ed , 1930)

Hellertown, borough (pop 4,031), SE Pa , near the Delaware SSE of Bethlehem, settled c 1740, inc 1872 Electrical products and commercial gases are made here

Helles, Cape (hĕ'lus), southernmost point of the Gallipoli peninsula, European Turkey. It commands the entrance to the Dardanelles

Hellespont see DARDANELLES

Helleu, Paul César (pôl' sāzär' hĕlö'), 1859–1927, French dry-point etcher and painter Examples of his somewhat impressionistic painting are in the Museum of Fine Arts, Boston, and in the Luxembourg Museum, Paris He is best known, however, for his dry-point studies and portraits of fashionable women which have the spontaneity of rapid sketches They were often printed in two or more colors

Hell Gate, narrow channel of the East River, SE N Y , between Wards Island and Astoria, Queens, New York city Named Hellegat by Adriaen BLOCK, who passed through it into Long Island Sound in 1614, it was long dangerous to ships because of its strong tidal currents and rocks It is crossed by the Triborough highway bridge and the Hell Gate railroad bridge, which is a connecting link for trains from the north to the south and the west

Hellín (ēlyēn'), city (pop 13,013), Albacete prov , SE Spain, in Murcia There are sulphur mines in the vicinity, worked since Roman times

Hellman, Lillian, 1905–, American dramatist, b New Orleans, studied at New York Univ and at Columbia Her first play, *The Children's Hour* (1934), attracted wide attention and was filmed as *These Three* in 1936 *The Little Foxes* (1939) and *Another Part of the Forest* (1946) constitute a chilling two-generation study of a well-to-do and vicious Southern family *Watch on the Rhine* (1941), on the German underground, and *The Searching Wind* (1944) were equally successful Miss Hellman is also a leading writer for moving pictures

Helmand (hĕl'mund), river, c 700 mi long, rising in central Afghanistan, in the mountains W of Kabul It flows generally SW to the Hamun-i-Helmand on the Iranian border. Its only important tributary is the Arghandab. Its ancient irrigation system was ruined by Jenghiz Khan and Tamerlane, but the modern irrigation works, though not so extensive, are vital to both Iranians and Afghans, and in times when the river runs low there are disputes The name also appears as Helmund

Helmholtz, Hermann Ludwig Ferdinand von (hĕr'män lōōt'vĭkh fĕr'dēnänt fŭn hĕlm'hôlts), 1821–94, German scientist Although known especially as a physicist and biologist, he was also physician, mathematician, philosopher, and lecturer on popular science He extended the application of the law of conservation of energy and in 1847 formulated it mathematically He contributed to the knowledge of thermodynamics and electrodynamics and studied vortex motion in fluids A pioneer in physiological optics and author of a *Treatise on Physiological Optics* (1867, Eng. tr., 3 vols , 1924–25), he extended Thomas Young's theory of color vision, explained the mechanism of lens accommodation in the eye, and invented (1851) the ophthalmoscope He was an authority on acoustics, especially on the perception of tone quality, and wrote *On the Sensations of Tone* (1863, Eng tr , 4th ed., 1912, reissued 1948). Helmholtz was professor of physics at the Univ of Berlin from 1871 and also director of the Physico-technical Institute, Charlottenburg, from 1887 See biography by Leo Koenigsberger (Eng. tr , 1906)

Helmond (hĕl'mônt), municipality (pop 32,880), North Brabant prov , SE Netherlands, ENE of Eindhoven. It is a textile center, manufacturing cotton fabrics and artificial silk. Its old castle is now used as town hall

Helmont, Jan Baptista van (yän' bäptē'stä vän hĕl'mônt), 1577–1644, Flemish physician, chemist, and physicist He attributed physiological changes to chemical causes, but his conclusions were colored by his speculative mysticism. He discovered carbon dioxide, distinguished gases as a class of substances (as contrasted with solids and liquids), and is credited with introducing the term *gas* in its present scientific sense His chief work is *Ortus medicinae* (1648).

Helmstedt (hĕlm'shtĕt), city (pop 25,599), Brunswick, central Germany It has machine and textile manufactures Dating from the 9th cent , it has preserved much medieval architecture After the Second World War it became an important communications center on the border of the British and the Russian occupation zones of Germany

Helmund, river see HELMAND.

Heloise see ABELARD, PETER

Helon (hē'-) [Heb , =strong], father of ELIAB 1

helots. see SPARTA, Greece

Helper, Hinton Rowan, 1829–1909, American author, b Davie co , N C In California during the gold rush, Helper returned east to write *The Land of Gold* (1855), which was followed by *The Impending Crisis of the South* (1857) An attack on slavery this book by a Southerner enraged the South and delighted Republicans who distributed 100,000 copies in 1860 The book condemned slavery not on humanitarian or moral grounds, but because it was an economic threat and the cause of backwardness and impoverishment among the poor whites and small farmers of the South Three subsequent books, the first being *Nojoque* (1867), were vicious racist attacks on the Negro for his alleged basic inferiority

Helper, city (pop 2,843, alt 5,829 ft), E central Utah, on the Price river and NW of Price, inc 1907 It is a coal-mining town, called Pratts Siding until 1892 Some lands in the area are irrigated from Scofield Reservoir, impounded by Scofield Dam, completed in 1946 by the Bureau of Reclamation in the headstream of the Price to replace an earlier dam

Helps, Sir Arthur, 1813–75, English historian and essayist His works include *Friends in Council* (1847–59), dialogues on social and intellectual subjects, *The Conquerors of the New World* (1848–52), *The Spanish Conquest in America* (1855–61), and *The Life of Columbus* (1869) He assisted Prince Albert with his speeches and helped to prepare the works of Queen Victoria for publication

Helsingborg see HALSINGBORG

Helsingfors, Finland see HELSINKI

Helsingor, Denmark see ELSINORE

Helsinki (hĕl'sĭngkē), Swed *Helsingfors* (hĕl'sĭngfôrz, Swed hĕlsĭngfôrs', fôsh'), city (pop 319,939) capital of Finland, a Baltic seaport on the Gulf of Finland Built on a peninsula, surrounded by islands and fortified by SUOMENLINNA, the city is the intellectual, commercial, and administrative center of Finland Its distinctive modern buildings of native granite and its cleanliness have earned it the name White City of the North Three harbors accommodate passenger steamers, large freighters, and local shipping Its principal manufactures include paper, tobacco, sugar, liquor, textiles and machinery The city, founded (1560) by Gustavus I of Sweden, grew rapidly after the capital was moved here (1812) from Turku by Alexander I of Russia In the older part of the city are the state council building, the residence of the president, the impressive railway station (designed by Eliel Saarinen), the university (moved here from Turku in 1828), the Church of St Nicholas, the national archives, an art gallery, and the Russian cathedral Outstanding in the newer part of the city are the house of representatives building (1931), the general post office (1938), the national museum, a stadium, an opera house, and the technical university (1877) Although bombed several times during the Finnish-Russian War (1939–40) and the Second World War, Helsinki suffered only slight damage

Helst, Bartholomeus van der (bär"tōlōmā'us vän dur hĕlst'), c 1613–1670, Dutch portrait painter Most of his life was spent in Amsterdam, whose wealthy citizens preferred his portraits to those of Rembrandt He painted several group portraits for the city fathers One of these, *Banquet of the Civic Guard* (Rijks Mus), is considered his masterpiece Helst was a founder of the painters' Guild of St Luke in Amsterdam (1654) Among his well-known works are *The Peace of Münster, Confraternity of St Sebastian*, and portraits of Andries and Gerard Bicker (Rijks Mus), *Lady in Blue* (National Gall , London), and a portrait of Paul Potter (The Hague) The Metropolitan Museum has three fine portraits

Helvellyn (hĕlvĕl'ĭn), mountain, 3,118 ft high Cumberland and Westmorland, England Near the summit is a memorial to Charles Gough, who was commemorated in poems by Scott and Wordsworth

Helvetia (hĕlvē'shŭ), short for *Confoederatio Helvetica*, Latin name of Switzerland Helvetia was also the name of a Roman administrative district

of Upper Germany (1st cent. B C–5th cent. A D), which occupied, with RHAETIA in the east, the site of modern Switzerland Its inhabitants, the predominantly Celtic Helvetii, attempted in 58 B C to conquer S Gaul, but were defeated by Julius Caesar at Bibracte (see GALLIC WARS) Under Roman rule they attained great prosperity, as witnessed by the ruins at AVENCHES

Helvetic Republic (hĕlvē'tĭk), 1798–1803 In Sept, 1797, several exiled Swiss leaders in France (notably Frédéric César de LA HARPE) formally urged the French Revolutionary government (the Directory) to help in the liberation of the subject districts of SWITZERLAND and in the overthrow of the aristocratic cantonal governments The Directory, eager to secure the Alpine passes and to seize the treasury of BERN, ordered the invasion of Switzerland (Jan, 1798), resistance was brief A unified state, the Helvetic Republic, was set up replacing the former loose confederation Its democratic constitution was changed six times in five years, and ruin was added to chaos when the battles of the French Revolutionary Wars shifted into Switzerland (1799) An Austrian army defeated the French at Zurich (June), but Austro-Russian discord led to the victory (Sept), again at Zurich, of Masséna over a Russian army under Korsakov SUVAROV, who arrived too late from Italy to aid Korsakov, was obliged to retreat to Lindau in Germany The survival of the Helvetic Republic till 1803 was largely due to the presence of French troops, the Swiss being hostile to centralization In Feb, 1803, Napoleon, by imposing the Act of Mediation, established a confederation of 19 cantons, with a federal diet entirely subservient to France

Helvétius, Claude Adrien (hĕlvē'shus, Fr klōd' adrēē' ělvāsyüs'), 1715–71, French philosopher, one of the Encyclopedists He held the post of farmer-general, an exceedingly remunerative position, and was then chamberlain to the queen In 1751 he retired to the country, devoting himself to his writings and philanthropies and traveling briefly in England and Germany Unfortunately his philosophy irritated both Church and State, and his book *De l'esprit* (1758, Eng tr, *Essays on the Mind*, 1807) was condemned by the Sorbonne and burned Agreeing with Locke's doctrine that the minds of men are originally blank tablets, Helvétius maintained that all men are born with equal ability and that distinctions develop from the total of educational influences All forms of intellectual activity have their beginning in sensation, and the soul is at first simply a capacity for sensation In ethics a utilitarian, he judged the good in terms of self-satisfaction and regarded self-interest as the sole motive for action Both Bentham and James Mill acknowledge his influence Another book, *De l'homme*, posthumously published (1772) and translated, is called in English *A Treatise on Man His Intellectual Faculties and His Education* (1777) The complete works of Helvétius were published in 1796 and 1818 See G V Plekhanov, *Essays in the History of Materialism* (Eng tr, 1934)

Helwan (hĕlwan'), town (pop c 8,000), Egypt, on the Nile opposite the ruins of Memphis With warm sulphur springs famed from antiquity, the town is a health resort

Hemam (hē'-), descendant of Esau Gen 36 22 Homam 1 Chron 1 39

Heman (hē'mun, hē'-) [Heb, =true] **1** Wise man 1 Kings 4 31, 1 Chron 2 6, title of Ps 88 **2** Chief singer 1 Chron 6 33, 15 16–22, 25 1–7

Hemans, Felicia Dorothea (Browne) (hĕm'ŭz, often in America hē'mŭz), 1793–1835, English poet She married Capt Alfred Hemans in 1812 and separated from him in 1818 A facile writer, the demand for her poems—mild, sentimental, and melodious—was constant She is remembered for "Casabianca," "The Landing of the Pilgrims," and "England's Dead" A collection of her poetry was published in 1839

Hemath (hē'-) **1** Ancestor of the Rechabites 1 Chron 2 55 **2** The same as HAMA

hematite (hē'mutīt), a mineral, an oxide of iron containing about 70 percent metal, occurring in nature in red to reddish-brown earthy masses and in various steel-gray to black crystalline forms That having a metallic luster is called specular hematite or specular iron The red powdered hematite is used as a pigment (OCHER) and as rouge in polishing Hematite is most important as an ore of iron. Extensive and richly productive deposits occur in the Lake Superior region (in Michigan, Minnesota, and Wisconsin) and the Birmingham district (Alabama) The mineral is widely distributed throughout the world

Hemdan, Edomite Gen 36 26 Amram 1 Chron 1 41

Hemet (hē'mĭt), city (pop. 2,595), S Calif, SE of Riverside, inc 1910. It is a processing center in a fruitgrowing region An annual Ramona pageant, based on the novel by Helen Hunt Jackson, is held near by.

Heming or Hemminge, John (both· hĕ'mĭng), d 1630, English actor A proprietor of the Globe Theatre and a fellow actor of Shakspere, he is said to have been the first to play Falstaff In 1623 he edited, with Henry Condell, the First Folio of Shakspere's plays

Hemingway, Ernest, 1898–, American novelist, b Oak Park, Ill His first three books, *Three Stories and Ten Poems* (1923), *In Our Time* (1924), and *The Torrents of Spring* (1926), were talented though somewhat sentimental works, his true vigor appeared with the realistic novel *The Sun Also Rises* (1926), thought by many to be Hemingway's most representative work The protagonists are cynical, disillusioned men and women living in 20th-century Spain His *Farewell to Arms* (1929), a novel of the First World War, was followed by *Death in the Afternoon* (1932), a rambling treatise on the pageantry and excitement of bullfighting, in reality an essay on death *To Have and Have Not* (1937), set in Key West, noted the turbulence of contemporary society without offering either solution or hope *For Whom the Bell Tolls* (1940), inspired by the courage of the Spanish Loyalist and peasant in the Civil War (1936–39), subordinated the legendary Hemingway hero and heroine to duty Hemingway's short stories, included in the collections *Men without Women* (1927), *Winner Take Nothing* (1933), and *The Fifth Column* [a play] *and the First Forty-nine Stories* (1938), are also occupied with the theme of man mutilated by his environment Hemingway has lived in Europe and has been a foreign correspondent and a big-game hunter in Africa, experiences which he has used in his writing Influenced himself by Gertrude Stein and Ezra Pound, he has had tremendous stylistic influence on contemporary fiction

Hemling, Hans see MEMLING, HANS

hemlock, name for several plants, especially trees of the genus *Tsuga*, coniferous evergreens of the pine family native to North America and Asia The common hemlock of E North America is *Tsuga canadensis*, an ornamental tree (sometimes cultivated as a hedge) with small cones and short, dark green leaves so arranged as to give the branchlets a flattened appearance The tree has been highly valued as a source of tanbark but is now seriously reduced in numbers Its wood is soft and light One of the two Western hemlocks (*T heterophylla*) has more valuable wood, which is used in construction work The ground hemlock is a species of YEW The poison hemlock of classical literature, by which Socrates died, is an herbaceous plant, *Conium maculatum*, of the carrot family It has finely divided foliage, flat-topped clusters of small white flowers, and a hollow, purple-mottled stem Though native to the Old World it is now naturalized and common in parts of the United States The poisonous principle (conine) is extracted for medicinal purposes Water hemlock (*Cicuta maculata* and other species) is similar in appearance to poison hemlock The species of *Cicuta* are violently poisonous

Hemmer, Jarl Robert (järl' rō'burt hĕ'mur), 1893–1944, Finnish poet and novelist, who wrote in Swedish His writing is marked chiefly by his insistence upon suffering His books include *A Fool of Faith* (1931, Eng tr, 1935) and the poems in *Realm of the Rye* (1922, Eng tr, 1938)

Hemmeter, John Conrad, 1864–1931, American physician, b Baltimore, M D Univ of Maryland, 1884 His middle name was formerly Cohn After studying abroad, he was professor and director of the clinical laboratory at the Univ of Maryland A specialist in diseases of the digestive organs, he introduced duodenal intubation and made early use of the X ray in diagnosis He wrote important treatises in his special field, as well as a manual of physiology and the biographical *Master Minds of Medicine* (1927)

Hemminge, John see HEMING, JOHN

hemoglobin (hē'mūglō'bĭn, hĕ-), protein substance containing iron and forming the coloring matter of the red blood corpuscles It is a complex crystalline compound of a protein (globin) with heme (formerly called hematin) It readily combines with oxygen to form the bright red oxyhemoglobin After releasing oxygen to the body tissues, the blood, which is then carrying reduced hemoglobin, is dark red and through the skin appears purplish or blue

Hémon, Louis (lwē' āmō'), 1880–1913, French Canadian novelist, b France He went to Canada in 1911 and wrote there his noted story of pioneer life in Quebec, *Maria Chapdelaine* (1913) A moving picture was made (1935) in France from the novel Hémon's journal (1924) was posthumously published

hemophilia (hē"mufĭl'ēu, hĕ"-), rare hereditary disease, characterized by a tendency to protracted bleeding from even a slight cut or bruise Because the clotting of the blood is delayed, hemorrhage is difficult to control, and death may follow from bleeding after slight injuries and simple operations. The disease is inherited by males only and is transmitted as a sex-linked character only through the female Examples of the transmission of hemophilia are seen in several royal families. Through the marriage of Alfonso XIII of Spain to Victoria Eugenie of BATTENBERG, who inherited the gene from her grandmother Queen Victoria of England, the disease was introduced into the Spanish royal family and inherited by two of their sons, who died of hemorrhage. Queen Victoria's daughter Alice married Louis IV, grand duke of Hesse, their younger son Friedrich is believed to have died of hemophilia Their youngest daughter Alexandra (Alix) married Nicholas II, tsar of Russia, and their son Alexis was a hemophiliac

hemorrhage (hĕ'murĭj), the escape of blood from heart or blood vessels (arteries, veins, and capillaries) Arterial bleeding is red and of rhythmic flow Venous bleeding is dark and of constant flow. Bleeding occurs internally or from natural orifices of the body as well as from skin It results from injury, as in cuts, or from diseases, such as hemophilia, scurvy, and purpura Slow loss of blood may lead to anemia Sudden large loss results in shock Bleeding is sometimes treated by pressing the site of the bleeding with pads of sterile gauze In case of severe arterial bleeding a TOURNIQUET is temporarily applied on the side of the injury towards the heart Surgical treatment and a blood transfusion may be necessary

hemorrhoids (hĕ'muroidz) or **piles,** dilated veins located at, or just inside, the anus They often result from constipation, from pressure on the rectum, and from poor circulation caused by disorders of the heart, kidneys, and liver, and they sometimes develop in persons of sedentary occupation They may become inflamed or ulcerated or may rupture If bleeding occurs over a long period, it sometimes leads to anemia Hemorrhoids may result in clotting of blood inside the vein (thrombosis) In the early stages, treatment of the cause prevents progress of the condition Warm applications and astringents are soothing Bleeding is controlled by pressure and by the application of ice Injection of chemicals to close the veins or actual surgical removal of the veins is often advisable

hemp, name for a tall annual herb (*Cannabis sativa*) native to Asia but now widespread because of its cultivation for the bast fiber (also called hemp) and for the drug it yields Known and cultivated in ancient China, the plant was introduced into Europe, now the center of its production, before the Christian era In the United States it is cultivated chiefly in the Middle West The fiber, retted from the stem, is one of the most important for various kinds of cordage, it also serves to make paper, cloth (canvas and other kinds), oakum for calking ships, and other products The female flowers of hemp are used medicinally (sometimes called cannabis indica), and the powerful narcotic known as marijuana or HASHISH is procured from hemp, for which reason its cultivation is prohibited in some states An oil obtained from the seed is utilized in making soaps and paints, and the seed is mixed with birdseed Hemp has large, digitately divided leaves with slender segments The male and female flowers are not showy and are borne on separate plants The word *hemp* is used in combination for several other kinds of fiber plants, notably MANILA HEMP, SISAL HEMP, New Zealand hemp, bowstring hemp, ambary or Deccan hemp, and Bombay, sunn, or san hemp

Hempstead 1 Residential village (pop 20,856), on W Long Island, SE N Y, settled 1644, inc 1853 Hofstra College (coeducational, 1935) is here, and a state park is near by **2** Town (pop 1,674), co seat of Waller co, S Texas, NW of Houston, founded 1835 The region produces watermelons, other truck, fruit, and grains An oil field is near by, and Hempstead has a recycling plant "Liendo," outside the town, was the plantation home of Elisabeth NEY

Hems, Syria see HOMS

Hen [Heb, =favor], man who was to have a memorial in the temple Zech 6 14

Hena (hē'nu), unidentified town, on the Euphrates 2 Kings 18 34, 19 13, Isa 37 13

Henadad (hē'nu-), chief of a family active in rebuilding the Temple Ezra 3 9

henbane or **black henbane,** annual or biennial herb (*Hyoscyamus niger*) native to the Old World and naturalized in parts of America It belongs to the nightshade family and has rank-smelling, hairy, and toothed leaves All parts of the plant contain a poison (similar to belladonna), which is extracted from the dried leaves for medicinal use Poultry are often killed by eating the seeds

Henday, Anthony see HENDRY, ANTHONY

Hendaye (ädī'), town (pop. 5,306), Basses-Pyrénées dept, SW France, on the Bidassoa, which forms the frontier with Spain It is an important border station and a beach resort

Henderson, Alexander, 1583–1646, Scottish churchman He is often regarded as the greatest figure in the Church of Scotland after John Knox Although he was presented to the parish of Leuchars by a prelate, he soon became a leading opponent of prelacy and of English domination in the Church In 1638, after the signing of the National Covenant (see COVENANTERS), he was elected moderator of the general assembly at Glasgow, which deposed the bishops and set up Presbyterianism in spite of royal threats. Henderson met King Charles to settle the problem and was favorably received In 1640 he was elected rector of the Univ. of Edinburgh. In

1641 and 1643 he was moderator of the general assembly and in 1643 presented a draft of the Solemn League and Covenant He sat thereafter (1643-46) in the Westminster Assembly. In the year of his death he again met Charles for a conference on church government during the course of the king's alliance with the Scottish army Henderson wrote many speeches and sermons See biographies by J P. Thomson (1912) and R L Orr (1919)

Henderson, Arthur, 1863–1935, British statesman, organizer and leader of the British Labour Party. In early life he worked as an ironworker, and was a labor union leader In 1903 he became mayor of Darlington Elected to Parliament (1903) he became chairman of the new Labour party (1908–10, 1914–17), president of the Board of Education in the coalition ministry (1915–16), and paymaster general (1916–17). In Ramsay MacDonald's first ministry (1924) he was home secretary, and in the second (1929–31) he was foreign secretary Henderson was defeated at the polls in 1931 with the rise of the National government He was president, until his death, of the World Disarmament Conference, and he was awarded the 1934 Nobel Peace Prize His writings include *The Aims of Labour* (1919) See biography by Mary Agnes Hamilton (1938)

Henderson, Arthur, 1894–, British public official, son of Arthur Henderson (1863–1935) He served on the general staff and in the war office during the Second World War In 1947 he was appointed secretary of state for air

Henderson, Leon, 1895–, American economist, administrator of the Office of Price Administration (1941–42), b Millville, N J , grad Swarthmore, 1920 An official of the Russell Sage Foundation (1925–34), Henderson held several posts as economic adviser in the Roosevelt administration before his appointment to the Securities and Exchange Commission in 1939 After leaving the OPA, he became an official of the Research Institute of America

Henderson, Peter, 1822–90, American horticulturist, b Scotland After serving an apprenticeship in gardening in Scotland, he came to the United States (1843) He established his first market-gardening business in Jersey City (1847) and later founded his seed and garden-supply house His methods of growing and marketing both flower and food plants were widely followed and imitated considerable progress in commercial horticulture A prolific writer, he contributed to many periodicals and was author of a number of influential books, including *Gardening for Profit* (1866), *Practical Floriculture* (1869), *Gardening for Pleasure* (1869), and *Henderson's Hand Book of Plants* (1881)

Henderson, Richard, 1735-85, American colonizer in Kentucky, b Hanover co , Va An associate justice of the North Carolina superior court (1769–73), Henderson was long interested in Western lands and was the chief promoter of the TRANSYLVANIA COMPANY He followed (1775) Daniel BOONE to the company's first settlement at Boonesboro (or Boonesborough) on the Kentucky river and in 1779 employed James ROBERTSON to settle the Cumberland river area Virginia and North Carolina voided the company's land grants, and Henderson and his associates were left with a very small portion of the vast territory they had claimed Although primarily a land speculator, Henderson was one of the most important figures in the early expansion of the frontier See Archibald Henderson, *The Conquest of the Old Southwest* (1920), W. S Lester, *The Transylvania Colony* (1935)

Henderson 1 Industrial city (pop 13,160), co seat of Henderson co , W Ky , on the Ohio and S of Evansville, Ind , in a tobacco, corn, fruit, and livestock area Founded in 1797 and named for Richard Henderson, it is an important tobacco-exporting center, with manufactures of wood, food, cotton, and tobacco products John James Audubon lived here (1810-19), near by is Audubon Memorial State Park with a museum and a bird sanctuary. 2 City (pop 7,647), co seat of Vance co , N N C , NNE of Raleigh, settled 1841, inc 1841 It has textile and fertilizer plants and a large tobacco market 3 City (pop 1,771), co seat of Chester co , W Tenn , SSE of Jackson, in a farm and timber area Freed-Hardeman College (junior, coeducational) is here A number of Indian mounds are in the area 4 City (pop 6,437), co seat of Rusk co , E Texas, WSW of Shreveport, La , founded 1844, inc 1877 Henderson has passed through several phases It was a pine-woods lumbering town, then a center of cotton farming, in 1930 near here C M Joiner struck the first gusher of the fabulously rich East Texas oil field, and Henderson became a prosperous oil city Near by is the site of a Shawnee Indian village

Hendersonville, city (pop 5,381), co seat of Henderson co , W N C , in the Blue Ridge SSE of Asheville and near the S C line. It is a mountain resort and a farm trade center with textile mills.

Hendon, urban district (1931 pop. 115,682, 1947 estimated pop. 160,410), Middlesex, England, NW of London. At Mill Hill, a suburb, there is a Roman Catholic missionary college. Hendon's importance has increased with the development of flying, it is the scene of the June Royal Air Force Display

Hendrick, c 1680–1755, chief of the Mohawk Indians, known also as Tiyanoga He became a Christian and was an ally of the British He represented his tribe at the Albany Congress (1754) The next year he was killed fighting for the British at Lake George in the French and Indian War

Hendricks, Thomas Andrews, 1819–85, American political leader, b near Zanesville, Ohio, grad Hanover College, Hanover, Ind , 1841 He practiced law in Indiana and was U S Senator (1863–69) and governor of Indiana (1873–77) He was defeated for Vice President on the Tilden ticket in 1876, but won on the Cleveland ticket in 1884. He died after eight months in office

Hendrix College see CONWAY, Ark

Hendry or **Henday, Anthony,** fl 1748–55, British fur trader and explorer in W Canada, b Isle of Wight. He became a member of the Hudson's Bay Company in 1750 and in June, 1754, led a land expedition to induce the Western Indians to trade at the posts on Hudson Bay Ascending the Nelson river, he reached the Saskatchewan river and from there traveled by foot, the first to explore the great plains between the North Saskatchewan and the South Saskatchewan to the area of the Red Deer river He returned to York Factory in June, 1755, and although he was unsuccessful in procuring Indian trade, he brought back the first reliable reports of the Blackfoot Indians

henequen. see SISAL HEMP

Hengist and Horsa (hĕng'gĭst, hôr'sŭ), names traditionally given to two leaders of a Germanic invasion of Britain Hengist would more properly be written Hengest They are said to have been invited by VORTIGERN in 449 to help the Britons defend themselves against the Picts and Scots to the north, to have settled in Kent, and to have fought a battle with Vortigern, in which Horsa was killed The names may all be mythical, but historians generally agree that the Jutish chief and his retinue did arrive in Kent, did serve a British king, and did revolt and that various battles prepared the way for settlement of Kent by his son and his followers

Henie, Sonja (sō'nyu hĕ'nē), 1913–, Norwegian-American skater, b Oslo, Norway She began ice skating at the age of eight and six years later won the world title for figure skating, which she kept for nine consecutive years She also won, among other honors, the Olympic figure-skating championship in 1928, 1932, and 1936 In 1936 she turned professional and removed permanently to the United States, where she appeared in several movies and made numerous tours of the country She wrote *Wings in My Feet* (1940)

Henle, Jacob (Friedrich Gustav Jakob Henle) (yä'kŏp hĕn'lu, frē'drĭkh gōō'stăf), 1809–85, German anatomist and pathologist He was professor at Gottingen from 1852 to 1885 Henle contributed important work on the microscopic structure of tissues, especially of epithelium and hair, propounded the theory of microorganisms as the cause of infectious diseases, and made a special study of sharks and rays He wrote *Handbuch der systematischen Anatomie* (3 vols , 1866–71) and other outstanding works

Henley, William Ernest, 1849–1903, English poet, critic, and editor Crippled by tuberculosis of the bone, Henley was a giant of a man on crutches, from whom Stevenson modeled Long John Silver Henley was an aggressive exponent of realism, impatient with Victorian prudery in literature and with what he considered the vaporings of the aesthetic movement As editor of several reviews successively, he introduced to the public a galaxy of young writers, including Kipling, Conrad, and Yeats His most famous poems are "England, My England," and "Invictus," which begins, "Out of the night that covers me", they, and perhaps better poems, are in *A Book of Verses* (1888), *The Song of the Sword* (1892), and *For England's Sake* (1900) He collaborated with Stevenson in four plays See biographies by J H Buckley (1946) and John Connell (1949)

Henley-on-Thames (-tĕmz), municipal borough (1931 pop 6,621, 1943 estimated pop 7,327), Oxfordshire, England, at the base of the Chilterns, on the Thames and NE of Reading The river is crossed by a five-arched stone bridge built in 1786 Henley has a 14th-century parish church (restored) and a grammar school founded in 1605 The town is chiefly known as the scene of the annual Henley rowing regatta, which originated in 1839 and in which the London Rowing Club, the Thames Rowing Club, several English college crews, and some American crews take part

Henlopen, Cape (hĕnlō'pŭn), SE Del , at the mouth of Delaware Bay opposite Cape May, N J. A lightship is off the cape, and there is a naval radio station

henna, Old World tropical shrub (*Lawsonia inermis*), valued for its small fragrant flowers, but best known for the reddish or black hair dye obtained from the powdered leaves. Henna dye has long been in use, as evidenced by Egyptian mummies. In the East, hair, beards, nails, and feet have been hennaed, also leathers and the manes of horses.

Hennepin, Louis (hĕ'nupĭn), 1640-1701?, Franciscan Recollect friar and explorer in North America. He came to Canada in 1675, meeting on the journey La SALLE, who made him chaplain of his proposed Western expedition in 1678 After some time spent at Fort Frontenac the party sailed (1679) in the *Griffon*, the first ship on the Great Lakes, for Green Bay La Salle crossed to the Mississippi by the Illinois route and from there sent Hennepin with the expedition, led by Michel Aco, which was the first to explore the upper Mississippi valley They ascended the river to Minnesota, where they were captured by the Sioux In the course of his captivity Hennepin first saw and named the Falls of St Anthony, where Minneapolis was afterwards located He was rescued by DULUTH Hennepin returned to France, and in 1682 appeared his *Description de la Louisiane* He later published his *Nouveau Voyage* (1696) and *Nouvelle Découverte* (1697), in which books he falsely claims to have descended the Mississippi to its mouth In his *Description* he had claimed the leadership and all credit for the upper Mississippi expedition The importance and charm of his narratives, however, cannot be denied He was the first to describe parts of America, as Niagara Falls and the upper Mississippi R G Thwaites's translation, *Hennepin's New Discovery* (1903), contains a biography and bibliography

Henner, Jean Jacques (zhäⁿ zhak' ĕnĕr'), 1829–1905, French figure and portrait painter, son of an Alsatian peasant He won the Prix de Rome in 1858 and in Italy came under the influence of Correggio He is best known for his pictures of nudes in woodland surroundings He is represented in many American galleries, including the Metropolitan Museum and the Corcoran Gallery

Hennessey (hĕn'ĭsē), city (pop 1,342), central Okla , S of Enid, laid out 1889

Henniker (hĕn'ĭkur), town (pop 1,336), S N H , W of Concord, on the Contoocook, settled 1763–64, inc 1768

Henoch (hē'nuk): see ENOCH **2** and HANOCH **1.**

Henri, Robert (hĕn'rĭ), 1865–1929, American painter and teacher, b Cincinnati He studied at the Pennsylvania Academy of the Fine Arts In 1888 he went to Paris, where he worked at Julien's and the Beaux-Arts until, dissatisfied with the schools, he set up his own studio In 1891 he returned to Philadelphia, there his studio became the center for a group of talented artists For the rest of his life he was to preach to devoted friends and students his doctrine of a new and living art for America First in Philadelphia, then at the Chase School in New York, at his own school (1909–12), and at the Art Students League he inspired his students with his dynamic concept of art His own work, proficient and brilliant though it was, is not a measure of his influence in breaking up timid and false traditions and giving courage to a generation of American artists One of The EIGHT, he sponsored the first nonjury exhibit in America Henri excelled in dramatic portraits, examples of which are to be seen in leading museums throughout the country Characteristic are his *Spanish Gypsy* (Metropolitan Mus), *Young Woman in Black* and *Himself* and *Herself* (Art Inst , Chicago), and *Girl with a Fan* (Pa Acad of the Fine Arts) See studies by William Yarrow and Louis Bouche (1921) and Helen Appleton Read (1931)

Henrietta, town (pop 2,391), co seat of Clay co , N Texas, in the valley of the Little Wichita and SE of Wichita Falls It was founded in ranching country in 1857, was abandoned because of Indian attacks, and was renewed after 1873 and incorporated in 1883 It is still much concerned with cattle, but also relies on agriculture and has several small industries, including leatherworking and making of pottery from native clay Oil is produced in the county

Henrietta Maria (mărĭ'ə), 1609–66, queen consort of Charles I of England, daughter of Henry IV of France Although she was a woman of good character and great loyalty, she lacked judgment, and her Catholic faith made her suspect in England Married to Charles in 1625, she encouraged him to coerce Parliament, and by her negotiations with the pope, with foreign powers, and with English army officers, she added greatly to the suspicions against Charles and the fear of a Catholic uprising The fear was groundless, but it was important in precipitating the civil war After 1644 she lived in France, making continual efforts to secure foreign aid for her husband until his execution in 1649 She returned to England after the Restoration, but resumed living in France in 1665 Her influence may have affected the religious beliefs of her sons Charles II and James II, although she herself was unsuccessful in converting them to Catholicism See biography by Carola Oman (1936)

Henrietta of England (Henrietta Anne), 1644–70, princess, called Madame, sister-in-law of Louis XIV of France. The daughter of Charles I and Henrietta Maria of England, she was taken (1646) to France when civil war raged in England, in 1661 she married Philippe I D'ORLÉANS, brother

of Louis XIV. In Louis's behalf she negotiated the Treaty of Dover with her brother, King CHARLES II (1670) She died shortly after her return from England; it was rumored that she had been poisoned by her husband Bossuet's funeral oration for Madame is one of his best-known sermons. See Mme de la Fayette, *Secret History of Henrietta, Princess of England* (Eng tr, 1929)

Henry I or **Henry the Fowler,** 876?–936, precursor of the emperors and German king (919–36), first of the Saxon line of kings and emperors He was, as duke of SAXONY, a turbulent subject of King CONRAD I, who on his deathbed (918) recommended Henry as his successor Elected (919) king by Saxon and Franconian nobles, Henry refused to be crowned by the bishops, probably to safeguard his independence of the Church Unlike his predecessor, Henry made little effort to impose his authority on the feudal dukes Once his position as titular head of a loose confederation had been recognized in Saxony, Franconia, Swabia, and Bavaria, he succeeded (925) in winning LOTHARINGIA from its allegiance to France An invasion of Saxony by the Magyars in 924 ended with a nine-year truce, Henry agreeing to pay a yearly tribute Henry made use of this respite to introduce military reforms in Saxony and Thuringia Saxon soldiers were trained to fight on horseback In the frontier regions, or marches, Henry built walled towns, each of which he made the judicial, commercial, and social center of the surrounding region He further provided for the storage of reserve food for emergencies Henry's new army proved efficient in his campaign against the Wends, from whom he took Brandenburg In 933, after the expiration of the truce with the Magyars, Henry defeated them in a great battle at Riade, near the Unstrut river, in 934 he expanded his frontier at the expense of the Danes. Before his death Henry persuaded the nobles to designate his son Otto I as his successor Henry was recognized even in his own lifetime as the founder of a new realm—Germany —and the restorer of the imperial tradition His wife, Matilda (d 968), founded many monasteries, among them Quedlinburg, where she was buried with her husband As a saint of the Roman Catholic Church, her feast is March 14

Henry II, 973–1024, emperor (1014–24) and German king (1002–24), last of the SAXON line When Otto III died without an heir, Henry, duke of **Bavaria,** great-grandson of King Henry I, and Otto's third cousin, was elected as his successor Henry was accepted, after some difficulties, by the German duchies, but Lombardy remained rebellious until 1004, when Henry entered Italy and was crowned king of the Lombards at Pavia Italian resistance was apparently broken when Pavia was destroyed in a conflict between the citizens and Henry's German followers, but his supremacy was not really established when he went north to meet BOLESLAUS I of Poland Henry expelled (1004) Boleslaus from Bohemia, but the war dragged on until 1018, when Boleslaus received territories in E Germany as Henry's vassal. Returning (1013) to Italy, Henry was crowned emperor at Rome (1014). On his third expedition to Italy (1021–22) he restored order in Lombardy and attended a synod at Pavia where he advocated far-reaching church reform Throughout his reign, Henry relied heavily on ecclesiastic support. He opposed the regular clergy in its jurisdictional struggle with the bishops, and he exercised to the full his right of nominating bishops, forcing his candidates upon obdurate chapters However, both Henry and his empress, Kunigunde of Luxemburg, were distinguished for their piety and have been canonized By his attention to German affairs Henry counteracted the ill effect of his predecessor's exclusive preoccupation with Italy. Henry died childless, he was succeeded by Conrad II

Henry III, 1017–56, emperor (1046–56) and German king (1039–56), son and successor of Conrad II. He was crowned joint king in 1028, and his accession in 1039 went unchallenged Under Henry III the medieval empire probably attained its greatest power and solidity In 1041 Henry defeated the Bohemians, who had been overrunning the lands of his vassals the Poles, and compelled Duke Bretislaus I of Bohemia to become his vassal. Although several expeditions against Hungary failed to establish his authority in that country, Henry was able in 1043 to fix the frontier of Austria and Hungary at the Leitha and Morava rivers, where it remained till 1919 Henry's reign was disturbed by the rebellions of the duke of Upper Lorraine, whom Henry had disappointed in his hope of inheriting all of former Lotharingia. In 1047–50 the barons of the Low Countries (Lower Lorraine) joined in the revolt Henry III thought of himself as a priest-king, and his primary concern was with religious matters He supported the CLUNIAC ORDER In 1043 he proclaimed that he was forgiving his private enemies and giving up all thought of vengeance and urged the nobles to do likewise, but he failed in his purpose of giving his empire permanent peace In 1046 Henry descended into Italy, where he set aside three rival claimants to the papacy at the Synod of Sutri, over which he presided, and caused the election of a reform-minded German in their stead In the same year he was crowned emperor In 1048 and again in 1055 Henry's candidates, LEO IX and VICTOR II, were elected to the papacy Henry III died while trying to put down a new rebellion fomented in Italy and in Flanders by the duke of Lorraine He was succeeded by his young son, Henry IV

Henry IV, 1050–1106, emperor (1084–1105) and German king (1056–1105), son and successor of Henry III He was the central figure in the opening stages of the long struggle between the empire and the papacy During his minority the nobles and high ecclesiastics greatly increased their power at the expense of the royal authority In 1062 Henry was kidnaped by Archbishop Anno of Cologne, who proceeded to enrich his see out of the crown lands, Anno was later forced to share his authority and his plunder with Archbishop ADALBERT of Bremen, a favorite of the young king In 1066 Henry was forced by the nobles to banish Adalbert from court The first task of Henry IV, after assuming control of the government (1065), was to restore his authority in the duchies, especially in Saxony, where particularism was strong By 1075 Saxony was pacified The great crisis of Henry's career, however, was at hand In spite of the pronouncements of Pope GREGORY VII against lay INVESTITURE (1075), Henry made appointments to the sees of Milan, Fermo, and Spoleto and, when the pope reproved him, summoned a council at Worms which declared Gregory deposed (Jan, 1076) Gregory, at a synod in Feb, 1076, declared Henry excommunicate and deposed and absolved his subjects of their oaths of fealty A powerful coalition of German nobles agreed (Oct, 1076) not to recognize the king unless he obtained absolution by February and in any event to decide the question of his fitness to rule at a diet to be held at Augsburg under the chairmanship of the pope To forestall the action of this diet, Henry crossed the Alps in the dead of winter to seek absolution By his humiliation and penitence he moved the pope to grant him absolution at CANOSSA in Jan, 1077 Disappointed, the German nobles elected Rudolf of Swabia king, plunging Germany into civil war Gregory remained neutral until March, 1080, when he renewed Henry's excommunication and deposition and recognized Rudolf's title But Henry was now supported by a large party, German and Italian bishops joined him in declaring Gregory deposed and in electing an antipope, Clement III (see GUIBERT OF RAVENNA) At the death of Rudolf (1080), the German revolt was practically broken, and in 1081 Henry carried the war into Italy After several unsuccessful attempts he occupied Rome in 1084 and was crowned emperor by Clement III He temporarily retired from Rome before the advance of the Normans under ROBERT GUISCARD, who liberated Gregory VII, but upon Henry's return Gregory went into final exile In 1104 the emperor's son, Henry V, rebelled, and only the Rhenish cities were loyal to the emperor Trapped by a promise of conciliation, Henry IV was imprisoned and forced to abdicate (1105) In 1106, just before his death, he escaped and received considerable support An able ruler, Henry IV found his chief support in the lower classes, with which he established more direct relations than any of his predecessors. His reign was characterized by a further spread of market towns, an indication of expanding commercial activities His contest with a revivified papacy was the natural consequence of the reforming activities of his father, his ambitions, moreover, were thwarted by the fact that he was the contemporary of one of the greatest of the popes

Henry V, 1081–1125, emperor (1111–25) and German king (1105–25), son of Henry IV Crowned joint king with his father in 1098, he put himself at the head of the party desiring reconciliation with the pope and, with the approval of Pope PASCHAL II, rebelled against his father (1104) and compelled him to abdicate (1105) Formally reconciled with the Church, Henry V practiced lay INVESTITURE from the beginning of his reign The pope protested against the practice In 1110, Henry having entered Italy, the pope proposed a compact under which the Church, in return for the king's abandonment of lay investiture, was to renounce its claims to the Papal States, except the Patrimony of St Peter Henry accepted the compromise, but when it was announced at St Peter's as a preliminary to his imperial coronation (1111), a violent tumult arose from the clergy. Henry thereupon made pope and cardinals prisoners, in order to procure his release, Paschal conceded to Henry the right to appoint and invest at will and crowned him emperor. Henry returned to Germany, but in 1112 Paschal repudiated his concessions. Henry was faced (1114–21) by rebellions in Saxony which he was unable to put down; he nevertheless went to Italy in 1116 to take possession, as suzerain, of the fiefs of MATILDA of Tuscany and, as heir, of her allodial lands. For supporting an antipope Henry was excommunicated (1118) by Pope GELASIUS II In 1119 he entered upon negotiations with Gelasius's successor, CALIXTUS II, and a compromise on the investiture question was reached at last in the Concordat of Worms (1122, see WORMS, CONCORDAT OF). With his domestic enemies Henry made peace at the Diet of Wurzburg (1121) Henry's empress, MATILDA (who after his death married Geoffrey Plantagenet), bore him no heir, the nobles elected the duke of Saxony to succeed him as Emperor Lothair II. Henry was the last emperor of the Salian line

Henry VI, 1165–97, emperor (1191–97) and German king (1190–97), son and successor of Emperor Frederick I (Frederick Barbarossa) He was crowned king of the Romans at Aachen in 1169 and king of Italy at Milan in 1186 on the occasion of his marriage to CONSTANCE, heiress of Sicily After 1186 he laid waste the lands of the papal allies in Italy and reduced the country to obedience He became regent at his father's departure (1189) for the Third Crusade In 1191 Henry entered Italy on an expedition to conquer the kingdom of Sicily from TANCRED of Lecce Pope CELESTINE III having reluctantly crowned him emperor at Rome, Henry continued southward, assisted by the Pisan and Genoese fleets He failed to take Naples and returned to Germany, where he faced a rebellion fomented by the Guelphs and the nobles of the Lower Rhine (1192–94) Henry secured a powerful bargaining weapon when he obtained custody of RICHARD I of England, an uncle of the Guelph leader, HENRY THE LION Soon after Richard had paid a ransom, had sworn fealty to Henry, and had been released (Feb, 1194), peace was made In Sicily, the death of Tancred favored the success of Henry's second expedition (May, 1194) Palermo fell in November, and on Christmas Day, Henry was crowned king of Sicily Insatiable, Henry dreamed of further expansion Threatening invasion, he intimidated ISAAC II of Byzantium into paying him tribute, and in 1195 he began to promote a new crusade At the Diet of Wurzburg (1196) he proposed that the empire be made hereditary in his family, the Hohenstaufen, and in return offered to transform the feudal fiefs into allods The proposal was defeated, though it found many supporters, and Henry contented himself with securing the coronation of his infant son, FREDERICK II (later emperor), as king Henry died of a fever at Messina just as he was preparing to invade the Holy Land He was succeeded in Sicily by Frederick II and in the rest of the empire by PHILIP OF SWABIA

Henry VII, c 1275–1313, emperor (1312–13) and German king (1308–13) After the murder of King ALBERT I, Albert's eldest son, Frederick of Austria, was set aside by the electors, who also rejected the French prince CHARLES OF VALOIS and chose Henry, count of Luxemburg, as king At the outset of his reign, Henry restored order in Germany by the lavish distribution of the imperial domain and took (1310) the necessary step of increasing his family holdings by marrying his son, JOHN OF LUXEMBURG, to Elisabeth of Bohemia His main interest, however, was in Italy, where he dreamed of reviving the Hohenstaufen domination and where many, among them Dante, welcomed his rule as a means of ending the endless, and by now almost meaningless, strife of the GUELPHS AND GHIBELLINES Entering the peninsula in 1310, he proclaimed himself above all parties and received the homage of leaders of both the chief factions, in Jan, 1311, he was crowned king of the Lombards at Milan A revolt in Milan, though suppressed, had the effect of driving him into the Ghibelline camp and precipitating war with the Guelph cities On June 29, 1312, he was crowned emperor at Rome, but in St John Lateran and by the cardinals, since St Peter's was in the hands of the Neapolitans and the pope was in Avignon Leaving Rome, he besieged Florence, but without success, in 1313, having allied himself with FREDERICK II of Sicily, he pronounced the ban of the empire against Robert of Naples, whom he was preparing to attack when he died of fever Henry VII's abortive Italian campaign only served to prove the futility of any attempt by a 14th-century emperor to revive the ancient imperial policy. He was succeeded by Emperor LOUIS IV

Henry I, 1068–1135, king of England (1100–1135), b. England, youngest son of WILLIAM I (William the Conqueror) He is called Henry Beauclerk He quarreled with his elder brothers, WILLIAM II (William Rufus) and ROBERT II, duke of Normandy, and attempted to establish himself on continental territory with little success When William Rufus was killed, Henry by a sort of coup d'état obtained the English crown to the exclusion of Robert, who was away on crusade. Henry issued a charter promising to right the injustices inflicted by William and to refrain from unjust demands on the Church and the barons. He filled vacant church

offices and recalled ANSELM. His marriage to the daughter of Malcolm III of Scotland, Edith (who took the name of Matilda), gained him some popularity. Robert invaded England in 1101 but was bought off by promises, never subsequently fulfilled, of a pension and military aid on the Continent. When some of the barons in 1102 resisted Henry's program of meting out heavy punishment to all of Robert's allies, the king crushed them by force. Their leader, Robert of Bellême, and others took refuge in Normandy, where they plotted against Henry and harassed the country. In 1105 Henry invaded Normandy, he defeated Robert and the barons the next year at Tinchebrai and imprisoned his brother for life. Henry had been involved since 1100 in a struggle with Pope PASCHAL II and Anselm over investiture. A compromise in 1106 gave investiture with staff and ring to the church but awarded the king the rights of homage for church temporalities and of effective control. Henry's reign continued to be troubled by uprisings in Normandy centering about Robert's son, William the Chto, and encouraged by LOUIS VI of France who was almost constantly at war with Henry. Henry had married his daughter MATILDA to Emperor HENRY V (1114). The heir to the English throne, William Atheling, was drowned (1120), and Henry I's second marriage was childless. The latter years of his reign were marked by his attempts to secure the succession to Matilda, who, left a widow, had married (probably in 1128) Geoffrey IV (Geoffrey Plantagenet) of Anjou. Henry's attempt to force her succession on the barons later led to the long civil war between STEPHEN and Matilda. Henry's reign in England was one of order and progress. Royal justice was strengthened and expanded, the Norman legal system gradually fused with the old Anglo-Saxon. The first of the extant PIPE ROLLS and the first appearance of the Exchequer date from this reign. At this time also the Curia Regis began to develop its administrative functions. See J. H. Ramsay, *The Foundations of England*, Vol. II (1898), G. B. Adams, *History of England 1066–1216* (1905), H. W. C. Davis, *England under the Normans and Angevins* (1930).

Henry II, 1133–89, king of England (1154–89), son of MATILDA and GEOFFREY IV (Geoffrey Plantagenet) of Anjou. His early attempts to recover the English throne, which he claimed through his mother, were unsuccessful. He was made duke of Normandy before Geoffrey's death and in 1151 inherited the Angevin territories. His marriage (1152) to ELEANOR OF AQUITAINE brought him Aquitaine, Guienne, and vast territories in S France. By an invasion of England in 1152–53 he forced King Stephen to acknowledge him as heir, and in 1154 he ascended the English throne, thus controlling a large part of present France and all of England. Although he spent much time on the Continent, he restored order to an England ravaged by civil wars, subdued the barons, centralized the power of government in royal authority, and strengthened the royal courts. Henry's assertion of royal justice was more effective over private feudal courts than over those of the Church. His long controversy with THOMAS À BECKET, whom he had made archbishop of Canterbury, concerned the sole jurisdiction of ecclesiastical courts over "criminous clerks" (clergymen accused of crimes). The king's great council adopted the Constitutions of Clarendon (1164), which brought such clerks into lay courts instead of ecclesiastical courts and imposed other restrictions upon the clergy. Becket protested, was declared a traitor, and fled to France. To avoid a papal interdict, Henry submitted (1170) to an ambiguous reconciliation with the archbishop, but his complaints against Becket's continued insistence on ecclesiastical prerogative resulted in the murder of Thomas by four knights in Canterbury cathedral itself. The crime aroused such indignation that Henry had to do penance, and, though the Constitutions of Clarendon were not revoked, the ecclesiastical courts regained lost ground. Henry undertook an expedition to Ireland (1171–72), where he consolidated temporarily the conquests already made by Richard de Clare (Richard Strongbow), earl of PEMBROKE. Earlier in his reign he had obtained the north counties of England from Scotland and had subdued North Wales. Trouble with Louis VII of France and his successor, PHILIP II, was almost incessant, and after 1172 he was involved in family struggles begun by the revolt of his son Henry, seconded by Eleanor. The other sons—GEOFFREY, Richard (later RICHARD I), and JOHN—were also involved in intrigue. Richard in alliance with Philip of France defeated Henry II in 1189, and the old king, who in his restless energy had remade England, died. He was succeeded by Richard. Henry was the founder of the ANGEVIN or Plantagenet line. See Mrs. J. R. Green, *Henry II* (1888); L. F. Salzman, *Henry II* (1914), H. W. C. Davis, *England under the Normans and Angevins* (1930); G. B. Adams, *Constitutional History of England* (1936).

Henry III, 1207–72, king of England (1216–72), son and successor of JOHN. He became king under a regency; William Marshal, earl of PEMBROKE, and later PANDULF acted as chief of government and PETER DES ROCHES as guardian of the king. In 1217 Louis, the French dauphin (later LOUIS VIII), retired from his invasion of England after defeat. The English barons, his former allies, continued to give trouble, but HUBERT DE BURGH, justiciar and greatest power in the government after 1221, gradually imposed order. In 1227 Henry was granted full powers of kingship, and in 1230, with typical willfulness and against the advice of the justiciar, he led an unsuccessful expedition to Gascony and Brittany. In 1232 the king dismissed his justiciar, seized the power of government, and embarked upon a reign characterized by extravagance, absolutism, and a general incapacity. Despite frequent protests from the barons and from his brother RICHARD, EARL OF CORNWALL, Henry surrounded himself with French favorites, including relatives of ELEANOR OF PROVENCE (whom he married in 1236) and his own Poitevin half brothers. He squandered great sums on futile wars in Gascony. His close alliance with the pope encouraged large papal exactions and a preponderance of foreign clergy in England. Edmund Rich (St. Edmund) and the learned Robert GROSSETESTE, bishop of Lincoln, early protested against Henry's absolutism, but the disaffected barons rebelled ineffectively until Simon de MONTFORT, earl of Leicester, became their leader. Henry had estranged him in 1252 by alleging dishonesty in Simon's rigorous governorship of Gascony. In 1254 Henry attempted to put his son, Edmund, earl of LANCASTER, upon the Sicilian throne. The barons refused the necessary funds and in 1258 forced Henry to surrender the government to a committee appointed by the barons and king. This was accomplished by the Provisions of Oxford (1258), reinforced by the Provisions of Westminster (1259). Henry renounced the agreements, with papal sanction, and in 1263 war broke out (see BARONS' WAR). An attempt to have Louis IX of France arbitrate the dispute led to a declaration completely in the king's favor, and the war was renewed. Montfort won at Lewes (1264) and summoned (1265) his famous representative Parliament. The heir to the throne, Edward (later EDWARD I), was a hostage to the barons, but he escaped to lead the royal troops to decisive victory at Evesham (1265), where Simon de Montfort was killed. By 1267 all the barons had capitulated, but Montfort and his allies had prepared England for the great constitutional developments to follow in the reign of Edward I. From 1267 on the king's son actually ruled the realm and Henry was king in name only. Henry III has suffered at the hands of many historians not only because of his manifest ineptitude for rule but also because of the hostility of contemporary chroniclers, especially Matthew Paris. His long reign, however, showed progress in several respects. Learning flourished, particularly at Oxford, where Grosseteste and Roger BACON inspired others by their intense pursuit of knowledge and the championing of the natural sciences. Art continued to develop in sculpture and especially in architecture, as shown in Salisbury cathedral and Westminster Abbey. Commerce and industry throve, though interrupted by warfare. See Cardinal F. A. Gasquet, *Henry the Third and the Church* (1905), Kate Norgate, *The Minority of Henry III* (1912), H. W. C. Davis, *England under the Normans and Angevins* (1930), F. M. Powicke, *King Henry III and the Lord Edward* (1947).

Henry IV, 1367–1413, king of England (1399–1413), eldest son of JOHN OF GAUNT and Blanche, daughter of Henry, duke of Lancaster, grandson of Edward III, b. Bolingbroke, Lincolnshire. Sometimes styled Henry of Bolingbroke, he was also called Henry of Lancaster and by 1377 had become the earl of Derby. In 1380 he married Mary Bohun, coheiress of the earl of Hereford. He opposed Richard II in 1387, siding with his uncle, Thomas of Woodstock, duke of GLOUCESTER, and became one of the lords appellant who ruled England for a year. In 1390 he served in Lithuania with the Teutonic Knights and returned to England in 1391. Again, in 1393, he went to Lithuania and from there to Jerusalem. He joined his father and Richard against Gloucester after his return to England and was made duke of Hereford in 1397. After a quarrel with the duke of Norfolk, whom he accused of treason against Richard (see NORFOLK, THOMAS MOWBRAY, DUKE OF) in 1398, he was banished for six years by the king, who promised that Hereford should not be deprived of his heritage. However, when John of Gaunt died in 1399 Richard confiscated the estate. Taking advantage of Richard's absence in Ireland and the widespread dissatisfaction with Richard's rule, Hereford landed in England in July, 1399, gained ample support, and forced the surrender of Richard, who had returned, in August. Richard consented to abdicate, and Henry, upon claiming the throne, was immediately confirmed by Parliament in September. He thus, by revolution and election, founded the Lancastrian dynasty. The new king was immediately faced with insurrections. In Jan., 1400, discontented followers of Richard rebelled but were put down, and most of the leaders of the rebellion were subsequently executed. Richard himself died at Pontefract Castle, either by self-starvation or at the orders of Henry. The Scots and the Welsh, aided by France, also revolted in 1400. The former were decisively defeated in 1402 at Homildon Hill, but the Welsh continued hostilities. The Percies—Henry Percy (Henry Hotspur) and his father, the earl of Northumberland—dissatisfied with the king's reward for their services, especially at Homildon Hill, rebelled and were defeated at Shrewsbury in 1403. A rebellion in the north in 1405 was crushed and the leaders, Mowbray, earl of Nottingham, and Archbishop Scrope, were executed, for their deaths Henry was severely criticized. The capture of James (later James I), heir to the Scottish throne, made relations with Scotland more peaceful, though trouble continued with Robert Stuart, earl of Albany. Northumberland's new rebellion was put down at Branham Moor in 1408, the Welsh were crushed shortly afterwards though Owen Glendower was not captured, and French armies ceased to harry English possessions in France. No sooner had these troubles ended than others began for Henry—a distressing illness which left him an invalid much of his few remaining years and a somewhat obscure strife between two parties for control of the council. The king's friend, Archbishop Arundel, was opposed by the prince of Wales and his half uncles, Thomas and Henry Beaufort. Henry V came to a throne made temporarily secure by the military efforts of his father. But although Henry IV had stubbornly maintained the prerogatives of the crown against Parliament, he had lacked the skill and patience to restore the financial stability of the crown, now enormously in debt, and to provide a satisfactory administration of civil justice. Shakspere's play *Henry IV*, concerned with the revolts against Henry, is somewhat inaccurate historically. See J. H. Wylie, *History of Henry IV* (1884–98).

Henry V, 1387–1422, king of England (1413–22), son of Henry IV. He was probably brought up under the care of his uncle, Henry Beaufort. He was knighted by Richard II in 1399 and created prince of Wales on the accession of his father in the same year. With his father, with Henry Percy (Harry Hotspur), and later by himself, he led armies against Owen Glendower in Wales and there gained valuable military and administrative experience. Although wounded, he figured largely in the royal victory over the Percies at Shrewsbury (1403), but Shakspere's story that he slew Hotspur is improbable. Henry began (c. 1409) to work actively in the privy council, over which he presided during his father's illness of 1410–11. In favoring the Burgundians rather than the Armagnacs in France he disagreed with the king, and a suggestion by his followers that he should succeed immediately to his father's throne led to his dismissal from the council (1412). He became king, however, upon his father's death in 1413, dismissed the incumbent ministers, and made Henry Beaufort chancellor and the earl of Arundel treasurer. A political and religious rebellion by the Lollards, led by Sir John Oldcastle, resulted in a strong parliamentary statute (1414) against the sect, but trouble continued intermittently until the execution of Oldcastle in 1417. Determined to regain lands in France held by his ancestors, Henry arranged with Burgundy a secret pact and prepared to attack France, thus reopening the HUNDRED YEARS WAR. The French refused to meet his extravagant demands, and he launched his first invasion in 1415. He laid successful siege to Harfleur and marched toward Calais, having announced his claim to the throne of France. He met and defeated a superior French force in one of the most famous battles of English history at Agincourt (1415). Henry then received in England enthusiastic acclaim which for the time overshadowed English political and economic unrest. In 1416, in an attempt to heal the schism in the Church, Sigismund (later Emperor SIGISMUND) visited England but failed to arrange the necessary peace between England and France. Henry, however, succeeded in forming an alliance with Sigismund and in extending his agreement with the Burgundians. In 1417 Henry led another expedition to France, reduced Toques and Caen, and smaller forces were sent out from Caen with success. In 1419 Rouen capitulated, and Normandy was in English hands. The murder of the duke of Burgundy by a favorite of the French dauphin helped to promote a close alliance between the Burgundians and the English. In 1420 Henry married CATHERINE OF VALOIS and agreed to rule France in the name of her father, who accepted Henry as his successor. The English king continued conquests to consolidate his holdings and late in 1420 entered Paris. The following year he returned with his wife to England, there made more military preparations despite considerable popular opposition to further war, and embarked on his third invasion of France. After a year of minor victories, he fell ill and died on Sept. 1, 1422. Henry had abandoned his early recklessness (celebrated and probably exaggerated by Shakspere) and had ruled with justice and indus-

try He lifted England from the near-anarchy of his father's reign to civil order and a high spirit of nationalism His main interest, however, was in gaining control of lands in France—lands which he sincerely but mistakenly believed to be his right His engaging personality, his military successes, and his care for his less fortunate subjects made him a great popular hero He exhibited military genius characterized by brilliant daring, patient strategy and diplomacy, and attentiveness to detail The wars, however, placed the crown heavily in debt and left the nation with economic and military problems which could not be met in the reign of his son, Henry VI See J H Wylie and W T Waugh, *The Reign of Henry V* (1914–29), K H Vickers, *England in the Later Middle Ages* (1930), E F Jacob, *Henry V and the Invasion of France* (1946)

Henry VI, 1421–71, king of England (1422–61, 1470–71) The only son of Henry V and Catherine of Valois, he became king of England when he was not yet nine months old When his grandfather, Charles VI of France, died, Henry was proclaimed king of France by the English, in accordance with the terms of the Treaty of Troyes (1420, see TROYES, TREATY OF) The French, however, recognized the son of Charles VI as Charles VII During Henry's early years, England was under the protectorate of his uncles, JOHN OF LANCASTER, duke of Bedford, who was regent in France, and Humphrey, duke of GLOUCESTER Gloucester held little real power, the actual rule being exercised by a council After the English defeat by JOAN OF ARC at Orléans in 1429 and Charles VII's coronation at Rheims shortly thereafter, the English attempted to protect their interests in France by crowning Henry king of France at Paris in 1431 After the death of John of Lancaster in 1435 and the defection of Burgundy from the Anglo-Burgundian alliance, the English cause in France became hopeless From c 1435 a faction headed by Henry Cardinal Beaufort, and later by William de la Pole, earl of Suffolk, controlled English policy Hoping to strengthen the English position in France, Suffolk negotiated a marriage for Henry with MARGARET OF ANJOU in 1445 This marriage was favorably received in England, but when Henry, influenced by his wife, surrendered Maine to Charles VII, Suffolk lost his popularity He was impeached in 1449 and mysteriously murdered at sea when en route to the Continent The rebellion of Jack CADE, which broke out just after Suffolk's murder, was but one of many riots and uprisings indicating popular dissatisfaction with the English government The faction headed by Queen Margaret and Edmund Beaufort, duke of Somerset, which controlled the king after Suffolk's death, was opposed by Richard, duke of YORK, the most powerful noble in the kingdom and next in line of succession to the throne The struggle between these two factions developed into a dynastic battle between the Lancasters and the Yorks known as the Wars of the ROSES In 1453 Henry became insane, a few weeks before the birth of his son The duke of York was made protector in spite of the protests of Margaret, but in 1454 when the king recovered, York was excluded from the council York met (1455) the Lancastrians at St Albans in a conflict generally regarded as the first battle of the Wars of the Roses, Somerset was killed, and Henry was captured Henry's mind again gave way and York was again made protector, but Henry recovered, and the protectorate ended The Yorkist party suffered defeat at Ludlow in 1459, but won a victory at Northampton the following year Henry again was made prisoner York was made protector once more and named successor to the crown over the claims of Henry's son York was killed at Wakefield in 1460, but his son Edward defeated the Lancastrian forces at Mortimer's Cross, entered London, and was proclaimed king as EDWARD IV (1461) At the second battle of St Albans (1461) Henry, who was with the Yorkist forces, escaped to join his wife He remained in Scotland during the subsequent fighting until 1465, when he was captured and put in the Tower When Richard Neville, earl of Warwick, crossed to England in 1470, Edward IV fled to Holland and Henry was restored to the throne, but the victories of Edward IV at Barnet and Tewkesbury put an end to Henry's reign, one of the most disastrous in English history. Edward IV took secure possession of the crown, and the unfortunate Henry died, perhaps murdered, in the Tower in 1471 Some of the events in the life of Henry VI are recorded in three chronicle plays by Shakspere See Charles Oman, *History of England, 1377–1485* (1906), K H Vickers, *England in the Later Middle Ages* (1914), Mabel E Christie, *Henry VI* (1922)

Henry VII, 1457–1509, king of England (1485–1509) Posthumous son of Edmund Tudor, earl of Richmond, Henry's mother was Margaret Beaufort, a descendant of Edward III through John of Gaunt He was brought up by his uncle, Jasper Tudor, in Wales His uncle contrived to hide him during the reign of the jealous Edward IV and in 1471, after the death of the imprisoned Henry VI in the Tower, took the young Henry, now head of the house of Lancaster, to Brittany for safety. Edward tried unsuccessfully to have him returned to England. The death of Edward (1483) and the murder of his sons by his successor, RICHARD III, left Henry the natural leader of the party opposing Richard, whose tyranny quickly alienated the English people In return for Henry's promise to marry Elizabeth, daughter of Edward IV, Henry Stafford, duke of Buckingham, joined Henry in a revolt against Richard, a great storm at sea and floods in England, however, prevented the success of the venture In 1485, aided by other English refugees, Henry again crossed the Channel, landed in Wales, raised an army in the west, and in the battle of Bosworth Field defeated the royal forces of Richard, who was slain Henry advanced to London, was crowned, and in 1486 married Elizabeth, thus uniting the houses of York and Lancaster and founding the Tudor dynasty Henry's accession marks the end of the Wars of the Roses and the beginning of what is considered the modern period of English history The early years of Henry's reign, however, were disturbed by Yorkist attempts to regain the throne The first serious attempt was the uprising in favor of the imposter, Lambert SIMNEL, it was easily crushed (1487) The French invasion of Brittany aroused great antagonism in England and ultimately, in concert with Spain and Emperor Maximilian I, Henry led an army against Boulogne, but accepted the peace offers of Charles VIII, the Treaty of Étaples (1492) followed In 1494 Henry sent Sir Edward POYNINGS to Ireland to consolidate British rule there Poynings's Law, passed by the assembly at Drogheda (1494), provided for the enforcement in Ireland of English statutes and completely subjugated the Irish Parliament to British control In 1496 Henry joined the Holy League to oppose the French in Italy Ferdinand and Isabella of Spain, anxious for an alliance with Henry, sent an ambassador to Scotland to relieve Henry of hostility there The Yorkist pretender, Perkin WARBECK, who had been favored by the Scottish king, James IV, was forthwith sent out of Scotland and shortly was thereafter defeated in an attempted invasion of Cornwall Henry was willing to marry his daughter, Margaret, to James, but the latter, instead, attempted (1497) an invasion of England In 1499 a treaty of peace between the two countries was followed by the marriage (1500) of Margaret and James—a marriage which led ultimately to the union of Scotland and England By a treaty (1501) with Maximilian, Henry was able to balk still another threat to his throne, this time by Edmund de la Pole, earl of Suffolk In 1501 Henry had married his son, Arthur, to KATHARINE OF ARAGON, daughter of Ferdinand and Isabella When Arthur died in 1502, Henry, now a widower, made the startling proposal that he should marry his own daughter-in-law An agreement was reached, however, by which Katharine should marry Arthur's brother, Henry (later HENRY VIII) On the death of Isabella (1504) Henry made alliances with her successors in Castile, Philip I and Joanna After Philip's death Henry proposed that he should marry Joanna, who had, however, become definitely insane Henry then opened unsuccessful negotiations for the marriage of his daughter Mary to Philip's son (later Emperor Charles V) Relations between Henry and Ferdinand became strained, the latter allied himself with the French while Henry arranged treaties with Maximilian Shortly thereafter Henry contracted the illness from which he never recovered Henry was an astute political leader He established the Tudor tradition of autocratic rule tempered by a sense of justice that endeared him, as it did his great successors, Henry VIII and Elizabeth, to the English people In Henry's latter years, however, his extortionist practices alienated many His marriage and his relentless suppression of Yorkist plots to regain the throne brought order out of chaos In his suppression of the recalcitrant nobles he was greatly assisted by the establishment of the court of the STAR CHAMBER (1487) as a supremely powerful judiciary body His diplomatic abilities kept England at peace, and he arranged a favorable commercial treaty with the Netherlands England's navy was developed and explorations in the New World begun See biographies by James Gairdner (1889) and Gladys Temperley (1914), A D Innes, *England under the Tudors* (1905), H A L Fisher, *History of England, 1485–1547* (1906), A F Pollard, *The Reign of Henry VII* (1913–14)

Henry VIII, 1491–1547, king of England (1509–47), second son of HENRY VII He was created prince of Wales in 1503. In his youth he was well educated in the new learning of the Renaissance and developed the skill in sports which was to endear him to his subjects. When he succeeded to the throne in 1509, he inherited from his father a full exchequer and a precedent for absolute rule. Henry soon married his brother Arthur's widow, KATHARINE OF ARAGON, a dispensation having been obtained from the pope in 1504 In 1511 Henry joined Pope Julius II, Ferdinand of Spain, and the Venetians in their Holy League against France. With his chief minister Thomas WOLSEY, he followed (1513) his army to France, captured Thérouanne and Tournai, and then returned to England after the invading Scottish forces under JAMES IV had been defeated at FLODDEN by the earl of Surrey (later duke of NORFOLK). The projected marriage of Henry's sister MARY OF ENGLAND to Ferdinand's grandson Charles (later Emperor CHARLES V) was delayed Henry, now initiated into the usages of continental politics, married Mary to Louis XII of France (1514). This alliance ended the next year, however, at the death of Louis and the accession of ambitious FRANCIS I, who promptly tried to rouse Scotland against England Rapid changes in the European situation following Ferdinand's death (1516) enabled Wolsey to conclude a new alliance with France, and Henry's daughter Mary (later MARY I) was pledged (1518) to marry the dauphin When Charles, already king of Spain, became emperor in 1519, England held the balance of power between the empire and France War was inevitable Despite the show of amity between Henry and Francis on the FIELD OF THE CLOTH OF GOLD, England in 1522 joined Charles against France England's participation was unimportant except that Henry's efforts to levy heavy taxes met with stubborn resistance from both Parliament and people When Charles won a decisive victory in 1525 and refused England any part of the spoils, Henry tried to curb the alarming rise of imperial power by an unpopular alliance with France Despite the dwindling exchequer and popular opposition to increasing inclosures, England had meanwhile prospered internally under the strong administration of Wolsey, to whom Henry gave almost complete control The execution (1521) of Edward STAFFORD, 3d duke of Buckingham, for alleged treason, demonstrated Henry's power over the weakened nobility The court remained a center of the new learning, and Henry himself in 1521 earned from the pope the title of "Defender of the Faith" for a treatise against Luther By 1527 Henry had determined to divorce Katharine The queen seemed unlikely to have more children and was persistently loyal to Spain, Henry was infatuated with Anne BOLEYN The plan was to have the marriage declared invalid by reason of the illegality of the dispensation of 1504 under which Henry and Katharine had been permitted to marry Pope CLEMENT VII, however, resisted the demands of both Wolsey and Henry Finally he gave authority to a commission consisting of Cardinals Wolsey and CAMPEGGIO to decide the issue in England Katharine refused to retire to a convent and denied the jurisdiction of the court Before a decision could be announced Clement had the hearing adjourned and summoned it (1529) to Rome The failure of the commission led to the downfall of Wolsey and to the initiation by Henry, with the help of Thomas CROMWELL, of an anticlesiastical policy intended to force the pope's assent to the divorce The "Reformation Parliament," responsive both to Henry and to popular antagonism against the clergy, readily followed the first steps of the king's attack on Rome, but the papacy held firm In 1532 the English convocation accepted the submission of the clergy to the crown, and Sir Thomas MORE resigned the chancellorship Cromwell was now clearly the king's chief minister, and the subservient Thomas CRANMER became archbishop of Canterbury In 1533 Henry married Anne, Cranmer proclaimed the marriage with Katharine invalid, and the pope excommunicated Henry By the end of 1534 Parliament had prohibited appeals to the papal court, stopped all payments to the pope, and transferred the papal powers to the king, who now became without qualification the supreme head of the English church No change was made in doctrine, outside of the denial of papal authority, but the break with Rome was complete, the Church of England (see ENGLAND, CHURCH OF) established, and the way opened in England for PROTESTANTISM and the REFORMATION Any effective opposition to the king was thoroughly suppressed by the Act of Succession entailing the crown on Henry's heirs by Anne, by an extensive and severe Act of Treason, and by the strict administration of the oath of supremacy Under Cromwell's supervision, a visitation of the monasteries in 1535 led to an act of Parliament in 1536 by which the smaller monasteries reverted to the king, and the others were soon preempted By redistributing some of this property among the landed gentry, Henry acquired the loyalty of a large and influential group In 1536 Anne Boleyn, who had given birth to Elizabeth but no male heir, was convicted of adultery and incest and beheaded, 10 days later Henry married Jane SEYMOUR, who in 1537 bore a son (later Edward VI) and died Meanwhile in 1536–37 Henry had dealt brutally but effectively with rebellions in the north by subjects objecting to economic hardships and the religious innovations (see PILGRIMAGE OF GRACE) In 1537 Henry licensed the publication of the Bible in English He still pursued a conservative policy in religious doctrine; the SIX ARTICLES passed by Parliament in 1539 were fundamentally Catholic Henry's foreign policy had been to maintain the French alliance until the outbreak of intermittent wars between France and the empire in 1536 left him comparatively safe In 1540 Henry married ANNE OF CLEVES, but disliked her and

found the alliance burdensome Anne was consequently divorced, and Cromwell, who had promoted the match, was beheaded Henry then married Catherine Howard, but she met (1542) the fate of Anne Boleyn, and Catherine Parr became his sixth queen (1543) In 1542 war had begun again with Scotland, still controlled through James V in French and Catholic interests The fighting culminated in the rout of the Scots at Solway Moss and the death of James Henry's efforts to unite the two kingdoms with a pledge of marriage between young Mary Queen of Scots and his own son, Edward, were defeated by Cardinal Beaton and Mary of Guise, and repeated English raids only allied Scotland more closely with France In 1543 England joined Charles in war against France, and Henry was able to take Boulogne The expensive war dragged on until 1546 Henry then was able to secure a payment of indemnity for the city Wales had been officially incorporated into England in 1536 with a great improvement in government administration there In Ireland, however, Henry found a thorough conquest and colonization too expensive Although he derived considerable funds from the dissolution of monasteries there and assumed (1541) the titles of king of Ireland and head of the Church of Ireland, he was forced to adopt a conciliatory policy toward Irish leaders The coming of the Jesuits in 1542 foreboded future trouble In the last years of his reign, Henry moved gradually toward Protestantism The Six Articles had been only fitfully enforced, the use of the English Bible was cautiously increased, seizure of church property continued, and the destruction of relics and shrines was begun At Henry's death, the council which he had appointed for the minority of Edward VI leaned toward the new doctrines As a young man Henry was accomplished, engaging, and far from vicious, but if his tremendous popularity with his subjects persisted until the last, his moral fiber did not There is good evidence that he advanced personal desires under the guise of public policy or moral right, forced his ministers to pay extreme penalties for his own mistakes, and summarily executed many with little excuse But there are several factors which mitigate his despotism as a king The imposition of his will was tempered with a steadily maturing political insight into the revolutionary times in which he ruled Furthermore, he could have imposed his absolute rule only upon a nation willing to accept it Although Henry often packed Parliament, the increased importance of that institution during his reign attests the truth of his statement that king and Parliament worked as one body politic Finally, under his strong hand England enjoyed a comparatively peaceful and prosperous transition at a time when severer wars and religious persecution were ravaging the rest of Europe A historical play about Henry VIII is attributed in part to Shakspere See biographies by A F Pollard (1902), Francis Hackett (1929), and Theodore Maynard (1949, a Roman Catholic view), Kenneth Pickthorn, *Early Tudor Government* (1934), H M Smith, *Henry VIII and the Reformation* (1949)

Henry I, c 1008–1060, king of France (1031–60), son and successor of Robert II In his reign the French monarchy was at its weakest To defend his throne against his mother and his younger brother Robert and subsequently against the counts of Blois, he secured, at the cost of territorial concessions, the aid of Robert I, duke of Normandy, and of Geoffrey Martel, count of Anjou After his brother's submission he unwisely invested him with the duchy of Burgundy, setting up a powerful rival to the French kingdom He found the chief enemy of his later reign in Robert of Normandy's son William, later William I of England, who successfully resisted two invasions by Henry Henry was succeeded by his son, Philip I

Henry II, 1519–59, king of France (1547–59), son of Francis I Weak and pliant in disposition, he was governed throughout his reign by Anne de Montmorency, by his mistress Diane de Poitiers, and by François and Charles de Guise He continued the struggle against Emperor Charles V and Charles's son Philip II of Spain, who was allied with Mary Tudor of England, until the Treaty of Cateau-Cambrésis (1559) ended French pretensions to Italy In 1558 Calais was conquered from the English Francis issued a series of increasingly severe edicts against the Protestants and established more firmly the absolute royal power His queen, Catherine de' Medici, played a minor role during her husband's reign Henry, who was accidentally killed by Gabriel de Montgomery in a tournament, was succeeded by Francis II See H N Williams, *Henry II. His Court and Times* (1910)

Henry III, 1551–89, king of France (1574–89), son of Henry II and Catherine de' Medici, successor of his brother, Charles IX As leader of the Catholic party, Henry (then duke of Anjou) defeated (1569) the Huguenots at Jarnac and Moncontour, refused (1571), on religious grounds, to proceed with negotiations for his marriage to Queen Elizabeth of England, and helped instigate the massacre of Saint Bartholomew's Day Elected king of Poland (1573), he returned to France at his brother's death Henry's reign was almost continually disturbed by the Wars of Religion By the Edict of Beaulieu (1576) he made concessions to the moderates and the Protestants which led to the formation of the Catholic League (see League) by Henri, 3d duc de Guise Throughout the ensuing troubles Henry vainly sought to increase his own power by playing the League against the Protestants The death (1584) of his brother Francis, duke of Alençon, made Henry the last male member of the house of Valois, his recognition of the Protestant Henry of Navarre (later Henry IV) as heir presumptive was opposed by Henri de Guise In the resulting struggle (the War of the Three Henrys), Navarre defeated the king's troops at Coutras (1587) Taking advantage of the king's weakness, Henri de Guise revolted against him and, with the help of the Parisian populace, expelled him from Paris on the Day of the Barricades (May 12, 1588) Changing sides once more, Henry III procured the assassination of Henri de Guise and his brother Louis and joined forces with Henry of Navarre for the recovery of Paris In the siege he was stabbed by Jacques Clément Weak, debauched, and unscrupulous, Henry III left France torn by civil war and plunged in financial anarchy

Henry IV, 1553–1610, king of France (1589–1610) and of Navarre (1572–1610), son of Antoine de Bourbon and Jeanne d'Albret, first of the Bourbon kings of France Reared as a Protestant, he was recognized by Coligny as a chief of the Huguenots (1569) A few days after his marriage (Aug 18, 1572) with Margaret of Valois, sister of King Charles IX, the massacre of Saint Bartholomew's Day took place Henry saved his life by abjuring Protestantism, but he remained a virtual prisoner of the court until 1576, when he escaped and returned to the Protestant faith Upon the death of Francis of Alençon (1584) he was recognized by King Henry III as his heir presumptive, but the Catholic League (see League), headed by Henri, 3d duc de Guise, refused to recognize a Protestant as heir and persuaded the king to send an army to force Henry's conversion In the resulting war (named the War of the Three Henrys after its chief protagonists, Henry III, Henry of Navarre, and Henri de Guise), Henry of Navarre won the victory of Coutras (1587), but came to the king's support when the League revolted against him (1588) After Henry III's death, Henry IV defeated the League forces under Mayenne at Arques (1589) and Ivry (1590), but was unable to capture Paris when the League received Spanish aid In 1593 he again abjured Protestantism, allegedly with the remark, "Paris is well worth a Mass" He was received in Paris in 1594 His conciliatory policy soon won him general support To cleanse France of Spanish influence, Henry declared war on Spain (1595) and brought it to a successful conclusion with the Treaty of Vervins (1598) He then turned to the internal reconstruction of his war-ravaged kingdom With the Edict of Nantes (1598) he settled the Protestant question Aided by Sully, he restored some measure of financial order, encouraged agriculture, founded new industries, built roads and canals, expanded foreign trade through commercial treaties with Spain, England, and Turkey, and encouraged colonization of Canada Anxious to see prosperity reach all classes, he invented the slogan "a chicken in every peasant's pot every Sunday" In foreign policy, Henry sought to form combinations against the Spanish and Austrian Hapsburgs He was preparing for war against these powers when he was stabbed to death by François Ravaillac, a religious fanatic Henry's marriage with Margaret of Valois was annulled in 1599 In the same year his mistress, Gabrielle d'Estrées, whom he intended to marry, died In 1600 he married Marie de' Medici, who was regent during the minority of their son, Louis XIII Henry's reign saw the transition of French arts and literature from the Renaissance to their classical period His tolerance and moderation reflected the spirit of his contemporary, Montaigne Numerous anecdotes and legends bear witness to his gallantry, his Gallic wit, and his concern for the common people, which have made him the most popular king among Frenchmen See biographies by P F Willert (1893), Quentin Hurst (1938), and Heinrich Mann (2 vols, Eng tr, 1937–39)

Henry V, king of France see Chambord, Henri, comte de

Henry I, German king see Henry I, precursor of the emperors

Henry I, 1204–17, Spanish king of Castile (1214–17), son and successor of Alfonso VIII At his death after a short, uneventful reign, his sister Berenguela, the rightful heir, renounced the crown in favor of her son, Ferdinand III

Henry II or **Henry of Trastamara** (trăstŭmā'rŭ), 1333?–1379, Spanish king of Castile and Leon (1369–79), illegitimate son of Alfonso XI He took part in unsuccessful revolts against his half brother, Peter the Cruel, and in 1366, with the aid of Du Guesclin, drove Peter from the throne Peter having secured the aid of England, Henry was defeated by Peter and Edward the Black Prince at Nájera (1367), but after Edward's departure Henry defeated and killed Peter (1369). John of Gaunt, son-in-law of Peter the Cruel, and Ferdinand I of Portugal contested his title as king and the succession of his son, John I

Henry III, 1379–1406, Spanish king of Castile and Leon (1390–1406), son and successor of John I He consolidated the royal authority against the nobles and undertook an expedition to the north shore of Africa, destroying Tetuán (1400) Henry was succeeded by his son John II

Henry IV, 1425–74, Spanish king of Castile and Leon (1454–74), son and successor of John II His weakness opened the way to anarchy, and his state was virtually ruled by the ambitious nobles Henry at first named his sister Isabella (later Isabella I) as his successor, but later designated Juana la Beltraneja At his death civil war broke among contenders for the succession

Henry, prince of Prussia, 1726–1802, brother of King Frederick II of Prussia He was one of the ablest generals in the Seven Years War

Henry, Alexander, two fur traders of the Old Northwest, each of whom left a valuable journal of his travels and experiences **Alexander Henry**, the elder, 1739–1824, b New Brunswick, N J, served under Jeffrey Amherst in the last of the French and Indian Wars As a fur trader he barely escaped massacre by the Indians at Michilimackinac in Pontiac's Conspiracy Captured by the Ojibwa, he was adopted and protected by a family and made his way back to Fort Niagara in time to join Bradstreet's army in lifting the siege of Detroit He returned to fur trading and in 1775 penetrated the Old Northwest to the region of the Saskatchewan Competition with the Hudson's Bay Company caused a body of the free traders, among them Henry, Peter Pond, and the Frobishers, to unite as the group which eventually became the powerful North West Company His *Travels and Adventures in Canada and the Indian Territories* was published in 1809 The date and place of birth of his nephew, **Alexander Henry**, the younger, d 1814, are not known His journal of 1799–1814, edited by Elliott Coues (together with the journal of David Thompson) as *New Light on the Early History of the Greater Northwest* (1897), describes his adventures as a trader of the North West Company on the Red, Pembina, and Saskatchewan and Columbia rivers and is particularly valuable for its account of the Indian tribes of those regions. Henry was drowned near Astoria

Henry, Edward Lamson, 1841–1919, American genre painter, b Charleston, S C, studied at the Pennsylvania Academy of the Fine Arts His paintings, mostly in private collections, are accurate representations of their era *Initial Excursion on the First Railway, New York* is owned by the Albany Historical Society He was a member of the National Academy of Design

Henry, Joseph, 1797–1878, American physicist, b Albany, N Y, educated at Albany Academy. He taught (1826–32) mathematics and natural philosophy at Albany Academy and was professor of natural philosophy (1832–46) at Princeton (then the College of New Jersey) From 1846 he served as the first secretary and director of the newly founded Smithsonian Institution, he introduced and developed many of its activities and established its general policies Before assuming the responsibilities of his position at the Smithsonian Institution, he had made notable contributions to the physical sciences, especially in electromagnetism Improving upon the electromagnet developed by William Sturgeon, Henry produced a much stronger electromagnet, which came into general use He demonstrated the effect of connecting the coils in series and in parallel and employed the series circuit to operate an electromagnetic telegraph of his own invention He discovered self-inductance, and the unit of inductance is for that reason often called the henry Independently of Michael Faraday he discovered the principle of the induced current, basic to the dynamo, transformer, and many other devices, Henry's experiments in this field may have antedated Faraday's detection of the current, but he acknowledged the priority of Faraday, who had published his results earlier Henry invented a small electromagnetic motor, extended the work on induced currents to show that an induced current can be used to induce another current in a near-by circuit and that resulting currents in turn can induce others, invented types of galvanometers for use in his experiments, employed principles later incorporated in transformers, and made numerous other contributions. See biography by Thomas Coulson (1950)

Henry, O., pseud of **William Sydney Porter**, 1862–1910, American short-story writer, b Greensboro, N C He went to Texas in 1882 and worked at various jobs—as teller in an Austin bank (1891–94) and as newspaperman In 1896 an unexplained shortage in the Austin bank was charged to him He fled to Honduras, but returned and served

three years in prison. There he cultivated the art of writing. By 1903 he was in New York, writing a story a week for magazines Each story was short, simple, and with an unexpected and often ironic ending He caught the color and swift movement of the city in the stories collected in *The Four Million* (1906), *The Voice of the City* (1908), *Options* (1909), and others Some of his stories deal with the Southwest, and his only novel, *Cabbages and Kings* (1904), is set in Honduras His fugitive pieces from the Houston *Post* were collected by M S Harrell as *O. Henry Encore* (1939) See biographies by C. A Smith (1916) and R H Davis and A B Maurice (1931), bibliography by P S Clarkson (1938)

Henry, Patrick, 1736–99, American patriot and orator, b Hanover co , Va Largely self-educated, he became a prominent trial lawyer Henry bitterly denounced (1765) the Stamp Act and in the years that followed helped fan the fires of revolt in the South As an orator he knew no equal Several phrases attributed to him—e g , "If this be treason, make the most of it" and "Give me liberty or give me death"—are familiar to all Americans Henry became a leader among the "radicals" and spoke clearly for individual liberties He was a delegate to the house of burgesses (1765–74), the Continental Congress (1774), and the Virginia provincial convention (1775) His hopes for a military career in the American Revolution were frustrated, but as governor of Virginia (1776–79) he sent George Rogers Clark to the Old Northwest After the Revolution, he led the fight for the Virginia Religious Freedom Act of 1785 Henry opposed ratification of the Federal Constitution, believing that it endangered state and individual rights, and he worked successfully to have the first 10 amendments (Bill of Rights) added There is much dispute about the character of Henry, who grew rich as a noisy trial lawyer and land speculator, yet loved the ideal of liberty and the quiet of a gentleman's life William Wirt offered the texts of Henry's speeches to the public See W W. Henry, *Patrick Henry Life, Correspondence, and Speeches* (1891), Jacob Axelrad, *Patrick Henry the Voice of Freedom* (1947)

Henry, William, 1774–1836, English chemist and physician, noted for his research in the solubility of gases in liquids **Henry's law** states that the amount of a gas which dissolves in a liquid is proportional to the pressure of the gas above the liquid.

Henry, city (pop 1,877), N central Ill , on the Illinois river above Peoria, in a mine, timber, and farm area, founded in the early 1840s, inc 1854

Henry, Cape, SE Va , at the entrance to Chesapeake Bay E of Norfolk The Jamestown settlers landed here April 26, 1607 In 1939 the site was included in Colonial National Historical Park.

Henry, Fort, fortification overlooking the harbor of Kingston, Ont Originally built in 1812, it was demolished in 1832, and the present buildings were erected in 1832–36 In peacetime a museum, it was used in both world wars as a place of detention for prisoners of war

Henry, Fort, Confederate fortification (in the Civil War) on the Tennessee river, just S of the Ky - Tenn boundary On Feb 6, 1862, it was bombarded and reduced by the Union gunboats of Commodore A H Foote, after the Confederate commander, Gen Lloyd Tilghman, foreseeing capture, had dispatched the bulk of his force to Fort Donelson

Henry E. Huntington Library and Art Gallery: see Huntington, Henry Edwards

Henryetta, city (pop 6,905), E central Okla , S of Tulsa; founded c 1900 It has coal mines, iron smelters, and glassworks

Henry of Burgundy, d 1112 or 1114, count of Portugal. He was the brother of Eudes, duke of Burgundy, and he may have accompanied his brother to Spain earlier About 1095 he was called by Alfonso VI of Leon to assist in the fight against the Moors. He was assigned a portion of land previously held by his cousin Raymond, who was the husband of Alfonso's daughter Urraca To Henry, Alfonso gave his illegitimate daughter Theresa and the title count of Coimbra—later exchanged for the title count of Portucalense or Portugal (a name derived from the Roman name for Oporto) He solidified his power After the death of Alfonso VI he tried to enhance his position by war and intrigue with Urraca, her son Alfonso, and her second husband, Alfonso I of Aragon In this he failed but he died leaving a territory that was to become the independent kingdom of Portugal under his son Alfonso I (Afonso Henriques).

Henry of Flanders, c 1174–1216, Latin emperor of Constantinople (1206–16), brother and successor of Emperor Baldwin I. He fought successfully against the Bulgarians and with varying success against Emperor Theodore I of Nicaea His brother-in-law, Peter of Courtenay, succeeded him

Henry of Huntingdon, d. 1155, English chronicler, archdeacon of Huntingdon His *Historia Anglorum* is important not because it gives many new facts but because it was much used by later writers. It is based on Bede and the *Anglo-Saxon Chronicle* for the earlier period but is original work for the years 1126–54 The *Historia Anglorum* was translated by Thomas Forester (1855)

Henry of Navarre: see Henry IV, king of France

Henry of Trastamara: see Henry II, Spanish king of Castile and Leon.

Henry's law. see Henry, William

Henryson, Robert, c 1425–c 1506, Scottish poet, of whose life little is known He is one of the Scottish Chaucerians, and his principal poem, *The Testament of Cresseid*, is a sequel to Chaucer's *Troilus and Criseyde* Henryson wrote two other long poems, of which the *Moral Fables of Æsop* is the livelier, and 13 short poems In the latter group, his short pastoral, *Robene and Makyne*, is both original and entertaining See editions of his work by G G. Smith (3 vols , 1906–14) and H H Wood (1933), study by M. W Stearns (1949)

Henry Street Settlement see Wald, Lillian D

Henry the Fowler. see Henry I, precursor of the emperors

Henry the Lion, 1129–95, duke of Saxony (1142–80) and of Bavaria (1156–80), son of Henry the Proud Emperor Frederick I restored the two duchies to him in the hope of thus winning over the hereditary rival of the Hohenstaufen family (see Guelphs and Ghibellines) Henry took part in Frederick's earlier Italian expeditions, but devoted his attention chiefly to his own domains, where for many years he ruled without imperial interference With Albert the Bear and other Saxon nobles he took part in the Wendish crusade of 1147, in subsequent years he gradually extended his power over the heathen lands bounded by the Elbe, the Oder, and the Baltic He encouraged settlement in the conquered regions, which became Christianized, he also fostered commercial activity, especially that of Lübeck In 1168 he married Matilda, daughter of Henry II of England Meanwhile, causes of friction arose between the emperor and the duke, in 1178 a controversy between Henry and the bishop of Halberstadt became the pretext for the fall of Guelph power The emperor, called in to judge the case, confiscated Henry's fiefs (1180) The partitioning of Bavaria and Saxony destroyed the last great duchy of Germany, which from then on was a patchwork of small principalities Henry's resistance was broken, and he was banished to England in 1181 He returned for good in 1189 and recovered parts of Saxony (Brunswick and Lüneburg), and he was left in possession of them by the Peace of Fulda (1190) His final reconciliation (1194) with Emperor Henry VI was facilitated by the marriage between his eldest son and a cousin of the emperor Henry's younger son became emperor in 1209 as Otto IV

Henry the Minstrel see Blind Harry

Henry the Navigator, 1394–1460, prince of Portugal, patron of exploration Because he fought with extraordinary valor in the Ceuta campaign (1415), he was granted a dukedom by his father, John I, king of Portugal The Moroccan campaign inspired him with a desire to extend his knowledge of Africa, and in 1416 he founded a naval arsenal at Sangres to serve as a base for exploration. Later he added an observatory and a school for the study of geography and navigation The results of his ambitious plan were soon evident One of his navigators rediscovered the Madeira Islands (1420), and by degrees the west coast of Africa was explored Cape Bojador was reached in 1434, Cape Blanco was passed in 1441, and the next year a slave-trading post was established on the Bay of Arguim When Henry's captains returned with slaves and gold, African exploration, long derided, became very popular, and from 1444 to 1446 between 30 and 40 vessels sailed for the Guinea coast under the prince's authority Meanwhile, his navigators had penetrated into the Sudan, discovered the Senegal, and reached a point near the present Sierra Leone The abuses of the slave trade caused Henry to forbid the kidnaping of Negroes in 1455. Henry played an important political role in the minority of Alfonso V, while his position as grand master of the wealthy and powerful Order of Christ (Portuguese successor to the Knights Templars) increased his influence Much of the revenue for his ventures was derived from his ecclesiastical tithes His military reputation, dimmed by a fruitless expedition against Tangier (1437), was recovered by a subsequent Moroccan campaign, and he was offered the command of several foreign armies Henry's chief importance, however, was his notable contributions to the art of navigation and to the progress of exploration See L R Beazley, *Prince Henry the Navigator* (1895); P H. Major, *Life of Henry of Portugal* (1868); J P. Oliveira Martins, *The Golden Age of Prince Henry the Navigator* (Eng. tr , 1914); Elaine Sanceau, *Henry the Navigator* (1946)

Henry the Proud, c.1108–1139, duke of Bavaria (1126–39) and of Saxony (1137–39). Having inherited the duchy of Bavaria and enormous private wealth, he became, by his marriage with Gertrude, daughter of Emperor Lothair II, the most powerful German noble. He fought with Lothair against the Hohenstaufen and in 1136 accompanied him to Italy Intended by Lothair as his successor in the German kingship, Henry was defeated in the election of 1138 by Conrad III of Hohenstaufen, who shortly afterward deprived Henry of his duchies Henry, however, retained the loyalty of his subjects, he succeeded in expelling Albert the Bear from Saxony and was preparing to attack Bavaria when he suddenly died, leaving as his heir his young son Henry the Lion

Henschel, Sir George (hĕn'shul), 1850–1934, German-English conductor, composer, and baritone, studied in Leipsig and Berlin As a pianist he was a child prodigy. His first appearance (1877) in England was as a singer, and there he and his wife inaugurated (c 1880) the song recital. In 1881 he became the Boston Symphony Orchestra's first conductor He returned in 1884 to England; here he was professor of singing (1886–88) at the Royal College of Music, London, and founded (1886) the London Symphony Concerts, which he conducted until they ceased in 1896. He composed church music, piano pieces, some instrumental pieces, songs, and operas, including *Nubia* (Dresden, 1889) He was knighted in 1914 His first wife, **Lillian June (Bailey) Henschel**, 1860–1901, was an American soprano She made her debut in Boston in 1876, then studied (1878) with Viardot-Garcia in Paris and later with Henschel, whom she married in 1881

Henschke, Alfred see Klabund

Henselt, Adolf von (ä'dôlf fŭn hĕn'zult), 1814–89, German pianist and composer A brilliant pianist, he gave up his concert career in 1838 to become court pianist and teacher in St Petersburg He composed a concerto, salon pieces, and studies for the piano

Henslow, John Stevens (hĕnz'lō), 1796–1861, English botanist At Cambridge Univ he was professor of mineralogy (1822–27) and of botany (1827–61) He was a teacher and friend of Charles Darwin, whom he recommended as naturalist to the *Beagle* expedition Henslow wrote on scientific farming and also *A Catalogue of British Plants* (1829) and *Dictionary of Botanical Terms* (1857)

Henslowe, Philip, d 1616, English theatrical manager He managed the Rose Theatre, Bankside, London, until 1603, and his association with Edward Alleyn, 1600–1616, in the Fortune Theatre, Cripplegate, London, was another of his numerous theatrical enterprises His diary has valuable information on the Elizabethan stage See F E Schelling, *Elizabethan Drama* (1908)

Henson, Josiah, 1789–1883, reputed original of Uncle Tom in *Uncle Tom's Cabin*, b Charles co , Md. In 1825 he faithfully led a party of his master's slaves from Maryland, across free territory in Ohio, to Kentucky Tricked out of the freedom he had purchased and threatened with being sold down South, he escaped with his wife and children in 1830 He became a leader of the community of escaped Negroes at Dresden, Upper Canada (now Ontario) Henson, who became a Methodist Episcopal preacher when in Kentucky, traveled widely, visiting England three times His autobiography, *The Life of Josiah Henson* (1849), was enlarged in 1858 as *Truth Stranger than Fiction* and in 1879 as *"Truth Is Stranger than Fiction"*, the later editions contained introductions by Harriet Beecher Stowe, who had been familiar with his story since 1851 See Brion Gysin, *To Master—a Long Goodnight* (1946)

Henty, George Alfred, 1832–1902, English journalist and writer of boys' books He was a war correspondent in the Austro-Italian War of 1866 and in the Franco-Prussian War of 1870–71. In middle life he edited a boy's *magazine*, the *Union Jack*, in which his first widely circulated stories appeared He wrote 80 tales of adventure which were as popular with boys in America as in England.

heparin. see Clotting of Blood.

hepatica or **liverwort**, any plant of the genus *Hepatica*, low, woodland, spring wild flowers of the North Temperate Zone, popular for wild gardens The delicate blossoms, of shades varying from lavander, may appear while there is still snow, the three-lobed leaves persist through winter. Hepaticas were formerly used as a domestic remedy Hepatic and liverwort are both names for a group of flowerless plants

Hepburn, Alonzo Barton, 1846–1922, American legislator and banker, b Colton, St. Lawrence co., N.Y. He served (1875–80) in the New York state legislature and became chairman of the legislative committee to investigate railroad-rate discrimination The published proceedings of this committee—popularly called the Hepburn Report—strongly influenced subsequent corrective legislation and helped bring about the adoption of the Federal Interstate Commerce Act. Later A. Barton Hepburn devoted himself to banking and to government fiscal administration. See biography by J. B Bishop (1923)

Hepburn, Mitchell Frederick, 1896–, Canadian political leader, b. St. Thomas, Ont. Elected to the Canadian House of Commons in 1926, he was

chosen (1930) leader of the Liberal party in Ontario He resigned his seat in Parliament in 1934 to enter the Ontario legislature, and upon his party's victory in the elections of that year, Hepburn became premier of the province A few years after his assumption of office, he was involved in struggles with labor organizations and with Mackenzie King and his Liberal administration In 1942 Hepburn resigned the premiership, and the following year saw the severe defeat of his party at the polls in Ontario

Hepburn, William Peters, 1833–1916, American statesman, b Wellsville, Ohio He grew to manhood in Iowa, where he practiced law He was a Civil War cavalry officer From 1881 to 1887 he was a Republican member of Congress After four years as solicitor of the Treasury, he reentered Congress in 1893, serving 16 years He was vitally interested in railroad regulation and was for many years chairman of the Committee on Interstate and Foreign Commerce He was author of the Hepburn Act of 1906, which greatly strengthened the INTERSTATE COMMERCE COMMISSION (see REBATE) He was joint author of the Pure Food and Drugs Act (1906). See biography by John Ely Briggs (1919)

Hephaestus (hĭfĕ'stŭs), in Greek religion, OLYMPIAN god, son of Zeus and Hera He was the god of fire and of metalwork In early legend he was the husband of Charis, later, he was called the husband of Aphrodite ERECHTHEUS was his son Hephaestus, called Vulcan by the Romans, is usually represented as a bearded man with mighty shoulders and arms, but lame One legend says that he was born lame, another that he was lamed when Zeus threw him from Olympus down to the island Lemnos for taking Hera's side in a dispute Hephaestus' favorite abodes on earth were volcanic islands, such as Lemnos and Sicily, where he had workshops complete with anvils, hammers, and bellows Cyclopes worked his forges He, the divine artificer, cunningly fashioned palaces for the gods and weapons for heroes and gods (e g , Achilles' shield) Generally he was a comic figure on Olympus and the butt of many jokes Hephaestus split Zeus' aching head with an ax, and the goddess Athena sprang forth Hephaestus, as craftsman's god, was worshiped at industrial centers such as Athens, where he had a temple In the Trojan War he supported the Greeks

Hepher (hē'fur) [Heb ,=well] **1** Head of a Manassite family Num 26 32, 27 1, Joshua 17 2,3 **2** Judahite 1 Chron 4 6 **3** One of David's warriors 1 Chron 11 36 **4** Unidentified city, Palestine Joshua 12 17, 1 Kings 4 10

Hephzi-bah (hĕf'zĭ-bu) [Heb ,=my delight is in her] **1** Mother of Manasseh 2 Kings 21 1 **2** Name for Jerusalem restored Isa 62 4

Hepplewhite, George (hĕ'pulhwīt), d 1786, English cabinetmaker and furniture designer His style is characterized by light, curvilinear forms, painted or inlaid decoration, and distinctive details such as slight tapering legs (plain, fluted, or reeded) and the spade foot Decorative motifs include the classical designs introduced by Robert and James Adam, ribbons, rosettes, prince of Wales feathers, ears of wheat, and the lyre He is noted for distinctive chair backs in shield, oval, interlaced hearts, and hoop forms and for using much satinwood and painted beechwood as well as mahogany His small pieces, e g , inlaid work tables, fire screens, knife boxes, and tea caddies, are especially prized by collectors Hepplewhite's firm was continued by his widow, who published in 1788 his *Cabinet-Maker and Upholsterer's Guide*

Heppner, city (pop 1,140), co seat of Morrow co , N Oregon, SW of Pendleton at the confluence of Hinton and Willow creeks, tributaries of the Columbia, in a farming and grazing area, founded 1873, inc 1887 Over 250 lives were lost in the great flood of 1903

Heptameron: see MARGARET OF NAVARRE

heptarchy (hĕp'tärkē) [Gr =seven-kingdom], name applied to seven kingdoms of Anglo-Saxon England The term was probably used first in the 16th cent by writers who believed England was divided among just seven kingdoms founded by Angles and Saxons Actually the political and geographical divisions were neither so orderly nor permanent, but were somewhat fluid and shifting for centuries For history, see ENGLAND and articles on the kingdoms of the heptarchy—NORTHUMBRIA, EAST ANGLIA, MERCIA, ESSEX, SUSSEX, WESSEX, and KENT.

Hera (hē'rŭ), in Greek religion, queen of the OLYMPIAN gods; daughter of the Titans Cronus and Rhea. She was the wife and sister of Zeus, to whom she bore Hephaestus and Ares Hera, protectoress of women, presided over childbirth and marriage and on occasion punished an offending husband (e g , the legend of ATHAMAS and LEARCHUS). A jealous wife, she persecuted Zeus, her erring consort, his earthly mistresses, and their children (e.g., Io, Lamia, and Hercules) When the Trojan prince Paris did not award Eris' APPLE OF DISCORD to Hera she in revenge supported the Greeks in the Trojan War. She is usually represented as a majestic woman, wearing a long flowing gown, golden sandals, a crown or diadem, and a long veil. Her attributes include a scepter, the peacock, and the pomegranate, and her messenger was Iris, the rainbow Hera was worshiped in all parts of Greece, but especially at Argos and Samos, where she had splendid temples. Polycletus, the sculptor, made a magnificent chryselephantine statue of Hera for the temple at Argos At Argos, BITON and Cleobis met their early death. Hera was called Juno by the Romans

Heraclea (hĕrŭklē'ŭ), ancient Greek city, in Lucania, S Italy, not far from the Gulf of Tarantum (Taranto). Here Pyrrhus defeated the Romans in 280 B C Near here were found bronze tablets giving Roman municipal laws The village of Policoro is on the site.

Heraclea Pontica (pŏn'tĭkŭ), ancient Greek city, a port on the southern shore of the Black Sea Modern Eregli, Turkey, is on the site It was founded by colonists from Megara and Boeotia in the 6th cent B C and rose to a position of great prominence, controlling much of the coast and sending out colonies It was at its height in the 4th cent, B C , but was injured by the rise of Pontus It was destroyed by the Romans in the wars against Mithridates VI of Pontus

Heracleopolis (hĭrăk"lēō'pulĭs, hē"rŭklē–), ancient city, N Egypt, just S of the Fayum One of the oldest of Egyptian cities, it was in existence before 3000 B C and was the capital (c 2445–c 2160) of the IX and X dynasties The temple was enlarged in the XII dynasty and again by Ramses II. Sheshonk I was originally general of mercenaries at Heracleopolis

Heracles: see HERCULES.

Heraclitus (hĕrŭklī'tŭs), c 535–c 475 B.C , Greek philosopher of Ephesus, of noble birth According to Heraclitus, there was no permanent reality except the reality of change, permanence was an illusion of the senses He taught that all things carried with them their opposites, that death was potential in life, that being and not-being were part of every whole—therefore, the only possible real state was the transitional one of becoming He believed fire to be the underlying substance of the universe and all other elements transformations of it He identified life and reason with fire and believed that no man had a soul of his own but shared in a universal soul-fire

Heraclius I (hĕrŭklī'ŭs, hĭră'klēŭs), c 575–641, Byzantine emperor (610–41) The son of a governor of Africa, he succeeded the tyrant Phocas, whom he deposed and had executed In the early years of his reign Avars and Bulgars threatened on the north and the Persians conquered Syria, Palestine, and Egypt In a costly campaign (622–28) Heraclius recovered the lost provinces from the Persians, only to see them fall (629–41) to the Moslem Arabs While fighting the Persians in Syria, Heraclius had sought to reconcile the Syrian Monophysites with the Orthodox Church, this attempt led to the compromise of MONOTHELETISM, which was favored by Heraclius He was succeeded by his son Constantine III, and his grandson, Constans II

Herakleion, Crete see CANDIA

heraldry. Personal and family insignia are common to primitive tribes (e g , TOTEM) and are mentioned by Homer, but heraldry proper is a feudal institution, originating probably in Germany during the late 12th cent , adopted and improved in France, Spain, and Italy, and imported into England by the Normans By the time of Richard I armorial bearings were in use Seals with heraldic devices were in use before their application to shields Louis VII (1137–80) was the first French king to seal with the fleur-de-lis of France The practice of embroidering the family emblems on the surcoat worn over chain mail in the 13th cent accounts for the term "coat of arms," and this century saw the rapid spread of heraldry through all grades of feudal rank above the squire Private assumption of arms became so common that Henry V forbade it, and on the chartering of the Heralds' College in 1483 the regulations pertaining to heraldry were placed in the hands of the Garter King-of-Arms Besides personal arms, arms were borne by families, corporations, guilds, religious houses, inns of court, colleges, boroughs and cities, and kingdoms In America the seals and insignia of colleges, cities, and the like are examples of the persistence of the heraldic tradition For methods of displaying armorial bearings, see BLAZONRY See Charles Boutell, *Manual of Heraldry* (1863, many rev eds); A R Wagner, *Heralds and Heraldry in the Middle Ages* (1940)

Heralds' College, body first chartered in 1484 by Richard III of England It has been reorganized several times since then Its purpose is to assign new coats of arms and to trace lineages to determine heraldic rights and privileges It has collected and combined the rule of BLAZONRY into a system. The college consists of the Garter king-of-arms (who is principal king-of-arms of both England and the Order of the Garter), of the kings-of-arms of Norroy and of Clarenceux, and of several heralds and pursuivants In Scotland, heraldic matters are regulated by the Lyon king-of-arms, in Northern Ireland, by the Ulster king-of-arms The kings-of-arms and heralds also proclaim a new king's accession and attend at state occasions such as the opening of Parliament and the introduction of new peers into the House of Lords See Anthony Wagner, *Heraldry in England* (1946)

Herat (hĕrat'), city (pop more than 60,000), capital of Herat, NW Afghanistan, on the Hari Rud river The ancient Aria, it has mile-long walls built on massive prehistoric earthworks and was very old before the Persians included it in their empire and before Alexander the Great refounded it. It is on the trade route from Persia to India and was taken by various conquerors It was overshadowed by Ghazni for a time, and in the 12th cent it was destroyed by Turkmen Rebuilt by the kings of Ghor, it was attacked by the Mongols early in the 13th cent Tamerlane took it in 1383 and his later successors, Shah Rukh and Husein, ruled in splendor until 1506 There were beautiful minarets, and the court was a center of art and learning The Uzbeks took the city, and then the Persians claimed it It was disputed by Persians and Afghans until in the mid-19th cent British pressure forced Nasr ed-Din Shah to give up attempts to take it. Dost Mohammed firmly established Afghan rule Herat is not only a garden spot but has textile weaving and makes carpets

Hérault (ārō'), department (2,403 sq. mi ; pop 461,100), S France, in LANGUEDOC, between the Cévennes mts and the Mediterranean. It is named for a small river Montpellier is the departmental capital. Sète the chief port

Hérault de Séchelles, Marie Jean (mărē' zhă' ārō' du sāshĕl'), 1760?–1794, French revolutionist. A lawyer famed for his eloquent oratory, he was presented at court and became a favorite of Marie Antoinette Nevertheless, he remained an ardent reformer and joined the revolutionary cause in 1789 A member of the Convention and the Committee of Public Safety, he was prominent in shaping the war measures of 1792 and in establishing the revolutionary tribunal which became the chief instrument of the Reign of Terror He was guillotined in 1794 as a supporter of Danton

herb (ûrb, hûrb), botanically **any plant,** whether annual, biennial, or perennial, which has fleshy or succulent stems lacking woody tissue and which dies down at the end of the growing season Herbaceous plants are distinguished, in horticulture, from shrubs, trees, and woody vines Herb is sometimes used to refer only to those plants which are used medicinally or for flavoring and seasoning See Maud Grieve, comp , *A Modern Herbal* (ed by Hilda Leyel, 2 vols , 1931), E S Rohde, *Herbs and Herb Gardening* (1937)

herbal (hûr'bul, ûr'–), early botanical book containing descriptions of herbs and plants with their properties Some of the first books to be printed with movable type were herbals in Latin, German and English Most of the early herbals were filled with queer superstitions about the properties of plants and with prayers and incantations to be recited on gathering plants Among the most famous of the printed herbals were those of Leonard Fuchs and Otto Brunfels and, in England those of William Turner (the 'father of English botany"), John Gerard, whose *Herball* of 1597 is, though not so great as that of Turner, better known, and John Parkinson (1629) The herbal began to disappear as the herb garden ceased to supply family medicines See E S Rohde, *Old English Herbals* (1922), Maud Grieve, comp , *A Modern Herbal* (ed by Hilda Leyel, 2 vols , 1931), A. R Arber, *Herbals* (2d ed , 1938)

herbarium, collection of dried plant specimens used in the study of botany Flowering plants are carefully dried between blotters or absorbent paper, alternated, for best results, with corrugated paper Precautionary measures against insect attack include poisoning the pressed plant or disinfecting the cases Flowering plants are mounted on heavy herbarium paper with glue or gummed tape or both The species of a genus are filed together in a folder and arranged systematically. Collections of other kinds of plants are variously preserved, e g , mosses in packets Most universities maintain herbariums They are essential for the preservation of type specimens, the verification of plant names, and the preparation of floras. Linnaeus's herbarium now belongs to the Linnaean Society, in England Notable herbariums in the United States include the Gray Herbarium at Harvard Univ and those at the National Museum and at the New York and Missouri botanical gardens For the preparation of specimens, see R J Pool, *Flowers and Flowering Plants* (1929)

Herbart, Johann Friedrich (yō'hän frē'drĭkh hĕr'bärt), 1776–1841, German philosopher and educator Influenced by Fichte and Pestalozzi, Herbart made many important contributions to psychology. In 1805 he lectured at Gottingen and from 1809 to 1833 held the chair of philosophy at Konigsberg He then returned to Gottingen as professor of philosophy *Psychologie als Wissenschaft* (1824–25) was his major psychological work, and *Allgemeine Metaphysik* (1828–29) his most important philosophical study Herbart held that

the concepts of change and becoming harbored a contradiction which destroyed the reality of continuous identity He maintained that the universe is composed of "reals," each absolutely simple and independent. Change is nothing but alterations in the various relationships among reals The reactions of reals to these changing relationships are their efforts at self-preservation, as in the case of the soul, whose efforts are ideas Ideas themselves strive for self-preservation, each one having resistance to change This makes possible mathematical treatment of ideas and opens the way to scientific psychology Though he denied the possibility of psychological experiment, Herbart sought to develop the mathematical and empirical, as well as the metaphysical, aspects of psychology In education he emphasized the importance of relating new concepts to the experience of the learner so that there would be less resistance to apperception of new ideas He stressed the need for moral education through experience and brought the work of teaching into the area of conscious method Many of Herbart's educational works have been translated into English See his *Application of Psychology to the Science of Education* (Eng tr, 1892), biography by A M Williams (1911); R D Chalke, *A Synthesis of Froebel and Herbart* (1912)

herb Christopher, name for several plants, among them BANEBERRY

Herbelot, Barthélemy d' (bärtälumē' dŭ ĕrbulō'), 1625–95, French Orientalist He compiled a large anthology, made up of examples from Oriental writers and of historical material relating principally to Arabs, Persians, and Turks

Herbert, Alan Patrick, 1890–, English humorist and member of Parliament A staff writer for the comic magazine *Punch* since 1910 and an indefatigable campaigner for the purity of the language against the inroads of modern bureaucratic jargon, Herbert has served in Parliament since 1935 as a representative for Oxford Univ He was largely responsible for the bill (1937) liberalizing English divorce law His numerous books include *The House by the River* (1921), *The Water Gipsies* (1930), *Holy Deadlock* (1934), *Uncommon Law* (1935), and *Sip! Swallow!* (1937) He has collaborated on a number of musical comedies

Herbert, George, 1593–1633, English religious poet. Of a noble family, he was the brother of Baron Herbert of Cherbury His early determination while he was a student at Cambridge (B A, 1612, M A, 1616) to enter the church was deflected by his appointment as public orator in 1619, a post he held until 1627 He was, however, ordained an Anglican priest in 1630 and made rector at Bemerton, near Salisbury His poems reflect his periods of indecision and rebellion as well as his serenity in the church and are marked by precision of language, metrical versatility, and the occasional use of conceits All unpublished at his death, the poems were left by Herbert to his friend Nicholas Ferrar, who had them published as *The Temple Sacred Poems and Private Ejaculations* (1633) Herbert also wrote Latin poems and a prose manual of clerical life, *A Priest of the Temple* (first printed in *Herbert's Remains*, 1652) See his complete works (ed by F E Hutchinson, 1941), biographies by Izaak Walton (1670), J J Daniell (1902), and G H Palmer (1905) The 20th-century revival of interest in the METAPHYSICAL POETS has stressed Herbert, for bibliography, see Theodore Spencer and Mark Van Doren, *Studies in Metaphysical Poetry* (1939)

Herbert, Henry William see FORESTER, FRANK

Herbert, Mary see PEMBROKE, MARY HERBERT, COUNTESS OF

Herbert, Victor, 1859–1924, Irish-American cellist, composer, and conductor, studied at the Stuttgart Conservatory In 1886 the Metropolitan Opera Company engaged his wife as a singer and Herbert as first cellist, and together they came to the United States He later played in the orchestras of Theodore Thomas and Anton Seidl In 1894 he became leader of the 22nd Regiment Band and from 1898 to 1904 was conductor of the Pittsburgh Symphony Orchestra After 1904 he was chiefly engaged in composition Two serious operas, *Natoma* (Philadelphia, 1911) and *Madeleine* (New York, 1914), had little success He also composed some orchestral music and a cello concerto but is known as an outstanding composer of operettas, some of which are *The Fortune Teller* (1898), *Babes in Toyland* (1903), *Mlle Modiste* (1905), *The Red Mill* (1906), *Naughty Marietta* (1910), and *Sweethearts* (1913) He also wrote music for some of the Ziegfeld Follies. See biography by Joseph Kaye (1931)

Herbert, William see PEMBROKE, WILLIAM HERBERT, 3D EARL OF

Herbert of Cherbury, Edward Herbert, 1st **Baron,** 1583–1648, English philosopher, poet, and diplomat, elder brother of George Herbert, the metaphysical poet He was ambassador to France (1619–24) and was created Baron Herbert of Cherbury in 1620 A precursor of deism, Lord Herbert laid down his principles of natural religion in *De veritate* (1624), *De religione laici* (1645), and *De religione gentilium* (1663) These works are, however, only a foreshadowing of deism and only a part of his philosophy His secular metaphysical poetry shows influences of his philosophy, for even his love poems in *Poems* (1665) reflect the serious, analytic approach of the philosopher He also wrote a biography of Henry VIII (1649) and an autobiography, first published by Horace Walpole in 1764

Herceg Novi (hĕr'tsĕg nô'vē), small port and sea resort, Montenegro, Yugoslavia Founded by a Bosnian king in 1382, it later passed to Hercegovina, Turkey, Dubrovnik, Venice, and Austria before its inclusion (1918) in Yugoslavia There remain two ruined castles, old fortifications, and, near by, a medieval monastery The town is also known under its Italian name, Castelnuovo

Hercegovina see BOSNIA AND HERCEGOVINA

Herculaneum (hûrkyōōlā'nēum), ancient city of S Italy, on the gulf of Naples at the foot of Mt Vesuvius Damaged by an earthquake in A D 63, it was completely buried, along with Pompeii, by the eruption of A D 79 It was a popular Roman resort with fine villas The first discovery was made in 1709, and excavations have continued since Important early finds were the sumptuous so-called Villa of the Papyri with a rich library and bronze and marble statues, a basilica with fine murals, and a theater The modern towns of Resina and Portici are on the site

Herculaneum, village (pop 1,700), E Mo, on the Mississippi below St Louis, platted 1808 It has lead smelters and marble quarries

Herculano de Carvalho Araujo, Alexandre (ûlĕshān'dru ĕrkōōlā'nō dŭ kärva'yō ûrou'zhō), 1810–77, Portuguese historian He is generally considered to have had one of the finest minds of his day in Portugal His great works are a four-volume history of Portugal (1840–53) and a history of the Inquisition in Portugal Modern historical writing in Portugal may be said to begin with him He also wrote historical novels and poetry

Hercules (hûr'kyōōlēz) or **Heracles** (hĕr'ŭklēz), most popular hero in Greek and Roman legends, famous for his extraordinary strength and courage He was the son of Zeus and Alcmene (the wife of Amphitryon) and half brother of Iphicles Hercules incurred the everlasting wrath of Hera because he was the child of her disloyal consort A few months after Hercules was born she sent two serpents to the infant's cradle The child Hercules strangled them When Hercules was older and married to Megara, his first wife, Hera sent madness upon him, and he killed his wife and their children After he returned to sanity he was told by the Delphic oracle to seek purification at the court of King Eurystheus The king demanded that Hercules perform the dangerous and difficult 12 labors killing the monstrous NEMEAN LION, the nine-headed HYDRA, and the man-eating STYMPHALIAN BIRDS, cleaning, in one day, the stables of AUGEAS, procuring the golden apples of the HESPERIDES and the girdle of Hippolyte, queen of the Amazons (he was accompanied by TELAMON on this adventure), and capturing the fleet-footed CERYNEAN HIND, the mad Cretan bull, the flesh-eating mares of DIOMED, the Erymanthian boar (it was during this labor that Hercules accidentally slew his friend and teacher Chiron the centaur), the cattle of Geryon, and the three-headed watchdog of Hades, CERBERUS. After he performed the labors, Hercules returned to Thebes, where he undertook to wrestle the giant ANTAEUS Presently he once again descended to the underworld to restore ALCESTIS to her husband ADMETUS Hercules, prone to fits of madness, killed one of his sons, and the gods again condemned him to bondage, this time at the court of OMPHALE, queen of Lydia During his stay he participated in the CALYDONIAN HUNT and the expedition of the Argonauts (see ARGONAUT) After many other adventures Hercules married DEIANIRA, who caused his death when she steeped his robe in the poisonous blood of NESSUS, thinking it had beneficent powers Knowing that he was poisoned, Hercules built a funeral pyre for himself and ordered that fire be applied. After he died, he joined the ranks of the OLYMPIAN gods Here he married Hebe Hercules was widely worshiped, and bulls, rams, and boars were sacrificed to him He is usually represented as a powerful, muscular man, wearing a lion's skin and armed with a huge club He is the hero of plays by Sophocles, Euripides, and Seneca. Perhaps the most famous statue of him is the *Farnese Hercules* in the National Museum in Naples.

Hercules, in astronomy, a northern constellation lying between Lyra and Corona Borealis It is represented pictorially as the figure of the hero Hercules in a kneeling position, with one foot resting on the head of Draco, the Dragon. There are no very bright stars in the constellation, but with a small telescope several double stars can be distinguished A globular star cluster believed to consist of more than 50,000 stars, it is a beautiful sight even with a small telescope Barely visible to the naked eye, it is estimated to be about 34,000 light years away It was discovered by Edmund Halley in 1714 In the winter of 1934 a conspicuous nova appeared in Hercules

Hercules, Pillars of: see PILLARS OF HERCULES.

Hercules'-club or devil's-walking-stick, small North American tree (*Aralia spinosa*) with a trunk often unbranched, stout, and thorny Very large compound leaves give it a tropical effect A huge cluster of flowers is borne at the top of the tree, followed by black, berrylike fruits that have been used medicinally The prickly ash and other plants are sometimes called Hercules'-club

Hercsег, Francis (hĕr'tsĕg), Hung *Herceg Ferenc* (fĕ'rents), 1863–, Hungarian dramatist, novelist, and short-story writer None of his stories and novels—often light and amusing—have been translated Among his translated plays are *Seven Sisters* (1893, Eng tr, 1911) and *The Silver Fox* (1917, Eng tr, 1921)

Herder, Johann Gottfried von (yō'hän gōt'frēt fŭn hĕr'dur), 1744–1803, German philosopher, poet, and critic, a leader in the *Sturm und Drang* movement After an impoverished childhood, he studied theology at Konigsberg and came under the influence of Kant During an appointment at Riga, Herder gained attention with his *Fragmente über die neuere deutsche Literatur* (1767) In 1776 he became court preacher at Weimar through the influence of Goethe There, where he stayed until his death, he produced his anthology of foreign folk songs, *Stimmen der Völker* (1778–79), and also made contributions to philology, comparative religion, and mythology His *Ideen zur Philosophie der Geschichte der Menschheit* (1784–91, Eng tr, *Outlines of the Philosophy of Man*, 1800) developed an evolutionary approach to history He sought in his philosophy to unite what Kant had divided —mind and nature, the individual and society See F H Burkhardt, *God Some Conversations* (Eng tr, 1940)

herd's-grass see TIMOTHY and BENT GRASS

Heredia, José María (hōsĕ' marē'a ärä'dhēa), 1803–39, Cuban journalist and poet, most lyrical of the poets of the period of the wars of independence Like Bello and Olmedo, he excels in describing the American landscape Although his poetry is classic in form, he was by temperament a romantic His subjectiveness and passionate nature appear in his two best-known poems, "On the Teocalli of Cholula" (written 1820) and "Niagara" (written 1824) Exiled from Cuba for his part in an abortive revolution in 1823, he spent two years in New York, where he published his poems, and the rest of his life in Mexico He was a cousin of the French poet Heredia

Heredia, José María de, 1842–1905, French poet, a member of the Parnassians, b Cuba His reputation rests on a single book of poetry, *Les Trophées* (1893) A remarkable collection of sonnets and poems, *Les Trophées* displays an unparalleled effort to produce the sensory effects of painting, music, and sculpture in poetic terms Both his subject matter and style are derived from the classics

Heredia, city (1944 estimated pop 10,578), W central Costa Rica, c 6 mi NW of SAN JOSÉ One of the four principal cities of the central plateau, it is the center of the coffee industry

heredity (hurĕ'dĭtē), the transmission from generation to generation through the reproductive process in plants and animals of factors which cause the offspring to resemble their parents Suggestions of the inheritability of certain traits in humans are found in some early writings, e g, in those of Hippocrates No well-formulated ideas based on scientific experiments developed until Gregor J MENDEL expressed the results of his experiments in the concepts now known as the Mendelian laws One of the most significant outcomes of Mendel's studies was the evidence that characters of an individual are inherited as units independently of each other Before Mendel's time the nature of hybrids had been recognized but complete statistical results of the occurrence of each character in hybrid generations had not been reported With the discovery of the CHROMOSOME and the GENE, Mendel's suggested hereditary units materialized Studies of MITOSIS, meiosis, and sex-linked characters shed more light on the mechanism of heredity More recently some slight hereditary transmission has been attributed to minute particles, sometimes called plasmagenes, in the cytoplasm of the sex cells For a time the acceptance of the Darwinian concept of evolution seemed at variance with Mendelian heredity, since to some the constancy with which characters are transmitted from generation to generation seemed to preclude the changes required by evolution However, it came to be realized that the changes which are embodied in an evolutionary concept occur in the genetic mechanism, e g, in gene MUTATION Thus heredity and evolution are interdependent A sharp cleavage between heredity and environment with the assumption of either one or the other as the only major force in determining the nature of an individual plant or animal is unfounded. Modern geneticists favor the belief that the characters of the adult form are, at least to some extent, the result of the interaction of heredity and environment Human heredity requires more study, but evidence points to its essential similarities to the mechanism studied in lower

forms of life It is recognized that the individual inherits not only from parents but also from more remote ancestors Sir Francis Galton made some of the first studies of human inheritance, and from his work stemmed the growth of eugenics Studies of heredity have important applications in the breeding of animals and plants For the scientific methods of studying heredity, see GENETICS See L H Snyder, *The Principles of Heredity* (1946), L C Dunn and Theodosius Dobzhansky, *Heredity, Race, and Society* (1946), H J Muller and others, *Genetics, Medicine, and Man* (1947), A F Shull, *Heredity* (4th ed , 1948), Julian Huxley, *Heredity East and West* (1949)

Hereford, county, England see HEREFORDSHIRE

Hereford (hĕr'fûrd), municipal borough (1931 pop 24,163, 1943 estimated pop 33,000), county town of Herefordshire, England, on the Wye It is a trade center At the great cathedral, which dates from the 11th cent , is held every third year the Festival of the Three Choirs, held the other years at Gloucester or Worcester The White Cross, near the town, commemorates the termination of the great plague in 1347 There are remains of an ancient castle, a grammar school founded in 1384, and many buildings of the 16th and 17th cent Hereford is the birthplace of Nell Gwyn and David Garrick

Hereford (hûr'furd), city (1940 pop 2,584, 1947 estimated pop 3,900), co seat of Deaf Smith co , extreme N Texas, SW of Amarillo on the plains of the Panhandle, settled 1898, inc 1906 The semi-arid plains, once belonging to the XIT Ranch and other baronial cattle holdings, still support fine cattle Irrigated farms produce potatoes and grain Tierra Blanca Creek here drains E to Buffalo Lake, much used for recreation The low rate of dental decay among its citizens --explained by some as the result of fluorine in the soil— brought Hereford to national medical notice in the 1940s

Hereford cattle (hûr'furd, hĕ'rufurd), breed of beef cattle originated in Herefordshire, England, and probably first imported to the United States by Henry Clay in 1817 They are red in color, with white faces A strain of polled Herefords was developed by crossbreeding Herefords, long bred on the Western ranges, have also been introduced in parts of Canada and in the E United States

Herefordshire or **Hereford,** county (842 sq mi , 1931 pop 111,767, 1948 estimated pop 123,600), W England, on the Welsh border The county town is Hereford A land of many streams and woods, the county has undulating terrain, reaching its greatest height in the Black Mts and Malvern Hills The chief rivers are the Wye, the Teme, and the Frome The region is primarily agricultural and pastoral and is famous for its orchards and cattle (see HEREFORD CATTLE) In the Middle Ages, Herefordshire was the scene of much border warfare with the Welsh, and there are many ruins of castles and fortifications, the most remarkable of which is Offa's Dyke, built in the 8th cent by Offa, king of Mercia There are many fine examples of Tudor architecture The modern history of the county has been generally uneventful Manufactures are negligible See Arthur Mee, *Herefordshire* (1938)

Heres (hē'rēs), unidentified mountain, S Palestine, the home of the Amorites Judges 1 35

Heresh (hē'–) [Heb ,=artificer], servant of the Tabernacle 1 Chron 9 15

Hereward the Wake (hĕ'rĭwurd), fl 1070, thane of Lincolnshire A leader of resistance against WILLIAM I, he sacked Peterborough (1070) and later consolidated his forces on the Isle of Ely When the king gained possession (1071) of the island, Hereward seems to have continued resistance as an outlaw, until he gained an honorable peace He became a folk hero to the conquered Anglo-Saxons, Charles Kingsley's novel, *Hereward the Wake,* is about him

Herford, Oliver (hûr'fûrd), 1863–1935, American humorist, b England His popular volumes of light verse, illustrated by himself, include *Artful Antics* (1898), *Rubáiyát of a Persian Kitten* (1904), and *Excuse It, Please* (1929)

Herford (hĕr'fôrt), city (pop 43,940), Westphalia, NW Germany Founded in 823, it later became a free imperial city and a member of the Hanseatic League Most of its medieval and Renaissance buildings were destroyed in the Second World War Near Herford is the Teutoburg Forest, where Arminius defeated (A D 9) the Romans The war (774–85) between Charlemagne and the Saxon Widukind took place in this region Today it has furniture, chocolate, and textile manufactures

Hergenröther, Joseph Adam Gustav (yō'zĕf ä'dăm gōōs'täf hĕr'gənrûtûr), 1824–90, German theologian and scholar, cardinal of the Roman Church He was a professor at Munich and Würsburg In 1879 Leo XIII made him cardinal and first prefect of the newly opened Vatican archives Hergenröther wrote polemical works and church history. A zealous ultramontane, he refuted DÖLLINGER with *Anti-Janus* (1870; Eng tr , 1870). His historical works include *The Catholic Church and the Christian State* (1876, Eng tr , 1876) and *Manual of Universal Church History* (3 vols , 1876–80) His monumental work on PHOTIUS, written to dispel charges of papal responsibility for the Eastern schism, is fundamental, but considered by later scholars to be unfair to Photius See American Catholic Historical Association, *Church Historians* (1926)

Hergesheimer, Joseph (hûr'gushĭ'mur), 1880–, American author, b Philadelphia The historical novels *The Three Black Pennys* (1917) and *Java Head* (1919), the novel *Linda Condon* (1919), the novelettes in *Gold and Iron* (1918), and the short stories in *The Happy End* (1919) established him as a literary artist of distinction His later fiction, much of it for magazines, was expertly written, but less profound He also wrote a biography of Gen Philip Sheridan (1931) See his autobiographical *From an Old House* (1925)

Hering, Henry (hĕ'rĭng), 1874–1949, American sculptor, b New York city, studied at the Art Students League and the École des Beaux-Arts While he made portrait busts and fine classic figures, he specialized in architectural sculpture His Civil War Memorial is at Yale Some of his best sculptural decorations are on the Field Museum, Chicago, Federal reserve banks of Dallas, Texas, Kansas City, Mo , and Cleveland, Michigan Ave Bridge and Civic Opera House, Chicago, Yale Art Museum, New Haven, and Indiana State War Memorial and other sculptures for the Civic Center, Indianapolis He became a member of the National Academy in 1937

Herington, city (pop 3,804), E central Kansas, S of Junction City, inc 1887 It is a shipping and trading center for a farm and livestock area A monument to the missionary Juan de Padilla is in Herington

Herisau (hā'rĭzou), town (pop 12,789), capital of Ausser-Rhoden half canton, Appenzell, Switzerland It manufactures embroideries, cotton textiles, and machinery

Héristal, Belgium see HERSTAL

Herkimer, Nicholas (hûr'kĭmur), 1728–77, American Revolutionary general He was born in a German colony near the present town of Herkimer, N Y He served in the French and Indian War and was appointed (1776) a brigadier general in the New York militia In 1777 in the SARATOGA CAMPAIGNS Herkimer was leading a relief party to the Americans besieged by General St Leger at Fort Stanwix when at Oriskany Creek they were ambushed by a force of Loyalists and Indians Herkimer was mortally wounded, and his force had to retreat

Herkimer (hûr'kĭmur), industrial village (pop 9,617), co seat of Herkimer co , central N Y , on the Mohawk and SE of Utica, settled c 1725 by Palatines, inc 1807 It is a farm-product shipping point Desks and other furniture are made The Herkimer County Historical Society here has important documents and exhibits

Herkomer, Sir Hubert von (hûr'kōmur), 1849–1914, English painter and etcher, b Germany, studied at South Kensington art schools He won recognition with his painting *The Last Muster* and became a popular art teacher, founding his own art school at Bushey near London in 1883 He was proficient as water-colorist, etcher, metal worker, and illustrator Among his chief paintings are *Passing to the West* (painted in America), *On Strike, Eventide,* and *Gathering in the Charter House* (National Gall , London) Herkomer enjoyed many honors See his autobiography, *The Herkomers* (1910), study by A L Baldry (1901)

Herlin or **Herlen, Friedrich** (both frē'drĭkh hĕr'lĭn), fl 1462–91, German religious painter of the Swabian school Little is known of his life except that he worked in Nördlingen and painted in the Flemish style Among the works attributed to him are altarpieces in the Church of St James, Rothenburg, Bavaria, and in St Blasius, Bopfingen, Württemberg, *Madonna* (town hall, Rothenburg), and *Legend of St George* (an altarpiece) and *Christ among the Doctors* (Nördlingen)

Herm see CHANNEL ISLANDS

Herman, Yuri Pavlovich (yōō'rē päv'lŭvĭch gĕr'mŭn), 1910–, Russian novelist He wrote *Tonia* (Eng tr , 1938), *Antonina* (Eng tr , 1937), and *Happy Landing* (Eng tr , 1942), a diary of the Second World War

hermandad (ĕrmändädh'), [Span ,=brotherhood], league or federation of towns, a characteristic feature of municipal life in medieval Spain As the kings were unable to offer adequate protection, protective leagues were formed against the lawless nobles The most powerful was the league of coastal towns in the Bay of Biscay, but there also were *hermandades* in Castile (12th-13th cent) and Aragon (13th cent) The militia, at first drawn only from the middle classes, later included men from all classes Ferdinand and Isabella founded the Holy Hermandad (Span *Santa Hermandad*) for all Spain to insure personal security and public order The permanent police force was supported by special taxes, a council of deputies was elected to determine the limits of jurisdiction, and a sort of criminal code was enforced. The *hermandades* were suppressed in Aragon in the 16th cent , but continued locally, though greatly modified, until 1835. A similar organization, called the Acordada, was founded in Mexico

Hermann, d A D 21 see ARMINIUS

Hermann (hûr'mun), city (pop 2,308), co seat of Gasconade co , E central Mo , on the Missouri and ENE of Jefferson City, settled 1837 by Pennsylvania Germans, inc 1839 It is in a farm area with diaspore, flint, and clay deposits Shoes and staves are made here

Hermannstadt, Rumania see SIBIU.

Hermanric see ERMANARIC

Hermaphroditus (hurmă"frudĭ'tus), beautiful son of Hermes and Aphrodite A nymph who loved him embraced him and prayed that they might be united forever They became one body, retaining the characteristics of male and female

Hermas (hûr'mus), Roman Christian Rom 16 14

Hermas, Shepherd of (hûr'mus), Christian apocalypse, composed in Rome at the end of the 1st cent A D A collection of the author's own prophetic visions, it resembles no other early Christian work The book is extant in fragments of the original Greek and in complete Latin and Ethiopic texts See J B Lightfoot, tr , *Excluded Books of the New Testament* (1927)

Hermes (hûr'mēz), in Greek religion, OLYMPIAN god, son of Zeus and Maia He corresponds to the Roman Mercury and is remarkable for the variety of his functions He was the god of commerce and trade, of cheats and thieves, of luck (and hence gamblers), of athletic contests, and of eloquence He acted as the swift messenger of the gods, particularly Zeus, and as the conductor of souls to Hades The herma or herm, a stone which usually had a carved head on top and a phallus in the center, probably represented Hermes in his original role in popular religion, as the giver of fertility to field, flock, and herd The lyre, which he made from a tortoise shell, and the flute were his inventions Hermes was usually thought of as a merry, impudent youth of unbounded cunning who did not scruple to steal or lie Riotous festivals were held in Hermes' honor, e g , the Greek Hermaea and the Roman Mercurialia In art, as in the well-known bronze statue *The Flying Mercury* by Bologna, Hermes is usually represented as wearing a wide-brimmed winged hat (the petasos) and winged sandals (talaria) and carrying the CADUCEUS A famous statue by Praxiteles shows Hermes with the child Dionysus

Hermes (hûr'mēz), Roman Christian Rom 16 14

Hermes Trismegistus (trĭsmu|jĭ'stus) [Gr =Hermes the thrice-greatest], name given to the reputed author of books of occult wisdom It refers to Thoth, the Egyptian god of writing, learning, and wisdom, who was equated with Hermes The *Hermetic Books,* ascribed to him, are supposed to encompass the age-old wisdom of ancient Egypt The name seems to have been applied in the 3d cent by the Neoplatonists, and it was greatly revered throughout the Middle Ages, especially by alchemists and seekers after secret knowledge Various works and thoughts were attributed to Hermes Trismegistus many of them connected with the "sympathy" of all created persons and objects Hence the name of the hermetical philosophy, popular in the 17th cent It is still much used by those interested in the occult

Hermione (hurmī'unē), in Greek legend, only child of Helen and Menelaus She was married to Neoptolemus, but Orestes, to whom she had been betrothed, killed him and married her.

hermit (hûr'mĭt) [from Gr ,=desert], one who lives in solitude especially from ascetic motives Hermits are known in many cultures, and temporary withdrawal from society is a commonplace before initiatory or propitiatory ceremonies Permanent solitude was very popular in ancient Christian asceticism, St ANTHONY of Egypt and St SIMEON STYLITES were noted hermits Many extreme Franciscans (Spirituals) of the 13th and the 14th cent were hermits, among them Pope St CELESTINE V The Basilian monks of the Eastern Church are in effect hermits The Carthusians are the only Western religious order which is partly eremitical A special type of hermit was the anchorite (or anchoret) who had himself walled up in a cell with only a window In medieval Europe the cell usually connected with a church The ANCREN RIWLE was written for English anchoresses, such a one was JULIANA OF NORWICH See MONASTICISM

Hermitage, in France see MONTMORENCY

Hermitage, museum in Leningrad, architecturally beautiful and with a fine art collection It was reconstructed as a museum in Neo-Greek style in the 19th cent from the original pavilion palace erected by Catherine II Among the collections are the treasures found in the Crimea, including the rarest of Greek jewelry It is rich in Spanish and French paintings and has a number of Rembrandts. The name is applied also to a hillside garden resort in Moscow

Hermitage, home of Andrew Jackson, central Tenn , near Nashville The house, a handsome example of a Tennessee planter's home, with a fine formal garden, was built in 1819–31 of bricks made on the

estate and was rebuilt in 1835 after fire had seriously damaged the first structure Jackson and his wife are buried in the plantation graveyard The church which he built (1823) is on the grounds

hermit crab, a crustacean in which the abdomen is soft and asymmetrical and usually coiled It is chiefly a marine animal, but some tropical forms are largely terrestrial Most hermit crabs occupy the shells of snails or other gastropod mollusks and thus protect the vulnerable abdomen with a portable shelter When the growth of the crab makes the shell too small, it seeks a larger one. It will fight for its chosen shell Related to the hermit crab is the coconut crab, which has hard plates on the back and carries no shell It climbs palm trees to eat coconuts

Hermite, Charles (shärl' ĕrmēt'), 1822–1901, French mathematician A professor at the École polytechnique, Paris (1869–76), and at the Faculty of Sciences (from 1869), he exerted a strong influence on the French school of mathematics He made valuable contributions to the theory of numbers, the theory of elliptic functions, and the theory of equations (especially of the fifth degree)

Hermite, Tristan l' see TRISTAN L'HERMITE

Hermit Kingdom. see KOREA

Hermogenes (-mŏ'jŭnēz) [Gr ,=born of Hermes], man at odds with Paul 2 Tim 1 15

Hermon (hûr'mun), town (pop 1,182), S Maine, W of Bangor, settled c 1790, inc 1814 It was a center of the Second Adventists led by William Miller

Hermon, Mount, Arabic *Jebel-esh-Sheik* [mountain of the chief] and *Jebel-eth-Thelj* [snowy mountain], on the Syria-Lebanon boundary, near Palestine The highest of its three peaks rises well over 9,000 ft All are crowned with snow in winter and spring and were a sacred landmark in ancient Palestine It is mentioned much in the Bible as Hermon, Sion, Senir, and Shenir The name Baal-Hermon (Judges 3 3, 1 Chron 5 23) records the reverence in which it was held by the worshipers of Baal The Romans also revered it, as did the Druses (there is a Druse shrine near Hasbeya) The Psalms praise its beauty. Ancient Caesarea Philippi was at its foot Mt Hermon is designated as the scene of the Transfiguration

Hermonthis (hurmŏn'thĭs), ancient city, N Egypt, near Thebes Founded in prehistoric times, it was prominent in Roman times It was originally the shrine of Month, a hawk-headed deity, and has a fine temple built c 1500 B C and reconstructed by the Ptolemies Modern Armant or Erment occupies the site

Hermopolis (hûrmŏ'pulĭs) or **Hermoupolis** (hurmōō'pulĭs, Gr ĕrmōō'pōlēs), city (pop 18,925), on Syros island, Greece It is the chief city of the Cyclades and a busy port Its industries include shipbuilding and textile, glass, and leather manufactures

Hermopolis Magna, ruined city, S Egypt, on the Nile and near the modern Ashmunein In antiquity it was the chief seat for the worship of Thoth Its woolens were famed There are remains of a Greek agora.

Hermosa Beach (hûrmō'su), resort and residential city (1940 pop 7,197, 1947 special census pop 11,172), in Inglewood township, S Calif , on Santa Monica Bay and SW of Los Angeles, inc 1907

Hermosillo (ĕrmōsē'yō), city (pop 18,601), capital of Sonora, NW Mexico, at the entrance to the gorge of the Sonora river With a climate generally hot and arid, the surrounding region raises tropical fruits, especially oranges Using GUAYMAS as its seaport, it is a trading and manufacturing center, rapidly being modernized, and is a pleasant winter resort

Hermopolis: see HERMOPOLIS

Hernandarias: see ARIAS DE SAAVEDRA, HERNANDO

Hernández. See Spaniards thus named, see FERNÁNDEZ.

Hernández, José (hōsā' ĕrnän'dĕs), 1834–86, Argentine poet, journalist, and soldier He was the founder of the *Revista del Rio de la Plata* and author of the classic of gaucho literature, *Martín Fierro* (1872) and its sequel, *La vuelta de Martín Fierro* [the return of Martín Fierro] (1879, Eng tr of both parts, 1936) The poem, written in the form of an autobiography and in dialect, glorifies the vanishing free life of the GAUCHO in the solitude of the Pampa

Hernández Martínez, Maximiliano (mäk"sēmēlyä'nō ĕrnän'dĕs märtē'nĕs), 1882–, president of Salvador (1931–44) A dictator, he was forced into exile by students leading a general strike following his bloody suppression of an army revolt The success of the strike spread to Guatemala, where Gen Jorge Ubico was similarly deposed

Hernando, town (pop. 1,072), co. seat of De Soto co , extreme NW Miss., S of Memphis, Tenn., inc. 1837 It is a trade center for an agricultural region

Herndon, Angelo, 1913–, American Negro labor organizer, the subject (1932–37) of a celebrated civil-liberties case, b. Wyoming, Ohio. Herndon, reared in squalor and often the victim of racial prejudice, worked in coal mines in Kentucky and Alabama after the age of 13 under adverse conditions. He joined the Communist party in Atlanta, Ga , and organized Negro coal miners and sharecroppers In Atlanta in 1932 he led a demonstration protesting the dropping of 23,000 families from the state relief rolls He was arrested and sentenced (1932) to an 18-year prison term for violating a Georgia law of the Reconstruction era forbidding advocacy of forceful resistance to the state's authority The decision was reversed (1935) in a superior court of the state, but the Georgia supreme court upheld (1936) the original verdict. The case attracted nation-wide attention, and in 1937 the U S Supreme Court ruled, five to four, that the state law had been wrongly applied to Herndon and that the evidence did not warrant his conviction See his autobiography, *Let Me Live* (1937)

Herndon, William Henry, 1818–91, friend and biographer of Abraham LINCOLN, b Greensburg, Ky He attended Illinois College until his proslavery father withdrew him for absorbing abolitionist doctrines In 1843 he became the junior member of the Springfield law firm of Lincoln and Herndon, a partnership that was never dissolved He is credited with having influenced Lincoln in his antislavery views and having nursed Lincoln's political fortunes After Lincoln's assassination he collected reminiscences of Lincoln's boyhood and youth from those who had known him, and in his old age wrote, with Jesse Weik, *Herndon's Lincoln the True Story of a Great Life* (3 vols , 1889) The work was savagely attacked because many of his stories were counter to the already established Lincoln legend See J F Newton, *Lincoln and Herndon* (1910), B P Thomas, *Portrait for Posterity Lincoln and His Biographers* (1947), David Donald, *Lincoln's Herndon* (1948)

Herndon, town (pop 1,046), N Va , NW of Alexandria, inc 1874, rechartered 1938

Herne, James A. (hûrn), 1839–1901, American actor and playwright, b Cohoes, N Y He first appeared on the stage in 1859–60 in *Uncle Tom's Cabin*, played stock in the East, and gained prominence in San Francisco as stage manager and character actor He became associated with David Belasco, and together they wrote and adapted several plays, the most notable being *Hearts of Oak*, from an English play, *The Mariner's Compass* Produced as *Chums* in San Francisco, it was a failure, but under its new name it succeeded both in Chicago (1879) and in New York (1880) In 1878 Herne married the actress Katherine Corcoran, for whom he wrote most of his plays The best of his dramas, distinguished by a homely as well as melodramatic realism, were *Margaret Fleming* (produced in Boston, 1891), *Shore Acres* (Boston, 1893), and *The Reverend Griffith Davenport* (New York, 1899) Later, his daughter Chrystal Herne played in revivals Herne used American material, and his influence on the development of realistic character cannot be underestimated

Herne (hĕr'nu), city (pop 97,389), Westphalia, NW Germany, near Bochum It is an industrial center of the Ruhr district

Herne Bay (hûrn), urban district (1931 pop 11,249, 1943 estimated pop 17,500), Kent, England, at the mouth of the Thames and NNE of Canterbury There are a pier and an esplanade Reculver, the Roman station Regulbium, is 3 mi east

hernia or **rupture,** protrusion of any interior organ of the body from the cavity in which it is normally located Hernia occurs most commonly in the umbilical, inguinal, and femoral regions Inguinal hernia occurs more often in the male and femoral hernia in the female In these three types of hernia, a loop of intestine protrudes through a weak spot in the wall of the abdomen or groin Congenital hernia results from a developmental weakness in the wall, acquired hernia is sometimes caused by violent exertion Simple hernia can usually be reduced by mechanical means, in more serious forms surgery is needed A less common condition is diaphragmatic hernia, in which a portion of the abdominal contents protrudes into the thoracic cavity through an abnormal opening in the diaphragm

Hero, in late Greek legend, priestess of Aphrodite in Sestos Her lover, Leander (lēăn'dur), swam the Hellespont nightly from Abydos to see her He drowned one night, and she threw herself into the sea Christopher Marlowe's poem *Hero and Leander* is based on the story

Hero, Greek mathematician see HERON OF ALEXANDRIA

hero, in Greek religion, dead man or woman of note who was given reverence and actual worship as quasi-divine The heroes were regarded in at least some aspects as ghosts or revenants to be propitiated, and the acts of worship were like those for chthonian (underworld) gods. Black animals were sacrificed, offerings were poured in trenches or on altars beside the tomb, and the sacrifices were at night. The worship generally centered about the tomb where the hero was supposed to be buried and therefore was local, though some heroes (notably Hercules) were worshiped at various places Though Homer seems to regard his heroes only as nobles and fighting men, almost all Homeric heroes later were worshiped, thus Hector was worshiped at Thebes. The heroes might be actual dead great men, real or imaginary ancestors, or "faded" gods (i.e , ancient gods for some reason demoted in popular belief to human status).

Herod, dynasty reigning in Palestine at the time of Christ. Antipater (ăntĭp'ŭtur), d. 43 B C , founder of the family fortune, was an Idumaean, he gave refuge to Hyrcanus II (see MACCABEES), thus gaining a stronghold in Palestine He was in high favor with Caesar after Pompey's defeat His principal son, Herod the Great, d 4 B C , gave the family its name Through friendship with Marc Antony, he secured the title king of Judaea (37 B C –4 B C), after the battle of Actium he made peace with Octavian (AUGUSTUS), who thereafter showed him great favor. Herod's kingship was at its best in its second decade He made great efforts to mollify the Jews by publicly observing the Law, by building a temple, and by reestablishing the Sanhedrin He adorned most of his cities, especially Jerusalem Herod married 10 times, and the various families in the palace intrigued against each other continually. In his last years Herod was subject to some sort of insanity, and he became bloodthirsty He executed Aristobulus (ăr"ĭstŏbū'lŭs) and Alexander (6 B C), his sons by Mariamne, granddaughter of Hyrcanus II In 4 B C he executed Antipater, son of his first wife, when he found out that Antipater had instigated the intrigues that led to the execution of Aristobulus and Alexander This was the Herod who was ruling at the time of Jesus' birth and who ordered the massacre of the Innocents See Mat 2, Luke 5 Herod divided his kingdom among his sons Archelaus, Herod Antipas, and Philip Archelaus (ar"kēlā'ŭs), d after A D 6, ruled Palestine S of the Vale of Jezreel (4 B C –A D 6), he was removed by Augustus after complaints by the Jews Mat 2 22 Herod Antipas (ăn'tĭpăs), d after A D. 39, tetrarch of Galilee and Peraea (E of Samaria and Judaea), was the Herod who executed John the Baptist and who was ruling at Jesus' death His wife, daughter of ARETAS, he repudiated to marry Herodias (hĭrō'dĭŭs), daughter of his half brother Aristobulus and wife of his half brother Herod Philip, whom she divorced to marry Herod Antipas This affair gained Herod Antipas many enemies, and the vaulting ambitions of Herodias eventually ruined him She drove him to seek a royal title, and Caligula banished him (A D 39) Mat 14, Mark 6, Luke 3, 23, Acts 13 Herod the Great's son Philip, d A D 34, was tetrarch of the region E of Galilee, his kingdom was non-Jewish, and he pursued a successful Romanizing and Hellenizing policy He was probably the best of his family, his wife was SALOMÉ, daughter of Herod Antipas He built Caesarea Philippi The eldest son of Aristobulus, Herod Agrippa I, d A D 44, was a man of some ability Out of friendship Caligula made him king (A D 39) of Philip's tetrarchy and the region of Abilene (W of Damascus), and on Claudius' accession he was made ruler of S Syria and of Palestine E and W of the Jordan He was strongly pro-Jewish, and he built extensively at Beyrouth (Berytus) He is mentioned in Acts 12 His son, Herod Agrippa II, d c 100, received only the northern part of his father's kingdom, and that not until c 52 He was a poor ruler and alienated his subjects His sister was BERENICE 2 After the fall of Jerusalem he went to Rome See also Acts 25, 26 He was the last important member of his family As a dynasty the Herods were neither good nor capable rulers; they depended largely on the power of Rome They are usually blamed for the state of virtual anarchy in Palestine as the Christian era began The prime source is the history of Josephus, a personal friend of Herod Agrippa II Other members of the family were BERENICE 1 and DRUSILLA

Herodas (hĭrō'dŭs) or **Herondas** (hĭrŏn'dŭs), fl 3d cent B.C , Greek poet. He wrote realistic mimes in choliambic verse depicting the vulgar scene. A papyrus containing some 700 readable lines by Herodas is extant

Herodes Atticus (Tiberius Claudius Atticus Herodes) (hĭrō'dēz ă'tĭkŭs), c 101–c 177, Greek teacher, rhetorician, and Sophist, b Athens A great public benefactor, he expended his fortune in adorning Athens and other Greek cities One doubtfully attributed speech is extant The name also appears as Atticus Herodes

Herodians (hĕrō'dēuns), Jewish political party of the early 1st cent , favorable to the dynasty of HEROD Some have supposed they were largely Sadducees. Mat 22.16, Mark 3 6; 12.13

Herodias (hĕrō'dēus) see HEROD

Herodion (-rō'-), Christian at Rome. Rom. 16 11.

Herodotus (hĕrŏ'dŭtŭs), 484?–425? B.C., Greek historian, called the father of history, b. Halicarnassus, Asia Minor Only scanty knowledge of his life can be gleaned from his writings and from references to him by later writers, notably Suidas. He may have been exiled from Halicarnassus for taking part in a revolution, and certainly he spent some time abroad (possibly in Samos), then he seems to have returned to his native city, where he may have had a part in overthrowing the tyrant Lygdamis before he left Halicarnassus permanently.

He traveled along the coast of Asia Minor to the northern islands and to the shore of the Black Sea, he also at some time visited Mesopotamia, Babylon, and probably Egypt By 447 he was in Athens, and in 443 he seems to have helped to found the Athenian colony of Thurii in S Italy, where he probably spent the rest of his life completing his history That work, the first comprehensive attempt at secular narrative history, is a classic of world literature as well as the starting point of Western history writing It is primarily concerned with the story of the Persian Wars, but the earlier books embody great quantities of material about the ancient world as he knew it, with long digressions and stories of all sorts, illustrating the diverse cultures of his time and earlier It is divided into nine books named for the Muses—a division made by a later editor The value of the work lies not in its accuracy—though Herodotus seems to have made some effort to be critical about his sources—but in the rich diversity of information it offers and the charm of its anecdotal style It has been often contrasted with the work of Thucydides, which is much more rigidly accurate but considerably less broad in scope For bibliography, see HISTORY See T R Glover, *Herodotus* (1924)

Heroic Age, in classical mythology see AGE.

heroic couplet see PENTAMETER

heroin (hĕ'rō-ĭn), habit-forming drug, a derivative of morphine Because a person may easily become addicted to the use of heroin, it is seldom prescribed In the United States the importation and manufacture of heroin are prohibited

Herold, Louis Joseph Ferdinand (lwē' zhōzĕf' fĕrdēnā' ārōld'), 1791–1833, French composer He composed a number of operas, two of which—*Zampa* (1831) and *Le Pré aux clercs* [the field of honor] (1832)—were for a time immensely popular

heron (hĕ'rŭn), large wading bird found in most of the temperate regions of the world, but especially numerous in tropical and subtropical areas It has a long, sharp bill, a long neck, long legs, large wings, and soft drooping plumage Many herons nest in large colonies, usually in trees They are, as a rule, solitary when feeding and often stand patiently for long periods watching for prey—chiefly small aquatic animals Among the American species are the great and the little blue herons, the little green heron, the black-crowned and the yellow-crowned night herons, and the Louisiana heron, called by Audubon the Lady of the Waters *Hern* is an old form of heron used in Tennyson's "The Brook" and in Longfellow's "The Herons of Elmwood"

Herondas. see HERODAS

Heron of Alexandria (hĕr'ŏn) or **Hero,** mathematician and inventor The dates of his birth and death are unknown, conjecture places them between the 2d cent B C and the 3d cent A D He is believed to have lived in Alexandria, although he wrote in Greek, his origin is uncertain Several of his works survive either in Greek or in Latin translation He wrote on the measurement of geometric figures, and a formula for finding the area of a triangle has been ascribed to him Known for his study of mechanics and pneumatics, he invented many contrivances operated by water, steam, or compressed air, these include a fountain, a fire engine, siphons, and an engine in which the recoil of steam revolves a ball or a wheel

Herophilus (hĭrŏ'fŭlŭs), fl 300 B C, Greek anatomist, a contemporary of Erasistratus at Alexandria He made numerous anatomical discoveries, by dissecting human bodies, and investigated the brain, the eye, the alimentary canal (he is credited with naming the duodenum), and the arteries and veins, he was one of the first to distinguish between motor and sensory nerves

herpes. see COLD SORES and SHINGLES

Herrera, Fernando de (fĕrnän'dō dā ĕrā'rä), 1534–97, Spanish poet He was one of the outstanding poets of the 16th cent, leader of the Seville school, and was called Herrera el Divino for his qualities as a poet He is remembered for his sonnets and love lyrics inspired by his love for Doña Leonor de Gelves and for his heroic odes on Don John of Austria and the victory of Lepanto

Herrera, Francisco de (fränthĕ'skō), the elder, 1576–1656, Spanish painter in fresco and in oil Born in Seville, he worked there most of his life He was a founder of the naturalistic school of Seville Velázquez was among his pupils for a short time, but Herrera's irascible temper alienated him from his students and finally from his family He was a good draughtsman and a dramatic and vigorous painter. His *Triumph of St Hermengild* (Seville) and *Vision of St Basil* (Louvre) are famous Many of his works remain in the Sevillian churches for which they were painted His son, **Francisco de Herrera,** the younger, 1622–85, studied in Rome, where he was known as a still-life painter Returning to Spain he occupied positions of honor under Philip IV and Charles II He designed the cathedral at Saragossa, one of the earliest baroque churches Although an admirable technician and colorist, he did not equal his father His fresco *Assumption* (Church of Atocha, Madrid) and his *Triumph of St. Hermengild* (Prado) are among his best-known works.

Herrera, José Joaquín (hōsā' hwäkēn'), 1792–1854, president of Mexico (1844–45, 1848–51) As president he opposed the war with the United States, but his weak political position made him refuse to negotiate with SLIDELL, and a revolution led by PAREDES Y ARRILLAGA resulted in his resignation After the war he again held the presidency Indian insurrections and political revolutions disturbed his administration, and his attempt to reform the government failed

Herrera y Reissig, Julio (hōō'lyō ĕrā'rä ē rāsēk'), 1875–1910, Uruguayan poet He belonged to a family prominent in public affairs but withdrew along with his bohemian followers to an attic known as the Tower of the Panoramas and there wrote in the spirit of MODERNISMO The obscurity and preciosity of his verses and his daring and extravagant figures show the influence of Góngora and of the symbolists He is still considered a poet for the few. His subject matter, however, drew inspiration from daily life, especially from Uruguayan country scenes

Herrera y Tordesillas, Antonio de (antō'nyō dā ĕrā'rä ē tôrdhāsē'lyäs), 1559?–1625, Spanish historian Appointed official historiographer of Castile and the Indies under Philip II, he wrote a general history of the New World (1601), a history of Philip's reign (1606), and various other works dealing with his own times He had access to official documents, and his facts are generally reliable

Herreshoff, John Brown (hĕ'rus-hŏf), 1841–1915, American yacht and speedboat builder He became a shipbuilder, though totally blind from the time he was 15. He managed his own company until his brother, **Nathaniel Greene Herreshoff,** 1848–1938, became superintendent of the Herreshoff Manufacturing Company in 1881 Together, Nathaniel designing and John superintending the construction and finances, they produced steam yachts and torpedo boats, but in 1891 they resumed the construction of sailing yachts, introducing new and radical features of design The *Gloriana* won them a reputation, and they subsequently produced five successful defenders of *America's* Cup—the *Vigilant* (1893), the *Defender* (1895), the *Columbia* (1899), the *Reliance* (1903), and the *Resolute,* successful against *Shamrock IV* in 1920

Herrick, Myron Timothy, 1854–1929, American diplomat, b Huntington, Lorain co, Ohio One of Mark Hanna's lieutenants in the Ohio Republican machine, he worked for McKinley's nomination in 1896 and was (1903–5) governor of Ohio President Taft named (1912) him ambassador to France, and President Harding appointed (1921) him again to the same post He died in the embassy building, which he had bought for the American government out of his own funds See biography by T B Mott (1930)

Herrick, Robert, 1591–1674, English poet, generally considered the greatest of the CAVALIER POETS He was born in London but spent most of his childhood in Hampton Apprenticed in 1607 to his uncle, jeweler to the king, he remained in London until 1613 He was graduated from Cambridge (B A, 1617, M A, 1629) The next years he spent in London, where he seems to have been a member of Ben Jonson's literary circle Sometime before 1627 he took orders and in that year was chaplain in the duke of Buckingham's disastrous expedition to the Isle of Ré In 1629 he was given the country living of Dean Prior in Devon There he remained until 1647, when as a royalist he refused to subscribe to the Solemn League and Covenant and was ejected. He seems to have gone to London, and in the next year appeared his first volume of verse, *Hesperides,* which included poems that had been circulated in manuscript and his sacred songs called *Noble Numbers* In 1662 he was returned to his living, where he remained until the end of his life Herrick is best known for his lyrics of rural life and bucolic love His exquisite love lyrics show considerable classical influence but are remarkable especially for their effect of simple naïveté and their blending of melody and perfectly chosen words Among the best known of his lyrics are "Night-Piece To Julia," the song commencing, "Gather ye rosebuds while ye may," "Corinna's going a-Maying," "To Anthea," and "Cherry-ripe" Among his sacred poems are such fine pieces as "Litany to the Holy Spirit" Herrick also excelled in the writing of epigrams and epitaphs His reputation declined after his death, but in the 19th cent he was recognized as a great lyricist See edition of his poetical works by F W Moorman (1915), biographies by F. W. Moorman (1910) and Floris Delattre (1912)

Herrick, Robert, 1868–1938, American novelist, b Cambridge, Mass, grad. Harvard, 1890 He was professor of English at the Univ of Chicago from 1893 to 1923 and a realistic novelist of distinction His works include *The Man Who Wins* (1895), *The Web of Life* (1900), *Together* (1908), *The Master of the Inn* (1908), *Clark's Field* (1914), *Chimes* (1926), and *The End of Desire* (1932) He was appointed government secretary of the Virgin Islands in 1935 and died in Charlotte Amalie, V.I.

Herrin, city (pop. 9,352), S Ill., N of Cairo; settled 1818, inc 1900 It is the trade center of an extensive coal-mining area The "Herrin Massacre" occurred in 1922 during a country-wide coal strike Clashes between unionized strikers, armed guards from Chicago, and nonunion miners who had been imported by the coal company resulted in the death of about 25 persons In the trials which followed it was impossible to secure a conviction because of strong local sentiment for the union

herring, common food fish widely distributed in the N Atlantic waters of North America and Europe, in the seas of N Europe, and in the N Pacific. There are numerous species, the common herring being *Clupea harengus,* it travels in huge schools through the temperate and cold waters of the N Atlantic When full grown it is usually about a foot long, has silvery sides, and is blue above. It feeds on plankton sifted from the sea water It lays as many as 30,000 eggs in spring or fall; the eggs sink to the sea bottom, where they develop. In three years the young are mature Some related species run up rivers to spawn The smaller herring caught off the shores of North America and also of Norway are canned in quantities as "sardines." Herring are sold in nearly all parts of the world after preservation by drying, smoking, salting, or pickling, and the variously cured forms are marketed as bloaters, kippers, and red herrings

Herrings, battle of the, 1429, episode in the siege of Orléans by the English in the Hundred Years War The French attacked a wagon train commanded by Sir John FASTOLF, which was taking supplies to the army besieging Orléans, but were repulsed by the English who barricaded themselves behind the wagons with the herring barrels. The action took place at Rouvray, a hamlet near Patay, NW of Orléans

Herriot, Édouard (ādwär' ĕryō'), 1872–, French statesman and man of letters. After starting on an academic career he turned to politics. A moderate leftist, anticlerical, and antimilitarist, he rose to leadership of the Radical Socialist party, which was the dominant French party from 1899 to 1940 He began his official career in 1904 when he was elected mayor of Lyons—an office which he held until 1941 and again after 1945 He subsequently became a deputy, president of the chamber of deputies, member of several ministries, and several times premier (notably 1924–25 and 1932) His first term as premier saw the evacuation of the Ruhr, the continued fall of the franc led to his resignation (1925) During his term in 1932 the world was in the midst of the economic crisis that was to shape later history Herriot sought a conciliatory policy among France, England, the United States, Russia, and Germany At the DISARMAMENT CONFERENCE of 1932 Herriot upheld in principle the demand for French security but submitted a modified plan to keep the conference from foundering He was one of the few French statesmen to advocate payment by France of the WAR DEBTS to the United States, it was on this question that his cabinet fell Herriot visited the United States in 1933 on the invitation of President F D Roosevelt, with whom he conferred on debt, disarmament, and monetary problems An outspoken opponent of the Vichy government of France, Herriot was arrested in 1942 and taken to Germany in 1944 Freed in 1945, he resumed leadership of the Radical Socialists, who, however, had dwindled to a minor party and who for many years had ceased to be a leftist group In 1947 Herriot became president of the national assembly, which had taken the place of the chamber of deputies He has ardently advocated a European confederation, for which he set forth a plan in his book, *The United States of Europe* (Eng tr, 1930) Among his nonpolitical writings the best known is a biography of Beethoven (Eng tr, 1935)

Herrnhut (hĕrn'hōōt'), town (pop 2,024), Saxony, E Germany It was founded (1722) by Graf von ZINZENDORF as a colony of Moravian Brothren (see MORAVIAN CHURCH)

Herron, Francis Jay, 1837–1902, Union general in the Civil War, b Pittsburgh He fought at Wilson Creek (1861) and Pea Ridge (1862) and was made brigadier general (July, 1862) With Gen J G Blunt, he defeated Hindman at PRAIRIE GROVE (Dec, 1862), thereby winning himself a major generalcy Herron was with Grant at Vicksburg (1863), served in the Dept of the Gulf (1863–64), and was a commander in Louisiana (1865) Resigning from the army in June, 1865, Herron remained in the South, where he practiced law and participated in the questionable politics of the Reconstruction in Louisiana In 1897 he moved to New York city

Herron, George Davis, 1862–1925, American clergyman, b Montezuma, Ind While professor of applied Christianity at Grinnell College, Iowa, he became a Christian Socialist, resigning from the college because of subsequent criticism He joined the Socialist party and became prominent in it, being chiefly responsible, with money given by Mrs E D Rand, for the organization of the RAND SCHOOL OF SOCIAL SCIENCE Deposed from the ministry because of his views and condemned for his divorce, he moved to Italy. After the outbreak

of the First World War, he broke with the Socialist party and supported Wilson He has been credited with playing an important unofficial role in the peace negotiations His books include *The Larger Christ* (1891), *Social Meanings of Religious Experiences* (1895), and *The Defeat in the Victory* (1921) See M. P Briggs, *George D Herron and the European Settlement* (1932)

Herschel, Caroline Lucretia (hûr'shûl), 1750–1848, English astronomer, sister of Sir William Herschel She was his collaborator from 1772, when she left Germany to join him in England She recorded his observations and comments and worked out calculations In addition, she explored the heavens with a small Newtonian telescope and discovered eight comets (on five of which she could claim priority) and three nebulae. In 1798 the Royal Society published her *Index to Flamsteed's Observations of the Fixed Stars* and a star catalogue Returning to Germany after Sir William's death in 1822, she worked on the arrangement and reduction of the star clusters and nebulae he had discovered, completing the catalogue in 1828 See M C Herschel, *Memoir and Correspondence of Caroline Herschel* (1876)

Herschel, Sir John Frederick William, 1792–1871, English astronomer, son of Sir William Herschel He confirmed his father's observations of double stars, working for a while with the collaboration of James South He was able to add numbers of previously unrecognized pairs to those in the catalogue and extended his examination to include nebulae He presented his results to the Royal Society in the form of a catalogue of stars in 1833 In order to complete the survey of the heavens, he went to the Cape of Good Hope in 1834 In 1848 he became president of the Royal Astronomical Society Sir John was a distinguished chemist and made valuable contributions to the development of photography Among his books are *Outlines of Astronomy* (1849) and *Familiar Lectures on Scientific Subjects* (1867) See A M Clerke, *The Herschels and Modern Astronomy* (1895)

Herschel, Sir William, 1738–1822, English astronomer, originally named Friedrich Wilhelm Herschel, b Hanover, Germany He was a great pioneer in the study of the stars in space Son of a musician, he early became a skilled performer on several instruments and was an oboe player in the band of the Hanoverian Guards Going to England in 1757, he was musical conductor, organist, and teacher of music and studied mathematics and astronomy in his leisure time He constructed telescopes and systematically explored the sky On March 13, 1781, he discovered a new planet later named Uranus Appointed private astronomer to the king (1782), he was able to devote his time to astronomy His sister Caroline aided him in his work In 1789 at Slough, Herschel erected his great telescope, with a 48-inch mirror and a focal length of 40 ft With his powerful reflecting telescopes, Sir William penetrated farther into the distances beyond our solar system, covering the whole of the heavens several times during his life He discovered the sixth and seventh satellites of Saturn, determined the rotation period of Saturn and studied the rotation of other planets, and concluded from the motions of double stars that they are held together by gravitation and that, revolving about a common center, they form systems far outside our own He catalogued over 800 double stars His researches in the field of nebulae suggested a possible beginning of new worlds from gaseous matter Before this time only about 100 nebulae had been known Sir William's catalogue, arranged by his sister, contained about 2,500 He concluded that the whole solar system is moving forward through space, and he was able to indicate the point toward which he believed it to be moving From 1781 to the time of his death, he presented many papers before the Royal Society See biographies by E S Holden (1881), James Sime (1900), and J L E Dreyer (1912)

Herschel Island, off N Yukon, in a bay of the Beaufort Sea. Herschel village on its east coast is the site of a Royal Canadian Mounted Police post

Hersey, John (hûr'sē), 1914–, American author and journalist, b China, of American parents He attended American schools and was graduated from Yale in 1936 He was for some time affiliated with *Time* and *Life* His novels are based on his experiences as a war correspondent in the Second World War *A Bell for Adano* (1944), from which a play and a moving picture were made, won the Pulitzer Prize for fiction in 1945 His powerful account of the effects of atomic bombing, *Hiroshima* (1946), was first published as a complete number of the *New Yorker* magazine His novel *The Wall* (1950) describes the Nazi persecution of the Polish Jews

Hersfeld (hĕrs'fĕlt), town (pop 19,625), Hesse, W Germany, in former Electoral Hesse It originated (8th cent) with a Benedictine abbey patronized by Charlemagne

Hershey, unincorporated village (pop. c 4,000), SE Pa , E of Harrisburg, founded 1903. Owned by the Hershey company, it manufactures chocolate confectionery in large quantities.

Herstal (hĕr'stäl), town (pop. 25,049), Liége prov , E Belgium, a suburb of Liége Also known as Héristal (ārēstäl'), it was a residence of the early Carolingian mayors of the palace and of Charlemagne It now has an important arms industry and also manufactures motorcycles.

Herter, Albert (hûr'tur), 1871–1950, American mural and figure painter, illustrator, and designer of textiles, b New York city His work includes *Two Boys* (Metropolitan Mus) and a large mural painting in the East Station, Paris, commemorative of the First World War, the artist's gift to France in memory of his son

Hertford, William Seymour, 1st **marquess and** 2d **earl of,** 1588–1660, English nobleman, descendant of Edward Seymour, brother of Henry VIII's queen, Jane Seymour For marrying Arabella Stuart, cousin of James I, against the king's wishes he was imprisoned After her death he fled the country, but returned in 1616 Made a privy councilor (1640) and marquess of Hertford (1640) he fought well for Charles I in the civil war He received his ancestor's dukedom of Somerset at the Restoration (1660)

Hertford, county, England see Hertfordshire

Hertford (här'fûrd, hart'–) municipal borough (1931 pop 11,378, 1943 estimated pop 12,970), co seat of Hertfordshire, England, on the Lea and N of London, in an agricultural region It was important in Saxon times, here, in 673, the archbishop of Canterbury convened the first national church council Near Hertford is one of the leading public schools of England, Haileybury College, founded in 1805 by the East India Company and originally a training school for young men entering the colonial service of the company The school was reestablished by royal charter in 1862 as a public school, but much of the old atmosphere and tradition remains

Hertford (hûrt'furd), town (pop 1,959), co seat of Perquimans co , NE N C , N of Albemarle Sound and SW of Elizabeth City, on the Perquimans river, settled before 1700, inc 1758 Cotton and peanuts are grown in the area

Hertford College. see Oxford University

Hertfordshire (har'furdshĭr, härt–) **Hertford,** or **Herts** (hûrts, hûrts), inland county (632 sq mi , 1931 pop 401,206, 1948 estimated pop 587,800), S England The county town is Hertford, but St Albans, famous for its Norman cathedral, is a more important urban center The terrain is level except for an extension of the Chiltern Hills in the northwest portion of the county The chief streams are the Colne, the Lea, the Stort, and the New, which drain into the Thames Hertfordshire is an agricultural county, producing large quantities of wheat and hay as well as vegetables and flowers for the near-by London market The shire was originally organized as a military district by Edward the Elder and has figured prominently in the military history of England, particularly during the Wars of the Roses See *Victoria History of Hertford* (4 vols , 1902–14), Arthur Mee, *Hertfordshire* (1939)

Hertling, Georg, Graf von (gā'ôrk gräf' fŭn hĕrt'-lĭng), 1843–1919, German statesman and philosopher, imperial chancellor (Nov , 1917–Sept , 1918) He was professor of philosophy and a leader of the Center (Catholic) party in the Reichstag before he became (1912) prime minister and minister of foreign affairs of Bavaria Succeeding Michaelis as chancellor in 1917, Hertling was unable to meet the conflicting demands of the military commanders (particularly Ludendorff), the Reichstag, and public opinion The German reverses of 1918 and the food shortage created an atmosphere of defeat that doomed Hertling's chancellorship and the empire as well He resigned and was succeeded by Prince Maximilian of Baden His philosophic works are strongly Catholic, he was an authority on medieval scholasticism He left memoirs (2 vols , 1919)

Hertogenbosch,'s, Netherlands. see 's Hertogenbosch

Herts see Hertfordshire

Hertwig, Oscar (ôs'kär hĕrt'vĭkh), 1849–1922, German embryologist, studied medicine with Haeckel and Gegenbaur In 1875 he established the fact that fertilization consists of the union of male and female nuclei He made studies of the germ-layer theory and of malformations of vertebrate embryos

Herty, Charles Holmes, 1867-1938, American chemist, b Milledgeville, Ga , grad Univ of Georgia, 1886 He taught chemistry at the Univ of Georgia (1891-1902) and at the Univ of North Carolina (1905–16) His researches in making paper from pine pulp were important in the industrial development of the South

Hertz, Alfred (hûrts, Ger äl'frāt hĕrts'), 1872–1942, German-American conductor He conducted at various opera houses in Germany As conductor (1902–15) of German operas at the Metropolitan Opera House, he introduced Wagner's *Parsifal*, Richard Strauss's *Salomé* and *Der Rosenkavalier*, and Humperdinck's *Königskinder* to the United States and conducted the premières of several American operas. He was conductor of the San Francisco Symphony Orchestra from 1915 to 1930, and from their beginning in 1922 until 1925 he conducted the Hollywood Bowl Concerts He conducted (1932-39) the Standard Symphonic Hour on the radio

Hertz, Gustav (gōōs'täf hĕrts'), 1887–, German physicist He is noted for his work on the atom, and he shared with James Franck the 1925 Nobel Prize in Physics for research on the effects of the impact of electrons on atoms He became professor at the Technical Institute, Berlin, in 1928 and also director of research at the Siemens works in 1935, in 1947 he undertook atomic research for the USSR

Hertz, Heinrich Rudolf (hûrts, Ger hĭn'rĭkh rōō'-dôlf hĕrts'), 1857–94, German physicist He confirmed J C Maxwell's electromagnetic theory and in the course of experiments (1886–89) produced and studied electromagnetic waves (known also as hertzian waves or radio waves) He demonstrated that these are long, transverse waves that travel at the velocity of light and can be reflected, refracted, and polarized like light Hertz also investigated electric discharge in rarefied gases He was professor at the Polytechnic Institute, Karlsruhe (1885–89), and at the Univ of Bonn (from 1889) His writings include *Electric Waves* (1890, Eng tr , 1893) and *Principles of Mechanics* (1894, Eng tr , 1899)

Hertzog, James Barry Munnik (hûrt'sŏg, hĕrt'sôkh), 1866–1942, South African military and political leader Before the South African War, in which he commanded a division of the Boer forces (1899–1902), he had been a judge in the Orange Free State As minister of education in the Orange River State (1907–10), he insisted upon the teaching of Dutch as well as English in the schools In the first cabinet of the Union of South Africa he was minister of justice (1910–12), but his active resistance to Louis Botha, then premier, and to the supremacy of Great Britain brought about a crisis, and he was dropped from the government Hertzog then took the lead in organizing a party opposed to imperialism and aiming at a state independent of the British Empire (1913) After 1924, when by an alliance between this nationalist party and the Labour party a coalition government was formed, he was prime minister for 15 years until Sept , 1939 Parliament then repudiated his anti-British attitude on the outbreak of the Second World War

Heruli see Germans

Hervey Islands see Cook Islands

Hervey of Ickworth, John, Baron (har'vē, hûr'vē), 1693–1743, English statesman and memoir writer Elected member of Parliament (1725) and later (1733) called to the House of Lords, he served as vice chamberlain and privy councilor, attaching himself to the prime minister, Sir Robert Walpole He narrowly escaped with his life as a result of a duel with William Pulteney, who quarreled with him because of a pamphlet Hervey supposedly had written Hervey had great influence with Queen Caroline Pope attacked him as Lord Fanny in the first of the *Imitations of Horace* (1733) and as the Sporus in his *Epistle to Arbuthnot* (1735) Hervey's bitter *Memoirs of the Reign of George II*, not published until 1848, would seem to justify Pope's characterization of him as "familiar toad, half froth, half venom "

Hervieu, Paul (Paul Ernest Hervieu) (pôl' ĕrvyû', ĕrnĕst'), 1857–1915, French author His naturalistic novels include *Peints par eux-mêmes* [self-depicted] (1893) and *L'Armature* (1895) Treating similar social problems are his plays, which include *La Course du flambeau* (1901, Eng tr , *The Trail of the Torch*, 1915) and *Le Dédale* (1903, Eng tr , *The Labyrinth*, 1913) A collection of essays appeared as *La Bêtise parisienne* (1884). In 1900 he was elected to the French Academy

Herwegh, Georg (gā'ôrk hĕr'vāk), 1817–75, German revolutionary poet His career was marked by several periods of exile for dueling and political activity, which included a leading part in the unsuccessful revolution (1848) in Baden His best-known volume of verse, *Gedichtes eines Lebendigen* [poems of a living man] (1841) exerted great influence upon political feeling

Herz, Henriette (de Lemos) (hĕnrĭĕt'tu du lā'môs hĕrts), 1764–1847, German intellectual Her Berlin home was frequented by most of the liberal intellectuals of the day, among them Jean Paul Richter, Friedrich Schlegel, and Mme de Staël See H W Puckett, *Germany's Women Go Forward* (1930), Bertha Meyer, *Salon Sketches* (1938)

Herzegowina. see Bosnia and Hercegovina

Herzen, Aleksandr Ivanovich (ălyĭksän'dŭr ēvä'-nŭvĭch hâr'tsĭn), 1812–70, Russian revolutionary leader and writer The Decembrist Conspiracy (1825) inspired him to devote his life to revolution, and for this he was early exiled Freed in 1840, he went to Moscow and met Belinsky The two influenced each other profoundly In 1847 Herzen left Russia for good, to settle first in Paris, where he hailed the revolution in 1848, and later in England, where he set up the first free Russian press abroad In 1855 he published a survey of Russia as it was under serfdom, together with a history of the revolutionary movements he had witnessed—*My Past and Thoughts* (Eng. tr , 1924) He also published a weekly journal *Kolokol* (1857–62), in which he attacked the Russian system of government. The journal was widely read in Russia, even by Tsar

Alexander II himself, although officially it was banned Hersen represents the trend of Russian progressive thought from romantic idealism to scientific positivism He wrote in English a novel, *Whose Fault?* (1847), and a two-volume work, *My Exile to Siberia* (1855), but he is far more important as a revolutionary than as a writer See his memoirs (Eng tr , 1923); E H Carr, *The Romantic Exiles a Nineteenth Century Portrait Gallery* (1933)

Herzl, Theodor (tā'ōdōr hĕr'tsul), 1860–1904, Hungarian Jew, founder of modern Zionism, b. Budapest He was a journalist, dramatist, and critic in Vienna until he was sent to Paris to report the Dreyfus Affair, which aroused his intense interest in the Jewish cause and his determination to aid in the establishment of a Jewish state, to which he devoted the rest of his life His famous pamphlet *Der Judenstaat* has been reprinted many times In 1949 his body was removed from Vienna to Jerusalem, for burial with highest honors See biographies by Jacob De Haas (1927) and Alex Bein (1940)

Herzlia or **Herzliah** (both hĕrtslē'ŭ), town (pop. c 5,500), central Israel, near the Mediterranean Sea It was founded in 1924 and named for Theodor Herzl There is flour milling, and citrus fruits are grown in the vicinity

Herzog, Johann Jakob (yō'hän ya'kôp hĕr'tsōk), 1805–82, German Protestant theologian His most important contribution was the founding and editing of the *Realencyklopädie für protestantische Theologie und Kirche* (22 vols , 1853–68)

Hesed (hĕ'sĕd) [Heb ,=kindness], father of a steward of Solomon 1 King 4 10

Heshbon, ancient city, c 20 mi E of the Jordan, now an extensive ruin called Hesban Its importance—it was an Amorite capital—arose from its situation at the crossroads of the east-west road to Jericho and the north-south road paralleling the Jordan It was first allotted to Reuben, later to Gad Num 21 26, 32 37, Joshua 13 17, 21 39, Isa 15 4, Jer 48 2,34,35

Heshmon [Heb ,=thriving], town, apparently in extreme S Judah Joshua 15 27

Hesiod (hē'sēud, hē'), fl 8th cent ?B C , Greek poet Little is known of his life except for the scant references he makes to a quarrel over property with his brother He lost the dispute Hesiod pictures himself as a Boeotian farmer His most famous poem is the didactic *Work and Days*, which has caustic advice for his brother and maxims for farmers to pursue, its aim is to inculcate righteousness and efficiency The "days" are days lucky or unlucky for particular operations Also ascribed to him are the *Theogony*, a genealogy of the gods, and *The Shield of Heracles* So little is known of him that some scholars have denied his existence He gave his name to the Hesiodic school of poets, rivals of the Homeric school

Hespeler (hĕ'spulur), town (pop 3,058), S Ont , on the Speed river and N of Galt, in a stock-raising region It has wool and flour mills

Hesperides (hĕspĕ'rĭdēz) [Gr ,=in the west], in Greek religion, nymphs, daughters of Atlas On an enchanted island in the western sea in the garden of the Hesperides, they guarded a tree (a wedding gift from Gaea to Hera) which bore golden apples A dragon helped guard it Heracles obtained the apples as one of his 12 labors

Hesperus (hĕ'spurus) [Gr ,=western], name by which the Greeks called Venus as the evening star The Latin name was Vesper He was represented as leading the other stars out into the sky The Greek name for it as the morning star was Phosphorus, the Latin, Lucifer

Hess, Germain Henri (hĕs, Fr zhĕrmĕ' ärē' ĕs'), 1802–50, Swiss-Russian chemist, b Switzerland He taught at the Univ of St Petersburg A founder of thermochemistry, he stated (1840) Hess's law the amount of heat liberated or absorbed in a given chemical reaction is constant regardless of the number of stages occurring, provided that the same original substances and end products are involved

Hess, Heinrich Maria von (hīn'rĭkh mărē'ä fŏn hĕs'), 1798–1863, German painter He was noted for his frescoes in the churches of Munich He was long professor at the Munich Academy and later director of all the Munich galleries His brother **Karl von Hess,** 1801–74, is best known for his pictures of Alpine landscape and animals Another brother, **Peter von Hess,** 1792–1871, painted battle scenes of the Greek and Russian campaigns of 1812–15 and made 36 sketches of the *Liberation of Greece* for the Munich Hofgarten

Hess, Dame Myra, 1890–, English pianist, studied at the Royal Academy of Music She made her debut in London in 1907 and first appeared in the United States in 1922 In 1939 she organized a series of lunch-time concerts in the National Gallery, London These concerts, many of which she herself played, were immensely popular In 1941 she was made Dame of the British Empire

Hess, Peter von : see Hess, Heinrich Maria von

Hess, Rudolf (rōō'dôlf hĕs'), 1894–, German National Socialist leader, b Alexandria, Egypt, son of a German merchant He early was an ardent follower of Adolf Hitler, after the Munich "beer-hall" putsch (1923) he shared Hitler's imprisonment. To him Hitler dictated *Mein Kampf* In 1933 he became deputy Führer and minister without portfolio In 1939 Hitler named him second choice (after Goering) as successor Hess created a world-wide sensation when he stole an airplane and flew (May, 1941) from Augsburg to Scotland (where he was arrested), apparently in an attempt to negotiate a peace agreement with Great Britain At the Nuremberg war-crimes trial (1945–46) he was sentenced to life imprisonment The question of Hess's sanity, complicated by his feigned fits of madness and amnesia, is still open

Hess, Victor Francis, 1883–, American physicist, b. Austria, Ph D, Univ of Graz, 1906 After teaching at the universities of Graz and Innsbruck, he came to the United States in 1938 and was later naturalized. He became professor of physics at Fordham Univ in 1938 By means of instruments carried aloft in balloons, Hess and others proved that radiation that ionizes the atmosphere is of cosmic origin For this discovery of cosmic rays he shared with C D Anderson the 1936 Nobel Prize in Physics He wrote *Cosmic Radiation and Its Biological Effects* (with Jakob Eugster, 1940, 2d ed , 1949)

Hess, Walter Rudolf, 1881–, Swiss physiologist For his work on the control of organs by certain areas of the brain he shared with Egas Moniz the 1949 Nobel Prize in Physiology and Medicine In 1917 he became professor and director of the physiology institute at the Univ of Zurich

Hesse, Hermann (hĕr'män hĕ'su), 1877–, German novelist and poet The son of missionaries in India, he left a theological preparatory school and became a mechanic and then a bookseller before devoting all his time to writing He lived in Switzerland after 1919 and is a naturalized Swiss His works include the novels *Peter Camenzind* (1904), *Unterm Rad* (1905), *Rosshalde* (1914), *Demian* (1919, Eng tr , 1923), *Der Steppenwolf* (1927, Eng tr , 1929), *Narziss und Goldmund* (1930, Eng tr *Death and the Lover*, 1932), and *Das Glasperlenspiel* (1943, complete ed , 1945, Eng tr , *Magister Ludi*, 1949), the stories *Knulp* (1915) and *Siddhartha* (1923), and volumes of poetry, *Gedichte* (1922) and *Trost der Nacht* (1929) In the great German romantic tradition, Hesse presents the problem of man's spiritual loneliness He was awarded the 1946 Nobel Prize in Literature

Hesse, Philip of : see Philip of Hesse

Hesse (hĕ'sə, hĕs), Ger *Hessen* (hĕ'sun), name applied in English to several states and provinces in W Germany After the Second World War the larger part of these territories was formed into a single state (8,153 sq mi , pop 4,064 079) under American military occupation, with Wiesbaden its capital This new state includes the former Prussian province of Hesse-Nassau (1939 area 6,505 sq mi , 1939 pop 2,675,111), extending from Thuringia in the east to the Rhine in the west and containing the cities of Kassel, Fulda, Marburg, Frankfurt, and Wiesbaden, it includes also most of the former grand duchy (after 1918, state) of Hesse or Hesse-Darmstadt (1939 area 2,964 sq mi , 1939 pop 1,469 215) Hesse-Darmstadt consisted of two separate territories, divided by a strip of Prussia and by the Main river The northern portion, including the city of Giessen, is called Upper Hesse (Ger *Oberhessen*) The southern portion is traversed by the Rhine The part of Hesse-Darmstadt W of the Rhine is called Rhenish Hesse (Ger *Rhein-Hessen*) and contains the historic cities of Mainz and Worms, it was incorporated after 1945 with the newly created state of Rhineland-Palatinate, under French occupation The part E of the Rhine contains the former capital of the grand duchy, Darmstadt Nearly all of Hesse is a hilly, agricultural country, heavily forested in parts Along the beautiful Rhine valley some of the finest German wines are produced (e g , around Nierstein, Bingen, Kastel, Rüdesheim, and Johannisberg) Industries are concentrated in the Frankfurt area (notably chemicals), at Kassel (machinery and locomotives), and at Darmstadt There are iron mines along the Lahn river Among the numerous famous health resorts of Hesse are Wiesbaden, Bad Homburg, and Bad Nauheim Hesse has no unified history The cities of W Hesse—Frankfurt, Mainz and Worms—are among the oldest in Germany and have played very important parts in history Frankfurt and Worms, however, were free imperial cities under the Holy Roman Empire and Mainz was the capital of an archbishopric-electorate which comprised large territories of the present state The prince-abbots of Fulda also were independent territorial princes, as for the western part of Hesse-Nassau, its history until 1866 is that of Nassau Other parts of present Hesse long belonged to the Rhenish Palatinate Enfeoffed first to the dukes of Franconia, later to the counts of Thuringia, Hesse emerged in 1247 as a landgraviate immediately subject to the emperor under a branch of the house of Brabant Landgrave Philip the Magnanimous (see Philip of Hesse) was a leading figure in the German Reformation At his death (1567) his lands were divided among his four sons, with Kassel, Marburg, Rheinfels, and Darmstadt their respective capitals Upon the failure, shortly afterward, of the Marburg and Rheinfels lines, the whole territory was held by the two remaining lines—Hesse-Kassel and Hesse-Darmstadt Out of Hesse-Darmstadt the small landgraviate of Hesse-Homburg was taken in 1622 In the 18th cent the rulers of Hesse improved their finances by letting mercenaries for hire, many of the Hessians who fought for the British in the American Revolution settled in the United States after the war In 1803 the landgrave of Hesse-Kassel was raised to the rank of elector and Hesse-Kassel became henceforth known as Electoral Hesse (Ger *Kurhessen*) When Napoleon I created (1806) the Confederation of the Rhine, the landgraviate of Hesse-Darmstadt was raised to a grand duchy, but Electoral Hesse was absorbed (1807) into the kingdom of Westphalia, created by Napoleon for his brother, Jérôme Bonaparte The Congress of Vienna (1814–15) restored Electoral Hesse and awarded it and Hesse-Darmstadt substantial territorial gains In 1866 Electoral Hesse, the free city of Frankfurt, and Nassau, having all three sided with Austria in the Austro-Prussian War, were annexed to Prussia and were merged in the province of Hesse-Nassau, of which Kassel became the capital The former state of Waldeck was incorporated into Hesse-Nassau in 1929 The grand duchy of Hesse-Darmstadt also had sided against Prussia It ceded Hesse-Homburg (which it had just acquired through the extinction of that line), but it continued under its own dynasty until the German revolution of 1918 In 1871 Hesse-Darmstadt joined the newly founded German Empire Louis IV (reigned 1877–92) married Alice of Great Britain, daughter of Queen Victoria, through her the disease of hemophilia was transmitted to the imperial house of Russia The Battenberg (Mountbatten) family is a morganatic branch of the house of Hesse In the Second World War nearly all the major cities of Hesse suffered very severe damage, Kassel was probably the worst hit The chequered history of Hesse has brought about an equally chequered distribution of the Catholic and Protestant religions

Hesse-Darmstadt, Hesse-Homburg, Hesse-Kassel see Hesse

Hesselius, Gustavus (hĕsē'lēŭs), 1682–1755, American portrait painter, b Sweden, settled in Maryland He was America's earliest painter of portraits and the first recorded art commissioner Few of the many portraits attributed to him are authentic His *Last Supper* was placed in St Barnabas Church, Prince Georges co , Md , and his portrait of himself and his wife is owned by the Pennsylvania Historical Society In later life he was assisted by his son, **John Hesselius,** 1728–78, who painted the portraits of nearly a hundred Southern and Philadelphia families

Hesse-Nassau, Germany see Hesse and Nassau

Hessian fly, gall gnat, native to Europe, and one of the pests most destructive to wheat It also damages barley and rye First observed on Long Island during the American Revolution, it is thought to have been carried across the Atlantic on straw bedding used by the Hessian troops The harm is done by the larvae, which weaken the plants by removing sap from the stem The insects winter in the small brown pupa case which resembles a flaxseed In the spring the two-winged adults, about 1/10 in long, emerge to live a few days and lay eggs. There are usually two generations a year, but sometimes three to five Methods of control are late planting of seed and plowing under of infected wheat See bulletins of the U S Dept of Agriculture

Hestia (hĕ'stēu), in Greek mythology, virgin goddess of the hearth and domestic life and guardian of the state's welfare, daughter of Cronus and Rhea From an undying fire in her temple the fires of new temples were kindled She was one of the oldest and most honored deities of Greece and was often considered an Olympian The Romans identified her with Vesta

Heston and Isleworth (Iz'ŭlwŭrth), urban district (1931 pop 76,460, 1947 estimated pop 108,090), Middlesex, England It is a residential and market-gardening suburb of London A large airport is here, as is "Osterley Park," an 18th-century mansion belonging to the earl of Jersey.

Hesychius of Alexandria (hĕsĭk'ēŭs), 5th cent ?, Alexandrian grammarian Little is known of him except that he was compiler of an invaluable lexicon, a glossary of unusual words and expressions occurring in Greek writings The material is drawn from special languages (e g , medical), from older poets, and from various dialects and languages It gives virtually all the material now available on some vanished languages, e g , the Macedonian.

Hetch Hetchy Valley, in Yosemite National Park, central Calif , on the Tuolumne river O'Shaunessy Dam, completed in 1923, and enlarged in 1938, turned the valley into a lake c 9 mi long, which is used for supplying water to San Francisco by an aqueduct 156 mi long and for generating power

heterodyne see superheterodyne

Heth, eponym of the Hittites Gen 10 15, 23 3, 25 10, 49 32, 1 Chron 1 13

Hethlon [Heb ,=stronghold], town, on the northern boundary of the Promised Land Ezek 47 15, 48 1

Hettinger (hĕ'tĭnjur), city (pop 1,138), co. seat of Adams co , SW N Dak , near the S Dak line

1916 Bricks are made and farm products are processed.

Hevelius, Johannes (hĭvē'lēŭs, Ger yōhä'nŭs hävā'lēōs), 1611–87, astronomer, b Danzig From a finely equipped observatory in his house at Danzig, he made valuable observations of the moon's surface, discovered four comets, and collected data for his catalogue of 1,564 stars He recorded his pioneer study of lunar topography in *Selenographia* (1647), noted for excellent lunar maps He was one of the first to observe (1661) a transit of Mercury He improved astronomical instruments but resisted the introduction of telescopic sights His surname also appears as Hewel, Hewelcke, or Hŏwelcke

Hevesy, Georg von (gä'ôrk fŭn hĕ'vĕshē), 1885–, Hungarian physicist and chemist He received the 1943 Nobel Prize in Chemistry for his work on the use of isotopes as indicators in studying chemical processes He was codiscoverer of hafnium, element 72 in the periodic table Hevesy became an associate of the Institute of Theoretical Physics, Copenhagen, in 1920 and also of the Institute for Research in Organic Chemistry, Stockholm, in 1943

Hewes, Joseph, 1730–79, American Revolutionary patriot, signer of the Declaration of Independence, b Kingston, N J He moved to Edenton, N C, and became a wealthy merchant and shipper Hewes, as a member of the Continental Congress (1774–77), helped establish the American navy and obtained a commission for John Paul Jones in 1775

Hewitt, Abram Stevens (hū'ĭt), 1822–1903, American industrialist and political leader, b Haverstraw, N Y, grad Columbia, 1842 He became a lawyer, and friendship with a son and marriage to a daughter of Peter COOPER affected his career Together he and Edward Cooper became iron manufacturers with Peter Cooper's backing Hewitt promoted advanced methods of ironmaking and steelmaking and was interested in railroad development and mining He built up one of the great fortunes of his day He was elected as a Democratic Representative to Congress in 1874 and served continuously, excepting one term, until 1886 As chairman of the Democratic National Committee he directed Tilden's presidential campaign in 1876 In the Hayes administration he led a Democratic House majority in securing the repeal of a number of radical Reconstruction measures In 1886 he was elected mayor of New York on a Tammany ticket, defeating Henry GEORGE and Theodore Roosevelt As a reform mayor, he did not suit Tammany and was not renominated He became a trustee of Columbia Univ and was for many years connected with Cooper Union Selections of his writings, edited by Allan Nevins, appeared in 1937 See Allan Nevins, *Abram Hewitt, with Some Account of Peter Cooper* (1935)

Hewitt, Peter Cooper, 1861–1921, American scientist and inventor, b New York city, son of Abram S Hewitt and grandson of Peter Cooper He invented a mercury arc lamp and a rectifier and pilot electrode (or grid) In 1918 he built a helicopter with F B Crocker

Hewlett, Maurice (hū'lĭt), 1861–1923, English novelist, essayist, and poet He was a practicing lawyer from 1888 until 1900, when he turned wholly to literature His early interest in Italian art and history is reflected in his essays, *Earthwork out of Tuscany* (1895) and *The Road in Tuscany* (1904), and in the short stories, *Little Novels of Italy* (1899) *The Forest Lovers* (1898, based on Malory), *The Life and Death of Richard Yea-and-Nay* (1900), and *The Queen's Quair* (1904) are fine historical romances He also wrote novels of contemporary life, retold Icelandic sagas, and wrote a good deal of narrative poetry See his autobiographic essays, *Lore of Proserpine* (1914), and his letters (ed by Laurence Binyon, 1926), biographies by Milton Bronner (1910) and A B Sutherland (1938)

hexameter (hĕksă'mŭtur) [Gr ,=measure of six], in prosody, a line to be scanned in six feet (see VERSIFICATION). The most celebrated hexameter measure is dactylic, in dactylic hexameter each foot may have a long syllable followed by two shorts, except the last, which has only two syllables, the first being long; any of the first four feet may have two long syllables. The origin of the dactylic hexameter is not known, but it appears first, and in its purest form, in Homer. Classical epic thereafter, as in Vergil, used this meter, and it was extended to didactic and satirical literature, as in Lucretius and Martial In modern languages the only possible substitute for the quantitative differences that were essential to classical meters is the stress accent, hence we have a noticeably singsong effect when English dactylic hexameter is read aloud One of the few examples of its use in modern languages is in Longfellow's *Evangeline* "This is the forest primeval The murmuring pines and the hemlocks" A famous dactylic hexameter in English prose is in Isa 14 12 "How art thou fallen from heaven, O Lucifer, son of the morning!" The ALEXANDRINE is the only important modern hexameter

Hexapla (hĕk'sŭplŭ) [Gr.,=sixfold], polyglot version of the Old Testament made by ORIGEN It was mainly in six columns—a Hebrew text, probably the Masoretic, a Greek transliteration of it, and four Greek versions (Aquila's, Symmachus', Origen's Septuagint, Theodotion's). Some fragments survive.

Hexham (hĕk'sŭm), urban district (pop 8,888), Northumberland, England, on the Tyne and W of Newcastle It has some very old buildings and narrow streets and is an agricultural market St Wilfrid founded a monastery here in 674 The present Church of St Andrew was founded in the 13th cent The battlefield where Edward IV defeated the Lancastrians in 1464 is 2 mi southeast

Heyden, Jan van der (yän' vän dür hī'dŭn), 1637–1712, Dutch architectural and landscape painter He worked chiefly in Amsterdam His charming little pictures of towns, buildings, and public squares are painted with accuracy and detail and constitute an interesting document on the architecture of his day He is represented in many leading European collections The Metropolitan Museum has his *Huize Zwanenburg* Van der Heyden improved the construction of fire engines and was made head of the Amsterdam fire department

Heydrich, Reinhard (rīn'härt hī'drĭkh), 1904–42, German police official under the German National Socialist regime Heydrich had a hand in establishing (1933) the notorious Dachau concentration camp near Munich After his participation in the 1934 blood purges, he became deputy chief of the secret police under Himmler In 1941 Heydrich replaced Neurath as "protector" of Bohemia and Moravia His ruthless methods there, as well as in Norway, the Netherlands, and occupied France earned him a name as the Hangman of Europe In May, 1942, he was shot by Czech patriots Several days later the whole village of LIDICE was wiped out in retaliation

Heymans, Corneille (kôrnā'yŭ hī'mäns), 1892–, Belgian physiologist His contributions to the physiology of circulation include a study of the sensory mechanism through which arterial blood pressure is maintained under a reflex mechanism. He discovered the importance of the carotid sinus in regulating the respiratory center, for this he received the 1938 Nobel Prize in Physiology and Medicine He became professor at the Univ of Ghent in 1930

Heyse, Paul Johann Ludwig (poul' yō'hän lōōd'vĭkh hī'zu), 1830–1914, German realistic novelist and dramatist He early devoted himself to authorship and produced 60 plays, 120 *Novellen*, six novels, and many excellent translations, especially of Italian poets He was awarded the Schiller Prize in 1894 and was the first German author to win the Nobel Prize in Literature (1910) At one time his most famous story, *L'Arrabbiata* (1855, Eng tr, *The Fury*, 1855), was considered a masterpiece It is notable, as is most of his work, for its technical finish His better-known works include the novels *Children of the World* (1872, Eng tr, 1882) and *The Romance of the Canoness* (1881, Eng tr, 1887) as well as *The Maiden of Treppi* (1858, Eng tr, 1874) and *Andrea Delfin* (1859, Eng tr, 1864), which are *Novellen*

Heyward, DuBose (dubōz' hā'wurd), 1885–1940, American author, b Charleston, S C His first published work was poetry, *Carolina Chansons* (1922), written with Hervey Allen Heyward's story of Negro life on the Charleston water front, *Porgy* (1925), he dramatized in collaboration with his wife, Dorothy Heyward, and the drama in 1927 won a Pulitzer Prize *Porgy* was also successful as the opera *Porgy and Bess* (1935), with music by George Gershwin Heyward's other works include *Mamba's Daughters* (1929), a Negro story also dramatized successfully (1939), *Peter Ashley* (1932), a historical novel, and *Star Spangled Virgin* (1939), dealing with the Virgin Islands

Heyward, Thomas, 1746–1809, American Revolutionary patriot, signer of the Declaration of Independence, b near Charleston, S C He was a delegate to the Continental Congress (1775–78), but he resigned to become a judge in South Carolina Heyward fought at Charleston and was captured (1780) when the British took the city

Heywood, John (hä'wŏod), c 1497–c 1578, English dramatist, who married (c 1529) the niece of Sir Thomas More Heywood was the most famous writer of the INTERLUDE, a short comic dialogue Chief among the six preserved are *The Play of the Weather* (1533) and *The Four P's*, printed between 1543 and 1547 but written perhaps 15 years earlier See R W Bolwell, *The Life and Works of John Heywood* (1921), Rupert De la Bère, *John Heywood, Entertainer* (1937)

Heywood, Thomas, 1574?–1641, English playwright and actor, educated at Cambridge Of his many plays, some 20 are extant; his best is the domestic drama, *A Woman Killed with Kindness* (acted 1603, pub 1607). Others are *The Fair Maid of the West* (1631) and *The English Traveller* (1633) His best poems are in the plays, and his best prose is his *Apology for Actors* (1612). See study by A M Clark (1931).

Heywood, municipal borough (1931 pop. 25,968; 1947 estimated pop. 25,120), Lancashire, England, N of Manchester. The introduction of cotton manufacture stimulated its growth. Metal goods, boilers, and machinery are made.

Hezeki (hĕ'zĕkī) [Heb.,=God's strength], descendant of Benjamin. 1 Chron. 8 17

Hezekiah (hĕzŭkī'ŭ) [Heb.,=strong in God], d c.698 B C, king of Judah (c 727–c 698 B.C.), son and successor of Ahaz The principal events of his reign were two invasions of SENNACHERIB of Assyria (701 B C. and c 690 B C.). At the time of the first, Sennacherib completely routed the rebellious coalition and exacted a huge indemnity On the second occasion a plague in the Assyrian army saved Judah. Hezekiah's reign was marked by religious reforms and by the prophecy of ISAIAH and MICAH His son and successor was Manasseh. 2 Kings 18–20, 2 Chron 29–32, Isa 36–39, Prov 25 1 Ezekias Mat 1 10 The Hezekiah of 1 Chron 3 23 is a different person, otherwise unknown See HIZKIJAH.

Hezion (hē'zēŏn) [Heb ,=vision], Syrian king, the grandfather of BENHADAD 1 1 Kings 15 18

Hezir (hē'zĭr) [Heb.,=swine] **1** Chief priest in the time of David 1 Chron. 24 15 **2** Signer of the covenant Neh 10 20

Hezrai (hĕz'rāī) or **Hezro** (-rō), one of David's guard 2 Sam. 23 35, 1 Chron 11 37

Hezron (hĕz'-) **1** Ancestor of David Gen. 46 12, Num 26 21, Ruth 4 18 Esrom Mat 1 3; Luke 3 33 **2** Son of Reuben Gen 46 9, Num 26 6 For towns called Hezron, see HAZAR-ADDAR and KERIOTH 2

Hf, chemical symbol of the element HAFNIUM

Hg, chemical symbol of the element MERCURY

Hialeah (hīŭlā'ŭ), residential city (pop 3,958), SE Fla, part of Greater Miami, settled 1921, inc. 1925 It is the seat of the famous Hialeah Park race track

Hiawatha (hīŭwa'thu), city (pop 3,238), co seat of Brown co, NE Kansas, NW of Atchison, founded 1857, inc 1859 It is the trade center of an area producing apples, corn, and wheat In the town's cemetery is the Davis Memorial with 11 statues of John Davis and his wife

Hibben, John Grier, 1861–1933, American educator, b Peoria, Ill, grad Princeton (B A, 1882, Ph D, 1893) and studied at the Univ of Berlin and Princeton Theological Seminary He was minister of the Presbyterian Church at Chambersburg, Pa, from 1887 to 1891 He taught logic at Princeton (1891–1912), becoming professor in 1907 In 1912 he succeeded Woodrow Wilson as president of Princeton His textbooks *Inductive Logic* (1896) and *Deductive Logic* (1905) were widely used

Hibbing, village (pop 16,385), NE Minn, on the Mesabi iron range and NW of Duluth, laid out and inc 1893 A small lumber town when it was founded, it grew rapidly after its iron mines were opened The village was moved one mile south of its original site after 1917 to make way for the operation of the world's largest open-pit iron mine

hibernation (hī"burnā'shŭn) [Latin,=wintering], practice, among certain animals, of spending part of the cold season in a more or less dormant state The habit is thought to have arisen from the need of protection from cold during the season when food is scarce or as an alternative to migration and, like migration, probably has a close connection with the reproductive life of the animal Hibernation is possible only to such animals as are able to store enough food in their bodies to carry them over until food is again obtainable Animals do not grow during hibernation—all bodily activity is at low ebb Many kinds of animals hibernate, sometimes seeking a colder region, sometimes a warmer region than that of the active period Hibernation is common with amphibians and reptiles, including frogs, vipers, and rattlesnakes Many tortoises hibernate Some will die in captivity if denied the opportunity to do so Among mammals, bears, raccoons, chipmunks, some squirrels, skunks, and others hibernate The deepness of the sleep varies, some animals emerge on the warmer winter days Among insects, butterflies and ladybirds hibernate, and the larvae stage of many insects is passed in a state of hibernation Analogous to hibernation is aestivation, a dormant period of escape from heat when water is scarce It occurs chiefly among amphibians, reptiles, and fishes. Crocodiles, frogs, and climbing perches are examples of animals which aestivate

Hibernia, see IRELAND

hibiscus (hĭbĭs'kŭs, hī-), name given to widely distributed plants of the genus *Hibiscus*, many of which are also called rose mallow The various species range from annuals to small trees, some yielding fiber and food. Hibiscus flowers, usually large and showy, in colors from white to yellow and red, are particularly abundant in the tropics, the floral emblem of Hawaii is the hibiscus blossom The species most often referred to as rose mallow, or sometimes swamp or MARSH MALLOW, is *Hibiscus moscheutos*, a perennial of marshes of the E United States, which, easily cultivated, has given rise to many garden forms The ROSE OF SHARON is a *Hibiscus*

hiccup or **hiccough,** sharp sound associated with spasm of the larynx and diaphragm and produced when inhaled air strikes the closed glottis The spasm usually subsides after a few minutes, but it may continue, resulting in exhaustion. Common

remedies include holding the breath, pulling the tongue forward for a brief period, and using cold applications on the neck. Persistent hiccup may be controlled by the use of anesthetics

Hichborn, Philip (hĭch'bôrn), 1839–1910, American naval officer, b Charlestown, Mass Beginning as a shipwright apprentice, he rose finally to the rank of rear admiral He invented the Franklin life buoy and the Hichborn balanced turret (for warships)

Hichens, Robert Smythe (hĭ'chĭnz), 1864–, English novelist His extensive travels added color to his work The most popular of his sensational novels —*The Garden of Allah* (1905), *Bella Donna* (1909), and *The Paradine Case* (1933)—have been extremely successful as stage and screen plays

Hickam Field (hĭ'kum), U S Air Force base, on Oahu, T H , near Pearl Harbor Its construction was completed in 1935 In the Second World War, Hickam Field was bombed by the Japanese on the day Pearl Harbor was attacked (Dec 7, 1941)

Hickman, town (pop 2,268), co seat of Fulton co , extreme SW Ky , on bluffs above the Mississippi, settled 1819, inc 1834 It is a trade, shipping, and processing center for a farm area A sea wall (1934) protects the city

Hickok, Wild Bill, 1837–76, American frontier marshal, b Troy Grove, near Ottawa, Ill His real name was James Butler Hickok He went (1855) to Leavenworth, took part in the Kansas struggle, was a driver of the Butterfield stage line, and served as a Union scout in the Civil War After the war he became deputy U S marshal at Fort Riley (1866), marshal of Hays, Kansas (1869), and marshal of roaring Abilene (1871) He earned a reputation as a marksman in desperate encounters with outlaws and became a figure of border legend After a tour of the East with BUFFALO BILL (1872–73), Hickok went to Deadwood and was there murdered by Jack McCall See biographies by F J Wilstach (1926) and W E Connelley (1933)

Hickory, city (pop 13,487), W central N C , NW of Charlotte, in the Blue Ridge foothills, founded 1874, inc 1884 In 1931 Highland and West Hickory were annexed The city's products include hosiery, wagons, textiles, metal goods, and furniture It has had council-manager government since 1913 Lenoir Rhyne College (Lutheran, coeducational, 1891) is here

hickory, any plant of the genus *Carya*, called also *Hicoria*, deciduous nut-bearing trees of several species, native to the eastern half of North America and to Mexico. The PECAN, a species of hickory, is one of the outstanding nut-bearing trees of the United States Other hickories having edible nuts, often marketed, include the nutmeg hickory of the South (*Carya myristicaeformis*), the shagbark hickory of the E United States (*C ovata*), the shellbark hickory (*C lacinosa*), chiefly of the Midwest and South, and the mockernut, or white, hickory of the E United States (*C alba* or *C tomentosa*) The hickory nut of commerce is usually that of the shagbark (the names shagbark and shellbark are often used interchangeably), which has a relatively thin shell The Indians made a food of ground hickory nuts The abundant oil or fat of the nuts was a staple article in the diets of both Indians and early colonists The pignut (*C glabra*) has small nuts of variable quality, usually bitter, that have been used for fattening hogs Hickories have been so exploited for their valuable wood that they are in danger of extinction Several species have wood which is extremely hard, heavy, strong, tough, and elastic It is a preferred wood for golf clubs, wheel spokes, and tool handles and wherever strength and resilience are required Prairie schooners often carried hickory sticks on their westward treks to replace broken wagon parts and ox yokes The wood, used also for furniture, is prone to decay easily in moisture The more valuable wood-yielding species are the shagbark, shellbark, pignut, mockernut, and bitternut (*C cordiformis*) hickories

Hicks, Elias, 1748–1830, American preacher of the Society of FRIENDS, b Hempstead, L I , N Y He worked on his Long Island farm between his preaching tours, which established his reputation as one of the most able Quaker preachers of the times Hicks worked against slavery, publishing his *Observations on Slavery* in 1811 When a division in the Society of Friends occurred in 1827, he was the leader of the liberal separation party, to which the name Hicksite was unofficially attached, the conservative section was called Orthodox

Hicks, Thomas, 1823–90, American portrait painter, b Newtown, Pa He studied at the Pennsylvania Academy of the Fine Arts and abroad, where he lived for several years He settled in New York in 1849 and there became one of the outstanding portraitists of his day The New York Historical Society has some interesting portraits, others are of Henry Ward Beecher, Harriet Beecher Stowe, Edwin Booth as Iago, Hamilton Fish, Daniel W. Middleton (Capitol, Washington, D C), and the artist's wife (Metropolitan Mus)

Hicks, Thomas Holliday, 1798–1865, governor of Maryland at the beginning of the Civil War, b. Dorchester co , Md.' He was elected governor in the fall of 1857 as a Know-Nothing. After the states of the Lower South seceded in 1860–61, he refused to yield to the popular demand to call a special session of the Maryland legislature because he feared that the legislators would rush blindly into secession Subsequently, with Federal troops occupying the state and secessionists, including legislators, under arrest, Maryland elected a thoroughly Unionist legislature, which sent Hicks to the U S Senate, where he served from Dec , 1862, till his death See G L P Radcliffe, *Governor Thomas H Hicks of Maryland and the Civil War* (1901); W B Hesseltine, *Lincoln and the War Governors* (1948)

Hicksville, 1 Unincorporated suburban village (pop 6,835), on W Long Island, SE N Y , E of Mineola, founded 1648 Cement products are made **2** Village (pop 2,549), NW Ohio, near the Ind line W of Defiance, founded 1836 It is a shipping, processing, and small manufacturing center for a farm and dairy area

Hico (hī'kō), city (pop 1,242), central Texas, NW of Waco, in a poultry-farming region

Hidalgo (ēdhäl'gō), state (8,058 sq mi , 1946 estimated pop 860,175), central Mexico Crossed by the Sierra Madre Oriental, the state is extremely mountainous, but in the southern and western portions are plains and fertile valleys lying within the central plateau The southeastern and eastern valleys formed by the mountain chain are highly productive The climate varies from warm in the lower valleys to temperate on the plateau and cold in the mountains Although agricultural products include cereals, tobacco, cotton, beans, coffee, and sugar cane, the chief crop is maguey (see AGAVE), grown on the central plateau Some textiles are manufactured Mining is the main industry, and Hidalgo (particularly the area around PACHUCA, the capital) is one of the leading states in production of minerals—silver, gold, copper, mercury, lead, zinc, iron, antimony, manganese, and sulphur Hidalgo was occupied successively by ancient Indian cultures, the Toltec, with the capital at Tollán (now Tula), the Chichimec, and the Aztec Conquered in 1530 by the Spanish, the territory was part of the province and state of Mexico until in 1869 it became a separate state

Hidalgo del Parral (ēdhäl'gō dĕl pärāl') or **Parral,** city (pop 24,241), Chihuahua, N Mexico Near the border of Durango, on the Parral river, it is one of the large mining towns of Mexico and has a clean, healthful atmosphere Near-by mines produce several metals, notably silver, mined in the region since the 16th cent Here Francisco VILLA was assassinated

Hidalgo y Costilla, Miguel (mēgĕl' ēdhäl'gō ē kōstē'yä), 1753–1811, Mexican priest and revolutionist, a national hero One of the creole intellectuals who were deeply influenced by the French Revolution, Hidalgo ran afoul of the government by his attempts, as parish priest of Dolores, to improve the condition of the natives Under his direction the Indians set out olive groves and vineyards, built a porcelain factory, engaged in the silk industry, and commenced other forbidden projects He was also haled before the Inquisition to be tried for heresy, but the process against him was suspended When the Napoleonic invasion and the captivity of Ferdinand VII threw Spain into confusion, the result in Mexico, as in other Spanish American countries, was the birth of separatist revolutions among the native-born inhabitants Hidalgo was one of a group of creoles who met at Querétaro and planned a revolution When the plot was prematurely discovered, he took a bold step and openly adopted the cause of separation from Spain On Sept 16, 1810, he issued the *grito de Dolores* [cry of Dolores], from which the revolt against Spain is dated Hidalgo gathered an immense crowd of natives to his cause, by appropriating as his standard the banner of Our Lady of Guadalupe he injected a religious and superstitious element into the insurrection, but just as potent was the great cry of all for freedom and for free land Ignacio ALLENDE and other creole officers had taken part in the conspiracy and now brought some of the colonial militia into the revolutionary ranks, and some of the radical intellectual creoles also joined, but the Church was hostile, and the great body of landowning creoles, who desired Mexican independence, were frightened by the popular character of the revolt Success attended Hidalgo's ill-organized army Guanajuato, Guadalajara, and Valladolid fell to the revolutionists, and they set out for Mexico city They defeated a royalist force at Monte de las Cruces (Oct 30, 1810) but did not pursue their victory Instead, on Hidalgo's orders, the insurgents turned from the capital and, retiring northwestward, were routed at Aculco At Guadalajara, Hidalgo reorganized the army, which was sent forth only to be crushed by CALLEJA DEL REY, the royalist general, at Calderón Bridge (Jan 17, 1811) Hidalgo, Allende, and the other leaders made their way north, hoping to reach the United States, but were betrayed and captured Hidalgo, after being degraded by the Inquisition, was shot His schemes for social reform, exemplified in the emancipation of slaves, the cessation of the tribute tax, and the return of the land to the Indians, had come to nothing, but the war for Mexican independence continued, his mantle fell on MORELOS Y PAVÓN.

Hidari Jingoro (hēdä'rē jēn'gōrō), c 1594–1633, Japanese sculptor, architect and carpenter His wood carving was true architectural sculpture, among the finest of its kind, particularly his delicately executed friezes of birds and flowers

Hidatsa Indians (hēdät'sä), North American Indian tribe, also known as the Minitari and the Gros Ventre of the River They are of Siouan linguistic stock In the 18th cent they occupied several agricultural villages on the upper Missouri river in North Dakota and were in close alliance with the occupants of other villages, the ARIKARA INDIANS and the MANDAN INDIANS They then numbered some 2,100 The Hidatsa villages, with circular earth lodges, were enclosed by an earthen wall Among other Hidatsa traits, typical of the "village Indians" of the Plains area, were the cultivation of corn and an annual organized buffalo hunt They had a complex social organization and elaborate ceremonies, including the sun dance After the smallpox epidemic of 1837, they moved up the Missouri and established themselves close to the trading post of Fort Berthold Together with the Arikara and Mandan they reside on the Fort Berthold Reservation in North Dakota and number some 900 See A L Kroeber, *Ethnology of the Gros Ventre* (1908), R H Lowie, *Societies of the Crow, Hidatsa, and Mandan Indians* (1913)

Hiddai (hĭ'dāī, hĭdī'), one of David's guard 2 Sam 23 30 Hurai 1 Chron 11 32

Hiddekel (hĭ'dĕkĕl), Hebrew name for the TIGRIS

Hideyoshi, Toyotomi (tōyōtō'mē hēdā'shē), 1536?–1598, Japanese warrior and dictator He entered the service of NOBUNAGA as a common soldier and rose to become his leading general After Nobunaga's death he secured from the emperor the title *kwampaku* [civil dictator] He then completed the military unification of Japan by defeating the powerful clans of the Satsuma in the south and the Hojo in the north The remaining feudal barons acknowledged his supremacy In 1592 he set out to conquer China and succeeded in subduing Korea, but after his death the Japanese armies withdrew from the continent Best remembered as a military genius, he nevertheless found time between campaigns to institute a land survey, revise the land tax, encourage foreign trade, issue a code of maritime law, deprive the peasants of the right to bear arms, and decree the freezing of the existing class structure by forbidding any person to change his occupation He initiated the policy of legislation against change He also erected monuments lavishly, including a fortified castle at Osaka, several gorgeous palaces, and a great statue of Buddha He at first received Christian missionaries cordially Then, believing them a political danger, he proscribed their activities and executed a number of foreign priests and Japanese converts He was the only man of humble birth to attain high position in Japan until modern times See G B Sansom, *Japan a Short Cultural History* (rev ed , 1943)

Hiel (hī'ĕl), rebuilder of Jericho 1 Kings 16 34

Hierapolis (hīrăp'ulĭs) [Gr , =holy city], ancient city of Phrygia W Asia Minor, on a plateau 500 ft above the Lycus valley, not far from Laodicea, and 120 mi NE of Smyrna Anciently devoted to the worship of the Greek goddess Leto, it became an early seat of Christianity (Colossians 4 13) The Romans greatly enlarged and improved the city, building a great theater and numerous baths about the hot springs for which the site was famous. Near by was a deep chasm called the Plutonium, which the ancients thought led to the nether regions The fissure no longer exists it was filled in, possibly as a Christian protest against pagan beliefs Apart from the extensive ruins of the Roman period, the most striking feature of the locality is to be found in vast falls of crystalline formation, fed by the hot springs Of exceptional beauty in their dazzling whiteness, these falls of crystal incrustations exceed Niagara in height and width

hierarchy · see MINISTRY

hieratic · see HIEROGLYPHIC

Hiero I (hī'rō), 5th cent B C , Greek Sicilian ruler, tyrant of Syracuse (478–467 B C) He succeeded his brother Gelon A noted patron of literature, Hiero had Simonides, Pindar, and Aeschylus at his court, some of them honored him in verse for his victorious contests in the Greek games The greatest glory of his career was his part in the defeat of the Etruscans at sea at Cumae in 474 B C As a ruler Hiero was a despot The name also appears as Hieron I

Hiero II, d c 215 B C , Greek Sicilian ruler, tyrant of Syracuse (c 270–c 215 B C) He showed such ability and distinction after PYRRHUS had left Sicily (275 B C) that he was made commander in chief of the Syracusans and was chosen (c 270) tyrant or king Against the Mamertines, who had taken possession of Messana, Hiero's forces and those of the Carthaginians laid siege (265), but when the Romans under Appius Claudius intervened successfully, the Syracusans withdrew, defeated Hiero then entered into a treaty with the Romans, which recognized his dominion over SE Sicily and the east coast to Tauromenium (Taormina) As an ally of Rome, Syracuse furnished money and fighting forces against Carthage in the

Punic Wars Hiero faithfully abided by the terms of the peace As a ruler he was just, prudent, and generous and was a patron of the arts ARCHIMEDES, his relative, had his encouragement in the construction of great engines of warfare The name also appears as Hieron II

hieroglyphic (hī″rūglĭf′ĭk, hī″urū-) [Gr , = priestly carving], type of WRITING used in ancient EGYPT Similar pictographic styles of Crete, Asia Minor, and Central America and Mexico are also called hieroglyphics (see MINOAN CIVILIZATION, HITTITES, MAYA, AZTEC) Interpretation of Egyptian hieroglyphics, begun by CHAMPOLLION, is virtually complete, the other hieroglyphics are only very imperfectly understood The distinguishing feature of hieroglyphics is that they are conventionalized pictures used chiefly to represent meanings that seem arbitrary and are seldom obvious Egyptian hieroglyphics appear in several stages the I dynasty, when they were already perfected, the Old Kingdom, the Middle Kingdom, when they were beginning to go out of use, the New Empire, when they were no longer well understood by the scribes, and the late hieroglyphics (from 500 B C), when the use of them was a *tour de force* There were in general three uses to which a given hieroglyphic might be put (though very few were used for all three purposes) as an ideogram, e g , a sign resembling a man meant "man" or a closely connected idea (thus a man carrying something meant "carrying"), as a phonogram, e g , an owl meant the sound *m*, because the word for owl had *m* for its principal consonant, or as a determinative, e g , a sitting man placed with a collection of signs meant that the signs taken together were a man's name The phonograms were, of course, the controlling factor in the progress of hieroglyphic writing, because of the fundamental convenience of an ALPHABET In the Middle Kingdom a developed cursive was extensively used, this was the hieratic In the last centuries B C a more developed style, the demotic, supplanted the hieratic Where the origin of most hieratic characters could be plainly seen in the hieroglyphics, the demotics were too conventionalized to bear any resemblance to the hieroglyphics from which they had sprung

Hieron see HIERO

Hieronymus see JEROME, SAINT

Higden, Ranulf, d c 1364, English chronicler, a monk of St Werburg's Abbey, Chester He wrote the *Polychronicon*, a universal history, chiefly interesting for its display of the geographical and historical knowledge of its time It was translated into English by John of TREVISA in 1387 and again by an anonymous translator in the early 15th cent Caxton printed (1482) Trevisa's translation plus several continuations to bring it to 1460 See J E Wells, *A Manual of the Writings on Middle English* (latest ed)

Higgaion (hĭgā′yun), in Ps 9 16, musical direction of unknown significance

Higgins, Eugene, 1874–, American painter and etcher, b Kansas City, Mo , studied under GÉRÔME in Paris His somber and moving pictures, often depicting the life of the poor, have won wide recognition Both as a painter and as an etcher he is represented in galleries throughout the country

Higginson, Francis, 1586–1630, colonial clergyman of Massachusetts, b Leicestershire, England, M A Cambridge, 1613 Admitted (1614) to the ministry of the Church of England, he later became a nonconformist and in 1629 sailed with a group of settlers for Salem, Mass His journal of the first months at Salem was sent back to England and printed with the title *New-England's Plantation* (1630) Formally elected minister of the settlement, he drew up a confession of faith and a covenant which were adopted, but soon died as a result of hardships suffered the first winter See biography by T W Higginson (1891), which contains his complete journal

Higginson, Henry Lee, 1834–1919, American philanthropist He founded (1881), and for many years supported, the Boston Symphony Orchestra He also gave donations to schools and colleges See Bliss Perry, ed , *Life and Letters of Henry Lee Higginson* (1921)

Higginson, Thomas Wentworth, 1823–1911, American author, soldier, clergyman, and reformer, b Cambridge, Mass , grad Harvard, 1841, and Harvard Divinity School, 1847 He was pastor of Unitarian churches in Worcester and other Massachusetts cities Higginson was an ardent abolitionist and close friend of John Brown and in the Civil War became colonel of the first regiment of Negroes, the 1st South Carolina Volunteers Because of a war wound he retired in 1864 to a life of writing and of furthering many liberal reforms, especially the woman-suffrage movement His best work was done for magazines (see his *Atlantic Essays*, 1871) and as a popular writer of history His three full-length biographies, of Margaret Fuller (1884), H W Longfellow (1902), and J G Whittier (1902), are still useful, since he wrote from personal knowledge of his subjects The shorter sketches in *Cheerful Yesterdays* (1898) and *Contemporaries* (1899) are lively reminiscences of his important political and literary friends whom he outlived When Emily Dickinson sent him her strange poems, he did not, perhaps, realize the measure of her genius, but he encouraged her and in 1890–91 edited, with M L Todd, her *Poems* See his *Part of a Man's Life* (1905) and *Letters and Journals, 1846–1906* (1921), biography by his wife, Mary Thatcher Higginson (1914)

Higginsville, city (pop 3,533), W Mo , E of Kansas City, laid out 1869 Shoes are made here In the region are produced coal and farm products, especially corn

highboy see CHEST

High Bridge, borough (pop 1,781), NW N J , E of Phillipsburg, settled before 1750, inc 1898 It was an early ironworking center

high-bush cranberry or **cranberry tree,** tall VIBURNUM (*Viburnum opulus*) native to the Old World and to North America (sometimes separated into two species, *Viburnum opulus* of the Old World and *V trilobum* of the New World) It has flat-topped clusters of small white flowers edged with larger sterile flowers The red berrylike fruits are persistent into the winter, they are acid and have been used as a substitute for true cranberries The bark has been used medicinally The snowball or guelder-rose is a cultivated form of the high-bush cranberry in which the flower clusters are rounded and composed entirely of the large sterile flowers (A cultivated form of an Oriental species is the Japanese snowball) There are also dwarf and variegated-leaved varieties

High Church see ENGLAND, CHURCH OF

high explosives see EXPLOSIVE

Highgate, northern residential suburb of London, England, supposedly named from a 14th-century tollgate erected at the entrance of a road into the estate of a bishop, when the district was a forest and hunting ground The house where Francis Bacon died is in Highgate The Whittington Stone at the foot of Highgate Hill is supposed to have been Dick Whittington's resting place when he heard the Bow Bells of London recalling him

Highgate, town (pop 1,647), extreme NW Vt , on Lake Champlain, a port of entry at the Canadian line The village Highgate Springs is a resort J G Saxe was born here

Highland, 1 City (pop 3,820), SW Ill , ENE of St Louis, in a dairy and farm area founded 1831 by Swiss settlers, inc 1863 Its manufactures include pipe organs, trucks, and shoes **2** Residential town (pop 2,723), Lake co , NW Ind , SE of Chicago, settled 1850, inc 1910

Highland Falls, resort village (pop 3,711), SE N Y , on the west bank of the Hudson and S of West Point, in a farm area, settled 1800, inc 1906

Highland fling, national dance of Highland Scotland It is danced to the music of the STRATHSPEY by four or more persons and has its "fling" in a kicking gesture

Highland Park. 1 City (pop 14,476), NE Ill , a suburb of Chicago on Lake Michigan, settled 1834, inc 1867 Ravinia Park is a Chicago summer music center Fort Sheridan, an army post, is near. **2** City (pop 50,810), SE Mich , within the confines of Detroit, laid out 1818, inc as a village 1889, as a city 1918 It grew mainly after Henry Ford set up a factory here (1909) Since 1920 automobile making has given way to other industries, notably steel-tube making **3** Borough (pop 9,002), E N J , on the Raritan opposite New Brunswick, inc 1905 **4** Town (pop 10,228), N Texas, adjoining Dallas, settled 1907, inc 1913 It is a residential suburb

Highlands, borough (pop 2,076), E N J , a coast resort near Sandy Hook, inc 1900

Highlands, mountainous country in the northern extremity of Great Britain It includes the Scottish counties of Sutherland, Ross and Cromarty, Inverness, and Argyll and parts of Nairn, Moray, Banff, Aberdeen, Perth, Stirling, and Dumbarton The Highland Line is usually said to run roughly from Moray Firth in a great east-bulging curve to Dumbarton, and Highlands and Lowlands are considered to be separated partly by the Grampians The Hebrides are included in the Highlands in common parlance Until its decline in the 19th cent the Scottish Gaelic language was the chief fact of Highland culture, which resisted innovations from England and the Lowlands with singular tenacity The distinctive superficial marks of the Highlands, the dress and the clan system, now in desuetude except as sentimental archaisms, were products of the late Middle Ages The dress, including the kilt, tartan, sporran, tam, and dirk, was outlawed by the British government in the 18th cent , when it became alarmed at the continual interest in the Jacobite cause (see JACOBITES) which animated the Highlands—the Highlands had furnished the backbone of the risings of 1715 and 1745 Not all the Highlands rose to support the Stuarts, but enough did to make the lost cause the inspiration for a great revival in GAELIC LITERATURE and Highland feeling The British government set out systematically to crush the families that had led in the revolts These were the so-called "broken clans" So successful was the suppression that one of the greatest clans of Scotland, Clan Chattan, simply disappeared as a unit In the 19th cent , as the language and Highland feeling declined, the government allowed the revival of the dress and the cultivation of bagpipes, which had long been the national musical instrument of Scotland Before the Jacobite uprisings that so sharply changed Highland culture, the history of the region is not well known Its rather vague political importance sank when MALCOLM III turned the monarchy definitely away from the Highlands, and except when raids of Highland marauders in the Low ands made punitive expeditions necessary the Scottish government left the Highland lairds to run their own affairs Then and now the barrenness of the country made for poverty and simple living In the remote fastnesses old customs and superstitions survive more than anywhere else in the British Isles, and many of the Highlanders have remained Roman Catholic to the present despite the vigor of the Scottish Reformation This persistence of old ways and the ruggedly beautiful scenery have made the Highlands prominent in English and Scottish romantic literature See W F Skene, *Celtic Scotland* (3 vols , 2d ed , 1886–90) and *The Highlanders of Scotland* (2d ed , 1902), T B Johnston and J A Robertson, *Historical Geography of the Clans of Scotland* (1872), A R H Moncrieff, *The Highlands and Islands of Scotland* (1926)

Highmore, city (pop 1,136), co seat of Hyde co , central S Dak., ENE of Pierre It is a farm trade center, an agricultural experiment station is near by

High Point, city (pop 38,495), central N C , SW of Greensboro, in the piedmont, settled before 1750, laid out 1853, inc 1859 It has city-manager government and is an industrial center, noted for its furniture and hosiery mills It is the seat of High Point College (coeducational)

High Point State Park, extreme NW N J , NW of Sussex, c 10,900 acres of forest land on Kittatinny Mt Included is High Point (c 1,801 ft), highest point in New Jersey, from which three states can be seen The park offers summer and winter sports

High River, town (pop 1,674), S Alta , on the Highwood river and S of Calgary The Turner Valley oil fields are 18 mi away

Highspire, borough (pop 2,371), SE Pa , near Harrisburg, settled 1775, laid out 1814, inc 1867

High Springs, city (pop 2,010), N central Fla , NW of Gainesville, founded c 1885 It is a trade and shipping center for a farm area and has railroad shops

Hightstown, borough (pop 3,486), central N J , between Trenton and Freehold, settled 1721, inc 1853 There is a rug factory, and the Peddie School for boys is here Near by is the site of Jersey Homesteads, a government-aided experiment in cooperative farming and manufacturing, launched in 1933 but sold in 1940 and later named Roosevelt

highway. see ROAD

Highwood, city (pop 3,707), NE Ill , on Lake Michigan NNW of Evanston, inc 1888

High Wycombe (wĭ′kum), officially **Chepping Wycombe,** municipal borough (pop 27,988), Buckinghamshire, England, WNW of London There are traces of ancient British occupation and remains of a Roman station near by Furniture, shoes, and farm machinery are made here The parish church dates partly from the 13th cent

Hilarion, Saint (hĭlâ′rĭun), d c 371, Syrian hermit He lived with St Anthony of Egypt for some time, but returned to the hermit's life in Palestine By 360 he had attracted so many disciples that for seclusion he left his country St Jerome wrote his life Feast Oct 21

Hilary of Arles, Saint (hĭ′lurē, arl), d 449, Gallo-Roman churchman Forsaking riches, he entered the monastery at Lérins He was made archbishop of Arles (c 429) against his wishes As head of the church in Gaul, Hilary hastily deposed two bishops They thereupon appealed to Pope St LEO I, who sheared the see of Arles of its metropolitan powers, enouncing the sovereignty of Rome Later, Leo referred to him as "Hilary of sacred memory " Feast May 5

Hilary of Poitiers, Saint (hĭ′lurē, poitĕrz′, poi′tyā), c 315–367, Doctor of the Church, bishop of Poitiers from 353 A convert from paganism, he distinguished himself as a supporter of Athanasius against ARIANISM For his zeal he was exiled (c 356) After his return (360) he aided LIBERIUS in the attempt to purge the West of Arianism He wrote many theological works, of which the chief, including the historically valuable *De synodis* and the *De trinitate*, were directed against the Arians He also composed allegorical interpretations of the Bible and sacred poetry His hymns were important in early development of the form Feast Jan 14 and, in England, Jan 13 (Hilarymas) Hilary term, in English courts and schools, begins Jan 11 See *A Select Library of Nicene and Post-Nicene Fathers*, W N Myers, ed and tr , *The Hymns of Saint Hilary of Poitiers* (1928)

Hilda, Saint, 614–80, English abbess of Whitby, a princess of Northumbria About 647 she set out to go to a convent in France, but was recalled by St Aidan to found a convent on the banks of the Wear. In 657 St Hilda founded the abbey later called Whitby Her strong personality made her the greatest figure in the Church in N England, and the Synod of Whitby (664) met in her abbey to

settle the differences in ecclesiastical use between the English and the Celts Bede is the source for her life Feast Nov 17

Hildebert of Lavardin (hĭl'dûburt, lä'vurdĭn; lävärdē'), c.1056–1133, French churchman, bishop of Le Mans (1096–1125) and archbishop of Tours (1125–33) He was taken prisoner when Le Mans was captured (1099) by William II and was carried away to England, where he spent a year When he was at Tours he came into conflict with Louis VI of France over the king's supposed right to present the deanery of Tours Hildebert attended the First Lateran Council He completed the cathedral at Le Mans He was one of the most prolific writers of his period, especially noteworthy are his Latin hymns and poems He wrote several elegies, a mythological poem on the destruction of Troy, lives of St Hugh of Cluny and St Mary of Egypt, and miscellaneous works, such as an interpretation of the Mass There is no critical edition

Hildebrand see GREGORY VII, SAINT

Hildebrand, Adolf von (ä'dôlf fŭn hĭl'dûbränt), 1847–1921, German sculptor and author He studied in Munich and in Italy, where he spent 18 years He is best known for his public monuments and fountains in Bremen, Jena, Munich, and Strasbourg and for his realistic portrait busts, e g , those of Clara Schumann and Arnold Boecklin Hildebrand expressed his theories on art in *The Problem of Form* (Eng tr , 1907)

Hildebrand, Lay of (hĭl'dubränd, -brant), fragment of an epic in mixed Low and High German, composed c 800 Discovered in a monastery, on the back of another manuscript, it tells how Hildebrand, armorer of Dietrich of Bern, faces in battle his son Hadubrand, who does not know him A continuation appeared in the 13th cent

Hildebrandt, Eduard (ä'dōōart hĭl'dubrant), 1818–68, German marine and landscape painter He traveled extensively to obtain subjects for his work and in 1862–64 undertook a trip around the world for his patron, Frederick Wilham IV, returning with some 400 water colors Characteristic are his *Brazilian Primeval Forest* and *The Bay of Naples* (Metropolitan Mus)

Hildegard of Bingen, Saint (hĭl'dugard, bĭng'ûn), 1098–1179, German Benedictine nun She lived in a community near Bingen, later (before 1150) she led a group in founding a new convent on the Rupertsberg, W of the Rhine When she was in her 40s St Hildegard revealed that from childhood she had had visions and admonitions, and at her superior's command she had many of them set down. These spread her reputation, and high and low came to seek her advice on every subject Her skill in medicine and her success in prediction were especially esteemed She traveled on missions all over Germany Besides *Scivia*, the account of visions, her writings treat various subjects, as medicine, the natural world, dogmatic theology, and the Christian life Many of her letters are extant, her correspondents included four popes, two emperors, and St Bernard of Clairvaux See L Menzies, *Mirrors of the Holy* (1928), H O Taylor, *The Mediaeval Mind* (1925)

Hildesheim (hĭl'dus-hĭm), city (1939 pop 72,101, 1946 pop 59,909) Hanover, central Germany, SE of Hanover city Before its virtual destruction in the Second World War it was of great historic and cultural interest It is the seat of a bishopric founded in 815 by Emperor Louis I and owed much to St Berward (11th cent) The bishops of Hildesheim later became territorial princes of the Holy Roman Empire Secularized in 1803, the bishopric passed to Prussia, then to Westphalia, and (1815) to Hanover Among the monuments destroyed or heavily damaged in the Second World War are the Romanesque cathedral (11th cent) and the celebrated Knochenhaueramtshaus [butchers' guildhouse], built in 1529, a high-gabled structure with intricate carvings on its timbered façade The Romanesque Church of St Michael (11th cent), only partly damaged, is to be rebuilt, as are many others of the medieval and Renaissance buildings Hildesheim has a diversified light industry

Hildreth, Richard, 1807–65, American historian, b Deerfield, Mass , grad Harvard, 1826 From 1832 to 1838 he was the leading editorial writer of the Boston *Daily Atlas* In addition to writing controversial pamphlets and contributing to magazines, Hildreth wrote *Banks, Banking, and Paper Currencies* (1840), *Despotism in America* (1840), a discussion of slavery, a novel, *The Slave, or, Memoirs of Archy Moore* (1836), which went through many editions in England, France, and America; and two books written in an inductive, scientific manner, *Theory of Morals* (1844) and *Theory of Politics* (1853) His chief work, however, was *The History of the United States* (6 vols , 1849–52), an accurate though unimspired treatment of American history to the year 1821 from a Federalist point of view. See biography by D. E Emerson (1946); M. M Pingel, *An American Utilitarian* (1948).

Hilen (hī'–), the same as HOLON 1.

Hilgard, Eugene Woldemar (hĭl'gärd), 1833–1916, American agricultural chemist and geologist, Ph D Univ. of Heidelberg, 1853 Born in Germany, he was brought to the United States in 1836. He was professor (1874–1904) of agricultural chemistry at the Univ of California and director (1888–1904) of the California agricultural experiment stations and was an authority on soil chemistry and on the reclamation of alkali lands His writings include *Soils* (1906)

Hilkiah (–kī'ù) [Heb ,=God is my portion] **1** High priest under King Josiah and a leader in his revival of religion 2 Kings 22, 23, 2 Chron 34, 35 **2** Father of Jeremiah Jer 1 1 **3** Father of ELIAKIM **2 4** Merarite Levites 1 Chron 6 45, 26 11 **5** Father of GEMARIAH **2 6** Companion of Ezra Neh 8 4 **7** Levite who returned with Zerubbabel Neh 12 7,21

Hill, Ambrose Powell, 1825–65, Confederate general, b Culpeper, Va , grad West Point, 1847 He served briefly in the Mexican War and had a varied army career until he resigned in March, 1861, to fight for the Confederacy After fighting at Williamsburg in the PENINSULAR CAMPAIGN, Hill was promoted major general (May, 1862) His division was heavily engaged in the SEVEN DAYS BATTLES He fought under T J (Stonewall) Jackson from July, 1862, until Jackson's death Hill's "light division," noted for its fast marching, saved the day for Stonewall at Cedar Mt , just before the second battle of BULL RUN (Aug , 1862), and by Hill's opportune return to Lee in the ANTIETAM CAMPAIGN, Gen Ambrose Burnside's attack was repulsed When Jackson was mortally wounded in the battle of CHANCELLORSVILLE, he turned his command over to Hill, but Hill himself was soon wounded, and J E B Stuart took over In reorganizing the Army of Northern Virginia after Jackson's death, Lee gave the new 3d Corps to Hill, who, though impetuous, was an excellent fighter Hill was thereupon promoted lieutenant general (May, 1863) His corps brought on the fighting in the GETTYSBURG CAMPAIGN, and Hill directed the battle on July 1, 1863 He was at the head of his corps through most of the WILDERNESS CAMPAIGN (1864) and in the defense of PETERSBURG (1864–65) In the assault that finally broke Lee's lines at Petersburg (April 2, 1865), Hill, with characteristic impulsiveness, went out to rally his troops and was killed See D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Hill, Archibald Vivian, 1886–, English physiologist He became research professor of the Royal Society in 1926 and served as the society's secretary from 1935 to 1945 For his work on the thermodynamics of muscular activity he shared with Otto Meyerhof the 1922 Nobel Prize in Physiology and Medicine He wrote *Muscular Activity* (1925) and *Living Machinery* (1927)

Hill, Benjamin Harvey, 1823–82, American statesman, b Jasper co , Ga , grad Univ of Georgia, 1843 A highly successful lawyer and Whig politician, he supported the Whig-Democratic alliance which carried Georgia in favor of the Compromise of 1850 When the Whig party was dissolved he joined the Know-Nothing movement Hill opposed secession but accepted his state's decision and in the Civil War was a loyal supporter of President Davis in the Confederate Senate In Congress after 1875, as a leading orator for the Southern cause, he rewon the popularity he lost in the Reconstruction days for his submission to radical Republican policies He was elected U S Senator in 1877 See H J Pearce, Jr , *Benjamin H Hill Secession and Reconstruction* (1928)

Hill, Daniel Harvey, 1821–89, Confederate general, b York District, S C , grad West Point, 1842 He won the brevets of major and captain in the Mexican War Hill resigned from the army in 1849, was professor of mathematics at Washington College (now Washington and Lee Univ) from 1849 to 1854 and at Davidson College from 1854 to 1859, and was superintendent of the North Carolina Military Institute from 1859 to 1861 At the beginning of the Civil War he commanded the 1st North Carolina Regiment but soon rose to a Confederate major generalcy His division rendered distinguished service at Fair Oaks in the PENINSULAR CAMPAIGN, in the SEVEN DAYS BATTLES, and at South Mt in the ANTIETAM CAMPAIGN (1862) In 1863 Hill commanded the Dist of North Carolina, defended Richmond when Lee was conducting the Gettysburg campaign, and fought under Braxton BRAGG at Chickamauga in the CHATTANOOGA CAMPAIGN With others of Bragg's subordinates he petitioned President Davis to remove that general from command, but Davis, favoring Bragg, removed Hill himself He then had no active command until the last days of the war, when he fought under J E Johnston against Sherman at Bentonville, N C After the war he settled in Charlotte, N C , where he established a monthly magazine and a weekly paper As president of the Univ of Arkansas (1877–84) and of the Middle Georgia Military and Agricultural College (1886–89), he emphasized industrial and agricultural training for better education in the South See D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44).

Hill, David Bennett, 1843–1910, American politician, b Montour Falls, N.Y He entered law and politics, becoming the upstate boss of the Democratic party in New York. He served as state legislator and, as lieutenant governor, succeeded to the governorship in 1885 upon Grover Cleveland's resignation. Then he was elected governor (1885), and reelected (1888) As U S Senator (1892–97), he fought the free-silver wing in his own party

Hill, James Jerome, 1838–1916, American railroad builder, b Ontario, Canada He went to St Paul, Minn , in 1856, became a clerk for a line of Mississippi steamboats, and was later a forwarding agent for the steamboat line and for the St Paul and Pacific RR He envisioned the expansion of farming, trade, and industry in the farther Northwest (from Minnesota to the Rockies) and allied himself with capitalists to promote that development He was a partner of Norman Kittson in a steamboat line between Fort Abercrombie on the Dakota frontier and Fort Garry (now Winnipeg) in Canada With Kittson, Donald Alexander Smith (later Baron STRATHCONA AND MOUNT ROYAL), and Sir George Stephen, he bought (1878) the St Paul and Pacific It was completed to the Canadian border Then Hill undertook what was probably the greatest feat of railroad building in the United States He carried the line westward, reaching Great Falls, Mont (which he had helped to found), in 1887 and completing it across the mountains to the Pacific at Seattle in 1893, this he accomplished despite the appalling difficulties of the terrain and the lack of the Federal assistance showered so generously on the earlier transcontinental roads Furthermore, the construction involved no financial scandals He pioneered in having "farm demonstration" trains and by his eloquent publicity persuaded thousands of farmers to settle in Montana, where unfortunately many of them were later ruined by drought Hill in 1890 consolidated his rail properties into the Great Northern Railway Company His great rival, the Northern Pacific, got into difficulties in the Panic of 1893, and he was the leader in its reorganization When the courts prevented a union of the two roads, Hill's financial ally, J Pierpont Morgan, took over the Northern Pacific, and a community of interests was maintained In 1901 the two acted jointly to gain entrance to Chicago by purchasing the Chicago, Burlington & Quincy (commonly called the Burlington) Morgan and Hill thus forestalled Hill's rival, E H Harriman, who also wanted the Burlington A violent financial struggle ensued Hill and Morgan set up the Northern Securities Company as a holding company for the Great Northern and Northern Pacific systems, but this was dissolved by order of the U S Supreme Court as a violation of the Sherman Anti-Trust Act Hill was, however, victorious in his fight with Harriman He retired from the presidency of the Great Northern in 1907, but remained on the board until 1912 Hill also assisted in the construction of the Canadian Pacific He built and endowed the Hill Reference Library in St Paul He wrote *Highways of Progress* (1910) See biography by J G Pyle (1916)

Hill, Octavia, 1838–1912, English social reformer, a pioneer in housing reform Her school for working women increased her interest in their living conditions In 1864, with the financial aid of Ruskin, she began her work of buying and renovating tenements In her housing projects and other social welfare interests, Miss Hill had the invaluable assistance of her sister, Miranda Hill (1836–1910) See *Life of Octavia Hill, as Told in Her Letters* (ed by C E Maurice, 1913), biography by Enid Moberly Bell (1942)

Hill, Sir Rowland, 1795–1879, English educator, inventor, and postal reformer He introduced the system of self-government in his school at Hazelwood in Birmingham After his retirement from teaching (1833) Hill invented a rotary printing press and evolved a system of penny postage which was finally adopted in 1839 From 1854 to his retirement from public office in 1864 he was secretary to the Post Office He was knighted in 1860 See biographies by G Birkbeck Hill (1880) and E C Smyth (1907)

Hillah or **Hilla** (both hĭl'lu), town (pop c 30,000), Iraq, on a branch of the Euphrates river It is largely built of material taken from the ruins of near-by ancient Babylon. Products include dates and textiles

Hillburn, village (pop 1,161), SE N Y , in the Ramapos at the N J line, inc 1893

Hill City, city (pop 1,115), co seat of Graham co , NW Kansas, on the South Fork of the Solomon, in a wheat area, laid out 1880, inc 1888

Hillebrand, William Francis (hĭl'lubränd"), 1853–1925, American chemist, b Honolulu, studied in Germany A pioneer in mineral analysis, he was connected with the U S Geological Survey (1880–1908) and from 1908 was chief chemist of the Bureau of Standards His works include *Some Principles and Methods of Rock Analysis* (1900) and *The Analysis of Silicate and Carbonate Rocks* (1907).

Hillel (hĭl'ĕl), father of ABDON 1.

Hillel, fl 30 B C –A D 10, celebrated Jewish scholar, ancestor of the patriarchs who led the Jews until A D. c 400, b. Babylon He was president of the Sanhedrin and laid the foundation of a systematic legal interpretation of the Midrash. He was the great spiritual and ethical leader of his generation.

His most famous ethical maxim is, "Do not unto others that which is hateful unto thee" Many others of his sayings approximate the teachings of Christ His chief opponent was SHAMMAI See Emil Schürer, *The Jewish People in the Time of Christ* (1924).

Hilliard, Henry Washington (hĭl'yŭrd), 1808–92, U S Representative from Alabama, b Fayetteville, N C , grad South Carolina College (now the Univ of South Carolina), 1826 Admitted to the Georgia bar in 1829, he was professor of English literature (1831–34) at the Univ of Alabama and then began to practice law at Montgomery, Ala He was a state representative (1836–38) and U S chargé d'affaires (1842–44) in Belgium before serving (1845–51) in Congress Hilliard, an able Whig speaker, was the chief opponent of secession in Alabama and engaged in many debates with the "fire-eater" William L YANCEY At the state convention of 1851 he was responsible for the declaration that secession was unconstitutional, but in 1861 he led a losing fight against adoption of Alabama's ordinance of secession Lincoln's call for volunteers was an act which he also considered unconstitutional, and he thereupon joined the Confederate forces, but served only briefly in the Civil War He was U S minister to Brazil from 1877 to 1881 He wrote *Politics and Pen Pictures at Home and Abroad* (1892)

Hilliard, Nicholas, 1537–1619, English miniature painter, trained as a goldsmith He was court painter to Elizabeth and to James I The first true miniaturist in England, Hilliard was self-taught He painted meticulously on card or vellum, even on the backs of playing cards Much of his work is at Windsor Castle and in the private collections of England, *Queen Elizabeth* is in the National Portrait Gallery, London An exhibition of 101 of his miniatures was held in the Victoria and Albert Museum, London, in 1947 A work on miniature painting, *The Art of Limning*, is attributed to Hilliard

Hillis, Newell Dwight, 1858–1929, American Congregational minister He was pastor (1899–1924) of the famous Plymouth Church (Congregational), Brooklyn, N Y. He was an eloquent preacher and a widely known lecturer His books include *Great Books as Life-Teachers* (1899) and *Great Men as Prophets of a New Era* (1922)

Hillman, Sidney, 1887–1946, American labor leader, b Lithuania He entered the United States in 1907, became a clothing worker, led a successful strike, and rose to the presidency of the Amalgamated Clothing Workers (1915) He promoted union-management cooperation and started many novel union practices, such as cooperative housing and banking One of the founders of the C I O , he was its vice president from 1935 to 1940 A moderate, opposed to labor schism, he directed the labor sections of the Office of Production Management (later the WPB) from 1940 to 1942 Through the C I O Political Action Committee, of which he was head from its start (1943) until his death, he sought labor support for political platforms favored by unions, especially President Roosevelt's New Deal He was also a founder of the American Labor party and its chairman (1944–45) As C I O delegate at world labor parleys, he helped create the World Federation of Trade Unions (1945)

Hillquit, Morris, 1869–1933, American lawyer and Socialist leader, b Riga, Latvia He came to the United States in 1886 He was the leader of the right wing or constitutional Socialists in their revolt against the radical leadership of Daniel DE LEON in 1897 This revolt split the Socialist Labor party and led to the founding of the Social Democratic party, which evolved into the present Socialist party Hillquit from the beginning was the dominant theorist and tactician of the party, representing it on the executive committee of the Socialist and Labor International As a lawyer he served labor in many legal struggles, but he also gave expert service to capitalist corporations, a course of action which frequently brought criticism from his party He was a prominent pacifist at the time of the First World War He was his party's candidate for mayor of New York city twice and for Congressman five times In 1924 he led the Socialists into La Follette's Progressive party He wrote *History of Socialism in the United States* (1903), *Socialism in Theory and Practice* (1909), *From Marx to Lenin* (1921), and the autobiography *Loose Leaves from a Busy Life* (1934)

Hillsboro. **1** City (pop 4,514), co seat of Montgomery co , S central Ill , SSE of Springfield, in a farm and coal area, inc 1855 Metal products are made here **2** City (pop 1,580), central Kansas, N of Wichita, in the Cottonwood valley, laid out 1879, inc 1884 It is largely a Mennonite community engaged in winter-wheat and corn production Tabor College is here **3** Town (pop 2,269), S N H , on the Contoocook and WSW of Concord, settled 1741, abandoned 1744 during the Indian war, inc 1772 It has textile mills. The home of Franklin Pierce was restored in 1925 See G W. Browne, *The History of Hillsborough, New Hampshire, 1735–1921* (1921). **4** Town (pop 1,311), co seat of Orange co , central N C., NW of Durham, settled before 1700, platted 1754. An early capital of the province of North Carolina, it was the scene of disturbances by the Regulators (see REGULATOR MOVEMENT) The town has textile, furniture, and tobacco plants Thomas Hart Benton was born here **5** City (pop 1,338), co seat of Traill co., E N Dak , on the Goose river and NNW of Fargo, in a farm area, laid out 1880, inc 1881 **6** Village (pop 4,713), co seat of Highland co , SW Ohio, E of Cincinnati, platted 1807 It is a trade center for a farm, livestock, and dairy area Farm machinery is made In 1873 the Women's Temperance Crusade was founded here by a group of local women Several mound builders' forts are near by **7** City (pop 3,747), co seat of Washington co , NW Oregon, W of Portland in the fertile Willamette valley, settled c 1845, inc 1876 Quick-freezing and packing of fruits and vegetables are done here. **8** City (1940 pop 7,799, 1947 estimated pop 10,500), co seat of Hill co , N central Texas, SSW of Dallas, inc 1853 In the rich blackland region, it has cotton-processing plants, textile mills, and other small industries The area also has dairying and livestock breeding There is a junior college and a well-known children's home **9** City (pop 1,146), central Wis , on the Baraboo and NW of Madison, settled 1854, inc 1885

Hillsborough, town (pop 2,747), W Calif , S of San Francisco, inc 1910 The founders, to restrict the town to fine residences, banned stores, hotels, postal and telegraph offices, and sidewalks.

Hillsdale. **1** City (pop 6,381), co seat of Hillsdale co , S Mich , on the St Joseph and SW of Jackson, settled 1834, inc as a village 1847, as a city 1869 Automotive and aircraft machinery are made The Slayton Arboretum is part of Hillsdale College (coeducational, 1844) Several Indian mounds are in the vicinity **2** Borough (pop 3,438), NE N J , N of Hackensack, inc 1923

Hillside. **1** Village (pop 1,080), NE Ill, near Chicago, inc 1905 **2** Township (pop 18,556), NE N J , southwestern suburb of Newark, inc 1913 It has a hydrogen plant

Hilo (hē'lō), city (pop 23,358), co seat of Hawaii co , on NE Hawaii, T H , on Hilo Bay A modern city, Hilo is a port of entry and the center of the island's tourist trade It has an airport The Lyman Museum has a collection of Hawaiiana Coconut Island in Hilo Bay is a beach park Mauna Loa and Mauna Kea are near by Hilo was badly damaged in the tidal-wave disaster of 1946 It has fruit canneries, a rice mill, and an ironworks and exports sugar rice, and fruits

Hilprecht, Hermann Volrath (hĭl'prĭkht), 1859–1925, American Assyriologist, b Germany, Ph D Univ of Leipzig, 1883 He is noted as an authority on cuneiform writing He came to the United States in 1886 and was professor of Assyriology (1886–1911) at the Univ of Pennsylvania and curator (1887–1911) of the Semitic department of its museum He was scientific director of four expeditions (1895–1914) to Nippur and reorganized (1893–1909) the Babylonian collection of the Imperial Ottoman Museum, Constantinople He retired to Germany in 1914 but later returned to the United States and was naturalized

Hilton, John, 1804–78, British surgeon An outstanding physician of his day, he is known especially for his treatise *Rest and Pain* (1863) He developed a notable technique of draining deep abscesses and was among the first to use the method of operating on the colon through an incision in the lower part of the back

Hilton, Walter, d 1395, English religious writer, an Austin canon of Thurgarton, Nottinghamshire His spiritual treatise, *The Scale of Perfection* (ed by Evelyn Underhill, 1923), is a general manual for holy living Although it was addressed to a Carthusian recluse, it was popular among English laymen before the Reformation Hilton also composed a shorter *Treatise Written to a Devout Man* His MYSTICISM, typically English, resembles that of Richard ROLLE OF HAMPOLE

Hilversum (hĭl'vursum), municipality (pop 84,293), North Holland prov , W central Netherlands, SE of Amsterdam It is a modern, primarily residential city and a health resort with several sanatoriums Electrical machinery and carpets are manufactured here and there is a diamond-polishing industry Hilversum has a powerful radio station

Himachal Pradesh (hĭmä'chul prä'dĕsh), state (c 10,600 sq mi , pop c 935,000), NW India, bounded by Tibet on the east The capital is Simla The state is covered with forested mountains, and in the valleys there is extensive cultivation. Products include wheat, maize, millet, rice, and turmeric. The state was formed in 1948 by the merger of 21 former princely states A large percentage of the inhabitants is aboriginal Himachal Pradesh is directly administered by the central government of India

Himalayas (hĭmä'lŭyŭz, hĭmälā'ŭz) [Sanskrit,= abode of snow], Asiatic mountain system, extending c 1,500 mi E from the Karakorum system. It lies in India, Tibet, Nepal, Sikkim, Bhutan, and China For most of its length the Himalayas comprise two nearly parallel ranges separated by a wide valley; the northern range is usually called the Trans-Himalaya. A relatively young and still growing system, the Himalayas arose from folding of the earth's crust due to southward pressure against the plain of N India. It is believed that some 40 of the Himalayan peaks are loftier than any other spot on earth Mt EVEREST, the highest, is followed by Mt GODWIN-AUSTEN (K2) Other great peaks which have challenged mountaineers include NANGA PARBAT and NANDA DEVI in India, KANCHENJUNGA in Nepal, and MINYA KONKA in China. Between India and Tibet the Himalayas interpose a barrier which is crossed only by a few passes (c 18,000 ft high), over which yak teams carry goods The aridity of Tibet results from the interception by the mountains of the moisture-laden northwest monsoon On the northern slopes, consequently, snowfall is relatively light and there is little drainage From the snow-covered and extensively glaciated southern slopes, however, arise major Indian rivers, notably the Indus, the Sutlej, the Ganges, and the Brahmaputra Little of the Himalaya region is inhabitable or of great current economic value. The southern approaches, the Terai, are malarial jungle and swamps swarming with ferocious animals Grazing is possible on some of the gentler slopes, and there is some lumbering in the extensive forests of pine, spruce, and deodar found below 12,000 ft. See Sir Francis Younghusband, *Wonders of the Himalaya* (1924), C F Meade, *Approach to the Hills* (1940)

Himeji (hē'mā'jē), city (1947 pop 197,299), Hyogo prefecture, S Honshu, Japan A railroad and manufacturing center with cotton textile mills and other plants, it grew up near a 14th-century castle

Himera (hĭ'murŭ), ancient city on the north coast of Sicily, founded by Greeks in the 7th cent Here in 480 B C (a traditional date) forces led by Gelon routed the Carthaginians led by Hamilcar In revenge the Carthaginians destroyed (408 B C) the city The citizens moved to near-by Thermae (modern Termini)

Himmler, Heinrich (hīn'rĭkh hĭm'lur), 1900–1945, German National Socialist leader An early party member, Himmler took part in Hitler's beer-hall putsch of 1923, and in 1929 he became head of the SS (see NATIONAL SOCIALISM) In 1936, when the Gestapo (the SECRET POLICE set up in 1933 under Goering) was joined with the SS under his control, he became head of the entire German police Himmler's power ultimately rivaled that of Hitler A brilliant organizer and the most ruthless and inhuman of all Nazi chiefs, Himmler terrorized his own party hierarchy as well as all German-held Europe, ordering death for millions In Aug , 1943, he was appointed minister of the interior, and after putting down a conspiracy against Hitler in July, 1944, he acted as the virtual dictator of Germany Arrested by British troops in May, 1945, he committed suicide by swallowing poison Himmler must be credited with the introduction of gas chambers and roving extermination squads as modern political instruments

Himyaritic (-rĭt'-), dead Semitic language See LANGUAGE (table)

Hinckley, urban district (1931 pop 16,030, 1947 estimated pop. 38,190), Leicestershire, England, SW of Leicester Hosiery and shoes are the chief manufactures.

Hincks, Sir Francis, 1807–85, Canadian journalist and statesman, b Ireland Settling (1832) in York (now Toronto), he was soon drawn into the Reform party In 1838 he became editor of the Toronto *Examiner*, a newspaper founded by the reformers, which under his direction ably argued the cause of responsible government Entering the Canadian legislative assembly in 1841, Hincks was twice (1842–43, 1848–51) inspector general (or finance minister) He worked to effect an alliance between the reformers of Upper Canada and Lower Canada, vigorously opposed the movement for annexation to the United States, and in the interval between his terms of office as inspector general he founded a new Reform party journal, the Montreal *Pilot* As premier in the joint Hincks-Morin administration (1851–54) he directed his efforts toward achieving a reciprocal trade treaty with the United States and promoting railroad construction, but charges of financial misdeeds were hurled at him, and he resigned in 1854 Hincks was governor of Barbados and the Windward Islands (1855–62) and of British Guiana (1862–69); he then returned to Canada to serve (1869–73) as minister of finance in Sir John A. Macdonald's coalition government In 1869 he was knighted See his reminiscences (1884); biography by R. S. Longley (1943); Stephen Leacock, *Mackenzie, Baldwin, LaFontaine, Hincks* (rev. ed., 1926)

Hincmar (hĭngk'mär), 806–82, Frankish churchman, archbishop of Rheims (from 845) He was a supporter of Emperor LOUIS I and a counselor of his son CHARLES II (Charles the Bald). As a metropolitan he tried to depose a bishop in 862 and brought on himself the censure of Pope St. NICHOLAS I Later (876) in a different contention he upheld the rights of metropolitans Hincmar vigorously opposed GOTTSCHALK and urged (850) ERIGENA to write on predestination. Dissatisfied with

Erigena's tract Hincmar wrote three treatises on the subject himself. He strongly opposed the divorce of Lothair, king of Lotharingia, and he spent much of his time in defending the claims of Charles in various dynastic struggles, particularly against Louis the German

Hindemith, Paul (hĭn'dəmĭth), 1895–, German-American composer and violist, b Hanau, Germany, studied at the Frankfurt Conservatory He founded the Amar string quartet, with which, as violist, he toured Europe for some time From 1927 to 1937 he taught composition at the Berlin Hochschule In 1935 he was commissioned by the Turkish government to reorganize that country's musical life In 1937 he appeared as violist in his own viola sonata in Washington, D C He taught in Turkey in the season 1938–39 and in 1940 joined the faculty of Yale Univ He became a U S citizen in 1946 His early compositions are highly contrapuntal and often atonal Later works display a return to tonality *Cardillac* (1926) exemplifies the return to the principle of opera divisible into separate numbers, as opposed to the Wagnerian conception of "endless melody" *Hin und zurück* [there and back] (1927) is a kind of operatic palindrome, in which the action of the second part reverses that of the first The satirical *Neues vom Tage* (1929) was denounced by the German ministry of propaganda in 1934 as culturally bolshevistic Hindemith's best-known work is the symphony (1934) drawn from the opera *Mathis der Maler* (1934; Zurich, 1938), which is based on the life of Mathias Grünewald Many of Hindemith's works might be classed as *Gebrauchsmusik* [utility music], written for small combinations of instruments and meant to be performed by amateurs His aim was to establish closer contact between composer and public Included in this group are the children's opera *Wir bauen eine Stadt* (1931) and numerous sonatas and chamber works Other important works are the *Ludus Tonalis* (1943) for piano, the song cycle *Das Marienleben* (1924, revised 1949), the viola concerto *Der Schwanendreher* (1935), based on medieval German folk songs, the ballet *Nobilissima Visione* (1938), based on the life of St Francis of Assisi, and the setting for the chorus of Walt Whitman's *When Lilacs Last in the Dooryard Bloom'd* (1946) His writings include *The Craft of Musical Composition* (Eng tr , 1941–42)

Hindenburg, Paul von (hĭn'dənbûrg, Ger poul' fən hĭn'dənbo͝ork), 1847–1934, German field marshal and president, b Poznan (then in Prussia) His full name was Paul Ludwig Hans Anton von Hindenburg und Beneckendorff He fought in the Austro-Prussian War (1866) and the Franco-Prussian War (1870–71) and was appointed (1878) to the general staff Though retired after 1911, he was made commander in East Prussia early in the First World War His chief of staff, General LUDENDORFF, who was his assistant throughout the war, has often been considered the real author of Hindenburg's victories The victory of TANNENBERG (Aug 1914) over a much larger Russian force was followed (1914–15) by German occupation of Poland and part of the Baltic provinces In 1916 Hindenburg, by then a field marshal, succeeded General FALKENHAYN as chief of the general staff and assumed supreme command of all the forces of the Central Powers The economic program of total warfare, adopted then, was called the Hindenburg Plan in his honor, but was actually the work of Walter Rathenau Hindenburg stemmed the Allied advance in the west and consolidated the Hindenburg Line, running roughly from Lens through Saint-Quentin to Rheims Rumania was crushed, and Russia withdrew from the war (1917) From March to July, 1918, Hindenburg launched a costly offensive into France, but the Allied counteroffensive spearheaded by fresh American troops, led to the German defeat and surrender Hindenburg led his troops back in sufficiently good order to prevent a radical revolution Though, by the terms of the Treaty of Versailles, he was to be tried as a war criminal, the special German court at Leipzig never even indicted him Hindenburg, a monarchist, became the white hope of the German monarchists, the Prussian Junkers, and the conservatives, who in 1925 elected him president of the Reich. His powers were very limited, but his abrupt dismissal (1932) of Chancellor BRÜNING precipitated fateful events Hindenburg, with Socialist help, defeated Adolf HITLER in the presidential elections of 1932 However, convinced by sinister advisers that a Socialist plot was imminent, the president, who was no longer in full possession of his faculties, appointed Hitler chancellor in Jan , 1933. Hindenburg continued as a figurehead till his death See J W Wheeler-Bennett, *The Wooden Titan* (1936), biographies by T. R Ybarra (1932) and M. L Goldsmith and V. A. Voight (1930)

Hindenburg or Zabrze (zäb'zhĕ), city (pop 104,184), Upper Silesia, transferred to Polish administration in 1945 (see SILESIA) It is a center of the KATOWICE mining and industrial region Founded in the 13th cent , Zabrse passed to Prussia in 1742 and was renamed (1915) in honor of Field Marshal von Hindenburg; in 1945 the name Zabrse was restored. Its present population is entirely Polish.

Hindenburg: see AIRSHIP.

Hindi (hĭn'dē), Indo-European languages of N India See LANGUAGE (table).

Hindley (hĭnd'lē), urban district (1931 pop 21,632, 1943 estimated pop 20,330), Lancashire, England, SE of Wigan. It is a cotton-mill town.

Hindman, Thomas Carmichael (hĭnd'–), 1828–68, Confederate general, b Knoxville, Tenn After volunteer service in the Mexican War, he studied law and practiced for a time in Ripley, Miss He moved to Arkansas and was elected to Congress in 1858 Reelected in 1860, Hindman, supporting secession, declined his seat He was commissioned Confederate brigadier general in Sept , 1861, made major general for gallantry at Shiloh (April, 1862), and given command of the trans-Mississippi district (May, 1862), where his vigor in enforcing conscription and martial law led to his being replaced Defeated at PRAIRIE GROVE (Dec , 1862), Hindman was transferred to the East, where he served around Chattanooga and in Georgia He returned in 1867 to Arkansas, where his opposition to the Reconstruction program brought about his assassination, Sept 27, 1868

Hinduism (hĭn'do͞oĭzm), Western term for the religious beliefs and practices of the majority of the people of India The corresponding Indian term, *dharma*, means law, whether as applied to the workings of the divine order or to jurisprudence Hinduism does not have a fixed scriptural canon, but certain ancient works, notably the VEDA, the *Brahmanas*, and the *Bhagavad-Gita*, are the subjects of elaborate theological commentary The nature gods of the *Veda* were designated *deva* (good) or *sura* (evil) Some of them appear in present-day Hinduism, examples are Varuna (the sky), Agni (fire), Surya (the sun), and Lakshmi, the goddess of luck Other Vedic gods have disappeared, including the Apsaras (spirits of the wind), the Asvins (twin deities of light), and Yama, the god of heaven and hell Brahmanism substituted (c 550 B C) for the Vedic religion a complex system of ritual and theosophy expounded in the *Brahmanas* and the *Upanishads* The *Brahmanas* regulate sacrifices to the gods of various ranks and contain personifications of moral qualities, such as lust, which is represented by Kama or Kamadeva The *Upanishads*, the foundation of modern Hindu philosophy, develop the doctrine of a universal soul or being to which individual souls will be reunited after maya (the illusion of time and space) is conquered Continuity with the Vedic tradition is maintained by describing the earlier deities as clumsy efforts to express the ineffable being Buddhism and Jainism, which flourished in India from c 300 B C to A D c 400, attacked this complex ritual and theology Brahmanism, far from succumbing, adopted features of those religions and codified its own ritual in the *Laws of Manu* Several schools of interpretation of the *Upanishads*, notably the VEDANTA school, appeared, and YOGA, a technique for hastening reunion with the universal soul through spiritual and physical exercises and through sacrifice, was developed One lifetime, the Yogis taught, might not suffice for this reunion, since under the principle of karma an individual's evil actions may require successive rebirths in human or animal form, just as his good actions may hasten reunion with the infinite A later stage of Hinduism is represented by the *Tantras* and the *Puranas* The *Tantras* are mainly prescriptions for procuring divine favor by reciting charms and honorific titles of the deities The *Puranas* comprise poems addressed to gods who seem to have assumed human traits in place of some of their divine attributes Siva (or Shiva) the Preserver and Vishnu the Destroyer are the chief gods of the *Puranas* With Brahma, a remote and unapproachable deity who created the universe and is equated with it, they constitute the triad about which Hinduism now centers Many cults, with widely variant practices, exist side by side Siva is commonly worshiped as the linga or phallus Kali, his consort, is primarily the black goddess of death, although she does have other and benign forms Vishnu has descended upon earth in nine incarnations (avatars), that as the voluptuous Krishna is perhaps the most popular Hinduism, at all times more than merely a religion, is a complete way of life Under the impact of modern conditions much of what it formerly ordained has had to be modified or abandoned Thus the British forbade the marriage of children and the rite of suttee which required a widow to immolate herself on her husband's funeral pyre Untouchability (see CASTE) which prescribes that the classes outside the castes must be treated with aversion because of presumptive sinfulness in a prior existence, was attacked by Gandhi and is now unlawful in the Union of India Still widely observed is the protection of animals, especially cows, as enjoined by the rule of ahimsa (nonviolence) In some places snakes are revered as the form of Kali. Pilgrimages to sacred places are a marked feature of Hinduism The cities of Puri, Benares, and Allahabad and the Ganges and Narbada rivers are especially holy. For the literature of Hinduism see SANSKRIT LITERATURE. See J A Dubois, *Hindu Manners, Customs, and Ceremonies* (1897), C N E Eliot, *Hinduism and Buddhism* (3 vols , 1921), Sir Sarvepalli Radhakrishnan, *Hindu View of Life* (1926)

Hindu Kush (hĭn'do͞o ko͞osh') mountain system, central Asia, lying mainly in NE Afghanistan and extending E to Pakistan and Kashmir It adjoins the Pamir on the east Second in loftiness only to the Himalaya range, the Hindu Kush culminates in Tirach Mir (25,426 ft high) in North-West Frontier Prov , Pakistan The Amu Darya rises on the northern slope of the Hindu Kush, and on the southern slope rise several tributaries of the Indus The system is crossed by passes ranging in elevation from 10,000 ft to 17,000 ft These routes, which now serve traders, in former times gave access to India to conquerors advancing from central Asia, including Alexander the Great—whose historians called the system Caucasus Indicus—and Tamerlane

Hindu music. The music of India is entirely monodic Of all Oriental musical cultures it is most easily grasped by the Western mind Its tonal system divides the octave into 22 segments called *srutis*, not all equal but each roughly equal to one quarter of the whole tone of Western music The basic scales are *sa-grama* and *ma-grama* The more important of these, the *sa-grama*, closely approximates our C major scale *Ma-grama*, which differs from *sa-grama* in only one interval, is said to have disappeared from use about the 16th cent Other scales are derived from these by the sharping or flatting of some of the intervals or by leaving out some of the tones Melody is based on the system of *ragas*, which are melody types used as the basis for improvisation There are 60-odd *ragas*, and with each there is an accompanying set of rules for improvisation in that *raga* To each is ascribed certain ethical and emotional properties, and each is associated with a certain season and a certain time of day For a single *raga*, however, these connotations vary in different parts of India Legend celebrates the powers of the *ragas*, e g , a *raga* associated with darkness could, if sung in the middle of the day by a singer whose skill was great enough, bring darkness upon the earth In the performance of the *ragas*, great importance is attached to the *gamakas*, the ornaments or graces which are the life and breath of this music Accompanied song is considered the highest type of music In the accompaniment, rhythm is very complex and is based on certain rhythmic patterns, called *talas*, which are often combined in the most intricate ways The oldest instrument is the drum, of which there are various types, it can be tuned by virtue of special types of coating given the skin The most important instrument is the vina In antiquity the name was given to a harp, but the modern vina is a zither with gourd resonators In addition various types of bagpipe, lute, fiddle, oboe, trumpet, flute, cymbal, and gong have been known in India Many of the instruments are of Islamic origin See A H Fox-Strangways, *The Music of Hindostan* (1914), Curt Sachs, *The Rise of Music in the Ancient World* (1943)

Hindus, Maurice Gerschon (hĭn'dəs), 1891–, American writer, b Russia He came to the United States in 1905 after his father's death and was graduated from Colgate in 1915 In the autobiographical *Green Worlds* (1938) he contrasts an obscure Russian village with rural America as he experienced it in a small New York town He is widely traveled in Europe and the Middle East, and much of his writing, which includes many books and newspaper and magazine articles, attempts to interpret the political views and cultures of these countries to Americans Among his best-known works are *Humanity Uprooted* (1929), *Red Bread* (1931), *Moscow Skies* (1936), *We Shall Live Again* (1939), the novels *Sons and Fathers* (1940) and *To Sing with the Angels* (1941), *Hitler Cannot Conquer Russia* (1941), *Mother Russia* (1943), and *In Search of a Future* (1949)

Hindustan (hĭn"dəstän') [Persian, = Hindu land], term applied to various areas of India and Pakistan It sometimes means the region between the Narbada river and the Himalayas, but, in a more limited sense, it designates N central India including W United Provs , E Rajputana, and E Punjab Since the partition (1947) of the Indian peninsula it has sometimes been applied to the largely Hindu state of India as opposed to the Moslem state of Pakistan

Hindustani (hĭndəstän'ē), standard Indo-European language of Hindus See LANGUAGE (table)

Hines, John Leonard (hīnz), 1868–, American general, b White Sulphur Springs, W Va , grad. West Point, 1891 In the Spanish-American War he served in Cuba (1898–1900), and later he was in the Philippines (1900–1901, 1903–5, 1911–12) and had varied commands elsewhere He was adjutant general on John J Pershing's Mexican expedition (1916–17) In the First World War he was assistant adjutant general of the American Expeditionary Forces in 1917 He commanded an infantry brigade in 1918, and later he led the 4th Division in the battle of Saint-Mihiel and in the Meuse-Argonne offensive. He succeeded to command of

the 3d Army Corps, was in 1921 commissioned a major general and in 1924 succeeded Pershing as chief of staff In 1930 he became commander of the Philippine Dept , and in 1932 he retired

Hines, Walker Downer, 1870–1934, American government administrator, b Russellville, Ky , grad Ogden College, 1888, and Univ of Virginia law school, 1893 In the First World War when the Federal government took over management of the railroads, Hines was at first assistant director general under McAdoo, then himself director general (1919–20) of the railroads He later helped to settle international questions about the navigation of European rivers In 1933 he was sent on an advisory economic mission to Turkey He wrote *War History of American Railroads* (1928)

Hinesburg, town (pop 1,000), NW Vt , SSE of Burlington, chartered 1762, settled immediately after the Revolution

Hingan (hĭng'ăn'), Mandarin *Hsing-an,* province (107,605 sq mi , pop 322,173), NE China The capital is Hailar A part of Manchuria, Hingan was created in 1945 out of the western section of the former province of Heilungkiang Hingan is bordered on the north by the Amur river and on the west by the Argun river—both separate it from Siberia The Great Khingan is the chief mountain range Pastoral Mongols make up the sparse population The immense coal and timber reserves are barely exploited Hingan is served by the Chinese Eastern RR

Hingham (hĭng'ŭm), town (pop 8,003), E Mass , on the South Shore of Boston Bay, settled c 1633, inc 1635 There are several old buildings During the Second World War, ships were built here

Hinkle, Beatrice Moses, 1874–, American psychiatrist, b San Francisco, M D Cooper Medical College (now part of Stanford Univ), 1889 Her maiden name was Van Geisen In 1908 she opened at Cornell Medical College, New York city, the first psychotherapeutic clinic in America She wrote *The Re-Creating of the Individual* (1923) and translated Jung's work as *Psychology of the Unconscious* (1916)

Hinnom, valley, near Jerusalem, perhaps the present Wadi er-Rababi, W of the city It was of ill repute as a place of Moloch worship and the dump for Jerusalem's refuse Joshua 15 8, 18 16, 2 Kings 23 10, 2 Chron 28 3, 33 6, Jer 7 31, 32 35 TOPHET was in the valley In the Greek of the New Testament, Gehenna, a form of the name, meant HELL, perhaps because of fires of Moloch or dump fires in the valley

Hinsdale. **1** Residential village (pop 7,336), NE Ill , just W of Chicago, inc 1873 **2** Town (pop 1,235), W Mass , in the Berkshires SE of Dalton, settled 1763, set off from Partridgefield and Dalton 1804 **3** Town (pop 1,762), extreme SW N H , N of Northfield, Mass , inc 1753 It has water power from the Ashuelot and is the site of paper mills The house that Ebenezer Hinsdale built in 1756 still stands Charles A Dana was born in Hinsdale

Hinsley, Arthur, 1865–1943, English Roman Catholic churchman, cardinal of the Roman Church Born in Yorkshire, he attended Catholic schools in England and Rome He was ordained in 1893 and spent several decades as a schoolmaster and rector He served as a missionary in Africa, first as visitor apostolic (1926–30) and then as archbishop of Sardis and apostolic delegate (1930–34) In 1934 he retired, but was called from retirement in 1935 to be enthroned as archbishop of Westminster, primate of the Roman Catholic Church in England He was created cardinal in 1937 Cardinal Hinsley was noted as a foe of German and Italian fascism

Hinton, city (pop 5,815), co seat of Summers co , S W Va., on the New River near its junction with the Greenbrier and NE of Bluefield, settled 1831, inc 1880 Hinton has railroad shops and is a shipping center for an agricultural area.

Hiogo see KOBE

Hiouentang see HSÜAN-TSANG.

hip joint: see JOINT

Hipparchus (hĭpär'kŭs), c 555–514 B C , tyrant of Athens, son of PISISTRATUS He and his brother HIPPIAS governed Athens jointly after the death of their father in 527 B C Trouble arose with HARMODIUS AND ARISTOGITON, and Hipparchus was slain

Hipparchus, 2d cent B C , Greek astronomer, b Nicaea, Bithynia He is the first systematic astronomer of whom there are records He made his observations chiefly on the island of Rhodes Ptolemy's geocentric theory of the universe was based largely on the conclusions of Hipparchus, a record of whose researches is preserved in the *Almagest* of Ptolemy In it Hipparchus is credited with the discovery of the precession of the equinoxes, the eccentricity of the sun's apparent orbit, and certain inequalities of the motions of the moon He also made the first known comprehensive chart of the heavens, giving the positions of at least 850 stars, this was expanded by Ptolemy. Hipparchus suggested a method of determining longitude by observing the parallax of the moon in eclipse He is believed to have been the first to make systematic use of trigonometry, and he computed a table of chords roughly equivalent to trigonometrical sines. Only one of his works, a commentary on the work of Aratus and Eudoxus, survives

Hipper, Franz von (frănts' fŏn hĭ'pĕr), 1863–1932, German admiral He was chief of the scouting fleet at the battle of Dogger Bank (1915) and the battle of Jutland (1916) His conduct at Jutland made him a popular hero He commanded the high seas fleet from 1916 to the end of the First World War

Hippias (hĭp'ĭăs), 6th–5th cent B C , tyrant of Athens, son of PISISTRATUS He and his brother Hipparchus governed Athens jointly from the death of their father until Hipparchus was slain in the trouble with Harmodius and Aristogiton in 514 Hippias then ruled alone until he was overthrown by the Alcmaeonidae and the Spartans and went into exile Hippias guided the Persians in the Marathon campaign

Hippius, Zinaida Nikolayevna (zēnĭ'dŭ nyĭkul'-uvnŭ hĕ'pēŏs), 1869–1945, Russian poet, novelist, critic, and playwright She was the wife of the writer D S Merezhkovsky and the founder of a famous St Petersburg salon As a poet she was a symbolist, and as a novelist a disciple of Dostoyevsky, without his gift for characterization Of her voluminous output, only one play, *The Green Ring* (1914, Eng tr , 1920), has appeared in English She went into exile after the Bolshevist Revolution

Hippocrates (hĭpŏ'krutēz), c 460–c 370 B C , Greek physician, recognized as the father of medicine He is believed to have been born on the island of Cos, to have studied at Athens, and to have continued his education by travel His enormous influence on the progress of medicine is the result of his separation of medicine from superstition, placing it on a scientific basis His theory of disease was the fallacious one of "humors" (disorders of body fluids), but his methods of observation were in many respects those of modern clinical practice Hippocrates' practice of bedside observation resulted in his noting many of the signs of disease, such as the facial expression in approaching death known as the *facies Hippocratica* and the succussion sound of fluid in the chest The large collection of Hippocratic writings contains only a few of the works which are now ascribed to him the *Aphorisms* and the *Airs, Waters, and Places* are considered the chief of these The collection appeared in several translations, and many of the volumes are in the Loeb Classical Library While the **Hippocratic oath** cannot be credited to him, it may well represent his own ideals In abridged form this is administered in many modern universities to graduates in medicine as follows "You do solemnly swear, each man by whatever he holds most sacred, that you will be loyal to the profession of medicine and just and generous to its members, that you will lead your lives and practice your art in uprightness and honor, that into whatsoever house you shall enter, it shall be for the good of the sick to the utmost of your power, you holding yourselves far aloof from wrong, from corruption, from the tempting of others to vice, that you will exercise your art solely for the cure of your patients and will give no drug, perform no operation, for a criminal purpose, even if solicited, far less suggest it, that whatsoever you shall see or hear of the lives of men which is not fitting to be spoken, you will keep inviolably secret These things do you swear Let each man bow the head in sign of acquiescence And now, if you will be true to this, your oath, may prosperity and good repute be ever yours, the opposite, if you shall prove yourselves forsworn "

Hippodamus (hĭpŏ'dumus), fl 5th cent B C , Greek architect, probably b Miletus He is the earliest known planner of cities, for which he originated geometrical layouts For Pericles he designed Piraeus (the port of Athens) He also planned the city of Rhodes (408 B C) and went with the Athenian colonists to replan the new city of Thurii (c 440 B C) in Italy Other cities of the ancient world followed his methods

Hippolyte (hĭpŏ'lĭtē), in Greek mythology, queen of the Amazons, daughter of Ares One legend says that she was the wife of THESEUS, another, that he married her sister ANTIOPE Either she or Antiope was the mother of Hippolytus One of the 12 labors of Hercules was to capture the girdle of Hippolyte

Hippolytus, Saint (hĭpŏ'lĭtus), fl c 211, martyr bishop of Porto, a suburbicarian diocese Feast Aug 22

Hippolytus, Saint, c 160–235, antipope (217–235), a theologian A disciple of St Irenaeus, he advocated a Neoplatonic theology of the Logos which paralleled that of TERTULLIAN Popes Zephyrinus and Calixtus I rejected his philosophy, particularly his doctrine of the Trinity. Upon the election of Calixtus, Hippolytus separated himself from the Church to become the first antipope His *Philosophumena* was a brilliant refutation of those contemporary heresies which were opposed to his philosophy At the time of Maximin's persecution, Hippolytus was sentenced to the mines of Sardinia There he was officially reconciled with the Church and died a martyr together with St Pontian, who was pope of that time Feast Aug 13

Hippolytus, in Greek myth, son of THESEUS and Antiope or HIPPOLYTE His stepmother, PHAEDRA, instigated perhaps by the angry Aphrodite, fell in love with him, rebuffed by Hippolytus, she accused him to Theseus of trying to dishonor her At Theseus' prayer, Poseidon destroyed Hippolytus by raising a monster to frighten his horses. The story is treated in the *Hippolytus* of Euripides and the *Phèdre* of Racine.

Hippomedon (hĭpŏm'ĕdŏn), in Greek legend, one of the SEVEN AGAINST THEBES

Hippomenes. see ATALANTA

Hipponax (hĭpŏ'năks), fl 6th cent B C , Greek iambic poet He was said by some to be the inventor of the choliambic, or "limping" iambic, verse Ugly, coarse, and malicious, he wrote bitter satire, fragments of which are extant

Hipponoüs. see BELLEROPHON

hippopotamus (hĭpupŏ'tŭmŭs) [Gr ,=river horse], herbivorous mammal of Africa, related to the pig The large hippopotamus has a short-legged, broad body with a tough gray or brown hide The mouth is wide and the incisors and lower canines are large tusks, from which ivory is obtained It is hunted for meat, and the natives use the hide for shields and whips The fat is also useful Much of the animal's time is spent in the water, where it feeds on aquatic plants Once widespread in Africa it is now rare except in the interior and on reserves The pygmy hippopotamus is found in W Africa

Hippo Regius see BÔNE, Algeria

Hirado (hĕrä'dō), town (pop 16,397) on Hirado island, off NW Kyushu, Japan It is known for its fine porcelain Its port was opened in the 16th cent to foreign trade, early in the 17th cent Dutch and English factories were built here

Hirah (hī'ru), Judah's father-in-law Gen 38

Hiram (hī'-) **1** Fl 1000 B C , king of Tyre, a friend of David and Solomon Solomon and Hiram shared in the trade with India and the Mediterranean, and they constantly exchanged gifts Hiram sent much fine material for the Temple 2 Sam 5 11, 1 Kings 5, 9, 10 Huram 2 Chron 2, 8, 9 **2** Artisan in metals, sent to Solomon by Hiram king of Tyre to work on the ornamentation of the Temple 1 Kings 7 13–45 Huram 2 Chron 4 11–22

Hiram College, at Hiram, Ohio, SE of Cleveland, coeducational, chartered and opened 1850 as a Disciples of Christ institute, renamed 1867 James A Garfield was a principal Its plan of intensive study of one subject for nine weeks is well known

Hiranuma, Kuchiro, Baron (kō"ĕ'chĭrō hĕrä'nōōmä), 1865–, Japanese statesman, leader of the Kokuhonsha, a powerful militarist and reactionary society After serving as a judge and director of the civil criminal-affairs bureau, he became vice minister of justice in 1911 and minister of justice in 1923 He was for many years vice president of the privy council and became its president in 1936 He was appointed prime minister in Jan , 1939, but resigned in August when the German-Soviet pact temporarily discredited Japan's ties with Germany Later he served as home minister (1940) under Fumimaro Konoye In March, 1946, he was arrested as a war criminal, and in Nov , 1948, he was condemned to life imprisonment

Hirohito (hĭ"rōhē'tō, hĕrō'hētō), 1901–, emperor of Japan He was made regent in 1921, and in 1926 he succeeded his father, YOSHIHITO, with the reign name Shoa In 1924 he married Princess Nagako Kuni, a son and heir, Prince Akihito (Tsugu), was born in 1933 He interested himself in various studies, notably in marine biology, and as crown prince he broke tradition by traveling in Europe His own views were reputedly moderately liberal and his personal influence on state affairs was slight, but the fact that Japan embarked on the Second World War under an imperial rescript has caused the question of his responsibility for Japan's war policy to be much debated On Jan 1, 1946, he publicly rejected the idea of imperial divinity, and the new constitution of 1947 deprived him of all but ceremonial powers The majority of Japanese, however, continued to revere the emperor

Hirosaki (hĕrō'sakē), city (1947 pop 63,669) Aomori prefecture, N Honshu, Japan It has a 17th-century Buddhist temple and the remains of a feudal castle

Hiroshige, Ando (an'dō hĕrō'shēgā"), 1797–1858, Japanese landscape painter and color-print artist His first success was won with a series of landscapes (1825) He painted flowers, fish, and birds, but his important prints are landscapes, frequently snow scenes or rain, mist, and moonlight subjects He showed a knowledge of perspective It was from him that Whistler drew inspiration for his moonlight interpretations Hiroshige is represented in the print collections of various large museums, as in Tokyo, London, New York, and Boston, and also in many important private collections. *Mishima in Morning Fog* and *Rain at Shono* are typical prints Hiroshige II and Hiroshige III were pupils who used the name of their master after his death See E F Fenollosa, *The Masters of Ukiyoye* (1896), E F. Strange, *Colour-Prints of Hiroshigé* (1926).

Hiroshima (hĭ"rōshē'mŭ, hĕrō'shmä), city (1940 pop. 343,968, 1947 pop. 224,100), capital of

Hiroshima prefecture, SW Honshu, Japan, a port on Hiroshima Bay, an arm of the Inland Sea. Founded (c 1594) as a castle city on the delta of the Ota river, the city is divided by the seven mouths of the river into six islands connected by 81 bridges It produces textiles, rubber goods, canned foods, and machinery The sacred island of Itsukushima is near by Hiroshima was the target (Aug 6, 1945) of the first atomic bomb ever dropped on a populated area Some 150,000 people were killed or wounded, and 75 percent of the buildings were destroyed or badly damaged (see John Hersey, *Hiroshima*, 1946) Hiroshima prefecture is generally mountainous, with fertile valleys Raw silk is widely produced Kure and Onomichi are among the principal cities of the prefecture

Hirota, Koki (kō'kē hē'rōtä), 1878–1948, Japanese statesman A career diplomat, he served as ambassador to Russia (1930–32) and as foreign minister (1933–36) He became prime minister in March, 1936, after the military revolt of Feb 26, the composition and policies of his cabinet were dictated by the army Military appropriations were increased, repression of "dangerous thoughts" was intensified, state control of economy was strengthened, and the anti-Comintern Pact was signed with Germany and Italy Nevertheless, he was forced to resign by army pressure in Jan , 1937. Later he was (1937–38) foreign minister under Fumimaro Konoye After the war he was arrested as a war criminal, and in 1948 he was convicted and hanged

Hirsch, Emil Gustav (hûrsh), 1852–1923, American rabbi, b Luxembourg, grad Univ of Pennsylvania, 1872, and studied in Europe He was rabbi in Baltimore, Md , and Louisville, Ky , but is best known for his work as rabbi of the Sinai congregation of Chicago In 1892 he became professor of rabbinical literature and philosophy at the Univ of Chicago, and he was president (1885–97) of the Chicago Public Library board He was an influential exponent of advanced thought and reformed Judaism He edited the Milwaukee *Zeitgeist* (1880–87) and the *Reform Advocate* (1891–1923)

Hirsch, Maurice, baron de (mōrēs' barō' dü hĭrsh'), 1831–96, Jewish philanthropist, b Munich His most ambitious project, to which he contributed about $50,000,000, was the Jewish Colonization Association, a colonization plan for the emigration of Russian Jews to Argentina, where land was bought in Buenos Aires, Santa Fe, and elsewhere The association later established other important colonies His other charities included immense sums to the Alliance Israélite Universelle, to Galician schools, and to an American fund for Jewish education His offer of $10,000,000 to Russia for the amelioration of Jewish educational conditions was not accepted

Hirschberg (hĭrsh'bĕrk) or **Jelenia Gora,** Pol *Jelenia Góra* (yĕlĕ'nya gōō'rä), city (pop 39,050), Lower Silesia, SW of Breslau, transferred to Polish administration in 1945 (see SILESIA) Founded in 1280, Hirschberg passed to Bohemia in 1368 and to Prussia in 1741 It is situated on the Bober river at the foot of the Giant Mts , the Kavalierberg, 1,352 ft high, rises to the south Chiefly a tourist and trade center, it also has several industries

Hirta, Outer Hebrides, Scotland see SAINT KILDA

Hirtius, Aulus (ô'lus hûr'shĭəs), d 43 B C , Roman soldier He was a friend of Julius Caesar, with whom he served in Gaul After Caesar's assassination (44 B C) Hirtius and Caius Vibius Pansa were consuls and in that capacity took sides with the senate against Marc Antony, who was at Mutina (Modena) besieging Decimus Junius BRUTUS Hirtius was killed in the successful lifting of the siege He was probably the author of the eighth book of Caesar's *Gallic Wars*

His, Wilhelm (vĭl'hĕlm hĭs'), 1831–1904, German biologist, b Basel He stressed the importance of mechanical principles in embryological development and pioneered in the use of the microtome for preparing tissues for microscopic study He taught at the universities of Basel (1857–72) and Leipzig (from 1872)

Hishigawa Moronobu (hĭshĭgä'wu mōrō'nōbōō), fl 1659–95, Japanese genre painter Beginning as an embroiderer, he became a dress-pattern designer for silk manufacturers He was a pioneer in designing and executing woodcuts for book illustration and popular sheet prints, first done in black and white and later hand-colored About 1659 he drew 12 designs for a book of etiquette and hygiene for women His paintings were largely in the collections of his chief patrons, the daimyo and samurai

Hispanic America: see SPANISH AMERICA

Hispaniola (hĭ"spänyō'lä), Span *Española* (äspānyō'lä), island (c 30,000 sq mi), West Indies, between Cuba and Puerto Rico, of which HAITI occupies the western third and the DOMINICAN REPUBLIC the remainder The island is largely mountainous. On the northeast is a coastal range, separated from a central cordillera by lowlands known as the Cibao and Vega Real in the Dominican Republic and as the Plaine-du-Nord in Haiti. The southeastern part of the island is a dry plain. More than half of Hispaniola is dominated by a rugged cordillera Separating this from a southwestern range is the Cul-de-Sac, a structural depression sinking to c 150 ft below sea level Both ranges, extending far westward like the claws of a giant crab, form the Gulf of Gonaïves Except on the southeastern plain and in the Cul-de-Sac, which are irrigated, rainfall is abundant and agriculture flourishes Discovered by Columbus in 1492, the island was early called Española, though the aboriginal name seems to have been Haiti Later the French colony was called Saint-Domingue from the Spanish colony's SANTO DOMINGO in the east After French obtained the whole island in 1795 and particularly during the periods when the sections were united, the names Haiti and Santo Domingo were popularly used interchangeably in English, but in the late 19th cent the entire island was called Haiti, while the eastern part, officially the Dominican Republic, was commonly called Santo Domingo In modern English usage the tendency has been to revert to Hispaniola

Hiss, Alger, 1904–, American public official, b Baltimore, grad Johns Hopkins, 1926, and Harvard Law School, 1929 After serving (1929–30) as secretary to Justice Oliver Wendell Holmes, Hiss practiced law (1930–33) in Boston and New York city He then was attached to the Agricultural Adjustment Administration (1933–35) and to the Dept of Justice (1935–36) He entered the Dept of State in 1936 and rose rapidly to become an adviser at various international conferences and a coordinator of American foreign policy In 1947 Hiss resigned his government post to become president of the Carnegie Endowment for International Peace In Aug , 1948, J D Whittaker Chambers—a magazine editor who confessed to having been a Communist party courier—accused Hiss of having helped in transmitting confidential government documents to the Russians Hiss denied these charges and was indicted (Dec , 1948) on two counts of perjury by a grand jury When he was first brought to trial in New York city in 1949, the jury was unable to reach a decision (July , 1949) At a second trial Hiss was found guilty (Jan , 1950) and sentenced to a five-year prison term. He appealed the case

Hissarlik, Turkey see TROY

history, in its broadest sense, the story of man's past More specifically it means the records of that past, not only in chronicles and treatises on the past, but in all sorts of forms (e g , monuments, buildings, artifacts, business papers, and newspapers) The early time for which those records do not exist in any organized form is prehistory, although that term is more generally used for the period in any civilization before inscriptions and other written records were preserved, this, of course, varies from one culture to another and in some continues late (e g , the story of some North American Indian tribes is prehistory until well into the 19th cent) In the older civilizations, as in Egypt, Mesopotamia, and China, historical records appear immediately after the appearance of writing, for conquering kings wished to record their triumphs for all of posterity to see There was also some interest in the remote past, particularly genealogical interest in the glorification of royal ancestors and their achievements There appears early, too, a strain of religious interest in showing the lessons of history, religious and ethical Thus the early historical sections of the Bible are concerned with the manifestation of God's will in the events of man's existence, while they show the same genealogical interests as the king lists of other peoples It was not until the time of the Greeks, however, that writing of organic history emerged The compilations of the *logographoi* in the 6th cent B C. were organized records It is with some justice, however, that HERODOTUS is considered the first historian, because in his work appears the conscious desire to record all the significant and noteworthy circumstances surrounding a set of events and motivating the actions of people in those events The element of causation was strong Herodotus was remarkable, too, for the scope of his interests, he recorded myths, described customs, and made speculations In later ages, when the fashion was to favor rigidly circumscribed political and military history, he was criticized for his discursiveness, but believers in social history in recent times have heaped admiration upon him The second great Greek historian, THUCYDIDES, in writing the history of the Peloponnesian War was of a different stamp He did limit himself to matters of state and war; he tried to establish chronology with some exactitude, avoiding the vague wanderings of Herodotus, and he wrote a neat, grave work, conveying the lessons he drew from his story The third of the great Greek historians, XENOPHON, was more devoted to the purely narrative aspects of history, he had and expressed opinions and justified them from history, but to the reader the narrative is paramount These types of history writing, set thus early, were to persist and are to be seen in various writers today The influence of Thucydides was early in the ascendant, and the two important Greek historians of the Roman period, POLYBIUS and DION CASSIUS, more or less modeled themselves on that master The Roman historian LIVY tended more to the narrative form The great commentaries of Julius CAESAR were more like inspired reporting rather than pure history writing, and the personal element in them was as strong as in Xenophon TACITUS followed more or less the pattern of Thucydides but with a brooding moral interest in the decay of Roman society He showed a tremendous regard for accuracy and for testing the value of his sources that was not evident in many of the ancient historians, both the greater and the less It did appear to some extent in the scrupulous work of the Jewish historian, JOSEPHUS, but it was to disappear almost totally in medieval historiography Medieval works tended to divide into two types of history writing One was the universal history, which found some of its inspiration in St Augustine's *City of God* and was outstandingly illustrated by OROSIUS and continued by such lesser men as ISIDORE OF SEVILLE The other was the chronicle, which ranged from the crude and simple annals of local monasteries to more orderly and organized accounts such as those of SAXO GRAMMATICUS, OTTO OF FREISING, ROGER OF WENDOVER, and MATTHEW OF PARIS The two forms were not infrequently mixed, and there are chronicles with short sketches of universal history as introduction Attempts at broader histories of peoples such as the history of the Goths by CASSIODORUS (preserved only in the compendium of JORDANES) and the history of the Franks by GREGORY OF TOURS were early and had few successors The chronicles tended to be parochial Since learning was restricted to the Church, the chroniclers were also, naturally, generally biased in favor of the Church They were criticized most by the humanists of the Renaissance and later generations for their readiness to supply without evidence facts which should have been true according to their opinions, for their unquestioning attitude toward evidence however fraudulent, and for their credulous acceptance of many stories of miracles These strictures, however, fail to take into account the genuine contributions that even the poor (and largely anonymous or pseudonymous) histories made, for they retained at least in shadowy form some idea of the universal history of the world as it was then known in their most parochial moments and they show some idea of pattern in history It was a theological and imposed pattern, it is true, but paradoxically it gave the inaccurate, nearly barren chronicles broader horizons Furthermore, there were works of decided merit Bede's *Ecclesiastical History* was an early model in a branch of history writing that has been of great importance The biographical or semibiographical accounts of knightly deeds in the CRUSADES gave rise to the critical history of WILLIAM OF TYRE Contact with the Byzantines and the Moslems broadened history writing by showing the Westerners other points of view Byzantine history writing had also early fallen into the writing of chronicles, though the greater unity of the Byzantine Empire and the persistence of a unified culture gave somewhat more literary quality to the Byzantine works from PROCOPIUS through ANNA COMNENA to the 13th-century writings of ACROPOLITA and the brothers ACOMINATUS How much effect the works of the most celebrated Moslem historians, MASUDI, TABARI, and IBN KHALDUN had on the West is debatable The new learning of the 12th cent did, however, effect all writing and attitudes The emergence of the secular historian, shown in the work of one of the leaders of the Fourth Crusade, VILLEHARDOUIN, was to become more pronounced in the chronicles of Jean, sire de JOINVILLE, Jean FROISSART, and Philippe de COMINES in successive centuries The humanism of the Renaissance revolutionized historiography, for it placed emphasis on textual criticism and on a critical attitude toward documents and sources Men such as PETRARCH, Lorenzo VALLA, MARSILIUS OF PADUA, and Juan Luis VIVES did much to sweep away old myths and produce a more critical attitude Revival of classical learning immediately affected historians, and in one sense MACHIAVELLI and GUICCIARDINI were following in the steps of Greek and Roman historians, though their work was original and immediate Critical methods in history were forwarded in the 17th cent by Jean BODIN and Jean MABILLON, and great critical collections of sources were begun (e g , the *Acta sanctorum*), while busy antiquaries everywhere discovered, questioned, and amended old texts The way was prepared for the beginning of modern history The men of the Enlightenment lifted history writing to a new level VOLTAIRE not only stressed accuracy and refused to accept the judgments of conventional historiographers but cultivated the wider, universal view of history, stressing its social and moral aspects The attempt to get back to the fundamental natural bases of human development was implicit in the *Esprit des lois* of MONTESQUIEU The 18th cent saw, too, the great attempt made by Giovanni Battista VICO to synchronize history into meaningful general patterns. From England came the masterful

work of Edward GIBBON The end of the century also brought the budding of archaeology out of antiquarianism and of philology out of classical scholarship These two sciences were essential to the development of critical objective history in the 19th cent The prophet of the new objective school was the great Leopold von RANKE His efforts and those of his successors, notably Theodor MOMMSEN, J G DROYSEN, and Heinrich von TREITSCHKE, established canons of criticism and historical methods Thus was the "German school" that made history writing into a profession and created the graduate study of history It was to be developed in other lands In France, serious modern history began with FUSTEL DE COULANGES It was continued by such men as LAVISSE, Charles SEIGNOBOS, and Achille LUCHAIRE, who were among those who turned history into a wide study In the United States, earlier historians such as George BANCROFT were followed by the thorough Edward CHANNING and such brilliant and questioning men as Henry ADAMS and Frederick J TURNER, they in quite different ways developed the study of history In England such men as Samuel R GARDINER and Charles H FIRTH challenged the older Whig historians such as Thomas B MACAULAY Meanwhile, however, the broader interest in the philosophy of history had not died, and the philosophy of HEGEL had created a whole school of idealistic historians, his influence continues Other philosophical views were reflected in general theories, some of the towering later figures being Henry Thomas BUCKLE, Oswald SPENGLER, Benedetto CROCE, and Arnold TOYNBEE The theories of Karl MARX not only set in motion a continuing series of interpretations of history from the Marxist economic point of view but also affected historians of all other schools There were, too, other schools of economic history, such as the "new history" of James Harvey ROBINSON and Charles A BEARD in the United States The trend was toward broader social and economic history, and that trend continued in the 20th cent Anthropology and sociology contributed new ideas to history and opened the way to the history of cultures in the round (related to, but different from, such theories of spiritual cultural history as that of Karl LAMPRECHT) History writing became too complex, too filled with schools, to be covered in any brief summary (there are, however, articles on most leading historians) It can only be noted that in the middle of the 20th cent the tendency was to reassert the principle of history as an art as well as a scientific study and to extend the boundaries of history to study mass movements and society as a whole See E R A Seligman, *The Economic Interpretation of History* (2d ed rev, 1924), Allen Johnson, *The Historian and Historical Evidence* (1926), Charles V Langlois and Charles Seignobos, *An Introduction to the Study of History* (Eng tr, 1928), W A Dunning, *Truth in History, and Other Essays* (1937), Allan Nevins, *Gateway to History* (1938), James T Shotwell, *A History of History* (1939)

Hitchcock, Albert Spear, 1865–1935, American botanist, b Owosso, Mich, grad Iowa State Agricultural College, 1884 He taught chemistry in the State Univ of Iowa (1886–89) and botany in Kansas State Agricultural College (1892–1901) He joined the U S Dept of Agriculture in 1901 and from 1924 was principal botanist in charge of systematic agrostology He wrote *Manual of the Grasses of the United States* (1935)

Hitchcock, Alfred Joseph, 1899–, English moving-picture director He was a scenario writer, an art director, and a production manager before he began to direct in 1925 Hitchcock's brilliant technique in creating suspense is seen in such films as *The Lodger, Blackmail, The Thirty-nine Steps, The Lady Vanishes, Rebecca, Foreign Correspondent, Shadow of a Doubt,* and *Spellbound*

Hitchcock, Edward, 1793-1864, American geologist and educator, b Deerfield, Mass, grad Yale Theological Seminary, 1820 After serving (1821–25) as pastor of a Congregational church at Conway, Mass, he was professor of chemistry and natural history at Amherst (1825–54), president (1845–54), and professor of theology and geology until his death In 1830 he made a geological survey of Massachusetts (the first of its kind to be completed); he surveyed the Connecticut valley and was state geologist of Vermont (1857–61) His numerous works include *Elementary Geology* (1840), which went into 30 editions and was rewritten in 1860 with his son, **Charles Henry Hitchcock,** 1836–1919, b Amherst, Mass, grad Amherst College, 1856, He assisted his father on the Vermont survey He was state geologist of New Hampshire (1868–78) and professor of geology at Dartmouth (1868–1908). He made studies of fossil footprints in New England, compiled geological maps, and established a meteorological station on Mt Washington He wrote *Hawaii and Its Volcanoes* (1909) A brother of Charles, **Edward Hitchcock,** 1828–1911, b Amherst, grad. Amherst College, 1849, M D Harvard, 1853, was professor of physical education at Amherst from 1861 and acting president in 1898–99. He organized the department of physical education at Amherst and made significant studies in anthropometry

Hitchcock, Ethan Allen, 1835–1909, U S Secretary of the Interior (1898–1907), b. Mobile, Ala., educated in New Haven, Conn He was appointed minister to Russia in 1897, but was called into McKinley's cabinet the next year. Under McKinley and Theodore Roosevelt, Hitchcock prosecuted a vigorous program for the conservation of natural resources and for reclamation (see RECLAMATION, BUREAU OF) and reorganized the administration of Indian affairs

Hitchcock, Frank Harris, 1869–1935, U S Postmaster General (1909–13), b Amherst, Ohio, grad Harvard, 1891, and Columbian Univ (now George Washington Univ) law school, 1894 A lawyer of Washington, D C, he was chief of the division of foreign markets in the Dept of Agriculture (1897–1903), then, as a protégé of George B Cortelyou, chief clerk of the Dept of Commerce and Labor (1903–5) He served (1905–8) as Assistant Postmaster General In William Howard Taft's campaign in 1908, Hitchcock showed remarkable ability as a political manager As Postmaster General he organized the parcel post and the postal savings bank system and promoted the founding of the air mail A practicing lawyer in New York, he managed the preconvention campaign of Charles E Hughes in 1916 After 1928 he published a newspaper in Tucson, Ariz

Hitchcock, Gilbert Monell, 1859–1934, American newspaper publisher and political leader, b Omaha, Nebr, grad Univ of Michigan law school, 1881 He founded (1885) the Omaha *Evening World,* combined it (1889) with the *Morning Herald,* and was proprietor of the *World-Herald* until his death He was a supporter of William Jennings Bryan until in 1910 the two broke in a quarrel that shook Democratic politics He was a U S Representative (1903–5, 1907–11), and, as Senator (1911–23), he was notable for his strong support of Wilson's policies in the First World War Chairman of the Committee on Foreign Affairs, he stoutly defended the Treaty of Versailles in the losing fight in the Senate From 1919 to 1920 he was the Democratic leader in the Senate

Hitchcock, Lambert, 1795–1852, American chairmaker In the town of Barkhamsted, Conn, in 1818 Hitchcock established a factory, employees of which came to number about a hundred The village that the factory created was named Hitchcockville, in 1806 the name was changed to Riverton Hitchcock at first made parts of chairs and sold the parts to chairmakers Later he discontinued this business and manufactured complete chairs, which were sold throughout the United States The **Hitchcock chair** is characteristic of the time and has come to be sought by collectors They are a factory product, typically not carved or upholstered, and are painted black over red, often with designs stenciled in colors and bronze They are of good wood and are sturdily built The legs and rungs are simply and well turned The seats are of wood, cane, or rush The name of L Hitchcock or of a firm that he formed (Hitchcock, Alford & Company) is stenciled on the back edge of the seat Hitchcock chairs include rocking chairs, said to have been the first to be designed and made as rocking chairs, i e, not made by adding rockers to a chair first made without them See M R Moore, *Hitchcock Chairs* (1933)

Hitchcock, Thomas, Jr., 1900–1944, American polo player and aviator, b Aiken, S C, grad Harvard, 1922 Trained at polo at an early age by his parents, both of whom were outstanding polo players, Tommy Hitchcock played in his first tournament at the age of 13 In the First World War he joined the Lafayette Escadrille, distinguished himself in aerial combat, and became a hero after he was shot down behind the German lines and escaped to Switzerland Hitchcock's polo playing in 1921 won for the United States the International Polo Challenge Cup, and later he excelled in several international tournaments. Probably the outstanding polo player of all time, Hitchcock received from the U S Polo Association its highest polo rating, the 10-goal handicap, from 1922 until 1940 (except in 1935, when he received a 9-goal rating) In 1937 he became a partner in a prominent banking firm In the Second World War, Hitchcock was killed in an airplane crash in England while commanding a U. S. fighter-plane group

Hitchcock chair: see HITCHCOCK, LAMBERT

Hitler, Adolf (ä'dôlf hit'lur), 1889–1945?, German dictator, founder and leader of National Socialism. He was born at Braunau, a small town in Upper Austria near the German border, the son of Alois Hitler (1837–1903), an Austrian customs official. His father appears to have been the illegitimate son (later legitimized) of Maria Anna Schicklgruber, a peasant girl, and one Johann Georg Hiedler or Hitler, who married her several years after Alois's birth Contrary to widespread belief, Hitler's real name was not Schicklgruber. Hitler briefly took art courses in Munich and in 1907 moved to Vienna, where he was refused admission to the academy and where he spent years of utmost poverty and frustration. It was here that Hitler accumulated his grudge against society and fell under the influence of the anti-Semitic mayor, Karl LUEGER (without adopting Lueger's stout Catholicism) He left Vienna in 1913 and settled in Munich Throughout these years he lived partly on charity, partly on the meager proceeds obtained by selling water colors, by painting commercial posters, and by doing odd jobs. After the outbreak of the First World War he enlisted in the Bavarian army as a volunteer He never rose above the rank of corporal, but he received the Iron Cross, first class, for bravery in Flanders and later was gassed. After the armistice of Nov., 1918, Hitler returned to Munich. Resolved on a political career, he joined with several malcontent and nationalist veterans in the minuscule German Workers' party and in 1920 founded his own party with a handful of followers This was to blossom into the National Socialist German Workers' party (see NATIONAL SOCIALISM) Though his party grew slowly, Hitler won the support of many prominent nationalists, notably of Field Marshal LUDENDORFF, and he gathered strength by organizing an armed militia, the "storm troopers" Judging the time ripe for a coup d'état which, with the help of the army, was to bring all Germany under his power, he took advantage of a memorial celebration for the war dead to organize the so-called Munich "beer-hall putsch" of Nov 8–9, 1923 He counted on winning for his side the monarchist Bavarian premier, Gustav von Kahr, as well as the commander of the Reichswehr in Bavaria, Gen Otto von Lossow, and the commander of the Bavarian police, Hans von Seisser On Nov 8 his storm troopers made themselves masters of the Bürgerbrau Keller, a large beer hall, where Kahr and the other Bavarian leaders were addressing a political meeting Overwhelmed, Kahr, Lossow, and Seisser swore loyalty to the revolution, but as soon as they regained their freedom they proceeded to put down the putsch with the Reichswehr. The coup had failed, but on Nov 9 Ludendorff decided to stage a march. with 3,000 storm troopers, and to challenge the Reichswehr to join them or to fire at them Ludendorff and Hitler led the march Despite Ludendorff's prestige, the Reichswehr fired, 14 of Hitler's followers were killed and some (among them Hermann GÖRING) were wounded Hitler fled, but was soon arrested and sentenced to five years' confinement in the fortress of Landsberg He was released after 13 months, during which he wrote his political testament, *Mein Kampf* [my battle], the bible of National Socialism His comrade Rudolf HESS shared his imprisonment Hitler had been forgotten, and when he reentered politics on a nation-wide scale he was long considered a comical figure rather than a serious threat

The "Legal Revolution," 1932–33 The economic crisis that began in 1929 resulted in the spectacular growth of Hitler's party His demagogic appeal, ably exploited by his chief propagandist, Paul Joseph GOEBBELS, won over large segments of the working class and of the ruined bourgeoisie, while his promise to crush Communism (which was also on the rise) won him the financial support of such great industrialists as Fritz Thyssen and the banking house of Schroeder Lacking German citizenship, Hitler was not a member of the Reichstag, in which the National Socialists now were one of the major parties However, he decided to run in the presidential elections of 1932 and obtained German citizenship by a devious procedure the state of Brunswick appointed him as attaché to its legation in Berlin, an official post which conferred automatic citizenship in Brunswick and, thus, in Germany He lost the election, but polled a vote of 11,300,000 against the 18,600,000 votes cast for HINDENBURG. A second election was run off, Hindenburg having fallen short of the required majority, and Hitler increased his vote to 13,400,000 against Hindenburg's 19,300,000 Franz von PAPEN, the new chancellor, lifted the ban on Hitler's storm troops in June, 1932, and in the Reichstag elections (July) the National Socialists emerged as the largest party, with 230 seats Hitler, demanding all or nothing, refused, despite Hindenburg's request, to serve in Papen's cabinet. The Reichstag, being without a workable majority, was dissolved, in the new elections (Nov, 1932), the National Socialists lost 33 seats but remained the strongest party Hitler, unwilling to accept Hindenburg's conditions and unable to secure the support of the German National party, led by HUGENBERG, declined to accept the chancellorship, which passed to Kurt von SCHLEICHER Hitler's star seemed on the wane. Yet while his party was torn by internal struggles and while daily street fights were taking place between National Socialists and Communists, Hitler succeeded (Jan, 1933), in paralyzing the Schleicher cabinet with the help of the Communist members in the Reichstag Civil war seemed imminent. On Jan 28 Hindenburg, having refused Schleicher's request for emergency powers and accepted his resignation, called on Hitler to form a cabinet, which included Papen and Hugenberg. It was not as dictator that Hitler was appointed chancellor, but as the sole man capable

of commanding a parliamentary majority. That he was in no mood to cooperate for long with either the Reichstag or Hugenberg soon became obvious Confident of an electoral triumph, he dissolved the Reichstag and set new elections for March 5 On Feb 27 the REICHSTAG building was reported on fire Without any investigation Hitler immediately accused the Communists of the crime For weeks his brown-shirted storm troops had terrorized the country, and now a wave of anti-Communist hysteria swept Germany Yet, despite all intimidation, the National Socialists polled only 17,200,000 votes (44 percent of the total) The Social Democrats obtained 7,100,000 votes, the Communists, 4,800,000, the Catholic Center, 4,400,000, the German National party, 3,100,000 The outlawing of the Communist party gave Hitler a full majority An attempted Bavarian separatist coup was brutally put down (March 9–10), and on March 23 the Reichstag voted an enabling law which gave Hitler dictatorial powers Thus was the National Socialist "revolution" accomplished by "legal means" *The Third Reich* Hitler promised that the Third Reich, successor to the Holy Roman and Hohenzollern empires, would endure for 1,000 years Within the first two years of its existence (12 years in all), Hitler's power became absolute, the history of his actions was that of GERMANY His authority was largely based on terror, but he undoubtedly was supported by the vast majority of the German people Many former opponents or doubters became his enthusiastic followers as his bold decisions, beginning with the rearmament of Germany and culminating in the triumph of the MUNICH PACT, went unchallenged by the other powers In the single-slate Reichstag elections of Nov , 1933, more than 90 percent of the electorate approved the candidates and endorsed the withdrawal of Germany from the League of Nations In 1934, after Hindenburg's death, a majority of 88 percent voted for the union of the presidency and the chancellorship in the person of the Führer [leader] of the National Socialist party These electoral victories were undoubtedly bolstered by intimidation of the voters and by dishonest counting of the ballots, but outside the Catholic Church and a segment of the Lutheran Church, led by NIEMOELLER, there were few outspoken opponents of the Hitler regime within Germany Within his own party Hitler crushed all opposition in the "blood purge" of June, 1934 Goebbels's propaganda machine soon raised Hitler to a quasi-divinity *Heil Hitler!* became the obligatory form of greeting, and the Führer became the object of hysterical worship, the embodiment of the coming greatness of Germany and of the rule of the master race By 1936 he had fulfilled his promise to restore German military might, by 1938 he had made good a large part of his program for bringing all German-speaking people under the roof of the fatherland The alliance (see AXIS) with Italy gave Mussolini, till then considered Hitler's mentor, the part of a subordinate To Hitler's retreat at BERCHTESGADEN the leaders of Europe were flocking to hear his will (and, usually, their doom), while the whole world listened to his increasingly violent speeches over the radio in order to learn his fateful and capricious pronouncements Hitler's annexation (1939) of Bohemia and Moravia and his threats against Poland at last convinced the world of the futility of further appeasement In Aug , 1939, Hitler secured the neutrality of the USSR, which until then he had denounced as an archenemy of European civilization, he concluded the Russo-German nonaggression pact On Sept 1, 1939, he ordered the invasion of Poland, and the Second WORLD WAR began After the German triumphs of 1939–41, the war began to slow down without a prospect of early victory Trusting in a quick victory against Russia and in desperate need of Russian resources, Hitler launched his attack on the USSR in June, 1941. In December, he dismissed Gen Walther von Brauchitsch and assumed the personal command of the army. His "intuition" was responsible for the German disaster at STALINGRAD By July, 1944, the military situation was desperate, and a group of high military and civil officials (including Field Marshal Erwin von Witzleben and the mayor of Leipzig, Karl Goerdeler) put into execution a long-fomented plot to overthrow the Hitler regime. The bomb placed under Hitler's chair, however, failed to kill the Führer, who escaped with some injury and the loss of his trousers Heinrich HIMMLER, head of the German police, drowned the revolt in blood and assumed actual control of the government During the final German collapse in Jan – April, 1945, Hitler apparently suffered from a nervous breakdown, aggravated by the ministrations of his personal physician, a quack Denouncing his former collaborators as traitors, Hitler remained in Berlin when it was stormed by the Russians On April 29 he made his will and married his mistress, Eva Braun. On April 30, according to most reports, he and his wife committed suicide in an underground shelter of the chancellery building, and their gasoline-soaked bodies were burned beyond recognition. In one of his last acts he had appointed Admiral Doenitz as his successor. Neither Hitler's body nor Eva Braun's body could be identified, and it has been suggested that Hitler actually escaped into hiding (Wild rumors even designated his hiding place, S Argentina) Until proof to the contrary, however, his death may be accepted as a fact for all practical purposes It is doubtful that it will be possible for many years to take an unemotional view of Adolf Hitler. His insane hatred and his sadism were the gigantic outgrowths of the petty resentments of a petty man. His political and philosophical notions were the product of a half-tutored, pseudo-intellectual personality and a wild hodgepodge of borrowed and ill-digested ideas Long admired for his shrewdness, Hitler was a believer in astrology Even the myth of his saintly private life has been exploded by revelations after his death The hugeness of the crimes and cruelties perpetrated by, or on the order of, Hitler is almost inconceivable to the human mind Hitler's accomplishment in the end was almost exclusively destructive, and it was his destructive spirit that made him drag his own nation into his personal ruin The primary source for study of Hitler's personality remains his own *Mein Kampf* (complete Eng tr by John Chamberlain and others, 1940) See Konrad Heiden, *Der Führer* (Eng tr , 1944), which, though it does not cover Hitler's last years, is the most authoritative biography

Hitopadesa see SANSKRIT LITERATURE

Hittites (hĭ'tīts), ancient people of Asia Minor and Syria, who flourished from 2000 B C to 1200 B C Their chief center was at the modern Boghazkeui, where the chief archaeological finds have been made Relics of the Hittites have been found in other parts of Asia Minor The artistic work of the Hittites, as in reliefs, round sculptures, and seals, shows a high state of talent and considerable Babylonian and Assyrian influence A great number of inscriptions have been uncovered in the Hittite area, these are for the most part in cuneiforms Besides the Babylonian inscriptions, there are many in Hittite or Kanesian The Hittite language is Indo-European in relationship (see LANGUAGE, table) There are several other languages meagerly represented in the Hittite archives the so-called Luish (similar to Hittite), Khattish, and Khurrish (both non-Indo-European and apparently unrelated to one another) There is also a hieroglyphic alphabet (or syllabary) liberally represented, this largely undeciphered script is also Hittite, according to Friedrich Hrozny, the chief authority on Hittite The recurrence of the language and the mention of corresponding peoples have led to the supposition that c 2000 B C a people of Indo-European connection (Hittites) entered Cappadocia and ousted the Mesopotamian rulers To the southwest (in the Taurus and Cilicia) were the Lutes, relatives of the Hittites, to the southeast (in the upper Euphrates), the Khurrites In the country the Hittites now occupied, the aboriginal inhabitants were apparently the Khatti, and the later empire was called the land of the Khatti or Hatti From Babylonian, Assyrian, and Egyptian sources some outstanding facts of Hittite history are gained About 1800 B C the Hittites ruled an empire centering in Cappadocia, their chief opponents being the Syrians (probably of Indo-European connection) who overthrew the dynasty of Hammurabi From 1400 B C the Hittite empire was the chief power and cultural force in W Asia, and c 1290 B C the Hittites came into battle with RAMSES II himself, at Kadesh on the Orontes Ramses II married a Hittite princess The Hittite empire was at best a loose confederation which broke up under the invasions of the Thracians, Phrygians, and Assyrians in the late 12th cent B C Several small states arose, of which CARCHEMISH became an outstanding city Among the chief Hittite rulers were Mursilish I (fl 1750 B C), Tuakhalijash II (fl 1500? B C), Supiluhumash (fl 1380 B C), Mursilish II (fl 1335 B C), and Hattusilish (fl 1300 B C) The civilization of the Hittites clearly had many foreign elements, notably from Mesopotamia, this is especially visible in the religion and mythology, which were remarkably eclectic The Hittite pantheism borrowed most of its concepts from Babylonian, Assyrian, and Khurrish sources The Hittite law codes are interesting, partly because they are to some extent independent of the Babylonians See D G Hogarth, *Hittite Seals* (1920) and *Kings of the Hittites* (1926), D G Hogarth and C L Wooley, *Carchemish* (1921), A E Cowley, *The Hittites* (1920), John Garstang, *The Land of the Hittites* (1910), E H Sturtevant, *Comparative Grammar of Hittite* (1933), the numerous works in French and German of Friedrich Hrozny

Hittorff, Jacques Ignace (hĭ'tôrf, Fr shäk' ēnyäs' ētôrf'), 1792–1867, French architect He became a leading exponent of the classic revival in France, and his chief work is the Neo-Greek Church of St. Vincent de Paul, in Paris, which he built (1824–44) with his father-in-law, J. B Lepère He was appointed (1833) architect for the embellishments in Paris of the Place de l'Étoile, the Champs Élysées, and the Place de la Concorde For the last he designed the fountains, the locations of the sculptures of the cities of France, and the pedestal for the obelisk He also designed the column in the Place Vendôme and other civic adornments A pioneer in the study of the color ornament used in ancient Greek buildings, he published *Restitution du temple d'Empédocle à Sélinonte, ou, L'Architecture polychrome chez les Grecs* (1851)

Hiva Oa (hē'vä ō'ä) or **Hivaoa**, volcanic island (pop 847), S Pacific, second in size but most important of the MARQUESAS ISLANDS. It is the seat of Atuona, capital of the Marquesas Islands dist The island, formerly called Dominica, has a circumference of c 60 mi The Bay of Traitors, protected by ridges 3,000 ft high, provides a good harbor The chief export is copra

hives or **urticaria**, skin eruption characterised by the formation of raised areas (wheals) which burn and itch The elevations are white in the center, surrounded by a halolike border of red It is thought that urticaria results from an antigen-antibody reaction (allergy) and that a substance (histamine) is released which dilates the arterioles and affects the permeability of the capillary walls, thus releasing serum and resulting in edema and the formation of a wheal Among the many causes of urticaria are bacterial infections, malaria, tapeworm, insect bites, foods and drugs When the condition is correctly diagnosed, treatment consists of removing or avoiding the cause The injection of epinephrine, the oral use of benadryl or pyribenzamine, or the external application of calamine lotion may give temporary relief

Hivites (hī'–), peaceful tribe probably living in the vicinity of Jerusalem They were crushed in the Hebrew occupation Gen 10 17, Ex 3 8,17, Joshua 9 1,7 11 3,19, 2 Sam 24 7

Hizkiah (hĭzkī'ä) [Heb , variant of HEZEKIAH], ancestor of Zephaniah Zeph 1 1

Hizkijah (hĭzkī'jə) [Heb , variant of HEZEKIAH], one who returned from captivity to Palestine Neh 10 17 Hezekiah Ezra 2 16, Neh 7 21

Hjalmaren, Swed *Hjälmaren* (yĕl'märən), lake, 190 sq mi , central Sweden It is drained into Malaren Lake past the city of Eskilstuna and connects with Arboga by an 8-mile canal

Hjorring, Dan *Hjørring* (both yûr'ĭng), city (pop 13,346), N Jutland, Denmark The center of an agricultural district, it also has textile mills and machine shops Hjorring dates from the 12th cent

Hjort, Johan (yōhän' yôrt'), 1869-1948, Norwegian oceanographer and biologist, an authority on fisheries He was director of fisheries in Norway (1900–17) and professor at the Univ of Oslo (1921-39) His works include *The Depths of the Oceans* (with Sir John Murray, 1912) and *The Human Value of Biology* (1938)

Ho, chemical symbol of the element HOLMIUM

Hoadley, David (hōd'lē), American architect, 1774-1839, b Waterbury, Conn He began as a house carpenter, and his natural talent turned him to designing without any specialized training He was the architect for many houses and churches in Waterbury and New Haven, some of which are preserved His most famous work is the United Church (1814–15) in New Haven, the entrance to the mansion (c 1802) for Judge William Bristol is in the Metropolitan Museum and shows a masterly grasp of classical principles

Hoadly, Benjamin (hōd'lē), 1676–1761, English prelate, center of the BANGORIAN CONTROVERSY He was a leader in the Low Church group of the Church of England In 1715 he became bishop of Bangor and chaplain to George I His pamphlet, *A Preservative against the Principles and Practices of Non-Jurors* (1716), and especially his sermon (1717) before the king on the text "My kingdom is not of this world," in which he maintained that Christ had not delegated authority to ecclesiastics, started the Bangorian Controversy Some 200 pamphlets were published, the ablest replies to Hoadly were those of William LAW Hoadly was translated to Hereford (1721), to Salisbury (1723), and to Winchester (1734)

Hoan, Daniel Webster (hōn), 1881–, American public official, Socialist mayor of Milwaukee (1916–40), b Waukesha, Wis grad Univ of Wisconsin, 1905 He became a Milwaukee lawyer and, as attorney for the state federation of labor, was influential in the successful fight for the first state workmen's compensation act in the United States He was city attorney (1910–16) before serving as mayor at the head of an efficient administration He was afterward an official in the Office of Civilian Defense in the Second World War He wrote *City Management* (1936)

Hoangho see YELLOW RIVER

Hoar, Ebenezer Rockwood, 1816–95, American lawyer, U S Attorney General (1869–70), b. Concord, Mass , grad Harvard (B A , 1835, LL B., 1839). While serving (1846) in the Massachusetts senate, he declared that he would rather be a "Conscience Whig" than a "Cotton Whig," thus originating an antislavery slogan Hoar, a judge of the court of common pleas (1849–55) and an associate justice of the Massachusetts supreme court (1859–69), was appointed U S Attorney General by President Ulysses S Grant A man of wit, learning, intellectual power, and integrity, he was one of Grant's few

excellent appointments. The President, early in 1870, nominated him as an Associate Justice of the U S Supreme Court, but the Senate, hostile to Hoar because he had insisted on filling nine new judgeships in the Federal circuit courts with able, experienced men rather than with the political hacks sponsored by Senators, rejected the nomination. Some of them used the excuse that Grant and Hoar had already packed the Supreme Court in order to obtain a reversal of the decision on legal tender Grant, seeking Senate support for his pet project to annex Santo Domingo, in June, 1870, abruptly requested Hoar's resignation as Attorney General In 1871 Hoar was one of the five U S commissioners in negotiating with Britain the Treaty of Washington providing for settlement of the *Alabama* claims, and in 1873–75 he served in Congress, along with his brother, George F. Hoar See biography by Moorfield Story and E W Emerson (1911)

Hoar, George Frisbie, 1826–1904, American statesman, b Concord, Mass , grad Harvard, 1846, and Harvard Law School, 1849 He practiced law at Worcester, Mass , became a Republican in politics, and was U S Representative (1869–77) and U S Senator (1877–1904) He fought political corruption and avoided much of the partisan bitterness of the day Hoar was a leader among those New Englanders who opposed the McKinley expansionist policy His *Autobiography of Seventy Years* (2 vols , 1903) is an excellent commentary on American political history See biography by F H Gillett (1934)

Hoare, Samuel. see TEMPLEWOOD, SAMUEL JOHN GURNEY HOARE, 1ST VISCOUNT

hoarfrost · see FROST

hoarseness, harsh quality of the voice Causes include inflammation of the vocal cords or associated structures, excessive use of the voice, pressure on the laryngeal nerves, e g , by a tumor or goiter, functional disturbances of the vocal cords, singer's node (a small growth on the vocal cords), and diseases of the larynx, e g , tuberculosis or cancer Treatment depends upon the cause

Hobab (hō'băb) [Heb ,=beloved] see JETHRO

Hobah (hō'bu) [Heb ,=hiding place], place, not certainly identified, to which Chedorlaomer fled Gen 14 15

Hoban, James (hō'bŭ), c 1762–1831, American architect, b Ireland, educated in Dublin He settled at Charleston, S C before the Revolution There he designed the South Carolina statehouse (1786–91), which was later burned He moved to Washington, D C , in 1792 and won the competition for the design of a mansion for the President, later called the White House He built this in 1792–99 and rebuilt it after its burning by the British in 1814. He was one of the supervising architects who served at the Capitol in the execution of Dr William Thornton's design and he worked upon public buildings, in the employ of the government, for more than 25 years

Hobart, Garret Augustus (hō'burt), 1844–99, Vice President of the United States (1897–99), b Long Branch, N J , grad Rutgers College, 1863 A lawyer, he was prominent in New Jersey Republican politics for many years Elected Vice President on the ticket with McKinley, he died in office

Hobart (hō'burt, hō'bûrt), city (pop 56,668, metropolitan pop 76,567), capital and principal port of Tasmania, Australia, on the west shore of the Derwent estuary at the foot of Mt Wellington (4,166 ft high) A bridge (1941) links the city with its eastern suburbs Hobart is the seat of the Univ of Tasmania and of Roman Catholic and Anglican cathedrals It was founded in 1804 and named for the British colonial secretary There are woolen mills, meat-packing plants, fruit canneries, and a zinc refinery

Hobart (hō'burt) 1 City (pop 7,166), NW Ind , SE of Chicago near Gary, settled c 1849, inc 1921 It is a business and industrial center 2 City (pop 5,177), co seat of Kiowa co , SW Okla , N of the Wichita Mts , settled c 1901 It is in a diversified farm area producing also some oil

Hobart College see COLLEGES OF THE SENECA, THE

Hobbema, Meindert (mīn'dûrt hō'bumä), 1638–1709, great Dutch landscape painter, second only to his contemporary Jacob van Ruisdael, with whom he probably studied Little is known of Hobbema's life Most of it was spent in a poor district of Amsterdam, where he died a pauper Although such noted contemporaries as Van de Velde and Berchem are said to have painted some of the figures in his pictures, Hobbema seems to have been little appreciated in his day, and his pictures sold for trifling sums even a century after they were painted Nevertheless he is now recognized as one of the greatest of landscape painters While lacking Ruisdael's scope and imagination, Hobbema equals him in draughtsmanship, bold execution, and color His scenes are full of life and luminosity and loving observation of nature He painted chiefly woodland scenes, country villages, water mills, and kindred subjects in a style at once bold and painstaking, his great mastery of detail never detracting from the general effect of his large and vigorous compositions Much of his work is in England, where it received perhaps the earliest and warmest recognition. Its influence on the later English landscapists was great Among his famous works are *Avenue, Middelharnis* (National Gall , London), *The Mill* (Louvre), *Water Mill* (Rijks Mus), and *Entrance to a Village* (Metropolitan Mus) The National Gallery, London, has the best collection of his work, but splendid examples exist in many American collections, notably the Frick, New York, and those of the Metropolitan Museum, the Art Institute of Chicago, and the National Gallery of Art, Washington, D C See study by Georges Broulhiet (1938, in French).

Hobbes, John Oliver. see CRAIGIE, PEARL

Hobbes, Thomas (hŏbz), 1588–1679, English philosopher, grad Magdalen College, Oxford, 1608. For many years a tutor in the Cavendish family and briefly the instructor of Prince Charles, Hobbes took great interest in mathematics, physics, and the current rationalism In 1640, after his political writings had brought him into disfavor with the parliamentarians, he went to France There he had rich association with French intellectuals, including Gassend His work, however, aroused the antagonism of the English group in France, and his thorough materialism offended the churchmen, so that in 1651 he felt impelled to return to England, where he was able to live peacefully Among his important works, which appeared in several revisions under differing titles (see Sir W Molesworth's edition of the complete works, 11 vols , 1839–45), are *De Cive* (1642), *Leviathan* (1651), *De Corpore Politico* (1650), *De Homine* (1658), and *Behemoth* (1680) In the *Leviathan*, Hobbes developed his political philosophy He argued mechanistically that life is simply the motions of the organism and that man is by nature a selfishly individualistic animal at constant war with all other men In a state of nature, men are equal in their self-seeking and live out lives which are "nasty, brutish, and short " To escape the natural anarchy, men contract with each other to surrender their selfish rights and secure peace in a created state When men create the state they form a compact among themselves to submit absolutely to the sovereign, who is outside of the agreement and whose only obligation to the people is to protect them Failing this obligation, the sovereign is liable to legitimate opposition Temporal power is always superior to ecclesiastical power, Hobbes strongly attacked the Roman Catholic Church It should be noted that the power of the sovereign derived originally from the people, a subtle challenge to the doctrine of divine right of kings Further, the right of citizens to revolt was implicitly recognized, and the logic of Hobbes's position could apply equally well to king or parliament He argued that the sovereign must support truth and freedom of thought, since these promoted peace In psychology Hobbes was a strict sensationalist and forerunner of the associationist theory He strongly influenced English philosophy in the direction of mechanical interpretations of human development, and he was the first of the great English political theorists See biographies by A E Taylor (1908) and John Laird (1934), Leo Strauss, *The Political Philosophy of Hobbes* (1936), Clarence De Witt Thorpe, *The Aesthetic Theory of Thomas Hobbes* (1940)

hobblebush or American wayfaring tree, a VIBURNUM (*Viburnum alnifolium*) of E North America, with long straggling branches which often root at the tip, whence the name The heart-shaped leaves are colorful in the fall The flat-topped clusters of small white flowers are edged with larger sterile flowers Birds are fond of the edible berrylike fruits that turn from red to purple or black There is an Old World species (*Viburnum lantana*) called wayfaring tree that is similar but lacks the larger marginal flowers

Hobbs, city (pop 10,619), SE N Mex , near the Texas line, founded 1907, inc 1929 The city is a trade center for an oil, livestock, and farm area, the discovery of rich oil fields in the region in 1927 made it a headquarters for oil-well supplies and brought the railroad in 1930.

hobgoblin, FAIRY creature, generally the same as GOBLIN He is identified at times with ROBIN GOODFELLOW

Hobhouse, Leonard Trelawney, 1864–1929, English philosopher, sociologist, and journalist, studied at Oxford He later taught at Oxford and at the Univ. of London He tried to show, with evidence from anthropology and comparative psychology, that biological evolution and spiritual evolution were concurrent His books include *The Theory of Knowledge* (1896), *Morals in Evolution* (2 vols , 1906), and *Social Development* (1924) See J A. Hobson and Morris Ginsberg, *L. T Hobhouse His Life and Work* (1931)

Hobkirks Hill, battle of: see CAROLINA CAMPAIGN.

hobo. see VAGRANCY

Hoboken (hō'bōkun), town (pop 31,770), Antwerp prov , N Belgium, on the Scheldt (Escaut) Forming part of greater Antwerp, it has shipyards, copper, tin, and silver refineries, and wool-processing plants

Hoboken (hō'bōkun, hō'bŭkŭn), city (pop. 50,115), NE N J., on the Hudson opposite lower Manhattan, with which it is connected by ferry and by subway under the river. It is a commercial and industrial center and an ocean port Food products are packed A brewery was built as early as 1642 The Dutch traded with the Indians and farmed here from c 1630 Stuyvesant procured deeds to the land from the Indians in 1658, in 1711 it passed to a New York merchant, Samuel Bayard His Tory descendant, William Bayard, had possession when the land was confiscated in the Revolution John STEVENS bought the site in 1784, established his home at Castle Point, and laid out the town in 1804 It became a city in 1855 Stevens operated between New York and Hoboken the first steam ferry (1811) He built (1824) and ran on his estate the first locomotive to pull a train on tracks The John Jacob Astor home (1828) was a gathering place for authors, including Fitz-Greene Halleck, Washington Irving, and William Cullen Bryant Bryant, Sands, and Verplanck edited the *Talisman* in Hoboken The STEVENS INSTITUTE OF TECHNOLOGY is here

Hobson, John Atkinson (hŏb'sun), 1858–1940, English economist and journalist He achieved wide popularity as a lecturer in university extension classes for workingmen and as a writer on economic and social problems Criticizing the concepts of classical "pure" economics, especially Alfred Marshall's work, he held that economic theory was bound with the ethical problems of social welfare and should be a guide to reform He advocated partial socialization, but was never a thoroughgoing socialist His many books include *The Evolution of Modern Capitalism* (1894), *The Economics of Distribution* (1900), *Imperialism* (1902), *Work and Wealth* (1914), *The Economics of Unemployment* (1922), and the autobiographical *Confessions of an Economic Heretic* (1938)

Hobson, Richmond Pearson, 1870–1937, American naval officer, b Greensboro, Ala , grad Annapolis, 1889 He first gained notice by his effort to sink the collier *Merrimac* to block the harbor of Santiago in the Spanish-American War He resigned from the navy and was a U S Representative for Alabama (1905–15) Subsequently he wrote and lectured in the prohibition cause He also advocated naval expansion

Hoccleve or **Occleve, Thomas** (hŏk'lēv, ŏk'–), c 1368–c 1450, English poet, of the Chaucerian tradition His chief work is *The Regiment of Princes*, a didactic poem addressed to Henry, prince of Wales (later King Henry V) He caused to be painted in one of his manuscripts the most authentic extant portrait of Chaucer

Hoche, Lazare (läz.u'zōsh'), 1768–97, French general in the French Revolutionary Wars He fought under DUMOURIEZ, and when Dumouriez deserted (1793), Hoche was briefly arrested on suspicion of treason Later he was given command on the Rhine and the Moselle Again accused of treason—by Pichegru—Hoche was in prison from March, 1794, until the fall of Robespierre in July, 1794, when he was given the command in the VENDÉE He pacified that province His attempted invasion of Ireland (1796) was thwarted by bad weather After defeating the Austrians at Neuwied (1797), he was for a time minister of war

Hochelaga (hō"shulä'gu, –la'gu), former Indian village, Canada, discovered by Jacques Cartier on his second voyage (1535) It was situated at the foot of Mt Royal in what is today the central part of the city of Montreal The town was the capital of the Hochelagan people (of Iroquoian stock probably), the chief inhabitants of the St Lawrence valley Recent excavations in Montreal have unearthed old hearths, kitchen middens, and burial places of the ancient village

Ho Chi-minh (hō' chē-mīn'), 1890?–, Indo-Chinese revolutionary leader After several years' residence in France, he spent two years in Moscow (1925–27) He later returned to Asia and was active in organizing Communist and nationalist revolutionary movements among Annamese outside of Indo-China, where he sent agents In 1941 he emerged as the organizer and leader of the Viet Minh (the League for the Independence of Viet Nam), and in 1945 he headed the VIET NAM provisional government In 1946 open warfare broke out between France and the regime of which Ho was the dominant figure Despite Ho's Communist affiliations his policy is stated primarily in terms of aspirations for independence and improved economic conditions

Hochkirch (hōkh'kirkh), village, Saxony, E Germany, near Bautzen Here in 1758 the Austrians under Daun defeated Frederick II of Prussia

Höchst (hûkhst, hûkst), suburb (pop 51,452) of Frankfurt, Hesse, W Germany. It is the seat of the I G. Farben chemical industry, which has large plants here Here, in the Thirty Years War, Tilly defeated (1622) Christian of Brunswick

Höchstädt (hûkh'shtĕt), village, W Bavaria, on the Danube The battle of BLENHEIM (1704) took place near by In 1800 the French under Moreau defeated the Austrians at Höchstädt

hock: see WINE.

hockey, game played on a field or on ice. Field hockey was played in England for several cen-

turies, and after it was standardized by the Wimbledon Hockey Club (organized 1883), it spread to other European countries The game has been played since 1890 in the United States and since 1901 has been a popular sport, especially among college girls In 1922 the U S Field Hockey Association was formed as the ruling body of the game It is played on a level field, measuring 50 to 60 yd by 90 to 100 yd , by two teams of 11 players each (five forwards, three halfbacks, two fullbacks, and a goalkeeper) A face-off in the center of the field starts the game Teams direct their play toward advancing the ball (made of cork and twine, covered with white leather, and about 9 in in circumference) down the field with their sticks (wooden and with a flat head which has rounded edges) A point is scored by delivering the ball past the goalkeeper through the goal posts, which are 7 ft high, 12 ft apart, and enclosed behind by nets Illegal use of the stick and roughness are penalized by temporarily relegating a player to the penalty corner (See Anne B Townsend, *Field Hockey*, 1936) Ice hockey, although played on similar principles, is a far faster and more rugged game, which has received more popular acclaim than field hockey Ice hockey, played exclusively by men, originated in Canada and probably was standardized by students of McGill Univ in the 1870s The first ice-hockey league was formed (1885) in Kingston, Ont The game spread throughout Canada and became a popular sport in the NE United States The first professional hockey league was founded (1903) in Michigan, and after the National Hockey League (1908) and the Pacific Coast Hockey League (1911) were organized, postseason play-offs for the Stanley Cup began (1912) Since 1926 the cup-winning team has been decided by play-offs among the four leading teams of the National Hockey League This league, reorganized in 1917 with four Canadian teams, was further reorganized in 1926 to consist of 10 Canadian and American teams in two divisions The number of teams, however, was reduced by 1941 to 6—the Boston Bruins, the Chicago Black Hawks, the Detroit Red Wings, the Montreal Canadiens, the New York Rangers, and the Toronto Maple Leafs Amateur hockey, like professional hockey, has progressively gained in popularity Several amateur hockey leagues were in existence in Canada early in the 20th cent , and in the United States the first important amateur league was started in 1913 The Pacific Coast League (1944) and the Eastern League (1945) are styled amateur Colleges and high schools in Canada and the N United States also play ice hockey, which spread to European countries after 1910 The game is played on a regulation ice rink which should be 200 ft long and 85 ft wide, but the measurements vary from rink to rink Six players—a goalie, a center, two defense men, and two forwards—all of whom are on ice skates, make up a team The rink is surrounded on all sides by walls between 3½ ft and 4 ft high The goal nets (4 ft high and 6 ft wide) are set 10 ft out from each end of the rink, which is divided by colored lines under the ice into three equal zones (attacking, neutral, and defending), each 60 ft long A vulcanized rubber puck, 1 in thick and 3 in in circumference, is used, and the weight, size, and shape of ice-hockey sticks are standardized After the face-off, teams concentrate on defending their own goals or, when in possession of the puck, on hitting this disk into the attacking zone and from there maneuvering advantageously in order to hit it past the obstructing goalie and the red line between the goal posts into the nets Each goal counts a point The game is divided into three 20-minute periods, overtime periods in case of ties are only used in Stanley Cup play-off games In this swift and body-bruising game players use heavy protective equipment, and unlimited substitution is allowed A player detected by the referee in roughing, tripping, high-sticking, or other violations is removed from the game to the penalty box for two minutes (a minor penalty) or more (major penalties), and his team must continue play short-handed A linesman, goal judges, timekeeper, and scorer also officiate in ice hockey Among the famous names past and present in professional ice hockey (almost all are Canadian) are Sydney Abel, Hobey Baker, Douglas and Max Bentley, Frank and George Boucher, Frank Brimsek, William ("Turk") Broda, Aubrey ("Dit") Clapper, Sprague Cleghorn, Neil Coville, Charles and Lionel Conacher, William Duman, Ivan ("Ching") Johnson, Edgar Laprade, Howie Morenz, Lester and Lynn Patrick, Charles Rayner, Maurice Richard, Arthur Ross, Milton Schmidt, Eddie Shore, and Georges Vezina See T K Fischer, *Ice Hockey* (1926), Mervyn Dutton, *The Fastest Game on Earth* (1938), E J Jeremiah, *Ice Hockey* (1942)

Hocking, William Ernest, 1873–, American idealist philosopher, b Cleveland, grad. Harvard (B A , 1901; Ph.D , 1904). He was professor of philosophy at Harvard from 1914 until his retirement in 1943 His writings, which emphasize in particular the religious aspects of philosophy, include *The Meaning of God in Human Experience* (1912), *Man and the State* (1926), *The Lasting Elements of Individualism* (1937), *Science and the Idea of God* (1944), and *Preface to Philosophy* (1947)

Hod [Heb., =splendor], Asherite 1 Chron. 7.37.

Hodaiah (hōdā'yu) [Heb , =Hodaviah], descendant of David 1 Chron 3 24.

Hodaviah (hōduvī'u) [Heb , =splendor of God] 1 Chief Manassite 1 Chron 5 24 **2** Benjamite 1 Chron 9.7 **3** Levitical family Ezra 2 40 Hodevah Neh 7 43 Judah Ezra 3 9

Hoddesdon (hŏdz'dŭn), urban district (1931 pop 6,811, 1943 estimated pop 12,500), Hertfordshire, England, N of London It was once noted as a coach stop and in Izaak Walton's time as a fishing resort

Hodeida (hōdā'du), city (pop c 50,000), Yemen, a port on the Red Sea The mixed population includes Arabs, African Negroes, and Indians. Among the exports are hides and coffee

Hodesh (hō'-) [Heb , =new moon], wife of Shaharaim 1 Chron 8 9

Hodevah (hōdē'vu), the same as HODAVIAH **3.**

Hodgdon, rural town (pop 1,076), E Maine, near the N B line S of Houlton, inc 1832

Hodge, Charles, 1797–1878, American theologian, b Philadelphia He was associated with Princeton Theological Seminary, where, after graduation, he taught first Oriental and biblical literature and later theology for 58 years His chief work is his *Systematic Theology* (3 vols , 1872–73) He also wrote *The Constitutional History of the Presbyterian Church in the United States of America* (1839–40), *Discussions of Church Polity* (1878), and several widely used volumes of commentaries and contributed the equivalent of many volumes to the *Princeton Review*, which he founded and edited for over 40 years His biography was written (1880) by his son **Archibald Alexander Hodge,** 1823–86, who succeeded to his place at the seminary

Hodge, Frederick Webb, 1864–, American anthropologist, b Plymouth, England He came to the United States at the age of seven He entered the field of archaeology through service (1884–86) in the Southwest with the U S Geological Survey and as secretary (1886–89) to the Hemenway Archaeological Expedition He became associated with the Bureau of Ethnology in 1889, led many of its expeditions in the Southwest, edited its *Handbook of the American Indian* (2 vols , 1907–10), and was ethnologist (1910–18) in charge of the bureau After serving with the Museum of the American Indian (Heye Foundation), New York city, from 1918 to 1931, he became (1931) director of the Southwest Museum, Los Angeles He wrote many monographs and scientific papers and edited *The American Anthropologist* (1899–1910, 1912–14) and many historical source narratives relating to the Southwest

Hodge, village (pop 1,445), N La , SSW of Ruston It is built around a large paper mill

Hodgenville (hŏj'nvĭl), town (pop 1,348), co seat of Larue co , central Ky , S of Louisville and near the Nolin river, settled 1789 It is in a farm area which also has limestone quarries and gas wells Near by is Abraham Lincoln National Historical Park (116 5 acres, est 1939), containing the log cabin in which Lincoln is said to have been born

Hodges, George, 1856–1919, Protestant Episcopal clergyman While at Calvary Church, Pittsburgh (1881–94) he attracted attention by the quality of his preaching He was an early exponent of the "social gospel" and founder of Kingsley House and other philanthropic agencies in Pittsburgh From 1894 until his death he was dean of the Episcopal Theological School, Cambridge, Mass He was the author of many books and articles See biography by Julia Shelley Hodges (1926)

Hodgson, Ralph (hŏj'sun), 1872?–, English poet The facts of his life are obscure, but he taught at the university in Sendai, Japan, in 1924 and 1928 His first book, *The Last Blackbird and Other Lines* (1907), was followed in 1917 by his collected *Poems* He treats his subject matter, nature, lyrically and simply His long silence was broken in 1941 with *Silver Wedding and Other Poems* and in 1942 by *Muse & the Mastiff*, both slim volumes "Eve," one of the most highly acclaimed poems of its time, is only slightly better known than "The Bull" and the short catch, "Time, You Old Gypsy Man "

Hodgson, Shadworth Hollway 1832–1912, English philosopher In 1880 he helped found the Aristotelian Society in London and until 1894 was its president His works include *Time and Space* (1865), *The Philosophy of Reflection* (1878), and *The Metaphysic of Experience* (1898), which contains a full exposition of his philosophy

Hodiah (–dī'ù) [Heb , =splendor of God], name in an obscure passage. 1 Chron 4 19.

Hodijah (–dī'jù) [Heb , =Hodiah] 1 Levite in the return from the Exile Neh. 8.7; 9.5, 10 10 **2, 3** Sealers of the covenant. Neh. 10 13,18

Hodler, Ferdinand (hōd'lùr), 1853–1918, Swiss painter and lithographer. After 30 years' hard struggle he gained a high reputation. His painting is characterized by simplicity, clarity, and vigor His notable works include *La Nuit, La Vérité, Cortège des lutteurs,* and *L'Amour* The best collection is in the art museum of Zurich

Hodmezovasarhely, Hung *Hódmezővásárhely* (hōd'-mĕzûvă"shărhă), agricultural city (pop 61,776), S Hungary, near the Tisza river and NE of Szeged A typical Hungarian "peasant city," it occupies 294 sq. mi.

Hoe, Richard March (hō), 1812–86, American inventor and manufacturer of printing presses, b. New York city. The eldest son of the founder of R. Hoe & Company, he entered his father's press manufacturing business at 15 years and directed or helped direct its affairs for 56 years. He was the chief inventor of the family, and his improvements on the cylinder press invented by Napier soon made his company the leading makers of cylinder presses in the United States He designed and manufactured the first flat bed and cylinder press to be used in the United States. In 1846 and 1847 he designed the first Hoe rotary press, based on his inventions for securely fastening the type to a large central cylinder around which a number of impression cylinders revolved This quadrupled the speed of printing, and these presses dominated the market for 20 years or until the press invented by William A Bullock, which first printed both sides and fed from a continuous roll of paper, replaced it Hoe turned to the manufacture of similar presses and, with his mechanics, devised the triangular folder to fold the papers as they came from the press, which completed the evolution of the main features of the modern printing press See Robert Hoe, *A Short History of the Printing Press* (1902)

Hoe, Robert, 1839–1909, American manufacturer of printing presses and book collector, grandson of the founder of the firm R Hoe & Company He entered the firm at 17 and became its head in 1886, succeeding Richard March Hoe Under his guidance inventions and improvements were made which enabled the firm to retain its lead in its field and by its double-supplement, quadruple, and sextuple presses increase the speed of newspaper production many times. He similarly improved presses for periodicals, did pioneer work with color presses, and developed web presses for half-tone work He wrote *A Short History of the Printing Press,* founded the Grolier Club, and collected one of the largest and finest private libraries of rare books in the country, catalogued in eight volumes (1911–12)

hoe, usually a flat blade, variously shaped, set in a long handle and used for weeding and for loosening the soil It was the first distinctly agricultural implement The spade (first in the form of the digging stick) is older than agriculture and is much used outside that occupation The gathering of wild foods, as by hunting and fishing, is done in different places at different times in the year, but agriculture encourages fixed habitations This fact gave the hoe a chief part in a fundamental revolution in the life of mankind—the establishment of permanent communities (in the Neolithic period) The earliest hoes were forked sticks The pick is a variety of the same implement Antlers of animals have been used as hoes, and hoes have been made by fastening suitable shells to sticks The hoe shared in man's progress in the use of wrought stone, copper, bronze, iron, and steel When the blade became good enough, a variety of the hoe—the adz—was used for working wood, which was often charred to make the adz more efficient The PLOW (an invention of the Bronze Age) is another development of the hoe The use of the hoe has continued It symbolizes agriculture, as do the plow and the sickle Edwin Markham's poem, "The Man with the Hoe," interprets exploitation of agriculture, from which mechanized farming has not been wholly free The use of the hoe as a means of bringing plenty to households and communities has been associated with festivals All the staple farm crops were domesticated with the hoe That a high civilization can be sustained by the hoe was shown by pre-Columbian America. See H J Peake, *Early Steps in Human Progress* (1933), R U Sayce, *Primitive Arts and Crafts* (1933)

Hoefnagel, Joris (yō'rĭs hōō'nagl), 1542?–1600?, Flemish miniature painter and illustrator He traveled and sketched extensively, spent eight years in the service of the elector of Bavaria at Munich, was employed by Emperor Rudolph II at Prague, and finally settled in Vienna Hoefnagel's talent as a draughtsman is evidenced by his illustrations for the *Civitates orbis terrarum* of G Braun and F. Hogenberg He is best known, however, for his miniatures, most celebrated of which are a view of Seville (Brussels) and his masterpiece, a Roman missal (imperial library, Vienna)

Hoek van Holland, Netherlands see HOOK OF HOLLAND

Hoel, Sigurd (sē'gōōr hō'ul), 1890–, Norwegian novelist and critic He is the author of witty, sophisticated novels as well as sensitive stories of childhood His translations of English and American writers include novels by William Faulkner and Erskine Caldwell. His own novels include *Sinners in Summertime* (1927, Eng. tr , 1930) and *One Day in October* (1931, Eng tr , 1932).

Hof (hōf), city (pop 54,645), Upper Franconia, NE Bavaria, near the Czech border. It has textile and other manufactures. Founded in the 13th cent ,

the city passed (1373) to the Hohensollern and (1810) to Bavaria. An important rail center, Hof was repeatedly bombed during the Second World War, but its medieval buildings (notably the Lorenzkirche and Michaeliskirche) were not seriously damaged.

Hofei or **Ho-fei** (both hŭ'fā'), city, capital of Anhwei prov, China Cotton and silk textiles are manufactured

Hofer, Andreas (ändrā'ās hō'fur), 1767–1810, Austrian patriot, son of a Tyrolean innkeeper When in 1809 Austria made war on Napoleon I and on Bavaria (which had been given the Tyrol in 1805), Hofer led the Tyrolean peasants who had risen in rebellion against Bavaria After several military successes he was made governor of the Tyrol by the Austrians In Oct, 1809, Austria was obliged by the Treaty of Schönbrunn to abandon the Tyrol, but Hofer continued to instigate resistance He was betrayed to the French, court-martialed, and shot at Mantua

Hoffding, Harald, Dan *Høffding* (hä'räl hŭf'dĭng), 1843–1931, Danish philosopher He was a professor at Copenhagen from 1883 to 1915 Hoffding worked in many philosophical fields, but his histories of philosophy have reached the widest audience His books have been widely translated Among them are *Outlines of Psychology* (1882), *History of Modern Philosophy* (1894), *Modern Philosophers* (1902), and *Leading Conceptions of the 19th Century* (1920)

Hoffman, Charles Fenno, 1806–84, American author He was associated with many New York periodicals, among them the *Knickerbocker*, which he founded and edited briefly in 1833, and the *American Monthly Magazine*, which he edited in 1835–37 A travel book on Michigan and Illinois called *A Winter in the West* (1835) and his novel, *Greyslaer a Romance of the Mohawk* (1840), were widely acclaimed Only slightly less popular were his several volumes of lyrical poetry Mental illness forced his retirement in 1849 See biography by H F Barnes (1930)

Hoffman, Malvina, 1887–, American sculptor, b New York city She was a pupil of Rodin Of her spirited figures representative examples are *Bacchanale russe* (Luxembourg Mus, Paris), *Pavlowa gavotte* (Stockholm, Sweden), and *Russian Dancers* Her portraits include those of John Muir (American Mus of Natural History, New York) and Ivan Mestrovic (Brooklyn Mus) and busts of Paderewski as artist and as statesman Other important works are the large group over the entrance of Bush House, London, *The Sacrifice*, a recumbent Crusader, for the War Memorial, Harvard Univ, and the unique collection of 100 portraits of racial types (Hall of Man, Field Mus, Chicago) To procure material for this anthropological gallery, Miss Hoffman traveled about the world for five years She wrote an account in *Heads and Tales* (1936), her *Sculpture Inside and Out* was published in 1939

Hoffmann, Ernst Theodor Amadeus (ĕrnst' tā'ōdōr ämädā'ōōs hōf'man), 1776–1822, German romantic novelist, composer, and artist Accomplished in all these fields, at one time an opera director at Bamberg and a gifted music critic, he is one of the acknowledged masters of fantastic fiction His tales of madness, grotesquerie, horror, and the supernatural include *Fantasiestücke in Callots Manier* (1814), *Die Serapionsbrüder* (1819–22, Eng tr, *The Serapion Brethren*, 1886–92), *Die Elixiere des Teufels* (1815–16, Eng tr, *The Devil's Elixir*, 1824–26), and *Lebensansichten des Katers Murr* (1820–21, Eng tr, *Kater Murr, the Educated Cat*, 1892) Miscellaneous translations include *The Nutcracker and the Mouse-King* (1930) and *Tales of Hoffmann* (1946) Offenbach's opera, *Tales of Hoffmann*, is based on three of his stories He greatly influenced the composer Robert Schumann See H. W Hewett-Thayer, *Hoffmann, Author of the Tales* (1948)

Hoffmann, Friedrich (frē'drĭkh hōf'män), 1660–1742, German physician Influential as teacher (from 1693) and practitioner at Halle, he formulated a mechanistic view of physiology He was one of the first to describe certain diseases, including appendicitis and German measles He introduced into medical practice many drugs, notably Hoffmann's anodyne (compound spirit of ether)

Hoffmann, Max (mäks hōf'män), 1869–1927, German general in the First World War A brilliant strategist, he was partly responsible for the German victory at Tannenberg and in 1916 became chief of staff of the eastern armies In his war diary and later books he bitterly criticised the German high command

Hoffmann-Donner, Heinrich (hīn'rĭkh hōf'mändō'nur), 1809–94, German humorist and physician He was head of the hospital for the insane at Frankfurt He wrote various works, of which the best known is *Struwwelpeter [slovenly Peter]* (1845), long a popular children's book, various English editions of which include one translated and illustrated by Mark Twain

Hofmann, August Wilhelm von (ou'gōōst vĭl'hĕlm fŭn hōf'män), 1818–92, German organic chemist He was professor at the Univ of Berlin from 1865 and was a founder (1868) of the German Chemical Society He studied the constitution of aniline and was the first to prepare rosaniline and its derivatives, thereby laying the basis for the aniline dye industry He also discovered a reaction for deriving amines from amides, developed the Hofmann method of finding the vapor densities, and from these the molecular weights, of liquids

Hofmann, Heinrich (Johann Michael Ferdinand Heinrich Hofmann) (hīn'rĭkh hōf'män, yō'hän mĭkh'ĕl fĕr'dēnänt), 1824–1911, German painter He studied in Dresden and in Rome, where he was influenced by Peter von Cornelius He settled in Dresden and taught at the academy there Hofmann is best known for his popular paintings of scenes from the life of Christ He also painted portraits and a ceiling decoration for the Dresden Theater

Hofmann, Joseph (hōf'mŭn), 1876–, Polish-American pianist, b near Cracow, pupil of Anton Rubinstein He toured Europe as a child prodigy, making his American debut in 1887 at the Metropolitan Opera House The same year he ceased giving concerts, but resumed his career in 1894 He later returned to the United States, where he was director (1924–38) of the Curtis Institute of Music, Philadelphia He composed under the pseudonym Michel Dvorsky, but is best known for his great virtuosity as a performer

Hofmannsthal, Hugo von (hōō'gō fŭn hōf'mänstäl), 1874–1929, Austrian dramatist and poet His first verses were published when he was 16, and his play *The Death of Tizian* (1892, Eng tr, 1913) when he was 18 His varied gifts as poet and as dramatist are shown in his adaptation of Sophocles' *Electra* (1903, Eng tr, 1908) and in his comedies *Der Rosenkavalier* (1911, Eng tr, *The Rose Bearer*, 1912) and *Ariadne at Naxos* (1912, Eng tr, 1913), which were set to music by Richard Strauss He also wrote for Strauss *Die Frau ohne Schatten* [the woman without a shadow] (1919) and *Die ägyptische Helena* (1928) Also notable are his *Poems* (1903, Eng tr, 1919), his adaptation of *Everyman* (1911, Eng tr, 1917), and his correspondence with Richard Strauss (1926, Eng tr, 1927)

Hofmeister, Wilhelm (vĭl'hĕlm hōf'mī'stur), 1824–77, German botanist Although self-taught, he made such valuable studies of the reproduction and development of plants that he was appointed professor successively at the universities of Heidelberg (1863) and Tübingen (1872). He demonstrated alternation of generations, especially in nonflowering plants, and described the behavior of the nucleus in cell formation

Hofstra College see HEMPSTEAD, N Y

Hofuf (hōfōōf'), town (pop c 30,000), Saudi Arabia, chief town of El Hasa. It is a caravan center with trade in wool and silk.

hog see SWINE

Hogan, Ben (hō'gun), 1912–, American golfer, b Stephenville, Texas A former caddy, Hogan taught (1932–36) golf before he began playing in professional tournaments in 1937 In the succeeding years he became one of the greatest money winners of the game, winning over $42,500 at tournament play in 1946 After service (1943–45) in the army air force in the Second World War, Hogan won the Professional Golfers Association championship in 1946 and again took the P G A title in 1948, when he also won the U S open golf crown with the tournament record of 278 strokes After sustaining a broken collar bone and fractured pelvis in an automobile accident (Feb, 1949) near Van Horn, Texas, Hogan made a dramatic comeback by tying (Jan, 1950) Sam Snead for first place in the Los Angeles open tournament He wrote *Power Golf* (1948)

Hoganasville, industrial city (pop 3,886), W Ga, near the Chattahoochee river SW of Atlanta, inc 1870 It is a cotton center, with textile mills Near by is a large tree nursery

Hogarth, David George (hō'gärth), 1862–1927, English archaeologist, keeper (1909–27) of the Ashmolean Museum, Oxford An eminent scholar, Hogarth had been director of the British School at Athens and, in 1916, directed the Arab Bureau, Cairo He explored in several countries and excavated (1887–1907) in Cyprus, Crete, Egypt, Ephesus, Carchemish, and other places Among his published works are *A Wandering Scholar* (1896), *Archaic Artemisia of Ephesus* (1908), *Ancient East* (1914), *Hittite Seals* (1920), *Arabia* (1922), *Kings of the Hittites* (1926), and a biography of Charles M Doughty (1929)

Hogarth, William (hō'garth), 1697–1764, English painter, satirist, and engraver, b London; son of a schoolmaster As a child he was given to drawing and at 15 was apprenticed to a silver-plate engraver From this employment he began engraving on copper, making bookplates, show cards, and illustrations—notably those for Butler's *Hudibras* Meanwhile in spare moments he studied drawing with Thornhill, whose daughter he married (1729) He attempted to earn a living with small portraits and portrait groups (the famous "conversation pieces") But his first real success came in 1732 with a series of "moral" pictures, *The Harlot's Progress*. He first painted the six pictures and then engraved them, selling subscriptions for the prints. These last had a great success. Three years later appeared *The Rake's Progress*, a similar series Hogarth made a good living from these and other salable prints, but his constant ambition to be recognised as a serious painter met with little success, although he continued to produce magnificent canvases In 1745 appeared the series of engraved pictures *Marriage à la Mode*, often considered his masterpiece In this group, in which Hogarth takes a fling at high life, his satire is incomparable With a wealth of detail and brilliant characterization he depicts the profligate and inane existence of a fashionable young couple In 1753 was published *The Analysis of Beauty*, an interesting, if unpolished, essay which has commanded the respectful attention of many thinking artists but which was greeted with derision by the wits of the London art world In old age as in youth Hogarth was forced to depend upon his prints for a livelihood Unfortunately, one of these, a political cartoon, brought down upon him the savage persecution of John Wilkes and Charles Churchill, and his last days were embittered by a quarrel in which, to be sure, he acquitted himself manfully, lampooning his adversaries to the bitter end As a pictorial artist Hogarth's great powers are never fully employed in his prints His satirical genius insisted upon many intellectually significant details and upon explicit clarity, and his composition suffered for it At first he made them purely for money However, such prints as *Gin Lane* and *Four Stages of Cruelty* are very sincerely didactic, and he himself said that he would rather have checked the progress of cruelty than have been the author of Raphael's cartoons Whatever his intentions, he remains above all a great satirist, closer akin to Cervantes than to Raphael Nevertheless, his *Shrimp Girl* (National Gall, London) and *Captain Coram* are two of the masterpieces of British painting Hogarth's major works are in England In New York the Metropolitan Museum and the Frick Collection possess beautiful examples of his work See John Nichols, comp, *Anecdotes of William Hogarth* (1833), biographies by Austin Dobson (1883) and Marjorie Bowen (1936), S F Read, *A Bibliography of Hogarth Books and Studies* (1947)

Hogben, Lancelot Thomas (hŏg'bĕn), 1895–, English scientist and author, educated at Cambridge and the Univ of London After teaching in several universities he served as professor of zoology (1941–47) at the Univ of Birmingham, where, in 1947, he became professor of medical statistics He is noted for his work in genetics and endocrinology His works include *Comparative Physiology of Internal Secretion* (1927), *Nature of Living Matter* (1930), *Introduction to Mathematical Genetics* (1946), and a number of more popular books, among which are *Mathematics for the Million* (1936), *Science for the Citizen* (1938), *Dangerous Thoughts* (1939), and *Author in Transit* (1940)

hog cholera, infectious, very contagious, and often fatal disease of hogs, caused by a virus Symptoms include fever, weakness, loss of appetite, and constipation followed by diarrhea The skin becomes purple Hemorrhages are seen in lungs kidneys, and other organs after death The high death rate and the rapid spread of the disease from one animal to another through infected discharges make cholera a cause of great losses in hog raising There is no cure for the disease, once developed, but vaccination is a preventive See *Hog Cholera* (U S Dept of Agriculture, Farmers' Bul 834)

Hogg, James, 1770–1835, Scottish poet, called the Ettrick Shepherd Hogg had no formal education, he was discovered by Sir Walter Scott, who used his work in *Border Minstrelsy* Hogg's best-known works are *The Mountain Bard* (1807), *The Queen's Wake* (1813), and *The Poetic Mirror* (1816), in prose, *The Brownie of Bodsbeck* (1818) and his recollections of Scott (1834) He has a rustic music and a faculty for rhyme See his *Private Memoirs and Confessions of a Justified Sinner* (1824), Andrew Lang, *Life and Letters of J G Lockhart* (1896)

Hogg, James Stephen, 1851–1906, governor of Texas (1891–95), b Cherokee co, Texas At the age of 12 he was left an orphan, and he worked at various jobs to earn his living He studied law after 1871, was admitted (1875) to the Texas bar, and was county attorney (1878–80) and district attorney (1880–84) As attorney general (1886–90) of Texas, he recovered for the state much land fraudulently taken by railroad companies and championed several political and economic reforms As soon as he became (1891) governor of Texas, Hogg established (1891) a state railroad commission with broad powers of regulation and then successfully pushed through other sweeping economic reforms He was reelected governor of Texas in 1893, but retired from political life in 1895 to practice law

Hogg, Thomas Jefferson, 1792–1862, friend and biographer of Percy Bysshe Shelley He was dismissed in 1811 from Oxford for defending Shelley and was with him at intervals thereafter Authorized by Mary Shelley to write a life of her husband, Hogg issued the first two volumes (1858), which were so disappointing that the family withdrew the materials from his use See his letters to Jane Williams, *After Shelley* (ed. by Sylva Norman, with biographical introduction, 1934).

Hoggar (hŏ'gŭr, hŭgär'), area, SE Algeria, a high plateau attaining nearly 10,000 ft The Tuareg population grazes livestock Before pacification by the French in 1901, there were frequent raids from Hoggar into adjoining territories

Hog Island, small island in the Delaware river near Philadelphia, important during the First World War as the chief emergency shipyard of the government In 1930 Philadelphia acquired the island for an airport, shipping point, and industrial center

Hoglah (-lä) [Heb ,=partridge], daughter and coheiress of Zelophehad Num 26 33, 27 1–11.

Hogue, La (lä hōg'), or **La Hougue** (lä ōōg'), harbor, NW France, on the northeast coast of the Cotentin peninsula, in the English Channel Here in 1692 a French fleet under Tourville was defeated by superior English and Dutch forces in the War of the GRAND ALLIANCE

Hoham (hō'hăm), king, whom Joshua defeated. Joshua 10 3

Hohenasperg (hōunäs'pĕrk), mountain, 1,166 ft. high, Württemberg, S Germany In a fortress here in the 18th and 19th cent many political prisoners were confined, among them the poet Schubart and the economist Friedrich List In 1883 the fortress became a penitentiary

Hohenfriedberg (hōunfrēt'bĕrk), commune (pop 7,421), Lower Silesia, SW of Breslau, placed (1945) under Polish administration Here in 1745 Frederick II of Prussia decisively defeated the Austrian and Saxon forces in the War of the Austrian Succession

Hohenlinden (hōunlĭn'dŭn), village, Upper Bavaria, E of Munich Here in 1800 the French under Moreau decisively defeated the Austrians Thomas Campbell's poem on the battle was long popular

Hohenlohe-Schillingsfürst, Chlodwig Karl Viktor, Fürst zu (klōt'vĭkh kärl' vĭk'tôr fürst' tsōō hō'unlōu-shĭ'lĭngsfürst), 1819–1901, German statesman As premier of Bavaria (1866–70), he favored German unification, and in 1871 he entered the service of the German Empire and became one of Bismarck's staunchest supporters He was ambassador to Paris (1874–80) and governor of Alsace-Lorraine (1885–94) Succeeding Caprivi as chancellor in 1894, he delegated most of his duties to his cabinet, especially the foreign ministers MARSCHALL VON BIEBERSTEIN and Bernhard von BÜLOW The latter succeeded Hohenlohe when he retired in 1900 See his memoirs (Eng tr , 1906)

Hohensalza, Poland see INOWROCLAW

Hohenstaufen (hō"unshtou'fun), German princely family In 1079 Frederick, count of Staufen, married Agnes, daughter of Emperor Henry IV, and was created duke of Swabia The line of German kings and emperors began (1138) with his son, CONRAD III, who was succeeded by FREDERICK I, HENRY VI, and PHILIP OF SWABIA Their chief rivals were the Guelphs (see GUELPHS AND GHIBELLINES), whose scion, Otto IV, was emperor from 1209 to 1215, but the Hohenstaufen heir, FREDERICK II, was elected king by a rival party in 1212 The most spectacular representative of the house, Frederick shifted the center of the family interests to Sicily and S Italy The nearness of the head of Ghibelline strength to Rome intensified the enmity of the popes, who worked at bringing about the fall of the house CONRAD IV and CONRADIN, the last legitimate Hohenstaufen, and MANFRED and ENZIO, illegitimate sons of Frederick II, all came to harm, and with Enzio's death (1272) the family came to an end The ruined ancestral castle is near Stuttgart in Württemberg

Hohentwiel (hōuntvēl'), mountain, 2,260 ft high, Württemberg, S Germany, overlooking the Lake of Constance In the 9th and 10th cent the counts and dukes of Swabia had their castle here

Hohenwald (hō'ŭnwôld), town (pop 1,086), co seat of Lewis co , central Tenn , SW of Nashville, in a farm and timber area Meriwether Lewis National Monument is near by

Hohenzollern (hō"untsō'lurn), German princely family which ruled Brandenburg (1415–1918), Prussia (1525–1918), and Germany (1871–1918) Originating in S Germany, the Hohenzollern took their name from a castle in Swabia and can be traced to the 11th cent Frederick of Hohenzollern (d c 1200) became (1192) burgrave of Nuremberg His sons founded the two main lines of the house, the Swabian and the Franconian (For the Swabian line, see HOHENZOLLERN-HECHINGEN and HOHENZOLLERN-SIGMARINGEN) The Franconian line acquired territories in Franconia, notably the margraviates of Ansbach (1331) and Kulmbach (1338), and in 1415 Emperor Sigismund bestowed the electorate of BRANDENBURG on Frederick VI of Hohenzollern (see FREDERICK I, elector of Brandenburg) The genealogical tree of the prolific house of Brandenburg is very complex, because the various branches of the family held their territories separately (e g , Brandenburg, Bayreuth-Kulmbach, and Ansbach) Elector ALBERT ACHILLES (1470–86) enunciated a family law by which Brandenburg remained indivisible. Bayreuth and Ansbach, however, were reunited with Brandenburg-Prussia only in 1791 and 1793 respectively and in the Napoleonic Wars passed to Bavaria The main line of Brandenburg accepted the Reformation ALBERT OF BRANDENBURG, grand master of the Teutonic Knights, secularized the domain of his order in 1525 and created the duchy of PRUSSIA, which in 1618 was inherited by the elector of Brandenburg FREDERICK WILLIAM the Great Elector (1640–88) acquired part of POMERANIA, the archbishopric of MAGDEBURG, and the bishoprics of Halberstadt and Minden and made good his claims on the duchy of CLEVES His son was crowned (1701) king of Prussia as FREDERICK I His successors, FREDERICK WILLIAM I and FREDERICK II, made Prussia a major European power and extended its borders FREDERICK WILLIAM II (1786–97), FREDERICK WILLIAM III (1797–1840), and FREDERICK WILLIAM IV (1840–61) were mediocre kings, but under WILLIAM I the old struggle between Austria and Prussia ended with the triumph of Prussia in the Austro-Prussian War (1866) In 1871 William was proclaimed emperor of Germany His successors were FREDERICK III (1888) and WILLIAM II (1888–1918)

Hohenzollern, former province (441 sq mi , pop 75,951) of Prussia, SW Germany, in Swabia, an enclave between Wurttemberg and Baden After the Second World War it became part of the French-occupied state of Württemberg-Hohenzollern Sigmaringen is the chief city of this mountainous region Agriculture and forestry are its chief resources The impressive castle of Zollern or Hohenzollern in the north gave its name to the ruling house of Prussia About 1600 the territory was split into two counties, later principalities, which were ruled by two branches of the Swabian line of the Hohenzollern—**Hohenzollern-Hechingen** and **Hohenzollern-Sigmaringen**. Both houses renounced their rights in 1849 in favor of Prussia Charles of Hohenzollern-Sigmaringen was chosen (1866) prince of Rumania as Carol I and later assumed the royal title, his successors in Rumania were Ferdinand, Carol II, and Michael The candidature (1870) of Leopold of Hohenzollern-Sigmaringen to the Spanish throne helped to precipitate the Franco-Prussian War

Hohe Tauern (hō'ĕ tou'ĕrn), range of the Eastern Alps, S Austria, extending c 70 mi along the frontiers of Salzburg, Carinthia, and E Tyrol It rises to 12,460 ft in the GROSSGLOCKNER and includes the Grossvenediger (12,008 ft), the Dreiherrnspitze (11,499 ft), the Hochalmspitze (11,007 ft), and the Ankogel (10,705 ft) There are ancient silver and gold mines and deposits of precious stones The Tauern railroad (built 1901–8) traverses the range through a tunnel 5 mi long

Hohokus or **Ho-Ho-Kus** (hōhō'kus), borough (pop 1,626), NE N J , near Ridgewood, inc 1908 There are two distinguished 18th-century houses

Hoihow (hoi'hou'), Mandarin *Hai-k'ou*, city (pop 60,000), chief port of Hainan island, Kwangtung prov , China Hoihow is on Hainan Strait, near the island's capital, Kiungshan

Hoisington (hoi'zĭngtun), city (pop 3,719), central Kansas, N of Great Bend, inc 1886

Hojeda, Alonso de see OJEDA, ALONSO DE

Hokan (hō'kun), hypothetical linguistic family of North America This is a wide, unproven unification of a numer of Western and Eastern stocks (see LANGUAGE, table) They were brought together in a series of suggestions, mainly by Edward Sapir, R B DIXON, and A L Kroeber First, there is what Sapir called Hokan-Coahuiltecan, embracing several groups Kurok, Chumariko, Shasta-Achomawi, Pomo, Yana, Esselen, and YUMAN, Salinan, Chumashan, Seri, Tequistlatec, and Washo, the Texan families of Tonkawa, Coahuiltecan, and Karankawa, and Subtiaba-Tlapanec of Nicaragua and Mexico To this are joined Yuki, Keresan, Tunica-Atacapa-Chitimacha, IROQUOIAN and CADDOAN, and SIOUAN, with Yuchi and NATCHEZ-MUSKOGEAN The whole group has been called Hokan-Siouan

Hokiang (hŭ'jyung'), Mandarin *Ho-chiang*, province (52,280 sq mi , pop 6,949,405), NE China The capital is Kiamusze The province, a part of Manchuria, was created in 1945, largely out of the former province of Kirin Hokiang is bordered on the north by the Amur river and on the east by the Usuri —both separate it from the USSR It is predominantly hilly to mountainous The main agricultural area is the valley of the Sungari river, a tributary of the Amur Soybeans and grains are the principal crops, and lumbering is the chief industry The southern and western sections have rail service

Hokkaido (hōkĭ'dō), island (c 30,000 sq mi , 1947 pop 3,852,821), N Japan It is 260 mi long and 280 mi wide and is second in size, northernmost, and most sparsely populated of the four major islands of Japan It lies N of Honshu, from which it is separated by Tsugaru Strait The island is sometimes called by its ancient name of Yeso or Yesso, another appellation is Hokushu Its rugged interior, with many volcanic peaks, rises to 7,513 ft in Mt Asahi The Ishikari, second longest river of Japan, traverses W Hokkaido Forests, covering about 60 percent of the island, are the source of lumber, pulp, and paper (milled in Hokkaido) Coal and iron are mined; the Ishikari coal field produces an important part of Japan's supply Although large areas of the island are unsuited to agriculture, some farming is carried on, the principal crops being beans, potatoes, and sugar beets Hokkaido is one of the major fishing centers of the world, coastal and deep-sea waters yield great quantities of cod, herring, and sardines The population is concentrated largely in W and SW Hokkaido, here lie Asahigawa, Sapporo (the capital), Otaru, Muroran, and Hakodate Kushiro is the main port for the east portion of the island Until 1800 the Ainus, aboriginal inhabitants of the island, outnumbered the Japanese, who had begun settling on the southwest peninsula in the 16th cent , and there are still more than 15,000 Ainus in Hokkaido With the Meiji restoration in Japan in 1868 began the serious effort to people the island In 1885 when Hokkaido was made an administrative unit and was granted a central government, some 287,000 Japanese had settled there The growth of railroads helped speed settlement, but the severe winters discouraged emigration from S Japan despite subsidies The government of Hokkaido embraces a number of small offshore islands, until 1945 it included the Kurile Islands, now a part of the USSR

Hokusai (hō'kōōsī), 1760–1849, **Japanese** painter, draughtsman and wood engraver, the foremost figure of the ukiyoye (popular school) After engaging in wood engraving for several years, he became a pupil of the celebrated designer Shunso, who expelled him for persistently pursuing an independent style He subsequently turned to book illustration and industrial art and to the teaching of drawing His industry was prodigious and his fame widespread, but to the end of his life Hokusai lived in poverty and retained his simplicity His art was entirely original and distinguished for its extraordinary technical excellence and its accurate and observant delineation of Japanese scenes and of contemporary life and types His landscapes are of singular beauty and delicacy, and his influence upon the art of the West has been marked. Among his best-known productions are the famous *Mangwa*, or *Ten Thousand Sketches*, in 15 volumes, the color-print series, *Views of Famous Bridges* and *Views of Lu-chu Islands*, and the *Hundred Views of Mount Fuji* His drawings are said to number over 30,000 See biography by C J Holmes (1898) and the biographical play, *Hokusai*, by Gustav Eckstein (1936)

Hokushu see HOKKAIDO

Holbach, Paul Henri Thiry, baron d' (pôl' ärē' tērē' bärō' dôlbäk'), Ger *Paul Heinrich Dietrich, Baron von Holbach* (poul' hīn'rĭkh dē'trĭkh bärōn' fŭn hôl'bäkh), 1723–89, French philosopher, one of the Encyclopedists Though a native of the Palatinate, he lived from childhood in Paris, a member of a group of notable thinkers and literary men including Diderot, Helvétius, Condorcet, and Rousseau Known as the supporter of naturalistic and materialistic views and as the opponent of Christianity and all positive forms of religion, he believed that man, although innately moral in his original state, is perverted by society His best-known work is *Système de la nature* (1770), published first over the name Mirabaud See W H Wickwar, *Baron d'Holbach a Prelude to the French Revolution* (1935)

Holbein, Hans (hans' hôl'bīn), the elder, c 1460–1524, German painter and draughtsman Little is known of his life except that he worked in Augsburg and seems to have had a fairly extensive practice painting altarpieces for churches Of these, such early examples as the one in the Cathedral at Augsburg depicting the life of the Virgin, the *Coronation of the Virgin* (Basel), and the large *Basilica of Santa Maria Maggiore* (Augsburg) all show little divergence from the common practice of the Swabian school, which imitated the Flemish style without approaching its distinction In his later work, however, such as the *Basilica of St Paul* and *Altarpiece of St Catherine* (Augsburg) and especially in his masterly *Altarpiece of St Sebastian*, Holbein's art shows the liberating influence of Italy and rises to a much higher plane In addition to his paintings Holbein designed stained glass windows for the cathedral at Eichstatt and for the Church of St Ulrich at Augsburg He also produced a number of remarkable portrait drawings in silverpoint which show something of the same talent for sensitive characterization for which his son became renowned Holbein seems to have spent his last years fleeing his numerous creditors It is not known where or how he died, and his two sons were early obliged to fend for themselves Of these, **Ambrosius** Holbein (ämbrō'syōōs), c 1494–c 1519, is best known for his book illustrations and portraits Examples of the portraits are in the museums of Basel, Augsburg, and **Darmstadt.** *Christ Crowned with Thorns* is in the Basel Museum The other son, **Hans Holbein, the younger**, 1497–1543, outstanding portrait and religious painter of the German Renaissance, studied with his father and with Hans Burgkmair The early half of his life was spent in Basel except for short intervals in Lucerne and possibly Lombardy He early showed a diversity of talents—illustrating books, making

designs for woodcuts and glass painting, and painting portraits and altarpieces From youth he enjoyed the friendship of the great humanist Erasmus, and he made 83 pen drawings illustrating Erasmus' *Praise of Folly* Of this period also are the portrait of Jacob Meyer and his wife and the beautiful preliminary drawing for it in red chalk and silverpoint and a *Last Supper* and *Flagellation* (all Basel) In 1519 he was admitted to the painters' guild of Basel Between 1519 and 1526 he decorated numerous houses, including the town hall, and painted the *Passion Scenes* and the celebrated *Dead Christ* (Basel), the altarpiece *Madonna with SS Ursus and Nicolas* (Solothurn), and the famous altarpiece *Madonna of Burgomaster Meyer* (Darmstadt) Also of this period is the first of his numerous portraits of Erasmus (Louvre) and a portrait of Boniface Amerbach (Basel) In these works the artist, now mature, shows his full genius Without relinquishing the polished surface and enameled color of the earlier painters he shows the influence of Italy in his larger conception and monumental composition and in the dignity and idealism of his characterization A bold and subtle line, at once precise and flowing, distinguishes these works About 1526 Holbein made his first trip to England, driven from Germany by the depression attendant on the profound religious disturbances There he recouped his fortunes by painting a fine series of portraits, including those of Sir Thomas More (Frick Coll , New York), and Sir Henry Guildford and his wife (Windsor Castle) After a brief return to Basel, where he decorated the town hall with frescoes (since destroyed), he settled in England, and his fame as a portrait painter steadily increased Among the many famous portraits of these last years are those of Archbishop Warham of Canterbury (Louvre and Lambeth Palace) and Christine of Denmark and *The Ambassadors* (National Gall , London) In 1536 he became painter to Henry VIII, making numerous portraits and drawings of the king and his wives His own wife and children remained in Basel, where he bought them a house and supported them A beautiful group portrait of them is in the Basel Museum At 46 Holbein died of the plague in London In addition to his paintings he left to the world a magnificent series of preliminary portrait drawings in which he combined red chalk, silverpoint, pen and ink, and other mediums Today they are treasured as highly as his paintings and possibly constitute a freer expression of his gift for exquisite characterization In the beautiful simplicity of their design and in their subtle suggestion at once of form and of character they are unsurpassed Also famous are his woodcuts, which include the *Dance of Death* series and the illustrations for Luther's Bible Fine examples of Holbein's work are to be seen in many European galleries Windsor Castle has 87 portrait drawings In America the Metropolitan Museum has four fine portraits, the Museum of Fine Arts, Boston, one, the Frick Collection, New York, two, and the National Gallery of Art, Washington, D C , two See study by A B Chamberlain (1913), Paul Ganz, *The Work of Hans Holbein* (Eng tr , 1913), containing 252 illustrations and a biographical introduction

Holberg, Ludvig, Baron (lōōdh'vē, hōl'bĕr), 1684–1754, Danish dramatist and historian, b Norway He began studying divinity in Bergen, but at 19 went to Denmark and never returned to Norway One of the great figures in the literature of Denmark, he was the first to use Danish as a literary medium. An early work was *Pedar Poors* (1719–20), a mock-heroic epic For the National Theater at Copenhagen he wrote in a little more than one year (1722–24) 15 comedies, including *The Political Tinker*, *Ulysses of Ithaca*, *Witchcraft*, *Erasmus Montanus*, and *Henrik and Pernille* These were published under the title *The Danish Stage* (1731) He wrote histories—of Denmark and of the Jews—a political novel, *Niels Klem's Subterranean Journey* (1742), which was translated into most European languages, and an autobiography (1754) A translation of some of his comedies was made by O J. Campbell (1914), and of four others by Henry Alexander (1946)

Holborn (hō'bûrn), metropolitan borough (1931 pop 38,860, 1948 estimated pop 24,960) of central London, England It includes part of the district of Bloomsbury and has within its area the British Museum, the Univ. of London, Gray's Inn and Lincoln's Inn, the Royal College of Surgeons, and Hatton Garden, all of which received some damage in air raids in the Second World War It is known for its diamond trade

Holbrook, Josiah (hōl'brŏōk), 1788–1854, American educator, founder of the LYCEUM movement, b Derby, Conn , grad Yale (1810) He experimented with various schools where manual training, farming, and formal instruction were combined After the failure of his Agricultural Seminary (1825), he began lecturing on popular scientific subjects. In 1826, at Millbury, Mass , he organized the first lyceum that became a part of a national system He manufactured scientific apparatus for schools and lyceums and edited *Scientific Tracts* (1830–32) and *The Family Lyceum* (1832–33). In 1837, at Berea, Ohio, he established the Lyceum Village, which failed after a few years He continued to promote the lyceum movement until his death.

Holbrook (hōl'brŏōk) **1** Town (1940 pop 1,184, 1946 special census pop 2,288), co. seat of Navajo co , E central Ariz , on the Little Colorado river and SE of Winslow, inc 1917 Settled as a cow town, Horsehead Crossing, in 1870, it was renamed in 1880 The Petrified Forest is SE of Holbrook. **2** Town (pop 3,330), E Mass , S of Boston, settled 1710, set off from Randolph 1872 Shoes are made

Holbrooke, Joseph or **Josef** (hōl'brōōk), 1878–, English composer, educated at the Royal Academy of Music, London After graduating there, he appeared frequently as a pianist and as a conductor Somewhat influenced by Wagner and Richard Strauss, he is a prolific composer Three choral symphonies—*The Raven* (1900), *The Bells* (1906), and *Homage to E A Poe* (1908)—employ poems by Poe for their texts His operatic trilogy *The Cauldron of Anwen* is based upon Welsh mythology His most popular work is his orchestral variations (1901) on *Three Blind Mice* He is noted as the champion of the British composer and the adversary of the critic See his *Contemporary British Composers* (1925), George Lowe, *Josef Holbrooke and His Work* (1920)

Holcomb, Thomas (hōl'kum), 1879–, commandant of the U S Marine Corps, b New Castle, Del He entered (1900) the Marine Corps as a second lieutenant and served in the United States, the Philippines, and China As a lieutenant colonel, Holcomb fought in France in First World War He took command of the Marine Corps in 1936 and remained commandant in the Second World War until Dec 31, 1943, when he retired as the first general of the Marine Corps He later served (1944–48) as minister to South Africa

Holcroft, Thomas (hōl'krôft), 1745–1809, English actor, dramatist, and novelist, friend of Thomas Paine and William Godwin His novels include *Alwyn* (1780) and two in defense of social revolution, *Anna St Ives* (1792) and *Hugh Trevor* (1794–97) *The Road to Ruin* (1792), a melodrama, became popular overnight His memoirs were edited by his friend Hazlitt (reedited by Elbridge Colby, 1925) See study by V R Stallbaumer (1936)

Holden, Edward Singleton (hōl'dun), 1846–1914, American astronomer and educator, b St Louis, grad West Point, 1870 He became (1873) professor of mathematics at the U S Naval Observatory As director (1881–85) of Washburn Observatory, Madison, Wis , he headed its solar expedition to the Caroline Islands in 1883 He was president (1885–88) of the Univ of California and director (1888–98) of Lick Observatory His work in lunar photography was important From 1901 to 1914 he was librarian at West Point Among his publications are *Bastion System of Fortification* (1872), *Sir William Herschel* (1881), *Mountain Observatories* (1896), *Elementary Astronomy* (1899), *Essays in Astronomy* (1900), *The Sciences* (1903), and *Galileo* (1905)

Holden, Oliver, 1765–1844, American composer and compiler of hymns, b Shirley, Mass He later made his home in Charlestown, which he helped to rebuild after it was burned by the British His popular tune *Coronation*, to Edward Perronet's hymn *All Hail the Power of Jesus' Name*, first appeared in his *Union Harmony* (1793) With Samuel Holyoke and Hans Gram he edited *The Massachusetts Compiler* (1795), an important collection and study of sacred vocal music

Holden. 1 Town (pop 3,924), central Mass , settled 1723, set off from Worcester 1741 **2** City (pop 1,818), W Mo , SE of Kansas City, in a coal and farm area, laid out 1857 Carrie Nation lived here

Holdenville, city (pop 6,632), co seat of Hughes co , SE central Okla , SE of Shawnee, laid out 1895, inc 1898 It is the trading point for a farm and oil region Near by is the site of historic Fort Holmes

Hölderlin, Johann Christian Friedrich (yō'hän krĭs'tyän frē'drĭkh hûl'durlĭn), 1770–1843, German lyric poet Befriended and influenced by Schiller, he produced, before the failure of his mind at 36, intensely subjective poetry of lofty style (modeled on the classic Greek) and of harmonious versification Little known outside of Germany, his verse is highly regarded by critics and is generally considered a link between the classic and romantic schools Besides his lyrics (1820), he wrote an elegiac novel in prose, *Hyperion* (1797–99, Eng tr in Pierce and Schreiber, *Fact and Fancy of German Romance*, 1927), and a dramatic fragment, *Der Tod des Empedokles* [the death of Empedocles] (1799) A selection of his verse was translated (1943) by Frederic Prokosch See Ronald Peacock, *Hölderlin* (1938)

holding company. see CORPORATION.

Holdrege (hōl'drĭj), city (pop 3,360), co. seat of Phelps co , S Nebr , SW of Kearney, in a grain area; settled 1883, inc 1884.

Holdsworth, Sir William Searle, 1871–1944, British legal historian. He was (1903–8) professor of constitutional law at University College, London. After 1922 he was Vinerian professor of English law at Oxford. Holdsworth's greatest achievement is his *History of English Law* (new ed , 9 vols., 1922–38), of which the first preliminary volume appeared in 1903. The work begins with Anglo-Saxon times, and it is an account of legal procedure and court organization down to the Judicature Acts of 1875 and of the important phases of substantive law through the 18th cent Many authorities consider Holdsworth's history among the most thorough scholarly accounts of English law ever written His other books include *The Historians of Anglo-American Law* (1927) and *Charles Dickens as a Legal Historian* (1928)

Holgate, village (pop 1,050), NW Ohio, SW of Toledo

Holguín (ōlgēn'), city (pop 35,865), NE Cuba It is in a hilly region producing sugar and tobacco Although connected with Santiago de Cuba by rail, it sends most of its exports through its port, Gibara

holiday. For religious holidays, see FEAST Some of the important public holidays celebrated generally or in parts of the United States are Armistice Day, ARBOR DAY, CHRISTMAS, COLUMBUS DAY, Election Day, FLAG DAY, FOREFATHERS' DAY, the FOURTH OF JULY, Halloween, LABOR DAY, the birthday of Abraham LINCOLN, MAY DAY, MEMORIAL DAY, NEW YEAR'S DAY, THANKSGIVING DAY, St Valentine's Day, and the birthday of George WASHINGTON They are "legal holidays" only when, by law, business and schools are closed DOMINION DAY is a national holiday in Canada See BANK HOLIDAYS See M E Hazeltine, *Anniversaries and Holidays* (1928), G W Douglas, *The American Book of Days* (1937)

Holinshed, Raphael (hŏ'lĭnz-hĕd", hŏ'lĭn-shĕd"), d c 1580, English chronicler He was a translator who also assisted one Reginald Wolfe in the preparation of a universal history, never finished In 1577, long after Wolfe's death, appeared Holinshed's *Chronicles of England, Scotland, and Ireland*, in the writing of which he had been assisted by William Harrison and Richard Stanihurst Many Elizabethan dramatists drew plots for plays from the book in this and later editions Shakespeare used it for his history plays, especially *Macbeth*, *Lear*, and part of *Cymbeline*

Holl, Frank (Francis Montague Holl) (hōl), 1845–88, English genre and portrait painter He first became known for his somber paintings of melodramatic subjects such as *No Tidings from the Sea*, *Deserted*, and *Ordered to the Front* Later he established a reputation as a good portrait painter, counting among his sitters the prince of Wales, Lord Roberts, W E Gladstone, Joseph Chamberlain, and Sir John Millais His portrait of Samuel Cousins (National Gall , London) and a self-portrait (National Portrait Gall , London) are outstanding

Holland, George, 1791–1870, English actor He played minor roles at Drury Lane in 1817 and came to the United States in 1827, where he was successful in comedy His most popular parts were Tony Lumpkin in Goldsmith's *She Stoops to Conquer* and Sunnyside in Boucicault's *Octoroon* See Montrose J Moses, *Famous Actor Families in America* (1906)

Holland, Henry Richard Vassall Fox, 3d **Baron,** 1773–1840, English Whig statesman A nephew of Charles James Fox, he emulated his uncle's liberal politics, he opposed the suspension of the Habeas Corpus Act and fought the union with Ireland He later was critical of the regency of Prince George and the repressive acts of 1817–18 He favored abolition of the slave trade, the corn laws, and the Test Act and Corporation Act, and he forwarded reform of the Penal Laws Holland served as lord privy seal (1806–7), and chancellor of the duchy of Lancaster (1830–34, 1835–40) He is, perhaps, best known for his influence on literature, politics, and letters through the hospitality that HOLLAND HOUSE in London provided for brilliant and distinguished people of his day His son, the 4th baron, edited Holland's *Foreign Reminiscences* (1850) and *Memoirs of the Whig Party* (1852)

Holland, Josiah Gilbert, 1819–81, American journalist and author, b Belchertown, Mass , studied medicine After a period as superintendent of schools at Vicksburg, Miss , he became associate editor (1849–57) of the Springfield *Republican* and also part owner In 1870 he helped found *Scribner's Monthly* (later the *Century Magazine*), which he edited until his death Under the pseudonym Timothy Titcomb his work was serialized in *Scribner's*, including his most popular novel, *Sevenoaks* (1875) He is also known for his narrative poem *Bitterswee*t (1858). See biographies by H M Plunkett (1894) and H H Peckham (1940)

Holland, Sir Thomas Erskine, 1835–1926, English jurist He was (1874–1910) professor of international law at Oxford He wrote *Studies in International Law* (1899) and *Elements of Jurisprudence* (12th ed , 1924).

Holland, William Jacob, 1848–1932, American zoologist, paleontologist, and clergyman, b Jamaica, West Indies He served in the ministry of the Moravian church (1872–92) and was chancellor (1891–1901) of the Western Univ. of Pennsylvania (later the Univ. of Pittsburgh) and director of

Carnegie Institute, Pittsburgh (1898–1922). He was known for his broad scientific interests and was the author of the classic *Butterfly Book* (1898) and *Moth Book* (1903)

Holland, former county of the Holy Roman Empire and, from 1579 to 1795, the chief member of the United Provs of the Netherlands Its name is popularly applied to the entire Netherlands Holland has been divided since 1840 into two provinces—NORTH HOLLAND, with the cities of Amsterdam, Haarlem, Hilversum, Zaandam, and Alkmaar, and SOUTH HOLLAND, with Rotterdam, The Hague, Leiden, Dordrecht, Delft, and Gouda The county was created in the early 10th cent and originally controlled not only present North and South Holland, but also ZEELAND and the whole of medieval FRIESLAND. William II (see WILLIAM, COUNT OF HOLLAND) was elected (1247) German king, but was unable to exert his authority He was killed (1255) in a campaign against the Frisians, who always were difficult to control In 1299 John of Avesnes, count of HAINAUT, seized Holland, which continued to be ruled by his successors until 1433, when Philip the Good, duke of Burgundy, wrested it from Jacqueline, countess of Hainaut, Holland, Zeeland, and Friesland In the civil strife that accompanied this event the party of the Kabeljaauws [codfish], representing the cities, fought the Hoeks [fish hooks], the nobles who supported Jacqueline. The Hoeks again rebelled when Archduke Maximilian (later Emperor Maximilian I) assumed the guardianship over the Netherlands after the death (1482) of Mary of Burgundy, their fleet was annihilated and their leaders were executed in 1490 The cloth industry and commerce of Holland, though they developed later than those of Flanders and Brabant, began to rival those of Bruges and Antwerp in the 15th cent The Dutch ports were closely linked with the Hanseatic League and later became, after the Netherlands gained independence, the chief entrepôts and shipbuilding centers of the N European continent Holland led in the struggle (16th–17th cent) for Dutch independence, and its history became virtually identical with that of the NETHERLANDS

Holland, resort city (pop 14,616), S Mich , near Lake Michigan SW of Grand Rapids, on the Black River and Black Lake, in a fruit and farm area, founded 1847 by Dutch, inc 1867 Its furnaces have been widely used since 1906 Other manufactures include metal products, chemicals, and leather Tulip growing is an important industry, and the town's Dutch descendants hold an annual tulip festival The Netherlands Museum (1937) contains historical relics The Dutch Reformed Church controls Hope College (coeducational, 1851) and Western Theological Seminary here and manifests itself in the city's laws

Holland, Parts of, administrative division see LINCOLNSHIRE, England

Hollandale, town (pop 1,606), W Miss , SE of Greenville and on Deer Creek, in a farm and timber area Near by is a state park

Hollander, Jacob Harry (hŏ'lundur), 1871–1940, American economist, b Baltimore He received his Ph D in 1894 from Johns Hopkins, where he served as professor of political economy from 1904 to 1940 Hollander organized (1900–1901) the treasury of Puerto Rico, and served as financial adviser (1908–10) to the Dominican Republic His books include *Studies in State Taxation* (1900), *The Abolition of Poverty* (1914), and *Want and Plenty* (1932) He also wrote a biography of David Ricardo (1911) and edited his letters

Holland House, residence of the Holland family in Kensington, London, made famous in the first 40 years of the 19th cent by the hospitality of Henry Richard Vassall Fox, 3d Baron HOLLAND, and his lady, Elizabeth Built in 1607 for Sir Walter Cope, the mansion changed hands several times and was bought in 1767 by Henry Fox, grandfather of the 3d Baron Holland Though relatively unimportant himself in politics, Lord Holland did much for English liberalism by providing an intellectual headquarters for liberals, mainly Whig, and for other distinguished men Reformers such as Jeremy Bentham, Samuel Romilly, James Mackintosh, and Henry Brougham, scientists such as Michael Faraday and Humphry Davy, writers such as Thomas Moore, Lord Byron, and Walter Scott, and statesmen such as Lord Melbourne, George Canning, and Lord Palmerston were influenced by contacts made at the famous dinners at Holland House Foreign dignitaries, such as Talleyrand and Adolphe Thiers, were also visitors there See Giles Fox-Strangways, earl of Ilchester, *The Home of the Hollands, 1605–1820* (1937) and *Chronicles of Holland House, 1820–1900* (1938)

Hollandia (hŏlăn'dēù), trading post (district pop 6,228), capital of Netherlands New Guinea, on N New Guinea. It is on Humboldt Bay, an inlet of the Pacific, near the border of the Australian Territory of New Guinea In the Second World War, Hollandia was an important Japanese air base, captured by U S troops in April, 1944

Holland Land Company, a Dutch venture active in the settlement of much of W New York and some of NW Pennsylvania. Organized by Dutch bankers in 1796, it secured lands in New York (known as the Holland Purchase) through foreclosure on Robert MORRIS, who had assembled them as part of a gigantic land speculation. The company developed its holdings, planned town sites, and sold the lands directly to settlers on liberal terms. Its main land office was opened (1801) in Batavia, N Y , with Joseph ELLICOTT as agent. About 1846 the affairs of the company in America were liquidated. See P D. Evans, *The Holland Land Company* (1924)

Hollar, Wenzel or **Wenceslaus** (hŏ'lär, -lär), Czech. *Václav Holar*, 1607–77, Bohemian etcher After working in Strasbourg and Cologne he accompanied (1637) Thomas Howard, earl of Arundel, to England, where he worked for Charles I Despite his distinguished patrons and extraordinary ability and industry, he was often in want and died in poverty Much of his best work was done during a sojourn in Antwerp (1645–52) Hollar produced some 2,740 plates of great variety, including portraits, landscapes, religious compositions, still life, ships, and architectural studies Such collections as his *Theatrum Mulierum* are interesting documents on the costumes of the period Other famous works include *Views of London, Edinburgh*, a portrait of the duke of York, and illustrations for John Ogilby's editions of Vergil and Homer and for Sir William Dugdale's *Antiquities of Warwickshire Illustrated, Monasticon Anglicanum*, and *The History of St Pauls Cathedral in London*

Holley, Alexander Lyman, 1832–82, American engineer, b Lakeville, Conn , grad Brown, 1853 An expert on locomotives and railway practices, he served as technical editor of the *American Railway Review* for many years and wrote *American and European Railway Practice* (1861) and other books on the subject He became interested in the new Bessemer steel process in England, purchased the American rights, and after securing also the rights of William Kelly in the United States, built at Troy, N Y , the first Bessemer steel plant of commercial significance in the United States He built other plants and contributed by his inventions to the design of steel plants and their machinery

Holley, Marietta, 1836–1926, American humorist, b Jefferson co , N Y Her first book, *My Opinions and Betsy Bobbet's*, appeared in 1873 and was followed by a long series of "Samantha" books by "Josiah Allen's Wife " As the simple but shrewd farm wife, Miss Holley voiced her approval of woman suffrage, temperance, and other reforms

Holley, village (pop 1,230), W N Y , on the Barge Canal and NW of Rochester, inc 1867

Hollidaysburg, industrial borough (pop 5,910), co seat of Blair co , S Pa , S of Altoona and on the Juniata river, settled 1768, laid out 1820 It has boiler factories and machine works and is a trading center Charles Dickens described travel here in 1842 in his *American Notes*

Hollidays Cove, W Va see WEIRTON

Hollingworth, Leta Stetter, 1886–1939, American educator and psychologist, b Chadron, Nebr , grad Univ of Nebraska, 1906 After further study at Columbia Univ she was for three years a clinical psychologist in Post Graduate and Bellevue hospitals, New York city From 1916 until her death she taught at Teachers College, Columbia, becoming professor of education in 1929 She was noted for her outstanding studies in child psychology, which culminated in her experimental work with gifted children at Speyer School in New York city Her books include *The Psychology of Subnormal Children* (1920), *Gifted Children Their Nature and Nurture* (1927), and *The Psychology of the Adolescent* (1928) See biography by H L Hollingworth (1943)

Hollins, George Nichols, 1799–1878, American naval officer, b Baltimore His active career spanned the years from the War of 1812, in which he served under Decatur, to the end of the Civil War, in which he fought for the Confederacy In 1854, while commanding the *Cyane*, he shelled SAN JUAN DEL NORTE, Nicaragua, in retaliation for outrages on American life and property With a few hastily assembled vessels, he defeated part of the Union blockading squadron of the southwest pass of the Mississippi, Oct , 1861 Hollins commanded Confederate naval forces in the heavy fighting on the upper Mississippi in 1862

Hollins College, at Hollins College, Va , N of Roanoke, nonsectarian, for women, opened 1842 It was named Hollins Institute in 1855 for its benefactors and became a college in 1911

Hollis. 1 Town (pop 1,111), SW Maine, near the Saco W of Portland, inc 1798 It was long the home of Kate Douglas Wiggin **2** City (pop 2,732), co seat of Harmon co , extreme SW Okla , near Texas, in a cattle-raising area, inc as a town 1905, as a city 1929

Hollister, city (pop 3,881), co seat of San Benito co , W Calif , E of Monterey Bay, in a fruit, truck, and stock area, inc 1874 San Benito County Junior College (coeducational) is here Pinnacles National Monument lies to the south

Holliston, town (pop 3,000), E Mass , SW of Boston, settled c.1659, set off from Sherborn 1724. Shoes are made here

Holly, industrial village (pop 2,343), S Mich , on the headwaters of the Shiawassee and NW of Pontiac, in a lake area, settled 1836, inc 1865. Automobile parts and pianos are made

holly, any plant of the genus *Ilex*, trees or shrubs of many species, widely distributed through the world They include both deciduous and evergreen kinds with berrylike fruits of various colors and with the male and female flowers sometimes on different plants The English holly (*Ilex aquifolium*), the common holly of Europe, cultivated also in America, is closely associated with Christmas tradition It has glossy, mostly spiny evergreen leaves and bright red berries and is a popular hedge plant in England The American holly (*I opaca*), which is very similar, is native to the E United States but has been so cut for Christmas decorations that it is becoming scarce Both of these species have a hard white wood, valued for cabinetwork and woodenware and sometimes stained to imitate ebony Species of *Ilex* have been used for medicine and tea, several having stimulant properties, those used as a beverage include the yaupon, inkberry, and WINTERBERRY and the commercially important MATE

Holly Hill. 1 Town (pop 1,665), NE Fla , on the Atlantic coast near Daytona Beach, in a farm area noted for its flowers **2** Town (pop 1,062), S central S C , NNW of Charleston, in a truck, livestock, and cotton area, inc 1887 The Santee-Cooper hydroelectric and navigation project is near by

hollyhock (hŏl'ēhŏk'), tall-flowering plant (*Althaea rosea*) with large leaves and showy single or double flowers of various colors, widely used in background plantings and against fences Originally a Chinese perennial, it is now usually cultivated as a biennial, sometimes as an annual The rust which attacks the leaves is best controlled by spraying and sulphur dusting

Holly Springs, city (pop 2,750), co seat of Marshall co , N Miss , near the Tenn line and SE of Memphis, Tenn , inc 1837 This market town in a cotton area, which has suffered somewhat from erosion, ships dairy and clay products as well as cotton In the Civil War, Confederate General Van Dorn captured the town and seized a large quantity of federal supplies (Dec , 1862), thus delaying Grant's advance against Vicksburg An agricultural experiment station and Rust College (Negro, Methodist, coeducational, 1866) are here. There are a number of fine ante-bellum houses

Hollywood. 1 Part (pop c 185,000) of Los Angeles, S Calif , founded in the late 1880s, inc 1903, consolidated with Los Angeles 1910 It is the center of the moving-picture industry The making of Hollywood's first moving picture in 1911 by the Nestor Company was followed quickly by an influx of other companies Although many of the major production studios are now near by (in Culver City, Burbank, and Los Angeles proper), Hollywood is still the industry's focal point The name Hollywood has come to mean the American moving-picture industry in general—its morals, manners, and characteristics Hollywood is also a western radio-broadcasting center The Hollywood Bowl, Griffith Park (with an observatory and planetarium), the Japanese Gardens, and the estates of many moving-picture stars are here. **2** City (pop 6,239), SE Fla , on the Atlantic coast N of Miami, founded 1921, inc 1925 It began and developed as a planned resort city

Holmes, John Haynes, 1879–, American clergyman (undenominational), b Philadelphia, grad Harvard, 1902, and Harvard Divinity School, 1904. For 42 years (1907–49) he was minister of the Community Church, New York city, in 1949 he became pastor emeritus The church belonged to the Unitarian denomination until 1919, when it became independent The causes supported by Dr Holmes's effective public addresses include the abolition of intolerance and of war A founder of the National Association for the Advancement of Colored People and of the American Civil Liberties Union, he has been actively associated with both organizations since their inception Among his many books are *A Sensible Man's View of Religion* (1932) and *Affirmation of Immortality* (1947)

Holmes, Oliver Wendell, 1809–94, American author and physician, b Cambridge, Mass , grad Harvard (B A , 1829, M D , 1836) His first important poem, "Old Ironsides," appeared in 1830 when he was studying law Shifting to medicine, he studied at Harvard and in 1833–35 in Paris After his first volume of *Poems* (1836) came out, he devoted himself to his profession for some years, as professor of anatomy and physiology at Dartmouth (1838–40), as a founder of the Tremont Medical School in Boston (1838), and as author of two important medical pamphlets, *Homeopathy and Its Kindred Delusions* (1842) and *The Contagiousness of Puerperal Fever* (1843) The latter was the first American attempt to correlate the experiences of many doctors with this frequent cause of death From 1847 to 1882 he was Parkman professor of anatomy and physiology at Harvard and from 1847 to 1853 dean of the medical school He was a stimulating, popular lecturer in his classes, in demand for years

as a lyceum speaker, he talked on both scientific and literary subjects His wit and gift for rhyming made him a master of occasional verse In 1857 he began to contribute to the *Atlantic Monthly* (which he named) the famous series of "breakfast-table" sketches, continued from earlier ones which had appeared in the *New England Magazine* in 1831–32 These *Atlantic* writings were collected as *The Autocrat of the Breakfast-Table* (1858), *The Professor at the Breakfast-Table* (1860), *The Poet at the Breakfast-Table* (1872), and *Over the Teacups* (1891) and contained many poems, among them "The Chambered Nautilus" and "The Deacon's Masterpiece, or, The Wonderful One-Hoss Shay" He was less successful in his three anti-Calvinist "medical" novels, *Elsie Venner* (1861), *The Guardian Angel* (1867), and *A Mortal Antipathy* (1885), although they show an understanding of psychology quite ahead of his time Among his other writings are biographies of his friends Motley (1879) and Emerson (1885) and several collections of his verse Among his later poems are "Dorothy Q" and the hymn beginning, "Lord of all being, Throned afar" See *Oliver Wendell Holmes Representative Selections* (ed by S I Hayakawa and H M Jones, 1939) and a condensed annotated edition of his novels (ed by C P Oberndorf, 2d ed , 1946) See also biography by J T Morse, Jr (1896), a later one, *Amiable Autocrat*, by E M Tilton (1947), and an excellent study by M A De Wolfe Howe, *Holmes of the Breakfast Table* (1939)

Holmes, Oliver Wendell, 1841–1935, Associate Justice of the U S Supreme Court (1902–32), b Boston, grad Harvard, 1861, son of the poet Oliver Wendell Holmes He served (1861–64) with distinction in the Civil War, took a law degree at Harvard (1866), and began practice in Boston in 1867 Holmes taught (1870–73) constitutional law and jurisprudence at Harvard while editing (1870–73) the *American Law Review* and the 12th edition (1873) of Kent's *Commentaries* He was a lecturer (1880) on common law at Lowell Institute and professor of law (1882–83) at Harvard Associate justice (1882–99) and chief justice (1899–1902) of the Massachusetts supreme court, he was appointed to the U S Supreme Court by President Theodore Roosevelt Holmes, a true liberal, believed in respecting human rights more than property rights He was particularly zealous in defending the citizen's guarantees under the Bill of Rights The Supreme Court during his 30-year tenure was generally dominated by less democratic jurists, with whom he differed so often that he became known as the "great dissenter" His dissenting opinions, many of them masterpieces of clear, forceful legal writing, were widely hailed by the nation's liberals Holmes retained his interest in educating young men for the law, and it became a tradition that one of the top men of the graduating class of Harvard Law School serve as his private secretary He thus had a great influence on many who rose to be the foremost lawyers and jurists in the United States His published works include *The Common Law* (1881), *Speeches* (1891, 1913), and *Collected Legal Papers* (1920) See Felix Frankfurter, ed , *Mr Justice Holmes* (1931) and *Mr Justice Holmes and the Constitution* (1938), Silas Bent, *Justice Oliver Wendell Holmes* (1932), M A DeWolfe Howe, ed , *Holmes-Pollock Letters the Correspondence of Mr Justice Holmes and Sir Frederick Pollock, 1874–1932* (1941) and *Touched with Fire Civil War Letters and Diary of Oliver Wendell Holmes, Jr , 1861–1864* (1946), Francis Biddle, *Mr Justice Holmes* (1942), Max Lerner, ed , *The Mind and Faith of Justice Holmes His Speeches, Essays, Letters, and Judicial Opinions* (1943), Catherine Drinker Bowen, *Yankee from Olympus Justice Holmes and His Family* (1944)

Holmes, Samuel Jackson, 1868–, American biologist, b Henry, Ill , grad Univ of California (B S , 1893) He became professor of zoology at the Univ of California in 1917 and is known for his work in comparative psychology and in evolution and eugenics His works include *The Evolution of Animal Intelligence* (1911), *Studies in Animal Behavior* (1916), *Studies in Evolution and Eugenics* (1923), *Human Genetics and Its Social Import* (1936), and *The Negro's Struggle for Survival* (1937)

Holmes, William Henry, 1846–1933, American geologist, anthropologist, and museum director, b Harrison co , Ohio. In 1872 he became an artist with the F V. Hayden survey and after it was absorbed (1879) into the U S Geological Survey was appointed geologist. He contributed pioneer reports on the phenomena of Yellowstone Park, the classic illustrative material in the famous Grand Canyon atlas, and reports of much geological reconnaissance work in Colorado He was a noted mountain climber, and peaks in Yellowstone Park and the Henry Mts of Utah were later named in his honor While directing the reconnaissance survey of the San Juan river district of SE Utah in 1875, he was fascinated by the cliff-dwelling remains in the region, and more and more he turned to that field, becoming one of the great pioneers of Southwest archaeology His *Art in Shell of the American Indians* (1883), *Pottery of the Ancient Pueblos* (1886), and many essays on Indian textiles were among the first serious contributions to the study of Indian art His work in ceramics was especially important in view of its aid in the study of ethnographical relationships He left the Geological Survey in 1889 to become archaeologist of the Bureau of American Ethnology, and from 1902 to 1909 he served as its chief From 1910 to 1920 he was chief curator of anthropology at the U S National Museum In 1910 he became curator of the National Gallery of Art and from 1920 served as its director He was internationally recognized for his work in museum science His later books included the important *Handbook of Aboriginal American Antiquities* (1919).

holmium (hōl'mēum), a metal of the RARE EARTHS, an element (symbol = Ho, for physical constants, see ELEMENT, table) With oxygen it forms the oxide holmia, a rare earth Discovery of the element is usually credited to Per T Cleve (1879)

Holofernes (hŏlŏfûr'nēz, hōlō'fûrnēz), invading general killed by Judith to save her city, Bethulia Judith 2–13

Holon (hō'–) 1 Unidentified city, apparently near Hebron Joshua 15 51, 21 15 Hilen 1 Chron 6 58 2 Unidentified town of Moab Jer 48 21

Holon (hōlōn'), town (pop c 9,000), central Israel, near Tel-Aviv It was founded in 1940 Manufactures include textiles, metal and leather goods, and processed foods

Holst, Gustav (hōlst), 1874–1934, English composer, studied at the Royal College of Music Neuritis made a career as a pianist impossible From 1898 until 1903 he played the trombone in the Carl Rosa Opera Company and the Scottish Orchestra He taught from 1903 to 1920 at the James Allen Girls' School and was musical director from 1905 until 1934 of St Paul's Girls' School and from 1907 until 1924 of Morley College Grieg, Richard Strauss, and Wagner were influences on his early work, but most of his music is highly original Outstanding compositions are *The Mystic Trumpeter* (1904), a setting for voice and orchestra of Walt Whitman's poem, *Savitri* (1908), a chamber opera, settings (1907–12) of his own translations of hymns from the Rig Veda, *The Planets* (1914–16), a suite for orchestra, *The Hymn of Jesus* (1917), for chorus and orchestra, *The Perfect Fool* (1920–22), an opera, and *At the Boar's Head* (1924), an interlude See biography by his daughter, Imogen Holst (1938)

Holst, Hermann Eduard von (fŭn hōlst'), 1841–1904, American historian, b Livonia, Ph D Univ of Heidelberg, 1865 Born of German parents settled in Russia, he was barred from that country because of a pamphlet attacking the tsarist government and emigrated (1867) to the United States Poverty and physical labor undermined his health while he studied American institutions, and in 1872 he returned to Europe to teach in the universities of Strasbourg (1872–74) and Freiburg (1874–92) His work entitled *The Constitutional and Political History of the United States* (7 vols , 1876–92), written in German and translated, is more the constitutional and political history of slavery and the struggle to preserve the Union than a systematic study of constitutional development He was a strong believer in the justice of the Union cause His other important works were a biography of John C Calhoun (1882) and *The French Revolution Tested by Mirabeau's Career* (2 vols , 1894) From 1892 to 1900 he was head of the history department at the new Univ of Chicago

Holstebro (hōl'stubrō″), city (pop 13,212), W Jutland, Denmark It is a railroad junction and an agricultural center

Holstein, Friedrich von (frē'drĭkh fŭn hōl'shtīn), 1837–1909, "mystery man" of the German foreign office, called the "Gray Eminence" After the Congress of Berlin he became a powerful figure in shaping German foreign policy, and after the fall of his enemy, Bismarck, he seems to have been the guiding spirit of the foreign office His official position was subordinate, and during his life he was almost unknown outside government circles Holstein sought to play off Russia and England against each other, to break the Anglo-French entente, and to make the German-Austrian alliance the strongest in Europe He often opposed Emperor William II, of whom he had a low opinion In the crisis over MOROCCO, largely promoted by him, his advice was ignored by the chancellor, Bülow, and Holstein resigned See S B Fay, *Origins of the World War* (1928)

Holstein (hōl'stīn, Ger hōl'shtīn), former duchy, N Germany, the part of Schleswig-Holstein S of the Eider river Kiel, Rendsburg, and Lübeck (a free city until 1937) are the chief cities (for a description of Holstein and for its history after 1814, see SCHLESWIG-HOLSTEIN) Holstein was created (1111) a county of the Holy Roman Empire and was bestowed on Adolf of Schauenburg In 1386 the count of Holstein received the duchy of SCHLESWIG as a hereditary fief On the death (1459) of Adolf VIII, last of the Schauenburg line, Schleswig and Holstein passed to Christian I of Denmark, son of Adolf's sister and the count of OLDENBURG. Christian in two charters (1460) established the relationship of Denmark, Schleswig, and Holstein as a personal union; the opposition of the German nobles in the two territories to direct Danish rule was a powerful factor in this arrangement, which lasted for four centuries In 1474 Emperor Frederick III awarded DITHMARSCHEN to Christian and raised Holstein to a duchy under the immediate suzerainty of the Holy Roman Empire (as distinct from Schleswig, which was outside the imperial jurisdiction). Both duchies were divided in the 16th cent into a royal portion, ruled by the Danish kings, a ducal portion, ruled by the dukes of Holstein-Gottorp, a younger branch of the Danish royal line; and a common portion, ruled jointly by the kings and dukes In 1658 the Treaty of Roskilde abolished Danish suzerainty over the ducal portion, but in 1721 the ducal portion of Schleswig was united with the royal portion, and in 1773 Grand Duke Paul (later Paul I) of Russia, heir of the Gottorp line, ceded the ducal portion of Holstein to the Danish dynasty in exchange for the county of Oldenburg Thus all Schleswig-Holstein was once more united under the Danish kings

Holstein (hōl'stēn), town (pop. 1,296), NW Iowa, E of Sioux City, settled 1882

Holstein-Friesian cattle (hōl'stēn-frē'zhŭn, –stĭn–) [from the former north German duchy of Holstein and from Friesland], commonly called Holsteins, a breed of dairy cattle originated in Friesland, the Netherlands It is one of the oldest existing breeds, having been bred for at least 2,000 years The region from which they come was famous even in Caesar's time for its cattle The cattle are black and white and are largest in size of the dairy breeds In milk production the cows average a higher yield than do those of any other breed and they are the most numerous of the dairy cattle in the United States

Holt, Hamilton (hōlt), 1872–, American educator From 1897 to 1921 he was connected with the *Independent*, a New York city weekly He was a strong advocate of the League of Nations and was active in peace organizations In 1925 he became president of Rollins College in Florida

Holt, Henry, 1840–1926, American author and publisher, b Baltimore, grad Yale, 1862 In 1866 he became a partner in the publishing firm which became (1873) Henry Holt & Company, and in 1913 he founded the *Unpopular Review* (later the *Unpartisan Review*) See his autobiographical *Garrulities of an Octogenarian Editor* (1923)

Holt, Joseph, 1807–94, judge advocate general of the U S army (1862–75), b Breckinridge co , Ky Educated at St Joseph's and Centre colleges, he began to practice law in Elizabethtown, Ky , and became a widely known lawyer and political speaker in the old Southwest For his services to the Democratic party, President James Buchanan appointed him commissioner of patents in 1857, and in 1859 he was promoted Postmaster General On Jan 1, 1861, he succeeded John B FLOYD as Secretary of War After the secession movement set in, Holt, who had previously been sympathetic to the South, gave unhesitating allegiance to the Union and influenced Kentucky's ultimate loyal stand In Sept , 1862, President Abraham Lincoln appointed him to the new office of judge advocate general In that position Holt supported and carried out Lincoln's desires for an extension of military jurisdiction over many civil matters, including the trials of political prisoners The trial and punishment of John Wilkes Booth's accomplices, however, especially the hanging of Mary E SURRATT, on questionable evidence and with evidence favorable to the defendants suppressed, brought a reaction against Holt and the power he had assumed However, the radical Republicans in Congress kept him in office until 1875

Holt, Luther Emmett, 1855–1924, American physician and specialist in children's diseases, b Webster, N Y , M D Columbia, 1880 He was professor at New York Polyclinic (1881–1901), and at Columbia (1901–21) His *Care and Feeding of Children* (1894), written for nurses, became a household classic, and his *Diseases of Infancy and Childhood* (1896) was a standard text See biography by R L Duffus and L Emmett Holt, Jr (1940)

Holtby, Winifred (hōlt'bē), 1898–1935, English novelist and journalist, grad Somerville College, Oxford She served in the First World War in the Women's Auxiliary Army Corps and came back to finish her college course She lectured for the League of Nations Union and from 1926 directed the periodical *Time and Tide*. Her earlier novels, *Poor Caroline* (1931) and *Mandoa, Mandoa!* (1933), a story of the effect of industrialism on African natives, foreshadowed the fine novel of her native Yorkshire, *South Riding*, published in 1936, after her early death It was successfully filmed See her *Letters to a Friend* (ed by her mother, Alice Holtby, and by Jean McWilliam, 1938), Vera Brittain, *Testament of Friendship* (1940).

Holton, city (pop 2,885), co seat of Jackson co , NE Kansas, N of Topeka, in an agricultural region, laid out 1857 by Free Staters, inc 1870. Near by is the Potawatomi Indian Reservation

Holtville, city (1940 pop 1,772; 1948 special census pop 2,785), SE Calif., SE of the Salton Sea in the IMPERIAL VALLEY; inc. 1908.

Holy Alliance. Strictly defined, the Holy Alliance was the agreement among the emperors of Russia and Austria and the king of Prussia, Sept 26, 1815. It was quite distinct from the Quadruple Alliance (Quintuple, after the admission of France) of Great Britain, Russia, Austria, and Prussia, arrived at first in 1814 and revived in 1815 Nevertheless both were a part of the resettlement of European political boundaries after the fall of the Napoleonic empire The Holy Alliance was the product of the religious zeal of Tsar ALEXANDER I Specifically, it accomplished nothing, since it was merely a vague agreement that the sovereigns would conduct themselves in consonance with Christian principles Ultimately all the princes of Europe signed the alliance except three George IV of England, who could not, for constitutional reasons, the pope, who could not, for religious reasons; and the sultan, who was not a Christian prince Though the agreement itself was not important, the name was applied to the cooperation of Russia, Austria, and Prussia, particularly in the period of the European conferences of Aachen, Troppau, Lubach, and Verona The Holy Alliance became the symbol of reaction, the reaction dominated by METTERNICH Austria repressed revolution in Italy, France interfered in Spain, in the name of the Holy Alliance It was against that reactionary solidarity that the British foreign policy under George CANNING was directed The MONROE DOCTRINE was, in part, an outgrowth of this same fear of the European reactionary powers The revolutions in 1848 more or less effectively destroyed that ogre of the liberals, but the original Holy Alliance which had been nothing but an ineffectual attempt by the tsar to supply a spiritual basis for the Quadruple Alliance, continued as a model of conduct for the tsars

Holy City see ALLAHABAD, BENARES, JERUSALEM, MECCA, ROME

Holy Cross, College of the see WORCESTER, Mass

Holy Cross National Monument see NATIONAL PARKS AND MONUMENTS (table)

holyday of obligation see FEAST

Holy Family, term referring to the Child Jesus, Mary, and Joseph In the Roman Church the feast in its honor falls usually on the Sunday after Epiphany There are paintings of the Holy Family by Fra Bartolomeo (Corsini, Rome), Anthony Van Dyck (Vienna), El Greco (Prado and Metropolitan Mus), Michelangelo (Uffizi), Murillo (*Holy Family with the Bird*, Prado), Rubens (*Holy Family under an Apple Tree*, Vienna), Andrea del Sarto (Pitti Palace, Florence), and Luca Signorelli (Uffizi)

Holy Ghost or **Holy Spirit** [*ghost*, i e spirit, a translation of Gr *pneuma*=breath, air], in Christian doctrine, the third Person of the TRINITY The Holy Ghost is sometimes defined as the aspect of God immanent in this world, in men, and in the Church Jesus' promise to his disciples of a Comforter (or Paraclete, i e , advocate), in John 14, is considered his principal reference to the Holy Ghost, and the descent of the Holy Ghost on the apostles and the gift of tongues, as told in Acts 2, is thought to be the chief manifestation of the Holy Ghost in time This incident is commemorated on Whitsunday (Pentecost) Certain Christian groups, such as the Montanists and the Society of Friends, have attributed utterances of their members to the inspiration of the Holy Ghost The dove is the symbol of the Holy Ghost For the procession of the Holy Ghost and the *filioque*, see CREED

Holy Ghost flower see DOVE FLOWER

Holy Grail, see GRAIL, HOLY

Holyhead (hŏ'lēhĕd), urban district (pop 10,700), on Holyhead Island or Holy Island, Wales, a small island off the west coast of Anglesey island, with which it has rail and road connection Holyhead is the chief port for mail and passenger service to Dublin It is a fishing port and a resort The islets North Stack and South Stack, near Holyhead, are noted for their scenery

Holy Island, England see LINDISFARNE

Holy Island or **Inisaltra** (ĭn'ĭsôl'trə), islet in Lough Derg, W Ireland It has a 10th-century round tower and the remains of several 7th-century churches and monastic buildings which were destroyed by the Danes and rebuilt by Brian Boru

Holy Land: see PALESTINE

Holy League, in French history see LEAGUE

Holy League, in Italian history, alliance formed in 1510 by Pope JULIUS II in the ITALIAN WARS for the purpose of expelling LOUIS XII of France from Italy Venice, the Swiss cantons, Ferdinand V of Spain, Henry VIII of England, and Emperor Maximilian I were the chief members of the league The Swiss, who did most of the fighting, routed the French at Novara (1513), but in the same year Julius II died and the league fell apart The French victory (1515) at MARIGNANO reestablished the French in Lombardy

Holyoke. **1** Town (pop 1,150), co seat of Phillips co , NE Colo , on Frenchman Creek near the Nebr line, in a farm area, inc 1888. **2** City (pop 53,750), SW Mass , on the Connecticut above Springfield; settled 1745, set off from West Springfield 1850, inc as a city 1873 Its industrialization began before 1850, the Connecticut being dammed for power. Paper products and cotton and other textiles are leading manufactures; machinery is also produced See C W M Green, *Holyoke, Massachusetts* (1939)

Holyoke Range, W Mass , N of South Hadley on the east side of the Connecticut, rising to 1,106 ft in Mt Norwottock

holy orders see ORDERS, HOLY

Holy Roman Empire, the political entity which came into being at the coronation (962) of OTTO I in Rome and endured until the resignation (1806) of the imperial title by FRANCIS II From the Western European point of view the Roman Empire founded by AUGUSTUS had been suspended but not ended by the abdication of the last Roman emperor in 476, it had been revived by CHARLEMAGNE in 800 and was again revived by Otto I in 962, who were the legitimate successors of Augustus This claim was contrary to the claim of the Eastern emperors (see BYZANTINE EMPIRE), who held that in 476 they had become the sole legitimate possessors of the imperial title In practice the Byzantine and the Western emperors generally recognized each other in their respective spheres, intermarriages between the Eastern and Western imperial houses were not uncommon From Charlemagne the imperial title had passed to LOUIS I, LOTHAIR I, LOUIS II, CHARLES II, CHARLES III, and ARNULF (d 899) Louis III (d 924), king of Provence, and Berengar I (d 924), king of Italy, bore the imperial title but exercised no authority, and the unity of Christian Western Europe, as established by Charlemagne, gave place to chaos The never-extinguished memory of a universal Roman Empire and of Carolingian greatness, the generally felt need for Christian unity against pagan and Moslem onslaughts, the abysmal indignity to which the PAPACY had sunk in the absence of a strong defender—these were among the factors that made possible the rebirth of the imperial idea when Otto I, king of the Germans, descended into Italy to punish BERENGAR II and to be crowned emperor by the pope ITALY and GERMANY were thus united under a single ruler, and the kingdom of Arles (see ARLES, KINGDOM OF) was added in 1033 In theory, the emperor was to be the temporal vicar of God on earth, just as the pope was the vicar of God in spiritual matters He was the supreme temporal ruler of Christendom, invested with the insignia of his office—the imperial crown and scepter and the orb (representing the world)—by the pope Actually the imperial power never reached such completeness The emperors were recognized until the 18th cent as ranking above other monarchs, but this became only a matter of diplomatic etiquette Their suzerainty early ceased to be recognized in France, S Italy, Denmark, Poland, and Hungary and probably never was seriously considered in England, Sweden, and Spain Nevertheless, the Holy Roman Empire remained, at least until the 16th cent , a European commonwealth, and English, French, and Spanish princes on various occasions sought the crown in the imperial elections The authority of the emperors in Germany and Italy was sometimes nonexistent, sometimes real, in the kingdom of Arles it was gradually usurped by France The limits of the Holy Roman Empire varied in the course of its history, some countries (e g , Hungary), though ruled by the emperors or by princes of the empire, were outside its limits, others (e g , at different periods, Flanders Pomerania, Schleswig, and Holstein) were part of the empire but were ruled by foreign monarchs (who however, took part in the imperial diets and held their lands from the emperor) Roughly speaking, the empire included Germany, AUSTRIA, BOHEMIA and Moravia, parts of N Italy, modern BELGIUM the NETHERLANDS (until 1648), and SWITZERLAND (until 1648) The emperors were elected by a procedure which was regularized in 1356 by the Golden Bull (see ELECTORS) Like most other offices until recent times, the imperial office tended to be hereditary, the electors often choosing the heir of the deceased emperor as his successor, from 1438 the crown remained in the hands of the house of HAPSBURG The imperial dignity was, in theory, obtained only after its incumbent was crowned by the pope, it became therefore customary for the German kings to proceed to Rome after their election in order to be crowned and, on the same occasion, to reassert their authority in Italy Many emperors had their heirs elected and crowned kings of the Romans (i e , German kings) during their own lifetime in order to insure their succession The coronation as German king usually took place at AACHEN Several of the earlier emperors were also crowned kings of Italy, with the iron crown of the Lombards, at MONZA or at Milan Many emperors-elect were never crowned by the pope, and after the imperial coronation (1530) of Charles V the practice ceased; later emperors took the title without papal confirmation and were crowned at FRANKFURT The ambiguities of the imperial position were manifold from the start As priest-kings the emperors entered in conflict with the papacy, a conflict which devolved not only from the question of INVESTITURE (settled in 1122, see WORMS, CONCORDAT OF), but from the whole relationship between spiritual and temporal power It culminated in the titanic struggle of the emperors FREDERICK I (1152–90) and FREDERICK II (1212–50) against the popes ALEXANDER III, GREGORY IX, and INNOCENT IV The papacy won out, and the emperors ceased—except during the Great Schism of the 15th cent —to interfere seriously with papal affairs The second ambiguity, intimately connected with the first, was the untenable dual position of the emperors as rulers of two countries—Germany and Italy—which were deeply separated by geography, culture, and political conditions In Germany, FEUDALISM prevailed From Otto I until Frederick I, Germany was divided into several large duchies—e g , BAVARIA, SAXONY, FRANCONIA, THURINGIA, Upper and Lower Lorraine (see LOTHARINGIA)—whose lords often exercised greater power than their liege After the rebellion of HENRY THE LION the duchies broke up and subdivided into smaller units—some 300 by 1648 While the emperors were hardly capable of holding Germany together and defending it from foreign attacks, they attempted again and again to establish their authority in Italy against the opposition of the virtually independent towns (see COMMUNE), of the temporal claims of the popes (see PAPAL STATES), and of the unruly nobles Frederick I failed to put down the LOMBARD LEAGUE, which was supported by the pope Frederick II, who had inherited Naples and Sicily, was an Italian rather than a German ruler, while he resided at Palermo, Germany went its own way His conflict with the papacy, paralleled by the struggle between GUELPHS AND GHIBELLINES all over Italy, ruined the imperial authority in Italy as well After the death (1254) of his heir, CONRAD IV, an interregnum of 19 years followed Neither Richard, earl of Cornwall, nor Alfonso X, king of Castile, whom opposing factions had elected German kings, actually held any power Anarchy resulted, and the robber barons and feuding nobles, who had been somewhat curbed since the 11th cent again terrorized the land The election (1273) of RUDOLF I, first German king of the Hapsburg line, restored a measure of order, but after his death rival kings again began to contest the elections Social turmoil was aggravated by the HUSSITE WARS of the 15th cent and ended only in the 16th cent when the petty nobles, championed by FRANZ VON SICKINGEN, were put down and when the rebellious peasantry was reduced to subjection in the PEASANTS' WAR In the meantime the German towns had grown in wealth and power and, in imitation of the Italian cities, had organized into communes and leagues for self-defense As a counterbalance to the nobles they were generally favored by the emperors, who granted them generous charters Many of these (e g , Frankfurt, Nuremberg, and Augsburg) emerged as free imperial cities—republics under the direct jurisdiction of the emperor —and gained a voice in the DIET It was chiefly with the help of the cities, which were the richest elements in the empire, and of the great ecclesiastic princes (e g , the archbishops-electors of MAINZ, TRIER, and COLOGNE and the bishops of WÜRZBURG, BAMBERG, and SALZBURG), who were imperial appointees, that the emperors succeeded in keeping a measure of authority Their power also depended, of course, on the size and wealth of their own hereditary domains Thus the Luxemburg dynasty (HENRY VII, CHARLES IV, WENCESLAUS, and SIGISMUND) was primarily concerned with Bohemia, its hereditary kingdom, and the Hapsburgs became increasingly interested in the aggrandizement and preservation of their immense hereditary empire at the expense of the unity of the Holy Roman Empire Charles IV, however, through the Golden Bull, greatly enhanced the imperial dignity, and MAXIMILIAN I instituted important constitutional reforms at the request of the diet Those were the creation of a council of regency (see REICHSREGIMENT) which acted as a cabinet, and of an imperial court of justice Actually, however, these two bodies turned out to be less important than the Austrian chancellery at Vienna (since 1438 the emperors had usually resided in Vienna) and the aulic council (the emperor's privy council) With the accession of CHARLES V (1519) and more particularly that of FERDINAND I (1558), the affairs of the empire became virtually identical with those of the house of Austria This development was furthered by the REFORMATION, which aligned the German Protestant princes against the emperors, who were committed to the defense of Catholicism Charles V defeated (1547) the Protestant SCHMALKALDIC LEAGUE, but his victory did not last In the THIRTY YEARS WAR (1618–48, see also FERDINAND II, FERDINAND III, WALLENSTEIN; PROTESTANT UNION) the emperor, allied with Spain, faced the Protestant princes and their chief allies, Sweden and France It ended with the virtual dissolution of the empire (see WESTPHALIA, PEACE OF) The more than 300 territorial princes of the empire all attained territorial sovereignty, limited only by vague provisions against their joining alliances di-

rected against the emperor The diet was reduced to impotence, and the imperial title became largely honorific Nevertheless, the outward forms of the empire were preserved and the emperors, thanks to their hereditary lands, remained powerful monarchs The peace merely legalized the state of things such as it had been since the success of the Reformation, which had shattered the dream of a politically united Christian Europe and forwarded the principle of nationality, a principle entirely alien to the Holy Roman Empire In their wars against Louis XIV (see DUTCH WARS, GRAND ALLIANCE, WAR OF THE, SPANISH SUCCESSION, WAR OF THE), the emperors further lost prestige, a loss which could not be offset by the reconquest of Hungary from the Turks The meaninglessness of the imperial concept became flagrant in the War of the AUSTRIAN SUCCESSION (1740–48) and the SEVEN YEARS WAR (1756–63) The death (1740) of Emperor CHARLES VI ended the male line of the Hapsburg dynasty, the elector of Bavaria was chosen (1742) as Emperor Charles VII, while MARIA THERESA, who by virtue of the PRAGMATIC SANCTION had inherited the Hapsburg lands, defended her inheritance against Prussian, Bavarian, and Saxon claims and against France and Spain By 1745 FREDERICK II of Prussia and the electors of Saxony and Bavaria had dropped out of the war and supported the election of Maria Theresa's husband, FRANCIS I, but in 1756 PRUSSIA again joined in the alliance against Austria, and in the Peace of Hubertusburg (1763) Prussia emerged as the leading power in the empire FRANCIS I's successor, JOSEPH II, was a brilliant monarch who took his position as emperor seriously and sought to reorganize and centralize the remnants of imperial administration He failed, partly because of his impetuosity, but mainly because of Prussian opposition Two years after his death began the FRENCH REVOLUTIONARY WARS The Treaty of Lunéville (1801) with victorious France provided for a complete reorganization and prepared the final dissolution of the empire In 1803 the diet deposed and indemnified the majority of the princes, creating a smaller number of larger states, which eventually joined (1806) the CONFEDERATION OF THE RHINE, under the protection of Napoleon I In 1804 Emperor FRANCIS II took the title Francis I, emperor of Austria, and in 1806 he renounced the crown of the Holy Roman Empire The empire of NAPOLEON I, who meant to assume the succession of Charlemagne, was short-lived The German Empire of 1871–1918 and the Third Reich [*Reich*-empire] of Hitler were in no manner successors of the Holy Roman Empire, being based on nationality instead of universality The following is a list of emperors and German kings from 936 to 1806, the dates in parentheses refer to their reigns as German kings

Saxon dynasty Otto I (936–73), Otto II (973–83), Otto III (983–1002), Henry II (1002–24)

Salian or Franconian dynasty Conrad II (1024–39), Henry III (1039–56), Henry IV (1056–1105), Henry V (1105–25)

Lothair II (1125–37, duke of Saxony)

Hohenstaufen dynasty and rivals Conrad III (1138–52), Frederick I (1152–90), Henry VI (1190–97), Philip of Swabia (1198–1208) and Otto IV (anti-king, 1198–1208, king, 1208–12, emperor, 1209–15, Guelph), Frederick II (king, 1212–37, emperor, 1220–50), Conrad IV (1237–54) and antikings Henry Raspe (1246–47) and William, count of Holland (1247–56)

Interregnum (1254–73) Richard, earl of Cornwall, and Alfonso X (of Castile), rivals

Hapsburg, Luxemburg, and other dynasties Rudolf I (1273–91, Hapsburg), Adolf of Nassau (1292–98), Albert I (1298–1308, Hapsburg), Henry VII (1308–13, Luxemburg), Louis IV (1314–46, Wittelsbach), Charles IV (1346–78, Luxemburg), Wenceslaus (1378–1400, Luxemburg), Rupert (1400–1410, Wittelsbach), Sigismund (1410–37, Luxemburg)

Hapsburg dynasty Albert II (1438–39), Frederick III (1440–93), Maximilian I (1493–1519), Charles V (1519–58); Ferdinand I (1558–64), Maximilian II (1564–76), Rudolf II (1576–1612), Matthias (1612–19), Ferdinand II (1619–37), Ferdinand III (1637–57), Leopold I (1658–1705), Joseph I (1705–11); Charles VI (1711–40)

Interregnum (1740–42)

Charles VII (1742–45, Wittelsbach-Hapsburg)

Francis I (1745–65, Lorraine, husband of Maria Theresa)

Hapsburg-Lorraine dynasty· Joseph II (1765–90), Leopold II (1790–92), Francis II (1792–1806)

See James Bryce, *The Holy Roman Empire* (1864, rev. ed, 1919), H. A L Fisher, *The Medieval Empire* (1898); J W. Thompson, *Feudal Germany* (1928), T F Tout, *Empire and Papacy* (Vol II of *Periods of European History*, ed by Arthur Hassall, 1893–1901) See also bibliographies under MIDDLE AGES and GERMANY

Holyrood (hō'lērōōd) [i.e., holy cross], former residence of Scottish kings, in Edinburgh. In 1128 David I founded Holyrood Abbey on this site, where according to legend he was saved from an infuriated stag by the miraculous interception of a cross. The abbey's Chapel Royal, still standing, contains the remains of David II, James II, James IV, Lord Darnley, and others James IV began the present building in 1501, Charles II, with designs by Sir William Bruce of Kinross, rebuilt it in 1670–79 The palace was partially destroyed by the English in 1544, was the scene of the murder of David RIZZIO, favorite of Mary Queen of Scots, in 1566, and was almost completely destroyed by fire in 1650

Holy Sepulcher (sĕp'ŭlkur), church in Jerusalem, officially the Church of the Resurrection It is in the east central part of the Christian quarter, occupying the supposed site of Jesus' tomb Steps connect it with chapels of St Helena and of the Invention of the Cross, St HELENA pointed out these sites (see CROSS) The center of the church is Romanesque, the shrine itself being at the west end of the nave in a great rotunda, the entrance of the church is from the south The fabric built by the Crusaders is preserved, somewhat disguised, in the present building The church has been much quarreled over by various Christian groups, and the Orthodox got control of most of it from the Turks There are partitioned areas for the use of Roman Catholics (in the custody of the Franciscans), the Copts, the Syrian Jacobites, and the Gregorian Armenians

Holy Spirit: see HOLY GHOST

Holy Spirit plant see DOVE FLOWER

Holy Thursday, see ASCENSION

holy water, in Christian churches, water blessed to symbolize spiritual cleansing In Roman Catholic churches there is a bowl (stoup or font) of holy water near the doors, so that the faithful may bless themselves with it on entering Holy water is used in formal blessings, including the ASPERGES

Holy Week, week before EASTER Its chief days are named PALM SUNDAY, MAUNDY THURSDAY, GOOD FRIDAY, and Holy Saturday In Christian life it is a week of devout observance, commemorating the Passion and Jesus' death on the cross The liturgies have special features and services, e.g., TENEBRAE In the West these rise to a climax with the ceremonies of Holy Saturday On this day the paschal CANDLE is blessed with the hymn *Exsultet*, and Lent ends at noon

Holywell (hō'lēwĕl, -wul), urban district (1931 pop 3,424, 1943 estimated pop 6,500), Flintshire, Wales, NW of Chester near the Dee estuary It is named for St Winifred's Well, which, according to legend, sprang up on the spot where St Winifred was beheaded A Gothic chapel, built by Margaret, mother of Henry VII, covers the well and is a place of pilgrimage for Roman Catholics Holywell is a livestock market with paper and woolen mills

Holywood (hō'lēwōōd), urban district (pop 5,078), Co Down, Northern Ireland, on the southeast coast of Belfast Lough It is a seaport and resort St Laserian founded a monastery here in the 7th cent, there are ruins of the Franciscan monastery (burned 1572) which followed it in the 13th cent

holy year. see JUBILEE

Holz, Arno (är'nō hōlts'), 1863–1929, German critic and poet His influence as critic and as founder of the naturalist school is more important than his original work, for he was influential in the development of Hauptmann Among his works are the literary experiment *Papa Hamlet* (with Johannes Schlaf, 1889), the drama *Die Familie Selicke* (also with Schlaf, 1890), *Die Kunst* [art] (1891), and the volume of poems *Phantasen* (1899)

homage· see FEUDALISM

Homam (hō'-), the same as HEMAM

Homburg (hōm'bōōrk), town (pop 24,714), Hesse, W Germany, N of Frankfurt, a famous spa and long a fashionable resort It was until 1866 the capital of the landgraviate of Hesse-Homburg Its official name is Bad Homburg

Home, Daniel Dunglas, 1833–86, American spiritualist medium, b Edinburgh, Scotland He was brought to the United States when a small child and was brought up in Connecticut At 13 he claimed to have discovered his gifts for dealing with spirits, and from 1850 to his death he had a triumphant career as a medium, always retaining his amateur status but growing well-to-do from gifts showered on him by the great and near-great of Europe and America In his drawing-room séances furniture moved with no apparent cause, ghostly hands appeared, and furniture and Home himself would rise in the air There was much dispute about the validity of these highly physical manifestations of spirits, Robert Browning, for instance, attacked Home scathingly as Mr Sludge, the Medium, but Elizabeth Barrett Browning admired him Though numerous efforts were made to expose him, none was successful See Jean Burton, *Heyday of a Wizard* (1944)

Home, Henry: see KAMES, HENRY HOME, LORD.

Home, John, 1722–1808, Scottish dramatist His tragedy *Douglas* (1756), containing the much-quoted speech beginning, "My name is Norval, on the Grampian hills," was a great success, the character of Lady Randolph was portrayed by Peg Woffington and later by Mrs Siddons. See biography by A E Gipson (1917).

Homedale, village (pop. 857), SW Idaho, SW of the Snake and S of Parma, on the Idaho portion of the OWYHEE river project.

home economics deals with homemaking and the relation of the home to the community. Formerly limited to problems of food (nutrition and COOKERY), clothing, sewing, textiles, household equipment, cleaning, housing, hygiene, and household economics, today it includes many aspects of family relations, parental education, consumer education, and institutional management The scientific aspects were developed under the leadership of Ellen H RICHARDS, more recent is the emphasis on the social, economic, and aesthetic phases Although called in the past home science, household arts, domestic science, and domestic economy, the subject as a whole is known today as home economics, and specialized terms are used for its subdivisions The education of women has in many ages and conditions of society emphasized a training in such household arts as needlework, cookery, the management of servants, the preparation of medicines, and food preservation, such instruction was once given mainly in the home and from a practical rather than a scientific standpoint In the United States the teaching of cooking and sewing in the public schools was coincident with manual training for boys, dating from the '80s State institutions, notably in Iowa, Kansas, and Illinois in the '70s, pioneered in introducing home economics courses on the college level The widening scope of the field has created professional careers for women in teaching, research, extension work, dietetics, institutional administration, writing, and social service In 1914 the Smith-Lever Act made Federal funds available for extension work in home economics and agriculture in cooperation with the states, through this provision, supplemented by later acts, home demonstration work is carried on in many rural localities The Smith-Hughes Act of 1917 instituted secondary school vocational education in home economics and other fields See H T Craig, *The History of Home Economics* (1945), publications of the U S Bureau of Human Nutrition and Home Economics

home missions see MISSIONS

Home of Polwarth, Sir Patrick, or **Sir Patrick Hume of Polwarth** (both hūm, pōl'wŭrth), 1641–1724, Scottish statesman Devoted to Presbyterianism, he opposed the government of Charles II, aided the rebellion (1685) of the duke of MONMOUTH, fled to France, and returned when William III ascended the throne William made him Baron Polwarth (1689), sheriff of Berwick (1692–1710), lord chancellor of Scotland (1696–1702), and earl of Marchmont (1697) See G H Rose, ed, *The Marchmont Papers* (1831)

homeopathy (hōmēŏ'pŭthē) [Gr, =similarity of feeling], system of medicine based upon certain observations of Samuel HAHNEMANN It was opposed to the established medical system, which was called by Hahnemann allopathy The observation that quinine, effective in treating malaria, induces some of the symptoms of malaria if given to a person in normal health, led to experimentation with other drugs and to the principle that disorders are cured by drugs which produce effects in the body similar to the disorder This is expressed by the phrase *Similia similibus curantur* (or *curentur*) Very small doses of drugs are used in treatment Schools of medicine teaching the homeopathic system are recognized in Europe and the United States See C E Wheeler, *An Introduction to the Principles and Practice of Homeopathy* (1919)

Home Owners' Loan Corporation, established in the U S government in 1933 to help stabilize real-estate depreciated during the depression and to refinance the urban mortgage debt The HOLC, granting long-term mortgage loans amounting to over $3,000,000,000 at low interest rates (5 per cent and later 4 5 per cent) to some 1,000,000 homeowners facing loss of their property, ceased its lending activities in June, 1936, by the terms of the Home Owners' Loan Act, Later the corporation made additional advances to borrowers, and by the end of 1948 all but $368,936,082, or 10 percent, of the HOLC's total investments was liquidated

Homer, principal figure of ancient GREEK LITERATURE, the first European poet Two poems are attributed to him, the ILIAD and the ODYSSEY, written in a literary type of Greek, Ionic in basis with Aeolic admixtures During most of the 19th cent the "Homeric question" was the great dispute of scholarship—trying to analyze the two works by various tests, usually to show they were simply concatenations of older narrative poems. The problem is now generally abandoned, modern scholars generally agree that there was a poet named Homer, who lived before 700 B C , probably in Asia Minor, that he wrote for an aristocratic society, and that the *Iliad* and the *Odyssey* are each the product of one poet's work, developed out of older legendary matter. Some assign the *Odyssey* to a poet who lived slightly after the author of the *Iliad* Legends about Homer were numerous in ancient times. He was said to be blind Seven different cities claimed him—Athens, Argos, Chios, Colophon, Rhodes, Salamis, and Smyrna. Homer's influence is peculiarly transcendent, e.g., he was the *sine qua non* of Athenian education and his heroes were worshiped in many parts of Greece. The *Iliad*

and the *Odyssey* make together the epic prototype; they are written in dactylic hexameter and are of nearly the same length The *Iliad* is a highly unified work, splendid in its dramatic action, colorful in its detail, and majestic in its movement Matthew Arnold's statement of the characteristics of Homeric "grand style" is well known—rapidity, plainness in thought and action, and nobility The *Odyssey* is episodic, its parts skillfully connected The atmosphere of adventure and beneficent fate in the *Odyssey* contrasts with the heavier tone and tragic grandeur of the *Iliad* The two poems are among the most widely read literary works today as in the ages past For other poems attributed to Homer, see HOMERIC HYMNS

Homer, Louise, 1871?–1947, American operatic contralto, whose maiden name was Louise Dilworth Beatty, b Pittsburgh She studied in Philadelphia, Boston, and Paris and made her debut (1898) in Vichy, France She sang at Covent Garden, London, in 1899 and was a member (1900–1919) of the Metropolitan Opera Company, afterward singing with the Chicago Opera Company until 1925 She sang the principal contralto roles in Verdi's *Aïda* and *Il Trovatore*, Ponchielli's *La Gioconda*, Humperdinck's *Hansel and Gretel* and *Königskinder*, and various of Wagner's operas, but she considered Orpheus, in Gluck's opera, her greatest role In 1895 she married her harmony teacher, **Sidney Homer,** 1864-, American song composer He studied in Boston with G W Chadwick and in Munich and Leipzig He composed some chamber music and two works for organ, but is principally known as the composer of over 100 songs, to poems by such poets as TENNYSON, Stevenson, Browning, W E Henley, Vachel Lindsay, and Christina Rossetti See Homer's *My Wife and I* (1939)

Homer, Winslow, 1836–1910, American landscape, marine, and genre painter He was born in Boston, where he later worked as lithographer and illustrator In 1861 he was sent to the battle front as war correspondent for *Harper's Weekly* His war pictures and studies of Negro life after the war won him international popularity Many of his studies of everyday life, such as *Crack the Whip* (Metropolitan Mus), date from this period, during which he was a popular magazine illustrator In 1876 Homer abandoned illustration to devote himself to painting He made some short trips to Europe but found his inspiration in the American scene and, eventually, in the sea, which he painted at Prouts Neck, Maine, in the summer and in Florida or the Bahamas in the winter His oils and water colors alike are characterized by their directness, realism, objectivity, and splendid color But it is above all as a water-colorist that Homer excelled After 1884 he lived the life of a recluse His powerful and dramatic interpretations of the sea in water color have never been surpassed in their kind and hold a unique place in American art They are in leading museums throughout the United States Characteristic water colors are *The Gulfstream*, *Breaking Storm*, and *Maine Coast* (all Art Inst, Chicago) and *The Hurricane* (Metropolitan Mus) Characteristic oils include *The Gulf Stream* and *Moonlight—Wood's Island Light* (Metropolitan Mus), *Eight Bells* (Addison Gall, Andover, Mass), and *A Summer Night* (Luxembourg Mus, Paris) See biographies by W H Downes (1911) and Lloyd Goodrich (1944)

Homer 1 Town (pop 3,497), parish seat of Claiborne parish, NW La, NE of Shreveport, settled 1830, inc 1850 It is an oil, lumber, and cotton center 2 Village (pop 1,145), S Mich, on the Kalamazoo and SE of Battle Creek, settled 1832, inc 1871 Flour and dry-milk products are made 3 Village (pop 2,928), central N Y, SW of Syracuse, settled 1791, inc 1835 It is a farm trade center with some manufactures

Homer City, agricultural borough (pop 2,078), SW Pa, NW of Johnstown, inc 1872

Homeric Hymns (hōmĕ'rĭk), name applied to hexameter poems anciently attributed to HOMER Composed probably between 800 and 400 B C, they are complimentary verses to the various gods, principally Aphrodite, Apollo, Demeter, and Hermes Although sometimes of great beauty, they are important mainly as prime sources for Greek religion and cults The *Margites* (7th or 6th cent B C), a comic poem, and *The Battle of the Frogs and Mice* (5th–2d cent B C), a mock epic, were also attributed to Homer.

Home Rule. The Home Rule movement in Ireland was started in 1870 under the leadership of Isaac Butt, who advocated Irish autonomy in purely Irish matters Ireland at this time was governed under the provisions of the Union of 1800, which granted Ireland representation in the English Parliament. The miserable economic conditions of the Irish people and the work of propagandists of the '50s convinced many of the Irish that their prosperity was dependent upon home control of economic policies by their own governing body The sentiment grew slowly in the '70s, but received a tremendous impetus from the depression of 1877–79 and from the rise of Charles Stewart PARNELL, who unified the Irish party in Parliament and by resorting to obstructionist tactics and opposing all legislation whatsoever drew attention to the Irish question At the same time many Irish felt that the question could not be settled constitutionally and resorted to violence The Phoenix Park murder of two British officials in 1882 was one incident in a long-growing campaign of violence In 1886 GLADSTONE, who held his office as prime minister by an alliance with Parnell, introduced the First Home Rule Bill, which would have granted the Irish a unicameral legislature, but kept many powers vested in the British Parliament, including that of taxation The bill, despite the meagerness of its concessions, was generally acceptable to the Irish Its failure to pass resulted in more extreme demands by the Home Rulers The government turned to land legislation (see IRISH LAND QUESTION) to mollify the country After the Irish group in Parliament split over the Parnell scandal in 1890 it lost much of its effectiveness, despite increasing agitation in Ireland In 1893 the Liberals passed in the House of Commons the Second Home Rule Bill providing for a bicameral legislature for purely local matters and Irish representation in Parliament to vote on Irish taxation This was generally considered by Home Rule advocates as less satisfactory than the 1886 bill, but it was, in any event, defeated by the House of Lords The Home Rule movement as such was losing ground in Ireland and the Gaelic League and Irish Ireland ideals of an increasingly self-conscious Irish people culminated in the founding of SINN FEIN c 1900 The Irish Council Bill of 1907, which was to establish a purely Irish body to direct the spending of Irish tax proceeds, failed because of Irish opposition In 1912 the Third Home Rule Bill Passed the House of Commons The most notable difference from the bill of 1893 was that it would have eventually given control of the police to Ireland A tremendous outcry arose in Protestant Ulster, which feared Catholic domination Private armies—the Ulster Volunteers and, in the South, the Irish Volunteers—were raised, and civil war threatened if the bill became law In 1914 Commons again passed the bill, the House of Lords excluding Ulster from its provisions Commons voted to allow Ulster to vote itself out of Home Rule for six years At the outbreak of the First World War the bill was passed once again with the proviso that it should not go into effect until after the war, the government pledging to pass a new law for Ulster's benefit The law never took effect for, in 1916, the Easter Rebellion gave Sinn Fein its greatest impulse In 1918 S Ireland elected to Parliament only Sinn Fein members pledged to republicanism instead of Home Rule Lloyd George entered into negotiations with the *de facto* Irish government headed by Eamon De Valera The Irish Free State, with a dominion status, was recognized by an Anglo-Irish treaty in 1921 The remaining ties with Great Britain were gradually discarded In 1936 the office of governor general was abolished, in 1938 the new Irish constitution declared the Irish Free State to be the sovereign country of Ireland, or Eire, associated with the British Commonwealth of Nations in external policy, and on April 18, 1949, the country became the republic of Ireland, completely independent of any legal ties to Britain The six counties of Northern Ireland are now governed under the provisions of the Fourth Home Rule Bill of 1920, which was meant to set up two parliaments, but which was rendered void in the South by the establishment of the Irish Free State The modern descendants of the Home Rule movement in Ireland continue to agitate for an end of this partition of the country See James O'Connor, *History of Ireland* (2 vols, 1925), F H O'Donnell, *History of the Irish Parliamentary Party* (1910), Thomas Ireland, *Ireland Past and Present* (1942)

home rule, municipal, system adopted in many states of the United States by which a city is given the right to draft and amend its own charter and to regulate purely local matters without the interference of the state legislature The phenomenal growth of urban centers in the latter part of the 19th cent brought new and complex problems, the state legislatures, which had controlled most CITY GOVERNMENT, found themselves incapable of handling the fast-growing cities In 1875 Missouri adopted the first municipal home rule clause in her constitution, other states have followed her lead Local and general concerns cannot, of course, be strictly delimited, and the tendency of the courts has been to restrict city powers For this reason and others, municipal home rule has not, in general, effected all the improvement expected of it The form of the rule varies greatly from state to state The term "municipal home rule" applies strictly only to the system when embodied in a state constitution, but it is also loosely used by cities to which relative independence has been granted by special legislative act See H L McBain, *The Law and Practice of Municipal Home Rule* (1916), J D McGoldrick, *Law and Practice of Municipal Home Rule, 1916–1930* (1933)

Homerville, town (pop 1,522), co seat of Clinch co, SE Ga, SW of Waycross near the Okefenokee Swamp, founded 1859 on the railroad, inc 1869. It is the center of a farm area (tobacco, cotton) and a pine region producing turpentine.

Homestead. 1 City (pop. 3,154), SE Fla., SSW of Miami With the arrival of the railroad in 1904, the city developed as a trade and shipping center for the extremely productive Redlands area, which yields many varieties of citrus fruits and winter vegetables There is an agricultural experiment station Near by is Royal Palm State Park, a wildlife sanctuary 2 Industrial borough (pop 19,041), W Pa., on the Monongahela adjoining Pittsburgh, inc 1880 It is noted for large iron and steel works (chiefly in the neighboring borough of Munhall today) The works, formerly owned by the Carnegie company, in 1892 saw the outbreak of the **Homestead strike,** one of the most bitterly fought industrial disputes in U S labor history, lasting nearly five months. Henry C FRICK, manager of the plant, hired about 300 men from the Pinkerton agency to protect property and nonunion workers whom he had employed, and on July 6 an armed battle broke out between the Pinkertons and strikers in which a number of men were killed or wounded The governor called out the state National Guard, under the protection of which the company kept their nonunion men at work and broke the strike

homestead. In addition to its earlier meaning of the home and the home grounds, the word has acquired special meanings in the United States Homestead laws have been enacted in many of the states exempting homesteads from seizure for debt, with some exceptions The object is to save families from destitution Federal homestead laws enabled settlers to acquire farms on generous terms In the financial depression that began in 1929, it was observed that a home with a small piece of land, even a fraction of an acre, was at least partial insurance against want, and efforts to secure such "subsistence homesteads" were encouraged by the government The subsistence homestead effectively supplements earnings from some other source, e g, from home industries See Ralph Borsodi, *Flight from the City* (1933)

Homestead Act, 1862, passed by the U S Congress The U S government sold land to settlers in the West for purposes of revenue As the West became politically stronger, however, pressure was increased upon the U S Congress to guarantee free land to settlers (see FOOT RESOLUTION, FREE-SOIL PARTY, PREEMPTION ACT) In 1852 a bill providing for free distribution of land was defeated in Congress, and in 1859 another such bill was passed in Congress but was vetoed (1860) by President Buchanan With the ascendancy of the Republican party (which had committed itself to homestead legislation) and with the secession of the South (which had opposed free distribution of land), the Homestead Act, sponsored by Galusha A GROW, became law The Homestead Act provided for the transfer of a quarter section of unoccupied public land to each homesteader on payment of a nominal fee after five years of residence

Homestead National Monument of America: see NATIONAL PARKS AND MONUMENTS (table)

Homestead strike see HOMESTEAD, Pa

Homewood. 1 City (pop 7,397), N central Ala, a suburb of Birmingham, inc 1921 as Edgewood, named Homewood 1926 2 Village (pop 4,078), NE Ill, south residential suburb of Chicago, platted 1852, inc 1893 Glenwood Manual Training School for boys is here Washington Park race track is near by

homicide (hō'mĭsīd), taking of human life Homicides which are neither justifiable nor excusable are crimes Such homicide if committed with MALICE aforethought IS MURDER, otherwise it is MANSLAUGHTER A homicide is excusable if it is the result of accident not amounting to culpable negligence Justifiable homicides are intentional killings done in accordance with legal obligation or in circumstances where the law recognizes no wrong They include the execution of criminals, killings necessary to prevent a felony or to arrest a suspected felon, and killings in self-defense The plea of self-defense is allowable only when the slayer reasonably feared death or serious bodily injury to himself at the hands of the person slain In some states one may lawfully use killing force, if needed, in resisting an invasion of his home or his real property Other states require that the home or property be abandoned if homicide is needed to protect it

Hominy (hŏm'ĭnē), city (pop 3,267), NE Okla., NW of Tulsa, in an agricultural and oil-producing area Established as an Indian subagency in 1874, it was laid out in 1905 and incorporated in 1908.

hominy [Algonquian], hulled corn, coarsely broken or ground into small pieces of about the same size It was an important pioneer food and was prepared by soaking the grains in weak wood lye until the hulls came free and floated to the top, after which it was washed and boiled till tender, it was often served with meat It is now usually marketed under the name of hominy grits Hominy, especially when it is very coarse, is sometimes called samp

Homma, Masaharu (masä'härōō hōmä'), 1888?–1946, Japanese general He led the invasion of the Philippines in 1941. After the war he was convicted of responsibility for war atrocities and executed in April, 1946.

Homoeans, homoion, homoiousion, and **homoousion:** see ARIANISM.

Homs (hōms), city (pop. 69,000), W Syria, on the Orontes river and S of Hama It is on the trade route from Damascus to Alep and is on a fertile plain It has therefore been of importance from ancient times, when it was Emesa There was a great temple to **Baal** (or Helios-Baal), the sun-god Emesa became of startling prominence in the 3d cent A D when one of the priests of the temple became Roman emperor as Heliogabalus for a short and discreditable period Aurelian here defeated the forces of Zenobia of Palmyra in 272 The Arabs took the town in 636, and an old Arab castle is in ruins there It finally passed into Turkish hands and remained there—except for the short period after 1832 when Ibrahim Pasha defeated the Turks and took the city—until the creation of modern Syria. The name is also written as Hems and Hims

Honan or **Ho-nan** (both hō'năn', hŭ'nan'), province (63,760 sq mi , pop 26,994,209), E China The *capital* is Kaifeng The surface is largely hilly to mountainous Through the northern part of this well-watered province the Yellow River flows, and in the east is the Hwai river, both are generally navigable The principal north-south and east-west lines of China, the Peiping-Canton RR and the Lung-Hai RR respectively, cross Honan, which also has many good highways The province is densely populated and prosperous Though the climate is dry, loess provides fertile soil, wheat, millet, kaoliang, and cotton are raised Coal is the most abundant mineral, and iron, lead, and pottery clay are found The Lungmen valley, near Loyang, contains colossal carvings of the Buddha, some 60 ft high, and many ruined temples

Honanfu, China see LOYANG

Honda (ōn'da), city (pop 12,424), N central Colombia Founded c 1565 and formerly a major shipping point because of the near-by rapids on the MAGDALENA, Honda has declined since the building of the railroad (1884), from a point down the river, to Bogotá and GIRARDOT

Hondecoeter, Melchior d' (mĕl'kyôr dŭ hōn'dukōōtur), 1636–95, Dutch animal painter His grandfather was Gillis d'Hondecoeter (d c 1637), Flemish landscape and bird painter, his father was Gysbert d'Hondecoeter (c 1604–1653), animal painter After four years at The Hague, where he painted the menagerie at Loo for Wilham III, Melchior settled in Amsterdam He painted all forms of animal life, but it is as a painter of birds and fowl that he is especially known, and in this field he has few equals Among the best are *Peacock and Turkey* (Louvre), *Game and Poultry* (Brussels), *Peacocks* (Metropolitan Mus), and the very fine *Floating Plumage* (Amsterdam)

Hondo, Japan see HONSHU

Hondo (hŏn'dō), unincorporated town (pop c.3,000), co seat of Medina co , SW Texas, W of San Antonio, in a farm and livestock area

Honduras (hŏndōō'rus,–dyōō'–), republic (59,160 sq mi , pop. 1,200,542), Central America The capital is TEGUCIGALPA Honduras is bounded on the north by the Caribbean, on the east and the south by Nicaragua (the boundary is disputed), on the south by the Gulf of Fonseca, on the southwest by Salvador, and on the west by Guatemala Principally along the western half of the narrow northern coast of Honduras (c 400 mi long) are the vast banana plantations established by U S companies, whose exports provide the nation with its main source of revenue The plantations are linked by the only railroads in the country to SAN PEDRO SULA and the principal ports, TRUJILLO, LA CEIBA, TELA, and PUERTO CORTÉS The short stretch of southern coast on the Gulf of Fonseca, traversed from Salvador to Nicaragua by the INTER-AMERICAN HIGHWAY, is semiarid and unproductive, with a small port, AMAPALA, the sole Pacific outlet Between the coasts are long ranges extending from west to east at altitudes of 5,000 to 7,000 ft., which limit heavy rainfall to the north, they end in the jungles and swamps of the MOSQUITO COAST, where most of the present Indian population (about 9 percent of the total) lives Two large river systems, the PATUCA and the ULÚA, drain most of the north The rugged terrain was not easily colonized. First visited by Columbus in 1502, the region was reached (1524) by Cortés, who ordered Pedro de ALVARADO to found some of the coastal towns Silver mining developed COMAYAGUA and Tegucigalpa Among the Latin American countries exporting silver, Honduras ranks third, but bananas are the republic's chief export Other exports include abacá, cigarettes, and hardwoods. Honduras, potentially wealthy in resources, is undeveloped, with half the mestizo population (about 87 percent of the total) illiterate Roads are few, but air transport has opened remote areas In 1821 Honduras gained independence from Spain and became part of Iturbide's Mexican Empire, from 1825 to 1838 it was a member of the CENTRAL AMERICAN FEDERATION, of which the Honduran patriot, Francisco MORAZÁN, was president Thereafter, political factions fought bloody wars to control the republic, and Honduras was subjected to interference from its Central American neighbors. Great Britain long controlled the Mosquito Coast and the BAY ISLANDS, and William WALKER attempted a "liberation" in 1860 Although Honduras often sought, with Salvador and Nicaragua, to reestablish a Central American federation, the attempts were frustrated by political and personal animosities In 1933 the boundary with Guatemala was finally fixed While the country is generally self-sufficient in foodstuffs, foreign capital is the basic factor in the nation's economy See D G Munro, *Five Republics of Central America* (1918), Samuel Crowther, *The Romance and Rise of the American Tropics* (1929), Ralph Hancock, *The Rainbow Republics* (1947)

Hone, Philip, 1780–1851, American diarist, b New York city With his brother he built up an auctioneering business which brought him money, prestige, and an intimate knowledge of New York city He left business for politics, becoming mayor of New York in 1825 His diary (1828–51), opinionated and shrewd, contains invaluable records of life in New York city and the development of the Whig party during this period See selections from his diary, ed by Bayard Tuckerman (2 vols , 1889) and by Allan Nevins (2 vols , 1927)

Hone, William, 1780–1842, English political satirist and pamphleteer His satires, illustrated by Cruikshank, were widely read, in 1817 he was tried for publishing parodies on the Creed and the Litany, but was acquitted He is remembered for his compilations, among them the *Every Day Book* (1826–27) See biography by F W Hackwood (1912)

hone, a fine stone or an artificial substitute, used as an abrasive for sharpening edge tools, e g , the chisel, knife, and razor It is used dry, with water, or with oil The whetstone is similarly used but is coarser The oilstone is a hone or a whetstone used with oil

Honea Path (hŭn'ē), textile town (pop 2,765), NW S C , near the Saluda S of Greenville

Honegger, Arthur (hŭ'nĕgur, Fr artür ônĕgĕr'), 1892–, Swiss-French composer, studied at the Paris Conservatoire He was one of *Les Six* (see SATIE, ERIK) His music, which ranges from suite to the intensely religious, is marked by incisive rhythms and sharp dissonances which often are the result of his use of polytonality Besides *Pacific 231* (1923)—the first of three *mouvements symphoniques* —his outstanding works are of a theatrical nature, such as ballets, the opera *Judith* (1926), music for the moving picture *Mayerling* (1937?), and the oratorio *King David* (1921–23) In the opera *Antigone* (1927), Jean Cocteau was his librettist. He has also set texts of Paul Claudel

Honeoye Falls (hŭn'ēoi'), village (pop 1,274), W N Y , S of Rochester, inc 1838

Honesdale (hōnz'dāl), industrial borough (pop 5,687), co seat of Wayne co , NE Pa , on the Lackawaxen river and NE of Scranton, settled 1803, laid out 1826, inc 1831 Its manufactures include shoes, hoists, and textiles On Aug 8, 1829, the first trial run of a locomotive in the United States was made here Honesdale was the terminus of the Delaware and Hudson Canal The borough was named for Philip Hone

honey, sweet, viscid fluid produced by the bee from the nectar of flowers The nectar is lapped from the flower by the tongue of a worker bee and is carried in the crop or honey sack back to the hive Enzymes in the crop convert the nectar into the glucose and fructose sugars of honey The sugary fluid is stored in open beeswax cells, which are capped with wax when the material has reached the consistency of honey through evaporation of the excess water in air circulated by the moving wings of workers At least 20,000 (some observers say 37,000) trips to the field are necessary to make one pound of honey The honey required for an average colony to maintain itself through a year has been estimated at between 400 and 500 lb That in excess of the hive's requirement is used by man Honey is marketed both in the comb and with the comb removed either by straining or by centrifugal force or gravity The flavor and color depend upon the kind of flower from which the nectar is taken Much of that produced in the United States is the pale, delicately flavored alfalfa and clover honey Among the numerous other blossoms yielding nectar are those of the basswood, buckwheat, orange, palmetto, sage, and tupelo California sage honey is said to resemble the anciently praised honey of Mt Hymettus in Greece Among the states which produce honey on a commercial scale are California, Florida, Illinois, Iowa, Michigan, Minnesota, New York, Ohio, and Wisconsin Some is imported From earliest times until sugar became commercially important, honey was a major sweetening agent Honey is nutritious and easily absorbed and utilized by the body It contains about 70 to 80 percent sugar, the rest is water, minerals, and traces of protein, acids, and other substances

honeycomb moth: see BEE MOTH.

honeydew melon: see MELON.

Honey Grove, city (pop. 2,456), E Texas, NE of Dallas and near the Red River; inc. 1872 It is in a dairy and cotton area A large game and reforestation preserve is near by

honey locust, leguminous deciduous tree (*Gleditsia triacanthos*) native to the eastern half of the United States but planted as a shade tree in many regions of the United States and in other countries, where it is sometimes naturalized. It has heavily fragrant flowers much visited by bees, compound leaves made up of small leaflets, and large branching thorns The pods are brown, flat, about 12 to 18 in. long, usually twisting with age, and have a sweet and edible pulp that has been used to make a beer. Pulp of Oriental species has substituted for soap Wood of the honey locust is durable and used chiefly for fence posts and cross ties.

honeysuckle, any plant of the genus *Lonicera*, widely distributed shrubs or woody climbing plants, many native to North America, hardy in the North, and easily cultivated The climbing kinds frequently are weedy ground covers More or less tubular in shape, the usually fragrant flowers range in color from white or yellow to red and purple, one of the most beautiful being the scarlet trumpet honeysuckle Also of various colors are the berries, often attractive, sometimes edible A few species are evergreen or nearly so Woodbine is another name, particularly for *Lonicera periclymenum*, occasionally called eglantine, while the name bush honeysuckle is shared with species of the related genus *Diervilla* (with capsular fruits), other plants have been called honeysuckle, e g , the swamp honeysuckle or swamp azalea

Honfleur (ôNflûr'), town (pop 7,733), Calvados dept , N France, at the mouth of the Seine Founded in the 11th cent , it was once an important port on the English Channel

Hong Kong (hông' kông'), Mandarin *Heiang-chiang*, British crown colony (391 sq mi , pop 1,750,000), adjacent to Kwangtung prov , China It comprises Hong Kong island (32 sq mi), ceded by China in 1841, Kowloon or Cowloon (Mandarin *Chiu-lung*), a peninsula (3 sq mi), ceded in 1860, and the New Territories, an adjoining mainland area, with Mirs Bay, a near-by inlet of the China Sea, both leased in 1898 for 99 years The administrative center, officially named Victoria but commonly called Hong Kong, is on the northern shore of the island With a large natural harbor, Hong Kong is a naval base and the principal distributing center for S China. Behind the city rises Victoria Peak, 1,825 ft high, it is the culminating point of an extensively quarried granite range which covers much of the island Large crops are raised on the mainland Industries include tobacco, rope, and cement manufacturing, sugar refining, cotton spinning, and shipbuilding The colony was surrendered on Dec 25, 1941, to the Japanese It has remained under British control since the end of the Second World War despite repeated Chinese demands for its return In 1948 and 1949 refugees from the Communist-held areas of China swelled the population of the colony The Univ of Hong Kong is a coeducational institution under government control, opened in 1912 and organized on the model of the British universities

Honister Hause (hŏn'istur hôs), pass, 1,190 ft high, Cumberland, England, above Buttermere and Crummock Water near Keswick Honister Crag (1,750 ft) rises sharply on one side of the pass

Honiton (hŭn',–hŏn'–), municipal borough (pop 3,008), Devonshire, England, on the Otter river and ENE of Exeter It is in a farm and dairy region The manufacture of Honiton lace was introduced by Flemish refugees

Honolulu (hŏnulōō'lōō), city (metropolitan pop 179,426), capital of the Territory of Hawaii, on the southeast shore of OAHU With Palmyra it constitutes Honolulu co (pop 257, 696) The principal port of the Hawaiian Islands, it has steamship connections with mainland, Oriental, and Australasian ports, and airplane service to the mainland and the Orient. The city lies in a narrow plain between the sea and the Koolau Range and climbs the slopes of PUNCHBOWL, there are fine estates on Mt. Tantalus Kapiolani and Moana are the largest of the many parks, notable institutions are the Univ of Hawaii (see HAWAII, UNIVERSITY OF), Bishop Museum (1889), with important collections pertaining to the ethnography, zoology, and history of Polynesia, the Academy of Arts (1926), Punahou Academy (1841), and the Hawaiian Church (Kawaiahao) The Lunalilo Home for the Aged, Queen's Hospital, and Kamehameha Schools were founded by Hawaiian royalty Near the bathing beach at WAIKIKI is an aquarium A statue of Kamehameha I by T R Gould stands in front of Iolani Palace, the territorial capitol and former home of Hawaiian kings Another landmark is Aloha Tower The capital, formerly at Lahaina, Maui, was moved here in 1845. Honolulu is well guarded, with Fort De Russy at Waikiki and the near-by naval base at PEARL HARBOR Sugar refineries, pineapple canneries, and ironworks are the chief industries, sugar, fruits, and coffee, the principal exports.

Honorius I (hōnô'rēus), pope (625–38), an Italian; successor of Boniface V and predecessor of Severinus He showed great interest in the Church in Spain and the British Isles, and he did much to improve the churches in Rome. In the course

of the dispute over MONOTHELETISM the pope was asked for an opinion as to its orthodoxy In reply he wrote a letter using the words "one will" to express the reality of the hypostatic union, apparently confirming the heresy Pope and letter were both declared heretical at the Third Council of Constantinople The letter is no longer cited as an argument against infallibility of the pope, however, as he was not speaking *ex cathedra*

Honorius II, d 1130, pope (1124–30), an Italian (b near Imola) named Lamberto, successor of Calixtus II and predecessor of INNOCENT II He was the chief adviser of Paschal II and spent several years in Germany adjusting the quarrel between HENRY V and the papacy, which ended with the Concordat of Worms (1122) He was important in the victory of LOTHAIR II over Conrad of Hohenstaufen in the imperial election, and Lothair conceded the Church's demands in the matter of episcopal elections Honorius had an extended dispute with Henry I of England over the pope's right to send special legates to England

Honorius III, d 1227, pope (1216–27), a Roman named Cencio Savelli, successor of INNOCENT III and predecessor of GREGORY IX He was created cardinal in 1197 and was an able administrator of the papal treasury He also was very learned, and Innocent made him the tutor of FREDERICK II On his accession Honorius tried to persuade Frederick to join the new crusade He crowned Frederick in 1220 and received another promise to go, but throughout Honorius's pontificate Frederick postponed departure Honorius intervened in English politics to force the barons to support the young Henry III, a papal ward Elsewhere he worked for peace in Christendom—in Italy, Spain, Hungary, and Denmark

Honorius, 384–423, Roman emperor of the West (395–423) At the death (395) of Theodosius I the Roman Empire was divided between his elder son, ARCADIUS, who received the East, and his younger son, Honorius, who received the West The division proved to be permanent At first the government was wholly in the hands of Honorius' guardian, the general STILICHO, whose daughter he married Stilicho defended the empire against the Visigoths, but in 408 Honorius ordered the murder of his general, against whom a new favorite had aroused his animosity In 409 ALARIC I, king of the Visigoths, again invaded Italy Honorius held out at Ravenna, his capital, while Alaric installed a puppet emperor at Rome (409). Honorius mishandled his negotiations with Alaric, who in 410 stormed Rome and sacked it Conveniently for Honorius, Alaric died in that year and the Visigoths under ATAULF left Italy to invade Gaul Honorius made peace (412) with Ataulf, whom he reluctantly accepted (414) as husband for his sister GALLA PLACIDIA A rival emperor, CONSTANTINE, was defeated in 411 by Honorius' general Constantius, who soon exercised the actual power and who married the widowed Galla Placidia In 421 Honorius was obliged to accept Constantius as joint emperor (see CONSTANTIUS III), but Constantius died in the same year During his last year, Honorius quarreled with Galla Placidia, who took refuge at Constantinople He was succeeded by Valentinian III, son of Galla Placidia and Constantius Honorius' reign marked an important stage in the decline of the Western Empire Honorius showed some activity in suppressing heresy and proclaimed the abolition of gladiatorial games

Honshu (hŏn'shōō), island (c 88,000 sq mi , 1940 pop 55,993,219, 1947 pop 58,769,968), central Japan It is c 800 mi long and c 30 to 150 mi wide and is the largest and most important island of Japan It is separated from Hokkaido on the north by La Pérouse Strait, from Kyushu on the southwest by Shimonoseki Strait, and from Shikoku on the south by the Inland Sea The island was formerly sometimes called Hondo, other forms of its name are Honshu and Honsyu It is predominantly mountainous, rising to 12,389 ft at Fujiyama, with valuable forests and only a limited amount of arable land The Shinano, second longest river of Japan, traverses central and N Honshu Most of the rivers are short and swift, feeding many small hydroelectric plants The population, which is still largely agricultural, is concentrated in the lowland areas Most important of these is the Kwanto or Kanto Plain (c 5,000 sq mi) in the central part of the island, it contains the Tokyo-Yokohama industrial belt. Other large industrial areas include Nagoya (on the Nobi Plain) and the Osaka-Kobe region (in the Kinki district) Kyoto, in the Kinki district, is an ancient seat of culture, and also the chief handicraft center of Honshu Shipbuilding and metallurgical, chemical, and textile industries rank high in Honshu's economy, though the great cities have enormously diverse industries The climate has a wide range from the north with its snowy winters to the subtropical south, and agriculture varies likewise Rice, other grains, tea, silk, cotton, and all sorts of fruits and vegetables are grown

Honthorst, Gerard van (gĕr'ärt vän hŏnt'hôrst), 1590–1656, Dutch portrait, genre, and allegorical painter. In 1610 he visited Italy and was much influenced by the work of Caravaggio. On his return he became dean of the painters' guild of Utrecht In 1628 Charles I invited him to England, where he decorated Whitehall and painted portraits of the king and nobility. Several of these are now in the National Portrait Gallery, London. Because of his preference for painting night scenes he was nicknamed Gerardo dalle Notti (jĕrär'dō dăl'lä nôt'tē) Honthorst was prolific, and numerous works are to be seen in European galleries His *Christ before Pilate* (National Gall , London) is characteristic

Hooch or **Hoogh, Pieter de** (both pē'tur dŭ hōkh), b c 1629, d after 1677, one of the most noted of the Dutch genre painters Little is known of his life, although he seems to have enjoyed a high reputation, working in Delft, Leiden, and Amsterdam As a painter of intimate little interiors he rivals Vermeer Usually he preferred to paint rooms opening into other rooms or to the out-of-doors, intriguing the eye with half-seen vistas, thus he displayed his great ability to handle complicated lighting effects His characteristic themes are quiet domestic interiors, often with housewives and children His pictures frequently express a happy security and humble contentment, raised above the commonplace by his exquisite color and fine sincerity His warm tone and subtle values show Rembrandt's influence Characteristic are *In the House* (Rijks Mus), *Mother Seated near a Cradle,* and *Woman and Child* (National Gall , London) His works are prized in many celebrated European galleries The Metropolitan Museum has four

Hood, John Bell, 1831–79, Confederate general, b Owingsville, Bath co , Ky , grad West Point, 1853 After serving in California and Texas, he resigned from the army (April, 1861) and entered the Confederate service, being made a brigadier general in March, 1862 Hood fought in the PENINSULAR CAMPAIGN and at the second battle of Bull Run (Aug , 1862) and was promoted major general in October As a division commander under James LONGSTREET, he distinguished himself at Antietam, Fredericksburg, and Gettysburg and at Chickamauga, where he won his lieutenant generalcy (Sept , 1863) In the ATLANTA CAMPAIGN of 1864 he fought under J E JOHNSTON until President Davis, displeased with that general's retreat, made Hood commander Hood, faring no better against W T SHERMAN, was obliged to abandon Atlanta on Sept 1 To prevent a farther Union advance Hood moved against Sherman's long line of communications (Oct) Sherman followed, but later, satisfied that G H THOMAS at Nashville could cope with Hood, returned to Atlanta and marched to the sea Hood then began to advance through Tennessee J M Schofield slowly withdrew before him, repulsing his attack in a bloody battle at Franklin (Nov 30) before joining Thomas Hood went on to Nashville, where he entrenched his greatly depleted forces Thomas attacked and in the battle of Nashville (Dec 15–16) won the most complete victory of the war, virtually annihilating the Confederates Hood resigned his command (Jan , 1865) and surrendered himself at Natchez, Miss , in May See his *Advance and Retreat* (1879), T R Hay, *Hood's Tennessee Campaign* (1929), S F Horn, *The Army of Tennessee* (1941), D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44), Richard O'Connor, *Hood Cavalier General* (1949)

Hood, Raymond Mathewson, 1881–1934, American architect, b Pawtucket, R I , studied at Brown Univ , Massachusetts Institute of Technology, and the École des Beaux-Arts, Paris He was the winner (1922), with John Mead Howells, of the international competition for the design of the Tribune Tower, Chicago (completed 1925) He practiced from 1927 to 1931 in the firm of Hood, Godley, and Fouilhoux In New York, Hood was architect for the American Radiator Building and for the Daily News Building (with J M Howells) He was a consultant in the rebuilding of the Univ of Brussels, and his firm was one of the three firms associated in the Radio City development in New York He designed buildings for the Century of Progress Exposition in Chicago

Hood, Samuel, 1st **Viscount Hood,** 1724–1816, British admiral Entering the navy in 1741, he rose to be second in command of Lord Rodney's North American fleet in the American Revolution He fought in many engagements, including the repulse of the French fleet under the comte de Grasse and its severe defeat off Dominica As commander in chief in the Mediterranean he captured Toulon (1793) and demolished Corsica's fortifications He was made viscount in 1796

Hood, Thomas, 1799–1845, English poet and humorist He was editor of the *Gem* (1829), in which he printed his "Dream of Eugene Aram," of the *Comic Annual* (1830–42), *Hood's Magazine and Comic Miscellany* (1844–45), and other periodicals The comic "Miss Kilmansegg and Her Precious Leg" and other humorous verse and prose almost eclipsed such serious work as "The Bridge of Sighs" and "The Song of the Shirt," poems of social protest; "The Elm Trees", "The Haunted House", "The Plea of the Midsummer Fairies " Hood suffered from tuberculosis and poverty throughout his life, but always maintained his cheerfulness and his industry See two studies by W. C Jerrold (1907, 1930).

Hood, Mount, peak, 11,245 ft high, N Oregon, in the Cascade Range ESE of Portland, highest point in the state A symmetrical, snow-capped, extinct volcano, it is a favorite climb and ski center See Federal Writers' Project, *Mount Hood* (1941)

Hood College see FREDERICK, Md

Hood River, city (pop 3,280), co seat of Hood River co , N Oregon, on the Columbia, E of Portland and NNE of Mt Hood, settled 1854, inc 1895 Apples, pears, cherries, strawberries, and walnuts are grown and shipped from here An agricultural experiment station of Oregon State College is here A music festival, to be an annual event, started in 1948

hoof, horny epidermal casing at the end of the digits of an ungulate MAMMAL In some animals, e g , the pig, sheep, and cattle, the hoof is cloven, in others, e g , the horse and zebra, it is solid Hoofs are adapted to suit the habits and habitat of the animal

Hooft, Pieter Corneliszoon (pē'tûr kôrnā'lĭsŏn hôft'), 1581–1647, Dutch historian, poet, and dramatist He is author of the classic *Nederlandsche Historiën* (1642), a Tacitean history of the Netherlands from 1555 to 1584, left incomplete Hooft was also a lyric poet of the first order, he introduced into Dutch the sweet tones of French and Italian Renaissance love poetry Hooft's plays are on Latin models

Hoogh, Pieter de. see HOOCH, PIETER DE

Hooghly (hōō'glē), town (pop 49,081), West Bengal state, India, on the Hooghly river, founded 1537 by the Portuguese It was of commercial importance during the 16th and 17th cent but declined with the rise of Calcutta Today it is a rice-milling center

Hooghly, river, c 200 mi long, West Bengal state, India, an arm of the Ganges river, flowing S to the Bay of Bengal Navigable to large ocean-going steamers up to Calcutta, c 50 mi from its mouth, it is an important shipping artery through one of the major industrial zones of India

Hoogstraten, Samuel van (sä'mūĕl vän hōkh'strätun), 1627–78, Dutch portrait painter and etcher, studied with his father, Dirk van Hoogstraten (dĭrk) (1596–1640), and with Rembrandt His best works, such as *The Old Jew* (Vienna), reflect the influence of Rembrandt Hoogstraten was director of the Dordrecht mint and author of a book on art which contains interesting material on Rembrandt and other artists of the period The Metropolitan Museum contains his *Portrait of a Lady and a Gentleman*

Hook, Theodore Edward, 1788–1841, English novelist A founder and an editor of *John Bull* (1820), Hook had a gift for light, witty verse *Gilbert Burney* (1836), *Jack Brag* (1837), and his numerous other novels, popular in their day, are no longer read The influence of Hook is observed in the early works of Thackeray and Dickens See M F Brightfield, *Theodore Hook and His Novels* (1928)

hookah see PIPE, TOBACCO

Hooke, Robert (hōōk), 1635–1703, English physicist, mathematician, and inventor In 1662 he became curator of experiments for the Royal Society, London, in 1665, professor of geometry at Gresham College, and in 1667, city surveyor Considered the greatest mechanic of his age, he made many improvements in astronomical instruments and in watches and clocks, was the first to formulate the theory of planetary movements as a mechanical problem, and glimpsed universal gravitation In 1684 he devised a practicable system of telegraphy He invented the spiral spring in watches and the first screw-divided quadrant and constructed the first arithmetical machine and Gregorian telescope He stated HOOKE'S LAW In his *Micrographia* (1665) he described cells in plant tissues See his *Posthumous Works* (ed by Richard Waller, 1705) and his *Life and Work* (ed by R W T Gunther (1930)

Hooker, Joseph, 1814–79, Union general in the Civil War, b Hadley, Mass , grad West Point, 1837 He fought against the Seminoles and, as a staff officer in the Mexican War, was thrice brevetted for gallantry Hooker resigned from the army in 1853 and was for several years a farmer in California At the outbreak of the Civil War he became a brigadier general of volunteers He distinguished himself in subordinate commands in the PENINSULAR CAMPAIGN, at the second battle of **Bull Run,** and in the ANTIETAM CAMPAIGN, and was made a brigadier general in the regular army in Sept , 1862 After the battle of **FREDERICKSBURG,** Hooker severely criticized Ambrose BURNSIDE, whom he succeeded in command of the Army of the Potomac (Jan , 1863) His advance on Lee was well executed, but in the resulting battle of CHANCELLORSVILLE, "Fighting Joe" failed to justify his sobriquet He followed Lee closely in the subsequent Confederate invasion of Pennsylvania, but, angered at Halleck's refusal to send him reinforcements from Harpers Ferry, he asked to be relieved on June 28, 1863 A few days later his successor,

G G MEADE, fought the battle of Gettysburg Hooker ably commanded reinforcements from the East in the CHATTANOOGA CAMPAIGN, and in 1864, he fought in the ATLANTA CAMPAIGN until Sherman passed him over in favor of O O Howard as successor to J B MCPHERSON He then commanded various departments in the North until his retirement in 1868 See W H Hebert, *Fighting Joe Hooker* (1944)

Hooker, Sir Joseph Dalton. see HOOKER, SIR WILLIAM JACKSON

Hooker, Richard, 1554?–1600, noted English theologian and Church of England clergyman He studied and lectured at Oxford and preached at Drayton-Beauchamp, Buckinghamshire, at the Temple Church London at Boscombe, Wiltshire, and at Bishopsbourne, Kent His famous *Of the Laws of Ecclesiastical Polity* (in eight books, of which only five were published in his lifetime) was an epoch-making discussion of church government, written in an excellent prose style It helped to formulate the intellectual concepts of Anglicanism, and its influence on the theory of government (civil as well as ecclesiastical) as based on rules of reason was widely felt in England An edition of Hooker's works (1666) contained a celebrated biography by Isaak Walton (1665), the standard edition of the complete works is by John Keble (3 vols , 1836, revised by R W Church and Francis Paget, 1888) See also *Of the Laws of Ecclesiastical Polity* (Everyman's Library, 2 vols , 1907) and edition of Book VIII by R A Houk (1931), studies of Hooker by L S Thornton (1924), A P D'Entreves (in *Mediaeval Contribution to Political Thought*, 1939), and E T Davies (1946)

Hooker, Thomas, 1586–1647, Puritan clergyman in the American colonies, chief founder of Hartford, Conn , b Leicestershire, England, grad Emmanuel College, Cambridge Univ (B A , 1608, M A , 1611) Ordered before the court of high commission for nonconformist preaching in England, he fled (1630) to Holland and in 1633 emigrated to Massachusetts, where he was pastor at Newtown (the present Cambridge) He had a dispute with John Cotton and apparently was discontented with the strict theological rule in Massachusetts After a group of settlers had been sent ahead in 1635, he and many of his flock moved in 1636 to found Hartford, where he was pastor until his death Hooker was one of the drafters of the Fundamental Orders (1639) under which Connecticut was long governed and which probably represent his political views He promoted the New England Confederation

Hooker, Sir William Jackson, 1785–1865, English botanist A leading authority of his time on ferns, he formed a famous herbarium and built up the Glasgow and Kew botanical gardens In Kew Gardens he founded the first museum of economic botany Among his many works are *British Jungermanniae* (1816), *Flora Scotica* (1821), *British Flora* (1830–31), and a number of works on ferns, including *Genera Filicum* (1842), *Species Filicum* (1846–64), and *Synopsis Filicum* (1868) He edited many botanical journals His son, **Sir Joseph Dalton Hooker,** 1817–1911, was also a botanist After his first scientific expedition he wrote on the flora of New Zealand and Tasmania Sir Joseph's great works include *Antarctic Flora* (1843), *Genera Plantarum* (1862–83), and *Flora of British India* (1892–97) He edited the *Index Kewensis* (1892–95) by B. Daydon Jackson He was a friend of Darwin and a supporter of his theories See biography by Leonard Huxley (1918)

Hooker, city (pop 1,146), NW Okla , in the Panhandle wheat area, inc 1907

Hooke's law [for Robert Hooke] states that, within the limit of ELASTICITY (or the elastic limit of a body), the stress on a body is directly proportional to the strain The ratio between a force exerted upon a body (i e , the stress) and the change in shape of the body (i e , the strain) is therefore constant (see YOUNG'S MODULUS)

Hook of Holland, Dutch *Hoek van Holland* (hōōk' vän hô'länt), port (pop 2,536), South Holland prov , SW Netherlands, on the North Sea An outer port of Rotterdam, with which it is connected by the New Waterway, it is also the terminus of boats crossing the English Channel from Harwich, England The port is named after the cape on which it is located

Hooksett (hŏŏk'sĭt), town (pop 2,273), S N H , at falls of the Merrimack between Concord and Manchester, inc 1822 Mt St Mary College for girls is here The village suffered in the 1936 flood

hookworm or **ancylostomiasis** (ăn"sĭlŏ'stōmī'ăsĭs,) infection in man, caused by two species of worms, the Old World species (*Ancylostoma duodenale*) and the New World species (*Necator americanus*) The worms are found in tropical and subtropical regions and in certain temperate zones where there is warmth and moisture The life history is similar in both species The ova (eggs) are passed from the intestines of the infected person, and they develop into the larva stage in warm, moist earth Persons who come in contact with infected soil when walking without shoes or stockings develop a "ground itch" caused by the larvae of the hookworm which burrow through the skin in a few minutes From here, they enter the veins or the lymphatics and are carried to the lungs, thence through the bronchi to the trachea and pharynx, where they are swallowed. They reach the intestine about one week from the time of the initial infection The larvae grow, molt, and mature, attaching themselves to the mucosa of the intestine, sucking blood, and causing some bleeding Because of this blood loss, severe anemia results There is general debility and chronic ill-health Infected children are retarded in their physical and mental development Diagnosis usually depends upon finding the ova in the feces Treatment consists of the use of anthelmintics, which loosen or destroy the worms The anemia must also be treated

Hoopa Indians (hōō'pä), tribe of North American Indians of the Athapascan linguistic stock In the 19th cent they occupied the valley of the Trinity river from Hoopa valley to the Klamath river in NW California They then numbered some 1,000 Although their cedar plank houses, dugout canoes, basket hats, and many points in their mythology show them to be the southernmost efflorescence of the Pacific Northwest coast culture, their use of a sweat house for ceremonies and manufactured "acorn bread" are typical of the California culture In 1864 the U S government made their lands a reservation (Hoopa Valley), where they now reside, with their neighbors, the Yurok Indians, numbering some 650 The Hoopa Indians are sometimes called the Hupa Indians See P E Goddard, *Life and Culture of the Hupa* (1903)

Hooper, William, 1742–90, American Revolutionary patriot, signer of the Declaration of Independence, b Boston, grad Harvard, 1760 He became a lawyer and moved (1764) to Wilmington, N C Hooper served on the local committee of correspondence and was a delegate (1774–77) to the Continental Congress

Hoopeston (hōōp'stun), city (pop 5,381), E Ill , E of Bloomington near the Ind line, platted 1871, inc 1877 It is a canning center and manufactures canning machinery

Hoorn or **Horn, Philip de Montmorency, count of** (both hôrn), 1518?–1568, Netherlands nobleman, member of the council of state during the regency of Margaret of Parma In 1562 he joined with Egmont and William the Silent in opposition to Cardinal GRANVELLE, who had introduced Spanish troops and the Spanish Inquisition into the Netherlands When the duke of Alba replaced (1567) Margaret of Parma, he had Egmont and Hoorn arrested and, after an irregular trial, beheaded (see EGMONT, LAMORAL, COUNT OF)

Hoorn (hôrn), municipality (pop 13,888), North Holland prov , NW Netherlands, a port on the Ijsselmeer It is the center of a vegetable-growing and dairy-farming area Founded in 1311, Hoorn was the capital of medieval West Friesland Willem Schouten, first to round Cape Horn, was born here and named the cape after his birthplace A J Tasman also was a native of Hoorn

Hoosac Range (hōō'săk), NW Mass and SW Vt , E of the Berkshires It is a southern continuation of the Green Mts A railroad tunnel 5 mi long (built 1852–73) pierces the range

Hoosic (hōō'sĭk), river, c 70 mi long, rising in NW Massachusetts in the Hoosac Range and flowing N, then NW (cutting across a corner of Vermont), and W to the Hudson above Troy, N Y It passes Adams, North Adams, and Williamstown, Mass , and Hoosick Falls, N Y , where it is utilized for power

Hoosick Falls (hōō'sĭk), industrial village (pop 4,279), E N Y , on the Hoosic river near the Vt line, inc 1827 Knit underwear, electrical supplies, and paper are made here

Hooton, Earnest Albert (hōō'tun), 1887–, American anthropologist, b Clemansville, Wis , grad Lawrence College, 1907, Ph D Univ of Wisconsin, 1911, Rhodes scholar, 1910 13 He went to Harvard as instructor in 1913 and became professor of anthropology in 1930 In addition to his researches on early man and primates, Hooton has studied the physical traits of criminals He is the author of *The Indians of Pecos Pueblo* (1931), *Ancient Inhabitants of the Canary Islands* (1925), *Up from the Ape* (1931, rev ed , 1946), *Apes, Men, and Morons* (1937), *Crime and the Man* (1939), *The American Criminal* (Vol I, 1939), *Man's Poor Relations* (1942), and *Young Man, You Are Normal* (1945).

Hoover, Herbert Clark, 1874–, 30th President of the United States (1929–33), b West Branch, Cedar co , Iowa, grad Stanford, 1895 Between 1895 and 1914 he engaged in world-wide mining and engineering activities and established offices in New York, San Francisco, and London When the First World War erupted, Hoover, then in London, was made chairman of the American Relief Commission In this post he aided Americans stranded in Europe to return to the United States As chairman (1915–19) of the Commission for Relief in Belgium, he secured food and clothing for inhabitants of war-devastated Belgium and N France. After the United States entered the First World War, he became U S food administrator (in that day to *hooverize* meant to conserve food), a member of the War Trade Council, and chairman of the Interallied Food Council After the armistice, as chairman of the food section of the Supreme Economic Council, he helped supply food to the countries of Central and Eastern Europe In 1920 he also served as chairman of the American Relief Administration and as chairman of the European Relief Council As Secretary of Commerce (1921–29) under Warren G Harding and Calvin Coolidge, he reorganized and expanded the department, sponsored conferences on unemployment, fostered trade associations, and gave his support to such engineering projects as the St Lawrence Waterway and the Hoover Dam He was elected President in the Republican ticket in 1928, defeating Democratic candidate Alfred E Smith The stock-market crash of Oct and Nov , 1929, ushered in an economic depression which continued throughout his administration To combat the bad conditions, Hoover recommended an extensive public-works program and conducted a vigorous campaign against what he termed the "unjustified fear" of the business world Hoover appointed many commissions—e g , the National Law Enforcement Commission, with George W WICKERSHAM as chairman—to study the various problems confronting the administration Relief was extended by act of Congress to the victims of the great drought of 1930 Destitute farmers were aided by the Federal Farm Board, a bureau which resulted from the HAWLEY-SMOOT TARIFF ACT As a measure against the depression the Reconstruction Finance Corporation was created to stimulate industry by giving loans unobtainable elsewhere Congress, which had a Democratic majority after the election of 1930, passed the Emergency Relief Act and created the Federal home loan banks An unpleasant incident arose when veterans marched on Washington in what was called the Bonus Expeditionary Force to urge laws for immediate payment of bonus certificates, Hoover ordered Federal troops to oust them from Federal property Throughout his administration, furthermore, Hoover was confronted in foreign affairs with the problems of disarmament, reparations, and war debts In disarmament, the London Conference and the Geneva Conference did not prove effective (see NAVAL CONFERENCES), the debt moratorium which Hoover proposed (1931) to alleviate Germany's financial situation had no practical results The spirit of apathy and gloom over domestic and foreign prospects deepened In the 1932 election Hoover was overwhelmingly defeated by Franklin D Roosevelt Three weeks before Hoover left office a serious banking crisis developed throughout the country The day after his inauguration President Roosevelt declared a general bank holiday Hoover retired for many years, but returned to public view after the Second World War when he undertook (1946) the coordination of food supplies to 38 countries which were badly affected by the Second World War He then headed (1947–49) the "Hoover Commission"—a committee of 12 men empowered by Congress to study and advise on matters of organization of the executive branch of government Among his writings are *Principles of Mining* (1909), *The Challenge to Liberty* (1934), and *The Basis for Lasting Peace* (1945) With his wife he translated Agricola's *De re metallica* (1912) from the first Latin edition of 1556 See biographies by Vernon L Kellogg (1920) and Will H Irwin (1928), Rexford Guy Tugwell, *Mr Hoover's Economic Policy* (1932)

Hoover, John Edgar, 1895–, American administrator, director of the FEDERAL BUREAU OF INVESTIGATION, b Washington, D C , grad George Washington Univ (LL B , 1916) After he was admitted (1917) to the bar, he entered (1917) the Dept of Justice and served (1919–21) as special assistant to the Attorney General Director of the Bureau of Investigation in the Dept of Justice after 1924, J Edgar Hoover built an efficient crime-detection agency and led in the capture of major criminals in the early '30s After the bureau was reorganized (1933) with wider powers and renamed (1935) the Federal Bureau of Investigation, Hoover led investigations of crimes directed against the internal security of the United States

Hoover Dam, at the Nev.–Ariz border, in the Colorado river, ESE of Las Vegas, Nev , initiated 1928 by the Federal government, dedicated 1935 It is one of the largest dams in the world, 727 ft high and 1,282 ft long Early named Hoover Dam, it was later called Boulder Dam until the former name was restored in 1947 It is used for hydroelectric power, flood control, and irrigation and is the key unit of the projects on the COLORADO river Most of the power has been used by S California, but some belongs to Arizona and Nevada Lake Mead, 115 mi long and from 1 to 8 mi wide, created by the dam, not only stores water but also attracts many vacationers Boulder City, Nev , was built to house workers on the project

Hoover Library on War, Revolution, and Peace, at Stanford Univ , Palo Alto, Calif It was established in 1919 as the Hoover War Library by Herbert Hoover to extend his collection of documents of the First World War, but its scope has been ex-

panded to include source material on social and political developments arising from both First and Second World Wars. Research, publication, and advanced study are conducted under the Hoover Research Institute The library occupies Hoover Tower, opened in 1941

Hooversville, borough (pop 1,364), SW Pa , S of Johnstown; inc 1896

hop, herbaceous twining vine widely cultivated since early times for brewing purposes The hop commonly grown is *Humulus lupulus*, a perennial naturalized in North America The ripened female flowers or "hops" are conelike and are borne on different plants from the male, their large loose papery scales contain lupulin, a yellow powder added to BEER to impart a bitter flavor and used medicinally as a tonic and a soporific There is also a hop considered native to America that is similarly used The Japanese hop is an annual ornamental vine The fruit of the hop tree (*Ptelea trifoliata*) has been used as a substitute for hops See *Production of Hops* (Dept of Agriculture, Farmers' Bul 1842)

Hopatcong, Lake (hōpăt'kŏn, -kŏng), c.7 mi long and 3 mi wide, N N J , NW of Newark It is a resort

Hope, Anthony, pseud of **Sir Anthony Hope Hawkins,** 1863–1933, English novelist, b London, grad Oxford (M A , 1885) He was called to the bar in 1887 His first great success was *The Prisoner of Zenda* (1894), a romantic novel of an imaginary kingdom It was translated into many languages and adapted for both stage and screen A sequel, *Rupert of Hentzau* (1898), was also widely read, but none of his later novels or plays approached the enormous success of *The Prisoner of Zenda* He was knighted in 1918 See his *Memories and Notes* (1927), biography by Sir C E Mallet (1935)

Hope. 1 City (pop 7,475), co seat of Hempstead co , SW Ark , settled 1874, inc 1875 The city is the commercial and shipping center for a diversified farm area especially noted for watermelons Its industries include cotton processing and woodworking A state university agricultural experiment station is near by **2** Town (pop 1,046), Bartholomew co , SE Ind , near Columbus **3** Village, NW N J , near Jenny Jump Mt NW of Hackettstown It is the site of a stone mill built in 1768 by Moravian settlers

Hope College. see HOLLAND, Mich

Hopedale, town (pop 3,113), E Mass , SE of Worcester, settled 1660, set off from Milford 1886 Adin BALLOU established here a Christian communistic settlement (1841–c 1857) Hopedale developed later as a textile "company town" The company broke a strike in April, 1913, for a 50-hour week and higher pay

Hopeh or **Ho-pei** (both hō'pā', hŭ'bā'), province (54,152 sq mi , pop 28,644,437), N China, on the Pohai, an arm of the North China Sea Paoting is the capital The chief ports on the relatively unindented coast line (c 240 mi long) are Tientsin and Chingwangtao The land is very fertile, but severe winters allow only one harvest a year Kaoliang, wheat, millet, beans, peanuts, and cotton are grown In the hilly north and west there are extensively mined coal and iron deposits The Pei and the Lwan are the longest of the many rivers, some navigable, rising in Hopeh With many good roads and with railroad systems centering on Peiping and Tientsin (both in the province), Hopeh has one of the best communications systems in China The Japanese first applied pressure to Hopeh early in 1933 They set up (1935) a puppet regime, the East Hopeh Autonomous Council, and finally (1937) frankly occupied the entire province, which was not restored to China until the end of the Second World War Hopeh was formerly called Chihli

Hope Island see SPITSBERGEN

Hope Town, town (pop 2,341), E central Cape Prov , Union of South Africa Here, in 1867, diamonds were first discovered in South Africa

Hopewell. 1 Borough (pop 1,078), W N J , N of Trenton, settled before 1700, inc 1891 It was the home of John Hart There is a historical museum Lindbergh deeded his estate near here to New Jersey in 1941, it is being used for the rehabilitation of juvenile delinquents **2** City (pop 8,679), E Va , at the confluence of the James and the Appomattox, inc 1916 Founded in 1913 as a munitions center, it had a wartime population of 40,000, which shrank to 3,000 after the First World War It developed as an industrial center, producing synthetic textiles and chemicals In 1926 it absorbed contiguous City Point (settled 1613), Grant's base of operations in 1864–65

Hopewell Village, national historic site, near Birdsboro, Pa This restored iron-making village of the 18th and 19th cent has ruins of the old forge. Bird manor house was built in 1744

Hophni (hŏf'nī), son of Eli With his brother he met death because of sacrileges 1 Sam. 1–4

Hophra. see APRIES

Hopi Indians (hō'pē), tribe of PUEBLO INDIANS, formerly called Moki, or Moqui, Indians, who speak the Hopi language (Uto-Aztecan family) at all their pueblos except Hano, where the language is Tanoan. They occupy several mesa pueblos in NE Arizona and number some 3,550. In 1540 they were visited by some of Coronado's men under Pedro de Tovar, but because of their geographical isolation they remained more independent of white influence than the other Pueblo tribes. At this time their population, with the Zuni, was estimated to be between 3,000 and 4,000 In 1629 a Roman Catholic mission was established at the pueblo of Awatobi, but because of the rebellion of 1680 the missionaries fled Later, the Indians of this pueblo invited the missionaries to return, and this so infuriated the other Hopi that they destroyed Awatobi Further missionary efforts were opposed until recent times ORAIBI is the only one of the pueblos which has remained on the same site since 1540 The other pueblos were built after 1540, several being villages moved from the foothills below for protection from the Spanish and the pillaging of the nomadic Apache and Navaho The pueblo of Hano is chiefly occupied by Tewa Indians, who after the rebellion moved from the upper Rio Grande valley in dread of Spanish retribution Hopi culture, one of the high points of North American Indian civilization, is typical of the Southwestern area The Hopi are peaceful, sedentary farmers, mainly dependent on corn, beans, and squash, they also raise wheat, cotton, and tobacco and herd sheep They are noted for embroidered blankets, and the pueblo of Hano is especially famous for its pottery. Each village is divided into clans and is governed by a chief. In the past this chief supervised irrigation projects and other peacetime tasks A war chief trained warriors and led them in combat and a chief priest, who in many ways was the most powerful man in the village, performed such duties as stamping out of witchcraft. Political and religious duties devolved upon clans, e g , the Badger clan, which still conducts the *kachina* (fertility) ceremony, and the Antelope and Snake clans, which perform the famous snake dance on alternate years at the pueblo of WALPI See M R Coolidge, *The Rain-Makers* (1929), L. M Thompson and Alice Joseph, *The Hopi Way* (1945)

Hopkins, Arthur Melancthon, 1878–1950, American theatrical producer, b Cleveland His productions, having a high percentage of excellence, include *The Poor Little Rich Girl*, *Hamlet*, with John Barrymore, O'Neill's *Hairy Ape* and *Anna Christie*, Sherwood's *Petrified Forest*, and the war play, *What Price Glory?* See his autobiography, *Letters to a Lonely Boy* (1937)

Hopkins, B. Smith, 1873–, American chemist, b Owosso, Mich , grad Albion College (B A , 1896), Ph D Johns Hopkins, 1906 . He taught at the Univ of Illinois from 1912, serving as professor of inorganic chemistry from 1923 He is known as an authority on the rare earths and, with collaborators, discovered the element illinium, named after Illinois Besides textbooks and manuals, he wrote *Chemistry of the Rarer Elements* (1923)

Hopkins, Edward, 1600–1657, colonial governor of Connecticut, b England He migrated (1637) to Hartford, where his wealth and ability made him a leader at once He became governor of the Connecticut colony in 1640 and was governor, assistant governor, or deputy governor every year until 1656, the law not allowing the office of governor to be held two years in succession As a delegate from Connecticut he helped to form the New England Confederation, and he was elected one of the confederation commissioners He returned to England shortly before his death to become warden of the fleet, keeper of the palace at Westminster, and member of Parliament, but left bequests to Connecticut for grammar schools

Hopkins, Esek, 1718–1802, American Revolutionary naval hero, b Scituate, R I , brother of Stephen Hopkins He commanded a privateer in the French and Indian War, and in Dec , 1775, as the Revolution was well begun, he was appointed commander in chief of the newborn Continental navy In 1776 he made a successful raid on New Providence in the Bahamas After a dispute with the Continental Congress, he was dismissed from the service in 1778

Hopkins, Sir Frederick Gowland, 1861–1947, English biochemist, educated at Cambridge and the Univ of London. He was professor of biochemistry at Cambridge (1914–43) Among his contributions were important studies in carbohydrate metabolism and muscular activity, including the discovery of the relationship of lactic-acid formation to muscular contraction. He isolated glutathione (believed to be concerned with oxidation in the tissues) Through his feeding experiments with laboratory animals he concluded that "accessory food factors" (later named vitamins) are essential to health For his pioneer work on vitamins he shared with Christian Eykman the 1929 Nobel Prize in Physiology and Medicine He was knighted in 1925 His works include *Newer Aspects of the Nutrition Problem* (1922), *The Problems of Specificity in Biochemical Catalysis* (1931), and *Chemistry and Life* (1933)

Hopkins, Gerard Manley, 1844–89, English poet, educated at Oxford. He embraced the High Church movement and ultimately followed Newman into the Roman Catholic Church (1866) He entered a Jesuit novitiate and was ordained in 1877 His life was marked by inner conflict, partially between mystic-priest and poet, the paradox underlined on the one hand by his asceticism, contemplation, self-discipline, and subordination to holy demands and on the other by his non-acceptance of poetic convention and by the magical sensuousness of his verse Hopkins for a time abandoned poetry as an expression of his baser self and a hindrance to his communion with Christ A shipwreck, in which all of the crew and five Franciscan nuns were lost, shocked Hopkins into writing "The Wreck of the Deutschland," one of his greatest poems, and the first in seven years, thereafter he wrote some of his best poetry His *Poems*, edited by his friend Robert Bridges, did not appear until 1918, since Hopkins never gave permission for the volume during his life The poems reflect his rules of prosody—sprung rhythm based on word stress rather than syllabic count The second edition (1930) adds a few poems to the scanty volume of his work The "terrible" sonnets, six of his most magnificent poems, show with startling power his realization of human loneliness and struggle See his letters (ed by C C Abbott, 1935 and 1938) and his notebooks and papers (ed by Humphrey House, 1937), biographies by G F Lahey (1930), John Pick (1942), and Eleanor Ruggles (1944), study by W H Gardner (1944–49), *Gerard Manley Hopkins*, a collection by the Kenyon Critics (1946), *Immortal Diamond* (ed by Norman Weygand, 1949)

Hopkins, Harry Lloyd, 1890–1946, American public official, b Sioux City, Iowa. A social worker after his graduation from Grinnell College (1912), he was appointed Federal Emergency Relief Administrator in 1933 Two years later he was made head of the Works Progress Administration Hopkins succeeded Daniel C ROPER as Secretary of Commerce in Dec , 1938, but resigned in Aug , 1940, because of ill-health He was an intimate friend of President Roosevelt and held high posts as special assistant to the President, he was administrator of LEND-LEASE (March–July, 1941), a member of the War Mobilization Committee, and an official of the War Production Board He was also sent on special missions to Europe, notably to Great Britain and Russia in July–Aug , 1941, and again to London in 1942 After Roosevelt's death, he went as Truman's representative to Moscow to settle the vexed question of Poland, but in July, 1945, he retired from public life See Robert E Sherwood, *Roosevelt and Hopkins* (1948)

Hopkins, Johns, 1795–1873, American financier and philanthropist, b Anne Arundel co , Md In 1812 he went to Baltimore to work for his uncle Gerard Hopkins, a commission merchant In 1819 he founded his own commission firm, later known as Hopkins Brothers, and also went into banking. He later had a large part in the growth of the Baltimore & Ohio RR, of which he became a director in 1847 In 1867 he established a free hospital and Johns Hopkins Univ See biography by H H. Thom (1929)

Hopkins, Lemuel, 1750–1801, American poet and physician, b Waterbury, Conn One of the CONNECTICUT WITS, he collaborated with several others in writing popular political satires, including *The Anarchiad* (1786–87) Hopkins was a founder of the Medical Society of Connecticut

Hopkins, Mark, 1802–87, American educator, b Stockbridge, Mass , grad Williams, 1824, and Berkshire Medical School, 1829 After a few months of medical practice he returned (1830) to Williams as professor of moral philosophy and rhetoric President of the college from 1836 to 1872 and professor of intellectual and moral philosophy until his death, he was renowned as a great teacher and excellent administrator He was ordained in the Congregational Church in 1833, preached frequently, and was president of the American Board of Commissioners for Foreign Missions (1857–87) His works include the Lowell Institute lectures for 1844 which appeared later as *Evidences of Christianity* (1863, revised for text use), *Lectures on Moral Science* (1862), *The Law of Love and Love as a Law* (1869), and *The Scriptural Idea of Man* (1883) See his *Early Letters* (1929); biography by Franklin Carter (1892), M. A. DeWolfe Howe, *Classic Shades* (1928)

Hopkins, Mark, 1813–78, American railroad builder and merchant, b Henderson, N Y A clerk in a village store and later a commission merchant in New York city, he was past 35 years old when he went to California There he became a partner of Collis P HUNTINGTON in 1853 and was later one of the incorporators of the Central Pacific Railroad Company, of which he became treasurer See Oscar Lewis, *The Big Four* (1938).

Hopkins, Samuel, 1721–1803, New England clergyman and theologian, b. Waterbury, Conn , grad Yale, 1741 He was a leading disciple of Jonathan EDWARDS, whose theology was the foundation for his own system which became known as Hopkinsianism For 60 years Hopkins held pastorates at Great Barrington, Mass , and at Newport, R.I His preaching, noninspirational and severely logi-

cal, was less influential than his writings, notably his *System of Doctrines* (2 vols, 1793). His views remained potent in American religious life until after the Civil War Hopkins was a pioneer among New England ministers in his denunciation of slavery and the slave trade

Hopkins, Stephen, 1707–85, colonial governor of Rhode Island and American Revolutionary patriot, b. Providence, R I A member of the colonial assembly for many years, he also served as assistant justice (1747–49) and chief justice (1751–55) of the superior court Between 1755 and 1768 he held the office of governor for nine years The period was one of bitter strife in the colony between Newport and Providence, with Hopkins leading the Providence faction His feud with Samuel Ward for the governorship was finally settled in 1768 by the election of a compromise candidate In 1754 Hopkins was a delegate to the Albany Congress, where he energetically supported Benjamin Franklin's plan of union, writing *A True Representation of the Plan Formed at Albany* (1755) in hope of converting the opposition in Rhode Island He was an early and strenuous defender of colonial rights, and his *Rights of Colonies Examined* (1765), attacking the sugar and stamp acts, was widely distributed and read Again chief justice of the superior court, Hopkins refused to allow the burners of the *Gaspee* to be prosecuted He was a member (1774–76) of the First and Second Continental congresses, a member of the committee that prepared the Articles of Confederation, and a signer of the Declaration of Independence, as well as an active member of conventions and committees working for independence He helped found the first public library in Providence and the Providence *Gazette* (1762) and was the first chancellor of Rhode Island College (now Brown Univ.) See biography by W E Foster (2 vols, 1884)

Hopkins, village (pop 4,100), E Minn, southwest suburb of Minneapolis, in a truck-farming region, settled c 1850 It is the site of the Hennepin County Fair Farm machinery is made here

Hopkinson, Francis, 1737–91, American writer and musician, signer of the Declaration of Independence, b Philadelphia, grad College of Philadelphia (now Univ of Pennsylvania), 1757 A practicing lawyer, Hopkinson was also an accomplished musician and wrote a number of musical compositions including *My Days Have Been So Wondrous Free* (1759) He is considered the first native American composer During the American Revolution, he wrote propaganda supporting the colonial cause, best displayed in *The Battle of the Kegs* (1778) Hopkinson represented (1776) New Jersey in the Continental Congress and later (1776–77) served as chairman of the navy board (as such he may have designed the American flag) and as treasurer of the Continental loan office (1778) Returning to public office in Pennsylvania, he served as judge of admiralty (1779–89) and was judge of the U S district court (1789–91) He later wrote in support of the adoption of the U S Constitution and also issued *Seven Songs for the Harpsichord* (1788) See biography by G E Hastings (1926)

Hopkinson, Joseph, 1770–1842, American jurist, b Philadelphia, grad College of Philadelphia (now the Univ of Pennsylvania), 1786, son of Francis Hopkinson A successful lawyer, he helped to defend Justice Samuel Chase in impeachment proceedings and was associated with Webster in the Dartmouth College Case, he also was a Federalist Congressman (1815–19) and a Federal judge He had many posts of importance but is widely remembered only as the author (1798) of the words of *Hail, Columbia*. See biography by B A Konkle (1931).

Hopkinsville, city (pop 11,724), co. seat of Christian co., S Ky., WSW of Bowling Green, inc 1804 It is an important tobacco and livestock market and has food-processing plants and clothing factories. **Bethel Woman's College** (junior) is here **Jefferson Davis Memorial Park** is near by

Hopkinton. 1 Town (pop 2,697), E Mass., WSW of Boston, settled c 1715, inc 1744 Daniel Shays was born here. **2** Town (pop 1,587), S N H., W of Concord, inc 1765 The collection of the New Hampshire Antiquarian Society is in the Long Memorial Library In the 18th-century Congregational church is a Paul Revere bell **3** Rural town (pop 3,230), SW R.I., set off from Westerly and inc 1757. Its villages include Rockville, Hope Valley, Hopkinton, and Ashaway. Prudence Crandall was born in the town.

Hoppe, William Frederick (Willie Hoppe) (hŏ'pē), 1887–, American billiards champion, b Cornwall, Orange co., N.Y He practiced billiards from a very early age and gave exhibitions before he won (1906) his first world championship in Paris Hoppe subsequently won many balk-line and three-cushion billiard championships, and in 1940 he was named the top player by the National Billiards Association He wrote *Thirty Years of Billiards* (1925) and *Billiards as It Should Be Played* (1941)

Hopper, DeWolf, 1858–1935, American singer and comedian, b. New York city. He made his debut (1879) in *Our Boys*, appeared with Frohman's Madison Square Company as Pittacus Green in Steele MacKaye's *Hazel Kirke*, and became a star actor and singer in 1890. He was associated with Weber and Fields at their Broadway Music Hall (1895–1904) and later achieved fame in such Gilbert and Sullivan roles as Bunthorne in *Patience* (1912) and the Lord Chancellor in *Iolanthe* (1913) He appeared in *The Better 'Ole* (1918), *Erminie* (1921), and *The Student Prince* (1925–28) Hopper made famous the recitation "Casey at the Bat," first presented in 1888 With W. W Stout he wrote *Once a Clown Always a Clown* (1927)

Hopper, Edward, 1882–, American painter and graver, b. Nyack, N Y, studied in New York with William Chase, Henri, and Kenneth Hayes Miller Then came a year in Paris followed by exhibitions of oils and of etchings His etchings gained him an early reputation and remain some of his most popular works Hopper excels in realistic pictures of clear-cut, sunlit streets and houses, usually without figures His work in oil and water color is slowly and carefully painted, with light and shade used rather for pattern than for modeling He exhibited widely and won awards at Chicago, Los Angeles, and Baltimore He is represented in many leading galleries *Early Sunday Morning* (Whitney Mus., New York) is a characteristic oil

Hopper, Isaac Tatem, 1771–1852, American humanitarian, father of Abigail Hopper GIBBONS An active abolitionist, he worked for the Underground Railroad and defended Negro slaves in court For these activities he and his son-in-law, James Sloan Gibbons, were disowned (1842) by the Hicksite Quakers Hopper also worked for prison reform See biography by L M Child (1853)

Hoppe-Seyler, Felix (fā'lĭks hŏ'pu-zī'lûr), 1825–95, German physiological chemist He was Virchow's assistant at Berlin and later professor at the universities of Tübingen and Strasbourg He is noted for his studies of the blood (especially of hemoglobin), of chlorophyll, and of the process of metabolism, he was the first to obtain lecithin in a pure state He introduced the term *protein* He wrote a notable treatise, *Physiologische Chemie* (1881).

Hoppin, Augustus, 1828–96, American illustrator and author, b Providence, R I He studied law, but soon abandoned it for illustrating His drawings appeared in *Illustrated American News*, *Putnam's Magazine*, and *Yankee Notions*, and he illustrated Holmes's *Autocrat of the Breakfast Table*, William Allen Butler's *Nothing to Wear*, Shillaber's *Life and Sayings of Mrs Partington*, and G W Curtis's *Potiphar Papers* His amiable sarcasm and craftsmanship created a wide interest in his works He also wrote and illustrated several travel volumes and a romance, *Married for Fun* (1885)

Hoppner, John, 1758–1810, English portrait painter, protégé of George III, whose natural son he was thought to be He studied with Sir Joshua Reynolds and imitated his style Hoppner early devoted himself to portraiture, achieving a lifelong popularity rivaled only by that of Sir Thomas Lawrence He was particularly successful with portraits of women and children, whom he idealized readily He had great facility and lively color Today many of his pictures have faded badly but they are still greatly prized Under the patronage of the prince of Wales, many of his best works were hung in St James's Palace, where they still are Among his famous portraits are those of the countess of Oxford (National Gall., London), the three Godsal children (H L Satterlee Coll., New York), and the duke of Kent (Windsor Castle) The Metropolitan Museum has several fine Hoppners See study by William McKay and William Roberts (1914 ed.)

hops see HOP

Hoquiam (hō'kwēum), city (pop 10,835), W Wash., at the mouth of the Hoquiam river on Grays Harbor, adjacent to ABERDEEN, settled 1859, inc 1890.

Hor, mountain, c 4,800 ft high, SW Jordan It is the highest summit of the vicinity and rises E of the Araba depression Petra lies at its eastern foot Mt. Hor was the place of Aaron's death Num 20 It is called Jebel Nebi Harun in Arabic Some deny the identification of biblical Hor with this mountain The Hor of Num 34 7, 8 is probably Mt Hermon

Horace (Quintus Horatius Flaccus) (hŏ'rĭs), 65 B C–8 B C, Latin poet, one of the greatest of lyric poets, son of an educated freedman of Venusia, S Italy. He studied at Rome and Athens and joining Brutus and the republicans, fought at Philippi After his return to Rome he held a clerkship Several years later he was introduced by Vergil to MAECENAS, who became his intimate friend and constant benefactor In 35 B C his first book of *Satires* appeared, c 30 B C. his *Epodes*, and 29 B C. his second book of *Satires*. These placed him as the leading lyric poet in Rome. Before 30 B C, Maecenas had given him a new home, the famous Sabine farm, where he lived thereafter, except for lengthy visits to Rome. The principal work of his maturity was contained in three books of *Odes* (c 24 B C.); later the first book of *Epistles* (c.20 B C), a fourth book of *Odes* (c.13 B C), a second book of *Epistles*, a hymn (the *Carmen saeculare*), and the *Ars poetica*, or *Epistle to the Pisos*, appeared. After the death of Vergil, Horace was the chief literary figure in Rome and the critical arbiter He represents especially the spirit of the Augustan Age of Rome, a time of peace, when the arts were cultivated earnestly without pretense, when Rome had ceased to be the intellectual handmaid of Greece Horace's early poems show the vitalizing influence of the Greek Archilochus, but his later verse shows complete and individualized adaptions of Greek meters to Latin, Horace was a master of poetic form As his genius matured, Horace's themes turned from personal vilification to more generalized satire and to literary criticism. An urbane Epicurean, Horace offered self-portraits that are among the most delightful of his poems. He gives a vivid picture of contemporary Roman society, and his descriptions of Italian scenery are uniquely beautiful. His complete articulateness and the exactitude and pungency of his phrases have made him always admired He had much influence on English poetry, and there are many translations See A W Verrall, *Studies in Horace* (1884), W Y Sellars, *Horace and the Elegiac Poets* (1892); A Y Campbell, *Horace: a New Interpretation* (1924); Tenney Frank, *Catullus and Horace* (1928); L P. Wilkinson, *Horace and His Lyric Poetry* (1945); H. D. Sedgwick, *Horace a Biography* (1947)

Horae (hō'rē) [Latin from Gr, =seasons], three Greek symbolic personages, controlling the order of nature and the recurrence of the seasons Daughters of Zeus and THEMIS and attendants of Aphrodite, they were personifications—Irene (ĭrē'nē), peace, Dice (dĭ'sē) or Dike (dī'kē), justice, and Eunomia (ūnō'mēu), order

Horam [Heb., =elevated], king of Gezer He was defeated and killed by Joshua Joshua 10 33

Horatii (hōrā'shēī), in Roman legend, three brothers, triplets, who represented Rome in a war with Alba Their opponents were the Curiatii (kyōōrī'ā'shēī), also triplets When two of the Horatii had been killed, the third Horatius pretended flight As the Curiatii pursued him, they became divided, and the surviving Horatius killed the Curiatii separately After the battle Horatius heard his sister mourn her lover, one of the Curiatii, and he stabbed her To do penance he was led, veiled, under a yoke

Horatius (Horatius Cocles) (hōrā'shŭs, -hu), in Roman legend, hero With only two companions, he held Lars Porsena's Etruscan army at bay while the Romans cut down the Sublician Bridge (connecting Rome with the road westward) behind them He swam the Tiber safely and received as much land as he could plow around in a day

Hordaland (hôr'dälän"), county (6,125 sq mi, pop 188,389), SW Norway Bergen is the capital and only large city Hordaland comprises the HARDANGER FJORD region, one of the favorite tourist areas of Norway

Horeb (hō'rĕb) [Heb., =desert], mountain, in which God is said to have resided Ex 3 1 From a comparison of parallel passages Mt Horeb and Mt SINAI seem the same, but this is not sure

horehound, aromatic Old World perennial herb (*Marrubium vulgare*), naturalized in North America It has woolly-white foliage and tiny white clustered flowers and is called the common or white horehound It is a member of the mint family The dried leaves and flower tops are used in making horehound candy and remedies for coughs and colds The black horehound and the water horehound belong to other genera of the mint family

Horem (hō'rĕm) [Heb., =sacred], unidentified fortified city, N Palestine Joshua 19 38

Horemheb: see HARMHAB

Hor-hagidgad (-gĭd'-), wilderness camp of the Israelites Num. 33 32. The camping place called Gudgodah may have been the same Deut 10 7.

Hori (hō'rī) **1** Edomite Gen. 36 22, 1 Chron 1 39 **2** Simeonite. Num 13 5

Horicon (hŏr'ĭkŏn), city (pop 2,253), central Wis., on the Rock River and SSW of Fond du Lac, inc 1897 Farm machinery is made here

Horims (hō'rĭmz) or **Horites** (-rīts), inhabitants of Seir, who were conquered by the Edomite invaders Gen 14 6; 36 20–30, Deut 2.12,22.

horizon (hurī'zŭn), roughly circular line bounding the observer's view of the surface of the earth where sky and earth seem to meet This is called the visible horizon At sea this line is a perfect circle with the observer at its center, but on land it assumes the irregularities of the topographic features The distance of the horizon, i e, the length of the circle's radius, depends on the elevation of the point from which observation is being made Thus at an altitude of 100 ft the distance is c 14 mi. if obstructions are disregarded and refraction is allowed for This distance varies as the square root of the height of the observer. The sensible horizon, referred to in astronomy, is a plane tangent to the earth at the point of observation. The true, rational, or geometrical horizon is a plane parallel to the sensible horizon which passes through the earth's center. In geology, horizon refers to sedimentary deposits of a certain period, usually marked by characteristic fossils.

Hormah (hôr'mŭ) [Heb.,=devoted, accursed], unidentified city, extreme S Palestine, earlier called Zephath. Here the invading Jews were defeated by the Canaanites Later the Jews destroyed it Num 14 45, 21 3, Deut 1 44, Joshua 12 14, 15 30; 19,4; Judges 1.17, 1 Sam 30 30

hormone (hôr'mōn), chemical substance formed in one part of the body and carried in the blood stream to other organs or tissues, influencing and coordinating their activity Such substances are secreted by the various ductless glands—the thyroid, parathyroid, adrenal, pituitary, thymus, ovary, testis, and pancreas See also GLAND

Hormuz (hôr'mŭz", hôrmōōz') or **Ormuz** (ôr'mŭz", ôrmōōz'), island, off S Iran, in the Strait of Hormuz between the Persian Gulf and the Gulf of Oman The town of Hormuz, originally built on the mainland, was moved to the island at the time of the invasion of Jenghiz Khan It was taken by the Portuguese under Afonso de Albuquerque in 1507 and held by them after 1515 It then had great importance but later declined

Horn, Philip de Montmorency, count of see HOORN, PHILIP DE MONTMORENCY, COUNT OF

horn, organ projecting from the head of an animal and used chiefly in offense and defense Among mammals there are three main types of horns Those of cattle, sheep, buffalo, musk oxen, Old World antelopes, and related animals have hollow, permanent, unbranched horns containing keratin Each horn overlies a bony core which grows on the skull The branched horns of the DEER family are known as antlers, are composed of true bone, and are usually shed annually Those of the PRONGHORN have characteristics of both the bovine and deer types Rhinoceros horns are derived entirely from the epidermis of the skin of the snout and are probably modified hairs Horns have been used for many purposes, such as drinking vessels and trumpets Some of our earliest art (from the time of the cave man) has come down to us preserved on pieces of horn In religion and art, horns symbolize power (Jer 48 25) The "horns of the altar" (Amos 3 14), the four corner projections, symbolized divine protection

horn, brass wind instrument see FRENCH HORN

Horn, Cape, headland, 1,391 ft high, S Chile southernmost point of South America, in the archipelago of Tierra del Fuego It was discovered and first rounded by Willem Schouten on Jan 29, 1616, and named after Hoorn in the Netherlands Lashing storms and strong currents made "rounding the Horn" one of the great hazards of sailing-ship days See Felix Riesenberg *Cape Horn* (1939)

Hornaday, William Temple (hôr'nudā), 1854–1937, American naturalist, b Plainfield, Ind He was educated at Iowa State College continued his study of zoology and museology in Europe, and was chief taxidermist (1882–90) of the U S National Museum As the first director (1896–1926) of the New York Zoological Park and as an author, Hornaday was a leader in wildlife conservation His book *Extermination of the American Bison* (1887) helped to save the bison from extinction His works include also the classic *American Natural History* (1904), books on wild animals, and *Thirty Years' War for Wild Life* (1931)

hornbeam see IRONWOOD

hornbook, a primer of a kind in use from the 15th to the 18th cent On one side of a sheet of parchment or paper the matter to be learned was written or printed, over the sheet, for its protection, a transparent sheet of horn was placed, and the two were fastened to a thin board, which usually projected to form a handle, perforated so that the hornbook might be attached to a girdle The matter printed or written included the alphabet in capitals and small letters and other material, varying in different specimens, such as numerals and the Lord's Prayer Sometimes the base and handle were made of metal, stone, or ivory and had letters carved or cast on them See A W Tuer, *History of the Hornbook* (2 vols, 1896)

Horncastle, urban district (pop 4,496), in the Parts of Lindsey, Lincolnshire, England, E of Lincoln and near the confluence of the Bain and Waring rivers It is famous for the August horsefair described by George Borrow in *The Romany Rye* There are remains of a Roman wall

Horne, Richard Henry, or **Richard Hengist Horne,** 1803–84, English poet He served in the Mexican navy and later as commissioner of crown lands in Australia He edited the *Monthly Repository* (1836–37) and contributed to other periodicals His chief work, the epic poem *Orion* (1843), was followed by *A New Spirit of the Age* (1844), written with Robert Bell and Elizabeth Barrett, later Mrs Browning (his correspondence with Miss Barrett was published in 1877) Among his tragedies are *Cosmo de' Medici* and *The Death of Marlowe* (both 1837) In 1846, under the pseudonym Mrs. Fairstair, he wrote two stories for children, *The Good-natured Bear* and *Memoirs of a London Doll*

horned toad, a lizard, several species of which live in the deserts of the SW United States and Mexico The body is from 3 to 5 in long, broad and flattened; it has a short thin tail and short legs. There are spines on the head and some of the scales on the sides and back are large and sharp. Horned lizards are protectively colored, usually in dull grays and browns They eat insects When alarmed some species can eject a thin jet of blood from the eye The young hatch from the female's body

Hornell (hôrnĕl'), city (pop 15,649), S N Y, on the Canisteo and S of Rochester, settled 1789, inc as a village 1852, as a city 1888 It has railroad shops, and its varied manufactures include woodwork and silk products

hornet see WASP

Horne Tooke, John: see TOOKE, JOHN HORNE

Horney, Karen, 1885–, American psychiatrist, b Germany, M D Univ of Berlin, 1913 She married Oscar Horney in 1909 Previous to her arrival (1932) in the United States, she was secretary of the Berlin Psychoanalytic Institute, where she taught for 12 years Associate director (1932–34) of the Chicago Institute for Psychoanalysis, Horney then came to New York, where she lectured at the New School for Social Research Her deviation from orthodox Freudian analysis, by assigning social factors a more important place in the production of neurosis than biological ones, resulted in her becoming (1941) founder and dean of the American Institute of Psychoanalysis These environmental disturbances cause what she calls the basic anxiety, which forces the individual to find new ways of coping with his problems The new methods are neurotic in that they are of a compulsive or rigid nature Her works include *The Neurotic Personality of Our Time* (1937), *Self-Analysis* (1942), and *Our Inner Conflicts* (1945)

Horniman, Annie Elizabeth Fredericka, 1860–1937, English theatrical manager She built and managed the ABBEY THEATRE, Dublin, for the Irish National Theatre Society in 1904, acquired the Gaiety Theatre, Manchester, England, in 1908, which she operated successfully for 14 years, and from 1912 to 1913 managed the Court Theatre London A pioneer in modern English drama, she was the first to produce and direct many of the plays of Synge, Yeats, O'Casey, Lady Gregory, Galsworthy, and others See Lady Gregory, *Our Irish Theatre* (1913), W G Fay and Catherine Carswell, *The Fays of the Abbey Theatre* (1935)

hornpipe, English folk dance known since the 16th cent, when it obtained its name from the wind instrument which accompanied it The hornpipes of the 17th and 18th cent have moderato 3-2 time and 4-4 time As a solo dance it was popular with sailors, who performed it with folded arms and numerous gestures and steps The hornpipe appears in the works of Purcell and Handel

Hornsby, Rogers, 1896–, American baseball player and manager, b Winters, Texas He started in major-league baseball in 1915 as a shortstop for the St Louis Cardinals and later (1920) became a second baseman He was the National League batting champion seven times (1920–25, 1928) and in 1924 had a batting average of .424, which is still the major-league record for the 20th cent As manager (1925–26) of the Cardinals, "Rajah" Hornsby led the team to the pennant and world-series victories in 1926 He was traded to the New York Giants in 1927 and then was player-manager with the Boston Braves (1928) and Chicago Cubs (1930–32) After another short stay with the Cardinals in 1933, Hornsby went over to the American League as manager (1933–37) of the St Louis Browns A right-handed batter, he maintained a record .358 lifetime batting average in 19 years He was voted the most valuable player in 1925 and 1928 and was elected in 1942 to the National Baseball Hall of Fame

Hornsey, municipal borough (1931 pop 95,523, 1947 estimated pop 99,280), Middlesex, England It is a residential suburb NW of London

horology (hôrŏl'ujē), the science of measuring time and of the construction of instruments for its measurement or recording Early measurements of the passage of time were based on observations of seasonal cycles and of the apparent motion of celestial bodies Shorter intervals were measured by observing the shadow cast by an upright object, the shadow clock and the SUNDIAL were probably the first devices constructed Later came the HOURGLASS and the CLEPSYDRA and finally the CLOCK and the WATCH The setting of timepieces depends on astronomical observations with transit telescopes Synchronization is achieved by corrections (especially for longitude) based on nautical or other tables or by time signals sent electrically from the Royal Observatory at Greenwich or from the U S Naval Observatory

Horonaim (hŏrōnā'ĭm) [Heb.,=two caverns], unlocated Moabite town Isa 15 5, Jer 48 3,5,34

Horonite (hŏ'rŏn, hŏ'rŏn) see SANBALLAT

horoscope see ASTROLOGY

Horowitz, Vladimir (hŏ'rōwĭts), 1904–, Russian-American pianist, b Kiev, studied at the Kiev Conservatory He made his European debut in 1925, and his American debut in 1928 with the New York Philharmonic Possessing remarkable technical virtuosity, he soon became one of the most popular pianists in the United States He is the son-in-law of Toscanini

Horrocks or **Horrox, Jeremiah** (both hŏ'ruks), 1617?–1641, English astronomer He made the first observation of the transit of Venus. His *Venus in sole visa*, which narrates this experience, was printed by Hevelius in 1662 The transit occurred on Nov 24, 1639, Horrocks watched the small shadow of the planet move part way across the disk of light on a sheet of paper, where the sun's image was focused through a telescope adjusted to an aperture in the shutter Other fragments of his works besides the *Venus* were edited by John Wallis (1672) From his observations Horrocks estimated more correctly than any one else had yet done the distance of the sun from the earth

Horsa see HENGIST AND HORSA

horse. The horse family (Equidae) is now represented by one genus only (*Equus*), which includes the horse, the ASS, and the ZEBRA The QUAGGA, of this genus, became extinct in 1872 The horse family, the rhinoceros family, and the tapir family are believed to be descended from a common ancestor with five toes on each foot and with the middle toe in line with the axis of the leg In the horse genus, the other toes have disappeared or have become vestigial, the foot being now what was once the middle one of five toes The horse's hoof corresponds to the nail of man's big finger or third toe The horse genus is descended from the *Eohippus* genus of the EOCENE EPOCH, about 45,000,000 years ago The Eohippus (ē"ōhĭ'pŭs) [Gr.,=dawn horse] was about 11 in high, or about the size of a fox It had four toes on each front foot and three toes on each hind foot Its home was the region that is now the Great Plains of North America Similar animals of the horse family lived in the Old World at the same time These became extinct The development through 45,000,000 years from *Eohippus* to *Equus* occurred in North America Fossil bones show the development through various stages to larger size and to the foot of one toe that is now characteristic of the genus *Equus* While horses essentially like modern horses in size and structure developed in North America, they became extinct here about the time when the Indians first reached this continent Whether the Indians ever saw these horses is not known Such horses were then also in the Old World, to which they are believed to have crossed by some land bridge that once connected the two hemispheres There is no evidence to explain why horses did not survive in America An adequate explanation is not found in the presence of carnivorous animals or in a change in climate The best guess may be that the horses were attacked by some disease to which they had not developed resistance In the Old World, several kinds of horses were hunted by men of the Old Stone Age (Paleolithic period), around the campsite of Solutré, in France, the bones of about a hundred thousand horses have been found The condition of the bones gives evidence that the horses were eaten Horses are among the game animals of which Old Stone Age men made likenesses by drawing, engraving, and modeling The horse was one of the last animals to be domesticated Probably it was first tamed by nomads of central Asia who taught uses of tamed horses, directly and indirectly, to the Chinese and to peoples of Asia Minor, Egypt, and Europe In farm work, the horse did not supersede the ox until the 19th cent The first uses of the domesticated horse were in hunting and in war The clumsy oxcart with solid wheels was not suited to the horse and the light chariot with spoked wheels was devised The horse greatly increased the distance over which military operations could be conducted It was instrumental in founding and controlling empires The chariot was followed by a wide range of horse-drawn vehicles, from the racing sulky to the coach and the CONESTOGA WAGON Riders of horses rode bareback and on saddlecloths before the SADDLE and the STIRRUP were invented The different types of domestic horses are believed to result partly from the dominance in them of corresponding types of wild horses The wild forest horse of Europe was relatively large, and the modern draft breeds probably are his descendants A more slender and swift wild horse was probably the dominant ancestor of the Arabian and the racing horses The Shetland and some other ponies are believed to be descendants of wild ponies Heavy horses were used as chargers by medieval knights, to whose weight was added the weight of armor and whose lance was more effective if the knight's horse was heavy Modern draft horses no doubt owe much of their quality to the breeding of chargers in the Middle Ages The best-known draft horse of England is the Shire A lighter English draft horse is the Suffolk, bred for use on farms and seldom sent to cities Other draft breeds vary in color, but the Suffolk is regularly chestnut The Clydesdale, of Scotland, is heavier than the Suffolk but lighter than the Shire The Clydesdale, like the Shire, has a "feather," a shock of long hair, at the fetlock The Belgian ranks with the Shire in weight Its docility and its freedom from feather are among the characteristics that have made it popular in America By far the most

popular draft breed in America is the Percheron, of French origin It is a heavy horse, though lighter than the Shire or the Belgian Its legs, like those of the Belgian and the Suffolk, are free from feather Its walk and trot are faster than those of other draft breeds This quality is attributed to an admixture of Arabian blood The Arab and the thoroughbred are primarily saddle horses, the special use of the thoroughbred being in running races The American saddle horse is distinguished for its easy gaits rather than its speed Jumping fences and ditches is required of the hunter The Morgan shows great endurance as a saddle horse Typical of light-harness horses are the trotter and the pacer The two are not sharply differentiated Typical heavy-harness horses are the Cleveland Bay, the French coach horse, and the German coach horse The hackney is a heavy-harness horse valued especially for its style The favorite pony is the Shetland, best known as a children's pet All wild horses now living are descended from tame horses except Przhevalsky's horse (see TARPAN), found only in the desert of Gobi The wild horse of the Great Plains, known as the MUSTANG, is descended from horses that escaped from Spanish explorers and conquerors The breed of horses with the longest record is the Arabian Its blood is dominant in the modern racing breeds The importation of Arabian horses to America began before the Revolutionary War The gray horse used by George Washington during that war was half Arabian See also MULE, RACING, RIDING See C S Plumb, *Types and Breeds of Farm Animals* (1906), C W Gay, *Productive Horse Husbandry* (1914), *National Geographic Magazine*, Nov, 1923, P D Stong, *Horses and Americans* (1939), Arthur Vernon, *The History and Romance of the Horse* (1939), Margaret Cabell Self, *The Horseman's Encyclopedia* (1946), R M Denhardt, *The Horse of the Americas* (1947)

Horse Cave, town (pop 1,278), S Ky, just E of Mammoth Cave National Park It is a tourist center in a farm area Hidden River Cave lies under a part of the town

horse chestnut, handsome deciduous tree (*Aesculus hippocastanum*), native to the Mediterranean region but widely planted elsewhere as an ornamental and shade tree It has long pyramidal clusters of flowers, usually white but in one variety salmon colored, and sometimes double The nuts, somewhat resembling chestnuts, are regarded as poisonous The horse chestnut belongs to the same genus as the BUCKEYE

horsefly, large, hairy fly of strong, swift flight, belonging to the family Tabanidae It is a common pest of stock and sometimes of humans Some horseflies transmit diseases The male horsefly drinks the nectar of flowers but the female sucks blood as well There are nearly 200 North American species of the genus *Tabanus*, to which the larger species, such as the common mourning horsefly, belong The genus *Chrysops* includes the smaller horseflies, some of which attack man The deer flies belong to this group Horseflies are most abundant in hot weather The eggs are laid on plants or stones close to water The predaceous larvae are wholly or partly aquatic

horsehair worm see HAIRWORM

Horseheads, village (pop 2,570), S N Y, N of Elmira, settled 1789, inc 1837 Bricks and optical goods are made here

horse latitudes, two belts of calms about the earth between the trade winds and the prevailing westerlies, at about 35° N and 30° S, sometimes called the tropical belts of calms in distinction from the equatorial belt of calms or DOLDRUMS The horse latitudes are characterized by high barometric pressure, descending air, low humidity, light variable winds, frequent calms, and cloudlessness, conditions are like those in the center of an ANTICYCLONE

horse mackerel, name applied to various large fishes, especially to the tuna and the bluefish

horse nettle, prickly perennial NIGHTSHADE (*Solanum carolinense*) with white or bluish flowers resembling those of the potato The berries are orange-yellow and have been used medicinally The plant, called also sand brier and bull nettle, is native to the SE United States but has become a pest over much of the country

Horsens (hôr'suns), city (pop 32,400), E Jutland, Denmark, a port on Horsens Fjord, an inlet of the Kattegat A commercial and industrial center, it has textile mills, meat-packing and dairy plants, and various manufactures

horsepower, unit of POWER, i e, of the rate of doing work The term originated with James Watt, who by experiment determined the amount of work a horse could do in a minute in drawing coal from a coal pit The figure at which he arrived, 33,000 foot-pounds per minute, is used as a standard in computing the power which engines of various kinds can generate For example, an engine generates 2 hp when it is doing 66,000 foot-pounds of work (2x33,000 foot-pounds) per minute A so-called 60-horsepower engine is one calculated to do 60x33,000 foot-pounds of work per minute when working at full capacity. The horsepower of a single-action reciprocating steam engine can be computed by dividing by 33,000 the product of the length of the stroke (in feet), the area of the piston (in inches), the steam pressure (in pounds per square inch), and the number of revolutions per minute For the double-action steam engine, the figure obtained as above is doubled

horse racing. see RACING

horse-radish, perennial herb (*Armoracia rusticana* or *Radicula armoracia*), native to central and S Europe (where it has long been cultivated in gardens) and naturalized in many parts of America It is grown mainly for its roots, which in olden times were used medicinally, particularly as an antiscorbutic Today the roots make a popular condiment and are usually grated and mixed with vinegar to make a sauce or relish for meats and sea food Horse-radish is propagated from root cuttings, as it does not make seed It is hard to eradicate, since the whole root sends out buds The lively pungency of the root is caused by its volatile oil, which resembles mustard oil It is stimulating, exciting the action of the stomach and promoting secretions The wilted foliage may be used as a poultice to relieve toothache and facial neuralgia An old name for it is German mustard See *Production and Preparation of Horse-radish* (U S Dept of Agriculture, Leaflet 129)

horseshoe. The horseshoe, commonly of iron or steel, varies from the light plate worn by race horses to the heavy shoe with sharp calks worn by horses of logging camps in drawing heavy loads over roads of ice The earliest extant shoe dates from the 6th cent B C A horseshoe used by the Romans was a leather boot with a metal plate at the bottom Before the advent of motor vehicles, shoeing horses was an important trade, often combined with general blacksmithing Often the horseshoer's skill cured lameness, and before veterinary medicine became a profession the horseshoer, or farrier, treated horses for all their diseases The horseshoe is an emblem and talisman of good luck Horseshoes are often used as QUOITS, the game of pitching them, also called horseshoes, is popular in the United States

Horseshoe Bend see WEATHERFORD, WILLIAM

horseshoe crab see KING CRAB

horsetail, any plant of the genus *Equisetum*, related to the ferns and club mosses The early geologic predecessors of horsetails were often large and tree-like and contributed to coal deposits Horsetails of today somewhat resemble rushes and have jointed aerial stems, usually hollow, and small scaly leaves The fertile shoots have conelike structures at the top which bear the spores The field horsetail and others produce also sterile shoots with whorls of narrow branches There is an alternation of generations in horsetails somewhat similar to that of the fern Coarse textured from the presence of silica, the shoots were formerly utilized for scouring purposes, whence the name scouring rush Many, if not all, of the horsetails are poisonous to horses

Horsham (hôr'shum), urban district (1931 pop 13,580, 1943 estimated pop 14,700), Sussex West, England, near the source of the Arun It is a market town The Causeway, an old cobbled street, has early Tudor, Elizabethan, and Stuart houses "Field Place," birthplace of Shelley, is near Horsham has engineering works and makes shoes and farm machinery Christ's Hospital at West Horsham was transferred from London in 1902

Horsley, Samuel, 1733–1806, English prelate, noted as scientist and controversialist He became bishop of St Davids in 1788, of Rochester in 1793, and of St Asaph in 1802 Science was the field in which he first was widely known In 1767 he was elected fellow of the Royal Society, of which he was for many years a secretary Horsley completed an edition of Sir Isaac Newton's works in 1785, but he is particularly remembered for the controversy (c 1783–1790) with Joseph Priestley concerning the doctrine of Christ's incarnation His books include mathematical and theological works See biography by H Horsley Jebb (1909)

Horsley, Sir Victor Alexander Haden, 1857–1916, English surgeon and neurologist A specialist in the surgery of the ductless glands and the nervous system, he devised a noted operation for spinal-cord tumor He wrote *Functions of the Marginal Convolutions* (1884) and, with others, *Experiments upon the Functions of the Cerebral Cortex* (1888) and *Alcohol and the Human Body* (1907) See studies by Stephen Paget (1919) and C J Bond (1939).

Horta (hôr'tŭ, Port ôr'tu), city (pop. 7,534), on Fayal island, one of the AZORES It is the capital of one of the three districts of the islands (Horta dist, named for the city)

Horten (hôr'tun), city (pop 10,964), Vestfold co, SE Norway, a port on the west side of the Oslo Fjord It is the main Norwegian naval base

Hortensius, Quintus (kwĭn'tus hôrtĕn'shus), 114 B C –50 B C, Roman orator. An aristocrat himself, he was the favorite lawyer of his party and made his name as defense counsel in the bribery and peculation trials so frequent in Rome Such a trial was that of Caius VERRES, whom Cicero, his friendly enemy, successfully prosecuted. Hortensius was a master of the Asiatic style of oratory. None of his speeches survives.

Horthy de Nagybanya, Nicholas (hôr'tĭ dŭ nŏ'dyubä"nyŏ, Hung *Nagybányai Horthy Miklós* (mĭ'klōsh), 1868–, Hungarian admiral and statesman. He commanded the Austro-Hungarian fleet in the First World War After Bela KUN seized (1919) power in Hungary, the counterrevolutionist government put Horthy in command of its forces When the Rumanian forces that had defeated Kun evacuated Budapest (Nov, 1919), Horthy entered it and in 1920 was made regent and head of the state He checked two attempts (March and Oct, 1921) of Emperor CHARLES I to regain his throne in Hungary—once by persuasion and once by armed force Charles was then formally barred from the throne, and Horthy found himself regent of a kingless kingdom A nationalist and distinctly inclined toward the right, he guided Hungary through the years between the two world wars, but left the actual management of government to his premiers, notably Stephen BETHLEN and Julius GOMBOS His influence diminished after the death (1936) of Gombos The succeeding premiers, Koloman Daranyi (1936–38), Bela Imredy (1938–39), and Paul TELEKI (1939–41), brought Hungary into the AXIS, and after Teleki's suicide Hungary entered the Second World War Despite Horthy's opposition, German troops occupied Hungary in March, 1944 When Russian troops entered Hungary, Horthy sent an armistice commission to Moscow and announced (Oct, 1944) the surrender of Hungary The Germans immediately forced Horthy to countermand his order and to resign He fled to Bavaria, where he was captured (1945) by American troops Released several months later, he retired to a country house near Munich

horticulture (hôr'tĭkŭl"chur) [Latin *hortus*=garden], cultivation of plants for ornament and use, a branch of agriculture which includes flower, fruit, and vegetable growing and landscape gardening It is an ancient art known to prehistoric peoples and to Eastern and Western civilizations Formal gardening developed first in the irrigated regions of the Orient, as in Egypt, where land was planted in regular patterns to make the most of artificially distributed water Horticulture in Western Europe received a great impetus when the Crusaders returned with ideas gathered from Eastern gardens The wonderful gardens of China, where the art is very old, have furnished inspiration and new plants to Western gardeners for several centuries In the New World, gardening was practiced on a magnificent scale by the ancient Indians (as in Mexico), who had tropical herb, rose, rock, and other special gardens long before the arrival of the white man With the increase in the varieties of cultivated plants, with improvements in tools, with the introduction of the ESPALIER and the GREENHOUSE, and with the extension of commercial flower growing and MARKET GARDENING, horticulture has become a very complex science, and the GARDEN has developed such specialized forms as the ROCK GARDEN, the window garden and aquatic and cactus gardens Knowledge of good horticultural practices is disseminated in the United States by various bureaus of the U S Dept of Agriculture, by the state experiment stations, by agricultural and other colleges, and by many organizations, e g, the American Horticultural Society, the Horticultural Society of New York, the Massachusetts Horticultural Society, the California Horticultural Society, and the Colorado Forestry and Horticultural Association See E S Rohde, *Story of the Garden* (1933), Richardson Wright, *Story of Gardening* (1938), James Bush-Brown and Louise Bush-Brown, *America's Garden Book* (1939), Montague Free, *Gardening* (1947), Woman's Home Companion, *Garden Book* (1947), *Taylor's Encyclopedia of Gardening, Horticulture, and Landscape Design* (1948)

Horton, city (pop 2,872), NE Kansas, NNE of Topeka, founded 1886, inc 1887 It has railway workshops and is in an area growing corn and apples

Horton, river in the Mackenzie dist, Northwest Territories, rising N of Great Bear Lake, flowing northwest for 275 mi, and emptying into Franklin Bay of the Beaufort Sea

Horus (hô'rus), son-god, one of the great gods of EGYPTIAN RELIGION He was frequently identified with Amon and Ra or Re One of the most popular of Egyptian myths was that of the vengeance wrought by Horus (with the help of his mother, Isis, and the god Thoth) for the death of his father, OSIRIS. Especially in Rome he was also worshiped as HARPOCRATES

Horyu-ji see NARA.

Hosack, David (hŏ'suk), 1769–1835, American physician, b. New York city, grad Princeton, 1789, studied medicine under Samuel Bard and medicine and botany at Edinburgh He established, where Rockefeller Center now stands, the famous Elgin Botanical Garden, he was professor at Columbia Univ and on the first faculty of the College of Physicians and Surgeons and was a founder of Bellevue Hospital He attended Hamilton after the duel with Burr In 1826, with Valentine MOTT and others, he helped found Rutgers Medical College (no longer in existence) and was its first president He wrote on medicine and botany and also memoirs of Caspar Wistar and DeWitt Clinton.

Hosah (hō′sä) [Heb., =refuge]. **1** Temple doorkeeper 1 Chron 16 38, 26 10,11,16 **2** Unidentified city of Asher Joshua 19 29.

Hosanna (hōzăn′u) [perhaps Heb , =save now, cf Ps 118 25,26], reverent ejaculation, shouted by the crowd on Jesus' entrance to Jerusalem on Palm Sunday Mat 21 9,15, Mark 11 9,10, John 12 13 It is used in Christian worship, e g , in the SANCTUS

hose, covering for the legs and feet In early English usage it was a legging reaching the ankle or sometimes also covering the feet like a stocking In N Europe it developed from loose trousers into trunk hose covering both thighs and hips, and by the 14th cent tights had superseded unshaped garments The word *stocking* did not appear until the 15th cent when KNITTING became general Knitted hose were known in Scotland (1550) and from there were introduced into France, where Henry II is said to have worn (1559) the first silk hose Henry VIII of England had knitted Spanish hose, and Queen Elizabeth wore English-knitted hose Frame knitting began in England c 1589 Modern hosiery is generally full-fashioned or circular-knit The full-fashioned stocking, knit on a flat-bed machine, is started on a legger, transferred to a footer, then seamed Stitches are dropped to shape the leg and foot, the decreases indicated by fashion marks The number of needles used for 1½ in of stocking width indicates the gauge or fineness of construction Round-needle bed, circular-knit machines are generally used for men's and children's hose and for some of the cheaper grades for women These tubular hose may imitate the full-fashioned with mock fashion marks and seams Hosiery is commonly piece dyed Yarn-dyed hose are known as ingrain Although cotton, wool, silk, and rayon are used, nylon, because of its strength and elasticity, has become the leading hosiery fiber Since nylon can be preset to the desired shape by heat, circular-knit hosiery is increasing in quality and popularity

Hosea (hōzē′u) [Heb , =salvation] or **Osee** (ōsē′), book of the Old Testament, first of the books of the Minor Prophets It is the prophetic career and sermons of a prophet of the second half of the 8th cent B C , his subject being the sins of the northern kingdom of Israel The work opens with the prophet commanded to marry a harlot and an adulteress to show forth God's union with Israel (1-3), then come sermons against the apostasy and moral decadence of the people (4-9 9), finally, the promise that after punishment will come redemption (9 10-17, 11 0-14) For bibliography, see OLD TESTAMENT

Hoseyn · see HUSLIN

Hoshaiah (hō′shāī′u) **1** A leader at the dedication of the wall Neh 12 32 **2** Father of JAAZANIAH **3**

Hoshama (hō′shumu, hōshā′–), one of the house of David 1 Chron 3 18

Hoshea (hōshē′ū) [Heb , =HOSEA] **1** See JOSHUA **2** Died after 722 B C , last king of Israel (c 730–722 B C) He succeeded Pekah, whom he murdered He was a tributary of Assyria, but made the fatal mistake of aligning himself with an Egyptian cabal against his overlord (c 728 B C), who overran Israel and, after a long siege, took Samaria (722 B C) This was the end of the northern kingdom 2 Kings 15 30,17 **3** Ruler of Ephraim 1 Chron 27 20 **4** One who sealed the covenant Neh 10 23

Hosius (hō′shēus), c 255 c 358, bishop of Córdoba in Spain, Catholic leader against ARIANISM He is said to have died at the age of 102 See NICAEA, FIRST COUNCIL OF

Hosmer, Harriet Goodhue (hŏz′mur), 1830–1908, American sculptor, b Watertown, Mass She lived chiefly in Rome, where she produced graceful statues very popular in her day Of her spirited *Puck* 30 copies were made Other works are *The Sleeping Faun*, *The Waking Faun*, and *Beatrice Cenci* (St Louis Mercantile Library), *Zenobia* (Metropolitan Mus), and a statue of Thomas H Benton (St Louis)

hospital, institution for the care of the sick which is maintained through public funds, is privately endowed, or is supported by both public and private funds Some hospitals are devoted to specialized services, e g , maternity cases, contagious diseases, neurological and psychiatric cases, or cancer and allied diseases A number are affiliated with schools of medicine and dentistry, with nurses' training schools, and often with sanitariums and homes for convalescence The hospital offers ambulance service and clinics or dispensaries in which patients of low-income groups receive medical aid with little or no charge In addition to a department of administration, hospitals include a medical staff of internes, resident physicians, and attending physicians; a nursing staff, dieticians, laboratory technicians in bacteriology, cardiology, chemistry, and pathology, an X-ray department for diagnostic and therapeutic purposes, and frequently social workers The great advantage of a hospital to the individual and to the community as a whole is derived from the accessibility of the multiple services which can be rendered there See also NURSING

Hospitalers: see KNIGHTS HOSPITALERS

Host [Latin, =sacrificial victim], in Roman Catholic practice, consecrated wafer of the EUCHARIST. The bread used is pure white and unleavened, baked in small disks The Hosts not consumed at Mass are set aside especially for the viaticum, for the sick, and for adoration, as at BENEDICTION They are kept in a tabernacle on an altar, a light, commonly called a sanctuary lamp, burns near by

hostage (hŏ′stĭj), person delivered by a constituted authority to another authority in token of good faith, so as to guarantee the execution of a treaty or to vouchsafe the loyalty of a city or country Hostages might also be exchanged by the contracting parties A hostage—usually a person of consequence—was to be treated according to his rank and as an honored guest, but he might be imprisoned or even executed if the agreement guaranteed by his person were broken The execution of hostages, however, has always been considered an extreme measure In feudal times the behavior and treatment of hostages was subject to a strict code of honor Thus, when the hostages that took the place of King John II of France as prisoners in England escaped, King John felt bound in honor to return to captivity in England The practice of exchanging hostages when concluding treaties was abandoned in the 18th cent A rather different but equally ancient practice is that of seizing civilians in an occupied country in order to insure the delivery of requisitions, to discourage hostile acts, or to take reprisals for hostile acts committed by unknown persons This has been done in almost every war and is countenanced by international custom so long as hostages are not cruelly treated or made to pay for crimes committed by others In the Second World War, uncounted thousands of hostages were executed throughout Europe by the German authorities, who thus vainly hoped to crush resistance movements or to induce the fellow citizens of the hostages to give information concerning the resistance fighters There was, of course, no justification for such measures in international law, and persons responsible for the massacre of hostages have since been sentenced as war criminals In civil wars, the practice of holding hostages is particularly frequent An illustrious victim of the practice was Georges Darboy, archbishop of Paris, executed during the uprising of the Commune of Paris in 1871

Hostos, Eugenio María de (ōōhē′nyō märē′ä dā ō′stōs), 1839–1903, Latin American philosopher, sociologist, writer, and political and educational reformer, b Puerto Rico, educated in Spain He advocated a federation of the Antilles, including Puerto Rico, Cuba, and the Dominican Republic, and devoted his life to seeking the political independence of Cuba and Puerto Rico In Santo Domingo (1879–88), he founded the first normal school and introduced advanced teaching methods As professor in the Univ of Chile, he was instrumental in having women admitted He is widely known throughout Latin America as a publicist of civic reforms, as a rationalist in ethics who believed that "to be civilized and to be moral is the same thing," and as a writer of sober, graceful, and didactic prose He wrote some 50 volumes, among which are *La peregrinación de Bayoán* (1863), a political novel, *Moral social* (1888), *Lecciones de derecho constitucional* (1887), and a superb essay, *Hamlet* (1874)

hotbed, low, glass-covered frame structure for growing plants in soil heated by stable manure, steam, hot air or water, or electricity The sides are of boards, brick, or cement, and the top may be covered with straw or burlap mats or shutters to regulate light and temperature Ventilation is an important consideration The hotbed, which is very like a COLD FRAME except for the heated soil, is used for starting early such plants as cabbage, lettuce, and annual flowers for transplanting later or for growing vegetables and flowers out of season

Hotchkiss, Benjamin Berkeley, 1826–85, American inventor, b Watertown, Conn Of his many inventions the two best known are his revolving-barrel machine gun (patented 1872), manufactured for the French army by his Paris arms factory, and his magazine rifle (design completed 1875) The rifle was long used by U S , British, and French armed forces

hotel [Fr , from O Fr (original of Eng *hostel*), from Latin (original of Eng *hospital*), =guest place], name applied since the late 17th cent to an establishment supplying both food and lodging to the public (see INN) In common law of England and America, the hotelkeeper is a public servant and must receive all proper persons The first American hotels, successors to the early inns, differed from their European prototypes by charging a fixed fee for food and lodging (American plan) For many years $1 00 per day was the accepted price Faunces Tavern (1762) and the City Hotel (1794) were fashionable resorts of early New York The Tremont House, in Boston (1829), for years considered the most imposing hotel in the United States, was rivaled by the Astor, built in New York in 1836 The St Charles, New Orleans (1836), was noted for its Corinthian portico The modern hotel in America dates from the early days of railroad travel, when the modest hostelry, prepared to entertain small groups of occasional guests, was forced to become a more commodious and efficient institution to accommodate the great number of traveling salesmen Technical progress in the late 19th cent permitted the construction of large, fireproof hotels Newer hotels are built in hollow squares or rectangles to give the greatest possible number of rooms on street or court The recessional type of building, prescribed by building laws in some cities, affords a number of roof gardens and balconies The executive business of conducting a great modern hotel requires the most efficient organization In restaurants, bars, grills, and special rooms the modern hotel caters to the general public as well as to its guests Hotels may be classed as transient, residential, and resort hotels, by the clientele, as commercial, workers', women's, or family hotels, and as semi-commercial hotels with club features, such as those maintained by the Y M C A See Lucius Boomer, *Hotel Management* (3d ed , 1938)

Hotham (hŏ′thăm) [Heb , =signet ring], descendant of Asher 1 Chron 7 32

Hothan (hō′thăn) [Heb , =signet ring], father of two of David's guard 1 Chron 11 44

Hothir (hō′thĭr) [Heb , =fullness], leader of musicians 1 Chron 25 4

hothouse see GREENHOUSE

Hotin, Ukraine see KHOTIN

Hotman, François (frăsw′ ôtmä′), 1524–90, French jurist Converted to Protestantism (1547) and implicated in the conspiracy of AMBOISE, he spent large parts of his life in Switzerland In his most influential work, *Franco-Gallia* (1573), he was among the first to point out the Germanic origin of the early Frankish institutions, and on that basis he advocated an elective monarchy for France See Beatrice Reynolds, *Proponents of Limited Monarchy in Sixteenth Century France* (1931)

Hot Springs 1 Resort city (1940 pop 21,370, 1948 special census pop 27,150), co seat of Garland co , SW central Ark , in the Ouachita Mts SW of Little Rock, settled 1807, inc 1851 It is cosextensive with part of HOT SPRINGS NATIONAL PARK **2** Health resort town (pop 2,940), SW N Mex , on the Rio Grande, in a livestock and farm region A hospital for the treatment of crippled children is here Elephant Butte Dam is near by **3** City (pop 4,083), co seat of Fall River co , SW S Dak , SSW of Rapid City, near the Cheyenne river and the Black Hills, settled 1879–81, inc 1882 It is a health resort and tourist center, with several veterans' and soldiers' sanatoriums and other hospitals which use the sulphur hot springs Near by are Fossil Cycad and Jewel Cave national monuments, Wind Cave National Park, and Custer State Park Sandstone quarrying, mining, and lumbering are among the chief industries here **4** Famous resort, western Va in a valley of the Allegheny Mts WSW of Staunton See Fay Ingalls, *The Valley Road* (1949)

hot springs see ARTESIAN WELL and SPRING

Hot Springs District, c 1,000 sq mi , N central and central North Island, New Zealand, comprising the volcanic region around Lake Taupo It is a region of mineral springs and geysers, and its chief health resort is Rotorua It is also called the Thermal Springs District

Hot Springs National Park, famous Federal spa, Ark It was set aside as a government reservation in 1832 and made a national park in 1921. Beautifully situated, its 1,019 13 acres contain over 40 springs and many bathhouses An army-navy hospital was established here in 1882, its great new building was constructed in 1933 Lakes Hamilton and Catherine, created by two large dams on the Ouachita river, a state park, and Ouachita National Forest are near by For the city, see HOT SPRINGS, Ark

Hotspur see PERCY, SIR HENRY

Hottentot bread see ELEPHANT'S-FOOT

Hottentots (hŏ′tuntŏts″), people, numbering some 20,000, in W Cape Prov , Union of South Africa, and in South-West Africa In language and in physical type the Hottentots appear to be related to the Bushmen, and they are generally much lighter in complexion than the neighboring Bantu The Hottentots were the first native people to come into contact with the Dutch settlers of the Cape of Good Hope in the mid-17th cent As the Dutch took over land to farm, the pastoral Hottentots were forced into the interior and their numbers declined greatly Today they practice some farming and metallurgy along with herding

Hötzendorf, Franz Conrad von see CONRAD VON HOTZENDORF, FRANZ

Houbraken, Arnold (är′nōlt hou′brä″kŭ), 1660–1719, Dutch painter, etcher, and author of *The Great Theatre of Dutch Painters* (1718), still a valuable source His son, **Jacobus Houbraken** (yäkō′-bōōs), 1698–1780, was an important Dutch engraver, who practiced chiefly in Amsterdam He illustrated his father's book and others and engraved over 600 excellent portraits

Houdin, Jean Eugène Robert (zhäⁿ′ ûzhĕⁿ′ rōbĕr′ ōōdăⁿ′), 1805-71, French conjurer and magician He was celebrated for his optical illusions and mechanical devices and for the fact that he attributed his "magic" to natural instead of supernatural means

He was the first to use electromagnetism for his effects He wrote an autobiography (1857) and *Secrets of Prestidigitation and Magic* (1868). Houdini, who named himself for Houdin, wrote *The Unmasking of Robert-Houdin* (1908) See H R Evans, *The Master of Modern Magic* (1932)

Houdini, Harry (hōōdē'nē), 1874–1926, American magician and writer, b Appleton, Wis His real name was Erich Weiss, and he took his stage name after the French magician Houdin He was world famed for his escapes from bonds of every sort—locks, handcuffs, straitjackets, and sealed chests under water He was also noted for his exposure of fraudulent spiritualistic mediums and their phenomena He left to the Library of Congress his library of magic, one of the most complete and valuable in the world Among his writings are *The Unmasking of Robert-Houdin* (1908), *Miracle Mongers and Their Methods* (1921), *Paper Magic* (1922, new ed, 1929), and *A Magician among the Spirits* (1924) See *Houdini's Magic* (ed from his notebooks, 1932), biography by Harold Kellock (1928), W B Gibson, *Houdini's Escapes* (1930), B M L Ernst and Hereward Carrington, *Houdini and Conan Doyle* (1932)

Houdon, Jean Antoine (zhäⁿ ätwänⁿ ōdōⁿ'), 1741–1828, French sculptor He early studied with Michel Ange Slodtz and Pigalle, took the Prix de Rome at 20, and spent 10 years in Italy In 1771 he was admitted to the Académie royale de Peinture et de Sculpture for his *Morpheus* (Louvre) He soon became famous for portrait sculpture, at which he has hardly been surpassed Most of the famous personages of his day sat for him In 1785 he visited the United States and stayed at Mt Vernon while making studies for his statue of Washington (capitol, Richmond, Va) His busts of Jefferson (Mus of Fine Arts, Boston), Franklin, Mirabeau, Buffon, and Prince Henry of Prussia and his statue of Voltaire (Comédie Française) are all well known Catherine of Russia also posed for him and bought his fine marble Diana (Leningrad) Houdon narrowly escaped death during the Revolution and did not flourish under the Directory, but he was honored by Napoleon A bronze replica of his Washington, a bust of a child, and his *Bathers* are in the Metropolitan Museum

Hough, Emerson (hŭf), 1857–1923, American novelist, b Newton, Iowa, grad State Univ of Iowa, 1880 His novels of frontier life, popular in their appeal, have historical fidelity and understanding of pioneer character His most notable works were the novels *The Mississippi Bubble* (1902) and *The Covered Wagon* (1922, made into a popular moving picture) and *The Passing of the Frontier* (1918) His interest in the West promoted government protection of buffalo and other wild animals in Yellowstone Park

Hough, George Washington, 1836–1909, American astronomer, b Montgomery co, N Y, grad Union College, 1856 He discovered more than 600 stars, measured numerous double ones, and made systematic studies of the surface of Jupiter Many instruments for use in astronomy, meteorology, and physics were designed and constructed by him From 1862 to 1874 Hough was director of Dudley Observatory, Albany, N Y In 1879 he was appointed professor of astronomy at the Univ of Chicago and director of Dearborn Observatory, when the observatory was removed to Evanston, Ill, he introduced original plans for the dome and electric control for the telescope

Houghton, Arthur Boyd (hō'tŭn, hou–), 1836–75, English painter, illustrator, and wood engraver His paintings *Don Quixote* and *The Transformation of King Bedor* are in the Victoria and Albert Museum He is best known, however, for his imaginative illustrations for George and Edward Dalziel's *Arabian Nights* and *Don Quixote*

Houghton, Richard Monckton Milnes, 1st **Baron** (mŭngk'tŭn mĭlnz', hō'tŭp, hou'tŭp), 1809–85, English author, philanthropist, and patron of letters He was a close friend of Tennyson and Thackeray His poetical works include *Poems of Many Years* (1838) and *Palm Leaves* (1844) In 1848 his *Life, Letters, and Literary Remains of John Keats* was published See biography by T W Reid (1890)

Houghton, William Stanley, 1881–1913, English dramatist In 1900 Houghton turned to acting and the writing of plays He was dramatic critic for the Manchester *Guardian* (1905–13) His plays, portraying life in Lancashire, include *The Younger Generation* (1910), *The Master of the House* (1910), and his greatest success, *Hindle Wakes* (1912)

Houghton (hō'tŭn), village (pop 3,693), co seat of Houghton co, Keweenaw peninsula, extreme N Mich, on the Portage Lake Ship Canal, settled 1851, inc 1867 It is a shipping, distributing, and industrial center, lying in the heart of the Lake Superior copper-mining region Explosives are made Michigan College of Mining and Technology here has a large collection of geological materials Houghton is the mainland headquarters of Isle Royale National Park

Houghton-le-Spring (hō'tŭn-lē–, hou'–), urban district (1931 pop 10,616, 1947 estimated pop 29,240), Durham, England, NE of the borough of Durham The chief industry is coal mining

Hougue, La, France see HOGUE, LA.

Houlgate (ōōlgät'), resort (pop 1,660), Calvados dept., N France, on the English Channel

Houlton (hōl'tŭn), town (pop 7,771), co seat of Aroostook co, E Maine, a port of entry on the Meduxnekeag near the N B line; settled 1807, inc 1831 A commercial center, it grew first with the lumber industry and later with the agricultural development (especially potato growing) of the Aroostook country, more recently the tourist trade has become important It was a military post, 1828–47 An army air base (1941) is near by

Houma (hō'mŭ), city (pop 9,052), parish seat of Terrebonne parish, SE La, on Bayou Terrebonne and SW of New Orleans, founded 1834, inc 1848 A packing center and a port on the Intracoastal Waterway, it also has sea-food, fur, and oil industries Sugar cane is grown near by.

hound. Hunting dogs of many different breeds are known as hounds The term is most often applied to foxhounds and beagles These, with the harrier, BLOODHOUND, basset hound, and DACHSHUND, have in common long, flapping ears and their habit of following the quarry by scent The AFGHAN HOUND, BORZOI, GREYHOUND, WOLFHOUND, and DEERHOUND are different in appearance and follow their prey chiefly by sight Bird dogs, e.g., pointers and setters, are not known as hounds The beagle is a small hound with a low-hung body and is used to hunt rabbits and other small game Foxhounds have been bred in England for over two centuries, they are bred especially for speed and are used in hunting packs The American foxhounds were developed originally from foxhounds imported from England (in the late 18th cent) and from France and Ireland

Hounslow (hounz'lō), suburb in Heston and Isleworth urban district, Middlesex, England, W of London It was the first stop on the old coach road to Southampton and Bath, at an important crossroads Hounslow Heath, in 1546 an area of nearly 4,300 acres, near Hounslow, was noted as a resort of highwaymen It was the site of a Roman camp, is now largely enclosed, and has cavalry barracks

hourglass, instrument of glass for measuring time It consists typically of two bulbs united by a narrow neck, one bulb is filled with fine sand that runs through the neck into the other bulb in an hour The date of its invention is unknown, but it was in use in ancient times

houri (hōō'rē, hou'rē) [from Arabic, = black-eyed], one of the beautiful females said by some Moslems to dwell in paradise for the enjoyment of the faithful The passages in the Koran detailing the physical delights of heaven are considered by many Moslem critics as allegorical

hours of labor: see LABOR, HOURS OF.

Housatonic (hōōsətŏn'ĭk), river rising in the Berkshires, W Mass, and flowing generally south c 130 mi through Connecticut to Long Island Sound at Milford

House, Edward Mandell, 1858–1938, American statesman, b Houston, Texas, studied (1878–79) at Cornell Univ Colonel House (a Texas state title) was important in Texas politics before his star rose with Woodrow Wilson He helped to get the presidential nomination for Wilson in 1912 and had Wilson's confidence He was sent to Europe in 1914 in an attempt to prevent the outbreak of war and again in 1915 to propose a peace conference After the United States entered the war, he represented the United States in the conference for coordinating Allied activities He also gathered data for the peace conference, was American delegate to negotiate the armistice, and was a member of the U S peace commission He helped to draft the Treaty of Versailles and was particularly concerned with drawing up the Covenant of the League of Nations He was also (1919) a member of the commission on mandates After his return to the United States, he and Wilson quarreled House and Charles Seymour edited the documentary *What Really Happened at Paris* (1921) Some of his papers, selected and edited by Seymour as *The Intimate Papers of Colonel House* (2 vols., 1926–28), are a valuable historical source See Arthur D Howden Smith, *The Real Colonel House* (1928) and *Mr House of Texas* (1940), Sir Andrew MacPhail, *Three Persons* (1929)

House, Homer Doliver, 1878–, American botanist, b Oneida, N Y, grad Syracuse Univ (B S, 1902), Ph D Columbia, 1905 From 1914 to 1948 he served as state botanist of New York His outstanding work, *Wild Flowers of New York* (1918), formed the basis of a later work, *Wild Flowers* (1934)

house, human abode of permanent type and staunch construction, something beyond a mere primitive shelter such as a hut or a tent The earliest forms of human habitation which might be termed houses must remain conjectural The shelters of prehistoric man certainly varied widely according to climate and available materials Intimations as to their types can be discerned in the remaining natural caves in various countries—the rock-cut tombs of Egypt and Asia Minor, to which the abodes of the living were probably similar, the surviving beehive huts of stone found in Wales, Ireland, and elsewhere, as well as the dovecots and round, thatched sheep huts still in use in Europe, and the cone-shaped constructions formed of a sapling framework and covered with leaves and thatch or with skins, as in the American wigwams Of more advanced character were the lake dwellings of the Bronze Age, which seem to have been common in N Europe and parts of Italy The plastic and adhesive qualities of clay were utilized by the earliest builders Applied over a framework of logs and twigs, it formed weather protection, as a next step, bricks made of clay and baked in the sun could be laid up in walls At a time before the beginnings of history houses of mud bricks using a minimum of timber, owing to its scarcity, must have been the universal type in Egypt and in the Tigris-Euphrates basin occupied by Babylonians and Assyrians But of such perishable structures nothing has survived, and their arrangement is unknown Of the pre-Hellenic culture in the Aegean area, which centered in Crete, the great palaces of Cnosus, Mycenae, and Tiryns had elaborate plans of many chambers, inner courts, and staircases The Cretans of c 2000 B C. made burned clay sewer pipes and had bath compartments and sanitary arrangements for their palaces In Greek dwellings from the earliest times there was usually some sort of inner court around which the rooms were grouped, and often there was an upper story Women were secluded in a separate section There were latrines, water conduits, and drains The later and elaborate dwellings were no doubt close in type to the Roman houses at Pompeii, of which many remain In addition to the *domus* or private house, other Roman types were the VILLA or country house and the insula or tenement with several stories above a street floor of shops In the earlier and simple Roman houses rooms were grouped symmetrically around an inner court or ATRIUM The oldest houses at Pompeii, dating from the 3d cent B C, are of this type In the typical Pompeiian house of the last century B C and the empire, the street front was given over to small shops arranged on either side of an entrance passage which penetrated to the atrium Around the latter were the rooms for servants and the more public functions of the household, while directly opposite the street entrance was access to a larger court, the colonnaded peristyle, often adorned with fountain and plants, which was the center of the family's private life Around this were the living and sleeping rooms, while beyond it sometimes lay a garden, which might be enclosed by a colonnade Floors were laid with rich mosaic patterns in marbles and cements and the finely plastered walls had painted decorations, of which many examples have survived With its blank exterior walls and its use of inner courts to provide light and air for the apartments and seclusion from the street, the Pompeiian house was a luxurious culmination of the Mediterranean dwelling of the classic ages The essential character of its layout is preserved in modern times in the Spanish house with its patio, the flat-roofed North African houses, and the houses of Egypt, Turkey, and other parts of the Near East The dwellings which developed in N Europe in the early Middle Ages contained no open elements in their plans, but were forced to provide for security against both the climate and hostile attacks Within the fortified stone walls the focus of the lord's household was the great HALL with its huge fireplace at one end The separate abodes of the common people were little more than hovels However, as feudalism decayed and Europe became more settled and peaceful, the house of the peasant and the common man emerged, with their few simple rooms, fireplaces, pitched roofs of thatch or slate, and walls of varying materials such as stone, timber, and half-timber By the end of the 15th cent the stronghold type of house had become obsolete With the growth of international trade and the cultivation of amenities brought forth by the Renaissance, the country houses of the new nobility and rich merchants arose Forbidding walls with small apertures gave way to façades with large windows, numerous chimneys, and decorative embellishments Interiors no longer consisted of bare walls, but were given a complete architectural adornment. Meanwhile urban development had produced the compactly planned town dwelling several stories high on its narrow lot, drawing its light only from front and rear From the late Middle Ages through the Renaissance the house, of whatever class, received the stamp of the skilled and artistic craftsmanship which was diffused everywhere. But in the matter of comforts, practically no advance other than improvements in planning (such as the introduction of corridors) occurred until the mid-19th cent In the 18th cent. an informal arrangement of rooms was no longer considered satisfactory, and the fashionable classicism demanded symmetrical and formal disposal of both plan and façade This produced not only the great country establishments with their central blocks and balancing wings, but also the small and exquisitely finished formal houses of which numbers still exist in England and France

and in the United States. The nature of the dwelling house in different parts of America was determined at first by available materials In the woodland area, a family's first house was regularly a LOG CABIN with PUNCHEON floor In rough treeless country, the dugout was used On the Great Plains, a SOD HOUSE was built of the tough sods. In the Southwest, houses were built of ADOBE In the mid-19th cent , with the introduction of heating, lighting, and plumbing systems, the modern house was born, and an involved new process of evolution commenced. In the intervening years there has been an eagerness everywhere to embody within the house a maximum of mechanical efficiency, combined with a reluctance to abandon the past traditions of planning and of architectural form More and more as mechanical aids to comfort have been perfected by engineers and manufacturers, the modern dwelling with its garage has become in itself a closely integrated mechanism, utterly dependent upon its various heating, plumbing, and ventilating contrivances and the supply of power for its proper functioning In the type of house produced by MODERN ARCHITECTURE in the 20th cent , sentiment for past styles and traditional methods and materials has given way to a frank expression of the technical aspects of the structure In the same period the ranking of a house as a unit in a community and the problems involved in providing proper dwellings for the lower-salaried populations everywhere (see HOUSING) have focused attention upon the modern dwelling in its previously unstudied social aspects See Richard Halsey and Elizabeth Tower, *The Homes of Our Ancestors* (1926), for the English house, see S O Addy, *The Evolution of the English House* (1910), for the American house, see Lewis Mumford, *Sticks and Stones* (1933), and Richard Pratt, *A Treasury of Early American Homes* (1949)

houseboat, flat-bottomed scow or float, generally drawing only a few inches of water (never more than about 2 ft) and fitted with a superstructure containing cabins or rooms with conveniences for use as living quarters Houseboats are used on rivers, streams, and inland waters, mainly as summer residences Houseboats are generally fitted with a veranda or porch at one or both ends, and the more elaborate type have a top deck, with awnings Most houseboats have no motive power and are towed from place to place, those which have engines generally use a screw propeller Houseboats are in common use in China and other Asiatic countries, many thousands of people never knowing any other type of home

housefly, common name of *Musca domestica*, found in most parts of the world It does not bite but is the most dangerous and the commonest fly found in dwellings Because it visits garbage, excrement, and filth of all kinds it transports, either on its hairy body and sticky foot pads or in its digestive system, the bacteria and protozoa which cause many serious diseases, e g , typhoid fever, cholera, and dysentery It breeds in vast numbers in manure and other decaying organic matter The larvae are white maggots The housefly ejects materials from its body upon solid food substances in order to liquefy them, since it can take in only liquids See *House Fly Control* (U S Dept of Agriculture, Leaflet 182)

House of Commons see PARLIAMENT and WESTMINSTER PALACE

House of David see BENTON HARBOR, Mich

House of Lords: see PARLIAMENT and WESTMINSTER PALACE

House of Representatives see CONGRESS OF THE UNITED STATES

house plants, varied group of plants grown indoors and generally able to withstand such adverse conditions common to the average dwelling as escaping gas, low humidity, and lack of sunshine and light They are usually grown singly in pots, but can also be grouped and planted together in dish gardens and terrariums Some are cultivated for their flowers, e g , geraniums and African violets, while others, e g , philodendron and sansevieria, are grown for their decorative foliage Growing house plants successfully can be greatly facilitated by maintaining a cool temperature and raising the atmospheric moisture by the use of humidifiers or simply by placing evaporating pans on radiators See Margaret Goldsmith, *The Picture Primer of Indoor Gardening* (1946), Montague Free, *All about House Plants* (1947)

housing, in general, the living accommodations provided for people in a community With the Industrial Revolution and the crowding of cities and factory towns, housing for workers was put up by builders for profit, but often employers found it necessary to house their own workers Lowell, Mass , is an example of such housing in the 1820s, George Cadbury 50 years later built a garden village for his employees in Bourneville, England However, speculative building, at the least cost for the highest price, continued to be the rule without government interference until England passed (1851) the Shaftesbury Act, requiring administrative approval of building plans In the United States, the first housing law was the New York city tenement house law of 1867. Its requirements were very meager, but in 1879 a revised law was passed prohibiting windowless rooms The findings of a tenement house commission resulted in a new law in 1901, requiring better provision for light and ventilation, fire protection, and sanitation Most city and state housing laws were based on those of New York There had been some cooperative and municipal building for workers in Europe and some "model tenements" in American cities put up by philanthropists, but until the First World War there was no government housing in the United States Then temporary dwellings were put up for shipping and other war workers In 1918 the U S Housing Corporation was incorporated to deal with the liquidation of the government's housing It continued to operate until 1942 The virtual standstill of private construction during the war resulted in a housing shortage which in some countries, e g , Austria, was desperate in its extent Vienna in the '20s replaced unfit quarters with great blocks of workers' apartments France, Italy, the Scandinavian countries, and Holland followed similar programs Holland's policy of loaning funds for erection of workers' dwellings commenced as early as 1901 The Dutch cottage suburbs were notable for their modern architectural design and the completeness of their civic planning In England and to a lesser extent in the United States the GARDEN CITY was one solution offered to the housing problem Some housing projects in New York followed the enactment of the New York State Housing Act of 1926 Under this the execution of the project is in the hands of private enterprise in the form of a limited dividend corporation, which is exempt from state taxes and has power of condemnation, the state supervises its financial management In the depression the National Housing Act (1934) set up the Federal Housing Administration to ensure private loans and mortgages for homes meeting certain standards Low-cost housing projects, like those for farm families sponsored by the Resettlement Administration, were coordinated by the Wagner-Steagall Act (1937) under the U S Housing Authority, which financed urban low-rent and slum-clearance developments by making loans at low interest up to 90 percent of the costs of the project, these loans were later extended to rural housing When the defense program in the Second World War brought about acute housing shortages, the Lanham Act (1940) authorized direct Federal operation of a large-scale housing program for war workers, who also benefited by amended FHA rules (1941–42) To unify the many Federal housing agencies, President Roosevelt created (Feb , 1942) the National Housing Agency, including the Federal Public Housing Authority (which handled the war housing program and assumed the functions of the USHA), the Federal Home Loan Bank Administration, and the FHA But the total wartime construction of permanent homes was far below peacetime levels, while the demand for housing rose sharply with a high marriage rate, migrations from farms to cities, greater buying power, and later the return of veterans Complicated by building codes, union practices, and labor and material shortages, the housing deficiency remained serious after the end of the war There has, however, been much post-war home building, especially of large rental projects and of single dwellings erected in large groups by development companies, mass-production methods, e g , prefabrication, are now widely used In England the bombing of congested areas during the war opened the way to the replacing of slums by modern housing when materials and financial conditions permitted

Housman, Alfred Edward (hous'smun), 1859–1936, English poet and classical scholar, grad St John's College, Oxford (M A , 1882) He was in the civil service (1882–92) and a professor of Latin at University College, London (1892–1911) In 1911 he became professor of Latin at Cambridge and fellow of Trinity College Housman put out a monumental edition of Manilius (1903–30), edited Juvenal (1905) and Lucan (1926), and wrote numerous valuable classical studies But it is as a poet that he is best known, although only two small volumes appeared during his life, *A Shropshire Lad* (1896) and *Last Poems* (1922) The economy and directness of wording, the pictures of English countryside, and the constant note of disillusion in his lyrics and short narrative poems produced a host of imitators. He is in the curious position of being a classicist in form and a romanticist in content Few modern poets have exercised so much influence on their fellow writers as Housman Some of his best known poems are "Bredon Hill," "With Rue My Heart Is Laden," and "Loveliest of Trees" *The Name and Nature of Poetry* (1933) was originally given as the Leslie Stephen Lecture at Cambridge Univ *More Poems* (1936) and *Collected Poems* (1940), published posthumously, contain some new verse See studies by K E Symons and others (1936), A S F Gow (1936), Laurence Housman (1937), and Grant Richards (1942)

Housman, Laurence, 1865–, English author and artist, brother of A E Housman. After writing several unsuccessful books, including the poetry *Green Arras* (1896) and *Spikenard* (1898), he found himself, as the anonymous author of *An Englishwoman's Love Letters* (1900), a success Some critics attributed the authorship to Queen Victoria, and the book was pirated in America *Little Plays of St Francis* (1922–35) and *Palace Plays* (1930–33) are play cycles *Palace Plays*, collected into a dramatic biography, *Victoria Regina* (1934), was banned from the English stage, but Helen Hayes presented it most successfully in America in 1935 He was the biographer of his brother (1937) See his autobiography, *The Unexpected Years* (1936)

Houssay, Bernardo Alberto (bĕrnär'dhō älbĕr'tō ou'sī), 1887–, Argentine physiologist, an authority on endocrinology. He shared with C F Cori and G T Cori the 1947 Nobel Prize in Physiology and Medicine for demonstrating the role of the pituitary secretion in inhibiting the body's use of insulin Houssay taught (1907–43, 1945–46) at the National Univ of Buenos Aires and became (1944) director of the Institute of Biology and Experimental Medicine, Buenos Aires, of which he is a founder He came (1949) to the United States as a special research fellow at the National Institutes of Health to study the relation between nutrition and glands He wrote an outstanding textbook, *Fisiologia humana* (1945)

Houssaye, Arsène (ärsĕn' ōōsā'), 1815–96, French writer He was manager (1849–56) of the Comédie Française and author of *Histoire du 41me fauteuil de l'Académie française* (1856) and *Behind the Scenes of the Comédie Française* (Eng tr , 1889) His son **Henry Houssaye** (ăr'ē'), 1848–1911, was a journalist He contributed to the *Revue des Deux Mondes* and the *Journal des débats* His Napoleonic studies, the result of profound research, comprise *1814* (1888), which went through more than 40 editions, *1815* (1893–1905), and *Napoléon, homme de guerre* (1904)

Houston, David Franklin (hū'stun), 1866–1940, American cabinet officer and educator, b Monroe, Union co , N C , grad South Carolina College, 1887 M A Harvard, 1892 He taught (1894–1902) political science at the Univ of Texas and was later president of the Agricultural and Mechanical College of Texas (1902–5), president of the Univ of Texas (1905–8), and chancellor of Washington Univ in St Louis (1908–16) He served in Woodrow Wilson's cabinet first as Secretary of Agriculture (1913–20), then as Secretary of the Treasury (1920–21) He later entered business in New York See his *Eight Years with Wilson's Cabinet* (1926).

Houston, Samuel (hū'stun), 1793–1863, American frontier hero and statesman of Texas, b near Lexington, Va He moved c 1806 with his family to Tennessee and lived much of his youth with the Cherokee Indians, by whom he was adopted Serving (1814) in the Creek campaign under Andrew JACKSON, he was seriously wounded (1814) while fighting bravely at the battle of Horseshoe Bend He returned to Tennessee, was admitted (1818) to the bar, practiced law in Lebanon, Tenn , and held many state offices Tall, vigorous, and dramatic in speech and in action, Houston, like Jackson, captured the popular imagination He was sent (1823, 1825) to the U S Congress as a Democrat Elected (1827) governor of Tennessee, Houston seemed in 1829 to have a bright political future, with his re-election almost assured and the Democrats strengthening themselves in national politics Suddenly, however, his bride, Eliza Allen Houston, left him and he immediately resigned (1829) his governorship He rejoined the Cherokee in what is now Oklahoma There he lived with them as government post trader and as adviser and then (1833) moved on through Arkansas to Texas He had little to do with the preliminaries of the Texas Revolution, though he watched the struggle closely He was a member of the convention which set up a provisional government in Texas and of the convention (1836) which declared Texas independent He was made commander in chief of the revolutionary troops After the surrender of the Alamo (March, 1836), Houston's army persistently retreated before the numerically superior forces of SANTA ANNA, and there was panic among Texas settlers and much criticism of Houston He brilliantly redeemed himself at the battle of SAN JACINTO (April 4, 1836), when by a surprise attack he decisively defeated the Mexicans and captured Santa Anna himself Later that year Houston was elected the first president of the new republic of Texas The independence of Texas was recognized by the United States and other countries. Replaced (1838) by Mirabeau LAMAR, Houston again served later (1841–44) as president, but during these years he was harassed by financial problems and by border troubles Texas was admitted to the Union in 1845, and Houston was one of the first to represent his state in the U S Senate After serving 14 years in the Senate, he was defeated because of his uncompromising Unionism Challenging his opponents and drawing upon his popularity, Houston was elected (1859) governor of Texas The aged statesman preached preservation of the U S Constitution in the face of secession, but the tide was against him After the people of Texas voted

(Feb , 1861) to secede from the Union, Houston refused to join the Confederacy and was removed (March, 1861) from the governorship He accepted the verdict, refused help from the North to defend his prerogative, and retired See his writings (ed by A W Williams and E C Barker, 8 vols , 1938–41), Marquis James, *The Raven* (1929)

Houston (hū'stŭn) **1** Town (pop 1,729), a co seat of Chickasaw co , NE Miss , NW of Columbus, in a dairy and farm area, inc 1837 Near by are Indian mounds and also Geology Hill **2** Borough (pop 1,610), SW Pa , N of Washington, laid out 1871, inc. 1901 **3** [named for Gen Samuel Houston] City (1940 pop 384,514, 1948 estimated pop 600,000), co seat of Harris co , S Texas on the Gulf Coast plain NW of Galveston Bay Harrisburg (now part of Houston) was settled in 1823, and Houston itself, founded in 1836 by J K and A C Allen, was promoted as a rival to Harrisburg and soon served (1837–39) as capital of the Texas republic Houston in the course of the 19th cent grew from a muddy town on Buffalo Bayou to a prosperous railroad center, shipping cotton, rice, lumber, cattle, sugar, and other products of the region, but its phenomenal expansion came after the digging (1912–14) of a ship channel, which made Houston a deepwater port The development of Gulf Coast oil fields poured quick wealth into the booming city It is now one of the great ports of the nation and the largest city of Texas Industries line the channel and cluster in other areas of the city, which has spread wide across the prairie There are many oil refineries and large plants making steel, metalwork, chemicals, and paper (from native pine) as well as numerous processing and assembling plants In the Second World War, war industries, especially shipbuilding, swelled the city further, and in 1948 several suburbs were incorporated into the city Houston takes pride in its many parks, including large Hermann Park, and in its residential districts It is the seat of the RICE INSTITUTE, the Univ of Houston (coeducational, 1927), and the Univ of Texas school of dentistry The Texas Medical Center includes the Baylor Univ medical school and many hospitals Near by is the battlefield of SAN JACINTO

Houtzdale (houts'dāl), borough (pop 1,430), W central Pa , in the Alleghenies N of Altoona, laid out 1870, inc 1872

Hove (hōv), municipal borough (1931 pop 54,993, 1947 estimated pop 68,120), Sussex East, England A western suburb of Brighton, it manufactures shoes, other leather goods, and pharmaceuticals

Hovenden, Thomas (hō'vĕdĕn), 1840–95, American genre painter, b Ireland, studied in New York at the National Academy of Design and in Paris under Cabanel He is best known for his paintings of peasant life in Brittany and of Negro life in the United States Among his well-known works are *Breaking Home Ties*, *News from the Conscript*, *Brittany Woman Spinning*, and *Image Seller* In the Metropolitan Museum are *Jerusalem the Golden* and *Last Moments of John Brown* This popular painter died rescuing a child from a railroad train

Hovenweep National Monument see NATIONAL PARKS AND MONUMENTS (table)

Hovey, Richard (hŭ'vē), 1864–1900, American poet, b Normal, Ill , grad Dartmouth College, 1885 Strongly influenced by contemporary European poets, he translated the poetry of Maeterlinck, but is better known for his collaboration with Bliss Carman, their first book being *Songs from Vagabondia* (1894) Hovey was the author of many Dartmouth songs, collected as *Dartmouth Lyrics* (1938) Hovey was by turns journalist, actor, dramatist, poet, and lecturer at Barnard College, but his poetic promise was realized only occasionally, as in the "Stein Song" from the long poem *Spring*

Howard, British noble family The Howards, or Herewards, as they were originally called, trace their career in English history to the 10th cent A Hereward fought against William I (William the Conqueror) when England was invaded His descendants were created earls of Arundel in 1139, Barons Maltravers in 1330, earls of Surrey and dukes of Norfolk in 1483, Barons Fitzalan in 1627, earls of Norfolk in 1644, and Barons Herries in 1884 The duchy of Norfolk (1483) came into the Howard family by marriage with Margaret Mowbray, daughter of the banished Thomas Mowbray, duke of Norfolk John Howard, 1st duke of NORFOLK (in the Howard line), known as the Jockey of Norfolk, was killed at Bosworth Field at the side of Richard III His son, Thomas Howard, 2d duke of NORFOLK, defeated the Scots for Henry VIII at Flodden Thomas is the ancestor of all the living Howards in the main line Thomas's son, Thomas Howard, 3d duke of NORFOLK, came into conflict with Henry VIII over the execution of Catherine HOWARD, niece of the 3d duke (as was Anne BOLEYN). Norfolk remained Catholic, as have the dukes of Norfolk to the present day, in face of the Protestantism of the royal house. Thomas Howard, 4th duke of NORFOLK, son of that Henry Howard, earl of SURREY, who was famous as a poet and an associate of Sir Thomas Wyatt, was executed for his conspiracy with Mary Queen of Scots The dukes of Norfolk have continued prominent in British history to modern times The present head of the Howard family in England is Bernard Marmaduke Fitzalan-Howard, 16th duke of Norfolk (b 1908), premier duke of the kingdom and hereditary earl marshal of England The cadet branches of the Howard house are numerous Lord William Howard of Effingham, the oldest son of the 2d duke, was the father of Charles Howard, earl of NOTTINGHAM, hero of the defeat of the Armada Henry Howard, earl of NORTHAMPTON, influential in the reigns of Elizabeth and James I, was the son of Henry Howard, earl of Surrey Thomas Howard, 1st earl of SUFFOLK, another naval hero, son of the 4th duke, was the father of Frances Howard, who, with Robert Carr, earl of Somerset, was implicated in the murder of Sir Thomas Overbury The great-great-grandson of the 4th duke was Charles HOWARD, who held important posts under Cromwell and Charles I and was created 1st earl of Carlisle His descendant, Frederick HOWARD, 5th earl of Carlisle, was a prominent statesman in the latter part of the 18th cent Esme William Howard, 1st Baron HOWARD OF PENRITH, led a distinguished diplomatic career in the 20th cent and was elevated to the peerage in 1930 For the history of the Norfolk and Suffolk lines of the family, see Ethel Richardson, *The Lion and the Rose* (2 vols , 1923)

Howard, Bronson, 1842–1908, American dramatist, b Detroit He began to write plays while a newspaper reporter in New York His first serious drama, *Saratoga*, was produced by Augustin Daly in 1870 About 10 plays of varying worth followed, *The Banker's Daughter* (1878) is discussed by Howard in his *Autobiography of a Play* (1908) *Young Mrs Winthrop* (1882) was one of the first American dramas of social criticism His greatest success came in 1887 with *The Henrietta*, a satire on American business *Shenandoah*, a Civil War play, was projected early in his career but had to wait until 1888 for a producer Presented at the Boston Museum and almost immediately withdrawn, it was taken over by Charles Frohman for his Star Theatre in 1889 It established Frohman as a producer and made fortunes both for him and for the author *Aristocracy* (1892) and *Peter Stuyvesant* (written with Brander Matthews, 1899), Howard's last two plays, were less successful, but he remains one of the great writers for the American stage *In Memoriam Bronson Howard* (1910) contains articles by Brander Matthews and H P Mawson and *The Autobiography of a Play* See *The Banker's Daughter and Other Plays* (ed by A G Halline, 1941)

Howard, Catherine, 1521?–1542, queen of England, fifth wife of HENRY VIII She was the daughter of Lord Edmund Howard and the niece of the powerful duke of Norfolk (see HOWARD, family) Henry married her soon after his divorce from Anne of Cleves in 1540 Late in 1541 she was accused of immoral conduct previous to her marriage Although she confessed, Henry was at first inclined to clemency When evidence was produced for similar misconduct after her marriage, she was condemned and beheaded Her execution was dictated more by political than by moral reasons, Henry was anxious to rid himself of the dangerous power of the Howard family

Howard, Charles, 1st **earl of Carlisle,** 1629–85, English statesman He held various offices under Cromwell and Charles II One of the members of the prominent HOWARD family, he sat in both houses of Parliament and served on several diplomatic missions From 1678 to 1681 he was governor of Jamaica

Howard, Sir Ebenezer, 1850–1928, English town planner, principal founder of the English garden-city movement In 1872 he went to Nebraska and later worked in Chicago Returning to England, he became (1877) an official stenographer in Parliament His *To-morrow a Peaceful Path to Real Reform* (1898), reissued as *Garden Cities of To-morrow* (1902), outlined a model self-sustaining town which would combine town conveniences and industries with the advantages of an agricultural location As a result of the first publication he was able to form (1899) the Garden City Association, and in 1903 Letchworth, the first English garden city, was founded In 1920 he organized Welwyn Garden City See Dugald Macfadyen, *Sir Ebenezer Howard and the Town Planning Movement* (1933)

Howard, Frederick, 5th **earl of Carlisle,** 1748–1825, English statesman A member of the distinguished HOWARD family, he went to the American colonies on an unsuccessful mission of reconciliation (1779) and in 1780 was appointed viceroy of Ireland In 1798 he was made guardian of Lord Byron, who ridiculed him in the satirical poem, *English Bards and Scotch Reviewers* (1809)

Howard, John, 1726–90, English prison reformer In 1773, as sheriff of Bedford, he discovered shocking jail conditions and, after wider investigation, brought the issue of prison reform to Parliament He was instrumental in securing passage of an act (1774) which provided for amelioration of insanitary jail conditions and for regular jailors' salaries After detailed studies in England and abroad, he wrote *The State of the Prisons in England and Wales* (1777) Interest in plague prevention led him to visit European lazarettos, and in 1789 appeared his *Account of the Principal Lazarettos in Europe* He died the next year of fever contracted while studying prison conditions in Russia Largely through his influence, European and American penal reforms were begun See biographies by J B Brown (2d ed , 1823) and W Hepworth Dixon (3d ed , 1850)

Howard, Leland Ossian, 1857–, American entomologist, b Rockford, Ill , grad Cornell (B S , 1877), Ph.D Georgetown Univ , 1896 Associated with the U S Bureau of Entomology from 1878 (as its chief, 1894–1927, and as its principal entomologist until 1931), he profoundly influenced the development of economic and medical entomology in America He waged war against insect parasites of man (especially the mosquito and housefly) and against crop pests such as the boll weevil, corn borer, gypsy moth, and Japanese beetle Among his best-known works are *The Insect Book* (1901), *Mosquitoes* (1901), *The House Fly—Disease Carrier* (1911), *Mosquitoes of North and Central America and the West Indies* (with others, 4 vols , 1912–17), *The Insect Menace* (1931), and his autobiography, *Fighting the Insects* (1933)

Howard, Leslie, 1893–1943, British actor After serving in the First World War, he made his first stage appearance in *Peg o' My Heart* (1917) His air of gentle cynicism and his somewhat studied mannerisms were as familiar and pleasing to American audiences as to English Among his most successful plays were *Petrified Forest* and *Berkeley Square* Equally successful in films, he played in *Outward Bound*, *Of Human Bondage*, *Pygmalion*, *The Scarlet Pimpernel*, and *Gone With the Wind* He was killed when a British transport plane was shot down by Germans in the Second World War

Howard, Oliver Otis, 1830–1909, Union general in the Civil War, b Leeds, near Lowiston, Maine, grad Bowdoin, 1850, and West Point, 1854 Made a brigadier general of volunteers (Sept , 1861), he fought in the East from the first battle of Bull Run through the GETTYSBURG CAMPAIGN Howard lost his right arm at Fair Oaks in the Peninsular campaign (1862) His 11th Corps was completely routed by Stonewall Jackson's flank attack in the battle of CHANCELLORSVILLE On the first day at Gettysburg, Howard, assuming command after J F REYNOLDS was killed, was driven back with heavy losses to Cemetery Hill His corps constituted part of the Union reinforcements under Hooker in the CHATTANOOGA CAMPAIGN In the Atlanta campaign he commanded the Army of the Tennessee after the death of J B MCPHERSON and he led it in Sherman's march through Georgia and the Carolinas President Johnson made Howard, who was devoted to the cause of Negro betterment, chief commissioner of the FREEDMEN'S BUREAU in May, 1865 While the bureau rendered some good service, many of its officials were corrupt Howard himself was an honest but none too able administrator A founder of Howard Univ (named for him), he was its president (1869–73) He later helped to found Lincoln Memorial Univ in Tennessee As commander of the Dept of the Columbia (1874–81), Howard directed several campaigns against the Indians and negotiated with Chief JOSEPH in 1877 In 1886 he was promoted major general and assigned to command the Division of the East, this post he held until his retirement in 1894 He wrote biographies of Chief Joseph (1881) and Zachary Taylor (1892) and also *Famous Indian Chiefs I Have Known* (1908) and an autobiography (1907)

Howard, Sidney Coe, 1891–1939, American playwright, b Oakland, Calif , grad Univ of California, 1915, and studied in G P Baker's "47 Workshop," Harvard Early in the First World War he served with the American ambulance corps on the Western Front and in the Balkans, and later with the Aviation Service, A E F From 1919 to 1923 he was associated with *Life* and the *New Republic*, where he was known for his exposés of labor spys and the narcotic trade Among his plays are *Ned McCobb's Daughter* (1926), *The Silver Cord* (1926), *Yellow Jack* (1934), and *Dodsworth* (1934), an adaptation of the novel by Sinclair Lewis His *They Knew What They Wanted* (1924) won the 1925 Pulitzer Prize for drama He was killed in an accident on his estate near Tyringham, Mass

Howard, William see STAFFORD, WILLIAM HOWARD, 1ST VISCOUNT

Howard. 1 City (pop 1,170), co seat of Elk co , SE Kansas, ESE of Wichita, founded 1870, inc. 1877 It is the trade center of an agricultural area **2** City (pop. 1,193), co seat of Miner co , SE S Dak , NW of Sioux Falls; platted 1881. It is a farm trade center.

Howard College: see BIRMINGHAM, Ala

Howard of Effingham, Charles Howard, 2d Baron. see NOTTINGHAM, CHARLES HOWARD, 1ST EARL OF

Howard of Penrith, Esme William Howard, 1st Baron (ĕz'mē, pĕn'rĭth), 1863–1939, British diplomat. After diplomatic service in Rome and Berlin

(1886–92), he saw active service (1900) in the South African War and was consul general (1903–6) in Crete. He went to Washington as counselor (1906–8) of the British embassy and served (1908–19) in Hungary, Switzerland, and Sweden. After sitting on the British delegation to the Paris Peace Conference (1919), he was appointed ambassador to Spain. As ambassador to the United States (1924–30) he won many friends. A member of the HOWARD family, he was raised to the peerage in his own right in 1930. See his memoirs, *The Theater of Life* (2 vols., 1935–36).

Howard University, at Washington, D.C., predominantly Negro, nonsectarian, with congressional support, coeducational. It was chartered and opened in 1867 by the Freedmen's Bureau under Gen. O. O. HOWARD and others. It has a college of liberal arts and schools of engineering and architecture, law, medicine (with colleges of dentistry, medicine, and pharmacy, affiliated with Freedmen's Hospital), music, social work, and religion.

Howe, Clarence Decatur (hou), 1886–, Canadian civil engineer and statesman, b. Waltham, Mass., grad. Massachusetts Institute of Technology, 1907. He went to Canada in 1908 as professor of civil engineering at Dalhousie Univ. After serving (1913–16) as chief engineer of the Canadian board of grain commissioners, he entered business, founding an engineering firm which became internationally known for its design and construction of grain elevators. Entering the Canadian House of Commons in 1935, Howe was at once invited to join the cabinet of Mackenzie King as minister of railways and canals and minister of marine. These two agencies he merged into the ministry of transport in 1936. As minister of transport, he particularly devoted himself to the development of air transportation in Canada. Soon after the outbreak of the Second World War, Mackenzie King appointed (1940) Howe to the important post of minister of munitions and supply, and in 1944 he was asked to serve concurrently as reconstruction minister. In 1948 he became minister of trade and commerce.

Howe, Edgar Watson (hou), 1853–1937, American editor and author, b. Treaty, near Wabash, Ind. From 1877 to 1911 he was editor and proprietor of the Atchison, Kansas, *Daily Globe*, and afterwards published *E. W. Howe's Monthly* at Atchison. His best work was his first book, *The Story of a Country Town* (1883), a realistic, bitter novel of prairie small-town life anticipating by many years the stories of Sherwood Anderson. Later novels were not so well received, but he was famous for his pithy editorial paragraphs. See his autobiography, *Plain People* (1929).

Howe, Elias, 1819–67, American inventor, b. Spencer, Mass. He was apprenticed in 1838 to an instrument maker and watchmaker in Boston at whose suggestion he turned his attention to devising a sewing machine. He exhibited his first machine in 1845 and patented another in 1846. No financial backing was secured in the United States, and in 1840 a third machine was sold in England, together with all rights in Great Britain, to William Thomas. Howe worked with Thomas in London to produce a machine to stitch leather. After a breach between the two, Howe returned to America to find his machine being manufactured by others. He brought several suits for infringement of patent and finally obtained a judgment for royalty in 1854. With the royalties earned through an extension of his patent (1861–68), he supported during the Civil War an infantry regiment in which he served as a private and in 1865 established in Bridgeport, Conn., the Howe Machine Company.

Howe, Frederic Clemson, 1867–1940, American lawyer and political scientist, b. Meadville, Pa., grad. Allegheny College, 1889, Ph.D. Johns Hopkins, 1892, and studied at the Univ. of Halle. He practiced law in Cleveland from 1894 to 1909. There he was closely associated with Mayor Tom L. Johnson and his municipal reform program, serving on the city council and, from 1906 to 1909, in the state senate. From 1911 to 1914 he was director of the People's Institute in New York city, and, from 1914 to 1919 he was commissioner of immigration at the port of New York. He was an acknowledged authority upon municipal affairs and wrote *The City, the Hope of Democracy* (1905), *European Cities at Work* (1913), and *The Modern City and Its Problems* (1915). He was also interested in many other reforms and wrote *Confessions of a Reformer* (1925) and *Denmark, the Cooperative Way* (1936), besides other books and many articles. From 1933 to 1935 he was attached to the Agricultural Adjustment Administration as consumers' counsel in the framing of codes concerning agricultural products, and from 1935 he was special adviser to the Secretary of Agriculture. He also acted as special economic adviser to the Philippine commonwealth. His wife, **Marie Jenney Howe**, 1871–1934, was a Unitarian minister and a leader in the woman-suffrage movement. She wrote *George Sand* (1927) and edited and translated *The Intimate Journal of George Sand* (1929).

Howe, John, 1630–1705, English Independent divine, domestic chaplain to Oliver Cromwell. He preached in secret (1662–71) until, becoming chaplain to Lord Massereene of Antrim Castle, Ireland, he turned his attention to writing. Eventually he settled at Utrecht till the Declaration of Indulgence (1687) permitted his return to England. His principal work is *The Living Temple of God*, a noble expression of Puritanism, which is included in his collected works (1724).

Howe, Joseph, 1804–73, Canadian journalist and statesman, b. Halifax, N.S., son of a Massachusetts Loyalist. He learned printing and newspaper work in his father's office, and although he had little formal education, he read widely in his father's fine library. In 1828 Howe became proprietor and editor of the *Novascotian*, which under his direction became the leading journal of the province. Accused of libeling certain public officials whom he charged with mismanagement and corruption, Howe argued his own case at his trial (1835) with such eloquence as to win a noted triumph for freedom of the press. In 1836 he entered the provincial assembly, there and in his newspaper he continued his campaign for responsible government and his struggle against successive governors, whom he forced from Nova Scotia, until the demands of his reform party were granted in 1848. In that year he became provincial secretary, from 1860 to 1863 he was premier. Devoted to the people of his province—he was "Joe" to most of them—Howe worked ardently for education and for an intercolonial railroad to link the Maritime Provs. with Canada proper, but though early an advocate of union, he opposed confederation (ostensibly on the grounds that it was unfair to the Maritimes) and engaged in a long struggle with Sir Charles Tupper over the issue. Even after confederation had been achieved (1867) he continued his opposition, but realizing the hopelessness of his position, he entered (1869) Macdonald's dominion cabinet as president of the council. By this act he lost many of his supporters in Nova Scotia. When, in 1873, Howe, partly from ill-health, retired from politics to accept appointment as lieutenant governor of Nova Scotia, his homecoming was marked with great enthusiasm. He died soon after assuming office. See his *Speeches and Public Letters* (ed. by William Annand, 1858, new, enlarged ed. by J. A. Chisholm, 1909); W. L. Grant, *The Tribune of Nova Scotia* (1915), biographies by J. W. Longley (rev. ed., 1926) and J. A. Roy (1935).

Howe, Julia Ward, 1819–1910, American author, lecturer, and social reformer, b. New York city, privately educated. Her most famous work is *The Battle Hymn of the Republic*, written to a tune ascribed to William Steffe, a Southern writer of Sunday-school songs. She wrote new stanzas in Dec., 1861, at the suggestion of James Freeman Clarke, shortly after she and her friends watched McClellan's army go into battle near Washington, D.C., singing *John Brown's Body*, with its swinging chorus, "Glory, glory, hallelujah." Immediately popular, the *Battle Hymn* is said to have been named by J. T. Fields, who published it in the *Atlantic Monthly* in 1862. Mrs. Howe was active in many fields. She helped her husband, Dr. Samuel Gridley HOWE, in his philanthropic projects and in editing the Boston *Commonwealth*. She wrote and lectured for Negro emancipation, woman suffrage, and other liberal causes, preached as a Unitarian, and helped found a world-peace organization. The American Academy of Arts and Letters elected her as its first woman member. Of her writings, her biographies of her husband (1876) and of Margaret Fuller (1883), her *From Sunset Ridge: Poems Old and New* (1878), and her *Reminiscences, 1819–1899* (1899) are still read. See biography by her daughters Laura E. Richards and Maud Howe Elliott (1915), J. T. Howard, *Our American Music* (1929).

Howe, Marie Jenney see HOWE, FREDERIC CLEMSON.

Howe, Richard Howe, Earl, 1726–99, British admiral, elder brother of Sir William Howe. After an education at Eton he joined the navy and won recognition in the Seven Years War for his defense of the English Channel. He was also a member of the House of Commons (1757–82), and in 1758 he became Viscount Howe in the Irish peerage. Howe was treasurer of the navy from 1765 to 1770, and after the American Revolution began, he was early in 1776 given command of the fleet in America. He and his brother were commissioned to treat for a peaceful settlement of the dispute with the colonies, but negotiations at Staten Island in 1776 came to nothing and he supported his brother in the attack on Long Island. In 1777 he supported his brother's successful campaign against Philadelphia, and in 1778 he outmaneuvered the French fleet under Admiral d'Estaing which attempted to cooperate with land troops under Gen. John Sullivan in taking British-held Newport, R.I. In the autumn of 1778 he resigned. In 1782 he assumed new command and relieved Gibraltar from the menace of a Franco-Spanish fleet. He was first lord of the admiralty (1783–88) and in the French Revolutionary Wars he was an able commander. "Black Dick Howe" is, indeed, best remembered for his victory over the French in 1794. He was created Earl Howe in 1788. See T. S. Anderson, *The Command of the Howe Brothers during the American Revolution* (1936).

Howe, Samuel Gridley, 1801–76, American reformer and philanthropist, b. Boston, Mass., grad. Brown Univ., 1821, M.D. Harvard, 1824. He began his lifelong service to others by going to Greece to aid in the War of Independence and spending six years there. He is best remembered for his work with the blind, he was the organizer of the New England Asylum for the Blind (which became the Perkins Institution and Massachusetts Asylum for the Blind) and was head of it for 44 years in all. The remarkable success of the education of Laura BRIDGMAN, who was both blind and deaf, did much to improve education of the handicapped in the United States. He was chairman of the Massachusetts state board of charities from 1865 to 1874. He also supported Dorothea Dix in her work for the insane, sought to help the feeble-minded, approved the educational reforms of Horace Mann, and with his wife, Julia Ward Howe, opposed slavery. The troubles in Crete (1866–67) took him again to Greece toward the end of a long life spent in the service of others. His letters and journals have been published (1906–9).

Howe, William Howe, 5th Viscount, 1729–1814, British general in the American Revolution, younger brother of Admiral Richard Howe. He was educated at Eton and took up a military career. In the last French and Indian War he served with distinction at the capture of Louisburg and under Gen. James Wolfe in the fight for Quebec (1760). He took part in the Havana expedition of 1762. In 1775 he arrived at Boston with British reinforcements for Gen. Thomas GAGE, and he was a commander in the battle of Bunker Hill. He was knighted and succeeded Gage (Oct., 1775) as commander in chief. In 1776 he withdrew his men from besieged Boston to Halifax, then (May, 1776) came with his brother Richard to Staten Island. Negotiations for a peaceful settlement failed, and Howe led his British troops in the successful battle of Long Island, invested New York, and defeated the patriots at White Plains, gaining control over SE New York and much of New Jersey. In 1777 he did not take the part planned for him in the British strategy in the SARATOGA CAMPAIGN. Instead he launched a successful drive for Philadelphia, defeating Washington in the battle of BRANDYWINE. He later beat off a patriot attack on GERMANTOWN and held his position in Philadelphia, but again, as at New York, he could not wipe out the Continental forces. Charging that he was not properly supported by the home government, he resigned and in 1778 returned to England. His command in America was taken over by Sir Henry CLINTON. On his brother's death in 1799 Howe succeeded to the Irish title. See T. S. Anderson, *The Command of the Howe Brothers during the American Revolution* (1936).

Howell, Clark (hou'əl), 1863–1936, American editor, b. Barnwell Co., S.C., grad. Univ. of Georgia, 1883, son of Evan P. Howell. In 1884 he joined the staff of the Atlanta *Constitution*, succeeding his father as editor in chief in 1897. One of his editorial crusades, against municipal graft in Atlanta politics (1928–29), won the *Constitution* the Pulitzer Prize in journalism. Howell served in the lower house of the state legislature, from 1886 to 1891, becoming speaker in the last year, and in the state senate from 1900 to 1906, being president of that body the entire period. He was defeated by Hoke Smith for governor of Georgia in 1906. In 1892 he began a period of 32 consecutive years as a member of the Democratic National Committee. He was one of the earliest supporters of Franklin D. Roosevelt.

Howell, Evan Park, 1839–1905, American newspaper editor, b. Warsaw, Ga. He practiced law until 1876, when he purchased a half interest in, and became editor of, the Atlanta *Constitution*. He soon made this the leading newspaper of the South, continuing his editorship until 1897, when he was succeeded by his son, Clark Howell.

Howell, John Adams, 1840–1918, American naval officer and inventor, b. Bath, N.Y., grad. Annapolis, 1858. He served as a lieutenant throughout the Civil War, fighting under Admiral Farragut at Mobile Bay (1864). In the Spanish-American War he commanded a squadron of the North Atlantic Fleet and was promoted rear admiral in 1898. Howell originated the gyroscopic steering torpedo, invented a flywheel torpedo, and developed torpedo-launching apparatus.

Howell, William Henry, 1860–1945, American physiologist, b. Baltimore, Md., grad. Johns Hopkins (B.A., 1881, Ph.D., 1884). With the exception of four years during which he taught at the Univ. of Michigan and Harvard, he was at Johns Hopkins from 1888 until he became emeritus in 1931, he became a professor in 1893, dean of the medical faculty in 1899, and director of the school of hygiene in 1926. He formulated a widely accepted interpretation of blood clotting and demonstrated the existence of heparin and its function in preventing clotting. He also did research on the origin of red blood corpuscles and on the degeneration and regeneration of nerve fibers. He edited *An American Textbook of Physiology* (1896) and wrote *Textbook*

of Physiology (1905, 16th ed, ed by John F Fulton, 1949)

Howell, city (pop 3,748), co seat of Livingston co, S Mich, on Thompson Lake between Detroit and Lansing, settled 1834, inc as a village 1863, as a city 1915 It is a farm trade center in a dairy region Electric motors are made The main Indian Grand River Trail crossed this site

Howells, William Dean, 1837–1920, American novelist, editor, and critic, b Martins Ferry, Ohio He learned the printer's trade from his father, but early began to write and in 1858 became editor of the *Ohio State Journal* During five years in Venice as American consul (1861–65) he developed a literary gift apparent in the first of his many travel books *Venetian Life* (1866) Returning to the United States, he wrote for New York periodicals until, in 1866, he began an association of 15 years with the *Atlantic Monthly* the last seven as editor in chief In the *Atlantic* and later in the "Editor's Study" (1886–91) and the "Easy Chair" (1900 1920) of *Harper's Magazine* many of his best essays and criticisms directed his readers to appreciation of European realistic writers His first novel, *Their Wedding Journey* (1872), and several successors excited only polite admiration, but with *The Rise of Silas Lapham* (1885) he emerged as a leading and forceful writer of realistic fiction A considerable part of American life is recorded in his novels among which are *A Modern Instance* (1882), *Indian Summer* (1886), *A Hazard of New Fortunes* (1890), *The Quality of Mercy* (1892), *The Landlord at Lion's Head* (1897), and *The Leatherwood God* (1916) His humanitarian sympathies, which gave warmth to his work, showed as a kind of socialism in his utopian novels, *A Traveler from Altruria* (1894) and *Through the Eye of the Needle* (1907) In *Criticism and Fiction* (1891) he defended realism and his example and his encouragement of younger writers such as Hamlin Garland and Thorstein Veblen stimulated some of the outstanding achievements of later American letters Howells had a gift for writing light comedy and farce, among his plays were *A Counterfeit Presentment* (produced 1877) and a series of related one-act comedies beginning with *The Sleeping Car* (produced 1883) and *The Elevator* (produced 1885) Among his books of reminiscences are *A Boy's Town* (1890), *My Year in a Log Cabin* (1893), *Literary Friends and Acquaintances* (1900), *My Mark Twain* (1910), and *Years of My Youth* (1916) See *Life in Letters of William Dean Howells* (ed by his daughter, Mildred Howells, 2 vols, 1928)

Howel the Good see HYWEL DDA

Howison, George Holmes (hou'ĭsun), 1834–1916, American philosopher, b Montgomery co, Md, grad Marietta College, 1852, and Lane Theological Seminary, 1855 He taught philosophy in a number of American universities and from 1884 until his retirement in 1909 was head of the philosophy department at the Univ of California An idealist, he was opposed to monism and saw God as the uniting factor of dissimilar creations bound to each other by a common purpose His major work was *The Limits of Evolution* (1901) See selection from his writings ed by J W Buckham and G M Stratton (with biographical sketch, 1934)

Howitt, William, 1792–1879, English author His works, very popular in his day, include *The Book of the Seasons* (1831) and *A Boy's Adventures in the Wilds of Australia* (1854), written after a journey to that country In collaboration with his wife, **Mary (Botham) Howitt**, 1799–1888, he wrote *The Forest Minstrels and Other Poems* (1823), *The Literature and Romance of Northern Europe* (1852), and many other volumes Mary Howitt translated Scandinavian works and wrote many books for children Of her novels, *The Heir of Wast-Wayland* (1847) is best remembered See her autobiography (ed by her daughter Margaret Howitt, 1889)

howitzer (hou'ĭtsur), artillery piece of medium length, longer than a mortar It operates with a high angle of fire and, when mounted on wheels, is most useful in the field because of its relatively light weight (and consequent great mobility) and its relatively long range of fire Howitzers first attracted notice in the Russo-Japanese War and were used extensively in the First World War and the Second World War

Howland (hou'lund), town (pop 1,189), central Maine, at the confluence of the Piscataquis with the Penobscot river N of Bangor inc 1826

Howland Island (hou'lund), central Pacific near the equator, c 1,620 mi SW of Honolulu The island (area 1 sq mi) was discovered (1842) by American traders and claimed (1857) by the United States with JARVIS ISLAND and BAKER ISLAND All three islands were worked for guano by American companies under certificates issued (1860–61) by the Secretary of State British guano companies also operated in the islands The U S Supreme Court held that the U S certificates amounted to a claim of sovereignty by the United States The guano industry declined, and the islands were forgotten until the development of air commerce in the Pacific gave them new importance American colonists were brought (1935) from Hawaii, and the island was placed (1936) under the Dept of the Interior Amelia Earhart on her round-the-world flight was lost (1937) en route to the newly completed airfield Howland is on the direct route between Honolulu and Australia

Howrah (hou'ra), city (pop 379,292), S West Bengal prov, India, on the Hooghly river opposite Calcutta A great industrial center, its principal manufactures are cotton cloth, jute products, steel products, and glass

Howth (houdh, hōth), part (since 1940) of Dublin, Co Dublin, Ireland, on the Irish Sea It is on a peninsula at the foot of the Hill of Howth and is a summer resort for Dublin and a port for fishing boats and yachts

Hoxie, Robert Franklin (hŏk'sē), 1868–1916, American economist, b Edmeston, W of Cooperstown, N Y, Ph D Univ of Chicago, 1905 He taught at the Univ of Chicago from 1906 to 1916 A realistic interpreter of the changing economic system in America, he was noted especially for his work in labor history As special investigator (1914–15) for the U S Commission on Industrial Relations he produced *Scientific Management and Labor* (1915) His *Trade Unionism in the United States* (ed by L B Hoxie and Nathan Fine, 1917, 2d ed, 1933), though incomplete, is important

Hoxie, Vinnie Ream, 1847–1914, American sculptor, b Madison, Wis, studied in Paris and Rome Her works in Washington, D C, are *Sequoyah* (Statuary Hall) and statues of Lincoln (rotunda of Capitol), Farragut (Farragut Square), and Gov Samuel Kirkwood all government commissions She married Gen R L Hoxie in 1878

Hoxie, railroad town (pop 1,466), NE Ark, near the Black River, in a farm area, settled 1879.

Hoy, island (pop 955), 13 mi long and 6 mi wide, off N Scotland, second in size of the Orkney Islands It is SW of Pomona Long Hope, on the south, forms an excellent natural harbor The island is very hilly (Ward Hill, 1,564 ft, is highest), with magnificent cliffs along the shore The Old Man of Hoy is a conspicuous detached pinnacle of sandstone, 450 ft high Dwarfie Stone a great sandstone block in which a cave is hollowed out, is an object of Scandinavian folk stories

hoya, any plant of the genus *Hoya*, tropical climbing shrubs, one species of which, cultivated as a pot plant, is known also as wax plant (*Hoya carnosa*) It has thick glossy leaves and waxy fragrant flowers, white and pink

Hoylake, urban district (1931 pop 16 641, 1943 estimated pop 24,454), Cheshire, England, at the mouth of the Dee and W of Birkenhead It is a seaside resort and includes West Kirby The golf links here are the scene of the Oxford-Cambridge contest and other golfing events, and there is a race course

Hoyle, Edmond (hoil), 1672–1769, English writer on games, b London He codified the rules of whist in his book *A Short Treatise on the Game of Whist* (1742), and in successive editions of the book he added new material on whist together with treatises on quadrille, piquet, and backgammon He wrote several other books, and "according to Hoyle" came to mean the definitive word on games

Hoyt, John Wesley, 1831–1912, American educator, b Worthington, Ohio, grad Ohio Wesleyan Univ, 1849 In Madison, Wis, he published the *Wisconsin Farmer and Northwestern Cultivator* A founder of the Republican party and first president of the Wisconsin Academy of Sciences, Arts, and Letters, he sponsored the establishment of the state agricultural college in a reorganization of the state university From 1878 to 1882 he was governor of Wyoming Territory and from 1887 to 1890 served as first president of the Univ of Wyoming He devoted his later years to the promotion of a national university

Hrabanus Maurus see RABANUS MAURUS MAGNENTIUS

Hradec Kralove, Czech *Hradec Králové* (hra'dĕts krá'lôvĕ), Ger *Königgrätz* (kö'nĭkgrāts), city (pop 19,242), E Bohemia, Czechoslovakia, on the Elbe It has varied manufactures Though essentially a modern city, it has an early Gothic cathedral (1303) The battle of SADOWA (1866), also called the battle of Koniggrätz, was fought in the vicinity.

Hrdlicka, Ales (h'lĕsh hûrd'lĭchkà), 1869–1943, American anthropologist, b Bohemia He received his medical education in America In 1903 he began to organize the division of physical anthropology at the U S National Museum in Washington and was its curator after 1910 Anthropological investigations took him to nearly every country of the Western Hemisphere and won for him an international reputation in his field His work on the supposed migration tracks of the American Indian in Siberia and Alaska commanded much attention His books include *Physical Anthropology* (1919), *Anthropometry* (1920), *Old Americans* (1925), *Skeletal Remains of Early Man* (1930), *Children Who Run on all Fours* (1931), and *Alaska Diary, 1926–1931* (1943)

Hroswitha (rôs-wĭ'thù, rôsvē'ta), c 940–c 1002, German Latin poet, a nun of Gandersheim, a Benedictine abbey much favored by the imperial family of the period Her works comprise eight poems, two on the Bible, six on saints' lives, written in hexameters, with a charming naïveté and a genuine piety, two poems in the epic manner, one glorifying Otto I (part of this has been lost), the other an account of the founding of her abbey; her most striking works, the six plays designed to supplant Terence, because of his immorality, all telling the story of Christian virtue triumphant and most of them ending with a martyrdom The comic element is rare in her dramas, but Hroswitha shows considerable power in characterization Scholars disagree as to whether or not they were intended for presentation See Rosamond Gilder, *Enter the Actress* (1931), Karl Young, *The Drama of the Medieval Church* (1933) Variant spellings of her name are Roswitha, Hrosvit, and Hrotswitha

Hs- For some Chinese names beginning thus, see S-, e g, for HSI, see SI

Hsia (shyä), dynasty of China, which ruled, according to traditional dates, from c 2205 to c 1766 B C or, according to some modern scholars, from c 1994 to c 1523 B C This earliest and semilegendary dynasty may have been founded by Yü, first in a series of rulers of city-states in modern Shansi Legends say he built canals to control a flood and divided the reclaimed land Scanty archaeological remains suggest that the people had domestic animals (the ox or water buffalo, the goat, the sheep, and the horse), wheat and millet, the potter's wheel, bronze weapons, and war chariots

Hsinking, China see CHANGCHUN

Hsüan-tsang (shü'ăn'-tsäng) or **Hiouentang**, 600?–664, Chinese Buddhist Between 629 and 645 he made a pilgrimage to the scholarly centers of India and collected religious literature and relics On his return to China he translated the Buddhist scriptures and wrote his memoirs See his *Buddhist Records of the Western World* (Eng tr by Samuel Beal, 1884)

Hsüan T'ung see PU YI

Huambo (wäm'bō), officially **Nova Lisboa** (nô'vu lĕzhbô'u), town (pop c 2,500), W central Angola, on a high plateau It is on the transcontinental railroad from Benguela (in Angola) to Beira (in Mozambique) A decision, in 1927, to move the capital here from Luanda was never made effective

huanaco see GUANACO

Huancayo (wän-kī'ō), city (pop 28,679), capital of Junín, S central Peru With a predominantly Indian population, Huancayo (alt c 11,000 ft) is one of the major agricultural centers of the republic In the region nearly half of Peru's wheat is raised, it is shipped by rail north to the barren mining country around Cerro de Pasco and west to Lima, the capital Huancayo is noted for its picturesque colonial architecture

Huarás or **Huaraz** (bothꝫ wärās'), city (pop 12,009), W central Peru In a high valley, Huarás (alt c 9,900 ft) has a predominantly Indian population and is the center of an agricultural district raising grains and potatoes Some minerals (silver, cinnabar, and coal) are mined A superb backdrop is the peak, HUASCARÁN Although it has been damaged by earthquakes, Huarás suffered its worst catastrophe in 1941 when an avalanche of mud and water wiped out a large section and killed many inhabitants

Huáscar (wäs'kär), d 1533, Inca of Peru, son of HUAYNA CAPAC At his father's death (1525) he had to share the empire with his younger half brother, ATAHUALPA Shortly before the beginning of the Spanish Conquest under Francisco Pizarro, Atahualpa rebelled successfully and later secretly ordered Huáscar drowned

Huascarán (wäskärän'), extinct volcano, 22,205 ft high, W central Peru, near Huarás Highest mountain in Peru and one of the highest in the Andes, Huascarán and other near-by peaks form an impressive snow-capped rampart

Huastec (wäs'tĕk), Indians of the PÁNUCO river basin, E Mexico They speak a Mayan language, but are isolated from the rest of the Mayan stock, from whom they may have been separated by a Totonaco-Zoquesan wedge prior to the Christian era Their culture did not develop along with that of the Maya They remained on the outer fringes of later civilizations of the central plateau, notably the Aztec Huastecan music and dancing has influenced some of the musical folklore of Mexico

Huayna Capac (wī'nu kŏn'pak), d 1525, Inca of Peru, last of the great emperors The Inca empire reached its greatest extent and power under him, but actually disruptive forces were already at work Their action was hastened by Huayna Capac's decision to divide the empire by leaving the recently conquered kingdom of Quito to his favorite son, ATAHUALPA, and the rest to the legitimate heir, HUÁSCAR War between the brothers had just ended when Francisco Pizarro began his conquest

Hubbard, Bernard Rosecrans (hŭ'burd), 1888–, priest, scientist, and explorer, b San Francisco, grad Jesuit Novitiate, Los Gatos, Calif (B A, 1913) and Gonzaga Univ (M A., 1921) and studied at the Univ of Innsbruck, Austria (1921–25). He is known as the "glacier priest" and has headed the geology department of the Univ of Santa Clara since 1926 In his annual expeditions to Alaska (1926–43) he made studies in geology, meteorology,

oceanography, ethnology, ichthyology, and anthropology During the Second World War he was adviser to the armed forces in Alaska He is noted as a lecturer, for his series of educational and theatrical shorts, for the feature film *Aniakchak*, and for his books, *Mush, You Malemutes!* (1932) and *Cradle of the Storms* (1935).

Hubbard, Elbert, 1856–1915, American author, who called himself Fra Elbertus, b Bloomington, Ill Influenced by some of William Morris's ideas, he established (1895) the Roycroft Shops at East Aurora, N Y Here various handicraft products were made and sold, and here he established a printing press and bookbindery His small magazine, the *Philistine*, carried his ideas to thousands, and his *Little Journeys* to the homes of various famous men were very popular. His *Message to Garcia* (1899), an inspirational piece on efficiency and determination based on a feat of A. S Rowan, was widely read and quoted Hubbard and his wife went down with the *Lusitania* See biographies by his sister, M H Heath (1930), and by D A Balch (1940)

Hubbard, Frank McKinney, 1868–1930, American humorist, b Bellefontaine, Ohio He worked (1891–1930) on the Indianapolis *News*, where, as Kin Hubbard, he created the famous character Abe Martin. Syndicated, these caricatures and sayings won him nation-wide fame See *Abe Martin's Wisecracks* (ed by E. V Lucas, 1930)

Hubbard, Gurdon Saltonstall, 1802–86, American fur trader and Chicago business pioneer, b Windsor, Vt. He came to Illinois as an employee of the American Fur Company, rose to be a trader, and prospered. He came to believe in the future of Chicago, was a pioneer in the livestock and meat-packing business, helped to establish lake traffic to and from Chicago, and helped to promote the Illinois and Michigan canal and later the railroads He also was an early banker and insurance broker Thus he had a hand in developing most of the major industries that were to make Chicago great See his autobiography (1877).

Hubbard 1 Industrial village (pop 4,189), NE Ohio, NE of Youngstown near the Pa line, settled 1804, inc 1869 Steel and metal products are made here 2 City (pop 1,871), N central Texas, NNE of Waco, in a blackland farming region

Hubbardston, agricultural town (pop 1,022), central Mass, SW of Fitchburg, settled 1737, inc 1767 Jonas G Clark was born here Wachusett Mt is near by

Hubbardton, town (pop 346), W Vt, NW of Rutland, near Lake Bomoseen, granted 1764, settled 1777, resettled 1783, organized 1785 Near Hubbardton, Continental troops under Seth WARNER, covering St Clair's retreat from Ticonderoga, were surprised and routed (July 7, 1777) by the British A monument (1859) commemorates the battle

Hubbell, Carl Owen, 1903–, American baseball player, b Carthage, Mo Reared in Oklahoma, Hubbell, a left-hander, was a pitcher in the Oklahoma State League for two years He tried out (1926–27) with the Detroit Tigers of the American League and after a short stay (1928) in the Texas League appeared with the New York Giants of the National League Hubbell, famous for his adept use of his "screwball" pitch, hurled brilliantly in the 1934 All-Star game, pitched 24 consecutive victories in the 1936–37 seasons, and won 253 games before he retired from active play with the Giants in 1943 "The Meal Ticket", as he was called by his fans, then became (1943) the director of the Giants' farm system

Hubble, Edwin Powell, 1889–, American astronomer, b Marshfield, Mo, grad Univ of Chicago, 1910, Rhodes scholar, 1910–13 He did research (1914–17) at Yerkes Observatory, Williams Bay, Wis, and joined (1919) the staff of Mt Wilson Observatory, Pasadena, Calif, of which he became director His systematic investigation of extragalactic nebulae won him great honor Included in his writings are *A General Study of Diffuse Galactic Nebulae* (1926), *Extra-Galactic Nebulae* (1927), *Spiral Nebula as a Stellar System* (1929), *The Realm of Nebulae* (1936), and *The Observational Approach to Cosmology* (1937)

Hubert, Saint (hu'-), d c 728, Frankish bishop of Liége His chief shrine was in the Ardennes, and he was popular also in S Germany and N France He is patron of the hunt and is invoked against hydrophobia Symbol a stag's head surmounted by a crucifix Feast Nov 3

Hubert de Burgh (dŭ bûrg'), d 1243, chief justiciar of England under John and Henry III Shakspere's story in *King John* concerning Hubert's custody of ARTHUR I is probably inaccurate Prior to 1215 when he became justiciar, he had served successfully as a royal minister and commander in France In 1217 he commanded the small English fleet whose victory over the French supporters of Prince Louis (later Louis VIII of France) was partially responsible for the withdrawal of the invading French forces from England. The death of the regent of Henry III left the justiciar the logical ruler. His administration temporarily strengthened the position of the crown against the unruly barons. After 1227, when Henry was declared of age, trouble between Hubert and the king increased The foreign favorites of Henry, particularly Peter des Roches, opposed Hubert Hubert tried to prevent the king's disastrous expedition to France (1230), he also apparently joined in the widespread English movement to resist the drain of money to the papacy In 1232, when he was deprived of office on charges of disloyalty to the crown, he submitted to the king's will and was imprisoned He eventually became reconciled with Henry and successfully withstood a revival of the old charges in 1239

Hubertusburg, Peace of (hōōbĕr'tōōsbōōrk), 1763, treaty between Austria and Prussia, at the end of the Seven Years War. It was signed at Hubertusburg, Saxony, a castle then used as a hunting seat by the electors of Saxony Prussia retained possession of Silesia and emerged as the leading power in Germany Saxony, included in the peace, was restored to its pre-war limits

Hubli (hōō'blē), town (pop 95,512), S Bombay prov, India It is built around an 11th-century Hindu stone temple Cotton cloth is woven

Hübner, Julius (yōō'lvōōs hüb'nur), 1806–82, German painter He painted chiefly biblical themes, working first at Düsseldorf and later (from 1839) in Dresden, where he taught in the academy and served as director of the Royal Gallery His well-known works include *Ruth and Naomi*, *Job and His Friends*, and *Christ and the Evangelists*.

Hübner, Karl Wilhelm (kärl' vĭl'hĕlm), 1814–79, German genre painter Many of his works dealt with the social problems and injustices of his age Among them are *Silesian Weavers*, *Rescue from Fire*, and *The Seizure for Debt* The Pennsylvania Academy of the Fine Arts has *The Recovery*

Huc, Évariste Régis (āvarĕst' rāzhēs' uk), 1813–60, French Catholic missionary and explorer, a Lazarist priest In 1844 while in China on a mission, he and two companions began an overland trip from Peiping to Tibet After enduring great hardships in the mountains, they reached Lhassa in 1846, but were promptly expelled for fear they would proselytize Huc's account of his travels, first published in 1850, appeared in an abridged translation by Julie Bedier entitled *High Road to Tartary* (1948)

Hucbald (hūk'bôld), b c 840, d 930 or 932, Flemish monk and musical theorist, formerly thought to be the author of the *Musica enchiriadis* (see POLYPHONY) He described the musical practices of his day and was of some importance as a reformer.

Huch, Ricarda (rēkär'da hōokh'), 1864–1947, German novelist, Ph D Univ of Zurich, 1892 She is best known for her historical romances of Garibaldi, *Defeat* and *Victory* (1906–7, Eng trs, 1928, 1929), and of the Thirty Years War, *Der grosse Krieg in Deutschland* [the great war in Germany] (1912–14) Other works are the novels *Recollections of Ludolf Ursleu* (1893; Eng tr, 1913–15) and *The Deruga Trial* (1918, Eng tr, 1929), the historical study *Die Blutezeit der Romantik* [the blossoming of romanticism] (1899), and a history of the Reformation (1937) She was given a state funeral

Huchow, China see WUHING.

huckleberry, any plant of the genus *Gaylussacia*, shrubs of the heath family native to North and South America The box huckleberry of E North America is evergreen and is often cultivated The common huckleberry (*Gaylussacia baccata*), native E of the Mississippi and called black or high-bush huckleberry, is the best known and is valued for its edible blue or black fruit It and similar species are often confused with the BLUEBERRY (the names sometimes being used interchangeably), but huckleberries have 10 nutlets in the fruit as compared to a larger number of tiny seeds in the blueberry Huckleberries for the market are nearly always gathered from the wild Whortleberry is a name sometimes used for huckleberries, more frequently for blueberries For the florists' huckleberry, see BLUEBERRY

Hucknall (hŭk'nul), urban district (1931 pop 17,338; 1943 estimated pop 19,980), Nottinghamshire, England, N of Nottingham It has coal mines and hosiery manufacture Lord Byron is buried in the parish church

Huddersfield, county borough (1931 pop 113,475, 1947 estimated pop 125,490), West Riding of Yorkshire, England, on the Colne and SW of Leeds Its textile industry, including cotton, woolen, and silk goods, is important Other manufactures are machinery, chemicals, and dyes The proximity of coal and good transportation facilities by river, canal, and rail have contributed to development of the town The Church of St Peter (c 1100) was rebuilt in 1836

Hudibras. see BUTLER, SAMUEL (1612–80)

Hudson, Henry, fl 1607–11, English navigator and explorer He was hired (1607) by the English Muscovy Company to find the Northeast Passage to the Orient He failed, and another attempt (1608) to find a new route was also fruitless Engaged (1609) for the same purpose by the Dutch East India Company, he sailed in the *Half Moon* to Spitsbergen, where extreme ice and cold brought his crew near mutiny Hudson, determined not to lose his reputation as an explorer, disregarded his instructions and sailed westward hoping to find the NORTHWEST PASSAGE He entered Chesapeake Bay, Delaware Bay, and later New York Bay He was first to ascend (1609) what is now the Hudson river (named for him), nearly to present Albany His voyage gave the Dutch their claim to the region His fourth expedition (1610), financed by English adventurers, started from England Again he sailed westward, hoping to find the Northwest Passage Between Greenland and Labrador he entered a strait (Hudson Strait), possibly known to Sebastian CABOT, and by it reached Hudson Bay After weeks of exploration, he was forced by ice to winter there By the next summer (1611) his starved and diseased crew mutinied and set Hudson, with his son and seven men, adrift in a small boat, without food or water He was never seen again His discoveries, however, gave England her claim to the Hudson Bay region. See biography by Llewelyn Powys (1927)

Hudson, Henry Norman, 1814–86, American essayist, b Cornwall, Vt, grad Middlebury College, 1840 He was Episcopal rector at Litchfield, Conn, before the Civil War and in the war served as chaplain with Gen B F Butler He arraigned Butler in *A Chaplain's Campaigns with General Butler* (1865) He was also a noted Shaksperian scholar

Hudson, Manley Ottmer, 1886–, American jurist, b St Peters, Mo, grad William Jewell College (B A, 1906), and Harvard Law School, 1910 He was professor of law at the Univ of Missouri (1910–19) and at Harvard (1919–23) A specialist in international law, Hudson was attached (1918–19) to the U S Dept of State and was present at the Paris Peace Conference He took an active part in the affairs of the League of Nations and served as justice on the Permanent Court of Arbitration (1933–45) and on the Permanent Court of International Justice (1936–46) He was the author of *By Pacific Means* (1935) and *International Tribunals* (1944)

Hudson, William Henry, 1841–1922, English author and naturalist, b Buenos Aires of American parents and naturalized in England He wrote *The Purple Land* (1885), *A Naturalist in La Plata* (1892), *El Ombú* (1902), a fine short story, *Hampshire Days* (1903), *Green Mansions* (1904), a classic romance, *Far Away and Long Ago* (1918), *A Hind in Richmond Park* (1922), and other works A sensitive and intense observer of nature, he describes South America with great force and beauty See studies and biographies by Ernest Rhys (1920), Morley Roberts (1924), and Robert Hamilton (1946), bibliography by G F Wilson (1922)

Hudson. 1 Industrial town (pop 8,042), E Mass, NE of Worcester, settled 1699, set off from Marlboro and Stow 1866 Shoes and textiles are the chief products 2 City (pop 2,426), S Mich, on the Tiffin river and SW of Ann Arbor, in a farm area, settled 1834, inc as a village 1853, as a city 1893 It has varied manufactures Indian mounds are near by Will Carleton was born here 3 Town (pop 3,409), S N H, on the Merrimack opposite Nashua, inc 1722 4 City (pop 11,517), co seat of Columbia co, E N Y, on the east bank of the Hudson and S of Albany, settled 1662 as Claverack Landing, inc 1785 The Rip Van Winkle Bridge connects Hudson with Catskill Cement and matches are among its products A state training school for girls is here 5 Village (pop 1,417), NE Ohio, SE of Cleveland, settled 1799, inc 1837 Settled by New Englanders, it still retains the appearance of a New England village. It is the seat of Western Reserve Academy (1826), a boys' preparatory school, which has the oldest observatory (Loomis) in the West John Brown lived here as a boy 6 City (pop 2,987), co seat of St Croix co, W Wis, on the St Croix and E of St Paul, Minn, inc 1856 It was a lumber center in the 1860s. There are railroad shops, and furniture is made

Hudson, river, c 315 mi long, rising in NE New York in Lake Tear of the Clouds, near Mt Marcy in the Adirondacks, and flowing generally S to Upper New York Bay at New York city One of the important waterways of the world, the river is tidal to Albany and navigable for ocean vessels to that point, Troy lies at the head of a 12-foot channel Divisions of the NEW YORK STATE BARGE CANAL connect the Hudson with the Great Lakes and with Lake Champlain and the St Lawrence river The port region near the Hudson's mouth is called the North River and in the New York city metropolitan area attains a width of 4,400 ft. Here for c 17 mi the river is the boundary between New York and New Jersey, and the two states are connected by the GEORGE WASHINGTON BRIDGE, the Holland and Lincoln vehicular tunnels, tubes carrying the subway, a railroad tunnel, and ferries To the north the river widens into the TAPPAN ZEE On the west bank the bluffs known as the PALISADES stretch northward from New Jersey and contribute to the reputation of the Hudson as one of the most beautiful of the world's rivers The scenic Storm King Highway passes near the

U S Military Academy at West Point, overlooking the river Northward the Catskill Mts descend to the Hudson valley On the east bank the Roosevelt home at Hyde Park and other fine estates command views of the river In its early course are falls which yield water power The Mohawk is the main tributary Cities along the Hudson are Cohoes, Troy, Albany, Hudson, Kingston, Poughkeepsie, Newburgh, Peekskill, Yonkers, New York, and, in New Jersey, Weehawken, Hoboken, and Jersey City First explored by Henry Hudson in 1609 and long of strategic importance to the Indians, the river became a valuable highway for fur traders and the Dutch and English settlers Innumerable historical events, many stories and legends, and a well-known school of painting are associated with the Hudson See Carl Carmer, *The Hudson* (1939), Croswell Bowen, *Great River of the Mountains, the Hudson* (1941).

Hudson Bay, great inland sea, c 850 mi. long and c.650 mi wide, area 478,000 sq mi, E central Canada Possibly discovered by Norse explorers in the 16th cent, it was explored and named (1610) by Henry Hudson in his search for the Northwest Passage It lies generally SE of the Northwest Territories, to which the bay and all its islands belong, and is bounded on the southwest by Manitoba and Ontario, on the east by Quebec To the northeast FOXE CHANNEL, between E Northwest Territories and Baffin Island, leads into Hudson Strait, c 450 mi long and c 100 mi wide, connecting with the Atlantic At the northern end of the bay are Mansel, Coats, Southampton, Nottingham, and Salisbury islands, and the Ottawa and Belcher island groups are off the east coast, which is barren and rocky The west coast is low lying, with much tundra The region was a rich source of furs, and France and England struggled for its possession until 1713, when France ceded her claim to it by the Peace of Utrecht Many large rivers drain into the bay, including the Churchill, Nelson, Albany, Abitibi, Rupert, and Fort George, and at their mouths are important fur-trading posts of the Hudson's Bay Company, some of which have been operated continuously since 1670 The bay is ice free and open to navigation from mid-July to October Since completion of the Hudson Bay Railway in 1929, Churchill, Man, on the west coast has become a port for ocean-going freighters Whaling and cod and salmon fisheries are important industries See L R Freeman, *Nearing North* (1928), J B Tyrrell, ed, *Early History of Hudson Bay* (1931), R H H Macaulay, *Trading into Hudson's Bay* (1934), H D Carter, *Sea of Destiny* (1940), A C Twomey and Nigel Herrick, *Needle to the North* (1942)

Hudson Bay Railway, part of the Canadian National Railways system, 510 mi long, extending from The Pas, Man, to Churchill, Man., on the west coast of Hudson Bay Built (1910–29) by the Canadian government through rocky wilderness and tundra, it was designed to reduce rail and sea rates from the grain-producing provinces to Liverpool From its opening in 1931 it has handled a considerable volume of freight, in spite of the shortness of the navigation season in Hudson Bay

Hudson Falls, village (pop 6,654), co seat of Washington co, E N Y, on the Hudson and near Glens Falls, settled 1761, inc 1810 Papermaking is its chief industry

Hudson River school, in American landscape painting, lasting from 1825 to 1875 The 19th-century romantic movements of England, Germany, and France were introduced to the United States by such writers as Washington Irving and James Fenimore Cooper, at the same time American painters studied in Rome and absorbed some of the romantic ideals of the European painters This admiration of the Gothic in nature and art became the basis of the first school of landscapes in America The grandeur of Niagara Falls and the scenic beauty of the valley of the Hudson river, the Catskills, and the White Mts especially attracted painters The first quarter of the 19th cent produced a few landscapes, but portraits were more in demand. Francis Guy was perhaps the first native landscape artist. First of the group of artists properly classified with the Hudson River school was Thomas Doughty; his work was more gentle than the pictures of the succeeding artists, who were, however, highly influenced by him Thomas Cole may be said to be the leader of the school in its most active years Other painters in the group were Asher Brown Durand, John Frederick Kensett, Frederick Edwin Church, and, in his earlier work, George Inness

Hudson's Bay Company. In 1668 a number of the courtiers at the court of Charles II of England were persuaded, chiefly through the urgings of the French explorer Radisson, to join with London merchants in outfitting an expedition to open fur trade with the Indians of the little-known Hudson Bay region in North America. Another object was the discovery of the Northwest Passage to the Orient The expedition was more or less directed by Radisson and Groseilliers, the men whose exploits still remain one of the most perplexing problems to students of early exploration. A fort was established at the foot of James Bay—Fort Charles, which later, as Fort Rupert, was to be one of the principal posts of the country The returns from the Indian trade were large, and on the return of one of the vessels to England about Oct, 1669, Prince Rupert and the other shareholders appealed to the king for a charter A preliminary charter seems to have been granted that year, but it was not until 1670 that the much-discussed permanent charter was granted to these "Gentlemen Adventurers trading into Hudson's Bay" It conferred on them not only a trading monopoly but practically sovereign rights in the region drained by rivers flowing into Hudson Bay The extent of this vast region was not then known, nor was it fully known for about a century The monopoly was not respected by other English traders The "Great Company" did a highly profitable business, but Hudson Bay was claimed also by the French, who sent expeditions against the posts that were soon established near the mouths of the Moose, Albany, Severn, and Nelson rivers. Warfare went on, almost regardless of the peace or war between the two nations in Europe until after the Peace of Utrecht (1713–14) The French on the whole were more successful than the British in the taking and retaking of the posts, but ultimately all of Hudson Bay was recognized as British territory Rivalry, however, continued between the French traders from Montreal and Quebec and the Hudson's Bay men. The "Great Company" was content to remain at its seaboard posts and made little effort either to send traders inland or to search out the Northwest Passage The only notable early voyages made westward that are known today were those of Henry Kelsey, the disastrous attempt of James Knight in 1719 to find by sea the Northwest Passage and fabulous gold mines, the expeditions of Anthony Hendry (1754), and the journey of Samuel Hearne across the barren grounds to the mouth of the Coppermine in 1771, which definitely proved that there was no short Northwest Passage out of Hudson Bay The company was harshly criticized in the middle of the 18th cent, chiefly on the ground of its failure to discover the Northwest Passage With the transference of Canada from France to England by the Treaty of Paris in 1763, a new opposition to the company in the lands nominally held in monopoly developed Scotsmen had assumed a large role in the Montreal fur trade, and their wintering partners prosecuted the trade vigorously, cutting into the declining returns of the Hudson's Bay Company Out of the combinations of these Montreal merchants grew the NORTH WEST COMPANY, which was to be the chief rival of the older company The Hudson's Bay men were stirred out of their lethargy Samuel Hearne founded Cumberland House on the Saskatchewan in 1774, and thereafter the Hudson's Bay Company took a greater interest in the West Other difficulties stood in the way of the company. In 1782 a French naval expedition took Fort Prince of Wales, on the Churchill, one of the most important company posts It was returned and became Fort Churchill, but trade there and at York Factory, the other great eastern post, declined Brisk rivalry with the Northwesters in the West did not turn to the advantage of the Hudson's Bay Company. The company policy apparently did not encourage exploration, thus the great geographer, David THOMPSON, left it to join the Northwesters The competition continued The whole policy and nature of Hudson's Bay Company was altered when the earl of SELKIRK gained control after 1808. His scheme to colonize Scottish and Irish farmers on company land led to one of the darkest chapters in Canadian history, the RED RIVER SETTLEMENT trouble, which brought disaster to the company The ruinous and bloody rivalry was brought to an end by the amalgamation of the companies in 1821 The name of the older company was retained The amalgamation marked the beginning of a period of true monopoly The company virtually had absolute rule over a vast territory that extended from the Atlantic to the Pacific, for all of Canada except the eastern settled provinces were leased to the company Parts of the United States, especially the Columbia river country, were subject to joint and American occupancy, but virtually were under the company rule The name of John MCLOUGHLIN, who acted as administrator there, is well known in U S history The company reorganized and flourished. The governorship (1821–60) of Sir George SIMPSON marked the peak of the company's fortunes In 1863 the stock of the company was bought up and reissued by the International Financial Society The stock passed from a few to many holders. This internal reorganization had a vast effect on the company It also was changed from without. Like any monopolistic corporation it had many and powerful enemies. In 1857 the company was subjected to a parliamentary investigation. Though the company trade privileges were renewed, its position was not secure. In 1869 the company territory was by governmental order transferred to Canada in return for £300,000. The nature of the company was thereafter entirely different. The trend was begun which was to eventuate in the company's becoming not a fur-trading organization but a gigantic corporation of almost innumerable interests. The sales of company lands brought in much money For many years (1889–1917) Lord STRATHCONA was governor It was after his death that the real expansion of the company into retail trade and manufacturing of all sorts took place, in the administrations of Sir Robert Molesworth Kindersley (1915–25) and Charles Vincent Sale (1926–30) In the First World War company ships were used as transports and the company rendered great services The business suffered in the economic depression Contrary to the advice of the governor (who thereupon resigned), the company in 1930 reached the decision to split the Canadian stores were segregated in a separate organization, the London portion being once more turned to the fur trade Partially because of the secrecy of the company concerning its records, partly because of the strong feeling for and against the company, there has been no adequate, impartial, scholarly, and well-considered history of the company in general See introductions to scholarly editions of trader's journals, such as those of the Champlain Society. See George Bryce, *The Remarkable History of the Hudson's Bay Company* (1900), Beckles Willson, *The Great Company* (1900), H A Innis, *The Fur Trade in Canada* (1930), R E Pinkerton, *The Hudson's Bay Company* (1931), Douglas MacKay, *The Honourable Company* (1936)

Hudson seal. see MUSKRAT

Hué (hwā), city (pop 40,000), Indo-China, capital of Annam, on the Hué river c 5 mi from the South China Sea The modern city is on the right bank of the river, on the left are the government buildings and the palace, surrounded by walls built in the 19th cent, and the elaborate royal tombs Probably founded by the Chinese in the 3d cent, Hué was occupied in turn by the Chams and Annamese After the 16th cent, it was the seat of a dynasty that extended its power over S Annam, modern Cochin China, and parts of Cambodia and Laos, in the 19th cent it became the capital of the empire of Annam

hue and cry, formerly, in English law, pursuit of a criminal immediately after he had committed a felony Whoever witnessed or discovered the crime was required to raise the hue and cry against the perpetrator (e g, call out "Stop, thief!") and to begin pursuit, all persons within hearing were under the same obligation, and it was a punishable offense not to join in the chase and capture The perpetrator was promptly brought into court, and if there was evidence of his having been caught red-handed, he was summarily convicted without being allowed to testify in his own behalf The hue and cry was abolished in the early 19th cent Possible modern survivals are the obligation to serve on a sheriff's posse and to assist a police officer in pursuing a suspected culprit

Huelva (wĕl'vä), city (pop 50,837), capital of Huelva prov, SW Spain, in Andalusia, on the Odiel river above its junction with the Río Tinto, c 10 mi from the Atlantic Its busy harbor exports copper and sulphur from the near-by region of RÍO TINTO Tuna and sardine fisheries are also important A Roman aqueduct, recently repaired, supplies the city with water

Huerta, Adolfo de la (ädōl'fō dā lä wĕr'tä), 1877?–, Mexican revolutionist and president (May–Dec, 1920) As governor of Sonora, he broke with President CARRANZA and declared the secession of the state (1920) This was a signal for the successful revolt against Carranza led by OBREGÓN and supported by CALLES After Carranza's assassination, De la Huerta was provisional president until Obregón took office by election, he was minister of finance under Obregón Upon the designation of Calles as official presidential candidate, De la Huerta revolted (Dec, 1923), the uprising was crushed by Obregón in the spring of 1924, and De la Huerta fled into exile

Huerta, Victoriano (vēktôryä'nō), 1854–1916, Mexican general and president (1913–14). He served under Porfirio DÍAZ After the successful revolution of MADERO (1911), he aided the new president in the fight against the many revolutions. In 1913, in command at Mexico city, he went over to the enemy and brought about the ruin of Madero Huerta established a reactionary rule Numerous counterrevolutions promptly appeared, the most important of the leaders in the field against him were CARRANZA, VILLA, and ZAPATA The uncompromisingly hostile attitude of President Woodrow Wilson of the United States resulted in unpleasant international incidents at Tampico and Veracruz An attempt by the ABC powers and the United States to bring some order in Mexico by a conference with the Huerta and Carranza factions at Niagara Falls, Canada, came to nothing But the steady pressure upon the government finally resulted in the resignation of Huerta (July, 1914) Not long afterward Carranza triumphed. Huerta went to Europe, returned to the United States, was arrested for revolutionary activities against Mexico along the border, and died when in the custody of the United States.

Huesca (wā'skä), city (pop. 16,943), capital of Huesca prov., NE Spain, in Aragon, at the foot of the Pyrenees It is an agricultural center In this ancient town Sertorius founded a school in 77 B C After Peter I of Aragon liberated it (1096) from the Moors, Huesca was the residence of the kings of Aragon until 1118 A university, later discontinued, was founded here in 1354 The fine Gothic cathedral (15th–16th cent) and the early Romanesque Church of San Pedro are the main landmarks

Hügel, Friedrich, Baron von (frē'drĭkh hărŏn' fŭn hü'gul), 1852–1925, British Roman Catholic philosopher, b Florence, son of an Austrian diplomat After his marriage (1873), Hügel lived in England Although he wrote only two books, *The Mystical Element of Religion as Studied in St Catherine of Genoa and Her Friends* (1908) and *Eternal Life* (1912), his influence on modern Catholicism through letters and essays has been profound Stressing always the value of inner sincerity, Hügel remained an independent thinker, believing in the moral responsibility of an individual and the obligation of the intellect to exercise will in examination and choice as well as the equal and interchangeable values of the natural and the supernatural life See his selected letters (ed by Bernard Holland, 1927), biography by Maurice Nedoncelle (Eng tr by Marjorie Vernon, 1937)

Hugenberg, Alfred (ăl'frĭăt hōō'gunbĕrk), 1865–, German financier and politician He was president of the directorate of the Krupp works at Essen (1909–18), entered the Reichstag in 1920, and was chairman (1928–33) of the monarchist party (the *Deutschnationale Volkspartei*) and a member of Hitler's first cabinet (Jan –June 1933) The Hugenberg combine, organized in 1916 and comprising newspapers, moving-picture companies, information services, and finance corporations, was gradually absorbed by the state after the Nazis came into power

Huggins, Sir William, 1824–1910, English astronomer Using a spectroscope, he began to study the chemical constitution of stars from the observatory attached to his home in Tulse Hill, London He also pioneered in spectroscopic photography and played a part in developing the combined use of telescope, spectroscope, and photographic negative He adapted the gelatin dry-plate negative for making astronomical photographs, this made possible exposures of any desired length A recipient of numerous high awards for his work, Huggins was president (1900 1906) of the Royal Society With his wife, Margaret Lindsay Murray, Lady Huggins, he prepared an *Atlas of Representative Stellar Spectra* (1899)

Hugh Capet (kā'pĭt, kă'pĭt), c 938–996, king of France (987–96), first of the CAPETIANS He was the son of HUGH THE GREAT, to whose territories he succeeded in 956 After the death of Louis V, last Carolingian king of France, the nobles elected him king, setting aside the last Carolingian claimant, Charles of Lower Lorraine In order to fix the succession, Hugh immediately took as his associate his son Robert (later Robert II) He spent much of his reign in fighting Charles and subsequently became involved in a controversy unsettled at his death—with the papacy over the deposition of the Carolingian archbishop of Rheims

Hughes, Ball see HUGHES, ROBERT BALL

Hughes, Charles Evans, 1862-1948, American lawyer, jurist, and statesman, U S Secretary of State (1921-25) and Chief Justice of the Supreme Court (1930-41), b Glens Falls, N Y , grad Brown (B A , 1881, M A , 1884) and Columbia School of Law, 1884 Admitted (1884) to the bar, he practiced in New York city while teaching law at Columbia (1884–93) and at the New York Law School (1893–1900) After Hughes served (1905) as counsel for a New York state legislative committee investigating gas companies, he achieved national prominence for his exposure of corrupt practices of insurance companies in New York as counsel (1905–6) for an investigating committee This led to his election (1906) as governor of New York, and at this post (1907–10) Hughes brought about the establishment of the public service commission, the passage of various insurance-law reforms, and the enactment of much labor legislation He was then appointed (1910) by President W H Taft as Associate Justice of the U S Supreme Court, but resigned in 1916 to run for President on the Republican party ticket The election was one of the closest contests in American history, Woodrow WILSON defeating Hughes by an electoral vote of 277 to 254 and a popular vote of 9,129,000 to 8,538,200 The vote of California, which went to Wilson by a majority 4,000 largely because of the disaffection of Hiram Johnson, decided the election. Hughes again devoted himself to his law practice As Secretary of State under Presidents Warren G Harding and Calvin Coolidge, Hughes prepared plans for the limitation of naval armaments at the Washington Conference (see NAVAL CONFERENCES), directed negotiations for several important foreign treaties, and vastly improved the prestige of the U S Dept. of State He afterwards served in the Permanent Court of Arbitration (1926–30) at The Hague, in the Permanent Court of International Justice (1928–30), and as chairman of the Pan American Congress at Havana in 1928 He was appointed (1930) Chief Justice of the U S Supreme Court by President Herbert Hoover to succeed William H Taft He retired in 1941 Many of his addresses were published in *The Pathway to Peace* (1925), *The Supreme Court of the United States* (1928), *Our Relations to the Nations of the Western Hemisphere* (1928), *Pan-American Peace Plans* (1929), and *Nations United for Peace* (1945)

Hughes, David Edward, 1831–1900, American inventor, b London He was brought to Virginia in 1838 In 1855 he patented an improved type-printing telegraph He took it in 1857 to Europe, where it was widely adopted In the United States his patent, together with that of an earlier (1844) model made by Royal Earl House (1814–95), was bought by the American Telephone Company and further improved Hughes also invented a microphone

Hughes, Howard Robard, 1869–1924, American inventor, b Lancaster, Mo He went into the oil industry and in 1908 invented the cone-shaped oil drill now in universal use He later patented many improvements in it and manufactured it at Houston, Texas

Hughes, John Ceiriog, 1833–87, Welsh lyric poet By restoring simplicity of diction and emotional sincerity, he did for Welsh poetry what Wordsworth and Coleridge did for English Many of his songs were written to folk airs and are sung throughout Wales by all classes

Hughes, John Joseph, 1797–1864, American Roman Catholic churchman, b Co Tyrone, Ireland He joined his family in America in 1817 and on graduating from Mt St Mary's College, Emmitsburg, Md , he was ordained (1826) a priest He served mostly in Philadelphia until 1838, when he was consecrated bishop and became coadjutor to Bishop John Dubois in New York In 1842 Hughes was made bishop, and in 1850 the first archbishop of New York He obtained for the Church complete control of its property by the clergy A resolute and ardent defender of Catholicism, he engaged in debates, worked actively on behalf of Irish immigrants, and strongly urged the obliteration of European national affiliations in American Catholicism His vigorous but unsuccessful attempt to secure state support for religious schools carried him into politics and led to the establishment of the independent Catholic school system In the Civil War Abraham Lincoln sent him to France to promote a friendly attitude toward the Union cause He founded (1841) St John's College (now Fordham Univ) and laid (1858) the cornerstone of St Patrick's Cathedral, New York city See his works (ed by Lawrence Kehoe, 1864), biography by J R G Hassard (1866)

Hughes, Langston (James Langston Hughes), 1902–, American Negro poet, b Joplin, Mo He lived a year in Mexico, studied at Columbia Univ , worked his way to Europe, and was a hotel busboy in Washington, D C , when Vachel Lindsay first read his poems before an audience (1925) The first volume of Hughes's poems, *The Weary Blues*, appeared in 1926 In 1929 he was graduated from Lincoln Univ , Pa His poetry, in *The Dream Keeper* (1932), *Shakespeare in Harlem* (1942) *Fields of Wonder* (1947), and *One-Way Ticket* (1949), largely concerns Negro life in America He has written plays, notably *Mulatto* (produced 1935), moving-picture scenarios, a novel, *Not Without Laughter* (1930), and short stories See his autobiography, to 1930, *The Big Sea* (1940)

Hughes, Robert Ball, 1806–68, American sculptor, b London He came to the United States c 1828 and settled in Dorchester, Mass His statue of Alexander Hamilton, one of the first carved in marble in the United States was destroyed by fire soon after completion The bronze statue of Nathaniel Bowditch in Mt Auburn Cemetery, Cambridge, Mass , was recast In Trinity Church, New York, is his relief of Bishop Hobart

Hughes, Rupert, 1872–, American author, b Lancaster, Mo , grad Adelbert College (later Western Reserve Univ), 1892, Ph D Yale, 1899 He is known for his *Music Lovers' Cyclopedia* (1914) and the monumental biography of George Washington (3 vols , 1926–30) Of his plays, the comedy *Excuse Me* was particularly successful

Hughes, Sir Samuel, 1853–1921, Canadian politician and soldier, b Ontario prov From 1892 until his death he was a Conservative member of the Canadian House of Commons As a member of the Canadian militia he saw service in the South African War, was promoted colonel in 1902, and came to be held in Parliament as an authority on military matters As minister of militia and defense (1911–16) for Canada in Sir Robert Borden's government, Hughes was charged with the responsibility for organizing and dispatching the Canadian Expeditionary Force in the First World War To this task he brought driving energy, but resentment of criticism and inability to work smoothly with his colleagues led to such difficulties that Borden requested Hughes's resignation in 1916 In 1915 he was knighted and in 1916 created lieutenant general. See biography by C. E. Winter (1931).

Hughes, Thomas, 1822–96. English author, educated at Rugby and Oxford He was associated with F D MAURICE in the Christian Socialist movement and in the conduct of the Working Men's College, of which Hughes was principal (1872–83) He was a warm friend of James Russell Lowell and three times visited America, where he founded in the Tennessee mountains a cooperative colony called Rugby He is best known as the author of the classic of school life, *Tom Brown's School Days* (1857), with its idealization of Dr Arnold of Rugby Among other books are *The Scouring of the White Horse* (1859) and *Tom Brown at Oxford* (1861)

Hughes, William Morris, 1864–, Australian statesman, b Wales He emigrated in 1884 and after a varied career entered the New South Wales legislature (1894) and the first federal Parliament (1901) In 1904 he became minister for external affairs in the first Labour government and later was attorney general (1908–9, 1910–13, 1914–21) As prime minister of the commonwealth (1915–23), he gave great support to the empire throughout the First World War and upheld the position of Australia at the Paris Peace Conference He held many important government positions after that time and was (1940–41) minister of the navy. His writings include such works as *Splendid Adventure a Review of Empire Relations* (1929), *Australia and War Today* (1935), and *Crusts and Crusades* (1946) See Douglas Sladen, *From Boundary-Rider to Prime Minister* (1916)

Hughes, cotton town (pop 1,004), E Ark , SW of Memphis, Tenn , founded 1913

Hughestown, borough (pop 2,340), Luzerne co , NE Pa , near Wilkes-Barre, inc 1879

Hughesville, borough (pop 1,947), NE Pa , E of Williamsport, laid out 1816, inc 1852 It has furniture factories

Hugh le Despenser see DESPENSER, HUGH LE

Hugh of Lincoln, Saint, d 1200, bishop of Lincoln, b Avalon Burgundy, of a noble family He became a religious when a child and joined (c 1160) the Carthusians, rising to become procurator general About 1176 he was, at the request of Henry II, sent to England to become prior of the charterhouse founded by Henry II at Witham, Somerset In 1186 he was consecrated bishop of Lincoln He opposed Henry's forest laws and demands for the preferment of unworthy courtiers In 1198 he was the spokesman for the barons in their refusal of money to Richard I and was also in conflict with John But the bishop's high courage, devotion to religion and justice, and ready tact helped him to convert the angry royal brothers to his own views He was noted for charity, love of the poor and oppressed, and holiness of life He partially rebuilt Lincoln Cathedral, where his shrine was a place of pilgrimage until the Reformation He is also called St Hugh of Avalon Feast Nov 17 See C L Marson, *Hugh, Bishop of Lincoln* (1901), R M Woolley, *St Hugh of Lincoln* (1927), J M Flood, *Five Saints of France* (1937)

Hugh of Lincoln, Christian boy supposed to have been murdered by Jews in the 13th cent See Chaucer's Prioress's Tale He is often called St Hugh, but he is not in the martyrology The story is simply a typical one of medieval anti-Semitism

Hugh of Saint Victor, d 1141, French or German philosopher and theologian, a canon regular of the monastery of St Victor, Paris, from c 1115 In 1133 he was made head of the monastery school, which became under Hugh one of the principal centers of learning The earlier tendencies of his school are seen best in his works The period was one of great theological discussion, especially in regard to the ideas and point of view of ABELARD Hugh made St Victor the chief competitor of Abelard's school It was out of the struggle between these schools that SCHOLASTICISM was born Hugh used the same dialectic method that Abelard did, but his findings were never heterodox, the unquestionable orthodoxy of the school of St Victor may have been an important cause of the eventual triumph in Catholic theology of the dialectic method, which Abelard had brought under serious suspicion Hugh's *Eruditionis didascalicae libri VII* expounds his new contribution to the division of knowledge *De sacramentis Christianae fidei*, Hugh's chief work, is a general thesis on dogmatic theology, giving him his high place in medieval philosophy Hugh also wrote many mystical works (e g , *Arca Noë moralis*, *Arca Noë mystica*, *De amore sponsi ad sponsam*), and by them he was for long best known His mystical teaching was determining in the history of his school, but he was not so extreme as his successors, notably RICHARD OF SAINT VICTOR He was responsible for the celebrated division of the mystical ascent into three stages, thought (with which we see God in nature), meditation (with which we see God within ourselves), and contemplation (with which we see God as if face to face)

Hugh the Great, d 956, French duke, son of King ROBERT I and father of HUGH CAPET He waived his pretensions to the throne in favor of Raoul

(923), Louis IV (936), and Lothair (954) and devoted himself to the rule of his own extensive territories The reign of Louis IV was marked by war between king and vassal, in which Hugh, excommunicated at the instance of Louis (948), was forced to make submission (950). From 954 until his death he virtually ruled France

Hugh Town · see Scilly Islands

Hugo, Victor Marie, Vicomte (vēk'tur hū'gō, Fr vēktôr' marē' vēkt' ügō'), 1802–85, French poet, dramatist, and novelist b Besançon His father was a general under Napoleon As a child he was taken to Italy and Spain and at a very early age had published his first book of poems, resolving "to be Chateaubriand or nothing" The preface to his drama *Cromwell* (1827) placed him at the head of the romanticists, he remained the greatest exponent of the school and was considered by many the greatest poet of his day His principal poetic works are *Les Orientales* (1829), *Les Feuilles d'automne* (1831), *Les Chants du crepuscule* (1835), *Les Voix intérieurs* (1837), *Les Rayons et les ombres* (1840), *Les Châtiments* (1853), *Les Contemplations* (1856), and *La Légende des siècles* (1859) The production of his tragedy *Hernani* (Eng tr , 1830) caused a riot between the classicists and the romanticists The drama was the basis of Verdi's opera *Ernani*, Verdi also made use of *Le Roi s'amuse* (1832) for *Rigoletto* Other plays include *Marion de Lorme* (1831, Eng tr , 1872), *Ruy Blas* (1838, Eng tr , 1850), and *Les Burgraves* (1843), the failure of which spelled the end of the romantic drama The tragic deaths in that year of Hugo's daughter and son-in-law were reflected in a moving series of poems of childhood, including *The Art of Being a Grandfather* (1877) Hugo's great novels are *Notre Dame de Paris* (1831, Eng tr , 1833), *Les Misérables* (1862, Eng tr , 1862), *Les Travailleurs de la mer* (1866, Eng tr , *Toilers of the Sea*, 1866), and *Quatre-vingt-treize* (1874, Eng tr , *Ninety-three*, 1874) He began his political career as a supporter of the duke of Reichstadt, Napoleon's son, he in turn espoused the cause of Louis Philippe's son, and then for a short time of Louis Bonaparte's As he afterwards opposed Napoleon III he was banished and went first to Brussels, then to the isle of Jersey (1851), and later (1855) to Guernsey, where he lived until 1870, refusing an amnesty In 1870 he returned to Paris in triumph, he was elected to the national assembly and the senate His last years were marked by public veneration and acclaim, and he was buried in the Panthéon Critics are divided as to his relative greatness, but he was a towering figure in 19th-century French literature See A C P Haggard, *Victor Hugo* (1923), W. F Giese, *Victor Hugo, the Man and the Poet* (1926), Horatio Smith, *Masters of French Literature* (1937), Matthew Josephson, *Victor Hugo* (1942)

Hugo, city (pop 5,909), co seat of Choctaw co , SE Okla , near the Red River It is a railroad and farm center, with nut processing and creosote manufacture

Hugo de Balsham (du bôl'shum), d 1286, English churchman, also called Hugh de Balsham He was elected bishop of Ely in 1256, but it was only after a direct appeal to the pope over the head of Henry III, who wished to appoint a candidate of his own, that Hugo was confirmed (1257) in his bishopric His fame rests on his foundation (1284) of Peterhouse, the first college of Cambridge Univ , modeled after Merton College at Oxford

Hugoton (hū'gō"tun), city (pop 1,349), co seat of Stevens co , SW Kansas, in the Great Plains region near the Okla line, founded 1885, inc 1910 A bloody conflict was waged (1887–91) with Woodsdale (defunct) over the location of the county seat The area has large natural-gas fields

Huguenots (hū'gunŏts) [uncertain origin], the Calvinist Protestants of France Following Calvin's reform in Geneva, the first French national synod was held in 1559, and a church with Calvinist doctrine and presbyterian government was founded The movement, which first took form among the middle classes, was immediately persecuted, as it gained adherents among the nobles and the peasantry, persecution increased, serious bloodshed began during the reign of Francis II Religious hatred and political rivalries precipitated the Wars of Religion (1562–98) Despite such heavy blows to the Huguenots as the massacre of Saint Bartholomew's Day (1572), the formation of the Catholic League (see League), and the intervention of Spain (1589–98) against the Protestant heir to the throne, Henry IV, the Protestants were ultimately victorious Their success was due largely to their unity under such admirable leaders as Louis I de Condé, Gaspard de Coligny, Jeanne d'Albret, and her son, Henry IV In 1598 Henry IV, by issuing the Edict of Nantes, established Protestantism in 200 towns and proclaimed freedom of worship The Huguenots became in the next years an important element in French life, they were especially strong among the bourgeois, the skilled artisans, and the nobility. In the reign of Louis XIII, Cardinal Richelieu decided to break their power An uprising (1621–22) against the introduction of Catholicism in Béarn was put down by Richelieu, and the Protestants lost all their strongholds, except Montauban and La Rochelle Led by Henri de Rohan and Benjamin de Soubise, the Huguenots revolted again in 1625 La Rochelle was captured (1628) by Richelieu after a 14-month siege, during which Charles I of England attempted to send some aid to the Protestant defenders. The Peace of Alais (1629) stripped the Huguenots of all political power but assured them of continued religious tolerance Cardinal Mazarin continued Richelieu's policy, but Louis XIV, who considered the French Protestants as a state within a state, decided to suppress Protestantism altogether, mounting religious persecution was capped by his revocation of the Edict of Nantes in 1685 The vigorous application of this disastrous measure (see dragonnades) depopulated entire provinces Countless Huguenots fled to England, the Netherlands, Germany, Switzerland, and America (especially the Carolinas, Pennsylvania, and New York), where they contributed substantially to civic and industrial life The only important fragment of Huguenots left in France was in the Cévennes, where the war of the Camisards (1702–10) broke out In 1787 Louis XVI allowed the Huguenots tolerance See history by H M Baird (6 vols , 1879–95), C. W Baird, *History of the Huguenot Emigration to America* (2 vols , 1885), Otto Zoff, *The Huguenots* (1942).

Hu Han-min (hōō' hän'-mēn'), 1886–1936, Chinese statesman While studying law in Japan (1905) he was associated with Sun Yat-sen in revolutionary work After the revolution of 1911, Hu opposed Yuan Shih-kai, and from Yüan's death (1916) until 1921 he was Sun's chief adviser He studied (1925) rural economy and the governmental system of the USSR From 1924 to his death Hu was a member of the central political committee of the Kuomintang and led a faction opposed to Chiang Kai-shek Hu's highest position was president of the legislative Yuan (1928–31)

Huidobro, Vicente (vēsān'tā wēdhō'brō), 1893–, Chilean poet, founder of aesthetic movements after the First World War known as *creacionismo* He lived for many years in Paris and wrote French as well as Spanish Striving for originality, he completely denied the poetic past and declared that "the first duty of the poet is to create, the second to create, and the third, to create" Like many other poets in the period after the First World War, he tended to have only a limited influence See Henry A Holmes, *Vicente Huidobro and Creationism* (1934)

Huitzilopochtli (wē"tsēlōpōch'tlē), chief god of the Aztec, god of war Usually represented in sculptured images as hideous, he was the object of human sacrifice, particularly war prisoners, a rite horrible to the Spanish conquerors His temple at Tenochtitlán was a great architectural achievement of pre-Columbian America

Hukok (hū'-) see Helkath

Hul, descendant of Shem Gen 10 23

Hulagu Khan (hōōla'gōō khan'), 1217–65, Mongol conqueror He was a grandson of Jenghiz Khan His brother Mangu, grand khan of the Mongols, directed him to quell a revolt in Persia In 1256, in the course of his successful campaign, his forces virtually exterminated the powerful Assassin sect Moving west to enlarge his conquests, he sacked Baghdad in 1258 (overthrowing the Abbasid caliphate) and in 1260 took Aleppo After his check in 1260 at the hands of the Mamelukes, he adopted Islam and withdrew to the east. His khanate, which included all of Persia, endured until 1335, when it was divided into five parts

Huldah (-du) [Heb , =weasel], prophetess, consulted by Josiah on the finding of the law 2 Kings 22 14–20, 2 Chron 34 22–28

Huleh, Lake · see Bahr el-Huleh

Hulin Rocks, Northern Ireland see Maidens, the.

Hull, Cordell, 1871–, American statesman, U S Secretary of State (1933–44), b Overton co (now Pickett co), Tenn , grad Cumberland Univ , 1891 Admitted to the bar in 1891, he was (1893–97) in the Tennessee legislature and, after service in the Spanish-American War, was appointed (1903) circuit court judge He served (1907–21, 1923–31) in the U S House of Representatives, was on the House Ways and Means Committee for nearly 20 years, and was author of important tax legislation —the Federal income tax law (1913), the revised tax act of 1916, and the Federal inheritance tax law (1916). He was elected (1930) to the U S. Senate, but resigned (1933) the post to become Secretary of State under President Franklin D Roosevelt. As Secretary of State, Hull consistently pursued a course making for sound international economic relations. Through his efforts, pacts were signed with several nations under the Reciprocal Agreements Act (1934), and his policy was one of constructive good will toward nonaggressor nations He favored aid to the Allies from the beginning of the Second World War and recommended revision of the Neutrality Act In 1941 he was still negotiating with the Japanese representatives, Kichisaburo Nomura and Saburo Kurusu, when (Dec 7, 1941) the Japanese struck at Pearl Harbor. In the Second World War, Hull helped build up unity among the Allies and backed world organization to maintain peace. He resigned as Secretary of State and was succeeded by Edward R Stettinius He was awarded the 1945 Nobel Peace Prize His autobiography was published as *The Memoirs of Cordell Hull* (1948).

Hull, Isaac, 1773–1843, American naval officer, b Shelton, Conn Commander of the *Enterprise* and *Argus* in the Tripolitan War, he was in 1810 given command of the *Constitution*. Early in the War of 1812, he slipped his ship out of Chesapeake Bay and made his way through the British blockade to Boston Harbor On Aug 19, 1812, the *Constitution* met the *Guerrière* in one of America's great sea battles (see Constitution, ship) Hull's superior seamanship forced the British vessel to surrender See Bruce Grant, *Isaac Hull, Captain of Old Ironsides* (1947)

Hull, John, 1624–83, American goldsmith and silversmith. He was a powerful merchant, held many local offices in the Massachusetts Bay colony, and in 1652 was selected by the General Court to manage the newly established colonial mint As mintmaster, with his partner, Robert Sanderson, he coined crude willow-, oak-, and pine-tree shillings from bullion plate and two-, three-, and sixpence pieces. He also produced secular and ecclesiastical silver work, of which extant pieces may be recognized by his initials with a fleur-de-lis in a heart below or an encircled rose above

Hull, William, 1753–1825, American general, b Derby, Conn , grad Yale, 1772. He served in the American Revolution and in 1805 became governor of the newly created Michigan Territory As the War of 1812 was beginning he asked Congress for a larger U S fleet on Lake Erie and reinforcements for Detroit Hull had command of Detroit, but instead of making the expected attack on Canada he remained until British forces under Sir Isaac Brock approached and captured the fort on Aug 16, 1812, winning large supplies Hull was court-martialed, and only his Revolutionary War record prevented his execution

Hull, city (pop 32,947), co seat of Hull co , SW Que , on the Ottawa river opposite the city of Ottawa, with which it forms a single metropolitan center The Gatineau river enters the Ottawa here. Hull has paper and pulp and lumber mills, iron foundries furniture factories, and other industries, and a hydroelectric power station

Hull, officially **Kingston-upon-Hull**, county borough (1931 pop 313,544, 1947 estimated pop 294,730), East Riding of Yorkshire, England, on the north shore of the Humber at the influx of the small Hull river 20 mi from the North Sea As a port it is one of the chief outlets for the industrial Yorkshire and Lancashire districts, with which it has excellent rail and water connections It has also numerous factories of its own, producing oil, agricultural machinery, solvents, leather goods, textiles, paper, and cement Hull was founded late in the 13th cent by Edward I, and the construction of docks, which now extend c 7 mi along the Humber, was begun c 1775 There are steamship lines to the Continent, especially to the Scandinavian countries, and the harbor is used also by ocean fishing boats The Wilberforce Museum, Municipal Museum, Royal Institution, and Ferens Art Galleries are noteworthy The grammar school, founded in 1486, was attended by William Wilberforce, who was born here, University College was founded in 1925 Trinity House, for sailors, was established in 1369 by Trinity Guild The churches include Holy Trinity (partly 14th cent) and St Mary's or St. Mary's Lowgate (14th cent) The city was subjected to severe air raids in 1941

Hull. 1 Town (pop 1,072), extreme NW Iowa, N of Sioux City, first called Pattersonville, inc 1888 2 Resort town (pop 2,167), E Mass , on Nantasket Peninsula in Boston Bay SE of Boston, settled 1624, inc 1644 A radio transmitting station was established here in 1940

Hull House · see Addams, Jane.

Hulun, China, see Hailar

Humacao (ōōmäkä'ō), town (pop 7,624), E Puerto Rico, on the Humacao river not far from the coast It is a port of entry in an agricultural district

humanism, term originally restricted to a point of view prevalent among men of thought in the Renaissance These men turned their attention to the humanities and to humanity The development was chiefly a function of release from ecclesiastical authority and the rediscovery of the ancient classics The term *humanist* is applied to such diverse types as Boccaccio, Petrarch, Lorenzo Valla, Lorenzo de' Medici, Erasmus, and Thomas More In the 20th cent. the term has been applied to their own systems by such men as F. C S Schiller, Irving Babbitt, and C F Potter. Their use of the term has had diverse meanings, but the common element is generally emphasis on lasting human values and the cultivation of the classics.

Humber, navigable estuary of the Trent and Ouse rivers, on the east coast of England between Yorkshire and Lincolnshire. It is 40 mi. long and 1 to 8 mi. wide, Spurn Head marks its entrance to the sea. The shores are generally low, and shoals obstruct shipping in parts. Encroachment of the

sea has destroyed former ports, notably Ravenspur. In early English history the Humber was significant as a means of ingress. Hull and Grimsby are the chief cities

Humber, river, second largest river of Newfoundland. It rises 20 mi. inland from Bonne Bay on the west coast, flows SW to Deer Lake, and after emerging from the lake follows a circuitous course to fall into the Bay of Islands

Humbermouth (hŭm'burmuth,-mouth), town (1945 pop 1,914), W N.F , at the mouth of the Humber river, on the coast near Corner Brook

Humberstone (hŭm'bûrstun,-stōn), village (pop 2,963), S Ont , on Lake Erie at the south end of the Welland Ship Canal Humberstone Lock, on the canal, is one of the world's largest lift locks

Humbert I, 1844–1900, king of Italy (1878–1900), son and successor of Victor Emmanuel II He actively helped to consolidate the newly founded kingdom Among the premiers he appointed were Depretis, Crispi, and Giolitti His tolerance and generosity won him the nickname Humbert the Good Escaping two attempts on his life, he fell victim to the third, at Monza. His son, Victor Emmanuel III, succeeded him

Humbert II, 1904–, last king of Italy (1946), son of Victor Emmanuel III He married (1930) Marie José, daughter of Albert I of Belgium, a son, Victor Emmanuel, was born in 1937 In 1944 his father delegated his powers to Humbert, who became lieutenant general of the realm On the abdication (May, 1946) of his father, he succeeded to the throne, pending a referendum on the future of the constitution The referendum (June, 1946) resulted in the establishment of a republic, and Humbert went into exile to Portugal

Humble (hŭm'bŭl), city (pop 1,371), S Texas, NNE of, and near, Houston, founded 1888 Since it experienced an oil boom in 1904, it has depended largely on the oil industry

Humboldt, Alexander, Freiherr von (hŭm'bōlt, Ger aleksan'dûr frī'hĕr fŭn hōōm'bōlt), 1769–1859, German scientist, explorer, and natural philosopher His full name is Friedrich Heinrich Alexander von Humboldt After serving in the Prussian department of mines and making scientific excursions in Europe, he made, with A J A Bonpland, a noted expedition (1779–1804) to Central and South America and Cuba He explored the upper course of the Orinoco and Amazon rivers, ascended Mt Chimborazo and other peaks in the Andes to study the relation of temperature and altitude, and made observations valuable in several branches of science The expedition initiated an era of scientific exploration With the cooperation of other scientists, Humboldt and Bonpland recorded the results of their researches in *Voyage de Humboldt et Bonpland* (23 vols , 1805–34), often cited by the title of Part I, *Voyage aux régions équinoxiales du nouveau continent* Humboldt established the use of isotherms, studied the origin and course of tropical storms, the increase in magnetic intensity from the equator toward the poles, and volcanology, and investigated the effect of geographical environment on the distribution of plants In his *Cosmos* (5 vols , 1845–62, Eng tr , 1849–58), noted as one of the world's great scientific works, he sought to formulate the known facts about the universe into a uniform conception of nature Humboldt lived chiefly in Paris from 1808 to 1827, when he settled in Berlin at the request of the Prussian government. He made an expedition to Russia and Siberia in 1829

Humboldt, Karl Wilhelm, Freiherr von (karl' vĭl'hĕlm), 1767–1835, German statesman and philologist, brother of Alexander von Humboldt As Prussian minister of education (1809-10) he thoroughly reformed the school system, largely on the basis of the ideas of Pestalozzi, and he sent Prussian teachers to study the methods of Pestalozzi's school in Switzerland He was one of the founders of the Univ of Berlin Humboldt was one of the great liberal reformers of Prussia along with Stein and Hardenberg He remained prominent in the government until 1819, when he retired because of his opposition to the prevailing spirit of reaction Humboldt was a friend of Goethe and Schiller His lengthy work on Kavi, the ancient language of Java, was published posthumously (1836–40) and reveals precision, clarity, and scientific caution

Humboldt (hŭm'bōlt) **1** City (pop 2,819), N Iowa, on the Des Moines river above Fort Dodge, settled 1863, inc 1869 **2** City (pop 2,290), SE Kansas, on the Neosho and NW of Pittsburg, in a farming area, laid out 1857, inc as a village 1866, as a city 1870 It manufactures cement and is a distributing point for oil **3** City (pop 1,386), extreme SE Nebr , on a branch of the Nemaha and NW of Falls City, settled c.1856 by Czechs **4** City (pop 5,160), W Tenn , NNW of Jackson. It is a manufacturing and trade center and a railroad shipping point in a region yielding fruits, vegetables, and other farm products.

Humboldt (hŭm'bōlt), town (pop 1,798), central Sask , S of Prince Albert

Humboldt, river rising in several branches in NE Nevada and flowing west and south c 300 mi past Elko, Winnemucca, and Lovelock, to disappear in Humboldt Sink, near the Humboldt Range Known to early explorers and named by Frémont, it was an important route followed by many of the emigrants from Salt Lake City to central California The Humboldt reclamation project around Lovelock is served by the Rye Patch Dam, built in 1935-36 See Dale Morgan, *The Humboldt Highroad of the West* (1943)

Humboldt Bay see Hollandia,

Humboldt Glacier, NW Greenland The largest known glacier, it debouches into Kane Basin along a front c 50 mi wide E K Kane discovered it on his expedition of 1853–55

Humboldt State College see Arcata, Calif

Hume, David (hūm), 1711–76, Scottish philosopher and historian, famous for his skepticism, educated at Edinburgh He lived for several years with the Jesuits at La Flèche, France, where he prepared his great *Treatise of Human Nature* (1739–40) His philosophical works—probably all written by the time he was 40—include *Essays Moral and Political* (1741–42), *Philosophical Essays* (1748), *An Enquiry concerning the Principles of Morals* (1750), and *Political Discourses* (1752) Turning from philosophy, Hume wrote an exhaustive *History of England* (1754–62), whose purity of style overcame the frequent faultiness of fact and made the work the standard history in England for many years Hume served as the patron of Rousseau when he sought refuge in England, and their ensuing dispute, recorded at length, has been a source of insight into the character of the two men In philosophy Hume pressed the analyses of Locke and Berkeley to the logical extreme of skepticism, for which he is famous He could see no more reason for hypothesizing a substantial soul or mind than for accepting a substantial material world A complete nominalist in his handling of ideas of material objects, he carried the method into the discussion of mind and found nothing there except a series of sensations Causal relations are only apparent from the customary conjunction of two sensations Hume's determined skepticism is virtually unanswerable on empirical grounds He himself fell back on common sense and faith as ways out of the difficulty His posthumous works include *Life of David Hume* (1777), by himself, now included in most editions of the *History*, and *Dialogues concerning Natural Religion* (1779) See J H Burton, *Life and Correspondence of David Hume* (1846), J Y T Greig, *David Hume* (1931), N K Smith, *The Philosophy of David Hume* (1941), E C Mossner, *The Forgotten Hume le Bon David* (1943)

Hume, Sir Patrick see Home of Polwarth, Sir Patrick

Hume Reservoir, area 70 sq mi , largest reservoir of Australia, in the Murray river, near Albury and on the New South Wales–Victoria boundary Hume Dam (1937), on the west side of the reservoir, is 1,042 ft long and 200 ft high

humidity, a primary element of climate, the state of the atmosphere with regard to its moisture content Humidity measurements include absolute humidity, the mass of water vapor per unit volume of natural air, relative humidity (usually meant when the term *humidity* alone is used), the ratio of the actual water-vapor content of the air to the total amount that it could contain at the given temperature, specific humidity, the mass of water vapor per unit mass of natural air, and the mixing ratio, the mass of water vapor per unit mass of dry air Absolute humidity finds greatest application in ventilation and air-conditioning problems Specific humidity and the mixing ratio are terms which have more recently come into general use Humidity is measured by means of a hygrometer The rate of evaporation decreases as the moisture content of the air increases and approaches saturation In addition, the saturation point (moisture-holding capacity of the air) increases rapidly as the temperature of the air rises Thus cold air, while its moisture content must necessarily be quite low (low absolute humidity), may be almost saturated with respect to the maximum amount of water vapor it is capable of holding (high relative humidity) Cold air with high relative humidity "feels" colder than dry air of the same temperature because high humidity in cold weather increases the conduction of heat from the body Conversely, hot air attended by high relative humidity "feels" warmer than it actually is because of an increased conduction of heat from the body combined with a lessening of the cooling effect afforded by evaporation. On the other hand, a low relative humidity "modifies" the effect of temperature extremes on the human body Humidity decreases with altitude, it tends to be higher at night (when the temperature, and so the capacity of the air to contain moisture, has lowered) than in the day Proximity to large bodies of water and the prevalence of moisture-bearing winds favor high humidity

Humiliati (hōōmĭl'lēā'tē) [Latin,=the humbled ones], Roman Catholic association of laymen formed in the 11th cent in Lombardy They wore plain clothes and lived under special vows, but mingled freely with the world. They were protected by the papacy in most of the 12th cent., and some of them were organized into an order or joined other orders There were occasional defections from the Humiliati to the Waldensians, and some adhesions in the other direction The Humiliati were finally suppressed in the 16th cent after their orthodoxy had long been questioned

Hummelstown, agricultural borough (pop 3,264), SE Pa , near Harrisburg, founded c 1740, laid out 1762, inc 1874

hummingbird, small perching bird of the New World There are about 750 species and subspecies, the majority native to Central and South America Hummingbirds have brilliant plumage with a metallic sheen Their bills are usually long and slender, sometimes curved Their feet are too small and weak to support them on flat surfaces They are usually seen poised in the air while feeding or in flight with wings moving so rapidly that in the smaller species they appear as a blur and produce a humming sound In seeking their food—small insects and the nectar of flowers—they carry on cross-pollination The largest among them is the giant hummer of the Andes (about 8½ in long), and the smallest bird in the world is the Helena's hummingbird or fairy hummer of Cuba (about 2¼ in long) The ruby-throated hummingbird, the only species found in the N United States, has metallic green upper parts, the under parts are white to gray, and in the male the throat is ruby red when light strikes it at the correct angle Its half-inch eggs are laid in a lichen-covered nest about 1½ in in diameter

Humperdinck, Engelbert (hŭm'purdĭngk, Ger ĕng'ulbĕrt hōōm'purdĭngk), 1854–1921, German composer and teacher studied at the conservatories of Cologne and Munich He was a friend of Wagner, whom he assisted in preparing *Parsifal* for production and whose son, Siegfried, was later his pupil He is known chiefly for his first opera, *Hänsel und Gretel* (1893), successful for its fairy-tale subject and its folk-inspired music *Das Königskinder* (New York, 1910) was popular for a time, but none of his other operas was successful He also wrote incidental dramatic music and songs

Humphrey, Doris, American dancer and choreographer, b Chicago She studied (1917) at the Denishawn School and danced (1918) in the school's company With Charles Weidman, who has danced and collaborated in many of her choreographical works, she founded (1928) a school of the dance Her outstanding dance productions include *New Dance, Theatre Piece, With My Red Fires, Song of the West, Decade,* and *Inquest*

Humphrey Island see Manihiki

Humphreys, Andrew Atkinson, 1810–83, American army engineer, Union general in the Civil War, b Philadelphia, grad West Point, 1831 Humphreys served for many years in the corps of topographical engineers His outstanding work was a topographic and hydrographic survey of the Mississippi delta (1850–61) In the Civil War he was made a brigadier general of volunteers (April, 1862) and was chief topographical engineer in G B McClellan's Peninsular campaign (1862) He commanded a division in the Antietam campaign, in the battles of Fredericksburg (1862) and Chancellorsville (1863), and in the Gettysburg campaign After Gettysburg, Humphreys was chief of staff to Gen George G Meade until Nov , 1864, when he succeeded W S Hancock in command of the 2d Corps He led that corps in the final operations against Lee He was brigadier general commanding the Corps of Engineers from 1866 till his retirement in 1879 Humphreys wrote *From Gettysburg to the Rapidan* (1883) and *The Virginia Campaign of '64 and '65* (1883) See biography by H H Humphreys (1924)

Humphreys, David, 1752–1818, American diplomat and poet, b present Ansonia (then in Derby), Conn , grad Yale, 1774 His military talents and patriotism won the friendship of Washington and a place on his staff during the American Revolution From 1784 to 1786 Humphreys was secretary to a U S mission negotiating commercial treaties in Europe While he was a member (1786–88) of the Connecticut assembly, he was one of the satirical Connecticut Wits His own copious poetry was largely patriotic and didactic He was sent abroad as a secret agent (1790), then as commissioner for Algerian affairs (1793), and finally as minister plenipotentiary to Spain (1796) On his return in 1802 he brought 100 Merino sheep to improve New England flocks, in 1806 he set up his own large woolen mill at Humphreysville (now Seymour), Conn , and developed a paternalistic community there for his orphan boy laborers See biography by F L Humphreys (1917)

Humphreys, Joshua, 1751-1838, American ship designer in Philadelphia He was commissioned by the Continental Congress to alter the vessels of the fleet commanded by Esek Hopkins in the Revolution When the navy appropriation act was passed in 1794, he submitted speedier, longer, and flatter models, and as a result he was appointed naval constructor The success of his frigates, the *United States, Constitution, Chesapeake, Constella-*

tion, President, and *Congress*, led to foreign offers for his services

Humphreys, William Jackson, 1862–1949, American physicist, b Gap Mills, Monroe co, W Va., grad Washington and Lee Univ. (B A., 1886, C E., 1888), Ph D Johns Hopkins, 1897 He taught in several institutions (1889–1905), then was professor of meteorological physics of the U S Weather Bureau (1905–35) and at George Washington Univ (1911–34) He was director from 1905 to 1908 of a weather research station at Mt Weather, Va His books include *Physics of the Air* (1920, 3d ed, 1940), *Weather Proverbs and Paradoxes* (1923, 2d ed, 1934), *Ways of the Weather* (1942), *Fogs, Clouds, and Avalon* (1943), his autobiographical *Of Me—W J Humphreys* (1947), and, with W A Bentley, *Snow Crystals* (1931).

Humtah (-'tŭ), unidentified city, apparently near Hebron Joshua 15 54

humus (hū'mus), decayed vegetable and animal matter, an important ingredient of fertile, productive SOIL Soils such as pure sand of desert regions and those which are composed almost solely of clay lack humus content and for the most part are unsuitable for plant growth Among the functions humus performs are conserving moisture, loosening soil particles to admit air and water, furnishing many plant-food elements, and, through the activity of the bacteria it may contain, making available for plants mineral nutrients which might otherwise remain inaccessible Humus can be restored to depleted soil by the use of animal and green manures, peat, and leaf mold (a mixture of decaying vegetation and soil) Humus tends to be dark in color, and black soils, of which it forms a large part, are usually very fertile

Hunan or **Hu-nan** (both hōō'nan'), province (79,062 sq mi, pop 20,171,117), SE China The capital is Changsha The province, largely hilly to mountainous, is drained by three rivers, the Siang, the Yüan, and the Tsz, which empty into Tungting Lake in the northeast These waterways and several railroad lines provide adequate transportation The climate is mild, and large crops of rice, tea, cotton, and tobacco are grown There are extensive reserves of timber, especially pine Hunan is one of the main mineral centers of China It has vast fields of easily mined coal and an enormous supply of antimony Manganese, iron, lead, zinc, tin, wolfram, mercury, and sulphur are also found

hundred, formerly, in English law, administrative district intermediate between a tithing and a county The origin of the term is not certainly known, many authorities believe that in Anglo-Saxon times it designated a territory inhabited by 100 landowners The members of a hundred were jointly liable in damages for certain offenses committed within the territory In each territory there was a hundred court with petty criminal and civil jurisdiction The hundreds were almost totally abolished in the 19th cent

Hundred Days, name given to the period of Napoleon's attempt to rebuild his empire after his return from Elba They are counted from March 20, 1815, when Napoleon arrived in Paris, to June 28, 1815, when Louis XVIII returned in state, after Napoleon's disastrous WATERLOO CAMPAIGN

Hundred Years War, 1337–1453 The basic cause of the Hundred Years War between England and France was a dynastic quarrel which had come into existence when the conquest of England by William of Normandy created the problem of a state lying on both sides of the English Channel In the 14th cent the English lands in France were confined to the duchy of GUIENNE The English kings resented having to do homage to the French kings for Guienne and felt menaced by the increasing authority of the French crown over its great feudal vassals The immediate causes of the Hundred Years War were the dissatisfaction of EDWARD III of England with the nonfulfillment by PHILIP VI of France of his pledges in regard to restoring a part of Guienne taken by Charles IV, Edward's attempt to undermine the authority of the pro-French count of Flanders and so improve his commercial relations with FLANDERS, important to England as a market for raw wool and as a source of cloth, and Philip's support of Scotland against England The war may be dated from 1337, when Edward assumed the title of king of France, which he claimed belonged to him rather than to Philip Edward first invaded France from the side of the Low Countries (1339–40), winning no conspicuous successes on land, but defeating a French fleet at the battle of SLUIS (1340) In 1346 he won the battle of CRÉCY and laid siege to CALAIS, which surrendered in 1347. In 1356 the English won the battle of POITIERS, capturing King JOHN II. After prolonged negotiations, a treaty was signed at BRÉTIGNY (1360), humiliating to France in that it involved the surrender to England of Calais and practically all of Aquitaine, as well as the payment of a large ransom for the captive king The oppressive taxation of the Gascon nobles by EDWARD THE BLACK PRINCE and their appeal to King CHARLES V (1369) brought on a new period of warfare, by 1373 DU GUESCLIN had won back most of the lost French territory. In 1415, however, HENRY V of England renewed the English claims, took Harfleur, defeated the flower of French chivalry at AGINCOURT, and by 1419 had subdued Normandy, with the connivance of JOHN THE FEARLESS, duke of Burgundy PHILIP THE GOOD, successor of John the Fearless, mediated between Henry V and CHARLES VI of France (see TROYES, TREATY OF), and Charles recognized Henry as heir to the crown of France By 1429 the English and their Burgundian allies were masters of practically all France N of the Loire, but in that year JOAN OF ARC raised the siege of Orléans, defeated the English at Patay, and saw CHARLES VII crowned king of France at Rheims Her capture by the Burgundians and her judicial murder after extradition to the British did not stop the renewal of French successes In 1435 France, at the cost of exorbitant concessions, obtained the alliance of Burgundy (see ARRAS, TREATY OF) In 1449–50 the French reconquered Normandy, and in 1449–51 all Guienne but Bordeaux was taken. After the fall (1453) of Bordeaux the only British possession in France was Calais (conquered by France in 1558). England, torn by the Wars of the Roses, made no further attempt to conquer France The Hundred Years War inflicted untold misery on France Farm lands were laid waste, the population was decimated by war, famine, and the Black Death, and marauding bands of soldiers (see ÉCORCHEURS) terrorized the countryside Civil wars (see JACQUERIE, CABOCHIENS, ARMAGNACS AND BURGUNDIANS) and local wars (see BRETON SUCCESSION, WAR OF THE) added to the destruction and to the social disintegration Yet Charles VII's successor, LOUIS XI, skillfully turned these evils into benefits The virtual destruction of the feudal class enabled him to unite France more solidly under the royal authority and to further the growth of the middle class From the ruins of the war an entirely new France emerged As for England, the results of the war were as decisive as for France After the Hundred Years War it ceased to be a continental power and increasingly sought expansion as a sea power The great chronicler of the war was FROISSART Shakespere, though taking liberties with history, painted a panorama of the war in *Henry V* and *Henry VI* For bibliography, see ENGLAND and FRANCE

Huneker, James Gibbons (hū'nĭkur), 1860–1921, American essayist and music critic, b Philadelphia The soundness of his criticism, together with his originality and pungency of style, made him a leading critic in Europe and the United States He was music, art, and dramatic critic for the New York *Sun* (1902–17), then music critic for the *Times* (1917–19) and later for the *World* (from 1919 until his death) His books include *Mezzotints in Modern Music* (1899), *Chopin* (1900), *Iconoclasts—a Book of Dramatists* (1905), *Franz Liszt* (1911), *Unicorns* (1917), and *Bedouins* (1920) A collection of his essays, edited by H L Mencken, appeared in 1929 See his *Letters* (1922) and *Intimate Letters* (1924), biography by Benjamin de Casseres (1925)

Hungabee (hŭng'gubē), mountain, 11,305 ft high, E British Columbia, in the Canadian Rockies in the famous Lake Louise district First climbed in 1903, it is well known to alpinists because of the challenge offered by its many special difficulties

Hungarian language, Finno-Ugric language See LANGUAGE (table)

Hungarian literature Until the 19th cent Latin was the official and literary language of Hungary The *Funeral Oration* (c 1230) is the oldest surviving work in Magyar, some chronicles of the 14th and 15th cent exist The Reformation brought about translations of the Bible by both Catholic and Protestant writers The poets Balint Balassa (late 16th cent) and Nicholas Zrinyi and Stephen Gyongyossi (of the 17th cent) were followed in the 18th cent by Vitez Michael Csokonai and Francis Faludi The last quarter of that century saw the rebirth of Hungarian literature, initiated by George Bessenyei, and the reform of the Hungarian language, led by Francis Kazinczy The establishment (1790) of a national theater and the founding (1825) of the Hungarian Academy of Science assured the future of a Hungarian national literature The leading literary figures in the 19th cent were the poets Alexander Kisfaludy and his brother Charles (also a noted dramatist), John Arany, Michael Vorosmarty, and Alexander Petofi and the novelist Maurice Jokai. Andrew Ady is the outstanding Hungarian poet of the early 20th cent, the dramatists Francis Herczeg and Ferenc Molnar and the novelists Zsolt Harsanyi, Francis Kormendi, Louis Zilahy, and Jolan Foldes are best known to the English-speaking public

Hungary, Hung *Magyarország* (mŏ'dyŏrŏr"sāg), republic (35,935 sq. mi, pop. 9,319,999), SE Europe BUDAPEST is the capital Hungary borders on Czechoslovakia in the north, on the Ukraine in the northeast, on Rumania in the east, on Yugoslavia in the south, and on Austria in the west The DANUBE forms the Czech-Hungarian border from near Bratislava to near ESZTERGOM, then turns sharply south and bisects Hungary To the east of the Danube the extremely fertile Great Hungarian Plain (Hung. *Alföld*) extends beyond the Hungarian boundaries to the Carpathians and to the Transylvanian Alps To the west of the Danube are the Little Alfold and the basin of Lake BALATON, which lies between the Bakony and Vertes Mts. to the north and the Mecsek Mts to the south. Except for minor changes in 1947, the present frontiers were established in 1920 by the Treaty of Trianon (see TRIANON, TREATY OF), which stripped Hungary of more than two thirds its former area, including most of its mountains, forests, and mineral resources However, Hungary still has some coal, manganese, bauxite, natural gas, and petroleum. The only important forests are in the Matra Mts, NE of Budapest, and in the Bakony Mts Mt Kekes (3,330 ft high), in the Matras, is the highest peak On the eastern slope of the Matras, near Tokaj, excellent wine (Tokay) is produced More than half the population of Hungary is agricultural, and many of the larger cities are merely rural agglomerations Despite the cold winters and the hot, often dry, summers, agricultural production has been increased since the 19th cent by extensive irrigation and flood control The Pussta, the cattle-grazing lands, still covered a large part of the Great Hungarian Plain in the early 19th cent Since then the progress of agriculture has reduced the Puszta to a small area around DEBRECEN Wheat, maize, potatoes, rye, barley, grapes, and fruit are grown, and livestock (beef cattle, hogs, horses, sheep) and poultry (notably fattened geese) are raised Industry since 1919 has centered around Budapest GYOR, MISKOLC, and PECS are lesser industrial centers Next to food products, the chief industrial products are textiles, machinery, chemicals, and glass Hungary, a plains country in the geographic center of Europe, has been the meeting place and battleground of many peoples Its heterogeneous population was its major problem before 1919, in the reduced Hungary, more than 90 percent of the population are Hungarians (Magyars) and something more than 5 percent, Germans The Jews, most of whom immigrated in the 19th cent, were greatly reduced in the Second World War, and the small Slavic and Rumanian minorities were slated for exchange after 1945 for their large Magyar counterparts in neighboring countries The Roman provinces of Pannonia and Dacia, conquered under Tiberius and Trajan, embraced part of what later became Hungary The HUNS and later the OSTROGOTHS and the AVARS settled here for brief periods In the late 9th cent the MAGYARS, a Ugric tribe, conquered all or most of Hungary and TRANSYLVANIA Their semilegendary leader, ARPAD, founded their first dynasty Settling as farmers, the Magyars apparently amalgamated with the earlier settlers, but they also continued to press westward until defeated by King (later Emperor) Otto I at the LECHFELD (955) Halted in its expansion, the Hungarian state began to solidify Its first king, ST STEPHEN (1001–38) completed the Christianization of the Magyars and built the authority of his crown, which for 945 years remained the symbol of national existence, on the strength of the Roman Catholic Church The CUMANS and the PETCHENEGS, from S Russia, began their raids into Hungary in the 11th cent, but by the 15th cent they and other elements (Slavic, German, and Latin) were absorbed and welded into a social order that contained most of the elements of feudalism A few very powerful nobles—the magnates—through the favor of the kings won ever-widening privileges at the expense of the lesser nobles, the peasants, and the towns This situation led the lesser nobles in 1222 to force King ANDREW II to grant the Golden Bull (the "Magna Carta of Hungary") which, though primarily devised to favor the nobility, actually limited the king's power to alienate his own authority to the magnates However, under Andrew's son, BELA IV, the kingdom barely escaped annihilation, the Mongol invaders, defeating Bela at Muhi (1241), occupied the country for a year, OTTOCAR II of Bohemia also defeated Bela, who was moreover threatened by his own rebellious son, STEPHEN V Under Stephen V's son, LADISLAUS IV, Hungary fell into anarchy, and when the royal line of Arpad died out (1301) with Andrew III, the magnates seized the opportunity to acquire still greater authority In 1308, Charles Robert of ANJOU (CHARLES I of Hungary) was elected king, the first of the ANGEVIN line His autocratic rule somewhat checked the magnates and furthered the towns Under his son, LOUIS I (Louis the Great), Hungary reached its greatest territorial extension After his death, a series of foreign rulers succeeded SIGISMUND (later also emperor), son-in-law of Louis; ALBERT II of Austria, son-in-law of Sigismund, and LADISLAUS III of Poland (Uladislaus I of Hungary) During their reigns the Turks began their sweeping advance through the Balkans, defeating the Hungarians and their allies at KOSSOVO (1389), NIKOPOL (1396), and VARNA (1444) John HUNYADI, acting after 1444 as regent for Albert II's son, LADISLAUS V, summoned all his forces and through his victory at Belgrade (1456) gave Hungary a brief respite Hunyadi's son, MATTHIAS CORVINUS, elected king in 1458, established once more the glory of Hungary, but it

ended with his death. Under ULADISLAUS II and LOUIS II the nobles gained still more power, Transylvania became virtually independent under the ZAPOLYA family, the peasants, rising in revolt, were crushed (1514) Louis II met disaster and death at the hands of the Turk in the battle of MOHACS (1526) That date is commonly taken to mark the Turkish ascendancy Ferdinand of Austria (later Emperor FERDINAND I), as brother-in-law of Louis II, claimed the Hungarian throne and was elected king by a faction of nobles while the other faction chose John Zapolya as JOHN I In the long wars that followed, Hungary fell into three parts, the western, where Ferdinand and his successor, RUDOLF II, exercised a precarious rule constantly challenged by such Hungarian leaders as Stephen BOCSKAY and Gabriel BETHLEN, the central plains, which were completely under Turkish domination, and Transylvania, ruled by noble families who were more or less vassals to the Turks (see BATHORY and RAKOCZY) The Reformation, favored by the nobles, had nearly made Hungary a Protestant country when Cardinal PAZMANY brought it back into the Catholic fold The principle of toleration was, however, generally maintained throughout the following centuries, and a large minority of Magyars are still Calvinists Hungarian opposition to Austrian domination went to such extremes as the assistance THOKOLY gave to the Turks during the siege of Vienna (1683) Emperor LEOPOLD I, however, through his able generals, Prince EUGENE OF SAVOY and Duke CHARLES V of Lorraine, soon regained his lost ground Budapest was liberated in 1686, by the Peace of Karlowitz (1699), most of Hungary proper was recovered, Transylvania, with the defeat of Francis RAKOCZY II, was recovered in 1711, and in 1718 the BANAT was reconquered The Peace of Belgrade (1739) confirmed the Hapsburgs in their control of Hungary. Their rule, however, was uneasy The Hungarians were loyal to MARIA THERESA in her wars, but many of the centralizing reforms of JOSEPH II had to be withdrawn because of the outbreaks they caused The office of palatine (regent of Hungary, traditionally held by members of the great Hungarian families, was given from 1790 until its abolition in 1867 to members of the Hapsburg family The rise of Hungarian nationalism was hastened by the French Revolution Long repressed by Metternich, it burst forth in the Revolution of 1848 KOSSUTH and DEAK were the chief leaders in the Hungarian revolution War broke out between revolutionary Hungary and Austria, and in April, 1849, Hungary was proclaimed an independent republic under the presidency of Kossuth Soon afterward, however, the republic collapsed, Russian troops having come to the aid of the Austrians and the Slavic and Rumanian minorities having rebelled against Kossuth's nationalist regime The Hungarian surrender at Vilagos (Aug., 1849) was followed by ruthless reprisals and by the abolition of Hungarian autonomy After its defeat in the Austro-Prussian War (1866), Austria was obliged to compromise with Magyar national aspirations The *Ausgleich* of 1867 set up the AUSTRO-HUNGARIAN MONARCHY, in which Austria and Hungary were nearly equal partners Hungary then also included Transylvania, SLOVAKIA, Ruthenia, CROATIA and Slovenia, and the Banat Emperor FRANCIS JOSEPH was crowned (1867) king of Hungary at Budapest and Count Julius ANDRASSY became the first constitutional premier of Hungary Though some conflict between Austria and Hungary continued, a common interest—to keep the underprivileged minorities under control—united the two countries Until the First World War, when republican and socialist agitation began to threaten the established order, Hungary was one of the most aristocratic and reactionary countries of Europe, with the magnates as firmly entrenched as ever The collapse of the Dual Monarchy and the abdication (Nov., 1918) of Emperor CHARLES I (as Charles IV king of Hungary) brought the liberals into power The new government, under Michael KAROLYI, proclaimed Hungary an independent republic After the national disappointment caused by the peace conference, Hungary swung more to the left In March, 1919, the Communist Bela KUN, supported by the Socialists, seized the power and set up a dictatorship of the proletariat The subsequent Red terror was bloody, but was even exceeded by the White terror that followed the intervention by Rumanian troops and the defeat (July, 1919) of Kun's forces After the Rumanians withdrew, Admiral HORTHY DE NAGYBANYA established a government and in 1920 was made the regent of a kingdom without a king The "unwritten constitution" of Hungary identified the state with the sacred crown of St Stephen The underlying theme of subsequent Hungarian history was the Magyar endeavor and agitation to recover the territories lost in 1920 The frustration of these endeavors by the LITTLE ENTENTE and France led to the friendship of Hungary with Fascist Italy and, ultimately, the Hungarian alliance (1941) with National Socialist Germany The authoritarian domestic policies of the premiers Stephen BETHLEN and Julius GOMBOS, though tempered by a parliamentary system, safeguarded the power of the feudalistic landowners and ignored the demand for a land reform, for which the leftist and moderate parties were pressing Between 1938 and 1944 Hungary temporarily regained, through the favor of Germany and Italy, territories from Czechoslovakia, Yugoslavia, and Rumania It declared war on Russia (June, 1941) and on the United States (Dec., 1941) The Russian army conquered (Oct., 1944–Feb., 1945) Hungary from the German troops who defended it after a provisional Hungarian government had signed an armistice in Jan., 1945 The campaign caused much devastation A republican constitution was adopted in 1946 The peace treaty signed by Hungary and the Allies at Paris in 1947 restored the Trianon boundaries and required Hungary to pay $300,000,000 in reparations to the USSR, Czechoslovakia, and Yugoslavia The new regime, a coalition of the left with the middle-of-the-road Small Landholders party, instituted long-needed land reforms Early in 1948 the Communist party, though a minority, forced the resignation of Premier Ferenc Nagy through a coup d'état and gained full control over the state Early in 1949 Hungary was proclaimed a People's Republic and parliamentary elections, with a single slate of candidates—were followed by radical purges in the Communist party which thoroughly aligned Hungary with the Soviet bloc The trial of Cardinal MINDSZENTY introduced the large-scale attack of the Communist regimes of Eastern Europe on the Catholic Church See W B F Bovill, *Hungary and the Hungarians* (1908), Henry Marczali, *Hungary in the Eighteenth Century* (Eng tr., 1910), A B Yolland, *Hungary* (1917), Paul Teleki, *The Evolution of Hungary* (1923), Oszkar Jaszi, *Revolution and Counter-Revolution in Hungary* (Eng tr., 1924), L S Smith, *Hungary Land and People* (1933), D G Kosary, *A History of Hungary* (1941) See also bibliography under AUSTRO-HUNGARIAN MONARCHY

hunger strike, refusal of a political or other prisoner to eat, usually as a protest against the legality of his sentence or against conditions in prison An ancient device, it was revived in the early 20th cent by the English militant suffragists and became the accepted technique of women sentenced for suffragist activities The passage of the "Cat-and-Mouse Act" in 1913, by which prisoners in ill-health could be temporarily discharged, ended the forced feeding to which the authorities had resorted The Franchise Act of 1918 ended the suffragist hunger strikes The hunger strike was used by Irish nationalists in 1912 and later In 1917 Thomas Ashe, a hunger striker in Ireland, died as the result of forced feeding Hunger strikes were used by the Sinn Feiners in 1920, and Terence MacSwiney, lord mayor of Cork, died in a London prison after a fast of 74 days Thereafter, hunger striking was forbidden by the Sinn Fein It was used again in 1923 by the Republican group after the Irish Free State had been established Hunger striking was used between 1917 and 1919 by American suffragists and also by conscientious objectors imprisoned in the United States Gandhi in India several times fasted in religious penance inflicted upon himself, but until the fast of 1933 not in jail and never as a protest against imprisonment See Sylvia Pankhurst, *The Suffragette Movement* (1931)

Hungtze (hôông'dzŭ') Mandarin *Hung-tse,* lake, NE Anhwei and W Kiangsu provs., China The Yellow River flows through the lake

Hunkers, conservative faction of the Democratic party in New York state in the 1840s, so named because they were supposed to "hanker" or "hunker" after office In opposition to them stood the radical Democrats or BARNBURNERS Among other things the Hunkers favored internal improvements and liberal chartering of state banks, they opposed antislavery agitation They generally controlled the party machinery and the patronage In the 1840 gubernatorial nomination they turned against the Democratic candidate, Gov Silas Wright, a Barnburner The Barnburners retorted in kind by voting for the Free-Soil ticket in the 1848 presidential election, which thereby went to the Whig candidate, Zachary Taylor Those Barnburners who did not persist in their antislavery views were welcomed back to the party fold in 1850 The Hunkers themselves, however, subsequently divided into the "Softs" led by William L Marcy and Horatio Seymour, who supported President Franklin Pierce, and the "Hards" led by Daniel S Dickinson, who opposed Pierce

Huns, nomadic and pastoral people of unknown ethnological affinities who originated in N central Asia and appeared in Europe in the 4th cent A D Their organization was predominantly military Divided into hordes, they undertook extensive independent campaigns, living off the countries they ravaged The Huns have been described as short and as of somewhat Mongoloid appearance Their military superiority was due to their small, rapid horses, to which they were practically welded Despite the similarity of their tactics and habits with those of the White Huns, the MAGYARS, the MONGOLS, and the TURKS, their connection with those peoples is either tenuous or—in the case of the Magyars and the Turks—unfounded The Huns appear in history in the 3d cent B C., when the Great Wall of China was erected to contain them. Called Hsiung-nu by the Chinese, the Huns occupied N China from the 3d cent A D until 581 Having swept across Asia, they invaded the lower Volga valley c 372 and advanced westward, pushing the Germanic OSTROGOTHS and VISIGOTHS before them and thus precipitating the great waves of migrations that destroyed the Roman Empire and changed the face of Europe They crossed the Danube, penetrated deep into the Eastern Empire, and forced (432) Emperor Theodosius to pay them tribute Attila, their greatest king, had his palace in Hungary Most of the territories which now constitute European Russia, Poland, and Germany were tributary to him and he was long in Roman pay as Roman general in chief When Rome refused (450) further tribute, the Huns invaded Italy and Gaul and were defeated (451) by AETIUS, but they ravaged Italy before withdrawing after Attila's death (453, see ATTILA) Their later movements are little known, some believe that the WHITE HUNS were remnants of the Hunnic people. See Thomas Hodgkin, *Italy and Her Invaders,* Vol. I (rev ed., 1892), W M McGovern, *Early Empires of Central Asia* (1939), E A Thompson, *A History of Attila and the Huns* (1948)

Hunt, Gaillard (gīlyard'), 1862–1924, American historian and editor, b New Orleans He served (1887–1909, 1917–24) the Dept of State in various capacities, his most important work being done as chief of the division of publications and editor From 1909 to 1917 he was chief of the division of manuscripts in the Library of Congress Among his books are *The Life of James Madison* (1902), *John C Calhoun* (1908), *Life in America One Hundred Years Ago* (1914), *The Department of State of the United States Its History and Functions* (1914), and *Israel, Elihu, and Cadwallader Washburn* (1925) He edited *The Writings of James Madison* (9 vols., 1900–1910) and Vols XVI to XXVII of the *Journals of the Continental Congress, 1774–1789*

Hunt, Henry, 1773–1835, English radical politician His early life, unsettled and unsuccessful, disposed him to sympathy with the oppressed, and in 1807 he organized a society for electoral reform "Orator" Hunt took part with the revolutionist, Arthur Thistlewood, in the Spa Fields meeting (1816) and gained his chief notice by presiding at the meeting (1819) at Manchester which ended in the bloody PETERLOO MASSACRE He was imprisoned for two years, after a trial of doubtful legality Both before and after this experience Hunt sat in Parliament but exerted little influence

Hunt, Henry Jackson, 1819–89, Union general in the Civil War, b Detroit, grad West Point, 1839 An artillery officer, he was twice brevetted in the Mexican War and later was one of three who revised the light-artillery tactics In the Civil War his artillery covered the Union retreat at the first battle of Bull Run (July, 1861) At Malvern Hill in the Seven Days battles (1862), he commanded G B McClellan's reserve artillery effectively and was made a brigadier general of volunteers Hunt, succeeding J F Barry in Sept., 1862, was chief of artillery of the Army of the Potomac for the rest of the war His guns decimated the ranks of Pickett's men in the famous charge at Gettysburg (July, 1863) Hunt was in charge (1864–65) of the siege operations at Petersburg

Hunt, Holman see HUNT, WILLIAM HOLMAN

Hunt, Leigh (James Henry Leigh Hunt) (lē), 1784–1859, English poet, critic, and essayist, friend of the eminent literary men of his time He exerted a strong influence on the early work of Keats With his brother John, Hunt established the *Examiner* (1808–21), a liberal weekly to which Leigh Hunt contributed political articles Because of an outspoken article reflecting on the prince regent, the brothers were imprisoned from 1813 to 1815, but continued to edit the journal from jail In 1822 Hunt joined Shelley and Byron in Italy and launched the *Liberal* (1822–23), which proved a failure During other periods Hunt contributed to the *Indicator* (1819–21), the *Companion* (1828), the *Tatler* (1830–32), and *Leigh Hunt's London Journal* (1834–35) Hunt's poetical works include *The Story of Rimini* (1816), *Hero and Leander* (1819), *Captain Sword and Captain Pen* (1835), and the well-known lyrics "Abou Ben Adhem" and "Jenny Kissed Me" His literary fame, however, rests chiefly on his miscellaneous light essays and his delightful autobiography (1850) See L H Houtchens and C W Houtchens, ed., *Leigh Hunt's Dramatic Criticism, 1808–1831* (1949), biography by Edmund Blunden (1930)

Hunt, Richard Morris, 1828–95, American architect, b Brattleboro, Vt., studied in Geneva, Switzerland, and at the École des Beaux-Arts, brother of William Morris Hunt He was a conspicuous exponent of 19th-century eclecticism. He worked under T U Walter on the extensions of the Capitol at Washington In New York he founded the first American studio for training young architects, and he was one of the organizers of the American Insti-

tute of Architects, of which he became president in 1888 Most of his work was closely imitative of historic styles. It included the Lenox Library, New York city (later torn down); the first building for the Fogg Museum of Art, Cambridge, Mass , the U S. naval observatory at Washington, and the pedestal for the Statue of Liberty in New York harbor His Tribune Building in New York was one of the first elevator buildings The Administration Building at the Columbian Exposition in Chicago was the most noted of his later works See biography by Barr Ferree (1895) His son, **Richard Howland Hunt,** 1862–1931, was also an architect Among his works was a new wing for the Metropolitan Museum in New York The last years of his life were devoted to designs for large office buildings He led a movement against unrestricted skyscraper construction

Hunt, Robert, c 1568–1608, English clergyman in America He was chaplain of the expedition which settled Jamestown On June 21, 1607, he administered the first sacrament to Englishmen in America

Hunt, Thomas Sterry, 1826–92, American chemist and geologist, b Norwich, Conn He served as chemist and mineralogist (1847–72) of the Canadian Geological Survey, under Sir William Logan, and as professor of geology (1872–78) at the Massachusetts Institute of Technology An eminent theorist and a close student of the achievements of European scholars, he took an important part in the controversies of his day

Hunt, William Holman, 1827–1910, English painter, a founder of the Pre-Raphaelite brotherhood and one of its most conscientious exponents His paintings, although often crude in color and laborious in technique, are interesting because of their rigorous sincerity Hunt spared no effort to paint nature in all detail with uncompromising clarity In 1854 he visited Palestine in order to have authentic material for his religious paintings Among his best-known works are *The Light of the World* (Oxford Univ), *The Hireling Shepherd* (Manchester Gall), and *The Triumph of the Innocents* (Liverpool Gall) See his *Pre-Raphaelitism and the Pre-Raphaelite Brotherhood* (1905–6), studies by F G Stephens (1860) and A C Gissing (1936)

Hunt, William Morris, 1824–79, American painter, b Brattleboro, Vt , studied in Düsseldorf and Paris He was greatly influenced by the Barbizon school, and particularly by J F Millet In 1855 he established himself in Boston, where he introduced the ideals and methods of the Barbizon school, and as teacher and painter exerted a widespread influence upon American art His earliest works were usually figure pieces, he then turned to portraits and in his later years devoted himself chiefly to landscapes Among his best-known paintings are *Hurdy-Gurdy Boy, Girl with a Kitten,* and *Peasant Girl at Barbizon* (Mus of Fine Arts, Boston), *Girl at a Fountain, The Bathers,* and a landscape and four portraits (Metropolitan Mus), and a portrait of Chief Justice Shaw (courthouse, Salem, Mass) *Flight of Night* and *Discovery* (studies in the Metropolitan Mus), notable examples of American mural art executed for the senate chamber at Albany, N Y , have been destroyed

Hunt, Wilson Price, 1782?–1842, American explorer, leader of the overland expedition (1810–12) to Astoria, Oregon, b Hopewell, N J He moved (1804) to St Louis, Mo , and entered the fur trade As a partner in the Pacific Fur Company organized by John Jacob Astor, Hunt led the expedition—from Missouri to Astoria—which was the first after that of Lewis and Clark to cross the continent His party was the first to pass through the valley of the Snake river, they also pioneered part of what later became the Oregon Trail The extreme hardships of Hunt's expedition are portrayed in Washington Irving's *Astoria* (1836) Wilson Price Hunt was away on a sea journey to create an adequate supply system, when Astoria was sold to the North West Company He returned to the Atlantic seaboard around Cape Horn He later became a prosperous businessman in St Louis and was for 18 years postmaster there Part of his journal of his overland journey appears in P A Rollins, ed , *The Discovery of the Oregon Trail* (1935)

Hunter, David, 1802–86, Union general in the Civil War, b Washington, D C , grad West Point, 1822 He served in the Mexican War and just before the Civil War was in charge of Lincoln's bodyguard in Washington Hunter led a division of Irvin McDowell's army at the first battle of Bull Run in July, 1861, and became a major general of volunteers in August He commanded the Dept of Kansas (Nov , 1861–March, 1862) and then the Dept of the South, where forces under his general command captured Fort Pulaski, Ga , in April, 1862. Lincoln annulled Hunter's order emancipating the slaves in his department In May, 1864, Hunter assumed command of the Dept of West Virginia. After a successful advance up the Shenandoah Valley, he was driven back from Lynchburg by the Confederate general J A Early, who then raided N in the Potomac After Sheridan succeeded him in Aug , 1864, Hunter served on court-martial duty for the rest of the war

Hunter, John, 1728–93, Scottish anatomist and surgeon, studied under his brother, William Hunter. A pioneer in comparative anatomy and morphology, he made many valuable investigations and introduced several surgical techniques, including a method of ligating aneurisms which is still in use His writings include *Natural History of the Human Teeth* (1771), a work on venereal disease (1786), and *Treatise on the Blood, Inflammation, and Gunshot Wounds* (1794) Hunter's anatomical collection, acquired by the Royal College of Surgeons, London, in 1800, was the nucleus of the Hunterian Museum See studies by Stephen Paget (1897) and G C Peachey (1924),

Hunter, Robert, d 1734, royal governor of New York and New Jersey (1709–19), b Ayrshire, Scotland His administration was notably successful. He maintained a vigorous campaign against the French and Indians and cooperated with other colonies in military matters He was successful in allaying bitter political factionalism, which had plunged New York and New Jersey in turmoil for several decades, and he also straightened out financial and revenue matters Hunter was less successful with several thousand Rhenish Palatinate refugees, whom he brought over and settled on the upper Hudson to produce naval stores for England Unable to secure funds for the project from England or from his assembly, Hunter went in debt to the amount of £21,000 to save the colony Later he was governor of Jamaica until his death

Hunter, Robert Mercer Taliaferro (tŏl'ŭvûr), 1809–87, American statesman, b Essex co , Va , grad Univ of Virginia, 1829 He was a U S Representative (1837–43), serving as speaker from 1839 to 1841 Hunter became a leading states' rights Democrat and supported John C Calhoun for the presidency in 1844 He returned to the House in 1845 and entered the U S Senate in 1847, maintaining a generally conservative viewpoint before the Civil War He resigned in 1861 to become the Confederate secretary of state (1861–62) and then a Confederate senator (1862–65) In 1865 he participated in the futile Hampton Roads Peace Conference Imprisoned for several months after the war, Hunter helped organize (1867) a conservative party that saved Virginia from many of the evils of radical Republican Reconstruction See C H Ambler, ed , *Correspondence of Robert M T Hunter, 1826–1876* (1918), biography by H H Simms (1935)

Hunter, William, 1718–83, Scottish physician He was famous as a lecturer, as London's leading obstetrician, and as head of a school and museum of anatomy where many noted men were trained He bequeathed his valuable anatomical collection to the Univ of Glasgow See study by R H Fox (1901) and memoir by G C Peachey (1924)

Hunter, Port or Newcastle Harbour, estuary of the Hunter river, E New South Wales, Australia Second harbor of the state in size, it is 3 mi long and 2 mi wide The coal-loading port Newcastle is on the south shore near the entrance

Hunter College of the College of the City of New York, first free college for women, opened 1870 as Normal College, chartered 1888, renamed 1914 for its organizer and first president, Thomas Hunter There are buildings on a campus in the Bronx and a skyscraper in Manhattan, all built since 1929

hunter's moon, name for the full moon which follows that nearest to the autumnal equinox (the harvest moon) Its characteristics are similar to those of the harvest moon

hunting Through the Paleolithic period hunting was man's chief means of obtaining food and clothing In the Neolithic period man practiced agriculture, but killing game was still an important part of his work Hunting was popular among the ancients and became a usual sport in medieval Europe, where it was reserved, as far as possible, for the privileged classes by game laws Falconry and fox hunting became increasingly popular in England in the Middle Ages, and use of hunting dogs—hounds, setters, pointers, spaniels, and the like—became increasingly widespread in this period When white men arrived in America the continent abounded in game, the American Indians, who chiefly used the bow and arrow, frequently but not universally conducted their hunting under strict codes which were designed to preserve wildlife White settlers, however, often wantonly killed game, and destructive hunting began in the interest of the fur trade Later, lumber and railroad companies employed hunters to provide their companies with meat Thus many types of game animals were brought near extermination until the several states of the Union passed game laws The wildlife refuge has also been extensively used in the United States to save species of birds and animals from extinction Favorite game in the United States include quail, partridge, grouse, pheasant, snipe, duck, geese, wild turkey, deer, rabbit, woodchuck, squirrel, and Rocky Mt sheep. Big game is usually killed with the rifle Big-game hunting in Africa and India became a sport among the wealthy of the western world in the 19th cent See P R Chalmers, *The History of Hunting* (1936), R B Vale, *Wings, Fur, and Shot* (1936); R B Camp, ed , *The Hunter's Encyclopedia* (1948); J. C. Godfrey and Frank Dufresne, ed , *The Great Outdoors* (1949)

Huntingburg, city (pop. 3,816), SW Ind , NE of Evansville It has clay deposits from which pottery is made Greenhouses in the city produced the American Beauty rose

Huntingdon, Henry Hastings, 3d **earl of,** 1535–95, English nobleman Through his mother, Catherine Pole, a descendant of the duke of Clarence (brother of Edward IV and Richard III), Hastings claimed the right to succeed Elizabeth to the English throne He received some support from the Protestant party Hastings was custodian of the rival claimant, Mary Queen of Scots, for a brief period (1569–70). In 1572 he was president of the council of the north

Huntingdon, Selina Hastings, countess of, 1707–91, English religious leader, patron of the Calvinistic Methodists She was closely associated with the Wesleys and George Whitefield, when the break separated them, she took the side of Whitefield, whom she made one of her chaplains. She established chapels in Bath and other centers of fashion and appointed chaplains to take charge of them In 1768 she founded at Trevecca House in Wales a seminary for the training of ministers Later it was removed to Cheshunt, Hertfordshire All who were associated with her establishments and came under her moral control were known as "Lady Huntingdon's Connexion " Huntingdon College, Montgomery, Ala , is named for her See Sarah Tytler, *The Countess of Huntingdon and Her Circle* (1907)

Huntingdon, county, England see Huntingdonshire

Huntingdon, town (pop 1,952), S Que , on the Châteauguay river and SW of Montreal

Huntingdon, municipal borough (1931 pop 4,106, 1943 estimated pop 4,633), county town of Huntingdonshire, England, on the Ouse and on the ancient Ermine Street Oliver Cromwell was born here and studied in the grammar school Samuel Pepys also went to school here His patron, the earl of Sandwich, bought the magnificent estate "Hinchingbrooke" from the Cromwells

Huntingdon. 1 Industrial borough (pop 7,170), co seat of Huntingdon co , S Pa , E of Altoona, settled c 1755, laid out 1767, inc 1796 Its manufactures include machinery, boilers, radiators, and paper Juniata College (Church of the Brethren, coeducational, 1876) and an industrial reformatory are here Joseph Saxton, pioneer in precision machinery and in photography, was born here (1799) 2 Town (pop 1,432), co seat of Carroll co , W Tenn , NE of Jackson, in a farm area, settled and inc 1821

Huntingdon College see Montgomery, Ala

Huntingdonshire or **Huntingdon,** inland county (365 sq mi , 1931 pop 56,206, 1948 estimated pop 63,325), E central England The county town is Huntingdon The terrain is level, and the eastern portion lies in the low district known as the Fens The chief rivers are the Ouse and the Nene The region is chiefly agricultural, although it has some paper and parchment manufacture and brewing There are remains of two important Roman roads which crossed the county In Anglo-Saxon times the county was once part of the kingdom of Mercia and later came under the control of the East Anglians Huntingdon was the birthplace and home of Oliver Cromwell See *Victoria History of Huntingdon* (3 vols , 1926–36), Arthur Mee, *Bedford and Huntingdon* (1939)

hunting leopard see cheetah

Huntington, Anna Hyatt see Hyatt, Anna Vaughn

Huntington, Collis Potter, 1821–1900, American railroad builder, b near Torrington, Conn A storekeeper of Oneonta, N Y , before he went West in the gold rush of 1849, he became a storekeeper in California, and by 1853 he and his partner, Mark Hopkins, were leading Sacramento hardware merchants Seeing the desirability of a direct route to the silver mines newly opened in the present Nevada, Huntington, Hopkins, Charles Crocker, and Leland Stanford organized a railroad company (the Central Pacific) Huntington's financial acumen and success in winning subsidies and favorable legislation from Congress gave him and his partners practical control of transportation in the West. They consolidated their power in forming the Southern Pacific, of which Huntington was president after 1890 His vast fortune was left mostly to his nephew, Henry E Huntington, except for bequests to the Hampton Normal and Agricultural Institute and the Tuskegee Normal and Industrial Institute See Oscar Lewis, *The Big Four* (1938)

Huntington, Daniel, 1816–1906, American portrait and genre painter, b New York city He was president (1862–69, 1877–91) of the National Academy of Design His works include *The Sibyl* (N Y Historical Society), *Mercy's Dream* and several portraits (Metropolitan Mus.), *Chocorua Peak, New Hampshire* and a portrait of Mrs Robert L Stuart (N Y Public Library), two large historical paintings (N. Y Chamber of Commerce building); and portraits in the Union League Club, New York, the Capitol, Washington, D.C , the

National Academy of Design, New York, and the Union Theological Seminary.

Huntington, Ellsworth, 1876–1947, American geographer, b. Galesburg, Ill, grad Beloit College, 1897, M A Harvard, 1902, Ph.D. Yale, 1909 He taught in Euphrates College, Turkey (1897–1901); accompanied the Pumpelly (1903) and Barrett (1905–6) expeditions to central Asia, and wrote of his Asiatic experiences in *Explorations in Turkestan* (1905) and *The Pulse of Asia* (1907) He taught geography at Yale (1907–15) and from 1917 was research associate with professorial rank, devoting his time chiefly to climatic and anthropogeographic studies *The Climatic Factor* (1914), *Civilization and Climate* (1915, rev ed 1924), and, with S S Visher, *Climatic Changes* (1922) were notable contributions He also wrote, in collaboration with others, a series of geography texts, which includes *Principles of Human Geography* (with S W Cushing, 5th ed , 1940) Other books are *The Character of Races* (1924), *The Human Habitat* (1927) and *Mainsprings of Civilization* (1945)

Huntington, Frederic Dan, 1819–1904, American Episcopal bishop, b Hadley, Mass , grad Amherst, 1839, and Harvard Divinity School, 1842 As a Unitarian minister, he was ordained (1842) pastor of the South Congregational Church, Boston In 1855 he became preacher at the college chapel at Harvard and professor of Christian morals His decision to enter the ministry of the Episcopal Church was reached in 1860, when he organized and became rector of Emmanuel Church, Boston He was consecrated bishop of Central New York in 1869 See A S Huntington, *Memoir and Letters of Frederic Dan Huntington* (1906), biography by G C Richmond (1908) His son, **James Otis Sargent Huntington,** 1854–1935, was also an Episcopal clergyman He was a founder of the Order of the Holy Cross (1884) and from 1921 the superior of this Anglican order, which was at first concerned with work among the poor and later with missions and retreats See Vida D Scudder, *Father Huntington* (1940).

Huntington, Henry Edwards, 1850–1927, American financier, b Oneonta, N Y He was prominent in railroad and other enterprises Until the death of his uncle, Collis P Huntington, the two were business associates His estate at San Marino, near Pasadena, Calif , with botanical and other gardens, art collections, and library, together with a large endowment, was placed in the hands of trustees who were to maintain it for the public after his death The *Henry E Huntington Library and Art Gallery* has the largest collection of incunabula in America, it excels also in rare legal documents showing the growth of English and American constitutional law, Americana (especially West Coast material), and manuscript collections of English literature The special treasures of the art gallery are Gainsborough's *Blue Boy*, Reynolds's *Mrs Siddons as the Tragic Muse*, and Thomas Lawrence's *Pinkie* The library gives a certain number of research fellowships and scholarships It publishes many descriptive catalogues of its collections.

Huntington, James Otis Sargent see Huntington, Frederic Dan

Huntington, Lucius Seth, 1827–86, Canadian politician, b Quebec prov Elected (1861) as a Liberal to the legislative assembly of Canada he was solicitor general (1863–64) and later (1875–78) postmaster general of Canada, but he is chiefly remembered for having launched (1873) in Parliament the charges of corruption against Sir John A Macdonald's government which led to the Pacific Scandal and the downfall of the government

Huntington, Samuel, 1731–96, American Revolutionary patriot, signer of the Declaration of Independence, b Windham town, Conn He was a delegate (1775–84) to and president (1779–81) of the Continental Congress before serving as governor of Connecticut (1785–96)

Huntington, William Reed, 1838–1909, American Episcopal clergyman, b Lowell, Mass , grad Harvard, 1859 After a rectorship in Worcester, Mass , he entered upon his memorable ministry in Grace Church, New York city, in 1883 He took an active part in the founding and building of the Cathedral of St John the Divine, in which is the Huntington Memorial Chapel

Huntington. 1 City (pop 13,903), co seat of Huntington co , NE Ind., on the Little River and SW of Fort Wayne It is a farm trading center, and its manufactures include asbestos, radios, phonographs, and special production machinery It is the seat of Huntington College (United Brethren, coeducational, 1897) **2** Textile town (pop 1,340), SW Mass , in the Berkshires, on the Westfield river and NW of Westfield, settled 1769, inc 1775 **3** Town (pop 31,768), on NW Long Island, SE N.Y., near Oyster Bay, settled c 1660. It is a residential and resort suburb of New York city and includes Northport and other villages The site of Nathan Hale's capture is marked in Huntington Bay village. The birthplace of Walt Whitman is in West Hills. **4** City (pop. 78,836), co seat of Cabell co., W W.Va , on the Ohio and WNW of Charleston; founded 1871 as the western terminus of the Chesapeake & Ohio Railway. The largest city in the state, it is a ranking commercial center and river port It has railroad shops and produces monel metal, glass, chemicals, and shoes Marshall College (coeducational; 1837) and several other state institutions, including an industrial school for girls, a Negro children's home, and a hospital for the insane, are here

Huntington Beach, city (1940 pop. 3,738; 1946 special census pop 5,173), S Calif , on the coast and SE of Los Angeles, inc 1909 There are oil wells in the area

Huntington Library and Art Gallery see Huntington, Henry Edwards

Huntington Park, city (pop 28,648), in San Antonio township, S Calif , near Los Angeles, inc 1906 It is an industrial, residential, and resort city

Huntington Woods, residential city (1940 pop 1,705, 1947 special census pop 3,461), SE Mich., a suburb of Detroit, inc as a city 1932

Huntingtower, village, Perthshire, Scotland, near Perth Here James VI was kidnaped in 1582

Huntly, George Gordon, 4th earl of, 1514–62, Scottish statesman He was made lord high chancellor in 1546 Although a Catholic, he led a revolt against Mary Queen of Scots and was killed at the battle of Corrichie His son, **George Gordon, 5th earl of Huntly,** d 1576, was, however, a favorite of Mary and associate of the earl of Bothwell in the murder of Darnley He supported Mary's cause until 1572, when he resigned it as hopeless

Huntly, burgh (pop 3,779), Aberdeenshire, Scotland, NW of Aberdeen, in a farming region It is the birthplace of George Macdonald Huntly Castle (14th cent) was the seat of the earls of Huntly

Huntsville, town (pop 2,800), S Ont , on the Muskoka river, N of Bracebridge and S of North Bay It is a summer and winter resort for the Lake of Bays district Among its industries is a diatomaceous earth plant

Huntsville. 1 City (pop 13,050), co seat of Madison co , N Ala , between the Tennessee river and the state line, in a farm area, settled 1807, inc 1811 It produces shoes and textiles The constitutional convention was held here in 1819, and Huntsville was state capital for a few months There are many fine ante-bellum houses Near by are the State Agricultural and Mechanical Institute (for Negroes) and a state park **2** City (pop 1,739), co seat of Randolph co , N central Mo , W of Moberly, in a farm and coal area, founded c 1830 **3** City (pop 5,108), co seat of Walker co , E central Texas, N of Houston, inc 1845 The old city in pine-covered hills was the home of Sam Houston, his grave with an impressive monument, his restored home, and other memorials recall him Huntsville also has the state penitentiary and several state prison farms, and an annual rodeo offered by the prisoners draws great crowds There are plants to process cotton and pine and dairy produce

Hunyadi, John (hōōn'yŏdĭ), Hung *Hunyadi János* (yä'nōsh), c 1385–1456, Hungarian national hero, leader of the resistance against the Turks He was chosen (1441) voivode of Transylvania under King Uladislaus I (Ladislaus III of Poland) and won numerous victories over the Turks In 1444, however, the Christians were routed at Varna and the king was slain Hunyadi, after a period of confusion, was chosen (1446) regent by the Hungarian diet Young Ladislaus V, chosen king in 1444, was kept from his kingdom by his guardian, Emperor Frederick III, until 1453 When Ladislaus assumed the rule, Hunyadi laid down his regency and devoted his full energy to fighting the Turks His fight was a Christian crusade and was aided by Pope Calixtus III With St John Capistran, Hunyadi defeated (1456) the Turks at Belgrade and thus staved off the Turkish conquest of Hungary for 70 years Hunyadi was bitterly opposed by many of the Magyar nobles, among them his own son Ladislaus (Hung *László*), who was murdered in 1457 (one year after his father's death), possibly on the instigation of Ladislaus V John Hunyadi's younger son became king as Matthias Corvinus

Hupa Indians see Hoopa Indians

Hupei or **Hu-pei** (both hōō'pā'), province (71,903 sq mi , pop 20,630,350), central China Wuchang is the capital In this province the Yangtze river, flowing through the south, is joined by the Han river, coming from the northwest At their junction lie Hankow, Wuchang, and Hanyang, these cities, the hub of river, rail, and road communications, are a major commercial and industrial center of China, and they use the large coal and iron deposits found near by Most of the people of the province are, however, farmers The large lakes in the east and the many rivers throughout Hupei afford excellent irrigation facilities Wheat and barley are raised during the mild winter and rice, tea, and cotton during the hot summer.

Hupham (hu'făm), the same as Huppim.

Huppah (hŭ'pä) [Heb , =covering], chief priest. 1 Chron 24 13

Huppim, founder of a Benjamite family Gen 46 21, 1 Chron 7 12,15 Hupham Num 26 39

Hur [Heb , =cavern] **1** One who upheld a hand of Moses at Rephidim Ex. 17 12; 24.14 **2** Grandfather of Bezaleel **1**, perhaps the same as **1** 1 Chron 4 1,4. **3** Midianite king killed by the Hebrews. Num 31 8, Joshua 13 21 **4** Father of an officer of Solomon. 1 Kings 4 8 **5** Father of Rephaiah 4

Hurai (hū'rī, hū'rāĭ), the same as Hiddai

Huram (hū'–) 1 Descendant of Benjamin 1 Chron 8 5 **2, 3** See Hiram **1** and **2**

Hurd, Jacob, 1702–58, American silversmith, b Charlestown, Mass He worked in Boston His mark is his full name, initial and surname, or surname only in an ellipse, rectangle, or cartouche His sons Benjamin and Nathaniel were also silversmiths in Boston Nathaniel was noted as an engraver, especially of bookplates See Hollis French, *Jacob Hurd and His Sons* (1939)

Hurd, Peter, 1904–, American painter, b Roswell, N Mex Intended for the army, he left West Point, studied art at the Pennsylvania Academy of the Fine Arts, and worked as apprentice to the painter N C Wyeth, whose daughter he married Hurd is known for his realistic, carefully designed paintings of Western scenes and types and also as an illustrator and mural painter, in which capacity he has decorated the New Mexico Military Institute, the Big Springs, Texas, post office, and the post-office annex at Dallas, Texas He is represented in the Metropolitan Museum and the Art Institute of Chicago

hurdy-gurdy, musical instrument, first described by St Odo of Cluny in the 10th cent and very popular in the early Middle Ages It had generally three strings, caused to vibrate by a wooden wheel turned by a crank Stopping was by means of keys generally affecting only one string which played the melody, the others acting as drones Usually two players were required The late Middle Ages and the Renaissance saw the instrument made smaller and relegated to beggars and peddlers Haydn composed a few pieces for an 18th-century form of hurdy-gurdy with sympathetic strings and a set of organ pipes added The barrel organ has been called a hurdy-gurdy because of its crank and its use for street playing

Huri (hū'rī), father of Abihail **2**

Hurley, Patrick Jay, 1883–, U S cabinet officer, b Choctaw Indian Territory (now in Oklahoma), grad Indian Univ (now Bacone Junior College, Okla), 1905, and National Univ Law School, Washington, D C , 1908 He practiced law in Tulsa, Okla , was (1912–17) national attorney for the Choctaw Nation, and fought in France in the First World War as a colonel in the U S army He was Undersecretary (1929) and Secretary (1929–33) of War, served on diplomatic missions, and participated in Republican party politics After the outbreak of the Second World War, Hurley saw active fighting in the Far East as the personal representative of Gen George C Marshall and then served (1942) as the first U S minister to New Zealand He afterwards was (1942–43) President F D Roosevelt's personal representative in the Middle East, was promoted (1944) major general, and was envoy (1944–45) and ambassador to China He wrote *In Search of Australia* (1943)

Hurley, city (pop 3 375), co seat of Iron co , N Wis , on the Montreal opposite Ironwood, Mich , founded 1885, inc 1918 The city, on the Gogebic iron range, grew with mining and lumbering It is a shipping point for iron ore

hurling, popular game in Ireland played on an 80 yd by 140 yd field by two opposing teams of 15 players each It is also called hurley The ball is 10 in in circumference, cork-centered, made of rubber, and covered with horsehide After it is picked off the ground or caught by the hurler —a tapering, curved, broad-bladed wooden stick 3 ft long—the player runs with it or on his hurley as far as he can and then hurls the ball toward a team mate or toward the goal his team is attacking The hurler alone may be used in advancing the ball Three points are scored if the ball is hurled by the stick into the net strung between the goal posts, which are 16 ft high and 21 ft apart One point is scored if the ball is hurled over the crossbar, which is 8 ft from the ground This body-bruising game, akin to hockey, has been played in the United States since 1914

Huron. 1 Village (pop 1,827), N Ohio, SE of Sandusky and on Lake Erie at the mouth of the Huron, settled c 1805 With a good harbor Huron is a fishing and tourist center and a transshipping point for coal and iron ore **2** City (pop 10,843), co seat (since 1880) of Beadle co , E central S Dak , on the James river and E of Pierre, laid out 1879, inc 1883 A shipping and trade center for a large agricultural area, it has meat-packing and dairying industries The city is the site of the state fair, the state weather bureau and Huron College (Presbyterian, coeducational, 1883). Huron has city-manager government

Huron, river, c 97 mi long, rising in S Michigan among small lakes and flowing generally SE past Ann Arbor and Ypsilanti to Lake Erie c 20 mi S of Detroit

Huron, Lake, 206 mi. long and 183 mi. at its greatest width, second largest of the Great Lakes Lying 579 79 ft above sea level, it has a maximum depth

of 750 ft and an area of 23,010 sq mi. The lake is bounded on the north and east by Ontario, and on the west by Michigan It receives the waters of Lake Superior (via the St Marys river) and of Lake Michigan (via the Straits of Mackinac); it empties into Lake Erie through the St Clair river and lake and the Detroit river Georgian Bay, a large arm of the lake, indents the Ontario coast, and Saginaw Bay, a smaller arm, is in Michigan The lake's numerous islands include Mackinac and those of the Manitoulin group Iron ore, grain, coal, and limestone are the chief articles of transport across Lake Huron The principal Michigan ports are Bay City, Alpena, and Cheboygan, those on the Canadian side are Goderich, Collingwood, and Midland The lake is visited by violent storms and is usually icebound from about mid-December until early April It was probably the first of the Great Lakes to be seen by white men, possibly Étienne Brulé visited Georgian Bay c 1612 or earlier In 1615 Samuel de Champlain traversed part of Lake Huron and later made a map of it See Fred Landon *Lake Huron* (1944)

Huronian: see PROTEROZOIC ERA

Huron Indians, confederation of four North American Indian tribes, who spoke the Wyandot language (Iroquoian family) Their name for themselves was Wendat In the early 17th cent they occupied the region around Lake Simcoe and between Lake Simcoe and Georgian Bay in Ontario and numbered some 20,000 Their culture was substantially that of the area of the Eastern woodlands They lived in palisaded villages and intensively cultivated tobacco In 1615, when Champlain visited the Huron, they were at war with the Iroquois The long-standing enmity between the Huron and the Iroquois was climaxed in 1648, when the Iroquois, armed with Dutch firearms, invaded Huronia and subsequently disrupted (1649) the Huron confederacy as such It was at this time that Father Jean de BRÉBEUF, who established (1626) a Catholic mission among the Huron, and other Jesuit missionaries suffered martyrdom at the hands of the Iroquois The survivors of the Huron fled in all directions—southwest to the Tobacco Nation, south to the Neutral Nation, southeast to the Erie Indians, northeast to a French fort near Quebec The unexorable Iroquois everywhere hunted the fugitive Huron, in 1649 the Iroquois attacked the Tobacco Nation, causing the migration of these people in company with the Huron In 1650 the Neutral Nation was invaded and practically wiped out, and in 1656 the Erie Indians were almost exterminated The Huron who had fled to Quebec ultimately received a small reservation at Loretteville, but the remnants of the Huron and Tobacco Nation went under pressure from the Iroquois, first to Michigan, then to Wisconsin and Illinois, where the Sioux attacked them The Tobacco Nation and Huron eventually settled (1750) in villages near Detroit and at Sandusky, Ohio In Ohio they became known to the British as the Wyandot Indians and as such fought with the British against the Americans in both the American Revolution and the War of 1812 In 1813 their village land near Detroit and at Sandusky was deeded to them by the United States, and by 1842 they had sold their tracts and moved to Wyandotte co, Kansas In 1867 they were settled in NE Oklahoma, where they now dwell, numbering some 825 See C M Barbeau, *Huron and Wyandot Mythology* (1915)

Hurricane. **1** Town (pop 1,524), SW Utah, in a fruitgrowing area near St George, settled 1906 **2** Trading village (pop 1,103), W W Va, E of Huntington, in a farm and tobacco area, inc 1888

hurricane, tropical CYCLONE originating in the DOLDRUMS, on the western side of oceans, probably as a result of convective heating The moist, warmed air at the water's surface, being lighter than its environment, is forced aloft and replaced by the cooler, denser, surrounding air which blows spirally inward around the center or "eye" of the storm (counterclockwise in the Northern Hemisphere, clockwise in the Southern Hemisphere) Contrary to conditions prevailing in the extratropical cyclone of temperate latitudes, the hurricane has no frontal structure, and the distribution of weather elements (temperature, pressure, WIND, and cloudiness) is more or less symmetrical about the center Hurricanes occur most frequently during the late summer and autumn in the Northern Hemisphere and in the late winter and spring in the Southern Hemisphere In their early stages, these storms move in a general westerly direction in the trade-wind belts, gradually recurving to the right in the Northern Hemisphere and to the left in the Southern Hemisphere as they enter temperate latitudes, their speed of travel usually ranges from 10 to 30 mi per hour The diameter of a hurricane varies from 25 to 600 mi, and, when well developed, it is accompanied by very heavy precipitation, a barometric pressure of less than 28 5 in at the center, and winds of 75 to 200 mi per hour *Hurricane* is the term commonly applied to the tropical cyclone of the Caribbean and West Indies, the same storm is called a *typhoon* in India and China and a *baguio* in the Philippines

Hurst, Fannie, 1889–, American novelist, b Hamilton, Ohio, grad. Washington Univ., 1909. In 1915 she married Jacques S. Danielson. She gained material for her fiction by working as a waitress, a saleswoman, and a steam-laundry worker Her reputation as a writer was made with *Humoresque* (1919), a collection of short stories of which the title story was filmed with great success Her novels include *Lummox* (1923), *Back Street* (1930), *Great Laughter* (1936), and *Hands of Veronica* (1947).

Hurst, John Fletcher, 1834–1903, American Methodist bishop and educator, b Maryland, grad Dickinson College, 1854, and studied theology in Germany He was president of Drew Theological Seminary from 1873 until 1880, when he was elected bishop Bishop Hurst was founder and chancellor (1891–1902) of American UNIV, Washington, D C, although the university did not open until after his death His writings include *A History of the Christian Church* (1897–1900)

Hurst, city (pop 1,012), S Ill, NE of Carbondale, in a coal area, inc 1905

Hurtado de Mendoza, Diego (dyā'gō ōōrtä'dhō dā mändō'thä), 1503–75, Spanish poet, historian, and statesman, b Granada He was the ambassador of Charles V to England and Venice and at the Council of Trent Philip II banished him to Granada from 1568 to 1574, there he wrote his famous and surprisingly unbiased history of the Moorish rebellion, *Guerra de Granada*, which was not printed until 1627 He wrote poetry in the traditional manner, especially elegies and epistles The picaresque novel *Lazarillo de Tormes* was formerly attributed to him, but his authorship is now considered improbable

husband and wife This article discusses only the legal aspects of the married state, for the sociological aspects, see MARRIAGE In law marriage is a contractual relationship which vests the parties with a new status Most of the requisites for other binding contracts must also be present in the case of marriage Thus, the parties must have acted free from duress and must not have made fraudulent misrepresentations, otherwise the purported marriage may be dissolved by a judicial decree of NULLITY OF MARRIAGE However, marriage is unlike other contractual relationships in that it creates a personal status which may not be terminated by the will of the parties but only by a court, e g, by a DIVORCE With few exceptions, a marriage validly contracted in one place is universally recognized Thus a common-law marriage—i e, a marriage solely by consent of the parties without ceremony or registration—contracted in a state where such unions are valid will be deemed binding in states where a license to marry and a civil or religious ceremony of marriage are required At an early period common-law marriages were frequent in Europe The usual form was *sponsalia per verba de praesenti* [Latin, =marriage by words of present effect], in which the parties agreed that they were married from that time on The marriage was immediately valid for most purposes even though a ceremonial religious marriage might later be compulsory and consummation by sexual intercourse might be delayed The other form of common-law marriage was *sponsalia per verba de futuro* [Latin, = marriage by words of future effect], i e, an agreement to marry in the future, the parties might void their agreement any time prior to having sexual relations The difficulties arising from common-law marriages—e g, uncertainty of the marriage itself, doubtful legitimacy of children—led to their complete prohibition in Roman Catholic countries by the Council of Trent Although common-law marriage *per verba de praesenti* was abolished in England in 1753, it continued lawful in Scotland and in the American colonies Today most American states do not allow such marriages The former Anglo-American law of marriage was chiefly characterized by the view that husband and wife are one legal personality for whom the husband acts Accordingly, the husband determined the marital domicile, he was the dominant figure in the relation of PARENT AND CHILD, and nearly all the property of the wife passed to his absolute control for the duration of the marriage The wife ordinarily could not make separate contracts, but if her husband refused support to her or to the children, she might pledge his credit to supply the needs of her station in life After the death of a spouse the survivor usually enjoyed a partial interest in the deceased's property The wife's dower entitled her to one third of the husband's property on his death, curtesy, a similar right of the husband in the wife's property, accrued only if children had been born of the marriage In time equity recognized the wife's right during her husband's lifetime to a separate property in trust established for her benefit By the late 19th cent. the need of a separate trust property disappeared, for Great Britain and all the American states adopted "married women's property" statutes, giving to wives complete control over their property and their contracts Most states provided that in place of dower and curtesy a surviving spouse was entitled to a certain minimum share in the estate of the deceased spouse A few states, following the Spanish law, recognized community property, i e, all property acquired during the marriage is owned by both husband and wife and is divided equally on the dissolution of the marriage Some features of the older law of marriage still persist Thus, the husband in most cases still determines the marital residence, and he owes the wife a duty of support which she is not usually required to return Certain old legal actions for injury to the marital relation are still available to the husband in many states Outstanding are actions for criminal conversation, i e, a civil action against the paramour for adultery, for loss of consortium (marital services) because of physical injury to the wife, and for alienation of the wife's affections

Husein (hōōsīn'), c 626–680, Moslem saint of the Shiites, second son of ALI and FATIMA (daughter of Mohammed the Prophet) His elder brother, Hasan, was forced to abdicate as 5th caliph in favor of Muawiya The CALIPHATE thus passed away from the Alid family, though many believers upheld the sons of Ali On the death of Hasan, Husein tried to make good his own claim, though he proved irresolute in crises Finally he did lead an insurrection, but he and his band were cut down at Kerbela The day of this defeat, the 10th of Muharram, became the great holy day of the Shiites, who uphold the legitimacy of the Alid claims The tomb of Husein at KERBELA is for them a holy place of pilgrimage The name also appears as Hussein, Hosain, Hoseyn, and Hosayn

Husein (hōōsīn') or **Hoseyn** (hōsīn'), d 1729, Safavid shah of Persia (1694–1722) A weak and superstitious man, Shah Sultan Husein was surrounded by astrologers and fanatics and was able to offer little opposition to the uprising of the Afghans He gave up his throne, and the bloody rule of Mahmud followed Persian administration was restored only later by Nader Shah

Husein ibn Ali (ĭ'bŭn ä'lē), 1856–1931, Arabian political and religious leader In 1908 he succeeded his father as sherif of Mecca and thus was ruler of the Hejaz under Turkey In the First World War, after receiving British assurances that all Arab lands not under French control would be liberated, he began, in 1916, a successful revolt against the Turks in Arabia and proclaimed himself king of the Hejaz and even of all Arabia Believing that the British broke their promises to him, he refused to sign the Treaty of Versailles Great Britain lent him no support in his struggle with Ibn Saud, who defeated him in 1924, forcing him to abdicate and renounce his claim to the caliphate This claim, advanced after the Turkish parliament abolished the Ottoman caliphate in 1924, was based on Husein's membership in the Hashimite family, a branch of the Koreish tribe, to which Mohammed the Prophet had belonged In 1925 Ibn Saud took Husein's domain Husein lived (1924–30) in exile on Cyprus He died in Amman, the capital of his son Abdullah, ruler of Trans-Jordan (now Jordan) Another son, Feisal I, founded the royal line of Iraq

Hushah (hū'shu) [Heb, =haste], descendant of Judah 1 Chron 4 4

Husha (hū'shä) [Heb, =quick], friend of David, who set him to spy on Absalom 2 Sam 15–17

Husham (hū'shăm) [Heb, =swift], king of Edom Gen 36 34,35, 1 Chron 1 45,46

Hushathite (hū'shuthīt"), designation of SIBBECAI, possibly derived from HUSHAH

Hu Shih (hōō' shû'), 1891–, Chinese writer and diplomat, educated in China and the United States (at Cornell and Columbia universities) He was prominent in the Chinese literary renaissance and advocated the use of the popular speech in literature in place of the classical language He was Chinese ambassador to the United States from 1938 to 1942 See his *Chinese Renaissance* (1934).

Hushim (hu'shĭm) **1** See SHUHAM **2** Name in the genealogy of Benjamin 1 Chron 7 12 **3** Wife of a Benjamite 1 Chron 8 8,11

Husi (hōōsh), town (pop. 16,605), E Rumania, in Moldavia, SE of Jassy, near the Pruth river It is the center of a region of vineyards It was founded in the 15th cent, probably by Hussite settlers. Its cathedral was built (15th cent.) by Stephen the Great of Moldavia Here, in 1711, the Treaty of the Pruth was concluded between Tsar Peter I and Sultan Ahmed III (see RUSSO-TURKISH WARS)

husky: see ESKIMO DOG

Huss, Henry Holden (hŭs), 1862–, American composer and pianist, b. Newark, N J, pupil of Rheinberger in Munich He is a descendant of John Huss Among his compositions are concertos, choral works, orchestral pieces, and chamber music. As a pianist, he appeared with several major American symphony orchestras and in recital with his wife, the soprano Hildegard Hoffmann

Huss, John (hŭs), Czech *Jan Hus* (yän' hōōs'), 1369?–1415, Czech religious reformer Of peasant origin, he was born at Husinec, Bohemia (whence his name). He studied theology at the UNIV. of Prague, was ordained a priest c.1400, and in 1402 was appointed preacher in the Bethlehem Chapel, a foundation dedicated to preaching in the Czech language He early came under the influence of the writings of WYCLIF, and though he did not fully espouse Wyclif's doctrine, he praised it and op-

posed its condemnation (1403) by the Univ. of Prague. In his sermons Huss attacked the abuses of the clergy, thus earning the hostility of many priests, who turned the archbishop of Prague against him Huss, however, had powerful friends, notably Queen Sophia, consort of Wenceslaus IV (see WENCESLAUS, emperor) He furthermore represented the Czech national aspirations in conflict with the German elements in Bohemia In 1408 the archbishop and the university opposed the king's scheme to have Bohemia observe neutrality between the rival popes, Gregory XII and Benedict XIII (Pedro de Luna) Only the Czech members of the university supported Wenceslaus, who as a result changed (1409) the university charter by the decree of Kutna Hora, giving the Czechs a predominant position, he made Huss rector of the university The Bohemian clergy thus were split into two camps, this situation was not helped when, in the same year, the Council of Pisa deposed both popes and chose Alexander V, who was shortly succeeded by John XXIII (see COSSA, BALDASSARRE) With papal support, the archbishop forbade preaching in the Bethlehem Chapel, ordered the burning of Wyclif's books, and excommunicated (1410) Huss and his followers Wenceslaus stood by Huss and in 1411 brought about a truce, but the fight flared up again in 1412, when Huss openly denounced the bulls of John XXIII against King Lancelot of Naples and preached against the traffic in indulgences The pope excommunicated Huss, who— to save Prague from the papal interdict—retired to a castle near Tabor During his two years of exile he wrote his chief works including the *De ecclesia*, which increasingly reflected Wyclif's influence At the invitation of Emperor SIGISMUND, who granted him a safe-conduct, Huss presented himself in 1414 at the Council of Constance to justify his views The council refused to recognize his safe-conduct, and Huss was imprisoned and tried as a heretic His friend JEROME OF PRAGUE was also seized and put on trial Huss in his defense agreed that he would recant the errors which he had actually professed, but steadfastly refused to recant beliefs which he insisted he had never held and of which he felt unjustly accused (He feared that a recantation would have been an admission of guilt) Nevertheless, the council condemned his writings as heretical and sentenced Huss to be burned at the stake Huss remained admirably steadfast to the end There is a legend according to which he exclaimed, on seeing a poor old woman adding faggots to his pyre, "*Sancta simplicitas!*" Thus, however, is totally unsubstantiated See Huss's *De ecclesia* (Eng tr by D S Schaff, 1915) and letters (ed by W R Workman and R M Pope, 1904), H B Workman, *The Age of Hus* (Vol II of *The Dawn of the Reformation*, 1902), biographies by D S Schaff (1915) and Franz, Graf von Lutzow (2d ed, 1921)

Hussein see HUSEIN

Husseini (hōōsā'nē, amēn' ēl), 1896?–, Arab political leader, cousin of King Abdullah of Jordan and King Feisal II of Iraq He was inveterately opposed to the creation of a Jewish state in Palestine, and, suspected of complicity in anti-Jewish riots in Jerusalem in 1920, he fled to avoid punishment He returned under an amnesty and was appointed MUFTI of Jerusalem by the British in 1921 For his role in provoking violent dissension between Arabs and Jews in 1937 he was arrested but escaped to Lebanon Thence, just before the Second World War, he moved on to Iraq After the abortive pro-AXIS Iraqi revolt of 1941 he was flown to Rome, and in Berlin he broadcast Nazi propaganda and helped recruit Arab members for the Germans In 1946 the mufti, escaping from house arrest near Paris, arrived in Egypt, where King Farouk gave him asylum He is listed as a war criminal He is frequently called Haj Amin el Husseini, and his office is sometimes rendered grand mufti of Jerusalem

Husserl, Edmund (ĕt'mōōnt hōōs'url), 1859–1938, German philosopher Husserl applied the term *phenomenology* to his system of philosophy and developed a descriptive study of consciousness in its relationship to objects His analysis of the play of sense perception between the subjective ego and the reality of the object has influenced many philosophers His principal work was *Logische Untersuchungen* (1900–1901) See E P Welch, *Philosophy of Edmund Husserl* (1941)

Hussites (hŭs'īts), followers of John Huss After the burning of Huss (1415) and of JEROME OF PRAGUE (1416), the Hussites continued as a powerful group in Bohemia and Moravia They drew up (1420) the Four Articles of Prague, demanding freedom of preaching, communion in both kinds for laymen as well as priests, the limitation of property holding by the Church, and civil punishment of mortal sin, including simony Meanwhile the Hussite Wars (see separate article) had begun, and in their course the Hussite movement splintered into several groups The moderate Utraquist wing obtained recognition of the Compactata (see UTRAQUISTS) as the fundamental religious law of BOHEMIA from 1436 to 1567. The nobility was largely reabsorbed by the Roman Church, while many other Utraquists were fused in the 16th cent. with the Lutheran movement. The *Majestätsbrief* or Letter of Majesty (1609) of Emperor Rudolf II granted the Evangelicals, as the Lutheran Utraquists were called, official recognition, and its violation was the prelude to the Thirty Years War. Bohemia, which was overwhelmingly Protestant in the mid-16th cent, was brought back into the Catholic fold both by force and by persuasion However, the Evangelicals did not entirely disappear, nor did the other major communion, the MORAVIAN CHURCH, which probably stems from the radical wing of the Hussites, the TABORITES In 1781 Emperor Joseph II by his Edict of Toleration gave recognition to the Lutheran and Calvinist communions, but not to the native Czech Hussite movement, which continued to have strong roots in the people The Hussite doctrine remains alive among several Protestant groups in modern Czechoslovakia, and attempts have been made even among the Catholic Czech clergy to rehabilitate Huss See Frantisek Palacky, *Geschichte Böhmens* (5 vols, 1836–67), Ernest Denis, *Études d'histoire bohême* (new ed, 1918)

Hussite Wars, series of conflicts in the 15th cent, caused by the rise of the Hussites (see separate article) in Bohemia and Moravia It was a religious struggle between Hussites and Catholics, a national struggle between Czechs and Germans, and a social struggle On the death (1419) of Wenceslaus IV of Bohemia (see WENCESLAUS, emperor), the Hussites in Bohemia and Moravia took up arms to prevent his brother—their archenemy, Emperor SIGISMUND—from entering into his succession John ZIZKA, the Hussite leader, expelled Sigismund in 1420 and routed him again at Kutna Hora in 1422 From 1419 to 1436 Bohemia had no effective king, although a Polish prince, Korybut, was offered the crown in 1421 and nominally held it until 1427 After the death (1424) of Zizka the division between the radical and the moderate parties of the Hussites—the TABORITES and the UTRAQUISTS—widened A Taborite, PROCOPIUS THE GREAT, assumed the succession of Zizka as military commander of the Hussites In 1425–26 a Hussite army invaded Silesia and Saxony, and in 1429–30 the united Hussite forces penetrated as far as Franconia Several crusades against the Hussites were utterly routed by the Czechs, whose military organization and tactics were much superior to those of their opponents Negotiations with the Council of Basel began, especially through the Univ of Prague, and in 1433 the Czech delegates arrived at Basel (see BASEL, COUNCIL OF) The result was the conclusion of the Compactata (see UTRAQUISTS), by which the moderate Hussites were taken back into the Roman Church The Compactata were rejected by the Taborites Civil war now broke out between the Utraquists and the Taborites (predominantly the party of the lower classes) At the decisive battle of Lipany (1434) the Taborites were routed, and Procopius was killed At a council meeting (1436) at Jihlava the Compactata were ratified and Sigismund was recognized as king of Bohemia On the death (1439) of Sigismund's successor, Albert II, the Utraquist leader GEORGE OF PODEBRAD governed Bohemia—first in the name of LADISLAUS V and from 1458 as king He refused to accept the papal revocation (1462) of the Compactata and was declared deposed in 1466 A new war began between George and the nobles, and in 1468 MATTHIAS CORVINUS of Hungary attacked Bohemia By the time peace was made (1478), long after George's death, the religious element of the wars had largely disappeared See Franz, Graf von Lutzow, *The Hussite Wars* (1914)

Husum (hōō'zōōm), city (pop 23,822), Schleswig-Holstein, N Germany, a port on the North Sea Chartered in 1603, it soon became a prosperous commercial city, but it later declined Many fine patrician houses remain Husum is now noted as a cattle market It is the scene of many of Theodor Storm's short stories

hutch see CHEST

Hutcheson, Ernest, 1871–, Australian-American pianist, studied at the Leipzig Conservatory Appearances in Germany, Russia, Australia, and the United States established him as one of the foremost concert pianists He taught (1900–1912) at the Peabody Conservatory, Baltimore, and was (1911–44) head of the piano department of the Chautauqua Institution In 1933 he became dean of the Juilliard School of Music, of which he was made president in 1937, becoming president emeritus in 1945 He is the composer of concertos, orchestral pieces, and piano pieces and the author of several books, including *The Literature of the Piano* (1948)

Hutcheson, Francis, 1694–1746, English philosopher He was a professor at the Univ of Glasgow from 1729 until his death His reputation rests on four essays published anonymously while he was living in Dublin, prior to his college teaching Two of them were included in *An Inquiry into the Original of Our Ideas of Beauty and Virtue* (1725) and two in *An Essay on the Nature and Conduct of the Passions and Affections, with Illustrations on the Moral Sense* (1728) Although one of the first to write on the subject of aesthetics, he was primarily known in the field of ethics. According to Hutcheson, man has many senses, the most important of which is the moral sense This "benevolent theory of morals," in which man has a desire to do good, was a development of Shaftesbury's natural affection to benevolent action The criterion of moral action was the "greatest happiness for the greatest numbers," an anticipation of the utilitarian philosophers in word as well as spirit See Hutcheson's *System of Moral Philosophy* (with memoir by the Rev William Leechman, 1755)

Hutchins, Maude Phelps McVeigh, American sculptor, b New York city With M J Adler she wrote *Diagrammatics* (1932) She married Robert Maynard Hutchins in 1921, they were divorced in 1948

Hutchins, Robert Maynard, 1899–, American educator, b Brooklyn, N.Y, studied at Oberlin College, grad Yale, 1921 After teaching at the Lake Placid (N Y) School, he became secretary of Yale in 1923, taught in the Yale Law School (1925–27), and served as dean (1927–29) With M C Winternitz, dean of the medical school, he organized the Institute of Human Relations at Yale In 1929 he became president of the Univ of Chicago, where he reorganized the administrative system and put into effect the "Chicago plan," i e, a four-year junior college and a liberal arts university divorced from professional schools From 1945 his title was chancellor of the university An enthusiast for adult education, he received in 1946 a year's leave of absence to promote the "great books" program His books include *The Higher Learning in America* (1936) and *Education for Freedom* (1943)

Hutchins, Thomas, 1730–89, American frontiersman, surveyor, and geographer, b Monmouth co, N J He took part in the French and Indian War and gained a reputation for his engineering ability through planning Fort Pitt and other works His journals of military expeditions in the Western country are valuable historical sources A captain in the British army and in London at the opening of the Revolution, Hutchins refused to bear arms against America and was imprisoned, charged with high treason Released in 1780, he escaped to France and ultimately to Charleston, S C, where he joined the patriot forces In July, 1781, he became geographer to the United States In 1785 he assumed charge of the survey of the Northwest Territory

Hutchins, William James, 1871–, American educator and clergyman, b Brooklyn, N Y, grad Yale, 1892, and Union Theological Seminary, 1896 He was pastor of Bedford Presbyterian Church, Brooklyn (1896–1907), professor of homiletics at Oberlin (1907–20), and from 1920 until he retired in 1939 president of Berea College Robert Maynard Hutchins is his son

Hutchinson, Anne, c 1591–1643, religious leader in New England, b Lincolnshire, England She emigrated (1634) with her husband and family to Massachusetts Bay, where her brilliant mind and her kindness won admiration and a following The informal discussions at her home gave scope to Puritan intellects, but her espousal of the covenant of grace as opposed to the covenant of works (i e, she tended to believe that faith alone was necessary to salvation) caused John COTTON, John WINTHROP, and other former friends to view her as an antinomian heretic She defied them, was tried by the General Court, and was sentenced (1637) to banishment for "traducing the ministers" Several of her followers - including William CODDINGTON, John Wheelwright, John Underhill, and John Clarke—also left Massachusetts Bay Her life continued stormy After helping Coddington to found the present Portsmouth, R I, she quarreled with him and, with Samuel Gorton, ousted (1639) him After Coddington's return to power, she moved (1642) to Long Island and then to what is now Pelham Bay Park in New York city There she and all the other members of her family but one were killed by Indians See Winifred K Rugg, *Unafraid* (1930), R P Bolton, *A Woman Misunderstood* (1931)

Hutchinson, Thomas, 1711–80, colonial governor of Massachusetts (1771–74) and historian, b Boston, grad Harvard, 1727 A descendant of Anne Hutchinson, he was a man of wealth and prominence, of learning, and of notable integrity He entered public life when he became a member of the General Court in 1737 When the cost of the Louisburg campaign was repaid to Massachusetts, he proposed (1748) that the money be used to redeem the colony's depreciated currency The plan, which was successful in stimulating trade later, caused Hutchinson to lose the election in 1749 and aligned him with the conservatives He was a member of the governor's council (1749–66), a delegate to the Albany Congress (1754), and lieutenant governor (1758–71) When he was appointed royal governor in 1771, Hutchinson was perhaps the most powerful man in the colony, but he had bitter political enemies among the radicals, notably Samuel Adams and the family of James Otis Though he considered the STAMP ACT and other government measures unwise, he had favored strict enforcement, and his unpopularity caused a mob to sack and burn his mansion in 1765. His un-

popularity increased after he was governor, and he favored strenuous measures against the growing discontent These views were exposed when letters he had written to English friends were made public In 1774 he refused to let the tea-laden ships clear Boston Harbor and thus brought on the BOSTON TEA PARTY As tension grew worse he was replaced as governor by Gen Thomas Gage and moved to England. He was the author of an accurate, scholarly, and useful book, *The History of the Colony and Province of Massachusetts Bay* (3 vols , 1764-1828, modern ed by L S Mayo, 1936) See his diary and letters (ed by P O Hutchinson, 1883-86), biography by J K Hosmer (1896)

Hutchinson, Woods, 1862-1930, American physician, b England, M D Univ of Michigan, 1884 As writer and lecturer he did much to popularize and win support for preventive medicine and public health work

Hutchinson 1 City (pop 30,013), co seat of Reno co , S central Kansas, on the Arkansas and NW of Wichita, laid out 1871, inc 1872 It is a railroad, shipping, trading, and manufacturing center of a wheat-growing region Quantities of salt are taken from great salt beds several hundred feet below the surface Rich oil and natural-gas wells are near by The city is the site of the state fair The state reformatory is here Floods in 1929 and 1941 caused much damage in and about the city **2** City (pop 3,887), central Minn , W of Minneapolis, in a dairy and grain region, founded 1855 by the Hutchinson family troupe of itinerant singers from Connecticut, inc 1881 Part of the village was burned in the Sioux outbreak of 1862, and Little Crow, Sioux leader, was killed near here

Hutten, Ulrich von (ōōl'rĭkh fŭn hō̤'tŭn), 1488-1523, German humanist, poet, and political reformer, an outstanding figure of the German Renaissance His writings in brilliant Latin and, later, in powerful German exerted considerable influence He was crowned poet by Emperor Maximilian I in 1517 In 1519 he joined with Franz von SICKINGEN and supported Luther Hutten's longing for reform of the empire—by strengthening the power of the emperor, the lesser nobility, and the peasants at the expense of the princes and clergy—was frustrated by Sickingen's defeat in 1522 and by his own death after finding refuge with Zwingli See biography by D F Strauss (Eng tr , 1874)

Hutterische Community (hō̤o̤t'ĕrĭshu), known also **as Hutterian Brethren** (hŭtĕr'ĕun), a body of Christians practicing strict communism based on religious principles The brethren are descendants of those Moravian Anabaptists who were followers of Jacob Hutter, a minister from the Tyrol, who was burned at the stake in 1536 In the 17th cent there were a number of Hutterische brotherhoods in Moravia Persecution drove them eastward to eventual settlement in Russia In 1874, in company with Russian Mennonites, a group emigrated to the United States, settling near Tabor, S Dak Other groups followed Their doctrines and principles, aside from their practice of common ownership, are in accord with those of Mennonites in general There are six colonies in South Dakota and others in Canada and South America See John Horsch, *The Hutterian Brethren* (1931)

Huttig, lumber town (pop 1,379), S Ark , near the Ouachita river at the La border, inc 1904

Hutton, James, 1726-97, Scottish geologist Turning early from the study of chemistry and medicine to geology, he formulated theories of the origin of the earth and of atmospheric changes (see UNIFORMISM) They were often viewed skeptically, but proved to be sound and paved the way to modern geological science He concluded that the earth's history must be explained by observing the forces now at work within it He wrote *Dissertations upon the Philosophy of Light, Heat, and Fire* (1792) and *An Investigation of the Principle of Knowledge* (1794). His great work was *Theory of the Earth* (2 vols , 1795, MS fragment for Vol III ed by Archibald Geikie, 1894), it was simplified by John Playfair as *Illustrations of the Huttonian Theory of the Earth* (1802).

Hutton, Laurence, 1843-1904, American essayist, editor, and dramatic critic, b New York city He was critic for the New York *Evening Mail* and literary editor (1886-98) of *Harper's Magazine* Author of a number of books on the great cities of the world, he also edited and wrote biographies of actors and actresses His works include *From the Books of Laurence Hutton* (1892), *Memoirs of Edwin Booth* (1893), and his reminiscences of his youth, *A Boy I Knew* (1898)

Huxley, Aldous Leonard, 1894-, English author, son of Leonard Huxley His first books, beginning with *The Burning Wheel* (1916), were symbolist poetry, but his notable early work was in his novels, brittle, skeptical, satirical discussions of contemporary English society—*Crome Yellow* (1921), *Antic Hay* (1923); *Those Barren Leaves* (1925), *Point Counter Point* (1928), his most widely read novel, and *Brave New World* (1932). His short stories in *Limbo* (1920), *Mortal Coils* (1922), and other volumes were similar He was a friend and disciple of D. H Lawrence, whose letters he edited in 1933 In the 1930s he came to the United States to live and for a time wrote scenarios in Hollywood The novel *Eyeless in Gaza* (1936) displayed his shift to mysticism and his bitterness, as do his later ones, including *Ape and Essence* (1948). He has also written essays, several biographies, and travel books On the verge of blindness since he was 17, he paid tribute to a method of improving his vision in *The Art of Seeing* (1942)

Huxley, Julian Sorell, 1887-, English biologist and writer, educated at Oxford; son of Leonard Huxley He taught at the Rice Institute, Houston, Texas (1912-16), at Oxford (1919-25), and at King's College, London (1925-35) During these years and subsequently, when secretary (1935-42) of the Zoological Society of London, he carried other responsibilities—he was president of the National Union of Scientific Workers (1926-29), biology editor for the 14th edition of *The Encyclopaedia Britannica*, and technical editor of a number of educational film enterprises From 1946-48 he served as director general of the United Nations Educational, Scientific, and Cultural Organization A gifted exponent of science, he wrote *Animal Biology* (with J B S Haldane, 1927), *Scientific Research and Social Needs* (1934), *We Europeans* (with A C Haddon, 1936), *The Living Thoughts of Darwin* (1939), *Man in the Modern World* (1947), and *Heredity, East and West* (1949) He also edited *T H Huxley's Diary of the Voyage of H M S Rattlesnake* (1935) and *The New Systematics* (1940)

Huxley, Leonard, 1860-1933, English author and editor, son of Thomas Henry Huxley. He edited the *Cornhill Magazine*, wrote biographies of his father (1900) and of Charles Darwin (1921), and edited collections of letters by Jane Welsh Carlyle (1924) and Elizabeth Barrett Browning (1929) *Anniversaries and Other Poems* (1920) is his only volume of poetry

Huxley, Thomas Henry, 1825-95, English biologist, grad Charing Cross Hospital, 1845 While on H M S *Rattlesnake's* cruise to the Pacific islands as assistant surgeon (1846-50) he collected forms of marine life and classified them on a basis hitherto unused Reports of his work were published (1849) in the Royal Society's *Philosophical Transactions* Huxley became an exponent of Darwinism, although he accepted it with some reservations His scientific work and popular lecturing gave way to public duty as he served on 10 royal commissions (1862-84) Among his works are *On Races, Species, and Their Origin* (1860), *Evidences as to Man's Place in Nature* (1863), *Elements of Comparative Anatomy* (1864), *Elementary Physiology* (1866), *Anatomy of Vertebrated Animals* (1871), *Anatomy of Invertebrated Animals* (1877), *Evolution and Ethics* (1893), *Collected Essays* (9 vols , 1894), and *Scientific Memoirs* (4 vols , 1898-1901) See biographies by Leonard Huxley, his son (1900), Houston Peterson (1932), C E Ayres (1932), and E W McBride (1934)

Huy (ṳ̈ē'), town (pop 13,064), Liége prov , Belgium, on the Meuse river midway between Liége and Namur It has varied industries Below the citadel, which dominates the town, is a fine Gothic abbatial church

Huygens, Christiaan (krĭs'tyän hoi'guns), 1629-95, Dutch mathematician and physicist, son of Constantijn Huygens He improved telescopic lenses and discovered (1655) a satellite of Saturn and the rings of Saturn These discoveries were described in his *Systema Saturnium* (1659) He was the first to use the pendulum in clocks He developed a wave theory of light opposed to the corpuscular theory of Newton and formulated Huygens's principle, which holds that, concerning light waves, every point on a wave front is itself a source of new waves His chief work is *Horologium oscillatorium* (1673) See A E Bell, *Christian Huygens and the Development of Science in the Seventeenth Century* (1947)

Huygens, Constantijn (kônstantĭn'), 1596-1687, Dutch poet, b The Hague From 1625 he was secretary to the stadholder there His poems, descriptive and satirical, are highly esteemed; he wrote also a broad farce He wrote verse in French, Italian, and Latin as well as in Dutch Huygens was an accomplished musician and composed many airs for strings Elegant as he was versatile, he lived as an aristocrat and bore the title Heer van Zuylichem His acquaintance with contemporary scholars was wide, and he included Descartes, Corneille, and Jean Louis Guez de Balzac among his correspondents He was the father of the mathematician Christiaan Huygens

Huygens's principle. see HUYGENS, CHRISTIAAN.

Huysmans, Cornelis (kôr'nālĭs hoi's'mäns), 1648-1727, Flemish painter of landscapes and religious subjects Most of his life was spent in Mechlin. He is best known for his grandiose and colorful landscapes, which show the influence of Nicolas Poussin His fine *Woodland with Château* (National Gall , London) is characteristic. His works are to be seen in many important European galleries. The Metropolitan Museum has two His brother and pupil, **Jan Baptist Huysmans** (yän' bäp'tĕst), 1654-1716, was also a good landscape painter. Examples of his few surviving works are in the galleries of Brussels and Dijon.

Huysmans, Jacob (yä'kōp), c.1633-1696, Flemish portrait painter. In the reign of Charles II he settled in England, where he became one of the fashionable painters of the court. His chief portraits are those of Isaak Walton and Catherine of Braganza (both· National Gall., London) and Lady Byron (Hampton Court)

Huysmans, Jan Baptist see HUYSMANS, CORNELIS.

Huysmans, Joris Karl (shōrĕs' kärl' ṳ̈ĕsmäs'), 1848-1907, French novelist of Dutch family He was at first a disciple of ZOLA; typical of his early, naturalistic novels is *Marthe* (1876) Huysmans was emotional and originally given to pessimism, eventually, after great mental trouble, he became a Roman Catholic The hero of his novel *A rebours* (1884, Eng tr , *Against the Grain*, 1922) is a self-portrait, his later novels are religious but colored by the author's unstable emotional nature. His novels are dull, but there are frequent pages of beautiful prose, such is the description of Chartres in *La Cathédrale* (1898, Eng tr , 1898)

Huysum, Jan van (yan' vän hoi'sŭm), 1682-1749, Dutch painter of still life and landscapes. His father was Justus van Huysum (yōos'tōos) (1659-1716), a successful landscape and genre painter of Amsterdam Jan's earlier works are classical landscapes, correctly drawn and neatly finished He is best known for the flower and fruit pieces, in oil and in water colors, to which he devoted his later years These are distinguished for their brilliant light and shade effects, delicacy of coloring, and minute and exquisite finish They are to be found in most of the leading European galleries, notably in the Louvre and in the galleries of Amsterdam and Vienna

Huz, nephew of Abraham Gen 22.21

Hvar (khvär), Gr *Pharos* (fä'rŏs), Ital *Lesina* (lā'zēnä), island, area 120 sq mi , Yugoslavia, in the Adriatic, off the Dalmatian coast and S of Split Farming and fishing are the chief occupations. The chief town, also named Hvar, has a 12th-century Byzantine cathedral and a 16th-century Venetian fort

Hven, Sweden see VEN

Hwai (hwī), Mandarin *Huai*, river, c 370 mi long, rising in S Honan prov , China It flows W across Anhwei prov to Hungtze Lake The Hwai is navigable in part of its course

Hwaining (hwī'nĭng'), Mandarin *Huai-ning*, city and county (pop 663,088), S Anhwei prov , China The city is a port on the Yangtze river It was formerly called Anking

Hwang see YELLOW RIVER

Hwang-hai see YELLOW SEA

Hwangpoo, China see WHANGPOO

Hyacinth (hī'ŭsĭnth), in Greek myth, beautiful youth loved by Apollo He was killed accidentally by a discus thrown by the god, according to one story Zephyr, jealous, blew the discus to kill Hyacinth A flower named for him sprang up from his blood (see HYACINTH) According to some, he was a god of vegetation

hyacinth, any plant of the genus *Hyacinthus*, bulbous herbs of the lily family native to the Mediterranean region and South Africa The common or Dutch hyacinth of house and garden culture became so popular in the 18th cent that 2,000 kinds were said to be in cultivation in Holland—the chief commercial producer This hyacinth has a single dense spike of fragrant flowers in one of several colors, quite hardy and spring blooming outdoors, it is also forced, sometimes in water, for winter bloom indoors A variety of this is the less hardy Roman hyacinth with several smaller spikes of usually white scattered flowers The flower of the Greek youth HYACINTH has been identified with a number of plants (e.g , iris) not the true hyacinth. Also called hyacinth are the GRAPE HYACINTH and certain species of CAMASS and SQUILL

hyacinth or **jacinth** (jā'sĭnth), terms commonly applied to a variety of cinnamon-brown GARNET (hessonite), but more correctly restricted to red, yellow, and brown zircon

Hyacinthe, Père: see LOYSON, CHARLES

Hyades (hī'ŭdēz), in Greek mythology, rain nymphs, daughters of Atlas and Aethra. They cared for the infant Dionysus They were changed into stars

Hyades, in astronomy, one of two noted open star clusters (the other being the Pleiades) in the constellation Taurus The stars in the Hyades appear to be more widely separated than those in the Pleiades, and its distance from the earth is about 130 light years It contains a number of double stars

Hyannis (hĭăn'ĭs), resort village (pop. 3,392) in Barnstable town, SE Mass., on the south shore of Cape Cod The Massachusetts Maritime Academy is here

Hyatt, Alpheus (hī'ŭt), 1838-1902, American zoologist, b Washington, D.C., grad. Harvard, 1862 He served as captain of a Massachusetts regiment in the Civil War and from 1870 was connected with the Boston Society of Natural History, first as custodian and later as curator He also taught zoology and paleontology at the Massachusetts Institute of Technology (1870-88) and at Boston Univ (1877-1902). At the Harvard Museum of

Comparative Zoology he built up a remarkable collection of fossil cephalopods, and his discoveries contributed to knowledge of their evolution. He wrote extensively on the cephalopods, sponges, and other subjects. He was a founder of the *American Naturalist* and helped to establish the marine biological laboratory at Woods Hole, Mass.

Hyatt, Anna Vaughn, 1876–, American sculptor, b. Cambridge, Mass., studied at the Art Students League. She is especially distinguished in animal sculpture, e.g., *Jaguar, Reaching Panther*, and *Fighting Elephants*, the last in Pittsburgh. Of the equestrian statue, *Joan of Arc* (Riverside Drive, New York), there are replicas in Blois, France, Gloucester, Mass., and San Francisco; of *El Cid Campeador* (Museum of the Hispanic Society, New York), a replica is in Seville, Spain. Her relief *St Joan of Arc* is in the Cathedral of St John the Divine, New York. In 1923 she married Archer M. Huntington.

Hyatt, John Wesley, 1837–1920, American inventor, b. Starkey, N.Y. He is known especially for his development of CELLULOID, with his brothers, he began its manufacture in 1872. Also of importance was the invention of the Hyatt filter, a means of chemically purifying water while it is in motion. He invented a widely used type of roller bearing, a sugar-cane mill superior to any previously used, a sewing machine for making machine belting, a substitute for ivory in the manufacture of billiard balls and other articles, and other devices and formulas.

Hyattsville, town (pop. 6,575), W central Md., NE of Washington, D.C.; inc. 1880. It is a commuters' town, with some banking and trading.

Hybla (hī'blə), ancient town of Sicily, on the southern slope of Mt. Etna. It is possibly the modern Paternò. Another Hybla, or Hybla Heraea, was in S Sicily.

hybrid (hī'brĭd), term applied by plant and animal breeders to the offspring produced as the result of a cross between two different species or genera and used by geneticists to refer to the offspring of two parents differing in any genetic character. Examples of hybrids among animals are the MULE and certain beef cattle. Among plants hybridization is often used to insure greater vigor, hybrid corn and hybrid barley are notable examples. This is accomplished by crossing two inbred strains, the resulting first generation shows greatly increased vigor and a better yield. Hybrid vigor is observed also in certain hybrid animals. In genetic studies offspring that are hybrid in regard to a certain character are produced by crossing two parents differing from each other in that character. An illustration is in the cross-pollination of garden peas differing in the character of height. If one parent is a pure tall variety, i.e., has in its chromosomes only genes for tallness (represented by two capital T's, or TT), and the other parent is a pure short variety, i.e., has only genes for shortness (represented by small t's, or tt), all of the first generation will be tall. These first-generation offspring are all said to be hybrids because (as a result of the only possible gene combinations that can occur when the SIX cells unite) their chromosomes each contain one gene for tallness and one for shortness, i.e., their genotype in regard to height is Tt. The character that appears in the hybrid is called the dominant character, and the one that is hidden or masked by the dominant is the recessive character. In the succeeding generations the contrasting characters sort out and appear in the offspring in ratios predictable according to Mendelian laws of heredity.

Hydaspes: see JHELUM.

Hyde, Arthur Mastick (hīd), 1877–1947, U.S. Secretary of Agriculture (1929–33), b. Princeton, Mo., grad. Univ. of Michigan, 1899, and State Univ. of Iowa law school, 1900. A lawyer and politician in Missouri, he served (1921–25) as governor of the state. In Herbert Hoover's cabinet, he gave aid to drought-stricken farmers and tried to solve the farm problem by urging reduction of acreage given to wheat and cotton.

Hyde, Douglas, 1860–1949, Irish scholar. Largely responsible for the revival of the Irish language and literature by his foundation of the Gaelic League in 1893, he was Ireland's first president (1938–45). He goes by his Gaelic name, An Craoibhin Aoibhinn, and is the author of many works, including a *Literary History of Ireland* (1899) and *Love Songs of Connacht* (1894). See biography of Hyde by Diarmid Coffey (1938).

Hyde, Edward, see CLARENDON, EDWARD HYDE, 1ST EARL OF.

Hyde, municipal borough (1931 pop. 32,075, 1943 estimated pop. 32,313), Cheshire, England, E of Manchester and NNE of Stockport. It has cotton and machine factories and iron foundries.

Hyde Park. 1 Town (pop. 4,056), Dutchess co., E N.Y., on the east bank of the Hudson and N of Poughkeepsie, settled c. 1740. The Franklin D. Roosevelt Library here (1941) contains historical material dating from 1910 to Roosevelt's death in 1945. In 1940 the Vanderbilt Mansion and in 1944 the birthplace and home of Franklin D. Roosevelt were made national historic sites. **2** Town (pop. 1,178), co. seat of Lamoille co., N Vt., N of Waterbury; granted 1780, settled 1787. North Hyde Park village is a woodworking center. The county fairgrounds are in the town.

Hyde Park, 363 acres, in W London. Once the manor of Hyde, a part of the old Westminster Abbey property, it was under Henry VIII a deer park, races were held there at the time of the Stuarts. The duke of Hamilton and Lord Mohun fought their fatal duel in Hyde Park. In 1733 Queen Caroline had the artificial lake, the Serpentine, constructed from the Westbourne river. In modern times distinctive features of the park are the Marble Arch, the meeting place of soapbox orators, Rotten Row, the famous bridle path, and the Albert Memorial. The first great international exhibition was held in Hyde Park in 1851.

Hyderabad (hī'dərŭbăd'), state (82,313 sq. mi., pop. 16,338,534), central India. It is almost entirely within the Deccan plateau. The moisture-retaining soil of the north supports abundant crops of cotton and rice, while the heavily irrigated southern area chiefly produces maize. Cotton spinning and weaving and food processing are the principal industries. Large deposits of coal and iron are important mineral resources. The state's rail net is inadequate, but the road system is good. The monuments of AJANTA and ELLORA are the chief relics of Hyderabad's ancient Hindu civilization. The Mohammedan Mogul empire conquered Hyderabad in the late 17th cent. In 1724 the viceroy, Asaf Jah, founder of the present Mohammedan royal line, achieved independence. The loyalty of the later Nizams (rulers) to Great Britain was several times rewarded by gifts of territory. In 1903 Berar, then the northernmost section of the state, was joined to Central Provs. and Berar, now MADHYA PRADESH. When India was partitioned (1947), the predominantly Hindu state had scarcely any democratic institutions. The Nizam, who had wished independence or affiliation with Pakistan, agreed (1948), after invasion and occupation by Indian troops, to hold a plebiscite on the state's future and to renounce nearly all the vast estate which reputedly had made him one of the richest men in the world. **Hyderabad,** city (pop. 739,159), the capital, was founded in 1589 as the capital of the Golconda kingdom. The Char Minar [Urdu,= four minarets] (1591) and the Old Bridge (1593) are the finest ancient structures. The Nizam's palace, south of the city, is in an eclectic European style. The hub of the state's road and rail net, Hyderabad is a major commercial center. Textiles and tobacco products are important manufactures.

Hyderabad, city (pop. 127,521), central Sind prov., Pakistan, founded 1768. Its embroideries and cutlery are noted. In 1950 it succeeded Karachi as the provincial capital.

Hyder Ali or **Haidar Ali** (both hī'dur ä'lē), d. 1782, Indian maharaja. He was illiterate and of Moslem peasant stock, but his bravery and skill as a military commander in the service of the Hindu state of Mysore advanced him rapidly. By 1761 he had seized complete control of the state and in 1766 made himself maharaja. He fought with the Mahratta states and with Hyderabad and enlarged his territory. He generally sided with France in its wars against Great Britain for the control of S central India. He won great victories over the British in 1769, but he and his son Tippoo Sahib were defeated (1781) by Warren Hastings when they attempted to conquer Madras. See L. B. Bowring, *Haidar Ali and Tipu Sultan* (1893).

Hydra (hī'drə) [Gr.,=watery (snake)], in Greek mythology, water serpent with nine heads, son of TYPHON and Echidna. When one of its heads was cut off, two new heads appeared. One of the 12 labors of Hercules was to kill the monster. He did so by burning the neck after cutting off each head.

Hydra in astronomy, a constellation of the Southern Hemisphere, lying below Corvus, Crater, Virgo, Leo, and Cancer. It is a long, slender, winding constellation represented pictorially as a snake and known also as the Water Snake. The only bright star in the constellation is Alphard or Alpha Hydrae, it is a double star, but the two components can be detected only with a telescope.

Hydra (hī'drə, Gr. hē'dhra), island (20 sq. mi., pop. 3,739), off Greece, in the Aegean Sea, 4 mi. from the Argolis peninsula of the Peloponnesus. It is mostly bare rock. Sponge diving is the main occupation. The town of Hydra, where most of the population lives, flourished as a trade center under Turkish rule, and its seafaring people played an important part in the Greek revolution against Turkey.

hydrangea (hīdrān'jə, -drān'jə) [Gr.,=water vessel], any plant of the genus *Hydrangea*, ornamental deciduous shrubs (rarely vines), native to Asia and the Americas and popular as specimen and border shrubs or as pot plants. The flowers are white, pink, or blue and are borne in flat-topped clusters of small fertile flowers, usually with a margin of larger sterile flowers, or in large rounded clusters composed entirely of the sterile flowers. The blue flowers are sometimes produced by putting alum or iron in the soil. Winter bouquets are often made of the flowers. Little cup-shaped fruits gave rise to the name *Hydrangea arborescens*, native to North America, is poisonous, the roots have been used as a diuretic.

hydrate (hī'drāt), substance formed by the chemical combination of a compound and one or more molecules of water. Blue vitriol (hydrated cupric sulphate) is a typical example, its molecule containing one copper sulphate molecule and five molecules of water, for which reason the substance is classed as a pentahydrate. Glauber's salt, or hydrated sodium sulphate, is a decahydrate, i.e., it contains 10 molecules of water. The composition by weight of a hydrate is definite, the number of molecules of water present being specific for the substance. When blue vitriol is heated, the water present, known as water of crystallization (see CRYSTAL) is given off and the substance loses its characteristic properties. Certain hydrates give up their water of crystallization at ordinary temperatures. This activity is known as efflorescence. When the water is given off by a hydrate, the substance is said to be dehydrated or anhydrous.

hydraulic brake, see BRAKE.

hydraulic jack, common hydraulic machine having many uses and manufactured in a variety of forms. A simple type consists of a base containing a cylinder in which a ram or piston is fitted. A force pump is used to introduce the liquid (water or, commonly, oil) into the bottom of the cylinder, the ram is forced upward by the pressure of the liquid and is lowered by running off the liquid through a valve at the bottom of the cylinder. The jack's operation is an application of PASCAL'S LAW.

hydraulic machine. A number of common machines and various kinds of apparatus derive the power which actuates them from the motion or pressure of water or some other fluid (liquid or gas). Water can be employed, for example, to drive certain machines, as a WATER WHEEL or a TURBINE, when it is falling from one level to a lower level. The difference in height between the highest and lowest level is called, technically, the head, a definite amount of WORK is done when the water falls that distance. Water power so derived is obtained from natural or artificial sources, as from a waterfall or from a dammed stream or river. In other cases, a reservoir is utilized into which water has been pumped, the pumps being run intermittently so that available energy, or head, is stored up to be used as needed. In driving certain hydraulic machines in industry an apparatus called an accumulator is employed. This consists essentially of a cylinder enclosing a ram loaded with weights. When water is pumped into the cylinder, the ram is forced up and, pressing down upon the water, maintains it at a fixed pressure. When a pressure higher than that obtainable from an accumulator is desired, a so-called intensifier is employed. It is made up of a large hollow ram working in a fixed cylinder, above which is attached a rigid frame carrying a smaller hollow ram. This smaller ram enters the lower ram. Water is admitted to it and to the cylinder by a suitable arrangement of pipes and valves. By means of this device, city water pressure can be greatly increased. Water under pressure has been used successfully as a power agent for many types of powerful presses and for riveting machines, capstans, winches, and other machines. The hydraulic ELEVATOR, HYDRAULIC JACK, and HYDRAULIC PRESS are all based on the application of PASCAL'S LAW. See A. H. Gibson, *Hydraulics and Its Application* (4th ed., 1948), H. W. King and others, *Hydraulics* (5th ed., 1948).

hydraulic press or **hydrostatic press,** common hydraulic machine, invented by Joseph Bramah and therefore sometimes called the Bramah press. It consists essentially of two cylinders each filled with liquid and each fitted with a piston, the cylinders are connected by a pipe which is also filled with the liquid. One cylinder is of small diameter, the other of many times greater diameter. Pressure, according to PASCAL'S LAW, exerted upon the smaller piston is transmitted through the liquid undiminished to the surface of the large piston which is forced upward. Although the pressure (force per unit of area) is the same for both pistons, the total upward force on the large piston is as many times greater than the force on the small piston as the area of the large piston is larger than the area of the small piston. If, for example, the small piston has an area of 2 sq. in. and a force of 100 lb is exerted upon it, then the force on a large piston having an area of 50 sq. in. would be 2,500 lb ($100 \times \frac{50}{2} = 2{,}500$).

hydraulics see HYDRAULIC MACHINE and MECHANICS.

hydria (hī'drēə), Greek water jar with three handles —two lateral, the third vertical and for use in pouring. In shape it was similar to the amphora, the early form having an angular shoulder, while a later one, called kalpis, was curved at the shoulder and had a smaller vertical handle.

hydrocarbon (hī'drōkär'bŭn), any one of a great many compounds (gases, liquids, and solids) composed of the elements carbon and hydrogen only, in various proportions. The hydrocarbons are classed as organic compounds because originally it was thought that they could be obtained only from natural sources. Now, however, many

of them have been prepared synthetically in the laboratory, even some which are not known in nature The class is divided into series called homologous series. Each member of such a series shows a definite relation in its structural FORMULA to the member preceding it in the series and to the one following it (a difference of one carbon and two hydrogen atoms), and, in general, all the members show some regularity in the differences in their physical properties There are, for example, the METHANE SERIES, also called the paraffin series, the ETHYLENE SERIES, also called the olefin or olefine series, the ACETYLENE SERIES, the BENZENE SERIES, or the aromatic series, and the ANTHRACENE SERIES Many common natural substances are complex mixtures of these compounds, e g , petroleum, from which by fractional distillation are obtained gasoline, naphtha, benzine, kerosene, vaseline, and lubricating oils, all of which are in themselves mixtures of hydrocarbons, oil shale, from which petroleum can be procured, asphalt, which is a mixture of solid hydrocarbons, natural gas, and marsh gas (methane) They vary in chemical activity, those of the ethylene or olefin series are much more reactive than those of the paraffin series Hydrocarbons are unaffected by ordinary reagents, yet all burn in air to yield carbon dioxide and water Many hydrocarbons are valuable as fuels and illuminants Many important compounds are considered as derivatives of the hydrocarbons, being the result of a substitution of some chemical radical or element for one or more of the hydrogen atoms of the original hydrocarbon molecule or the result of the addition of some radical or element Some of these substances are alcohols, aldehydes, ethers, esters, organic acids, and certain halogen derivatives (e g , chloroform and iodoform) Others are such substances as phenol, nitroglycerin, guncotton, TNT (trinitrotoluene), and aniline dyes

hydrocephalia see FEEBLE-MINDEDNESS

hydrocephalus (hī″drōsĕf′ŭlus) or **water on the brain,** condition characterized by enlargement of the head resulting from an abnormal increase of cerebral fluid, with dilatation of the cerebral cavities Congenital hydrocephalus is caused by a developmental defect which interferes with the normal flow of fluid, thus causing a spreading of the bones of the cranium Paralysis and death may result Meningitis or tumors may be the underlying cause of the condition in postnatal life In some cases, spontaneous cessation of the progress of the disease occurs, the head, however, remains large and mentality is somewhat affected Surgery has been reported successful in treating hydrocephalic babies

hydrochloric acid (-klō′rĭk), the aqueous solution of hydrogen chloride, a colorless, irritating gas, a compound of the two elements hydrogen and chlorine The solution of the gas differs greatly from the gas itself in chemical properties It exhibits the characteristics of a strong ACID It reacts with most common metals, hydrogen being liberated and the CHLORIDE of the metal formed Most oxides and hydroxides of the metals react with it to form the chloride and water With very strong oxidizing agents, a chloride, water, and free chlorine are formed Hydrochloric acid is of great importance in commerce The solution containing about 30 or 35 percent by weight of hydrogen chloride gas in water is known commercially as muriatic acid Hydrochloric acid is used for the cleaning of metals, in the preparation of metallic chlorides, and in making glue, dyes, glucose, and other products It is used sometimes in medicine since it constitutes a small but important part of the gastric juice and an insufficient quantity must be increased Hydrochloric acid is prepared commercially by the action of sulphuric acid on sodium chloride (common salt) and by the direct union of hydrogen and chlorine

hydrocyanic acid (-sīă′nĭk) or **prussic acid** (prŭ′sĭk, prŏŏ′-), colorless, volatile, extremely poisonous liquid with an almond or peach odor It boils at 26°C , is miscible with water in all proportions, and is soluble also in alcohol and ether Its water solution is a very weak ACID The salts of the acid are the cyanides Hydrogen cyanide, the gas, is a compound of hydrogen and the cyanogen radical (one atom of carbon and one of nitrogen, -CN) and like the liquid is a deadly poison It is obtained by treating a cyanide, e g , sodium cyanide or potassium cyanide, with sulphuric acid In nature the acid is found in some vegetable substances, e g , in bitter almond, peach stones, and cherry and cherry laurel leaves Sorghum, especially when affected by frost or drought, may contain hydrocyanic acid which causes poisoning of the cattle which eat it The acid is used in the laboratory, in war as a poison gas, and in agriculture as a fumigant.

hydrodynamics: see MECHANICS.

hydroelectric power see POWER

hydrogen (hī′drŭjun), colorless, odorless, tasteless gaseous element, present in the ATMOSPHERE (symbol=H, for physical constants, see ELEMENT, table) It is the lightest gas known, one liter of it at 0°C. and 760 mm of pressure weighing 0.08988 g As a result it has been used for filling balloons (see CHARLES, JACQUES A. C), but because hydrogen is inflammable, the inert gas, helium, is preferred. Hydrogen is explosive when mixed with air or with oxygen and ignited In air or oxygen it burns with a very hot, blue flame (as in the oxyhydrogen BLOWPIPE), and when a jet of it is burning, the hydrogen unites with the oxygen to form water Hydrogen is very slightly soluble in water It can be liquefied under pressure (critical temperature -239 9°C), and the liquid solidifies when the pressure is released and it is allowed to evaporate rapidly Chemically it is active at high temperatures Having a great affinity for oxygen, it is a powerful reducing agent Combined with other elements it is a constituent of a great many important organic and inorganic compounds, such as carbohydrates, fats, oils, proteins, hydrocarbons, acids, and bases With oxygen it forms water and hydrogen peroxide, with nitrogen, ammonia, and it forms compounds with bromine, chlorine, fluorine, iodine, and sulphur The gas is prepared by the electrolysis of water, by the action of acids with certain metals, by the action of water on certain metals and nonmetals, and by liquefaction from the gas evolved in the destructive distillation of coal Hydrogen was discovered in 1766 by Henry Cavendish and was given its name by A L Lavoisier in 1783 Heavy hydrogen, also called deuterium, was discovered by H C. Urey and G M Murphy in 1932, although its existence had been suspected for some years before It is an isotope of hydrogen of atomic mass 2, i e , an atom of hydrogen which has a greater weight than that of the atom of the much more abundant ordinary, or light, hydrogen The two isotopes, light and heavy hydrogen, differ in chemical properties and in mass and boiling point, and compounds in which they are present differ in many respects, depending upon the degree of concentration of the one or the other Electrolysis of water increases the concentration of molecules containing deuterium Water of which the molecule consists of two atoms of deuterium and one of oxygen is known as heavy water (also discovered by Urey) and was first obtained by G N Lewis in nearly pure form The discovery of deuterium is of great scientific importance because of the wide bearing of this heavy atom on scientific research Through the discovery of the second isotope, it has become possible to follow the course of individual atoms (using atoms of deuterium as "tagged" atoms) in various chemical reactions, thus permitting a much broader understanding of the chemical action taking place Nuclei of the heavy hydrogen atoms are called deuterons, they have proved of great value to physicists in their bombardment of other atoms A still heavier isotope of hydrogen, of atomic mass 3, called tritium, is radioactive

hydrogenation of oils (hī″drŭjunā′shun), process in which vegetable oils are treated, under pressure and at a temperature of about 200°C , with hydrogen in the presence of a catalyst, e g , nickel, and are thus converted into substances closely resembling solid animal fats Such hydrogenated oils are used in cooking and in soapmaking

hydrogen bomb, weapon deriving its energy from the union of atoms of low atomic weight In the atomic bomb, which employs the elements uranium and plutonium, the explosive conversion of mass into energy is achieved by a fission or splitting of the nuclei of the atoms of these heavy elements In a hydrogen bomb, on the other hand, a fusion of extremely light elements must be accomplished. It has been estimated that a temperature of more than 20,000,000°C would be required to bring about such a fusion To produce heat of such intensity an atomic bomb would probably have to be used as a detonator, the most likely materials to be used as bomb ingredients seem to be tritium (the nucleus of which is called triton) and deuterium (the nucleus of which is deuteron), both isotopes of hydrogen It is postulated that the reaction would involve the fusion of an atom of tritium with an atom of deuterium, resulting in the production of an atom of helium (of mass 4), the emission of a neutron, and the release of millions of electron volts of energy The fusion of atoms of like isotopes, e g , of deuterium with deuterium and tritium with tritium, are other possibilities, but the yield of energy is potentially smaller than with tritium and deuterium The nature of the thermonuclear reactions is essentially that of the reactions believed to produce the energy of the sun and other stars It is estimated that a hydrogen bomb would cause damage over a wider radius than the atomic bomb both from blast effect and from flash or burning effect Scientists foresee no peacetime applications of the energy yield of a hydrogen bomb The possible production and use of such a weapon raises moral, philosophical, and security problems like those attendant upon the discovery of the potentialities of the atomic bomb

hydrogen-ion concentration: see ION

hydrogen peroxide (pərŏk′sīd), colorless, unstable liquid with a metallic taste. It is a compound of hydrogen and oxygen, the molecule containing two atoms of hydrogen and two of oxygen (twice the number of oxygen atoms in water), boiling at 152°C and solidifying at -2°C. It is soluble in water and exhibits very weak acid properties. The usual commercial preparation is a 3 percent solution in water, the pure substance having a blistering action It is prepared from barium peroxide by the action of sulphuric acid Because of its instability (it decomposes to water giving off oxygen) it is used as a bleaching (oxidizing) agent for feathers, hair, silk, and wool Although it is useful for cleansing wounds, its germicidal value is disputed It was discovered by L. J. Thénard

hydrolysis (hīdrŏ′lusĭs), a type of chemical reaction in which water (dissociated into hydrogen and hydroxyl ions) is one of the substances involved Hydrolysis is common in many of the life processes of animals and plants In the process of digestion, for example, the fundamental food substances (carbohydrates, fats and oils, and proteins) are decomposed by the action of water in the presence of various enzymes The higher sugars are broken down into simpler ones The final product in the complete hydrolysis of starch is glucose, a simple sugar Fats and oils are broken down into glycerin and fatty acids In complete hydrolysis, the protein is resolved finally into amino acids Certain salts undergo hydrolysis in a water solution, others do not Salts formed in the neutralization of a strong acid by a weak base give an acid reaction because of the higher concentration, owing to hydrolysis, of the hydrogen ion (which causes the acid reaction) in the solution Salts formed by the action of a weak acid and a strong base give an alkaline reaction because of the presence in excess of hydroxyl (OH or basic) ions in the solution On the other hand, salts formed by a strong acid and strong base are not hydrolyzed in solution and consequently give neither an acid nor a basic reaction Some reactions involving water are not classed as hydrolysis—e g , those involving the action of a metal, such as sodium, on water to form a base and liberate hydrogen and those known as hydration, in which water molecules are held by the molecules of a salt when this salt is crystallizing out of solution, the water so held being called water of crystallization

hydrometer (hīdrŏ′mutur), device used to determine directly the SPECIFIC GRAVITY of a liquid It consists commonly of a thin glass tube closed at both ends, with one end enlarged into a bulb which contains fine lead shot or mercury to cause the instrument to float upright in a liquid In the glass tube is a paper scale so calibrated that the reading on it level with the surface of the liquid in which the hydrometer is floating indicates the number of times heavier or lighter the liquid is than water, i e , the specific gravity of the liquid The hydrometer is based upon ARCHIMEDES' PRINCIPLE. Since the action of the hydrometer depends fundamentally upon the DENSITY of the liquid being tested, this property of the liquid can be calculated easily from the specific-gravity reading Commercial hydrometers are usually calibrated for "ordinary" room temperature (20°C) Because of the variation in the depth to which the instrument sinks in heavy and in light liquids, for convenience one type is made for use in liquids more dense than water and another for use in those less dense than water There are various other hydrometers named for their type of construction, for their inventor, or for the kind of liquid in which they are used The so-called bulb hydrometer consists of a small commercial hydrometer contained in a larger glass tube into which the solution to be tested is drawn by the action of a rubber bulb It is used to measure the specific gravity of the sulphuric acid solution in automobile batteries The two Baumé hydrometers (invented by Antoine Baumé), one for specific-gravity determinations in liquids denser than water and the other for liquids less dense than water, are calibrated with the special Baumé scale (also constructed by him) Commerce and industry as well as scientific laboratories use hydrometers widely, especially in testing liquids for which specific-gravity standards are set by law

hydrophobia (hī″drufō′bēu) or **rabies** (rā′bēz, rā′bēēz), acute infectious disease caused by a virus which affects the nervous system The virus is transmitted to man through the wound inflicted by the bite of a rabid animal (frequently the dog) Acute spasm of the pharynx occurs on swallowing, and fear of drinking water, results, hence, the name hydrophobia [Gr , =fear of water] Death may occur during a convulsion In 1884 Pasteur showed that dogs could be prevented from developing the disease by inoculating them with the dried spinal cords of other animals infected with the virus In 1885 Pasteur used the treatment successfully on his first human patient, Joseph Meister, an Alsatian boy Today the Pasteur treatment, if administered promptly to a human or animal victim, prevents the development of the disease in almost every instance. Local treatment of the wound by cleansing and by cauterization with carbolic acid, followed by an application of 95 percent alcohol, helps to destroy the virus at the site of injury. Vaccination helps protect dogs against rabies.

hydroplane: see SEAPLANE.
hydroponics: see SOILLESS GARDENING.
hydrostatics: see MECHANICS.
hydroxide (hīdrŏk'sīd, -sĭd), term used commonly to indicate a BASE, although some compounds containing the hydroxyl (OH) group (see RADICAL) exhibit acid properties Others exhibit both basic and acidic characteristics and are called amphoteric hydroxides Still others are neutral Molecules of alcohol contain the hydroxyl group, as shown by the characteristic reactions of alcohol
hydroxyl radical see HYDROXIDE and RADICAL
hyena (hī-ē'nu), nocturnal Old World mammal. Its front legs are longer than the hind ones. Carrion forms much of its food, and its strong teeth and jaws can crush bones. The two species of the genus *Hyaena* are the striped hyena of Asia Minor, Persia, India, and the northern part of Africa and the brown hyena or strand wolf of the southern parts of Africa The spotted hyena (*Crocuta*) found over much of Africa S of the Sahara is the largest form, about 2½ ft high at the shoulder Hyenas are feared because of their maniacal cries and grave-robbing and child-stealing tendencies
Hyères (yĕr'), town (pop 15,020), Var dept, SE France, a resort on the RIVIERA Off the coast is a group of islands of the same name
hygiene (hī'jēn) From earliest times hygiene has been associated with MEDICINE and is today regarded as the science of health and its preservation Community aspects of hygiene, e g, sanitation and communicable disease control, are the responsibility of PUBLIC HEALTH programs Personal hygiene concerns those habits of living by which the individual promotes or preserves his own health The field of MENTAL HYGIENE has developed as a result of the recognition of the importance of mental and emotional factors in healthful living See C E Turner, *Personal and Community Health* (7th ed, 1943), K B Crisp, *Health for You* (1944), W W Krueger, *The Fundamentals of Personal Hygiene* (4th ed., 1944), J F Williams, *Healthful Living* (4th ed, 1947)
hygrometer (hīgrŏ'mutur) [Gr, =measure of moisture], instrument used to measure the moisture content of the air, as in determining relative humidity Commonly employed are the so-called condensing hygrometers The operation of this type depends upon two facts—that when a liquid undergoes evaporation it must take on heat and consequently cools the surrounding media and that the atmosphere can hold only a certain amount of moisture (i e, becomes saturated) at a given temperature Daniell's hygrometer is an instrument of this type, consisting essentially of two glass bulbs connected by a hollow glass tube bent in the shape of an inverted "U" which has one leg shorter than the other and consequently suspends one bulb higher than the other The whole apparatus is mounted, at the middle of the glass tube, on a vertical upright upon which is fastened a thermometer In the longer of the two legs of the glass tube is another thermometer which extends down into the bulb This bulb is made of black glass and contains ether Around the other bulb is wrapped muslin When ether is dropped upon the muslin, this ether evaporates, rapidly cooling the bulb and causing the vapor within to be condensed Because the two bulbs of the hygrometer are connected by the hollow glass tube, condensation of the vapor in the bulb covered with muslin reduces the pressure in the tube and black-glass bulb thereby causing rapid evaporation of the ether in the black-glass bulb Since evaporation causes cooling, the black-glass bulb is cooled and the temperature of the air around it is reduced also At some point the moisture in the air begins to condense upon its outer surface (the point at which condensation takes place is known as the dew point, and the condensing hygrometer is also called consequently a dew-point hygrometer) By the use of the temperature recorded by the thermometer within the tube and that of the thermometer on the base, the desired calculation of moisture content can be made Other hygrometers depend for their operation upon the action of some substance that expands and contracts with the variation of the moisture content of the air The hair hygrometer or hygroscope of Saussure is an example Still another type of hygrometer operates upon the principle that certain chemical substances absorb water from the air and undergo a consequent increase in weight The psychrometer or wet-and-dry-bulb thermometer is widely used to determine moisture content Two thermometers are used, the bulb of one being kept moist by contact with muslin saturated with water, and the bulb of the other dry Tables have been prepared so that the moisture content can be ascertained from the difference in temperature of the two thermometers. The wet-bulb thermometer has a lower temperature because it is cooled by the evaporation of the water.
Hyksos (hĭk'sŏs) [Egyptian, probably =ruler of countries], invaders of ancient EGYPT, reckoned traditionally (without foundation) as the XV-XVII dynasties. Their relatively modern appellation, Shepherd Kings, is based on a false etymology. They were probably a Semitic people who entered Egypt c.1675 B C, seised the kingship from the decadent Pharaohs of the late Middle Kingdom, and ruled the country for a century or more From their capital in the eastern delta they seem to have ruled a great empire, the name of one of their kings has been found in remains at Cnossus and at Baghdad, and Hyksos scarabs occur in S Palestine Although the Hyksos king, Khian, left monuments above Thebes, the hold of the Hyksos over Upper Egypt could never have been great
Hylan, John Francis (hī'lăn), 1868-1936, American political leader, mayor of New York city (1918-25), b Greene co, N Y, grad New York Law School, 1897 He practiced law in Brooklyn and was city magistrate (1906-14) and judge of the county court (1914-18) before he was elected mayor of New York city As mayor "Red Mike" Hylan was at odds with Tammany James J Walker, his successor, appointed (1925) Hylan justice of the children's court
Hylas (hī'lus), in Greek myth, boy, favorite companion of Hercules While on the expedition of the Argonauts, Hylas was dragged into a spring by nymphs enchanted by his beauty He was never found
Hymen (hī'mun) or **Hymenaeus** (hĭmūnē'us), Greek personification of marriage, represented as a beautiful youth carrying a bridal torch and wearing a veil He is widely known only because his name was used as a refrain in epithalamiums (occasional poems honoring weddings)
Hymenaeus (hĭmunē'us) [Gr, =belonging to Hymen], Christian denounced by Paul for heresy or apostasy 1 Tim 1 20, 2 Tim 2 17
Hymera (hĭmēr'ŭ), town (pop 1,298), SW Ind, SSE of Terre Haute, platted 1870 Coal mining is done here Shakamak State Park is near by
Hymettus (hĭmē'tus), Gr *Hymettos* (hūmē'tôs), mountain group, central Greece, in Attica, extending c 10 mi between Athens and the Saronic Gulf Mt Hymettus (3,367 ft) is the highest point It has been celebrated since ancient times for its honey There are marble quarries
hymn, song of praise, devotion, or thanksgiving, especially of a religious character Early Christian hymnody consisted mainly of the Psalms and the great canticles, *Nunc dimittis*, *Magnificat*, and *Benedictus*, from the Bible and of the *Sanctus*, *Gloria in excelsis*, and *Te Deum* These were chanted in unison Metrical Latin hymnody began with the hymns of St Ambrose, bishop of Milan, and St Hilary, bishop of Poitiers, in the 4th cent This type of hymn was the basis of nearly all Christian hymnody until the 16th cent In the 19th cent John Mason Neale, an Anglican priest, translated many Latin hymns Notable Latin hymns are *Corde natus ex parentis*, from Prudentius in the 4th cent, and Fortunatus' 6th-century processionals, *Vexilla Regis* and *Pange lingua* (whose meter was imitated in the PANGE LINGUA of St Thomas Aquinas) From the 11th cent came Wipo's Easter sequence, *Victimae paschali laudes* The *Dies irae*, probably by Thomas of Celano, and the *Stabat Mater Dolorosa* by Jacopone da Todi are great hymns of the 13th cent With the Reformation came the development of the Lutheran chorale Luther himself wrote some 37 hymns, including *A Mighty Fortress*, and the Christmas chorale, *From Heaven High to Earth I Come*, for which he may also have written the tunes The *Passion Chorale*, employed many times in the sacred music of J S Bach, was from a secular love song of Hans Leo Hassler (1564-1612) Its usual words, "O Sacred Head sore wounded," were translated by Paul Gerhardt, from a Latin hymn of the Middle Ages Calvinism contributed the Genevan Psalter (final version, 1562) It consisted of the Psalms, translated into French verse by Clément Marot and Theodore Beza and set to music most of which was supplied by Louis Bourgeois, who used some original tunes and adapted others The familiar tune of the doxology, *Old Hundred*, is the tune of Psalm 134 in this Psalter The English hymn developed largely in the 18th cent, which produced Isaac Watts, Charles Wesley, and William Cowper, poets whose hymns are sung in nearly all Protestant churches today The first collection of English church tunes was Sternhold's Psalter (1556), published in Geneva, consisting of metrical versions of the Psalms by Thomas Sternhold (d 1549) and others, set to unharmonized tunes Other similar works followed These were brought to America by the Puritans, who allowed only the versions of the Psalms to be sung during their devotions The *Bay Psalm Book* (1640), published at Cambridge, Mass, was the beginning of American hymnody William Billings wrote the first American hymn tunes, and the next composer of importance was Lowell Mason, whose song collections, such as *Spiritual Songs* (1831), compiled jointly with Thomas Hastings, attained wide distribution See D R Breed, *The History and Use of Hymn Tunes* (1903), John Julian, *A Dictionary of Hymnology* (rev ed., 1915), Winfred Douglas, *Church Music in History and Practice* (1937), J R Fleming, *The Highway of Praise* (1937), H. W Foote, *Three Centuries of American Hymnody* (1940).
Hyndman, Henry Mayers (hĭnd'mŭn), 1842-1921, English Socialist, early advocate of Marxism in England In 1881 he founded the parent organization of the Social Democratic Federation, which in 1911 became the British Socialist party, with Hyndman as chairman At the time of the First World War the party was disrupted, many members becoming Communists Hyndman reorganized the Social Democratic Federation in 1920. He consistently criticised Britain's Indian policy. Some of his books are *England for All* (1881), *The Historical Basis of Socialism* (1883), *The Economics of Socialism* (2d ed, 1896), *A Record of an Adventurous Life* (1911), and *Further Reminiscences* (1912) His wife, Rosalind Hyndman, wrote *The Last Years of H M Hyndman* (1923)
Hyndman, borough (pop. 1,325), S Pa, near the Md boundary N of Cumberland, laid out 1840, inc 1877 It was almost destroyed by fire in Dec, 1949
Hyndman, Mount, or **Hyndman Peak,** 12,078 ft high, S central Idaho It is the highest point of the Pioneer Mts, which are sometimes considered part of the Sawtooth Mts
Hyogo (hyō'gō), prefecture, S Honshu, Japan see KOBE, the capital
hyoscine see SCOPOLAMINE
Hypatia (hīpā'shu), d 415, Alexandrian Neoplatonic philosopher and mathematician, a woman renowned for learning, eloquence, and beauty. Little is known of her writings, and her fame is largely owing to her barbarous murder by a band of monks, said to have been encouraged by the archbishop, St CYRIL of Alexandria, a personal and political enemy of the prefect, who was believed to be Hypatia's lover Charles Kingsley used her story for a historical novel
hyperbola (hīpûr'bulu) a plane curve such that the difference between the distances, from any point on it to two fixed points (*foci*) is the same for all points on the curve It is also defined as a conic section formed by a plane cutting both nappes of the CONE The center of an hyperbola is the point halfway between its foci The principal axis is the straight line through the foci The vertices are the intersection of this axis with the curve The transverse axis is the line segment joining the two vertices The *latus rectum* is the chord through either focus perpendicular to the principal axis The asymptotes are lines, in the same plane, which the curve approaches as it approaches infinity An equilateral hyperbola is one whose asymptotes are perpendicular An example of the occurrence of this curve is found in the orbits of some meteors
Hyperboreans (hī"purbô'rēunz, -bôrē'unz) [Gr, = beyond the north wind], in Greek legend, a people dwelling in a state of perfect bliss in the Far North See L R Farnell, *Cults of the Greek States* (5 vols, 1896-1909)
hyperemia see CONGESTION
Hyperion (hīpēr'ēun), in Greek religion, Titan, son of Uranus and Gaea He was the father of Helios, Selene, and Eos by Theia John Keats's *Hyperion* and Longfellow's *Hyperion* both use the Titans in developed legends
hypertension: see BLOOD PRESSURE
hypertrophy (hīpûr'trŭfē), enlargement of an organ of the body through an increase in the size of its cells When the cells of an organ increase in size, the number of cells is usually increased also, this increase in the number of cells is known as hyperplasia In normal physiology, the growth of muscles, e g, in the athlete, and the enlarging uterus of pregnancy, are caused by hypertrophy of the muscle cells In pathology, the thickening of the heart muscle from overstrain, as in high blood pressure, is the result of hypertrophy Any organ subjected to extra work, e g, the one kidney which is left to function after surgical removal of the other, usually compensates by enlarging, such hypertrophy is associated with hyperplasia
hyphen see PUNCTUATION
hypnotism (hĭp'nutĭzm) [Gr, =putting to sleep], term given by Braid in 1842 to phenomena previously described as animal magnetism and mesmerism (see MESMER) Superficially resembling sleep, it is generally induced by the monotonous repetition of words and gestures while the subject is completely relaxed In slight hypnosis the subject remains conscious and remembers what has happened after waking In deep hypnosis the sensory system and the muscles are greatly affected The subject may exhibit supernormal strength or assume strained attitudes without fatigue and remember little or nothing of the experience. The hypnotic state is characterized by heightened suggestibility For this reason it was used by a number of medical practitioners, including J M. Charcot, Josef Breuer, Janet, and FREUD, for the treatment and investigation of hysteria. Although treatment was limited, since not everyone is susceptible to hypnosis, it proved highly successful in demonstrating the emotional basis of hysteria and was used for a time by Freud in psychoanalysis It is still used as an aid in the investigation of mental activities and as an accessory in therapy See G H Estabrooks, *Hypnotism* (1943), L R Wolberg, *Medical Hypnosis* (2 vols, 1948).

hypochondria (hī'pŭkŏn'drēŭ), neurotic reaction characterized by habitual preoccupation with physical health and unwarranted concern with an imagined or negligible physical defect. Rarely appearing as an isolated neurosis, it more frequently is a complicating factor in a psychopathological condition While somewhat similar to hysteria, it differs in the exaggerated concern shown over the physical symptom—in which the hysteric lacks interest See NEUROSIS and PSYCHOSOMATIC MEDICINE

hypodermic injection · see INJECTION

hypostyle (hī'pustīl, hī'pū–), the chamber in Egyptian temples in which a number of columns supported a flat stone roof Forming the chief and largest inner space of the temple, it was entered from the outer courtyard and, in turn, gave access to the holy of holies and the small inner sanctuaries occupying the rear of the structure Its columns were arranged in a wide center aisle flanked by two or more side aisles, the center one rising higher than the others to permit clerestory lighting The ruined temple of Amon at Karnak (commenced in the XII dynasty) shows the most celebrated hypostyle hall

Hyrcania (hûrkā'nēŭ), province of ancient Persia, SE of the Caspian Sea, now the region about Gorgan, Iran The Parthian kings are said to have had their summer palace here

Hyrcanus (hûrkā'nus) [Gr ,=Hyrcanian], name of two of the MACCABEES, high priests and rulers of Judea John Hyrcanus I, c 175–105? B C , and John Hyrcanus II, d 30 B C

Hyrum (hī'rŭm) [for Hyrum Smith, brother of Joseph Smith], city (pop 1,874), N Utah, S of Logan; settled 1860 by Mormons; inc. 1870. This dairying and farm region of the Cache Valley, irrigated after 1860, is now served by Hyrum Dam, completed by the Bureau of Reclamation in 1935 in the Little Bear river

Hyslop, James Hervey (hī'slŭp), 1854–1920, American psychologist, b. Xenia, Ohio, grad College of Wooster, 1877, Ph D Johns Hopkins, 1887 He studied abroad and taught (1889–1902) at Columbia Univ , becoming professor of logic and ethics in 1895. A founder (1906) of the American Society for Psychical Research, he wrote books in this field as well as on ethics and logic

hyssop (hĭs'ŭp), aromatic perennial somewhat woody herb (*Hyssopus officinalis*) of the mint family, native to the Old World but an escape from gardens in North America The plant has small violet-blue, sometimes pink or white, flowers Although now grown chiefly for ornament, it has been used to flavor soups and salads, as a tea for chest ailments, and a poultice for bruises, oil of hyssop has been added to liqueurs and cologne The hyssop of the Scriptures (1 Kings 4 33, Ps 51 7, John 19 29) may have been a similar plant or the name may have referred to different plants Hyssop is used as a symbol of humility in religious painting

Hystaspes (hĭstā'spēz) or **Hystaspis** (hĭstā'spĭs), Old Persian *Vishtaspa*, fl 6th cent B C , father of DARIUS I Under him Darius was governor of Parthia The legendary patron of Zoroaster is also called Hystaspes or Vishtaspa, he may or may not be the same as Darius' father

hysteria (hĭstēr'ēŭ, hĭstēr'ēŭ), one of the neuroses, commonly referred to as the conversion NEUROSIS, in which a psychological conflict is converted into a bodily disturbance Less frequently the hysteric produces pseudopsychotic symptoms, and persistent manifestations can bring about true organic pathology (see PSYCHOSOMATIC MEDICINE). At the end of the 19th cent great advances were made in the understanding and cure of hysteria by the recognition of its psychogenic nature and by the use of hypnotism to influence the high degree of suggestibility which is one of its outstanding traits Josef Breuer, J M Charcot, Janet, and FREUD were pioneers in the investigation of hysteria by the use of hypnosis

Hythe (hīdh), municipal borough (pop. 8,398), Kent, England, W of Folkestone It is a summer resort, a market town (with breweries), and one of the CINQUE PORTS There is a long sea wall and parade along the shore Inland c 3 mi is Lympne, the Roman Portus Lemanis, of which portions of walls and a tower remain Studfall Castle here was once a residence of the archbishops of Canterbury The Early English church at Hythe has a crypt containing many bones and skulls, the history of which is unknown Saltwood Castle, near Hythe, also once the property of the Canterbury archbishops, is supposed to have been the scene of the plotting of the murder of Thomas à Becket At Hythe is the School of Small Arms The Royal Military Canal, 23 mi long, built early in the 19th cent , is now used for boating

Hywel Dda (hōō'ĕl dha') or **Howel the Good**, d 950?, ruler of South Wales He is credited with the uniform code of medieval Welsh laws—an enlightened code and a valuable source for social history Stories of his rulership are, however, semilegendary.

I

I, ninth letter of the ALPHABET It is a usual symbol for a high front vowel, like I The Greek correspondent is iota J is a formal development from I English I is a diphthong of ä and y In chemistry I is the symbol of the element IODINE

Ialysus (ĭā'lĭsŭs), ancient city on the island of Rhodes One of the SIX cities of the Doric Hexapolis, it was important c 1000 B C but later was eclipsed by the city of RHODES just to the east Modern Ialiso is near the site

iambic pentameter see PENTAMETER

Iamblichus (ĭăm'blĭkŭs), d c 330, Syrian philosopher, a leading exponent of NEOPLATONISM A pupil of Porphyry, he was deeply impressed by the doctrines of Plotinus In his own teachings he combined with Plato's ideas many of those of Pythagoras and much that was mystical and even magical, derived from the Orient His following was large and enthusiastic in his own time, and in the 15th and 16th cent he was studied with admiring interest He taught that man can hold communion with Deity through certain observances and rites and that human life is subject to the influences of a host of beings of the spirit realm, from whom a knowledge of the future may be received Of his writings on mathematical and philosophical subjects there remain several parts of an extensive work on the philosophy of Pythagoras They have been edited and published by modern scholars His commentaries on Plato's dialogues and Aristotle's *Analytics*, as well as other works, have disappeared See Eduard Zeller, *History of Greek Philosophy* (1889), Thomas Whittaker, *The Neo-Platonists* (1928)

Iapetus (ĭā'pĭtus), in Greek mythology, Titan, son of Uranus (the sky-god) and Gaea (the earth-goddess) He was the husband of Clymene and the father of Atlas, Prometheus, Epimetheus, and Menoetius Iapetus was imprisoned in Tartarus after the Titanomachy

Iasi, Rumania see JASSY

Ibadan (ēbä'dän, ĭbădă'), city (pop 387,133), SW Nigeria, inhabited by the Yoruba Of the cities in Africa with nearly exclusively Negro population, Ibadan is said to be the largest It is surrounded by a low mud wall, and it consists mainly of small huts, but there are also mosques, temples for idols, and buildings of the local college Many living in the city farm land in the vicinity Ibadan is connected by rail with Lagos, and it exports agricultural products, including cacao, cotton, and palm oil

Ibagué (ēbägā'), city (pop. 27,448), W central Colombia Founded in 1550, Ibagué is a major commercial link between the Magdalena and Cauca valleys Coffee, silver, and sulphur are shipped by rail and by the Pan American Highway North of the highway is the old route to ARMENIA over historic Quindío pass (c 11,400 ft)

Ibáñez, Vicente Blasco · see BLASCO IBÁÑEZ

Ibaraki (ēbä'räkē), prefecture, central Honshu, Japan, see MITO, the capital.

Ibarra, Francisco de (frănthē'skō dā ēbä'rä), 1539?–1575, Spanish conquistador. He went to New Spain at an early age. In 1554 he headed an expedition to the region N of Zacatecas and for the next 20 years dominated the vast territory of Nueva Vizcaya He explored, founded settlements, and exploited mines In 1562 he was named governor See J L Mecham, *Francisco de Ibarra and Nueva Vizcaya* (1927)

Iberia (ībēr'ēŭ), name given by the ancients to a country of Transcaucasia, roughly the eastern part of the present Georgian SSR It probably was long a dependency of Persia and was subject (1st cent B C) to Mithridates VI of Pontus Its later history is that of Georgia

Iberian Gates, USSR see DARIAL

Iberian Peninsula, SW Europe, separated from the main continent by the Pyrenees Comprising SPAIN and PORTUGAL, it is washed on the northwest and west by the Atlantic Ocean and on the east by the Mediterranean The Strait of Gibraltar divides it from the northern shore of Africa

Iberians, ancient people of Spain, believed to have migrated there from Africa in the Neolithic period They were first mentioned in the 6th cent B C , when they had settled in E Spain, the Ebro valley, and S France The Iberian Peninsula, i e , Spain and Portugal, is named after them It is widely believed that the Iberian migration preceded the Celtic migration into Spain and that the two peoples later merged into the so-called Celtiberian nation The theory that the Iberians and the BASQUES were identical has been discredited by modern research, which has proved that the Basque civilization is much older After the Roman conquest of Spain the Celtiberians gradually accepted Roman culture

Iberville, Pierre le Moyne, sieur d' (pyĕr' lù mwän' syûr' dēbĕrvēl'), 1661–1706, French Canadian naval officer and colonizer, b Ville Marie (in present Montreal), Canada, son of Charles le Moyne, sieur de LONGUEUIL, and brother of Jean Baptiste le Moyne, sieur de BIENVILLE In 1675 he entered the expanding navy of Louis XIV and after 10 years at sea returned to Canada On the first of five expeditions (1686, 1689, 1691, 1694, 1697) against the British fur-trading posts on Hudson Bay, he stormed and reduced Moose Factory, Fort Rupert, and Albany on James Bay after a long, overland journey through the wilderness from Montreal In 1697, with one ship, he captured two British ships, sank one, and took Port Nelson, strongest post on Hudson Bay Despite these gallant efforts, the British foothold was not broken, largely because Iberville received no support from France In 1690 he took part in the raid on Schenectady led by his elder brother Jacques, sieur de Sainte-Hélène. In 1692 he unsuccessfully attacked Fort Pemaquid, Maine, but in 1696 destroyed that post and also captured St John's, Newfoundland, temporarily ousting the British from that area In 1698 Iberville was charged with planting a settlement in the lower Mississippi valley, the project at which, 13 years previously, La Salle had failed. With colonists and supplies in four ships, Iberville, accompanied by his younger brother Bienville, reached the Gulf of Mexico in 1699 and founded Old Biloxi (now Ocean Springs, Miss.) He was the first definitely to ascertain the mouth of the Mississippi from the Gulf approach and to explore its delta He returned to the colony with supplies and reinforcements in 1700 and 1701 2 Removed to the Mobile area in 1702, the colony was never again visited by Iberville, for illness wore down his splendid constitution But its survival was due almost entirely to the perseverance and ability of Iberville and Bienville, who had immediate charge after 1701 Iberville recovered sufficiently to lead an expedition which captured (1706) the British islands of Nevis and St Christopher in the West Indies and was ready to carry out an old plan to attack Boston and New York when, putting in at Havana, he was stricken with yellow fever and died See C B Reed, *The First Great Canadian* (1910)

Iberville (ē'bûrvĭl), town (pop 3,454), co seat of Iberville co , S Que , on the east bank of the Richelieu river and SE of Montreal The mother house for America of the Marist order is here

ibex (ī'bĕks), gregarious, agile wild goat living at the snow line of the mountain ranges of Asia and Europe It is brown or gray, from 2½ to 3½ ft high at the shoulder, very sturdily built, and has long, ridged horns curved backward The Alpine ibex is very rare

Ibhar (ĭb'här), son of David 2 Sam 5 15

ibis (ī'bĭs), a wading bird with a long, slender, decurved bill, grooved from nostril to tip, found in the warmer regions of both hemispheres The body is usually about 2 ft long Most ibises nest in colonies They feed in ponds, lakes, and brackish marshes on fish and other aquatic animals The sacred ibis of ancient Egypt, a white and black bird now extinct in Egypt, inhabits some other parts of Africa In North America are found the white ibis, the white-faced and eastern glossy ibises, and the wood ibis, which is really a STORK The scarlet ibis of South America is occasionally seen in the S United States

Ibiza, Spain see IVIZA

Ibleam (ĭb'lēum), town, Palestine, probably between Samaria and Jezreel Joshua 17 11, Judges 1 27, 2 Kings 9 27 Bileam 1 Chron 6 70 Gath-rimmon Joshua 21 25

Ibn Batuta (ĭ'bun bătōō'tä), 1304?–1378?, Moslem traveler, b. Tangier No other medieval traveler is known to have journeyed so extensively. In 30 years (from c 1325) he made a series of journeys recorded in a dictated account that was rediscovered during the French occupation of Algeria. He traveled overland in North Africa and Syria to make the pilgrimage to Mecca Afterwards he explored Arabia, Mesopotamia, Persia, and Asia Minor He made a journey via Samarkand to India, where he resided for almost eight years at the court of the sultan of Delhi, who sent him to China as his ambassador Ibn Batuta visited the Maldive Islands, the Malabar coast, Ceylon, and Sumatra He returned c.1350 to Tangier. Later he went to Spain, then to Morocco, whence he crossed the Sahara to visit Timbuktu and the Niger His contribution was invaluable. For annotated selections from his writings, see H. A. R. Gibb, *Ibn Battuta* (1929).

Ibneiah (ĭbnē'yŭ) [Heb.,=God builds], son of a Benjamite chief. 1 Chron. 9.8.

Ibn Ezra, Abraham ben Meïr (mär' ĭ'bŭn), 1092?–1167, Jewish grammarian, commentator, poet, philosopher, and astronomer, b. Toledo, Spain. He traveled widely and wrote a prodigious number of books. His scholarly works of all kinds and his poems are of high quality, but he is best known as a biblical critic He was the inspiration of Robert Browning's "Rabbi Ben Ezra" Aben Ezra is another form of his name See Raphael Levy, *The Astrological Works of Abraham Ibn Ezra* (1927)

Ibn Gabirol, Solomon ben Judah (ĭ'bŭn gäbē'rōl), c 1021–1058, Jewish poet and philosopher, known also as Avicebron, b Malaga Most of his secular poetry is full of gloom and bitterness engendered by his tragic life. His religious poetry is filled with a mystic awe of God His great philosophical work, *The Well of Life*, showing the influence of Neoplatonism, was written in Arabic In its Spanish and Latin (*Fons vitae*) translations, it exercised a great influence upon Christian thought The book is an attempt to explain the universality of matter, man's purpose in life, and the communion of man's soul with the spiritual sources which created it. His book of ethics, *The Improvement of the Moral Qualities*, was also important. See edition of Stephen S Wise (1902).

Ibnijah (ĭbnĭ'jŭ) [Heb ,=God builds], one of the house of Benjamin 1 Chron 9 8

Ibn Khaldun (ĭ'bŭn khäldōōn'), 1332–1406, Arab historian, b Tunis He held various offices under the rulers of Tunis and Morocco and served (1363) as ambassador of the Moorish king of Granada to Peter the Cruel of Castile In 1382 he sailed to Egypt, and at Cairo for most of the rest of his life he lectured and taught He was many times grand Mohkite cadi of Cairo He made the pilgrimage to Mecca in 1387 In 1400 he accompanied the Egyptians in their campaign against Tamerlane, and he was sent to arrange for the capitulation of Damascus to Tamerlane Ibn Khaldun is generally considered the greatest of the Arab historians In his great work, the *Kitab al-Ibar* [universal history], he attempts to treat history as a science and outlines a philosophy of history, setting forth principles of sociology and political economy The first part (Prolegomena) of the book treats of Moslem life in general and of principles, the second recounts a history of the Arabs and near-by peoples, the third is a comprehensive survey of the history of North Africa To these he added an autobiography, completed in 1394 but expanded a few months before he died See Nathaniel Schmidt, *Ibn Khaldun, Historian, Sociologist, and Philosopher* (1930), Abdullah Enan, *Ibn Khaldun His Life and Work* (1940)

Ibn Saud (Abdu-l-Aziz ibn Saud) (ĭ'bŭn säōōd'), c 1880–, founder of Saudi Arabia His family, with its regular seat at Riad in the Nejd, were the traditional leaders of the ultraorthodox Wahabi movement in Islam During Ibn Saud's youth the Saud family was in exile in Kuwait He launched his career in 1900, when he and a small party of relatives and servants took Riad by surprise By 1912 he had completed the conquest of the Nejd and organized a well-trained army of men who had given up their tribal affiliations and vowed to restore Islam in all purity In the First World War the British made slight efforts to cultivate Ibn Saud's friendship but favored his rival, Husein ibn Ali of the Hejaz After careful preparation Ibn Saud captured Husein's capital, Mecca, in 1924, and in 1925 he declared himself king of Hejaz and Nejd Steadily Ibn Saud increased his power, and in 1932 he constituted his domain Saudi Arabia In much of the country he compelled the Bedouins to adopt a sedentary life as farmers and to abandon their traditional tribal wars and vendettas He is credited with suppressing the robbery and extortion which formerly harassed pilgrims to Mecca and Medina Ibn Saud is an absolute monarch of conservative inclinations To raise capital, however, he has granted an oil-drilling concession to an American company In the Second World War he remained neutral while favoring the Allies Late in the war, on his first visit outside Arabia, he conferred with President F D Roosevelt in Egypt In recent years he has been a leader in the anti-Zionist movement among the Arab states

Ibn Sina see Avicenna

Ibn Tufail (ĭ'bun tōōfĭl'), 12th-century Spanish-Arabian philosopher and physician, b near Granada His chief work was a philosophical romance, *Hayy ibn Yaqzan*, describing the development of a child taken from its normal environment This was popular in the West in translation in the 17th cent. Ibn Tufail, also called Abubacer, was famous as a physician and gained something of a reputation for magic in the West

Ibn Zohr: see Avenzoar.

Ibrahim Pasha (ĭbrahēm' pä'shä), 1789–1848, Egyptian general. He was the son of Mohammed Ali, a pasha of Egypt under the Ottoman Empire. Ibrahim conducted (1816–19) largely successful Turkish campaigns against the Wahabis in Arabia. He fought (1825–28) the insurgent Greeks and sent large numbers into slavery in Egypt, but the landing of French troops forced him to withdraw from the country. After Mohammed Ali turned against the Ottoman sultan, Ibrahim conquered (1832–33) Syria. Warfare with the Turks was resumed in 1838, but British and Austrian military intervention on Turkey's behalf compelled Ibrahim to evacuate to Egypt In 1848 he was regent of Egypt during his father's insanity

Ibri (ĭb'rĭ) [Heb ,=Hebrew], Merarite of the family of Jaaziah. 1 Chron 24 27

Ibsen, Henrik (hĕn'rĭk ĭb'sŭn), 1828–1906, Norwegian poet and dramatist After early essays in journalism, he was associated with the National theater in Bergen and later in Copenhagen He had written poetry, criticism, and a few plays before the appearance in 1862 of *Love's Comedy*, a satirical play in verse which roused a storm of criticism It was followed by *The Pretenders* (1864), a historical drama, by the great dramatic poems *Brand* (1866) and *Peer Gynt* (1867), and by the drama *Emperor and Galilean* (1873) From 1874 to 1891 Ibsen lived in Germany, where he produced the famous series of realistic social dramas (many with a marked symbolic trend), setting forth his doctrine of human values and his view of the individual in conflict with society, to which the name Ibsenism has been given At intervals of about two years he wrote *The Pillars of Society* (1877), *A Doll's House* (1879), *Ghosts* (1881), *An Enemy of the People* (1882), *The Wild Duck* (1884), *Rosmersholm* (1886), *The Lady from the Sea* (1888), *Hedda Gabler* (1890), *The Master Builder* (1892), *Little Eyolf* (1894), *John Gabriel Borkman* (1896), and *When We Dead Awaken* (1899) These have all been translated into English Produced in England, America, and on the Continent, they exerted a strong influence on the theater as well as on literature, an extensive controversial literature has grown up about them See G B Shaw, *The Quintessence of Ibsenism* (1891), Georg Brandes, *Ibsen and Björnson* (1907), studies by E W Gosse, (1907), Halvdan Koht (Eng tr , 1931), Theodore Jorgenson (1945), and B W Downs (1946)

Ibycus (ĭ'bĭkŭs), fl before 500 B C , Greek lyric poet, b Rhegium, S Italy The extant fragments of his work contain the earliest known example of the triadic choral lyric He spent some time at the court of Polycrates of Samos The "cranes of Ibycus" as an expression of triumphant justice refers to the story that Ibycus, murdered at sea, was revenged by cranes who saw the crime and eventually revealed the murderers

Ibzan, judge of Israel Judges 12 8–10

Ica (ē'kä), city (pop 21,437), SW Peru In the irrigated Ica river valley on Peru's desert coast, the city is the commercial center for regional produce—cotton and grapes The products of the cotton gins and wineries are sent by rail to its port, Pisco

Icaria see Cabet, Étienne

Icaria (ĭkâ'rēu), mountainous island (99 sq mi ; pop 12,854), off the coast of Asia Minor but belonging to Greece, WSW of Samos, in the Sporades It produces fruit and wine and has iron ore and sulphur springs It is sometimes called Nikaria.

Icarus see Daedalus

Icaza, Jorge (hôr'hä ēka'tha), 1902–, Ecuadorian novelist He spoke in harsh realistic terms against the exploitation of the Indian His novel *En las calles* [in the streets] won a national prize in 1935 He has written other novels—notably *Huasipungo* (1934) and *Cholos* (1938)—as well as distinguished short stories

Icazbalceta, Joaquin García: see García Icazbalceta, Joaquín

Ice: see water, refrigeration, dry ice

ice action, one of the agents of erosion There are two processes, disintegration of rocks through the freezing (and consequent expansion) of water in cracks and wearing away by friction, e g , by glaciers and floating ice along shores.

Ice Age: see Pleistocene epoch

iceberg, mass of ice detached from the edge of an ice sheet or glacier and floating on the ocean The ice sheet and glaciers of Greenland are the source of most of the icebergs in the N Atlantic About a ninth of the total mass of a berg projects above the water The process of berg formation is known as calving Since the disaster of the *Titanic*, an ice patrol has been maintained by the U S. coast guard in the N Atlantic shipping channels.

iceboat: see boating

icebreaker, ship designed to force its way through ice In many seaports in northern countries—such as Russia, Canada, and the Great Lakes region of the United States—all water-borne traffic would be suspended in winter except for the use of icebreakers The first notable icebreaker was the *Pilot* (1870), used to maintain communication between Kronstadt and St. Petersburg The sides of an icebreaker are so shaped that if the vessel is caught in the ice, she will not be crushed but will be forced up. The engines are of the most powerful type When in operation the vessel charges into the ice at full speed. The sharply inclined bow, meeting the edge of the ice, rises upon it, and the weight of the vessel causes the ice to collapse In thick ice progress is made only by continually charging and retiring A well-designed icebreaker is able to force its way through ice up to 35 ft thick

ice cream, frozen food made from milk fat and solids, sugar, and flavoring and often containing coloring matter, a stabilizer (usually gelatine), eggs, and fruits or nuts. The mix is churned or beaten at freezing temperature to attain a light, smooth texture Probably originating as a water ice in Italy in the 17th cent , the confection spread to France and England, reaching America early in the 18th cent. The manufacture of ice cream on a commercial scale, introduced in Baltimore in 1851, has become an important industry in the United States Commercial ice cream is generally prepared from calculated mixes, pasteurized and homogenized. Federal, state, local, and industry regulations as to percentage of milk fats and solids, purity of ingredients, and cleanliness of preparation and dispensing are designed to maintain the dietary value of ice cream and to inhibit bacterial multiplication, for which it is a favorable medium Similar frozen confections include the fat-rich bisque (with added bakery products), parfait (containing eggs), and mousse, frozen custard, generally low in fat, and ices and plain or milk sherbets, based on fruit juices and sugar

Ice Fjord. see Spitsbergen.

ice hockey: see hockey

Icel, Turkey see Mersin.

Iceland, Icelandic *Island* (ēs'lant), republic (c 40,000 sq mi , pop 135,935), the westernmost state of Europe, occupying an island in the Atlantic Ocean just S of the Arctic Circle, c 600 mi W of Norway and c 200 mi SE of Greenland Reykjavik is the capital The republic includes several small islands, notably the Westman Islands off the southern coast of Iceland The coasts of Iceland are indented by deep fjords, particularly in the north and west The island itself is a plateau, averaging 2,000 ft in height and culminating in vast icefields, of which the Vatnajokull, in the southeast, is the largest There are more than 100 volcanoes, many of them still active, the highest is Mt Hekla Hot springs abound and are exploited for heating purposes in many places, notably at Reykjavik, the great Geysir is particularly famous The watershed of Iceland runs roughly east-west; the chief river is the Jokulsa, which flows N into the Axar Fjord (there are several other rivers of the same name) Only about one fourth of the island is habitable, and practically all the larger inhabited places are located on the coast, they are Reykjavik, Akureyri, Hafnafjord, Siglufjord, and Isafjord Timber is virtually absent, and agriculture, producing mainly hay, potatoes and turnips, is restricted to 25 percent of the total area There are, however, extensive grazing lands, used mainly for sheep raising, but also for horses and cattle Fishing is by far the most important industry, codfish and herring constituting the chief export. The climate is generally mild and humid, owing to the proximity of the North Atlantic Drift Iceland is governed by parliamentary democracy The cabinet is responsible to the Althing The president of the republic is elected by popular vote for a four-year term Iceland possesses neither an army nor a navy; it has very advanced social-security legislation The government has established monopolies on the importation and sale of several important articles and plays a major part in the business life of the country The Lutheran Church is the sole established church, but there is complete religious freedom The Icelanders are beyond doubt the most literate and best-informed nation in the world There is a university at Reykjavik, the high educational level, however, is due to ancient tradition and ingrained civilization rather than to formal schooling Iceland may have been the Ultima Thule of the ancients Irish monks visited it before the 9th cent , but abandoned it on the arrival (c 850–870) of Norse settlers, many of whom had fled from the domination of Harold I These settlers also contained Scottish and Irish elements In 930 a general assembly, the Althing, was established at Thingvellir, and c 1000 Christianity was introduced Paganism, however, seems to have survived for a considerable period, or at least its memory was preserved in the literature of 13th-century Iceland, where Old Norse literature reached its greatest flowering (Modern Icelandic is virtually the same language as that of the sagas) The attempt made by Snorri Sturluson to establish the full control of King Haakon IV of Norway over Iceland was a failure, however, Haakon incorporated Iceland into the archdiocese of Trondheim and in 1261 64 obtained acknowledgment of his sovereignty by the Icelanders With Norway, Iceland passed (1380) under the Danish crown Lutheranism was introduced by force (1539–51) The 17th and 18th cent were disastrous in Icelandic history English, Spanish, and Algerian pirates raided the coasts and ruined trade, epidemics and a general volcanic eruption (1783) killed a large part of the population, the creation (1602) of a private trading company at Copenhagen, with exclusive rights to the Iceland trade, caused economic ruin The private trade monopoly was at last revoked in 1771 and transferred to the Danish crown, which kept it until 1786, when trade with Iceland was opened to all Danish and Nor-

wegian merchants The exclusion of foreign traders was lifted only in 1854 The 19th cent. brought a rebirth of national culture and agitation for independence. The Althing, abolished in 1800, was reestablished in 1843, in 1874 home rule was granted; and in 1918 Iceland was declared a sovereign state in personal union with Denmark The export trade of Iceland was dislocated by the Spanish civil war (1936–39) and shifted from the Mediterranean countries to England The occupation (1940) of Denmark by German forces in the Second World War gave the Althing an opportunity to take over the king's prerogatives and the control of foreign affairs Great Britain and the United States established diplomatic relations with Iceland, and Great Britain sent (1940) a military force to defend the island from a possible German attack. This was replaced after 1941 by American forces, who were fully withdrawn only early in 1947 In a popular referendum (1944) the overwhelming majority of Icelanders voted to terminate the union with Denmark, thus the kingdom of Iceland became (officially on June 17, 1944) an independent republic Sveinn Bjornsson, its interim president, was reelected in 1945 and in 1949, and a coalition cabinet continued to govern the state Iceland rejected (1946) a proposed pact by which the United States was to keep its air bases, but it granted the United States the right to use the American-built airport of Keflavik for military as well as commercial airplanes In protest, the two Communist cabinet members resigned Iceland was admitted into the United Nations in 1946, it joined in the European Recovery Program and the North Atlantic Treaty See Knut Gjerset, *History of Iceland* (1924), S J Stefansson, *Iceland* (1930), Hjalmar Lindroth, *Iceland a Land of Contrasts* (1937), Halldor Laxness, *Independent People* (1946), Agnes Rothery, *Iceland* (1948)

Icelandic language, North Germanic language. See LANGUAGE (table)

Icelandic literature. For the earliest literature of Iceland, see OLD NORSE LITERATURE With the loss of Iceland's political independence (1261–64) came a decline in the literature, although the linguistic tradition continued and the old writings were still venerated From the 14th cent to the middle of the 16th, literary activity consisted mainly in the translation of foreign works, the copying and compiling of Old Norse works, and the writing of religious poems in the old meters In the 14th cent there arose the *rimur*, a type of narrative poetry popular until the 19th cent and valuable principally in keeping alive an awareness of linguistic beauties and a sense of poetic values The Protestant Reformation which was thrust upon Iceland in the 16th cent turned the greater part of the literary output to hymns and illuminations of the Protestant faith The first printing press was brought to Iceland in 1528 by Jon AREZSON, but from the coming of Protestantism until the late 18th cent, it was under church control and almost entirely limited to publication of religious works Secular works were circulated in manuscript, however Historical and biographical works, sermons, and religious poetry made up the body of literature in the 16th and 17th cent The period from 1750 to 1835 was one of enlightenment and awakening, with reforms in all aspects of Icelandic life In 1773 a printing press was established for the publication of secular works, and there followed the formation of a number of literary societies A romantic revival, begun in the 1830s, inaugurated the modern period of Icelandic literature, marked by a productivity and an excellence unknown since the *Eddas* and sagas The romantic revival, with the dual aspect of aroused nationalism and the influence of continental romanticism, particularly Danish and German, was begun by the poets Bjarni Thorarensen (1786–1841) and Jonas Hallgrimsson (1807–45) Hallgrimsson was the first writer of the modern Icelandic short story, and he influenced the work of JON THORODDSEN, author of the first published Icelandic novel This movement, which saw the creation of the classical Icelandic style of the 19th and 20th cent, was continued by Grimur Thomsen (1820–96), writer of heroic narrative poems in pure, Old Norse style, Benedikt Grondal (1826–1907), outstanding for both romantic and humorous poetry, Steingrimur Thorsteinsson (1831–1913), lyric poet, satirist, and translator of Goethe, Schiller, Byron, Hans Christian Andersen, and others, and Matthias Jochumsson (1835–1920), writer of plays which were the real beginning (after abortive attempts by others) of modern Icelandic drama, translator of Shakspere, and poet laureate of Iceland from 1900 The leading figure of the period was Jon SIGURDSSON The founding (1882) of the periodical *Verdandi* [the present] was the beginning of a movement of realism, marked by socialism, individualism, and criticism of Church and clergy and strongly influenced by Georg Brandes Most important of the realists were Gestur Palsson (1852–91), Stephan G Stephansson (1854–1927), and Thorsteinn Erlingsson (1858–1914) Palsson was a brilliant short-story writer, an indignant reformer motivated by sympathy for the oppressed who wrote bitterly ironical social criticism. Stephansson was an Icelandic-Canadian, an individualist and a socialist, one of the finest poets of either Iceland or Canada. He wrote of his homeland, giving a new, symbolic meaning to the figures taken from the sagas and old romances Erlingsson wrote brilliant satire on Church and clergy as well as fervent love lyrics. One of the most significant modern Icelandic writers of his period was Einar H Kvaran (1859–1938) He began as one of the realists, but in the 1890s he became part of a reaction against realism, this in him took the form of religious affirmation through spiritualism, which appeared in his writing for the rest of his life He used the technique of a realist, however, and wrote excellent short stories of life among the poorer people in Reykjavik Another who reacted against realism was the nationalist poet Einar Benediktsson (1864–1940), who ranks beside Stephansson The farmer-novelist Gudmundur Fridjonsson (1869–1944), who became the leading representative of the farmer's point of view in literature, was one who began as a realist and later turned to nationalistic romanticism Next to Kvaran as novelist and short-story writer stands Jon Trausti (pseud of Gudmundur Magnusson, 1873–1918), who wrote historical novels and stories of rural and town life and of the life of the fishermen While nationalism was always one thread of Icelandic literature, the first two decades of the 20th cent saw the rise of a more introspective type of writing, influenced by the Nietzschean idea of genius and by French decadence Writers sought to explore their own souls rather than to propagate ideas or point out the corruption of society One group of these, part of the Icelandic colony in Copenhagen, wrote in Danish to reach a wider public They were led by Johann Sigurjonsson (1880–1919), a romantic dramatist Others were Gunnar GUNNARSSON, the romantic novelist of the Icelandic family saga, and the cosmopolitan dramatist Gudmundur KAMBAN This group merged in the 1920s with a group of writers in Iceland in a neo-romantic movement, which had as one of its leading spirits the poet, scholar, and critic Sigurdur Nordal (1886–), author of the prose poem *Hel* (1916–17), a work of great lyric beauty and originality of conception In 1918 he became professor of Icelandic language and literature at the Univ of Iceland in Reykjavik One of the best representatives of neo-romanticism is the lyric poet David Stefansson (1895) Among the writers grouped around Nordal were the novelists Gudmundur Hagalin (1898–) and Kristmann GUDMUNDSSON With the urbanizing of Iceland's population came the rise of a working class and the necessity of new patterns of life and thought Writers such as Kamban and Trausti became socialists as early as 1918, and Hagalin, a romantic primitivist, turned from conservative journalism in the 1920s and by the middle of the '30s had become thoroughly identified with the new socialist middle class The two most outstanding names in recent Icelandic literature are those of the leftists Thorbergur Thordarson (1889) and, the most gifted of all, Halldor K LAXNESS Thordarson, an internationalist and a satirist of the lyrical effusions of the romantic poets, provided the Icelandic manifesto of socialism in his personal, satirical essay *Letter to Laura* (1924), which attacked literary conventions and conventional standards of propriety alike Thordarson is a master of the classic style, at the same time foreshadowing, in his extraordinary autobiography (1940–41), the new style created by Laxness See Richard Beck, ed , *Icelandic Lyrics* (1930) and *Icelandic Poems and Stories* (1943), Frederika Blankner, ed , *The History of the Scandinavian Literatures* (1938), Stefan Einarsson, *History of Icelandic Prose Writers, 1800–1940* (1948)

Iceland moss, name for a lichen (*Cetraria islandica*) common in Iceland and other northern countries On the North American continent it grows on soil and rocks as far south as the N United States It forms a tangled growth of paper-thin branching stalks with spiny edges, when dry it is brownish, olive, or grayish in color, and when wet it is olive green Although it contains a bitter substance which is often difficult to remove and is harmful to the digestive system, it has long been used, chiefly in Iceland, Norway, and Sweden, both for human food and for fodder. Because of its carbohydrate content it has been mixed with cereals and potatoes to make bread It also found use in medicine chiefly as a demulcent tea

Iceland spar, colorless variety of crystallized CALCITE, characterized by its properties of transparency and double refraction It is used chiefly in the manufacture of Nicol prisms, which are essential parts of polarizing microscopes and other optical instruments The principal deposit is in Iceland, but small quantities are found in other countries, including the United States

ice plant, low fleshy plant (*Cryophytum*, or *Mesembryanthemum, crystallinum*) of warm, dry, barren regions It is cultivated chiefly as an annual rockery or pot plant for the glistening foliage

Ichabod (ĭ'kŭbŏd) [Heb., =inglorious], son of Phinehas and grandson of Eli. 1 Sam 4 21; 14.3. J. G. Whittier used the name in a poem voicing the disappointment of the antialavery faction with Daniel Webster when he supported the Compromise of 1850. To their view, glory departed from him with his divergence from them

Ichang or **I-ch'ang** (both ē'chäng'), city (pop. 80,979), SE Hupeh prov , China It is the western terminus for large ocean-going vessels traveling up the Yangtse river Here goods are transshipped to smaller boats which can negotiate the gorges and rapids of the Yangtse

ichneumon see MONGOOSE

ichthyol (ĭk'thēŏl, -ōl,-ŏl) [Gr ,=fish oil], thick, dark brown liquid with a fishy odor. It is obtained by the dry distillation of asphaltic shale (found in the Tyrol), which contains fossil fish remains, and it has also been found in crude oil in Texas. For medicinal purposes it is prepared in the form of an ammonium salt of a sulphuric acid. It is useful in the treatment of skin disorders and as an aid to healing in chronic inflammation, but it is not as widely used as formerly

Ickes, Harold LeClaire (ĭ'kus), 1874–, U S Secretary of the Interior (1933–46), b Blair co , Pa , grad Univ of Chicago (B A , 1897, LL B , 1907) At first (1897–1900) a reporter for Chicago newspapers, he later practiced law and became interested in local reform politics He managed (1911) the almost successful campaign of C E Merriam for mayor of Chicago and led in struggles that aimed at preventing domination of city politics by business interests Previously a Republican, he joined (1912) the Progressive party and was that party's state leader for three years, but in 1916 he supported Charles E Hughes for President In 1924 he was manager of Hiram Johnson's campaign for the Republican presidential nomination President Franklin D Roosevelt, who had high respect for Ickes's opinions, appointed him Secretary of the Interior and also made him head of the Public Works Administration His powers in the Second World War as Secretary of Interior included control of coal and petroleum President Harry S Truman accepted (1946) Ickes's resignation from the cabinet in an argument over Truman's appointment of Edward Pauley as Undersecretary of the Navy Ickes's reputation for outspoken bluntness is shown in *The New Democracy* (1934) and *The Autobiography of a Curmudgeon* (1943)

Icknield Street (ĭk'nēld), Saxon name for an early road in Britain, over the Berkshire Downs and the Chilterns See Thomas Codrington, *Roman Roads in Britain* (new ed , 1918)

Icolmkill, Inner Hebrides, Scotland see IONA.

Icon Basilike see EIKON BASILIKE

Iconium (īkō'nēum), ancient city of Asia Minor, the modern KONYA, Turkey In ancient days it was at various times in Phrygia, Lycaonia, and Cappadocia, as the bounds of those regions changed It was also for a time included in the Roman province of Galatia and was visited by Paul, who converted part of the Greek and Jewish population and established an important church there Acts 13 51,52, 14 19,21

iconoclasm (īkŏ'nōklăzĭm) [Gr ,=image-breaking], opposition to the religious use of images Veneration of pictures and statues symbolizing sacred figures, Christian doctrine, and biblical events was an early feature of Christian worship (see ICONOGRAPHY and CATACOMBS) To combat heresy, the reality of Christ's humanity was increasingly emphasized, and images and crucifixes became common Canon 36 of the Synod of Elvira (c 305) was one of the earliest to prohibit images in churches, "lest that which is worshiped and venerated be depicted on the walls" After the 5th cent the increasingly superstitious practices of the masses reinforced latent opinion that reverence of images could be equivalent to idolatry Iconoclasm flourished in Asia Minor, center of Monophysitism The movement may also have been influenced by the iconoclasm of Islam, Judaism, and Manichaeism and was certainly strengthened by the numerous PAULICIANS in the empire LEO III, CONSTANTINE V, LEO IV, and LEO V were important iconoclastic emperors Opponents of iconoclasm were Empress Irene, who restored the images, St Theodore of Studion and St John of Damascus, and St NICEPHORUS and St THEOPHANES, who wrote histories of the controversy Iconoclasm was rejected at Nicaea (see NICAEA, SECOND COUNCIL OF), but ended only with the minority of Michael III The iconoclastic controversy stimulated Byzantine artists to strive for spiritual revelation in religious art, rather than for naturalistic representation The churches of the Orthodox Eastern Church are generally decorated only with flat pictures, bas-reliefs, and mosaics, descended from BYZANTINE ART See E J Martin, *A History of the Iconoclastic Controversy* (1930).

iconography (ī"kŏnŏg'-) [Gr ,=image-drawing] or **iconology** [Gr ,=image-study], the discovery, study, and interpretation of figural representations, either individual or symbolic, religious or secular; more broadly, the art of representation by pictures or images, which may or may not have a symbolic as well as an apparent or superficial meaning. Al-

though, when first used in the 18th cent., the term was confined to the study of engravings which were then the standard mode of illustrating books on art and on antiquities in general, it came shortly to be applied more specifically to the history and classification of Christian images and symbols of all sorts, in whatever medium they happened to be rendered originally or in whatever way they were reproduced for study With the rise of the systematic investigation of art from prehistoric ages down to modern times, it became apparent that each major phase or epoch in which figural representations occur had created and developed in varying degrees of richness and elaboration an iconography of its own As used today, therefore, the term is necessarily qualified to indicate the field of iconographic study under discussion—e g , the iconography of the various Egyptian deities, the iconography of Roman imperial portraits, the iconography of Napoleon, early Christian iconography, Buddhist or Hindu iconography, Byzantine iconography, Gothic iconography As a method of scholarly research the science of iconography strives also to recover and express the thought from which a given type has arisen, particularly when such type has assumed the value of a symbol Only the iconographies of dead arts are fixed and changeless and can be cast in the form of a rigid code In every living art the types and symbols, as well as their meanings, change with the passage of time and the growth of ideas, many disappear, while others become almost unintelligible to a later generation and can be recovered only by intensive study **Christian iconography,** by reason of its long history and the dynamic concepts which controlled its growth, is richer and more varied than that of any other art Beginning with the catacomb frescoes (see CATACOMBS) in the early centuries of our era, it deals with the perils faced by the human soul on earth in its journey toward eternal salvation Figures from the Old Testament, episodes from the life of Christ, symbolic scenes of ultimate beatitude, all reveal the same purpose —to repeat in many forms and inculcate in every mind the moral aims and fundamental dogmas of the Christian religion In medieval Christian art every form clothes a thought, which works within the material and fashions it Since, however, the thought is never static, a long series of evolutionary stages unfolds in the representation of a given person or scene from the art of the catacombs to that of the Gothic cathedrals Thus the art of the Middle Ages is above all a kind of sacred writing whose system of characters, i e , the iconography, had to be learned by every artist It was governed also by a kind of sacred mathematics, in which position, grouping, symmetry, and number were of extraordinary importance and were themselves an integral part of the iconography From earliest times Christian iconography has likewise been a symbolic code, showing men one thing and inviting them to see in it the figure of another, e g , the dove, which figures the Holy Spirit Thus in Christian art, form is merely the vehicle of spiritual meaning, in the expression and reading of this meaning lies the essence of Christian iconography

Ictinus (ĭktī'nus), 2d half of 5th cent B C , one of the greatest architects of Greece His celebrated work is the Parthenon upon the Acropolis at Athens (447–432 B C), with the architect Callicrates as associate He also built the temple of Apollo Epicurius at Bassae, near Phigalia (c 430 B C), and is said to have rebuilt the Telesterion at Eleusis

id see PSYCHOANALYSIS

Ida, Mount (ī'du), 8,058 ft high, central Crete, highest mountain of the island It is also known as Psiloriti

Idabel (ī'dubĕl), city (pop 3,689), co seat of McCurtain co , extreme SE Okla , near the Red River, in a farm and lumber region, inc 1906

Ida Grove, city (pop 2,248), co seat of Ida co , NW Iowa, ESE of Sioux City and on the Maple river, in a farm area, settled 1856, inc 1887

Idaho (ī'duhō), state (82,808 sq mi , 1940 pop 524,873, 1949 estimated pop 592,000), NW United States, one of the Rocky Mt states, admitted 1890 as the 43d state The capital and largest city is BOISE, other towns of importance are POCATELLO and IDAHO FALLS Idaho in the north has an international border with British Columbia, elsewhere it is bounded on the northeast by Montana, on the east by Wyoming, on the south by Utah and Nevada, and on the west by Oregon and Washington Its shape is odd, for from the N Panhandle, about one degree of longitude wide, the state broadens S of the Bitterroot Mts (the Montana line) to be a full six degrees The climate ranges like the topography—from the summer heat of arid southern basins to the snowy cold of mountain wilderness in the center and the north. In a great arc the SNAKE river flows across S Idaho and, with its tributaries, has been harnessed to produce hydroelectric power and to reclaim vast areas of the dry but fertile land Notable among public reclamation projects are the BOISE PROJECT and the MINIDOKA PROJECT. The acres thus brought under cultivation produce an abundance of grains (especially wheat), alfalfa, potatoes, sugar beets, beans, peas, and fruits. To the north of the Snake river valley, in the central and north central parts of the state, are the massive Sawtooth Mts and the Salmon River Mts , which block communication and shelter some of the last magnificent wildernesses in the United States Here and in the Panhandle the state has vast acres of national forests (over 21,500,000 or approximately a third of its area), more than any other state except California Jagged granite peaks (Mt Borah reaches an altitude of 12,655 ft), rushing rivers such as the Salmon and the Clearwater, and many lakes, notably Lake Pend Oreille, Lake Coeur d'Alene, and Priest Lake, have made of Idaho a superb fish and game preserve and vacation land Still largely inaccessible, the mountain areas have, nevertheless, been penetrated by lumbermen and miners and afford the state, next to agriculture and livestock, two of its greatest sources of wealth Lead, silver, gold, zinc, and copper are the principal minerals In SE Idaho lie phosphate reserves, largely unexploited Probably the first white men to enter the present Idaho were the members of the Lewis and Clark expedition in 1805 They were not far ahead of the fur traders David Thompson of the North West Company established the first trading post in Idaho in 1809 The next year traders from St Louis had penetrated the mountains, and Andrew Henry of the Missouri Fur Company established a post near the present Rexburg Thus the rivalry of Canadians and Americans was begun early In 1811 the expedition sent by John Jacob Astor under Wilson P Hunt to Astoria crossed Idaho, and soon traders were coming back from the Astoria post to try out the Snake river country When Astoria passed to the North West Company, the outfits were still sent to the Snake river country, Donald McKenzie, Peter Skene Ogden, and John Work being notable as traders Idaho was part of the Columbia river country, and its fortunes were wrapped up with those of Oregon For some time after the union of the North West Company and the Hudson's Bay Company, the area was in the fur domain of Dr John McLoughlin Men from the United States came in—Capt B L E Bonneville passed by in 1832, Nathaniel Wyeth founded Fort Hall in 1834, and Henry H Spaulding, chief assistant of Marcus WHITMAN in the missionary field, founded a mission at Lapwai, near present Lewiston, Idaho, in 1836. John C Frémont and Kit Carson passed through Idaho in 1843, and already the emigrant trains were beginning to roll over the OREGON TRAIL, many going through S Idaho Father P J De Smet also came as a missionary, but Idaho still had no permanent settlement when Oregon Territory became a state in 1859 and its eastern part was added to Washington Territory A Mormon outpost founded at Franklin in 1860 ranks as the first permanent settlement, but it was not until the discovery of gold that settlers poured into Idaho Gold was discovered on the Clearwater river in 1860, on the Salmon in 1861, in the Boise river basin in 1862, and gold and silver were found in the Owyhee river country in 1863 The usual rush of settlers with spectacular and ephemeral growth of cities followed Most of the settlements are but ghost towns now, but the many gold seekers who poured in—mainly from Washington, Oregon, and California, with smaller numbers from the east—were enough to demand new government administration, and Idaho Territory was set up in 1863 The Indians—mostly Kootenai, Nez Percé, Western Shoshone, Bannock, and Pend d'Oreille—were upset by the incursion of whites and the unsettling of tribal life Troubles and some massacres occurred In 1858 the Federal government subdued the northern tribes and put most of the Indians on reservations The Bannock were cowed in 1863 and again in 1878. In 1876–77 Idaho was involved in the pitiful and heroic demonstration led by Chief JOSEPH The late 19th cent. saw the growth of cattle and sheep ranching and the usual accompanying strife among the ranchers There still lingers more than a hint of the wild West in S Idaho A new mining boom started in 1882 with the discovery of gold in the Coeur d'Alene, and though the gold strike ended in disappointment, it was but a preface to the discovery there of some of the richest silver mines in the world, and Coeur d'Alene and Kellogg became notable centers and the Bunker Hill and Sullivan became one of the most famous of mines Severe labor troubles here at the end of the century led to political warfare Frank Steunenberg, who as governor had used Federal troops to put down the miners, was assassinated in 1905, and the resultant trial of William Haywood and others drew national attention and marked the beginning of the long career of William E BORAH as an outstanding Republican party leader Another Idaho political leader, who later became nationally prominent, Glen H TAYLOR, took almost the opposite course to that of Borah The coming of the railroads (notably the Northern Pacific) through Idaho in the 1880s and the 1890s brought new settlers and helped to build such cities as Pocatello, Idaho Falls, and American Falls. Farming increased, and private interests developed irrigation projects. Some of these aroused bitter opposition, which led to the establishment of state irrigation districts under the Carey Act. The Reclamation Act in 1902 brought direct Federal aid, and there has been much reclamation work in Idaho The projects have also helped to increase the development of Idaho's enormous potential of hydroelectric power Isolation and inaccessibility of some resources still constitute problems for Idaho, though the unspoiled quality of some of its lands has nourished one of the youngest of Idaho's businesses—the tourist trade Sun Valley is an example of the development of resorts that is going on today in Idaho Outstanding among Idaho institutions of higher learning is the Univ of Idaho at Moscow See Byron Defenbach, *Idaho the Place and Its People* (3 vols , 1933), C J Brosnan, *History of the State of Idaho* (1918, rev ed , 1935), Federal Writers' Project, *The Idaho Encyclopedia* (1938), M D Beal, *A History of Southeastern Idaho* (1942)

Idaho, University of, at Moscow, land-grant and state supported, coeducational, chartered 1889, opened 1892 It has colleges of agriculture, engineering, letters and science, and law and schools of business administration, education, forestry, and mines There are state bureaus of mines and geology Idaho pioneered in cooperative student living Its extensive grounds include a farm and forests

Idaho Falls, city (pop 15,024), co seat of Bonneville co , SE Idaho, on the Snake and NNE of Pocatello First called Taylor's Bridge for the toll bridge begun in 1865, then after 1872 called Eagle Rock, it was chartered in 1890–91 and named Idaho Falls for the cataract in the river Chief city of the upper Snake valley, it has the prosperous commerce and the processing activities of an area that has irrigated farming (seed peas, potatoes, sugar beets, and alfalfa), stock raising, and dairying The large hydroelectric plant is municipally owned, and a new landmark in the city is the Latter-Day Saints Temple opened in 1945

Idaho Springs, resort city (pop 2,112, alt. c 7,500 ft), N central Colo , just W of Denver and on Clear Creek, in an area of hot mineral springs and mining, settled 1859–60, inc 1885 The first major gold strike in the Colorado Rockies was here (1859) The Colorado School of Mines maintains an experimental mine near by for student training

Idalah (ī'dulu, Idā'lu), unidentified town, N Palestine Joshua 19 15

Idalium (ĭdā'lēum) ancient town in Cyprus It had a well-known temple of Aphrodite An inscription in Phoenician and Cypriote, found on a temple site at Idalium, gave the key to the Cypriote language It is the modern Dali

Ida Mountains (ī'du), range, NW Turkey, SE of the location of ancient Troy The modern name is Kazdagi Mt Gargarus (c 5,800 ft) is the highest point The mountain was dedicated in ancient times to the worship of Cybele, who was therefore sometimes called Idae Mater

Idbash, descendant of Judah 1 Chron 4 3

Iddo (ĭ'dō) **1** Ruler of Manasseh 1 Chron 27 21. **2** Father of one of Solomon's stewards 1 Kings 4 14 **3** Prophet whose book is mentioned as a source 2 Chron 9 29, 12 15, 13 22 **4** Father or grandfather of the prophet Zechariah Zech 1 1, Ezra 5 1, Neh 12 4,16 **5** A leader in the return from the Exile Ezra 8 17 **6** See ADAIAH **2**

Ide, Henry Clay, 1844–1921, American statesman, b Barnet, Vt , grad Dartmouth, 1866 He was admitted (1871) to the bar, served (1882–85) in the Vermont legislature, and became noted in the state Republican party He was appointed (1891) U S commissioner in Samoa and later served as chief justice of Samoa by joint appointment of England, Germany, and the United States After serving as vice governor (1904–5) and governor (1905–6) of the Philippines, Ide was (1909–13) U S. minister to Spain

idealism, in general the attitude which places special value on ideas and ideals as products of the mind, in comparison with the world as perceived through the senses In art idealism is the tendency to represent things as they might be rather than as they are In ethics it implies a view of life in which the predominant forces are spiritual and the aim is perfection in terms of some absolute In philosophy the term refers to efforts to account for all objects in nature and experience as representations of the mind and sometimes to assign to such representations a higher order of existence It is opposed by materialism Plato conceived a world in which eternal ideas constituted the reality of which the ordinary world of experience is a shadow. The universals of the medieval metaphysicians were similar to Platonic ideas, and the extreme REALISM of that period approached Platonic idealism Since then, idealism has largely come to refer the source of ideas to man's consciousness, whereas in the earlier period ideas were assigned a reality outside and independent of man's existence Nevertheless, modern idealism generally proposes suprahuman mental activity of some sort and ascribes independent reality to certain principles, such as creativity, a force for good, or an absolute truth. The sub-

jective idealism of George Berkeley in the 18th cent held that the apparently objective world has its existence in the consciousness of individuals Kant, in his critical idealism, looked upon ideas as acts of the intellect and believed matter, as known, to be dependent for interpretation on the perception of the individual. Forms of post-Kantian idealism were developed in Germany by Fichte, Schelling, and Hegel and in England and France by Coleridge, T H Green, the Cairds, Cousin, and Renouvier More recent idealists include F H Bradley, Bernard Bosanquet, Josiah Royce, and Benedetto Croce Most philosophers of ethics have been at least somewhat idealist in their metaphysics See J H Muirhead, *The Platonic Tradition in Anglo-Saxon Philosophy* (1931), *Contemporary Idealism in America* (ed by Clifford Barrett, 1932); Alfred C Ewing, *Idealism a Critical Survey* (1934), John Lewis, *Marxism and Modern Idealism* (1944)

idiocy see FEEBLE-MINDEDNESS

Idlewild see NEW YORK INTERNATIONAL AIRPORT.

idol (ī'dul) [Gr], image believed to possess supernatural power because it is the dwelling place of a supernatural being It represents the fixation of a spiritual force in a material object (see ANIMISM) and is distinguished from relics and fetishes by being fashioned in either animal or human form Although a fetish, such as a stone charm, has inherent supernatural powers, the idol must be consecrated, or given this power, before it can be worshiped Consecration is carried out by a variety of means, e g , the Chinese custom of putting small live animals into an opening in the back of the statue, and the Hindu practice of having priests invite spirits to enter the image Animal and human idols may be treated as though they were alive, they are fed, bathed, anointed, clothed, crowned, and even provided with a consort In the past victors took the idols from the vanquished and on occasion chained the idols to a wall. In a pagan procession idols are placed in a prominent position. Idolatry, the worship of idols, gave birth to many of the great works of art Emphasis on the aesthetic, however, has, according to some, tended to undermine religious belief In at least some instances in ancient civilizations when images became overly refined, a religious reaction took place, e g , the Greeks of the Hellenistic period returned to the worship of more primitive, or archaic, images The ritual use of animal and human figures goes back to late Paleolithic times and is known in large sections of the world today.

Idomeneus (īdŏ'mĭnūs), legendary Cretan king Though an old man, he led the Cretan contingent to the Trojan War and fought valiantly On his way home he vowed in a storm that if the ship were saved he would sacrifice to Poseidon the first living thing he met after landing This was his son He fulfilled his vow, but killing his son caused a pestilence to be visited on Crete, and Idomeneus had to flee to Italy This legend of the homecomer is widespread, the best known example being that of JEPHTHAH

Idrija (ē'drēa), Ital *Idria*, town (pop 5,199), Slovenia, NW Yugoslavia, ceded by Italy after the Second World War It has large quicksilver mines

Idrisi (ĭdrē'sē) or **Edrisi** (ē), b 1099?, d after 1154, Arabian geographer, b Ceuta He traveled in Europe, Asia Minor, and Mediterranean lands and settled at the court of Roger II of Sicily, for whom he made a silver celestial globe and a map of the earth engraved on a plate of silver He completed (1154) a description of the earth, compiled from his studies and observations and from the reports of travelers sent out by Roger II This is the most important geographic work of the period Idrisi divided the earth into seven horizontal climatic zones, each divided vertically into 11 arbitrary sections.

Idumaea or **Idumea** see EDOM

Idun (ē'dōōn) or Ithunn (ē'thōōn), Norse goddess who kept the apples which the gods ate to keep young Like PERSEPHONE, she was stolen away and imprisoned for a time She was Bragi's wife

idyl (ī'dul), short poem The ancient idyls, especially those of Bion and Moschus, were intended as little selections in the style of longer poems, such as elegies or epics There are 10 famous idyls by the Greek THEOCRITUS, and since some of them dealt with pastoral or rural scenes the term *idyl* came to be restricted to gently flowing, artistic pieces on rural subjects. In the 19th cent , Alfred Tennyson in his *Idylls of the King* used the term rather in its looser original sense than in the later restricted pastoral meaning. For idyls in their bucolic sense, see PASTORAL.

Ie-jima: see OKINAWA.

Ieyasu (Ieyasu Tokugawa) (ēā'yäsōō; tōkōōgä'wŭ), 1542–1616, Japanese warrior and dictator He helped NOBUNAGA and HIDEYOSHI to win control of Japan After the death of Hideyoshi, Ieyasu succeeded to his preeminence by defeating rival barons in the battle of Sekigahara in 1601. He secured the title of SHOGUN in 1603, set up his capital at Yedo (Tokyo), and laid the foundations of the TOKUGAWA shogunate. He sought to perpetuate the supremacy of his family by freezing the status quo. The system which he established endured for 250 years Like Hideyoshi, he at first tolerated, then persecuted Christian missions, but he encouraged foreign trade and had the advice of Will Adams He was succeeded by his son Hidetada. The name also appears as Iyeyasu.

If: see CHÂTEAU D'IF

Ifni (ēf'nē), Spanish possession (676 sq. mi.; pop. 45,852), NW Africa, an enclave on the Atlantic coast of Morocco It was ceded by Morocco in 1860, but Spanish administration was nominal until 1934 Products include dates and fish.

Igal (ī'găl) [Heb ,=God redeems], 1 Spy sent by Moses into Canaan Num 13.7 **2** One of David's guard 2 Sam 23 36 Joel. 1 Chron 11 38.

Igarka (ĭgär'kŭ), city (pop 20,000), N Krasnoyarsk Territory, RSFSR, the largest Siberian city N of the Arctic Circle. It is a lumber port on the Yenisei river. It has sawmills, and graphite is processed here Igarka was founded in 1928

Igdaliah (ĭg"dălī'ŭ), a holy man Jer 35 4

Igeal (ī'gēŭl) [Heb ,=whom God redeems], descendant of the house of David 1 Chron 3 22.

Iggdrasill see YGGDRASILL

Iglau, Czechoslovakia see JIHLAVA

Iglesias, Miguel (mēgĕl' ĕglā'syäs), 1822–1901, president of Peru (1881–85) A general, he fought in the war with Chile (see PACIFIC WAR OF THE), distinguishing himself in the defense of Lima (1881) Because the government failed to meet Chilean demands, Iglesias, supported by Chile, assumed the presidency and accepted the harsh terms of the Treaty of Ancón (1883) Many Peruvians refused to acknowledge him as president A revolution led by CÁCERES was successful Defeated in the ensuing election, Iglesias left the country

Iglesias (ĕglā'zyäs), town (pop 13,860), SW Sardinia, Italy In a region of zinc and lead mines, it has a school of mines as well as a cathedral and a medieval castle and walls

igloo (ĭ'glōō) [Eskimo], dome-shaped dwelling of the Eastern ESKIMO constructed from snow blocks placed in an ascending spiral Although it can provide adequate protection for weeks of severe cold, it is used only infrequently for temporary shelter while traveling

Ignatius of Antioch, Saint (ĭgnā'shus, ăn'tēŏk), d c 110, bishop of Antioch and Christian martyr, called Theophorus (God-bearer) In order to combat heresy and strengthen the Christian faith, he wrote letters from Smyrna and Troas to the Christian communities of Ephesus, Magnesia, Tralles, Rome, Philadelphia, and Smyrna and to St POLYCARP, at whose behest the seven epistles were probably written St Ignatius used the word *Catholic* for the first time and enjoined Christians to avoid heresy through obedience to the bishop, the deacons, and the presbyters The letters reflect the charity, patience, and zeal of the author as well as the state of contemporary Christianity He was condemned as a Christian and taken to Rome to be executed Feast Feb 1 See J A Kleist, tr , *The Epistles of St Clement of Rome and St Ignatius of Antioch* (1946).

Ignatius of Constantinople, Saint, c 800–877, Greek churchman, patriarch of Constantinople A son of Emperor MICHAEL I, he was castrated and shut up in a monastery (813) by LEO V to prevent his succession to the throne In 846 or 847 he was made patriarch of Constantinople by the Empress Theodora, who approved his uncompromising zeal against iconoclasm After her banishment by her brother Bardas, who became regent for MICHAEL III, St Ignatius was asked to resign PHOTIUS, whose politics were more acceptable, became patriarch The Ignatian party refused to accept Photius and sought aid from Pope St NICHOLAS I On the accession of BASIL I St Ignatius again became patriarch. In 869 St Ignatius was declared to be the legal patriarch (see CONSTANTINOPLE, FOURTH COUNCIL OF) Ignatius is regarded as a Father of the Church in the West and as a saint by both East and West Feast Oct 23

Ignatius of Loyola, Saint (loiyō'lŭ), 1491–1556, Spanish founder of the Jesuits (see JESUS, SOCIETY OF), b Loyola Castle near Azpeitia, Guipúzcoa, Spain He was of noble birth and was reared in the household of a prominent courtier In 1517 he left his court life to enter the army In 1521, when he was convalescent from a serious wound, his conversion took place from reading a life of Christ and a book of saints. On his recovery Ignatius went to Monserrat (March, 1522), where he was confessed and absolved, and from there he went to Manresa. At Manresa he remained for a year, undergoing great austerities, and left (Feb., 1523) to set out for the Holy Land. He was not allowed to enter Palestine and returned. His aim now being to help others in arriving at spiritual peace of mind, he began to study—at Barcelona (1524–26), at Alcalá (1526–27), at Salamanca (1527–28), and at Paris (1528–35) Ignatius was never erudite, his difficulties of beginning education late in life were multiplied by the persons who came to him, a layman, for spiritual direction. The austerities he recommended made him unpopular with the students, and his lay status made him suspect by the Inquisition. On Aug. 15, 1534, he and six companions, making the nucleus of the Society of Jesus, took vows together of poverty and chastity and vowed to go to the Holy Land, where they would live as nearly as possible after the manner of Jesus. When they were ready to go to Palestine, the Turkish wars made it impossible, and they determined to obtain ordination and put themselves at the pope's disposal They were ordained (1537) and received by the pope (1538), who kept them in Rome Ignatius continued his work of conversion with individuals, and became a leader in the reform movement (see REFORM, CATHOLIC). In 1539 he had drawn up a plan or *Formula* for a new order and with difficulty received the papal approbation for it This *Formula*, as recast by Ignatius several times, became the constitution of the Jesuits, the *Constitutions*, as its final form is usually called, has never been revised since the edition published at his death, bearing his final corrections St Ignatius was elected general of the order in 1541 and remained so until his death. The great interests of Ignatius as expressed in his order seem to have been the foreign missions and the education of boys, contrary to common supposition, St Ignatius was not solely dominated by a desire to reconvert Protestants—he seems sometimes even to have underestimated the danger of the Reformation to the Church He lived in his last years at Rome, except in his illnesses always actively directing his company The one idea of St Ignatius' life was the imitation of Christ This is most clearly expressed in his *Spiritual Exercises*, written first in rough, plain Spanish and translated by the author himself into Latin It is a series of religious reflections, examinations of conscience, prayers, and the like grouped into four "weeks," according to a traditional series of four steps to the perfect life of mystical union with God The little book has been found to be of the greatest value to many and is much used by devout Catholics It was begun at Manresa, but Ignatius constantly worked over it for many years His conception of the "soldier of Christ" has been much overemphasized and misunderstood Ignatius thought of the soldier or knight only figuratively, in obvious imitation of St Paul (Eph 6 10–17) St Ignatius is one of the great names of MYSTICISM, he represents a characteristic Roman Catholic combination of strong activity with profound contemplation There are celebrated portraits of St Ignatius by Rubens and Titian He is buried in the Gesù at Rome He was canonized in 1622 Feast July 31 There are good translations of the *Spiritual Exercises*, there is also a quasi-autobiography, *The Testament of Ignatius Loyola* (Eng tr , 1900) See also biographies by J H Pollen (1922), H D. Sedgwick (1923), Christopher Hollis (1931), and Robert Harvey (1936)

igneous rock see ROCK

ignis fatuus: see WILL-O'-THE-WISP

ignition, apparatus for igniting an explosive mixture N A Otto, in his first gas engine, used flame ignition Another method was heating a metal tube to incandescence Ignition systems in modern automobiles use an electric spark which ignites the compressed mixture of air and gasoline vapor in the cylinders The necessary high-voltage current is obtained from a magneto or by a battery-ignition system (in which the electric current is derived from a generator automatically driven by the engine) The current is used either directly in the system or indirectly through a storage battery The system consists of the storage battery, a circuit breaker, an induction coil (condenser), and a distributor, with the necessary wiring The circuit breaker is a switch whose contact points are equipped with tungsten to resist erosion It is opened and closed at the proper time by a cam arrangement driven by the engine The purpose of the coil is to increase the low voltage from the storage battery to the high voltage required for the spark It consists of an iron core with a primary and a secondary winding. When the points in the circuit breaker are closed, the low-voltage current passes through the primary winding and sets up a magnetic flux in the core When the circuit breaker is opened, the low-voltage current ceases to flow in the primary winding, causing the magnetic field to collapse This sudden collapse induces a high voltage in the secondary winding, which then passes to the distributor The distributor consists of a shell having contact points connected with each spark plug. Inside the shell, which is made of bakelite or similar material, is a rotor arm which carries the high voltage to the contact points in the correct order and thus to the spark plugs A typical spark plug consists of a steel shell (with a base threaded so as to screw into the top of the cylinder) and two electrodes, one central and one outer The central electrode is made of some resistant material such as chrome-nickel steel, is enclosed except for its two ends in an insulating material such as porcelain or mica, and has a connection post at the outside end for a wire from one of the distributor points. The outer electrode is attached to the shell (thus being grounded to the cylinder head) and is bent at its free end to come within a very short distance (1/32 to 3/32 in.) of the inner end of the

central electrode. The electric current leaping this gap between the electrodes causes the spark. The spark plugs, one of which is situated in each cylinder, are "fired" in a definite order so that the movement of the pistons in the cylinders will be even and the running of the engine smooth The timing for the ignition of the gas in the cylinder is so arranged that the spark occurs a little before the piston reaches the top, and the most complete combustion is realized at the moment that the piston starts on its downward or working stroke

Igor (ē'gûr), d 945, duke of Kiev (912–45), son and successor of Oleg He undertook (941) an expedition against Constantinople but was routed by Greek fire and in 945 concluded a defensive alliance with the Byzantines His wife, St Olga, became regent for their son Svyatoslav after Igor's death

Igor (Igor Svıatoslavov) (ē'gur svyä"tusla'vůf), 1150–1202, Russian prince, who in 1185 was defeated in an expedition against the Cumans He became the hero of the Russian epic, *The Lay of the Host of Igor*, attributed to the 12th cent (see Russian literature) Discovered in 1795, it was used by Borodin for his opera, *Prince Igor*

Igorot (ĭgûrōt', ēgû-), a proto-Malayan people of N central Luzon island, Philippines They live under village-state rather than tribal organization and are highly skilled in rice-terrace agriculture They formerly practiced head-hunting. The name Igorot may also apply to many of the warlike tribes of Luzon

Iguala (ēgwä'lä), city (pop 12,756), Guerrero, SW Mexico It is in a rich agricultural and mining district of the northern part of the state Earthquakes are not uncommon, and the town was severely damaged in 1907 Iguala is famous in Mexican history as the place where Agustín de Iturbide, with the acquiescence of the guerrilla leader, Vicente Guerrero, proclaimed the **Plan of Iguala**, Feb 24, 1821 The plan's main provisions, the Three Guarantees, provided for Roman Catholicism as the only religion, thus confirming clerical privileges, absolute independence from Spain, preferably under a constitutional monarchy headed by Ferdinand VII or another member of the reigning Spanish family, and racial equality, opening to anyone the right to hold office The plan, after independence had been won, was discarded when Iturbide made himself emperor

iguana (ĭgwä'nu, ē-), large lizard of tropical America, the West Indies, and some of the Pacific islands The greenish color of the common tropical American species blends with its usual surroundings, the branches of trees overhanging running water It is from 3 to 6 ft long There is a crest of spiny scales from the neck to the long tail Iguanas eat leaves and fruits and sometimes small animals Their palatable flesh is eaten in some countries A marine and a land species inhabit the Galápagos Islands region

Iguanodon (ĭgwä'nůdŏn) [as if Gr , =iguana-toothed], biped vegetarian dinosaur, characterized by teeth similar to those of the iguana, a powerful tail, and a horny beak Complete skeletons have been found in Belgium in Carboniferous rocks in which the animals were trapped in Lower Cretaceous times

Iguassú Falls (ēgwusōō'), Span *Iguazu* (ēwusōō, ēgwä-), in the Iguassú river, a tributary of the Paraná, on which Argentina, Brazil, and Paraguay converge The falls, higher and wider than Niagara (the water falls over 200 ft), are partly Argentine, partly Brazilian In 1928 the Argentine government created a national park here The surroundings, in the midst of wild and beautiful scenery, abound in begonias, orchids, ferns, and myriads of butterflies The falls are easily accessible by river and by air

Iguvine Tables (ĭ'gyŏvĭn), several inscribed bronze tablets discovered in 1444 at Gubbio (the ancient Iguvium and later Eugubium) Most of them are still preserved there They set forth the acts of the Attidian Brethren, a corporation of 12 priests The tablets proved an important aid in understanding the ancient Umbrian language and supplied information on ancient Italian religious rites

Ijm (ī'ĭm) [Heb , =ruins] **1** See Ije-abarim **2** Town, S Palestine. Joshua 15 29

Ij or **Y**, Dutch *IJ* (all ī), inlet of the Ijsselmeer, North Holland prov., NW Netherlands, on which Amsterdam is located It receives the Amstel river and is connected by canals with the North Sea and with the Lek and Waal rivers

Ije-abarim (ī'jē-ă'bŭrĭm) [Heb , =ruins of Abarim], wilderness camping ground. Num 21 11, 33 44. Ijm Num 33 45

Ijmuiden (ĭmoi'dun), city (pop c 28,000), North Holland prov , W Netherlands, a port on the North Sea and WNW of Amsterdam. It is part of the municipality of Velsen

Ijon (ī'jŏn) [Heb , =ruin], unidentified town, extreme N Palestine It was looted by both Benhadad and Tiglath-pileser 1 Kings 15 20, 2 Kings 15.29.

Ijssel, Dutch *IJssel* (both, ī'sůl), river, 72 mi long, E and central Netherlands It branches from the Lower Rhine near Arnhem and flows N past Zutphen and Deventer into the Ijsselmeer near Kampen. The Ijssel is not to be confused with a shorter river in the W Netherlands, the Hollandsche Ijssel, which branches from the Lek and flows WSW past Gouda into the Meuse (Maas) just E of Rotterdam. An older spelling is Yssel

Ijsselmeer, Dutch *IJsselmeer* (both· ī'sůlmār"), shallow fresh-water lake, N and central Netherlands, bordering on the provinces of North Holland, Utrecht, Gelderland, Overijssel, and Friesland It was formed from the old Zuider Zee by the construction of a dam (completed 1932) The dam, 19 mi. long, has navigation locks and drainage sluices and carries a roadway connecting North Holland with Friesland The Ijssel river is the chief feeder of the Ijsselmeer Considerable areas (293 sq mi in all) have been reclaimed from the former Zuider Zee since 1932 The largest of the reclaimed areas is the Northeast Polder (185 sq mi , pop 1,811), which, as of 1950, had not yet been incorporated into any province. Parts of the polders were flooded in the Second World War but have been salvaged since, and further land reclamation is planned The chief city located on the Ijsselmeer, or rather on its inlet called the Ij, is Amsterdam Before the construction of the dam, the Zuider Zee was an important fishing ground

Ikhnaton (ĭknä'tun) or **Akhenaton** (ä"kŭnä'tun) [Egyptian, =Aton is satisfied], d. c.1358 B.C , king of ancient Egypt (c 1375–c 1358 B C.) of the XVIII dynasty, son of Amenhotep III His name at his accession was Amenhotep IV, but his religious principles led him to discard it This religious idea of Ikhnaton and his reform in consonance with it is Ikhnaton's claim to fame He held that the sun (named Aton, hence Ikhnaton's name) was god, and god alone The solar monotheism was absolute, the new system allowed no accommodations and no exceptions Through his rays the sun filled the universe with his beneficent light, through them everything that lived had its being The king was anxious to show his conviction in all he did, so he changed his name and his residence The new capital was named Akhetaton (Tel-el-Amarna), and new provincial capitals were founded in Nubia and Syria in honor of Aton The royal artists founded a new artistic school, characterized by abandonment of convention and a turning to nature because it showed the power of the sun) A new religious literature sprang up, one of its hymns takes high place in all religious poetry Ikhnaton's fanaticism was its own undoing He defaced every monument in which the name of Amon, previously the greatest god of Egypt, appeared, sparing not even his father's name, which contained the name of Amon He persecuted and harried the powerful priesthoods, and it was probably their resistance united with the traditional feeling of a people whose deepest sentiments were outraged which brought the destruction of the Aton cult after Ikhnaton's death His zeal not only accomplished the destruction of its object but lost Egypt the empire, for Ikhnaton, immersed in his exercises, his pious acts, and his speculations, neglected the provinces shamefully As a result, his successors, Sakere and Tut-ankh-amen, received—instead of an empire including Nubia and Syria—only Egypt and some of the upper valley See J. H Breasted, *The Development of Religion and Thought in Ancient Egypt* (1912)

Ikkesh [Heb , =perverse], father of one of David's guard 2 Sam 23 26, 1 Chron 11 28, 27 9

Ikon Basilike: see Eikon Basilike

Ilai (ī'lī, -lāī), one of David's mighty men 1 Chron. 11 29 Zalmon 2 Sam 23 28

Ile-aux-Noix, Fort (ēl-ō-nwä'), French fort in Canada, on Ile aux Noix, an island in the Richelieu river, and c 30 mi SE of Montreal It was built in 1759 after the British capture of Ticonderoga and Crown Point in the French and Indian War Here the French checked for a time the British advance on Montreal but were finally forced to surrender the fort in 1760 Named Fort Lennox and manned by a British garrison, it fell (1775) in the American Revolution to Gen Richard Montgomery and became a base of operations against Quebec but was evacuated by the Americans in 1776 The present fortifications (now included in Fort Lennox National Historic Park, 210 acres) were started in 1782, added to during the War of 1812, and maintained as a military post until 1870

Ile-de-France (ēl-dŭ-frās'), region and former province, N France, in the center of the Paris basin, a fertile depression where the Marne and Oise rivers join the Seine Including parts of the Beauce and Brie districts and of the Vexin, the former province is now largely comprised in four departments, Seine (Paris and suburbs), Seine-et-Oise, Oise, and Aisne The Paris region, with numerous large industrial towns and residential suburbs, is a vast agricultural area which supplies the metropolis with fruits, vegetables, and dairy products There are many large and beautiful forests, notably those of Fontainebleau, Compiègne, and Rambouillet, and many small rivers and streams Cities of economic or historical importance besides Paris are Beauvais, Compiègne, Fontainebleau, Laon, Meaux, Melun, Nemours, Saint-Cloud, Saint-Germain-en-Laye, Senlis, Soissons, and Versailles. Ile-de-France was the cradle of the French monarchy. The name came into use only in the 15th cent. By the 10th cent. the region was comprised in the duchy of France or Francia and included the countship of Paris (see France). When Hugh Capet, duke of France and count of Paris, became French king in 987, his domains became the nucleus of the ever-growing crown land, which by the death of Louis XI (1483) comprised the major part of present France Ile-de-France itself, rounded out through the acquisition by the crown of various fiefs, was at that time constituted into a province, subject to the Parlement of Paris

Ile de France: see Mauritius.

Ile de la Cité: see Paris, France.

Ile du Diable see Devil's Island.

Ile Jésus (ēl zhāzŭ') or **Jesus Island**, island (93 sq mi , pop 21,631), S Que , between the Mille Iles river and the Rivière des Prairies (branches of the Ottawa), just N of Montreal island Market gardening and dairying are carried on

Iles du Salut (ēl du salü') or **Safety Islands**, small archipelago, off French Guiana, in the Caribbean The best known of the islands is Devil's Island

Ilf, Ilya Arnoldovich (ēlyä' ärnôl'duvĭch ēlf'), 1897–1937, Russian humorist and journalist, whose real name was Ilya Arnoldovich Fainzilber All his writing was done in collaboration with Yevgeny Petrovich Katayev, who wrote as Eugene Petrov (1903–42), a younger brother of the dramatist Valentin Katayev Together the two produced, besides amusing stories of provincial life, the novels *Diamonds to Sit On* (1928, Eng tr , 1930), *An Ezalted Personage* (1928), and *The Little Golden Calf* (1933, Eng tr , 1932). In 1937, after a tour of the United States, they published their observations in *Little Golden America* (1937, Eng tr , 1937) There was nothing in Soviet life free from their humorous attack

Ilford, municipal borough (1931 pop. 131,061, 1947 estimated pop 182,080), Essex, England, ENE of London It is mainly a residential suburb, it has paper mills and factories making photographic materials, dies and tools, telephone appliances, tiles, and flour

Ilfracombe (ĭl'frŭkōōm'), urban district (pop 9,175), Devonshire, England, at the mouth of the Bristol Channel It is a resort and seaport and was important in the 14th cent when it supplied several ships for the siege of Calais

Ili (ē'lē'), river, c 600 mi long, rising in NW Sinkiang prov , China It flows W through Sinkiang and through the Kazakh SSR to enter Lake Balkhash by several mouths

Iliad (ĭ'lēud) [from Gr *Ilion*=Troy], Greek epic in 24 books ascribed to Homer The poem tells of the wrath of Achilles and its consequences, an episode in the Trojan War The action is in several sections Achilles quarrels with Agamemnon over the girl Briseis and retires from the war to sulk in his tent The Greeks gradually weaken (Books I-IX) Book X tells of an expedition by Odysseus and Diomed The Greeks suffer reverses, which inspire Patroclus, Achilles' dear friend, to go forth to battle wearing Achilles' armor He is killed by Hector (Books XI-XVII) Book XVIII tells of the visit of Thetis, mother of Achilles, to comfort her grieving son and the forging of new armor by Hephaestus for Achilles Achilles then goes forth to avenge his friend, kills Hector, buries Patroclus, and finally, at the entreaty of Priam, gives Hector's body to the aged father (Books XIX-XXIV).

Ilion, see Troy

Ilion (ĭl'ēun), industrial village (pop 8,927), E central N Y , on the Mohawk and the Barge Canal and SE of Utica, inc 1852 Firearms (see Remington, Eliphalet) and typewriters are made

Ilipa (ĭ'lĭpu), ancient town of Spain, near the modern Seville Here Scipio (Scipio Africanus Major) defeated Hasdrubal (206 B C) The overthrow of Carthaginian power in Spain paved the way for the defeat of Hannibal at Zama (202 B C)

Ilium: see Troy.

Ilkeston (ĭl'kĭstun), municipal borough (1931 pop 32,813, 1947 estimated pop 32,980), Derbyshire, England, NE of Derby There are iron mines and coal mines in the vicinity, and earthenware, lace, silk, hosiery, and iron goods are manufactured The church is of Norman and Early English architecture Eastwood, a near-by mining village, is the birthplace of D H Lawrence, and many of his novels are set in the district

Ilkley, urban district (pop 9,736), West Riding of Yorkshire, England, in the Wharfe valley. It is a health resort, with mineral springs There are three Saxon crosses in the parish churchyard.

Illampú (ēlyämpōō'), peak, c.21,300 ft. high, E Bolivia Although c 100 ft lower than the adjacent peak, Ancohuma, Illampú is the name usually given to the whole mountain. It is sometimes called Sorata, from the village high on its slopes Permanently capped with snow, Illampú rises majestically from the Cordillera Real of the Bolivian Andes near Lake Titicaca.

Illecillewaet (ĭlŭsĭ'lùwĕt, -wät), mountain stream of SE British Columbia, with its source in Illecil-

lewaet glacier on the west slope of the Selkirk Mts. It flows southwest in a mountain valley to join the Columbia river near Revelstoke For almost its entire distance it is followed by the Canadian Pacific Railway and is well known to travelers for its exceptional beauty

Ille-et-Vilaine (ēl"-ā-vēlĕn'), department (2,697 sq mi , pop 578,246), NW France, on the English Channel Named after two small rivers, it forms the eastern part of Brittany Rennes is the capital, Saint-Malo is the chief port

illegitimacy, the legal status of a child born out of wedlock, who is called also a BASTARD or a natural child The attitude toward illegitimacy has always reflected the changing ethical and social conditions and opinions in various countries at various times Unlike civil law, which granted illegitimate children certain rights against the procreator, English common law treated them almost like persons outside the law and left their care to poorhouses Recently their condition has been much improved by statute In the United States the illegitimacy laws vary widely North Dakota and Arizona go so far as to declare that all children are legitimate, whether born in wedlock or not Children of a common-law marriage are illegitimate but may be legitimized by the act of one or both parents For the status of children born to annulled marriages, see NULLITY OF MARRIAGE See Ruth Reed, *The Illegitimate Family in New York* (1934, with an annotated bibliography)

Illimani (ēyēma'nē), mountain, 21,184 ft high, E Bolivia, ESE of La Paz One of the highest peaks of the majestic Cordillera Real of the Bolivian Andes, it is permanently snow-capped Illimani was first climbed by Baron Conway of Allington in 1898

Illinium: see PROMETHIUM

Illinois (ĭlĭnoi'), state (55,947 sq mi , 1940 pop 7,897,241, 1949 estimated pop 8,449,000), N central United States, in the Middle West, admitted 1818 as a free state SPRINGFIELD is the capital, CHICAGO, the second largest city of the nation, is the metropolis Illinois is bounded on the north by Wisconsin, on the east by Lake Michigan and Indiana, on the southeast and south by Kentucky (with the Ohio river as the line) and on the west by Missouri and Iowa (with the Mississippi river as the line). The broad level lands that give Illinois the nickname the Prairie State were made by Pleistocene glaciers, which leveled rugged ridges and filled the valleys over all the northern and central parts of the present state More than 275 rivers drain the fertile prairies, most of them flowing to the Mississippi-Ohio system, the Illinois is the largest These rivers S of Lake Michigan offered early explorers a way south into the interior of the continent and later in the days of canal building played a big part in hastening settlement of the prairies The boundaries of the state were set to include frontage on the lake and thus to link the territory by waterway (through the soon-completed ERIE CANAL) to the eastern seaboard of the United States Today the Gulf of St Lawrence Waterway links Chicago to the Mississippi basin as the old Chicago and Illinois and Michigan canals once did Perhaps more important than the waterways are the many rail lines (Chicago has some 22 trunk and 17 belt and terminal lines), the hard-paved highways (the state has more than 14,000 mi), and the constantly expanding air traffic There is truth in the boast that Illinois is the hub of the continent The topography made this concentration of communication lines easier, and the communication lines in turn made possible further use of the agricultural produce and the building of an industrial empire The rich land adequate rainfall (32 to 36 in annually), and a long growing season makes Illinois a rival of its neighbor Iowa in extensive and valuable farming Corn is the chief crop Other grains and legumes—oats, wheat, soybeans, clover, and hay—cover many acres, and truck gardening and fruit growing are of prime importance The Chicago stockyards—dependent like other industries on ease of communication—are world known for their place in the livestock industry Beneath the fertile top soil, Illinois has layers of mineral wealth, producing more fluor spar, silica sand, and sandstone than any other state Bituminous coal fields and oil pools make S Illinois a major source of fuel Clay, iron, pigments and lead are also found It was with these agricultural and mineral resources that the men of Illinois were able to build great industries on the basis of the communication lines, particularly after the railroads were built By 1880 income from industry was almost twice that from agriculture Metropolitan Chicago is one of the great industrial centers of the world, and Illinois leads the country in the processing of meats and in manufacture of farm implements, confectioneries, and corn products Scattered across the northern half of the state are cities with specialised industries, e g , ELGIN, PEORIA, MOLINE, KEWANEE, and ROCKFORD The railroad centers of JOLIET, DECATUR, and EAST SAINT LOUIS also have high place in the Illinois industrial kingdom. This is the land where less than 150 years ago the Illinois Indians, the Sac and the Fox Indians, and other tribes were pursuing their simple ways in the river forests, where many centuries before them the MOUND BUILDERS had dwelt French explorers and missionaries had come upon the Indians early. Father MARQUETTE and JOLLIET on their return from voyaging down the Mississippi, paddled up the Illinois in 1673, and Marquette returned to plant a mission in the Illinois country LA SALLE in 1679 went from Lake Michigan to the Illinois, where he founded (1680) Fort Creve Coeur and with his lieutenant, Henri de TONTI, completed (1682–83) Fort St Louis (on STARVED ROCK) French occupation was thinly spread, but CAHOKIA and KASKASKIA achieved a minor importance in the 18th cent The British were casting envious eyes at the Illinois country before the whole area fell to them with victory in the last French and Indian War, sealed by the Treaty of Paris of 1763 In the American Revolution, the one important Western achievement of the patriots was the expedition of George Rogers CLARK who took (1778) Cahokia and Kaskaskia before going on to capture Vincennes and win the Old Northwest The Illinois region was an integral part of the Old Northwest and benefited like the rest from the Ordinance of 1787 It was made part of Indiana Territory in 1800, and in 1809 it became a separate territory, but settlement was very slow until after the War of 1812 (in which the chief Illinois incident was the massacre near Fort DEARBORN) Fur trade still was flourishing over most of Illinois when it became a state in 1818, but already settlers were pouring in down the Ohio by flatboat and barge and across the Genesee wagon road The capital was moved in 1820 to VANDALIA The influx by canal and Great Lakes hastened the peopling of the farms, and some of the fur traders (e g , Gurdon Saltonstall Hubbard) turned to other affairs The career of a lawyer of the Illinois backwoods, Abraham LINCOLN, reflects the story of a land in the making In 1832 he served in the BLACK HAWK WAR, which practically ended the tenure of the Indians in Illinois and drove them W of the Mississippi In that same year he was defeated for office by Peter Cartwright, part-time politician and revivalist Methodist minister Later in the state legislature he and his colleagues from Sangamon co worked hard and successfully to bring the capital to Springfield in 1839. As Illinois moved toward a wider part in national affairs he and another Illinois lawyer, Stephen A DOUGLAS, won national attention by their debates on the slavery issue in a senatorial race (1858) In 1861 Lincoln went not to the Senate but to the White House In the Civil War, too, the leader of the Northern forces, U S Grant, came out of Galena, Ill Frontier conditions were disappearing, but development had come only with trouble and hard work in the draining of swamps and the clearing of fields The Panic of 1837, heavy and uncontrolled land speculation, and mob violence—shown in the murder of the abolitionist Elijah P LOVEJOY at Alton in 1837 and the violence against the Mormons settled at NAUVOO, leading to the murder of Joseph and Hyrum Smith—marked the rise of the state, just as did the opening of an agricultural-implements factory by Cyrus H McCORMICK at Chicago in 1847 and the building of the railroads in the 1850s By the Civil War, then, industry was well begun It expanded immediately after the war to tremendous proportions, and the Illinois legislature by setting aside acreage for stockyards prepared the way for the development of the meat-packing houses of Swift, Armour, and others Economic development had long outrun the state constitution, which was revised in 1870 It had also outrun the building of facilities, and Chicago was a mass of flimsy wooden structures when the fire of 1871 destroyed a third of it More solid underpinnings for the boom were built, but the last part of the 19th cent was marked by the revolt of the farmers against tariff discrimination and the favoritism to the railroads The Order of Patrons of Husbandry was founded in 1858 for cooperative buying, and later the Illinois farmers joined enthusiastically in the GRANGER MOVEMENT and the chief of the Granger Cases (see MUNN VS ILLINOIS) was fought out in Illinois The laborers of factories, railroads, and mines also became restive, and from 1870 to 1900 Illinois was the scene of such violent incidents as the Haymarket riot of 1886 and the Pullman strike of 1894. The Pullman strike brought about conflict between the liberal governor, John P ALTGELD, and the Federal government and also brought Eugene V DEBS to national attention. In the 20th cent labor conditions improved, and legislation has improved employer-labor relations—notably the setting up of a fact-finding bureau of labor statistics (1879), a state employment service (1899) and a state department of labor (1917) Nevertheless, later examples of violence in labor disputes did occur, notably the massacre at Herrin in 1922 and the bloody riot in the steel strike at Chicago in 1937 State politics have responded to the conflicting forces of farmers, laborers, and corporations and have demonstrated a pull between the down-state and upstate political machines Illinois, of course, has felt the same waves of prosperity and depression as the nation as a whole, while its relative importance in the nation has steadily risen. Cultural life has been vigorous from early times. A free-school law of 1845 showed an interest in education soon expanded to higher levels A number of well-known institutions of higher learning were opened—Illinois College in 1830, Illinois Wesleyan Univ in 1851, Northwestern Univ in 1855, Illinois State Normal Univ in 1857, the Univ of Illinois in 1868, Loyola Univ in 1870, and the Univ. of Chicago in 1892 In the 1920s and 1930s especially literature flourished with the so-called Chicago school of poets and short-story writers and such sturdy figures as Carl Sandburg, Vachel Lindsay, Edgar Lee Masters, Theodore Dreiser, Sherwood Anderson, and James T. Farrell. See Illinois, Secretary of State, *The Blue Book of the State of Illinois* (latest ed); Illinois Centennial Commission, *Centennial History of Illinois* (6 vols , 1918–24), C. W Alvord, *The Illinois Country, 1673-1818* (1920), G W Smith, *History of Illinois and Her People* (6 vols., 1927), C R Trowbridge and G. P Randle, *Illinois and the Nation* (rev ed , 1932), I F Mather, *The Making of Illinois* (rev ed , 1935), F C Cole and Thorn Duel, *Rediscovering Illinois* (1937), Federal Writers' Project, *Illinois* (1939), Jay Monaghan, *This Is Illinois* (1949)

Illinois, river formed in NE Illinois by the confluence of the Des Plaines and Kankakee rivers and flowing 271 mi SW to the Mississippi at Grafton Connected by canal with Lake Michigan, it provides an important commercial and recreational waterway The chief city on it is Peoria See James Gray, *The Illinois* (1940)

Illinois, University of, at Urbana, Champaign, and Chicago, land-grant and state supported, coeducational; chartered 1867, opened 1868 as Illinois Industrial Univ , renamed 1885 It has colleges of agriculture, commerce and business administration, education, engineering, fine and applied arts (with architecture), liberal arts and sciences, law, and veterinary medicine, schools of journalism, library science, and physical education, and (at Chicago) colleges of dentistry, medicine (see also RUSH MEDICAL COLLEGE), and pharmacy There are bureaus of business, educational, institutional, and community-planning research, a small-homes council, an institute of labor and industrial relations, an aeronautic institution, a betatron, a radio station, and a university press Of interest are an Alma Mater group and other works by Lorado Taft (an alumnus), an observatory, and museums of art and archaeology, European culture, and natural history The university pioneered in vocational education.

Illinois College see JACKSONVILLE

Illinois Indians, group of North American Indian tribes, comprising the Cahokia, the Kaskaskia, the Michigamea, the Momgwena, the Peoria, and the Tamaroa tribes They belong to the Algonquian linguistic stock In the mid-17th cent they were scattered over S Wisconsin, N Illinois, and sections of Iowa and Missouri They then numbered some 6,500 They were agriculturalists of the Eastern Woodlands culture, but, being so close to the Plains area, they hunted buffalo and exhibited other traits of that area Marquette and Joliet are believed to have been the first Europeans to travel (1673) through Illinois territory Father ALLOUEZ, a Jesuit missionary, visited them in 1676 and stayed with them for years By 1750 wars with the Sioux, the Fox, and the Iroquois and liquor from French traders had reduced the population to some 2,000 In 1769 the assassination of PONTIAC by a Kaskaskia Indian provoked the Lake tribes (the Ojibwa, the Ottawa, the Potawatami, the Kickapoo, and the Sac and Fox) to vengeance. They began a war of extermination, which in a few years diminished the Illinois to a mere handful of people, who sought asylum at the French settlement at Kaskaskia By 1800 there remained some 150 Illinois Indians In 1833 these survivors, represented by the Kaskaskia and the Peoria, sold their lands in Illinois and moved W of the Mississippi They are now in NE Oklahoma on a small reservation, consolidated with the Wea and the Piankashaw The population of the four tribes, who are mixed with white blood, is about 400. See C W Alvord, *The Illinois Country* (1920)

Illinois Institute of Technology, in Chicago, nonsectarian, coeducational Since 1940 it has consisted of Armour College of Engineering (on South Side, for men, chartered 1892, opened 1893 by Philip D Armour as Institute of Technology, including architecture) and Lewis Institute of Arts and Sciences (on West Side, coeducational, chartered 1895, opened 1896) It has an industrial research foundation and an institute of gas technology.

illiteracy. Standards of literacy and illiteracy have varied from time to time and from place to place. Statistics, therefore, cannot be compared unless the defining criteria are known. The U S Bureau of the Census in 1930 considered illiterate any person over 10 years of age who could not read and write in any language. With the invention of printing and the social ferment of the 15th cent, the rate of illiteracy in Western Europe dropped

appreciably. Further declines resulted from the Reformation and from revolutionary political developments in the 18th and 19th cent Direct attacks upon illiteracy have been chiefly through the establishment of public schools with compulsory attendance Many countries have ADULT EDUCATION programs to raise the literacy rate In China the mass-education movement was inaugurated c 1905. Soviet Russia has made elaborate efforts to extend literacy, as have Turkey and Mexico, using semidemobilized soldiers as instructors The Southern states of the United States, with relatively poor educational facilities, have had relatively high illiteracy rates Rural areas tend to have higher rates than urban In the Kentucky mountains "moonlight schools" were opened in 1911 for the instruction of illiterate adults This movement spread rapidly to other Southern states as a result of the disclosure by the First World War draft of widespread illiteracy in those states Efforts to combat adult illiteracy have also been made in opportunity schools in urban areas In the Second World War the criterion for literacy used by the U S army was ability to read and write at about fourth-grade level Since many recruits did not reach this level, the army set up special training units for their instruction Many states require voters to pass literacy tests, some of which allow great latitude in interpretation Naturalisation laws require ability to speak English and to sign one's name, and literacy in some language is required of immigrants

Illmo, city (pop 1,224), SE Mo , near the Mississippi below Cape Girardeau, in a farm area, settled and inc 1906

Illuminati (ĭlōō"mĭnä'tĭ, -nä'tē) [Latin, = enlightened], rationalistic society founded in Germany soon after 1776 by Adam Weishaupt, a professor at Ingolstadt It had close affinities with the Freemasons, and it seems to have been organized according to a Masonic plan For 10 years it was very popular among German rationalists, but it seems as a society to have had a limited influence The Roman Catholic Church, which Weishaupt had left in his youth and rejoined before his death, condemned the Illuminati, and in 1785 the Bavarian government dissolved the organization It did not long survive Other groups have called themselves Illuminati, especially a mystical sect of Spain and France, flourishing in the 16th cent , the ROSICRUCIANS also called themselves Illuminati

illuminating gas see GAS, METHANE, NATURAL GAS

illumination, in art, the decoration of manuscripts and books with colored and metal pictures and ornamental designs, particularly initial-letter and marginal decorations Such illumination is found in many medieval Books of the Hours, Psalters, Bibles, Gospels, and other writings copied in monasteries and cathedral schools The Irish Book of Kells (8th cent), at Trinity College, Dublin, is one of the most beautiful examples, full of interlaced Celtic scrolls and bright touches of gold, blue, red, and green Many Chinese, Japanese, Persian, and other Oriental manuscripts are illuminated

illumination of streets and buildings see LIGHTING and PHOTOMETRY

illusion see HALLUCINATION

illustration, any type of picture or decoration used in conjunction with a text to embellish its appearance or to clarify its meaning It is as old as writing, both originating in the pictograph Modern book illustration, as a printing art, originated in 15th-century block books, which were often imitations of the great medieval art of hand-painted ILLUMINATION Book illustration has followed closely the development of the printing processes Copperplate engraving and etching tended to replace the woodcut during the 16th and 17th cent , but it was not until the close of the 18th cent that the art was revolutionized by Thomas Bewick's invention of wood engraving and Senefelder's invention of lithography. These two processes greatly stimulated the production of illustrated books and magazines and were exploited by such masters as Doré, Daumier, and Gavarni In the late 19th cent , wood engraving and lithography were superseded by the photomechanical processes which made possible the more or less successful reproduction of a wide variety of painting and drawing techniques The exploitation of these processes for cheap, rapid mass production has obscured their artistic possibilities and given rise to a revival of early hand processes on the part of such contemporary artists as Rockwell Kent, Rouault, Picasso, and many others But there is no doubt that the photomechanical processes which dominate popular illustration can be used as media for a fine art of illustration Such great illustrators as Daniel Vierge, Aubrey Beardsley, Howard Pyle, and Elihu Vedder have shown that this is possible when the limitations of the processes are clearly recognised by the artist. Among the many great artists famous for illustration may be cited Dürer, Holbein, William Hogarth, William Blake, Daumier, Manet, and Picasso Illustration of fiction was more popular in the 19th cent. than in the 20th. Dickens's works were illustrated by John Leech, H. K. Browne ("Phiz"), and George Cruikshank Sir John Tenniel's illustrations for *Alice in Wonderland* are scarcely less well known than the text itself Among the great illustrators of children's books are Kate Greenaway, Walter Crane, Randolph Caldecott, Edward Lear, Reginald Birch, Boutet de Monvel, Arthur Rackham, and the Americans Palmer Cox, A B Frost, N C Wyeth, and Wanda Gág

Illyria (ĭlĭr'rēù) and **Illyricum** (ĭlĭr'rĭkum) In prehistoric times a group of tribes speaking dialects of an Indo-European language swept down to the northern and eastern shores of the Adriatic and established themselves there The region that they occupied was Illyria, and therefore the name has vague limits Among the Illyrian peoples were the tribes later called the Dalmatians and the Pannonians, therefore sometimes Illyria is taken in the widest sense to include the whole area occupied by the Pannonians, and thus to reach from Epirus N to the Danube More usually today Illyria is used to mean only the Adriatic coast N of central Albania and W of the Dinaric Alps The Illyrians were much affected by the Celts and mingled freely with them, the inhabitants of the later Rhaetia were a compound of Illyrians and Celts Tribal life was simple, but the Illyrians were warlike and much given to piracy The mines of the region attracted attention, but though Greek cities were established on the coast in the 6th cent B C , they did not flourish and generally the Greeks left the Illyrians severely alone Philip II of Macedon and later Philip V waged against them but without permanent results The Romans undertook to conquer them in the 3d cent B C An Illyrian kingdom had been set up with the capital at Scodra (modern Scutari, Albania), and trouble over Illyrian piracy led the Romans to conduct two victorious Illyrian wars (229–228, 219 B C) After the Dalmatians had split from this kingdom, the Romans conquered its king, Genthius, and established one of the earliest of Roman colonies as Illyricum (168–167 B C) The colony was enlarged by the total conquest of Dalmatia in several wars (notably 156, 119, 78–77 B C) The southern Illyrians were all brought to terms by Augustus in 35–34 B C —a conquest confirmed by the campaigns of 29–27 B C Illyricum was expanded by conquests (12–11 B C) of the Pannonians At the time of the stubborn revolt of the Illyrians (A D 6–9) the territory was split into the provinces of Dalmatia and Pannonia, but the term *Illyricum* was still used It was later given to one of the great prefectures of the late Roman Empire Illyricum then included much of the region N of the Adriatic as well as a large part of the Balkan Peninsula When Napoleon revived (1809) the name for the Illyrian Provs of his empire he included much of the region N of the Adriatic and what is today E Yugoslavia Roughly the same region was included in the administrative district of Austria called (1816 49) the Illyrian kingdom

Ilmen (ĭl'mun, Rus ēl'mĭnyû), lake, area 355 sq mi , NW European RSFSR It empties through the Volkhov river into Lake Ladoga Novgorod and Staraya Russa are near its shores

Ilmenau (ĭl'munou), town (pop 18,603), Thuringia, central Germany, on the Ilm river A health resort, it was a favorite retreat of Goethe and of Charles Augustus of Saxe-Weimar There are porcelain and glass manufactures

ilmenite. see TITANIUM

Iloilo (ē"lōē'lō), city (1948 pop 110,122), on SE Panay, capital of Iloilo prov , Philippine Islands, on Iloilo Strait of Panay Gulf and sheltered by the island of Guimaras An important commercial center, it has a good harbor and is the port for Capiz It exports sugar cane, rice, and copra The Central Philippine College of Jaro is here

image, in optics, a likeness or a counterpart of an object produced when rays of light coming from that object are reflected from a MIRROR or are refracted by a LENS An image of an object is also formed when this light passes through a very small opening, like that of a pinhole camera (which has no lens) Images are classed as real or virtual A real image, formed by rays of light which actually come from the object and which converge before producing the image, is one that can be thrown on a screen For example, the image produced by the refraction of the light rays by a double convex lens (the object being at a distance from the lens greater than the focal length of the lens) is real, and it appears on the side of the lens opposite the one on which the object is present On the other hand, a virtual image is formed by prolongations of the rays (not by the rays themselves) which do not converge and cannot be thrown on a screen. The image in a plane mirror is virtual It appears to be behind the mirror, at a distance equal to that of the object in front, although the rays of light from the object do not penetrate the mirror but are reflected from it Images of the same size as the object are sometimes produced, as in the case of the plane mirror, but in other cases they are larger and in still others smaller They are sometimes erect and in other cases are inverted. The size of the image and whether it is erect or inverted, real or virtual, depend upon the distance of the object from the lens and upon the type of lens or mirror (plane, convex, or concave) employed

imagists, Anglo-American school of poetry, rooted in classicism and French symbolism Ezra Pound, as head of the group, edited the ill-received anthology *Des Imagistes* (1913) and organized the magazine the *Egoist* (1914–19) He deserted imagism, and Amy Lowell, with an official group composed of F S Flint, D H Lawrence, Richard Aldington, Hilda Doolittle, and John Gould Fletcher, contracted for the publication of three imagist anthologies (1915, 1916, 1917) The first contained the famous Aldington preface outlining the precepts of imagism—the use of common speech, the creation of new rhythms, freedom of subject matter, presentation of an image, production of hard clear poetry, and the conception of concentration as the essence of poetry See Glenn Hughes, *Imagism and the Imagists* (1931)

imam (ĭmam') [Arabic, = leader], in ISLAM, a recognized leader The term is used of the leader in the Friday prayer at the mosque It is also a synonym for caliph In this use it is applied by the SHIITES to ALI, to HASAN and HUSEIN, and to the rest of the caliphs in the family of Ali, whom the Shiites consider, alone of the orthodox caliphs, to have been the successor of the Prophet Since the Omayyad family was so long in the caliphate the followers of the family of Ali came to believe that there was a hidden imamate, or succession of legitimate, unrecognized Alid imams or true caliphs The idea grew up in the Middle Ages that one in this succession (the twelfth, or the seventh, imam) would return at the end of this world to restore the true caliphate The returning imam is called the MAHDI The belief in the hidden imam and the variations in it have caused political trouble, notably in Persia and Africa The FATIMITES were particularly given to belief in the hidden imam The DRUSES and the ASSASSINS hold doctrines related to the belief in the hidden imam

Imandra (ē'mundrŭ), lake, area more than 1,000 sq mi , N European RSFSR, S of Murmansk It is of glacial origin Deeply indented, it contains some 90 islands and receives 26 rivers It empties into the Kandalaksha Bay of the White Sea through the Niva river in the south

Imatra (ĭ'mäträ), falls in the Vuoksi river, SE Finland, between Lake Saima (Finland) and Lake Ladoga (USSR) The river descends 60 ft in 2,000 ft The state hydroelectric station here supplies Helsinki and other cities with power

imbecility. see FEEBLE-MINDEDNESS

Imbros (ĭm'brŏs), Turkish *Imroz* (ēmrōz'), island (108 sq mi , pop 6,359), off W Turkey, in the Aegean Sea near the entrance to the Dardanelles

Imeritia (ĭmurĭ'shu), hilly region, W central Georgian SSR, drained by the Rion river Kutais, Chiatura, and Tkibuli are the chief towns The population engages in agriculture and the making of wine and silk

imitation, in music, a device of counterpoint wherein a phrase or motive is employed in more than one voice The imitation may be exact, the same intervals being repeated at the same or different pitches, or it may be free, in which case numerous types of variation are possible When the same motive is repeated at different pitches but in the same voice, the device is called sequence Imitation was much used in both vocal and instrumental compositions of the 15th and 16th cent The *ricercare*, *canzone*, capriccio, and fantasia—instrumental forms of this period—employed imitation to a great extent and without formal plan They were forerunners of the fugue The strictest form of imitation is the canon While imitation is found to some extent in the music of nearly all periods, it is of especial significance in Renaissance and baroque music

Imla or **Imlah** (both ĭm'lu) [Heb , = filled full], father of Micaiah the prophet 1 Kings 22 8,9, 2 Chron. 18 7,8

Imlay, Gilbert (ĭm'lā), c 1754–1828?, American author and adventurer, b probably Monmouth co, N J He served in the American Revolution and afterwards became a deputy surveyor and land speculator in Kentucky Arriving in Europe c 1786, after difficulties arose in Kentucky, he became entangled with the Girondists in their agitation for separating Louisiana from Spain, but the scheme died with their overthrow His books, *A Topographical Description of the Western Territory of North America* (1792) and *The Emigrants* (1793), one of the first romances of the Western frontier, were well received in England During his life in Europe he lived with Mary WOLLSTONECRAFT, who bore him a daughter Shortly after going to London in 1795, he deserted her See Roger Ingpen, ed , *The Love Letters of Mary Wollstonecraft to Gilbert Imlay* (1908), R L Rusk, *The Adventures of Gilbert Imlay* (Indiana Univ. Studies, Vol. X, 1923)

Imlay City, village (pop 1,446), S Mich., E of Flint, in a farm area, inc 1873 There are foundries here. Indian mounds are near by.

Immaculate Conception of Our Lady: see MARY.

immanence (ĭ'mənəns) [Latin, = dwelling in], in metaphysics, the presence within the natural world of a spiritual or cosmic principle, especially of the

Deity It is contrasted with transcendence. Thus Aristotle taught that the Forms are purely immanent in matter, while Plato held that the Ideas are transcendent in general, though sometimes immanent also. Pantheism regards God as purely immanent in all nature, Deism regarded God as solely transcendent In general the great monotheistic religions have held that God is immanent and transcendent There has been an increasing tendency in the 20th cent to regard God as solely immanent, this was present in the Roman Catholic modernism condemned by the pope in 1907

Immanuel or **Emmanuel** (both -măn'-) [Heb ,= God with us], name given by Isaiah to the child who would be a sign to Judah of her deliverance It is a name of Jesus Isa 7 14, 8 8, Mat 1 23.

Immanuel ben Solomon, c 1265–c 1330, Hebrew-Italian poet and scholar, b Rome He wrote biblical criticism and, in both Hebrew and Italian, satiric verse and lively stories He was probably a friend of Dante His collected poems were printed (1491) under the title *Mahbereth*

Immer. 1 Priestly family 1 Chron 9 12; 24 14, Ezra 2 37, 10 20, Neh 3 29, 7 40, 11 13 This is probably the same as AMARIAH **3. 2** Priest Jer 20 1 **3** Probably a place in Babylonia Ezra 2 59, Neh. 7 61

Immermann, Karl Leberecht (kärl' lā'burĕkht l'murman), 1796–1840, German romantic novelist and dramatist Author of several plays, he survives only in the novels *Die Epigonen* (1836) and *Münchausen* (1839), in which he satirized what he considered the decadent society of his time He followed Max Uhle in using Epigoni in the sense of "men born too late" to characterize his contemporaries A selection of chapters from *Münchausen* survives as the novelette *Der Oberhof* See study by A W Porterfield (1911)

immigration, entrance of a person into a new country where he intends to establish permanent residence Motives for immigration, like those for MIGRATION generally, are chiefly economic, though religious and political factors may be important In the 19th and 20th cent there was a vast influx of Europeans into the Americas, especially into the United States, which received between 1820 and 1930 c 38,000,000 immigrants This was a result partly of the great POPULATION expansion and improved methods of transportation Until the middle of the 19th cent the bulk of immigrants were from the British Isles and NW Europe By 1880 emigration from these countries had tapered off, and there was an influx of southern and eastern Europeans At this time the United States was in the midst of a great industrial expansion The desire for quantities of cheap, unskilled labor plus the efforts of transportation companies to promote the profitable importation of immigrants were factors in the continuance of the movement Immigration from Asia, first of Chinese and later of Japanese, began in the middle of the 19th cent These groups were also composed chiefly of laborers Immigrants were largely responsible for the rapid expansion of the country, and their high birthrate did much to swell the general American population growth Moreover, they provided a rich diversity of culture and talents The bulk of the later European arrivals settled in the northeastern cities, usually forming distinct ethnological neighborhoods where they tended to cling to native languages and customs Thus assimilation was difficult, and there was much social conflict, especially in the second generation Often exploited, immigrants were accused by organized labor of lowering wages and living standards Opposition was early manifested by such organizations as the KNOW-NOTHING MOVEMENT and, on the West Coast, in violent anti-Chinese riots The first restrictions against any particular group were made in 1882 by the Chinese Exclusion Act, which denied entrance to Chinese laborers In the same year restrictions against the entrance of diseased persons, paupers, and other undesirables were strengthened In 1902 the Chinese exclusion laws were further extended, and in 1907 a gentlemen's agreement, limiting the number of Japanese immigrant laborers, was made between the United States and Japan Despite strong opposition, a literacy test was imposed on all immigrants in 1917 In 1921 the quota system was established for European countries, limiting the number of immigrants received from a country in any one year to 3 per cent of the number of their natives residing in the United States in 1910, with a minimum quota of 100 The restrictions were made even more drastic in the act of 1924, which also provided for a "national origins" plan to be put into effect after 1927 This limited the entire number of European immigrants to 150,000 and based quotas for individual countries on the number of people of those origins living here in 1920 This differential favored the north Europeans, especially Britons, at the expense of those from S and E Europe. The act of 1924 also excluded all aliens not eligible for citizenship The provision, applied to all Asiatics, was aimed especially at the Japanese and aroused their indignation. The Chinese Exclusion Act was repealed by Congress in 1943, and a small quota set up. Most other countries have restrictive laws, although none outside of the British dominions are so strict See M. R. Davie, *World Immigration* (1936), William C. Smith, *Americans in the Making* (1939); M L. Hansen, *The Atlantic Migration, 1607–1860* (1940) and *The Immigrant in American History* (1941); National Committee on Immigration Policy, *Immigration and Population Policy* (1947), Clarence Peters, comp , *The Immigration Problem* (1948), E G Hartmann, *The Movement to Americanize the Immigrant* (1948)

immortality, attribute of deathlessness ascribed to the soul in many religions and philosophies Forthright belief in immortality of the body is rare Immortality of the soul is a cardinal tenet of Christianity and of Islam. It is also held generally in Judaism, although it is not an essentially Jewish idea The ancient Greeks and Romans believed in an afterlife, where the souls of men lived on, but only the gods were considered truly immortal. The ancient Celts believed firmly in immortality. In the East, ZOROASTRIANISM held immortality The religions arising in India (Hinduism, Buddhism, and Jainism) generally consider individual immortality undesirable and believe in REINCARNATION of men as a chain eventually leading to reunion with the infinite in the impersonality of Nirvana See SPIRITISM, RESURRECTION, HEAVEN, HELL See C W Eliot, *The Religion of the Future* (1909), J G Frazer, *Man, God, and Immortality* (rev ed , 1927), C H Moore, *Ancient Beliefs in the Immortality of the Soul* (1931), W E Hocking, *Thoughts of Life and Death* (1937)

immortelle: see EVERLASTING

immunity, resistance of an individual or of an animal to disease Surface tissues of the body (skin and mucous membranes with their secretions) offer external protection to invading organisms When there is a break in these protective coverings, e g , a cut or wound, certain bacteria such as the bacilli of diphtheria or of tetanus may penetrate the external defense and, lodging in a specific location, produce toxins which may cause disease or death Immunity may be natural, acquired, active, or passive The natural immunity of an individual or animal arises from an inherent ability to destroy invading organisms through the action of phagocytes (cells which devour microorganisms) and antibodies (chemical substances in the blood which neutralize the action of harmful cells) Immunity may be acquired by having survived a disease, through inoculation with specific antitoxins or toxin-antitoxins, or by vaccination Active immunity may be of long duration because of the activity of an individual's own tissues in producing antibodies Passive immunity is of shorter duration because the defense factors do not originate in the individual but have been added, as in the injection of antitoxin in diphtheria

Imna (ĭm'nu) [Heb ,=holding back], chief of the Asherites 1 Chron 7 35

Imnah (-nu) [Heb ,=luck] **1** The same as JIMNA **2** Father of KORE **2**

Imola (ē'mōla), city (pop 20,800), Emilia-Romagna, N central Italy, SE of Bologna, on the Aemilian Way A free commune in the 11th cent , it later was ruled by various tyrants until it passed to Pope Julius II early in the 16th cent It has a cathedral, a noted town hall, and several fine Renaissance palaces

impala or **pallah,** antelope (genus *Aepyceros*) of the bush country of E and S Africa. It stands about 3 ft high at the shoulder, and its coat is a rich reddish brown shading gradually to almost white on the underparts The horns, borne only by the male, are long and curved and shaped like a lyre

impatiens see TOUCH-ME-NOT

impeachment, formal accusation issued by a legislature against a public official charging him with crime or other serious misconduct In a looser sense the term sometimes is also applied to the trial by the legislature which may follow Impeachment developed in England as a means of trying officials suspected of dereliction in duty The English procedure was for the House of Commons to prosecute by presenting articles of impeachment to the House of Lords, which rendered judgment Any penalty, including death, might be inflicted, but the king had power to pardon The impeachment of Warren Hastings (1788–95) was among the last of the English cases In the United States impeachment of public officials is provided for in the Federal government and in most states In Federal matters the U S. Constitution gives the sole power of impeachment to the House of Representatives The only persons subject to Federal impeachment are officials of the United States, including the President and Vice President, but not including members of Congress Impeachments are tried by the Senate, with the concurrence of two thirds of the members present needed for conviction The sole penalties on conviction are removal from office and disqualification to hold other Federal office; however, the convicted is liable to a subsequent criminal trial and punishment for the same offense There have been 12 impeachments by the House of Representatives with four convictions Two of the best known cases, which did not result in conviction, were those of Supreme Court Justice Samuel CHASE and of President Andrew JOHNSON.

imperative: see MOOD.

imperfect: see TENSE

Imperial. 1 City (pop 1,493), SE Calif , 8 of the Salton Sea in the IMPERIAL VALLEY; founded 1902, inc 1904. It is the headquarters of the Imperial Irrigation District and the seat of a county fair **2** Village (pop. 1,195), co. seat of Chase co., S Nebr , in the Great Plains region; settled c 1885.

Imperial Conference, assembly of representatives of the self-governing members of the British Empire, held about every four years The meetings prior to 1906—in 1887, 1892 and 1902—were known as Colonial Conferences and concerned themselves chiefly with the problem of the distribution of the burdens of defense After 1907 the assemblies discussed mutual economic problems The decisions of the conference have no legal effect, but they have been of considerable influence and were given force by the Statute of Westminster (1931), which declared the parliaments of the several dominions on an equal footing with that of the United Kingdom A standing Imperial Economic Committee concerned itself with coordination of economic matters A formal meeting of the conference was held in 1937 for the coronation of George VI. During and after the war, unification of empire policy was undertaken by meetings of the premiers of the dominions In 1949 India and Pakistan were represented as new members of the Commonwealth of Nations The tendency in the conferences has been toward cooperation on an increasingly independent basis

imperialism, broadly, the extension of rule or influence by one people over another Empires have existed since the dawn of written history in Egypt and in Mesopotamia, where local rulers extended their realms by conquering other states and holding them when possible in a state of subjection or semi-subjection The first highly organized empire was that of Assyria, which was succeeded by the even more integrated Persian Empire Ancient imperialism reached its climax under the long-continued Roman Empire, which trailed out in the East until late in the Middle Ages as the Byzantine Empire and was there succeeded by the Ottoman Empire In the West imperialism all but disappeared, the Holy Roman Empire, despite the aspirations of its greatest rulers, tended toward being a confederation of princely states rather than an imposed imperial rule Imperialism was, therefore, reborn with the emergence of modern national states and the age of exploration and discovery It is to this modern type of empire building that the term *imperialism* is normally restricted Colonies were established not only in more or less sparsely inhabited places where there were few or no highly integrated native states (e g , North America and Africa) but also in lands where civilization and states were established (e g , India, Malaya, Indonesia, and the Inca lands of South America) In all cases the European hegemony was introduced largely by strict force of the firearms that the Europeans had developed The emigration of European settlers to people the Western Hemisphere and Africa can be called colonialism It was marked by the same attitude of assumed superiority of the newcomers toward the native populations that prevailed where the Europeans merely took over control without settlements (as in India and Indonesia) The Portuguese and the Dutch from the 15th to the 17th cent built such "trading" empires for the exploitation of the resources of lands already developed The Spanish were primarily interested in exploiting the mineral wealth of the lands they conquered though they also established colonies The British and the French were the prime makers of true colonial "settlement" empires, both also in Africa and the East had hegemony ("trading empires") and exploited conquered peoples They and other nations also undertook to establish hegemony for increasing the wealth of the nation itself according to the theories of MERCANTILISM Later, with the downfall of mercantile theories, the increase of manufactures in the Industrial Revolution stressed this aspect of imperialism, as the industrial nations scrambled both for markets and for raw materials. The eastward spread of Russia after the 16th cent and the westward spread of settlement in the United States were also imperialistic, reaching a strong expression in the American idea of manifest destiny. Yet the United States did not become an empire until the Spanish-American War In the late 19th cent there also emerged the imperial ambitions of Italy, Germany, and Japan Liberal democratic thought had, however, long been building up anti-imperialist sentiment. At the time of the American Revolution a number of the political philosophers of England were loud in denouncing imperialism as well as mercantilism. The doctrines of laissez faire were united in many of their proponents with opposition to imperial goals Free-trade doctrines were, however, developed in an era of increasing struggle for markets, which was in itself imperialistic and led to control over "market" nations. Basically, fundamental and thoroughgoing democracy is at odds

with any idea of the subjection of peoples, which was an inherent idea in old imperialism The most vociferous criticism came from the Marxists, who stressed the connection between imperialist aims and war. In Socialist and Communist parlance all modern warfare except revolution is imperialistic and imperialism (joined with nationalism) is a mainstay of capitalism Anti-imperialist thought ran strong in most of the world after the First World War, but fascism in Italy, Germany, and Japan fostered extreme imperialist aims. Those nations sought vigorously to build empires while the United States was returning independence to the Philippines and was discarding imperialistic "dollar diplomacy" in Latin America and while the bonds of the British Empire were being loosed and the Commonwealth of Nations was being formed The general stirrings of demands for independence among the peoples of Asia and parts of Africa were also making themselves felt. The end of the Second World War, therefore, saw the waning of empires, notably in the reconstitution of the French Empire, the new status for India and Indonesia, and revolt in Indo-China Ironically, the hegemony established by the USSR in the Communist countries after the war was criticized by anti-Communists as imperialistic For a survey of theories of imperialism, see E M Winslow, *The Pattern of Imperialism* (1938)

imperial preference. see COLONIAL PREFERENCE

Imperial Valley, low-lying area, SE Calif , in the midst of the old Colorado Desert Most of this region is below sea level Rainfall is scanty, and there are sudden, extreme changes in temperature, which range from 32°F to 115°F Irrigation from the Colorado river, undertaken c 1900, was hindered by several disastrous floods (see SALTON SEA) but was successful by 1907 About 1,000,000 acres have been irrigated, chiefly by the ALL-AMERICAN CANAL Among the main crops of the valley are melons, alfalfa, grapefruit, strawberries, grapes, lettuce, barley, green peas, asparagus, dates, and cotton Dairying is carried on The principal cities of the valley, settled since 1900, are Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, Niland, and Westmorland An earthquake in 1940 caused loss of life and great crop and property damage, but the Imperial Valley recovered rapidly

Imphal (Imp'hŭl'), town (pop 99,716), capital of the centrally administered state of Manipur, India Imphal is not truly urban, but consists mainly of village and farm land

import, commodities brought into a country, the opposite of EXPORT Imports may be for consumption in the importing country or for reexport When imports are less than exports, the difference is paid on the gold basis See also BALANCE OF TRADE

impotence (Im'pŭtuns) Inability to perform the sexual act may be caused by defective organs resulting from abnormal or incomplete development, by deficient internal secretions, or by disorders of the nervous system which diminish the libido Excess may result in impotence Impotence is a cause of STERILITY. Treatment is directed to removing the cause and also to improving general health and hygiene

impressionism, in painting, a late 19th-century French school It was characterized in general by the attempt to depict transitory visual impressions, often painted directly from nature, and by the use of broken color to achieve luminosity The impressionists excelled in representing sunlight and originated the vogue of plein-air painting The movement originated in the 1870s, lost many of its strict adherents in the 80s, and became popular in the 90s, when it had been abandoned by most of its exponents Monet, Sisley, and Pissarro were the most consistent impressionists Others associated with the movement were Renoir (who first introduced the rainbow palette), Degas, and, for brief periods, Manet and Cézanne Too entirely visual and limited in program to endure long in its pure form, impressionism exercised a profoundly liberating influence on art, which can be seen as much in the reaction against it as in its belated popularity. The term is used also in music for a late 19th-century French movement It was begun by Debussy in reaction to Wagnerian romanticism Its harmony is its most characteristic feature Chords are valued for their individual sonorities rather than for their relations to one another Dissonances are unprepared and unresolved, and vagueness of tonality is deliberately sought, in this and in other ways Impressionist compositions are often given poetic titles, but they are not program music, because nothing specific is depicted, sensory impressions are sought, but the associations and analyses they might provoke are avoided Ravel was to a certain extent an impressionist, but he had too strong a feeling for classical forms to adopt its practices completely. In fact, pure impressionism exists only in Debussy, although its influence is strongly evident in Paul Dukas, Albert Roussel, the Spaniards Albéniz and Falla, the Englishmen Delius, Cyril Scott, and Arnold Bax, and the Americans C. T Griffes, C. M. T. Loeffler, and J A. Carpenter. Although started as a reaction against romanticism, musical impressionism seems today the culmination of romanticism. See John Rewald, *The History of Impressionism* (1946).

impressment, enforcement of CONSCRIPTION It may be applied either to property or to persons in peace or war by virtue of a state's sovereign authority, except that constitutional limitations and legal regulations must be respected In most modern democracies impressment in the historic sense of a "press gang" actually seizing and carrying an individual into service has been abandoned In Great Britain it was abandoned in respect to the army c 1800, but it was maintained in the navy to the end of the Napoleonic Wars in 1815 In Great Britain and in most other countries before 1850 impressment was permitted as a way of ridding society of rogues, vagabonds, minor criminals, and other undesirables Persons of property, properly apprenticed youths, and other respectable citizens were exempted by law The system permitted gross abuses, including extortion and its use frequently as a means of private vengeance It filled the army and navy with an unreliable class ready for mutiny, desertion, or other disloyalty and made conditions so bad that voluntary enlistment practically ceased to exist Desertions from the British navy to American mercantile vessels in the late 18th and the early 19th cent were common because of the more attractive conditions in the prosperous American carrying trade These deserters gave the British an excuse for stopping American ships on the high seas to search for and take off deserters International law had not recognized the American contention that ships on the high seas were to be considered as territory of the state whose flag they carried and to be treated as inviolable The British did not stop at taking off deserters but took British subjects wherever found, whether naturalized Americans or not, because Great Britain did not until 1850 recognize the right of a citizen to expatriate himself Frequently sailors of American birth were taken because they could not at the moment prove their place of nativity These high-handed acts of Great Britain, culminating in the famous CHESAPEAKE affair, kept popular feeling against Great Britain at high pitch between 1790 and 1809 and were a cause of the WAR OF 1812 See J R Hutchinson, *The Press-Gang Afloat and Ashore* (1913), J F Zimmerman, *Impressment of American Seamen* (1925)

impulse, in mechanics see MOMENTUM

Imrah (Im'ŭ), Asherite 1 Chron 7 36

Imri (Im'ĭ) [Heb , =eloquent] **1** Judahite 1 Chron 9 4 Probably the same as AMARIAH **8 2** Father of a builder of the walls Neh 3 2

In, chemical symbol of the element INDIUM

Inagua (ēnä'gwa), island group of the BAHAMA ISLANDS It includes Great Inagua, Little Inagua, and some islets

Inari (ē'narē), Swed *Enare* (ä'naru), lake, area 386 sq mi , N Finland, in Lapland It empties into the Arctic through the Pasvik river

inbreeding, mating of closely related living things Inbreeding is used chiefly as a means of insuring the preservation of certain desirable characters among the offspring of purebred animals It is usually not desirable to continue inbreeding through too many generations since it reduces the chances of diversity of characters in the offspring and sometimes tends to reduce vigor and reproductive ability Occasional outbreeding (or crosses between unrelated strains) introduces a great variety of possible combinations of characters, and thus there is greater diversity of genetic characters in the offspring from which selection for other crosses can be made Among humans inbreeding is discouraged in many societies because if previous generations of the family have exhibited an undesirable inheritable trait the possibilities of the appearance of such a trait in the offspring of closely related individuals is greater than it would be if they were unrelated

Inca (Ing'ku), pre-Columbian Indian empire (c 650,000 sq mi , pop c 6,000,000), W South America Centered at CUZCO, Peru, the empire dominated at the time of the Spanish Conquest the entire Andean area from Quito, Ecuador, S to the Río Maule, Chile The name Inca specifically refers to its emperor and is used loosely to mean his people Since the people combined much AYMARA mythology with their own, their origin myth is obscure The most common belief is that the legendary founder, MANCO CAPAC (who seems to have been a historic figure), brought his people from mountain caves to the Cuzco Valley During the early Inca period (c 1200–c 1438) the tribe gradually established its hegemony over other peoples of the valley and under the emperor named Viracocha (the name also of the supreme creator in Inca cosmology) allied themselves with the QUECHUA Under Pachacuti (c 1438–1471) and his son Topa Inca or Tupac Yupanqui (1471–93) the empire reached great power The present Ecuador (the kingdom of Quito) was subjugated by HUAYNA CAPAC (1493–1527) to give the empire its greatest extent At his death it was divided between his sons, HUÁSCAR and ATAHUALPA, and a long civil war ensued from which Atahualpa emerged triumphant just as Francisco PIZARRO landed on the shores of Peru and the Spanish Conquest began. Through a genius for organization the Inca had been able to weld many tribes and powerful kingdoms, speaking different languages and dialects, such as the CHIMU, into a single, closely knit state At the top was the emperor, an absolute monarch ruling by divine right (descent from the sun) Merciless toward its enemies, requiring an obedience close to slavery, the imperial government was responsible for the welfare of its subjects Everything was owned by the state except houses and movable household goods, the government collected taxes in labor—cultivation, herding, hunting, mining, public works, army service, and personal service to the royal family (known as mita) From well-stocked storehouses were drawn goods to support priests, government servants, special craftsmen, the aged and the sick, and widows The royal family formed an educated, governing upper nobility which at the time of the Spanish Conquest numbered c 500 From among the conquered anyone with administrative ability was sought out, and in time these constituted a hereditary nobility To further increase government control over an empire grown unwieldy, all who spoke Quechua became an "Inca class" by privilege and were farmed out as colonists Lesser administrative officials, formerly independent rulers, and their descendants were the minor nobility or *curaca* class, also supported by the government For purposes of administration the empire, the Tawantin-soyo [land of the four quarters], was divided into four parts, the lines of which met at Cuzco, the quarters were divided into provinces usually on the basis of former independent divisions These in turn were split customarily into an upper and a lower moiety, the moieties were subdivided into ayllus Much as it exists today as the basic unit of communal Indian society, so the ancient ayllu was the political and social foundation of Inca government When a territory was conquered, surveys, consisting of relief models of topographical and population features, and a census of the population were made With this report, recorded on the QUIPU, of material and human resources in each province, populations were reshuffled as needed Thus transplanted, dominated by Quechua colonists, the subject peoples had less chance of revolt, and the separate languages and cultures were molded to the Inca pattern Religion, controlled by a hierarchy like the government hierarchy, emphasized ritual and organization Heading the Inca gods was Viracocha [Hispanicization of the Inca word for lord] His servants were the sun, the god of the weather or thunder, the moon, the stars, the earth, the sea, and the *huacas* (local gods more or less animistic) Divination, sacrifices (sometimes human), celebrations and ceremonies, ritual, feasts, and fasts were all part of the religion under control of the priests Although the Andean area offers a diversity of plant domestication, the handicaps of terrain and climate presented severe obstacles To overcome it Inca engineers demonstrated considerable skill in terracing, drainage, irrigation, and the use of fertilizer They lacked draft animals, but domesticated animals (the llama, the alpaca, the dog, the guinea pig, and the duck) were important to daily living, from the wild vicuña fine wool was sheared Without paper or a system of writing, the architects and master masons who designed and supervised the construction of public buildings and engineering works in such cities as MACHU PICCHU and the fortress of SACSAHUAMAN built clay models, employing in actual construction sliding scales, plumb bobs, and bronze and stone tools Without wheeled vehicles for transport, the huge polygonal blocks for fortress, palace, temple, and storehouse were emplaced by ramp and rollers and were fitted with extraordinary precision Wall corners were always carefully bonded Adobe bricks and plaster were common, especially along the coastal desert The column and corbeled vault, though known, occurred infrequently and architectural sculpture was used only occasionally, buildings were usually of one story One of the most remarkable evidences of Inca engineering skill was an elaborate network of roads, which in many places still survive Streams were crossed by log or stone bridges, placid rivers by balsa ferry or pontoon bridge, and chasms by a breeches-buoy contrivance or suspension bridges as much as 200 ft long The suspension bridge was customarily made of five 16-inch braided twig cables, three for the floor and two for guard rails, slung between two pairs of stone towers Road sections were maintained by the nearest village, as were the shelters and military storehouses, a day's travel apart, a village also supplied messengers for its sector These men, serving 15-day shifts, relayed messages about every mile Thus, 150 mi could be traveled daily, a feat which later took the Spanish colonial post 12 to 13 days In the manufacture of cotton and woolen textiles, which sometimes had small soft feathers or fine threads of metal woven into them, the Incas excelled, similarly in ceramics they achieved a fine-grained, highly polished, metallic hardness which stressed functional and utilitarian design Although the mines were a government monopoly, exploitation of the laborer was avoided Mining

was permitted only in the four warmest months, and then only from noon to sunset, because of the extremely high altitudes Of the metals, copper and bronze were for public use, gold, silver, and tin were reserved for the Inca, the temples, and the upper nobility Demonstrating an advanced knowledge of metallurgy, the Inca craftsmen employed the techniques of smelting, alloying, casting, hammering, repoussé, incrustation, inlay, soldering, riveting, and cloisonné The metalwork was some of the finest the world has known So flourished the empire of the Incas when Pizarro faced Atahualpa By stratagem the conquistador lured the emperor into his camp, captured, and then executed him Shortly thereafter (1533) Pizarro entered Cusco The fundamental weakness of the empire became apparent It fell to the Spanish Though heroic resistance was still carried on in many sections and the rebellion (1536–37) of Manco Capac almost toppled Spanish control, the conquest was assured Twice thereafter serious rebellions, notably that of TUPAC AMARU, flared up, but each time they were suppressed For an enlightened paternalistic despotism the Spaniards substituted a relative freedom of the individual, but for a predictable despotism they instituted the tyranny of unlimited demands and an unpredictable economy—exhaustive labor in the mines, on the encomiendas, and in the *obrajes* [textile mills] Whereas the chewing of coca leaves, which contain a small amount of cocaine, was forbidden to all but the Inca nobility, it became and still is, because of its fatigue-lessening properties, a constant and demoralizing staple for the working Indian Intoxication from CHICHA has little of its former religious significance The Indians were reduced to a subordinate status, and only in recent years have efforts been made to make the Peruvian Indians (about 50 percent of the population) an integral part of the national life See chapters on the Incas in the *Handbook of South American Indians*, Vol II (1947) See also Garcilaso de la Vega, *The Royal Commentaries of Peru*, W H Prescott, *The History of the Conquest of Peru* (1855), C R Markham, *The Incas of Peru* (1910), P A Means, *Ancient Civilizations of the Andes* (1931) and *The Fall of the Inca Empire* (1932)

incantation, set spoken formula for the purpose of working MAGIC An incantation is normally an invocation to beneficent supernatural spirits or a CHARM to ward off the operations of evil spirits In black magic it may be the means of summoning or materializing the powers of darkness An incantation may or may not be accompanied by a dramatic rite In the Western European tradition many incantations survive in folklore

incarnation, the assumption of human flesh by a god, an idea common in religion It is found in various phases in Greek religion, in which the human body of a god was a disguise or a temporary means of communication The most widely accepted belief in incarnation is in that of JESUS Christ, held usually by Christians to be God in the flesh, partaking wholly both of divinity and of humanity, except in so far as human beings have a propensity to sin This is the accepted understanding of the biblical "The Word was made flesh" John 1 14

incense, perfume diffused by the burning of aromatic gums or spices, in a censer Incense was used in ancient Egypt, Greece, and Rome and is mentioned in the Old and the New Testaments It was introduced into public worship in the Roman Catholic Church in the 6th cent

incest (ĭn'sĕst), sexual relations between persons to whom marriage is prohibited by custom or law because of their blood relationship Ideas of relationship, however, vary widely from group to group, hence the definition of incest also varies Customs prescribing whom one may and may not marry are found in primitive as well as advanced human groups, and these apparently antedeed knowledge of the good or ill effects of the intermarriage of close kin Even modern prohibitions of incest are based only in part on the observed fact that inherited defects, like inherited excellences, tend to be transmitted, and in intensified form, when both parents possess the same genes Breeders of animals avail themselves of this principle, habitually mating closely related animals when they possess the qualities desired, a practice known as inbreeding Among primitive as among advanced human groups the marriage of brothers and sisters is universally taboo In groups where the clan system prevails, marriage within the clan is incestuous, hence clan exogamy (see MARRIAGE), which, however, often results in cousin marriage Only in royal families, as in Egypt and among the Inca, have incestuous marriages (including marriage between brothers and sisters) been customary—perhaps to conserve royal prerogatives and property Christian countries differ as to prohibited degree of relationship, until 1907 the cohabitation of a man with his deceased wife's sister was held to be incestuous in English law, that of a woman with her deceased husband's brother is still so regarded In the United States incestuous marriages are void, cousin marriage is forbidden in only a few states.

Inchbald, Elizabeth (ĭnch'bôld), 1753–1821, English actress and author, whose maiden name was Sampson or Simpson She turned from acting to writing for the stage with a comedy, *The Mogul Tree* (1784) Her best play, *Such Things Are*, appeared in 1787, but she attained greater fame with her novels, *A Simple Story* (1791) and *Nature and Art* (1796) She edited two collections of plays, *The British Theatre* (1806–9) and *The Modern Theatre* (1809)

Inchcolm (ĭnch'kŭm) [Irish,=island of Columba], small island, Fifeshire, Scotland, in the Firth of Forth, NW of Edinburgh The magnificent ruins of the Abbey of St Columba, founded in 1123 by Alexander I, are here, and there is an older oratory near the church In Shakspere's *Macbeth* the isle is called St Colme's Inch

Inchkeith (ĭnch'kēth), island, Fifeshire, Scotland, in the Firth or Forth, NNE of Edinburgh It is fortified, has a lighthouse, and was the site of a monastery A D c 700.

incinerator (ĭnsĭn'ərātŭr), furnace for the disposal of combustible refuse by burning It consists essentially of a brick-lined combustion chamber, usually fitted with grates, either stationary or mechanically operated, charging holes for feeding the refuse into the chamber, openings for stoking and for removing clinkers and ashes, ducts, valves, and often forced-draft blowers, to supply air for combustion, and a flue conducted through a tall chimney Most municipal, industrial, and institutional plants utilize several incinerator units set up back to back or side by side in batteries, each employing a separate flue The complete combustion required to avoid odors and smoke is achieved by maintaining high temperatures, by conducting volatile gases through a long, hot combustion chamber, and by providing baffles and sharp turns to assure proper mixing of the gases The gases may be used to supply heat for auxiliary steam-boiler plants Rubbish is commonly burned at the same time as wet garbage in order to utilize its high calorific value, however, oil burners or other equipment are often used to produce the amount of heat necessary to complete the burning Some plants utilize mechanical apparatus for conveying, sorting, and charging refuse and for removing clinkers Incinerators for homes and small apartment houses commonly consist of a combustion chamber in the cellar, connected with a vertical flue, charging doors are usually placed at each floor and the refuse falls either into a drying chamber or directly into the fire pot

inclined plane, a simple MACHINE having as its basic part a slanted or inclined plane up which the load or resistance is moved Its origin is very ancient, early man applied the principle for raising heavy objects from one level to another with much less effort than is needed to lift them upward perpendicularly Modern applications are seen when barrels are rolled up planks into trucks and when boards are laid over steps as an incline for workmen's wheelbarrows The mechanical advantage depends upon the ratio between the length of the plane and its height, which is the perpendicular distance between its upper and its lower end The load or resistance is lifted the height of the plane, whereas the effort acts parallel to the plane and along its length The WORK put into the machine is the product of the effort and the length of the plane, the work output of the machine is the product of the load and the height of the plane If, for example, an inclined plane is 10 ft long and its upper end is 2 ft higher than its lower end, its mechanical advantage is 5, and, if friction is neglected, a load of 300 lb can be raised the 2 ft by an effort of one fifth of the load, or 60 lb The principle of the inclined plane is applied in many common tools and devices A knife, for example, acts as an inclined plane when its cutting edge enters some substance obliquely The SCREW and the WEDGE are applications of the inclined plane, as are the CHISEL, carpenter's PLANE, and AX

inclosure or **enclosure,** in agriculture, the practice of setting apart (with fences, ditches, hedges, or other barriers) land formerly subject to common rights Such land includes fields cultivated by the open-field or strip system, wasteland, and the COMMON Inclosure followed the shift from the MANORIAL SYSTEM to free cultivation and was accomplished at different times and by different methods in many countries of Europe The process was accelerated in France after the Revolution and in Russia following the emancipation of serfs and was achieved in these countries mainly through individual agreements In England the practice, dating from the 12th cent, received legal sanction through statutes (in 1235 and 1285) permitting landlords to inclose wasteland not needed by tenants Its great development, however, came with the expansion of the Flemish wool trade after the 14th cent. The advantages resulting from intensive cultivation of large, fenced fields and from converting land to fenced sheep pastures moved landlords to make agreements with tenants or to expel them, illegally or for the slightest default, in order to inclose large areas Hardship for the tenants ensued. An increase in vagrancy and social unrest resulted in statutes designed to arrest inclosure by limiting the number of sheep per owner and by prohibiting further inclosure. However, the process continued virtually unchecked and after 1688 was usually accomplished through petitions to Parliament for local Inclosure Acts. The process reached its peak in the late 17th cent Inclosure stimulated a shift of destitute population to urban centers It also encouraged to some degree the efficient tillage and the reclamation of wasteland needed for England to achieve agricultural self-sufficiency in the face of increased population during the Industrial Revolution and of the Napoleonic Wars By the mid-19th cent the inclosure process was complete, financial interests, having nothing further to gain, no longer opposed limitation of the practice, and laws were passed against it See E C K Gonner, *Common Land and Inclosure* (1912), W H R Curtler, *The Enclosure and Redistribution of Our Land* (1920)

income tax. Although imposed occasionally in medieval Italian cities, the tax on personal income is essentially a modern form of taxation The first important income tax was levied in England during 1798–1816 as a war revenue measure After several other temporary income taxes, England adopted a permanent one in 1874 The first income tax in the United States was imposed in 1862, in the Civil War, but was discontinued in 1872 Various European countries, as well as Australia, New Zealand, and Japan, adopted regular income taxes during the latter half of the 19th cent The U S income tax law of 1894 was declared unconstitutional on the ground that it was a direct tax not apportioned according to representative population Finally, the adoption of the Sixteenth Amendment in 1913 permitted the income tax to become a lawful element in the Federal tax structure It has been a major source of revenue for the national government, yielding as much as 59 percent of all its receipts in some years Income taxes had been levied sporadically by various states since 1789, since 1919 most states have adopted the tax. In general, personal incomes below a certain amount are exempted from the tax, the amount varying for single and for married persons with or without dependents The tax is applied to the net income above these exemptions, and the rate becomes progressively higher for larger incomes In 1943 the United States adopted a method of collecting a large proportion of the Federal income tax by payroll deductions Corporations, too, are taxed on their incomes (see CORPORATION TAX) This tax is one of the few that generally cannot be shifted from the taxpayer to some other person, e g , a real-estate tax shifted by the landlord to the tenant See E R A Seligman, *The Income Tax* (2d ed , 1914)

incorporation see CORPORATION

incubator (ĭn'kyəbā"tur, ĭng'–), artificially heated apparatus for hatching eggs Incubator houses with double walls of mud, a fireroom, and several compartments each holding about 6,000 hen's eggs were developed in ancient times, the Chinese have long used baskets with a capacity of about 5,000 eggs which are alternated with layers of heated wheat Small incubators were developed in the United States in the 1840s but were not widely used until c 1885 A mammoth incubator was invented c 1895, however, large-scale incubators were rarely used until c 1910 These have been improved to meet the needs of commercial hatcheries in the baby-chick business, automatic controls for heat, air, and moisture and devices for turning eggs are usually incorporated Most models today are heated by electricity, many have hatching compartments, and some hold over a million eggs Eggs are selected for size, weight, and shell texture and often are candled after a week in the incubator in order to remove the unfertilized eggs The small-scale incubator has been adapted for the early care of premature babies and for the culture of microorganisms See R C Hartman and G S Vickers, *Hatchery Management* (1932)

incubus (ĭng'kyəbŭs), male demon supposed to haunt the sleep of mortal women and to be responsible for the birth of demons, WITCHES, and deformed children If the demon could not be exorcised his victim was likely to be burned at the stake The belief was especially prevalent in the Middle Ages The female counterpart of the incubus was the succubus

incunabula (ĭn"kyəbā'byələ), plural of **incunabulum** [Late Latin,=cradle (books), i e , books of the cradle days of printing], books printed in the 15th cent The known incunabula represent about 35,000 editions The books include products of such famous printers as Gutenberg, Jenson, Caxton, and Aldus Manutius and give evidence as to the development of typography in its formative period. Notable European collections of incunabula are in Paris, London (British Museum), Oxford (Bodleian Library), Vienna, Rome, Milan, Brussels, and The Hague Notable American collections are in Washington (Library of Congress), New York (Pierpont Morgan Library and others), Providence (John Carter Brown Library and Annmary Brown Memorial), and San Marino, Calif. (Henry E Huntington Library). For an introduc-

tion to incunabula and a guide to further study, see Margaret B Stillwell, *Incunabula and Americana 1450–1800* (1931)

Independence, 1 City (pop 4,342), co seat of Buchanan co, NE Iowa, on the Wapsipinicon river and E of Waterloo; founded 1847, inc 1864 A state hospital for the insane (1873) is here **2** City (pop 11,565), co seat of Montgomery co, SE Kansas, on the Verdigris near the Okla line, founded 1869, inc 1870 It is a refining center in an important oil-producing area It has a cement plant Near by is the site of Rebel Creek battle, where a detachment of Confederate soldiers was wiped out by Indians **3** Town (pop 1,498), SE La, ENE of Baton Rouge, in a strawberry and truck-farm area, inc 1903 **4** City (pop 16,066), co seat of Jackson co, W Mo, near Kansas City, settled 1825, inc 1849 Its manufactures include farm machinery and stoves and furnaces Especially in the 1830s and 1840s it was the starting point for expeditions over the SANTA FE TRAIL, the OREGON TRAIL, and the California Trail In 1831 a group of Mormons settled here The city is the headquarters of the Reorganized Church of Jesus Christ of Latter-Day Saints Independence is the home of President Truman **5** Village (pop 1,815), NE Ohio, near Cleveland **6** City (pop 1,372), NW Oregon, on the Willamette and SW of Salem, inc 1874 It is a hop-raising center **7** Village (pop 1,036), W Wis, on the Trempealeau and S of Eau Claire, settled 1856, inc 1876

Independence, American War of. see AMERICAN REVOLUTION

Independence, Declaration of see DECLARATION OF INDEPENDENCE

Independence Day see FOURTH OF JULY

Independence Hall, building in Philadelphia on Independence Square, housing the Liberty Bell and a small museum of historical and colonial objects It was the scene of the proclamation of the Declaration of Independence, July 4, 1776, and was the meeting place of the Continental Congress and the Constitutional Convention It is preserved as a national memorial

Independent Artists, Society of, New York city, organized in 1917 An annual exhibition is held, without jury or prizes, in which each artist is an independent exhibitor, the pictures being hung in alphabetic order John Sloan became its first president

Independents, in religion, a name given to those bodies of Christians who claim freedom from ecclesiastical and civil authority for their individual churches, holding that each congregation should have control of its own affairs In a historic sense, it is ordinarily applied to the churches in Great Britain now known as Congregational This type of congregation was first formed in the reign of Elizabeth, but the members were termed Brownists (see BROWNE, ROBERT) or SEPARATISTS before the name Independents came into use in the 17th cent There was little inclination toward combination or united action among the separate Independent congregations before the 19th cent See CONGREGATIONALISM

Independent Treasury System. The victory of President Andrew JACKSON in the struggle concerning the rechartering of the BANK OF THE UNITED STATES led to the transfer of the government funds from the bank to state banks (the "pet banks") The new arrangement, however, was not satisfactory, and its evils became quite apparent in the Panic of 1837, at least partially brought on by the Specie Circular and the transfer of Federal surplus to the states President Van Buren proposed that an independent treasury be set up which would be isolated from all banks The proposal, which grew largely out of a distrust of banks and bankers, was not a new one It met considerable opposition and failed to pass the House of Representatives in 1837 and again in the sessions of 1837–38 and 1838–39 In 1840 it was passed and finally approved by the President The first trial of the Independent Treasury did not long endure, for the Whigs, victorious in the national election, repealed the law establishing the system The intention of the Whigs was to establish a new central bank, but the objections of President John TYLER on constitutional grounds prevented the creation of another Bank of the United States The Democrats won the presidential election of 1844, and measures were inaugurated to restore the Independent Treasury The act of Aug 1846, ordered that the public revenues be retained in the Treasury building and in subtreasuries (see SUBTREASURY) in various cities The Treasury was to pay out its own funds and be completely independent of the banking and financial system of the nation Agitation for a central bank continued, and after a period of practically real independence, the Treasury was drawn into the regular channels of finance and itself took on more and more the aspect of a central bank. Actually the flow of specie (specie or government notes were the only accepted forms of payment to the government) into and out of the Treasury did not correspond with the normal movement of the money market, and the situation tended to create periods of stress There was a tendency for specie to accumulate in the Treasury to the detriment of business. It was also to the interest of the Treasury to stabilize unsteady banking conditions All went fairly well with the Treasury until 1861, when the vast expenditures brought on by the Civil War put a great strain on the Treasury The government calls on the banks to aid in financing helped to bring on the suspension of specie payments, and the Treasury itself was forced to suspend The proof of interdependence of Treasury and banks helped to bring on the acts of 1863 and 1864 that created the NATIONAL BANK Thus, the system now had definite regulation of the banks that acted as intermediaries The Treasury, however, was restored to its independence, and it was only gradually in the succeeding years that the Treasury was more and more enmeshed in the banking of the United States Its relative independence varied with the administrations, but the old theory of absolute independence was in practice abandoned by 1898 Secretary of the Treasury Shaw made many innovations and practically made of the Treasury a central bank The Panic of 1907 showed some of the weaknesses of the system and drove the Treasury into greater independence for a time But the Federal Reserve Act of 1913 may be taken as a point marking the true end of the Independent Treasury The act of 1920 merely reiterated the abolition of the old independence The relative merits of the central bank system, which prevails in most of the countries of Europe, and of the present Treasury system of the United States are still debated with much fervor See D R Dewey, *Financial History of the United States,* D W Dodwell, *Treasuries and Central Banks* (1934)

indeterminate sentence see PAROLE

Index, in the Roman Catholic Church, list of publications forbidden to be read, called *Index librorum prohibitorum* [list of forbidden books] This censorship is exercised by the Holy See Catholics are forbidden, as a natural part of ethics, to read anything they know may endanger their faith or moral life, the Index is a partial guide to such literature Since it is made up only from decisions referred for judgment on specific works, there is no consistency of inclusion, the failure of a book to appear in it implies nothing Books may be removed from the Index, and it has been recast in the 20th cent For good reason, as for literary study, Catholics may receive permission to read a prohibited book

index, of a book or periodical, a list, nearly always alphabetical, of the topics treated In a book this list is usually at the back, the table of contents being in the front The index seeks to direct the reader to every subject and every proper name about which any information is given in the book This subject, with the number of the page on which the information is to be found, is called the entry In an index to a periodical the entries are less specific, referring usually to an article as a whole, rather than to every subject touched upon in each article Indexing requires experience and skill, since it is necessary not only to grasp the meaning of the author, but to phrase it clearly and in such a way as to place it alphabetically where the reader is likely to look first Books written to give information are of little value unless properly indexed Indexes to books were made long before the invention of printing, in the 16th cent the term *index* began to be commonly applied to such a list, until the 17th cent the index was rarely alphabetical Indexes to periodicals are nearly as old as this form of literature In 1848 in the United States a general index to the most widely circulated periodicals of the time was issued by William Frederick POOLE *Poole's Index,* later compiled cooperatively, continued until 1907, when it was superseded by the *Readers' Guide to Periodical Literature* There are special indexes in various fields of knowledge, e g, of law, medicine, art, education, engineering, industrial arts, agriculture Newspaper indexes include that to the London *Times* (from 1906) and to the New York *Times* (from 1913) In England the *Subject-Index to Periodicals* has been issued since 1915 The CATALOGUE of the books in a library is sometimes known as an index Business offices often have card indexes to their correspondence files For a history of the subject, see Henry Wheatley, *How to Make an Index* (1902) See also M T Wheeler, *Indexing* (New York State Library, Bul 50), H A Friedman, *Newspaper Indexing* (1942)

index, cephalic see CEPHALIC INDEX

index number, a figure showing a change in price or quantity in ratio to a number taken as a norm, or base, often expressed in percentage For example, if the standard price of apples is taken as $1 a bushel, $1 20 a bushel would be expressed by an index number of 120, or 120 percent Index numbers are used, for example, in comparisons of the general price level, business activity, employment, and cost of living The index of wages divided by the index of cost of living for wage earners is the index of wage purchasing power, or real wages See Irving Fisher, *The Making of Index Numbers* (3d ed., 1927); A J. H. Morrell, *Introduction to Index Numbers* (1948); M J Ulmer, *Economic Theory of Cost of Living Index Numbers* (1949)

India, subcontinent (1,581,410 sq mi, pop 388,997,995), S central Asia, comprising the dominion of Pakistan and the Union of India This article is a brief account of the geography, economy, and history of India For other aspects, see HINDU MUSIC, INDIAN ART AND ARCHITECTURE, INDIAN LITERATURE, MOSLEM ART AND ARCHITECTURE, PALI LITERATURE, PRAKRIT LITERATURE, SANSKRIT LITERATURE About half the area of India is a peninsula with a coast c.3,500 mi long, which fronts on the Arabian Sea in the west and on the Bay of Bengal in the east. The Indian subcontinent is elsewhere bounded on the west by Iran, Afghanistan, the USSR, and China, on the north by Tibet, Nepal, and China, and on the east by Burma It originated as a land mass raised out of the sea. The area is appropriately designated a subcontinent since it is largely shut off from the rest of Asia by the lofty mountain wall of the Himalayas Stretching in a broad band S of the Himalayas are the valleys and plains of the Indus and Ganges rivers, which have much of India's arable land Further south lies the low plateau, flanked on either side by the Eastern Ghats and the Western Ghats (see GHATS), this plateau occupies most of peninsular India Although the northern half of India is in the temperate zone, the temperature is almost uniformly tropical except, of course, where affected by high altitudes India's rainfall, which depends upon the monsoon, is variable, it is heavy in Bengal and along the southern coasts, moderate in the inland peninsular regions, and scanty in the arid northwest (including the Indian Desert), especially in Sind, Rajputana, and Punjab Probably the most extensive irrigation system in the world uses the waters of the Ganges, the Indus, the Brahmaputra, and other mighty rivers to supplement the rainfall Agriculture supports about 80 percent of the people Rice is grown wherever the land is level and water is plentiful, other grains are millet, wheat, and barley Cotton and jute are the principal non-food crops If agriculture were modernized, the needs of the dense population might be met, but backward practices, such as the farming of narrow strips of land instead of large fields, make it impossible for India to accumulate a food surplus and constantly threaten famine India has perhaps more cattle per capita than any country in the world, but inferior stock-raising techniques and Hindu religious scruples opposed to the eating of beef detract greatly from their economic value Goats, sheep, and camels are raised by nomadic or seminomadic peoples in the dry grazing areas India lacks most minerals, except coal, iron, manganese, and mica, these are largely concentrated in the northeast The small stock of precious metals and gems belies the traditional Western picture of a land of fabulous wealth The handicrafts, especially in delicate fabrics, for which India was famed (many of the names are derived from Indian places) have been almost displaced by manufactures, mostly imported, though there is a growing textile industry in India Large-scale industry, which employs only about one percent of the population, is concentrated in a few cities, Jamshedpur manufactures iron and steel, Bombay cotton textiles, and Calcutta jute products, including burlap and rope Transportation facilities are insufficient for a modern economy, but if the c 40,000 mi of railroads were converted to a uniform gauge and a roadnet were constructed, the deficiency might be overcome India's external communications depend upon a few great ports on the relatively unindented coast, notably Bombay and Karachi in the east and Madras and Calcutta in the west Raw materials and textiles are exported in exchange for finished goods and machinery, but the imports are too limited to overcome India's desperate poverty or to change its rural character Nearly 85 percent of the people live in villages of less than 5,000 population, where the ancient social order, which is disappearing in the cities, still persists There the family is patriarchal, frequently several generations live beneath one roof, and farmers and artisans make up virtually self-sustaining communities The caste system, which to some extent equates economic and social status, continues in force despite official discountenance In religious observances—usually Hindu, Sikh, or Moslem—the villagers find their main relief from a poverty-stricken life of toil It is in the holy cities, notably Puri, Allahabad, and Benares, that the greatest efflorescence of religious life is found India's c 25,000,000 aborigines who practice various types of ANIMISM, are outside the main religious traditions Christianity with c 6,000,000 adherents, mostly among the untouchables (see CASTE) and persons of mixed British and Indian blood (Anglo-Indians) is rarely found outside the large cities and towns India's diversity in religion, though powerful in effect, is less marked than that in language Bengali, Bihari, E and W Hindi, Panjabi, Tamil, Telegu, Marathi, and Hindustani and Urdu are the most widely spoken of some 200 languages The variety compels Pakistan and the Union of India to retain English as an official language and as the

usual medium of instruction in colleges and universities. The spread of higher education has created a larger professional class than India's economy can absorb, but there is so little primary instruction that only some 12 percent of the people are literate. The Union of India—officially also known by the ancient name Bharat—is a sovereign republic (1,246,880 sq mi, 1948 estimated pop 337,110,000) of the British Commonwealth of Nations. New Delhi is the capital. It occupies most of the Indian subcontinent, including all except a small section of the Indian peninsula. The Union is bounded on the west by West Pakistan, on the north by the USSR, China, Tibet, and Nepal, and on the east by Burma. East Pakistan is an enclave in the northeast section of the Union, within the territory of the Union are also the Portuguese possessions of Goa, Diu, and Daman. Many of the internal political boundaries were drastically altered from 1947 to 1949 when most of the states ruled by native princes either amalgamated into unions or joined existing provinces. The constitution which went into force in 1950 provides that regardless of their former nature all units of the Union are to be termed states. Those states which correspond more or less with former provinces directly under British rule are Ajmer, Assam, Bihar, Bombay, Coorg, Delhi, Kutch, Madhya Pradesh (formerly called Central Provs and Berar), Madras, Orissa, Punjab, United Provs (also called Uttar Pradesh), West Bengal, and the Andaman and Nicobar Islands. Bhopal, Bilaspur, Cooch-Behar, Hyderabad, Manipur, Mysore, and Tripura are former native states which have kept their identity. The states formed by the merger of former princely states are Himachal Pradesh, Madhya Bharat, Patiala and East Punjab States Union, Rajasthan, Saurashtra, Travancore-Cochin, and Vindhya Pradesh. Kashmir, at the beginning of 1950 part of India, may later be joined to Pakistan. Sikkim and Bhutan are semi-independent countries under the protection of the Union. The constitution establishes a federal republic. A president, chosen by an electoral college, heads the government. There is a bicameral Parliament, the House of the People is elected by all citizens over 21 years of age, while the Council of State is chosen by the state governments. The Parliament is directed to enact legislation providing for compulsory education, equitable distribution of wealth, and social security. Freedom of religion and expression are guaranteed, and untouchability is prohibited.

From Mohenjo-Daro to the Fall of the Mogul Empire. There are remains of an extremely ancient paleolithic culture in SW India. There were, however, probably no established societies before the Indus valley civilization (fl 3d millenium B C), which is best represented by the ruins of MOHENJO-DARO. The language of this city-dwelling people has not been deciphered, and while their precise origin is uncertain, they, like the founders of other civilizations in India, were not indigenous, but were the earliest known of a long succession of immigrants. Next came the Aryans, who first entered India in the 2d millenium B C through the mountain passes of the northwest, probably from S central Asia. Their literary remains comprise the VEDAS, collections of Sanskrit hymns and religious injunctions. Though from them the gradual advance of the Aryans across N India cannot be traced, the Vedas do provide a picture of the society. In the small tribes, ruled by a king with the assistance of a council, men and women enjoyed equal status. Caste, as a device for segregating the different functions of society—worship, warfare, crafts, and agriculture—and as a means of repressing the conquered aboriginal peoples, was evolving, but caste rank was not yet inherited. A pantheon of nature deities was early worshiped, but c 1000 B C Brahmanism, a formalistic cult, supervened. It made society rather rigid, and the longing for a nonritualistic religion with the emphasis on personal salvation was partly met by JAINISM and BUDDHISM (established 6th/cent B.C.) HINDUISM, a later development of Brahmanism, was at first the religion of the early MAURYA empire (325–184 B C), founded by SANDRACOTTUS (Chandragupta) after Alexander the Great's short-lived conquest of NW India (326 B C), but Sandracottus' grandson ASOKA (ruled c 255–c 237 B.C.), who for the first time brought nearly all India under one sway, established Buddhism as the state religion. During the 500 years of disorder and invasions which followed the collapse of the Maurya state a synthesis of Buddhist and Hindu elements into approximately the modern form of Hinduism was accomplished and Indian Buddhism almost lost its identity. Caste became extremely rigid, and women, subject to infant betrothal and forbidden to remarry after widowhood, endured a very low status. At this time S India enjoyed greater prosperity than the north despite almost incessant warfare, among other Tamil-speaking kingdoms of the south which enjoyed an overseas trade with the Roman Empire was the CHOLA. The Gupta dynasty (A.D. 320?–544?) of the north attempted to duplicate Asoka's feat of uniting nearly all India, but, unlike him, it could not penetrate below the Vindhia mts., the traditional dividing line between N and S India. During the GUPTA dynasty and the later reign of HARSHA (606–647) Hindu culture enjoyed its golden age. The respite of N India from violence was broken by the emergence of the RAJPUTS, who organized numerous warring kingdoms and whose disunity was a major factor in the Moslem conquest of India. Arabs had occupied Sind in the early 8th cent., but it was not until the 11th cent. that Moslems gained ascendancy throughout N India. The raids of MAHMUD OF GHAZNI from Afghanistan prepared the way for the battle of Terain (1192), in which Kuth-ud-din Aibak, the general of Sultan Mohammed Ghori, defeated the Rajput force. He occupied the entire Indo-Gangetic plain and in 1206 established the DELHI SULTANATE, which during the next century reduced to vassalage nearly all the Hindu states of India except Kashmir and those in the extreme south. The task of ruling such a vast territory proved impossible, and revolts (notably that of the VIJAYANAGAR kingdom in the south) and the capture (1398) of the city of Delhi by Tamerlane brought the sultanate to an end. The Moslem kingdoms of the north which succeeded it were swept away by the last great Moslem invader from Afghanistan, BABER, a remote descendant of Tamerlane, and the founder of the Mogul empire, which at its height, controlled most of India. Islam did not, however, supplant Hinduism permanently except in relatively small areas, and the two religious communities continued to exist, dividing India. Only a few years before Baber's triumph, Vasco da Gama's landing at Calicut (1498) and the Portuguese conquest of Goa (1510) presaged the conquest by European might which India was to endure. The splendor and wealth of the Mogul empire (to it belongs much of India's greatest architecture including the TAJ MAHAL) attracted British, Dutch, and French competition for the trade which Portugal had at first monopolized. The British East India Company, which established trading stations at Surat (1612), Bombay (1661), and Calcutta (1690) soon became dominant and with its command of the sea drove off Portugal and Holland. While the Mogul empire remained strong, only peaceful trade relations with it were sought, but in the 18th cent., when incessant revolts of Hindu elements, especially the Rajputs and the Mahrattas, were tearing the empire apart, Great Britain and France seized the opportunity to carve out colonial domains. India from 1746 to 1763 was a battleground for the forces of the two powers, each attaching to itself as many native rulers as possible in the struggle. The brilliant victories of Robert CLIVE, the British commander, over DUPLEIX and Lally ended all European threats to the power of the British company.

India under British Rule. Clive's defeat of the Nawab of Bengal at Plassey in 1757 traditionally marks the beginning of the British Empire in India (recognized in the Treaty of Paris of 1763). Warren HASTINGS, Clive's successor and the first governor general of the company's domains to be appointed by Parliament, did much to consolidate Clive's conquests. By 1805 the British had direct rule over extensive territories, including Bengal and Madras, and had reduced to vassalage its most powerful native enemies, the state of Mysore, led by HYDER ALI and TIPPOO SAHIB) and the MAHRATTAS. Only Rajputana, Sind, and Punjab (the Sikh territory) remained completely independent. Great Britain regarded India as an agricultural reservoir and a market for British goods, which were admitted duty free. Indian manufactures, however, were barred from England by high tariffs, and the national handicrafts, particularly textile weaving, were destroyed, throwing artisans upon the support of the already overcrowded soil. The government proceeded with its conquests, taking Sind in 1843 and Punjab in 1849. Several important native rulers, fearing this aggrandizing policy, especially as applied by Governor General DALHOUSIE, gave their support to the bloody SEPOY REBELLION of 1857. It was soon repressed, and Great Britain, determined to prevent a recurrence, initiated long-needed reforms. The East India Company was abolished, and the crown ruled directly through a viceroy. British investments in India were heavy and continued to place upon India some of the burdens of absenteeism and to encourage strong British control. The British army in India offered a career for many British officers. The common soldiers were drawn more and more from among the Indians and were used across the world in the struggles of the British Empire. Sikhs and Gurkhas were world known as British soldiers. The domains of the native rulers were guaranteed if they would recognize the British as paramount. The power of Britain was symbolized when Victoria was crowned empress of India in 1877. In 1861 the first step had been taken towards self-government with the appointment of Indian councilors to advise the viceroy and the provincial governors on legislation. Some Indians educated in the newly opened government universities envisaged dominion status for their country and organized the INDIAN NATIONAL CONGRESS in 1885. Popular nationalist sentiment was perhaps most strongly aroused when Viceroy CURZON partitioned (1905) Bengal into two presidencies without consulting the population concerned. However, a few years later an additional British concession was made when elected members were provided for the viceroy's legislative council. Separate Moslem and Hindu electorates, used here for the first time, were to be a major factor in driving a wedge between the two communities. During the First World War all elements in India were firmly united behind the government, chiefly in the hope that loyalty would be rewarded with a greater measure of liberty. GANDHI, the leader of the Congress, felt that too little had been granted by the Government of India Act of 1919, which, although it transferred some control in the provinces to elected officials, retained great powers in the appointed governors. He organized (1919) the first of many passive-resistance campaigns and suffered imprisonment with other nationalist leaders. Imperial round-table conferences concerning India were held in 1930, 1931, and 1932, but no important change was made until the Government of India Act of 1935 established provincial legislatures. In the first elections (1937) held under the act, the Congress, led by Jawaharlal NEHRU, won majorities in 7 of the 11 provinces. The desire of the Congress for united opposition to Great Britain was balked by the MOSLEM LEAGUE and its leader Mahomed Ali JINNAH, who demanded the creation of PAKISTAN, a separate Moslem state. The Second World War found India by no means unified behind Great Britain. There was even an "Indian national army" of anti-British extremists, led by Subhas BOSE, which fought on the Japanese side. To procure India's wholehearted support, Sir Stafford Cripps on behalf of the British cabinet in 1942 offered an Indian interim government, in which Great Britain would maintain control only over defense and foreign policy, to be followed by full dominion status after the war. The Congress adamantly demanded that the British free India at once and, when the demand was refused, initiated civil disobedience. Great Britain's response was to outlaw the organization and jail its leaders. Jinnah, who offered to support the war, gained immense strength. After the release of the Congress leaders in June, 1945, he refused to modify his demands.

Stresses and Strains following India's Freedom. The British Labour government of Prime Minister Attlee in 1946 offered liberty to India on any terms desired, but it warned that if no agreement was reached by the Congress and the Moslem League, Great Britain on withdrawing in June, 1948, would have to determine which group was entitled to power. Reluctantly the Congress agreed to Pakistan and in Aug., 1947, the portions of India formerly under direct British control were divided into the dominions of India and Pakistan. The princely states were nominally free to determine their own status, but actually they were unable to remain outside the dominions. Nehru was made prime minister of India and Jinnah governor general of Pakistan. The flight of those Hindu and Moslem groups which suddenly found themselves in hostile territory was accompanied by horrible atrocities as communal passions exceeded all bounds. The hostility between the two dominions was aggravated when small-scale warfare broke out over their conflicting claims to jurisdiction over the princely states of HYDERABAD and KASHMIR. Permanent arrangements in matters which concern the two countries, such as cooperation in the use of industrial plants and in management of irrigation projects, await the establishment of more cordial relations. See *The Cambridge Shorter History of India* (1934), *Revealing India's Past* (ed by Sir John Cumming, 1943), L. D. Stamp, *New Geography of India, Burma, and Ceylon* (1940), Krishnalal Shridharani, *My India, My America* (1941), R. N. Dubey, *Economic Geography of India* (5th ed., 1945), Dwarkanath Ghosh, *Pressure of Population and Economic Efficiency in India* (1946), Robert A. Smith, *Divided India* (1947); Jawaharlal Nehru, *Discovery of India* (2d ed., 1947), R. C. Majumdu et al., *An Advanced History of India* (2d ed., 1948), T. G. P. Spear, *India, Pakistan, and the West* (1949).

Indian, American: see INDIANS, AMERICAN.

Indiana, state (36,291 sq mi, 1940 pop 3,427,796, 1949 estimated pop. 3,994,000), N central United States, in the Middle West, admitted 1819 as the 19th state (a free state). The capital and largest city is INDIANAPOLIS, in the central part of the state. Indiana is bounded on the north by Michigan and Lake Michigan, on the east by Ohio, on the south by the Ohio river (which separates it from Kentucky), and on the west by Illinois. The Wabash, a river much loved by the Hoosiers (as Indianians are called for some unknown reason), divides the northern Great Lakes region, which is a glaciated lake area, from the central agricultural plain, rich with deep, glacial drift. The southern portion is a succession of bottomlands interspersed with knolls and ridges, gorges and valleys. Here are found limestone caves, such as big WYANDOTTE CAVE, and mineral springs, as at FRENCH LICK and

West Baden. The unglaciated soil is shallow, and cutting of timber has caused erosion, but there is some farming In fact more than 80 percent of Indiana land is used for agriculture The continental climate has extremes, with arctic air masses sweeping down from the northwest to plunge the temperature down in midwinter and southwestern winds blowing hot from the scorching plains in midsummer, spring frequently has torrential rains and floods Nevertheless, the growing season is about 170 days, the rainfall averages 40 in a year, and Indiana farms yield richly Grain crops—corn and wheat predominating—are important in themselves and also support the livestock and dairying industries Vegetables and fruits are produced in great quantity and variety for the city and out-of-state markets Meat packing is chief among the many industries related to agriculture Although the urban population exceeds the rural, many towns are primarily service centers for agricultural communities There are, however, large cities with varied and heavy industries, besides Indianapolis, Evansville, Fort Wayne, South Bend, and Terre Haute are prominent, and around the Calumet river near Chicago, the last 50 years have seen wastelands change to a forest of mills, factories, and refineries Indiana's chief manufactured products are steel and steel products, motor vehicles and parts, and electrical machinery The mineral wealth of coal and stone forwarded construction and industry, and potential wealth is to be seen in oil and hydroelectric power Over the whole state transportation keeps the produce of farm and factory moving freely River traffic on the Wabash and the Ohio recalls memories of flatboat and steamboat days, but more important are the trucking on the many straight highways and the trains speeding over the complex net of railroads The busy industries and activities are still young Though men came to Indiana early, and there are remains of the Mound Builders along the rivers and in the bottomlands, they did little to change the land, nor did the Indians who were occupying the land when the French, including La Salle, explored the rivers and established settlements in the late 17th and 18th cent Vincennes, founded in 1735, was the first permanent settlement in present Indiana, but in the period of the French and Indian War, when the Ohio country was being sharply contested, there was only a thin spread of French trade over Indiana It went with the rest of the Old Northwest to the British in the Treaty of Paris of 1763, suffered in Pontiac's conspiracy, and was united with Canada under the Quebec Act of 1774 (see Intolerable Acts) The most important Western event in the American Revolution was the capture and recapture of Vincennes by the expedition led by George Rogers Clark The region was ridden by Indian warfare The control by Virginia brought in some Southern settlers, later reinforced, but it was still largely unsettled when it was part of the Northwest Territory The victory of "Mad Anthony" Wayne at Fallen Timbers in 1794 began the process of subduing the Indians of the Old Northwest This process continued through the indecisive battle of Tippecanoe (1811) in the Wabash country which gave great glory to William Henry Harrison—perhaps the chief single figure in the early development of Indiana The War of 1812 practically brought dispossession of the Indians, and the stream of immigration swelled, with all sorts and conditions of settlers coming in Indiana Territory had been created in 1800 The capital was moved to Corydon in 1813, and in 1816 a constitutional convention met Jonathan Jennings, an antislavery man, was elected governor, and statehood was achieved in 1819. Indianapolis was laid out as the state capital, and the executive moved there in 1824–25. Though enormous internal-improvement scheme in 1836, intended to supply canals and railroads for the young state, came to grief in the Panic of 1837, and the state was deep in debt, gradually the base was laid for the thriving rural civilization that is the traditional Hoosier pattern and has as its chief virtues simplicity and forthrightness of character This idyllic and well-founded conception has been woven into one strand of Indiana writing and thought, pictured by Edward Eggleston in *The Hoosier Schoolmaster* and represented in much later days by James Whitcomb Riley, George Ade, Gene Stratton Porter, and epitomised, perhaps, in Paul Dresser's nostalgic lyric for the song, "On the Banks of the Wabash" The Civil War brought great changes Indiana voted for Lincoln in the 1860 election, and the Civil War governor, Oliver P. Morton, held the state unswervingly to the Union cause, though the Southern heritage of some communities caused trouble, the Knights of the Golden Circle were active, and John Hunt Morgan led a spectacular raid into Indiana in 1863 After the war, Indiana began the rapid development of manufacturing, stimulated first by the war needs Factories sprang up, and the old rustic pattern was broken. The farmers felt themselves pinched by the new developments and in the bad times turned their wrath against the railroads, the corporations, and the Eastern financiers They expressed their sentiments in the Granger movement, the Greenback party, and finally in the Populist party As the 19th cent drew to a close the increasing laboring class joined its complaints with those of the debt-ridden farmers and soon emerged with a voice of its own Eugene V Debs, one of the great radical labor leaders, was an Indianian, and the labor movement continued to grow, in the nation-wide steel strike just after the First World War the struggle at Gary, one of the cities of the Calumet, was particularly notable Like the other states of the Union, Indiana has felt the stresses and strains of modern and industrial living The social study by Robert and Helen M Lynd of a United States manufacturing town, *Middletown*, was based on Muncie, Ind , and such later writers as Booth Tarkington and Theodore Dreiser wrote of social unease In the 1920s the conflicts were shown in another aspect when D C Stephenson ("I am the Law") exploited religious and racial intolerance through the Ku Klux Klan The persistence of the old Indiana ideals of neighborly good will and initiative has been shown recently, however, in the careers of such men as Wendell Willkie and Ernie Pyle Indiana care for education has been long manifest Robert Dale Owen, son of the English reformer Robert Owen (who founded an idealistic community at New Harmony), promoted tax support of public schools, which was incorporated into the constitution of 1851 The schools of Gary under Dr William Wirt, pioneered in the Gary Plan of education Among the higher institutions of learning are several founded by religious groups, among them DePauw Univ and the Univ of Notre Dame, notable state-supported colleges are Indiana Univ and Purdue Univ See George S Cottman and Max R Hyman, *Centennial History and Handbook of Indiana* (1915), Jacob Piatt Dunn, *Indiana and Indianans* (5 vols , 1919), Stephen Sargent Visher, *Economic Geography of Indiana* (1923), Logan Esarey, *A History of Indiana to 1850* (2 vols , 3d ed , 1924), George W Starr, *Industrial Development of Indiana* (1937), Federal Writers' Project, *Indiana, A Guide to the Hoosier State* (1941), William E Wilson, *The Wabash* (1944), Pressly Spinks Sikes, *Indiana, State and Local Government* (revised 1946), and John Barlow Martin, *Indiana, an Interpretation* (1947)

Indiana, industrial borough (pop 10,050), co seat of Indiana co , W Pa , c 45 mi NE of Pittsburgh, settled c 1772, laid out 1805, inc 1816 It is the principal supply and trading center for a bituminous-coal-mining area in the Alleghenies and has rubber and hosiery factories It is the seat of a state teachers college

Indian Affairs, Bureau of, created (1824) in the U S War Dept and transferred (1849) by act of Congress to the U S Dept of the Interior The War Dept managed Indian affairs after 1789, but the separate bureau was not set up for many years It had jurisdiction over trade with the Indians, their removal to the West, their protection from exploitation, and their concentration on reservations Because of wide dissatisfaction in the West over army administration of Indian affairs, the Indian service was given to the Dept of the Interior and reorganized The new bureau was no more successful than its predecessor in preventing Indian wars or in eliminating corrupting influences upon the Indians The Bureau of Indian Affairs instead developed primarily into a land-administering agency, a process speeded up by the Dawes Act of 1887, the Burke Act of 1906, and the Wheeler-Howard Act of 1934. The bureau today also provides agricultural and industrial guidance, a general health program, social services, educational facilities, and reclamation projects for Indians in the United States and Alaska The Bureau of Indian Affairs has also been officially called the Office of Indian Affairs and the Indian Service

Indiana Harbor, Ind see East Chicago

Indianapolis (ĭn"dēună'pulĭs), city (pop 386,972), state capital, and co seat of Marion co , central Ind , on the White River and 184 mi SE of Chicago; settled 1819, laid out 1821, inc 1847 A port of entry, it is a center for banking, transportation, and farm trade The city has manufactures of construction materials, metal products, pharmaceuticals, trucks, trolleys, railroad equipment, and paint and meat-packing plants It is the seat of Butler University, units of Indiana Univ , John Herron Art Institute, a Carmelite monastery, a school for the deaf, a correctional school for girls, and a women's prison The city has a symphony orchestra and a state library with historical collections The American Legion has its national headquarters here in a building erected as a war memorial Motor races are held yearly on the speedway near the city. Indianapolis was made the state capital in 1825 Home and burial place of James Whitcomb Riley, it has a memorial hospital founded in his honor Lincoln's body lay in state here in 1865.

Indian art and architecture is essentially decorative and rhythmic and, in relation to religion, often highly symbolic. Architecture in its unknown beginnings was of wood construction. The historical period began c.250 B C with the Buddhist lats (stone edict pillars); the stupa (memorial mound, also called tope) and relic shrines (or dagobas, supposedly the origin of the pagoda), and rock-hewn cave viharas (monasteries) and chaityas (temples of basilican form) Roofs are supported by columns with bell-shaped capitals showing Persian influence, while other details indicate Greek derivation Crude figures and animal sculptures abound in interior decoration The Karli temple (100 B C) has an elaborately sculptured façade, a vestibule, a tunnel-vaulted nave with aisles formed by massive columns with elephant capitals, and an apse with a shrine for Buddha The monasteries, as at Ajanta, Bagh, and Ellora, have square or oblong halls surrounded on three sides with small sleeping cells for the monks Symbolic sculptures form decorations with bold effect Paintings in the monasteries were mainly frescoes, which exerted a considerable influence on later art Figure paintings as well as landscapes in the typical vertical-projection style with their feeling for delicacy and detail form a major part of the temple and monastery decorations It was with the overlapping Jain and Hindu styles that profuse, all-over banded ornamentation became the most marked permanent characteristic of Indian architecture Jain work (100 B C A D 1300) flourished as Buddhism waned (from the 3d cent), resulting in impressive structures of cathedral dimensions and many pointed domes, corbeled in level courses, supported on columns with ornate bracket capitals and struts Well-known examples are the temples at Sadree and in Rajputana The three phases of the Hindu style (northern, 600 to present, central, 1000–1300, and southern, or Dravidian, 1350–1750) are varying local expressions, which borrowed much from the Jains The pyramidal roof and excessive richness are pronounced features The gateways (gopuras) are magnificent in conception and size, and the buildings contain choultries, or ceremonial halls, of a thousand columns, not more than two alike, all highly ornate Here the temple dancers perform and sing The temple at Tanjore shows the perfected Hindu development The sprelike Hindu domes, curved on straight-sided cones, are usually terminated with a delicate finial The Indo-Moslem style in brick and stone greatly simplified the Hindu type of architecture, eliminating the human figure in conformance with Moslem ideals In addition to the dome this style displays the characteristic arch and minaret which lend such grace and beauty to the Taj Mahal and the Pearl Mosque of Agra and to other notable examples at Delhi and Lahore The ghats, or river landings, are among modern developments in N India While sculpture was throughout more important and more frequent than painting, panel pictures did appear Modern painting is narrative or symbolic, always significant in design, and peculiarly a group rather than an individual manifestation The decorative arts have been carried to perfection, the custom of having sons practice the family craft results in highly skilled artisans in jewelry, enamels, pottery, ironwork, damascening, casting metal images, and arms and armor Examples of these are in many museums, including the Victoria and Albert Museum, the British Museum, and the Metropolitan Museum See E B Havell, *Handbook of Indian Art* (1920), K de B Codrington, *Ancient India from Earliest Times to the Guptas* (1926), A K Coomaraswamy, *History of Indian and Indonesian Art* (1927), Percy Brown, *Indian Architecture* (1943); Sir R. O Winstedt, ed , *Indian Art* (1948)

Indiana University, mainly at Bloomington, state supported, coeducational chartered as a seminary 1820, opened 1824 It became a college in 1828 and a university in 1838 It has a college of arts and sciences (with journalism and an institute of criminal law and criminology), schools of business, education, law, music, and health, physical education, and recreation, and, at Indianapolis, schools of dentistry and medicine (with a nursing school) and also a social-work training course David Starr Jordan was a noted president See J A Woodburn, *History of Indiana University* (Vol. I, 1940)

Indian bread see tuckahoe

Indian breadroot see breadroot

Indian corn see corn

Indian Head, town (pop 1,354), S Sask , E of Regina In a wheat-growing region, it has flour mills and grain elevators A dominion experimental and forestry farm is here

Indian Head, town (pop 1,104), SW Md , on the Potomac and S of Washington, D C , inc 1920 A naval ordnance proving ground (1892) and a plant for manufacturing powder are here

Indian literature Oral literature in the vernacular languages of India is of great antiquity, but it was not until about the 16th cent that an extensive written literature appeared Chief factors in this development were hostility of the Moslem conquerors of much of India to Hindu scholars (who wrote in Sanskrit) and the emergence of Hindu pietistic movements which sought to reach the people. Material from the great Sanskrit classics—

notably the *Mahabharata* and the *Ramayana*—was transformed into artless versified homilies Classical Persian poetry was the fountainhead of a later growth in the Urdu literature produced for the Mogul court, and elaborate Urdu verse on set themes was produced in abundance In the early 19th cent., with the establishment of vernacular schools and the importation of printing presses, a great impetus was given to popular prose, with Bengali writers perhaps taking the lead Foreign, particularly English, literature was eagerly studied and to some extent assimilated to classical Indian modes and themes Today there is a written literature in all the important languages of India and Pakistan as well as a large literature in English intended to reach all the university-educated public regardless of native language Among the best-known authors of the late 19th and early 20th cent are Rabindranath Tagore, winner of the 1913 Nobel Prize in Literature, and the poet Iqbal, who first wrote in Urdu and later in Persian Later writers include Mohandas Gandhi and Jawaharlal Nehru in the field of politics, R K Naravan and Sudhin N Ghose in the novel, and Mme Sarojini Naidu in poetry See SANSKRIT LITERATURE, PALI LITERATURE, PRAKRIT LITERATURE

Indian mallow see VELVETWEED.

Indian millet: see PEARL MILLET

Indian music. The first systematic study of North American Indian music was made by Theodore Baker in 1882 Alice C FLETCHER was one of the first to point out that Indian melodies were composed of fixed intervals and could be repeated exactly Her work was followed by the scientific research of J W FEWKES, and his recordings of Indian melodies were analyzed by B I Gilman In 1907 Frances Densmore began systematic study of the music of numerous tribes under the auspices of the Bureau of American Ethnology of the Smithsonian Institution, which published many volumes of her studies Others of importance in the study of Indian music are Natalie Curtis BURLIN and Frederick Russell BURTON Indian music is primarily a vocal art, usually choral, although some tribes favor solo singing Women have very little part in it Since there is no notation and no theory, the requirements for a good musician are a voice that will carry, facility in learning songs, and the ability to retain a large repertoire Indian music is entirely melodic, there is no harmony and no polyphony, although there is occasional antiphonal singing between soloist and chorus Not only is there no conception of absolute pitch, but intonation is uncertain This uncertainty is the result of the Indian's peculiar method of voice production, involving muscular tension in the vocal apparatus and making possible frequent strong accents and glissandos While there is little purely instrumental music, singing is nearly always accompanied at least by drums Drums and rattles are the chief percussion instruments and are of various types Wind instruments are mainly flutes and whistles For the Indian, song is the chief means of communicating with the supernatural powers, and music is seldom performed for its own sake, definite results, such as the bringing of rain, success in battle, or the curing of the sick, are expected from music There are three classes of songs—traditional songs which are handed down from generation to generation, ceremonial and medicine songs, which belonged to men now dead and which can be sung only by those who heard the owners of the songs sing them, and modern songs, which show the influence of European musical culture Songs of the second group were supposed to have been received by their owners in dreams Certain powers were ascribed to these dream songs, which were accompanied by rituals and were usually associated with some bird or animal supposed to have been the giver of the song No one but the owner of the song might sing it unless he should sell the song, in which case he shared its power Songs sold were usually medicine songs, and with them went prescriptions for whatever ills were involved Another type of song owned by an individual is a song sung in honor of a hero Songs of this type are often old songs, adapted to the occasion with the insertion of the new hero's name The love songs often associated with Indian music belong to the songs showing the influence of the white man and are regarded as degenerate by many of the older Indians Indian melody is, in general, of a descending nature Frances Densmore, in analyzing over 800 songs, found that 67 percent began with a descending melodic figure and that in 87 percent the last tone is the lowest of the whole melody In many there is a feeling of key, and it has been found that the Indian can sing the larger intervals of the European scale accurately The meter of Indian music is irregular. See Frances Densmore, *The American Indians and Their Music* (rev ed , 1936)

Indian Mutiny: see SEPOY REBELLION

Indian National Congress, political organization of India, founded in 1885 Its original members were educated men who wanted to make India a British dominion by constitutional means A faction, dissatisfied with slow progress, vainly urged (1907) the Congress to strive in all ways for *Swaraj* [complete independence]. A split resulted which was temporarily healed in 1916 when the Congress voted to support Great Britain in the First World War, but in 1917 the militants, led by GANDHI, forced the moderates to resign The militant policy was first used on a large scale in the *Satyagraha* [passive resistance] campaign (1919) against legislation which restricted the press and political activities On this and later occasions the Congress leaders were imprisoned Claiming to represent all Indians and not, as charged, only caste Hindus, the Congress opposed organizations limited to one community and urged unity in the struggle for *Swaraj* and against untouchability (see CASTE) On other matters the Congress itself was divided into a right wing, which favored cautious social reforms, and a left wing, with Jawaharlal Nehru, as one of the leaders, which was Socialist or Communist in orientation The Congress's dramatic, though ineffectual, declaration of Indian independence on Jan 26, 1930, was followed by a vigorous *Satyagraha* campaign which paralyzed much of India The great strength of the organization was also shown by victories in 7 of the 11 provincial elections of 1937 At the outbreak of the Second World War, it protested India's being declared a belligerent when the elected governments had not been consulted and instructed its ministries to resign Maintaining its intransigent stand even when India was under Japanese attack, the Congress threatened (1942) refusal of cooperation with Great Britain unless a democratic central government was established immediately The British responded by outlawing the organization and arresting its leaders It reorganized in 1945 and promptly expelled the Communist faction, which had supported the war In the 1946 elections to the Indian constituent assembly, the Congress won the Hindu vote, but it lost the Moslem vote and reluctantly agreed to the formation of Pakistan After the partition of the Indian subcontinent, the Congress, as the largest party, began (1947) to govern the Union of India under Nehru's leadership See Frederick M De Mello, *Indian National Congress* (1934), H N Das Gupta, *Indian National Congress*, Vol I (1946)

Indian nut see PINE NUT

Indian Ocean, third largest OCEAN of the world, extending from India to Antarctica and from E Africa to Tasmania It stretches c 4,000 mi along the equator and c 6,000 from north to south The greatest known depth, c 24,000 ft , is near Java The Bay of Bengal and the Arabian Sea, lying E and W of India respectively, are the largest of its arms The largest islands of the Indian Ocean are Madagascar and Ceylon Groups of small islands include the Seychelles, the Chagos, and the Maldives The monsoon, the great seasonal winds of the Indian Ocean, bring rain to SE Asia Only the northern part, which is connected with the Mediterranean Sea through the Red Sea and the Suez Canal, is important for shipping

Indianola (ĭn"dēănō'lu) **1** City (pop 4,123), co seat (since 1849) of Warren co , S Iowa, S of Des Moines, inc 1863 It is the seat of Simpson College (Methodist, coeducational, 1860) Near by is Ahquabi State Park **2** City (pop 3,604), co seat of Sunflower co , W Miss , between Greenville and Greenwood and near the Sunflower river, in a cotton area, settled in the mid-19th cent , inc 1886 **3** Vanished town, S Texas, on Matagorda Bay and S of Port Lavaca Founded in 1844, it was once the most bustling port in Texas but was destroyed by the hurricanes of 1875 and 1886

Indian paintbrush or **painted cup,** any species of the genus *Castilleja*, chiefly American herbs with roots that are parasitic on the roots of other plants The true flowers are inconspicuous but are commonly enveloped by bright red bracts that are often flower-like and make the plant very showy The common Indian paintbrush in the East is *Castilleja coccinea* The plants are more abundant in the West, *Castilleja linariaefolia* is the state flower of Wyoming

Indian pipe, low, fungus-like flowering plant (*Monotropa uniflora*) native to dark woods of America and Asia The whole plant is waxy white (rarely pink or red), but it soon turns black when picked Its appearance has given rise to such names as ghost flower and corpse plant Each stem has scale leaves and, with its nodding flower, resembles a pipe The plant is usually considered to be saprophytic (with mycorhizal roots)

Indian rice see WILD RICE

Indian River, lagoon, c 100 mi long, E Fla , parallel to the east coast, beginning N of Titusville and extending S to Stuart A number of resorts are on its shores Its valley, which includes Indian River co , is fertile and productive, noted for its citrus fruit

Indians, American, peoples who occupied North America, Middle America, and South America before the coming of the Europeans They are so called because of the prevalent belief at the time of Columbus that the Americas were the outer reaches of the Indies (i e , the East Indies). Most authorities today agree that the Indians came into the Western Hemisphere from Asia via the Bering Strait in a series of migrations. The several waves of migration are said to account for the many native linguistic families (see LANGUAGE, table), while the common origin is taken to explain the features that the Indians of North and South America have in common (though with considerable variation)—Mongoloid features, with coarse, straight black hair, dark eyes, sparse body hair, and a skin color ranging from yellow brown to reddish brown. They supposedly brought with them their Neolithic culture, and most Indians made fire with a drill, had domesticated dogs, made baskets, and used stone tools In Middle America and South America high material cultures were built up, and before the coming of the white man there flourished the advanced civilizations of the MAYA, the TOLTEC, the AZTEC, the INCA, and the CHIBCHA INDIANS The development of powerful city-states and, in the case of the Inca, a true empire, was accompanied by rich architectural development (though without the arch), elaborate sculpture, hieroglyphic writing (in the case of the Maya), complex social structure, and considerable development of metalworking, particularly in gold Not all the Indians of South and Central America, however, achieved a high cultural status The warlike ARAUCANIAN INDIANS who long successfully resisted the Spanish, had a much lower material culture than the Inca, and the Fuegians (see TIERRA DEL FUEGO) had only a sparse culture, as did the Indians of the Amazon basin, though their more southern kinsmen (see GUARANÍ INDIANS) developed a stable agricultural civilization The CARIB INDIANS of N South America extended their war conquest to the West Indies and Central America. The Carib had a reputation of being fierce warriors, and there is evidence that they ate their war captives The higher material culture of the Aztec was reflected in the present United States in the Southwest There a seminomadic people called the BASKET MAKERS, who hunted with a spear thrower and a curved wooden club, acquired (c 1000 B C) the art of cultivating beans and squash, probably from their southern neighbors They also learned to make unfired pottery They wove baskets, sandals, and bags By c 700 B C they had initiated intensive agriculture made true pottery, and hunted with bow and arrow They lived in pit dwellings, which were partly underground and were lined with slabs of stone—the so-called slab houses A new people came into the area some two centuries later, these were the ancestors of the PUEBLO INDIANS They lived in large, terraced community houses set on ledges of cliffs or canyons for protection (see CLIFF DWELLERS) They developed a ceremonial chamber (the KIVA) out of the living room of the "pit dwellers " This period of development ended A D c 1300 after a severe drought (1275-99) and invasion of the NAVAHO INDIANS and APACHE INDIANS from the north The known historic Pueblo cultures of such sedentary farming peoples as the HOPI INDIANS and the ZUÑI then came into being They cultivated corn, beans, squash, cotton, and tobacco, killed rabbits with a wooden throwing stick, and traded cotton textiles and corn for buffalo meat from nomadic tribes The men wove cotton textiles and cultivated the fields while women made fine polychrome pottery The mythology and religious ceremonies were complex These were the Indians who were visited (1540) by Francisco Vásquez de Coronado in search of the fabulous Seven Cities of Cibola and QUIVIRA The culture of the Indians in the Central Valley of California and on the California coast was somewhat lower The area was one of great linguistic diversity Generally the inhabitants were a sedentary people, who gathered edible plants, roots, and fruits and also hunted small game Their "acorn bread," made by pounding acorns into meal, then leaching it with hot water, was distinctive They cooked in baskets filled with water and heated by hot stones They lived in brush shelters or more substantial lean-tos and had partly buried earth lodges for ceremonies and ritual sweat baths Despite their generally low material culture they had highly developed basketry, coiled and twined To the north of them was another area of low material culture, the Plateau area between the Cascade Range and the Rockies There is little evidence of ancient human habitation The dwellers in this area underwent (c 1730) a great cultural change when they obtained from the Plains Indians the horse, the tepee, a modified form of the sun dance, and deerskin clothes They continued, however, to fish for salmon with nets and spears and to gather camas bulbs They hunted small game and, in later times, the buffalo Earlier dwellings common before the tepee was introduced also persisted The permanent winter villages on the waterways had semisubterranean lodges with conical roofs, a few tribes lived in bark-covered long houses Before they acquired the horse they used dogs for transportation; on water they used dugouts and bark canoes, like most of the tribes in the northern part of the continent. Typical tribes were the Spokan and the Nez Percé. The richly wooded N Pacific coast from S Alaska to N California, with a temperate climate and heavy rainfall, supported a large Indian population and had apparently sup-

ported it for centuries before the first white man arrived. Salmon was the staple food, supported by sea mammals (seal and sea lion) and land animals (deer, elk, and bear) as well as berries and wild fruit. They used wood for building their houses and had cedar-planked canoes and carved dugouts (the seagoing craft measuring up to 70 ft.). In their permanent winter villages some of the tribes had the noticeable, grotesque totem poles (see TOTEM). They had a highly classified society with chiefs, nobles, commoners and slaves. Public display and disposal of wealth was a basic feature of the society (see POTLATCH). They had woven robes, furs, and basket hats as well as wooden armor and helmets for battle. This distinctive culture was not greatly affected by European influence until after the great days of white trading for furs along the coast in the late 18th cent. The Tlingit, the Haida, and the Kwakiutl are typical tribes. To the east of the Plateau culture area was that of the central Canadian area in the belt of semiarctic land from the Rockies to Hudson Bay. Here nomadic hunters adjusted their lives to the caribou, moving with the season from forest to tundra, killing the caribou in semiannual drives. Other food was provided by small game, wild berries, and edible roots, but the chief reliance was on the caribou. Not only food but clothing and even some shelter (caribou-skin tents) came from that animal, and with caribou leather thongs the Indian laced his snowshoes and made nets and bags. Typical of these people were the Chipewyan Indians. To the east of them was the Eastern Woodlands culture area which was around the Great Lakes and stretched from the Mississippi to the Atlantic, from Kentucky and Virginia N to Hudson Bay. The many Algonquian-speaking people were to a large extent deer hunters, and the women tended small plots of corn, squash, and beans. This was the land par excellence of the birchbark canoe on the many lakes and rivers. The culture of these Algonquian tribes and their Iroquoian-speaking neighbors and enemies (who had probably invaded from the South) is the familiar Indian life pictured most often in American literature. Other game (e.g., bear), fish (caught with hook, spear, and net), and shellfish were added to the deer for subsistence, and cooking was done in vessels of wood and bark or simple black pottery. The dome-shaped wigwam and the "long house" of the Iroquois have been often pictured. The deerskin clothing, the painting of face and (in the case of the men) body, and the scalp lock of the men (left when hair was shaved on both sides of the head), all are stock items in the old Indian stories. The myths of Manitou and of Manibozho (or Manabaus), the hero who remade the world from mud after a deluge, are also widely known. In the southeastern part of the present United States, with its forests and fertile soil, was the heart of the Southeastern culture, which stretched far W to the Mississippi and covered the region from the Ohio S to the Gulf of Mexico. Here before A.D. c 500 the Indians were seminomads, who hunted, fished, and gathered roots and seeds. Between 500 and 900 they had adopted agriculture, tobacco smoking, pottery making, and burial mounds (known also outside the area, see MOUND BUILDERS). By c 1300 the agricultural economy was well established, and artifacts found in the mounds show that trade was widespread. Long before the white man came, the peoples of the Natchez-Muskogean linguistic family were farmers who used hoes with stone, bone, or shell blades. They hunted with bow and arrow and blowgun, they caught fish by poisoning streams, and they gathered berries, fruits, and shellfish. They had excellent pottery, sometimes with modeled animal or human figures. The villages were surrounded by wooden palisades reinforced with earth. Some of the large villages, usually ceremonial centers, dominated surrounding satellite villages in village states. There were temples for sun worship, rites were elaborate and featured an altar with a "perpetual" fire, extinguished and rekindled each year in a "new fire" ceremony. The society was commonly divided into classes, with a chief (the Great Sun), his children, nobles, and commoners making up the hierarchy. The Natchez, the Choctaw, and the Creek were typical inhabitants of this area. They were first made widely known to the white man by survivors of De Soto's expedition. The grasslands W of the Mississippi and E of the Rockies, stretching N from Texas to Canada, once supported vast herds of buffalo. In this Plains area in pre-Columbian times there were two distinct types of economy, sedentary and nomadic. The sedentary tribes, who had immigrated from neighboring regions, lived in permanent villages of dome-shaped earth lodges surrounded by earthen walls. They raised corn, squash, and beans. The foot nomads, on the other hand, moved about with their goods on dog-drawn travois and eked out a precarious existence by hunting the buffalo (usually by driving them into enclosures or rounding them up by grass fires). They supplemented their diet by exchanging meat and hides for the corn of the "village" Indians. The horse, first introduced by the Spanish in the Southwest, appeared on the plains about the beginning of the 18th cent. and revolutionized the life of the Indians there. Many tribes recently settled in villages left their homes and joined the nomads, who, now mounted and armed with bow and arrow, ranged the grasslands hunting the buffalo. The older, more conservative "village" Indians remained farmers (e.g., the Arikara, the Hidatsa, and the Mandan) while the mounted hunters grew rich. Indians from surrounding areas came into the Plains (e.g., the Cheyenne and the Sioux from the Great Lakes, the Comanche and the Kiowa from the west and northwest, and the Navaho and the Apache from the southwest). A universal sign language developed among the perpetually moving tribes, who lived on horseback and in the highly mobile TEPEE. They lived mainly from the buffalo, pounding and drying lean meat for food out of hunting season and making their clothes from buffalo hides and deerskins. The system of the COUP and almost perpetual warfare marked the highly peripatetic society. These Plains Indians together with some of the natives in the Southwest were the last to put up a serious and bloody struggle with the white man in the United States. In the 1890s the long struggle between white and Indian that had begun soon after the coming of the Spanish in the 16th cent. and the British and the French in the 17th was brought to an end. That story is told in the articles on the separate tribes, in the articles on the states, and in separate biographies and subject articles (e.g., PONTIAC'S REBELLION and DAWES ACT). Today the number of U.S. Indians is increasing rapidly as they live on some 200 reservations, e.g., the 9,000 Navaho rounded up by Kit CARSON in 1863 had increased to 61,000 in 1947. In 1492 Indians, N of Mexico, numbered some 900,000, but in 1870, after wars, starvation, and epidemics of smallpox, measles, and cholera they had dwindled to 300,000. In 1945 there were 400,000. Although Indians outnumber the Europeans in most Central and South American countries, N of Mexico they constitute a small minority. The material contributions of the Indian to the European include potatoes, corn, beans, tomatoes, pumpkins, cotton, rubber, quinine, coca (a derivative of which is cocaine), and tobacco. The Bureau of American Ethnology, the American Museum of Natural History, and the Heye Foundation have published many useful works on the Indians. For some general works, see Clark Wissler, *The American Indian* (3d ed., 1938), A. L. Kroeber, *Cultural and Natural Areas of Native North America* (1939), P. S. Martin and others, *Indians before Columbus* (1947), D'Arcy McNickle, *They Came Here First* (1949).

Indian shot see CANNA

Indian Territory, in U.S. history, a name generally applied to the country set aside for the Indians by the Indian Intercourse Act (1834) and more particularly applied to the territory to which the Five Civilized Tribes (Cherokee, Creek, Seminole, Choctaw, Chickasaw) were removed by treaties between 1820 and 1845. The lands belonging to the Indians were further delimited by the creation of Kansas and Nebraska territories in 1854 and by continuous white settlement. The eastern part of the present Oklahoma, N of the Red River, although never a regularly organized territory, became known as Indian Territory as the Indians were gradually forced into settlement there. Tribes other than the original five also moved there, but each tribe maintained its own government. The DAWES ACT (1887) and the DAWES COMMISSION, created (1893) under the act, marked another change in Indian policy. With the Curtis Act (1898) and subsequent legislation, the way was prepared for the extinction of the Territory, achieved in 1907 with the entrance of Oklahoma into the Union. See OKLAHOMA.

Indian tobacco, name for several plants, among them LOBELIA.

Indian turnip see JACK-IN-THE-PULPIT

India-rubber tree see RUBBER PLANT

indicative see MOOD

Indic languages, group of the Indo-Iranian subfamily of Indo-European languages. See LANGUAGE (table).

indiction (Indĭk'shun), a period of 15 years or a year in such a period. The 10th year of an indiction, for example, is called also "the 10th indiction." The indiction was probably suggested by an Egyptian fiscal period (used in the assessment of land and in balancing accounts), adopted in the Roman Empire in the 4th cent. Dating by indictions was practiced in the Byzantine Empire and throughout Western Europe and is still in occasional use in the Roman Church as a supplementary method of identifying dates. The beginning point of the first 15-year period has varied, and so there have been various systems of indictions.

indictment (Indīt'mŭnt), in CRIMINAL LAW, formal written charge of a crime made by the public prosecutor before a grand jury, which, in turn, offers the charge against the accused. Persons suspected of crime may be rendered liable to trial by indictment, by presentment, or by information. A presentment is an accusation issued by the grand JURY on its own knowledge, without any bill of indictment having been previously drawn up by the prosecutor. An information is an accusation presented directly by the prosecutor without consideration by a grand jury. The Fifth Amendment to the U.S. Constitution safeguards the right to a preliminary hearing by a grand jury by providing in effect that no person outside military service may be tried in a Federal court for a capital or otherwise infamous crime except on indictment or presentment. When an indictment or presentment is approved, the foreman of the grand jury marks it "true bill." Indictments, presentments, and informations are similar to the plaintiff's complaint in a civil action (see PROCEDURE). They name the supposed criminal offense and allege the specific acts with which the accused is charged. At the trial the evidence presented by the prosecution must offer some support of every material allegation in the charge if the case is not to be dismissed.

Indies see EAST INDIES and WEST INDIES

indigestion or **dyspepsia,** symptom of digestive disturbance. The condition may be caused by either excessive or diminished secretion of hydrochloric acid in the gastric juice of the stomach or by imperfect digestive function in the intestinal tract which is sometimes a result of glandular imbalance. Psychogenic factors may cause digestive disturbance. BILIOUSNESS is a form of indigestion.

Indigirka (ĭn"dĭgēr'kŭ, Rus. ēndyĭgēr'kŭ), river, 1,120 mi. long, NE Yakut ASSR, Asiatic RSFSR, in NE Siberia. It flows N into the Arctic Ocean and is navigable (June-Sept.) over more than half its course.

indigo [Span., from Latin, =Indian], the most important blue dyestuff. It was anciently produced in India and was known in Egypt, probably c 1600 B.C., mummies of the XVIII dynasty have been discovered wrapped in indigo-dyed cloth. Its introduction into Europe in the 16th cent. stirred up considerable opposition among those concerned with the production of woad (obtained from the woad plant, *Isatis tinctoria*), which had been the chief blue dye for woolens. Indigo almost entirely superseded woad. Indigo is obtained from leguminous plants of the genus *Indigofera*, chiefly from the Asiatic species, *Indigofera tinctoria*, but also from several other species. The plants contain a colorless, soluble glucoside called indican. When the macerated plants are allowed to ferment in vats of water the colorless form of indigo is liberated, stirring of the liquid causes oxidation of the colorless material to form a blue sediment, indigo. The natural indigo gives a strong blue color of great permanence. Use of the natural dye was much reduced after the synthesis of indigo was accomplished. Adolf von Baeyer was the first to synthesize it, but others developed the methods used for its commercial production. Indigo is known as a vat dye (see DYE).

indigo bunting or **indigo bird,** small bird of the FINCH family. In summer the plumage of the male appears in the proper light to be a rich, metallic blue. The female and young have brown sparrowlike plumage. Even on hot summer days the indigo bunting sings persistently from a high perch its sweet song, a series of spaced, usually paired, notes. It eats chiefly insects in summer and weed seeds in winter. It breeds from New Brunswick to Georgia and W. to North Dakota and central Texas and winters from S Mexico and Cuba to Panama.

Indio, city (1940 pop. 2,296, 1949 special census pop. 5,384), SE Calif., ESE of Los Angeles, in an irrigated date-growing area of the Coachella Valley, founded 1876, inc. 1930. Joshua Tree National Monument (see NATIONAL PARKS AND MONUMENTS, table) is near by.

indium, metallic element (symbol=In, for physical constants, see ELEMENT, table) resembling aluminum and gallium, with which it is classed in the periodic table. The metal is relatively soft, malleable, ductile, and silver white. Indium was discovered in 1863 by Ferdinand Reich and H. T. Richter by means of the spectroscope, its spectrum showed two indigo lines. It is found in zinc ores, of which there are deposits in Arizona. Bearings can be protected against corrosive acids by electroplating with indium.

Indo-Aryan, group of the Indo-Iranian subfamily of Indo-European languages. Broader uses on a racial basis are now obsolete. See LANGUAGE (table).

Indo-China, Fr. *Indochine*, federation of states (c 279,000 sq. mi., pop. c 27,500,000), SE Asia. It is the easternmost country of the Indo-Chinese peninsula (which it shares with Burma, Siam, and Malaya) and faces E on the South China Sea. Shut off from China by the mountains of Yünnan prov. on the north, it is in general bounded on the west by the upper MEKONG river and by the mountain chains separating Siam from the lower Mekong valley. The cultures of Indo-China were formed by streams of influence coming from China and India. The centuries before European intervention saw the growth and decline of the KHMER EMPIRE in CAMBODIA, the rise and fall of CHAMPA, and the steady expansion of ANNAM. European penetration began in the 16th cent., in the 19th-century race for colonial empire, Indo-China fell to France. The French took COCHIN CHINA as a colony and

gained protectorates over Cambodia, Annam, and TONKIN. In 1887 they formed these four states into a union of Indo-China, with a governor general at its head The addition of LAOS to the union in 1893 rounded out French control of Indo-China In the Second World War, France was forced to accept (1940) Japanese intervention in Indo-China; the increase of Japanese forces there became in late 1941 a major issue between Japan and the United States and precipitated the diplomatic exchanges cut short by the Japanese attack on Pearl Harbor Japanese control was tightened after the United States entered the war In March, 1945, the Japanese finally ousted all French officials Even before the end of the war, the French announced plans for a federation of Indo-China within the French Union, with greater self-government for the various states The federation was accepted in Cambodia and Laos Annamese nationalists, however, demanded (1945) the complete independence of Annam, Tonkin, and Cochin China as VIET NAM, and after Dec , 1946, these regions were plunged into bitter fighting between the French and the extreme nationalists

Indo-European, family of languages to which English belongs It includes more speakers than any other family The synonym Indo-Germanic is obsolete See LANGUAGE (table)

Indo-Iranian, subfamily of Indo-European languages See LANGUAGE (table)

Indonesia, large island group of the Malay Archipelago, comprising the Sunda Islands (including JAVA and SUMATRA), the Lesser Sundas (including BALI), BORNEO, the CELEBES, the MOLUCCAS, TIMOR, and thousands of smaller islands The most important, in terms of density of population and cultural development, are Java, Bali, and Sumatra All the larger islands have a central volcanic mountainous area flanked by coastal plains The humid tropical climate and the remarkably fertile soil make Indonesia a rich agricultural area producing a variety of crops, notably pepper, sugar (cultivated largely on Java), tobacco, coffee, and tea Rubber, quinine, kapok, palm oil, and copra are major forest products, and on the larger islands are valuable woods such as sandalwood, camphor, teak, and ebony The animal life of Indonesia roughly forms a connecting link between the fauna of Asia and the fauna of Australia, a great variety of large mammals and reptiles inhabit the interior of the larger islands, and richly colored birds are everywhere Enormously rich in mineral resources, Indonesia is a major producer of oil, tin, and bauxite and has rich deposits of manganese ore, copper, gold, silver, zinc, lead, platinum, and diamonds Primarily a supply center of raw material, Indonesia has had little industrial development The teeming native population roughly falls into two groups, the Malayan and the Papuan, with many of the inhabitants of central Indonesia representing a transition between the two types Within each group are numerous subdivisions The Malayans show varying stages of cultural development, ranging from the more civilised Javanese and Balinese to the primitive, seminomadic groups such as the Dyaks of the interior of Borneo The complex ethnic structure is the result of several great migrations many centuries ago from Asia and the Pacific The great majority of the population is Moslem, with animists constituting the next largest group, Hindus and Christians form a relatively small group The Chinese are the most numerous of the nonindigenous population, the so-called Coast Malays who inhabit the coastal areas of the major islands are a people of mixed stock, Chinese, Arab, Indian, and Malayan. Early in the Christian era, Indonesia came under the influence of Indian civilization through the gradual influx of Indian traders and Buddhist and Hindu monks, great native empires that began to emerge were strongly bound up with Hinduism and Buddhism By the 7th cent, Sumatra had become the first important political center of the area, it was succeeded in the 14th cent. by Java, which was the nucleus for two centuries of a fabulous empire dominating almost the whole of Indonesia (for more of the history, see articles on the individual islands) Early in the 13th cent., there had begun a gradual infiltration of Islam with the arrival of Arab traders, and by the end of the 16th cent it had replaced Buddhism and Hinduism as the dominant religion of the area Under Islamic control, Indonesia soon degenerated into many small and weak states which fell easy prey to European imperialism Early in the 16th cent the Portuguese began establishing trading posts in Indonesia, after taking (1511) the strategic commercial center of Malacca on the Malay Peninsula The Dutch followed in 1596, and the British in 1600 But rivalry did not become intense until the early 17th cent. when the Dutch East India Company and the English East India Company appeared on the scene. The Dutch soon succeeded in ousting the Portuguese, who were allowed to retain only the eastern part of Timor, but they found English competition more difficult to overcome, and it was only after a series of Anglo-Dutch conflicts (1610-23) that the Dutch triumphantly emerged as the dominant power in Indonesia Throughout the 17th and the 18th cent the Dutch East India Company steadily expanded its control over the entire area. When it was liquidated in 1798, the Dutch government took over its holdings, which were thereafter known in English as the Netherlands East Indies, the Netherland East Indies, Netherland India, or the Dutch East Indies Dutch rule was briefly broken (1811-15) during the Napoleonic Wars when the islands were occupied by the British under Sir T Stamford RAFFLES The Dutch exploited the riches of the islands and built up the colony throughout the 19th cent The Indonesian movement for independence which began as early as the dawn of the 20th cent remained weak and ineffective until the early 1940s, when it became extremely militant, particularly in Java and certain parts of Sumatra. It was active during the Second World War, throughout the long occupation (beginning in early 1942) of the area by the Japanese In 1945 the nationalist group proclaimed the republic of Indonesia, claiming jurisdiction over Java, Sumatra, and Madura and establishing the capital at Jogjakarta The first president of the new republic was Sukarno, and the first premier was Sutan Sjahrir The Dutch bitterly opposed the republic, but finally recognized it with the signing (1947) of the Cheribon Agreement (or Linggajati Agreement) In 1946 at a conference held on Bali, the islands E of Java and Borneo (the Celebes, the Moluccas, and the Lesser Sundas) were united to form the state of East Indonesia, with the capital at Macassar on Celebes Finally in Nov , 1949, at the Dutch-Indonesian conference at The Hague, agreement was reached on the establishment (by Dec 30, 1949) of the independent and sovereign state of the **United States of Indonesia** (c 620,000 sq mi , 1930 estimated pop 60,200,000), to be comprised of the republic of Indonesia (including most of Sumatra and Java), the states of East Indonesia, East Sumatra, South Sumatra, Riouw, Bangka, Billiton, Bantam (W Java), Pasundan (W central Java), East Java, Madura, and the autonomous areas of West Borneo, Great Dayak (S Borneo), Banjar (S Borneo), Southeast Borneo, and East Borneo It was agreed that Batavia, the capital, would be a separate district The new nation remained linked to the Netherlands only through a loose Dutch-Indonesian union under the Dutch crown The conference postponed until 1950 the settlement of the status of Netherlands New Guinea, which the Indonesians wanted to include in the federation

Indore (ĭndôr'), former native state (9,934 sq. mi , pop 1,513,966), W central India It contains extensive forests and much building stone The state was established c 1728 by Malhar Rao Holkar, a soldier of peasant family in the service of the Mahrattas and the founder of the ruling dynasty. In 1948 Indore was merged in Madhya Bharat

Indore, city (pop 203,695), capital of Madhya Bharat, became important in the late 18th cent It was the capital of the maharajas of Indore and it contains their imposing palace. The city has three colleges Cotton cloth is manufactured

Indra (ĭn'drə), in the Vedic religion and in Hinduism, god of the sky and storms The numerous hymns to Indra in the *Rig-Veda* (see VEDA) indicate that he was one of the chief beneficent deities of the early Aryan invaders of India. He was believed to supply rain and drive away evil spirits. With the rise of Brahmanism he was displaced in importance by the trinity of Brahma, Vishnu, and Siva (see HINDUISM).

Indre (ăⁿdrə), department (2,666 sq mi , pop 252,075), central France, in BERRY, traversed by the Indre river, a southern tributary of the Loire Châteauroux is the capital

Indre-et-Loire (ĕdrālwär'), department (2,378 sq. mi , pop 349,685), N central France, drained by the Indre and the Loire Occupying most of TOURAINE, it has Tours as its capital

induction Electrostatic induction is the production of an electrical charge on a body by bringing it near a charged body Electrodynamic induction is the generation of an electromotive force on a conductor by the effect of an electric current flowing in another conductor near it but not in contact or connected with it. Electromagnetic induction is accomplished by the movement of a conductor across the field of a magnet or the movement of the magnetic field over the conductor Self-induction (or inductance) is the setting up of an electromotive force in a conductor which opposes the change of a current, i.e., it retards both an increase and a decrease, so that a current cannot be instantaneously started or stopped. Self-induction is sometimes called electromagnetic inertia. Electrostatic induction is based upon the fact that like charges of ELECTRICITY repel each other and unlike charges attract. When, therefore, a negatively charged body is brought near an uncharged body, negative charges in the uncharged body are repelled to a part of the uncharged body farthest from the position of the charged body. If a means of escape is afforded these negative charges (e.g., through a conductor leading into the ground), some will leave the uncharged body and run off into the ground. If the ground connection is removed before the charged body is withdrawn, these negative charges will not be able to return and the body which was uncharged originally will be positively charged since its negative charges are less in number than its positive Such a procedure is called "charging by induction," and the principle is followed in many devices, e.g , the electroscope, the electrophorus and other electrostatic machines, and the CONDENSER (of which the LEYDEN JAR is a simple type). Electrodynamic induction is observed in the apparatus known as the induction coil or Ruhmkorff coil, which consists essentially of two coils and a soft-iron core. One coil, the primary coil, is composed of a few turns of heavy, insulated wire wound around the core of soft iron and connected to a source of direct-current electricity. The other coil, the secondary coil, in which the current is induced, consists of many turns of fine wire wound around, but insulated from, the primary coil and connected to a spark gap Each time a current is set up or shut off in the primary coil, an electromotive force is induced in the secondary coil for an instant and a spark jumps across the gap connected to the secondary coil When the flow of current in the primary coil is turned on and off at very short intervals, a rapid succession of sparks occurs Various applications of the induction coil (see IGNITION) are in common use Electromagnetic induction involves the generation of an electromotive force in a conductor, as in a coil of wire, by the movement of a magnet through it The magnetic field is altered by the action of the magnet, and this alteration results in the production of the electromotive force in the coil For magnetic induction, see MAGNETISM

induction, in LOGIC, the process of reasoning from the particular to the general It is the complement of deduction, which is reasoning from the general to the particular The first systematic elucidation of the deductive process is ascribed to Aristotle; of the inductive process, to Francis Bacon Both processes are applied in daily living generally and in research constantly. By observation of particular events (induction) and from already known principles (deduction), hitherto unknown principles are set up as hypotheses, by deduction, the principles are tested by the results of particular crucial applications, as these tests satisfy the conditions of the hypotheses, laws are arrived at by induction, from these laws further results may be determined by deduction The process of deduction is sure if the original proposition is true Induction attains at most only a high degree of probability, which depends ultimately on the uniformity of the subject matter

indulgence (ĭndŭl'jəns), in the Roman Catholic Church This Church teaches that the penitent sinner, having been forgiven through the agency of the sacrament of PENANCE, must still make satisfaction for his sins There are also venial sins of which the confessional takes no cognisance, for which the sinner must be punished after his forgiveness, PURGATORY is the spiritual fire in which the dead repentant sinner is punished for his sins Now Jesus Christ and the saints have by their good works made vicarious satisfaction to God for the sins of others The amount of the satisfaction is called doctrinally the infinite Treasury of Merits The Church is appointed by God to afford repentant sinners some share in this vicarious satisfaction already made—in other words, to remit to them punishment they would have to undergo in purgatory had not Jesus Christ and his saints made satisfaction already The official statement of this remission is an indulgence, it is conventional to state the amount of an indulgence in terms of time, in days, years, and quarantines, but these apportionments of time are purely relative Roman Catholics who have had their sins forgiven may gain indulgences in many ways, e.g , by saying certain prayers, and by visiting certain churches Until the Catholic Reform of the Council of Trent there were many abuses in the granting of indulgences, especially in the purchase of indulgences for money Perhaps more dangerous was the popular misunderstanding that indulgences were pardons of sins. It was the abuses in the granting and the teaching of indulgences which Martin LUTHER first denounced

Indus (ĭn'dəs), river, c.1,800 mi. long, rising in the Himalayas in W Tibet at an altitude of c 17,000 ft It follows a precipitous course W through Tibet and then NW through Kashmir In W Kashmir it flows through a defile c.13,000 ft. deep. The river enters West Pakistan and proceeds almost due S through North-West Frontier Prov. and through West Punjab prov , where it is joined by the Panjnad, the united stream made by the five rivers of Punjab. Shifting to the southwest, the Indus enters Sind prov and follows a twisting path to empty into the Arabian Sea through the channels of its delta (c 3,000 sq. mi). The Indus is the major river of West Pakistan, and in the desert regions through which it now flows it supported a great civilization (see MOHENJO-DARO). Its turbulent course, especially in the north, causes devastating

shifts in the channel and makes the river generally unsuitable for navigation The chief economic value of the Indus is in supplying water for irrigation, the Sukkur barrage (dam) in Sind is the main irrigation work. The Indus delta is of little utility, for unlike the deltas of many other rivers, it is composed of clay and is infertile

Indus Civilization: see MOHENJO-DARO

industrial diseases: see OCCUPATIONAL DISEASES.

industrial management, term applied to highly organized modern methods of carrying on industrial, especially manufacturing, operations Before the Industrial Revolution men worked with hand tools, manufacturing articles in their own homes or in small shops In the third quarter of the 18th cent steam power was applied to machinery, and men and machines were brought together under one roof in factories, where the manufacturing process could be supervised This was the beginning of shop management In the next hundred years factories grew rapidly in size, in degree of mechanization, and in complexity of operation, but although there was a steady gain both from the use of improved machines and from better division of labor, the growth was accompanied by much waste and inefficiency With increasing competition after the Civil War, American engineers began to seek means of improving plant efficiency The first sustained effort in this direction was made by F W Taylor, an assistant foreman in the Midvale Steel Company who in the 1880s undertook a series of studies to determine whether workers used unnecessary motions and hence too much time in performing operations at a machine Each operation required to turn out an article or part was analyzed and studied minutely, and superfluous motions were eliminated Records were kept of the performance of workers and standards adopted for each operation Such time and motion studies, improved by experience, have become a permanent feature of shop management The early studies resulted in a speeding up which required the introduction of rest periods for the workers It has been found that a combination of the best movements of different workers is a better standard than the shortest and speediest movements of the most proficient workers The performance of machines is also studied Specialists are employed to keep machines in condition and proper working parts always ready Automatic machines are frequently checked and adjusted to prevent variation in the quality of their output, a more recent practice sometimes referred to as quality engineering The flow of materials through the plant is supervised so that men or machines may not be idle / Constant inspection is made to keep output up to standard Charts are used for recording the accomplishment of both men and machines and for comparing them with established standards Careful accounts are kept of the cost of each operation When a new article is to be manufactured it is given a design that will make it suitable for machine production, and each step in its manufacture is planned including the machines and materials to be used The tendency is to train workers on the job, and foremen are selected and taught how to give this training and how to assist workers to overcome job difficulties Supervisors are trained in new techniques by means of periodic conferences with experts [The principles of scientific management have been gradually extended to every department of the organization—office work, financing, marketing, and so on With the development of industrial psychology industrial management has come to include the whole field of industrial relations, not only those of men to materials and machines, but those of men to management Soon after 1910, American firms established the first personnel departments, and eventually some of the larger ones took the lead in efforts to create in the plant a mental environment conducive to worker efficiency Time and motion studies had taught management to take account of the limits of human physical and mental capacity and of the importance of a good physical environment, good lighting, heating, and ventilation [Safety devices, better sanitation, plant cafeterias, and facilities for rest and recreation have been provided, thus adding to the welfare of employees and enhancing morale Much of this has been an adjustment to the demands of the modern worker voiced through his union or otherwise Most important of all has been the endeavor to meet the aspirations of the worker in his capacity as a wage earner to obtain the means of a good life during his working years and security in his old age—hence various provisions for health and group life insurance and old-age pensions [Some corporations permit him to buy stock, others admit employees to representation on the board of directors [A more important form of recognition is found in employee representation on some body, variously called shop committee, joint conference committee, works council, or industrial council, where a great many matters, from wages to personal grievances, may be taken up directly with management and equitably disposed of [Many corporations provide special opportunities for training and promotion for workers who desire advancement, and in recent years some have made efforts to solve such difficult problems as job security and a guaranteed annual wage See Stuart Chase, *Men and Machines* (1929); Elton Mayo, *The Social Problems of an Industrial Civilization* (1945)

Industrial Revolution. By the term "Industrial Revolution" is usually meant the social and economic changes that mark the transition from a stable agricultural and commercial society to modern Industrialism It is used historically to refer primarily to the period in English history from the middle of the 18th cent to the middle of the 19th cent , in which phenomenal changes in social and economic structure became apparent with the multiplicity of new processes and new conditions produced by inventions and technological innovations The same process is to be seen at later times and in changed tempo in the other countries of the world There has been, and is, much objection to the term, particularly because many economists feel that the word *revolution* suggests sudden and violent change, whereas the transformation of society was actually gradual *Revolution* also suggests a stable society before the changes and a resettlement and new stable society after the event Yet the term seems no more objectionable than the conventional labels applied to other periods and processes in history, such as the Renaissance, and is certainly more nearly accurate and just than many of them, such as the Dark Ages The ground was prepared and preliminary changes in social and economic structure were made in a long period, beginning at least by 1600 The voyages of the great era of discovery and expansion from Western Europe in the 15th and 16th cent had opened the way for tremendous commercial development Capitalism appeared and the commercial entrepreneur in the 17th cent marshaled his sources of material and his labor Many machines were invented and there were sizable factories using them, but these were the exceptions rather than the rule Wood was the material, water and wind the power of these factories In the 18th cent this was changed The sign and the badge of the Industrial Revolution is the application of steam to power, though this was accomplished by James WATT, building upon earlier work by Frenchmen and Englishmen, only in 1769, when the revolution was certainly already in its period of brisk development It is conventional in histories to trace the revolution by noting some of the inventions in what was the key industry of the early revolution, cotton textiles Among these inventions were James Kay's flying shuttle (1733), James Hargreaves's spinning jenny (patented 1770), Richard Arkwright's water-power spinning frame (1769), Samuel Crompton's mule (1779), and Edmund Cartwright's power loom (patented 1785) The men whose names were attached to the innovations were not always the inventors, and the development of many new methods and new machines was largely anonymous Two other fields of industry witnessed changes that were about as important and were equally symptomatic of the industrialization which was advancing with government and private aid The use of coke in iron production had far-reaching effects The coal mines now became paramount in importance, and the Black Country appeared in England at the same time that Lancashire and Yorkshire were being transformed into the greatest textile centers of the world Ceramics also saw a new era with rapidly improving methods associated to a large extent with the name of Wedgwood Factories sprang up everywhere and about them developed industrial towns Fortunes were made with dizzy speed English industry aided British commerce and the widening market aided industry, thus industrialism grew by what it fed on Canals were dug and roads built The coming of the railroad and then of the steamboat wrought new changes, which continued The Bessemer process made a gigantic contribution, for it was largely responsible for the extension of the use of steam and steel that were the two chief features of industry in the middle of the 19th cent Chemical innovations and, most important of all perhaps, machines for making machines played an important part in the vast changes In the truer sense, the revolution did not end at all in England New periods came in with electricity and the gasoline engine However, it may be said that if we are to consider the revolution ended when industry has become a dominant factor in the nation's life, then the Industrial Revolution may be considered as terminated in England by 1850 France had in the 17th and 18th cent kept pace with England in the early period of development but later lagged in industrial development, and the British victory in the long-continued commercial rivalry took markets away from France The revolution did not make the rapid progress that it did in England but after 1830 developed steadily The railroad and improved transportation preceded the introduction of the revolution into Germany which is conventionally said to have accompanied the formation of the ZOLLVEREIN, industrial Germany was created after 1850 The United States made some contributions to the early revolution, notably Eli Whitney's cotton gin. But the transformation of the United States into an industrial country took place largely after the Civil War and on the English model The textile mills of New England had long been in existence, of course, but the boom period of industrial organization was from 1860 to 1890 The Industrial Revolution was introduced by Europeans into Asia, and the last years of the 19th and the early years of the 20th cent saw the development of industries in India, China, and Japan, but Japan is the only country of the Far East which may be said to have had a real Industrial Revolution The Russian Revolution had as a basic aim the introduction of industrialism Generally speaking, the effect of the Industrial Revolution was the derangement of society of the country in which it occurred Perhaps the most important—the fundamental—result was the regimentation of society into the opposing classes of capital and labor The doctrine of laissez faire was essentially a part of the Industrial Revolution Adam Smith was as much a figure of it as James Watt himself All economic thought since the 18th cent has dealt with an attempt to stabilize and to interpret the Industrial Revolution Karl Marx and Socialism, the Manchester school, the various utopian schemes have all attempted to foresee the end of the process which has brought world economic interdependence, urbanization with the evil of the slums, the exploitation of peoples of lower material culture, an uneasy economic process fluctuating between boom and depression, the world-wide raising of levels of material goods (the "standard of living"), and all of the other vast economic problems of our day See C D Wright, *The Industrial Evolution of the United States* (1895), Arnold Toynbee, *Lectures on the Industrial Revolution* (1908), J L Hammond and Barbara Hammond, *The Rise of Modern Industry* (3d ed , 1927), Eileen Power, *The Industrial Revolution, 1750-1850* (1927), Paul Mantoux, *The Industrial Revolution in the 18th Century* (tr by Marjory Vernon, 1928), A P Usher, *History of Mechanical Inventions* (1929), Witt Bowden, *The Industrial History of the United States* (1930)

industrial union, one composed of all the workers in a given industry, regardless of skill, craft, or occupation The industrial union played until 1935 a subordinate role in American labor Until the 1870s all unions in the United States had been trade unions, organized on a craft basis, a modified form of industrial union appeared then with the Knights of Labor After the downfall of that labor body in 1890, some 15 years elapsed before a new organization cutting across craft lines made itself felt in labor affairs This was the INDUSTRIAL WORKERS OF THE WORLD, whose policy it was to accept everyone, both skilled and unskilled, regardless of race, sex, or creed The split between the American Federation of Labor and the CONGRESS OF INDUSTRIAL ORGANIZATIONS, in 1935, resulted in a 33 percent increase in the number of industrial unions Three kinds of industrial unions are recognised those consisting of all employees working on the same commodity (e g , brewery and electrical workers), those using the same tools in working on different materials (e g , textile and aluminum workers), and all employees of a given factory regardless of how many industries are represented there (e g , steelworkers, rubber workers, and glassworkers) The industrial union is called a vertical union, since workers from the highest to the lowest skills are members, as opposed to the horizontal or craft union See J E. Johnsen, comp , *Industrial versus Craft Unionism* (1937).

Industrial Workers of the World (I W.W.), revolutionary industrial union organized in Chicago in 1905 by delegates from 43 labor organizations Its leaders were Eugene V Debs, William D Haywood, Daniel De Leon, William E Trautmann, and Vincent St John Members were called, among other nicknames, the Wobbies The aim of the I W W was to unite in one body all skilled and unskilled workers for the purpose of overthrowing capitalism and rebuilding society on a socialistic basis Its methods were DIRECT ACTION, propaganda, the boycott, and the strike, it was opposed to sabotage, to arbitration or collective bargaining, and to political affiliation and intervention The organization spread to Canada and Australia and in a very small way to Europe, but its main activities were confined to the United States, where it was especially strong in the lumber camps of the Northwest among dock workers in port cities, in wheat fields in the central states, and in textile and mining areas The stand against political action led to controversy among the members, with De Leon emphasizing the Marxist point of view as against those opposing political action De Leon and his followers were expelled in 1908 and set up an independent organization, which, never very strong, was dissolved in 1925. In 1924 a split between the Westerners and the Easterners over the question of centralization resulted in a victory for the Easterners, with the Westerners setting up a new organization with headquarters in Oregon, based on the so-called Emergency Program, or a loose federation of highly autonomous

locals Of the 150 strikes conducted by the I W W , the chief ones occurred at Goldfield, Nev (miners, 1906–7), at Lawrence, Mass (textile workers, 1912), at Paterson, N J (silk workers, 1913); in the Mesabi range, Minn (iron miners, 1916), in the lumber camps of the Northwest (1917), in Seattle (general strike, 1919), and in Colorado (miners, 1927–28) At the time of the First World War the I W W was antimilitaristic, its members were accused of draft evasion, of fomenting German-paid strikes, thereby crippling essential war industries, of sabotage, and of criminal syndicalism Many of its leaders and members were thrown into jail, and to this loss was added the large number who joined the Communist party after 1917 A further cause of decline was the fact that a great portion of the membership was made up of migratory and casual labor, difficult to form into a cohesive organization From a probable strength of 100,000 in 1912, the membership fell to probably less than 10,000 in 1930 The contributions of the I W W to the American labor movement consist in its union of skilled and unskilled labor, in its at least temporary organization of migrant and Negro workers, in improved working conditions and shorter hours, especially in the lumber camps, and in its influence on the structure of later unions See P F Brissenden, *The I W W a Study of American Syndicalism* (1920), J S Gambs, *The Decline of the I W W* (1932), Ralph Chaplin, *Wobbly the Rough and Tumble Story of an American Radical* (1948)

Indy, Vincent d' (vĕsäⁿ' dēdē'), 1851-1931, French composer He was a pupil of César Franck, whom he succeeded as president of the Société nationale de Musique In 1894 Charles Bordes, Guilmant, and D'Indy founded the Schola Cantorum, Paris, of which D'Indy was composition teacher and, from 1911 until his death, sole director His methods of teaching are largely embodied in *Cours de composition musicale* (3 vols , 1897–1933), of which he is joint author He also wrote biographies of Beethoven (1906) and Franck (1911) His compositions include a dramatic legend, *Le Chant de la cloche* (1885), two music dramas, *Symphony on a French Mountain Air* for piano and orchestra (1886), symphonic variations, *Istar* (1897), songs, chamber music, piano works, and three symphonies

Ine (ī'nu), king of Wessex (688-726?) During his reign and with his help the Church gained unity by incorporating the several Wessex monasteries and missions into a single pattern His code of laws issued in 694 set down rules for his agrarian communities and stressed his purpose of furthering Christianity He exacted treasure from Kent and extended his sway over Sussex and Surrey- and probably over Devon He abdicated and went to Rome to die, as had his predecessor, Cædwalla

inertia (ĭnûr'shu), in physics, the resistance of a body at rest to being set in motion and that of a body in motion to being accelerated, retarded, or changed in direction of motion It is a property common to all matter To overcome this inertia some external force must be applied, this fact was expressed by Newton in his first law of MOTION, commonly known in consequence as the law of inertia The mass of a body is measured by its inertia Electromagnetic inertia is shown in the lapse of time between the moment when a source of electric current is introduced into an electric circuit and the moment when the flow of current is at the maximum and between the moment when the source of current is cut out of the circuit and the moment when the current ceases to flow

inevitable accident see ACT OF GOD

Inez de Castro see CASTRO, INÉS DE

infallibility (ĭnfăl"ŭbĭl'ĭtē), in Christian thought, inability of the Church to err as a teaching authority It has been believed since the earliest times to be guaranteed in Mat 28 20, John 14 17 The analogous attribute of the Bible is usually called inerrancy Protestants widely reject infallibility of the Church There is disagreement as to what organ of the Church can speak infallibly in its name, i e , is protected by God from teaching error The Orthodox hold that the ecumenical councils are infallible Roman Catholics agree but do not accept conciliar acts unratified by the pope, because he is the successor of Peter in the Roman see and is therefore protected from error when he speaks *ex cathedra* on matters of faith or morals (his statements not fulfilling these conditions are not infallible) This dogma, enounced by the VATICAN COUNCIL (1870), created much stir, especially outside the Church

infant, human baby from birth up to the age of about two years In order to give the infant the best possible foundation of health, both the mother (during pregnancy) and the infant should be under the care of a competent physician Since no two babies have exactly the same physical constitution, reactions, or personality, it is always unwise to adopt hard and fast rules for their care, with the exception of such basic essentials as the maintenance of cleanliness in the baby's environment. A doctor, through regular examinations of the baby, can help the mother to adjust the feeding and general routine to the needs of the baby, also he will administer at the proper time the injections for establishing immunity to diphtheria, smallpox, and certain other diseases. A regular daily routine for the care and feeding of a baby should be maintained, but a completely rigid and inflexible schedule which does not allow for adaptation to the individual baby is harmful The rate of development varies considerably so that generalizations are always subject to exception At birth a full-term baby usually weighs from about 6½ to 7½ lb , during the first few days some weight is lost, but it is normally regained by the end of the second week During the first year there is a gain of about 5 to 8 oz a week, by the age of from 5 to 6 months the weight has doubled, and by the age of one year it has approximately trebled The average length of the child at birth is about 20 or 21 in , usually it increases about 5 in in the first 6 months and a total of about 8 in by the end of the first year At birth the bones of the skull are not entirely united The sutures between the bones close up in the first few weeks, but two fontanelles (called "soft spots") remain longer, the smaller one at the back of the head closes at about six weeks and the larger one toward the front of the head usually closes by the age of about one year, although there is much variation The time of appearance of the teeth also varies greatly the two lower central incisors often appear between the ages of 5 and 8 months, the four upper incisors between 8 and 10 months, the two lower lateral incisors between 10 and 11 months, the four anterior molars between 12 and 15 months, the four canines between 18 and 20 months, and the four posterior molars between 2 and 2½ years The best food for the newborn infant is human milk, and if a substitute is to be used the formula should be determined by the doctor Milk provides for the young infant the essential nutrients with the exception of vitamins C and D, which are added to the diet in the form and at the time recommended by the doctor After the first few months physicians usually recommend the gradual addition to the diet of certain cereal foods and specially prepared strained foods (vegetables, fruit, and meats) Until about 6 months of age infants sleep approximately 18 hr (from 12 to 13 hr at night with two long naps), after the first 6 months the afternoon nap is shorter, and after the first year usually only one nap is needed The daily warm bath, the sterilization of feeding equipment, and the special laundering of the clothes and blankets are essential to the health of the baby The time at which a baby talks and walks varies with the individual In addition to the proper physical care and feeding of the infant, it is recognized that affection and a feeling of security are absolutely essential to the healthy mental development of the infant From its earliest days an infant reveals both physical and emotional disturbances if it is not given a normal amount of love and attention Serious psychological disturbances often are manifested in older children deprived in infancy of affectionate care, even though they have had adequate food and an otherwise suitable environment See G D Scott, *Heredity, Food, and Environment in the Nutrition of Infants and Children* (1942), L E Holt, *The Care and Feeding of Children* (revised by L E Holt, Jr , 1943), M A Ribble, *The Rights of Infants* (1943), A L Gesell, *How a Baby Grows a Story in Pictures* (1945), Angelo Patri, *How to Help your Child Grow Up* (1948), R M Smith, *The Baby's First Two Years* (rev ed , 1948), F W Clements, *Infant Nutrition* (1949)

infanticide (ĭnfăn'tŭsīd) [from Latin, = child murder] It is believed that infanticide is most common among those primitive peoples whose food supply is often inadequate In certain primitive societies, besides, children who are deformed or are believed tainted by evil magic (e g , twins) may be slain on birth In most of the Greek city-states and in Rome an infant's father determined whether he should live In a few city-states the decision was made by the mother, and in Sparta it was made by a public official An allusion to the custom in some ancient societies of sacrificing children may be present in the biblical account of Abraham's near-sacrifice of his son Isaac Gen 22 Christianity, like Islam and Judaism, utterly condemns infanticide as murder, and in all modern countries the act is a crime In most countries it is also a crime to destroy a fetus by abortion or other means when there is no medical necessity

infantile paralysis see POLIOMYELITIS

infantile sexuality: see PSYCHOANALYSIS

infantry. see ARMY

infectious diseases. see COMMUNICABLE DISEASES

inferiority complex, term introduced into psychology by Alfred Adler and referring to a COMPLEX of emotionally toned ideas which are centered on real or imaginary handicaps Adler believed that the individual, in an attempt to compensate for his feelings of inferiority, behaves in a manner which will prove that these feelings are unjustified. Failing to compensate successfully, the individual develops a NEUROSIS and may withdraw from reality and limit his social participation It has been pointed out that the bully among children is often the child with an underlying fear of his own weakness However, the mode of compensation may be directed toward socially or individually valuable ends, as in the case of Demosthenes, who, according to tradition, compensated for a speech defect by becoming a great orator

infinitive: see MOOD.

infinity, in mathematics, roughly a quantity larger than any number, it is indicated by the symbol ∞ More precisely, it is defined by the following statement If an unending sequence of values has the property that for all large numbers mentioned it is possible to find a place in the sequence such that all values beyond this place are larger than the given large number, the sequence is said to become infinite or to approach infinity For example, this is true of the sequence of natural numbers 1, 2, 3 , for no matter how large a number is mentioned it is always possible to count beyond it to larger numbers In geometry infinity means a position (point or line or plane) at an infinite distance from the portion of space considered, as in the statement, "Parallel lines meet at infinity "

inflammation, local reaction of the body to irritation which may be caused by pathogenic microorganisms, by physical and chemical agents, and by trauma It consists of the widening of blood vessels of the part affected and the passage of plasma and white blood corpuscles, especially the polymorphonuclear leucocytes, into the tissues Clinically it is characterized by redness, swelling, heat, and pain It is effective in combating injury and is followed by repair of tissue Certain types of inflammation result in PUS formation, as in an ABSCESS

inflation and deflation In economics, inflation is sometimes defined as the increase of the circulating currency beyond the needs of trade, and deflation as the opposite tendency Each process involves, respectively, a fall or rise in the purchasing power of money and a corresponding rise or fall of prices Some economists make price changes themselves the only valid criteria of inflation or deflation Inflation may be due to a large influx of bullion, such as took place in Europe after the discovery of America and at the end of the 19th cent when new supplies of gold were found and exploited in South Africa, but wars are the most common cause of inflation in modern times as government borrowing, the issuance of paper money, and a diminished supply of consumer goods increase demand and prices Inflation stimulates business and wages also rise, but since they fail to match the increase in prices, real wages diminish Stockholders make gains—often illusory—from increased business profits, but bondholders lose because their fixed percentage has less buying power Deflation, which is characteristic of the downward movement of the business cycle, lowers prices and increases unemployment through the depression of business Deflation never matches inflation in extent, governments prefer to devaluate or arbitrarily cheapen the metal value of the currency rather than resort to deflationary measures which involve a rise in the value of money and of debts See Irving Fisher and H W Fisher, *Inflation!* (1933), E T H Kjellstrom and others, *Price Control the War against Inflation* (1942)

inflection, in grammar In most languages words can be arranged in formally similar sets, such that members of each set have a common feature (the stem, root, or base), and members of different sets have features in common not included in the stem, these features are often called the inflections Thus, *look, looks, looking,* and *looked* and *talk, talks, talking,* and *talked* are inflectional sets, the stems being *look* and *talk,* the inflections being the following suffixes—none, *s, ing,* and *ed* (that is, *0*) Many languages have extensive inflection, e g , Latin, Eskimo, Fox, and Arabic Many have few or no inflections, e g , Chinese In Latin grammar noun inflection is called declension and that of verbs is conjugation The typical Latin noun or adjective is inflected for CASE and NUMBER, the adjectives are inflected for GENDER Latin verbs have overlapping categories of inflection, MOOD, VOICE, TENSE, person, and number Some linguists distinguish between inflection and agglutination, which is inflection with relative looseness of fusion between stem and inflectional feature Such looseness appears in *kinglike* vs *kingly,* where the fusion may be said to be closer in the second than in the first In the 19th cent , inflection and agglutination were used as criteria for comparing languages, and a theory was widely held that agglutination was more primitive than inflection With the increase of knowledge of languages it was found that any known language is just as expressive as other languages and simply by extending its vocabulary can be fully adapted to new situations This discovery did much to destroy the fallacy of the prestige of inflection, especially Latin inflection See ABLAUT, GRAMMAR, UMLAUT, ENGLISH LANGUAGE See Edward Sapir, *Language* (1921), Leonard Bloomfield, *Language* (1933)

influenza (ĭn"flōĕn'zu), contagious, infectious disease occurring characteristically in epidemic and pandemic outbreaks and capable of spreading with great rapidity. The cause is thought to be a virus Symptoms of the disease are its sudden onset,

fever, chilliness, aching pains in the back and in the extremities, and rapid progressive inflammation of the mucous membranes of the respiratory tract. The condition commonly known as grippe (generally associated with severe catarrhal fever) and severe cases of the common cold are difficult to differentiate from influenza The treatment of influenza consists of bed rest, increased intake of fluids, and the use of ascorbic acid and penicillin The injection of influenza vaccine is employed to help prevent the disease

information, in law see INDICTMENT

infrared rays (ĭn″frŭrĕd′), invisible rays of longer wave length than visible light rays and noticed especially for their heating effect They are utilized in photography for taking pictures through light fog and haze and for taking photographs useful in astronomy, criminology, industry, and medicine

infusorial earth (ĭn″fyōōsō′rēŭl), name sometimes used to refer to deposits more correctly known as diatomaceous earth (see DIATOM) The inaccurate usage probably arose before the true nature of the material was recognized The term *Infusoria* was formerly used rather loosely for minute organisms in general, but was later restricted to a class of one-celled animals The term *infusorial earth* is, therefore, not accurately applied to pure diatomaceous earth Some deposits similar to diatomaceous earth do contain siliceous material derived from the skeletons of minute animals

Inge, William Ralph (ĭng), 1860–, Anglican prelate and author He was fellow of King's College, Cambridge (1886–88), fellow and tutor of Hertford College, Oxford (1889–1904), and vicar of All Saints, London (1905–7) He then became Lady Margaret professor of divinity and fellow of Jesus College, Cambridge He was dean of St Paul's Cathedral from 1911 to 1934 He has given notable courses of lectures in various universities and is widely known for his originality of thought and for a quality of pessimism to which is due the appellation "the gloomy dean" Among his many published works are *The Church and the Age* (1912), *Lay Thoughts of a Dean* (1926), *More Lay Thoughts of a Dean* (1931), *A Rustic Moralist* (1938), *Fall of the Idols* (1940), *Ultimate Values* (1945), and *Mysticism in Religion* (1948)

Ingelow, Jean (ĭn′julō), 1820–97, English poet and novelist Her work came into prominence in 1863 with a volume of poems which included the popular "High Tide on the Coast of Lincolnshire, 1571" and "Seven Times One" Of her novels, *Off the Skelligs* (1872) and *Sarah de Berenger* (1879) are best remembered She also wrote *Mopsa the Fairy* (1869) and other stories for children

Ingemann, Bernhard Severin (bern′hart sĕvurēn ĭng′umăn), 1789–1862, Danish poet and novelist As teacher and director of Soro Academy, Ingemann adopted the folk high school principles originated by N F S Grundtvig *King Erik and the Outlaws* (1833, Eng tr , 1843) and *The Childhood of King Erik Menved* (1828, Eng tr , 1846) are historical novels recalling the past greatness of Denmark, the poems in *Holger Danske* (1837) have become popular national songs The religious *Morning and Evening Songs* (1839) contains some of the finest lyric poetry in Danish

Ingenhousz, Jan (vanʹ ĭngʹunhous), 1730–99, Dutch scientist He practiced medicine in Holland, England, and Vienna and was noted for his skillful inoculations against smallpox He demonstrated respiration in plants and recorded his observations in *Experiments upon Vegetables* (1779)

Ingenieros, José (hōsā′ ēnhānyā′rōs), 1877–1925, Argentine writer and philosopher, b Buenos Aires Trained in medicine, sociology, and philosophy, he was a disciple of Comte and Herbert Spencer and was the outstanding positivist of Argentina He applied positivism to different fields (sociology, criminology, and education) and was a leader in biological psychology Among his works are *Psicopatología en el arte* (1902), *Simulación de la locura* (1903), *El hombre mediocre* (1913), and *Principios de psicología biológica* (1913)

Ingermanland (ĭngʹgurmunlănd) or **Ingria** (ĭngʹgrēu), historic region, RSFSR, S of the Gulf of Finland, between Lake Peipus and Lake Onega It is named after its ancient Finnic inhabitants, the Ingers, who have now almost disappeared In the Middle Ages it was subject to Great Novgorod, with which it passed to the grand duchy of Moscow Conquered (1617) by Gustavus II of Sweden, it was restored (1721) to Russia by Peter I, who built St Petersburg (now Leningrad) in Ingermanland The name Ingermanland lost political meaning

Ingersoll, Charles Jared (ĭngʹgürsōl), 1782–1862, American political leader and author, b Philadelphia, son of Jared Ingersoll (1749–1822) He was admitted (1802) to the bar, having studied law privately after three years at the College of New Jersey (now Princeton Univ) In several influential publications, including *Inchiquin the Jesuit's Letters on American Literature and Politics* (1810), he argued for more intellectual independence and national self-sufficiency Ingersoll served (1813–15) as a Jeffersonian in Congress and was (1815–29) U S district attorney in Pennsylvania He returned to Congress (1841–49), when he was chairman of the Committee on Foreign Affairs and was influential in securing the annexation of Texas He was an effective debater on the sectional issues of the day Besides several plays, including *Julian a Tragedy* (pub 1831), he wrote a four-volume history of the War of 1812 (1845–52) and his recollections (2 vols , 1861) See biography by W M Meigs (1897)

Ingersoll, Jared, 1722–81, American colonial official, b Milford, Conn , grad Yale, 1742 He was made (1751) king's attorney in New Haven, and later he sailed (1758) for England as a colonial agent and returned (1765) with a commission to distribute stamps under the highly unpopular Stamp Act A mob, led by John Durkee, forced Ingersoll to resign He was later crown judge of the Philadelphia vice-admiralty court until, in the Revolution, patriots forced him to return to New Haven His son, Jared Ingersoll, was, however, a patriot See biography by L H Gipson (1920)

Ingersoll, Jared, 1749-1822, American jurist, b New Haven, Conn , grad Yale, 1766, son of Jared Ingersoll (1722 81) and father of Charles Jared Ingersoll After studying law in England, he was admitted (1773) to the bar in Philadelphia and became a leading attorney, arguing many important cases before the U S Supreme Court He served (1780–81) in the Continental Congress and was (1787) a delegate to the Federal Constitutional Convention In Pennsylvania he was attorney general (1790–99, 1811 17), U S district attorney (1800–1801), and presiding judge (1821–22) of the district court of Philadelphia co In 1812 he was the unsuccessful Federalist candidate for Vice President

Ingersoll, Robert Green, 1833–99, American orator and lawyer, b Dresden, Yates co , N Y The son of a Congregational minister who settled eventually in Illinois, Ingersoll was admitted (1854) to the bar and became an able pleader before juries In the Civil War he organized and became colonel of an Illinois cavalry regiment that saw duty at Shiloh and Corinth Captured at Lexington, Tenn , he was paroled but not exchanged and resigned his commission in 1863 Although previously a Democrat, he emerged from the war a Republican, and at the party's national convention in 1876 he nominated James G BLAINE for President in his famous "plumed knight" speech He served (1867–69) as attorney general of Illinois, but his antireligious beliefs doubtless prevented any further advance Known as "the great agnostic," Ingersoll questioned the tenets of Christian belief in such lectures as "The Gods" (1872), "Some Mistakes of Moses" (1879), "Why I Am an Agnostic" (1896), and "Superstition" (1898), drawing large audiences through his eloquence and kindly charm and provoking denunciations from the more orthodox His lectures were widely read for a generation, and editions of his works still circulate, the Dresden edition (12 vols , 1900) has been reprinted several times See biography by Cameron Rogers (1927)

Ingersoll, Simon, 1818–94, American inventor, b Stanwich, Fairfield co , Conn He is chiefly remembered as the inventor of the rock drill (patented in 1871), for which he subsequently developed improvements and accessories

Ingersoll, town (pop 5,782), S Ont , on the Thames and ENE of London, settled 1793 It was named for Charles Ingersoll, a United Empire Loyalist and settler here Its industries include milling, canning, and furniture and hardware manufacturing

Ingham, Charles Cromwell (ĭngʹum), 1796–1863, American figure and portrait painter, b Ireland He settled in New York (1817) and achieved celebrity as a painter of beautiful and fashionable women He was a founder of the National Academy of Design Among his works are *Death of Cleopatra, the White Plume; Young Girl Laughing* and portraits of Gulian C Verplanck, Lafayette and De Witt Clinton (N Y Historical Society), *Flower Girl* and two portraits (Metropolitan Mus), Lafayette (capitol, Albany, N Y), and William Dunlap (National Acad of Design) Ingham also painted numerous miniatures in water colors on ivory

Ingle, Richard, fl 1642–53, English seaman and tobacco trader Little is known of him While the English civil war was in progress, he appeared (1645) with several ships off Maryland, and, armed with letters of marque from the lord high admiral under Parliament, he raided the colony and captured the capital Leonard Calvert, the proprietary governor and supporter of the king, fled to Virginia, but he returned the next year and reestablished his control The proprietary government excluded Ingle from the pardon granted to the other rebels

Inglewood, city (1940 pop 30,114, 1947 special census pop 42,964), S Calif , SW of Los Angeles, laid out 1887, inc 1908 The city is industrial as well as residential, and aircraft is made An adobe house, built c 1845, still remains

Inglis, Charles (ĭng′glĭs, ĭng′gulz), 1734–1816, Anglican bishop of Nova Scotia, b Ireland. He came to America in 1755 While assistant rector (1765–77) of Trinity Church, New York city, he actively espoused England's position in the struggle with the colonies He refused to omit the prayers for the king, and his *True Interest of America Impartially Stated* (1776) and other pamphlets as well as his letters to the press, which he signed Papinian, were strongly Loyalist In 1777 Inglis became rector of Trinity, but he returned to England in 1783 when the British evacuated New York In 1787 he was appointed the first Anglican bishop of Nova Scotia See Morgan Dix, *A History of the Parish of Trinity Church,* Vol I (1898); W. B. Heeney, *Leaders of the Canadian Church* (1920)

Ingoldsby, Thomas see BARHAM, RICHARD HARRIS

Ingolstadt (ĭngʹgōlshtat), city (pop 36,764), Upper Bavaria, on the Danube Dating from the 8th cent and fortified in the 14th cent , it was unsuccessfully besieged (1632) by Gustavus II of Sweden in the Thirty Years War The fortifications were razed by the French in 1800 The Univ of Ingolstadt, founded in 1772, was removed to Landshut in 1800, Johann Eck taught here Ingolstadt, which has textile and automobile factories, suffered some damage in the Second World War, but the Gothic minster (15th cent) and other medieval churches and houses survived

Ingraham, Duncan Nathaniel (ĭngʹgrum), 1802–91, American naval officer b Charleston, S C , appointed a midshipman in 1812 He served in the War of 1812 and in the Mexican War While commanding the *St Louis* in the Mediterranean (1853), Ingraham secured the release at Smyrna of Martin Kostza, a Hungarian political exile who had taken out first papers in the United States but had been seized by Austrian authority Early in 1861 he resigned from the U S navy and commanded Confederate naval forces along the South Carolina coast for most of the Civil War

Ingraham, Joseph Holt, 1809–60, American minister and novelist, b Portland, Maine Until 1849, when he settled in the South and became an Episcopal minister, he was a writer of sensational tales, including stories of the pirates Captain Kidd and Laffite He then started writing religious romances, the best known being *A Pillar of Fire* (1859) His son was **Prentiss Ingraham,** 1844–1904, American novelist, b near Natchez, Miss He was a soldier of fortune and a prolific author of dime novels Some 200 stories with Buffalo Bill as the hero have been credited to him

Ingram, Arthur Foley Winnington (ĭngʹgrum), 1858–1946, English prelate, bishop of London (1901–39) He was a lifelong leader in social work in London's East End His many books include *What a Layman Should Believe* (1938) and *Fifty Years' Work in London* (1940) See Percy Colson, *Life of the Bishop of London* (new rev ed , 1939)

Ingram, borough (pop 3,904), Allegheny co , SW Pa , on the Ohio and near Pittsburgh, inc 1902

Ingres, Jean Auguste Dominique (shäʹ ōgüstʹ dōmēnēkʹ ēʹgru), 1780–1867, French painter, son of a local sculptor of Montauban While studying with J L David in Paris he supported himself by playing in a theater orchestra In 1801 he won the Prix de Rome but was unable to afford the journey until five years later From 1806 to 1824 he lived in Rome, where he supported himself and his family by portraiture Some of his pencil portraits of this period are considered among his finest productions In 1824 he returned to Paris and won a triumph with his *Vow of Louis XIII* (cathedral, Montauban) Frowned upon in his youth as an unconventional painter, he was now hailed as the bulwark of Davidian classicism His real and lifelong inspiration, however, was not David but Raphael. From 1824 to 1834 he lived in Paris, receiving many commissions and honors In 1834 he returned to Rome as director of the Académie de France à Rome and during the remainder of his long life occupied a preeminent position as teacher and artist On his death in 1867 the Ingres Museum was instituted in his native Montauban, there a large collection of his paintings and drawings is to be seen. Ingres is justly celebrated as a master of line and for his undeviating devotion to pure beauty in an age given over to romanticism Many later artists, including Degas and Puvis de Chavannes, have acknowledged their debt to him Among his many admirable works are *Jupiter and Thetis* (Aix), portraits of Mme Devaucay (Chantilly) and of the comtesse d'Haussonville (Frick Coll , New York), *The Source, The Bather, Odalisque,* and a portrait of Mme Rivière (Louvre) See Henry Lapauze, *Ingres sa vie et son œuvre* (1911), Walter Pach, *Ingres* (1939)

Ingria, see INGERMANLAND

Ingul (ēngōōlʹ), river, 215 mi long, S Ukraine It is a tributary of the Southern Bug, which it joins at Nikolayev

Ingulets (ēngōōlyĕtsʹ), river, 335 mi long, S Ukraine It traverses the Krivoi Rog iron district and flows S into the Dnieper above Kherson

Ingush see CHECHEN

inheritance, in biology see HEREDITY

inheritance, in law, right to acquire PROPERTY on the death of the owner Sometimes the inheritance of real property is termed descent, and that of personal property distribution In Anglo-American law inheritance is by grace of the state, which may exercise any degree of control over the

property of the decedent (i.e., the owner who dies), including total escheat (i e, government acquisition of title) Before the liberating effect of the Statute of Wills (1540) the decedent had limited control over the distribution of his personal property but almost none over the descent of his realty Since that time a spouse is required by law to leave a minimum amount of property to the surviving spouse (see HUSBAND AND WIFE), other property which is not in TRUST or (in a few cases) in ENTAIL may be freely disposed of by a valid WILL Should the decedent die intestate, his property is divided among his closest relatives in proportions fixed by law, or if no relatives can be found, the property escheats.

inheritance tax, assessment made on heirs of property, whether by descent or by disposition of the deceased Roman law included such a tax, and it is now used in most countries In the United States there was a Federal stamp tax levied on inheritances from 1797 to 1802, and a Federal inheritance tax was levied during the Civil War and during the Spanish-American War Since 1916 a Federal inheritance tax has been permanent, with various minimums for the estates taxed and various progressive rates All states but Nevada have inheritance taxes See W J Schultz, *The Taxation of Inheritance* (1926)

Inini see GUIANA, FRENCH

Iniscaltra, Ireland see HOLY ISLAND

Inisfail (I"nisfāl') [Irish *Inis Fáil*=island of destiny], literary name for Ireland, much used during the Irish literary and patriotic renaissance of the late 19th and early 20th cent The name also occurs as Innisfail and Inishfallen

initiative and referendum, the initiating of a law or constitutional amendment by popular petition (initiative) and the referring to popular vote a law passed by the legislature (referendum) This direct form of legislation was known in Greece and other early democracies It is practiced in Switzerland, thus making the Swiss legislature of minimal importance In the United States the initiative was recognized as early as 1777 in the first constitution of Georgia Initiative operates usually by the drafting of a law or constitutional amendment by an organization, it must have a certain number of signatures (state laws require from 5 to 8 percent of the electorate) before it is put on the ballot The referendum is required in most states for constitutional amendments The legislature may itself decide to secure the electorate's opinion on certain measures See W B Munro, *The Initiative, Referendum, and Recall* (1912)

injection, introduction of a liquid into a part of the body, e g., blood vessel, skin, muscle, or rectum An intradermal injection is one in which fluid is placed within the tissue of the skin, as in the determination of allergens A hypodermic injection is one made into subcutaneous tissues by means of a syringe and needle In an intramuscular injection a syringe with a longer needle is usually employed and the substance of the muscle is penetrated, e g, in the injection of extract of liver and certain hormones In administering intravenous injections, which may consist of saline solutions, solutions of amino acids, or transfusions of whole blood and plasma, the fluid is forced directly into a vein A spinal injection consists of forcing fluid beneath the dura of the spinal cord, e g, novocaine used in spinal anesthesia Drugs may be administered by any of these methods and also by means of a metal container which introduces them into the tissues in the form of a fine spray Fluid is often injected into the rectum for sedation, stimulation, or evacuation

injunction, formal written order of a court commanding or prohibiting a certain act. The injunction, which developed as the main remedy of EQUITY, orders the defendant to perform his legal duty; it is especially used in cases where money DAMAGES cannot satisfy the plaintiff's claim Originally the courts granted only prohibitory injunctions, on the grounds that the performance of positive orders could not easily be compelled or supervised However, the practice of making positive orders in negative guise (e g, "Do not allow the wall to continue standing," meaning "Tear down the wall") gave place in the 19th cent. to a frank recognition of affirmative (or mandatory) injunctions Injunctions granted while an action is pending are termed interlocutory and are intended to protect the plaintiff's interest so that a judgment will be of use to him A final injunction, on the other hand, is the judgment of the court made after all the evidence has been heard Injunctions, like most remedies of an equitable nature, are usually granted by a judge sitting without a jury If disobedience of the injunction is suspected, the judge tries the defendant for CONTEMPT OF COURT. So long as the injunction is in effect the court may consider requests to terminate or modify it Injunctions are granted in many circumstances, including some where courts of equity formerly refused to act. Examples of recent practices are the compelling of the performance of the terms of a contract and the ordering of a defendant personally to pay legal damages and spare the plaintiff from seeking execution of his JUDGMENT An old and common injunction is that for abating a NUISANCE The use of the injunction in labor disputes is a matter of great controversy. In the United States in the late 19th cent. it became a widespread practice for employers to appeal to the courts for protection against the activities of organized labor by alleging that the purpose of a union in calling a strike or boycott was illegal, e g, unreasonably to limit the employer's freedom by requiring him to maintain a closed shop Alleging furthermore that the injury would be immediate and that the union was unable to pay damages, interlocutory and final injunctions would often be granted In the Federal courts the Sherman Anti-Trust Act (1890) and the Clayton Anti-Trust Act (1914) were used as the basis of many labor injunctions. Unions were able in 1932 to obtain the adoption of the Federal Anti-Injunction Act, which forbad the Federal courts to grant injunctions in all but a few cases Similar laws were passed by many states, especially because certain union objectives formerly deemed illegal were made lawful In recent years, however, new legislation, notably the TAFT-HARTLEY LABOR ACT (1947), has restored some power over labor injunctions to the courts See MANDAMUS See Felix Frankfurter and Nathan Greene, *The Labor Injunction* (1930)

ink. The oldest known ink is India ink or China ink, probably made in China as early as 1200 B C It is made of lampblack or of ivory black mixed with either glue or a gum and is usually marketed in dry cakes or in sticks In the Orient the dry ink is rubbed in a dish with a little water, and a brush or a reed stylus is used for writing with it It has a rich blackness and is permanent In early civilizations dyes obtained from the fruits of certain plants and sepia from the squid, octopus, and cuttlefish were used as ink The Egyptians used lampblack in a mucilaginous fluid, an impermanent mixture readily sponged off with water Nutgall ink, made of nutgalls and copperas (ferrous sulphate), was probably known as early as the 2d cent This is essentially the standard black ink still used, though the tannic acid of the ink is now commonly derived from other sources than nutgalls Like India ink, this also is black and permanent, it flows more freely from a pen than ink made from lampblack It is a filterable solution, a lampblack ink has its coloring matter in suspension Aniline dyes are generally used to make colored inks

Inkerman (ĭng'kurmŭn, Rus ēn-kĭrman'), eastern suburb of Sevastopol, RSFSR, in S Crimea Here in 1854 the French and British defeated the Russians in the Crimean War in a bloody battle Near by are cave dwellings dating from the 3d and 4th cent A D and a 14th-century fortress

Inkster, village (pop 7,044), SE Mich., residential, suburb of Detroit, settled 1825, inc 1927 Flower pots are manufactured There is a psychopathic hospital here

Inland Sea, c 240 mi long and from 5 to 40 mi wide, one of the scenic beauties of Japan It separates Honshu on the north from Shikoku and Kyushu on the south Among the ports on this important waterway are Osaka, Amagasaki, Kobe, Kure, Hiroshima, and Shimonoseki AWAJI-SHIMA is the largest of its numerous islands

inlaying, the process of ornamenting a surface by setting into it material of different color or substance, usually in such a manner as to preserve a continuous plane Inlay is employed in connection with a great variety of objects, both of major architectural character and of minor furnishing and decorative function, and makes use of a wide range of materials, such as wood, stone, ivory, glass, metal, mother-of-pearl, and tortoise shell The art is of ancient origin, examples being extant from early Egyptian times, and has been continuously and widely employed The use of the word *inlay* is now more generally restricted to the true process as applied to furniture and other objects of wood and as distinguished from parquetry and the veneered work of MARQUETRY For stone or glass inlays, see MOSAIC and PIETRA DURA, for metals, see NIELLO and DAMASCENING, and for special wood inlays, see INTARSIA

Inman, Henry, 1801–46, American portrait, genre, and landscape painter, b Yorkville, N Y, studied with John Wesley Jarvis He was a founder and first vice president of the National Academy of Design He was highly esteemed as a portrait painter in America and in England Among his distinguished sitters were Martin Van Buren and William C Macready (Metropolitan Mus.), Wordsworth (Univ of Pennsylvania), Fitz-Greene Halleck (N Y Historical Society), and Fanny Kemble (Brooklyn Mus.). His landscapes and genre works include *Picnic in the Catskills* and *Rydal Falls, England* (Brooklyn Mus.), *Mumble-the-Peg* (Pa Acad of the Fine Arts); and *The Young Fisherman* (Metropolitan Mus.).

Inman, textile town (pop. 1,115), NW S C., just NW of Spartanburg

Inn (in), river of central Europe, rising c.10 mi. SW of St Moritz, Switzerland. It is 320 mi. long and flows NE through the Engadine valley, then through the Austrian Tyrol past Innsbruck. Entering Bavaria near Kufstein, it forms part of the boundary between that land and Austria before joining the Danube at Passau.

Inn, in Great Britain, includes every hotel, public house, tavern, and coffeehouse where lodging is provided. A tavern in the strict sense of the word dispenses only food and drink. In American usage the inn is generally a small rural house for transients. Among the earliest public houses were empty huts placed at caravan stops in the Orient for the shelter of travelers and travelers. To pilgrims, temples and religious houses gave rest and refreshment, and this custom lingers in some Alpine hospices The Romans maintained post stations on their great highways for the use of messengers of state and those especially privileged For the accommodation of ordinary transients, *stabularia* were kept for man and beast In the Middle Ages hospitality was observed as one of the Christian duties by the establishment of hospices in cities and by the entertainment of travelers at monasteries Inns kept for profit appeared in Europe about the 15th cent and gained a reputable standing in England, being often named for the powerful family on whose holdings they were established They were usually built around a courtyard approached by a wide covered entry In the literature of the 18th and 19th cent the old-fashioned hostelry plays an interesting part In America colonial inns similar to the English hostelries sprang up along the great turnpikes The royalist flavor of many of the signs became offensive to the patriots, who renamed the houses, e g, City Tavern (Philadelphia), Bunch of Grapes (Boston), The True American (Trenton), The Catamount (Bennington), Fraunces Tavern (New York), and the Bird-in-Hand (Richmond)

Inner Hebrides, Scotland see HEBRIDES

Innerleithen (ĭnurlē'dhun), burgh (pop 2,359) Peeblesshire, Scotland, on the Tweed and ESE of Peebles It is a health resort and is supposed to be the site of Sir Walter Scott's *St Ronan's Well* It has a wool-weaving industry

Inner Mongolia: see MONGOLIA

Inner Temple see INNS OF COURT and TEMPLE, THE

Innes, James (ĭnz), 1754–98, American lawyer, b Caroline co, Va, grad College of William and Mary, 1772 As commander of a Virginia regiment he took part in many battles of the American Revolution He was president of the board of war for Virginia (1779) and a member of the state legislature (1780–82, 1785–87) A noted lawyer, considered second only to Patrick Henry as an orator, Innes was chosen to make the final appeal for adoption of the Constitution in the Virginia ratifying convention (1788) and greatly impressed all those present He defeated (1786) John Marshall for the office of attorney general of Virginia, but declined an appointment as U S Attorney General

Innes, Robert T. A., 1861–1933, British astronomer He is known especially for his observations and discoveries of binary stars His scientific activities were carried on chiefly in South Africa, where he was secretary of the Royal Observatory, Capetown (1896–1903), director of meteorology for the Transvaal (1903–11), and astronomer for the Union of South Africa (1911–27) He invented a method of stereoscopic film projection in which figures and scenes would be presented in lifelike relief Among his writings were treatises on double stars, on the discovery of the nearest star, Proxima Centauri, and on proof of oscillations in length of the day

Inness, George (ĭn'nĭs), 1825–94, American landscape painter, b Newburgh, N Y His father intended him to be a grocer, but he early showed talent and was apprenticed to an engraver In 1845 he opened a studio in New York, devoting himself to painting, and two years later through the kindness of a friend was enabled to go to Rome He made a subsequent visit to Rome in 1851, and in 1854 he and his wife went to Paris, where he came in contact with the Barbizon school and broadened his technique On their return they settled in Medfield, Mass There Inness painted many of his best-known canvases In later life he enjoyed a high reputation, maintaining studios in New York and in Montclair, N J, where most of his last 20 years were spent The early work of Inness is in the rather literal manner of the Hudson River school His panoramic *Peace and Plenty* is characteristic of this period. But he was not long in discovering his own personal style which became increasingly freer, more intimate, and richer in color In his later works his subjects, covering a wide range of light effects, became a vehicle for the expression of a consistently romantic mood. Inness was a Swedenborgian and sought the mystical in nature Among his principal works are *Rainbow after a Storm* and *Millpond* (Art Inst., Chicago); *Peace and Plenty, Delaware Valley, Autumn Oaks,* and *Evening—Medfield, Mass* (Metropolitan Mus.), *Georgia Pines* and *Niagara* (National Gall of Art, Washington, D C) He was a member of the National Academy of Design. Inness died in Scotland See Elliott Daingerfield, ed., *Fifty Paintings by George Inness* (1913) His son, **George Inness, Jr.,** 1854–1926, was a landscape and animal painter, pupil of his father and of Bonnat in Paris, where he was a frequent exhibitor at the Salon. Among

his best-known works are three animal paintings—*Monarch of the Farm, Mother of the Herd,* and *Shepherd and Sheep* (the last in the Metropolitan Mus) —and some excellent landscapes painted in the later manner of his father, among them *The First Snow at Cragsmoor* and *The Coming Storm.* He wrote *Life, Art, and Letters of George Innes* (1917)

Innisfail (I'nisfāl), town (pop. 1,272), S Alta , N of Calgary, in a farm region

Innisfree, small island, Co. Sligo, Ireland, in Lough Gill It is celebrated by W. B Yeats in his "Lake Isle of Innisfree "

innocence : see BLUET

Innocent I, Saint, d. 417, pope (401–17), an Italian, successor of St Anastasius I and predecessor of St. Zosimus. A powerful champion of papal supremacy in the whole Church, he upheld St. JOHN CHRYSOSTOM and condemned Pelagius He vainly tried to prevent Alaric's sack of Rome (410) Feast July 28

Innocent II, d 1143, pope (1130–43), a Roman named Gregorio Papareschi, successor of HONORIUS II and predecessor of Celestine II He was created cardinal by Paschal II On the death of HONORIUS II, some of the cardinals elected him pope, the others electing Cardinal Pietro Pierleoni as Anacletus II Innocent had to leave Rome He was soon recognized in France at the instance of St Bernard of Clairvaux, and in 1131 Emperor Lothair II England, and Spain submitted to him Roger II of Sicily adhered to Anacletus In 1137 Lothair attacked Rome, but Anacletus retained part of the city On Anacletus' death (1138), an antipope Victor IV was elected, but he soon resigned Innocent convened the Second LATERAN COUNCIL (1139) Innocent, at the behest of St Bernard, condemned the teachings of ABELARD and ARNOLD OF BRESCIA

Innocent III, b 1160 or 1161, d 1216, pope (1198–1216), an Italian (b Anagni), named Lotario di Segni, successor of CELESTINE III and predecessor of HONORIUS III He was of an important family, the counts of Segni, to which belonged also Gregory IX and Alexander IV He was trained as a theologian and jurist, and under Celestine III he lived in retirement, studying and writing He had been created cardinal in 1190 His election (1198) the day of Celestine's death was a surprise, particularly because of the new pope's youth—he was 37 Innocent seems already to have formed his theory, a most extreme ecclesiastico-political doctrine that since things of the spirit take preeminence over things of the body, and since the Church rules the spirit and earthly monarchs rule the body, earthly monarchs must be in all things in subjection to the pope, the doctrine that the sphere of the Church was limited had no real place in Innocent's idea He set out immediately after his election to realize his ideal of the pope as political, as well as ecclesiastical, ruler of the world In imperial affairs he was constantly active. He acknowledged the young FREDERICK II as king of Sicily after the king's mother, Constance, had accepted papal suzerainty over Sicily and given up certain ecclesiastical privileges, on Constance's death, Innocent accepted Frederick as his ward, a trust he faithfully executed, as even his enemies admitted In Germany the dispute between Philip of Swabia and Otto IV was arbitrated by the pope in favor of Otto (1201), at the same time Innocent clarified his idea of the relation between pope and emperor Later (1207–8) the pope favored Philip, but after Philip's murder, Innocent crowned Otto (1209), only to excommunicate him (1210) and dictate the election of the papal ward, Frederick II, as emperor (1211) Frederick made elaborate promises (as had Otto) favorable to the Holy See Innocent's relations with England proceeded to the same political end, but this was hastened by a purely ecclesiastical quarrel over the election of an archbishop of Canterbury Innocent set aside the two rival claimants and procured the election of Stephen LANGTON, King JOHN, enraged at what he felt was unwarrantable interference by the pope and at the obduracy of the clergy in opposing the demands of the king, persecuted the Church As a result the pope laid England under the interdict, excommunicated John (1209), and formally deposed him (1212) The people and the barons supported the Church and John had to submit; he received England and Ireland in fief from the pope, promising annual tribute to the Holy See Subsequently the pope stood by John after the barons coerced him into granting the MAGNA CARTA, for Innocent declared it null as a forcibly exacted promise and also as a vassal's promise made without his overlord's knowledge PANDULF became Innocent's legate in England Of Christian Spain, Scandinavia, Hungary, and the Latin East also, Innocent was virtually overlord PHILIP II of France remained independent of Innocent politically, but on a moral question, Philip's divorce, Innocent forced the king to bow to the canon law. The great failures of Innocent's policy were the Fourth Crusade (see CRUSADES) and the conduct of N Italy. This crusade, proclaimed and blessed by Innocent, never went to the Holy Land, but attacked instead two Christian states, Zara and the Byzantine Empire. Innocent inveighed against the disobedience of the Crusaders, but later accepted the *fait accompli* and tried to spread the Latin rite over the Latin Empire of Constantinople, in spite of a new Latin patriarchate, these efforts were futile, and the schism of East and West was only exacerbated In Italy, Innocent reclaimed the Patrimony of St Peter, the duchy of Spoleto, the March of Ancona, and the Ravenna district, he was recognized as temporal overlord by Tuscany, but northern Italian cities were unruly and maintained their independence throughout Innocent's pontificate Innocent initiated the Albigensian mission and the Albigensian Crusade, when he heard of the misbehavior of Simon de Montfort's crusaders, he protested in vain He supported the Teutonic Knights in the incursions along the Baltic Amid all his political activity Innocent was most energetic in the administration of the Church In this direction the triumph of his pontificate was the Fourth LATERAN COUNCIL (1215), one of the greatest of councils His was the original impetus behind St Dominic's mission, and he provided the first approbation of the institute of St Francis Innocent's interest in law was ever active, thus as pope he constantly held court, with a good name for impartiality He wrote extensively, his tract *De contemptu mundi* [on the contempt of this world] was widely read in the Middle Ages Innocent's theories of the papal monarchy had a profound effect, eventually damaging to the papacy, as when Boniface VIII attempted to use them They have no place in Roman Catholic doctrine, which teaches (with St Thomas Aquinas) that the state has its proper sphere within which its rulers are as responsible to God for their conduct as the pope is for the conduct of the Church

Innocent IV, d 1254, pope (1243–54), a Genoese named Sinibaldo Fiesco, successor of Celestine IV (who had succeeded Gregory IX not a month before) and predecessor of Alexander IV He was of a noble family Though he had been a known imperialist, Innocent as pope quickly took up the papal struggle with Emperor FREDERICK II After a futile treaty he felt unsafe in Rome and fled to Lyons, where he convened the Council of Lyons (1245, see LYONS, COUNCIL OF) Frederick was condemned again and declared deposed, and Innocent supported as pretenders to the imperium Henry Raspe and, later, William II of Holland He also tried to get an English or French prince to take Sicily as a fief, but Frederick was too strong Frederick died as the pope was opening a crusade against him (1250) Innocent did not spare the other Hohenstaufen, CONRAD IV and MANFRED, but after finding them invincible in Sicily, he recognized CONRADIN as king of Sicily Innocent was almost wholly occupied with his quarrel with the Hohenstaufen, and the taxes he levied to continue it made him unpopular with clergy and laity alike He was succeeded by Alexander IV

Innocent V, d 1276, pope (1276), a Savoyard named Peter of Tarentaise, successor of GREGORY X and predecessor of Adrian V He was a Dominican and studied at Paris under Thomas Aquinas and Albertus Magnus He became an eminent theologian and composed a standard commentary on Peter Lombard's *Sentences* He was archbishop of Lyons (after 1272) and a leader in the council there in 1274 Innocent died five months after his election as pope He was beatified in 1898

Innocent VI, d. 1362, pope (1352–62), a Frenchman named Étienne Aubert, successor of CLEMENT VI and predecessor of URBAN V He was a well-known jurist and was created cardinal in 1342 He lived at Avignon He was one of the few reforming popes of his age, doing his best to eliminate venality from church administration His major quarrel was with Emperor CHARLES IV over the Golden Bull He sent Cardinal de Albornoz into Italy to pacify the Papal States and liberated RIENZI to go with him

Innocent VIII, 1432–92, pope (1484–92), a Genoese named Giovanni Battista Cibò, successor of SIXTUS IV and predecessor of ALEXANDER VI He received the red hat in 1473 His close friend, Cardinal Giuliano della Rovere (later Julius II), largely directed the papal affairs Like his predecessors Innocent wished to stop the Turkish advance, but he succeeded by means other than the crusade he originally planned Djem, brother of Sultan BAJAZET II, had escaped the bowstring and was held captive by Pierre d'AUBUSSON, the pope saw that if he held over the sultan the threat of supporting Djem's pretensions, Bajazet would come to terms He made peace, then, with Charles VIII of France—Djem was held in Auvergne—and gave Pierre d'Aubusson the red hat, in 1489 Djem was sent to Rome Bajazet (1490) agreed to leave Europe at peace if the pope kept Djem captive Innocent VIII was not a man of bad character after he entered the clergy, though he was known as a nepotist

Innocent XI, 1611–89, pope (1676–89), an Italian (b. Como) named Benedetto Odescalchi, successor of Clement X and predecessor of Alexander VIII He was elected because of his great saintliness and desire for reform. His election had been opposed by Louis XIV, with whom he had a long, bitter quarrel over GALLICANISM, begun in this phase with Louis's collection of the revenues of vacant benefices all over France The Gallican statement of 1682 brought a papal condemnation, and when Louis revoked the Edict of Nantes, perhaps to gain papal favor, Innocent denounced the proceedings (1685) Bitterness increased when Innocent made an enemy of the archbishop of Cologne James II of England, Louis's ally, also excited Innocent's displeasure, but there is no proof of the allegation that Innocent supported William III in his accession to the English throne

Innocent XII, 1615–1700, pope (1691–1700), a Neapolitan named Antonio Pignatelli, successor of Alexander VIII and predecessor of CLEMENT XI He was frequently employed by his predecessors as a nuncio, and Innocent XI created him cardinal His election was the result of a compromise, but he showed himself a stern reformer, especially regarding nepotism, which he abolished He brought Louis XIV over to his point of view on GALLICANISM, and he condemned certain of Fénelon's doctrines as quietistic He was universally loved for his charity and piety

Innocents, Holy, children of Bethlehem killed by order of Herod the Great, who hoped to destroy the Infant Jesus Mat 2 16–18 Their feast (as martyrs), formerly called Childermas, is Dec 28

Innsbruck (ĭnz'brŏŏk, Ger ĭns'-), city (pop 97,221), capital of the Tyrol, W Austria, on the Inn river The town of Wilten, now part of Innsbruck, was the Roman Veldelina, an important river crossing First mentioned in 1187, Innsbruck received city rights and was fortified in 1233 It supplanted Merano as the capital of the Tyrol in 1420 Mt. Isel, near Innsbruck, was the place where the Tyrolese peasants, led by Andreas HOFER, made their heroic stand against French and Bavarian troops in 1809 The Hofkirche (16th cent.), a Franciscan church, is an architectural gem, it has a monument to Emperor Maximilian I, who often resided in Innsbruck Equally famous is the Fürstenburg, a 15th-century castle, which has a balcony with a gilded copper roof (*Goldenes Dachl*) The Column of St Anne (1706) is a landmark in Innsbruck's main thoroughfare, the Maria Theresienstrasse, which offers a view of the Alps The botanical garden has a large collection of Alpine plants There are several museums and a university founded in 1677 Innsbruck is a favorite summer and winter resort

Inns of Court, collective name of the four legal societies in London which have the exclusive right of admission to the bar These societies—Lincoln's Inn, Gray's Inn, the Inner Temple, and the Middle Temple (see also TEMPLE, THE)—date from before the 14th cent They take their name from the buildings where originally schools of law were held, "apprentice" lawyers gathering about to learn from masters of law, much as in guild training Today the societies are more like clubs, which have control of admission to the bar The Inns of Chancery were lesser societies, dependent on the Inns of Court, their importance declined in the 18th cent and they disappeared in the 19th cent.

Ino (ī'nō), in Greek mythology, daughter of CADMUS, wife of ATHAMAS, to whom she bore Learchus and Melicertes She plotted to kill her stepchildren, PHRIXUS and Helle, but their mother, Nephele, saved them Later, when Athamas went mad and killed Learchus, Ino and Melicertes leaped into the sea and were changed into sea deities, LEUCOTHEA and PALAEMON

inoculation (ĭnŏk'yəlā'shən), term used in the strict sense to denote the insertion of a virus into a wound in order to establish immunity by producing a mild form of the disease or to communicate a disease for experimental purposes Various forms of inoculation were used from ancient times in China, India, and Persia In England, Edward JENNER used inoculation to prevent smallpox Substances (including various microorganisms and serums) may be introduced by application to the skin (cutaneous), into the skin (intracutaneous), under the skin (subcutaneous), into a vein (intravenous), into a cavity (intraperitoneal), and into the brain (intracerebral) or the spinal cord (intraspinal). The term *inoculation* is used also to refer to the introduction of certain substances into plant tissues and of microorganisms into a culture medium or into the soil

Inonu, Ismet (ĭsmĕt' ēnōō'nōō'), 1884–, Turkish statesman and general, president of Turkey (1938–50) He served in the Balkan Wars and the First World War and became (1920) chief of staff to Mustafa Kemal, later known as Kemal ATATURK He played an important part in the establishment of the Turkish republic and in Kemal's victory over the Greeks, and he represented Turkey at the Conference of Lausanne (see LAUSANNE, CONFERENCE OF, 1922–23) As prime minister (1923–24, 1925–37) he ably seconded the reforms of Ataturk, on whose death (1938) he was elected president of the republic His party was defeated in the general elections of 1950, and he was succeeded by Celal Bayar

Inouye, Kaoru, Marquis (kou'rōō, ĭnō'ā), 1835–1915, Japanese statesman. As a young man he es-

caped to Europe with his friend Hirobumi Iro and returned to urge the adoption of Western methods After the Meiji restoration he became a minister of state and was influential in reorganizing government finances on modern lines, especially in the reform of the land tax system Throughout his life he was a friend and patron of the house of Mitsui, who supported his policies and enjoyed his backing As foreign minister (1879–87), he attempted to negotiate a revision of the unequal treaties, but his plan did not go far enough to please Japanese opinion, and he resigned Later he served as home minister and as finance minister under Ito. After Ito and Yamagata he was perhaps the most influential of the elder statesmen

Inowroclaw, Pol *Inowroclaw* (ēnôvrôts'wäf), Ger *Hohensalza* (hōunzäl'tsä), town (pop 35,808), Pomorse prov, NW Poland It passed to Prussia in 1772 and reverted to Poland in 1919 During the Second World War, in which it suffered relatively little damage, Inowroclaw was included in Germany Chiefly a trade center and a salt-water spa, it also has a salt mine There are several other industries in the vicinity

inquest, in law, inquiry by a coroner's jury into the cause of a death The term also refers to the jurors collectively The inquest, called by the CORONER, is similar to the grand JURY Witnesses are examined, but a person suspected of guilt is not permitted to make a defense Among the verdicts returnable by an inquest are natural death, accidental death, suicide, and murder Criminal prosecution may follow a verdict of murder or culpable accident

Inquisition (In"kwizi'shun) **1** The medieval Inquisition began (c 1233) when the pope commissioned certain Dominicans to investigate the secret practice of the religion of the ALBIGENSES in S France The pope thus took over a duty in which the local bishops had proved ineffectual When an inquisitor arrived in a district, a month of grace was allowed to all who wished to come forward to abjure heresy, these were given a penance, such as a command to receive the sacraments frequently, which assumed the good faith of the abjurant and was calculated to confirm his faith After the period of grace was over, persons accused of heresy who had not abjured were brought to trial Defendants were not given the names of their accusers, but they could submit a list of their enemies, and the appearance of an accuser's name on the list vitiated the charge Accused had right to counsel, and the guilty had an appeal to the pope The inquisitor conducted the trial in the presence of a representative of the bishop and of a stipulated number of local laymen Otherwise all was secret Torture of accused and witnesses soon became customary and notorious despite the long-standing papal condemnation of torture (e g, by Nicholas I) The verdict and sentence of the inquisitor could be enforced by the local ruler only This was natural, since heresy was considered a kind of revolt The idea that burning at the stake was the fitting punishment for heresy also appeared, probably by analogy with the Roman law on treason Burning of heretics was not common in the Middle Ages, imprisonment was the normal punishment A verdict of guilty also meant confiscation of property by the civil ruler, who might turn over part of it to the inquisitor's order or to anyone else This led to graft, blackmail, and simony and helped to build suspicion of some of the inquests Generally the inquisitors were eager to receive abjurations of heresy and to avoid trials In the medieval treatment of heresy the sternest repressors of heretics were the civil rulers—ecclesiastics were notoriously easy to satisfy with assurances of good will Apparently most cases finally brought to trial ended with a verdict of guilty The Inquisition was an emergency device and was mainly used in S France, N Italy, Germany, and the Papal States In modern times it continued in the Papal States until the 19th cent **2** The Spanish Inquisition was independent of the medieval Inquisition. It was established (1478) by FERDINAND V and Isabella with the reluctant approval of Sixtus IV, the first head was Tomás de TORQUEMADA From the start it was entirely controlled by the Spanish kings, the pope's only hold was in naming the inquisitor general The popes were never reconciled to the institution, which they regarded as usurping a church prerogative It was harsher, much better organized, and far freer with the death penalty than the medieval Inquisition The Spanish government tried to establish the Inquisition in all its dominions, but in the Spanish Netherlands the local officials failed to cooperate, and the inquisitors were chased out of Naples, apparently with the pope's connivance (1510) The purpose of the Spanish Inquisition was to spy out converted Moors and Jews who were insincere, but soon no Spaniard could feel safe, thus St Ignatius of Loyola and St Theresa of Ávila were investigated for heresy, and the censorship policy was such as sometimes to condemn books approved by the Holy See The Spanish Inquisition was abolished in 1820 **3** In 1542 Paul III assigned the medieval Inquisition to the department of government called the Congregation of the Inquisition or Holy Office. The modern Congregation of the Holy Office has the decision as to questions of faith and morals, of heresy, of some matrimonial cases, and of the censorship of books (the Index) There is now no Roman Catholic institution called the Inquisition The old standard scholarly (but anti-Catholic) writing on the Inquisition was that of Henry Charles Lea, who, however, failed to make a proper distinction between the different Inquisitions The work is now outdated by much recent scholarship Since 1920 have appeared monographs, articles, and much new material (manuals, journals, and records of trials) on the medieval Inquisition See Jean Guiraud, *The Mediæval Inquisition* (Eng tr, 1929), Hoffman Nickerson, *The Inquisition* (2d ed, 1932), William T. Walsh, *Characteristics of the Inquisition* (1940)

insanity or **lunacy,** in law, mental aberration or defect which may relieve a person from some of the legal consequences of his acts Insanity comprises those psychological states which excuse conduct ordinarily criminal and which make certain civil transactions invalid Criminal and civil insanity both differ to some degree from the concepts of psychopathology (see NEUROSIS and PSYCHOSIS), and there has been much medical criticism of the legal categories The law of criminal insanity is designed to save from ordinary penal sanctions persons who are not responsible for their own acts and who could not have been deterred by any threatened punishment The strictest American jurisdictions limit such insanity to ignorance of the nature of one's acts and inability to distinguish right from wrong In this view probably only a crime committed in a frenzy or by a person unable to make simple moral distinctions (e g, an idiot) would be excusable, but sufferers from PARANOIA who act in response to a delusional system might be deemed sane The jurisdictions which have abandoned the strict test often recognize paranoiacs and persons acting under a sudden irresistible impulse (usually termed temporary insanity) as lunatics In the United States the methods of determining insanity in criminal cases varies Typical are decisions by the trial judge, by the regular jury, by a special jury, and by a commission composed of lawyers, physicians, and laymen A lesser degree of mental aberration is required for civil insanity than for criminal insanity, in general, extreme deficiency of intelligence or a marked defect in reason may be sufficient Usually a contract made with a lunatic is voided unless it was to furnish him with necessities or unless he is unable to restore the benefits received The legal presumption of civil sanity is strong in the case of a testator or one in the prime of life and weak in the case of one who is sick or old and decrepit A harmless, though insane, person who is unable to carry on his affairs may be placed under guardianship on application to a court Lunatics (including the criminally insane) who are dangerous to themselves or others may be committed to institutions on the application of a close relative or of the public authorities Generally the approval of a court must be given, and in some cases a jury must first return a verdict of insane A person confined to an asylum may have his detention reviewed by habeas corpus proceedings See Gregory Zilboorg, *Mind, Medicine, and Man* (1943)

inscription, WRITING on durable material The art is called epigraphy Modern inscriptions are made for permanent, monumental record, as on gravestones, cornerstones, and building fronts, they are often decorative and imitative of ancient (usually Roman) methods The only current use of inscriptions which has no accepted substitute, the marking of graves, is also the oldest continuous use The first writing was probably everywhere done on hard materials, mainly stones (rough or hewn), clay (often marked when wet), metal, bone, and ivory When light materials like paper were developed, it was possible to distinguish between writing for temporary use and permanent recording, and epigraphy became restricted in use Outside Western history epigraphy was of importance in two independent civilizations—in the remarkable art of the MAYA, TOLTEC, and AZTEC cultures and in China There is also the exotic mid-Pacific epigraphy of EASTER ISLAND The earliest Chinese inscriptions are on bronze (c 1800 B C), and there are later writings on bone from N China From the classical period, before 200 B C, are odes on great stone drums found in Shensi The invention of paper (A D c 100) ended the role of epigraphy in China There is an important bilingual Chinese-Turkish inscription near the ORKHON (A D c 800) The Hindus used palm leaves for writing early in their history, and their inscriptions do not record the older forms of their language The most important are Prakrit inscriptions of ASOKA (3d cent. B C) The first Sanskrit inscriptions date from some centuries later The course of Western epigraphy begins in Mesopotamia and on the Nile The Mesopotamian writing, CUNEIFORM, was invented c.4000 B C, probably by the Sumerians It was created for writing on sun-dried brick. This combines durability with lightness and contrasts favorably with all other epigraphic materials in convenience of making and handling It thus anticipates some of the merits of paper. (See BABYLONIA; ASSYRIA, HITTITES, ELAM For notes on examples of epigraphic treasure-troves, see ERECH, LAGASH, NINEVEH, NIPPUR, SUSA, TEL-EL-AMARNA, BOGHAZKEUI) An Eastern congener of Mesopotamian epigraphy is found at MOHENJO-DARO (Indus valley), with its seal inscriptions on faience and ivory (c 3000 B C) Long after, in PERSIA, the Achaemenidae revived cuneiforms, in an altered form; their chief monument is the inscription of Darius I at BEHISTUN (c 500 B C) In EGYPT the HIEROGLYPHIC epigraphy had a parallel career From the I dynasty (4th millennium B C) inscriptions of the Nile present a grand panorama of history, past the age of the PYRAMID to the XII dynasty, heyday of hieroglyphic writing, then to the New Empire, with the splendid rock inscriptions at THEBES. Egyptian epigraphy lost its vitality more from the development of papyrus than the downfall of the kingdom Its influences are found everywhere in the Arabian peninsula in inscriptions of the 1st millennium B C, examples are the MOABITE STONE, Phoenician stones and coins, inscriptions near Damascus, and the Himyaritic writing of Yemen (see SHEBA) In the Mediterranean the earliest epigraphy of Greek culture appears in AEGEAN CIVILIZATION and MINOAN CIVILIZATION In Cyprus there are inscriptions of many ages, cuneiform and Greek writing side by side From the expansion of Greece through the career of Rome epigraphy flourished everywhere, and inscriptions are literally innumerable Among the older Greek inscriptions are those on vases, coins, votive offerings, statues, and the like, besides accounts of expenditures in temples, annals (e g, the Parian Chronicle on PAROS), codes of laws (at GORTYNA), decrees, bookkeeping accounts, lists of citizens, ostraca (see OSTRACISM), and many graffiti (wall scribblings) Greek influence was, of course, decisive in Italy, first in the inscriptions of the ETRUSCANS There are also many inscriptions in Italic languages, notably the IGUVINE TABLES Latin epigraphy began with religious documents, but by the end of the republic it was touching every phase of life Contemporary with the late republic there was a Celtic epigraphy in Gaul, at first in Greek letters, but the chief Celtic inscriptions are in the OGHAM writings of the Christian era The Germanic RUNES are another European alphabet used in inscriptions Latin epigraphy never died in the Roman Empire, and Christianity adapted the old forms, first in the catacombs, then in churches Modern monumental inscription is in the same tradition, but materially renovated by the neoclassicism of the Italian Renaissance For the history and examples of epigraphy, see histories of appropriate cultures, countries, languages, literatures, and periods of art

insect, an air-breathing arthropod of the class Insecta, with a distinct head, thorax, and abdomen and with three pairs of legs, one pair of antennae, and usually one or two pairs of wings in the adult Many insects, such as the BUTTERFLY, MOTH, MOSQUITO, BEE, and HOUSEFLY, undergo a complete metamorphosis from the egg through the LARVA and PUPA stages to the adult form Others such as the grasshopper and the true BUG undergo a gradual metamorphosis Changes which are more pronounced than in the gradual metamorphosis but less so than in the complete metamorphosis are characteristic of the dragon fly and some related insects Some primitive wingless insects hatch in the adult form and merely grow in size Fossil records indicate that insects are the oldest of the earth's inhabitants It has been estimated that nine tenths of the animals of the world are insects Their success is attributed to their small size, their reproductive ability, and the abundance of their food Insects cause an annual loss estimated to average $3,000,000,000, although only a few hundred of the 500,000 known species are harmful Among those which injure crops and other vegetation are the GRASSHOPPER, ARMY WORM, APHID, CORN BORER, CODLING MOTH, TENT CATERPILLAR, JAPANESE BEETLE, GYPSY MOTH, BAGWORM, and some of the scale insects Disease carriers include the mosquito, housefly, TSETSE FLY, TICK, and FLEA Insects are of great value as agents of cross-pollination (see POLLINATION) Many are natural enemies of harmful insects Others are the chief food of some fish, reptiles, and birds and of a few mammals Insects eaten by man include white ants in Brazil and grasshoppers in China From insects are obtained varied products, e g, silk, honey, cochineal, lac See L O Howard, *The Insect Menace* (1931), F E Lutz, *Field Book of Insects* (rev ed, 1935) and *A Lot of Insects* (1941), A H. Verrill, *Strange Insects and Their Stories* (1937), E. W Teale, *Grassroot Jungles* (1937) and *Near Horizons* (1942), R L Ditmars, *The Book of Insect Oddities* (1938); J H. and A. B Comstock and G. W Herrick, *A Manual for the Study of Insects* (rev ed, 1938), C L Metcalf and W P Flint, *Destructive and Useful Insects* (2d ed, 1939)

insecticide (In$\bar{e}$k'tusid), substance used to destroy insect pests. A great variety of insecticides have

been developed because some are efficacious against one type of insect and ineffective against another, some are toxic to man or to useful insects and animals, and others can be used only under certain conditions. Preparations are often classed as to mode of action, e.g., stomach poisons, which are used chiefly against chewing insects, and contact poisons, which penetrate the integument or enter the respiratory openings, causing suffocation. Insecticides are applied by dusting, by spraying, or by releasing a gas (fumigating), usually in a sealed building or room or, in fields, under a tent or other covering. Improved methods of application include the release of dusts or spray mists over large areas by airplanes, the electrification of powders by fast streams of compressed air to increase adherence, especially to the underside of plants, and the aerosol method, in which the insecticide is packed with liquefied gas into a suitable container and released (under pressure of the gas) as a fine mist. Arsenical poisons (including PARIS GREEN and lead arsenate) are among the oldest and most widely employed stomach poisons. Other stomach poisons include fluorine compounds (effective against cockroaches, ants, and other household pests), salts of copper, organic poisons such as hellebore, and synthetic compounds. Contact poisons include compounds of sulphur (especially lime sulphur) and of nicotine, petroleum oils (used also as carriers for other insecticides), coal-tar derivatives, pyrethrum, rotenone, and DDT. Pyrethrum, long used in the Near East and Persia for insecticidal purposes and introduced in Europe in the 19th cent., is derived from the flowers of certain plants of the genus *Chrysanthemum* and is used as a dust or a spray. The active principle, pyrethrin, has recently been synthesized. Rotenone, obtained from derris or from other plants (most of them tropical and long used in China and the East as poisons), like pyrethrum is highly toxic to insects but is relatively harmless to warm-blooded animals. The production of new forms of insecticides was stimulated during the Second World War by the curtailment of the principal ingredients of the older forms and by increased use to protect military forces from typhus, malaria, and other insect-borne diseases. Outstanding among new insecticides is DDT (dichloro-diphenyl-trichloroethane). Although synthesized in Germany in 1874, its value was not recognized until after the Swiss potato crop had been saved (1939) from the ravages of the Colorado potato beetle. The use of DDT during the war prevented typhus epidemics in Italy and North Africa and checked malaria in mosquito-ridden areas. Many agricultural insect enemies as well as household pests are destroyed by DDT, but its toxicity toward other forms of life and the development of resistant insect strains have not been fully determined. One of its advantages is its long-lasting residual effect. A number of chemically related substances have also been synthesized. Other recently developed insecticides are benzene hexachloride (in several forms, including Gammexane) and chlorinated camphene. Precautions must be observed in using insecticides, many of which are toxic to man. Especially dangerous are certain fumigants, notably hydrocyanic acid; gas masks must be employed while handling them. Fruit or vegetables sprayed with poisonous substances especially compounds of arsenic or lead, must be thoroughly washed. See D. E. H. Frear, *Chemistry of Insecticides, Fungicides, and Herbicides* (2d ed., 1948).

insectivorous plants see BLADDERWORT, PITCHER PLANT, VENUS'S-FLYTRAP.

Inside Passage, natural, protected waterway, c.950 mi. long, off the coast of British Columbia and SE Alaska. It threads through the ALEXANDER ARCHIPELAGO. From Seattle, Wash., to Skagway, Alaska, or via Cross Sound to the Gulf of Alaska, the route uses channels and straits between islands and the mainland which afford protection from the storms and open waters of the Pacific. Snow-capped mountains, forests, waterfalls, glaciers, and the many deep, narrow channels give it great scenic beauty. It was known to Spanish, Russian, English, and American explorers, many of whom gave names to the islands and waterways. It is the route generally used by steamers between the United States and Alaska.

insomnia, abnormal wakefulness or inability to sleep. This condition may be caused by a failure to develop a habit of regular sleep or by poor hygiene. Illness or worry may lead to insomnia, sleeplessness is often associated with neuroses. Methods of relaxation, e.g., soothing baths or reading before retiring, are sometimes of benefit.

installment buying and selling, buying and selling of goods on credit, with the stipulation that payments shall be made at specified intervals in set amounts. The goods are used by the buyer before or upon the first payment but belong to the seller until the last payment has been made. If the buyer defaults, the seller takes back the goods, and all former payments are forfeit. The buyer on installment pays a higher price, the difference covering interest on unpaid balances, insurance, and financing charges. Originating in Paris more than a century ago, the practice of retailing goods on the installment plan was first used in the United States to sell sewing machines, pianos, and household furnishings. After 1916, when manufacturers began to offer automobiles on the time-payment plan, installment selling rapidly came to include durable goods of every kind (household appliances, radios, oil burners), which otherwise would have been out of the reach of the average income earner. Large merchandisers through various devices ("letters of credit," "budget plans") now make it possible for their customers to buy any type of goods on time (e.g., automobile tires, clothing). Long-term installment purchases are usually financed indirectly by firms who specialize in this form of credit. Many banks make "consumer credit" loans directly, which may be repaid in installments. Most states regulate installment transactions to prevent them from being oppressive. Because they tended to raise prices, installment sales were rigidly curbed by the Federal government in the Second World War, when goods were scarce. See Adrian Rondileau, *Education for Installment Buying* (1944).

Insterburg (ĭn'stərbōrk), city (pop. 48,711), former East Prussia, on the Pregel and Inster rivers. It was transferred (1945) from Germany to the USSR and incorporated with the Kaliningrad (Konigsberg) oblast of the RSFSR. Its official Russian name is Chernyakhovsk (chôrnyŭkhôfsk). It is a horse-raising and cattle center and produces chemicals, textiles, and foodstuffs. The 14th-century fortress of the Teutonic Knights is now a stud farm.

instinct, in psychology, term variously defined and subject to much controversy, used generally to indicate an innate tendency, disposition, or drive to action, held to arise from the vital needs of the organism and to be expressed in activity not based upon past experience in the life of the individual. The behavior of many insects is pointed out as exemplifying almost pure instinctive behavior. The adult state is reached suddenly through metamorphosis (the pupa stage preceding it being one involving practically complete structural change). The adult, therefore, appears full grown without any past experience in the use of the body structures with which it is equipped, as those for foodgetting and reproduction, and yet proceeds to those activities (called instinctive) necessary to satisfy the organic needs. In the same way a young chick's pecking at a particle is considered as instinctive behavior, since it appears to be performed in response to hunger and occurs even when the chick has been segregated from the time it was hatched. In higher mammals gregariousness (called also the gregarious instinct or herd instinct) is commonly classed as an instinct. The parental instinct is seen in the maternal activities of suckling and caring for the young. In general instinctive behavior in man is distinguished from reflex action in that the latter involves a specific response to stimulus, whereas the former is specific only in the ends or goal but not in the activity involved in reaching that goal. Opposed to this view is that held by some psychologists which denies that adult human behavior today can be described as instinctive (as so defined). It argues that man's behavior is so complex and involves so many motor activities and is apparently so modified and complicated by civilization and the individual intelligence that any explanation solely upon the basis of instinct does not adequately explain behavior.

Institut de France (ĕstētü' də frās') [Fr., =institution or institute], cultural institution of the French state, founded 1795. It replaced five learned or literary societies. These were the FRENCH ACADEMY (governing language and literature, founded by Richelieu, granted letters patent 1635), the Académie royale de Peinture et de Sculpture (fine arts, founded 1648 by Mazarin, reorganized 1663 by Colbert), the Académie royale des Inscriptions et Médailles (public inscriptions, medal design, etc., founded 1663), renamed (1716) the Académie royale des Inscriptions et Belles-Lettres, the Académie royale des Sciences (founded 1666 by Colbert), and the Académie royale d'Architecture (organized 1671 by Colbert). The constitution and aims of the French Academy were the model for the others. In 1793 the Convention suppressed all of them. In 1795 the Directory set up a new learned society to assume the functions of the old academies. This new organization was called at first Institut national des Sciences et des Arts but eventually the title was fixed as Institut de France. It was divided into three classes (physical and mathematical sciences, moral and political sciences, literature and fine arts). In 1803 a decree of Napoleon (himself a member since 1797) changed the division to four (physical and mathematical sciences, French language and literature, history and ancient literature, and fine arts), an arrangement openly intended to suggest the old academies within the system of the Institut. A reorganization of 1816 based on the Institut of 1803 changed the names and orders of the classes to "restore" the old academies, and in 1832, under the influence of Guizot, the second class of the Institut of 1795 was restored as a fifth academy. The Institut de France therefore finally came to be comprised of five academies—the French Academy, the Académie des Inscriptions et Belles-Lettres (history and archaeology), the Académie des Sciences, the Académie des Beaux-Arts, and the Académie des Sciences morales et politiques. Membership of the academies of the Institut is not mutually exclusive, and the bodies are self-perpetuating with a veto of elections by the state. The awards and prizes given by the academies have been of inestimable importance in encouraging endeavor in various fields. The winners of the principal fine arts prizes are sent at public expense to study in the French school founded (1666) by Colbert at Rome.

Institute for Advanced Study, at Princeton, N.J., chartered 1930, opened 1933, founded by Louis Bamberger and Mrs. Felix Fuld as a research and experimental center beyond the graduate school. It includes schools of mathematics, economics and politics, and humanistic studies. It opened with a faculty of leading scholars, including Albert Einstein. Abraham Flexner was the first director, succeeded by Frank Aydelotte (1939–47). Many resources are shared with Princeton Univ. The institute owns the Gest Oriental Library.

Institute of Human Relations see YALE UNIVERSITY.

Institutes see CORPUS JURIS CIVILIS.

instrumental, in the grammar of certain languages (e.g., Russian), CASE referring to means or instrument. The Latin ABLATIVE could be called instrumental.

instrumentalism, name of the type of pragmatism formulated by John DEWEY. See RATIONALISM.

instrumentation, in music see ORCHESTRA AND ORCHESTRATION.

insulation (ĭn"sulā'shun, ĭn"syōō–), use of materials or devices to prevent the passage of heat or of electricity. Common heat insulators are asbestos, fur, feathers, glass, stone, wood, and wool, all are poor conductors of heat (see CONDUCTION). Industrial furnaces are built of brick, which conducts heat so slowly that a high temperature within is evidenced by only a relatively low temperature on the outer surface. Steam pipes and water pipes are commonly insulated with thick wrappings of asbestos pulp. Since insulators prevent the flow of heat in either direction, ice boxes are constructed commonly with double walls separated by an air space (air being a poor conductor), and each wall is lined with some insulating material. Double walls in houses and the use of hollow tiles in buildings prevent the entrance of heat and its escape. The very effective insulation in a vacuum bottle results almost entirely from the presence of a vacuum between the double walls of the inner flask. In the conduction of electricity from point to point, the conductor acts as a guide for the electric current and must be insulated at every point of contact with its supports, to prevent escape, or leakage, of the current. Dry air is a good insulator, so that it is ordinarily necessary to insulate conductors used for long-distance transmission only at their points of contact with the supporting steel structures. Glass and porcelain are commonly used, the materials being molded in bell-shaped forms or in rods made up of several segments. Underground conductors are insulated with dry cotton or pulp, rubber, and bitumen. In electrical apparatus, ebonite is widely used. Some other insulators are paraffin, sulphur, resin, and varnishes. Since wet materials can become conductors, insulation must often be waterproof. Ordinary household wires are commonly insulated by a thin rubber coating wrapped with cotton, the electric cables passing between house walls frequently have in addition a metal wrapping.

insulin (ĭn'sulĭn), antidiabetic hormone which is secreted into the blood stream by a specific group of cells (the islands of Langerhans) in the PANCREAS. F. G. Banting and C. H. Best were (1921–22) the first to obtain a preparation of insulin which would alleviate all symptoms of diabetes. As the natural hormone of the body or when injected into the body, insulin enables the body to utilize sugars and fats, prevents the excessive breakdown of protein, and permits the deposition of glycogen in the liver. It allows the individual to fight infection satisfactorily. Insulin is injected hypodermically, and since the effect is transient, injections must be given daily, and sometimes more frequently, depending on the need of the individual. Insulin may be administered to a diabetic patient by injection of a solution of zinc insulin crystals (known as regular insulin) or in the form of protamine zinc insulin or globin insulin with zinc. Both the protamine zinc insulin and the globin insulin are more prolonged in their reaction than the regular insulin, so that the injection may be given at less frequent intervals.

Insull, Samuel, 1859–1938, American public-utilities financier, b. London. He arrived in the United States in 1881 and was employed by Thomas A. Edison as a secretary. Insull for a time was high in management of the Edison industrial holdings. Insull by 1907 overcame competing public-utilities companies in Chicago, and soon he came to control the city's transit system. After numerous mergers he expanded his operations throughout Illinois and

to neighboring states. He formed (1912) a mammoth interlocking directorate which operated over 300 steam plants, almost 200 hydroelectric generating plants, and numerous other power plants throughout the United States Insull's public-utilities empire, however, collapsed in 1932, and Insull went to Greece and later to Turkey He was extradited (1932) to the United States, faced charges (1934–35) of using the mails to defraud investors and embezzlement, but he was vindicated

insurance or **assurance**, device for indemnifying or guaranteeing an individual against loss out of a fund to which many individuals exposed to the same risk have contributed certain specified amounts, called premiums Payment for the loss, divided among many, does not fall heavily upon the actual loser The essence of the contract of insurance, called a policy, is mutuality. The amount of the premium is determined by the operation of the law of averages as calculated by actuaries Devices anticipating or resembling modern insurance seem to have been known from ancient times In Babylonia traders were encouraged to assume the risks of the caravan trade through loans that were repaid (with interest) only after the goods had arrived safely—a practice resembling bottomry and given legal force in the Code of Hammurabi (c 2100 B C) The Phoenicians and the Greeks, apparently copying the practice from the Babylonians, applied it to their sea-borne commerce In Rome loans on bottomry were common under the empire The Romans, through their burial clubs which provided funeral expenses for their members and later payments to the survivors, seem also to have developed the germ of true life insurance The construction of a crude mortality table (A D c 220) is ascribed to the jurist Ulpian Insurancelike practices are traceable almost continuously from Roman times With the growth of towns and trade in Europe, the medieval guilds undertook to protect their members from loss by fire and shipwreck and to ransom them from captivity by pirates as well as to provide decent burial and support in sickness and poverty By the middle of the 14th cent, as evidenced by the earliest known insurance contract (Genoa, 1347), marine insurance was practically universal among the maritime nations of Europe Insurance in the modern sense was brought from Lombardy to the Low Countries and England The history of marine insurance is largely the history of the London firm of Lloyd's, which had its inception at Lloyd's Coffee House, where merchants, shipowners, and underwriters met in the 17th cent to transact business Fire insurance arose in Germany in the 15th cent as a communal undertaking Life insurance, hampered by laws against usury and betting, was of later growth The first life insurance policy seems to have been issued in England in 1583 In 1693 the astronomer Edmund Halley constructed the first mortality table based on the laws of mortality and compound interest This table, corrected (1756) by Joseph Dodson, made it possible to scale the premium rate to age, previously the rate had been the same for all ages Insurance developed rapidly with the growth of British commerce in the 17th and 18th cent, the complexity and multiple risks of civilized life in the 19th cent gave it a further impetus Prior to the formation of corporations devoted solely to the business of writing insurance, policies were signed by a number of individuals, each of whom placed opposite his name the amount of the risk assumed by him, hence the term *underwriter* The first stock companies to engage in insurance were chartered in England in 1720, a little later (1735) the first insurance company in the American colonies was founded at Charleston, S C Fire insurance corporations were formed in New York (1787) and in Philadelphia (1794) Almost from the beginning the companies were active in seeking means of preventing and putting out fires The Presbyterian Synod of Philadelphia sponsored (1759) the first life insurance corporation in America—for the benefit of Presbyterian ministers and their dependents After 1840, with the decline of religious prejudice against the practice, life insurance entered a boom period In the 1830s the practice of classifying risks was begun The New York fire of 1835 called attention to the need of adequate reserves to meet unexpectedly large losses, Massachusetts was the first state to require companies by law (1837) to maintain such reserves The great Chicago fire (1871) emphasized the costly nature of fires in compactly built modern cities Reinsurance, whereby losses are distributed among many companies, was devised to meet such situations and is now common in other lines of insurance too Insurance against accidental injury was offered in 1845, travelers' insurance in 1864 The Workmen's Compensation Act of 1897 in England required employers to insure their employees against industrial accidents. Public liability insurance, fostered by legislation, made its appearance in the 1880s, with the advent of the automobile it attained major importance Cab insurance (1895) and collision insurance (1899) had their start in England Burglary insurance, an American development, began to be written in 1885. Corporate fidelity bonding goes back to 1840, and title and credit insurance were first offered in the 1890s The 20th cent saw the expansion of what has been called "inland marine" insurance, which covers a vast miscellany of items, including tourist baggage, express and parcel-post packages, motor-truck cargoes, all sorts of goods in transit, even bridges and tunnels Obviously insurance may now be had against almost any conceivable risk, companies like Lloyd's will insure a dancer's legs, or a pianist's fingers, or an outdoor entertainment against loss from rain on a specified day Fire insurance usually includes damage from lightning, other insurance against the elements includes hail, tornado, flood, and drought Life insurance, originally conceived to protect a man's family when his death left them without income, has developed policies through which the amount paid in, augmented by compound interest, is paid back to the insured in a lump sum at the end of a term of years, and annuity policies, which after he attains a certain age pay the insured a yearly income for the rest of his life Complete automobile insurance includes not only insurance against fire and theft but also compensation for damage to the car and for personal injury to the victim of an accident (liability insurance), many car owners, however, carry only partial insurance In many states liability insurance is compulsory Bonding or fidelity insurance is designed to protect an employer against dishonesty or default on the part of an employee Title insurance is aimed at protecting purchasers of real estate from loss by reason of defective title Credit insurance safeguards the businessman against loss from the failure of his customers to meet their obligations In the 19th cent many friendly or benefit societies were founded for insuring the life and health of their members, and most fraternal orders and labor organizations have insurance benefits Many employers take out group insurance policies for their employees, which include not only life insurance, but sickness and accident benefits and old-age pensions, the employees usually contributing a certain percentage of the premium Since the late 19th cent there has been a growing tendency for the state to enter the field of insurance, especially to safeguard workers against sickness and disability, either temporary or permanent, destitute old age, and unemployment Germany was the first in the field of so-called social insurance, by laws adopted in 1883, 1884, and 1889 it provided protection against sickness, accident, disability, and old age Most American states have laws providing for workmen's compensation In the United States an important feature of the New Deal legislation was the Social Security Act of 1935 (see SOCIAL SECURITY), which provided for old-age assistance and old-age benefits, unemployment compensation, and aid to the blind, mothers, and children The Federal government also experimented with various types of crop insurance, a landmark in this field being the Federal Crop Insurance Act of 1938 In the Second World War the government provided national insurance for the members of the American forces See also HEALTH INSURANCE See C F Trenerry, *The Origin and Early History of Insurance* (1926), A H Mowbray, *Insurance Its Theory and Practice in the United States* (3d ed, 1946), S B Ackerman, *Insurance* (3d ed, 1948)

Insurgents, in U S history, the Republican Senators and Representatives who in 1909–10 revolted against the conservative party policies dictated by Nelson W Aldrich and Joseph G Cannon Many —but by no means all—of them joined the PROGRESSIVE PARTY See K W Hechler, *Insurgency* (1940)

intaglio (intäl'yō, intal'yō), design cut into stone or other material or etched or engraved in a metal plate, producing a concave, instead of a convex, effect It is the reverse of a relief or CAMEO The term also designates a gem so cut Seals and signet rings usually bear intaglio designs, so that when stamped upon WAX or other plastic substance the impression is in relief *Intaglio rilievo* is a relief sunk below the surface. See ENGRAVING and PRINTING

intarsia (intar'sēu) or **tarsia** (tär'sēu), properly a form of wood inlay The term is sometimes applied to inlays of other materials such as ivory and metal It is differentiated from MARQUETRY by the basic veneering process of the latter The art of INLAYING in wood is in general practice, the term *intarsia* is applicable to a particular type developed in Siena, Italy, in the 13th cent and probably derived from Oriental inlays of ivory upon wood The art spread in Italy, reached its best form in the 14th and early 15th cent, and remained in use throughout the 16th cent It was applied not only to domestic furniture but to choir stalls and other appurtenances of churches and public edifices. Designs included pictorial scenes and conventionalized scrolls, arabesques, and geometric forms. Early work displayed few colors, but the development of techniques for staining wood gave a wide range in tones The art was practiced to a limited extent in other countries including Spain, Germany, and Holland.

intelligence, in psychology, is variously described as the general ability of the organism acting as a whole to utilise understanding gained in past experience in dealing with a similar or new situation, to adjust or adapt quickly and readily to the environment, to learn without difficulty, or to form new behavior patterns to meet a new situation by the modification or readjustment of those already acquired Some consider that the degree of intelligence is determined by the degree of complexity of the problem which is met and solved, by the speed with which solution is completed, and by the number of problems which can thus be treated It is at present more or less generally accepted that potential intelligence is in some degree related to heredity and that environment is a determining factor in the extent of its realization Because of the importance in education of determining the ability of an individual to learn, **intelligence tests** have come into wide use Alfred Binet's introduction of his first scale (group) of tests in 1905 marked the beginning of the testing movement That intelligence tests actually give a measurement of the intelligence of individuals is questioned by some psychologists, who point out that, although the tests are apparently testing something, there is no way of determining what it is exactly that they do test On the other hand, use of the tests in education has been of great practical value in affording a means for assigning children to class groups—for predicting with a great deal of accuracy whether or not a given child would be able to complete the requirements for graduation from high school or be able to pass the prescribed courses in college which lead to a degree In industry tests are used often as one of the means for determining the suitability of an applicant for certain positions Tests have also been standardized for various industrial occupations, for use in the army, and for various other purposes Intelligence tests consist in general of a heterogeneous series of questions to be answered, problems to be solved, and tasks to be fulfilled, all of varying degrees of difficulty, which the individual is given to complete within a specified length of time The questions and other parts of the test mean nothing in themselves, and so-called standardization of the test is essential before any conclusions as to intelligence can be drawn Standardization of a test consists in its administration to as many individuals as possible of various ages From the results thus obtained it is possible to determine the average number of questions answered, problems solved, and tasks completed by individuals of certain ages For example, out of a hundred questions, the average number answered correctly by a child of 7 might be 10, by a child of 9, 15, by a child of 12, 30, and so on If then a child of 9 answers 30 questions correctly, he is classed with the children of 12 and his mental age (M A) is said to be 12 The so-called **intelligence quotient** (I Q) is a comparison between this mental age and his real or chronological age (C A), in this case 9 It is computed by dividing the mental age (12) by the chronological age (9) and multiplying the result by 100 to eliminate the decimal point In this case, division of the M A by the C A gives the quotient 1 33, and multiplication by 100 gives an I Q of 133, which is relatively high As the child grows, the mental age and chronological age generally increase at a relatively equal pace so that the I Q varies to only a small extent There has been a decline in interest in pure intelligence tests since the 1920s and a corresponding increase in the number of mental tests which measure special aptitudes and personality factors Certain intelligence tests, such as the Wechsler-Bellevue and the "draw a man," are designed to do both A large number of tests are available for all age levels from infancy upward. They are usually classified as group tests (to be given to a number of individuals at the same time) and as individual tests Some are oral, others are written, and some are devised for use where language difficulties are encountered, these last are based upon the performance of some physical task The most commonly used individual test is the 1937 Stanford Revision of the Simon-Binet Intelligence Tests. The group tests include the Army Alpha (Wells Revision), the Army General Classification, the Ohio State Univ, the Terman-McNemar, the Thorndike College Entrance, the California Test of Mental Maturity, the Kuhlmann-Anderson, and the Pintner-Paterson See L M Terman and M A Merrill, *Measuring Intelligence* (1937), G. D. Stoddard, *Meaning of Intelligence* (1943), David Wechsler, *Measurement of Adult Intelligence* (3d ed., 1944).

Inter-American Conferences: see PAN-AMERICANISM

Inter-American Highway, section, 3,349 mi long, of the PAN AMERICAN HIGHWAY system from NUEVO LAREDO, Mexico, to Panama city, Panama. Much of the highway had been built by the countries concerned prior to Dec, 1941, but wartime necessity led the U.S Congress to appropriate $20,000,000 to assist completion; subsequent aid was granted, but later work was done by each nation on its own In late 1949 there remained uncompleted sections in Chiapas (Mexico), Guatemala, Costa Rica, and

W Panama; some other sections are passable only in the dry season.

intercolumniation (ĭn"tûrkŭlŭm"nēā'shŭn), in classic architecture, the clear space between the edges of two adjacent columns, as measured at the lower portion of their shafts Vitruvius compiled standard intercolumniations for the three orders, expressed in terms of the column diameter The Renaissance codifiers followed his principle of standard and equal spacings—Doric order 2¼ diameters, Ionic 2¼, Corinthian 2⅛ In the great works of Greek architecture, however, spacings frequently varied within a single colonnade, being widest between the two center columns The narrowest occurred at the corner columns, thus strengthening their effect These variations, however, were so subtle as to create effective optical refinement rather than actual obviousness The Renaissance architects employed a new type of intercolumniation with the use of columns in pairs, those of each pair almost touching

interdict (ĭn'tûrdĭkt), ecclesiastical censure notably used in the Roman Catholic Church, especially in the Middle Ages When a parish, state, or nation is placed under the interdict no public church ceremony may take place, only certain sacraments, especially baptism, may be administered, and the dead may not receive Christian burial The interdict is used to sway public opinion and to force action A famous example was the interdict placed upon the England of King John by Innocent III in 1209

interest, charge for the use of money, usually figured as a percentage of the principal, computed annually Such charges have been made since ancient times As interest rates were high and the penalties heavy, the charge early fell into disrepute In Greece, Solon forbade selling men into slavery for unpaid interest The Jews and the Christian Church forbade interest charges, or usury, as it was called, among their own groups The merchant princes of N Italy and elsewhere evaded such restrictions, especially as the Church never condemned rent for the use of land or durable goods Gradually the distinction was made between low interest rates and the high ones, which came to be known, and condemned, as usury England in 1545 removed the prohibition on usury and fixed a legal maximum interest, and other countries followed States of the United States fix a legal rate at which debts may be assessed after they have come due and remain unpaid, and fix the maximum rate allowed in a contract Simple interest is computed annually on the principal Compound interest, allowed by some savings banks, computes the interest on the principal plus any unpaid portions of interest also Great Britain does not fix legal interest rates, but courts determine whether a rate is injurious See Irving Fisher, *The Rate of Interest* (1930), J M Keynes, *General Theory of Employment, Interest, and Money* (1936)

interference, in physics, the effect produced under certain conditions by the combination or superposition of two trains or systems of waves (see WAVE), especially of sound or light, in which these waves reinforce, neutralize, or in other ways interfere with each other When, for example, two SOUND waves occur at the same time and are in the same phase, i e , when the condensations of the two coincide and hence their rarefactions also, the waves reinforce each other On the other hand, two sound waves occurring simultaneously and having the same intensity neutralize each other if the rarefactions of the one coincide with the condensations of the other, i e , if they are of opposite phase In this case, the result is silence However, alternate reinforcement and neutralization (or weakening) take place when two sound waves differing slightly in frequency are superimposed The audible result is a series of pulsations or, as these pulsations are called commonly, beats, which are caused by the alternate coincidence of first a condensation of the one wave with a condensation of the other and then a condensation with a rarefaction LIGHT waves reinforce or neutralise each other in very much the same way If, for example, two light waves each of one color (monochromatic waves), of the same amplitude, and of the same frequency are combined, the interference they exhibit is characterized by so-called fringes—a series of light bands (resulting from reinforcement) alternating with dark bands (caused by neutralization) If white light, which is made up of all colors, is used instead of monochromatic light, bands of color are formed (see SPECTRUM and DIFFRACTION) Newton's rings also are the result of the interference of light They are formed concentrically around the point of contact between a glass plate and a slightly convex lens set upon it or between two lenses pressed together, they consist of bright rings separated by dark ones when monochromatic light is used or of alternate spectrum-colored and black rings when white light is used. The experiments of Thomas Young first illustrated interference and definitely pointed the way to a wave theory of light A. J. Fresnel by his work did much to establish this wave theory, for his experiments clearly demonstrated that the interference phenomena could be explained adequately only upon the basis of a wave theory The determinations of the velocity of light as carried out by A A Michelson are based upon the interference of light waves Various natural phenomena are the result of interference, e g , the colors appearing in soap bubbles and the iridescence of mother-of-pearl and other substances The thickness of such a very thin film as that of the soap-bubble wall can be measured by an instrument called the **interferometer** which, when the wave length of the light used is known, indicates the thickness of the film by the nature of the interference patterns it forms The reverse process, i e , the measurement of the length of an unknown light wave, can also be carried out by the interferometer One type devised by Michelson has been applied in measuring the diameters of certain stars

Interior, United States Department of the, organized (1849) as a Federal department by act of the U S Congress It is represented in the President's cabinet by the Secretary of the Interior and is responsible for advancing domestic interests in the United States At first called the Home Dept , the Dept of the Interior was comprised of independent government bureaus -- e g , the U S Census Bureau and the U S Patent Office—and bureaus transferred from the other departments of government—the GENERAL LAND OFFICE from the Treasury Dept , the Indian affairs bureau (see INDIAN AFFAIRS, BUREAU OF) from the War Dept , and the pensions office from the War and Navy Depts Over a period of time many new bureaus were added to the jurisdiction of the Dept of the Interior The Office of Education was added (1867) as a research agency The GEOLOGICAL SURVEY was organized under the department's jurisdiction in 1879 The Bureau of Reclamation was established (1902) in the department in the presidential administration of Theodore ROOSEVELT, and in 1906 the National Park Service was added to oversee NATIONAL PARKS and national monuments The Dept of the Interior was given charge (1910) of the Bureau of Mines to conserve and utilize American mineral resources and to promote safety in mining industries In the administration of Franklin D ROOSEVELT such agencies as the PUBLIC WORKS ADMINISTRATION, the Grazing Service, the Fish and Wildlife Service, the DIVISION of Territories and Island Possessions, and the Oil and Gas DIVISION were added to the responsibilities of the department Many agencies of the Dept of the Interior were, however, transferred elsewhere, the Census Bureau became (1903) part of the Dept of Commerce and Labor, the Patent Office was transferred (1925) to the Dept of Commerce, the Pension Office went over (1930) to the Veterans Administration, and the Office of Education was transferred (1939) to the Federal Security Agency The General Land Office and the Grazing Service were combined (1946) into the Bureau of Land Management of the Dept of the Interior

interior decoration, adornment of the interior of buildings, public or domestic, comprising interior architecture, finishing, and furnishings Oriental and classical peoples used the decorative arts to create elaborate interiors and supplied forms extensively copied in later times In Europe in the early medieval period few notable interiors were created except in Moslem Spain and in the Byzantine Empire Simple movables and hangings were the chief furnishings of castles In the late Middle Ages artistic resources were dedicated to the embellishment of churches and public buildings With more settled conditions, Renaissance Italy, influenced by Greek and Roman styles, developed interiors of grandeur and magnificence, popes and nobles employed leading artists to decorate their palaces and villas Italian forms spread to other countries Spanish interiors displayed rich color, ornate furniture, decorated leather, and fine textiles France was early a leader in setting styles which changed with the sovereigns Especially influential were the LOUIS PERIOD STYLES, REGENCY STYLE, DIRECTOIRE STYLE, and EMPIRE STYLE England developed notably the ELIZABETHAN STYLE, the JACOBEAN STYLE, and the GEORGIAN STYLE, some 18th-century styles are known by the names of furniture designers such as CHIPPENDALE, SHERATON, and HEPPLEWHITE Robert ADAM correlated interior and exterior architecture, furniture, and accessories In America settlers used simple homemade furniture of native woods, homespun fabrics, and pewter The style, known as Early Colonial, has been revived for re-creating early American interiors The formal Late Colonial period used modified Georgian mansions and polished mahogany furniture of English type Pennsylvania German decoration based on European provincial styles is also much reproduced The 19th cent was marked by a departure from old standards of craftsmanship, machine-made furnishings supplied the requirements of the growing middle classes In the second half of the century William Morris and the pre-Raphaelites instituted an ARTS AND CRAFTS movement which spread abroad and stimulated a reaction against ornate Victorian decoration. It resulted in a revival of earlier period styles, the simultaneous development of native provincial styles, and an attempt to create a new modern style Contemporary styles, still transitional, are international in character and have been stimulated by expositions, notably the Paris exposition of 1925, and world fairs Designers and manufacturers are cooperating to produce low-cost furnishings scaled for small rooms and combining ease of upkeep and functionalism Units permitting maximum use of wall space are designed on a modular system to allow flexible combinations Synthetic materials are employed, and old materials such as metals and glass are put to new uses Lighting is emphasized and arrangement is based on a correlation of scale, balance, comfort, pattern, and color See FURNITURE, HOUSE, WALLPAPER, TEXTILES See Roger Gilman, *Great Styles of Interior Architecture* (1924), Emily Genauer, *Modern Interiors* (1939), Joseph Aronson, *The Book of Furniture and Decoration* (rev ed , 1941), Gladys Miller, *Decoratively Speaking* (1945), Emily Post, *The Personality of a House: the Blue Book of Home Charm* (rev ed , 1948)

interjection, English PART OF SPEECH consisting of exclamatory words They are marked by a feature of intonation which is usually shown in writing by punctuation Probably most languages have classes like interjections

Interlaken (ĭn'tərlahkən) [implying *between lakes*], town (pop 4,059), Bern canton, Switzerland Between the Lake of Brienz and the Lake of Thun, with a fine view of the Jungfrau, it is a resort (mainly summer) with yearly visitors far outnumbering the inhabitants The 12th-century monastery is used for government offices There is a small woolen textile industry

interlocking directorate. When an individual or several individuals sit on the board of directors of more than one corporation, the directorates of the corporations are said to interlock The general tendency of interlocking directorates is toward cooperation between the corporations involved Such cooperation is frequently desirable from the point of view of the corporations as a means of improving operation and cutting costs, but becomes socially dangerous when it is used for the purpose of mulcting the consumer by raising prices It has also been one of the chief means by which industrial power has been concentrated in the hands of a small group of men Both the Sherman and the Clayton antitrust acts prohibit interlocking directorates when they tend to lessen competition See A A Berle, Jr , and G C Means, *The Modern Corporation and Private Property* (1932)

interlude, form of drama which was introduced between the acts of a miracle play or of court entertainments in the Middle Ages In England the interlude by the 16th cent had the form of a crude one-act farce, such as John Heywood's *Four P's* and Henry Medwall's *Finding of Truth* The Pyramus and Thisbe episode in Shakspere's *Midsummer Night's Dream* is an interlude See E K Chambers, *The Medieval Stage* (1903), Karl Young, *The Drama of the Medieval Church* (1933)

intermezzo (ĭnturmĕt'sō, -mĕd'zō) **1** Short comic opera performed between the acts of a longer serious opera It is characterized by economy of means and freedom of form The intermezzo of the 17th cent became the *opera buffa* of the 18th cent , a good example is Pergolesi's *La serva padrona* **2** Any theatrical entertainment performed between the divisions of a longer work **3** Name for a movement of a symphony, sonata, or dance suite or for a short, romantic piano piece such as the intermezzi of Brahms and Schumann

Intermountain Union College see ROCKY MOUNTAIN COLLEGE

internal-combustion engine, type of engine in which combustion of the working fuel takes place within the cylinder of the engine The basic principle of operation involves the transformation of heat energy to mechanical energy Attempts were made to produce internal-combustion engines as early as the 17th cent , one of the earliest (c 1680) was that of Christiaan Huygens in which gunpowder was used Not, however, until much later, in the 19th cent were results of practical value achieved The gas engine was the forerunner of all present-day internal-combustion engines Its operation requires the use of a gaseous fuel such as coal gas, water gas, natural gas, producer gas, or some other combustible gas Its principle of operation involves the rapid and violent expansion of the fuel upon combustion in the cylinder and the movement of a piston in the cylinder because of the increased pressure upon it The engine invented by Étienne Lenoir, a Frenchman, c 1860 marked the first practical success of this type of engine, although before that many others had designed and built engines William Barnett (c 1838) had already demonstrated in his double-acting engine the value of compressing the gas before its combustion Lenoir's engine was double-acting, was much less wasteful of fuel than its predecessors, and was comparatively silent in operation It was driven by a mixture of gas and air, which was drawn into the cylinder through a valve and ignited. The ignition was accomplished by an

electric battery and an induction coil The work of Beau de Rochas shortly afterwards (1862) anticipated the "cycle" of the modern engine Other engines with various improvements followed Lenoir's, notable among them being that of Brayton, an American, in 1872 and that of N A Otto, a German, in 1876, which operated on a four-stroke cycle principle and in which the gas was compressed before ignition The term *gas* engine was applied originally to engines using only a gaseous fuel, but today it is employed commonly (probably as an abbreviated form of *gasoline*) to indicate also the internal-combustion engines using a volatile liquid fuel (as gasoline) which is mixed with air to form an explosive vapor or "gas" Kerosene, alcohol, and benzol are other fuels The gasoline engine has the advantages of greater compactness and less weight in relation to the horsepower developed and is widely used where portability is important, e g , in the automobile, airplane, motorboat, motorcycle, and various kinds of movable machinery In a typical gasoline engine such as that of the AUTOMOBILE, the gasoline is fed to a CARBURETOR from a storage tank either by gravity or by means of a fuel pump and is mixed with air The mixture is led into the cylinder, where it is compressed and then ignited by an electric spark from a spark plug (see IGNITION) The explosion forces the piston down the cylinder, and this motion is transmitted to the crankshaft through a connecting rod attached to the piston, in this operation the up-and-down motion of the piston is changed to rotary motion in the crankshaft Driven from the crankshaft is a secondary shaft, the camshaft, which carries a CAM to operate the intake valve and the exhaust valve of the cylinder These valves, commonly of a "mushroom" type, are opened by the lifting action of the cam and are usually closed by a SPRING There are two types of gasoline engine in common use, the two-stroke cycle engine and the four-stroke cycle engine The four-stroke is the more common, and the cycle of operation, in a single cylinder, for example, is as follows With the piston starting on the downstroke, the camshaft is so timed that the inlet valve is opened to allow the mixture of gasoline and air to follow the piston (the intake or suction stroke) On the upstroke the inlet valve is closed and the mixture is compressed by the rising piston (the compression stroke) At a given point near the top of the stroke the mixture is ignited by an electric spark or other means, and the force of the resulting explosion causes the downward movement of the piston and consequent transmission of power to the crankshaft (the firing, power, or working stroke) The piston is then at the bottom of the stroke and the cylinder is full of burned gases These gases are expelled upon the rise of the piston (the exhaust stroke), through the exhaust valve, which is timed to open at this point The smooth running of the engine is achieved in a single-cylinder type by the use of a heavy FLYWHEEL which serves to carry sufficient momentum derived from the firing stroke to continue the revolutions through the periods of exhaust, intake, and compression to the next firing stroke In the multicylinder type the various cylinders are so attached to the crankshaft as to have the firing stroke occur in correct sequence to give the smoothest turning effort on the shaft The two-stroke type is so called because there is a firing stroke at every revolution or every two strokes With the piston at the top of the stroke, the ignition of the gases takes place by electrical or other means, and the piston travels downward, as the bottom of the stroke is neared, a port or opening is uncovered in the cylinder wall through which the exhaust gases escape Upon the upstroke these ports are covered and a charge of fresh mixture is admitted through a cam-controlled inlet valve The inlet-valve ports are also covered by the rising pistons at a certain point in the stroke so that the mixture is compressed during the remainder of the stroke, at the end of which ignition takes place again, thus completing the cycle Engines operating on this principle have been used successfully in the past for small powers such as the motorcycle engine and for larger powers such as the single-cylinder motorboat engine For nearly all classes of gasoline engines in use at the present time, however, the four-cycle system is used Such engines are commonly designated by the number of cylinders (e g , single, two, four, and six) and by the type of their arrangement These cylinders are generally made in one block or head The V-type engine has two sets of cylinders (with an equal number of cylinders in each set) inclined in the form of a V toward a common crankshaft The radial type has six or more cylinders spaced around the crankshaft in the center In some designs the cylinders rotate around the shaft, while in others the cylinders are stationary and the shaft rotates In the automobile the motive power of the engine is transmitted to the driving wheels through a clutch which is so designed that by pressing a pedal the engine can run free of the driving shaft A gearbox, usually arranged for three forward speeds and reverse, allows the engine to run at high speed and the car to move slowly, thus developing greater power when needed. The accessories usually found on an automobile engine, besides the carburetor, are the water pump, which circulates water through the radiator (where it is cooled, see COOLING SYSTEM) and to the cylinder block (where the water carries away enough heat from the engine to keep it at suitable working temperature), the timing gear, driven from the camshaft and operating a distributor, which controls the ignition spark in the cylinders, the oil pump, which circulates lubricating oil to the various working parts, and a generator, which supplies the necessary current for the ignition system and also charges the battery (an essential part of the equipment, for commonly it provides current for the starting motor and lights) In certain types of engines the cooling is accomplished by a system known as air cooling The requirements of the airplane have developed many new types of gasoline engines Light weight is highly essential and reliability is of supreme importance Conditions arising from extreme temperature changes have to be considered, and the oiling system must be so designed as to function correctly at all angles of inclination, even when the engine is inverted These and other problems have been successfully solved, and several standard types of engines have been evolved from many experimental types The development of the gasoline engine for marine work has made the steam engine practically obsolete for small powers—the gasoline engine is now the most popular type for this service The smallest type developed is the outboard motor, which is so called because the whole unit can be clamped over the stern of a boat The engine is usually of the opposed type (i e , the cylinders are placed at opposite sides of a single crankshaft, which is vertical), is extended down to a point below the water, and is there geared to the propeller Although these engines were originally designed for light weight and low power, some now have four cylinders and develop over 50 hp For engines installed in boats the propeller shaft is usually driven through speed-reduction gearing so that the engine can run at its best speed for power and economy and the propeller at a corresponding low speed which is desirable for the best results The reduction gearbox has also a set of gears for giving reverse rotation In the larger-power engines which are invariably of the vertical type, four, six, and eight cylinders are used, in some installations a twin arrangement is utilized, having two engines side by side, each driving a separate propeller The general design of the marine type, while being of more rugged construction than that used in the automobile, does not differ from the type used for stationary purposes These engines are always water-cooled and usually have forced-feed lubrication and an oil-cooling device Starting, speed control, and reversing are all arranged for operation from the steering position of the boat so that the steersman has also full control of the engine The gasoline engine is useful for many purposes both stationary and portable For farm machinery, such as tractors, binders, and reapers, the regular type of automobile or truck engines is used, smaller-power demands being met by one- and two-cylinder engines with belt and pulley drive Water pumps driven by gasoline engines are particularly valuable on a farm in case of fire Fire pumps driven by gasoline are frequently installed for emergency service in stations when electric power fails Electric generators driven by gasoline engines are especially useful in isolated places where light and power are not otherwise available They are used extensively on motorboats and yachts The design of the oil engine is essentially the same as for other types of internal-combustion engines except that the fuel used is generally of a heavier grade and requires a different method of ignition Usually a jet of oil is forced into a chamber kept at a very high temperature, which causes evaporization and ignition of the charge Thus type of engine is now being replaced by the gasoline engine for small powers and by the DIESEL ENGINE for larger powers See B H Jennings and E F Obert, *Internal Combustion Engines* (1944), V L Maleev, *Internal-Combustion Engines* (2d ed , 1945), A P Fraas, *Combustion Engines* (1948), C F Taylor and E S Taylor, *Internal Combustion Engine* (rev ed , 1948)

internal revenue, taxes on goods produced and consumed inside a country, called also excise taxes In their modern form, such taxes were first developed by Holland in the 17th cent and were established by law in England in 1643 Introduced into the Dutch colonies in America, the system spread to other colonies Internal revenue taxes were first used by the Federal government in 1791 and aroused great opposition They were repealed (1802) in Jefferson's administration During the War of 1812 more comprehensive internal revenue taxes were levied, but were repealed in 1817 The taxes imposed during the Civil War covered all manufactured goods, income tax, and trade licenses Most of these were gradually repealed, and by 1883 only liquor and tobacco were taxed The Spanish-American War saw a temporary increase of internal revenue taxes. In both the First and Second World Wars these taxes were greatly increased and in the Second World War were levied on furs, jewelry, and leather as well as on liquor, tobacco, and amusements Nearly all the states levy internal revenue taxes, including those on franchises, incorporation, licenses, tobacco, gasoline, and sales See H L Lutz, *Public Finance* (1936).

International. The International Workingmen's Association, called briefly the International and, later, the First International, was organized in London, England, in 1864 under leadership of Karl MARX The first congress met (1866) at Geneva, Switzerland Its basic purpose was the unification of the workers of all lands for the aims set forth in the *Communist Manifesto* issued by Marx and Engels in 1848 It was effective in spreading socialist doctrine among workingmen, but it accomplished no positive political results. The Commune of Paris of 1871, though it comprised followers of the First International, came into existence quite independently In 1868 BAKUNIN and other anarchists joined the London International for opportunistic reasons, they brought dissension into the organization and contributed to its disintegration The last congress was held at Philadelphia in 1874 In 1889 the Second or Socialist International was founded at Paris, and in 1890 it set up its headquarters at Brussels, Belgium It comprised most Socialist parties, among which the German and Russian Social Democratic parties were the most important Friedrich ENGELS, August BEBEL, Karl KAUTSKY, and G V PLEKHANOV were among its early leaders Its history was essentially that of the various schisms in SOCIALISM, and in 1914 the organization was torn apart by the First World War The Bolshevik victory in the Russian Revolution of 1917 resulted in the creation (1919) of the Third or Communist International (see COMINTERN) at Moscow, this was dissolved in 1943 The revival (1919) of the Second International by the more moderate Socialists and the creation (1921) of the Labor and Socialist International (the so-called 2½ International) at Vienna were of little consequence In 1937 Leon TROTSKY founded at Mexico City the Fourth International, in opposition to the Comintern Generally speaking, international trade-union congresses have taken the place, among moderate Socialists, of full-fledged international organizations For bibliography, see COMMUNISM and SOCIALISM

International Bank for Reconstruction and Development, autonomous institution affiliated with the United Nations, with headquarters at Washington, D C The plans were laid at the Bretton Woods Conference (1944), and the bank was formally organized in 1945, when 28 countries had ratified the agreement The capital, which may not exceed $10,000,000,000, is divided into shares of $100,000 Using part of the capital and borrowed funds, the bank may make loans to member nations and to private investors with the object of facilitating productive investment, encouraging foreign trade, and discharging burdensome international debts The bank cooperates closely with the INTERNATIONAL MONETARY FUND The powers of the bank are controlled by the board of governors with one representative of each member state Each member of the board has 250 votes plus one vote for each share of stock Ordinary affairs are conducted by the 14 executive directors, selected by the board In 1950 there were 47 members, including some which did not belong to the United Nations

International Civil Aviation Organization (ICAO), affiliate of the United Nations, organized in 1947, with headquarters at Montreal For events leading to its formation, see AIR, LAW OF THE. The objectives of the ICAO are to expand international air trade and to make it safer and more economical Much work has been accomplished in establishing uniform standards for aircraft markings, airworthiness, and licensing of pilots The ICAO is governed by an assembly composed of one representative of each member nation, it meets at least once annually Each year the assembly elects a council of 21 members, which is in continual session In 1950 there were 56 members, including several states which did not belong to the United Nations

International Court of Justice, principal judicial organ of the United Nations, established by Chapter 14 of the Charter of the United Nations It supersedes the WORLD COURT (Permanent Court of International Justice), and its statute for the most part repeats that of the former tribunal The court consists of 15 judges nominated by the Hague Tribunal Its permanent seat is at The Hague, but it may hold hearings elsewhere All states that are members of the United Nations are *ipso facto* members of the court, and other states may be permitted to adhere to the statute If a member of the United Nations fails to comply with a judgment of the court, an appeal for assistance may be made to the Security Council The court may render judgment in certain disputes between states and, with the authorization of the General Assembly, it may deliver advisory opinions. A dispute may be brought before the court by consent of the parties in the particular case or by virtue of a general

agreement to accept the court's jurisdiction (over 25 states have made such agreements). The court's competence between states, in any event, is limited to disputes concerning the interpretation of treaties, questions of international law, breaches of international obligation, and the amount of reparation for a breach. By early 1950 only one international dispute had been settled by the court, which ruled (1949) that Albania had unlawfully mined the channel between Corfu and the mainland and awarded Great Britain damages for injury to two British vessels and loss of lives. An important advisory opinion of the court was that asserting that the General Assembly may not admit a state to the United Nations if the application is vetoed by one of the permanent members of the Security Council.

international date line: see DATE LINE, INTERNATIONAL.

International Falls, city (pop. 5,626), co. seat of Koochiching co., N. Minn., on Rainy River near Rainy Lake opposite Fort Frances, Ont. The city grew after a large paper mill was built at the falls in 1904. It is a lumber and summer excursion center and has U.S. customs and immigration offices. A fish hatchery is near.

International Labor Organization (ILO), autonomous institution created in 1919 by the Versailles Treaty, affiliated with the League of Nations until 1945, when it voted to sever ties with the League. In 1946 it became affiliated with the United Nations as a specialized agency with the name officially spelled International Labour Organisation. The ILO's original members were the members of the League. Membership in the League rendered a nation eligible for membership in the Labor Organization, but nations could be members of the ILO without joining the League, e.g., the United States, which joined in 1934. The chief objects of the ILO were the regulation of hours of work and of labor supply, prevention of unemployment, provision of adequate wages, protection of workers against occupational disease and injury, provision for old age, protection of children and women and of workers in countries other than their own, provision of vocational and technical education, and assurance of freedom to organize. The ILO consists of a general conference of representatives of the members (4 from each member state), a governing body of 32 members (16 representing governments, 8 employers, and 8 labor), and an International Labor Office controlled by the governing body. The conferences are held at least once a year and were held in Geneva from 1921 to 1939. In 1940 the working quarters were moved to Montreal, the headquarters is at Geneva.

international law, body of rules considered legally binding in the relations between national states, also known as the law of nations. It is sometimes called public international law in contrast to private international law (or CONFLICT OF LAWS), which regulates private legal affairs affected by more than one jurisdiction. In content international law includes both the customary rules and usages to which states have given express or tacit assent and the lawmaking provision of ratified treaties (see TREATY) and conventions. It does not include the usages of courtesy and good will which are termed "international comity," but some of these usages tend to assume the status of law. International law is directly and strongly influenced, although not made, by the writings of jurists and publicists, by instructions to diplomatic agents, by carefully drawn lawmaking conventions which were not ratified, and by arbitral awards. The decisions of the former WORLD COURT and of the INTERNATIONAL COURT OF JUSTICE are considered by some to be a part of international law. In most modern states international law is by custom or statute regarded as part of national—or, as it is usually called, municipal—law, and the municipal courts will, if possible, interpret the municipal law so as to give effect to international law. If this is not possible, these courts must enforce the municipal law. Because there is no sovereign supernational body to enforce international law, some older theorists, including Hobbes, Pufendorf, and John Austin, have denied that it is true law. International law, however, is recognized as law in practice, and its sanctions, although commonly less direct, are similar to those of municipal law, they include the force of public opinion, self-help, intervention by third states, the sanctions of international organization such as the League of Nations and the United Nations, and, in the last resort, war. National states are fundamentally the entities with which international law is concerned, although in certain cases municipal law may impose international duties upon private persons, e.g., the obligation to desist from PIRACY. The nations of antiquity followed certain usages in their relations with one another, but they did not acknowledge any wholly uniform body of rules, although there were regular practices concerning the ALIEN, ASYLUM, and ambassadors. In the arbitration of their disputes the Greek city-states in theory attained a high standard. There was little need for an international law in the period of ancient empires, and its modern beginnings coincide, therefore, with the rise of national states after the Middle Ages. Rules of maritime intercourse and rules respecting diplomatic agents soon came into existence. At the beginning of the 17th cent. the great multitude of small independent states, which were finding international lawlessness intolerable, prepared the way for the favorable reception given to the *De jure belli ac pacis* [concerning the law of war and peace] (1625) of Hugo GROTIUS, the first fairly comprehensive formulation of international law. Though not formally accepted, his decisions and observations were afterwards regularly consulted, and they often gave guidance in reaching a basis upon which agreement was possible. Among the fundamental principles which he enunciated and to which general adherence has been given are the legal equality and the complete sovereignty of states. To some extent international law has been a progressive lessening of absolute national sovereignty in the common interest (e.g., lessening of the right to wage WAR). More recent growth is to be traced largely in treaties concluded between states of the ever-increasing "family of nations," which first included the Christian states of Western Europe, then the Christian states of the New World, and, finally, non-Christian states of the Orient and other parts of the world. The United States, upon entering the family of nations, contributed much to the laws of NEUTRALITY and aided in securing recognition of the doctrine of freedom of the seas (see SEAS, FREEDOM OF THE). International law received a severe setback in the Napoleonic period, but the Congress of Vienna reestablished and added much, particularly in respect to international rivers and the classification of diplomatic agents. The Declaration of Paris (see PARIS, DECLARATION OF) abolished PRIVATEERING, drew up rules of CONTRABAND, and stipulated that a BLOCKADE to be binding must be effective. The Geneva Convention (1864) provided for more humane treatment of the wounded and of prisoners of war. The last quarter of the 19th cent. saw many international conventions concerning communication, collision and SALVAGE at sea, the protection of migrating bird and sea life, and suppression of the white-slave traffic. In the 20th cent. there were agreements concerning many subjects, including traffic in narcotics and aerial and radio communications. Resort to ARBITRATION of disputes became more frequent. The lawmaking conventions of the HAGUE CONFERENCES represent the culminating development of international law before the First World War. The Declaration of London (see LONDON, DECLARATION OF) contained a convention of PRIZE law, which, although not ratified, is usually followed. At the Pan American Congresses many lawmaking agreements affecting the Western Hemisphere have been signed. In the First World War, as in the Napoleonic Wars, no strong nations remained on the sidelines to give effective backing to international law, and it was again endangered, many of its provisions were at some time violated. New modes of warfare presented new problems in the laws of war, but attempts after the war to effect disarmament and to prohibit certain types of weapons (see WAR, LAWS OF) to a large extent failed, as the outbreak and course of the Second World War demonstrated. The end of hostilities in 1945 saw the world again faced with the problems occasioned by the First World War, including the rectification of international boundaries, the care of refugees, and the administration of territory of the defeated enemy (see TRUSTEESHIP, TERRITORIAL). The inadequacy of the LEAGUE OF NATIONS and of such merely idealistic renunciations of war as the KELLOGG-BRIAND PACT led to the formation of the UNITED NATIONS as a body capable of compelling obedience to international law and thus able to maintain peace. Since the Second World War a notable advance in international law has been the definition and punishment of WAR CRIMES. Attempts at a general codification of international law, however, proceeded slowly under the International Law Commission established in 1947 by the United Nations. For a collection of texts by early writers, see J. B. Scott, ed., *Classics of International Law* (12 vols., 1911–27). For general treatises, see Henry Wheaton, *International Law* (1836, 6th ed., 1929), and L. F. L. Oppenheim, *International Law* (1905–6, 6th ed., 1940). See also Walther Simons, *Evolution of International Law in Europe since Grotius* (1931), Hersh Lauterpacht, *Function of Law in the International Community* (1933), H. W. Briggs, ed., *The Law of Nations* (1938), Arthur Nussbaum, *A Concise History of the Law of Nations* (1947), Philip C. Jessup, *A Modern Law of Nations* (1948).

International Monetary Fund, autonomous organization, affiliated since 1947 with the United Nations. Its headquarters are in Washington, D.C. It was planned at the Bretton Woods Conference (1944) and came into existence in 1945, when 29 countries had accepted the articles of agreement. There is close collaboration with the INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT. The organization, using a fund of some $8,000,000,000 subscribed by the member nations, purchases foreign currencies on application from its members so as to discharge international indebtedness. To facilitate international trade and reduce inequities in exchange the fund has limited power to set the par value of currencies. Members are provided with technical assistance in international banking. The fund is ruled by a board of governors, with one representative from each nation. Each member has 250 votes plus one vote for each $100 of the nation's quota. The board of governors elects an executive board of 14 representatives to conduct regular operations. In 1950 there were 47 members.

International Red Cross see RED CROSS.

International Refugee Organization, temporary agency of the United Nations, with headquarters at Geneva. Before its organization in 1948 its activities were conducted by a preparatory commission. In arranging for the care and the repatriation or resettlement of Europeans made homeless by the Second World War, the organization was bringing to a conclusion part of the work of the UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION. In 1950 the International Refugee Organization had 15 members.

international relations. As the relations between states become more constant and complex the number of subjects studied under the designation of international relations increases. Before the 20th cent. to most students the field comprised chiefly diplomacy and military affairs. Today it may be said that any subject is appropriately considered part of international relations if it simultaneously affects two or more states. Trade, communications, exchange, and control of crime are but obvious examples. The recognition of great complexity in the subject has called forth substantial efforts to study the problems. In the United Nations the ECONOMIC AND SOCIAL COUNCIL is empowered to make extensive investigations, and in several universities faculties have been organized to train specialists in all types of international relations. A typical institution is the School of International Affairs which was established in 1946 at Columbia Univ.

International Telecommunication Union (ITU), specialized agency of the United Nations, with headquarters at Geneva. It was created in 1934, when the International Telegraph Union (est. 1865) and the International Radiotelegraph Union (est. 1906) were merged. The union today functions under the International Telecommunication Convention, which was adopted in 1947 and went into effect in 1949. The goal of the organization is to extend and improve all forms of international telecommunication by allotting radio frequencies, by encouraging the establishment of low rates, and by perfecting communications in rescue operations. The ITU is governed by the plenipotentiary conference on which all members are represented and which normally meets once in five years. The conference elects an administrative council of 18 members. In 1950 there were 61 states with full membership besides nonself-governing territories with associate membership.

internment, in international law, detention of enemy or belligerent nationals or property. A belligerent will intern enemy merchant ships or take them as prize, and a neutral should intern belligerent ships which fail to leave its ports and belligerent troops which enter its territory. In the Second World War, Japanese aliens and their native-born children (hence U.S. citizens) were the largest class interned by the United States (see RELOCATION CENTER). There was much criticism of the wholesale internments in the Pacific states, and after a time most of the interned persons were permitted to move east and the citizens were allowed to join the armed forces. See CONCENTRATION CAMP.

internuncio see NUNCIO.

interrogation point see PUNCTUATION.

Interstate Commerce Commission, established (1887) by the U.S. Congress. Mounting public indignation in the United States in the 1880s against railroad malpractices and abuses (see GRANGER MOVEMENT) resulted in the establishment of the Interstate Commerce Commission—a board of five members appointed to regulate common carriers in interstate commerce and in foreign commerce within the United States. The Interstate Commerce Commission was designed chiefly to prevent railroads from charging exorbitant rates and from discriminatory practices (e.g., the REBATE), but until the presidential administration of Theodore ROOSEVELT, the activities of the commission were limited by numerous Supreme Court decisions won by railroads. The Hepburn Act (1906), however, extended the jurisdiction of the commission to include intraterritorial commerce and express, sleeping-car, and pipe-line (exclusive of those carrying water or gas) companies. This act moreover empowered the commission upon complaint and after a full hearing to reduce any rates adjudged unreasonable. The powers of the ICC were further amplified by the Mann-Elkins Act (1910), which put telegraph, telephone, and cable companies under the commission's jurisdiction and which allowed the board to fix rates without previous complaint. By authority of the Valuation Act (1913), the ICC began

a comprehensive evaluation of the property of common carrier companies The commission's control was enhanced by powers to investigate, halt, and indemnify violations of the Interstate Commerce Act, to inquire into the management of interstate transport companies, and to demand reports from them These powers were augmented by decisions of the Supreme Court, whose broadening interpretation of the commerce clause of the Constitution extended Federal control of commerce. The Transportation Act of 1920 (also known as the Esch-Cummins Act) empowered the commission to fix rates which would yield "a fair return upon the aggregate value of the railway property of the country," to plan the consolidation of railroads into a small number of integrated systems, and to deal with labor disputes in interstate transportation The number of members on the Interstate Commerce Commission was increased to 11 After the First World War the lack of judicial interference with the operations of the ICC increased the commission's power and prestige The Emergency Railroad Transportation Act of 1933 abrogated the commission's right to fix rates yielding a fair return upon aggregate value and repealed the clause—also in the Transportation Act of 1920—which provided for recapture of earnings in excess of 6 percent of valuation The Motor Carrier Act (1935) vested in the commission the regulation of motor carriers engaged in interstate commerce By the Transportation Act of 1940 jurisdiction was conferred upon the ICC over water-borne carriers operating coastwise, intercoastally, and upon inland waters of the United States In 1942 freight forwarders also came under the commission's regulation See W D Hines, *The Interstate Commerce Commission* (1930), I L Sharfman, *The Interstate Commerce Commission* (8 vols , 1931–37)

intertype, trade name of a machine for making slugs each of which does the work of a line of hand-set type in printing It is similar to the LINOTYPE in principle, and either machine can use the matrices of the other The name is derived from that of the International Typesetting Machine Company, organized in 1912 to develop and manufacture the machine See also MONOTYPE

interval, in music, the difference in pitch between two tones Intervals are named according to the number of steps of the diatonic scale they contain, e g , from C to D is a second, C and D being the first two notes of the scale of C, C to E is a third, etc The letter names of the notes determine the name of the interval, whether either note be sharp, flat, or natural, thus, from C to E is always a third, and when both notes are natural it is called a major third The intervals from C sharp to E and from C to E flat are minor thirds From C sharp to E flat is called a diminished third, although in the tempered scale it sounds like a major second An interval a half step wider than a major interval is called augmented The fourth, fifth, and octave as they are found in the diatonic scale are designated as perfect intervals. When they are made a half step smaller they are called diminished, and when a half step larger, augmented An interval may also be expressed by means of the ratio of the frequencies of its two tones For example, the octave may be expressed by the ratio 2 1, because its upper tone has a frequency twice that of its lower tone

intestine or **bowel,** portion of the alimentary canal extending from the stomach to the anal opening The small intestine is a tube about 23 ft long beginning at the pyloric end of the stomach and continuous at its lower end with the large intestine Its diameter is about 1½ in in its upper portions, diminishing to about 1 in in the lower part The small intestine is the chief organ of digestion and absorption By contractions of the muscular walls the food mass is carried along and subjected to the digestive action of the bile and the pancreatic juice, both of which reach the small intestine through ducts, and to the *succus entericus,* the secretion of certain glands in the lining of the small intestine These juices carry on and complete the digestion of proteins, fats, and carbohydrates Digested nutrients are absorbed through the lining of the small intestine into the blood and lymph, by which they are distributed throughout the body. The surface for absorption is increased by the presence of circular folds in the intestinal wall and of villi, minute finger-shaped projections so numerous over most of the lining of the small intestine that they give it the appearance of velvet The small intestine joins the large intestine, forming a right angle with the cecum (the blind portion at the beginning of the large intestine), near the lower end of which is the vermiform appendix The large intestine is about 5 ft long. From the cecum it continues as the ascending, transverse, and descending colon, the rectum, and the terminal portion, the anal canal with its external opening, the anus Bacteria, indigestible parts of foods, and mucus form the bulk of the material in the large intestine Water is absorbed from the material while it remains within the intestine, and the residue of solid material is excreted

Intolerable Acts, name given by American patriots to five laws (including the QUEBEC ACT) adopted by Parliament in 1774, which limited the political and geographical freedom of the colonists. Four of these laws were passed to punish the people of Massachusetts for the BOSTON TEA PARTY The Boston Port Bill closed the port until such time as the East India Company should be paid for the tea destroyed in the affair Other acts changed the royal charter of Massachusetts, provided for the quartering of troops—the New York assembly had earlier (1767–69) been suspended for refusing to make provisions for British troops—in the colony without provincial consent, and gave royal officials in conflict with colonial authorities the right to trial in England American opposition to these laws and to the Quebec Act was felt in all the colonies, since the actions taken against Massachusetts might be extended to any colony and the Quebec Act was considered a violation of the sea-to-sea grants of many colonial charters The outcome was the First CONTINENTAL CONGRESS

intoxication, poisoning induced by various substances. These include chemical elements, e g , lead and phosphorus, drugs, e g , opium, alcohol, cocaine, and ergot, gases, e g , carbon monoxide, and true toxins, as in DIPHTHERIA, TETANUS, BOTULISM, and mushroom poisoning There are toxic substances produced in the body which cause autointoxication, as in DIABETES and in the course of such infectious diseases as TYPHOID and PNEUMONIA The results of intoxication depend upon the organ affected Phosphorus affects the liver and causes jaundice, mushroom toxin affects the nervous system and destroys red blood cells For the effect of alcohol, see ALCOHOLISM See also LEAD POISONING

Intracoastal Waterway, route, c 3,100 mi long, partly natural, partly artificial, to provide protected passage for boats along the Atlantic and Gulf of Mexico coasts from Boston, Mass , to the mouth of the Rio Grande at Brownsville, Texas It was authorized by Congress, is improved and maintained by the U S Corps of Engineers, and is toll free The minimum depth is 7 ft and has been achieved by dredging existing channels and by digging canals, some of the most important works have been the Cape Cod Canal, the Chesapeake and Delaware Canal, the Okeechobee Waterway, dredging of the cut from Pensacola Bay to Mobile Bay, the New Orleans-Rigolets Cut, and deepening the channel between Port Arthur and Corpus Christi, Texas In June, 1949, the final section from Corpus Christi to Brownsville was completed The U S Coast and Geodetic Survey publishes maps, charts, and coast pilots for mariners See *United States Coast Pilot* for the Atlantic and Gulf coasts

introversion see EXTROVERSION AND INTROVERSION

intuitionism, in philosophy, a theory which holds that knowledge may be directly and immediately apprehended independent of either experience or reasoning This theory has been developed in various fields of philosophy Basically it is associated with all ego-centered philosophical systems, e g , egoism The metaphysical intuitionist believes that intuition and not intellect is the source of fundamental truth The ethical intuitionists (CUDWORTH, the 3d earl of SHAFTESBURY, Francis HUTCHESON) regarded the evaluation of right and wrong as a given moral sense, akin to the other senses J J ROUSSEAU found the instinctive behavior of man good, and this goodness was abased by the pressures of society In more recent times Henri BERGSON has stressed the importance of intuition in the life of man, a reaction against what he considered the overemphasis of the role of the intellect

Inukai, Ki (kē' ĭnōō'kī), 1855–1932, Japanese statesman An original member of the Reform party, founded in 1882, he served many years in the diet and held various posts including the ministry of commerce (1924–25) He became president of the Seiyukai party in 1929 and was prime minister from Dec , 1931, to May, 1932, when he was assassinated by young officers, who thereby gained for the army a stronger voice in the government

Invalides, Hôtel des (ōtĕl' dāzvälĕd'), celebrated landmark of Paris, France, built (1671–76) by Libéral BRUANT as a hospital for disabled veterans One of the most imposing examples of French classical architecture, it now houses a military museum It faces the vast Esplanade des Invalides and a monumental bridge, the Pont Alexandre III Behind it, in the court of honor, is the **Dôme des Invalides** (dōm), built 1679–1706, the masterpiece of J. H. MANSART Under the huge, yet seemingly weightless, dome are the tombs of Vauban, Turenne, and Foch. The remains of Napoleon I, translated here in great pomp from St Helena (1840), are in the center of the crypt, in a red granite sarcophagus, lighted by a circular opening in the dome.

invar: see GUILLAUME, CHARLES ÉDOUARD

invention. Invention is not peculiar to man, but in degree is characteristic of him. The record of man does not go back to a time when he did not invent The digging stick or spade was an invention, and the first use of it for prying was probably the invention of the lever Estimates of the relative importance of inventions are affected by place and time. Improvements in suits of armor were highly esteemed for centuries, but they have lost their status Whether necessity is the mother of invention or invention is the mother of necessity is debated. The necessity of the wheel was no greater in the Eastern Hemisphere than in the Western, but it was unknown in the Western Hemisphere before Columbus. In the Eastern Hemisphere, it was necessary after it was invented Conditions, however, affect invention The many applications of the wheel were impossible in the Western Hemisphere before the wheel was introduced. The automobile and the airplane waited for the development of the internal-combustion engine The steam engine, the reaper, the automobile, and the airplane illustrate the tendency of farmers and workmen in small shops to invent In general, the inventions fostered by organizations are useful to those who maintain the research laboratories and to a centralized civilization The common heritage of an accumulated stock of knowledge and the needs of the time explain simultaneous discoveries such as the telephone invented independently by Alexander Graham Bell and Elisha Gray Notable periods of invention include Neolithic time, when pottery and some important tools, implements, and mechanical powers were originated, and the period of the beginning of the Industrial Revolution, approximately from the last quarter of the 18th cent The emphasis today is on invention fostered by industrial, university, and government research laboratories See A F Collins, *A Bird's Eye View of Invention* (1926), H J Peake, *Early Steps in Human Progress* (1933), S C Gilfillan, *The Sociology of Invention* (1935), R H Curt, *The Story of Discovery and Invention* (1937), A K Berle and L S De Camp, *Inventions and Their Management* (2d ed , 1947)

Inveraray (ĭnvurə'rē), burgh (pop 455), county town of Argyllshire, Scotland, on Loch Fyne near its northern end and NNW of Greenock The 18th-century Inveraray Castle, designed by Robert Adam, is the seat of the duke of Argyll

Invercargill (ĭnvurkär'gĭl), city (pop 23,470, metropolitan pop 27,470), on South Island, New Zealand, on the south coast Primarily an agricultural center, it also produces flour, brick, and timber Its port is near-by Bluff

Inverchapel of Loch Eck, Archibald John Kerr Clark Kerr, 1st **Baron** (kär', ĭn"vurchăk'pul), 1882–, British diplomat He entered diplomatic service in 1906 and served at Berlin, Buenos Aires, Washington, Rome, and Teheran In 1938 he was given the important post of ambassador to China when the Chino-Japanese War was going on In 1942 he was shifted to the ambassadorial post at Moscow, a position he held until 1946 In the latter year he served as special British envoy to Indonesia in an effort to end Dutch-Indonesian tension He was (1946–48) ambassador to the United States

Invergordon (ĭnvugôr'dŭn), burgh (pop 1,417), Ross and Cromarty co , Scotland, on the north side of Cromarty Firth It is an important naval station and was the scene of a "passive mutiny" or strike of discontented British sailors in 1931

Inverness, county, Scotland see INVERNESS-SHIRE.

Inverness (ĭn"vurnĕs'), town (pop 2,975), on Cape Breton Island, N S , on the west coast and W of Sydney, in a coal-mining region

Inverness (ĭn"vûrnĕs'), burgh (1931 pop 22,583, 1948 estimated pop 28,112), county town of Inverness-shire, Scotland, at the mouth of the Ness on Moray Firth, a mile from the Caledonian Canal "Capital of the Highlands," it is the scene of a great Highland Gathering in September and contains museums of Highland lore The castle, built in 1835, contains the county offices and is on the site of Macbeth's Castle, said to be the scene of the murder of Duncan Cromwell's Fort was built in 1652 Wool weaving, tanning, and distilling are the chief industries

Inverness (ĭn'vurnĕs"), town (pop 1,075), co. seat of Citrus co , N central Fla , N of Tampa and on Lake Tsala Apopka, in a farm area It is a rural market and fishing center

Inverness-shire (ĭn"vurnĕs'shĭr) or **Inverness,** maritime county (4,211 sq mi , 1931 pop 82,108, 1948 estimated pop 84,151), NW Scotland The county town is Inverness Largest of the Scottish counties, it includes Skye and other of the Inner Hebrides and all of the Outer Hebrides S of Lewis A geological fault, known as the Great Glen, cuts diagonally across the county from Moray Firth on the north to the Firth of Lorne on the west, the Caledonian Canal follows the Great Glen through Loch Ness, Loch Oich, Loch Lochy, and Loch Lunnhe It is a mountainous region, having the highest peak in Great Britain (Ben Nevis, 4,406 ft) and many other peaks rising to more than 3,500 ft The streams are short and precipitous The chief occupation is sheep grazing, but quarrying and fishing are also important The natural wildness of the district attracts many visitors. After the establishment of the kingdom of Scotland the region, then much larger than the modern county, came to be known as the province of Moray (Murray). Culloden Moor was the scene of the defeat of Charles Stuart (Bonnie Prince Charlie) in 1746.

invertebrate (ĭnvûr'tûbrāt), any animal without a backbone. The invertebrates are divided into phyla which include the protozoa, sponges, coelenterates (jellyfish, sea anemone, and coral), echinoderms, flatworms, roundworms, segmented worms, mollusks, and arthropods In size they range from the microscopic, one-celled protozoans to the giant SQUID See R. W. Hegner, *Invertebrate Zoology* (1933); G S Carter, *General Zoology of the Invertebrates* (1940), R M Buchsbaum, *Animals without Backbones* (rev ed , 1948)

investiture, in FEUDALISM, the ceremony by which an overlord transferred a fief to his vassal After oath of fealty, the lord "invested" him with the fief, usually by giving him a clod or a stick or a stone or some other symbol of the land or office transferred The ceremony imposed upon him the duties of a suzerain, the principal one being protection of the vassal's interests Clerical investiture was of great importance because the dispute concerning it was one of the phases of the great struggle between Church and state in the Middle Ages The fundamental trouble lay in the dual position of the important bishops and abbots, who were both spiritual lords and temporal lords From early times, then, both the king and the pope were interested in the election and installation of the bishop When late in the 11th cent the struggle concerning investiture broke out, there was no general agreement as to the powers of the pope and the emperor in installing German bishops it was only generally recognized that both had rights in the matter The use of the word *investiture* increases the difficulty of understanding the problem, strictly speaking, investiture meant the giving of the pastoral staff and pastoral ring, the symbols of spiritual office, more widely, it meant the whole matter of election and installation The right of a temporal prince to give spiritual power was claimed only by the extremists of the emperor's party, but there was debate as to canonical election, royal assent, and papal assent The quarrel was touched off by divergence between Pope GREGORY VII and Emperor HENRY IV The clerical reform movement brought on the trouble, it was essential that the Church have the power of selecting bishops if the reforms—abolition of SIMONY, of marriage of the clergy, and of political and economic abuses in the Church—were to be carried out All went well until the death in 1056 of Emperor HENRY III, who had worked with the reform party In the minority of Henry IV, abuses were rife The reform party now saw that lay investiture must be abolished in order to make way for the reforms Trouble between Henry IV and Gregory VII on many counts increased In 1075 Gregory forbade lay investiture, and the bitter struggle was on in earnest The encouragement of rebellious nobles in Germany, excommunication of the emperor, and a steady warfare followed Investiture was only one phase of the contest, but an important one Especially in such times of stress, Henry needed to retain his power over the bishop-princes The papacy also maintained its ground After the death of Gregory VII (1086), the investiture argument took a new turn, and after the death of Henry IV (1106) the strain was lessened But PASCHAL II continued the policy of Gregory and his successor, URBAN II, in condemning lay investiture, though he entered into negotiations for settlement HENRY V maintained all the claims of his father and extended them by ruthless measures He entered into a sort of preliminary agreement before his coronation, but would not at the last moment consent to surrendering lay investiture, he seized the pope and forced him into surrendering the church claims Paschal disavowed this forced agreement later The emperor and the antipopes he set up effectively staved off settlement Under Pope GELASIUS II movements were made toward settlement, but it was not until 1122 that churchmen succeeded in bringing about an agreement in the Concordat of Worms (see WORMS, CONCORDAT OF) between HENRY V and Pope CALIXTUS II Thus compromise brought the struggle to an end, it was a victory, though far from a complete victory, for the Church This trouble found its counterpart in struggles between the pope and other rulers In France trouble between Church and state turned in general on other points (see INNOCENT III, PHILIP IV, GALLICANISM) In England, William the Conqueror had trouble with the Church, and William Rufus embarked upon a struggle over investiture His abuse of power, particularly in keeping sees vacant, intensified the struggle which reached a climax in the long battle between HENRY I and ANSELM In 1107 a compromise was reached in the agreement that bishops and abbots should be invested by the Church but should render homage to the king Later trouble between Church and state in England turned on other issues See R W Carlyle and A. J Carlyle, *A History of Medieval Political Theory in the West,* (5 vols , 1903–28) See also bibliography under HOLY ROMAN EMPIRE and MIDDLE AGES

involutional melancholia, psychosis of the involutional period of life (40 to 60 years of age) which is characterized by the sudden onset of severe emotional depression, anxiety, and suicidal tendencies. It appears in people with no previous psychotic history and is most successfully treated by electric SHOCK THERAPY

Io (ī'ō), in Greek religion, princess of Argos, daughter of Inachus and mother by ZEUS of Epaphus She was transformed into a heifer, either by HERA, to separate her from Zeus, or by Zeus, to protect her from Hera She was persecuted by Hera, guarded by ARGUS of the hundred eyes, and driven by a gadfly until she reached Egypt, where she became a woman again She is sometimes identified with the Egyptian goddess ISIS.

Ioannina (yō'ä'nēnä), city (pop 21,877), NW Greece, in Epirus, on lake Ioannina It is sometimes spelled Janina, Jannina, or Yannina An agricultural center, it also has a fine textile and silk industry The city dates from medieval times It was taken (1081) by the Normans, and in 1204 Michael I, despot of Epirus, made it his capital Conquered by the Turks in 1438, it became the seat of a pasha ALI PASHA, the Lion of Yannina, made it the stronghold of his virtually independent state In the First Balkan War the Turkish garrison surrendered (1913) to the Greeks after a long siege, and Ioannina passed to Greece The city suffered severe damage in the Second World War, when the Greeks defeated (1940) the Italians, and the Germans defeated the Greeks (1941) near Ioannina

iodine (ī'ədĭn, -dēn), the least active HALOGEN, a dark gray to purple-black, lustrous, crystalline, solid element (symbol=I, for physical constants, see ELEMENT, table) When heated it undergoes SUBLIMATION, the vapor having an intense violet color and a characteristic odor Iodine is only slightly soluble in water, but it dissolves in carbon disulphide, alcohol (the tincture of iodine is an alcohol solution), and a solution of sodium or potassium iodide It forms many compounds—with hydrogen (hydrogen iodide which in solution forms hydriodic acid), with certain nonmetals, e g , nitrogen, phosphorus, and oxygen, and with most metals The element is obtained from salt deposits, as from the saltpeter beds in Chile where it occurs in small quantities as an iodate and from the salt brines associated with some oil wells in California and Louisiana It is also found as an iodide in the ash of certain seaweed The element is prepared by displacement from a compound by chlorine or by the treating of an iodide with manganese dioxide and sulphuric acid, when it sublimes Iodine is important in medicine (see GOITER) and is used especially as the tincture and as IODOFORM It is employed in the preparation of certain drugs, in photography (silver iodide), and in the manufacture of some dyes The tincture is used in the test for STARCH The element was discovered in 1811 by Bernard Courtois

iodoform (ī'ōdəfôrm ĭ'ō-), yellow crystalline solid (a compound of carbon, hydrogen, and iodine and known technically as tri-iodomethane) having a characteristic odor It is practically insoluble in water, but is soluble in alcohol and ether It is widely used as an antiseptic and disinfectant, especially in surgical dressings It is produced when iodine and a solution of an alkali (e g , potassium hydroxide or sodium hydroxide) act on alcohol or acetone and is also prepared electrolytically See iodine under POISONING (table)

Iola (ī'ōlu), city (pop 7,244), co seat of Allen co , SE Kansas, W of Fort Scott, founded 1859, inc 1870 It is a trade center in dairying country and manufactures cement

Iolo Morganwg (yō'lō môrgä'nōōg), 1746–1826, bardic name of Edward Williams, Welsh poet and antiquarian As an editor of *Myvyrian Archaiology* he led in the revival of Welsh interest in the past Patriotic fervor for his own S Wales caused him to fabricate old tales and poems and to doctor records concerning the EISTEDDFOD and bardic ceremonies He has enriched Welsh literature with some delightful poems, especially those he attributed to DAFYDD AP GWILYM Southey held him in great respect. The name also appears as Yolo Morganoog

Ion (ī'ŏn, ī'ən), in Greek mythology, son of APOLLO and CREUSA, who became the ancestor of the Ionians He is the hero of a play by Euripides

ion (ī'ŏn, ī'un) To explain the fact that although some substances, e g , common salt, do not conduct an electric current under ordinary conditions but do conduct it when in solution in water (which is also a poor conductor), S. A Arrhenius advanced the theory (1887) that a molecule of these substances dissociates (breaks up) in solution and that the parts thus formed conduct the current According to the theory of ionization (called also the theory of ions, ionic theory, and theory of electrolytic dissociation), some of the molecules of salt, each of which is composed of one atom of sodium and one of chlorine, break up into two parts, one positively charged with electricity and one negatively charged The particles are called ions Those particles that are positively charged each consist of an ATOM of sodium which has lost one of its electrons, or negative charges Since originally the sodium atom had an equal number of positive and negative charges (i e , was neutral originally), the loss of one negative charge leaves it with an excess of one positive charge and it is, therefore, positively charged Each of those particles that is negatively charged consists of an atom of chlorine which has gained an electron, or negative charge of electricity The chlorine atom, like the sodium atom, was originally neutral, but the addition of the electron gives it an excess negative charge It receives this electron from the sodium atom when the salt molecule (composed of one sodium atom and one chlorine atom) dissociates When a current of electricity is introduced into the solution (see ELECTROLYSIS), the sodium ion is attracted to the negative pole or cathode, because it bears a positive charge (and unlike charges of electricity attract each other) It is called a cation The chlorine ion being negatively charged is attracted to the positive pole or anode and is known as an anion At this pole it gives up its negative charge and becomes once more a chlorine atom Joining with another chlorine atom thus formed, it makes up a chlorine molecule (which contains two atoms of chlorine) and passes up through the water and off as chlorine gas On the other hand, the sodium ion receives a negative charge from the cathode and becomes again a sodium atom Since sodium reacts with water at ordinary temperatures, the atoms formed react with the water, displace some of the hydrogen (which bubbles off) from it, and form molecules of sodium hydroxide (one atom of sodium, one of oxygen, and one of hydrogen) Those substances which, like salt (sodium chloride), conduct electricity are called electrolytes, those which do not, e g , sugar and alcohol, are called nonelectrolytes Sugar in solution is separated into molecules, but the molecules do not dissociate into ions In general, the chemical compounds known as acids, bases, and salts conduct electricity when in solution and are therefore electrolytes (see NEUTRALIZATION) Some ionize (form ions) to a greater extent than others Furthermore, the apparent extent of ionization increases as the solution is diluted, i e , as more water is added It has been discovered that certain substances (e g , salt, when melted and hence in a liquid form) yield ions just as they do in aqueous solution Various important industrial processes are based upon this fact The acidity or alkalinity of a substance in solution depends upon the concentration of hydrogen ions (H^+) or of hydroxyl ions (OH^-) in the solution Certain substances called indicators are used to indicate which kinds of ions are present or are in greater concentration Litmus is such an indicator, it turns red in an acid solution, a solution in which there is a greater concentration of H^+ ions, and blue in a base solution, one in which the OH^- ion concentration is greater In pure water (HOH) the concentration of hydrogen ions and hydroxyl ions is equal, and the substance acts both as a very weak acid and as a very weak base The letters (or symbol) "pH" are used to indicate the hydrogen-ion concentration, and thus the relative acidity or alkalinity When the pH is known, a solution can be made to have a desired concentration of hydrogen ions or of hydroxyl ions by the addition of an acid or a base The pH of substances is important in many fields of industry and in agriculture In agriculture, for example, it is important to know the pH of soils for the growth and best yield of various crops Tables are prepared by the Dept of Agriculture

Iona (ī'ōnu) [miswritten for Irish *Ioua*=island] or **Icolmkill** (ĭ"kŏmkĭl') [Irish, =island of Columcille], island, off W Scotland, in Argyllshire, one of the Inner Hebrides It is separated from the island Mull by the Sound of Iona, is c 3½ mi long and 1½ mi wide, and is hilly, with shell beaches The island is famous as the early center of Celtic Christianity St Columba, with his companions, landed here from Ireland in 563 They founded a monastery, which was burned by the Danes in the 9th cent In 1203 a Benedictine monastery, of which there are remains, was established The cathedral, formerly the Church of St Mary, dates from the late 12th or early 13th cent There were many ancient crosses, of which several remain A cemetery, near the 12th-century Chapel of St Oran, contains sculptured tombstones and is reputed to be the burial place not only of many Scottish kings and chiefs but of several sovereigns of Ireland, Norway, and France The land is fairly fertile, and farming, fishing, and marble quarrying are carried on A plan to restore ancient buildings on Iona was interrupted by the Second World War, but was resumed in 1947

Ionia (ī'ō'nēu), ancient region of Asia Minor It occupied a narrow coastal strip of what is today W Turkey and the neighboring Aegean Islands, which now mainly belong to Greece The region was of the utmost importance in ancient times, for it was here that Greek settlers settled colonies, presumably before 1000 B C These settlers were called Ionians, and Athens claimed to be the mother city of all of them, but modern scholars believe that they were actually a mixed group and that they were further mixed after arrival by intermarriage with native groups such as the Carians. Nevertheless,

they spoke the same distinctive form of Greek that was spoken in Attica and Euboea, and they were always in ancient times distinguished in culture from the Dorians and Aeolians Tradition says that they fled to Asia Minor from the mainland before the conquering hordes of Dorians However that may be, they flourished in Ionia, and the city-states there sent out colonies of their own There came to be 12 important cities—Miletus, Myus, Priene, Samos, Ephesus, Colophon, Sebedus, Teos, Erythrae, Chios, Clazomenae, and Phocaea These were linked in a loose religious league centering on the temple of Poseidon at Mycale Smyrna, an Aeolian foundation, later joined the league The fertility of the region, the excellent harbors, and the favorable position between the Greek world and Asia all gave prosperity to the cities, which sent traders and colonists into the Mediterranean as far west as Spain and up to the shores of the Black Sea The cities were invaded by the Cimmerians in the 7th cent but survived the storm Later Gyges, king of Lydia, invaded them, but it was not until the time of Croesus that they were brought under the Lydian yoke, which was very mild Greek culture, indeed, was already having profound effects on the neighboring lands and even far to the east When Croesus was conquered (before 546 B C) by Cyrus the Great of Persia, the Greek cities came under Persian rule That rule was not very exacting, but it was in its nature despotic, and at the beginning of the 5th cent B C the cities rose in revolt against Darius I They were aided and abetted by Athens and some other Greek city-states Though the revolt was easily put down, the Persians set out to punish the allies of the cities The Persian Wars resulted. Most of the Ionian cities thereby gained freedom briefly and took part in the events of Greek history, but their fate continued to be subject to treaties with the Persians and changed as Persian fortunes waxed and waned Alexander the Great easily took all of them in his power, and the Diadochi quarreled over them They continued rich and important through the time of the Roman and Byzantine empires It was only after the Turkish conquest that their culture was destroyed The Ionian cities made immense contributions to what is generally considered as Athenian art, literature, and philosophy

Ionia, city (pop 6,392), co seat of Ionia co , S Mich , on the Grand River and E of Grand Rapids, settled 1833, inc as a village 1865, as a city 1873 Furniture, flour, and pottery are made It is the seat of a state reformatory and a state hospital for the criminal insane The Indian Saginaw Trail passed here

Ionian Islands (ī-ō'nēun), chain of islands (752 sq mi , pop 219,562), off W Greece, in the Ionian Sea (a branch of the Mediterranean), along the coasts of Epirus and the Peloponnesus They include CORFU, PAXO, LEUCAS, CEPHALONIA, ITHACA, ZANTE, and—off the southern tip of the Peloponnesus—CYTHERA Largely mountainous, the islands reach their highest point at Mt Aenos (5,314 ft) on Cephalonia The climate is warm and humid, and the soil produces currants, grapes, olives, grains, citrus fruit, and vegetables Sheep, goats, and hogs are raised Local industries include fishing, soapmaking, and boatbuilding The islands had no unified history during the ancient Greek period Passing, with Greece, to the Roman and Byzantine empires, they passed (14th–15th cent) to Venice, which kept them until the dissolution of the Venetian republic by the Treaty of Campo Formio (1797) The islands went to France but were seized (1799) by a Russian-Turkish fleet and were constituted into a republic under Russian occupation and under Ottoman protection In 1807, by the Treaty of Tilsit, Russia restored the islands to France, and in 1809 an English fleet occupied all the islands save Corfu The Treaty of Paris (1815) established a British protectorate over the Ionian Islands, which were at last ceded to Greece in 1864, after the accession of George I

Ionian Sea, part of the Mediterranean Sea, between Greece and SE Italy It is connected with the Adriatic Sea by the Strait of Otranto Several of the Ionian Islands lie in its eastern part It forms an inlet, the Gulf of Taranto, off the southeast coast of Italy

Ionic order (ī-ŏn'ĭk) The spreading, scroll-shaped CAPITAL is the distinctive feature of the Ionic order, it was primarily a product of Asia Minor, where have been found various early embryonic forms of this capital In the Ionian colonies of Greece on the southwestern shores of Asia Minor, the Ionic order had attained a full development in the 6th cent B C In the 5th cent B C it appeared in Greece proper, where only one really complete example exists, the ERECHTHEUM at Athens Greek Ionic columns are of slender proportion, their height being generally about nine times the column's lower diameter The column shaft is carved with 24 flutings The spiral scrolls at either side of the cap run from front to rear, and an echinus molding with egg-and-dart ornamentation occupies the space between them. The entablature, usually about one quarter the height of the column, has an architrave generally divided into three bands, each projecting beyond the other; a frieze, often adorned with sculpture, and a cornice enriched with dentils, above which are a corona and a crowning cyma molding A late and vigorously monumental development of the order took place in the Hellenistic temples of Asia Minor at the middle of the 4th cent. B C In using this order the Romans adopted heavier and less beautiful details The temple of Saturn shows a variation of the four-cornered Ionic cap, which had been created in Greece for the corner columns of a portico A cap of this type, with corner volutes, was developed by the Italian Renaissance architect SCAMOZZI (see SCAMOZZI IONIC ORDER) into a design bearing his name, while variations of it have been widely used both in the Renaissance and subsequent periods

ionium. see RADIOACTIVITY

ionization see ION

ionosphere (ī-ŏn'usfēr), series of concentric ionized layers forming part of the upper ATMOSPHERE of the earth Fluctuations in the height of the layers and in the degree of ionization occur at different times of the day and night, at different seasons, and in different areas Causes for some of the variations in characteristics are believed to include changes in the amount of ultraviolet radiation received from the sun and effects of the earth's magnetic field The layers comprising the ionosphere are also known by letters of the alphabet—the E layer, the F layer (divided into the F-1 and F-2 layers and lying above the E layer), and the G layer above the F It is the ionosphere which, by reflecting radio waves back to the earth, makes possible long-distance wireless communication Oliver Heaviside and A E Kennelly independently discovered the existence and the effects of the ionosphere Both the ionosphere as a whole and the highly ionized E layer have been called the Kennelly-Heaviside layer

Ioshkar-Ola (yŭshkar'-ŭla'), city (pop 27,052), capital of Mari ASSR, E central European RSFSR It is an agricultural center processing grain, flax, meat, sunflower oil, and lumber

Iota, village (pop 1,000), SW La , SW of Baton Rouge, in a rice-growing area, inc 1902

IOU [I owe you], written acknowledgment of a debt, usually in the form, "To John Brown, IOU five dollars, Henry Smith, Jan 1, 1950 " In the United States and Great Britain, if signed by the debtor it is evidence of the debt stated It is neither a receipt nor a PROMISSORY NOTE In Great Britain it is not negotiable, but some states of the United States have declared it negotiable

Iowa (ī'uwu), state (56,280 sq mi , 1940 pop 2,538,268, 1949 estimated pop 2,643,000), N central United States, in the Middle West, admitted 1846 as the 29th state (a free state) DES MOINES is the capital and the largest city Iowa is framed on two sides by rivers, the Mississippi separates it on the east from Wisconsin and Illinois, and the Missouri and the Big Sioux separate it from Nebraska and South Dakota The state is bounded on the north by Minnesota and on the south by Missouri Within these borders are rich, rolling tablelands, interrupted by many rivers The terrain is low and gently sloping, except for the hills in the glaciated country of NE Iowa and the bluffs steep sloped on the banks of the Mississippi and moundlike on the banks of the Missouri The rivers of the eastern two thirds of Iowa flow to the Mississippi, those of the west flow to the Missouri The original woodlands—including black walnut and hickory—were destroyed by lumbering in the 19th cent , and only second or third growth of timber now covers some 2,500,000 acres But the typical Iowa scene is prairie covered a little more than a century ago with grass higher than the wheels of prairie schooners of the pioneers, covered now with disciplined fields of Iowa corn and other grains, the wildflowers that blossomed among the wild grasses still brighten the roadsides Gone are the wild turkey, the prairie chicken, and the quail, but migratory geese and ducks and the imported ring-necked pheasant and European partridge are hunted now in the pleasant autumn The climate offers its trials, northwest winds send the mercury to 30° F below zero in winter, and hot airs send it up above 100° F in the summer, violent thunderstorms, hail, floods, and occasional droughts vex the farmers The average annual 31 in of rain falls mostly in summer and can wash away the land, so that Iowans must fight erosion with modern plowing and planting practices, regulation of water courses, and reforestation Yet Iowa has some of the finest farming land in the world The deep porous soil yields corn and other grains in almost fabulous amount, the corn-fed cattle and hogs are nationally known, 25 percent of the "grade-one" farm land of the United States is in Iowa These riches the Iowans have used to get the highest total cash receipts from farm marketing of any state Industry, too, uses the produce of the soil, and SIOUX CITY and CEDAR RAPIDS rank high in processing of agricultural products Iowa also has large factories to make cosmetics, buttons, and washing machines There is no gold or silver, but Iowa has bituminous coal estimated to be enough to supply its own needs for 4,000 years, and the humbler mining industries yield sand, gravel, clay, limestone, and more gypsum than any other state except one Far in neolithic times there were already quarries, dug by MOUND BUILDERS, and the later Indians knew of the mineral wealth. Iowa supposedly takes its name from the IOWA INDIANS The belligerent SIOUX INDIANS however, dominated the area, while the SAC AND FOX INDIANS also ranged over the land French explorers going down the Mississippi, Father MARQUETTE and JOLLIET and later La Salle, touched upon the Iowa shores Fur traders crossed the land and paddled up most of the rivers until well in the 19th cent Late in the 18th cent. a French Canadian named Julien DUBUQUE leased land from the Indians around the present Dubuque and opened lead mines there After his death the Indians refused to permit other white men to work the mines, and U S troops under Lt Jefferson Davis protected Indian rights in 1830 Nevertheless, after Iowa went to the United States by the Louisiana Purchase in 1803, the Indian hold was doomed, and the BLACK HAWK WAR (1832) saw the end of their regime (though the last claims were relinquished only in 1842) A great rush of frontiersmen came to settle the prairies and take the mines By 1838 Iowa Territory was organized, Burlington was temporary capital until IOWA CITY was chosen (1839) capital, which it remained after statehood in 1846 until Des Moines became capital in 1857 Quickly the Iowans (called Hawkeyes for some reason unknown) built a rural civilization like that of New England, from which many of them came Later immigrants from Europe—notably Germans, Czechs, Dutch, and Scandinavians—brought their agricultural skills and their own customs to enrich that rural life A system of public schools was set up in 1839 and soon successful efforts were made to establish colleges and universities, efforts today represented by such state-supported institutions as the State Univ of Iowa and Iowa State College and such private institutions as Grinnell College, Cornell College, and Drake Univ Iowa prospered especially with the beginning of railroad building and so fierce was the rivalry between towns to get the lines that the grant of big land tracts to railroad companies was curtailed by legislative act in 1857 This land of small, independent farmers and small towns was naturally tied to the antislavery side in the contest over slavery The Underground Railroad was active in Iowa, John Brown for a time made his headquarters there, and in the Civil War many Iowans fought for the Union The farmers grew wealthy in wartime but, when the 1870s came with hard times, they found themselves burdened with debt and felt oppressed by the money system, by the corporations, and the immunities of the railroad companies Many of them joined with other farmers of the West in the GRANGER MOVEMENT, the GREENBACK PARTY, and the POPULIST PARTY Some reforms were achieved and times improved, and radicalism had simmered down by the end of the 19th cent , not to flare again until the depression that began in 1929 Generally the agricultural commonwealth grew and prospered, partly through agricultural science such as the improvement of corn by cross-pollination and selective breeding The Grange, the Farm Bureau, the 4 H clubs, and farmers' cooperatives promote improvements and provide social life, as do the county fairs and the state fair Like other prosperous agricultural commonwealths, Iowa tends toward a stable and conservative norm, with the predominance of white Protestant society, linked over the course of many years with the Republican party and with isolationism in foreign affairs—the sort of society pictured in the paintings of Iowa's Grant Wood The society is not, however, rigid, and all manners of thought and men come out of Iowa The echoes of Populist radicalism are not entirely dead, and the rise in farm tenancy in the state (from 23 8 percent in 1880 to 49 6 percent in 1935) has caused some disquiet Many of the European immigrants and their descendants are Catholic The excellent educational institutions are producing cosmopolitanism The breadth of Iowa's contribution may be seen in some of the diverse public figures from Iowa, such as Herbert C Hoover, James Wilson, Henry A Wallace, Harry L Hopkins, Ray Lyman Wilbur, and Curtis Dwight Wilbur See Benjamin F Gue, *History of Iowa* (4 vols , 1903), Edwin Sabin and Henry Sabin, *The Making of Iowa* (1916), J. F Chapin, *Early Days in Iowa* (1931), Iowa State Planning Board, *A Preliminary Report* (1934) and *The Second Report* (1935), Federal Writers' Project, *Iowa a Guide to the Hawkeye State* (1938); Cyrenus Cole, *Iowa through the Years* (1940), Phil Stong, *Hawkeyes* (1940); Jacob Swisher, *Iowa, Land of Many Mills* (1940) and *Iowa in Times of War* (1943)

Iowa, river, 329 mi long, rising in lakes of N central Iowa and flowing southeast across the state, passing Iowa Falls (where it forms a gorge with rapids), Marshalltown, and Iowa City. It is joined by the Cedar at Columbus Junction and enters the Mississippi between Muscatine and Burlington.

Iowa, State University of, at Iowa City; state supported, coeducational; chartered 1847, opened

1855 It includes colleges of commerce, dentistry, education, engineering, law, liberal arts (with social administration), pharmacy, and medicine and schools of fine arts, journalism, letters, nursing, and religion There are bureaus of business and educational research, a child-welfare research station, a hydraulic research institute, the state historical society, practice schools (with an early nursery school), a radio station, art and natural history museums, and a theater The campus is on both sides of the Iowa river, the outstanding building is the old capitol, begun in 1840 See B F. Shambaugh, *The Old Stone Capitol Remembers* (1939)

Iowa City, city (pop 17,182), co seat of Johnson co , E Iowa, on both sides of the Iowa river and S of Cedar Rapids, founded 1839 as the capital of Iowa Territory, inc 1853 The beautiful old stone capitol was begun in 1840, and the first legislature met in the city in 1841, it sat here until 1857, when the seat of government was moved to Des Moines With the arrival of the railroad (1855), Iowa City became an important outfitting center for the westward trails At near-by Coralville is the site of a Mormon camp (1856) The opening of the State Univ of Iowa (see IOWA, STATE UNIVERSITY OF) stimulated the growth of the city It is a university town, but it also has small manufactures, there is a municipal airport The library of the state historical society is here, and near by are the state sanatorium for the tubercular, the villages of the AMANA SOCIETY, and Herbert Hoover's birthplace (at West Branch, 10 mi east) A U S veterans' hospital site was selected in 1948 See B F Shambaugh, *The Old Stone Capitol Remembers* (1939)

Iowa Falls, city (pop 4,425), N central Iowa, on the Iowa river and W of Waterloo, in a poultry-raising and farm area, settled 1853, inc 1869 Soybean and dairy products are made here Ellsworth Junior College (coeducational) and a museum of pioneer relics (1932) are here The annual state Baptist convention is held at Iowa Falls

Iowa Indians, North American Indian tribe, of Siouan linguistic stock, also called the Ioway They, with the Missouri, the Omaha, the Oto, and the Ponca tribes, presumably once formed part of the Winnebago people in their primal home N of the Great Lakes Iowa culture was that of the area of the eastern forests with some Plains area traits In 1700 the Iowa, separated from the parent nation, lived in Minnesota Their population in 1760 was some 1,100 In 1804, according to Lewis and Clark, the Iowa lived on the Platte river and there were some 800, smallpox having reduced the population In 1824 they ceded all their lands in Missouri and in 1836 were assigned a reservation in NE Kansas A part of the tribe moved to central Oklahoma in 1890 and with their relatives in Kansas number some 660 See Alanson Skinner, *Ethnology of the Ioway Indians* (1926)

Iowa Park, town (pop 1,980), N Texas, near Wichita Falls It is in an oil area and makes oil-field supplies An agricultural experiment station is in Iowa Park

Iowa State College of Agriculture and Mechanic Arts, at Ames, land-grant and state supported, coeducational, chartered 1858, opened 1868 It has divisions of agriculture (with forestry), engineering, home economics, science, and veterinary medicine, and technical journalism courses There are atomic, industrial science, and veterinary research institutes, a radio station, a pioneer nursery school, a college press, and Guatemala Tropical Research Center See history by E D Ross (1942)

Ipatieff, Vladimir Nikolaevich (vlä'dyĭmĭr nyĭkōl'yuvĭch ĕpä'tyĭf), 1867–, Russian-American chemist, b Moscow He taught chemistry in Russia and directed chemical work for the Russian government in the First World War He came to the United States in 1931 and was professor of chemistry (1931–35, emeritus from 1935) at Northwestern Univ, where he founded (1940) the Ipatieff Catalytic High Pressure Laboratory His research in catalysis and high-pressure synthesis is of great industrial importance in petroleum refining and in the synthesis of artificial rubber and of hydrocarbons His works include *Catalytic Reactions at High Pressures and Temperatures* (Eng tr , 1936)

ipecac (ĭ'pĭkăk″), drug obtained from the dried roots and rhizomes of a creeping shrub, *Cephaelis* (or *Psychotria*) *ipecacuanha*, native to South America (chiefly Brazil) and Central America It is cultivated also in parts of India and other tropical regions It is capable of destroying amoebae and was used in early days by natives of Brazil in treating amoebic dysentery, it has been found, however, that it is more efficient in curing the symptoms than in curing the disease It was introduced into Europe in the 17th cent and later into Asia chiefly for treating dysentery, although it has been used also against some other parasitic diseases Ipecac contains various alkaloids, the principle ones being emetine and cephaeline Emetine is the more effective in the destruction of amoebae and has been found useful in treating amoebic hepatitis and lesions caused by infection with amoebae Because of the toxic and severe emetic properties of the alkaloids of ipecac, the drug is not widely used, and when it is used it must be administered with great care. In the form of syrup of ipecac the drug is sometimes used to relieve bronchitis associated with croup and in treating certain other conditions

Iphedeiah (ĭf″ēdē'yū) [Heb ,=whom God frees], chief Benjamite 1 Chron 8 25

Iphicles (ĭ'fĭklēz), in Greek religion, son of AMPHITRYON and ALCMENE, companion and half brother of HERCULES

Iphigenia (ĭf″ĭjunī'a), in Greek legend, daughter of CLYTEMNESTRA and AGAMEMNON In some legends, she is the daughter of HELEN and THESEUS adopted by Clytemnestra His ships becalmed at Aulis en route to the TROJAN WAR, Agamemnon undertook to sacrifice Iphigenia to ARTEMIS, whose stag he had killed Artemis saved her life and took her to Tauris, where her brother ORESTES later found her, a priestess in the temple in which strangers were sacrificed to Artemis She recognized him, saved his life, and escaped with him to Greece Euripides, Racine, and Goethe wrote tragedies, and Gluck an opera, about her So far as Aeschylus is concerned in the *Agamemnon*, Iphigenia died at Aulis

Ipin or **I-pin** (ē'pĭn'), city (pop 80,439), S Szechwan prov , China It is a commercial center at the junction of the Min and the Yangtze rivers The city was formerly called Suifu

Ipiranga or **Ypiranga** (both ē″pērang'gû), stream, São Paulo, SE Brazil On its banks the regent Pedro (later Emperor PEDRO I) issued the Grito de Ypiranga, the declaration of the independence of Brazil from Portugal on Sept 7, 1822 The event is commemorated by a monument and a historical museum

Ipoh (ē'pō), town (pop 80,737), Perak, NW Malaya, in the Kinta valley It is the greatest tin-mining center of Malaya The mine laborers and the population are in large part Chinese

Ippolitov-Ivanov, Mikhail Mikhailovich (mēkhĭyĕl' mēkhī'lŭvĭch ĕpŭlyĕ'tuf-ēvä'nuf), 1859–1935, Russian composer, pupil of Rimsky-Korsakov at the Moscow Conservatory In 1882 he went to Tiflis, where he taught and conducted In 1893, recommended by Tchaikovsky, he was made a professor at the Moscow Conservatory, of which he was director from 1906 until 1922 In 1922 he became conductor of the State Opera, Moscow As a composer he followed the aims of the Russian nationalists His best-known work is his *Caucasian Sketches* (1894) He also composed other orchestral works, operas, choral works, chamber music, and songs and wrote a treatise on harmony, a study of Georgian folk song, and his memoirs, which appeared serially in English in the *Musical Mercury* in 1937

Ipsambul, Egypt see ABU SIMBEL

Ipsus (ĭp'sus), small town, ancient Phrygia, Asia Minor ANTIGONUS I, who had summoned his son Demetrius to his aid, was here defeated and slain by his rivals Seleucus and Lysimachus, in 301 B C Modern Ipsili Hissar is on the site

Ipswich (ĭp'swĭch), city (pop 26,218), Queensland, Australia, WSW of Brisbane It is the principal coal-mining center of the state and has woolen mills

Ipswich, county borough (1931 pop 87,502, 1947 estimated pop 102,450), Suffolk East, England, at the head of the Orwell estuary and NE of London The town is very old, and several historical houses remain, of which Sparrowe's House (1567) is an example Wolsey's Gate is a relic of a college founded by Cardinal Wolsey Christchurch park and mansion (1549), with art galleries and a museum, St Margaret's Church, the Church of St Mary at the Quay, the Church of St Mary at the Tower, and the grammar school (1477) are noteworthy The town's industries include the manufacture of agricultural machinery and shipping

Ipswich. 1 Town (pop 6,348), NE Mass , NNE of Salem and on the Ipswich river, here crossed by a bridge (1764) This area, called Agawam, was settled in 1633, and Ipswich town was incorporated in 1634 There is some shipbuilding, and electric fixtures are made It has many old houses **2** City (pop 1,902), co seat of Edmunds co , N S Dak , W of Aberdeen, in a farm area

Iquique (ēkē'kā), city (pop 38,094), Pacific port, N Chile Founded in the 16th cent , it was taken from Peru by Chile in 1879 during the War of the Pacific Since rain rarely falls and then only in amounts hardly measurable, water must be brought from 60 mi away Nothing but the desolation of rock and sand encloses the city on the landward side and the anchorage is open to Pacific storms The city is itself attractive, though it is sometimes shaken by earthquakes Iquique depends for survival on the export of nitrates and iodine from the ATACAMA desert

Iquitos (ēkē'tōs), city (pop. 34,231), NE Peru, on the Amazon Founded in 1863, Iquitos, c 2,300 mi from the Amazon's mouth, is the farthest inland port of any considerable size in the world Ocean vessels drawing not more than 14 ft can reach it With the boom in wild rubber at the beginning of the 20th cent , the city gained prominence, but it declined after the collapse of the market Today some coffee, cotton, timber, balata, and tagua nuts are exported Although there is launch service some distance up the Marañón and Ucayali rivers and air service to the highlands, the Andes are so formidable a barrier to the transport of most commercial goods that Iquitos has been oriented toward the Atlantic rather than the Pacific The climate is hot but not unhealthful The Iquitos Indians live in the region

Ir, in the Bible see IRI.

Ir, chemical symbol of the element IRIDIUM

Ira (ī'ru) **1** Chief officer of David 2 Sam 20 26. **2,** 3 Two of David's guard 2 Sam. 23 26,38, 1 Chron. 11 28,40, 27 9

Irad (ī'răd), Enoch's son Gen 4 18.

Irak, see IRAQ

Irala, Domingo Martínez de (dōmēng'gō mārtē'nās dā ērä'la), d 1556 or 1557, first governor of Paraguay Of Basque origin, he accompanied Pedro de Mendoza on his expedition to La Plata in 1535 As the first governor in America elected by a free vote of the colonists he founded in Asunción the first CABILDO in America Under his administration, the city was a center for further colonization and a point of departure for Peru From 1539, when he moved the inhabitants of BUENOS AIRES to Asunción, until his death (with a short interruption when CABEZA DE VACA was governor), he ruled with wisdom and justice Churches and public buildings were erected, towns were established, and the Indians were subjugated and distributed among the colonists in encomiendas

Iram (ī'rĕm), duke of Edom Gen 36 43, 1 Chron 1 54.

Iran (ĕrän', ĭrän'), kingdom (628,000 sq mi , pop c 17,000,000), SW Asia, universally known in English as Persia (pûr'zhu, -shu) before March, 1935, and still commonly called by that name TEHERAN is the capital Iran is bordered on the south by the Persian Gulf and the Gulf of Oman, on the east by Pakistan and Afghanistan, on the north by the USSR and the Caspian Sea, and on the west by Turkey and Iraq Other leading cities besides Teheran are TABRIZ, MESHED, ISFAHAN, HAMADAN, SHIRAZ, and RESHT The government is a constitutional monarchy, and in May, 1950, the ruler (the *shahanshah*) was Mohammed Reza Shah Pahlevi, who came to the throne in Aug , 1941, after the deposition of his father, Reza Shah Pahlevi Iran, is situated on the great Iranian plateau which is linked in the west with the Anatolian plateau, connects in the north with the Little Caucasus, and extends beyond the eastern border in the high plateau of Afghanistan In the north and northwest are mountain ranges, including the Elburz range, which rises to the lofty, snow-capped Mt Demavend or Demavand Rainfall in this region is abundant Large sand and salt deserts, where days are very hot and nights cool, lie in central and SE Iran, and the region about the southern coast is a low, semitropical plain The climate ranges from excessive heat to the perpetual snow of the mountains Rivers are few and unimportant, except as they are used for irrigation, the only navigable stream is the Karun in the southwest Connecting the Caspian Sea to Persian Gulf is the Trans-Iranian RR, which was an important means of transportation of lend-lease materials from the United States to Russia in the Second World War The language spoken in Iran is Persian, with some local exceptions such as Turki and Armenian in the northwest, Kurdish in the western mountain regions, and Arabic along the Persian Gulf The religion is predominantly Moslem of the Shiah sect (see SHIITES), though there are some Sunnites, and three minority groups are recognized—the Armenians, the Jews, and the Zoroastrians (the Parsis). One fourth of the country is inhabited by nomadic tribes, such as the Kurds, the Lurs, the Bakhtiari, the Qashqai, the Baluchi, and small Arab tribes along the tip of the Persian Gulf Iran is primarily an agricultural country Where rainfall is sufficient or irrigation is practiced, the soil produces fine crops Wheat, the most important crop, is grown mainly in the west and northwest provinces, known as the breadbaskets of Iran Rice, also important, is grown along the Caspian Sea and to some extent in the south Opium, of which Iran is one of the world's largest producers, and tobacco are government monopolies Other products are dry and fresh fruits (Azerbaijan and Khurasan), gums, and pistachio nuts Since 1930 industry has boomed considerably, Isfahan, with several cotton and wool spinning and weaving mills, is the center of recent industrial growth In the north are silk mills that utilize the domestic raw silk, these are government owned Refineries of beet sugar, scattered about the country, supply one fourth of Iran's needs. There are some sheet-metal and ammunition factories, which are exclusively government owned. In addition, there are cement and glass plants and rice mills The most valuable and the greatest item of native Persian industry is still the famous handmade Persian carpets and rugs, centers of this industry are Kerman, Kashan, Isfahan, and Hamadan Hand-woven cotton and silk textiles are still a main source of living in some parts, especially Yezd, and the famous Persian shawls are still made The chief source of Iranian wealth is, however, oil, which is the only commercially exploited mineral. According to a geological survey, the country fairly floats on oil, but as yet the southwest (the region of Khuzistan) is the only area being exploited by the

Anglo-Iranian Oil Company A concession was first granted in 1901 to one William D'Arcy, whose efforts to exploit the field ended in failure In 1909 the Anglo-Persian Oil Company was formed on the basis of the D'Arcy concession, this later became the Anglo-Iranian Oil Company In 1933 a serious dispute arose between Iran and the company over the amount of royalty and the duration of the agreement, this was referred to the League of Nations for settlement A new agreement provided for higher royalties and duration was extended for 60 years more In 1948 a new argument set off in the parliament (the Majlis) of Iran resulted in fresh negotiations between the company representatives and Iranian government officials The chief points of dispute were the royalties, labor rights, and employment problems Other minerals, such as gold, tin, copper, and lead have been located but are not much exploited, the only operating mine is at Anarak in central Iran, NE of Isfahan Salt, gypsum, sulphur, and coal are exploited for local use Important fisheries on the Caspian Sea are operated by Shilat, a joint Russo-Persian corporation, on an equal basis, and in the south private fisheries operate to meet local demands. In ancient times the country was the heart of the Persian Empire, one of the greatest empires the world has known (for a brief account, see PERSIA) After various fortunes over many centuries, it was brought back to a brief period of glory by the Sassanian kings (see SASSANIDAE), whose rule was ended more or less effectively in 626, when Arab invaders took the capital Ctesiphon The Arabs brought to Persia the new religion of Islam They also brought foreign rule The land was long under the caliphate and was prominent in the Moslem world The Safavid dynasty (1499–1736), was however, the first major dynasty to bring internal order again to Iran and to establish a foreign policy on behalf of a unified nation Founded by Shah Ismail, who converted the country to the Shiite faith, the dynasty reached its peak under Shah ABBAS I (Abbas the Great) He drove out the Portuguese, who had established themselves on the Persian Gulf early in the 16th cent Shah Abbas also established trade relations with Great Britain and reorganized the army The fall of the Safavid dynasty after more than two centuries of rule was brought about by the Afghans, who overthrew the weak shah HUSEIN in 1722 An interval of Afghan rule followed Shortly, however, NADIR SHAH expelled the Afghans and established (1736) the Afshar dynasty His greatest adventure was his invasion of India in 1738, he brought back fabulous wealth, including the famous Peacock Throne and the Koh-i-noor diamond Spoiled by his victory and acquisitions, Nadir Shah became a despotic ruler and was finally assassinated in 1747 The Afshar dynasty was followed by the Zand dynasty (1750–94), founded by KARIM KHAN, better known as Vakil [regent], who established his capital at Shiraz and adorned that city with many fine buildings His rule brought a much-needed period of rest and renewed prosperity After it the country was again in turmoil until the advent of Aga Mohammed Khan, a shrewd eunuch soldier, who defeated the last ruler of the Zand dynasty and established the Kajar or Qajar dynasty (1794–1925) This long period saw Iran steadily lose territory to neighboring countries and fall under the increasing pressure of European nations Under Fath Ali Shah, Persian claims in the entire Caucasian area were challenged by the Russians in a long struggle which ended with the Treaty of Gulistan (1813) and the Treaty of Turkamanchai (1828), by these Iran gave up the Caucasian lands HERAT, the rich valley on the Hari Rud, which had been part of the ancient Persian Empire, was taken by the Afghans. A series of campaigns to reclaim it ended with the intervention of the British on behalf of Afghanistan and resulted in the recognition of Afghan independence by Iran in 1857 Most fateful was the discovery of oil and the D'Arcy concession of 1901 with its consequences. Thus new wealth intensified the rivalry of Great Britain and Russia for power over the nation Internally, the early 20th cent. saw the rise of the constitutional movement which finally brought the revolt of 1905. In 1906 constitutional government was granted The British-Russian rivalry continued and resulted in 1907 in an Anglo-Russian agreement that divided Iran into spheres of influence. The period preceding the First World War was one of political and financial difficulty In 1911 Morgan Shuster, an American financier, was engaged as financial adviser and treasurer general of Iran. Some reforms were made, but conflict with the Russians led to the failure and termination of the mission in 1912. During the First World War the country underwent actual occupation by British and Russians and remained neutral After the conclusion of the war the Anglo-Russian agreement of 1907 was formally annulled, and Iran was admitted to the League of Nations as an original member In 1919 Iran made a trade agreement with Great Britain which formally reaffirmed the country's independence but actually attempted to establish a complete protectorate over the country. After Persian recognition of the USSR in a treaty of 1921, Russia renounced tsarist imperialistic policies toward Iran and canceled all debts and concessions and withdrew occupation forces from Iranian territory In 1921 Reza Khan, an army officer, effected a coup d'état and established a military dictatorship He was subsequently (1925) elected hereditary shah, thus putting a formal end to the Qajar dynasty. REZA SHAH PAHLEVI abolished the British treaty, reorganized the army, and introduced sorely needed reforms In 1941, during the Second World War, Great Britain and the USSR, charging pro-Axis activity on the part of Iran, again occupied the country and forced the abdication of Reza Shah in favor of his son MOHAMMED REZA SHAH PAHLEVI At the TEHERAN CONFERENCE in 1943 the Teheran Declaration, signed by the United States, Great Britain, and the USSR, guaranteed the independence and territorial integrity of Iran, and when the United Nations was formed in 1945, Iran was one of the original members The occupation by foreign soldiers continued after the end of the war, and March 2, 1946, was set as the date for withdrawal Iran firmly refused concessions to Great Britain, the United States, and the USSR while under occupation Trouble with Russia ensued In Nov., 1945, a movement generally acknowledged to be Soviet inspired led to a revolt and establishment of autonomous rule in Azerbaijan prov Thus was backed by Russian troops who remained in that area beyond the treaty evacuation date Iran protested to the United Nations This controversy was the first important case to be presented to the Security Council for settlement The Russian troops were finally withdrawn on the promise of oil concessions in the north pending approval of the Iranian parliament, which proceeded to reject them categorically The strategic location of the country and its rich oil deposits continue to cause bitter international rivalry for influence by big power interests In 1938 for the purpose of civil administration Iran was divided into 10 provinces called *ostans*, called simply by numbers (e.g., First Province), these are governed by *ostandars* [governors general] Each *ostan* is divided into several *shahrestan* [counties] governed by a *farmandar* [governor] The subdivisions under these are respectively the *bakhsh* [district], *dahestan* [village group], and *deh* [village] The central government of Iran is a constitutional monarchy with division of power into the three distinct branches, executive, judicial, and legislative Legislative power is vested in a bicameral legislature, the upper house, known as the senate, was formed for the first time in 1949 and is composed of 60 members, 30 being appointed by the king, 30 elected by the people, the lower house of representatives is called the Majlis Executive power is exercised by the cabinet headed by the prime minister, who is appointed by the king with the consent of parliament and is responsible to the parliament Military service is compulsory Since the 1930s education has progressed and illiteracy is on the decrease The Univ. of Teheran was established in 1934, and the Univ. of Tabriz was established after the Second World War A liberal Seven-Year Plan was launched by Mohammed Reza Shah for the industrial, agricultural, and social development of the country See William S. Haas, *Iran* (1946), D. N. Wilber, *Iran, Past and Present* (1948)

Iranian languages, group of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Irapuato (ērāpwä'tō), city (pop 32,377), Guanajuato, central Mexico Founded by order of Charles V in 1547, Irapuato is on a small fertile plain in the mining region between CELAYA and LEÓN and is linked to them by the main rail line of central Mexico

Iraq or **Irak** (both ērāk', irāk'), kingdom (c 168,000 sq. mi.; pop 4,799,500), SW Asia Baghdad is the capital Iraq is bordered on the south by Kuwait and Saudi Arabia, on the west by Jordan and Syria, on the north by Turkey, and on the east by Iran The country's only outlet to the sea is a short stretch of coast on the northwestern end of the Persian Gulf Iraq is approximately coextensive with the ancient MESOPOTAMIA. The southwest, belonging to the Syrian Desert, supports a small population of nomadic shepherds In the rest of the country, life centers on the great southeast-flowing rivers, the TIGRIS and the EUPHRATES, which come together in the SHATT EL ARAB There is very little rainfall in the southeast, and all agriculture depends upon irrigation Here, with sandy soil and steady heat, a large date crop and much cotton are produced. Further up the main rivers, as the elevation increases rainfall becomes sufficient to grow diversified crops, including cereals and vegetables. In the mountainous north the economy shifts from agriculture to oil production, notably in the great fields near Mosul. The oil, produced by British companies, is shipped abroad mostly through two pipe lines, one running to Tripoli (Lebanon) and the other to Haifa Some is also carried on the main railroad, which connects Tripoli with Basra, the largest port of Iraq. Communications generally are poor, and in some mountainous frontier areas the Kurd and Assyrian (Nestorian Christian) minorities are in a state of chronic unrest. The bulk of the Iraqi population is Arabic-speaking and Moslem in religion Subjection to the Ottoman Turks in the 16th cent. was fiercely resisted. In the First World War nationalists from this area joined with Arabs in other parts of the Ottoman Empire in support of the Allies, and the military occupation by the British (begun in 1915) was welcomed. Nationalist elements, impatient over delay in gaining independence, revolted in 1920 but were suppressed by the British force of some 80,000 troops Late that year the Treaty of Sèvres established Iraq as a mandate of the League of Nations under British administration, and in 1921 the country was made a kingdom headed by FEISAL I, who had been recommended by Gertrude Bell With strong reluctance the Iraqi parliament agreed in 1924 to a treaty with Great Britain providing for the maintenance of British military bases and for a British right of veto over legislation Although British participation in government was ended by the treaty of 1930, there were otherwise few changes until, with the termination of the mandate in 1932, Iraq was admitted to the League of Nations Domestic politics remained turbulent, with many changes in government and much overt hostility to Great Britain Late in 1936 an army coup d'état led by Bekir Sidky set up a military government, which lasted less than a year Strongly pro-British elements later controlled Iraq, which, at the outbreak of the Second World War, broke relations with Germany The nationalist opposition, however, became stronger as the British and the French lost territory in the Middle East, and when Italy entered the war Iraq continued diplomatic relations In April, 1941, Rashid Ali al Gailani seized power and ousted Emir Abdul Illah, the pro-British regent for the child king, Feisal II (who had succeeded his father, Ghazi, ruler from Feisal I's death in 1933 to his own death by accident in 1939) The British persisted in reinforcing their garrisons by landing troops at Basra, and in May, Rashid, with some German and Italian support, opened hostilities He was utterly defeated by June, and Emir Abdul was recalled On Jan 16, 1943, Iraq declared war on the Axis countries and soon afterward adhered to the declaration of the United Nations Anti-British sentiment was reasserted after the war, and in 1948 a British-sponsored modification of the treaty of 1930 was defeated by the Iraqi parliament because it set no date for withdrawing the foreign garrisons Iraq, with other members of the ARAB LEAGUE, joined in 1948 in the unsuccessful war against the recently formed state of Israel Much of the country's Jewish population (c 85,000) emigrated to Israel, allegedly to escape persecution See H. A. Foster *The Making of Modern Iraq* (1935); Philip W. Ireland, *'Iraq* (1937)

Irasburg (ĭr'usbûrg), town (pop 852), N Vt., SSW of Newport, granted 1781, settled 1798 It was named for Ira Allen After the embargo of 1807 and in the War of 1812 it was a smuggling center Theodore Robinson was born here

Irazú (ēräsōō'), active volcano, 11,325 ft. high, central Costa Rica It destroyed CARTAGO in 1723 and is still active, with vapor rising constantly from one of its craters From the summit can be seen the Pacific, the Caribbean, and Lake Nicaragua

Iredell, James (ĭr'dĕl), 1751–99, American jurist, b. Lewes, England He emigrated (1767) to North Carolina, where he entered the customs service at Edenton and was made (1774) collector for the port He was admitted to the bar in 1771, and after the outbreak of the American Revolution he helped to organize the state court system He became (1777) a judge and later (1779–81) was attorney general His strong support of the proposed U.S. Constitution helped procure its adoption by North Carolina In 1790 Iredell was made a justice of the newly established U.S. Supreme Court Among his notable opinions was his dissent in *Chisholm vs. Georgia* (1793) when the majority holding was that a state might be sued in the Federal courts without its consent The Eleventh Amendment to the U.S. Constitution (adopted 1798) made Iredell's view the law of the land See biography by Griffith McRee (1857)

Ireland, John, 1827–96, American political leader, governor of Texas (1883–87), b. Grayson co., Ky. He read law and was admitted (1852) to the Kentucky bar He soon removed to Seguin, Texas, where he practiced law and was elected (1858) mayor After he served in the Confederate army in the Civil War, he returned to politics and rose to importance in the state Democratic party. As governor of Texas, Ireland had legislation passed to end the "fence cutters' war" between ranchers and farmers and to alleviate lawlessness. He also worked for the development of state institutions and the protection of state lands

Ireland, John, 1838–1918, American Roman Catholic prelate, first archbishop of St. Paul (1888–1918), b. Co. Kilkenny, Ireland He came to St. Paul in childhood He was educated at French seminaries, was ordained (1861), and soon enlisted as a chaplain in the Civil War. He became prominent when he was cathedral pastor (1867–75) at

St Paul, as a strong advocate of total abstinence, an enemy of the liquor traffic, and an opponent of political corruption In 1875 he was made coadjutor bishop of St Paul and in 1884 he succeeded, in 1888 his see was made archiepiscopal Bishop Ireland was very energetic and outspoken He gained many enemies by advocating state support and inspection of Catholic schools and by opposing the use of foreign languages in American Catholic churches, except in extreme need, and in parochial schools under any circumstances He continually made public statements on political matters, and he was a close personal friend of Presidents McKinley and Theodore Roosevelt With Cardinal Gibbons he defended the Knights of Labor

Ireland, William Henry, 1777–1835, English forger of Shakspearian documents and manuscripts Two plays of his own, *Vortigern* (performed 1796) and *Henry II* (both pub 1799), were accepted as works of Shakspere Edmund MALONE, however, exposed them as forgeries in 1796, and Ireland acknowledged the hoax in his *Authentic Account* (1796) and later in his *Confession* (1805)

Ireland, Irish *Eire* (ā'ru) [to it are related the poetic *Erin* and, perhaps, the Latin *Hibernia*], island (31,829 sq mi , pop c 4,250,000), second largest of the British Isles It lies W of Great Britain, from which it is separated by the North Channel, the Irish Sea (which attains a width of 130 mi), and St George's Channel Ireland is governed by two political agencies—NORTHERN IRELAND and the republic of Ireland (29,600 sq mi , 1946 pop 2,953,452) Belfast is the capital of Northern Ireland, Dublin, of the republic The island is divided into 32 counties and, historically, into four provinces The province of ULSTER is divided between Northern Ireland, with 6 counties (ANTRIM, DOWN, ARMAGH, FARMANAGH, TYRONE, and LONDONDERRY), and the republic, with 3 counties (MONAGHAN, CAVAN, and DONEGAL) The other three provinces are entirely within the republic LEINSTER comprises the counties of LOUTH, MEATH, DUBLIN, KILDARE, WICKLOW, CARLOW, WEXFORD, KILKENNY, LAOIGHIS, OFFALY, WESTMEATH, and LONGFORD MUNSTER comprises TIPPERARY, WATERFORD, CORK, KERRY, LIMERICK, and CLARE CONNAUGHT comprises LEITRIM, ROSCOMMON, GALWAY, MAYO, and SLIGO Ireland is something more than a third the size of Britain, averaging 140 mi in width and 225 mi in length A large central plain which extends to the Irish Sea between the Mourne Mts in the north and the mountains of Wicklow in the south is roughly enclosed by a highland rim In the north are the mountains of Donegal, the Sperrin Mts and the mountains of Antrim, in the west are the mountains of Connemara and Mayo, and in the south are the mountains of Galty, Knockmealdown, and Kerry These highlands, which range to more than 3,000 ft in height, are generally barren, particularly in the western counties, but the central plain is extremely fertile and the climate is temperate and moist, warmed by southwesterly winds The rains, which are heaviest in the west (areas in Galway and Kerry have more than 80 in annually), are responsible for the brilliant green grass of the "emerald isle" The coast line is irregular, affording many natural harbors Off the west coast are many islands (e g , the ARAN ISLANDS and the BLASKET ISLANDS) In the interior there are many lakes (the most celebrated the Lakes of Killarney) and wide stretches of the rivers called loughs The SHANNON, which is 250 mi long, the longest of the Irish rivers, drains the western plain and widens into the beautiful Loughs Allen, Ree, and Derg The Shannon provides electric power for much of Ireland The River Lagan empties into Belfast Lough, the Foyle, near the mouth of which is Londonderry, into Lough Foyle, the Liffey into Dublin Bay, and the Lee into Cork Harbour, at the transatlantic port of Cóbh (formerly Queenstown) The economy of the country is primarily agricultural, the chief products being dairy goods and flax The fine linen and handmade laces are world famous Ireland has become increasingly industrialized in the last hundred years, but nearly all the industrial activity is concentrated in the northeast —the Belfast area in Northern Ireland and the adjoining area in the republic Other sizable urban areas besides Dublin are Londonderry in the north and Waterford, Cork, and Limerick in the south Other cities and towns are comparatively small The population of the republic is overwhelmingly Roman Catholic In Northern Ireland adherents of the Church of Ireland (Anglican) and Presbyterians outnumber the Catholics, though the Catholic minority has been increased by a considerable recent wartime influx of Catholic Irish to northern industry, thus threatening the basis on which the division of the island was made, for the border was drawn on religious as well as political lines Since the 16th cent , religious conviction in Ireland has always been intimately connected with political conviction—a cardinal factor in Irish history

Ireland to 1169 The earliest known people in Ireland were part of the group, traditionally said to be short, dark men, who inhabited all of the British Isles at the dawn of its history. In the several centuries preceding the Christian era Ireland was invaded successively by a number of Celtic tribes who conquered the country and established a distinctively Celtic culture, although they do not seem to have come in great numbers The Anglo-Saxon invaders of Britain, who largely replaced the Celtic population there, did not greatly affect Ireland and, oddly enough, the Romans, who occupied Britain for 400 years, never came to Ireland Ancient Irish legend tells the story of four successive peoples who invaded the country—the FIRBOLGS, the FOMORS, the TUATHA DE DANANN, and the MILESIANS, the last supposedly the ancestors of the modern Irish For more than 800 years, however, during which time the Roman Empire was crumbling beneath barbarian inroads, Ireland remained relatively untouched by foreign incursions Until the Norsemen, in the 8th cent , began the harassing raids that were to persist for more than two centuries, Ireland enjoyed the golden age of its culture Society was based upon an aristocratic pattern established by the Celts The people were organized into clans, or tribes, which owed allegiance to one of five provincial kings—of Ulster, Munster, Leinster (then only S of the Liffey), Connaught and Meath (now the northern part of Leinster) The petty kings nominally served the Ard-Ri, the high king of all Ireland at Tara The clans fought constantly among themselves, but after the introduction of Christianity relative peace was maintained in the country Despite the quarrelsome struggles, literary and artistic culture was greatly respected Each chief or king kept his official poet who preserved the oral traditions of the people A notable literature in Old Irish was succeeded after centuries by a brilliant period of Middle Irish (see GAELIC LITERATURE) Sculpture flourished, music was cultivated, and illumination of manuscripts reached a high point in Christian times, as in the Book of Kells The Gaelic language and culture were extended into Scotland The country was partly Christianized before the arrival of St PATRICK (see also PALLADIUS) as a missionary in the 5th cent , although pagan tradition continued to appeal to the imagination of the harde annalists writers even after the complete Christianization of the country The Church in Ireland during this period produced many scholars and missionaries who traveled to England and the Continent and attracted students to the Irish monasteries, at the time perhaps the most brilliant of Europe St COLUMBA and St COLUMBAN were among the most famous of these missionaries St BRIDGET, who founded the great monastery at Kildare, is revered as one of the patron saints of Ireland The country did not develop a strong central government, however, and it was not united to meet the invasions of the Norsemen who settled upon the shores of the island at the end of the 8th cent , establishing the first cities (Dublin, Waterford, and Limerick) and creating new petty kingdoms In 1014, at Clontarf, BRIAN BORU, who had become high king by conquest, broke the hold of the Norse invaders There followed a period of 150 years during which Ireland was free from foreign interference, but the country had slipped back into a condition of war-torn chaos The monasteries managed to struggle through the turmoil. In the 12th cent , overlordship of Ireland was granted to Henry II of England by Pope Adrian IV, an Englishman, and in 1169 the English conquest of Ireland was begun by Richard de Clare, earl of Pembroke (Richard Strongbow), Henry himself in 1171 went to Ireland to establish his overlordship With this invasion commenced an Anglo-Irish struggle that has continued intermittently for nearly 800 years and cannot yet be said to have reached a final conclusion

Ireland to the Union of 1800 Anglo-Norman rapacity in Ireland led to the seizure of much land and began the unfortunate landlord-tenant problem that has plagued the Irish until modern times. The Irish were denied the benefit of English law, and the old Irish customary law had been split apart The clans continued their lawless struggles among themselves, and the English settlers were assimilated into the Irish pattern, especially in the western parts of the island The De Burghs became the Burkes of Connaught and the Fitzgeralds entrenched themselves in Munster The flimsiness of English rule was shown when Edward Bruce invaded the island in 1315 and, with the aid of many Irish and some of the older English families, established himself as ruler of Ireland Long after this brief interlude English control of Ireland became limited to a small district around Dublin known as the Pale, and even there it was approaching the merely theoretic Henry VIII was the first English monarch to bring all Ireland under English control and to Anglicise the Irish chieftains The clan system of landholding was abolished and the English tenure system adopted, improving somewhat the lot of the peasant, who previously had not even the certainty of holding his property A Dublin Parliament in 1541 contained Irish chiefs as well as English nobles, but a truly independent Irish parliament had already been rendered impossible by POYNINGS'S LAW (1495), which put all legislative initiative into the hands of the English Parliament This law remained in effect until 1782 By the 16th cent, the Irish people, even the nobles, had sunk into desperate poverty, a situation that was to persist for centuries England became Protestant at this time, and the PENAL LAWS were instituted against Catholics Since the entire Irish nation remained Catholic except for the few recent English settlers and their supporters the conflict between disinherited Irish and English masters took a religious cast All the Irish were excluded from any part in civic life These efforts led to three formidable rebellions in the time of Elizabeth, all of which were crushed by soldiers turned loose to pillage and murder in the country Scotch settlers were planted in Ulster and took root there, thus two permanent and antagonistic communities were established The Irish continued restless A rebellion beginning in 1641, at the time of the English civil wars (see PURITAN REVOLUTION), lasted for 10 years and cost 600,000 lives It was brutally crushed by Oliver Cromwell, whose massacre of the Irish at Drogheda was remembered bitterly for centuries Confiscations of more land, persecution, and settlement of Englishmen in fertile Leinster followed The Irish supported Catholic James II of England after the Revolution of 1688, but James was defeated at the battle of the Boyne in Ireland (1690), and the Irish (Catholic and Presbyterian) were left to new Penal Laws and economic exploitation A newly flourishing woolen industry was destroyed when export from the country was forbidden The evils of absentee landlordism by English owners became increasingly serious, the constant tension was producing active, rather then simply passive, opposition The American Revolution worked to the advantage of the Irish in that the Irish Protestants formed a volunteer army for the purpose of defending themselves against any foreign invaders With these volunteers behind him Henry GRATTAN demanded, and obtained (1782), an independent Parliament The new Parliament was in the end ineffective The peasants' condition was unimproved, and in 1798 the people, under the leadership of Wolfe TONE and inspired and aided by the French revolutionists rebelled unsuccessfully once more As a result, in 1800, under British Prime Minister Pitt, England and Ireland were united, and Ireland was unwillingly represented in the English Parliament, the Irish Parliament being abolished

Ireland under the Union, 1800–1921. Pitt had promised to do his best to remove the disabilities of the English Catholics under the Union, but he was blocked in his efforts by George III, and it was only through the mass agitation led by Daniel O'CONNELL that the Catholic Emancipation Act was finally passed in the English Parliament in 1829 Meanwhile, Irish discontent produced new troubles, including the hopeless revolt of Robert EMMET in 1803, and the old causes of trouble persisted The tithes collected from the Irish for the support of the Established Church were a constant source of irritation until the Church of Ireland was disestablished after a great deal of agitation and conflict in 1869 The evils of absentee landlordism became continually more serious (see IRISH LAND QUESTION) The pressure of a growing population became acute When the potato blight struck Ireland in the 1840s the population of the country was approximately 8,500,000—twice the present-day figure In the five years ending in 1851 c 1,000,000 Irish died of starvation and disease, and between 1847 and 1854 no less than 1,600,000 emigrated, most of them to the United States, where they continued their embittered opposition to the British government, organizing the FENIAN MOVEMENT An uprising in 1848 was ineffectual The pressure of the land question and of the constant social and economic problems grew stronger By 1870 Irish opinion crystallized into the HOME RULE movement to end the Union and a brilliant leader arose in Charles Stewart PARNELL The nationalistic impulse of the people was given further impetus by the literary and cultural revival of the late 19th cent (see GAELIC LITERATURE) The constitutional Home Rule movement was supplemented and finally superseded by the SINN FEIN movement organized by Arthur Griffith and devoted to the ideal of complete independence rather than merely a separate Parliament Sinn Fein resulted in the Easter Rebellion of 1916, which was suppressed but developed into a guerrilla warfare in 1918 that the English unwisely attempted to suppress with a group of auxiliaries popularly known as the Black and Tans, who terrorized the country (1920) and met only increasing resistance Meanwhile the Irish cause was strengthened by an English literary movement of writers who reflected glory upon Ireland, though the attitudes of the writers on the question of Irish independence varied (see SHAW, GEORGE BERNARD, YEATS, WILLIAM BUTLER, ABBEY THEATRE, JOYCE, JAMES)

The Free State and the Republic. In 1921 the

British prime minister, Lloyd George, entered into negotiations with Eamon De Valera, American-born leader of Sinn Fein The result was the establishment (1921) of the Irish Free State Meantime the six northern Protestant counties had accepted dominion status under the provisions of the Fourth Home Rule Bill of 1920, and Northern Ireland was born Intransigent republicans in Ireland were dissatisfied with the terms of the treaty and Sinn Fein split into right- and left-wing groups, the latter headed by De Valera A period of civil war followed, but the conservative elements in the Dáil Eireann (legislative assembly) prevailed William Cosgrave became president (1922) and held the position for 10 years In 1927 De Valera returned to the Dáil as head of a republican party, the Fianna Fáil In 1932 he became president, and under his administration the new constitution (operative Dec 29, 1937) was inaugurated, establishing the sovereign country of Ireland, or Eire, associated, according to an Irish statement, in external policy with the British Commonwealth of Nations An agreement with Britain ended a trade war between England and Ireland and returned the ports of Cóbh, Castletown Bere, and Lough Swilly to Irish control De Valera continued in power as prime minister and Douglas Hyde, a Protestant scholar, was elected president, a position he held until 1945, when Sean T O'Kelly, a Fianna Fáil candidate, was elected president During the Second World War, Ireland remained neutral and vigorously protested Allied military activity in Northern Ireland, refusing to return the restored ports or to oust German and Japanese diplomatic agents The outlawed Irish Republican Army (I R A) continued, by sporadic bombings and shootings, to agitate for the end of the separation of Northern Ireland from Eire (the "partition") Its activities were strenuously suppressed both in Northern Ireland and Eire Great numbers of Irish volunteered for the British army, although conscription was never applied even in Northern Ireland The people of Eire suffered relatively little hardship during the war, but industry in Eire, with only meager imports of coal and iron, came to a virtual standstill Many Irish entered industry in Northern Ireland and Britain The cost of living greatly increased after the war In 1948 De Valera was voted out of power, and a coalition chose John A Costello new premier Costello demanded complete independence from, but cooperation with, England and an end to the Irish partition The Republic of Ireland Bill established an independent Ireland, which was formally inaugurated April 18, 1949, the 33d anniversary of the 1916 uprising The republic formally claims jurisdiction over the northern counties, where, however, the pro-British Unionist party continued powerful in the 1949 elections The republic contains 84 percent of the land area of the island and about 70 percent of the population The Second Chamber (*Seanad Éireann*) has no veto power over legislation proposed by the First Chamber (*Dáil Éireann*) Executive power is vested in the prime minister, and the president merely signs and promulgates the laws In 1946 Ireland applied for admission to the United Nations, but the application was blocked by the USSR There are many descriptive works on Ireland, such as Padraic Colum's *The Road round Ireland* (1926) Old standard works on history are those of W E H Lecky and A S Green (Mrs J R Green) See Richard Bagwell, *Ireland under the Tudors* (2 vols, 1890) and *Ireland under the Stuarts* (1890), G H Orpen, *Ireland under the Normans* (4 vols, 1911–20), R A S Macalister, *Ireland in Pre-Celtic Times* (1921), James O'Connor, *History of Ireland* (2 vols, 1925), E A D'Alton, *History of Ireland* (6 vols, 1910), P. W Joyce, *Social History of Ancient Ireland* (2 vols, 1913), Stephen Gwynn, *The Student's History of Ireland* (1925), Tom Ireland, *Ireland Past and Present* (1942)

Ireland, Church of, principal Anglican (Protestant Episcopal) church in Ireland It differs from the Church of England in that it is disestablished (since 1869) and that its membership has always included only a small part of the population Its disestablishment was one of Gladstone's accomplishments The Church of Ireland is governed much like the Episcopal Church in America

Irenaeus, Saint (īrĭnē'ŭs), *c* 125–*c* 202, Greek Father of the Church and bishop of Lyons in Gaul Born in Asia Minor, he was a disciple of St Polycarp Irenaeus went to Rome to plead for leniency toward the Montanists and those who did not observe the Roman date for Easter (see CALENDAR) He remained in the West and died in Gaul He was notable as an expositor of orthodox Christianity and set forth clearly many of the main tenets of belief, such as the Incarnation, the Resurrection, and the glory of the Eucharist Only two of his works survive—neither in the original Greek. *Against the Heresies* establishes Christian doctrine against the Gnostics and incidentally supplies much information on Gnosticism The *Epideixix* is a concise exposition of Christian doctrine (Eng tr by J A Robinson, *The Demonstration of the Apostolic Teaching*, 1920). Feast June 28.

Irene (īrēn', īrē'nē), 752–803, Byzantine empress (797–802). At the death (780) of her husband, Leo IV, she became regent for her son, Constantine VI. Devoted to Orthodoxy, she neglected the wars with the Arabs, Franks, and Bulgars and bent most of her efforts to suppressing ICONOCLASM The Second Council of Nicaea (see NICAEA, SECOND COUNCIL OF) decreed in 787 the restoration of images to the churches Forced to retire from the regency in 790, Irene was recalled by Constantine in 792 Constantine's misconduct (encouraged by Irene, who thus sought to discredit him) led to his deposition in 797 Irene had her son blinded and ascended the throne Her accession served as pretext for Charlemagne to be crowned emperor in 800 Irene was deposed in 802 and died in exile Nicephorus I became emperor See Charles Diehl, *Byzantine Portraits* (1927)

Irene, in ancient mythology see HORAE

Ireton, Henry (ī'urtun), 1611-51, English parliamentarian general in the Puritan Revolution, husband of Bridget, daughter of Oliver Cromwell He fought in both civil wars and counseled and practiced moderation as long as possible Finally he supported the rule of the army against the parliamentarians and signed the death warrant of Charles I He was a convinced exponent of limited monarchy before 1649 and afterward a convinced republican, whose integrity was honored even by his enemies among the parliamentarians and the radical elements in the army Appointed lord deputy of Ireland (1650), he carried on sternly Cromwell's policy of dispossessing the Irish and settling Englishmen there

Iri (ī'rī) or **Ir** (ĭr), Benjamite 1 Chron 7 7,12

Iriarte, Ignacio (ēgnä'thyō ēryar'tā), 1620–85, Spanish landscape painter, pupil of Francisco de Herrera, the elder, in Seville He often collaborated with Murillo who painted the figures while Iriarte supplied the landscapes Specimens of his landscapes, notable for their fine color, are in the Prado and in the Louvre

Iriarte, Tomás de (tōmas' dā ĕryar'tā), 1750–91, Spanish poet, b Canary Islands He spent most of his life in Madrid, a typical 18th-century writer, interested in polemics, criticism, satire, and the translation of French books Iriarte is best known for his *Fábulas literarias* [literary fables] (1782), which gave him a reputation as a wit and a moralist Most of them deal with literary methods and style, reflecting Iriarte's points of view He influenced Florian, the French author of fables

iridescence (ĭrĭdĕ'sŭns), phenomenon of changing and shifting bands of colors exhibited by certain surfaces It results from the breaking up of white light and the INTERFERENCE of the light rays, caused by minute irregularities in the surfaces Iridescence is displayed by both organic and inorganic substances, e g, minerals, mother-of-pearl, and the feathers of birds It is a property which greatly enhances the value of certain gems

iridium (ĭrĭ'dēum ī-), rare, silvery-white metallic element (symbol=Ir, for physical constants, see ELEMENT, table) It is one of the heaviest elements known and is very hard It is not affected by acids, even by aqua regia, except that when finely divided (iridium black) it reacts with this acid mixture It is grouped with osmium and platinum, which it resembles, in the periodic system, forming compounds with oxygen, sulphur, chlorine, and some other elements It occurs in a natural alloy, osmiridium, with osmium, and in platinum ores in the USSR and South America It is important commercially for its alloys, which are used for making standard weights and parts of scientific apparatus which must withstand the action of the atmosphere and other agents, in electrical apparatus for contact points and other parts required to resist high temperatures and active substances, such as chlorine, and for the points of fountain pens The element was discovered by Smithson Tennant in 1804

Irigoyen, Hipólito (ēpō'lētō ērēgō'yān), 1850?–1933, Argentine political leader, president of the republic (1916–22, 1928–30) In 1896 he became the leader of the Radicals, a bourgeois reform party By propaganda, and sometimes by insurrection, he opposed the conservative regime The electoral reform of Roque Sáenz Peña enabled the Radicals in 1916 to replace the landowning oligarchy and to elect Irigoyen president Ignoring congressional resolutions and public opinion, he maintained neutrality in the First World War Some reform measures were enacted, but the efforts of the administration to increase Radical power led to forceful intervention in the provinces and produced much opposition In 1922 he was succeeded by another Radical, Marcelo T de Alvear Irigoyen was swept back into the presidency in 1928 with great popular acclaim, but his second administration, in the midst of economic depression, led to widespread dissatisfaction, he was overthrown and the oligarchy was reinstated (Sept, 1930).

Irijah (ĭrī'jŭ) [Heb, =whom God sees], captain who detained Jeremiah on a false accusation in Jerusalem Jer 37 13,14

Iris (ī'rĭs), in Greek religion, goddess of the rainbow She was attendant of Zeus and Hera and daughter of Electra and Thaumas.

Iris, river, Turkey: see YESIL IRMAK.

iris, any species of the genus *Iris*, popular and stately perennial plants, with blossoms of various colors, from which the fleur-de-lis is commonly thought to have been derived Native American irises are usually called flags or blue flags, of these the rootstalks of *Iris versicolor* and others have been used by both Indian and white man as a purgative and for other medicinal purposes The violet-odored rootstalks of some Old World irises, especially *I florentina*, are sold commercially as orrisroot, the powder being used in perfumes, sachets, tooth powders, dry shampoos, and sometimes medicine Garden irises are chiefly natives of the Old World and their hybrids, in several thousand commercial varieties, most of which bloom in the spring but some in the summer and fall Most irises are usually classed as bearded (pogon), beardless (apogon), or crested irises The beardless and crested irises generally prefer moist situations, and the bearded well-drained sites Bearded irises are the most common garden kinds, beardless irises include the Siberian and Japanese kinds, among the crested irises is the North American *I cristata* These irises all have a creeping rootstalk, but there is another division, those having bulbous bases, which includes the Spanish, Dutch, and English irises An iris is now the state flower of Tennessee The American Iris Society fosters cultivation of the flower See also HYACINTH See J C Wister, *The Iris* (1930)

Irish Free State see IRELAND

Irish Land Question The problem of Irish land ownership, which came to a crisis in the 19th cent, had roots which went back many centuries in Irish history A feudal landholding system was imposed upon Ireland (where clan holding was the original rule) as early as the 12th cent when the Anglo-Normans invaded Ireland and seized the land of Irish chieftains The process was continued throughout the centuries Under the Tudor monarchs, notably Mary I, the process of confiscation of Irish lands into the hands of English landlords, who continued often to live in England while collecting revenue from their Irish properties, was greatly accelerated In the 17th cent Oliver Cromwell gave the greatest impetus to this unfortunate tendency After his invasion of Ireland in 1649 he seized 11,000,000 acres of the best Irish land for distribution among his soldiers Many of the Irish peasantry were driven to the poorer western counties later to be known as the "congested districts" Further confiscations followed under William III In the 18th cent the Penal Laws made it impossible for Catholics to acquire land or to rent it for less than two thirds of the value of the land's produce Improvements were discouraged because they meant increased rentals Eviction on short notice was a constant possibility In the late 18th cent the emphasis in Irish politics shifted to demands for Catholic Emancipation Emancipation of the Catholics was achieved, largely through the efforts of Daniel O'Connell, in 1829, but the land situation did not materially improve The great famine of the 1840s, resulting from a series of failures of the staple potato crop, led to the death of nearly a million people from malnutrition and consequent disease, and the Irish emigrated in vast numbers The natural effect of famine, eviction, and emigration was to crystallize in Ireland a deep core of hatred for England In 1849 the Encumbered Estates Act provided for the sale of those Irish estates where the rents were mortgaged, on the supposition that new and solvent landlords would not demand extortionate rents The influx of speculators, however, had the opposite effect, and the Irish tenant was worse off than before The Irish Tenant Right League, established in 1850, demanded the "three F's"—fair rent, fixity of tenure, and freedom from sale The agrarian problem now became complicated by the fight for the disestablishment of the Anglican Church of Ireland (accomplished in 1869) and the achievement of Home Rule, an outgrowth of the opposition to the Union of Ireland and England The violence of the Fenian movement, the extension of the franchise by the Reform Act of 1867, and assistance from the Liberal party, headed by William Ewart Gladstone, furthered the cause of the Irish tenant In 1870 the first land act to benefit the tenant was passed It aided the tenant to become the proprietor of his land and provided some compensation for improvements. The Irish Land League, founded under the leadership of Michael Davitt and Charles Stuart Parnell, conducted a campaign of boycott and violence which influenced the passage of the Land Act of 1881, called the "Magna Carta" of the Irish farmer. It recognized the "three F's" and provided a land commission to fix a "fair rent" Thereafter land purchase by the tenant became the predominant issue. This tendency was facilitated by the Ashbourne Act of 1885 and supplementary acts of 1887 and 1891 providing a loan fund of £43,000,000 to tenants who wished to purchase their lands The National League, an outgrowth of the suppressed Land League, advocated withholding of rentals from extortionate landlords. Its activities, too, were suppressed. In 1889 began the Irish Agricultural

Organisation Society, fostered by Sir Horace PLUNKETT, to encourage agricultural cooperation and improved farming methods; this led to the establishment (1899) of the Irish Dept of Agriculture. The agitation of the United Irish League, under William O'BRIEN, demanding compulsory sales by landlords, led to the Wyndham Act of 1903 and the Amended Land Purchase Act of 1909 In 1907 the Evicted Tenants Act provided for the compulsory sale of land needed for evicted tenants The Wyndham Act, which forced reduced interest on tenant loans and, in exchange, bonuses to landlords, proved, in effect, a solution to the Irish Land Question. By 1921 two thirds of the land in Ireland had become the property of Irish tenants, and shortly thereafter a compulsory law transferred the remaining portions. In 1932 the Irish Free State declined to continue land annuity payments to England This led to a trade war between the two countries, finally settled on terms favorable to Ireland in 1938 The Congested Districts Board, originally established by the Balfour Land Act of 1891 did much, by purchase and rearrangement of lands, to reapportion holdings on a more equable basis Today in Ireland the chief problems are to improve the poor quality of much of the land and to prevent the migration of farmers from the land to urban centers and abroad See Isaac Butt, *The Irish People and the Irish Land* (1867), J E Pomfret, *The Struggle for Land in Ireland, 1800–1923* (1930), Norman D Palmer, *The Irish Land League Crisis* (1940)

Irish language, one of the Goidelic group of the Celtic subfamily of Indo-Iranian languages It is also called Gaelic and Erse See LANGUAGE (table)

Irish literature · see GAELIC LITERATURE

Irish moss or carrageen (kă'rŭgēn) reddish or purplish SEAWEED (*Chondrus crispus*), one of the red algae of rocky coasts of Ireland and of the United States from Maine to North Carolina It is gathered commercially, particularly in Massachusetts, and bleached The fronds when cooked produce a gelatine used chiefly as a pudding but also as a sizing for textiles and for other purposes

Irish Players see ABBEY THEATRE

Irish Sea, part of the Atlantic, 130 mi long and up to c 130 mi wide, lying between Ireland and Great Britain It is connected with the Atlantic by the North Channel and (on the south) by St George's Channel Ireland is on its west shore, Scotland, England, and Wales on the east The principal islands in the sea are the Isle of Man, Anglesey, and Holyhead The chief ports are Dublin, Liverpool, Birkenhead, Barrow-in-Furness, and Holyhead

Irish terrier see TERRIER

Irish wolfhound see WOLFHOUND

Irkutsk (ĭrkōōtsk') city (pop 243,380), capital of Irkutsk oblast, RSFSR, in S central Siberia, at the confluence of the Angara and Irkut rivers 35 mi W of Lake Baikal It is a river port, a major rail transportation point on the Trans-Siberian RR, and an industrial center with aircraft and automobile assembly plants Mining equipment is manufactured here for the Lena-Vitim gold-mining district Chartered in 1683, Irkutsk grew into a major commercial, administrative, and cultural center of Siberia It has a university (founded 1918) and several agricultural, medical, and technical schools and is the seat of a branch of the USSR Academy of Sciences

Ir-nahash (ĭr'nā'hăsh) [Heb ,=snake city], unidentified city, S Palestine 1 Chron 4 12

Irnerius (ĭrnēr'ēus), c 1055–c 1130, Italian jurist, founder of the school of law at Bologna Little is known of his life He is said to have been a teacher of rhetoric and dialectic at Bologna before he turned (perhaps at the urging of Countess Matilda) to law The last years of his life were certainly spent in writing and teaching Roman law at Bologna He was the first of the great glossators It is generally admitted that he wrote marginal and interlinear glosses to the Corpus Juris, and his authorship of the *Authentica*, a disorganized epitome of the Novels with commentaries and textual emendations, is not questioned by many scholars Other works attributed to him, especially essays on philosophy and theory of law, are much disputed as to authorship The name also appears as Guarnerius and Warnerius

Iron, Ralph · see SCHREINER, OLIVE

Iron [Heb ,=fear], unidentified city, in the mountains of N Palestine Joshua 19 38

iron, silver-white metallic element (symbol=Fe [Latin=*ferrum*], for physical constants, see ELEMENT, table), lustrous, ductile, and malleable It rusts easily in moist air and is attracted by a magnet Iron is the fourth most abundant element, comprising about 5 percent of the earth's crust Free iron is very rare in nature except in meteorites, but its ores are abundant and widely distributed, the more common ones being magnetite (ferroferric oxide), hematite (ferric oxide), limonite (hydrated ferric oxide), siderite (ferrous carbonate), and iron pyrites (iron disulphide, "fool's gold") Iron is of prehistoric discovery It is chemically active and displaces the hydrogen in hydrochloric and sulphuric acids When treated with nitric acid, however, it becomes passive, i e , loses its ability to react as it normally does. It forms such compounds as oxides, sulphides, carbides, halides, acetates, carbonates, hydroxides, nitrates, and sulphates Two series of compounds are formed, the ferrous or divalent compounds and the ferric or trivalent compounds Compounds of iron are present in soil, sand, plants, and animals (e g , in the hemoglobin of the blood) Anemia caused by lack of iron can be treated by eating foods rich in the mineral and by taking injections or pills containing iron Commercial iron appears in three forms—cast iron, wrought iron, and steel **Cast iron** is made when pig iron, which has been prepared in a BLAST FURNACE is remelted in small cupola furnaces and poured into molds to make castings It usually contains between 92 and 94 percent iron, between 2 and 6 percent carbon, and small amounts of silicon, sulphur, manganese, and phosphorus Cast iron is used in making machine parts, cooking ranges, stoves, pipes, and radiators Two forms of cast iron are commonly produced White cast iron, which is hard and brittle, is obtained when the molten iron in the mold is cooled rapidly. The carbon remains distributed throughout the iron as cementite, a carbide of iron Gray cast iron is formed when the iron in the mold is cooled slowly, part of the carbon separating out as graphite This form is much softer and less brittle than white cast iron A malleable cast iron can be made by carefully heating pig iron in an electric furnace and annealing the castings in special annealing furnaces The molten metal cools slowly, and graphite separates as in gray cast iron This malleable cast iron contains about 3 percent carbon and from 1 to 1 5 percent silicon and is less brittle than ordinary cast iron It is used in automobile and farm-machinery parts **Wrought iron** is made by purifying melted pig iron in a puddling furnace (a small REVERBERATORY FURNACE) The impurities carbon, phosphorus, and silicon are removed in the form of the oxides, and the sulphur as ferrous sulphide Wrought iron is a relatively pure iron containing only about 0 1 to 0 2 percent carbon It is tough, malleable, ductile, and corrosion resistant and melts only at high temperatures It is used chiefly for rivets, bolts, water pipes, chains, anchors, and fire bars, it is used also for ornamental ironwork STEEL has now become the most important form of commercial iron For the history of iron, see IRON AGE See A O Backert, ed , *The ABC of Iron and Steel* (5th ed , 1925), H E Cleaves and J G Thompson, *The Metal—Iron* (1935), James Aston and E B Story, *Wrought Iron* (2d ed , 1939), S F Mersereau, *Materials of Industry* (1947)

Iron Age, period in the development of industry that begins with the general use of iron and continues in the present time In Asia, Egypt, and Europe it was preceded by the BRONZE AGE It did not begin in America until the coming of the Europeans, when it directly followed the Neolithic period, there was no Bronze Age in the Western Hemisphere Iron beads were worn in Egypt as early as 4000 B C , but these were of meteoric iron, evidently shaped by the rubbing process used in shaping implements of polished stone The oldest known article of iron shaped by hammering is a dagger found in Egypt that was made before 1350 B C This dagger is believed not to have been made in Egypt but to be of Hittite workmanship, working iron by hammering is believed to have been practiced by the Hittites from c 1400 B C The casting of iron was known in ancient Greece, but it did not become important in industry until the 18th cent Iron is frequently mentioned in the Bible In Greece the Iron Age began c 1000 B C , and this is taken as a convenient date for the beginning of the Iron Age in Europe The Early Iron Age continues from that date until c 300 B C in S Europe In central and N Europe the dates are later At Hallstatt, in Austria, which the production of salt made an important commercial center, an Early Iron Age culture began c 900 B C Celtic migrations c 500 B C spread this Hallstatt culture widely over N Europe, including Britain, and in that region the Early Iron Age did not end before the beginning of the Christian era Assyria and Greece are outstanding examples of Early Iron Age cultures From preceding ages the Iron Age inherited all the staple farm crops and animals and a rich variety of tools and implements, including the plow drawn by oxen and wheeled vehicles drawn by horses Metals in use earlier included gold, copper, bronze, and silver Pottery of beautiful design, shaped on the potter's wheel, was plentiful The arts of spinning and weaving were in common use The art of writing was known Aside from work in iron, the chief contribution of the Early Iron Age to the material equipment of man was glass, and nothing of comparable importance was added by the Late Iron Age until the Industrial Revolution Greece mastered the material resources of the Early Iron Age, its civilization, called "the Greek miracle," puts the Late Iron Age on the defensive, with new but unmastered resources For the Iron Age in mythology, see AGE. See Fay Cooper Cole, *The Long Road from Savagery to Civilization* (1933), H J Peake, *Early Steps in Human Progress* (1933).

Iron Cross: see DECORATIONS, CIVIL AND MILITARY

Irondale, city (pop. 1,486), N central Ala., just NE of Birmingham

Irondequoit (ĭrŏn'dĭkwoit), town (pop 23,376), W N Y , N of Rochester and bordered by Lake Ontario, Irondequoit Bay, and the Genesee, settled 1791, organized 1839

Iron Gate, gorge of the Danube, W Rumania, between Orsova and Turnu-Severin, on the Yugoslav border Here the river narrows to break through between the southern end of the Carpathians and the northern outliers of the Balkans

Iron Guard, Rumanian nationalistic, anti-Semitic, and antiparliamentary group, founded in 1924 by C Z CODREANU Originally named the Legion of the Archangel Michael, it was organized on military lines, and it operated through terrorism Its most notable victim was Premier Ion Duca, assassinated in 1933 Banned in 1933, the Iron Guard carried on as the All-for-Fatherland party Marshal Ion ANTONESCU seized power in 1940 with the help of the Iron Guard, but soon found himself in disagreement with it He suppressed (1941) an Iron Guard rebellion and Horia Sima, then leader of the Guard, fled to Germany With the collapse of the AXIS Powers in the Second World War, the Iron Guard disappeared from Rumanian politics

iron lung see ARTIFICIAL LUNG

Iron Mask, Man with the, mysterious French prisoner of state whose identity has long been the subject of speculation The only certain facts about him are that he was brought from PINEROLO to the Bastille in 1698 by the new governor, Saint-Mars, that he was buried in the cemetery of St Paul, Paris, in 1703, under the name of Marchioly, and that on the journey to Paris he wore a mask of black velvet, which rumor transformed into an iron mask Early speculations identified him as an illegitimate son of Louis XIV Voltaire (1771), clarifying hints given in his *Age of Louis XIV*, declared the "mask" was a natural son of Anne of Austria and, hence, an elder half brother of Louis XIV Dumas's *Vicomte de Bragelonne* popularized a later theory, describing the prisoner as a twin brother of Louis XIV Still wilder suggestions were the duke of MONMOUTH, François de BEAUFORT, and Nicolas FOUQUET Later research seems to have narrowed the choice to two candidates—a certain Count Mattioli, a Mantuan, seized by Louis XIV in 1679 for double-dealing in the negotiations over the proposed purchase of the Italian fortress of Casale by France, and one Eustache Dauger, a valet, about whom little more than his name is known Mention must also be made of the theory that the prisoner was the leader of a plot to assassinate Louis XIV The affair, which is of romantic rather than historical interest, is the subject of a vast literature See Marius Topin, *The Man with the Iron Mask* (Eng tr , 1870), Tighe Hopkins, *The Man in the Iron Mask* (1901), Andrew Lang, *The Valet's Tragedy* (1903), A. S Barnes, *The Man of the Mask* (1908)

Iron Mountain, city (pop 11,080), co seat of Dickinson co , W Upper Peninsula, N Mich , near the Wis line, settled 1879, inc 1889 It takes its name from the near-by mountain of iron ore in the Menominee range The city is a distributing point for ore, and its industries include the making of lumber products It is a center for winter sports

Iron Mountain, elevation, 325 ft high, central Fla , E of Tampa and near Lake Wales It is the site of the Singing Tower (with a carillon of 71 bells) and of a bird sanctuary established by Edward W Bok and opened in 1929

iron pyrites · see PYRITE

Iron River, city (pop 4,416), W Upper Peninsula, N Mich , near the Brule river NW of Iron Mountain in a lake region Settled by iron-ore prospectors c 1881, it was incorporated as a village in 1885 and as a city in 1926 The city is a mining and lumber center Near by is Ottawa National Forest

Ironside, William Edmund Ironside, 1st **Baron,** 1880–, British general After serving with distinction in the South African War and the First World War, he was chosen to command the Allied forces at Archangel (1918) to aid Aleksandr Kolchak in fighting the Bolsheviks After service in the Middle East, he became commandant of the staff college at Camberley Other commands followed, including several years in India, and in 1938 Ironside became governor of Gibraltar On the outbreak of the Second World War, he was called to England to be chief of the imperial general staff In 1940 he was briefly chief of the home forces in England He was made a field marshal (1940) and created baron (1941)

Ironton. **1** Resort city (pop 1,083), co. seat of Iron co , SE Mo , SW of St Louis, in the Ozarks, founded 1857 Lead and iron mines are in the area Lake Killarney is near The Civil War battle of Pilot Knob (Sept 27, 1864), fought near Ironton, between Federals under Thomas EWING and Confederates led by Sterling Price resulted in a temporary reverse for Price on his Missouri raid **2** Industrial city (pop 15,851), co. seat of Lawrence co., extreme S Ohio, on the Ohio river opposite Ashland, Ky., in a fruit area, laid out 1848, inc.

1851 It makes Portland cement and metal, steel, and iron products There are limestone quarries.

Ironwood, city (pop 13,369), extreme W Upper Peninsula, N Mich , on the Montreal river at the Wis line, founded 1885, inc 1889 It is a trading center of the Gogebic iron range and has some of the world's deepest mines Indian relics are found near by

ironwood, name for a number of different plants but used most commonly for two trees native to the eastern half of North America One is *Carpinus caroliniana,* called also hornbeam, blue beech, and water beech, which has smooth gray bark The other is the hop hornbeam (*Ostrya virginiana*), of the same family. It has a thin, light brown, and narrowly ridged bark Wood of both species is heavy and strong, useful for tool handles, mallets, and parts of vehicles

ironwork, ornamental. The shaping of wrought IRON, used almost exclusively until the 16th cent , is primarily an art of the blacksmith, who must deal decisively with the metal while it is at the desired stage of heat and flexibility The parts of the object were early fastened together by welding, by collars, or by running one member through a hole punched in another Riveting, bolting, and mortising arose in late medieval times Methods and tools used in modern hand-wrought work are similar to the early ones However, a large volume of modern work is accomplished by perfected mechanical means, including the pneumatic hammer and the acetylene or electric welder Today a variety of stock pieces are available to the handworker which the early smith had to fashion laboriously from crude ingots Iron was used ornamentally to a limited extent in classical times After the fall of Rome the Goths preserved the craft, which passed to France and England during the Middle Ages. The scrolled vine motif, predominant in early work, appeared in the elaborate iron hinges on wooden doors Italy's first grilles were in Venice, where Eastern contacts led to an imitation of Mohammedan pierced marble grilles The earliest English, French, and Spanish church grilles were built up of scrolls, generally C or S shaped, held together with collars When repeating collared units were adopted, quatrefoil motifs became common. With the Gothic period came chapel screens and protective grilles of ecclesiastical architecture, embracing numerous foliated and floral forms In Spain the iron GRILLE attained a high development, REJERÍA became decorative *tours de force* in iron In France in the mid-17th cent, a great vogue developed for iron balconies, stair railings, and monumental fences and gateways This vigorous Louis XIV work, rich with scrollings and bold foliations, formed the basis of all the continental work outside of Spain and was even transplanted to England by Jean TIJOU From France also there later emanated the rococo phase of ironwork—light, gay, linear patterns, latticework, broken curves, and voluminous sheet-metal ornament In English and American work of the 18th cent simplicity and restrained ornamentation prevailed Cast iron was rarely used prior to the 16th cent , when it came into demand for andirons and firebacks For architectural embellishment and for garden furniture it became common in the early 19th cent Its most extensive employment was probably in balconies, veranda railings, and garden fences, notably in Charleston, S C , Savannah, Ga., and New Orleans Its commercial advantage lay in the cheapness of reproducing stock parts which could be used in varying combinations For these uses it has been largely supplanted by cast bronze, which is capable of finer detail and surface, and by a revival of wrought iron See G K Geerlings, *Wrought Iron in Architecture* (1929) and *Metal Crafts in Architecture* (1929)

Iroquoian (Irukwoi'yun), linguistic family of North America The languages were spoken in two separated areas The northern (New York state, Pennsylvania, St Lawrence basin) were Seneca, Cayuga, Onondaga, Mohawk, and Oneida, of the Iroquois Confederacy, and Wyandot, language of the HURON INDIANS In the South the Tuscarora (Virginia) and the CHEROKEE INDIANS also spoke Iroquoian languages A distant relationship has been suggested between Iroquoian and CADDOAN, see LANGUAGE (table) and HOKAN See also CONESTOGA INDIANS, ERIE INDIANS, NEUTRAL NATION.

Iroquois Confederacy or **Iroquois League** (I'rŭkwoi), North American Indian confederation consisting of the Mohawk, Oneida, Onondaga, Cayuga, and Seneca tribes They gave their name to the Iroquoian linguistic family, which included numerous tribes of the E United States and E Canada In the early 17th cent this confederacy of the Five Nations inhabited New York state from the Hudson N to the St Lawerence and W to the Genesee river, they numbered some 5,500 Their material culture was the most advanced of the Eastern Woodlands area, but they exhibited many traits of the Southeast area and this leads many authorities to believe that the Iroquois tribes at some time in the distant past migrated from the lower Mississippi valley. The Indians, both the men and the women, of the Five Nations lived in palisaded villages, the men hunted deer and small game, and the women raised corn, squash, tobacco, and beans. Women had a high place in the society, and descent was matrilineal. Even before the formation of the confederation, the Iroquois families lived in a "long house," a distinctive bark-covered rectangular structure. When the prophet Deganawidah and his disciple Hiawatha founded (c 1570) the confederacy (to eliminate incessant intertribal warfare and to end cannibalism), this dwelling became the symbol of the Five Nations One family politically, they thought of themselves metaphorically as dwelling in a large "long house," which had a "door" on the eastern end, guarded by the Mohawk (in the extreme geographical east), and a door on the western end, guarded by the Seneca (in the extreme west) The Onondaga, keepers of the council fires and the wampum records, were between the Cayuga on the west and the Oneida on the east The main Onondaga village served as the capital or meeting place of the federated council Voting in the council was conducted by tribes, and a unanimous decision was necessary to wage war Be this as it may, intertribal war was not unknown The Iroquois, called by Frances Parkman the "Romans of the New World," were second to no other Indians N of Mexico in political organization, statecraft, and military prowess In the mid-17th cent , at the height of their power, the Iroquois Confederacy, equipped with Dutch firearms, made its united force felt It dispersed the Huron in 1649, the Tobacco Indians and the Neutral Nation in 1650, the Erie in 1656, the Conestoga in 1675, and the Illinois c 1700 Depleted by continual warfare, they increased the population by the wholesale adoption of alien tribes, so that by the end of the 17th cent they numbered some 16,000 At this time they controlled the territory bounded by the Kenebec river, the Ottawa river, the Illinois river, and the Tennessee river Their conquests were checked in the west by the Ojibwa, in the south by the Cherokee and the Catawba, and in the north by the French Many historians hold that the hostility of the Iroquois towards the French was caused by Champlain, when, in 1608, he accompanied a Huron war party armed with French guns into Iroquois territory In any case, the Iroquois, firm allies of the British, opposed the French at every step until the French lost control of Canada in 1763 The French, partly in the hope of winning over the Iroquois, sent missionaries to them Isaac Jogues, a notable Jesuit missionary, was killed by the Iroquois as a sorcerer in 1646, but the missionaries were somewhat successful, and a considerable number of the Mohawk withdrew from the confederacy and founded (c 1670) a Catholic settlement These Catholic Iroquois, called French Mohawks, took the part of the French against their former brethren In the early 18th cent the Five Nations became the Six Nations when the Oneida adopted (c 1722) the remnants of the Tuscarora Confederacy British settlers had expelled (1711) the Tuscarora from North Carolina, and by 1712 they had moved to the North The British, who had used the Six Nations as a buffer against the advance of the French from Canada in the FRENCH AND INDIAN WARS, attempted to retain their favor by accrediting various agents, notably Sir William JOHNSON (Johnson of the Mohawks) The American Revolution was disastrous for the Iroquois The confederacy, as such, refused to take part in the conflict but allowed each tribe to decide for itself, and all the tribes, except the Oneida, joined the British Samuel Kirkland, a Protestant missionary, was largely responsible for winning over the Oneida, who rallied to the side of the colonists after remaining neutral for two years CORNPLANTER, RED JACKET, and Joseph BRANT (who was educated by Sir William Johnson) led the Iroquois who remained loyal to the British Brant, the principal leader of the Iroquois troops, participated with the Tory Rangers (see BUTLER, WALTER) in raids in New York and Pennsylvania, particularly the Cherry Valley and Wyoming Valley massacres Finally, the Continental Congress sent out a punitive expedition under John SULLIVAN, who in 1779 defeated Butler and his Iroquois allies After the Revolution, Brant, in contrast to the other two chiefs, remained adamant in his hostility towards the United States. The Mohawk and the Cayuga, who were strong allies of the British, today are settled on reservations in Ontario, and most of the remaining Iroquois, except for the Oneida who live in Wisconsin, are in New York. The Iroquois in Canada and in the United States are either Christians or followers of HANDSOME LAKE, a Seneca prophet of the 18th cent , who was influenced by the Quakers. The total number of Iroquois in the United States and Canada is some 16,000 The Iroquois have been the subject of much study and literature Early students included Cadwallader COLDEN and L H. MORGAN. See G T Hunt, *The Wars of the Iroquois* (1940); F. G Speck, *The Iroquois* (1945)

Iroquois Falls (I'rŭkwoi), town (pop. 1,302), E Ont., on the Abitibi river and N of North Bay It is a center for pulp, paper, and sulphite milling, with a hydroelectric station on near-by waterfalls.

Iroquois League: see IROQUOIS CONFEDERACY.

Irpeel (Ir'pēēl, Irpē'ul) [Heb ,=whom God heals], unidentified city, SE Palestine. Joshua 18.27.

Irrawaddy (Irŭwŏ'dē), chief river of Burma, traversing the country from north to south. Its mother streams (the Mali and the Nmai) join c.25 mi N of Myitkyina Much of the Irrawaddy's upper course is through deep gorges Below Mandalay, it receives the waters of its principal tributary, the Chindwin, at Henzada, 180 mi from the sea, it enters its delta It empties into the Bay of Bengal. The river, navigable by steamers up to Bhamo and by launches up to Myitkyina, was long the principal communication route and is still the economic lifeline of Burma The delta, with its rich soil and dependable heavy rainfall, is one of the world's great rice-growing regions On one of the mouths of the Irrawaddy, in the eastern delta, is the port of Rangoon

irredentism (Irĭdĕn'tĭzm), term originally applied to the Italian nationalist movement for the annexation to Italy of some territories—*Italia irredenta* [unredeemed Italy]—inhabited by an Italian majority but retained by Austria after the Austro-Prussian War (1866) These included the Trentino, Trieste, Istria, Fiume, and parts of Dalmatia Irredentism was conceived as an application of the principle of NATIONALITY Agitation took place both inside Austria-Hungary and in Italy itself The liberation of *Italia irredenta* was perhaps the strongest motive for the entry of Italy into the First World War The term *irredentism* is sometimes also applied to nationalist agitation in other countries, based on historical, ethnical, and geographical reasons, for the incorporation of territories subject to foreign rule Irredentism is thus closely connected with NATIONALISM and with MINORITY problems

irrigation, in agriculture, the artificial watering of arable lands Although used chiefly in regions receiving an annual rainfall of under 20 in , it is also applied in areas of great rainfall to supply the high water requirement of certain crops, e g , rice Scientific control of the time and amount of irrigation has followed research on soils, on the specific needs of individual crops, and on transpiration rates of plants, it must be correlated with provision for proper drainage in order to prevent excess leaching, alkalization, or waterlogging of the soil Effective irrigation requires preliminary clearing, smoothing, and grading of land Methods of applying water include free-flooding of entire areas from canals and ditches, check-flooding, in which water is guided over strips or checks of land between levees or borders, the furrow method, in which water is run between rows of crops or trees at distances permitting lateral penetration to roots, the surface-pipe method, in which water is conveyed through movable slip-joint pipes, and sprinkler systems Water for irrigation has been obtained from prehistoric times by primitive ditching and hand-dipping Early improvements include counter-balanced poles for raising attached water vessels and adaptations of the wheel and of the Archimedes' screw In modern times the use of pumps has facilitated the tapping of ground water as well as of surface water The use of canals, dams, weirs, and reservoirs for the distribution, control, and storage of water was probably initiated in ancient Egypt Large-scale 20th-century irrigation is commonly a part of multiple-purpose water projects combining irrigation, water supply, the production of hydroelectric power, and flood control Many regions, notably in Egypt, Mesopotamia, and India, have been under continuous irrigation from ancient times, and extensive areas are irrigated today in the United States, Japan, Mexico, the USSR, Italy, Spain, and France In the area of the present United States irrigation was practiced by Indians in the Southwest and by the Spanish, especially in California Most of the arid and semiarid land in the United States lies west of the 100th meridian, and here irrigation is chiefly practiced Irrigation by individual or group initiative was early supplemented by commercial projects, and finally demands for water conservation led to water-rights legislation and to assistance by state and Federal governments (see RECLAMATION OF LAND) See B. A Etcheverry and S T Harding, *Irrigation Practice and Engineering* (3 vols., 1915–16, Vol. I, 2d ed., 1933)

Ir-shemesh (Ir'shĕ'mĕsh) [Heb.,=city of the sun], the same as BETH-SHEMESH 2.

Irtysh (Irtĭsh'), river, 1,844 mi long, China and USSR, chief tributary of the Ob. It rises in Sinkiang prov , China, on the western slopes of the Mongolian Altai, passes through Lake Zaisan (Kazakh SSR), and flows generally NW through W Siberia past Semipalatinsk, Pavlodar, Omsk, and Tobolsk Above Lake Zaisan it is called Kara [black] Irtysh. Its chief affluents are the Ishim and Tobol. The Irtysh is navigable (April–Nov.) for steamers from Semipalatinsk. Its middle course drains a rich agricultural area The Mongols, Kalmucks, and Chinese occupied the banks of the river before it was reached (1594) by the Russians. The Russian conquest of the basin was completed in the mid-19th cent.

Iru (ĭ'rū), **Caleb's eldest son** 1 Chron. 4 15.

Irún (ērōōn'), town (pop. 7,790), Guipúzcoa prov., N Spain, in the Basque Provs., on the French frontier near the Gulf of Biscay It has transit trade and various industries Staunchly defended by the Loyalists in the civil war of 1936–39, it was burned before it fell to the Insurgents (1936)

Irvine, William (ûr'vĭn), 1741–1804, American soldier, b Ireland He studied medicine in Ireland and practiced in Carlisle, Pa , before he was called to service as colonel of a Pennsylvania regiment and later as brigadier general in the Continental army in the Revolution In 1781 he was given command of Fort Pitt and the Western frontier, serving until 1783 While acting as agent (1785) to select the free lands promised to Pennsylvania troops, he recommended that Pennsylvania purchase the Erie Triangle (see PENNSYLVANIA) from the United States He was a member of the Continental Congress (1786–88), was sent (1793) as delegate to the 3d U S Congress, and was in command of Pennsylvania troops in the Whisky Rebellion (1794) See C W Butterfield, ed , *Washington-Irvine Correspondence* (1882)

Irvine (ûr'vĭn), burgh (pop 12,032), Ayrshire, Scotland, on the Irvine estuary and N of Ayr The harbor was improved in 1873 and later, and coal is exported Other industries are the manufacture of chemicals, soap, bottles, and hosiery

Irvine (ûr'vĭn), city (pop 3,631), co seat of Estill co , central Ky , on the Kentucky river and SE of Lexington It has railroad shops and refines oil, oil wells are in the area

Irving, Edward, 1792–1834, Scottish preacher, under whose influence was founded the CATHOLIC APOSTOLIC CHURCH, the members of which have sometimes been called Irvingites He was tutor to Jane Welsh, later the wife of Thomas Carlyle, and became the friend of Carlyle After serving as assistant (1819–22) to Thomas CHALMERS in Glasgow, Irving was called to the Caledonian Church, London, where his oratory brought him great popularity, he and his congregation moved to the larger Regent Square Church in 1827 As his preaching began to emphasize the supernatural and the imminence of the second coming of Christ, criticism arose, especially over his views on the human nature of Christ In 1832 he was debarred from the Regent Square Church, in 1833 he was deposed from the Church of Scotland Irving had, from 1826, been meeting with a group gathered together by Henry Drummond to study the prophecies of the Scriptures From this "school of the prophets" was developed the Catholic Apostolic Church, of which Irving was an "angel" See biography by M O W Oliphant (1864)

Irving, Sir Henry, 1838–1905, English actor and manager His original name was John Henry Brodribb, but he legalized his stage name in 1887 Irving made his debut (1856) as Gaston in *Richelieu*, attracted attention (1866) as Dorincourt in *The Belle's Stratagem*, and had a signal success (1870) as Digby Grant in *The Two Roses* He gained fame when he played (1871) Mathias in *The Bells*, a role which he often repeated Other successes were in *Charles I* (1872) and *Eugene Aram* (1873) and especially in *Hamlet* (1878) In 1878 he became manager of the Lyceum Theatre, London Here, with Ellen Terry as his leading lady, he reigned until 1903, offering spectacular Shakspearian productions and such dramas as *Faust* and Tennyson's *Becket* Irving had mannered gestures and elocution, but he had also a magnetic and majestic presence He was knighted in 1893, the first English actor to receive the honor, and was buried in Westminster Abbey See biographies by L F Austin (1884), P H Fitzgerald (1906), Bram Stoker (1906), W H Pollock (1908), Gordon Craig (1930), and H A Jones (1931), studies by Max Beerbohm in *Around Theatres* (1930) and by George Sampson in *Seven Essays* (1947)

Irving, John Duer, 1874–1918, American geologist, b Madison, Wis , grad Columbia (B A , 1896), son of Roland D Irving He served on the U S Geological Survey from 1899 to 1907, working in South Dakota and Colorado, and was professor of economic geology at Yale from 1907 He died in France while serving as captain and instructor at the Army Engineers' School

Irving, Roland Duer, 1847–88, American geologist, b New York city, grad Columbia, 1869 He was professor of geology and mineralogy at the Univ of Wisconsin from 1870 and worked under T C Chamberlin on the geological survey of the state (1873–79) From 1880 he served the U S Geological Survey as geologist in charge of the Lake Superior division. He contributed a valuable study (1883) of the iron and copper-bearing rocks of the region John D Irving was his son

Irving, Washington, 1783–1859, American author and diplomat, b New York city While he studied law, he amused himself by writing for periodicals such essays on New York society and the theater as the *Letters of Jonathan Oldstyle, Gent* (1802–3). In 1804–6 his older brothers financed his tour of France and Italy. On his return he joined William Irving and J. K. Paulding in publishing *Salmagundi; or, The Whim-Whams and Opinions of Launcelot Langstaff & Others* (1807–8), a series of humorous and satirical essays Under the pseudonym Diedrich Knickerbocker, he brought out in 1809 *A History of New York*, a satire which has been called "the first great book of comic literature written by an American" He went to England in 1815 to run the Liverpool branch of the family hardware business, but could not save it when the whole firm failed Thereupon, with the encouragement of Walter Scott, Irving turned definitely to literature The essays (including "Rip Van Winkle" and "The Legend of Sleepy Hollow") collected in *The Sketch Book of Geoffrey Crayon, Gent* (London, 1820) appeared serially in New York in 1819–20, their enthusiastic reception made Irving the outstanding figure in American literature both at home and abroad *Bracebridge Hall* (1822), the next and inferior volume of essays, was well received, but his *Tales of a Traveller* (1824), written after visits to Germany and France, was a failure Irving became attached to the American embassy in Madrid in 1826 There he produced his biography of Columbus (1828), largely based on the work of the Spanish historian Navarrete, *The Conquest of Granada* (1829), a romantic narrative, and *The Alhambra* (1832), popular in Spain as a "Spanish Sketch Book" After a short period at the American legation in London, he returned to New York and, sensing what his readers wanted, began to write about the American West Having made a journey to the frontier, he wrote *A Tour of the Prairies* (1835) From records furnished by John Jacob Astor, he wrote *Astoria* (1836), with Pierre Irving, and *The Adventures of Captain Bonneville, U S A* (1837) He resigned a projected history of the conquest of Mexico when he learned that William H Prescott was undertaking the task Irving established himself at his estate, "Sunnyside," near Tarrytown, N Y , until he was sent to Madrid as minister (1842–46) Once more at Sunnyside, he wrote his biography of Goldsmith (1849) and the miscellaneous sketches called *Wolfert's Roost* (1855) and labored at his biography of Washington (5 vols , 1855–59), which he completed just before his death Irving was one of the first Americans to be recognized abroad as a man of letters, and he was a literary idol at home He was master of a smooth prose style, was a gentle but effective satirist, and was the creator of a few widely loved essays and tales Modern scholarship supports the contention that much of his work was derivative Sunnyside, Irving's home, is open to the public Irving's journals were edited by W P Trent and G S Hellman (3 vols , 1919), odd volumes of his journals, letters, and notes by S T Williams, and *The Western Journals* by J F McDermott (1944) See definitive biography by S T Williams (1935), Van Wyck Brooks, *The World of Washington Irving* (1944)

Irving, town (1940 pop 1,089, 1947 estimated pop 2,500), N Texas, WNW of, and near, Dallas It is an industrial suburb

Irvington. 1 Industrial town (pop 55,328), NE N J , western suburb of Newark, settled 1692 as Camptown, renamed 1852 for Washington Irving, inc as a village 1874, as a town 1898 Brass fittings are made here **2** Residential village (pop 3,272) SE N Y , in Westchester co , on the east bank of the Hudson just S of Tarrytown, settled c 1655, inc 1872 It was called Dearman from c 1817 until 1854, when it was named for Washington Irving, who bought (1835) "Sunnyside" in the village At "Nevis," the estate of Alexander Hamilton's son, are a Columbia Univ arboretum and the children's museum (in cooperation with Columbia) "Nevis" also has a cyclotron, begun in 1947 and supported by Columbia Univ and the Office of Naval Research Irvington House, a home for cardiac children, is in the village

Irvona, borough (pop 1,049), Clearfield co , W central Pa , NW of Altoona, inc 1890

Irwell, river of Lancashire, England It rises near Bacup and joins the Mersey W of Manchester

Irwin, Edward Frederick Lindley Wood, 1st Baron see HALIFAX, EDWARD FREDERICK LINDLEY WOOD, 1ST EARL OF

Irwin, Wallace, 1876–, American journalist and author, b Oneida, N Y , educated at Stanford He was the brother of Will Irwin A writer on the San Francisco *Examiner* and editor (1902) of the *Overland Monthly*, Irwin is also known for his humorous *Letters of a Japanese Schoolboy* (1909)

Irwin, Will (William Henry Irwin), 1873–1948, American author and journalist, b Oneida, N Y , grad Stanford, 1899 A distinguished reporter and foreign correspondent, he wrote *The City That Was* (1907), *Men, Women, and War* (1915), *A Reporter in Armageddon* (1918), *Propaganda and the News* (1936), and biographies, among them one of his friend Herbert Hoover (1929), whose speeches, it is said, he helped to prepare His two successful plays were collaborations, *The Thirteenth Chair* (with Bayard Veiller, 1916) and *Lute Song* (with Sidney Howard, 1930) In 1916 he married Inez Haynes Gillmore (1873–), a novelist and feminist. See his *Making of a Reporter* (1942)

Irwin, industrial borough (pop 3,441), SW Pa , ESE of Pittsburgh; settled c 1844, laid out 1853, inc. 1864. It has coal mines and ironworks.

Is (ĭs), ancient city of S Mesopotamia, on the Euphrates It was famous for its bitumen springs, material from which was used in constructing the walls of Babylon

Isaac I (Isaac Comnenus) (kŏm'nē'nŭs), c 1005–1061, Byzantine emperor (1057–59), first of the Comnenus dynasty Proclaimed emperor by the army, he deposed the weak and old Michael VI, who had succeeded Theodora in 1056, and sent him into a monastery Though at first received with enthusiasm at Constantinople, he soon lost his popularity through his rigorous system of tax collection and his confiscation of ecclesiastic property He energetically suppressed the opposition, but in 1059, after an unsuccessful campaign against the Petchenegs, he abdicated for unknown reasons (ostensibly because of his bad health) and retired to a monastery He appointed Constantine Ducas (Constantine X) as successor The Comnenus dynasty returned to the throne only in 1081, with Isaac's nephew, ALEXIUS I, after the disastrous reigns of Romanus IV, Michael VII, and Nicephorus III

Isaac II (Isaac Angelus) (ăn'jŭlŭs), d 1204, Byzantine emperor (1185–95, 1203–4) Before his accession he was of little importance When in 1185 Emperor Andronicus I sought to have him arrested as a political enemy, Isaac took refuge in Hagia Sophia, a mob gathered, seized the unpopular Andronicus, killed him after inhuman tortures, and proclaimed Isaac emperor Isaac was unable to suppress the rebellious Bulgars, but repulsed an invasion by William II of Sicily He was deposed and blinded in 1195 by his brother, who became emperor as ALEXIUS III, but Isaac's son (later Alexius IV) appealed to the host of the Fourth Crusade (see CRUSADES), and in 1203 father and son were restored as joint emperors Their overthrow (1204) by Alexius Ducas (ALEXIUS V) led to the storming of Constantinople by the CRUSADERS

Isaac (ī'zŭk) [Heb , =laughter], only son of Abraham and Sarah He married Rebecca, and their sons were Esau and Jacob Ishmael was his half brother As a supreme act of faith Abraham offered him at an early age as a sacrifice to God—a deed prevented by divine intervention The Philistine king Abimelech gave him shelter in time of famine, and he grew rich in lands and possessions Returning and gentle, he lived the longest and led the least eventful life of any of the patriarchs Just before his death Rebecca caused him to bless Jacob in place of Esau He was buried in the family tomb at Machpelah Gen 21–27, 35 29, 49 31, Amos 7 9, 16, Mat 8 11, Heb 11 17, James 2 21.

Isaacs, Sir Isaac Alfred, 1855–1948, Australian jurist and governor general He sat in the colonial legislature (1892–1901), became solicitor general (1893), and served as attorney general (1894–99, 1900–1901) He was a framer of the commonwealth constitution (1897) and sat in the dominion Parliament (1901–6), becoming attorney general in 1905 He was for many years (1906–30) a high court justice and sat as chief justice (1930–31) His appointment (1931) as first native-born governor general was also the first made by the British crown directly on the advice of a dominion ministry Isaacs served as governor general until 1936

Isaacs, Jorge (hôr'hā ē'sŭks), 1837–95, Colombian novelist, son of a prosperous English Jew His fame rests upon his idyllic romance, *María* (1867 Eng tr , 1890), which won immediate success and was for a time the most widely read novel in Spanish America Fine character portrayal is matched by a masterly picture of the landscape of the Cauca valley Isaacs was named consul to Chile and occupied several government posts in his own country He also wrote a volume of poems (1864) He died in poverty

Isaacs, Rufus Daniel see READING, RUFUS DANIEL ISAACS, 1ST MARQUESS OF

Isabeau of Bavaria (ēzăbō'), 1371–1435, French queen, consort of CHARLES VI, daughter of the duke of Bavaria She was several times regent for her demented husband Sympathizing with the enemies of France in the Hundred Years War, the English and the Burgundians, she was instrumental in bringing about the Treaty of Troyes (1420), which disinherited her own son in favor of Henry V of England.

Isabel, 1846–1921, princess imperial of Brazil, daughter of PEDRO II She was married to the comte d'Eu She acted as regent in her father's absence She and her husband both favored the clerical and conservative party and were unpopular. It was Isabel who signed the law abolishing slavery (1888), which caused the downfall of the empire After the deposition of Pedro II (1889), she went to PARIS, where she spent the remainder of her life

Isabela, Cape (ēsăbā'lä), on the north shore of Hispaniola, in the Dominican Republic Near by are the ruins of the first Spanish settlement in the New World, made by Columbus in 1493

Isabella, 1292?–1358, queen consort of EDWARD II of England, daughter of Philip IV of France She was married in 1308 to Edward Neglected and mistreated by her husband, Isabella nourished hatred for the royal favorites, Piers Gaveston and the Despensers. In 1325 she was permitted to

visit France in order to forestall a war Once there, she ignored royal orders to return to England with her son, the heir to the throne. She formed a notorious liaison with Roger MORTIMER, earl of March, and with him plotted to invade England Their invasion in 1326 was successful After Edward II was forced to abdicate and his son was enthroned as EDWARD III early in 1327, Isabella and Mortimer caused the murder of Edward II and began a corrupt rule of England Finally rebelling against the couple's flagrant misconduct and misgovernment, Edward III in 1330 seized power, had Mortimer executed, and made Isabella retire

Isabella I or **Isabella the Catholic**, 1451–1504, Spanish queen of Castile and Leon (1474–1504), daughter of John II of Castile In 1469 she married Ferdinand of Aragon (later King Ferdinand V) At the death (1474) of her brother, HENRY IV of Castile, the succession to Castile was contested between Isabella and JUANA LA BELTRANEJA, who was supported by ALFONSO V of Portugal The civil war ended with Isabella's victory in 1479, the year Ferdinand became king of Aragon Isabella and Ferdinand, known as the Catholic monarchs, ruled Castile jointly With them began the unity of Spain (For the chief events and the significance of their reign, see FERDINAND V) Isabella, with her confessor, Cardinal JIMÉNEZ, encouraged many church reforms She was the patron of Columbus The Catholic monarchs furthered learning and the arts and promoted great building activity. The style of the period is called *isabelino* after the queen, it combines Gothic, Mudéjar, and Renaissance features Isabella bequeathed Castile to her daughter JOANNA, with Ferdinand as regent See W H Prescott, *History of the Reign of Ferdinand and Isabella the Catholic*, and Washington Irving, *Chronicle of the Conquest of Granada*, both classic works See also biographies by I L Plunket (1915) and W T Walsh (1933)

Isabella II, 1830–1904, queen of Spain (1833–68), daughter of Ferdinand VII and of MARIA CHRISTINA Her mother was regent until 1840 Isabella's uncle, Don CARLOS, contested her succession under the Salic law and the Carlist Wars began (see CARLISTS) After Maria Christina's departure ESPARTERO became regent (1840), and after his overthrow Isabella was declared of age (1843) In 1846 the queen married her cousin, Francisco de Asís, and her sister married a son of Louis Philippe of France, the duke of Montpensier These Spanish marriages, which were contrary to previous agreements between England and France, aroused England, fearful of a Franco-Spanish rapprochement, and caused the temporary severance of the *entente cordiale* and French isolation in Europe Isabella's rule was one of party conflicts between moderates, progressives, and liberal unionists and of continuous cabinet changes Ramón NARVÁEZ, ESPARTERO, O'DONNELL, and SERRANO Y DOMÍNGUEZ were among her premiers Frequent rebellions culminated in 1868 in the insurrection led by Serrano and Prim, and Isabella was deposed (see SPAIN) She spent the rest of her life in France In 1870 she abdicated her rights in favor of her son, ALFONSO XII

Isabey, Jean Baptiste (zhä' baptēst' ēzabā'), 1767–1855, French portrait painter and miniaturist; pupil of J L David He prospered under all the changing regimes, portraying in turn Marie Antoinette, Mirabeau, David, Bonaparte (Malmaison), Josephine (Wallace Coll, London), and Louis Philippe Napoleon III conferred upon him the Legion of Honor Two of his best compositions, *Isabey's Boat* and *Revue of the First Consul*, are in the Louvre, as are also his 32 drawings of the coronation of Napoleon Aside from its artistic value his work constitutes a historic document of great interest His son, **Eugène Louis Gabriel Isabey** (ūzhēn' lwē' gabrēĕl') 1804–86, was a marine and genre painter Well-known examples of his work are in the Luxembourg Museum, Paris, the Versailles Museum, and the Metropolitan Museum

Isaeus (Isē'us), fl early 4th cent B C, one of the 10 Attic orators Of his orations, 12, dealing with law cases of inheritance, survive

Isaiah (Izā'yă, Isā'-) [Heb ,=salvation of God] or **Isaias** (Isā'yus), book of the Old Testament, the first of the books of the Major Prophets It is a collection of prophecies attributed to Isaiah (fl 710 B C), who preached under King Hezekiah of Judah, his message was partly political, urging the king to recognize the power of Assyria and not to ally himself with Egypt, as a party of nobles urged The book falls into two major sections of metrical prophecies (1–35 and 40–66) with a prose section between (36–39). The first set of poems treats the overthrow of the Assyrians, containing introduction (1–6), Messianic prophecies directed against Syria and Assyria (7–12), prophecies against many nations (13–27), finally prophecies affecting Israel and Judah, announcing destruction and subsequent redemption (28–35) The prose section (mainly identical with 2 Kings 18 13–20 19) falls into two parts, the first (36–37) telling of Sennacherib's unsuccessful siege of Jerusalem and his murder long after; the second (38–39) gives the sickness of Hezekiah, with recovery and reception of an embassy from Babylon and prophecy of captivity there The second poetic section of the book (40–66) is a prophecy of redemption, falling, according to one mode of division, into three parts—delivery from captivity (40–48), redemption from sin (49–57), and the redeemed state of Israel (58–66) The book contains many of the sublimest passages of the Bible, among them are prophecies referred by Christians to Christ (8–12, 40–42, 53) Later biblical allusions are frequent, e g , Ecclus 48 25–28, Mat 1 23, 4 15, 13 14 Esaias Mat 3 3 Many critics would divide Isaiah into parts of diverse original authorship, assigning the second division of prophecies (40–66) to postexilic times For bibliography, see OLD TESTAMENT.

Isaiah, Ascension of see PSEUDEPIGRAPHA

Isar (ē'zär), river of Austria and Bavaria It rises in the Tyrol, N of Innsbruck, and flows 160 mi. NE past Munich and Landshut to the Danube

Isauria (Isō'rēŭ), ancient district on the borders of Pisidia and Cilicia, S Asia Minor, N of the Taurus range, in present S central Turkey It was a wild region inhabited by marauding bands who lived by their depredations on land and sea They were partially checked by the Romans early in the 1st cent B C but were never completely subdued until the arrival of the Seljuk Turks many centuries later When the capital, Isaura or Isaura Vetus [old Isaura], a strongly fortified city at the foot of Mt Taurus, was besieged by the Macedonian regent Perdiccas in the 4th cent B C, the Isaurians destroyed the town by fire rather than submit to capture The site contains interesting ruins of the town and its fortifications

Isca Damnoniorum see EXETER, England

Iscah (Is'kŭ), niece of Abraham Gen 11 29.

Iscariot (Iskā'rēut) see JUDAS ISCARIOT

Ischia (ēs'kya), rocky island (18 sq mi , pop 30,418, S Italy, at the entrance of the Bay of Naples It is a health resort celebrated for its warm mineral springs and its scenery The island was repeatedly abandoned because of the eruptions of its volcanoes (the last occurred in 1302) Mt Epomeo, 2,587 ft high, is the highest point Wine is the chief product Ischia, the main town, has an imposing castle, on foundations built by the Greeks in the 5th cent B C

Ischl or **Bad Ischl** (bat' I'shul), town (pop 14,004), Upper Austria, in the center of the SALZKAMMERGUT A famous spa, it was after 1822 the summer residence of the Austrian imperial family Here Emperor Francis Joseph met (1905) Edward VII of England and signed (1914) his declaration of war on Serbia Salt has been mined near by since the 12th cent

Ise see UJI-YAMADA

Isère (ēzĕr'), department (3,180 sq mi ; pop 574,019), SE France, in DAUPHINÉ It is traversed by the Isère river, which joins the Rhone near Valence Grenoble is the capital

Iserlohn (ēzurlōn'), city (pop 42,216), Westphalia, NW Germany, SE of Dortmund It has an iron and steel industry Chartered in the 13th cent , it has retained several old churches

Iseult, name of two characters in Arthurian legend see TRISTRAM AND ISOLDE

Isfahan (Isfuhan'), and *Aspadana* (ăspudā'nu), city (pop 204,598), central Iran, midway between Teheran and Shiraz It was, in the past, several times (1051–63, 1072–92, 1590–1722), capital of Persia Its 17th-century population, c 600,000, rivals that reached by any other Persian capital On the vast central square are Abbas I's enormous palace and the beautiful imperial mosque (1585–1612), one of the masterpieces of world architecture It has other fine mosques, some very old Across the Zayinda-Rud lies the Julfa quarter, originally Armenian, founded (1605) by Shah Abbas Tamerlane took the city and slaughtered 70,000 inhabitants (1387) for attacking his disbanded soldiers Even more terrible was the 14-day massacre by the Ghalzai Afghans in 1723 Russian troops occupied Isfahan in 1916 The attractively colored houses, spacious balconies, shade trees, flower gardens, and beautiful arched bridges give the city an inviting aspect, though large sections are still in ruins Its modern factories are chiefly textile mills It is traditionally known for silver filigree and metalwork The name formerly appeared as Ispahan

Ishbah (Ish'bu) [Heb ,=praising], descendant of Judah 1 Chron 4 17

Ishbak (Ish'băk), son of Abraham and Keturah. Gen 25 2, 1 Chron 1 32

Ishbi-benob (Ish'bī-bē'nŏb) [Heb ,=I dwell in Nob], giant killed by Abishai 2 Sam 21 16,17

Ish-bosheth (Ish-bŏ'shĕth, Ish'-bōshĕth, Ish-bŏsh'ĕth) [Heb ,=man of shame], son of Saul, and his would-be successor 2 Sam 2; 3; 4 Esh-baal 1 Chron 8 33, 9 39 For the relation between the names of this man, see BAAL.

Isherwood, Christopher (I'shûrwŏod), 1904–, English novelist Among his earliest works was *Memorial. Portrait of a Family* (1932). With his friend W. H Auden he wrote the plays *The Dog beneath the Skin* (1935), *The Ascent of F 6* (1936), and *On the Frontier* (1938). Their *Journey to a War* (1939) describes wartime China. At the same time, basing his work on his experiences in Germany, Isherwood wrote the novels *The Last of Mr. Norris* (1935) and *Goodbye to Berlin* (1939), they were reissued in 1946 as *The Berlin Stories Prater Violet* (1945) describes the fascism of Vienna and reaction to it in England In 1939 Isherwood, a confirmed expatriate, came to the United States His South American travel diary, *Condor and the Cows*, appeared in 1949 See *Lions and Shadows* (1938; fictional autobiography).

Ishi (I'shī) **1, 2** Judahites 1 Chron. 2 31, 4 20 **3** Manasseite 1 Chron 5 24 **4** Simeonite whose sons fought at Mt Seir 1 Chron 4 42 The name Ishi with the meaning "my husband" is a name of God in a prophecy Hosea 2 16

Ishiah (Ishī'u) [Heb ,=God lends], chief of the tribe of Issachar 1 Chron 7 3

Ishii, Kikujiro, Viscount (kē"kōō"jē'rō', Ishē'), 1867?–, Japanese diplomat He entered the foreign service as a youth and was stationed in Peking during the Boxer Rebellion In 1907–8 he was instrumental in negotiating the GENTLEMEN'S AGREEMENT He was ambassador to France (1912–15), foreign minister (1915–16), and ambassador to the United States (1918–19) In 1917 he negotiated the Lansing-Ishii agreement with the United States He later served as delegate to the League of Nations Council, the Geneva Naval Conference at Geneva (1927), and the international economic conference of 1933 He was a member of the privy council

Ishijah (Ishī'ju) [Heb ,=God lends], Israelite who married a foreign woman Ezra 10 31

Ishikari (ēshēkä'rē), river, 227 mi long, flowing W, SSW, and WNW through W Hokkaido, Japan, to Ishikari Bay near Otaru This second longest river of Japan drains an extensive coal area

Ishikawa (ēshē'käwä), prefecture, central Honshu, Japan see KANAZAWA, the capital

Ishim (ēshēm'), city (1936 estimated pop 34,500), RSFSR, in W Siberia, on the Ishim river and the Trans-Siberian RR Founded in 1670, it is the center of an agricultural area

Ishim, river, 1,123 mi long, Kazakh SSR and RSFSR, in W Siberia It rises N of Karaganda and flows N and W past Petropavlovsk and Ishim into the Irtysh Its lower course, which is navigable, passes through the **Ishim Steppe,** a rich agricultural black-earth district

Ishma (Ish'mu), name appearing in the Judahite genealogy 1 Chron 4 3

Ishmael (Ish'māĕl) [Heb ,=God hears] **1** Son of Abraham and Hagar Through Sarah's jealousy he and his mother were sent into the desert Eventually he settled at Paran in N Sinai peninsula He became an archer, married an Egyptian, and had 12 sons and a daughter He was the half brother of Isaac and Esau's father-in-law Gen 16 4–16, 17 18–26, 21 8–21, 25 9,12–17, 28 9, 1 Chron 1 29–30 The Moslems consider the Arabs the descendants of Ishmael, thus distinguishing themselves from the descendants of Isaac and Israel Hence the contemptuous use of the name Ishmael among Jews and Christians is unknown in Islam The Bible does not make clear what peoples are indicated by the name Ishmaelites (or Ishmeelites) Gen 37 25–28, 39 1, Judges 8 24, Ps 83 6 **2** Descendant of Saul 1 Chron 8 38, 9 44 **3** Ancestor of the Zebediah of Jehoshaphat's court 2 Chron 19 11 **4** Ally of Jehoiada 2 Chron 23 1 **5** Priest separated from his foreign wife Ezra 10 22 **6** Assassin of Gedaliah 2 Kings 25 23–25, Jer 40 7–16, 41

Ishmaiah (Ish"mā'u) [Heb ,=ISMAIAH], ruler over the Zebulunites 1 Chron 27 19

Ishmerai (Ish'mĕrā, Ish"mĕrā'ī) [Heb ,=whom God keeps], chief Benjamite 1 Chron 8 18

Ishod (I'shŏd) [Heb ,=man of renown], descendant of Manasseh 1 Chron 7 18

Ishpan, chief Benjamite 1 Chron 8 22

Ishpeming (Ish'pumĭng), city (pop 9,491), W Upper Peninsula, N Mich , W of Marquette, inc as a village 1871, as a city 1873 It is in the center of the Marquette iron range Besides iron-ore mining, its chief industries include dynamite making and marble quarrying Ski tournaments have been held here since 1888

Ishtar (Ish'tär), in Babylonian and Assyrian religion, goddess of fertility She corresponds to the Phoenician Astarte, the Greek Aphrodite, and the Roman Venus As Ishtar's cult became stronger she absorbed the cults of other goddesses and their attributes (e.g , Ishtar sometimes appeared as a war-goddess) Ishtar, therefore, became the common name for goddess. The legend of her lover Tammuz, whom she killed and restored to life, resembles the Greek myth of Aphrodite and Adonis. Ishtar was one of the many forms of the ancient earth-goddess, the GREAT MOTHER OF THE GODS.

Ishtob (Ish'tŏb) see TOB.

Ishuah (Ish'ūu), son of Asher. Gen. 46.47. Isuah: 1 Chron 7 30

Ishui (Ish'uī), the same as ISUI.

Ishui (Ish'uī), son of Saul 1 Sam 14 49.

Isidore of Seville, Saint, c 560–636, Spanish churchman and encyclopedist, bishop of Seville. Born of a noble Hispano-Roman family from Cartagena, he spent his youth under the supervision of his brother Leander, powerful bishop of Seville, and may have

helped the latter in the extirpation of Arianism among the Visigoths During his own tenure of the bishopric (from c 600) Isidore wielded considerable ecclesiastical power; he presided at the second Council of Seville (619) and at the fourth national Council of Toledo (633). He is best known, however, for his voluminous writings His most important work is the *Etymologiae* or *Origines*, an encyclopedic treatise which aims to set down all the knowledge of the time It is a comprehensive work in plan, and it transmitted to scholars of the Middle Ages and even the Renaissance some measure of classical learning The *Etymologiae* was very popular in the Middle Ages It was, however, a completely derived work, unenlightened by first-hand observation Isidore shows a poor knowledge of Greek, and his etymologizing is frequently ludicrous His *Historia de regibus Gothorum, Vandalorum et Suevorum* is useful in studying the early history of Spain He also wrote many treatises on theology, language, natural history, and other subjects See Ernest Brehaut, *An Encyclopedist of the Dark Ages* (1912), Sister Patrick Mullins, *The Spiritual Life according to St Isidore* (1940)

Isidorus of Miletus (ĭsĭdō'rŭs, mĭlē'tus), name of two architects of the time of Justinian The elder was associated with Anthemius of Tralles in rebuilding Hagia Sophia, A D 532–37, while the younger rebuilt the dome after its destruction by earthquake, A D 553

Isin (ī'sĭn), capital of an ancient Semitic kingdom of N Babylonia It was established c 3000 B C and at one time controlled the cities of Nippur and Ur. Excavations have disclosed its site near Ur

isinglass (ī'zŭn-glăs″), gelatinous substance obtained by cleaning and drying the swimming bladders of the sturgeon, cod, hake, and other fishes Isinglass is manufactured in Russia, the United States, Canada, Brazil, the East Indies, the West Indies, and Manila It is used in the clarification of wines and beers, as a stiffening for jellies, in court plaster, and in glues and cements The name isinglass is also commonly applied to thin sheets of mica and sometimes to a gelatinous substance obtained from certain seaweeds

Isis (ī'sĭs), nature goddess, whose worship, originating under the New Empire (c 1700–1100 B C), spread throughout Egypt until it was universal there and then extended into other lands of the Mediterranean world Eventually the functions of all goddesses were attributed to her, so that she was regarded as the protot pe of them all, and in early Christian times her cult was one of the most obstinate antagonistic forces met by the new teachings In the mythology of E ypt she was the counterpart of Osiris, his faithful wife and sister Both were the children of the god of the earth, Seb, and the goddess of the sky, Nut With Horus, their son, Isis and Osiris were honored widely Isis gave birth to Horus after Osiris had been killed by their brother, Set She found and concealed her husband's body, but Set hunted it out, tore it apart, and scattered the pieces When Isis had gathered them together, Osiris was restored by magic, to become ruler of the dead The symbolism of the myth represents Osiris, the sun, overwhelmed by Set, the night, to Isis, the eastern sky at dawn, is born Horus, the sun of a new day In her images the goddess is given human form, sometimes with a woman's head, sometimes with a cow's head, sometimes with a cow's horns above the human head Later, she was shown holding the infant Horus She was the universal mother and the mistress of all magic There were important centers of her worship at Memphis, Abydos, and the island of Philae In the great temple there the cult was preserved longest—until A D 560 When Isis became known to the Greeks, she was first identified with Demeter In the Hellenistic world the worship of Isis was widespread Introduced into Rome in Sulla's time, it was at times highly favored, at others frowned upon Some of the emperors were priests of Isis, others suppressed the cult

Isis see THAMES, river, England

Iskander Beg see SCANDERBEG

Iskenderun (ĭskĕn'dŭrōōn, ĕs″kĕndurōōn'), formerly **Alexandretta** (ă″lĭgzăndrĕ'tu), city (pop 18,612), SW Turkey, on the Gulf of Alexandretta, an inlet of the Mediterranean It served as port for Alep until it was transferred (1937) from Syria to Turkey (see ALEXANDRETTA, SANJAK OF) The name also appears as Iskanderun

Isker: see STBIR

Isla, José Francisco de (hōsā' frănthē'skō dā ē'sla), 1703–81, Spanish Jesuit preacher and writer, commonly referred to as "el Padre Isla" He wrote the best satirical novel of the 18th cent in Spain, *Historia del famoso predicador Fray Gerundio de Campazas* (1758), in which he attacked the pedantry of pulpit eloquence in an amusing tale of the adventures of Fray Gerundio, an ignorant preacher. Isla is also known for his excellent translation, *Gil Blas de Santillana*, from the French of Le Sage's picaresque novel

Islam (ĭs'lŭm, ĭz'–, ĭslăm') [Arabic,=submission to, or having peace with, God], the religion of which MOHAMMED was the prophet An adherent of Islam is called a Moslem or Muslim [Arabic,=one who submits]. It was the latest to appear of the three great monotheistic religions (the others being Judaism and Christianity) Islam is the principal religion of much of Asia (including part of the Philippines): Kansu and Shensi provs of China, Pakistan, Afghanistan, Iran, Iraq, Syria, Jordan and the Arabian states, and Turkey, as well as much of the USSR in Asia In Africa, Islam has been the only highly successful missionary faith It is the religion prevailing in Egypt and the rest of the northern part except Ethiopia, it is also well established in central Afr a and along the east coast In Europe, outside Russia, where Islam was the religion of the Crimea and of much of the lower Volga, the Moslems managed to establish themselves as a majority in Turkey and Albania (15th cent) and in the old state of Bosnia (15th cent) The Americas are the only continents in which Islam has practically no adherents Islam's most serious loss was suffered in SPAIN The salient feature of Islam is its devotion to a book, the KORAN, believed to be the revelation of God to Mohammed, this has made Arabic the language of Islam all over the world, hence the common custom of referring to God in Islam as Allah, his name in Arabic According to Moslem teaching, God has given men successive revelations through his prophets Man constantly falls away from these prophets and the merciful God sends new ones, Mohammed is the last, and when the world falls away from Islam the end of the world will come The two principal early prophets are Abraham and Jesus According to Moslem teaching, Abraham was the Father of the Faithful, the first Moslem, Jesus was born of the Virgin Mary, did great miracles, and was not crucified, but was instead taken away by God, who left a shadow in his place (a common view among Gnostics and others), and Jesus will return at the end of the world to fight Antichrist as the MAHDI Wherever the Koran differs from the Old and New Testament, it is explained that the Jews and the Christians have corrupted or perverted the biblical text The close relationship acknowledged between Judaism, Christianity, and Islam has had for its chief effect that Jews and Christians have been treated with special toleration in principle in Moslem countries It is commonly thought that Mohammed's ideas about Judaism and Christianity were derived not from reading but from converse with contemporary Arabian Jews and Christians, who held their religions in a considerably corrupted form The Mohammedan eschatology has affected Moslems much more than the orthodox account of history In the course of time a rather elaborate account has grown up of what will happen at the last things, but the final rewards have remained constant—there will be a judgment, and heaven awaits the faithful and hell the infidels (see HEAVEN and HELL) The ethos of Islam is its attitude toward God, to his will Moslems submit, him they constantly praise and glorify, and in him alone they hope He is awful, transcendent, almighty, just, loving, merciful, and good No creature may be compared to him, and to him alone do Moslems pray Moslems ask intercession of the prophets and the saints, but they (the Shiites perhaps excepted) preserve jealously the distinction between Creator and creature They seldom ask God for favors, limiting their prayer to thanksgiving and adoration The pious Moslem does not distinguish faith from works both are indispensable and mutually supplementary There are five duties in Islam, the marks and the *sine qua non* of devotion (1) Once in his life the believer must say with full understanding and absolute acceptance, "There is no god but God and Mohammed is his prophet" (2) Five times daily he must pray—at dawn, at noon, in midafternoon, at dusk, and after it has become dark, the prayers are set and are accompanied by traditional postures and preceded by ablutions, when he prays the Moslem covers his head, removes his shoes, and places a carpet under him, he prostrates himself ceremonially On Fridays the noonday prayer takes place in the MOSQUE, which exists for the meeting, set prayers are said, the Koran is read, and there is a sermon The constantly recited prayer of Islam, used on all occasions, is Sura 1 of the Koran, it is singularly typical of the spirit of Islam "In the name of God, the merciful, the compassionate Praise be to God, the Lord of the worlds, the merciful, the compassionate, the ruler of the judgment day! Thee we serve and Thee we ask for aid Guide us in the right path, the path of those to whom Thou art gracious, not of those with whom Thou art wroth, nor of those who err" When the Moslem prays, he faces Mecca, the direction of which is calculated in every Moslem settlement with the greatest exactness possible (3) The Moslem must give alms generously; these are prescribed alms (e g, so much of cattle, and so much of grain) He is also obliged to give some alms beyond the minimum. In places where Islam is the state religion the prescribed alms are often collected by the state. (4) The Moslem must keep the fast of RAMADAN; the physically weak, the sick, soldiers, and some others are exempted. (5) Once in his life the Moslem, if he can, must make the pilgrimage (Hajj) to Mecca This, probably the greatest pilgrimage in the world, is made at a certain time of year, in the month (see CALENDAR) set apart for it The importance of the pilgrimage can hardly be overestimated, it unites Islam as nothing else has ever done, at Mecca the Javanese meets the Negro from Senegal and the mountaineer of Albania, all brought together by the same holy purpose There is a remarkable community of feeling in Islam, even today, when Moslems are divided politically into many groups This unity is a result of the Moslem apologetic system Islam is, of course, founded in the Koran, the divine word, but so little of this is dogmatic or legalistic that early in the history of Islam Moslems found the Koran inadequate as an authority for the good life This was especially true when Islam was making its first rapid spread and as new peoples submitted to it Hence arose the Sunna, fundamental in Islam The Sunna is the way or example of the Prophet, which supplements the Koran The Sunna is made up of collections of Traditions (moral sayings and anecdotes) of Mohammed, sifted and collected with unflagging effort by men from the earliest times of Islam These collections are by BUKHARI (d 870), Muslim (d 875), Abu Dawud (d 888), An-Nasai (d 915), At-Tirmidi (d 892), and Ibn Maja (d 886) The first two of these collections are undoubtedly more reliable than the others if the truth is desired about Mohammed The last four admittedly made use of a pious fraud based on the theory that all religious truth was implicit in Mohammed's sayings, so that a salutary maxim might be regarded as having been said by the Prophet The Sunna is almost as important to Islam as the Koran, for in it lie all the elaborations of Koranic teaching essential to the firm establishment of a world religion There are serious disagreements in the Traditions, and interpretations of the Koran and the Sunna have varied so much as to be contradictions This situation is resolved by reference to what has become perhaps the most important of all the sayings attributed to Mohammed, "My community will never agree in an error" The principle this expresses is called Ijma, the agreement of Islam, and according to it every Moslem knows that a belief entertained by the greater part of Moslems in history is infallibly true, and a practice (e g, the cult of saints) allowed by most Moslems over a long period must be legitimate and good The Koran, the Sunna, and the Ijma are thus the three foundations of Islam It is Ijma which has given Islam its catholicity of view, its constant unity with its past, and its continuous flexibility But while Ijma has given Moslems a voice of authority, they have been saved from internal intolerance and the evils of extreme sectarianism by constantly bearing in mind the Tradition, "The difference of opinion in my community is a divine mercy" Moslem sectarianism in general may be said to be virtually negligible, except for a fundamental division of Islam into SUNNITES and SHIITES The division arose over the CALIPHATE in the first centuries It is a convention to treat Sunnite Islam as the norm, because of the vast superiority of numbers of the Sunnites and the fact recognized by all non-Shiites (whether Moslem or no) that the Shiites have departed to an amazing degree from anything that can be considered the original Islam All Moslems except Shiites regard as monstrous and blasphemous the fundamental Shiite principles that Ali was a vicegerent of God and that his successors are infallible and sinless. The Ijma and the toleration of Sunnite Islam have preserved the Sunnites from serious defections and variations, the WAHABIS are the only important modern separatist Sunnite sect The Shiites have fathered countless sects, some of which are partially responsible for the bad name Islam has had in Europe, such are the Assassins (see ASSASSIN), the DRUSES, the FATIMITES, the Ismailites, and the KARMATHIANS Shiism has always lent itself in an extraordinary degree to bigotry and persecution of non-Shiites That the Moslem world should have divided irreparably over the political question of the caliphate illustrates a characteristic of Islam, that every Moslem thinks of himself as living in a theocracy Just as the Prophet ruled Medina, the true ruler of the Moslem state is the caliph, and in theory, at least, all Islam should be united under one political and religious ruler, the caliph Moslem princes have usually ruled their states according to the theocratic ideal, a corresponding phenomenon in Europe is a close incorporation of Church and state In the Moslem state only Moslems are really citizens, they alone are allowed and obliged to serve in the army, their taxes go to the support of the religious officers, the IMAM and the muezzin (announcer of prayer), as well as of the state, and their courts have religious as well as civil jurisdiction Non-Moslems are in theory aliens who live under sufferance in Moslem states; they have their own organization and often their own courts, they are not allowed to serve in the army, and they must pay a special tax, besides the taxes to support the bureaus of their community. In many Moslem countries this system has been broken down completely. This is notably true of

Turkey, where Ataturk made a clean sweep of most of Moslem culture, going even so far as to order the use of Turkish instead of Arabic in the mosque. Among his changes was the adoption of revised foreign codes of law (the Swiss civil code and the Italian criminal code) to replace Moslem law. Although most Moslem countries have been long since forced to separate in practice the religious law from the civil law, the civil law is strongly Moslem in flavor, and Moslem jurists all follow the same general method The religious law of Islam in theory governs the whole life of any individual, but in reality his relations with his neighbor are a matter of state regulation Any demarcation between civil and religious law is, however, very difficult to make The law plays a great part in Moslem life, and in this respect Islam has developed more similarities to Judaism than to Christianity The minutiae of legal prescriptions in the Koran and the Sunna, extending not only to ceremonial and things forbidden, but also to such matters as divorce, have often needed interpretation when they were to be applied to cases There are in Sunnite Islam four different systems of interpretations of the law, which may be called the Four Rites of Moslem Law, each of them is equally orthodox and is so regarded by all Moslems They all agree entirely on the bases of Islam They disagree on interpretation, e g , as to whether the prohibition of wine extends to hard drinks, or as to whether horseflesh is as unclean as pork, or as to what postures should be used at prayer, or as to whether a man may take four wives only. The teaching of any rite is, of course, considered to be in accord with Ijma The nearest analogy to the rites is probably the liturgical rites of Christianity. The Four Rites of Moslem Law are the Hanafite, founded by ABU HANIFA, the most speculative and individual of the rites, held in most of Moslem Asia; the Malikite, founded by Malik ibn Aras (d. 795), followed in the western and northern parts of Africa, the Shafiite of Ash-Shafii (d 820), the rite of much of Egypt, of East Africa, of S Arabia, and of the East Indies, and the Hanbalite, founded by Ahmed ibn Hambal (d 855), the most literalistic and narrowest of all, now not held in any great area. In Moslem view the study of the law is all important, but with it are grouped dogmatic theology and mysticism as sacred studies. Philosophy in Islam as distinct from theology knows no place In fact, Moslem thought is a distinct unity which shows historically three major tendencies—toward dry legalism, toward rationalism, and toward mysticism These have been tempered by one another and held in check by the three great *faits accomplis* of Islam, Koran, Sunna, and Ijma Typical of the disputes in Moslem theology are those over freedom of the will and over the creation of the Koran The most famous schools of religious thought were the Mutazilites, who flourished in the 10th and 11th cent under the ABBASID caliphate, they have the distinction of beginning the first oppression on theological grounds in Islam, under Caliph MAMUN The Mutazilites were in general rationalistic, and they took the stand that predestination was dangerous to religion, from this their interests spread all through dogma, and they became famous as believers in the "created Koran" This dispute over the creation of the Koran has much in common with Neoplatonic disputes over the Logos and with Christian disputes over ARIANISM By far the most important figure in Moslem thought is Al-Ghasali (AL-GAZEL), who has been called the Thomas Aquinas of Islam He owed his fame to his acceptance of mysticism as the key to religion after he had so long held rationalistic principles that his rationalistic method checked any extreme tendencies of mysticism, while his mysticism prevented any resort to legalism. His great *Restoration of the Sciences of Religion* is a compendium of Moslem thought, the authoritative guide to what is Ijma, and the theological work par excellence of Islam. The Moslem philosophers, AL-FARABI, AL-KINDI, AVEMPACE, AVERROËS, and AVICENNA, have had less influence on Islam than on the philosophy of Europe. (For the great mystical tendency of Islam, see SUFISM) The great period of Moslem thought and culture was the 9th to the 11th cent , typical of the enlightenment and culture were the great universities—Damascus, Baghdad, Bukhara, Seville, Cordoba, and later Cairo (now the intellectual capital of Islam). The spread of Islam within the first century after the HEGIRA (622), the official beginning of Islam, was absolutely amazing It is not fair to assign as the greatest cause for this the idea that he who died fighting for the faith went to paradise, since it is a principle of Islam that conversion by the sword is no conversion. The simple appeal of Islam, a universal religion, seems to have been tremendous, its definite promises and its comparatively easy rules undoubtedly aided. The modern spread of Islam, notably in the East Indies and Africa, has not been aided by political advantage at all. Since late in the 19th cent. a movement of Pan-Islamism has arisen to unite the now politically disunited Islam into a spiritual unity. This has had little political success but is potent as an ideal. See D. B. Macdonald, *Development of Muslim Theology, Jurisprudence, and Constitutional Theory* (1903), Philip K Hitti, *History of the Arabs* (3d ed , 1946); G E von Grunebaum, *Medieval Islam* (1946), H. A R. Gibb, *Modern Trends in Islam* (1947) and *Mohammedanism* (1949); Carl Brockelmann, *A History of the Islamic Peoples* (Eng tr , 1947).

island, relatively small body of land surrounded entirely by water As the oceans form a continuous mass of water on the earth's surface, all continents are islands in the strict sense of the word. Continents and islands differ chiefly in size. The largest islands of the earth are, in descending order of their size, Greenland, New Guinea, Borneo, Madagascar, Baffin Island, Sumatra, Honshu (largest of the islands of Japan), and Great Britain. Depending on their origin, islands are either continental or oceanic Continental islands were created by the submergence of coastal highlands of which only the summits remained above water or by the sea's breaking through an isthmus or peninsula Oceanic islands result either from the ascending of the ocean floor above water through volcanic action or other earth movements or from coral growth (atoll) Atolls are always low and are limited to warmer regions Typical continental islands are Great Britain, the Japanese archipelago, and Sicily. In all three cases submarine banks indicate the former coherence with the mainland Oceanic islands are characterised by a poor fauna, consisting mostly of a few kinds of sea birds and insects Vegetation is more abundant, as seeds are carried from remote lands by air, water currents, and birds The creation of islands through volcanic action has occurred even in historic times The latest emergence of an island occurred in Feb , 1946, c 200 miles S of Tokyo In a few rare cases it has happened that an island near the coast was reunited with the mainland The Shantung peninsula was once an island, but was reunited with China by the growth of the Hoangho delta

Island Falls, farming, lumber, and resort town (pop 1,370), E Maine, on Mattawamkeag Lake SW of Houlton, settled 1843, inc 1872

Island No. 10, formerly in Tennessee island (no longer extant) in the Mississippi river near New Madrid, Mo A Civil War campaign (March 3–April 7, 1862) was directed against it With Grant's advance up the Tennessee river, the Confederate positions were outflanked, and all were abandoned, except New Madrid and Island No 10 On March 14, 1862, New Madrid was also abandoned to Gen John Pope, who then proceeded to construct a channel so that his transports could get on the river below Island No 10 without passing its guns Commodore Foote's gunboats had been unsuccessful against the strong fortifications, but on the night of April 4 Henry Walke sailed the *Carondelet* past the island and reduced the shore batteries below it Pope's troops then landed and seized the road on the east bank of the river which was the only avenue of escape for the 7,000 isolated Confederates They surrendered on April 7

Island Park, village (pop 1,531), on the south shore of Long Island, SE N Y , near New York city, inc 1926

Islay (ī'lā, ī'lu), island (pop 4,970), off W Scotland, in Argyllshire, one of the Inner Hebrides It is 25 mi long and 19 mi wide The towns are Bowmore, Port Ellen, Portaskaig, and Bridgend On the southern point, called the Mull of Oa, is a tower to the memory of American soldiers and sailors drowned when the transport *Tuscania* was torpedoed in 1918 Industries include farming, stock raising, dairying, distilling, fishing, and the quarrying of slate and marble The island is a former seat of the lords of the Isles (Macdonalds and Campbells)

Isle La Motte (īl' lu mŏt'), island, 6 mi. long and 2 mi wide, NW Vt , in Lake Champlain SW of Alburg It comprises Isle La Motte town (pop 335), chartered in 1779 The French chose the island, then heavily forested, as the site for Fort St Anne, built by La Motte in 1665 (the first white settlement in Vermont) It was kept garrisoned for some time, but was abandoned long before permanent settlement began c 1788 The town produces fruit and has marble quarries, notably a black variety The first boys' camp in Vermont was built on the island in 1892

Isle of. For names beginning thus, see second element, e g., for Isle of Ely, see ELY, ISLE OF.

Isle Royale National Park: see NATIONAL PARKS AND MONUMENTS (table).

Isles of Shoals, off SW Maine and SE New Hampshire, SE of Portsmouth, N H Of the seven islands, Appledore, Cedar, Duck, and Smuttynose (or Haley's) are in Maine, Lunging, White, and Star, in New Hampshire. Appledore and Star have resort hotels, White has a lighthouse Celia Thaxter lived on the Isles and wrote about them.

Isles of the Blest: see FORTUNATE ISLES.

Isleta (īslē'tù), Indian pueblo (pop. c.1,460), W central N. Mex., on the west bank of the Rio Grande and c 12 mi. S of Albuquerque. According to many experts, the pueblo stands on the site it occupied when discovered in 1540. It was the seat of the Franciscan mission of San Antonio de Isleta from c.1621 until the Pueblo rebellion of 1680. The Spanish captured the pueblo in 1681, and most of the captives were ultimately settled at the present Isleta, Texas In the early 18th cent., when northern Isleta was either rebuilt or repeopled, it became the mission of San Agustín de Isleta (today the principal feast of these Indians is the feast of St Augustine, Aug. 28) The Indians are mainly farmers and are the most prosperous, perhaps, of all the PUEBLO INDIANS The language of Isleta is Tanoan.

Isleton (ī'tŭn), city (pop. 1,837), central Calif , on the Sacramento river and SW of Sacramento, founded 1874, inc. 1923. It is the canning and packing center of an asparagus region, with fruit and truck farms

Islington (ĭs'–), metropolitan borough (1931 pop 321,795, 1948 estimated pop 238,200) of N London, England It is an industrial district and is the site of the Royal Agricultural Hall (1861), of several hospitals and educational institutions, and of Pentonville Prison and Holloway Gaol for women Charles and Mary Lamb once lived in Islington

Islip (ī'slĭp), town (pop 51,182), on S Long Island, SE N Y , on Great South Bay, settled c 1665 It includes several villages, mainly resorts and residential suburbs of New York city A state mental hospital and a state park are near by.

Ismachiah (–kī'ù) [Heb ,=God supports], overseer under Hezekiah 2 Chron 31.13.

Ismaiah (ĭs"mā'ù) [Heb ,=God hears], one of David's mighty men. 1 Chron 12 4.

Ismail (ĭsmāēl'), 1499–1524, shah of Persia (1502–24), founder of the Safavid dynasty He restored Persia to a position as a sovereign state for the first time since the Arab invasion of Persia Ismail established the Shiite form of Islam as official in Persia He warred on the Uzbeks successfully in 1510, and Selim I attacked him in 1514, thus initiating a long series of border wars between the Ottoman Turks and the Persians

Ismail, Ukraine see IZMAIL

Ismailia (ĭs"mālē'ä, ĭs"mā'lēù), city (pop 34,897), Egypt, near the Suez Canal It was laid out in 1863 by Lesseps, who made it his base of operations during the digging of the canal

Ismail Pasha (ĭsmāēl' pä'shä), 1830–95, ruler of Egypt (1863–79), son of Ibrahim Pasha He succeeded his uncle Said Pasha as ruler Ismail used the Egyptian cotton crop, enormously enhanced in value by the American Civil War, to obtain credits for grandiose schemes, including irrigation projects, the building of schools and palaces, and the construction of the Suez Canal Much of the money was wasted, and the country was seriously involved in debt In 1875 Ismail was forced to sell to Great Britain his stockholdings (some 44 percent) in the Suez Canal, and in 1876 he submitted to dual French and British management of the Egyptian government His attempt to throw off foreign control in 1878 was answered by the Ottoman sultan's deposing him in favor of his son Tewfik Pasha In 1866 Ismail had received the title khedive (viceroy), which his successors also enjoyed

Ismene (ĭsmē'nē), daughter of OEDIPUS and sister of ANTIGONE

Ismid, Turkey see IZMIT

Isna, Egypt see ESNA

isobars (ī'subärz") or **isobaric lines** (ī"subă'rĭk), lines drawn on a weather map through points of equal barometric pressure, to define cyclones and anticyclones and to enable their movements to be followed Before drawing the isobars, the BAROMETER readings at all stations are reduced to their corresponding sea-level pressures (since barometric pressure varies with altitude)

Isocrates (ĭsŏ'krutēz), 436–338 B C , Athenian orator He was a pupil of Socrates and of the Sophists, especially Gorgias He was perhaps the greatest teacher in Greek history, and every younger orator of his time studied under him He did not deliver his speeches, but either wrote for litigants (seven such speeches survive) or wrote discourses to be read (14 of which remain) dealing mainly with politics and education *Panegyricus* (in which he urges Hellenic unity against Persia) is his most celebrated oration. Isocrates' style is more refined than Lysias' and less powerful than Demosthenes', it generally suffers from overelegance. Passionate in his desire for a Greece united against Asia, Isocrates committed suicide (according to tradition) after his hopes seemed ended by the victory of Philip II of Macedon at Chaeronea.

Isolde, name of two characters in Arthurian legend see TRISTRAM AND ISOLDE

isomerism (ĭsŏ'mŭrĭzm), in chemistry, a condition occurring when two or more compounds have the same molecular formula but differ in the arrangement of the atoms in their molecules Since such compounds are, therefore, identical in the number and kinds of atoms which make up their molecules, they have the same composition by weight. They differ, however, in various properties. For example, the two hydrocarbons butane and isobutane each consist of molecules which have 4 atoms of carbon and 10 of hydrogen, but they differ in the arrangement of these atoms. Such compounds are called, therefore, isomers (ī'sŭmŭrs) since they have the

same formula and composition by weight but differ in their properties. In structural isomerism the isomers have the same molecular formula but different structural formulas and different properties Ethyl alcohol and methyl ether are examples of structural isomers Stereoisomerism, of which there are two types, depends on the arrangement of the atoms in space One type, geometric isomerism, is based on the difference in the geometrical configurations of the atoms in space Geometric isomers have the same constitutional formulas The other type, optical isomerism, is based on a difference in the effect of the compounds on polarized light. Optical isomers have the same structural formulas and the same general properties

isomorphism (ī"sŏmôr'fĭzm), similarity of crystal form and chemical composition between two substances. Under certain circumstances isomorphs form homogeneous mixed crystals Two substances chemically identical which crystallize in different systems are said to exhibit dimorphism—e g , calcite and aragonite Relationships similar to dimorphism in which three types of crystals are involved are called trimorphism, when more than three, polymorphism Eilhard Mitscherlich developed (c 1820) the principle of isomorphism

Isonzo (ēsōn'tsō), river, 86 mi long, Yugoslavia and Italy It flows from the Julian Alps to the Gulf of Trieste, winding south first in Yugoslavia then in Italy below Gorizia. In 1915–17 many bloody battles were fought on its banks between Austrians and Italians

isotope (ī'sətōp), in chemistry, one of two or more elements which are identical in chemical activity but differ in ATOMIC WEIGHT For example, there are two kinds of chlorine, one kind made up of atoms of atomic weight 35, the other of atoms of atomic weight 37, but both kinds exhibit the same chemical properties The common element chlorine is a mixture of the two isotopes The difference in weight of the atoms is believed to result from a greater or less number of neutrons in the nucleus of the atom, while the identical chemical activity results from their having the same number and the same arrangement of the electrons outside the nucleus Some other elements made up of mixtures of isotopes are boron, bromine, lead, lithium, mercury, neon, and tin Radioactive isotopes of many common elements, such as carbon and phosphorus, are used as tracers in medical, biological, and industrial research Their radioactive nature makes it possible to follow the substances in their paths through a plant or animal body and through many chemical and mechanical processes, and thus a more exact knowledge of the processes can be obtained

Ispah (ĭ'spə), chief Benjamite 1 Chron 8 16.

Ispahan, Iran see ISFAHAN

Isparta (ĭspar'tä), city (pop 17,292), W central Turkey, W of Konya It is a rail terminus and manufactures cotton, carpets, and attar of roses.

Israel (ĭz'rēəl, ĭz'rāəl) [as understood by Hebrews, =prevailing with God], in the Bible, name given JACOB as eponymous ancestor of the Hebrews, the chosen people of God The 12 tribes of Israel were named for 10 sons of Jacob (Reuben, Simeon, Judah, Zebulun, Issachar, Dan, Gad, Asher, Naphtali, and Benjamin) and the two sons of Jacob's son Joseph (Ephraim and Manasseh), the 13th tribe, Levi (the third of Jacob's sons), was set apart and had no one portion of its own After the break in the Hebrew kingdom under REHOBOAM the northern kingdom was called Israel, the southern Judah See JEWS and JUDAISM

Israel (ĭz'rēəl), republic (c 8,050 sq mi , 1950 estimated pop 1,175,000), W Asia, on the Mediterranean Sea Jerusalem is the capital This article deals with the current economy and with events since the end of the Second World War leading to the establishment of the Jewish state For the earlier history and for geography, see PALESTINE The boundaries of Israel have not been permanently fixed At present Lebanon lies on the north, Syria and Jordan on the east, and Egypt on the southwest. Natural boundaries on the east include the Sea of Galilee, part of the Jordan river, and the southern part of the Dead Sea, the Gulf of Aqaba is at the southern extremity Like most of the Near East, Israel has a warm climate with rainfall confined to several months in the winter Galilee, the northern section, has the best water supply and is able to raise a large variety of grains and vegetables, and the sandy soil along the coast supports rich irrigated groves of citrus fruit It is in the NEGEV, the southern triangle of Israel, that agriculture is most difficult Although irrigation, drawing on the waters of the JORDAN, is feasible in the N Negev, the south must depend upon dry-farming techniques Large-scale irrigation works to bring more land under cultivation are being hastened Citrus-fruit production is the chief field of private enterprise in agriculture, and most other foods are grown by agricultural cooperatives of various types. The *kibbutz* (or *kvutza*) is a socialistic agricultural community with many communal features, such as a common dining hall and a nursery and school where children are cared for while their mothers are at work. In the *moshav* all the land is owned communally and there is cooperation in marketing and the purchase and use of agricultural machinery, but each farmer cares for his own plot. As in the *kibbutz*, there is no hired labor. The *meshek shituf* combines ownership of individual plots with cooperative marketing and purchasing and some communal farming A large part of the land in the settlements was purchased by the Jewish National Fund from charitable contributions received from abroad (chiefly from American Jews) and donated or sold at low cost to the cooperatives Agriculture is the economic mainstay and occupies most of the population, but in line with Israel's announced intent to become a supplier of manufactures to the adjacent areas, industrialization is being advanced Heavy industry, including smelting and automobile manufacturing, is concentrated in Haifa and the surrounding area, while Tel-Aviv and Jaffa make a great variety of light manufactures, especially processed foods, textiles, and ready-made clothing Israel encourages foreign investment in industry by low rates of taxation and by permitting the withdrawal abroad of most of the profits Despite a great productive effort, however, the tremendous influx of immigrants into Israel since 1948 prevents the country from enjoying self-sufficiency in food and manufactures, and imports in 1950 are about three times greater in value than exports Raw materials for manufacturing comprise much of the imports, because, except for potash and other chemicals obtained from the Sea of Galilee and the Dead Sea, there is little mineral wealth Israel's domestic trade is carried by c.200 mi of railroads and c 1,400 mi of motor roads, the road and rail systems are rapidly being enlarged Haifa and Jaffa are the chief ports. The nearly all-Jewish state of Israel is the culmination of some 60 years of activity in ZIONISM During the Second World War cooperation with Great Britain (which governed Palestine under a mandate of the League of Nations) in defeating the Axis had occupied the Jewish community (1945 pop c 500,000), and there was little political activity With the end of hostilities the aspiration for statehood resurged Many felt that the Palestinian Jews were entitled to statehood and that it was imperative to provide a homeland for the surviving remnant of European Jewry and for the Jews in Arab countries The Palestinian Arabs (1945 pop c 1,000,000) and the Arab states announced opposition to a Jewish state and to further immigration They demanded independence for all Palestine, with the Jews a protected minority The Zionists, who had anticipated support from the British prime minister, Clement Attlee, were disappointed when immigration was almost entirely stopped The British government, however, convened an Anglo-American commission, which recommended (April 30, 1946) allowing 100,000 displaced European Jews to enter Palestine but offered no permanent solution Shortly afterward, the British decided to admit 2,000 Jews a month Angered, secret Jewish organizations attacked British military installations The most violent groups were the Irgun Zvai Leumi and the tiny Stern group The Jewish Agency, which officially represented the Palestine Jews, deplored the terrorism, and Haganah, the large and well-trained secret defense army of the Jews, abstained from violence The British strengthened their forces, which finally reached nearly 100,000 men In late July they proposed a conference of Palestinian Arabs and Jews, but neither group attended, and the two communities remained in disagreement Meanwhile Zionist groups smuggled Jews into Palestine The British intercepted many ships, charged the immigrants against the quota, and shipped the excess to camps on Cyprus In April, 1947, a session of the General Assembly of the United Nations was called, it established the United Nations Special Committee on Palestine (UNSCOP). Palestinian Arabs boycotted the UNSCOP, but the Jews cooperated and by and large agreed to accept a part of Palestine only In August the UNSCOP reported a plan to divide Palestine into a Jewish state, an Arab state, and a small internationally administered zone including Jerusalem The Jewish state would comprise E Galilee, the central coast, and the Negev The Arab state thus would comprise central and W Galilee, the southern coast, and nearly all the central inland territory The necessary two-thirds majority of the General Assembly, led by the United States and the USSR, adopted the UNSCOP recommendations on Nov 29 Great Britain abstained, and the Arab states left the meeting, asserting their intention to resist As the British early in 1948 began to withdraw, Arabs and Jews prepared for war Jews, largely under Haganah, battled Arabs in Jerusalem and along the Jerusalem–Tel-Aviv road The British checked the fighting in a few places only Jewish officials consolidated their control, and on May 14, when the British high commissioner for Palestine departed, the state of Israel was proclaimed at Tel-Aviv On the same day it received *de facto* recognition from the United States (on May 17 the USSR extended *de jure* recognition). As members of the Arab League, Lebanon, Syria, Jordan, Egypt, and Iraq attacked The Jews were prepared, however, and the flight of most Arabs from Jewish territory facilitated defense. Fighting centered on the road from Tel-Aviv to Jerusalem. On May 28 the Jews surrendered the Old City of Jerusalem to the Arab Legion of Jordan but held on in the New City After delays, on June 11 there went into effect a four-week truce supervised by Count Folke Bernadotte, the UN mediator in Palestine Israeli territory was intact, and the Jews had gained footholds elsewhere Fighting resumed on July 9, with the Jews gaining territory on all fronts except in Jerusalem On July 18 a second cease-fire was concluded on order of the UN Security Council On Sept 17 Bernadotte was assassinated by unknown Jewish terrorists. Israeli authorities responded by ordering the dissolution of secret groups Ralph Bunche, the assistant to Bernadotte, was appointed mediator in his place Fighting continued during the truce, chiefly at Jerusalem, but also in W Galilee and the Negev. Not until late Jan , 1949, were armistice agreements reached Israel had lost none of its own territory and had increased its holdings by about one half It held one continuous stretch of land, including all Galilee and a bridge reaching to the New City of Jerusalem There seemed little likelihood of a new Arab state, for Jordan annexed the area adjoining its territory and Egypt was occupying the southwest coastal strip Israel quickly developed its governmental structure A state council with Chaim Weizmann as president and David Ben Gurion as prime minister first functioned at Tel-Aviv and later moved to Rehoboth In Jan , 1949, there were elections for the Knesset (parliament) The Mapai (moderate socialist) and the religious parties formed a government Ben Gurion (Mapai) was prime minister, and Chaim Weizmann was elected national president In the opposition the major elements were the left-wing socialist Mapam and the conservative Heruth (the former Irgun Zvai Leumi), who insisted that Israel should take Jordan Minor opposition groups included Communists and an Arab party. The aims of the government were to gather in all Jews who wished to immigrate and to be neutral in the disputes between the United States and the USSR The strength of Israeli labor (organized in the Histadrut) was insured, and religious courts were established to handle matters of personal status. Other legislation set up compulsory elementary education, with public, socialist, religious, and ultra-orthodox Hebrew schools for Jews and Arabic schools for Moslems The elected government brought recognition by Great Britain and *de jure* recognition by the United States Israel soon applied to join the United Nations, but there was opposition based on its refusal to permit Arab refugees (estimated at 700,000) to return and its refusal to withdraw from Jerusalem Israel replied that the Arab states were responsible for the refugees' plight and that the United Nations had abandoned Jerusalem by not checking the Arab attack Admission was granted on May 11, 1949 The claim to JERUSALEM was made stronger by the removal (Dec 14, 1949) of the capital to that city See Jorge Garcia-Granados, *The Birth of Israel* (1948), Joseph Dunner, *The Republic of Israel* (1950)

Israëls, Jozef (yō'zuf ĕs'raĕls), 1824–1911, outstanding Dutch genre painter of the 19th cent His early studies in Amsterdam and Paris did not reveal his talent, but c 1855 in Amsterdam he began to paint the somber and touching scenes from the life of the Dutch fisherfolk and peasantry for which he soon became famous After 1870 he lived at The Hague His characteristic works are broadly painted with vigorous realism and a dramatic use of strong silvery-gray light which well accords with the usually pathetic or tragic character of his themes Israels was equally proficient in oil and water color and was an accomplished etcher Among his best-known works are *The Zandvoort Fisherman*, *Alone in the World*, *Toilers of the Sea*, and *David Singing before Saul* (all Amsterdam) and *Expectation* (Metropolitan Mus). He is well represented in many European and American collections See studies by Philippe Zilcken (1910) and Max Eisler (1924)

Issachar (ĭ'səkur), son of Jacob and Leah and the ancestor of one of the 12 tribes The territory allotted to it extended along the west bank of the Jordan Issachar played no isolated role among the tribes Gen 30 18, 49 14, 46 13, Num 1 29; 2 5, Deut 27 12, 33 18, Joshua 19 17, 1 Chron 7 1–5

Isserles, Moses ben Israel (ĭ'sərlĕs), c 1520–1572, Polish rabbi, annotator, and philosopher, known as Remah He is best known for his halakic works, particularly for his criticism of, and Ashkenazic additions to, the code of Joseph ben Ephraim Caro.

Isshiah (ĭshī'ə) [Heb ,=God lends]. 1 See JESAIAH 3 2 Levite of David's time. 1 Chron. 24.25 Jesiah 1 Chron 23 20

Issus (ĭ'səs), ancient town of SE Asia Minor, near the head of a gulf of the same name (modern Iskanderun or Alexandretta), on a narrow strip of land backed by high mountains. Near by is the pass known as the Cilician Gates. Issus was the scene of three historic battles. In 333 B.C., Alex-

ander here defeated the forces of Darius III of Persia. Here in A D 194 Septimus Severus conquered Pescennius Niger, a claimant to the throne of the Roman empire In 622 Emperor Heraclius won at Issus the first of a series of battles in which the Romans regained territory formerly lost to the Persians

Issyk Kul (ēsĭk' kōōl'), lake, (area 2,395 sq mi, E Kirghiz SSR, in the Ala-Tau At an altitude of 5,193 ft, it is the second largest mountain lake in the world, exceeded only by Lake Titicaca It reaches a depth of 2,303 ft, is slightly saline, and is ice free in winter There are health and tourist resorts.

Istakhr (ĭstä'kər), old town, S Iran Built largely from the ruins of ancient Persepolis, it was a capital of the Sassanidae and stubbornly resisted the Arabs (640–49) but soon afterward lost all its importance to Shiraz The name also appears as Stakhr

Istanbul (ĭ"stänbōōl', ĭ"stän–, Turkish Istăm'bōōl), city (pop 860,558), Turkey, on both sides of the Bosporus at its entrance into the Sea of Marmara Its name was officially changed from Constantinople to Istanbul in 1930 (For its history, see CONSTANTINOPLE) Istanbul is the chief city and seaport of Turkey and its commercial and financial center, although the Turkish government was removed to Ankara in 1922 It has a university (founded 1453 as a theological school, completely reorganized 1933), and it is the see of the patriarch of the Greek Orthodox Church, of a Latin-rite patriarch of the Roman Catholic Church, and of a patriarch of the Armenian Church The European part of Istanbul is the terminus of the Orient Express, and at Haydarpasa station, on the Asiatic side, begins the Baghdad Railway The part of Istanbul corresponding to historic Constantinople is situated entirely on the European side It rises on both sides of the Golden Horn, an inlet of the Bosporus, on one of the finest sites of the world, and, like Rome, is built on seven hills Several miles of its ancient moated and turreted walls are still standing Outside the walls and N of the Golden Horn are the commercial quarter of Galata, originally a Genoese settlement, the quarter of Pera, which under the sultans was reserved for foreigners, and Chaskoi or Haskoy, the Jewish quarter The Golden Horn is crossed by a famous bridge, leading into the historic quarter of Stambul, the ancient core of the city, abutting on the Bosporus and the Sea of Marmara The quarter of Phanar, formerly reserved for the Greeks, is in the northwestern part of the city, near the former site of the palace of Blachernae of the Byzantine emperors The 11 administrative districts of Istanbul do not correspond to these four historic quarters, the largest among them are Beyoglu, Fatih, and Eminonu on the European side, and Kadikoy (ancient Chalcedon) and Scutari or Uskudar on the Asiatic side The chief monument surviving from Byzantine times is the HAGIA SOPHIA, originally a church, after 1453 a mosque, now a museum, and one of the world's noblest works of architecture Recent excavations on the site of the former Byzantine palaces have brought to light many fine works of art, but Istanbul as a whole has few monuments of the Byzantine past besides the walls, Hagia Sophia, and some isolated ruins The city was destroyed (1509) by an earthquake and was rebuilt by Sultan Bajazet II Turkish culture reached its height in the 16th cent and from that period date most of its magnificent mosques, notably those of Bajazet II, Suleiman I, and Ahmed I They all reflect the influence of Hagia Sophia and give the skyline of Istanbul its character—a succession of perfectly proportioned domes broken by minarets In the gardens by the Bosporus stand the buildings of the Seraglio, the former palace of the sultans, now a museum In the 19th cent the sultans shifted their residence to the Dolma Bagtche Palace and the Yildiz Kiosk, N of Pera on the Bosporus The environs of Istanbul, particularly the villas, gardens, and castles along the Bosporus, are famed for their beauty Always a cosmopolitan city, Istanbul has preserved much of its international and polyglot character, and Greeks, Armenians, and Jews continue to form a large part of the population

Isthmian games (ĭs'mēən), athletic events organized c 581 B C They were held at Corinth in the spring of the first and third years of the OLYMPIAD, and they honored Palaemon as well as Poseidon The contests were generally like the OLYMPIC GAMES, although conducted on a smaller scale; the many added amusements and the convenient journey from Athens made the Isthmian games quite popular. The victor's prize was a wreath of wild celery, but after Corinth was destroyed (146 B C) by the Romans and restored (46 B C.) by Julius Caesar, the Isthmian games were reestablished for a time with a wreath of fir as the victor's prize.

isthmus (ĭs'məs), narrow neck of land connecting two larger land areas. Since it commands the only land route between two large areas and is on two seas, the isthmus has great strategical and commercial importance and is a favorable situation for a city. In modern times many isthmuses have been cut through by canals to eliminate the necessity of land transport The most important isthmuses are the Isthmus of Panama, connecting Central and South America, and the Isthmus of Suez, joining Asia and Africa Canals were dug through both of these The Isthmus of Corinth between the Morea peninsula and central Greece also has a canal An isthmus not cut by a canal is Perekop isthmus, connecting the Crimea with Russia.

Istria (ĭstrēu), Serbo-Croatian *Istra*, mountainous peninsula, area c 2,000 sq. mi, projecting into the N Adriatic and bounded in the north by the KARST plateau POLA is the chief city The population is Yugoslav and Italian Istria was inhabited by Illyrian tribes when it passed (2d cent B C) to Rome It remained under nominal Byzantine rule until the 8th cent A D, after which it passed under various overlords. Venice held the western coast, the dukes of Carinthia, patriarchs of Aquileia, and counts of Gorizia held the rest By the 15th cent Austria and Venice had absorbed, respectively, the northeastern and southwestern parts of the region The Treaty of Campo Formio (1797) and the Congress of Vienna (1815) added the Venetian part to Austria In 1919 all Istria passed to Italy, but the Italian peace treaty of 1947 gave most of it to Yugoslavia, while the northwestern section passed to the Free Territory of Trieste

Isuah (ĭs'ūə), the same as ISHUAH

Isui (ĭs'ūĭ), son of Asher Gen 46 17. Jesui Num 26 44 Ishui 1 Chron 7 30

Itagaki, Taisuke, Count (tĭ'skā, ītä'gäkē), 1837–1919, Japanese statesman After taking part in the Meiji restoration, he became a councilor of state A samurai of Tosa, he opposed domination of the government by the Choshu and Satsuma clans and demanded representative institutions He unsuccessfully advocated war with Korea in 1873 and withdrew from the government The next year he and others launched a campaign for an elective assembly, which led to the establishment of prefectural, city, and village assemblies in 1878–80 In 1881 he founded the Jiyuto (Liberal) party, a forerunner of the Seiyukai He was home minister under Hirobumi Ito and in 1898 was associated with Okuma in an attempt to form a party government

Italian architecture properly includes the several styles employed in Italy after the Roman period ROMANESQUE ARCHITECTURE (12th cent) reveals the first use of the groined vault with projecting ribs, it shows also the development of a type of basilica having side galleries It was developed especially in Lombardy and is exemplified in Sant' Ambrogio at Milan. As affected by locality, there are two phases of Italian Romanesque —Tuscan (including Florentine) and southern The cathedral of Pisa (1063–1118), with its leaning tower, admirably displays the Tuscan characteristics, chief of which is the decorative treatment by tier on tier of columns Tuscan architects of the period also made a specialty of using variegated marbles and followed the antique rather closely, while the Romanesque of the south, as in the cathedral of Monreale, is characterized by its rich mosaics and delicate carvings which show Byzantine, Saracenic, and Norman influences The Gothic was not greatly developed in Italy, being foreign to the tradition of the native round arch, a notable exception to this is the cathedral of Milan, built in part by foreign architects The dome and the round arch came into their own again with Brunelleschi and the early Renaissance in Florence, where the *duomo* (1420–64) and the Pitti Palace (begun c 1445) demonstrated the return to the classic RENAISSANCE ARCHITECTURE. soon spread over all Italy and eventually over all Europe, exerting a permanent influence on architecture Michelozzi and Leone Battista Alberti were among its early exponents In Venice it reached its richest expression, as seen in the court of the ducal palace With the progress of the classic revival Rome succeeded Florence as its great center, and Bramante began St Peter's (1506) and the High Renaissance Thus was carried to formal classicism by Palladio in Venice The monumental work of Michelangelo inspired lesser artists to exaggerated efforts which resulted in the BAROQUE and the close of the last and most fruitful Italian period Bernini among baroque architects gave the style grandeur. The influence of Italian architecture extended through the 18th cent Such modern examples of Italian architecture as the monument of Victor Emmanuel and the Palace of Justice, both in Rome, lack the qualities of simple dignity and restraint

Italian art. Throughout the Middle Ages, Italian art consisted primarily of architectural decorations (for the most part mosaics). Many of these were the work of Greek or Byzantine artists. BYZANTINE ART, perfected in the 9th cent., underwent little further development for 400 years It was a highly formal and refined decoration with a standardized calligraphy and an admirable use of broken color and gold In the 13th cent, profound changes took place in Italian life. The teachings of St. Dominic and, above all, of St. Francis of Assisi revolutionized the religious outlook, and the rise of the free communes brought a new prosperity and independence. These changes are reflected in the work of such artists as Guido of Siena, Cimabue, and Duccio di Buoninsegna, who, while retaining many of the Byzantine conventions, introduced a new naturalism and a more direct appeal to human emotion Simultaneously the same spirit is seen in the sculpture of Nicola Pisano In the fresco paintings of Pietro Cavallini in Rome the break with the past is complete, and modeling in light and shade replaces the silhouette But it is with Giotto, a contemporary of Dante, that the new painting first takes on life and warmth His style, perfected c 1300, determined the future course of art in Italy Retaining the naturalistic approach of Cavallini, he endowed it with emotion His figures abandon the proscribed gestures and cryptic silence They walk and speak and express joy and sorrow A new idealism and belief in human dignity find expression in his simple and compelling frescoes in Florence, Assisi, and Ravenna His immediate followers, Orcagna, Taddeo Gaddi, Giottino, and others, spread his teachings and technique. This technique involved the use of a few colors ground in water and applied over wet plaster in the case of fresco and mixed with egg and applied over smooth gesso panels in the case of the tempera altarpieces With variations these remained the fundamental techniques of Italian painting for over a century Giotto did not invent them but he popularized their use The new art found a center in Florence, then a prosperous and growing community Here flourished a succession of brilliant artists, including the painters Fra Angelico and Masolino da Panicale and the sculptors Lorenzo Ghiberti and Donatello They found in the budding humanism of their day not a set of fixed canons but a pretext and precedent for examining nature The growing knowledge of Greco-Roman remains served as a liberating influence, and the Renaissance was not a rebirth of a dead art but the birth of a new and living one Meanwhile in Siena the followers of Duccio pursued a less strenuous ideal which was to leave small trace on the future development of painting but which produced such great painters as Simone Martini, the Lorenzetti, and many others Those men in abandoning the Byzantine created a new decorative art full of sweetness and humanity At the beginning of the 15th cent, Florence produced a great innovator, Masaccio, whose frescoes in the Brancacci Chapel set a new standard of realism Here for the first time we find the use of a general light and shade with all its dramatic possibilities He was followed in Florence by the so-called realists—Andrea del Castagno, Paolo Uccello, who formulated the laws of linear perspective, Domenico Veneziano, who introduced the use of oil, the Pollaiuolos, and Alessio Baldovinetti Besides these were the brilliant narrative painters Ghirlandaio, Gozzoli, and the Lippi and the sculptors Desiderio da Settignano and the Della Robbia In the same period the fresco painter Piero della Francesca flourished in Umbria His pupils Melozzo da Forlì and Luca Signorelli were vigorous realists At the close of the 15th cent the middle Italian schools merged Thus in Siena Francesco di Giorgio, Il Sodoma, and Pinturicchio introduced the science of Florence Perugino of Umbria and Leonardo da Vinci and Botticelli of Florence were already great Italian figures, as was also the sculptor Verrocchio Even in Venice and Lombardy the general style penetrated In the 15th cent Altichiero da Zevio (founder of the school of Verona), Pisanello, and Gentile da Fabriano (first great representative of the Umbrian school) put new vigor into the art of Venice, and Antonella da Messina introduced the oil technique which was destined to predominate there Crivelli, the Vivarini, and Jacopo Bellini probably owed much to them. In Padua, Florentine influence entered with Squarcione and his great pupil Mantegna, whose vigorous draughtsmanship helped to form his Venetian brothers-in-law, Giovanni and Gentile Bellini These, together with Carpaccio, inaugurated a century of Venetian greatness with a richness of color for which Venice became famous With the 16th cent the High Renaissance reached its culmination. In central Italy three names predominate —Raphael, Michelangelo, and Leonardo da Vinci Raphael and Michelangelo worked in Rome, and their masterpieces in fresco are in the Vatican Raphael also painted great altarpieces and portraits, and Michelangelo as a sculptor produced universally famous marbles Leonardo's masterpiece in fresco, now badly damaged, was his *Last Supper* in Milan His few oil paintings, although blackened, are among the world's treasures Simultaneously, alone in Parma, Correggio painted his great frescoes and glowing, seductive oils. And in Venice the followers of Giovanni Bellini were many. Jacopo Palma, the elder, Pordenone, Sebastiano del Piombo, Il Moretto, the Morones (father and son), and Lotto were all splendid colorists. But the short-lived Giorgione and the very long-lived Titian were the decisive men They introduced a new and brilliant art of melting

contours and glowing, colorful chiaroscuro which has been the inspiration and despair of generations of artists More purely painters than the great Tuscan artists, they and their followers Tintoretto and Veronese excelled in oil and achieved the ultimate in beautiful surface and sumptuous color Less brilliant but admirable followers were Jacopo Bassano and his sons Titian and Tintoretto between them dominate the whole of the 16th cent in Venice In central Italy the great period is early in the 16th cent The greatness of the three giants weighed heavily on their satellites and successors Giulio Romano, Il Bronzino, Pontormo, and Volterra were superb practitioners but suffered from inevitable comparison In the last half of the 16th cent, the cynical but original Michelangelo Caravaggio and the eclectic Carracci maintained a high level of work which deeply influenced the schools of France and Spain Then Italian followers, Salvator Rosa, Guido Reni, Domenichino, and Guercino, were fine practitioners but were lacking somewhat in conviction With them, the grand manner in central Italy died in the early 17th cent In Venice, however, an extraordinary revival took place in the first half of the 18th cent, after a hundred years' rest. The great decorator in oil and fresco, Tiepolo, the landscape painters Francesco Guardi and Canaletto and his pupil Bellotto, and the genre painter Longhi—these brought the Venetian school to a belated close but were unable to restore to Italy her position as the center of living European art Later Italian artists of note include the engraver Piranesi, the sculptor Canova, and the painter Segantini During the late 18th and 19th cent Italy continued to serve as a training school for the artists of the world but tended to rest on her laurels In the 20th cent the short-lived but gifted Modigliani gained international fame. Italy continues to be a mecca of all students and lovers of the fine arts See also ROMAN ART See J A Crowe and G B Cavalcaselle, *A New History of Painting in Italy* (3 vols , 1908-9), F J Mather, *A History of Italian Painting* (1923), J A Symonds, *The Renaissance in Italy* (Modern Library ed , 1935), James Thrall Soby and Alfred H Barr, Jr , *Twentieth-Century Italian Art* (1949)

Italian East Africa, former Italian colony, comprising Eritrea, Italian Somaliland, and Ethiopia Organized in 1936 after the conquest of Ethiopia, it came to an end in the Second World War, when the territories fell to the British

Italian language, one of the Romance or Romanic group of the Italic subfamily of Indo-European languages See LANGUAGE (table)

Italian literature. The earliest works in Italian literature are 12th-century imitations of the songs of Provençal troubadours, developed especially at the court of Frederick II of Sicily where Italian poetry was first nurtured Imitations of troubadour poetry, the comic poems of Rustico di Filippo, and verse of religious inspiration, notably the hymns of Jacopone da Todi, also appear in the Tuscan language, the great early monument of which is the *Little Flowers of St Francis*, legends in verse of the life of the saint In the late 13th cent arose a group of poets who originated the "sweet new style" (*dolce stil nuovo*), among them were Cino da Pistoia, Cavalcanti, Guinicelli, and the greatest of them, Dante, whose *Vita nuova* is the chief monument of the school Dante's *Divine Comedy*, a masterpiece of world literature, established Tuscan as the Italian language, a result which was furthered by the Tuscan works of his great contemporaries, Petrarch and Boccaccio, and of the historian Villani The sonnets (and also the prose) of Petrarch and the tales of Boccaccio gave rise to a host of imitators in succeeding generations With the passing of these three towering figures the first period of Italian literature closes, roughly at the time of the Black Death (1348), to be followed by a century of decline The second period, that of the Renaissance, witnessed the rise of humanism, of which the chief exponent is the scholar and poet Politian (Poliziano), followed by the poets Bembo, tyrannical leader of the academicians, and Sannazaro. The Accademia della Crusca was founded in 1582 by Grassini and others to purify the Italian language, its dictionary, published in 1612, was long standard. Lorenzo de' Medici, patron of arts and himself a poet, gave impetus to the revival of Italian letters The poets of the Renaissance include Lorenzo's jester, Pulci, the Petrarchists Annibale Caro and Vittoria Colonna, Boiardo, whose *Orlando Innamorato* evoked a greater sequel in the *Orlando Furioso* of Ariosto (also noted for his comedies and satires), Guarini, Torquato Tasso, last of the four great Italian poets and author of the classic epic *Jerusalem Delivered*, and Michelangelo, who shines in literature for his sonnets as does Leonardo da Vinci for his treatises on art and science and Cellini for his autobiography. An outstanding lyric poet was the courtesan Gaspara Stampa. Other great achievements of the period are *The Prince* by Machiavelli (who also wrote a famous comedy in verse, *La Mandragola*), *The Courtier* by Baldassare Castiglione, the history by Guicciardini, the lives of the painters by Vasari, the philosophical writings of Giordano Bruno, and, in lighter vein, the tales of Bandello and Straparola and the mock-heroic verse of Folengo In drama are the comedies of Aretino and the development of the COMMEDIA DELL' ARTE This was the period when Italian literature held the ascendancy in Europe From the high peak of the Renaissance in the 16th cent (*cinquecento*), literature falls into the decadence and decline of the 17th cent (*seicento*) Among the few significant works are the scientific writings of Galileo and his followers, Tassoni's *Rape of the Bucket*, anticipating Pope, the works of the historian Davila, Maffeo's tragedy *Merope*, and the operas of Cavalli and Monteverdi Marini developed the highly florid and artificial style of verse called Marinism The Arcadian Academy, founded under the patronage of Christina of Sweden to combat Marinism, developed into an equally artificial school of pastoral verse However, the lyrics of her protégé Filicaja have an honored place in Italian letters Zeno is the father of the modern opera text, and his successor Metastasio, last and greatest of the Arcadians and author of numerous operas and oratorios, initiates the modern period of Italian writing This may be said to open with the 18th cent , first in a serious return to classicism and later with the rise of national consciousness The prose of the century is distinguished by the histories of Muratori and Tiraboschi, the essays of Algarotti, the philosophical works of Vico, the criticism of Gasparo Gozzi, and the memoirs of Casanova Great figures of the theater are Goldoni, his rival Carlo Gozzi, and the tragic dramatist Alfieri The periods of the French Revolution and of the turn of the century are the times of the poets Monti and Parini and their successors Foscolo and Leopardi, and from the late 18th cent to the formation (1870) of the Italian kingdom, patriotism is the dominant note in Italian literature Sterling examples are the novels of Manzoni (whose *I promessi sposi*, in English *The Betrothed*, is a classic), Grossi, and Guerrazzi, the memoirs of Pellico and Azeglio, the criticism of Mazzini, and the satire of Giusti Cossa's dramas bridge the gap between romanticism and the later naturalism, Luigi Carrer introduced the ballad form into Italian verse The year 1870 saw the beginning of the Risorgimento and also, in the verse of Carducci and Pascoli, a revival of the classical spirit Other outstanding poets are D'Annunzio and Chiarini The novelists include the Sicilians Capuana and Verga (author of *Cavalleria rusticana*) and the Neapolitan Serao Also before the 20th cent appeared the criticism of De Sanctis, the travel sketches of De Amicis, the children's classic *Pinocchio* by Collodi, and the plays of Giacosa Novels by D'Annunzio, Fogazzaro, Pirandello, Aleramo, Deledda, Paoleri, and Vanni came in the years before the First World War, as did much of the work of Croce, outstanding modern critic, and of the theater of Benelli Immediately after the war appeared the novels of Tozzi The rise of Fascism was marked by an experimental trend, an example of which is found in the work of Marinetti, called the founder of FUTURISM, and by the growth of the art for art's sake movement Important later figures include the humorist Panzini, the novelists Beltramelli, Bontempelli, Svevo, Renato Serra, Soffici, Vergani, and Ada Negri, Pirandello (as dramatist), the critics Borgese and Papini (famous for his *Life of Christ*), Ferrero (also an anti-Fascist historian), and the anti-Fascist novelist Silone See Francesco De Sanctis, *History of Italian Literature* (Eng tr , 1931), Richard Garnett, *A History of Italian Literature* (1898), Domenico Vittorini, *The Modern Italian Novel* (1931), F M Guercio, *Anthology of Contemporary Italian Prose* (1931), Lorna de' Lucchi, *Anthology of Italian Poems* (1922)

Italian Somaliland see SOMALILAND, ITALIAN

Italian Wars. Renaissance ITALY was split into numerous rival states, most of which sought foreign alliances to increase their individual power It thus became prey to the national states which had begun to emerge in Europe Foremost among those were France and Spain, whose long-drawn struggle for supremacy in Italy was to end Italian liberties for more than three centuries The wars began when in 1495 CHARLES VIII of France seized Naples without effort, only to be forced to retreat by a coalition of Spain, the emperor, the pope, Venice, and Milan His successor, LOUIS XII, prepared a new invasion by diplomatically isolating his first objective, Milan, then ruled by Lodovico SFORZA In 1499 the French, under TRIVULZIO, occupied Milan and Genoa In 1500 Louis tackled his next objective, Naples, by agreeing to its conquest and partition with Ferdinand V of Spain and by securing the consent of Pope ALEXANDER VI Alexander's nephew, Cesare BORGIA, who held a French command, himself had a huge territorial stake in the scheme Naples was occupied in 1501, but disagreement between the Spanish and the French flared into open warfare in 1502 Defeated by Gonsalo Fernández de Córdoba at Cerignola and at the Garigliano (1503), Louis XII consented to the treaties of Blois (1504-5), keeping Milan and Genoa but pledging Naples to Spain. Trouble began again when Pope JULIUS II formed (1508) an alliance against Venice with France, Spain, and Emperor MAXIMILIAN I (see CAMBRAI, LEAGUE OF) However, shortly after the French victory over the Venetians at Agnadello (1509), Julius made peace with Venice and began to form the HOLY LEAGUE (1510) in order to expel the French "barbarians" from Italy The French, though they lost their ablest commander, Gaston de FOIX, in 1512, held their own until the Swiss cantons decided to intervene The Swiss stormed Milan (1512), which they nominally restored to the SFORZAS, routed the French at Novara (1513), and lorded it over Lombardy till they were defeated in turn by Louis's successor, Francis I, at MARIGNANO (1515) By the peace of Noyon (1516) Naples remained in Spanish hands and Milan was returned to France However, the rivalry between FRANCIS I and CHARLES V, king of Spain and (after 1519) emperor, reopened warfare in 1521 Defeated at La Bicocca (1522) and captured at Pavia (1525), Francis signed the harsh Treaty of Madrid (1526) This he repudiated, as soon as he was liberated, by forming the League of Cognac with Pope CLEMENT VII, Henry VIII (of England), Venice, and Florence To punish the pope, Charles V sent Charles de BOURBON against Rome, which was sacked for a full week (May, 1527) The French, under LAUTREC, seized Genoa with the aid of Andrea DORIA (July), and they were advancing to rescue the pope when Clement submitted to the emperor's terms Lautrec, assisted by the Genoese fleet, laid siege to Naples instead, but a quarrel between Francis and Doria led (1528) to the defection of the fleet, the loss of Genoa, and, after Lautrec's death, the abandonment of the siege The war ended (1529) with the Treaty of Cambrai (see CAMBRAI, TREATY OF) and the renunciation of Francis's claims in Italy Francis's subsequent two wars, which, excepting the inconclusive victory of Ceresole (1544), were fought outside Italy, ended in failure Francis died (1547), having renounced Naples (for the third time) in the Treaty of Crépy Complete Spanish supremacy in Italy was obtained by the Treaty of CATEAU-CAMBRÉSIS (1559), which gave the Two Sicilies and MILAN to PHILIP II The wars, though ruinous to Italy, had helped to spread the Italian Renaissance in Western Europe From the military viewpoint, they signified the passing of chivalry, which found its last great representative in the seigneur de BAYARD The use of Swiss and German mercenaries was characteristic of the wars, and artillery passed its first major test

italic see TYPE

Italic languages, subfamily of Indo-European languages Latin superseded the other two important groups (Oscan and Umbrian) and was the only one to survive antiquity, from it the Romanic languages are derived See LANGUAGE (table)

Italy, Latin and Ital *Italia* (ētä'lyä), republic (116,235 sq mi , 1936 pop 42,918,726, 1948 estimated pop 46,110,000), S Europe Rome is the capital The ALPS divide it from France in the northwest and from Switzerland and Austria in the north In the northeast it borders on Yugoslavia and the Free Territory of Trieste Central and S Italy form a peninsula, shaped roughly like a boot, between the Tyrrhenian Sea (west) and the Adriatic Sea (east), two branches of the Mediterranean The large Mediterranean islands of SARDINIA and SICILY and several smaller islands (notably ELBA) belong to the republic Its borders were established after the Second World War by the peace treaty of 1947, which gave several small Alpine districts (see BRIGUE AND TENDE) to France, TRIESTE, ISTRIA, and most of VENEZIA GIULIA and several Adriatic islands to Yugoslavia and the Free Territory of Trieste, and the DODECANESE to Greece The status of the former Italian colonies (LIBYA, ERITREA, and Italian SOMALILAND) awaited further disposition The Italian peninsula includes two politically independent enclaves, VATICAN CITY and SAN MARINO The republican constitution, which became effective on Jan 1, 1948, divided Italy into 19 regions and granted them a measure of self-government Several regions enjoy certain autonomous privileges These are Sicily and Sardinia, TRENTINO-ALTO ADIGE (the Italian Tyrol), with an Austrian minority, the Val d'Aosta (see AOSTA, VAL D'), in the Western Alps, with a French-speaking minority, and FRIULI-VENEZIA GIULIA, with a Yugoslav minority N Italy is a vast fertile plain contained by the Alpine chain and drained by the Po river and its tributaries It comprises the regions of LIGURIA, PIEDMONT, Val d'Aosta, LOMBARDY, Trentino-Alto Adige, VENETIA, Friuli-Venezia Giulia, and part of EMILIA-ROMAGNA, which extends into central Italy It is the richest part of the country, with the best agricultural land, the chief port (GENOA), the largest industries (MILAN, TURIN), and an active tourist trade on the Italian RIVIERA, in the Alps and DOLOMITES, on the shores of its beautiful lakes (Lago MAGGIORE, Lake COMO, Lake GARDA), and in VENICE The highest peak entirely situated in Italy, the Gran Paradiso, 13,323 ft. high, rises in the Val d'Aosta. The Italian peninsula, traversed in its entire length by the APENNINES, comprises

central Italy (the MARCHES, TUSCANY, UMBRIA, and LATIUM), and S Italy (CAMPANIA, BASILICATA, ABRUZZI E MOLISE, CALABRIA, and APULIA) Central Italy contains the great cultural and historic centers of FLORENCE, PISA, SIENA, PERUGIA, ASSISI, URBINO, BOLOGNA, RAVENNA, RIMINI, FERRARA, and PARMA, and ROME itself S Italy, the poorest and most backward part of the country, contains NAPLES, BARI, BRINDISI, FOGGIA, and TARANTO Besides the Po, Italy has only short rivers, of which the ARNO and the TIBER are the best known Italy enjoys a Mediterranean climate, Sicily is subtropical Almost all Italy possesses great scenic beauty—majestic in the Alpine north, soft and undulating in Umbria and Tuscany, and romantically rugged in the S Apennines The Bay of Naples is one of the world's most famous sights Despite a deceptively carefree and nonchalant air, the Italians are a frugal and hard-working nation, extracting with infinite labor the greatest possible yield from a largely ungrateful soil Except in the plain of the Po, where large crops of wheat and rice are grown, Italian agriculture produces mostly fruit (notably citrus fruit), wine, olive oil, and cheese Sheep and goats are the principal livestock, the eroded Apennines being unfit for cattle grazing In mineral resources Italy is very poor, except in sulphur, mercury, salt, and marble, which are exported in large quantities Coal and iron must be imported Hydroelectric power, however, is increasingly exploited, by 1949 one third of the state-owned Italian railroads ran on electricity Large deposits of natural gas are industrially exploited in the lower Po valley, and some oil has been found Among the chief Italian industries are textile and silk manufactures (notably at Milan), automobile plants (Turin), machinery and shipbuilding (Genoa), chemical plants, and luxury industries All these depend largely on exports Wines, fruit, and olive oil also are vital export articles, on which Italy largely depends for balancing its imports of food and raw materials The overwhelming majority of Italians are Roman Catholics There is complete freedom of worship, but Catholicism by the Lateran Treaty is the official religion Although Italy is a cradle of culture and learning, possessing such world-famous universities as those of Bologna and PADUA, illiteracy is a serious problem in the southern regions A generalized outline of the highly complex history of Italy is attempted in the following paragraphs, it should be supplemented, however, by the reading of the articles on individual cities and regions and of such general articles as ETRUSCAN CIVILIZATION, ROME, PAPACY, ITALIAN ART, ITALIAN LITERATURE, and RENAISSANCE

Ancient Italy and the Barbarian Invasions Little is known of Italian history before the 5th cent B C , except of those regions (S Italy and Sicily) where the Greeks had established colonies (see MAGNA GRAECIA) The earliest known inhabitants appear to have been of Ligurian and Iberian stock The Etruscans, coming from Asia Minor, established themselves in central Italy before 800 B C They reduced the native population to a servile status and established a prosperous and highly civilized empire In the 5th cent B.C the Celts (called Gauls by Roman historians) invaded Italy and drove the Etruscans from the Po valley In the south, the Etruscan advance was checked about the same time by the Samnites (see SAMNIUM), who had adapted the civilization of their Greek neighbors and who in the 4th cent B C drove the Etruscans out of Campania The Latins, living along the coast of Latium, had not been fully subjected to the Etruscans, they and their neighbors, the SABINES, were the ancestors of the Romans The history of Italy from the 5th cent B.C. to the 5th cent A D is largely that of the growth of Rome and of the Roman Empire, of which Italy was the core Augustus divided Italy into 11 administrative regions (Latium and Campania, Apulia and Calabria, Lucania and Bruttium, Samnium, Picenum, Umbria, Etruria, Cispadane Gaul, Liguria, Venetia and Istria, Transpadane Gaul). By that time, at the beginning of the Christian era, all of Italy had been thoroughly Latinized, Roman citizenship was extended to all free Italians, and Italy, made tax exempt, shared fully in the wealth of Rome Never since has Italy attained an equal degree of prosperity and as long a period of peace. Christianity spread rapidly Like the rest of the Roman Empire, Italy in the early 5th cent. A.D. began to be invaded by successive waves of Barbarian tribes—the Germanic VISIGOTHS, the HUNS, and the Germanic Heruli and OSTROGOTHS The deposition (476) of the last West Roman emperor and the assumption by ODOACER of the rule over Italy is commonly regarded as the end of the Roman Empire. The Eastern emperors, residing at Constantinople (see BYZANTINE EMPIRE) never renounced their claim to Italy and their succession to the West On the urging of Zeno, the Eastern emperor, the Ostrogoth THEODORIC THE GREAT invaded Italy, took (493) Ravenna (which had replaced Rome as capital), slew Odoacer, and began a long and beneficent rule over Italy, maintaining the Roman institutions. After his death the papacy was the only remaining stable institution. The murder (535) of the Gothic queen, AMALASUNTHA, was followed by the reconquest of Italy by Emperor JUSTINIAN I of the East and his generals, BELISARIUS and NARSES. However, except in the exarchate of RAVENNA, the PENTAPOLIS, and the coast of S Italy, Byzantine rule was soon displaced by the LOMBARDS, who under ALBOIN established (569) a new kingdom Pope GREGORY I, without assistance from Byzantium, succeeded in saving Rome and the Patrimony of St Peter from the Lombard conquest, thus laying the basis for the creation of the PAPAL STATES and preserving the old traditions of Rome At the same time he effectively freed Rome from allegiance to the Byzantine conquerors The Lombards possessed little unity, but they successfully warded off Byzantine efforts at reconquest and in 751 took Ravenna, their advance on Rome resulted in the appeal of the pope to PEPIN THE SHORT, king of the Franks, who expelled the Lombards from the exarchate of Ravenna and the Pentapolis, which he donated (754) to the pope Pepin's intervention was followed by that of his son CHARLEMAGNE, who defeated the Lombard king, Desiderius, was crowned king of the Lombards, confirmed his father's donation, and was crowned emperor (800) of the West at Rome These crucial events shaped much of the later history of Italy and of the papacy The claim of later emperors to Italy and the temporal power of the popes were among the direct results

Medieval Italy In the divisions of the Carolingian empire (see VERDUN, TREATY OF, MERSEN, TREATY OF) Italy fell to emperors LOTHAIR I, LOUIS II, and CHARLES II, their control, however, was largely nominal Under CARLOMAN (d 880) and Emperor CHARLES III, Italy fell into anarchy, Emperor ARNULF unsuccessfully tried to reconquer it From 888 until 962 Italy was "ruled" by such phantom kings and emperors as Guy of Spoleto, Berengar I of Friuli, Louis III of Burgundy, and BERENGAR II The petty nobles were in constant feud, the papacy at its lowest point of degradation The invasion of the Magyars threatened Italy in the north, while in the south the Arabs had seized (917) Sicily and were raiding the Italian mainland In 961, heeding an appeal of the pope for protection against Berengar II, the German king OTTO I invaded Italy, defeated Berengar, and was crowned king of Italy, and in 962 he was crowned emperor by the pope The union of Italy and Germany was the beginning of the HOLY ROMAN EMPIRE Though the Alps had never prevented invaders from entering Italy, they were sufficient as a barrier for preventing the emperors from exercising effective control over Italy Again and again the emperors and German kings crossed the Alps to reassert their authority, and each time their authority virtually vanished as soon as they returned to Germany At best, their power was limited to the territories north of the Papal States Apulia and Calabria, after being briefly recovered by the Byzantines, were conquered in the 11th cent by the Normans under ROBERT GUISCARD and his successors, who also wrested Sicily from the Arabs and set up the Norman kingdom of Sicily In central and N Italy the feudal lords, largely of Germanic origin (Frankish and Lombard), exerted a disorderly and violent rule Most powerful among them were the counts of Tuscany The quarrel over INVESTITURE between the emperors and the popes, and the contested succession to Tuscany after the death (1115) of Countess MATILDA, increased the prevailing chaos The independence of the many petty feudal lords prevented FEUDALISM, in its true meaning, from ever gaining a firm foothold in central and N Italy In the south, however, the Norman kings and their successors, the HOHENSTAUFEN and ANGEVIN dynasties, firmly entrenched the feudal system, the worst features of which were later perpetuated by the Spanish rulers of Naples and Sicily The fundamental difference between N and S Italy, which has remained to the present day, thus must be traced as far back as to the 11th cent. The characteristic development in central and N Italy, the rise of the cities (see COMMUNE and CITY-STATE) began in the 10th cent Its causes were partly political—the burghers had to draw together to protect themselves against the nobles—and partly economic—contact with the Moslem world was making the Italian merchants and towns the middle-men and entrepôts of Western Europe The survival of Roman institutions and the example of the commune of Rome facilitated the process To protect their commerce and their industries (particularly the wool industry) many cities grouped together in leagues, which often were at war with each other. These were particularly strong in Lombardy. The attempt of Emperor FREDERICK I to impose his authority on the cities led to the formation of the LOMBARD LEAGUE, which defeated the emperor and forced his recognition in 1183 However, the rivalry among the cities prevented any union strong enough to consolidate even a part of Italy. The struggle between Emperor FREDERICK II and the papacy divided the cities and the nobles in two strong parties, the GUELPHS AND GHIBELLINES. Their fratricidal warfare continued long after the death of Frederick, which marked the end of imperial rule in Italy and the victory of the papacy. Factional strife permitted the rise of despots in the towns These despots, whether of noble or of bourgeois origin, were generally factional leaders who, once they had obtained the magistracy, usurped it and made it hereditary The usual titles of the magistrates were podesta, senator, or consul. In many cities, the republican institutions were upheld without (or with few) interruptions In others, dynasties established themselves and were invested, in the 14th and 15th cent., with the titles duke or prince by the emperors, who still claimed theoretical suzerainty over N Italy The most powerful princes (e g , the VISCONTI and SFORZA of Milan, the GONZAGA of Mantua, the ESTE of Ferrara, and the dukes of SAVOY) and the most powerful republics (e g., Florence, Venice, and Genoa) tended to increase their territories at the expense of their weaker neighbors The cities of the Papal States passed under the sway of local tyrants during the Babylonian captivity of the popes in Avignon and during the Great Schism By the end of the 15th cent , Italy fell into the following chief component parts in the south, the kingdoms of Sicily and Naples, torn by the rival claims of the Angevin dynasty and the Spanish house of Aragon, in the center, the Papal States, the republics of Siena, Florence, and Lucca, and the cities of Bologna, Forli, Rimini, and Faenza (only nominally subject to the pope), in the north, the duchies of Ferrara and Modena, Mantua, Milan, and Savoy The two great merchant republics, Venice and Genoa, through their far-flung possessions, colonies, and outposts, were distinct in character and outlook from the rest of Italy Constant warfare between these many states was politically disastrous, but did little to upset their material and cultural wealth Indeed, the wars were generally fought in a desultory manner, with a minimum of bloodshed and destruction, by hired bands of foreigners, led by professional commanders (see CONDOTTIERE), who were mainly interested in auctioning off their services to the highest bidders Compared to the Black Death, which ravaged Italy in the 14th cent , the local wars did little harm Material prosperity had been much furthered by the Crusades, by the expanding trade with the Orient, and by the rise of the great medieval banking firms, notably in Genoa, in Lucca, and in Florence, where the MEDICI rose from bankers to dukes. Material prosperity made possible one of the greatest cultural flowerings in the history of mankind—the Italian Renaissance, which may be said to have begun with Dante in the 14th cent , and which permanently changed the civilization of Western Europe

Political Disintegration and Rebirth The Renaissance reached its zenith only in the early 16th cent , but Italy was already politically doomed by the emergence of national imperialistic states in France, Spain, and Austria The invasion (1494) of Italy by CHARLES VIII of France marked the beginning of the ITALIAN WARS, which ended in 1559 with the subjection of most of Italy to Spanish rule or influence Early in the wars, in which France and Spain were the main contenders for supremacy over Italy, Italian statesmen realized that only unity could save Italy from foreign domination The plan of union under one strong despot, advanced by Machiavelli, was impossible to realize, Cesare BORGIA failed even in his more limited objective Pope JULIUS II succeeded in consolidating the Papal States, but his HOLY LEAGUE, devised to drive out the French, failed to create Italian unity After 1519 the Italian Wars became part of the European struggle between FRANCIS I of France and Emperor CHARLES V The Treaty of CATEAU-CAMBRESIS (1559) left the kingdoms of Sicily and Naples and the duchy of Milan to Spain. Foreign domination became nearly complete with the War of the SPANISH SUCCESSION (1701–14; see also UTRECHT, PEACE OF) and the War of the POLISH SUCCESSION (1733–35). By 1748 Naples, Sicily, and the duchies of Parma and Piacenza had passed to branches of the Spanish Bourbons, and the duchies of Milan, Mantua, Tuscany, and Modena to the house of Austria. The only remaining independent states were the Papal States, the declining republics of Venice, Genoa, and Lucca, and the kingdom of Sardinia (see SARDINIA, KINGDOM OF), created in 1720 by the union of Piedmont, Savoy, and Sardinia under the house of Savoy, whose star was rising. Though political freedom had vanished from Italy, the country enjoyed relative prosperity and order on the eve of the French Revolution. The great creative ferment of the Renaissance had subsided, but Italy continued to influence European culture, particularly in architecture and music. Yet, to subsequent generations, preoccupied with the concepts of national independence and political power, the somnolent and politically apathetic Italy of the 18th cent. represented the depth of

national degradation. The FRENCH REVOLUTIONARY WARS swept away the political institutions of 18th-century Italy General Bonaparte (see NAPOLEON I) triumphantly defeated the Sardinian and Austrian armies in his Italian campaign of 1796–97 He was at first received enthusiastically by most Italians, whose national aspirations the French Revolution had kindled. Napoleon redrew the Italian map several times. The Cispadane and Transpadane republics, established in 1796, were united (1797) as the CISALPINE REPUBLIC, recognized in the Treaty of CAMPO FORMIO In 1802 the Cisalpine Republic, comprising Lombardy and Emilia-Romagna, was renamed the Italian Republic, and in 1805 it was made the kingdom of Italy, with Napoleon as king and Eugène de BEAUHARNAIS as viceroy The kingdom was increased by the addition of Venetia. Between 1795 and 1812 Savoy, Piedmont, Liguria, Tuscany, Parma, and the Papal States were annexed to France Joseph BONAPARTE was made king of Naples and was replaced (1808) by Joachim MURAT Sardinia, however, was left to the house of Savoy, and Sicily to the Bourbons Napoleon's failure to unite Italy and his oppressive regime disappointed the Italian patriots Such secret revolutionary societies as the CARBONARI, which later played a vital part in Italian unification, originated with the liberal opposition to Napoleonic rule. The Congress of Vienna (1814–15) restored approximately the pre-Napoleonic *status quo* and the old ruling families Venetia, however, was united with Lombardy as the Lombardo-Venetian kingdom under the Austrian crown, and Liguria passed to Sardinia Naples and Sicily were united (1816) as the kingdom of the TWO SICILIES Austrian influence became paramount However, the efforts of Metternich and of the Holy Alliance could not suppress the nationalist movement The forces of the Risorgimento, as the movement for unification was called, fell into three main groups the radicals, led by MAZZINI, who sought to create a republic, the moderate liberals, who saw in the house of Savoy the rallying point of unification, and the Catholic conservatives, who desired a confederation under the presidency of the pope Largely through the efforts of VICTOR EMMANUEL II of Savoy, CAVOUR, and GARIBALDI, unification ultimately was achieved under the house of Savoy (For the wars and revolutions that brought about unification, see RISORGIMENTO) The Italy of which Victor Emmanuel II became king in 1861 still lacked Venetia, Rome, and part of the Papal States Florence was its capital To NAPOLEON III of France, who had helped Sardinia in defeating Austria in 1859, Sardinia had ceded Savoy and Nice By siding against Austria in the AUSTRO-PRUSSIAN WAR of 1866 Italy obtained Venetia Napoleon III's protectorate over the Papal States delayed the Italian annexation of Rome until 1870 The relationship between the kings and the popes (who considered themselves prisoners within the Vatican) was a major problem until 1929, when the LATERAN TREATY made the pontiff sovereign within Vatican City After 1870 Austria still retained areas with largely Italian populations (e g , S TYROL and Trieste), Italian agitation for their annexation (see IRREDENTISM) went unfulfilled until the First World War

Modern Italy From 1861 until the Fascist dictatorship of Mussolini, Italy was ruled under the liberal constitution adopted by Sardinia in 1848 The reigns of Victor Emmanuel II (1861–78) and HUMBERT I (1878–1900), and the first half of the reign of VICTOR EMMANUEL III (1900–1947) were, as a whole, liberal The outstanding statesmen of the pre-Fascist period were DEPRETIS, CRISPI, GIOLITTI, SONNINO, ORLANDO, and NITTI Colonial and industrial expansion were primary concerns of the government Italy acquired Eritrea and part of Somaliland in E Africa, but further advance was checked by the Ethiopian victory (1896) at Aduwa In 1911–12 Libya was conquered from the Ottoman Empire A severe setback in Italian colonial policy was the establishment (1881) of a French protectorate over TUNISIA, it was an important motive for the conclusion (1882) of the alliance of Italy with Germany and Austria (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) The industrial expansion of Italy in the late 19th and early 20th cent was accompanied by the growth of the Socialist movement and by social turmoil Overpopulation led to mass emigration to North and South America In the First World War, Italy at first remained neutral Its relations with Germany and Austria had cooled after 1900, and when the Allies offered substantial territorial increases, Italy denounced the Triple Alliance and entered (1915) the war on the Allied side Though suffering serious reverses at first, the Italians won (1918) a great victory at VITTORIO VENETO, followed by the surrender of Austria-Hungary At the Paris Peace Conference Italy obtained S Tyrol, Trieste, Istria, part of Carniola, several Dalmatian islands, and the Dodecanese—far less than the Allies had secretly promised. The seizure (1921) of FIUME by a nationalist band under D'ANNUNZIO was a drastic gesture of Italian discontent. Political and social unrest increased and furthered the growth of FASCISM. The Fascist leader (Ital. *Duce*), Benito MUSSOLINI, promising the restoration of social order and of political greatness, led (Oct. 27, 1922) his "march on Rome" and was made premier by the king Granted dictatorial powers, Mussolini purged the state of all opposition (notably by the murder of MATTEOTTI), regimented the press and schools, imposed state control on industry and labor, and created a corporative state controlled by the Fascist party and militia Great public works and much building (usually in a characteristically pompous and ugly style) were undertaken and some useful projects (e g , the draining of the POMPTINE MARSHES) were accomplished The problem presented by the increasing Italian birth rate was aggravated by drastic immigration restrictions in the United States. Mussolini hoped to solve the problem by "dynamic expansion," i e , by encouraging population increase and by clamoring for increased living space, on the theory that Italy must expand or explode Despite some ineffective sanctions imposed by the League of Nations (from which Italy withdrew in 1937), Italy conquered ETHIOPIA in 1935–36 Drawing ever closer to National Socialist Germany and to Japan, Italy formed in 1936 an entente with Germany (see AXIS) Italian intervention on the Insurgent side in the civil war (1936–39) in Spain was facilitated by the appeasement policy of England and France In April, 1939, Italy seized ALBANIA with impunity When the Second World War broke out, Italy at first assumed a neutrality friendly to Germany In June, 1940, it declared war on collapsing France and on Great Britain After some successes in E Africa, Italy launched (Sept , 1940) an attack on Egypt and (Oct , 1940) on GREECE Both in Greece and in North Africa, Italian forces were unsuccessful until German troops came to their aid In 1941 Italy declared war on Russia and on the United States By July, 1943, it had lost all its African possessions, its army was shattered, Sicily was falling to American troops, and Italian ports and cities were bombed Open discontent culminated in the rebellion of the Fascist grand council against Mussolini, Mussolini's dismissal by the king, the appointment of BADOGLIO as premier, and the dissolution of the Fascist party (July, 1943) On Sept 3 Italy surrendered unconditionally to the Allies, but announcement was withheld until the main Allied landing at Salerno (Sept 8) Meanwhile German armies quickly occupied N and central Italy, including Rome and Naples Mussolini escaped from imprisonment and set up a puppet republic in N Italy The Badoglio government declared (Oct , 1943) war on Germany, and Italy was recognized by the Allies as "cobelligerent" After the fall of Naples to the Allies, German resistance stiffened From Oct , 1943, until the German surrender in 1945 the Italian campaign was a slow, grueling, and costly struggle (see CASSINO and ANZIO) The fall of Rome (July , 1944) was followed by a rapid Allied advance to Florence and Rimini, but then a stalemate developed Italian troops fought alongside the Allies (Americans, British, French, and Poles), and Italian resistance forces within German-held Italy were of substantial help to the Allies In May, 1945, the Germans signed their surrender at Caserta In 1944 the unpopular Badoglio cabinet resigned, and the king transferred his powers to his son, later King HUMBERT II The question of the preservation or the abolition of the monarchy was acute, as were the insuperable economic problems left by the war Various coalition cabinets followed each other until Dec , 1945, when Alcide DE GASPERI, a Christian Democrat, became premier Considerable economic aid was extended to Italy by UNRRA and relieved the worst sufferings A referendum (June, 1946) decided for the establishment of a republic A constituent assembly drafted a new constitution, providing for a chamber of deputies and a senate and for a president elected for a seven year term by both houses The cabinet is responsible to the parliament The Communists, Socialists, and Christian Democrats (moderate liberals) emerged from the war as the chief parties The split of the Socialists into a right wing and a left wing enabled the Christian Democrats to maintain themselves in power in coalition with the right-wing Socialists and to exclude the Communists from the government In the elections of April, 1948, American propaganda and papal pronouncements contributed to the victory of the government over the Communists. However, the political situation remained potentially explosive In foreign policy, Italy followed the lead of the United States The detachment of Trieste from Italy by the peace treaty of 1947 created serious dissatisfaction Italian defense forces and armaments were severely limited by the peace treaty The economic situation of Italy was, at least superficially, relieved by the extension of American aid under the European Recovery Program after 1948 though the need for splitting up the great estates of S Italy for the benefit of the peasants was not fulfilled In 1949 Italy joined the North Atlantic Treaty Among general histories of Italy are Pasquale Villari, *Storia politica d'Italia* (8 vols , 1874–82); H D. Sedgwick, *Short History of Italy* (1905); E. M Jamison, *Italy, Mediæval and Modern* (1917), J. P Trevelyan, *Short History of the Italian People* (1920), Luigi Salvatorelli, *A Concise History of Italy* (Eng tr , 1939) For the early period and the barbarian invasions, see bibliography under ROME For the medieval period, see Pasquale Villari, *Mediæval Italy* (Eng tr , 1910), H B Cotterill, *Mediæval Italy* (1915) For the Renaissance, see bibliography under RENAISSANCE. For the modern period, see Benedetto Croce, *History of Italy, 1871-1915* (Eng tr , 1929), René Albrecht-Carrié, *Italy from Napoleon to Mussolini* (1949)

Italy, town (pop 1,224), N central Texas, S of Dallas, in a blackland cotton area.

Itasca (ītă'skŭ), city (pop 1,759), N central Texas, SSW of Dallas, settled 1882, inc. as a city 1910, In the blackland area, it has cotton processing and textile milling

Itasca, Lake (ītă'skŭ), small shallow lake in a pine-wooded swampy region, NW central Minn , SSW of Bemidji Henry R Schoolcraft identified (1832) it as the source of the Mississippi Later geographers consider the source to be above the lake, through which the river flows In 1891 the region was included in a state park, which has a historical and natural history museum

itch see SCABIES

Itenez or **Itenes**, river see GUAPORÉ

Ithaca (ĭ'thĭkŭ, ĭ'thŭkŭ), Gr *Ithake* (ēthă'kā), island (37 sq mi , pop 8,114), off W Greece, one of the IONIAN ISLANDS, separated by a narrow channel from Cephalonia Mountainous, it rises to 2,645 ft The chief town is Ithaca (pop 3,120) Ithaca is celebrated as the home of ODYSSEUS, although some recent archaeologists doubt that Homeric and modern Ithaca are identical Cyclopean walls and other remains have been found

Ithaca. **1** Village (pop 2,000), co seat of Gratiot co , S Mich , in a farm area, inc 1869 **2** City (pop 19,730), co seat of Tompkins co , W central N Y , in the Finger Lakes region, on hills at the south end of Cayuga Lake SW of Syracuse, settled c 1790, inc 1888 Its varied manufactures include guns, machines, and salt, but it is important chiefly as the seat of CORNELL UNIVERSITY and of Ithaca College (coeducational) The Renwick Bird Sanctuary, adjoining Stewart Park, is in the city, and several state parks are near by There is a state hospital (1936) for the tubercular

Ithai (ĭ'thāĭ, ĭ'thā'ī), variant of ITTAI **2**

Ithamar (ĭ'thŭmŭr), [Heb ,=island of palms], son of Aaron Ex 6 23, 28 1, 38 21, Lev 10 6, 1 Chron 24 3, Ezra 8 2

Ithiel (ĭ'thĭĕl, ĭthĭ'-) [Heb ,=God is with me] **1** Benjamite Neh 11 7 **2** See UCAL

Ithmah (ĭth'mŭ) [Heb ,=orphanhood], Moabite member of David's guard 1 Chron 11 46

Ithnan (ĭth'năn) [Heb ,=given], unidentified town, S Palestine Joshua 15 23

Ithra (ĭ'thrŭ), variant of JETHER **2**

Ithran (ĭ'thrăn) **1** Descendant of Asher 1 Chron 7 37 He is probably the same as Jether in verse 38 **2** Chief of the Horites Gen 36 26

Ithream (ĭ'thrēŭm) [Heb ,=excellence of the people], son of David 2 Sam 3 5, 1 Chron 3 3

Ithrite (ĭ'thrīt), family name of two of David's guard 2 Sam 23 38, 1 Chron 11 40

Ithunn · see IDUN

Ito, Hirobumi, Prince (hērō'bōōmē, ē'tō), 1841–1909, Japanese statesman, the outstanding figure in the modernization of Japan As a young Choshu samurai, he defied the ban on foreign travel, visited Europe, and became convinced of the necessity of adopting Western ways After the Meiji restoration, he was a member of the mission under Prince Iwakura In 1882 he was sent abroad to study foreign governments Returning, he established a cabinet and civil service (1885) and a privy council (1888) He drafted the constitution of 1889, more or less on the Prussian model An intimate adviser of the emperor, he was long dominant in politics As prime minister (1892–96) he supported the Chino-Japanese War and negotiated the Treaty of Shimonoseki After the war he became a supporter of party government, opposing Prince YAMAGATA He was the first president of the Seiyukai party. Again prime minister (1899–1901), believing war with Russia imminent, he secured increased military appropriations His resignation in 1901 meant the decline of civilian power in the ruling oligarchy In 1905 he forced an agreement making Korea a virtual protectorate and became Japanese resident general there He was assassinated by a Korean in 1909

Itsuku-shima (ēt'sōōkōō'shĭmä), sacred island, 6 mi. long and 2 5 mi wide, in the Inland Sea, Japan, SW of Hiroshima Site of an ancient Shinto shrine, it is known for its huge torii (1875), its 16th-century hall built by Hideyoshi, its pagoda (1407), and a 9th-century Buddhist temple The island is also known as Miya-jima

Itta Bena (ĭ'tŭ bē'nu), town (pop. 1,795), W central Miss , on the Yazoo just W of Greenwood and E of Greenville, in a cotton area.

Ittah-kazin (ĭ'tŭ-kā'zĭn), unidentified place, N Palestine. Joshua 19.13.

Ittai (ĭt'ā-ī, ĭtā'ī) [Heb., =present] **1** Gittite follower of David He stood by David in Absalom's revolt, 2 Sam 15 19–22, 18 2,5,12 **2** Benjamite, one of David's mighty men 2 Sam 23 29 Ithai 1 Chron 11 31

Ituraea (ĭtyŏŏrē'ŭ), ancient country on the northern border of Palestine JETUR the son of Ishmael was its eponym Ancient geographers are not agreed as to the exact limits of the country The inhabitants were Arabians, conquered in 105 B C by Aristobulus, king of Judaea, and forcibly converted to Judaism Later, after a brief period of independence, the country was subdued by Pompey It remained thereafter chiefly in Roman hands, being united (A D c 50) to the Roman province of Syria Many Ituraeans served in the armies of Rome and were renowned for their skill as horsemen and archers

Iturbi, José (hōsā' ētŏŏr'bē), 1895–, Spanish-American pianist, b Valencia, Spain, studied at the Conservatorio de Música, Valencia, and the Paris Conservatoire He was head of the piano department (1919–23) at the Geneva Conservatory, later beginning his world tours as a concert pianist In New York in 1929 he made his American debut and in Mexico city in 1933 made his first appearance as a conductor He was conductor (1936–44) of the Rochester (N Y) Philharmonic Orchestra Beginning in 1942 he appeared in several moving pictures He is one of the most popular pianists in the United States

Iturbide, Agustín de (ägōōstēn' dā ētŏŏrbē'dā), 1783-1824, Mexican revolutionist, emperor of Mexico (1822–23) An officer in the royalist army, he was sympathetic toward independence but took no part in the separatist movement led by HIDALGO Y COSTILLA and helped to suppress the revolt, figuring especially against MORELOS Y PAVÓN In 1820 he was commissioned by Viceroy APODACA to lead royalist troops against Vicente GUERRERO Iturbide undertook the command with the intention of overthrowing the viceroyalty and establishing Mexican independence After Guerrero had inflicted minor defeats on his troops, Iturbide opened negotiations with the insurgent leader, and the result was the Plan of IGUALA (1821) Iturbide's army swept the country in victory The new viceroy, O'DONOJÚ, capitulated to their demands in the Treaty of Córdoba (1821) The independence of Mexico was assured, but without the social reforms advocated by Hidalgo, instead of a new liberal state, Iturbide had ushered in a new conservative one He headed the provisional government When no Bourbon prince could be found to accept the crown of Mexico and Spain repudiated the Treaty of Córdoba, his soldiers proclaimed him emperor as Agustín I Congress, hostile but intimidated, ratified the proclamation (1822) It was not long before a revolution was in the field, with SANTA ANNA and GUADALUPE VICTORIA as its principal leaders In 1823 Iturbide was forced to abdicate and go to Europe in exile Congress decreed him a traitor and an outlaw, forbidding his reentry into Mexico Iturbide was, however, ignorant of this decree when he sailed back to Mexico in 1824 He was captured, tried by the Congress of Tamaulipas, and shot

Iturrigaray, José de (hōsā' dā ētōō'rēgärā'ē), 1742–1815, Spanish colonial administrator When he was viceroy of New Spain (1803-8), the whole of Spanish America was disturbed by the Napoleonic invasion of Spain and the abdication of Ferdinand VII A quasi-separatist movement found much support among the creoles of Mexico, who denied the authority of Joseph Bonaparte and also that of the Central Junta of Spain Iturrigaray lent his ear to their schemes The Spanish-born officials of the viceroyalty resisted the liberal creoles and, suspecting Iturrigaray, deposed him (Sept 15, 1808) The separatist spirit of the creoles burst forth two years later in the uprising of HIDALGO Y COSTILLA

Ituzaingó, battle of (ē"tōōsīn-gō'), fought in S Uruguay, Feb 20, 1827 A combined Argentine-Uruguayan force decisively defeated Brazil The United Provs. of La Plata (Argentina) and Brazil had both claimed Uruguay In the peace treaty which followed (1828) an independent Uruguay was created as a buffer state

Itys (ĭ'tĭs) or **Itylus** (ĭt'ĭlŭs), son of Tereus and Procne, killed by his mother and PHILOMELA Another account makes Itys the son of AËDON

Itzá (ētsä'), Maya Indians of Yucatán and PETÉN (Guatemala) Probable founders of CHICHÉN ITZÁ, which they occupied at various times from c 514 to 1194, they moved (c 1450) S from Campeche to Lake Petén Here, in spite of sporadic attempts by the Spanish to convert or subdue them after the visit of Cortés in 1525, the Itzá (last strong, independent Mayan tribe) remained until driven from their capital, Tayasal, in 1697

Itzamna (ētsäm'nä), chief god of the Maya Son of Hunab Ku, the creator, he was lord of the heavens, day, and night Itzamna, inventor of writing and books, was, by extension, creator of the calendar and chronology He was a benevolent deity, always man's friend

Itzehoe (ĭt'sūhō), city (pop 34,075), Schleswig-Holstein, N Germany. It is a trade center with cement and machinery manufactures It was founded in 810 by Charlemagne

Iuka (ī-ū'kŭ), town (pop 1,664), co seat of Tishomingo co , extreme NE Miss , near the Tennessee river, inc 1857 The area has lumbering and gravel, sandstone, and clay pits There are some fine ante-bellum houses Mineral springs are near by In a Civil War battle here on Sept 19, 1862, General Rosecrans attacked the Confederates under Gen Sterling Price, the fighting continued until nightfall, when Price withdrew to join General Van Dorn

Iulis, see KEOS, Greece

Iva, town (pop 1,285), NW S C , S of Anderson, in a farm area, founded c 1885

Ivah (ī'vŭ), unidentified city of Mesopotamia, perhaps the same as AVA 2 Kings 18 34, 19.13, Isa 37 13

Ivan II or **Ivan Asen** (ē'vän ä'sŭn), d. 1241, tsar of Bulgaria (1218–41) On the death (1207) of his father Kaloyan, restorer of the Bulgarian empire, the throne was usurped by Ivan's cousin Boril, and Ivan fled to Russia He returned (1218) at the head of a Russian force, captured Trnovo, had Boril blinded, and was crowned tsar Under Ivan II the Bulgarian empire reached its zenith and became the strongest power in the Balkans He campaigned (1235) jointly with JOHN III of Nicaea against the Latin Empire of Constantinople, but later helped the Latins oppose John He was essentially a man of peace, and his generally mild conduct and sincere religious faith endeared him even to his enemies He restored the autonomy of the Bulgarian Church, established a centralized administration, and encouraged the settlement of Ragusan merchants His court at Trnovo was famed for its splendor Soon after his death his vast empire fell apart

Ivan III or **Ivan the Great** (ī'vŭn, ī'vun, Rus ēvän'), 1440–1505, grand duke of Moscow (1462–1505), creator of the consolidated Muscovite (Russian) state He subjugated (1478) Great NOVGOROD, asserted his sway over Vyatka, Tver, Yaroslavl, Rostov, and other territories, and checked the eastward expansion of Lithuania, from which he gained some former Russian lands In 1480 he freed Muscovy from allegiance to the Tatars of the GOLDEN HORDE To prevent insurrection in annexed territories, Ivan transplanted their ruling classes to Old Muscovy and replaced them with loyal Muscovites Prudence and wisdom were said to be his dominant traits He established autocratic government and married as his second wife the niece of the last Byzantine emperor The double eagle was added to the arms of Muscovy, Sophia introduced the customs of the Byzantine court, and the idea of Moscow's being a "third Rome" (successor to the might of Rome and the Byzantine Empire) became popular in official circles Laws were codified, foreign artisans introduced, and Italian architects erected churches, palaces, and fortifications Ivan was succeeded by his son, Vasily III

Ivan IV or **Ivan the Terrible**, 1530–84, grand duke of Moscow, first to bear the title of tsar Succeeding (1533) his father, Vasily III, he took over the government in 1544 and was crowned tsar in 1547 Always favoring the common people and warring against the nobles, Ivan introduced local self-government and summoned the first general council (Zemsky Sobor, 1550) and an ecclesiastical *sobor* (1551) He conquered Kazan (1552) and Astrakhan, thus beginning Russia's eastward expansion, and began trade relations with England by way of the White Sea To gain access to the Baltic Sea, he undertook (1558) to conquer Livonia Successful at first in the resulting warfare with Poland and Sweden, Ivan was later defeated by STEPHEN BATHORY, the peace of 1582 was to his disadvantage The conquest of Siberia by the Cossack YERMAK took place late in his reign In 1560 his first wife died, and Ivan himself passed through a grave illness His character, always harsh, became gloomy and tyrannical Suspecting conspiracies everywhere, particularly on the part of the boyars (high nobles), he created (1565) a special corps to fight treason This corps (Oprichnina), responsible to the tsar alone instituted a period of terror which gained Ivan a reputation of unprecedented cruelty Many boyars were executed or exiled, in 1570 Ivan ravaged Novgorod for an alleged plot, and in 1580 he killed his eldest son, Ivan Fits of rage alternated with periods of repentance and fervent prayer Ivan married seven times, ridding himself of his unwanted wives by forcing them to become nuns Despite his cruelties, he was a man of intelligence and learning Printing was introduced to Russia during his reign, and his correspondence with the mutinous Prince Kurbsky reveals some literary talent His main political accomplishment was the annihilation of the power of the boyars and the definite establishment of the autocracy of the tsars Two sons, FEODOR I and DMITRI (assassinated in 1591), survived the tsar The principal figure after his death was his favorite, Boris GODUNOV See biographies by Stephen Graham (1933) and Hans von Eckhardt (Eng. tr , 1949)

Ivan V, 1666–96, tsar of Russia (1682–96), son of Tsar Alexis by the first wife of Alexis. He was feeble-minded, and on the death of his elder brother, Feodor III, his succession was widely opposed by the supporters of his half brother, PETER I However, Ivan and Peter jointly succeeded under the regency of Ivan's sister, SOPHIA ALEKSEYEVNA After the overthrow (1689) of Sophia's regency, Ivan was excluded from state affairs His elder daughter, Catherine, was the grandmother of Ivan VI, his younger daughter, Anna, became empress of Russia in 1730

Ivan VI, 1740–64, emperor and tsar of Russia (1740–41), great-grandson of Ivan V. He was the son of Prince Anthony Ulric of Brunswick Wolfenbüttel and of ANNA LEOPOLDOVNA An infant, he succeeded his great-aunt, Empress Anna, on the Russian throne under the unpopular regency of his mother In 1741 ELIZABETH, daughter of Peter the Great, overthrew Anna Leopoldovna's regime and became empress Ivan grew up in solitary confinement An attempt to install him on the throne resulted in his murder in the fortress of Schlüsselburg, according to standing instructions given by Catherine II

Ivan Asen: see IVAN II, tsar of Bulgaria

Ivangorod, Poland see DEBLIN.

Ivanov, Vsevolod Vyacheslavovich (*īsyĕ'vŭlŭt vyĕ"*-chĭsla'vuvĭch ēva'nŭf), 1895?–, Russian short-story writer, novelist, and dramatist A Siberian by birth, he had an adventurous early life as sailor, circus performer, and fakir His talent for vivid and boisterous description was discovered by Gorki He has produced more than 25 volumes of varied writings His most important work is a novel, *Armoured Train 14-69* (1922), based on an episode of Soviet expansion in Siberia This was made into a play and produced by the Moscow Art Theatre in 1927 It was translated into English (1933) and produced in New York A long, semi-autobiographical novel, *The Adventures of a Fakir*, was translated in abridged form (1935)

Ivanovo (ēva'nuvŭ), city (1926 pop 111,443, 1939 pop 285,069), capital of Ivanovo oblast, RSFSR, c 155 mi NE of Moscow It is a major textile center Dating from 1328, it became of commercial importance in the 17th cent , its first textile mill was established in 1751 Combined (1871) with neighboring town of Vozesensk, it was named Ivanovo-Voznesensk until c 1930 It was the scene of early labor strikes (1883, 1885, 1905) and in 1918 was the temporary capital of the revolutionary government Machinery plants (especially for textiles) were set up after the Russian Revolution and contributed to the expansion of the city Ivanovo has several technical institutes and one of the largest theaters of the Soviet Union

Ivan the Great see IVAN III

Ivan the Terrible see IVAN IV

Ives, Saint see YVES, SAINT

Ives, Charles, 1874–, American composer and organist, b Danbury, Conn , grad Yale, 1898, pupil of Dudley Buck and Horatio Parker He was organist (1803–1904) in churches in Connecticut, New Jersey, and New York In the insurance business from 1898 to 1930, he was at the same time composing music which was advanced in style, anticipating some of the innovations of Schonberg and Stravinsky, but not influencing the trend of music because most of his works were unpublished, they were very little known until 1939, when performance of his second piano sonata, *Concord, Mass , 1840-60*, won him wide recognition In 1947 his Third Symphony was awarded the Pulitzer Prize He is the composer of symphonies, orchestral suites, including *Three Places in New England*, sonatas, organ pieces, choral works, a great deal of chamber music, and about 150 songs He often uses American folk music in his compositions and evokes the spirit of various aspects of American life, such as revival meetings and Negro life Some consider him America's greatest composer

Ives, Frederic Eugene, 1856–1937, American inventor, b Litchfield, Conn A pioneer in the development of orthochromatic and trichromatic photography and of photoengraving, he produced in 1881 the first set of trichromatic plates In 1878 he devised the first practical half-tone process of photoengraving, developing it in 1886 to the process which came into general use Among his other inventions are the short-tube, single-objective binocular microscope, the parallax stereogram, and a process for moving pictures in natural colors. He wrote *Autobiography of an Amateur Inventor* (1928) His son **Herbert Eugene Ives**, 1882–, b Philadelphia, inventor and physicist, is active in the development of television and the transmission of pictures via telephone wires

Ivigtut (ē'vĭgtōōt), town (pop 141), on SW Greenland, a port c 75 mi SE of Frederikshaab It has the world's largest cryolite mine. In the Second World War a U S military base was set up here

Iviza, Span *Ibiza* (both ēvē'thä), island (221 sq mi , pop. 33,961), Baleares prov , Spain, one of the BALEARIC ISLANDS The town of Iviza (pop 9,644) is the capital Many Phoenician tombs have been found on the island

Ivo of Chartres, Saint (ī'vō, ahär'trŭ), d. 1115 or 1116, French churchman, bishop of Chartres (after 1090). He was fearlessly outspoken and was im-

prisoned for heading the ecclesiastical opposition to the irregular second marriage of King Philip I. He worked to obtain a compromise in the imperial struggle over investitures His principal fame was for his knowledge of CANON LAW His *Decretum* and *Panormia*, collections of canons, were perhaps the most extensive until supplanted by the work of GRATIAN.

Ivory, type of dentine present only in the tusks (prolongations of the upper pair of second incisors) of the ELEPHANT Formerly the term *ivory* was applied to the tooth structure of many animals, especially the hippopotamus, walrus, narwhal, sperm whale, and wild boar In commerce, ivory is classified as green (from recently killed animals) and dead (tusks long stored or on the ground for extended periods and lacking in great measure the oily substance giving resiliency to green ivory) Much dead ivory is obtained, especially in Siberia and Alaska, from fossil deposits of the extinct mammoth Africa, the principal source of supply of ivory, furnishes the best and largest tusks Tusks of about 55 lb apiece are common, although weights of over 200 lb have been recorded The straighter tusks can be worked with less waste "Soft" ivory, mellow in tone and easy to work, comes from the eastern half of the continent, and the more translucent and brittle "hard" ivory from the western half For centuries the Arabs, based in Zanzibar, controlled the ivory trade For 200 years the Portuguese fought to maintain a foothold They were followed by Dutch, English, French, and American traders, but the Arabs retained control in the central section until the late 19th cent. Commerce in early times was comparatively equitable, but the introduction of firearms permitted complete dominance over native forces The Arab trade became cruel and oppressive, and traffic in slaves, who carried the ivory to the coast, was extensive The Arab power was finally broken by the British, Belgians, and Germans, who regulated the ivory trade in their colonies Asiatic ivory is inferior to the African, it is less close in texture and has a whiter tone, which yellows quickly, and a greater tendency to split or warp India does not provide its own requirements and is a heavy importer The leading ivory markets are Antwerp and London The chief commercial uses are for piano keys, billiard balls, handles, and minor objects of decorative value Scraps and powder are carbonized for use in ink and artists' pigments Large surfaces suitable for veneer are obtained by cutting spiral sheets around the tusk Ivory is valued in art for its close-grained texture, adhesive hardness, mellow color, and pleasing texture It is an excellent material for miniature painting and for carving and turning and has been extensively employed through the ages for inlay work, for carvings of the finest character, and for statuary Its use dates back to the earliest records left by man Incised representations of animals upon tusks of the mammoth are among the earliest evidences of the development of prehistoric peoples, and the civilizations of Egypt, Mesopotamia, Assyria, Babylon, Attica, Crete, and Cyprus are represented by works in ivory, while biblical references point to its use from the time of Solomon Ivory was used by the foremost sculptors of Greece in their colossal statues of the gods The Romans used it lavishly and diffused it throughout Europe Especially characteristic were the diptychs reserved for consular gifts In India, ivory carving and turning have been practiced from time immemorial, while in China and Japan ivory has been used for inlay and small objects, especially for statues and carvings of rather diminutive size but great precision and beauty of detail Byzantine and early Christian art included a large amount of carved ivory work of religious application and was followed, in the Renaissance, by a prolific output exhibiting great skill in the production of statuettes, caskets, inlay work, and articles of furniture The diminishing supply of ivory and its high cost have encouraged the making of celluloid and other imitations Vegetable ivory (tagua) has long been used as a substitute See G C Williamson, *The Book of Ivory* (1938)

Ivory Coast, Fr *Côte d'Ivoire* (kōt" dēvwär'), overseas territory (c 121,000 sq mi , pop c 2,031,000), French West Africa, on the Atlantic coast The capital is Abidjan The Ivory Coast is bordered by Liberia and French Guinea on the west, by French Sudan and Upper Volta on the north, and by the Gold Coast on the east The country is divided into a coastal lowland (c 40 mi wide), a densely forested plateau, and high savannas There is heavy rainfall, especially along the coast Exports include cotton, cacao, palm oil, and hardwoods. Livestock is raised in the savannas Abidjan, the coastal terminus of the country's only railroad, is the chief port. The Portuguese established trading settlements on the Ivory Coast in the 16th cent They were ousted by other powers, and in the mid-19th cent France established a protectorate over the coastal zone The inland areas were acquired later in the 19th cent by treaty and by conquest. Today the Ivory Coast is represented in the French parliament.

Ivory nut · see TAGUA.

Ivrea (ēvrā'ä), town (pop 8,737), Piedmont, NW Italy, on the Dora Baltea where it enters the plain A Roman town, it was the seat of a marquisate in the Middle Ages, its lord, Berengar II, made himself king of Italy in 950 It became a possession of the house of Savoy in the 14th cent The city is dominated by the picturesque castle of the Conte Verde (1358) with its four red brick towers

Ivry-la-Bataille (ēvrē'-la-bätä'yü), village (pop 1,279), Eure dept , N France, near Evreux Before his victory here (1590) over the Catholic League (see LEAGUE), Henry IV issued the gallant order, "If you lose your standards, follow my white plume!"

Ivy, name proper to the ENGLISH IVY but shared by various other plants, usually climbing or trailing Among these are POISON IVY, Japanese ivy or BOSTON IVY, American ivy or VIRGINIA CREEPER, GROUND IVY, Kenilworth ivy (*Cymbalaria muralis* or *Linaria cymbalaria*), a delicate house or garden plant common to old ruins in Europe, and grape ivy (*Cissus*, or *Vitis*, *rhombifolia*), a house plant

Iwakura, Tomomi or **Tomoyushi, Prince** (tōmō'-mē, tōmoi'yōōshē, Iwä'kōōra), 1835–83, Japanese statesman A member of the old court nobility, he supported the Meiji restoration and became a minister of state (1871–83) In 1871 he headed a mission to Europe and the United States which failed to secure abolition of the unequal treaties but brought back much useful information on foreign institutions In the controversy over war with Korea in 1873 he supported the peace party

Iwasa Matabei (ēwa'sa matabā'), c 1578–1650, Japanese landscape and genre painter, founder of the ukiyoye school of painting Matabei had a great number of disciples whose works have been frequently mistaken for his A self-portrait is owned by his descendants

Iwate (ēwa'tā), prefecture, N Honshu, Japan see MORIOKA, the capital

Iwo Jima (ē'wō jē'mu, ē'wō), Jap *Io-jima*, volcanic island (area c 8 sq mi , pop 1,051), most important and largest of the Volcano Islands in the W Pacific, c 145 nautical mi S of the Bonin Islands Mt Suribachi, 546 ft high, in the south is an extinct volcano There are sulphur mines and a sugar refinery In the Second World War the island, the site of a Japanese air base, was taken in Feb.-March, 1915, at great cost by U S forces The island was formerly called Sulphur Island

I W.W. see INDUSTRIAL WORKERS OF THE WORLD

Ixelles (ēksēl'), Flemish *Elsene* (ēl'sunu), commune (pop 92,266), Brabant prov , Belgium, a suburb of Brussels It has metal, chemical, textile, and other manufactures

Ixion (ĭk'sē un), in Greek mythology, king of the Lapithes Ixion murdered his father-in-law to avoid paying the bride price When no one on earth would purify him, Zeus took Ixion to Olympus and purified him While there Ixion attempted to seduce Hera, but Zeus created a phantom of her and by it Ixion became the father of the CENTAUR monsters As punishment for his impious act, Ixion was chained to a revolving, fiery wheel in Hades

Ixtaccihuatl, Iztaccihuatl, or **Iztaccíhuatl** (all ēs"tasē'watul) [Aztec, =white woman], dormant volcano, 17,342 ft high, central Mexico, on the border between Puebla and Mexico state, neighboring POPOCATEPETL Irregular in outline, it is also popularly known as the Sleeping Woman Its last eruption was in 1868

Ixtlilxōchitl, Fernando de Alva (fĕrnan'dō dā äl'va ēshtlēlshō'chētul), 1568?–1648?, Mexican historian, a lineal descendant of the Acolhua rulers Of his several writings, the *Historia chichimeca* (probably written 1610–40) is the most important, it contains valuable material on native culture The accuracy of his works is in dispute

Iyeyasu · see IEYASU

Izabal (ēsäbal'), lake, c 30 mi long and 15 mi wide, E Guatemala, largest in the country Known also as the Golfo Dulce, it drains to the Caribbean through the Golfete Dulce, a small adjacent lake, and the Rio Dulce, a broad tropical river In Spanish colonial times Lake Izabal was the scene of lively trading between the sea and the highlands, and the small town of Izabal on its south shore was a thriving port, constantly subject to raids in the 17th cent from English and Dutch buccaneers Today shipping is negligible, though LIVINGSTON, at the mouth of the Rio Dulce, is of some importance Near by are many pre-Columbian ruins, the most outstanding being at Quriguá.

Izalco (ēsäl'kō), volcano, 7,828 ft high, W Salvador Constantly active and still increasing in height, it is sometimes called the Lighthouse of the Pacific Occasionally there have been severe eruptions

Izard, George (ī'surd), 1777–1828, American army officer, b England He spent part of his childhood in America, had his military education in Europe, returned to the United States, and was an officer in the War of 1812 In Aug., 1814, he succeeded Gen Jacob J BROWN in command of the Niagara frontier He was appointed governor of Arkansas Territory in 1825

Izard, Ralph, 1742–1804, American Revolutionary statesman, b near Charleston, S C After an education in England, he returned (1764) to South Carolina but in 1771 again went to London Because of his sympathy with the colonial cause, Izard moved to Paris Appointed (1777) commissioner to Tuscany by the Continental Congress, he was not received by that government but felt that, as an American diplomat, he should take part in American negotiations with France and thus won the enmity of Benjamin Franklin Izard's connection with the De Lanceys, New York Loyalists, led to accusations that he was a Tory, but his sincere devotion to the patriot cause was demonstrated, and after his return (1779) to America he served in the Continental Congress (1782–84) and the U S Senate (1789–95)

Izehar (ĭz'här) or **Izhar** (ĭz'här) [Heb , =oil], grandson of Levi 1 Chron 6 2,18,38, 23 12,18, Ex. 6 18,21, Num 3 19 Amminadab 1 Chron 6 22

Izhevsk (ē'zhĭfsk), city (pop 175,740), capital of Udmurt ASSR, E European RSFSR It has machinery, arms, and other manufactures

Izmail (ēzmŭēl'), city (1930 pop 24,998, 1941 pop 17,569), capital of Izmail oblast, SW Ukraine, in Bessarabia, on an arm of the Danube delta and on the Rumanian border It is a commercial center and a naval base First mentioned in the 16th cent , it soon became a strong Turkish fortress It was twice captured (1770, 1790) by the Russians in the Russo-Turkish Wars of Catherine II The second assault, which was very costly, was directed by Suvarov Izmail passed (1812) to Russia with Bessarabia, was ceded (1856) to Moldavia, reverted (1878) to Russia, was seized (1918) by Rumania, was ceded (1940) to Russia, was reconquered (1941) by Rumania, and was ceded again to the USSR in the Rumanian peace treaty of 1947 Its Rumanian name is Ismail There are ruins of a 15th-century Turkish citadel

Izmir, Turkey see SMYRNA

Izmit (ĭzmēt'), city (pop 28,352), NW Turkey, a port on the Bay of Izmit, on the Asiatic side of the Sea of Marmara It is the center of a rich tobacco district and has paper mills and breweries The city occupies the site of ancient NICOMEDIA Its name also appears as Ismid

Iznik, Turkey see NICAEA

Izrahiah (ĭz"ruhī'ù) [Heb , =God makes to spring up], chief man of Issachar 1 Chron 7 3

Izrahite (ĭz'ru-), patronymic see ZERAH 1

Izri (ĭz'rī), temple musician 1 Chron 25 11. In verse 3 he is called Zeri

Iztaccihuatl see IXTACIHUATL

Izumo see TAISHA

Izu-shichito (ē'zōōshĭchētō), island group, extending c 300 mi S of Tokyo Bay, Japan O-SHIMA is the largest of these volcanic islands, formerly used as penal settlements

Izvolsky, Aleksandr Petrovich (ülyĭksän'dur pētrō'-vĭch ēzvōl'skē), 1856–1919, Russian statesman He rose in the diplomatic service and in 1906 was appointed foreign minister He secured a rapprochement with Japan, in 1907 he reached an agreement with Great Britain ending the rivalry between the two powers in Persia (which was divided into a Russian and a British zone of influence), in Afghanistan (which was placed in the British zone of influence), and in Tibet (which was declared neutral) In 1908, however, he received a humiliating setback when Austria annexed Bosnia and Hercegovina (see AEHRENTHAL, ALOIS LEXA, GRAF VON) In retaliation, Izvolsky encouraged Pan-Slavism and, apparently considering war with Germany as inevitable, endeavored to weld the Triple Entente into a formidable alliance to oppose the Triple Alliance (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) Appointed (1910) ambassador to France, he continued to direct Russian foreign policy After the Russian Revolution he remained in France, where he died See his memoirs (Eng tr , 1920), Friedrich Stieve, *Izvolsky and the World War* (Eng. tr , 1926)

J

J, 10th letter of the ALPHABET, a Western European formal development of I, with which it was formerly quite interchangeable in writing

Jaakobah (jā″ŭkō′bu), prince of the family of Simeon 1 Chron. 4 36

Jaala or **Jaalah** (both jā′ălu) [Heb ,=wild she-goat], postexilic family Ezra 2 56, Neh 7.58

Jaalam (jā-ā′lum, jā′ulŭm), son of Esau. Gen. 36 5,14,18, 1 Chron 1 35

Jaanai (jā′ănī, jā-ā′nī) [Heb ,=whom God answers], chief Gadite 1 Chron 5 12

Jaare-oregim (jā′rē-ôr′ĕgĭm), father of David's man Elhanan 2 Sam 21 19 Jair 1 Chron 20 5

Jaasau (jā′ăsô) [Heb ,=God makes], Jew who had married a foreign wife Ezra 10.37.

Jaasiel (jā-ā′sĭĕl) [Heb ,=God created], ruler of Benjamin. 1 Chron 27 21 See JASIEL

Jaazaniah (jā″ăzunī′ŭ) [Heb ,=whom God hears] 1 Head of a number of idolatrous priests whom Ezekiel saw in a vision Ezek 8 11 **2** Captain active in the politics of Palestine at the time of the fall of Jerusalem 2 Kings 25 23 Jezaniah Jer 40 8 Azariah Jer 43 2. **3** Rechabite Jer 35 3 **4** Prince Ezek 11 1

Jaazer (jā-ā′zŭr), variant of JAZER

Jaaziah (jā″uzī′ŭ) [Heb ,=whom God consoles], descendant of Merari 1 Chron 24 26,27.

Jaaziel (jā-ā′zĭĕl) [Heb ,=whom God consoles], Levite 1 Chron 15 20 Aziel 1 Chron 15 18

Jabal (jā′-), son of Lamech Gen 4 20

Jabbok [Heb ,=emptying], river of Jordan, the modern Wadi Zerka, entering the Jordan river c 20 mi N of Jericho Its gorge is a natural boundary On its south bank Jacob wrestled with the angel Gen 32 22, Num 21 24, Deut 2 37, 3 16, Joshua 12 2, Judges 11 13,22

Jabesh-gilead (jā′bĕsh-gĭ′lĕăd), unidentified city of Gilead After the affair at Gibeah, wives were provided for the Benjamites by sacking Jabesh Later, Saul saved Jabesh, and at his death the grateful city buried him Judges 21, 1 Sam 11, 31 11, 2 Sam 2 4.

Jabez (jā′-). **1** Judahite 1 Chron 4 9,10 **2** Unidentified place, S Palestine 1 Chron 2 55

Jabin (jā′-) [Heb ,=he that understands, name of two kings of Hazor Joshua 11 1, Judges 4 2

Jabir, see GEBER, Arabian chemist

Jablonec nad Nisou (ya′blônĕts năd nē′sō), Ger *Gablons* (ga′blônts), city (pop 23,112), NE Bohemia, Czechoslovakia, on the Lausitzer Neisse It is noted for its manufactures of glass products

Jabneel (jāb′nēĕl) [Heb ,=God causes to build] **1** Unidentified place, NE Palestine Joshua 19 33 **2** See JAMNIA

Jabneh (jāb′nē), variant of JAMNIA

Jaborandi (jāb″urăn′dē), name for tropical American shrubs of the genus *Pilocarpus* yielding the drug jaborandi The drug contains pilocarpine and is used in certain remedies to increase perspiration and salivation (for antidote, see POISONING, table)

Jaca (hā′kā), town (pop 7,663), Huesca prov, NE Spain, in Aragon, in the Pyrenees near the French border After its recapture from the Moors it was (11th cent) the cradle of the Aragonese kingdom Huesca, taken in 1097, replaced it as the capital Jaca has ancient walls and towers and a Romanesque cathedral (11th–15th cent)

Jachan (jā′kăn) [Heb ,=afflicted], chief of the house of Gad 1 Chron 5 13

Jachin (jā′kĭn) **1** Son of Simeon Gen 46 10, Ex 6.15, Num 26 12 Jarib 1 Chron 4 24 **2** Chief priest 1 Chron 9 10, 24 17, Neh 11 10

Jachin and Boaz (bō′ăz), two pillars in front of Solomon's Temple, probably symbolic of God's presence 1 Kings 7 21, 2 Chron 3 17

Jachymov, Czech *Jáchymov* (yā′khĭmôf), Ger *Joachimsthal* (yō′ăkhĭmstal″, yōă′-), town (pop 6,806), NW Bohemia, Czechoslovakia, in the Ore Mts It has lead, silver, radium, and uranium mines and radioactive springs Silver was intensively mined here after the 16th cent, but its present output is negligible Pitchblende is mined in quantity The word *Thaler*, from which *dollar* is derived, is an abbreviation of Joachimsthaler, a coin first struck here in the 16th cent

jacinth: see HYACINTH, gem.

jackal (jă′kôl), nocturnal wild mammal (genus *Canis*) of the dog family, found in SE Europe, in Asia, and in Africa It eats carrion and plant food but also preys on large and small animals, often hunting in packs Jackals resemble wolves but rarely exceed 25 lb. in weight They can be tamed as pets.

jack-in-the-pulpit or **Indian turnip**, American woodland herb (*Arisaema triphyllum*) The small true flowers are borne on a club-shaped spadix (Jack) enveloped by an arching purplish-striped spathe (the pulpit), the fertile ones producing a cluster of red berries The starchy corms are extremely acrid raw but when cooked or dried were eaten by the Indians; they were formerly used medicinally

Jackman, Wilbur Samuel, 1855–1907, American educator, b Mechanicstown, Ohio, grad Harvard, 1884 He became a teacher of natural science in the Central High School of Pittsburgh; his work there attracted the attention of Francis W Parker, who in 1889 invited him to the Cook County Normal School, Chicago, then a center of reform in both methods and curriculum Jackman was a leader of the nature study movement in elementary schools, and, beginning with *Nature Study for the Common Schools* (1891), he wrote a number of texts and manuals, besides articles in educational journals He was appointed dean of the new college of education in the Univ of Chicago in 1901 but resigned in 1904 to become principal of the University Elementary School and to edit the *Elementary School Teacher*

Jackman, plantation (pop 1,069), NW Maine, a port of entry 15 mi. from the Que line It is a center for hunting, fishing, camping, and lumbering.

jack rabbit see HARE

Jacks, Lawrence Pearsall, 1860–, English philosopher and Unitarian clergyman He was principal of Manchester College, Oxford, from 1915 to 1931 and professor of philosophy there from 1903 His editorship of the *Hibbert Journal* began with its founding in 1902 His numerous works include *The Challenge of Life* (1924), *The Faith of a Worker* (1925), *Heroes of Smokeover* (1926), *Magic Formula* (1927), *Education of the Whole Man* (1931), *Co-operation or Coercion?* (1938), and *Confession of an Octogenarian* (1942)

Jacksboro, city (pop 2,368), co seat of Jack co, N Texas, SSE of Wichita Falls and NW of Fort Worth, inc 1899 It grew near the frontier army post, Fort Richardson, founded in 1867 It ships cattle, mohair, and turkeys and has an oil refinery and flour mills

jackscrew, see SCREW

Jackson, Abraham Valentine Williams, 1862–1937, American Orientalist, b New York city, grad Columbia (B A , 1883, M A , 1884, Ph D , 1886) He also studied at the Univ of Halle From 1895 to 1935, when he became professor emeritus, he taught at Columbia His particular interest was Persia, and he became a great authority in his day on ancient Persian religion, language, and literature as well as the modern Parsis

Jackson, Andrew, 1767–1845, 7th President of the United States (1829–37), b Waxhaw settlement on the border of South Carolina and North Carolina (both states claim him) A child of the backwoods, he lost his father when he was two years old and his two brothers and his mother in the American Revolution and was left alone at 14 Already he had begun his long military career by fighting against the British in a skirmish at Hanging Rock and had been captured with his brother and imprisoned at Camden, S C After reading law at Salisbury, N C , he was admitted to the bar in 1787 and practiced in the vicinity until he was appointed solicitor for the western district of North Carolina (now Tennessee) In 1788 he moved west to Nashville There he prospered in law practice and land speculation until the Panic of 1795 struck him hard, leaving him with little more than his estate, the HERMITAGE, on which he lived as a cotton-planter during the intervals of his political career until his death, there he is buried He married Rachel Donelson before she had secured a legal divorce from her first husband, and, though the ceremony was later repeated, his enemies made capital of the circumstance He rose in politics, was a member of the convention that drafted the Tennessee Constitution, and was elected (1796) as the sole member from the new state in the House of Representatives The next year when his political chief, William Blount, was expelled from the Senate, Jackson resigned and, to vindicate his party, ran for the vacant seat He won, but in 1798 he resigned after brief and undistinguished service From 1798 to 1804, however, he served notably as judge of the Tennessee superior court He was highly popular In 1802 he was chosen as major general of the state militia, but his private life was not further interrupted until in the War of 1812 he was sent (1813) as commander of western volunteers, to suppress the rebellion of the Creek Indians in Mississippi Territory He defeated the Creek warriors at Horseshoe Bend (March, 1814) after a strenuous campaign and won the rank of major general in the U S army He was given command of an expedition to defend New Orleans against the British The decisive victory gained there over seasoned British troops under Gen Edward Packenham, though it came after peace had already been signed in far-off Europe, made Jackson the one great military hero of the War of 1812 In 1818 he was sent to punish the Seminole who were raiding settlements near the Florida border, but, misinterpreting orders, he crossed the boundary line, captured Pensacola, and hanged two British subjects as punishment for their stirring up the Indians He thus involved the United States in serious trouble with both Spain and Great Britain John Q Adams, then Secretary of State, was the only cabinet member to defend Jackson, but the conduct of Old Hickory, as Jackson was called by his admirers, pleased the people of the West Jackson was now on the threshold of his greater career A brief interlude after he was appointed (1821) first American governor of Florida was of no consequence Jackson, not liked in the territory and not liking the territory, resigned He moved fully on the national scene as the standard-bearer of one wing of the Democratic party The hero of the democratic West, an expansionist, and a man of action, he was the leader of what came later to be called Jacksonian democracy—government for the good of the small man, of the frontier farmer and the backwoodsman, the laborer and the mechanic of the Eastern cities He was hostile to all vested interests and a strong believer in individual freedom His appeal was to artisan and farmer, and therefore he was viewed with suspicion by the mighty and by the more established leaders, who saw him as an upstart He rode on a wave of popularity that almost took him into the presidency in the election of 1824, but his strength was not quite great enough The vote was split with Henry CLAY and John Quincy ADAMS, and when the election was decided in the House of Representatives, Henry Clay threw his influence to Adams, and Adams became President The frustration and the anger of the Jacksonians were great By the time the election of 1828 had arrived, Jackson's cause was more assured John C. CALHOUN, who was the candidate for Vice President with Jackson, brought most of William H Crawford's former following to Jackson, while Martin VAN BUREN and the Albany Regency swung liberal-controlled New York state to him The result was a sweeping victory, Jackson polled four times the popular vote that he had received in 1824 His inauguration brought the "rabble" into the White House, to the distaste of all aristocrats The fundamental issues of his administration were those arising from conflict between the settled proponents of order and the rather disorderly reformers There was a strong element of personalism in the rule of the hot-headed Jackson, and the KITCHEN CABINET—a small group of favorite advisers—was powerful Vigorous publicity and violent journalistic attacks on anti-Jacksonians were ably handled by such men as the elder Francis P BLAIR, Duff GREEN, and Amos KENDALL The party was paramount and party members were rewarded with government posts in what came to be known as the SPOILS SYSTEM Personal relationships were of utmost importance and the social slights suffered by the wife of Secretary of War, John H Eaton (see O'NEILL, MARGARET), helped to break up the cabinet The part that this incident played in alienating Calhoun has often been exaggerated, as has the importance of Calhoun's public criticism of Jackson for the all-but-forgotten Florida affair The issue was more fundamental Calhoun and the South generally felt threatened by the protective tariff that favored the industrial East, and Calhoun evolved the doctrine of NULLIFICATION and resigned from the vice presidency Jackson stood firmly for the Union and had the Force Bill of 1833 (see FORCE BILL) passed to coerce South Carolina into accepting the Federal tariff, but a compromise tariff was rushed through and the affair ended Jackson, on the other hand, took the part of Georgia in the Georgian insistence on states' rights and the privilege of ousting the Cherokee, he refused to aid in enforcing the Supreme Court's decision against Georgia, and the Indians were removed More important than the estrangement of Calhoun was Jackson's long fight against the BANK OF THE UNITED STATES. Though its charter did not expire until 1836, Henry Clay succeeded in having a bill to recharter it passed in 1832, thus bringing the issue into the 1832 presidential election Jackson vetoed the measure, and the powerful interests of the bank were joined with the other opponents of Jackson in a bitter struggle with the anti-bank Jacksonians Jackson in the election of 1832 triumphed over Clay. His second administration—more bitterly resented by his enemies than the first—was dominated by the bank issue Unstayed by the objections of others, Jackson promptly removed the funds from the bank and put them in chosen state banks (the "pet banks"). Secretary of Treasury Louis MCLANE refused to make the transfer as did his successor W J. DUANE, but Roger B TANEY agreed with Jackson's views and made the transfer (see also INDEPENDENT TREASURY SYSTEM). Jackson was a firm believer in a specie basis for currency, and the Specie Circular in 1836, which stipulated that all public lands must be paid for in specie, broke the speculation boom in Western lands, cast suspicion on many of the bank notes in circulation, and hastened the Panic of 1837 The panic, which had some of its roots in earlier crop failures and in overextended speculation, was a factor in the administration of Martin Van Buren, who was Jackson's choice and successful candidate for the presidency in 1836

Jackson retired to the Hermitage and lived out his life there, still despised as a high-handed and capricious dictator by his enemies and revered as a forceful democratic leader by his followers. Although he was a representative of the raw frontier, Jackson was personally dignified, courteous, and gentlemanly—with a devotion to the "gentleman's code" that led him to fight several duels in his life See biographies by J S Bassett (1911) and Marquis James (1933–37), A. M. Schlesinger, Jr., *The Age of Jackson* (1945).

Jackson, Charles Samuel, 1800–1924, American newspaper publisher, b Virginia He went to Oregon in 1880 and for 20 years published the *East Oregonian* at Pendleton In 1902 he took over a Portland paper, renaming it the *Oregon Journal* He was a forceful editor and crusaded for popular government and the secret ballot His journal was a power in the movement for the program which made up the Oregon System, including initiative, referendum, and recall, direct primaries, and popular election of U.S Senators He advocated the income tax, tax reforms, woman suffrage, welfare legislation, and municipal reform His paper, with its independence, usually supported Democratic candidates, thus opposing the Republican *Oregonian*. Jackson donated to Oregon the site of Sam Jackson Park.

Jackson, Charles Thomas, 1805–80, American physician and scientist, b Plymouth, Mass, M D Harvard, 1829 He studied in Europe and returned to Boston to practice He became a consulting chemist and geologist and carried out official, but somewhat superficial, geological surveys of Maine, Rhode Island, and New Hampshire He had a penchant for original investigation and a mind fertile in ideas he claimed to have suggested to Morse the principle of the telegraph Jackson had discovered, as had others, the anesthetizing properties of ETHER and suggested its use to W. T G MORTON A bitter rivalry grew up between the two men over credit for the discovery Jackson's claim was recognized in Europe, but he later withdrew from the controversy in favor of C W. LONG His last years were clouded by mental illness

Jackson, Chevalier, 1865–, American bronchoscopist, b Pittsburgh, M D Jefferson Medical College, Philadelphia, 1886 Specializing in surgery of the larynx, bronchial tubes, and esophagus, he trained many doctors in his methods He perfected the technique of removing foreign bodies from the respiratory tract by means of the bronchoscope and from the digestive tract by the esophagoscope His writings include *Bronchoscopy, Esophagoscopy, and Gastroscopy* (1934), *The Foreign Body in Air and Food Passages* (1934), and an autobiography (1938) With his son, Chevalier L Jackson, he wrote *Cancer of the Larynx* (1939) and *Diseases of the Nose, Throat, and Ear* (1945)

Jackson, Claiborne Fox, 1806–62, governor of Missouri, b Fleming co, Ky In 1822 he moved to Missouri, and there he practiced law Speaker of the state legislature (1844–46), he later was a leader of the proslavery Democrats who eventually defeated Sen Thomas H BENTON Elected governor in 1860, Jackson recommended the calling of the state convention which voted down both secession and coercion of the South (1861) He attempted to arm the state militia from the Federal arsenal in St Louis but was frustrated by Francis P BLAIR and Nathaniel LYON Lincoln's request for troops was refused by Jackson, who characterized the Union cause as an "unholy crusade " Upon Lyon's seizure of Camp Jackson, the governor called for volunteers but was forced to withdraw with them to SW Missouri. When the convention, assuming constituent powers, deposed the state government, Jackson, at Neosho, convened (1862) a "rump" legislature, which, however, proved ineffective

Jackson, Frederick George, 1860–1938, British arctic explorer In 1893–94 he explored the tundra in arctic Russia and in Lapland, and he commanded (1894–97) the Jackson-Harmsworth expedition which explored Franz Josef Land His chance encounter (1896) with Fridtjof Nansen and F H. Johanson, who were returning by sledge from their attempted journey to the North Pole, probably saved the lives of these explorers His books include *The Great Frozen Land* (1895) and *A Thousand Days in the Arctic* (1899)

Jackson, Frederick John Foakes-, 1855–1941, theologian and church historian, b. England A fellow of Jesus College, Cambridge Univ, from 1886, he was lecturer there from 1882 and dean from 1895 to 1916 From 1916 to 1934 Foakes-Jackson was Briggs professor of Christian institutions in Union Theological Seminary, New York city His many books include *Introduction to the History of Christianity, A.D 590–1314* (1921), *Biblical History of the Hebrews to the Christian Era* (4th ed , 1921), *History of the Christian Church from the Earliest Times to A D 461* (7th ed , 1924), *Studies in the Life of the Early Church* (1924), *St. Paul, the Man and the Apostle* (1926), *Peter, Prince of Apostles* (1927), and *A History of Church History. Studies of Some Historians of the Christian Church* (1939).

Jackson, Helen (Fiske) Hunt, 1830–85, American writer, whose pseudonym was H.H., b. Amherst, Mass She was a school friend of Emily Dickinson After the death in 1863 of Major Edward B Hunt, her first husband, Mrs Hunt was encouraged by T W Higginson to write for periodicals Her *Verses* (1870) and *Sonnets and Lyrics* (1886) pleased many critics, including Emerson, and she also wrote novels, children's stories, and travel sketches In 1875 she married a Colorado banker, W. S Jackson She published a historical account of the government's injustice to American Indians, *A Century of Dishonor* (1881), served as government investigator of the Mission Indians of California, and, when no action was taken on her report, wrote her famous romance *Ramona* (1884) on the Indian problem See biography by Ruth Odell (1939)

Jackson, Henry Rootes, 1820–98, American lawyer, diplomat, and Confederate general, b Athens, Ga , grad Yale, 1839 He was admitted to the bar in 1840, served in the Mexican War, and was judge of the superior court of Georgia (1849–53) He was chargé d'affaires and then minister at Vienna (1853–58) In the Civil War, Jackson was major general of Georgia state troops and later brigadier general in the Confederate army under J B Hood Captured at the battle of Nashville in Dec , 1864, he remained a prisoner for the rest of the war He was minister to Mexico for a short time in 1885

Jackson, Howell Edmunds, 1832–95, American jurist, b Paris, Tenn , grad Cumberland Univ., 1856 He practiced law in Jackson, Miss , and Memphis, Tenn He was elected (1880) to the state legislature and was (1881–86) U S Senator He resigned to become a U S circuit judge, and President Harrison in 1893 selected him, a moderate Democrat, for a Supreme Court vacancy Shortly before his death from tuberculosis, he dissented from the decision that held the income tax unconstitutional He was a quiet man and an able lawyer

Jackson, James, 1777–1867, American physician, b Newburyport, Mass , M D Harvard, 1809 At Harvard he taught in the reorganized medical school (1812–36) He learned the technique of vaccination in London and introduced it in Boston in 1800, a few months after the method had been used by Benjamin WATERHOUSE He was a founder of the Massachusetts General Hospital and author of a textbook on medical practice and of the lively *Letters to a Young Physician* (1855)

Jackson, John Adams, 1825–79, American sculptor, b Bath, Maine, studied in Boston and Paris His work was especially noted for correctness of anatomy He lived chiefly in Paris and in Florence. Among more than 100 portrait busts were those of Lyman Beecher and of Wendell Phillips (Boston Athenaeum) His *Eve and the Dead Abel* is in the Metropolitan Museum

Jackson, Patrick Tracy, 1780–1847, pioneer American cotton manufacturer With his brother-in-law, Francis C LOWELL, and with the assistance of Paul Moody, he established c 1813 at Waltham, Mass , a mill which combined all the operations necessary for converting the raw cotton to the finished fabric In 1821 he purchased land along the Merrimack river, establishing there the Merrimack Manufacturing Company, which was the beginning of the town of Lowell See C F Ware, *The Early New England Cotton Manufacture* (1931)

Jackson, Robert Houghwout (hou'ut), 1892–, Associate Justice of the U S Supreme Court (1941–), b Spring Creek, Center co , Pa He studied law at Albany Law School and Chautauqua Institution, was admitted (1913) to the bar, and practiced in Jamestown, N Y He became (1934) general counsel of the Bureau of Internal Revenue and, without benefit of a law degree, he efficiently served (1936–38) as Assistant Attorney General in charge of the antitrust division A strong advocate of New Deal policies, Jackson succeeded (1938) Stanley Reed as U S Solicitor General and argued many Supreme Court cases involving constitutional law He succeeded (1940) Frank Murphy as U S Attorney General, and in 1941 President Franklin D Roosevelt appointed him to the Supreme Court Here his opinions continued to reflect his opposition to monopolies He went on leave (1945–46) from the bench to be U S chief counsel at the Nuremberg war-crimes trial He wrote *The Struggle for Judicial Supremacy* (1940) and *The Case against the Nazi War Criminals* (1945)

Jackson, Samuel Macauley, 1851–1912, American Presbyterian clergyman and encyclopedist, b New York city, grad College of the City of New York, 1870, and studied at Princeton Theological Seminary (1870–71), at Union Theological Seminary (1871–73), and at the universities of Leipzig and Berlin He was associate editor in the preparation of the original *Schaff-Herzog Encyclopedia* (1884) and editor in chief of the greatly enlarged *New Schaff-Herzog Encyclopedia of Religious Knowledge* (13 vols , 1908–14) He also edited the *Concise Dictionary of Religious Knowledge* (rev ed , 1891) and the "American Church History" series (13 vols., 1893–97) Jackson was religious editor of several encyclopedias and dictionaries He wrote for the "Heroes of the Reformation" series, which he sponsored, a standard biography of Huldreich Zwingli (1901) The moving spirit of the American Society of Church History, he edited its papers.

Jackson, Sheldon, 1834–1909, American missionary and educator, b Montgomery co , N Y , grad Union College, 1855, and Princeton Theological Seminary, 1858 He became a Presbyterian home missionary in Minnesota and Wisconsin and after 1870 was missionary superintendent in the Rocky Mt area, editing the *Rocky Mountain Presbyterian* (1872–82) He established numerous churches In 1884 he went to Alaska as superintendent of missions, having already established missions and schools in that territory In 1885 he became the first federal superintendent of public instruction for Alaska with the task of organizing a free school system for Indian, Eskimo, and white children He succeeded in the next 20 years through work and travel in bringing school facilities to all corners of Alaska He urged the introduction and raising of reindeer in the territory to supplement the dwindling food resources and in 1892, with government aid, brought the first reindeer into Alaska from Siberia He aided in organizing the territorial government and in establishing mail routes He was active in Alaskan politics as the moving spirit in the "missionary" party He wrote numerous governmental and religious reports and *Difficulties at Sitka in 1885* (1886)

Jackson, Thomas Jonathan known as **Stonewall Jackson,** 1824–63, Confederate general, b Clarksburg, Va (now W Va), grad West Point, 1846 He served with distinction under Scott in the Mexican War and from 1851 to 1861 taught at the Virginia Military Institute He resigned from the army in Feb , 1852 At the beginning of the Civil War, Jackson, practically unknown, was made a colonel of Virginia troops and sent to command at Harpers Ferry After J E JOHNSTON superseded him there in May, 1861, he was given a brigade in Johnston's army and made a Confederate brigadier general At the first battle of BULL RUN, Jackson and his brigade earned their sobriquet by standing (in the words of Gen Barnard Bee) "like a stone wall" He was promoted major general, and in November, Johnston assigned him to command in the Shenandoah Valley Jackson's attack on Shields's division at Kernstown on March 23, 1862, was repulsed but forced the retention of Union troops in the valley In April, R E LEE suggested that Jackson fall upon Banks's force in the lower valley, hoping that McDowell's army would thereby be diverted from joining McClellan before Richmond (see PENINSULAR CAMPAIGN) Jackson's renowned Valley campaign resulted He first defeated part of Frémont's force at McDowell (c 25 mi W of Staunton) on May 8, 1862, and then, returning to the Shenandoah, routed Banks at Front Royal and Winchester (May 23–25) and drove him across the Potomac The Federal administration, fearing that Jackson would now advance on Washington, sent Shields from McDowell's army to join Frémont, advancing from the west, in cutting off Jackson Stonewall, however, retreated rapidly to the head of the valley and on June 8–9 defeated his pursuers in detail at Cross Keys and PORT REPUBLIC With the diversion a complete success, Jackson joined Lee in the SEVEN DAYS BATTLES After the brilliance of the Shenandoah campaign, his service in that week of fighting was disappointing But he soon redeemed himself The speedy turning movement executed by his "foot cavalry" against Pope late in Aug , 1862, set the stage for the crushing victory at the second battle of Bull Run, and in the ANTIETAM CAMPAIGN he marched promptly to Lee's aid after he had captured the Harpers Ferry garrison When Lee reorganized the Army of Northern Virginia after Antietam, he made Jackson commander of the 2d Corps, and Stonewall was promoted lieutenant general He ably commanded the Confederate right in the battle of FREDERICKSBURG in December In the battle of CHANCELLORSVILLE, Lee and Jackson repeated the tactics of second Bull Run Jackson's turning movement completely crumbled Hooker's right (May 2, 1863) When pressing on in the darkness Stonewall Jackson was mortally wounded by the fire of his own men His death was a severe blow to the Southern cause Jackson was a tactician of first rank and, though a strict disciplinarian, had the affection of his men His devout Calvinism, fighting ability, and arresting personal quirks make him probably the most interesting figure of the war He was Lee's ablest and most trusted lieutenant and, next to Lee, the South's greatest and most loved general The definitive biography is by G F R Henderson (2 vols , 1898, new ed , 1936) See also biographies by R L Dabney (1866), H A White (1909), and Allen Tate (1928), *Memoirs of Stonewall Jackson*, by his wife, Mary Jackson (1892), H K Douglas, *I Rode with Stonewall* (1940), D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Jackson, William Henry, 1843–1942, American artist and pioneer photographer of the West, b Keeseville, N Y After he served with the Union army in the Civil War he traveled (1866–67) overland to California, part of the way on a Mormon wagon train, and then (1868) settled in Omaha. Engaged in photography after 1858, Jackson devoted himself to recording picturesque and historic sites of

the West He photographed the building of the Union Pacific RR, the mining booms at Cripple Creek and Leadville, and the cliff dwellings at Mesa Verde His photographic series on the Yellowstone region was instrumental in having the area set aside as a national park He moved (1924) to Washington, D C , began painting, and at the age of 93 he executed a series of murals on the Old West for the new Dept of Interior Building See his autobiography, *Time Exposure* (1947), Clarence S Jackson, *Picture Maker of the Old West* (1947).

Jackson. **1** Town (pop 2,039), SW Ala., on the Tombigbee and N of Mobile, in a lumbering and farming area, settled in the early 19th cent , inc 1816. Salt Springs State Park and mineral wells are near by **2** City (pop 2,024), co seat of Amador co., central Calif , ESE of Sacramento, settled c.1848, inc 1905 It is a trading center and a mining town in an area which produces gold, farm products, clay, and marble **3** City (pop 1,917), co seat of Butts co , N central Ga , SE of Atlanta, inc 1826 It is a trade and processing center in a farm area Indian Springs State Park is near by **4** City (pop 2,099), co seat of Breathitt co , E Ky , on the Kentucky river and NW of Hazard It is a trade center for a mountain region with coal, timber, and farms At near-by Quicksand is a forestry experiment station of the Univ of Kentucky College of Agriculture **5** Town (pop 5,384), SE La , N of Baton Rouge A state mental hospital is here **6** City (pop 49,656), co seat of Jackson co , S Mich , on the Grand and W of Detroit, settled 1829, inc. as a village 1843, as a city 1857 It is an industrial and commercial center in a farming region dotted with lakes, and it manufactures automobile and airplane parts, radios, and machine tools A tablet marks the site of the founding in Jackson of the Republican party (July 6, 1854) Indian trails crossed here and numerous Indian relics are found in the vicinity A state prison is near by **7** City (pop 2,840), co seat of Jackson co , SW Minn , on the Des Moines river near the Iowa line, settled before 1857, destroyed in the Sioux outbreak of 1862, replatted 1866, inc 1881 It is a trade and distribution center for a farm area **8** City (pop 62,107), state capital, and a co seat of Hinds co , W central Miss , on the Pearl river It is the largest city and the railroad and shipping center of the state, with important industries centered around cotton, lumber, textiles, and natural gas Jackson has grown rapidly in recent years, the population having tripled since 1920 The site of the city, a trading post known as Le Fleur's Bluff, was chosen and laid out as the state capital in 1821 and named for Andrew Jackson, the legislature first met here in 1822, and the town was incorporated in 1833 In the Civil War it was a center of military activity in the VICKSBURG CAMPAIGN and was largely destroyed by Sherman in 1863 The old capitol (1839) is preserved, the new capitol was occupied in 1903 In the city are Millsaps College (Methodist, coeducational, opened 1892), Belhaven College (Presbyterian, for women, 1894), Jackson College (Negro, state supported, coeducational, 1877), several state institutions for the physically and mentally handicapped, the governor's mansion (completed 1842), an art gallery, the state fairgrounds, a notable Confederate monument, and the state museum and library Near by is Tougaloo College (Negro, Congregationalist, coeducational, 1867) **9** City (pop 3,113), co seat of Cape Girardeau co , SE Mo , founded c.1815 It is a trade and processing center in a farm and timber area and has shoe and brick industries **10** City (pop 6,295), co seat of Jackson co , S Ohio, SE of Chillicothe, founded 1817 and settled shortly after by Welsh immigrants Among its varied products are iron, prepared sand, lumber, clay, and packed meat Buckeye Furnace State Park, Leo Petroglyph State Park, and Canter's Cave are near **11** City (pop 24,332), co seat of Madison co , W Tenn , on South Fork of the Forked Deer river and NE of Memphis, settled 1819, inc as a town 1823, as a city 1845. It is a railroad center (with large repair shops), an industrial city with a variety of manufactures, and a shipping point for an extensive farm area Lane College (Negro, Methodist Episcopal, coeducational, 1882), Union Univ. (coeducational), and Lambuth College (coeducational) are here, as well as the West Tennessee Fairgrounds A monument (1947) marks the grave of "Casey" Jones, hero of the railroad ballad Near by are an experiment station of the Univ of Tennessee College of Agriculture and several Indian mounds **12** Resort town (pop 1,046, alt c 6,200 ft), co seat of Teton co , NW Wyo It is the trade center for the JACKSON HOLE hunting, dude-ranch, and livestock area Southern gateway to Grand Teton National Park, it is headquarters for Teton National Forest

Jackson, Port, or **Sydney Harbour,** inlet of the Pacific, E New South Wales, Australia, forming Australia's finest harbor Broken into many coves, it is 12 mi long, 1 5 mi wide at its mouth, and c.22 sq mi. in area Sydney on the south shore is connected with its north suburbs by Sydney Harbour Bridge (1932), with an arch span of 1,650 ft. In the inlet is Cockatoo Island with large shipyards. The port was an Allied naval base in the Second World War.

Jackson Hole, fertile valley, almost 50 mi. long and from 6 to 8 mi wide, NW Wyo , S of Yellowstone National Park and E of Grand Teton National Park It is watered by the Snake river Jackson Lake (18 mi long and 4 mi wide), through which the Snake flows, has since 1916 had a storage dam for controlling the flow of the river Abounding in game, especially elk, Jackson Hole has been visited by hunters and trappers since the trapper David Jackson wintered there in 1828–29 **Jackson Hole National Monument,** 173,064 62 acres, was authorized in 1943 A section of 1,500 acres at the north was set aside (1948) as Jackson Hole Wildlife Park and was stocked with deer, bison, antelope, elk, moose, and other animals native to the region This was donated by the Rockefeller family, who gave more land to the monument in 1949

Jacksonville. **1** City (pop 2,995), NE Ala., N of Anniston near U S Fort McClellan, in a cotton area A state teachers college is here **2** City (pop 173,065), co seat of Duval co , NE Fla , largest city in the state, on the St Johns river near its mouth on the Atlantic One of the most important Southern commercial centers on the Atlantic coast, it is a great rail, air, and highway center and a busy port of entry, with extensive freight-handling facilities Naval stores, lumber, farm and orchard produce, chemical products, and oil are the most important exports It is also a leading tourist resort, with easy access to hunting, fishing, and bathing areas Lewis Hogan settled here in 1816, and in 1822 the city was laid out on the site of a place known as Cowford, it was named for Andrew Jackson, first territorial governor of Florida, and was incorporated in 1832 The Seminole War and the Civil War (in which much of the city was destroyed) interrupted the city's growth With the building of a fine harbor and railroads in the late 19th cent , industry and commerce developed A fire in 1901 destroyed a large part of the city; it was quickly rebuilt South Jacksonville was annexed in 1932 Places of interest include the large public library, the municipal docks and yards, a war-memorial fountain, and the Confederate monument in Hemming Park Jacksonville has an important naval air training station (est 1940) **3** City (pop 19,844), co seat of Morgan co , W central Ill , W of Springfield, laid out 1825, inc 1840 It is a rail and trade center in a grain area One of the oldest cities in the state, it manufactures metal products and clothing, but is noted chiefly as an educational center Illinois College (coeducational, 1830) and MacMurray College for Women (Methodist, 1847) are here Among its residents were Stephen A Douglas and William Jennings Bryan. Lincoln was well known here The city was a station on the Underground Railroad Jacksonville is the seat of the state school for the deaf, the state school for the blind, and a state hospital for the insane **4** City (pop 7,213), E Texas, NE of Palestine, inc 1916 Founded in 1847, it was moved to its present site in 1872 and was a market for a pine-lumbering and farming region until truck growing made it prosperous after the 1920s Its packing sheds handle vast quantities of tomatoes each spring There are two junior colleges

Jacksonville Beach, city (pop 3,566), NE Fla , on the Atlantic coast ESE of Jacksonville, inc 1907. It is a popular resort

Jacob (jā'kŭb, jā'kūp) [Heb ,=supplanter] **1** Ancestor of the Hebrews, the younger of the twin sons of Isaac and Rebekah The older was Esau He got his brother's birthright by a bargain and, with his mother's help, received the blessing which the dying Isaac had intended for Esau His brother was so enraged at this that Jacob fled to his uncle in Padanaram On his way, at Bethel, he had a vision of angels ascending and descending the ladder to heaven After serving the crafty Laban for 20 years Jacob started back to the land of his fathers with his two wives, many sons, and rich possessions On the banks of the Jabbok he wrestled with an angel and received the name of ISRAEL Later, in the days of famine, he migrated with his family to Egypt and was reunited with his son Joseph Here in the land of Goshen he died, but they buried him in the family burying ground of Machpelah His sons were the ancestors of the 12 tribes of Israel Gen 25–50, Hosea 12 2–4,12, Mal 1 2, Acts 7.12-16, Heb 11 20,21. **2** Father of St Joseph Mat 1 15,16

Jacob, Max (mäks' zhäkôb'), 1876–1944, French writer and painter, b Brittany. He antedated—in his dream-inspired verse, plays, and novels—the symbolist and surrealist schools, but differed from later practitioners by his insistence on a belief in natural order and arrangement. Among his novels are *Saint Matorel* (1909), *Le Terrain Bouchaballe* (1923), and *Filibuth; ou, La Montre en or* (1924). His verse was published in *Fond de l'eau* (1927) and *Rivages* (1932) and in *La Défense de Tartufe* (1919), combining prose and poetry, and forms part of the play *Le Siège de Jérusalem drame céleste* (1912–14). He wrote also volumes of short stories, books of prose poems, and the influential study *Art poétique* (1922). He was a prolific writer and his posthumous publications number several volumes. In 1930 and 1938 he held one-man shows of his paintings in New York. After he experienced in the early 1900s two mystic visions of Christ, he was converted to Catholicism and used his religious experience as subject matter in his work. He died in a concentration camp

Jacobean style (jăkōbē'ăn), an early phase of the English Renaissance architecture and decoration. It formed a transition between the Elizabethan and the pure Renaissance style later introduced by Inigo JONES The reign of James I (1603–25), who was a disciple of the new scholarship, saw the first decisive adoption of Renaissance motives, in a free form communicated to England through German and Flemish carvers rather than directly from Italy Though the general lines of Elizabethan design remained, upon this distinctively English manner with its picturesque gables, massive chimneys, and mullioned bay windows were grafted the newly imported details Gothic influence ceased, yet suggestions of it lingered beneath the surface of the new manner Much use was made of columns and pilasters, round-arch arcades, and flat roofs with openwork parapets These and other classical elements appeared in a free and fanciful vernacular rather than with any true classical purity With them were mixed the prismatic rustications and the ornamental detail composed of scrolls, straps, and lozenges characteristic of Elizabethan design also Upon furniture and the decorative arts the manner made a similar imprint Increase of wealth and the abundant construction of colleges, hospitals, almshouses, and manors encouraged innovations Jacobean examples of note are Hatfield House, Hertford, Knole House, Kent, and Holland House by John Thorpe See J A Gotch, *Early Renaissance Architecture in England* (1901).

Jacobi, Abraham (jukō'bē), 1830–1919, American physician, b Westphalia, Germany, M D Bonn, 1851 After being imprisoned for participating in the Revolution of 1848, he escaped and in 1853 came to the United States He contributed to the advance of pediatrics as professor of diseases of children at New York Medical College (where in 1860 he opened the first pediatric clinic in the country) and at Columbia Univ (1870–1902) He was a founder and editor of the *American Journal of Obstetrics* and author of numerous works Mary Putnam Jacobi was his wife

Jacobi, Friedrich Heinrich (frē'drĭkh hĭn'rĭkh yäkō'bē), 1743–1819, German philosopher Though educated for commerce, he early gave up business and became in 1770 a member of the council for the duchies of Berg and Jülich A brilliant personality, he attracted to his home near Düsseldorf a notable literary and philosophic circle His later years were spent in Holstein and in Munich, where he was appointed (1807) president of the newly founded Academy of Sciences His collected works were published in 1812–25 Among them are *Briefe über die Lehre des Spinoza* (1785) and *David Hume über den Glauben, oder, Idealismus und Realismus* (1787) Jacobi criticized both Kant and Spinoza, arguing that philosophy cannot maintain distinct realms of existence and that it must be consistent and consider everything in the same cause and effect sequence If this is done, however, then the originality and individuality of our experiences are lost Jacobi's solution involved a unity and consistency based entirely on faith He felt that even immediate sense perception is miraculous Reason, then, must be restricted to its immediate material, and the ultimate reality is to be intuitively sensed See biography by Norman Wilde (1894), A W Crawford, *The Philosophy of F H Jacobi* (1905)

Jacobi, Karl Gustav Jakob (karl' gōōs'täf yä'kôp yakō'bē), 1804–51, German mathematician He was professor of mathematics at Königsberg (1827–42) He is noted for his work on elliptical functions, described in his *Fundamenta Nova Theoriae Functionum Ellipticarum* (1829), and on differential determinants and the theory of numbers

Jacobi, Mary Putnam (jukō'bē), 1842–1906, American physician, b England, grad Woman's Medical College of Pennsylvania, 1864, daughter of George P Putnam and wife of Abraham Jacobi The first woman student at the École de Médecine, Paris, and the first woman member of several medical societies, she was professor at the Woman's Medical College of the New York Infirmary and at the New York Post-Graduate Medical School Her writings are on medical subjects and on problems concerning women See her *Life and Letters* (ed. by Ruth Putnam, 1925)

Jacobins (jăk'ŭbĭnz), political club of the FRENCH REVOLUTION It was originally founded by the Breton deputies to the States-General of 1789, who met at the monastery of the Jacobins (Parisian name of Dominicans), whence their popular name Their chief purpose was to secure support for the group outside the Legislative Assembly Patriotic societies were formed in most French cities in affiliation with the Parisian club. The members were, for the most part, bourgeois and at first included such moderates as Mirabeau, Sieyès, and Lafayette The Jacobins exercised through their journals considerable pressure on the Legislative Assembly, in

which they and the FEUILLANTS were (1791–92) the chief parties They sought to limit the powers of the king, and many of them had republican tendencies The group split on the issue of royal power the majority, the GIRONDISTS, sought a foreign war to disgrace the monarchists, the minority, the Parisian group, opposed foreign wars and insisted on direct reform This latter group grew more radical, adopted republican ideas, and advocated universal manhood suffrage, popular education, and separation of Church and state, but adhered to fairly conservative economic principles In the National Convention the Jacobins and other extremist opponents of the Girondists, notably the CORDELIERS, sat in the raised seats and were called the MOUNTAIN Their leaders—DANTON, ROBESPIERRE, and SAINT-JUST among others—relied mainly on the strength of the Paris commune and the Parisian working class, while the Girondists drew their strength from the provinces After the fall of the Girondists (June, 1793), the Jacobins insured their power by instituting the REIGN OF TERROR Having suppressed the opposition of the right, the Jacobins triumphed over their rivals to the left in March, 1794, when HÉBERT and his followers were guillotined The struggle now became a personal quarrel between Robespierre and Danton Danton fell (April, 1794), and Robespierre headed a virtual Jacobin dictatorship His own fall on 9 THERMIDOR (July, 1794) meant the fall of the Jacobins, but their spirit lived on in revolutionary doctrine The party reappeared in the Directory and in altered form much later in the Revolution of 1848 See Crane Brinton, *The Jacobins* (1930)

Jacobite Church (jăk'ŭbīt), Christian church of Syria, Iraq, and India, regarded by Roman Catholics and the Orthodox as heretical It was founded (6th cent) as a Monophysite church in Syria by Jacob Baradaeus, greatly helped by Empress Theodora It is thus analogous in position to the Coptic Church, the Monophysite church of Egypt For many centuries the Jacobites were under Moslem dominion They had a tradition of scholarship, and Bar-Hebraeus was a Jacobite bishop Most Jacobites live in Iraq, their head (the patriarch of Antioch) lives at Homs They resemble other Eastern Christians in custom, their rite is the Antiochene or West Syrian, the liturgical language is Syriac Since the 17th cent there has been constant contact with Rome; as a result there is a community in communion with the pope having practices and rite in common with the Jacobites These "Syrian Catholics" number about equally with the Jacobites, their head, another patriarch of Antioch, lives at Beyrouth They have a separate church organization from the Melchites, Maronites, and Chaldean Catholics, which are other communities of Syria and Iraq in communion with Rome In Malabar, India, there is a Christian sect of "Malabar Jacobites", this group came into existence in the 17th cent , when the bulk of the Malabar Christians left the Roman communion and established relations with the Jacobite patriarch They now use the Antiochene rite, with some differences They are divided into two disputing jurisdictional parties, and there is a quasi-Protestant group of "Reformed Jacobites " In the 20th cent a large number of Malabar Jacobites entered into communion with the pope, retaining their liturgy and practices These "Malankarese Catholics" are ecclesiastically separate from both the Syrian Catholics, whose rite they share, and from the "Syro-Malabar Catholics" (Chaldean rite), who represent the Malabar Christians who did not leave the Roman communion when the Malabar Jacobites did See Donald Attwater, *The Christian Churches of the East* (1947, 1948)

Jacobites (jă'kŭbīts), adherents of the exiled branch of the house of STUART after the Revolution of 1688 They take their name from the Latin form (*Jacobus*) of the name of JAMES II, whom they sought to restore to the English throne Following the death of James II, the Jacobites advanced the claim of his son, James Edward STUART, the Old Pretender, and afterwards of his grandson, Charles Edward STUART, the Young Pretender, and of his descendants until the direct line ran out with Henry STUART (Cardinal York, d 1807), whom they styled Henry IX Thenceforth the claim passed to the descendants of Charles I through the line of his daughter, Henrietta Although this line still exists, no claim has been advanced since the time of Henry Stuart The political importance of the Jacobites falls between 1689 and 1745 The Bloodless Revolution of 1688 which replaced James II with WILLIAM III and MARY II left many partisans of James in the British Isles They were most numerous in Scotland, Ireland, N Wales, and N England The NONJURORS, who held the doctrine of nonresistance and refused the oath to William, were an important group. Many Jacobites were Roman Catholics, as were the Stuarts, many were high churchmen and extreme Tories who were opposed to the Whig leanings of the Hanoverians In 1689 James II attempted to reestablish himself in Ireland, where his cause was strong. He was defeated by William III at the battle of the Boyne (1690) and fled to France, although the earl of TYRCONNEL continued his efforts a few months The two major Jacobite risings in the 18th cent are known by their dates—"the '15" and "the '45 " Before the death of Queen Anne (1714) the Jacobites abroad had intrigued with Henry ST JOHN, Viscount Bolingbroke, hoping to crown the Old Pretender instead of George of Hanover (GEORGE I) at the queen's death When the plans failed, a rising was effected in Scotland (1715), led by "Bobbing John" (John Erskine, earl of MAR), with the cooperation from France of Bolingbroke Mar's hesitancy and military incompetence doomed the revolt, at Preston (in Scotland) the Jacobites capitulated to the English, Nov 13, 1715, and on the same day in an indecisive battle at Sheriffmuir the duke of Argyll defeated Mar's Jacobite forces. James Edward crossed from France in January and was proclaimed king, but his cause was already lost. He returned to France in February, spent a year in Avignon and the rest of his life in Italy An abortive invasion and rising under George Keith, Earl Marischal, was easily crushed by the government in 1719 In 1745, under cover of the English war with France, Charles Edward, the Young Pretender (Bonnie Prince Charlie), undertook another rising in favor of his father. He landed in W Scotland, gathered a Highland force, and was joined by Lord George MURRAY at Perth Victorious over Sir John Cope's English forces at Prestonpans (in N England) in Sept , 1745, Charles's army invaded England as far as Derby, thereby causing a near-panic in London Despite Charles's objections, his council of war decided to retreat because of lack of support from English Jacobites and French allies, and the action was skillfully carried out under Lord George Murray On April 16, 1746, the exhausted Jacobite troops were defeated by English soldiers under the duke of Cumberland at Culloden Moor Charles eventually escaped to France This was the end of Jacobitism as an important force and of the Scottish anti-Hanoverian movement Jacobite sympathies lingered, and Jacobite activities gave rise to much ballad literature and were the theme of such later literary works as Sir Walter Scott's *Rob Roy*, *Waverley*, and *Redgauntlet*, W M Thackeray's *Henry Esmond*, and R L Stevenson's *Kidnapped* See various histories of England and Scotland, special studies of the Jacobites and the risings by Charles S Terry (especially 1900 and 1922), F W Head (1901), and Sir Charles Petrie (1932, 1933, 1937), several editions of documents and documentary studies by Alistair Tayler and Henrietta Tayler, especially *1715 the Story of the Rising* (1936) See also W K Dickson, ed , *The Jacobite Attempt of 1719* (1894), George Menary, *Life and Letters of Duncan Forbes of Culloden* (1936)

Jacobs, Helen Hull, 1908–, American tennis player, b Globe, Ariz , studied at the Univ of California She won wide recognition on the courts by taking the U S women's singles title for four consecutive years (1932–35) and by beating Alice Marble for the British women's singles crown in 1936 In 1935 Miss Jacobs lost the British title to Helen Wills Moody in a heartbreaking defeat which saw her one game short of taking the match She was (1943–45) an officer in the Waves in the Second World War She wrote *Modern Tennis* (1933) and *Beyond the Game* (1936) and also several books under the pseudonym of H Braxton Hull

Jacobs, Joseph, 1854–1916, Jewish writer, historian, and folklorist, b Australia He lived in England until 1900, when he came to the United States to edit a revision of *The Jewish Encyclopedia* He was later a teacher at the Jewish Theological Seminary in New York city and editor of the *American Hebrew* His major contributions to Jewish history include *Jews of Angevin England* (1893), *An Inquary into the Sources of the History of the Jews in Spain* (1894), and *Jewish Contributions to Civilization* (1919), an incomplete fragment His *Story of Geographical Discovery* (1899) went through a number of editions From 1889 to 1900 Jacobs edited *Folk-Lore*, the journal of the Folk-Lore Society He also compiled several collections of fairy tales and edited scholarly editions of Aesop's fables (1889) and the *Thousand and One Nights* (6 vols , 1896)

Jacobs, William Wymark, 1863–1943, English author, b London His humorous short stories, chiefly of the London docks near which he spent his boyhood, appeared in the magazines *Idler* and *Today* His first collection, *Many Cargoes* (1896), is still one of his most popular books, and its success allowed him to leave his civil service job Among his other works are *The Skipper's Wooing* (1897), *Light Freights* (1901), *Salthaven* (1908), and the omnibus volume *Snug Harbour* (1931) "The Monkey's Paw" is a superlative horror story, his most famous one, and was adapted successfully for the stage by L N Parker, with whom Jacobs wrote several comedies as well

Jacobsen, Jens Peter (yĕns' pā'tûr yā'kôpsun), 1847–85, Danish novelist and poet His first great work was the historical romance *Marie Grubbe* (1876, Eng tr , 1925), a study of 17th-century life in Denmark His second novel, *Niels Lyhne* (1880, Eng tr , 1919), was followed by a volume of poems. Jacobsen was the creator of a new prose style in Danish, the effect of his work extended beyond his own country His collected works, containing a sketch by Georg Brandes, appeared in 1924–28 in four volumes See his *Letters to Edvard Brandes* (3d ed , 1925), Alrik Gustafson, *Six Scandinavian Novelists* (1940)

Jacobus de Voragine (jŭkō'bus dū vurăj'ĭnē), c 1230-1298, Italian hagiographer, b Varazze (then Voraggio), near Savona He became a Dominican in 1244, was provincial of Lombardy, and was archbishop of Genoa after 1292 He was noted for his piety and great charity, was beatified in 1816, and is revered as a saint in Genoa and Savona He is, however, remembered almost solely as the compiler of *The Golden Legend* (see GOLDEN LEGEND, THE)

Jacoby, Harold (jukō'bē), 1865–1932, American astronomer, b New York city, grad Columbia (B A , 1885, Ph D , 1895) He taught at Columbia from 1888 to 1930 and was acting director of the Columbia Observatory (1903–6), then director (1906–30) As assistant astronomer on the U S eclipse expedition of 1889–90, he went to West Africa on the U S S *Pensacola* Besides many technical papers on such subjects as stellar parallax, star clusters, and stellar photography, he wrote more popular articles and also books, including *Practical Talks by an Astronomer* (1891), *Astronomy a Popular Handbook* (1913), and *Navigation* (1917)

Jacopone da Todi (yäkōpō'nā da tō'dē), 1230?-1306, Italian religious poet, whose name was originally Jacopo Benedetti After the sudden death of his wife, he renounced (c 1268) his career as an advocate, gave his goods to the poor, and after 10 years of penance became a Franciscan tertiary He wrote many poems full of ardent mysticism and is probably the author of the hymn *Stabat Mater Dolorosa* See Evelyn Underhill, *Jacopone de Todi, Poet and Mystic* (with selections, 1919), Helen C White, *A Watch in the Night* (1933)

Jacquard, Joseph Marie (zhôzĕf' märē' zhäkär'), 1752–1834, French inventor, whose loom is of the greatest importance in modern mechanical figure weaving After several years of experimentation, he received a bronze medal for his model exhibited at the Industrial Exposition at Paris (1801) In 1806 his perfected loom was bought by the state and declared public property, and he was granted an annuity of 3,000 francs and a royalty on all looms sold The Jacquard LOOM, the first machine to weave in patterns, has had almost countless adaptations in modern textile industry

Jacque, Charles Émile (shärl āmēl' zhăk'), 1813–94, French landscape and animal painter of the Barbizon school He is known for his paintings of fowls and for his fine etchings Jacque is represented in the Luxembourg Museum, Paris, and the Louvre The Metropolitan Museum has several sheep pictures

Jacquemart, Albert (ălbĕr' zhăkmär'), 1808–75, French flower painter and art historian He wrote *Flore des dames* (1840), *Nouveau langage des fleurs* (1841), *Histoire artistique, industrielle et commerciale de la porcelaine* (with Edmond Le Blant, 1862), *Histoire de la céramique* (1873), and *Histoire de mobilier* (1876) The plates of the last three works were executed by his son, **Jules Ferdinand Jacquemart** (zhül' fĕrdēnā'), 1837–80, French etcher and water-colorist, a founder of the Société des Aquarellistes He also illustrated J F Loubat's *Medallic History of the United States of America, 1776–1876* (1878) The Metropolitan Museum has three water colors, *Japanese Art Objects*, *Landscape near Nice*, and *Flowers*

Jacquerie (zhăk'ŭrē') [Fr ,=collection of *Jacques*, which is, like *Jacques Bonhomme*, a nickname for the French peasant], 1358, revolt of the French peasantry, provoked by the pillaging exploits of bands of idle soldiers and the extortionate demands of the nobles Beginning in the district around Beauvais, the uprising spread over a wide area, castles were demolished, provisions stolen, and other acts of violence committed Their leader Guillaume Karle (or Cale), fell into the hands of Charles II of Navarre, who had him beheaded, and the mob was easily dispersed, the nobles taking their revenge by massacring thousands of the insurgents

Jacquin, Nikolaus Joseph von (nē'kōlous yō'zĕf fŭn zhäkē'), 1727–1817, Austrian botanist, b Holland He was sent by Emperor Francis I to America to collect plants for the royal gardens at Vienna, which he made among the most remarkable of his time He discovered and described many new plants and wrote numerous works on exotic and European flora

Jada (jā'-) [Heb ,=knowing], Jerahmeelite. 1 Chron. 2 28,32

Jadau (jā'dô), Jew who had married a foreign wife Ezra 10 43

Jaddua (jădū'u) [Heb ,=known] **1** High priest after the exile Neh 12 11,22 **2** Signer of the covenant Neh 10 21

jade, name given to either of two minerals used as gems The rarer variety of jade is jadeite, a sodium aluminum silicate belonging to the pyroxene group of minerals. Jadeite varies in color from

white to emerald green, the emerald-green variety being the most valued. The commoner and less costly variety of jade is nephrite, a calcium magnesium iron silicate, white to dark green in color Jade is prized by the Chinese and Japanese as the most precious of all gems, by the Chinese it is traditionally associated with the five cardinal virtues, charity, modesty, courage, justice, and wisdom It has been considered to have great medicinal qualities, to act as a general tonic, and when swallowed shortly before death to prevent decomposition of the body It was much used for implements by primitive people, especially in Mexico, Switzerland, France, Greece, Egypt, Asia Minor, and New Zealand Jadeite is found in Upper Burma, in Tibet, and in Yünnan prov, China, nephrite in New Zealand, Turkistan, Siberia, Alaska, China, and Silesia A number of other minerals are called varieties of jade, these include some found in the W United States and in Mexico See S C Nott, *Chinese Jade* (1937), J L Kraft, *Adventure in Jade* (1947)

Jadon (jā'dŏn) [Heb ,=judge], worker on the wall at Jerusalem Neh 3 7

Jadwiga (yadvē'gä), 1371–99, Polish queen (1383–99), daughter of King Louis I of Hungary She married (1386) Ladislaus Jagiello, grand duke of Lithuania (see Ladislaus II), in order to unite Poland and Lithuania and to convert the Lithuanians to Christianity Jadwiga restored to Poland the regions of Lvov and Galich (1387) and founded a theological college in Cracow (1397) She is nationally venerated as a saint See Charlotte Kellogg, *Jadwiga, Queen of Poland* (1936)

Jadwin, Edgar, 1865–1931, U S army engineer, b Honesdale, Pa, grad West Point, 1890 After having assisted (1907–11) General George W Goethals in building the Panama Canal, he was assigned to flood-control projects on the Tennessee and Ohio rivers In the First World War he commanded the 15th U S Engineers Regiment He secured (1928) congressional acceptance of an army engineer plan, largely his own, for Mississippi river flood control

Jael (jā'ĭl), heroine of the time of Deborah She murdered Sisera, her guest Judges 4, 5

Jaén (hāān'), city (pop 48,003), capital of Jaén prov, S Spain, in Andalusia The fertile agricultural region roundabout produces olive oil and wine Under Moorish rule Jaén was for a time the seat of a small Moorish kingdom It was conquered by Ferdinand III of Castile in 1246 There are remains of a Moorish castle and walls, an imposing cathedral (16th–18th cent), and several palaces

Jaffa (jă'fu, yä'fä), city (pop c 50,000), Israel, a port on the Mediterranean Sea It has rail and road connections with Jerusalem, for which it is the chief port In recent years the harbor of Jaffa has been much improved, and it can now accommodate large vessels Jaffa, then in Philistine territory, is mentioned in the Bible (2 Chron 2 16) as marking the boundary of the tribe of Dan, not until after the Captivity in Babylon did it become Hebrew territory Here Jonah set forth for Tarshish and St. Peter restored Tabitha to life The city frequently changed hands in the fighting between the Maccabees and the Syrians, and it was destroyed by Vespasian in A D 68 It was held by the Crusaders during most of the 12th cent It fell to Napoleon in 1799 In the First World War the British took it (1917) Most of its growth occurred in the 20th cent In 1947 and early 1948 there was sharp fighting between Jaffa, which was largely inhabited by Arabs, and the adjoining all-Jewish city of Tel-Aviv The Arabs in Jaffa surrendered on the day (May 14, 1948) that Palestine was partitioned In 1949 the government of Israel, disregarding the decision of the United Nations that Jaffa should be a port for the projected Arab state, proclaimed that Jaffa and Tel-Aviv were to be administered as a single municipality Jaffa is the Japho of Joshua 19 46, and in the Apocrypha it is often spelled Joppe Otherwise the spelling in the Bible is Joppa.

Jaffe, Bernard (jă'fē), 1896–, American teacher and writer, b New York city, grad College of the City of New York (B S., 1916), M A Columbia, 1922 A teacher from 1924 in the New York city high schools, he is noted for his popular works on science. These include *Crucibles* (1930, rev ed., 1948), *Outposts of Science* (1935), *New World of Chemistry* (1935), and *Men of Science in America* (1944)

Jaffna (jăf'nŭ), peninsula, the northernmost part of Ceylon, separated from India by Palk Strait The chief city is Jaffna (pop. 62,922). The peninsula is densely inhabited, largely by Tamil-speaking peoples There are remains of ancient culture as well as ruins left by the Portuguese and the Dutch occupation. Tobacco, rice, and yams are grown, and fishing is an important source of livelihood.

Jaffna moss· see AGAR

Jaffrey, town (pop. 2,879), SW N.H, near Mt Monadnock, granted 1749, settled c.1758, inc. 1773 It includes the business center **East Jaffrey** and the resort Jaffrey (scene of a three-day annual winter carnival), nearer the mountain.

Jagannath, India see PURI.

Jagatai (jăgŭtī'), d. 1242, Mongol conqueror; son of JENGHIZ KHAN. He led large armies on his father's conquests, and when the empire was divided in 1227 he was rewarded with most of Turkistan and with much territory to the north. Jagatai later relinquished rule to his brother Ogadai. In the early 14th cent. Jagatai's descendants divided his khanate into two sections, which often warred against one another. Most of the territory was reunited by TAMERLANE, who may have been related to the family ruling the western domain The khanate, much reduced in size and power, persisted for about a century after Tamerlane's death (1405) The name Jagatai is sometimes spelled Chagatai or Djagatai

Jagello: see JAGIELLO

Jägerndorf, Czechoslovakia see KRNOV

Jaggard, William, c 1568 1623, London printer and publisher Although it seems that he had previously pirated some of Shakspere's works, he was chosen by the editors, John Heming and Henry Condell, as publisher of the First Folio edition of Shakspere's plays He died before the work was completed To this book, undertaken after Jaggard became blind, are due the preservation of 18 of the plays and the correction of many textual errors in the plays printed in earlier editions, in quarto See E E Willoughby, *A Printer of Shakespeare* (1934)

Jagiello (yägyĕ'lô) or **Jagello** (yägĕ'lô), Pol *Jagiello* (yagyĕ'wô), dynasty which ruled POLAND and LITHUANIA from 1386 to 1572, Hungary from 1440 to 1444 and again from 1490 to 1526, and Bohemia from 1471 to 1526 It took its name from Ladislaus Jagiello, grand duke of Lithuania, who became (1386) king of Poland as LADISLAUS II His successors were LADISLAUS III (1434–44, as Uladislaus I also king of Hungary), CASIMIR IV (1447–92), John I (1492–1501), Alexander I (1501–5), SIGISMUND I (1506–48), and SIGISMUND II (1506–72), last ruler of the line A son of Casimir IV became king of Bohemia (1471) as Ladislaus II and king of Hungary (1490) as Uladislaus II, his son was LOUIS II of Bohemia and Hungary (1516–26) The female line of Jagiello merged with the Swedish house of Vasa through the marriage of Catherine, sister of Sigismund II, with John III of Sweden, their son was king of Sweden and of Poland (see SIGISMUND III) Under Jagiello rule Poland reached its golden age

Jagow, Gottlieb von (gôt'lēp fŭn ya'gō), 1863–1935, German diplomat and foreign minister (1913-16) He played an important part in the negotiations preceding the First World War He was unable to obtain the consent of Italy to renew the Triple Alliance

jaguar (jă'gwar), largest New World cat, ranging from the SW United States to S central Argentina The yellow fur is marked with black spots and rosettes Black jaguars occur in some litters The jaguar has a larger head and heavier build than the leopard Males reach 6 to 7 ft in length exclusive of the tail It preys on other animals

Jagur (jā'gur) [Heb ,=lodging place], unidentified town, S Palestine Joshua 15 21

Jah (jä), abbreviation of one of the reconstructions (Jahveh, Jahweh) of the ancient Hebrew ineffable name of GOD

Jahangir: see JEHANGIR

Jahath (jā'hăth) **1** Descendant of Gershom. 1 Chron 6 20,43 **2** Chief of a Gershonite family. 1 Chron 23 10 **3** Descendant of Judah 1 Chron 4 2 **4** Levite 1 Chron 24 22 **5** Temple overseer 2 Chron 34 12

Jahaz (jā'~), **Jahaza** (jăhā'zu), **Jahazah** (jăhā'zu), or **Jahzah** (jä'zu) [all Heb ,=low country], unidentified town, E of the Dead Sea. Here Israel defeated the Amorites Num 21 33, Deut 2 32, Joshua 13 18, 21 36, Judges 11 20, 1 Chron 6 78, Isa 15 4, Jer 48 21,34

Jahaziah (jā"hŭsī'u), one associated with Ezra in the expulsion of the foreign wives Ezra 10,15

Jahaziel (juhā'zēĕl, jā"hăsī'ul, jähā'zēĕl) **1** Man who joined David at Ziklag 1 Chron 12 4 **2** One who inspired Jehoshaphat to oppose the invading Ammonites 2 Chron 20 14 **3** Priest before the ark. 1 Chron 16 6 **4** Kohathite Levite 1 Chron 23 19, 24 23 **5** Head of a family which returned from the Exile Ezra 8 5

Jahdai (jä'dāī), Calebite 1 Chron 2 47

Jahdiel (jä'dĭĕl) [Heb ,=whom God rejoices], head of a Manassite family 1 Chron 5 24

Jahdo (jä'dō) [Heb ,=united], one of the tribe of Gad 1 Chron 5 14

Jahleel (jā'lēĕl) [Heb ,=hope in God], founder of a Zebulonite family. Gen 46.14, Num 26 26

Jahmai (jä'māī, jămā'ī) [Heb ,=God guards], head of the house of Tola 1 Chron 7 2

Jahn, Friedrich Ludwig (frē'drĭkh lōōt'vĭkh yän'), 1778–1852, German patriot, a high school teacher in Berlin, active in efforts to free Germany from Napoleonic rule To build strength and fellowship he organized a gymnastic association (Ger *Turnverein*), for which he became known as *Turnvater* The gymnastic groups Jahn fostered became centers for nationalism and for the movement to unify Germany After serving (1813–15) in the war against Napoleon, Jahn continued his work until his political agitation caused his imprisonment (1819–25). Jahn, who also was influential in the organization of the BURSCHENSCHAFT movement, was delegate to the Frankfurt Parliament in 1848 The nationalist movement in Germany, down to and including National Socialism, kept many features of Jahn's training

Jahve, Jahveh, Jahweh (jä'vē, -wē), modern reconstructions of the ancient Hebrew ineffable name of GOD

Jahzah (jä'zŭ), variant of JAHAZ.

Jahzeel (jä'zēĕl) [Heb ,=God apportions], Naphtalite Num 26 48. Jahziel 1 Chron. 7 13.

Jahzerah (jä'zērŭ), the same as AHABAI.

Jahziel (jä'zēĕl), variant of JAHZEEL.

jai alai see PELOTA.

jail. see PRISON

Jailolo, Indonesia see HALMAHERA.

Jaime. For Spanish rulers thus named, see JAMES

Jainism (jī'nĭzm) [i e , the religion of Jina], religious system of India practiced by c.1,500,000 persons Jainism and BUDDHISM arose in the 6th cent. B.C as protests against the overdeveloped ritualism and impersonality of HINDUISM Jainist tradition teaches that a succession of 24 Tirthankaras (saints) originated the religion. The last, Vardhamana, called Mahavira [the great hero] and Jina ["the victor"], seems to be historical He assumed the authority of a prophet after spending 12 years in strict asceticism and meditation and gave his remaining 30 years to teaching Buddha is traditionally supposed to have outlived Mahavira, whose death is variously given as 528 B C and 468 B C Underlying Jain doctrine is the belief that every thing in the universe, including matter, is eternal Spirits retain consciousness of their identity through successive incarnations Conduct during each existence affects the spirits for good or evil in later incarnations This doctrine of the cumulative effect of one's actions is called karma After nine incarnations, the lay member of the Jain sect may attain Nirvana, i e , release from the body and the restrictions of matter However, even after Nirvana, the soul may assent to further births in order to help weaker spirits to attain salvation For the yati [ascetic] 12 years of rigorous discipline and self-denial suffice for Nirvana. He must take five vows—to injure no creature, to speak truth, to abstain from stealing, to renounce all worldly goods, to practice sexual continence and must gain self-mastery For any person to achieve salvation he must be guided by the three gems—right faith, right cognition, and right conduct Jainism, while recognizing the caste system, admits all to its benefits Many deities of older Hinduism are still worshiped along with Mahavira The Jain temples are among the most beautiful in India Jain literature, less widely known in the West than that of Hinduism and Buddhism, is mostly written in Prakrit Since at least the 1st cent A D there have been two great divisions of Jains, the Digambaras [air-clothed, i e , naked] and the Svetambaras [white-clothed] The Digambaras, strongest in the south and composed entirely of men, have mostly abandoned the practice of complete nudity Jainists, eschewing any occupation which even remotely endangers animal life, are largely engaged in commerce and finance, particularly moneylending A distinctive form of charity among them is the establishment of asylums for diseased and decrepit animals For an account of Jainist writings, see PRAKRIT LITERATURE See Herbert Warren, *Jainism* (1930), Jagmandar-lal Jaini, *Outlines of Jainism* (1940)

Jaipur (jī'pōōr'), former native state (15,610 sq mi , pop 3,040,876), Rajputana, India. The land is mostly level, and although the rainfall is light, fair crops of maize, millet, and cotton are raised There is salt mining, and cotton and woolen cloth and metalwares are manufactured Jaipur was founded in the 12th cent by the Kachwaha clan of the Rajputs It became (c 1550) a feudatory of the Mogul empire. In 1818 Great Britain exacted a treaty providing for an annual tribute. Jaipur joined Rajasthan in 1949 **Jaipur,** city (pop 175,810), capital of Rajasthan, was founded in 1728. It is enclosed by a crenelated wall 20 ft high An unusual feature for a small Indian city is the system of wide, regular streets The grounds of the maharaja's palace occupy one seventh of the municipal area. Among Jaipur's famed art products are jewelry, enamels, and muslins The city has a college and a large banking business The deserted city of Amber, which was the capital of the state until 1728, is 5 mi from Jaipur The palace at Amber is one of the finest examples of Rajput architecture.

Jair (jā'ŭr) [Heb ,=he enlightens] **1** Manassite Num 32,41, Deut 3.14. **2** Judge of Israel. Judges 10 3. **3** Mordecai's father Esther 2 5 **4** See JAARE-OREGIM. See also HAVOTH-JAIR

Jairus (jā'rus) [Gr. form of JAIR], prominent Jew whose daughter Jesus raised from the dead Mat 9 18–26; Mark 5.22–43; Luke 8.41–56.

Jaisalmer (jūsăl'mur), former native state (16,062 sq. mi , pop. 93,246), Rajputana, India It is almost entirely a sandy waste forming part of the Indian Desert. Stock raising supplies the liveli-

hood of the nomadic population. Jaisalmer joined Rajasthan in 1949.

Jajce (yī'tsĕ), small town, Bosnia, Yugoslavia. It was until 1425 the seat of the kings of Bosnia and retains the ruins of its medieval castle. Here the Pliva river forms a waterfall (92 ft. high) which is used by a large hydroelectric plant.

Jakan (jä'–), the same as AKAN.

Jakarta, Indonesia: see BATAVIA.

Jakeh (jā'kĕ), father of Agur. Prov. 30.1.

Jakim (jā'kĭm). [Heb., *He lifts up.*] 1 Chief priest in David's reign. 1 Chron. 24.12. 2 Chief Benjamite. 1 Chron. 8.19.

Jakobshavn (yäkôps-houn'), settlement (pop. 691), on NW Greenland, a port on Disko Bay. Founded in 1741, it is the center of Jakobshavn dist. (pop. 896) and has a hospital and a radio station.

Jal, village (pop. 1,157), extreme SE N. Mex., settled c.1916, inc. 1928. Oil was discovered here in 1927.

Jalalabad (jŭlä'lăbäd', jŭlä'lŭbăd), town (pop. more than 10,000), SE Afghanistan, on the Kabul river near the Khyber Pass. The king of Afghanistan uses it as a winter residence. British troops took it in the First Afghan War and held it in 1842 against a determined Afghan siege. It is a major trade center with a paper mill, a sugar refinery, and other industries.

Jalapa (hälä'pä), city (pop. 39,530), capital of Veracruz, E Mexico. Jalapa, c. 60 mi. NW of Veracruz, on one of the railroads between the coast and Mexico city, is on the slopes of the Sierra Madre Oriental. The city is cool and has become a health resort. Agricultural products from neighboring valleys include coffee, sugar, tobacco, citrus fruits, bananas, and pineapples. Cigars, chocolate, and cotton materials are manufactured.

Jalisco (hälē'skō), state (31,152 sq. mi., 1946 estimated pop. 1,650,481), W Mexico, bounded on the west by the Pacific. Jalisco is dominated by the southern end of the Sierra Madre Occidental and the western extremity of the chain of volcanic mountains extending across central Mexico. The hot, tropical plains of the coast are broken by spurs of the Sierra, and most of the eastern part of the state lies within the central plateau. A basin between mountains has Lake CHAPALA, in the central part of Jalisco. It is drained by the Lerma-Santiago system (see LERMA). Because of the variety of climate, topography, and elevation, nearly every kind of fruit and vegetable grows somewhere in Jalisco. Maize and wheat from the central plateau make it the "granary of Mexico", rice and wheat are grown in the south, and the mountains yield timber and minerals (silver, iron, tin, cinnabar, and some gold). Capital of the state and metropolis of the entire region is GUADALAJARA, next in size is GUZMÁN. Although Jalisco was explored as early as 1522, serious conquest of the area, later included in NUEVA GALICIA, was not undertaken until 1529 by Nuño de GUZMÁN. Shortly before the War of the Reform (1858–61), Jalisco became a leading state in the great liberal revolution heralded by the Plan of AYUTLA. It was occupied by the French in the wars of intervention but was recaptured in 1866. In 1884 the territory of NAYARIT was separated from Jalisco.

Jalon (jā'lŏn). [Heb., =*lodging*], descendant of Judah. 1 Chron. 4.17.

Jaluit (jä'lōōĭt), atoll (pop. 862), central Pacific, one of the Ralik Chain in the Marshall Islands. It comprises 84 islets, of which Jaluit island (former capital of the Marshalls) is the largest. In the Second World War the atoll was the southernmost Japanese air base of the Ralik group; it was taken in 1944 by U.S. forces.

jam: see JELLY AND JAM.

Jamaica (jŭmā'kŭ), island (4,411 sq. mi., pop. 1,297,900), British West Indies, S of Cuba and W of Haiti. Comprising the crown colony of Jamaica are the island itself, the TURKS AND CAICOS ISLANDS, and the CAYMAN ISLANDS. The capital is KINGSTON. Largely a limestone plateau, Jamaica shows evidence of volcanic activity, particularly in the upturned blocks known as the Blue Mts. in the eastern part of the island. The highest point, Blue Mt., is 7,402 ft. high. Rainfall, which is heavy on the eastern coasts and the mountain slopes, where there are extensive forest reserves of hardwoods, dyewood, and other timber, diminishes farther and farther westward across the plateau. The plateau, a rugged area used mostly for grazing, is deeply dissected by streams and, undermined by subterranean rivers, has collapsed in valley sinks. In the heart of this region, known as the Cockpits, live the virtually independent MAROONS. The plateau rises abruptly from the ocean, in some places as much as 1,000 ft., but generally there is a narrow coastal band widened by broad river valleys leading into the interior. Here and on the mountain slopes are grown most of Jamaica's chief export crops: annatto (Jamaica is the world's largest producer), bananas, pimento or allspice, coffee of fine quality, ginger, cacao, coconuts, and tobacco. Although manufacturing is limited, there are some food-processing plants (sugar, rum, and citrus pulp are important), cigar factories, tanneries and leather works, and chemical plants for extracting dyes. Jamaica was discovered by Christopher Columbus in 1494. Under orders of Diego Columbus, the first Spanish settlement was founded in 1509. The island, attacked twice (1596, 1643) by the English, was captured by Admiral William Penn and Robert Venables in 1655 and subsequently (1670) formally ceded to Great Britain by the Treaty of Madrid. At first Jamaica prospered from the wealth brought to Port Royal, the capital, by the buccaneers, notably Sir Henry MORGAN, but in 1692 the city was engulfed by an earthquake, the capital was moved to SPANISH TOWN, and during the succeeding century the colony was buffeted by hurricanes, earthquakes, slave revolts, and a long war with the maroons. From the economic and social legacy of the first three centuries and from overpopulation comes the island's present social unrest. The Negroes, imported as the Arawaks rapidly died off, were freed in 1833. Poverty has continued, and riots have occurred, those of 1865 were especially severe. The Negroes and part-Negroes, about 95 percent of the population, are noted as excellent laborers and have been sent to many parts of the Caribbean area for temporary work, but unemployment remains high. Crop diversification, the introduction of bananas (raised by small independent growers and sold through cooperatives to the fruit companies), the establishment of labor unions, and the formation (1944) of a more representative government—all these have alleviated some of the social tension and have bettered conditions. See Walter Jekyll, *Jamaican Song and Story* (1907), W. J. Gardner, *History of Jamaica* (1909), M. W. Beckwith, *Jamaica Anansi Stories* (1924) and *Black Roadways* (1929); Frank Cundall, *Chronological Outlines of Jamaica History, 1492–1926* (1927).

Jamaica, commercial, industrial, and residential section of central Queens borough of New York city, SE N.Y.; settled in the mid-17th cent. as a Dutch village. It is an important railroad transfer point. The First Presbyterian Church (organized 1662) and the King Mansion (c.1750) are of interest.

Jamaica Bay, shallow bay, c.18½ sq. mi., indenting SW Long Island, SE N.Y., with Rockaway Inlet opening on the southwest to the Atlantic. Brooklyn and Queens boroughs are along its shores, and it is part of the Port of New York.

Jambi or **Djambi** (both jäm'bē), town (pop. 22,071), on SE Sumatra, Indonesia. A port on the Hari river, it is the commercial center for a lumbering and rubber-growing area. Oil wells and lignite mines are near by.

Jamblichus see IAMBLICHUS.

Jambol, Bulgaria: see YAMBOL.

Jambres see JANNES AND JAMBRES.

James, Saint [ultimately from JACOB], d. A.D. c. 43, one of the Twelve Disciples called St. James the Greater. He was the son of Zebedee and brother of St. John, these brothers were the Boanerges (bō"ənûr'jēz) or Sons of Thunder. St. James was killed by Herod Agrippa. Mark 3.17, 5.37, 9.2, 10.35-45, 14.33, Mat. 20.20-29, Acts 12.1-2. Veneration of St. James has been widespread, especially in Spain (where he is called Santiago), the shrine of the apostle at Compostela, Spain, is one of the most celebrated of Europe. He was much venerated in medieval England, and though St. James's Palace in London is not now the royal residence ambassadors are accredited to the Court of St. James's. Feast: July 25.

James, Saint, one of the Twelve Disciples, called St. James the Less. He was the son of Alphaeus, his mother Mary was one of those at the foot of the Cross. Mat. 10.3, Mark 15.40, Acts 1.13. The first bishop of Jerusalem, a kinsman of Jesus, was named James and by universal tradition he is regarded as author of the epistle (see JAMES, epistle). Of two equally ancient traditions, one identifies him with St. James the Less, another separates them. In Western Christendom the identification is favored. Acts 15, 21.18, Gal. 1.19, 2.9; James 1.1. 1 Cor. 15.7 might refer to either. Feast (with St. Philip): May 1.

James I (James the Conqueror), 1208–76, king of Aragon and count of Barcelona (1213–76), son and successor of Peter II. After a minority disturbed by struggles among the nobles, James soon restored order. He conquered the Balearic Islands (1229–35) and Valencia (1238) from the Moors and brought Murcia under Castilian control. A crusade to Palestine (1269) was, however, unsuccessful. By the treaty of Corbeil (1258) with Louis IX of France, James gave up several claims in S France, while the French king renounced his possible rights on Catalonia, derived from Charlemagne. James's own chronicle of his reign has been translated into English. He was succeeded in Aragon by his son Peter III. Another son became king of Majorca as James I.

James II, c. 1260–1327, king of Aragon and count of Barcelona (1291–1327), king of Sicily (1286–95). He succeeded his father, Peter III, in Sicily and his brother, Alfonso III, in Aragon. James defended Sicily against the claims of the Angevin dynasty of Naples until 1295, when he relinquished the island to CHARLES II of Naples. Charles was subsequently supported by James against James's own brother, who had been proclaimed king of Sicily as FREDERICK II. James was succeeded in Aragon by his son Alfonso IV.

James I, 1566–1625, king of England (1603–25). He was the son of Lord DARNLEY and MARY QUEEN OF SCOTS. Upon the forced abdication of his mother in 1567, he became James VI of Scotland. He was placed in the care of the earl of Mar and later of Mar's brother, Sir Alexander Erskine. The young king progressed in his studies under various teachers, notably George Buchanan, and acquired a taste for learning. During James's minority Scotland was ruled by a series of regents—Murray, Lennox, Mar, and Morton—and the king was the creature of successive combinations of the nobility and clergy in a complicated struggle between the remnants of his mother's Catholic party, which favored an alliance with France, and the Protestant faction, which wished an alliance with England. In 1582 James was seized by the earl of Gowrie and other English adherents. He escaped in 1583 and began his personal rule, though influenced by his favorite, James STUART, earl of Arran. James considered an alliance with France, but in 1586, thinking of his prospects to succeed to the English throne, he allied himself with Elizabeth. This caused a break with his mother's party, and he accepted her execution in 1587 calmly. James succeeded, by arms and executions, in subduing the feudal Scottish baronage, in establishing royal authority, and in asserting the superiority of the state over the Church. In 1589, against the wishes of Elizabeth, James married ANNE OF DENMARK. He succeeded in 1603 to the English crown by virtue of his descent from MARGARET TUDOR, daughter of Henry VII. Though at first welcomed in England, James brought to his new kingdom little understanding of its Parliament or its changing political, social, and religious conditions. In an effort to conciliate the Puritans, the king presided at the Hampton Court Conference (1604), at which the Puritan clergy asked for status within the Established Church, but his uncompromising anti-Puritan attitude caused even greater mutual distrust. At this conference originated the movement from which came the Authorized (King James) Version of the BIBLE. James's inconsistent policy toward English Catholics angered both Catholic and Protestant alike. The GUNPOWDER PLOT (1605), which sprang from Catholic anger at the resumption of fines and penalties that James had earlier relaxed, led to greater harshness toward Catholics and prevented any cordial relations thereafter. Yet the suspicion arose that the king favored the Catholics because he sought to conciliate Spain, attempted to arrange a marriage between a Spanish princess and Prince Charles (later CHARLES I), and relaxed anti-Catholic laws during the negotiations. This damaged his reputation among his Protestant subjects and with Parliament, where Puritanism was strong. James's reliance on favorites whose qualifications consisted more of personal charm than talent for government, the extravagance and looseness of the court, accusations of favoring Catholics, and the scandalous career of James's favorite, Robert Carr, earl of SOMERSET, all furthered discontent. Merchants complained of the abuses of monopolies and impositions and of James's neglect of the navy. James's relations with Parliament were strained because of his insistence upon the concept of divine right and his inability to recognize Parliament as representative of a large and important body of opinion. The House of Commons became the rallying point of opposition forces to the crown. In 1607 Commons blocked James's cherished project of a union with Scotland. The Great Contract of 1610, a compromise whereby James would relinquish the right of impositions in return for a yearly income, did not come to fruition. In 1611 James dissolved Parliament and except for the Addled Parliament of 1614, which produced no legislation, ruled without one until 1621. The death in 1612 of his capable minister, Robert Cecil, earl of Salisbury, allowed James to exercise the royal prerogative with even less restraint. James's attempts to raise money without Parliament brought him into battles with the courts, whose position was strongly defended by Sir Edward COKE. After the fall of Somerset, George Villiers, later 1st duke of BUCKINGHAM, rose to favor and by 1619 was in complete possession of the king's confidence. At the Parliament of 1621, called in order to raise money for the cause of the German Protestants and James's son-in-law, Frederick of Bohemia (see FREDERICK THE WINTER KING), whose election led to the Thirty Years War, James was forced to abolish certain abusive monopolies. This Parliament impeached Francis Bacon. It was dissolved by James for asserting its right to debate foreign policy. The unpopular Spanish policy was pursued until the expedition of Prince Charles and Buckingham to Spain to facilitate the marriage arrangements and obtain concessions from the Spanish king regarding Frederick ended in failure in 1623. A marriage treaty with France was ratified in 1624, and James acceded to the wish of Commons for war with Spain. James left to his son, Charles, a foreign war and the PURITAN REVOLUTION well begun. During

James's reign occurred the beginnings of English colonization in North America, Jamestown was founded in 1607 The king was active as an author. He produced several youthful essays on literary theory and numerous political works Two other important writings are his *True Law of Free Monarchy* (1598), an assertion of the concept of divine right of kings, and BASILIKON DORON (1599), a treatise on the art of government His political works have been edited by C H McIlwain (1928) See T. F Henderson, *James I and VI* (1904), F C Montague, *The History of England, 1603–1660* (1907), Godfrey Davies, *The Early Stuarts* (1937), G M Trevelyan, *England under the Stuarts* (rev ed , 1946)

James II, 1633–1701, king of England, Scotland, and Ireland (1685–88), son of Charles I, brother and successor of CHARLES II When he was the young duke of Albany and of York he was surrendered (1646) to the parliamentary forces in the PURITAN REVOLUTION, but escaped (1648) to the Continent and served in the French (1652–55) and Spanish (1658) forces At the RESTORATION he returned to England, married Anne Hyde, daughter of the 1st earl of CLARENDON, and was made lord high admiral (1660), he served in 1665 and 1672 in the Dutch Wars Charles II granted him sweeping proprietary rights in America, the captured Dutch colony, New Netherland, became (1664) New York, and the Dutch settlements of New Amsterdam and Fort Orange were renamed New York and Albany to honor the duke James was probably converted to Catholicism in 1668—a step which was to have grave consequences After he had because of the TEST ACT resigned (1673) as admiral, he became increasingly unpopular in England and was especially hated by the Whigs His first wife had died in 1671, and his marriage (1673) to MARY OF MODENA drew him closer to the Catholic and imperial policies of the French king, Louis XIV, alienating the Whigs further James consented to the marriage (1677) of his daughter Mary (later MARY II) to the Protestant prince of Orange (later WILLIAM III), and the couple became the heirs presumptive, after James, to the English throne A bid by the young duke of MONMOUTH to replace James as heir failed, but when the lies of Titus OATES about the Popish Plot uncovered the true implication of James in intrigues with the French and the Catholics, James was sent (1679) into exile Recalled in 1680, he was indicted as a recusant but never tried Charles sent him again to Scotland, this time as his commissioner Parliament tried to exclude James from the succession but failed, and after his return to England (1682) and particularly after the RYE HOUSE PLOT his fortunes rose a little When Charles died in 1685, James peacefully became king His brief reign was momentous for England An uprising led by Monmouth and Archibald CAMPBELL, 9th earl of Argyll, was crushed (1685), but the severe reprisals of the Bloody Assizes under George Jeffreys, 1st Baron JEFFREYS OF WEM, added to James's unpopularity. The king favored autocratic methods, reviving the old ecclesiastical court of high commission and proroguing the hostile Parliament He also sought to favor the Catholics, and his declaration of indulgences instituted religious toleration in England Defiance and dislike of him grew, fed by the trial (1688) of seven bishops who had opposed the reading of his declaration The birth of a son (see STUART, JAMES EDWARD), who would have succeeded instead of the Protestant William and Mary, helped to bring rebellion to a head William of Orange was invited to England by opposition leaders The unpopular, autocratic, and Catholic king had few loyal followers and was unable to defend himself The Glorious Revolution or Bloodless Revolution of 1688 succeeded William and Mary took the throne, and the long struggle to end autocratic royal government and make Parliament supreme in England had ended in triumph James fled, was captured, and was allowed to escape to France He made an effort to restore himself by crossing over to Ireland in 1689 and raising his standards there, but the effort failed dismally in the battle of the Boyne (1690) Other projects for restoration failed, and James's supporter, Louis XIV, recognized William III in the Treaty of Ryswick (1697) The cause of James's son and grandson was upheld later by the JACOBITES long after James had died in inglorious exile See biography by F G Turner (1948), bibliography under STUART, family

James I, 1243–1311, king of Majorca (1276–1311), count of Roussillon and Cerdagne, lord of Montpellier, son of James I of Aragon In 1278 he was forced to become a vassal of his brother, Peter III of Aragon Having supported the French crusade against Peter, he was expelled (1285) from his territories by Peter's son, Alfonso III, but was restored 10 years later as the vassal of James II of Aragon He was succeeded by his son, Sancho IV (1311–24).

James II, 1315–49, king of Majorca (1324–49), count of Roussillon and Cerdagne, lord of Montpellier, grandson of James I; nephew and successor of Sancho IV. In 1329 he declared himself a vassal of the Aragonese crown. Accusing James of illegal acts, Peter IV of Aragon invaded and conquered Majorca (1343) and Roussillon (1344) and annexed them to Aragon James tried to recover his kingdom, but was defeated and killed in battle on Majorca. His son, James III, tried unsuccessfully to recover the kingdom in 1375

James I, 1394–1437, king of Scotland (1424–37), son of Robert III King Robert feared for the safety of James because the king's brother, Robert STUART, duke of Albany, who was virtual ruler of the realm, stood next in line of succession after the young prince and had already been suspected of complicity in the death of James's older brother, David Stuart, duke of Rothesay Accordingly, in 1406 the king sent James to France for safety, but the prince was captured on the way by the English and held prisoner until 1424 Technically James succeeded his father in 1406, but the regent Albany ruled until his own death and was succeeded by his son, and the king's ransom was arranged only at the insistence of the earl of Douglas and other nobles The king had been well educated by his captors, Henry IV and Henry V, who had treated him as a royal guest Just before his return to Scotland in 1424 James married Joan Beaufort, daughter of the earl of Somerset *The Kingis Quair* [the king's book] (rev ed by W W Skeat, 1911), the story of his captivity and his romance with Joan written in rime royal, is usually considered to have been written by him It and other poems attributed to him would establish him as one of the leading poets in the Chaucerian tradition James was crowned at Scone and set about governing energetically He tried to bring Scotland two things she most needed —internal peace and an integrated statute law The first he obtained by ruthlessly exterminating several turbulent noblemen, among them the Albany family, and by requiring submission of the Highland clans The second he attempted by convening Parliament annually and introducing at each session legislation which laid down a constitutional framework for his administration His plans for including burghers in the Parliament and improving commerce and the army were opposed by his militantly feudal nobles, and his constructiveness, cupidity, and quick temper understandably diminished his popularity He was assassinated by a group of nobles, one of whom was probably desirous of claiming the throne He was succeeded by James II See biography by E W M Balfour (1936), two historical novels—Evan John, *Crippled Splendour* (1938), and Anne Fremantle, *James and Joan* (1948)

James II, 1430–60, king of Scotland (1437–60), son of James I During his minority successive earls of Douglas as regents disputed with other factions for power In his late teens the king allied himself with William Douglas, 8th earl of DOUGLAS, to overcome them, and by 1449 he ruled in his own right When in 1452 he discovered Douglas in a conspiracy, the king called him to Stirling, charged him with betrayal, and stabbed him After the resulting rebellion, James seized the Douglas lands and attainted the next earl In his reign James improved the courts of justice and regulated the coinage A Lancastrian partisan in the Wars of the Roses, he invaded England and was accidentally killed at the siege of Roxburgh His son James III succeeded him

James III, 1451–88, king of Scotland (1460–88), son of James II During his minority he was under the care of his mother and her adviser, James Kennedy, bishop of St Andrews After their death, James was seized (1466) by the Boyd family, who ruled Scotland until 1469 In that year James married Margaret, daughter of the Danish king, and began to rule in his own person James was a cultured prince, but unsuited to the throne in so turbulent a period A quarrel with his brother, Alexander, duke of Albany, led the latter to flee the country Supported by Edward IV of England, Albany advanced a claim to the Scottish throne James invaded England (1482), but did not have the support of his nobles In this campaign, Archibald DOUGLAS, 5th earl of Angus, headed a group which hanged certain of James's favorites and made a prisoner of James A period of peace followed, but in 1487 the nobles rebelled and under the nominal leadership of James's son (later James IV) defeated and murdered James at Sauchieburn

James IV, 1473–1513, king of Scotland (1488–1513), son of James III He was a popular king, and his reign was a profitable one for Scotland. After suppressing an insurrection of discontented nobles early in his reign, he set about restoring order, improving administrative and judicial procedure in the kingdom and encouraging manufacturing and shipbuilding A disagreement with HENRY VII of England over James's support of Perkin WARBECK, pretender to the English throne, ended in a peace treaty with England in 1499 In 1502 James married Henry's daughter, Margaret Tudor. This marriage was to bring the Stuart line to the English throne in 1603 Relations with England deteriorated when Henry VIII came to the throne, and James sought a French alliance. In 1513 James, against the counsel of his advisers, invaded England, where at the battle of Flodden (1513) he was killed and the Scottish aristocracy was almost annihilated

James V, 1512–42, king of Scotland (1513–42), son of James IV and Margaret Tudor. His mother held the regency until her marriage in 1514 to Archibald DOUGLAS, 6th earl of Angus, when it was transferred to John STUART, 4th duke of Albany. The factions of Albany, Angus, and the queen mother struggled for control until Angus seized the king (1526) and kept him in confinement In 1528 James escaped, and Angus fled to England James began to ally himself with France against his uncle, HENRY VIII of England In 1537 he married Madeleine, daughter of Francis I of France, and upon her death in the same year he married MARY OF GUISE James rejected Henry's attempts to win his support for the English religious policy, and in 1542 war broke out between the two countries James did not receive the support of his Protestant nobles, and his army was routed at Solway Moss in 1542 He died shortly thereafter and was succeeded by his infant daughter, MARY QUEEN OF SCOTS.

James VI, king of Scotland see JAMES I, king of England

James, kinsman of St. Jude Luke 6 16. The original does not specify the relationship.

James, Edmund James, 1855–1925, American economist and educator, b Jacksonville, Ill , Ph D Univ of Halle, 1877 He was professor of public finance and administration (1883–96) at the Wharton School of Finance and Commerce, Univ of Pennsylvania, and a leader of the so-called Pennsylvania school of economists He was a founder (1885) of the American Economic Association and a founder, as well as first president (1890–91), of the American Academy of Political and Social Science Professor of public administration at the Univ of Chicago from 1896 to 1901, he later was president of Northwestern Univ (1902–4) and of the Univ of Illinois (1904–19) A dynamic figure in Illinois educational history, he increased legislative appropriations of the university manyfold and raised its standards of scholarship to a high level See Allan Nevins, *Illinois* (1917)

James, George Payne Rainsford, 1799–1860, English novelist A literary disciple of Sir Walter Scott, James wrote *Richelieu* (1829), *Darnley* (1830), *Mary of Burgundy* (1833), and more than 50 other historical romances He was historiographer royal to William IV and British consular representative in the United States and Italy

James, George Wharton, 1858–1923, American author and lecturer, b England He came to the United States in 1881 and went to the American Southwest He lectured and wrote much about the scenic wonders, the Indians, and the "color" of the Southwest, producing such popular works as *In and around the Grand Canyon* (1900), *The Wonders of the Colorado Desert* (1906), *Indian Blankets and Their Makers* (1914), and *New Mexico the Land of the Delight Makers* (1920)

James, Henry, 1811–82, American student of religion and social problems, b Albany, N Y , father of the philosopher William James and of the novelist Henry James He rebelled from the strict Calvinistic theology of his family and of Princeton Theological Seminary, to which he was sent, and sought a personal solution Swedenborgian teachings opened for him a way and provided the framework for his own thought as expressed in *Substance and Shadow, or, Morality and Religion in Their Relation to Life* (1863), *Society the Redeemed Form of Man and the Earnest of God's Omnipotence in Human Nature* (1879), and other books He was intimately associated with the Fourierist circles of his day and a close friend of many literary figures, including Emerson and Carlyle See Austin Warren, *The Elder Henry James* (1934), F O Matthiessen, *The James Family* (1947)

James, Henry, 1843–1916, novelist and essayist, b New York city Educated in the United States and in Europe, he lived much of his life in England and in 1915 became a British subject He was a son of Henry James, the Swedenborgian theologian, and a brother of William James, the philosopher Entering Harvard Law School in 1862, he came to know the Cambridge literary circle led by James Russell Lowell, Charles Eliot Norton, and William Dean Howells and was helped by Howells to publish his stories in the *Atlantic Monthly* Returning to Europe in 1868, James met Flaubert, Maupassant, Zola, Turgenev, and other realists, whose work he already knew In 1877 he settled in England In his novels a favorite subject is the contrast between Europeans and Americans of the leisure class *A Passionate Pilgrim and Other Tales* appeared in 1875 *Daisy Miller* (1878), *Washington Square* (1881), and *The Portrait of a Lady* (1881) are early novels which won recognition Among many which followed were *The Princess Casamassima* (1886), *What Maisie Knew* (1897), *The Awkward Age* (1899), and perhaps his three greatest novels, *The Wings of the Dove* (1902), *The Ambassadors* (1903), and *The Golden Bowl* (1904). In his novels he treats his characters objectively and realistically, in displaying their subtle motivations, his style becomes more and more deliberate. Students

of the art of fiction find him a master of technique and value highly the series of critical prefaces he wrote for a reissue of his novels which began in 1907 Of his nearly a hundred short stories, the ghost story "The Turn of the Screw" is the most notable. His books other than fiction include *French Poets and Novelists* (1878), *The Art of Fiction* (1884), and the autobiographical *Small Boy and Others* (1913) and *Notes of a Son and Brother* (1914) James's notebooks have been edited by F O Matthiessen and Kenneth B Murdock (1947), and his essays on the drama are collected in *The Scenic Art* (ed by Allan Wade, 1948) His plays have been collected in *Complete Plays* (ed by Leon Edel, 1949) See studies by Van Wyck Brooks (1925), Pelham Edgar (1927), C H Grattan (1932), and F O Matthiessen (1944), F W Dupee, ed , *The Question of Henry James a Collection of Critical Essays* (1945), F O Matthiessen, *The James Family* (1947)

James, Jesse (Jesse Woodson James), 1847-82, American outlaw, b Clay co , Mo At the age of 15 he joined the Confederate guerrilla band led by William C QUANTRILL and participated in the civil warfare in Kansas and Missouri In 1866 Jesse and his brother Frank (Alexander Franklin James, 1843–1915) became the leaders of a band of outlaws whose trail of robberies and murders led through most of the central states At first they robbed only banks, but in 1873 train robberies were added to their repertoire Their downfall came in an attempted bank robbery at Northfield, Minn (1876), when, after killing two people and failing to secure any money, they lost several members of the gang, including the Younger brothers (see YOUNGER, COLE), three of the James's most trusted followers, who were captured and imprisoned The James brothers escaped and were quiet until 1879, when they robbed another train The reward offered by Gov Thomas T Crittenden of Missouri for the capture of the James brothers, dead or alive, tempted one of the gang, Robert Ford, who caught Jesse (then living under the name of Thomas Howard) off guard and killed him Frank James surrendered but was twice acquitted and lived out his life peacefully on his farm near Excelsior Springs, Mo The melodramatic style of the exploits of the James gang attracted wide public admiration, giving rise to a number of legends, the *Ballad of Jesse James*, and much dime-novel literature See biography by Robertus Love (1926), Homer Croy, *Jesse James Was My Neighbor* (1949)

James, Philip, 1890–, American composer and conductor, b Jersey City, N J He was organist in several New York churches and conducted operettas, including some of Victor Herbert's, until 1922, then conducted (1922–29) the New Jersey Symphony Orchestra, which he founded In 1933 he joined the faculty of New York Univ His compositions include choral works, songs, organ pieces, anthems, orchestral works, and chamber music

James, Thomas, 1593?–1635?, English navigator and explorer (1631) of James Bay In command of the *Henrietta Maria*, he sailed from Bristol, in the spring of 1631, to find the NORTHWEST PASSAGE to the East Having explored James Bay (the south extension of Hudson Bay), which was named for him, he wintered on Charlton Island, and in the summer of 1632 continued his attempt to find the passage, a quest which Luke Fox was also undertaking independently (1631) Upon his return to England, James wrote his *Strange and Dangerous Voyage* (1633) See R B Bodilly, *The Voyage of Captain Thomas James* (1928)

James, Thomas, 1782–1847, American fur trader and pioneer, b Maryland He accompanied Manuel Lisa on the 1809 expedition of the Missouri Fur Company up the Missouri river At the Mandan villages (in the vicinity of Bismarck, N Dak) he left the expedition and returned to St Louis He was thereafter a merchant of St Louis and with Robert McKnight in 1821 led an early expedition over the Santa Fé Trail Later he operated a mill in S Illinois, served (1826–28) in the Illinois state legislature, and was a postmaster James was a scout in the Black Hawk War He is, however, chiefly remembered for his valuable and enthralling account of his early expedition, *Three Years among the Indians and Mexicans* (1846, ed by W B Douglas, 1918)

James, William, 1842–1910, American philosopher, b New York city, M D Harvard, 1869, son of the Swedenborgian theologian Henry James and brother of the novelist Henry James In 1872 he joined the Harvard faculty as lecturer on anatomy and physiology, continuing to teach until 1907, after 1880 in the department of psychology and philosophy In 1890 he published his brilliant and epoch-making *Principles of Psychology*, in which the germs of his philosophy are already discernible James's fascinating style and his broad culture and cosmopolitan outlook made him the most influential American thinker of his day His philosophy has three principal aspects—his voluntarism, his pragmatism, and his "radical empiricism " He construes consciousness as essentially active, selective, interested, teleological We "carve out" our world from "the jointless continuity of space." Will and interest are thus primary· knowledge is instrumental. The true is "only the expedient in our way of thinking " Ideas do not reproduce objects, but prepare for, or lead the way to, them The function of an idea is to indicate "what conceivable effects of a practical kind the object may involve—what sensations we are to expect from it and what reactions we must prepare " This theory of knowledge James called PRAGMATISM, a term already used by Charles S Peirce James's "radical empiricism" is a philosophy of "pure experience," which rejects all transcendent principles and finds experience organized by means of "conjunctive relations" that are as much a matter of direct experience as things themselves Moreover, James regards consciousness as only one type of conjunctive relation within experience, not as an entity above, or distinct from, its experience James's other philosophical writings include *The Will to Believe* (1897), *The Varieties of Religious Experience* (1902), *Pragmatism* (1907), *A Pluralistic Universe* (1909), *The Meaning of Truth* (1909), *Some Problems in Philosophy* (1911), and *Essays in Radical Empiricism* (1912) See his letters (ed by his son Henry James, 1920), H M Kallen, *The Philosophy of William James* (1925), C H Grattan, *The Three Jameses* (1932), R B Perry, *The Thought and Character of William James* (2 vols , 1935) and *In the Spirit of William James* (1938), F O Matthiessen, *The James Family* (1947)

James, epistle of the New Testament, occupying the 20th place in the usual order, traditionally included in the Catholic, or General, Epistles The James of its ascription (1 1) is traditionally St James the Less The content is not very orderly, for the work, entirely practical in stress, gives many diverse admonitions, some recurrent It opens with a section on temptation (1 2-18, cf 5 7-11), then goes on to two general ethical principles, "be doers of the word, not hearers only" (1 19-27) and "faith without works is dead" (2 14-26, cf Heb 11 17-20,31) The rest consists of specific points—human respect (2 1-13), bridling the tongue (1 26, 3 1-18, 5 12), living in harmony (4 1-17), the wickedness of the rich (2 2-7, 5 1-6), the efficacy of prayer (5 13-18), saving sinners (5 19-20) The scriptural authority cited for extreme unction is here 5 14-15 There are several widely different critical opinions of origin and date of this epistle It was one of the later books to be accepted as canonical Luther rejected it because it seems to deny his interpretation of justification by faith

James. 1 River rising in central North Dakota and flowing SSE across the Dakotas to the Missouri near Yankton, S Dak It is often called the Dakota **2** River formed in western Virginia, in the Allegheny Mts , by the union of the Jackson and Cowpasture rivers and winding 340 mi eastward across the central part of the state to enter Chesapeake Bay through HAMPTON ROADS It is one of the chief rivers of Virginia, and its lower course is rich in historical associations, here JAMESTOWN was founded in 1607 In the Civil War the river figured prominently in Union attempts to take Richmond, which is at the head of navigation (see PENINSULAR CAMPAIGN, SEVEN DAYS BATTLES, PETERSBURG) A bridge, 4½ mi long, crosses the James just N of Newport News See Blair Niles, *The James* (rev ed , 1945)

James, Protevangelium of (prō'tēvănjĕ'lēum) see PSEUDEPIGRAPHA

James Bay, southward extension of Hudson Bay, c 300 mi long and 140 mi wide, E central Canada, lying between Ontario and Quebec Of its numerous islands, the largest is Akimiski It was discovered (1610) by Henry Hudson, but was named for Capt Thomas James, who explored much of it in 1631 An early fur-trading post established by Groseilliers and Radisson became (1670) Rupert House, the first post established here by the newly organized Hudson's Bay Company Other important posts on James Bay are Fort Albany, Moose Factory, Fort George, and Eastmain

Jamesburg, borough (pop 2,128), central N J , S of New Brunswick, inc 1887

James Francis Edward Stuart· see STUART, JAMES FRANCIS EDWARD

James Island, see CHARLESTON, S C

James Millikin University· see DECATUR, Ill

Jameson, Anna Brownell (Murphy), 1794–1860, English essayist, b Dublin The diary of her travels on the Continent as governess to a wealthy family was later published as *The Diary of an Ennuyée* (1826) She married Robert Jameson in 1825 but soon separated from him Mrs Jameson's works (on travel, art, and history) were popular in her day and she had a wide acquaintance among well-known literary figures, but of her books only *Sacred and Legendary Art* (1848–60, ed by E M Hurll, 1896) is now used

Jameson, John Franklin, 1859–1937, American historian, b Somerville, Mass , grad Amherst, 1879, Ph D Johns Hopkins, 1882 After teaching at Johns Hopkins (1882-88), he was professor of history at Brown (1888–1901) and professor and head of the department of history at the Univ of Chicago (1901–5). He was director (1905–28) of the department of historical research of the Carnegie Institution, Washington, D C , and from 1928 to his death was chief of the division of manuscripts in the Library of Congress Jameson was also managing editor (1895–1901, 1905–28) of the *American Historical Review* and chairman (1895–99, 1905–8) of the Historical Manuscripts Commission As chairman of the committee of management of the *Dictionary of American Biography* he was largely responsible for the inauguration and completion of that monumental work In these and other historical undertakings in which he was a leader, Jameson exercised much influence in American historical scholarship He wrote *Willem Usselinx, Founder of the Dutch and Swedish West India Companies* (1887), *The History of Historical Writing in America* (1891), *Dictionary of United States History* (1894, rev ed , 1931), and *The American Revolution Considered as a Social Movement* (1926) and edited *Essays in the Constitutional History of the United States in the Formative Period, 1775–1789* (1889), *Correspondence of John C Calhoun* (1900), *Original Narratives of Early American History* (19 vols , 1906–17), and *Privateering and Piracy in the Colonial Period* (1923)

Jameson, Sir Leander Starr, 1853–1917, British colonial administrator and statesman in South Africa He went to Kimberley (1878) as a physician, became associated with Cecil Rhodes in his colonizing ventures, and was appointed (1891) administrator of the British South Africa Company in Rhodesia The famous Jameson Raid into the Boer colony of Transvaal began on Dec 29, 1895 With a band of 600 men and in collaboration with the disaffected *Uitlanders* [foreign settlers] in the Transvaal, Jameson hoped to further Rhodes's ambitious dream of a united South Africa Jameson was captured within a few days and turned over by President Kruger to the British to be punished for his unauthorized venture He was returned to London for trial and sentenced to imprisonment for 15 months On his release he returned to South Africa, served in the Cape Colony Parliament (1900–1902) and was premier (1904–8) He played an important role in the South African National Convention (1908-9) which achieved the union of the South African colonies

Jameson Raid see JAMESON, SIR LEANDER STARR

James Peak, 13,260 ft high, N central Colo , in the Front Range of the Rocky Mts The Moffat Tunnel cuts through part of the mountain

Jamestown 1 City (pop 42,638), W N Y , on Chautauqua Lake and SW of Buffalo, founded c 1806, inc as a village 1827, as a city 1886 Its chief industry is furniture making Jamestown's predominantly Swedish influence is reflected in its cooperative community services See Samuel A Carlson, *The Saga of a City* (1935) **2** City (pop 8,790), co seat of Stutsman co , SE N Dak , on the James river and between Fargo and Bismarck Settled 1872 when a military post was established to protect railroad workers, it was incorporated in 1896 With flour mills, grain elevators, and stockyards, it is the railroad and trade center of a wheat and livestock area Jamestown College (Presbyterian, coeducational, 1883) and a state hospital for the insane are here **3** Village (pop 1,079), SW Ohio, S of Springfield, in a livestock and farm area, settled 1806, laid out 1815 **4** Resort town (pop 1,744) coextensive with Conanicut Island (kunăn'ĭkut) (c 9 mi long and 1 to 2 mi wide), S R I , in Narragansett Bay, inc 1678 Beavertail Light, at the southern tip of the island, was originally established before 1750 Several pre-Revolutionary buildings remain A bridge to North Kingstown over the west passage of Narragansett Bay was opened in 1940 **5** Town (pop 1,230), co seat of Fentress co , N Tenn , NW of Knoxville, settled 1827, inc 1837 John M Clemens, Mark Twain's father, while a resident here planned the town's first courthouse Near by are the Alvin C York Agricultural Institute and Pickett State Park **6** First permanent English settlement in America, established May 13, 1607, by the LONDON COMPANY on a marshy peninsula—now an island—in the James river, SE Va Its hardships were many, and despite the efficient leadership of John SMITH the colony faced extinction After the severe winter of 1609–10—the "starving time"—the settlers, under Sir Thomas GATES, decided to abandon the colony The arrival of Lord DE LA WARR with supplies saved the settlement Tobacco was first cultivated here in 1612 by John ROLFE In 1619 the first representative government in the New World met at Jamestown, which remained capital of VIRGINIA until 1699 The village was almost entirely destroyed during BACON'S REBELLION, it was restored, but fell into decay with the removal of the capital to Williamsburg Relics of the early settlement are few—the tower of a church probably built c 1639 on the site of the first Anglican church in America, the old cemetery, and utensils and foundations of houses unearthed by National Park Service excavations Except for the land owned by the Association for the Preservation of Virginia Antiquities, Jamestown Island is the property of the U S government, which includes it in COLONIAL NATIONAL HISTORICAL PARK. Several monuments have been erected on the island A

tercentenary celebration was held in 1907. See S H Yonge, *The Site of Old "James Towne"* (1904), J L Kibler, *Cradle of the Nation* (1931), H C Forman, *Jamestown and St Mary's* (1938), publications of the National Park Service

Jami (jä'mē), 1414–92, Persian poet, b Jam, near Herat His full name was Nur ed-Din Abd-ar-Rahman Jami He was famed as a poet, and nearly 100 works are attributed to him, of which some 40 are authentic He was also known as a saint for his devotion to dervish teaching and to Sufi philosophy Among his works is the collection of poems *Haft Aurang* [the seven thrones], including the allegory "Salaman and Absal" and a version of the tale of Joseph and Potiphar's wife His *Baharistan* [abode of spring] is a collection of pithy short stories

Jamin (jă'-) [Heb ,=right hand] **1** Simeonite Gen 46 10, 1 Chron 4 24 **2** Hezronite 1 Chron 2 27 **3** Reader of the law Neh 8 7

Jamitzer, Wenzel: see JAMNITZER, WENZEL

Jamlech (jăm'lĕk) [Heb ,=He makes king], chief of the tribe of Simeon 1 Chron 4 34

Jammes, Francis (frāsĕs' zhăm'), 1868–1938, French poet, who lived all his life in the Pyrenees country He is usually grouped with the SYMBOLISTS, but his simple optimism, which delighted in the joys of the countryside, distinguishes him from the rest His first volume of verse was *De l'angélus de l'aube à l'angélus du soir* [from the morning Angelus to the evening Angelus] (1898), his *Géorgiques Chrétiennes* [Christian georgics] (1911–12), in a more classical style, are instinct with Catholicism He also wrote charming stories See Amy Lowell, *Six French Poets* (rev ed , 1916), Sister Jerome Keeler, *Catholic Literary France* (1938)

Jammu (jŭ'mōō), town (pop 50,379), winter capital of Kashmir state, India It contains an old, but rather undistinguished, palace

Jammu and Kashmir: see KASHMIR

Jamnia (jăm'nēŭ), biblical *Jabneel* (jăb'nēĕl, jăb'nēl') and *Jabneh* (jăb'nŭ, –nē) [Heb ,=God causes to build], town (pop c 10,000), central Israel The modern name is Yibna (or Yabneh or Yebna) It was a central city of Philistia, and the Bible speaks of a wall and of Uzziah's capture of it It was sacked by Judas Maccabaeus and later rebuilt In the last years before the sack of Jerusalem (A D 70) Jamnia was becoming a great Jewish cultural center, and at the prayer of JOHANAN BEN ZACCAI, Vespasian spared Jamnia and permitted Johanan to settle there as leader of the Jewish community after the fall of Jerusalem The Great Sanhedrin was moved thither, and under Johanan's guidance the city became the capital of the Jews With great care the ceremonial and practices of the cult were preserved in the academy at Jamnia, and Jewish scholarship continued as before Except for a short period Jamnia remained the seat of the rulers of Judaism until the rising of BAR KOKBA (130) In the Middle Ages the Crusaders fortified the city The town was heavily involved in the war following the partition of Palestine in May, 1948 See Joshua 15.11, 2 Chron 26 6

Jamnitzer, Jamitzer, or **Gemniczer, Wenzel** (vĕn'tsul yäm'nĭtsur, yä'mĭtsur, gĕm'nĭtsûr), 1508–85, leading member of a German family of goldsmiths and engravers A foremost craftsman of his day, he introduced Italian Renaissance forms into Germany Born in Vienna, he settled in Nuremberg, becoming court goldsmith to four emperors Examples of his work are preserved in private collections and in the Louvre and the Victoria and Albert Museum

Jamshedpur (jŭm"shĕdpōōr', jăm"–), city (pop 148,711), SE Bihar state, India It was built in the late 19th cent to accommodate the Tata Iron and Steel Works (opened 1907), which is the largest foundry in India Near by are extensive iron deposits

Jamtland, Swed. *Jämtlands län* (yĕmt'lants lĕn'), county (19,966 sq mi , pop 143,213), NW Sweden, bordering on Norway It consists, roughly of the historical provinces of Jamtland in the north and Harjedalen in the south, both conquered by Sweden from Norway in 1645 OSTERSUND is the county seat and only city. The region is known for its scenery and its health and winter resorts. Isolated farms support most of the population, but lumbering and auxiliary industries are becoming important Reindeer herds of the Lapps often wander into the highlands The spelling Jemtland is obsolete.

Jamuna: see BRAHMAPUTRA.

Janacek, Leos, Czech *Janáček* (lă'ōsh yä'năchĕk), 1854–1928, Czech composer, theorist, and collector of Slav folk music, called the Moussorgsky of Bohemia. He studied at the Organ School, Prague, and the Leipsig Conservatory and founded an organ school at Brno (1881) Among his works are an orchestral rhapsody, *Taras Bulba*, inspired by Gogol, a string quartet suggested by Tolstoy's *Kreutzer Sonata;* the operas *Katia Kabanova* (1921), after Ostrovsky's *Storm*, and *Aus einem Totenhaus* (Brno, 1930), after a novel by Dostoyevsky, and *Jenufa* (Brno, 1930), his best-known work. See Rosa Newmarch, *The Music of Czechoslovakia* (1942).

Janauschek, Franziska Magdalena (Fanny Janauschek) (fräntsĭ'skä mägdälä'nä yä'noushĕk), 1830–1904, Bohemian actress After her debut in Prague, she was a leading actress in Germany (1848–60). In 1867 she visited the United States, playing her parts in German, and in 1873, having mastered the English language, she returned to act with great distinction Lady Macbeth, Medea, Iphigenia, Mary Stuart, and other tragic roles She later became a resident of the United States and abandoned her classic repertoire for melodrama

Janesville, 1 Village (pop. 1,296), SE Minn , between Waseka and Mankato, in a lake and farm region It was platted in 1855, deserted in the Sioux outbreak of 1862, and incorporated in 1870. **2** City (pop 22,092), co seat of Rock co , S Wis , SE of Madison and on the Rock River, settled 1835, inc 1853 It is an industrial and commercial center in a farm and tobacco-growing area Automobiles and fountain pens are its chief products, and there are tobacco warehouses A museum and a state school for the blind are here Ella Wheeler Wilcox was born near by

Janet: see CLOUET, FRANÇOIS, and CLOUET, JEAN

Janet, Pierre (pyĕr' zhănā'), 1859–1947, French physician and psychologist As director (1890–98) of the laboratory of pathological psychology at Salpêtrière and as professor of experimental and comparative psychology at the Collège de France from 1902, he made important contributions to the knowledge of mental pathology and the origins of hysteria by the use of hypnosis In 1904 he founded the *Journal de psychologie normal et pathologique*, to which he contributed numerous articles Among his important works were *L'Automatisme psychologique* (1889), in which he founded automatic psychology, and *Les Obsessions et la psychasthénie* (1903), which contains the first description of psychasthenia *Major Symptoms of Hysteria* (1907) contains lectures delivered at Harvard

Janeway, Edward Gamaliel (jān'wā), 1841–1911, American physician, b New Brunswick, N J , M D Columbia, 1864 Affiliated with Bellevue Hospital Medical College from 1868 to 1905, he served as curator, professor, and dean He was the first to recognize leukemia and to stress the contagious character of tuberculosis In health commissioner (1875–82) of New York city he was especially concerned with the treatment of contagious diseases Janeway's son, **Theodore Caldwell Janeway,** 1872–1917, M D Columbia, 1895, taught at Bellevue, Columbia, and Johns Hopkins and specialized in the study of blood pressure

Janiculum see *Rome before Augustus* under ROME

Janin, Jules Gabriel (zhül' gäbrēĕl' zhanĕ'), 1804–74, French dramatic critic and novelist His fiction includes *L'Ane mort et la femme guillotinée* (1829) and the historical novel *Barnave* (4 vols , 1831) His dramatic criticism was collected as *Histoire de la littérature dramatique* (6 vols , 1853–58)

Janina, Greece see IOANNINA

Janizaries (jă'nĭzĕ"rēz) or **Janissaries** (–sĕ'rēz) [Turkish,=recruits], élite corps of the Ottoman army, recruited from forced levies of Christian youths and war captives, who were trained under the strictest discipline It was originally organized by Orkhan The Janizaries gained great power under the Ottoman Empire and made and unmade sultans By 1600 Moslems had begun to enter the corps, largely through bribery, and in the 17th cent , membership in the corps became largely hereditary, while the conscription of Christians gradually ceased Sultan MAHMUD II, in 1826, rid himself of the unruly (and by now inefficient) Janizaries by having them massacred in their barracks The so-called "Turkish music" of the Janizaries greatly influenced the formation of modern military bands

Jan Mayen (yän' mī'ún), island (144 sq mi , pop 8), in the Arctic Ocean, c 300 mi E of Greenland It was annexed by Norway in 1929 It is a narrow strip of barren tundra land, rising abruptly to Mt Beerenberg (8,347 ft), an extinct volcano Except for a meteorological and wireless station, the island is uninhabited, but it is visited by sealers and whalers It was discovered (1607) by Henry Hudson From 1611 to 1635 Capt Jan Mayen had a whaling base on the island

Janna, name in the Gospel genealogy Luke 3 24

Jannes and Jambres (jă'nēz, jăm'brēz), opponents of Moses 2 Tim 3 8 Tradition gave these names to Pharaoh's magicians Ex 7 11 One of the PSEUDEPIGRAPHA bears their name

Jannina, Greece see IOANNINA

Janoah (junō'u) [Heb ,=rest], unidentified town, N Palestine, captured by Tiglath-pileser 2 Kings 15 29

Janohah (junō'hŭ) [Heb ,=rest], town, Palestine, c 10 mi SE of Shechem Joshua 16 6,7

Jansen, Cornelis (kôrnā'lĭs yän'sun), 1585–1638, Dutch Roman Catholic theologian He studied at the Univ of Louvain and became imbued with the idea of reforming Christian life along the lines of a return to St AUGUSTINE His companion was DUVERGIER DE HAURANNE. In 1630 he became professor at Louvain, and in 1636 bishop of Ypres. Out of Jansen's life work, the posthumous *Augustinus* (1642, in Latin), arose the great movement called **Jansenism** (jăn' sŭnĭzŭm). This was strictly a Roman Catholic movement, and it had no repercussions in the Protestant world. Its fundamental purpose was a return to greater personal holiness, hence the characteristically mystical turn of Jansenist writings. St. Augustine's teaching on grace was especially appealing to Jansen, who stressed the doctrine that the soul must be converted to God by the action of divine grace, without which conversion could not begin. Predestination was accepted in an extreme form and was so essential to Jansenism that its adherents were called "Calvinists" by their opponents But Jansenism had no sympathy with Protestants, for it held the necessity of the Roman Catholic Church to salvation and opposed justification by faith alone Jansenism fell afoul of the Church for its predestinarianism, for its discouragement of frequent communion for the faithful, and for its attack on the Jesuits and the new casuistry, which they thought was demoralising the confessional Jansenism took root in France, especially among the clergy There it early became involved with GALLICANISM, and high officials of Church and state often sided with Jansenists to thwart the Holy See The second great Jansenist work was *De la fréquente communion* (1643) of Antoine ARNAULD, which stirred the opposition of Jesuits and Dominicans In 1653 Pope Innocent X condemned five of Jansen's doctrines, and in 1656 Arnauld was expelled from the Sorbonne Meanwhile Blaise PASCAL, the greatest Jansenist, aroused a storm by his anti-Jesuit *Lettres à un provincial*. There was persecution of the Jansenists for a while Pasquier QUESNEL published late in the century a vernacular New Testament with Jansenist notes, this Clement XI condemned The aged Louis XIV undertook to suppress Jansenism, and the bulls *Vineam Domini* (1705) and *Unigenitus* (1713) virtually put the Jansenists out of the Church The convent of Port-Royal, the greatest center of Jansenism, was closed, and most Jansenists fled France Gallicanism prevented the legal registration of *Unigenitus* in France until 1730 Jansenism survived as a tendency within the Church, especially in France, taking the form usually of extreme scruples with regard to communion In the Netherlands an organization not in submission to the pope was set up There are Jansenist bishops of Utrecht, Haarlem, and Deventer The independent Jansenists recognize the Council of Trent and are, except for their special differences, like Roman Catholics The first OLD CATHOLIC bishop was consecrated by Jansenists.

Jansen, Zacharias see JANSSEN, ZACHARIAS

Janson, Eric, 1805–50, Swedish religious leader Persecuted for his preaching of the Bible as the only source of spiritual truth, he led a group of followers (Jansonists) to America, here they founded (1846) the colony of BISHOP HILL, Ill. He was killed by an adventurer

Janson, Nicolas see JENSON, NICOLAS

Janssen, Cornelis van Ceulen see JANSSENS, CORNELIS VAN CEULEN

Janssen, Peter (pā'tur yan'sun), 1844–1908, German historical and portrait painter From 1877 he was professor, and from 1895 director, of the Düsseldorf Academy of Art Among his frescoes were *Colonization of the Baltic Coast; The Myth of Prometheus*, in 12 scenes, seven episodes in the history of Erfurt, and *Imagination, Human Life, Beauty,* and *Nature* His oils include *Denial of Peter* (Pa Acad of the Fine Arts)

Janssen, Pierre Jules César (pyĕr' zhül' sēzär' zhānsĕn'), 1824–1907, French astronomer In 1857–58, in Peru, he worked on the determination of the magnetic equator, in Italy (1861–62, 1864) he observed the telluric lines in the solar spectrum, in the Azores (1867) he examined magnetic and topographical conditions, and in Japan (1874) and in Algeria (1882) he observed the transit of Venus He accompanied various solar eclipse expeditions, notably that to Guntur, India, in 1868, where he devised a new method of studying the solar prominences spectroscopically and discovered, almost simultaneously with J N. Lockyer, the chemical constitution of the prominences He was active in the establishment of the astrophysical observatory of Meudon and in 1875 became its director There he gathered a great series of solar photographs included in his *Atlas de photographies solaires* (1904) He later became director of the observatory on Mont Blanc

Janssen or Jansen, Zacharias (zäkhärē'ăs yän'sun), late 16th–early 17th cent , Dutch spectaclemaker at Middelburg He is credited with constructing the first compound microscope c.1590.

Janssens, Janssen, or **Jonson, Cornelis van Ceulen** (kôr'nā"lĭs van kû'lun yän'sŭns), 1593–c.1662, Flemish portrait painter, b probably in London He was the fashionable portrait painter of the English court from 1618 until the advent of Van Dyck In 1643 he moved to Holland. His portraits are in many famous English collections. The Metropolitan Museum contains two.

Janssens van Nuyssen, Abraham (äb'rähäm yän'sŭns van noi'sŭn), c.1575–1632, Flemish painter His work shows the influence of his contemporary Rubens in its bold composition, but relies less on color and more on strong light and shade for effect. Most of his work was done for Flemish churches, where

much of it remains. His *Madonna with Saints* (Church of the Carmelites, Antwerp) and *Ecce Homo* and *Descent from the Cross* (both cathedral, Ghent) are splendid examples of his work He was dean of the painters' guild of Antwerp in 1606.

January: see MONTH

Janum (jā'-) [Heb.,=slumber], unidentified town, apparently near Hebron Joshua 15 53.

Janus (jā'nŭs), in Roman religion, god of "beginnings" whether temporal or spatial. As the god of spatial beginnings he presided over gates and doors, and as the god of temporal beginnings over the first hour of the day, the first day of the month, and the first month of the year (which bears his name) His chief festival was celebrated on the first day of the year, and rams were sacrificed to him He was usually represented with two bearded heads placed back to back, so that he might look in two directions at the same time Janus had a temple in the Roman Forum which was shut in time of peace and opened in time of war

Janvier, Thomas Allibone (jăn'vēr), 1849–1913, American short-story writer, b Philadelphia He is known for his sketches of artist life in New York city, *Color Studies* (1885), and of S France, *Embassy to Provence* (1893), *From the South of France* (1912), and *At the Casa Napoleon* (1914) His wife, **Catherine Anne (Drinker) Janvier,** 1841–1922, b Philadelphia, was an American artist and writer She translated much Provençal literature, and her excellent library now belongs to the New York Public Library

Japan, Japanese *Nippon*, empire (147,000 sq mi , 1940 pop 73,114,308, 1947 pop 78,627,000), occupying an archipelago off the east coast of Asia The capital is Tokyo Japan proper has four main islands which are from north to south, HOKKAIDO, HONSHU (the main island with the capital and other large cities), SHIKOKU, and KYUSHU (the topography and economy of Japan is covered in the articles on those islands) There are, however, numerous smaller islands, perhaps as many as 1,000 stretched in an arc between the Sea of Japan and the Pacific proper Between Honshu and Shikoku is the important all-Japanese Inland Sea Before the Second World War, the Japanese Empire was at its height and included the southern part of SAKHALIN, the KURILE ISLANDS, the RYUKYU ISLANDS, FORMOSA, the PESCADORES islands, KOREA the BONIN ISLANDS, the KWANTUNG leased territory in Manchuria, and the groups held as mandates from the League of Nations (the CAROLINE ISLANDS, MARSHALL ISLANDS, and MARIANAS ISLANDS) Japan also had firm control of the puppet state of MANCHUKUO In the early years of the war Japanese arms also took vast other territories, including a large part of China and the Philippines After the war ended disastrously for Japan, all these possessions were stripped away (though the disposition of the Bonins and the Ryukyus was left in doubt), and Japan was reduced more or less to the size of the nation in 1868 before the imperialist adventure began The general features of the scenery of the four main islands are familiar to Westerners who have studied Japanese prints the shapely mountains, sometimes snow-capped, the most famous being the sacred FUJIYAMA, the rushing, short rivers, the forested slopes, the irregular and lovely lakes, and the small, rich plains Not more than 20 percent of the land is arable, and on the arable sections the density of population is among the highest in the world The range of climate is much the same as from Maine to Georgia, from prevailingly chilly temperate to prevailingly warm temperate Earthquakes are, however, frequent and are sometimes highly destructive Mineral resources are meager, except for coal The rapid streams supply plentiful hydroelectric power The forests yield a wealth of timber In the various regions suitable for farming rice and other grains, vegetables, tea, and mulberry trees (for feeding silkworms) are produced in abundance The fisheries are highly developed and Japanese fishermen go far afield over the Pacific The canning and processing of fish is a major industry in the islands In the 20th cent. Japan was rapidly and thoroughly industrialized Textiles were a leading item No cotton or wool is produced in Japan, but textile production grew to be enormous and before the Second World War silk was still the leading export product Vast quantities of light manufactures were also produced, especially cheap consumer goods (toys, porcelain, and the like), and in the late '20s and '30s heavy industries—metallurgical, engineering, and chemical—were greatly expanded, principally to support the military ambitions of the imperialists Sale of textiles and light manufactures across the world was also the basis for the growth of one of the greatest merchant marines in the world, and in the 1930s, except where tariff and trade barriers had been raised against the Japanese goods, there was scarcely a habor in the world at which the Japanese vessels did not arrive, laden with cheap Japanese merchandise Besides Tokyo the chief cities of the essentially industrial and urban Japan were YOKOHAMA, OSAKA, KOBE, NAGOYA, KYOTO, and NAGASAKI. The Japanese people are primarily the descendants of various peoples who migrated from Asia in prehistoric times One of the earliest groups, the AINU, who still persist to some extent in Hokkaido, are physically somewhat similar to the Caucasian peoples, but the majority of the mixed Japanese population is Mongoloid more or less resembling in general physical qualities the inhabitants of the continent of Asia The principal religion is SHINTO Buddhism was, however, introduced early and has many adherents Shinto and Buddhism have, in fact, influenced each other, while the development of Shinto was radically altered, Japan has seen the development of special Japanese varieties of Buddhism in such sects as Jodo, Shingon, Nicheren, and Zen Confucianism has also deeply affected Japanese thought Christianity does not have a very great hold in the land, less than one percent of the Japanese are Christians. The effect of Confucianism was part of the generally significant influence that Chinese culture wielded on the formation of Japanese civilization (see JAPANESE ARCHITECTURE, JAPANESE ART, JAPANESE LITERATURE)

Sun-Goddess and Feudalism In ancient tradition, taught as fact in the Japanese public schools until 1945, the Japanese people is of divine origin and the empire was founded in 660 B C by the Emperor Jimmu, a lineal descendant of the sun-goddess and ancestor of the present emperor Actually, reliable records date back only to about 400 A D , and Japan's early history is obscure In the first centuries of the Christian era the country was inhabited by numerous clans or tribal kingdoms ruled by priest-chiefs Contacts with Korea were close, and bronze and iron implements were probably introduced by invaders from Korea around the first century. By the 5th cent the Yamato clan, whose original home was apparently in Kyushu, had settled in the vicinity of modern Kyoto and had established a loose control over the other clans of central and W Japan, laying the foundation of the Japanese state From the 6th to the 8th cent the rapidly developing society gained much in the arts of civilization under the strong cultural influence of China, then shining in the splendor of the T'ang dynasty Buddhism was introduced, and the Japanese upper classes assiduously studied Chinese language, literature, philosophy, art, science, and government, creating their own forms adapted from Chinese models A partially successful attempt was made to set up a centralized, bureaucratic government like that of imperial China The Yamato priest-chief assumed the dignity of an emperor, and an imposing capital city, modeled on the T'ang capital, was erected at Nara, to be succeeded by an equally imposing capital at Kyoto By the 9th cent the powerful Fujiwara family had established a firm control over the imperial court The Fujiwara influence and the power of the Buddhist priesthood helped to bring about a gradual decline in the authority and revenues of the imperial government Provincial gentry—particularly the great clans who opposed the Fujiwara—evaded imperial taxes and built up their own strength A feudal system developed Civil warfare was almost continuous in the 12th cent The Minamoto family defeated their rivals, the Taira, and became masters of Japan Their great leader, YORITOMO, took the title of SHOGUN, established his capital at Kamakura, and set up a military dictatorship For the next 700 years Japan was ruled by warriors The old civil administration was not abolished, but gradually decayed, and the imperial court at Kyoto fell into obscurity The Minamoto soon gave way to the Hojo, who managed the Kamakura administration as regents for puppet shoguns, much as the Fujiwara controlled the imperial court In 1274 and again in 1281 Japan was invaded by the Mongols under Kublai Khan, who failed to subdue the country In 1331 the Emperor Daigo II attempted to restore imperial rule He failed, but the revolt brought about the downfall of the Kamakura regime The Ashikaga family took over the shogunate in 1338 and settled at Kyoto, but were unable to consolidate their power The next 250 years were marked by civil wars, during which the feudal barons (the daimyo) and the Buddhist monasteries built up local domains and private armies Nevertheless, in the midst of incessant wars there was a brisk development of manufacturing and trade, typified by the rise of Sakai (the later Osaka) as a free city not subject to feudal control This period saw the birth of a middle class Extensive maritime commerce was carried on with the continent and with SE Asia, Japanese traders and pirates dominated Far Eastern waters until the arrival of the Europeans in the 16th cent.

Military Might and the Foreigners. The first European contact with Japan was made by Portuguese sailors in 1542 A small trade with the West developed Christianity was introduced by St FRANCIS XAVIER, who reached Japan in 1549 In the late 16th cent three great warriors, NOBUNAGA, HIDEYOSHI, and IEYASU, established military control over the whole country and succeeded one another in the military dictatorship Hideyoshi unsuccessfully invaded Korea in 1592 and 1596 in an effort to conquer China After Hideyoshi's death Ieyasu took the title of shogun, and his family ruled Japan for 250 years They set up at Yedo (the later Tokyo) a centralized, efficient but repressive system of feudal government (see TOKUGAWA) Stability and internal peace were secured, but economic and social progress were stifled Christianity was suppressed and all intercourse with foreign countries was prohibited except for a Dutch trading-post at Nagasaki Tokugawa society was rigidly divided into feudal lords (the daimyo), the SAMURAI, peasants, artisans, and merchants, in that order It was imbued with Confucian ideas of loyalty to superiors, and military virtues were cultivated by the ruling aristocracy (see BUSHIDO) Oppression of the peasants led to many sporadic uprisings Yet despite feudal restrictions, production and trade still expanded, the use of money and credit increased, flourishing cities grew up, and the rising merchant class acquired great wealth and economic power Japan was in fact moving toward a capitalist system By the middle of the 19th cent the country was ripe for change Most daimyo were in debt to the merchants, and discontent was rife among impoverished but ambitious samurai The great clans of western Japan, notably Choshu and Satsuma, had long been impatient of Tokugawa control In 1854, an American naval officer, Matthew C PERRY, forced the opening of trade with the West Japan was compelled to admit foreign merchants and to sign unequal treaties Attacks on foreigners were answered by the bombardment of Kagoshima and Shimonoseki Threatened from within and without, the shogunate collapsed In 1867 a conspiracy engineered by the western clans and imperial court nobles forced the shogun's resignation After brief fighting, in 1868 the boy Emperor MUTSUHITO was "restored" to power, and the imperial capital was transferred from Kyoto to Tokyo This was the MEIJI restoration

Industries and Expansion Although the Meiji restoration was originally inspired by antiforeign sentiment, Japan's new rulers quickly realized the impossibility of expelling the foreigners Instead they strove to strengthen Japan by adopting the techniques of Western civilization Under the leadership of an exceptionally able group of statesmen (who were chiefly samurai of the western clans and came later to be called genro) Japan was transformed into a modern industrial state and a great military power The defeat of the Satsuma rebellion in 1877 marked the end of opposition to the new regime Emissaries were sent abroad to study Western military science, industrial technology, and political institutions Feudalism was abolished in 1871 The administration was reorganized on Western lines An efficient modern army and navy were created, and military conscription was introduced Industrial development was actively fostered by the state, working in close cooperation with the great merchant houses A new currency and banking system were established New law codes were enacted Primary education was made compulsory In 1889 the emperor granted a constitution, modeled on that of Prussia Supreme authority was vested in the emperor, who in practice was largely a figurehead controlled by the clan oligarchy Subordinate organs included a privy council, a cabinet, and a diet consisting of a house of peers and an elected house of representatives Universal manhood suffrage was not granted until 1925 After the Meiji restoration nationalistic feeling ran high The old myths of imperial and racial divinity, rediscovered by scholars in the Tokugawa period, were revived, and the sentiment of loyalty to the emperor was actively propagated by the new government Feudal glorification of the warrior and belief in the unique virtues of Japan's "Imperial Way" combined with the expansive drives of modern industrialism to produce a vigorous imperialism At first concerned to defend Japanese independence against the Western powers, Japan soon joined them in the competition for empire in the Orient By 1899 Japan cast off the shackles of EXTRATERRITORIALITY but not until 1911 was full tariff autonomy gained The First CHINO-JAPANESE WAR (1894–95) marked the emergence of imperial Japan with acquisition of Formosa and the Pescadores, as well as the Liaotung peninsula in Manchuria, which the great powers forced her to relinquish An alliance with Great Britain in 1902 increased Japanese prestige, which rose to flood tide in the RUSSO-JAPANESE WAR in 1904–5 Unexpectedly the Japanese smashed the might of Russia with speed and efficiency The treaty of Portsmouth, ending the war, recognized Japan as a world power A territorial foothold had been gained in Manchuria In 1910 Japan was able to annex Korea During the First World War the Japanese secured the German interests in Shantung (later restored to China) and received the German-owned islands in the Pacific as mandates In 1915 the TWENTY-ONE DEMANDS were presented, intended to reduce China to a protectorate, but the other world powers opposed this imperialism and prevented execution of the demands In 1918 Japan took the lead in Allied military intervention in Siberia, where Japanese troops remained

until 1922 These moves, together with an intensive program of naval armament, led to some friction with the United States, which was temporarily adjusted by the Washington Conference of 1921–22 (see NAVAL CONFERENCES) During the next decade the expansionist drive abated in Japan, and liberal and democratic forces gained ground The power of the diet increased, party cabinets were formed (see SEIYUKAI), and despite police repression labor and peasant unions attained some strength. Liberal and radical ideas became popular among students and intelligentsia Politics was dominated by big business (see ZAIBATSU), and the businessmen were more interested in economic than in military expansion Trade and industry, stimulated by the First World War, continued to expand, though interrupted by the earthquake of 1923, which destroyed much of Tokyo and Yokohama Agriculture, in contrast, remained depressed Toward China, Japan pursued a moderate policy, relying chiefly on economic penetration and on diplomacy to advance the Japanese cause This mildness displeased the more extreme militarist and nationalist elements, who disliked the capitalists and advocated state socialism Chief among these groups were the Kwantung army in Manchuria, the young officers, and various organizations such as the Black Dragon Society, which included many prominent men Militarist propaganda was aided by the depression of 1929, which ruined Japan's silk trade In 1931 the Kwantung army precipitated an incident at Mukden and promptly overran all of Manchuria, which was detached from China and set up as the puppet state of Manchukuo When the League of Nations criticized Japan's action, Japan withdrew from the League During the 1930s the military party gradually extended its control over the government, brought about an increase in armaments, and reached a working agreement with the *zaibatsu* Military extremists instigated the assassination of Prime Minister Inukai in 1932 and an attempted coup d'état in 1936 At the same time Japan was experiencing a great export boom, due largely to currency depreciation, the rapid increase of Japanese trade caused some alarm in other countries but slowed down around 1937 From 1932 to 1937 Japan engaged in gradual economic and political penetration of N China In July, 1937, after an incident at Peiping, Japanese troops invaded the northern provinces Chinese resistance led to full-scale though undeclared war (see CHINO-JAPANESE WAR, SECOND) A puppet Chinese government was installed at Nanking in 1940 Meanwhile relations with Russia were tense and worsened after Japan adhered to the Anti-Comintern Pact of 1936 In 1938 and 1939 armed clashes took place on the Manchurian border Japan now stepped up an armament program, extended state control over industry through the National Mobilization Act (1938), and intensified police repression of dissident elements In 1940 all political parties were dissolved and were replaced by the state-sponsored Imperial Rule Assistance Association After the Second World War erupted in Europe in 1939 Japan sent (1940) troops to Indo-China, signed a military alliance with Germany and Italy, and announced the intention of creating a "Greater East Asia Co-Prosperity Sphere" In April, 1941, a neutrality treaty with Russia was triumphantly concluded In Oct., 1941, the militarists achieved complete control in Japan, when Gen Hideki TOJO succeeded a civilian Prince Fumimaro KONOYE as prime minister On Dec 7, 1941, Japan opened hostilities against the United States and Great Britain by striking at Pearl Harbor, Singapore, and other Pacific possessions The fortunes of war at first ran in favor of Japan, and by the end of 1942 the spread of Japanese military over the Pacific to the doors of India and of Alaska was prodigious (see WORLD WAR, SECOND) Then the tide turned, territory was lost to the Allies island by island, and warfare reached Japan itself with intensive bombing and finally in 1945 with the explosion of atomic bombs in Hiroshima and Nagasaki, Japan surrendered, the first offer being announced on Aug 14 and formal surrender being made on the U S battleship *Missouri* in Tokyo Harbor on Sept 2, 1945

Remnants of Empire The surrender was unconditional, but the terms for Allied treatment of the conquered power had been laid down at the POTSDAM CONFERENCE The empire was dissolved and all territories seized by force were removed The country was to be demilitarized, and steps were to be taken to bring forth "a peacefully inclined and responsible government" Industry was to be adequate for peacetime needs, but war-potential industries were to be forbidden. Until these conditions were fulfilled Japan was to be under Allied military occupation. The occupation began immediately under command of Douglas MacArthur A Far Eastern Commission, representing 11 Allied nations was to supervise general policy. The commission, however, suffered from the general rising tension between the USSR and the Western nations and did not function too smoothly The actual occupation force controlled Japan through the existing machinery of Japanese government. A new constitution was adopted in 1946 and went into effect in 1947. The political situation was cloudy, political parties reappeared The general conservative trend in politics was tempered by the elections of 1947 which made the Social Democratic party the largest single force, but the government headed by Katayama went out of power in 1948, and the conservatives took full charge under Shigeru Yoshida in 1949. New education laws were adopted An attempt was made to break up the *zaibatsu* Many of the militarist leaders and generals were tried as war criminals and in 1948 a number of them were convicted Economic revival proceeded slowly with much unemployment and a low level of production, which improved only gradually In 1949, however, MacArthur loosened the bonds of military government, and many of the responsibilities were turned over again to local authorities See J A Murdoch, *A History of Japan* (1926), B H Chamberlain, *Things Japanese* (rev. ed., 1927), Y Takekoshi, *Economic Aspects of the History of the Civilization of Japan* (1930), H S Quigley, *Japanese Government and Politics* (1932), G F Hudson, *The Far East in World Politics* (1937), R K Reischauer, *Japan Government-Politics* (1939), Hugh Borton, *Japan since 1931* (1940), E H Norman, *Japan's Emergence as a Modern State* (1940), H S Quigley, *Far Eastern War, 1937–1941* (1942), G B Sansom, *Japan a Short Cultural History* (rev ed., 1943), C D Carus and C L McNichols, *Japan Its Resources and Industries* (1944), J F Embree, *The Japanese Nation* (1945), G T Trewartha, *Japan a Physical, Cultural & Regional Geography* (1945), T A Bisson, *Japan's War Economy* (1945) and *Prospects for Democracy in Japan* (1949), E O Reischauer, *Japan, Past and Present* (1946), C C Allen, *A Short Economic History of Modern Japan, 1867–1937* (1946), Harold Wakefield, *New Paths for Japan* (1948), Jerome B Cohen, *Japan's Economy in War and Reconstruction* (1949)

Japan, Sea of, part of the Pacific Ocean between Japan and Korea, connecting with the East China Sea through Korea Strait, with the Pacific through the Inland Sea and Tsugaru Strait, and with the Sea of Okhotsk through La Pérouse Strait and Tatar Strait Its area is c 405,000 sq mi and its depth is over 10,000 ft

Japan Current or **Kuroshio** (kōōrōshē'ō) [Jap., = black stream], warm ocean current of the Pacific Ocean A northward flowing branch of the North Equatorial Current, it runs E of Formosa and the Japanese archipelago At about lat 35° N it divides to form an eastern branch flowing nearly to the Hawaiian Islands and a northern branch that skirts the coast of Asia and merges with the waters of the cold Oyashio current

Japanese architecture. The highly developed building art of China came to Japan with the introduction of Buddhism in the 6th cent Late in the century the great monastery of Horyu-ji, near Nara, was begun by architects from Korea The gateway, temple, and pagoda, completed c 650, remain practically unchanged, the temple being the oldest known example of wood architecture extant Since no buildings of this period survive in China, these structures are possibly prototypes of early Chinese architecture Unsurpassed for beauty and purity of form, they exhibit the classic type from which all subsequent Japanese design developed Although extensive forests and the hazards of earthquakes have made wood the favored material, this type of construction was brought to a structural and artistic culmination as complete as any of the great styles of masonry architecture Interior wood columns receive the loads, while the thin exterior walls are of woodwork, plaster, and rice paper As in Greek and Chinese architecture, no use is made of diagonal members, and the framing is exclusively a system of uprights and horizontals Vitality and grace are contributed by the refined curvatures in the column outlines, in the shapes of rafters and brackets, and, especially, in the great overhanging roofs The spacing of columns is governed by the ken (about 6 ft), intercolumniation being one ken for smaller buildings and two for large ones As illustrated by the 7th-century Horyu-ji buildings, the first epoch of Japanese architecture (600–1185) was characterized by gravity, frankness of construction, and simple vital compositions, sparsely ornamented In this period the pagoda at Yakushi-ji near Nara (c 700), still extant, marked the birth of a distinctly Japanese style The pavilion called Phoenix Hall in the temple of Byodo-in at Uji, near Kyoto (c 1050), represents the apogee of Japanese design This was a product of the golden age of culture, which had begun in the middle of the 9th cent with a second wave of Chinese influence, this time directly from China itself In the 13th cent the introduction of Zen doctrines of Buddhism brought a distinctive type of temple, in which altar and shrine were removed from the center space of the temple to a sanctuary at the rear With the Ashikaga period (14th–16th cent) emphasis was increasingly centered upon the ornamental aspects of the buildings. The commencement (1603) of the Tokugawa shogunate coincided with the closing of Japan from intercourse with the outside world and with the development of elaborate architecture Though irrational, coarse, and complex form became common, the adornment of both exteriors and interiors reached an ultimate splendor of richly carved woodwork, metal adornments, laoquers, gold leaf, and mural paintings in glowing colors The temples at Nikko, that in Shiba Park at Tokyo, and that of Chion-in at Kyoto are magnificent examples, and practically all the temples still extant belong to this period But the decadence had been reached, and the opening of the Japanese ports to the Western world marked the virtual end For public and commercial buildings Western methods have now become practically universal, and only in private dwellings do native types survive Through the centuries Buddhist temples have varied little in general style and arrangement Greatest importance was attached to the landscape setting, a forested and picturesque hillside being the favored location, the temple courtyards are approached from terraces and wide flights of steps In front of the main building or *honden* stands an imposing gateway Accessory structures are the five-storied square PAGODA, often omitted, the drum tower, the holy font protected by a shed, and the stage for sacred dances The most impressive temples mark the tombs of princes The Shinto temple, whose pre-Buddhist type is perpetuated, is a small and extremely simple structure, roofed with bark thatch and devoid of color adornment The typical Japanese dwelling of a good class, developed in the Tokugawa period, is unexcelled for its refinement and simplicity The more pretentious ones are two stories high, with several enclosed courts Interior posts form a supporting skeleton for the roof, while the exterior walls are a light frame work into which are fitted sliding screens of mounted rice paper, protected by the projecting roof eaves The interior is flexibly subdivided, by screens (*shoji*) sliding in grooves, into a series of airy spaces not assigned to specific dining or sleeping uses Furniture is introduced for these needs only at the required times There are special spaces for bath and kitchen and for the tea-drinking ceremony Each important living space is provided with a tokonoma, an alcove for the display of a flower arrangement and a few carefully chosen objects of art See R A Cram, *Impressions of Japanese Architecture and the Allied Arts* (1905)

Japanese art, based upon Chinese art, was introduced (6th cent) with Buddhism by way of Korea The teaching stage of the arts progressed under Chinese or Korean priests who created Buddhist pictures and sculptures representing divinities, saints, and legendary figures Rare examples of wall paintings attributed to them (panels formerly in the Kondo at Horyu-ji, near Nara) were not unlike Italian dry frescoes Kose no Kanaoka (9th cent), the first notable native master, followed the traditions of T'ang painting in China, but was individual in their application and won high favor Of his many artist descendants, Motomitsu is outstanding as establishing the Yamato, or native, school (11th cent) Still adhering largely to Chinese style, its exponents portrayed members of the nobility and court ceremonials in brilliant colors (the pulverized lapis lazuli, used as a pigment, still remaining unchanged) on gold backgrounds Landscape features were incidental and conventional Two centuries later a Kose descendant, Tsunetaka, changed his name (an expedient often resorted to by Japanese artists) to Tosa, which he gave to the school Its painters were of the aristocracy and confined their work to the court throughout the period (ending c 1400) At the close of the 12th cent, caricature was introduced by Toba Sojo, a priest, forerunner of many later cartoonists expressing the gay incisive humor inherent in the people He represented the clergy and other personages as frogs, birds, or other animals in amusing poses and carrying satirical legends The succeeding era of painting ushered in a renaissance of the classic Chinese, with the priest Josetsu, Cho Densu, Shubun, and Sesshu, most revered of Japanese landscapists, as its leading exponents It also produced the artists who founded the KANO school, which flourished for about three centuries Its principles were those of the Sung and Yuan periods of Chinese painting, their Japanese expression culminating (17th cent) in the work of Kano Tanyu. Two Tosa painters of this epoch whose names are linked with original movements in Japanese art are Korin, who developed naturalism, and Iwasa Matabei, founder of the ukiyoye, or popular, school of color prints The color-print designers eventually won world-wide recognition and influenced the work of Whistler and other Western artists Among the ukiyoye painters are Harunobu, Shunso, Utamaro, Toyokuni, Kyosai, Hokusai, and Hiroshige The naturalistic school of the 18th cent which had its inception in Kyoto took the name Shijo from the street of its studios Okyo, its leading spirit, instituted revolutionary changes by working from nature. Among his followers were Sosen, Shibata Yeshin, Yosai, and Hoyen. Contemporary with

this movement and influenced by it was the Ganku school of Chinese traditions, with Ganku and Bunrin its chief artists. Mid-19th-century contacts with European culture had a rather stupefying effect upon native artists A few print designers attained distinction, but no masters equaling their predecessors appeared When painting revived, the native style revealed Western influences and many Japanese artists practiced European methods, but the majority still followed Chinese fundamentals Japanese painting is executed upon thin or gauzelike silk or soft paper (in horizontal position) with Chinese ink and water colors The work is mounted on silk brocade or its paper imitation and rolled upon a rod when not on view The hanging picture (*kakemono*) has a special alcove (*tokonoma*) in the room and is changed to suit the season or occasion The long narrow scroll (*makimono*), unrolled in the hands, usually portrays a procession or progressive scenes The early sculptures (7th and 8th cent) are large wooden images and small bronzes of Buddhist deities and saints, created by Korean priests and Korean and Chinese craftsmen, Busshi and Kasuga being of this period The work reveals Greco-Indian influence, is spirited and well modeled, and is unsurpassed by later pieces It is now chiefly in the temples and museums of Nara and Kyoto Jocho was the head of the 11th-century Nara school, which included Kokei and Unkei, Tankei and Kwaikei belong to the succeeding century After the discovery of copper in Japan came the casting of the colossal figures of Buddha, the medieval Daibutsu of Nara and of Kamakura, and an increase in smaller bronzes Stone sculptures are few, but ivory carvings are numerous and exquisitely executed Hidari Jingoro, a carpenter, rose to fame as a carver, elevating the craft to an art Among other minor arts in which Japan excels are making basketry, pottery, porcelain and lacquer work (both derived from China), arms and armor, especially the sword and its guard (*tsuba*) and other fittings, enamels, cloisonné, intarsia, and damascening Other objects of art include the sliding door (*fusuma*), the screen (*byobu*), brie-a-brac (*okimono*), censers (*koro*), the pipe-case or pillbox toggle (*netsuke*), and the pillbox itself (*inro*) There are many private collections of Japanese fine and applied arts in Japan, those of the imperial household being greatest Among public collections in various parts of the world are those of the Imperial Museum and the Museum of Arms (Tokyo), the Louvre, the British Museum and the Victoria and Albert Museum, the Museum of Fine Arts (Boston), the Metropolitan Museum, and the Freer Gallery (Washington, D C) See J F Blacker, *A B C of Japanese Art* (1911), E F Fenollosa, *Epochs of Chinese and Japanese Art* (1911), Hoshu Minamoto, *Illustrated History of Japanese Art* (1935)

Japanese beetle, popular name of a destructive insect related to the June bug, first discovered in New Jersey in 1916 It was probably introduced in nursery stock from Japan and was soon spread over too large an area to make extermination possible The adult is about ½ in long with a metallic green head and thorax and brown wing covers It skeletonizes leaves and destroys fruits and flowers During the summer the eggs are laid in the ground The larvae feed on roots, wintering underground and emerging in June or July Attempts at control include spraying lawns with poison, the use of traps baited with aromatic oils, the use of natural enemies, e g , parasitic wasps and bacteria, and setting up quarantine lines See *The Japanese Beetle and Its Control* (U S Dept of Agriculture, Farmers' Bul 1856)

Japanese drama. The 14th cent saw the rise of the lyric drama, *no* or *noh* drama, and the comic interlude, *kyogen* Deeply rooted in Japanese traditions, *no* is clearly free from the influence of the Chinese, from whom the Japanese borrowed much in other art forms It developed from the song and dance representation called *sarugaku* [literally, monkey music], which originated in the pantomimic dance performed at ancient Shinto and Buddhist festivals There are about 250 extant *no* plays, most of them written in the 15th cent The staging of *no* plays is extremely formal There is a platform roughly 20 ft square, supported by four pillars open on three sides and covered by a roof The chorus sits at the right and the musicians at the back of the stage, on the back wall is a painting of a pine tree, which symbolizes the pine trees near the shrines The stage, with only the barest essentials of scenery, sets the restrained and suggestive tone of the performance A device that further minimizes a realistic effect is the use of wooden masks The word *no* means ability, as applied to the play, it highlights the emphasis placed on a meticulously rehearsed and finished performance. The involved symbolism of a *no* play makes it impossible for Westerners and even for many educated Japanese to appreciate its merit fully, unless they have the esoteric knowledge of the various symbolic allusions The one-act farce, *kyogen*, which gives comic relief to a *no* program, developed from the *dengaku* [literally, rustic music], which like the *sarugaku* originated in primitive religious dances *Kyogen* is unique among the old dramatic forms in that it requires no music and consists simply of dialogue and monologue, the humor in *kyogen* is generally very broad There are about 280 extant *kyogen*, probably written during the same period as the *no* plays Fostered by the feudal daimyo, *no* drama appealed almost exclusively to aristocratic tastes, and there was soon a growing demand for plays that would satisfy an unintellectual audience This need for popular entertainment was filled by the *kabuki*, which developed in the 17th cent as a vulgarized offshoot of *no* In a *kabuki* play there is greater freedom to deviate from set rules of acting and staging, instead of the understatement of *no*, there is exaggeration in the highly stylized acting, bizarre make-up is used instead of the wooden masks of *no* plays A crucial point of similarity, however, between the two types of plays is the use of tableau as the climactic point of the drama, when the actors strike an elaborate pose and hold it for a tense moment By the 17th cent the dramatic ballad, *joruri*, had reached a high degree of perfection and added greatly to the popularity not only of *kabuki*, but also of the puppet show, to which it was adapted Puppet drama had been introduced in the early 16th cent and in the 18th cent enjoyed a tremendous vogue Subsequently it lost much of its popularity, but it still has importance in the Japanese theater because it was the medium for which the most celebrated plays, notably those of Chikamatsu Monzaemon, were written *Kabuki* continued to be popular Beginning in the late 19th cent, translations and adaptations of European plays were successfully introduced, but the native dramas, especially the classical *kabuki* and its modernized version, still have the widest appeal See Ernest F Fenollosa and Ezra Pound, *'Noh' or Accomplishment* (1919), Arthur Waley, *The No Plays of Japan* (1921), B L Suzuki, *Nogaku Japanese No Plays* (1932), Shio Sakanishi, *Kyogen* (1938)

Japanese ivy see BOSTON IVY

Japanese literature. Japan had no written language until the late 3d cent A D when Chinese was introduced by Korean scholars Early in the 8th cent a method of writing Japanese was evolved by adapting Chinese ideographs to spoken Japanese by using some of them as phonetic symbols This difficult system of writing was used in the composition of the *Kojiki* (712), the sacred book of Shinto, which included traditional poems and stories that had been preserved orally, it is an account of the creation of the world and of the divine origin of the imperial family of Japan In 721 appeared another historical work, the *Nihon-gi* or *Nihon-shoki*, which differed from the *Kojiki* in that it was written in pure Chinese The anthology of verse, *Manyoshu* [collection of myriad leaves] (760), also written in Chinese, was a great literary achievement, containing about 4,500 poems, many of them remarkable for their perfection The simplification of the written language by the adoption of two syllabaries (*kata-kana* and *hira-gana*) in the 8th and the 9th cent opened the classic age, the era when Japanese literature reached its highest development Although classical Chinese still flourished in the highest intellectual circles, literature in the native language gained increasing prestige The poet Ki-no-Tsurayuki, in the preface to his travel journal, *Tosa-nikki* (935), apologized for writing in Japanese, but the book was widely read and respected An unusual feature of the period was the appearance of several talented women writers, foremost among whom was MURASAKI SHIKIBU, author of the *Genji-Monogatari* (Eng tr , *Tale of Genji*, one-volume ed , 1935) There were also Sei Shonagon, author of the *Pillow Book*, and Izumi Shikibu, an accomplished poet The classic age closed in the 12th cent and was followed by a period which, though often called the dark age of Japanese letters, is memorable for the rise of the JAPANESE DRAMA with its four forms—*no* drama, the *kyogen* (comedies), and the *kabuki* (popular drama), and puppet drama The period also saw the production of several fine prose works—the *Hojoki* (1212?), meditations of the recluse Kamo Chomei, *Tsurezure gusa* (1345?), pessimistic essays by Kenko Boshi, and the *Heike-Monogatari*, which was one of several long narratives of the civil wars of the period The establishment of the Tokugawa shogunate (1603) ushered in an age of peace which lasted for more than 250 years and was attended by a revival of interest in the ancient classics of Japan and by the development of a standard written language There was also renewed interest in Chinese learning The quality of the Japanese theater greatly improved, largely through the efforts of the dramatist CHIKAMATSU MONZAEMON Of the romantic novelists of the early 19th cent the best known was Kyokutei Bakin (1767–1848) The *tanka*, traditional form of poetry (a five-line stanza with alternate lines of five and of seven syllables), was largely replaced by new and freer verse forms, such as the *haikai* or *hokku* which was masterfully developed by Basho Matsura (1648–94) The opening of Japan to the West in 1858 had a profound effect on Japanese literature Not only did numerous translations of European, American, and Russian literary works appear, but there were also Japanese novels written in close imitation of foreign works Among the leading 19th-century figures were Shoyo Tsubouchi, a Shaksperian scholar, the novelists Koyo Ozaki, Rohan Koda, and Futabatei Shimei (who introduced Russian novels into Japan), and Soseki Natsume, author of the widely read *I Am a Cat* (1905) See W G Aston, *History of Japanese Literature* (1899), Arthur Waley, *Japanese Poetry* (1919), J Ingram Bryan, *The Literature of Japan* (1929), Kan Kikuchi, *History and Trends of Modern Japanese Literature* (pamphlet, 1936), George Kunitomo, *Japanese Literature since 1868* (1938)

Japanese music, Oriental musical culture of a highly eclectic character Its history begins in the 5th cent A D with the importation through Korea of the ancient ceremonial music of China This music, the Japanese *gagaku*, no longer exists in China, but has been preserved almost intact in Japan by certain families appointed by the court and is passed on by them through succeeding generations It is a solemn orchestral music, using the *koto* (the Chinese dulcimer), *hichiriki* (an oboe), *shakuhachi* (a flute), *sho* (mouth organ, the Chinese SHENG), *biwa* (a lute), drums, and gongs In the 6th cent the Buddhist religion and its hymns came to Japan from China, again by way of Korea Directly from China, in the 7th cent , came the *bugaku*, a ceremonial dance with music, originating in India The *kagura*, used for the most solemn of religious rites, is an indigenous music which is thought to contain traces of a music existing before the 5th cent This is principally vocal music accompanied by the *koto* and *kagura-bue* (an aboriginal flute) Midway between sacred and secular is the music of the *no* drama (see JAPANESE DRAMA), dating from the 14th cent It is a vocal recitative, *utai*, restrained in feeling and of uncertain intonation, accompanied by the *yokobue* (a flute) and drums The *no* music is the offspring of the *gagaku* It cannot be considered apart from the drama Secular music in Japan originated in the middle of the 16th cent with the introduction of the *samisen* from China The *samisen* is a plucked instrument with three strings Its body has a flat back and is in the shape of a square with somewhat rounded sides, and its neck is long It is used for the accompaniment of various types of vocal music and in ensemble with the *koto*, a long zither with a convex sounding board and 13 strings The *koto* attained its present form in the 16th cent and is used both as a solo instrument and in ensemble The *shakuhachi*, a bamboo flute, was brought from China in the 13th cent and was used exclusively by Buddhist monks until 1871, when protection was no longer given these monks The scales of Japan are all pentatonic, but are of two types That borrowed from China is without semitones and has two modes (see MODE)—*ryo*, the male mode, and *ritsu*, the female mode, preferred by the Japanese The native scale has semitones and has three modes—*hirajoshi*, roughly represented by the series ABCEFA on the piano, the most important, *kumojoshi*, second in importance, approximated by EFABCE, and *iwato*, approximated by BCEFAB A given composition may modulate freely from one mode to another There is a norm of pitch, but deviations above or below it are common Japanese music is essentially monophonic, but variations in the rhythm on the part of two instruments and a holding back of certain parts creates something resembling polyphony in ensemble music Drums provide a rhythmic background which seems to the Western ear to be, like the intonation, obscure and uncertain The Meiji restoration saw the importation of Western music to Japan The first Western element adopted was the brass band In the 1880s Western music was added to the curriculum of Japanese schools, and in 1887 the Academy of Music, Tokyo, was established Later, symphony orchestras were formed, and Western music became an integral part of the cultural life of Japan Some attempt has even been made to compose music combining elements of both cultures See Katsumi Sunagg, *Japanese Music* (1936), Hisao Tanabe, *Japanese Music* (1936).

Japanese quince see FLOWERING QUINCE

japanning, method of coating a surface, such as wood, metal, or leather, by the application of varnish to give a durable, lustrous finish Japanning varnishes usually have a base of copal oil colored with mineral pigments or, for black, asphaltum The successive coats are heat-dried The term is derived from a process imitating the lacquer work of the Orient known as Japan ware In England, France, and the Netherlands japanning was extensively employed from the mid-17th cent in the decoration of furniture, screens, and such small objects as trays, snuffboxes, and canisters of wood, metal, or papier mâché The desired luster and hardness were commonly attained without heating by polishing each coat

Japheth (jā'fĭth), son of Noah and ancestor of those who were to occupy the isles of the Gentiles This has been supposed to mean the Mediterranean

lands of Europe and Asia Minor Gen. 5.32; 6 10; 9 27, 10 1–5.

Japhia (juf'ĭa) [Heb.,=splendid]. **1** King of Lachish slain by Joshua Joshua 10 3 **2** Son of David 2 Sam. 5 15, 1 Chron 3.7 **3** Unidentified town, N central Palestine Joshua 19 12

Japhlet (jă'flĕt) [Heb.,=He frees], descendant of Asher 1 Chron 7 32, 33

Japhleti (jăflē'tī), unidentified landmark, central Palestine Joshua 16 3

Japho, see JAFFA

japonica, see FLOWERING QUINCE and CAMELLIA.

Japurá (zhŭp"pōōrä'), river, more than 1,000 mi long, rising as the Caquetá in Colombia and flowing generally SE into Brazil, where it is called the Japurá. It enters the Amazon through a network of channels

Jaques-Dalcroze, Émile (āmēl' shăk"-dalkrōz'), 1865–, Swiss educator and composer, b Vienna, studied at the Geneva Conservatory, at the Paris Conservatoire with Delibes, and in Vienna with Bruckner In 1892 he began to teach at the Geneva Conservatory, and there, as an aid to his own teaching, he developed his system of EURYTHMICS Since conservatories were reluctant to add it to their curriculums, even after successful demonstrations, a school was established at Hellerau, near Dresden, where Jaques-Dalcroze taught from 1910 until 1914, when the First World War ended the school's activities In 1915 the Institut Jaques-Dalcroze was opened at Geneva The system has had great effect, not only on music teaching, but on the ballet as well It has adherents in over 30 countries Jaques-Dalcroze is also the composer of a number of operas and other works and the author of several books, including *Rhythm, Music, and Education* (Eng tr , 1921), *Eurythmics, Art, and Education* (Eng tr , 1930), and *La Musique et nous* (1945).

Jarah (jā'rŭ), descendant of Saul 1 Chron 9 42 Jehoadah 1 Chron 8 36.

Jareb (jā'-) [Heb ,=adversary], Assyrian king, perhaps a symbolic name Hosea 5 13, 10 6

Jared (jā'-) [Heb ,=descent], father of Enoch Gen 5 15–20, Luke 3 37 Jered 1 Chron 1.2

Jaresiah (jărēsī'ŭ) [Heb ,=God nourishes], chief man of Benjamin 1 Chron 8 27

Jarha (jär'hŭ), Egyptian slave to whom Sheshan gave his daughter 1 Chron 2 34

Jarib (jā'-) [Heb ,=adhering] **1** The same as JACHIN **1** **2** Companion of Ezra Ezra 8.16 **3** One who had a foreign wife Ezra 10 18

Jarmuth (jar'mŭth) [Heb ,=height] **1** City, SW Palestine, allied against Gibeon and defeated by Joshua Joshua 10, 12, 15 35, Neh 11 29 **2** See REMETH

Jarnac (zhärnäk'), town (pop 3,624), Charente dept , W France, on the Charente river It has important liquor distilleries Here in 1569 the French Catholics under the duke of Anjou (later King Henry III) defeated the Huguenots, whose leader, Louis I de Condé, was killed

Jaroah (jurō'ŭ), chief Gadite. 1 Chron 5.14

Jaroslaw, Pol *Jarosław* (yärô'swaf), town (pop 19,376), Poland, on the San river and W of Lvov Included in Poland (1382), Jaroslaw passed (1772 1919) to Austria It is principally an agricultural center

Jarrow, municipal borough (1931 pop 32,018, 1947 estimated pop 27,590), Durham, England, on the Tyne estuary between Newcastle and Shields Its industries include iron foundries and shipbuilding Jarrow grew with shipbuilding yards founded in 1851, and when these closed in the late 1920s much unemployment resulted St Paul's Church includes part of a Benedictine monastery founded in 685 by Benedict Biscop It was the scene of the labors of the Venerable Bede, who died here

Jarves, James Jackson (jar'vĭs), 1818–88, American art critic and art collector, b Boston He spent some years in Honolulu, where he founded and edited a weekly newspaper, the *Polynesia*; it became the official organ of the Hawaiian government He later settled in Florence and served (1880–82) as U S vice consul His writings include *History of the Hawaiian or Sandwich Islands* (1843), several European travel books, and a number of works on art. His collection of early Italian paintings is at the Yale School of Fine Arts and at the Cleveland Museum of Art; the Metropolitan Museum has his collection of Venetian glass See catalogues of these collections by Russell Sturgis, Jr (1868), Osvald Sirén (1916), and Stella Rubinstein (1917)

Jarvis, John Wesley, 1781?–1839, American portrait painter, b England Beginning as an engraver in Philadelphia, he early moved to New York, where he became a popular portrait painter. In City Hall, New York, is a series of his full-length portraits of military and naval heroes of the War of 1812 The New York Historical Society and the Metropolitan Museum also contain examples of his work.

Jarvis, Thomas Jordan, 1836–1915, governor of North Carolina (1879–85), b. Jarvisburg, Currituck co , N C , grad Randolph-Macon College (B A , 1860; M A., 1861) Wounded at Drewry's Bluff (1864) in the Civil War, he left Confederate service as a captain. He was admitted to the bar in 1868 and served in the state legislature (1868–69, 1870–71), being speaker in the last term. Jarvis, elected lieutenant governor in 1876, became governor when Zebulon B Vance went to the U S Senate, he was elected (1880) for a full term as governor He furthered educational projects, industrial development, and private railroad construction. He was U S minister to Brazil (1885–89) and a U S Senator (1894–95)

Jarvis Island, area 1 sq mi , central Pacific near the equator, one of the Line Islands. It is 1,100 mi E of Howland Island. It was visited by a British vessel in 1821 A U S guano company undertook exploitation in 1857, and in that year the United States claimed the island The guano digging stopped in 1879 In 1889 Great Britain annexed the island, but did not exploit it American colonists were brought here from Hawaii (1935), and the island was placed (1936) under the U S Dept of the Interior Jarvis is important because it is on the air route from Hawaii to New Zealand

Jashar or **Jasher, Book of** (both jā'shur), an undiscovered Hebrew work, apparently a collection of songs celebrating national events and referred to only twice Joshua 10 13, 2 Sam 1 18

Jashen (jā'-) [Heb ,=sleeping], father of some of David's men 2 Sam 23 32 Hashem the Gizonite 1 Chron 11 34 The term *Gizonite* is obscure

Jashobeam (jăshō'bēum), one of David's mighty men. 1 Chron 11 11, 12 6, 27 2

Jashub (jā'shub) [Heb ,=who returns] **1** Son of Issachar Num 26 24, 1 Chron 7 1 Job Gen 46 13 **2** Jew who had a foreign wife Ezra 10 29

Jashubi-lehem (jăsh'ŭbī-lē'hĕm), obscure name in a genealogy 1 Chron 4 22

Jasiel (jā'sēĕl) [Heb ,=God created], one of David's mighty men 1 Chron 11 47 He is perhaps the same as JAASIEL

jasmine (jăs'mĭn, jăz-) or **jessamine** (jĕs'ŭmĭn), any plant of the genus *Jasminum*, shrubs or clambering plants, chiefly of Old World tropical and subtropical regions but cultivated elsewhere, outdoors in mild climates and in greenhouses farther north The blossoms, mostly white or yellow, are usually very fragrant, some being used for scenting tea, the oil is utilized in perfumery Often requiring the support of a wall or arbor, the stems are frequently angled, with deciduous or evergreen leaves The common jasmine (*Jasminum officinale*) has white flowers and glossy deciduous leaves Both names are given to other plants, as Cape jasmine, or GARDENIA, and Carolina jasmine (*Gelsemium sempervirens*), the state flower of South Carolina

Jasnorzewska, Marja (mar'ya yasnôzhĕf'skä), 1899–1945, Polish poet and playwright, also known as Marja Pawlikowska (pävlēkôf'ska) She is noted for the perfection of her lyrics Her plays were artificial and not dramatically successful

Jason, in Greek mythology, leader of the Argonauts He was one of the heroes of the CALYDONIAN HUNT and procurer of the GOLDEN FLEECE from Aëtes, king of Colchis Jason was educated by the centaur CHIRON, and when he reached manhood he claimed the kingdom of Iolcus, which his uncle, Pelias, had stolen from his father, Aeson Pelias said that Jason could regain the kingdom only in exchange for the Golden Fleece Hence Jason went to Colchis in his ship the ARGO, accompanied by the ARGONAUT heroes Aëtes tried to prevent Jason from obtaining the fleece, but MEDEA, Aëtes' daughter, loved Jason and helped him Jason returned to Iolcus, taking Medea and the fleece with him, but when Medea caused the murder of Pelias, Acastus, his son, drove the pair out of the kingdom They went to live in Corinth, where Jason fell in love with the princess, CREUSA Medea in revenge killed Creusa, Creon, and her own children by Jason According to one legend Jason committed suicide, but another says that he was crushed to death by a beam which fell from the Argo

Jason (jā'sŭp) **1** St Paul's host at Thessalonica Acts 17 5–9 **2** Companion of Paul at Corinth, perhaps the same as **1** Rom 16 21

Jason of Cyrene (sīrē'nē), 2d cent B C , Jewish historian He wrote a history of the Maccabean uprising, used as the basis of 2 Maccabees

Jasonville, city (pop 3,418), SW Ind , SSE of Terre Haute Shakamak State Park is near by

Jasper, William, c 1750–1779, American Revolutionary soldier, b South Carolina (possibly near Georgetown) He joined William Moultrie's regiment early in the Revolution (1775), was made sergeant, and was ordered to Fort Sullivan (now Fort Moultrie) in Charleston harbor There he bravely rehoisted the flag over the fort in the face of British gunfire (1776). He later was distinguished as scout before he was killed in the attack on Savannah

Jasper. **1** City (pop 6,847), co. seat of Walker co , NW central Ala , NW of Birmingham, in a coal-mining area, settled 1815 It processes cotton and timber **2** City (pop. 1,722), co seat of Hamilton co., N Fla., near the Ga line, settled c.1825 It is a trade and processing center in a tobacco and timber area. **3** City (pop 5,041), co. seat of Dubois co , SW Ind., NE of Evansville; settled 1830. Desks are manufactured here. **4** City (pop. 3,947), co. seat of Jasper co., E Texas, N of Beaumont; settled 1824, inc 1926 It is a lumber town in the pine woods with small industries dependent on pine, though livestock and produce are also shipped

jasper, opaque, impure cryptocrystalline QUARTZ, usually red, but also yellow, green, and grayish blue It is used as a gem Ribbon jasper has the colors in stripes

Jasper National Park, 4,200 sq. mi , W Alta., in the Canadian Rocky Mts ; est 1907. Containing many high peaks, glaciers, lakes, hot springs, and streams, it is a game reserve and a popular recreation area, with mountain climbing and excellent fishing It was named for Jasper Hawes, factor of a North West Company fur-trading post established here c 1813. Jasper is the park headquarters and is a station on the Canadian National Railways system

Jaspers, Karl (kärl' yäs'pûrs), 1883–, German philosopher and psychologist He began to teach philosophy at the Univ of Heidelberg in 1913 Regarded as one of Germany's leading modern philosophers, he is associated with the school of "existential" philosophy originated by Kierkegaard and developed by Heidegger Jaspers's philosophy, focused on the individual, is subjective and nonrational, stressing the difference between facts and the individual's emotional attitude toward facts Truth is the constant reinterpretation of the individual's experiences, and freedom resides in a developing capacity to make spontaneous ethical decisions Theories of society and of race and such psychological concepts as that of the unconscious are a menace to the development of individuality Through communication, understanding may be achieved and cooperative effort made possible Love is considered the highest expression of existence and religion the means of overcoming evil His works include *Psychologie der Weltanschauungen* (1919), *Die geistige Situation der Zeit* (1931, Eng tr , *Man in the Modern Age*, 1933), *Existenzphilosophie* (1938), *Die Schuldfrage ein Beitrag zur deutschen Frage* (1946, Eng tr , *The Question of German Guilt*, 1947), and *Der philosophische Glaube* (1948, Eng tr , *The Perennial Scope of Philosophy*, 1949)

jasper ware, kind of WEDGWOOD pottery in green, blue, lilac, and other colors, with characteristic Greek reliefs and designs

Jassy (jă'sē) or **Iasi** (yash), city (pop 94,075), E Rumania, in Moldavia It is an economic, cultural, and historic center, the see of an Orthodox archbishop, and the seat of a university (founded 1860) Jassy manufactures woolen, cotton, and silk textiles and processes food and tobacco The environs are a fertile agricultural and viticultural region First mentioned in 1408, Jassy succeeded (1565) Suceava as the capital of Moldavia It was repeatedly burned and sacked by the Tatars, the Turks, and the Russians The Treaty of Jassy (1792) ended the second of the RUSSO-TURKISH WARS of Catherine II In the First World War, Jassy was the temporary capital of Rumania during the German occupation of Walachia There was, until 1941, a large Jewish population, which was massacred, on German instigation, in one of the worst pogroms in history Jassy fell to Russian troops in 1944 Among the many fine buildings are the 17th-century cathedral, the Church of the Three Hierarchs (17th cent), and the Church of St. Nicholas (15th cent), which are outstanding examples of the Moldavian adaptation of Byzantine architecture

Jastrow, Joseph (jă'strō), 1863–1944, American psychologist, b Warsaw, Poland, grad Univ of Pennsylvania, 1882, Ph D Johns Hopkins, 1886, son of Marcus Jastrow He came to the United States as a child Professor (1888–1927) at the Univ of Wisconsin and lecturer (1927–33) at the New School for Social Research, New York, Jastrow made special studies of abnormal psychology and of the development, analysis, and correlation of mental processes His many books include popularizations of psychology for the layman

Jastrow, Marcus, 1829–1903, American rabbi and Talmudic scholar, b Poland He was a rabbi (1866–92) in Philadelphia, editor of the Talmud material of *The Jewish Encyclopedia*, and author of *Dictionary of the Targumim, the Talmud Babli and Yerushalmi, and the Midrashic Literature* (1903)

Jastrow, Morris, 1861–1921, American Orientalist, b Warsaw, grad Univ of Pennsylvania, 1881, Ph D. Univ. of Leipzig, 1884, son of Marcus Jastrow He became a professor of Semitic languages and a librarian at the Univ of Pennsylvania He was an authority on the religion and literature of the ancient Near East (Babylonian, Assyrian, and Hebrew) He was also much interested in Zionism

Jaszbereny, Hung *Jászberény* (yäs'bĕrānyŭ), city (pop. 31,070), central Hungary. A market center, it has a museum of folk art.

jataka: see PALI LITERATURE.

Jathniel (jăth'nēĕl) [Heb ,=God bestows], doorkeeper of the tabernacle. 1 Chron. 26.2.

Játiva (hä'tĭvä), city (pop, 17,496), Valencia prov , E Spain, in Valencia. It is in a fertile region yielding oranges and other fruit It was once noted for its linen, now there are tanneries and paper mills.

Játiva was liberated from the Moors by James I of Aragon in the 13th cent There are many fine public and private buildings, notably the well-preserved Spanish-Moorish castle, the Ermita de San Feliú (a former Mozarabic church), and the Gothic collegiate church (15th cent.) Játiva was long the residence of the Borgia or Borja family The popes Calixtus III and Alexander VI were born here. It is also the birthplace of the painter Jusepe Ribera

Jattir (jă'tur), mountain town, Palestine, SW of Hebron Joshua 15 48; 21 14, 1 Sam 30 27; 1 Chron 6 57

jaundice (jôn'dĭs), condition characterised by the presence in the blood of bile pigment which causes a yellowish discoloration of tissues and excretions and is visible in the skin and in the whites of the eyes It is often accompanied by itching Other symptoms depend on the cause of the jaundice When the liver is injured by chemical or bacterial toxins and when red blood cells are destroyed in great numbers (as in hemolytic jaundice), the bile pigments enter the circulation instead of being excreted in bile A common cause of jaundice is obstruction (by gallstones, inflammation, or tumors) of the duct leading from gall bladder to intestine which causes the bile to back up into the circulation Some types of jaundice are caused by viruses Treatment depends upon the cause.

Jaunpur (joun"pōōr'), town (pop 44,833), SE United Provs., India In the 15th cent it was the capital of a Moslem kingdom Of the many buildings in the Pathan style from this period the Atala Mosque is the most notable Perfumes are manufactured

Jauregg, Julius Wagner · see WAGNER-JAUREGG

Jaurès, Jean (zhă zhōrĕs'), 1859–1914, French Socialist and historian. A brilliant student and teacher, Jaurès early became a Socialist In the chamber of deputies and in his Socialist journals, notably *Humanité*, he denounced nationalism and preached world peace and Socialism Socialism, he thought, was the equivalent in the economic field to democracy in politics Economic equality would be brought about as the result of a peaceful revolution Idealistic, he sought to reconcile Marxian materialism with his own beliefs As leader of the Socialists, he opposed BOULANGER, defended Dreyfus, worked for the separation of Church and state, and advocated arbitration instead of war in 1914 Expounding this view, he declared that France as well as other capitalistic countries were responsible for the war crisis He was assassinated by a fanatical patriot July 31, 1914 His *Histoire socialiste de la Révolution française* (new ed by Albert Mathiez, 8 vols , 1922–24) is an economic interpretation of the French Revolution, he manages to strike a balance between the materialistic history of Marx and the dramatic interpretation of Michelet See biographies by Lucien Lévy-Bruhl (1924, in French), Charles Rappoport (1925, in French), and H R Weinstein (1936), Paul Farmer, *France Reviews Its Revolutionary Origins* (1944)

Java (jä'vu), island (48,842 sq mi , pop 39,755,902, including offshore islands), INDONESIA, S of Borneo, from which it is separated by the Java Sea, and SE of Sumatra across Sunda Strait Although Java is relatively insignificant in size, it has been for centuries the cultural, political, and economic center of Indonesia A chain of volcanic mountains, most of them densely forested with teak, palms, banyans, and other woods, traverses the length of Java from east to west, rising to 12,060 ft at Mt. Mahameru There are numerous rivers with a short, turbulent course, the only large one is the Solo, 335 mi long The climate is warm and humid, and the soil exceptionally fertile, particularly in the eastern area where sugar cane is raised In the highlands are grown rubber, tea, coffee, tobacco, and cinchona, and there are terraced rice fields on the mountain slopes. Tropical vegetation is luxuriant everywhere Most of the world's supply of quinine comes from Java, which also has large exports of rubber, sugar, and teak There are oil fields in NE Java; sulphur, gold, and phosphates are mined in small quantities Java is known for its highly developed silver craft and artistic batik work Found mostly in the interior are such animals as tigers, rhinoceroses, apes, and panthers, birds of brilliant plumage are numerous Java was a home of early man (see MAN, PRIMITIVE), Eugene Dubois found here in 1891 the fossilized remains of the so-called Java man or *Pithecanthropus erectus* In spite of the systematic transfer of surplus inhabitants to nearby islands, Java remains one of the most densely populated areas in the world The typically Malayan inhabitants of the island comprise the Javanese (the most numerous) in central and E Java, the Sudanese in the west, and the Madurese in the east. Numerous Chinese (mostly traders) and Arabs live in the coastal areas. Java has been predominantly Moslem since the 15th cent., but the lasting influence on the artistic aspect of Javanese culture has been made by Hinduism and Buddhism. The best known of the Buddhistic remains in Java is the monumental shrine BOROBUDUR. Like Bali, Java is known for its highly developed arts. There is a rich literature, and the *wayang* or shadow play employing puppets and musical accompaniment is an important dramatic form The largest city is BATAVIA (capital of the United States of Indonesia), and Tanjungpriok is the chief port JOGJAKARTA and SURAKARTA are cultural centers, other towns are SURABAYA, BUITENZORG, CHERIBON, and SEMARANG In the 7th cent the Hindus began to colonize central and E Java, and in the 11th and 12th cent the Hindu-Javanese kingdom of East Java controlled Bali and parts of Sumatra and the Malay Peninsula. The high point of Javanese history was the rise of the powerful Hindu-Javanese state of Majapahit (founded 1293), which extended its rule over much of Indonesia and the Malay Peninsula In its decline Islam, which had been introduced in the 13th cent , peacefully spread its influence, and the new Moslem state of Mataram emerged in the 16th cent Following the Portuguese, the Dutch arrived in 1596, and in 1619 the Dutch East India Company established its chief post at Batavia, thence gradually absorbing the native states into which the once powerful Javanese empire had disintegrated Between 1811 and 1815 Java was briefly under British rule headed by Sir Thomas S Raffles, who instituted reforms which the Dutch ignored when they returned to power Harsh methods of exploitation led in the 19th cent to native uprisings, which forced the Dutch to adopt a more humane approach In the early phase of the Second World War, Java was left open to Japanese invasion by the disastrous Allied defeat in the battle of the Java Sea in Feb , 1942 At the end of the war a large part of Java came under the control of the republic of Indonesia, with the capital at Jogjakarta.

Javan (jā'vän) [Heb , =Ionian], in the Bible **1** Japheth's son, eponymous ancestor of the Greeks Gen 10 2,4, 1 Chron 1 5,7, Isa 66 19, Ezek 27 13. **2** Unidentified place engaged in trade with Tyre, perhaps a Greek colony Ezek 27 19

Javanese music, Oriental musical culture remarkable in its orchestral development Little is known of its origins It possesses two separate pentatonic systems—*pelog* and *slendro* or *salendro* *Pelog* contains seven tones, only five of which are used in a given composition The intervals of *pelog* are unequal, and the smaller ones approximate the semitone of Western music *Slendro* is a division of the octave into five roughly equal intervals It was believed by the Javanese to be the older system, but contemporary musicologists find evidence that *slendro* was derived from *pelog*, although it is not certain when and by whom *Slendro* is associated with that which is masculine, and *pelog* with that which is feminine. The Javanese *gamelan*, an orchestra of tuned percussion instruments, flourishes today in Bali, where it was taken in the 15th cent by Hindus escaping from the Moslem invasion of Java It is heard now but rarely in Java, and the archaic *gamelan* is best studied in BALINESE MUSIC

Javari (zhŭ"vurē'), Span *Yavarí* (yävärē'), river, more than 500 mi long, marking the boundary between NW Brazil and NE Peru It flows to the Amazon

Javelle water or **Javel water** (both zhuvĕl', juvĕl'), Fr *eau de Javelle* (ō du zhăvĕl'), one of the earliest bleaching solutions, manufactured originally at Javelle, near Paris It is made commercially by passing chlorine gas through a solution of caustic soda or caustic potash, by the electrolysis of sodium chloride or potassium chloride, or by combining sodium carbonate or potassium carbonate with bleaching powder and water It may be made for home use by dissolving a pound of washing soda in a quart of boiling water, then adding a half pound of chloride of lime dissolved in two quarts of cold water and allowing the liquid to settle Javelle water is used also as an antiseptic and disinfectant As a bleach it has been largely displaced by more stable solutions It must be used with care, since it removes colors, rots silk and wool, and injures cotton and linen fibers unless thoroughly removed by rinsing

Jaxartes: see SYR DARYA

Jay, John, 1745–1829, American statesman, b New York city, grad. King's College (now Columbia Univ), 1764 He was admitted (1768) to the bar and for a time was a partner of Robert R Livingston His marriage to Sarah, daughter of William Livingston, allied him with that influential family In pre-Revolutionary activities he reflected the views of the conservative colonial merchant, opposing British actions but not favoring independence Once the Declaration of Independence was proclaimed, however, he energetically supported the patriot cause As a delegate to the First and Second Continental Congresses he urged a moderate policy, served on various committees, drafted correspondence, and wrote a famous address to the people of Great Britain. Returning to the provincial congress of New York, he guided the drafting (1777) of the first New York state constitution, a generally conservative document Jay was appointed (1777) chief justice of New York, but left that post to become (Dec., 1778) president of the Continental Congress. In 1779 he was sent as minister plenipotentiary to Spain in an unsuccessful mission to seek aid and recognition for the colonial cause He was appointed (1781) one of the commissioners to negotiate peace with Great Britain and joined Benjamin FRANKLIN in Paris Jay declined further diplomatic appointments in Europe and returned to America to find that Congress had appointed him Secretary of Foreign Affairs, a post he held (1784–89) for the duration of the government under the Articles of Confederation Though he was able to secure minor treaties, he found it impossible under the Articles of Confederation to make progress in the settlement of major disputes with Great Britain and Spain, a situation which caused him to become one of the strongest advocates of a more powerful central government The five FEDERALIST PAPERS that he wrote dealt chiefly with the Constitution in relation to foreign affairs Under the new government Jay became (1789–95) the first Chief Justice of the U.S Supreme Court He concurred in Justice James Wilson's opinion in *Chisholm* vs *Georgia*, which led to the passing of the Eleventh Amendment When the still-unsettled controversies with Great Britain threatened to involve the United States in war, Jay was drafted for a mission to England in 1794, where he concluded what is known as JAY'S TREATY After having unsuccessfully opposed George CLINTON for governor of New York in 1792, Jay was elected and served (1795–1801) two terms He declined reelection and also renomination to the U S Supreme Court and retired to his farm at Bedford in Westchester co for the remaining 28 years of his life. Jay was a man of ability, integrity, and poise and an aristocrat to the end, maintaining that "those who own the country ought to govern it" See H. P Johnston, ed , *Correspondence and Public Papers of John Jay* (4 vols , 1890–93), biographies by George Pellew (1890) and Frank Monaghan (1935).

Jay, John, 1817–94, American lawyer and diplomat, b New York city, grad. Columbia, 1836, son of William Jay He was admitted (1839) to the bar and practiced in New York city until 1858 He was prominent in humanitarian work, including the defense of fugitive slaves, took a leading part in founding the Republican party in New York; strongly supported the Civil War, served (1869–74) as minister to Austria, and was afterwards active in the civil service reform movement. He aided in founding the Union League Club and was a member of various learned societies

Jay, William, 1789–1858, American jurist and reformer, b New York city, grad Yale, 1807; son of John Jay (1745–1829) For most of the period 1818–43 he served as judge of the County Court of Westchester co , N Y An active abolitionist, Jay helped establish (1833) the New York City Anti-Slavery Society, was a strong opponent of the African colonization plan as a solution of slavery, and wrote vigorous pamphlets and articles, which were collected in his *Miscellaneous Writings on Slavery* (1853) He was a founder (1816) of the American Bible Society and president (1848–58) of the American Peace Society His writings include a two-volume life of his father (1833) and *War and Peace* (1842, republished 1919)

Jay, town (pop 2,858), W Maine, on the Androscoggin and N of Auburn, inc 1795 It has granite quarries, Chisholm village has pulp and paper mills

jay, common name of a number of birds of the crow family found in Europe, Asia, and the Americas The best-known representatives in America are the BLUE JAY and the Canada jay The Canada jay is a gray bird, about 12 in long, with a white throat and forehead and black-capped head without a crest Found in northern coniferous forests and swamps, it is known to lumbermen, hunters, and guides for its mischievous, thieving ways It is often called camp robber, whisky jack, and moose bird The European jay is fawn colored, with a black and white crest and wings of black, white, and blue

Jay's Treaty, concluded in 1794 between the United States and Great Britain to settle difficulties arising mainly out of violations of the Treaty of Paris of 1783 and to regulate commerce and navigation War threatened when the British admiralty ordered the seizure of American vessels trading with the French West Indies, to avert further difficulties, George Washington in April, 1794, named Chief Justice John Jay as envoy extraordinary for the negotiation of a treaty The principal American objects were to secure surrender of the posts in the Old Northwest, to obtain compensation for losses and damages resulting from seizure of American vessels and provisions as contraband of war and for the impressment of American seamen, and to remove the restrictions on American commerce, especially on the British West Indies trade. Jay, arriving in England in June, was received favorably, and the treaty was signed on Nov. 19, 1794, by Jay and Baron Grenville It provided for British evacuation of the Northwestern posts by June 1, 1796, allowing settlers the option of becoming Americans or remaining British citizens, with full protection of property guaranteed. It referred settlement of the northwest and northeast boundaries and the questions of debts and compensations to

mixed commissions, provided for unrestricted navigation of the Mississippi and free trade between the North American territories of the two countries, granted equal privileges to American and British vessels in Great Britain and the East Indies, but placed severe restrictions upon American trade with the British West Indies, and permitted admission of British vessels to American ports on terms of the most-favored nation No discrimination in duties was to be made, and articles provided for EXTRADITION of criminals and defined contraband material Indemnity for those Americans whose Negro slaves were carried off by Britain's evacuating armies was not allowed, protection to American seamen against impressment was not guaranteed, and no recognition of the principles of international maritime law was secured The treaty, which owed much to the influence of Alexander Hamilton, caused a storm of indignation in America Jay was denounced and burned in effigy, Hamilton was stoned while speaking in its defense, and the treaty was called a complete surrender of American rights It was submitted to the U S. Senate, in special session, on June 8, 1795, and on June 24, after stormy debate, it was ratified with a special reservation on the clause relative to trade with the West Indies It was signed by Washington When the treaty was proclaimed as law, after the exchange of ratifications at London in 1796, the U S House of Representatives called upon the President for papers relating to the negotiation In a special message Washington refused to comply with the request of the House After lengthy debate the House passed a resolution, by three votes, declaring it expedient to pass laws making the treaty effective, and an act was finally passed (May, 1796) making appropriations for carrying the treaty into effect. See S. F Bemis, *Jay's Treaty* (1923)

Jazer (jā'-) or **Jaazer** (jā-ā'-), ancient city, E of the Jordan, probably c 10 mi N of Heshbon It was assigned to Gad Num 21 32, 32 1,3, Joshua 13 25, 21 39, 2 Sam 24 5, 1 Chron 26 31, Isa 16 8, Jer 48 32, 1 Mac 5 8

Jaziz (jā'-), shepherd of David 1 Chron 27 31

jazz, style of music regarded as one of the most distinctive of American contributions to the art of music Its origin was in the late 19th cent among the Negro musicians of New Orleans The first jazz band is generally conceded to have been Buddy Bolden's Ragtime Band, organized in 1893 and made up of members of street bands and marching bands Although even before this time there had existed elements of jazz, its actual development did not take place until c 1910, and the word itself, of uncertain derivation, was not widely used until a few years later Jazz had absorbed certain elements of its instrumental style from RAGTIME, and at about this period a melodic element from the BLUES was added The term *blues*, however, came to be used rather loosely, and many instrumental jazz pieces of various sorts are called blues, rightly or not An important contribution of the blues to jazz was the so-called "blue notes"—tones of uncertain intonation, usually the third and seventh tones of the scale These blue notes, its highly emotional nature, and its syncopated rhythms are perhaps the outstanding musical characteristics of jazz The jazz ensemble was composed of a small group of instruments, principally the trumpet, cornet, trombone, clarinet, various percussion instruments, and sometimes the saxophone and the piano The emphasis in the small jazz group is on the personality of the individual performer and the construction of an ensemble sound, improvisation is the most important element of most jazz, and the performer is the main creator In the later development of jazz, however, such excellent jazz musicians as Louis Armstrong used larger bands and consequently made more use of arranged than of improvised music. Jazz was well developed in the 1920s, but it was not until the '30s that it began to be seriously and critically studied, as yet there is no standard by which jazz may be evaluated *Le Jazz Hot* (1934), by the Frenchman Hughes Panassié, was one of the first books on the subject Many use the term loosely to refer to all or nearly all American popular music, while to the purist only the art as it originated in New Orleans, with the small ensemble and the improvisatory character, can properly be called jazz There is also controversy as to the African element in jazz and as to how great a role may be ascribed to white musicians in the growth of jazz Outstanding New Orleans jazz ensembles included King Oliver's Creole Jazz Band, Louis Armstrong's Hot Five and his Hot Seven, and Jellyroll Morton's Red Hot Peppers Economic conditions favored the migration of many of the leading jazz musicians northward, and by 1922 Chicago was the center of the jazz scene. At about this time the cornetist Bix Beiderbecke came from Iowa to Chicago, where he became the only white musician to exert an influence on jazz comparable to that of the Negro musicians Another white jazz musician of Chicago was Benny GOODMAN, whose greatest fame came later with the development of SWING MUSIC. After c.1926 the peak of jazz activity in Chicago had passed, and a number of the Negro musicians went to New York, but jazz never attained the heights in New York that it had attained in New Orleans and Chicago. See Frederic Ramsey and C E Smith, *Jazzmen* (1939); Rudi Blesh, *Shining Trumpets* (1946), Sidney Finkelstein, *Jazz a People's Music* (1948).

Jean Baptiste de la Salle, Saint: see JOHN BAPTIST DE LA SALLE, SAINT

Jean de Meun (dŏ mŭ'), d. 1305, French poet He wrote the second part of the ROMAN DE LA ROSE and made translations from Latin, including letters of Abelard to Héloïse His nickname was Jean Chopinel (erroneously Clopinel) The town of his origin is now called Meung-sur-Loire

Jeanerette (jĕnurĕt'), market town (pop 3,362), S La , on Bayou Teche, in a sugar and oil district A large pecan orchard and a U S livestock experimental farm are near by

Jeanne d'Albret (zhän' dalbrā'), 1528–72, queen of Navarre (1555–72), daughter of Henri d'Albret and Margaret of Navarre, and mother of Henry IV of France Unlike her consort, the turncoat Antoine de BOURBON, whom she married in 1548, she was one of the staunchest leaders of the Protestant party in France and one of the bitterest foes of the house of Guise

Jeanne d'Arc see JOAN OF ARC.

Jeanneret, Charles Édouard. see LE CORBUSIER

Jeannette (jənĕt'), city (pop 16,220), SW Pa , ESE of Pittsburgh, laid out 1888, inc as a borough 1889, as a city 1937 Glass, machinery, tires, and chemicals are manufactured here

Jean Paul see RICHTER, JOHANN PAUL FRIEDRICH

Jeans, Sir James Hopwood, 1877-1946, English mathematician, physicist, and astronomer He is known for his important work in the application of mathematics to problems of physics and astronomy With Harold A Jeffreys he developed the tidal hypothesis of the origin of the earth He was professor of applied mathematics at Princeton Univ (1905–9), later lectured at Cambridge (1910–12) and Oxford (1922), and was research associate at Mt Wilson Observatory (1923–44) He was knighted in 1928 Besides numerous scientific papers, he wrote *Dynamical Theory of Gases* (1904), *Mathematical Theory of Electricity and Magnetism* (1908), *Problems of Cosmogony and Stellar Dynamics* (1919), *The Mysterious Universe* (1931), *The Universe around Us* (1931), *The Stars in Their Courses* (1931), *Through Space and Time* (1934), *Science and Music* (1937), *Introduction to the Kinetic Theory of Gases* (1940), *Physics and Philosophy* (1942), and *The Growth of Physical Science* (1947)

Jearim, Mount (jē'ərĭm), the same as CHESALON

Jeaterai (jē"ətərā', jē"ătərā'ī), Gershonite Levite 1 Chron 6 21 See ETHNI

Jebail see BYBLOS

Jebb, Sir Richard Claverhouse, 1841–1905, British classical scholar b Dundee, Scotland, educated at Trinity College, Cambridge He taught at the Univ of Glasgow and was (1889 1905) regius professor of Greek at Cambridge He was noted for his excellent standard editions and translations of Greek writers and for his authoritative *Growth and Influence of Greek Poetry* (1893)

Jebel (jĕ'bul), Arabic term meaning mountain Examples of its use are Jebel-er-Rahm for Mt ARAFAT, Jebel et-Tor for Mt GERIZIM, and Jebel-esh-Sheik or Jebel-eth-Thelj for Mt HERMON

Jebel Aulia, Anglo-Egyptian Sudan see GEBEL AULIA

Jebel Shammar (shă'mur), former emirate (pop c 200,000), N Arabia Its capital was at Hail In 1921 Ibn Saud conquered the forces of the emir, Ibn Rashid, and annexed the territory to his kingdom of Nejd

Jeberechiah (jĕ"bĕrēkī'ə) [Heb ,=whom God blesses], father of ZECHARIAH 7

Jebus (jē'bus), **Jebusi** (jēb'əsī), and **Jebusite** (jēb'əsīt), name of a tribe mentioned in the Bible as the inhabitants of Jerusalem before the Jews They were apparently absorbed by their conquerors Gen 10 16, 15 21, Ex 3 8, 34 11, Num. 13 29, Joshua 9 1, 11 3, 15 8, 18 16,28, Judges 1 21, 19 10,11, 2 Sam 5 6, 1 Kings 9 20, 1 Chron 11 4,5, 2 Chron 8 7, Ezra 9 1

Jecamiah (jĕkumī'ə), descendant of David. 1 Chron 3 18

Jecholiah (jĕkōlī'ə) [Heb ,=God is mighty], wife of King Amaziah. 2 Kings 15 2. Jecoliah: 2 Chron 26 3

Jechonias (jĕkōnī'us) see JEHOIACHIN.

Jecoliah (jĕkōlī'ə), variant of JECHOLIAH.

Jeconiah (jĕkōnī'ə) see JEHOIACHIN

Jedaiah (jĕdā'yu, jĕ"dāī'ə) 1 Simeonite chief. 1 Chron 4 37 2 Worker on the wall Neh 3 10. 3 Chief priest. 1 Chron 24 7 4 Priestly exile Zech. 6 10,14

Jedburgh (jĕd'bŭrə), burgh (pop. 3,058), county town of Roxburghshire, Scotland, on the Jed river and SE of Edinburgh As a border town, it suffered much from Scottish-English strife, "Jedburgh (Jeddart, Jedwood) justice" (hanging first, trying afterward) became a byword There are well-preserved ruins of an abbey founded by David I in 1118. Fernihirst Castle is in the neighborhood. Sir David Brewster and Mary Somerville were born here, and there are associations with Bonnie Prince Charlie, Mary Queen of Scots, and Wordsworth The town's industries are wool weaving and tanning

Jedda, Saudi Arabia see JIDDA.

Jediael (jĕdī'ăēl) [Heb ,=known of God]. 1 Benjamite 1 Chron 7 6,11 2 Doorkeeper 1 Chron 26 1,2 3 One of David's guard 1 Chron 11.45, 12 20

Jedidah (jĕdī'dŭ) [Heb ,=darling], wife of Amon of Judah 2 Kings 22 1

Jedidiah (jĕdĭdī'ə) [Heb ,=beloved of God], auspicious name that Nathan bestowed on the baby Solomon 2 Sam 12 24,25

Jeduthun (jĕdū'thŭn), Levite associated with the temple worship 1 Chron 9 16, 16 38; 25 3, 2 Chron 29 14 It is not known why the name appears in the titles of Pss 39, 62, 77

Jeezer (jē-ē'zur), the same as ABIEZER

Jefferies, Richard, 1848–87, English essayist and novelist His beautifully written books about the English countryside include *The Gamekeeper at Home* (1878), *The Life of the Fields* (1884), *Bevis* (1882), a novel, and his *Story of My Heart* (1883) Several volumes of his nature writings have been edited by S J Looker, among them *The Old House at Coate* (1948) See biography by Edward Thomas (1909)

Jeffers, Robinson (jĕ'fûrs), 1887–, American poet, b Pittsburgh, grad Occidental College, 1905 His first book was *Flagons and Apples* (1912), but his more original poetry began with *Tamar and Other Poems* (1924) and *Roan Stallion* (1925) They were followed by *The Women at Point Sur* (1927), *Cawdor* (1928), *Dear Judas* (1929), and *Give Your Heart to the Hawks* (1933) Jeffers uses Greek myth, especially that of Oedipus, as symbols of the total inversion of man in civilization—whose diseased introspection forces complete divorce from nature The California coast near his home at Carmel is the setting for many of his violent poems, continued in *Such Counsels You Gave to Me* (1937) and *The Double Axe & Other Poems* (1948) His free translation of *Medea* was produced in New York in 1947 See L C Powell, *Robinson Jeffers the Man and His Work* (rev ed , 1940)

Jefferson, Joseph, 1829-1905, American actor The son and grandson of actors, he spent the first 20 years of his life as a strolling player In 1857 he joined Laura Keene's company and began to be recognized as a capable actor as Caleb Plummer in *The Cricket on the Hearth*, as Dr Pangloss in *The Heir at Law*, and in other plays In 1858 he created the part of Asa Trenchard in Laura Keene's production of *Our American Cousin* Seeking an original play for himself, he undertook a dramatization of Washington Irving's *Rip Van Winkle*, with the later assistance of Dion Boucicault he produced a drama which delighted two generations of playgoers The play opened in London in 1865, it was first performed in New York at the Olympic in 1866 Almost as famous was Jefferson's presentation of Bob Acres in *The Rivals*, a part he played hundreds of times He was one of the first star actors in America to establish his own road company, the earlier practice being to depend for support on local stock companies Jefferson was a painter of merit and was a member of the American Academy of Arts and Letters See his autobiography (1890), William Winter, *The Jeffersons* (1881) and *The Life and Art of Joseph Jefferson* (1894), Francis Wilson, *Joseph Jefferson* (1906), Gladys Malvern, *Good Troupers All the Story of Joseph Jefferson* (1945)

Jefferson, Thomas, 1743-1826, 3d President of the United States (1801–9), author of the Declaration of Independence, and apostle of agrarian democracy He was born on April 13, 1743, at "Shadwell," in Goochland (now in Albermarle) co , Va The vicinity was to remain his lifelong home, and from boyhood he absorbed the democratic views of his Western countrymen After graduating from the College of William and Mary (1762), he studied law under the famous George WYTHE. In the colonial house of burgesses (1769–75), he became a leader of the patriot faction He helped to form, and became a member of, the Virginia Committee of Correspondence, and in his paper *A Summary View of the Rights of British America* (1774) prepared for the Virginia convention, he brilliantly expounded the view that Parliament had no authority in the colonies and that the only bond with England was that of allegiance to the king. Never effective as a public speaker, he won a reputation as a draftsman of resolutions and addresses. In the Continental Congress in 1775 and 1776 he continued his services with his pen, receiving an appointment as a member of the committee to draft the DECLARATION OF INDEPENDENCE. This historic document, except for minor alterations by John ADAMS and Benjamin Franklin and upon the floor of Congress, was wholly the work of Jefferson In spirit it reflects his debt to English political theorists, particularly John Locke, and to French and other continental philosophers. Jefferson returned to the Virginia legislature in the hope of being able to translate his ideals into reality

in the establishment of a new state government. He urged the abolition of entail and primogeniture to prevent the continuance of an aristocracy of wealth and birth; both were abolished, though primogeniture existed until 1785 His Bill for Establishing Religious Freedom, grounded in the belief that the opinions of man cannot be coerced, was not successful until 1786, when James MADISON was able to carry part of the Jeffersonian program through to completion His educational program, calling for a public school system, a public library, and a more liberal university, was not then adopted In 1779 Jefferson succeeded Patrick Henry as governor of Virginia He served through the trying last years of the American Revolution when Virginia was invaded by the British, and he was hampered by lack of resources, financial and military He had a difficult time His conduct as governor was investigated in 1781, but he was completely vindicated In 1783–84 he was again in the Continental Congress, where he drafted the decimal system of coinage based on the dollar and drew up a proposed ordinance for the government of the Northwest Territory, which, though not then adopted, was the basis for the very important Ordinance of 1787 In 1785 he succeeded Franklin as minister to France, remaining to witness the beginning in 1789 of the French Revolution, to which he gave his sympathetic interest On the other hand, his unsuccessful attempt, with John Adams, to negotiate a trade treaty with England left him convinced of that country's essential selfishness On his return he became (1790) Secretary of State Though absent when the Constitution was drafted and adopted, Jefferson gave his support to a stronger central government and to the Constitution, especially after the Bill of Rights was added He had not gauged the extent of the conservative reaction which had taken place in his absence, nor was he seemingly aware at first of the far-reaching character of the measures advanced by Alexander HAMILTON He would call himself neither a Federalist nor an Anti-Federalist and was anxious to secure unity and cooperation in the new government Jefferson did not begin to differ with Hamilton until they clashed as to the best method to persuade England to release the Northwest forts, which the British still held in violation of the Treaty of Paris of 1783 Jefferson favored the application of economic pressure by forbidding imports from England, but Hamilton objected through fear that the resulting loss of revenue would endanger his whole financial structure Jefferson next opposed Hamilton by declaring against his Bank of the United States scheme on the ground that the Constitution did not authorize it Here he argued from a strict-constructionist viewpoint, although at other times he favored the periodical revision of constitutions In both these encounters Hamilton, to Jefferson's chagrin, emerged the victor Fearing a return to monarchist ideals, if not to actual monarchy, Jefferson became virtual leader of the Anti-Federalist forces He drew closer to him a group of like-minded men who began to call themselves Republicans—a group to which the present DEMOCRATIC PARTY traces its origin An organization was developed, and the *National Gazette*, edited by Philip FRENEAU, was established (1791) to disseminate Republican sentiments Jefferson and Hamilton, from being suspicious of each other, became openly antagonistic, and President George Washington was unable to reconcile them In 1793 Jefferson left the cabinet Later he bitterly criticized JAY'S TREATY, which compromised the issues with Great Britain in ways outlined by Hamilton Jefferson's party was able to elect him Vice President in 1796, when that office was still filled by the person who ran second in the presidential race He took little part in the administration, but presided over the Senate and wrote *A Manual of Parliamentary Practice* (1801), which was influential His followers kept up their agitation and under Jefferson's skillful direction extended the party's following both territorially and numerically, while the Federalists drifted into dissension The passage of the ALIEN AND SEDITION ACTS immensely stimulated newspaper discussion, and Jefferson drafted, in protest against these laws, the Kentucky Resolutions (see KENTUCKY AND VIRGINIA RESOLUTIONS), the first statement of the STATES' RIGHTS interpretation of the Constitution Jefferson and his colleagues had builded well The Republicans triumphed easily at the polls in what is sometimes called "the Revolution of 1800" Aaron BURR, however, who had been slated for the office of Vice President, was found to have tied Jefferson for President, and the choice was automatically left to the House of Representatives Jefferson was elected after a long deadlock, largely because Hamilton advised the Federalists to support Jefferson as less dangerous than Burr. Jefferson was the first President inaugurated in Washington, a city which he had helped to plan (and where the THOMAS JEFFERSON MEMORIAL was dedicated in 1943) He instituted a republican simplicity in the new capital, cut expenditures in all branches of government, and sought to curb the growing powers of the judiciary, where he felt that the Federalists were attempting to entrench their philosophy. He believed that the Federal government should be concerned mostly with foreign affairs, leaving the states free to administer local matters Laying aside for the moment his strict-constructionist principles, he pushed through the LOUISIANA PURCHASE His eager interest in the West and in exploration had already led him to plan and organize the LEWIS AND CLARK EXPEDITION He held that West Florida was included in the Louisiana Purchase, but his attempts to secure Spanish recognition of this caused rifts in the party and made him the butt of sarcastic attacks by John RANDOLPH in Congress During his second administration, however, the chief difficulties resulted from the position of the United States as a neutral nation with large shipping interests at the time when Europe was involved in the Napoleonic Wars Jefferson placed his faith in diplomacy backed by economic pressure as represented first by the Nonimportation Act (1806) and then by the EMBARGO ACT OF 1807 To enforce them, unfortunately, meant the impoverishment of classes which had supported him and the infringement of that individual liberty which he cherished Shortly before he left office a rebellious people forced him to yield in his aims, although he maintained that the embargo had not been in effect long enough to achieve its objective After 1809 Jefferson lived in retirement at his beloved MONTICELLO, although he frequently advised his disciples, James Madison and James MONROE One of his cherished ambitions was attained when he was able to bring about the founding of the Univ of Virginia President of the American Philosophical Society (1797–1815), the learned Jefferson was a scientist, an architect, and a philosopher-statesman, vitally interested in every phase of human activity He had complete faith that a people enlightened by education, which must be kept free, could under democratic-republican institutions govern themselves better than under any other system, and as long as the nation lasts he will be revered as its first great democrat Of the several editions of Jefferson's voluminous writings, the one by Paul L Ford (10 vols , 1892–99), supplemented by the more extensive one issued by the Thomas Jefferson Memorial Association and edited by Andrew A Lipscomb and Albert E Bergh (20 vols , 1903–4), will serve best until the completion of the projected 52 volumes of Jefferson's complete works being published by Princeton Univ Press under the editorial supervision of Julian P Boyd Thus far one volume, *The Papers of Thomas Jefferson, 1760–1776* (1950), of the Princeton edition has appeared Superior among the older biographies is the one by Henry S Randall (3 vols , 1858) The projected four-volume *Jefferson and His Time*, by Dumas Malone, of which one volume, *Jefferson the Virginian* (1948), has been published, will doubtless be the definitive biography See other biographies by Francis W Hirst (1926), Albert J Nock (1926), and Gilbert Chinard (1929) See also Henry Adams, *History of the United States of America* (9 vols , 1889–91), Charles A Beard, *Economic Origins of Jeffersonian Democracy* (1915), Allen Johnson, *Jefferson and His Colleagues* ("Chronicles of America" series, Vol XV, 1921), Claude G Bowers, *Jefferson and Hamilton* (1925), *Jefferson in Power* (1936), and *The Young Jefferson, 1743–1789* (1945), James Truslow Adams, *The Living Jefferson* (1936), Marie G Kimball, *Jefferson the Road to Glory, 1743 to 1776* (1943), *Jefferson War and Peace, 1776 to 1784* (1947), and *Jefferson the Scene of Europe, 1784 to 1789* (1950), Edward Dumbauld, *Thomas Jefferson, American Tourist* (1946), Karl Lehmann, *Thomas Jefferson, American Humanist* (1947), Adrienne Koch, *Jefferson and Madison. the Great Collaboration* (1950)

Jefferson **1** CITY (pop 1,839), co seat of Jackson co , N Ga , NE of Atlanta It is a farm trade center Here in 1842 Crawford W Long performed an operation using ether as an anesthetic **2** City (pop 4,088), co seat of Greene co , central Iowa, NW of Des Moines and on the Raccoon river, settled c 1854, inc 1871 It is a trade center of an agricultural area, and dairy products are made **3** Village (pop 1,676), co seat of Ashtabula co , NE Ohio, S of Ashtabula, in a farm, dairy, and livestock area, founded c 1804 It has granite and marble works **4** City (pop 2,797), co seat of Marion co , E Texas, on Big Cypress Bayou and NW of Shreveport, La The region was settled in the 1830s, and Jefferson grew as a river port, for boats then went down the Big Cypress through near-by Caddo Lake and its outlet to the Red River It was, too, a lumbering and industrial metropolis in the pine woods One of the great cities of young Texas just after the Civil War, it later declined to sleepiness The region yields timber and truck, and in 1939 oil was discovered **5** Industrial city (pop 3,059), co seat of Jefferson co , S Wis , at the confluence of the Rock and Crawfish rivers ESE of Madison, settled 1836, inc 1878

Jefferson, river, 207 mi long, rising in SW Montana, W of Yellowstone National Park, fed by Upper and Lower Red Rock lakes, and flowing in its early course west, then northwest. It is here called Red Rock River The name changes in its middle course to Beaverhead river, and it flows generally northeast It becomes the Jefferson at the entrance of the Ruby and Big Hole rivers, and the final direction is generally east It joins the Madison and the Gallatin at the Three Forks of the Missouri The Jefferson is the main headstream of the Missouri. Dillon is on its middle course

Jefferson, Fort: see FORT JEFFERSON NATIONAL MONUMENT

Jefferson, Mount see PRESIDENTIAL RANGE

Jefferson City, **1** City (pop 24 268), state capital, and co seat of Cole co , central Mo , on the south bank of the Missouri river, laid out 1822, inc 1825 The city, with rail and river facilities, is the commercial center of an agricultural area, it has railroad shops, printing and publishing houses, shoe and clothing factories, and grain-products plants The impressive capitol of Carthage marble contains murals by Thomas Benton The supreme court building has a fine law library In Jefferson City are Lincoln Univ (Negro, land grant, coeducational, 1866), a junior college, the state penitentiary, and a national cemetery Algoa Farms reformatory is near by **2** Town (pop 2,576), E Tenn , ENE of Knoxville, settled c 1810, inc 1900 Zinc mines and farms are in the area The town is the seat of Carson-Newman College (Baptist, coeducational, 1851) Cherokee Dam in the Holston river is just north

Jefferson Medical College see PHILADELPHIA, Pa

Jefferson Memorial see THOMAS JEFFERSON MEMORIAL

Jeffersonville, city (pop 11,493), co seat of Clark co , S Ind , on the Ohio, settled 1802 Connected by bridge with Louisville, Ky , it is a large port with many shipyards It is the seat of a U S army quartermaster depot A state prison, built in 1821, is here The city was inundated by flood in 1937

Jeffrey, Francis, Lord Jeffrey, 1773–1850, Scottish lawyer, critic, and essayist In 1802, with Sidney Smith and others he founded the *Edinburgh Review*, which he edited until 1829 He was raised to the judicial bench as Lord Jeffrey in 1834 Jeffrey was a gifted but opinionated writer and made his periodical strongly Whiggish and antiromantic His essays, especially the "Essay on Beauty," have been often reprinted

Jeffreys of Wem, George Jeffreys, 1st **Baron,** 1648–89, English lord chancellor A notoriously cruel judge, he was responsible for the judicial murder of Algernon Sidney and for the brutal trials of Richard Baxter and many others He was created baron in 1685 and was soon sent to punish those concerned in Monmouth's rebellion In the Bloody Assizes at Taunton he caused nearly 300 to be hanged, some 800 transported, and many more imprisoned or whipped James II made him lord chancellor in September When James fled the country, Jeffreys was imprisoned and died in the Tower of London See H M Hyde, *Judge Jeffreys* (1940)

Jeffries, James J , 1875–, American boxer, b Fairfield co , Ohio He began boxing in 1896, and in 1899 he won the heavyweight championship from Robert Fitzsimmons at Coney Island in New York city He retired undefeated in 1905, but returned to the ring in 1910, when he lost the title to Jack Johnson at Reno, Nev

Jegar-sahadutha see GALEED

Jehaleleel (jēhā'lēlēl) [Heb ,=praising God], descendant of Judah 1 Chron 4 16

Jehalelel (jēhā'lēlēl) [Heb ,=praising God], Levite. 2 Chron 29 12

Jehangir or **Jahangir** (both juhān"gēr'), 1569-1627, Mogul emperor He succeeded his father, Akbar, in 1605 He was largely absorbed in military campaigns in the Deccan and in Rajputana, and his rule was generally tolerant and just Jehangir was the first Mogul emperor to receive trade emissaries from Great Britain After a civil war he was succeeded by his son, Shah Jehan

Jehannet see CLOUET FRANÇOIS, and CLOUET JEAN

Jehdeiah (jēdē'yu) [Heb ,=whom God rejoices] **1** Descendant of Moses 1 Chron 24 20 **2** One in charge of David's asses 1 Chron 27 30

Jehezekel (jēhĕ'zēkĕl") [Heb ,=God strengthens him], chief priest 1 Chron 24 16

Jehiah (jēhī'u), doorkeeper 1 Chron 15 24

Jehiel (jēhī'ul) [Heb ,=God lives] **1** Ancestor of Saul 1 Chron 9 35 **2** One of David's mighty men 1 Chron 11 44 **3** Musician of David 1 Chron 15 18, 16 5 **4** Son of Jehoshaphat 2 Chron 21 2 **5** Levite under David 1 Chron 23 8, 29 8 Jehieli 1 Chron 26 21 **6** Tutor of David's sons 1 Chron 27 32 **7** Levite under Hezekiah 2 Chron 31 13 **8** Leader under Josiah. 2 Chron 35 8 **9** Father of a postexilic family Ezra 8 9 **10** Father of one who had a foreign wife Ezra 10 2 **11, 12** Men who had foreign wives Ezra 10 21,26

Jehieli (jēhī'ĕlī), variant of JEHIEL **5**

Jehizkiah (jē'hĭzkī'u) [Heb ,=God strengthens him], one of the leaders under Pekah, in the northern kingdom, who insisted on restoring the captives from Judah 2 Chron 28 12

Jehlam see JHELUM.

Jehoadah (jē-hō'ŭdă), the same as JARAH.

Jehoaddan (jē-hŏă'dăn), mother of King **Amasiah** of Judah 2 Kings 14.2, 2 Chron 25.1

Jehoahaz (jē-hō'ăhăz) or **Joahaz** (jō'ŭhăz) [both Heb.,=God holds fast] 1 Died c 804 B C , king of Israel (c 820–c 804 B C), son and successor of Jehu Nothing is known of his reign 2 Kings 13 1–9, 14 1 **2** Fl c 609 B C , king of Judah (c.609 B C.) On the death in battle of his father, Josiah, he was made king at Jerusalem, but the Pharaoh Necho removed Jehoahas to Egypt and substituted Jehoiakim for him 2 Kings 23.30–35, 2 Chron 36 Shallum 1 Chron 3 15, Jer 22 11 **3** In 2 Chron 21 17 and 25 23 AHAZIAH **2** is meant **4** Father of a recorder 2 Chron 34 8

Jehoash (jē-hō'ăsh) or **Joash** (jō'ăsh) 1 Died c 789 B C , king of Israel (c 804–c 789 B C), son and successor of Jehoahas He was generally successful in a war with Damascus, and he conquered Amaziah of Judah He was succeeded by his son Jeroboam II 2 Kings 13, 14 **2** Died c 802 B C , king of Judah (c 841–c 802 B C), son of AHAZIAH 1 When his father was murdered and his grandmother Athaliah seized the power and massacred the royal family, Jehoash, a baby, was saved by his aunt and uncle Jehosheba and Jehoiada (see JEHOIADA 1) He was dominated by his guardians when he became king six years later After a long reign he was assassinated 2 Kings 11 **3** Gideon's father Judges 6 11 **4** One of Ahab's sons 1 Kings 22 26 **5** Judahite 1 Chron 4 22 **6** Benjamite 1 Chron 7 8 **7** One who joined David at Ziklag 1 Chron 12 3 **8** One of David's officers 1 Chron 27 28

Jehohanan (jē-hŏhā'năn) [Heb ,=God has been gracious] **1** Officer of Jehoshaphat 2 Chron 17 15 **2** Father of an officer of Jehoiada 2 Chron 23 1 **3** Korahite porter 1 Chron 26 3 **4** Husband of a foreign wife Ezra 10 28 **5,6** Postexilic priests Neh 12 13,42.

Jehoiachin (jē-hoi'ŭkĭn), fl c 598 B C , king of Judah (c 598 B C) He was king for a few months after his father JEHOIAKIM'S death He was carried away by Nebuchadnezzar to Babylon and there imprisoned On the death of Nebuchadnezzar he was freed and given honorable treatment Jeconiah 1 Chron 3 16,17, Esther 2 6, Jer 24 1, 27 20, 28 4, 29 2 Jechonias Mat. 1 11,12 Coniah Jer 22 24,28, 37 1

Jehoiada (jē-hoi'ŭdŭ) [Heb ,=known by God] **1** High priest He married Jehosheba, a princess of Judah Together they saved the infant Jehoash and led the conspiracy against Athaliah which put Jehoash on the throne (see JEHOASH **2**) Jehoiada was buried with the kings of Judah His son was Zechariah the martyr 2 Kings 11, 12, 2 Chron 22–24 **2** Priest and ally of David, father of Solomon's general, Benaiah 2 Sam 8 18, 1 Chron 12 27, 27 5 At one point he is apparently called Benaiah's son 1 Chron 27 34 **3** Priest. Jer 29 26 **4** Worker on the wall Neh 3 6

Jehoiakim (jē-hoi'ŭkĭm) [Heb ,=whom God will establish], d c 609 B C , king of Judah (c 609–c 598 B C) On Josiah's death his son Jehoahaz became king The Pharaoh Necho removed him and set up another of Josiah's sons, Eliakim, who took the name Jehoiakim Jeremiah tried to arouse the king from his ways, but Jehoiakim had the book of his prophecies burned Nebuchadnezzar took the hegemony of the West at Carchemish (605 B C), but three years later the king of Judah revolted Jehoiakim died just before Nebuchadnezzar took the city He left a son, Jehoiachin. 2 Kings 23 34–24 6, Jer 36

Jehoiarib (jē-hoi'ŭ-), the same as JOIARIB **2**

Jehol (juhŏl', -hōl'), Mandarin *Je-ho*, province (**69,491** sq mi , pop 2,184,723), NE China The capital is Chengteh The Tsungling is one of the ranges of this largely hilly and mountainous province, which is crossed by swift, unnavigable rivers Deposits of coal, iron, and oil shales are profitably exploited Terracing adds to the limited arable land, but insufficient rainfall restricts agriculture to staples which ripen without additional water, chiefly soybeans, wheat, kaoliang, millet, barley, and sweet potatoes Jehol is connected by rail with Manchuria and with Peiping, but internal communications are poor because of the mountain barriers In 1932 Jehol was incorporated into the Japanese puppet state of Manchukuo, and it was not restored to China until the end of the Second World War

Jehol, city, China see CHENGTEH

Jehonadab (jē-hŏ'nudăb), the same as JONADAB

Jehonathan (jē-hŏ'nuthăn) [Heb ,=gift of God] **1** Levite 2 Chron 17 8 **2** Officer under David 1 Chron 27 25 **3** High priest Neh 12 18. **4** Teaching Levite 2 Chron 17 8

Jehoram (jē-hō'rum) or **Joram** (jō'rŭm). **1** Died c.846 B C , king of Israel (c.852–c.846 B C.), brother and successor of AHAZIAH **1** He compelled Jehoshaphat of Judah to help him put down a revolt in Moab He was wounded in an attack on Ramoth-gilead and retired to Jezreel The party headed by ELISHA raised a revolt and JEHU put Jehoram to death and took the throne. This was the end of the house of Ahab, in Israel 2 Kings 1.17,18, 3, 4 **2** Died c 846 B.C , king of Judah (c 851–c.846 B.C.), son and successor of Jehoshaphat. His wife was the notorious ATHALIAH. The Bible says that he acted like her family. He was succeeded by his son AHAZIAH **2** 2 Kings 8.16–24, 2 Chron. 21–22 1. **3** Priest 2 Chron 17.8.

Jehoshabeath (jē-hŏshā'bēăth) see JEHOSHEBA.

Jehoshaphat (jē-hŏ'shŭfăt), **Josaphat** (jŏs'-), or **Josophat** (jŏsh'-) [Heb ,=God judges] 1 Died c.851 B C , king of Judah (c.870–c 851 B C), son and successor of ASA 1 He continued his father's reforms He was an ally of Ahab, king of Israel, and his successors He was followed by his son, JEHORAM **2** 1 Kings 22, 2 Kings 3, 2 Chron 17–21 1. **2** Recorder under David and Solomon 2 Sam 8 16, 1 Kings 4 3. **3** One of Solomon's officers 1 Kings 4 17 **4** One of David's guard 1 Chron 11 43 **5** Priest 1 Chron 15 24 **6** Father of King Jehu 2 Kings 9 2,14 The **Valley of Jehoshaphat,** mentioned in Joel 3 as a place of judgment, has been identified by tradition with the northern extension of the vale of Kidron on the east of Jerusalem

Jehosheba (jē-hŏ'shĕbŭ) [Heb ,=God, the oath], daughter of King Jehoram of Judah and aunt of King Jehoash She married the high priest Jehoiada 2 Kings 11.2 Jehoshabeath 2 Chron 22 11

Jehoshua and **Jehoshuah,** variants of JOSHUA

Jehovah (juhō'vu, jē-), modern reconstruction of the ancient Hebrew ineffable name of God

Jehovah-jireh (-jī'rē) [Heb ,=God sees], Abraham's name for the spot where the angel prevented the sacrifice of Isaac Gen 22 14

Jehovah-nissi (-nĭ'sī) [Heb ,=God is my banner], name Moses gave to the altar commemorating victory over the Amalekites Ex 17 15

Jehovah-shalom (-shā'lŏm) [Heb ,=God is peace], name Gideon gave to his altar in Ophrah after an angel appeared to him Judges 6 24

Jehovah's Witnesses, sect originating in America, founded by Charles Taze RUSSELL, whose doctrine centers around the second coming of Christ The Witnesses believe that this has already commenced, that "Armageddon will come as soon as the Witness work is completed," and that this will be followed by a millennial period when sinners will have a second chance at salvation—hence their slogan, "Millions now living will never die " The cult has no churches and no ministers, its views are circulated by *The Watch Tower Announcing Jehovah's Kingdom* and other publications and by the zealous house-to-house canvassing carried on by its members Before 1931 Jehovah's Witnesses were called Russellites, abroad the movement is usually known as the International Bible Students Association See H H Stroup, *The Jehovah's Witnesses* (1945)

Jehozabad (jē-hŏ'zŭbăd) [Heb ,=whom God gave] **1** One of the murderers of Joash 2 Kings 12 21, 2 Chron 24 26 **2** Captain in Jehoshaphat's army 2 Chron 17 18 **3** Porter 1 Chron 26 4

Jehozadak (jē-hŏ'zudăk), the same as JOZADAK

Jehu (jē'hū) [Heb ,=He is God] **1** Died c 820 B C , king of Israel (c 846–c 820 B C) He was anointed king by ELISHA, who led the revolt against the house of Ahab Jehu murdered Kings Jehoram of Israel and Ahaziah of Judah and the royal family. Elisha was the dominant figure in Israel through Jehu's long reign. Jehu's rapid driving has become proverbial His son Jehoahaz succeeded him 2 Kings 9 **2** Prophet under Kings Baasha and Jehoshaphat 1 Kings 16, 2 Chron 19 **3** Descendant of Judah 1 Chron 2 38 **4** Simeonite 1 Chron. 4 35 **5** One of those who joined David at Ziklag. 1 Chron 12 3

Jehubbah (jē-hŭ'bu), Asherite 1 Chron 7 34

Jehucal (jē-hūkăl", jē-hū'kul), Zedekiah's messenger to Jeremiah Jer 37 3 Jucal Jer 38 1

Jehud (jē'hŭd) [Heb ,=praise], unidentified town, W Palestine Joshua 19 45

Jehudi (jē-hū'dī) [Heb ,=Jew], officer of Jehoiakim's court Jer 36 14,21,23

Jehudijah (jē-hūdī'jŭ) [Heb ,=Jewish woman], wife of a Judahite 1 Chron 4 18

Jehush (jē'-), descendant of Saul 1 Chron 8 39

Jeiel (jē'ĭ-ĕl) **1** Levite under David 1 Chron. 15 18 **2** Musician of David 1 Chron 15 21, 16 5 **3** Ancestor of JAHAZIEL **2** **4** Scribe of Uzziah 2 Chron 26 11 **5** Levite of Hezekiah 2 Chron 29 13 **6** Levite of Josiah 2 Chron 35 9 **7** Companion of Ezra Ezra 8 13 **8** Husband of a foreign wife Ezra 10 43 **9** Reubenite 1 Chron 5 7

Jekabzeel (jēkăb'zēĭ-ĕl), variant of KABZEEL

Jekameam (jēkumē'um), Kohathite Levite. 1 Chron 23.19, 24 23

Jekamiah (jēkŭmī'u), descendant of Judah. 1 Chron 2 41

Jekuthiel (jēkū'thēĭ-ĕl), Judahite 1 Chron 4 18.

Jekyll, Gertrude (jē'kĭl), 1843–1932, English horticulturist She studied painting and for a time was joint editor of the *Garden*. She planned many of the famous English gardens and wrote extensively on gardening Her books include *Wood and Garden*, (1899), *Flower Decoration in the House* (1907), *Colour in the Flower Garden* (1908), *Gardens for Small Country Houses* (with Lawrence Weaver, 1912), *Garden Ornament* (1918), and *Colour Schemes for the Flower Garden* (8th ed., 1936).

Jekyll Island. see SEA ISLANDS.

Jelenia Gora, Lower Silesia; see HIRSCHBERG.

Jelgava (yĕl'gĭvă), Ger. *Mitau* (mē'tou), city (pop 34,099), W central Latvia, SW of Riga. The chief city of Zemgale, it is a center of farm trade and has varied manufactures and dairy plants Founded in 1266 by the Livonian Knights, it became (1561) the capital of the duchy of Courland, with which it passed to Russia in 1795 Before the First World War, Jelgava had c.47,000 inhabitants (about 50 percent Germans and about 25 percent Jews), before its occupation (1915–18) by the German army its population was evacuated to inner Russia In 1919, during the struggle for Latvian independence, Jelgava was occupied in turn by the Soviets, by German free corps, and by the Latvians Little of the original population remained after its occupation (1941) by the Germans and its reconquest (1944) by the Red Army in the Second World War Among the notable buildings of Jelgava are Trinity Church (16th cent), the town hall (18th cent), and the ducal palace (18th cent).

Jellachich de Buzim, Joseph, Count (yĕ'lachĭch, bōō'zĭm,-shĭm), 1801–59, Austrian general, a Croatian nobleman He was ban (governor) of Croatia in 1848, when revolution broke out in Hungary, and he commanded an army against the revolutionists His purpose was to separate CROATIA from Hungary, and he was backed by the Austrian government After the fall (1849) of the Hungarian revolutionary government of KOSSUTH, Jellachich was again governor

Jellico (jĕl'ĭkō), city (pop 1,581), E Tenn , at the Ky line NNW of Knoxville, settled 1795 It is a coal-mining center in the Cumberland foothills The U S mine rescue station here has a first-aid school for miners

Jellicoe, John Rushworth Jellicoe, 1st **Earl,** 1859–1935, British admiral. Crowning a naval career begun in 1872, he served as commander in chief of the Grand Fleet (1914–16) in the First World War His command at the battle of JUTLAND won him some praise and much censure. As first sea lord (1916–17) he was responsible for combating the German submarine campaign He was (1920–24) governor general of New Zealand He wrote *The Grand Fleet, 1914–16* (1919) and *The Crisis of the Naval War* (1921)

Jelliffe, Smith Ely (jĕ'lĭf), 1866–1945, American neurologist and psychiatrist, b New York city, M D Columbia, 1889 He was consultant at Manhattan State Hospital and at Kings Park State Hospital He served as managing editor of the *Journal of Nervous and Mental Disease* and as joint editor of the *Psychoanalytic Review* and of the "Nervous and Mental Disease Monograph" series, for which he wrote several volumes He translated foreign works in his field and with W A White wrote *Diseases of the Nervous System* (6th ed , 1935) He testified for Harry K Thaw at the latter's trial for the murder of Stanford White

jelly and jam. Since most fresh fruits contain about 80 percent water and from 10 to 15 percent sugar, they are subject to fermentation They may be preserved by adding sugar and reducing the water content Almost any fresh fruit can be made into jam by mashing the fruit or slicing it fine, adding an approximately equal amount of sugar, and simmering until it reaches the proper concentration at 218°–222° F Preserves differ in that the fruit retains its form For jelly, only those fruits may successfully be used which contain a sufficient amount of PECTIN and acid Among these are plums, apples, grapes, and quinces and such berries as currants, gooseberries, raspberries, blackberries, and cranberries A commercial preparation of pectin or GELATIN may be added to other fruits, such as peaches and strawberries, but the results do not equal the natural jellies Jelly is made by extracting the juice of fresh, sound, barely ripe fruit, combining with sugar, and cooking Excess heating dissipates the flavor and may hydrolyze the pectin Too little sugar yields a tough jelly, too much, a sticky one Too much acid may cause separation of liquid from the surface The manufacture of jams and jellies has become largely commercial. Scientific tests of jelling power, acid and sugar content, and degree of concentration have superseded rule of thumb methods

jellyfish, popular name for the medusa, the gelatinous umbrella-shaped, free-swimming form of a marine invertebrate related to the coral polyp and the sea anemone Most species during their life history pass through both a medusa and a polyp or hydroid stage Water forms more than 90 percent of the body of the jellyfish The mouth opens into a digestive canal called a manubrium Tentacles armed with stinging cells enable the jellyfish to capture small animals for food.

Jemappes (zhŭmăp'), town (pop 12,467), Hainaut prov , Belgium, near Mons It is a coal-mining center Here late in 1792 the French under Dumouriez defeated the Austrians in one of the first important battles of the French Revolutionary Wars The victory opened the way to Brussels

Jemez (hă'mĕs), North American Indian pueblo village, 8 N Mex , on the north bank of the Jemez river It has some 900 inhabitants. These PUEBLO INDIANS belong to the Tanoan linguistic stock. In

the 16th cent. there were several pueblos in this village, but by 1622 there were only two One of the remaining pueblos was abandoned prior to the Pueblo revolt of 1680. The Jemez Indians took a prominent part in the revolt, attacking the Spanish again and again. They even made war on their neighbors who had remained loyal to the Spanish In 1694 the pueblo was stormed and captured by the Spanish Although the Jemez promised to remain at peace, they revolted (1696) and killed the missionary. Expecting a Spanish attack, they fled into Navaho country, where they remained for several years. Finally some of the Indians returned and constructed (c 1700) the present village The principal feast is on Nov 13, for San Diego (St Didacus)

Jemima (jĕmī'mu) [Heb ,=dove], first daughter of Job after his affliction Job 42 14

Jemison, Mary, 1743–1833, American frontierswoman She was born at sea while her parents were en route from Ireland to America In W Pennsylvania she was captured (1758) by a French and Indian war party, taken to Fort Duquesne, and given to two Seneca women, who adopted her She was twice married (to a Delaware and to a Seneca) and bore her Indian husbands eight children Mary, known as the White Woman of the Genesee, refused to leave the Seneca, and in 1817 New York gave her a tract of land on the Genesee river Her story is told in a classic of "Indian-capture" narrative, J E Seaver's *Narrative of the Life of Mrs Mary Jemison* (1824, latest ed , 1942)

Jemtland, Sweden see JAMTLAND

Jemuel (jĕmū'ul), first son of Simeon Gen 46 10, Ex. 6 15 Nemuel Num 26 12 1 Chron 4 24

Jena (yā'nä), city (pop 82,722), Thuringia, central Germany, on the Saale river An industrial and cultural center, it has a great Zeiss plant (optical and precision instruments), which was partially removed after the Second World War by the Russian occupation authorities Chartered in the 13th cent , Jena passed, after the division of the Saxon lands, to the duchy of Saxe-Weimar-Eisenach and in 1920 was incorporated with Thuringia Here in 1806 Napoleon I decisively defeated the Prussians In the Second World War, Jena suffered some bomb damage The Univ of Jena was founded in 1558 and reached its height in the late 18th and early 19th cent , when Friedrich von Schiller, Hegel, Fichte, and August Wilhelm von Schlegel taught here Schiller wrote the Wallenstein trilogy and Goethe wrote *Hermann und Dorothea* at Jena

Jenghiz Khan or **Genghis Khan** (both jĕng'gis kan', jĕng'giz), Mandarin *Ch'eng-chi-ssu* [perfect warrior], 1162?–1227, Mongol conqueror, originally named Temuchin He succeeded his father, Yekusai, as chieftain of a Mongolian confederacy Temuchin assumed his title in 1206 after completing the conquest of Mongolia and establishing his capital at Karakorum He attacked (1213) the Ch'in empire of N China and by 1215 had occupied most of its territory, including the capital, Yenching (now Peiping) From 1218 to 1224 he conquered Turkistan, Transoxania, and Afghanistan and raided Persia and the states of present S Russia He died while campaigning against the Ch'in, and his domain was divided among his three sons Jenghiz Khan's wars were marked by ruthless carnage, but he was a brilliant ruler whose empire lasted until 1368 Tamerlane was descended from him See biographies by Harold Lamb (1927) and Ralph Fox (1936)

Jenin, Palestine see EN-GANNIM 2

Jenkins, Albert Gallatin, 1830–64, Confederate cavalry general, b Cabell co , Va (now W Va), grad Jefferson College, 1848, and Harvard Law School, 1850 A Democratic representative in Congress (1857–61), he resigned to fight for the Confederacy He was made a brigadier general in Aug , 1862 His independent cavalry force made many daring raids in the West Virginia mountains and one bold incursion into Ohio in 1862 Jenkins's brigade covered R S Ewell's advance in the Gettysburg campaign (1863) He was killed in an engagement with Gen Crook in West Virginia

Jenkins, Charles Jones, 1805–83, governor of Georgia (1865–68), b Beaufort District, S C , grad Union College, 1824 Jenkins was a former Union Whig who, as a justice of the Georgia supreme court (1860–65), upheld the right of secession but maintained that no fit occasion for such action had arisen After the Civil War he took a leading part in the state constitutional convention of 1865 and was unanimously chosen governor He refused to sign orders on the state treasury for the expenses of a new Reconstruction convention, which was called to meet the requirements of radical Republican legislation of 1867, Gen George G Meade removed him See biography by C C Jones (1884)

Jenkins, John, 1728–85, American pioneer, b probably Connecticut In 1753 Jenkins explored the WYOMING VALLEY for the proposed Susquehanna Company A settlement under his leadership in 1762 was destroyed by the Indians, and in 1769, leading another group to the region, he founded Kingston Jenkins lived here until the Wyoming Valley massacre (1778), then fled to Orange co., N Y.

Jenkins, John, 1751–1827, American pioneer and soldier, b. New London, Conn ; son of John Jenkins (1728–85) His varied work included being an agent of the Susquehanna Company and commander of Forty Fort in the WYOMING VALLEY During the American Revolution he took part in Gen John Sullivan's campaign against the Indians Returning to Pennsylvania after the war, he defended the Connecticut settlers in the Pennamite Wars and against Indian attacks In 1786 Jenkins laid out the town of Athens, Pa.

Jenkins, Thornton Alexander, 1811–93, American naval officer, b Orange co , Va , appointed a midshipman in 1828 In 1845 he was sent to Europe to investigate lighthouse systems His report resulted in the general reorganization of the American system and the establishment of the lighthouse board, of which he was long secretary Jenkins, who had seen action in the Mexican War, served principally under Farragut in the Civil War He was the admiral's flag captain on the Mississippi in 1863 and commanded the second division of the Union fleet in the battle of Mobile Bay (1864) He was chief of the Bureau of Navigation (1865–69), was promoted rear admiral in 1870, and ended his active career as commander of the Asiatic squadron (1872–73) Jenkins wrote several naval manuals and works on navigation

Jenkins, town (pop 9,428), E Ky , in the Cumberlands at the Va line, in an important coal-mining area Pound Gap is near by

Jenkinson, Charles see LIVERPOOL, CHARLES JENKINSON, 1st EARL OF

Jenkinson, Robert Banks see LIVERPOOL, ROBERT BANKS JENKINSON, 2d EARL OF

Jenkins's Ear, War of, 1739–41, struggle between England and Spain It grew out of commercial rivalry of the two powers and led into the larger war of the AUSTRIAN SUCCESSION The incident which gave the name to the war occurred in 1731, when Robert Jenkins, master of the ship *Rebecca*, claimed he had had his ear cut off by Spanish coast guards English smuggling and resentment at exclusion from the Spanish colonial trade caused the war, but Jenkins's story in the House of Commons, reinforced by the showing of his ear, had tremendous propaganda effect and forced the reluctant Sir Robert WALPOLE to declare war The hostilities with Spain up to 1741 were marked only by the naval engagements of Admiral Vernon in the West Indies

Jenkintown, residential borough (pop 5,024), SE Pa , near Philadelphia, settled 1750, inc 1874 It is the seat of Beaver College (Presbyterian, for women, 1853)

Jenks, Jeremiah Whipple, 1856–1929, American economist, b St Clair, Mich , grad Univ of Michigan, 1878, Ph D Univ of Halle, 1885 He was professor of political economy (1891–1912) at Cornell and from 1912 was professor of government at New York Univ Interested especially in the political aspects of economic problems, he served frequently on government boards and commissions and made many reports on trusts, currency, labor, and immigration problems Out of these experiences came his authoritative books *The Trust Problem* (1900, 5th ed , 1929) and *The Immigration Problem* (with W J Lauck, 1911, 6th ed , 1925) As a financial expert he also served the governments of Mexico, Nicaragua, China, and Germany He also wrote *Principles of Politics* (1909) and *Governmental Action for Social Welfare* (1910)

Jenks, town (pop 1,026), NE Okla , on the Arkansas river and S of Tulsa

Jenné or **Djenné** (both jĕnā'), town (pop c 5,000), French Sudan, on the upper Niger Founded in 765, it was in later centuries a great market for gold and slaves and it rivaled Timbuktu in Moslem learning There are fine examples of 17th-century Moorish architecture The Guinea coast was perhaps named from Jenné

Jenner, Edward, 1749–1823, English physician, pupil of John Hunter He observed that milkmaids infected with cowpox were immune to smallpox and by a series of experiments—beginning with the vaccination of James Phipps in 1796—demonstrated that inoculation with cowpox virus gives immunity to smallpox His work is described in his *Inquiry into the Cause and Effects of the Variolae Vaccinae* (1798). See biography by F G Dewitt (2d ed , 1933)

Jenner, Sir William, 1815 98, English physician and anatomist, grad Univ of London, 1844 He is noted for distinguishing between typhus and typhoid fever by pathological and clinical examination of 36 cases in 1847 From 1862 to 1890 he was physician in ordinary to Queen Victoria He wrote *On the Identity and Non-Identity of Typhoid Fever* (1850) and *Lectures on Fevers and Diphtheria* (1893)

Jennewein, Carl Paul (jĕ'nuwīn), 1890–, American architectural sculptor, b Germany, studied at the Art Students League and the American Academy in Rome He came to the United States in 1907 and was naturalized in 1915 Among his works are sculptures for the Arlington Memorial Bridge and the Dept of Justice Building, Washington, D C , the Woolworth, Cunard, and British Empire buildings (the last at Rockefeller Center), New York city; city hall, Kansas City, Mo ; Mellon Institute, Pittsburgh, Brooklyn Public Library, and four pylons at the New York World's Fair He is represented in the Metropolitan Museum, the Corcoran Art Gallery, and other museums throughout the country

Jenney, William Le Baron, 1832–1907 American engineer and architect, b Fairhaven, Mass , studied at Harvard Scientific School and the Ecole des Beaux-Arts He was noted as the pioneer of SKYSCRAPER construction After participating in the 1849 gold rush, he undertook the study of architecture Later he learned engineering, constructed a railroad in Panama before the Civil War, and was chief engineer on General Sherman's staff in Georgia The Home Insurance Building, 10 stories high, which he designed and built in Chicago (1884), was the first in which both the floors and the exterior masonry walls were borne by a skeleton framework of metal Jenney's building has come to be known as the first skyscraper

Jennings, Herbert Spencer, 1868–1947, American zoologist, b Tonica, Ill , grad Univ. of Michigan (B S , 1893) At Johns Hopkins he taught zoology from 1906 to 1910 He specialized in genetics, working on heredity and variation in microorganisms and on animal behavior His works include *The Anatomy of the Cat* (with J L Reighard, 1901, 4th ed , 1935), *Behavior of the Lower Organisms* (1906), *Life and Death, Heredity and Evolution in Unicellular Organisms* (1919), *The Biological Basis of Human Nature* (1930), and *Genetics* (1935)

Jennings, Sarah, duchess of Marlborough see MARLBOROUGH, JOHN CHURCHILL, 1st DUKE OF

Jennings, city (pop 7,343), parish seat of Jefferson Davis parish, SW La , E of Lake Charles, settled 1884 It is a rice-milling and oil center, with machine shops and a lumber industry

Jensen, Johannes Vilhelm (yō'hä'nus vil'hĕlm yĕn'sun), 1873–, Danish author As a young man he studied medicine, and his continuing interest in biological science is evidenced in such works as the epic *The Long Journey* (1909–20, Eng tr , 1922–24) In a series of short essays which he called "myths," he created a distinctive literary form A prolific writer, he produced poems, essays, and travel books on the many parts of the world he had visited, as well as books describing his native country He was awarded the 1944 Nobel Prize in Literature His influence on Danish literature has been profound See Nobel Prize edition of *The Long Journey* (with introduction by Francis Hackett, 1945)

Jenson or **Janson, Nicolas,** d c 1480, Venetian printer, b France He was one of the first to design roman type, and his roman design was far superior in beauty and alignment of characters to that of JOHN OF SPEYER He started publishing under his own name and with his own type in 1470 From then until his death he produced many beautiful works It is probable that he worked with or for other printers before setting up his own press, though no record exists of this His roman type of 1470 furnished inspiration for Garamond Caslon, William Morris, Bruce Rogers, and other masters After his death, the Aldine Press used his type

jeopardy (jĕ'purdē), in law, subjecting a person to trial for crime and hence creating a danger that he may be punished The main significance of the concept is in the prohibition of exposure to double jeopardy for the same offense (e g , the provision in the Fifth Amendment to the U S Constitution). An accused person has not been placed in jeopardy unless he was tried by a court and duly found innocent or guilty Hence, if the trial is abortive for any reason—e g , lack of jurisdiction or inability of the jury to reach a verdict—a second trial is not precluded Similarly, if conviction of guilt resulted from an error of law committed by the trial court the proceedings are vitiated and a new trial may be ordered after an APPEAL Related to the prohibition of double jeopardy is the principle of *res judicata* [Latin, =thing adjudged], which operates in civil cases to give finality to a valid JUDGMENT and to protect a defendant from multiple liability for the same offense By this principle the judgment constitutes a final determination of the specific issues raised at the trial and prevents all persons from reopening them in later proceedings *Res judicata* does not invariably operate in equitable remedies, since the court's DECREE may usually be revised

Jephthae (jĕf'thē), Greek form of Jephthah

Jephthah (jĕf'thu), son of Gilead and a judge of Israel He vowed if victorious over his enemies to sacrifice the first of his household to greet him upon his return His daughter and only child was the price of this vow Judges 11 1–12 7 Jephthae Heb 11 32

Jephunneh (jĕfū'nē) 1 Father of Caleb Num 13 6 2 Asherite 1 Chron 7 38

Jepson, Willis Linn, 1867–1946, American educator and botanist, b Vacaville, Calif , grad Univ of California (Ph B , 1889, Ph D , 1898) He worked extensively on the seed plants of W North America Among his works are *Flora of the Economic Plants of California* (1924), *A Manual of the Flowering Plants of California* (1925), and *Flora of Middle Western California* (1901, 2d ed , 1911).

Jerah (jē'rŭ) [Heb ,=new moon], descendant of Shem Gen 10 26, 1 Chron 1 20

Jerahmeel (jĕrā'mĕĕl) [Heb ,=God is merciful] **1** Descendant of Judah 1 Chron 2 9,25, 1 Sam 27 10 **2** Levite 1 Chron 24 29 **3** Prince commanded by Jehoiakim to imprison Jeremiah Jer 36 26

Jerash, ancient city see GERASA

Jerba or **Djerba** (both jĕr'bu), island (197 sq mi , pop 59,331), off SE Tunisia, in the Mediterranean Jerba was once identified as the land of the lotus-eaters It was (16th cent) the base of corsairs Fishing, sponge fishing, pottery making, rug weaving, and agriculture occupy the inhabitants

Jered (jē'rĕd) [Heb ,=descent] **1** Variant of JARED **2** Judahite 1 Chron 4 18

Jeremai (jĕrĕmā'ī) [Heb ,=dwellers on heights], husband of a foreigner Ezra 10 33

Jeremiah (jĕrĭmī'u) [Heb ,=exalted of God] **1** Prophet of the book of JEREMIAH **2** Father-in-law of Josiah 2 Kings 23 31, Jer 52 1 **3** Rechabite contemporary with Jeremiah the prophet Jer 35 3 **4, 5, 6** Three who joined David at Ziklag 1 Chron 12 4,10,13 **7** Manassite 1 Chron 5 24 **8, 9** Priests Neh 10 2, 12 1,12,34

Jeremiah or **Jeremias** (jĕrĭmī'us), book of the Old Testament, second of the books of the Major Prophets It tells of the career of Jeremiah (fl 600 B C), a prophet who preached (c 628-586 B C) in Jerusalem under Josiah and his successors His message was a summons to moral reform, personal and social, backed by threats of doom This was especially strong in the face of a false political optimism—Jeremiah realistically opposed resistance to Babylon and his insistence on unpalatable truths brought him to prison and the stocks When Jerusalem fell (586 B C), Jeremiah was allowed to stay with the Jews who remained, and these took him to Egypt, where he went on prophesying The prophecies of the book were arranged by the prophet's secretary, Baruch They are not in strict chronological order, and there are important differences in texts, thus, there is good reason for believing that chapters 46–51 (AV) belong with chapter 25 One analysis of the book would be as follows introduction (1–4 5), prophecies under Josiah (4 6–25, 4–24), prophecies against Gentile nations (25, 46–51), prophecies under Josiah's successors (26–38), the capture of the city (39), later prophecies and events (40–45, 52) Among the well-known Messianic passages are 14 8–9, 23 5–6, 30 9–24, 32 37–44 There are other references to Jeremiah in the Bible 2 Chron 35 25, Ecclus 49 8–9, Dan 9 2, 2 Mac 2 1–10, Mat 2 18, Heb 8 8 See LAMENTATIONS and BARUCH For bibliography, see OLD TESTAMENT

Jeremoth (jĕ'rĭmŏth) **1** Benjamite 1 Chron 8 14 **2** Levite of David 1 Chron 23 23 Jerimoth 1 Chron 24 30 **3, 4** Men who had foreign wives Ezra 10 26,27 **5** See JERIMOTH 5

Jeremy (jĕ'rĭmē), English form of JEREMIAH

Jerez de la Frontera (hārā'thĕ dā lä frŏntā'rä), city (pop 65,166), Cádiz prov , SW Spain, in Andalusia It is an important commercial center noted for its sherry (named for the town) and cognac Captured by the Moors in 711, Jerez was recovered by Alfonso X of Castile in 1264

Jerez de los Caballeros (dā lōs kabalyā'rōs), city (pop 12,486), Badajoz prov , SW Spain, in Estremadura It was given to the Knights Templars in 1237 Balboa was born here

Jeriah (jĕrī'u), Kohathite Levite 1 Chron 23 19, 24 23 Jerijah 1 Chron 26 31

Jeribai (jĕ'rĭbā), soldier of David 1 Chron 11 46

Jericho (jĕ'rĭkō) [Heb ,=fragrant, or city of the moon god], ancient city, Palestine, in the Jordan valley 5 mi N of the Dead Sea It was captured from the Canaanites by Joshua, according to the biblical account in Joshua 6, and was destroyed, a course several times repeated in its history One of its conquerors was Herod the Great, who sacked and rebuilt it Later it fell to the Mohammedans Throughout these vicissitudes, though its site was probably changed, the city retained its importance Excavations early in the present century have revealed walls believed to be those of the first Jericho The small modern village of Eriha near by has a castle ascribed to the Crusaders Deut 34 3, Joshua 18 21, 2 Sam 10 5, 1 Kings 16 34, 2 Kings 2 4, 25 5, Jer 39 5, 52 8, 1 Mac 9 50, Mat 20 29, Luke 10 30

Jericho, town (pop 1,077), NW Vt , E of Burlington, granted 1763, occupied 1774, permanently settled after the Revolution. There are still a few early-19th-century buildings Wilson A Bentley, author with W J Humphreys of *Snow Crystals* (1931), photographed snowflakes here

Jeriel (jĕrī'ĕl, jĕ'rĭ-ĕl) [Heb ,=founded by God], chief Issacharite 1 Chron 7 2

Jerijah (jĕrī'ju), variant of JERIAH.

Jerimoth (jĕ'rĭmŏth) **1** Benjamite 1 Chron 7 7,8. **2** One who joined David at Ziklag. 1 Chron 12 5 **3** Officer of David 1 Chron 27 19 **4** Son of David. 2 Chron 11 18 **5** Levite of David 1 Chron 25 4 Jeremoth 1 Chron 25 22 **6** Levite of Hezekiah. 2 Chron 31 13 **7** See JEREMOTH 2.

Jerioth (jĕ'rĭŏth), woman named in a genealogy. 1 Chron 2 18.

Jeritza, Maria (yŭrĭt'su), 1887–, Austrian-American soprano, b Brünn (now Brno) She made her debut as Elsa in *Lohengrin* at Olmütz in 1910 and in 1912 joined the Vienna State Opera. At Stuttgart she created the role of Ariadne in the opera by Richard Strauss. She sang (1921-32) at the Metropolitan Opera, New York, where her Tosca was celebrated Strauss and Puccini both had high praise for her singing in their operas See her autobiography, *Sunlight and Song* (1924)

Jermyn, industrial borough (pop 3,238), NE Pa , on the Lackawanna river and NE of Scranton, inc 1870 It has a colliery and a coffin factory

Jeroboam I (jĕrŭbō'ŭm), d c 910 B C , first king of the northern kingdom of Israel (c 932–c 910 B C) He was an Ephraimite and led a revolt against Solomon, inspired probably by the restlessness of N Palestine under southern rule Jeroboam fled to Egypt when the plot failed, but returned on the accession of Solomon's son, REHOBOAM When the new king would not satisfy the northerners, Jeroboam led a secession, leaving the house of David only Judah and some of Benjamin Jeroboam became notorious for fostering idolatry in his kingdom of Israel Jeroboam was succeeded by his son Nadab 1 Kings 11 26 14 20, 2 Chron 10, 13

Jeroboam II, d c 749 B C , king of Israel (c 789–c 749 B C), son of Jehoash, whom he succeeded His reign was marked by increasing prosperity and expansion northward Amos and Hosea appeared under Jeroboam 2 Kings 14 16,23–29

Jeroham (jĕrō'hăm) [Heb ,=beloved one] **1** Samuel's grandfather 1 Sam 1 1, 1 Chron 6 27 **2** Priest 1 Chron 9 12, Neh 11 12 **3** Father of a chief Danite 1 Chron 27 22 **4, 5** Benjamites 1 Chron 8 27, 9 8 **6** One of David's men 1 Chron 12 7 **7** Father of a captain of Jehoiada 2 Chron 23 1

Jerome, Saint (jăr'ŭm), c 347–419?, Christian scholar, Father of the Church, Doctor of the Church He was born in Stridon (on the border of Dalmatia and Pannonia) of Christian parents, his Roman name was Sophronius Eusebius Hieronymus (sŏfrō'-, ūsē'-, hĭrŏn'ĭmŭs) He studied in Rome (c 359–36?) under Aelius Donatus and was baptized in 366 After study at Trier and Aquileia, he journeyed to the East At Antioch, in 375, he experienced a vision in which Christ seemed to reprove him for his pagan studies Renouncing his classical scholarship, he fled to the desert to live as an ascetic and to devote himself to scriptural studies, for which he learned Hebrew In 378 he returned to Antioch, was ordained priest there the following year, and then went to Constantinople to study under St GREGORY NAZIANZEN In 382 Jerome returned to Rome with Gregory, when Pope DAMASUS I asked them to help settle some Eastern problems, Jerome remained as papal secretary He was acclaimed for his exposition of Scripture, and Damasus requested him to begin on a new version of the Bible Jerome was spiritual adviser to a number of noble ladies leading conventual lives, among whom the most eminent was St PAULA But his criticisms of the secular clergy antagonized them, and he returned East when Damasus died From 386 to his death, Jerome worked in the monastery which Paula established for him in Bethlehem Here he did the bulk of revision of his Latin translations of the Bible He also wrote commentaries on Ecclesiastes and the epistles of St Paul, translated Origen's homilies, revised part of the Latin version of the Septuagint, and translated from the Hebrew Isaiah and other prophets, Psalms, Kings, and Job Jerome's texts were the basis of the VULGATE In 393 he wrote *De viris illustribus* [concerning illustrious men], lives of 130 Christian writers Other works include *Adversus Jovinianum* [against Jovinian], in praise of virginity, a dialogue against the Pelagians, panegyrics on deceased friends (e g , St Paula), and brilliantly written letters, of which over 100 remain to furnish a rare account of his time His correspondence with St Augustine, with whom he sometimes quarreled, is of peculiar interest St Jerome was involved in many theological and scholarly controversies, even with a long-established friend, such as Rufinus Collections of patristic literature have translations of many of his works St Jerome is buried in the Church of St Mary Major in Rome See his letters (ed by James Duff, 1942), Paul Monceaux, *St Jerome the Early Years* (Eng tr , 1933)

Jerome, Jerome Klapka, 1859–1927, English humorist and playwright His *Idle Thoughts of an Idle Fellow* (1886) and *Three Men in a Boat* (1889) gave him his reputation for genial humor One of his plays, *The Passing of the Third Floor Back,* which had a long run when first produced in 1907, receives occasional revivals in England and the United States His reminiscences, *My Life and Times,* were published in 1926

Jerome, William Travers, 1859–1934, American lawyer, b New York city, grad Columbia School of Law, 1884 Prominent in the cause of reform, he served (1894-95) on the Lexow commission to investigate political corruption and managed (1895) the successful campaign of William L Strong for reform mayor of New York city. He helped frame the legislation which created the court of special sessions and became (1895) justice of this court. As district attorney (1901–9) of New York co , Jerome led a continuous and independent campaign against crime and political corruption Frequently he led surprise raids in person, notably the one against the gambling house of Richard CANFIELD Jerome was the prosecutor in the trial of Harry K Thaw

Jerome. **1** Town (pop 2,205), central Ariz , NE of Prescott, inc 1899 Copper was discovered here in the '70s, and the mining town grew on several levels of a mountainside in the '80s The smelter was moved to Clarkdale in 1915 **2** City (pop 3,537), co seat of Jerome co , S Idaho, near the Snake, laid out 1907, inc 1909 Reclaimed lands are near the city

Jerome of Prague, d 1416, Bohemian religious reformer, a celebrated preacher During his studies at Prague and at Oxford, Jerome was influenced by the doctrinal views of WYCLIF He continued to study and travel widely abroad, in constant conflict with the authorities In 1407 he returned to Prague, where he joined forces with Huss in advocating Bohemian control of the Univ of Prague and in opposing the papal bulls against Lancelot of Naples When Huss was summoned before the Council of Constance (see CONSTANCE, COUNCIL OF), Jerome went there to defend him in 1415 Arrested while attempting to escape from the hostile churchmen, Jerome was brought back to Constance and imprisoned After the burning of Huss, Jerome recanted his defenses of Huss and Wyclif, but his sincerity was doubted and he was not released In 1416 he withdrew his recantation and was burned as a heretic Jerome stands with Huss as a forerunner of the Reformation

Jerrold, Douglas William (jĕr'ŭld), 1803–57, English humorist, playwright, and miscellaneous writer His play *Black-eyed Susan* (1829), produced at the Surrey Theatre, was an enormous success, but Jerrold is best known for his contributions to *Punch* from 1841 until his death Some of these, collected as *Punch's Letters to His Son* (1843) and *Mrs Caudle's Curtain Lectures* (1846), were also popular in the United States Jerrold was editor of *Lloyd's Weekly Newspaper* from 1852 He was succeeded by his son, **William Blanchard Jerrold,** 1826–84, author of several plays and novels, of articles in support of the Union cause in the American Civil War, and of biographies of his father (1859), Napoleon III (1874-82), and George Cruikshank (1882) See Walter Jerrold, *Douglas Jerrold and Punch* (1910) and *Douglas Jerrold, Dramatist and Wit* (1914)

Jersey, island (45 sq mi , pop 50,462), in the English Channel, largest of the CHANNEL ISLANDS It is 15 mi from the Normandy coast and SE of Guernsey St Helier, the capital, is on St Aubin's Bay The mild climate (plants requiring subtropical conditions grow without protection), the moderate rainfall (30–35 in), and the scenery have contributed to make Jersey, like other Channel Islands, a vacation resort The soil is generally good, and large quantities of vegetables (especially potatoes and tomatoes) and fruits are raised, cattle raising and dairying (Jersey cattle) are important Fishing and the quarrying of granite are other industries The inhabitants are mostly of Norman descent English, French, and local dialects are spoken

Jersey cattle, breed of dairy cattle, originated on, and still imported from, the island of Jersey The breed has been kept pure for a long time With the Guernseys, they are included in the Channel Island breeds One of the smallest of the dairy breeds, they are not the greatest milk producers in quantity, but their milk has the highest percentage of butter fat They were first brought to America c 1850 Present-day Jerseys range in color from tan to very dark brown, and some are creamy white, yellowish, or gray They may be solid colors or variously marked

Jersey City, commercial and industrial city (pop 301,173), co seat of Hudson co , NE N J , on the peninsula between the Hackensack river and Newark Bay (on the west) and New York Bay (on the east), opposite lower Manhattan, with which it is connected across the Hudson by ferry, the Holland Tunnel (vehicular), and subway It is an important railroad and steamship terminal and produces packed meat, ink, and chemicals This area was acquired by Michiel Pauw in 1630 as a patroonship called Pavonia Here the Dutch established as trading posts Paulus (Powles) Hook (connected by ferry with Manhattan c 1764), Communipaw, and Horsimus (first permanent settlement in New Jersey and seat of Pavonia's first governor). The fort at Paulus Hook was captured by Light-Horse Harry Lee under Washington's plan, Aug 19, 1779 Bergen, near by, also associated with Washington and the Revolution, was a stockaded Dutch village dating from before 1620, it had the first municipal government in New Jersey (1661), the first church (1660, Dutch Reformed), and the first school (1662), on a site which has been continuously occupied by a school building The town of Jersey, incorporated in 1804, became Jersey City in 1836, it included Bergen and to it were added Hudson City and

Greenville All these communities were amalgamated to form the present Jersey City, second only to Newark in size in the state Frank HAGUE was Democratic boss of New Jersey His differences with the C I O and the American Civil Liberties Union came to court in 1938, the U S Supreme Court in 1939 voided Jersey City's laws curbing civil liberties The city's public library (1889) and modern medical center are of high rank It has a Jesuit college and a state teachers college J E Fraser designed the Lincoln statue (1929) in Lincoln Park, and Philip Martiny the war memorial

Jersey Homesteads see HIGHTSTOWN, N J

Jersey Shore, borough (pop 5,432), N central Pa, on the Susquehanna and W of Williamsport, settled 1785, inc 1826 Farms in this region produce a red-kernel corn which makes excellent ensilage The town has a textile mill

Jerseyville, city (pop 4,809), co seat of Jersey co, W Ill, northeast of the junction of the Illinois with the Mississippi, platted 1834, inc 1855 It is a shipping and trade center in a fruit and farm area

Jerubbaal (–rŭ'bāul, –rubā'ul) see GIDEON

Jerubbesheth (jĕrŭ'bĕshĕth) see GIDEON

Jeruel (jĕr"ŭ'ĕl) [Heb, =founded by God], unidentified place, W of the Dead Sea 2 Chron 20 16

Jerusalem, Arabic *El Kuds,* city (pop c 170,000), Palestine It is built on the ridge (2,500 ft high) lying west of the mouth of the Jordan, and it is c 35 mi SE of Jaffa, its main seaport It is the holy city of Jews and Christians and one of the shrines of Islam Jerusalem, often under the name of ZION, figures familiarly in Jewish and Christian literature as a symbol of the capital of the Messiah and the prototype of the heavenly city The eastern part of Jerusalem is the Old City, a quadrangular area built on two hills and surrounded by a wall built (1542) by Suleiman I (Suleiman the Magnificent) Within the wall there are four quarters The Moslem quarter, on the east, contains a sacred enclosure, the Haram esh-Sherif, within which, built on the old Mt MORIAH, are the striking Dome of the Rock, or Mosque of Omar, and the Mosque of Aksa The wall of the Haram incorporates the only extant piece of the western wall of the Temple of Solomon (see TEMPLE), this, the Wailing Wall, is a holy place of the Jews Hard by is the Jewish quarter, with several famous old synagogues, mostly destroyed in the bitter fighting in 1948 To the west is the Armenian quarter The Christian quarter occupies the northwestern part of the Old City Its greatest monument is the Church of the HOLY SEPULCHER Through the area runs the Via Dolorosa, where Jesus is said to have carried his cross The New City extends west and southwest of the Old City and has largely developed since the 19th cent There are numerous Christian and Jewish institutions, many of them educational, notably the Palestine Archaeological Museum To the east of the Old City is the valley of the KIDRON, across which lie the Garden of GETHSEMANE and the Mount of OLIVES To the north is Mt Scopus, a Jewish intellectual center, with the Hadassah Medical Center, the National Library, and the HEBREW UNIVERSITY To the west and south of the Old City runs the Valley of HINNOM, this meets the Kidron near the pool of SILOAM, which, just S of the Haram, is next to the site of the original city of Jerusalem, now excavated and called the City of David (see OPHEL) The love for identifying historical sites is characteristic of Jerusalem and of all the Holy Land, and every where there are spots purportedly connected with events in the lives of Jesus and of many other holy persons, for every recorded event of sacred story one or more locations are shown Hence there are churches and shrines innumerable The traditional identifications vary in reliability from certainty (e g, Gethsemane) to pious supposition (e g, the Tomb of the Virgin) The most famous identification is that of CALVARY Jerusalem is at least as old as the 15th cent B C It is first mentioned in the Bible (except for a possible allusion in the Salem of Gen 14 18) as Jebus, fortress of the Jebusites David captured it and walled the city, and Solomon built the Temple on Mt Moriah From then Jerusalem became the spiritual and political capital of the Hebrews Sharing their vicissitudes, it fell in 586 B C to the Babylonians and was restored under Ezra, it was the capital of the Maccabean house, then of the Herods (see HEROD), and it was favored by Herod the Great The Roman emperor Titus ruined the city and destroyed the Temple (A D 70) to punish and discourage the Jews After the revolt of BAR KOKBA the Romans rebuilt the city as a pagan shrine, called Aelia Capitolina, but forbade the Jews to live on the site With the imperial toleration of Christianity, Jerusalem underwent a revival, greatly aided by St HELENA, who sponsored much building in the 4th cent, ever since her time it has been a world pilgrimage spot The Moslems, who believed the city was visited by Mohammed, treated Jerusalem well when it fell into their hands in 637, and it became their chief shrine after Mecca In the 11th cent. the Fatimites began to molest Christian pilgrims, their destruction of the Church of the Holy Sepulcher helped bring on the CRUSADES. Jerusalem fell to the Crusaders in 1099, and for most of the 12th cent it was the capital of the Latin Kingdom of Jerusalem In 1187 the Moslems under Saladin returned. The Mamelukes were perhaps the chief Moslem benefactors of the city, and later Suleiman the Magnificent favored it The 19th cent saw two decisive changes—a great revival of Christian pilgrimage, with consequent building of churches, hospices, and institutions, and the beginning of large-scale Jewish immigration into the city Jerusalem, which fell to Allenby in Dec, 1917, became the capital of the British mandate of Palestine, it was by then preponderantly Jewish in population and European rather than Oriental in type As the time approached for ending the mandate, the Arabs and the Jews were both determined to hold Jerusalem Christian opinion for the most part was strongly in favor of creating a free city safe for all religions This view prevailed in the United Nations, which, in partitioning Palestine into Arab and Jewish states, declared that Jerusalem and the environs (including Bethlehem) would be an internationally administered enclave in the projected Arab state Even before the partition went into effect (May 14, 1948), fighting between Jews and Arabs broke out in the city After the partition the Jewish community, cut off from Israel, battled forces chiefly belonging to the Arab Legion of Jordan On May 28 the Jews in the Old City surrendered The New City was still held by Jews, and with the arrival of Israeli relief forces in July the battle was over except for sporadic disorders Israel announced in Nov, 1949, that it would retain the area it held, and after the UN General Assembly nevertheless reaffirmed the decision to place Jerusalem under the Trusteeship Council, Israel responded on Dec 14 by making the city the national capital The Old City, along with all areas in the hands of the Arab Legion was annexed to Jordan in April, 1949 See L H Cust, *Jerusalem* (1924), James Baikie, *Ancient Jerusalem* (1930)

Jerusalem, Latin Kingdom of, feudal state created in Syria and Palestine by the leaders of the First Crusade (see CRUSADES) In 1099, after their capture of Jerusalem, the Crusaders chose GODFREY OF BOUILLON king, he declined the title, preferring that of advocate of the Holy Sepulcher, but with his election the kingdom may be said to have begun His brother and successor, BALDWIN I, took the royal title He and his successors were nominal overlords over the principality of Antioch and the counties of EDESSA and TRIPOLI, which, with the royal domain of Jerusalem, constituted the great fiefs of the kingdom Jerusalem itself contained the counties of JAFFA and ASHKELON, the lordships of KRAK, Montreal, and Sidon, and the principality of Galilee Coming into existence during the height of feudalism, the kingdom was created on the purest forms of feudal theory The kingship was elective, and the Assises of Jerusalem, the law of the country, reflected the ideal feudal law In practice, however, irregularities soon appeared, and the kings actually were chosen on dynastic considerations The great feudal lords rarely felt bound to their overlord in the chronic struggles of the Latins among themselves and with the Mamelukes of Egypt, the Seljuk Turks, and the Byzantine emperors The rise of the great military orders, the KNIGHTS TEMPLARS and the KNIGHTS HOSPITALERS, further undermined the royal authority Edessa, captured by the Seljuks in 1144, was the first Latin state to fall to the infidel The subsequent Crusades did not halt the Moslem advance, and in 1187 Jerusalem itself fell to Sultan SALADIN after his victory at Hattin What remained of the Latin state was virtually destroyed by the complete rout of the Christians in the battle of Gaza (1244) The Crusades of Louis IX of France and Edward I of England were failures, and in 1291 Acre, the last Christian stronghold, fell The kings of Jerusalem of the house of Bouillon were Baldwin I (1100–1118) and BAIDWIN II (1118–31) The crown then passed to the ANGEVIN dynasty, beginning (1131) with FULK and ending (1186) with BALDWIN V Though it became an empty title, the kingship of Jerusalem continued nominally until the 20th cent On Baldwin V's death the title passed to the four successive husbands of Isabella, daughter of Amalric I GUY OF LUSIGNAN, CONRAD, marquis of Montferrat, Henry, count of Champagne, and AMALRIC II, king of Cyprus In 1210 JOHN OF BRIENNE received the title, which passed (1225) to his son-in-law, Emperor FREDERICK II From Frederick's death (1250) the title was borne by various families who had a claim, notably the kings of Cyprus, the Angevins, and the houses of Lorraine and Savoy The struggles of the Latin nobles of Jerusalem against the Saracens have furnished the material for many chivalrous romances in subsequent ages, particularly for the poets of Renaissance Italy For bibliography, see CRUSADES

Jerusalem artichoke, tuberous-rooted perennial sunflower (*Helianthus tuberosus*) native to North America but widely cultivated. The tubers are somewhat potatolike but starchless and have the flavor of an artichoke, they are grown for human food, stock feed, and as a source of inulin, from which levulose sugar may be obtained. The tubers are not injured by frost when left underground for the winter. Jerusalem artichokes were cultivated by American Indians before the arrival of Columbus. Early in the 17th cent they were cultivated in Europe—in Italy as *girasole* [turning toward the sun], which in English became *Jerusalem.*

Jerusalem cherry see NIGHTSHADE

Jerusalem thorn, name for various plants, particularly the CHRIST'S-THORN

Jerusha or Jerushah (both jĕrōō'shŭ) [Heb, =possessed], mother of King Jotham of Judah 2 Kings 15 33, 2 Chron 27 1

Jervaulx (jär'vō, jär'–), village, North Riding of Yorkshire, England, NW of Ripon Near it are ruins of a Cistercian abbey which was founded in 1156 and was dismantled after the execution of the last abbot in 1537

Jervis, John, earl of St Vincent (jär'vĭs, jŭr'–), 1735–1823, British admiral His most famous action as commander of the Mediterranean fleet was his defeat of 27 Spanish ships off Cape St Vincent (1797) with only 15 vessels The victory was largely due to an unauthorized attack by Horatio NELSON and might have been more complete had Jervis realized the weakness of the enemy It destroyed a threat of the invasion of England, and Jervis received a peerage and pension As first lord of the admiralty (1801–6), Jervis vigorously attacked abuses, then returned to a sea command (1806–7) until his health failed See biographies by W N Anson (1913) and O A Sherrard (1933)

Jervis, John Bloomfield (jŭr'vĭs), 1795–1885, American civil engineer and railroad builder, b Huntington, N Y He helped to build the Erie Canal and the Delaware and Hudson Canal While serving as chief engineer of the Mohawk & Hudson RR, he had the West Point Foundry build, according to his specifications, the *Experiment* (1832), the fastest locomotive constructed up to that time and the first to have a special four-wheel swivel truck for the forward end, Jervis's chief contribution to locomotive design In 1836 he became chief engineer of the Croton Aqueduct, which supplies water to New York city He was chief engineer (1847–50) in the construction of the Hudson River RR between New York and Poughkeepsie and in the next 10 years was connected in a similar capacity with the Michigan Southern and Chicago & Rock Island railroads, as well as serving others as a consulting engineer He was one of the ablest and most eminent of early American engineers Besides many reports and pamphlets, he wrote *Railroad Property* (1861) and *The Question of Labour and Capital* (1877) Port Jervis, N Y, is named for him

Jervis Bay (jär'vĭs), inlet of the Pacific, E New South Wales, Australia, sheltered by Bowen Island and two small peninsulas The harbor and a portion (28 sq mi) of the south peninsula were transferred to the commonwealth by New South Wales in 1915 for a port to be connected by rail with Canberra, 85 mi inland, in the Australian Capital Territory The Royal Australian Naval College at Captain's Point on the south shore was removed to Flinders naval base in Victoria in 1930 The area has summer resorts

Jesaiah (jēsā'yu) [Heb, =God saves] **1** Descendant of Zerubbabel 1 Chron 3 21 **2** Benjamite ancestor of Sallu Neh 11 7

Jeshaiah (jĕshā'yu) [Heb, =God saves] **1** Chief singer 1 Chron 25 3, 15 **2** Tribal chief accompanying Ezra Ezra 8 7 **3** Descendant of Moses 1 Chron 26 25 Isshiah Chron 24 21 **4** Merarite who returned with Ezra Ezra 8 19

Jeshanah (jē'shunu, jĕshā'nu) [Heb, =ancient], town, probably N of Jerusalem 2 Chron 13 19

Jesharelah (jĕshurē'lu), the same as ASARELAH

Jeshebeab (jĕshē'bēăb), chief priest of David 1 Chron 24 13

Jesher (jē'shur), Caleb's son 1 Chron 2 18

Jeshimon (jĕshī'mŏn) [Heb, =waste], unidentified landmark, S Palestine Num 21 20, 23 28, 1 Sam 23 19,24, 26 1,3

Jeshishai (jĕshī'shā) [Heb, =child of one's old age], ancestor of Gaddites of Gilead 1 Chron 5 14

Jeshohaiah (jĕshōhā'yu), chief of a Simeonite family 1 Chron 4 36

Jeshua or **Jeshuah** (both jĕ'shūu) [Heb, =God helps] **1** See JOSHUA **2** See JOSHUA **2** **3** Head of a postexilic family Ezra 2 6, Neh 7 11 **4** Priestly family 1 Chron 24 11, Ezra 2 36, Neh 7 39 **5** Head of a Levitical family Ezra 2 40, 3 9, Neh 10 9, 12 8 **6** Levite 2 Chron 31 15 **7** Unidentified town, S Palestine Neh 11 26

Jeshurun (jĕshū'rŭn), affectionate name for Israel. Deut 32 15, 33 5,26 Jesurun Isa 44 2

Jesiah (jē'sī) [Heb, =God lends] **1** Ally of David at Ziklag 1 Chron 12 6 **2** See ISSHIAH

Jesimiel (–sĭm'–), Simeonite chief 1 Chron 4 36

Jespersen, Otto (ō'tō yĕ'spursun), 1860–1943, Danish philologist Professor of English language and literature at the Univ of Copenhagen and later rector there, he first earned a name for brilliant work in phonetics and later wrote widely known books on the English language and linguistics in general, notably *A Modern English Grammar on Historical Principles* (in parts, 1909–31), *Language* (1922), *Philosophy of Grammar* (1924), and *Analytic Syntax* (1937).

jessamine: see JASMINE.

Jesse (jĕ'sē), father of David the king He was a Judahite of Bethlehem. His name came to symbolize the royal family and the Messianic hopes involving it Ruth 4.17–22, 1 Sam 16 1–18; 17 12, 58, 1 Chron. 2 12,13, Isa 11 1,10, Mat. 1 5,6, Luke 3 32 Christian symbolism used Jesse in OT figures, calling Jesus Jesse's Rod and the Virgin Mary Jesse's Root Thus also medieval artists represented Jesse at the beginning of the family tree of Jesus, e g , in the Jesse window (as at Dorchester, England, and Beauvais, France), a favorite device in stained glass. See Henry Adams, *Mont-Saint-Michel and Chartres*

Jessup, Philip Caryl, 1897–, American authority on international law, b New York city, grad. Hamilton College, 1919, LL B Yale, 1924, Ph D Columbia 1927 He was admitted (1921) to the bar, and after 1925 he taught international law and diplomacy at Columbia Univ Jessup served (1924–25) as assistant solicitor in the Dept of State, assisted (1929) Elihu Root at the Court of International Justice at Geneva, and was (1943) chairman of the foreign relief and rehabilitation office in the Dept of State Later he was (1943–44) assistant secretary general of UNRRA and a delegate (1944) at the Bretton Woods monetary conference Then he served (1948) in the UN General Assembly He became (1948) U S delegate on the UN Security Council, took a leading part in the UN debate on the Berlin blockade, and was appointed (Feb , 1949) by President Truman as ambassador at large He wrote *The United States and the World Court* (1929), *International Security* (1935), *Today and Tomorrow* (1936), and a biography of Elihu Root (1938).

jester: see FOOL

Jesu (jē'sū), the same as ISUI

Jesuit: see JESUS, SOCIETY OF

Jesuit Estates Act, adopted in 1888 by the Quebec legislature, partly to indemnify the Society of Jesus for Jesuit property confiscated during the period after the suppression of the society by Pope Clement XIV. It caused a violent controversy in Canada, and a successful motion was made in the Canadian House of Commons to veto the Quebec legislation.

Jesuit Martyrs of North America, designation for six Jesuit missionaries and two assistants—Jean de BRÉBEUF, Noel CHABANEL, Antoine DANIEL, Charles GARNIER, René GOUPIL, Isaac JOGUES, Jean LALANDE, and Gabriel LALEMANT They were beatified in 1925 and canonized in 1930 for having suffered martyrdom (1648–49) at the hands of the Iroquois There is a shrine at Auriesville, N Y. Feast Sept 26 or (among the Jesuits) March 16 See J. J. Wynne, *The Jesuit Martyrs of North America* (1925)

Jesuit Relations, reports and narratives written by French Jesuit missionaries at their stations in New France They are invaluable as historical sources for French exploration and Indian relations and also as a record of the various Indian tribes of the region before white influence had changed them Published originally in Paris in annual volumes, they were translated and edited by R G Thwaites (73 vols , 1896–1901) A one-volume selection, edited by Edna Kenton, appeared in 1925 See bibliography by J C McCoy, *Jesuit Relations of Canada, 1632–1673* (1947)

Jesup (jĕs'up), town (pop 2,903), co seat of Wayne co., SE Ga., near the Altamaha river SW of Savannah, inc 1870 It is a trade center for an area yielding farm products, naval stores, and lumber.

Jesurun (jĕsū'rŭn), variant of JESHURUN

Jesus or Jesus Christ. The name *Jesus* is Greek for the Hebrew *Joshua*, a name meaning *Savior; Christ* is a Greek translation of the Hebrew *Messiah*, meaning *Anointed*. The primary sources for the life of Jesus are the four Gospels of Matthew, Mark, Luke, and John and the epistles of the New Testament (see GOSPEL, MATTHEW, GOSPEL ACCORDING TO SAINT, JOHN, epistles, CORINTHIANS, epistles, etc.). The first three Gospels are chronological biographies, the last a biography in essay form, hence the first three harmonize, with variation of detail, while the fourth uses an order suitable to its purpose. The Gospels are in Greek, the language of Palestine having been Aramaic. There are a few contradictions between one Gospel and another, the most important bearing on the date of the Last Supper, which the first three place on the first day of Passover, while John places it before the feast. The epistles, mostly written contemporaneously with the Gospels, add other details. There are brief references to Jesus in non-Christian writers of the period, especially in Tacitus, Suetonius, Philo (perhaps interpolated), and Josephus. The interest of these writers is not in Jesus, but in the Christians. Second-century Christian writers furnish material, some undoubtedly reliable. The apocryphal gospels and the traditional sayings of Jesus are quite unreliable The study of the historicity of Jesus had until the end of the 19th cent been impeded by two facts: his followers assumed his historicity and regarded study of it as superfluous; others assumed the Gospels to be a tissue of myth and refused to apply to the study of his life such canons as were applied to the study of Mohammed Jesus was born of MARY, wife of Joseph, a carpenter of Nasareth, Galilee, who had brought his wife to Bethlehem, his ancestral home, for the Roman tax-census The Christian era is computed according to a 6th-century reckoning to begin with Jesus' birth, A D. 1. The date is placed several years too late, for Jesus was probably born between 8 B C and 4 B C The month and day are unknown, CHRISTMAS (Dec. 25) was set as the feast several centuries later. According to the Gospels, wonderful events surrounded the birth of Jesus, especially its announcation by an angel to MARY (Mat 1 18–25, Luke 1 26–56) In accordance with Jewish law Jesus was circumcised, his mother was purified, and he was confirmed at the end of his boyhood (Luke 2 21–52) Jesus lived at a critical period in Jewish history The Jews were restive under Roman rule as administered by the corrupt house of HEROD, the Temple and the religion were under the control of a party allied with the Herodians, and the provincials of Galilee and Judaea, always eager for the Messiah, looked for an immediate deliverance from Roman control The Pharisees and scribes ruled Judaism, scorning their zealous countrymen and upholding the letter of the law Some time before A D 30 an ascetic preacher made a stir in the Jordan valley by his call to repentance to prepare for the Messiah This was JOHN THE BAPTIST Among those he baptized was his cousin Jesus. Jesus went from his baptism into solitude, thence to emerge on his three-year mission He was about 30 at this time (Mat 3, 4, Mark 1, Luke 3, 4, John 1) Jesus went about as a wandering rabbi, accompanied by a little band of disciples (see APOSTLE) depending for their few needs largely on the charity of the people The first and principal part of Jesus' mission was spent in Galilee, where he was at home with the poor provincials. He left Palestine to go northward apparently twice He made a sensation in the country, his extraordinary powers (see MIRACLE) had become famous, and his PARABLES made him better understood His uncompromising demands on his hearers, his bitter attacks on Pharisees and scribes, and his obvious preference for the company of social outcasts and the oppressed increased the popular enthusiasm The simple and pious saw in him a prophet of God, and the revolutionary ZEALOTS, a future king At the end of three years he set out with his disciples for Jerusalem for the Passover Jerusalem was like a tinderbox at this feast of Jewish independence, it was crowded with excited Jews from everywhere and with Roman soldiers brought for the feast by their governor, PONTIUS PILATE Jesus' arrival before the Passover was marked by an outburst of Messianic enthusiasm, well calculated to alarm the persons in power Then, a day or so later, Jesus created a scene in the Temple by beating the usuring money-changers. The clique in power, whom he consistently upbraided, now felt they had to deal not only with a revolutionary preacher, but a violent reformer as well So they induced one of his companions, JUDAS ISCARIOT, to betray him Jesus ate a farewell supper with his disciples and went out of the city to pray in the garden of Gethsemane (the Agony) There he was arrested. He was rushed to trial before the ecclesiastical court of the Sanhedrin Jesus' claims to be the Messiah and the Son of God convicted him of blasphemy, a crime in Jewish law worthy of death The Roman governor alone could order a man's death. Pontius Pilate tried to evade action, but, without the encouragement of Herod Antipas, he dared not brave popular opinion He yielded and delivered Jesus to be crucified, he put on the cross a sign reading, "Jesus of Nazareth, King of the Jews " So Jesus died and was buried, deserted by all but his mother and a few friends, and the Roman and Jewish powers were rid of him But the Gospels do not leave Jesus in his grave On the first day of the week, some of the women going to the tomb found it opened and the body of Jesus gone An angel at the tomb told them that he had risen from the dead Soon they saw him and talked with him, and his disciples met him, and many others as well (Mat 28, Mark 16, Luke 24, John 20, 21, 1 Cor 15 3–8) The Gospels end at this point, but the book of Acts (by Luke) tells how, 40 days after the resurrection, he ascended into heaven in the sight of his disciples. In orthodox theology, Jesus is God made man, the second person of the TRINITY, whose incarnation was foretold by the prophets, he was born of Mary, a virgin, was crucified to make ATONEMENT to God for man, and was buried, he rose from the dead and ascended into heaven, and he shall come again with glory to judge the living and the dead, and he founded, through his disciples, the Church to continue his work on earth The Christian calendar revolves around the life of Jesus, his principal feasts are (in the Western Church) the Annunciation (March 25), Christmas (Dec. 25) with its preparation in ADVENT, the Circumcision (Jan. 1), the EPIPHANY (Jan 6), CANDLEMAS (Feb. 2), and the Transfiguration (Aug 6). The EASTER cycle of movable feasts and fasts begins with LENT, which ends in HOLY WEEK, after Easter comes the Ascension Sunday is the Christian weekly memorial of the Resurrection, and among Catholics and Orthodox, Friday commemorates the Crucifixion In CHRISTIANITY, split as it is in many parts, and held with many different minds, two constant, vigorous facts may be observed: the inspiring nature of the Gospels, and the consciousness of the reality of Jesus Biographies of Jesus are innumerable The following are examples Ernest R. Glover, *The Jesus of History* (1917, critical Protestant), Frederic W Farrar, *The Life of Christ* (1874, conservative Protestant), Alban Goodier, *The Public Life of Our Lord Jesus Christ* (1930, Roman Catholic) The following are interpretative Ernest Renan, *The Life of Jesus* (Eng tr , 1864, 19th-century rationalist), Sholem Asch, *The Nazarene* (Eng tr., 1939, Jewish), François Mauriac, *Life of Jesus* (Eng tr., 1937, Roman Catholic). **Jesus in art** Every recorded incident in the life of Jesus has been the inspiration of some mosaicist, ivory carver, goldsmith or silversmith, sculptor, or engraver, from the earliest representations (in the CATACOMBS) to the most modernistic portrayals Early Christians often represented him as the *Good Shepherd* carrying a lamb The figure of Christ appears most often with the MADONNA in the *Nativity* (Rossellino, Luni, Hugo van der Goes), *Adoration of the Shepherds* (Ribera), *Adoration of the Magi* (Mantegna, Botticelli, Dürer), *Holy Family* (Sodoma, Michelangelo, Andrea del Sarto), *Flight into Egypt* (Bramantino), *Repose in the Flight* (Correggio, Dosso Dossi, Dürer). Other scenes frequently depicted are *Circumcision* (Cosimo Tura), *Christ among the Doctors* (Borgognone, Bramantino, Veronese, Perugino), *Baptism* (Verrocchio), *Washing of Feet* (Tintoretto), *Transfiguration* (Raphael and Giulio Romano), *Last Supper* (Leonardo da Vinci, Titian, Tintoretto), *Agony in the Garden* (El Greco, Correggio, Mantegna, Perugino), *Betrayal* (Giotto), *Christ before Pilate* (Duccio), *At the Column* (Bramante, Antonello da Messina), *Crowning with Thorns* (Tiepolo), *Calvary* (Mantegna), *Crucifixion* (Nicola Pisano, Fra Angelico, Velásquez, Rubens), *Descent from the Cross* (Giotto, Fra Angelico, Roger van der Weyden, Rubens), *Deposition* (Titian), *Pietà* (Francia, Bellini, Michelangelo, Van Dyck), *Entombment* (Titian, Francia, Raphael), *Ascension* (Tintoretto) Other celebrated pictures are *Marriage at Cana* (Perugino), *Miracle of the Loaves and Fishes* (Tintoretto), *Healing the Blind* (Duccio di Buoninsegna), *Resurrection of Lazarus* (Tintoretto, Froment), *Christ and the Adulteress* (Lorenzo Lotto, Palma Vecchio), *Tribute Money* (Masaccio), *Christ and Magdalen* (Albertinelli), *Incredulity of Thomas* (Duccio), *Among the Lowly* (Lhermitte), *Christ at Emaus* (Jacopo Bassano, Tiepolo), *Ecce Homo* (Correggio, Sodoma, Guido Reni)

Jesus. 1 Son of Sirach, author of ECCLESIASTICUS 2 or **Jesus Justus,** converted Jew in Rome Col 4 11 3 Hero of the book of JOSHUA

Jesus, Society of, religious order of the Roman Catholic Church Its members are called Jesuits (jĕz'wĭts, -ūĭts, jēzh'-) The founder, St IGNATIUS OF LOYOLA, named it *Compañía de Jesús* (Span ,= (military) company of Jesus), and it is in Latin *Societas Jesu* It is the largest single religious order It is governed according to a constitution never permanently altered since St Ignatius's death The order is divided geographically, at its head is the general, who lives in Rome Jesuits have no choral office, they are individually under the obligation of all the clergy to recite the divine office daily. They have no distinctive habit In principle they may accept no ecclesiastical office or honor The training of a Jesuit is rigorous As a novice he spends two years in spiritual training, at the end of which he takes the three vows of the regulars—chastity, poverty, and obedience. Now a scholastic, he spends five years of study in arts and sciences, five years of teaching, three years of theological study, and a year of spiritual training like the novitiate, in the course of this time he is ordained He is now a coadjutor, or he may continue further training and, having renewed his vows and taken a vow of special obedience to the pope, become professed Among the persistent fictions circulated about the Jesuits are that their organization and constitution are secret, that there are secret male and female lay affiliates of the order; that they have received special spiritual privileges from the pope, especially as to the confessional, excommunication, and dispensing of sins (the Roman Catholic Church knows no such thing as a dispensation of sin); that they have special doctrines such as that "the end justifies the means", that they allow equivocation as a policy, that an aim of the society is political revolution; and that they are more independent of the pope than other Roman Catholics. There were and are many far more ridiculous charges made against the Jesuits than these. Of the accusations against them which are not so baseless the following are most important: that the Jesuits were given to intrigue and that they engaged in commerce. Their much discussed laxity with penitents is de-

batable, for their reform of confessional practice is essential to modern Catholic life As to their fidelity to their vows, no other order has presented over four centuries such a spectacle of purity and zeal. St Ignatius originally had the idea of a limited band working in the Holy Land to convert the Moslems. On Aug. 15, 1534, St. Ignatius and six companions took vows in a chapel on Montmartre, Paris, these six were St FRANCIS XAVIER, Diego LAINEZ, Alfonso Salmerón, Nicolás Bobadilla (Spaniards), Simón Rodrigues (Portuguese), and Peter Faber (Savoyard) After their studies were over, the little group, augmented by four, went to Italy, where they were ordained and received by the pope They were unable because of the war in progress to ship for the Holy Land, so they went to Rome and put themselves at the disposal of the pope, who set them to work in Italy, apparently to oppose the influence of the Reformation It is sometimes said that the Jesuits were originated to combat the Reformation, but this is erroneous Their constitution was submitted to Paul III in 1539 and approved (1540), and in 1541 St Ignatius was elected general The Jesuits began to expand remarkably at once They have distinguished themselves in three principal fields—the foreign missions (see MISSIONS), the schools and missions of Europe, and in their study of the sciences and the humanities One of the most brilliant of all foreign missionaries was St Francis Xavier, his work in the East was continued by a host of Jesuits The mission in Japan was washed out in blood in the early 17th cent., but in 1865 a number of Christians were found in Japan, descendants of these martyrs The most distinguished early figures of the Chinese mission were Fathers Matteo Ricci, Adam Schall, and Ferdinand Verbiest in the 17th cent., a characteristic of their mission was their popularity at court, where they were revered as men of wisdom and science There were persecutions and martyrdoms, but the original Jesuit foundation is the nucleus of the Catholic Church in the country The Indian mission began under the aegis of the Portuguese in Goa, whence it spread over the country, one of the most remarkable Jesuits in this mission was Robert de' Nobili, who, after arduous asceticism and studies, succeeded in gaining equality with the Brahmans The American missions of the Jesuits were original and heroic The most remarkable were in PARAGUAY The Jesuits worked all over Latin America, among their devoted number was St Peter Claver, friend of the Negro slaves In New France the Jesuits came frequently into rivalry with the government and the other clergy, their missions among the Huron were especially successful, and they made headway among the Iroquois The "Black-Robes," as the Indians called them, traveled even to Oregon Some of the Jesuits died as martyrs for their faith, six of them have been canonized together, with two of their lay helpers, as the Jesuit Martyrs of North America (feast Sept 26) Jean Brébeuf, Isaac Jogues, Antoine Daniel, Gabriel Lalemant, Charles Garnier, and Noel Chabanel, priests, and René Goupil and Jean Lalande, they were killed in the 1640s Other important Jesuits of New France were the Lalemant brothers, uncles of the martyr, and, in a younger generation, the Fathers Albanel, Allouez, Lamberville, and Marquette Of all these men the great monument is the JESUIT RELATIONS The suppression of the order in Canada in 1791 and later readmission as a teaching order led to the JESUIT ESTATES ACT In Europe two big problems the Jesuits attacked were to reclaim Protestant Europe for the Church and to raise the spiritual tone of the Catholic countries The principal Protestant fields where the Jesuits labored successfully were W and S Germany, France, Hungary, and Poland In nearly every important city the Jesuits established schools and colleges, and for 150 years they were leaders in European education One of their boldest efforts was the English mission of 1580, distinguished by Edmund CAMPION Another celebrated English Jesuit was Robert Southwell Their zeal and consistent devotion to the Holy See made the Jesuits active promoters of the reform movement (see REFORM, CATHOLIC) from the start, they thus soon fell afoul of ecclesiastical vested interests in every Catholic state. Written polemic against them became important in France, with PASCAL and the Jansenists, whose works exaggerated, misquoted, and—apparently deliberately—misrepresented them. The Gallican party in France, being antipapal, was naturally anti-Jesuit. In Spain the order proved too strong for the kings, who wished to bring it, like the other church institutions, firmly under state control Through the 17th cent the papacy was losing in its struggle with the Catholic rulers for liberty, and by 1700 the Jesuits were the only element in the Church the popes could depend on. Before the middle of the century a combination of publicists (including Voltaire) and the absolute monarchs of Catholic Europe began a campaign to destroy the Jesuits. The Jesuits were not prudent and even got involved in a big commercial scandal The charges against them were innumerable, and not all sincere; e.g., some who most deplored the Jesuits as harmful to the Church were notorious anti-Catholics, and the French made much of Jesuit laxity when they knew that the Jesuits had gained their most powerful enemy in France, Mme de Pompadour, by refusing her absolution In 1759 POMBAL expelled them from Portugal and her colonies, in 1764 France suppressed them, and in 1767 the Spanish dominions were closed to them Clement XIII denounced these acts, but in 1773 Clement XIV, under the coercion of the Bourbon monarchs and of some of his own cardinals, dissolved the order The Society of Jesus ceased to exist in the Catholic world Frederick the Great and Catherine the Great refused to publish the brief suppressing them, and since publication of the brief was necessary to validate it, the Jesuits continued to exist in Prussia and Russia, especially as educators In Russia they were very popular and in high favor with the empress As the century drew to a close Catholic Europe, especially Italy, began to ask for restoration of the Jesuits, and in 1814 Pius VII reestablished them as a world order Since then the Jesuits have resumed their place in the Church, and since then neither of the old charges of intrigue and commercialism have been substantiated Anti-Catholic hostility is directed especially against the Jesuits, thus they are apt to be the first order to be suppressed when a state begins action against the Church (e.g., in France in 1880 and in Spain in 1931) Americans have been important in the order At the end of the American Revolution nearly all U.S. Catholic priests were ex-Jesuits There are many Jesuit schools and colleges in the United States, (e.g., Georgetown, Fordham, and St Louis universities) The order has a tradition of learning and science, e.g., the Bollandists are Jesuits, and Jesuits have made a specialty of the study of earthquakes Among the great organizers and theologians of the order are St Francis Borgia, Aquaviva, Bellarmine, Molina, and Francisco Suárez See T. J. Campbell, *The Jesuits, 1534–1921* (1921), Thomas A. Hughes, *History of the Society of Jesus in North America* (2 vols., 1907–17), John J. Wynne, *The Jesuit Martyrs of North America* (1925), James J. Walsh, *American Jesuits* (1934), Gilbert J. Garraghan, *The Jesuits of the Middle United States* (1938)

Jesus College see CAMBRIDGE UNIVERSITY and OXFORD UNIVERSITY

Jesus Island see ÎLE JÉSUS

jet, black variety of LIGNITE It is compact and homogeneous, takes a good polish, and is easily worked, being made into beads and other ornaments The chief source of the world's supply is Yorkshire in England, though commercially valuable deposits exist in several countries, among them the United States, Spain, France and Germany Imitations of jet include anthracite, black glass, and black quartz

Jether (jē'thur) **1** Eldest of Gideon's sons He was killed by his brother Abimelech Judges 8 20, 9 **2** Husband of David's sister Abigail 1 Kings 2 5, 32, 1 Chron 2 17 Ithra 2 Sam 17 25 **3, 4** Judahites 1 Chron 2 32, 4 17 **5** Descendant of Asher 1 Chron 7 38 See ITHRAN **1**

Jetheth (jē'thĕth), duke of Edom and descendant of Esau Gen 36 40, 1 Chron 1 51

Jethlah (jĕth'lu), unidentified town of Dan, NW of Jerusalem Joshua 19 42

Jethou see CHANNEL ISLANDS

Jethro (jĕth'rō) [Heb.,=preeminence], Midianite priest of the peninsula of Sinai who was the companion and father-in-law of Moses Ex 2.21, 3 1, 4 18, 18 Reuel Ex 2 18 Raguel Num 10 29 Hobab Judges 4 11 Hobab is given once as the name of a brother-in-law of Moses Num 10 29.

jet propulsion, the propelling force directionally opposite to a mass of gas expelled under high pressure Forward "thrust" is generated by large volumes of gas seeking to escape rearwardly following combustion in the chamber of a jet engine Whatever the form of the apparatus utilizing jet propulsion, it is essentially a reaction motor and is based on Newton's third law of motion, that every action has an equal and contrary reaction The first reaction engine, the "aeolipile," was constructed by HERON OF ALEXANDRIA Developments across the centuries have resulted in two general types of reaction machines, the true ROCKET or chemical-fuel motor and the airstream engine The rocket motors burn either solid fuels, such as gunpowder and smokeless powder, or liquid fuels, such as gasoline and liquid oxygen The motive force is the pressure of the gases formed in burning Fritz von Opel, a German automobile manufacturer, made the first flight entirely by rocket power in Frankfurt in 1929 R. H. Goddard, an American, contributed the most important work in the development of liquid fuels for rockets The second category of jet-propulsion motors, the airstream engines, are developments of the late 18th-century gas turbine engines which directed the gases from combustion against the blades of a turbine wheel. Not until 1908 was it suggested that an airplane could be driven by jet propulsion René Lorin, a French engineer, proposed using the reciprocating engine to compress air, mix it with fuel, and thus to propel the plane by the pulses of hot gas produced by combustion of the mixture In 1939 Frank Whittle, an Englishman, developed a jet engine which powered a full-sized airplane in flight A year later Secundo Campini in Italy flew for 10 minutes with a thermal jet engine Both of their machines had the four standard parts of a jet engine—compressor, turbine, combustion chamber, and propelling nozzles Air is compressed and led through chambers where its volume is increased by the heat of fuel combustion On emergence it spins the compression rotors which act on the inflow of air Intermittent duct jet propulsion does not operate with a continuous blast as does the thermal jet, but proceeds by a series of pulses or intermittent explosions This type of action propelled the German V-1 or "buzz-bomb" used against England in 1944 The ram-jet or continuous duct engine depends upon the ram effect of the air for compression It can be used only as an auxiliary power supply because its action commences only after sufficient speed has been attained Jet-propelled aircraft are gradually replacing propeller-driven types, especially in military craft which seek higher speeds Thrust augmentation devices used to increase, at given moments, the effective driving force of jet aircraft are the afterburner or tailburner, the water-injection method, and air bleed-off The afterburner uses the exhaust gases from the engine for additional combustion with resulting higher compression The introduction of water into the air compressor inlet also increases the thrust but can only be used at take-off because of the high water consumption Air bleed-off, sometimes called fan augmentation, also makes more efficient use of air otherwise wasted Jet-propelled planes have made possible supersonic flight speeds See G. E. Pendray, *The Coming Age of Rocket Power* (rev. ed., 1947), V. C. Finch, *Jet Propulsion Turbojets* (1948)

jetsam see FLOTSAM

jettison (jĕ'tusun, -zun) [O. Fr.,=throwing], in maritime law, casting all or part of a ship's cargo overboard to lighten the vessel or to meet some danger, such as fire The master has the absolute right to jettison cargo when he reasonably believes it to be necessary, and the owners of the ship incur no liability if the vessel carries goods of more than one shipper, the rule of general average provides for apportioning the loss among all the shippers because all have benefited by the master's action On the other hand, if some cargo is lost by accident, the shippers who suffered no loss do not contribute to indemnification See FLOTSAM, JETSAM, AND LIGAN

jetty or groin, structure usually of rubble, masonry, or stone and piles, built from the shore out into a river, lake, or ocean Its function is to control or direct the flow of water, maintain a swift current by narrowing the channel, and prevent the deposition of silt, thus keeping a shipping channel open

Jetur (jē'-), son of Ishmael, eponymous founder of Ituraea 1 Chron 1 31

Jeuel (jōō'ĕl), chief of Judah 1 Chron. 9 6

Jeush (jē'ŭsh) [Heb.,=hastening] **1** Son of Esau Gen 36 5,14,18, 1 Chron 1 35 **2** Head of a Benjamite family 1 Chron 7 10,11 **3** Gershonite Levite 1 Chron 23 10,11 **4** Son of Rehoboam and Abihail 2 Chron 11 18,19

Jeuz (jē'ŭz) [Heb.,=counseling], chief Benjamite. 1 Chron 8 10

Jevons, William Stanley (jĕ'vunz), 1835–82, English economist and logician After five years in Australia as assayer to the mint, he taught at Owens College, Manchester, and University College, London His chief contribution to economics was his development of the theory of utility, in which he stated that value was determined by utility He demonstrated the relationship of value to utility in mathematical terms *The Theory of Political Economy* (1871) was his chief work in theoretical economics Jevons was also interested in practical applications of economics, and *The Coal Question* (1865) influenced government action He wrote a number of successful texts on logic and scientific method, notably *Pure Logic* (1863) and *The Principles of Science* (1874) See his *Letters and Journal* (ed. by his wife, 1886), biography by E. W. Eckard (1940)

Jewel Cave National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Jewell, town (pop 1,051), central Iowa, N of Ames, platted 1880

jewelry, personal adornments worn for ornament or utility, to show rank or wealth, or to follow superstitious custom Its use antedates clothing, and jewels have been worn on many parts of the body, the most universal forms being the RING, PIN, EARRING, and necklace It is made of a variety of materials including berries, perforated stones, feathers, metals, bone, hair, ivory, and precious or semiprecious stones Although bronze and silver have been much used by primitive peoples and in modern hand-wrought jewelry, gold has been the preferred metal Jewelry has been decorated by engraving, embossing, etching, filigree, enamel, mosaic, the GEM, cameo, glass, and semiprecious stones The art reached an elaborate development in the Orient with its wealth of precious stones and pearls Treasures recovered from Egyptian tombs show a rare craftsmanship The jewels are largely emblematic, very colorful, and display lotus flower

and scarab motifs Excavations in the Aegean Islands, Greece, and the coast of Asia Minor reveal a wealth of jewelry Later Greeks were highly expert goldsmiths and preferred exquisitely wrought ornaments of metal unadorned with color Roman jewelry, although based on Greek and Etruscan forms, was massive and valued rather for precious stones and cameos than for artistic settings Ropes of pearls were prized Byzantine jewelry, influenced by the East and lavish in color and design, was of composite Greek and Roman styles Jewelry of the Middle Ages was massive, large brooches and girdles predominated The Renaissance brought a transformation in the art of the jeweler, who was often an artist of note such as Benvenuto Cellini or the architect Ghiberti, also a goldsmith, Rubens and Dürer drew designs for jewelers Jewels were splendid with enamel and precious stones, the necklace and pendant were in great favor, settings were designed to conform to the irregularities of gem stones, especially the baroque pearl By the late 17th cent the goldsmith and enameler gave way before the lapidary and mounter as precious gems and pearls assumed major importance Early 18th-century enthusiasm for rococo design was succeeded by a revival of classic forms and later by relatively inexpensive ornaments for a large middle class Under the influence of Empress Eugénie in France gems set to display the value of the stone and ropes of pearls were much worn Artistry of workmanship declined after the introduction of factory-made ornaments In the 20th cent platinum became popular for settings, costume jewelry followed the rapidly changing fashions in dress, and a renewal of enthusiasm for hand-wrought pieces succeeded the arts and crafts movement Foremost among the craftsmen of the revival are René Lalique in France and Philippe Wolfers in Belgium Wrist watches, vanity cases, and cigarette boxes were increasingly in demand but hair ornaments were less popular with the vogue for short hair See Frances Rogers and Alice Beard, *5,000 Years of Gems and Jewelry* (1940), Marcus Baerwald and Tom Mahoney, *Gems and Jewelry Today* (1949)

jewelweed ◆ see TOUCH-ME-NOT.

Jewett, Charles Coffin (jōō'ĭt), 1816–68, American librarian, b Lebanon, Maine, grad Brown, 1835, and Andover Theological Seminary, 1840 He prepared his first catalogue of books as librarian of Andover Theological Seminary, was appointed (1841) librarian of Brown Univ, and rearranged and catalogued that library by subjects He became librarian of the Smithsonian Institution in 1848 There he published a survey of U S libraries and started mechanical duplication of individual catalogue entries As superintendent (1858–68) of the Boston Public Library he worked out catalogue rules which were internationally used

Jewett, Frank Baldwin, 1879–1949, American electrical engineer, b Pasadena, Calif, grad Throop Polytechnic Institute (B A, 1898), Ph D Univ of Chicago, 1902 In 1904 he joined the American Telephone and Telegraph Company, after being affiliated with the Western Electric Company (1912–25), he returned to the American Telephone and Telegraph Company as vice president in charge of research and as president of the Bell Telephone Laboratories For his achievements in industrial research and in the development of communication he received numerous high honors

Jewett, Sarah Orne, 1849–1909, American novelist, b South Berwick, Maine, educated by her father, a physician Her studies of rural small-town New England character are clear-cut, sympathetic, and gently humorous Many of her books are collections of stories and sketches—*Deephaven* (1877), *Country By-Ways* (1881), *The King of Folly Island* (1888), and her masterpiece, *The Country of the Pointed Firs* (1896) *A Country Doctor* (1884) and *The Tory Lover* (1901) are novels, her *Verses* appeared in 1916 Willa Cather was much influenced by Miss Jewett's writing and edited a selection in 1925 entitled *Best Stories* See also her letters (ed by a lifelong friend, Annie Fields, 1911), biography by F O Matthiessen (1929)

Jewett, village (pop 1,031), E Ohio, W of Steubenville, laid out 1851, inc 1886

Jewett City, Conn see GRISWOLD

Jewish Autonomous Oblast, RSFSR: see BIROBIDZHAN.

Jewish literature: see HEBREW LITERATURE and YIDDISH

Jewish music. The Bible records that spontaneous music making was common among the ancient Jews on all important occasions, was indulged in by both men and women, and employed responsorial and antiphonal forms and that singing and dancing were accompanied by instruments The first instruments mentioned in the Bible are the *kinnor*, evidently a lyre similar to the cithara, and the *ugab*, possibly a vertical flute Other instruments, of value more ceremonial than musical, included the *hasosra*, a trumpet, and the *shofar*, a ram's horn or goat's horn, the least musical of all and the only one which survives today, to it were ascribed magical powers. When the kingdom of Israel was established, music was systematized and professional musicians appeared. David appointed the Levites to select from their number the first official body of musicians For the consecration of the Temple the number of musicians was increased, and in the Temple a high degree of musical proficiency was attained and new instruments were introduced They were the *nevel*, a harp, the *halil*, probably a double oboe, used after the rebuilding of the Temple, the *asor*, certain to have been a 10-stringed instrument and probably some sort of psaltery, and the *magrepha*, an instrument of powerful sound which signaled the priest when it was time to begin the service The *magrepha* was evidently an organ, perhaps a development of the *ugab*, which is often translated "organ " Various types of cymbals originally used in the Temple were prohibited after its restoration, perhaps because of pagan associations The ritual music included first the cantillation of the prose books of the Bible to a set of melodic formulas, the rhythm of the music following that of the words, later the prayers and biblical poetry were chanted, but this chant employed a modal system similar to the *ragas* of Hindu music or the *maqamat* of Arabian music, i e, melody types which were the basis of improvisation After the destruction (A D 70) of the temple, much of the chant was preserved among congregations of Oriental Jews and remains intact today, but the instrumental music was prohibited Singing was also discouraged except for religious purposes, and those who had beautiful voices were expected to serve in the synagogues In the Temple the chant had been passed on orally, and a system of mnemonic hand signs had been developed to aid in teaching it After the Dispersion these became the point of departure for the development of a system of notation In the 9th cent Aaron ben Asher of Tiberias perfected the *te'amon* or *neginoth*, a system of accent signs placed above or below the letters, signifying melodic formulas or intervals rather than single notes They were similar to the neumes of Greek notation in that they indicated no definite pitch, but were interpreted to the singers by the system of hand signs Aaron ben Asher's notation superseded all other systems and influenced the development of the earliest Christian neumes, which developed into a more precise system while the *te'amon* retained its vague character and was interpreted differently among different groups of Jews With the growth in importance of the synagogue came the rise of the CANTOR or *chazan* In the flourishing of Jewish culture in Arab-dominated Spain, metrical poetry, inspired by Arab models and set sometimes to Arab tunes and sometimes to original tunes, was created Among the Ashkenazim in the Middle Ages there was a tendency to cultural stagnation The cantor became an entertainer and, because of the unsettled conditions of life, also a sort of wandering minstrel The traditional melodies were corrupted under the influence of German folk song, and continual conflict resulted from the attempt of the rabbis and more highly educated Jews to preserve the traditional chant One of the many Jewish musicians who distinguished themselves in Renaissance Italy was Salomone Rossi, a court musician to the duke of Mantua from 1587 to 1628 His creative output was entirely in the Italian tradition, but he gave expression to his Jewish faith by writing polyphonic vocal settings of Psalms and prayers for the synagogue Rossi's works had no immediate successors, they were, however, reprinted in Germany in 1877 after the reform movement The virtuoso cantors of Eastern Europe during the Renaissance were influenced by the Ashkenazic song, but there was also a continual reintroduction of ancient elements by the Oriental Jews These cantors returned to improvisation in the Oriental modes and developed a very distinctive type of coloratura About the middle of the 17th cent this art began to be spread all over Europe During the 18th cent instruments were introduced into some German synagogues, and there was much influence from secular and Christian music on the synagogue music In the reform movement of the early 19th cent the cantor was eliminated, the organ was employed, and Jewish hymns were written in German and set to the tunes of Protestant chorales Reaction against this movement brought about a more moderate reform in which Salomon Sulzer (1804–90), a cantor cited by Liszt for his musical abilities, was the outstanding figure Sulzer aimed to restore the traditional cantillation, but without improvisation, and to make use of new music composed for the synagogue He used the organ, included hymns in the vernacular, and had the Bible read instead of chanted In the United States, the 20th cent has seen a movement among Jewish composers for the composition of music for the reformed service Outstanding services are those of Frederick Jacobi (1891–) and Ernest BLOCH Bloch is the leading figure in the attempt to create a Jewish national music It is difficult, however, to discern characteristically Jewish qualities in the music of contemporary composers apart from their use of themes from traditional Jewish ritual music See A. Z. Idelsohn, *Jewish Music* (1929), Curt Sachs, *The Rise of Music in the Ancient World* (1943), Peter Gradenwitz, *The Music of Israel* (1949).

Jews [from Judah], term used synonymously with Hebrews and Israelites to indicate the descendants of the tribes of ISRAEL, adherents of the religion JUDAISM Before the Second World War the Jewish population, scattered over the world, amounted to c 16,000,000, it is estimated that between 5,000,000 and 6,000,000 Jews perished in massacres during the war More than half the Jews use the YIDDISH language The Jews are closely related to other peoples of SW Asia speaking the Semitic languages According to the OLD TESTAMENT, their ancestor was Terah of Ur of the Chaldees, progenitor of the patriarchs Abraham, Isaac, and Jacob. Ancient Jewish history begins with the settlement of a group in Goshen, NE Egypt, as agriculturists, many centuries before Christ Under Ramses II they were terribly persecuted, and finally Moses led the group out of Egypt, at Mt Sinai he gave them the Decalogue Many years of wandering in desert wildernesses followed, before the Jews conquered Canaan Their great enemies at this time were the Philistines, and the Jews, who had been divided under tribal leaders called judges, came to see the need for union; Saul became the first king He was at first successful against the Philistines, but was finally defeated at Gilboa David, of the tribe of Benjamin, ruled, conquered the enemies of the Jews, and gave his people prosperity and peace His son was Solomon, who built the first Temple (see TEMPLE) and whose reign was the last before a period of disruption, caused partly by Solomon's system of heavy taxation The tribes of the north united under Jeroboam and formed the kingdom of Israel those of the south, led by Solomon's son Rehoboam, formed the smaller but more strongly united kingdom of Judah, the two kingdoms were at war during much of the following two centuries (935 B C -725 B C) In 722 B C Sargon captured Samaria, capital of Israel, and most of the Israelites (the LOST TRIBES) were exiled Judah passed under the Assyrian yoke, then under the Egyptian, and in 586 B C. under the Babylonian the Temple was destroyed and the people were exiled until their return was permitted by CYRUS The Temple was rebuilt in 516 B C The Jews were a strong religious group during the period of Hellenism, but regained political independence only under the MACCABEES Strife between the PHARISEES and the SADDUCEES ended in Roman intervention and complete dominance, and Jerusalem was finally destroyed in A D 70 This was the beginning of the development of their thought and law by scholars and rabbis With the organization of new kingdoms upon the ruins of the Roman Empire, Jews appeared in Western Europe and began to play an important part in its intellectual and economic life From the 9th to the 12th cent they enjoyed a golden age of literary efflorescence, particularly in Spain From the time of the Crusades date the persecutions which were the lot of the Jew until the 18th cent The ownership of land and most of the occupations save petty trading and moneylending were forbidden to them, the GHETTO came into existence They who in Palestine had been an agricultural people became perforce an urban population In Spain some 100,000 Jews were killed towards the end of the 15th cent In 1290 the Jews were expelled from England, in 1392 from France, in 1492 from Spain, under TORQUEMADA, in 1497 from Portugal Many of the exiles perished, others found asylum in Holland and in the Turkish possessions The German Jews fled to Poland, but there too they suffered from persecutions When a country suffered economically or in war, its Jews were likely to be its scapegoat Their helplessness and their staunch faith in God gave rise to several messianic movements, the most important of which was that of SABBATAI ZEVI The rise of capitalism improved the condition of the Jews throughout Europe, while the revolutionary sentiments at the end of the 18th cent also contributed towards a more liberal attitude by most governments Political emancipation of the Jews began with the American and French revolutions In Germany and Austria emancipation of the Jews was proclaimed after the Revolution of 1848 In Russia, birthplace of the POGROM, equal rights were granted them only after the Russian Revolution of 1917, Soviet Russia established an autonomous Jewish state in remote BIROBIDZHAN, though Judaism was until 1936 proscribed like all religion In Rumania, Jews gained equal rights only at the end of the First World War. The gradual emancipation of the Jews brought forth two opposed movements, cultural assimilation, begun by Moses MENDELSSOHN, and ZIONISM, founded by Theodor HERZL in 1896. A wave of persecution starting in Russia after the assassination (1881) of Alexander II and moving westward to France abated until 1933, when with the rise to power in Germany of the Nazis, persecution of Jews became violent, their property was confiscated and thousands were driven into exile (see ANTI-SEMITISM) After the massacres and population displacements in the Second World War, great members of Jews sought refuge in Palestine. For the establishment (1948) there of the Jewish state, see ISRAEL For history, see Leo Graetz, *History of the Jews* (6 vols, 1926); S. W. Baron, *A Social and Political History*

of the Jews (3 vols., 1937). For briefer works, see Lewis Browne, *How Odd of God* (1934), Cecil Roth, *The Jewish Contribution to Civilization* (1938), A L Sachar, *A History of the Jews* (3d ed , 1948), Louis Finkelstein, ed , *The Jews* (1949)

Jewsbury, Geraldine Endsor, 1812–80, British novelist She is remembered as much for her friendship with the Carlyles and a large group of other literary people as for her novels, which include *Zoe· the History of Two Lives* (1845) and *The Sorrows of Gentility* (1856) See Susanne Howe, *Geraldine Jewsbury Her Life and Errors* (1935)

jew's-harp or **jews'-harp,** musical instrument composed of a small metal frame containing a flexible metal tongue The frame is held between the teeth and the metal tongue is plucked with the fingers Each jew's-harp can produce only one tone, the quality of which may be varied by modifying the shape of the mouth, thus emphasizing different harmonics of the tone The musical possibilities may be increased by the use of additional tongues, giving additional tones, and in the early 19th cent , particularly in Germany, jew's-harps were made with as many as 16 tongues The jew's-harp has also been called jew's-trump or jews'-trump

Jex-Blake, Sophia, 1840–1912, English physician, active in opening the medical profession to women in England A graduate of Queen's College, London, she began (1866) her medical studies in the United States and continued them in Edinburgh, but she met much opposition there and was unable to obtain a degree She carried the battle to Parliament, which finally passed a law enabling the medical schools to give degrees to women Miss Jex-Blake was influential in founding medical schools for women in London and Edinburgh See biography by Margaret Todd (1918)

Jezaniah (jĕz″ənī′ə), the same as JAAZANIAH **3**

Jezebel (jĕ′zəbul), d c 846 B C , Phoenician princess who was the wife of King Ahab and the mother of Ahaziah, Jehoram, and Athaliah She encouraged idolatrous worship and persecuted the prophets Naturally Jezebel was the bitter foe of ELIJAH Elijah's prophecy of Jezebel's doom was fulfilled when Jehu triumphed over the house of Ahab, and Jezebel, defiant to the last, was killed and her body thrown to the dogs 1 Kings 16 31, 18, 21, 2 Kings 9 1–10, 30–37 This name occurs in Rev 2 20, where the passage is obscure

Jezer (jē′zur) [Heb =image], son of Naphtali Gen 46 24, Num 26 49, 1 Chron 7 13

Jeziah (jēzī′ə) [Heb ,=whom God has sprinkled], Jew who had a foreign wife Ezra 10 25

Jeziel (jē′zĭ′əl, jēzī′əl) [Heb =assembly of God], ally of David at Ziklag 1 Chron 12 3

Jezireh, Al (al jĕzēr′ə), area of Iraq and Syria It lies between the Tigris and Euphrates rivers and is bounded by their alluvial plain on the south and a mountainous tract on the north Grains are grown, and in Iraq there are oil fields

Jezliah (jĕzlī′ə), Benjamite 1 Chron 8 18

Jezoar (jēzō′ûr) [Heb ,=brilliant], Judahite 1 Chron 4 7

Jezrahiah (jĕzruhī′ə) [Heb ,=God brings into life], singer at the dedication of the wall Neh 12 42

Jezreel (jĕz′rēĕl) [Heb ,=God sows] **1** Ancient city, Palestine, in the plain of ESDRAELON halfway from Megiddo to the Jordan It was a residence of King Ahab, whose family is therefore called the house of Jezreel 1 Sam 29, 2 Sam 2 9, 1 Kings 21 1 The name is used for Israel in a pun in Hosea 2 22 The valley of Jezreel is the plain of Esdraelon or, especially with cartographers, its eastward extension running down to the Jordan from Jezreel **2** Town of Judah Joshua 15 56, 1 Sam 27 3, 30 5 **3** Son of Hosea Hosea 1 4 **4** Judahite 1 Chron 4 3

Jhansi (jan′sē), city (pop 103,254), SW United Provs , India, founded 1613 It escheated (1853) to Great Britain on default of heirs to the ruling prince Jhansi trades in agricultural produce and manufactures silk cloth and brassware

Jhelum or **Jehlam** (both jā′lum), river, c 500 mi long, rising in W Kashmir state, India After flowing W through Kashmir, it proceeds south along part of the border of Kashmir with North-West Frontier Prov and with West Punjab prov , forming a portion of the boundary of India and West Pakistan Then, as the westernmost of the five rivers of Punjab, it flows generally SW across West Punjab prov to join the Chenab river Extensive irrigation works utilize its waters The ancient name of the river was Hydaspes

Jibsam [Heb ,=lovely], Issacharite 1 Chron 7 2

Jibuti (jĭbōō′tē), Fr *Djibouti* (jēbōōtē′), town (pop c 17,000), capital of French Somaliland, on the Gulf of Tadjoura, an inlet of the Gulf of Aden It was founded c 1888, and it became the capital in 1892 Its importance rests on its strategic position near the shipping lanes that carry the Suez Canal traffic and on the large transit trade which it enjoys as the terminus of the only railroad to Ethiopia

Jidda (jĭ′dù) or **Jedda** (jĕ′du), city (pop c 20,000), Hejaz, Saudi Arabia, on the Red Sea The port of Mecca, it receives annually a huge influx of pilgrims, mainly from Africa and Indonesia Unlike Medina (only recently opened to non-Moslems) and Mecca (still restricted to all but Moslems), Jidda has always accepted visitors regardless of religion. The diverse population includes a large admixture of Negroes Although Jidda exports little, it has a considerable import trade to support the pilgrims in Mecca, and there are some foreign consulates The houses are built of coral, and the city is surrounded by a wall Just outside is the reputed tomb of Eve

Jidlaph (jĭd′lăf) [Heb ,=weeping], son of Abraham's brother, Nahor Gen 22 22

jig, dance of English origin which is performed also in Ireland and Scotland It is usually a lively dance, by one or more persons, with quick and irregular steps When the jig was introduced to the United States, it was often danced by Negroes in minstrel shows In music the *gigue,* the successor to the jig, was used by Bach and Handel in their suites

Jigat, India see DWARKA

jigger. see CHIGOE

Jihlava (yĕkh′lavu), Ger *Iglau* (ē′glou), city (pop. 23,413), W Moravia, Czechoslovakia, on the Jihlava river It manufactures cloth, gloves, machinery, and tobacco There remain two medieval churches and a 16th-century town hall

Jim Crow· see NEGRO

Jiménez, Juan Ramón (hwan′ ramōn′ hēmā′nāth), 1881–, Spanish lyric poet, b Andalusia, studied at the Univ of Seville Influenced in his youth by the French symbolists—e g , his *Almas de violeta* (1900) —he turned to greater simplicity of style His *Diario de un poeta recién casado* [diary of a poet recently married] (1917) was written after his marriage to Zenobia Camprubí Aymar Later collections include *Unidad* (1925), *Sucesión* (1932), *Presente* (1935), *Canción* (1936), and *Verso y prosa para niños* (1937) He left Spain in 1936 and lived in Puerto Rico and Cuba and later in the United States

Jiménez de Cisneros, Francisco (franthē′skō hēmā′nāth dā thēsnā′rōs), 1436–1517, Spanish prelate and statesman, cardinal of the Roman Church He early became vicar general to Cardinal Mendoza, but soon entered a Franciscan monastery, where he subjected himself to unusual austerities Appointed, against his will, confessor to Queen Isabella I, he also became (1495) archbishop of Toledo After acting as regent of Castile from the death (1506) of Philip I until the return (1507) of Ferdinand V from Italy, he was made (1507) inquisitor general and cardinal He financed and personally led the expedition (1509) which captured Oran, in Africa On Ferdinand's death (1516) he again assumed the regency pending the arrival of Charles I (later Emperor Charles V) from Flanders When Charles arrived, he dismissed Jiménez peremptorily on the advice of his Flemish counselors, but the cardinal died before learning of his fall Jiménez founded the Univ of Alcalá de Henares and had the Polyglot Bible compiled at his expense His name formerly was also spelled Ximénez

Jiménez de Quesada, Gonzalo (gōnthä′lō hēmā′nāth dā kāsā′dhä), c 1499–1579, Spanish conquistador in Colombia Chief magistrate of Santa Marta, he arrived there in 1535 or 1536 and was commissioned to explore the MAGDALENA in search of EL DORADO He set out in 1536, and after incredible hardships he defeated the CHIBCHA and founded (1538) Bogotá as capital of the "New Kingdom of Granada" (see NEW GRANADA) A hard taskmaster but an able leader, Quesada wavered between humane treatment and brutal treatment of the Indians He obtained fabulous amounts of emeralds and gold Meeting FEDERMANN and BENALCÁZAR, who claimed the same territory, Quesada persuaded them to return with him to Spain, where settlement could be made Here he was ignored until 1550, when he returned as marshal of New Granada and councilor of Bogotá for life In 1569, still seeking El Dorado, he led a lavishly equipped expedition to the confluence of the Guaviare and Orinoco, he and what remained of his company returned wasted and penniless after three years Still later, the doughty old warrior, suffering from a skin infection (possibly leprosy) and carried on a litter, put down an Indian revolt This indomitable octogenarian epitomized many facets of the typical Spaniard of the day Some think that he was the model for Cervantes's Don Quixote His own account of his conquests has been lost, but excerpts copied by others from the original survive See A F Bandelier, *The Gilded Man* (1893), C R Markham, *The Conquest of New Granada* (1912), Germán Arciniegas, *The Knight of El Dorado* (Eng tr , 1942)

Jimna or **Jimnah** (both –nu), son of Asher Num. 26 44, Gen 46 17 Imnah 1 Chron 7 30

Jimson weed or **Jamestown weed,** large, coarse annual plant (*Datura stramonium*), considered a native of the tropics but long widely distributed and often weedy It has rank-smelling foliage, large, trumpet-shaped white or purplish flowers, and large, spiny fruits This and other species of the genus contain a narcotic poison similar to belladonna that has been used by many peoples for various purposes, e g , as a medicine (now chiefly smoked for the relief of asthma and known as stramonium), and in the past as a poison and an instrument for obtaining prophetic dreams or messages in various cults (suggested as possibly the medium of priests at the Delphian oracle) The amusing antics of soldiers in colonial Virginia who ate Jimson weed has been recorded for history

jingoism (jĭng′gōĭzm), advocacy of an aggressive military policy The term, suggested by the "by jingo" of a song by George Ward Hunt, was first used in connection with certain British politicians who sought to bring England into the Russo-Turkish War (1877–78) on the side of the Turks See J A Hobson, *The Psychology of Jingoism* (1901)

Jinnah, Mahomed Ali (mŭhō′mĭd a′lē jĭ′nu), 1876–1948, founder of Pakistan, b Karachi After his admission (1896) to the bar in England, he returned to India to practice law Early in his career he was a fervent supporter of the Indian National Congress and an advocate of Hindu-Moslem unity He was a member of the legislative council of the viceroy of India from 1910 to 1919 In 1916 and in 1920 he was elected president of the Moslem League, but he remained a member of the Congress until 1930 From 1934 until his death he headed the Moslem League and guided its agitation for Pakistan, a state which would include the predominantly Moslem areas of India Jinnah supported the British during the Second World War while the Congress was under a ban So successful was his propaganda that in the elections for the Indian constituent assembly in 1946 the Moslem League won all the seats assigned to the Moslem electorate Jinnah's intransigency and his scarcely veiled threats of violence if his demands were not met forced the Congress to accept Pakistan, and, in Aug , 1947, India was partitioned Jinnah was appointed the first governor general of the dominion of Pakistan and elected president of its constituent assembly Jinnah was called Quaid-i-Azam [leader of the people] by his followers

jinn (jĭnē′), plural **jinn** (jĭn), in Arabic folklore and in Moslem literature, a creature like man in most features, but having certain supernatural powers, especially those of changing in size and shape The jinn are capable of good and evil and may or may not be believers of Islam They are generally said to be under the control of King Solomon They appear constantly in the *Thousand and One Nights,* usually, when in contact with men, as hideous monsters.

Jinsen, Korea see CHEMULPO

Jiphtah (jĭf′tu) [Heb ,=he opens], unidentified town, SW Palestine Joshua 15 43

Jiphthah-el (jĭf′thu-ĕl″), town, Palestine, perhaps to be identified with Jefat, c 10 mi N of Nazareth Joshua 19 14,27

Jipijapa (hēpēha′pa), city (1944 estimated pop 22,097), W Ecuador, on the equatorial lowlands A few miles inland from the Pacific, Jipijapa is a famous center for the manufacture of high-grade Panama hats Also exported are TAGUA nuts

jiujitsu or **jujutsu.** see JUJUTSU

Jívaro (hē′vărō), linguistic stock of South American Indians, Ecuador The peoples, N of the Marañón river and E of the Andes, engage in farming, hunting, fishing, and weaving and are preoccupied with warfare, usually among themselves They have a patrilineal society with some 40 to 50 people, the family group, living in each huge, isolated communal house Though not unique to the Jívaro, head shrinking, accompanied by elaborate ceremony, has made them famous Efforts to subdue them have never permanently succeeded

Joab (jō′ăb) [Heb ,=God, the father] **1** Son of David's sister Zeruiah and commander of his uncle's armies A trusted and skillful administrator, he was often vindictive and cruel, as in his killing of Abner, Absalom, and Amasa David's dying curse of Joab is remarkable 1 Kings 2 5,6 For his support of Adonijah, Solomon had him put to death 2 Sam 2 12 32, 3 22 31, 8 16, 10 7–14, 11, 12 26, 14, 18, 19 1,5-7, 20 7–23, 24 1-9, 1 Kings 1, 2 28–34 **2** Chief craftsman of the valley of Charashim 1 Chron 4 14 **3** Family returned from exile Ezra 2 6, 8 9, Neh 7 11

Joachim, Saint (jō′ukĭm) [Gr ,=Heb JEHOIAKIM], in tradition, the father of the Virgin and husband of St ANNE His cult is ancient in the East, but modern in the Western Church Feast Aug 16

Joachim, Joseph (yō′zĕf yō′ăkēm), 1831–1907, Hungarian violinist, friend of Mendelssohn, Brahms, and Schumann In his long career his performances of the violin masterpieces came to be accepted as models He was concertmaster under Liszt at Weimar, 1849–53, later he became (1868) musical director of the Berlin Hochschule In 1869 he founded the Joachim Quartet, which existed until his death and performed the finest of the chamber-music literature He composed cadenzas for the violin concertos of Beethoven and Brahms His Hungarian Concerto is best known among his compositions

Joachim of Floris (jō′ukĭm), d 1202, Italian Cistercian monk He was abbot of Corazzo, Italy, but withdrew into solitude He left scriptural commentaries that are prophecies of a new age In this "Age of the Spirit" the hierarchy of the Church would be unnecessary, infidels would unite with Christians, and all would be monks. Joachim's

works had a vogue in the 13th and the 14th cent.; many, especially religious zealots like the Franciscan spirituals, acclaimed him as a prophet Dante places him in Paradise. One of Joachim's works was condemned as heretical

Joachimsthal, Czechoslovakia see JACHYMOV.

Joad, Cyril Edwin Mitchinson (jōd), 1891–, English philosopher He became head of the department of philosophy at Birbeck College, Univ of London, in 1930 As a rationalist, he was a successful lecturer and writer, his works including *Common Sense Ethics* (1920), *Common Sense Theology* (1922), and *Return to Philosophy* (1936) After his conversion to religion he wrote *Good and Evil* (1943) *The Book of Joad* (1935, previously pub as *Under the Fifth Rib*, 1933) is autobiographical

Joah (jō'hh) [Heb ,=God is his brother] **1, 2** Keepers of records 2 Kings 18, Isa 36, 2 Chron 34 8 **3, 4** Gershonites 1 Chron 6 21, 2 Chron 29 12 **5** Korahite doorkeeper 1 Chron 26.4.

Joahaz (jō'hăz) see JEHOAHAZ

Joanes, Vicente. see MACIP, VICENTE JUAN.

Joanna I (jō-ăn'nă), 1326–82, queen of Naples (1343–81), countess of Provence She was the granddaughter of King Robert of Naples, to whom she and her husband, Andrew of Hungary, succeeded In 1345 Andrew was murdered, probably with the complicity of the queen Andrew's brother, Louis I of Hungary, twice invaded Naples to avenge the murder, both times Joanna fled, and in 1352 she made peace with Hungary In 1372 she renounced the claim of the ANGEVIN dynasty to Sicily. Though Joanna married twice more, she remained childless and adopted the young Charles of DURAZZO (later CHARLES III of Naples) However, as a result of a quarrel with Pope Urban VI, who persuaded Charles to take over her kingdom, she disinherited Charles and named as her successor Louis of Anjou (see LOUIS I, king of Naples) Charles conquered Naples (1381), imprisoned the queen, and received the kingdom from the pope Joanna died, probably at Charles's orders Her successive adoptions caused chronic warfare between Charles III and Louis I and their respective heirs

Joanna II, 1371–1435, queen of Naples (1414–35), sister and successor of LANCELOT Continuous intrigues by her favorites kept the court in a turmoil. Her second husband, James of Bourbon, tried to seize power but was soon imprisoned (1416) In 1420 Joanna was threatened by the ANGEVIN claimant to her kingdom, LOUIS III, she called ALFONSO V of Aragon to her assistance and adopted (1421) him as her, but Alfonso's attempt to rule her state soon made her change her mind She revoked the adoption and in 1423 transferred it to Louis Louis died (1424) while reconquering the kingdom from the Aragonese, and Joanna adopted his brother, RENÉ Alfonso seized her kingdom after her death

Joanna (Joanna the Mad), 1479–1555, Spanish queen of Castile and Leon (1504–55), daughter of Ferdinand V and Isabella I She succeeded to Castile and Leon at the death of her mother Ferdinand V assumed the regency until he was shortly replaced by Joanna's ambitious husband, PHILIP I After Philip's death (1507) Ferdinand again assumed the rule, for Joanna had by this time advanced far in insanity. At Ferdinand's death (1516), Joanna's elder son, Charles (later Emperor CHARLES V), was proclaimed joint ruler of Castile with his mother, although, according to an earlier plan, her younger son, Ferdinand (later Emperor Ferdinand I), should have succeeded.

Joanna, in the Bible **1** Wife of Herod's steward **Chusa.** She was a follower of Jesus and was one who found the tomb empty Luke 8 3, 24.10 **2** Ancestor of St Joseph Luke 3 27

Joan of Arc, 1412?–1431, French saint and national heroine, called the Maid of Orléans, daughter of a farmer of Domrémy in Lorraine She early began to hear "voices"—those of St Michael, St. Catherine, and St. Margaret When she was about 16, the voices exhorted her to bear aid to the dauphin, CHARLES VII, then kept from the throne by the English. After a first rebuff, Joan won Robert de Baudricourt, military governor of Vaucouleurs, to aid her in obtaining an interview with the dauphin and undertook the journey in male attire, with six companions. She met the dauphin at Chinon castle and conquered his skepticism as to her divine mission by some "sign," which she would never explain, and, after the suspicion of heresy had been removed by an examination before the theologians, she was furnished with troops She succeeded (1429) in relieving Orléans, took other places along the Loire, and defeated the English at PATAY After considerable persuasion Charles VII consented to enter Rheims, and Joan stood beside him at his coronation This was the pinnacle of her fortunes She was eager to push her victories, but the king was indolent, and her enemies at court counseled treating with Philip the Good of Burgundy, an English ally. In 1429 Joan unsuccessfully besieged Paris. The following spring she went to relieve Compiègne, was captured by the Burgundians, and later was sold to the English, who were anxious to destroy her influence over the people by putting her to death. In order to leave her captors clear of responsibility, she was turned over to the inquisitorial court at Rouen and tried for heresy and sorcery before Pierre CAUCHON The records of the lengthy trial, which are available in the French of Jules Quicherat and in the English of W P Barrett (*The Trial of Jeanne d' Arc*, 1931), cast doubt on the fairness and regularity of the procedure Threatened with torture, she made a retraction but was nevertheless condemned to life imprisonment However, when she revoked her abjuration shortly afterwards, she was turned over to the secular court and was burned at the stake (1431). In 1456 her sentence was annulled, when Charles VII, who had made no attempt whatsoever during her trial to come to her aid, made tardy recognition of her services by a rehabilitation trial Joan was beatified in 1909 and canonized in 1920 Feast May 30 Her career lent itself to numerous legends, and she has been represented in many paintings and statues. In literature, she appears notably, though not always with historical accuracy, in Shakspere's *Henry VI*, Voltaire's *La Pucelle*, Schiller's *Maid of Orléans*, Mark Twain's *Personal Recollections of Joan of Arc*, Anatole France's *Life of Joan of Arc*, G B. Shaw's *St Joan*, and Maxwell Anderson's *Joan of Lorraine* Among the numerous biographies, Michelet's is the best known. See also the more recent biographies by Andrew Lang (1922), A B Paine (1925), Milton Waldman (1935), and V Sackville-West (1936)

Joan the Fair Maid of Kent, 1328–85, English noblewoman, daughter of Edmund of Woodstock, earl of Kent and son of Edward I Although Fair Maid of Kent was probably not a contemporary appellation, she early gained wide note for her beauty and charm Papal intercession was necessary to settle the quarrel for her hand in favor of Sir Thomas Holland and against the earl of Salisbury In 1352 she became countess of Kent in her own right After her husband's death in 1360, she married (1361) Edward the Black Prince, by whom she had two sons, Edward (1365–70) and Richard (later Richard II) In her later years Joan was active in healing the breach between her son Richard and John of Gaunt

João de Deus, see RAMOS, JOÃO DE DEUS

João Pessoa (zhwă'ō pusō'u), city (pop 71,158), capital of Paraíba state, NE Brazil, an Atlantic port, founded in 1585 and formerly named Parahyba It exports cotton, sugar, and minerals

Joash (jō'ăsh) see JEHOASH

Jotham (jō'thŭm) see JOTHAM

Job (jōb), book of the Old Testament, in the 18th place in AV It is of unknown authorship and date, but many critics assign it to time between 500 B C and 300 B C It is in a dialogue or dramatic form, all in verse except for opening and close The subject is the problem of good and evil in the world "Why do the just suffer and the wicked flourish?" In the prologue in heaven (1–2) the plan is laid to try Job, a really good man, all that he has is destroyed, and he is physically afflicted The bulk of the book (3–31) consists in speeches by Job and three friends who come to "comfort" him Job speaks, then each of the three speaks in turn, with Job replying each time, there is a second and part of a third series of speeches also The friends insist alike that Job cannot really be just, as he claims to be, and Job reiterates his innocence of wrong The sequence changes with the appearance of a fourth speaker, Elihu (32–37), accusing Job of arrogant pride, he in turn is followed by God himself, speaking out of a storm (38–41), to convince Job of his ignorance and rebuke him for his questioning The epilogue tells how God rebuked the friends for their accusations and how happiness was restored to Job (42) The ethical problem is not explicitly resolved The texts are imperfect, and there may be serious losses, misplacements, or even additions to the original. The book contains many splendid passages, especially in Job's speeches, among them are those on the "redeemer" (19), on wisdom (28), and on some animals (39–41) Job is mentioned elsewhere in the Bible Ezek 14 12–23, James 5 11. The Job of Gen. 46 13 is the same as JASHUB **1** See Morris Jastrow, *The Book of Job* (1920), E D Kissane, *The Book of Job* (1939, American ed , 1946) See also bibliography under OLD TESTAMENT

Jobab (jō'-) [Heb ,=desert] **1** Descendant of Shem Gen 10 29, 1 Chron 1 23. **2** King of Edom Gen 36 33,34 **3** Chief defeated by Joshua Joshua 11 1 **4, 5** Benjamites 1 Chron 8 9,18

Job's-tears, tall tropical grass (*Coix lacryma-jobi*), cultivated in gardens as an annual and naturalized in the S United States The fertile grains are bony, shining, pearly white or gray, oval beadlike fruits used for making necklaces There is a variety that is used for food in the Orient.

Jocasta: see OEDIPUS

Jocelin de Brakelond (jŏs'lĭn dŭ brāk'lŏnd), fl. 1200, English chronicler, a monk of Bury St. Edmunds His chronicle of St Edmund's Abbey, covering the years 1173–1202, is written in a simple, vigorous style and is remarkable for its vivid pictures of monastic life and characters Carlyle used it for the second part of his *Past and Present*.

Jochebed (jō'kĕbĕd) [Heb ,=God's glory], mother of Moses. Ex 6 20, Num 26.59.

Jodelle, Estienne (ătyĕn' shōdĕl'), 1532–73, French poet of the PLÉIADE He was the author of *Cleopatre captive* (1553), the first modern French tragedy, of a comedy, *L'Eugene* (1552); and of another tragedy, *Didon se sacrifiant* [Dido sacrificing herself] (1558)

Jodhpur (jōd'pōōr) or **Marwar** (măr'wĭr), former native state (36,120 sq mi , pop. 2,555,904), Rajputana, India Except for the eastern section, it is largely an arid waste suitable only for the raising of camels Grains, chiefly wheat and barley, are important crops Salt is mined, and cotton and wool textiles are woven The state was founded in the 13th cent by the Rathor clan of Rajputs Aurangzeb made it a vassal of the Mogul empire A turbulent period in the early 19th cent ended (1818) when the state came under British protection Jodhpur joined Rajasthan in 1949 **Jodhpur,** city (pop 126,842), capital of the former state, was founded in 1459 It is surrounded by a wall nearly 6 mi long Towering above the city on a rock 400 ft. high is the old fort It houses several palaces and the treasury of the maharaja, which contains his magnificent gem collection. Jodhpur is a commercial center with light manufactures The deserted city of Mandor, 5 mi away, was once the capital, and there are remains of early 18th-century palaces

Joed (jō'ĕd) [Heb ,=God is witness], descendant of Benjamin Neh 11 5

Joel (jō'ŭl) [Heb ,=God is God] **1** Prophet of the book of JOEL **2** Simeonite 1 Chron 4 35 **3** Reubenite 1 Chron 5 4,8 **4** Gadite 1 Chron 5 12 **5** Issacharite 1 Chron. 7 3 **6** Manassite 1 Chron 27 20 **7, 8, 9** Levites 1 Chron 15 7,11, 17, 23 8, 26 22, 2 Chron 29 12 **10** See IGAL **11, 12** Men who returned from the Exile Ezra 10 43, Neh 11 9 **13** Ancestor of Samuel 1 Chron 6 36 Shaul 1 Chron 6 24 **14** Son of Samuel 1 Sam 8 2, 1 Chron 6 33 Vashni 1 Chron 6 28

Joel, book of the Old Testament, second of the books of the Minor Prophets It is the preaching of an otherwise unknown prophet, dated variously from the 9th to the 5th cent B C It tells of a plague of locusts, divinely sent (1–2 17), the people, repenting, will be rewarded immediately (2 18–27) as well as in the future, thus being a Messianic prophecy (2 28–32, 3) Peter used Joel as a text Acts 2 For bibliography, see OLD TESTAMENT

Joelah (jō'lu), warrior with David at Ziklag 1 Chron 12 7

Joensuu (yō'ĕnsōō), city (pop 6,248), E Finland, the trade center of N Karelia Located on a lake of the SAIMA system and near the Outukumpu copper mines, it has plywood mills and considerable steamship traffic

joe-pye weed (jō-pī'), name for a tall, composite-flowered North American plant (*Eupatorium purpureum*), having small blossoms in large, terminal, usually pinkish-purple clusters The name comes from that of an Indian who reputedly effected many cures with the herb An infusion of the leaves and roots was formerly, and is sometimes yet, employed as a diuretic and an astringent among other things It is also called gravelroot, trumpetweed, and purple BONESET or thoroughwort Two related species, *Eupatorium maculatum* and *verticillatum*, are also called joe-pye weed

Joezer (jō'ĕ'zur) [Heb ,=whose help is God], one of David's captains 1 Chron 12.7

Joffre, Joseph Jacques Césaire (zhōzĕf' zhăk' săzĕr' zhō'frŭ), 1852–1931, marshal of France He began his career as a military engineer in the French colonies and was appointed commander in chief of the French forces in 1911 After the outbreak of the First World War he was responsible, as commander, for the French victory in the first battle of the MARNE (1914), although much of the credit is given to General GALLIÉNI Joffre was made a marshal, but his tactics were outmoded, after the Germans nearly captured Verdun (1916), Joffre was recalled to PARIS Gen. Robert George Nivelle was appointed commander of the French armies in France, and Joffre was made chairman of the Allied War Council Joffre's popularity remained great in France and in the United States, which he visited in 1917 See his memoirs (Eng. tr., 1932), B H Liddell Hart, *Reputations—Ten Years After* (1928)

Jogbehah (jŏg'bĕhă), town, E of the Jordan It is probably the ruin Jubaihat NW of Philadelphia Num 32 35, Judges 8 11

Joggins (jŏ'gĭnz), town (pop 1,109), N N S , on Chignecto Bay and SW of Amherst. It is in a coal-mining district

Jogjakarta (jŏg"yăkar'tă, jōk"-) or **Djokjakarta** (jŏk"yakăr'tă), town (pop 136,646), capital of the republic of Indonesia, on S Java, at the foot of volcanic Mt Merapi. It is a cultural center known for its artistic life and handicraft industries. There is some manufacturing of textiles, shoes, and machinery The name is sometimes spelled Jokvakarta

Jogli (jŏg'lī), chief Danite Num 34 22

Jogues, Isaac (Saint Isaac Jogues) (ēzăk' zhōg'), 1607–46, Jesuit missionary and martyr in the New World, b. Orléans, France. He was ordained in 1624, arrived in Quebec in 1636, and immediately

was sent to the Huron on Georgian Bay. In 1641 he journeyed N to Sault Ste Marie, which place he named On his return from a journey to Quebec in 1642, the party was captured by the Iroquois, several were killed, and the rest were subjected to cruel tortures. Father Jogues was held captive until July, 1643, when he was ransomed by the Dutch, brought to New Amsterdam, and from there embarked for France. Later he returned to Canada, and in April, 1646, he was sent among the Mohawk as an ambassador of peace He discovered Lake George, which he named Lac du St Sacrament. He was treated kindly, and when the treaty was effected in May, 1646, he returned to Quebec to make plans for establishing a mission among the Mohawk On his return, accompanied by Father Jean Lalande, he was met by a hostile band of the Mohawk near the present Auriesville, N.Y. The medicine men brought about the brutal murder of both priests They are among the men canonized in 1930 as the Jesuit Martyrs of North America Feast Sept 26 or (among the Jesuits) March 16 See Francis Talbot, *Saint among Savages* (1935)

Joha (jō'hŭ) **1** Son of BEBIAH **3** 1 Chron 8 16 **2** One of David's guard 1 Chron 11 45

Johanan (jōhā'năn) [short form of JEHOHANAN] **1** Captain who led in the rescue of the captives of Ishmael Jer 40 8–43, 2 Kings 25 23 **2** Descendant of David, 1 Chron 3 24 **3, 4** Two of David's men 1 Chron 12 4,12 **5** Chief priest Neh 12 22,23, Ezra 10 6 Jonathan Neh 12 11 **6** Son of King Josiah 1 Chron 3 15 **7** Father of AZARIAH **6** **8** Father of AZARIAH **19** **9** Head of a family in the return from the Exile Ezra 8 12 **10** Son of TOBIAH **1** Neh 6 18

Johanan ben Zaccai (jōhā'nun bĕn ză'kāi), Palestinian rabbi, contemporary of the apostles He established the great academy at JAMNIA in Judaea Johanan was especially influential in preserving and organizing Jewish law and the rules and ritual of temple worship

Johannesburg (jōhā'nĭsbûrg, yōhā'nusbŭrkh), city (pop 603,470), S Transvaal, Union of South Africa, founded 1886 It is the largest city of South Africa and the rail, commercial, and industrial center of the WITWATERSRAND Industries include textile milling and metalworking Founded as a mining settlement in the 1860s, it grew rapidly with the development of gold mining in the locality The city is laid out in a hilly region and has large park areas It is the site of the Univ of the Witwatersrand Other cultural institutions include an art gallery, a geographical museum, and a museum of Africana In Johannesburg was held the South Africa Empire Exhibition (1936–37)

Johannisberg (yōhă'nĭsbĕrk), village (pop 2,212), Hesse, W Germany, on the Rhine near Mainz It is celebrated for its magnificent wine

Johansen, John Christen (yōhan'sun), 1876–, American portrait and landscape painter, b Denmark. His work includes *October, Sear and Gold* (Chicago Municipal Art League), *Piazza San Marco* (Art Inst, Chicago), *Fvesole* (Richmond, Va, Gall), and *Interior–Evening* (Metropolitan Mus) His wife, **Jean MacLane Johansen,** 1878–, also a portrait painter, b Chicago, is represented in private collections and American museums Her *Girl in Gray* is in the Toledo Museum of Art

John, Saint [ultimately from Heb, =Johanan, God has been gracious], disciple of Jesus He has been accepted since ancient times as the author of five canonical books—the fourth Gospel, three epistles, and the Revelation (see JOHN, GOSPEL ACCORDING TO SAINT, JOHN, epistles, REVELATION) He and his brother, St James, were sons of Zebedee Jesus called them Boanerges (bō''unûr'jēz) or Sons of Thunder Mark 3 17 John was, apparently, the disciple "whom Jesus loved" (John 13 24, 19 26), to his care Jesus, in His dying moments, committed Mary He is mentioned occasionally in Acts (3, 4 13, 8,14), and inferences are drawn from the books bearing his name According to 2d-century authorities John died very old at Ephesus (c 100), where he had chiefly lived, except for a visit to Rome and a period of exile on Patmos (Rev 1 9). He is variously called St John the Evangelist, because of the Gospel, St. John the Divine (i e, theologian), because of the theological interest of the books, and the Beloved Disciple Feast Dec 27. May 6 is observed as the Feast of St John before the Latin Gate, to commemorate the dedication of a Roman basilica to him on the traditional site of his miraculous escape from martyrdom The Roman basilica called St John Lateran (though dedicated to the Savior) is the highest-ranking church building of the Catholic Church (see LATERAN)

John VIII, d 882, pope (872–82), a Roman, successor of Adrian II and predecessor of Marinus I John strenuously opposed the activities of St IGNATIUS OF CONSTANTINOPLE in Bulgaria When Ignatius died, he recognized PHOTIUS as patriarch and called the council (879–80) that reconciled the differences between East and West John was deeply involved in imperial politics He crowned Charles II (Charles the Bald) emperor and excommunicated Formosus for opposition to the papal policy. When Charles II lost his power, John favored Charles the Fat, who became emperor as Charles III. The pope had to bribe the Saracens to keep them from entering Rome. He did much to root out corruption in the church in Rome, and, except for NICHOLAS I, he was the strongest pope of the 9th cent

John XII, c.937–964, pope (955–64), a Roman (count of Tusculum) named Octavian, successor of Agapetus II and predecessor of Benedict V His father, Alberic, secured his election John's life was notoriously immoral, and his pontificate a disgrace He called in Otto I to help him against Berengarius, king of Italy Otto and John agreed to the *Privilegium Ottonis*, which confirmed to the pope the Patrimony of St Peter and guaranteed his safety, in return for the pope's loyalty to Otto and other concessions Otto left Rome, John, opposed to the emperor's control of the Church, went over to Berengarius' party and helped wage war against Otto, who returned and conquered Rome Otto then called a synod to depose John and elect an antipope, Leo VIII In 964, John took Rome from Leo and excommunicated the imperial party, but he was soon murdered He had permitted the opening wedge of the imperial attempts to control the papacy

John XXI, d 1277, pope (1276–77), a Portuguese named, in Latin, Petrus Iuliani, successor of Adrian V and predecessor of NICHOLAS III He was known generally as Peter of Spain (Petrus Hispanus) Peter's reputation as a scholastic philosopher was widespread, and he was the reputed author of a commonly used book on logic He was archbishop of Braga He was elected in the third papal election of the year, nine months later the ceiling of his library at Viterbo fell on him and killed him John was actually the 19th canonical pope named John, but through chronological errors he called himself John XXI, this numbering is usually maintained.

John XXII, 1244–1334, pope (1316–34), a Frenchman (b Cahors) named Jacques Duèse, successor of CLEMENT V and predecessor of Benedict XII He was formerly often called John XXI He reigned at Avignon He was celebrated as a canon jurist under BONIFACE VIII, whom he supported After the death of Clement there was a period of more than two years before the conclave could agree Before John was elected, a contest had begun in the empire between LOUIS IV and his rival, Frederick of Austria John was neutral at first, then in 1323, when Louis had won out, pope and emperor began a serious quarrel This was partly provoked by John's extreme claims of authority over the empire, partly by Louis's support of the radical Franciscans, whom John XXII condemned for their insistence on evangelical poverty Louis was assisted by Marsilius of Padua, who published his theories in 1324, and later by William of Ockham The emperor invaded Italy and set up as an antipope Pietro RAINALDUCCI (as Nicholas V) The project was a fiasco, but Louis silenced the papal claims In John's last years he advanced a theory concerning the vision of God in heaven, the novelty he proposed (that this vision will begin only after the Last Judgment) was everywhere denied and scorned by theologians, and John gave it up He was an excellent administrator and did much efficient reorganizing

John XXIII, antipope (1410–15) see COSSA, BALDASSARRE

John I (John Tzimisces) (tsĭmĭ'sēz), c 925–976, Byzantine emperor (969–76) Of a noble Armenian family, he attached himself to the court of his relative, Emperor NICEPHORUS II, but fell from favor in 969 Leading a rebellion, he had Nicephorus murdered and was proclaimed emperor John gained the favor of the patriarch of Constantinople by revoking his predecessor's anticlerical legislation An able soldier, he regained E Bulgaria from the Russians and extended Byzantine power in the east at the expense of the Arabs He was succeeded by Basil II

John II (John Comnenus) (kŏmnē'nus), 1088–1143, Byzantine emperor (1118–43), son and successor of Alexius I He was crowned despite the intrigues of his sister, ANNA COMNENA, and his mother, Irene His attempts to cancel the commercial privileges of the Venetians, granted by Alexius, were unsuccessful when Venice made a show of naval force, and his campaigns against the Magyars and Serbs were of little consequence However, he successfully defied Roger II of Sicily, made an alliance with Emperor Conrad III to check the growing Norman power, and conquered Cilicia from the Armenians. He died while fighting the Latin prince of Antioch John II was respected for his lofty character and, unlike many Byzantine emperors, was mild in the treatment of his adversaries He was succeeded by his son, Manuel I

John III (John Ducas Vatatzes), (dū'kŭs vŭtăt'zēz), d 1254, Byzantine emperor of Nicaea (1222–54), son-in-law and successor of Theodore I He extended his territory in Asia Minor and the Aegean islands, but failed (1235) to take Constantinople, although he was aided by IVAN II of Bulgaria Subsequently Ivan, the Cumans, and the Franks of Constantinople allied themselves against John, who held his own John joined the Turks against the Mongol invaders. He annexed Salonica (1246) and reduced Epirus to vassalage, thus nearly recovering the territories of the dismembered Byzantine Empire His reign fostered economic prosperity and learning He was succeeded by his son, Theodore II.

John IV (John Lascaris) (lă'skurĭs), b c 1250, d after 1273, Byzantine emperor of Nicaea (1258–61), son and successor (under a regency) of Theodore II Michael Palaeologus (later MICHAEL VIII) overthrew the regency and in 1259 was crowned joint emperor with John He postponed John's coronation and in 1261 had the boy blinded and imprisoned It is possible that John escaped from his fortress c 1273

John V (John Palaeologus), (pā''lēŏ'lŭgŭs), 1332–91, Byzantine emperor (1341–76, 1379–91), son and successor of Andronicus III He was forced to fight John VI (John Cantacuzene), who usurped the throne during his minority, but he came into power in 1355 In his reign the Ottoman Turks took Adrianople and Philippolis and conquered Serbia John vainly tried to heal the schism between East and West and to secure Western aid against the Turks He professed (1369) the Roman Catholic faith at Rome, while returning to Constantinople he was briefly imprisoned for debt in Venice In 1373 he was forced to pay tribute to Sultan MURAD I and to give him his son, Manuel, as hostage Deposed (1376) by his son Andronicus IV, he was restored in 1379 In 1390 his grandnephew, John VII, briefly usurped the throne John V was succeeded by Manuel II

John VI (John Cantacuzene) (kăn''tukūzēn'), c 1292–1383, Byzantine emperor (1341–55) He was chief minister under Andronicus III, after whose death he proclaimed himself emperor and made war on the rightful heir, John V He was aided by the Ottoman Turks, for whose entrance into Europe he is commonly blamed The war allowed STEPHEN DUSHAN to build up his Serbian empire In 1355 Cantacuzene abdicated and retired into a monastery, where he composed a history covering the period 1320–56

John VII (John Palaeologus) (pā''lēŏ'lŭgus), 1360?–1412?, Byzantine emperor In 1390 he briefly usurped the throne from John V, and after 1399 he was coemperor with his uncle, Manuel II He defended (1402) Constantinople against Bajazet I

John VIII (John Palaeologus), 1390–1448, Byzantine emperor (1425–48), son and successor of Manuel II When he acceded, the Byzantine Empire had been reduced by the Turks to the city of Constantinople John sought to secure Western aid by agreeing at the Council of Florence (1439) to the union of the Eastern and Western churches His brother, Constantine XI, was the last Byzantine emperor

John I, 1350–95, king of Aragon and count of Barcelona (1387–95), son and successor of Peter IV During his reign Aragon lost the duchy of Athens An enthusiastic patron of learning and an imitator of French customs, he held one of the most brilliant courts of the time He was succeeded by his son, Martin I

John II, 1397–1479, king of Aragon and Sicily (1458–79), king of Navarre (1425–79), count of Barcelona He succeeded his brother, Alfonso V, in Aragon, Catalonia, and Sicily and became king of Navarre through his marriage with Blanche, heiress of that kingdom After Blanche's death (1442), Navarre was ruled by their son, CHARLES OF VIANA, but conflict between father and son soon developed and plunged Navarre into civil war Charles took refuge in Italy, in 1461 a Catalan uprising in his favor forced John to recognize him as his heir After Charles's death John was expelled from Catalonia and René of Anjou chosen count of Barcelona Only in 1472 did John succeed in pacifying Catalonia At John's death Navarre passed to the house of FOIX through the marriage of John's daughter, Aragon, Catalonia, and Sicily passed to his son, Ferdinand II, who as Ferdinand V also became king of Castile

John, 1167?–1216, king of England (1199–1216), son of HENRY II and ELEANOR OF AQUITAINE The youngest son of the king, he was left out of the division of royal dominions and was called John Lackland His father's favorite, however, he received scattered possessions in England and France and the lordship of Ireland His brief administration in Ireland in 1185 was grossly mismanaged With characteristic cunning John in 1189 deserted his dying father and joined his rebelling brother, who was crowned RICHARD I (Richard Cœur de Lion) the same year The new king generously conferred lands and titles on John After Richard's departure on the Third Crusade, John led a rebellion against the justiciar, William of LONGCHAMPS, had himself acknowledged (1191) temporary ruler and heir to the throne, and conspired with PHILIP II of France to prolong Richard's captivity The king, however, upon his return in 1194 pardoned his brother's treachery. On Richard's death, John ascended the throne to the exclusion of his nephew, ARTHUR I of Brittany. The supporters of Arthur began a formidable revolt John at this time alienated public opinion in England by divorcing Isabel of Gloucester and made enemies in France by marrying Isabel of Angoulême, who

was betrothed to Hugh de Lusignan Philip promptly helped Arthur against John In 1202 Arthur was defeated and captured and it is said that John had him murdered in 1203 Philip continued the war and gradually gained ground until by a treaty in 1204 John surrendered Normandy, Anjou, Brittany, Maine, and Touraine—all his French dominions except Aquitaine and a part of Poitou When the moderate chancellor, Hubert WALTER, died the following year, John embarked on a course of misrule that eventually estranged him from both the Church and the barons After John's refusal to accept the election (1206) of Stephen Langton as archbishop of Canterbury, Pope INNOCENT III placed England under the interdict (1208), excommunicated and finally deposed John, and entered into negotiations for an invasion of England by Philip II In desperate straits, John surrendered England to the pope and received it back as a fief (1213) This complete submission improved John's situation greatly Having checked the danger of a French invasion, he formed an expedition to wage war on Philip in Poitou Although John was allied with his nephew, Emperor OTTO IV, and the count of Flanders, Philip won a complete victory at Bouvines (1214) John had resorted to all means to secure men and money for the campaign, and after returning home he attempted to collect a scutage from the barons who had refused to aid him on the expedition Abuses of feudal customs and extortion of money from the barons and the towns, not only by John but by Henry II and Richard I, had aroused intense opposition, which increased in John's unfortunate reign The barons now united in overwhelming force, and John in capitulation set his seal on the MAGNA CARTA at Runnymede June 15, 1215 Thus the greatest document of English constitutional history came to birth not from popular but from baronial force John, supported by the pope, gathered forces and renewed the struggle with the barons, who sought the aid of Prince Louis of France (later LOUIS VIII) In the midst of this campaign John died, and his son, HENRY III, was left to carry on the royal cause The portrait given of John by his contemporaries as tyrannical, treacherous, cruel, and ambitious is generally just though perhaps slightly exaggerated He is the central character of one of Shakspere's chronicle plays See Kate Norgate, *John Lackland* (1902), H W C DAVIS, *England under the Normans and Angevins* (1930), Sidney Painter, *The Reign of King John* (1949)

John I or **John the Posthumous**, 1316, king of France, posthumous son of Louis X He lived only a few days and was succeeded by his uncle, Philip V According to some reports, however, a dying child was substituted for John, who was taken to Italy and brought up by a merchant in Siena

John II (John the Good), 1319–64, king of France (1350–64), son and successor of Philip VI He began his reign with the sudden execution of the constable of France (whose office he gave to his favorite, Charles de la Cerda) and with the appointment of a group of dishonest and unpopular advisers He subsequently debased the coinage for the expenses of the Hundred Years War His quarrels with his son-in-law, CHARLES II of Navarre, lasted throughout his reign John was captured by the English at the battle of Poitiers (1356) During John's captivity in England, the dauphin (later King CHARLES V), who acted as regent, had to deal with a series of outbreaks of internal disorder which had been smoldering since John's accession In 1360, by the Treaty of BRÉTIGNY, John was released upon condition of paying a ransom and giving hostages In 1364 one of the hostages escaped, and John, to save his honor, returned to England, where he died

John I (John Zapolya) (zä'pôlyô), 1487–1540, king of Hungary (1526–40), voivode of Transylvania (1511–26), son of Stephen ZAPOLYA The leader of the antiforeign party of the Hungarian nobles, he secured a decree at the diet of 1505 by which no foreign ruler would be chosen king of Hungary after the death of King ULADISLAUS II To strengthen his own candidacy for the crown he sought to marry the king's daughter, Anna, but his suit was rejected and he was removed from the court through his appointment as voivode of Transylvania He ruthlessly crushed a peasant uprising in 1514 His anger at the marriage of Anna to Ferdinand of Austria (later Emperor FERDINAND I) probably motivated his failure to assist King Louis II at the battle of MOHACS (1526) Louis II was killed in the battle John was crowned king by the Hungarian nobles, but Ferdinand of Austria claimed the crown on the basis of his marriage with Anna as well as previous agreements In 1527 Ferdinand defeated John and was crowned by John's opponents John retired to his stronghold in the Carpathians In 1529 the Turks began to overrun Hungary John now descended upon and defeated Ferdinand's army and, after surrendering the crown to Sultan Suleiman I, was confirmed king by the sultan, who exercised real control. The struggle between John and Ferdinand ended in 1538, when John, who was then childless, agreed that the crown should pass to Ferdinand after his death The agreement was set aside when, a few months before John's death, a son, John Sigismund (John II), was born

John II (John Sigismund Zapolya), 1540–71, king of Hungary and prince of Transylvania, son of John I Through his mother, Isabel (daughter of Sigismund I of Poland), he was related to the Jagiello dynasty He was crowned king of Hungary on his father's death (1540) Sultan SULEIMAN I, on the pretext of protecting the infant's interests, invaded (1541) Hungary and took the capital Buda, which remained in Turkish hands for 150 years John and Isabel were given the principality of Transylvania, under Turkish suzerainty Actual power was in the hands of John's guardian, the monk George Martinuzzi, who sought to restore a unified Hungary In 1551 Martinuzzi procured the deposition of John and Isabel, who retired to Silesia, and reunited Transylvania with Hungary, recognizing Ferdinand of Austria and Bohemia (later Emperor FERDINAND I) as king Martinuzzi, made prince-primate and a cardinal, soon fell out with Ferdinand, who accused him of treasonable negotiations and who had him assassinated On the pressure of Suleiman I the diet of Transylvania recalled (1556) John and Isabel When Ferdinand made peace (1562) with Suleiman, he recognized John as ruler of Transylvania John did homage to Suleiman in 1566, when the sultan led his armies into Hungary in his last campaign An eight-year truce (1568) between Emperor Maximilian II and Sultan Selim II confirmed John in Transylvania Thus Hungary remained split into three states—an Austrian part, a Turkish part, and Transylvania John II's rule in Transylvania was remarkable for the adoption (1564) of Calvinism as the state religion by the diet He was succeeded as prince of Transylvania by Stephen Bathory

John II (John Casimir), 1609–72, king of Poland (1648–68), son of Sigismund III He took monastic orders but renounced them when he was elected to succeed his brother, Ladislaus IV The turbulent period of his reign is known in Polish history as the Deluge The troubles began with the uprising of the Cossacks under CHMIELNITCKI, supported by the khan of Crimea John II defeated (1651) the allied Cossack, Tatar, and Turkish forces, but in 1654 the Cossacks voted the union of the UKRAINE with Russia, and Tsar Alexis promptly invaded Poland In 1655 CHARLES X of Sweden invaded and overran Poland and was checked only by the miracle of CZESTOCHOWA, which fired the Poles to renewed resistance George Rakoczy, prince of Transylvania, who attacked Poland from the south, was defeated FREDERICK WILLIAM (the Great Elector) of Brandenburg, originally a Swedish ally, joined (1657) the Polish side in the struggle, but in return John Casimir had to recognize his full sovereignty over East Prussia In the Peace of OLIVA (1660) John moreover had to cede N Livonia to Sweden War with Russia ended only in 1667, with the cession of the eastern part of the Ukraine to the tsar During John's reign the abuse of the *liberum veto* (by which any deputy could dissolve the diet and annul its decisions) reached scandalous proportions The efforts of the king and of his French consort, Louise Marie de Gonzague, to nominate a successor during their lifetime (they were childless) resulted in several rebellions of the nobles A year after the death of his queen, who had exerted much influence over him, John abdicated (1668) and retired to an abbey at Nevers, France Michael Wisniowiecki was elected his successor, disorders continued during his reign (1668–73), which was succeeded by that of John III

John III (John Sobieski) (sôbyĕ'skē), 1624–96, king of Poland (1674–96), champion of Christian Europe against the Turks Of an ancient noble family, he was appointed (1668) commander of the Polish army He defeated (1673) the Turks at Khotin shortly after the death of King Michael, and in 1674 he was elected to succeed Michael on the throne John's plans to recover East Prussia led him to conclude alliances with France (1675) and Sweden (1677) against Frederick William of Brandenburg (the Great Elector) However, he completely reversed his foreign policy when Sultan Mohammed IV and the Hungarians under Thokoly advanced against Austria Realizing the danger to all Europe, John allied himself (1683) with Emperor Leopold I and, at the head of the combined imperial and Polish forces raised the siege of VIENNA and defeated the Turkish army under Kara Mustapha, which was almost three times larger than his own Despite the ungrateful reception the emperor gave him, John continued his campaign, pursuing the Turks into Hungary and in 1684 formed a Holy League with the pope, the emperor, and Venice. In 1686 he made a treaty with Russia, which confirmed the eastern part of the Ukraine to Russian suzerainty However, John's attempts (1684–91) to secure access to the Black Sea by wresting Moldavia and Walachia from the Ottoman Empire were unsuccessful. His loss of military prestige encouraged the nobles to oppose him at home. John's death, followed by the choice of the elector of Saxony as King Augustus II of Poland, marked the virtual end of Polish independence.

John I (John the Great), 1357?–1433, king of Portugal (1385–1433), illegitimate son of Pedro I. He was made grand master of the Knights of AVIS (1364) and exercised some influence in the realm, particularly in opposition to Leonor Telles, the queen of his half brother, Ferdinand I When Ferdinand died (1383) his widow and her lover undertook a regency in the name of Ferdinand's daughter, Beatrice, wife of John I of Castile. Nun' Álvares Pereira was the chief figure in the national revolt against Spanish hegemony John cooperated with him A Castilian force besieging Lisbon was stricken with pestilence in 1384 John, who had already sought English aid, acted as regent until he was elected king in 1385 In that year Portuguese independence was assured by a great victory over the Castilians at Aljubarrota Friendship with England was sealed by a treaty and by the marriage of John with Philippa, daughter of JOHN OF GAUNT John's reign was one of the most glorious in medieval Portuguese history His administrative reforms increased his popularity His sons, Duarte, Peter, Henry the Navigator, John, and Ferdinand, were important in the birth of the era of Portuguese colonial and maritime expansion In 1415 Ceuta in North Africa was conquered from the Moors John's reign also saw the first real flowering of Portuguese literature and emphasis on the chivalric tradition

John II (John the Perfect), 1455–95, king of Portugal (1481–95), son of Alfonso V He was an astute politician, an able statesman, and a patron of Renaissance art and learning He set about reducing the power of the feudal nobles, when the nobles opposed him, he had the duke of Braganza executed and himself killed the duke of Viseu Other nobles were also executed and royal supremacy asserted He maintained peace with Spain and signed the Treaty of Tordesillas, setting bounds for Spanish and Portuguese colonial expansion in 1494 John II also preserved Portuguese friendship with England Portuguese discoveries were much encouraged by John, who sent out men to India and Africa in search of Prester John He also sent a vessel N past North Cape Though he refused to help Columbus, whom he regarded as visionary, John encouraged the search for a sea route to India Diogo Cão discovered the Congo and Bartholomew Diaz rounded the Cape of Good Hope in John's reign, but it was not until after the king's death that Vasco da Gama reached India

John III (John the Fortunate), 1502–57, king of Portugal (1521–57), son of MANUEL I His reign saw the Portuguese empire at its apogee The great Asiatic possessions were extended by further conquest Brazil also flourished, but in the kingdom of Portugal itself decadence had set in with the decline of agriculture and of population The African exploits of Portugal were abandoned, but many Negro slaves were introduced into Portugal The Inquisition was introduced by John, who was pious and perhaps overdevoted to the clerical party The court was very corrupt, though the king himself was not Literature flourished at the beginning of the reign, but Portugal was falling into the stagnation that led to the disastrous reign of Sebastian

John IV, d 1656, king of Portugal (1640–56) He succeeded as duke of Braganza in 1630 Descended from Manuel I and in illegitimate line from John I, he was the logical claimant to the Portuguese throne when a revolution was planned to cast off the domination of Spain In 1640 the rule of the Spanish PHILIP IV was cast off John, who was spurred to ambition by his Spanish wife, was made king of independent Portugal Spain was at the time unable to quell the revolution John's policy was principally devoted toward securing foreign alliances, especially with France, in an effort to consolidate his position In his reign the Portuguese of Brazil threw off Dutch rule The Spanish problem was still unsettled at John's death John was singularly unwarlike himself and was devoted to hunting, music, and the arts. He was the first king of the Braganza line

John V (John the Magnanimous), 1689–1750, king of Portugal (1706–50), son of Peter II Before his accession the Methuen Treaty (1703) had brought Portugal into the War of the SPANISH SUCCESSION, on which the Portuguese spent much with little reward After that time John sought to maintain the English alliance and to keep peace, apart from giving assistance to the Venetians against the Turks He was a patron of arts and letters, had a sumptuous court, and built beautiful buildings in Lisbon He tried to improve the administration of Portugal and took a particular interest in the navy, but he has been much criticized for his extravagance and his subserviency to the Church He was succeeded by his son Joseph

John VI, 1769–1826, king of Portugal (1816–26), son of Peter III and Maria I. When his mother lost her mind, John assumed the reins of government (1792) though he did not formally become regent

until 1799 Bitterly opposed to the French Revolution, he joined the coalition against France and adopted a repressive policy in Portugal He was aided by Pina Manique, intendant of police, and sought the friendship of England The English alliance made Napoleon an inveterate enemy of Portugal. French and Spanish forces in 1801 quickly defeated Portugal and forced on her the humiliating Treaty of Badajoz (1801) John was completely submissive to Napoleon, but in 1807 the French under Junot marched against Portugal John and the royal family fled (1807) and arrived (1808) in Brazil, where John set up his court The result was a tremendous rise in the prestige of Brazil and unpopularity of the king in unhappy, war-torn Portugal John remained in Brazil even after the end of the Napoleonic Wars and after he became king at his mother's death It was only after the overthrow of the regency in Portugal by revolution (1820) and the proclamation of a very liberal constitution that John was persuaded by the British to return to Portugal, leaving his son Pedro (PEDRO I) as regent of Brazil (1821) After accepting the constitution, he took advantage of his opportunities to modify it He put down temporarily an absolutist revolt headed by his wife, Queen Carlota Joaquina, and his son Dom MIGUEL and in 1824 returned to Brazil, which was now an independent empire. On his death he left the regency of Portugal to his daughter, Isabel or Isabella, but left the matter of succession unsettled

John I, 1358–90, Spanish king of Castile and Leon (1379–90), son and successor of Henry II He defended his crown against JOHN OF GAUNT and married his son Henry to John of Gaunt's daughter John I tried unsuccessfully to unite the Portuguese and Castilian crowns and was twice defeated by the Portuguese, notably in the battle of Aljubarrota (1385) His son Henry III succeeded him

John II, 1405–54, Spanish king of Castile and Leon (1406–54), son and successor of Henry III He was little interested in government, which he entrusted to his favorite Alvaro de LUNA Literature, particularly poetry, flourished at his court, which was also celebrated for tournaments and brilliant festivals John was succeeded by his son Henry IV

John, in the Bible **1** See JOHN, SAINT **2** See JOHN THE BAPTIST **3** See MARK, SAINT **4** One of the high priest's family Acts 4 6 There are also several persons named John in the books of the Maccabees See MACCABEES and 1 Mac 9 36–38, 13 53, 16 2, 2 Mac 4 11, 11 17

John, Augustus Edwin, 1879–, British painter and etcher, b Wales, studied at the Slade School, University College, London A leading portrait painter, he has had as sitters many celebrities, among them Lloyd George, Lord Cecil, T E Lawrence, Sean O'Casey, and Queen Elizabeth He was elected to the Royal Academy of Arts in 1928, resigned in 1938, but was reelected in 1940 His paintings include *The Smiling Woman* and *Rachel* (Tate Gall , London), *Girl with Bouquet,* and *Seraphita* His fine etchings, less well known than his paintings, include several self-portraits as well as portraits of W B Yeats, Jacob Epstein, and James Joyce See studies by T W Earp (1934) and John Rothenstein (1945)

John, epistles of the New Testament, occupying the 23d, the 24th and the 25th place in the usual order, called First, Second, and Third John By universal tradition they are ascribed to St John, the disciple This authorship is necessarily denied by the many critics who do not admit St John to be writer of the Gospel, for 1 John was certainly written by the man who wrote the Gospel, and 2 and 3 John are widely agreed to be by the same author also The date of 1 John is about that of the Gospel, nothing can be said of the date of the other two These epistles are traditionally classed with the Catholic, or General, Epistles, but they were apparently addressed to definite churches or persons 1 John is a beautiful little homily on the blending of mystical and practical religion, intended for persons long Christian A division of the book gives prologue (1 1–4), God is light (1 5–2 28), God is righteous (2 29–4 6), God is love (4 7–5 12), epilogue (5 13–21) The necessity of good works to reveal the Christian heart is reiterated, e g , 2 3–5, 3 24, 4 7–11,20 There is an allusion to the Gnostic error of denying Jesus' historicity 4 2–3 2 John, in 13 verses, is the shortest book of the Bible The author refers to himself as elder (presbyter or priest) and is addressing some "elect lady," probably an allegorical title, perhaps for a particular church The letter warns against false teachers who deny the historicity of Jesus 3 John, in 15 verses, has the same author, it is addressed to a Gaius, of an unidentified church It protests against the failure of the leader of the church to receive teaching missionaries.

John, Gospel according to Saint, fourth book of the New Testament The most casual reading sets off this life of Jesus from the other three Gospels (see SYNOPTIC GOSPELS) The material is selected admittedly "that ye might believe that Jesus is the Christ, the Son of God, and that believing ye might have life through his name." 20 31 The aim of the Evangelist seems, then, to be twofold—to show that Jesus is the vital force in the world now and forever and that He lived on earth in order to reveal Himself to men in the flesh These two ideas are, for the Evangelist, complementary, and one of the artistic beauties of the Gospel is the way Jesus' acts as a human being introduce discourses upon His mystical nature Thus, in chapter 6, the feeding of the 5,000 is told, and following is the sermon on the Bread of Life The Gospel opens with a philosophical prologue (1 1–18), in which Jesus is identified with the Word (or LOGOS) The author adopted this term from current metaphysicians who used it to designate a medium between God and man related to God somewhat as an utterance is related to the speaker Hence "the Word was made flesh" (1 14) is the explicit classical statement of the Incarnation The book falls into two main sections, the ministry of Jesus (1 19–12 50) and the Passion and Resurrection (13–21) The first portion is a series of selected incidents, each edited with clear statement of interest The last part consists of a long account of the Last Supper (13–17), the scene of Jesus' beautiful farewell discourse, and the Passion proper (18–19) and Resurrection (20–21) The traditional date of composition is A D c 100, according to 20th-century criticism it was composed between A D 90 and 125 The ascription to St JOHN is very ancient, but it has been questioned by higher critics Many scholars agree that chapter 8, verses 1–11, and chapter 21 were not part of the Gospel as first composed, otherwise the book is usually considered to have been written almost exactly as it stands The influence of the Gospel of St John in Christianity has been tremendous The unique position of Jesus Christ in Christian theology as God and man, which involves the dogmas of the Trinity, the Incarnation and the Atonement, is first enunciated in this Gospel, and there very clearly See E F Scott, *The Fourth Gospel* (2d ed , 1930)

John Baptist de la Salle, Saint (sȧl), 1651–1719, French educator, b Rheims He became a priest and canon of the cathedral He spent his life teaching children of the poor In 1684 (having resigned his canonry) he formed of his assistants a new order, the Christian Brothers, or, more fully, the Brothers of the Christian Schools, the members are not ordained This was the first order devoted exclusively to Christian education In 1685 to train his teachers St John Baptist founded at Rheims what is called the first normal school He was a careful pedagogical thinker and ranks as one of the distinguished educators of modern times Some of his works have been translated into English His feast May 15 See Martin Dempsey, *John Baptist de la Salle* (1940)

John Bosco, Saint, 1815–88, Italian priest, b Piedmont As a priest at Turin he was very successful in work with boys He founded (1841) the Salesian order (i e , order of St Francis of Sales) for this work and for foreign missions Later he founded an order of women Daughters of Mary Auxiliatrix, for similar work among girls These orders have become very large Miracles were attributed to Don Bosco even in his lifetime He was canonized in 1934 Feast Jan 31 See Henri Gheon, *The Secret of Saint John Bosco* (1946)

John B. Stetson University. see DE LAND, Fla

John Bull see ARBUTHNOT, JOHN

John Capistran, Saint (kupi'strun), 1385?–1456, Italian preacher, b Capistrano, in the Abruzzi He was a Franciscan and collaborated with St BERNARDINE OF SIENA in the Observant reform of their order, like St Bernardine he was one of the great preachers of the day As nuncio to Austria he preached against the Hussites (1451) He led a wing of Hunyadi's army in the great victory of Belgrade (1456) Feast March 28

John Carroll University. see UNIVERSITY HEIGHTS, Ohio.

John Carter Brown Library: see BROWN, JOHN CARTER

John Chrysostom, Saint (kri'sŏstum, kris'ŏstum) [Gr ,=golden-mouth], c 347–407, Doctor of the Church, greatest of the Greek Fathers He was born in Antioch and studied Greek classics there As a young man he was baptized, became a reader in the church, and later was a monk He was ordained deacon (c 381) and priest (386) Under Flavian of Antioch he preached regularly in the cathedral In 398 he was suddenly made patriarch of Constantinople There he gained the admiration of the people by his eloquence, his ascetic life, and his charity His attempts to reform the life of the clergy in the worldly capital, however, alienated many monks and priests The court circle, charmed by him at first, came later to resent his denunciations of their ways He lost favor when he demanded mercy for the dishonored EUTROPIUS and when he refused to condemn without a hearing certain monks accused of heresy After much intrigue, Empress Eudoxia and Theophilus, bishop of Alexandria, succeeded in having St John condemned (403) by an illegal synod, on false charges, and without a hearing When he was deposed, the indignation of the people was reinforced by an opportune earthquake, and St John had to be recalled He went on vigorously attacking the flagrant immorality of the court, and Emperor Arcadius exiled him to Cucusus in Armenia There he continued to exert influence through his letters to friends, and Arcadius decided to move him to a more isolated spot on the Black Sea St John, already ill, died from the rigors of the journey. Not a formal polemicist, John Chrysostom still influenced Christian thought notably, and within 50 years after his death his works were considered authoritative He wrote brilliant homilies, interpreting the Bible wherever possible in the literal and the historical sense His treatise on the priesthood has always been popular His sermons and writings are remarkable for their purity of Greek style His influence was already great in his own day, and the pope in 406 withdrew from communion with Constantinople because of the treatment of St John Constantinople was not readmitted to communion for some 10 years, and Alexandria, also excommunicated, was not readmitted until the time of St Cyril In 438 St John's body was brought reverently to Constantinople, and Emperor Theodosius II did penance for his parents' offense John Chrysostom was not the author of the LITURGY that bears his name Feasts in the Eastern Church, Sept 14, Nov 13, and Jan 27, in the Western Church, Jan 27 See studies by W R W Stephens (3d ed , 1883, Anglican) and Donald Attwater (1939, Roman Catholic)

John Climax, Saint [Gr ,=ladder], d c 600, Syrian hermit of Mt Sinai His guide to the spiritual life, *The Ladder of Paradise,* in 30 steps, was popular in the Middle Ages He is called John Climacus and John Scholasticus Feast March 30.

John Crerar Library see CRERAR, JOHN

John Damascene, Saint. see JOHN OF DAMASCUS, SAINT

John Day, river, c 280 mi long, rising in several branches in NE Oregon, in the Blue Mts , and flowing W and N to the Columbia It was named for a member of the Astor expedition of 1811 It is used for power and irrigation in the Columbia river valley development

John Doe see DOE, JOHN

John Fisher, Saint see FISHER, JOHN

John Frederick I, 1503–54, elector of Saxony (1532–47) He succeeded his father, John the Steadfast, but by a settlement (1542) divided his lands with his brother Ernest A member of the SCHMALKALDIC LEAGUE, he vacillated in loyalty to Emperor CHARLES V, but was thrown into direct opposition when Charles undertook the Schmalkaldic War He was captured (1547) in the battle of Mühlberg and was forced to renounce the electorate in favor of his cousin and enemy, MAURICE, duke of Saxony. He was surnamed the Magnanimous.

John Henry, legendary Negro strong man celebrated in ballads and "tall tales" of Southern Negroes On these Roark Bradford based *John Henry* (1931), which he dramatized in 1939 The play was produced in 1940 in New York, with Paul Robeson in the leading role

John Hyrcanus see MACCABEES, Jewish family.

John Mark see MARK, SAINT

John Maurice of Nassau, 1604–79, Dutch general and colonial administrator, a prince of the house of Nassau-Siegen, grandnewphew of William the Silent The Dutch West India Company appointed him (1636) governor general of its newly acquired possessions in Brazil He conquered NE Brazil from the Portuguese and, in order to insure the supply of slave labor, seized several Portuguese strongholds on the Guinea coast of Africa An able administrator, John Maurice made broad plans for the development of Brazil He built up the state of Pernambuco and rebuilt the city of Recife However, the directors of the company criticized his expenses, while John Maurice was opposed to undertaking new hostilities which they ordered On his request he was recalled in 1643 He subsequently held commands in Europe in the Thirty Years War, governed, after 1647, Cleves, Mark, and Ravensberg for the elector of Brandenburg, and in 1652 was made a prince of the Holy Roman Empire, he also was made grand master of the Knights Hospitalers Despite his advanced age, he won new distinction in the Dutch Wars After his retirement in 1675 he lived at Cleves His residence at The Hague is the celebrated Mauritshuis

Johnny Appleseed see CHAPMAN, JOHN

Johnny-jump-up. see VIOLET

John of Austria, 1547?–1578, Spanish admiral and general, natural son of Emperor Charles V He was acknowledged in his father's will and was recognized by his half brother Philip II of Spain In 1569 he fought the Moriscо rebellion in Granada As admiral of the Holy League, formed against the Turks by Pope Pius V, Spain, and Venice, he won the decisive naval victory of LEPANTO He later took Tunis and served as governor general in Italy In 1576 he was sent by Philip as governor general to the Netherlands, then united in rebellion against Spain under the leadership of WILLIAM THE SILENT John was forced to make concessions, but then resumed hostilities His victorious general, Alessandro FARNESE, succeeded him as governor general on his death See Sir William Stirling-Maxwell, *Don John of Austria* (1883).

John of Austria, 1629–79, Spanish general and statesman; natural son of Philip IV He helped quell Masaniello's revolt in Naples (1647), was viceroy of Sicily (1648–51), and fought against the rebels in the final stages of the rebellion of Catalonia (1651–52) In 1656 he was appointed governor of the Spanish Netherlands, while France was at war with Spain (see FRONDE) Though successful at first against Turenne, he was defeated at the battle of the DUNES (1658) and then recalled His great popularity made it possible for him to overthrow the regency for CHARLES II and to seize power in 1677 His government was mediocre and, in its wars against Louis XIV of France, unsuccessful

John of Brienne (brēĕn'), c 1148–1237, French crusader, king of Jerusalem (1210–12) By marrying the daughter of Conrad of Montferrat and of Isabella, heiress of Jerusalem, he became king after the death of Amalric III (Isabella's son by Amalric II) His wife died in 1212, and his daughter Yolande succeeded to the title under his regency John played a conspicuous part in the Fifth Crusade (see CRUSADES), capturing Damietta in 1219, and in 1223 went to Europe in search of support He arranged the marriage (1225) between Yolande and Emperor FREDERICK II, who immediately claimed the crown of Jerusalem in his own behalf John, claiming the title for himself, in revenge fought against Frederick with the papal armies in Italy In 1228 he was chosen regent during the minority of BALDWIN II, Latin emperor of Constantinople He successfully defended (1236) Constantinople against the joint forces of John III of Nicaea and of Ivan II of Bulgaria

John of Damascus, Saint, or **Saint John Damascene** (dă'musēn), c 675–749, Syrian theologian, Doctor of the Church He was brought up at the court of the caliph in Damascus, where his father was an official and was educated by a Sicilian monk St John inherited his father's office, but resigned it (c.726) and entered a monastery in Palestine His life was largely spent in fighting with his pen for orthodoxy against iconoclasm His fame rests on his theological masterpiece, *The Fountain of Wisdom*, a Greek work in three parts—a theological study of Aristotle's categories, a history of heresies, based on Epiphanius and Theodoret, with supplementary material on iconoclasm and Islam, and a formal exposition of the Christian faith It was extensively used by the scholastics and is still a prime source for the dogmatic opinions of the principal Eastern Fathers He wrote hymns and regulated the choral parts of the Byzantine liturgy He stimulated the production of Byzantine painting The elegance of his Greek brought him the epithet Chrysorrhoas [gold-pouring]. His name also appears as John Damascenus Feast in Western calendars, March 27 See F P Cassidy, *Molders of the Medieval Mind* (1944).

John of Ephesus (ĭ'fusŭs), c 505–c 585, Syrian Monophysite historian, bishop of Ephesus He became a leader of the Monophysites, and Justinian, whose favor he enjoyed, set him over the Monophysite community in Constantinople John suffered greatly in the persecution of his sect after 571 His *Ecclesiastical History* makes an unusual effort to avoid prejudice It is especially valuable for the events of the 6th cent He is also called John of Asia

John of Gaunt [Mid Eng *Gaunt*=Ghent, his birthplace], 1340–99, duke of Lancaster, fourth son of EDWARD III of England He married Blanche of Lancaster and through her became earl (1361) and duke (1362) of Lancaster The Lancaster holdings made him the wealthiest and one of the most influential nobles in England He served under his brother, EDWARD THE BLACK PRINCE, in the Hundred Years War and went on the campaign to aid PETER THE CRUEL of Castile, which ended in victory at Nájera (1367) He married Constance, daughter of Peter, in 1369, gaining a claim to the Castilian throne When the Black Prince was stricken with illness in the French campaign of 1370–71, John took chief command. His expedition of 1373 severely depleted his army After a truce was reached he returned to England and as viceroy for the senile Edward III espoused the cause of the court party opposing the dying Black Prince For a short time John of Gaunt in effect ruled England He annulled the reforms of the Good Parliament of 1376, assembled a hand-picked Parliament in 1377, and restored the king's ministers and the king's mistress, Alice Perrers Hostility to the strong clerical party led by William of Wykeham caused him to join with JOHN WYCLIF, whom he later supported John of Gaunt was extremely unpopular, but kept control of the government during the minority of Richard II until 1386 In that year, allied with JOHN I of Portugal, who married one of his daughters, he led an expedition to make good his Castilian claims against JOHN I of Castile John of Gaunt finally agreed to peace in 1388, transferred his claims to his daughter by Constance of Castile, and married her to Henry III, himself heir to Castile He returned to England in 1389, was made duke of Aquitaine, and helped keep peace between Richard II and the hostile barons led by Thomas of Woodstock, duke of GLOUCESTER. In 1396 John of Gaunt married Catherine Swynford, many years his mistress, and had his children by her, under the name of Beaufort, declared legitimate. He died soon after the king had exiled his eldest son, the duke of Hereford (later Henry IV, first of the royal line of Lancaster). Another royal line, the Tudor, was descended from him and Catherine Swynford. John is also remembered as the patron of the poet Chaucer See biography by Sydney Armytage-Smith (1904)

John of Lancaster, 1389–1435, duke of Bedford; son of Henry IV of England and brother of Henry V. At the death of his brother (1422) he was designated as protector for the young Henry VI, he transferred his duties in England, however, to his brother Humphrey, duke of GLOUCESTER, and devoted himself to the affairs of France In his attempt to make permanent the English occupation of France, he gave the country an able, if severe, administration, but his position was undermined by the waverings of his ally, PHILIP THE GOOD, duke of Burgundy, and by the victories of JOAN OF ARC, whose execution in his term of office has injured his reputation He died just after the conclusion of peace between Philip and King Charles VII had definitely lost the English the Burgundian alliance His death deprived England of the only man powerful and respected enough to keep balance between the court's hostile factions.

John of Leiden, c 1509–1536, Dutch ANABAPTIST leader His original name was Beuckelszoon, Beuckelszoon, Bockelszoon, Bockelson, Beukels, or Bucholdt John of Leiden was attracted to the extreme left of the reformist movement through the influence of Thomas MÜNZER In 1533 he joined the Anabaptists and, as a follower of Johann Matthysszoon (Matthiesen), moved to Münster There, in 1534, the Anabaptists took up arms and deposed the civil and religious authorities After Matthyszoon's death in the siege, John of Leiden assumed leadership and set up a theocracy in the new Zion Soon John declared himself "king," with Bernard KNIPPERDOLLINCK second in command, and during his brief and arbitrary rule general lawlessness prevailed, polygamy was legalized, and property communized When the siege of the town led by the expelled prince bishop was successful in 1535, the leaders of the new "kingdom of Zion" were barbarously tortured and in the following year executed See E Belfort Bax, *Rise and Fall of the Anabaptists* (1903)

John of Luxemburg, 1296–1346, king of Bohemia (1310–46) The son of Emperor HENRY VII, he married Elizabeth, daughter of Wenceslaus II of Bohemia, and in 1310 he was chosen king of Bohemia, which had been in virtual anarchy since the assassination (1306) of Wenceslaus III He served with distinction in many wars and is especially remembered for his gallant death Though he had become blind, he went to aid his ally Philip VI of France against the English At Crécy he commanded that his charger be led into the thick of the fight, where he died in battle. He was succeeded by his son, who later became emperor as Charles IV

John of Nepomuk, Saint (nă'pōmŏōk), d 1393 or 1383, patron saint of Bohemia, a martyr. He is called also John Nepomucen He was vicar general of Bohemia under King Wenceslaus IV (Emperor Wenceslaus) When the king wished uncanonically to convert an abbey into a cathedral, St John opposed him, in spite of torture The king had him drowned in the Moldau Another story tells that he was the queen's confessor and was murdered by the king for refusing to violate the seal of the confessional The wide acceptance of this story has led some scholars to suppose that there were two Johns born in Nepomuk, both clerics and both murdered by King Wenceslaus Feast May 16

John of Procida (prō'chēdä), c 1210–c 1298, Italian conspirator, lord of the island of Procida He studied medicine at Salerno Later he became an ardent supporter of the Hohenstaufen cause, serving under the ill-fated MANFRED and CONRADIN After Conradin's execution (1268) John found exile at the court of Manfred's son-in-law, PETER III of Aragon Peter sent him to seek the aid of the Byzantine emperor, Michael VIII, for a projected invasion of Sicily John probably also secretly visited Sicily, preparing the tremendous uprising of the SICILIAN VESPERS (1282), which resulted ultimately in the accession of Peter to the Sicilian throne In 1283 John was made chancellor of Sicily He later supported FREDERICK II of Sicily

John of Salisbury (sôlz'–), c.1115–1180, English scholastic philosopher, b Salisbury. He studied in France at Paris and Chartres under Abelard and other famous teachers, was in Italy, apparently from 1148 through 1153, and went on missions abroad for Theobald, archbishop of Canterbury, while he was Theobald's secretary He was friend and secretary to St. Thomas à Becket, was present at his assassination, and later wrote a life of him. John was (1176–80) bishop of Chartres. His two main works are the *Polycraticus*, a treatise on the principles of government, and the *Metalogicus*, which presents a picture of the intellectual life and the scholastic controversies of the age. He was well acquainted with the Latin classics, and the influence of Platonism on his writing is considerable He was one of the originators of moderate REALISM as a solution to the controversy with nominalism See two selections from the *Polycraticus*—*The Statesman's Book of John of Salisbury* (tr. by John Dickinson, 1927) and *Frivolities of Courtiers* (tr by J. P Pike, 1938), C. C. J. Webb, *John of Salisbury* (1931).

John of Speyer (spī'ur), d. 1470, first printer in Venice, b Bavaria. He designed the first type purely roman in character, and for it he obtained a five-year patent It appears in Cicero's *Epistulae ad familiares* and Pliny's *Historia naturalis*, both printed in 1469 On his death his patent on the roman design expired, Nicolas JENSON was enabled to print with roman type in 1470

John of the Cross, Saint, Span *Juan de la Cruz*, 1542–91, Spanish mystic, whose name originally was Juan de Yepes He was a founder of the Discalced Carmelites and a close friend of St Theresa of Ávila, who guided him in his life of devotion. Because of his ardor in pursuing St Theresa's proposed reforms he fell afoul of the hierarchy and suffered considerable abuse, including imprisonment He wrote poems that blend exquisite lyricism with profound mystic thought, and he was also the author of a few treatises on mysticism, which have had great influence on modern Catholicism He was canonized in 1726 and declared a Doctor of the Church in 1926 Feast Nov 24 See Robert Sencourt, *Carmelite and Poet* (1944).

John o' Groat's House (jan" ŭgrōts'), locality in Caithness, Scotland, W of Duncansbay Head. It is often erroneously named as the northernmost point of Scotland The house, which has disappeared, was according to legend built in octagonal form by a Dutchman, John de Groot or John o' Groat, in the 16th cent

John Scotus. see DUNS SCOTUS, JOHN, and ERIGENA, JOHN SCOTUS

Johns Hopkins University, at Baltimore, nonsectarian, partly coeducational, chartered 1867, opened 1876, with a bequest from Johns Hopkins The medical school (connected with the noted hospital) is one of the largest in the world The university has also a college of arts and sciences and a teachers college (now part of McCoy College) and schools of business, engineering, hygiene and public health, geography (Isaiah Bowman), and international relations (Page) The library is especially rich in books on economics, philology fine arts, meteorology, psychology, philosophy, and Jewish history The university has from its origin (with Daniel C GILMAN as president) excelled in laboratory and research work, in 1946 an institute for cooperative research was established Other presidents were Ira Remsen, Frank J Goodnow, Joseph S Ames, and Isaiah Bowman The university press, the first in an American school, pioneered with learned journals and serials See history by B M Bernheim (1948)

Johnson, Allen, 1870–1931, American historian, b Lowell, Mass , grad Amherst (B A , 1892, M A , 1895), Ph D Columbia, 1899 After studying also at Leipzig and Paris, he was professor of history at Iowa (now Grinnell) College (1898–1905), Bowdoin (1905–10), and Yale (1910–26) He achieved a notable success in editing the "Chronicles of America" (50 vols , 1918–21), a series at once scholarly in material and popular in style, to which he contributed *Jefferson and His Colleagues* (Vol. XV, 1921) This success was partly responsible for his being selected as editor in chief of the *Dictionary of American Biography*, published under the auspices of the American Council of Learned Societies Six volumes appeared before his death, setting the style and standard for the remainder of the enterprise Johnson also wrote *Stephen A Douglas* (1908), *Union and Democracy* (1915), and *The Historian and Historical Evidence* (1926) He edited *Readings in American Constitutional History, 1776–1876* (1912) and, with W A Robinson, *Readings in Recent American Constitutional History, 1876–1920* (1927)

Johnson, Andrew, 1808–75, 17th President of the United States, b Raleigh, N C. His father died when Johnson was three, and at 14 he was apprenticed to a tailor. In 1826 the family moved to E Tennessee, and Andrew soon had his own tailor shop at Greeneville. A man of no formal schooling but of great perseverance and strength of character, he was greatly aided by his wife, Eliza McCardle, whom he married in 1827; she taught him to write and improved his reading and spelling. He prospered at his trade, and the tailor shop became the favored meeting place of other craftsmen, laborers, and small farmers interested in discussing public affairs. The best debater in the community, he became the acknowledged leader of this group in opposition to the slaveholding aristocracy. From 1830 onward he was almost continuously in public office, being alderman (1828–30) and mayor (1830–34) of Greeneville, state representative (1835–37, 1839–41), state senator (1841–43), Congressman (1843–53), governor of Tennessee (1853–57), and

U.S. Senator (1857–62). As U.S. Representative and Senator, Johnson was principally interested in securing legislation providing land in the West for the laboring class. He voted with other Southern legislators on questions concerning slavery, but after Tennessee seceded (June 8, 1861), he remained in the Senate, the only Southerner there. He vigorously supported Lincoln's administration, and in March, 1862, the President appointed him military governor of Tennessee with the rank of brigadier general of volunteers His ability in filling this difficult position (see TENNESSEE) and the fact that he was a Southerner and a war Democrat made him an ideal choice as running mate to Lincoln on the successful Union ticket in 1864 On April 15, 1865, the day after Lincoln's assassination, he took the oath of office as President Johnson's RECONSTRUCTION program (and he insisted that Reconstruction was an executive, not a legislative, function), like Lincoln's, was based on the theory that the Southern states had never been out of the Union He therefore restored civil government in the ex-Confederate states as soon as it was feasible Because he was not prepared to grant equal civil rights to Negroes and because he did not press for the wholesale disenfranchisement of ex-Confederates, he was roundly denounced by the radical Republicans who, led by Thaddeus STEVENS, set out to destroy his work on the reconvening of the 39th Congress in Dec , 1865 In the first test of strength, he vetoed (Feb 19, 1866) the bill extending the life of the FREEDMEN'S BUREAU, but it was soon (July) passed over his veto The remainder of his administration was the record of one humiliation after another His "swing around the circle" in the congressional elections of 1866 was unsuccessful Baited by mobs organized by the radicals and slandered by the press, he was subjected to such foul personal abuse as no President had ever experienced On March 2, 1867, the radicals passed, over his veto, the Reconstruction Act and the TENURE OF OFFICE ACT When Johnson insisted upon his intention to force out of office his Secretary of War, Edwin M STANTON, whom he rightly suspected of conspiring with the congressional leaders, the radical Republicans sought to remove the President Their first attempt failed (Dec , 1867), but on Feb 24, 1868, the House passed a resolution of impeachment against him even before it adopted (March 2–3) 11 articles detailing the reasons for it Most important of the charges, which were purely political, was that he had violated the Tenure of Office Act in the Stanton affair On March 5 the Senate, with Chief Justice Salmon P Chase presiding, was organized as a court to hear the charges The President himself did not appear In spite of the terrific pressure brought to bear on several Senators, the court narrowly failed to convict, the vote, on the 11th article (May 16) and on the second and third articles (May 26), was 35 to 19, one short of the constitutional two thirds required for removal The nation and the office of the presidency were fortunate in the result Although the problems of Reconstruction dominated Johnson's administration, there were important achievements in foreign relations, notably the purchase (1867) of Alaska, negotiated by Secretary of State William H SEWARD Johnson's name figured in the balloting at the Democratic convention of 1868, but he did not actively seek the nomination In 1875, on his third attempt to resume public office, he was returned to the Senate from Tennessee, but died a few months after taking his seat See D M De Witt, *The Impeachment and Trial of Andrew Johnson* (1903), C R Hall, *Andrew Johnson, Military Governor of Tennessee* (1916), biographies by R W Winston (1928) and L P Stryker (1929), C G Bowers, *The Tragic Era* (1929); H K Beale, *The Critical Year* (1930), G F Milton, *The Age of Hate* (1930)

Johnson, Cave, 1793–1866, American political leader, b Robertson co , Tenn He practiced law in his native state and served (1829–37, 1839–45) in the U S House of Representatives He gave active support to James K Polk in the presidential campaign of 1844 Johnson served (1845–49) as U S Postmaster General in Polk's cabinet and introduced postage stamps in the U S postal system He later became (1853) a circuit judge in Tennessee and supported James Buchanan for President in the election of 1856 He opposed secession, but afterwards supported the Confederacy.

Johnson, Douglas Wilson, 1878–1944, American geologist, b Parkersburg, W Va , grad. Univ of New Mexico (B S , 1901), Ph.D Columbia, 1903 After teaching at Harvard (1906–12), he joined the faculty of Columbia, where he became successively associate professor (1912) and professor (1919) of physiography and chairman (1936) of the geology department. Johnson was chief of the division of boundary geography of the American delegation to the Paris Peace Conference (1918–19) and consulting physiographer to the Canadian government in the Labrador boundary negotiations (1926) His works include *Battlefields of the World War* (1921), *Stream Sculpture on the Atlantic Slope* (1931), *The Origin of Submarine Canyons* (1939), and *The Origin of the Carolina Bays* (1942).

Johnson, Duncan Starr, 1867–1937, American botanist and educator, b. Cromwell, Conn., grad Wesleyan Univ., 1892, Ph D. Johns Hopkins, 1897 He taught at Johns Hopkins from 1898 and became professor of botany in 1906. Johnson headed various scientific investigations for the school and directed their botanic garden from 1913. He wrote *The Relation of Plants to Tide-Levels* (with H. H. York, 1915), and *The Fruit of Opuntia Fulgida* (1918)

Johnson, Eastman, 1824–1906, American portrait and genre painter, b Lovell, Maine He worked in the shop of a Boston lithographer and learned to make crayon portraits In 1849 he went to Dusseldorf, where he studied for two years He spent four years in The Hague, and his study there of the Dutch masters greatly influenced his later work He returned to America in 1855 and traveled in the South and West, settling in New York in 1860 He was elected that year to the National Academy of Design His genre pictures, such as *Old Kentucky Home* and *Sunday Morning* (N Y Public Library) and *Corn Husking at Nantucket* and *The New Bonnet* (Metropolitan Mus), made him famous After 1885, however, he devoted himself to portraiture Among his sitters were Presidents Hayes, Cleveland, and Harrison, Cornelius Vanderbilt, Emerson, and Longfellow *Two Men* and *Family Group* are in the Metropolitan Museum

Johnson, Edward, 1884–, Canadian operatic tenor, b Guelph, Ont , studied in Italy He made his debut in Padua in 1912 and afterwards sang (1913–18) at La Scala in Milan, there, in 1914, he sang the title role in the first Italian performance of *Parsifal* He joined the Chicago Opera Company in 1920 and the Metropolitan Opera Company, New York, in 1922 He sang the leading tenor roles in French and Italian operas and created the principal roles in Deems Taylor's *The King's Henchman* and *Peter Ibbetson* and in Howard Hanson's *Merry Mount* He left the stage in 1935 and became general manager of the Metropolitan Opera Company, retiring in 1950

Johnson, Edwin Ferry, 1803–72, American surveyor and civil engineer, b Essex, Vt He was connected with the surveys for the Erie, Champlain, Morris, and other canals and later served as assistant engineer and chief engineer in the location and construction of many railroads His *Review of the Project for a Great Western Railway* (1831) advocated a system of railroads to the Mississippi, in *The Railroad to the Pacific* (1854) he urged the route subsequently used by the Northern Pacific, of which he was chief engineer (1867–71) Author of important reports for the War Dept in the Civil War, he declined an appointment as Assistant Secretary of War.

Johnson, Emily Pauline, 1862–1913, Canadian poet, b. near Brantford, Ont , daughter of an Indian chief and his English wife Although she had little formal training, her early poems in praise of Indian life were highly popular in recitals, and in 1892 she began a series of successful tours through America and England Her poems appeared in *White Wampum* (1895) and *Canadian Born* (1903) Her collected poems were published (1913) as *Flint and Feather* In Vancouver, where she spent her later life, from a friendly Indian chief she learned tales of the Indians of the Pacific Northwest hitherto unrecorded and published them in *Legends of Vancouver* (1911)

Johnson, Emory Richard, 1864–1950, American economist, b Waupun, Wis After receiving his Ph D from the Univ of Pennsylvania in 1893, he joined its faculty, he was dean of its Wharton School of Finance and Commerce from 1919 to 1933 He served on several government commissions as a transportation expert and wrote many books on the subject, including *Elements of Transportation* (1909), *Government Regulation of Transportation* (1938), and *Transportation Facilities, Services, and Policies* (1947) See his autobiography, *Life of a University Professor* (1944)

Johnson, Guy, c 1740–1788, Loyalist leader in colonial New York, b Ireland He came to America as a boy and married (1763) a daughter of Sir William Johnson, whom he succeeded as superintendent of Indian affairs in 1774 He had served in the French and Indian War and had acted as a deputy of Sir William after 1762 In the American Revolution he naturally took the British side and helped to keep most of the Iroquois loyal to the British He made his headquarters at Niagara and with his deputy, John BUTLER, directed Loyalist and Tory raids against the patriot frontier settlements He was succeeded as superintendent of Indian affairs by Sir John JOHNSON in 1782

Johnson, Herschel Vespasian, 1812–80, American statesman, b Burke co , Ga , grad Univ of Georgia, 1834. He was a judge of the Georgia superior court (1849–53) and governor (1853–57) Though a firm believer in states' rights, he opposed secession. In the Democratic national convention at Charleston in 1860, Johnson fought vainly against the disruption of the party and afterwards was nominated at Baltimore, by the National Democrats, for Vice President on the ticket with Stephen A Douglas He was a Unionist leader in the Georgia secession convention of 1861, but afterwards supported the Confederacy Elected to the Confederate senate in 1862, Johnson, like Gov Joseph E BROWN of Georgia, opposed President Davis's policies on conscription and the suspension of the writ of habeas corpus and otherwise showed his states' rights convictions After the war he was elected to the U S Senate, where he had previously served (1848–49), but was not allowed to take his seat He was again a judge of the superior court from 1873 until his death. See biography by P. S Flippin (1931)

Johnson, Hiram Warren, 1866–1945, American political leader, U S Senator (1917–45), b Sacramento, Calif After study at the Univ of California he was admitted (1888) to the bar and practiced law Johnson, as prosecuting attorney, secured the conviction of Abe RUEF and other political grafters in San Francisco after the prosecutor was shot down in court while the trial was going on Twice (1910, 1914) elected governor of California, Johnson broke much of the political power of the railroads in his state, and he secured enactments of wide social, economic, and political reforms He was a founder of the Progressive party and ran (1912) unsuccessfully for Vice President on the Progressive ticket in 1912 along with Theodore Roosevelt Johnson refused to support Republican presidential candidate Charles E Hughes in 1916, and Hughes lost the state of California and the election, Woodrow Wilson was victorious, and Johnson was elected U S Senator on the Progressive ticket In 1920 Johnson was a leading contestant for the Republican presidential nomination, but, after Warren G Harding was nominated, Johnson declined offers of the vice presidential nomination He was again a Republican candidate in 1924, but the party was then in strong conservative hands Although he at first supported the Hoover administration, he later became its bitter opponent, and in 1932 he gave Franklin D. Roosevelt strong support He had been a stubborn opponent of the League of Nations, and he remained one of the most consistent of the isolationists in Congress, he was against American adherence to the Permanent Court of International Justice, he opposed Roosevelt's foreign policy, and he voted (1945) against ratification of the Charter of the United Nations

Johnson, Hugh Samuel, 1882–1942, American army officer, government administrator, b Fort Scott, Kansas, grad West Point, 1903, and Univ of California (B A , 1915, J D , 1916) He entered (1903) the U S army as a second lieutenant, rose through the grades, and served (1916) under Gen John J Pershing in the Mexican punitive expedition In the First World War he formulated (1917) plans for selective service in the U S army, helped write the Selective Service Act, and supervised execution of the draft Johnson resigned (1919) from the army as brigadier general, became a business executive and joined (1927) the research staff of Bernard BARUCH He was summoned (1933) to Washington, D C , to help formulate the National Industrial Recovery Act, and after its passage he served (1933–34) as head of the National Recovery Administration At this post he was responsible for the establishment of numerous codes for the recovery of business in America He was later (1935) WPA administrator for New York city and became a newspaper columnist and radio commentator

Johnson, Jack (John Arthur Johnson), 1878–1946, American boxer, b Galveston, Texas. He began boxing in Dallas, Texas, and by 1904 attracted considerable attention Johnson, a formidably built Negro, defeated (1908) Tommy Burns at Sydney, Australia, and claimed the world's heavyweight championship After much public pressure, James J JEFFRIES finally agreed to fight Johnson and Johnson definitely took (1910) the heavyweight title at Reno, Nev , knocking out Jeffries in the 15th round Convicted (1913) of having violated the Mann Act, Johnson fled to Europe and later (1915) lost his heavyweight crown to Jess Willard in Havana, Cuba

Johnson, James Weldon, 1871–1938, American Negro author, b Jacksonville, Fla , educated at Atlanta Univ and at Columbia He was the first Negro to be admitted to the Florida bar and later was American consul (1903–12), first in Venezuela and then in Nicaragua In 1930 he became a professor at Fisk Univ , and in 1934 a visiting professor at New York Univ He helped found and was secretary (1916–30) of the National Association for the Advancement of Colored People His novel *Autobiography of an Ex-Coloured Man* (1912), published anonymously, caused a great stir and was republished under his name in 1927 His work includes *God's Trombones* (1927), Negro sermons in verse, and *Black Manhattan* (1930) He wrote songs with his brother, Rosamond JOHNSON He was killed when a train struck his car. See his autobiography, *Along This Way* (1933).

Johnson, Sir John, 1742–1830, Loyalist leader in the American Revolution, b Mohawk valley, N Y , son of Sir William JOHNSON He fought against the Indians in Pontiac's Conspiracy and aided his father. In the Revolution, like his

brother-in-law, Guy JOHNSON, he set out to organize the settlers and Indians of the Mohawk region against the patriots The plan failed, and he fled to Montreal In the Saratoga campaign (1777) he served with Barry St Leger and led a detachment at Oriskany. Later he led several raids on the Mohawk and Schoharie valleys After the Revolution, he moved to Canada and in 1782 succeeded Guy Johnson as superintendent of Indian affairs

Johnson, John Albert, 1861–1909, governor of Minnesota, b St Peter, Minn The son of poor parents, he left school at the age of 13 and worked at various trades until 1887, when he became editor and half owner of the St Peter *Herald*, a Democratic journal His editorials, showing his interest in state and local affairs, brought him into public notice, and in 1898 he was elected state senator In 1904 he was elected governor on the Democratic ticket in a Republican state which gave Theodore Roosevelt a two-to-one majority that year Johnson's victory won him national fame, increased by his reelections in 1906 and 1908 His progressive administration, gracious personality, and talent for speaking made him one of Minnesota's most popular governors He had some support for the presidential nomination at the Democratic convention of 1908 His sudden death in 1909 cut short a promising career See biographies by F A Day and T M Knappen (1910) and W G Holmes (1949)

Johnson, John Butler, 1850–1902, American civil engineer, b Marlboro, Ohio, grad Univ of Michigan, 1878 He was professor of civil engineering (1883–99) at Washington Univ, St Louis, and then became dean of the college of engineering at the Univ of Wisconsin He was the author of many widely used manuals and textbooks At Washington Univ he carried out (1892–95) for the U S division of forestry (later the Forest Service) the first systematic studies on the strength of various kinds of timber

Johnson, Louis Arthur, 1891–, U S Secretary of Defense (March, 1949–), b Roanoke, Va, grad Univ of Virginia (LL B, 1912) A lawyer in Clarksburg, W Va, after 1912, he was elected (1917) as a Democrat to the West Virginia legislature and became majority floor leader He fought in the Meuse-Argonne offensive in the First World War, was discharged with the rank of major, and was national commander of the American Legion (1932) He was appointed (1937) Assistant Secretary of War but resigned (1940) when Henry L Stimson became Secretary of War He replaced James V FORRESTAL as Secretary of Defense to unify the armed forces under the National Military Establishment

Johnson, Martin Elmer, 1884–1937, American explorer and author, b Rockford, Ill He left home at 14 to work his way to Europe on a cattle boat, returning as a stowaway He then joined the crew of Jack London's round-the-world cruise on the *Snark*, the only member of the party to complete the trip His interest in photographing wildlife and native tribes seen on this voyage led him to make several trips for this purpose to the South Sea Islands and Borneo before undertaking (1921) the African expeditions for which he is best known His films include *Simba*, *Congorilla*, and *Baboona*, as well as the film of vanishing wildlife in Africa made (1924–29) for the American Museum of Natural History He was killed in an airplane crash in the United States His wife, **Osa Helen (Leighty) Johnson,** 1894–, accompanied him on all his expeditions and is co-author of *Cannibal Land* (1917), *Camera Trails in Africa* (1924), *Safari* (1928), and *Lion* (1929) In 1941 she married Clark H Getts She is the author of *Brides in the Solomons* (1944) See O H Johnson, *I Married Adventure* (1940)

Johnson, Owen, 1878–, American author, b New York city, grad Yale, 1901 He was the son of Robert Underwood Johnson He is known primarily for his amusing stories of preparatory school and college life, *The Varmint* (1910), *The Tennessee Shad* (1911), and *Stover at Yale* (1911)

Johnson, Reverdy, 1796–1876, American lawyer and statesman, b Annapolis, Md, grad St John's College, Annapolis, 1811. Admitted to the bar in 1815, he served in the Maryland legislature (1821–29) and won a reputation before the U S Supreme Court as one of the ablest constitutional lawyers of the period His constitutional argument as counsel for the defense in the Dred Scott Case is known to have greatly influenced the court, particularly Chief Justice Roger Taney He was elected (1845) to the U S Senate as a Whig, but left in 1849 to become U S Attorney General under President Zachary Taylor, resigning upon Taylor's death in 1850. With the decline of the Whigs he became a conservative Democrat, and in 1860 he supported Stephen A Douglas Though sympathetic with the South, he was absolutely opposed to secession and used his influence to keep Maryland in the Union Eager for compromise, he was a delegate to the unsuccessful peace conference held in Washington in 1861 Abraham Lincoln in 1862 sent him to New Orleans to investigate the complaints of residents against Gen. Benjamin F BUTLER, and Johnson ordered the restoration of much property which Butler had seized. As one of the defense counsel for Mary E SURRATT, alleged accomplice of John Wilkes Booth, he argued that the trial should be held before a civil court Again in the U S. Senate (1863–68), he supported President Andrew Johnson's Reconstruction program, and his opposition to the impeachment of Johnson influenced other senators in voting for the President's acquittal In 1868 he was appointed minister to Great Britain, where he negotiated the Johnson-Clarendon Treaty to settle the *Alabama* claims, the treaty was rejected by the U S Senate largely for party reasons, and Johnson was recalled in 1869 Until his death he was active in many notable law cases See biography by B C. Steiner (1914)

Johnson, Richard Mentor, 1781-1850, Vice President of the United States (1837-41), b Kentucky, on the site of present Louisville He studied at Transylvania Univ, was admitted (1802) to the bar, became prominent in state Democratic politics, and served (1804–7) in the Kentucky legislature He was elected (1806) to the U S House of Representatives and supported President Thomas Jefferson He resigned from the House to command a regiment of Kentucky riflemen in the War of 1812 and served under William Henry HARRISON in the Canadian campaign At the battle of the Thames (1813) Johnson was severely wounded in action and is said to have killed TECUMSEH He returned to the House (1814) but resigned (1819) to fill the unexpired term of John J CRITTENDEN in the U S Senate, where he served until 1829 Again (1829–37) in the House, Johnson supported President Andrew Jackson's administration and pushed the bill (1832) abolishing imprisonment for debt Backed by Jackson, Johnson was nominated (1836) Vice President on the Democratic ticket with Martin Van Buren Failing to secure a majority of the electoral vote, he was elected by the U S Senate See biography by L H Meyer (1932)

Johnson, Richard W., 1827–97, Union general in the Civil War, b Livingston co, Ky, grad West Point, 1849 Before the Civil War he served principally on the frontier Johnson, made a brigadier general of volunteers in Oct, 1861, served as a division commander in the Armies of the Ohio and the Cumberland He fought at Shiloh and Murfreesboro and in the Chattanooga and Atlanta campaigns For his service at the battle of Nashville in Dec, 1864, he was brevetted major general of volunteers After his retirement from the army in 1867 Johnson taught military science at the Univ of Missouri and the Univ of Minnesota

Johnson, Robert Underwood, 1853–1937, American poet and editor, b Washington, D C He was associated with the *Century Magazine* from 1873 to 1913, succeeding Richard Watson Gilder as editor in 1909 *Poems of Fifty Years* (1931) is a definitive collection of his work In 1919 he became director of the Hall of Fame, New York Univ, and in 1920–21 he served as U S ambassador to Italy See his *Remembered Yesterdays* (1923)

Johnson, Rosamond (John Rosamond Johnson), 1873–, American Negro composer, b Jacksonville, Fla, studied at Atlanta Univ and at the New England Conservatory of Music, Boston He toured (1896–98) in vaudeville in the United States and in Europe In the season 1912–13 he was conductor at Oscar Hammerstein's London Opera House In 1914 he became director of the Music School Settlement for Colored People, New York He is the composer of several hundred songs, including *Lift Every Voice and Sing*, for which his brother, James Weldon Johnson, wrote the words, it has become known as the Negro national anthem His *Rolling Along in Song* (1937) is an anthology of American Negro songs He collaborated with his brother in a number of songs, in a musical comedy, the *Shoo-Fly Regiment*, and in two collections (1925, 1926) of Negro spirituals

Johnson, Rossiter, 1840–1931, American editor, b Rochester, N Y He was associate editor (1873–77) of the *American Cyclopaedia*, editor (1883–1902) of the *Annual Cyclopedia*, and managing editor (1886–89) of the *Cyclopedia of American Biography* He originated and edited the "Little Classics" (18 vols, 1875–80) and was editor in chief of "The World's Great Books" (40 vols, 1898–1901) He was also editor of other publishing enterprises, lectured widely, and wrote many books of journalistic content

Johnson, Samuel, 1696–1772, American clergyman, educator, and philosopher, b Guilford, Conn, grad Collegiate School (now Yale), 1714, father of William Samuel Johnson. He became a Congregationalist minister, but in 1722 joined the Church of England In 1724 he opened the first Anglican church in Connecticut at Stratford, remaining its minister until 1756, when he became the first president of an Anglican institution, King's College (now Columbia Univ.), in New York city He resigned in 1763 to return to Stratford A friend and correspondent of the English philosopher, George Berkeley, Johnson became the principal exponent in America of Berkeleian idealism. His chief work was *Ethices Elementa* (1746), republished in an enlarged edition by Franklin as *Elementa Philosophica* (1752) See Herbert Schneider and Carol Schneider, *Samuel Johnson ... His Career and His Writings* (4 vols, 1929)

Johnson, Samuel, 1709–84, English author. Born in Lichfield, son of a poor bookseller, Johnson became a member of Oxford Univ in 1728 Ill-health and poverty forced him to leave the university sometime between 1729 and 1731. In 1735 he married Mrs Henry Porter (who died in 1752), a widow 20 years his senior Johnson went to London in 1737, and by 1738 he was regularly employed by Edward Cave, editor of the *Gentleman's Magazine* Johnson's long poem *London* appeared in the same year He wrote *An Account of the Life of Mr Richard Savage* (1744), *Miscellaneous Observations on the Tragedy of Macbeth* (1745), and the satiric poem *The Vanity of Human Wishes* (1749), but it was not until the publication of *A Dictionary of the English Language* (1755) that his reputation was firmly established He continued to live on the edge of poverty until 1762, when he was granted a government pension In 1763 he met James Boswell, and in 1764 Johnson, upon Reynolds's suggestion, founded "The Club," with Goldsmith and Burke among the charter members In 1765 he met Mr and Mrs Henry Thrale and began a friendship which lasted until after Thrale's death (1781) Mrs Thrale remarried a few months before Johnson's death Johnson's edition of Shakspere (1765) included critical notes and a long preface, both of which are still highly regarded In 1773 he toured the Hebrides with Boswell and later published his account of the trip, *A Journey to the Western Islands of Scotland* (1775) His last major effort was *Lives of the Poets* (1779–81), 10 volumes of highly personal, perceptive, and valuable criticism Johnson's essays appeared first in a periodical published by Cave, the *Rambler* (1750–52), and later (1758–60) in a column, "The Idler," which appeared in a newspaper, the *Universal Chronicle* Although Johnson the moralist is discernible in many of the essays, he is at his best in *Rasselas* (1759), ostensibly a romance, but obviously a moralizing fable Throughout the reign of George III, Johnson dictated London's literary tastes and was its foremost conversationalist His prose was often involved and ponderous, but just as often incisive and distinguished His critical judgments were sometimes wrong, but often shrewd and always interesting His dictionary, the most complete in the language at the time of its publication, drew heavily on 17th-century usage and for the first time employed quotations from standard authors to clarify meanings The classic biography is Boswell's, the modern one is that of J W Krutch (1944)

Johnson, Thomas, 1732–1819, American statesman, b Calvert co, Md He was a lawyer of Annapolis and served (1762–73) in the colonial assembly, where he became prominent in the fight against the Stamp Act (1765) He was a member (1774–76) of the Continental Congress, and at the suggestion of John Adams he nominated George Washington as commander in chief of the Continental army Johnson raised a troop of militia for patriot service, and he served as governor of Maryland (1777–79) Later he forwarded Maryland's adoption of the Constitution and was (1791–93) a justice of the U S Supreme Court See biography by E S Delaplaine (1927)

Johnson, Tom Loftin, 1854–1911, American municipal reformer, b Georgetown, Ky He rose from being an office boy with a Louisville, Ky, streetcar company to ownership and management of traction lines in Louisville, Indianapolis, Detroit, Cleveland, and New York city In the 1880s he was deeply influenced by the writings of Henry GEORGE and devoted himself to reform After service (1891–95) in the U S Congress for two terms, he became (1901) mayor of Cleveland and held this office for eight years As mayor he fought strenuous battles for municipal reform against political bosses and business interests Although his plans for municipal ownership of public utilities were not realized, he inspired other local reform movements by helping create civic consciousness in Cleveland, by initiating sanitary measures, and by improving facilities to help the city's underprivileged See his autobiography, *My Story* (1911), biography by Carl Lorenz (1911)

Johnson, Walter Perry, 1887–1946, American baseball player, b Humboldt, Kansas He began playing with the Washington Senators of the American League in 1907 A right-handed pitcher, acknowledged to have been the fastest hurler in the history of the game, he won 414 while losing 276 games before he retired from active play in 1927 The numerous records he established include the greatest number of shutouts (113), greatest number of strike-outs (3,497), and most consecutive scoreless innings pitched (56). The "Big Train," as he was often called, later managed the Newark team (1928) of the International League and the Senators (1929–32) and the Cleveland Indians (1933–35) of the American League. After 1936 he became active in Republican party politics and served (1939–40) on the board of commissioners in Mont-

gomery co., Md., but was defeated for Congress in 1940 See biography by R. L Treat (1948)

Johnson, Sir William, 1715–74, British colonial leader in America, b Co Meath, Ireland He settled in the Mohawk valley, entered the fur trade, and gained great power among the Mohawk Indians and the other Iroquois He had large landed properties, founded (1762) Johnstown, N Y , and lived in baronial splendor at Johnson Hall Because of his influence over the Indians, "Johnson of the Mohawks" was a key figure in the French and Indian Wars, first becoming prominent in King George's War At the Albany Congress (1754) he helped formulate British Indian policy, and he was made superintendent of Iroquois affairs. In the French and Indian War although his expedition against Crown Point did not capture that fort, he soundly defeated (1755) the French under Dieskau at Lake George and built Fort William Henry He was rewarded with a baronetcy In 1759 he captured Niagara, and in 1760 he served with Gen Jeffrey Amherst in the capture of Montreal He had been appointed general superintendent of Indian affairs N of the Ohio in 1756, and after the Peace of Paris his office was of great significance in the vast new areas gained from France His lieutenants were George CROGHAN, Johnson's son-in-law, Guy JOHNSON, his son, Sir John JOHNSON, and Daniel Claus Though Pontiac's Rebellion and British economy measures prevented him from establishing the centralized control over Indians and fur traders that he desired, he achieved much He presided at the council of Fort Stanwix (1768), where the Indians made important land cessions See biographies by W L Stone (1865), A C Buell (1903), and Arthur Pound and Richard Day (1930)

Johnson, William Samuel, 1727–1819, American statesman and president of Columbia College (1787–1800), b Stratford, Conn , grad Yale, 1744, M A Harvard, 1747 After commencing law practice in Connecticut, he was soon a leading figure in that colony, serving as a member of the lower house and in 1766 beginning his tenure in the governor's council Although conservative in his views, he was sent (1765) as a delegate to the Stamp Act Congress From 1767 to 1771 he was an agent of Connecticut in England and after his return was a judge of the superior court (1772–73) Because of his opposition to the radical Whigs and to political independence for the colonies, he declined to serve when elected as a delegate to the Continental Congress (1774) and soon retired from politics He was called from retirement to represent (1784–87) Connecticut at the Confederation Congress (generally still called the Continental Congress) and at the Federal Constitutional Convention (1787), in which he took a prominent part in the debate on representation Johnson, although a layman, was chosen (1787) president of the newly reorganized Columbia College, formerly King's College, of which his father, Samuel Johnson (1696–1772), had been president He was elected U S Senator from Connecticut in 1789, but retired (1791) after the capital was moved to Philadelphia See biographies by E E Beardsley (1876) and G C Groce, Jr (1937)

Johnson, town (pop 1,420), N Vt , on the Lamoille and NE of Mt Mansfield, granted 1782, settled 1784 Its industries depend upon local lumber, talc, and wool, and machinery is made here It is the seat of a state teachers college

Johnsonburg, borough (pop 4,955), NW Pa , on the Clarion river and near Ridgway, laid out 1888 Its manufactures include paper, chemicals, and metal products

Johnson City 1 Village (pop 18,039), S N Y , near Binghamton, inc 1892 It is noted for its Endicott-Johnson shoes See BINGHAMTON 2 City (pop. 25,332), NE Tenn , ENE of Knoxville, in a mountainous region of farms, timber, and limestone quarries, settled before 1800, inc 1869 It is an important burley-tobacco market and a railroad center, with railroad shops, textile and flour mills, and other factories. East Tennessee State College and a U S veterans' hospital are here Near by are Milligan College and the Haynes House (or Tipton House) (c 1770)

Johnson C. Smith University: see CHARLOTTE, N C

Johnson grass, perennial grass (*Sorghum halepense*) native to the Mediterranean region It somewhat resembles sorghum, to which it is related In the United States it has been cultivated as a forage grass and naturalized E of the Rockies and in the Southwest In many sections it has become a troublesome weed and under certain conditions may poison livestock by HYDROCYANIC ACID

Johnston, Albert Sidney, 1803–62, Confederate general, b Washington, Ky , grad. West Point, 1826 After serving in the Black Hawk War, he resigned from the U S army (1834) and went to Texas (1835), where he enlisted in the revolutionary army Johnston became its commander in 1837 and served as Texas secretary of war, 1838–40 In the Mexican War, he commanded a regiment of volunteers and saw action at Monterrey Reentering the U S army in 1849, Johnston served on the Texas frontier, was commander of the Dept. of Texas (1856–58), led the expedition against the Mormons (1857), and commanded the Dept of Utah (1858–60). When Texas seceded from the Union in April, 1861, Johnston, commanding the Dept of the Pacific, resigned his commission and was soon made general in charge of Confederate operations in the West Union victories, especially Fort Donelson, forced him to withdraw from the line of defense he had established in 1861 He concentrated an army at Corinth, Miss Attacking Grant at SHILOH on April 6, 1862, he was killed at the height of battle The Confederacy lost one of its ablest generals See biography by W P Johnston (1878)

Johnston, Alexander Keith, 1804–71, Scottish cartographer and geographer, geographer royal of Scotland He issued many notable atlases, maps, and gazetteers, including *The National Atlas of Historical, Commercial, and Political Geography* (1843), *The Physical Atlas of Natural Phenomena* (1848), *The Dictionary of Geography* (1850, known as *Johnston's Gazetteer*), and *The Royal Atlas of Modern Geography* (1861) A son, **Alexander Keith Johnston,** 1844–79, carried on the work of the map publishing house founded by his father He assisted (1873–75) in a survey of Paraguay and died in Africa while leading an expedition of the Royal Geographical Society to Lake Nyasa

Johnston, Eric Allen, 1895–, American business executive, b Washington, D C , grad Univ of Washington law school, 1917 In the First World War he served with the U S marines He returned (1922) to Spokane, Wash , and succeeded at electrical retailing and contracting and at banking He was (1942–46) president of the Chamber of Commerce of the United States, and he succeeded (1942) William H HAYS as president of the Motion Picture Association of America He traveled widely and made numerous public addresses He wrote *We're All in It* (1948)

Johnston, Gabriel, 1699–1752, colonial governor of North Carolina (1734–52) An efficient and popular Scot, he nevertheless had constant difficulties with the assembly over quitrents and other financial matters and several times dissolved that body He promoted the development of Wilmington

Johnston, Joseph Eggleston, 1807–1901, Confederate general, b Prince Edward co , Va , grad West Point, 1829 He served against the Seminoles in Florida, in the topographical engineers, and with distinction under Scott in the Mexican War Johnston was quartermaster general with the rank of brigadier general, when he resigned (April, 1861) to fight for the Confederacy In May he was made a brigadier general and assigned to command at Harpers Ferry He evaded the Union army under Patterson and marched to the aid of Beauregard at BULL RUN, where his part in the Confederate victory won him a generalcy and the command of the Army of Northern Virginia (July) Johnston opposed McClellan in the PENINSULAR CAMPAIGN until he was wounded at Fair Oaks in May, 1862 Upon resuming service in November (R E LEE had assumed his old command), he was assigned to command the Dept of the West Though it seems certain that President Davis intended him to give orders to J C PEMBERTON at Vicksburg and Braxton BRAGG in Tennessee, Johnston chose to interpret his position as merely nominal When he finally did take command in the VICKSBURG CAMPAIGN, it was too late to save Pemberton Johnston, placed in command of the Army of Tennessee (Dec , 1863), adopted the policy of strategic retreat against W T SHERMAN in the ATLANTA CAMPAIGN—a policy that did not suit Davis, who appointed J B HOOD to succeed him He was restored to command in Feb , 1865, by Lee, now commander in chief He obstructed Sherman's advance through North Carolina, but upon hearing of Lee's surrender to Grant, he capitulated to Sherman on April 26 After the war Johnston served in the House of Representatives from Richmond, Va (1879–81), and by appointment of President Cleveland was Federal commissioner of railroads (1885–91) Overcautious as he was, Johnson was not very effective on the offensive but was probably the peer of Lee in defensive generalship See his *Narrative of Military Operations* (1874), biography by R M Hughes (1893), S F Horn, *The Army of Tennessee* (1941), D S Freeman, *Lee's Lieutenants*, Vol I (1942)

Johnston, Mary, 1870–1936, American novelist, b. Buchanan, Va , privately educated She is chiefly remembered for *To Have and to Hold* (1900), a story of colonial Virginia which was very popular, and its successor, *Audrey* (1902) All her 30-odd works combine romance with historical accuracy. *The Long Roll* (1911) and *Cease Firing* (1912) were good Civil War tales, and notable among her later novels were *The Great Valley* (1926) and *Miss Delicia Allen* (1932)

Johnston, Richard Malcolm, 1822–98, American author, b Hancock co , Ga , grad Mercer Univ., 1841 He is known for his sketches of rural Georgia, the collection *Dukesborough Tales* (1871) is best known See his autobiography (1900)

Johnston, Samuel, 1733–1816, American Revolutionary patriot, b Dundee, Scotland He came as a child to North Carolina, where his uncle, Gabriel JOHNSTON, was royal governor. After being admitted to the bar, he was a member of the colonial assembly (1759–75) and of its standing Committee of Correspondence after 1773 He was elected to the four provincial congresses (1774–76), presiding at the third and at the fourth, which passed the Halifax Resolves declaring for independence, served in the new state senate; and represented North Carolina in the Continental Congress (1781–82) Johnston was governor of North Carolina (1787–89) and presided over the convention (1789) at which the state finally ratified the Constitution of the United States He was one of North Carolina's first U S Senators (1789–93), a judge of the superior court (1800–1803), and one of the first trustees of the Univ of North Carolina See R D W Connor, *Revolutionary Leaders of North Carolina* (1916)

Johnston, 1 Town (pop 10,672), NE R I., set off from Providence and inc 1759 Thornton village is the center Johnston has worsted mills **2** Town (pop 1,100), W S C , WSW of Columbia near Edgefield, in a farm area

Johnston City, city (pop 5,418), S Ill , NNE of Cairo, in a coal and farm area, inc 1905.

Johnstone (jŏn'stun), industrial burgh (1931 pop 12,841, 1948 estimated pop 15,627), Renfrewshire, Scotland Thread, machine tools, and chemicals are its chief products

Johnston Island (pop 69), c 3,000 ft long and c 600 ft wide, central Pacific, c 715 mi SW of Honolulu The island was discovered (1807) by the British and claimed (1858) by the United States A bird reservation for years, it became a naval air station in 1941 In the Second World War it was shelled (1941) by the Japanese

Johnstown. 1 City (pop 10,666), co seat of Fulton co , E central N Y , near the Mohawk NW of Albany, founded 1762 by Sir William JOHNSON, inc as a city 1895 Its principal industry is glovemaking The city has a municipal hotel Johnson Hall, built by Sir William, houses many of his relics Other 18th-century buildings remain Elizabeth Cady Stanton was born here The last Revolutionary battle in New York was fought near Johnstown, Oct 25, 1781, Walter Butler was killed here **2** Village (pop 1,064), central Ohio, NE of Columbus **3** Industrial city (pop 66,668), SW Pa , on the Conemaugh river at the mouth of Stony Creek, in a narrow valley ESE of Pittsburgh, settled 1794, laid out 1800. Situated in a beautiful mountain region, it is a nucleus of heavy industry Its manufactures include iron, steel, chemicals, brick, and lumber A branch of the Bethlehem Steel Corp is here The first Kelly pneumatic converter for the transformation of crude iron into steel was built in 1862 in Johnstown, and after the Civil War rapid growth of iron and steel industries initiated the expansion of the city On May 31, 1889, the dam across the river c 12 mi above the city broke as a result of heavy rains, and the city was inundated, with great loss of life Flood occurred again in 1936

John the Baptist, Saint, fl A D c 29, Jewish prophet, the forerunner of JESUS, his cousin John was the son of St Zachary and St Elizabeth, and, according to the Gospel, his birth was miraculously foretold He undertook a mission, calling the people of the Jordan valley to repentance to prepare for the Messiah, and he baptized his followers He baptized Jesus His vigorous condemnation and great popularity enraged the aristocracy, and he offended Herodias (see HEROD) by rebuking her publicly At her instance and at that of her daughter SALOME he was beheaded Mat 11 1–19, 17 11–13, Mark 6 16–29, Luke 1, 3, John 1 The most popular artistic portrayals of St John picture his head on a charger, as borne by Salome Christians have always venerated St John the Baptist as high among the saints, thus he is the only saint besides the Virgin Mary whose birthday is celebrated June 24 (see MIDSUMMER DAY) The feast of his beheading is Aug 29

John the Fearless, 1371–1419, duke of Burgundy (1404–19), son of PHILIP THE BOLD He fought against the Turks at NIKOPOL in 1396 and was a prisoner for a year before he was ransomed He continued his father's feud with Louis, duc d'ORLÉANS, and made himself popular by advocating governmental reforms In 1407 he had Louis assassinated, having admitted his guilt, he left Paris, but he subsequently returned and obtained control of the government Constant rivalries between his party and Orléans's supporters led to open civil war in 1411 (see ARMAGNACS AND BURGUNDIANS) Embarrassed by the excesses of the CABOCHIENS (1413), he surrendered the government He recovered power (1418), permitted Rouen to be captured by the English (1419), and continued to negotiate both with Henry and with the dauphin (later Charles VII), who now led the Armagnacs At a meeting with the dauphin, John was assassinated (1419)

John the Posthumous, king of France see JOHN I

Johore (jōhōr', jo-), state (7,678 sq. mi.; pop. c 737,000), S Malaya, at the southern extremity of the Malay Peninsula opposite Singapore It is largely covered with jungle. The principal

rivers and routes of communication are the Muar and the Johore, the capital is Johore Bahru, across the strait from Singapore The Chinese and the Malays are the two largest groups in the population, there are a few primitives, the Jokun Johore has extensive rubber plantations, other agricultural products are rice, copra, and gambier. Tin and iron are mined. After the fall of Malacca to the Portuguese (1511), the former sultan of Malacca continued to rule over Johore, the Riouw archipelago, and other territories Johore became increasingly independent of his successors, in 1819 the governor of Johore granted the site of Singapore to the British East India Company and was recognised for practical purposes as an independent ruler. Thereafter relations between Great Britain and Johore were friendly, Johore remained one of the most peaceful of the Malay states In 1885 Johore and Great Britain established formal treaty relations, and in 1914 Johore accepted a British protectorate Till 1948, when it entered the Federation of Malaya, Johore was classed as one of the Unfederated Malay States

Joiada (joi'ŭdu) [Heb ,=God knows], high priest. Neh 12 10,11,22

Joiakim (joi'ŭ-) [short for JEHOIAKIM], high priest Neh 12 10

Joiarib (joi'ŭ-) [Heb ,=God defends]. **1** Exile returned from Babylon Ezra 8 16 **2** Chief priest Neh 11 10, 12 6,19 Jehoiarib 1 Chron 9 10, 24 7 **3** Judahite Neh 11 5

joinery, craft of assembling wood members with great accuracy of jointing and fitting, as is required especially for certain fine details of building interiors Where CARPENTRY refers to the rougher, simpler, and primarily structural elements of wood assembling, joinery has to do with difficult surfaces and curvatures, such as those of spiral stairs, with complex intersections of members or moldings, and with the handling of the finer qualities and varieties of woods The joiner's skill and art thus approach those of the cabinetmaker He must have an extensive knowledge of geometrical relations and projections, in addition to being manually proficient In modern woodworking, however, the hand processes of the joiner have been very largely superseded by mechanical means

joint, in anatomy, articulation between individual bones of the skeleton The most highly developed are synovial joints, which permit free movement In these the bones are connected by flexible ligaments attached near the ends of the bones, and these bone ends form a capsule around the joint cavity A synovial membrane, which produces a lubricating synovial fluid, lines the capsule In some synovial joints, a pad of fibrocartilage (articular disk) lies between the articular surfaces of the bones Joints which allow free movement may be of the ball-and-socket type, e g , the shoulder and the hip, the hinge type, e g , the knee, or the gliding variety, e g , the wrist bones Some joints are immovable, e g , those in the skull, others, e g , some of those in the spinal column, permit limited movement Diseases of the joints include arthritis, rheumatic fever, and gout Injury to a joint may result in a sprain or a dislocation

Joinville, Jean, sire de (zhäⁿ' sĕr' dŭ zhwĕvēl'), 1224?–1317?, French chronicler, biographer of LOUIS IX of France (St Louis) As seneschal of Champagne, Joinville was a close adviser to Louis, whom he accompanied (1248–54) on the Seventh Crusade. He refused to take part in the Eighth Crusade, which he opposed He dictated his memoirs of St. Louis between 1304 and 1309 for the instruction of Louis X The work is an invaluable record of the king, of feudal France, and of the Seventh Crusade It is written in simple and delightful style, with a deeply moving reverence for the saintly and chivalrous king, with a sharp eye for graphic and psychologic details, and, occasionally, with a sly sense of humor Filled with digressions and personal recollections, it is less the work of a historian than that of a wise and experienced gentleman There are several English translations of Joinville's memoirs, notably those by Sir Frank Marzials (Everyman's Library, 1908) and by Joan Evans (1938)

Joinville (shwĕvēl'), town (pop 3,162), Haute-Marne dept., NE France, on the Marne It has ruins from the time when its castle was the seat of the seneschals of Champagne, most famous of whom was Jean de Joinville The title to Joinville passed to the house of Orléans in the 17th cent. The treaty allying Spain with the League was signed here in 1584

Jokai, Maurice (yō'koi), Hung *Jókai Mór* (mōr), 1825–1904, Hungarian novelist and journalist A member (1861–97) of the Hungarian parliament, he was a prolific and popular writer, many of his novels, national in character and brilliant in style have been translated Among them are *An Hungarian Nabob* (1853–54, Eng tr , 1898), *The New Landlord* (1868, Eng tr , 1898), and *Black Diamonds* (1870, Eng tr , 1896).

Jokdeam (jŏk'dēăm, jōkdē'ăm), unidentified town, S of Hebron Joshua 15 56

Jokim (jō'-) [Heb ,=God establishes], son of Shelah the Judahite. 1 Chron. 4.22.

Jokmeam (jŏk'mēăm), unidentified town, central Palestine 1 Chron. 6.68. Kibsaim. Joshua 21.22. Jokneam 1 Kings 4.12.

Jokneam (jŏk'nēăm). **1** City, N Palestine, not certainly identified Joshua 12.22; 19.11, 21.34 **2** The same as Jokmeam.

Jokshan, son of Abraham Gen 25 2,3; 1 Chron. 1.32

Joktan, descendant of Shem Gen 10 25–30.

Jokthеel (jŏk'thēĕl, –thēl), unidentified city, SW Palestine Joshua 15 38 See also SELA

Jokulsa, Icelandic *Jökulsá* (yū'kilsou), river, c 125 mi long, rising in central Iceland and flowing N into the Axar Fjord The DETTIFOSS fall is located on it

Jokyakarta, Indonesia see JOGJAKARTA

Joliet, Louis. see JOLLIET, LOUIS

Joliet (jō'lĕt"), city (pop. 42,365), co seat of Will co , NE Ill., SW of Chicago and on the Des Plaines river, settled 1831, laid out 1834, inc 1837. It is an important railroad and industrial center, with limestone quarries and coal mines in the area Among the city's industries are steel mills, oil refineries, wallpaper factories, railroad shops, and chemical works The state penitentiary is here Joliet is the seat of the College of St Francis and a junior college In the city are Pilcher Park Arboretum and a large excavated Indian mound

Joliette (shōlyĕt'), city (pop 12,749), co seat of Joliette co , S Que , on L'Assomption river and NNE of Montreal Its industries include steel, paper, and textile mills, tobacco-processing, and quarrying The Séminaire de Joliette, affiliated with the Univ of Montreal, is here, and the city is the seat of a Roman Catholic bishopric

Joliot-Curie, Frédéric (frādārēk' zhōlyō'-kürē'), 1900–, and **Irène Joliot-Curie** (ērĕn'), 1897–, French scientists Frédéric Joliot married (1926) Irène Curie, daughter of Pierre and Marie Curie Both had been assistants at the Radium Institute in Paris, of which Irène, succeeding her mother, became director in 1932 Together the Joliot-Curies continued the work of the Curies on radioactivity For their artificial production of radioactive substances, by bombarding certain elements with alpha particles, they shared the 1935 Nobel Prize in Chemistry In 1946 Frédéric Joliot-Curie was appointed chairman of the atomic energy commission in France.

Jolliet or **Joliet, Louis** (both jō'lĕt", jo"lĕt', Fr lwē' zhōlyā'), 1645–1700, French explorer, joint discoverer with Jacques MARQUETTE of the upper Mississippi river, b Quebec prov , Canada After a year's study of hydrography in France and some years as a trader and trapper on the Great Lakes, Jolliet was appointed (1672) by Frontenac as leader of an expedition in search of the Mississippi He and Father Marquette, with five *voyageurs*, set out from St Ignace in May, 1763, went to Green Bay, ascended the Fox river, and then portaged (at the site of Portage, Wis) to the Wisconsin and descended to the Mississippi The group followed the west bank south until they passed the mouth of the Arkansas, then, having convinced themselves that the river emptied into the Gulf of Mexico, they ascended its eastern bank. They came to the Illinois river, ascended it, and, on the site of modern Chicago, portaged to the Chicago river and thus again reached Lake Michigan. Marquette remained in the West while Jolliet went east to make his report, but in the Lachine rapids, near Montreal, Jolliet's canoe overturned and his records were lost. His brief narrative written from memory is in essential agreement with Marquette's, the chief source account of the journey. Jolliet was rewarded with the gift of Anticosti island in the Gulf of St Lawrence, which was, however, seized by the British while Jolliet was absent on explorations in Labrador and around Hudson Bay In 1697 he was made royal professor of hydrography and given a seigniory near Quebec See F E A Gagnon, *Louis Jolliet* (1902), F. B Steck, *The Jolliet-Marquette Expedition* (rev ed , 1928).

Jolo, Philippine Islands see SULU ARCHIPELAGO.

Jomelli, Nicola see JOMMELLI, NICOLA

Jomini, Antoine Henri (ätwän' ärē' zhōmēnē'), 1779–1869, Swiss general and military writer He organized the militia of the Helvetic Republic in 1799 and after 1804 served as staff officer in the French army, particularly under Marshal Ney In Aug , 1813, after a clash with Marshal Berthier, he went over to the Russian army, in which a commission had been waiting for him since 1808 He rose to high rank in Russia and became one of the most celebrated authorities on strategy His works include *Traité des grandes operations militaires* (1805–7), a study of the campaigns of Frederick the Great, *Histoire critique et militaire des campagnes de la Révolution* (1819–24), a comprehensive study of the French Revolutionary Wars, and *Précis de l'art de la guerre* (1836), a treatise on the art of war.

Jommelli or **Jomelli, Nicola** (both. nĕkō'lä yōmēl'lē), 1714–74, Italian opera composer of the Neapolitan school His earliest works, such as *L'errore amoroso* (Naples, 1737) and *Eso* (Bologna, 1741), were highly successful While he was choir director (1749–54) at St Peter's in Rome, he composed church music. Then, until 1769, he was in Stuttgart as musical director to the duke of Württemberg. After his return to Naples his last operas, such as *Armida abbandonata* (1770) and *Ifigenia in Tauride* (1771), were rejected by the public as too learned and too German Despite an attack of apoplexy in 1773, he was still able, in his last year, to compose a *Miserere* which is considered his masterpiece Gluck's reform of the opera is, to some extent, foreshadowed in Jommelli's operas.

Jona, variant of JONAH. See also BAR-JONA.

Jonadab (jō'nŭ-) [Heb ,=munificent] **1** Nephew of David 2 Sam 13 3,32–36 **2** Founder of the Rechabites and a companion of Jehu Jer. 35 Jehonadab 2 Kings 10.15–27

Jonah, Rabbi, or **Abu-l-Walid Merwan ibn Janah** (ä'bōōlwä'lĕd mĕr'wän I'bŭn jä'nä), or **Marinus** (mürī'nus), c.990–c.1050, Hebrew lexicographer and grammarian, b Córdoba His principal work is *The Book of Exact Investigation*, a grammar and lexicon of the Hebrew language. He died at Sargossa

Jonah (jō'nu) [Heb ,=dove], **Jonas** (jō'nŭs), or **Jona,** book of the Old Testament, fifth of the books of the Minor Prophets It tells of the career of a Hebrew prophet sent to reform Nineveh, he is specifically dated as living under Jereboam II (8th cent B C) 2 Kings 14 25 His story is famous to avoid the divine mission he sails for Tarshish but is thrown overboard (consenting) because he has brought down a storm on the ship Swallowed by a monster of the deep, he is vomited up on shore after three days Now willing, he preaches his mission, with a success so great that God is moved by the people's repentance and revokes the doom Jonah had foretold The prophet, irritated by the divine change of heart, sulks, but is shown by an example how God's mercy prevails Allusions to the story are frequent in the Bible Mat 12 39–41, 16 4, Luke 11 29–30, Tobit 14 4 Jonah's coming forth from the whale after being swallowed is famous as a prefiguration of the resurrection of Christ For bibliography, see OLD TESTAMENT

Jonan (jō'-), ancestor of Joseph. Luke 3 30

Jonas (jō'-), Greek form of Hebrew JONAH. For the father of St Peter, see BAR-JONA

Jonas, Justus (yōōs'tōōs yō'nus), 1493–1555, German Protestant reformer In 1520 Jonas, then a young professor at the Univ of Erfurt, accompanied Luther to the Diet of Worms During an intimate friendship Jonas assisted Luther with the translation of the Bible He was present at Luther's death and preached his funeral sermon

Jonathan (jŏn'-) [short for JEHONATHAN] **1** Saul's son and David's friend, killed at the battle of Mt Gilboa 1 Sam. 13, 14 18–20, 20 16–18, 31 1,2 **2** David's nephew 2 Sam 21 21 This is probably the Jonathan called David's uncle in the translations of 1 Chron 27 32 **3** Priest Judges 18 21 **4** Courtier under David 2 Sam 15, 17 17,20, 1 Kings 1 42 **5** One of David's men 2 Sam 23 32, 1 Chron 11 34 **6** Jerahmeelite 1 Chron 2 32,33 **7** Israelite in the return to Jerusalem Ezra 8 8 **8** Priest involved with the foreign marriages Ezra 10 15 **9** The same as JOHANAN **5** **10** Priest Neh 12 14 **11** Levite Neh. 12 35 **12** Scribe in whose house Jeremiah was imprisoned Jer 37 15, 38 26 **13** Captain under Gedaliah Jer 40 8 **14** One of the MACCABEES 1 Mac 9–13, 2 Mac 8 22

Jonath-elem-rechokim. see AIJELETH SHAHAR

Jones, Anson, 1798–1858, last president of the Texas republic (1844–46), b near Great Barrington, Mass. He studied medicine, taught, clerked in a grocery store, and ran a drugstore, and intermittently practiced medicine in various places, including Philadelphia, Carácas in the present Venezuela (1826–28), and New Orleans (1832–33) In 1833 he went to Texas and became a doctor in Brazoria He joined the revolutionary forces in the war against Mexico and was present at the battle of San Jacinto (1836) Entering politics, he was a member of the Texas congress, was appointed (1838) by President Sam Houston as minister to the United States, was dismissed (1839) by President M B Lamar, and served as a senator His appointment as secretary of state in the second Houston administration prepared the way for his serving as president briefly, for the annexation of Texas ended his term and his career He committed suicide in 1858. See biography by Herbert Gambrell (1948).

Jones, Casey, 1864–1900, American locomotive engineer celebrated in ballad and song, b Jordan, Fulton co , Ky His real name was John Luther Jones, but at the age of 17 he went to Cayce, Ky , and there he was employed as a telegraph operator, from the name of the town he was given the nickname "Casey " In 1888 he entered the service of the Illinois Central RR as a locomotive fireman and soon (1890) was promoted to engineer He was famous among railroad men for his boast that he always brought his train in on schedule and for his peculiar skill with a locomotive whistle Given the "crack" assignment of driving the *Cannon Ball* express from Memphis, Tenn., to Canton, Miss.—a particularly dangerous run in which several accidents had occurred Casey Jones was determined to bring the overdue train in on time but met with disaster. On the morning of April 30, 1900, confronted with a stationary freight train a few feet

ahead of his speeding locomotive at Vaughan, Miss., he ordered his fireman to jump. He applied the brakes, and although the *Cannon Ball* crashed and Jones was killed, the passengers were saved. Before long popular ballads were sung about Casey Jones, and by 1903 the song *Casey Jones* was published. Monuments commemorating Jones stand at Cayce and Clinton, Ky He was buried at Jackson, Tenn See biography by F J Lee (1939).,

Jones, Davy see DAVY JONES

Jones, Sir Edward Burne- see BURNE-JONES.

Jones, Ernest Charles, 1819–68, English agitator, lawyer, journalist, and poet He was a prominent and disinterested leader of the Chartists (see CHARTISM) After imprisonment for sedition (1848–50), he edited a radical journal and later practiced as a lawyer *The Battle Day and Other Poems* (1855) and his other labor verse have more literary merit than his sensational novels

Jones, George Wallace, 1804–96, American statesman, b Vincennes, Ind , grad Transylvania Univ., 1825 He moved (1826) to Michigan Territory, took a prominent part in frontier affairs, and served in the Black Hawk War (1832) He entered (1835) the U S Congress as delegate from Michigan Territory Jones secured (1836) the organization of Wisconsin Territory and became Wisconsin delegate in Congress He then secured the territorial organization of Iowa, and with the admission (1846) of Iowa to statehood he became one of that state's U S Senators He was Senator for two terms (1848–59) but failed to secure the renomination mostly because of his compromise stand on the slavery question He served (1859–61) as minister to New Granada (Colombia) Upon his return to the United States, he was arrested for carrying on a correspondence with Jefferson Davis, an old friend, but was released by Lincoln's orders See J C Parish, *George Wallace Jones* (1912), which includes autobiographical fragments

Jones, Henry see CAVENDISH

Jones, Henry Arthur, 1851–1929, English playwright His first success was *The Silver King* (with Henry Herman, 1882), a melodrama popular for a generation This was followed by a number of plays devoted to social problems, including *The Middleman* (1889), *Wealth* (1889), and *Mrs Dane's Defense* (1900) Jones considered his best work to be *Michael and His Lost Angel* (1896) His comedies, including *The Masqueraders*, (1894) and *The Liars* (1897), were also social criticism See biography by his daughter Doris Arthur Jones, *Taking the Curtain Call* (1930)

Jones, Hugh Bolton, 1848–1927, American landscape painter, b Baltimore, Md His landscapes are carefully drawn and delicate in coloring Among them are *Spring* and *Autumn* (Metropolitan Mus), *Springtime* (Corcoran Gall), and *Tangiers* (Walters Art Gall , Baltimore)

Jones, Inigo, 1573–1652, earliest of England's great architects Son of a London clothmaker, he became a protégé of the earl of Pembroke and at his expense traveled in Italy, where he thoroughly studied the remains of Roman architecture and the Renaissance buildings by Palladio He was employed by both James I and Charles I in designing settings for the elaborate masques (some of which he wrote) produced at the English court, he performed various architectural services for the crown After renewed visits to Italy, he was appointed king's surveyor of the works (1615) In 1619 he began the royal banqueting hall in Whitehall, London, his finest work and the first English design to embody Palladian principles Here Jones introduced the severely classic use of the architectural orders which he had assimilated in Italy, producing a work which made a clean break from prevailing Jacobean design and marked a starting point for the classic architecture of the late Renaissance and Georgian periods in England Others of his London buildings are designs for the earliest portion of Greenwich Hospital (1635), the Church of St Paul, Covent Garden, with its square (1631–38), and the Barber-Surgeons' Hall In addition he built houses both in London and in the country, notably Ashburnham House in Westminster

Jones, James Kimbrough, 1839–1908, American political leader, b De Soto co , Miss He moved to Arkansas, where he became a planter and a lawyer and entered politics He was a member of the House of Representatives (1881–85) and of the Senate (1885–1903) and was Democratic floor leader in the Senate after 1899 He was chiefly interested in tariff matters and in bimetallism He was largely responsible for the passage of the Wilson-Gorman Tariff Act in 1894, and he was a leading champion of the free coinage of silver. As chairman of the Democratic National Committee he managed the unsuccessful campaigns of William Jennings Bryan for the presidency in 1896 and 1900

Jones, Jesse Holman, 1874–, U S Secretary of Commerce (1940–45), b Robertson co , Tenn A lumber magnate, banker, and millionaire of Houston, Texas, Jones was appointed by Herbert Hoover chairman of the Reconstruction Finance Corporation. He continued in office under President F D. Roosevelt, and with the merging of the RFC with other Federal agencies, he became (1939) Federal loan administrator. He served in the cabinet and continued as Federal loan administrator until 1945, when Henry A. Wallace became Secretary of Commerce

Jones, John, 1729–91, American surgeon, b Jamaica, N.Y , studied in London and Paris He served on the first medical faculty of King's College (now Columbia Univ) from 1767 to 1776 He wrote a handbook for surgeons of the Revolution (the first American work of the kind) and was noted for his skillful lithotomies

Jones, John Paul, 1747–92, American naval hero, b near Kirkcudbright, Scotland His name was originally simply John Paul He went to sea when he was 12, and his youth was adventure-filled He was chief mate on a slave ship in 1766, but disgusted with the work, he briefly traveled with a theatrical troupe in the West Indies before going back to sea and getting a command In 1773 off Tobago members of his crew mutinied and he killed one of the sailors in self-defense To avoid trial he fled, and in 1775 he was in Philadelphia, with the Jones added to his name Joseph Hewes of Edenton, N C , obtained for him a commission in the Continental navy, but from the start he was held back by the sort of political machinations that were to plague his naval genius to the end He first hoisted the first national flag on the flagship *Alfred* In 1777 he was given command of the *Ranger*, fresh from the Portsmouth shipyard He sailed to France, then daringly took the war to the very shores of the British Isles on raids and in 1778 captured the *Drake*, the first British warship to surrender to a Continental vessel It was, however, only after long delay that he was given another ship, an old French merchantman, which he rebuilt and named the *Bon Homme Richard*, to honor Benjamin Franklin He set out with a small fleet, but was disappointed in the hope of meeting a British fleet returning from the Baltic until the projected cruise was nearly finished On Sept 23, 1779, he did encounter the British merchantmen, convoyed by the frigate *Serapis* and a smaller warship Seeing the superiority of the *Serapis* Jones did not hesitate He sailed close in, to cut the advantage of the *Serapis*, and finally in the battle lashed the *Bon Homme Richard* to the British ship The battle, which began at sunset and ended more than three and a half hours later by moonlight, was one of the most memorable in naval history The hull of the *Bon Homme Richard* was pierced, her decks were ripped, her hold was filling with water, and fires were destroying her, unchecked, yet when the British captain asked if Jones was ready to surrender, the answer came proudly, "Sir, I have not yet begun to fight " He and his men boarded the *Serapis* and took her while his own vessel sank He was much feted in France for the victory, but he was not much recognized in the United States After the Revolution he was sent to Europe to collect the prize money due the United States In 1788 he accepted the invitation of Catherine the Great to become a Russian rear admiral His command against the Turks in the Black Sea was successful, but again political intrigue prevented his getting due credit In 1789 he was discharged from the Russian navy and returned to Paris There in the midst of the French Revolution he died, without receiving the commission that Jefferson had procured for him to treat with the dey of Algiers concerning American prisoners Though he is today generally considered the greatest of American naval heroes and the founder of the American naval tradition, his grave was forgotten until the ambassador to France, Horace P Porter, discovered it in 1905 after the expenditure of much of his own time and money The remains were brought to Annapolis and have been since 1913 enshrined in a crypt at the U S Naval Academy See Anna P De Koven, *Life and Letters of John Paul Jones* (1913), F A Golder, *John Paul Jones in Russia* (1927), Lincoln Lorenz, *John Paul Jones* (1943), Gerald W Johnson, *The First Captain* (1947)

Jones, John Percival, 1829–1912, American political leader, b Herefordshire, England Brought to Ohio as an infant, he went to California in the gold rush when he was a young man He had a varied career, including service (1863–67) in the California legislature, before he went to Nevada, where he made a fortune from a silver mine He made himself the spokesman of the silver miners and was a leading advocate of the free coinage of silver He served as a U S Senator from 1873 to 1903, elected as a Republican except in the 1896 election As chairman of the U S Monetary Commission, he submitted a two-volume report favoring bimetallism He retired in 1903

Jones, Leonard Augustus, 1832–1909, American writer on legal subjects, b Templeton, Mass , grad Harvard Law School, 1858 After 1898 he was judge of the newly created Massachusetts land court He wrote standard treatises on many subjects, including real property, mortgages, securities, easements, and landlord and tenant

Jones, Mary (Harris), 1830–1930, American labor agitator, called Mother Jones, b Ireland Always interested in the labor movement, she became active in it after the death of her husband and children in 1867. She won fame as an effective and ubiquitous speaker, always appearing at the scene of any major strike In 1930 the Progressive Miners of America erected a memorial on her grave in Mt Olive, Ill Her autobiography (ed by M. F. Parton, 1925) contains some factual inaccuracies.

Jones, Owen, 1809–74, English architect He wrote *Plans, Elevations, Sections and Details of the Alhambra* (1845), the first systematic study of Hispano-Moresque art He served as one of the superintendents of works for the Great Exhibition of 1851 and had charge of the decorations of the Crystal Palace at Sydenham He was most influential, however, through his studies and writings on the decorative arts, the most notable of which, the *Grammar of Ornament* (1856), a collection of ornamental devices of all nations, still remains a standard work

Jones, Sir Robert, 1858–1933, British surgeon He was widely known for his skill in treating diseases and injuries of bones and joints and for reducing deformities resulting from infantile paralysis He was knighted in 1917 His works include *Injuries to Joints* (1915) and *Orthopedic Surgery* (with R W. Lovett, 1923) See biography by Frederick Watson (1934)

Jones, Robert Edmond, 1887–, American stage designer, b Milton, N H , grad Harvard, 1910 He studied with George Pierce Baker at the 47 Workshop and with Max Reinhardt in Berlin Some of his most notable designs have been for *The Man Who Married a Dumb Wife*, *The Jest*, *Macbeth*, *Richard III*, *Hamlet*, *Desire under the Elms*, *The Green Pastures*, and *The Iceman Cometh* In 1923, when the Provincetown Players dissolved, he joined Eugene O'Neill and Kenneth Macgowan in forming the Experimental Theatre Jones did the designing for the early three-color-process moving picture *La Cucaracha* (1933) He wrote *Drawings for the Theatre* (1925), *The Dramatic Imagination* (1941), and, with Kenneth Macgowan, *Continental Stagecraft* (1922)

Jones, Robert Tyre, Jr. (Bobby Jones), 1902–, American golfer, b Atlanta, Ga , grad Harvard, 1924 After studying (1926–27) law at Emory Univ , he was admitted (1928) to the bar and practiced law in his native city Meanwhile he had become devoted to the game of golf Jones won the National Open (1923, 1926, 1929), the National Amateur (1924–25, 1927–28), and the British Open (1926–27) The first golfer to win the National and the British Open tournaments in the same year (1926), Jones became the only player ever to make the "grand slam" in golf—winning the National Open, the National Amateur, the British Open, and the British Amateur championships in 1930 He then retired from tournament play He is generally considered to have been the greatest golfer of his time In the Second World War he was a major in the U S Army Air Force He wrote, with O B Keeler, *Down the Fairway* (1927)

Jones, Rufus Matthew, 1863–1948, American minister of the Society of Friends, educator, and author, b South China, Maine He taught philosophy and ethics at Haverford College, Pa , from 1893 to 1934 One of the founders of the noted American Friends Service Committee (1917), he was its chairman until 1928 and thereafter honorary chairman His many books, mainly on the Quakers and on mysticism include *Quakerism, a Religion of Life* (1908), *The Quakers in the American Colonies* (1911), *The New Quest* (1928), *George Fox, Seeker and Friend* (1930), *Radiant Life* (1944), and *The Luminous Trail* (1947)

Jones, Samuel Milton, 1846–1904, American political reformer, known as "Golden Rule" Jones, b. North Wales He was brought to America as a child and worked in the oil fields of Pennsylvania and Ohio He invented improvements in oil-drilling machinery, and after the oil trust refused to handle these innovations, Jones manufactured them himself—and lucratively—in Toledo, Ohio He was noted for his advanced program of employer-management relations Elected (1897) mayor of Toledo on the Republican ticket, he put into operation a comprehensive program of municipal reform When refused renomination in 1899, he ran as an independent and overwhelmingly defeated both political machines He was reelected in 1901 and 1903 and died in office He was succeeded by Brand WHITLOCK, who portrayed Jones's picturesque life in *Forty Years of It* (1914) See his autobiography, *The New Right* (1899)

Jones, Samuel Porter (Sam Jones), 1847–1906, American evangelist, b Alabama He was converted in 1872 and entered the ministry of the Methodist Episcopal Church South Itinerant preaching made him a familiar figure, and he was called to various parts of the country to conduct evangelistic meetings As a revivalist he had extraordinary success, swaying great audiences by his direct, homely speech and unconventional ways

Jones, Thomas ap Catesby, 1789–1858, American naval officer, b Westmoreland co , Va He joined the navy in 1805 and helped suppress piracy and the slave trade in the Gulf of Mexico (1808–12). In the War of 1812 he made a desperate and unsuccessful effort to halt the fleet carrying the Brit-

ish army to New Orleans from crossing Lake Borgne (1814) In 1826 he made a visit to Hawaii that increased U S. prestige in those islands In 1842, acting upon a rumor that the United States and Mexico were at war, he captured Monterey, Calif For this action he was removed from command, but in 1855, long after the Mexican War had been fought, he was restored

Jones, Wesley Livsey, 1863–1932, American legislator, b Moultrie co Ill He practiced law in North Yakima, Wash , and served in the House of Representatives (1899–1909) In the Senate (1909–32), he helped write the Merchant Marine Act of 1920, had charge (1927–28) of Mississippi flood-control legislation, and became chairman of the Senate appropriations committee He sponsored the Jones Act (1929), popularly known as the five-and-ten act because of the severe penalties (five years in prison, $10,000 fine, or both) for prohibition violations The act aroused much clamor and failed of enforcement in many wet districts.

Jones, Sir William, 1746–94, English philologist and jurist, one of the greatest scholars of England He was famous in jurisprudence and in Oriental languages In the former field, he published an *Essay on the Law of Bailments,* widely used in America as well as in England, and translated the Greek orator Isaeus on inheritance and the Sanskrit code of Manu, besides publishing two works on Mohammedan law For 11 years he was a supreme court judge in Calcutta His philological works include a Persian grammar and translations of the *Sakuntala* of Kalidasa, the *Hitopadesa* (both in Sanskrit), poems of Hafiz (Persian), and the *Moallakat* (Arabic) He founded the Asiatic Society of Bengal at Calcutta, through which, as well as through his publications, he had a great influence on literature, Oriental study, and philology in Western Europe There is a monument to him, erected by the East India Company, in St Paul's, London

Jones Beach, state park 2,413 acres, on a sandy island off the south shore of Long Island, SE N Y , est 1929 It has 2½ mi of beach and boardwalk and is accessible to New York city

Jonesboro. **1** City (pop 11,729), co seat of Craighead co , NE Ark , in a hilly region, founded 1859, inc 1883 It is the distributing center for a large farm area producing cattle, poultry, corn, fruit, truck, cotton, and rice, with industries based on these products ARKANSAS STATE COLLEGE and a state park are near by **2** City (pop 1,204), co seat of Clayton co , W central Ga , S of Atlanta, in a farm area, settled 1823, inc 1859 A near-by historical museum is on the site of the Civil War battle of Jonesboro in Sherman's Atlanta campaign (1864) **3** City (pop 1,521), co seat of Union co , S Ill , N of Cairo, in a farm area, laid out 1816, inc 1857 A Lincoln-Douglas debate was held on the fairgrounds here in 1858 **4** Town (pop 1,791), E central Ind , near Marion, platted 1837 It is a farm trading center and produces electric wire and cable **5** Lumber town (pop 2,639), parish seat of Jackson parish, N La , SSW of Ruston **6** Town (pop 976), co seat of Washington co , NE Tenn , near Johnson City, laid out 1779 It is the oldest town in Tennessee It was the first capital of the State of Franklin (see FRANKLIN, STATE OF) Andrew Jackson was admitted to law practice here in 1788, that same year he fought a duel with Waightstill Avery Among old buildings is an inn built c 1798

Jonesport, town (pop 1,745), SE Maine, SW of Machias, settled 1763–64, inc 1832 A port of entry, it is a summer resort and fishing place Beals was included until 1925

Jonesville. **1** Fishing and lumbering town (pop 2,080), E central La , on the Black River, settled on the site of an Indian village, inc 1904 **2** Village (pop 1,302), S Mich , on the St Joseph and SW of Jackson, settled 1828, inc 1855 Display fixtures and toys are made The Sac Trail crossed the river here. **3** Town (pop 1,733), N N C , on the Yadkin and NW of Winston-Salem, in a tobacco area **4** Textile-mill town (pop 1,182), NW S C , between Union and Spartanburg, settled 1808, inc 1876

Jongkind, Johann Barthold (yōhän' bar'tōlt yông'kĭnt), 1819–91, Dutch landscape painter and etcher, studied in Paris with Isabey Jongkind's work was a transition between the naturalism of the 1830s and the impressionistic school He painted chiefly in France, though many of his scenes are Dutch He is considered one of the foremost etchers of the 19th cent His work is in the Louvre, the Rijks Museum and the municipal gallery of Amsterdam The Metropolitan Museum has *Sunset on the Scheldt* and *Honfleur*

jongleur (jŏng'glur, zhông-glûr'), itinerant entertainer of the Middle Ages in France and Norman England, skilled in playing musical instruments His repertoire included singing, dancing, conjuring, acrobatics, and the feats of the modern JUGGLER The jongleur was sometimes an apprentice or assistant to a TROUBADOUR or a TROUVÈRE. See Allardyce Nicoll, *The Development of the Theatre* (3d ed , 1948)

Jonkoping, Swed *Jönköping* (yün'chû"pĭng), city (pop. 40,115), S central Sweden, on Vattern Lake. It has the world's largest match factories (founded 1844) and a textile industry dating from the 17th cent Built on piles over a marsh, Jonkoping was chartered in 1284 Gustavus Adolphus gave (1620) the city special privileges after the citizens had burned it to avoid sack by the Danes Its present aspect is modern It is the county seat for **Jonkoping,** Swed *Jönköpings län* (yün' chû" pĭngs lĕn'), county (4,446 sq mi , pop 253, 794), which is part of the historical province of SMALAND

Jonquière (zhôkyĕr'), town (pop 13,769), S Que , on the Sable river, a tributary of the Saguenay, WSW of Chicoutimi and near Kénogami It developed with the establishment (1902) of a pulp mill, and it now has also railroad repair shops

jonquil see NARCISSUS

Jonson, Ben, 1572–1637, English dramatist and poet After a brief term at bricklaying, his stepfather's trade, and after service in Flanders, he became an actor In 1598 he was tried for killing another actor in a duel but escaped execution by pleading self-defense and benefit of clergy While in prison he was converted to Roman Catholicism, but he returned to the Church of England 12 years later His first play, *The Case Is Altered,* was produced in 1597, and by 1598 he had become a leading dramatist In that year *Every Man in His Humour* appeared with Shakspere as one of the actors In 1599 Jonson wrote a companion piece, *Every Man Out of His Humour* He followed this with *Cynthia's Revels* (1600) and *Poetaster* (1601), two comedies which reflect his disagreement with Marston and Dekker In 1603, after coming into favor with James I, for whom he wrote court masques, Jonson turned temporarily to tragedy with *Sejanus* His next five plays are generally conceded to be his masterpieces—the comedies *Volpone* (1606), *Epicoene* (1609), *The Alchemist* (1610), and *Bartholomew Fair* (1614) and the tragedy *Catiline* (1611) His later plays marked a decline in his ability In his "comedy of humors," Jonson capitalized on human fallibility by giving each character a predominant "humor" or oddity which overshadowed all his other characteristics Jonson's dramatic writing as a whole was influenced by the Roman dramatists, especially Plautus The nondramatic poetry of Jonson is marked by classic precision and includes epigrams, reflective pieces, and lyrics The most famous of these are "Song, to Celia" ("Drink to me only with thine eyes"), "A Celebration of Charis," and "Hymn to Diana" Jonson exerted a strong influence over his many followers, "the tribe of Ben," and the neoclassicism which he espoused and practiced gave a new strength and character to English poetry His commonplace book, *Timber* (1641), is made up of translated paraphrases and extracts from the classics Examples of his conversation have been preserved in *Conversations with Ben Jonson* (1833) by William Drummond of Hawthornden, whom Jonson visited in Scotland in 1619 He was a friend of Shakspere and paid him tribute in the First Folio with his famous "He was not of an age, but for all time" Jonson's tomb in Westminster Abbey bears the inscription "O rare Ben Jonson" See his works (ed. by C H Herford, Percy Simpson, and Evelyn Simpson, 1925–), biographies by G G Smith (1919) and John Palmer (1934), G B Johnston, *Ben Jonson, Poet* (1945)

Jonson, Cornelis van Ceulen see JANSSENS, CORNELIS VAN CEULEN

Jonsson, Einar (ā'nar yōn'sôn), 1874–, Icelandic sculptor and painter In Reykjavik, Iceland, there is a special museum of his work His statue of Thorfinn Karlsefni is in Philadelphia

Joos of Ghent see JUSTUS OF GHENT

Jooss, Kurt (kōōrt' yōs'), 1901–, German dancer and choreographer He studied with Rudolph Laban and founded (1926) a company of dancers at Essen, Germany, which won its first international success with his ballet *The Green Table* (1932) His other works, which combine the techniques of classical ballet and modern dance, include *The Prodigal Son, The Big City,* and *Pandora*

Joplin (jŏp'lĭn), city (pop 37,144), SW Mo , at the edge of the Ozarks and W of Springfield, settled c 1840, inc 1873 It is a railroad center, the shipping and processing point of a grain and livestock region with dairy and fruit farms, and the industrial center of an important lead and zinc area The city's manufactures include metal and leather products, sewer pipes, and explosives

Joppa, Palestine see JAFFA

Jorah (jō'rŭ), the same as HARIPH

Jorai (jō'rāĭ, jōrā'ĭ), Gileadite 1 Chron 5.13

Joram (jō'rĭm) **1, 2** Kings of Israel and Judah see JEHORAM **1, 2** **3** Son of Toi, king of Hamath, sent to congratulate David on the defeat of Hadadezer 2 Sam 8 9–10 Hadoram 1 Chron 18.10 **4** Levite 1 Chron 26 25

Jordaens, Jacob (yā'kôp yôrdäns), 1593–1678, eminent Flemish painter He was early admitted to the painters' guild of his native Antwerp, where he achieved a high reputation, was overwhelmed with commissions, and spent practically all his life He worked as an assistant to Rubens and acquired much of his master's brilliant technique without surrendering his own individuality. After the death of Rubens and of Van Dyck he was the leading Flemish painter of his day. Like Rubens he excelled in large allegorical paintings, portraits, and portrait groups He also painted religious subjects. Jordaens expresses a joy of life as lusty as Rubens's and is somewhat less refined in his celebration of eating and drinking His warm, glowing color, vivacious and masterly technique, and admirable composition won him an assured place among the great masters of the Flemish school Although his chief works are in oil, he also painted many fine water colors Among his many famous works are *Triumph of Frederick Henry of Orange,* a mural (House in the Wood, The Hague), *Fecundity* (Brussels), *Triumph of Bacchus; Presentation in the Temple,* portrait of Admiral de Ruyter (Louvre), *The Artist's Family* (Hermitage, Leningrad), and *Three Musicians* (Prado) Splendid examples of his work are to be seen in almost all the principal European galleries The Metropolitan Museum has his *Sketch from Sacred History* and *The Philosophers* See study by Max Rooses (Eng tr , 1908)

Jordan, Camille (kămē'yu shôrdă'), 1771–1821, French revolutionist and writer A moderate, he fled France during the Terror and again after 18 Fructidor In exile, he befriended Goethe, Schiller, and Herder Back in France after Napoleon's accession, he wrote (1802) the widely read pamphlet, *Vrai sens du vote national,* directed against Napoleon

Jordan, David Starr (jôr'dun), 1851–1931, American scientist and educator, b Gamesville, N Y , M S Cornell, 1872, M D Indiana Medical College, 1875, and studied under Louis Agassiz at Penikese Island He taught (1875–79) at Butler Univ and in 1879 became professor of zoology and head of the department of natural science at Indiana Univ , there he was president from 1885 to 1891 He served as the first president (1891–1913) of Stanford Univ and as chancellor (1913–16) Jordan reorganized the institution's finances, gathered a notable faculty, and instituted new educational methods A prolific writer and popular speaker, he was active as director (1910–14) of the World Peace Foundation and president (1915) of the World Peace Congress Peace and international arbitration were the subjects of his books *The Human Harvest* (1907) and *War and Waste* (1914) As a leading ichthyologist Jordan served on international commissions for fisheries and as assistant (1877–91, 1894–1909) to the U S Fish Commission His earliest important work, *A Manual of the Vertebrate Animals of Northern United States* (1876), went through many editions He also wrote *The Fishes of North and Middle America* (4 vols , 1896–1900), *Guide to the Study of Fishes* (with B W Evermann, 1905), *Your Family Tree* (with S L Kimball, 1929), and *Trend of the American University* (1929) See his autobiographical *The Days of a Man* (1922)

Jordan, Dorothea or **Dorothy,** 1762–1816, British actress, whose real name was Dorothy Bland Born in Ireland, she first appeared on the Dublin stage in 1777 but ran away to England and there played the county circuits In 1785 she made her debut at Drury Lane as Peggy in *The Country Girl* (Garrick's version of Wycherley's play), later appearances as Sir Harry Wildair, Lady Teazle, Viola, and Rosalind established her as the first actress in the comedy of fantasy She had great exuberance and charm and was praised by Leigh Hunt, Hazlitt, and Lamb She became the mistress of the duke of Clarence (later William IV) and bore him many children See biographies by James Boaden (1831) and Clare Jerrold (1914)

Jordan, kingdom (exclusive of former Palestinian territories c 34,750 sq mi , pop c 400,000), SW Asia. The capital is Amman The country, formerly called Trans-Jordan or Transjordania, is officially named the Hashemite Kingdom of Jordan It is bordered by Syria on the north, by Iraq on the east, by Saudi Arabia on the east and south, and by Israel on the west The country's only outlet to the sea is Aqaba, a port on the stretch of coast (under 10 mi long) on the Gulf of Aqaba This article discusses chiefly the area E of the Jordan river, the former national boundary, for the area to the west, see PALESTINE Jordan is mainly arid hills and mountains which support a small number of pastoral nomads In the west agriculture is practiced extensively, with wheat, barley, and grapes the principal crops Livestock raising occupies a large part of the sedentary population British aid has given the country its railroad (c 280 mi long in Jordan), extending from Maan in the south to Damascus, Syria The British are also responsible for the c 1,400 mi of asphalt roads Jordan approximately corresponds to the biblical lands of Edom, Gilead, and Moab and to the lordships of Montreal and Krak in the Latin Kingdom of Jerusalem The area fell to the Ottoman Empire in the 16th cent and remained under Turkish rule until the end of the First World War In 1920 Jordan was part of the short-lived kingdom of Syria under Feisal I, but it was quickly subjugated by the British Great Britain, which administered Jordan as part of the Palestine mandate of the League of Nations, agreed in 1923 to recognize its independence under ABDULLAH, a son of Husein ibn Ali of the Hashemite family. Opposition was

expressed by some Zionist groups, but nevertheless an administrative agreement (1928) made Great Britain suzerain and gave it unlimited authority to maintain garrisons The loyalty of Jordan in the Second World War led to termination of the mandate and the proclamation of the kingdom in 1946 A treaty in 1948 set forth the relations of the two countries Jordan, while fully independent, was to receive an annual subsidy of some £2,000,000 per annum for its famed Arab Legion In time of peace British garrisons were to be maintained at the principal airports only Jordan long opposed Zionist aims, and when Palestine was partitioned (May, 1948) Jordan together with other members of the ARAB LEAGUE dispatched armed forces to resist Israel The troops of the Arab Legion were unsuccessful against the Israeli forces, but they did hold most of that part of W central Palestine which the United Nations had designated Arab territory Late in 1949 Jordan concluded a truce with Israel, and early in 1950 it annexed the occupied portion of Palestine The national population was thereby increased by some 450,000 (many of them homeless refugees from Israel) and the land area by some 2,500 sq mi This action of Jordan was strongly resented by other Arab countries See F G Peake, *A History of Transjordan* (1934), A Konikoff, *Transjordan an Economic Survey* (1946), J B Glubb, *The Story of the Arab Legion* (1948)

Jordan 1 City (pop 1,422), E Minn , SW of Minneapolis, platted 1854, inc as a village 1872, as a city 1891 It is a farm trade center 2 Village (pop 1,115), central N Y , W of Syracuse, in a farm area, inc 1835

Jordan, river rising in the Anti-Lebanon mts in Syria and flowing c 230 mi S to the Dead Sea It is the longest and most important river of Palestine On its early course the Jordan flows precipitately through the Bahr-el-Huleh and the Sea of Galilee Thereafter it winds tortuously, and in its final stage it is narrow, sluggish, and brackish The valley of the Jordan is called the Ghor and is the northernmost continuation of the Great Rift Valley The Jordan formerly marked the eastern border of the British mandate in Palestine, except in the extreme north After the partitions of Palestine (May, 1948) much territory west of the river was occupied by the adjoining Arab state of Jordan and was annexed in April, 1950 Thus the southern half of the river now flows through territory of Jordan while the northern half marks part of the Israel-Jordan and of the Israel-Syria borders Although the Jordan is not navigable, it has great potential economic value The plan described by Walter C Lowdermilk in 1944 would divert the fresh water of the extreme northern course into irrigation canals reaching as far as the N Negev (southern triangle of Israel) Water from the Mediterranean would be drawn through the Vale of Esdraelon and, falling into the Jordan cleft, would provide endless hydroelectric power Thus water, replacing that diverted from the river, would also prevent the Dead Sea from falling too low The Jordan is frequently mentioned in the Bible, it was the place of the baptism of Christ See W C. Lowdermilk *Palestine Land of Promise* (1944)

Jordan, river, N central Utah, draining Utah Lake to Great Salt Lake It flows past Salt Lake City.

Jordanes (jôrdā'nēz), fl 6th cent , historian of the Ostrogoths Born in the lower Danube region, he entered the priesthood and lived much of his life at Ravenna His *History of the Goths*, an abridgment of the lost work of CASSIODORUS, is the only source for Ostrogothic history It is written in very uncouth Latin

Jorgensen, Jens Johannes, Dan *Jørgensen* (yĕns' yō'hŭn'nŭs yur'gunsun), 1866–, Danish poet and writer of religious, polemical, and travel books His earlier books, including *Poems* (1898), were notable for romanticism and symbolism In 1896 he became a Catholic, and his most significant work dates from this time Among his translated writings are *Pilgrim Walks in Franciscan Italy* (1903, Eng tr , 1908), *Saint Francis of Assisi* (1907, Eng tr , 1912), *False Witnesses* (1915, Eng tr , 1916), which deals with German atrocities in Belgium during the First World War, and what is perhaps his chief prose work, his autobiography (6 vols , 1916-19, Vol VII, 1928; Eng tr , 1928-29) Collections of his poetry include *Flowers and Fruits* (1907) and *The Brig Marie of Svendborg* (1926)

Jorim (jō'-), ancestor of Joseph Luke 3 29

Jorkoam (jôrkō'ŭm), descendant of Caleb 1 Chron. 2 44

Jorullo (hōrōō'yō), volcano, 4,265 ft high, Michoacán, Mexico, SW of Morelia Its eruption in 1759 created great destruction It has been inactive since 1860 See Hans Gadow, *Jorullo* (1930).

Josabad (jō'sŭ-) [Heb ,=God has given], officer of David 1 Chron 12 4

Josaphat (jō'sŭfăt), in the Bible see JEHOSHAPHAT.

Josaphat, in literature see BARLAAM and JOSAPHAT.

Jose (jō'zē), in the Gospel genealogy Luke 3.29.

Josedech (jō'sùdĕk), variant of JOZADAK.

Joseph, Saint, husband of the Virgin, a carpenter, of the house of David. He was apparently dead at the time of the Passion, for his last appearance in the Gospels is at the finding of the Child Jesus in the Temple Mat 1, Luke 2; John 1, Mat 13 55 As the foster father of Our Lord and the chaste spouse of Our Lady (see MARY), St. Joseph is highly honored by Orthodox and Roman Catholics The latter regard him as patron of the Church and of the dying and invoke him for a happy death. Feast March 19; the Solemnity of St Joseph, another feast third Wednesday after Easter.

Joseph I, 1678–1711, emperor (1705–11), king of Hungary and of Bohemia, son and successor of Leopold I During his reign Hungary was in rebellion under Francis II RÁKÓCZY Joseph acceded to the throne in the midst of the War of the SPANISH SUCCESSION and died before its termination His brother, who succeeded him as CHARLES VI, was vigorously supported by Joseph in his claim to the Spanish throne Joseph's regime was less authoritarian than his predecessors' and was marked by attempts at internal reforms

Joseph II, 1741–90, emperor (1765–90), king of Bohemia and Hungary, son and successor of Emperor Francis I and of MARIA THERESA He was the first emperor of the house of Hapsburg-Lorraine From the death of his father (1765) to the death of his mother (1780) he ruled the Hapsburg lands jointly with his mother Joseph II was a revolutionary reformer His reforms were less the result of the philosophy of ENLIGHTENMENT, which was then fashionable, than of Joseph's personal philosophy and principles As a young man he was profoundly impressed by the subhuman conditions of the peasantry which he saw while touring the provinces, the memory haunted him through his life He was impatient with the slowness of Maria Theresa's reforms On her death, he was ready with a full revolutionary program, which he sought to push through by fair means or foul in order to consolidate the reforms in his lifetime Subsequent historians have tended to stress his failures rather than his successes Joseph contemplated nothing less than the abolition of hereditary and ecclesiastic privileges and the creation of a centralized and unified state, consisting of the Hapsburg lands and administered by a civil service based on merit and loyalty rather than birth He planned a series of fiscal, penal, civil, and social laws which would have established social equality for all and security for the needy His means were necessarily despotic, for he considered speed essential to success Joseph's chief piece of legislation was the abolition (1781) of serfdom and feudal dues, he also enabled tenants to acquire their own lands from the nobles for moderate fees and allowed peasants to marry whom they wished and to change domicile at their pleasure With a few exceptions—which persisted until 1848—feudalism was thus abolished in Austria The Patent of Tolerance (1781) provided for extensive, though not absolute, freedom of worship In his anticlerical, judicial, administrative, and fiscal legislation Joseph II was less successful, much of it was revoked even before his death He forbade religious orders to obey foreign generals, suppressed all contemplative orders, and even sought to interfere with the training of priests A personal visit (1782) of Pope PIUS VI to Vienna did not halt these measures Joseph abolished judicial torture, humanized the penal code, and instituted two degrees of appeal A projected revision of civil laws was not completed In fiscal matters Joseph was influenced by the PHYSIOCRATS He ordered a general reassessment of land preparatory to the imposition of a single land tax Thus reform met widespread opposition Still more unpopular, however, was his attempt to abrogate local governments, customs, and privileges in his far-flung and multilingual dominions, which he divided into 13 circles centrally administered from Vienna He even sought to impose German as the sole official language, he was not a German nationalist, but a multilingual administration seemed irrational to him Revolts broke out in Hungary and in the Austrian Netherlands (see NETHERLANDS, AUSTRIAN AND SPANISH) Joseph founded innumerable hospitals, insane asylums, poorhouses, and orphanages, he opened parks and gardens to the public; and he legislated to provide free food and medicine for the indigent His failure to make his reforms permanent was largely caused by his untimely death, by the reaction provoked by the French Revolution, and by his unsuccessful foreign policy His plan to annex Bavaria to Austria and thus to consolidate his state was frustrated in the War of the BAVARIAN SUCCESSION (1778-79), his project to exchange the Austrian Netherlands for Bavaria was thwarted (1785) by Frederick II of Prussia, who formed the *Fürstenbund* [princes' league] for that purpose Joseph allied himself with CATHERINE II of Russia (whom he accompanied incognito on her Crimean journey), hoping to share in the spoils of the Ottoman Empire Austria joined Russia in the war of 1787–92 against Turkey, but was unsuccessful Joseph's successor, his brother LEOPOLD II, appeased nationalist opposition in Hungary and Bohemia by rescinding Joseph's policy of Germanization Obsessed with his social responsibility, Joseph found only occasional time to interest himself in any but the utilitarian arts Gluck and Mozart held ill-paid positions at his court With the exception of the philable KAUNITZ, Joseph's ministers found it difficult to collaborate with the emperor Joseph was hated and ridiculed by the clergy and nobles, but he has remained the idol of the common people In popular tradition Joseph's incognito adventures make him a sort of modern Harun-al-Rashid Judgments on Joseph II vary widely, but it is certain that he was the only one of the benevolent despots who left a socially freer state on his death than he had found on his accession See Saul Padover, *The Revolutionary Emperor, Joseph II* (1934), E M Link, *The Emancipation of the Austrian Peasant* (1949).

Joseph, 1715–77, king of Portugal (1750–77), son and successor of JOHN V Although he was himself a man of some ability, his reign was dominated by his minister, the marquês de POMBAL. He was succeeded by Peter III and Maria I

Joseph [Heb ,=God will add] 1 One of the early heroes of the Bible, the favored son of Jacob and Rachel sold as a boy into slavery by his jealous brothers In Egypt, Joseph, after gaining a position of authority in the household of his master, Potiphar, was imprisoned on the false accusations of Potiphar's wife He was released after interpreting Pharaoh's dream of the lean and fat kine Pharaoh renamed him Zaphnath-paaneah and took him into favor Joseph's recognition of his brothers in the famine years when he was governor over Egypt is a famous scene of literature His wife was Asenath, an Egyptian, and their sons Manasseh and Ephraim were ancestors of two of the 12 tribes of Israel Gen 30, 37, 39–50 The story has been retold and reworked, as in Joseph and Asenath, among the PSEUDEPIGRAPHA, and in the works of Thomas MANN 2 Issacharite Num 13 7 3 Asaphite 1 Chron 25 2,9 4 One who had a foreign wife Ezra 10 42 5 Priest Neh 12 14 6, 7, 8 Ancestors of St Joseph. Luke 3 24,26,30 See also JOSES and BARNABAS

Joseph (Chief Joseph), c 1840–1904, American Indian leader, chief of the Nez Percé Indians On his father's death in 1873 Joseph became leader of the group of the Nez Percé who refused to recognize the land cessions made to the United States by the treaty of 1863 Gen Oliver O HOWARD entered negotiations with him, but fighting broke out between whites and Indians and Chief Joseph withdrew from the parleys He was a strong defender of the rights of his people and, feeling that they could not obtain justice in the United States, determined (1877) to lead them to Canada With many women and children his warriors set out on the hard march, retreating in masterly fashion before the U S army He defeated a contingent of troops at the battle Big Hole in Montana, and he avoided capture by another At the Yellowstone river, however, he hesitated and was overtaken by troops under Nelson A MILES and forced to surrender Joseph was taken to Fort Leavenworth, then spent most of the rest of his life on the Colville Indian Reservation and strove to better conditions of the natives In 1903 he made a ceremonious visit to Washington See biographies by Oliver O. Howard (1881) and C A Fee (1936)

Joseph, Father, 1577–1638, French Capuchin monk, a confidant and agent of Cardinal Richelieu, generally known as "Gray Eminence " His full name was François Leclerc du Tremblay Combining the elements of a mystic and of a Machiavellian politician, he devoted his life with equal energy to missionary work and to the shady and delicate diplomatic negotiations with which Richelieu entrusted him He dreamed of a crusade against the Turks and of the restoration of Catholicism throughout Europe, and he lent his services to a policy which strengthened Protestantism and the Ottoman Empire at the expense of the house of Hapsburg Rumors ascribed an evil influence to the "Gray Eminence" over the cardinal Actually, it would seem that Father Joseph was a pliable instrument in the cardinal's hands and that his influence on the events that led to the entry of France into the Thirty Years War has been vastly exaggerated Unlike his master, Father Joseph sought no material rewards He is the subject of a study by Aldous Huxley, *Grey Eminence* (1941).

Joseph Barsabas (bär'sŭbus), surnamed Justus, Matthias' competitor for the place among the disciples left vacant by Judas Iscariot The lots chose Matthias Acts 1 23

Josephine, 1763–1814, empress of the French (1804–9) Born Marie Josèphe Rose Tascher de la Pagerie, a creole of Martinique, she was married in 1779 to Alexandre de BEAUHARNAIS Two children were born, Eugène (later viceroy of Italy) and Hortense (later queen of Holland) Her husband, an anti-revolutionist was guillotined in 1794, but Josephine, through her friendship with BARRAS, escaped persecution In 1796 she was married, by a civil ceremony, to Napoleon Bonaparte, whom she had met through Barras Napoleon bore her notorious indiscretions but had the marriage annulled in 1809 because of her alleged sterility, so that he might marry Marie Louise Thereafter Josephine lived in retirement at Malmaison See biography by R M Wilson (1930), studies by Frédéric MASSON.

Joseph of Arimathea, Saint (ā″rĭmŭthē′ŭ), member of the Sanhedrin who gave the body of Jesus decent burial. Mat 27 57–61, Mark 15 42–47; Luke 23 50–56, John 19.38–42. Grateful Christendom has always honored him. The stories connecting him with GLASTONBURY and with the Holy GRAIL are probably literary fictions of the Middle Ages; they have never received the approval of the Church

Joseph of Cupertino, Saint (kōōpĕrtē′nō), 1603–63, Italian Franciscan, named Giuseppe Desa His life was marked by remarkable miraculous displays, including many cases of levitation. These led to his being called a patron of airmen. Feast Sept 18

Josephus, Flavius (flā′vēŭs jōsē′fus), A D. 37–A D 95?, Jewish historian and soldier, b Jerusalem. Having studied the tenets of the three main sects of Judaism—Essenes, Sadducees, and Pharisees—he became a Pharisee At the beginning of the war between Romans and Jews, he was made governor of Galilee He displayed valor and shrewdness in the war, but when the stronghold he defended was taken, he won the favor of the Roman general Vespasian and took his name, Flavius The conduct of Josephus has been both aspersed and defended, however, our knowledge of his conduct is based on his own writings It is as a historian of the Jews that Josephus is renowned He wrote *The Jewish War*, the famous *Antiquities of the Jews*, a history of the race from creation to the war with Rome, *Against Apion*, an exalted defense of Jews, and his autobiography or apology His complete works have appeared in English editions See H St J Thackeray, *Josephus, the Man and the Historian* (1929), F J Foakes Jackson, *Josephus and the Jews* (1930), Lion Feuchtwanger, *Josephus* (1932), *The Jew of Rome* (1935), and *Josephus and the Emperor* (1942), trilogy of novels

Joses (jō′sēz) [Gr form of Heb JOSEPH] **1** Kinsman of Jesus Mark 6 3, Mat 13 55 **2** Brother of JAMES THE LESS, the same as **1**, if the traditional interpretation is accepted Mat 27 56, Mark 15 40,47 **3** See BARNABAS, SAINT

Josetsu (jō″sĕt′sōō), fl 1425, Japanese landscape painter, teacher, and priest He was probably of Chinese origin, since his work shows Ming characteristics He worked in Kyoto, where Shubun was his pupil

Joshah (jō′shŭ), Simeonite chief 1 Chron 4 34.

Joshaphat (jŏ′shŭfăt) see JEHOSHAPHAT

Joshaviah (jŏshō̂vī′ŭ), one of David's guard 1 Chron 11 46

Joshbekashah (–bĕk′ŭshŭ), Hemanite temple musician 1 Chron 25 4,24

Joshua (jō′shōōŭ, jŏ′shuwu) [Heb ,=God is salvation] **1** Central figure of the book of JOSHUA **2** High priest associated with Zerubbabel in rebuilding the Temple Hag 1, 2, Zech 3, 6 11 Ezra 3 2, 4 3, 10 18, Neh 12 26 Jesus Ecclus 49 12 **3** Owner of the field where the ark stood 1 Sam 6 14. **4** Governor of Jerusalem 2 Kings 23,8

Joshua or Josue (jŏ′shōō), book of the Old Testament, the sixth in the order of AV It is a historical sequel to Deuteronomy, telling of the occupation of Palestine by the Hebrews The chief figure of the book is Joshua, Moses' successor as leader of Israel He appears in Moses' lifetime in increasingly important positions, as a warrior, as the assistant to Moses, as one of the spies, finally as divinely named leader Ex 17 9,14, 24 13, 33 11, Num 13, 14, Deut 31, 32 The book of Joshua may be divided into four sections first, the conquest of the Promised Land (1–12), including the divine appointment of Joshua (1 1–9), the crossing of the Jordan dry shod (3), the fall of Jericho (6), and the battle where the sun stood still (10), second, the allotment of the land to the people by tribes (13–22), mainly lists; third, an account of how the tribes E of the Jordan acquitted themselves of the charge of setting up a sanctuary of their own (22), and, fourth, the farewell sermon of Joshua and his death (23–24) Joshua's name appears variously in AV Jehoshua Num 13 16 Jehoshuah 1 Chron 7 27, Jeshua Neh 8 17 Jesus Acts 7 45, Heb 4 8. He had originally been named Hoshea (hō-shē′ŭ) or Oshea (ōshē′ŭ) [both the same as HOSEA] He is one of the great heroes of biblical history Ecclus 46 1–6; 1 Mac 2 55 For books on Joshua and critical views of its composition, see OLD TESTAMENT

Joshua tree see YUCCA

Joshua Tree National Monument, see NATIONAL PARKS AND MONUMENTS (table).

Josiah (jōsī′ŭ) [Heb ,=given by God] or **Josias** (jōsī′ŭs) **1** Died c 610 B C., king of Judah (c 641–c 609 B C), son and successor of Amon. The great event of his reign came in its 18th year, when the book of the law, apparently DEUTERONOMY, was found in the Temple Josiah had it read publicly, and a reform movement began, led by the young king. The basis of the reform was the removal of all centers of worship from the country to concentrate everything in worship at Jerusalem. When the Pharaoh Necho set out to wrest the Palestinian and Syrian states from Assyria, Josiah opposed him and fell, at Megiddo He was succeeded by his son Jehoahaz 2 Kings 22–23, 2 Chron. 34–35. **2** Man at whose house the prophet Zechariah was to crown the high priest Zech. 6.10-11

Josibiah (jŏsĭbī′ŭ) [Heb ,=God makes to dwell], father of Jehu the Simeonite 1 Chron 4 35.

Jósika, Baron Nicholas (yō′shĭkō), Hung *Jósika Miklós* (mĭ′klōsh), 1794?–1865, Hungarian novelist, b Transylvania The originator of the Hungarian historical novel, he was influenced by Sir Walter Scott and gained his inspiration from old castles and ancient family chronicles He was often superficial in depicting character and the period, his chief merit was that he revived the past and was thus greatly responsible for the renewed interest in Hungary's history Among his historical novels are *Zolyomi* and *Abafi* (both 1836). Other stories include *The Debauchee* (1837), and *A Two-Story House at Pest* (1847).

Josiphiah (jŏsĭfī′ŭ) [Heb ,=God adds], father of one who returned with Ezra Ezra 8 10

Josquin des Prés (shōs′kĕn dĕprā′), c 1450–1521, Flemish composer, b Hainaut, regarded by his contemporaries as the greatest of his age Luther spoke highly of him, and he may have instructed Erasmus in music In 1486 he entered the papal choir of Rome and later was in the service of Louis XII of France He ended his days as provost of the Collegiate Church of Condé His earlier works exhibit a preoccupation with contrapuntal skills, while his later works are more expressive He wrote Masses and numerous motets

Jostedalsbreen (yō′studalsbrā″un), glacier, area 340 sq mi , Sogn og Fjordane co , W Norway, between Nord Fjord and Sogne Fjord, W of the Jotunheim mts The largest icefield on the European mainland, it rises to 6,700 ft and thrusts numerous glaciers into the adjoining valleys

Josue (jō′shōō), variant of JOSHUA

Jotbah (jōt′bŭ) [Heb ,=goodliness] unidentified place, probably in S Palestine 2 Kings 21 19

Jotbath or **Jotbathah** (jōt′bŭthŭ) [both Heb ,=pleasantness], unidentified desert place Num 33 33, Deut 10 7

Jotham (jō′thŭm) [Heb ,=the Lord is upright] **1** The only one of Gideon's sons not killed by Abimelech, noted for his parable of the trees electing the bramble to be their king Judges 9 5–21 **2** Died c 731 B C , king of Judah (c 735–c 731 B C), son of Uzziah He was a contemporary of Isaiah, Hosea, and Micah. 2 Kings 15 5,32–38 Joatham Mat 1 9 **3** Descendant of Caleb 1 Chron 2 47

Jotunheim (yō′tōonhām), mountain group, central Norway, highest of Scandinavia It culminates in Galdhopiggen (Nor *Galdhøpiggen*), 8,098 ft high, and Glittertind, 8,138 ft high The JOSTEDALSBREEN, a huge glacier, is to the west Sparsely inhabited, the region is used for summer pasture In Norse mythology, this was the home of the giants, the Jotun

Joubert, Barthélemy Catherine (bartālmē′ kātrēn′ shōōbĕr′), 1769–99, French general He was second to Bonaparte in command in the Italian campaign (1796–97) and in 1799 was made chief of the Army of Italy He was killed in battle at Novi

Joubert, Joseph (shōzĕf′ zhōōbĕr′), 1754–1824, French moralist His *Pensées* (there are many English translations) rank with those of La Rochefoucauld in their finished style but have a greater range, including ethics, politics, theology, and literature

Joubert, Petrus Jacobus (pā′trōos yakō′bōos you′burt), 1831?–1900, Boer general and politician He joined S J P KRUGER and M W PRETORIUS in the triumvirate governing the Transvaal in 1880–81 In 1881 he defeated the British twice before routing them at Majuba Hill He ran for president against Kruger in 1883, 1893, and 1898 At the outbreak of the SOUTH AFRICAN WAR he directed the siege of Ladysmith, but ill-health forced him to retire

Jouett, James Edward (jōō′ĭt), 1826–1902, American naval officer, b near Lexington, Ky , son of Matthew Jouett In the Civil War he distinguished himself under Farragut on blockade duty off Mobile (1861–63) and in the battle of Mobile Bay (1864) Jouett, made commander of the North Atlantic Squadron (1884), led the expedition which reopened traffic across the Isthmus of Panama after it had been interrupted by a revolt against Colombia (1885) He was promoted rear admiral in 1886

Jouett, Matthew Harris, 1783–1827, American painter, b Mercer co , Ky , studied in Boston with Gilbert Stuart He was the first prominent painter in the West Among his more than 300 portraits are one of Lafayette in the state capitol at Frankfort, Ky , and of John Grimes in the Metropolitan Museum. James Edward Jouett was his son.

Jouffroy, Théodore Simon (tāōdôr′ sēmō′ zhōōfrwä′), 1796–1842, French philosopher He was professor at the Collège de France and librarian to the Univ of Paris. His translations of the Scottish philosophers Reid and Stewart made possible a wider understanding of this school In his writings he distinguished sharply between psychology and physiology as separate lines of inquiry. Influenced by Victor Cousin, Jouffroy is classed as an eclectic. His works include *Cours de droit naturel* (1835) and *Mélanges philosophiques* (1833) and the posthumous publication, *Cours d'esthétique* (1843).

Joule, James Prescott (jōōl, joul), 1818–89, English physicist His scientific researches, begun in his youth when he invented an electromagnetic engine, formed a valuable contribution to the fields of heat, electricity, and thermodynamics. He was the first to determine the mechanical equivalent of HEAT The electrical unit of work is named for him, the **joule** (joul, jōōl), which for practical use is defined as the work done in one second in maintaining a current of one ampere in a resistance of one ohm It is equivalent to 10,000,000 **ergs** (the unit of work in the cgs system), to 0 7376 foot-pounds, to 0 1020 kilogram-meters, to approximately 0.24 calories (15°), and to 0 0009487 B.T U.

Jourdan, Jean Baptiste (zhā′ bäptēst′ zhōōrdä′), 1762–1833, marshal of France He fought in the American Revolution and in the FRENCH REVOLUTIONARY WARS Though briefly suspended on Napoleon's accession to power (1799), he was later made a marshal, a senator, and a councilor of state Louis XVIII created him a count

journalism, the collection and periodical publication of news It includes writing for, editing, and managing such media as the NEWSPAPER and the PERIODICAL Periodical publication of news dates at least from the *Acta diurna* of Rome, and the art of PRINTING spread rapidly in the 15th cent Soon the writing of newsletters became a trade Although in early 18th-century England Joseph ADDISON, Richard STEELE, and Daniel DEFOE were outstanding as writers of periodicals, journalism had its real beginnings in the latter years of the 18th cent , paralleling the increase in political freedom witnessed by the American Revolution, the French Revolution, and the legal battles in England of John WILKES for journalistic liberty Until the institution of freedom of speech and of the press, journalism had generally served as the handmaiden of politics or as a means of business, attaining no independent standards or aims In the early 19th cent journalists, despite their increased liberties in England and America, were not divorced from the dictates of political parties Thus American journalists, such as Philip Freneau, though capable were thoroughly partisan The spread of universal education, growing popular support of newspapers and periodicals, and new inventions helped extend the prestige of journalism and in part severed its blind alliance with political parties The growth of individualistic leadership in the newspaper field in the United States (see GREELEY, HORACE, BOWLES, SAMUEL, DANA, CHARLES) in the middle years of the 19th cent in turn influenced other journalistic media (e g , the muckraking magazine and the independent periodical) In the 20th cent, the power of the individualistic journalist declined in the face of tremendous technological advances, the growth of the NEWS AGENCY, vast strides in reporting techniques, heavier dependence on advertisement, and the further broadening of education and reform Journalism tremendously ramified in all phases, but tended to become more standardized, impersonalized, and sensationalized in England and in the United States Journalism has grown proportionally with political and technological advances of the various countries throughout the world In recent years schools of journalism have been founded in connection with numerous universities throughout the world The earliest school of journalism in the United States was established (1908) at the Univ of Missouri, the Columbia Univ School of Journalism had been endowed in 1903 but was not opened until 1912.

joust, see TOURNAMENT

Jouvenet, Jean (zhā′ zhōōvunā′), 1644–1717, French painter, one of a family of painters He worked in Paris in the studio of Charles Le Brun, whose manner he acquired and whose favor at court he shared In 1681 he was made professor of the Académie royale de Peinture et de Sculpture and, in 1707, rector Jouvenet is best known for his religious paintings, splendid examples of which are in the Hôtel des Invalides and Notre Dame, Paris, in the chapel of Versailles, and in the Louvre. Although he was paralyzed in his old age, he continued to paint with his left hand.

Jove see JUPITER

Jovellanos, Gaspar Melchor de (gäspär′ mĕlchôr′ dā hôvĕlyä′nōs), 1744–1811, Spanish statesman, economist, and poet Jovellanos's poetry is philosophical and reflective His best-known poem is *Epistola de Fabio a Anfriso* [epistle from Fabio to Anfriso] Among his patriotic and political writings, the most influential were his report on agrarian law and his memoir in defense of the Central Junta He wrote also *El delincuente honrado* (1774), a drama After Napoleon's invasion of Spain, he retired to Asturias, where he died

Jovian (Flavius Claudius Jovianus) (jō′vēun), c 331–364, Roman emperor (363–64) The commander of the imperial guard under JULIAN THE APOSTATE in his Persian campaign, Jovian was elevated to the imperial dignity by the soldiers He made a humiliating peace with SHAPUR II of Persia. He returned Christianity to the privileged position it had enjoyed before Julian, and he restored his friend St. Athanasius to the episcopal see of Con-

stantinople. After a reign of only eight months Jovian died and was succeeded by the joint emperors Valentinian I and Valens

Jowett, Benjamin (jou'ĕt), 1817–93, English Greek scholar, a Church of England clergyman, master of Balliol College, Oxford, and vice chancellor of Oxford, one of the greatest educators England has had. His personal influence on his pupils was profound He is well known largely for his translation of the dialogues of Plato, taking a high place in English literature and in classical scholarship.

Jowett, John Henry, 1864–1923, English Congregational clergyman, widely known for his preaching In 1911 he accepted a call to the Fifth Ave Presbyterian Church, New York city, remaining there seven years and preaching to large congregations. Returning to England in 1918, he became minister of the Westminster Chapel, London His many books include *The High Calling* (1909), *The Transfigured Church* (1910), *Things That Matter Most* (1913), and *The Whole Armour of God* (1916). See biography by Arthur Porritt (1924)

Joyce, James, 1882–1941, Irish novelist, a major figure of modern world literature Born in a Dublin suburb, he was educated at Jesuit schools, Clongowes Wood College in Clane and Belvedere College in Dublin, and was graduated from a well-known Jesuit center of Catholic higher education, University College, in Dublin Both his native city and his Jesuit training were reflected in his work, though he cut himself off from both his home and his church and spent almost all of the rest of his life in self-imposed exile on the Continent He did return to Ireland when his mother was dying and in 1904 spent a few unhappy months teaching in an Irish school In that year he met the woman who was to be his wife, and together they went to the Continent that autumn The exile never again returned except for one brief journey He and his family lived at Trieste, Zurich, and Paris in poverty while he worked slowly on his masterpieces As the years went on he underwent several eye operations and suffered near-blindness His first published book was a volume of poems, *Chamber Music* (1907), which won some notice, but his poetry, including the later volume, *Pomes Penyeach* (1927), and the *Collected Poems* (1937, including *Chamber Music*, *Pomes Penyeach*, and a new collection called *Ecce Puer*), was not to be a major contribution to literature That was to be presented in his prose works The first was *Dubliners* (1914), a linked collection of stories (or fictional sketches) centering upon revelatory moments of spiritual insight, which he called epiphanies He found difficulty in securing a publisher for this, largely because the names of actual persons, places, and institutions were mentioned *A Portrait of the Artist as a Young Man*, which was published in book form in the United States in 1916, is a fairly straightforward account of the adolescence and youth of Stephen Dedalus (Joyce himself, but the universal artist as well) It is marked with the aims and the techniques that were to be developed in two later and greater works, Joyce attempts to explore all the levels of mind and experience and utilizes the stream-of-consciousness method, symbol, and myth His *Ulysses*, written between 1914 and 1921, at Zurich and Paris, was published in parts in little *avant-garde* magazines (the *Little Review* and the *Egoist*), but Joyce met much opposition in seeking publication of the work in book form because charges of obscenity were leveled against it It appeared in Paris in 1922 Its publication was banned in the United States until 1933, long after its world importance was generally recognized The book is intricate in structure—labyrinthine, one of the critics calls it—and proceeds on many levels of meaning. Formal grammar is to a large extent abandoned Joyce had early shown brilliance in language (as a young man he learned Norwegian to read Ibsen in the original), and *Ulysses* is remarkable for borrowing from other languages to enrich the linking of words into evocative patterns, not infrequently many-sided puns. The writing is varied, shifting in style to suit the characters, chief among them Stephen Dedalus, Leopold Bloom, and his wife, Molly Bloom The use of stream of consciousness and interior monologue, the frame of incidents from the Homeric poem, references to events and conditions of one day (June 16, 1904) in Dublin, and incorporation of all sorts and bits of learning (religious, mythological, geographical, linguistic, and miscellaneous) make reading the book difficult, and several keys and extended interpretations have been written by commentators The methods of *Ulysses* are extended and elaborated in *Finnegans Wake* (1939), which before its final publication was known as *Work in Progress*, parts of it were published in the periodical *transition* and in booklets under other titles This is a book of night to supplement the day of *Ulysses* and presents the world in the mind of a sleeper or dreamer with barriers of time, space, and language ignored. The breadth and complexity require of the reader minute and comprehensive study. The canon of Joyce works that have been published also includes a play in the manner of Ibsen, *Exiles* (1918), and part of an early version of *A Portrait of the Artist as a Young Man* called *Stephen Hero* (1944) The effect of Joyce on writers of the 20th cent. is incalculable, he is probably the most-discussed author of his time, though there has been little direct imitation of his work, probably because the requirements are too exacting His techniques and forms have, however, had enormous influence Selections from his work appeared in *The Portable James Joyce* (ed by Harry Levin, 1947). See Stuart Gilbert, *James Joyce's Ulysses* (1930; new ed, 1938), Frank Budgen, *James Joyce and the Making of Ulysses* (1934), biography by Herbert Gorman (1939), Harry Levin, *James Joyce* (1941), Joseph Campbell and H M Robinson, *A Skeleton Key to Finnegans Wake* (1944), R M Kain, *Fabulous Voyager* (1947), W. Y Tindall, *James Joyce* (1950)

Joyce, William, 1906–46, American-born British Nazi propagandist, called Lord Haw-Haw Joyce broadcast German propaganda in English from Berlin during the Second World War He was captured by British soldiers in Germany in 1945 He was adjudged subject to British jurisdiction because he held a British passport, was convicted of treason, and was hanged, Jan 3, 1946 See Rebecca West, *The Meaning of Treason* (1947)

Jozabad (jŏ'zu-) [Heb ,=God has given] **1, 2** Two of David's captains 1 Chron 12 20 **3,4** Important Levites 2 Chron 31 13, 35 9 **5** Man who had married a foreigner Ezra 10 22 **6,7,8,9** Levites in the return from the Exile Ezra 8 33, 10 23, Neh 8 7, 11 16 These four may be identical

Jozachar (jŏ'zukär) [Heb ,=God remembers], murderer of Joash. 2 Kings 12 21 Zabad 2 Chron 24 26

Jozadak (jŏ'zu-) [Heb ,=whom God makes just], one in the high priests' line who probably never held office, because he was carried away to Babylon Ezra 3 2, 10 18, Neh 12 26 Jehozadak 1 Chron 6 14,15 Josedech Hag 1 1, Zech 6 11

J. S. of Dale see STIMSON, FREDERIC JESUP

Juana, Spanish queen of Castile see JOANNA

Juana Inés de la Cruz (hwä'nä ēnās' dā lä krōōs'), 1651–95, Spanish American poet, generally considered the greatest lyric poet of the colonial period, a Mexican nun, whose family name was Asbaje She was precocious in learning, and her erudition and her beauty both attracted attention at the viceregal court before at 16 or 17 she entered a convent She devoted herself to the pursuit of knowledge and showed much learning as well as an intense scientific curiosity unusual for the epoch One of her best-known works is the largely autobiographical letter to the bishop of Puebla in defense of the education of women, but it was her poetry that earned her a high place in Spanish literature Her poems, especially her occasional poems, show the influence of Góngora Her lyrics are marked by spontaneity and sincerity After selling her collection of books, Sor Juana devoted the last years of her life to perfecting herself spiritually and died when trying to help the victims of an epidemic, to which she, too, fell victim

Juana la Beltraneja (hwä'nä lä bĕltrānā'hä), 1462–1530, Castilian princess, daughter of Juana of Portugal, queen of HENRY IV of Castile The paternity was generally attributed to the court favorite Beltrán de la Cueva, wherefore her name Juana was first recognized as legitimate heiress by the cortes of Castile, but later Henry IV designated as successor his brother Alfonso, who soon after died In 1468 Henry named his sister Isabella (later ISABELLA I) his successor, but after her marriage to Ferdinand of Aragon, of which the king disapproved, he declared (1470) Juana his legitimate daughter and heir At Henry's death (1474) the dynastic question provoked a civil war Juana's partisans called upon Alfonso V of Portugal for help and arranged his marriage to the young princess After five years of struggle Alfonso was decisively defeated at Toro, and Isabella was recognized (1479) as queen of Castile Juana retired to a convent in Portugal

Juan de Fuca Strait (jōō'ən dē fū'kə), inlet of the Pacific, 100 mi long and 15 to 20 mi wide, between Vancouver Island and Washington state It connects the Strait of Georgia and Puget Sound with the Pacific. It was discovered by Capt Charles William Barkley in 1787. The name of the strait derives from that of a sailor, Juan de Fuca, who, legend says, discovered it for Spain in 1592

Juanes, Juan de: see MACIP, VICENTE JUAN

Juan Fernández (jōō'un fûrnän'dĕz, Span hwän' fĕrnän'dās), group of small islands (pop 434), c 400 mi W of Valparaiso, Chile, belonging to Chile The two principal islands, c 100 mi. apart, are Más Atierra [landward] and Más Afuera [outer] Volcanic in origin, rugged and heavily wooded, they have a pleasant climate. The chief occupation is lobster fishing Discovered by Juan FERNÁNDEZ before 1572, they achieved fame when Daniel Defoe wrote *Robinson Crusoe*, generally acknowledged to have been inspired by the sojourn on Más Atierra (1704–8) of Alexander SELKIRK.

Juan-les-Pins (shüäⁿ'-lā-pĕⁿ'), town (pop. 2,764), Alpes-Maritimes dept , on the Cap d'Antibes It is a resort on the French Riviera

Juárez, Benito (bānē'to hwä'räs), 1806–72, Mexican liberal statesman and national hero, an Indian. A lawyer, he took part in politics and was for a time governor of Oaxaca; in 1853 he was imprisoned for opposition to SANTA ANNA After an exile in the United States, he was a chief figure in drawing up the Plan of AYUTLA and in the revolution that followed Juárez became minister of justice and issued the Ley Juárez, which, with the Ley Lerdo (see LERDO DE TEJADA, MIGUEL), attacked the privileges of the Church and the army The conservatives rose against the liberal constitution of 1857 When COMONFORT resigned, Juárez became acting president He showed his mettle as a high-minded leader of the liberal revolution Forced to flee to Guanajuato, Guadalajara, and finally Veracruz with his government, he resisted the conservatives, and the liberals were ultimately successful in the War of the Reform (1858–61). New difficulties arose in trouble with foreign nations The intervention of France, Spain and England was followed by the French attempt to establish a Mexican empire under MAXIMILIAN (1864–67). Juárez continued gallant resistance to the French soldiers and moved his capital to El Paso del Norte (now Juárez) The Mexican people supported him, and the empire fell Juárez, reelected in 1867, instituted the program of reform in full force, but political divisions among the liberals hampered real accomplishments and Juárez by his political maneuvers somewhat tarnished the glory gained by his defense of Mexico He was again elected in 1871 A revolution against him by Porfirio DÍAZ was being suppressed when he died See U R Burke, *A Life of Benito Juárez* (1894), Ralph Roeder, *Juarez and His Mexico* (1947)

Juárez (hwä'räs), city (pop 48,881), Chihuahua, N Mexico, on the Rio Grande opposite EL PASO, Texas Connected with the United States by three international bridges, it is a shipping point and rail terminus Except for the river valley, under intense cultivation southeast of the city, Juárez is hemmed in by desert It is a straggling town with the nondescript air of most Mexican-American border settlements Developing (1659) as the focal point for Spanish colonial expansion to the north, it was originally called El Paso del Norte and included settlements on both sides of the river, until they were split by the Treaty of Guadalupe Hidalgo (1848), which ended the Mexican War. In 1888 the name of the Mexican town was changed to honor Benito JUÁREZ, who made it his capital when exiled from central Mexico The city was captured by Pascual OROZCO and Francisco VILLA in the early days of the revolution in 1910

Juárez Celman, Miguel (mēgĕl' hwä'räs sĕl'män), 1844–1909, president of Argentina (1886–90) After political service—for a time as governor—in the province of Córdoba, he became president for a six-year term Speculation, flagrant under his predecessor, Julio A ROCA, now reached its height, and the administration was notorious for corruption Political opposition to his administration increased after he left his party A revolt in July, 1890, was suppressed, but public opinion forced Juárez Celman to resign (Aug , 1890) He was succeeded by Carlos PELLEGRINI

Juba (jōō'bu), c 85 B C –46 B C , king of Numidia He joined Pompey's party and in 49 B C routed Caesar's legate, Curio He fought on the side of Metellus Scipio, and ended his life after Caesar's victory at Thapsus His young son, **Juba II,** d A D c 20, was educated in Rome and reinstated, probably first in Numidia, then in Mauretania (c 25 B C), by Augustus, who gave to him in marriage Cleopatra Selene, the daughter of Antony and Cleopatra Highly learned, Juba II wrote lengthy historical and geographical works

Juba (jōō'ba), town (pop c 10,000), SE Anglo-Egyptian Sudan, a port on the White Nile It is the head of navigation on the river

Jubal (jōō'bəl), son of Lamech and originator of musical instruments Gen 4 21

Jubaland. see SOMALILAND, ITALIAN

Jubbulpore (jŭbŭlpōr'), city (pop 178,339), NW Madhya Pradesh, India It is an important railroad junction and commercial center Cotton cloth, pottery, and ordnance are manufactured

jubilee (jōō'bilē) [Hebrew] in the Bible, a year when slaves were manumitted, debts were forgiven, and a general sabbatical year was observed. It occurred once in 50 years Lev 25 8-55 The name is now used to mean a celebration of a 50-year or other long period, e g , the Diamond Jubilee of Queen Victoria of 1897, when she had been queen for 60 years In the Roman Catholic Church the name is applied to a holy year, occurring generally once in 25 years, when special privileges are given by the Church for pilgrimage to Rome and an unusual jubilee indulgence is announced There was a jubilee in 1929 to mark the 50th anniversary of Pius XI's ordination

Jubilees, Book of see PSEUDEPIGRAPHA.

Jucal (jōō'kl), variant of JEHUCAL.

Juchitán (hōōchētän'), town (pop. 14,550), Oaxaca, S Mexico, c 20 mi E of TEHUANTEPEC Located on a vast expanse of flat, fertile plain only slightly above sea level, the old town, largely Indian in

population, rivals Tehuantepec as the cultural center of the ZAPOTEC. It is linked to Veracruz and the Guatemala border by railroad and is on the INTER-AMERICAN HIGHWAY between Mexico city and Guatemala

Juda (jōō'dŭ) [variant of JUDAH] **1** See **JUDAH 1.** **2** See **JUDE, SAINT 3, 4** Ancestors of St Joseph. Luke 3 26,30

Judaea or **Judea** (both jōōdē'ŭ) [Latin from JUDAH], Greco-Roman name for S Palestine In the time of Christ it was both part of the province of Syria and a kingdom ruled by the Herods It was the southernmost of the Roman divisions of Palestine, the others being Galilee, Samaria, and, E of the Jordan, Perasa Idumaea was S of Judaea Judaea was cut off from the Mediterranean by a strip of Samaria Its southern boundary ran ESE-WNW from Engedi nearly to Ashdod Its eastern boundary was the Jordan and the Dead Sea, and its northern line ran WSW from the Jordan E of Mt Ebal

Judah I, 135?–220?, leader of the Palestinian Jews, called *ha-Nassi* [prince] and Rabbi He was redactor of the Mishna (see TALMUD) and president of the Sanhedrin He strove to organize Jewish oral law, to standardize Jewish opinion, and to preserve the records of Jewish customs

Judah (jōō'dŭ) **1** Youngest of the four sons of Jacob and Leah and the eponymous ancestor of one of the 12 tribes of Israel Judah himself is a distinctive figure, a leader in the family counsels With Reuben he interceded for Joseph's life, and he was the spokesman for his brothers before Joseph in EGYPT In the exodus his tribe was in the lead on the east side of the ark, and it settled in the rich land of S Palestine, extending c 45 mi north and south, from the Dead Sea to the Mediterranean Within its borders was Jerusalem It gave its name to the Kingdom of Judah The royal and Messianic family of David was of the tribe of Judah Gen 29 35, 35 23, 37 26, 38, 43 3, 44 14, 46 12,28, 49 8, Num 2 3, 10 14, 13 6, 26 22, 34, Joshua 15 1, 1 Chron 2–5 Juda Luke 3 33, Heb 7 14, Rev 5 5, 7 5 Judas Mat 1 2 **2** Levitical family Neh 12 8 **3** Levite Ezra 10 23 **4** Overseer Neh 11 9 **5** Priest's son Neh 12 36 **6** Same as HODAVIAH 3

Judah, the southern of the two kingdoms remaining after the break in the kingdom of the JEWS which occurred under REHOBOAM The northern kingdom, Israel, was most of the time at war with Judah In the Bible the southern kingdom is regarded as usually more loyal to God than the northern kingdom was Judah's capital was Jerusalem and its dynasty was the house of David

Judah, Theodore Dehone, 1826–63, American railroad builder, b Bridgeport, Conn He had built the Niagara Gorge RR and had done canal work before going (1854) to lay out a railroad near Sacramento, Calif There he promoted the idea of a railroad across the mountains eastward from the Central Valley and interested a number of men in the scheme, including Charles CROCKER, Mark HOPKINS (1813–78), Collis P HUNTINGTON, and Leland STANFORD The Central Pacific Railroad Company was formed, with Judah as chief engineer. He became dissatisfied with the control of his associates and was on his way to the East to get capital and support when he died of yellow fever, which he caught in Panama See Oscar Lewis, *The Big Four* (1938)

Judah ha-Levi or **Judah Halevy** (both ha'lē'vĭ), 1085?–1140?, Jewish rabbi, poet, and philosopher, b Toledo, Spain His poems, secular, religious, and national, are of high rank, filled with a serene and lofty spirit In his great philosophic work, *Sefer ha-Kuzari*, in dialogue form, he emphasized the superiority of religious truths, arrived at through intuition, over philosophical and speculative truths, arrived at through logic and reason In this work he developed a philosophy of history

Judaism (jōō'dŭsĭzm, -dē-) [from Judah, cf JEWS], religion of the Jews, oldest of the great monotheistic religions It is the great complex of law, tradition, and doctrine of which the OLD TESTAMENT is the elder monument and the TALMUD is the younger Since Jesus was a Jew and since Mohammed claimed he came as last of the prophets of Israel, Christianity and Islam are inextricably associated with Judaism Judaism first took a form closely resembling the present-day Judaism on the return of the Jews to Palestine after the Exile (c 444 B C). Since then it has undergone some modifications, particularly as a result of the DISPERSION, but its remarkable tenacity of tradition has enabled it to present at nearly all times the same emphasis and the same fundamental traits By far the greatest feature of Judaism is its belief in an omnipotent transcendent GOD, the Creator, and in his law, the TORAH, given by him to Moses, the leader of Israel, whom God had chosen as his people in the time of Abraham, the father of Israel From time almost immemorial the Jews have kept the Law jealously and have kept their racial integrity with religious sanctions Only occasionally in their history have the Jews undertaken missionary effort (notably in the beginning of the Christian era), for though they have been sure of their mission to regenerate the world through Judaism, they have tended to regard their God first as the God of Israel. The great text of Judaism, recited constantly, is the Shema, beginning, "Hear, O Israel the Lord our God is one Lord" (Deut 6 4–9) The chief characteristic ceremony of Judaism is CIRCUMCISION of males, which is, according to the Bible, the sign of God's covenant with his people The place of the Law in the life of the Jew is all-pervasive, it governs his dress, his food, his occupation, as well as his ceremonial, the Law, for example, forbids any contact with swine, either as food or clothing Since the destruction of the Temple, where God was considered to dwell in a peculiar manner, the SYNAGOGUE has become the only thing in Judaism corresponding to a church, but this is really only a place of meeting, and the most elaborate (and perhaps the most ancient) feast of Judaism, the PASSOVER, is celebrated at home Similarly with the priesthood gone, the RABBI has had to be the religious leader, but he is primarily a teacher and has none of the hereditary position or sacerdotal powers of the ancient priesthood Judaism has been at times seemingly sustained by a hope This firm hope of Israel has two facets that Israel will return one day to the Promised Land of Canaan and that a prince will arise in Israel, the Messiah, and make his God worshiped by all the world and his people its rulers It was the feeling for the Promised Land, so marvelously expressed in Ps 137, that brought the Jews back from Babylon and that has given the inspiration to modern ZIONISM The principal Jewish sects of ancient times were the ESSENES, SADDUCEES, and the PHARISEES The Judaism of the Pharisees prevailed In more modern times the KARAITES, the cabalists (see CABALA), and the HASIDIM are notable The greatest division in Judaism of all time began in the 18th cent, with the movement led in Germany by Moses MENDELSSOHN Out of this has come "reformed" Judaism, to which many Jews of Germany and America adhere Jews who are not reformed are called "orthodox" Nonorthodox Jews (divided into conservative and reformed) reject many of the restrictions of the Law, tending to use the vernacular in religious ceremonies instead of Hebrew and discarding or reducing much of the ritual The conservatives observe Saturday as the Sabbath and retain more of the orthodox customs than do the reformed Jews, some of whom eat pork and observe Sunday The nonorthodox discard prayers for the dead, but they usually retain circumcision and the observances of the DAY OF ATONEMENT and of the Passover Orthodox Judaism is preeminent in Rumania, Poland, and Czechoslovakia, and it was the norm of the religion in Russia before the Russian Revolution The demands of Judaism on the Jew have always been the recognition of God and the observance of the Law The importance of the Law is in no way better evidenced than in the remarkably early development of the exalted ethical standards of Judaism The preservation of these standards by the Jews may be said to be a prime reason for the continuing existence and integrity of Israel See Kaufmann Kohler, *Jewish Theology* (1918), W R Smith, *Lectures on the Religion of the Semites* (1927), G F Moore, *Judaism in the First Centuries of the Christian Era* (3 vols, 1927–30), David Philipson, *The Reform Movement in Judaism* (1931), M M Kaplan, *Judaism as a Civilization* (1934), Leo Baeck, *The Essence of Judaism* (1949)

Judas [Gr, =JUDAH], in the Bible **1** See **JUDE, SAINT 2** Judas Maccabeus see **MACCABEES 3** See **JUDAS ISCARIOT 4** See **JUDAH 1 5** Owner of a house in Antioch where St Paul went after his conversion Acts 9 11 **6** See **JUDAS BARSABAS**

Judas Barsabas (bär'sŭbŭs), missionary apostle Acts 15 22–33

Judas Iscariot (ĭskă'rēŭt), Jesus' betrayer, one of his disciples, said to have been their treasurer He hanged himself The blood money went to buy a potter's field, called Aceldama Mat 26 20–25, 47–49, 27 3–10, Acts 1 16–20

Judas Maccabeus see MACCABEES

Judas of Galilee (gă'lĭlē), fl A D 7, a leader of the Zealots, a radical revolutionary Jewish sect He raised an insurrection against the census of Quirinus (A D c 6 or 7) and was killed Acts 5 37.

Judas tree see REDBUD

Judd, Charles Hubbard, 1873–1946, American psychologist, b Bareilly, India, grad Wesleyan Univ, 1894. He came to the United States in 1879 He studied at Leipzig (Ph D, 1896) under Wundt, taught (1901–9) psychology at Yale, and was head (1909–38) of the department of education at the Univ of Chicago. His work was mainly in the field of education and educational psychology. His books include *Genetic Psychology for Teachers* (1903), *Measuring the Work of the Public Schools* (1916), *Introduction to the Scientific Study of Education* (1918), *The Psychology of Social Institutions* (1926), *Problems of Education in the United States* (1933), *Education and Social Progress* (1934), and *Educational Psychology* (1939).

Judd, Norman Buel, 1815–78, American lawyer, Congressman, and diplomat, b Rome, N Y In 1836 he moved to Chicago, and from 1844 to 1860 he served in the Illinois legislature Although originally a Democrat, he joined the Republican party and served (1856–60) as chairman of the Illinois state central committee. He was one of Abraham Lincoln's managers in his campaign for the Republican presidential nomination in 1860 and was (1861–65) minister to Prussia during the Civil War While in the U.S. House of Representatives (1867–71), he was on the committee which brought the charges for the impeachment of President Andrew Johnson and was responsible for the bill to create inland ports of entry in the United States As a lawyer he was best known as counsel for railroads, having been employed by many of the major northwestern lines during their period of development

Judd, Orange, 1822–92, American agricultural editor and publisher, b near Niagara Falls, N Y, grad Wesleyan Univ At Wesleyan he built (1871) the Orange Judd Hall of Natural Science and secured through his gifts the establishment of the first agricultural experiment station in the country He became in 1853 joint editor, and soon owner, of the *American Agriculturist*, which he made one of the leading farm papers of the country

Jude, Saint, or **Saint Judas** [Jude is an English form to distinguish from Judas Iscariot], one of the Twelve Apostles He has always been supposed to be the same as Judas called the brother of Jesus and the author of the epistle He is also called Lebaeus and Thaddaeus Mat 10 3, 13 55, Mark 3 18, Luke 6 16 Juda Mark 6 3 According to tradition he suffered martyrdom in Persia with St SIMON, with whom he has a feast Oct 28

Jude, epistle of the New Testament, the last book of the Bible but one The Jude who wrote it has been identified since ancient times with St Jude the apostle, but many critics deny the identity and date the letter as late as A D 100 It is called a Catholic (or General) Epistle but is clearly intended for a definite audience (3) warning against some particular heresy, which led to immorality (4,8,10) The dangers are shown from Old Testament examples (5–11) The book contains references to Jewish apocryphal books, Enoch (6,14–15) and the Assumption of Moses (9) It ends with a beautiful doxology (24–25) Jude has a close literary relationship with 2 PETER

Judea (jōōdē'ŭ) see JUDAEA

Judenburg (yōō'dunbōōrk), city (pop 10,929), Styria, S central Austria Now a manufacturing town with steel mills, it was an important Roman traffic center and has a 9th-century church

Judge, William Quan, 1851–96, American theosophist, b Ireland He came as a boy to America Becoming interested in theosophy, he associated himself with Madame BLAVATSKY and others in 1875 to found the Theosophical Society, and he edited and published (1886–96) its organ, the *Path* After a schism in the society, he became president (1894) of the American section of the Theosophical Society He wrote *The Ocean of Theosophy* (1915, reissued 1926)

Judges, book of the Old Testament, seventh in the order of AV It is the sequel of Joshua in the biblical history, telling of the Hebrews in the Promised Land from Joshua's death until, but not including, the time of Samuel The religious interpretation is stated in an introduction (2 6–3 4) the book is an account of Israel's successive apostasies from God and their consequences, first, punishment at the hands of a foreign nation, then, delivery from it by God, who raises up a leader The leaders are called judges The chronology of the book is impossible to untangle, partly because of occasional failure to give the length of time between judges The book consists mainly of lengthy accounts of a few judges Deborah with Barak (4–5), Gideon (6–8), Gideon's usurping son Abimelech (9–10), Jephthah (11–12), and Samson (13–16) The other judges receive less attention, some a bare mention Othniel, Ehud, and Shamgar (3) before Deborah, Tola and Jair (10) before Jephthah, and Ibsan, Elon, and Abdon (12) before Samson The opening passage (1 1–2 5) of the book is out of order, for it belongs to the period of Joshua, the closing chapters contain two appended stories of violence, one laid in Dan (17–18), the other in Benjamin (19–21). Judges contains many favorite biblical narratives For critical views of the composition and for works on the book, see OLD TESTAMENT

Judgment, decision of a court of law respecting the issues before it The term ordinarily is not applied to the decree (order) of courts of EQUITY The outstanding characteristic of a legal judgment in contrast to an equitable DECREE is its finality and fixity, thus, except for error justifying an APPEAL the judgment may not be reconsidered (see JEOPARDY) The judgment, which in most cases of consequence follows the VERDICT of a jury, is the determination of the judge that the defendant is guilty or innocent of the alleged offense If the judgment is one of criminal guilt, the court proceeds to impose SENTENCE In civil cases, when judgment is for the plaintiff, the court usually awards a sum as DAMAGES The damages thereupon constitute a debt which takes priority over all other obligations of the defendant except taxes and previous judgments. If the debtor fails to pay, the sheriff, to execute the judgment, will seize and sell first his personal property and then his realty

The sheriff may also garnish debts owed to the defendant, e g , his wages. Certain property of the debtor is exempt from seizure, including clothing, equipment needed to carry on his trade or profession, and the family homestead In some jurisdictions a defendant who willfully refuses to pay a judgment may be punished for a CONTEMPT OF COURT Approximately the same measures used to collect damages are available for collecting the legal costs which the court awards the successful party in a suit.

Judgment Day or **Doomsday**, central point of Christian eschatology The origin of Christian belief in the Last Judgment lies in the New Testament, from which comes the doctrine that this world will come to an end, the dead will be raised up in the general RESURRECTION, and Jesus will come in glory to judge the living and the dead, then the sinners shall be cast into HELL, and the righteous shall live in HEAVEN forever Mat 24 3–25 46, Luke 21 5–33, 1 Cor 15, 1 Thess 4 13–5 3 No great Christian church has ever taught when the Second Coming shall take place, but many individuals have ventured to prophesy its date Those who lay stress on the end of the world are called chiliasts, millenarians, or, specifically, ADVENTISTS According to many the book of REVELATION (the Apocalypse) gives notions of the end of the world See ANTICHRIST, ARMAGEDDON, MILLENNIUM

Judith [Heb , =Jewess], book of the Old Testament, placed in the Apocrypha in AV and before Esther in the Western canon It tells of an attack on the Jews by an army generaled by Holofernes Bethulia, a besieged Jewish city, is about to surrender when Judith, a Jewish widow of great beauty and devotion, enters the enemy camp, gains the favor of Holofernes, and murders him Judith returns to the city with his head, and the Jews rout the armies The story is informed with a spirit of God's interest in His people, and Judith is pictured as a woman of great self-sacrifice and nobility The texts of Judith are in great confusion The book was written apparently by a Palestinian before 100 B C As to the events, it is known that under Artaxerxes III a general Holofernes invaded Palestine Another Judith a wife of Esau, is named in Gen 26 34 For bibliography, see OLD TESTAMENT

Judith, Anglo-Saxon epic, preserved only in part and based on the apocryphal book of Judith It is in the same manuscript as *Beowulf* See editions by A S Cook (1888, 1904)

judo see JUJUTSU

Judson, Adoniram (ădənī'rəm), 1788–1850, American Baptist missionary, b Malden, Mass , grad Brown, 1807 At Andover Theological Seminary, he became the leader of a missionary movement out of which grew the American Board of Commissioners for Foreign Missions As a Congregational minister, Judson sailed (1812) for India but that year he experienced a conversion to the Baptist faith This brought about his transfer to Burma, where subsequently he was supported by the American Baptist Missionary Union, which came into existence in 1814 for that purpose After some 30 years of almost unendurable hardships and labor in Burma, during which the mission work was securely founded, Judson came back (1845) to the United States, where he aroused much enthusiasm for his work Upon his return (1846) to Moulmein, center of Baptist activities, he completed and published (1849) his *Dictionary, English and Burmese* He had also translated the Bible into Burmese Judson's record as a pioneer missionary in Asia has been the source of much inspiration to the cause of Protestant missions Judson was married three times, and his wives were remarkable women who aided him in his work—Ann (Hasseltine) Judson (1789–1826), who founded a girls' school at Rangoon, Sarah (Hall) Boardman Judson (1803–45), who translated *Pilgrim's Progress* into Burmese, and Emily (Chubbuck) JUDSON One son, Adoniram Brown Judson (1837–1916), was a New York surgeon, whose papers on orthopedics appeared in American and European journals Another son, Edward Judson (1844–1914), was pastor (from 1881) of the Berean Baptist Church, New York city. This congregation moved (1890) into the Judson Memorial Church, built to correspond with Edward Judson's conception of a community institution as later described in his influential *The Institutional Church* (1899) See biographies of Adoniram Judson by Edward Judson (1883) and S R Warburton (1937)

Judson, Edward Zane Carroll: see BUNTLINE, NED

Judson, Emily (Chubbuck), 1817–54, American author, whose pseudonym was Fanny Forester She was a missionary and the third wife of Adoniram Judson She wrote several moralistic works and a novel, *Allen Lucas, the Self-Made Man* (1847)

Judson College: see MARION, Ala.

Judsonia, strawberry-shipping town (pop. 1,011), NE central Ark , near the Little Red River.

Juengling, Frederick (yŭng'lĭng, yĭng'–), 1846–89, American wood engraver, b Germany. He settled in New York (1866), working for a time for Frank Leslie A founder of the American Society of Wood Engraving, Juengling aided materially in establishing a high standard of craftsmanship Simple, realistic subjects were his preference He was the first American wood engraver to be represented in the Paris Salon (1881) See Frank Weitenkampf, *American Graphic Art* (1912).

Juggernaut, India see PURI

juggler, entertainer who performs by tossing such objects as balls, knives, or plates into the air and keeping them in motion for some time This universal skill was recorded by Marco Polo The juggler is distinguished from the conjurer in that he makes no attempt to deceive Juggling was one of the accomplishments of the medieval JONGLEUR

Jugoslavia see YUGOSLAVIA

Jugurtha (jōōgûr'thə), c 160–104 B C , king of Numidia, a grandson of Masinissa On the death of Micipsa (118), the royal power devolved upon his two sons and upon Jugurtha, who disposed of his associates and united Numidia under his rule A Roman army invaded Numidia, but was repulsed (111) Jugurtha, on a visit to Rome to explain his acts, murdered a rival War was resumed, and the Romans under Q Metellus Numidicus (commander 109–108) drove Jugurtha from Numidia The Romans under Marius continued a guerrilla warfare Jugurtha was captured (106) in an ambush treacherously arranged by his father-in-law, Bocchus, king of Mauretania, and died in prison in Rome

Juilliard School of Music (jōōl'yärd), in New York city, coeducational, chartered 1926 by the foundation established 1920 by a legacy of Augustus Juilliard Until an amalgamation in 1946, there were two units—the Juilliard Graduate School (1924) and the Institute of Musical Art founded in 1905 by Frank Damrosch and James Loeb

Juiz de Fora (zhwēzh' dŭ fô'rŭ), city (pop 70,849), S Minas Geraes state, E Brazil It is an important industrial city with a large production of textile manufactures and other industries as well It has excellent rail and highway connections

jujutsu, see JUJUTSU

jujube (jōō'jōōb), any plant of the genus *Zizyphus*, deciduous or evergreen spiny shrubs or trees native to the tropics and subtropics of both hemispheres The common jujube has long been cultivated in many varieties by the Chinese, the fruit, eaten fresh, dried, or preserved, has been used in confectionery and for flavoring jujube lozenges, now usually artificially flavored Jujubes are being increasingly grown in the United States, sometimes for ornament One species is called Christ's-thorn. See also LOTUS

jujutsu (jōō'jōōt'sōō, –jĭt'–) or **jujitsu** (jōōjĭt'sōō), Japanese method of defense and offense without weapons in personal encounter The success of jujutsu depends largely upon the skill of using the opponent's strength and weight to halt and injure him and upon the skill of applying pressure particularly by striking blows with the side of the hand—at certain sensitive points of the combatant's body in order to produce temporary paralysis or to throw him off balance A bout starts with the adversaries holding the collar of each other's kimonos or jackets, and victory is scored when the opponent, faced with injury or even death, strikes the floor with hand or foot Jujutsu requires intensive training and a detailed knowledge of anatomy Imported probably from China, jujutsu was long the exclusive property of the Japanese nobility In modern Japan the practice began to be generally taught in the schools and in the military services and became an organized sport By the 20th cent jujutsu attracted attention in Europe and America It is sometimes spelled jujutsu and jujutsu In judo, an outgrowth of jujutsu which was devised in Japan in the 1880s, the aim is to inflict mortal injury Judo was taught in the U S army in the Second World War See F P Lowell, *Jiu-jutsu* (1942), S R Linch, *Combat Jiu Jitsu for Offense and Defense* (1943), T S Kuwashima and A R Welch, *Judo* (1949)

Jujuy (hōōhwē'), city (estimated pop 19,257), capital of Jujuy prov , NW Argentina, on the Jujuy river In a hilly, wooded, subtropical region, it is the center of a cattle and agricultural district Minerals and timber are exploited in the area Jujuy was founded in 1593

juke box: see PHONOGRAPH

Jukes, see DUGDALE, RICHARD LOUIS

julep (jōō'lĭp) or **mint julep,** alcoholic beverage of the S United States Its basis is properly bourbon whisky, which is combined with water, sugar, crushed ice, and mint leaves

Julesburg (jōōlz'bûrg), town (pop 1,619), co seat of Sedgwick co , extreme NE Colo , on the South Platte river near the Nebr. line, in a farm area, founded 1881, inc. 1886. Tornadoes in 1947 caused damage

Julia, feminine name in the Julian gens **1** d 54 B C , daughter of Julius CAESAR and wife of POMPEY By her grace and tact she maintained the bond between her father and her husband On her death the rivalry between the statesmen became an open rupture **2** 39 B.C.–A D **14**, daughter of Augustus and wife, in turn, of M Claudius Marcellus, M Vipsanius Agrippa, and Tiberius Her gross infidelities caused her banishment (by Augustus) to the isle of Pandataria, where, soon after her husband ascended the throne, she died of starvation **3** 18 B C –A D 28, daughter of JULIA **2** by Agrippa and wife of L Aemilius Paullus She was banished by Augustus, for her licentious conduct, to the isle of Tremerus, where she died.

Julia, Christian at Rome Rom 16 15

Julian, George Washington, 1817–99, American abolitionist, U S Representative from Indiana (1849–51, 1861–71), b Wayne co , Ind Elected to the Indiana legislature as a Whig in 1845, he later became prominent in the Free-Soil party and in 1849 was sent to Congress by a coalition of Free-Soilers and Democrats There he continued his radical antislavery activities In 1852 the Free-Soil party nominated him for Vice President on the ticket with John P Hale He became a Republican on the formation of that party and in 1861 returned to Congress, where he was chairman of the committee on public lands and a member of the committees on the conduct of the war, on Reconstruction, and on the impeachment of President Andrew Johnson In 1872 he joined the Liberal Republican party and after its demise was associated with the Democratic party From 1885 to 1889 he was surveyor general of New Mexico by appointment of President Grover Cleveland Among his writings are *Speeches on Political Questions* (1872), *Political Recollections, 1840 to 1872* (1884), *Later Speeches on Political Questions, with Select Controversial Papers*, edited by his daughter, Grace J Clarke (1889), and a biography of his father-in-law, Joshua R Giddings (1892). See biography by Grace J Clarke (1923)

Juliana, 1909–, queen of the Netherlands (1948–) She succeeded on the abdication of her mother, Queen WILHELMINA She was married (1937) to Prince Bernard of Lippe-Biesterfeld, to whom she bore four daughters In the Second World War, Juliana fled before the German occupation of the Netherlands and lived in England and Canada

Juliana of Norwich (nôr'ĭch), d c 1443, English religious writer, an anchoress of Norwich called Mother (or Dame) Juliana or Julian Her work, written c 1370, *Revelations of Divine Love*, is an expression of mystical fervor in the form of 16 visions of Jesus Dominant ideas are the great love of God for men and the consequently detestable character of human sin, the very existence of sin was an intellectual crux for Mother Juliana See MYSTICISM See edition of her book by George Tyrell, S J (1920), Lucy Menzies, *Mirrors of the Holy* (1928)

Julianehaab (yōō'lēənəhôp'), town (pop 954), on SW Greenland A port, it is the capital of Julianehaab dist and colony (pop 4,186), the most populous part of Greenland, and is the chief trade center in S Greenland There are a hospital and a radio station

Julian the Apostate (Flavius Claudius Julianus), 331?–363, Roman emperor (361–63), nephew of Constantine I, successor of Constantius II He was given a Christian education, and he and his brother GALLUS were sent (c 341) to Cappadocia When Gallus was appointed Caesar (351), Julian was brought back to Constantinople After Gallus had been put to death (355) Julian was called from the quiet of a scholar's life and made Caesar Sent to Gaul, he was unexpectedly successful in combating the Franks and the Alemanni and was popular with his soldiers His administration was just and salutary When Constantius abruptly ordered him (360) to send soldiers to assist in a campaign against the Persians, Julian obeyed, but his soldiers mutinied and proclaimed him Augustus He accepted the title, but Constantius refused to yield the western provinces to him. Before the two could meet in battle to decide the claim, Constantius died, naming Julian as his successor The emperor through his studies had fallen in love with pagan glory and had abandoned Christianity As emperor he did not institute any systematic persecution of the Christians, he did, however, try to restore paganism The attempt was unsuccessful, but the result was much confusion since Christianity was rent by the quarrel over Arianism His administration was just and venal officials were curbed, but he accomplished little in his short reign He undertook a campaign against the Persians and was at first triumphant, but then had to retreat and was killed in a skirmish He was succeeded by JOVIAN

Jülich (yü'lĭkh), former duchy, NW Germany, between Cologne and Aachen The town of Jülich was the capital At first a county, it was united in 1348 with the county of BERG, and in 1356 Jülich was raised to a duchy After the extinction of the Jülich line, both Jülich and Berg passed (1524) to the dukes of Cleves (see CLEVES, DUCHY OF). The struggle which broke out in 1609 for the succession to the territories of the dukes of Cleves ended in 1666 Jülich and Berg passed to the Palatinate-Neuburg branch of the Bavarian house of WITTELSBACH and the rest to the electors of Brandenburg Ceded by Bavaria to France in 1806, the territory was assigned to Prussia at the Congress of Vienna (1815) and was incorporated in the former Rhine Prov of Prussia.

Julier (yo͞ol'yur), pass, 7,503 ft high, from the Upper Engadine Valley to the Oberhalbstein Valley, Grisons canton, Switzerland Used since antiquity, it is crossed by the modern Julier Road (built 1820–40)

Julius I, Saint, pope (337–52), a Roman; successor of St Marcus and predecessor of LIBERIUS In the controversy over ARIANISM, when both sides appealed to him for support, he convened a council at Rome (340), at which were present ATHANASIUS, MARCELLUS OF ANCYRA, and many other Catholic exiles from the East The Arians of the East seem to have evaded his invitation The principal result of the whole incident was a letter from the pope to the Arians, questioning their sincerity in the matter of the council acquitting Athanasius of every charge, and chiding the Arians for not appealing to the pope at the beginning, since, he said, he had the principal see and the appellate jurisdiction over the whole Church As an early example of the papal claims it is remarkable Feast April 12

Julius II, 1443–1513, pope (1503–13), an Italian (b Savona) named Giuliano della Rovere, successor of Pius III and predecessor of LEO X His uncle Sixtus IV gave him many offices and created him cardinal, in 1480 he successfully carried out a difficult mission to France and the Netherlands INNOCENT VIII was entirely under Cardinal della Rovere's influence, and it was in reaction to this power that the rest of the cardinals elected (1492) his bitter enemy, Rodrigo Borgia, as Pope ALEXANDER VI Giuliano went into voluntary exile and had little to do with ecclesiastical affairs until Alexander's death (1503) Pius III succeeded for less than a month, and Giuliano succeeded him Pope Julius showed himself first of all a warrior, and he ably completed the work, begun by his enemy Cesare Borgia, of restoring the Papal States to the Church Having joined the League of Cambrai, he was at war with Venice until 1509 and won back Ravenna, Rimini, and Faenza Then he formed (1510) the anti-French HOLY LEAGUE The resultant struggle was a draw (see ITALIAN WARS) In 1512 he assembled the Fifth LATERAN COUNCIL, which condemned the Gallicanism of the Church in France and abolished simony in the college of cardinals Julius was a great patron of art, and Raphael (who painted his portrait), Michelangelo, and Bramante enjoyed his favor. He laid the cornerstone of St Peter's Worldly as Julius was, he was one of the first to suppress nepotism and to try, albeit feebly, to break the hold of Renaissance corruption on Rome

Julius III, 1487–1555, pope (1550–55), a Roman named Giovanni Maria Ciocchi del Monte, successor of PAUL III and predecessor of Marcellus II Paul III created him cardinal (1536), and Cardinal del Monte was prominent as a representative of the pope at the Council of Trent (see TRENT, COUNCIL OF) After he became pope he reconvened the council for nearly a year (1551–52) When it suspended sessions, Julius established a permanent commission to plan reform He had been an enemy of Charles V, but became reconciled with him in his pontificate

Julius, centurion in whose charge Paul was sent to Rome Acts 27 1

Julius Africanus, Sextus. see AFRICANUS, SEXTUS JULIUS

Julius Caesar. see CAESAR, JULIUS

Jullian, Camille (kämē'yu zhülyä'), 1859–1933, French historian, author of the monumental *Histoire de la Gaule* (volumes bear dates 1908–26, but Vol I actually appeared in 1907)

Jullundur (jŭ'lŭndur), city (pop 135,283), capital of Punjab state, India But little remains of the ancient city, which was destroyed by the Sikhs in 1757. Jullundur is a railroad junction It has flour mills and silk mills

Julus: see ASCANIUS

July: see MONTH.

July Revolution, revolution which broke out in July, 1830, in France against the government of CHARLES X The attempt of the ultraroyalists in that reign to set aside the results of the French Revolution and return to the *ancien régime* awoke the opposition of the bourgeois who had absorbed much of the property of the nobles The disbanding of the national guard further offended that class The banker, Jacques LAFFITTE, was typical of the bourgeois, who sought the aid of liberal journalists, such as THIERS, in opposition to the government The working class was naturally opposed to a government favoring the nobles VILLÈLE was the minister to awake trouble, Charles was forced to replace him with the moderate MARTIGNAC, but later dismissed him and put the reactionary Jules ARMAND DE POLIGNAC in power. Matters were brought to a head by the repressive and ultraroyalist July Ordinances. Barricades were thrown up in the streets of Paris; Charles X was forced to flee into exile The duke of Orléans, LOUIS PHILIPPE, became king of the French. His reign (1830–48), which put the wealthy bourgeoisie in power, is known as the July Monarchy.

Jumel Mansion (jo͞omĕl', shō͞o–), historic house, New York city. The sturdy Georgian mansion was completed in 1766 by Roger Morris, one of the city's wealthy merchants In the American Revolution it served as headquarters of both George Washington and Sir Henry Clinton, American and British commanders in chief. After the war it was used as a tavern It was purchased (1810) by a rich wine merchant, Stephen Jumel (d. 1832), for his wife, Eliza Brown Jumel (1775–1865) After Jumel's death she married (1833) Aaron Burr, wrangled with him over family finances, and procured (1834) a divorce When she died, the mansion passed to members of her family In 1903 it came into the custody of the Daughters of the American Revolution, and by 1945 it was completely restored and was open as a museum It commands a fine view See W H. Shelton, *The Jumel Mansion* (1916)

Jumet (zhümä'), town (pop. 27,786), Hainaut prov., Belgium, N of Charleroi It is a center of a coal-mining region and has glass manufactures

Jumna (jŭm'nŭ), river, c 850 mi long, rising in N United Provs., India In its early course, running south, it forms the boundary of United Provs with Delhi state and with Punjab state Then turning to the southeast, it flows through United Provs past Agra and Ferozabad to join the Ganges river just below Allahabad The junction of the two rivers is one of the bathing sites most sacred to Hindus The Jumna has lost much of its former value as a trade artery It is economically important as the source of water for extensive irrigation works

Junagarh (jo͞o'nugŭr") or **Junagadh** (jo͞o'nugud"), former native state (3,337 sq. mi., pop 670,719), Kathiawar peninsula, India, bordering on the Arabian Sea There is fishing. Rainfall is adequate, and grains, tobacco, and cotton are produced Cotton cloth is manufactured Junagarh was wrested (c 1735) from the Mogul empire by Sher Kahn Babi, a Moslem adventurer, who established a dynasty In 1947 the Moslem ruler announced the accession of his state to Pakistan, although the population was largely Hindu India forced him to revoke this decree, and in 1949 Junagarh joined the state of Saurashtra **Junagarh,** town (pop 58,111), formerly the capital of the state, has a long history In the vicinity and in its old citadel there are Buddhist caves Late 15th-century fortifications still stand The town manufactures metalware and has a college.

junco or **snowbird,** bird of the FINCH family The slate-colored junco, a common winter resident in E North America, is about the size of an English sparrow, with dark gray upper parts, a white abdomen, and white outer tail feathers Its song is sweet There are a number of juncoes

Junction, city (pop 2,806), co. seat of Kimble co., W central Texas, NW of San Antonio and at the junction of the two forks that make the Llano river, settled 1876, inc 1928 Once a cow town, Junction now ships immense quantities of wool and mohair from surrounding ranches The clear, dry air, the green valley, the wild country of the Edwards Plateau roundabout, with game for hunting and rough slopes and rapid streams for beauty —these combine to attract many visitors.

Junction City. **1** Town (pop in Ark., 797, in La., 355) on the Ark.-La. border S of El Dorado, Ark A lumber mill is here **2** City (pop 8,507), co. seat of Geary co., NE Kansas, at the confluence of the Republican and Smoky Hill rivers W of Topeka, founded 1858, inc 1859 It is the rail and trading center of an agricultural and dairy area and grew as the supply point for near-by Fort Riley (see RILEY, FORT) Limestone quarries are near Junction City **3** Town on the La.-Ark. border see JUNCTION CITY 1 **4** City (pop. 1,187), W Oregon, NNW of Eugene, inc 1885 It is a trade center for a fruit-farming area.

June, Jennie: see CROLY, JANE CUNNINGHAM.

June: see MONTH

Juneau, Solomon Laurent (jo͞onō', jo͞o'nō), 1793–1856, French Canadian fur trader and founder of Milwaukee, Wis., b near Montreal In 1818, as an agent of the American Fur Company, he moved to their new post at Milwaukee, where he lived for 32 years He amassed a fortune in independent trade, acquired much land, and was very popular with the Indians He became an American citizen in 1831 He surveyed the town site, built the first store and first tavern, became Milwaukee's first postmaster (1835), first president of the village (1837), and first mayor (1846) He later lost possession of all his property and died in poverty

Juneau (jo͞o'nō), city (1939 pop 5,729, 1948 estimated pop. 7,000), territorial capital, SE Alaska It lies at the foot of two peaks, Mt Juneau and Mt Roberts, on the Gastineau Channel, which separates the mainland from Douglas Island A suspension bridge connects the town of Douglas, on the island, with Juneau. It was settled (1881) after gold was discovered (1880) in the region and was first called Harrisburg. Gold mining is still the chief industry, largely centered in the operations of the Alaska Juneau Company. Juneau was officially made the capital of Alaska in 1900 but began to function as such only in 1906. Salmon fishing, fur farming, and lumbering are extensively carried on. The city is a port of entry, with an ice-free harbor, a seaplane base, and an airport. Federal and territorial offices and the Alaska Historical Library and Museum are here

Juneau, city (pop 1,301), co. seat of Dodge co., central Wis., NW of Milwaukee and SE of Beaver-dam Lake, inc 1887.

June beetle, June bug, or **May beetle,** a blackish or mahogany-colored beetle of the scarab family which flies at night The larvae or white grubs live in the soil, feeding on roots and other underground parts of grass, grain, and other crops and nursery stock A three-year life cycle from egg to adult is commonest

Juneberry: see SHADBUSH

June bug see JUNE BEETLE

June Days, in French history, the name usually given to the insurrection of workingmen in June, 1848 The working classes had had an important part in the FEBRUARY REVOLUTION of 1848, but with the triumph of the bourgeois they became a great problem to the provisional government The national workshops were never organized as Louis BLANC had planned them, and the workingmen felt, with some justice, that they had been betrayed When a decree of June 22 ordered the gathered workingmen to disperse to the provinces or to join the force of the revolution, the workingmen rose in revolt There was considerable bloody fighting for four days in the barricaded streets of Paris General CAVAIGNAC was given dictatorial powers and managed by harsh measures to suppress the insurrection The leaders were later hunted out and punished The general result of the June Days was to alienate permanently the lower classes from the revolution and to pave the way for the coup d'état of Louis Napoleon (see NAPOLEON III)

Jung, Carl Gustav (karl' go͞os'täf yo͝ong'), 1875–, Swiss psychiatrist, founder of the school of analytical psychology, studied (1895–1900) at the Univ of Basel, M D Zurich, 1902 After studying (1903) at the Collège de France under Janet, Jung returned to Zurich, where he became connected with the Burgholzli, the psychiatric clinic of the university directed by Eugen Bleuler Jung was deeply impressed by the work of Freud, and by the time of their meeting in 1908 he had already published his *Psychologie der Dementia Praecox* (1907, Eng tr, 1909), a study of the effect of emotional factors in schizophrenia In the years prior to 1913, Jung, as editor of the *Jahrbuch für psychoanalytische und psychopathologische Forschungen* and as first president of the International Psychoanalytic Association, was second only to Freud in the movement However, with Jung's publication of *Wandlungen und Symbole der Libido* (1912, Eng tr, *Psychology of the Unconscious*, 1916) important differences became clearly articulated and a formal break followed Jung, conceiving of the libido as a primal, nonsexual energy not unlike Henri Bergson's *élan vital*, postulated two systems in the unconscious—the personal, made up of the repressed events of a person's life, and archetypes or inherited tendencies which form the racial or collective unconscious His book *Psychologische Typen* (1921, Eng tr, 1923) proposed a series of polarities in the human personality of which the EXTROVERSION AND INTROVERSION dimension was outstanding Jung's approach to psychoanalysis was more mystical and religious than was that of Freud's Among his other works was *Psychology and Religion* (1938) and *The Integration of a Personality* (Eng tr, 1939). See Jolan Jacobi, *The Psychology of C G Jung* (Eng tr, 1942)

Jung or Jungius, Joachim (yō'äkhĭm yo͝ong, yo͝ong'yo͝os), 1587–1657, German philosopher, mathematician, and naturalist He was professor of mathematics at Giessen (1609–14) and later at Rostock and was rector (1629–40) of the Johanneum at Hamburg Though his work in natural science was distinguished, it was ignored for some time after his death. In his plan for providing plants with a system of names, using genus and species, the work of Linnaeus was foreshadowed. In philosophy he somewhat anticipated Leibniz, urging the importance of mathematical discipline for sound philosophical thinking Some of his works were destroyed, and many were published only after his death. He wrote *Logica Hamburgensis* (1638), *Doxoscopiae physicae minores* (1662), *Isagoge phytoscopia* (1678), and *Opuscula botanico-physica* (1747).

Jungaria, China see DZUNGARIA.

Jungbunzlau, Czechoslovakia see MLADA BOLESLAV

Jünger, Ernst (ĕrnst' yüng'ur), 1895–, German writer He fought with distinction through the First World War His war novels, while treating realistically the details of the trench and the battlefield, glorified the sacrifice of the soldier for the fatherland, he called war a "technical and heroic miracle." The novels which best expressed this attitude are *In Stahlgewittern* (1919, Eng. tr., *Storm of Steel*, 1929), *Feuer und Blut* [fire and blood] (1924), and *Das Wäldchen 125* (1925, Eng. tr, *Copse 125*, 1930). His diary as an officer in France in the Second World War—*Gärten und Strassen* [gardens and streets] (1942)—shows less tendency to idealize force. His work is notable for its literary style.

Jungfrau (yo͝ong'frou) [Ger.,=the Virgin], peak, 13,653 ft. high, Switzerland, in the Bernese Alps It was first ascended in 1811 and is today popular with tourists The **Jungfraujoch** (-jôkh") is a mountain saddle 11,342 ft high, the highest point in Europe reached by rail It has a scientific institute A meteorological station is on the near-by Sphinx summit, 11,729 ft high

Jungius, Joachim: see JUNG, JOACHIM

jungle [Hindustani *jangal*=desert,uncultivatedland], almost impassable thicket of dense vegetation, mostly swampy land, to be found nearly everywhere in the tropics The moist heat of the jungle permits tropical vegetation beyond its usual limits The characteristic flora of the jungle includes many beautiful blooming plants (e.g., several kinds of orchids) and useful hardwoods Among the animals which inhabit the jungle are the tiger, elephant, boar, deer, several kind of monkeys, and big venomous snakes The largest jungles are the Terai along the southern base of the Himalaya and the Sundarbans at the mouth of the Ganges

Junia, man or woman early converted to Christianity Rom 16 7.

Juniata (jo͞onēä'tə), river of Pennsylvania, rising in the Alleghenies and flowing tortuously 150 mi E to the Susquehanna above Harrisburg

Juniata College, see HUNTINGDON, Pa

Junín (ho͞onēn'), small town, W central Peru, near Lake Junín (c 35 mi long) in the Andes In the vicinity on Aug 6, 1824, Simón BOLÍVAR, aided by SUCRE, defeated the Spanish general José Canterac, in the first important battle leading to Peruvian independence

junior college and **junior high school** see SCHOOL

juniper, any tree or shrub of the genus *Juniperus*, aromatic evergreens with berrylike fruits and needle- or scale-shaped leaves Of approximately 40 species, 12 are native to North America and others are introduced The so-called common juniper (*Juniperus communis*) is widely distributed throughout most of the Northern Hemisphere and is also much cultivated in different forms, such as dwarf and pyramidal Its fruits flavor gin The juniper most common to North America is usually called red cedar (*J. virginiana*) and is found over most of the E United States Its fragrant, insect-repellent wood, close-grained but brittle, is much used for chests, closets, posts, woodenware, and pencils, for which uses the large forests of these trees have been depleted Oil of red cedar is used in medicine perfumery, and microscopy Other trees are sometimes called red cedar Western juniper, *J. occidentalis*, of the W United States (not to be confused with the western ARBORVITAE although both are also called western red cedar) has edible fruits Indians used the fruits of other Western species as food and the bark for fiber Oriental junipers have been used for incense

Junius, English political controversialist, known only by the signature Junius, which he signed to various letters written to the London *Public Advertiser*, notably to the series which appeared between Jan., 1769, and Jan., 1772 The letters were obviously written by a Whig of the Pitt-Grenville faction familiar with secret government matters They attacked in turn the king's party and even George III himself In the controversy centering about John Wilkes, Junius defended the cause of Wilkes A separate series of letters (1772), in which the author did not employ his customary signature, attacked Viscount Barrington Though the letters were inspired by political opposition, Junius used scandal and invective rather than argument as his tools They showed considerable skill in the use of short, cutting sentences, so balanced as to build up a climactic insult The letters were reprinted by the publisher of the *Advertiser* in 1772, and a new edition, with additional letters, was published in 1812 The fact that the writer's identity was kept a mystery added to the interest in these letters The writer has never been surely identified, though the political beliefs, handwriting, and life of Sir Philip FRANCIS have led many to ascribe the authorship to him Arguments have been offered in favor of the authorship of Lord Shelburne, later marquess of Lansdowne (see C. W. Everett, *The Letters of Junius*, 1927) More recently, on the evidence of some manuscript notes of Lord Shelburne, the authorship has been ascribed to Laughlin Macleane, British army surgeon and secretary to Shelburne.

Junius, Franciscus, 1589–1677, French philologist, son of Franciscus Junius (1545–1602), French Huguenot theologian. The younger Franciscus Junius was born in Heidelberg and lived chiefly in Holland and England He was an able pioneer in the study of Gothic and Anglo-Saxon A unique manuscript of Anglo-Saxon poems formerly attributed to Cædmon was owned and edited by him and is known as the Junius MS. In the Bodleian Library at Oxford it is numbered Junius XI. For a recent edition, see G. P. Krapp, *The Junius Manuscript* (1931)

Junkceylon: see PHUKET.

Juno (jo͞o'nō), in Roman religion, queen of the gods, sister and wife of JUPITER. Like the Greek goddess HERA, with whom she became identified, she was primarily a protector of women Every woman had her own Juno, a guardian of her life, as every man had his GENIUS

Junot, Andoche (ädôsh' zhünō'), 1771–1813, French general Having served under Bonaparte in Italy and Egypt, he became ambassador to Portugal (1804–5), and he commanded the French invasion of that country in 1807, thus opening the PENINSULAR WAR Appointed governor general of Portugal, he was forced to evacuate after his defeat by Wellington (1808) He later served in Spain, Germany, and Russia Napoleon created him duke of Abrantès, under which name his wife, Laure Junot, duchesse d'ABRANTÈS, is generally known

Jupiter (jo͞o'pĭtur) [Latin,=God the father], in Roman religion, supreme god, also called Jove He is identified with the Olympian god ZEUS He was the son of SATURN and OPS and the brother and husband of JUNO

Jupiter, in astronomy, largest planet in the solar system Its mean diameter is c 86 728 mi It has a mass more than 310 times that of the earth, and its volume is 1,300 times that of the earth Revolving round the sun at a mean distance from it of 483,310,000 mi., the planet requires 11 years 314 8 days to complete a revolution Its mean period of rotation is 9 hr 55 min When seen through a telescope, the form of Jupiter is shown to be flattened at the poles The surface appears strongly marked by cloud bands lying across it in a direction parallel with the equator and by brighter zones Most noticeable among the changing spots of the surface is a great red patch, carefully studied since 1878, when it became very conspicuous in the Southern Hemisphere Some astronomers estimate the atmosphere of Jupiter to be c 10,000 mi deep The planet is now known to be attended by 11 satellites The first four, discovered by Galileo, are large enough to be observed through ordinary telescopes and have served to bring about the discovery of the motion of light and the determination of its velocity, as well as the determination of longitudes at sea The 8th, 9th, and 11th satellites revolve in a retrograde direction Only Venus (and occasionally MARS) is brighter than Jupiter

Jura (zhürä'), department (1,952 sq. mi., pop. 210,386), E France, in FRANCHE-COMTÉ, occupying the S Jura mts and bordering on Switzerland Lons-le-Saunier is the capital

Jura (jo͞o'ru, Fr zhürä', Ger yo͞o'ra), mountain range, E France and W Switzerland, occupying parts of the French region of FRANCHE-COMTÉ (Jura and Doubs depts.) and the Swiss cantons of VAUD, NEUCHÂTEL, and BERN It extends in parallel ridges for c 200 mi from the Rhine at Basel to the Rhone SW of Geneva, rising above 5,500 ft Its rounded crests and summits are covered with dense pine forests and good pasture lands The region, drained by the DOUBS, the Ain, and smaller streams, is largely agricultural and pastoral and has no large cities It has important watch industries, particularly in the Swiss towns of Le Locle, La Chaux de Fonds, and Granges Export products from the French Jura include briarwood (for pipes), plastics, and cheese There are many popular summer and winter sport resorts, e.g., Saint Cergues, Switzerland Formed of sandstone and limestone and rich in fossils, the Jura gives its name to the JURASSIC PERIOD The mountains N of the Lake of Constance in S Württemberg are called the Swabian Jura

Jura (jo͞o'ru), island (146 5 sq. mi., pop. 364), off W Scotland, in Argyllshire, separated from the mainland by the Sound of Jura, one of the Inner Hebrides It is rugged and rocky in the west and more level in the east, the Paps of Jura rise to 2,571 ft Ardlussa and Craighouse are the chief villages Stock grazing and fishing occupy the inhabitants

Jurassic period (jo͝orăs'ĭk) [from the Jura mts., a type section], second period of the MESOZOIC ERA of geologic time In the Jurassic period, as in the preceding TRIASSIC PERIOD, E North America was continuously elevated, but was subject to EROSION which reduced the Appalachian region to a peneplain The Pacific border of North America, from California to Alaska, was for most of the time submerged In the Early Jurassic large areas of Arizona, Colorado, and Utah were apparently deserts, the sand of these deserts was later consolidated into the white and pinkish Glen Canyon sandstones which add conspicuously to the scenic beauties of this district A part of this area was touched in the Upper Jurassic by the entrance from the north of the Logan Sea, which, in its various advances and retreats, covered large areas of Montana, Idaho, Wyoming, Colorado, and Utah, depositing sandstone, shale, and limestone, with some gypsum The retreat of the Logan Sea toward the end of the period was followed, probably in the Upper Jurassic, but possibly in the Lower CRETACEOUS PERIOD, by the deposition of the Morrison continental series, noted for its richness in fossil dinosaurs. The close of the Jurassic in North America was marked by widespread folding along the western border of the continent, accompanied by the intrusion of lava, and by the upwarping of the Appalachian region. In this disturbance the Sierra Nevada, Klamaths, Cascades, Coast Ranges, and coastal mountains of Canada and Alaska were formed The history of the European Jurassic is very well known, the system being one of the most complete on the continent The climate seems to have been cool toward the beginning and warmer toward the end of the period The plant life of the Jurassic was dominated by the cycads, but conifers, ginkgoes, horsetails, and ferns were also abundant Of the marine invertebrates, the most important were the ammonites. The dominant animals on land, in the sea, and in the air were the reptiles Dinosaurs, more numerous and more extraordinary than those of the Triassic, were the chief land animals, crocodiles, ichthyosaurs, and plesiosaurs ruled the sea, while the air was preempted by the pterodactyls and their allies Mammals were few and small The Jurassic saw the appearance of the first bird, the *archaeopteryx*.

Jurieu, Pierre (pyĕr'zhurēö'), 1637–1713, French Protestant theologian, considered one of the strongest French Calvinist controversialists He was (1674–81) professor at Sedan In 1681 in an attempt to preserve Huguenot liberties he published anonymously *La Politique du clergé de France*, his authorship soon became known, and he left France never to return. From 1681 he was pastor of the Walloon Church in Rotterdam, writing in behalf of the French Reformed Church and giving aid to exiles from France after the revocation of the Edict of Nantes His controversial works, often bitter and aggressive, were directed against Arnauld, Bossuet, Fénelon, Bayle, and others Important writings are the *Pastoral Letters Addressed to the Faithful in France* (1686, Eng. tr., 1689) and *Critical History of Dogmas and Cults* (1704, Eng. tr., 1705) See G. H. Dodge, *The Political Theory of the Huguenots of the Dispersion* (1947).

jurisprudence (jo͝orĭsprōo'dəns), study of the nature and the origin and development of LAW It is variously regarded as a branch of ethics or of sociology Many of the major systematic philosophers (e.g., Aristotle, St Thomas Aquinas, and Kant) have expounded jurisprudential theories Before the 19th cent most jurisprudents adhered to natural law, which maintained that sound legal doctrine was derivable only from a supposed law of nature established by divine ordinance The natural-law school did not deny that the details of legal regulation depended upon the will of the sovereign However, the positivist, or analytical, school, which first became important in the late 18th cent., insisted that law was entirely a matter of sovereign decree distinct from morality and theology Among important 19th-century trends was the view, represented by Savigny, that a people's legal system expressed the national spirit. In the mid-19th cent many jurisprudents attempted to avoid what they felt were theoretical preconceptions and to demonstrate a uniform evolution from primitive times to modern industrialized society Other thinkers were skeptical of evolutionary explanations and sought the basic principles underlying all systems of law in various fields, including economics and psychology See Sir Henry Maine, *Ancient Law* (1861), J. W. Salmond, *Jurisprudence* (7th ed., 1924), Sir Thomas Holland, *Jurisprudence* (13th ed., 1924), Benjamin Cardozo, *The Paradoxes of Legal Science* (1928), Jerome Hall, ed., *Readings in Jurisprudence* (1938)

Juruá (zhōōrwä') river, c 2,000 mi long, rising in E Peru and flowing in a winding course through rain forest of Brazil generally NE to the Amazon. It was once important for transport in the wild-rubber boom

jury, body convened to make decisions of fact in legal proceedings. Historians do not agree on the origin of the English jury Although some authorities trace it to Anglo-Saxon or even more remote Germanic times, most believe that it was brought to England by the Normans The first jurors were not triers of fact in legal disputes but were persons acquainted with the situation in question who spoke out of personal knowledge Thus, in compiling the Domesday Book inquests of neighbors were convened to furnish information on property holdings In the enforcement of criminal justice the earliest function of the jury (mid-12th cent.) appears to have been presenting accusations, and it was only later that jurors were convened to answer on oath the question of guilt These early jury trials, while supplanting the ORDEAL and other irrational procedures, were not themselves satisfactory, because they depended entirely on the unsupported oath of the jurors A verdict could not be overturned except by attaint, i.e., summoning a second jury to give its sworn verdict on the question as to whether the first jury had committed perjury By the 16th cent the jury was used in civil as well as criminal cases and the practice of calling witnesses was well developed, but not until the mid-18th cent. were methods other than the attaint available to set aside an improper verdict. To Englishmen and persons of English descent trial by jury became a cherished protection against the possibility of judicial and administrative tyranny. Among the abuses recited in the Declaration of Independence is "depriving us in many cases, of

the benefits of Trial by Jury " The Sixth Amendment and Seventh Amendment to the U S Constitution, reflecting this concern, provide for jury trial in criminal prosecutions and in civil suits at common law where the damages sought exceed $20, the traditional exemption of cases in EQUITY was left unchanged These constitutional provisions do not bind the states, which, with great variation, preserve the jury system to a large extent In most criminal cases the charge is first considered by a grand jury with 12 to 23 members It hears witnesses against the accused, and if 12 jurors believe that there is sufficient evidence to prosecute, an INDICTMENT or the like is presented The jury sitting at the trial proper is called a petit (or petty) jury from its smaller size (usually 12 members) Trial jury procedure is essentially alike in civil and in criminal cases The venire, a panel of prospective jurors living in the county where the trial is to be held, is summoned for examination Counsel for the parties may first challenge the array, i e , object that the venire as a whole was improperly chosen or is for some reason unfit The challenges to the poll (the veniremen taken individually) which follow are designed to secure as jurors unbiased persons without special knowledge of the matters in issue Included are challenges for principal cause, i e , some grounds such as relationship to a party which requires dismissal of the venireman, challenges to the favor, i e , suspicion of unfitness on which the judge rules, and a limited number of peremptory challenges Once selected, the jury (usually with several alternates) takes an oath to act fairly and without preconceptions At the close of the evidence and after the summations of counsel the judge instructs the jury concerning the VERDICT Strong objection to the jury system has been expressed Some students believe that the American practice of prohibiting any judicial comment on the evidence deprives the jury of needed guidance, they argue that the judge, as in England, should be permitted to summarize the evidence and to evaluate it to some degree Other objections to juries are based on the grounds of expense and the liability of jurors to prejudice and irrational judgment To cure these conditions many states discourage jury trial in all but the most important cases and take various measures to improve the quality of jury panels, e g , the selection of "blue ribbon" juries in difficult cases Outside of the English-speaking countries there is generally less recourse to the jury and less care in the selection of jurors In some countries, notably the USSR and other Communist states, juries are infrequent, but laymen, called assessors, sit on the bench in association with professional judges

Jushab-hesed (jo͞osh'hĕs'ĕd") [Heb , =love is returned], son of Zerubbabel 1 Chron 3 20

Jusserand, Jean Jules (zhä' zhul' zhüsürä'), 1855–1932, French diplomat and author After service in London, Constantinople, and Copenhagen, he was ambassador at Washington (1902–15) He was a close friend of every U S President during the period, and he did much to promote friendly relations between the American people and the French He was undoubtedly influential in winning the United States to the side of the Allies in the First World War A diplomat of tact and ability, Jusserand was also a finished scholar Among his works are *English Wayfaring Life in the Middle Ages* (1889), *Literary History of the English People* (1895), *Shakespeare in France* (1898), and a life of Ronsard (1913) See his incomplete autobiography, *What Me Befell* (1933)

Jussieu (zhüsyö'), name of a French family of distinguished botanists **Antoine de Jussieu** (ätwän' du), 1686–1758, was director of the Jardin des Plantes, Paris He edited Jacques Barrelier's posthumously published *Plantae per Galliam, Hispaniam et Italiam observatae* (1714) and the third edition (1719) of J P de Tournefort's *Institutiones res herbariae* **Bernard de Jussieu** (bĕrnär'), 1699–17777, brother of Antoine, was director of the gardens at the Trianon, Versailles, here he arranged the plants according to his new system of classification, which he never published He revised (1725) Tournefort's *Histoire des plantes aux environs de Paris* Another brother, **Joseph de Jussieu** (zhôzĕf'), 1704–79, accompanied La Condamine to South America, where he remained until c 1771 He introduced into Europe many plants, including the heliotrope. A nephew, **Antoine Laurent de Jussieu** (lōrä'), 1748–1836, assisted Bernard de Jussieu, whose system of classification by natural affinities he elaborated in *Genera plantarum* (1789), which influenced later natural systems of classification He was professor at the Museum of Natural History, Paris, and organized its botanical collection His son, **Adrien de Jussieu** (ädrēĕ'), 1797–1853, also professor of botany at the museum, wrote a standard text, *Cours élémentaire de botanique* (1842–44)

Justi, Karl (karl' yo͞os'tē), 1832–1912, German art historian He was professor of philosophy at Kiel and later, for 29 years, professor of the history of art at the Univ of Bonn He wrote critical works on Dante and on the artists Raphael, Velázquez, Murillo, and Michelangelo

Justice, United States Department of, created by act of Congress in 1870 The U.S Attorney General represented the government in legal matters and gave legal advice to the executives of the government from the time the first cabinet was set up under the Constitution in 1789, but not until 1870 did the office of the cabinet member become the nucleus of a government department Because of the mounting responsibilities of the Attorney General and because of growing need for uniformity in the administration of law, the act of 1870 also set up the office of Solicitor General to represent the government in Supreme Court cases and empowered the creation of assistants to aid the Attorney General in the administration of the department The department furnishes legal counsel in Federal cases, provides means for enforcing Federal laws, and officially construes the laws—subject, of course, to court decisions—under which government officials act The Dept of Justice is comprised of seven specialized divisions (the Antitrust Division, the Tax Division, the Claims Division, the Lands Division, the Criminal Division, the Customs Division, the Administrative Division), three bureaus (the FEDERAL BUREAU OF INVESTIGATION, the Immigration and Naturalization Service, and the Bureau of Prisons), and two boards (the Board of Immigration Appeals and the Board of Parole)

justice of the peace, name designating the person presiding over a type of POLICE COURT In some states the justice's court has jurisdiction over both petty civil and criminal cases The justice of the peace was formerly a more important official than he is today The establishment of the office throughout England in 1360 represented the final extension of royal authority to local government, especially to rural areas The justices, selected from the gentry, enjoyed large administrative and police authority, and they had judicial power over most crimes The office was established in the American colonies, but by the 19th cent increasing urbanization and greater complexity of government relegated it to a minor role in both England and the United States

Justin I, c 450–527, Byzantine emperor (518–27), successor of Anastasius I An Illyrian, he was chief of the imperial guard and seized power when Anastasius died Because he was ignorant of even reading and writing he entrusted the government largely to his nephew, who eventually succeeded him as JUSTINIAN I See Alexander Vasiliev, *Justin the First* (1950)

Justin II, d 578, Byzantine emperor (565–78), nephew and successor of Justinian I In his reign fighting against Persia continued, and Italy was invaded by the Lombards under ALBOIN He at first maintained religious peace, but c 572 he began a severe persecution of the Monophysites In 574 the emperor lost his reason His favorite and his adopted son, Tiberius, exercised the power and succeeded Justin in 578 Tiberius' successor was Maurice

Justin (Marcus Junianus Justinus), fl 3d cent , Roman historian He made a collection of excerpts from TROGUS, which gives many facts untold elsewhere

Justinian I, 483–565, Byzantine emperor (527–65), nephew and successor of JUSTIN I By two great wars, in which his leading generals were BELISARIUS and NARSES, he recovered Africa from the Vandals (533–48) and Italy from the Ostrogoths (535–54) He was less successful in fighting against the Persians and was unable to prevent the annual raids of the Slavs and the Bulgars The burden of taxation which these wars imposed upon the citizens, the discontent of the Monophysites at Justinian's orthodoxy, and persisting loyalty of the people to the family of Anastasius I produced the *Nika* riot (532), which would have cost Justinian his throne but for the firmness of Empress THEODORA (see also BLUES AND GREENS) Justinian insisted upon caesaropapism, the supremacy of the emperor over the Church, not only in matters of organization, but also in matters of dogma He had induced Justin to become reconciled to the Western Church and to persecute the Monophysites, but in 553, seeking to reconcile the Monophysites to the Church, he called a council (see CONSTANTINOPLE, SECOND COUNCIL OF) and engaged in various controversies about dogma He never succeeded in creating unity and finally tended to drift into heresy himself Justinian's greatest accomplishment was the codification of Roman law executed under his direction by TRIBONIAN, commonly called the CORPUS JURIS CIVILIS It greatly influenced all subsequent legal history Justinian erected many public works, of which the chief is the church of HAGIA SOPHIA He was succeeded by his nephew, Justin II See W G Holmes, *The Age of Justinian and Theodora* (1912)

Justinian II (Justinian Rhinotmetus), 669–711, Byzantine emperor (685–711), son and successor of Constantine IV He unsuccessfully warred against the Persians. His extravagance and his ministers' extortions caused a revolution (695). Justinian had his nose cut off (hence his surname Rhinotmetus), and he was exiled to the Crimea Restored (705) with the help of the Bulgars, he was finally deposed and this time had his head cut off A series of usurpers occupied the throne from 705 to 717, when LEO III established a new dynasty

Justin Martyr, Saint, A D c.100–c 165, Christian apologist, called also Justin the Philosopher Born in Nablus, Palestine, of pagan parents, he studied philosophy, and after his conversion to Christianity at about the age of 30, he went from place to place trying to convert men of learning by philosophical argument He seems to have stayed for a time at Ephesus, and he several times visited Rome, where he and some disciples were finally martyred Of his writings (in Greek), only two undisputed works remain, the *Apology* (with a sort of appendix called the *Second Apology*) and the *Dialogue* The *Apology* is a learned defense of Christians against charges of atheism and sedition in the Roman state, it contains an exposition of Christian ethics and invaluable records of the customs and practices of 2d-century Christianity The *Dialogue* sets forth in the form of an argument with Trypho (or Tryphon) the Jew a philosophic defense of Christian beliefs, particularly with reference to Jewish writings, it has references to the Gospels that have been of much interest to students of the Bible Feast April 14

Justin Morgan, 1792–1821, American horse, the foundation sire of the Justin Morgan breed of horses He was named by and for his first owner, Justin Morgan (1747–97) After the death of the owner, the horse—small, weighing about 800 lb , of tremendous endurance, and with a delicate head, heavy shoulders, and a short neck—was bought and sold many times Justin Morgan became the only horse to sire a distinctive breed of horses in the United States, and the Morgan breed preceded the Hambletonian strain as the favored type of trotting horses in America

Justo, Agustín Pedro (agōōstēn' pā'dhrō hōō'stō), 1876–1943, president of Argentina (1932–38) He was an army general and the minister of war under Marcelo Torcuato de Alvear (1922–28) Active in the conservative revolution which overthrew Irigoyen (1930), Justo was elected president He became an honorary general in the Brazilian army when that nation declared war (1942) on the Axis in the Second World War and later was a leading advocate in Argentina of the United Nations

Justus [Latin, =just] **1** Surname of JOSEPH BARSABAS **2** or **Titus Justus,** Corinthian host of St Paul Acts 18 7 **3** Jesus Justus see JESUS **2**

Justus of Ghent (jŭs'tus), fl mid-15th cent , Flemish historical and portrait painter, identified by some authorities with Joos van Wassenhove He was perhaps a pupil of the Van Eycks To his early, Flemish period have been attributed the *Last Judgment* and *Adoration of the Magi* (Metropolitan Mus) In 1470 he went to Italy, where he was commissioned by Duke Federico of Montefeltro to paint *The Communion of the Apostles* (now in the ducal palace at Urbino), the only authenticated painting by Justus Also ascribed to him are the portrait of Duke Federico of Montefeltro (Barberini Palace, Rome) and a series of panels of poets and philosophers (the Louvre and the Barberini Palace, Rome) These, if the work of Justus, show the gradual and complete Italianization of his style during his sojourn in Italy He is also called Jodocus of Ghent and Joos of Ghent

jute (jo͞ot), annual tropical plant of the genus *Corchorus*, grown for its fiber The plant was cultivated in India from remote times, although known in Western commerce only since c 1830, its fiber is, with the exception of cotton, the one most extensively used It is one of the cheapest fibers and is easily dyed and spun, but it deteriorates rapidly It is grown commercially mainly in the Bengal region of India, Calcutta is the chief point of export and is the leading manufacturer of jute products Raw jute is processed also in Europe and in the Western Hemisphere It is used for making fabrics (chiefly burlap), bags, webbing, twines, backing yarns for carpets and linoleum, oakum, paper, and specialty goods Jute strands, usually from 6 to 10 ft long and consisting of several fused fiber elements, lie between the bark and the woody central cylinder to which they are bound by natural gum The harvested stalks are immersed in water to induce fermentation, which dissolves the gum After this retting process the strands are stripped from the stalks by hand labor Although jute can be grown on rich, loamy soil in any hot, humid region, its cultivation is confined to areas where human labor is cheap, since practical harvesting and decorticating machines have not as yet been devised Similar fibers are obtained from other plants, including several species of *Hibiscus*

Jutes see ANGLO-SAXONS and KENT, KINGDOM OF

Jutland (jŭt'lund), Dan. *Jylland* (yü'län), Ger *Jütland* (yüt'länt), peninsula, N Europe, comprising continental Denmark and German SCHLESWIG It is bounded by the Skaggerrak in the north, the North Sea in the west, the Kattegat and the Little Belt in the east, and the Eider river in the south Danish Jutland, including adjacent islands, has an area of 11,411 sq. mi. and 1,826,056 inhabitants. The wind-swept and sandy coast of W Jutland has

poor soil, and Esbjerg is the only good port The eastern seaboard is fertile and densely populated Dairying and cattle raising are the chief occupations, Aarhus, Aalborg, and Frederikshavn are the main ports Jutland has many lakes and is traversed by the Guden, the main river of Denmark South Jutland (Dan *Sønderjylland*) is the name applied in Denmark to the northern part of the former duchy of Schleswig, including the towns of Aabenraa, Hadersley, Sonderborg, and Tonder The peninsula was known to the ancients as the Cimbric Peninsula (Latin *Chersonesus Cimbrica*)

Jutland, battle of, only major engagement of the British and German fleets in the First World War Known in Germany as the battle of the Skagerrak, it was fought on May 31, 1916, c 60 mi W of the coast of Jutland The battle was the result of the attempt of Admiral Hipper and a German battle-cruiser squadron to attract part of the British grand fleet off SW Norway, Admiral Scheer, with the main body of the German high seas fleet, was to follow Hipper and attack the British Partly informed of the plan, the British ordered a rendezvous of the grand fleet W of Jutland Hipper's squadron made contact with a British scouting squadron under Admiral Beatty on May 31 When the German high seas fleet approached later in the day, Beatty (who had already suffered severe losses) turned to the north to meet the main body of the grand fleet under Admiral Jellicoe, who was coming to his aid The main engagement began at 6 P M and ended late in the night when the Germans, under the cover of fog and darkness, made their escape to their home base The battle, in which the Germans displayed a brilliant knowledge of naval tactics, cost the Germans 11 ships and c 2,500 dead, and the British 14 ships and c 6,000 dead Despite their tactical success, however, the Germans gained no advantage from the battle, and their fleet remained bottled up in harbor for the rest of the war Increased German submarine activity was the result The battle of Jutland was, as far as tonnage was concerned, the greatest naval battle the world had until then known

Juttah (jŭ'tŭh), unidentified city, S Palestine Joshua 15 55, 21 16

Juvenal (Decimus Junius Juvenalis) (jōō'vunul), 1st-2d cent A D, Roman satirical poet His verse established a model of the satire of indignation in distinction from the less harsh satire of ridicule, of which Horace was the leading representative Later satirists may be said to follow the example of either one or the other Little can be absolutely asserted as to the facts of his life beyond the fact that he was for much of it desperately poor There is a tradition that as a youth he was banished from court for satirizing an imperial favorite He is known chiefly from his 16 satires, which contain a vivid representation of the life of Rome under the empire They were written probably in the years between A D 100 and A D 128 The biting tone of his diatribes has been seldom equaled From the stern point of view of the older Roman standards he powerfully denounces the lax and luxurious society, the brutal tyranny, the affectations and immorality of women, and the criminal excesses of Romans as he saw them, especially in his earlier years The rhetorical form of his verse is finished, exact, and epigrammatic, furnishing many sayings that have become familiar through quotation See I G Scott, *The Grand Style in the Satires of Juvenal* (1927), Gilbert Highet, *The Life of Juvenal* (1937)

juvenile delinquency, legal term for the behavior of children and adolescents which in adults would be judged criminal (see CRIME) Definitions and age limits of juveniles vary, the maximum age being set at 14 years in some states and up to 21 years in others The 16 to 20-year age group, considered adult in many places, has one of the highest incidences of serious crime A high proportion of adult criminals, especially recidivists, have a background of early delinquency Theft is the most common offense of children, more serious property crimes and rape are most frequently committed in later youth The causes of such behavior, like those of crime in general, are found in a complex of psychological, social, and economic factors Clinical studies have uncovered emotional maladjustments, usually arising from bad family situations, in many delinquents and have stressed adult responsibility for much misbehavior of youth Other studies have indicated that there are persisting patterns of delinquency in disorganized and slum neighborhoods regardless of changing occupants, here the GANG, a source of much delinquency, is strong Not until the development, after 1899, of the juvenile court, was judgment of youthful offenders effectively separated from that of adults The system emphasizes informal procedure and protection rather than punishment In some states psychiatric clinics are attached, and there has been a recent tendency to handle cases in public welfare agencies outside the court Juvenile correctional institutions have been separated from regular prisons since the early 19th cent, and some have developed intensive rehabilitation programs, providing vocational and other training and psychiatric treatment, but most are still inadequate The English BORSTAL SYSTEM for youth is notable The parole system, foster homes, child guidance clinics, and public juvenile protective agencies have contributed to the correction of delinquent and maladjusted children Especially important for prevention are extension of activities by all community groups to provide essential facilities for the well-being of children See William Healy, *The Individual Delinquent* (1915) and, with A F Bronner, *New Light on Delinquency and Its Treatment* (1936), W C Reckless and Mapheus Smith, *Juvenile Delinquency* (1932), Sheldon Glueck and Eleanor Glueck, *One Thousand Juvenile Delinquents* (1934) and *Juvenile Delinquents Grown Up* (1940), C R Shaw, H D McKay, and others, *Brothers in Crime* (1938) and *Juvenile Delinquency and Urban Areas* (1942)

juvenile literature The first books for children were Latin texts of the 7th cent, the school texts of the Venerable Bede, and in the 10th cent the colloquy of Ælfric Books in manuscript were costly, and not until the invention of printing were books that children could handle and cherish available William Caxton printed for children Aesop's fables in 1484 In the 15th cent there were rhymed treatises, having to do with daily life, feasts, and festivals The invention of the HORNBOOK at the end of the 15th cent made books really available to children It usually included the alphabet, numerals, and the Lord's Prayer The hornbook was followed by the battledore (c 1770) This was made of cardboard in three leaves which folded It contained the alphabets, numerals, easy reading lessons, plus small woodcuts There followed the chapbook, a cheap little folded sheet that was sold by peddlers of the 17th and 18th cent, chapbooks included the old tales of the Middle Ages, often condensed and poorly written Probably the first picture book for children was the *Orbis sensualium pictus* by Comenius (1658, Eng tr, *The Visible World*, 1659) Each chapter dealt with a different subject, giving the child a general idea of the outside world During Puritan times in England books for children were a grim affair, consisting of religious instruction meant to prepare the child for life after death There emerged, however, one book from this period cherished as a classic, John Bunyan's *Pilgrim's Progress* (an edition attractive to children is abbreviated by Mary Godolphin and illustrated by Robert Lawson, 1939) In 1697 appeared Charles Perrault's fairy tales, but in general until the middle of the 18th cent children shared the literature of their elders ballads, legends, lives of the saints, Reynard the Fox, and the tales of King Arthur Defoe's *Robinson Crusoe* (1719) and Swift's *Gulliver's Travels* (1726), written for their elders, became children's classics. John Newbery (1713–67) made the first real contribution to children's literature He was a publisher, author, and bookseller These first books were written anonymously but it is thought Oliver Goldsmith wrote many of them Among the best known of the Newbery books are *Mother Goose's Melody* and *The History of Little Goody Two-Shoes* They were small attractive volumes bound in bright colored papers imported from Holland, with illustration an integral part of the text, they were meant to please children Many of these books found their way early across the Atlantic At the end of the 18th cent Rousseau's theories of childhood education in *Émile* (1762), together with John Locke's earlier *Some Thoughts concerning Education* (1693), produced a school of writers of didactic literature Among the most prominent in England were Anna Laetitia Barbauld, Thomas Day, Maria Edgeworth, and Mary Martha Sherwood, in France, Mme de Genlis and Armand Berquin Thomas Day's *History of Sandford and Merton* was read widely and expounded most of the major doctrines of Rousseau Maria Edgeworth wrote prolifically and was probably the most gifted writer of this period Her stories contained plot and suspense, *The Purple Jar* being one of the best known This group of didactic writers was violently opposed by Dr Samuel Johnson and later by Charles Lamb, Wordsworth, and Coleridge Charles Lamb summed it up, "Hang them I mean the cursed Barbauld crew, those blights and blasts of all that is human in man and child" The 19th cent saw a release from this didactic writing Imagination, artistic form, poetry, legend, fairy tale, and humor all had their place in writing for children William Blake, as in so many fields, preceded this era with his *Songs of Innocence* (1789) and his *Songs of Experience* (1794) William Wordsworth's *Lyrical Ballads* appeared in 1798 The brothers Grimm spent 13 years making a scientific record of the folklore of Germany, their fairy tales were published between 1812 and 1815 Wyss's *Swiss Family Robinson*, published in Germany in 1813, was translated into English in 1820 Whereas the Grimm brothers wrote their stories exactly as they heard them told, Hans Christian Andersen added artistic form, and the majority of his tales were original Charles and Mary Lamb's *Tales from Shakespear* first appeared in 1807 The latter half of the 19th cent has been called the golden age in children's literature The landmarks of this period in English literature include Dickens's *Christmas Carol* (1843), Edward Lear's *Book of Nonsense* (1846), John Ruskin's *King of the Golden River* (1851), Charles Kingsley's *Water-Babies* (1863), Lewis Carroll's *Alice in Wonderland* (1865), George Macdonald's *At the Back of the North Wind* (1871), Christina Rossetti's *Sing-Song* (1872), Kate Greenaway's *Under the Window* (1879), Collodi's *Pinocchio* (book form, 1883, Eng tr, 1892), Robert Louis Stevenson's *Treasure Island* (1883), *Kidnapped* (1886), and *A Child's Garden of Verses* (1885), Johanna Spyri's *Heidi* (1880, Eng tr, 1884), Frances Hodgson Burnett's *Little Lord Fauntleroy* (1886) and *The Secret Garden* (1909), and Rudyard Kipling's *Jungle Book* (1894) During this period color began to appear in illustration A great debt is owed to Walter Crane's experimental work There followed Randolph Caldecott with his humorous drawings now collected in his *Picture Books*, Kate Greenaway's exact little drawings of flowers, children in quaint costumes, all with a fairylike quality, John Tenniel's perfect drawings for *Alice in Wonderland*, Cruikshank's illustrations for Grimm's collection of *German Popular Stories*, and Leslie Brookes's fine caricature and sense of fun in *Johnny Crow's Garden*, *Ring o' Roses*, and *Golden Goose Book* American children were heirs of English literature of the times A didactic and religious literature flourished here too, notably the *Peter Parley Tales* (1827–57) written by Samuel G Goodrich, the *Rollo* series (from 1834) of Jacob Abbott, Susan Warner's *Wide, Wide World* (1850), and Martha Finley's *Elsie Dinsmore* series (1868–1905) Series have been popular with children, there were the Horatio Alger books—the *Ragged Dick* series, the *Tattered Tom* series, and others, the Oliver Optic books—the *Boat Club* series, the *Army and Navy* series, and others, and for girls, the *Katy* series by Susan Coolidge (wholesome and reasonably realistic), *The Five Little Peppers* series by Margaret Sidney, and Lucy Fitch Perkins's "Twins" series Perhaps the two greatest influences towards good literature were made by the editors of the *St Nicholas Magazine* (Mary Mapes Dodge and Frank Stockton) and Horace E Scudder, editor of the *Riverside Magazine* (1867–70) Many of today's classics first appeared in these pages Other magazines which had considerable influence on the literature of the period were *Our Young Folks*, published by *Atlantic Monthly*, *Harper's Young People*, under the editorship of Kirk Munroe (whose own books of outdoor life were excellent), and the *Youth's Companion* From the 19th cent today's child has James Fenimore Cooper's *Leatherstocking Tales*, Nathaniel Hawthorne's retelling of the Greek myths in the *Wonder-Book* and *Tanglewood Tales*, Mark Twain's *Tom Sawyer* and *Huckleberry Finn*, Lucretia Hale's *Peterkin Papers*, Howard Pyle's wonderful re-creating of the legends of *King Arthur* and *Robin Hood*, Louisa May Alcott's *Little Women* and *Little Men*, Laura E Richards's *Tirra Lirra* and the *Hildegarde* stories, Kate Douglas Wiggin's *Birds' Christmas Carol*, and Joel Chandler Harris's "Uncle Remus" stories of the South In the 20th cent the variety of subject matter covered is as wide as that of the adult field A child may go around the world in folklore, travel, fiction, historical material, he may explore the seas, the heavens, the earth with books Science, poetry, religion, sports, mystery, all abound There are many stimuli to the production of good books In 1922 Frederic Melcher established the Newbery medal to be awarded yearly to the most distinguished literature for children In 1938 he gave a second award, the Caldecott medal for the best picture book of the year The American Library Association has been an influence in the standards it has established in training its personnel and in its book selection The Child Study Association and the Children's Book Council, reviewing media in newspapers and magazines, contribute to good books As a result of two world wars America has been enriched by artists and book craftsmen from abroad Some of the books of this century which seem destined for a long life are Virginia Lee Burton's *Little House*, Padraic Colum's retelling of Homer's *Odyssey* and *Iliad*, Walter de la Mare's poems, James Daugherty's American stories, Wanda Gág's *Millions of Cats* and *Tales from Grimm*, Kenneth Grahame's *Wind in the Willows*, Selma Lagerlof's *Wonderful Adventures of Nils*, Robert Lawson's *Rabbit Hill*, Lois Lenski's picture books about Mr Small and her historical series, Hugh Lofting's *Dr Dolittle*, Robert McCloskey's *Make Way for the Ducklings* and *Homer Price*, the Dr Seuss picture story books, P L Travers's *Mary Poppins*, A A Milne's *When We Were Very Young* and *Winnie the Pooh*, and Laura Ingalls Wilder's frontier stories See Anne Carroll Moore *My Roads to Childhood* (1939); Annis Duff, *Bequest of Wings* (1944), Paul Hazard, *Books, Children, and Men* (1944), Dorothy White, *About Books for Children* (1946), Anne Eaton, *Treasure for the Taking* (1946), May Arbuthnot, *Children and Books* (1947), B E Mahoney and others, *Illustrators of Children's Books* (1947) The *Horn Book* is a magazine devoted exclusively to reviewing children's books.

Jylland see JUTLAND

K

K, 11th letter of the ALPHABET It is a usual symbol for a voiceless velar stop, as in *cook* It corresponds to Greek **kappa** In chemistry K represents POTASSIUM.

K2, see GODWIN-AUSTEN, MOUNT

Kaaba or **Caaba** (both kä'bu, kä'ûbû), in ISLAM, the most sacred of buildings, the center of the Moslem world and the chief goal of the pilgrimage It is a small building in the mosque of Mecca nearly cubic in shape, built to enclose the Black Stone which in a peculiar sense is the most venerated Moslem object The Kaaba was a holy place before Mohammed, and its retention in Islam is an obvious anachronism It is the point toward which Moslems face when praying

Kabardian Autonomous Soviet Socialist Republic (kubär'dēun), autonomous republic (4,550 sq mi, 1946 estimated pop 300,000), S European RSFSR, on the northern slopes of the central Greater Caucasus, bordering on the Georgian SSR in the southwest Nalchik is the capital The republic stretches northward from the Caucasian crest (which here includes such mighty peaks as Mt Elbrus, Koshtan-Tau, and Dykh-Tau) to the level Kabardian plain, drained by the headstreams of the Terek The region is predominantly rural, with livestock raising in the mountains and agriculture (corn, wheat, and fruit) in the plain The Kabardians, a Moslem Circassian group, form about 60 percent of the population, the rest being mainly Russian and Ukrainian In 1922 the region was constituted into the Kabardino-Balkar Autonomous Oblast, and in 1936 it became the Kabardino-Balkar ASSR The Balkars, a Moslem, Turkic-speaking mountain people, were resettled in 1944, presumably because they collaborated with the German invaders in the Second World War, part of their district was incorporated with the Georgian SSR and the republic assumed its new name

Kabinda see CABINDA

kabuki: see JAPANESE DRAMA

Kabul (kä'bōōl, kubōōl'), city (*pop c* 80,000), capital of Afghanistan, on the Kabul river Long overshadowed by Ghazni and Herat, Kabul was the first "Indian" conquest (1504) of Baber, who ruled here from 1504 to 1519 and whose tomb is here Kabul succeeded Kandahar as capital in 1773 A British army reached it in 1839, but a British force was in 1842 ambushed near by and almost annihilated In retaliation another British force partly burned Kabul (1842) The British again occupied it in 1879 Kabul, which is the center of a rich fruitgrowing district, has several small colleges, 10 Moslem periodicals, a wireless station, an airport, and the only European hotel in Afghanistan Some men wear Western clothes, but women go veiled The royal palace and an ancient citadel lie outside the present city The Kabul river flows 300 mi E from the Hindu Kush past Kabul and Jalalabad and through gorges in the Khyber Pass to the Indus The name may be also spelled Kabol

Kabyles (kubīlz'), tribesmen, predominantly agricultural, of North Africa, whose center is the rugged Kabylia region of Algeria Of disputed origin, they form one of the larger divisions of the Berbers Known for their fierce resistance to the successive conquerors of the region, they were slow to adopt the Moslem religion and Arabic speech and in remote sections still retain their vernacular

Kabzeel (kāb'zēēl) [Heb, =assembled by God], unidentified city, extreme S Palestine Joshua 15 21, 2 Sam 23 20, 1 Chron 11 22 Jekabzeel Neh 11 25.

Kachin State (kuchĭn'), division (*c* 16,000 sq mi, pop. 427,625), N Burma The northernmost state in the union of Burma, it is a mountainous region bounded on the west by Assam and on the east by Yünnan prov, China The chief towns are Myitkyina and Bhamo The population is mixed, the Kachins or Jinghpaws constitute the most prominent group. They maintain the tribal forms of organization under chiefs and practice shifting cultivation. Most of the Kachins are animists The territory was never subject to the Burmese kings and after the establishment of British rule was governed by the British directly and not as part of Burma The Kachin State was constituted in 1948, it enjoys a large measure of local autonomy and is represented in the union cabinet by a minister chosen from among the Kachin members of parliament

Kadelburg, Gustav (gōōs'täf kä'dulbŏŏrk), 1851–1925, Austrian dramatist and actor. He played in Vienna, Berlin, and other European cities and toured the United States He wrote and produced many excellent comedies and farces, among them *Im wessen Rock* (1898, produced in New York city in 1936 as *The White Horse Tavern*) Augustin Daly's *Roadroad of Love* (1887) and *The Great Unknown* (1880) are adaptations of plays by Kadelburg and Franz von Schönthan

Kadesh (kā'dĕsh), ancient city of Syria, on the Orontes river Here Ramses II defeated (*c* 1300 B C.) the Hittites in a great battle.

Kadesh (kā'-) or **Kadesh-barnea** (-nē'ù), oasis in the desert S of Palestine, mentioned frequently in the Bible, notably as a limit of Edom Another biblical name is En-mishpat (-mĭsh-), the modern name is Ain Qadis Gen 14 7, 16 14, Num 20, 32 8, Deut 1 46, 2 1

kadi or **cadi** (both kä'dē, kā'dē), in ISLAM, the lowest rank of judge Since the Moslem law is based on religion and the canon and civil law may be hardly distinguished, the prime qualification of the kadi is to be learned in the Koran and the traditions He must also be somewhat acquainted with the various schools of Moslem law and with the interpretative commentaries The kadi sits in the open in the community, and his court depends for its force largely on public opinion

Kadmiel (kăd'mēĕl) [Heb, =who stands before God], family which returned with Zerubbabel Ezra 2 40, 3 9, Neh 7 43, 9 4,5, 10 9, 12 8,24

Kadmonites (kăd'munīts) [Heb, =easterner], unidentified tribe, whose land was promised to Abraham's descendants Gen 15 19

Kaduna (kudōō'nu), town (pop 10,628), N Nigeria, capital of the Northern Provs It is a railroad junction and has a college

Kaesong or **Kaisong** (both kī'sŭng'), Jap *Kaijo*, city (1949 pop 88,708), S Korea From the 10th to the 14th cent it was the capital of Korea, and there are tombs of Korean kings Kaesong is noted for fine porcelain The city is sometimes called Songdo

Kaffa, RSFSR see FEODOSIYA

kaffir or **kaffir corn** see SORGHUM

Kaffirs: see KAFIRS

Kaffraria (kăfrā'rēu), region, E Cape Prov, Union of South Africa It comprises British Kaffraria, which lies between the Great Fish and the Great Kei rivers and is administered by the province, and a native reserve, Transkeian Territories (16,554 sq mi, pop 1,264,167), to the northeast There is gold mining in Kaffraria, and Transkeian wool finds a good market

Kafiristan (kă"fĭrĭstän', kafē"rĭstän'), mountainous region, NE Afghanistan, bordered on the east by India The Kafirs [Persian, =infidels] were animists until forcibly converted to Islam in 1896 It is now generally called Nuristan (nōōrĭstän'), the official designation

Kafirs or **Kaffirs** (both kă'fûrz), Bantu-speaking Negro people (*c* 500,000) of the Union of South Africa They are chiefly in the Transkeian Territories (see KAFFRARIA) The Kafirs are divided into several tribes Generally they are dark brown in complexion, slim, and woolly-haired Their occupations are cattle raising, farming, and hunting

Kafka, Franz (frants' käf'kä), 1883–1924, German novelist and essayist, b Prague, Czechoslovakia Of a well-to-do Jewish family, he studied law and then obtained a position in the workmen's compensation division of the Austrian government His slow and conscientious methods made it impossible for him to gain a living by writing, and little of his work was published during his lifetime Kafka's works include the novels *Der Prozess* (1925, Eng tr, *The Trial*, 1937), *Das Schloss* (1926, Eng tr, *The Castle*, 1930), *Amerika* (1927, Eng tr, 1938), the stories *Die Verwandlung* (1916, Eng tr, *Metamorphosis*, 1937, with illustrations, 1946) and *In der Strafkolonie* (1919, Eng tr, *The Penal Colony*, 1948), short stories, *Ein Landarzt* (1919, Eng tr, *Country Doctor*, 1945), and essays, parables, aphorisms, journals, and letters contained in *Gesammelte Schriften* [collected writings] (1935–37) In prose that is remarkable for its clarity and precision, Kafka presents a world which is at once real and dreamlike and in which modern man, burdened with guilt, isolation, and anxiety, makes a futile search for personal salvation See *The Diaries of Franz Kafka* (ed by Max Brod, Eng tr, 1948–49), biography by Max Brod (1937, Eng tr, 1947); critical studies in *A Franz Kafka Miscellany* (1940), *The Kafka Problem* (ed by Angel Flores, 1946), Charles Neider, *The Frozen Sea* (1948), Pavel Eisner, *Franz Kafka and Prague* (Eng tr, 1950)

Kagan, Uzbek SSR see BUKHARA

Kagawa, Toyohiko (tōyō'hēkō kä"gu'wä), 1888–, Japanese Christian social worker He studied at Princeton and returned to Japan to do evangelical and relief work. He was especially influential in organizing cooperatives and in labor problems At the beginning of the Second World War he was arrested for his pacifism, but he later broadcast national propaganda He has written poetry, novels, essays, and religious studies

Kagawa (kä"gä'wä), prefecture, N Shikoku, Japan see T. KAMATSU, the capital

Kagera (kägā'ru,-rē), river, a headstream of the Nile, flowing *c*.400 mi from near Lake Kivu to Victoria Nyanza on the Uganda-Tanganyika border Oskar Baumann was the first to explore it (1892–93)

Kagoshima (kä"gō'shĭmä), city (1947 pop. 170,416), capital of Kagoshima prefecture, S Kyushu, Japan, on Satsuma Peninsula and Kagoshima Bay An important port, it has a navy yard and also various manufactures, including Satsuma porcelain ware, silk and cotton clothing, tinware, and wood products It is the seat of a Buddhist temple, Nishihonganji, and was historically very prominent as the seat of the lords of Satsuma, the birthplace of Takamori Saigo, Toshimichi Okubo, and Heihachiro Togo, and the center of the Satsuma rebellion of 1877 The city was at that time destroyed, in 1914 it suffered damage from the eruption of a volcano on Sakura-jima, an island in the bay, and it was bombed (1945) in the Second World War It was at Kagoshima that St Francis Xavier landed in 1549 The prefecture is largely mountainous (with gold, silver, iron, and copper mines) and elsewhere has subtropical vegetation, it includes a number of islands, among them Tanejo-shima as well as certain of the Amakusa Islands

Kahlenberg (kä'lunbĕrk), mountain, 1,585 ft high, Lower Austria, near the Danube and NW of Vienna, of which it commands a beautiful view Reached by a cogwheel railway, it is a favorite excursion point

Kahn, Albert (kän), 1869–1942, American architect, designer of factories, b Germany He organized a large office in Detroit, which applied the techniques of mass production to architecture, and designed a great number of factories, war plants, and naval bases Kahn was a pioneer in the use of reinforced concrete and steel From 1928 to 1932 he was in charge of the industrial building program in Russia See George Nelson, *Industrial Architecture of Albert Kahn, Inc* (1939)

Kahn, Julius, 1861–1924, American legislator, b. Germany He arrived (1860) in California as a child He studied law in San Francisco, was elected (1892) to the state legislature, and was (1894) admitted to the bar He served (1899–1903, 1905–24) in the U S House of Representatives and became noted chiefly as an advocate of military preparedness He was appointed (1905) to the House Committee on Military Affairs and became its ranking minority member in the First World War and then (1921) its chairman, he helped draft and secure the passage of the National Defense Act of 1915, the Selective Draft Act of 1917, and the National Defense Act of 1920 His wife, **Florence Prag Kahn**, 1868–1948, succeeded him in Congress and served until 1937

Kahn, Otto Hermann, 1867–1934, American banker and patron of the arts, born and educated in Germany He came to the United States in 1893 and in 1897 joined the banking firm of Kuhn, Loeb & Company, New York city He was closely associated with E H Harriman in the reorganization of the Union Pacific and other railroads and had a part in numerous international finance organizations Among the theatrical and musical organizations which he helped finance were the American appearances of the Russian ballet and the Paris Conservatoire orchestra In 1903 he joined the board of the Metropolitan Opera Company, became chairman in 1908 and president in 1918, and finally retired in 1931 *Of Many Things* (1926) is a collection of his writings and speeches

Kahoka (kuhō'ku), city (pop 1,781), *co* seat of Clark co NE Mo, WNW of Keokuk, Iowa, laid out 1851 It is a grain center in an agricultural and timber area

Kahoolawe (kähō'ōlä'vä,-wā, kahō'lh'-), island, area 45 sq mi, SW of Maui, T H, from which it is separated by the Alalakeiki Channel The island is generally low, and its arid soil is fit only for cattle grazing Formerly a prison island, Kahoolawe now is on lease to a private citizen

Kahului (kä'hōōlōō'ē), village (pop 2,193), on N Maui, T H, on Kahului Bay It is a port of entry

Kaieteur Falls (kī'ŭtōōr'), waterfall, 741 ft high, in the Potaro river, W British Guiana It plunges over an escarpment of the Guiana Highlands Though not so high as ANGEL FALLS, it is about 350 ft wide and up to 20 ft deep in the wettest season

Kaifeng or **K'ai-fêng** (kī'fŭng'), city and county (pop 442,464), Honan prov, E China The city is the capital of the province The Yellow River, just to the north, has frequently flooded the city Kaifeng, then called Pienliang, was the capital of the northern Sung dynasty from 960 to 1126 A colony of Jews was established in the 12th cent, but the few known descendants do not practice the Jewish religion. On the Lung-Hai RR, the principal east-west line of China, Kaifeng has considerable commerce

Kai Islands or **Kei Islands** (both kī), island group (555 sq mi; pop 50,648), East Indonesia, in the Banda Sea SE of Ceram, in the Moluccas It is densely forested with valuable timber The Dutch began colonizing the islands in 1645. The group is sometimes called the Key Islands.

Kaijo, Korea. KAESONG.

kali: see KALE.

Kailas (kīläs'), peak, c.20,000 ft. high, SW Tibet, in the Himalayas. It is at the sources of the Sutlej and Indus rivers. The dwelling place of the Hindu god Śiva, it is the goal of pilgrimages. The pilgrim road which girdles the mountain reaches 18,000 ft.

Kailasa, Hindu temple see ELLORA

Kain (kān). see KENITES

Kairouan (kĭrwun', Fr kĕrwā'), city (pop 32,299), Tunisia. It is a sacred city of Islam. Founded in 670 by Okba, an Arab leader, it was the seat of the Arab governors in W Africa until 800. Under the independent Aghlabid dynasty (800–909) it remained the chief center of commerce and learning. It was the first capital (909) of the Fatamites. Ruined (1057) by invaders, its power passed to Tunis. Of Kairouan's 150 mosques, the most celebrated is the Grand Mosque, started by Okba and completed in the 9th cent. The city is noted for its carpet industry.

Kaisaria, Turkey see KAYSERI

Kaiser, Georg (gā'örk kī'zur), 1878–1945, German playwright. In early life he was a merchant in Buenos Aires. His numerous dramatic works—brilliant in dialogue, skillfully constructed, and very effective—include early comedies as well as serious impressionistic dramas. Among his works are *Von Morgens bis Mitternachts* (1916, Eng tr., *From Morn to Midnight*, 1920), which was produced in New York by the Theatre Guild in 1922, his trilogy *Die Koralle* (1917, Eng tr., *The Coral*, 1929), *Gas* (1918, Eng tr., 1924), and *Gas II* (1920), *Die Bürger von Calais* (1917), and the novel *Villa Aurea* (1940, Eng tr., 1939). A brilliant technician, he called his plays *Denkspiele* (thought dramas). They deal chiefly with social themes and were not of a kind to please the Nazis, upon whose rise to power Kaiser left Germany. He died in Switzerland. See M. J. Fruchter, *The Social Dialectic in Georg Kaiser's Works* (1933).

Kaiserin-Augusta, river, New Guinea see SEPIK

Kaiserslautern (kī'zurslou'turn), city (pop 55,932), Rhenish Palatinate, W Germany. It has machine and textile manufactures. Dating from Carolingian times, it was chartered in 1276. Kaiserslautern was repeatedly devastated by warring armies, notably by the Spanish (1635) in the Thirty Years War. It suffered again in the Second World War. Here in 1793 the French under Hoche and Pichegru were defeated by the Prussians under Charles William Ferdinand, duke of Brunswick.

Kaiser Wilhelm Canal' see KIEL CANAL

Kaiser Wilhelm II Land see WILHELM II COAST

Kaiser-Wilhelmsland see NEW GUINEA, TERRITORY OF

Kaisong, Korea see KAESONG.

Kajaani (kä'yänē), city (pop 8,017), central Finland, on Oulu Lake. An old trading center incorporated in 1651, it has sawmills, cellulose and paper mills, and a teachers' seminary.

Kakhetia (kŭkĕ'shu, Rus kŭkhĕ'tyĭŭ), mountainous region, E Georgian SSR. It is noted for its wine. Telav is the chief town.

Kalahari (kä"lähä'rē), arid plateau region, area c.350,000 sq. mi., covering S Bechuanaland. It is studded with dry lake beds. The land is little known, it is thought that it may contain c.20,000 sq. mi. of good grazing land. Hottentots and Bushmen inhabit the Kalahari.

Kalakh. see CALAH

Kalama (kulă'mu), shipping town (pop 1,028), SW Wash., at the confluence of the Columbia and Kalama rivers, in a farm and lumber area. Founded in 1870, it was the county seat of Cowlitz co., 1872–1932. A state fish hatchery is here.

Kalamata (kăluma'tu, kä'), Gr *Kalamai* (kala'mā), city (pop 35,215), S Greece, in the SW Peloponnesus, a port on the Gulf of Messenia. It is a commercial and industrial center and has fisheries, silk spinning, cigarette manufacturing, and alcohol distilleries. The city developed after 1205, when it became a fief of the Villehardouin family. It later passed under Venetian and (1459–1821) Turkish rule and was destroyed (1825) by Ibrahim Pasha in the Greek War of Independence.

Kalamazoo (kăl"ŭmuzō'), city (pop 54,097), co. seat of Kalamazoo co., SW Mich., on the Kalamazoo at its confluence with Portage Creek, settled 1829, inc. as a village 1838, as a city 1884. Kalamazoo is an industrial and commercial center in a fertile area raising celery, peppermint, and fruit. It has a large paper industry, and stoves, furnaces, drugs, and fishing tackle are among the city's many products. Kalamazoo College (coeducational, 1833), Nazareth College (Catholic, for women, 1897), a state teachers college, a state hospital for the mentally ill, a natural history museum, and an art institute are points of interest. In 1937 the Kalamazoo *Gazette* celebrated its centennial. Several Indian trails crossed this site.

Kalamazoo, river rising in S Michigan and flowing northwestward past Albion, Battle Creek, and Kalamazoo to Lake Michigan. The river was an important travel and trade route for Indians and pioneers.

Kalaupapa, T. H. · see MOLOKAI.

Kalb, Johann (Ger. yō'hän kälp'), 1721–80, American general in the Revolution, known generally as "Baron de Kalb" (dĕ kälb), b. Hüttendorf, Germany. He assumed his title for military reasons and as Jean de Kalb served France in the War of the Austrian Succession and the Seven Years War. He again served France in 1768 as a secret agent in the English colonies in America. Silas DEANE offered (1776) commissions to Kalb, Lafayette, and other European soldiers of fortune, which the Continental Congress at first refused to honor. Finally Kalb was made general and was with Washington at Valley Forge. In 1780 he was made second in command to Horatio Gates in the CAROLINA CAMPAIGN, and he died (Aug. 19, 1780) from wounds received in the battle of Camden.

Kalcker, Jan Stephen von. see CALCAR

Kalckreuth, Leopold Karl Walter, Graf von (lā'ōpôlt kärl' vul'tur graf' fŭn kalk'roit), 1855–1928, German painter, one of the founders of the Secessionists. He was professor at the academies of Weimar and Karlsruhe and director of the Stuttgart Academy from 1900 to 1905. He is best known for his impressionistic but somber paintings of peasant life.

kale, kail, or **borecole** (bôr'kōl), nonheading, hardy CABBAGE variety, with thick stem and curly leaves, grown for greens and, in Europe, for fodder. In the Channel Islands a tall fodder variety, known as Jersey kale, Jersey cabbage, or cow cabbage, grows over 7 ft. high. Kale is a cool-weather crop—frost improves the flavor. In the United States the principal commercial growing regions are in Virginia and on Long Island. Kale is closest in form to the wild cabbage. In Scotland the word *kale* is used for cabbages of any kind. Sea kale is a European herb of the genus *Crambe*, found along the northern coasts and often used as a potherb.

kaleidoscope (kulī'duskōp), instrument consisting of a cylindrical tube one end of which contains two mirrors (set at an angle of 60°) and many particles of variecolored glass confined between two disks of clear glass but free to move between these disks when the tube is rotated. The other end is fitted with an eyepiece through which an observer discerns many varied, but always symmetrical, patterns made by reflections in the mirrors of the various into which the glass chances to fall. Its invention is usually credited to Sir David BREWSTER.

Kalevala (kă'lĭvä'lä), Finnish national epic, a compilation of folk verses dealing with the extraordinary deeds of three semidivine brothers of gigantic stature. They were conceived by the primitive Finns as having their abode in Kaleva, a mythical land of happiness and abundance. Although known to scholars from as early as 1733, the verses were largely ignored until the 19th cent. when, under the impulse of the romantic movement, they were collected by two Finnish physicians, Zakarias Topelius, who published the first fragments in 1822, and Elias Lonnrot, who gave the cycle its present form. In 1828 Lonnrot first traveled in E Finland, collecting the folk songs and poetry of the common people. From the miscellaneous episodes chanted to him by the rune singers he created a unified poetic whole. In 1832 Lonnrot resumed his travels, collecting 25 runes (about 12,000 lines), which were published in two volumes (1835). A second edition containing 50 runes (nearly 23,000 lines) was published in 1849. The epic is rich in mythology and folklore, and its effect on Finnish art in all its branches has been great. The eight-syllable trochaic line of the *Kalevala* was imitated by Longfellow in *Hiawatha*. See English translations by J. M. Crawford (1889) and W. F. Kirby (1907).

Kalgan, China see CHANGKIAKOW

Kalgoorlie and Boulder (kălgōōr'lē), town (pop 22,380), Western Australia, ENE of Perth. It is the chief mining town of the state and the center of the East Coolgardie Goldfield. The adjacent towns Kalgoorlie and Boulder (sometimes called Boulder City) were combined in 1947. Kalgoorlie's importance dates from 1893, when the gold mines in the area began to operate.

Kali see HINDUISM

Kalidasa (kä"lĭdä'su), fl. 5th cent.?, Indian dramatist and poet. He is often regarded as the greatest figure in classic Sanskrit literature. Except that he was retained by the Gupta court, no facts concerning his life are known. His three surviving plays are *Sakuntala* (or *Shakuntala*), *Vikramorvasi*, and *Malavikagnimitra*. These dramas in verse relate fanciful or mythological tales of lovers who are first separated by adversity but later reunited by happy chance. *Sakuntala*, which has been performed on the Western stage several times, tells of a maiden, Sakuntala, whom King Dushyanta marries. The king is bewitched so that he forgets his bride until a ring he gave her is discovered in the body of a fish. In Kalidasa's two epics, *Raghuvansa* and *Kumarasambhava*, delicate descriptions of nature are mingled with battle scenes. The other poems of Kalidasa are shorter and almost purely lyrical. *Meghaduta* [cloud messenger] is a description of the places in India crossed by a cloud traveling between a man and his wife. *Rtusamhara* describes the course of pastoral love through the six seasons into which Indians divided the year.

Kalinin, Mikhail Ivanovich (mĭkhōyĕl' ēvä'nuvĭch kŭlyē'nyĭn), 1875–1946, Russian revolutionist. He was the first president of the Soviet Union (officially, chairman of the presidium of the supreme council of the USSR) and held that position until his retirement early in 1946. He had little influence on policy. N. M. Shvernik succeeded him.

Kalinin (kŭlyē'nyĭn), formerly **Tver** (tvär), city (pop. 216,131), capital of Kalinin oblast, RSFSR, NW of Moscow and on the Volga. It is an industrial and historic center and an important communications point. Railway cars, machinery, and textiles are made here. First mentioned c.1135, Tver developed first as a fort, then as a trade center, and was (14th–15th cent.) the seat of a powerful principality which rivaled Moscow. It was annexed (c.1486) to Moscow by Ivan III. The princes of Tver are buried under the 17th-century cathedral. A regional museum is housed in the 17th-century castle. In the Second World War the city was briefly held by the Germans late in 1941 and was severely damaged. Tver was renamed (1933) for M. I. Kalinin.

Kaliningrad, former East Prussia see KÖNIGSBERG.

Kalisch, Isidor (kā'lĭsh), 1816–86, Jewish rabbi, translator, writer, poet, and leader of the reform movement in Judaism, b. Prussia. Forced to leave Germany because of his too liberal political views, he came to the United States in 1849, served as rabbi in various American cities, and retired in 1875 to devote himself to writing and lecturing. He wrote poetry in German and Hebrew. His best-known work is *Wegweiser fur rationelle Forschungen in den biblischen Schriften* (1853, Eng. tr., *A Guide for Rational Enquiries into the Biblical Writings*, 1857). He is chiefly known for his place in the polemical controversy of the day over reformed Judaism. See memoir in selections of his writings, *Studies in Ancient and Modern Judaism* (1928).

Kalisch, Poland see KALISZ

Kalispel Indians see PEND D'OREILLE INDIANS

Kalispell (kă'lĭspĕl".–pĕl'), city (pop. 8,245), co. seat of Flathead co., NW Mont., in the Flathead valley NW of Flathead Lake and near Glacier National Park, inc. 1892. The tourist and trade center of a rich agricultural, fruit, and lumber region, it has flour mills and sawmills.

Kalisz (kā'lēsh) Ger *Kalisch*, city (pop. 48,092), W Poland. It has clothing, food, and chemical manufactures. Here in 1813 Prussia and Russia concluded a convention by which Prussia joined the coalition against Napoleon I.

Kalkar, Jan Stephen von see CALCAR

Kalkaska (kălkă's'ku), village (pop. 1,132), co. seat of Kalkaska co., N Mich., on the Boardman river and E of Traverse City, in a farm and lake region, inc. 1887. Its near-by waters abound in trout and other fish.

Kallai (kulä'ĭ), priest of Joiakim Neh. 12:20.

Kallikaks' see GODDARD, HENRY HERBERT

Kalm, Peter (pä'tur kalm'), 1716–79, Swedish scientist. From 1748 to 1751 he traveled in North America, studying its natural history, plantations, and agriculture. His *Travels in North America*, the first account of its kind by a trained scientist, was published at intervals between 1753 and 1761, edited by A. B. Benson, it was republished in two volumes in 1937. The genus *Kalmia* (see MOUNTAIN LAUREL) is named for Kalm.

Kalmar (kal'mar), city (pop. 24,400), SE Sweden, a Baltic port opposite Oland island on Kalmar Sound. Its medieval castle, the Kalmarnahus (kal'marnähūs"), has withstood 24 sieges. It now houses an archaeological and ethnological museum. It is the county seat of **Kalmar,** Swed. *Kalmar län* (lĕn'), county (4,485 sq. mi.; pop. 231,336), which comprises ÖLAND and the eastern part of the historical province of Smaland. It is a sheep-raising and dairy region and has stone quarries. The name also appears as Calmar.

Kalmar Nyckel see NEW SWEDEN

Kalmar Union, combination of the three crowns of Denmark, Sweden, and Norway, effected at Kalmar, Sweden, by Queen MARGARET in 1397. In all three countries the kingship was elective, thus a union could not prove lasting. Margaret's successors controlled Sweden only for brief periods, the accession (1523) of GUSTAVUS I as king of Sweden dissolved the union. The union of Denmark and Norway lasted, however, until 1814.

Kalmar War, conflict begun in 1611 by CHRISTIAN IV of Denmark against CHARLES IX of Sweden and terminated in 1613 by Gustavus II of Sweden, who bought off the Danish claims at the Peace of Knared. The war took its name from the fall of Kalmar to the Danes early in the conflict.

Kalmucks (kăl'mŭks) or **Kalmyks** (kăl'mĭks), people of Asia, a branch of the Oirat Mongols. They migrated from the Altai region in the early 17th cent., settled in the lower Volga basin c.1636, became vassals of Russia, and formed a valuable element in the Russian army. However, when they felt threatened by the Russian colonization of the Volga region in the reign of Catherine II, they secretly decided to return to China, whose emperor's support they had obtained. A large part of the Kalmucks set out on their epic exodus in 1771, decimated by attacks from the Kazakhs and Kirghiz, they finally reached the Chinese border and were settled in the Ili valley of Sinkiang. The Kalmucks W of the Volga did not participate in

the flight They clung staunchly to their Lamaist Buddhist faith and their traditional ways In the Russian Revolution and civil war of 1917–20 they suffered extreme hardship Many emigrated to Central and Western Europe In 1920 the Kalmuck Autonomous Oblast was established, it became (1935) the Kalmuck Autonomous Soviet Socialist Republic (28,650 sq mi , 1939 pop 220,723), with its capital at Elista (now called Stepnoi) In the Second World War the Kalmucks cooperated with the Germans, and as a result their republic was dissolved (1943) Many fled with the retreating German forces and became "displaced persons" in Germany Those who stayed behind were settled elsewhere Thus the few thousand remaining Kalmucks (whose name, appropriately, means remnant) are scattered throughout the world

Kalocsa (kŏ'lôchô), city (pop 12,341), S central Hungary, near the Danube Created a bishopric by St Stephen, it became the seat of an archbishop in the 12th cent The archiepiscopal palace dates from the 18th cent The city has an observatory and a Roman Catholic academy Embroidery is a traditional industry of the region

Kaluga (kŭlō'gŭ), city (pop 89,484), capital of Kaluga oblast, W European RSFSR, on the Oka river Chartered in 1389, when it passed to the grand duchy of Moscow, Kaluga was the scene of the murder (1610) of the second false Dmitri In the Second World War it was briefly held by the Germans late in 1941 There are machinery plants

Kalymnos (kă'lĭmnŏs), mountainous island (41 sq mi , pop 11,864), 11 mi off the coast of Asia Minor, one of the DODECANESE, belonging to Greece It is the chief sponge-fishing center of the Dodecanese The town of Kalymnos (pop 8,505) is on the southeast shore

Kama or **Kamadeva** see HINDUISM

Kama (kä'mŭ), river, 1,262 mi long, E European RSFSR, the chief left tributary of the Volga It rises in the foothills of the central Urals and flows N, then E, then SW past Molotov, Sarapul, and Chistopol to join the Volga below Kazan The Vyatka is its principal affluent Navigable for about half the year, the Kama is an important artery, carrying lumber, paper, and fen-ous metals downstream, and petroleum, salt, and cement upstream At Molotov there is a large hydroelectric station

Kamakura (kä'mä'kōōrä), city (1947 pop 55,168), Kanagawa prefecture, central Honshu, Japan, on Sagami Bay It is known for its bronze figure of Buddha (42 ft high), cast in 1252, and for a statue of Kannon, goddess of mercy (30 ft high) The city was very splendid when it was the headquarters of Yoritomo and his descendants (1192–1333), under the Ashikaga shogunate (1333–1573) it was the government headquarters of E Japan The National Art Museum has art treasures of the Kamakura and Ashikaga periods The city was severely damaged (1923) by an earthquake

Kamban, Gudmundur, Icelandic *Guðmundur Kamban* (gvüdh'mŭntŭr kä'm'ban), 1888–1945, Icelandic dramatist and novelist He studied in Denmark and thereafter visited England, the Continent, and the United States Kamban's first play, *Hadda-Padda* (1914, Eng tr , 1917), was successfully produced in Denmark, as were many of his later plays His historical novels, reminiscent of the Icelandic sagas, are noteworthy for their accuracy, e g , *Skalholt* (4 vols , 1930–35, Eng tr of Vols I and II, *The Virgin of Skalholt*, 1935) and *I See a Wondrous Land* (1936, Eng tr , 1938)

Kamchatka (kămchăt'ku, Rus kŭmchät'kŭ), peninsula (104,200 sq mi), Khabarovsk Territory, RSFSR, in NE Siberia It separates the Sea of Okhotsk in the west from the Bering Sea and the Pacific Ocean in the east Extending from lat 51°N to lat 61°N, it is 750 mi long and terminates in the south in Cape Lopatka, beyond which lie the Kurile Islands The main center is Petropavlovsk The central valley, drained by the Kamchatka river (335 mi long), is enclosed by two parallel volcanic ranges which extend from north to south The highest point is Klyuchovskaya Sopka (15,666 ft), one of 13 active volcanoes There are many hot springs, peat marshes (along the western coast), and forests The climate is severe, with relatively heavy rainfall on the east coast There is some agriculture along the Kamchatka river, but fishing, fur trapping, lumbering, and reindeer raising are the chief occupations of the very sparse population Mineral resources include petroleum and coal deposits The majority of the inhabitants are Russians The native Kamchatkans and Koryaks, in the north, speak languages of the Hyperborean family The Koryak National Okrug (151,740 sq mi , pop c 15,000) occupies the northern part of the peninsula and extends into the mainland. Kamchatka was discovered in 1697 by the explorer Atlasov, its conquest by Russia was completed by 1732 It formed part (1926–38) of the FAR EASTERN TERRITORY. The Kamchatka oblast, which also includes the CHUKCHI NATIONAL OKRUG, was formed in 1932 and was incorporated (1938) with Khabarovsk Territory.

kame (kām), steep, rounded hillock or short ridge of sand and gravel drift, developed from glacial deposits. Kames were probably formed by streams of melting ice which deposited mud and sand along the ice front The subsequent retreat of the glacier left them as more or less isolated hills and ridges, ranging from a few feet to 100 feet or more Kames occur generally in clusters and are situated directly behind the terminal moraine They are common in the glacier parts of the lower Scotch valleys, where also the name originated Similar formations in Ireland are called eskers

Kamehameha I (Kamehameha the Great) (kämä'-hämä'ha), 1758–1819, Hawaiian monarch King of the island of Hawaii after 1790, he united all the islands, which before 1810 were governed by warring kings Law and order were established for the first time, and the islands became prosperous He was cordial to sea traders who visited Hawaii

Kamehameha, Fort (kämä'-ämä'a), at Pearl Harbor, Oahu, T H , headquarters of the coast defenses of Oahu, est 1909

Kamenets-Podolski (kä'mĭnyĭts-pŭdôl'skē), city (1926 pop 32,051), W Ukraine, former capital of Podolia There are ruins of a 14th-century castle Until the Second World War, when the city was held (1941–43) by the Germans, 40 percent of the population was Jewish

Kamenev, Lev Borisovich (lyŏf' burō'sŭvĭch kä'-mĭnyĭf), 1883-1936, Russian Communist leader He discarded his original name, Rosenfeld, after joining (1901) the Social Democratic party He sided with the Bolsheviks when the party split Banished (1915) to Siberia, he returned after the February Revolution of 1917 and took an active part in the Bolshevik October Revolution On Lenin's death (1924) the succession was assumed by a triumvirate consisting of Stalin, Kamenev, and Zinoviev, while Kamenev's brother-in-law, TROTSKY, was excluded from power In 1925 Kamenev and Zinoviev joined Trotsky's opposition within the Communist party, from which they were expelled in 1927 An opportunist, Kamenev soon made his peace with Stalin and was given minor offices Once more expelled and readmitted in 1932, Kamenev was arrested late in 1934 in connection with the murder of Kirov He was sentenced to imprisonment, but in 1936 he, Zinoviev, and several others were placed on public trial for having aided in Trotsky's alleged plot against Stalin and the Soviet Union Kamenev fully confessed to all charges and was sentenced to death and executed

Kamensk (kä'mĭnsk) or **Kamensk-Shakhtinski** (-shäkh'tyĭnskē), city (1936 estimated pop 25,400), S European RSFSR, on the Donets river It is an industrial center of the Donets Basin

Kamerlingh Onnes, Heike (hĭ'kə kä'murlĭng ô'nus), 1853–1926, Dutch physicist He was, from 1882, professor of physics at the Univ of Leiden He made important studies of the properties of helium and in attempting to solidify helium produced a temperature within one degree of absolute zero He liquefied helium and found that resistance to an electric current passed through metal apparently disappears if the metal is reduced to the temperature of liquid helium For these researches he received the 1913 Nobel Prize in Physics

Kamerun see CAMEROONS

Kames, Henry Home, Lord (hūm, kāmz), 1696–1782, Scottish judge and philosopher Besides books on Scottish law he wrote *Essays on the Principles of Morality and Natural Religion* (1751), *Introduction to the Art of Thinking* (1761), *Elements of Criticism* (1762), and *The Gentleman Farmer* (1776) See memoir by A F Tytler (1807), H W Randall, *Critical Theory of Lord Kames* (1944)

Kamet (kä'mĕt), peak, c 25,400 ft high, on the border of India and Tibet, in the Himalayas It was ascended by a British expedition under F S Smythe in 1931 See his *Kamet Conquered* (1932)

kamikaze (kä'mēkä'zä) [Jap ,=divine wind], the typhoon that destroyed Kublai Khan's fleet, foiling his invasion of Japan in 1281 In the Second World War the word was used for a Japanese suicide air force, composed of fliers who crashed their bomb-laden planes into their targets, usually ships It was especially active at Okinawa

Kaministikwia or **Kaministiquia** (both kumĭ"nĭstĭ'kwēù), river, c 60 mi long, rising in W Ontario and flowing S, then E into Lake Superior at Fort William In fur-trade days it was the chief alternate to the GRAND PORTAGE as a route to Rainy Lake and the Northwest, but when it was learned that the Grand Portage was within the territory of the United States, the North West Company built Fort Kaministiquia, later changed to FORT WILLIAM, at the mouth of the river and afterwards used that route

Kamloops (kăm'lōōps), town (pop 5,959), S British Columbia, at the junction of the North Thompson and South Thompson rivers A North West Company trading post was established here in 1812, known first as Fort Thompson and later as Fort Kamloops A village grew up at the time of the Cariboo gold rush, and in 1885 the main line of the Canadian Pacific reached the place It is now a supply center for an extensive mining and grazing district Below Kamloops the Thompson river widens into Kamloops Lake See M. S. Wade, *The Thompson Country* (1907)

Kammersee: see SALZKAMMERGUT

Kampala (kämpä'lä), city (pop c 60,000), SW Uganda, Africa Capital of the chief of Buganda, it is also the western terminus of the Kenya-Uganda RR There is a museum of native arts, near-by Makerere has a native college (founded 1938)

Kampen (käm'pŭn), municipality (pop 22,808), Overijssel prov , N central Netherlands, on the Ijssel river and near the Ijsselmeer An important trading center and a member of the Hanseatic League in the 15th cent , Kampen has kept its fine 14th-century town hall and several churches and buildings dating from the 14th and 15th cent

Kamperduin, Netherlands see CAMPERDOWN

Kampot (kampŏt'), town (pop 5,530), capital of Kampot prov , SW Cambodia, on the Gulf of Siam It is a seaport, and the center of Cambodian pepper culture

Kamsack (kăm'săck), town (pop 1,754), E Sask , on the Assiniboine river, and NE of Regina near the Man border, in a grain and stock-farming district

Kan (gan), river, c 250 mi long, Kiangsi prov , China It flows generally N to Poyang Lake Despite some rapids, it is navigable to larger steamers through most of its length

Kanab (kunăb'), city (pop 1,365), co seat of Kane co , extreme S Utah, near the Ariz line and on Kanab Creek, settled 1864 In the region of plateaus and cliffs N of the Grand Canyon, it is a tourist resort as well as a ranching center

Kanagawa (kanä'ga"wa), prefecture, central Honshu, Japan see YOKOHAMA, the capital

Kanah (kā'nu) [Heb ,=place of reeds] **1** Unidentified boundary town, N Palestine Joshua 19 28 **2** Brook, central Palestine Joshua 16 8, 17 9

Kanaoka (kanä'ōkä), c 850–c 931, Japanese landscape and figure painter, founder of the Kose school of painting He was famous also as a landscape architect His work is characterized by refinement of line and color and by spaciousness He is also known as Kose no Kanaoka [Kanaoka of Kose]

Kanarak, India see KONARAK

Kanarese (kănurēz'), group of Dravidian languages spoken in India See LANGUAGE (table)

Kanatha see DECAPOLIS

Kanauj (kunouj'), town (pop 21,994), Central United Provs , India There are remains from the period (600?–1018) when it was the capital of a large Rajput domain Perfume is manufactured

Kanawha (kunô'wu), river formed by the New and Gauley rivers in S central West Virginia at Gauley Bridge The principal river in the state, it flows c 97 mi NW to the Ohio at Point Pleasant Charleston is on its banks The LITTLE KANAWHA, to the north, is a parallel tributary of the Ohio

Kanazawa (kä"nä'zäwä), city (1940 pop 180,297, 1947 pop 231,441), capital of Ishikawa prefecture, central Honshu, Japan, on the Sea of Japan The city, on the site of the old village of Yamazaki, produces silk textiles, porcelain, and lacquer ware It was (16th-19th cent) the seat of the Maeda clan Kenroku Park is known for its 17th-century landscape gardens Ishikawa prefecture, with wooded mountains in the interior and fertile plains on the coast, yields lumber and raw silk

Kanchenjunga, Kanchanjanga (both kän"chunjôông'gu, kän'chĕnjŭng'gu), or **Kinchinjunga** (kĭn"-chunjôông'gu), peak, c 28,150 ft high, on the border of Sikkim and Nepal, in the Himalayas It is one of the highest mountains in the world and perhaps most impressive of all Himalayan peaks It was climbed by the second of two (1929,1931) German expeditions under Paul Bauer See his *Himalayan Campaign* (1937)

Kanchi or **Kanchipuram,** India see CONJEEVERAM

Kandahar (kän"dŭhär'), city (pop c 60,000), S Afghanistan, near the Arghandab river Kandahar is first mentioned c 1290 Persia took it three times from India between 1558 and 1648 In 1738 Nadir Shah took it after a year's siege, restoring the old dynasty of the Durranis It was capital of Afghanistan (1748–73) The British took it in 1839, and 40 years later Roberts (later Lord Roberts of Kandahar) relieved it after his famous march from Kabul The present walled city, laid out by Ahmed Shah, has many well-built mosques and bazaars There are telegraphic connections with Kabul The irrigated Kandahar region produces many varieties of fine fruits, especially grapes, and exports them to India See Ben James, *Afghan Journey* (1935)

Kandalaksha (kŭndulăk'shŭ), Finnish *Kannanlahti* (kan'nänlăkh"tĕ), city (pop over 10,000), NW European RSFSR, a White Sea port It is on the Murmansk RR, and there are aluminum and superphosphate works, based on near-by apatite and nephelite deposits A settlement at the present site was known to the Vikings

Kandinsky, Vasily (vŭsē'lyĕ kŭndyēn'skē), 1866–1944, Russian abstract painter in Germany With Klee he initiated German expressionism and was an outstanding figure in the Bauhaus at Dessau Unlike the work of the cubists, the abstract art of Kandinsky depends chiefly on pure line and color rather than form and has musical rather than architectural affinities. He is represented in the modern museums in Amsterdam, Moscow, Chicago, and

New York See his book, *The Art of Spiritual Harmony* (1914)

Kandy (kăn'dē), city (pop 50,767), on Ceylon It overlooks a scenic lake near which is the Temple of the Tooth, supposed to house one of Buddha's teeth Kandy became (1592) the last capital of the independent kings of Ceylon, who had been forced to cede the coastal region to the Portuguese The city fell to the British, who absorbed (1815) the Kandyan domain and exiled the king A palace, a museum of art, and an Oriental library are remains of the royal period Today the city, situated in the hills, is a hot-weather resort and a marketing center for a rich tea-growing and rubber-growing region The name also appears as Candy

Kane, Elisha Kent, 1820–57, American arctic explorer, b Philadelphia, M D Univ of Pennsylvania, 1842 Seeking adventure, he entered naval service and before he was 30 had seen many parts of the world As senior medical officer he sailed (1850) on the first Grinnell expedition in search of the lost Franklin party Kane's *U S Grinnell Expedition in Search of Sir John Franklin* (1853, reprinted in part as *Adrift in the Arctic Ice Pack*, 1915) stirred such interest that he was able to organize and lead the second Grinnell expedition (1853–55) This expedition, of which I I HAYES was medical officer, passed northward through Smith Sound at the head of Baffin Bay, discovered and explored Kane Basin, and discovered Kennedy Channel beyond Several sledging journeys were undertaken, on one of which a record of lat 80°10'N was achieved Humboldt Glacier was sighted, and scientific observations resulted in valuable new information on the arctic regions Frozen in at Rensselaer Bay, the party deserted ship and Kane led a difficult retreat by land to Upernivik, Greenland His health weakened by the rigors of his adventurous life, he lived only long enough to complete his narrative of the second expedition, *Arctic Explorations* (1856), which had a tremendous sale The spiritualist Margaret Fox claimed after his death that she had been his wife

Kane, Paul, 1810–71, Canadian painter, b probably Ireland He went to Toronto as a child He studied art in the United States (1836–41) and in Europe (1841–45) After his return to Canada (1845) he made an extended journey into the Hudson's Bay Company territories of W Canada, traveling by snowshoe, horseback, and canoe to paint the Indians of the region He returned to E Canada in 1848 Most of the paintings resulting from his journey are in the Royal Ontario Museum, Toronto, and in the Parliament buildings, Ottawa His account of his journey appeared as *Wanderings of an Artist among the Indians of North America* (1859, new ed , with introduction and notes by L J Burpee, 1925)

Kane, borough (pop 6,143), NW Pa , NW of Ridgway , laid out 1860 In beautiful mountainous country, it attracts hay-fever and asthma sufferers There are many large estates here Natural gas is found near by

Kane Basin, part of the channel between NW Greenland and E Ellesmere Island, N of Baffin Bay It is named for Elisha K KANE

Kaneohe Bay (kä'nāōhā'), on the east shore of Oahu, T H , protected by coral reefs and dotted with islands The U S naval air station on the bay was bombed by the Japanese at the time PEARL HARBOR was attacked (Dec. 7, 1941)

kangaroo, MARSUPIAL of Australia and Tasmania In the large kangaroos and wallaroos the hind foot of the adult measures more than 10 in from the heel to the longest toe, exclusive of the nail Various species inhabit plains, forests, and mountains Their powerful hind legs enable them to leap swiftly over the ground The long muscular tail serves as a balancing organ while leaping and as a prop when standing or moving slowly The front limbs are small Kangaroos eat grass and other vegetation Wallaby is a name used for smaller kangaroos, those with a hind foot of 6 to 10 in The tree kangaroos constitute a genus of partially arboreal forms with the front and hind limbs more nearly equal in size and with a rather slender tail Smallest of the family are the rat kangaroos Many members of the kangaroo family have been exterminated and others are threatened

Kangaroo Island, area 1,680 sq mi , in the Indian Ocean, S of Yorke Peninsula, South Australia, at the entrance to Gulf St Vincent It is 90 mi long and 33 mi wide At its west end is Flinders Chase, a large reservation for native flora and fauna There are many summer resorts The chief products are barley, sheep, salt, gypsum, and eucalyptus oil Kingscote (pop 1,113) is the principal settlement

kangaroo thorn see ACACIA

Kanghwa or **Kanghoa** (both käng'hwä'), island (163 sq mi , 1946 pop 98,414), S Korea, in the Yellow Sea Formerly fortified, it was stormed by the French in 1866 and by the Americans in 1871 There is agriculture and fishing

Kang Teh. see PU YI, HENRY

Kangting or **K'ang-ting** (kang'ding'), city and county (pop 36,760), Sikang prov , China The city is the provincial capital It lies on trade routes to Sinkiang and India.

Kaniapiskau (kănyupĭ'skô"), river of NE Quebec, flowing 450 mi generally NNW to the Larch SW of Fort Chimo Here it becomes the Koksoak river, which flows NE to Ungava Bay The source of the Kaniapiskau is **Kaniapiskau Lake,** on the watershed between Hudson Bay and the St Lawrence

Kanin (kŭ'nyĭn), peninsula, N European RSFSR, projecting into the Barents Sea between the White Sea (in the west) and Chesha Bay (in the east) Its northernmost cape is called Kanin Nos (nôs) The native population, mostly Samoyeds, engage in fishing, fur trapping, and reindeer raising

Kankakee (kăngkukē'), city (pop 22,241), co seat of Kankakee co , E Ill , on the Kankakee river and SW of Chicago, inc 1855 It is an industrial and shipping center for a farm area The city's varied manufactures include paint, furniture, stoves, and clothing Limestone quarries are near by George Grey Barnard, who went to school here, donated a collection of his sculptures to the local high school in 1936 Kankakee has a state hospital for the insane

Kankakee, river, c 135 mi long, rising near South Bend, N Ind , and flowing SW to Kankakee, Ill , then NW to the Des Plaines river below Joliet There the combined stream becomes the Illinois

Kanko, Korea see HAMHUNG.

Kannapolis (kunăp'ulĭs), unincorporated cotton-mill "company town" (pop 25,024), W central N C NNE of Charlotte, founded 1906

Kano (kä'nō), family or school of Japanese painters **Kano Masanobu** (mäsä'nōbōō), c 1453–c 1550, the forerunner of the school, was attached to the shogun Yoshimasa's court He painted landscapes, birds, and figure pieces, chiefly in ink with occasional touches of the palest tints His work is Japanese in spirit, reflecting in technique and style the influence of Chinese art None of his great decorative works has survived His son, **Kano Motonobu** (mōtō'nōbōō), c 1476–1559, the actual founder of the school and one of the foremost artists of Japan, is said to have painted well as a young child He painted landscapes, figure pieces, screens, and mural decorations and was master of the brush-and-ink medium and of pale color harmonies From him the Kano school received its character—the subordination of color to design **Kano Eitoku** (ā'tōkōō), 1543–90, grandson of Motonobu, painted screens with landscapes and figures and decorated the interiors of the royal palaces His art differs from that of the earlier Kano painters, it is less precise and is characterized by energy, ease, and inventiveness Gold and brilliant colors are introduced, giving to his works a lavish splendor new in the decorative art of his time He had many pupils and imitators *Pines on Snow Mountains* (Freer Gall of Art, Washington, D C), on a screen, is an excellent example of his art **Kano Tanyu** (tanyōō'), 1602–74, grandson of Eitoku and the last of the four supreme masters of Kano, by his originality and power really created a school of his own "He became one of the most vigorous and versatile of Japanese painters In both subject and execution his work is of astonishing variety Honors were showered upon him, and in 1642 he was commissioned by the emperor of Korea to paint the figures of the Chinese sages in the imperial palace His masterpieces are probably the four lions, in ink, in the temple of Nikko and the two dragons, in color, on the gateway of this temple See Arthur Morrison, *The Painters of Japan* (1911), E F Fenollosa, *Epochs of Chinese and Japanese Art* (2 vols , 1911)

Kano (kä'nō), city (pop 89,162), N Nigeria It occupies part of the area within a decaying clay wall 11 mi long and 40 ft high Its written records begin in A D 999 The present-day city was built in the 16th cent on the site of a 9th-century settlement It was a flourishing center of caravan trade in the 19th cent and the main seat of the Hausas Today an important railroad and road center, it is the hub of the Nigerian peanut industry and has much trade in cotton, leather goods, and metalware Kano has an international airport

Kansa Indians (kăn'sō), tribe of Siouan stock, known also as the Kansas or Kaw Indians They are closely related to the OSAGE INDIANS, from whom they separated probably not long before the whites first met them They were at the mouth of the Kansas river when white traders reached them, but had moved westward to the mouth of the Saline river by 1815, when the United States made its first treaty with them By treaties of 1825 and 1843 they ceded most of their lands and accepted a reservation on the Neosho river at Council Grove, where they lived until 1873 They were then placed on a new reservation in Oklahoma, next to the Osage tribe They shared the typical Plains culture and took up farming reluctantly

Kansas, state (82,276 sq mi , 1940 pop 1,801,208, 1949 estimated pop 1,947,000), central United States, admitted 1861 as the 34th state under the Wyandotte Constitution as a free state TOPEKA is the capital, KANSAS CITY (across the Missouri from Kansas City, Mo) and WICHITA are the largest cities Almost strictly rectangular, Kansas is bounded on the North by Nebraska, on the east by Missouri (the Missouri river is for a short distance the boundary), on the south by Oklahoma, and on the west by Colorado The geographical center of the United States is within its borders Plains stretch from east to west across the state They rise westward 3,000 feet but so gradually that the change is imperceptible, though the extremes in east and west are markedly different and there are two regions, the prairies and the high plains, as well as a small southeastern section on the Ozark plateau The eastern prairies belong to the Mississippi valley region Gently rolling hills and wooded river valleys interrupt the sameness of the plains, once covered with long-stemmed grasses and now divided into small self-sufficient farms, where pastures still have the long grass to feed cattle Corn and fruits and vegetables are grown, and dairy and poultry products are abundant The high plains in the west belong to the GREAT PLAINS region, short-grass country, where once the buffalo fed Cactus and yucca are still to be seen, though vast wheat fields dominate the flat, high landscape, Kansas stores more wheat and mills more flour than any other state The region is semi-arid, for though the average rainfall of Kansas as a whole is 26 in in a year, the east averages 40 in , the west only 16 in Here great dust storms arise to plague the ranchers and farmers The two great river systems of the state cross both sections, the KANSAS (also called the Kaw) drains much of the northern and central sections, and the Arkansas, coming out of Colorado, curves into central Kansas in the Great Bend, then runs SE into Arkansas The river valleys were highways to open the Far West Through them went traders over the SANTA FE TRAIL, Mormons on their way to the Promised Land, and gold seekers going west in the gold rushes after 1849 After farming settlement, however, the rivers became a problem, with floods across the flat lands and not enough water for most of the year to supply sufficient irrigation in the west The floods and erosion have damaged much land The state conservation act of 1929 was declared unconstitutional by the Kansas supreme court, some efforts at flood control and irrigation have been undertaken with Federal aid in recent years but arguments about the effectiveness of the plans continue The climate is thoroughly continental, with wide extremes of cold and blizzards in winter and heat and occasional cyclones in summer Yet despite the dismal prophecies of early travelers and despite difficulties, the soil of Kansas has yielded richly and continues to be the main resource of the state that is called the Sunflower State after the flower that raises its head in the fields and on the dusty roadsides The grasslands still feed cattle, and the big meat-packing industries of Wichita, Kansas City, and Salina recall the earlier days of Kansas when the railroads were being built westward after the Civil War, cattle were then driven N from Texas, and railhead shipping points became cow towns such as ABILENE and DODGE CITY In mineral wealth, the returns from coal, lead, and zinc have been eclipsed by oil and natural gas, particularly after recent discoveries of oil in W Kansas to supersede old fields in the east. The presence of salt in commercially profitable quantities recalls the prehistoric days when, as geology shows, Kansas was a great shallow sea. Chalk beds in the west have fossil remains of sea animals as well as the skeletal structures of later land animals, such as the miniature horse Archaeology shows also long habitation by Indian groups. If Coronado arrived (1541) in Kansas, as he probably did, to find disappointment in his search for QUIVIRA, he found the land occupied by Plains tribes, notably the KANSAS INDIANS (for whom Kansas is named), the WICHITA INDIANS, and the PAWNEE INDIANS Their culture was later revolutionized by the introduction of the horse, and they continued undisturbed by such later explorers as the Spanish Juan de OÑATE and the French traders on the Missouri and its tributaries in the 18th cent Kansas (except for the southeastern corner, on which the later TEXAS maintained the Spanish claims until 1850), was transferred to the United States by the Louisiana Purchase in 1803 The explorations of Lewis and Clark, Zebulon M Pike, and Stephen H Long gave some information about the present Kansas, but not a great deal; the plains seemed to them only desert wastes Kansas was part of the unorganized INDIAN TERRITORY from 1817 to 1854 At first only the fur traders and the Indian-fighting U S army were interested in the region which they had to cross, and Fort Leavenworth and Fort Scott were inconsiderable border posts, but as traders used the Santa Fe Trail and settlers went to Oregon and California interest quickened, more particularly after the Treaty of Guadaloupe Hidalgo (1848) at the end of the MEXICAN WAR gave the Southwest to the United States The first great test in the struggle over slavery in the territories after the Compromise of 1850 concerned Kansas and Nebraska A project for opening the territories on the basis of "squatter sovereignty" (decision concerning slavery by the settlers themselves) was advanced by Stephen A DOUGLAS and the KANSAS-NEBRASKA BILL was adopted in 1854. It specifi-

cally repealed the Missouri Compromise and made it possible for Kansas to be a slaveholding state though it was north of the line that compromise had drawn between free and slaveholding territory The result was not compromise, not peaceful settlement, but chaos and war Both sides set out to win Kansas Determined proslavery men went from Missouri and filed squatters' claims, concentrating about the towns of Leavenworth, Lecompton, and Atchison. Zealous abolitionists of New England and the Middle West, aided by the EMIGRANT AID COMPANY sent in strong antislavery settlers, who established Topeka and LAWRENCE The first elections in 1854 and 1855 went to the proslavery group; armed Missourians with loaded rifles intimidated voters and election officials and stuffed the ballot boxes The first territorial legislature ousted (1855) all Free State members, secured the removal of Gov A H Reeder, moved the capital to Lecompton, and adopted for Kansas the Missouri statutes (called by their opponents the Black Laws) In retaliation, the abolitionists set up a rival government at Topeka in Oct , 1855, but the constitution they drafted was obviously not regular and was later refused consideration by the U S Congress Violence was not slow in coming The murder of a Free State man in Nov , 1855, led to the so-called Wakarusa War and turned the territory into "bleeding Kansas " The new governor, Wilson Shannon, with U S troops prevented the proslavery men from taking Lawrence then, but on May 21, 1856, they did raid Lawrence, and a few days later the abolitionist fanatic, John BROWN of Osawatomie, led a band to murder five proslavery men in the name of the Lord Guerrilla warfare between Free State men called Jayhawkers and proslavery armed bands—both sides abetted by desperadoes and opportunists—terrorized the land In two years more than 200 people were killed and property worth perhaps $2,000,000 was destroyed After a new governor, Robert J Walker, had taken charge, a convention was called at LECOMPTON to draft a state constitution The Free State men refused to attend, and the Lecompton Constitution was proslavery Despite its dubious validity President Buchanan recommended that Congress accept it Congress instead returned it for a territorial vote, which was overwhelmingly against it Lawrence became de facto capital of the troubled territory until after the Wyandotte Constitution, which was framed in 1859 and forbade slavery totally, was accepted by Congress Kansas became a state in 1861 with the capital at Topeka Charles ROBINSON was the first governor and James H LANE, "the liberator of Kansas" one of the U S Senators Still suffering the effects of the drought of 1859–60, the new state managed to contribute a disproportionately large number of troops to the Union army even while suffering great distress It was scourged by Indian raids in the west and border warfare in the east, climaxed by the burning of Lawrence in 1863 by William C QUANTRILL and his guerrilla band With peace came the development of the prairie lands The railroads caused the upsurge of the cow towns with their cowboys and saloons, desperadoes, and frontier marshals (the most publicized being Wild Bill Hickok). The buffalo herds were destroyed, and cattle instead fed on the western grasslands Pioneering was hard in Kansas, where the tough sod was resistant and lack of timber forced many pioneers to spend their early days on new farms in sod houses The farms crept out across the plains, and the introduction of machinery and the discovery (1874) that Turkey Red wheat would thrive on the dry western lands took much of those western lands from the cattle and gave them to wheat A grasshopper plague (1874), severe droughts (1874, 1887), and the depression that followed the land boom in the '80s burdened the farmers, made farm tenants out of some, and drove others to the Oklahoma land rush in 1889 Discontent was naturally strong and was expressed in the agrarian radicalism of the POPULIST PARTY, which swept into power in Kansas in 1890 As conditions improved, Kansas returned largely to its allegiance to the Republican party and gained a name as a conservative stronghold of Protestant, white, native Americans with a strong bent for moral reform shown in the strong support of Prohibition, laws against the sale of liquor remained on the books from 1880 to 1949. The independent liberalism that showed in the Populist movement has not died, and William Allen WHITE of Emporia, who gained a national reputation as a practical and wise man, fought the effort of the Ku Klux Klan to gain political control in 1924 and fostered many liberal measures Kansas had the first state court of industrial relations which could enforce arbitration, but the law of 1919 creating it was declared unconstitutional in 1923 Alfred M Landon, because of his success as governor of Kansas, was named Republican candidate for the presidency in 1936 Kansas has broadened its rural education program with consolidated schools, and the state provides financial aid for local school districts There are many denominational institutions of higher learning as well as the Univ of Kansas and the Kansas State College of Agriculture and Applied Sciences The basically agricultural economy of the state reflects sharply the rise and fall in national fortunes, notably in the period of depression beginning in 1929, and also has problems peculiar to Kansas—recurrent droughts, dust storms, difficulties of utilizing the insufficient water Measures have been taken to meet these problems Government subsidies have been used to aid farm emergencies, and storage elevators for grain have been built in the hope of stabilizing the economy Shelter belts and other means of conservation have been introduced to try to save the soil and water, and experimental farm projects have been used to develop and popularize agriculture and agricultural practices suited to the particular climate and soil Reclamation schemes—notably the Missouri river basin project—have been projected and some have been set in operation with the goal of bringing water use to its maximum See Carl L Becker, ed , *The Public Archives of Kansas* (1905) and "Kansas" in Frederick Jackson Turner *Essays in American History* (1912), William E Connelley, *History of Kansas* (5 vols , 1928), Anna E Arnold, *A History of Kansas* (1931), L H Blanchard, *Conquest of Southwest Kansas* (1931), Carroll D Clark and Ray L Roberts, *People of Kansas* (1936), Everett N Dick, *The Sod-House Frontier* (1937), Federal Writers' Project, *Kansas a Guide to the Sunflower State* (1939), C B Davis, *The Arkansas* (1940), F B Streeter, *The Kaw* (1941), A M Goebel and others, *Kansas Geography* (1948), W B Bracke, *Wheat Country* (1950)

Kansas, sometimes called the **Kaw,** river formed by the junction of the Smoky Hill and Republican rivers in NE Kansas and flowing generally east c 170 mi to the Missouri at Kansas City The system drains Kansas and parts of Nebraska and Colorado See F B Streeter, *The Kaw* (1941)

Kansas, University of, mainly at Lawrence, state supported, coeducational, chartered 1864 opened 1866 with aid from Amos A Lawrence It has a college of liberal arts and sciences (with journalism) and schools of business, education, engineering and architecture, fine arts, law, pharmacy, and medicine (with hospitals, a laboratory, and nursing education, partly at Kansas City) There are entomology, paleontology, natural history (Dyche), and art museums and a radio station

Kansas City, two adjacent cities of the same name, one (pop 121,458) in Kansas, co seat of Wyandotte co , the other (pop 399,178) in Missouri They are at the junction of the Missouri and Kansas (or Kaw) rivers, almost in the geographical center of the United States, and together form a great commercial, industrial, cultural, and educational center, the two cities are the focus of many transportation lines, a leading livestock market, a port of entry, and a very large market for wheat, hay, poultry and eggs, and seed They have large stockyards, grain elevators, food-processing plants (especially for meat packing and flour milling), oil refineries, and railroad shops, among their manufactures are soap, steel products, farm machinery, ammunition, paints, and electrical equipment There are automobile assembly plants and airplane factories The area around the cities was the starting place of many western expeditions, the Santa Fe and Oregon trails passed through here Several historic settlements of the early 19th cent (including WESTPORT) were the foundations for the present-day cities Kansas City, Kansas, was incorporated in 1859 A junior college (coeducational), a Baptist seminary, a state school for the blind, and the Univ of Kansas Hospitals are here Kansas City, Mo , was incorporated in 1853 This Missouri city, with its fine parks and residential districts, is the site of the noted William Rockhill Nelson Gallery of Art and the Atkins Museum of Fine Arts, housed in an impressive building Among its educational institutions are an art institute, a conservatory of music, Rockhurst College, and the Univ of Kansas City (coeducational, 1929), the Unity School of Christianity is near by The city has a symphony orchestra The Kansas City *Star* is nationally known, it was founded (1880) by William Rockhill NELSON and headed by him until 1915 In 1937 a political reform movement led to the deposing of Thomas PENDERGAST See Darrell Garwood, *Crossroads of America* (1948)

Kansas-Nebraska Bill, legislation by which the U S Congress established the territories of Kansas and Nebraska, more properly the Kansas-Nebraska Act, since it became law on May 30, 1854. By 1854 the organization of the vast Platte and Kansas river countries W of Iowa and Missouri was overdue Taken by itself territorial organization of this area was no problem. It was, however, irrevocably bound to the bitter sectional issue over the extension of slavery into the territories and was further complicated by conflict over the location of a transcontinental railroad Chicagoans demanded that the eastern terminus of the railroad be located in their city, while Southern expansionists, led by Secretary of War Jefferson DAVIS, were equally insistent on a Southern route The railroad question also influenced the attitude of the proslavery men of Missouri, led by Senator David R. ATCHISON, since the road might possibly have its terminus in St Louis Under no circumstances, however, did they want a free territory (Kansas) W of Missouri Because the West was expanding rapidly, territorial organization, despite these difficulties, could be no longer postponed (four attempts to organize a single territory for the area had already been defeated in Congress, largely because of Southern opposition to the MISSOURI COMPROMISE) Stephen A DOUGLAS, chairman of the Senate Committee on Territories, decided to offer territorial legislation making concessions to the South either because he knew that no other legislation could be adopted or because great pressure was brought on him Hence the bill he reported in Jan , 1854, contained the provision that the question of slavery should be left to the decision of the territorial settlers themselves This was the famous principle that Douglas now called "popular sovereignty" (see SQUATTER SOVEREIGNTY), though actually it had been first enunciated four years earlier in the COMPROMISE OF 1850 In its final form Douglas's bill provided for the creation of two new territories—Kansas and Nebraska—instead of one The obvious inference—at least to Missourians—was that the first would be slave, the second free The Kansas-Nebraska Bill flatly contradicted the provisions of the Missouri Compromise (under which slavery would have been barred from both territories), indeed, an amendment was added specifically repealing that compromise That aspect of the bill in particular enraged the antislavery forces, but after three months of bitter debate in Congress, Douglas backed by President Franklin Pierce and the Southerners, saw it adopted Its effects were anything but reassuring to those who had hoped for a peaceful solution The squatter-sovereignty provision caused both proslavery and antislavery forces to marshal strength and exert full pressure to determine the "popular" decision in Kansas in their own favor (see EMIGRANT AID COMPANY) The result was the tragedy of "bleeding" Kansas Northerners and Southerners were aroused to such passions that sectional division reached a point that precluded reconciliation A new political organization, the REPUBLICAN PARTY, was founded by opponents of the bill and the United States hurried on toward the Civil War See Allan Nevins, *Ordeal of the Union*, Vol II (1947)

Kansas State College of Agriculture and Applied Science, at Manhattan, land-grant and state supported, coeducational, chartered and opened 1863 It has divisions of agriculture (with milling industry), engineering and architecture (with agricultural engineering), arts and sciences (with industrial journalism) home economics, and veterinary medicine There are also a home economics research bureau and a radio station

Kansu or **Kan-su** (kän'sōō', gän'sōō'), province (151,160 sq mi , pop 6,726,832), NW China, bordering on the Mongolian Peoples' Republic The capital is Lanchow The northern and southern sections of Kansu are joined by a comparatively narrow panhandle Although there are several mountain ranges, chiefly the Liupan and the Tsinling, the surface is largely a plateau, averaging 4,500 ft high, covered with loess The soil is very fertile, but inadequate rainfall limits agriculture to the valleys, notably those of the Yellow and the Wei rivers, kaoliang, wheat, millet, cotton, and tobacco are the principal crops Livestock is raised, and hides are exported The mineral resources, mainly coal, iron, oil, copper, and gold, are barely exploited With communications limited to a few poor roads, the economic development of Kansu has been retarded, and minority groups (Mongol, Turki, Tibetan, Mohammedan) have remained distinct from the Chinese majority

Kant, Immanuel (ĭmä'nōōĕl känt'), 1724–1804, German metaphysician, one of the greatest figures in philosophy, b Konigsberg, where he was educated He tutored in several families and after 1755 lectured at the Univ of Konigsberg in philosophy and various sciences He became professor of logic and metaphysics in 1770 and achieved wide renown through his writings and teachings. His early work, reflecting his studies of Christian von Wolff, Leibnis, and Hume, was followed by a great period of development culminating in the *Kritik der reinen Vernunft* (1781, Eng tr , *Critique of Pure Reason*) The rest of his works were largely an elaboration of his basic thesis The more important among these writings were *Grundlegung zur Metaphysik der Sitten* (1785, Eng tr , *Foundations of the Metaphysics of Ethics*), *Kritik der praktischen Vernunft* (1788, Eng tr , *Critique of Practical Reason*), and *Kritik der Urtelschaft* (1790, Eng. tr , *Critique of Judgment*) His *Religion innerhalb der Grenzen der bloßen Vernunft* (1793–94,)Eng tr., *Religion within the Boundaries of Pure Reason*) provoked a government order to desist from further publications on religion In 1797 he retired from public life and suffered until his death a progressive mental decline Kant repudiated the English skepticism of his time on the grounds that it did not adequately investigate the nature of knowledge. His system, which he called transcendental philosophy, was centered about a basic insight which he likened to the Copernican

hypothesis. Instead of assuming that our ideas, to be true, must conform to an external reality independent of our knowing, Kant proposed that objective reality is known only in so far as it conforms to the essential structure of the knowing mind He asserted that things of our experience, called phenomena, may be known, but that the mind could never practically know things-in-themselves, or noumena, which cannot be sensuously perceived Phenomena, which can be perceived in the pure forms of sensibility, space, and time, must to be understood possess those characteristics which constitute our categories of understanding. These categories, which include causality and substantiality, are the source of the structure of phenomenal experience The scientist, therefore, may be sure that the natural events he observes are knowable in terms of the categories Man's field of knowledge, thus emancipated from Humean skepticism, is nevertheless limited to the world of phenomena All intellectual attempts to penetrate the ultimate noumenal realm are bound to fail This inevitable failure is illustrated in the famous antinomies (logical contradictions of principles which cannot be resolved) Kant demonstrated with unimpeachable logic that space and time are infinite and that they are finite, that matter is infinitely divisible and that it is not infinitely divisible, that the will is completely determined and that it is completely free, and that a necessary being (God) exists and that He does not exist Now, though we cannot gain knowledge of the noumenal realm through reason, we can know through our ideas that it exists, and ethical and aesthetic experience may reveal its aspects Ethical judgments are essentially based on faith in necessary moral law, which is expressed in the two forms of the categorical imperative, "Act as if the maxim from which you act were to become through your will a universal law of nature" and "So act as to treat humanity, whether in your own person or that of another, in every case as an end in itself, never as a means " Moral law becomes the law for all, since it is prescribed by reason for the individual and reason is the same for all Faith must enter further to justify freedom of the will, immortality, and God Beauty is disclosed through the immediate perception of noumenal value in a supersensible substrate moving us to view nature from within Thus, science cannot invade ethics and aesthetics, nor can science be overthrown by the areas of faith The results of Kant's work are incalculable In his tradition can be put scientific agnosticism and the pragmatism of James and Dewey Gestalt psychology accepts certain of his fundamental positions Reactions from Kant may be seen in Schelling, Schlegel, and Hegel The Roman Catholic Church acknowledges Kant's absolute divergence from scholasticism by proscribing his works All of Kant's important works have been translated into English and there is a large bibliography of commentary See Edward Caird, *The Critical Philosophy of Kant* (2 vols , 1889), N K Smith, *A Commentary to Kant's Critique of Pure Reason* (1918), *Kant Selections* (ed by T M Greene, 1929)

Kantara, El (ĕl kän'tärə, kan'), town, Egypt, on the Suez Canal It is on the ancient military road between Egypt and Syria El Kantara is the terminus of a railroad to Palestine constructed in the First World War, when the British Expeditionary Force in Egypt was based here

Kaolack (kä"ōlăk), city (pop 40,235), Senegal, on the Saloum river. It is the chief port for the peanut trade, and its population nearly tripled from 1931 to 1936 because of expanded exports

kaolin, see CHINA CLAY

kaolinite (kā'ulĭnīt), clay mineral crystallizing in the monoclinic system and forming the chief constituent of china clay and kaolin It is a hydrous aluminum silicate commonly formed by the weathering and decomposition of rocks containing aluminum silicate compounds, feldspar is a chief source Kaolinite has the same chemical composition as dickite and nacrite (both of which are also clay or kaolin minerals) but differs from them in origin, in optical properties, in reaction to heat, and in certain other physical properties

Kapidagi Peninsula, Turkey see CYZICUS PENINSULA

Kapilavastu (kä"plŭvə'stōō), ancient town, S Nepal Inscriptions show that Buddha, whose father ruled the state of Kapilavastu, passed his early years here and was born near by

Kapitza, Peter (kä'pētsŭ), 1894–, Russian physicist, educated at the polytechnic institute of Petrograd and at Cambridge Univ A laboratory at Cambridge was equipped for his experiments on the magnetic resistance of substances at low temperatures, later this equipment was bought by the Soviet government Kapitza was made director of the Institute for Physical Problems of the Academy of Sciences of the USSR.

Kaplan, rice-milling town (pop. 2,838), SW La., N of Vermilion Bay, inc 1902.

Kapoeas, river, Borneo see KAPUAS.

kapok (kā'pŏk, kă'–), tropical tree of the Bombacaceae family and the fiber (floss) obtained from seeds in the ripened pods. The floss has been important in commerce since the 1890s; the chief source is *Ceiba pentandra*, the kapok tree cultivated in Java, Ceylon, the Philippines, and other parts of the Far East and in Africa The floss is removed by hand from the pods, dried, freed from seeds and dust, and baled for export The lustrous, yellowish floss is light, fluffy, resilient, and resistant to water and decay It is used as a stuffing, especially for life preservers, bedding, and upholstery, and for insulation against sound and heat The seed kernels contain about 25 percent fatty oil used for soap or refined as edible oil The residual cake is valuable as a fertilizer and as livestock fodder See S. J Zand, *Kapok* (1941)

Kaposvar, Hung *Kaposvár* (kŏ'pōshvär), city (pop 32,985), SW Hungary, on the Kapos river A trade center, it exports wine and tobacco

Kapp, Wolfgang (vôlf'gung kap'), 1858–1922, German reactionary politician In 1920 he led the Kapp putsch, a monarchist armed revolt, at Berlin He seized the Berlin government, but a general strike broke his power Kapp fled to Sweden, returned (1922) to Germany, and died when awaiting trial for treason

Kappel or **Cappel** (both ka'pul), village, Switzerland, c 10 mi. S of Zurich Here ZWINGLI fell in battle in 1531

Kapteyn, Jacobus Cornelius (yakō'bus kôrnā'lĭŭs kaptīn'), 1851–1922, Dutch astronomer He was an authority on the Milky Way system, of which he made notable statistical studies, he constructed a model of the Milky Way system known as the "Kapteyn universe" He computed the positions of the stars of the Southern Hemisphere, photographed by Sir David Gill, and in 1904 announced the discovery of two streams of stars moving in opposite directions in the plane of the Milky Way Kapteyn was professor at the Univ of Groningen from 1879

Kapuas or **Kapoeas** (both ka'pōōəs), longest river of Borneo, Indonesia, rising on the Sarawak border and flowing 710 mi WSW to the South China Sea It is navigable for 560 mi

Kapurthala (kupōōr'tulu), former native state (645 sq mi , pop 378,380), Punjab, India Extensive irrigation works support crops of grains and cotton The state, founded by a Sikh raja, dates from the late 18th cent Kapurthala is now in the Patiala and East Punjab States Union **Kapurthala,** town (pop 26,067), formerly the capital of the state, may have been founded in the 11th cent It contains the raja's palace and other fine buildings

Kapuskasing (kăpuskă'sĭng), town (pop 3,131), E Ont , on the Kapuskasing river and W of Cochrane, inc 1921 An experimental farm was established here in 1913 for testing the possibilities of the Clay Belt During the two world wars the town had an internment camp for enemy prisoners

Kara (kä'rŭ), river, 130 mi long, RSFSR, flowing N from the N Urals into the Kara Sea and forming part of the conventional limit between European and Asiatic Russia

Karabakh, Azerbaijan SSR. see MOUNTAIN-KARABAKH

Kara-Bogaz-Gol (kŭrä"-bŭgäz"-gōl'), shallow bay, Turkmen SSR, an arm of the Caspian Sea, from which it is separated by a sandspit 70 mi long There are large deposits of Glauber's salt The town of **Kara-Bogaz-Gol** (1932 estimated pop 4,000), Turkmen SSR, is a Caspian seaport at the entrance to the bay

Karabuk (kärə'bōōk), town (pop 10,682), N Turkey, SE of Zonguldak coal fields It was built shortly before the Second World War as the seat of the new Turkish iron and steel industry

Karachai Autonomous Oblast (kŭrŭchī'), former administrative division (3,800 sq mi , 1939 pop 149,925), RSFSR, in the W Greater Caucasus It was formed in 1926 Its inhabitants, a Turkic-speaking Moslem group, collaborated with the Germans during the German drive in the Caucasus (1942) in the Second World War As a result the oblast was divided (1944) among the Cherkess Autonomous Oblast, the Stavropol Territory (both parts of the RSFSR), and the Georgian SSR, which received the major share, including the capital, Mikoyan-Shakar (now Klukhori) The Karachai population was resettled elsewhere in the USSR

Karachi (kurĭ'chē), city (pop 359,492), Pakistan, a port on the Arabian Sea and until 1950 capital of Sind prov It is in the Karachi dist. under the direct administration of the national government. The city appears to have been founded c 1725 but was of small importance until it passed to the British in 1843, when they conquered Sind Steady improvements in harbor facilities placed it among the leading ports of India by the late 19th cent During the Second World War it was an important port of supply for the armed forces stationed in India. The second largest city in the country and well supplied with buildings suitable for government offices, Karachi was made the national capital on the formation of Pakistan in 1947 There are several colleges and universities.

Karadzic, Vuk Stefanovic: see KARAJICH, VUK STEFANOVICH.

Karafuto, former Japanese possession, see SAKHALIN

Karaganda (kä"rŭgŭndä'), city (1926 pop. 116, 1939 pop. 165,937, 1947 estimated pop. 220,000), capital of Karaganda oblast, Kazakh SSR, in the Kazakh Hills It is the center of the Karaganda coal basin, one of the largest in the USSR, which was developed after 1928

Karageorge (kä"rujôrj', ka"rajôr'jā), or **Czerny George** (chĕr'nē) [Turkish *Kara* and Serbo-Croatian *Czerny*=black], 1752?–1817, Serbian patriot He led the Serbs in their insurrection (1804) against the Turks, took (1806) Belgrade, where the Turkish population was massacred, and was proclaimed (1808) hereditary chief of the Serbs He fought with Russia against Turkey (1809–12) Abandoned by the Russians when peace was signed, he fled to Austria On his return to Serbia he was murdered at the instigation of Milosh Obrenovich (see MILOSH) Though an illiterate peasant, Karageorge showed great military ability

Karageorgevich (kä"rujôrjuvĭch), Serbian dynasty, descended from Karageorge Its ruling members were ALEXANDER, prince of Serbia, and Kings PETER I, ALEXANDER, and PETER II, of Yugoslavia It was long involved in feud with the OBRENOVICH dynasty

Kara Irtysh see IRTYSH.

Karaites (kā'rīts), Jewish schismatic sect, reputedly founded c 765 in Persia by Anan ben David and originally known as Ananites The Karaites attacked the rabbinical and Talmudic interpretation of the Bible, proclaimed the freedom of the individual to go back to the written word of the Bible and interpret it according to his own conception, and developed their own commentaries, which were in many respects more rigorous and ascetic than the Talmudic interpretations The sect began to decline after the 12th cent , but remnants of it are still extant, notably in Crimea

Karajich, Vuk Stefanovich, Serbo-Croatian *Vuk Stefanović Karadzić* (vōōk' stĕfə'nôvĭch kə'rəjĭch), 1787–1864, Serbian philologist and folklorist, of Moldavian descent His first collection of Serbian folk songs was published in 1814 He inaugurated language reforms and adopted the Serbian vernacular as his literary language His introduction of phonetic spelling and invention of new letters to complete the Cyrillic alphabet were major contributions His two most important lexicographical works are his grammar of Serbian as spoken by the common people (1814) and his Serbian dictionary (1818) In 1847 he translated the New Testament into Serbian for the British and Foreign Bible Society

Karakalpak Autonomous Soviet Socialist Republic (kä"rŭkŭlpăk'), autonomous republic (61,600 sq mi , 1946 estimated pop 600,000), NW Uzbek SSR Nukus is the capital The republic comprises parts of the Ust-Urt plateau, the Kizil Kum desert, and the Amu Darya delta on the Aral Sea Cotton and alfalfa are extensively grown The population consists mostly of Turkic Karakalpaks, Uzbeks, and Kazakhs who are all Moslems The region became (1932) an autonomous republic within the RSFSR, it joined the Uzbek SSR in 1936 A variant spelling is Qaraqalpaq

Karakorum (kä"rukō'rum, kă"–), ruined city, Mongolian People's Republic, near the Orkhon river It was the capital of Jenghis Khan, the founder of the Mongol empire and of his successors (see MONGOLS) Jenghis founded the city in the early 13th cent, it was destroyed in the late 13th cent by his grandson Kublai Khan when the local ruler revolted (see ORKHON) Karakorum is also the name of the near-by city (sometimes called Balgasun) which in the 8th and 9th cent was the capital of the Uigurs Near these two ancient sites is the modern city of Ulan Bator

Karakorum, mountain system, E Kashmir state, India, extending c 300 mi northwest and southeast The main section, sometimes called the Mustagh, is a southeast continuation of the Hindu Kush There are many lofty peaks in the Karakorum, including Mt. Godwin-Austen (K2), the second highest elevation in the world Several of the Karakorum glaciers are among the largest known The southern slopes of the mountains supply much water to tributaries of the Indus, while the northern slopes less abundantly feed small streams The system, one of the principal barriers to trade between India and Tibet, is crossed by several passes above the perpetual snow line, notably Karakorum Pass (c.18,300 ft high) The name is also spelled Karakoram.

Kara Kul (kä"rŭ kōōl'), mountain lake, area c 200 sq mi , Tadzhik SSR, in the Pamir, near the Chinese border It is 12,980 ft above sea level and 775 ft deep

karakul sheep (kă'rŭkul), breed of sheep, native to Bukhara Its pelt is much used in the manufacture of coats and trimmings The karakul is a medium-sized broad-tailed sheep. Its long, loosely curling wool, as fleece, is classed as long-staple wool and is used in making carpet and other heavy fabrics The wooled skin of the lamb newly born or a few days old is known in trade as karakul, broadtail, krimmer, Persian lamb, or astrakhan, according to the quality and the tightness of the curl (the curl is tightest in the youngest lambs). In the

United States the breed is raised on a small scale chiefly in Texas Among the chief sources of the marketed pelts are SW Africa, Bukhara, and Afghanistan

Kara Kum (kä″rŭ kōōm′), large desert, Turkmen SSR, S of the Amu Darya river It is crossed by the Trans-Caspian RR The semi-nomadic population raises goats, camels, and karakul sheep The MERV oasis is situated in the Kara Kum desert, which also has important sulphur mines

Karaman (käraman′), town (pop 12,460), S central Turkey, at the northern foot of the Taurus mts The ancient LARANDA, Karamanan was renamed after the chieftain of a Turkic tribe who conquered the city c 1250 and set up the independent emirate of Karamania, which at one time comprised most of Asia Minor A successor state of the Seljuk empire, the emirate continued until its final subjugation by the Ottoman Turks in the mid-15th cent Karaman has retained ruins of the Karamanid castle and of two fine college-mosques Alternate spellings are Caraman and Caramania

Kara Mustafa · see MUSTAFA

Karamzin, Nikolai Mikhailovich (nyĭkulē′ mēkhī′-luvĭch kŭrumzēn′), 1766–1826, Russian historian and novelist *Letters of a Russian Traveler* (1792), based on a journey to Western Europe and England, brought a cosmopolitan awareness into Russian letters His sentimental story of the betrayed peasant girl, "Poor Lisa" (1792, Eng tr in *Russian Tales*, 1803), marked the beginning of preromanticism in Russia and foreshadowed the novel of social protest An 11-volume *History of the Russian State* (1818–24), down to 1613, is his chief work It revealed the literary possibilities of the Russian language, thus preparing the way for Pushkin and the great Russian literature of the 19th cent

Kara Sea, Rus *Karskoye More*, section of the Arctic Ocean, between W Siberia and Novaya Zemlya It receives the Ob, Yenisei, Pyasina, and Taimyra rivers Its main ports are Novy Port and Dickson Harbor, but the ice-locked sea is navigable only from August to September

Karbala, Iraq see KERBELA

Kareah (kärē′ä) [Heb, =bald], father of JOHANAN 1. Jer 40 8 Careah 2 Kings 25 23

Karelia · see KARELO-FINNISH SOVIET SOCIALIST REPUBLIC

Karelian Isthmus, land bridge in NE Europe, connecting Russia and Finland, between the Gulf of Finland in the west and Lake Ladoga in the east It is from 25 to 70 mi wide and 90 mi long and is studded with lakes Leningrad and Vyborg are the chief cities Until 1940 all but the southernmost part of the isthmus belonged to Finland The Mannerheim Line, which crossed the isthmus, was breached by the Russians at the end of the Russo-Finnish War of 1939–40, and the peace treaty of 1940 gave the entire isthmus to the USSR In the Second World War, there again was bitter fighting here (1941–44) both during and after the siege of Leningrad

Karelo-Finnish Soviet Socialist Republic (kurĕ′lō) or **Karelia** (kŭrē′lyu, Rus kŭrĕ′lyĭ ēĭ), constituent republic (c 68,900 sq mi, 1946 estimated pop 600,000), NW European USSR, extending from the Finnish border in the west to the White Sea in the east and from the Kola Peninsula in the north to Lakes Ladoga and Onega in the south Petrozavodsk is the capital A glaciated plateau, Karelia is covered by thousands of lakes and by coniferous forests, occupying, respectively, 15 percent and 66 percent of the total area Lumbering, paper and pulp milling, and the manufacture of furniture, prefabricated houses, and other wood products are the chief industries Power is supplied by the many short and rapid rivers Belomorsk and Kem are the chief sawmill centers Construction stone (marble, quartzite, red granite, and porphyry) and mica are quarried, and there are deposits of iron ore, magnetite, and lead-zinc ores Agriculture is largely limited to dairy farming, the climate being subarctic and humid The lakes and rivers of Karelia and the White Sea abound in fish The republic is crossed by the Murmansk RR and by the Baltic–White Sea Canal The population consists, aside from the Russian majority, of Karelians and Finns, who are very closely related and whose written languages are identical Karelia, properly speaking the region N and E of Lake Onega, was conquered (12th–13th cent) by the Swedes, who took the west, and by Novgorod, which took the east The eastern part was taken (1617) from Russia by Gustavus II of Sweden, but was restored to Peter I in 1721. The western part shared the history of Finland until 1940 It was from oral traditions among the Karelians that the Finnish national epic, the *Kalevala*, was collected In 1923 a Karelian Autonomous SSR was set up in E Karelia; this was enlarged (1940) by nearly the entire territory ceded by Finland as a result of the Finnish-Russian war (except for the S Karelian Isthmus, which went to the RSFSR) and was raised to a constituent republic

Karenni State (kŭrĕ′nē), autonomous area (4,519 sq mi, pop. 70,493), E Burma, on the Siamese border. The capital is Loikaw. The people are Karens. The Mawchi mines are one of the world's important sources of tungsten (wolfram), which is mixed with tin Teak is cut in the Karenni forests During the period of British rule in Burma, Karenni consisted of three states in treaty relationship with the British crown Represented in the government of Burma by members of parliament and a cabinet minister, it has today a large degree of self-rule

Karens (kurĕnz′, kurănz′), members of a Thai-Chinese cultural group, one of the most important minorities in Burma, living in the KARENNI STATE, Tenasserim, and the Irrawaddy delta Many are Christians, some are Buddhists, the Karen hill tribes remain largely pagan They speak the Karen languages, probably of the Chino-Tibetan family The Karens are mostly farmers, but Karen tribesmen were some of the best soldiers in the military units raised in Burma under British rule Their revolt against the union government (1948–49) aimed at separation from Burma They scored important successes, and the government was forced to grant them a large measure of autonomy

Karfiol, Bernard (kär′fōl), 1886–, American painter, b Budapest of American parents, educated in Brooklyn He studied at the National Academy of Design in New York and at Julien's in Paris From 1908 to 1913 he taught and painted in New York Since 1917 Karfiol's work has been widely exhibited and has received many awards It is characterized by detachment, simplicity, significant form, and harmonious color Perhaps best known as a painter of nudes Karfiol is also an admirable landscape and portrait painter Many of his scenes are inspired by the landscape of Maine *Babbette* (Detroit Inst of Arts) and *Seated Nude* (Mus of Modern Art, New York) are characteristic works Karfiol is represented in many leading American galleries See study by J P Slusser (1931)

Karikal see FRENCH INDIA

Karim Khan (kurēm′ khän′), d 1779, ruler of Persia (1750–79), of the Zand dynasty He emerged victorious from a contest for power and ruled under the title Vakil al-Roaya [representative of the peasants] His rule was one of tranquility, and he made Shiraz, his capital, beautiful with buildings, including the Mosque of Vakil and the Bazaar of Vakil A few northern tribes were left almost independent One of them was the Kajars or Qajars, and from them was to come AGA MOHAMAD KHAN, who overthrew the Zand dynasty

Karisimbi see MT. MFUMBIRO

Karkaa (karkā′ŭ) [Heb, =foundation], unidentified place, S Palestine Joshua 15 3

Karkheh (kar′kĕ), anc *Choaspes* (kōăs′spēz), river rising in W Iran and flowing c 500 mi southward from near Mt Elvend to swamps near the Iraq line Ancient Susa was on its banks

Karkonosze see RIESENGEBIRGE

Karkor, unidentified place in Gilead Judges 8 10

Karlfeldt, Erik Axel (ā′rĭk äk′sul karl′fĕlt), 1864–1931, Swedish lyric poet, secretary to the Swedish academy He wrote *Nature and Love* (1895), *Fridolin's Ballads* (1898), and other collections He was posthumously awarded the 1931 Nobel Prize in Literature which he had refused in his lifetime

Karli (kär′lē), village, NW Bombay state, India Near by are Buddhist caves which may have been excavated in the 2d cent B C The most celebrated of them, the largest *chaitya* [cave temple] in India, measures 124 ft by 45 ft The ancient *dagoba* [shrine] and ornamentation partly survive

Karlovci, Sremski, Yugoslavia see KARLOWITZ, TREATY OF

Karlovy Vary, Czechoslovakia see CARLSBAD

Karlowitz, Treaty of (kar′lōvĭts), 1699, peace treaty between, on the one hand, the Ottoman Empire and, on the other hand, the emperor, Venice, and Poland It was signed at the small Serbian town of Karlowitz (now Sremski Karlovci, Yugoslavia) All Hungary (including Transylvania but not the Banat of Temesvar), Croatia, and Slavonia were ceded to Emperor LEOPOLD I by Turkey, Podolia passed to Poland, and the Peloponnesus passed to Venice Russia, also at war with Turkey, continued to fight until the fall (1702) of Azov The Venetian gains were lost again at the Treaty of PASSAROWITZ (1718) The Treaty of Karlowitz, which crowned the successful campaign of Prince EUGENE OF SAVOY, marked the beginning of Ottoman decline

Karlsbad, Czechoslovakia see CARLSBAD

Karlsburg, Rumania see ALBA-IULIA

Karlsefni, Thorfinn · see THORFINN KARLSEFNI

Karlskoga (kärl′skōō″gä), city (pop 29,464), Orebro co, W central Sweden, in a mining region It is the seat of the Bofors iron and armament works. The city was incorporated in 1940

Karlskrona (kärlskrōō′nä), city (pop 31,505), co. seat of Blekinge co, S Sweden It is a Baltic port and headquarters of the Swedish navy since 1680. Built on several islands and on the mainland, it has a well-fortified harbor, with large dry docks cut out of solid granite Its factories produce clothing, naval equipment, metal products, porcelain, and beer, there are granite quarries. The name also appears as Carlskrona

Karlsruhe (kärls′rōōĕ), city (pop 172,343), N Baden, W Germany, on the Rhine It was founded in 1715 by the margrave of Baden-Durlach to replace near-by Durlach (now incorporated into Karlsruhe) as residence and grew to be a commercial, industrial, and cultural center It was the capital of the duchy (later grand duchy and, after 1919, state) of Baden after 1771 After the Second World War, during which it was seriously damaged, Karlsruhe was incorporated with the American-occupied state of Württemberg-Baden, of which Stuttgart became the capital The old part of Karlsruhe was laid out by its princely planner as a vast semicircle with the streets converging radially upon the ducal palace Karlsruhe has a technical academy (founded 1825), a conservatory of music, several other academies, and well-known theaters and art galleries The residential palace (built 1752–75) was heavily damaged

Karlstad (karl′stad), city (pop 32,190), co seat of Varmland co, W central Sweden, on Vanern Lake and on Thingvalla island It is a Lutheran episcopal see Karlstad has machine shops and ironworks and match, textile, lumber, and paper manufactures Known as Thingvalla in the Middle Ages, it was an important center, in 1584 it was incorporated as Karlstad The treaty which severed the union of Norway and Sweden was signed in Karlstad in 1905

Karlstadt, Reformation leader see CARLSTADT

karma · see BUDDHISM

Karmathians or **Carmathians** (kärmā′thēunz), a crypto-Moslem sect of the 9th and 10th cent, similar to the ASSASSIN sect The extremeness of their views makes it almost impossible to call them Moslems They were organized like other similar sects into various grades, according to initiation and illumination The chief importance of the Karmathians came in their rise as an independent political force in Arabia before 900 They arose in Yemen and early in the century conquered the whole country In spite of the efforts of the Abbasid caliph at Baghdad, the Karmathians continued their career until, c 930, they created a sensation that rocked Islam, by carrying away the black stone in the Kaaba at Mecca Ten years later the Karmathians returned the stone They were in constant touch with the founders of the Fatimite rulers in Egypt alternately at war or peace with them They ceased to be a political power after 1000

Karnak (kär′năk), village (pop 2,547), central Egypt, on the Nile It is 1 mi E of LUXOR and occupies part of the site of THEBES Remains of the Pharaohs abound at Karnak Most notable is the Great Temple of Amon Although there was an older foundation, the work was largely conceived and accomplished in the XVIII dynasty, and it is often considered the finest example of New Empire religious architecture The grounds extend about 1,000 ft The western half comprises a vast court and the great hypostyle hall (388 ft x 170 ft) with 134 columns arranged in 16 rows The eastern half is a complex of halls and shrines, many of the Middle Empire There are smaller temples at Karnak dedicated to Mut and to Chunsu, wife and son respectively of AMON

Karnes City (kärnz), town (pop 1,571), co seat of Karnes co, S Texas, SE of San Antonio, settled 1885, inc 1914 The farm region produces truck, flax, cotton, and livestock

Karo, Joseph ben Ephraim see CARO, JOSEPH BEN EPHRAIM

Karolyi, Count Julius (kä′rôlyĭ), Hung *Károlyi Gyula* (dyōō′lō), 1871–, Hungarian statesman, of an ancient noble family A nationalist and a supporter of Admiral HORTHY DE NAGYBANYA from 1919, he became (1930) foreign minister in the cabinet of Stephen BETHLEN and succeeded Bethlen as premier in 1931 He also took the post of finance minister Hungarian finances were in a critical condition Karolyi's appeal for foreign loans and for League of Nations aid and imposition of a partial debt moratorium failed to improve the situation Seeking the cooperation of France and the Little Entente, Karolyi abandoned Hungarian agitation for the revision of the Treaty of Trianon, thus incurring the opposition of the extreme nationalists The liberal and leftist parties were angered by Karolyi's failure to obtain electoral reform In Sept, 1932, Karolyi resigned and was succeeded by Gombos

Karolyi, Count Michael, Hung *Károlyi Mihály* (mĭ′hī), 1875-, Hungarian statesman, of an ancient noble family A socialistic liberal, he organized (1918) a national council for Hungary after the dissolution of the Austro-Hungarian Monarchy and was made premier His attempt to strike a balance between the extreme right and left weakened his position A republic was set up and in Jan, 1919, Karolyi was elected provisional president, apparently in order to remove him from active control Forced in the end to choose between the conservatives and the Communists, he surrendered the government to the Communists The dictatorship of Bela KUN was set up in March, 1919 Karolyi left Hungary when Kun's regime collapsed. He returned from England to Hungary after the Second World War and was appointed (1947) Hungarian ambassador to France He resigned in 1949 because of old age and returned to Hungary.

Karpathos (kär′pathŏs), Ital. *Scarpanto* (skär′päntô), Latin *Carpathus*, island (111 sq. mi.; pop. 7,396),

off Asia Minor, in the Aegean Sea, one of the DODECANESE. It belongs to Greece. It is mountainous, rising to 4,000 ft

Karrer, Paul (kä'rur), 1889–, Swiss chemist, b Moscow. He studied at the Univ of Zurich under Alfred Werner and became professor of chemistry at Zurich in 1918 He is known for his work on sugars, polysaccharides, and vegetable dyestuffs and especially for his chemical analysis of vitamins A, B_2 (G), and C For his work on vitamins, carotinoids, and flavins he shared the 1937 Nobel Prize in Chemistry with W N Haworth

Karroo (kurōō', kä–), name applied to two semidesert plateaus, W Cape Prov , Union of South Africa The Southern or Little Karroo extends inland from the southern section of the coastal range on the west It is adjoined on the east by the Great Karroo Where irrigated, the Karroos are very fertile The Great Karroo supports large herds of sheep, goats, and ostriches and produces citrus fruits

Kars (kars), city (pop 22,360), NE Turkey, in Armenia, in a mountainous and agricultural district An old fortified place, it was taken by the Russians from the Turks in 1828, 1855, and 1878 The district of Kars, including the towns of Kars and Ardahan, was formally ceded to Russia in 1878 at the Congress of Berlin, but was returned to Turkey in 1921 by the terms of the separate peace treaty between the USSR and the nationalist Turkish government of Kemal Ataturk Kars has kept its 16th-century fortress

Karshi (kärshē'), city (1932 estimated pop 20,400), capital of Kashka-Darya oblast, Uzbek SSR, on the Kashka-Darya river It is the center of a fertile oasis producing wheat, cotton, and silk and has on a railroad branch There is a 16th-century mosque and mausoleum From c 1925 to 1937 Karshi was named Bek-Budi

Karst (karst), Ital *Carso*, Serbo-Croatian *Kras*, barren limestone plateau, NW Yugoslavia, N of Istria It is characterized by deep fissures, caves, and underground channels The best-known caves are at POSTOJNA The name karst applies also to similar geological formations elsewhere

Kartah (kär'tu), unidentified city, N central Palestine Joshua 21 34

Kartan (kär'tăn), the same as KIRJATHAIM 1

Karun (kärōōn'), river, 450 mi long, rising in W Iran and flowing southward to the Shatt el Arab at Khorramshahr Navigable, it was opened to foreign trade in 1888 At Shushtar a magnificent bridge surmounts a dam designed to irrigate 500 sq mi , built probably by Shapur I with captive Roman help and repaired in 1840 but now disused Shah Abbas I nearly completed a Karun-to-Zayinda-Rud canal The Karun is probably the biblical Ulai

Karvinna, Czech *Karviná* (kar'vĭna), Ger *Karwin* (kar'vĭn), city (pop 21,080), Silesia, Czechoslovakia It is a center of coal mining and industry

Karwin, Czechoslovakia see KARVINNA

Kasai or **Kassai** (both käsī'), river rising in Angola and flowing c 1,200 mi N to the Congo in Belgian Congo Its tributaries include many navigable streams which flow to the north The Kasai, itself navigable for c 420 mi above its mouth, is an important trade artery

Kasan, RSFSR see KAZAN

Kasbek, Mount, Georgian SSR see KAZBEK, MOUNT

Kasbin, Iran see KAZVIN

Kaschau, Czechoslovakia see KOSICE

Kashan (kashan'), city (1947 estimated pop 44,994), central Iran, on a caravan route between Tehran and Isfahan Kashan, where the Ardebil carpet (1539) and celebrated porcelain tiles were made in the Safavid period, still produces silk textiles, carpets, and copperware It is intensely hot in summer and is infested with scorpions, but is one of Iran's prettiest cities, with clean, paved streets and handsome caravansaries, it is dominated by a 13th-century minaret 150 ft high Sialk, a recently excavated prehistoric site, lies 2 mi away The well-known rose fields of Kamsar or Qamsar are near by

Kashgar (käsh'gär), Mandarin *Su-fu*, city and county (pop 275,427), W Sinkiang prov , China The city, on the Kashgar river (a tributary of the Tarim), is the provincial capital It is the western terminus of the main road of Sinkiang and is a center for caravan trade with India and the USSR It manufactures cotton and wool cloth, rugs, and gold and silver jewelry Kashgar, when it was the capital of the Uigur Turks (750–840), was a center of Manichaeism The city has frequently changed hands, Jenghiz Khan and Tamerlane being among its conquerors.

Kashka-Darya (kŭshkä'-dŭrya'), river, c 200 mi long, Uzbek SSR. Flowing past Kitab and Karshi, it disappears in the sands of the arid Kizil-Kum It gives its name to an oblast, of which Karshi is the capital

Kashmir (käshmēr', käsh'mēr), officially **Jammu and Kashmir** (jŭ'mōō), state (82,258 sq mi., pop 4,021,616), N India The capital is Srinagar Kashmir is bordered on the south and west by Pakistan, on the north by Afghanistan and China, and on the east by Tibet. Most of Kashmir is covered with lofty, rugged mountains, including sections of the Himalaya and Karakorum ranges Rivers, including the Indus, run through the relatively narrow valleys into which the people are crowded The valley of the Jhelum river, the celebrated and beautiful Vale of Kashmir, is the most populous area and the economic heart of the state, it produces abundant crops of wheat and rice There is little mining or modern industry in Kashmir The handicrafts, particularly the making of woolen cloth and shawls (cashmeres), for which the state was renowned have deteriorated In the late 14th cent , Kashmir was conquered by Moslems, who converted most of the population to Islam It became part of the Mogul empire in 1586, but by 1751 the local ruler was independent After long disorder Great Britain installed a Hindu ruling family in 1846 When India was partitioned in Aug , 1947, Pakistan dispatched troops to gain control of the state They were opposed by the ruler (who provisionally acceded to the dominion of India in Oct , 1947) and by Indian forces Early in 1948 India accused Pakistan before the Security Council of the United Nations of endangering the peace The council appointed Admiral Chester B Nimitz commissioner for Kashmir and charged him with arranging a plebiscite on the national affiliation of the state Early in 1949 India and Pakistan agreed to end hostilities and to maintain their military positions pending the plebiscite

Kashmiri language (käshmē'rē), language of the Indic or Indo-Aryan group of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Kasimir, see CASIMIR

Kaskaskia (käskă'skēu), village (pop 167), Randolph co , Ill , on Kaskaskia island in the Mississippi river where it is joined by the Kaskaskia river It is now a relatively unpopulated area of Illinois mainly because it was inundated by the Mississippi toward the close of the 19th cent , but the past of Kaskaskia is deeply rooted in the history of the region The settlement was established by Jesuit missionaries in 1703 –four years after the founding of CAHOKIA –and it was named after the Kaskaskia Indians, who inhabited the area (see ILLINOIS INDIANS) In time an agricultural community grew up on the fertile bottom lands surrounding the village, and traders made it a center of operations The French built (1733) a fort at this site and occupied it until 1755 The fort was destroyed when Kaskaskia was taken over by the British in 1763 In 1778 George Rogers Clark, with a company of Virginia militia, took possession of the village for the United States, and a period of turbulence followed the departure of Clark's troops in 1780 Kaskaskia declined for two decades, but as the capital (1809–18) of Illinois Territory the place throve The first Illinois newspaper was started (1814) there, its population greatly increased, and it was made the capital when Illinois became (1818) a state It declined after the capital of Illinois was shifted (1820) to Vandalia, and periodic floods discouraged further growth Fort Kaskaskia State Park was set aside in 1927 across the Mississippi river near Chester, Ill

Kaskaskia, river rising in E central Illinois, near Urbana, and flowing c 300 mi southwest across the state to enter the Mississippi above Chester

Kasner, Edward (kăz'nur), 1878–, American mathematician, b New York city, grad College of the City of New York (B S , 1899) He joined the faculty of Columbia Univ in 1900, where he was professor of mathematics from 1910 and Adrain professor from 1937 His researches in many branches of mathematics include studies of relativity, horn angles, invariants, differential equations, and polygonic functions With James Newman he wrote *Mathematics and the Imagination* (1940)

Kasprowicz, Jan (yän' käsprō'vĕch), 1860–1926, Polish poet His writings progressed from social revolt—e g , *From a Peasant's Field* (1891)—to poems of spiritual struggle and philosophical intensity Among his later works are *To a Dying World* (1902), *Ballad of the Sunflower* (1908), and *The Book of the Poor* (1916)

Kassa, Czechoslovakia see KOSICE

Kassaba or **Cassaba** (kasa'ba), city (pop 22,713), W Turkey, NE of Smyrna Its modern name is Turgutlu Kassaba is famous for the variety of melon to which it gives its name There are lignite deposits near by

Kassai see KASAI

Kassala (kasä'la, kă'sulă), city (pop 31,210), NE Anglo-Egyptian Sudan Founded in 1834 by the Egyptians, it passed with the rest of the Sudan to Great Britain in the latter half of the 19th cent It was held (1885–94) by the Mahdists and later (1894–97) by Italy During the Second World War it was occupied by Italian forces from 1940 to 1941 It is a cotton mart

Kassel (kă'sŭl), city (1939 pop 216,141, 1946 pop 127,568), Hesse, W Germany, on the Fulda river A center of important locomotive and machinery industries, it was during the Second World War also a center of German airplane and tank production, it was virtually obliterated by Allied bombings, and none of its former handsome palaces, museums, theaters, and other public buildings remain Thousands of inhabitants were buried under the ruins However, the paintings of the celebrated gallery of Kassel (itself destroyed) were saved Mentioned as early as the 10th cent , it became the capital of the land-graviate of Hesse-Kassel (raised to an electorate in 1803) After Electoral Hesse and Nassau passed (1866) to Prussia and were united into the province of Hesse-Nassau, Kassel was made the capital Kassel also was the capital of the kingdom of Westphalia (1807–13) under Jérôme Bonaparte An older spelling is Cassel

Kasserine Pass, gap, 2 mi wide, central Tunisia, in the Grand Dorsal chain (an extension of the Atlas Mts) A key point in the Allied offensive on Tunisia in the Second World War, the pass was the scene of an AXIS break-through (Feb 20, 1943), but was retaken with heavy losses by U S forces on Feb 25 See NORTH AFRICA, CAMPAIGNS IN

Kasson, John Adam (kă'sun), 1822–1910, American political leader and diplomat, b Charlotte, Vt , LL D Univ of Vermont, 1842 He practiced law (1850-57) in St Louis and afterwards in Des Moines, Iowa, where he became active in Republican politics He helped draft the Republican national platform at Chicago in 1860 and managed Abraham Lincoln's campaign in Iowa He was (1861–62) First Assistant Postmaster General and went as U S commissioner to the International Postal Conference in Paris (1863) He went to Europe in 1867 to conclude several postal treaties He served in the U S Congress (1863-67, 1873 77 1881 84) and in the Iowa legislature (1868-72) but became more noted as a diplomat He was minister to Austria-Hungary (1877-81) and to Germany (1884–85), representing (1885) the United States at the Berlin Conference to regulate the status of the Congo He returned in 1889 to Berlin for the conference on Samoa He later was a member of the joint high commission appointed in 1898 on differences with Canada He wrote *The Evolution of the Constitution of the United States and the History of the Monroe Doctrine* (1904)

Kasson, village (pop 1,230), SE Minn , W of Rochester, in a farm and dairy region, settled 1865, inc 1870

Kastamonu (kă"stămōnōō'), town (pop 13,869), N Turkey It is the capital of a province rich in minerals (coal, mercury, copper, chromium, and arsenic) and has long been noted for its manufacture of copper utensils It also has a textile industry The name also appears as Kastamuni

Kästner, Erich (ā'rĭkh kĕst'nur) 1899–, German novelist and poet His work is humorous and satirical Several of his novels have been translated, including *Emil und die Detektive* (1929, Eng tr , 1930), *Fabian* (1931, Eng tr , 1932), *Drei Männer im Schnee* (1934, Eng tr , *Three Men in the Snow*, 1935), and *Die verschwundene Miniatur* (1936, Eng tr , *The Missing Miniature*, 1936) Among his volumes of poetry is *Herz auf Taille* [heart on the sleeve] (1928)

Kastron (kă'strŏn), town (pop 3,322), capital of Lemnos island, Greece, a port on the Aegean Sea It trades in local produce The name also appears as Kastro or Castro

Katahdin (kută'dĭn), mountain, 5,268 ft high, between branches of the Penobscot in N central Maine, highest point in Maine The peak and surrounding beautiful wooded, lake-dotted territory constitute a state park, the gift (1931) of Gov Percival P Baxter Mountain and park are within a state game preserve See E S C Smith and M H Avery, *An Annotated Bibliography of Katahdin* (1936)

Katanga (katăng'gu, ku–), plateau (c 216,000 sq mi , pop c 1,020,000), SE Belgian Congo The chief city is Elisabethville In the east there is a mineral zone with enormous copper deposits which have been worked since the late 19th cent and with coal, iron, cobalt, tin, and radium The region is connected by rail with the west coast of Africa, with Stanleyville, and with Lusaka, the capital of Northern Rhodesia Katanga is a high grassy plateau used for agriculture and stock raising The climate is pleasant, and there are white settlers

Katar see QATAR

Katayama, Tetsu (tĕt'sōō kătayä'mä), 1887 , Japanese statesman Long active in the Japanese labor circles, he later was general secretary of the Social Democratic party When this was suppressed by the police, he helped organize the Social Mass party The Social Democratic party was reorganized after the Second World War, and he became its leader and was prime minister (1947–48) of a coalition cabinet

Katayev, Valentin Petrovich (vŭlyĭntyĕn' pĕtrō'vĭch kŭtī'uf), 1897–, Russian novelist, short-story writer and playwright His novels portray almost the whole range of Soviet life, from the period of the New Economic Policy (*The Embezzlers*, 1927, Eng tr , 1929) through the Five Year Plan (*Time, Forward!* 1932, Eng tr , 1933) to the Second World War (*The Wife*, 1944, Eng. tr , 1946) In *The Lonely White Sail* (1936, Eng tr , 1937, American ed , *Peace Is Where the Tempests Blow*, 1937) he evoked pleasant memories of childhood.

His comedies are very popular, especially *Squaring the Circle* (1929, Eng tr., 1934), a farce on Soviet marriage and housing conditions, *A Million Torments* (1934, Eng tr., 1934), and *The Blue Kerchief* (1942), a somewhat farcical treatment of the Second World War. Also available in English are some of Katayev's reports on the war (*We Carry On!* 1942) and *Magic Flower* (1947)

Katharine or **Katherine** For some persons thus named, see CATHERINE.

Katharine of Aragon, 1485–1536, queen of England, daughter of Ferdinand and Isabella of Spain. In 1501 she was married to Arthur, eldest son of Henry VII. He died in 1502, and the marriage of Katharine to his brother Henry was projected. A papal dispensation was obtained, but the marriage was delayed by diplomatic wrangling between Henry VII and Ferdinand and did not take place (1509) until the prince had ascended the throne as HENRY VIII. In 1513, as regent during Henry's expedition to the Continent, she organized the successful defense against Scotland which ended in the victory at Flodden. Only one of Katharine's six children survived infancy (see MARY I), and Henry was disappointed at her failure to produce a male heir. The English alliance with Katharine's nephew, CHARLES V, wavered and fell in 1525, and her political importance declined. Finally, Henry became violently infatuated with Anne BOLEYN. In 1527 with the help of Cardinal WOLSEY, Henry began the attempt to have his marriage annulled. This move ultimately precipitated the chain of events that ended in the English Reformation. Katharine steadfastly refused to acknowledge the invalidity of the marriage or to retire to a convent. In 1529 at a trial conducted by Cardinals CAMPEGGIO and Wolsey, she appealed vainly to Henry, denied the jurisdiction of the court because it was under pressure by the king, and withdrew. Pope CLEMENT VII recalled the hearing to Rome, in effect denying the divorce. Henry then proceeded on his own, after his secret marriage to Anne Boleyn in 1533, a court presided over by Thomas CRANMER pronounced the former marriage invalid. Katharine refused to accept this decision. The pope's formal declaration for her in 1534 came too late. Separated from her daughter, Mary, never visited by Henry, confined with few attendants at various inferior estates, Katharine refused despite all threats and mistreatment to take the title of princess dowager or to acknowledge the Act of Succession and the Act of Supremacy. She died after a prolonged illness. See Garrett Mattingly, *Catherine of Aragon* (1941)

Kathiawar (kä'tēəwär'), peninsula (23,432 sq mi; pop. 3,484,222), W India. It lies between the Gulf of Cutch and the Gulf of Cambay. Kathiawar comprises Saurashtra state and portions of Bombay state. Mostly level, it produces much cotton.

Katkov, Mikhail Nikiforovich (mĕkhōō'ēl' nyēkē'fōōrvĭch kŭtkôf'), 1818–87, Russian journalist. In his student years he belonged to the revolutionary circle of Belinsky, Herzen, and Bakunin and later, as the editor of several important journals, championed a constitutional form of government modeled on the English. But after the Polish insurrection of 1863, for which he blamed the socialists and nihilists, he turned to the reactionary and Slavophile party. He was the personal adviser of Alexander III, and his influence upon the government was enormous. He wrote much on literary and political subjects.

Katmai National Monument (kăt'mī), 2,697,590 acres, S Alaska, near the northern end of the Alaska Peninsula, est 1918. It was enlarged in 1931 and 1942. It is a dying volcanic region, containing Katmai Volcano and the Valley of Ten Thousand Smokes (area 72 sq mi). The eruption (1912) of the volcano changed the topography of the area. It showered volcanic ash for a great distance, covering Kodiak Island, 100 mi. distant, to a depth of almost a foot. All plant and animal life in the region was destroyed. The eruption created a crater 8 mi. in circumference and 3,700 ft deep, in which a lake has formed. The National Geographic Society has sent a number of scientific expeditions to the region, on one of which the former Katmai Pass was named the Valley of Ten Thousand Smokes, because of gases and steam rising from thousands of vents in the earth. In recent years, volcanic action has abated. The region is inaccessible except to specially equipped explorers or expeditions. See R. F. Griggs, *Scientific Results of the Katmai Expeditions* (1920) and *The Valley of Ten Thousand Smokes* (1922), B. R. Hubbard, *Mush, You Malemutes!* (1932)

Katmandu (kätmändōō') city (pop. c 80,000), capital of Nepal, founded 723. It lies in a fertile valley at an altitude of c 4,500 ft. It possesses many fine Buddhist temples, a college, and Sanskrit libraries. The chief palace of the king is here.

Kato, Takaakira, Viscount (tä"kä-ä'kĕrä, kä'tō), 1859–1926, Japanese statesman. He served as ambassador to Great Britain and was (1899–1901, 1906–8, 1913, 1914–16) foreign minister. He was largely responsible for presenting the Twenty-one Demands to China. Later he organized and became head of the conservative Kenseikai party and was (1924–25) prime minister. His cabinet was called "the Mitsubishi government," because both he and his foreign minister, Shidehara, were connected by marriage with the Mitsubishi interests. His administration reduced army strength and government expenditures, sponsored the manhood-suffrage law, and favored the Peace Preservation Law, penalizing political heterodoxy.

Kato, Tomosaburo, Baron (tōmōsä"ä'bōōrō', kä'tō), 1859–1923, Japanese admiral. He was navy minister from 1915 to 1923, directing Japanese naval operations in the First World War and the naval expansion thereafter. As head of the delegation to the Washington Conference, he accepted, however, the principle of naval limitation. He was prime minister (1922–23).

Katona, Joseph (kô'tônō), 1791–1830, Hungarian dramatist. His tragedy *Bank ban* (1821) is considered the best piece of dramatic poetry in Hungarian. Katona's greatness lay in his power of portraying the development of emotional conflict.

Katonah (kutō'nu), unincorporated residential village (pop. 1,764), SE N.Y., in Westchester co., N of White Plains.

Katowice (kätôvē'tsĕ), Ger. *Kattowitz* (kä'tōvĭts), city (pop. 128,290), capital of Silesia prov., SW Poland. It is the center of a mining and industrial district, which also includes the cities of Bedzin, Beuthen, Chorzow, Czeladz, Dabrowa Gornicza, Gleiwitz, Hindenburg, and Sosnowiec. Coal, iron, zinc, and lead are mined. Katowice has metal, chemical, food, electrical, printing, and leather industries. It was incorporated in 1867 and passed from Germany to Poland in 1921. It was damaged in the Second World War. Bogucice (bôgōōtsē'tsĕ), Ger. *Bogutschütz* (bô'gōōt-shütz), is a suburb.

Katrine, Loch (lôkh kăt'rĭn), lake, c 8 mi. long and 1 mi. wide, Perthshire and Stirlingshire, Scotland, E of Loch Lomond. It is overlooked by Ben Venue (2,393 ft.) and surrounded by hills and woods. Its outlet flows to the Teith river through Lochs Achray and Vennachar. In 1859, when Loch Katrine became the source of water supply for Glasgow, its water level was raised, submerging the Silver Strand of Scott's *Lady of the Lake* and decreasing the size of Ellen's Isle.

Katsina (kätsē'nu, kät'sēnu), city (pop. 22,260), N Nigeria. It is surrounded by a wall 1.1 mi. long. In the 17th and 18th cent. while under the native state of Bornu, it was the largest city of the Hausas and a seat of learning and culture. In the 19th cent. it was exceeded in size by the Hausa city of Kano. Katsina has an imposing mosque and a Moslem college.

Katsura, Taro, Prince (tärō', kät'sōōrä), 1847–1913, Japanese statesman. A Choshu clansman, he served as war minister before he was prime minister (1901–6) during the Russo-Japanese War, resigning on account of public dissatisfaction with the peace treaty. As prime minister again (1908–11), he put through the annexation of Korea and engaged in a struggle with the diet. He had ceased being a protégé and had become a rival of YAMAGATA, who relegated him to the post of keeper of the privy seal, but in 1912 Katsura defied the clan oligarchy and used the imperial authority to make himself prime minister. He organized a new party and tried to control the diet by means of his great wealth, but was forced to resign in 1913.

Kattath (kă'tăth), unidentified city, N central Palestine. Joshua 19:15.

Kattegat (kă'tĭgät"), strait, 137 mi. long and 37 mi. to c 100 mi. wide, between Sweden and Denmark. It is connected with the North Sea through the Skagerrak, which begins at Cape Skagen or the Skaw, at the northern tip of Jutland, and with the Baltic Sea by way of the Oresund, the Great Belt, and the Little Belt. Goteborg (Sweden) and Aarhus (Denmark) are the chief ports. The name also appears as Cattegat.

Kattowitz, Poland see KATOWICE.

Katun (kutōōn'), river, 386 mi. long, SE Altai Territory, RSFSR, in S Siberia. It rises in the Katun Alps (see ALTAI) and flows generally north to join the Biya, with which it forms the Ob river.

katydid, insect of the long-horned GRASSHOPPER family. Most of the approximately 7,000 species, especially the tree-dwelling forms, are green. The majority are herbivorous. Sounds are produced, as in the cricket, by rubbing one forewing against the other. Certain species in the E United States sing "Katy did, Katy didn't" through the night.

Katyn (kŭtĭn'), village, RSFSR, W of Smolensk. It was occupied by the Germans in the Second World War. In 1943 the German government announced that the mass grave of some 10,000 Polish officers had been found in a forest near Katyn and accused the Russians of having massacred them. The Russian government, while denying the accusation, refused an international investigation, and a break followed between Russia and the Polish government in exile (see POLAND). Subsequently, Russia accused Germany of having massacred the officers. The officers, according to the two conflicting versions, had been prisoners either of Russia or of Germany after the defeat of Poland in 1939.

Katzimo: see ENCHANTED MESA.

Kauai (kou"wī'), island (551 sq. mi., pop. 35,636), one of the Hawaiian Islands, geologically the oldest, separated from Oahu by the Kauai Channel. LIHUE is the principal town, and NAWILIWILI HARBOR the chief port. In the central mountain mass are Waialeale (5,170 ft.), the highest peak, and Waimea Canyon. Kauai was ceded to the kingdom of Kamehameha I in 1810. The former beach home of Queen Emma is at Lawai beach. The chief products of the island are sugar, rice, and pineapples.

Kauffer, Edward McKnight, 1890–, American poster artist and illustrator, b. Great Falls, Mont. After studying in Chicago, Munich, and Paris, he settled in London (1914), where he became a leader in poster designing. The high quality of his work merits its inclusion in numerous galleries. Kauffer is also known as the illustrator of Burton's *Anatomy of Melancholy* and many other works. He edited *The Art of the Poster* (1925).

Kauffman, Calvin Henry, 1869–1931, American botanist, b. Lebanon, Pa. Known for his work on mushrooms, he wrote *Agaricaceae of Michigan* (1918) and numerous articles in botanical journals. After 1904 he was on the faculty of the Univ. of Michigan.

Kauffmann, Angelica (ang-gä'lēka kouf'man), 1741–1807, Swiss historical and portrait painter, pupil of her father, Joseph Kauffmann. From the age of 11 she showed great talent. After some successes in Italy she went to England, where she became a protégée of Sir Joshua Reynolds and enjoyed a brilliant career as a fashionable portrait painter and decorator. She was one of the original members of the Royal Academy. An unfortunate marriage (1767) was annulled by the pope, and in 1781 she married the Venetian painter Antonio Zucchi and thenceforth lived in Naples and Rome, where she continued to be highly popular. Few women painters have enjoyed such a successful career. She was a gifted singer and linguist as well as a painter and enjoyed the friendship and patronage of many famous contemporaries. Her reputation, however, has greatly declined, being based on charm and facility rather than on more substantial qualities. Among her portraits are those of Reynolds, Garrick, and Mengs (all Victoria and Albert Mus.). Characteristic figure compositions are *Religion Surrounded by Virtues* (National Gall., London), *Virtue and Prudence* (Pa. Acad. of the Fine Arts), and two paintings of Telemachus and Calypso (Metropolitan Mus.). The British Museum contains a collection of her drawings, etchings, and engravings. See biography by F. A. Gerard (1893), study by Lady Victoria Manners and G. C. Williamson (1924).

Kaufman, George S. (kôf'mun, kouf'), 1889–, American journalist and playwright, b. Pittsburgh. He conducted humorous columns, and as a drama critic for the New York *Times* he was influential in raising the standards of criticism in the theater. The sole author of only one play, *The Butter and Egg Man* (1925), he wrote many successful plays in collaboration with Marc CONNELLY, Edna Ferber, Morrie Ryskind, and Moss Hart. He won the 1932 and 1937 Pulitzer Prize for drama with the musical comedy *Of Thee I Sing* (with Morrie Ryskind, 1931, score by George Gershwin) and the play *You Can't Take It with You* (with Moss Hart, 1936). Among the plays with Edna Ferber are *The Royal Family* (1927), *Dinner at Eight* (1932), *Stage Door* (1936), and *The Land Is Bright* (1941). With Moss Hart he wrote *The Man Who Came to Dinner* (1939) and *The Late George Apley* (1944).

Kaufman (kouf'mun, kôf'-), city (pop. 2,654), co. seat of Kaufman co., N Texas, ESE of Dallas, founded 1848, inc. 1873. This market center processes cotton and other produce of the rich blackland and has small industries.

Kaufmann Peak, USSR: see LENIN PEAK.

Kaukauna (kôkô'nu), industrial city (pop. 7,382), E Wis., on the Fox and E of Appleton, settled 1793, inc. 1885. It began as a fur-trading post of the late 18th and early 19th cent. There are railroad shops, stone quarries, and plants processing sulphate and—most important—dairy products.

Kaulbach, Friedrich August von (frē'drĭkh ou'gōōst fŭn koul'bäkh), 1850–1920, German portrait and genre painter, son and pupil of Friedrich Kaulbach (1822–1903), historical and portrait painter. Friedrich August's earlier works are principally genre scenes, brilliantly colored and skillfully handled. In 1881 he settled in Munich, where he achieved success in portraiture. He was director (1886–91) of the Munich Academy. His works include *Italian Garden* and *Girl's Head* (both Metropolitan Mus.).

Kaulbach, Wilhelm von (vĭl'hĕlm), 1805–74, German historical painter and illustrator. He was director of the Munich Academy from 1849. In Munich he executed great decorative works for the Odeon, the palace, and the Hofgarten and a series of designs depicting the development of the arts under Louis I for the exterior of the New Pinakothek. These works showed his penchant for the dramatic, his facility for rapid painting on a large scale, and his love for the grotesque and satiric. In 1847 he went to Berlin to decorate the grand staircase of the New Museum with a series depicting the evolution of civilization. A study, or replica, of one of the series, *The Crusaders before*

Jerusalem, is in the Metropolitan Museum To his last period belong *Sea Fight at Salamis*, portraits of Louis I and Maximilian II, and a self-portrait Other important works include *Madhouse*, illustrations for Goethe's *Reineke Fuchs* and *Faust* and a *Shakespeare Gallery* and a *Goethe Gallery*

Kaulun: see HONG KONG

Kaunas (kou'näs), Pol *Kowno* (kôv'nô), Rus *Kovno* (kôv'nu), city (pop 154,109), central Lithuania, on the Nemen river An active port, it also has food, textile, and other industries First mentioned in the 13th cent, Kaunas was a medieval trading center and a Lithuanian stronghold against the Teutonic Knights It passed to Russia in the third partition of Poland (1795) Though strongly fortified by the Russians, it was captured (1915) by the Germans in the First World War From 1918 to 1940 Kaunas was the provisional capital of Lithuania—VILNA (which Lithuania claimed as its rightful capital) being held by Poland until 1939 and by Russia in 1939–40 Kaunas was occupied by German forces from 1941 to 1944 During the German occupation the Jews of Kaunas (about 30 percent of the pre-war population) were virtually exterminated Before evacuation at the approach of Russian troops the Germans destroyed much of the city The Univ of Kaunas was founded in 1922

Kaunitz, Wenzel Anton, Fürst von (vĕn'tsŭl än'tŏn fürst' fŭn kou'nĭts), 1711–94, Austrian statesman He distinguished himself as a negotiator of the Treaty of Aix-la-Chapelle (1748) and from 1753 until his retirement in 1792 served Maria Theresa, Joseph II, and Leopold II as chancellor and foreign minister Recognizing Prussia rather than France as the chief enemy of Austria, Kaunitz was responsible for the coalition that led to the SEVEN YEARS WAR Through Kaunitz, Austria shared in the first partition of Poland (1772) Kaunitz did not see eye to eye with Joseph II on all his reforms, but he helped Joseph centralize the administration Kaunitz is regarded as one of the most astute statesmen of the 18th cent

Kautsky, Karl Johann (kärl' yōhän kout'skē), 1854–1938, German-Austrian socialist, b Prague He had considerable influence in politics, he was the principal deviser of the Erfurt Program, a dominant figure in the Second International, and co-founder, with Hugo HAASE, of the Independent Social Democratic party in Germany A consistent opponent of Eduard Bernstein and other socialists who advocated revision of Marxist doctrines, Kautsky also opposed Lenin and Bolshevism He wrote a great amount of socialist and other literature and edited the German documents on the origin of the First World War (4 vols, 1919) Among his translated works are *The Economic Doctrines of Karl Marx* (Eng tr, 1925), *Ethics and the Materialist Conception of History* (Eng tr, 1907), and *Bolshevism at a Deadlock* (Eng tr, 1931)

Kavalla or **Kavala** (both kävä'lä), city (pop 49,667), E Macedonia, Greece, a port on the Gulf of Kavalla an inlet of the Aegean Sea It is the chief Greek center for tobacco processing and exporting, and its artificial harbor is, next to Salonica, the most important in N Greece It was conquered by Bulgaria from Turkey in the first of the Balkan Wars (1912–13) and was ceded to Greece at the conclusion of the second war Kavalla is near the site of ancient Philippi

Kaveri: see CAUVERY

Kaverin, Veniamin Aleksandrovich (vĕnyŭmēn' ŭlyĭksän'drŭvĭch kävyĕ'rĭn), 1902–, Russian novelist and short-story writer He was a member of the literary group calling itself the Serapion Brothers and expounded that circle's creed of the artistic independence of politics in the story *The Unknown Artist* (1931, Eng tr, 1947), a work owing much to Western influences, especially to E T A Hoffmann and Poe *Two Captains* (1940, Eng tr, 1942) had more the orthodox Socialist point of view His long novel *The Larger View* is available in English (1948)

Kaw, river see KANSAS, river

Kawagoe (kä'wē'gō), city (1947 pop 50,294), Saitama prefecture, central Honshu, Japan It has a 9th-century Buddhist temple and today manufactures silk textiles

Kawaguchi (kä'wä'gōōchē), city (1940 pop 97,115, 1947 pop 116,007), Saitama prefecture, central Honshu, Japan It has ironworks and textile mills

Kawartha Lakes (kä'wôr'thŭ), group of 14 lakes, in an area some 50 mi long and 25 mi wide, S Ont, near the towns of Lindsay and Peterborough The lakes—Scugog, Sturgeon, Balsam, Cameron, Pigeon, Bald, Sandy, Buckhorn, Chemong, Deer, Lovesick, Stony, Clear, and Katchewanooka—are popular as summer resorts

Kawasaki (kä'wä'sä'kē), city (1940 pop 300,777, 1947 pop 252,923), Kanagawa prefecture, central Honshu, Japan, on Tokyo Bay In the Tokyo-Yokohama industrial area, it has steel mills, shipyards, and engineering works and was bombed (1945) in the Second World War.

Kaw Indians: see KANSA INDIANS.

Kay, Sir: see ARTHURIAN LEGEND.

Kay, John, 1704–64, English inventor He patented in 1733 the fly shuttle, operated by pulling a cord which drove the shuttle to either side, freeing one hand of the weaver to press home the weft The device was looked upon as a menace to hand labor Kay was mobbed and his model destroyed He went to France, resumed his work, and tried unsuccessfully to win recognition in England Although he was the inventor of one of the most important principles of modern mechanical weaving, he died in poverty See Perry Walton, *Story of Textiles* (2d ed, 1925)

Kay, John, 1742–1826, Scottish caricaturist, miniature painter, and etcher Until his 40th year he worked as a barber, devoting his spare time to painting, etching, and sketching the celebrities of Edinburgh Kay's portraits and caricatures were collected by Hugh Paton under the title *A Series of Original Portraits and Caricature Etchings by the Late John Kay* (1837–38, new ed, 1877)

kayak, see CANOE

Kaye-Smith, Sheila, 1887–, English novelist In 1924 she married an Anglican clergyman, Theodore P Fry, and in 1929 they were both converted to Roman Catholicism Her concern with religion is reflected in her series of novels about her native Sussex, including *Sussex Gorse* (1916), *Joanna Godden* (1921), *The End of the House of Alard* (1923), *Susan Spray* (1931), *The Valiant Woman* (1938), *Tamburine, Trumpet, and Drum* (1943), and *The Happy Tree* (1949) She has also written short stories, a few plays, and competent ballad poetry, as well as two critical works with G B Stern, *Talking of Jane Austen* (1943, American title, *Speaking of Jane Austen*, 1944) and *More about Jane Austen* (1949) See her autobiography, *Three Ways Home* (1937)

Kayser, Heinrich Gustav Johannes (hĭn'rĭkh gōōs' täf yōhä'nus kī'zur), 1853–1940, German physicist He was professor at Bonn from 1894 to 1920 He is known for his work in sound and, in association with C D T Runge, in SPECTRUM analysis He wrote a handbook of spectroscopy (1901–12) and a treatise on the electron theory (1905)

Kayseri (kī'sĕrē), city (pop 57,864) central Turkey, ESE of Ankara It has cotton and tile manufactures and is an agricultural trading center The ancient CAESAREA MAZACA, the city played an important part in the history of the Byzantine and Seljuk empires The name also appears as Kaisaria

Kaysville, city (pop 1,211), N Utah, between Salt Lake City and Ogden, in an irrigated farm area, settled 1849 by Mormons, inc 1868

Kazakh Soviet Socialist Republic (käzäk', ku-, Rus kŭzäkh') or **Kazakhstan** (kä"säkstän' Rus kŏzŭkhstan'), constituent republic (1,063,200, 1946 estimated pop 6,000,000), USSR, in central Asia It borders on the RSFSR (Siberia) in the north, China in the east, the Kirghiz, Uzbek, and Turkmen republics in the south, and the Caspian Sea in the west Alma-Ata, the capital, and Karaganda, Aktyubinsk, Akmolinsk, Petropavlovsk, Chimkent, and Semipalatinsk are the chief cities The second largest constituent republic of the Soviet Union, Kazakhstan consists primarily of the dry Caspian and Turan lowlands, the arid USTYURT plateau, and the Kazakh Hills and is bounded in the east and south by the ALTAI and ALA-TAU mountain systems The climate is dry and continental The republic includes the ARAL SEA and Lake BALKASH, the chief rivers are the Irtysh, Ural, Ili, and SYR DARYA Agriculture is important in the black-earth steppes of the north, where wheat is grown In the desert and semidesert area of the central section and in the arid KIZIL KUM sheep and camels are raised The southern plains are irrigated and grow sugar beets, tobacco, opium poppies, rubber-bearing plants, cotton, rice, and fruit Industry is based on rich mineral resources, notably copper, coal, lead, zinc, and iron The population consists of Kazakhs (57 percent), Russians and Ukrainians (33 percent), and smaller groups The Kazakhs (formerly called Kirghiz, while the present Kirghiz were called Kara Kirghiz) are a Turkic-speaking Moslem group whose warlike and nomadic ancestors settled in the region in the 13th and 14th cent Dominated at first by the Mongols and later by local khans, the area came under Russian rule in the 19th cent The republic was first constituted (1920) as the Kirghiz Autonomous SSR, it was renamed Kazakh ASSR in 1925 and in 1936 became a constituent republic

Kazan (kŭzän', kŭzän', Rus kŭzä'nu), city (pop 401,665), capital of the Tatar ASSR, E European RSFSR, near the left bank of the Volga It is a major historic, cultural, industrial, and commercial center The name is sometimes spelled Kasan Among its many manufactures are locomotives, aircraft, agricultural machinery, synthetic rubber, gunpowder, and textiles There are a university (founded 1804), technical, medical, and scientific institutes, an opera, several theaters, and a noted Tatar museum The near-by port and shipyards on the Volga make Kazan an important water-transport center Founded in 1401, Kazan was the capital of a powerful Tatar khanate, which emerged from the empire of the Golden Horde The khanate was conquered and the city sacked in 1552 by Ivan IV, and it became (18th cent) an outpost of Russian colonization in the east Of the splendid Moslem period of Kazan little remains except the Suyumbeka tower in the impressive 16th-century kremlin, which contains many domed and spired churches and monasteries and a 19th-century palace The kremlin resisted (1774) an attack by Pugachev, who burned the rest of the city. The Tatars still form 24 percent of the population of Kazan, the rest being mostly Russians Lenin studied at the Univ of Kazan

Kazan (kuzän'-zän'), river rising in SE Mackenzie dist of the Northwest Territories and flowing through the uninhabited barren grounds area of Keewatin dist c 450 mi NE to Baker Lake.

Kazanlik (kä"zänlĭk'), town (pop 19,386), central Bulgaria, in the Kazanlik valley, a region famous for its rose fields Kazanlik developed in the 17th cent as a manufacturing center for attar of roses It now also manufactures textiles and musical instruments

Kazan-retto see VOLCANO ISLANDS

Kazbek, Mount (kŏzbĕk', Rus kŭzbyĕk'), peak, 16,541 ft high, N Georgian SSR, in the central Greater Caucasus An extinct volcano, it rises above the DARYAL gorge and the Georgian Military Road Its glaciers give rise to the Terek river It was first scaled in 1868 An alternate spelling is Kasbek

Kazdagi, Turkey see IDA MOUNTAINS

Kazimierz see CASIMIR

Kazinczy, Francis (kô'zĭntsē), Hung *Kazinczy Ferencz* (fĕ'rĕnts), 1759–1831, Hungarian author and critic He was the great literary authority of his time and a leading reformer of the Hungarian language As a poet he was at his best in didactic verse, and as a prose writer, in biography His translations of Shakspere and other foreign authors are notable, and his many letters to Hungarian writers are valuable for their criticism

Kazvin (käzvēn'), **Kasbin** (käzbēn'), or **Qazvin** (käzvēn'), city (pop 60,013), NW Iran, S of the Elburz range and c 100 mi W of Tehran, on routes to Tabriz, Resht, and Hamadan It contains a mosque of Harun-al-Rashid and buildings by Shah Abbas I It was capital of Persia from 1514 to 1590 The Mongols sacked it, but its population—more Turkoman, Kurdish, and Tatar than Persian—resisted the Afghans in 1723 In the First World War, Russians and British defended (1918) it against Turkey In and just after the Second World War it was a stronghold of Russian occupation Kazvin trades in silk, fruit, and rice and makes carpets

Kea: see KEOS

Keaau, T H see OLAA

Kealakekua Bay (kä'lăkäkōō'u), W Hawaii, T H, in the Kona district Captain Cook, who discovered the islands, stopped here on his second voyage to Hawaii (1779) and was killed by the natives A monument to him stands on the shore

Kean, Charles John, 1811?–1868, English actor; son of Edmund Kean He went on the stage against his father's wishes and appeared at Drury Lane as Young Norval in *Douglas* in 1827 At his father's last appearance in 1833, Charles acted Iago to his father's Othello at Covent Garden. He produced many Shakspearian plays with spectacular settings and staged Byron's *Sardanapalus* His forte was melodrama His wife was **Ellen Tree Kean**, 1808–80, an English actress whom he married in 1842 Her first appearance at Covent Garden in 1829 established her reputation as a comedienne She played opposite her husband until his death, when she retired See W G B Carson, *Letters of Mr and Mrs Charles Kean Relating to Their American Tours* (1945)

Kean, Edmund, 1787?–1833, English actor His parentage is uncertain, although evidence favors Edmund Kean, a surveyor's clerk, and Ann Carey, one of a company of strolling players He served an apprenticeship with groups of provincial and strolling players and in 1814 appeared at Drury Lane as Shylock, a triumph that is a landmark in the history of the theater He further increased his reputation as Richard III, Hamlet, Othello, Iago, Lear and Sir Giles Overreach In the United States in 1820–21 Kean had many triumphs, but a broken engagement in Boston ruined his popularity there In 1822 a suit for adultery brought by Alderman Cox resulted in a separation from his wife and son and hastened the disintegration of his personal life and his career In 1825 he again visited the United States and in some measure retrieved his reputation After his return to England in 1826 his health and dramatic powers declined At his peak, however, he had such intensity, force, and insight in his portrayals that a place among England's greatest actors of tragedy is assured him Leigh Hunt, Byron, and Lamb praised him, Hazlitt lauded him in *A View of the English Stage* (1818), and Coleridge claimed for him the power to reveal Shakspere by "flashes of lightning" See H N Hillebrand, *Edmund Kean* (1933)

Kean, Ellen Tree see KEAN, CHARLES JOHN

Keansburg, borough (pop 2,904), E N J, a resort on Raritan Bay ESE of Perth Amboy, inc 1917.

Kearney, Dennis (kär'nē), 1847–1907, American political agitator, b Co Cork, Ireland. He was a sailor and then a San Francisco drayman. When

California suffered a depression in 1877, Kearney began addressing the workingmen and the unemployed in vacant San Francisco sand lots He denounced the Central Pacific RR monopoly, political and economic abuses, and particularly Chinese labor, ending many of his speeches with the words, "The Chinese must go" His inflammatory harangues attracted many followers, and after organizing the Workmen's Party —often called the "Sand-Lotters"—he led in the 1870s in driving Orientals from their factories, in burning their laundries, and in threatening violence to those who employed Chinese workers. The party united with the Granger organization and sent a large number of delegates to the California constitutional convention of 1878, where their influence brought about many new laws The state judicial system was reformed, a railroad commission was set up, and home rule was set up in San Francisco The Chinese were forbidden to hold property and to engage in specified occupations The provisions denying the Chinese civil liberties were later voided by the courts Kearney went East to popularize the Workingmen's party, but, gaining little success, he dropped back into obscurity after 1884

Kearney (kär'nē), city (pop 9,643), co seat of Buffalo co, S Nebr, on the Platte and SW of Grand Island, in the Great Plains grain and livestock area, founded 1871, inc 1873 It is a processing, trade, and rail center Fort Kearney (named for S W Kearny, but misspelled), established near by in 1848 to protect the Oregon Trail, was abandoned in 1871, the site is now a state park A state teachers college, a state hospital for the tubercular, and a state reform school are here

Kearny, Lawrence (kar'nē), 1789–1868, American naval officer, b Perth Amboy, N J He became a midshipman in 1807, served in the War of 1812, and later saw action in the Caribbean and Mediterranean against pirates As commander (1840–43) of the East India squadron, he opened negotiations which resulted in the signing of a commercial treaty between China and the United States in 1844 On his way home he stopped at the Hawaiian Islands, where he protested against any provisional cession to Great Britain Stephen Watts Kearny was his cousin See biography by C S Alden (1937)

Kearny, Philip, 1814–62, Union general in the Civil War, b New York city, grad Columbia, 1833, nephew of Stephen W Kearny After studying law he joined the army (1837) One of three officers sent to study the French cavalry service (1839), he served (1840) with the French in the Algerian campaign In the Mexican War, Kearny lost an arm at Churubusco He resigned from the army in 1851 to travel and in 1859 fought again with the French in the war for Italian liberation Upon the outbreak of the Civil War he was appointed brigadier general of volunteers and given command of the 1st New Jersey Brigade Kearny fought in the Peninsular campaign and at the second battle of Bull Run While reconnoitering at Chantilly he unknowingly entered the enemy's lines and was killed, Sept 2, 1862 Kearny was noted for his courage and dash and was idolized by his men Kearny, N J, was named for him

Kearny, Stephen Watts, 1794–1848, American general in the Mexican War, b Newark, N J He left Columbia College to join the army on the outbreak of the War of 1812 and was specially mentioned for his work at Queenston Heights He remained in the army, serving at posts on the Western frontier At the beginning of the Mexican War he was made commander of the Army of the West with the rank (June, 1846) of brigadier general With c 1,600 men he marched over the Santa Fe Trail to New Mexico, entered the city of Santa Fe without opposition, and organized a civil government for the territory On his way to join the forces of Commodore Robert F Stockton in California he was besieged at San Pasqual, where he was wounded and suffered casualties of a third of his command before being rescued by relief forces from Stockton After several skirmishes the combined forces reached Los Angeles and occupied the town A dispute arose between Kearny and Stockton as to the chief command, and Col John C Frémont, appointed civil governor of California by Stockton, refused to obey Kearny's orders When orders from Washington sustained Kearny, he had Frémont court-martialed Kearny was military governor of the territory until the end of May, 1847 Afterwards he went to Mexico, where he was governor of Veracruz and then of Mexico city for brief periods in 1848 Fort Kearney, erected in 1848 on the Platte river in what is now Nebraska, was named for Kearny but misspelled

Kearny (kar'nē), town (pop. 39,467), NE N J, including much of the tidal wastelands between the Passaic and the Hackensack E of Newark, inc 1899 It is the site of shipyards (greatly enlarged in 1941, scene of strikes in 1940 and 1941), dry docks, and factories producing paint, chemicals, linoleum, and electrical products Arlington is a residential and industrial section. The meadowlands are constantly being reclaimed for industrial purposes.

Kearsarge (kēr'särj"), Union ship in the Civil War See Confederate cruisers

Keats, John, 1795–1821, English poet, b London; son of a livery-stable keeper At school at Enfield he became the friend of Charles Cowden Clarke Apprenticed to a surgeon (1810), Keats came to know Leigh Hunt and his literary circle, and by 1817 he had given up surgery to write poetry His *Poems* (1817) included "I stood tip-toe upon a little hill," "Sleep and Poetry," and a number of sonnets *Endymion*, a long poem, came out in 1818 Keats returned from a walking tour in the Highlands (1818) to find himself attacked in *Blackwood's Magazine*—an article probably by J G Lockhart berated him for belonging to Leigh Hunt's "Cockney school" of poetry—and in the *Quarterly Review* The belief of some of his friends that these attacks hastened his early death is mentioned by Shelley in *Adonais* but Clarke and Joseph Severn disagreed, as do modern biographers His passionate love for Fanny Brawne seems to have begun in 1818 too Her letters to his sister show that her critics' contention that she was a cruel flirt was not true and only Keats's failing health prevented their marriage Keats contracted tuberculosis, probably from nursing his brother Tom, who died in 1818, and the medical practice of the time tended to accelerate its course Keats sailed for Italy with Severn shortly after the publication of *Lamia, Isabella, The Eve of St Agnes, and Other Poems* (1820), and died there In spite of his tragically brief career, Keats is one of the greatest of English poets The poems of 1820 —especially "Ode to a Nightingale," "Ode on a Grecian Urn," "To Autumn," and "Ode on Melancholy"—are unequaled for dignity, melodic beauty, and richness of sensuous imagery Some of Keats's finest work is in the unfinished epic "Hyperion" Among his posthumous pieces the best known are "La Belle Dame sans Merci," in its way as great an evocation of romantic medievalism as "The Eve of St Agnes" Among his sonnets, familiar ones are "On First Looking into Chapman's Homer," "When I have fears that I may cease to be," and "Bright star! would I were steadfast as thou art" "Lines on the Mermaid Tavern," "Fancy," and "Bards of Passion and of Mirth" are delightful improvisations Keats's poetic dramas, "Otho the Great" and "King Stephen," were unsuccessful, and his attempt at a "popular" poem, "The Cap and Bells," was a failure His letters (ed by M B Forman, 1935) are charming as literature and valuable for their insight into his character See biographies by Sidney Colvin (new ed, 1925), Amy Lowell (2 vols, 1925), Dorothy Hewlett (1937), and C A Brown (1937), H E Rollins, ed, *The Keats Circle Letters and Papers, 1816–1878* (1948)

Keble, John (kē'bŭl), 1792–1866, English clergyman and poet His career (1807–11) at Corpus Christi College, Oxford, was one of unusual distinction Made fellow of Oriel College in 1811 and ordained in 1816, he became tutor and examiner, but resigned in 1823 to become his father's curate He based the doctrine and devotion of his important poetical work *The Christian Year* (1827) on the Book of Common Prayer It sold 150 editions in 50 years and led to a professorship of poetry at Oxford (1831–41) Alarmed at the suppression of 10 bishoprics in Ireland, Keble preached (1833) a sermon which he called "National Apostasy" J H Newman later called this the beginning of the Oxford Movement Keble participated in the *Tracts for the Times* and was closely associated with Newman through his pupil R H Froude From 1836 he held the living of Hursley, Hampshire His works include an edition of Richard Hooker's works (1836), a life of Bishop Wilson (1863), the *Oxford Psalter* (1839) and *Lyra Innocentium Thoughts in Verse on Children* (1846) Among his poems are the well-known hymns *Red o'er the Forest, New Every Morning Is Thy Love*, and *Sun of my Soul* See biographies by J T Coleridge (1869) and Walter Lock (1892)

Keble College. see Oxford University

Kebnekaise (kĕb'nukī"su) [Lappish,=kettle top], mountain peak, 6,965 ft high, Norrbotten co, N Sweden, highest in Sweden It has several glaciers

Kechua see Quichua

Keck, Charles, 1875–, American sculptor, b New York city One of his best-known works is the figure *America*, for the Allegheny County Soldiers' Memorial, Pittsburgh Other monuments are one to George Washington, Buenos Aires, the *Friendship Monument* from the United States to Brazil at Rio de Janeiro; the *Liberty Monument*, Ticonderoga, N Y, and the Booker T Washington monument at Tuskegee, Ala In Charlottesville, Va, are two groups, *Lewis and Clark* and the equestrian *Stonewall Jackson*

Kecskemet, Hung *Kecskemét* (kĕch'kĕmāt), city (pop 87,269), central Hungary, c 50 mi SE of Budapest In existence since at least the 4th cent, it is a typical Hungarian "peasant city," occupying 363 sq mi It is the center of Hungarian fruit export A law school here has a large library

Kedah (kē'dù, kä'da), state (3,640 sq. mi., pop 553,987), NW Malaya, on the Straits of Malacca It is bounded on the northwest by Perlis, on the north and east by Thailand, and on the east and south by Perak The capital is Alor Star Along the coast are wide alluvial plains where rice is grown S Kedah has rubber plantations Tin is mined in the hills of the interior. The majority of the people are Malays; there are many Chinese and small groups of aborigines (Sakai and Semang) Kedah is believed to have been the center of the early Hinduized kingdom of Langkasuka, known from Chinese reports of the 6th cent During the Sailendra domination of the Malay Peninsula (8th–13th cent), it was an important seat of the naval power of the Sailendras and the terminus of transpeninsular trade routes Overrun (13–16th cent) by the later conquerors of the peninsula, it nevertheless maintained substantial independence and a profitable trade with India and Indonesia After the fall of Malacca (1511), Kedah was brought into the Siamese orbit By ceding Penang (1786) and Province Wellesley (1800) to the British the sultan of Kedah embittered his relations with the Siamese court, which was not appeased by his subsequent conquest of Perak for Siam A bloody Siamese invasion (1821) drove him into exile till 1842, upon his return, Perlis was erected into a separate state In 1909 Siam transferred sovereignty over Kedah to Great Britain Before the establishment of the federation of Malaya (1948), Kedah was classed as one of the Unfederated Malay States

Kedar (kē'dur), powerful nomadic tribe, descendants of the second son of Ishmael, living NW of the Sinai peninsula, E of Palestine Gen 25 13, Ps 120 5, Cant 1 5, Isa 21 16, 42 11, 60 7, Jer 2 10, 49 28, Ezek 27 21

Kedemah (kĕ'dēmu, kĕ'dēmù) [Heb, =eastward], son of Ishmael Gen 25 15, 1 Chron 1 31

Kedemoth (kĕ'dumŏth, kĕ'dē-), unidentified town, E of the Dead Sea Deut 2 26, Joshua 13 18, 21 37, 1 Chron 6 79

Kedesh (kē'dĕsh) **1** Town, S Judah Joshua 15 23 **2** See Kishion **3** or **Kedesh-naphtali** (-năf'tulī), city, extreme N Palestine, c 3 mi NE of the Bahr-el-Huleh It is frequently mentioned in the Bible There are interesting ruins Joshua 12 22, 19 37, 20 7, 21 32, Judges 4 6–11, 2 Kings 15 29, 1 Chron 6 76

Keeler, James Edward, 1857–1900, American astronomer, b La Salle, Ill He went at 21 on the Naval Observatory expedition to Colorado to observe the solar eclipse of July, 1878 In 1886 he became an assistant and in 1888 full astronomer at Lick Observatory, Mt Hamilton, Calif He was at the head of Allegheny Observatory (1891–98) In the course of his examination of the spectra of the heavenly bodies, he furnished confirmation for Clerk Maxwell's theory that the rings of Saturn are composed of meteoric particles In 1898 Keeler returned to Lick Observatory as director, and there, working with the Crossley reflector, he observed and photographed vast numbers of nebulae never even suspected before, arriving at the conclusion that the spiral nebula is the normal type He contributed memoirs to the Royal Astronomical Society of England and many papers to the *Astrophysical Journal*, of which he was coeditor He wrote *Spectroscopic Observations of Nebulae* (1894)

Keeling Islands see Cocos Islands

Keelung or **Kilung** (both kē'lōōng'), Jap *Kiirun*, city (pop 136,181), N Formosa prov, China, a port on the East China Sea It figured largely in early European commercial rivalries Portuguese traders settled in the late 16th cent and were driven out by the Spanish, who suffered the same fate at the hands of the Dutch in the mid-17th cent The city came under Chinese control in the early 18th cent It was made an open port in 1858, but at the beginning (1895) of the Japanese occupation of Korea it lost this status A major naval base of Japan, Keelung was heavily bombed in the Second World War The city's extensive rail connections permit it to draw on many areas for its exports, which include tea, sugar, camphor, cotton goods, and ores Among the industries are food processing and copper smelting

Keen, William Williams, 1837–1932, American surgeon, b Philadelphia, M D Jefferson Medical College, 1862 He was professor of surgery at Jefferson (1866–75, 1889–1907) and head of the Philadelphia School of Anatomy (1866–75) He wrote a valuable treatise on gunshot wounds (with S W Mitchell and G R Morehouse, 1864) and other important works including *American Textbook of Surgery* (1892) and *System of Surgery* (8 vols, 1906–21) A brilliant and skillful surgeon, he received national and international honors In 1917 he wrote an account of the operation, performed in 1893 with other surgeons, to remove a cancer from President Cleveland's mouth

Keene, Charles Samuel, 1823–91, English pen-and-ink artist and caricaturist In 1851 he began his long association with *Punch*, where the bulk of his work appeared He also contributed to *Once a Week*, notably the illustrations for Charles Reade's *Cloister and the Hearth* and George Meredith's *Evan Harrington*. His drawings were distinguished for their excellent draughtsmanship and forceful characterization See studies by G. S. Layard (1892) and Joseph Pennell (1897).

Keene, Laura, c.1826–1873, Anglo-American actress and manager Her real name and parentage are unknown She played with Mme Vestris at the Lyceum, London, came to the United States in 1852, and became manager of Laura Keene's Varieties Theater, New York, in 1855 In 1856 she opened Laura Keene's Theater (later the Olympic), which was hospitable to American plays Her most famous production was Tom Taylor's *Our American Cousin*, which she gave at Ford's Theater, Washington, when Lincoln was shot there in 1865 See Joseph Jefferson, *Autobiography* (1890), G C D Odell, *Annals of the New York Stage*, Vol VI (1931)

Keene, city (pop 13,832), co seat of Cheshire co, SW N H, W of Manchester, settled 1736, inc as a town 1753, as a city 1873 Mills were built along the Ashuelot and other streams and granite was quarried The city produces shoes, textiles, wooden articles, and glass and has railroad shops A state teachers college was opened here in 1901 Keene has a summer theater Wyman Tavern (1762) and the First Congregational Church (1786) are among the old buildings

Keeseville (kēz'vĭl), village (pop 1,921), NE N Y, on the Ausable and S of Plattsburg, in a farm area, settled 1806, inc 1878

Keewatin (kē'wa-tĭn,-wä'tĭn), provisional district, part of the Northwest Territories, N of Manitoba and W of Hudson Bay, created 1920 It includes much of the BARREN GROUNDS country

Keewatin (kēwä'tĭn), town (pop 1,481), W Ont, on the Lake of the Woods in a spot of great natural beauty It is a center for hunting and fishing and has lumber and flour mills

Keewatin (kēwä'tĭn), village (pop 1,942), NE Minn, SW of Hibbing and on the Mesabi iron range

Keewatin see ARCHEOZOIC ERA

Kehelathah (kē"hēlä'thu) [Heb, =assembly], unidentified desert encampment Num 33 22,23

Keighley (kēth'lē), municipal borough (1931 pop 40,441, 1947 estimated pop 56,170), West Riding of Yorkshire, England, WNW of Leeds Its products include woolen, silk, and rayon goods, leather, paper, and sewing and washing machines In 1939 Keighley absorbed near-by Haworth

Keihin see YOKOHAMA

Kei Islands, Indonesia see KAI ISLANDS.

Keijo, Korea see SEOUL

Keil, William (kīl), 1812-77, German religious leader He came to the United States in 1838 Preaching the doctrine of Christian love, he gathered a following (chiefly of German origin) with whom he established BETHEL, Mo (1844), and AURORA, Oregon (1855), on a communal basis Under his benevolent but autocratic rule, the communities prospered, but they were dissolved after his death See R J Hendricks, *Bethel and Aurora* (1933)

Keilah (kē'lu), town, SW Palestine David rescued it from the Philistines and lived there until the treachery of its inhabitants caused him to leave No identification is widely accepted Joshua 15 44, 1 Sam 23 1–13, Neh 3 17

Keitel, Wilhelm (vĭl'hĕlm kī'tul), 1882–1946, German field marshal A staunch supporter of Hitler, he became (1938) chief of the combined German general staff On May 8, 1945, Keitel signed the unconditional surrender of Germany in Berlin Subsequently he was arrested, convicted at the Nuremberg war-crimes trial, and hanged

Keith, Sir Arthur (kēth), 1866–, British anthropologist and anatomist, b Aberdeen, Scotland, educated at the Univ of Aberdeen, University College, London, and the Univ of Leipzig He became conservator of the museum and professor at the Royal College of Surgeons (1908), then professor at the Royal Institution, London (1917–23) In 1933 he was installed as master of the Buckston Brown Research Farm at Downe, Kent His writings include *Human Embryology and Morphology* (1902, 6th ed, 1949), *Ancient Types of Man* (1911), *The Antiquity of Man* (1915, 2d ed, 1925), *Religion of a Darwinist* (1925), and *A New Theory of Evolution* (1948) See his autobiography (1950)

Keith, George, 1638–1716, Scottish preacher Joining the Quakers c 1663, he was closely associated with Robert Barclay, George Fox, and other influential Friends Shortly after his arrival in America (1684) he became the leader of a separate faction known as Christian Quakers, for which he was denounced by William Penn in 1692 Keith returned to England where, in 1700, he was ordained a priest in the Anglican Church He was again in America (1702–4), preaching and baptizing His *Journal of Travels from New Hampshire to Caratuck* (1706) records his journeys in the colonies See biography by E W Kirby (1942)

Keith, George, 1693?–1778, Jacobite leader, 10th earl marischal of Scotland He took part in the Jacobite rising of 1715 and after its failure fled to the Continent A leader of the Spanish expedition to Scotland (1719) in behalf of the Old Pretender, he again escaped Much later he joined his brother James Francis Edward Keith in Prussia and rose high in the favor of Frederick the Great, who appointed him ambassador to Paris (1751), governor of Neuchâtel (1752), and ambassador to Spain (1759). Though pardoned by George II, he spent most of the remainder of his life in Prussia See biography by E E Cuthell (1915).

Keith, George Keith Elphinstone, Viscount. see ELPHINSTONE, GEORGE KEITH

Keith, James Francis Edward, 1696–1758, Scottish field marshal of Prussia, brother of George Keith, 10th earl marischal He participated in the Jacobite rising of 1715 and in the expedition of 1719 with his brother Escaping to the Continent, he entered the Spanish service In 1728 he left Spain for Russia, where he gained honor in both civil and military offices In 1747 he was made a field marshal by Frederick the Great, and he rendered great service to Prussia in the early part of the Seven Years War Keith was killed in the battle of Hochkirch See his fragmentary memoir (1843) and *Memoir of Marshal Keith* (1869, anonymous)

Keith, Minor Cooper, 1848–1929, American magnate, a founder of the United Fruit Company, b Brooklyn, N Y In the face of incredible hardships he built (1874–90) a railroad from the port of Limón, which he founded on the Caribbean, to San José, capital of Costa Rica Banana plantations which he started near Limón experimentally in 1873 prospered, and he established the first steamship service to bring these bananas to the United States He gained control of other plantations in Panama and Colombia and dominated the banana trade In 1899 he combined his plantation interests with those of the Boston Fruit Company in the West Indies to form the United Fruit Company He returned to railroad building, organized the International Railways of Central America, and completed an 800-mile railway system, but died before realizing his dream of a line from Guatemala to the Panama Canal His work profoundly altered the economic life of Central American countries

Keith, Sir William, 1680–1749, British colonial governor, b Scotland He was appointed surveyor general of customs for the southern colonies in North America by Queen Anne in 1714 and was governor of Pennsylvania and Delaware from 1714 to 1726, when he was dismissed because of disagreements with the proprietors and the council He died in England in debtors' prison He wrote *History of Virginia* (1738)

Keith (kēth), burgh (pop 4,424), Banffshire, Scotland, SW of Banff, in a farming region It was the birthplace of the elder James Gordon Bennett

Keithsburg, city (pop 1,130), W Ill, on the Mississippi SW of Rock Island, in a farm area, inc 1857

Kekulé von Stradonitz, Friedrich August (frē'drĭkh ou'gōost kä'kōolā fŭn shtra'dônĭts), 1829–1896, German organic chemist He was professor at Ghent (1858–65) and at Bonn from 1865 He made studies of various carbon compounds, especially BENZENE, for the molecular structure of which he developed the ring theory This theory is of fundamental importance to modern chemistry

Kelaiah (kĕlā'yu) or **Kelita** (kĕl'tu), Levite active in the return to Palestine Ezra 10 23, Neh 8 7, 10 10 The texts could refer to different persons

Kelantan (kulăn'tun, kŭlan"tän'), state (5,790 sq mi, pop 444,045), NE Malaya It is bounded by the China Sea on the north, by Thailand and Perak on the west, by Pahang on the south, and by Trengganu on the east The capital is Kota Bahru Rice is grown on the wide coastal plains, other products are rubber and coconuts Tin, iron, and manganese are mined in the hills of the interior The people are mostly Malays, the Chinese form a minority group Before the 16th cent, Kelantan was the vassal state of the powers that in turn dominated the Malay Peninsula After the fall of Malacca (1511), it passed under the sovereignty of Siam In 1909 it became a protectorate of Great Britain Before the establishment of the federation of Malaya (1948), Kelantan was classed as one of the Unfederated Malay States

Kelham, George William (kĕ'lŭm), American architect, 1871–1936, b Manchester, Mass After moving (1906) to San Francisco, he designed there the Federal Reserve Building, the Palace Hotel, the public library, and the Standard Oil and the Shell Oil buildings He headed (1912–15) the architecture department of the Panama-Pacific Exposition

Kelita (kēl'tu) see KELAIAH

Keller, Albert von (äl'bĕrt fŭn), 1844–1920, German painter of portraits, genre scenes, and historical works He was preeminently a colorist, but his paintings are notable also for their excellent craftsmanship He was a professor in the Munich Academy and president of the Munich Secessionists and received many honors

Keller, Gottfried (gôt'frēt), 1819–90, Swiss novelist His vital, realistic, and purposeful fiction gives him a very high place among 19th-century authors Chief among his works is the "educational" novel *Der grüne Heinrich* (1854–55), which he later revised A number of *Novellen* are included in *People of Seldwyla* (1856–74, Eng tr, 1929), one of these, sometimes considered one of the finest German *Novellen* is the basis of Delius's opera, *A Village Romeo and Juliet*

Keller, Helen Adams, 1880–, American author and lecturer, blind and deaf from the age of two, b Tuscumbia, Ala In 1887 she was put under the charge of Anne Sullivan (see MACY, ANNE SULLIVAN), who taught her to speak and who remained her teacher and companion until 1936 Miss Keller made rapid progress and was graduated from Radcliffe in 1904 She has lectured all over America and in Europe and Japan, raising funds for the training of the blind and promoting other social causes Her books include *The Story of My Life* (1903), *The World I Live In* (1908), and *Helen Keller's Journal, 1936–1937* (1938)

Keller, Henry G., 1870–, American painter, b Cleveland, studied at the Cleveland School of Design and in Munich Since 1902 he has taught in the Cleveland Art School His paintings, both oils and water colors, are in the leading museums of the country. Very popular in Cleveland, he was given (1944) a one-man retrospective show in the Cleveland Art Museum

Kellermann, François Christophe de (frăswa' krĕstôf' du kĕl'ĕrman'), 1735–1820, marshal of France, b Strasbourg After serving in the Seven Years War, he won renown in the FRENCH REVOLUTIONARY WARS when he and Dumouriez stopped the Prussians at Valmy (1792) In the Terror, he was repeatedly accused of treason but was not convicted. Napoleon made him a senator (1799) and duke of Valmy (1808), Louis XVIII raised him (1814) to the peerage

Kelley, Abby see FOSTER, ABBY KELLEY.

Kelley, Edgar Stillman, 1857-1944, American composer and critic, b Sparta, Wis, studied in Chicago and at the Stuttgart Conservatory After his return to the United States he played the organ in Oakland, Calif, and in San Francisco and served as music critic of the San Francisco *Examiner* He was acting professor of music (1901–2) at Yale, replacing Horatio Parker, and afterward taught in Berlin until 1910, when he became dean of the composition department of the Cincinnati Conservatory He wrote *Chopin the Composer* (1937). Among his works are an operetta, *Puritania* (Boston, 1892), an orchestral suite, *Aladdin*, based on Chinese music heard in San Francisco, two symphonies, *Gulliver—His Voyage to Lilliput* and *New England* (1913), incidental music to *Ben Hur* (1899), and an oratorio, *The Pilgrim's Progress* (Cincinnati, 1918)

Kelley, Florence, 1859–1932, American social worker and reformer, b Philadelphia, grad Cornell, 1882, and Northwestern Univ law school, 1894 She was a Hull House resident for nine years Active in many reforms, Mrs Kelley turned most of her energies to securing protective labor legislation, especially for women and children From 1899 she served for many years as director of the National Consumers' League, which strove for industrial reform through consumer activity Her writings include *Some Ethical Gains through Legislation* (1905) and *Modern Industry* (1914)

Kelley, Hall Jackson, 1790–1874, American propagandist who urged settlement of Oregon, b Northwood, N H, grad Middlebury College, 1813 A schoolmaster in Boston (1818–23) and later a railroad surveyor in Maine, he plunged into dreams of Oregon, founded (1829) a society to promote American settlement in the disputed Columbia river country, presented memorials to Congress, and wrote appeals to prospective colonists He secured the aid of Nathaniel J WYETH, but plans for a joint expedition were delayed and Wyeth went alone. Kelley in 1833 went to New Orleans, sailed to Veracruz, and crossed Mexico to California, where he met Ewing YOUNG The two arrived in the Oregon country in 1834 A sick and discouraged man, Kelley was sheltered at Fort Vancouver by the hostile Dr John MCLOUGHLIN until the spring of 1835, when he returned to Boston See biography by Fred W Powell (1917), Fred W Powell, ed, *Hall J Kelley on Oregon* (1932)

Kelley, Oliver Hudson, 1826–1913, American agriculturist, b Boston He was a founder of the National Grange of the Patrons of Husbandry, the central influence in the GRANGER MOVEMENT of the 1870s Kelley took up land on the Minnesota frontier in 1849 and farmed until, in 1864, he became connected with the U S Bureau of Agriculture, traveling in the West and South to report on agricultural conditions At this time he conceived the idea of the Grange as a social and fraternal organization of farmers, and in 1867 he and six others secured the charter and Kelley became secretary. After 1873 the leadership passed to others, and Kelley resigned as secretary in 1878 He wrote *Origin and Progress of the Order of the Patrons of Husbandry* (1875) See S J Buck, *The Granger Movement* (1913)

Kelley, William Darrah (dă'rŭ), 1814–90, U S Representative from Pennsylvania (1861–90), b Philadelphia He was admitted (1841) to the bar and served (1846–56) as judge of the court of common pleas for Philadelphia Originally a Democrat and a believer in free trade, he joined the Republican party when it was founded, because of its anti-slavery stand The depression of 1857 and knowledge of English laboring conditions converted him to protectionism He was elected to Congress in 1860 and was continuously reelected for the rest of his life, he became one of its best-known members, serving on the Committee on Ways and Means for

20 years. His sincerity and financial disinterestedness were never questioned, but his constant emphasis on protection as a cure-all and his frequent mention of Pennsylvania's iron industry led his colleagues to call him "Pig Iron" Kelley. A humanitarian in his sympathies, he was an advocate of currency inflation for the sake of labor and the farmer He was a fine orator, traveled widely, and wrote a number of books, including *Speeches, Addresses, and Letters on Industrial and Financial Questions* (1872), *Letters from Europe* (1879), and *The Old South and the New* (1888)

Kelleys Island, village (pop 564), on Kelleys Island, N Ohio, in Lake Erie off Sandusky Bay It is a grape-growing and resort center Inscription Rock has interesting pictographs of former Indian occupation First called Cunningham's Island (1803) for a trader, it was renamed after Irad and Datus Kelley acquired the island (1833)

Kellgren, Johan Henrik (yōō'hän hĕn'rĭk chĕl'grĕn), 1751–95, Swedish poet, librarian and secretary to Gustavus III He was an influential figure in the revival of Swedish letters and a critic of importance through the *Stockholm Post*, a periodical which he founded (1778) and later edited

Kellogg, Clara Louise, 1842–1916, American operatic soprano, b Sumterville, S C She made her debut in 1861 in New York and in 1863 sang Marguerite in the first New York performance of Gounod's *Faust* She toured the United States (1873–76) with her own company, producing opera in English In 1887 she left the stage. See Oscar Thompson, *The American Singer* (1937)

Kellogg, Edward, 1790–1858, American economist, b Norwalk, Conn He advocated a scheme of financial control whereby the government would lend money through legal-tender notes secured by real property and interconvertible with government bonds bearing a low rate of interest and corresponding to the estimated rate of accumulation of wealth in the United States His pamphlet *Currency the Evil and the Remedy* (1844), circulated with Horace Greeley's aid, was revised under the title *Labor and Other Capital* (1849) and issued often after Kellogg's death as *A New Monetary System*, the 1883 edition includes a biographical sketch by his daughter, Mary Kellogg Putnam Kellogg's views were adopted by many radical political parties in the West, from Greenbackers to Populists, and endorsed by the National Labor Union, the Knights of Labor, and by agrarian organizations

Kellogg, Elijah, 1813–1901, American clergyman and writer of juveniles, b Portland, Maine, grad Bowdoin, 1840, and Andover Theological Seminary, 1843 In his clerical duties he was often called upon to handle difficult students, and his knowledge of boys was apparent in his widely read juvenile stories His declamation, "Spartacus to the Gladiators," is the best known of his writings See biography by W B Mitchell (1903)

Kellogg, Frank Billings, 1856–1937, American statesman, b Potsdam, N Y At the age of nine he moved to Olmstead co , Minn , and there worked on his father's farm He read law, was admitted (1877) to the bar, and was elected attorney (1878) for Rochester, Minn , and then (1881) district attorney While becoming an outstanding corporation lawyer in St Paul, Minn , Kellogg gained stature in the Republican party Appointed (1904) special counsel to the U S Attorney General, Kellogg played an important role in antitrust prosecution, particularly in the dissolution of the General Paper and the Standard Oil companies Meanwhile, as special counsel to the Interstate Commerce Commission, he was active in the investigation of the railroads controlled by Edward H Harriman As U S Senator (1917–23) he was an advocate of preparedness After service (1924–25) as U S ambassador to Great Britain, he succeeded (1925) Charles E. Hughes as U S Secretary of State and bettered relations with Mexico while helping settle the Tacna-Arica dispute between Chile and Peru Largely for his successful promotion of the KELLOGG-BRIAND PACT, he was awarded the 1929 Nobel Peace Prize He resigned his cabinet post in 1929 and afterwards served (1930–35) as judge of the Permanent Court of International Justice. In 1937 he gave $500,000 to Carleton College in Minnesota for the establishment of a foundation for the study of international relations. See biography by David Bryn-Jones (1937)

Kellogg, Vernon Lyman, 1867–1937, American zoologist, b Emporia, Kansas, grad Univ of Kansas (B A , 1889) He was professor of entomology at Stanford Univ (1894–1920). He served as director in Brussels (1915–16) of the American Commission for Relief in Belgium and held other positions with the American Relief Administration in Europe. From 1919 to 1931 he was permanent secretary of the National Research Council. He made special studies in insect taxonomy and in economic entomology and was also known for his interpretations of science for the layman. His wife, Charlotte Hoffman Kellogg, was the only woman member of the Commission for Relief in Belgium and wrote several books.

Kellogg, city (pop. 4,235), N Idaho, in the Coeur d'Alene mining district between Coeur d'Alene and Wallace, inc as a city 1913 It grew around the Bunker Hill and Sullivan mines, discovered in 1885, now combined as one of the world's largest lead producers. Labor troubles in 1899 led to the blowing up of the Kellogg mill, an incident in the long-drawn Idaho labor war

Kellogg-Briand Pact (-brēā'), agreement, signed Aug 27, 1928, condemning "recourse to war for the solution of international controversies " It is more properly known as the Pact of Paris In June, 1927, Aristide BRIAND, foreign minister of France, proposed to the U S government a treaty outlawing war between the two countries Frank B KELLOGG, the U S Secretary of State, returned a proposal for a general pact against war, and after prolonged negotiations the Pact of Paris was signed by 15 nations—Australia, Belgium, Canada, Czechoslovakia, France, Germany, Great Britain, India, the Irish Free State, Italy, Japan, New Zealand, Poland, South Africa, and the United States The contracting parties agreed that settlement of all conflicts, no matter of what origin or nature, which might arise among them should be sought only by pacific means and that war was to be renounced as an instrument of national policy Although 62 nations ultimately ratified the pact and although only Argentina, Bolivia, El Salvador, Uruguay, and Yemen held aloof from the treaty, its effectiveness was vitiated by its failure to provide measures of enforcement. The Kellogg-Briand Pact was given unenthusiastic reception by many countries The U S Senate, ratifying the treaty with only one dissenting vote, still insisted that there must be no curtailment of America's right of self-defense and that the United States was not compelled to take actions against countries that broke the treaty The Kellogg-Briand Pact was invoked in 1929 with some success, when China and the USSR reached a tense moment over possession of the Chinese Eastern RR in Manchuria Ultimately, however, the pact proved to be meaningless, especially with the practice of undeclared wars in the 1930s (e g , the Japanese invasion of Manchuria in 1931, the Italian invasion of Ethiopia in 1935, and the German occupation of Austria in 1938)

Kells, town, Co Meath, Ireland, on the Blackwater and NW of Navan Noteworthy are the relic of an ancient monastery founded by St COLUMBA, the round tower, and several ancient crosses The **Book of Kells,** now one of the treasures of the Trinity College library in Dublin, is a beautifully illuminated manuscript of the Latin Gospels, with notes on local history, found in the ancient monastery and believed to have been written in the 8th cent At the opening of each Gospel and of each chapter is an illustration, and the borders and capitals are superbly decorated The manuscript is generally regarded as the finest example of Celtic illumination

Kelly, Florence Finch, 1858–1940, American journalist, b Girard, Ill She lived as a child in Kansas After serving in various capacities on the Boston *Globe* (1881–87) and the San Francisco *Examiner* (1887–1906), she moved to New York, where she was book reviewer (1906–36) on the New York *Times* After her retirement (1936), she wrote her autobiography, *Flowing Stream* (1939) She was one of the earliest women journalists

Kelly, George, 1887–, American dramatist, b Philadelphia The author earlier of vaudeville sketches and one-act plays, he was highly successful as a humorous satirist of American middle-class life in *The Torch-Bearers* (1922), *The Show-off* (1924), and *Craig's Wife* (1925), which won the 1926 Pulitzer Prize in drama Later plays include *Behold the Bridegroom* (1927), *Philip Goes Forth* (1931), and *The Deep Mrs Sykes* (1945)

Kelly, Howard Atwood, 1858–1943, American surgeon, b Camden, N J , M D Univ of Pennsylvania, 1882 A member of the first medical faculty at Johns Hopkins, he won fame as professor of gynecology and obstetrics (1889–1919) and as surgeon was noted for his innovations and technique in abdominal and pelvic surgery Besides works on gynecology he wrote *Cyclopedia of American Medical Biography* (1912) and *Dictionary of American Medical Biography* (with W L. Burrage, 1928).

Kelly, Hugh, 1739–77, British dramatist, b. Killarney In London he edited various journals and engaged in political pamphleteering Garrick produced Kelly's first sentimental comedy, *False Delicacy*, in 1768, it was a great success and was shortly afterward translated into German, Portuguese, and French. The best of his later dramas were *The School for Wives* (1773) and *The Romance of an Hour* (1774), a two-act afterpiece For biography, see preface to his collected works (1778).

Kelly, James Edward, 1855–1933, American sculptor After a period (1874–81) as a wood engraver for *Harper's*, *Scribner's*, and *St Nicholas*, he turned definitely to sculpture, his first work, *Sheridan's Ride*, being finished in 1878. He specialized in subjects in American history, executing, from life, bronses and busts of over 40 generals and naval officers and also many war memorials. Among the memorials are the 6th New York Cavalry monument and General Buford (Gettysburg, Pa.); *Battle of Harlem Heights* (Columbia Univ., New York); equestrian figures of General Sherman, Col. Theodore Roosevelt (San Juan Hill, Cuba), and Caesar Rodney (Wilmington, Del); and *Defenders' Monument* (New Haven, Conn) He also made a plaque of Edison (Ford Mus , Dearborn, Mich.) He was one of the founders of the Art Students League

Kelly, John, 1822–86, American politician, boss of Tammany Hall, b New York city He entered politics at an early age At first he opposed Tammany Hall, but later (1853) joined the organization and became city alderman. He served (1855–59) in Congress and was (1859–61, 1865–67) sheriff of New York After the exposure of William M TWEED, Kelly—now popularly known as "Honest John"—reorganized the Tammany machine By 1874 he held control of the organization and carried on continuous warfare with the faction of Samuel J TILDEN, who originally had cooperated with him in reorganizing Tammany. Kelly's refusal to back Tilden's candidate for governor, Lucius Robinson, helped bring about (1879) the election of Alonzo CORNELL While he was head of Tammany, Kelly was able to determine the course of New York city elections, and he himself was (1876–80) city comptroller Upon retirement (1882) he yielded his political control to one of his lieutenants, Richard CROKER See M R Werner, *Tammany Hall* (1928)

Kelly, William, 1811–88, American inventor, b Pittsburgh He became master of an iron furnace at Eddyville, Ky., and there accidently discovered that an air blast, when blowing directly on the uncovered molten metal, produced an even greater heat than before This was the basic principle of the BESSEMER PROCESS Sir Henry Bessemer received his U S patent in 1857, but Kelly convinced officials of his priority in discovery and received a priority right The first successful manufacture of iron under his process was done at the Wyandotte Iron Works near Detroit, Mich , in 1864 The first use of Bessemer's American patents was at Troy, N.Y , in 1865, by A L HOLLEY The conflict between the Bessemer and Kelly interests was finally settled by consolidation of the rival companies Bessemer steel was already becoming famous in England, and the name prevailed also in America, while Kelly's name in connection with the process was lost See J N Boucher, *William Kelly* (1924)

Kelly's Ford, on the Rappahannock river, Va , scene of a cavalry engagement of the Civil War, March 17, 1863 A Union force under W W Averell attacked Confederate troopers commanded by Fitzhugh Lee Both sides claimed a victory

Kelmscott Press, printing establishment in Hammersmith, London Here William MORRIS led the 19th-century revival of the art and craft of making books The first book made by the press was *The Story of the Glittering Plain* (1891), by William Morris The masterpiece of the press was *The Works of Geoffrey Chaucer* (1896), a folio with illustrations by Sir Edward Burne-Jones and decorative designs by William Morris After the death of William Morris, in 1896, the press completed some work that he had planned, but no new work was undertaken The final publication of the press was *A Note by William Morris on His Aims in Founding the Kelmscott Press* (1898) The three types designed by William Morris and used by the press were the Golden type, named for *The Golden Legend* (1892), the Troy type, named for *The Recuyell of the Historyes of Troye* (1892), and the Chaucer type, named for the *Chaucer* The Chaucer type is smaller than the Troy type, otherwise they are the same The type designs were influenced directly by printers of the 15th cent , the Golden type especially by Nicolas Jenson The high achievement of the press owes much to the art of Burne-Jones and to the inspiration and guidance of the master printer Emery Walker The work of the Kelmscott Press has not been imitated successfully, but it gave to the making of books new dignity and higher aims See also ASHENDENE PRESS, VALE PRESS, DOVES PRESS

Kelowna (kĭlō'nə), city (pop 5,118), S British Columbia, on the east side of Okanagan Lake SSW of Vernon, in a fruitgrowing region.

kelp, name for various species of brown algae, or seaweeds, abundant inhabitants of the sea along the Atlantic and Pacific coasts Some, e g , *Macrocystis*, have fronds which often reach a length of 200 ft ; others are small. The kelps and other members of the brown algae serve as a source of salts of iodine and potassium. When the seaweed is burned, the soluble iodine and potassium compounds are removed from the ashes (also called kelp) by washing. Kelp is sometimes used as fertilizer, being spread on the ground and allowed to decay. Certain medicinal products make available the high mineral and vitamin content of kelp.

Kelsey, Henry, c 1670–c 1730, fur trader and explorer in Canada. He entered the service of the Hudson's Bay Company in 1684. He was sent inland to secure Indian trade—probably in 1691. His journey is disputed, some saying he went southwest, but evidence points to his being west of Churchill in the region of Reindeer Lake. He was present when York Factory was surrendered to Iberville in 1697 and sometime after 1713 be-

came its governor In 1719 he commanded an expedition to explore the northwest coast of Hudson Bay See A. G Doughty and Chester Martin, eds , *The Kelsey Papers* (1929).

Kelso, burgh (pop. 3,855), Roxburghshire, Scotland, SE of Edinburgh and on the Tweed where the Teviot enters An obelisk commemorates the 18th-century poet James Thomson, born in the manse at near-by Ednam Sir Walter Scott attended school in Kelso The Ballantynes founded (late 18th cent) a printing press here St James Fair is held annually in August Kelso has ruins of an abbey established here by David I c 1128 (it was earlier at Selkirk) and partly destroyed by the English in 1545.

Kelso, lumber city (pop 6,749), co seat of Cowlitz co., SW Wash., on the Cowlitz river near the Columbia, contiguous with Longview, settled 1847, inc 1889 It is in a rich farm area and has fish and dairy industries

Kelt· see CELT

Keltie, Sir John Scott, 1840–1927, Scottish geographer He was inspector of geographical education for the Royal Geographic Society, librarian, and secretary of the society In 1880 he became editor of *The Statesman's Year-Book,* and in 1925 joint editor of the *Geographical Journal* His works include *A History of the Scottish Highlands and Clans* (1874), *Report on Geographic Education* (1886), *The Partition of Africa* (1894), *Applied Geography* (new ed , 1908), and *History of Geography* (with O J R Howarth, 1914)

Kelvin, William Thomson, 1st **Baron,** 1824–1907 British mathematician and physicist, b Belfast. He was professor of natural philosophy at the Univ, of Glasgow (1846–99) He is known especially for his work on heat and electricity The importance of the discoveries and improvements which he made in connection with the transmission of messages by submarine cables led to his establishment as a leading authority in this field He invented the reflecting galvanometer and the siphon recorder, an instrument by which telegraphic messages are recorded in ink fed from a siphon In thermodynamics his work of coordinating the theories of heat held by various leading scientists of his time established firmly the law of the conservation of energy as proposed by Joule Kelvin introduced the Kelvin scale or absolute scale of TEMPERATURE See biographies by S P Thompson (1910) and A G King (1926)

Kem (kĕm), Finnish *Kemi* (kĕ'mē), city (1939 pop over 10,000), Karelo-Finnish SSR, on the White Sea at the mouth of the Kem river A commercial and industrial center, it has sawmills, metalworks, and fisheries

Kem, Finnish *Kemijoki* (kĕ'mēyō"kē), river, 240 mi long, Karelo-Finnish SSR, rising SE of Kuusamo, Finland, and flowing E into the White Sea It is used for logging

Kemal Pasha, Mustafa· see ATATURK, KEMAL

Kemble, Adelaide, and **Charles Kemble** see KEMBLE, ROGER

Kemble, Edward Windsor, 1861–1933, American illustrator and caricaturist, b Sacramento, Calif He was known especially for his delineations of Negro character He contributed illustrations and cartoons to *Century, Life, Collier's Weekly,* and *Harper's Weekly* His books of sketches include *Comicalities* (1898), *Coontown's 400* (1900), and *A Pickaninny Calendar* (1900) He also illustrated *The Knickerbocker History of New York, Uncle Tom's Cabin,* and Mark Twain's *Huckleberry Finn* and *Pudd'nhead Wilson*

Kemble, Roger, 1721–1802, English actor and manager The leader of a traveling company, he married in 1753 Sarah Wood, an actress, who bore him 12 children They thus founded one of the most distinguished families of actors ever to grace the English stage Five of the children were celebrated See Percy Fitzgerald, *The Kembles* (1871), Stephen Kemble, *The Kemble Papers* (New York Historical Society Collections, 1885) The best known of the children was Sarah Kemble (see SIDDONS, SARAH KEMBLE) The eldest son, **John Philip Kemble,** 1757–1823, was educated for the Roman Catholic priesthood, but turned to the stage and in 1776 made his debut at Wolverhampton in Nathaniel Lee's *Theodosius* At Drury Lane from 1783 to 1803, he became manager in 1788 and gained fame in *Hamlet, King John, Othello,* and *King Lear,* playing opposite Mrs Siddons He managed (1803–8) Covent Garden and, when it was destroyed by fire, built a new one, opening it in 1809 Here he increased prices, setting off the Old Prices Riots which forced a compromise agreement His style of acting was declamatory, and he preferred such heroic roles as Brutus and Coriolanus See Herschel Baker, *John Philip Kemble* (1942) His brother, **George Stephen Kemble,** 1758–1822, played Othello to the Desdemona of his wife, Elisabeth Satchell Kemble, at Covent Garden in 1784 He appeared in secondary roles at the Haymarket from 1787 to 1791 and during his management (1792–1800) of the Edinburgh theater introduced John Philip Kemble and Mrs Siddons to the public He excelled as Falstaff and as Sir Christopher Curry in George Colman the Younger's *Inkle and Yarico.* His youngest brother, **Charles Kemble,** 1775–1854, had great range and talent in comedy He first appeared as Malcolm in *Macbeth* in 1794, but his best roles were Falstaff, Benedick, Mercutio, and Sir Charles Surface in Sheridan's *School for Scandal* He assumed (1822) the management of Covent Garden, but he had little financial success until the appearance of his eldest daughter, Fanny, with whom he successfully toured (1832–34) the United States Charles Kemble left the stage in 1840 His sister, **Elizabeth Kemble,** 1761–1836, was well received as Portia at Drury Lane in 1783 In 1785 she married Charles E Whitlock, an actor, and in 1792 they visited the United States, playing before President Washington in Philadelphia She retired from the stage in 1807 **Fanny Kemble** (Frances Anne Kemble), 1809–93, elder daughter of Charles Kemble, made her debut as Juliet in 1829 under her father's management at Covent Garden Her success was great and immediate, and her stature as an actress grew in such parts as Lady Macbeth, Portia, Beatrice, and Julia in *The Hunchback,* written for her by Sheridan Knowles She received extravagant praise on her American tour in 1832 In 1834 she married Pierce Butler of Philadelphia, went with him to an estate in Georgia, but divorced him in 1848 During the Civil War she lived in England, writing against slavery for the London *Times* Her *Journal of a Residence on a Georgia Plantation in 1838–1839* (1863) and *Records of a Later Life* (1882) are much-used sources See biographies by L. S Driver (1933) and Margaret Armstrong (1938) **Adelaide Kemble,** 1814–79, second daughter of Charles Kemble, was an opera singer She studied in Italy and appeared with success in *Norma* and other Italian operatic roles in Germany and France (1837–38) and at Covent Garden (1841–42). In 1843 she married Edward Sartoris She wrote *A Week in a French Country House* (1867)

Kemerovo (kĕ'mûrō"vŏ,–rō"vō", Rus kyĕmyĭrô'vŭ), city (1926 pop 21,726, 1939 pop 132,978), capital of Kemerovo oblast, RSFSR, in S central Siberia, on the Tom river and a branch of the Trans-Siberian RR It is a large coal-mining center of the Kuznetsk Basin and has important chemical industries.

Kemeys, Edward, 1843–1907, American sculptor, b Savannah, Ga A civil engineer, self-trained in sculpture, he modeled American wild animals with understanding and fidelity Among his works are *Still Hunt,* Central Park, New York, *Wolves,* Fairmount Park, Philadelphia, bronze lions at the entrance to the Art Institute of Chicago, and a number of small bronzes

Kemi (kĕ'mē), city (pop 19,877), NW Finland, on the Gulf of Bothnia The city, incorporated in 1869, has grown around the sawmills and cellulose mills at the mouth of the Kemi river (Finnish *Kemijoki*) The river, 345 mi long, rises in the Lapland mts near the Russian border, traverses Lake Kemi (c 60 sq mi), and flows SSW to the Gulf of Bothnia Near its mouth it is rich in salmon, and its course is used for logging It has the greatest power resources of the rivers of Finland

Kemmerer, Edwin Walter (kĕ'mûrur), 1875–1945, American economist, b Scranton, Pa , Ph D Cornell, 1903 In 1903 he was made financial adviser to the U S Philippine Commission, and during his long term as professor (1912–34) at Princeton his services as "money doctor" were called upon by many governments, including those of Egypt, Mexico, Union of South Africa Poland, China, Turkey, and several of the South American countries In 1924 he aided the Dawes reparations commission in the reorganization of German finances A staunch defender of the international gold standard, Kemmerer was an opponent of New Deal monetary policies His books include *Modern Currency Reforms* (1916) and *The A B C of the Federal Reserve System* (1918, 11th ed , 1938)

Kemmerer, town (pop 2,026, alt c 6,900 ft), co seat of Lincoln co , SW Wyo , on Hams Fork near the Utah line, in a coal area, settled 1897, inc 1899 It is a trade center for miners, stockmen, and farmers Fossil fish beds are near by

Kemnitz, Martin· see CHEMNITZ, MARTIN

Kemp, James Furman, 1859–1926, American geologist, b New York city, grad Amherst, 1881 He studied abroad, taught at Cornell, and from 1892 was professor and head of the department of geology at Columbia Univ He also served on the U S Geological Survey and as consulting geologist on many projects, including the New York city water system He wrote *Ore Deposits of the United States and Canada* (1893, 1900) and *Handbook of Rocks* (1896, 6th ed , 1940)

Kemp, William, fl 1579–1600, English comic actor and dancer A minor player in Shakspere's company, he was the successor to Richard Tarlton's roles and reputation He is remembered for his morris dance from London to Norwich in 1599, recorded in his *Kempe Nine Daies Wonder* (1600)

Kemp, town (pop 1,000), N Texas, SE of Dallas, on the rich blackland prairie; settled 1880, inc 1922

Kempe, Margery (kĕmp), d 1438 or afterward, English religious writer, b King's Lynn. She was the wife of a prominent citizen. Her autobiography, *The Book of Margery Kempe* (complete ed , 1940, ed with modern spelling 1944), was known only in small excerpts until 1934, when the whole was discovered She was a religious enthusiast whose loud weeping in church and reproval of her neighbors for swearing kept her in public disfavor, but overt and private accusations of various irregularities failed to shake her convictions The book shows a candid, stubborn simplicity, rooted in devout, orthodox Catholicism Margery traveled abroad as a pilgrim, and her work has rich details of the everyday life of her time The narrative is occasionally interrupted with visions, prayers and meditations, many of them of great beauty The book seems to be the earliest autobiography in English. See MYSTICISM See Katharine Cholmeley, *Margery Kempe* (1947)

Kempen (kĕm'pun), town (pop 9,827), in the former Rhine Prov of Prussia, NW Germany, near Düsseldorf St Thomas à Kempis was born here

Kempener, Pieter de (pē'tur du kĕm'punur), c 1503–1580, Flemish painter, b Brussels He studied and painted for 10 years in Italy and about 1537 settled in Seville, Spain, where he was known as Pedro Campaña For churches in Seville he painted religious pictures remarkable for their beauty of design, luminous color, and naturalistic characterization On his return to Brussels (1563) he became chief engineer to the duque de Alba and director of the tapestry works The Seville cathedral contains his masterpiece, *The Descent from the Cross,* and also his *Purification* and *Resurrection* Other splendid examples are in the museums of London

Kempenfelt, Richard, 1718–82, British admiral With his crew of 800, he lost his life when his flagship, the *Royal George,* capsized at Spithead The catastrophe was immortalized in William Cowper's poem, "The Loss of the *Royal George* "

Kemper, James Lawson, 1823–95, Confederate general, b Madison co , Va , grad Washington College (now Washington and Lee Univ) 1842 He was badly wounded while leading his brigade in Pickett's charge at Gettysburg (1863) and was subsequently captured As governor of Virginia (1874–78), Kemper was distinguished for his independence and integrity He opposed scaling down the state debt, a program favored by the Readjusters, led by William Mahone, who had been instrumental in securing Kemper's election

Kemper, Reuben, d 1827, American adventurer, With his brothers Nathan and Samuel he settled c 1800 in Feliciana, just above Baton Rouge in West Florida, then Spanish territory They became embroiled with Spanish authorities over a land claim and were forced to cross the border into Mississippi Territory There the brothers organized a small force and declared West Florida independent of Spain An attempt to take Baton Rouge in 1804 failed The three were kidnaped in 1805 but were rescued by a U S force at Pointe Coupée as they were being taken down the Mississippi to Baton Rouge Other forays were climaxed in 1810 by Reuben's attempt to occupy Mobile He failed and was arrested and detained by U S authorities while the Spanish dispersed the rest of his band See I J Cox *The West Florida Controversy* (1918)

Kempis, Thomas à see THOMAS À KEMPIS

Kempten (kĕmp'tun) city (pop 37,080), Swabia, W Bavaria, on the Iller Of Celtic origin, it was a flourishing Roman colony (Cambodunum), and became (1525) a free imperial city Kempten was sacked (1632) by the Swedes in the Thirty Years War Kempten has several late Gothic, Renaissance, and baroque churches and buildings It today has dairy, textile, and other industries

Kemptville, village (pop 1,232), SE Ont , on the navigable branch of the Rideau river, N of Prescott and S of Ottawa It is an agricultural center, and the Kemptville Agricultural School is here

Kemuel (kĕmû'ĕl) [Heb ,=God's assembly] **1** Father of Aram Gen 22 21 **2** Ephraimite prince Num 34 24 **3** Levite prince 1 Chron 27 17

Ken, Thomas, 1637–1711, English prelate and hymn writer, prominent among the nonjuring bishops He became chaplain to Charles II in 1680 and was nominated by that monarch to the bishopric of Bath and Wells in 1684 Under James II Ken refused to publish the Declaration of Indulgence in accordance with the king's order for this he was sent to the Tower with six other bishops in 1688 On the accession of William of Orange (William III) Bishop Ken would not take the oath of allegiance to him after having given it to the Stuarts, and in 1691 his see was taken from him as a nonjuror Most noted of his hymns is the doxology, *Praise God from Whom All Blessings Flow,* included in both *Awake, My Soul, and with the Sun* and *Glory to Thee, My God, This Night* See biographies by E H Plumptre (1888) and F A Clarke (1896).

Kenai Peninsula (kē'nī), S Alaska, jutting into the Gulf of Alaska, between Prince William Sound and Cook Inlet The Kenai Mts traverse it from northeast to southwest The coastal climate is mild, with abundant rainfall and a growing season adequate for many crops There are forest, mineral, and fishing resources and, in the western section, good farmland The Alaska RR crosses the

peninsula from Seward but will not when the terminus is moved to Whittier An area in the north is closed to agricultural settlement by its inclusion (1941) in the Kenai National Moose Range

Kenan (kē'-), son of Enos 1 Chron 1 2 Cainan Gen 5 9–14, Luke 3 37

Kenath (kē'-), town, E of the Jordan, plausibly identified with a ruin c 15 mi N of Bosrah Kenath was captured and renamed by Nobah after himself Num 32 42, 1 Chron 2 23

Kenaz (kē'naz) [Heb ,=hunting] **1** Edomite Gen 36 15,42, 1 Chron 1 36 **2** Kinsman of Caleb 1 Chron 4 13,15, Judges 1 13 One of these was eponym of the Kenezites Num 32 12, Joshua 14 6–14, 15 17

Kendal, Ehrengard Melusina von der Schulenburg, duchess of see SCHULENBURG

Kendal, Dame Madge (kĕn'dul), 1849–1935, English actress, whose maiden name was Margaret Robertson She was the sister of T W Robertson, the playwright, and the wife of William Kendal After early performances in juvenile roles, she made her debut as Ophelia at the Haymarket theater, London, in 1865 She married William Kendal in 1869 and played Rosalind to his Orlando in Shakspere's *As You Like It* and Lydia Languish to his Captain Absolute in Sheridan's *Rivals*, she costarred with him in many other plays They toured the United States in 1889, when her first appearance was as Susan Hartley in Sardou's *Scrap of Paper* In 1902 she was Mistress Ford in a fine production of *The Merry Wives of Windsor* with Ellen Terry and Beerbohm Tree She was made Dame of the British Empire in 1927 See her *Dramatic Opinions* (1890) and *Dame Madge Kendal by Herself* (1933) Her husband, **William Kendal,** 1843–1917, whose real name was William Hunter Grimston, appeared on the stage in 1861 and became a favorite in romantic roles After his marriage he played opposite his wife and, in partnership (1875–88) with John Hare, managed first the Court Theatre and later the St James's Theatre See E T Pemberton, *The Kendals* (1900)

Kendal, municipal borough 1931 pop 15,577, 1943 estimated pop 20,760), Westmorland, England, on the Kent river E of Windermere lake Woolen manufacture was introduced by Flemish immigrants early in the 14th cent , but the once famous "Kendal green" is no longer made The town's products include woolen goods, shoes, paper, and soap There are a Gothic church and ruins of the castle in which Catherine Parr was born George Romney lived here for a few years and died here

Kendall, Amos (kĕn'dul), 1789–1869, American journalist and statesman, b Dunstable, Middlesex co , Mass , grad Dartmouth, 1811 He edited (1816–29) at Frankfort, Ky , the *Argus of Western America*, one of the most influential Western papers of the day At first a supporter of Henry Clay, he shifted allegiance to Andrew Jackson and helped to build Jackson's political strength. In 1829 he went to Washington, D C , and was appointed by President Jackson fourth auditor of the Treasury His real importance was as one of the ablest and most influential members of the Kitchen Cabinet—a group of intimate advisers to President Jackson He helped draft many of Jackson's more important state papers, was chief counselor to Jackson in the controversy over rechartering the Bank of the United States, and vigorously defended administration policies in the newspapers, particularly in the *Globe* He was appointed (1835) U S Postmaster General by Jackson and he remained at the post under President Van Buren, thoroughly reorganizing a badly managed department He became (1845) business manager for Samuel F B Morse, and until the Civil War he handled the distribution of telegraph patent rights, helped organize telegraph companies, and promoted their consolidation Although he opposed secession, he bitterly criticized President Lincoln's administration See his autobiography (1872)

Kendall, George Wilkins, 1809–67, American journalist, b Mt. Vernon, near Amherst, N.H After a succession of journalistic jobs, he was a partner in founding (1837) the New Orleans *Picayune* In 1841 he joined the disastrous Texan expedition to Santa Fe, sponsored by the president of Texas, Mirabeau Lamar, in the hope of winning the allegiance of the New Mexico area to the republic of Texas The surviving members, including Kendall, were marched to Mexico city and imprisoned From his adventures Kendall wrote *Narrative of the Texan Santa Fe Expedition* (2 vols , 1844) An exponent of war with Mexico, he left the *Picayune* when hostilities began and served first under Gen Zachary Taylor and then as aide to Gen William Worth in Gen Winfield Scott's campaigns He sent back to his paper, by private express, narrative accounts which became famous and were widely copied, thus earning him a reputation as the first of the modern war correspondents He also wrote *The War between the United States and Mexico* (1851) See biography by Fayette Copeland (1943)

Kendall, Henry Clarence, 1839–1882, Australian poet, b New South Wales His works include *Leaves from Australian Forests* (1869) and *Songs from the Mountains* (1880) See his collected poems (with a memoir by his son, F C Kendall, 1903)

Kendall, William Sergeant, 1869–1938, American figure, portrait, and landscape painter and sculptor, b Spuyten Duyvil, now part of New York city He was best known for his portraits of children He was a member of the National Academy of Design and the National Institute of Arts and Letters From 1913 to 1922 he was dean of the School of Fine Arts and professor of painting and design at Yale Univ Among his paintings are *Beatrice* (Pa Acad of the Fine Arts), *Psyche* and *The Seer* (Metropolitan Mus), *Narcissa* (Corcoran Gall), *Intermezzo* (R I School of Design, Providence), and *Crosslights* (Detroit Art Mus)

Kendallville, city (pop 5,431), NE Ind , NNW of Fort Wayne, settled 1833 It is a shipping center for an onion-growing area and manufactures refrigerators and farm equipment Mulholland Museum has Indian relics and pioneer implements

Kendrick, John, c 1740–1794, American sea captain, b Massachusetts During part of the American Revolution he commanded privateers As commander of an expedition composed of the ships *Columbia* and *Washington*, he explored (1787–88) the Pacific Northwest Coast in the neighborhood of Nootka Sound, managing to avoid conflict with the Spanish who were there at that time Robert Gray, later discoverer of the Columbia, sailed with him He also visited Japan, the first to fly the American flag in a port of that country

Kenedy (kĕ'nĭdē), town (pop 2,891), S Texas, SE of San Antonio, founded 1882, inc 1910 It is the processing and trading center of a farm region that boasts especially of its flax Hot mineral wells attract tourists

Keneh (kā'nu), town (pop 34,431), central Egypt, on the Nile There are manufactures of jars and bottles An ancient temple is here The name is also spelled Qena or Kenu

Kenhorst, borough (pop 2,227), SE Pa , Berks co , near Reading

Kenilworth (kĕn'ul-), urban district (1931 pop 7,592, 1943 estimated pop 9,800), Warwickshire, England It is famous for the ruins of Kenilworth Castle, celebrated in Scott's novel *Kenilworth* and founded by Geoffrey de Clinton in the time of Henry I, c 1120 In the 13th cent the castle became the property of Simon de Montfort, was maintained by his son against a six-month siege in 1266, passed by marriage to John of Gaunt in the middle of the 14th cent , was for some time a royal property and residence, and was given by Queen Elizabeth to Robert Dudley (earl of Leicester) Here in 1575 Dudley entertained the queen in the lavish fashion described by Scott The castle was later the property of the earls of Clarendon, who acquired it after the Restoration There are fragments of the wall, 16 ft thick There are also ruins of an Augustinian priory founded in 1122

Kenilworth. 1 Village (pop 2,935), NE Ill , north suburb of Chicago, inc 1896 Eugene Field is buried here **2** Borough (pop 2,451), NE N J , near Elizabeth, inc 1907 Steel tubing and machinery are made here

Kenilworth ivy see IVY

Kenites (kē'-), wilderness nomadic tribe friendly to the Jews They came with the Jews into Palestine and made the south of the country their home up to the time of David Moses' father-in-law was a Kenite, and so was the husband of Jael Gen 15 19, Num 24 21, Judges 1 16, 4 11,17, 1 Sam 15 6, 27 10, 30 29, 1 Chron 2 55

Kenitra, French Morocco see PORT LYAUTEY

Kenly, town (pop 1,095), E central N C , SE of Raleigh, in a farm area

Kenmare (kĕn'mâr), city (pop 1,528), NW N Dak , NW of Minot and on the Riviere des Lacs, inc 1903 Lignite is mined here Near by is the Des Lacs Lake migratory waterfowl project

Kenmore, residential village (pop 18,612), W N Y , near Buffalo, settled 1889, inc 1899 Rubber stampings and patent medicines are made

Kennan, George, 1845–1924, American authority on Siberia, b Norwalk, Ohio In 1864 he made the first of his journeys to the Far East as an engineer for the Russo-American Telegraph Company He explored NE and middle Siberia, later traveling in the E Caucasus, Dagestan, and the Volga region His articles on Siberia, for many years almost the sole authoritative source of information on that region, were published as *Tent Life in Siberia* (1870) and *Siberia and the Exile System* (1891)

Kennebec (kĕn'ubĕk), river, c 150 mi long, flowing from Moosehead Lake, NW Maine, S to the Atlantic, receiving the Dead, Sandy, Sebasticook, and Androscoggin rivers It passes Bingham, Skowhegan, Waterville, Augusta, and Bath Champlain explored it in 1604 and 1605, in 1607 George Popham established a short-lived colony, Fort St George, at its mouth Trading posts were established shortly after 1625. Lumber and, in the 19th cent , ice were sent down the Kennebec, and shipbuilding flourished along its banks Villages near power sites became industrial centers See R. P. T. Coffin, *Kennebec, Cradle of Americans* (1937).

Kennebunk (kĕnubŭngk'), town (pop 3,698), SW Maine, SW of Portland; inc 1820 The first settlement, made c.1650, grew as a trading and, later, a shipbuilding and shipping center There are still old houses; the 18th-century Storer House was Kenneth Roberts's birthplace The First Parish Unitarian Church dates in part from Revolutionary times, it has a Paul Revere bell (1803).

Kennebunkport or Kennebunk Port (both· kĕn"ĭbŭngkpôrt', kĕn"ĭbŭngk'pôrt), town (pop. 1,448), SW Maine, on the coast SE of Kennebunk. A small group settled here in 1629, but permanent settlement was delayed until the early 18th cent The early town, called Arundel, appears in Kenneth Roberts's books, the name was changed in 1821 The town has become a summer resort, especially for authors, artists, and actors The Garrick summer playhouse was opened in 1933 Among old buildings is the Congregational Church (1764)

Kennedy, Charles Rann, 1871–1950, English-American dramatist, b Derby, England He was naturalized as a U S citizen in 1917 *The Servant in the House* (1908), a play of Christ in modern setting, was followed by *The Winterfeast* (1908), *The Terrible Meek* (1911), *The Necessary Evil* (1913), and *The Idol Breaker* (1914), all plays of deep ethical and moral purpose In 1898 Kennedy married Edith Wynne Matthison

Kennedy, John Pendleton, 1795–1870, American novelist, b Baltimore, grad Baltimore College, 1812 He was a Whig member of Congress (1838–44) and in 1852 was appointed Secretary of the Navy by President Fillmore Of his three romances, *Horse-Shoe Robinson* (1835) is the best known, and he is remembered as a friend of Poe

Kennedy, Joseph Patrick, 1888–, U S ambassador to Great Britain (1937–40), b Boston, grad Harvard, 1912 He engaged in banking, ship building, investment banking, and moving-picture distribution before he served (1934–35) as chairman of the Securities and Exchange Commission He was (1936–37) head of the U S Maritime Commission, until his appointment as ambassador On his resignation (Nov , 1940) he was succeeded by John G Winant

Kennelly, Arthur Edwin (kĕ'nulē), 1861–1939, American electrical engineer, b Bombay, India educated at University College School, London He was Edison's chief electrical assistant (1887–94) and was later professor at Harvard (1902–30) and the Massachusetts Institute of Technology (1913–24) Much of his research was on electromagnetism and alternating currents In 1902 he advanced the theory that a layer of ionized air in the upper atmosphere might deflect downward electromagnetic waves The theory, also advanced by Oliver HEAVISIDE, was demonstrated as fact, the deflecting layer is variously called the Heaviside layer, the Kennelly-Heaviside layer, and the ionosphere

Kenner, farm trading and industrial town (pop 2,375), SE La , near New Orleans

Kennesaw Mountain (kĕn'usô) see ATLANTA CAMPAIGN and NATIONAL PARKS AND MONUMENTS (table)

Kenneth I (Kenneth mac Alpin) d 858, traditional founder of the kingdom of Scotland He succeeded his father, Alpin, as a chief of the Gaelic Scots of the Isles or of the West of Scotland c 841, had defeated the Picts by 850, and established the nucleus of the kingdom of Scotland To escape the continual depredations of the Danes from the Irish coast Kenneth moved his capital eastward to Scone, whence the Scottish kingdom expanded

Kennett (kĕn'ĭt), city (pop 6,335), co seat of Dunklin co , SE Mo , near the St Francis river and the Ark line, in a cotton-growing area, founded c 1845 It has cotton gins and compresses

Kennett Square, borough (pop 3,375), SE Pa , NW of Wilmington, Del , settled c 1750, inc 1855 It is a shipping and canning center for mushrooms and manufactures road-construction machinery

Kennewick, industrial city (1940 pop 1,918, 1944 special census pop 5,248), SE Wash , on the Columbia river near the influx of the Snake, in an irrigated farm area, inc 1904

Kennicott, Benjamin, 1718–83, English clergyman and biblical scholar His long career at Oxford was one of devotion to learning He was rector of Culham, Oxfordshire, from 1753 to 1783 With the aim of preparing an improved Hebrew text of the Old Testament, he secured the assistance of other scholars in the study of Hebrew manuscripts Besides the many printed editions, 615 Hebrew manuscripts and 16 manuscripts of the Samaritan Pentatouch were collated to produce his edition, the *Vetus testamentum Hebraicum cum varris lectionibus* (1776–80)

Kenny, Elizabeth, 1886–, Australian nurse, b New South Wales, grad St Ursula's College, Australia, 1902 She became "Sister" Kenny as a first lieutenant nurse (1914–18) in the Australian army While caring for infantile paralysis victims in her homeland, she developed a method using hot, moist applications in conjunction with passive exercise She came to the United States in 1940 to demonstrate her techniques, which have been used extensively and with good results. Sister Kenny and her method have, however, been the stormy center of criticism by some doctors, who disagree with her concept of the disease and with her statistical conclusions. She is co-author with John F. Pohl of

The Kenny Concept of Infantile Paralysis and Its Treatment (1942); with Martha Ostenso she wrote the autobiographical *And They Shall Walk* (1943).

Kénogami (kĕnŏ'gŭmē), town (pop 6,579), S Que, on the Sable and W of Chicoutimi It has pulp and paper mills and a hydroelectric power station.

Kenora (kŭnô'rŭ), town (pop 7,745), W Ont, at the north end of Lake of the Woods There are lumber, flour, pulp, and paper mills, boat factories, a seaplane base, and a government fish hatchery The town is a base for fishing, hunting, and canoe trips

Kenosha (kĕnō'shŭ), industrial city (pop 48,765), co seat of Kenosha co, SE Wis, on Lake Michigan S of Milwaukee, settled 1835, named Southport c 1837, inc 1850 as Kenosha Automobiles, mattresses, and metal products are its chief manufactures The first public school in the state was begun here (1849) German refugees in the 1850s gave the city its liberal character A historical and art museum and the county courthouse, which also shelters the county historical museum, are part of the civic center

Kenova (kĭnō'vŭ), town (pop 3,902), W W Va, at the mouth of the Big Sandy River W of Huntington, inc 1894 An important transit point, it produces petroleum products, cement, and chemicals

Kenrick, Francis Patrick, 1796–1863, American Roman Catholic churchman, b Dublin, Ireland, educated in Rome In 1821 he was ordained priest and came to America to teach in the college at Bardstown, Ky In 1829 he was made bishop coadjutor of Philadelphia, where he settled serious disputes within the Church His charitable work in the cholera epidemic in 1832 and his courageous dignity in the anti-Catholic riots of 1844 won him considerable admiration He was made archbishop of Baltimore and apostolic delegate in 1851 He wrote many works on the Bible His brother,

Peter Richard Kenrick, 1806–96, was also an American Roman Catholic churchman and was also born in Dublin He was educated at Maynooth Called by his brother in 1833 to be pastor of the Philadelphia cathedral and vicar general of the diocese, he was sent in 1841 at the request of the bishop of St Louis to be coadjutor there In 1843 he became bishop and in 1847 archbishop He labored successfully to care for the great throngs of Catholic immigrants pouring into the Middle West At the Vatican Council he at first opposed the enunciation of papal infallibility as a dogma See J J O'Shea, *The Two Kenricks* (1904)

Kensett, John Frederick, 1818–72, American landscape painter, of the Hudson River school, b Cheshire, Conn He first began to paint while working as an engraver In 1840 he went to England to study He spent some time in Paris and in Dusseldorf before going (1845) to Rome, where he became a popular member of the American art colony and perfected his technique After a few years Kensett returned to the United States and in 1849 became a member of the National Academy of Design His delicately colored, poetic landscapes brought him fame and wealth The Metropolitan Museum has 38 paintings, some unfinished, painted in Kensett's last summer, when he lived on an island in the Hudson river Other works are *Lake George* and *River Scene* (Metropolitan Mus), *October Afternoon, Sunset on the Coast,* and others (Corcoran Gall), *View from West Point* and *White Mountain Scenery* (N Y Public Library)

Kensico Reservoir (kĕn'sĭkō), SE N Y, near White Plains, formed by Kensico Dam (307 ft high) in the Bronx river, completed 1916 It is part of New York city's water supply

Kensington, metropolitan borough (1931 pop 180,677, 1948 estimated pop 168,800) of W London, England It is largely a residential district Kensington Gardens, originally the grounds of Kensington Palace, adjoin Hyde Park The body of water called the Serpentine in Hyde Park becomes Long Water in Kensington Gardens The Orangery and Queen Anne's Alcove were designed by Wren The Round Pond, the Dutch Garden, Flower Walk, and Broad Walk are well known Kensington Palace, a brick structure, largely from designs of Wren and William Kent (17th and 18th cent), is on the west side of the gardens It was for some time a royal residence and has memories of William III, Queen Anne, George II, Queen Victoria, and other sovereigns It was damaged in air raids in 1940 Holland House was the residence of the Fox family and, for a time, of William Penn, Addison died here South Kensington has become a center of colleges and museums, it is the site of the natural history section of the British Museum, the Victoria and Albert Museum, the Imperial Institute, the Science Museum, the Royal College of Art, the Royal College of Science, and the Albert Hall

Kensington, village (pop 337), W Minn, SW of Alexandria The KENSINGTON RUNE STONE was found in 1898 on a farm near here.

Kensington Rune Stone, much-disputed stone found on a farm near Kensington, Minn, in 1898 Inscribed on the stone in RUNES is an account of a party of Norse explorers, 14 days' journey from the sea, who camped near by in 1362 and lost some of their men, presumably to Indians Historical and philological disputes have been waged over the authenticity of the stone, with no definite conclusion having been reached Many scholars still denounce it as a hoax of modern origin, though others accept it with the corroborative archaeological evidence See VINLAND See H R Holand, *The Kensington Stone* (1932) and *America, 1355–1364* (1946), M M Quaife, "The Myth of the Kensington Rune Stone," *New England Quarterly,* Vol VII (1934), L M Larson, "The Kensington Rune Stone," *Minnesota History,* Vol XVII (1936)

Kent, Edward Augustus, duke of, 1767–1820, fourth son of George III of England and father of Queen Victoria Most of his mature life was spent in military service, at Gibraltar, in Canada, and in the West Indies

Kent, George Edward Alexander Edmund, duke of, 1902–42, brother of King George VI of England He traveled extensively as "salesman of the empire" A member of the Royal Air Force after 1940, he was killed on active service in a plane crash in Scotland in 1942 Three children were born of his marriage (1934) to Princess Marina of Greece—Prince Edward (b 1935), Princess Alexandra (b 1936), and Prince Michael (b 1942)

Kent, James, 1763–1847, American jurist, b near Brewster, N Y, grad Yale, 1781 He was admitted to the bar in 1785 and began practice in Poughkeepsie Active in the Federalist party, he served several terms in the New York legislature In 1793 Kent moved to New York city, where his reputation for learning established him as first professor of law at Columbia College His lectures (1794–98) were not received too well, and he welcomed the appointment in 1798 as a judge of the state supreme court He was made chief judge in 1804, and from 1814 until his statutory retirement in 1823 he presided over the state court of chancery Kent's written opinions as chancellor were instrumental in reviving equity, which had largely lapsed in the United States after the American Revolution Many doctrines he fashioned himself, combining English chancery precedents with the principles of Roman law After his retirement he again (1824–26) was professor of law at Columbia, but found the delivery of lectures tedious and soon resigned He vastly expanded the material of his courses to prepare his *Commentaries on the American Law* (4 vols, 1826–30) This work systematically treats international law, American constitutional law, the sources of state law, and the law of personal rights and of property It was enthusiastically received by the legal profession and in Kent's lifetime went through six editions In influence it is comparable to the work of William Blackstone in England and of Joseph Story in the United States See biographies by John Duer (1848) and W J Curtis (1900), study by J T Horton (1939)

Kent, Rockwell, 1882–, American painter, wood engraver, lithographer, and writer, b Tarrytown, N Y, studied at the Columbia Univ School of Architecture and at William Chase's school, New York city He has lived in Labrador, Alaska, Greenland, and Tierra del Fuego and has painted vigorous landscapes in all these places Easily roused by injustice, he fought the political machine of his own Essex co, N Y, and for Puerto Rican independence and other causes Among his paintings are *Winter* (Metropolitan Mus), *Mother and Child* and *Down to the Sea* (Brooklyn Mus), and *Deer Season* and *Toilers of the Sea* (Art Inst, Chicago) He is the author of *Wilderness* (1920), on his trip to Alaska, *Voyaging Southward from the Strait of Magellan* (1920), on Tierra del Fuego, *Salamina* (1935), a story of Greenland, and the autobiographical *This Is My Own* (1940)

Kent, William, 1684–1748, English landscape gardener, architect, and painter Mediocre as a painter, he is important for his influence on landscape gardening, which he helped to divert from the prevailing artificial style to one based more closely on nature His outstanding work was the park of Claremont in Esher, England He executed ceiling decorations for Kensington Palace and some country houses and was the fashionable architect of the day His design of the Horse Guards building, London, notable for its fine mass composition, is one of the best 18th-century Palladian works Other London designs were the treasury buildings and Devonshire House He also created designs for interiors, mantelpieces, furniture, and accessories and is still highly esteemed

Kent, maritime county (1,525 sq mi, 1931 pop 1,219,273, 1948 estimated pop 1,504,400), SE England, between the Thames estuary and the Strait of Dover The county town is Maidstone The Isle of Sheppey is separated from the north coast by the narrow Swale The chalky North Downs cross the county from east to west, and to the south lie the fertile Weald and the reclaimed Romney Marsh. The Medway, the Stour, and the Darent are the chief rivers. The region is largely agricultural and pastoral. Crops include fruit, grain, and especially hops Sheep and cattle grazing, fishing, and dairying are important The county is becoming increasingly important industrially because of the encroachment of the London urban area into the western portion Paper, pottery, tile and brick, cement, beer, malt, and iron goods are manufactured, and there is shipbuilding Kent has important coal deposits Because of its strategic location on the path to the Continent through Dover, Kent has been important throughout English history Roman roads crossed the county In the Middle Ages many religious houses were established in the old kingdom of Kent, and Canterbury became the goal of numerous pilgrims such as Chaucer described in the *Canterbury Tales* The region was intimately associated with the rebellions of Wat Tyler, Jack Cade, and Sir Thomas Wyatt In the First World War, and more especially in the Second World War, the coast of Kent was heavily fortified against possible invasion from the Continent See *Victoria History of Kent* (3 vols, 1926–36), Arthur Mee, *Kent* (1937)

Kent. 1 Resort town (pop 1,245), W Conn, crossed by the Housatonic, in hills at the N Y state line, settled 1738, inc 1739 The noted Kent School for boys (preparatory, Episcopal), founded in 1906 by Father Frederick H Sill, is here **2** Industrial city (pop 8,581), NE Ohio, NE of Akron, settled as Franklin Mills, combined with Carthage as Kent 1863, inc as a city 1920 Busses and hardware are made here It is the seat of Kent State Univ (coeducational, 1910) **3** City (pop 2,586), W Wash, near Puget Sound S of Seattle, founded 1860, inc 1889 Canning is done here, and there is an annual lettuce festival

Kent, kingdom of, one of the states of the Anglo-Saxon heptarchy in England It was settled in the mid-5th cent by aggressive warbands of a people called Jutes (see ANGLO-SAXONS) They soon overcame the British inhabitants and established a kingdom which included the present county of Kent and the land up the south bank of the Thames almost to London Historians still dispute the authenticity of the tradition that Hengist and Horsa landed in 449 to defend the Britons against the Picts and that Hengist and his son Aesc subsequently turned against their employers to start the Germanic invasion ÆTHELBERT of Kent established his hegemony over England S of the Humber, received St Augustine of Canterbury's first Roman Catholic mission to England in 597, and became Christian himself During the following century Kent was periodically subjugated and divided by raids from Wessex and Mercia and finally became a Mercian province under OFFA A revolt in 796 was put down Conquered by an army of Egbert of Wessex in 825, Kent was forced to acknowledge the overlordship of Wessex and became part of that kingdom Although it suffered heavily from Danish raids, it remained one of the most advanced areas in pre-Conquest England because of the archbishopric of Canterbury and because of its steady intercourse with the Continent The metalwork and jewelry of Kent were distinctive and remarkably beautiful

Kent, Maid of see BARTON, ELIZABETH

Kentland, town (pop 1,608), co seat of Newton co, NW Ind, near the Ill boundary, settled 1860 The town has a cheese factory Kentland is the birthplace of George Ade

Kenton, Simon, 1755–1836, American frontiersman, b probably Fauquier co, Va In 1771, believing he had killed an adversary in a fist fight, he fled westward and assumed the name of Samuel Butler He joined George Yeager and John Strader in a hunting expedition down the Ohio river Unable to find "the cane-lands of Kaintuckee" which they sought, they hunted and trapped along the Ohio until they were attacked and driven off by Indians in 1773 In 1774 Kenton served as a spy in Lord Dunmore's War With Thomas Williams, in the spring of 1775, he made a camp on Limestone Creek, but, becoming acquainted with Daniel Boone, he joined the Boone settlement at Boonesboro Kenton, while serving as a scout, took part in the defense against frequent Indian attacks on the settlement, in one of which he saved Boone's life He joined George Rogers Clark in 1778 on his expedition to Kaskaskia and Vincennes, helped Boone in the raid on Chillicothe, and was later captured by the Indians and sentenced to death Successively reprieved and condemned, he was taken to Detroit and held by the British until he escaped in 1779 Again under General Clark in 1780, he defeated the Indians at Piqua, and in 1782 he joined the Kentuckians in an attack on the Indian village on the Great Miami Learning that his boyhood antagonist in Virginia was still living, he resumed his original name, visited his old home, and established his family near his old camp on the Limestone (at the present town of Maysville) He continued to participate in Indian activities and in 1793 served as a major under Gen Anthony Wayne Settling in Ohio in 1799, he was elected a brigadier general of militia in 1804 During the War of 1812 he served at the battle of the Thames with Kentucky volunteers Through ignorance of the law he lost most of his lands and died in poverty See biography by Edna Kenton (1930)

Kenton, city (pop 7,593), co seat of Hardin co, W central Ohio, NW of Marion, on the Scioto river,

platted 1833 Iron toys and novelties and machine tools are manufactured. Limestone quarries are here

Kent's Cavern or **Kent's Hole**, limestone cave, Devonshire, England, near Torquay Its exploration, begun c 1825, was intensively carried on from 1865 to 1880 The floor is of several strata, with remains indicating the prehistoric existence here of man and animals

Kentucky (kŭntŭ'kē, kĕn-), state (40,395 sq mi; 1940 pop, 2,845,627, 1949 estimated pop 2,893,000), S central United States, admitted 1792 as the 15th state (a slaveholding state) FRANKFORT is the capital, LOUISVILLE the largest city. Kentucky, which styles itself a COMMONWEALTH, is one of the border states between North and South The Ohio river the northern boundary separating it from Ohio, Indiana, and Illinois, runs generally SW below COVINGTON (across the river from Cincinnati, Ohio), and the north-south breadth of the state (often called shield shaped) grows smaller until in the west there is only a small area that is separated from Missouri by the Mississippi after the entrance of the Ohio Tennessee borders it on the south, and in the east the border with Virginia is in the mountains, while the Big Sandy River makes most of the boundary with West Virginia Big Black Mt (4,150 ft), the highest point, is in the Cumberland Plateau, which is notable for its forests of giant hardwoods and scented pine, for its springtime blooms of laurel, magnolia rhododendron, and dogwood, and for the petroleum recently developed there Many rapid creeks feed the Kentucky, the Cumberland, and the Licking rivers, which, with the Tennessee and after the Ohio, are the chief rivers of the state To the west the plateau breaks in a series of escarpments, with plateau country interrupted by many single small peaks called knobs Framed within this is the bluegrass country, the heart of Kentucky West of it is an area where rocky hillsides stand out above the open fields and among the undulating hills in a region sometimes called Pennyroyal (or Pennyrile, from its local pronunciation) because of the abundance of mint Here underground streams have washed their way through limestone to form huge subterranean caverns (see MAMMOTH CAVE NATIONAL PARK) Farther west the terrain is generally level in the area of the western mine fields and the Purchase, or Jackson Purchase (so called because Andrew Jackson bought it in 1818 from the Chickasaw Indians), an isolated region along the Mississippi, largely flood plains dotted with cypress swamps and bayous Over the whole state an equable climate prevails, except for occasional extremes of winter temperatures in the mountains, and there is an abundant rainfall. Although industry surpasses agriculture in value of its products, the population is predominantly rural, and most Kentuckians are employed in agricultural work Corn and tobacco are the leading crops, and winter wheat, oats, barley, rye, hay soybeans, Irish potatoes, and sweet potatoes are also grown in large quantities The tendency to move away from concentration in corn and tobacco is reflected in the increase of dairying and poultry raising and larger cultivation of fruits and vegetables The bluegrass region, specialist in luxuries, admits no peer in the distilling of whiskies (especially bourbon), the breeding of thoroughbred race horses, and the production of burley tobacco Its countryside is dotted with well-kept stud and training farms, and every year thousands of people flock to Churchill Downs—while the nation listens by radio—for the running of the Kentucky Derby Farm products supply much of the raw materials for Kentucky's industries—livestock for meat packing and grains for flour and processing Corn and rye are the basic ingredients for the production of distilled liquors, in which Kentucky frequently surpasses the combined output of all other states Large distilleries are located at Louisville and LEXINGTON, and many small towns are noted for their distinctive brands of whisky Louisville is also an important tobacco center, as is Covington, and Kentucky ranks third among the states in the production of cigarettes and processed tobacco Industrial power is provided by large native fuel resources Wolf Creek Dam on the Cumberland river and Kentucky Dam on the Tennessee river have increased hydroelectric power and also aid in flood control. The eastern and western coal fields supply huge quantities of bituminous coal and lesser amounts of natural gas and oil Other valuable mineral deposits include feldspar, rock asphalt, and stone. This land of riches was part of the inaccessible country beyond the mountains when the eastern seaboard was being colonized in the 1600s After France claimed all regions drained by the Mississippi and its tributaries, on the basis of the travels of Marquette, Jolliet, and La Salle, British interest in the area quickened. The first expedition of any moment, sponsored by the Loyal Land Company under the leadership of Dr. Thomas Walker, explored the Big Sandy region in 1750 and was soon followed by such hunters and scouts as Cristopher GIST and John Finley. Further exploration was interrupted by the French and Indian Wars and Pontiac's Conspiracy, but with the British victorious in both, settlers soon began to enter Kentucky in defiance of the royal proclamation of 1763 which forbade white settlement S of Canada and W of the Alleghenies A surveying party under James HARROD established the first permanent settlement at HARRODSBURG in 1774, and the next year Daniel BOONE, who had been intrigued by Finley's descriptions, built, as agent for Richard HENDERSON and the TRANSYLVANIA COMPANY, the WILDERNESS ROAD and founded BOONESBORO Title to this land was challenged by Virginia, whose legislature, prompted by George Rogers CLARK of Harrodsburg, voided (1778) the Transylvania Company's claims, although actual settlers were confirmed in their grants Meanwhile, Virginia had created (1776) Kentucky co, and new settlers, largely of British origin, pushed through CUMBERLAND GAP and over the Wilderness Road or down the Ohio river These early pioneers of Kentucky and Tennessee, the "dark and bloody ground" of internecine Indian warfare, were constantly menaced on their self-sufficient farms by Indian raids, especially encouraged by the British in the American Revolution The population nevertheless increased, and many Kentuckians, feeling that Virginia had failed to give them adequate protection, moved toward statehood in a series of conventions held at DANVILLE (1784-90) Others, observing the weaknesses of the U S. government, considered forming an independent nation. Since trade down the Mississippi and out of New Orleans was indispensable to Kentucky's economic development, an alliance with Spain was contemplated, and Gen James WILKINSON worked towards that end However, in 1792 a constitution was finally framed and accepted, and on June 1 Kentucky was admitted to the Union, the first state W of the Appalachians Isaac SHELBY was elected the first governor, and Frankfort was chosen capital Indian troubles in Kentucky were virtually ended with Gen Anthony Wayne's victory at the battle of Fallen Timbers in Ohio in 1794, and in 1795 Pinckney's Treaty with Spain granted Americans the right to navigate the Mississippi, which was soon completely assured by the Louisiana Purchase Nevertheless the national government was still suspect, and the policies of the Federalist party were held by many to be destructive of democracy The passing of the ALIEN AND SEDITION ACTS (1798) promptly provoked a sharp protest in the Kentucky Resolutions (see KENTUCKY AND VIRGINIA RESOLUTIONS) Politics continued to be exciting as Kentucky and the West were seized with the lure of further conquest The dreams of Aaron Burr, visualizing an empire in the Old Southwest, collapsed, but they were succeeded by plans for the annexation of Canada. When the War of 1812 failed to achieve that objective, Kentucky turned to problems of internal improvements, especially canals and roads The state grew fast as trade and shipping centers developed and river traffic down the Ohio and Mississippi increased, With this expansion there was need for a better currency system Accordingly, the state in 1818 chartered 46 banks which were allowed to issue their own currency These soon afterwards collapsed with disastrous results, and the legislature was appealed to for relief When measures passed for that purpose were declared unconstitutional, Kentucky became divided into pro-relief and anti-relief factions Sterling Jacksonian Democrats such as Amos KENDALL and Francis P BLAIR (1791-1876) attempted to destroy the old court and erect a new one, but the old court refused to give way, and civil war threatened However, in the election of 1826 the old court or anti-relief party triumphed and strife was averted Kentucky, with its ambitious program for internal improvements, was left prostrate by the Panic of 1837 In this period Henry CLAY became the political leader of his state, which was long controlled by the Whigs Kentucky was primarily a state of small farms rather than large plantations, and its field crops, unlike the cotton, rice, and sugar cane of the Lower South, were not adaptable to slave labor Slavery thus declined after 1830 and for 17 years beginning in 1833 the importation of slaves into the state was forbidden. When, however, in 1850 the legislature repealed this restriction, Kentucky, where slave trading had begun to develop quietly in the 1840s, was converted into a huge slave market for the Lower South Antislavery agitation had begun in the late 18th cent among the churches, especially the Baptist, Methodist, and Presbyterian, and abolitionists such as James G BIRNEY, Robert J. Breckinbridge, and Cassius M. CLAY labored vigorously for emancipation before the Civil War. Soon the slavery issue supplanted all other political considerations, and Kentucky, like other border states, was torn between its conflicting geographical, cultural, and economic interests. Both the radical antislavery element and the aggressive proslavery faction were outweighed by a conciliatory group, in which John J. CRITTENDEN was most conspicuous, which strove to preserve the Union at all costs. This spirit of compromise was indicated by the presidential election of 1860, when the state, ignoring Abraham Lincoln and John C. BRECKINRIDGE, both born in Kentucky (as was Jefferson Davis), voted for John Bell of the Constitutional Union party. The outbreak of the Civil War created a peculiarly vexatious problem. Kentucky at first attempted to remain neutral, but this proved impossible. Gov. Beriah MAGOFFIN refused to sanction Lincoln's call for volunteers, but his warnings to both the Union and the Confederacy not to invade the state were ignored. Kentuckians meanwhile were enlisting in the armies of each side. Native son Gen Albert S. Johnston occupied part of S Kentucky, including Columbus and BOWLING GREEN, with his Confederate forces, and while he was there an irregular convention passed an ordinance of secession Ulysses S. Grant countered by crossing the Ohio to PADUCAH and then moving successfully against Forts Henry and Donelson in Tennessee Johnston was thus forced to abandon his Kentucky positions completely a few days before Simon B BUCKNER surrendered to Grant at Donelson, and Kentucky was safely held for the Union. Meanwhile, in E Kentucky, Union troops under Gen George H. Thomas had defeated (Jan. 19, 1862) at MILL SPRINGS a Confederate army under Gen George B Crittenden. Confederate armies attempted to regain Kentucky in 1862 Gen Edmund Kirby Smith was successful at RICHMOND (Aug 30), but Gen Braxton Bragg was stopped by Gen Don Carlos Buell at PERRYVILLE (Oct. 8, 1862), thus ending the invasion Thereafter there was no major fighting in the state, although the Confederate cavalryman John Hunt MORGAN occasionally stirred up trouble and guerrilla warfare was constant, especially in the eastern mountains For Kentucky it was truly a civil war as neighbors, friends, and even families became bitterly divided in their loyalties The Breckinridges and the Crittendens were only two of the many families which had sons fighting on opposite sides Over 30,000 Kentuckians fought for the Confederacy, while about 64,000 served in the Union ranks The assumption of authority by the Federal government during the war, the emancipation of slaves without compensation to loyal owners (Kentucky refused to ratify the Thirteenth and Fourteenth amendments), and the excesses of the Freedmen's Bureau caused an overwhelming majority of Kentuckians to adhere to the Democratic party in the period of readjustment after the war, in many ways as bitter as the war itself The Democrats remained dominant until 1895, since then Republicans and Democrats have generally alternated in power In recent years Alben W BARKLEY has been the state's most prominent political figure After the Civil War industrial and commercial restoration was aided by increased railroad construction, but farmers were plagued by the liabilities of the one-crop (tobacco) system For help they turned successively to the Granger movement, the Farmers' Alliance, and the Populist party and finally achieved some measure of agrarian reform in the new constitution of 1891 Enough seeds of discontent remained to nurture bitter partisan politics, which culminated in the shooting (Jan, 1900) of William Goebel, Democratic candidate for governor in the disputed election of 1899. A special legislative committee declared Goebel the victor, and he took the oath of office before he died in Feb, 1900 This tragic episode was succeeded by a feud between tobacco buyers and growers In an attempt to raise the depressed price of tobacco, an association of growers was formed, and those refusing to join were intimidated by "night riders" The buyers reciprocated with a terrorism of their own, lawlessness spread over the countryside, and murder and the destruction of property resulted After the state militia was called out in 1908, the buyers and growers reached an agreement Kentucky's industrial history has been perhaps even more violent Coal mining on a large scale began in the 1870s and became well established in mountainous E Kentucky early in the 20th cent The mines boomed during the First World War, but after the war demand for coal lessened, production fell off, and many mountaineer miners became further acquainted with the evils of a modern industrial society The mountain people have developed a culture renowned not only for its simple, sincere hospitality but also for the primitive intensity of its expression, as in religious revivals and, more especially, in family feuds such as the notorious Hatfield-McCoy affair Hence they (both operators and miners) took quite naturally to settling industrial problems after their traditional manner—shooting. In the 1930s, when the United Mine Workers of America attempted to organize the coal industry in Harlan co, industrial violence reached its peak. The many killings drew national attention to "bloody" Harlan, and in 1937 a U S. Senate subcommittee began investigation into alleged deprivation of workers' civil rights Nearly 100 operators and others were indicted by a Federal grand jury on various charges, especially of violating provisions of the Wagner Act, but a mistrial was declared (Aug., 1938) when the trial jury became deadlocked.

Harlan operators continued to refuse to sign union contracts and resumed mining operations in May, 1939, under the protection of the Kentucky National Guard, called out by Gov Albert B Chandler There was further violence involving pickets and guardsmen before peace was restored by compromise in July, 1939, when the U M W. was finally recognized as bargaining agent for most of the coal miners More pleasant developments since the First World War include the vast improvement of the state's highways, begun in the 1920s, a much-needed reorganization of the state government, effected in the 1920s and 1930s, and an extension of educational opportunities General public education was not achieved in Kentucky until the 20th cent, but has progressed rapidly Chief institution of higher education is the Univ of Kentucky at Lexington, where Transylvania College is also located Others are Berea College at Berea, Centre College of Kentucky at Danville, Kentucky State College (for Negroes) at Frankfort, and the Univ of Louisville There are three state teachers colleges For the Negro, who in 1940 constituted less than 8 percent of the population, the schools are segregated in the Southern tradition, as are other public facilities However, since the Second World War (in which Kentucky had several important training camps, such as Fort Knox), the racial barriers have been let down slightly without undue incident By 1950, for instance, the legislature had repealed a law which forbade Negroes and whites to attend the same school, and mixed attendance at the higher level is now sanctioned under certain conditions Kentucky's stormy, colorful history has not been lost on the talented writers it has produced over the years The best of them, a distinguished and individually quite distinctive group, have been James Lane Allen, Irvin S Cobb, Alice Hegan Rice, Elizabeth Madox Roberts, James Still, Jesse Stuart, and Robert Penn Warren An excellent bibliography is J Winston Coleman, Jr, *A Bibliography of Kentucky History* (1949) See also Thomas Speed, *The Union Cause in Kentucky, 1860–1865* (1907), Mary Verhoeff, *The Kentucky Mountains* (1911), C W Alvord and Lee Bidgood, *The First Explorations of the Trans-Allegheny Region by the Virginians, 1650–1674* (1912), R S Cotterill, *History of Pioneer Kentucky* (1917), Archibald Henderson, *The Conquest of the Old Southwest* (1920), E M Coulter, *The Civil War and Readjustment in Kentucky* (1926), E C Smith, *The Borderland in the Civil War* (1927), T D Clark, *A History of Kentucky* (1937), Federal Writers' Project, *Kentucky a Guide to the Bluegrass State* (1939), J O Nall, *The Tobacco Night Riders of Kentucky and Tennessee, 1905–1909* (1939), J W Coleman, Jr, *Slavery Times in Kentucky* (1940), J F. Day, *Bloody Ground* (1941), A F Harlow, "*Weep No More, My Lady*" (1942), F G Davenport, *Ante-Bellum Kentucky a Social History, 1800-1860* (1943), Everett Dick, *The Dixie Frontier* (1948)

Kentucky, river, 259 mi long, formed in Lee co, central Ky, by the junction of its North and Middle forks and flowing NW to the Ohio at Carrollton See Thomas D Clark, *The Kentucky* (1942)

Kentucky, University of, mainly at Lexington, land-grant and state supported, coeducational Opened (1865) as a part of Kentucky Univ (now TRANSYLVANIA COLLEGE), it became a state agricultural and mechanical college in 1878 and a university in 1908 It has colleges of agriculture, arts and sciences (with journalism and music), commerce, education, engineering, law, and pharmacy (at Louisville) There are bureaus of business and government research and of education, museums of anthropology and archaeology, geology, and mining, and a child-guidance clinic

Kentucky and Virginia Resolutions, passed in opposition to the ALIEN AND SEDITION ACTS, which were enacted by the Federalists in 1798 when fervor against France was at its peak The potential threat to immigration was naturally opposed in the growing West, but far more important were the laws that gave the Federal government tremendous power over press and speech The Jeffersonian Republicans replied in the Kentucky Resolutions, adopted by the Kentucky legislature in Nov, 1798, and written by Thomas Jefferson himself, with the advice of John Breckinridge Their general purport was that the U S Constitution established a compact of states and that the Federal government had no right to exercise powers not specifically delegated to it by the Constitution, if the Federal government did assume such powers, its acts under them were unauthoritative and void. It was the right of the states and not the Federal government to decide as to the constitutionality of such acts A further resolution, adopted in 1799, provided a means by which the states could enforce their decisions by formal nullification of the objectionable laws A similar set of resolutions was adopted in Virginia in Dec., 1798, but these Virginia Resolutions, written by James Madison, were a somewhat milder expression of the strict construction of the Constitution and the compact theory of the Union. The resolutions were submitted to the other states for approval but with no real result. The chief importance of the resolutions lies in the fact that they were later considered to be the first notable statements of the STATES' RIGHTS theory of government, a theory which opened the way for the NULLIFICATION controversy and ultimately for SECESSION See E D. Warfield, *The Kentucky Resolutions of 1798* (1887).

Kentucky State College for Negroes: see FRANKFORT

Kentucky University: see KENTUCKY, UNIVERSITY OF, and TRANSYLVANIA COLLEGE

Kentville, town (pop 3,928), N N S, on the Cornwallis river and NW of Halifax It is a trade and tourist center in a fruitgrowing region

Kentwood, town (pop 1,854), SE La, near the Miss boundary NE of Baton Rouge, in a strawberry region, founded in the mid-19th cent

Kenvil, unincorporated village (pop 902), N N J, W of Dover, site of a large powder plant founded in 1871 The plant was nearly destroyed in 1940 by explosions that took 48 lives

Kenya (kĕn'yu, kēn'yu), British colony and protectorate (224,960 sq mi, pop 3,040,940), E Africa, on the Indian Ocean The capital is Nairobi Lying across the equator, it is bordered on the north by Anglo-Egyptian Sudan, Ethiopia, and Italian Somaliland, on the west by Uganda, and on the south by Tanganyika The Kenya protectorate, included within the colony, is a coastal strip, 10 mi wide, leased from the sultan of Zanzibar, within it is Mombasa, the chief overseas port In the north much of the land is poorly watered The south and the central plateau, including the Great Rift Valley, offer greater possibilities for agricultural development than almost any other part of Africa Here there are large cattle ranches, and wheat, maize, peanuts, coffee, tea, sisal, and cotton are grown There is salt mining in the south The Kenya-Uganda RR (built 1901) connects the main cities and the productive hinterland As early as the 7th cent A D the coastal strip of Kenya was settled by Arabs and Persians trading in ivory and slaves They were supplanted by the Portuguese, who controlled the coast from 1498 until their defeat in 1729 by the Oman Arabs Great Britain, after having gained commercial control through the British East Africa Company (chartered 1888), established the protectorate (1890) and the inland colony (1895) In 1897 Hugh Cholmondeley, Baron Delamere, the first British settler, arrived, he was followed by other white settlers from England and South Africa and by Indian laborers from E Africa During the Second World War parts of N Kenya were briefly occupied by Italian forces Kenya is ruled by an appointed governor with the advice and consent of the legislative council, on which representatives of the white settlers (1941 estimated pop 23,284) have a majority of the elective seats See Elspeth Huxley, *White Man's Country* (1935), L S B Leakey, *Kenya* (1936), Marjorie R Dilley, *British Policy in Kenya Colony* (1937)

Kenyon, Sir Frederic George, 1863–, English Greek scholar, educated at Winchester College and at New College, Oxford From 1909 to 1930 he was director and principal librarian of the British Museum His publications include the definitive texts of Aristotle's *Constitution of Athens* (1891, rev ed, 1920), of the newly found odes of Bacchylides (1897), and of other papyrus texts, as well as studies concerning the Greek Bible and editions of the poems and letters of Browning

Kenyon, William Squire, 1869–1933, U S Senator from Iowa, b Elyria, Ohio, grad State Univ of Iowa, 1890 He practiced law at Fort Dodge, Iowa, was county prosecutor, and became a state district court judge before he served (1910–11) as assistant to the U S Attorney General in the Federal beef-trust prosecutions He was elected to the U S Senate in 1911 to succeed Jonathan P DOLLIVER and served there until 1922 Kenyon immediately joined the Republican insurgents, backed much progressive legislation, was the co-author of the Webb-Kenyon Act (1913) prohibiting the shipment of intoxicating beverages in interstate commerce, and was the first leader of the Senate farm bloc Kenyon later served (1922–33) as judge of the U S Circuit Court of Appeals and was (1929–30) a member of the Wickersham Commission (see WICKERSHAM, GEORGE WOODWARD)

Kenyon, village (pop 1,530), SE Minn, E of Faribault, in a farm region, settled 1856, inc 1885

Kenyon College, at Gambier, Ohio, near Mt Vernon; for men, chartered 1824 by Bishop Philander CHASE as an Episcopal theological seminary with college work, renamed 1891 It still includes a divinity school The college publishes a literary quarterly, the *Kenyon Review*

Keokuk (kē'ŭkŭk), c 1780–1848, American Indian, chief of the Sac and Fox tribes, b near present Rock Island, Ill When Black Hawk supported the British in the War of 1812, Keokuk refused to join him, thereby gaining recognition and support from the U S government. After Black Hawk's defeat, in 1832, Keokuk's tribes were given a large tract of land in SE Iowa Keokuk visited Washington in 1833 and 1837 His grave and a statue of him are at Keokuk, Iowa, which was named for him. See biography by Myna Lockwood (1943)

Keokuk, city (pop. 15,076), a co seat of Lee co, extreme SE Iowa, on the Mississippi river at the foot of the Des Moines rapids, platted 1837, inc 1847 The first cabin was erected in 1820, and a trading post was founded in 1829 and named for Keokuk, Sac Indian chief A trade and manufacturing center in a farm area, Keokuk produces flour, dairy products, rubber products, and chemicals Heavy river traffic brought prosperity until the mid-19th cent, when the arrival of railroads diverted the river shipping. In 1877 the U S government completed a ship canal (9 mi long) around the rapids A gravity dam (a mile long, built 1910–13) and powerhouse on the Mississippi furnish hydroelectric power The U S dry dock and locks here are among the largest ever built The dam forms Lake Keokuk, reaching to Burlington The National Cemetery (1861) has a monument to the Unknown Soldier, in Rand Park is the grave of Keokuk, with a monument Mark Twain worked as a printer in Keokuk, and mementos of his stay are preserved.

Keos (kā'ŏs, kē'ŏs) or **Kea** (kā'ä), Latin *Ceos* (sē'ŏs), island (61 sq mi, pop 3,749), Greece, in the Aegean Sea, one of the CYCLADES The main town is Kea (pop 2,869) on the site of ancient Iulis The poet Bacchylides was born here In the Middle Ages and under Turkish rule Keos was a hiding place of pirates It is also known as Zea

Keosauqua, (kē'sŏk'wu), town (pop 1,040), SE Iowa, in a bend of the Des Moines river NW of Keokuk, settled 1836, inc 1851 The river was the scene of a boundary dispute between Iowa and Missouri in 1839

Keota (kē'ŏ'tu), town (pop 1,032), SE Iowa, SW of Iowa City, settled 1871, inc 1873 It is a shipping center for dairy products and livestock.

Kep i Gjuhezes, Albania see ACROCERAUNIA

Kepler, Johannes (yōha'nus kĕp'lur), 1571–1630, German astronomer From his student days at the Univ of Tübingen, he was influenced by the Copernican teachings From 1593 to 1598 he was professor of mathematics at Graz and while there wrote his *Mysterium cosmographicum* (1596). This work opened the way to friendly intercourse with Galileo and Tycho Brahe, and in 1600 Kepler became Tycho's assistant in his observatory near Prague Upon Tycho's death, in 1601, Kepler succeeded him as imperial mathematician to Rudolph II In 1609 he published the results of Tycho's calculations of the orbit of Mars In this memorable work were stated the first two laws known by Kepler's name In 1612, becoming mathematician to the states of Upper Austria, he moved to Linz He wrote an epitome of the astronomy of Copernicus in 1618, and in 1619 *De cometis* and *Harmonice mundi* (in which was announced the third of Kepler's laws) In 1626 Kepler moved to Ulm After his death his manuscript writings, bought by Catherine II of Russia, were placed in the observatory of Pulkovo See biography by Olaf Sale (1940)

Kepler's laws may be summarized as follows (1) The orbit of each planet is an ellipse, of which the center of the sun is one of the foci (2) The radius vector of each planet (the line joining its center with the center of the sun) moves over equal areas of the ellipse in equal times (3) The square of the period of each planet (the time for completing its journey around the sun) is proportional to the cube of its mean distance from the sun

Keppel, Arnold Joost van see ALBEMARLE, ARNOLD JOOST VAN KEPPEL, 1ST EARL OF

Keppel, Frederick Paul, 1875–1943, American administrator, dean of Columbia College (1910–17) and president of the Carnegie Corp (1923–41), b Staten Island, N Y, grad Columbia, 1898 He was assistant secretary (1900–1902) and secretary (1902–10) of Columbia College before he became dean—a position he left to serve (1918–19) as Third Assistant Secretary of War He was director (1919–20) of foreign operations of the American Red Cross after the First World War After administering the endowments of the Carnegie Corp, Keppel served (1941–43) in the Dept of State as a member of the board of appeal on alien laws His several books include *Columbia University* (1913), *Some War-Time Lessons* (1920), and *The Foundation* (1930). *Philanthropy and Learning* (1936) is a collection of his papers

Keppler, Joseph, 1838–94, American cartoonist and founder of *Puck*, b Vienna Coming to America in 1867, he established (1871) with Adolph Schwarzmann in St Louis a German humorous periodical, *Puck* Upon its failure, he joined the staff of *Frank Leslie's Illustrated Newspaper* in New York and in 1876 started a second German *Puck*, followed in 1877 by the English edition Both organs became famous for their political cartoons, which espoused the cause of the national Democratic party. His cartoons were usually large, with many figures, skillfully designed and drawn, and notable for their penetrating satire He was the first in the United States to apply color lithography to caricature

Ker, Robert, earl of Somerset: see SOMERSET, ROBERT CARR OR KER, EARL OF.

Kerak, El see KRAK

Kerasun, Turkey see GIRESUN.

Kerbela (kŭr'bûlû) or **Karbala** (kär'bûlû, kûr'–), city (pop. c 65,000), SW Iraq, at the edge of the

Syrian Desert It contains the tomb of HUSEIN, killed here in 680, and is the greatest shrine of pilgrims of the Moslem Shiite sect Husein's tomb, with a gilded dome and three minarets, is the most notable building, it was destroyed by the Wahabis in 1801, but it was quickly restored by contributions from Persians and other Shiites Persian pilgrims to Mecca usually begin their journey at Kerbela, and many pious Moslems bring the bones of their dead for burial in this holy soil The city's trade is in religious objects, hides, wool, and dates

Kerch (kyĕrch), city (pop 104,471), S European RSFSR, in E Crimea, a fortified Black Sea port It lies on the Kerch Strait and at the eastern end of the Kerch Peninsula, a land strip (60 mi long and from 20 to 30 mi wide) between the Sea of Azov and the Black Sea Kerch, which tripled its population between 1926 and 1939, is a major industrial center, with iron and steel mills, a coking plant, shipyards, and various manufactures Its fisheries and canneries are important The ancient Panticapaeum, the city was founded (6th cent B C) by Greek colonists and became the capital of the kingdom of Bosporus (see CRIMEA) It was conquered (c 110 B C) by Mithridates VI of Pontus, later passed under Roman and Byzantine rule, became (13th cent) a Genoese colony and trade center, and was conquered (1475) by the Crimean Tatars The Russians took it in 1771 In the Second World War, Kerch fell to the Germans in 1941 and, after being briefly recaptured by the Russians, was again held by the Germans from 1942 to 1944 There are ruins of the ancient acropolis on top of the steep Hill of Mithridates Archaeological remains, discovered in catacombs and burial mounds near the city, are in the archaeological museum, which is famous for its Greco-Scythian antiquities The Church of St John the Baptist dates from the 8th cent

Kerch Strait, shallow channel, 25 mi long, RSFSR, connecting the Sea of Azov and the Black Sea and separating the Crimea in the west from the Taman peninsula in the east Its northern end, opening into the Sea of Azov, is narrowed to a width of from 2 to 3 mi by the narrow Chushka landspit, the southern end, into the Black Sea, is 9 mi wide The city of Kerch lies near the middle of the strait, on the Crimean side The Cimmerian Bosporus of the ancients, the strait is also known by its Tatar name, Yenikale In the Second World War the Russians twice retreated across the strait (1941, 1942) and twice recrossed it to counterattack (1941, 1944)

Keren-Happuch (kē'run-hă'puk) [Heb =horn of antimony, antimony was a cosmetic], Job's third daughter after his affliction Job 42 14

Kerens (kĕr'ĭnz), town (pop 1,287), E central Texas, SSE of Dallas and near Corsicana, settled 1881

Kerensky, Aleksandr Feodorovich (kurĕn'skē, Russ ŭlyĭksan'dŭr fyô'dŭrŭvĭch kă'rĭnskē), 1881–, Russian revolutionist A representative of the moderate Labor party in the fourth Duma, he became, after the February Revolution of 1917 (see RUSSIAN REVOLUTION) minister of justice, then war minister in the government of Prince Lvov He succeeded (July, 1917) Lvov as provisional premier His moderation and vacillation enabled the Bolsheviks, under the leadership of Lenin, to overthrow his government in 1917 He fled to Paris, where he continued as an active propagandist against the Soviet regime In the Second World War, Kerensky fled (1940) to the United States, he subsequently continued to tour the world as a lecturer Among his writings are *The Prelude to Bolshevism* (1919), *The Catastrophe* (1927), and *Crucifixion of Liberty* (1934)

Kerguelen (kûr'gulĕn, Fr kĕrgălĕn'), subantarctic island of volcanic origin, in the S Indian Ocean, belonging to the French since 1893 The largest of the Kerguelen Islands (comprising c 300 islands), it is about 85 mi long and rises to more than 6,000 ft It was discovered in 1772 by the French navigator Yves Joseph de Kerguélen-Trémarec, (1734?–1797), who named it Desolation Island

Kerioth (kĕ'rē–) [Heb, =cities] **1** Town, E of the Jordan in Moab Jer 48 24,41 Kirioth Amos 2 2 **2** Town, S Palestine In AV what had been one name is given as two "Kerioth and Hesron" Another name was Hazor Joshua 15 25

Kerki (kyĭrkĕ'), city (1933 estimated pop 14,200), Turkmen SSR, a port on the Amu Darya river It has metal, cotton, and food-processing plants It was founded in the late 19th cent as a Russian fort on the Bukhara-Afghanistan trade route

Kerkrade (kĕrk'rā"du), municipality (pop 40,372), Limburg prov, SE Netherlands, E of Maastricht, on the German border It is a coal-mining center

Kermadec Islands (kurmă'dĕk), volcanic group (13 sq mi., pop 23), S Pacific, 500 mi NE of Auckland New Zealand annexed them in 1887 Sunday Island, the largest, is mountainous and fertile

Kerman (kĕrmän'), city (pop 50,048), SE central Iran It is the capital of the Eighth Prov and formerly was the capital of Kerman prov (anc *Carmania*), which consists of mountains rising to 14,700 ft and desert country, with occasional fertile valleys yielding wheat, barley, dates and opium Iron and turquoise were formerly mined. Under the Seljuk Turks in the 11th and 12th cent Kerman was almost independent and conquered Oman and Fars Marco Polo described Kerman Historical reminders are the medieval mosques in the city, beautiful faience found among the extensive ruins outside the walls, and 15th-century mosaics with Chinese motifs From Aga Mohamad Khan's ruthless destruction (1794), Kerman recovered very slowly It is noted for its carpets and fine goat's wool shawls

Kermanshah (kĕrman"shā'), city (pop 88,622), W Iran A secondary royal residence of Medes, Sassanians, Harun, and others, it was later a border fortress against the Turks, whose last occupation (1915–17) was ended by the Russians under Baratov Kermanshah exports local grain and transships fruit and carpets from the interior. It contains an oil refinery, a large arsenal, and numerous caravansaries crowded semiannually with pilgrims to Kerbela Near by are Behistun and notable Sassanian rock sculptures

kermes (kûr'mēz), brilliant red natural dye extracted from the bodies of the adult females of a genus of scale insect parasitic upon oak trees The male insects are small and inconspicuous, the females large and similar in appearance to galls A very ancient dye, kermes has largely been replaced by cochineal and artificial dyes. The insect yields only about one tenth as much dye as the cochineal

Kermit, town (1940 pop 2,584, 1947 estimated pop 5,300), co seat of Winkler co, W Texas, S of the N Mex line and N of the Pecos, inc 1938 The region has cattle ranches, but Kermit is primarily a thriving oil town with carbon-black plants near by

Kern, Jerome (kûrn), 1885–1945, American composer, b New York city After studying in New Jersey and New York he studied composition in Germany and England, making his debut as a composer in England in 1905 His first success in New York was the operetta *The Red Pettcoat* (1911) Among those which followed are *The Girl from Utah* (1914), containing the song *They Didn't Believe Me; Very Good Eddie* (1915), *Sally* (1920), containing *Look for the Silver Lining*, *Sunny* (1925), *The Cat and the Fiddle* (1931), and *Roberta* (1933), containing *Smoke Gets in Your Eyes* After 1931 he wrote scores for many moving pictures, including moving-picture versions of several of his stage successes His outstanding work is *Show Boat* (1929), for which Edna Ferber wrote an adaptation of her own novel and from which came *Ol' Man River* and several other excellent songs

Kern, John Worth, 1849-1917, American political leader, b Howard co, Ind, grad Univ of Michigan, 1869 Admitted (1869) to the bar, Kern practiced law at Kokomo, Ind, where he was (1871–84) city attorney After he had removed (1885) to Indianapolis, he served as reporter (1885–89) of the Indiana supreme court, state senator (1893-97), and city solicitor (1897 1901) He ran (1904, 1908) unsuccessfully on the Democratic ticket for governor and met with defeat in 1908 as vice presidential candidate on the ticket with William J Bryan In 1910, however, Kern was elected to the U S Senate over Albert J BEVERIDGE He became (1914) the Democratic floor leader and supported the legislation of the Wilson administration

Kern, river rising in E California, in the S Sierra Nevada in Sequoia National Park, and flowing c 150 mi S and SW past Bakersfield to a reservoir in the northern part of what was Buena Vista Lake, now nearly dry In wet seasons, the river's waters may reach Tulare Lake Construction was begun in 1945 on the Friant-Kern Canal to bring the waters of the San Joaquin to the region (see CENTRAL VALLEY PROJECT) The canyon of the upper Kern river is noted for its beauty

Kerner, Justinus Andreas Christian (yôstē'nôs andrā'as krīs'tyan kĕr'nur), 1786-1862, German lyric poet, of the Swabian school A physician, he became a believer in spiritualistic phenomena and wrote a novel on this subject, *The Seeress of Prevorst* (1829, Eng tr, 1845) His poems, often in folk style, include the popular "Wanderer's Song," set to music by Schumann, who used a number of his lyrics

Kernersville, textile-mill town (pop 2,103), central N C, E of Winston-Salem, settled before 1770 by Germans

Kernstown, village near Winchester, N Va T. J (Stonewall) JACKSON attacked a Union force here, March 23, 1862, and was repulsed

Keros (kē'rŏs), family which returned from Babylon Ezra 2 44, Neh 7 47

kerosene, colorless, oily liquid (density=0 75–0 85 g per c c), a mixture of hydrocarbons commonly obtained in the fractional distillation of PETROLEUM as the portion boiling off between about 175°C and 300°C Formerly, because of the great demand for kerosene as an illuminant and fuel, the temperature limits of the kerosene fraction were broader, but now with less demand for it and the increasing demand for gasoline, these limits have been reduced Kerosene has also been prepared from coal (hence another name, coal oil), oil shale, wood, and various other substances. The flash point, i e, the temperature at which it forms inflammable vapors, should not be below about 45°C Kerosene is rendered more valuable as a fuel for special-type engines and as an illuminant for lamps by the removal of certain impurities through treatment with sulphur dioxide It is used also in INSECTICIDE sprays. Abraham Gesner discovered kerosene in 1852

Kéroualle, Louise Renée de: see PORTSMOUTH, LOUISE RENÉE DE KÉROUALLE, DUCHESS OF

Kerr, Archibald John Kerr Clark: see INVERCHAPEL OF LOCH ECK, ARCHIBALD JOHN KERR CLARK KERR, 1st BARON

Kerr, Philip Henry. see LOTHIAN, PHILIP HENRY KERR, 11TH MARQUESS OF

Kerrville (kûr'vĭl), city (1940 pop 5,572, 1947 estimated pop 8,000), co seat of Kerr co, S central Texas, on the Guadalupe and NW of San Antonio, settled 1847 In the cool hill country on the edge of the Edwards Plateau, Kerrville is a busy shipper of wool and mohair, dairy products, and poultry and has small industries, but it is better known for the scenery and the invigorating air that have made it a vacation and health resort It is the seat of Schreiner Institute, a junior college A state park is near by

Kerry, maritime county (1,815 sq mi, pop 133,893), W Ireland, in Munster The county town is Tralee Kerry is made up of a series of mountainous peninsulas which extend into the Atlantic The shore line is deeply indented by Dingle Bay, Tralee Bay, and the Kenmore river Carrantuohill (3,414 ft), in the mountains known as Macgillycuddy's Reeks, is the highest point in Ireland The streams are short and precipitous and there are many bogs and lakes, the most famous of which are the Lakes of Killarney, a popular tourist attraction Farming (despite the extremely moist climate and generally unsuitable soil), dairying, and fishing are the chief occupations Dolmens, stone forts, round towers, castles, and abbeys are many and are often in an unusually fine state of preservation The county was organized as a shire by the English c 1200, but long resisted English influence Irish is still spoken by many of the inhabitants

Kerry blue terrier see TERRIER

Kershaw (kûr'shô), town (pop 1,264), N S C, NE of Columbia A gold mine is near by

Kerulen (kĕ'rōōlĕn), river, E Mongolian People's Republic, rising c 75 mi E of Ulan Bator and flowing c 650 mi W to the Argun river at the Chinese border

Kesselring, Albert (al'bŭrt kĕ'sulrĭng), 1887–, German field marshal A veteran of the air force of the First World War, Kesselring rapidly rose in rank under the Hitler regime In the Second World War he commanded air operations in Poland (1939), on the Western Front (1940), in central Russia (1941-42), and in Italy (1942–43) In Sept, 1943, Kesselring replaced Rommel as commander in Italy and in March, 1945, he replaced Rundstedt in the West He surrendered (May, 1945) to American troops He was tried (1946–47) and convicted of war crimes, his sentence was commuted to life imprisonment

Kesteven, Parts of, administrative division see LINCOLNSHIRE, England.

Keswick (kĕs'ĭk), urban district (1931 pop 4,635, 1943 estimated pop 4,437), Cumberland, England, in the Lake District, on the Greta and near Derwentwater It is a market and tourist center Greta Hall was the home of Southey for nearly 40 years, his tomb is in the Crosthwaite parish church Coleridge lived here for a time Just outside the town is the ancient Druids' Circle The **Keswick Convention** is an interdenominational religious gathering held annually in Keswick since 1875

Ket (kĕ'tyu), river, 842 mi long, rising in central Siberia, RSFSR, N of Krasnoyarsk and flowing NW and W into the Ob It is connected with the Kas (a tributary of the Yenisei) by the Ob-Yenisei canal system

Ketchikan (kĕ'chĭkăn"), town (1939 pop 4,695, 1949 estimated pop 7,000), on Revillagigedo Island, in the Alexander Archipelago, SE Alaska A supply point for miners in the gold rush of the 1890s, it has become a center of the salmon industry, with a fishing fleet and packing and cold-storage plants Its excellent harbor makes it an important port on the Inside Passage and a distribution center for a large lumbering, fur-farming, and mining area The town has U S coast guard and lighthouse service stations and is a port of entry. It has municipally owned public utilities

Ketchwayo. see CETEWAYO

Kett, Robert, d 1549, English rebel He lead a democratic agrarian revolt in 1549 as a protest against the enclosure of common land for sheep grazing With 16,000 men he blockaded Norwich, but was defeated and executed

Kettering, municipal borough (1931 pop 31,220, 1947 estimated pop. 36,850), Northamptonshire, England, NNW of London It is a center for the manufacture of shoes and other leather products.

kettledrum, in music, percussion instrument consisting of a hemispherical metal vessel over which a membrane is stretched, played with soft-headed wooden drumsticks. Of ancient origin, it appeared

early in Europe, copied from the Saracens These early kettledrums were small and appeared in pairs, often hung about the player's waist The large, noisy kettledrum was used in the baroque period to express joy or triumph and was introduced into the opera orchestra by Lully in the 17th cent Unique among percussion instruments, it can be tuned to definite pitches by adjusting the tension of the head Usually there are two or more in the modern orchestra, the tuning of which varies Berlioz used eight pairs in his *Requiem* Several improved methods of tuning were developed in the 19th cent , common today is a single pedal capable of giving the instrument a full chromatic range of over an octave Kettledrums are also called timpani

Keturah (kĕtū'ru) [Heb ,=incense], mother of six sons of Abraham Gen 25 1, 1 Chron 1 32

Keuka College see PENN YAN, N Y

Keuka Lake (kū'ku), c 18 mi long and ½ to 2 mi wide, W central N Y , one of the FINGER LAKES It drains into Seneca Lake from the north end Penn Yan here and Hammondsport at the south are trade centers for the surrounding resort and grape-growing region

Kewanee (kĭwn'nē), industrial city (pop 16,901), NW Ill , SE of Rock Island, in a coal and farm area, inc 1855 Its manufactures include boilers, pumps, and other metal products, gloves, and cheese

Kewaunee (kĭwô'nē), city (pop 2,533), co seat of Kewaunee co , NE Wis , on Lake Michigan at the mouth of the Kewaunee and E of Green Bay, settled 1795, inc 1883 The North West Company set up a fur-trading post on this site in 1795 Kewaunee has varied manufactures A coast guard station is here

Keweenaw (kē'wĭnô), peninsula, extreme N Mich , projecting northeastward from the W Upper Peninsula into Lake Superior Portage Lake and a connecting ship canal cut across the middle of Keweenaw peninsula, converting its upper portion into an island and creating an important waterway The peninsula is known for its copper, it is also a resort area Its settlements include Houghton, Hancock, Calumet, and Laurium

Keweenawan system see PROTEROZOIC ERA

Kew Gardens (kū), Surrey, England, on the Thames just W of London Royal Botanic Gardens is the official name The gardens were founded by the dowager princess of Wales in 1760 and consisted of about 11 acres In 1840 they were presented to the nation as a royal gift They now cover 288 acres and contain thousands of species of plants, four museums, and laboratories and hothouses Air raids in 1940 damaged the hothouses and destroyed many rare plants Near the main entrance is Kew Palace, a red-brick mansion, once the home of George III and of Queen Charlotte, who died here in 1818

Key, David McKendree (kē), 1824 1900, American politician and jurist, b Greene co , Tenn , grad Hiwassee College, 1850 He practiced law in Chattanooga, Tenn , from 1853 to 1870, except during the Civil War, when he was an officer of a Tennessee regiment in the Confederate army He served in the U S Senate (1875 77) to complete Andrew Johnson's term In 1877 President Rutherford B Hayes chose Key to be his Postmaster General, an action which provoked sharp criticism from Republicans, who felt that the presence of an ex-Confederate in the cabinet violated party principles From 1880 to 1894 Key served as U S judge for the eastern and middle districts of Tennessee, distinguishing himself by his humanity and deep understanding of the mountain people, many of whom were involved in revenue "moonshine" cases

Key, Ellen (kā), 1849–1926, Swedish author and feminist She believed that women are primarily fitted for motherhood and advocated political and educational equality to prepare them for this role, but deplored feminist claims to equality in competitive occupations For this, she was bitterly attacked by men of her contemporaries and as vigorously defended Her ideas have influenced social legislation in many countries Among her best-known works published in English are *Love and Marriage* (1911, reissued with critical and biographical notes by Havelock Ellis, 1931), *The Century of the Child* (1909), *The Woman Movement* (1912), *The Younger Generation* (1914), and *War, Peace, and the Future* (1916) See biographies by John Landquist (1909) and Louise Nystrom-Hamilton (1913)

Key, Francis Scott (kē), 1779–1843, American poet, author of the STAR-SPANGLED BANNER, b present Carroll co , Md From 1833 to 1841 he was U S attorney for the District of Columbia See biography by F S K Smith (1911)

key, in mechanics see LOCK AND KEY

key, in music, term used to indicate the SCALE from which the tonal material of a given composition is derived To say, for example, that a composition is in the key of C major means that it uses as its basic tonal material the tones of the C major scale and that its harmony employs the chords built on the tones of that scale. C is then the keynote, and the C major triad (CEG) the tonic CHORD of the composition In addition to the seven tones of the C major scale, however, the remaining five tones of the chromatic scale may appear as auxiliary tones, and chords may be borrowed from other keys MODULATION to another key may take place, but if there is a return to the original key the whole composition is said to be in the key of C At the beginning of a composition its key is usually indicated by a key signature (see MUSICAL NOTATION) A term usually used synonymously with key is TONALITY Absence of a feeling of key is called ATONALITY Polytonality, the employment of two or more keys simultaneously, has been used by some 20th-century composers In reference to musical instruments the term *key* refers to a lever depressed by the player's fingers or, in the case of the pedal keyboard of the organ, his feet These levers are arranged in order of pitches on the keyboard instruments In wood wind instruments the keys control covers on the holes which shorten the vibrating column of air In brass winds they control the valves which lower the pitch of the instrument by lengthening the tube

Keyes, Erasmus Darwin (kēz, klz), 1810–95, Union general in the Civil War, b Brimfield, Mass , grad West Point, 1832 He fought at the first battle of Bull Run (July, 1861) and in the PENINSULAR CAMPAIGN

Keyes, Sir Roger John Brownlow (kēz), 1872–1945, British admiral In the First World War, Keyes achieved his greatest fame as commander of the Dover patrol that raided Zeebrugge and Ostend in Belgium (April 23, 1918) to cripple the last German submarine campaign in the English Channel He became admiral of the fleet in 1930 and retired in 1935, but was recalled to active duty in the Second World War as director of combined operations (1940–41) and organizer of the COMMANDO forces From 1935 to 1943 he served as a Conservative member of Parliament, and in 1943 he was raised to the peerage as Baron Keyes of Zeebrugge and Dover In 1944 Keyes was observer on a U S warship in the landings at Leyte in the Philippines

Key Islands, Indonesia see KAI ISLANDS

Key Largo, narrow island, c 30 mi long, off S Fla , one of the FLORIDA KEYS

Keynes, John Maynard, 1st **baron of Tilton** (kānz), 1883–1946, English economist and monetary expert, studied at Cambridge He joined the civil service, where he was concerned with problems of Indian currency He was principal British treasury representative at the peace conference at the end of the First World War, resigning in protest against what he considered the inequitable and unworkable economic provisions of the Versailles Treaty His *Economic Consequences of the Peace* (1919) vividly presented his views and won him world fame Keynes criticized the Versailles Treaty from the viewpoint of a classical economist, contrasting the economic nationalism inherent in the treaty unfavorably with the relatively free pre-1914 economy based on gold and low tariffs He foresaw that German economic weakness stemming from the Versailles provisions would involve the whole of Europe in ruin Keynes's departure from classical concepts of free economy dates from 1929, when he endorsed Lloyd George's campaign pledge to promote employment by a program of government spending on public works Keynes came to believe that such a program would increase national purchasing power as well as promote employment in complementary industries For the sake of full employment Keynes also abridged his classical belief in international free trade In the world depression of the 1930s, Keynes's theories influenced governments in several nations in the direction of spending programs that aimed to maintain a high level of national income His ideas were based on the supposition of large-scale economic planning by governments In the years of the Second World War, Keynes was a consultant to the chancellor of the Exchequer and a director of the Bank of England At Bretton Woods (1944) he influenced proposals for the establishment of a world bank to stimulate the development of backward areas Keynes profoundly influenced economic thought and governmental policy in democratic nations Though he favored a planned economy and wide control of the economic life by democratic public-service corporations, he never wavered in his faith in the capitalist system His chief work was *The General Theory of Employment, Interest, and Money* (1936) Keynes's use of data and illustrations from many fields reflected the breadth of his interests See L R Klein, *The Keynesian Revolution* (1947)

Keyport, borough (pop 5,147), E N J , a resort and fishing center with a harbor on Raritan Bay SE of South Amboy; settled before 1700, inc 1908 Cork products are made here

Keyser, Cassius Jackson (kī'zur), 1862 1947, American mathematician, b Rawson, Ohio, grad Univ of Missouri (B S , 1892), Ph D Columbia, 1901 He taught at Columbia Univ from 1897, serving as Adrain professor of mathematics (1904–27) and as head of the department (1910–16) He wrote many works on mathematics, logic, and mathematical philosophy.

Keyser, Nicaise de (nēkāz'), 1813–87, Belgian historical and portrait painter of the romantic school He was director of the Antwerp Academy from 1855 He early won recognition for his large historical paintings, of which *Battle of Worringen* (Brussels) is a well-known example

Keyser, Thomas de, c 1596–1667, Dutch portrait and figure painter of Amsterdam He was the outstanding practitioner in his field in Amsterdam until the arrival of Rembrandt De Keyser's work is distinguished for its clear, warm color, masterly characterization, and strong light and shade Among his best-known paintings are *Burgomasters of Amsterdam* and *Portrait of a Savant* (The Hague), *Merchant and His Clerk* (National Gall , London), *Members of the Civic Guard* and *Theseus and Ariadne* (town hall, Amsterdam), and portrait of Cornelis de Graef

Keyser (kī'zur), city (pop 6,177), co seat of Mineral co , W Va , among the hills in the Eastern Panhandle, on the North Branch of the Potomac and SW of Cumberland, Md , settled 1802 It has railroad shops and a woolen mill The city was an important supply base during the Civil War A state junior college is here

Keyserling, Eduard, Graf von (ā'dōōärt gräf' fŭn kī'surlĭng), 1855-1918, German novelist Belonging to an old and aristocratic family of Courland, he depicts with delicate precision and understanding the life of his own class Several of his novels have been translated—*Beate und Mareile* (1903, Eng tr , *The Curse of the Tarnitis*, 1928), *Dumala* (1907, Eng tr , *Man of God*, 1930), and *Wellen* (1911, Eng tr , *Tides*, 1929).

Keyserling, Hermann, Count (hĕr'mān, kī'surlĭng), 1880–1946, German philosopher and man of letters, b Estonia Of the Russian nobility, he was dispossessed in the Russian Revolution and after that considered Germany his home He traveled extensively, and his thinking was colored by the mysticism of the Orient At Darmstadt he founded a "school of wisdom," which sought to combine the values of Eastern and Western thought He was a determined opponent of fascism Among his most popular writings in English translation are *The Travel Diary of a Philosopher* (1925), *America Set Free* (1929), and *From Suffering to Fulfilment* (1938)

Keystone, rail city (pop 2,942), S W Va , NW of Bluefield, in a coal area, inc 1909

Key West, city (pop 12,927), co seat of Monroe co , on the westernmost of the FLORIDA KEYS, S Fla It is the southernmost city of the United States and a port of entry, resort (with a subtropical climate), fishing center, and military base Early Spanish sailors called the place Cayo Hueso (Bone Island), for some human bones found here In 1815 it was granted to Juan Pablo Salas, who sold it, in 1822, to an American Settlement began, and gradually the city's industries developed It was successively a ship-salvage center, an important cigar-manufacturing point, and a fishing center A railroad, completed in 1912, spanned the keys from the mainland to serve these industries It was abandoned after damage in the hurricane of 1935, and a 123-mile highway, formally opened in 1944 (passable since 1938), replaced it The industries had deteriorated by 1934, when the Federal government took over the bankrupt city A redevelopment program helped it The island has long been a key military point, the government maintains a naval station here and a coast guard base (at Fort Taylor, built 1844-46) Other places of interest include the sponge pier, center of important sponge fisheries, the aquarium, the lighthouse (1846, replacing one of 1825), and two old Civil War forts The city has a picturesque, heterogeneous population, with descendants of Cubans, Spaniards, Negroes, and Englishmen See Federal Writers' Project, *A Guide to Key West* (2d ed , revised, 1950)

Kezia (kēzī'u) [Heb ,=cassia], second daughter of Job after his affliction Job 42 14

Keziz (kē'), unidentified border town, in the vicinity of Jericho Joshua 18 21

Khabarovsk (khŭbŭrôfsk', khōō'rufsk), city (1926 pop 52,045, 1939 pop 199,364, 1946 estimated pop 300,000), capital of Khabarovsk Territory, RSFSR, in E Siberia, on the Amur river near its junction with the Ussuri and on the Trans-Siberian RR An industrial center and a major transportation point, it has an oil refinery (for oil from the Sakhalin fields) and automobile, aircraft, and agricultural-machinery plants The population includes Chinese and Korean elements The city, founded in 1858, was named for the explorer Khabarov, who established a fort here in 1652

Khabarovsk Territory, administrative division (965,400 sq mi , 1946 estimated pop 1,250,000), RSFSR, in the eastern and northeastern extremity of Siberia It is separated from Manchuria in the southwest by the Amur river and extends from the Okhotsk and Bering seas to the Arctic Ocean Khabarovsk is the capital The territory includes the Jewish Autonomous Oblast (see BIROBIDZHAN), the KAMCHATKA peninsula and oblast, and the CHUKCHI PENINSULA and Chukchi National Okrug. It is traversed from southwest to northeast by a succession of mountain chains—the STANOVOI,

Kolyma, and Anadyr ranges—and is very rich in gold iron, coal, petroleum, and nonferrous metals, which are mined with increasing intensity Industry is concentrated in Khabarovsk and Komsomolsk and along the Trans-Siberian RR In the north the chief occupations are reindeer raising, seal hunting, fur trapping, and fishing Magadan is the chief northern port Agriculture is largely confined to the Amur valley For history, see Far Eastern Territory

Khachaturian, Aram Ilich (ärəm' ĭlyĭch' khä"chŭtōōryə.n'), 1904?–, Russian composer, b Tiflis, of Armenian parents, grad Moscow Conservatory, 1934 He first studied the cello and c 1926 began to compose His compositions contain many themes from Russian folk music and are full of energy and drive Those which have been played in the United States include a piano concerto (1935), a violin concerto (1940), the ballets *Gayne* (1942) and *Masquerade* (1944), and his Second Symphony (1942, revised 1944), which won the Stalin Prize in 1946 His name also appears as Khatchatourian

Khafre (khä'frə) or **Chephren** (kĕf'rĭn), fl 2869? B C , king of the IV dynasty of ancient Egypt and builder of the second pyramid at Gizeh An obscure king Dedefre may have come between Khufu and Khafre in the dynasty

Khaifa, Palestine see Haifa

Khair ad-Din see Barbarossa

Khairpur (kĭr'pōōr), princely state (5,989 sq mi , pop 305,787), West Pakistan The capital is Khairpur (pop 17,510) The state is mainly an arid plain with a small irrigated area where grains and cotton are grown

Khakass Autonomous Oblast (khŭkäs'), administrative division (24,000 sq mi , pop 270,665), SW Krasnoyarsk Territory, RSFSR, in S central Siberia, between the upper Yenisei river and the Kuznetsk Ala-Tau Abakan is the capital Drained by the Abakan and Chulym rivers, the region has agriculture, dairy farms, and lumber There are rich coal, gold, barite iron, copper, and zinc mines The autonomous oblast was formed in 1930, its population is half Russian and half Khakass (a Turkic-speaking people)

khaki (kä'kē, kă'kē), closely twilled cloth of linen or cotton dyed "khaki" or dust-color It was first used (1848) for uniforms for the English regiment of Sir Harry Burnett Lumsden in India and later by other armies It finally became popular for hunting and outing wear, as in the uniforms of the Boy Scouts, the Camp Fire Girls and similar groups, and for heavy working clothes

Khalid (khä'lĭd), d 642, Arab warrior He assisted the Meccans in attacking Mohammed and the inhabitants of Medina (625) after the battle of Badr Khalid and the Meccans were victorious in the battle of Ohud, but did not follow up their victory Not long afterwards Khalid submitted to Islam and became the chief Moslem general in the attack on Syria

Khanaqin or **Khanikin** (both khənŭkēn'), town (pop c 18,000), E Iraq, near the Iranian line There is a refinery, and oil fields are near by

Khangai (khän'gī'), mountain range, NW Mongolian People's Republic Its axis lies east to west Many rivers, notably the Orkhon and the Selenga, rise in this range

Khania, Crete see Canea

Khanikin see Khanaqin

Khan Tengri see Tien Shan

Khanty-Mansi National Okrug (khŭntē'-mănsē'), administrative division (215,500 sq mi , 1946 estimated pop 110,000), RSFSR, in NW Siberia, drained by the lower Irtysh and Ob rivers Fur trapping (sable and beaver) fishing, lumbering, and cattle and reindeer raising are the chief occupations There are c 80,000 Russians, the rest of the population consists of Mansi (Voguls) in the west and of Khanty (Ostyaks) in the east Both native groups belong to the Finno-Ugric linguistic family The region was conquered by Russia in the 16th cent. The okrug, formed in 1930, was known until 1940 as the Ostyak-Vogul National Okrug Its capital is **Khanty-Mansisk** (khŭntē' mănsēsk') (1939 pop over 2,000), at the confluence of the Ob and Irtysh

Kharbin, China see Harbin

Kharga (khär'gə), valley, S central Egypt It is an oasis supporting c 8,000 persons The chief settlement, El Kharga, is the terminus of a railroad connecting with the Nile valley line The oasis was prosperous in ancient times, and there are ruins of temples of Darius and of the Romans

Kharkov (kär'kŏf, Rus khär'kŭf), city (1926 pop 417,342, 1939 pop 833,432), capital of Kharkov oblast, SE Ukraine At the junction of six railroad lines and of several highways, it is a major industrial center, producing tractors and other agricultural machinery, turbogenerators, locomotives, machine tools, and ball bearings, and it is the seat of a university (founded 1804) and of many technical and scientific institutes and schools. Founded by Cossacks in the early 17th cent , it became a trade center and grew rapidly after the industrialization of the S Ukraine in the late 19th cent **Kharkov** became (1920) the capital of the Ukraine, but was superseded (1934) by Kiev. Under the Soviet regime Kharkov grew to be one of the largest cities of the USSR and the engineering center of the Ukraine It was thoroughly rebuilt and expanded along modern lines. Its many fine parks, wide avenues, apartment houses, and public buildings made it a showpiece of Soviet accomplishment In the Second World War the city fell (Oct , 1941) to the Germans after suffering severe damage from aerial bombardment and artillery fire It was briefly recovered (Feb.–March, 1943) by the Russians and was finally retaken from the Germans in Aug , 1943 In the great battles that raged around and in the city, Kharkov was more than half destroyed

Kharput, Turkey see Harput

Khartoum (kärtōōm'), city (pop 61,800), capital of Anglo-Egyptian Sudan, on the Blue Nile just above its junction with the White Nile Founded in 1822, it was destroyed (1885) in the war between Great Britain and the Mahdists Gen Charles Gordon, the British defender long withstood attack but was finally killed, the siege was one of the most notable events in British imperial history Khartoum was recovered by Lord Kitchener in 1898 It is on a railroad to Cairo and to Port Sudan It is mainly a commercial and educational center Fine bridges connect it with the suburbs (notably Khartoum North), where there are railroad workshops and much trade in local products and handicrafts Khartum is a variant spelling

Khatanga (kutäng'gu, Rus khŭtän'gŭ), river, 340 mi long, RSFSR, in NE Siberia, formed by the union of the Kotui (500 mi long) and the Movero (435 mi long) It flows N past Khatanga village and NE into the Khatanga Gulf of the Arctic Ocean, forming the southeastern limit of the Taimyr peninsula The river abounds in fish

Khatchatourian, Aram Ilich see Khachaturian

Khatti see Hittites

Khayyam, Omar, see Omar Khayyam

Khazars (kazarz', khä'zärz), ancient Turkic people, partly nomadic, partly settled, who appeared in Transcaucasia in the 2d cent A D and subsequently settled in S Russia between the Volga and the Don Subjugated by the Huns in the 5th cent , they emerged again in the 7th cent and rose to great power They conquered the Crimea, levied tribute from the eastern Slavs, including Kiev, and warred with the Arabs, the Persians, and the Armenians With the Byzantine Empire they entertained generally friendly relations The supreme ruler (khakan or khagan) of the Khazars and the Khazar nobility embraced Judaism c 740 However Cyril and Methodius subsequently made some Christian converts among them The khakan's religious choice was intended as a compromise between Christianity and Islam and as a safeguard of national independence Religious tolerance was complete in the Khazar empire, which reached a relatively high degree of civilization Itil, its capital in the Volga delta, was a great commercial center The Khazar empire fell when Sviatoslav, duke of Kiev defeated its army in 969 The Khazars (also spelled Chasars) are believed by some to have been the ancestors of many of the Russian Jews

Khemnitser, Ivan Ivanovich (ēvən' ēvə'nuvĭch khĕmnyē'tsyĭr), 1745–84, Russian fabulist, of German origin Several of his fables, translated by John Bowring in *Specimens of the Russian Poets* (1820), were widely used in early American readers

Kherson (khĕrsŏn'), city (pop. 97,186), capital of Kherson oblast, SW Ukraine, on the Dnieper, 15 mi above its mouth on the Black Sea The city was founded in 1778 by Potemkin as a shipbuilding center and a grain and wool port It declined after the rise of Odessa and Nikolaev, but the development, after 1932, of navigation on the Dnieper revived its importance and stimulated its growth The population was 25 per cent Jewish until the Second World War, when the city was held (1941–44) by the Germans The cathedral contains Potemkin's tomb

Khibinogorsk, RSFSR see Kirovsk

Khingan, Great (khĭn'gän', shĭng'an'), Mandarin *Ta-hsing-an*, mountain range, Hainan prov , NE China, extending southwest and northeast It is the eastern edge of the Mongolian plateau From its average elevation of c 4,000 ft the range rises in peaks, to c 8,000 ft The **Lesser Khingan,** Mandarin *Hsiao-hsing-an*, a branch of the Great Khingan, extends from northwest to southeast and is a continuation of the Bureya range of Siberia It is mainly in Heilungkiang prov

Khios: see Chios

Khiva (kē'vu, Rus khē'vŭ, khēvä'), city (1932 estimated pop 23,700), Uzbek SSR, in the Khiva oasis and near the Kara-Kum desert It has cotton mills, metalworks, and carpet manufactures It was after the 7th cent the capital of the Khorezm kingdom In the late 16th cent it became the capital of the khanate of Khiva (see separate article) The ancient part of Khiva has preserved the mysterious splendor of its medieval past It contains the khan's palace and gardens, mosques, minarets, Moslem schools, and innumerable bazaars

Khiva, khanate of, former state of central Asia, S of the Aral Sea and of the Amu Darya river It rose in the 16th cent as a Moslem Uzbek state and maintained its independence until 1873, when it was conquered by Russian troops. The khans continued to rule the country as a Russian protectorate until the Russian Revolution Forming (1920–24) the Khorezm Soviet People's Republic, the territory was divided (1924) between the Uzbek SSR and the Turkmen SSR For earlier history, see Khorezm.

Khlesl, Melchior: see Klesl, Melchior.

Khmelnitsky, Bohdan: see Chmielnicki, Bohdan

Khmer Empire (kumär') In the 6th cent. the Cambodians or Khmers established in Indo-China a kingdom roughly corresponding to modern Cambodia and Laos Divided during the 8th cent., it was reunited in the 9th, the capital was established in the area of Angkor c 900 At its greatest extent, the Khmer Empire extended over the valleys of the lower Menam (in present-day Thailand) and the lower Mekong (present-day Cambodia and Cochin China), as well as N into Laos The Khmers fought repeated wars against the Annamese and Chams, in the early 12th cent they invaded Champa, but in 1177 Angkor was sacked by the Chams After the founding of Ayuthia (c 1350), Cambodia was subjected to repeated invasions from Thailand and the Khmer power declined, in 1434 the capital was transferred to Pnom Penh The Khmer civilization was largely formed by Hindu influences Buddhism flourished side by side with the worship of Siva and other Hindu gods (with which came the cult of the linga), while both religions coalesced with the cult of the deified king The great achievement of the Khmers was in architecture and sculpture The earliest known Khmer monuments, isolated towers of brick, probably date from the 7th cent Small temples set on stepped pyramids next appeared The development of covered galleries led gradually to a great elaboration of plan Brick was largely abandoned in favor of stone The combination of these various elements marked the culmination of Khmer architecture in Angkor Wat and the Bayon at Angkor Thom, generally attributed to the 12th cent Khmer architecture was limited by deficiencies in building technique, the Khmers never, for example, discovered the true arch In sculpture they showed a steady development from relative naturalism to a more conventionalized technique Bas-reliefs, lacking in the earliest monuments, came to overshadow in importance statues in the round, in the later stages of Khmer art hardly a wall was left bare of bas-reliefs, conveying in their richness of detail and vitality a vivid picture of Khmer life

Khodzhent, Tadzhik SSR see Leninabad

Khoi (khoi), town (pop 35,470), NW Iran, NW of Tabriz It is on an important trade route and near the Turkish and Russian borders

Khokand, Uzbek SSR see Kokand

Kholmogori (khōl"mugō'rē), village, N European RSFSR, at the mouth of the Northern Dvina and SE of Archangel It was the chief port of the region until the rise of Archangel in the 17th cent Lomonosov was born near by

Khoper (khŭpyôr'), river, 583 mi long, S European RSFSR It rises SW of Penza and flows generally southwesterly through steppe country, past Borisoglebsk, into the Don It is not navigable

Khorasan, Iran see Khurasan

Khorezm (khŭrĕ'zŭm) or **Khwarazm** (khwärä'zum), medieval empire, central Asia, centered around its capital, Urgench, and contained by the Caspian, the Aral Sea, the Amu Darya river, and Persia Conquered (7th cent) by the Arabs and converted to Islam, it rose to great power in the 12th cent under a dynasty of Seljuk Turks The shahs of Khorezm conquered (12th–13th cent) Bukhara, Samarkand, and most of Persia and even threatened Baghdad itself The empire was conquered (1218–24) by Jenghiz Khan Khorezm is also the name of an oblast in the Uzbek SSR which includes Khiva and has Urgench as its capital

Khorog (khŭrŏk'), city (pop over 2,000), capital of Mountain-Badakhshan Autonomous Oblast, Tadzhik SSR, in the Pamir

Khorramshahr (khŏrəm"shur'), city (1947 estimated pop 40,000), SW Iran, on the Karun at its influx into the Shatt el Arab It is an active port and was of importance in the Second World War Many dates are exported

Khorsabad (khōrsäbad'), village, NE Iraq, near the Tigris river and 12 mi NE of Mosul It is built on the site of Dur Sharrukin, an Assyrian city (founded 8th cent. B C by Sargon), which covered one square mile Its mounds were excavated by P E Botta in 1842 and in 1851, and statues of Sargon and of huge winged bulls which guarded the gates were taken to the Louvre In 1932 there were discovered hundreds of cuneiform tablets in the Elamite language and a list of kings ruling from c 2200 B C to 730 B C

Khortitsa, Ukraine see Zaporozhe

Khosru I (Khosru Noshirwan) (khŏsrō', nōshĭrwän'), d 579, king of Persia (531–79), greatest of the Sassanid or Sassanian monarchs. He is also known as Chosroes I He succeeded his father, Kobad I or Qobad I, but before becoming king Khosru was responsible for a great massacre (c.528) of the communistic Mazdakites. He extended

Persian rule E to the Indus with the capture (560) of Bactria, W across Arabia by establishing (570) at least nominal rule over Yemen, and north and northwest by taking part of Armenia and Caucasia from the Byzantine Empire He fought against Belisarius and the other generals of Justinian and against Justin II. Khosru is revered by the Persians as a just though despotic ruler who encouraged learning, stimulated commerce, rebuilt cities, and set up a just system of taxation

Khosru II (Khosru Parviz) (pärvēz'), d 628, king of Persia of the Sassanid or Sassanian dynasty, grandson of Khosru I He is also called Chosroes II He succeeded his father Hormizd or Hormoz in 590, but he was faced with the opposition of the usurper Bahram, was defeated, and fled to the Byzantine Empire Emperor Maurice aided him in overthrowing Bahram. When Maurice was murdered by Phocas, Khosru declared a war of revenge and conquered much Byzantine territory until he was finally defeated by Heraclius Khosru lived a life of luxury unequaled by any other Sassanid king He was murdered by his son and successor, Shiroe or Shiruya

Khotan (kō'tän'), oasis region, SW Sinkiang prov, China It was an early center for the spread of Buddhism from India into China Its cities became large and wealthy on the proceeds of the trade which traveled the route between China and the West The conquest of Khotan by Jenghiz Khan brought its prosperity to an end After many political changes the region became permanently part of China in the late 18th cent See M A Stein, *Sand-buried Ruins of Khotan* (1903)

Khotin (khôtyĭn'), city (1930 pop 15,334, 1941 pop 7,579), W Ukraine, in N Bessarabia, on the Dniester river and NE of Chernovtsy It is an agricultural market center Khotin was a leading town of Moldavia in the 17th and 18th cent but suffered often in the wars among Poles, Moldavians, Russians, Turks, and Tatars, owing to its central location From 1812 it shared the history of BESSARABIA There are remains of an imposing fortress built (13th cent) by the Genoese and restored (18th cent) by the Turks The name also appears as Hotin and Chotin

Khufu (khōō'fōō) or **Cheops** (kē'ŏps), fl 2900? B C, king of ancient Egypt for 23 years He was the founder of the IV dynasty and was famous as the builder of the greatest PYRAMID at Gizeh

Khurasan (khōōräsän') or **Khorasan** (khōräsän'), region (124,981 sq mi, pop 2,036,549), NE Iran, corresponding to the Ninth Prov Once Khurasan extended to Merv in Russia and Herat and Balkh in Afghanistan The chief city is Meshed It produces cotton, cereals and fruit, tobacco, carpets, turquoises, and the world's finest opium The Ghuzz (1153, 1157) and Mongol (1220-22) devastations of Khurasan were followed by its invasion by Tamerlane

Khuzistan (khōōzĕstän'), region of SW Iran, now comprising the Sixth Prov, with its capital at Ahwaz The ancient province of Susiana, it is partly mountainous and is drained by the Karun river The climate is hot, and many dates are exported The region has large oil deposits Dizful and Shushtar are in Khuzistan The name is also spelled Khuzestan It was in recent times also called Arabistan

Khwarazm· see KHOREZM

Khyber Pass (kī'bur), on the border of West Pakistan and Afghanistan It is part of the main trade route between Kabul and Peshawar, and a road and a railroad run through it The pass, which never exceeds 3,500 ft in height, was one of the principal approaches for armies invading India from Afghanistan Alexander the Great, Baber, and Mahmud of Ghazni were among those who sent some of their forces along this route It was of great importance in the Afghan Wars fought by the British in the 19th cent Afridi tribesmen, who asserted control, were paid by the British to guard the Khyber Pass, but the British were obliged to patrol it constantly and had much trouble with the Afridis

Kiakhta, RSFSR see KYAKHTA

Kialing (kyä'lĭng', jĕä'-), Mandarin *Chia-ling*, river, c 450 mi long, China, rising in S Kansu prov and flowing generally S through Szechwan prov to join the Yangtze river at Chungking It is navigable from the Szechwan border to Chungking

Kiamusze (kyä'mōō'sō, jĕä'-), Mandarin *Chiamu-szu*, city and county (pop 168,000), Hokiang prov, NE China The city is the provincial capital A port on the Sungari river, it is connected by rail with Harbin

Kiangsi (kyäng'sē', jĕän'sē'), Mandarin *Chiang-hsi*, province (63,806 sq mi., pop 12,643,007), SE China Nanchang is the capital The largely hilly and mountainous surface is drained by many rivers, the longest is the navigable Kan, which flows NE to Poyang Lake—reputedly the scene of Confucius' teachings With a mild climate and adequate rainfall, agriculture flourishes, rice, wheat, sugar cane, tea, and cotton are leading crops Timber is cut in the uplands and floated down the rivers Coal and tungsten are plentiful The white clay found near Poyang Lake and considered the finest in China is manufactured into pottery in Fowliang The rivers are the chief transportation routes of Kiangsi There are two railroads, one which connects with the Peiping to Canton line and one to Shanghai

Kiangsu (kyäng'sōō', jĕäng'sōō'), Mandarin *Chiangsu*, province (41,820 sq. mi, pop 35,670,038), on the central coast of China, on the Yellow Sea The capital, Nanking, served also as the regular capital of the Nationalist government of China Kiangsu largely consists of the alluvial plain of the Yangtze river and includes much of its delta The elevation rarely rises above sea level The fairly warm climate, the moderate rainfall, and the fertile soil make it a major food-growing area, often three crops are harvested annually In the north kaoliang, wheat, beans, and peanuts are grown, and in the south rice, cotton, sugar cane, tea, and mulberry trees (for silk culture) Fish are abundant in the many lakes (of which Lake Tai is the most famous), in the slow-flowing streams, and off the Yangtze delta Kiangsu is crossed by the Yangtze, which can be navigated by large steamers, and by a portion of the Grand Canal It contains many smaller canals, good roads, and a fairly extensive railroad system Communications are among the best in China This is the most densely populated province and perhaps the most prosperous, being deficient only in timber and minerals Almost half of China's foreign trade clears through the port of Shanghai Because foreign raw materials are available for processing and there are export facilities, much of Chinese industry (particularly cotton spinning and weaving) is concentrated in Kiangsu, especially in Shanghai, Wusih, and Soochow. The capture of Kiangsu in 1937 was an important phase of Japan's effort to conquer all China (see CHINO-JAPANESE WAR, SECOND) The province fell to the Chinese Communists in 1949

Kiangtu, China see YANGCHOW

Kiaochow (kyou'chou', jŏu'jō'), Mandarin *Chiao-chou*, former German territory, area c 200 sq mi, south coast of Shantung prov, China Its administrative center was the city of Tsingtao Kiaochow was leased by Germany in 1898, seized by Japan in 1914, and returned to China in 1922

Kibo see KILIMANJARO

Kibroth-hattavah (kĭb'rŏth-hătä'vu) [Heb,=graves of lust], unidentified desert camp Here the Israelites were punished with a plague Num 11 34, 33 16, Deut 9 22

Kibzaim (kĭb'zā'ĭm, kĭbzā'ĭm) see JOKMEAM

Kickapoo Indians (kĭ'kupōō), North American tribe of the Algonquian linguistic stock, who in the late 17th cent occupied SW Wisconsin Their culture was essentially that of the Eastern Woodlands area, but they also hunted buffalo, one of the few traits that the conservative Kickapoo adopted from their neighbors in the Plains area After the allied Kickapoo, Ojibwa, Ottawa, Potawatomi, and Sac and Fox tribes destroyed (c 1769) the ILLINOIS INDIANS, they partitioned the Illinois territory The Kickapoo moved S to central Illinois, where they established a camp They then numbered some 3,000 Later, the tribe split in two, the Vermilion band settled on the Vermilion river, a tributary of the Wabash and the Prairie band on the Sangamon river The Kickapoo, a power in the region, opposed the Americans in the American Revolution and in the War of 1812, when they aided Tecumseh By the Treaty of Edwardsville (1819) the Kickapoo ceded all their lands in Illinois to the United States Later a territory was set aside for them in Missouri, but since that region was occupied by the hostile Osage Indians, the Kickapoo were loath to move there There arose a prophet, Kanakuk, who exhorted the Kickapoo to remain where they were, promising that if they avoided liquor and infractions of the white man's law, they would inherit a land of plenty His pleas were unavailing, and the Kickapoo, after aiding the Sac and Fox in the Black Hawk War, were forced to leave Illinois The Kickapoo moved to Missouri and thence to Kansas A large band, dissatisfied with conditions on the reservation, went (c 1852) to Mexico, where they became known as the Mexican Kickapoo After the Civil War, the Mexican band proved so constant an annoyance to border settlements that the United States made efforts to induce them to return The negotiations were successful, and a number returned to settle (1873-74) on a reservation in Oklahoma The remaining Mexican Kickapoo are settled about Santa Rosa in Coahuila, Mexico, and number some 400 The Kickapoo living on reservations in Kansas and Oklahoma number some 650. See William Jones, *Kickapoo Tales* (1915)

Kicking Horse, river of SE British Columbia, rising on the west slopes of the main Rocky Mt range and flowing SW and NW to Golden, where it enters the Columbia Its course is rapid, with several high falls **Kicking Horse Pass,** 5,339 ft high, NW of Lake Louise, in Banff National Park, connects the Bow river with the Kicking Horse and is one of the principal rail and highway passes over the Continental Divide.

Kid, Thomas. see KYD, THOMAS.

Kidd, Benjamin, 1858–1916, English social philosopher. After extensive travel for economic study, **Kidd lived a scholar's life** His noted work, *Social Evolution* (1894), sets forth his doctrine of the constant strife between individual and public interest He points out that only through a widening application of the family principle can the group maintain itself and that progress depends on religion His works also include *Control of the Tropics* (1898) and *The Principles of Western Civilization* (1902)

Kidd, William, c 1645–1701, British privateer As Captain Kidd, pirate, he has become a semilegendary figure Born in Scotland, he early went to sea and later settled in New York, where he married and owned property. **He was rewarded** (1691) for his services against French privateers In 1696 he was commissioned by the earl of Bellomont, William III's governor of New York, as a privateer to defend English ships from pirates in the Red Sea and Indian Ocean, and in 1697 he went to Madagascar Failure to take prizes, disease, and mutiny apparently caused him to turn pirate Returning (1698) to the West Indies with his richest prize, the Armenian *Quedagh Merchant*, he learned of piracy charges against him and sailed to New York to clear himself by claiming that the vessels he had attacked were lawful prizes Arrested in 1699, he was taken to London and tried on five charges of piracy and one of murder The trial seems to have been unfair and was complicated by the fact that four Whig peers who had backed him were politically embarrassed by his career He was convicted of murder and piracy and was hanged The barbaric cruelty and buried treasure of Captain Kidd are unsubstantiated bits of the legends about him. The Kidd legend has been referred to over and over in literature, for instance in Poe's *Gold Bug* and Stevenson's *Treasure Island* See Don C Seitz, ed., *The Tryal of Captain William Kidd* (1935), W H Bonner, *Pirate Laureate the Life and Legends of Captain Kidd* (1947).

Kidder, Alfred Vincent, 1885–, American archaeologist, b Marquette, Mich, grad Harvard (B A, 1908, Ph D, 1914) He engaged in exploration and excavation work in Colorado, New Mexico, and Utah (1907–8) and traveled in Egypt and Greece (1909) Teaching at Harvard, research work, and a curatorship occupied him until 1915, when he began to direct excavations at Pecos, N Mex, for Phillips Academy, Andover, Mass Services in the First World War interrupted this work, which continued until 1929 Kidder became associate, in charge of archaeological investigations, of the Carnegie Institution (1927–29) and chairman of the division of historical research (1930) and held simultaneously with these positions important posts in other organizations engaged in archaeological and anthropological work Among his numerous writings are *An Introduction to the Study of Southwestern Archaeology* (1924), *The Pottery of Pecos* (2 vols, 1931–36), *The Artifacts of Pecos* (1932), *Archaeology of Northwestern Venezuela* (1944), and, with others, *Excavations at Kaminaljuyu, Guatemala* (1946)

Kidderminster, municipal borough (1931 pop 28,917, 1947 estimated pop 37,480), Worcestershire, England, N of Worcester The making of Kidderminster carpets was begun in 1735, other industries include worsted spinning and dyeing and the making of metalware

Kiddush (kĭ'dŭsh) [Heb,=sanctification], ancient Jewish religious ceremony indicating the beginning (and sometimes the end) of the Sabbath or any other Hebrew festival Kiddush is "made" at mealtime and consists of a prayer of benediction over the day, the wine, and the bread

kidnaping, in law, the unlawful and willful taking away of a person by force, threat, or deceit with intent to cause him to be detained against his will The term more especially means the unlawful leading away of a child under a given age to keep him or her from his proper legal guardianship Kidnaping is usually done for ransom but may be for political or other purposes A parent whose legal rights to custody of a child have been taken away can be guilty of the crime if he takes his own child Consent of the kidnaped person is a defense, unless he was incompetent at the time The crime differs from a seduction, in that the intent of sexual intercourse is not required and from false imprisonment, in which there is no attempt to abduct Under English common law it was only a MISDEMEANOR, but in most states of the United States it is punishable by death if there are no extenuating circumstances The kidnaping and murder of the son of Charles A Lindbergh in 1932 stirred public sentiment and led to a Federal statute prescribing very severe penalties for persons transporting the victims of kidnaping across state or national boundaries An earlier crime that awakened much interest in America was the kidnaping in 1874 of Charley Ross, whose ultimate fate remained a mystery The practice of kidnaping, in the wider and not strictly legal sense, has been known since the beginnings of man's history It was common as a method for procuring slaves, and it has been prominent as a more or less systematic means for groups of brigands and revolutionary bands to obtain money through ransom Notable examples may be seen in the pirates of the BARBARY STATES,

the Italian secret societies, the Camorra and the Mafia, in the 19th cent., groups in the Balkans and in some Latin American countries, and followers of the war lords in China, in the 19th and 20th cent Because a price was paid for recruiting sailors, shanghaiing [from Shanghai, principal city in the China trade] was common from the late 18th cent to the 20th cent in many ports of the world

kidneys, two reddish, somewhat bean-shaped organs about 4 in long, situated near the vertebral column just below the last rib, behind the peritoneum The left lies slightly higher than the right They are present in all mammals, and at least one must function in order to maintain life URINE is secreted in the outer zone of the kidney and collects in tubules which make up the inner zone These tubules join and finally the urine passes down the ureter to the bladder The kidney is subject to inflammation from toxins, chemical and bacterial (BRIGHT'S DISEASE) and from various bacteria actually present in kidney tissue, to the formation of stones (CALCULUS), to changeable position (floating), to changes in the walls of its arteries, and to tumor formation

Kidron (kĭd'-) [Heb ,=black] or **Cedron** (sē'-), deep valley or ravine, E of Jerusalem between the city and the Mount of Olives 2 Sam 15 23, 1 Kings 2 37, 2 Kings 23 4,6,12, John 18 1 See also JEHOSHAPHAT

Kieft, Willem (kēft), 1597–1647, Dutch director general of New Netherland Arriving in New Amsterdam in 1638 to succeed Wouter VAN TWILLER, Kieft immediately assumed absolute control His arbitrary rule and tactless handling of the Indians resulted in almost continuous Indian warfare during his administration He was replaced by Peter STUYVESANT (1647) and was lost at sea on his way to Holland

Kiel (kēl), city (1939 pop 273,735, 1946 pop 214,-190), capital of Schleswig-Holstein, N Germany, an important port on the Baltic Sea at the head of the Kiel Canal Until the end of the Second World War it was the chief naval station of Germany Chartered in 1242, Kiel joined the Hanseatic League and became the residence of the dukes of Holstein With Holstein, it passed to Prussia in 1866 The sailors' mutiny, which began at Kiel on Nov 3, 1918, at the close of the First World War, touched off the German socialist revolution In the Second World War, Kiel suffered very heavily from air attacks, and the naval installations were dismantled after 1945 The Univ of Kiel was founded in 1665

Kiel, farm trade city (pop 1,898), E Wis , on the Sheboygan and NE of Fond du Lac, inc 1920 St Nazianz, near by, was founded in 1854 as a German communistic religious colony

Kiel Canal, artificial waterway, c 60 mi long, Schleswig-Holstein, N Germany, connecting the North Sea with the Baltic Sea Opened in 1895, it extends from Kiel on the Baltic to Brunsbuttel at the mouth of the Elbe, opposite Cuxhaven Because of its great military and commercial importance the canal was internationalized by the Treaty of Versailles (1919) Hitler repudiated its international status in 1936 The canal is also known as Kaiser Wilhelm Canal, for William II of Germany, and as the Baltic–North Sea Canal

Kielce (kyĕl'tsĕ), city (pop 49,960), S Poland. It dates from at least the 12th cent The city passed to Austria in 1795 and to the Russian Empire in 1815 It became a Polish provincial capital in 1919 A trade center, Kielce also has metal- and woodworking industries The province of Kielce (c 7,000 sq mi , pop 1,717,303) is mainly an arable lowland There are iron, copper, zinc, manganese, coal, peat, and other deposits The main cities are Kielce, Czestochowa, and Radom

Kielland, Alexander Lange (dŭksan'dŭr lang'u khĕ'län), 1849–1906, Norwegian novelist His first book, *Tales of Two Countries* (1879, Eng tr , 1891, also tr as *Norse Tales and Sketches*, 1897), immediately popular, placed him among the realists In the next decade he produced his most important novels, all dealing with phases of social reform and written in a witty style Translated volumes include *Else* (1881, Eng tr 1885), *Skipper Worse* (1882, Eng tr , 1885), one of his best works, and *Garman and Worse* (1885, Eng tr , 1885)

Kiepert, Heinrich (hin'rĭkh kē'purt), 1818–99, German geographer and cartographer He was director (1845–52) of the Weimar Geographical Institute and became professor of geography in the Univ of Berlin in 1859 He was an authority on historical geography, especially that of ancient Asia Minor His works include *Topographisch-historischer Atlas von Hellas* (1841–44), *Historisch-geographischer Atlas der alten Welt* (1848), *Neuer Handatlas der Erde* (1857–61), and *Atlas antiquus* (1854), issued in six languages

Kierkegaard, Søren, Dan *Søren Kierkegaard* (sō'-run kyĕr'kugôr), 1813–55, Danish philosopher, writer on religious subjects In his *Either/Or* (1843, Eng tr , 1944) he investigates the problem of knowledge, coming to the position that knowledge follows experience, that subjectivity constitutes truth, and that religion is a personal affair This position brought him into conflict with the state religion. In *Stages on Life's Way* (1845, Eng. tr., 1940) he described how the antitheses of life increase tension and energy By stages of increasing tension, he said, man progresses from the pursuit of momentary pleasure to the constant pain of the religious person who feels steadily the antithesis between temporal existence and eternal truth He is led to the conclusion that the suffering of God is greater than that endured by any man Kierkegaard did important work in aesthetics and exerted profound influence on Danish literature. Many of his ideas were adopted by the existentialists Translations of his works include *Philosophical Fragments* (1936), *Concluding Unscientific Postscript* (1941), *The Gospel of Suffering and The Lilies of the Field* (1947), and *A Kierkegaard Anthology* (ed by Robert Bretall, 1946) See his journals (ed by Alexander Dru, 1938), biographies by E L Allen (1935) and Walter Lowrie (1938)

kieselguhr. see DIATOM

Kiev (kēĕf', kē'ĕv, kē'ĕf, Rus kē'uf), city (1926 pop 513,637, 1939 pop 846,293), capital of Kiev oblast and of the Ukraine, on the Dnieper It is the third largest city of the USSR It is the historic "mother of Russian cities," a leading cultural, industrial, and commercial center, and the see of a metropolitan of the Russian Orthodox Church Kiev has a university (transferred here from Vilna in 1833) and numerous scientific, technical, medical, and pedagogical institutes, theaters, museums, and libraries Its chief industries produce machinery, rolling stock, textiles, and clothing A Slavic settlement on the great trade route between Scandinavia and Constantinople, Kiev was tributary to the Khazars when the VARANGIANS under Oleg, son of Rurik, established themselves here in 882 It became the capital of medieval Russia under Oleg's successors and was one of the greatest cultural and commercial centers of Europe (For the history of the Kievan state, see RUSSIA) Kiev began to decline in the late 12th cent and was stormed and devastated by the Mongols in 1240 From that date until the 14th cent Kiev paid tribute to the Golden Horde It then passed under Lithuania, which in 1569 was fully united with Poland From 1654, when the Cossacks under Chmielnicki voted the union of the Ukraine with Russia, the city shared the history of the UKRAINE Its trade and industry developed rapidly in the 19th cent In 1917 Kiev became the capital of the newly proclaimed Ukrainian Soviet Republic, but in the Russian civil war (1917–20) it was occupied in succession by Ukrainian nationalist, German, "White" Russian, Polish, and Soviet troops. From 1920 to 1934 the capital of the Ukraine was transferred to Kharkov German troops again occupied the city in the Second World War in 1941 On its liberation (1943), only 200,000 of its population remained The Germans massacred more than 50,000 Jews and wrecked large sections of the city before abandoning it Reconstruction work began immediately and progressed swiftly, Kiev soon was reported to have again reached its pre-war population The many cathedrals churches, and monasteries of Kiev point to its past role as the cradle of Christianity in Russia and to its close link with Byzantium The Kievan period of Russian art (11th–13th cent) has profoundly influenced all subsequent art and architecture and is directly rooted in Byzantine tradition The 11th-century Cathedral of St Sophia, originally modeled on Hagia Sophia in Constantinople, remains almost undamaged, it has splendid mosaics, frescoes, and icons Among the structures that suffered damage or destruction in the Second World War are the Uspenski Cathedral (11th cent) and the celebrated Lavra, a monastery founded in the 11th cent , which formed a separate walled compound The underground caves of the Lavra, its most ancient part, contained numerous holy relics and were a major pilgrims' shrine until the Russian Revolution

Kigoma (kĭgō'mä'), town (pop c 14,000), W Tanganyika, on the eastern shore of Lake Tanganyika It was an important settlement of Arab slave traders until the late 19th cent It became the western terminus of the railroad to Dar-es-Salaam in 1914 and was made a free port for Belgian vessels after the First World War

Kilauea (kē'läwā'u), crater, 4,000 ft high, on Hawaii, T H , 30 mi S of Hilo, on the southeastern slope of MAUNA LOA in Hawaii National Park One of the largest active craters in the world, Kilauea has a circumference of c 8 mi and is surrounded by a wall of volcanic rock 200 to 500 ft high In its floor is Halemaumau, a fiery pit The usual level of the lake of molten lava is c 740 ft below the rim of the pit.

Kilbourn, Wis see WISCONSIN DELLS

Kildare (kĭldâr'), inland county (654 sq mi ; pop 64,849), S Ireland, in Leinster The county town is Kildare The region, which lies SW of Dublin, is a flat agricultural plain, having the Bog of Allen in the northwest and the fertile plain of CURRAGH in center The principal rivers are the Liffey, the Greese, the Blackwater, and the Barrow. Oats, barley, turnips, potatoes, sheep, and cattle are the chief products of the county, and there is some distilling and manufacture of paper. Naas was the capital of the ancient kingdom of Leinster. There are many early Christian and pre-Christian remains in Kildare The history of the region is associated with St Bridget and the legendary Finn mac Cumhail Kildare was organized as a county in 1296

Kildare, town (pop 2,106), Co Kildare, Ireland An agricultural market, it originated as a religious foundation of St Bridget in the 5th cent The monastic buildings suffered at the hands of the Danes and in the Elizabethan wars Adjoining the ancient cathedral is a round tower, and there are remains of a 13th-century castle and a Carmelite monastery

Kilgore, city (pop 6,708), E Texas, W of Shreveport, La , and near the Sabine, settled 1872, inc. 1931 Transformed from a sleepy pine-woods town to a roaring boom town after the East Texas oil field was discovered in 1930, Kilgore startles the visitor with the many oil wells crowding the very stores and houses

Kilham, Alexander (kĭl'ŭm), 1762–98, English Methodist minister, founder of the Methodist New Connection He took a leading part in Methodist affairs after the death of John Wesley, advocating separation from the Church of England He supported the right of preachers to administer the Lord's Supper and sought to have powers of church government distributed between clerical and lay members For a series of pamphlets which he wrote he was brought to trial at the conference of 1796 and expelled from the connection The next year he and three other preachers formed the Methodist New Connection In 1907 it became a part of the UNITED METHODIST CHURCH

Kilimanjaro (kĭl"ĭmunja'rō), mountain, NE Tanganyika, of volcanic origin It rises in two snow-capped cones, connected by a broad saddle The taller peak, Mt Kibo, 19,565 ft high, is the highest in Africa The lower peak, Mt Mawenzi, is c 16,-900 ft high

Kilindini, Kenya see MOMBASA.

Kilkenny (kĭlkĕ'nē), inland county (796 sq mi ; pop 66,712), SE Ireland, in Leinster The county town is Kilkenny It is a generally flat agricultural region, part of the central plain of Ireland, with low hills to the south The principal rivers are the Suir, the Nore, and the Barrow Oats, barley, turnips, potatoes, sheep, cattle, pigs, and poultry are the chief products of the county There is a considerable anthracite coal field in the region around Castlecomer Kilkenny, which is roughly coextensive with the ancient kingdom of Ossory, was organized as a county in 1210

Kilkenny, urban district (pop 10,289), county town of Co Kilkenny, Ireland, on the Nore Irishtown is across a little stream from Kilkenny proper, or Englishtown Strife between the inhabitants of the two districts to the near destruction of both may have given rise to the stories of the Kilkenny cats, who ate each other up Kilkenny was originally an English settlement, Strongbow founded a fort here in the 12th cent Parliaments and assemblies were held in the 14th, 16th, and 17th cent Among noted pupils at the Protestant school of Kilkenny were Swift, Bishop Berkeley, and Congreve In Irishtown is the great Cathedral of St Canice (13th cent), the seat of the Protestant dioceses of Ossory, Ferns, and Leighlin The Roman Catholic Cathedral of St Mary (seat of the diocese of Ossory), a round tower, and remains of Dominican and Franciscan abbeys (mostly 13th cent) are noteworthy The castle, begun by Strongbow, stands conspicuously above the Nore The Statute of Kilkenny (1366) forbade marriage between the English settlers and the Irish population

Killarney, town (pop 1,091), SW Man , near the N Dak border, on Killarney Lake and SSE of Brandon It is a trade center for a lumbering and dairying region, with grain elevators

Killarney, urban district (pop 5,943), Co Kerry, Ireland The Roman Catholic cathedral for the Kerry and Aghadoe diocese was planned by Pugin The town is a tourist center for the three Lakes of Killarney They are surrounded by wooded mountains The islands of Lough Leane or Lower Lake include Ross and "sweet Innisfallen" of Thomas Moore's poem, with the ruins of a 6th-century abbey founded by St Finian On the shore of Muckross Lake, Middle Lake, or Lough Tore are the remains of 15th-century Muckross Abbey. Upper Lake is the third

killdeer, North American upland PLOVER, grayish brown above and white below, with reddish brown on the rump and tail, and a double black band across the breast Its cry sounds like "kill-deer."

Kill Devil Hill National Memorial see KITTY HAWK.

Killeen (kĭlēn'), city (1940 pop. 1,263, 1948 special census pop 4,218), central TEXAS, SW of Waco, settled 1882, inc. as a city 1908 Near this market town for a farm area is the military establishment, Camp Hood

Killiecrankie, Pass of (kĭl"ĭkrăng'kē), wooded pass, Perthshire, Scotland, through which the Garry river flows A road and a railroad traverse the pass. The battle of Killiecrankie was fought (1689) at the north end of the pass. The Jacobites won a victory over the forces of William III under Gen. Hugh,

Mackay. The Jacobite leader, John Graham of Claverhouse (Bonnie Dundee), was killed here.

Killigrew, Thomas, 1612–83, English dramatist and theater manager In 1641 he produced two tragicomedies, *The Prisoners* and *Claracilla* In 1647 he followed Prince Charles into exile and at the Restoration was rewarded by being made groom of the bedchamber to Charles II and chamberlain to the queen In 1660 Charles granted to Killigrew and to Sir William D'Avenant patents to build two new theaters and to form companies of players Killigrew was first to establish his company, the King's Servants, at Gibbon's tennis court, Vere St , three years later moving to his new building, the Theatre Royal, in Drury Lane He produced Shaksperian drama—much garbled—the plays of Dryden and Aphra Behn, and his own plays, among them *The Parson's Wedding* (1664) See study by A B Harbage (1930)

Killingly (kĭl'ĭngle), town (pop 9,547), NE Conn , bordered on the west by the Quinebaug and on the east by Rhode Island, settled c 1700, inc 1708 It includes Danielson and South Killingly village

Killingworth, town (pop 531), S Conn , bordered on the west by the Hammonasset river and on the south by the town of Clinton It has 18th-century houses, a noted church (1817), and Ely House, in which Longfellow supposedly wrote "The Birds of Killingworth "

Kill Van Kull (kĭl" văn kŭl'), channel connecting Upper New York Bay with Newark Bay, between Bayonne, N J , and Staten Island, New York city It is crossed by the Bayonne Bridge (1931, 1,675 ft long)

Kilmainham (kĭlmā'ŭm), suburb of Dublin, Co Dublin, Ireland It was the site of an abbey in the 7th cent The commander of the royal forces in Ireland had his headquarters here Parnell was imprisoned here when he signed (1882) the "Treaty of Kilmainham" with Gladstone by which Parnell was released

Kilmarnock (kĭlmar'nŭk), burgh (1931 pop 38,100, 1948 estimated pop 42,573), Ayrshire, Scotland, NE of Ayr and on Kilmarnock Water It is an industrial town in a mining region, its manufactures include carpets, farm machinery, leather, shoes, whisky, pharmaceuticals, and electromagnetic, and it has textile-printing plants The burgh is the site of a Burns memorial and a library of Burnsiana

Kilmer, Joyce, 1886–1918, American journalist and poet, b New Brunswick, N J , educated at Rutgers College and Columbia (B A , 1908) Killed in the First World War, he is known chiefly for his poem 'Trees," in *Trees and Other Poems* (1914) See biography by R C Holliday (1918)

kiln (kĭl, klĭn), furnace for firing pottery and enamels, for making brick, charcoal, lime, and cement, and for roasting ores to expel moisture and undesirable elements Kilns may be updraft or downdraft, round, conical, annular, or rectangular, arranged for intermittent or for continuous firing, or of the muffle (double-wall) or direct-contact type, as required Brickkilns are temporary (the bricks themselves forming the walls) or permanent (having fixed masonry side walls) The fuel used may be electricity, oil, or gas for indoor kilns of moderate size for firing pottery, stained glass enamel, or dental work and coal or wood for large outdoor kilns The temperature of firing and the length of time required depend on the size of the kiln and the type of work

kilowatt see WATT

Kilpatrick, Hugh Judson, 1836–81, Union general in the Civil War, b near Deckertown (now Sussex), N J , grad West Point, 1861 Wounded at Big Bethel (June, 1861), he organized a regiment of New York cavalry and served (1862–64) in nearly all the important cavalry operations in the East Kilpatrick was made a brigadier general of volunteers in June, 1863 In 1864–65 he led a cavalry division in Sherman's campaigns through Georgia and the Carolinas, winning the brevets of brigadier general and major general He was minister to Chile from 1865 to 1869 and again in 1881

Kilpatrick William Heard, 1871–, American philosopher, b White Plains, Ga , grad Mercer College, 1891, Ph D Columbia, 1912, and studied at Johns Hopkins He taught at Teachers College, Columbia, from 1909, becoming professor of the philosophy of education in 1918, he retired in 1938 His teaching has done much to broaden the knowledge and understanding of the philosophy of John Dewey Among his writings are *Source Book in the Philosophy of Education* (1923) and *Education and the Social Crisis* (1932), he was editor and co-author of *The Educational Frontier* (1933)

Kilpatrick, New or East [Gaelic, =church of Patrick], parish (pop 28,894), Dumbartonshire and Lanarkshire, Scotland, NW of Glasgow It has iron foundries The Wall of Antoninus passes the town

Kilpatrick, Old or West, parish (pop 55,641), Dumbartonshire, Scotland, NW of Glasgow It is one of the places claiming to be the birthplace of St. Patrick

Kilsyth (kĭlsĭth'), burgh (pop 7,551), Stirlingshire, Scotland, NE of Glasgow In 1645 Montrose defeated the Covenanters under Baillie near here The Wall of Antoninus passes Kilsyth.

Kilung, Formosa see Keelung.

Kilwinning (kĭlwĭ'nĭng) [Scottish Gaelic, =church of Winnin (British form of name of the Irish St Finian)], burgh (pop 5,325), Ayrshire, Scotland, SW of Glasgow There are remains of an abbey founded in 1140 and dedicated to St Winnin, who is supposed to have lived here Kilwinning is the traditional birthplace of Freemasonry in Scotland It has long been celebrated for its archery meets——there was formerly an annual shooting match at a popinjay in a local steeple, described in Scott's *Old Mortality*

Kimball, Fiske (Sidney Fiske Kimball), 1888–, American architect and writer, b Newton, Mass , grad Harvard (B A , 1909, M Arch , 1912), Ph D Univ of Michigan, 1915 He was professor of architecture and fine arts at the Univ of Michigan (1912–19) and of art and architecture at the Univ of Virginia (1919–23) and was in charge of the fine arts department, New York Univ (1923–25) In 1925 he became director of the Philadelphia Museum of Art Much of his architectural work has consisted of the restoration of old houses, e g , of Monticello near Charlottesville, Va , and Stratford, the home of Robert E Lee in Virginia His writings include *Domestic Architecture of the American Colonies* (1922), *American Architecture* (1928), *The Creation of the Rococo* (1943), and, with Lionello Venturi, *Great Masterpieces of Painting in America* (1948)

Kimball, Sumner Increase, 1834–1923, organizer of the U S Life-Saving Service, b Lebanon, Maine, grad Bowdoin College, 1855 He was put in charge (1871) of the revenue marine service of the Treasury Dept , and his investigations into shipwrecks along the Atlantic coast led to a reorganization of lifesaving methods Kimball introduced the coast guard system and commanded the Life-Saving Service from its inception in 1878 until it became part of the U S Coast Guard in 1915 He wrote *Organization and Methods of the U S Life Saving Service* (1889) and *Joshua James, Life Saver* (1909)

Kimball, William Wirt, 1848–1930, American naval officer, b Paris, Maine, grad Annapolis, 1869 One of the first to serve on torpedo boats, he was a torpedo officer in 1874 In the 1880s he did much to develop magazine and machine guns, then designed armored cars In the '90s he did important work in the development of the submarine, and in the Spanish-American War, having organized the navy's first torpedo-boat flotilla, he commanded the Atlantic torpedo-boat flotilla He was made rear admiral in 1908, and in 1909 he commanded the expeditionary forces sent to Nicaragua, retiring from active duty in 1910

Kimball 1 City (pop 1,725), co seat of Kimball co , W Nebr , near the Wyo line, inc 1885 It is a wheat-shipping point and a trade center for a Great Plains potato-growing area 2 Railroad city (pop 1, 580), S W Va , NW of Bluefield, in a coal-mining area, inc 1911 The first all-Negro American Legion Post and a state mine rescue station are in Kimball

Kimberley (kĭm'burlē), mining town and district, SE British Columbia, NW of Cranbrook The Sullivan mine, a great producer of silver, lead, and zinc, is here

Kimberley (kĭm'burlē), city (pop 40,231), Cape Prov , Union of South Africa Founded in 1871, it grew out of gold- and diamond-mining settlements Since 1888 its mines have been controlled by the trust organized by Cecil Rhodes It was besieged briefly in 1899 by the Boer general Piet Cronje Today it is an important diamond-cutting center More than a third (15,741) of the population is European

Kimberley Goldfield, 47,000 sq mi , NE Western Australia Gold was discovered here in 1882

Kimberly, village (pop 2,618), E Wis , on the Fox and NE of Appleton, inc 1910 Paper products are made here

Kimhi (kĭm'hē) or **Kimchi** (kĭm'khē), family of Hebrew scholars and grammarians **Joseph ben Isaac Kimhi,** 1105?–1170, besides writing a Bible commentary, making numerous translations, and writing poems of merit, introduced the long and short divisions of vowels (increasing their number from 7 to 10) and elaborated the passive verb forms **Moses Kimhi,** d 1190, son of Joseph, wrote *The Paths of Knowledge*, a grammatical textbook, which is a mine of philological information **David Kimhi,** 1160?–1235?, another son, wrote *Book of Completeness*, long the leading Hebrew grammar, and *The Pen of the Scribe*, a manual of punctuation

kin, a group of people who have, or believe they have, a common ancestry Groups differ in their ideas of kinship It may be traced through either the male or the female line or, as in the Western family, through both lines Where totemism prevails, persons who have the same totem, though members of different tribes, sometimes believe that they are related to one another Such groups as the clan, gens, phratry, and tribe are based on ideas of kinship Larger groups, e g , the Greeks, have believed themselves united by kinship The descent of nations and races from Noah's sons, Shem, Ham, and Japheth, is traced in Genesis Consanguinity as affecting marriage and the descent of property is determined differently in different systems of law

Kinabalu or Kinibalu, Mount (both kĭ"nŭbŭlōō'), peak, 13,455 ft high, North Borneo, ENE of Jesselton, highest peak on Borneo

Kinah (kī'nu) [Heb , =lamentation], unidentified town, extreme S Palestine Joshua 15 22

Kinaston, Edward see KYNASTON, EDWARD.

Kincaid, village (pop 1,749), central Ill , just SE of Springfield in a coal area, inc 1915

Kincardine (kĭn-kar'dĭn, kĭng-), town (pop 2,507), S Ont , on Lake Huron and SW of Owen Sound It is a resort, with knitting and woolen mills and a furniture factory

Kincardineshire (kĭngkär'dĭnshĭr) or **Kincardine,** maritime county (379 sq mi , 1931 pop 39,865, 1948 estimated pop 28,946), E Scotland The county town is Stonehaven, near which is situated the famous Dunnottar Castle The bold, rocky coast extends along the North Sea from the North Esk river (on the south) to the Dee The interior is largely mountainous, the Grampian range, which extends into the county, rises to 2,555 ft in Mt Battock Sheep grazing is the leading occupation on the uplands Oats and barley are the principal crops Along the coast fishing is of importance and there is some quarrying The Romans apparently penetrated into the district, which was long inhabited by the Picts The county is sometimes called the Mearns (mārns)

Kinchinjunga see Kanchenjunga

Kinder (kĭn'dur), town (pop 1,415), SW La , near the Calcasieu river NE of Lake Charles, in a lumber, rice, cotton, and cattle-raising area.

kindergarten [Ger , =garden of children], system of preschool education Friedrich Froebel designed (1837) a system to provide an educational situation less formal than that of the elementary schools in which children's creative play instincts are organized constructively Through the use of songs, stories, games, simple manual materials, and group activities for which the furnishings of a kindergarten are adapted, children develop cooperation and application, and the transition from home to school is made less formidable This theory of education through expression and social cooperation has greatly influenced elementary education and parent education, especially in the United States, where kindergartens are generally a part of public school systems The first kindergarten in America was founded in 1856 by Mrs Carl Schurz It was followed by Elizabeth Peabody's in 1861 and by a public kindergarten established in 1873 by Susan Blow See also NURSERY SCHOOL See J C Foster and N E Headley, *Education in the Kindergarten* (1936), Ruth Updegraff and others, *Practice in Preschool Education* (1938), D W Baruch, *Parents and Children Go to School* (1939)

Kinderhook (kĭn'-), village (pop 745), SE N Y , NE of Hudson, settled before the Revolution, inc 1838 Richard Upjohn designed St Paul's Church (1851) Martin Van Buren was born and is buried here, the Van Buren homestead, "Lindenwald," is S of Kinderhook The House of History, maintained by the Columbia County Historical Society, occupies an early-19th-century mansion

Kindersley, town (pop 1,235), SW Sask , NW of Swift Current, in a farming and ranching area

Kindi or **Al-Kindi** (Abu Yusuf Yakub ibn Ishak Al-Kindi) (alkĭn'dē), 9th cent , Arabian philosopher He studied at Basra and Baghdad and is noted in the East as one of the earliest scholars there to become thoroughly versed in the writings of Aristotle In his own teachings he undertook to make clear the essential harmony between the views of Plato and those of Aristotle There were in his philosophical ideas some elements of Neoplatonism The Arabs regarded him as one of the Peripatetics in Islam, and as the earliest of the Moslem philosophers of Arabian descent he has been called "the philosopher of the Arabs " He emphasized the righteousness as well as the unity of God, and considered it a reasonable truth to believe in a Creator revealing himself in prophecy In his doctrine of manifold intelligence he defined four types of reason Besides his translations and commentaries on Aristotle's works, he produced over 250 treatises on a great variety of subjects but only a few on medicine and astrology are extant Through these he was known to the Christian scholars of the Middle Ages He wrote strongly in opposition to alchemy and some kinds of belief in miracles During the rule of Mutawakkil, at a time when philosophy was looked upon with suspicion, the library of Kindi was confiscated

kinematics see MECHANICS

Kineo, Mount (kĭn'ō), 1,806 ft high, central Maine, on a peninsula extending into Moosehead Lake It is the site of a summer resort

Kineshma (kē'nyĭshmŭ), city (pop 75,378), central RSFSR, a river port on the Volga Also a rail terminus, it has greatly expanded in recent years and has many industries (lumber, paper, and textile mills and phosphate fertilizer plants)

kinetic molecular theory: see MATTER, MOLECULE

kinetics. see MECHANICS

King, Charles, 1789–1867, American editor and educator, b New York city; son of Rufus King

After a banking career of 17 years and service in the state assembly, he became editor of the New York *American* in 1823, remaining as associate editor for three years after it was merged with the *Courier and Inquirer* in 1845. He was president of Columbia College from 1849 to 1864, in his presidency the college was moved from Park Place to Madison Ave and 49th St, the curriculum was expanded, and the schools of law and of mines were founded

King, Charles, 1844–1933, American army officer and novelist, b Albany, N Y, grad West Point, 1866 He won fame for his work under Wesley Merritt and George Crook in campaigns against the Indians Wounds forced his retirement in 1879, but he returned to the army as a brigadier general at the opening of the Spanish-American War He wrote *Cadet Days* (1894), a story for boys, and several novels of army life, including *The Colonel's Daughter* (1883) and *A War-Time Wooing* (1888)

King, Charles Bird, 1785–1862, American portrait painter, b Newport, R. I He studied under Edward Savage and in London, where he lived from 1805 to 1812 Returning to America, he worked in Philadelphia and in Washington, D C He is represented in the Corcoran Gallery by a portrait of Calhoun

King, Clarence, 1842–1901, American geologist, b Newport, R I, grad Sheffield Scientific School, Yale, 1862 After serving as a volunteer assistant in the California state geological survey (1863–65, 1866), he persuaded Congress to appropriate funds for the Fortieth Parallel Survey (1867–72), of which he was made geologist in charge For the Survey's reports he wrote the geological sections of J D Hague's *Mining Industry* (1870), a classic in economic geology, and *Systematic Geology* (1878), a thorough and clearly presented reconstruction of the geologic history of the Cordilleran region King was appointed director of the newly created U S Geological Survey (1879), which he organized, introducing high standards of efficiency and scholarship, he then retired to private practice as a mining engineer (1881) His "Age of the Earth" was published in the *American Journal of Science* (1893) He also wrote *Mountaineering in the Sierra Nevada* (1872) and *Catastrophism and the Evolution of Environment* (1877) See King Memorial Committee, *Clarence King Memoirs* (1904)

King, Edward Skinner, 1861–1931, American astronomer, b Liverpool, N Y He was associated with Harvard College Observatory from 1887 He gave much attention to photographic photometry on a uniform scale and wrote *Photographic Photometry* (1912) Among the subjects of his particular study were forms of images in stellar photography, transforming of prismatic spectra to normal spectra, and the photometry of stars and other sources of light He is also the author of *Manual of Celestial Photography* (1931)

King, Ernest Joseph, 1878–, American admiral, commander in chief of the U S fleet, b Loram, Ohio, grad Annapolis, 1901 He distinguished himself in many branches of naval service, including the submarine and air arms In the First World War he was assistant chief of staff to Admiral Henry T Mayo King commanded (Feb -Dec , 1941) the Atlantic Fleet and then became commander in chief of the U S naval forces King also became (March, 1942) chief of naval operations and directed the naval strategy that took the U S fleet into Japanese waters He was made (1944) admiral of the fleet ("five-star admiral") and retired from the navy a year later

King, Grace Elizabeth, 1852–1932, American author, b. New Orleans She wrote stories and sketches of the French life and culture of New Orleans—*Monsieur Motte* (1888), *La Dame de Sainte Hermine* (1924), and *Balcony Stories* (new ed , 1925). Her books of local history include *New Orleans· the Place and the People* (1895)

King, Henry, 1592–1669, English poet He was bishop of Chichester and friend and executor of John Donne Of his poems the best are "The Exequy," an elegy on his wife, and the familiar "Tell me no more how fair she is " See his *Life and Works* (ed by Lawrence Mason, 1913)

King, Henry Churchill, 1858–1934, American theologian and educator, b Hillsdale, Mich , grad Oberlin Theological Seminary, 1882, and studied at Harvard At Oberlin from 1884, he taught, in succession, mathematics, philosophy, and theology He was president of the college from 1902 to 1907 Prominent in the councils of the Congregational church, he was moderator (1919–21) of its National Council and chairman (1921–27) of the Congregational Foundation for Education Among his many books are *Rational Living* (1905), *The Ethics of Jesus* (1910), *Fundamental Questions* (1917), and *Seeing Life Whole* (1923)

King, James Gore: see KING, RUFUS.

King, John Alsop: see KING, RUFUS.

King, Rufus, 1755–1827, American statesman, b. Scarboro, Maine (then a district of Massachusetts), grad Harvard, 1777 He served briefly in the American Revolution and practiced law at Newburyport, Mass , before becoming a member of the Massachusetts General Court (1783–85). He was (1784–87) a delegate to the Continental Congress, where he helped draft the Ordinance of 1787, and he also attended the Federal Constitutional Convention (1787), where he spoke effectively in support of a strong central government. In the Massachusetts ratifying convention his knowledge and ability in debate greatly helped to win the affirmative vote Moving to New York city, King was elected to the state assembly and by the assembly was chosen (1789) to be one of New York's first two U S Senators He strongly supported Alexander Hamilton's measures and later defended Jay's Treaty As minister to Great Britain (1796–1803) he reconciled many differences between the two countries and proved himself an able diplomat The Federalist candidate for Vice President in 1804 and 1808 and for President in 1816, he was defeated each time From 1813 to 1825 he again served as U S Senator Though at first an opponent of the War of 1812, he later came to the support of the administration's war measures King opposed the Missouri Compromise, advocated solving the slavery problem by emancipating and colonizing the Negroes outside the country on the proceeds of the sale of public lands, and was the author of legislation that reduced the price of public lands In 1824 he declined reelection but was again minister to Great Britain (1825–26) See Charles King, ed , *The Life and Correspondence of Rufus King* (6 vols , 1894–1900), biography by E H. Brush (1926) His son **John Alsop King,** 1788–1867, b New York city, was a Whig leader and governor (1857–58) of New York after serving as a Whig Congressman from New York (1849–51) Another son, **James Gore King,** 1791–1853, b New York city, was promoter and president of the Erie RR and a Congressman from New Jersey (1849–51) Charles KING (1789–1867) was also his son

King, Thomas Starr, 1824–64, American Unitarian clergyman, lecturer, and author, b New York city Family responsibilities interrupted his schooling, but he continued educating himself and taught school for several years While at the Hollis St (Unitarian) Church in Boston (1848–60), he became prominent as a preacher and lecturer As pastor of the Unitarian Church in San Francisco (1860–64) he was active in keeping California loyal to the Union at the beginning of the Civil War His contributions to the Boston *Transcript* made known the natural beauties of the Pacific coast, as his book *The White Hills Their Legends, Landscapes, and Poetry* (1860) had spread knowledge of the New Hampshire region Peaks in the White Mts and Yosemite National Park bear his name, and a statue of him, given by California, stands in the Capitol at Washington *Christianity and Humanity* (1877) contains a collection of his sermons See biography by C W Wendte (1921)

King, William, 1650–1729, archbishop of Dublin from 1702 He wrote *De origine mali* (1702, Eng tr , 1731), important for its influence on Viscount Bolingbroke

King, William, 1663–1712, English poet, a supporter of the Tory and High Church party He is noted for his humorous and satirical writings, which include *Dialogues of the Dead* (1699)—attacks against Richard Bentley—and *Miscellanies in Prose and Verse* (1707?) See Samuel Johnson, *The Lives of the English Poets* (1781)

King, William Lyon Mackenzie, 1874–, Canadian statesman, leader of the Liberal party, and prime minister for over 21 years, b Berlin (now Kitchener), Ont , grandson of William Lyon Mackenzie At Toronto, Chicago, and Harvard universities he devoted himself to the study of political economy and political science An expert on labor questions, he served in Laurier's administration as deputy minister of labor (1900–8) and minister of labor (1909–11), and was editor (1900–1908) of the *Labour Gazette* In 1908 he was elected to the Canadian Parliament During the First World War he was engaged (1914–17) in investigating industrial relations in the United States under the auspices of the Rockefeller Foundation His *Industry and Humanity* (1918) has passed through several editions Chosen in 1919 to succeed Sir Wilfrid Laurier as leader of the Liberal party, Mackenzie King led the opposition in Parliament until 1921, when he became prime minister, a post he filled, except for an interval (June 28–Sept. 25, 1926) until 1930 Leader of the opposition during Richard Bedford Bennett's government (1930–35), he afterward again served (1935–48) as prime minister When he retired in 1948 for reasons of health, it was with the record of the longest service as prime minister in British history, although his tenure of the post was not continuous Called upon to guide Canadian affairs during the Second World War, Mackenzie King enunciated his position in *Canada at Britain's Side* (1941) and *Canada and the Fight for Freedom* (1944). In 1940 he concluded with President Roosevelt the Ogdensburg Agreement and in 1941 the Hyde Park Declaration; by these Canada and the United States agreed to create a permanent joint board of defense and to cooperate in the production of defense materials. A representative of Canada at the Imperial Conferences in London in 1923, 1926, and 1937, he joined the sessions of the prime ministers in 1944 and 1946 and served as chairman of the Canadian delegation at the conference (1945) in San Francisco to draft the Charter of the United Nations and at the Paris Conference of 1946. With President Truman and Prime Minister Attlee of Great Britain, he signed in 1945 the Washington declaration on atomic energy See biography by N M Rogers (1935); Emil Ludwig, *Mackenzie King a Portrait Sketch* (1944).

King, William Rufus Devane, 1786–1853, U S Senator from Alabama (1819–44, 1848–52), b Sampson co , N C , grad Univ of North Carolina, 1803 A Democratic Congressman from North Carolina (1811–16), he settled (1818) in Alabama and became one of its first Senators King resigned in 1844 to become minister to France, he successfully urged France to refrain from joining England in a protest against U S annexation of Texas Two years after his return to Alabama he again entered (1848) the Senate In 1852 he was elected Vice President under Franklin Pierce, but died in Alabama soon after he took the oath of office in Cuba

kingbird, widely distributed North American flycatcher The Eastern species is sometimes called tyrant flycatcher and bee martin It eats some bees, mostly drones, but destroys many noxious insects It is dark gray above and light gray and white below and has an orange crest on the crown and a black tail with a terminal white band Fearlessly and persistently it attacks crows and hawks, driving them from its territory

King Charles Land see SPITSBERGEN

King City. 1 City (pop 1,768), S Calif , on the Salinas and SE of Monterey, in a large irrigated farm area, founded 1868, inc 1911 2 City (pop 1,103), NW Mo , NE of St Joseph in a farm area

king crab or **horseshoe crab,** marine arthropod with a cephalothorax (fused head and thorax) covered by a domed, horseshoe-shaped carapace, a triangular abdomen with a carapace, and a spinelike tail or telson It has one pair of simple eyes and one of compound eyes and six pairs of legs Internally it shows a closer relationship to the arachnid or spider group than to the crustaceans The species found from Maine to the Gulf of MEXICO is often called limulus from its generic name, its total length ranges up to about 20 in Many are destroyed for use as fertilizer Four species are Asiatic

king devil see HAWKWEED

King Edward VII Land, peninsula, Antarctica, extending NW from Marie Byrd Land into the Ross Sea Sighted in 1842 by Sir James C Ross, sailing eastward along the Ross Shelf Ice or Ross Barrier, it was discovered (1902) by Robert F SCOTT who named it King Edward VII Land It is now more generally known as Edward VII Peninsula

Kingfield, textile town (pop 860), W Maine, NNW of Augusta, settled 1805, inc 1816 William King, Maine's first governor, lived here

Kingfisher, city (pop 3,352), co seat of Kingfisher co , central Okla , NW of Oklahoma City, founded 1889 It is a center of the wheat industry

kingfisher, member of a family of about 250 species and subspecies, the majority of which are found in the Malayan region and on Pacific islands, although there are representatives on all continents The birds usually have large, crested heads, long, heavy bills, small, weak feet, and short bodies and tails Some of the Old World species live in forests and subsist on insects, small lizards, and mammals The American kingfishers are chiefly fish-eaters and catch their prey by diving into the water They are usually seen near lakes or ponds, sometimes along the coast They nest in sandy banks, making a long burrow with an enlarged chamber at the end Both sexes of the Eastern belted kingfisher are blue gray above, gray and white below, with a bluish breastband The female has chestnut brown on its sides, flanks, and lower breast The Western belted kingfisher is similar but larger The green, or Texas, kingfisher is found from S Texas to Panama, and the ringed kingfisher is confined mainly to Central America and the West Indies In Australia the kookaburra, or laughing jackass, is a large kingfisher which lives on dry land The European kingfisher is the bird of the legend of HALCYONE

King George V Land, part of the coast of Antarctica, between Oates Coast and Adélie Land (now usually known as Adélie Coast) Discovered by Sir Douglas Mawson, commander of an Australian expedition (1911–14), and named by him, it is now generally called George V Coast

King George's War see FRENCH AND INDIAN WARS

Kingisepp (kĭng'gĭsĕp, Rus kĕn"gĭsyĕp'), formerly **Yamburg** (yăm'bo͝ork), city (pop 5,003), RSFSR, c 70 mi SW of Leningrad, near the Estonian border. It is an agricultural center and has sawmills and paper mills Founded (13th cent) as the fortress of Yam on the border of the republic of Novgorod, it was chartered (1703) after its recapture by the Russians from the Swedes In 1923 it was renamed for an Estonian Communist leader.

Kinglake, Alexander William, 1809–91, English traveler and historian His *Eöthen* (1844) is a classic account of his journey to the Far East in 1835 *The Invasion of the Crimea* (8 vols., 1863–87) is a detailed history of the Crimean War, somewhat marred by personal prejudices.

Kingman, 1 Unincorporated town (pop 2,956), co. seat of Mohave co, NW Ariz, in a gold-mining area, with stock ranches, founded 1882 Hoover Dam is 70 mi north 2 City (pop 3,213), co seat of Kingman co., S Kansas, W of Wichita, founded c 1872, inc 1883 It is the trade center of an agricultural area

Kingman Reef, islet, central Pacific, triangular atoll, NW of Palmyra island It was discovered (1874) by Americans and became a U S naval reservation in 1934.

King Philip's War: see PHILIP (King Philip)

King Ranch, S Texas, S and W of Corpus Christi, with headquarters at Kingsville Of almost legendary size, it covers nearly a million acres in several divisions, of which the best known is Santa Gertrudis, the "home" ranch The recently developed Santa Gertrudis breed of beef cattle has gained attention, and race horses from the King Ranch have won some of the most celebrated stakes in the country The ranch was founded c 1853 by Richard King, who had been a steamboat captain on the Rio Grande From 1860 to 1868 he had as his partner Mifflin Kenedy, another former steamboat captain The giant holdings were managed after King's death by Robert Kleberg, who married Alice King Later their son Robert Kleberg succeeded to the management The property was divided in 1935, but the central ranches are still large enough to be a semifeudal domain Oil rights and farming have been added to the income from great beef herds

Kings, books of the Old Testament, a single work in the Hebrew canon, called in AV 1 and 2 Kings, in the Greek versions and the Western canon 3 and 4 Kings (the books of Samuel are called 1 and 2 Kings in this enumeration) These books occupy the 11th and the 12th place in AV They continue the historical narrative of Samuel from the death of David until the destruction of the southern Hebrew kingdom (Judah), i e, roughly, 1000 B C – 560 B C The major divisions of the history are as follows first, the reign of Solomon (1 Kings 1-11), including the end of David's reign (1 Kings 1-2) and a lengthy account of the Temple (1 Kings 5-8), second, a synchronizing parallel account of the two Hebrew kingdoms (1 Kings 12–2 Kings 17), beginning with the division between Rehoboam and Jeroboam (1 Kings 12-14) and including as its major single portion the rise and fall of the house of Ahab of Israel, with which is woven the careers of the prophets Elijah and Elisha (1 Kings 16 16-2 Kings 9), and, third, the end of the southern kingdom (2 Kings 18-25) Although the books of Kings continue Samuel, they differ in having more frequent condemnation and praise of actions The events of Kings are told with a different point of view in Chronicles A noteworthy feature is the constant allusion to books containing historical data left out of Kings For bibliography, see OLD TESTAMENT

Kings, county, N Y see BROOKLYN, borough

Kings, river rising in E California, in the high Sierra Nevada N of Sequoia National Park, and flowing W and SW into the San Joaquin Valley Such of its waters as do not disappear into the sandy valley floor enter Tulare Lake, at times of exceptional flood, the Kings river may reach the San Joaquin The Kings river canyons lie within Kings Canyon National Park

Kings Bay, inlet, c 14 mi long, in the northwest coast of West Spitsbergen New Alesund is on it In 1926 Kings Bay was the base of successful polar flights by R E BYRD, in an airplane, and by Roald AMUNDSEN, with Ellsworth and Nobile, who crossed in the dirigible *Norge* to Alaska

Kingsburg, city (1940 pop 1,504, 1947 special census pop 2,083), S central Calif, SE of Fresno, in a fruit and cotton area of the San Joaquin Valley, settled in the 1870s, inc 1908

Kings Canyon National Park, 452,824 82 acres, E Calif, est 1940 This majestic wilderness in the heart of the Sierra Nevada is dominated by a number of peaks towering over 13,000 ft and by the magnificent canyons of the Kings river So wild and rugged is the terrain that many sections are not accessible by automobile The former General Grant National Park, with the tree named for Grant and with other giant sequoias, is a detached section of the park. The park adjoins Sequoia National Park

King's College: see CAMBRIDGE UNIVERSITY, COLUMBIA UNIVERSITY, LONDON, UNIVERSITY OF

King's College, University of, see DALHOUSIE UNIVERSITY.

King's County, Ireland see OFFALY.

King's Daughters and Sons, International Order of the, interdenominational organization for spiritual and philanthropic service It was founded (1886) by a group of women in New York to work among the city's underprivileged Men were later admitted to the membership. There are now some 60,000 members, organized in circles and branches, in the United States, Canada, Europe, Asia, and elsewhere. Hospitals, orphanages, homes for aged persons, libraries, and other institutions are maintained by the order. *The Silver Cross* is its publication; a Maltese cross is its membership badge.

Kingsford, city (pop 5,771), W Upper Peninsula, N Mich., on the Menominee and near Iron Mountain; inc as a village 1923, as a city 1947 The Ford Motor Company's property here is extensive

Kingsley, Charles, 1819–75, English clergyman and novelist, one of the initiators of the Broad Church movement From 1848 to 1852 he published tracts advocating CHRISTIAN SOCIALISM and embodied his views in the novels *Alton Locke* (1850) and *Yeast* (1851) A statement made by Kingsley in a review started a controversy in 1864 with John Henry NEWMAN which resulted in Newman's famous *Apologia* Kingsley is best known for his historical novels *Hypatia* (1853), *Westward Ho!* (1855), and *Hereward the Wake* (1866) and for the children's books *The Heroes* (1856) and *The Water-Babies* (1863) From 1860 to 1869 he was professor of modern history at Cambridge and in 1873 was appointed canon of Westminster See *Letters and Memories* (ed by his wife, 1877), biographical studies by C W Stubbs (1899), W H Brown (1924), M F Thorp (1937), and Una Pope-Hennessy (1948)

Kingsley, Mary Henrietta, 1862–1900, English author, niece of Charles Kingsley In *Travels in West Africa* (1897) and *West African Studies* (1899) she recorded her experiences and ethnological observations

Kingsley, town (pop 1,145), NW Iowa, E of Sioux City, inc 1884

King's Lynn, Lynn Regis (rē'jĭs), or **Lynn**, municipal borough (1931 pop 20,583, 1943 estimated pop 24,110), Norfolk, England, on the Great Ouse near its influx to the Wash Once one of the chief ports of England, it dates from Saxon times The market places are interesting for their ancient buildings and for the fairs, still held A gate remains of 15th-century town walls The town is a center of fishing, flour milling, beet-sugar refining, shipbuilding, and metalworking It is the birthplace of Fanny Burney

Kingsmill Group see GILBERT ISLANDS

Kings Mountain, town (pop 6,547), SW N C, near the S C line It has textile mills The name comes from a ridge which crosses the state boundary parallel to and E of the Blue Ridge On its crest, just south of the state line, a party of backwoodsmen under Isaac Shelby, John Sevier, and William Campbell defeated (Oct 7, 1780) a British and Tory force, led by Patrick Ferguson, in the CAROLINA CAMPAIGN in the American Revolution The site is marked by a national military park (4,012 acres, est 1931)

king snake, nonvenomous, egg-laying constrictor snake of North America which shows much variation in color and markings The common king snake or chain snake of the E United States is usually about 3 to 5 ft long and black or brown in color with yellow and white rings or bands which form a chainlike pattern It eats rodents, birds, and snakes It is immune to the venom of the rattlesnake and the copperhead The milk snake, which belongs to the same genus as the king snake, is useful to farmers because it eats rodents It is not capable of milking cows as legend says

Kings Park, unincorporated village (pop 2,464), on the north shore of Long Island, SE N Y, E of Huntington A state hospital is here, and Sunken Meadow State Park is near by

Kings Peak, 13,498 ft high, NE Utah, in the Uinta Mts E of Salt Lake City, highest point in Utah

Kings Point, residential village (pop 1,247), on NW Long Island, SE N Y, near Great Neck, inc 1924 A U S merchant marine academy was established here in 1942

Kingsport, city (pop 14,404), NE Tenn, on the Holston river and NNW of Johnson City, near the Va line The city, the first in the state to adopt (1917) the city-manager type of government, stands on the site of a fort built in 1761 on the old Wilderness Road It has a large book-printing plant and produces book cloth, paper, chemicals, cement, and cellulose acetate yarn

Kingston, city (pop 30,126), co seat of Frontenac co, S Ont, on the north shore of Lake Ontario, near the head of the St Lawrence and at the end of Rideau Canal from Ottawa Kingston has probably the best harbor on the lake Here stood Fort Frontenac (see FRONTENAC, FORT), of great importance in the French and Indian Wars The present city was founded by United Empire Loyalists in 1784 It was prosperous during the War of 1812 as the Canadian naval base for operations against the Americans From 1841 to 1844 it was the capital of United Canada Fort Henry, built in the war of 1812 and rebuilt in 1840–46, survives, as does the building which housed the first government of Upper Canada Kingston is the seat of Queen's Univ. (coeducational, 1841), of the Royal Military College (the West Point of Canada), and of Anglican and Roman Catholic bishoprics and cathedrals Industries include the manufacturing of locomotives, textiles, machinery, and nylon and the processing of food See A M Machar, *The Story of Old Kingston* (1908)

Kingston, port (pop c.120,000), capital and largest city of JAMAICA, British West Indies Kingston was founded in 1693 on a deep, landlocked harbor The former capital, Port Royal, at the tip of the long narrow peninsula that forms the harbor, was engulfed by the sea after an earthquake in 1692, the capital was established at SPANISH TOWN until Kingston was chosen in 1872 After the fire which destroyed the newer Port Royal in 1703, Kingston became the island's leading commercial city It has suffered occasionally from severe hurricanes and in 1907 was leveled by an earthquake The modern city is well planned, with fine public buildings and a lovely residential section

Kingston, 1 Town (pop 2,783), SE Mass, on the coast between Plymouth and Duxbury, set off from Plymouth 1726 Textiles are produced 2 Rural town (pop 1,002), SE N H, SW of Exeter, inc 1694 3 City (pop 28,589), co seat of Ulster co, SE N Y, on the west bank of the Hudson at the mouth of Rondout Creek and S of Albany, in a fruit area First called Esopus, it was permanently settled by the Dutch in 1652, it was incorporated as a village in 1805 and as a city (union of Kingston and Rondout) in 1872 The Catskills rise to the west, and Ashokan Reservoir is near The DELAWARE AND HUDSON CANAL stimulated the city's early growth Of the historic sites remaining, notable are the senate house (1676), meeting place of the first New York state legislature, and the adjoining museum, containing paintings and historical material Kingston's varied manufactures include shirts, bricks, and machinery 4 Industrial borough (pop 20,679), NE Pa, on the Susquehanna opposite Wilkes-Barre, settled 1769, inc 1857 Its products include cigars, rayon and nylon, and anthracite In the Revolution an American defeat here (1778) by the British and the Seneca Indians prefaced the WYOMING VALLEY massacre 5 Village, R I see SOUTH KINGSTOWN

Kingston-on-Thames (-tĕmz), municipal borough (1931 pop 39,055, 1947 estimated pop 41,200), Surrey, England, SW of London In 838 it was the scene of Egbert's council meetings, and here the Saxon coronations took place—the stone used at these functions is preserved in the market place The last battle of the civil war took place in Kingston-on-Thames in 1648 It is a residential suburb and resort, with engineering industries and manufactures of aircraft, varnish and paint, leather goods, plastics, and storage batteries

Kingston-upon-Hull, Yorkshire, England see HULL

Kingstown, Ireland see DÚN LAOGHAIRE

Kingstown, port (pop 4,811), capital of SAINT VINCENT, British West Indies

Kingstown, R I see NORTH KINGSTOWN and SOUTH KINGSTOWN

Kingstree, town (pop 3,182), co seat of Williamsburg co, E central S C, N of Charleston and on the Black River, in a vegetable and tobacco area, settled 1732

Kingsville, town (pop 2,317), S Ont, on Lake Erie and SE of Windsor It has canneries and processes tobacco Near by is a bird sanctuary established (1904) by Jack Miner, Canadian naturalist

Kingsville, city (1940 pop 7,782, 1947 estimated pop 11,000), co seat of Kleberg co, S Texas, SW of Corpus Christi, settled 1902, inc as a town 1911, as a city 1916 It is headquarters of the gigantic KING RANCH, part of which is near by The city has railroad shops and small factories and processes the produce of a farm and oil area A large chemical plant is near the town Kingsville is the seat of the Texas College of Arts and Industries

Kingtehchen, China see FOWLIANG

Kingussie (kĭng-yo͞o'sē, -go͞o'sē), burgh (pop 1,067), Inverness-shire, Scotland, on the Spey It is a health resort and tourist center of the Badenoch district

King William Island, off N Canada, in the Arctic Ocean, one of the islands of the ARCTIC ARCHIPELAGO It is W of Boothia Peninsula, SE of Victoria Island, and N of Keewatin dist The island was discovered by Sir James C Ross in 1831 He explored the northern coast, and in 1837 Thomas Simpson of the Hudson's Bay Company traced the southern coast In the neighborhood the expedition of Sir John FRANKLIN came to grief, and further exploration came from Franklin searchers, notably John Rae (who in 1854 established its insularity) and Sir Francis L McClintock Roald Amundsen wintered here in 1903 and 1904 while on his way through the Northwest Passage and crossed the island by sledge

King William's War see FRENCH AND INDIAN WARS

Kingwood, town (pop 1,676), co seat of Preston co, N W Va, SE of Morgantown, in a mining, lumbering, and farming area, founded 1811

Kinibalu, Mount, see KINABALU, MOUNT

kinkajou (kĭng'kŭjo͞o"), nocturnal, arboreal mammal found from Mexico to Brazil, related to the raccoon and characterized by a long, prehensile tail and soft, short, woolly hair It eats small animals, fruits, and honey

Kinloch, city (1949 special census pop 5,101), E Mo, NNW of St Louis, inc 1948 According to the special census, there are 5,097 nonwhite persons and four white

Kinmundy (kĭn'mŭndē), city (pop 1,015), S central Ill, NE of Centralia, in a farm area, inc 1867

Kinnarodden, see NORDKYN, CAPE

Kino, Eusebio Francisco (āōsā'vyō fransē'skō kē'nō), c 1644–1711, missionary explorer in the American Southwest, b Segno, in the Tyrol He was in 1669 admitted to the Jesuit order He was a distinguished mathematician and at Cádiz observed the comet of 1680–81, publishing his results in his *Exposición astronómica de el* [sic] *cometa* (1681) He arrived as a missionary in New Spain in 1681 and was appointed royal cosmographer to accompany the expedition to colonize Lower California When the settlement in S California was abandoned, he went to Pimería Alta (now N Sonora and S Arizona), where he labored as a missionary, explorer, and colonizer until his death He and his companions pushed the frontier of missionary work northward to the Gila and Colorado rivers in Arizona, founding a number of missions, including two near the present Nogales (Guevavi in 1692 and Tumacacori in 1696) and one near present Tucson (San Xavier del Bac) He made more than 50 journeys from his base, the mission of Nuestra Señora de los Dolores in Sonora, frequently with only Indian guides as companions He established agriculture at the missions and brought in cattle, horses, and sheep, he distributed cattle and seed grain among the Indian tribes In 1701–2 he made two expeditions down the Colorado, on the second reaching the head of the Gulf and proving anew that California was not an island He was the first to map Pimería Alta on the basis of actual exploration, and his map, published in 1705, and many times reproduced, remained the basis for maps of the region until the 19th cent His valuable historical and autobiographical chronicle, *Favores celestiales*, was edited by H E Bolton as *Kino's Historical Memoir of Pimería Alta* (2 vols , 1919, reissued in a single volume, 1948) See H. E Bolton, *The Padre on Horseback* (1932) and *Rim of Christendom* (1936)

Kinross, burgh (pop 2,525), county town of Kinrossshire, Scotland, near Loch Leven S of Perth

Kinross-shire (kĭnrŏs'shĭr), inland county (81 sq mi , 1931 pop 7,454, 1948 estimated pop 7,981), central Scotland The county town is Kinross The region is a level plain surrounded by the hills of the Ochils and the East Lomonds Agriculture is the chief occupation There is some manufacture of woolens and linen Kinross-shire was organized as a separate county in 1252

Kinsale (kĭn-sāl'), urban district (pop 2,086), Co Cork, Ireland, at the head of the Bandon estuary It is a fishing port and seaside resort Kinsale is of Anglo-Norman settlement and was the site of a castle in the 13th cent In 1601 Kinsale was held for 10 weeks by a Spanish force St Multose Church dates from the 12th cent Charles Fort, built in 1677, was several times the object of siege James II landed at Kinsale in 1689 The town surrendered to the English under Marlborough (1690) after the fall of Cork

Kinsha see YANGTZE

Kinsley, city (pop 2,178), co seat of Edwards co , W central Kansas, on the Arkansas, founded c 1875, inc 1878 The Santa Fe Trail ran here, and near by a battle with the Indians was fought in 1848 It is the center of a wheat-growing and dairying area

Kinston, city (pop 15,388), co seat of Lenoir co , E N C , on the Neuse and NW of New Bern, founded 1762 It is the trade, market, and processing center for a tobacco, lumber, and cotton region

Kintyre (kĭntīr') or **Cantire** (kăntīr') [Scottish Gaelic,=head of land], peninsula, 42 mi long and 10 mi wide, Argyllshire, Scotland, connected with the mainland by the narrow isthmus of Tarbert between West Loch Tarbert and East Loch Tarbert The southern extremity, the Mull of Kintyre, is c 13 mi from Northern Ireland Campbeltown, on the east coast, is the leading town

Kioto, Japan see KYOTO

Kiowa (kī'uwu), city (pop 1,379), S Kansas, near the Okla line SW of Wichita, inc 1885 Carry Nation's first violent acts of bottle breaking in saloons took place here in 1900

Kiowa Indians (kī'uwu), tribe of North American Indians Their language comprises its own stock, the Kiowan (it is believed to be related to the Tanoan language of the Pueblos) The Kiowa, a typical nomadic tribe of the Plains area, had several distinctive traits, including a pictographic calendar and the worship of a stone image, the *taimay* In the 17th cent they occupied W Montana, but by c 1700 they had moved to an area SE of the Yellowstone river. Here they came into contact with the Crow Indians, who gave the Kiowa permission to settle in the Black Hills While living there, they acquired (c 1710) the horse, probably from the Crow Their trade was mainly with the Arikara, the Mandan, and the Hidatsa After the invading Cheyenne and the Sioux drove the Kiowa from the Black Hills, they were forced to move south to Comanche territory, the Kiowa reached (1790) a permanent peace with the Comanche after a bloody war. According to Lewis and Clark the Kiowa were on the North Platte river in 1805, but not much later they were occupying the Arkansas river region. Later the Kiowa, who allied themselves with the Comanche, raided as far south as Tamaulipas, Mexico, attacking Mexicans, Texans, and Indian tribes, principally the Navaho and the Osage. It was in a war with the Osage that the U S army, which had intervened, defeated (1834) the Kiowa In 1837 the Kiowa were forced to sign their first treaty, providing for the passage of Americans through Kiowa-Comanche land, the presence of white strangers in increased numbers accelerated hostilities After 1840, when the Kiowa made peace with the Cheyenne, four groups—the Kiowa, the Cheyenne, the Comanche, and the Apache—combined to fight the eastern Indians, who had migrated to Indian Territory This naturally caused more hostility between the Indians and the U S government, and U S forces finally defeated the confederacy and imposed the Treaty of Medicine Lodge (1867) This confederated the Kiowa, the Comanche, and the Apache and provided that the tribes should settle in Oklahoma The Kiowa were still at large, but in 1868, after Colonel Custer had defeated them, they surrendered Oncoming white settlers, unaware of treaty rights, caused friction with the Kiowa, and there was a series of minor outbreaks In 1874 the Kiowa were involved in a serious conflict, which was suppressed by the U S army American soldiers killed the horses of the Kiowa, and the government deported the Kiowa leaders to Florida By 1879 most of the tribe was settled on their present reservation in Oklahoma They now number some 2,600 The **Kiowa Apache,** a small band of North American Indians of the Athapascan linguistic stock, traditionally were associated with the Kiowa from the earliest times and now live with them on their reservation The Kiowa Apache retain their own language See Robert Lowie, *Societies of the Kiowa* (1916)

Kipawa, Que see TIMISKAMING

Kipchaks see CUMANS

Kipling, Rudyard, 1865–1936, English poet, novelist, and short-story writer, b Bombay, India Educated at the United Services College in England, Kipling returned to India to edit a Lahore paper and later to write for the Allahabad *Pioneer* His poems were collected in *Departmental Ditties* (1886), *Barrack-Room Ballads* (1892), and other volumes, his first short stories of Anglo-Indian life appeared in *Plain Tales from the Hills* (1888) and *Soldiers Three* (1888) In 1889 he returned to London, where his novel *The Light That Failed* appeared (1890) Kipling's stories and poems interpreted India in all its heat, strife, and ennui, his romantic and somewhat narrow imperialism is reflected in such well-known poems as "The White Man's Burden," "Loot," "Mandalay," "Gunga Din," and the austere *Recessional* (1897) In London in 1892 Kipling married Caroline Balestier, an American, and lived in Vermont for four years There he wrote children's stories, *The Jungle Book* (1894) and *Second Jungle Book* (1895), *Kim* (1901), *Just So Stories* (1902), and *Captains Courageous* (1897). *Stalky and Co* , a story of a boys' school, appeared in 1899 In later life he lived in Sussex, the setting of *Puck of Pook's Hill* (1906) Besides his famous poem *If* (1910), his best later work is in *Debits and Credits* (1926) and *Limits and Renewals* (1932) England's first Nobel prize winner in literature (1907), he was buried in Westminster Abbey See his *Something of Myself* (1937), studies by Edward Shanks (1940) and Hilton Brown (1945)

Kir (kûr) [Heb ,=walled] **1** Unidentified Assyrian land to which Tiglath-pileser banished the Syrians 2 Kings 16 9, Isa 22 6, Amos 1 5, 9 7 **2** Place in Moab, identified with the place called **Kir-haraseth, Kir-hareseth** (-hăr'useth), **Kir-haresh** (hā'-ĕsh), and **Kir-heres** (hē'rēs) 2 Kings 3 25, Isa 15 1, Isa 16 17,11, Jer 48 31,36 It is customary to identify this with Kerak, Jordan, c 10 mi E of the Dead Sea, on the high road

Kirby, Rollin, 1875–, American cartoonist and illustrator, b Galva, Ill, studied under Twachtman and Whistler For many years he was a popular illustrator for leading American magazines, but he is best known for his graphic political cartoons appearing in the New York *World* (1914–31) and *World-Telegram* (1931–39) and in the New York *Post* (1939–42) After 1942 he was cartoonist for *Look* He won three Pulitzer prizes

Kirby, William, 1759–1850, English clergyman and entomologist He wrote a noted monograph on the bees of England (1802) and, with William Spence, *An Introduction to Entomology* (4 vols , 1815–26)

Kirby, William, 1817–1906, Canadian author, b England He came from England with his family in 1832, finally settling (1839) at Niagara-on-the-Lake, where he was appointed collector of customs. Besides obscure volumes of verse and tales, in 1877 he produced *Le Chien d'Or*, also published as *The Golden Dog* The great success of this romance of 17th-century Quebec was instrumental in establishing the popularity of the historical novel in Canadian fiction

Kirby-Smith, Edmund: see SMITH, EDMUND KIRBY

Kirbyville, city (pop 1,088), E Texas, N of Beaumont, founded 1895, inc 1926. It is a lumbering and farm center in a pine-woods region

Kircher, Athanasius (ätänā'syŏos kĭr'khûr), 1601?–1680, German Jesuit archaeologist, mathematician, biologist, and physicist. A pioneer in the deciphering of hieroglyphics, he was interested in all branches of science, especially in subterranean forces and in linguistic relations At first professor of ethics and mathematics at the Univ of Würzburg, he later became professor of physics, mathematics, and Oriental languages at the College of Rome, resigning in 1643 to devote himself to archaeological research His studies with the microscope led him to the belief, which he was possibly the first to hold, that disease and putrefaction were caused by the presence of invisible living bodies He also perfected the AEOLIAN HARP His remarkable collection of antiquities became the nucleus of the Museum Kircherianum of the College of Rome His writings filled 44 folio volumes and included an autobiography

Kirchhoff, Gustav Robert (gōos'täf rō'bĕrt kĭrkh'-hôf), 1824–87, German physicist He served as professor of physics at the universities of Breslau (1850–54), Heidelberg (1854–74), and Berlin (from 1875) He is known especially for his work with the SPECTROSCOPE in association with Bunsen, with whom he discovered the elements cesium and rubidium, and for his explanation of the Fraunhofer lines in the solar SPECTRUM He did important research also in electricity and thermodynamics

Kirensk (kĭrĕnsk'), city (1939 pop over 10,000), RSFSR, in central Siberia, on the Lena river It was founded in 1630

Kirghiz Soviet Socialist Republic (kĭrgēz', kûr'gēz, Rus kĭrgĕs') or **Kirghizia** (kĭrgē'zhŭ) or **Kirghizstan** (kĭrgĕstän'), constituent republic (c 76,000 sq mi , 1946 estimated pop 1,500,000), central Asiatic USSR It borders on China in the southeast and on the Kazakh SSR, the Uzbek SSR, and the Tadzhik SSR in the north, west, and southwest Frunze, the capital, and Osh are the chief cities Kirghizia is a mountainous country in the Tien Shan and Pamir systems, rising to 24,406 ft in Pobeda Peak at the Chinese border The grass highland valleys and meadows are used for sheep and cattle grazing The main agricultural areas concentrated in the valleys of the Chu, Talas, and Naryn rivers, in the FERGANA VALLEY, and in the basin of the ISSYK KUL, produce barley, oats, and rye in the upper regions and cotton, silk, grapes fruit, tobacco, sugar beets, and fiber crops in the low-lying areas Industry is based on mineral resources (notably mercury, antimony, uranium wolfram, lead, salt, and some coal and petroleum) and on agricultural processing The Kirghiz, a Moslem, Turkic-speaking pastoral people with definite Mongol strains, constitute 67 percent of the population, the rest are Russians, Ukrainians and Uzbeks Formerly known as Kara [black] Kirghiz to distinguish them from the Kazakhs (formerly called Kirghiz), the Kirghiz migrated here (about the 16th cent) from the region of the upper Yenisei and came (19th cent) under the rule of the khanate of Kokand, with which they passed (1876) to Russia An autonomous oblast since 1924, Kirghizia was raised to an autonomous (1926) and a constituent (1936) republic

Kir-haraseth, Kir-hareseth, Kir-haresh, and **Kir-heres** see **KIR 2.**

Kiriathaim (kĭr'ēuthā'ĭm) [Heb ,=two cities], town of Moab Jer 48 1,23, Ezek 25 9 Kirjathaim Num 32 37, Joshua 13 19

Kirin (kē'rĭn'), Mandarin *Chi-lin*, province (28,060 sq mi , pop 7,315,123), NE China, formerly included in Manchukuo Kirin was created in 1945 from most of the western section of a former province of the same name Kirin, crossed by the Sungari river and forming part of the fertile Manchurian plain, enjoys great agricultural prosperity, its principal crops are soybeans and grains Vast timber resources are exploited The province has a good rail net, including parts of the South Manchurian RR and the Chinese Eastern RR Harbin, a rail junction, is the largest city **Kirin,** city (pop with the rest of Kirin co 239,325), the capital of the province, is on the Sungari river It has rail connections with the Manchurian coastal ports

Kirioth (kĭr'rō-), the same as **KERIOTH 1.**

Kirjath (kûr'jăth), the same as **KIRJATH-JEARIM**

Kirjathaim (kûrjŭthā'ĭm) [Heb ,=two cities] **1** Town, N Palestine, 1 Chron 6.76. Kartan Joshua 21 32 **2** See **KIRIATHAIM**

Kirjath-arba: see **HEBRON**

Kirjath-arim (kûr'jăth-ā'rĭm) and **Kirjath-baal** (-bā'ul), alternative names of **KIRJATH-JEARIM**

Kirjath-huzoth (kûr'jăth-hū'zŏth) [Heb ,=city of streets], place, E of the Dead Sea Num 22 39

Kirjath-jearim (kûr'jăth-jē'ŭrĭm) [Heb ,=city of forests], ancient fortress and holy place, Palestine, in the highlands W of Jerusalem. Joshua 9 17, 1 Sam. 6 21, 1 Chron 2 50,52, 13 5,6, 2 Chron 1 4, Neh 7 29 Kirjath Joshua 18.28. Kirjath-arim Ezra 2 25 Kirjath-baal Joshua 15 60, Judges 18 14 Baalah Joshua 15 9,10 Baale of Judah 2 Sam 6 2.

Kirjath-sannah (kûr'jăth-săn'u) and **Kirjath-sepher** (-sē'fûr), alternative names of **DEBIR 2**

Kirkaldy of Grange, Sir William (kûrkŏl'dē), c 1520–1573, Scottish soldier and politician

Prominent in the Scottish religious wars, he was associated with his father in the brutal murder of Cardinal Beaton in 1546 Seized by the French in 1547, he was held prisoner in France until 1550, when he escaped to become a secret agent of Edward VI in France On the accession of Mary I to the English throne in 1553 he entered the service of the king of France Pardoned for his part in the murder of Beaton, he returned to Scotland in 1557 and became a prominent Protestant leader, taking a stand against the marriage of Mary Queen of Scots with Lord Darnley He was implicated in the assassination of Rizzio After Mary's marriage to Bothwell, Kirkaldy was the leader to whom she surrendered at Carberry in 1557, bringing to an end Mary's actual reign While she was a prisoner in England, Kirkaldy shifted his allegiance to Mary's supporters and held Edinburgh castle for her, bringing upon himself the denunciation of his former friend, John Knox, and of other Presbyterian leaders In 1573 he was forced to surrender the castle to a Scottish-English force and was hanged See L A Barbé, *Kirkaldy of Grange* (1897), Andrew Lang, *History of Scotland*, Vol II (1902)

Kirkcaldy (kurkô'dĭ, -kôl'dĭ), burgh (1931 pop 43,874, 1948 estimated pop 48,671), Fifeshire, Scotland, N of Edinburgh and on the Firth of Forth It includes DYSART Kirkcaldy's main street, 4 mi along the coast, gave rise to the name "Lang Toun" The burgh is the birthplace of Adam Smith, and Thomas Carlyle and Edward Irving were schoolmasters here at the same time Kirkcaldy's industries include textile printing and the manufacture of farm machinery and boilers

Kirkcudbright (kurkōō'brĭ), burgh (pop 2,311), county town of Kirkcudbrightshire, Scotland, at the head of the Dee estuary and SW of Dumfries The ruined castle of the McClellans is here

Kirkcudbrightshire (kûrkōō'brĭshĭr) [Scottish, = Church of St Cuthbert] maritime county (899 sq mi, 1931 pop 30,341, 1948 estimated pop 31,217), SW Scotland The county town is Dalbeattie The county is bordered on the south by the Solway Firth, along which it extends in a bold, rugged coast line The northwest portion of the county is wild and hilly country Agriculture (oats, turnips, and potatoes) is the chief occupation, and much of the land is devoted to cattle grazing The region, sometimes referred to as East GALLOWAY, led a turbulent, semi-independent existence even after it was formally annexed to the crown in 1124

Kirke, Sir David (kûrk) 1596–1654, French-born English merchant adventurer In 1627 he and his brothers Lewis and Thomas sailed in a fleet outfitted by their father, Gervase Kirke, and Sir William Alexander to root out the French settlement in Canada and settle Nova Scotia Near Newfoundland they seized 20 French vessels They then reduced the French stations in Nova Scotia, David went back to England with captive leaders and spoils In 1629 he returned and forced Samuel de CHAMPLAIN to surrender Quebec Meanwhile Charles I had made peace with France and all possessions taken after April 24, 1629, were restored Knighted in 1633, Sir David went to Newfoundland in 1638 as governor and colonizer In the civil war the brothers were royalist, and Thomas died fighting in England Sir David was deprived of Newfoundland when the Commonwealth came into power A portion of his properties were restored to him shortly before his death See Henry Kirke, *First English Conquest of Canada* (1871)

Kirkintilloch (kûrkĭntĭ'lŏkh), burgh (pop 11,817), Dumbartonshire, Scotland It became a burgh in 1170 There are remains of the fort at the end of the Wall of Antoninus and fragments of the wall

Kirk-Kilissa, Turkey, see KIRKI KILISI

Kirkland, Samuel, 1741–1808, American missionary to the Oneida Indians, b Norwich, Conn, grad College of New Jersey (now Princeton), 1765 After 1766, he went among the Oneida lived according to their customs preached to them, and became their valued counselor He is credited with a part in preventing the Iroquois from joining a confederacy against the whites which the Shawnee Indians urged at the time of Lord Dunmore's War (1774) Kirkland kept the Oneida loyal to the colonists throughout the American Revolution, after the war he assisted in making treaties of peace with the Iroquois and in working out plans for their welfare He again (1790–92) pacified the Six Nations, when there was some danger of their joining the Ohio tribes in revolt He realized one of his life's ambitions when (1793) he received—through the aid of Alexander Hamilton—a charter from New York state to found Hamilton Oneida Academy for the education of American and Indian youth Few Indians attended, however, and as Hamilton College it changed over to a regular curriculum

Kirkland, town (pop 2,084), W Wash, on Lake Washington opposite Seattle, settled 1872, inc 1905.

Kirkland Lake, mining town (1948 estimated pop 19,734), E Ont, N of Sudbury and near Quebec Three of Ontario's largest gold mines are here

Kirklareli (kĭrklä'rĕlē), town (14,412), European Turkey, E of Adrianople A trade center, it is noted for its numerous mosques and Greek churches Here in the First Balkan War the Bulgarians defeated (1912) the Turks The town was formerly known as Kirk-Kilissa

Kirklees (kûrk"lēz'), village, West Riding of Yorkshire, England, NE of Huddersfield It has ruins of a Cistercian convent There is a legend that Robin Hood died here

Kirksville, city (pop 10,080), co seat of Adair co, N Mo, N of Moberly, founded c 1841, inc 1857 It is the trade and industrial center of a dairy, livestock, poultry, and coal area, shoes are made here Northeast Missouri State Teachers College and Kirksville College of Osteopathy and Surgery are in Kirksville

Kirkuk (kĭrkōōk'), town (pop c 30,000), NE Iraq, c 230 mi N of Baghdad It is built on a mound containing the remains of settlements going back to 3000 B C It is in a region yielding fruit and wheat and is one of the chief market towns of Kurdistan The great Kirkuk oil fields are linked by pipe line to the Mediterranean, one branch going to Tripoli (Lebanon), the other to Haifa, (Israel)

Kirkwall (kûrk'wôl, -wul), burgh (1931 pop 3,517, 1948 estimated pop 4,376), capital of the Orkney Islands, Scotland, on the east coast of Pomona It has a good harbor and carries on trading, fishing, and boatbuilding The Cathedral of St Magnus was founded by Rognvald, jarl of Orkney, in 1137 The adjoining bishop's palace, in ruins, dates also from the 12th cent King Haakon IV of Norway died here in 1263

Kirkwood, Daniel, 1814–95, American astronomer and teacher, b Bladensburg, Md He became professor of mathematics in Delaware College in 1851 and was president of the college from 1854 to 1856 Then he went to the Univ of Indiana as professor of mathematics He was much interested in mathematical astronomy, and in 1891 he was appointed lecturer on astronomy at Stanford Univ His research work was principally devoted to comets and meteors and to the lacunae in the distribution of the orbits of the asteroids and in the ring system of Saturn Among his publications are *Meteoric Astronomy* (1867), *Comets and Meteors* (1873), and *The Asteroids* (1887) His detailed criticism of the nebular hypothesis of Laplace gained notice

Kirkwood, Samuel Jordan, 1813–94, Civil War governor of Iowa (1860–64), b Harford co, Md Moving to Ohio in 1835, he served (1845–49) as prosecuting attorney for Richland co and was a member (1850 51) of the Ohio constitutional convention In 1855 he settled in Iowa and was elected (1856) to the state legislature and then to the governorship for two terms A thoroughgoing radical Republican, he supplied the Union army with over 50 regiments of infantry and cavalry, partly fitted out with his own money Conscription was unnecessary during his stay in office, and he also successfully quelled internal dissension In 1866 Kirkwood was appointed to the U S Senate to fill an unexpired term and served until 1867 He was elected governor for a third term (1876–77), was in the U S Senate again (1877 81) and served as Secretary of the Interior (1881–82) by appointment of President James A Garfield See biography by Dan E Clark (1917), William B Hesseltine, *Lincoln and the War Governors* (1948)

Kirkwood, city (pop 12,132), E Mo, business and residential suburb of St Louis, laid out 1852, inc 1865

Kirov, Sergei Mironovich (sĭrgā' myĭrô'nuvĭch kē'ruf), 1888–1934, Russian Communist leader He fought in the civil war of 1917–20 and rose to power as one of Stalin's most trusted aides A member of the Politburo from 1930, he urged the democratization of the administrative system and the abolition of class distinctions He was secretary of the Communist party at Leningrad when he was assassinated The arrests that followed his murder led to the announcement of the discovery of an alleged plot fomented by TROTSKY, ZINOVIEV, KAMENEV, RYKOV, and others The party purge and the treason trials of the following years were the outgrowth of Kirov's murder The new constitution of the USSR, promulgated in 1936, is said to have been based on Kirov's reform project

Kirov (kē'ruf), formerly **Vyatka** (vyät'kŭ), city (pop 143,181), capital of Kirov oblast, E European RSFSR, on the Vyatka river It is an industrial and historic center and an important communications point Founded (12th cent) by Novgorod colonists as Khlynov, it soon became the capital of an independent republic which in 1482 was annexed to Moscow by Ivan III In the 19th cent, Vyatka was used as a place of political exile The industrial growth of the city began after the Russian Revolution Vyatka was renamed for S M Kirov in 1934 There is a citadel with an 18th-century cathedral

Kirovabad (kē"ruvŭbät'), city (pop 98,743), W central Azerbaijan SSR, on the Gandsha river Formerly named Gandsha or Ganja, it was the capital of a khanate under Persian suzerainty until its conquest (1804) by the Russians, who named it Elisavetpol It became Gandzha again after the Russian Revolution, but in 1935 it was renamed in honor of S M Kirov The city is an industrial center, producing cotton textiles, cottonseed oil, copper sulphate, and wine It has a 17th-century mosque

Kirovograd (kē"ruvŭgrät'), city (pop 100,331), capital of Kirovograd oblast, S central Ukraine, on the Ingul river It is the center of an agricultural region It was founded as a fortress in 1754 and named Elisavetgrad (also spelled Yelisavetgrad) for Empress Elizabeth Between 1881 and 1919 it was the scene of several pogroms (massacres of Jews) It was renamed Zinovievsk in 1924, Kirovo in 1936, and Kirovograd in 1939 In the Second World War it was held (1941–43) by the Germans

Kirovsk (kē'rufsk), city (1939 estimated pop 50,000), N European RSFSR, on the Kola Peninsula and the Murmansk RR Founded in 1929, it is the center of the apatite, nephelite, and titanium mines in the Khibiny mts It was called Khibinogorsk until 1934

Kirriemuir (kĭrĭmūr'), burgh (pop 3,326), Angus, Scotland, NW of Forfar It is a linen-weaving village and is the "Thrums" of James M Barrie, who was born here

kirschwasser (kĭr'shvä"sur) [Ger, = cherry water], a LIQUEUR made principally in Germany from the pulp and crushed stones of the cherry, fermented, then distilled and sweetened

Kirsehir (kērshĕ'hĕr), town (pop 13,783), central Turkey, c 85 mi SE of Ankara It is noted for its carpet manufacture

Kirshon, Vladimir Mikhailovich (vlädē'mĭr mēkhī'luvĭch kērshôn'), 1902–37, Russian dramatist He began his career with *Red Rust* (1927, Eng tr, 1930), a play showing the degeneration of a revolutionist under the New Economic Policy His play *Bread* (1930, Eng tr, 1934) deals with the struggle against hoarding on collective farms He was an ardent spokesman for the new order in Russia

Kirtland Hills, village (pop 237), NE Ohio, NE of Cleveland, settled 1808–9, inc 1926 The first Mormon temple was built here, 1833–36, by Joseph Smith and his followers

Kirun, Formosa, see KEELUNG

Kiruna (kē'runa), village (pop 10,684), Norrbotten co, N Sweden It is the center of the Lappland iron-mining district A model town, which was built after the opening of the mines (c 1900), Kiruna is run entirely by electricity from the PORJUS power station The ore, more than 70 percent pure, is mined on the surface and shipped on the Lappland RR (completed 1903) to the Baltic port LULEÅ and to the ice-free Atlantic port, NARVIK, Norway It was to prevent shipment of Kiruna ore to Germany that, in the Second World War, the Allies attempted to seize Narvik (1940)

Kirwan, Richard (kûr'wĭn), 1733–1812, Irish chemist and geologist He was one of the last defenders of the PHLOGISTON theory, which he upheld in his *Essay on Phlogiston and the Constitution of Acids* (1787) His arguments were answered by Lavoisier and other French chemists, and he finally gave up the theory in 1791

Kiryat Haim (kĭr'yät hīm'), town (pop c 10,000), N Israel, 5 mi E of Haifa, founded 1933 It is chiefly a settlement of farmers The name is also spelled Kiriat Haim and Qiryat Hayim

Kiryu (kĭrū'), city (1947 pop 91,482), Gumma prefecture, central Honshu, Japan It is a major center in the production of silk and rayon

Kisfaludy, Charles (kĭsh'fŏlōdĭ), Hung *Kisfaludy Károly* (kä'roi), 1788–1830, Hungarian dramatist, founder of the Hungarian national drama His *Tatars in Hungary* (1819) was the first genuinely dramatic Hungarian play and the first of the many successes by which he established the national drama He was cofounder (1822), with his brother, and editor of the literary journal *Aurora*, in which Michael Vorosmarty and other poets were introduced Among his works are the comedies *The Suitors* and *The Rebels* and the tragedy *Irene* His brother, the poet **Alexander Kisfaludy,** Hung *Kisfaludy Sándor* (shän'dôr), 1772–1844, founded the Hungarian school of lyric poetry He is especially famous for his two volumes of love lyrics, *The Loves of Himfy* (1801, 1807)

Kish 1 Father of Saul 1 Sam 9 1, 10 21 Chr Acts 13 21 **2** Uncle of Saul 1 Chron 8 30, 9 36 **3** Ancestor of Mordecai Esther 2 5 **4** Merarite 1 Chron 23 21, 24 29, 2 Chron 29 12

Kish, ancient city of Mesopotamia, in the Euphrates valley, c 8 mi E of Babylon It was occupied from very ancient times and was a Sumerian city in the 4th millennium B C, when it seems to have been powerful and rich The site, first visited by a European in modern times in 1816, has been thoroughly excavated since 1922 The finds in the earliest city are invaluable for understanding early Mesopotamia, and nearer the surface there were also valuable discoveries, especially a palace of Sargon of Agade and a great temple built by Nebuchadnezzar and Nabonidus in the later Babylonian period

Kishi (kĭ'shĭ), Levite see KUSHAIAH

Kishinev (kĭshĭnyôf'), Rumanian *Chisinau*, city (1930 pop 114, 896), capital of the Moldavian SSR First mentioned c 1420, it was the cultural,

spiritual, commercial, and (after annexation by Russia in 1812) political center of BESSARABIA. Until 1941 about 40 per cent of the population was Jewish, and it was the scene of a severe pogrom in 1903. The region produces wine and agricultural products.

Kishion (kĭ'shĕôn) [Heb. =hardness], unidentified Levitical border town, W of the Sea of Galilee. Joshua 19:20. Kishon. Joshua 21:28. Kedesh. 1 Chron. 6:72.

Kishon (kĭ'shŏn) [Heb. =tortuous], river of central Palestine, rising below Mt. Gilboa, flowing NW through the Vale of Esdraelon, and emptying into the Mediterranean near Haifa. On its banks occurred the defeat of Sisera and the slaying by Elijah of the prophets of Baal. Judges 4:7,13; 5:21. 1 Kings 18:40. Kison. Ps. 83:9. In Arabic the name is Nahr el-Mukatta. For another Kishon, see KISHION.

Kiska, island, c 20 mi. long, off W Alaska, in the Rat Islands group, one of the ALEUTIAN ISLANDS. It is mountainous, rising to nearly 4,000 ft. in Kiska Volcano. It lies about halfway between Adak and Attu and was important in the Second World War. It was occupied and strongly garrisoned by the Japanese in 1942. In 1943 it was cut off by the U. S. recapture of Attu and the Japanese evacuated it in Aug., 1943. An American air and naval base was established.

Kiskunfelegyhaza, Hung. *Kiskunfélegyháza* (kĭsh'-kōōnfā"lĕ-dyuhä"zŏ), city (pop. 38,930), central Hungary, 15 mi. SSE of Kecskemet, sometimes called only Felegyhaza. Destroyed by the Turks, it was rebuilt in the 1740s. It is the market center for a cattle-raising and fruit-growing region.

Kislovodsk (kĕslŭvôtsk') [Rus., =acid water], city (pop. 51,289), S Stavropol Territory, RSFSR, in the central Greater Caucasus, SW of Pyatigorsk. It is a famous health resort with mineral springs and has sanatoriums and a physico-therapeutical institute. During the Second World War it was held (1942–43) by the Germans.

Kismarton, Austria: see EISENSTADT.

Kismayu (kĭsmī'ōō), Ital. *Chisimaio* (kēzēmä'yō), town (pop. 10,000), S Italian Somaliland, a port on the Indian Ocean. It was founded in 1872 by the sultan of Zanzibar. Great Britain held it from 1887 until 1924, when it was transferred to Italy. There are mosques and a fort, which were constructed by the sultan.

Kison (kī'sŏn), river of Palestine: see KISHON.

Kispest (kĭsh'pĕsht), industrial suburb (pop. 65,149), Hungary, SE of Budapest.

Kiss, August (ou'gōōst kĭs') 1802–65, German sculptor, especially known for his animals in bronze. He attained fame with the model of his *Mounted Amazon Attacked by a Tiger* (1839), later it was executed in marble for Louis I of Bavaria and in bronze for the steps at the entrance to the Berlin Museum. Among his other works are *St. George Slaying the Dragon* for the Old Palace, Berlin, and an equestrian *Frederick the Great* at Breslau.

Kissimmee (kĭsĭm'ē), city (pop. 3,225), co. seat of Osceola co., central Fla., on Tohopekaliga Lake S of Orlando. It is a hunting and fishing resort and a trade center for cattle country.

Kissimmee, Lake, central Fla., N of Lake Okeechobee, E of Tampa, one of the state's largest freshwater lakes.

Kissingen, Bavaria: see BAD KISSINGEN.

Kistna (kĭst'nu) or **Krishna** (krĭsh'nu), river, c 800 mi. long, rising in Bombay state, in the Western Ghats. It flows generally SE and E across Hyderabad, then forms the Hyderabad-Madras border for a short distance, and crosses Madras prov. to empty into the Bay of Bengal. The river supplies water for irrigation. Its association with the Hindu god Krishna makes it sacred.

Kitasato, Shibasaburo (shĭbä'sähbōōrō kē'täsä'tō), 1852–1931, Japanese physician. He worked with Robert Koch in Germany (1885–91), and after returning to Japan he founded an institute for the study of infectious diseases of which he became director (1891). His most noted contribution to bacteriology was the discovery (1894) of the infectious agent of bubonic plague which he described simultaneously with Alexandre Yersin.

Kit Carson Peak, 14,100 ft. high, S central Colo., in the Sangre de Cristo Mts. of the Rockies.

Kit-Cat Club, London social and political club, active c 1700–1720. It was organized by Jacob TONSON, a publisher, and other Whig supporters of the Hanoverian dynasty. Membership included Sir Robert Walpole, Congreve, Addison, Steele, and Sir Godfrey KNELLER, who painted portraits of 48 of the members. The club was probably named after Christopher Cat in whose bakery and tavern early meetings were held.

kitchen. When cooking first moved indoors, it was performed, with other domestic labors, in the common room, where the fire burned on the hearth, or—even more primitively, before chimneys were known—on the floor in the center of the room. With the building of larger houses, the kitchen became a separate room. Little is known of the culinary arrangements of antiquity. Excavations at Pompeii show separate rooms fitted with the simple equipment still used by some Orientals. A large brasier, or metal basket on legs, held burning charcoal over which a single basin could be simmered. In homes of wealthy Romans a bench or "range" of brick or masonry contained several holes, so that a number of dishes could be cooked at once. Water was kept in jars and heated in large caldrons. Although the peoples of N Europe used stoves from ancient times for heating, they cooked over open fires, and baked in outdoor ovens. In the Middle Ages, many of the finest kitchens were in the monasteries, the kitchens were in separate buildings and were equipped for cooking, brewing, and baking on a large scale. In rustic communities and poorer homes, the kitchen still holds its ancient place as center of the house. In American colonial and pioneer days it was large enough to accommodate the operations of spinning, weaving, sewing, knitting, and harness mending, as well as cooking. Early American manor houses, especially in the South, usually had separate kitchens, often connected with the house by a covered way or porch. Many farmhouses, before the use of gas or oil stoves, had a summer kitchen where canning and preserving and the preparation of meals for harvest hands could be carried on without heating the house. The study of HOME ECONOMICS has resulted in kitchens which are scientifically planned to save steps and time.

Kitchen Cabinet, popular name for the group of intimate, unofficial advisers of President Andrew JACKSON. Jackson early in his administration abandoned official cabinet meetings and used his department heads almost entirely to execute departmental duties, while the policies of his administration were formed in meetings of the Kitchen Cabinet. The members of the informal cabinet included the elder Francis P. BLAIR, Duff GREEN, Isaac Hill, Amos KENDALL, and William B. Lewis. John H. EATON of the regular cabinet met with the group. Martin VAN BUREN also was taken into its confidence. The members of the Kitchen Cabinet were able journalists, editors of influential regional newspapers. They continued to wield effective pens in defense of the administration measures after they came to Washington. Kendall—perhaps the ablest and most influential member—vigorously defended the policies of Andrew Jackson in the *Globe*, the administration journal edited by Francis P. Blair.

Kitchener, Horatio Herbert Kitchener, 1st Earl, 1850–1916, British field marshal and statesman. Trained at the Royal Military Academy, Woolwich (1868–70), he was commissioned second lieutenant in the Royal Engineers (1871) after a brief period of service in the French army. After duty in Palestine, Cyprus, and Egypt, he was attached (1883) to the Egyptian army, then in the course of British reorganization. He attempted unsuccessfully (1884) to relieve Gen. Charles George GORDON, who was besieged by Mahdists at Khartoum. He was governor general of Eastern Sudan (1886–88) and helped turn back the last Mahdist invasion of Egypt (1889). In 1892 he was made sirdar (commander in chief) of the Egyptian army and in 1896, on the formation of Salisbury's imperialist ministry, began the reconquest of the Sudan, preparing the way by careful administrative work and the construction of a railway along the Nile. He won brilliant victories at Firket (1896), at Abu Hamed (1896), near Atbara (1898), and at Omdurman (1898) and finally established himself at Khartoum. He was made governor general of the Sudan. In 1899 he was called to the SOUTH AFRICAN WAR as chief of staff to Lord Roberts. As second in command he reorganized transport, led an unsuccessful attack on Paardeberg, and suppressed the Boer revolt near Priska. In 1900, when Roberts returned to England, believing the Boer resistance crushed, Kitchener was left to face the continued guerrilla warfare led by Christian De Wet and Louis Botha. By a slow extension of fortified blockhouses and the systematic denudation of the farm lands—a method for which he was much criticized—Kitchener finally secured Boer submission (1902). Kitchener was created viscount and sent to India as commander in chief of British forces there. He redistributed the troops and gained greater administrative control of the army in the face of serious opposition from the viceroy, Lord Curzon. He left India in 1909, was made field marshal, and served (1911–14) as consul general in Egypt. At the outbreak of the First World War, Kitchener was recalled to England as secretary of state for war. Virtually alone in his belief that the war would last a number of years, he planned and carried out a vast expansion of the army from 20 divisions in 1914 to 70 in 1916. In 1915 he was attacked by the newspapers owned by NORTHCLIFFE for the British lack of munitions. His relations with the cabinet were strained, and he even offered to resign. Kitchener greatly feared Russia's inability to continue resistance. In 1916 he sailed on H.M.S. *Hampshire* to confer with the tsar and Russian military leaders. The *Hampshire* was sunk under mysterious circumstances off the Orkney Islands and Kitchener was drowned. He was idolized by many Englishmen as one of the great military leaders of British imperial expansion. See biographies by R. B. Esher (1921), George Arthur (3 vols., 1920), and Arthur Hodges (1936).

Kitchener, city (pop. 35,657), co. seat of Waterloo co., S Ont., in the Grand River valley W of Toronto. Settled largely by Germans from Pennsylvania in 1806, it was known as Berlin until 1916, when it was renamed in memory of Lord Kitchener. Its industries include manufacturing, tanning, and meat packing. The town of Waterloo adjoins the city. St. Jerome's College (junior) is here, and Victoria Park is notably attractive.

kitchen midden, refuse heap left by a prehistoric community. Middens were first studied in Denmark as furnishing material of value to anthropology. They vary in age and are found in both hemispheres. Those near coasts, as in Denmark and in Inwood Park, New York city, usually consist largely of shells of edible molluscs. Bones indicate what fishes, birds, and mammals were used as food. Pottery and implements of stone and bone are found in middens, giving evidence as to the race and the time of the people who occupied a site.

kite, bird of prey allied to the hawk and the eagle and noted for grace in flying. The swallow-tailed, white-tailed, and Everglade kites, found chiefly in marshes and woodlands of the S United States, are known in South America, while the Mississippi kite is found only rarely as far south as Guatemala. Kites feed mainly on small reptiles and insects. The Everglade kite limits its diet to a fresh-water snail. The common kite of England, once abundant and now one of the rarest birds of prey, used to act as a scavenger in the streets of London.

kite, an aircraft restrained by a towline and deriving its lift from the aerodynamic force of the wind upon it. Commonly the kite consists of a light framework upon which paper, silk, or other thin material is stretched. Some consist of one plane surface, some have more than one surface with the surfaces in different planes, and others are compound, i.e., they are a combination of the features of plane-surface kites with those having more than one plane surface. Those having one plane surface generally require a tail for balancing. Kites are often made in the shape of animals and in other forms. Kite making has long been practiced in China, Japan, Java, and the Malay Peninsula. It is thought that the first use of kites to secure meteorological information was made by Alexander Wilson of Scotland, who in 1749 used them to carry thermometers aloft. In 1752 Benjamin Franklin used kites to study the electricity of lightning. The box kite was invented c 1893 by Lawrence Hargrave, an Australian, and in variously modified forms it was utilized for carrying aloft self-recording meteorological instruments from c 1894. After airplanes became available this use of kites was gradually discontinued. The tetrahedral kite was used by Alexander Graham Bell for making experiments on problems of airplane construction. See L. H. Hunt, *25 Kites That Fly* (1929).

kithara (kĭ'thurŭ) or **cithara** (sĭ'thŭru), musical instrument of the ancient Greeks. It was a larger form of the LYRE, used by professional musicians both for solo playing and for the accompaniment of poetry. It consisted of a wooden frame with a resonator box and was strung originally with 5 strings. Later there were 7 strings, and finally (5th cent. B.C.) 11 strings.

Kithlish (kĭth'-), unidentified town, SW Palestine. Joshua 15:40.

Kitron (kī'trŏn), unidentified town, N central Palestine. Judges 1:30.

Kittanning (kĭtă'nĭng), industrial borough (pop. 7,550), co. seat of Armstrong co., W Pa., on the Allegheny river and N of Pittsburgh, settled 1796, laid out 1804, inc. 1821. It has collieries, foundries, and brick and clay works. The original site an Indian village, was destroyed (1756) by John Armstrong.

Kittatinny Mountain (kĭtŭtĭn'ē), ridge of the Appalachian system, extending from its junction with the Shawangunk Mt. in SE New York across New Jersey to join Blue Mt. in E Pennsylvania.

Kittery (kĭ'turē), town (pop. 5,374), extreme SW Maine. It is at the mouth of the Piscataqua opposite Portsmouth, N.H., with which it is connected by two bridges (1923, 1940). A settlement called Piscataqua was made here in 1622; it was incorporated as Kittery (the first town in Maine) in 1647 and grew as a trading, fishing, lumber-shipping, and shipbuilding place. John Paul Jones's ship *Ranger* was built (1777) in Kittery by Portsmouth shipwrights; the *Kearsarge* of Civil War fame was also built here. The Portsmouth naval base (see PORTSMOUTH, N.H.) is located on islands formerly part of Kittery, now Federal property, and is connected with Kittery by two bridges. At Kittery Point, now a resort, is the old William Pepperrell house (1682). Celia Thaxter's home was on Cutts Island, part of Kittery town.

Kittim or **Chittim** (both kĭ'tĭm), biblical term for Cyprus, but often extended to include lands in general W of Syria. The name is connected with that of the Cyprian port CITIUM. Gen. 10:4; Num. 24:24; 1 Chron. 1:7; Isa. 23:1,12; Jer. 2:10, Ezek. 27:6, Dan. 11:30; 1 Mac. 1:1.

Kittredge, George Lyman, 1860–1941, American scholar, b. Boston, grad Harvard, 1882 He joined the faculty of Harvard in 1888 and was professor of English there from 1896 until his retirement in 1936. An authority on Chaucer, Shakspere, the English language, balladry, and witchcraft, he wrote and edited books on all these subjects His one-volume edition of the complete works of Shakspere appeared in 1936, the first of his more detailed editions of the separate plays appeared in 1939, but the series was not completed

Kitty Hawk or **Kittyhawk,** sandy peninsula, NE N C , E of Albemarle Sound It was the scene from 1900 to 1903 of the Wright brothers' experiments with gliders and airplanes On the sand dunes here was established in 1927 the Kill Devil Hill National Memorial (314 40 acres) to commemorate their first successful flight

Kitzbühel (kĭts'bü"hul), town (pop 7,910), Tyrol, W Austria, NNE of Innsbruck It is a world-famous winter resort and skiing center.

Kiungchow, China see KIUNGSHAN

Kiungshan (kyôông'shän'–), Mandarin *Chung-shan,* city and county (pop 376,294), on Hainan, an island of Kwangtung prov , China Formerly a TREATY PORT, Kiungchan now exports hops, ginger, copra, sugar, coffee, and rubber It was formerly called Kiungchow

Kiuprili see KUPRILI

Kiushu: see KYUSHU

kiva (kē'vŭ), large, underground ceremonial chamber, peculiar to the ancient and modern PUEBLO INDIANS The modern kiva probably evolved from the slab houses (i e , storage pits and dwellings, which were partly underground and lined with stone slabs set on edge) of their cultural ancestors, the Basket Makers Modern kivas are either rectangular or circular structures with timbered roofs They are entered through a hatchway by means of ladders The floor is made of smooth sandstone slabs, and the walls of fine masonry There is a dais at one end, a fire pit in the center, and an opening in the floor at the other end This orifice represents the entrance to the lower world and the place of emergence through which animals and people come to this world The walls also have a symbolic significance and are decorated with mythological figures Although women keep the outside of the wall well plastered and bring food to the men, they are not allowed to enter the kiva Men use the kiva for secret ceremonies, as a lounging place, and as a workshop where weaving is done

Kivu (kē'vōō), lake, c 65 mi long, on the border of Belgian Congo and Tanganyika It is c 4,900 ft high in the Mfumbiro range

Kiwanis International (kĭwä'nĭs), organization of business and professional men, founded in 1915 at Detroit, Mich The local Kiwanis clubs meet weekly, their activities are carried on through committees and include agriculture, public affairs, business standards, support of churches, work with boys and girls, and vocational guidance Besides several pamphlets dealing with its various activities, Kiwanis publishes the *Kiwanis Magazine,* the *Monthly Club Bulletin,* and the *Keynoter,* publication of the Key-Club International, an organization of outstanding high school students Each local club has a voice in Kiwanis International and is entitled to two delegates at the annual convention There are clubs throughout the United States, Canada, Alaska, Hawaii, and the Yukon

kiwi (kē'wē) or **apteryx** (ăp'tĕrĭks), flightless bird of New Zealand, 17 to 30 in long Its wings are vestigial and it walks with its back hunched Nocturnal in habit, it hunts its food (worms, insects, and grubs) largely by scent Its nostrils open at the tip of its long, slender, slightly curved bill One or two eggs, which may weigh a pound each, are laid The male utters a hoarse, shrill whistle, often like "kee-wee " The Maoris' pursuit of the bird for food may lead to its extinction

Kiyonaga (kyō'nägä), 1752?–1815, Japanese painter and designer of woodcuts of the Toru school After working as a bookseller in Tokyo, he took lessons from the Toru master Kiyomitsu but created a more individual linear style He is best known for his cuts of beautiful women and of warriors He published (1785–1811) over 100 illustrated books as well as many single sheets His unmannered, vivid style had wide appeal and won him many followers See study by Chie Hirano (1939)

Kizel (kēzyĕl') city (1933 estimated pop 40,000), RSFSR. It is a leading coal-mining center of the central Urals, the Kizel coal basin (560 sq mi) has an estimated reserve of 3,435,000,000 tons of bituminous coal and has been exploited since the mid-19th cent

Kizil or **Kyzyl** (both kĭzĕl'), city (1939 pop over 10,000), capital of Tuva Autonomous Oblast, RSFSR, on the Yenisei

Kizil Irmak (kĭ'zĭl ĭrmäk'), anc *Halys,* river, 715 mi long, rising in N central Turkey, E of Sivas, and flowing in a wide arc SW, N, and NE into the Black Sea.

Kizil Kum or **Kyzyl-Kum** (both· kĕzĕl' kōōm'), desert, **Kazakh SSR** and **Uzbek SSR,** in central Asia. It stretches eastward from the Aral Sea between the Amu Darya and Syr Darya rivers, rises to 3,380 ft. in its central section, and is partly covered by sand dunes Its seminomadic population raises karakul sheep

Klabund (klăbŏŏnt'), pseud of **Alfred Henschke,** (äl'frät hĕnsh'ku), 1890–1928, German poet, novelist, and dramatist Most of his lyrics appeared first in the periodical *Pan* Those in *Totenklage* (1918-19) were written in memory of his wife The so-called "Chinese" poems were original, not translations, his Chinese play, *Kreidekreis* (1924, Eng tr , *Circle of Chalk,* 1929), was very popular Several of his short novels have been translated—*Bracke* (1918, Eng tr , *Bracke the Fool,* 1927), *Pjotr* (1923, Eng tr , *Petr the Czar,* 1926), and *Borgia* (1928, Eng tr , *The Incredible Borgias,* 1929).

Kladno (klad'nō), industrial city (pop 19,166), central Bohemia, Czechoslovakia, c 10 mi W of Prague The center of a coal basin, it has large iron and steel plants

Klagenfurt (klä'gunfōōrt), city (pop 65,799), capital of Carinthia, S Austria, on the Glan river in a mountain lake area SW of Graz An episcopal see since the late 18th cent , it has a cathedral and a theological seminary The picturesque Lindwurmbrunnen [fountain of the dragon] was erected in 1590 The city is a well-known winter sports center and has varied manufactures.

Klaipeda see MEMEL

Klamath (klă'muth), river, c 270 mi long, with its main source in Upper Klamath Lake, SW Oregon, flowing generally SW into NW California and across to the Pacific

Klamath Falls, city (pop 16,497), co seat of Klamath co , SW Oregon, at the southern tip of Upper Klamath Lake near the Calif line, settled c 1866 as Linkville, platted 1878, inc 1889, named Klamath Falls 1893, reinc 1905 The Klamath irrigation project (1900) and the coming of the railroad (1909) stimulated growth from a hamlet to a thriving industrial city, center of an area carrying on lumbering, farming, canning, and sheep and cattle raising The Klamath Indian Reservation is near

Klamath Indians, tribe of North American Indians In the 19th cent they lived in SW Oregon They constitute the northern branch of the Lutuamian linguistic stock, their neighbors, the Modoc Indians, belong to the southern branch The material for the first description of the Klamath was collected by Peter Skene Ogden, who visited them in 1829 and opened trade relations They lived by hunting, fishing, root digging, and collecting wokas (lily pond) seeds The Klamath were peaceful towards the whites but not towards the N California Indians They raided those tribes periodically and carried off the women and children, keeping their captives as slaves or selling them to other Indians By the treaty of 1864 with the United States, the practice of slavery was abolished and their land NE of Upper Klamath Lake was set aside as the Klamath Indian Reservation Today they are farmers and number some 1,100 A relationship has been suggested among Lutuamian, Shahaptin, and Wanlatpuan linguistic families See Albert Gatschet, *The Klamath Indians* (1890), Leslie Spier, *Klamath Ethnography* (1930)

Klaproth, Martin Heinrich (mär'tēn hīn'rĭkh klap'rōt), 1743–1817, German chemist In 1810 he became professor of chemistry at the Univ of Berlin In 1789 he had recognized the presence of zirconium in the ore zircona and of uranium in a precipitate of pitchblende, but did not have the technical equipment to isolate the elements in a pure state, he also worked on other elements, including titanium (which he rediscovered) and tellurium

Klatovy (klä'tôvē), Ger *Klattau* (klä'tou), city (pop 12,236), W Bohemia, Czechoslovakia It has tanning, chemical, and clothing industries There are Gothic and baroque churches and many quaint old houses

Klausenburg, Rumania see CLUJ.

Klaypeda. see MEMEL.

Kléber, Jean Baptiste (zhäN' baptēst' klābĕr'), 1753–1800, French general, b Strasbourg He studied architecture and later military engineering, served in the Bavarian army from 1777 to 1785, and in 1789 entered the French National Guard He fought with distinction in the French Revolutionary Wars and accompanied Napoleon to Egypt Left in command when Napoleon returned to France (1799), he defeated the Turks at Heliopolis (March 20, 1800) He was assassinated (June 14) at Cairo by a Moslem fanatic

Klebs, Edwin (klāps), 1834–1913, German-American pathologist, b. Prussia He was an assistant of Virchow and professor of pathology at Zurich (1872–92) and from 1896 at Rush Medical College, Chicago He is known for his many original observations on the pathology of infectious diseases He worked on tuberculosis, anthrax, and syphilis and saw the diphtheria bacillus and typhoid bacillus although he did not demonstrate them to be the causes of these diseases. The diphtheria bacillus is also known as the **Klebs-Löffler** bacillus.

Klee, Paul (poul' klā'), 1879–1940, German expressionist painter, b Switzerland, son of a music master He taught in the Bauhaus in Weimar and in Dessau and was professor in the Düsseldorf Academy in 1930 His nonrepresentational paintings are enjoyed for their charming color and entertaining design Klee is represented in the Museum of Modern Art, New York, in the Phillips Memorial Gallery, Washington, D C , and in galleries in Detroit and The Hague See *Paul Klee on Modern Art* (with introduction by Herbert Read, 1949)

Klein, Charles (klīn), 1867–1915, American playwright, b London His plays, originally popular for their timely topics, have disappeared because of their melodramatic construction pointed toward the effect of the big scene *The Auctioneer* (1901) and *The Music Master* (1904) both starred David Warfield under Belasco's management

Klein, Felix (fā'lĭks klīn), 1849–1925, German mathematician He is noted for his work in geometry and on the theory of functions His program (1872) for unifying the diverse forms of geometry through the study of equivalence in transformation groups was influential, especially in the United States, for over 50 years Klein was professor of mathematics successively at the Univ. of Erlangen, the Technical Institute, Munich, and the universities of Leipzig and Gottingen and was a prolific writer and lecturer on the theory, history, and teaching of mathematics His works include *Famous Problems of Elementary Geometry* (1895, Eng tr , 2d ed , 1930) and *Elementary Mathematics from an Advanced Standpoint* (2 vols , 1907–8, Eng tr , 1932–40)

Kleist, Heinrich von (hīn'rĭkh fŭn klīst'), 1777–1811, German dramatic poet He served (1792–99) in the army and led an unhappy, unsuccessful life, which he ended by suicide His seven plays rank among the great productions of the German theater and are distinguished by powerful emotion, dramatic skill, and bold poetry They include *The Feud of the Schroffensteins* (1803, Eng tr , 1916), the brilliant comedy *Der zerbrochene Krug* [the broken jug] (1806), *Käthchen von Heilbronn* (1807), and his masterpiece, *Der Prinz von Homburg* (1821) He also wrote a powerful tale, *Michael Kohlhaas* (1808, Eng tr in Oxenford and Feiling, *Tales from the German,* 1844) See E A Silz, *Early German Romantics* (1929), J C Blankenagel, *The Dramas of Heinrich von Kleist* (1931)

Klemperer, Otto (ō'tō klĕm'purur), 1885–, German conductor, studied at the Frankfurt Conservatory In 1907 he became musical director of the German National Theater in Prague and afterward conducted opera in Hamburg, Bremen, Strasbourg, Cologne and Wiesbaden He first conducted the Berlin State Opera in 1927 Denounced because he was a Jew, he left Germany in 1932 and came to the United States, where he conducted (1933–40) the Los Angeles Philharmonic In 1938 he directed the reorganization of the Pittsburgh Orchestra In 1946 he returned to Europe and became in 1948 conductor of the Budapest Opera

Klenze, Leo von (lā'ō fŭn klĕn'tsu), 1784–1864, German architect and landscape and portrait painter He was court architect to Jérôme Bonaparte of Westphalia and to Louis I of Bavaria, for whom he built many structures in the Italian Renaissance and neo-Greek styles His chief works in Munich were the Glyptothek (1816–30) and the Pinakothek and the Odeon (1826–36) In 1838 he began additions to the Hermitage in Leningrad

kleptomania (klĕp"tumā'nēu) [Gr ,=craze for stealing], condition of mental unbalance in which the individual is subject to an overwhelming desire to steal No specific cause is known, the condition being considered generally as the result of some underlying emotional disturbance, rather than a form of insanity in itself Legally kleptomania is not classified as insanity, and the individual is held responsible except when complete lack of control over his actions is definitely established

Klesl or **Khlesl, Melchior** (both mĕl'khyôr klā'sul), 1552–1630, Austrian statesman, cardinal of the Roman Church, adviser of Emperor MATTHIAS, and leader of the Catholic Reform in Austria The son of a Protestant baker, he was converted to Roman Catholicism and became chancellor of the Univ. of Vienna and, in 1598, bishop of Vienna He was created cardinal in 1615 After helping to secure the election of Matthias, Klesl sought to obtain a compromise between Catholics and Protestants but without much success Archduke Ferdinand (FERDINAND II), attributing the emperor's delay in putting down the Prague insurrection (the prelude to the THIRTY YEARS WAR) to Klesl's influence, had Klesl imprisoned (1618) Later released and transferred to Rome (1622), he returned to Vienna in 1627

Kleve, Germany see CLEVES

Klikitat Indians (klī'kĭtăt"), tribe of North American Indians of the Shahaptin linguistic stock, inhabiting S central Washington in the early 19th cent Lewis and Clark visited (1805) them and estimated their population to be some 700. They were energetic traders, acting as middlemen between the tribes of the coast and those of the interior By the Yakima treaty (1855) they ceded their territory to the United States, and most of

them went to live on the Yakima reservation, where they have lost their identity as a tribe A few of them are at the Warm Springs reservation in Oregon See C O. Bunnell, *Legends of the Klikitats* (1933)

Klinger, Friedrich Maximilian von (frē'drĭkh mäk"sēmē'lyän fün klĭng'ur), 1752–1831, German dramatist A member of the "Salzmann circle," he was a friend of the young Goethe, studied at Giessen, was for a time playwright for a theatrical troupe, and, joining the Austrian and later the Russian army, rose to high honors His early work typified the *Sturm und Drang* period so named after his play *Wirrwarr, oder, Sturm und Drang* [confusion, or, storm and stress] (1776), his later plays, influenced by Schiller and Iffland, are more reserved in tone His other works include the play *Die Zwillinge [the twins]* (1776) and the novel *Faust's Life, Deeds, and Journey to Hell* (1791, Eng tr by George Borrow, 1825) See W A Braun, *Types of Weltschmerz in German Poetry* (1905)

Klinger, Max (mäks' klĭng'ur), 1857–1920, German painter, sculptor, and etcher Before 1886 he produced chiefly cycles of etchings, original, unconventional, and somewhat morbidly imaginative—*Phantasies upon the Finding of a Glove, Deliverances of Sacrificial Victims Told in Ovid, Brahms-Phantasie* From 1886 to 1894 he devoted himself primarily to painting, usually on a monumental scale with little concern for conventional pictorial qualities Among his paintings are *Judgment of Paris* and *Christ on Olympus* (both Vienna) After 1894 sculpture became his chief activity, and in this medium Klinger's best work was done Notable examples are *Salome, Cassandra,* and the polychromatic statue of Beethoven (all Leipzig) and the bust of Nietzsche (Weimar) His book *Malerei und Zeichnung* [painting and drawing] (1891) was influential

Klodzko, Lower Silesia see GLATZ

Klondike (klŏn'dīk), region of YUKON territory, NW Canada, just E of the Alaska border It lies about Klondike Creek, a small stream which enters the Yukon river from the east at Dawson The discovery of rich placer gold diggings on this creek in 1896 caused the Klondike stampede of 1897–98 The news reached the United States in June, 1897, and within a month thousands were on their way Most of them landed at Skagway at the head of Lynn Canal and crossed by Chilkoot or White Pass to the upper Yukon, which they descended to Dawson Others went in by the Copper River Trail or over the Teslin Trail by Stikine river and Teslin Lake, and some by the all-Canadian Ashcroft and Edmonton trails The rush continued by these passes all the following winter The other great doorway was up the Yukon river, 1,600 mi , by steamer Many of those using this route late in 1897 were caught by winter ice below Fort Yukon and had to be rescued With unexpected thousands in the region a food famine threatened, and supplies were commandeered and rationed The number in the Klondike in 1898 was c 18,000 Thousands of others who did not find claims drifted down the Yukon and found placers on Alaskan streams, notably at Nome, to which there was a new rush Others went back to the United States The hardships of the trails and the color of Klondike days are described in many personal narratives, among the best are W B Haskell, *Two Years in the Klondike* (1898), Frederick Palmer, *In the Klondike* (1899), R A Bankson, *The Klondike Nugget* (1935), James Wickersham, *Old Yukon Tales—Trails—and Trials* (1938)

Klopstock, Friedrich Gottlieb (frē'drĭkh gôt'lēp klôp'shtôk), 1724–1803, German poet His greatest work was the epic *Messias* (1821–22, Eng tr, *The Messiah*), begun in his student days and finished 25 years later The appearance of the first three cantos (in the *Bremen Beitrage*) was a literary sensation In its earlier cantos the poem has the merit of being the first major modern work by a truly inspired German poet, but the poem as a whole is weak, for Klopstock's genius was lyrical He also wrote several volumes of odes (1747–80, Eng tr , 1848) and a trilogy of dramas about the national hero Arminius (Hermann), inspired by Macpherson's Ossian There have been various entire or partial translations of *The Messiah* See F H. Adler, *Herder and Klopstock* (1914)

Klosterneuburg (klōs"türnoi'bōrk), city (pop, 13,710), Lower Austria, on the Danube and 6 mi. N of Vienna It has a wealthy Augustinian monastery (consecrated 1136), the oldest in Austria; the extensive library contains many incunabula, and the wine cellars are three stories high and contain a cask of prodigious size

Kloster-Zeven, Convention of (klō'stûr-tsā'fun), 1757 Early in the Seven Years War the duke of Cumberland, defeated by the French at Hastenbeck, capitulated at the former Benedictine abbey near Zeven (a small town in Hanover, N Germany, NE of Bremen) and allowed the French to occupy Hanover. The convention was disavowed by the English government and Cumberland was dismissed The name is known in English as Kloster-Seven or Closter-Seven.

Klyuchevskaya Sopka, RSFSR: see KAMCHATKA.

Knackfuss, Hermann (hĕr'män knäk'fŏos), 1848–1915, German historical painter and art historian He was a professor at Kassel Academy His best-known paintings include *Battle of Muhldorf, Entry of the German Emperor into Jerusalem,* and various mural decorations He is better known as an art historian and as editor of, and contributor to, *Künstlermonographien,* a series of popular monographs on great artists

Knapp, Seaman Asahel, 1833–1911, American agricultural leader, b Schroon Lake, N Y He went to Iowa in 1866 and began publication in 1872 at Cedar Rapids of the *Western Stock Journal* In 1879 he became manager of the Iowa State College farm, and from 1884 to 1886 he was president of the college He resigned to conduct farm demonstration work in Louisiana, and later, under James Wilson as Secretary of Agriculture, Knapp was employed by the department as a special agent to promote better farming methods in the South He was sent also to the Orient to investigate the growing and handling of rice, he did much for Southern rice growing His greatest work was his impressive demonstration of methods of fighting the boll weevil Under his direction these demonstrations were repeated, and gradually there developed the Farmer's Cooperative Demonstration Work division in the department with Knapp at its head See biography by J C Bailey (1945) His work was carried forward by his son, **Bradford Knapp,** 1870–1938, b Vinton, Iowa He had been his father's assistant and was his successor until the reorganization of the department in 1914, until 1920 he headed the extension work in the South He served as president at Oklahoma Agricultural and Mechanical College (1923–28), at Alabama Polytechnic Institute (1928–32), and at Texas Technological College (from 1932)

Knaresborough (nârs'-), urban district (1931 pop 5,942, 1943 estimated pop 7,900), West Riding of Yorkshire, England, on the Nidd and NW of York Of the royal castle, a 14th-century keep remains St Robert's Chapel is a wayside shrine In St Robert's Cave near by Eugene Aram hid the body of the murdered Daniel Clark in 1745

Knaus, Ludwig (lōōd'vĭkh knous'), 1829–1910, German genre painter, studied in Dusseldorf and Paris His *Morning after Kermess* won the gold medal of the Salon of 1853, *The Promenade in the Tuileries Gardens* is in the Louvre He practiced chiefly in Paris, in Dusseldorf, and in Berlin, where he was a professor (1874–82) in the Academy His paintings, many of them anecdotal, were immensely popular Knaus's art is known for its facile and vigorous technique and its fine coloring, reminiscent of the Dutch masters Among his works in the United States are *The Holy Family* and *Old Woman and Cats* (Metropolitan Mus), *Mud Pies* (Walters Art Gall , Baltimore), *The Quarrel* (N Y Public Library), and others in private collections

Kneeland, Samuel, 1821–88, American physician and naturalist, b Boston, Mass , grad Harvard (B A , 1840, M A and M D , 1843) He practiced and taught medicine in Boston, served as a surgeon in the Union army, and taught zoology and physiology at the Massachusetts Institute of Technology Kneeland traveled widely and made scientific collections in the United States, Iceland, Brazil, and the Philippines He wrote a number of works on his travels and scientific observations He translated Felix Andry's *Manual of Diagnosis of Diseases of the Heart* (1846) and edited (1866–69) the *Annual of Scientific Discovery,* which he had helped found

Kneipp, Sebastian (zābäs'tyän kunīp'), 1821–97, German priest, the founder of a system of hydrotherapy He wrote *My Water-Cure* (1880, Eng tr , 6th ed , 1935)

Kneisel, Franz (fränts' kunī'zŭl, nī'zŭl), 1865–1926, violinist, b Bucharest, of German parents, studied in Vienna He was concertmaster and soloist (1885–1903) of the Boston Symphony Orchestra In 1886 he formed the Kneisel Quartet, one of the finest string quartets of its day, which did great service in promoting chamber music in the United States until 1917, when it was disbanded Kneisel became head of the violin department of the Institute of Musical Art, New York, in 1905

Kneller, Sir Godfrey (nĕl'ur), or **Gottfried von Kniller** (gôt'frēt fün knĭl'ur), 1646–1723, English portrait painter, b Germany After study in Amsterdam, Rome, and Venice, he settled in England in 1675 Here he became court painter to Charles II on the death of Lely (1680) Kneller was a clever practitioner who maintained an army of apprentices and produced a vast number of portraits In addition to the English kings from Charles II to George I, he painted Louis XIV Famous examples of his work are *Ten Beauties of the Court of William III* (Hampton Court) and portraits of Francis Couplet (Windsor Castle) and Lady Mary Berkeley (Metropolitan Mus) He painted portraits of the members of the KIT-CAT CLUB The National Portrait Gallery, London, contains many portraits by his hand. See C H. C Baker, *Lely and Kneller* (1923)

Knickerbocker (nĭ'kurbŏ"kur), term used almost synonymously with the adjective "Dutch" in respect to Dutch families and customs and the Dutch region of early New York state. *A History of New York* (1809), written by Washington Irving under the pseudonym Diedrich Knickerbocker, popularized the term The Knickerbocker family was founded in America by **Harmen Jansen Knickerbocker,** c 1650–c 1716, b Friesland, Netherlands, who came from Holland c 1674. The Knickerbockers lived chiefly in Albany co See G C. Martin, *The Knickerbacker or Knickerbocker Family* (1912)

knife see CUTLERY

Knight, Daniel Ridgway, 1840?–1924, American painter in France, b Philadelphia, studied at the Pennsylvania Academy of the Fine Arts and with J L Meissonier in Paris Most of his work was done in France. His paintings of the French peasantry were popular, many of his subjects being taken from the Poissy-on-the-Seine countryside where he had his studio Among his pictures are *Bas de Laine* (painted for the French Government), *Hauling the Ferry* (Pa Acad of the Fine Arts), *The Shepherdess* (Brooklyn Mus), and *The Shearer* (Mus of Fine Arts, Boston) He is also represented in the museums of Omaha and Milwaukee

Knight, Dame Laura, 1877?–, English painter and etcher She was elected a member of the Royal Academy of Arts in 1936 and was created Dame Commander of the Order of the British Empire in 1929 Her pictures, chiefly of circus life, are in most of the British museums and in the Art Institute of Chicago and the Carnegie Institute, Pittsburgh Born Laura Johnson, she married (1903) Harold Knight, also a painter See her autobiography, *Oil Paint and Grease Paint* (1936)

Knight, Ridgway. see KNIGHT, DANIEL RIDGWAY

Knight, Sarah Kemble, 1666–1727, American teacher, b Boston She was known as Madam Knight in connection with her writing school and her work as a recorder of public documents Her famous *Private Journal of a Journey from Boston to New York in the Year 1704* (pub 1825) is a source of information on colonial customs and conditions, especially of the inns In later life she herself maintained an inn near New London, Conn See E A Dexter, *Colonial Women of Affairs* (1924)

knight 1 In ancient history, as in Rome and in Athens, a noble of the second class who in military service had to furnish his own mount and equipment In Roman society, the knights (Latin *equites*) ranked below the senatorial class and above ordinary citizens A knight forfeited his status if his fortune sank below the assessed value of 400,000 sesterces (about $16,000) The master of the horse was the military commander of the equestrian order **2** In medieval history, an armed and mounted warrior belonging to the nobility The private warfare that characterized the early medieval times instituted a permanent military class and made fighting the acknowledged occupation of a noble By the 10th cent the institution of knighthood, of which all origins cannot be traced, was well established The knight was essentially a military officer, though with the growth of FEUDALISM the term tended to assume place not only in the ranks of nobility but also in the ranks of landholders The knight generally held by military tenure whatever lands he might have, thus knight service was a military service normally expected by an overlord from a single knight, usually said to be 40 days in the year, though this is merely a conventional designation All military service was measured in terms of knight service Thus, a vassal might owe any number of knight services All true nobles of military age were necessarily knights Knighthood, in its true meaning, has never been hereditary but had to be earned In the late Middle Ages it had become normal for the son of a noble to serve first as page, then as squire, before being made a knight Knighthood was conferred by the overlord with the accolade (a blow, usually with the flat of the sword, on the neck or shoulder), the ceremony was preceded, especially in the later period of feudalism, by the religious ceremony of the vigil before an altar A knight fighting under another's banner was called a knight bachelor, a knight fighting under his own banner was a knight banneret Knights were ordinarily accompanied in battle by personal attendants (squires, pages) and by vassals (see YEOMAN) and servants Military tenure was generally subject to the law of PRIMOGENITURE As a result, there grew up a class of landless knights, at the time of the Crusades these formed the great military orders of knighthood, which were religious as well as military bodies Important among these were the KNIGHTS TEMPLARS, KNIGHTS HOSPITALERS, TEUTONIC KNIGHTS, Knights of CALATRAVA, and Knights of AVIZ Secular orders, patterned on the religious ones, also grew up, principally as honorary establishments by the kings or other great nobles Such in England were the orders of the Garter and of the Thistle, in Burgundy the Order of the Golden Fleece. The most important of these orders have survived and many new ones have been added (e g , the orders of the Bath, of Victoria, and of the British Empire in England and the Legion of Honor in France, see also DECORATIONS, CIVIL AND MILITARY). As the feudal system disintegrated, knight service was with growing frequency commuted into cash pay-

ments In England the payment was known as SCUTAGE Moreover, many of the landowners found the duties of knighthood too onerous for their meagre resources and contented themselves with the rank of squire This was particularly true in England, where gentlemen landowners are still termed squires The military value of a cavalry consisting of heavily armored knights lessened with the rise of the infantry, of artillery, and of mercenary armies In Germany, where the institution of knighthood persisted somewhat longer than in England and France, knighthood in its feudal meaning may be said to have come to an end in the early 16th cent with the defeat of Franz von SICKINGEN The title knight (Ger *Ritter*, Fr *chevalier*) was later used as a noble title in Germany and in France In the French hierarchy of nobles the title chevalier is borne by a younger son of a duke, marquis, or count In modern England, knighthood is not a title of nobility, but is conferred by the king (upon recommendation of the government) on commoners or nobles for civil or military achievements A knight is addressed with the title Sir (e g , Sir John), a woman, if knighted in her own right, is addressed as Dame

knighthood and chivalry. The ethical ideals that arose from FEUDALISM and found their highest expression in the 12th and 13th cent originated chiefly in France and Spain and spread rapidly to the rest of the Continent and to England They represented a fusion of Christian and of military ideals and still form the basis of the ethics of gentlemanly conduct The chief chivalric virtues are piety, bravery, loyalty, and honor Loyalty is due to the spiritual master, i e , God, the temporal master, i e , the suzerain, and to the mistress of the heart, i e , one's sworn love Love, in its chivalrous sense, was largely Platonic, as a rule, only a virgin or another man's wife could be the chosen object of chivalrous love The cult of the Virgin, with which chivalrous love is intimately connected, was the supreme expression of the glorification of womanhood Besides the battlefield, the TOURNAMENT was the chief arena on which the virtues of chivalry could be proved The code of chivalrous conduct was worked out with great subtlety in the courts of love which flourished in France and Flanders There the most arduous questions of love and honor were argued before the noble ladies who presided The judgments were often put into writing The last knight said to have embodied the ideals of chivalry was BAYARD Medieval secular literature was primarily concerned with knighthood and chivalry ARTHURIAN LEGEND and the CHANSONS DE GESTE furnished the material and patterns for many later romances and epics The work of CHRESTIEN DE TROYES and the ROMAN DE LA ROSE also had tremendous influence on later European literature The endless chivalrous and pastoral romances which were still widely read in the 16th cent were satirized with deadly effect by Cervantes in *Don Quixote* In the 19th cent , however, the romantic movement brought a revival of chivalrous ideals and literature For the lyric poetry of the age of chivalry, see TROUBADOUR, TROUVÈRE, MINNESINGER See Léon Gautier, *Chivalry* (Eng tr , 1881), Francis Warre Cornish, *Chivalry* (1901), W S Davis, *Life on a Mediaeval Barony* (1923), W C Meller, *A Knight's Life in the Days of Chivalry* (1923), Sydney Painter, *French Chivalry* (1940)

knight service see KNIGHT

Knights Hospitalers (hŏ'spĭtulurz), members of the military religious Order of the Hospital of St John of Jerusalem, sometimes called the Knights of St John and the Knights of Jerusalem The increasing number of pilgrimages to the holy city of Jerusalem led some Italian merchants to obtain early in the 11th cent the right to maintain a Latin-rite church there In connection with this church a hospital for ill or infirm pilgrims was established There seems also to have been an earlier hospice or inn in Jerusalem which had some connection with the new hospital, and there seems to have been one hospital for men and one for women When the Crusaders took Jerusalem, the master of the hospital was Gerard de Martignes The work of the hospital immediately expanded Gerard created a separate order, the Friars of the Hospital of St John of Jerusalem, and in 1113 Pope Paschal II recognized it The object of the order was to aid the pilgrims, and it soon became apparent that military protection was necessary Gerard's successor, Raymond du Puy, reconstituted the order as a military one, the members henceforth undertook to bear arms in support of the Latin Kingdom of Jerusalem and of the Crusaders The members were divided into three classes—the knights of justice, who had to be of noble birth and had to be already knights, the chaplains, who served the spiritual needs of the establishment, and the serving brothers, who merely carried out orders given them Besides these, there were the honorary members, the men who contributed estates and funds to the order, they were called donats From the innumerable estates given them, the Hospitalers obtained a great income, and the necessity of caring for the estates led to the formation of subsidiary establishments all over Europe, the preceptories The primary duty of the Knights of St John was to oppose the infidel, the Moslem They took a prominent part (with the Templars) in the siege and capture of Ascalon (1154) and in all of the military adventures of the Latin Kingdom After Jerusalem fell once more to the Saracens (1187), the Hospitalers established themselves at Margat and then (1189) at Acre, which was recaptured by the Christians in the Third Crusade The period from then until the fall of Acre in 1291 was one of disaster violent quarrels between the Hospitalers and the Templars, of long standing, grew worse, Jerusalem, which fell again to the Christians, was captured from them with great slaughter, the renewal of the Saracenic war went against the Christians, and the crusades of St Louis (Louis IX of France) and of Edward I of England did nothing to stem the tide of disaster The hospital work of the order went on, though it was somewhat obscured by the military labors Driven from the Holy Land by the fall of Acre, the knights established themselves in Cyprus They continued to combat the Moslems, but now by sea rather than by land, the Hospitalers became the principal agents of convoy for pilgrims Cyprus, however, was not the ideal place for the establishment, and the grand master, William de Villaret, planned the conquest of Rhodes from the Saracens, a conquest achieved by his brother and successor, Fulk (or Foulques) de Villaret in a special crusade (1310) On Rhodes the order waxed stronger They had received some benefit from the dissolution of the Knights Templars, and the wealth of their grand priories all over Europe had greatly increased To some extent, at least, the change was accompanied by a decline in moral standards The Knights of Rhodes, as they came to be known, maintained their reputation as courageous and successful fighting men In 1365 the knights, in conjunction with the king of Cyprus, captured Alexandria, which, however, they were unable to retain The island of Rhodes was an important strategic point, and the Turks on their advance after the capture of Constantinople determined to take it One of the most stirring and heroic episodes in the military history of the Middle Ages was the successful defense of Rhodes by the grand master, Pierre (later Cardinal) d'Aubusson, against the forces sent by Sultan Mohammed II But the knights could not summon the means to resist forever, and in 1522 the grand master Philippe de L'Isle Adam was forced to capitulate The knights had to leave Rhodes They wandered homeless until in 1530 Emperor Charles V conferred upon them the sovereignty of the island of Malta Malta now became the fixed home of the knights, who were henceforth generally known as the Knights of Malta Under Jean de la Valette they built the great fortifications and defended Malta against Turks in 1565 Meanwhile, the REFORMATION had dealt a severe blow to the order The order refused to yield to HENRY VIII in England, and the English branch was suppressed In Malta the order continued to live in fear of the Turks The city of Valetta was built, and, as in Rhodes, the rule of the order was beneficial The battle of Lepanto (1571) freed the Mediterranean of the Turks and a period of relative quiet began The hospital at Malta was the equal of any other in Europe, and the knights continued their charitable work There was some reorganization of the order, and admission became more and more a test of nobility of birth The order received its death blow when Napoleon on his Egyptian campaign took Malta (1798) The knights were compelled to surrender and to leave They chose Tsar Paul of Russia as grand master by an illegal election, which was later validated Many of the knights went to St Petersburg Thus a Catholic order, with the permission of the pope, passed under the rule of an Orthodox emperor. The order was practically at an end Nelson took Malta, and though by earlier agreement the island was to be returned to the knights, it was by the Congress of Vienna permanently ceded to England After Paul's death there was a period of some indecision and deliberation The pope named as grand master Tommasi, who in 1802 became the last regular head of the order, which moved to Catania After 1805 the knights had no regular head and the fraternity continued but had little more than nominal existence in Catania, then Ferrara, then Rome In 1879 the pope restored the office of grand master, but the reconstructed order which grew up has little relation to the old Knights of Malta It is a charitable organization especially devoted to the care of the sick and the wounded, it expanded considerably, and in 1926 an association was founded in the United States The English branch was revived under Mary Tudor in 1557, but disappeared completely in Elizabeth's time. The reestablishment of the grand priory in conjunction with the efforts of some French Hospitalers who had attempted to revive the order in France took place in 1827, but the reconstituted order had no organic connection with the old order. The symbol of the Order of St John came to be a white cross worn on a black robe, thus the Hospitalers were the Knights of the White Cross in contradistinction to the Templars, the Knights of the Red Cross The Maltese cross (see CROSS) has been used by various secret organizations, which have been falsely alleged to have a connection with the Knights of St John See E J King, *The Knights Hospitallers in the Holy Land* (1931), *The Grand Priory of the Order of the Hospital of Saint John of Jerusalem in England* (1924), and *The Seals of the Order of St John of Jerusalem* (1932), R A de Vertot, *The History of the Knights Hospitallers* (Eng tr , 1818), L E Hume, *Medical Work of the Knights Hospitallers* (1940)

Knights of Columbus (K C or K of C), American Roman Catholic society for men, founded at New Haven, Conn , in 1882 Its objects are to encourage fraternity and benevolence among its members, to promote tolerance, to encourage civic loyalty, and to protect the interests of the Roman Catholic Church The society claims credit for extension of the celebration of Columbus Day (Oct 12)

Knights of Jerusalem see KNIGHTS HOSPITALERS

Knights of Labor, American labor organization, started by Philadelphia tailors in 1869 and fathered by Uriah S Stephens It became a body of national scope and importance in 1878 and grew more rapidly after 1881, when its earlier secrecy was abandoned Organized on an industrial basis, with women, colored workers (after 1883), and employers welcomed, excluding only bankers, lawyers, gamblers, and stockholders, the Knights of Labor aided various groups in strikes and boycotts, winning important strikes on the Union Pacific in 1884 and on the Wabash RR in 1885 But failure in the Missouri Pacific strike in 1886 and the HAYMARKET SQUARE riot (for which it was, although not responsible, condemned by the press) caused a loss of prestige and strengthened factional disputes between the craft unionists and the advocates of all-inclusive unionism With the motto "an injury to one is the concern of all," the Knights of Labor attempted through educational means to further its aims—an 8-hour day, abolition of child and convict labor, equal pay for equal work, elimination of private banks, cooperation—which, like its methods were highly idealistic The organization reached its apex in 1886, when under Terence V Powderly its membership reached a total of 702,000 Among the causes of its downfall were factional disputes, too much centralization with a resulting autocracy from top to bottom, mismanagement, drainage of financial resources through unsuccessful strikes, and the emergence of the American Federation of Labor By 1890 its membership had dropped to 100,000, and in 1900 it was practically extinct See T V Powderly, *Thirty Years of Labor* (1889)

Knights of Malta and **Knights of Rhodes:** see KNIGHTS HOSPITALERS

Knights of Saint Crispin, union of shoemakers, organized in 1867 by Newell Daniels of Milwaukee in protest against the increasing industrialization of the shoe industry, which was replacing the skilled workers with new unskilled factory labor As a result of a series of successful strikes, it became for a time the largest trade union in the country, with a membership of from 40,000 to 50,000 Interference in politics, the dishonesty of its officers, the combination of employers against it, and the financial crisis of 1873 caused its downfall By 1878 it was defunct, many of its members having passed over into the KNIGHTS OF LABOR, in which they became the largest trade element See D D Lescohier, *The Knights of St Crispin, 1867–1874* (1910, Univ of Wisconsin, Bul 355)

Knights of Saint John of Jerusalem see KNIGHTS HOSPITALERS

Knights of the Golden Circle, secret order of Southern sympathizers in the North during the Civil War Dr George W L Bickley, a Virginian who had moved to Ohio, organized the first "castle," or local branch, in Cincinnati in 1854 and soon took the order to the South, where it was enthusiastically received Its principal object was to provide a force to colonize the northern part of Mexico and thus extend proslavery interests, and the Knights became especially active in Texas Secession and the formation of the Confederacy, both of which it had urged, followed by the outbreak of the Civil War, prompted a shift in its aims from filibustering in Mexico to support of the new Southern government Obviously the order could best serve this purpose among the South's friends in the North, and it soon spread to Kentucky, Indiana, Ohio, Illinois, and Missouri Its membership in these states, where it became strongest, was largely composed of Peace Democrats, who felt that the Civil War was a mistake and that the increasing power of the Federal government was leading toward tyranny They did not, however, at this time engage in any treasonable activity. In late 1863 the Knights of the Golden Circle was reorganized as the Order of American Knights and again, early in 1864, as the Order of the Sons of Liberty, with Clement L VALLANDIGHAM, most prominent of the COPPERHEADS, as its supreme

commander Membership in the Sons of Liberty was perhaps between 200,000 and 300,000 in 1864, when it reached its maximum A minority of this membership was radical enough in some localities to discourage enlistments, resist the draft, and shield deserters Numerous peace meetings were held A few extreme agitators, some of them encouraged by Southern money, talked of a revolt in the Old Northwest, which, if brought about, would end the war Southern newspapers wishfully reported stories of widespread disaffection in the Northwest, and John Hunt Morgan's raid (1863) into Kentucky, Indiana, and Ohio was undertaken in the expectation that the disaffected element would rally to his standard Gov Oliver P. Morton of Indiana and Gen Henry B Carrington effectively curbed the Sons of Liberty in that state in the fall of 1864 With mounting Union victories late in 1864, the order's agitation for a negotiated peace became ludicrous, and it soon dissolved See C H Morrow, *Political-military Secret Societies of the Northwest, 1860–1865* (1929), Wood Gray, *The Hidden Civil War the Story of the Copperheads* (1942), G F Milton, *Abraham Lincoln and the Fifth Column* (1942)

Knights of the White Camellia: see KU KLUX KLAN

Knights Templars, in Freemasonry see FREEMASONRY.

Knights Templars, in medieval history, members of the military religious Order of the Poor Knights of Christ, called the Knights of the Temple of Solomon from their house in Jerusalem The order had a brief but important history Like the other military orders, the KNIGHTS HOSPITALERS and the TEUTONIC KNIGHTS, the Templars were formed in the period of the CRUSADES The Templars were in the beginning purely military and had no such charitable aims as the Hospitalers The order originated in a band of nine knights headed by Hugh de Payens who joined together c 1118 for the purpose of protecting pilgrims The group increased in number and adopted the Benedictine Rule They were given quarters next the building that was called Solomon's Temple Hugh went to Europe, where he sought the sanction of the pope for the order He obtained the support of St Bernard of Clairvaux, who aided the Templars in the Council of Troyes (1128) They were established with a complete rule and many young noblemen joined the order, which at first was poverty-stricken but soon began to receive the gifts of estates and of money from all over Europe The Templars rapidly became one of the most powerful organizations of Europe Their ideal—the protection of Christianity—and their dashing military exploits won them great fame The Templars in a sense represent the highest actualization of chivalry They were important in all the military adventures of the Latin Kingdom and their strongholds in the Holy Land welcomed the leaders of the later Crusades They were important in the internal struggles between the Crusaders as well as in the fight against the infidel, and almost from the beginning charges were hurled against them They were accused, probably unjustly, of going so far as to conspire with the Saracens in order to advance their order But the Templars, who bore the red cross, were apparently even more active than the Knights of the White Cross (the Hospitalers) in war There was from early times a constant rivalry between them The Templars had charge of the fortress of Gaza, which fell to Nureddin, but was later recaptured The knights were involved in all the important sieges and battles They were the chief force in securing the throne of the Latin Kingdom for Guy of Lusignan and Sibyl The conquests of Saladin forced the Templars, like the Hospitalers, out of Jerusalem After the capture of Acre, the knights established themselves there and played an important part in the Third Crusade More and more the Templars, the Hospitalers, and the Teutonic Knights became the warriors against the Saracens, to the exclusion of the later Crusaders The orders were involved in deadly rivalry among themselves and by their internecine strife weakened the Christian cause The Templars also were involved in trouble with Emperor Frederick II when he was on crusade Difficulties and calamities grew worse for the Crusaders The Mohammedans slowly won back all the Holy Land In 1291 Acre fell Both the Hospitalers and the Templars withdrew to Cyprus The order of the Templars, however, had long ceased to be primarily a fighting organization, they had become even in the 12th cent the bankers of Europe The wealth which had poured upon them had made them very significant in almost every country of Europe Their establishments in England and France especially were numerous and splendid Place names in those countries recall the breadth and scope of Templar activity The fact that the knights had establishments all over Europe made them particularly useful for the handling of money, and their strongholds became the principal money stores of the world This financial control made them very powerful and aroused the jealousy and cupidity of temporal princes, particularly of Philip IV (Philip the Fair) of France The Templars were unpopular with many of the secular clergy because of their special privileges The Templars had, particularly since the failure of the Crusades, become more and more worldly and there can be no doubt that there was considerable licentiousness among them. They had awakened the universal hatred that is so often the lot of the moneylender In a sense they were the makers of their own doom Yet there is today little doubt that the suppression and extirpation of the order was caused by the cupidity of Philip IV, who was in need of money and wanted to confiscate that of the Templars The persecution of the Templars (1308–14), which effectively ended the order, is one of the most disputed questions of medieval history It was begun on the grounds of scurrilous accusations made by an apostate member of the order, and Philip instituted proceedings against them with the aid of Pope Clement VI, who was practically a pawn in the hands of Philip In 1308 the persecution was in full process The knights were arrested and were forced by the extremities of torture to confess to sacrilegious and revolting practices The confessions were made, retracted, and again extorted, so that the evidence is completely confusing and there cannot and will not be any definite decision as to the justice of the charges, but it is the general opinion that most of them were unjust and untenable The last act of the persecution in France occurred in 1314 The last grand master, Jacques de Molay, had confessed to crimes, he recanted, again confessed, and finally, with the prior of Normandy, stood out against Philip, who, without the sanction of the Church, had them burned to death The Order of the Poor Knights of the Temple was at an end The prosecution of the knights is a very dark chapter of history The property of the Templars, which was theoretically to go to the Hospitalers, actually went for the most part to Philip IV and to Edward II, who suppressed the order in England Of the vast literature concerning the Templars, the major portion is devoted to arguing one way or the other concerning the fate of the Templars, their alleged secret rites and Satanism, and their achievements A good defense of the order is that of Charles G Addison, *The History of the Knights Templars* (rev ed, 1912), see also E J Martin, *The Trial of the Templars* (1928), J B Williamson, *History of the Temple, London* (1924), bibliography under CRUSADES

Knightstown, town (pop 2,323), E Ind , E of Indianapolis, settled 1825, inc 1827 A home for orphans of Indiana soldiers and sailors is here

Kniller, Gottfried von see KNELLER, SIR GODFREY

Knipperdollinck or **Knipperdolling, Bernhard** (bĕrn'-härt kunĭ"pərdô'lĭngk, -lĭng), d 1536, German ANABAPTIST leader He came under the influence of the visionaries and extreme social reformers who controlled the Anabaptist movement In Münster, of which he was briefly (1534) burgomaster, he supported JOHN OF LEIDEN When the city was captured, Knipperdollinck was executed

knitting, construction of a fabric made of interlocking loops of yarn by means of needles Knitting, allied in origin to weaving and the netting and knotting of fishnets and snares, was apparently unknown in Europe before the 15th cent , when it was practiced in Italy and Spain The Scots claimed its invention and also its introduction into France Hand-knitting needles are of bone, wood, steel, ivory, or celluloid Two needles with heads are required for flat or selvage work, three or more, pointed at both ends, for tubular work such as hose, and for larger tubular work, a circular needle The first knitting machine, invented in England in 1589 by William Lee, was refused a patent by Queen Elizabeth on the grounds that it would curtail the work of hand knitters Lee's machine, marketed abroad, was the forerunner of the warp and circular frames of the 18th cent , these in turn developed into the two modern types of power machines, the warp and the weft The springbeard needle of Lee's frame was supplemented in 1847 by Matthew Townsend's latch needle, commonly used for coarse work In 1864 William Cotton patented a machine by which garments and the heels and toes of hosiery might be shaped In weft knitting, which includes hand knitting, the fabric is constructed in horizontal courses with one continuous yarn The basic stitches are the plain or jersey, purl, and rib Either flat-bed or circular machines may be used The warp or chain loom machine, generally flat bed, builds vertical chains or wales, each with a separate yarn and tied together by zigzagging the yarns from needle to needle in the basic tricot or milanese stitches or variants of these The warp knit fabric is run-resistant but less elastic than the weft See Zelma Bendure and G B Pfeiffer, *America's Fabrics* (1946), W. E Shinn, *Principles of Knitting* (1940).

Knobelsdorff, Georg Wenzeslaus von (gā'ôrk vĕn'-tsuslous fŭn knō'bŭlsdôrf), 1699–1753, German architect and portrait and landscape painter He was overseer of buildings for Frederick the Great His chief architectural works, masterpieces of German classic style, are the palace of Sans Souci, Potsdam, and the State Opera House, Berlin.

Knolles, Richard (nōlz), 1550?–1610, English historian. His *General Historie of the Turkes* (1603) with continuations to 1699 in an edition by Sir Paul Ryeaut and others (3 vols. 1687–1700) was highly praised for its fine prose by Dr. Johnson and by Lord Byron

Knolles or Knollys, Sir Robert (both nōlz), d 1407, English military commander He fought in Brittany in the French wars of Edward III of England He became a leader of a company of mercenaries, fought against Bertrand du Guesclin, and assisted Edward the Black Prince in the Spanish campaign, especially at Nájera (1367) He continued to fight throughout France, either for the English or for his own plunder; he ravaged Normandy and the Loire valley In 1381 he helped to disperse the Wat Tyler insurrection in England

Knossos see CNOSUS

knot, in the general sense, a fastening made by interlacing cordage, such as the hitch, splice, tie, and bend In the restricted sense a knot is a knob, loop, or noose in a rope Many knots date from prehistoric times They have been used to record dates and numbers and to make astronomical reckonings, have been objects of superstition and of legend, as the Gordian knot (see GORDIUS), and appear in heraldry as symbols and badges A large percentage of the almost unlimited number of knots were devised by sailors Knots are used in some 90 occupations, including farming, trucking, lumbering, and surgery The knot, or nautical mile, is about 6,080 ft See C L Day, *Sailors' Knots* (1935), C W Ashley, *The Ashley Book of Knots* (1944).

Knott, James Proctor, 1830–1911, American political leader and college professor, b Marion co , Ky Admitted (1851) to the bar in Missouri, he served in the state legislature (1857–59) and was state attorney general when the Civil War began His sympathy with the South, although he opposed secession, caused him to be imprisoned briefly, he then returned to Kentucky He was elected to the U S House of Representatives from Kentucky for the terms 1867–71 and 1875–83, serving several times as chairman of the judiciary committee and gaining a national reputation as an orator As governor of Kentucky (1883–87), he reformed the tax system and established a board of equalization In 1892 he became professor of civics and economics at Centre College, Danville, Ky Knott helped organize the law school there and from 1894 until his retirement in 1901 served it as a professor and the first dean

knowledge, main branch of philosophy It has three major problems, the origin and nature of knowledge (epistemology), the investigation of the processes and presuppositions of knowledge (psychology), and the study of the methods and validity of inquiry (logic) Whole systems of philosophy have been built about varying theories of knowledge, and it is generally admitted that the way of looking at truth will influence what is found Philosophers have always been concerned with the problems of knowledge, but until the 17th cent they were more interested in the question of ethics and metaphysics For many, knowledge was accepted on authority and was regarded as existing prior to the act of learning DESCARTES ushered in a new era of inquiry by actively investigating the relationships between thought and existence This was the beginning of systematic epistemology although the term was not used until the 19th cent The question of the origin and nature of knowledge was, for several centuries, to absorb the interest of such philosophers as Leibniz, Locke, Berkeley, Hume, Kant, and many others While there is no precise method of classifying varying theories of knowledge, certain broad outlines may be indicated RATIONALISM (Descartes, Spinoza, Leibniz) held that all knowledge is based wholly or in great measure upon what is revealed through reason EMPIRICISM (Locke, Berkeley, Hume, Mill), denying the existence of innate ideas, claimed that all knowledge proceeds from experience, defining experience as the sum of impressions A development of this position was mentalism, which affirmed that only mind and ideas exist (Berkeley) Kant's position as to the nature of knowledge encompassed both rationalistic and empirical methods of knowing and posited a character of the mind which enables it to grasp a priori truths This latter method is transcendentalism, which views knowledge as arising from sources beyond the reach of the senses or of reason Intuition, as a method of knowing, has been used by philosophers of various schools (Spinoza, Leibniz, Locke) It is generally regarded as the most certain type of knowledge, in which the mind immediately perceives the consistency or inconsistency of relationships without any other factors being involved Theories of truth, or the validity of knowledge, have been variously expressed and often are implicit in the theory of knowledge The popular definition of truth requires the agreement of sense perception and reason This concept is commonly held in systems of philosophy which admit both thought and sense perception as parts of the process of knowing Spinoza elaborated upon this idea of internal consistency and included the complete development of the matter investigated as a necessity for the per-

fection of knowledge Kant presented the synthesis of thought and matter as essentials of knowledge and added a principle of continuity The scientific method, which is a way of testing the validity of knowledge, has been in process of development since the times of Vico and Bruno. Both PRAGMATISM (James) and instrumentalism (Dewey) test truth in terms of the effectiveness of results See George Berkeley, *Principles of Human Knowledge* (1710), A H Smith, *Treatise on Knowledge* (1943), C I Lewis, *Analysis of Knowledge and Valuation* (1946)

Knowles, James Sheridan (nōlz), 1784–1862, Irish actor and dramatist, cousin of Richard Sheridan He was one of the foremost playwrights of his time His chief works, now seldom produced, are the tragedies *Caius Gracchus* (1815), *Virginius; or, The Liberation of Rome* (1820), and *William Tell* (1825) and the comedies *The Beggar's Daughter of Bethnal Green* (1828), *The Hunchback* (1832), and *The Love Chase* (1837) See L H Meeks, *Sheridan Knowles and the Theatre of His Time* (1933)

Knowlton, Frank Hall (nōl'tun), 1860–1926, American paleobotanist, b Brandon, Vt , grad Middlebury College, 1884 He served in the botany and paleontology departments of the National Museum (1884–1900) and in the U S Geological Survey as paleontologist (1900–1907) and as geologist (from 1907) An authority on fossil plants, he wrote *Catalogue of the Mesozoic and Cenozoic Plants of North America* (1919) and *Plants of the Past* (1927)

Know-Nothing movement, in U S history The increasing rate of immigration in the 1840s had encouraged nativism In Eastern cities where Roman Catholic immigrants especially had concentrated and were welcomed by the Democrats, local nativistic societies were formed to combat "foreign" influences and to uphold the "American" view The American Republican party, formed (1843) in New York, spread into neighboring states as the Native American party, which became a national party at its Philadelphia convention in 1845 The movement was temporarily eclipsed by the Mexican War and the debates over slavery When the slavery issue was temporarily quieted by the Compromise of 1850 nativism again came to the fore Many secret orders grew up, of which the Order of United Americans and the Order of the Star-spangled Banner came to be the most important These organizations baffled political managers of the older parties, since efforts to learn something of the leaders or designs of the movement were futile, all their inquiries of supposed members were met with a statement to the effect that they know nothing Hence members were called Know-Nothings, though there was never a political organization bearing the name Efforts were concentrated on electing only native Americans to office and on agitating for a 25-year-residence qualification for citizenship Growing rapidly, the Know-Nothings allied themselves with the group of Whigs who followed Millard Fillmore and almost captured New York state in the 1854 election, while they did sweep the polls in Massachusetts and Delaware and had local successes in other states The disintegration of the WHIG PARTY aided them in their strides towards national influence In 1854 they looked towards extension into the South, and in the following year they openly assumed the name American party and cast aside much of their characteristic secrecy In June, 1855, a crisis developed, at a meeting of the national council in Philadelphia, Southerners seized control and adopted a resolution calling for the maintenance of slavery The slavery issue, after the passage of the Kansas-Nebraska Bill, again came to the front, and this time the slavery issue split apart the Know-Nothing movement as it had the Whigs The anti-slavery men went into the newly organized Republican party Millard Fillmore, the American party candidate for President in 1856, polled a small vote and won only the state of Maryland The national strength of the Know-Nothing movement thus was broken The movement did continue until 1860, nevertheless, mainly in Eastern cities and in border states where Southern Unionists were offered no other national organization acceptable to them See R A Billington, *The Protestant Crusade, 1800–1860* (1938)

Knox, Frank, 1874–1944, U S Secretary of the Navy (1940–44), b. Boston He joined the Rough Riders in the Spanish-American War and also served in the First World War In 1901 he bought the Sault Sainte Marie *News* and later merged two newspapers in Manchester, N H He was general manager (1928–31) of the Hearst papers and after 1931 owner of the Chicago *Daily News* This paper, like his others, strongly opposed the New Deal, and he was the unsuccessful Republican candidate for Vice President in 1936 In 1940 President F D Roosevelt, seeking to create national unity in defense preparations, made Knox Secretary of the Navy He died in office and was succeeded by James V. Forrestal.

Knox, Henry, 1750–1806, patriot general in the American Revolution, b. Boston. In 1775 he went to Ticonderoga to bring back the captured cannon and mortar there, making the trip in 20 days over trails that had never before borne heavy loads. The fortification of Dorchester Heights with this artillery compelled the evacuation of Boston by the British. From this time he was a trusted companion of Washington. The artillery, under his charge, took a conspicuous part in the battles of Princeton, Brandywine, Germantown, Monmouth, and Yorktown He commanded at West Point (1782–84) and was a founder of the Society of the Cincinnati Knox was Secretary of War both under the Articles of Confederation and under the Constitution (1785–94) A conservative, he attempted to raise a Federal force to oppose Shays's Rebellion, and he favored a strong Federal government His later home is preserved at Thomaston, Maine See biography by Noah Brooks (1900)

Knox, John, 1505?–1572, Scottish religious reformer, founder of Scottish PRESBYTERIANISM, b near Haddington Of his life before 1545 little is recorded He probably attended the Univ of Glasgow or the Univ of St Andrews He entered the Roman Church as a priest and from 1540 to 1543 was engaged as an ecclesiastical notary and as a private tutor Corruption of the clergy at the time was notorious, and at St Andrews Knox apparently became acquainted with some of the new heresies By late 1545 he had attached himself closely to George WISHART, shortly before that reformer's death Soon after Wishart's execution, a mob of peasants took revenge by murdering Cardinal BEATON, they occupied St Andrews castle Knox himself, now definitely a Protestant, took refuge with them and preached in the parish church His sincerity and his vehemence made him successful in the pulpit Attacked by both Scottish and French forces, the castle eventually was surrendered, and Knox served 19 months in the French galleys before his release (1549) through the efforts of the English government of Edward VI For the next several years Knox preached in Berwick and Carlisle as a licensed minister of the crown and served briefly as a royal chaplain He helped to revise the second Book of Common Prayer of Edward VI, but he declined a bishopric in the newly established church of England In 1554, shortly after the accession of Mary Tudor, Knox went into exile on the Continent, chiefly in Geneva, where he served as pastor to the English congregation There he conferred much with John Calvin, whom he later frequently consulted on church doctrine and civil authority Meanwhile he exerted considerable influence among the faithful in England and Scotland by frequent letters, with his "Admonition" pamphlet in 1554 he began to urge the duty of the righteous to overthrow hostile monarchs and to persecute "idolatrous" Catholics In 1555–56 he visited Scotland, preaching in private and counseling the Protestant nobles—the "Lords of the Congregation" who made their first covenant in 1557 (see SCOTLAND, CHURCH OF) In the same year they invited Knox back from Geneva to help them in their fight against the Catholic regent of Scotland, Mary of Guise, but Knox delayed his return until 1559 Meanwhile he wrote the *First Blast of the Trumpet against the Monstrous Regiment* [i e , Regimen] *of Women*, a fiery tract directed against the Scottish regent, her daughter Mary Queen of Scots, and Queen Mary of England Civil war opened in 1559 between the Protestants and the regent with her French soldiers Aided by England and by the regent's death in 1560, the reformers forced withdrawal of the French and won their freedom and the dominance of the new religion Under Knox's direction as minister of Edinburgh and secretary of the Congregation, a confession of faith was drawn up (1560) and passed by the estates, abolishing the authority of the pope and condemning all creeds and practices of the old Church The Book of Discipline, however, which would have enforced the new religion concretely and officially, failed to get adequate approval from the nobles in 1561 When Mary arrived from France to take her throne that same year, many Protestant lords deserted Knox and his cause, and some even joined the queen From his pulpit and in his personal debates with Mary on questions of theology and the loyalty owed by the subject to his monarch, Knox stubbornly defied Mary's authority and charm and thundered against her religion The queen's marriage to Lord Darnley, her apparent complicity in his murder, and her quick marriage to James Hepburn, earl of Bothwell stirred the Protestant commoners and lords to revolt She was forced to abdicate in favor of her young son, James VI (later James I of England) All the acts of 1560 were confirmed to establish Presbyterianism as the official religion With the new faith safely in power, Knox's importance declined, but he continued to preach violently even throughout the ill-health of his last years It has been said of Knox that "rarely has any country produced a stronger will." His single-minded zeal made him the outstanding leader of the Scottish Reformation and an important influence on the Protestant movements in England and on the Continent but closed his mind to tolerance The biblical passage that opened the door to his unshakable faith in election, special grace and assured salvation was John 17 His influence over the people gave him considerable political power, which he often used against those in authority. His *History of the Reformation in Scotland*, finished in 1564 but published in 1584 after his death, is a striking record of that conflict, but includes misstatements and omissions resulting from his strong bias The standard edition of his works is that edited by **David Laing** (1864). See Andrew Lang, *John Knox and the Reformation* (1895), biographies by P Hume Brown (1895), Edwin Muir (1930) and E S C Percy (1937).

Knox, Philander Chase, 1853–1921, U S cabinet officer, b Brownsville, Pa , grad. Mt Union College (Ohio), 1872 He built up a fortune as a corporation lawyer in Pittsburgh He was Attorney General (1901 4) in the cabinets of McKinley and Theodore Roosevelt He was prominently identified with trust prosecutions, but failed to dissolve any significant organizations, except that of the Northern Securities Company He served as U S Senator by appointment (1904–5) and was elected for the succeeding full term, but resigned in 1909 to become Secretary of State under Taft Continuing the policies of his predecessors, John Hay and Elihu Root, Knox sought to protect financial interests abroad, particularly in Latin America and China—a policy much attacked as "dollar diplomacy" Knox returned to the Senate in 1917 and allied himself with those who fought ratification of the Treaty of Versailles and participation in the League of Nations See S F Bemis, ed , *The American Secretaries of State*, Vol IX (1929)

Knox. 1 Town (pop 2,165), co seat of Starke co., NW Ind , N of Logansport Mint and onions are grown in this area **2** Borough (pop. 1,098), Clarion co , W Pa , SE of Franklin

Knox, Fort [for Henry Knox], U S military reservation, 33,000 acres, N Ky , c 30 mi SW of Louisville It was established (1917) in the First World War as a training camp and in 1932 was made a permanent post In the steel and concrete vaults of the U S. Depository, built here by the Dept of the Treasury in 1936, is stored the bulk of the nation's gold bullion. Fort Knox was again an important training center in the Second World War, especially for armored divisions

Knox City, town (pop 1,127), N TEXAS, SW of Wichita Falls, in a farming area, inc 1916

Knox College, at Galesburg, Ill , nonsectarian, coeducational, chartered 1837, opened 1841 by Congregationalists and Presbyterians under George W. GALE It was a manual-labor college until 1857 In 1930 it absorbed Lombard College (chartered 1851, opened 1852) Among its noted alumni are Eugene Field, Don Marquis, and George Fitch, whose "Siwash" stories are about the college Old Main Hall, where Lincoln debated with Douglas, was made a national historic shrine in 1936 See E E Calkins, *They Broke the Prairie* (1937)

Knoxville. 1 City (pop 2,241), W Ill , near Galesburg, in a farm area, inc 1832 **2** City (pop 6,936), co seat of Marion co , S Iowa, SE of Des Moines, in a farm and mine area, settled 1845, inc 1854 A large U S veterans' hospital is here **3** City (pop 111,580), co seat of Knox co , E Tenn , on the Tennessee, settled c 1786 and known as White's Fort, laid out and name changed 1791 It was the capital of the Territory South of the River Ohio from 1792 to 1796 and twice (1796–1812, 1817–19) served as the state capital In the Civil War, Knoxville, loyal to the Union, was held by Confederates until Sept , 1863, when it was abandoned to Federals under Gen A E Burnside Gen James Longstreet's subsequent siege (Nov -Dec , 1863) failed to recapture the town The present-day city, a livestock and tobacco market, is an important industrial, commercial, and shipping center for a farm, marble, and coal area, among its manufactures are textiles, clothing, and marble and wood products The Univ of Tennessee (see TENNESSEE, UNIVERSITY OF), Knoxville College (Negro, Presbyterian, coeducational, 1875), and a state school for the deaf are here Norris Dam, from which Knoxville procures its power, is near by, as is Great Smoky Mountains National Park, for which the city is a point of departure Among the points of interest are the graves of John Sevier, William Blount, and James White, the Blount Mansion (1792), Chisholm Tavern (1791), and other old buildings

Knudsen, William S (nōōd'sun), 1879–1948, American industrialist and U S government official, b Denmark He came to the United States at 20, worked in various factories, and became production manager in the Ford Motor Company Employed (1922) by the General Motors Corp , Knudsen became (1937) president He was called (1940) to Washington to take charge of production on the National Defense Advisory Commission He was appointed (1940) director general of the Office of Production Management on its formation and then served (1941–45) as lieutenant general in the U S army directing production for the War Dept

Knut see CANUTE

Knutsford (nŭts'fûrd), urban district (1931 pop. 5,879, 1943 estimated pop 6,500), Cheshire, Eng-

land Knutsford is the Cranford of Mrs Gaskell's novel

Knutson, Paul: see PAUL KNUTSON

Knyphausen, Wilhelm, Baron von (vĭl'hĕlm bärōn' fŭn kŭnŭp'houzun), 1716-1800, German general in British service in the American Revolution He had served in the army of Frederick the Great before coming to America with the Hessian troops in 1776 Knyphausen fought well at White Plains, Brandywine, Germantown, and Monmouth. He commanded (1779–80) New York in the absence of Sir Henry Clinton

Koa (kō'ä), obscure name associated with the Assyrians Ezek 23 23

koala (kōä'lu) or **Australian bear**, arboreal marsupial animal native to Australia Once abundant, it is now found in much-reduced numbers in Queensland and Victoria It has a grayish, thickly furred, tailless body, usually 2 to 2½ ft in height, a protuberant, curved, black nose, and large furry ears Well fitted for grasping and climbing, it has five toes with sharp claws on each foot It often sleeps in trees during much of the day and feeds at night on the leaves and shoots of certain species of eucalyptus trees The single cub is about ¾ in long at birth and is carried and fed in the mother's pouch, from which it emerges for the first time when about six months old Until it is about eight months old it continues to use the pouch, and until about a year old it is carried on its mother's back or in her arms Koalas are harmless and defenseless and have been brutally hunted, chiefly for fur but also for food Disease has also taken a heavy toll Protective measures have been adopted to prevent their extinction

Kobe (kō'bā), city (1940 pop 967,234, 1947 pop 607,079), capital of Hyogo prefecture, S Honshu, Japan, on Osaka Bay One of the most important Japanese ports, it is also a railroad center and an industrial metropolis, with shipbuilding yards, sugar refineries, and chemical and rubber plants It is the seat of two universities, a nautical college, and several ancient Buddhist temples and shrines The city lies at the base of Mt Rokko (3,061 ft) Since 1878 it has included Hyogo (formerly Hiogo), a port which had been of some prominence since before the 9th cent and which became very important with its opening (1868) to foreign trade Kobe was heavily bombed (1945) in the Second World War Hyogo prefecture is extensively devoted to agriculture Among its industrial centers are Amagasaki, Nishinomiya, and Himeji

Koberger, Anton (än'tōn kō'bĕr'gur), c 1445–1513, German printer He established in 1470 the first printery in Nuremberg Here in 1483 he produced a German Bible and in 1484 the first book printed in the Hungarian language He was primarily a publisher He had agencies in many cities, employed traveling salesmen, and issued one of the first of advertising circulars

Koblenz, Germany see COBLENZ

Koch, Johannes see COCCEIUS, JOHANNES

Koch, Lauge (lou'gu kôk'), 1892–, Danish geologist and explorer, noted for his scientific work in Greenland He accompanied Rasmussen's second Thule expedition (1916–18) as geologist and cartographer and was chief of a notable expedition (1920–23) to N Greenland during which he completed the mapping of the Greenland coast and gave for the first time the geological picture of the northern portion of the island Thereafter Koch was almost continuously in Greenland, as leader of Danish expeditions In 1938 his air photographs over N Greenland proved the much-sought Peary Channel to be only a fjord

Koch, Robert (rō'bĕrt kôkh'), 1843–1910, German bacteriologist As a country practitioner in Wollstein, Posen, he devoted much time to microscopic studies of bacteria, for which he devised not only a method of staining with aniline dyes but also techniques of bacteriological culture still in general use He established the bacterial cause of many infectious diseases and discovered the microorganisms causing anthrax (1876), wound infections (1878), tuberculosis (1882), infectious conjunctivitis or Egyptian ophthalmia (1883), Asiatic cholera (1884), and other diseases He was professor at the Univ of Berlin from 1885 to 1891 and head of the Institute for Infectious Diseases (founded for him) from 1891 to 1904 In the course of his investigations for the British and German governments he traveled to South Africa, India, Egypt, and other countries and made valuable studies of sleeping sickness, malaria, bubonic plague, rinderpest, and other diseases For his work in developing tuberculin as a test for tuberculosis he received the 1905 Nobel Prize in Physiology and Medicine

Kochanowski, Jan (yän kôkhanôf'skĕ), 1530–84, greatest Polish Renaissance poet Of especial note is his Polish version of the Psalms of David His poems have been translated into English (1928)

Kocher, Emil Theodor (ā'mēl tā'ôdôr kô'khur), 1841–1917, Swiss surgeon, M D Univ of Bern, 1865. He was professor of surgery at Bern (1872–1911) For his work on the physiology, pathology, and surgery of the thyroid gland—which he was the first (1876) to excise in cases of goiter—he received the 1909 Nobel Prize in Medicine A skilled surgeon in many fields and a pioneer in the applications of asepsis, he was also the author of a textbook of operative surgery (1894)

Kochi (kō'chē), city (1940 pop 106,644, 1947 pop 147,120), capital of Kochi prefecture, S Shikoku, Japan An important port, it exports dried fish, ornamental coral, and paper, all products of Kochi prefecture, which also yields agricultural products

Kock, Hieronymus see COCK, HIERONYMUS

Kodaly, Zoltan (zōl'tän kô'dälē), Hung *Kodály Zoltán*, 1882–, Hungarian composer and collector of folk songs, grad Univ of Budapest (Ph D, 1906) He worked with BARTOK in the collection of folk tunes and has used them extensively in his compositions, though without being so radical an experimenter as Bartok His style is strongly individual, but is lyrical and stays within the framework of tonal harmony In 1906 he began to teach at the Budapest Hochschule, of which he became assistant director in 1919 He began to lecture at the Univ of Budapest in 1930 His best-known compositions are the opera *Hary Janos* (1927), the *Psalmus Hungaricus* (1923) for chorus and orchestra, and the orchestral *Dances of Marosszek* (1929) and *Dances of Galanta* (1933)

Kodiak Island (kō'dēĕk), c 100 mi long and from 10 to 60 mi wide, off S Alaska This largest of the islands of Alaska is separated from the Alaska Peninsula by Shelikof Strait It is mountainous and heavily forested in the north and the east, the native grasses in the south offer good pasturage for cattle and sheep The Kodiak bear is native to the island Discovered by Stepan Glotov in 1764, the island was the scene of the first permanent Russian settlement in Alaska, planted by Grigori Shelikhov on Three Saints Bay in 1784 and moved to Kodiak village later It was the center of the fur trade of the Russian American Company until Aleksandr Baranov moved his headquarters to Sitka Salmon fishing is now the chief occupation, and the Karluk river is famous for its salmon run The U S navy established a large base at Womens Bay in 1940

Kodok (kō'dŏk), formerly **Fashoda** (fushō'du), village, Anglo-Egyptian Sudan, on the White Nile It trades in produce In 1898 it was the scene of the FASHODA INCIDENT, which caused an Anglo-French diplomatic crisis

Koelreuter, Joseph Gottlieb see KOLREUTER

Koerber, Ernest von (ĕrn kûr'bur), 1850-1919, Austro-Hungarian statesman A career civil servant, he became prime minister (1900–1904) and made a vigorous but vain attempt to reconcile the national factions of the monarchy by liberal, parliamentary methods His second tenure, after the assassination (1916) of Count Sturgkh was brief, because of differences with the new emperor, Charles I

Koestler, Arthur (kĕst'lur), 1905–, Hungarian-English author He was a correspondent for a German newspaper chain in the Middle East, Paris, and Berlin In 1936 he went to Spain to cover the Franco revolt for the London *News Chronicle*, was captured, and was imprisoned Released through the efforts of the British government (1937), he went to France (1938) to edit an anti-Nazi, anti-Soviet weekly In 1939 he was sent to a concentration camp His release was effected by the British in 1940 He escaped to England, where he has lived since 1941 His works published in English include *Spanish Testament* (1937, American ed, *Dialogue with Death*, 1942), *The Gladiator* (1939), *Scum of the Earth* (1941), *The Yogi and the Commissar* (1945), *Insight and Outlook an Inquiry into the Common Foundations of Science, Art, and Social Ethics* (1949), *Promise and Fulfilment Palestine, 1917–1949* (1949), three novels, *Darkness at Noon* (1941), *Arrival and Departure* (1943), and *Thieves in the Night* (1946), and a play, *Twilight Bar* (1945)

Koffka, Kurt (kôf'ku, Ger kôôrt' kôf'kä), 1886–1941, American psychologist, b Germany, Ph D Univ of Berlin, 1908 Before settling permanently in the United States in 1928 as a professor at Smith College, he had taught at Cornell and at the Univ of Wisconsin With Max Wertheimer and Wolfgang Kohler he is credited with developing the theories that gave rise to the school of GESTALT psychology His book *Die Grundlagen der psychischen Entwicklung* (1921, Eng tr, *Growth of the Mind*, 1924) was considered responsible for awakening much interest in Gestalt concepts See his *Principles of Gestalt Psychology* (1935)

Kofoid, Charles Atwood (kō'foid), 1865–1947, American zoologist, b Granville, Ill, grad Oberlin College (B A, 1890) He was superintendent of the Univ of Illinois biological station (1895–1900) and later taught at the Univ of California (1900–1936) A specialist in marine zoology, he accompanied expeditions in Pacific waters, invented apparatus for deep-sea sampling, and edited several scientific journals and also the Univ. of California Publications in Zoology (1909–36)

Kofu (kō'fōō), city (1947 pop 104,993), capital of Yamanashi prefecture, central Honshu, Japan. It is a collection center for silk cocoons and raw silk, with manufactures of silk textiles and crystal ware Yamanashi prefecture is a major production area for raw silk and grapes

Kohala (kōhä'lä), peninsula, N Hawaii, T H The region is rich in relics of ancient Hawaii, such as burial caves and *heiau* (temples) Kamehameha I was born near the village of Kapaau-Halaula Sugar cane is grown in the fertile valleys The Kohala Mts here rise to a height of 5,489 ft

Kohath (kō'hăth), founder of a family of the Levites It comprised four groups, the Amramites, Izeharites, Hebronites, and Uzzielites. Gen 46 11, Num 3 19,27,29,30, 4, 7 9, 10 21, Joshua 21, 1 Chron 6, 9 32; 15 5, 26, 2 Chron. 20 19, 29 12, 34 12

Koh-i-noor. see DIAMOND

Kohler, Kaufmann (kouf'mun kō'lur), 1843–1926, American rabbi, scholar, and leader in reformed Judaism, b Bavaria He came to the United States in 1869, from 1879 to 1903 he was rabbi of Temple Beth-El in New York, from 1903 to 1922 president of the Hebrew Union College in Cincinnati He called the conference (1885) at which the "Pittsburgh Platform" of reformed Judaism was adopted One of the editors of *The Jewish Encyclopedia*, he also wrote *Backwards or Forwards Lectures on Reform Judaism* (1885), *Jewish Theology Systematically and Historically Considered* (1918), *Heaven and Hell in Comparative Religion* (1923), and *The Origins of the Synagogue and the Church* (1929) His *Studies, Addresses, and Personal Papers* (1931) contains a short autobiography See *Studies in Jewish Literature in Honor of Kaufmann Kohler* (1913)

Kohler, village (pop 1,789), E Wis, near Sheboygan and on the Sheboygan river, inc 1913 It is a garden city, home of the Kohler plumbing-fixtures plant

kohlrabi (kōl'rä'bē) [Ger partly from Ital, =rape cabbage], variety of CABBAGE, with a turniplike, swollen stem—the edible part of the plant It is grown more in Europe, where some varieties are used for fodder, than in America It is a cool-weather plant The flavor is finer than that of some of the other cabbage plants

Koil, India see ALIGARH

Koiso, Kuniaki (kōōnēä'kē koi'sō), 1880–, Japanese general He was chief of staff of the Kwantung army and governor of Korea before he became prime minister in July, 1944, succeeding Tojo In April, 1945, after the loss of the Philippines and Iwo Jima, he resigned He was arrested as a war criminal in 1945, was tried, and in 1948 was sentenced to life imprisonment

Kokand or **Khokand** (both kōkänd', Rus kûkant'), city (pop 84,665), Uzbek SSR, in the Fergana Valley An important city since the 10th cent, it became the capital of an Uzbek khanate that emerged (16th cent) from the ruins of Tamerlane's empire and reached its flower in the 18th cent In 1876 Kokand fell to the Russians and the khanate ceased to exist Kokand is a center of cotton and silk manufacture and also produces cottonseed oil, sugar, superphosphates, and machinery There are remains of the khan's palace

Koken, Johannes see COCCEIUS, JOHANNES

Kokomo (kō'kumō), city (pop 33,795), co seat of Howard co, N central Ind, on Wildcat Creek and N of Indianapolis, founded c 1843, laid out 1844 It is an agricultural trading center, and its manufactures include steel, metal products, gas ranges, automobile and tractor parts, and radio receiving sets The first practical automobile was successfully tested in Kokomo by its inventor, Elwood Haynes, in 1894, gas shells used in the First World War were made here At the time of founding, Kokomo was an Indian trading post

Koko Nor. see TSING, lake

Kokoschka, Oskar (ôs'kar kôkôsh'kä), 1886–, Austrian expressionist painter and writer, now living in England After teaching (1920–24) at the art academy in Dresden he traveled extensively in Europe and the East, living for a time in Prague before settling (1938) in London In 1937 all his works in German galleries were summarily removed Among his portraits are those of Ambassador Maisky (Tate Gall, London) and Dr Tietze and his wife and a self-portrait (both Mus of Modern Art, New York); his landscapes include *Jerusalem* (Detroit Inst of Arts) and *View of Prague* (Phillips Memorial Gall, Washington, D C) Among other works are *Bride of the Wind* (Basel) and *Might of Music* (Art Inst, Chicago) He wrote expressionist verse dramas, such as *Der brennende Dornbusch*, performed (1919) in Berlin, and *Orpheus und Eurydike* (1923), orchestrated by Krenek. See biography by Edith Hoffmann (1947)

Koksoak (kōk'sōăk', kōk'–), river of NE Quebec, formed by the Kaniapiskau and Larch rivers SW of Fort Chimo, a Hudson's Bay Company post The river flows 90 mi NE and N to Ungava Bay.

Kokura (kōkōō'rä), city (1947 pop. 168,119), Fukuoka prefecture, N Kyushu, Japan, a port on the Inland Sea A railroad and industrial center, with steel mills, cotton textile mills, porcelain manufacture, and chemical plants, it was heavily bombed (1945) in the Second World War

kola or **cola** (both kō'lu), tropical tree (genus *Cola*), native to Africa and grown also in the West

Indies, **Brazil**, India, and other tropical regions. The fruit is a pod containing the seeds known as kola nuts or gourounuts, which contain caffeine, an essential oil, and a glucoside (kolanin) In Africa and other regions where the fresh nuts are chewed as a stimulant they are an important commercial item among the native populations Some nuts are exported and used in beverages and medicines

Kolaiah (kōlā'yŭ) [Heb ,=voice of God] **1** Benjamite family in Jerusalem Neh 11 7 **2** Father of Ahab, a false prophet Jer 29 21

Kola Peninsula (kō'lu, Rus kô'lĭĭ), large peninsula, area c 50,000 sq mi , N European RSFSR, between the Barents Sea in the north and the White Sea in the south, mostly N of the Arctic Circle Forming an eastern extension of the Scandinavian peninsula, it consists of tundras in the north and forests in the south There are rich mineral deposits, notably around KIROVSK in the Khibiny mts , which rise to c 4,000 ft The population is mostly Russian along the coasts In the interior there are Lapps, who subsist largely on reindeer raising MURMANSK, at the base of the peninsula, is the chief city Near Murmansk is the ancient town of Kola (1926 pop 614), founded in the 13th cent, by colonists from Novgorod

Kolar Gold Fields (kōlar'), city (pop 134,859), Mysore state, India The city, founded in the late 19th cent , is the center of the Indian gold-mining industry

Kolbe, Georg (gā'ôrk kôl'bu), 1877-1947, German sculptor He studied painting in Dresden, Munich, and Paris and then in Rome (1898–1900) turned to sculpture Later he worked in Paris under Rodin He is best known for his figure studies, many of which are in American museums

Kolberg (kôl'bĕrk) or **Kolobrzeg**, Pol *Kolobrzeg*, city (1939 pop 36,617, 1946 pop 2,816), N Pomerania, a seaport on the Baltic at the mouth of the Persante river, transferred to Polish administration in 1945 (see POMERANIA) Kolberg was mentioned as early as 1000, and its cathedral was built in 1280 A fortified town from 1631 to 1873, it was three besieged by the Russians in the Seven Years War before it fell in 1761 Gneisenau defended it against the French in 1807 Kolberg is a spa, and there are salt springs and salt domes in the vicinity

Kolchak, Aleksandr Vasilyevich (ŭlyĭksän'dur vŭsē'lyuvĭch kŭlchak'), 1874–1920, Russian admiral and counterrevolutionist He distinguished himself in the Russo-Japanese War, and in the First World War he commanded the Black Sea fleet After the Bolshevik Revolution of Oct , 1917, Kolchak organized a counterrevolutionary army which, with the help of the Czech Legion, established an anti-Bolshevik government in Siberia In Nov , 1918, Kolchak by a coup d'état assumed dictatorship over Siberia At first brilliantly successful against the Bolshevik forces, he was recognized by the Allies as well as by General DENIKIN as representing the provisional Russian government However, his great offensive of 1919 (in which he intended to join the British intervention forces and the Russian counterrevolutionists on the coast of the White Sea) collapsed rapidly and exposed Denikin's army in S Russia Kolchak retreated to Irkutsk, lost most of his following—especially the Czechs, who controlled the Trans-Siberian RR—and was betrayed into the hands of the Bolsheviks, who shot him His defeat left all Siberia in Bolshevik control, except the Far Eastern portion, which was controlled by Japanese intervention troops

Kolding (kôl'dĭng), city (pop 27,660), E Jutland, Denmark A port on the Kolding Fjord (an inlet of the Little Belt), it has shipbuilding, machinery, and dairy-processing plants and is a fishing base The Koldinghus is a 13th-century castle

Kolguyev (kŏlgō'vĭf), island (1,350 sq mi , 1939 estimated pop 300), off N European RSFSR, in the Barents Sea, E of the Kanin peninsula and 50 mi from the mainland It is a tundra region, inhabited mainly by Nentsy (Samoyedes), who subsist on reindeer raising and fur trapping There is a government observation station on the north coast

Kolhapur (kōlupōōr'), town (pop 93,032), SW Bombay state, India There are ancient Buddhist remains, notably a stupa (3d cent B C) with inscriptions in characters of the Asoka style Cotton and woolen goods are manufactured The town was the capital of the former native state of Kolhapur, which merged (1949) with Bombay

Kolin, Czech *Kolín* (kô'lēn), city (pop 19,820), central Bohemia, Czechoslovakia, on the Elbe It manufactures metal products, chemicals, foodstuffs, and furniture The Church of St Bartholomew is noted for its rich Gothic choir Frederick the Great of Prussia was defeated (1757) near Kolin by the Austrians under Field Marshal Daun

Kolkhida, Georgian SSR see COLCHIS

Kollar, Jan, Czech *Kollár* (yän' kô'lar), 1793–1852, Slovak poet who wrote in Czech He was an ardent proponent of cultural Pan-Slavism, which he promoted in a famous essay on Slavonic reciprocity (1836) and in his best-known poem, *The Daughter of Slava* (1821-24)

Kölliker, Albert von (äl'bĕrt fŭn kû'lĭkur),1817–1905, Swiss anatomist and physiologist He was professor of physiology and of microscopic and comparative anatomy at Würzburg from 1847 His researches on animal tissues were important contributions to the development of embryology and histology. He reported his findings in numerous memoirs and in a textbook of microscopic anatomy (1850) *Erinnerungen aus meinen Leben* (1899) is his autobiography

Kollontai, Aleksandra Mikhailovna (ŭlyĭksän'drŭ mēkhī'luvnŭ kŭluntī'), 1872?–, Russian revolutionist, diplomat, and novelist, whose maiden name was Aleksandra M Domontovich The daughter of a general, she early rebelled against her society and went to study abroad After returning to Russia she spread revolutionary propaganda among working women, and in 1908 she was forced to flee abroad because of her revolutionary activities, notably her criticism of tsarist policy in Finland She appeared in France, Italy, Belgium, and Germany, was deported in the First World War from Germany to Sweden and from Sweden to Denmark, and in 1916 visited the United States—carrying on pacifist and socialist propaganda wherever she went In 1917 she returned to Russia to take part in the Bolshevik Revolution Her independent ways were overlooked by Lenin and later by Stalin Mme Kollontai became (1920) people's commissar for social welfare and (1923) minister to Norway—the first woman to hold that diplomatic rank She later was minister to Mexico and after 1930 represented Russia at the Swedish court Raised (1943) to ambassadorial rank, she is said to have been instrumental in bringing about the Finnish-Russian armistice of 1944 Her reputation as a proponent of free love was partly due to several romantic escapades in her life, partly to slander, and partly to her novels, notably *Red Love*, of which an unauthorized English translation appeared in 1927 She also wrote extensively on social questions See Isabel de Palencia, *Alexandra Kollontai* (1947)

Kollwitz, Käthe Schmidt (kā'tu shmĭt' kôl'vĭts), 1867–1945, German painter, lithographer, and etcher In 1891 she married Karl Kollwitz, a Berlin physician Her activities as wife, mother, and ardent socialist and pacifist did not prevent her artistic development She first gained a reputation with her illustrations for Hauptmann's *Weavers* and Zola's *Germinal* She is best known for her superb lithographs of poor people Her art is one of compassion and understanding, with an immediate appeal which is simple, direct, and human In 1932 she was director of the department of graphic arts at the Berlin Academy, but the advent of the Nazi party ended her public career in Germany In 1943 she was evacuated from Berlin She died in a village in the Harz mts Her diary was privately printed in Germany in 1948 See *Kaethe Kollwitz* (1946), a collection of 72 reproductions with an introduction by Carl Zigrosser.

Kolmar, France see COLMAR

Köln, Germany see COLOGNE

Kolobrzeg, Pomerania see KOLBERG.

Kolomea, Ukraine see KOLOMYYA

Kolomna (kŭlôm'nŭ) city (1926 pop 30,767; 1939 pop 75,139), central European RSFSR, on the Moskva river near its confluence with the Oka and SE of Moscow It is an industrial center, producing locomotives, railroad cars, and machinery Founded in 1177, it passed to Moscow in 1301 and until the 16th cent played an important part in the defense of Moscow against the Tatars There are remains of the wall of the 16th-century kremlin and several old churches

Kolomyya (kŭlumĭ'yŭ), Ger *Kolomea* (kōlōmā'ă), Pol *Kolomyja* (kôvômĭ'yă), city (1931 pop 33,385), W Ukraine, in Galicia, on the Pruth river and in the Carpathian foothills An old Polish frontier city, it was frequently attacked (15th–16th cent) by the Tatars and the Walachians It passed to Austria in the first Polish partition (1772), reverted to Poland in 1919, and was ceded to the USSR in 1945 The city has several old churches and a fine old town hall It is a transportation center, and its industries include petroleum refining

Kolozsvar, Rumania see CLUJ

Kölreuter or **Koelreuter, Joseph Gottlieb** (both yō'zĕf gôt'lēp kûl'roi"tur), 1733 1806, German botanist He taught at the Univ of Karlsruhe and directed the botanical gardens He experimented with hybridization of plants, studied their fertilization and development, and pointed out the importance of insects and of wind in the pollination of flowers

Koltsov, Aleksey Vasilyevich (ŭlyĭksyā' vŭsē'lyuvĭch kŭltsôf'), 1809–42, Russian poet A peasant and without formal education, he received encouragement from Belinsky and composed peerless lyrics in the peasant idiom See Leo Wiener, *Anthology of Russian Literature* (1902)

Kolyma (kôlō'mŭ, kôlĭma', Rus kŭlĭ'mŭ), river, c.1,500 mi long, RSFSR, in NE Siberia It flows generally N into the Arctic Ocean and is navigable (June–Oct) for c 1,000 mi Its upper course traverses the rich Kolyma gold-mining area The **Kolyma Range** roughly parallels the river in the east and rises to 6,000 ft.

Komandorski Islands (kŏmŭndôr'skē) or **Commander Islands,** Rus *Komandorskiye Ostrova*, group, off Kamchatka Peninsula, RSFSR, in SW Bering Sea They consist of BERING ISLAND, Medny Island, and two islets These foggy islands, composed of volcanic rock and visited by frequent earthquakes, are a whaling and sealing base They are populated mainly by Aleuts The largest village is Nikolskoye.

Komarno (kô'mārnô) or **Komarom** (kô'marôm), Ger *Komorn*, Hung *Komárom*, Slovak *Komárno*, city of Czechoslovakia and Hungary, on both sides of the Danube, at its confluence with the Nitra and Vah rivers Komarno (pop 15,461) on the left bank, belongs to Slovakia It has machinery and textile plants, shipyards, and flour mills, and it has retained part of its fortifications of the 15th to 17th cent Hungarian Komarom (pop 8,876), on the right bank, has lumber yards, sawmills, and textile plants Both parts of the city have port installations A Hungarian royal city until its partition between Czechoslovakia and Hungary after the First World War it was an important grain-trading center in the 18th cent

Komi (kô'mĭ, kô'mē), Finnic people, numbering c 250,000, formerly known as Zyrians (zĭ'rēunz) They speak a Finno-Permian language and live mostly in the Komi ASSR of NE European Russia The Komi are very closely related to the Permyaks (c 150,000), who inhabit the Komi-Permyak National Okrug, NW of Molotov (formerly Perm), in the upper Kama basin

Komi Autonomous Soviet Socialist Republic, administrative division (156,200 sq mi , 1946 estimated pop 450,000), NE European RSFSR, extending westward from the N Urals across the sparsely populated basins of the Pechora, Vychegda, and upper Mezen rivers Syktyvkar is the capital Nearly half of the area has permanently frozen soil The north is a wooded tundra, in the center, the TIMAN ridge crosses a forested and swampy lowland The population is concentrated in the south, where it engages in lumbering, agriculture and stock raising The main crops are flax and potatoes In the north, fur trapping, reindeer raising, and fishing are the chief occupations There are coal mines in the Pechora basin and an oil field at Ukhta, situated on a railroad (built 1940) that traverses the region from southwest to northeast The Komi form the greater part of the population The region, constituted in 1921 as the Zyrian Autonomous Oblast, became an autonomous republic in 1936

Komi-Permyak National Okrug (kô'mē-pûrm'yăk, Rus kô'mē-pĭrmyak'), administrative division (8,920 sq mi , 1946 estimated pop 300,000), RSFSR, in the western foothills of the central Urals It is included in Molotov oblast Kudymkar is the capital It is heavily forested in the north and west and agricultural in the center and south The population consists mainly of Permyaks, a Finnic group closely related to the KOMI

Komorn, Czechoslovakia see KOMARNO

Komotau, Czechoslovakia see CHOMUTOV

Komsomolsk (kŭmsumôlsk') or **Komsomolsk-on-Amur** (–amōōr), Rus *Komsomolsk-na-Amure* (–nŭ-umōōr'yĭ), city (1939 pop 70,746, 1946 estimated pop 150,000), S Khabarovsk Territory, RSFSR, in E Siberia, on the lower Amur river It is the center of heavy industries in the Soviet Far East, with steel mills, shipyards, lumber and paper mills, petroleum refineries, and aircraft plants Founded in 1932 by pioneers of the Komsomol (Communist youth organization), it experienced spectacular growth

Kona (kô'nŭ), district, W Hawaii, T H , commercially important as the coffee belt of the territory and also as a favorite area for tourists, with fine deep-sea fishing off the coast On Kealakekua Bay stands the Captain Cook monument The ancient City of Refuge is at Honaunau Kailua Bay was the landing place for the first group of American missionaries (1820)

Konakry see CONAKRY

Konarak (kōnu'rŭk, kō'nurŭk), Hindu temple, Orissa state, India, built in the 13th cent Of red sandstone, it is called the Black Pagoda in contrast to the whitewashed pagoda of nearby Puri Though Konarak is partly ruined, enormous wheels carved in high relief about the base still suggest the chariot of the sun god to whom the temple is dedicated Many of the carvings are licentious

Konawa (kŏn'uwô), town (pop 2,205), S central Okla , SE of Oklahoma City, in a farm and oil-producing area

Kondouriotis, Paul (kôndōōryô'tĭs), 1857–1935, Greek admiral and statesman He became a national hero through his victories over the Turkish fleet in the Greco-Turkish War of 1897 and in the Balkan War of 1912-13 He was regent after the departure (1923) of King George II from Greece and in 1924 was elected provisional president of the newly formed Greek republic Early in 1926 General PANGALOS made himself dictator and Kondouriotis resigned, but in August, General KONDYLIS overthrew Pangalos and recalled Kondouriotis A new constitution was promulgated Kondouriotis sought to resign several times dur-

ing the premierships of ZAIMIS (1926–28) and VENIZELOS, and in 1929 his resignation was final. Zaimis succeeded him as president The name also appears as Condouriotis and Koundouriotis

Kondylis, George (kôndhē'lĭs), 1879–1936, Greek general and statesman He fought in the Balkan Wars and at Salonica in the First World War and entered politics in the turbulent post-war years. He overthrew the dictatorship of General PANGALOS in 1926 After 1933 he suddenly passed into the royalist camp As minister of war under Panayoti TSALDARIS, he suppressed (1935) the Cretan uprising in favor of VENIZELOS, late in 1935 he ousted Tsaldaris by a coup d'état and induced the parliament to recall King GEORGE II, who, however, soon dismissed him as premier. The name also appears as Condylis.

Konev, Ivan Stepanovich (ēvän' styĭpa'nuvĭch kô'nyĭf), 1897–, Russian field marshal He rose from the ranks after the Bolshevik Revolution and in the Second World War reconquered (1944–45) the Ukraine and S Poland from the Germans, took Silesia, and participated in the conquest of Czechoslovakia and the capture of Berlin He became (1945) military governor of the Russian occupation zone in Austria and (1946) commander in chief of the Russian ground forces

Kongo San. see DIAMOND MOUNTAINS

Kongsberg (kôngs'bĕr), town (pop 7,852), Buskerud co , S Norway, WSW of Oslo Formerly a silver-mining center, it now is the seat of an arms industry and of a hydroelectric plant.

Konia, Turkey see KONYA

Königrätz see HRADEC KRALOVE and SADOWA

Königinhof (kū"nĭginhôf'), Czech *Dvůr Králové* (dvōōr' kra'lôvā), town (pop 13,675), N Bohemia, Czechoslovakia, on the Elbe It has textile manufactures Here in 1817 were "discovered" several manuscripts purporting to be early medieval Czech poems One of the scholars who exposed the poems as patriotic forgeries was Thomas G Masaryk

Königsberg (kū'nĭkhsbĕrk), since 1945 **Kaliningrad** (kălyĕ'nyĭngrät'), city (1939 pop 372,164), capital of Kaliningrad oblast, RSFSR, in former East Prussia, an ice-free Baltic seaport on the Pregel river near its mouth on the Frisches Haff It was transferred to the USSR at the Potsdam Conference of 1945 The historic capital of East Prussia, Königsberg was founded (1255) as a fortress of the Teutonic Knights by King Ottocar II of Bohemia, for whom it is supposedly named It joined (1340) the Hanseatic League and became (1457) the seat of the grand master of the Teutonic Order after the knights had lost Marienburg to Poland It was the residence of the dukes of Prussia from 1525 until the union (1618) of Prussia and Brandenburg and became (1701) the coronation city of the kings of Prussia The Univ of Königsberg (founded 1544) reached its greatest fame when Kant (who was born and lived his entire life at Königsberg) taught here. A major Baltic port and an important commercial center, Königsberg prospered until the Second World War, when it was virtually destroyed during a two-month siege (1945) by the Russians. The old castle, the university building, and the 14th-century cathedral, next to which Kant is buried, were destroyed The population of Königsberg had largely fled on the approach of the Russian army, and Kaliningrad, which was laid out in the northwestern section, in former residential suburbs, has a Russian population The chief industries are the construction of freight cars, machinery, and ships and food processing Kaliningrad oblast is that part of EAST PRUSSIA which was transferred to the USSR in 1945 and incorporated into the RSFSR, from which it is separated by Lithuania.

Königshütte, Poland see CHORZOW

Königsmark, Countess Maria Aurora (märē'ä ourōō'rä ku'nĭgsmärk), 1666?–1728, Swedish noblewoman, sister of Count Philipp Christoph Königsmark. She went to Dresden in search of her brother and there became the mistress of Augustus II of Poland and Saxony Their son, Maurice, was the famous Marshal de SAXE In her last years she was abbess coadjutor at Quedlinburg

Königsmark, Count Philipp Christoph (fē'lĭp krĭs'tôf), d 1694?, Swedish nobleman, an officer in the service of Hanover Accused of having an intrigue with SOPHIA DOROTHEA, wife of Elector George Louis (later George I of England), the count disappeared in 1694. It is believed that he was killed by order of the elector.

Königstein (kū'nĭkhshtīn), fortress, Saxony, E Germany, above the Elbe. Dating from the 12th cent., it was used in both world wars as an officers' prison camp Here in 1942 Gen Henri Giraud made his dramatic escape

Koninck or **Coningh, Philips de** (fē'lĭps du kō'nĭngk, kō'nĭng), 1619–88, Dutch landscape and portrait painter, one of Rembrandt's best pupils His rather panoramic landscapes, rich and warm in tone, have atmosphere and space His works are rare, among the best are *Entrance to a Forest* and *Landscape* (both Rijks Mus.) and *View of the Mouth of a River* (The Hague; replica, National Gall , London) The Metropolitan Museum has one landscape

Koninkloo, Gillis van: see CONINXLOO, GILLIS VAN.

Konotop (kônŭtôp', kŭnŭtôp'), city (pop. 33,571), N Ukraine At the junction of the railroad lines to Kiev, Voronezh, Gomel, and Moscow, it has an agricultural machinery plant and flour mills In the Second World War, Konotop was held (1941–43) by the Germans.

Konoye, Fumimaro, Prince (fōō"mēmärō' kônoi'), 1891–1945, Japanese statesman. A descendant of the ancient Fujiwara family and protégé of Prince Saionji, he became president of the house of peers in 1933 In May, 1937, he was persuaded to accept the premiership A former liberal, he now laid the basis for a one-party system by his coalition efforts Shortly afterward, war with China broke out In March, 1938, the National Mobilization Law was passed, and in November, Konoye proclaimed Japan's aim of a "new order in East Asia" He resigned in Jan , 1939, and became president of the privy council and minister without portfolio Recalled to the premiership in July 1940, he concluded an alliance with the Axis and mobilized the home front through the Imperial Rule Assistance Association Having failed to reach an agreement with the United States, he resigned in Oct., 1941, to be followed by Hideki Tojo After the war he was listed for trial as a war criminal, but committed suicide in Dec , 1945

Konrad von Würzburg see CONRAD OF WÜRZBURG.

Konstantinovka (kŭnstuntyē'nŭfkŭ), city (1926 pop 25,303, 1939 pop 95,087), SE Ukraine, in the Donets Basin. A metallurgical center, it has iron and steel mills and zinc works

Konstanz, Germany see CONSTANCE

Konya (kôn'yä), city (pop 58,457), S central Turkey The market center of a rich agricultural and livestock-raising area, it also has manufactures of carpets and of leather, cotton, and silk goods Konya prov , the largest in Turkey, has important mineral resources, including lead, silver, gold, mercury, salt, and magnesium sulphate As the ancient ICONIUM, the city was important in Roman times, but it reached its peak after the victory (1071) of Alp Arslan over the Byzantines at Manzikert, which resulted in the establishment of the sultanate of Iconium or Rum (so called after Rome), one of the most powerful states of the Seljuk TURKS The sultans of Rum played an important part in the age of the Crusades, they were sometimes allied, sometimes at war, with their neighbors, the Byzantine emperors, the kings of Armenia, and the other Turkish rulers in Asia Minor Emperor Manuel I was severely defeated (1176) in an attempt to take Konya, Emperor Frederick I occupied the city—but not its citadel—in 1190 In the late 13th cent the Seljuks of Iconium were defeated by the allied Mongols and Armenians Their territories in S central Asia Minor subsequently passed to the emirs of Karamania (see KARAMAN) and (15th cent) to the Ottoman Turks Konya lost its political importance but remained a religious center as the chief seat of the whirling dervishes, whose order was founded here in the 13th cent The tomb of the founder, several medieval mosques, and the old city walls have been preserved In 1832 an Egyptian army under Ibrahim Pasha completely routed the Turks at Konya The Armenian population of Konya, once very numerous, was largely deported in the First World War One of the alternate spellings of Konya is Konia

Koo, Vi Kuyuin Wellington (vē' jün' wē'lĭngtŭn kōō'), Mandarin *Ku Wei-chun*, 1887–, Chinese diplomat, b Shanghai Koo was educated at Columbia Univ (B A , 1908, M A , 1909, Ph D., 1912), where he specialized in international law In 1912 Wellington Koo was secretary to Yuan Shih-kai, president of China He was made minister to the United States (1915) and to Great Britain (1921) He served as delegate to the Paris Peace Conference (1919) and then was a representative on the Council of the League of Nations At various times he was minister of foreign affairs and prime minister Koo represented China in France (1932–41) and in Great Britain (1941–46) He headed the Chinese delegation to the San Francisco Conference which founded (1945) the United Nations In 1946 he became Chinese ambassador to the United States

Koolau Range (kō'ulou'), mountain chain, on Oahu, T H , extending northwest-southeast and rising to 3,105 ft in Konahuanui It is cut by two scenic passes, NUUANU PALI and Waimanalo Pali.

Kootenai (kōō'tĭnā), river rising in SE British Columbia Part of the Columbia river system, it flows into NW Montana, W into N Idaho, and then northward past Bonners Ferry, to the southern end of Kootenay Lake, in Canada The Canadian name is spelled Kootenay

Kootenai Indians, group of North American Indian tribes, which in the 18th cent. occupied the so-called Kootenai country (i.e., N Montana, N Idaho, and SE British Columbia). They belong to a distinct linguistic stock, the Kootenai (for a supposed relationship, see ALGONQUIAN). The Upper Kootenai lived near the headwaters of the Columbia river, and the Lower Kootenai lived on the Lower Kootenai river. According to tradition the Kootenai once lived E of the Rocky Mts., from whence they were driven by their enemies the Blackfoot Indians. Kootenai culture was essentially that of the Plateau area, but after the advent of the horse the Kootenai adopted many Plains area traits including a seasonal buffalo hunt. White contact began early in the 19th cent., when the North West Company established Rocky Mountain House on the upper Saskatchewan river. In 1807 David Thompson of the same company opened the first trading post in Kootenai country Today most of the Kootenai live with the Salish Indians on a section of the Flathead Reservation in NW Montana Both tribes number some 3,300. The name is sometimes spelled Kootenay or Kutenai See H H. Turney-High, *Ethnography of the Kutenai* (1941)

Kootenay Lake (kōō'tĭnā), SE British Columbia, E of the Selkirk range, an expansion of the Kootenay (in the United States, Kootenai) river

Kootenay National Park, 543 sq mi , SE British Columbia, est 1920 In the mountain area E of Kootenay Lake, it contains high peaks, deep canyons, and hot mineral springs The Banff-Windermere Highway crosses the park.

Kooweskoowe see ROSS, JOHN

Kopparberg, Swed *Kopparbergs län* (kô"pärbĕryus lĕn'), county (11,648 sq mi , pop 253,507), central Sweden, virtually identical with the historical province of DALARNA Its copper mines, from which its name is derived, are now exhausted, but rich iron mines are worked in the Grangesberg district in the south There are large iron, steel, and lumber mills along the Dal river In the north, about Lake Siljan, there is an agricultural district The county seat and industrial center is FALUN, other centers are DOMNARVET, Kvarnsveden, and Avesta

Koppel, industrial borough (pop 1,064), W Pa , NW of Pittsburgh and on the Beaver river Quarrying and a freight-car factory are its main industries

Köprülü. see KUPRILI

Koprulu, Yugoslavia see TITOV VELES.

Korah (kō'rä) **1** Levite leader, with Dathan and Abiram, of the unsuccessful revolt in the desert against Moses which ended by the rebels' being consumed by fire and earthquake Num 16, 26 9 11 Core Jude 11 **2** Son of Esau Gen 36 5,14,18 **3** Another descendant of Esau Gen 36 16 **4** Descendant of Caleb 1 Chron 2 43. **5** Levitical family, perhaps descended from **1**, which had duties as doorkeepers and singers Ex 6 24, 1 Chron 9 19,31, 2 Chron 20 19, titles of Pss 42, 44–49, 84, 85, 87, 88 Kore 1 Chron 26 19

Koran or **Quran** (kōrän', -rän') [Arabic, = reading, lection], the sacred book of ISLAM According to Islamic belief, it was revealed by God to MOHAMMED the Prophet in separate revelations over the major portion of the Prophet's life at Mecca and at Medina The canonical text was established A H 30 (A D 651–52), under the caliph OTHMAN, by Arabic editors, who used for their basis a collection made by Zaid ibn Thabit, the Prophet's secretary The caliph had all collections destroyed save Zaid's and thus made the new edition unique The revelations are divided into 114 suras [chapters], but many of the suras include several revelations The arrangement of the suras is mechanical the first (Fatihah) is a short exultation in God, the rest are graded generally by length, from longest to shortest It is thus impossible to tell from the book the chronological order of revelations, generally, however, the shorter suras, more electric and fervent than the rest, are the earlier, while many of the longer suras (and all those revealed at Medina) are later The Koran is in classical Arabic, that is to say, the Arabic of the Koran is the classic language The Koran is undoubtedly the most influential book in the world after the Bible Moslems memorize much or all of it, and Islam considers all science but a commentary on the Koran. It is probably true that the Koran accounts for the remarkable unity of Islam, one of the most widespread of religions

Korat (kōrät') or **Nakhon Ratchsima** (nukôn' rächsē'mä), town (pop 21,774), Thailand It is the trade and communication center of the Korat plateau, E Siam, which lies to the north and the east The name also appears as Nakhon Rajasima

Korbel, Mario (kôr'bl), 1882–, American sculptor, b Bohemia He came to the United States in 1900 He is known for his fountains and dancing figures Representative works are the *Dancing Group* (Cleveland Mus), *Andante* (Metropolitan Mus), marble bust (Art Inst , Chicago), *St Therese* (Vatican), and the McPhee monument (Denver, Colo.)

Korça or **Korçë,** Albania see KORITSA.

Korcula (kôr'chōōlä), Ital *Curzola* (kōōrtsō'lä), Serbo-Croatian *Korčula* (kôr'chōōlä), island, area 107 sq mi , off Dalmatia, in the Adriatic It belongs to Yugoslavia. It is covered with forests, pastures, and vineyards The chief town is Korcula (pop 2,012), which has retained its fine medieval cathedral and fortifications.

Kore (kō'rē) **1** Family of temple doorkeepers 1 Chron. 9 19 **2** Levite under Hezekiah. 2 Chron 31.14. **3** See KORAH **5.**

Korea (kôrē'ŭ, kŭ–), Korean *Choson*, Jap. *Chosen* or *Tyosen*, country (85,228 sq. mi.; 1944 pop. 25,900,142), E Asia. A peninsula, it is bounded

on the west by Korea Bay (an arm of the Yellow Sea), on the south by Korea Strait (connecting the Yellow Sea and the Sea of Japan) and the Yellow Sea, and on the east by the Sea of Japan; its land boundaries with China and the USSR on the north are marked in the main by the Yalu and Tumen rivers Off the heavily indented coast (c 5,000 mi long) lie some 3,400 islands, most of them rocky and uninhabited, the main island group is the Korean Archipelago in the Yellow Sea The Korean peninsula is largely mountainous, the principal series of ranges, extending along the east coast, rises to 8,337 ft at Mt Kwanmo, the highest peak in the country Korea has large timber resources, but little virgin forest Gold, iron, tungsten, and coal are the principal mineral resources, and copper, silver, molybdenum, zinc, and bauxite occur in small quantity The limited arable land, located mostly in the lowlands to the west of the coastal range, provides the livelihood for most of the population Rice is grown in paddies, frequently terraced on the mountain slopes, other crops are barley, millet, soybeans, fruit, tobacco, and cotton Much food is obtained from the extensive salt-water fishing grounds Heavy industry, often run by hydroelectric power, is chiefly centered in the north, but there is some industry in the south, mainly at Seoul and Pusan Textiles, ceramics, paper, leather goods, and divers other products are made The country's transportation system comprises its railroads (mostly north-south lines) and several navigable rivers The Korean elementary education system has produced a largely literate nation There are about 50 colleges and universities, some under Christian sponsorship Christians are a small minority, however, and most Koreans practice a mixture of Buddhism and Confucianism (introduced from China in the 4th cent A D) and of native shamanism The documented history of Korea begins in the 12th cent B C , when a Chinese scholar Ki-tze (Kija) founded a colony at Pyongyang China intervened in Korean affairs in the 7th cent A D to establish the Silla kingdom over the entire country Mongol forces, invading from China, occupied Korea from 1231 to 1260 In 1592 an invasion of the Japanese conqueror Hideyoshi was turned back at Pyongyang by combined Chinese and Korean forces Korea was made a vassal of China in the early 17th cent and was so isolated from other foreign contact as to be called the Hermit Kingdom All non-Chinese influences were excluded until 1876 when Japan forced a commercial treaty with Korea, and soon the United States and the countries of Europe were also admitted to trade Japan's control was completed after her victories in the First CHINO-JAPANESE WAR (1894–95) and the RUSSO-JAPANESE WAR (1904–5), and in 1910 Korea was formally annexed to the Japanese Empire Japan built modern industries and railroads, but despite repression it could not stifle the Korean longing for freedom In the Second World War at the Cairo Conference (1943) the United States, Great Britain, and China promised Korea independence After the Japanese capitulation the country was arbitrarily divided into two occupation zones, the Russians north and the Americans south of the line of lat 38° N Industry and trade were concentrated in the north and agriculture in the south When relations between the USSR and the United States worsened, trade between the zones was shut off and great economic hardship resulted Several international discussions failed, and in 1948 the division was formalized by establishing two regimes, the southern Korean republic with its capital at Seoul and the People's Republic of Korea with its capital at Pyongyang An election was held in S Korea under United Nations supervision, and Syngman Rhee, a veteran nationalist, was elected the first president by the parliament By mid-1949 all Soviet and American troops had been withdrawn from Korea Opposition between the two governments was bitter Northern propaganda condemned the government of the south as an American puppet regime and claimed jurisdiction over its territory See A J Grajdanzev, *Modern Korea* (1944), Elizabeth Keith and E K Robertson-Scott, *Old Korea* (1946)

Koreish (kôrĭsh'), family of Mecca to which Mohammed belonged It was one of the principal tribes of the city, wealthy and powerful Most of the Koreishites were bitterly opposed to the Prophet, especially at the beginning of his mission

Korin, Ogata (ōgä'tä kō'rēn), c 1655–1716, Japanese decorator and painter, renowned for his lacquer work His inlays in white metal and mother-of-pearl show the influence of an earlier artist, Koetsu, but he departed from traditions, conventions, and natural forms, creating his own style The Korin school is distinctly Japanese in feeling

Koritsa (kŏrĭt'sä, kô'rētsä"), Albanian *Korçë* or *Korça* (both· kôr'chu), city (pop. 24,035), SE Albania, in Epirus, near the Greek border. It is the commercial and agricultural center of a fertile plain Flour milling, dairying, distilling, brewing, and knitwear and cigarette manufactures are the chief industries. First mentioned in 1280, Koritsa was destroyed (1440) by the Turks but developed again after the 16th cent. Ever since Albania gained independence in the Balkan Wars, Koritsa has been claimed by Greece Greek troops occupied it in 1912–13 during the Balkan Wars and again early in the First World War From 1916 to 1920 it was occupied and administered by the French in the name of the Allies, and in the Second World War it was held (Nov , 1940–April, 1941) by the Greeks after the Italian attack on Greece Koritsa has a large 15th-century mosque and several modern government buildings

Kormendi, Francis (kûr'mĕndē), Hung *Körmendi Ferenc* (fĕ'rĕnts), 1900–, Hungarian novelist. His *Escape to Life* (1932) won the international novel competition of 1932 Among his translated novels are *The Happy Generation* (1934, Eng tr , 1945) and *That One Mistake* (1938, Eng tr , 1947)

Körner, Karl Theodor (karl' tā'ōdôr kûr'nur), 1791–1813, German poet and soldier who was killed in battle He owes his fame to the martial lyrics collected as *Lever und Schwert* [lyre and sword] (1814) by his father, who also wrote his biography

Kornilov, Lavr Georgyevich (la'vur gĕyôr'gyĭvĭch kûrnyô'luf), 1870–1918, Russian general He fought in the Russo-Japanese War, and in the First World War he was captured (1915) by the Austrians and escaped (1916) After the February Revolution of 1917 Kerensky made him commander in chief, and Kornilov proceeded to restore discipline among the troops In Sept , 1917, however, Kerensky—who feared that Kornilov planned to establish a military dictatorship—dismissed Kornilov and, upon Kornilov's refusal to accept his dismissal, arrested him and his assistants, including Denikin Shortly after the Bolshevik Revolution of 1917 Kornilov escaped from Petrograd and joined Gen M V ALEKSEYEV in S Russia Their volunteer army was greatly weakened by the virtual defection of the Don Cossacks early in 1918, under Kornilov's leadership it fell back to the Kuban region He was killed while attacking Ekaterinodar (now Krasnodar) and was succeeded by Denikin as counterrevolutionary commander in the south

Korolenko, Vladimir Galaktionovich (vlŭdyē'mĭr gŭlŭktyô'nŭvĭch kŭrulyĕn'kô), 1853–1921, Russian story writer and publicist In his early career he was famous as a liberal and gave Russian liberals one of their great slogans, "There are still lights ahead!" found in his *Lights* (1888) He wrote graceful and sentimental stories (many have been translated into English) In 1917 he welcomed the overthrow of tsardom but later was unable to accept the Bolshevist Revolution

Koros (kô'rŭsh), river, E Hungary Its official Hungarian name is *Harmás Körös* (hŏr'mäsh) [Triple Koros] Formed by the junction of three headstreams that rise in Transylvania, Rumania, it flows c 50 mi W into the Theiss

Korsor, Dan *Korsør* (both kôrsûr'), city (pop 10,667), W Zealand, Denmark, a port on the Great Belt It is connected by ferry with Nyborg on Fyn island

Kortrijk, Belgium see COURTRAI.

Koruk, Algerian corsair see BARBAROSSA.

Koryak National Okrug, RSFSR see KAMCHATKA.

Korzybski, Alfred Habdank (kôrzĭb'skē), 1879–1950, Polish-American scientist, b Warsaw In his system, which he called General Semantics, Korzybski aimed at a distinction between the word and the object it describes and between the individual objects all described by the same word, demanding also that the effect of time be taken into consideration He was founder, president, and director of the Institute of General Semantics (1938), moved from Chicago to Lakeville, Conn , in 1946 He lectured (1949) at Yale on his system and wrote two books on it—*Manhood of Humanity the Science and Art of Human Engineering* (1921) and *Science and Sanity an Introduction to Non-Aristotelian Systems and General Semantics* (1933)

Kos (kŏs, kôs), Latin *Cos*, island (111 sq mi , pop 18,545), Greece, in the Aegean Sea, second largest of the DODECANESE It is 2½ mi distant from the coast of Asia Minor Though it rises to 2,870 ft in the southeast, it is mostly low-lying and produces grain, tobacco, olive oil, fruit, almonds, and wine Cattle, horses, sheep, and goats are raised Kos has some lignite, lead, iron, copper, and salt deposits and several sulphur springs Fishing and sponge fishing are important occupations. The chief city, Kos (pop. 7,955), on the north shore, has tobacco and brandy manufactures In ancient times the island was controlled in turn by Athens, Macedon, Syria, and Egypt Under the Romans it enjoyed great privileges It was an important cultural center and was the home of Hippocrates. It is called Coos in AV. Acts 21 1.

Kosciusko, Thaddeus (kŏ"sēŭ'skō), Pol *Tadeusz Andrzej Bonawentura Kościuszko* (tädĕ'ōōsh än'jā bô"navĕntôō'rä kôsh-chôōsh'kô), 1746–1817, Polish general. Trained in military academies in Warsaw and Paris, he offered his military skill to the patriot cause in the American Revolution out of devotion to the ideal of liberty Kosciusko arrived in America in 1777 and took part in the Saratoga campaign; it was he who advised Horatio Gates to fortify Bemis Heights. Later he fortified (1778) West Point and fought (1780) with distinction under Gen Nathanael Greene in the Carolina campaign After his return to Poland he became a champion of Polish independence. He fought in the campaign before the second partition (1793) of Poland In 1794 he issued at Cracow a call for a national uprising and led the Polish forces against both Russians and Prussians in a gallant but unsuccessful rebellion He was imprisoned, and after being freed (1796) he went to the United States and later (1798) to France, where after the fall of Napoleon he pleaded with Alexander I of Russia for Poland He died in Solothurn, Switzerland, and is buried in Cracow. His whole-souled devotion to liberty and Polish independence have made him one of the great Polish heroes See M Haiman, *Kosciuszko in the American Revolution* (1943) and *Kosciuszko, Leader and Exile* (1946)

Kosciusko (kŏ"sēŭ'skō), city (pop 4,291), co seat of Attala co , central Miss , NE of Jackson, in a dairy area, settled in the early 1830s on the old Natchez Trace, inc 1836

Kosciusko, Mount (kŏzēŭ'skō), 7,305 ft high, SE New South Wales, in the Australian Alps, highest peak of Australia Winter sports are held on its slopes A near-by peak, Mt TOWNSEND, was formerly called Mt Kosciusko

Kose no Kanaoka see KANAOKA

kosher [Heb ,=proper, i e , fit for use], term applied to food which is in accordance with the Jewish dietary laws Kosher meat is the flesh of animals which chew the cud (as the cow and sheep) and which have cloven hoofs, the animal must have been slaughtered with a skillful stroke by a specially trained and highly learned and pious Jew (the slaughterer has a very honorable standing in the Jewish community), it must be carefully inspected, and the meat, unless it is cooked by broiling, must be salted and soaked to remove all traces of blood Kosher fish are those which have scales and fins (mollusks and eels are forbidden) The rules which apply to the slaughter and preparation of fowl are the same as those for the slaughter of animals The cooking and eating of milk products with, or immediately after, meats or meat products is unkosher, even the use of the same kitchen and table utensils and towels is forbidden. The cleansing of newly acquired utensils and the preparation of articles for Passover use are also called koshering The antitheses of kosher is *tref* (trāf) [from Heb ,=animal torn by wild beasts] Many of the kosher laws are directly traceable to measures for the preservation of health under the conditions in ancient Palestine The observation of these laws, more than anything else, marks a Jew as orthodox.

Koshtan-Tau (kŭshtan"tou', kôsh"tan-), peak, 16,880 ft high, USSR, in the central Greater Caucasus

Kosice (kô'shĭtsā), Ger *Kaschau* (kä'shou), Hung *Kassa* (kô'shô), Slovak *Košice* (kô'shĭtsā), city (pop 51,689), SE Slovakia, Czechoslovakia An important trade center, it also has textile, machinery, food, tobacco, and other manufactures and is an episcopal see Kosice belonged to Hungary until 1918, in 1938 it again was awarded to Hungary as a result of the Munich Pact, but early in 1945 it became the provisional capital of the Czechoslovak government after its return from Moscow, and it was restored to Czechoslovakia There are many palatial residences of the former Magyar nobility and the beautiful Gothic Cathedral of St Elizabeth (14th cent).

Kosovo, Yugoslavia see KOSSOVO

Kossak, Sophia (kô'säk), Pol *Zofja Kossak-Szczucka*, 1890–, Polish novelist She is a leading figure in Polish historical fiction and in the Catholic literary renaissance Among the novels which have been translated are *The Blaze* (1922, Eng tr , 1927), describing the Bolshevist invasion of 1917–18, *The Leper King* (1937, Eng tr , 1945), and *Blessed Are the Meek* (1938, Eng tr , 1944).

Kosseir (kôsēr'), town (pop c 3,000), central Egypt, a port on the Red Sea It is much reduced since the Abbasid period Near by are deposits of lead, tin, and phosphates

Kossel, Albrecht (al'brĕkht kô'sŭl), 1853–1927, German physiologist He was professor at Heidelberg (1901–27) He specialized in physiological chemistry, studying particularly proteins and the cell and its nucleus For this work he received the 1910 Nobel Prize in Physiology and Medicine He wrote *Protamines and Histones* (Eng tr , 1928).

Kossovo, Serbo-Croatian *Kosovo* (both kô'sôvô), plain, SW Serbia, Yugoslavia, W of Pristina Here in 1389 the Turks under Murad I crushingly defeated the Serbs and their Bosnian, Montenegrin, Bulgarian, and other allies Before the battle Milosh Obilich, a Serb posing as a deserter, was taken into the tent of Murad, whom he stabbed to death, he was immediately slain, as was Prince Lazar of Serbia after his capture. The battle of the Field of Kossovo (the name means "field of the black birds") broke the power of Serbia and of Bulgaria It figures prominently in Serbian poetry. A second battle was fought here in 1448, when Sultan Murad II defeated a Hungarian army led by John Hunyadi, who was captured but soon freed.

Kossuth, Louis' (kŏs'ōōth'), Hung *Kossuth Lajos* (kŏsh'ŏōt lŏ'yŏsh), 1802–94, Hungarian revolutionary hero Born of a Protestant family and a lawyer by training, he entered politics as a member of the diet and soon won a large following for his liberal and nationalist program, he did not shrink from the possibility of dissolving the union of the Hungarian and Austrian crowns He was arrested in 1837, but popular pressure forced the Metternich regime to release him in 1840 Kossuth, a fiery orator, was one of the principal figures of the Hungarian revolution of March, 1848 When, in April, Hungary was granted a separate government, Kossuth became finance minister Kossuth continued and intensified his anti-Austrian agitation His extreme nationalism, which was opposed to the fulfillment of the national aspirations of the Slavic, Rumanian, and German minorities in Hungary, was particularly resented in Croatia When the Austrian government, supported by the ban of Croatia, JELLACHICH DE BUZIM, prepared to move against Hungary, Kossuth became head of the Hungarian government of national defense and virtual dictator His government withdrew to Debrecen before the advance of the Austrians under WINDISCHGRATZ In April, 1849, it declared Hungary an independent republic and Kossuth became president The Hungarians won several victories, but in 1849 Russian troops intervened in favor of Austria, and Kossuth was obliged to resign the government to General GORGEY The Hungarian surrender at Vilagos marked the end of the republic Kossuth fled to Turkey After visiting England and the United States, where he received ovations as a champion of liberty, Kossuth lived in exile in England and (after 1865) in Italy He unsuccessfully tried to stir up risings in Hungary in 1859 and 1866 He was dissatisfied with the *Ausgleich* of 1867, by which the Austro-Hungarian Monarchy was created, and he refused an offer of amnesty in 1890 After his death at Turin, Italy, his body was brought to Budapest and buried in state.

Koster or **Coster, Lourens Janszoon** (lou'rŭns vän'sŏn kō'stur), c 1370–c 1440, sexton of a church in Haarlem, one of the men to whom has been ascribed the invention of printing with movable types His name was Lourens Janszoon, but he is known by his office, as Koster or Coster [sexton] No evidence that he was a printer has been found of earlier date than more than a century after his death Crude specimens of Dutch printing from movable types have been found, however, that may be older than the excellent work attributed to GUTENBERG the evidence is inconclusive

Kostroma (kŭstrumä'), city (pop 121,205), capital of Kostroma oblast, central European RSFSR, on the Volga at the mouth of the Kostroma river It is a major linen-milling center Founded (12th cent) on the right bank of the Volga, it was transferred to the left bank after its destruction (1238) by the Mongols It became a commercial center and the capital of a principality, which was annexed to Moscow in 1364 Here in 1613 Michael Romanov was elected tsar Among the ancient buildings of Kostroma are the Ipatiev monastery (14th cent) and the Uspenski Cathedral (c 1250)

Kota Bahru (kō'tä bä'rōō), town (pop 22,736), capital of Kelantan state, NE Malaya, at the mouth of the Kelantan river Here the Japanese first landed in Malaya in the Second World War

Kotelny Island or **Kotelnyy Island** (both kŏtĕl'nĕ), 100 mi long and 60 mi wide, off Yakut Autonomous SSR, RSFSR, largest island of the Anjou group of the NEW SIBERIAN ISLANDS There is an arctic observation post on the northwest coast The island was discovered in 1775 by Lyakhov, a Russian merchant

Köthen (kh'tun), city (pop 42,588), Anhalt, E central Germany, WSW of Dessau There are lignite mines, sugar refineries, and textile mills First mentioned in 1115, it was until 1847 the residence of the dukes of Anhalt-Kothen, at whose court J S Bach was musical director from 1717 to 1723 A former spelling was Cöthen

Kotka (kōt'kä), city (pop 22,482), S Finland, E of Helsinki, a seaport on the Gulf of Finland and at the southern end of the PAIJANNE waterway It is the main Finnish export center for paper, pulp, and timber, and its industries include sawmills, cellulose mills, and a fertilizer plant

Kotor (kō'tôr), Ital *Cattaro* (kät'tärō), town (pop 5,402), Montenegro, Yugoslavia It is on the Bay of Kotor (Serbo-Croatian *Boka Kotorska*, Ital *Bocche di Cattaro*), an inlet of the Adriatic Founded by the Romans and later under Byzantine, Serbian, and Bosnian rule, it was held by Venice from the 15th cent until 1797, when it passed to Austria It was an important Austrian naval base In 1918 it passed to Yugoslavia Kotor has retained its medieval fort and walls The Cathedral of St Tryphon was built in the 9th cent and rebuilt in the 17th cent

Kottbus, Germany see COTTBUS

Kotzebue, August Friedrich Ferdinand von (ou'gōōst frē'drĭkh fĕr' dēnant fŭn kōt'subōō), 1761–1819, German dramatist He wrote over 200 popular plays, many translated into English, including *Menschenhass und Reue* (1789; Eng tr, *The Stranger*, 1798), long popular in England, *Das Kind der Liebe* (1791, Eng tr, *The Natural Son*, 1798), *Die Spanier in Peru, oder, Rolla's Tod* (1795, Eng tr by M G Lewis, *Rolla*, 1797), and *Die beiden Klingsberg* (1810, Eng tr, *Father and Son*, 1914) Though aggressively unliterary, Kotzebue was a gifted playwright and perhaps the strongest single influence on the development of the European drama After a stay in Russia he returned to Germany as a paid agent of Alexander I and was detested for his reactionary propaganda His assassination at Mannheim by a student led to the suppression of German student organizations (see BURSCHENSCHAFT) through the Carlsbad Decrees

Kotzebue, Otto von (ō'tō), 1787–1846, Russian naval officer and explorer, son of A F F von Kotzebue He accompanied A J von Krusenstern on his circumnavigation (1803–6) and commanded two voyages around the world (1815–17, 1823–26) He discovered new island groups in Oceania, checked the location of others, and gathered new information on the Pacific coast of Siberia He sailed N through Bering Strait, explored the northwest coast of Alaska hoping to find the western end of a Northwest Passage, and in 1816 discovered and explored Kotzebue Sound Scientists accompanying his expeditions made valuable reports on ethnography and natural history Kotzebue's own narratives were translated into English as *A Voyage of Discovery* (3 vols , 1821) and *A New Voyage round the World* (2 vols , 1830)

Koublai Khan see KUBLAI KHAN.

koumiss see FERMENTED MILK

Koussevitzky, Serge (Sergei Aleksandrovich Koussevitzky) (sĕr'gā' kōōsuvĭt'skē, Rus sĭrgā' ŭlyĭksän'druvĭch kōōsyĭvĕt'skē), 1874–, Russian-American conductor, studied at the Moscow Philharmonic Society School of Music He began his career as a player of the double bass, and in 1908 in Berlin he made his debut as a conductor In 1910 he and his wife formed an orchestra which Koussevitzky conducted until 1918, touring by boat along the Volga until 1914 In 1917 he was made conductor of the State Symphony Orchestra in Petrograd In 1920 he left Russia, in Paris the following year he established the Concerts Koussevitzky, which he conducted until 1928 He came to the United States in 1924 and was conductor (1924–49) of the Boston Symphony Orchestra In 1936 he began to direct the Berkshire Symphonic Festivals, and in 1940 the Berkshire Music Center He has given new works not only their initial performances but repeated hearings See biographies by Arthur Lourié (Eng tr , 1931) and Moses Smith (1947)

Kovalevsky, Aleksandr Onufrievich (ŭlyĭksän'dur ŭnōō'frēuvĭch kŭvulyĕf'skē), 1840–1901, Russian zoologist and embryologist He is noted especially for the work which demonstrated the origin of vertebrates from invertebrates He showed that the early stages in development of certain invertebrates and of *Amphioxus*, a primitive vertebrate, are the same

Kovalevsky, Sonya or **Sophie** (sō'nyu), 1850–91, Russian mathematician She studied at the universities of Heidelberg and Berlin (under K T Weierstrass) and in 1874 received a Ph D *in absentia* from the Univ of Göttingen for her remarkable thesis on partial differential equations From 1884 she taught at the Univ of Stockholm In 1888 she won the Bordin Prize of the French Academy of Sciences for a memoir on the rotation of a solid body about a fixed point Her childhood reminiscences, published in 1890, were translated into English under the title *Sonya Kovalevsky Her Recollections of Childhood* (1895), with a biographical study by Anna Leffler Edgren

Kovel (kō'vul, Rus kō'vĕl), Pol *Kowel* (kō'vĕl), city (1931 pop 27,650), W Ukraine, in Volhynia It is a rail junction and an agricultural center It passed to Russia in the third Polish partition (1795), reverted to Poland in 1921, and was again ceded to the USSR in 1945 Its population was largely Jewish until the Second World War

Kovno, Lithuania see KAUNAS

Kovrov (kŭvrôf'), city (pop 67,163), central European RSFSR, on the Klyazma river and NE of Moscow It has machinery plants, railway shops, and cotton mills

Koweit, Arabia see KUWAIT.

Kowel, Ukraine see KOVEL.

Kowloon see HONG KONG

Kowno, Lithuania see KAUNAS

Koxinga (kŏksĭng'gu), Mandarin *Kuo-hsing-yeh* [lord of the imperial surname], 1623–63, Chinese general, whose original name was Chêng Ch'êng-kung From 1646 to 1660 he led many unsuccessful campaigns of the Southern Ming dynasty against the invading Ch'ing dynasty. Koxinga captured (1661) part of Formosa from the Dutch The population of the southern coast of China was evacuated (1662) to facilitate the defense against his raids His son Chêng Ching held his domains in Formosa until 1683

Koya (kō'yä), peak, 3,600 ft high, S Honshu, Japan On its summit is a Buddhist monastery, founded in the 9th cent by Kobo-Daishi, noted exponent of the Shingon doctrines It is also known as Koyasan.

Koyukuk (kuyōō'kŏōk, kō–), river rising on the southern slopes of the Brooks Range, N Alaska, and flowing c 450 mi SW to the Yukon near the village of Koyukuk (pop 106). It was partially explored (1855) by H T Allen. Gold is mined at small settlements on its headwaters. See Robert Marshall, *Arctic Village* (1933)

Koz [Heb ,=thistle], priestly family. Ezra 2 61, Neh 3 4,21, 7 63 Hakkoz 1 Chron 24 10.

Kozlov, RSFSR see MICHURINSK.

Kr, chemical symbol of the element KRYPTON

Kra, Isthmus of (krä), narrow neck of land between the Bay of Bengal and the Gulf of Siam, connecting the Malay Peninsula with Siam

Krafft, Adam see KRAFFT, ADAM

Krafft-Ebing, Richard von (rĭkh'art fŭn kräft'ā'bĭng), 1840–1902, German physician and neurologist Professor of psychiatry at Strasbourg (1872), Graz (1873), and Vienna (1889), he was recognized as an authority on the psychological aspect of mental disorders and on their medico-legal relations His most noted work is *Psychopathia sexualis* (1886, Eng tr , 1892)

Kraft or **Krafft, Adam** (both ä'dum kräft'), c 1455–1509, German sculptor of Nuremberg, who worked only in stone His *Seven Stations of the Cross* made for the road to the Cemetery of St John have been replaced by modern copies Six of the original reliefs are in the Germanic Museum at Harvard Univ He made the decorations for the tomb of the Schreyer family outside the Church of St Sebald and carved other tombs His last work was the *Entombment* for a chapel in the Cemetery of St John, and his most celebrated work is the tabernacle for the Church of St Lawrence, an openwork pyramid over 60 ft high, richly ornamented, these were all in Nuremberg

Kragujevac (kra'gōō'yĕvats), city (pop 32,528), Serbia, Yugoslavia, S of Belgrade It was (1818–39) the residence of Prince Milosh I There now is a munitions industry

Krain, Yugoslavia see CARNIOLA

Krak (krak) or **El Kerak** (ĕl kĕ'rak), town (pop c 10,000), S central Jordan, on a height c 50 mi SSW of Amman It is a road junction and a trade center The ancient Kir Moab (also mentioned in the Bible as Kir Hareseth, Kir Haresh, and Kir Heres), it was the walled citadel of the Moabites Krak played an important part in the Crusades The lordship of Krak and Montreal was one of the chief baronies of the Latin Kingdom of Jerusalem In 1131 the Knights Hospitalers erected a huge castle, called for them Krak des Chevaliers, which still stands in a state of excellent preservation, it is one of the masterpieces of medieval military architecture Reginald of Châtillon was lord of Krak and Montreal when he attacked (1187) a caravan of Sultan Saladin and thus provoked the events that led to the fall of Jerusalem Krak was taken by Saladin in 1188 after a long siege The town was an archepiscopal see from the early Christian era until 1910, when the Christians were massacred or expelled

Krakatoa (krăkutō'u, krä-) or **Krakatau** (krakatou'), volcanic island, Indonesia, in Sunda Strait between Java and Sumatra A terrific explosion in 1883 blew up part of the island and altered the configuration of the strait, the accompanying tidal wave caused great destruction and loss of life So great was the volume of ashes and lava poured out that new islands were formed, and debris was scattered across the Indian Ocean as far as Madagascar There have been lesser eruptions in recent years

Krakow, Poland see CRACOW

Kramar, Charles, Czech *Karel Kramař* (kä'rĕl krä'marzh), 1860–1937, Czech statesman He early became a leader of the Young Czech party and a member of the Austrian parliament and the Bohemian diet He advocated a rapprochement between Austria-Hungary and Russia and opposed the Triple Alliance In the First World War he became involved in the plans of the Czech nationalists and was sentenced to death (1916) for treason, but was pardoned (1917) by Emperor Charles I On Oct 18, 1918, the Czech national council in Paris under Thomas Masaryk and Benes proclaimed Czech independence Kramar, in Prague, 10 days later made independence a reality through a bloodless revolution He was (1918–19) the first premier of Czechoslovakia He later opposed Masaryk and was a spokesman of the reactionaries and ultranationalists

Kramatorsk (krŭmutôrsk'), city (1926 pop 12,348, 1939 pop 93,350), SE Ukraine, in the Donets Basin It is a machine-building center and has iron and steel mills

Kramer, Jack (John Albert Kramer), 1921–, American tennis player, b Las Vegas, Nev He excelled at tennis while still in high school Kramer, with Frederick (Ted) Schroeder, won the U S national doubles championship in 1940, and they successfully defended the title in 1941 While serving (1942–46) in the U S coast guard in the Second World War, he continued to play tournament tennis, and in 1943 he again won, this time with Frank Parker, the national doubles titles In 1946–47 he led the U S teams which won the Davis Cup In these same years he won the national singles and

(with Ted Schroeder) the national doubles crowns together with the British singles and (with Bob Falkenburg) the British doubles After turning professional (1947), he took the U S professional singles (1948) and world professional singles (1949) titles With Robert Riggs he also took the world professional doubles championship in 1949 He wrote *How to Win at Tennis* (1949)

Kranach, Lucas see CRANACH, LUCAS

Krapp, George Philip, 1872–1934, American scholar, b Cincinnati, grad Wittenberg College, 1894, Ph D Johns Hopkins, 1899 He joined the faculty of Columbia Univ in 1897, was professor of English (1908–10) at the Univ of Cincinnati, and then was professor of English (1910–34) at Columbia An authority on Anglo-Saxon, he was the first editor of the "Anglo-Saxon Poetic Records," an edition of the body of Anglo-Saxon poetry Besides his authoritative *The English Language in America* (1925), he wrote books on the English language and literature, speech improvement, and grammar

Krasicki, Ignacy (ēgnā'tsē krəshĕt'skē), 1735–1801, Polish writer and archbishop He is noted for his poems—*Myszeida*, an allegory on political anomalies, and *Monachomania*, a witty satire on monastic life—his prose satires and fables, and his novels

Krasinski, Sigismund, Pol *Zygmunt Krasiński* (zĭg'-mōōnt krəsē'nyuskē), 1812–59, Polish poet of the romantic school, an ardent Slavophile He lived in France, Switzerland, Germany, and Italy His works include the dramatic poems *The Undivine Comedy* (1835, Eng tr, 1875) and *Iridion* (1836, Eng tr, 1927) and *Dawn* (1842) and *The Psalms of the Future* (1845–48) See Monica M Gardner, *The Anonymous Poet of Poland, Zygmunt Krasinski* (1919)

Krasnodar (krŭs"nudar'), city (pop 203,946), capital of Krasnodar Territory, SE European RSFSR It is a port on the lower Kuban river, a rail hub, and a major industrial center It has oil refineries (connected by pipe line with the Maikop fields), machinery plants, steel foundries, and various manufactures and is the seat of medical and technical institutes It was founded in 1794 under Catherine II and named Ekaterinodar (yĕkātyērē"nŭdar') (also spelled Yekaterinodar) in her honor It became the headquarters of the Kuban Cossacks In the civil war which followed the Russian Revolution of 1917 it was twice attacked by the volunteer army of Kornilov and Denikin, but its Bolshevik garrison repulsed the attacks In 1920 it was renamed *Krasnodar* During the Second World War the city was held (1942–43) by the Germans

Krasnodar Territory, administrative division (32,800 sq mi, 1946 estimated pop 3,000,000), SE European RSFSR, extending E from the Sea of Azov and the Black Sea into the KUBAN steppe Krasnodar is the capital The territory straddles the northwestern end of the Greater Caucasus It includes the ADYGE AUTONOMOUS OBLAST with the rich production of the Maikop oil fields The main agricultural section is in the Kuban steppe and along the lower Kuban river The subtropical Black Sea littoral produces citrus fruit, essential oils, tea, and wine and is dotted with health resorts, among which Sochi is the best known Krasnodar, Maikop, and Armavir are the chief industrial centers, Novorossisk and Tuapse are the main ports The northern section of the region was annexed (1783) to Russia with the khanate of Crimea, of which it was a part The Kuban Cossacks, who were settled here, gradually displaced the native nomadic Nogai Tatars (now mostly in the Cherkess Autonomous Oblast) The Black Sea littoral was ceded to Russia by Turkey in the Treaty of Adrianople (1829) The remainder, known as CIRCASSIA, was annexed in 1864

Krasnov, Piotr Nikolayevich (pyô'tŭr nyikulī'uvĭch krŭsnôf'), 1869–, Russian general and historical novelist He commanded a group of Don Cossacks against the Bolsheviks (1918–19) and later used his experiences as background for a series of exciting novels Several of these have been translated, including *From the Double Eagle to the Red Flag* (1926), *The White Coat* (1929), and *Yermak the Conqueror* (1930)

Krasnovodsk (krŭsnuvôtsk'), city (pop 23,600), W Turkmen SSR A port on the Krasnovodsk Gulf of the Caspian Sea and the western terminus of the Trans-Caspian RR, it is a transshipment center for oil, cotton, salt, grain, and timber and has a petroleum-refining industry

Krasnoyarsk (krŭsnuyarsk'), city (1926 pop 72,261; 1939 pop 189,999, 1946 estimated pop 300,000), capital of Krasnoyarsk Territory, RSFSR, in S central Siberia, on the Yenisei river and the Trans-Siberian RR. It is a major transportation center and has machinery, lumber, paper, textile, and other industries There are several scientific and technical institutes Founded in 1628, it became (1822) the capital of the former Yenisesk government and developed rapidly after the construction of the Trans-Siberian RR

Krasnoyarsk Territory, administrative division (928,000 sq mi, pop 1,940,002), RSFSR, in central Siberia It extends from the Sayan Mts in the south across the Siberian steppe, forest, and tundra to the Arctic Ocean The YENISEI and its tributaries, by which it is drained, are important transportation routes Krasnoyarsk, its capital, and Kansk, Achinsk, Minusinsk, and Igarka are the chief cities The territory includes Krasnoyarsk proper (S and E of the Yenisei), the KHAKASS AUTONOMOUS OBLAST (in the southwest), the EVENKI NATIONAL OKRUG (in the east central section), and the TAIMYR PENINSULA and national okrug (N of the Arctic Circle) The southernmost section, traversed by the Trans-Siberian RR, is arable and contains 94 percent of the population Farther north there are extensive forests and gold, coal, and graphite deposits The population consists of Russians and of Turkic and Mongol peoples The territory was organized in 1934

Krasnoye Selo (krus'nŭyu syĭlô'), city (1939 pop over 10,000), RSFSR, SW of Leningrad Near by are two palaces, in one of them, the Palace of Ropsha, Peter III was murdered in 1762 Krasnoye Selo was a favorite summer resort of St Petersburg society before the Russian Revolution It was held (1941–44) by the Germans during the siege of Leningrad

Kraszewski, Joseph Ignatius, Pol *Józef Ignacy Kraszewski* (yōō'zĕf ēgnā'tsē krəshĕf'skē), 1812–87, Polish writer He studied in Vilna Imprisonment (1830) in Russia was followed by emigration to Germany Imprisoned there in 1883, he emigrated to Switzerland Kraszewski, an extremely versatile and prolific writer, is noted for his novels Translated works include the historical romances *Memoirs of the Countess Cosel* (Eng tr, 1902) and *Count Bruhl* (Eng tr, 1922), the romance *Iermola* (Eng tr, 1891), and the comedy *The Jew* (Eng tr, 1890)

Kraus, Karl (karl' krous'), 1874–1936, Austrian essayist and poet, b Czechoslovakia His periodical, the *Fackel*, which he edited and for the most part wrote from 1899 until his death, carried on a battle against corruption and hypocrisy His poetry *Worte in Versen, I–IX* (1916–30) was partly translated into English as *Poems* (1930) *Die letzten Tage der Menschheit* [the last days of mankind] (1918–22) is a drama of the First World War He wrote several books of aphorisms and epigrams His last book, *Die Sprache* [speech] (1937), is concerned with literary style and poetics

Krauskopf, Joseph (krou'kŏpf), 1858–1923, American rabbi and humanitarian, b Prussia He came to the United States in 1872 From 1887 until his death he was rabbi of the Congregation Keneseth Israel, Philadelphia, which flourished under his leadership He was founder and president of the National Farm School at Doylestown Pa, which opened in 1897, and he studied agricultural conditions in Russia He represented the United States as special commissioner to the Paris exposition in 1900 and reported on agricultural education in Europe and in 1917 was head of the Jewish Commission in the Food Administration He was a leader of charitable activities and reform movements in Philadelphia and Pennsylvania

Kravchinski, Sergei Mikhailovich see STEPNIAK, S

Krebs, city (pop 1,436), SE Okla, near McAlester, settled c 1880 in the midst of coal mines, inc 1903 Once a wild boom town, its decline paralleled that of the coal industry

Krefeld (krā'fĕlt), city (pop 150,354), former Prussian Rhine Prov, NW Germany, after 1945 in North Rhine-Westphalia It is a port on the left bank of the Rhine and NW of Düsseldorf and is the major German silk and velvet center Krefeld also produces quality steels, machinery, and dyes Chartered in 1373, it had an important linen-weaving industry until the 18th cent, when Frederick II of Prussia made its silk manufacture a monopoly In recent years artificial silk has been principally produced The neighboring town of Uerdingen was incorporated into Krefeld in 1929 The city was more than two thirds destroyed in the Second World War and was captured by U S troops in March, 1945 A former spelling is Crefeld

Krehbiel, Henry Edward (krā'bēl), 1854–1923, American music critic, b Ann Arbor, Mich In 1880 he became music critic of the New York *Tribune* His books include *How to Listen to Music* (1896), *Chapters of Opera* (1908), *The Pianoforte and Its Music* (1911), and *Afro-American Folksongs* (1914) His translation of A W Thayer's biography of Beethoven appeared in 1921

Kreisler, Fritz (krī'slur), 1875–, Austrian-American violinist, studied at the conservatories of Vienna and Paris In 1888 he first appeared in the United States in joint recital with Moriz Rosenthal After studying medicine, then art, he returned to the violin, appearing in Berlin in 1899 He played again in the United States in 1901 and has since been possibly the most popular violinist in the country He served in the Austrian army in the First World War, after the war he became a French citizen and in 1943 an American citizen He composed the operettas *Apple Blossoms* (London, 1930) and *Sissy* (Vienna, 1933) and numerous violin pieces In 1935 he revealed that a few of the pieces he had played as compositions of Corelli, Tartini, and others were actually his own See Donald Brook, *Violinists of Today* (1948)

Kremenchug (krĕmĭnchōōk'), city (pop 89,553), central Ukraine, on the Dnieper An industrial and transportation center, it produces machinery and automobiles In the Second World War the city fell (1941) to the Germans and was retaken (1943) by the Russians after severe fighting

Kremenets (krĕmĭnĕts', Rus krĕmĭnyĕts'), Pol. *Krzemieniec* (kshĕmyĕ'nyĕts), city (1931 pop 19,997), W Ukraine It is an agricultural center An ancient Slavic settlement, it was an important city of medieval Volhynia It passed to Russia in the third Polish partition (1795), reverted to Poland in 1919, and was ceded to the USSR in 1945

Kremer, Gerhard see MERCATOR, GERARDUS

Kremlin (krĕm'lĭn, Rus *kreml* (krĕ'mul), citadel or walled center of several Russian cities In the Middle Ages the kremlin served as administrative and religious center and offered protection against military attacks Thus a kremlin formed a city in itself, containing palaces, government buildings, churches, and market places Among the most famous kremlins that have been preserved are those of Astrakhan, Kazan, Moscow, Nizhni Novgorod (now Gorki), Novgorod and Pskov That of Moscow is known as simply the **Kremlin** Triangular and surrounded by crenelated walls, it occupies the historic core of Moscow Its walls were built in the 15th cent They are topped on each side by seven towers of varying architecture, among these is the Spasskaya [of the Savior], with famous chimes, above the main gate In the center of the Kremlin is Cathedral Square, with the Uspenski [Assumption] Cathedral (late 15th cent), where the tsars were crowned, the Blagoveshchenski [Annunciation] Cathedral (15th–16th cent), the Arkhangelski Cathedral (14th–17th cent), containing the tombs of the tsars, and the separate bell tower of Ivan the Great, nearly 300 ft high, the golden cupola of which dominates the crosses, cupolas, and roofs of the other buildings Here also are the 15th-century Granovitaya Palata (the throne and banquet hall of the tsars) and the armory and treasure chamber, containing rich collections of crowns, scepters, thrones, costumes, and armor The Grand Palace (Rus *Bolshoi Dvorets*), a vast structure built in the 19th cent in the old Russian style, was rebuilt under the Soviet regime and now houses the supreme council (parliament) of the USSR, this is connected with the Terem, the residence of the Russian rulers in the 17th cent Other buildings are now used as government offices and residences, J V Stalin's Moscow residence is in the Kremlin, which is the political and administrative nerve center of the USSR Parts of the Kremlin are open to visitors with special permits The Kremlin is nearly the only part of Moscow that escaped the numerous fires that have swept Moscow, notably the fire of Sept, 1812, when Napoleon I had his quarters here It suffered some minor damage in the October Revolution of 1917, when it was briefly the headquarters of the Whites

Krems or **Krems an der Donau** (krĕms' un dĕr dô'-nou), manufacturing town (pop 22,656), Lower Austria, on the Danube and WNW of Vienna

Kremsier (krĕm'zēr), Czech *Kroměříž* (krô'mvĕr-zhēzh), town (pop 17,626), Moravia, Czechoslovakia, on the Morava river and E of Brno In Oct, 1848, the Austrian constituent assembly or Reichstag was transferred here from Vienna It completed (March, 1849) a federal constitution for the Hapsburg empire, but Felix zu Schwarzenberg rejected it and dissolved the assembly

Krenek, Ernst (krĕ'nĕk), Czech *Krenek* (kushĕ'-nĕk), 1900–, Austrian-American composer, b Vienna, of Czech parents, studied in Vienna and Berlin In the early 1920s he composed chamber music, a violin concerto (1924), and two operas, in a neoclassic style In 1925 he became conductor at the opera house in Kassel His jazz opera *Jonny spielt auf* (1926, Leipzig, 1927), its protagonist a Negro band leader, was enormously successful and has been translated into 18 languages In 1928 he returned to Vienna and adopted the 12-tone technique (see ATONALITY) originated by Arnold Schonberg His opera *Karl V* (1933, Prague, 1938) is entirely in the 12-tone system In 1938 he moved to the United States and was professor of music (1938–42) of Vassar College, leaving to become head of the music department of Hamline Univ In this country he has composed chamber, orchestral, and choral music, an opera, *Tarquin* (1940), and a chamber opera, *What Price Confidence?* (1946) He is usually his own librettist He is also known as lecturer, pianist, and author (*Music Here and Now*, 1939, *Studies in Counterpoint*, 1940, on the 12-tone system)

Kreuger, Ivar (ē'vär krōō'gur), 1880–1932, Swedish engineer and financier He went to the United States, after studying engineering in Stockholm, and engaged in construction enterprises Later, as a specialist in structural steel, he organized the firm of Kreuger and Toll In 1913 Kreuger began the formation of a match trust, which controlled factories, forests, and mines After the First World War his match company became an international financial agency Money was lent in return for match monopolies and contracts Speculation and fraudulent financial practices wrecked the trust

and caused Kreuger's suicide It was subsequently discovered that Kreuger had gained more than $500,000,000 by fraud—about half of it from U S creditors

Kreutzer, Rodolphe (krō'tsŭr, Fr rôdôlf' krŭtsĕr'), 1766–1831, French composer and violinist He was professor of violin at the Paris Conservatoire from its founding in 1795 until 1825 and was one of the authors of the violin method taught there Although he composed some 40 operas and numerous concertos and sonatas he is remembered for his 40 etudes for the violin, which remain unsurpassed Beethoven's *Kreutzer Sonata* is dedicated to him.

Kreuznach, Germany see BAD KREUZNACH

Kreymborg, Alfred (krām'bôrg), 1883–, American poet and anthologist, b New York city Originally a member of the imagist group, he wrote poems collected in *Mushrooms* (1916, rev ed 1928), *Manhattan Men* (1929), *Selected Poems* (1945), and *Man and Shadow* (1946) He chronicled American poetry with the critical history *Our Singing Strength* (1929, 1934), an anthology, *Lyric America* (1930), and with others, *American Caravan* (1927–36), a series of anthologies His puppet plays are popular. See his autobiography, *Troubadour* (1925)

Krieghoff, Cornelius (krēg'hŏf), 1812–72, Canadian painter, b Düsseldorf, Germany He traveled widely and took part in the Seminole Indian wars in Florida as a member of the U S army Commissioned by the War Dept to make paintings from many sketches done in these wars, he worked at Rochester, N Y, and moved thence to Canada, working first at Toronto, then at Montreal, and in 1853 at Quebec He had a keen sense of the picturesque in French Canadian life, and his numerous pictures are much sought after See biography by C M Barbeau (1934)

Kriemhild (krēm'hĭld), heroine of the NIBELUNGENLIED, sister of the Burgundian king and wife of SIEGFRIED, whom she avenges, and of Etzel (Attila the Hun) The depiction of Kriemhild's character and of its change at Siegfried's murder is one of the great achievements of medieval literature She corresponds to the less sympathetic GUDRUN of the *Volsungasaga*

Krilenko, Nikolai Vasilyevich see KRYLENKO.

Kriloff, Ivan Andreyevich see KRYLOV

Krio, Cape (krē'ō), promontory, SW Turkey, on the Aegean Sea, on a narrow peninsula north of the island of Rhodes Ancient CNIDUS was situated here

Krishna, Hindu deity see HINDUISM

Krishna, river, India see KISTNA

Krishnamurti, Jiddu (jĭ'dōō krĭsh"nŭmōōr'tē), 1895–, Hindu religious figure Mrs Annie Besant met him in 1907 and proclaimed that he had succeeded Jesus Christ as the incarnation of Maitreya, the world teacher After touring England and America with Mrs Besant in 1926 and 1927, Krishnamurti repudiated these claims and dissolved the Order of the Star, a religious organization which he had founded He continued lecturing in various places, including the United States, Holland, and India, and retained some connection with the theosophical movement See Lilly Heber, *Krishnamurti the Man and His Message* (1931)

Kristiania, Norway see OSLO

Kristiansand (krĭstyänsän'), city (pop 24,343), co. seat of Vest-Agder co, SW Norway, a seaport on the Skagerrak, SW of Oslo It is an export center for fish and lumber It is also a Lutheran episcopal see Founded in 1641, Kristiansand was rebuilt after a fire in 1892 A former spelling of the name is Christiansand

Kristianstad (krĭstyän'städ), city (pop 23,048), S Sweden, a port on the Baltic It is the trade center of a rich agricultural region and also has a variety of industries Founded (1614) by Christian IV of Denmark, it was conquered (1658) by Charles X of Sweden, seized (1676) by the Danes, and regained (1678) by Sweden It is the county seat of **Kristianstad, Swed.** *Krĭstyänstädslän* (lĕn'), county (2,485 sq mi, pop 293,277) The county comprises the northern and eastern sections of the historical province of SKANE

Kristiansund (krĭstyänsōōn') city (pop 13,152), co seat of More og Romsdal co, W Norway, an Atlantic port WSW of Trondheim Its chief exports are fish, lumber, and butter Incorporated in 1742, it is built on four small islands enclosing the harbor A former spelling is Christiansund

Kristinehamn (krĭ"stĭnēhä'mŭn), town (pop 15,679), W central Sweden, an inland port on Vanern Lake It is the industrial center of VARMLAND co, with ironworks founded by Charles IX in 1572

Krivoi Rog (krĕvoi' rôk'), city (1926 pop 31,285, 1939 pop 197,621), S central Ukraine, on the Ingulets river It is the industrial center of an iron-mining region with ore reserves estimated at more than 1,000,000,000 tons In the Second World War, Krivoi Rog was taken by the Germans in 1941 and was recovered, after several months of hard fighting, in 1944 Before retreating, the Germans destroyed most of the industrial installations

Krk (kŭrk), Ital. *Veglia* (vā'lyä), Adriatic island, area 165 sq mi, Croatia, Yugoslavia, off the Dalmatian coast There are several small seaside resorts. The chief town, Krk, has retained its medieval walls and castle and has a 13th-century Roman Catholic cathedral.

Krkonose: see RIESENGEBIRGE

Krnov (kŭr'nôf), Ger *Jägerndorf* (yä'gürndôrf), city (pop 16,335), Silesia, Czechoslovakia, on the Opava river It produces cloth and organs.

Krochmal, Nachman Kohen (näkh'män kō'hĕn krôkh'mäl), 1785–1840, Jewish secular historian and writer, b Galicia He was a leader in the movement of the Jewish enlightenment and a founder of modern Jewish scholarship He applied his synthesis of religion and philosophy to the writing and teaching of Jewish history His most important work, *Guide to the Perplexed of Our Age*, in Hebrew, was published in 1851, after his death

Kroeber, Alfred Louis (krō'bûr), 1876–, American anthropologist, b Hoboken, N J, Ph D Columbia, 1901 He taught (1901–46) at the Univ of California, acting also as curator (1908–25), then director (1925–46), of the anthropological museum of the university He participated in many expeditions in the Southwest and in Mexico and Peru Besides notable papers on the Arapaho and Zuni Indians, Kroeber wrote *Handbook of the Indians of California* (1925) Other writings are *Peoples of the Philippines* (1919), *Archaeological Explorations in Peru* (1926–37), *Cultural and Natural Areas of Native North America* (1939), *Configurations of Culture Growth* (1944), and *Seven Mohave Myths* (1948)

Krogh, August (Schack August Krogh) (shäk' ou'gōost krō'kh), 1874–1949, Danish physiologist He was professor at the Univ of Copenhagen from 1916 to 1945 His special fields of research included respiration, circulation, and the effect of deep-sea conditions on living organisms For his work on the regulation of the capillary blood supply in muscle he received the 1920 Nobel Prize in Physiology and Medicine His writings include *The Anatomy and Physiology of Capillaries* (1922), *Osmotic Regulation in Aquatic Animals* (1939), and *Comparative Physiology of Respiratory Mechanisms* (1941)

Krohg, Christian (krĭs'tyan krōg), 1852–1925, Norwegian genre and portrait painter and author He was a teacher in the Ecole des Beaux-Arts, Paris, and from 1909 was director of the Oslo Academy Krohg was a realist and an advocate of plein-air painting *The Struggle for Existence*, *Port the Helm*, and *Leif Ericson Discovering America* (all Oslo) are characteristic works, a copy of *Leif Ericson*, made by Krohg's son Per, hangs in the Senate Gallery, Washington, D C He is also known for his portraits and his book illustrations A four-volume edition of his writings was published in 1920

Krolewska Huta, Poland see CHORZOW

Kroll, Leon (krōl), 1884–, American painter, b New York city He studied in New York with J H Twachtman, at the Art Students League and the National Academy of Design, and later in Paris under Jean Paul Laurens On his return to New York he became an instructor in the National Academy His oils are characterized by carefully thought-out design, clarity, strong color, and thorough modeling They often depict somewhat ideal subjects realistically His paintings of women have a particular appeal Kroll's work, widely exhibited, won many awards, and he is represented in some 15 principal galleries throughout the United States His *Sleep* (City Art Mus, St Louis) is a characteristic oil

Kromeriz, Czechoslovakia see KREMSIER

Kronecker, Leopold (lā'pôlt krō'nĕ"kur), 1823–91, German mathematician After making a fortune in business he devoted his attention to mathematics and became professor at the Univ of Berlin in 1883 Noted as an algebraist, he was a pioneer in the field of algebraic numbers and in formulating the relationship between the theory of numbers, the theory of equations, and elliptic functions

Kronoberg, Swed *Kronobergs län* (krōn"nōōbĕr'gus lĕn'), inland county (3,828 sq mi, pop 153,572), S central Sweden, formed of the southern part of the historical province of SMALAND It is a marsh and woodland region, with world-famed glass works at ORREFORS and Kosta, woodenware factories, and paper mills The county seat is VAXJO.

Kronstadt, Rumania see BRASOV

Kronstadt (krōn'stät, -stät, Rus. krŭnshtät'), city (1939 estimated pop 50,000), RSFSR, on the small island of Kotlin in the Gulf of Finland, near Leningrad It was founded (1703) by Peter I as a port and a fortress to protect the site of St. Petersburg; it is now the naval base of the Baltic fleet of the USSR and has extensive arsenals, docks, and shipyards Strong fortifications command the sea approach to Leningrad The port lost its commercial value after the dredging (1875–93) of a deep-sea canal which enabled ocean-going vessels to approach St Petersburg directly The visit (1891) of a French squadron to Kronstadt was followed by a Franco-Russian military agreement heralding the formation of the Triple Entente of France, England, and Russia Mutinies of the naval garrison played a part in the revolutions of 1905 and 1917 An outbreak of the sailors in 1921 was instrumental in establishing Lenin's New Economic Policy In the Second World War, Kronstadt played a major role in the defense of Leningrad against the besieging Germans.

Kropotkin, Peter (krōpōt'kĭn), Rus. *Piotr Alekseyevich Kropotkin* (pyô'tŭr ŭlyĭksyā'vĭch krŭpōt'kĭn), 1842–1921, Russian anarchist, b Moscow He was a prince and of a wealthy family As a boy he was a page to the tsar Later he held high civil and military positions and won distinction as a geographer His interest in the peasantry led him to beliefs that caused him to discontinue the use of his title For these beliefs he was imprisoned in Russia, escaping after two years, and his property was confiscated Later he was imprisoned in France, but after three years his pardon was secured by Georges Clemenceau and other friends Through most of his remaining years he lived in England Twice he visited the United States Among the English-speaking peoples he met no hostility, he was respected and esteemed Writings by him appeared in such publications as the *Nineteenth Century*, the *Atlantic Monthly*, and *The Encyclopaedia Britannica* Institutions that sponsored his addresses included the Lowell Institute, Harvard Univ, and Wellesley College He was idolized by workingmen in many countries; in France he was known as *notre Pierre* After the Russian Revolution he returned to Russia, where, as among Anglo-Saxons, he found tolerance and esteem, though his opposition to Bolshevism was fundamental and unconcealed On his death his family, respecting his principles, declined the offer of a state funeral The government made his birthplace a museum to contain his books and other suitable collections and gave his name to a street in Moscow In *Fields, Factories, and Workshops* (1899) Kropotkin advocated the decentralization of industry and the combining of agriculture with other work of hand and brain Roger N Baldwin edited (1927) a collection of his revolutionary pamphlets, with a biographical introduction and a bibliography

Krout, John Allen, 1896–, American historian, b Tiffin, Ohio He studied at Heidelberg College (1914–17), the Univ of Michigan (B A, 1918), and Columbia (M A, 1920, Ph D, 1925) Krout began teaching history at Columbia in 1922 and became a full professor in 1940 In 1948 he was appointed acting director of Columbia's School of General Studies and in 1949 he became dean of graduate studies at Columbia Among his books are *The Origins of Prohibition* (1925), *Annals of American Sport* ("Pageant of America" series, Vol XV, 1929), *American History for Colleges* (with David S. Muzzey, 1933, rev ed, 1943), and *The Completion of Independence, 1790–1830* (with Dixon Ryan Fox, "History of American Life" series, Vol V, 1944) Dean Krout also early became editor of the *Political Science Quarterly* and of the *Proceedings* of the Academy of Political Science

Krüdener, Julie de (du krü'dünur), 1764–1824, Russian novelist and pietist, whose maiden name was Barbara Juliana von Vietinghof Of a Livonian noble family, she married at 17 Baron von Krüdener, a Russian diplomat Dissatisfied with her marriage, she finally left her husband in 1801, a year before his death In Paris and Switzerland she wrote a sentimental novel, *Valérie* (1804), which was a literary sensation Converted to Moravian pietism a few years later, she devoted the rest of her life to traveling over Europe preaching her faith For a time she wielded an enormous influence Among those who fell under her spell was Alexander I of Russia, and she played a part, though an incidental one, in the formation of the Holy Alliance See E J Knapton, *The Lady of the Holy Alliance* (1939)

Krug, Julius Albert (krōōg), 1907–, U S Secretary of the Interior (1946–49), b Madison, Wis, grad Univ of Wisconsin (B A, 1929, M A, 1930) Utilities expert of the FCC (1935–37) and chief power engineer for the TVA (1938), he served (1941–42) in the Office of Production Management and later (1942–44) was vice chairman of the War Production Board and also headed (1943–44) the Office of War Utilities He was made Secretary of the Interior after directing the conversion to peacetime production as chairman of the War Production Board He resigned three years later after a dispute with the President

Kruger, Stephanus Johannes Paulus (krōō'gŭr, Afrikaans stäfä'nus yōhä'nŭs pou'lŭs krŭ'gur), 1825–1904, South African Transvaal statesman, known as Paul Kruger or Oom Paul As a child he accompanied (1836) his family northward from the Cape Colony in the Great Trek that was eventually to cross the Vaal river and establish the Dutch-speaking republic of Transvaal (1852). Kruger played an important role in the development of the country from his childhood, as a pioneer, soldier, farmer, politician. The Transvaal was annexed by Great Britain in 1877, Kruger at first cooperating with the British, but shortly thereafter dismissed because of his demands for retrocession. He was one of the triumvirate (with Piet Joubert and Martinus Pretorius) who negotiated the Pretoria agreement with the British (1881) granting the Boers independence. Kruger was elected president in 1883 and reelected in 1888, 1893, and 1898. His

policy was one of continual resistance to the British, who came to be personified in South Africa by Cecil RHODES. Colonization of Rhodesia N of the Transvaal and the increasing importance of gold mining merely brought only greater resistance on Kruger's part to Rhodes's dream of a unified South Africa. In the 1890s Kruger adopted a stringent policy against the enfranchisement of the Uitlanders who were settling in the Transvaal The Jameson Raid (see JAMESON, SIR LEANDER STARR) into the Transvaal (1896), undertaken with Rhodes's knowledge, created an international crisis The Kaiser congratulated Kruger (the "Kruger telegram") for the successful repulsion of the British, with the implication that Germany had a right to interfere in the Transvaal The message caused great indignation in England Kruger fought in the early stages of the SOUTH AFRICAN WAR, but in 1900 he went to Europe in a Dutch cruiser in a vain effort to enlist aid for his country He died an exile in Switzerland See his memoirs (1902), Stuart Cloete, *African Portraits* (1946)

Krugersdorp (krōō'gûrzdôrp), town (pop 72,909), Transvaal prov, Union of South Africa It is named for Paul Kruger, the last president of the Transvaal republic Its educational facilities include a technical college The town has many Europeans (23,544)

Krupp (krōōp), family of German armament manufacturers The family settled in Essen in the 16th cent, and a member of it was engaged in the manufacture of arms in the Thirty Years War The core of the great Krupp concern was, however, started by **Friedrich Krupp** (frē'drĭkh), 1787–1826, who built a small steel plant c 1810 His son, **Alfred Krupp** (al'frät), 1812–87, the "cannon king," introduced new methods for producing large quantities of cast steel After the Franco-Prussian War he specialized more and more in armaments and acquired mines all over Germany Under his son, **Friedrich Alfred Krupp** (Fritz Krupp), 1854–1902, who was interested in the financial rather than the technical aspects of the enterprise, the Krupp family vastly extended its operations Bertha Krupp, his daughter, married Dr Gustav von Bohlen und Halbach, who assumed the name **Gustav Krupp von Bohlen und Halbach** (gōōs'täf, fŭn bō'lun ōont hal'bakh), 1870 1950 He took over the management of the firm, which had become a company in 1903 After 1933 the Krupp works became the center of German rearmament In 1943, by special order from Hitler, the company was again converted into a family holding and **Alfred Krupp von Bohlen und Halbach**, 1907–, son of Gustav and Bertha, took over the management Imprisoned by the Allies in 1945, he was tried as a war criminal at Nuremberg and sentenced (1948) to imprisonment for 12 years See Bernhard Menne *Blood and Steel* (1938)

Krusenstern, Adam Johann von (ä'dăm yō'hän fŭn krōō'zŭnshtĕrn), 1770–1846, Russian navigator In 1803–6 he circumnavigated the globe Although the voyage was undertaken to stimulate the fur trade of the Pacific coast and to revive trade with China and Japan, its real contribution was to the knowledge of the hydrography of the N Pacific coast of America Krusenstern was director (1827–42) of the royal naval academy and was promoted to the rank of admiral He wrote an account of his voyage (3 vols, 1810, Eng tr, 1813)

Krusevac, Serbo-Croatian *Kruševac* (krōō'shĕvats), town (pop 14,104), Serbia, Yugoslavia, near the Western Morava and SE of Belgrade A capital of medieval Serbia, it now has chemical and munitions industries

Krusne Hory: see ERZGEBIRGE

Krutch, Joseph Wood (krōōch), 1893–, American author, editor, and teacher, b Knoxville, Tenn., grad Univ of Tennessee, 1915, Ph D Columbia, 1923 In 1924 he became associate editor and dramatic critic of the *Nation*, and in 1925 he began his career as a teacher, becoming professor of English at Columbia in 1937 Well known as an authority on the drama and as a literary critic, he has written *Comedy and Conscience after the Restoration* (1924), *Edgar Allan Poe: a Study in Genius* (1926), *The Modern Temper* (1929), *Five Masters: a Study in the Mutations of the Novel* (1930), *The American Drama since 1918* (1939), *Samuel Johnson* (1944), and *Henry David Thoreau* (1948) *The Twelve Seasons* appeared in 1949

Krylenko, Nikolai Vasilyevich (nyĭkŭlĭ' vŭsē'lyŭvĭch krĭlyĕn'kō), 1885–?, Russian revolutionist. An early Bolshevik, he was raised late in 1917 by Leon Trotsky from the rank of ensign to commander in chief of the Russian forces for the purpose of concluding an armistice with the Central Powers He resigned in 1918 and subsequently became public prosecutor and commissar of justice In 1938 he was dismissed, accused of plotting treason with Trotsky, and presumably he was executed

Krylov, Ivan Andreyevich (ēvän' undrā'yĭvĭch krĭlôf'), 1768–1844, great Russian fabulist. One of the chief literary figures of his period, he wrote more than a half dozen volumes of fables, many of which were classics of their type See translations by C F Coxwell (1921) and Bernard Pares (1926). The name also appears as Kriloff

Krynica (krĭnē'tsä), region (pop 2,649; alt 1,640–2,300 ft), SW Poland. It is a resort with mineral baths and winter sports in the Carpathians, near the Czechoslovak border The world ice hockey championship games were played here in 1930–31.

kryolite see CRYOLITE

krypton (krĭp'tŏn) [Gr, =hidden], inert, colorless, odorless, tasteless gaseous element (symbol=Kr, for physical constants, see ELEMENT, table) One normal liter of the gas at 0°C and 760 mm pressure weighs 3.708 g Krypton is present in the atmosphere in minute quantities and was first obtained from that source by William Ramsay and Morris Travers in 1898 It is classed with the other inert gases, helium, neon, argon, and xenon, in the periodic system, it forms no known compounds.

Krzemieniec, Ukraine see KREMENETS

Ku-. For some Chinese names beginning thus, see Kw-, e g, for Kunngu, see KWANGSI

Kuala Lumpur (kwa'lu lōōm'pōōr), town (pop. 111,418), Selangor state, SW Malaya It is the capital of Selangor and of the federation of Malaya Its growth to its present size has taken place largely since 1895, when it became the capital of the Federated Malay States

Kuban (kōōbän', -bän', Rus kōōbä'nyu), river, 560 mi long, Georgian SSR and RSFSR It rises in the Greater Caucasus on the western slopes of Mt Elbrus and flows northward in a wide arc past Klukhori, Cherkessk, and Armavir, then W past Krasnodar, entering the Sea of Azov and the Black Sea through two arms Its upper course is precipitous and leads through several gorges, it then meanders slowly through the Kuban Steppe, a rich black-earth area and one of the major grain districts of the USSR The last 150 mi are navigable Russia annexed the khanate of Crimea, of which the Kuban area was a part, in 1783 Cossacks were settled in the fertile region and helped to protect it from the hostile Circassian mountaineers to the south, they displaced the nomadic Nogai Tatars, who now live mainly farther east, in the Cherkess Autonomous Oblast The Kuban Cossacks fought against the Bolsheviks after the October Revolution of 1917 and aided the army of Kornilov and Denikin In the Second World War there was severe fighting (1942–43) in the Kuban area during the Germans' drive on the Caucasus and their retreat

Kubango see OKAVANGO

Kubelik, Jan (yan' kōō'bulĭk), 1880–1940, Czech violinist, studied with Sevcik at the Prague Conservatory He made his debut in Vienna in 1898 and was thenceforward acclaimed for his great virtuosity in England, on the Continent, and in the United States, where he first appeared in 1901

Kublai Khan (kōō'blī kän'), 1215?–1294, Mongol emperor, founder of the Yuan dynasty of China He succeeded (1260) his brother Mangu as khan of the empire which their grandfather JENGHIZ KHAN had founded The empire reached its greatest territorial extent with Kublai's final defeat (1279) of the Sung dynasty of China, however, his campaigns against Japan, SE Asia, and Indonesia failed Kublai's rule was nominal except in Mongolia and China He fostered Chinese scholarship and arts He favored Buddhism but tolerated other religions Kublai encouraged foreign commerce, and his magnificent capital at Cambaluc (now Peiping) was visited by several Europeans, notably Marco Polo who described it It is perhaps this city which figures in Coleridge's poem *Kubla Khan* Kublai's name is also spelled Kubilai, Koublai, and Kubla

Kuching (kōō'chĭng), city (pop 37,949), on W Borneo, capital of Sarawak, on the Sarawak river 18 mi inland The largest city of Sarawak, it is a commercial center with exports of sago flour and pepper Here are the British governor's residence, and Anglican and Roman Catholic cathedrals

Kuchuk Kainarji, Treaty of (kōōchōōk' kīnär'jē), 1774, peace treaty signed at the end of the first of the Russo-Turkish Wars undertaken by Catherine II of Russia against Sultan Mustafa III It was signed at the village of Kuchuk Kainarji, now Kaynardzha, NE Bulgaria, in the Dobruja, near the Danube and SE of Silistra The treaty ceded Kerch and several other places in the Crimea to Russia and declared the rest of the khanate of Crimea independent Moldavia and Wallachia were restored to the suzerainty of the sultan, but Russia obtained the right of intervening with the Sublime Porte on behalf of those two principalities Russia furthermore acquired certain rights of representation on behalf of the Greek Orthodox subjects of the sultan By a separate treaty (1775) Turkey ceded Bukovina to Austria The Treaty of Kuchuk Kainarji facilitated the eventual Russian annexation (1783) of the Crimea and was the basis of the later claims of Russia as protector of the Christians in the Ottoman Empire. The Russian ascendancy over Turkey, of which the treaty was a symptom, made the EASTERN QUESTION acute Varied spellings include the forms Kutchuk and Kainardji

Kudalur, India see CUDDALORE

Kudrun, several Germanic heroines, see GUDRUN

Kuds, El see JERUSALEM

kudzu (kōōd'zōō), perennial leguminous vine (*Pueraria thunbergiana*). A broad-leaved plant with a woody stem and purple flowers borne in clusters, it is noted for its rapid growth Indigenous in Japan, it is grown in the Orient for its edible tubers and hemplike fiber. It was introduced in the United States c 1895 as a decorative vine and is now widely used in the South as a ground cover to arrest erosion, as a soil-enriching crop, and as a forage crop The leaves have a protein content at least equal to that of alfalfa and are used for grazing or for hay

Kufa (kōō'fu), ancient Mesopotamian city, near the Euphrates, c 110 mi S of Baghdad. Founded in 638, it soon rivaled Basra in size The Arab governor of Mesopotamia resided here until 702 For a time Kufa was the seat of the Abbasid caliphate, and Ali, the fourth caliph, is supposed to have been murdered here Husein, Ali's son, was on his way to Kufa when he was killed in battle The city was repeatedly plundered by the Karmathians in the 10th cent and lost its importance.

Kufstein (kōōf'shtīn), town (pop 11,844), Tyrol, W Austria, a summer and winter resort near the German border The fortress of Geroldseck, built by Emperor Maximilian I, contains a modern organ famous for its spectacular size and loudness

Kühlmann, Richard von (rĭkh'ärt fŭn kül'män), 1873–, German statesman Appointed foreign secretary in Aug, 1917, he negotiated (March, 1918) the Treaty of Brest-Litovsk, and in July of the same year he was removed from office for publicly declaring that the war could not be ended by military action alone and without recourse to diplomacy

Kuhn, Richard (rĭkh'ärt kōōn'), 1900–, Austrian chemist, director of the Kaiser Wilhelm Institute, Heidelberg For his research on the carotinoids and vitamins (he isolated riboflavin or B_2) he was awarded the 1938 Nobel Prize in Chemistry, a Nazi decree prevented his acceptance of the award

Kuhn, Walt (kŭn), 1880–, American painter, b New York city At 19 he worked as a cartoonist in San Francisco, contributing later to *Life* After travel and study in Europe he devoted himself largely to oil painting In 1913, in cooperation with his friend Arthur B Davies, he was instrumental in assembling the famous Armory Show He is best known for his bold and brilliant interpretive portraits and figure studies of circus and back-stage types, of which *Blue Crown* (Whitney Mus, New York) is a good example He is represented in the galleries of Andover, Mass, Brooklyn, New York city, Denver, Los Angeles, San Francisco, Washington, D C, and Dublin, Ireland

Kuibyshev (kwē'bĭshĕf, Rus kōō'bĭbĭshĭf), formerly **Samara** (sumä'ru, Rus sŭma'rŭ), city (1939 pop 253,655, 1940 estimated pop 600,000), capital of Kuibyshev oblast, E European RSFSR, on the left bank of the Volga and at the mouth of the Samara river It is a major river port and rail center and has important industries (aircraft, locomotive, machinery, ball bearings, synthetic rubber, and textiles and petroleum refining) Grain and livestock are the chief exports There are several technical, medical, and pedagogical institutes Founded in 1586 as a Muscovite stronghold, Samara was attacked by the Nogai Tatars (1615) and the Kalmucks (1644) and opened its gates to the Cossack rebels under Stenka Razin in 1670 It grew to be the chief grain center on the Volga river and was the seat of immensely rich grain merchants Its industrial expansion dates from the early 20th cent when railroads to Siberia and central Asia were built In 1935 Samara was renamed Kuibyshev in honor of a Soviet leader Samara was (1918) the seat of the anti-Bolshevik provisional government and constituent assembly of Russia During the Second World War the central government of the USSR was transferred to Kuibyshev (1941–43) from exposed Moscow As a result, the population rose tremendously, and the city limits were vastly expanded A large oil field, stretching from Kuibyshev eastward to the Urals, was recently discovered, and its exploitation is likely to enhance still further the industrial importance of the city

Kukawa (kōō'kawä") or **Kuka** (kōō'ka), town (pop 3,282), N Nigeria Founded in 1814, it was in the early 19th cent the capital of the native state of Bornu and had a population of c 60,000

Ku Klux Klan (kū' klŭks' klăn', kōō'), name of two distinct secret societies which have played a part in American history, the first as an organization in the South during the RECONSTRUCTION period following the Civil War and the second as a nationwide organization which flourished after the First World War 1 The original Ku Klux Klan was organized by the ex-Confederate element to oppose the Reconstruction policies of the radical Republican Congress and to maintain "white supremacy" After the Civil War, when local government in the South was weak or nonexistent and there were fears of Negro outrages and even of an insurrection, there were formed in almost all communities informal vigilante organizations or armed patrols These were linked together in societies, such as the Men of Justice, the Pale Faces, the Constitutional Union Guards, the White Brotherhood, and the

Order of the White Rose. The Ku Klux Klan was the best known of these, and as it spread it absorbed many of the smaller organizations It was organized at Pulaski, Tenn, in Dec, 1865 Its strange disguises, its silent parades, its midnight rides, its mysterious language and commands, were found to be most effective in playing upon the fears and superstitions of the blacks The riders muffled their horses' feet and covered the horses with white robes They themselves, dressed in flowing white sheets, their faces covered with white masks, and with skulls at their saddle horns, posed as spirits of the Confederate dead returned from the battlefields It was not often necessary to resort to violence to terrify the Negroes, but warnings, followed frequently by whippings and sometimes tar-and-feather parties, were necessary to subdue the CARPETBAGGERS and SCALAWAGS A general organization of the local Klans was effected in April, 1867, at Nashville, Tenn Gen N B FORREST, the famous Confederate cavalry leader, was made Grand Wizard of the Empire, who was assisted by 10 Genii Each state constituted a Realm under a Grand Dragon with eight Hydras as a staff, several counties formed a Dominion controlled by a Grand Titan and six Furies, a county was a Province ruled by a Grand Giant and four Night Hawks, the local Den was governed by a Grand Cyclops with two Night Hawks as aides The private members were called Ghouls Control over local Dens was not as complete as this organization would seem to indicate, and reckless and even lawless local leaders sometimes committed acts which the leaders could not countenance General Forrest, in Jan, 1869, seemingly under some apprehension as to the use of its power, ordered the abandonment of the Klan and resigned as Grand Wizard Local organizations continued, some of them for many years The Klan was particularly effective in systematically keeping the Negroes away from the polls, so that the ex-Confederates gained political control in many states. Congress in 1870 and 1871 passed legislation to combat it (see FORCE BILL) The Klan was especially strong in the mountain and piedmont areas In the Lower South the Knights of the White Camellia were dominant This order, founded in Louisiana in 1867, is reputed to have had even more members than the Ku Klux Klan, but its membership was more conservative and its actions less spectacular It had a similar divisional organization, with headquarters in New Orleans Albion W Tourgée's *Fool's Errand* (1880) and Thomas Dixon's *Clansman* (1905), on which David W Griffith based his famous moving picture *The Birth of a Nation*, were two popular novels about the original Klan See Walter L Fleming's edition (1905) of J C Lester and D L Wilson, *Ku Klux Klan*; Stanley F Horn, *Invisible Empire the Story of the Ku Klux Klan, 1866–1871* (1939) **2** The second Ku Klux Klan was founded by William J Simmons, an ex-minister and promoter of fraternal orders, in 1915, its first meeting was held on Stone Mt, Ga The new Klan had a wider program than its forerunner, for it added to "white supremacy" an intense nativism and anti-Catholicism (it was also anti-Semitic) closely related to that of the KNOW-NOTHING MOVEMENT of the middle 19th cent Consequently its appeal was not sectional, and, aided after 1920 by the activities of Elizabeth Tyler and Edward Y Clarke, professional promoters, it spread rapidly throughout the North as well as the South It also furnished an outlet for the militant patriotism aroused by the First World War, and it stressed fundamentalism in religion Professing itself nonpolitical, the Klan nevertheless controlled politics in many communities and in 1922, 1924, and 1926 elected many state officials and a number of Congressmen Texas, Oklahoma, Indiana, Oregon, and Maine were particularly under its influence In Indiana its political activities led to the indictment and conviction of the mayor of Indianapolis and the governor of the state The Klan frequently took extra-legal measures, especially against those guilty of offenses difficult to reach by law As was the case with the earlier Klan, some of these measures, whether authorized by the central organization or not, were extreme At its peak in the mid-1920s its membership was estimated at 4,000,000 to 5,000,000 Although the actual figures were probably much smaller, the Klan nevertheless declined with amazing rapidity to an estimated 30,000 by 1930 The Klan spirit, however, was a factor in breaking the Democratic hold on the South in 1928, when Alfred E Smith, a Catholic, was that party's presidential candidate Its collapse thereafter was largely due to state laws which forbade masks and eliminated the secret element, to the bad publicity the organization received for its thugs and swindlers, and apparently from the decline in interest of the members With the depression of the 1930s, its dues-paying members shrank to almost nothing Meanwhile, many of its leaders had done extremely well financially from the dues and the sale of Klan paraphernalia The organization was almost forgotten until 1937, when Hugo L Black, appointed to the U.S. Supreme Court, was accused of having once been a Klansman Black, while admitting the charge, said that he had only belonged to the organization for a very short time (in the early 1920s virtually every ambitious Southern politician did) and never had subscribed to its program After the Second World War there was a concerted attempt to revive the Klan, but it failed dismally when state after state specifically barred the order Along with similar organizations, it still exists in incipient form in several of the Southern states, notably Georgia. See J M Mecklin, *The Ku Klux Klan* (1924)

Kukulcán see QUETZALCOATL

Kuldiga (kōōl'dĭgu), Ger *Goldingen* (gōl'dĭng-ŭn), city (pop 7,180), W Latvia It has lumber, textile, and leather manufactures There are ruins of a 13th-century castle, and Kuldiga was a residence of the dukes of Courland

Kulja (kōōl'jä), Mandarin *Ining*, city and county (pop 59,947), Sinkiang prov, China The city is on the Ili river near the Russian frontier On the main road of Sinkiang, it is a trading center in a fruitgrowing district

Kulikovo, battle of (kōōlyĭkô'vu), 1380, victory of Grand Duke DMITRI DONSKOI of Moscow over Khan Mamai of the Golden Horde It was fought on a plain by the Don near the present village of Kurkino, RSFSR, SE of Tula The victory, which gave Dmitri his surname Donskoi, was not decisive, but it greatly promoted Russian resistance to Mongol domination and made Moscow the center of that resistance

Kulm, Poland see CHEŁMNO

Kulmbach, Hans von (hans' fŭn kōōlm'bäkh), c 1476–1522, German painter and engraver, follower and probably a student of Dürer His real name was Hans Süss (zūs) He worked chiefly in Cracow, where he was court painter (1514–18), and in Nuremberg, where he painted an altar predella for the Church of St Lorenz and his masterpiece, the Tucher altar for the Church of St Sebald His *Adoration of the Magi*, *Finding the Cross*, and *Ascension* (Metropolitan Mus) are also well-known works In addition, many fine portraits and designs for stained glass are attributed to Kulmbach

Kulmbach, city (pop 21,812), Upper Franconia, N Bavaria, on the White Main and NNW of Bayreuth Among its industries are textile manufactures and breweries First mentioned in 1035, it was (1340–1603) the residence of the margraves of Kulmbach (later known as margraves of Bayreuth) of the house of Hohenzollern It was devastated by imperial troops in 1553 and passed (1810) to Bavaria On a near-by hill is the fortress of Plassenburg (12th cent, rebuilt in Renaissance style in the 16th cent), which has been a prison since 1808

Kulpmont, borough (pop 6,159), E Pa, SE of Sunbury, settled 1905, inc 1916 Anthracite is mined

Kulturkampf (kōōltōōr'kampf") [Ger, =conflict of cultures], name usually given to the conflict between the German government under BISMARCK and the Roman Catholic Church The struggle arose from numerous issues Bismarck, anxious to strengthen the central power of the new German Empire, feared the strongly organized Church, which had considerable influence in the state and had a political voice in the active Center party (founded 1870) He felt that the hegemony of Prussia in Germany, vital to his state, was threatened by Catholic opposition to Protestant government, and he was especially alarmed after the enunciation of the dogma of the INFALLIBILITY of the pope in matters of faith and morals within the Church (made at the Vatican Council), the dogma, he feared, concealed some danger to the state Therefore, he showed favor to the group of men who were unwilling to accept the infallibility More important was his desire to win the favor of the liberals, who opposed the Church this factor was perhaps the most potent in shaping German policies Moreover, the groups of minorities who were disaffected, such as the supporters of the Guelphic monarch of Hanover, the suppressed Poles in Prussia, and the Bavarians, were intimately allied with the Catholic party Other issues helped to bring on the warfare, which began with anti-Catholic laws against Church marriage and against papal jurisdiction over priests accused of crime The state assumed strict supervision over the education of the clergy and sought to break down the system of the Catholic schools These May Laws (of May, 1873) created much bitterness The struggle, begun by the expulsion of the Jesuits and other measures in 1872, assumed tremendous proportions, especially in Prussia All means—harsh fines, imprisonment, exile—were brought to bear on the Catholic clergy and their supporters The condition of affairs is well illustrated in the case of Cardinal LEDOCHOWSKI, whom the Prussian government declared deposed. These measures had the somewhat unexpected result of increasing the Catholic party tremendously; in 1878 the Center party showed great gains Bismarck, now fearing also the rising tide of socialism, changed his policy and decided to seek the friendship of the Center He retreated from his position, the anti-Catholic measures were gradually discarded and in 1887 a *modus vivendi* was reached with Pope LEO XIII The interference of state in Church affairs ended. The contest, however, cleared the air and did away with the fear of Church interference in imperial affairs See Georges Goyau, *Bismarck et l'église* (4 vols, 1911–13), bibliography under BISMARCK, OTTO VON

Kulun, Mongolian People's Republic see ULAN BATOR

Kum, Qum, or **Qom** (all kōōm), city (pop 52,037), central Iran, SSW of Teheran In a semiarid region, it is a transportation center on the Trans-Iranian RR and on the highway from Teheran to Isfahan Building of a branch railroad to Kashan and Yezd was delayed by the Second World War It is a Shiite holy place with many mosques and tombs The Afghans ruined the city in 1721 but spared the rich tombs

Kumamoto (kōō'mänmô'tō), city (1940 pop 194,139, 1947 pop 245,841), capital of Kumamoto prefecture, W Kyushu, Japan, on a great plain An important castle town in the 17th cent, it is today a manufacturing center and the seat of Kumamoto Medical Univ The prefecture has the volcanic peaks, Aso-san, and many islands

Kumanovo (kōō'mänôvô), town (pop 19,798), N Macedonia, S Yugoslavia, NE of Skoplje It is the center of a tobacco-growing region Here in 1912 the Serbs decisively defeated the Turks in the First Balkan War

Kumasi (kōōmä'sē, -mä'sē), city (pop 70,705), capital of Ashanti, W Africa It was twice taken (1874, 1896) by British troops and held (1900) by them against a native revolt Cotton cloth is woven It is a road and railroad junction and a center of the cacao trade

Kumbakonam (kōōmbukō'num), town (pop 67,008), S Madras state, India, on the Cauvery With many Hindu temples, it is the goal of pilgrimage every 12 years It is a center of delta farming, silk and cotton are woven, and jewelry is made The name was formerly spelled Combaconum

kumiss see FERMENTED MILK

kümmel (kĭ'mul, Ger kŭ'mul), sweet LIQUEUR, popular in the Baltic states and produced chiefly in Riga, Latvia Cumin and caraway seeds give the predominating flavor A fine variety is Allasch or doppelkümmel

Kummer, Clare (kŭ'mur), contemporary American dramatist She wrote several successful comedies, including *Good Gracious, Annabelle* (1916), *A Successful Calamity* (1917), *Rollo's Wild Oat* (1920), and *Her Master's Voice* (1933) She also has written one-act comedies, adaptations from the French, dialogue for moving pictures, and popular songs, including *Dearie* Her son-in-law, Roland Young, has appeared in several of her plays

kumquat (kŭm'kwŏt), ornamental shrub of the genus *Fortunella*, closely related to the lemon and the orange It has evergreen leaves, sweet-scented white flowers, and small, orange-yellow edible fruits, which are eaten fresh or in preserves Three or four varieties of the kumquat, which is probably a native of China, are cultivated as house and hedge plants in the Gulf states and California They are much hardier than most oranges The kumquat is also called kinkan

Kun, Bela (bä'lô kōōn'), 1886–?, Hungarian Communist A prisoner of war in Russia after 1915, he embraced Bolshevism, after the outbreak of the Russian Revolution he was sent to Hungary as a propagandist In 1919 Count Michael KAROLYI and his government resigned and the Communists and Social Democrats formed a coalition government under Kun Kun set up a dictatorship of the proletariat, nationalized banks, large businesses and estates, and all private property above a certain minimum, and ruthlessly put down all opposition He raised a Red Army and overran Slovakia The Allies forced Kun to evacuate Slovakia, and a counterrevolution broke out Kun was at first victorious over the counterrevolutionists, but he was defeated by a Rumanian army of intervention and was forced to flee to Vienna Kun's Red Terror was followed by a White Terror Stephen HORTHY DE NAGYBANYA became regent of Hungary Kun, after being held at an insane asylum in Vienna, eventually went to Russia He reappeared (1928) in Vienna and was briefly imprisoned, but the Austrian government refused to extradite him to Hungary and Kun was allowed to return to Russia According to unconfirmed rumors he died in prison after the Communist party purges of the 1930s See Oszkar Jaszi, *Revolution and Counter-Revolution in Hungary* (1924)

Kunersdorf (kōō'nursdôrf"), Pol *Kunowice* (kōōnôvē'tsĕ), village, Polish-administered Brandenburg, 3 mi E of Frankfurt-an-der-Oder Here in the Seven Years War, Frederick II of Prussia suffered a critical defeat at the hands of the Austrians and Russians

Kungalv, Swed *Kungälv* (kŭng'ĕlv"), town (pop 3,632), Goteborg and Bohus co, SW Sweden, N of Goteborg and on the Kattegat In the Middle Ages it was one of the chief cities of Norway, known as Konghelle and mentioned in the sagas It was plundered (1135) by the Wends, seized (1368) by the Hansa merchants, and ceded to Sweden in 1612 The later town, Kungalv, dates from 1680. A park surrounds the ruins of its citadel

Kungei Ala-Tau see ALA-TAU

Kung Hsiang-hsi (kŏŋ'shyang'shē'), 1881–, Chinese banker and political leader, educated at Oberlin College and Yale Univ He is deemed a direct descendant of Confucius in the 75th generation Throughout his career he supported Sun Yat-sen and Chiang Kai-shek His first important position was minister of industry, commerce, and labor (1927) After 1931 he belonged to the central executive committee of the Kuomintang He was minister of finance (1933–44), governor of the Central Bank of China (1933–45), and president (1938) and vice president (1939–45) of the Executive Yuan He married Soong Ai-ling (see SOONG, family) He is also known as H H Kung

Kunié, New Caledonia see PINES, ISLE OF

Kunigunde, Saint see HENRY II, emperor

Kuniyoshi, Yasuo (yäsōō-ō' kōōn"ēyō'shē), 1892–, American painter, b Okayama, Japan He came to the United States at 13 and studied art in Los Angeles and at the Art Students League of New York under Kenneth Hayes Miller He visited Europe in 1925 and in 1928 Kuniyoshi's work has been described as Oriental in spirit but Western in technique It has a brilliant accent despite his preference for somber color His paintings, drawings, and prints are original and highly decorative They are best seen in the galleries of New York city, where is also his well-known mural in Radio City Music Hall Kuniyoshi was long a popular teacher at the Woodstock Summer Art School

Kunlun (kōōn'lōōn'), mountain system, Tibet and W China, adjoining the Himalayas and forming the natural northern boundary of Tibet Described as "an ocean of tumbling peaks," the Kunlun reach 24,000 ft in the main range (the Min Shan), which lies S of the Tsaidam, a swamp of Tsinghai prov, China A branch range, called the Altyn Tagh in N Tibet and S Sinkiang and the Nan Shan elsewhere in China, lies generally N of the Tsaidam and in China joins the Min Shan near the upper Yellow River valley The Tsinglings range of central China, which rises to 12,000 ft, is an eastern branch of the Kunlun In the high mountain passes yaks are the beasts of burden

Kunming or **K'un-ming** (kōōn'mĭng'), city (pop 300,297), capital of Yünnan prov, S China North of a series of large lakes at an elevation of 6,200 ft, it is the terminus of a railroad to Haiphong, Indo-China, and is connected by short lines with near-by cities In the Second World War, Kunming was the Chinese terminus of the Burma Road and a major shipping point for military supplies The city was formerly named Yünnanfu

Kunsan (kōōn'sän'), Jap *Gunzan*, city (1946 pop 66,715), S Korea, a port on the Yellow Sea A rail terminus, it has light industries

Kunya-Urgench, Turkmen SSR see URGENCH

Kunz, George Frederick (kōōnts), 1856–1932, American authority on gems, b New York city He was associated with Tiffany & Co, New York, from 1879 and also served in a special capacity on the U S Geological Survey (1883–1909) and on the U S Fish Commission investigation of American pearls (1892–98) Among his writings are books on the gems and precious stones of North America (1890) and of Mexico (1907) Kunzite a variety of spodumene, was named for him

Kuomintang or **Kuo-min-tang** (kwō'mĭntäng', kōō'ō–) [Chinese,=national people's party] SUN YAT-SEN organized this party in 1912 to succeed his Revolutionary Alliance (T'ung Meng Hui) Its program called for an independent republic and moderate socialism In 1913 Yüan Shih-kai, the president of China, suppressed the Kuomintang although it held a majority in the first national assembly The party established unrecognized governments at Canton in 1918 and 1921 The USSR assisted it to reorganize in 1922 At the party congress in 1924 at Canton a coalition including Communists adopted Sun's political theory, which included the Three People's Principles (San Min Chu I), namely, nationalism, democracy, and a guaranteed livelihood Sun thought that Chinese National reconstruction must follow the stages of military government, tutelage under the Kuomintang, and popular sovereignty Soon a Kuomintang army under CHIANG KAI-SHEK advanced N from Canton, halting temporarily in 1927 when the Communists were purged and the civil war between the two factions began The Kuomintang government at Nanking received diplomatic recognition in 1928 and opened the period of tutelage By 1930 all China was conquered except for distant regions in the north where the Communists maintained their power The Kuomintang controlled the Chinese government absolutely until 1947, when it permitted some participation by minor liberal parties Full-scale civil war and an apparently inevitable Communist victory made unfeasible the sovereignty stipulated in the national constitution of 1947. See P M Linebarger, *The China of Chiang K'ai-shek* (1941).

Kuopio (kōō'ôpēō), city (pop 25,343), central Finland, on Lake Kallavesi, in the principal forest region of Finland. Its industries are based on timber At the head of the SAIMA lake system, Kuopio is also a tourist and inland navigation center.

Kupka, Frank, Czech *František Kupka* (frän'tyĭshĕk kōōp'kä), 1871–, Czech painter, etcher, and illustrator He settled (1894) in Paris and became a caricaturist on Parisian papers He illustrated works by Reclus and Leconte de Lisle and an edition of Aristophanes' *Lysistrata* He is a realist and symbolist His paintings are in private collections

Kuprili (kuprē'lē, Turkish kū'prēlē), distinguished Turkish family of Albanian descent, several members of which served as grand viziers The name is also spelled Kuprili, Köprili, and Köprulü

Mohammed Kuprili, 1583–1661, became grand vizier of MOHAMMED IV in 1656 Though an upstart and illiterate, he displayed remarkable statesmanship and efficiency He reorganized the Turkish fleet, conquered (1658) Transylvania, restored internal order, reformed the finances, and built forts along the Don and Dnieper During his vizierate the Ottoman Empire regained some of its former prestige and vitality He was succeeded as vizier by his son **Ahmed Kuprili** (ä'mĕd), 1635–76 An able statesman and soldier, he took (1669) the last Venetian stronghold in Crete, but he was severely defeated (1664) by Montecucculi at Szent-Gotthard in Hungary and suffered reverses in his campaigns against John III of Poland Ahmed, who died from overindulgence, especially in drinking, was succeeded as vizier by Kara MUSTAFA, his brother-in-law Ahmed's brother, **Mustafa Kuprili** (mōō'stäfä), 1637–91, became vizier in 1689, at a time when the Austrians and their allies were advancing victoriously into the Ottoman Empire He continued his predecessors' administrative and fiscal reforms and improved the status of the Christian subjects He drove the Austrians from Serbia but was killed in the battle of Slankamen His cousin, **Hussein Kuprili** (hüsän'), d 1702, was vizier from 1697 He negotiated the humiliating Treaty of KARLOWITZ He too was a reformer and a patron of the arts and letters Mustafa Kuprili's son, **Numan Kuprili** (nōō-man'), d 1719, was vizier in 1710–11 Another son, **Abdullah Kuprili** (ŭbdōōlä'), d 1735, was acting vizier from 1723 till his death

Kuprin, Aleksandr Ivanovich (ülyĭksän'dur ēva'nuvyĭch kōō'prĭn), 1870–1936, Russian novelist and short-story writer He won fame with *The Duel* (1905, Eng tr, 1916), a novel of protest against the Russian military class In 1909 *The Pit* (Eng tr, 1922), a novel dealing with prostitution in Odessa, created a sensation Kuprin left Russia after the revolution but returned in 1937 shortly before his death Some of his best short stories appear in English in *The River of Life* (1916), *A Slav Soul* (1916), *The Bracelet of Garnets* (1917), and *Sasha* (1920)

Kura (kōōrä'), anc *Cyrus*, river, 940 mi long, the chief river of the Georgian SSR and the Azerbaijan SSR It rises in Turkish Armenia, NW of Kars, at 6,500 ft and flows northeast, then southeast paralleling the Greater Caucasus, into the Caspian Sea Its rapid upper course is utilized by a large hydroelectric plant near Tiflis Navigation begins 300 mi above the mouth In its lower course the Kura is joined by the Aras and runs through an extensive irrigated plain that extends into NW Iran Rich cotton crops are grown in this region, which lies partly below sea level

Kurdistan (kûr'dĭstăn", kōōrdĭstän'), extensive plateau and mountainous region of indefinite limits (c 74,000 sq mi, pop c 2,000,000), inhabited by Kurds or Carduchis and including parts of E Turkey, Soviet Armenia, NE Iraq, and NW Iran In Iran, the Kurds are principally in Azerbaijan and Khurasan, and some in Fars In Turkey, they dwell near the Turko-Persian frontier in the region around Lake Van Large colonies of Kurds are also around Diyarbakir and Erzerum In Iraq, the Kurds are centered about Mosul, Kirkuk, and Sulaimania, the latter being populated entirely by Kurds In Russian Transcaucasia, the Kurds of Erivan and neighboring towns constitute a small minority In all, there are upward of 1,500,000 Kurds In close ethnical relation to the Persians, they are a nomadic people engaged mainly in sheep raising and agriculture, and their chief industry is carpet making The majority are fanatic Sunnite Moslems A warlike people, the Kurds throughout their history have never submitted to foreign rule for long In a narrower sense, the name Kurdistan is applied to an old Persian province now incorporated mostly in the Fifth Prov and partly in the Third Prov and Fourth Prov For centuries the Kurds struggled for autonomy from Ottoman rule, and at the Paris Peace Conference in 1919 they reaffirmed their claims to independence The Treaty of Sèvres (1921) provided for the creation of an autonomous Kurdish state, but the Treaty of Lausanne (1923), which superseded it, failed to mention Kurdistan. Subsequent revolts in 1925 and 1930 on the part of the Kurds have had no definite result in the achievement of autonomy In 1946 the Kurds of Iran, parallel with the autonomous movement in Azerbaijan, Iran, staged a revolt for autonomy against the Persian government The revolt was suppressed and the leaders were executed

Kurds: see KURDISTAN.

Kure (kōō'rā), city (1940 pop 238,195, 1947 pop. 185,740), Hiroshima prefecture, SW Honshu, Japan, on Hiroshima Bay A major naval base and port, with shipbuilding yards and factories, it was heavily bombed (1945) in the Second World War

Kure Island (kōō'rā), formerly **Ocean Island,** a circular atoll in the northwestern part of the Hawaiian group, c 50 mi NW of Midway Kure was annexed (1886) by **Hawaii** and was worked for guano In 1936 it was placed under the U S navy The name is also spelled Curé

Kurgan (kōōrgän'), city (pop 53,224), capital of Kurgan oblast, RSFSR, in W Siberia, on the Tobol river and at the junction of two branches of the Trans-Siberian RR Founded in 1616, it is the center of a wheat-growing and dairy-farming district

Kurhessen, Germany see HESSE

Kurile Islands or **Kuril Islands** (both kōōrel', kōō'rĭl), Jap *Chishima-Retto*, Rus *Kuril'skiye Ostrova*, island chain (5,700 sq mi, pop 17,549), RSFSR, in the N Pacific, stretching between Kamchatka and Hokkaido There are 30 large and 20 small islands, mainly of volcanic origin Sulphur mining, hunting, and fishing sustain the population In the 18th cent Russia and Japan both penetrated the islands, which in 1875 became entirely a Japanese possession The USSR occupied and annexed the Kuriles in 1945 pursuant to an agreement at the Yalta Conference

Kurisches Haff (kōō'rĭshus häf'), coastal lagoon (56 mi long and 28 mi wide, maximum depth, 33 ft), Lithuania and former East Prussia It is separated from the Baltic Sea by the Kurische Nehrung, a sandspit 60 mi long and 1 to 2 mi wide, which leaves only a narrow opening at the Memel channel in the north The Niemen river empties into the Kurisches Haff

Kurland see COURLAND

Kuropatkin, Aleksey Nikolayevich (ülyĭksyä' nyĭkulĭ'uvĭch kōōrōpät'kĭn), 1848–1925, Russian general He distinguished himself in the Russo-Turkish War of 1877–78, and in 1881 he took part in Skobelev's 500-mile march from Tashkent to Geok-Tepe and in the storming of that fortress Made minister of war in 1898, he opposed the course which precipitated the Russo-Japanese War of 1904–5, but after its outbreak he took command of the troops in Manchuria Gen M V Alekseyev, who was commander in chief, is usually blamed for the Russian defeat at Mukden, but Kuropatkin resigned He was (1916–17) governor of Turkistan. See his book, *The Russian Army and the Japanese War* (Eng tr, 1909)

Kuroshio see JAPAN CURRENT

Kursk (kōōrsk), city (pop 119,972), capital of Kursk oblast, S central European RSFSR, on the Seim river It is an important railroad junction and a manufacturing center, producing chiefly machinery Founded in the 9th cent and chartered in 1095, it became the seat of a principality in the 11th cent Kursk was completely destroyed by the Mongols in 1238 and remained in ruins until it was rebuilt (1586) as a fortress The center of heavy fighting in the Second World War, it was held (1941–43) by the Germans

Kurume (kōō rōō'mā), city (pop 90,999), Fukuoka prefecture, W Kyushu, Japan It is a manufacturing center and the seat of Kurume Medical College

Kurunegala (kōō"rōōnā'gulu), town (pop 13,510), on W central Ceylon It is overlooked by Elephant Hill, a stronghold in the 14th cent, when the Singhalese kings made Kurunegala their capital

Kurusu, Saburo (sa"bōōrō' kōōrōō'su), 1888–, Japanese diplomat As ambassador to Germany, he signed the Pact of Berlin in Sept, 1940, and in Nov, 1941, he flew to the United States for the last-minute negotiations preceding the attack on Pearl Harbor

Kurzeme see COURLAND

Kusatsu (kōōsa'tsōō), town, Gumma prefecture, central Honshu, Japan As early as the 12th cent its hot sulphur springs were known for their medicinal properties

Kushaia (-shā'yu) [Heb,=God's bow], Levite. 1 Chron 15 17 Kishi 1 Chron 6 44

Kushiro (kōōshē'rō), city (1947 pop 61,421), SE Hokkaido, Japan, a port on the Pacific It is the main port of E Hokkaido, with exports of timber, fish, and coal

Kuskokwim (kŭs'kōkwĭm) river rising on the northwest slopes of the Alaska Range, W Alaska, and flowing generally SW to Kuskokwim Bay of Bering Sea There are mining settlements on the upper reaches, and Goodnews Bay is an inlet of Kuskokwim Bay

Küssnacht (küs'näkht), village (pop 5,152), Schwyz canton, Switzerland, on the Lake of Lucerne A chapel commemorates the legendary shooting of Gessler by William TELL

Kustanai (kōōstŭnī'), city (1936 estimated pop. 38,900), capital of Kustanai oblast, Kazakh SSR, on the Tobol river It is an agricultural center

Küstrin (kustrēn'), town (1939 pop. 23,771), Brandenburg, E Germany, on the Warthe and Oder rivers The section on the left (western) bank of the Oder was wiped out in the Second World War The section E of the Oder passed (1945) under Polish

administration and is named in Polish Kostrsyn (kôs'chĭn) (pop 634) From 1535 until its destruction Küstrin was an important fortress city Here Crown Prince Frederick (later Frederick II) of Prussia was imprisoned after his attempted flight in 1730 A former spelling is Custrin

Kutahya (kōōtä'yä, kütäyä'), city (pop 19,849), W central Turkey. It is an agricultural market center and has ceramic and carpet manufactures. A former spelling was Kutaiah

Kutais (kōōtĭs'e') or **Kutaisi** (kōōtĭsē'sē), city (pop 81,479), W Georgian SSR, on the Rion river, in an orchard and garden region It is the largest city of Georgia An important manufacturing center, it produces trucks, machinery, chemicals, and woolen, cotton, and silk textiles Founded in the 6th cent B C, Kutais was the capital of ancient IMERITIA It was taken by the Russians in 1804 There are ruins of an old Imeritian castle and of an 11th-century cathedral, destroyed in the 17th cent by the Turks

Kutch or **Catch** (both kŭch, kōōch), state (exclusive of the Rann 8,461 sq mi, pop 500,800), W India, bounded on the north by Pakistan Bhuj is the capital The land is barren except for a band along the Arabian Sea The Rann (rŭn) of Kutch is a salt waste (9,000 sq mi), mainly in the north Between March and October it is frequently inundated Salt is its only product

Kutchin Indians (kŭ"chĭn'), group of North American Indian tribes of the Athapascan linguistic stock They inhabit the Yukon valley in NW Canada and E Alaska and also the valley of the Peel river, a tributary of the Mackenzie Before the advent of the white man the Kutchin were caribou hunters of the north central Canadian area They practiced polygamy, and they sometimes killed female children to prevent overpopulation Sir Alexander Mackenzie was the first European to visit (1789) this area, and by c 1810 a trading post was established The Kutchin are extremely hospitable, sometimes entertaining guests for weeks at a time In the mid-19th cent they numbered some 1,200, but today they number 1,700 The Kutchin are also called the Loucheux See Cornelius Osgood, *Contributions to the Ethnography of the Kutchin* (1930)

Kutchuk Kainardji or **Kutchuk Kainarn, Treaty of** see KUCHUK KAINARJI, TREATY OF

Kut-el-Amara (kōōt'-ĕl"-umä'ru), town, Iraq, on the Tigris river and c 100 mi SE of Baghdad It was the scene of prolonged struggle between the British and the Turks in the First World War It was taken in 1915 by Gen Charles Townshend, who, advancing north to take Baghdad, suffered defeat and retreated back to this base The small British army withstood the determined siege of the Turks for 143 days (Dec 8, 1915–April 29, 1916) before surrendering The town was recovered by Gen Frederick Maude in 1917 in his successful advance on Baghdad Construction of a dam across the Tigris here was completed in 1939 The name is also spelled Kut-al-Amara or Kut-el-Imara

Kutenai Indians see KOOTENAI INDIANS

Kutna Hora, Czech *Kutná Hora* (kōōt'na hô'rä), city (pop 12,119), central Bohemia, Czechoslovakia Its abundant silver mines largely created the power and greatness of the medieval kings of Bohemia The miners held special privileges until the 16th cent In 1421–22 Kutna Hora was captured by the Hussites, recaptured by Emperor Sigismund, and captured again by John Ziska Till then a stronghold of Catholicism, the city became for two centuries the center of Bohemian Protestantism Kutna Hora is rich in medieval architecture, with two notable churches—St Barbara (14th cent.) is a splendid example of Bohemian Gothic, and the Gothic St James (14th cent) has a tower 266 ft high The "Italian Court," begun in the 12th cent, is a castle once used both as a mint and as a residence of the kings of Bohemia

Kutno (kōōt'nô), town (pop 20,066), Poland, N of Lodz In its vicinity the Poles fought (1939) a long and bloody battle against the German invaders Chiefly a trade center, it also manufactures metal products and foodstuffs

Kuttawa (kŭtô'wŭ), town (pop 1,125), SW Ky, on the Cumberland river and E of Paducah Near by is Kuttawa Mineral Springs Park

Kutuzov, Mikhail Illarionovich (mēkhüyēl' ēlüryôn'uvĭch kōōtōō'zŭf), 1745–1813, Russian field marshal He fought against the Polish Confederation of BAR and served in the RUSSO-TURKISH WARS of 1768–74 and 1787–92, in which he lost an eye He took part (1805) in the battle of Austerlitz, which was fought against his advice In 1811-12 he again took command against the Turks and defeated them in a brief and brilliant campaign which brought Bessarabia to Russia. In Aug, 1812, Kutuzov, recently created a prince, replaced BARCLAY DE TOLLY as commander in chief against the invading armies of NAPOLEON I His appointment was purely political, and Kutuzov was expected to give battle to the French and to abandon his predecessor's delaying tactics The bloody battle of BORODINO was the result; after that butchery, Kutuzov resumed Barclay's wise policy of retreat, which eventually led to Napoleon's ruin. He pursued Napoleon relentlessly after the retreat of the *Grande Armée* from MOSCOW (1812–13) Created prince of Smolensk for a victory late in 1812, he died while campaigning in Germany

Kuttstown (kŏōts'toun), industrial borough (pop 2,966), SE Pa, NE of Reading, settled by Germans in 1733, inc 1815. Its manufactures include textiles, metal products and limestone There are much-visited caves near here. It has a state teachers college

Kuwait (kōōwīt', -wāt') or **Kowait** (kō-, kōō-), emirate (c.2,000 sq mi, pop. over 100,000), Arabia, near the head of the Persian Gulf. The emirate, a British protectorate, is bounded by Saudi Arabia and neutral territory on the south and by Iraq on the north It is generally barren and sparsely populated Its capital, Kuwait (pop c 25,000), is a port and trade center with shipyards building native craft It is a stop on the British air line along the Persian Gulf See Alan Villiers, *Sons of Sinbad* (1940)

Kuyp, family of Dutch painters see CUYP

Kuyper, Abraham (ab'rahəm koi'pur), 1837–1920, Dutch theologian and statesman After holding important pastorates, he became interested in politics and engaged in political and theological controversies In 1886 he founded the Free Reformed Church He edited an encyclopedia of sacred theology Kuyper was elected to the States-General in 1874, where he served at various times thereafter until his death

Kuzbas, RSFSR see KUZNETSK BASIN.

Kuznetsk, RSFSR see STALINSK

Kuznetsk Ala-Tau see ALA-TAU

Kuznetsk Basin (kōōznyĕtsk'), coal basin, area c 10,000 sq mi, RSFSR, in S central Siberia, between the Kuznetsk Ala-Tau in the east and the Salair Ridge in the West Its abbreviated name is Kuzbas It is the richest coal basin of the USSR Its coal reserves, estimated at 400,000,000,000 to 450,000,000,000 tons, in thick seams to 4,500 ft in depth, are of high quality and great variety The main mining centers are ANZHERO-SUDZHENSK, KEMEROVO, and LENINSK-KUZNETSKI The region has undergone tremendous industrial development in recent years STALINSK is the center of the new metallurgical industry

Kwajalein (kwä'julăn,–lēn,–līn) or **Kwajalong** (kwa'jälông), atoll (pop 832), central Pacific, one of the Ralik Chain and largest of the Marshall Islands It is district headquarters of the U S Trust Territory of the Pacific Islands In the Second World War the U S conquest of the Marshalls began with the capture (1944) of Kwajalein and its islets, Roi (the site of an airfield) and Namur U S naval and air bases were established here in 1945 There is a radio beacon

Kwakiutl Indians (kwä'kēōō"tul), group of closely related North American Indian tribes who inhabit N Vancouver Island and the adjacent mainland of British Columbia They together with the Nootka Indians, their southern neighbors, comprise the Wakashan linguistic stock Kwakiutl culture was typical of the Pacific Northwest Coast Their population, before the coming of the whites, was estimated to be some 15,000, but in 1949 it had been reduced to some 3,500 In recent years the literature concerning the Kwakiutl has grown out of proportion to their historical significance, because of the study Franz Boas devoted to them See Franz Boas, *The Kwakiutl of Vancouver Island* (1909), Ruth Benedict, *Patterns of Culture* (1934).

Kwangchowan, China see CHANKIANG

Kwang Hsü (gwang'shü'), 1872–1908, emperor of China (1875-98) Although he was not in the direct line of succession, he was appointed to the throne by his aunt, the dowager empress and regent, Tz'u Hsi He began his rule in 1889 In 1898, during the "hundred days of reform," he issued many decrees modernizing the political and social structure of China His aunt thereupon forced him to abdicate and kept him imprisoned for the remainder of his life while she ruled China in a conservative manner

Kwangsi (kwäng'sē', gwäng'sē'), Mandarin *Kuangsi*, province (84,526 sq mi, pop 14,535,868), S China, bordering Indo-China The capital is Kweilin Kwangsi is drained by the navigable Si river and its many tributaries and has one of the best systems of hard-finished roads in China, thus transportation facilities are good There is little industry Besides the capital, major cities are Nanning and Wuchow In climate, natural resources, and agriculture the province is much like KWANGTUNG

Kwangtung (kwäng'tôông', gwäng'dôông'), Mandarin *Kuang-tung*, province (84,367 sq mi, pop 28,771,277), S China, on the China Sea. A small portion borders Indo-China The capital is Canton The province includes the island of HAINAN On islands off the coast of Kwangtung and on adjacent mainland territories are the British colony of HONG KONG and the Portuguese colony of MACAO The coast line is the longest of any province, but because the coast is mostly hilly, there are only a few breaks to the interior, chiefly at Canton and Swatow. Inland transportation, particularly by water routes, is good. Besides a few short local lines, the province is served by the Peiping to Canton railroad. In the canals and off the coast there is considerable fishing. Only about 10 percent of the land is level and suitable for agriculture, notably the Canton delta, one of the most densely populated areas of China. As the climate is subtropical and the rainfall heavy most of the year, three crops are generally harvested and famines are rare. However, some rice must be imported for local needs Silk culture is important, the province producing one third of the Chinese total Tobacco, peanuts, vegetables, fruits (including bananas), and fan palms are grown. In the river uplands cassia (cinnamon) bark is gathered and some timber is cut The considerable mineral wealth, especially coal, is little exploited Industries include the manufacture of silks, lacquer ware, and pottery. The people are noted for their industry and their use of modern Western business methods About half the Chinese who have emigrated abroad come from Kwangtung

Kwantung region, China see LIAONING

Kweichow (kwā'chou', gwā'jō'), Mandarin *Kueichou*, province (65,713 sq mi.; pop 10,528,298), S central China Kweiyang is the capital. The surface is almost entirely a high plateau with many deep river valleys, notably that of the Wu The climate is mild and the rainfall adequate, but poor and scanty soil hamper agriculture Rice, corn, wheat, and tea are the principal crops. The reputedly large mineral wealth of the province is little exploited With but one railroad, few highways, and unnavigable rivers, communications are unsatisfactory A minority of the population is Chinese, the majority is made up of aborigines, mostly Miaos, Ikia, and Lolos

Kweilin (gwā'lĭn'), Mandarin *Kuei-lin*, city (pop 142, 202), capital of Kwangsi prov, China It is noted for its scenic setting on the Kwei river Kweilin has cotton mills and is the seat of Kwangsi National Univ

Kweisui (gwā'swā'), Mandarin *Kuisui*, city and county (pop 169,659), Suiyuan prov, NW China The city is the capital of the province It is the seat of a living Buddha and has several Lamaist temples The terminus of caravan routes to Sinkiang and to the Mongolian People's Republic, Kweisui is connected by rail with Peiping and is a major trade center of NW China

Kwidzyn, former Prussia see MARIENWERDER

Kyakhta or **Kiakhta** (both kyäkh'tŭ), city (1936 estimated pop 12,300), SE Buryat-Mongol ASSR, RSFSR, on the Mongolian border and on the highway from Ulan-Ude to Ulan Bator It is a transit point for trade between Mongolia and the USSR It was founded (1728) as a fortress on what was then the Chinese frontier and developed as a trade center Until c 1935 part of the city was known as Troitskosavsk, the name of the original fortress

Kyburg (kē'bōork), noble family in present Switzerland which attained great power in the 13th cent Ruling most of the present cantons of Thurgau and Zurich, it took its name from a castle near Winterthur After the death (1218) of Berthold V of ZÄHRINGEN, the Zähringen lands on the right bank of the Aar river passed to Berthold's brother-in-law, Count Ulrich III of Kyburg Ulrich's daughter married Count Albert IV of Hapsburg, their son was King Rudolf I, who inherited the Kyburg lands on the death (1264) of his brother-in-law Count Hartmann IV of Kyburg Thus most of N Switzerland passed under Hapsburg sway, from which it freed itself after 1291

Kyd or **Kid, Thomas**, 1558–94, English dramatist He was the best-known exponent of the English "tragedy of blood," and his *Spanish Tragedy* (1592) may have been the source of the ghost and the play-within-a-play of Shakspere's *Hamlet*, an earlier version of which has been attributed to Kyd. See biographical notice in Kyd's works (ed by F. S Boas, 1901), J M. Robertson, *The Problem of Hamlet* (1919)

Kyffhäuser (kĭf'hoisur), forested mountain, c 1,550 ft high, N Thuringia, central Germany It is crowned by the two ruined castles of Rothenburg and Kyffhausen and by a huge, atrocious monument to Emperor William I According to legend, Emperor Frederick I (Frederick Barbarossa) sleeps bewitched in a limestone cave in the mountain, sitting at a stone table through which his beard has grown There he awaits the time when he will come forth to restore German greatness. The legend, treated in poems by Uhland, Heine, and others, originally applied to Emperor Frederick II

Kynaston or **Kinaston, Edward** (both. kĭ'nustun), 1640?–1706, English actor. One of the last male actors of female roles, he first appeared at the Cockpit, Drury Lane, in 1659 From 1665 he played male roles, such as Cassio in *Othello*, and acted (1682–99) with Betterton's company at Lincoln's Inn Fields and Drury Lane See John Downes, *Roscius Anglicanus* (1708); Samuel Pepys, *Diary*.

kyogen see JAPANESE DRAMA.

kyongsong, Korea see SEOUL.

Kyosai, Shofu (shô'fōō kyō'sī), 1831–89, Japanese painter, illustrator, and cartoonist. He was probably the first political cartoonist of Japan. His sketches and paintings usually depict native folk-

lore with free and vivid fancy. Many are preserved in the British Museum, the Musée Guimet, Paris, and the Museum of Fine Arts, Boston. He wrote and illustrated *Kyosai Gwaden* (4 vols., 1887) under a pseudonym.

Kyoto (kyō'tō), city (1940 pop. 1,089,726; 1947 pop. 999,660), capital of Kyoto prefecture, S Honshu, Japan, on the Kamo river Founded in the 8th cent as Uda and named Heian-kyo when it became (794) the capital of Japan, it was popularly called Miyako or Kyoto (sometimes Kioto) Since 1868, when the capital was shifted to Tokyo, Kyoto has often been referred to as Saiko [western capital] For centuries it has been the cultural heart of Japan It contains magnificent art treasures, its cloisonné, bronzes, damascene work, porcelain, lacquer ware, and fabrics are famous Although today the third largest city in the country, it remains a center of the handicrafts, without large industrial developments Its port is Yodo Rich in historical interest, Kyoto is the site of the tombs of Emperor Kwammu (founder of the city), Hideyoshi, and Emperor Meiji and of the old imperial palace as well as the palace of the shoguns (with their fine parks and gardens). A center of Buddhism, with many ancient temples, it is noted for a 58-foot statue (Daibutsu) of Buddha. The city is the seat of Kyoto Imperial Univ, and of Doshisha Univ (founded 1873 as an American mission college) In the Second World War, Kyoto was the only major Japanese city to escape bombing The prefecture is principally urban, with the greater part of its population centered in the Kyoto area

Kyrie eleison (kē'rēā ālā'ēsŏn) [Gr ,=Lord, have mercy], in the Roman Catholic Church, prayer of the Mass coming after the introit, the only ordinary part said not in Latin but in Greek It consists of nine lines "Lord have mercy (thrice), Christ have mercy (thrice), Lord have mercy (thrice)" As the first invariable hymn, the *Kyrie* is often the first piece in a musical Mass The name is also used for similar prayers (not in Greek) in the Church of England and in the Russian Orthodox Church

Kyrle, John (kûrl), 1637–1724, English philanthropist, called the Man of Ross, famous from Pope's praise of him in the third epistle of the *Moral Essays* Kyrle's special interest was in the improvement and beautifying of homes and parks

Kyushu (kyōō'shōō), island (c 13,770 sq mi , with offshore islands c 14,990 sq mi , 1940 pop 8,963,715; 1947 pop 11,398,976), S Japan It is 210 mi. long and 120 mi. wide and is the third in size, southernmost, and most densely populated of the four major islands of Japan It is just S of Honshu, with which it is connected by a tunnel under Shimonoseki Strait The mountainous terrain rises to 5,850 ft at Mt Kuju The island has many hot springs. A mild climate favors the production of rice, tea, tobacco, sweet potatoes, oranges and other fruits, and soybeans Gold, silver, iron, and tin are mined on Kyushu, and raw silk is extensively produced. The island is noted for its fine porcelain (Satsuma and Hizen ware) Near the major industrial centers of Yawata, Wakamatsu Kokura, and Moji lies Japan's principal coal field On the west coast is Nagasaki, first Japanese port to receive Western trade The name of the island is sometimes spelled Kiushu or Kiushiu

Kyzyl, RSFSR see KIZIL

Kyzyl-Kum, Uzbek SSR see KIZIL KUM.

L

L, 12th letter of the ALPHABET It is a usual symbol for a lateral consonant, as in English The Greek correspondent is lambda or labda It is the Roman numeral for 50

La. For names beginning thus and not listed here, see second element, e g , for La Ceiba, see CEIBA, LA

La, chemical symbol of the element LANTHANUM

Laadah (lā'ŭdu), Judah's grandson 1 Chron 4 21

Laadan (lā'ŭdăn) 1 Ancestor of Joshua 1 Chron 7 26, 27 2 See LIBNI 1

Laaland or **Lolland** (both lō'lan), island (479 sq mi , pop 87,150), Denmark, in the Baltic Sea, S of Zealand It does not rise more than 97 ft above sea level and is largely agricultural, with forests in the north and east Sugar beets are the main crop The chief cities are Maribo and Nakskov

Laar or **Laer, Pieter van** (both pē'tur vän lar'), c 1600–c 1674, Dutch landscape and genre painter and etcher He spent some 15 years in Italy, where he was nicknamed Il Bamboccio (ēl bämbōt'chō) [the cripple] His landscapes show the influence of Nicolas Poussin, but the lively figures, taken from daily life, with which he peopled them are wholly Dutch His best works depict scenes of rustic life Their heavy brown tone has in many cases darkened badly *Paying the Vintagers* and *Travelers Leaving the Inn* (Louvre) are characteristic Laar produced 20 notable etchings

Labadie, Jean de, or **Jean de la Badie** (zhä dŭ lä bädē'), 1610–74, French mystic, founder of the Labadists He had been a Catholic priest, but c 1650 he embraced Protestantism He was a minister in Geneva (1659–66), then in Holland (until 1670) There under his leadership his congregation at Middelburg became a religious community dedicated to simple living, holding goods and children in common The Dutch authorities found him too independent of the ecclesiastical tests and discipline, and the community moved to Westphalia in 1670 and later to Altona By 1732 the movement was dead Labadists settled in Maryland (1684), but the community failed before 1730

Laban (lā'bān) [Heb ,=white] 1 Father of Leah and Rachel and uncle of Jacob Gen 24 29–60, 29–31 2 Unidentified place in the desert Deut 1 1

Labat, Jean Baptiste (zhä' batēst' läbä'), 1663–1738, French Dominican missionary Sent to the West Indies, he explored the islands, founded the city of Basse-Terre, and defended Guadeloupe against the English He wrote several volumes on his travels in Europe and America

Labé, Louise (lwēz' läbā'), c 1520–1566, French poet She wrote elegies and sonnets (1555) that are among the best love poems in the French literature of her time She was also called Louise Charly and nicknamed "La Belle Cordière."

Labe, river see ELBE

Labiche, Eugène Marin (ŭzhĕn' mărē' läbēsh'), 1815–88, French playwright His *Le Chapeau de paille d'Italie* (1851) was the first of a long series of successful comedies, including *L'Affaire de la rue de Lourcine* (1857); *Le Voyage de M Perrichon* (1860), his best-known comedy written in collaboration with Édouard Martin, *La Poudre aux yeux* (1861), and *La Cagnotte* (1864).

Labienus (Titus Atius Labienus)[‡](lā"bīē'nŭs), c 100 B C –45 B C., Roman officer An able lieutenant of Julius Caesar in the Gallic wars, he fought for Pompey in the civil war, escaped from the battle of Pharsalia, and was killed at the battle of Munda.

La Boétie, Étienne de (ātyĕn' dŭ lä bōāsē'), 1530–63, French judge and writer He is remembered for his friendship with Montaigne, with whom he served in the Bordeaux parlement Except for a few of his sonnets, preserved by Montaigne, his only work is a long essay attacking absolute monarchy, *Discours sur la servitude volontaire, ou, Contr'un* (Eng trs , *A Discourse of Voluntary Servitude*, 1735, *Anti-Dictator*, 1942)

labor, term used both for the effort of performing a task and for the social group (in some cultures almost the whole society) doing the work In the ancient world most physical work was done by slaves (see SLAVERY), and the status of labor was therefore low Agricultural labor was in the feudal period performed by the SERF In the towns, however, the skilled artisans of the craft GUILDS were influential citizens With the introduction of machinery (mid-18th cent) for many processes which had required manual skill, the status of town labor was depressed (see INDUSTRIAL REVOLUTION) A form of labor contract used in England and in the English colonies was INDENTURE, by which a child was hired out or a man hired himself out for a certain number of years Early economists, such as Adam Smith and Ricardo, evolved the labor-land-capital formula as factors of equal importance In the economic theory of Karl Marx, however, labor was of paramount importance From the last quarter of the 19th cent the status of all labor except agricultural has been definitely raised in industrial countries through organization (see UNION, LABOR), permitting collective bargaining with employers and successful pressure on governments to achieve their ends In fact, the term *labor* is most frequently used today to signify organized labor, in common parlance it refers to manual labor, either skilled or unskilled, rather than to clerical workers For labor disputes, see STRIKE, see also CHILD LABOR, MIGRATORY LABOR, PEONAGE See J R Commons and others, *History of Labour in the United States* (4 vols , 1918–36), P H Douglas and others, *The Worker in Modern Economic Society* (1923), N J Ware, *Labor in Modern Industrial Society* (1935), Allen Hutt, *The Post-War History of the British Working Class* (1937), John Price, *The International Labour Movement* (1945), Alene Austin, *The Labor Story* (1949)

labor, in medicine see BIRTH

labor, division of see DIVISION OF LABOR

labor, hours of. Until the Industrial Revolution, when the hours of work became a social and economic problem, the work day varied from 11 to 14 hr With the growth of capitalism, the introduction of expensive machinery, and the establishment of large factories, longer hours began to prevail in most industrial establishments, with little or no vocal opposition from the workers, who, because of the large reserve of labor and the resulting competition for work, were forced to accept any conditions imposed by the employer A day of 16 hr was not uncommon, with 14 to 15 hr the accepted working day With the growth of trade unions and an increased interest in social reform, there began a movement for shorter hours with no decrease in pay The first attempts were made in England in 1833, when a law was passed limiting to 12 hr the work day for miners and to 8 hr the day for children under 13 The 10-hr day was legally established in 1848, and gradually after the middle of the 19th cent shorter hours were achieved. In the United States the Federal government introduced a 10-hour day among its employees in 1840 and tried unsuccessfully to introduce an 8-hour day in 1868, but few private businesses used the 10-hour day until after the Civil War In 1866 a workmen's congress at Baltimore demanded the 8-hour day and organized the National Labor Union to secure it. In 1867 Illinois and Connecticut made 8 hr a legal day "unless otherwise agreed" Similar laws were passed in Pennsylvania in 1868 and in New York in 1870 In 1872 strikes among wool workers won them the 8-hour day temporarily, but the depression of 1873 slowed the movement In 1874 the Knights of St Crispin were instrumental in getting an 8-hour law for Massachusetts, and since 1880 nearly all the states have enacted 8-hour laws, usually restricting them to state employees A strike of 200,000 men for the 8-hour day occurred in 1886, and four years later a partial general strike forced some employers to grant the 8-hour day temporarily Congress in 1892 required the 8-hour day on all District of Columbia public works Frequent strikes gradually won the 8-hour day for the printing industry and the building trades, and by 1912 it was the working day accepted by many employers in the United States and Great Britain But large industries, like common carriers, continued to demand 10 hr Railroads engaged in interstate commerce achieved the 8-hour day by the Adamson Act of 1916, which provided for overtime pay if this number of hours was exceeded By the 1920s most states had adopted laws fixing the 8-hour day for public workers, while the average working week ranged from 45 to 49 hr , depending upon the trade and skill of the worker The passage of the Public Contracts Act in 1936 forbade all government contractors to make their employees work more than 8 hr a day and five days a week The WAGES AND HOURS ACT of 1938 provided a maximum work week of 44 hr , with a reduction later to 40 hr , and created the Wage and Hour Division in the Dept of Labor In the Second World War longer hours became the standard policy Insistence on the part of the unions in post-war years for higher wages without lengthening the workday brought about a series of strikes in automobile, mining, and other industrial fields In Australia, where the movement started in 1856, the 8-hour day for women in factories, underground miners, and public-service employees was achieved as early as 1877 With the inauguration of compulsory arbitration, the 44-hour and 46-hour week became common there In Europe the movement dates back to the International of 1864 and the Paris Trade Union Congress of 1883 Since the First World War most European nations have adopted the 8-hour day and 48-hour week for practically all industrial and commercial undertakings Germany and Czechoslovakia adopted it in 1918, France, Great Britain, Switzerland, and the Netherlands in 1919, and Belgium in 1921 In the Soviet Union the 8-hour day which had been sanctioned by the Kerensky provisional regime was modified by the 1927 law reducing the working day to 7 hr In 1929 a five-day week, with four days of work and one day of rest, was tried, but in 1941 a six-day week (i e , a year of 61 weeks with 305 working days and 61 rest days) was put in force, the working day was 7 hr During the Second World War 8 and 9 hr a day became again general practice See J M Vian *Hours and Wages in American Organized Labor* (1939)

Labor, United States Department of, organized in 1913 under the Secretary of Labor by act of the U S Congress In 1884 the Federal government had created the Bureau of Labor in the U S Dept of Interior Demands for a separate department led to the establishment of an independent labor department, which was organized (1888) without representation in the cabinet In 1903 it was again made the Bureau of Labor, this time in the U.S Dept of Commerce and Labor In 1913 a separate department of labor was created under the Secretary of Labor, who is the 10th ranking cabinet member With the aid of the Undersecretary, assistant secretaries, and the solicitor of labor, the Secretary of Labor supervises the activities of several bureaus and divisions within the department. In addition to the offices for administration,

the Dept of Labor includes the following major units the Bureau of Labor Statistics (direct descendant of the Bureau of Labor dating from 1884), which is an important agency for gathering data in the field of labor economics, the Women's Bureau (est 1920), which is charged with formulating standards and policies for the welfare of wage-earning women, the U S Employment Service, founded (1933) to promote and develop a national system of public employment offices, the Bureau of Labor Standards, established (1934) by departmental order to develop desirable labor standards in industrial practice, labor legislation, and labor administration, the Bureau of Apprenticeship, created (1937) to formulate standards of apprenticeship for the training of skilled workers by industry, the Wage and Hour and Public Contract Divisions, consolidated (1942) to administer jointly the provisions of the Walsh-Healy Act, (1936) and the Fair Labor Standards Act (1938), and the Bureau of Veterans' Reemployment Rights, formed (1947) to assist former members of the armed forces and the merchant marine to exercise their reemployment rights as provided by the draft act of 1940

L'Abord-à-Plouffe (läbôr"däplōōf'), village (pop. 1,773), on Île Jésus, S Que., on the north bank of the Rivière des Prairies and W of Montreal In a market-gardening area, it has tomato canneries

Labor Day, holiday celebrated in the United States and Canada on the first Monday in September to honor the workingman It was inaugurated by the Knights of Labor in 1882 and made a national holiday by the U S Congress in 1894 In most other countries—and among the leftists in the United States and Canada—May Day (May 1) is the workingman's holiday instead

Labori, Fernand Gustave Gaston (fĕrnä' gŭstäv' gastō' läbôrē'), 1860–1917, French lawyer, known for his brilliant defense of Dreyfus and Zola in the Dreyfus Affair

labor law, legislation dealing with human beings in their capacity as workers or wage earners The Industrial Revolution by introducing the machine and factory production created a class of workers dependent on wages as their source of income The terms of the labor contract, working conditions, and the relations between workers and employers very early became matters of public concern In England, Parliament was averse to legislating on these subjects owing to the prevailing policy of LAISSEZ FAIRE The earliest factory law (1802) dealt with the health, safety, and morals of children employed in textile mills, and subsequent laws regulated their hours and working conditions An act of 1833 provided for inspection to enforce the law Young mine workers were first protected in 1842, women in 1844 Labor unions were legalized in 1825, but agreements among their members to seek better hours and wages were punishable as conspiracy under the common law until they were legalized by acts of Parliament in 1871 and 1906 Other industrialized and partially industrialized countries have sought in various ways to meet the new problems In the United States legislation has been aimed at improving conditions of employment and at making factories and mines safer and more healthful Indenture and the importation of contract labor have been prohibited, and immigration has been restricted to minimize competition in the labor market Night work and work in hazardous occupations have been prohibited to women and children Legal minimums have been set for wages (see MINIMUM WAGE), and other laws require rest periods and sanitary conveniences for women in industry and fix the minimum age at which children may be employed Sweatshop labor and child labor have been discouraged through laws regulating interstate commerce The working conditions of railway employees and seamen on shipboard have been standardized Employees of the Federal government were early granted the eight-hour day, and by the WAGES AND HOURS Act of 1938 Congress established minimum standards of hours and wages in many basic industries in all parts of the country A number of laws have provided for workmen's compensation, old-age pensions, and a system of old-age insurance Like the British unions, early American labor organizations labored under the disability of the common-law doctrine of conspiracy, but this doctrine was not invoked by the courts after 1842 By an act of Congress unions were exempted (1916) from the antitrust laws, and the use of injunctions in labor disputes, begun in 1877, was outlawed by Congress in 1932 The National Labor Relations Act of 1935 established the right of workers to organize and required employers to accept collective bargaining as a ruling principle in industry See J. R Commons and J B Andrews, *Principles of Labor Legislation* (4th ed., 1936), Albion G Taylor, *Labor Problems and Labor Law* (1938), H. W Metz, *Labor Policy of the Federal Government* (1945).

Labor Relations Act: see NATIONAL LABOR RELATIONS BOARD and TAFT-HARTLEY LABOR ACT.

labor union see UNION, LABOR

Labouchere, Henry du Pre (lā"bōōshâr'), 1831–1912, English politician and journalist Following diplomatic service (1854–64), he sat in the House of Commons (1880–1906) as a Radical He was a supporter of Gladstone and an anti-imperialist He founded (1877) and edited *Truth*, a magazine devoted to the exposure of social fraud. See Hesketh Pearson, *Labby* (1937)

Laboulaye, Édouard René Lefebvre de (ädwär' rünä' lufĕ'vrŭ du läbōōlā'), 1811–83, French jurist. In 1849 he became professor of comparative jurisprudence at the Collège de France He was a moderate member of parliament under the Third Republic He believed that democracy is truly exercised by participation in local government and that mere use of the right of national suffrage is insufficient Besides works on Roman and French law he wrote a sympathetic study, *Histoire politique des États-Unis* [political history of the United States] (1855–66)

Labourd (läbōōr'), small region, SW France, in the Basque country Bayonne is the chief city Before the French Revolution, Labourd was a dependency of Gascony prov

La Bourdonnais, Bertrand François Mahé de (bĕrträ' fräswa' mä' du la bōōrdônā'), 1699–1753, French naval officer He entered the service of the French India Company and in 1725 distinguished himself in the capture of Mahé Governor of Mauritius and Réunion (1735–46), he was placed (1740) in command of the French fleet in India, he relieved Mahé (1741), succored DUPLEIX at Pondichéry (1745), and captured Madras (1746), but quarreled with Dupleix and was removed from his governorship On his return to France (1748) he was imprisoned in the Bastille on charges of treason, in 1751 he was released and acquitted, largely through pressure of popular opinion

Labour party, British political party The Labour party was founded in 1900 as an outgrowth of a long history of trade-union activity that became politically effective after the Reform Act of 1867 enfranchised the urban worker The Labour Representation League, organized in 1869, had elected candidates to Parliament, but they were absorbed into the ranks of the Liberal party Local labor groups elected 14 trade unionists to Parliament in 1892, these groups had been founded under the impetus given the movement by the Social Democratic Federation (founded 1881) and the Fabian Society (founded 1883) The Independent Labour party, organized in 1893 by Keir Hardie, was chiefly engaged in forming a politically potent trade-union alliance The Labour party, or Labour Representation Committee as it was known until 1906, was organized as a result of the Trades Union Congress of 1899 Until 1918 the party was distinctly a federation of trade unions and socialist groups and had no individual members In 1906 the party elected 29 members to Parliament, in 1910 it elected 42 Faulty organization and widely divergent political beliefs handicapped the party before the First World War At this period, the Labour party resembled a radical wing of the Liberal party and there was close cooperation between the two groups The outbreak of the war proved a crisis for the Labour party A strenuous effort was made to prevent Great Britain's participation, after war was declared (Aug., 1914), the party was divided A group under Ramsay MACDONALD and Philip SNOWDEN sharply criticized the foreign policy of the government, bitterly opposed conscription, and advocated peace by negotiation MacDonald resigned from the chairmanship of the party and was succeeded by Arthur HENDERSON, a moderate who favored cooperation with the government A third group advocated full participation in the government until the Central Powers were crushed The Labour party declared an industrial truce for the duration of the war and in May, 1915, joined the coalition government The party continued to oppose conscription and to advocate a conciliatory peace Its decision to send representatives to the international peace conference at Stockholm (1917) was resented by leaders of other British parties, and Arthur Henderson resigned from the cabinet (Aug., 1917) In Nov., 1918, the Labour party, now national in scope, withdrew entirely from the cabinet The party, again led by MacDonald, increased its representation at the 1922 election and for the first time became the official opposition Two years later the Labour party came into office, with MacDonald as its first prime minister Labour representatives constituted less than a third of the total membership of Parliament, and for this reason legislation proved difficult The government's domestic program included relief of unemployment and inauguration of housing and internal improvement projects The MacDonald ministry recognized the USSR, attempted to restore peace in the Ruhr, and tried to effect a settlement of the reparations question The Labour party was forced from office in Oct., 1924, chiefly because the Conservative party exploited the forged ZINOVIEV LETTER. The party continued to grow, however, and in 1929 it returned to power, with MacDonald as prime minister. Again the achievements of the Labour ministry were largely in the field of diplomacy; its domestic policy did not fulfill the expectations of the British laborer The deepening economic crisis hampered the Labour ministry When MacDonald and other members of his cabinet proposed reducing the dole, the majority of the cabinet refused to accede, and the Labour government was replaced by a coalition ministry headed by MacDonald (1931). MacDonald and other Labour leaders who joined him in the coalition were read from the party In the succeeding general election, the Labour party suffered an almost complete reverse, but it soon recovered its prestige In later municipal and by-elections the party registered striking gains After the 1931 defeat, Labour moved toward the left, the nationalization of key industries, the inauguration of a comprehensive and coordinated program of social reform, and the adoption of a new trade policy were advocated At its 1932 conference the party voted to take no part in any future war and, if necessary, to declare a general strike to prevent Great Britain from entering any foreign war Like the other major parties, Labour was divided into factions after 1931 but continued to function as an influential opposition to the National government By 1937 the party had developed a new leadership exemplified by Herbert Morrison, Ernest BEVIN, and Clement Richard ATTLEE, all outspokenly socialist but anti-Communist in their attitudes Such men as Hugh Dalton and Harold Laski represented the intellectual leadership At the outbreak of the Second World War the party again abandoned its traditionally pacifist stand and entered the coalition government of Winston Churchill, demanding bold socialist planning after the war as the price of its cooperation Bevin served as minister of labor (1940–45), and Attlee as deputy prime minister (1942–45) In the general election of July, 1945, the party won an overwhelming victory at the polls, securing 392 seats in Parliament Attlee became prime minister, Bevin was made foreign minister, Morrison was made House leader, and Sir Stafford Cripps was made president of the Board of Trade In the first year of its administration the party passed a comprehensive national health bill and nationalized the Bank of England, the coal industry, civil aviation, and atomic-energy production Thereafter the program was continued more slowly Electricity and transport were nationalized in 1947 The Labour government was faced with the difficulties of postwar shortages and the demands of reconstruction at home and the unsettled state of the world abroad The problem of India was settled (1947) by the establishment of the two dominions of India and Pakistan, satisfying the aspirations of Indian nationalism British foreign policy under the Labour government pursued a generally conservative course, looking to the United States for financial assistance and political cooperation, but attempting to maintain friendly relations with the Soviet Union In the general elections of Feb., 1950, the Labour party was returned to power in the House of Commons by a very narrow majority and managed to defeat motions of censure from the opposition, which declined, for the time, to press for new elections See Arthur Henderson, *The Aims of Labour* (1919), Paul Blanshard, *Outline of the British Labor Movement* (1923), R H Tawney, *The British Labor Movement* (1925), J F D Hall, *Labour's First Year* (1947), G D H Cole, *History of the Labour Party* (1948), C R Attlee, *The Labour Party in Perspective* (1949)

Labrador (lă'brudôr"), dependency of NEWFOUNDLAND (c 110,000 sq mi., 1947 estimated pop 5,639), NE North America The capital is Battle Harbour Labrador has one representative in the parliamentary government The name is often used synonymously with Ungava to denote the entire northeastern peninsula (four fifths of which became part of Quebec prov by the 1927 decision of the British privy council) Labrador comprises the eastern tip of Canada The dependency, shaped like a triangle with its north tip at Cape Chidley on Hudson Strait, is bounded by the Atlantic Ocean along its fjord-lined eastern shore S to Blanc Sablon at the northeast entrance of the Strait of Belle Isle, which separates Labrador from Newfoundland It is bounded on the south and west by Quebec prov Steep cliffs rise from the ocean's edge, with the interior generally high land topped with snow-capped peaks and cut by mountain streams The cold Labrador Current, bringing temperatures below freezing eight months of the year, the difficult terrain, and a lack of all save limited water and air transportation have left the country relatively undeveloped until recent years Tremendous deposits of iron ore in the southwestern lake district at the headwaters of Hamilton river, which flows east through a well-timbered valley, have led to the development of some 20,000 sq mi in the region of GRAND FALLS, which constitute a vast source of potential hydroelectric power Aside from transient laborers, the population of Labrador contains inland, nomadic Algonquian tribes, a decreasing number of Eskimo, largely confined to the northern coast, and a limited number of white settlers at the missions and fishing ports of Battle Harbour, Cartwright, Rigolet, Hopedale, and Nain Between April and October fishing fleets, to which the lumber and fur industries are

secondary, fill their boats with the plentiful cod, salmon, herring, and trout also furnish valuable income The history dates from the probable visits of the vikings (c 1000) and to the explorations of John CABOT (1498), CORTE REAL (1500), and Jacques CARTIER (1534) French fishermen and Basque whalers lost their concessions when the British officially obtained Canada in the Treaty of Paris of 1763 The Moravian missions were first established in the 1760s and since that time have shared the fur trade with the Hudson's Bay Company, which had virtual jurisdiction of the entire peninsula until 1870 In the Second World War the huge Goose Bay airport at Hamilton Inlet was a strategic link in trans-Atlantic transport, and the continued improvement of transportation has increased exploitation of resources and the development of vacation facilities See Sir W T Grenfell, *Forty Years for Labrador* (1932) and *Romance of Labrador* (1934), Elliott Merrick, *True North* (new ed , 1933) and *Northern Nurse* (1942), Alexander Forbes, *Northernmost Labrador, Mapped from the Air* (1938), J D Leechman *Eskimo Summer* (1946)

Labrador Current see OCEAN CURRENTS

labradorite (lă'brudōrīt", lăbrudo'rīt), a variety of translucent plagioclase FELDSPAR, usually gray, brown, or greenish in color Some varieties exhibit a play of yellow, red, blue, and green (labradorescence), which probably is caused by its thin-layered structure or by microscopic inclusions These varieties, sometimes called Labrador spar, are used for ornamental and decorative purposes Labradorite occurs in igneous rocks, e g , gabbro diabase, and basalt, in the Adirondack Mts of New York and the Wichita Mts of Arkansas and in Labrador, Sweden, Greenland, and Mt Etna

La Brea (lu brā'u), area, S Calif , formerly in Rancho La Brea The La Brea asphalt pits, which yielded prehistoric animal and plant remains, are in Hancock Park, Los Angeles

Labrouste, Henri (ārē' labrōōst'), 1801–75, French architect He was among the first to make effective architectural use of metal construction, as in his treatment of the reading room of the Bibliothèque Ste Genevieve (1844–50), Paris, in which the ceiling domes were supported upon an exposed iron framework He also made extensive alterations on the Bibliotheque nationale

La Bruyère, Jean de (zhă' du la bruyĕr'), 1645–96, French writer of the classical period, b Paris He entered as tutor the house of the prince de Conde (1684) and lived there thenceforth His great work, *Les Caractères de Théophraste, traduits du grec, avec Les Caractères ou les mœurs de ce siècle*, appeared in 1688 and subsequently in revised and augmented editions until the ninth (1696), published just after his death The first, and least, part of the work is a translation of THEOPHRASTUS the rest is a series of character sketches, maxims, and brief discussions on diverse themes, falling helter-skelter under a series of general headings The descriptions of persons are unexcelled, a few are of specific individuals rather than types, though the attempt to identify has been successful in but few cases The maxims are sometimes as neat as those of La Rochefoucauld, and the longer observations are often singularly pungent La Bruyère's application of his strong moral views to the contemporary economy, to the widespread poverty, and to the otiose life of the nobility has gained wide attention, but he is to be regarded less as a reformer than as a detached, realistic observer La Bruyere's works include also his inaugural address to the French Academy (1693) and nine dialogues attacking quietism (pub posthumously, 1699)

Labuan (lubōō'un, la"bōōan'), island (35 sq mi, pop, 8,500), off NW Borneo, administratively attached to British North Borneo since 1946 It produces rubber, sago, copra, and livestock Victoria, the chief town, has a fine harbor and an airport

laburnum (lubûr'nup) or **golden chain**, small tree (*Laburnum anagyroides* or *L vulgare*) of the pulse family, with decorative dark green leaves and sprays of bright yellow flowers The plant is a native of Europe, where, as in America, it is much grown for ornament The leaves and seeds are poisonous to cattle The heartwood is durable and hard and takes a high polish, it is used in cabinetwork for inlays. The laburnum is also called the bean tree

labyrinth (lă'burinth), intricate building of chambers and passages, often constructed so as to perplex and confuse a person inside The great labyrinth of ancient times was near Lake Moeris in Egypt, it was built by Amenemhet IV (XII dynasty) for an unknown purpose. More celebrated was a labyrinth in Crete built, according to Greek myth, by DAEDALUS to house the MINOTAUR

lac (lăk), resinous exudation from the bodies of the females of a species of scale insect (of the same family as the cochineal insect) from which SHELLAC is prepared India is the chief source of shellac, although some is obtained from Burma, Thailand, and Indo-China The insects feed on the sap of the twigs of certain tropical trees, some of which are cultivated for this purpose. The resinous secretion hardens upon exposure to air and forms a protective incrustation around the female and young, which are thus held fast to the twigs By scraping the twigs the incrustation is removed and this crude lac material is known as stick-lac If the stick-lac is crushed, the wood splinters and other foreign materials are removed, and the red coloring matter produced by the insects is dissolved out, the residue when dried is seed-lac, which is processed to make shellac The red coloring matter extracted from the stick-lac is similar to cochineal and is sometimes used as a dye and a pigment although it has been largely replaced by synthetic dyes

Lacaille, Nicolas Louis de (nēkôlă' lwē' du laka'yu), 1713–62, French astronomer As a result of his success in making meridional measurements in France under the patronage of the duke of Bourbon and the authority of Jacques CASSINI, he was elected to the French Academy in 1741 He also became professor of mathematics at the College Mazarin, where he established an observatory in 1746 He was at the head of an astronomical expedition (1750–54) to the Cape of Good Hope There he made observations of 10,000 or more southern stars, recording their positions, made the first measurement of an arc of the meridian of South Africa, and determined the lunar and solar parallax Among his works are *Astronomiae fundamenta* (1757), *Tables solaires* (1758), *Coelum australe stelliferum* (1763), and *Journal historique du voyage fait au cap de Bonne-Espérance* (1763)

La Calprenède, Gautier de Costes, sieur de (gōtyā' du kôst' syûr' du la kalprunĕd'), b 1609 or 1610, d 1663, French novelist and dramatist Of his works only the novel *Cléopâtre* (12 vols , 1647) retained popularity long The novel, of an austere morality, is a rambling romance full of adventures and sentiment

Lac au Saumon (lăk ō sōmō'), village (pop 1,703), E Que , on Lac au Saumon and N of Matapedia The lake was once a salmon-spawning ground

Laccadive Islands (lă'kudiv), group of coral atolls (10 sq mi , pop 18,355), Madras state, India, in the Arabian Sea The main products are copra, coir (coconut fiber), and fish

lace, patterned openwork fabric made by plaiting, knotting, looping, or twisting The finest lace is made from linen threads Handmade laces include needlepoint and bobbin lace, tatting, CROCHET WORK, and some fabrics made by netting and darning Needlepoint lace, allied in origin with EMBROIDERY, is worked with a needle in variations of the buttonhole stitch and is the most costly of the handmade laces Venetian point or *punto in aria*, literally a "stitch in the air" (without linen ground), developed in Italy from cutwork, more particularly from reticella with its groundwork of rectangular linen threads The laceworker soon sought relief from the restrictions of rectangular design, and the illogical but beautiful designs of *punto in aria* are the outcome, this was the first genuine lace The richest, most sumptuous of the needlepoint laces was the Venetian raised point of the 17th cent Flanders and Italy dispute the invention of lace, and it is certain that Flanders was not far behind in the production of laces of quality, Flanders was particularly noted for its exquisite bobbin laces In France, during the reign of Louis XIV, his minister Colbert developed the lace industry to an extraordinary degree The earlier laces made in France were somewhat in the style of the late Venetian point, and from these developed the wonderful designs of *point de France* Later the laces of Alençon, Argentan, and Valenciennes exemplified the French style and design Brussels is a name applied to either needlepoint or bobbin lace of a certain style Pillow, bone, or bobbin lace, woven with bobbins, includes *point d'Angleterre*, Binche, Valenciennes Mechlin, torchon, Honiton, Cluny, duchesse, *point de Paris*, Maltese, and Chantilly Valenciennes is a fine, diamond-meshed lace much used for trimmings and ruffles Mechlin is of similar type, but flimsier, torchon is a simple loose lace, made and used by the peasants all over Europe, Honiton, one of the fine English laces, has a net foundation with appliqués of delicate, handmade braid Duchesse has exquisite patterns with much raised work Maltese is coarse and heavy, usually made of silk Chantilly is a delicate mesh with ornate patterns, originally made of the yellowish undyed silk, later, often in black, used for shawls, fichus, wedding veils, fans, and parasols A number of laces fall outside a strict classification, Guipure (gēpyōōr') has a heavy pattern formed by a braid with a cheap core covered with fine silk, gold, or silver thread Limerick lace is tambour work on net Renaissance or Battenberg lace is of heavy tape formed into a pattern and filled in with lace stitches Carrickmacross is cutwork lace So-called English point or *point d'Angleterre* is Flemish point, at one time smuggled into England and renamed *Filet* is a combination of knotting and darning, reminiscent of the earliest lace forms attempted. Cutwork, or various combinations of early lace forms with embroidery, also formed an important step in lacemaking. The better-known knotted laces are tatting and macramé, macramé evolved from the early Italian *punto a groppo* Crocheted lace reached its finest development in Ireland Knitted laces, for which many intricate patterns survive, have been mainly of peasant acceptance The chief modern centers of lacemaking are France, Belgium, England, Ireland, and Italy Machine-made lace first appeared in the latter part of the 18th cent , and by 1813 a bobbinet machine was perfected Lace manufacture has developed rapidly, largely superseding the handmade variety Lace and net curtains are an important phase of modern lace manufacture See Fanny Palliser, *A History of Lace* (ed by M Jourdain and Alice Dryden, 1902), Gertrude Whiting, *A Lace Guide for Makers and Collectors* (1920), J F Caplin, *The Lace Book* (1932), Jeannette E Pethebridge, *Manual of Lace* (1948)

Lacedaemon (lăsudē'mun), in Greek mythology, ruler of Laconia or Lacedaemon, son of Zeus He gave the capital of his state his wife's name, Sparta

Lacépède, Bernard Germain Étienne de la Ville, comte de (bĕrnär' zhĕrmē' ātyĕn' du la vēl' kōt' du lwäpĕd'), 1756–1825, French naturalist Before the age of 20 he showed considerable talent in both music and physics and won the favor of Gluck and of Buffon Buffon secured him a position in the royal museum Lacépède took an active part in politics, sitting in the Constituent and Legislative Assemblies, in the senate of the Consulate and the empire, and in the house of peers under Louis XVIII He was noted for the systematic precision of his classifications, which were, however, frequently based on superficial and misleading evidence His best-known works dealt with the oviparous quadrupeds, snakes, fishes, and whales, they are frequently printed with Buffon's works, which they supplement

La Chaise, François d'Aix de (frāswa' dāks' du la shĕz'), 1624 1709, French Jesuit, confessor of Louis XIV after 1675 His influence at court was considerable The great cemetery in NE Paris called Père-Lachaise is named for him

Lachaise, Gaston (lushāz'), 1882–1945, American sculptor, b Paris, son of a cabinetmaker He studied at the École Bernard Palissy and at the Académie des Beaux-Arts, where he remained several years Despite academic successes he left the academy in 1904 at the instigation of Isabel Nagel, an American girl who later became his wife He worked for a year for René Lalique, successful designer of glass and jewelry, and in 1906 came to America For 12 years he worked in Boston and New York, chiefly for the sculptors H H Kitson and Paul Manship, who employed him to execute details on some of their commissions Meanwhile he evolved his own very original style and held his first exhibition in 1918 After that he was largely independent but never scorned decorative tasks or portraits working for many private patrons He also made admirable decorations in New York for the Telephone and Telegraph Building, the RCA Building, and the International Building at Rockefeller Center Perhaps his most famous works however, are single figures, such as his *Standing Woman* (J Dunbar Coll , New York), in which the figure is handled freely as a motif through which he expresses his highly contemporary feeling for life His philosophy has been described as one of maturity, acceptance, and affirmation Only by dint of an extraordinary command over his varied materials was Lachaise able to reach his audience He is represented in the Whitney Museum and the Museum of Modern Art, New York See monograph by Lincoln Kirstein (1935)

Lachesis see FATES

Lachine (lushēn'), city (pop 20,051), S Que , on Montreal island, at the east end of Lake St Louis, just SW of Montreal Its industries include iron and steel foundries and the manufacture of tires, wire, and tiles First settled in 1675, Lachine was the scene (1689) of a massacre by the Iroquois The city is the southwest terminal of the **Lachine Canal**, connecting Lake St Louis with the St Lawrence at Montreal, begun in 1821 (rebuilt 1843) to by-pass the Lachine Rapids of the St Lawrence, 3 mi long, with a drop of 42 ft The canal has five locks and carries a heavy volume of shipping

Lachish (lā'kĭsh), ancient city, S Palestine It was one of the Amorite cities allied against the Gibeonites and destroyed by Joshua Rehoboam fortified it, and there Amaziah was murdered It was besieged by Sennacherib, and later Micah denounced it Joshua 10, 15 39, 2 Kings 14 19, 18 14,17, 19 8, 2 Chron 11 9, Neh 11 30 Micah 1 13 It has been identified with TELL AD-DUWEIR

Lachute (lushōōt'), town (pop 5,310), SW Que , on the North River and W of Montreal It has woolen and paper mills, lumbering, and dairying

Lackawanna (lăkuwa'nû), city (pop 24,058), W N Y , on Lake Erie just S of Buffalo, inc. 1909 There are large steel mills, and cement and concrete products are made. The basilica and charitable institutions of Our Lady of Victory are here.

Lackawanna, river, 50 mi long, rising in NE Pennsylvania and flowing generally south-southwest to join the Susquehanna near Pittston It passes through the chief anthracite region of the state, its banks being lined with cities almost entirely dependent on coal mining and allied industries—Scranton, Dunmore, Dickson City, Carbondale.

Laclede, Pierre (pyĕr' läklĕd'), c 1724–1778, French pioneer in the United States. He came to New Orleans in 1755 and was a member of the fur-trading firm that received (1762) a monopoly of the fur trade of the Missouri region He and young René Auguste CHOUTEAU were leaders of the party to found a post near the French settlements on the east bank of the Mississippi Because that region was transferred to Great Britain in 1763, a site on the west bank was chosen where a post was started in 1764 This was the beginning of the city of St. Louis Laclede is also called Laclede Liguest

Laclos, Pierre Ambroise François Choderlos de (pyĕr' äbrōzĕz' frăswa' shôdĕrlō' du läklō'), 1741–1803, French novelist and general, known as Choderlos de Laclos He is best known for *Les Liaisons dangereuses* (1782, Eng trs, *Dangerous Connections*, 1784, and *Dangerous Acquaintances*, 1924, by Richard Aldington), a savage novel of manners contrasting with the vogue for high moral tone established by Jean Jacques Rousseau He was the author also of *Poésies fugitives* (1782) and collaborated on *Galerie des États Généreaux* (1789) Laclos commanded troops both under the Directory and under Napoleon

Lac Mégantic, Que see MÉGANTIC

Lacombe, Albert (älbĕr' läkôb'), 1827–1916, French Canadian Roman Catholic missionary He studied at Assomption College in Quebec prov before he joined the Oblate order and was ordained (1849) Lacombe was one of the first Roman Catholic missionaries sent (1850) to the Canadian Northwest There he served the Indians and was known as the Apostle of the Cree and the Blackfoot He translated the New Testament into Cree and also wrote a grammar (1874) and dictionary (1874) of the Cree language See biography by Katherine Hughes (1911)

Lacombe (läkôm'), town (pop 1,808), S central Alta, S of Edmonton and on the Red Deer and Blindman rivers, in a ranch and mixed farming area A dominion government experimental farm is here

Lacon (lā'kŭn), city (pop 1,627), co seat of Marshall co, N central Ill, on the Illinois river above Peoria, in a grain region, laid out 1826, inc 1839

La Condamine, Charles Marie de (sharl' mărē' du la kôdămēn'), 1701–74, French traveler and mathematical geographer He was one of a group sent to Peru in 1735 to measure the length of an arc of one degree of the meridian at the equator While in South America he made the first scientific exploration of the Amazon region His journal was published in 1751

Laconia (lŭkō'nēŭ) or **Lacedaemon** (läsudē'mun), ancient region, S Peloponnesus, Greece, bounded on the west by Messenia and on the north by Arcadia and Argolis On the Eurotas, the principal river, stood SPARTA, the capital There were approximately 100 towns in the region Laconia or Lakonia is today a nome of Greece

Laconia, city (pop 13,484), co seat of Belknap co, central N H, N of Concord and on the Winnipesaukee river, inc as a town 1855, as a city 1893 It is the industrial and trade center of a resort region of lakes and rivers, with hosiery mills and manufacture of metal castings, knitting machines, and wood and paper products North of the city are the suburbs Lakeport, headquarters of the U S mail boat on Lake Winnipesaukee, and The Weirs, a resort Laconia's broadcasting station was the first in the state An international dog-sled derby is held here annually

Lacordaire, Jean Baptiste Henri (zhäN' batēst' ārē' läkôrdĕr'), 1802–61, French Roman Catholic preacher and liberal He was ordained (1827) and came under the influence of LAMENNAIS and collaborated with him on *Avenir*, a journal to support ultramontanism and absolute liberty for the Church in the state After papal condemnation of the journal Lacordaire retired with Lamennais and then submitted He returned to Paris to preach at Notre Dame and became known as one of the greatest of Catholic preachers In his sermons, the literary and social sensation of the day, he never ceased to praise liberalism, although less extremely than before He entered the Dominican order in 1840 He greeted the Revolution of 1848 with joy and sat for a while as a deputy The coup d'état of Napoleon III sent him into voluntary exile, after he had attacked the government unsparingly In 1861 he was elected to the French Academy Father Lacordaire is said by his preaching to have converted countless souls See M V Woodgate, *Père Lacordaire, Leader of Youth* (1939)

Lacoste, René (runā' läkôst'), 1905–, French tennis player He first learned tennis in 1919 in England, and in a few years he was one of the top players in France He won the British singles championship (1925, 1928) and the U S. singles championship (1926, 1927). He was a member of the French team that won the Davis Cup in 1927, and until 1929 he helped defend the trophy for France. He is the author of *Lacoste on Tennis* (1928).

lacquer (läk'kŭr), a solution of film-forming materials, either natural resins or synthetic, usually applied as a coating, transparent or pigmented Quick-drying synthetic lacquers, commonly made from a cellulose base dissolved in a volatile organic solvent, are used to coat automobiles, furniture, textiles, paper, cables, and metalware The formula may be varied to impart durability, hardness, waterproofness, gloss, or adherence or to reduce brittleness Nitrocellulose (pyroxylin) lacquers are the most widely employed The slower-drying natural lacquers are oleoresins obtained from the juice of trees, especially of *Rhus vernicifera*, a sumac of SE Asia Lacquer work was one of the earliest industrial arts of the Orient It was highly developed in India, the Chinese inlaid it with ivory, jade, coral, or abalone and were unrivaled in making articles carved from lacquer The art spread to Korea, then to Japan, where it attained new expressions, as in gold lacquer Fine Oriental ware may have over 30 coats, each coat is dried and smoothed with a whetstone The ware may be decorated in color, gold, or silver and enhanced by modeled reliefs, engraving, or carving Buddhist monasteries encouraged the art and now preserve some of the oldest pieces extant, the temple of Horyu-ji, near Nara, Japan, possesses a Chinese-made sword scabbard of the 8th cent Notable lacquer artists include Ogata Korin (17th cent) and Shibata Yeshin (19th cent) In the 17th cent, Western European imitations were popularized as JAPANNING and carried to great perfection in France in the VERNIS MARTIN developed by the Martin brothers under Louis XV Commercial work of the 19th cent brought a decline in artistic merit See E F Strange, *Catalogue of Japanese Lacquer in the Victoria and Albert Museum* (1924) and *Chinese Lacquer* (1926), J J Mattiello, ed, *Protective and Decorative Coatings*, Vols I and III (1941)

La Crosse (lu krôs) **1** City (pop 1,407), co seat of Rush co, W central Kansas, NW of Great Bend, in an oil and natural-gas region, founded 1876, inc 1886 **2** City (pop 42,707), co seat of La Crosse co, W Wis, at the foot of high bluffs on the Mississippi, where the Black and La Crosse rivers enter, in a dairy area, inc 1856 A French fur-trading post was here in the late 18th cent Later the city had a thriving lumber industry, which in turn gave way to numerous manufactures (air-conditioning systems, rubber footwear, brewery products, and farm implements) La Crosse is the seat of a state teachers college and a Catholic normal school Points of interest are Riverside Park, containing a U S fish hatchery, Myrick Park, with a zoo and an Indian mound, and Grandad Bluff, the city's highest crag

lacrosse (lukrôs'), national sport of Canada played by two teams of 10 players each—goalkeeper, point, cover point, first defense, second defense, center, first attack, second attack, inside home, and outside home The rectangular, grass-covered playing field is 60 to 70 yd wide by 110 yd long Two goals face each other 80 yd apart, each goal, square (6 ft x 6 ft) at the mouth, tapers off for 7 ft A facing-off circle, 10 ft in radius at the center of the field, is the area of initial play The ball, 7¾ to 8 in in circumference and 5 to 5¼ oz in weight, is made of sponge rubber The stick, or crosse—from which the game gets its name because of its resemblance to a bishop's crosier—consists of a handle and an adjustable, pocketlike, meshwork head in which the ball is received, carried, and passed Teams direct their play toward advancing the ball so that it can be hurled with the crosse or kicked into the opponent's goal (each goal counting one point) and toward defending their own goal The team scoring the most points wins Only the goalkeeper may touch the ball with his hands, and no field man may enter the crease (the 18 ft x 12 ft area surrounding the goal) Much physical contact is permitted, but personal and technical fouls are penalized by disqualification or by temporary suspensions, thus leaving the team with a player handicap A referee and a judge are the officials A game is divided into four quarters of 15 min each, and overtime periods of 1 min each are played in the event of a tie The game was developed, without many fixed rules, by North American Indians on open fields and was played in a battering, rough-and-tumble manner It was adopted and named lacrosse by French settlers in Canada, and it became increasingly popular By 1856 the Montreal Lacrosse Club was organized, and by 1860 the rules of the game were standardized After the Canadian Parliament adopted (1867) lacrosse as the national game of Canada, the National Lacrosse Association (now the Canadian Lacrosse Association) was established as the governing body of the sport Lacrosse has enjoyed wide following as a sport for amateurs since that time, and the game was played professionally in Canada by 12-man teams between 1920 and 1932. In the 1930s "box lacrosse"—played by teams of seven on a smaller and usually indoor field—was introduced. Meanwhile, lacrosse gained a following after the 1880s in the United States—particularly in the North Atlantic states—and today it is played, under the supervision of the U.S. Intercollegiate Lacrosse Association, in many colleges in the NE United States. From time to time the number of players on lacrosse teams has fluctuated; today a woman's lacrosse team is composed of 12 players. See Tad Stanwick, *Lacrosse* (1940)

La Cruz, Ramón de: see CRUZ, RAMÓN DE LA.

Lactantius, Lucius Caelius Firmianus (lŏk'shus sē'lĭŭs fûrmē'ănŭs läktăn'shus), c 260–340, Christian author and apologist, b. Africa, where he studied Latin rhetoric and literature He taught rhetoric at Diocletian's school in Nicomedia and was converted to Christianity Later (c 316) he was Latin tutor at Trier to Crispus, Constantine's son His works, which were influenced by Cicero and Seneca, were sincere, well-written expositions of Christian doctrine, but erroneous in theological details Such were *The Divine Institutions* (*Divinae institutiones*), the *Epitome*, and *On God's Wrath* (*De ira Dei*) *On the Death of the Persecutors* (*De mortibus persecutorum*), telling of the horrible end of such anti-Christian emperors as Nero, Domitian, and Decius, was very popular in the Middle Ages The poem *On the Phoenix* (*De ave phoenice*), a source of Cynewulf's *Christ*, may possibly have been by Lactantius

lactic acid, organic acid, a colorless, liquid compound of carbon, hydrogen, and oxygen It occurs in three forms, differing in their effect on polarized light—dextro- or d-lactic acid, levo- or l-lactic acid, and the optically inactive or ordinary form The ordinary acid is present in sour milk and in kumiss, causing the sour taste and being formed by the fermentation of the milk sugar, lactose The acid is formed in animals as a result of muscular activity, and some thus formed is changed back to glycogen It is miscible with water and alcohol in all proportions For commercial and industrial purposes lactic acid is usually prepared by bacterial fermentation of glucose The acid and some of its salts are used in medicine Calcium lactate, for example, a soluble salt, is used as a source of calcium for the human system The commercial acid is used in tanning and dyeing

lactose (läk'tōs) **or milk sugar,** white, crystalline, not as sweet as sucrose (cane sugar), occurring in the milk of mammals, in the cells of the mammary glands, and sometimes in the urine during pregnancy It is not found in plants Chemically, it is a CARBOHYDRATE, a disaccharide with a molecule consisting of the same number of atoms of carbon (12), hydrogen (22), and oxygen (11) as sucrose and maltose, but differing from both in structure It yields, on hydrolysis, the sugars d-glucose and d-galactose, which are also produced from lactose by the action of the enzyme lactase, and it yields LACTIC ACID on fermentation by certain bacteria, although it is not affected by ordinary yeast It reacts with Fehling's solution It is important in the diet of the young of mammals Commercially it is produced from the lactose in the whey of cow's milk

La Cueva, Juan de. see CUEVA, JUAN DE LA

Ladd, Edwin Fremont, 1859–1925, American chemist and political leader, b Somerset co, Maine, grad. Univ of Maine, 1884 From 1890 to 1916 he was dean of the school of chemistry and pharmacy at the North Dakota Agricultural College and later (1916–21) was president of the college He served (1902–21) as food commissioner of North Dakota, his campaign against adulterated food products and his efforts to protect the farmers from speculators and distributors brought him national prominence With the support of the NONPARTISAN LEAGUE, he was elected (1920) to the U S Senate and thereafter was associated with the farm bloc He advocated recognition of the USSR and visited that country in 1923 He supported Robert M La Follette for President in 1924 and was read out of the Republican party

Ladd, George Trumbull, 1842–1921, American philosopher, b Painesville, Ohio, grad Western Reserve Univ, 1864, and Andover Theological Seminary, 1869 He taught at Yale from 1881 until his retirement in 1906 Much influenced by Lotze and the German philosophers, he was one of the first to introduce experimental psychology into America, being the founder of the psychology laboratory at Yale Among the writings of Ladd are *Elements of Physiological Psychology* (1887, rev ed, 1911), *Philosophy of Mind* (1895), and *Knowledge, Life, and Reality* (1909).

Ladd, William, 1778–1841, American peace advocate, b Exeter, N H, grad Harvard, 1797 He commanded sailing vessels until the outbreak of the War of 1812, when he retired to a farm in Maine. In 1820 he began to write and speak against war and in 1828 founded the American Peace Society, of which he was president until his death He wrote *An Essay on a Congress of Nations* (1840, ed with introduction by James Brown Scott, 1916), which contained a concrete plan for a world organization involving both a congress of nations and a court of nations In popularizing this plan, Ladd had the help of Elihu BURRITT, who carried on his work. See M E Curti, *The American Peace Crusade, 1815–1860* (1929); biography by Georg Schwarzenberger (1935).

Ladd, village (pop. 1,156), N Ill., NW of La Salle, in a farm area; inc. 1890.

Ladd-Franklin, Christine, 1847–1930, American scientist, b. Windsor, Conn., grad. Vassar, 1869.

She was the first woman student to enter Johns Hopkins (1878), her special studies being directed toward logic and the theory of color In 1882 she married Fabian Franklin, mathematician and editor She studied in Göttingen (1891–92) and worked in Helmholtz's laboratory, evolving from her studies of the theories of Ewald Hering and Helmholtz the theory of color vision which bears her name and which is described in *Colour and Colour Theories* (1929), a collection of her papers

Ladies' Peace see CAMBRAI, TREATY OF

Ladislas. For rulers thus named, see LADISLAUS, LANCELOT, ULADISLAUS

Ladislaus I, king of Bohemia· see LADISLAUS V, king of Hungary

Ladislaus II, king of Bohemia see ULADISLAUS II, king of Hungary

Ladislaus I or **Saint Ladislaus,** Hung *László I,* 1040–95, king of Hungary (1077–95). At the invitation of his sister, the widowed queen of Croatia, he invaded and conquered that country in 1091 He successfully fought the CUMANS, compelling those whose lives he spared to turn Christian and to settle in designated regions He supported Pope Gregory VII against Emperor Henry IV, but rejected Gregory's suggestion that he swear fealty to the papacy He modified the Hungarian criminal code and issued laws safeguarding private property In Hungarian tradition he is the model of chivalry and valor He secured the canonization of St Stephen, and he was canonized himself in 1108 Feast June 27

Ladislaus IV, Hung *László IV,* 1262 90, king of Hungary (1272–90), son and successor of Stephen V His mother was a Cuman, and Ladislaus became unpopular by adopting Cuman customs and surrounding himself with Cuman followers During his reign Hungary fell into anarchy, the great landowners seizing power and the lower classes forming leagues for protection against them There were several revolts against the king, who was finally slain by the Cumans He died heirless, his successor, Andrew III (1290–1301), who issued from another branch of the Arpad dynasty, was succeeded as king of Hungary by King Wenceslaus III of Bohemia

Ladislaus V or **Ladislaus Posthumus** (pos'chōōmus), Hung *László V,* 1440–57, king of Hungary (1444–57) and, as Ladislaus I, king of Bohemia (1452–57), posthumous son of the German king, ALBERT II Ladislaus was duke of Austria by birth, was claimed as king by the majority of the Bohemian diet, and was elected king of Hungary at the death (1444) of LADISLAUS III of Poland who after 1440 had ruled Hungary as Uladislaus I However, his guardian, Emperor FREDERICK III at whose court Ladislaus Posthumus grew up, refused to surrender the boy to Austria or to Hungary or to Bohemia In 1451 the Austrians rebelled and demanded that Frederick return their young duke, this was done in 1452 In 1453 Ladislaus was crowned king of Bohemia and entered Hungary He governed neither realm however, GEORGE OF PODEBRAD was regent in Bohemia John HUNYADI in Hungary After the death (1456) of Hunyadi, Ulrich Cillei, a powerful magnate under whose influence the king had come, became regent Cillei was murdered in 1457, and the king procured the assassination of Ladislaus Hunyadi, John's son, whom he suspected of the crime He then fled to Prague, where he died of the plague He was succeeded in Austria by his Hapsburg relatives, in Bohemia by George of Podebiad, and in Hungary by MATTHIAS CORVINUS

Ladislaus, king of Naples see LANCELOT

Ladislaus I, Pol *Władysław Łokietek* [the short], 1260–1333, Polish ruler (1306–33), crowned king in 1320 He restored the Polish kingdom partitioned since 1138 (see PIAST), but lost Pomerania to the Teutonic Knights His son and successor was Casimir III

Ladislaus II or **Ladislaus Jagiello** (yägyĕ'lō), 1350?–1434, king of Poland (1386–1434), grand duke of Lithuania (1377–86), founder of the JAGIELLO dynasty. He acceded to the Polish throne by marrying Queen JADWIGA, was baptized, and converted Lithuania to Christianity The resulting union of the two nations, Jagiello's victory over the Teutonic Knights at Tannenberg (1410), and the First Peace of TORUN (1411) were the main events of his reign His son, Ladislaus III, succeeded him

Ladislaus III, 1424–44, king of Poland (1434–44) and, as Uladislaus I, king of Hungary (1440–44), son of Ladislaus II and Jadwiga of Poland and grandson of Louis I of Hungary He led two crusades against the Turks, the first (1443) was highly successful, but the second ended in his defeat and death at the battle of Varna

Ladislaus IV, 1595–1648, king of Poland (1632–48), son and successor of SIGISMUND III His reign was marked by struggles with his subjects and wars with the Swedes, the Russians, and the Turks Ladislaus in the later years vainly sought to establish his authority against that of the nobles The Chmielnicki revolt broke out and was unsettled at his death He was succeeded by his brother, JOHN II (John Casimir)

Ladislaus Herman, 1043–1102, king of Poland (1079–1102); brother of BOLESLAUS II His reign was marked by weakness At his death the kingdom was divided between his two sons (see BOLESLAUS III)

Ladoga, Lake (la'dōgŭ, Rus lä'dŭgŭ), Finnish *Laatokka* (lä'tôk-ku), Rus *Ladozhskoye Ozero* (lä'dŭzhskŭyŭ ô'zyĭrŭ), lake, area c.7,000 sq mi, S Karelo-Finnish SSR and NW European RSFSR, in Karelia, NE of Leningrad The largest lake in Europe, it is 130 mi long and 80 mi wide and has a maximum depth of 732 ft Its shores are low and marshy in the south, rocky and indented in the north The lake is subject to autumn storms and freezes every year for two months in the north and four months in the south, navigation is difficult Chief among the many rivers that feed the lake are the Svir, descending from Lake Onega; the Vuoksi, which forms the outlet of the Saima lake system of Finland, and the Volkhov, coming from Lake Ilmen The main outlet is the Neva, which flows W into the Gulf of Finland Schlüsselburg (now Petrokrepost) commands the Neva exit Among the many islands in the northern part of the lake is that of Valaam (Finnish *Valama* or *Valamo*), with a famous Russian monastery dating from the 12th cent or earlier Until the Finnish-Russian War of 1939–40, the northern part of the lake belonged to Finland, cession of the Finnish shore to the USSR was confirmed by the peace treaty of 1947 During the defense of Leningrad against the Germans in the Second World War, the frozen Lake Ladoga was the lifeline by which Leningrad was supplied in the winters from 1941 to 1943 Because of the difficulties of navigation, the southern shore of Lake Ladoga is paralleled by the

Ladoga Canals, 100 mi long, connecting the Svir and Neva rivers and forming part of the MARIINSK SYSTEM and the Baltic-White Sea Canal System

Ladonia, town (pop 1,279), NE Texas, NE of Dallas, in a farm area

Ladrones Islands see MARIANAS ISLANDS

Ladue (lədōō', -dū'), city (pop 3,981), E Mo, near St Louis, inc as a town 1928 as a city 1936

ladybird or **ladybug,** member of a widely distributed family of beetles, the Coccinellidae The ladybird is oval or round and nearly hemispherical, usually reddish or yellow spotted with black or black spotted with red or yellow Both the adult and the larva of most species feed chiefly on aphids, scale insects, and other injurious insects One of the imported species is the Australian ladybird, which devours the cottony-cushion scale, a threat to the citrus fruit crops There are two injurious herbivorous species, the Mexican bean beetle, which has spread through the E United States and N to Canada, and the squash beetle, which eats leaves of squash, pumpkin, and related plants

Lady Day or **Annunciation** see MARY

Lady Margaret Hall see OXFORD UNIVERSITY

Lady of the Lake, a vague figure, endowed with magical powers, who gave the sword Excalibur to King Arthur According to one story she inhabited a miragelike castle on an island in a wonderful lake She has been identified variously with Morgan le Fay and Vivien See ARTHURIAN LEGEND The poem *The Lady of the Lake,* by Sir Walter Scott, is a completely different romantic story

Ladysmith (lā'dĭsmĭth), town (pop 1,706), on SE Vancouver Island, SW British Columbia, on an inlet of the Strait of Georgia SSE of Nanaimo Its industries include coal mining and oyster culture

Ladysmith, town (pop 14 083), N Natal prov, Union of South Africa It was named for the wife of the colonial governor Sir Harry Smith a Spanish woman whom he rescued in the Peninsular War Sir George White's British forces were besieged here (1899–1900) by the Boers under Petrus Joubert There are light industries The population includes 4,970 Europeans

Ladysmith, city (pop 3,671), co seat of Rusk co, N Wis, NNE of Eau Claire and on the Flambeau, in a lake and woods region, inc 1905 Woodworking and canning are done

lady's-slipper or **moccasin flower,** handsome wild flower of the genus *Cypripedium* of the orchid family, represented in nearly 30 species, about 10 of which are native to North America Among those of North America are white-, yellow-, and pink-flowered forms Both the stemless lady's-slipper (*Cypripedium acaule*) and the showy lady's-slipper (*C spectabile* or *C reginae*), which is the floral emblem of Minnesota, have pink flowers The flowers appeared in Indian ceremonial rites One of the easiest of the native orchids to grow in the garden is the yellow lady's-slipper (*C pubescens*) The roots of this species as well as those of the small yellow lady's-slipper (*C parviflorum*) have been used medicinally The name lady's-slipper is sometimes applied to garden balsam or impatiens

Lae (la'ā, lī), town, on E New Guinea, in the Morobe dist, Territory of New Guinea, on Huon Gulf It was founded in 1927 to serve air transport lines into near-by gold fields In the Second World War it was occupied in 1942 by the Japanese and regained in 1943 by Allied forces

Laeken, Belgium see LAKEN.

Lael (lā'ĕl), father of a Gershonite Num 3 24.

Laelius, Caius (kā'yus lē'lĭŭs), d. c.165 B C, Roman general, consul in 190 B C. He was the intimate friend and companion of SCIPIO AFRICANUS MAJOR from youth, and he was with him in campaigns, always holding commands under his friend His son **Caius Laelius Sapiens** (sā'pēuns), b c 186 B C, consul in 140 B C, was famous for his friendship with Scipio Africanus Minor Cicero named one of his great works *Laelius, sive, De amicitia* [Laelius, or, on friendship]

Laënnec, René Théophile Hyacinthe (runā' tāôfēl' yasĭnt lāānĕk'), 1781–1826, French physician While connected with the Necker Hospital in Paris he invented the stethoscope, which he described in his book (1819), and devised the method of auscultation for diagnosis of diseases of the chest, which, with the percussion method of Leopold Auenbrugger, established the modern technique See study by Nolie Mumey (1932)

Laer, Pieter van see LAAR, PIETER VAN

Laertes (lāûr'tēz), in Greek mythology, king of Ithaca He was the father of Odysseus and helped to kill Penelope's suitors when Odysseus returned from his adventures Laertes was one of the ARGONAUT heroes, and he also took part in the CALYDONIAN HUNT

Laértius, Diogenes see DIOGENES LAËRTIUS

Laessle, Albert (lĕs'lē), 1877–, American sculptor, b Philadelphia He studied at the Pennsylvania Academy of the Fine Arts, where he later taught (1919–39) His bronzes present animal life with grotesque and droll humor In the parks of Philadelphia are *Billy* (a goat) and two bronze penguins Other works are *Chanticleer, Turtle and Lizards,* and *Blue-eyed Lizard* (all Pa Acad of the Fine Arts) and *Victory* (an eagle) and *Turning Turtle* (both Metropolitan Mus)

Laetare (lāta'rā) [Latin,=rejoice], in the Roman Catholic Church, the name of the fourth Sunday in Lent, so called from the first word of the introit On Laetare Sunday the Golden Rose is blessed, this is a gift from the pope to a sovereign or other person or to a city, a kingdom or the like, given in appreciation of service to the Church An analogous custom is the annual award by the Univ of Notre Dame of the Laetare medal to a leading American Catholic layman

La Farge, John (lu färzh'), 1835–1910, American artist, writer, and worker in stained glass, b New York city, studied with William Morris Hunt in Newport, R I, and Couture in Paris He began as a painter of landscapes and figure compositions, but in 1876 was commissioned to decorate Trinity Church Boston, and thereafter devoted himself primarily to mural painting and the manufacture and design of stained glass For his achievements in this latter field he received the insignia of the Legion of Honor from the French government An eclectic artist and a man of the widest culture, friend of Henry Adams and Henry James, La Farge did much to create a sound tradition of the fine arts in America. His murals in Trinity Church and the Church of the Ascension, New York, set a standard for the art unsurpassed in the United States A lifelong Catholic, he did much of his best work for churches He invented opaline glass, and his splendid windows may be admired in the churches of Buffalo, N Y, and Worcester, Mass, and the chapels of Harvard and Columbia universities La Farge worked in many media His water colors and drawings are well known, particularly those commemorating his visit to the South Seas in 1890 His easel paintings are in many leading American museums His writings and lectures on art are distinguished for their urbanity, balanced judgment and admirable style Among them are *Considerations on Painting* (1895), *An Artist's Letters from Japan* (1897), *The Higher Life in Art* (1908), and *Reminiscences of the South Seas* (1912) See study by Royal Cortissoz (1911)

La Farge, Oliver (lu färzh'), 1901–, American writer and anthropologist, b New York city, grad Harvard (B A, 1924, M A, 1929) He conducted three archaeological expeditions to Arizona and two ethnological expeditions to Guatemala and one to Mexico He uses his field experience and knowledge to authenticate his reflective stories of Indian habit and character *Laughing Boy* (1929), a novel of Navaho life, won the Pulitzer Prize in 1929 Other works are *The Sparks Fly Upward* (1931), *The Enemy Gods* (1937), and the stories *All the Young Men* (1935) See his autobiographical *Raw Material* (1945)

Lafargue, Paul (pôl' lăfarg'), 1842–1911, French socialist, b Cuba, son-in-law of Karl Marx With Jules Guesde he helped found a Marxist socialist party in France His many writings, which were influential in other countries, include *The Religion of Capital* (1887, Eng tr, 1894) and *The Evolution of Property from Savagery to Civilization* (1891; Eng tr, 1894)

Lafayette or **La Fayette, Marie Joseph Paul Yves Roch Gilbert du Motier, marquis de** (marē' shōsĕf' pôl' ēv' rôk zhēlbĕr' du môtyā' märkē' dŭ läfāĕt'), 1757–1834, French general and statesman He was born of a distinguished family and early entered the army Enthusiastic over the news of the American Revolution, he evaded all obstacles laid in his way by the officially neutral French government and left France to join George Washington's army He arrived (1777) in Philadelphia, where Congress

appointed him a major general He quickly won the close friendship of Washington, was wounded at Brandywine (1777), shared the hardships of Valley Forge, and obtained a divisional command After a trip to France (1779–80), where he negotiated for French aid, he distinguished himself in the YORKTOWN CAMPAIGN. Returning to France in 1781, Lafayette later became active in the French Revolution, was elected vice president of the National Assembly, and was acclaimed commander of the National Guard the day after the fall of the Bastille (July, 1789) In this key position he sought to exploit his immense popularity and to maintain order by acting as moderator between the contending factions However, his fear of civil war, his lack of a positive program, and the hostility of the court prevented him from stemming the mounting tide of mob rule He took command (1791) of the "army of the center," formed in preparation for war against Austria After a brief visit to Paris (June, 1792), when he vainly attempted to save the monarchy, he returned to the front, but could not bring himself to turn his army against the republican factions While he wavered, the extremists seized the power in Paris Lafayette left his army, fled across the border (Aug 19, 1792), and was captured and imprisoned in Austria Liberated (1797) by Napoleon, he returned to France (1799), where he lived in retirement during the First Empire In 1824–25 he visited the United States, where he was given an unparalleled welcome A consistent liberal, Lafayette took part in the July Revolution (1830) as a leader of the moderates His unswerving courage, integrity, and idealism have made him a popular symbol of the bond between France and the United States His direct descendants, the Chambrun family, are honorary U. S. citizens The modern French flag was created by Lafayette in July, 1789, by combining the royal white with the blue and red of Paris See biographies by Brand Whitlock (1929), Bayard Tuckerman (1889), Charlemagne Tower (2 vols, 1895), Joseph Delteil (Eng tr, 1928), and Louis Gottschalk (4 vols, 1935–50) See also S W. Jackson, *La Fayette a Bibliography* (1930)

La Fayette, Marie Madeleine Pioche de la Vergne comtesse de (märē' madulĕn' pôsh' du la vĕr'nyu, kôtĕs'), 1634–92, French novelist of the classical period, whose chief, and only living, work, *La Princesse de Clèves* (1678), is the first great French novel The psychological realism of this story of a woman's renunciation of an illicit love, treated as it is with chaste simplicity and quiet wit, has given the novel universal appeal Mme de la Fayette's friendship with the duc de LA ROCHEFOUCAULD has given credence but no credibility to the theory that he appears in her novel as the unhappy lover

LaFayette (lufā'ĭt), city (pop 3,509), co seat of Walker co, extreme NW Ga, S of Chattanooga, Tenn, founded 1835 It is a farm trade center, with some industries The arrival of the railroad in 1888 stimulated La Fayette's growth During the Civil War several skirmishes took place here

Lafayette. 1 (lufā'ĭt) City (pop 2,138), co seat of Chambers co, E Ala, near the Ga line NE of Montgomery, in a cotton area, settled 1883 It has textile mills **2** (lā''fēĕt') Town (pop 2,052), N central Colo, NNW of Denver, in a coal and farm area, inc 1890 **3** (lā''fēĕt') City (pop 28,798), co seat of Tippecanoe co, W Ind, on the Wabash and NW of Indianapolis, settled 1825, inc 1853 Lafayette is a market for grain and livestock and a coal-mining center, and its manufactures include rubber products and automobile gears PURDUE UNIVERSITY is here The battle of TIPPECANOE was fought at Battle Ground just north of the city in Nov, 1811 There is a monument on the site of an important Indian trading post 7 mi west of the city **4** (lā''fēĕt') City (pop 19,210), parish seat of Lafayette parish, S La, on the Vermilion river N of Vermilion Bay It was laid out c 1824 by Acadians, who called it Vermilionville First incorporated in 1836, it was reincorporated in 1869 and renamed in 1884, in 1914 it was incorporated as a city with a commission government The shipping and commercial center for a rich area producing sugar, rice, cotton, livestock, dairy products, oil, salt, and sulphur, Lafayette has also railroad shops, sugar refineries, canneries, and cotton gins Besides historic landmarks, there is a Roman Catholic cathedral, a Carmelite monastery, and Southwestern Louisiana Institute (coeducational, 1898)

Lafayette, Mount, peak, 5,249 ft. high, N N H, highest peak of the Franconia range.

Lafayette College see EASTON, Pa

Lafayette Escadrille (ĕskûdrĭl'), group of American volunteer aviators in the First World War, created (April, 1916) as Escadrille Americaine in the French air service It was renamed the Lafayette Escadrille in December of the same year, and the outfit saw much front-line action and heavy casualties In Jan, 1918, the Lafayette Escadrille was reorganized in the U S army as the 103d Pursuit squadron. See E C. Parsons, *The Great Adventure* (1937)

La Feria (lä fĕr'ēä), city (pop 1,644), extreme S Texas, NW of Brownsville, in the irrigated area of the lower RIO GRANDE valley

Laffan, William Mackay (mă'kē lă'fŭn), 1848–1909, American journalist and art expert, b Ireland He became city editor of the San Francisco *Chronicle* and, later, managing editor of the *Bulletin* He was connected (1870–77) with the Baltimore *Daily Bulletin*, becoming its owner and editor Next he joined the staff of the New York *Sun*, of which, in 1902, he became the owner Though not editor, he closely supervised all departments and frequently wrote editorials His illustrations had been a feature of his newspaper work since San Francisco days, and his *Engravings on Wood* was published in 1887 As a trustee of the Metropolitan Museum he took an important part in its development Noted for his wide knowledge of art, he was J P Morgan's chief adviser in assembling his art collections Laffan wrote *Oriental Ceramic Art* (1897).

Laffite, Jean (zhä' lăfēt'), c 1780–c 1825, leader of a band of privateersmen and smugglers The name is more commonly spelled Lafitte He and his men operated first off the Barataria coast S of New Orleans and, after 1817, from the island site of the present city of Galveston, Texas His ships preyed on Spanish commerce, the booty being brought from Barataria through bayous to New Orleans, where it was disposed of chiefly through the agency of Pierre Laffite, a brother A naval force in Sept, 1814, raided their establishment at Barataria and their ships Laffite, a few days before, had refused a British offer of £30,000 and a commission in the royal navy if he would aid the British in their attempt on New Orleans Instead Laffite turned his information over to the Americans and offered his services to them in return for the pardon of his men Jackson accepted their help and many of the Barataria participated with credit in the battle of New Orleans and were subsequently pardoned by President Madison Laffite returned to his old life, moving his base of operations to the disputed Texas area, where he gathered about him almost a thousand followers He was unmolested until several members of his colony attacked American property, whereupon the U S government again dispatched a naval force against him Laffite with his closest followers departed peaceably in a favorite vessel His final end is not certainly known In his lifetime he was a romantic figure, and after his death legend heightened his fame See Lyle Saxon, *Lafitte the Pirate* (1930)

Laffitte, Jacques (zhak' lăfēt'), 1767–1844, French banker and politician He rose from a boyhood of poverty to become one of the wealthiest and most influential men in France He was governor of the Bank of France (1814–19), but his interests were injured in the reign of CHARLES X by the indemnity laws passed in favor of the émigrés Thrown into the opposition, he brought all his influence to bear and, particularly by encouraging journalists such as Thiers, helped to effect the JULY REVOLUTION of 1830 and to put Louis Philippe on the throne He was made premier by the new king, but his policy failed to satisfy any of the parties and he resigned in 1831 By then he had lost most of his fortune

Lafitte, Jean see LAFFITE, JEAN

La Flesche, Francis (lu flĕsh'), c 1860–1932, American ethnologist, born on the Omaha Reservation, Nebr, grad National Univ, Washington, D C (LL B, 1892) La Flesche, of Indian ancestry, was educated at the Presbyterian Mission School of Bellevue, Nebr He was appointed (1881) clerk in the Bureau of Indian Affairs, Washington, and while there he obtained his degree from the National Univ In 1910 he was transferred to the Bureau of American Ethnology, where he remained until his retirement in 1929 La Flesche wrote *The Middle Five* (1900) and, in collaboration with Alice Fletcher, *The Omaha Tribe* (1907) His field studies of the Osage Indians are of some importance He was a brother of **Susette La Flesche**, 1854–1903, known as Bright Eyes, ardent advocate of Indian rights

La Follette, Robert Marion (lufŏl'ĭt), 1855–1925, American statesman, b Primrose, Dane co, Wis., grad Univ of Wisconsin, 1879 He studied law, was admitted (1880) to the bar, and practiced in Madison, Wis He was district attorney (1880–84) of Dane co, Wis, then for three terms (1885–91) the U S Representative, he helped draft the McKinley Tariff Act (1890) and generally followed traditional Republican party policies He returned to law practice, formulated a detailed reform program, and, appealing directly to the people of his state, built up a constituency which, independent of political parties, remained loyal to him for the remainder of his career Twice (1900, 1902) elected governor, he secured a direct primary law, tax-reform legislation, railroad-rate control, and other measures, collectively known as the Wisconsin Idea La Follette—crusading, courageous, and independent—was a member of the U.S Senate from 1906 until he died. He generally supported reform measures of the Wilson administration, championing Federal railroad regulation, sponsoring the act (1915) which elevated and regulated conditions of maritime employment, and advocating passage (1916) of the Seventeenth Amendment to the U S Constitution He broke with the Wilson administration, however, when he resisted the increasing tendency to side with the Allies; he led the resistance to arming merchant ships and voted against the U.S declaration of war. He afterwards supported war legislation, but made every effort to place the financial burden on the wealthy The legislature of his state censured him, and a movement to expel him from the Senate almost succeeded From 1919 to 1925 he was the leader of the group which held the balance of power in the Senate He opposed the League of Nations and the Permanent Court of International Justice (the World Court) and fought the U S post-war deflation policy In 1924 he ran for President on the PROGRESSIVE PARTY ticket, in losing he polled 5,000,000 votes The strain of the campaign sapped his strength, and he died the following summer. His wife, **Belle Case La Follette**, 1859–1931, b Juneau co, Wis, LL B. Univ of Wisconsin, 1885, actively worked for woman suffrage, engaged in journalism, and ably advised her husband throughout his life Their older son, **Robert Marion La Follette, Jr.**, 1895–, b Madison, Wis, assisted (1919–25) his father as secretary, then succeeded him to the U S Senate, and served there until 1947, when he was defeated in the Wisconsin primaries He too championed tax reform, he backed New Deal legislation until the passage of the 1938 naval expansion bill Another son, **Philip Fox La Follette**, 1897–, b Madison, Wis, LL B Univ of Wisconsin, 1922, served (1931–33, 1935–39) as governor of Wisconsin See the elder Robert La Follette's autobiography (1913), E N Doan, *The La Follettes and the Wisconsin Idea* (1947)

La Follette (lŭ fŏl'ĭt), city (pop 4,010), E Tenn, on Norris Lake and NNW of Knoxville, at the eastern base of the Cumberland Plateau, inc 1897 The city is a coal-mining center

La Fontaine, Henri (ärē' lăfōtĕn'), 1854–1943, Belgian jurist and statesman A senator from 1894 to 1936, he was a lifelong advocate of international cooperation, headed the International Peace Bureau from 1907 onward, and was awarded the 1913 Nobel Peace Prize He wrote extensively on international law

La Fontaine, Jean de (zhă' du), 1621–95, French poet, author of fables, b Chateau-Thierry, of a bourgeois family His adult life was passed mostly at Paris For 20 years from c 1673 he lived in the home of Mme de la Sablière Among his works are *Contes et nouvelles en vers* (1st ed, 1664), imitations in verse of Boccaccio and Ariosto, poems on classical themes, e g, *Adonis* (1669) and *Philémon et Baucis* (1684), and long, more original poems, notably the *Élégie aux nymphes de Vaux* (1671), a beautiful complaint written on the disgrace (1661) of Nicolas Fouquet, La Fontaine's patron He also wrote comedies and opera books But La Fontaine's masterpiece is the collection of *Fables choisies, mises en vers* [selected fables versified] (1668–94), containing 12 books of about 230 fables The fables place La Fontaine beside Racine and Molière as a master because of perfection of verse, fidelity to human nature, and narrative interest Each fable is a short story of beasts who act like men Each has a point expressed in a moral, a moral intended less to teach than to make a generalization on human behavior illustrated by the fable The charm and simplicity of the narratives have made them popular reading for children The fables, however, are really satires, sometimes bitter, often cynical, always sophisticated They had enormous success, 37 editions appeared before La Fontaine's death The fables have been frequently translated into English, e g, by Elizur Wright (1907), by Joseph Auslander and Jacques Le Clercq (1930), and by Edward Marsh (1933)

LaFontaine, Sir Louis Hippolyte, 1807–64, Canadian statesman, b Quebec prov, educated at the Collège de Montréal He supported Papineau in his opposition to the British administration, but did not approve of the rebellion of 1837. After the rebellion, with Papineau in exile, LaFontaine became the accepted leader of the French Canadians and of the Reform party in Lower Canada Sir Charles Bagot, as governor general, recognized the powerful coalition formed by the French Canadians and the moderate reformers of Upper Canada led by Robert BALDWIN and called into being in 1842 the first Baldwin-LaFontaine ministry When Bagot died, the ministry soon found itself in opposition to Sir Charles Metcalfe, his successor, on the issue of responsible government and resigned in 1843 With the triumph of the Reform party in 1847, Lord Elgin called into existence the second Baldwin-LaFontaine administration, notable for its reforms and achievement of genuine responsible government The test of the latter was the Rebellion Losses Bill (1849), brought in by LaFontaine, to compensate persons in Lower Canada who had suffered property loss during the rebellion of 1837 It was denounced as a "rebel measure" but was upheld by Lord Elgin at the cost of personal violence to himself. LaFontaine resigned in 1851, from 1853 until his death he served with distinction as chief justice of Lower Canada He was made a baronet in 1854. See Stephen Leacock, *Mackenzie, Baldwin, LaFontaine, Hincks* (rev. ed., 1926).

Laforgue, Jules (shül' läfôrg'), 1860–87, French poet, one of the SYMBOLISTS His vers libre shows a bizarre, ironic, and melancholy originality

Lafosse, or La Fosse, Charles de (shärl' du là fôs'), 1636–1716, French painter He was a pupil of Le Brun and studied also in Italy Louis XIV entrusted him with important decorations for the Tuileries, Marly, and the Trianon Perhaps his outstanding achievement, however, is his enormous fresco, *St Louis at the Feet of Christ*, which decorates the dome of the Hôtel des Invalides, Paris

Lafourche, Bayou (bī'ŏŏ' läfōōsh'), SE La , flowing to the Gulf of Mexico Formerly an outlet of the Mississippi, it has been cut off from the river by a dam at Donaldsonville

Lagan (lă'gŭn), river of Northern Ireland, rising in central Co Down and flowing 45 mi NW and then NE past Dromore and Lisburn to Belfast Lough at Belfast It is joined by canal to Lough Neagh, and it forms the boundary between Counties Down and Antrim

Lagarde, Paul Anton de (pōl ätōn' du lugard'), 1827–91, German Orientalist His father's surname was Bottticher, his adoptive mother's name was Lagarde He was one of the most important biblical critics and Oriental philologists of his century His work included studies in Iranian, Syriac, Greek, Arabic, and Aramaic, but perhaps his best contributions were to the criticism of the biblical text

Lagash (lā'găsh) or **Shirpurla** (shĭrpōōr'lu), ancient city of Sumer, S Babylonia It flourished c 3000 B C and at one time controlled a large part of S Babylonia, its power extending over Nippur Excavations begun on the site in 1877 revealed the ruins of a great palace on the site of a much older temple (c 2700 B C) of the city's patron deity, Ningirsu Some 30,000 inscribed tablets and a great variety of objects were recovered The inscriptions revealed that the city was a rival of Kish and Umma, that it was invaded, had its temples destroyed, and rose to new supremacy under Gudea, c 2450 B C

Lagerkvist, Par Fabian, Swed *Pär Fabian Lagerkvist* (pär' fa'bēan la'gurkvĭst'), 1891–, Swedish poet, dramatist, and novelist His early works, strongly affected by the First World War, were expressionistic in form In two autobiographical volumes, *Guest of Reality* (1925, Eng tr , 1936) and *Life Conquered* (1927), he states his faith in the spirit of man Later works reflect his interest in political and social problems, they include the plays *Man without a Soul* (1936) and *Victory in Darkness* (1939) and the novel *The Dwarf* (1944, Eng tr , 1945) The purity of his verse has had a marked influence on Swedish poetry In 1940 he was elected to the Swedish academy

Lagerlof, Selma, Swed *Lagerlöf* (sĕl' ma la'gürlûv), 1858–1940, Swedish novelist Winner of the 1909 Nobel Prize in Literature she was also the first woman to be elected (1914) to the Swedish academy She was born on the family estate "Marbacka" in Varmland, the province which is the background for much of her fiction Most of her novels and short stories have been translated Novels include *The Story of Gosta Berling* (1894, Eng tr , 1898), *Jerusalem* (1901, Eng tr , 1901–2), *The Outcast* (1918), *Charlotte Lowenskold, The General's Ring*, and *Anna Svard*, which form a series issued in 1931 as *The Ring of the Lowenskolds* Among collections of short stories are *Invisible Links* (1894), *From a Swedish Homestead* (1899), and *The Wonderful Adventures of Nils* (1906, Eng tr , 1907), which is a children's classic Autobiographical volumes are *Marbacka* (1922), *Memories of My Childhood* (Eng tr , 1934), and *The Diary of Selma Lagerlof* (Eng tr , 1936) See biography by H A Larsen (1936)

Lagoon Islands see ELLICE ISLANDS

Lagos (la'gŏs, la'gōs), city (pop 126,108), capital of Nigeria, a port on the Atlantic Ocean It comprises two islands (Lagos and Iddo) and a mainland section Founded c 1700 by the Yoruba tribe, Lagos for about a century was a notorious slave market Off Lagos, in 1759, Admiral Boscawen defeated the French Lagos became a British protectorate in 1851 and a colony in 1861 It was made the capital of Nigeria in 1914 Lagos is the terminus of a railroad to the exterior, and it exports palm oil and peanuts

Lagos (la'gōsh), city (pop 7,339), extreme SW Portugal, in Algarve, a port on the Atlantic, WNW of Faro and near Cape St Vincent The excellent harbor shelters much coastwise trade and an important sardine and tuna fishing fleet Sancho I with the help of bands of Crusaders took (1189) the city, later it was recaptured by the Moors but was soon restored to the Portuguese It was of much importance as a starting port for the Portuguese navigators in the time of Prince Henry the Navigator, who was first buried at Lagos The disastrous expedition of King Sebastian set out from Lagos

La Grande (la grānd'), city (pop 7,747), co. seat of Union co , NE Oregon, at the eastern foot of the Blue Mts , SE of Pendleton and on the Grande Ronde; founded 1861, inc 1886 Commission-manager government was adopted in 1913 The city processes and ships the products of a fruit, livestock, and lumber area and has railroad shops It is the site of a state teachers college

Lagrange, Joseph Louis, Comte (zhōzĕf' lwē' kōt' lăgrāzh'), 1736–1813, French mathematician and astronomer, b Turin, of French and Italian descent Before the age of 20 he was professor of geometry at the royal artillery school at Turin With his pupils he organized (1759) a society from which the Turin Academy of Sciences developed Among his early successes were his method of solving isoperimetrical problems, on which the calculus of variations is based in part, his researches on the nature and propagation of sound and on the vibration of strings, and his studies on the libration of the moon and on the satellites of Jupiter On the recommendation of Euler and D'Alembert, Frederick the Great invited him (1766) to succeed Euler as director of mathematics at the Berlin Academy of Sciences The memoirs of the academy were enriched by his distinguished treatises, and during this time he wrote his chief work, *Mécanique Analytique* This was published (1788) in Paris, where he had been called by Louis XVI in 1787 In 1793 he became president of the commission on weights and measures, he was influential in causing the adoption of the decimal system A professor at the École polytechnique from 1797, he developed the use in teaching of the analytic method which he so skillfully employed in his research He wrote *Théorie des fonctions analytiques* (1797) and *Leçons sur le calcul des fonctions* (1806), both based on his lectures Under Napoleon, Lagrange was made senator and count, he is buried in the Panthéon His contributions to the development of mathematics include also the application of differential calculus to the theory of probabilities and notable work on the solution of equations In astronomy he is known for his calculations of the motions of planets His complete works were published in 14 volumes (1867–92)

La Grange (lu grānj'), **1** City (pop 21,983), co seat of Troup co, W Ga , SW of Atlanta near the Chattahoochee river, inc 1828 It is an industrial center (with textile mills) which has retained its charm as a beautiful residential city There are a number of fine old houses in classic revival style La Grange College (Methodist, for women, 1831) is here The city was a storm center in the statewide textile strike of 1934 **2** Residential village (pop 10,479), NE Ill , west suburb of Chicago, settled in the 1830s, inc 1879 A junior college is here Aluminum products are manufactured, and limestone quarries are in the area **3** Town (pop 1,334), co seat of Oldham co , N Ky , NW of Frankfort, in a farm area The penitentiary here (built 1939–40) replaced one at Frankfort **4** City (pop 1,222), NE Mo , on the Mississippi above Hannibal, platted 1830 An iron foundry is here **5** Town (pop 1,647), E N C , on the Neuse river and SE of Goldsboro, inc 1869 It is a trade center with some manufacturing **6** City (pop 2,531), co seat of Fayette co , S central Texas, on the Colorado and SE of Austin, settled 1828 Early a wealthy market for blackland cotton plantations, it now serves a varied farm region and processes dairy products A large monument marks the tomb of La Grange men killed near San Antonio by Mexican invaders in 1842 and also of the Texans who perished in the ill-fated expedition against Mier, Mexico, of 1842

Lagrange, town (pop 1,814), co seat of Lagrange co , NE Ind , E of Elkhart, platted 1836, inc 1855 It is a dairying center

La Grange Park, village (pop 3,406), NE Ill , west suburb of Chicago, inc 1892

LaGuardia, Fiorello Henry (fyōrĕ'lō, lugwar'dēu), 1882–1947, U S public official, Congressman and mayor of New York city (1934–45), b New York city, grad New York Univ (LL B 1910) After his father—an army bandmaster who had come from Italy to America—died (1898), Fiorello LaGuardia accompanied his mother to Europe and was employed by the American consulate in Hungary, Trieste, and Fiume He returned (1906) to New York city, studied law while working (1907–10) in the U S immigration service and was admitted (1910) to the bar He ran for Congress on the Republican ticket unsuccessfully in 1914, but, again nominated, he launched a vigorous campaign and won (1916) against the Tammany machine He entered (1917) Congress, joined in the successful fight for the liberalization of the House rules, but resigned (1917) to command American air forces on the Italian-Austrian front in the First World War He then (1920–21) was president of the New York city board of aldermen Again (1923–33) in the House of Representatives, he fought for numerous labor reforms and sponsored the Norris-LaGuardia anti-injunction bill With the backing of Samuel SEABURY (1873–), LaGuardia successfully ran (1933) for mayor of New York city on the Fusion ticket As mayor he executed a vast program of reform He reduced political corruption, forwarded the modernizing and beautification of New York city, brought about the adoption (1938) of a new city charter, introduced slum-clearance projects, and improved health and sanitary conditions "The Little Flower" (from his first name)—as stubby, turbulent LaGuardia came to be called—was reelected mayor of New York city for three consecutive terms, but refused to run in 1945 Succeeded as mayor by William O'DWYER, LaGuardia served (1946) as director of the United Nations Relief and Rehabilitation Administration See his *Making of an Insurgent an Autobiography, 1882–1919* (ed by M L Werner, 1948)

LaGuardia Field (lugwar'dēu), municipal airport, 558 acres, in N Queens borough of New York city, on the East River at Flushing Bay, opened 1939 It has accommodations for seaplanes and landplanes and is administered by the Port of New York Authority

Laguna (lugōō'nu), North American Indian pueblo, W central N Mex , 45 mi W of Albuquerque It has 2,932 inhabitants Laguna, most recent of the New Mexican pueblos, was founded in 1699 The PUEBLO INDIANS have retained many old ceremonials, the principal feast is that of San José (St Joseph) on March 19 The chief villages are Old Laguna, Mesita, and Paguate The inhabitants of Laguna speak a Western Keresan language

Laguna, La (la lugōō'na), city (pop c 18,000), on Teneriffe island, Canary Islands An educational center, it is the seat of the Univ of San Fernando

Laguna Beach (lugōō'nu), residential and resort city (1940 pop 4 460, 1945 special census pop 6 524), S Calif , SE of Los Angeles, inc 1927 It has art studios and an art gallery

Laguna District [Span , =lake, so called from shallow lakes on the plain], irrigated area under cultivation, c 900,000 acres, E Durango and W Coahuila, Mexico The water comes from the NAZAS river Formerly consisting of large estates owned by Spanish and British settlers, the land was reapportioned (1936) as part of the agrarian reform of LÁZARO CÁRDENAS and distributed to Mexican farmers on the EJIDO system Cotton and wheat are the major crops.

La Habra (lu hă'bru), city (pop 2,499), S Calif , SE of Los Angeles, inc 1925 Citrus fruit is packed

Lahad (lā'-), Zorathite family 1 Chron 4 2

Lahaina (luhī'nu), city (pop 5,217), on the west coast of W Maui T H Formerly a whaling port, it now exports sugar Lahaina was the capital (1810–45) of the Hawaiian Islands, the first white settlement in the islands was made here The city is the site of the Lahainaluna School (est 1831)

Lahai-roi (lāhā'roi) [Heb , =He who lives and sees me] or **Beer-lahai-roi** (bē'ur–) [Heb , =well of Lahai-roi], well, probably in the western part of the Sinai peninsula Gen 16 14, 24 62, 25 11

La Halle, Adam de see ADAM DE LA HALLE

La Harpe, Frédéric César de (frādārēk' sāzur' du la arp'), 1754–1838, Swiss statesman He went (1782) to St Petersburg, Russia, where he became the tutor of Grand Duke Alexander (later Alexander I), in whom he instilled liberal and democratic ideals After the outbreak of the French Revolution, La Harpe returned to Switzerland and sought to stir up a revolution in his native VAUD against the Bernese authorities Having failed, he went to Paris to solicit the intervention of the Directory in favor of Vaud After the establishment (1798) of the HELVETIC REPUBLIC with the help of French arms, La Harpe was one of its directors, but in 1800 the conservatives, backed by Bonaparte, ousted him as a Jacobin La Harpe retired to Paris When the allies entered Paris in 1814, Alexander I gave La Harpe the rank of a Russian general La Harpe represented Vaud and Ticino at the Congress of Vienna (1814–15), where with the help of the tsar he secured recognition of the two cantons as sovereign members of the Swiss Confederation

La Harpe, Jean François de (zhā' frāswā' du la arp'), 1739–1803 French critic He was author of the monumental *Cours de littérature ancienne et moderne*, lectures he delivered after his appointment (1786) at the lycée in Paris His judgments on the classical period especially have been approved by time He also wrote plays, commentaries (notably on Racine) and critical essays

La Harpe (lu härp'), city (pop 1,322), W Ill , E of Fort Madison, Iowa, in a farm area, inc 1859

La Hire (la ēr'), c 1390–c 1443, French commander in the Hundred Years War, whose real name was Étienne de Vignoles or Vignolles, He entered (1418) the service of the dauphin (later King Charles VII) and was a loyal companion of Joan of Arc, whom he helped to defeat the English at Patay (1429) For a time La Hire ravaged N France at the head of a band of ÉCORCHEURS but in 1437 he resumed the fight against the English

La Hire or La Hyre, Laurent de (both lōrā' du la ēr'), 1606–56, French painter, one of the founders of the Académie royale de Peinture et de Sculpture He produced many portraits and historical paintings a few landscapes, important decorative works for Richelieu Pierre Séguier, and others, and tapestry designs for the Gobelins His paintings include *Pope Nicolas V Opening the Tomb of St Francis* and *St Peter Healing the Sick* (Louvre), *The Trinity* (Lyons), *Vision of St Francis* (Strasbourg), and the *Judgment of Paris* (Dijon)

Lahmam (lā'măm), unidentified town, S central Palestine Joshua 15 40.

Lahmi (lä'mī), giant brother of Goliath killed by Elhanan. 1 Chron. 20 5

Lahnda (län'dù), language of the Indic group of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Lahontan, Louis Armand, baron de (lwē' ärmä' bärō' du läōtä'), 1666–c 1713 French explorer in America He entered the army and came to New France in 1683 as captain of a regiment which he led in expeditions against the Iroquois He was a close student of Indian life and in 1687 was sent West with Duluth to be placed in command of the new Fort St Joseph on the St Clair river This post he abandoned in 1688 Traveling westward by the Fox-Wisconsin portage, he reached the upper Mississippi In his *Nouveaux Voyages dans l'Amérique Septentrionale* (1703, critical Eng ed , *New Voyages to America*, 1905), he claims to have ascended the River Long, a mighty stream flowing into the Mississippi from the west, and to have wintered there He gives elaborate descriptions of the physical features and tribes The River Long, which appeared on maps for several generations, long puzzled historians and could not be satisfactorily identified with any existent river of the region It is now treated, along with the corresponding descriptions, as fictitious The rest of the book is generally accurate and forms one of the first extended descriptions of the West and its life which we possess It greatly influenced European thought, especially the "Dialogues," which by contrasting savage with civilized life were influential in the creation of the "noble savage" and "natural man" traditions

Lahontan, Lake (luhŏn'tun, läōtä'), extinct lake of W Nevada and NE California It was brought into existence by the glacial age and, with Lake Bonneville, occupied a part of the Great Basin region. Geologists have concluded that Lake Lahontan vanished shortly after the Pleistocene epoch and that several lakes of W Nevada—e g , Pyramid Lake, Winnemucca Lake, and Walker Lake—remain as remnants The area, and especially Lovelock Cave, Nev , became a rich field for the investigation of fossils

Lahore (luhōr'), city (pop 671,659), capital of West Punjab prov , Pakistan, on the Ravi river It is the largest city of Pakistan Little is known of Lahore before it became the capital (12th cent) of a Moslem line of kings from Ghazni in Afghanistan It endured repeated capture and destruction from the 13th cent until the 16th cent , when it became one of the Mogul capitals The architectural remains of this period, though imperfectly preserved, are among the most splendid of Moslem art in India Especially notable are the palace of the emperor Jahangir and the Shalimar gardens (1667), which lie a little outside the city, only three sections of the gardens survive of the original seven which symbolized the divisions of the Islamic paradise After more than a century of strife and destruction, the Sikhs seized Lahore (early 19th cent) and made it their capital Great Britain conquered it from them in 1849 Lahore's museum of Indian antiquities, which figures in Kipling's *Kim*, is among the most noted in the East Educational institutions include Lahore Univ and several colleges In place of the decorative arts, for which Lahore was once famed, today it processes food and has diverse light manufactures

Lahti (lä'tē), city (pop 27,878), central Finland, NNE of Helsinki, at the southern end of the PAIJANNE lake system It has many large factories and is the center of the Finnish furniture industry Its fine town hall (1912) was designed by Eliel Saarinen.

La Huerta, Adolfo de. see HUERTA, ADOLFO DE LA.

La Hyre, Laurent de see LA HIRE, LAURENT DE

Laibach, Yugoslavia see LJUBLJANA

Laibach, Congress of (lī'bakh), conference of European powers in 1821 The chief powers at the congress were Russia, Austria, Prussia, and Great Britain, and the meeting was convened in accordance with a decision at the Congress of Troppau The congress saw the breach between Great Britain and the three conservative powers of Austria, Prussia, and Russia (popularly called the Holy Alliance) widen. FERDINAND I of the Two Sicilies was present upon invitation, and the chief action of the congress was the countenancing of the suppression of the Naples insurrection by Austrian forces

Laidler, Harry Wellington (lād'lur), 1884–, American economist and Socialist leader, b Brooklyn, N Y , grad. Wesleyan Univ , 1907, and Brooklyn Law school, 1910, Ph D, Columbia, 1914 He was a founder and long secretary of the Intercollegiate Socialist Society, which he built into a live organization He came to be recognized as the leading economist in the Socialist party in the United States, since 1920 he has served as a director of the National Bureau of Economic Research He was Socialist candidate for governor of New York in 1936 and for the U S Senate in 1938 and was a member (1940-41) of the New York city council His writings include *Boycotts and the Labor Struggle* (1914), *Socialism in Thought and Action* (1920), *A History of Socialist Thought* (1927), *Concentration and Control in American Industry* (1931), *A Program for Modern America* (1936), and *Social-Economic Movements* (1944)

Lainez, Diego (dēā'gō līnĕth'), 1512-65, Spanish theologian, leader in the Catholic Reform, general of the Society of Jesus He was one of the little band that formed the original Society of Jesus under St IGNATIUS OF LOYOLA At the Council of Trent (see TRENT, COUNCIL OF) he was papal theologian and made a sensation by his brilliant expositions of doctrine, and his words were exactly incorporated in some of the canons At St. Ignatius's death he was vicar general of the Jesuits, and in 1558 he was made general The next year he avoided being made pope only by hiding He represented the Church in disputation with the Calvinists in the Colloquy of Poissy (1561) The name also appears as Lavnez

Lairesse, Gerard de (gä'rärt du lärĕs'), 1641–1711, Flemish painter of allegorical and religious subjects, b Liége Most of his life was spent in Holland, where he achieved great success in decorating the homes and palaces of Amsterdam with allegorical themes somewhat in the manner of Nicolas Poussin His numerous religious paintings are less successful His book on the principles of drawing and painting, dictated after he became blind, illustrated with his own etchings, was translated into English, French, and German Among his best-known paintings are *Revolution, Mars,* and *Venus and Cupid* (Rijks Mus), *Cleopatra Landing at Tarsus* (Louvre), and *Baptism of Achilles*

Laish (lā'ĭsh), original name of DAN 2

laissez faire (lĕ"sā fâr'), in economics and politics, the doctrine that an economic system functions best when there is no interference by government The basic idea is belief in a natural economic order that tends, when undisturbed by artificial stimulus or regulation, to secure the maximum of well-being for the individual and therefore of the community as a whole Historically, laissez faire was a reaction against MERCANTILISM, a system of commercial controls imposed by governments who looked upon industry and trade, especially foreign trade, merely as a means of strengthening the state Navigation laws, trade monopolies, taxes, and paternalistic regulations of all kinds bore heavily upon the rising class of merchants in the period of European colonial expansion It was in behalf of this class that the French physiocrats, pioneer economists in the 18th cent , first formulated the principles of laissez faire The phrase from which the name originated is usually attributed to Vincent de Gournay With the physiocrats state noninterference became a cardinal teaching, they especially opposed the taxation of mercantile pursuits It was opposition to mercantilism and state paternalism that also motivated Adam Smith, the father of classical economics, whose name more than any other is connected with British laissez-faire doctrines Smith believed that individual welfare rather than national power was the proper ideal, to further this, trade was to be freed from government restrictions When individuals were free to follow the motive of self-interest, rivalry or competition among them would become a more effective regulator of the economic life than would the state Smith did not believe in laissez faire in an absolute sense, he found a place for government in public works such as canals and docks to facilitate trade and in the regulation of foreign commerce to protect certain home industries At the hands of Jeremy Bentham the doctrine of laissez faire became a philosophy of individualism and utilitarian ethics, and John Stuart Mill brought it to what was probably its highest point The strong individualism of the theory naturally appealed to the factory owners and merchants who while they were transforming society through the Industrial Revolution were hampered by old laws and the opposition of the landed interests The so-called Manchester school of economics, especially Richard Cobden and John Bright, popularized the doctrines of free trade and laissez faire, which from being radical doctrines were becoming the accepted theory of classical economics Both successful merchants and manufacturers, Cobden and Bright brought laissez faire into the arena of politics, securing the repeal of the corn laws or duties on imports that kept high the price of food needed by industrial workers, they opposed the minimum provisions of the factory acts by which Parliament was obliged to regulate abuses such as long hours and woman and child labor in the factories Laissez-faire principles were nowhere embodied fully in legislation Statesmen like Alexander Hamilton and economists like H. C Carey in the United States and Friedrich List in Germany advocated government protection of manufactures by means of tariffs. As the system of capitalist enterprise evolved in the 19th cent., more and more businessmen found it to their interest to combine with their competitors in huge trusts or cartels for the control of prices and production Competition, which had been relied upon to regulate the market, seemed to be issuing in monopoly The principle of state noninterference was discarded; indeed, the state was called upon to restore and preserve freedom of competition where it appeared to be in danger of disappearing. Agreements in restraint of trade and practices of "unfair" competition were outlawed Thus the practice of laissez faire was modified, but the theory was not given up; it became a tenet of the conservative opponents of socialism. "Big business" was defended as the means of eliminating the high costs of competition and so cheapening goods to the consumer The emphasis was shifted from competition to the importance of profit as an incentive to production and of individual initiative as necessary to economic progress See J W McConnell, *Basic Teachings of the Great Economists* (1943); L V Chandler, *A Preface to Economics* (1947).

Laius see OEDIPUS

La Jolla (lù hoi'yu), resort, S Calif., northern suburb within the city limits of San Diego The beaches and the sea-washed caves attract visitors and year-round residents, among them many literary figures The Scripps Institution of Oceanography is at La Jolla See Max Miller, *The Town with the Funny Name* (1948)

La Junta (lu hōōn'tu, hün'tu), city (pop. 7,040), co seat of Otero co , SE Colo , on the Arkansas river below Pueblo, in a sugar-beet, melon, and grain area The city has an airport, railroad shops, a creamery, and other plants

Lake, Kirsopp, 1872–1946, noted English biblical scholar He was curate of St Mary the Virgin (Oxford) until 1904, when he became a professor at the Univ of Leiden (until 1913) After 1914 he was at Harvard, first as professor of early Christian literature, from 1919 to 1932 as professor of ecclesiastical history, and from 1932 to 1937 as professor of history Lake was also interested in archaeology and participated in many expeditions He periodically visited Mt Sinai, Mt Athos, and other centers of ancient culture, in Greece he did valuable research work on old manuscripts. Among his many publications are *Early Days of Monasticism on Mt Athos* (1909), *The Beginnings of Christianity* (5 vols , 1920–32), *Immortality and the Modern Mind* (1922), and *Religion of Yesterday and Tomorrow* (1925)

Lake, Simon, 1866–1945, American inventor of submarines, b Pleasantville, N J He demonstrated his even-keel submarine torpedo boat in 1894 and later developed the Lake-type, level-keel submarine, completing the *Argonaut* in 1897 This type, disregarded by the U S navy in favor of the type developed by J P Holland, was used with great success by the Germans in the First World War, at that time the United States ordered 55 of the type Lake later devoted himself to developing freight-carrying submarines See his autobiography, *Submarine* (as told to Herbert Corey, 1938), Frank T Cable, *The Birth and Development of the American Submarine* (1924)

lake, body of standing water surrounded by land Most lakes originate in the action of a glacier Such an action consists either in the excavation and subsequent filling of a depression (e g , Lake Superior) or in the damming of a river by ice or moraine (e g , Lake Agassiz) Other types of lake are those caused by accidental interference with the course of a river, oxbow lakes or bayous caused by slow-flowing rivers, coastal lagoons formed through deposit of silt or sand near the mouth of a river, parts of the ocean separated by volcanic action, and craters of extinct volcanoes which collect water and become lakes From the time of its formation a lake is destined to disappear The historical period is not long enough to enable man to investigate the life history of one of the greater lakes, but enough information has been collected to show the various stages of the disappearance of a lake In a humid climate two factors are responsible for a lake's extinction—deposit of detrital matter and the lowering of the affluent stream In arid regions the lake disappears because the evaporation is greater than the precipitation In an arid climate salt and bitter lakes prevail Some of them are descendants from fresh-water ancestors after a change of climate from humid to arid, e g , the Great Salt Lake and the Dead Sea, others are isolated parts of an ocean, e g , the Caspian Sea and the Aral Sea. The largest lakes of the world are the Caspian Sea, Lake Superior, Victoria Nyanza, the Aral Sea, Lake Michigan, and Lake Huron The highest lake of the world is Lake Titicaca, 12,500 ft above sea level, the lowest, the Dead Sea, 1,292 ft below sea level Canada is the richest region of the earth in lakes, South America the poorest The Scottish loch and the Irish lough may be either an inland lake or an arm of the sea

lake, in dyeing, an insoluble compound formed in the cloth or other material by the action between an organic dye and a MORDANT The color of a lake depends upon the nature of the mordant used as well as upon the dye Lakes are not in general so fast (permanent) as many inorganic dyes, but their colors are more brilliant

Lake Arthur, town (pop. 2,131), SW La , on Lake Arthur and SE of Lake Charles, in a fishing, hunting, and rice-producing area; inc. 1909

Lake Bluff, village (pop. 1,729), NE Ill., on Lake Michigan N of Chicago, inc. 1895. The Great Lakes Naval Training Station is just north.

Lake Charles, city (pop. 21,207), parish seat of Calcasieu parish, SW La., a port of entry on Lake Charles, c 35 mi from the Gulf of Mexico, settled c 1852, inc as a town 1867, as a city 1904 A deepwater port, it ships the oil, lumber, rice, and cotton of the region Boat construction and the making of chemicals, synthetic rubber, and turpentine are important There are also food-processing plants A state junior college is here

Lake City. 1 City (pop 5,836), co seat of Columbia co, N Fla, W of Jacksonville and near the Suwannee, in a farm area; founded in the 1830s as a military post It deals in farm produce, lumber, and lumber products It is the headquarters for near-by Osceola National Forest and is the seat of a U S veterans' hospital Historic OLUSTEE is east **2** City (pop 2,216), W central Iowa, SW of Fort Dodge, inc 1887 **3** City (pop 3,204), SE Minn, on Lake Pepin between Red Wing and Wabasha, platted 1856, inc 1872 It is a resort, mill town, and nursery center **4** Town (pop 2,522), E central S C, S of Florence, in a vegetable and tobacco area **5** Town (pop 1,520), E Tenn, NNW of Knoxville, in a coal area, named Coal Creek until 1939 Norris Dam is just east

Lake Crystal, city (pop 1,319), S Minn, SW of Mankato, platted 1857, inc as a village 1870, as a city 1930 It is a trade center in a farm area

Lake District, region of mountains and lakes, in Cumberland, Westmorland, and Lancashire, England It is c 30 mi in diameter and includes part of Furness peninsula There are 15 lakes, among them Comston Water, Ullswater, Derwentwater, Buttermere, Windermere, Grasmere, and Thirlmere, several beautiful falls, and some of England's highest peaks—Scafell, Skiddaw, and Helvellyn Numerous ancient relics remain, as the Druids' Circle near Keswick, and there are ruins of old castles and churches and remains of Roman occupation This scenic district is a favorite resort of artists and writers, Wordsworth, Samuel Taylor Coleridge, and Southey were known as the Lake poets, and Gray, Hartley Coleridge, De Quincey, Ruskin, Keats, Shelley, Tennyson, and many others lived in the district See Doreen Wallace, *English Lakeland* (1941)

lake dwelling, habitation built over the shallow waters of a lake shore or a marsh, usually erected on piling-supported platforms, but sometimes on artificial mounds Such a site affords easy access to a varied food supply, the availability of fish, marsh fowl, and good crop lands favor lacustrine dwelling in many parts of the world Africa, Asia, and the New World have had lake-dwelling peoples, but the most famous of these are the Neolithic inhabitants of the Alpine regions of Europe They were skilled agriculturists and had highly developed weaving and ornamental arts As many as 50 village clusters have been found on a single lake, attesting the peaceful and prosperous way of life of its inhabitants They are known to have traded with the Danube regions c 2500 B C and apparently were undisturbed in their territory until the 7th cent B C, when they were driven to the forests by the invading Celts The ethnic origins of the Swiss lake dwellers are not definitely known.

Lake Erie College see PAINESVILLE, Ohio

Lakefield, village (pop 1,349), S Ont, on the Trent Valley Canal and NNE of Peterborough It has dairying, woodworking, and granite quarrying

Lakefield, village (pop 1,699), SW Minn, near the Iowa line, settled 1879, inc 1887 It is a farm trade center

Lake Forest, residential city (pop. 6,885), NE Ill., on Lake Michigan N of Chicago, settled 1835, platted 1856, inc 1861 It is the seat of Lake Forest College (Presbyterian, coeducational, 1857) and Barat College of the Sacred Heart

Lake Geneva, resort city (pop 3,238), SE Wis, on Lake Geneva and SW of Milwaukee, settled before 1845, inc 1883

Lake George, resort village (pop 803), co seat of Warren co, E N Y, on the southern tip of Lake George and in the foothills of the Adirondacks, inc 1903 It is a year-round sports center Vestiges of Fort William Henry, built by Sir William JOHNSON, and of Fort George, begun by Jeffrey AMHERST, are here

Lakehurst, borough (pop 827), E N J, SW of Lakewood It is the site of a U S naval air station with an 800-foot hangar and other works for dirigibles The *Shenandoah* (1923) was the first airship to use the station Transatlantic airships made it their American terminal from 1924 The burning of the hydrogen-filled *Hindenburg* here as she was about to be moored, May 6, 1937, took 36 lives The *Los Angeles* was dismantled here in 1939

Lakeland. 1 City (pop. 22,068), central Fla, E of Tampa, inc 1885 It was settled in the 1870s and developed with the railroad's coming in 1884 It is an important processing and shipping center for a productive citrus-fruit, vegetable, dairy, and berry region also yielding phosphates Amphibian tractors are made here There are numerous lakes in and near the city Points of interest are FLORIDA SOUTHERN COLLEGE, a fine civic center, and a Hindu temple. **2** City (pop. 1,502), co seat of Lanier co., S Ga., NE of Valdosta, in a farm area.

3 Town (pop. 1,160), La Porte co., NW Ind, near La Porte.

Lakeland terrier: see TERRIER

Lake Linden, village (pop 1,631), **Keweenaw** peninsula, extreme N Mich, on Torch Lake near the mouth of Trap Rock River and SE of Calumet, in a copper region; inc 1885

Lake Mills. 1 Town (pop 1,677), N Iowa, near the Minn line NW of Mason City, inc 1880 Rice Lake State Park is near by **2** City (pop 2,219), S Wis, on Rock Lake and between Milwaukee and Madison, settled c 1836, inc 1905 Dairy machinery is made At near-by Aztalan Mound Park are several Indian mounds and a museum containing Indian collections

Lakemore, village (pop 1,832), NE Ohio, near Akron, inc 1920

Laken (lä'kun), northern suburb of Brussels, Belgium The palace built here by Napoleon I still serves as a royal residence A former spelling is Laeken

Lake Odessa (ōdĕ'su), village (pop 1,417), S Mich, on Tupper Creek and Tupper Lake and SE of Grand Rapids, in a farm and resort area, settled c 1870, inc 1889

Lake of the Woods, c 70 mi long, in the pine forest region of N Minnesota and SE Manitoba and W Ontario, with an irregular shore line and many islands It is fed by the Rainy River and drained to the northwest by the Winnipeg It separates the Northwest Angle, northernmost land of the United States, from the rest of Minnesota Abundant in fish and game, the region is a favorite resort

Lake Orion, resort village (pop 1,933), S Mich, N of Pontiac, in a farm and lake area; inc 1859

Lake Placid, resort village (pop 3,136), NE N Y, in the Adirondacks E of Saranac Lake, surrounding Mirror Lake and extending to the south end of Lake Placid, settled c 1850, inc 1900 It is one of the most noted sports centers in the East The 1932 Olympic winter games were held in the Olympic Arena, social and sports center The famous bobsled run (opened 1930) is on Mt Van Hoevenberg The Northwood School for boys is in Lake Placid Near by is the farm of John Brown with his grave

Lakeport, town (pop 1,490), co seat of Lake co, W Calif, on Clear Lake and NNW of San Francisco, inc 1888 It is a resort and farm trade center

Lake Providence, town (pop 3,711), parish seat of East Carroll parish, NE La, at the foot of Lake Providence near the Mississippi, in a cotton and farm area, settled c 1812, inc 1876 Known as Stock Island, it was earlier a refuge from pirates

Lake Success, village (pop 203), on NW Long Island, SE N Y, S of Great Neck In 1946 it became the temporary seat of the United Nations

Lake View, resort town (pop 1,082), W central Iowa, SE of Sioux City near Black Hawk Lake, in a gravel and corn area, settled 1875, inc 1887

Lakeview, town (pop 2,466), co seat of Lake co, S Oregon, E of Klamath Falls near the Calif line, founded 1876, inc 1884 It is the headquarters of Fremont National Forest and the trade center for a lumbering and cattle- and sheep-raising area

Lake Village, resort town (pop 2,045), co seat of Chicot co, SE Ark, on Lake Chicot, founded in the 1850s, inc 1901 It has cotton gins, woodworking plants, and commercial fishing

Lakeville. 1 Village (pop 1,409) in Salisbury town, extreme NW Conn, a resort on Lake Wononskopomuc The Hotchkiss School for boys (preparatory, est 1892) is in Lakeville Ethan Allen here made ammunition in the Revolution **2** Town (pop 1,780), SE Mass, N of New Bedford, settled 1717, set off from Middleboro 1853

Lake Wales, city (pop 5,024), central Fla, W of Lake Kissimmee and E of Tampa, platted 1911 It is a lumber-milling, fruit-processing, and shipping center and a noted lake resort IRON MOUNTAIN, not far away, is of interest Also near by is the Shrine of Ste Anne des Lacs, scene of an annual Roman Catholic pilgrimage

Lakewood. 1 Resort, Maine see SKOWHEGAN **2** Township (pop 8,502), E N J, a resort in pine woods c 8 mi from the Atlantic, SSE of Freehold, settled 1786 at the site of early ironworks The 500-acre Rockefeller estate, a state reserve, is c 2 mi from the village Georgian Court College is here **3** Village (pop 2,314), W N Y, on Chautauqua Lake W of Jamestown, settled 1809, inc 1893 **4** City (pop 69,160), NE Ohio, on Lake Erie, residential suburb of Cleveland, settled as East Rockport, renamed 1889, inc 1911

Lake Worth, city (pop 7,408), SE Fla, on the Atlantic coast just S of Palm Beach, inc. as a city 1925 It is a tourist and resort center An alligator farm is here

Lakhnau, India see LUCKNOW.

Lakshmi see HINDUISM

Lakum (lä'kŭm), unidentified town, N Palestine. Joshua 19 33

Lalande, Jean (Saint John Lalande) (zhäʹläländʹ), d 1646, French missionary in Canada and New York, a Jesuit priest. He came to the New World in 1644 He accompanied (1646) Father Isaac JOGUES on his mission to the Mohawk and was martyred with him He was beatified in 1925 and canonized in 1930 and is one of the Jesuit Martyrs of North America Feast Sept 26 or (among the Jesuits) March 16

Lalande, Joseph Jérôme Lefrançais de (shôzĕfʹ zhärōmʹ lüfräsäʹ du lalädʹ), 1732–1807, French astronomer Under the direction of the French Academy he went to Berlin in 1751 to make observations on the parallax of the moon for comparison with those which Nicolas Lacaille was making at the Cape of Good Hope In spite of his youth, he was admitted to the Berlin Academy He was professor of astronomy in the Collège de France for 46 years (1761–1807), and his influence upon his pupils was very great In 1768 he became director of the Paris Observatory. The Lalande Prize, which he established in 1802, is awarded for the outstanding achievement in astronomy each year Lalande was noted for his popular works on astronomical subjects as well as for his more serious scientific publications His planetary tables were unsurpassed in his time His works include *Traité d'astronomie* (1764), *Histoire céleste française* (1801), including a catalogue of 47,000 stars, and *Bibliographie astronomique* (1803)

Lalemant, Charles (shärlʹ läləmäʹ), 1587–1674, French missionary in North America, a Jesuit, brother of Jerôme Lalemant and uncle of Gabriel Lalemant He arrived in Quebec in 1625 and acted as novice master and superior His account, the earliest of the JESUIT RELATIONS, is valuable He was noted as a mystic In 1639 he returned to France, where he acted as forwarding agent for the Canadian missions

Lalemant, Gabriel (Saint Gabriel Lalemant) (gäbrēĕlʹ), 1610–49, French missionary in North America, a Jesuit, nephew of Charles Lalemant and Jérôme Lalemant He entered the order in 1632 and was sent to Quebec in 1645 He was assistant to Jean de BRÉBEUF at a mission among the Huron, when the Iroquois took the village and tortured the priests to death He is one of eight men beatified in 1925 and canonized in 1930, the group is known as the Jesuit Martyrs of North America or the Martyrs of North America Feast Sept 26 or (among the Jesuits) March 16

Lalemant, Jérôme (zhärōmʹ), 1593–1673, French missionary in North America, a Jesuit, brother of Charles Lalemant and uncle of Gabriel Lalemant He was an active missionary among the Huron (1638–45) and then was director (1645–56) of all Jesuit missions in Canada He returned to France but went again to Canada, where he was again the director of missions and served as vicar general to Bishop Laval

Lalique, René (runäʹ läləkʹ), 1860–1945, French designer of jewelry and glass His jewelry became world famous following a display at the International Exhibition at Paris in 1900 Later he became a leading designer and manufacturer of decorative glass objects and larger works including fountains and murals He was a member of the French Higher Council of Fine Arts

Lally, Thomas Arthur, baron de Tollendal, comte de (tômäʹ artürʹ barōʹ du tôlädälʹ kôtʹ du läléʹ), 1702–66, French general, son of an Irish Jacobite resident in France As governor of the French possessions in India (1758–61) he failed to take Madras (1758–59) and had to surrender to the English at Pondichéry This defeat put an end to the French Empire in India Paroled, Lally returned to France to answer charges of treason After imprisonment for more than two years, he was tried, and though the procedure of the trial was universally criticized he was executed His son **Trophime Gérard, marquis de Lally-Tollendal** (trôfĕmʹ zhärarʹ märkēʹ), 1751-1830, politician and writer, was helped by Voltaire in procuring the posthumous vindication (1778) of his father

Lalo, Édouard Victor Antoine (ādwärʹ vēktôrʹ ätwanʹ lalōʹ), 1823–92, French composer An opera, *Le Roi d' Ys* (1888), *Symphonie espagnole* for violin and orchestra (1875), and a ballet, *Namouna* (1882), gained him a distinguished place in the music of his time

Lamaism (läʹmuĭzm), form of BUDDHISM prevailing in Tibet, Mongolia, and parts of China To the Tibetans it is known as 'the orthodox religion" or the "religion of Buddha " Except for a comparatively small number in remote places who retain some of the practices of the Bon, a primitive animistic religion of Tibet, there is little difference between the beliefs and worship of Tibetan Buddhism and those of the Mahayana form of Buddhism in India, from which they were derived The word *Lamaism* comes from the name of the Tibetan monks, the lamas [superior ones] The traditional account is that Buddhism was introduced into Tibet by an Indian and a Chinese princess, devout Buddhists, who became (7th cent A D) the wives of a Tibetan king The new religion was actually established by one of the successors of that king when he called from India a monk who founded a monastery near Lhasa in 749 Translation of Buddhist writings from Sanskrit followed in two rescensions, the *Ka-gyur* or *Kanjur*, the canon of sacred books, and the *Tan-gyur* or *Tanjur*, a mass of varied lore The early lamas and their successors constituted the Red Hat order After a brief

period of persecution, the priests built up their power rapidly. About 1038 a great reformer, Atisa or Kah-dam-pa, a monk from India, unified the priesthood, improved the moral tone by such measures as enforcing celibacy, and tried to eliminate Bon In the 13th cent, after the conversion of Kublai Khan, temporal rule was bestowed by the sovereign upon the abbots of the Sas-Kya monastery This gave them political supremacy in W Tibet, especially from 1270 to 1340 Under a second great reformer, the lama Tsong-kha-pa, Atisa's sect was reorganized (early 15th cent) as the Virtuous Order of the Yellow Hat order In 1640 the ruling Mongol prince bestowed temporal and spiritual control of all Tibet upon the fifth grand lama of the order, whose title was Ta-lai or Dalai [ocean] Lama A palace monastery was erected at Lhasa The Dalai Lama receives divine honors While in the Sas-kya hierarchy son succeeds father, the succession among the celibate Yellow Hats depends upon direct reincarnation The spirit of the Dalai Lama passes from his body into some infant just born Tests determine the proper boy, who is carefully trained for his great responsibility The Tashi or Panchen Lama, the abbot of a powerful monastery, is second to the Dalai Lama The lamaist order includes the abbots at the head of the various monasteries, the ordained religious mendicants, novices who have formally become candidates, and neophytes, who are children on probation The standing of nuns is inferior Priests preside over the ritual performances of Lamaism The worship includes reciting prayers and intoning hymns, often to the sound of great horns and drums Strings of beads and prayer wheels keep the tally of prayers Many saints are worshiped, and there are besides, gods, spirits, genii, and other beings to whom various forms of recognition are given The 14th Dalai Lama was installed in 1940 and the present Tashi Lama was installed in 1944 See Sir Charles Bell, *Religion of Tibet* (1931), L A Waddell, *Buddhism of Tibet* (2d ed, 1934), Marco Pallis, *Peaks and Lamas* (rev ed, 1949)

La Malbaie (la malbā') or **Murray Bay,** village (pop 2,324), S Que, on the north shore of the St Lawrence at the mouth of the Malbaie, or Murray, river and NE of Quebec It is a well-known resort, in dairy-farming country

Lamar, Joseph Rucker (lumu'), 1857–1916, American jurist, b Elbert co, Ga, grad Bethany College (W Va), 1877 He was admitted to the Georgia bar in 1878, served several terms in the state legislature, and compiled *The Code of the State of Georgia* (2 vols, 1896) He served (1904–6) on the state supreme court and was Associate Justice of the U S Supreme Court (1911–16) See biography by C P Lamar (1926)

Lamar, Lucius Quintus Cincinnatus, 1825–93, American statesman, b Putnam co, Ga, grad Emory College (now Univ), 1845 He practiced law in Oxford, Miss, and was a Democrat in Congress (1857–60) Although he at first opposed secession, Lamar drafted the Mississippi ordinance of secession In Nov, 1862, he was appointed Confederate commissioner to Russia, but was recalled from Paris before reaching Russia He returned to the Army of Northern Virginia, in which he had previously served as lieutenant colonel of a Mississippi regiment, as a judge advocate After the Civil War he resumed his practice at Oxford and taught at the Univ of Mississippi He was a U S Representative (1873–77), Senator (1877–85), and Secretary of the Interior in President Cleveland's cabinet from 1885 to 1888, when he resigned to become (1888–93) an Associate Justice of the Supreme Court His efforts after the war to restore friendly relations between North and South brought him into particular prominence See biographies by Edward Mayes (1896) and W A Cate (1935)

Lamar, Mirabeau Buonaparte, 1798–1859, Texas statesman, b Georgia He went to Texas in 1835 and immediately became affiliated with the revolutionary faction At the battle of San Jacinto he commanded the cavalry, and shortly afterward he was appointed major general He then successively held the offices of attorney general, secretary of war, vice president, and (1838–41) president of Texas In his term as president he secured the recognition of Texas independence by France, England, and Holland, carried out a vigorous Indian policy, particularly against the Cherokee, whom he forced out of E Texas, laid the foundations of the present system of public education in Texas, and founded a new capital at Austin He also sent an expedition to Santa Fe, N Mex, hoping to persuade the New Mexicans to join Texas, but the members of the expedition were captured and sent to Mexico Lamar did not favor Texan annexation to the United States at this time and planned to make the area self-sufficient, but his various ventures had disarranged the republic's finances and currency and increased the hostility of the Indians, and in 1841 the people again turned to Sam Houston Lamar afterwards came to favor annexation, served in the Mexican War, and was (1858–59) minister to Nicaragua and Costa Rica, where he combated British influence and tried vainly to secure a treaty which should give the United States special interests in Nicaragua He wrote a number of lyrics in the romantic manner See biographies by A K Christian (1922) and H P Gambrell (1934), Philip Graham, *The Life and Poems of Mirabeau B Lamar* (1937)

Lamar (lumar') **1** City (pop 4,445), co seat of Prowers co, SE Colo, on the Arkansas and E of Pueblo, inc 1886 It is a processing center in a farm area **2** City (pop 2,992), co seat of Barton co, SW Mo, on a branch of the Spring river and NNE of Joplin, in a coal and farm area, founded c 1856

Lamarck, Jean Baptiste Pierre Antoine de Monet, chevalier de (zhäⁿ' baptēst' pyĕr' ätwanⁿ' du mōnā' shuvalyā' du lamärk'), 1744–1829, French naturalist He is noted for his study and classification of invertebrates and his introduction of evolutionary theories A native of Picardy, he studied medicine in Paris, but his interest was soon directed to botany, and recognition of his skill followed upon the publication of *Flore française* (1778) He was elected to the Academy of Sciences, and, aided by Buffon, he traveled (1781–82) over Europe, under the title of royal botanist, visiting museums and collecting material for the museum of the academy He was, for a time, keeper of the herbarium at the Jardin du Roi (later Jardin des Plantes) and after 1793 professor of zoology at the Museum of Natural History His ideas concerning the origin of species were first made public in his *Système des animaux sans vertèbres* (1801) Lamarck introduced the use of the term *Invertebrata*, and he is regarded as the founder of invertebrate paleontology It was his belief that life forms underwent a slow modification through a long course of geological history His later works were *Philosophie zoologique* (1809) and *Histoire naturelle des animaux sans vertèbres* (1816–22) He also wrote meteorological reports (1799–1810) Blindness and poverty marred his later life **Lamarck's theory of evolution** is based upon the belief that characteristics that develop in an organism as a result of a need created by its environment are passed on to its offspring, the result being the gradual evolution of new species This concept is known as that of the inheritance of acquired characteristics Cuvier's opposition to the theory was influential in discrediting Lamarck during his lifetime Lamarck's work is, however, important as a forerunner to that of Charles Darwin, who came to recognize environment as a factor in evolution See A S Packard, *Lamarck, the Founder of Evolution* (1901), Edmond Perrier, *Lamarck* (1925)

La Marmora (lä mär'mōrä), distinguished Italian noble family Its best-known member was **Alfonso Ferrero, marchese della Marmora** (älfōn'sō fārā'rō markā'zā dĕl'lä), 1804–78, Italian general and statesman He fought for Sardinia against Austria in the wars of 1848–49 and 1859, completely reorganized the Sardinian army, and led (1855–56) the Sardinian expeditionary force in the Crimean War He was twice premier (1859, 1865–66) His conduct of Italian operations in the Austro-Prussian War (1866) was unsatisfactory, and he resigned after the Italian rout at Custozza

Lamartine, Alphonse Marie Louis de (älfōs' marē' lwē' du lämärtēn'), 1790–1869, French poet, novelist, and statesman After a trip to Italy and a brief period in the army, Lamartine began to write and achieved immediate success with his first publication, *Méditations poétiques* (1820) This group of 24 poems, including the famous "Le Lac," expressed his own feelings—religious, melancholy, or amorous—as he came in contact with nature and the land He drew from tradition, from Ronsard as well as from the 18th cent, while adding something new in the form of a very personal lyricism expressed in a verse that was intended to be musical This musicality was developed in *Harmonies* (1829) His religious orthodoxy becomes a kind of pantheism in *Jocelyn* (1836) and *La Chute d'un ange* (1838) In politics, Lamartine held aloof from all parties, his idealism made him embrace the principles of democracy, social justice, and international peace His *Histoire des Girondins* (1847), a glorification of the GIRONDISTS, was immensely popular, and after the FEBRUARY REVOLUTION of 1848 Lamartine briefly headed the provisional government and was a member of the executive committee that replaced it His moderation soon cost him the support of both the right and the left wings of the revolutionists He competed unsuccessfully for the presidency with Louis Napoléon Bonaparte (later Napoleon III) Lamartine left politics and devoted himself entirely to writing, spending much of the remainder of his life in a hopeless effort to repay the fantastic debts he had accumulated in his youth His later prose works include *Les Confidences* (1849) and the novel *Graziella* (1849, Eng tr, 1876). See study by H Remsen Whitehouse (1918)

Lamb, Lady Caroline. see MELBOURNE, WILLIAM LAMB, 2D VISCOUNT

Lamb, Charles, 1775–1834, English essayist, b London He went to school at Christ's Hospital, where his lifelong friendship with Coleridge began Lamb was a clerk at the India House from 1792 until he was pensioned in 1825 His life was overturned (1796) when his sister Mary Ann Lamb (1764–1847) in a fit of temporary insanity attacked their father and stabbed and killed their mother. Lamb had himself declared her guardian to save her from permanent commitment to an asylum, and after 1799 they lived together They collaborated on children's books for Godwin's "Juvenile Library," producing *Tales from Shakespear* and *Mrs Leicester's School* (both 1807) and *The Adventures of Ulysses* (1808) Lamb's dramatic ventures were unsuccessful, both the pseudo-Elizabethan, blank-verse tragedy *John Woodvil* (1802) and the farce *Mr H——* (1805) *Specimens of English Dramatic Poets* (1808) established his reputation as a judicious editor and critic and, with his critical essays, materially aided in reviving the popularity of Shakspere and his contemporaries He wrote intermittently for periodicals from 1800 on, the major contribution being the famous *Essays of Elia* (*London Magazine*, 1820–25), which were collected in 1823 and 1833 There are echoes of Sir Thomas Browne, Robert Burton, and Thomas Fuller in his writing, but Lamb's style is peculiarly his own, and the close-knit, subtle organization, the accurate observation of life, and the gift for humor, fantasy, and pathos combine to make him the great master of the familiar style Lamb was a gifted conversationalist and was intimate with all the major literary figures of his time See his letters (ed by E V Lucas, 3 vols, 1935) and biography appended to his works (ed by Lucas, 1903–5), biography by Alfred Ainger (1882), Edmund Blunden, *Charles Lamb and His Contemporaries* (1933), W D Howe, *Charles Lamb and His Friends* (1944)

Lamb, John, 1735–1800, American Revolutionary leader, b New York city As tension between patriots and British increased in the period just before the Revolution, he did much for the patriot cause, was a leader in the Sons of Liberty in New York prov, and helped form the New York committee of correspondence to coordinate anti-British action He was appointed (1775) to the committee to enforce the nonimportation agreement (see CONTINENTAL CONGRESS), and he and Isaac Sears led the seizure of the New York customhouse and the expedition to seize British arms at Turtle Bay He served in the Quebec campaign and in later battles and was a subordinate of Benedict Arnold at the time of the treason

Lamb, Roger, 1756–1830, British soldier in the American Revolution, b Dublin, Ireland In the Royal Welch Fusileers, he saw much service under Burgoyne in the Saratoga campaign (1777) and in the South under Sir Henry Clinton and Cornwallis His works, *An Original and Authentic Journal of Occurrences during the Late American War* (1809) and *Memoir of His Own Life* (1811), are valuable source material Robert Graves used them for *Sergeant Lamb's America* (1940) and *Proceed, Sergeant Lamb* (1941)

Lamb, William see MELBOURNE, WILLIAM LAMB, 2D VISCOUNT

lamb see MUTTON and SHEEP

Lambaesis see LAMBÈSE, Algeria

Lamballe, Marie Thérèse Louise de Savoie-Carignan, princesse de (märē' tārēz' lwēz' du säVwakarēnyā', prēsĕs' du läbal'), 1749–92, devoted friend and favorite of MARIE ANTOINETTE Intensely unpopular, she was killed by a mob in the September massacres, and her head was displayed on a pike under the queen's windows

Lamber, Juliette see ADAM, JULIETTE LAMBER

Lambert, Johann Heinrich (yō'hän hīn'rĭkh läm'bĕrt), 1728–77, German-French philosopher and scientist, b Alsace He developed many basic concepts in mathematics including that of the hyperbolic functions in trigonometry In physics he accomplished valuable results in work on the measurement of the intensity of light, degrees of heat, and humidity In his philosophical work, *Neues Organon* (1764), he pointed out the importance of beginning with experience and using the analytical method to investigate any theory of knowledge Other important books are *Photometria* (1760) and *Pyrometer* (1779)

Lambert, John (läm'bŭrt), 1619–83, English parliamentary general A consistent follower of Parliament in the first civil war (1642–45), he supported Oliver Cromwell when the army and Parliament quarreled in 1648 He sat in Cromwell's Parliament and in the council of state, but broke with the Protector in a quarrel (1657) growing out of the offer of the crown to Cromwell At the fall of Richard Cromwell it is likely that Lambert assisted in dissolving the Rump Parliament and restoring the Long Parliament His opposition to the restoration of Charles II ended his political career. He was defeated by the forces under George Monck, was tried for treason, and was banished to the island of Guernsey

Lambert, town (pop. 1,016), NW Miss, just E of Clarksdale

Lambertville, city (pop. 4,447), W N J, on the Delaware above Trenton, opposite New Hope, Pa, founded 1732, inc 1849

Lambèse (läbĕz'), village (1936 pop. 1,155), NE Algeria, S of Constantine It is noted for the ruins

of a Roman town (Lambaesis) founded early in the 2d cent. as the encampment of the third Augustan Legion and destroyed in the 5th cent The modern village has a noted penitentiary

Lambeth, metropolitan borough (1931 pop 296,147, 1948 estimated pop 226,600) of S London, England, on the south side of the Thames Here are St Thomas's Hospital (9th cent), Waterloo Station, the potteries making DOULTON WARE, and Lambeth Palace, the chief residence of the archbishop of Canterbury At Lambeth Palace are held the decennial conferences of bishops of the Anglican Communion See Dorothy Gardiner, *The Story of Lambeth Palace* (1930)

Lamb of God see AGNUS DEI

lamb's-quarters, common European weed (*Chenopodium album*), widely naturalized in North America It is related to the beet and spinach and similarly used for greens when young and tender, but it is seldom cultivated The lamb's-quarters, also called goosefoot and pigweed, is an annual with inconspicuous green flowers, whitish leaves, and small seeds that are used to produce the granular effect of some shagreen leathers The name is sometimes used for several related species

Lambton, John George see DURHAM, JOHN GEORGE LAMBTON, 1ST EARL OF

Lamech (lā'mĕk) **1** Descendant of Cain and therefore accursed He was the father of Jabal, Jubal, and Tubal-cain Gen 4 18-24 **2** Descendant of Seth and father of Noah Gen 5 25-31

Lamennais or **La Mennais, Felicité Robert de** (fēlēsētā' rōbĕr' du lămunā'), 1782-1854 French Roman Catholic apologist and liberal, b Saint-Malo He was largely self-educated by wide, indiscriminate reading He was converted (1804) to active Catholicism and resolved to serve the Church In 1817 he was ordained and began a brilliant campaign against Gallicanism and anti-Christian philosophy He soon became the most celebrated French cleric, and for long he was the most open ultramontane in France He felt that the Church could have no real liberty under a royal government and that free speech and free press were necessary After founding a society to encourage ultramontanism, he and his friends MONTALEMBERT and LACORDAIRE founded (1830) the journal *Avenir* His work created a sensation, and he was soon embroiled with the conservative, royalistic Gallicans among the clergy In 1831 he went to Rome to submit his quarrel to the pope, Gregory XVI, only to be condemned in the encyclical *Mirari vos* He retired for two years and appeared in public as a non-Christian His *Paroles d'un croyant* (1834) was the greatest work of this period In it he voiced his broad liberal humanitarianism He died excommunicate Paradoxically, Lamennais probably did more than any other to break down Gallicanism and to open the way for the universal acceptance of the papal authority by French Catholics

Lamentations, book of the Old Testament, placed in AV immediately after Jeremiah, to whose authorship it has been ascribed since ancient times It is a series of five poems mourning the fallen Jerusalem Each poem is an alphabetical acrostic, the third having three verses to the letter, instead of one, the fifth is a prayer Critics generally—including those denying the traditional authorship—would place these poems in the years soon after the fall of the city (586 B C) For bibliography, see OLD TESTAMENT

La Mesa (lu mā'su), city (1940 pop 3,925, 1949 special census pop 10,180), S Calif, near San Diego, in a farm area, inc 1912

Lamesa (lumē'su), city (1940 pop 6,038, 1947 estimated pop 9,100), co seat of Dawson co, NW Texas, on Sulphur Springs Creek and S of Lubbock, on the southern part of the Llano Estacado, settled 1903, inc 1917 Dry farming and irrigation in the region produce cotton, small grains, black-eyed peas, and soybeans

La Mettrie, Julien Offray de (zhulyĕ' ôfrā' du la mătrē'), 1709-51, French physician and philosopher On the basis of personal observation he claimed that psychical activity is the result of the organic construction of the brain and nervous system and developed this theory in *Histoire naturelle de l'âme* (1745) The protest against this monistic materialism was so strong that La Mettrie had to leave the country He further alienated the public with *L'Homme machine* (1748), the final development of the mechanical explanation of man and the world He was patronized by Frederick the Great, living in Berlin under the monarch's protection His ethics, purely hedonistic, are set forth in *L'Art de jouir* (1751)

Lamia (lā'mēu), in Greek mythology, grief-crazed woman whose name was used to frighten children Her own children were killed by Hera, jealous of Zeus' love for her, and thereafter Lamia, out of envy for happy mothers, stole and killed their children The name Lamia was also used for a woman who lured a youth to his destruction

Lamia (lā'mēu, Gr lămē'ä), city (pop 16,542), E central Greece. It is an agricultural trading center Founded about the 5th cent B C, it was the chief city of the small region of Malis and developed as an Athenian ally It gave its name to the Lamian War (323–322 B C), waged by the confederate Greeks against ANTIPATER, who took refuge in the city and was besieged there for several months Antipater finally defeated (322 B C) the confederates at Crannon, SW of Larissa Lamia suffered some damage in the Second World War It was known as Zitsuni from the 10th to the 19th cent

Lammermuir Hills (lămurmŭr', lā'murmŭr) or **Lammermoor Hills** (lămurmōr', lā'murmōr), broad range of hills, S East Lothian and N Berwickshire, Scotland, extending from Gala Water ENE to St Abb's Head Says Law or Meikle Says Law (1,749 ft) is the highest point, and Lammer Law (1,733 ft) next highest

Lamoni (lămō'nē), town (pop 1,567), S Iowa, near the Mo line S of Des Moines, platted 1879 by the Reorganized Church of Jesus Christ of Latter-Day Saints, inc 1885 Graceland College (junior, coeducational) and a home for the aged are here

Lamont, Daniel Scott (lumŏnt), 1851–1905, American cabinet officer, b Cortland, N Y A journalist, through his work on the Albany *Argus* he became acquainted with Grover Cleveland He became Cleveland's private secretary and was advanced to be Secretary of War in Cleveland's second administration

Lamont, Johann von (yō'hän fŭn la'mônt), 1805–79, Scottish-German astronomer and magnetician, b Scotland In 1817 he went to Ratisbon to study at the seminary, and he remained in Germany, working in a new observatory at Bogenhausen He became its director in 1835 and professor of astronomy at the Univ of Munich in 1852 His most important work was in the field of terrestrial magnetism, he made (1849–58) magnetic surveys in Bavaria, France, Spain, N Germany, and Denmark In 1850 he set forth the theory of the magnetic decennial period, and in 1862 the discovery of earth currents In astronomy he accomplished the cataloguing of 34,674 stars, measurement of nebulae and clusters, and studies of Uranus Lamont is the author of *Handbuch des erdmagnetismus* (1849)

Lamont, Robert Patterson (lumŏnt'), 1867–1948, U S Secretary of Commerce (1929–32) b Detroit, grad Univ of Michigan, 1891 He began working as an engineer in Chicago in 1891, and in 1912 he became president of the American Steel Foundries Corp, later associating with banking and other manufacturing companies In 1932 President Herbert Hoover appointed him Secretary of Commerce After he resigned (1932) from the cabinet, Lamont remained active in the steel industry for a short while before he retired.

Lamont, Thomas William, 1870–1948, American banker, b Claverack, N Y, grad Harvard, 1892 Lamont entered (1903) the banking business in New York city and by 1911 he became a partner of J P Morgan & Company In the 1920s and the 1930s Thomas W Lamont was sent on special missions to several countries—e g, China, Japan, Mexico, and Egypt—to help transact loans and to advise on financial matters He served on the U S commission to the Paris Peace Conference and was (1933) a U S delegate to the World Economic Conference After the reorganization (1940) of J P Morgan & Company, Lamont became (1943) chairman of the board of directors His many philanthropies included $2,000,000 to Harvard and $500,000 for the restoration of the Canterbury cathedral after the Second World War He recounted the story of his youth in *My Boyhood in a Parsonage* (1940)

Lamoricière, Christophe Léon Louis Juchault de (krēstôf' lā' lwē' zhüshō' du lamorēsyĕr'), 1806–65, French general He distinguished himself in Algeria at the head of his celebrated Zouaves and led the final expedition against Abd al-Kadir (1847) He opposed Napoleon III and went into exile In 1860, as commander of the papal army, he was routed by a superior Piedmontese force

La Motte-Fouqué, Friedrich Heinrich Karl, Baron de see FOUQUÉ

lamp. Originally a lamp was a vessel for holding oil which could be burned through a wick, but use of the term has been extended to other lighting devices Stones, shells, and other objects of suitable shape were used for burning oil in the Paleolithic period In Egypt and the East saucerlike pottery lamps were early known In Greece torches were supplemented in the 6th cent B C with potterv and metal lamps. The Greeks often used a cylindrical spout for the wick The Romans used a superior closed type of lamp, often with multiple spouts The float-wick lamp, in which the wick is supported above the oil, was probably of Egyptian origin, it survived in the West chiefly as a sanctuary lamp, but is in widespread use in the East The seven-branched "candlestick" of the Hebrews is believed to have been a support for a group of float-wick lamps Its symbolical descendant is the eight-branched Hanukkah lamp, usually of the spouted saucer type Lamps, many of which were of the primitive open-cruse type, burning vegetable or animal oils, were common from the Middle Ages to the 19th cent The Betty lamp of the American colonists and pioneers was a spouted saucer lamp with a lid. Lamps were smoky because the center of the round wick received too little air for complete combustion Flat wicks, introduced late in the 18th cent, made less smoke, but the light was dim at the edges of the wick At about the same time a circular wick with an open center was invented in France by Aimé Argand, who also introduced the glass lamp chimney One- and two-burner lamps were common from the late 18th cent, and these often burned whale oil Kerosene, used from the mid-19th cent, almost entirely superseded other oils for lamps, the kerosene lamp is still used for lighting where gas and electricity are not available and in many safety, signal, and hurricane lamps In literature and art the lamp symbolizes learning, in religious ritual, honor to the divine For the development of the electric lamp, see LIGHTING See F W Robins, *The Story of the Lamp* (1939)

Lampasas (lămpă'sus), city (pop 3,426), co seat of Lampasas co, central Texas, NNW of Austin, settled 1854, inc 1874 An early cow town, it today ships principally mohair, wool, dairy products, furs, and pecans Hancock Springs here have medicinal properties

lampblack see CARBON and SOOT

Lampedusa (lămpädōō'zä), Mediterranean island (77 sq mi, pop 3,821), largest of the Pelagic Islands, between Malta and Tunis It belongs to Italy Sponge and sardine fishing and agriculture are the main occupations

Lampman, Archibald, 1861–99, Canadian poet, b Morpeth, near Chatham, Ont A civil servant by profession, he was a noted nature poet, whose work appeared in *Among the Millet* (1888) and two later volumes A collected edition was edited by D C Scott (1900) and a further volume by E K Brown (1943) See C Y Connor, *Archibald Lampman* (1929)

Lamprecht, Karl (kärl' läm'prĕkht), 1856–1915, German historian He advocated a new kind of history writing, based on broad social, cultural, and psychological trends His chief works are *Die kulturhistorische Methode* (1900) and a monumental multivolume history of Germany (1901–13) Several of his lectures have been translated as *What Is History?* (1905)

lamprey see FISH

Lampsacus (lămp'sukŭs), ancient Greek city-state, Mysia, on the Hellespont opposite Callipolis (Gallipoli) It was known as Pityusa prior to colonization by Ionian Greeks from Phocaea and Miletus The king of Persia assigned it to Themistocles, to provide him with wine After the battle of Mycale (479 B C) the citizens joined with the Athenians, and the city continued to flourish under the Greeks and Romans It was the seat of the cult of Priapus

Lamy, Jean Baptiste (zhä' bätēst' lămē'), 1814–88, Roman Catholic archbishop in the U S Southwest, b France He was ordained in 1838 and was sent shortly afterwards as missionary to S Ohio. Ordered to New Mexico in 1850 as vicar apostolic, he and a companion, Father MACHEBEUF, reached Santa Fe by way of New Orleans and Texas In Santa Fe he found resentment among the Spanish and Indians Leaving Father Machebeuf in charge, he made the long journey to Durango to see the authorities Though the Spanish priests were at first hostile, Lamy won their devotion In 1852 he was responsible for the establishment of the first school for teaching English in Santa Fe, and he brought from France and the eastern states nuns and priests to establish other schools He was advanced to bishop in 1853 and to archbishop in 1875 Until 1885 he worked tirelessly in his vast region, which included, besides present New Mexico, most of Arizona and parts of Utah, Nevada, and Colorado His labors were in large part responsible for the renewed hold of the Catholic faith upon whites and Indians in the Southwest Willa Cather's novel, *Death Comes for the Archbishop* (1927), is based on his career

Lanai (lunī'), island (141 sq mi, pop 3,720), c 7 mi. W of Maui, across Auau Channel, one of the Hawaiian Islands The highest point is Mt Palawai (3,370 ft) Used for years only for cattle grazing, Lanai was developed as a pineapple-growing center after 1922 Kaumalapau was made a port, and Lanai City was built

Lanai City, town (pop 3,597), on E Lanai, T H, founded 1922 by the Hawaiian Pineapple Company

Lanark, county, Scotland see LANARKSHIRE

Lanark (lă'nurk, -ärk), burgh (pop 6,178), co seat of Lanarkshire, Scotland, SE of Glasgow and on the Clyde near a series of falls It is a cattle market The burgh was the scene of some of Sir William Wallace's activities On an adjacent moor is a racecourse Robert Owen made industrial and social experiments at New Lanark (to the southwest), which was founded by his father-in-law, David DALE, in 1785 Arkwright also worked there

Lanark, city (pop 1,292), NW Ill, NW of Dixon, inc 1867 It is a farm trade center

Lanarkshire (lă'nurkshĭr, lă'nark-) or **Lanark,** county (892 sq mi, 1931 pop 1,586,047, 1948 estimated pop 1,639,523), S central Scotland The county town is Lanark The region, which lies in the valley of the Clyde and is sometimes referred to as Clydesdale, has a varied terrain, rising from the

level valley in the north to more than 2,000 ft. in the mountainous southern portion (Tinto Hill, 2,335 ft.) In the north, on the Clyde, is the great port and industrial center of Glasgow; in and near this city are extensive shipyards, engineering works, brick factories, textile plants, and various other manufactures In this district, too, are the rich mineral deposits of the county—coal, ironstone, fire clay, shale, and lead. The central part of the county is an undulating agricultural region Oats, wheat, potatoes, turnips, and market produce for Glasgow are raised Clydesdale work horses, cattle, and sheep are bred, and dairying is important The region was never wholly subjugated by the Romans In the Christian era it became part of the kingdom of Strathclyde and was subdued by the Northumbrian Saxons in the 7th cent Langside saw the defeat of Mary Queen of Scots, and in the 17th cent Lanarkshire was the scene of battles between the Covenanters and the king.

Lancashire (lăng'kushĭr, -shŭr), **Lancaster** (lăng'kustur), or **Lancs** (lăngks), county (1,878 sq mi.; 1931 pop 5,039,455, 1948 estimated pop 5,064,720), NW England, on the Irish Sea The county seat is Lancaster The eastern and northern portions of the county are part of the picturesque Lake District; in the west and south are lowlands and occasional moors, with rich deposits of iron ore, coal, slate, and sandstone The principal rivers are the Mersey and the Ribble The coast line is low and much broken by estuaries. Morecambe Bay separates FURNESS from the rest of the county Lancashire is the most populous county of England, and its two great cities, MANCHESTER and the famous port of LIVERPOOL, are the heart of one of the great industrial regions of the world. The chief manufactures are iron and steel products, textiles, paper, chemicals, rubber goods, and glass There are large shipyards, notably at Liverpool and Barrow-in-Furness. Throughout the 19th cent Manchester was the greatest cotton-manufacturing center in the world, but its importance has declined somewhat in recent years Lancashire in Anglo-Saxon times was part of the kingdom of Northumbria In 1351 it was made a county palatine, and in 1399 the palatine rights were vested in the king, one of whose ministers to the present time has the title chancellor of the duchy of Lancaster. Lancashire's prosperity began in medieval times with the introduction of the woolen industry, but the process was accelerated by the Industrial Revolution, and the population increased greatly in the 19th and early 20th cent See *Victoria History of Lancaster* (8 vols, 1906–14), Arthur Mee, *Lancashire* (1937)

Lancaster, Edmund Crouchback, earl of: see LANCASTER, HOUSE OF.

Lancaster, Henry, earl of: see LANCASTER, HOUSE OF.

Lancaster, John of see JOHN OF LANCASTER

Lancaster, John of Gaunt, duke of: see JOHN OF GAUNT

Lancaster, Joseph, 1778–1838, English educator In 1801 he founded a free elementary school, using a type of MONITORIAL SYSTEM for which he acknowledged his debt to Andrew BELL The Royal Lancasterian Society was later established to direct the school, and its founder, embittered by controversy with the society and with Bell, whose system had the support of the Established Church—Lancaster was a Quaker—came to America to lecture His efforts to establish a school at Baltimore were ended by his failing health He removed to Venezuela, and later to Canada and to New York city, to promote his educational ideas His writings on his system include *Report of Joseph Lancaster's Progress from 1798* (1810)

Lancaster, Thomas, earl of see LANCASTER, HOUSE OF.

Lancaster, county, England see LANCASHIRE

Lancaster (lăng'kustur), municipal borough (1931 pop. 43,383, 1947 estimated pop 51,110), co seat of Lancashire, England, on the Lune river not far from the sea There are textile factories, manufactures of farm machinery, linoleum, and soap, and flour mills Lancaster Castle occupies the site of a Roman camp It has an ancient keep and a Norman tower (built 1170) with a turret called John o' Gaunt's Chair St. Mary's Church dates mostly from the 15th cent.

Lancaster. 1 City (pop 1,999), co. seat of Garrard co, central Ky, S of Lexington, in the bluegrass region, settled 1798 Near by is the site of Kennedy House, Harriet Beecher Stowe is said to have used in *Uncle Tom's Cabin* stories associated with the Kennedys 2 Town (pop 2,963), central Mass., NE of Wachusett Reservoir, settled 1643, inc 1653 It has one of Bulfinch's finest churches (1817). A bird museum is here Luther Burbank was born in Lancaster 3 Town (pop 3,095), co seat of Coos co, NW N.H, at the influx of the Israel into the Connecticut, ENE of St Johnsbury, Vt.; inc 1764 It is a trade center for White Mt. resorts Artemus Ward was an apprentice on the *Coos County Democrat* here 4 Residential village (pop 7,236), W N Y, E of Buffalo, settled 1810, inc 1849 Glass products are made here. 5 City (pop 21,940), co. seat of Fairfield co., S central Ohio, SE of Columbus and on the Hocking river; founded 1800 as New Lancaster. It has extensive flint-glass manufacture. Shoes, farm implements, foundry products, and electrical products are also made. William Tecumseh Sherman and Thomas Ewing were born here. Near by is the state industrial school for boys 6 City (pop. 61,345), co. seat of Lancaster co., SE Pa, on the Conestoga river and c 65 mi W of Philadelphia; settled c 1721, laid out 1730, inc as a borough 1742, as a city 1818 In the heart of the Pennsylvania Dutch region, it is the commercial center for one of the most productive agricultural counties in the country. The chief products are tobacco, small grains, and livestock It is an important tobacco market and has one of the largest stockyards E of Chicago Lancaster manufactures linoleum, watches, cork, cigars, silk goods, and metal products It is the seat of FRANKLIN AND MARSHALL COLLEGE and of a theological seminary The language and customs of the city reflect the effect of settlement by various German religious groups A munitions center during the Revolution, it was briefly in 1777 a meeting place of the Continental Congress and was capital of the state for more than 10 years before 1812 It was the western terminus of the Lancaster Turnpike Robert Fulton was born here, and President Buchanan is buried in the city His home, "Wheatland," was dedicated as a historic memorial in Oct., 1937. 7 Town (pop 4,430), co seat of Lancaster co, N S C, NNE of Columbia and near the N C line It is a textile-milling center in a farm area The jail and the courthouse (both designed by Robert Mills and built in 1823) are notable 8 City (pop 1,151), N Texas, SSW of Dallas, in a blackland farming area, settled 1846, inc 1886 9 City (pop 2,963), co seat of Grant co, SW Wis, N of Dubuque, Iowa, in a farm and dairy area, settled before 1840, inc 1878

Lancaster, house of (lăng'kustur), royal family of England The title began when Henry III gave it (1267) to his second son, Edmund, earl of Lancaster (1245–96) Earlier (1254) the prince had been made titular king of Sicily when the pope had offered that crown to Henry III in order to keep it from being allied with the empire, but the English refused financial support for the Sicilian wars and the title lapsed From the cross which he wore on a crusade to Palestine in 1271 he was called Edmund Crouchback, or crossed back, a name which he made famous by his military commands in his later years Edmund's son Thomas, earl of Lancaster (1277?–1322), inherited the title and lands, under Edward II opposed the king's favorite, Piers Gaveston, and led the baronial party which tried unsuccessfully to drive Hugh Despenser and his son from England When the Despensers were victorious, Thomas was beheaded for treason His brother Henry, earl of Lancaster (1281?–1355), was the chief adviser to the young Edward III in getting rid of the dominance of the queen mother, Isabella, and her paramour, Roger Mortimer, 1st earl of March His son, also Henry, earl of Lancaster (1299?–1361), for his excellent service as a military commander in the early part of the Hundred Years War, was made duke When he died without male heirs, his daughter Blanche married the fourth son of Edward III, JOHN OF GAUNT, who inherited the Lancaster lands in her right, and who was made duke of Lancaster in 1362 His son Henry ascended the throne as HENRY IV (after deposing RICHARD II), and later Lancastrian kings were HENRY V and HENRY VI The rival royal house of York based its claims on descent from John of Gaunt's brother, Lionel, duke of Clarence, as well as from his brother Edmund, duke of York, and the Wars of the Roses (see ROSES, WAR OF) was the result of the struggle of the houses of Lancaster and York for the throne Moreover, through John of Gaunt's sons by his third wife, the Beauforts, the royal claim passed to their descendants, the house of TUDOR

Lancaster Sound, c 200 mi long and 40 mi wide, arm of Baffin Bay, E Franklin Dist., Northwest Territories It extends west between Devon Island and Baffin and Somerset islands and leads by way of Barrow Strait to the Beaufort Sea. It was discovered in 1616 by William Baffin

Lancelot (lăn'sulŏt, -lō̆t) or **Ladislaus** (lă'dĭslôs, -lûs), c 1376–1414, king of Naples (1386–1414), son and successor of Charles III Almost his entire reign was consumed by his struggle with the ANGEVIN rival king of Naples, LOUIS II, and with the antipope John XXIII (see COSSA, BALDASSARRE) Fortunes shifted repeatedly, but at his death Lancelot was able to make over his kingdom to his sister, Joanna II Lancelot occupied Rome several times under various pretexts and in 1413 had it sacked.

Lancelot du Lac: see ARTHURIAN LEGEND.

Lanchow or **Lan-chou** (län'jō'), city (pop 156,468), capital of Kansu prov, W China. It lies on the Yellow River and on the main trade route to Sinkiang and Tibet Tobacco is processed

Lanciani, Rodolfo Amadeo (rōdôl'fō ämädā'ō länchä'nē), 1847–1929, Italian archaeologist. From the age of 20 he was almost continuously in the service of the Italian government He discovered many important Roman antiquities and was made director of excavations (1875), professor of Roman topography in the Univ. of Rome (1878), and a senator (1911). He wrote and lectured about his work, appearing on the American platform in 1886–87 Among his works in English are *Wanderings in the Roman Campagna* (1909) and *Ancient and Modern Rome* (1925).

Lancret, Nicolas (nēkôlä' läkrā'), 1690–1743, French painter. A fellow student with Watteau, he may be said to have popularized his manner. His favorite subjects were balls, fairs, and similar festivities, of which he painted a vast number in a vivid and pleasing style While his work is not equal to Watteau's in color or poetic quality, it is brilliant and able Examples are in the Louvre and in the National Gallery, London. See Edmond Pilon, *Watteau et son école* (1912).

Lancs see LANCASHIRE

Land, Emory Scott, 1879–, American admiral and chairman of the U S Maritime Commission (1938–46), b Canon City, Colo, grad. Annapolis, 1902, M S Massachusetts Institute of Technology, 1907 He was assigned (1904) to construction work in the U S navy and served in the First World War with the naval Bureau of Construction and Repair In 1932 he became the head of the bureau Admiral Land resigned (1937) from the navy and shortly afterward was appointed by President F D Roosevelt to the U S Maritime Commission As chairman of the U S Maritime Commission in the Second World War, Land led in the construction of the largest merchant fleet the United States ever had.

land, in law, any ground, soil, or earth regarded as the subject of ownership, including trees, water, buildings added by man, the air above, and the earth below Private ownership of land does not exist in groups that live by hunting, fishing, or herding, such as the Indians of pre-Columbian times in America, for example, when the tribe owned the land and each tribesman had equal access to it and equal rights to its use In simple agricultural groups, as in early Europe, the VILLAGE community made an annual allotment of land to individuals for cultivation Similar allotments were made under the MANORIAL SYSTEM A communal form of rural landholding persisted in Russia into the 20th cent and still exists in India The modern sovereign state asserts dominion over all property within its territorial limits, including the land, and by the right of eminent domain can seize privately owned land for public use In Soviet Russia ownership to all land is vested in the nation outright, individuals and organizations being granted provisional rights to its use Widely distributed ownership of farm land has been regarded in Western countries as economically and socially advantageous. The concentration of landholding in few hands has led to political unrest and upheaval, as in Mexico, Spain, Italy, Eastern Europe, and China In economics the term *land* is used to designate one of the main factors of production, it is another name for nature or natural resources. It includes not only farm land but pasture land, forests, mineral lands, water-power sites, building sites, and land for roads and railroads But few natural resources are free, farm land, for instance, is useless without cultivation Man must apply to it labor and capital if he would extract from it the crops that are capable of satisfying his wants In economic theories of value, the share assigned to land as a factor in production is called rent

Landau, Mark Aleksandrovich see ALDANOV, MARK

Landeck (län'dĕk"), town (pop 5,406), Tyrol, W Austria, on the Inn and WSW of Innsbruck On a near-by height is the old castle of Landeck.

Lander, Frederick West, 1821–62, American civil engineer, Union general in the Civil War, b Salem, Mass Educated at Norwich (Vt.) Univ, he first did survey work on Eastern railroads In 1853 he was an engineer in the survey conducted by I I STEVENS for a northern railway to the Pacific. He was later superintendent of the great overland wagon route In the Civil War he was made a brigadier general of volunteers and served with G. B McClellan in West Virginia He died before taking part in any major engagement

Lander, Richard Lemon, 1804–34, English explorer He accompanied Clapperton to the Niger in 1827 and brought back Clapperton's journal, which was published (1829) with an account of Lander's return to the coast Accompanied by his brother John Lander (1807–39), he led an expedition (1830–31) to determine the course of the lower Niger and discovered that the river emptied into the Bight of Benin The brothers published their combined journals (3 vols, 1832) Richard Lander died of wounds received on a trading expedition to the Niger (1832–34); an account of the trip was published by survivors, Macgregor Laird and R. A K. Oldfield

Lander, city (pop. 2,594; alt. c 5,360 ft.), co. seat of Fremont co, W central Wyo., on the Popo Agie river, settled c 1870, inc. 1890 It is a tourist center in a dude-ranch, livestock, farm, and mineral (coal and oil) area and is headquarters for Washakie National Forest. Fort Washakie, trade center for the near-by Wind River Indian Reservation, is northwest.

Landes (lăd'), **region, SW France,** a vast flat tract of sand and marshland, stretching along the Atlantic coast for more than 100 mi. between the Adour river and the Médoc region and reaching inland as much as 40 mi. It thus covers most of Landes dept and part of Gironde dept. Sheep grazing used to be the only occupation in this insalubrious country, but much of the land has been reclaimed through drainage and the planting of pine forests. Agriculture is progressing, and lumber and resins are important products. The chief towns are Mont-de-Marsan, Dax, and Arcachon, a popular beach resort.

Landes, department (3,614 sq. mi., pop. 248,395), SW France, in Gascony, on the Atlantic coast. It is the southern part of the Landes region. Mont-de-Marsan is the capital.

land-grant colleges and universities, institutions benefiting from the provisions of the Morrill Act of 1862. The Hatch Act (1887) provided for research and experiment station divisions, the Smith-Lever Act (1914) for extension work in agriculture and home economics. The 69 institutions include the universities of Alaska, Hawaii, and Puerto Rico. See E. D. Ross, *Democracy's College* (1942).

Landis, James McCauley, 1899–, American lawyer and public official, b. Tokyo, Japan, of American parents, grad. Princeton (B. A., 1921) and Harvard (LL. B., 1924). At first a law clerk (1925) to Associate Justice Louis Brandeis, Landis was assistant professor (1926–28) and professor (1928–34) at Harvard Law School, of which he later became dean (1937–39). He was appointed (1933) by President F. D. Roosevelt to the Federal Trade Commission, and he then served (1934–37) on the Securities and Exchange Commission, becoming its chairman in 1935. After he resigned (1946) as dean at Harvard, he served (1946–47) as chairman of the Civil Aeronautics Board. With Felix Frankfurter he wrote *The Business of the Supreme Court* (1927). His books also include *Cases on Labor Law* (1934) and *The Administrative Process* (1938).

Landis, Kenesaw Mountain, 1866–1944, American jurist and commissioner of baseball (1921–44), b. Millville, Butler co., Ohio, grad. Union College of Law (now Northwestern Univ. law school), 1891. He practiced law in Chicago after 1891, the year he was admitted to the bar, and later served (1905–22) as a U. S. district judge in N. Illinois. In 1907 he imposed a $29,240,000 fine on the Standard Oil Company of Indiana in a rebate case. The decision won him wide acclaim, though it was reversed by a higher court. In 1917 he sentenced William D. Haywood, American labor leader, to a 20-year prison term. After organized baseball was confronted (1920) with the "Black Sox" scandal, a committee of baseball executives appointed (1921) Landis—who had presided at the case in which the newly organized Federal League brought suit against the National and American Leagues for violating the Sherman Anti-Trust Act—to the new post of baseball commissioner. Landis immediately barred from organized baseball the eight Chicago White Sox players charged with bribery in the 1919 world series. The strict discipline he imposed on baseball players and managements did much to restore public faith in the national pastime. See biography by J. G. T. Spink (1947).

Landis, town (pop. 1,650), W. central N. C., SSW of Salisbury, in a cotton-growing area.

Land League see Irish Land Question.

Landon, Alfred Mossman, 1887–, American politician, b. West Middlesex, Pa., grad. Univ. of Kansas, 1908. He was a banker and oil operator before he ran for public office. Landon served (1933–37) as governor of Kansas and gained a national reputation by his economical administration. As Republican candidate for President of the United States in 1936, he carried only Maine and Vermont. He was a delegate (1938) to the Pan American Conference at Lima.

Landon, Letitia Elizabeth, pseud. **L. E. L.,** 1802–38, English poet and novelist, whose contributions in verse to the *Literary Gazette* had wide appeal. A well-known literary figure, she married George Maclean, governor of Cape Coast, Africa, and died there under circumstances which have remained a mystery. See D. E. Enfield, *L. E. L.* (1928).

Landor, Walter Savage, 1775–1864, English author and poet, educated at Oxford. After a quarrel with his father, he retired to Wales, where he wrote the poem *Gebir* (1798). Landor inherited the family estates after his father's death, served (1808) in the Spanish rising against Napoleon, and purchased Llanthony Abbey in 1809. His dramatic poem *Count Julian* appeared in 1812. The later and more productive years of his life were mostly spent in Italy, where he died. The best known of his writings, *Imaginary Conversations* (1824–53), consisting of nearly 150 prose dialogues between notables both ancient and modern, are written in a style of dignity and restrained splendor. Landor's verse ranges from the epic to the epigrammatic, including some lyrics of great simplicity and intensity, such as the lines on Rose Aylmer. His other works include *Poems* (1795), *Citation and Examination of Shakespeare* (1834), *Pericles and Aspasia* (1836), *Pentameron* (1837), *Hellenics* (1847), and *Heroic Idylls* (1863). See his complete works (ed. by T. E. Welby and Stephen Wheeler, 1927–36); biographies by John Forster (1869), Sidney Colvin (1881), and Malcolm Elwin (1941).

Landowska, Wanda (vän'däländôf'skä), 1877–, Polish-French harpsichordist and pianist, studied at the Warsaw Conservatory. She taught piano (1900–1912) at the Schola Cantorum, Paris, and harpsichord (1912–19) at the Berlin Hochschule. At Saint-Leu-la-Forêt, near Paris, she established her École de Musique ancienne and there, between 1919 and 1940, gave many concerts of early music. She made her American debut on both harpsichord and piano with the Philadelphia Orchestra in 1923. Largely responsible for the revival of interest in the harpsichord and its music, she is also the author of *Music of the Past* (Eng. tr., 1924). Manuel de Falla and Francis Poulenc wrote concertos for her.

Landrum, town (pop. 1,289), NW S. C., at the N. C. line NW of Spartanburg.

Landsberg (lants'bĕrk'), town (pop. 11,946), Upper Bavaria, on the Lech and W. of Munich. Its fortress served as a political prison. Adolf Hitler wrote *Mein Kampf* while imprisoned here.

Landsberg an der Warthe (lants'bĕrk an dĕr vär'tu) or **Gorzow Wielkopolski,** Pol. *Gorzów Wielkopolski* (gôr'zōōf vyĕlkôpôl'skē), town (1939 pop. 48,053, 1946 pop. 19,796), E. Brandenburg, on the Warthe river, transferred to Polish administration in 1945 (see Brandenburg). Incorporated in 1257, it fell to the Swedes four times and was destroyed in the Thirty Years War. The town rose again in the 18th cent. In the Second World War it again suffered great destruction. Mainly a transportation and trade center, it also has several industries, and there are lignite deposits near by. Landsberg is now an episcopal see. The Polish government plans to make it a center of Polish culture. The present population is entirely Polish.

landscape architecture or **landscape gardening,** the art of modifying natural scenery around dwellings, public buildings, and housing projects and of planning parks, playgrounds, and exposition grounds. The formal style of landscaping emphasizes balanced plantings and geometric design, the naturalistic style seeks to give an effect of natural growth. The Egyptians made formal walled gardens. In Mesopotamia were developed private parks and terraced gardens usually on artificial mounds or supported on columns, as the Hanging Gardens of Babylon. The Persians were especially skilled in devising water features. The Moors carried the styles of the Near East to Spain. In the East the planting of sacred groves was carried by the Buddhists from India to China and set a style there for naturalistic gardens. Landscapes were imitated and were scaled to the selected tract, every tree and rock carried its symbolism. Japan simplified the Chinese mode and extended its symbolical character. In Europe landscaping was highly developed under the Roman Empire; formal gardens, often terraced and ornamented with statuary, were designed by architects. Classical styles were revived in Italy during the Renaissance, and Italian gardens, planned by leading artists, were widely imitated. In Spain, Italian influence was modified by Moorish features. The Dutch notably developed topiary work. France became the leader in formal landscaping with the work of André Lenôtre, exemplified in the gardens of Versailles. In the 18th cent. England inaugurated a reaction toward naturalism under such leaders as William Kent, Lancelot Brown, and Humphrey Repton. The 19th cent. brought a partial reversion to formal landscaping and interest in horticulture as well as in design. American landscape artists have generally worked in the spirit of the English masters. Interest in landscaping, especially of public parks and buildings, was stimulated by the work of A. J. Downing, Calvert Vaux, and F. L. Olmsted. Today landscape design stresses practical use as well as aesthetic features, styles are eclectic, and emphasis is on naturalism. See trees and garden. See Richardson Wright, *The Story of Gardening* (1934), M. E. Bottomley, *The Art of Home Landscape* (1935), M. O. Goldsmith, *Designs for Outdoor Living* (1941).

landscape painting. As an independent art landscape painting was a late development in the West. El Greco's *View of Toledo* (Metropolitan Mus.), painted in the early 17th cent., is thought to be one of the earliest ambitious works of the kind. Despite the splendid achievements of the Dutch 17th-century landscape painters (see Dutch art) and of Claude Lorrain, the art did not enjoy a very high status or general popularity in Europe until the 19th cent., when it had an unprecedented development. The great English landscape painters, J. M. W. Turner and John Constable, and the Barbizon school in France were succeeded by the French plein-air, impressionist school (see impressionism) which dominated the close of the century. In the United States the Hudson River school was the first manifestation of a lively interest in landscape painting. In China the art reached extraordinary perfection as early as the 8th cent. and engaged the highest talents during the Sung, T'ang, and Ming dynasties, and this prominence given to landscape painting is also seen in the paintings and prints of Japan. See C. L. Hind, *Landscape Painting from Giotto to the Present Day* (1923), Adrian Stokes, *Landscape Painting* (1925), Wolfgang Born, *American Landscape Painting* (1948), Kenneth Clarke, *Landscape Painting* (1950).

Landseer, Sir Edwin Henry (lăn'sēr), 1802–73, most popular of English animal painters, especially remembered for his appealing interpretation of dogs. His animals seem endowed with almost human characteristics. He was one of the most prolific and successful artists of his period, and innumerable engravings were made of such works as *The Stag at Bay* and *Dignity and Impudence*. He became an Academician in 1831, was knighted in 1850, and in 1865 declined the presidency of the Royal Academy. See study by W. Cosmo Monkhouse (1879–80).

Lands End, promontory, Cornwall, forming the westernmost extremity of England. It is the Bolerium of Ptolemy and the Bellerium of the Romans. Of wave-carved granite, it has cliffs 100 ft. high. There are reefs and rocky islets, on one of which is Longships Lighthouse.

Landshut (lants'hōōt), city (pop. 43,881), capital of Lower Bavaria, on the Isar river. It has manufactures of food products and precision instruments. The castle dates from the 12th cent., and there are several old churches. From 1800 until 1826 it was the seat of the Bavarian university, now at Munich.

Landskrona (lanskrōō'nə), seaport (pop. 23,010), Malmohus co., S. Sweden on the Oresund. It has an excellent harbor. Shipbuilding, flour milling, sugar refining, and the making of chemicals are the chief industries. Founded in 1413, the town was burned by Hansa merchants in 1428 and devastated in wars in the 16th and 17th cent. when its citadel (built 1540) was rebuilt and strengthened. In 1677 the Swedes won a naval victory at Landskrona over the Danes, and in 1680 it was strongly fortified. The old fort now houses a public institution. Near by is the island Ven.

landslide, the slipping or sliding down of a mass of rock debris and earth from the face of an elevation to a lower level. The cause of most landslides is the saturation of the rock and earth with water derived either from rainfall or from the melting of frost, which increases the weight of the mass and at the same time lubricates it so as to overcome the friction which holds it in place. Landslides are also caused by jarring of the ground in the course of an earthquake. Landslides are very destructive to forests, tilled fields, and human habitations. They sometimes cause floods by damming up streams or by raising the level of bodies of water. See C. F. S. Sharpe, *Landslides and Related Phenomena* (1938).

landsmaal see Norwegian language.

Landsteiner, Karl (karl' länt'shtīnur), 1868–1943, American medical research worker, b. Vienna, M. D. Univ. of Vienna, 1891. In 1922 he came to the United States to join the staff of the Rockefeller Institute. He later became a citizen. As emeritus member of the institute after 1939, he actively continued his research. For his discovery of human blood groups he won the 1930 Nobel Prize in Physiology and Medicine. He made contributions of great value as a result of his research in immunology and the chemistry of antigens and serological reactions, in hemolysis, and in methods of studying poliomyelitis. In 1940 he identified, in collaboration with A. S. Wiener, the Rh blood factor. Besides numerous papers he wrote *The Specificity of Serological Reactions* (1936).

Landsting see Rigsdag.

land tax, probably the earliest direct tax and formerly the chief source of government revenue. It was known in ancient China and Egypt. In ancient times conquered peoples were taxed, i.e., paid tribute, for their use of the land taken in conquest. Until modern times European countries depended almost exclusively on this form of taxation. In the United States the land tax (including the tax on all real property) has been the chief method of collecting local revenue, though many states have added an income tax. The tax may be based on the sale value of the property, though a fairer method is the classification of the land according to its productiveness. Australia and New Zealand have land taxes differentiated according to the size of the estate and the nature of its tenure, i.e., an absentee landlord is taxed at a higher rate. The argument against the land tax is that it raises the cost of agricultural production. For special theories of land tax, see physiocrats and single tax. See R. T. Ely and E. W. Morehouse, *Elements of Land Taxation* (1924), S. E. Leland, *The Classified Property Tax in the United States* (1928).

Lane, Edward William, 1801–76, English Orientalist. He went (1825) to Egypt for his health and became an authority on Egypt and the Arabic language. He wrote *Account of the Manners and Customs of the Modern Egyptians* (1836), translated the *Thousand and One Nights*, and began to compile an Arabic lexicon, which was continued after his death by his grandnephew, Stanley E. Lane-Poole.

Lane, Franklin Knight, 1864–1921, American lawyer, Secretary of the Interior (1913–20), b. near

Charlottetown, P E I , educated at the Univ of California Admitted to the bar in 1889, he practiced law in San Francisco, edited progressive newspapers, and entered reform politics His unsuccessful campaigns for governor of California (1902) and mayor of San Francisco (1903) won national attention, and in 1905 President Theodore Roosevelt appointed him to the Interstate Commerce Commission, of which he was chairman from Jan to March, 1913 As Secretary of the Interior under President Wilson, he was a conservationist, and he also sought to increase the self-reliance and independence of the Indians He promoted self-government in Alaska and sponsored the Alaska RR from Seward to Fairbanks to tap the interior He served on special commissions and on the Council of National Defense See his letters (ed by his wife, Anne W Lane, and L H Wall, 1922)

Lane, Henry Smith, 1811–81, American politician, b Bath co , Ky He moved to Crawfordsville, Ind , where he practiced law He served in the state legislature, was a Whig in Congress (1840–43), and rose to be a lieutenant colonel in the Mexican War Lane was a leader in the organization of the Republican party in his state and presided over the party's first national convention in 1856 Elected governor of Indiana in 1860, he soon resigned to become U S Senator (1861–67)

Lane, James Henry, 1814–66, American politician, called the "Liberator of Kansas" He was probably born in Lawrenceburg, Ind where he practiced law Lane commanded an Indiana regiment in the Mexican War and was lieutenant governor (1849–53) and Congressman (1853–55) Having voted for the Kansas-Nebraska Bill, he moved to Kansas, where he soon joined the Free State forces and united their several factions He was president of the convention at Topeka that framed a Free State constitution and set up a state government, with himself as Senator-elect After the Senate refused to admit Kansas under this constitution, Lane traveled throughout the Old Northwest, encouraging antislavery men to emigrate to Kansas He led the Free State militia in subsequent armed clashes with proslavery troops and directed the campaign by which his party won control of the territorial legislature When Kansas was granted statehood (1861), Lane was chosen one of its first Senators He was a close friend and supporter of Lincoln throughout the Civil War He led the "Kansas Brigade" in operations (1861) against Gen Sterling Price in Missouri, was for a brief time a brigadier general of volunteers, and raised (Jan , 1863) one of the first regiments of Negro troops In the Senate he favored the homestead and Pacific railroad bills and land grants to Western railroads Lane supported President Andrew Johnson's Reconstruction policy, thus losing political support in Kansas and, depressed by this and other events, finally shot himself See W H Stephenson, *The Political Career of General James H Lane* (1930)

Lane, Joseph, 1801–81, American general in the Mexican War and territorial governor of Oregon, b Buncombe co , N C Having settled in Indiana, he served a number of terms in both houses of the state legislature between 1822 and 1846 In the Mexican War he commanded a brigade under Gen Zachary Taylor at Buena Vista, later received a brevet major generalship for gallantry in action, and emerged as one of the heroes of the war In 1848 he was commissioned governor of newly organized Oregon Territory and superintendent of Indian affairs there Arriving early in 1849, he traveled through the territory settling matters between the Indians and the whites He prepared for Congress one of the most complete reports on record of the Indians of the region After resigning as governor in 1850, he became territorial delegate to the U S. Congress (1851–59) and upon admission of Oregon as a state (1859) served (1859–61) as one of its first U S Senators In 1853 he led the settlers against the Rogue Indians, defeated them, and concluded a peace treaty. See biography by Sister M Margaret Jean Kelly (1942)

Lane, Sir Ralph, c 1530–1603, leader of the first attempted English settlement in America, on ROANOKE ISLAND, N C. The expedition of over 100 colonists, sent by Sir Walter RALEGH, left (April, 1585) England in a fleet of seven ships commanded by Sir Richard Grenville They landed on Roanoke in August, but returned to England with Sir Francis DRAKE in the summer of 1586. Lane's account of the settlement appeared in Richard Hakluyt's *The Principal Navigations ... of the English Nation* (1589).

Lane, Ralph Norman Angell: see ANGELL, SIR NORMAN

Lane College: see JACKSON, Tenn.

Lane Poole, Reginald, 1857–1939, English historian, educated at Balliol College and Wadham College, Oxford, Ph D, Univ of Leipzig, 1882; brother of Stanley Lane-Poole and grandnephew of Edward William Lane He was long a lecturer on diplomatics (paleography of documents, charters, and the like) and was an outstanding authority on chronology and medieval intellectual history He was also long editor of the *English Historical Review* His work was offered mostly in lectures and articles Some of them are collected in *Illustrations of the History of Medieval Thought* (1884), *The Exchequer in the Twelfth Century* (1912), *Lectures on the History of the Papal Chancery* (1915), and *Studies in Chronology and History* (1934)

Lane-Poole, Stanley Edward, 1854–1931, English Orientalist, educated at Corpus Christi College, Oxford, brother of Reginald Lane Poole and grandnephew of Edward William Lane He worked in the coin department of the British Museum (where his uncle, R S Poole, was an official), then was (1895–97) an archaeologist for the Egyptian government He undertook to continue his grand-uncle's Arabic lexicon but did not complete it He was an authority on medieval Islam Among his better-known works (some of them very popular) were *The Moors in Spain* (1887), *The Barbary Corsairs* (1890), and *The History of the Moghul Emperors of Hindustan* (1892)

Lanesboro. 1 Town (pop 1,321), NW Mass , near Pontoosuc Lake N of Pittsfield, settled c 1753, inc 1765 2 Village (pop 1,100) SE Minn , SE of Rochester near the Root river, in hilly farm country

Lanett (lănĕt'), cotton-milling city (pop 6,141), E Ala , on the Chattahoochee and ENE of Montgomery, inc 1893

Lanfranc (lăn'frăngk), d 1089, Italian churchman, archbishop of Canterbury (from 1070), b Pavia He was educated in civil law and became a good advocate He turned to theology and became a pupil of BERENGAR OF TOURS He taught in Avranches and then went to Bec (c 1040), where he founded an illustrious school and became prior (c 1043) Among his pupils were ST ANSELM and Pope Alexander II In 1049 Berengar impugned Lanfranc's orthodoxy, and Lanfranc, successfully clearing himself, attacked Berengar in turn Some 10 years later Lanfranc wrote the treatise *De Corpore et Sanguine Domini* [concerning the Body and Blood of the Lord], which, while ineffective as a rebuttal of Berengar, became a medieval classic He was closely associated with Duke William of Normandy (William I of England) and probably helped secure papal recognition of the duke's marriage and the papal blessing for the conquest of England In 1070 William replaced STIGAND as archbishop with Lanfranc, who accepted, but only on direct command of the pope Thereafter king and archbishop worked together Lanfranc was one of the reform party of the Church (led by GREGORY VII) He replaced English abbots and bishops with Normans (a course often denounced but quite essential to any reform), reduced the archbishop of York to subjection to Canterbury, legislated against clerical marriage and concubinage, built churches, reformed ecclesiastical finance, established ecclesiastical courts, strengthened the monasteries, and removed the bishoprics from small towns to important cities Occasional friction between Church and state caused no quarrels until the reign of WILLIAM II Lanfranc had favored young William, and crowned him, but the king did much displeasing to the archbishop and barely kept from trouble until Lanfranc's death See A J MacDonald, *Lanfranc* (2d ed , 1944)

Lang, Andrew (lăng), 1844–1912, Scottish scholar and man of letters, b Selkirk, educated at the universities of St Andrews, Glasgow, and Oxford Lang wrote graceful poetry, much of it in the old forms of ballades, triolets, and rondeaus in such volumes as his *Ballades in Blue China* (1880, 1881) He was one of the first to apply anthropology to the study of myths and folklore, his best work on his theory was *Myth, Literature, and Religion* (2 vols , 1887, rev ed , 1899) He is famous for his prose translations from the Greek—the *Odyssey* (1879), with S H Butcher, and the *Iliad* (1883), with Walter Leaf and Ernest Myers—and for his defense of the unity of Homer in *The World of Homer* (1910) His translations *Aucassin and Nicolete* (1887) and *Perrault's Popular Tales* (1888) became standard He collected traditional stories for children, rewritten by Mrs Lang or himself, in his *Blue Fairy Book* (1889), followed by the *Red, Green,* and *Yellow* books Lang wrote an excellent biography of J G Lockhart (2 vols , 1896), several works on Scottish history, culminating in his *History of Scotland from the Roman Occupation to the Suppression of the Last Jacobite Rising* (4 vols , 1900–1907), and monographs on French history His poetical works were edited (1923) by his wife, Leonora Blanche Lang See biography by R L Green (1946)

Lang, Anton (ăn'tŏn lang'), 1875–1938, member of the Oberammergau Passion Players He portrayed the Christus in 1900, 1910, and 1922, and in 1930 he spoke the prologue

Lang, Cosmo Gordon (lăng), 1864–1945, English churchman, archbishop of York (1908–28), archbishop of Canterbury (1928–42), b Aberdeen, Scotland From 1901 to 1908, while suffragan bishop of Stepney, London, and canon of St Paul's Cathedral, his efforts to improve slum conditions attracted wide attention. He was an acknowledged leader in the House of Lords and supported in Parliament the proposed revision (1928) of the Book of Common Prayer Archbishop Lang, who was considered influential in the abdication of Edward VIII, crowned George VI as king in 1937 Shortly after his resignation as archbishop in 1942, Lang was created baron

Langdell, Christopher Columbus (lăng'dul), 1826–1906, American teacher of law, grad Harvard (LL B , 1853) He practiced in New York city from 1854 to 1870, when he was appointed Dane professor of law, in 1875 he became dean of Harvard Law School Together with J B AMES, who succeeded him as dean in 1895, he remade the curriculum of the school Langdell is especially famed for the introduction of the "case method" of law study In his view the principles of law are best learned by inductive study of the actual legal situations (the cases) in which they occur Much opposition was expressed by conservative teachers who believed that an abstract formulation of the law was the essential need of the student. Langdell's theory was first adopted at Harvard, then at Columbia Law School, and in time gained almost universal acceptance In recent years many schools have modified his methods by using textbooks to explain established principles and reserving case study for evolving principles Langdell prepared casebooks in the fields of contracts, equity, and sales His treatises include *A Summary of Equity Pleading* (1877) and *A Brief Survey of Equity Jurisdiction* (1905)

Langdon, John, 1741–1819, American statesman, b Portsmouth, N H A prosperous merchant, Langdon was active in pre-Revolutionary activities and in Dec , 1774, took part in capturing British military stores at Portsmouth In 1775 he became a delegate to the Continental Congress, and in Nov , 1775, he accompanied Robert R Livingston and Robert Treat Paine on an unsuccessful mission to win Canada to the patriot cause In the Saratoga campaign (1777), he offered his entire fortune to finance John Stark and saw action himself at Bennington and Saratoga After the war he was (1785–86, 1788–89) president of New Hampshire Langdon was a delegate to the Federal Constitutional Convention, and it was largely through his efforts that New Hampshire ratified the Constitution as the ninth state, thus making the instrument effective As U S Senator (1789–1801) he served briefly as first pro tempore president of the Senate After voting against Jay's Treaty, he aligned himself more and more with the Jeffersonians, but he declined national offices Langdon was governor of New Hampshire from 1805 to 1809 and from 1810 to 1812 See biography by L S Mayo (1937)

Langdon, city (pop 1,546), co seat (since 1884) of Cavalier co , NE N Dak., NW of Grand Forks, inc 1888 It is a shipping point for wheat An agricultural experiment station of the state agricultural college is here

Lange, Christian Louis (krĭs'tyan lōō'ē lang'u), 1869–1938, Norwegian pacifist and Nobel Prize winner In his youth he belonged to the radical Young Norway movement and worked for the separation of Norway from Sweden He taught in the Norwegian Nobel Institute, represented his country at The Hague Conference of 1907 and at the League of Nations, and was secretary (1909–33) of the Interparliamentary Union With Hjalmar Branting he shared the 1921 Nobel Peace Prize He wrote much on international affairs

Lange, Friedrich Albert (frē'drĭkh al'bĕrt lang'u), 1828–75, German neo-Kantian philosopher Accepting the materialistic method of investigating phenomena, he rejected its concept of nature He regarded consciousness as subjective experience, not merely the effect of matter, and submitted that speculative and idealistic concepts should be supported in their relations to the values of human existence He is celebrated for his *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart* (1866, Eng tr , *A History of Materialism,* 1877)

Langeais (lăzhā'), town (pop 1,925), Indre-et-Loire dept , W central France, in Touraine, on the Loire Its handsome castle, where Charles VIII married (1491) Anne of Brittany, was slightly damaged in the Second World War

Langeland (lang'ulăn), island (110 sq. mi , pop 20,354), Denmark, in the Baltic Sea, between Fyn and Laaland It is 33 mi long and 3 mi wide Rudkoping is the main town Largely agricultural, the island produces grain The Langeland Belt, a strait c 8 mi wide between Langeland and Laaland, joins the Great Belt and the Baltic Sea

Langendijk, Pieter (pē'tur lang'dĭk), 1683–1756, Dutch dramatist His best work is perhaps the comedy of manners *De Spiegel der vaderlandsche Kooplieden* [the mirror of Dutch merchants], completed by two unknown writers after his death

Langensalza (lang"unzal'tsă), town (pop 16,013), Thuringia, central Germany, on the small Salza river and near Mühlhausen. It has machinery, cotton, and other manufactures Near by is Bad Langensalza, with sulphur springs. An early seat (13th cent) of the Teutonic Knights, the town has retained part of its medieval walls and its 13th-century castle. It was transferred (1945) from Prussian Saxony to Thuringia. Here in 1075 Em-

peror Henry IV defeated the rebellious Saxons and Thuringians, and here in 1866 the Prussians defeated the Hanoverians in the Austro-Prussian War.

Langer, William (läng'ûr), 1886–, American political leader, b Cass co, N Dak, grad Univ of North Dakota (LL B, 1906) and Columbia (B A, 1910) He served as county attorney (1914–16) and then as attorney general (1916–20) of North Dakota In the 1920s he supported Robert M. La Follette and backed Hiram Johnson for the presidency He was elected (1930) governor of the state and served until July, 1934—when he was removed by decision of the state supreme court He was sentenced to prison, and while there he was again elected (1936) governor In 1940 he was elected to the U S Senate In a close vote, the U S Senate decided (1942) not to unseat Langer on the charges of moral turpitude, and in 1947 he was again elected Senator

Langerhans, Paul (poul' läng'urhäns), 1849–88, German physician He described in 1869 the **islands of Langerhans,** insulin-producing cells in the pancreas, the malfunction of which causes diabetes See his *Contributions to the Microscopic Anatomy of the Pancreas* (1869, Eng tr, 1937)

Langevin, Sir Hector Louis (läzhuvĕ'), 1826–1906, b Quebec, studied law under Georges Étienne Cartier. He sat (1857–67) in the legislative assembly of Canada and was solicitor general (1864–66) for Lower Canada in "the great coalition" government and postmaster general (1866–67) After confederation, Langevin was a member (1867–96) of the Canadian House of Commons, secretary of state (1867–69), minister of public works (1869–73, 1879–91), and postmaster general (1873–79) He succeeded Cartier in 1873 as leader of the French Canadian Conservative party There were charges of corruption (1891) in Langevin's public works department, though acquitted of complicity, he was found guilty of negligence in office and was forced to resign

Langevin, Paul (pôl' läzhuvĕ'), 1872–1946, French physicist and chemist He was professor of experimental physics at the College de France from 1909 and at the École municipale de Physique et de Chimie, Paris, from 1904 (director from 1925), dismissed by the Vichy government in 1940, he resumed his posts in 1944 He is noted for his work on the electron theory of magnetism and for his research on sound devices for submarine detection His contributions in the field of education were also valuable

Langham, Simon, d 1376, English prelate and statesman, cardinal of the Roman Church He ruled the abbey of Westminster with such skill that Edward III appointed (1360) him treasurer and promoted (1363) him to the chancellorship Created bishop of Ely in 1362, Langham rose to be archbishop of Canterbury (1366) His acceptance of the red hat without royal permission led to a breach with Edward, and Langham resigned (1368) He went to Avignon, where he held office at the court of Pope Gregory XI Langham's bequests to Westminster Abbey, including 116 books, earned him the title of its second founder

Langhorne, borough (pop 1,221), SE Pa, NE of Philadelphia "Byberry," the birthplace of Benjamin Rush, is here

Langlade, Augustin (ôgüstĕ' läglad'), c 1695–c 1771, French Canadian fur trader, b probably Nicolet co, Quebec He was the father of Charles Michel de Langlade and is sometimes called Augustin de Langlade His family name was Mouet, but following the custom in families claiming gentle blood that all sons except the eldest take new names, he adopted Langlade He became a fur trader and went (c 1727) to Mackinac, in what became Michigan, where he married an Indian About 1745 he and his son, Charles, went to Green Bay, in what is now Wisconsin, laid claim to a tract of land, built the first house in the settlement, and established a thriving fur trade there

Langlade, Charles Michel de (sharl' mĕshĕl' du), 1729–1800, pioneer in present Wisconsin, leader in the French and Indian Wars and the American Revolution, b Mackinac, Mich, son of Augustin Langlade and his Indian wife In the French and Indian Wars he is credited with having planned the ambush of Gen Edward Braddock's army near Fort Duquesne (1755), with having defeated Robert Rogers's Rangers on Lake Champlain (1757), and with having served in the Quebec campaign under Montcalm (1759) After surrendering the fort at Mackinac to the English, he became a British citizen In 1763 he warned the western posts of Pontiac's Conspiracy In the American Revolution he led a force of Indians to Burgoyne's assistance, but the Indians deserted upon being reprimanded for a murder. He also fought in the West against George Rogers Clark After the war he retired to his trading post at Green Bay, Wis, where he lived in patriarchal fashion and became known as the Father of Wisconsin.

Langland, William, c.1332–c 1400, putative author of PIERS PLOWMAN He was born probably at Ledbury near the Welsh Marches and may have gone to school at Great Malvern Priory. He took minor orders but, because of his marriage, never became a priest Later in London he eked out his living by saying Masses for money and lived in poverty with his wife and one daughter on Cornhill

Langley, Samuel Pierpont, 1834–1906, American scientist, b. Roxbury, Mass, received only a high school education, but continued his studies in science in Boston libraries He became, in 1867, professor of physics at the Western Univ of Pennsylvania (now Pittsburgh Univ) and director of the Allegheny Observatory there He did much to popularize astronomy, his book *The New Astronomy* (1888) was widely read He invented the bolometer, still the most sensitive instrument for recording variations in heat radiation, and with it first measured the distribution of heat in the solar and lunar spectra His pioneer work in the infrared radiations resulted in a wide extension of the knowledge of the solar spectrum In 1887 Langley went to Washington to succeed Spencer F Baird as secretary of the Smithsonian Institution, which position he held until his death He established there the Astrophysical Observatory, secured funds for it, and continued his mapping of the solar spectrum He made new determinations of the solar constant of radiation and, in 1904, announced his conclusion that this solar constant was a variable Systematic studies of this variation have been carried on by his successor, Charles G Abbot Langley's studies of the mechanics of flight and his experiments with heavier-than-air flying machines entitle him to rank among the great pioneers in aviation He constructed power-driven models, with especially designed light motors, which, in 1896, performed successfully in the air, thus proving to Langley's satisfaction and to the satisfaction of a few of his followers that mechanical flight was possible Few others were convinced The War Dept, however, appropriated $50,000 for the development of a man-carrying machine, and Langley, assisted by Charles M Manly, who was chiefly responsible for the high-powered, lightweight engine, built a machine which in 1903 he twice attempted to launch on the Potomac His failures brought upon him a tremendous amount of unmerited ridicule, and the governmental support was withdrawn He maintained that the failures were due to defects in the launching apparatus and not to the machine itself In 1914 the machine as reconstructed, and with a higher-powered engine, was actually flown Most of Langley's many papers are in the publications of the Smithsonian Institution See *Biographical Memoirs of the National Academy of Sciences,* Vol VII

Langmuir, Irving (läng'mûr), 1881–, American chemist, b Brooklyn, N Y Associated with the research laboratory of the General Electric Company from 1909, he introduced atomic-hydrogen welding, evolved a theory of atomic structure, invented a gas-filled tungsten lamp, and by his work on the high vacuum contributed greatly to the development of the radio vacuum tube In his researches on surface tension and surface chemistry he developed a new technique (employing monolayers, i e, layers of molecules one molecule thick) for the study of molecules, which has applications in research on microorganisms and toxins and in other studies contributing to advances in immunology For his contributions in surface chemistry he received the 1932 Nobel Prize in Chemistry

Langres (läˈgru), town (pop 5,624), Haute-Marne dept, NE France An episcopal see since the 3d cent, Langres has preserved part of its medieval fortifications It has an old and famous cutlery industry Diderot, whose father was a cutler, was born here

Langres Plateau, wooded but generally arid and windswept tableland around Langres, NE France The highest point is c 1,790 ft

Langside, district of Glasgow, Scotland At the battle of Langside (1568), James Stuart, 1st earl of Murray, won a victory over the forces of Mary Queen of Scots led by the 5th earl of Argyll

Langston University, at Langston, near Guthrie, Okla, land-grant and state supported, coeducational, chartered 1897 as Colored Agricultural and Normal University

Langton, Stephen, c 1155–1228, English prelate, cardinal of the Roman Church He was educated at Paris Innocent III created him cardinal in 1206, and he became archbishop of Canterbury the following year The opposition of King JOHN prevented his occupation of the see until 1213 He acted with the barons in securing the Magna Carta and opposed the papal legate, Pandulf Because of his continued opposition to John after the reconciliation of pope and king, he was suspended in 1215, but was restored after the accession of Henry III and continued his efforts to reform Church and state He was a learned and voluminous writer, and the present chapter division of the Scriptures is derived from Langton He probably composed the hymn *Veni, sancte spiritus* See F M. Powicke, *Stephen Langton* (1928) and *Christian Life in the Middle Ages* (1935).

Langtry, Lillie, 1852–1929, English actress, known as the Jersey Lily, daughter of Dean Le Breton of the Isle of Jersey. Her beauty attracted the attention of the prince of Wales, Millais and Burne-Jones painted her She married Edward Langtry in 1874 After her husband's financial failure, she appeared at the Haymarket theater (1881) as Kate Hardcastle in *She Stoops to Conquer* In 1882 she toured the United States, playing in *As You Like It, As in a Looking-Glass,* and *Lady Windermere's Fan,* which Oscar Wilde wrote for her Her last tour of the United States was in 1915 In 1899 she married Sir Hugo Gerald de Bathe See her memoirs, *The Days I Knew* (1925)

Langtry, unincorporated village, W Texas, on the Rio Grande above the mouth of the Pecos At the old town of Langtry near by, Judge Roy Bean, the "law west of the Pecos," sold drinks and meted out justice at his saloon

language, systematic human vocal communication It is a distinctive, exclusive, and universal mark of the human species Nothing is known of its origin, and scientists generally hold that it has been so long in use that the length of time WRITING is known to cover (6 500 years at most) is trifling in comparison Just as languages spoken now by peoples of the most primitive cultures are as subtle and as intricate as those of the peoples of civilization, similarly the forms of languages known (or hypothetically reconstructed) from the earliest records show no trace of being more "primitive" than their modern forms Every person belongs to a speech community (a group of people who speak the same language) There are more than 1,000 speech communities, with numbers ranging from many millions of speakers down to a few dozen or even less The following list probably includes (in approximate descending order) all languages spoken by more than 50,000,000 people North Chinese, English, Russian, Cantonese, German, Spanish Japanese, and Bengali Many persons speak more than one language, the language first learned is one's maternal or native language—figurative expressions, for language is in no sense inherited but is a learned behavior When a person learns a second language very well, he is said to be bilingual He may abandon his native language entirely, because of moving (as coming from Europe to the United States) or because of politico-economic and cultural pressure (as among American Indians and speakers of the Celtic languages in Europe) Such abandonment may lead to the disappearance of languages Individuals differ in speech, though usually not markedly within a small area The differences between speakers in the same speech community, can, however, be considerable, there can then be said to be different dialects of the language (see DIALECT) From this fact and from the known history of a few languages it is believed that all languages are continuously changing If there is a common direction of change, however, it has never been convincingly shown Various factors, especially the extended use of writing, have led to the development of the standard language in most of the major speech communities—a special official form of a language which is theoretically maintained unchanged This is the school form of a language, and by a familiar fallacy it has been supposed to be the norm from which the everyday language deviated Rather, the standard language is a development of some local dialect which has had prestige, thus the standard English of England is derived from London English and standard Italian from that of Tuscany Use of the standard language is often a mark of polite behavior, thus in America using standard English, "good grammar," and approved pronunciation marks a man as cultivated Ordinary speech may be affected by the standard language, thus, many forms of expression come to be widely considered substandard and are regarded as badges of ignorance or "low class," such as *you was* in place of the standard *you were* As in other fields of etiquette, there is variation, thus, *he don't* is acceptable in England but often reproved in America The literary standard may differ from the colloquial standard of educated people at home, and the jargon of a trade or school group may be unintelligible to outsiders, such linguistic variations are in English mainly a matter of vocabulary An auxiliary language is a non-native language adopted for specific use, such are the LINGUA FRANCA (e g, PIDGIN ENGLISH) and the UNIVERSAL LANGUAGE The differences between languages are not uniform When languages resemble each other in a systematic way they are held to be genetically related Such relationships have been scientifically established in many cases, but always on the basis of the sounds of the languages and the way the sounds are grouped in systematic patterns, no certainty has been attained in comparing the fundamental grammatical structures of languages. Maximal groups of related languages are called families and stocks Languages of the Indo-European and Semitic families have received vastly more attention than the others These languages represent actually a very small part of the world linguistic spectrum, as a consequence, most generalized statements about language, grammar, and related matters made before 1920 are not valid as generalisations at all. For a survey of the impor-

The Indo-European Languages

SUBFAMILY	GROUP		PRINCIPAL LANGUAGES
Germanic	W	High	Bavarian Swiss Alemannic, Pennsylvania Dutch Alsatian Swabian Franconian - Old* and Middle* High German German—Yiddish
		Low	Old Saxon*, Plattdeutsch (Modern Low German) Lower Franconian* Dutch Flemish Afrikaans
			Anglo-Frisian 1 Frisian 2 Old English*, Middle English* - Middle Scots* ENGLISH British American Colonial, etc each with standard and dialect variations—SCOTTISH
	N		Old Norse* Icelandic—NORWEGIAN incl Landsmaal Old Swedish* Swedish—Danish, Dano-Norwegian - Faroese
	E		Gothic*
Celtic	Continental		Gaulish*
	Brythonic		Middle Welsh* Welsh—Cornish*—Breton
	Goidelic		Old* Middle* and Modern Irish Scottish Gaelic Manx
Italic	Latin and Romance (Romance)		Umbrian*
			Old Old LATIN*, Classic Latin*, Medieval Latin*
			Middle Vulgar Latin*—Old Italian*, Old French*
			Italian standard (Tuscan) and dialects Sardinian—Dalmatian* -Rumanian Rhaeto-Romanic Romansh, Ladin or Friaul French Canadian F Louisiana F—dialects of N France PROVENÇAL dialects of S France—Catalan Spanish American S, Philippine S—Judeo-Spanish Portuguese Brazilian Portuguese—Galician
			Oscan*
Albanian			Albanian
Hellenic or GREEK			Ionian* Homeric G*—Classical Attic* Hellenistic G*, Koine*, Biblical G* (OT NT) Byzantine G*—Modern G
			Doric* Choral Doric* Corinthian*—Aeolic*—Cyprian*
Slavic or Slavonic	E		Russian Ukrainian, Ruthenian—White Russian
	S		Slovene Serbo-Croat, Bulgarian—Old Church Slavonic*
	W		Polish Sorbian or Wendish Czech Slovak
Baltic			Old Prussian* Lithuanian Lettish
Indo-Iranian	Iranian		Western Avestan* Old Persian*—Pehlevi* Sogdian* Persian Caspian dialects—Kurdish
			Eastern Baluchi Afghan or Pushtu, Pamir dialects
			Northern Ossetian
	Indic or Indo-Aryan		Old Vedic* SANSKRIT*
			Middle Prakrit* (several languages) Pali*
			Northwestern Languages, Kashmiri, et al - Romany Lahnda Sindhi, Gujarati Marathi Bihli Rajasthani Panjabi Pahari W Hindi—standard Hindustani and Urdu—E Hindi Bihari Bengali Oriya Assamese Sinhalese or Singhalese
Tokharian*			Tokharian A* (of Turfan) Tokharian B* (Kuchean)
Armenian			Classical Armenian*, Armenian
Anatolian*			Hittite* (Kanesian), Hieroglyphic Hittite* Luwian*, Lycian* Lydian*

The Finno-Ugric Family

Finno-Permian Group

1 Finnish
incl Estonian
Lappish (see LAPPS)
Mordvinian
Cheremiss (see MARI)

2 Permian
Zyrian (see KOMI)
UDMURT (Votyak)

Ugric Group

Ob Ugric
Vogul, Ostyak (see KHANTY-MANSI)
Hungarian or Magyar

The Dravidian Family

Tamil (Coromandel Coast)
Malayalam (S Malabar)

Kanarese (Malabar Coast)
Kulu
Kota
Toda

Telugu (N Coromandel Coast)

Central Dravidian
Gondhi
Kurukh, Malto
Bhil
Kolami
Naiki

Brahui (Baluchistan)

The Malayo-Polynesian Languages

Indonesian Group

W
- Malagassy
- N
  - Formosan
  - Philippine
    Tagalog
    Bisayan
    Ilocano
    Igorot
    Magindanao
  - Eastern
    Chamorro
    Palau
    NE Celebes
- S
  - W
    - Malay
      Sumatran
      Nias et al
      Maduran Bugi
      Balinese
      Macassar
  - E
    - Javanese
      Sundanese
    - Borneo
      Dyak
      Toraja
      Sumba et al

E Ami Saisiyat et al

Melanesian Group

S Melanesian
Central Melanesian
Fijian
S Solomons
N Melanesian
Santa Cruz

Micronesian Group

Caroline
Yap
Ponape
Gilbertese
Marshallese
Nauru
Marianas

Polynesian Group

W
- Vaitupu (Ellices)
- Samoan
- Tongan et al

E
- Maori
- Rarotonga
- Tahitian
- Society
- Tuamotu
- Marquesan
- Hawaiian
- Rapanui (Easter Is)

The Turkic Languages

East Turkic	Oirat Altai, North Altai, Abakan, Kizil Baraba Uigur et al
West Turkic	Kirghiz, Irtysh, Bashkir, Volga Kirghiz, et al
Tatar or Central Turkic	Kashgai Yarkand Sart, Taranchi, Uzbek, et al
South Turkic	Turkmen, Azerbaijanian and Caucasian Turkic Standard Turkish and related (Anatolian or Ottoman) dialects Crimean Turkish
Yakut	
Chuvash	

The Semitic and Related Groups

GROUP	LANGUAGE	GROUP	LANGUAGE
Akkadian	Babylonian*, Assyrian* Neo Akkadian*	Ethiopic	Geez* Tigrigna Tigré Amharic Gafat Harari Guragé
Canaanite	Old Canaanite* Moabite* Phoenician*, Punic* Hebrew*, New Hebrew Ugaritic*	Hamito-Semitic	Egyptian* Coptic*
Aramaic	W Aramaic Biblical*, Palestinian*, Modern Syriac* Mandean* Neo Syriac	Hamitic	Old Libyan*
Arabic	Classical Arabic Arabian Arabic Iraqi Arabic Syrian Arabic Egyptian Arabic Western Arabic, incl Maltese, Andalusian Arabic*		Modern Berber 1. Tuareg, Kabyle, et al 2 Riff, Algerian, et al. Guanche* (Canaries)
	Himyaritic*—Soqotri	Cushitic	Beja Afar and Saho Somali Galla Agaw—Bilin Sidama—Gonga

The Mongolic or Mongolian Languages

Eastern	Literary Mongolian Mongolian proper or Halha incl new standard language of Urga South Mongolian incl Harachin Chahar, Ordos Buryat, incl new standard Selenga, et al
Western	Oirat, incl Kalmuck, Kobdo Oirat Afghanistan Mongol

The Sino-Tibetan or Indo-Chinese Languages

Tibeto-Burman	Standard Tibetan, Tibeto-Himalayan, North Assamese Bodo, Kachin, Naga (all in S Assam)
Burman	Standard Burmese, Burmese dialects Karen language and others
Chinese	Standard Written Chinese, Ancient* and Modern North Chinese Central Coastal Chinese Kiangsi dialects Cantonese and Hakka
Tai or Thai	Standard Siamese, Southeastern Tai, incl. Laos Eastern Tai, incl. Lakya of Hainan Northern Tai, incl Shan

An asterisk indicates a dead language SMALL CAPITALS are cross references to articles.

LANGUAGE: NATIVE LINGUISTIC FAMILIES OF THE AMERICAS

Native Linguistic Families of the U.S. and Canada

FAMILY	SUGGESTED KINSHIP	FORMER LOCATION
Eskimo-Aleut		Arctic America Aleutians Alaska
Eyak		Copper R delta
Athapascan		separate table
Tlingit	Athapascan	SE Alaska, NW B C
Haida	Athapascan	Queen Charlotte Is
Tsimshian	Penutian	Prince Rupert region
Wakashan	Algonquian	coastal B C , Wash
Salishan	Algonquian	separate table
Kootenai	Algonquian	SE B C and vicinity
Chimakuan	Algonquian	Cape Flattery, Wash
Chinook	Penutian	lowest Columbia R
Shahaptin incl Yakima Nez Percé	Waillatpuan Lutuamian Penutian	S Washington N and central Oregon E central Idaho
Waailatpuan incl Cayuse	Shahaptin Penutian	N Oregon
Kalapuya	Penutian	upper Willamette R
Siuslaw Yakonan incl Lower Umpqua	Penutian	Middle coast of Oregon
Coos	Penutian	Coos R , SW Oregon
Lutuamian incl Klamath and Modoc	Shahaptin Waailatpuan Penutian	S Oregon
Takelma	Penutian	Rogue R SW Oregon
Karok	Hokan	extreme NW Cal
Yurok—Wiyot	Algonquian	Klamath R NW Cal
Chimariko	Hokan	NW California
Shasta Achomawi	Hokan	N and NE Cahfornia
Penutian	Tamshian et al	central California
Yana*	Hokan	NE Cahfornia
Washo	Hokan	Lake Tahoe region
Yuki	Hokan	Round Valley Cal
Pomo	Hokan	Cal coast N of S F
Esselen*	Hokan	coast S of S F
Salinan*	Hokan	San Luis Obispo coast
Chumashan*	Hokan	Santa Barbara coast
Uto-Aztecan		separate table
Yuman	Hokan	separate table
Zuñi		Zuñi N M
Keresan	Hokan	N M see Pueblo Indians
Tanoan	Uto-Aztecan	separate table
Kiowa	Tanoan Uto-Aztecan	NW Okla and neighboring Kans Texas
Algonquian		separate table
Siouan	Hokan	separate table
Tonkawa*	Hokan	Austin region Texas
Karankawa*	Hokan	middle Texas coast
Coahuiltecan*	Hokan	coast near Rio Grande
Caddoan	Hokan	separate table
Tunica	Chitimacha Hokan	NE Louisiana adjoining parts of Miss
Atacapa*	Tunica	SW La SE Texas
Chitimacha	Tunica Hokan	Bayou Teche, middle La coast
Natchez-Muskogean	Hokan	separate table
Yuchi	Siouan	E Tenn E Ga
Timucuan*	Hokan	N Florida
Iroquoian	Caddoan Hokan	1 N Y state and vic 2 Va and Carolinas
Beothuk*		Newfoundland

The Siouan Stock

GROUP	LANGUAGE
Eastern	Catawba
Ohio	Ofo*, Biloxi*, Tutelo*
Missouri	Hidatsa, Crow
Mississippi or Chiwere	Iowa, Oto, Missouri* Winnebago
Dhegiha	Omaha, Ponca, Quapaw, Osage, Kansa*
Mandan	
Dakota	Sioux Assiniboin

The Athapascan Stock

GROUP	LANGUAGE
Northern (in Alaska, NW Canada)	Kutchin
	Tsetsaut
	Tanaina, Ingalik
	Carrier Chilcotin
	Tahltan, Kaska
	Sarsi Beaver Sekani
	Chipewyan, Yellowknife Slave
	Dogrib Hare, Bear Lake
Northwestern (in U S)	Hoopa, Kato Wailaki, Mattole, Chasta Costa (Upper) Umpqua*
Apachean	W Navaho
	San Carlos Apache
	Chiricahua Apache
	Mescalero Apache
	E Jicarilla Apache
	Lipan
	Kiowa Apache

The Salishan Stock

Inland	Okanogan
	Flathead
	Coeur D Alene
	Shuswap
Coastal	Bella Coola
	Cialam
	Nisqualli
	Puyallup
	Tillamook

The Yuman Stock

NW—Arizona	Yavapai Walapai Havasupai
Colorado—Gila	Mohave, Halchidhoma, Kavelchadom, Maricopa, Yuma
Colorado Delta	Cocopa Halyikwamai Kahwan
S Cal — Lower Cal	Diegueño Kamia, Akwa'ala, Kihwa

The Tanoan Stock

Tiwa	Taos, Picuris
	Sandia, Isleta, Isleta del Sur Piro* Tano* (?)
Towa	Jemez Pecos*
Tewa	San Juan, S Clara San Ildefonso Nambé, Pojoaque* Tesuque Hano

The Caddoan Stock

Pawnee	Pawnee proper Skiri Pawnee Arikara
	Kitsai or Kichai
	Wichita (two languages)
Caddo	Caddo proper
	Haina

The Uto-Aztecan Stock

GROUP	LANGUAGE	LOCATION
Southern-Californian	Cahuilla Luiseño Gabrielino et al	Missions in S California
	Tubatulabal	Kern Co , California
Hopian	Hopi Mono Paviotso Bannock	NE Ariz S Idaho to E California
Utian	Northern Ute Southern Paiute Southern Ute Chemehuevi Kawaiisu	W Colorado to SE California
Shoshonean	Shoshone Comanche	SW Wyo to California Central Texas
Tarahumaran	Tarahumara Cahita Yaqui, Mayo Opata et al	Chihuahua Sonora Sinaloa
Aztecoidan	Cora, Huichol	Jalisco Nayarit
	Nahuatlan incl Aztec* Nahuat Pipil et al	Central Mexico Salvador
Piman	Pima—Papago Tepehuan et al	Gila R to Nayarit

The Algonquian Stock

GROUP	LANGUAGE
Central and Eastern	1 Cree Montagnais Naskapi
	Menominee
	Fox, Sauk Kickapoo
	Shawnee
	Miami*, Illinois*
	Potawatami
	Ojibwa, Ottawa, Algonquin
	Delaware
	Powhatan*
	2 Natick*, Narragansett*
	Mohegan*, Pequot*
	Penobscot Abnaki
	Passamaquoddy, Malecite
	Micmac
Blackfoot	Blackfoot Piegan Blood
Cheyenne	
Arapaho	Arapaho Atsina, Nawathinehena

The Natchez-Muskogean Stock

Natchez	
Muskogean	W Choctaw incl Chickasaw
	E Alibamu and Koasati Hitchiti incl Mikasuki Creek incl Seminole

The Mayan Stock

GROUP	LANGUAGE	LOCATION
Huastec		Tampico area
Yucatec	Maya	Yucatán
Quichoid	Cakchiquel	Chiapas Brit Honduras, Guatemala, Honduras
	Tzutuhil	
	Quiche	
	Uspantec	
	Quekchi	
	Pokomam	
Mamoid	Mam	
	Aguacatec	
	Jacaltec	
Chiapan	Tzeltal Tzotzil Tabasco Chontal Chol-Chorti Chanabal Chuj	Chiapas Tabasco Guatemala

Native Stocks of Latin America

STOCK	LOCATION
Seri (Hokan kinship?)	Sonora coast
Tarascan	Michoacán
Otomi	Hidalgo Mexico state
Mathtzinca	Mexico state
Totonac	Vera Cruz Puebla
Subtiaba-Tlapanec (Hokan kinship?)	1 Nicaragua 2 Guerrero
Puebla Popoloca Mazatec	Puebla Oaxaca
Zapotec	Oaxaca
Mixtec	Oaxaca Guerrero
Huave (Penutian kin?)	Oaxaca
Mixe-Zoque (Penutian?)	Vera Cruz Oaxaca
Chinantec	Oaxaca
Oaxaca Chontal or Tequistlatec (Hokan kinship?)	Oaxaca
Xinca	SE Guatemala
Miskito—Sumu Matagalpa or Misumalpa	Honduras Salvador Mosquito Coast
Chorotega	Nicaragua Costa Rica
Cariban see Carib Indians	West Indies Caribbean coasts Amazonia
Arawakan	
Chibchan see Chibcha	Costa Rica to Colombia
Kechua see Quichua	Bolivia Peru plateau
Aymar	Titicaca region
Paoan	extreme W Brazil
Tupí-Guaraní see Guaraní	coastal central Brazil, Paraguay
Gê	Maranhão and vicinity
Camgang	Brazil SW of Rio
Araucanian	Chile

An asterisk indicates a dead language SMALL CAPITALS are cross references to articles

tant languages by families, see tables on pages 1092–93 No two authorities agree on all points, and in some parts of the globe (as in South America and in the arctic, where the Hyperean languages, e g , Chukchi, have been meagerly studied) knowledge of the languages is still too scanty to permit proper classification In the tables, asterisks indicate extinct languages, and locations are general, commas separate languages most closely related, and dashes separate groups of such closely related languages See DICTIONARY, ETYMOLOGY, GRAMMAR, INFLECTION, LINGUISTICS, PART OF SPEECH, PHONETICS, SIGN LANGUAGE, SLANG See Edward Sapir, *Language* (1921), Leonard Bloomfield, *Language* (1933), Edgar H Sturtevant, *Introduction to Linguistic Science* (1947)

Languedoc (lägdôk'), region and former province, S France, within the area marked by the foot of the Pyrenees, the upper Garonne river, the Auvergne Mts , the Rhone, and the Mediterranean It is now administratively divided into the departments of Ardèche, Aude, Gard, Hérault, Lozère, and Tarn and parts of Haute-Garonne, Haute-Loire, and Tarn-et-Garonne The Garonne plains, centering around Toulouse, the chief city, are fertile agricultural and wine-growing districts Lower Languedoc, along the Mediterranean, is an alluvial plain, with a warm climate, wine is the chief product, Montpellier, Nîmes, Sète, and Narbonne the chief cities In the north and the east rises the Plateau Central, including the CÉVENNES and VIVARAIS and VELAY, Alès, Privas, and Le Puy are among the few important towns Historically, Languedoc roughly corresponds to Narbonensis prov of Roman GAUL, the later SEPTIMANIA Its history from the Frankish conquest (completed 8th cent) to its final incorporation into the French royal domain (1271) is largely that of the counts of TOULOUSE Under the old regime Languedoc had its own PARLEMENT, sitting at Toulouse

langue d'oc and langue d'oïl (läg dôk', dôcl', dô'yü), names of the two principal groups of medieval French dialects, *oc* and *oïl* being their respective words for *yes* *Langue d'oc* was spoken south of a line running, roughly, from Bordeaux to Grenoble A composite literary language was used in the south by the TROUBADOURS Of the *langue d'oïl* dialects, that of the Paris region gradually supplanted all others as the standard idiom and developed into modern French Both *langue d'oïl* and *langue d'oc* dialects (*patois*) persisted, however, in some rural regions, and Provençal (a *langue d'oc* dialect) had a literary revival in the 19th cent , notably in the work of Frédéric MISTRAL In the Middle Ages the STATES-GENERAL of the regions of Langue d'Oïl and Langue d'Oc sat separately

Lanier, Sidney (lunēr'), 1842–81, American poet and musician, b Macon, Ga , grad Oglethorpe College, 1860 At 19 he became a Confederate soldier, he fought at Chancellorsville, was later taken prisoner, and emerged from the war with ruined health To earn his living, he taught school, was a law clerk in Macon, and in 1873 became first flutist of the Peabody Orchestra, Baltimore His unsuccessful novel *Tiger Lilies* appeared in 1867, his *Centennial Meditation a Cantata* in 1876, and his *Poems* in 1877 His lectures at Johns Hopkins on the interrelation of music and poetry were published as *The Science of English Verse* (1880) His adaptations for boys include *The Boy's Froissart* (1879) and *The Boy's King Arthur* (1880) His poems "The Symphony," "Corn," "Song of the Chattahoochee," and "The Marshes of Glyn" have been widely quoted See Centennial edition of his works (ed by C R Anderson and associates, 10 vols , 1945), biography by A H Starke (1933)

Laning, Edward (lān'ing), 1906–, American painter, b Petersburg, Ill , studied at the Art Institute of Chicago and the Art Students League of New York and in Europe (1929–30) His murals at Ellis Island and in the New York Public Library are well known, as is his oil *T R in Panama* (Whitney Mus , New York) Laning was a war correspondent for the U S army in the Aleutians, 1942–43

Lanka see CEYLON

Lankester, Sir Edwin Ray (lăng'kustur), 1847–1929, English zoologist He was professor at University College, London (1874–90), and at Oxford (1891–98) and was director of the natural history departments at the British Museum (1898–1907) He was a founder (1884) of the Marine Biological Association which established an important station at Plymouth Influential as teacher and writer on biological theories and comparative anatomy, he made special studies of the protozoa, mollusca, and arthropoda He was knighted in 1907

Lannes, Jean (shă' lan'), 1769–1809, marshal of France He fought under Napoleon in the Italian and Egyptian campaigns, accompanied him to France in 1799, and distinguished himself at Montebello, Austerlitz, Jena, Eylau, Friedland, and Saragossa Napoleon created him duke of Montebello He was killed at Essling

lanolin (lă'nulĭn), greasy, yellow substance extracted from wool When purified, it is commonly used as a base for ointments and creams It is also used in finishing and preserving leather and is a constituent of some varnishes and paints. Chemically, it is chiefly a mixture of cholesterol and the esters of several fatty acids With water it forms an emulsion. It is known also as wool wax, wool fat, and wool grease

La Noue, François de (frāswä' dŭ la nōō'), 1531–91, French Protestant general in the Wars of Religion He fought at Jarnac (1569) and Moncontour (1569), in 1570 he lost his left arm in battle and had it replaced with an iron hook, whence he became known as *Bras-de-fer* [ironarm] He took part in the Netherlands expedition sponsored by COLIGNY and was captured at Mons (1572) His reputation for fairness and integrity led to his being sent by Charles IX to treat with La ROCHELLE (1572–73), after the failure of his embassy he assumed the leadership of the Protestant forces in W France (1574–78) He subsequently fought for the Dutch Protestants against the Spanish, but was captured (1580) and held prisoner for five years At this time he wrote his *Politicke and Militarie Discourses* (1587, Eng tr , 1587) He fought under HENRY IV, at Arques, Ivry, and Paris

Lanrezac, Charles Louis (sharl' lwē' lănzăk'), 1852–1925, French general One of the chief commanders at the commencement of the First World War, he took part in the early French offensive, but when the superior force of the German army struck him at Charleroi he was compelled to retreat Lanrezac was sacrificed to public opinion, he was relieved of command Sept 3, 1914

Lansbury, George (lănz'bŭrē), 1859–1940, British Labour party leader He edited for many years the *Daily Herald*, which he founded in 1912 and which became the voice of British labor He was a member of Parliament (1910–12, 1922–40), an early advocate of woman suffrage, and a lifelong pacifist and reformer He campaigned constantly for the amelioration of the conditions of the poor, the unemployed, and the inmates of workhouses He was (1931–35) head of the Labour party in Parliament and spokesman for the opposition to the National government of Ramsay MacDonald In 1935 he resigned as party chief to protest the application of League of Nations economic sanctions against Italy for the Ethiopian campaign —a move he felt would lead to war See his autobiographical *Looking Backwards—and Forwards* (1935)

Lansdale, industrial borough (pop 9,316), Montgomery co , SE Pa , N of Philadelphia, settled 1857, inc 1872 Tile products, hosiery, and radio tubes are made here

Lansdowne, Henry Charles Keith Petty Fitzmaurice, 5th **marquess of** (lănz'doun), 1845–1927, British statesman In his period as governor general of Canada (1883–88) beginning was made to settle the dispute over the North American FISHERIES and RIEL'S REBELLION was suppressed He was viceroy of India (1888–94) and war secretary in the cabinet (1895–1900) As foreign secretary, he sought to end England's comparative diplomatic aloofness by concluding an alliance with Japan (1902), the Anglo-French entente (1904, see TRIPLE ALLIANCE AND TRIPLE ENTENTE), and arbitration treaties with the United States Later he was a powerful opponent of Home Rule in Ireland, was a member of the wartime coalition government, and in 1917 sought to hasten the end of the war by having published in a newspaper a letter which set forth terms on which the Allies would make peace See biography by Baron Newton (1929)

Lansdowne, William Petty Fitzmaurice, 1st **marquess of** see SHELBURNE, WILLIAM PETTY FITZMAURICE, 2D EARL OF

Lansdowne, residential borough (pop 10,837), SE Pa , near Philadelphia, inc 1893 Brass is made

L'Anse (lăns), resort village (pop 2,564), co seat of Baraga co , W Upper Peninsula, N Mich , at the head of Keweenaw Bay, inc 1873 A fur-trading post and a mission were here

Lansford, industrial borough (pop 8,710), E Pa , S of Hazleton, inc 1877 It has anthracite mines and machine works

Lansing, John, 1754–1829?, American statesman and jurist, b Albany, N Y Admitted to the bar in 1775 he became, after serving as military secretary to Gen Philip J Schuyler in the American Revolution, a prominent lawyer and political leader He served in the Continental Congress, and in 1787 he was a delegate to the Federal Constitutional Convention He felt that the convention was not empowered to do more than revise the Articles of Confederation, and he supported the New Jersey Plan as protective of state interests When he thought that the body had overstepped its powers he withdrew, he led the opposition in New York to the Constitution He was later a state supreme court justice and from 1801 to 1814 chancellor of New York In 1829 he disappeared, and no trace was ever found His notes on the Federal Constitutional Convention were edited by J R Strayer in *Delegate from New York* (1939).

Lansing, Robert, 1864–1928, U S Secretary of State (1915–20), b Watertown, N Y He was admitted (1889) to the bar, and after his association with John W Foster, whose daughter he married, he devoted himself to international law and became an authority in the field He founded the *American Journal of International Law* in 1907 and remained an editor of it until his death He served as counsel for the United States in the Bering Sea Fur-Seal Controversy (1896–97), before the Alaska Boundary Tribunal (1903), and in the North Atlantic Coast Fisheries Arbitration (1909–10) He became attached (1914) to the U S Dept of State, and when Secretary of State William J Bryan resigned over President Wilson's diplomatic treatment of the *Lusitania* matter in 1915, Lansing was appointed to succeed him Lansing, from the very start of the secretaryship, was a strong, though not outspoken, advocate of U S participation in the First World War on the side of the Allies Wilson, however, gave Lansing comparatively little freedom in the negotiations leading up to the declaration of war against Germany In 1917 Lansing concluded with Kikujiro Ishii of Japan the Lansing-Ishii agreement in which both nations reaffirmed the Open Door policy in China However, the circumstances of war forced Lansing to give U S recognition to Japan's special interests in China Lansing, who was nominal head of the American commission to the Paris Peace Conference, lost Wilson's confidence because he did not look with favor on the Covenant of the League of Nations as a part of the peace treaty The breach between the two was widened when the Senate in its debates explored Lansing's objections to the treaty, and it was complete when Wilson learned that in his illness Lansing had on several occasions called the cabinet together for consultations In Feb , 1920, at Wilson's request, Lansing resigned He later returned to his law practice His writings include *The Big Four and Others at the Peace Conference* (1921), *The Peace Negotiations* (1921), and *Notes on Sovereignty* (1921) *The War Memoirs of Robert Lansing* (1935) were published posthumously

Lansing 1 Village (pop 4,462), NE Ill , S of Chicago near the Ind line, founded in the 1860s, inc 1893 2 Town (pop 1,388), extreme NE Iowa, on the Mississippi, laid out 1851, inc 1867 The town has a pearl-button factory Near by are a large group of Indian effigy mounds and a state fish hatchery The Black Hawk Toll Bridge crosses the river here The region to the west is known as "Little Switzerland" 3 City (pop 78,753), state capital, S Mich , on the Grand at its confluence with the Cedar river, settled 1837, inc 1859 The city grew after it was made the state capital (1847), and industrial development came with the railroads (1870s) and the automobile industry (1901) Fire-fighting equipment, fruit sprayers, and construction machinery are made The capitol houses a museum, and the state office building contains the state library and the state historical commission offices A "People's University" for adult education was organized here in 1933 There is a state school for the blind and a state vocational school for boys Ray Stannard Baker was born here

Lanston, Tolbert, 1844–1913, American inventor, b Troy, Ohio He grew up on an Iowa farm, served throughout the Civil War, and thereafter for 22 years was a clerk in the U S Pension Office, meanwhile studying law and gaining admission to the bar His first patents for his typesetting machine the MONOTYPE, were granted in 1887 He resigned his government position and gave the rest of his life chiefly to perfecting and manufacturing this machine, introduced commercially in 1897

lantana (lănta'nu, -tā-), any plant of the genus *Lantana*, tropical shrubby plants, one species in particular cultivated as a tender bedding or greenhouse plant This species (*Lantana camara*), also called red or yellow sage, has small flowers in clusters, often ranging from yellow to red A trailing lantana is also cultivated

lantern, device for shielding a light from wind and rain The Romans used lanterns with sides of thin horn to shield oil lamps The horn lantern was revived in the Middle Ages and furnished with candles Perforated or openwork metal lanterns became common during the Renaissance but were largely replaced by the glass-shielded form Coverings of paper or of textiles are widespread in the East, and these are often collapsible Openwork brass lanterns are common in the Near East and Middle East, clay lanterns are used in parts of Africa

lanthanum (lăn'thunum), relatively common metallic element of the RARE EARTHS group, gray white, ductile, and malleable (symbol=La, for physical constants, see ELEMENT, table) With oxygen it forms a basic oxide which reacts with water to yield the hydroxide, and it also forms compounds with chlorine, carbon, and sulphur It reacts readily with acids Neither the metal nor its compounds are of importance commercially, although some compounds are used in making mantles for gaslights Lanthanum was discovered in 1839 by K G Mosander, who found it in the mineral cerite It occurs also in the mineral lanthanite (a hydrous lanthanum carbonate)

Lantsan: see MEKONG.

Lanuvium (lunū'vēŭm), ancient city of Latium, Italy, c 20 mi S of Rome, in the Alban Hills near the Appian Way. It was celebrated for its temple of Juno The modern village is Lanuvio; there are ruins of a temple and Roman walls.

Lanzi, Luigi (lwē'jē län'tsē), 1732–1810, Italian archaeologist, Etruscan scholar, and art historian He wrote on the Etruscan language and art and on ancient sculpture His *Storia pittorica dell' Italia* (3 vols , 1792–96; Eng tr , *The History of Painting in Italy*, 6 vols , 1828) was notable

Laoag (lä'wäg'), municipality (pop 44,406), on NW Luzon, Philippine Islands It is the trade center for a rice-growing area

Laocoön (lā-ŏk'ō-ŏn), in Greek legend, priest of Apollo who warned the Trojans not to touch the wooden horse made by the Greeks in the TROJAN WAR. Two sea serpents, sent (according to different versions) by ATHENA, POSEIDON, or ZEUS, killed Laocoön and his two sons A magnificent Greek statue, now in the Vatican, shows Laocoon and his sons struggling with the serpents Pliny names Agesander, Athenodorus, and Polydorus, Greek sculptors of the 1st cent B C , as the creators of the work This Hellenistic masterpiece was rediscovered in 1506 and has been much admired, particularly in the baroque period and in the late 18th cent Winckelmann, Lessing (whose *Laokoon* is a critical landmark), and Goethe all wrote on it See Margarete Bieber, *Laocoon* (1942)

Laodamia (lā"ŏ-dā'mē-ŭ), in Greek legend, daughter of ACASTUS, whom PROTESILAUS married the day before he went to the TROJAN WAR She mourned his heroic death immoderately, and the gods allowed his shade to visit her for three hours When he returned to Hades, she killed herself Another story says she loved a wax image of Protesilaus and killed herself when her father destroyed it

Laodicea (lā-ŏd"ĭ-sē'ŭ), name of several Greek cities of Asia and Asia Minor founded by the Seleucids The most important (Laodicea ad Lycum) was N of Colossae and SE of Smyrna, near the present DENIZLI, it was in a fertile region on the river LYCUS The city withstood wars and earthquakes and achieved importance and prosperity under Rome It was early a Christian center, the seat of one of the Seven Churches in Asia (Col 2 1, 4 16, Rev 3 14) Extensive Roman ruins include theaters, an aqueduct, a gymnasium, and sarcophagi Laodicea ad Mare was a seaport of Syria S of Antioch, the modern LATAKIA Under the Romans it flourished with exports of wine and fruit

Laoighis (lā'ĭsh) or **Leix** (lā'ĭsh, lāks), inland county (664 sq mi , pop 49,697), S central Ireland, in Leinster The county town is Port Laoighise (Maryborough) It was formerly Queen's County A part of the central plain of Ireland, Laoighis is generally level except in the north where the Slieve Bloom Mts rise to 1,730 ft The Barrow and the Nore are the chief rivers Agriculture (oats, barley, potatoes, and turnips) and dairy farming are the main occupations The region was organized as a shire in 1556

Laomedon (lā-ŏm'ĭ-dŏn), in Greek mythology, king of Troy, father of Priam Laomedon failed to pay Poseidon for building the walls of Troy Poseidon, therefore, sent a sea monster, who could be appeased only by the sacrifice of a maiden from time to time The lot fell to Laomedon's daughter, Hesione, Hercules saved her upon the promise that Laomedon would give Hercules his famous horses, but the king broke his word, and Hercules killed Laomedon and all his sons except Priam

Laon (lä), city (pop 14,868), Aisne dept , N France, NW of Rheims It is situated on a rocky height c 300 ft above the plain and was fortified as early as Roman times An episcopal see from the 6th cent until the French Revolution, it was during the Middle Ages torn by bitter struggles against the bishops by the burghers, who ultimately succeeded in obtaining recognition of their charter The vast Church of Notre Dame (formerly a cathedral), dominating the plain, was built in the 12th and 13th cent It remained intact, though much of the town was damaged in the Second World War Jacques Marquette and the brothers Le Nain were born here

Laos (lä'ŏs, lä'ōs), state (c 90,000 sq mi , pop c 1,200,000), NW Indo-China The capital is Vientiane The high mountains of N Laos join those of Yünnan prov on the north, Tonkin on the northeast and Annam on the east In general, the Mekong river forms the boundary of N Laos with Burma on the northwest and with Siam on the west and south For one stretch of over 300 mi , however, the Mekong flows entirely through the territory of Laos, the Siamese boundary having been fixed at the watershed to the west S Laos is a narrow strip separated from Siam on the west by the Mekong and from Annam on the east by the crest of the Annamese cordillera The southern boundary marks off the Laotian uplands from the Cambodian plain Of the regions of Indo-China, Laos is the one least touched by modern civilization More than half of the people—Laos is culturally allied to the Shans of Burma and to the Thai—live in the deep river valleys, the mountains and the plateaus are inhabited by primitive tribes Agriculture is simple, and the only industries are local crafts Throughout their history, the petty chiefs in Laos have fallen subject to their powerful neighbors—the Khmers, the Burmese, the Thai, and the Annamese. In the early 19th cent., Siam was dominant over the two Laotian kingdoms of Vientiane and Luang Prabang, though Siamese claims were disputed by Annam After French explorations in the late 19th cent , Siam was forced (1893) to recognize a French protectorate over Laos, which was incorporated into the union of Indo-China Since 1946 all of Laos has been united under the Luang Prabang dynasty, and French rule has been modified to give more power to native officials

Lao-tze or **Lao-tzu** (both lou'dzŭ'), b c 604 B C , Chinese philosopher, reputedly the founder of Taoism. It is uncertain that Lao-tze [Chinese, = old person or old philosopher] is historical Knowledge of him is derived from the history of Ssu-ma Ch'ien (1st cent B C) and from legends He is supposed to have been born in Honan after, according to legend, 60 years of gestation His original name was Li Erh and he was the librarian of the Chou court A meeting with his younger contemporary Confucius is reported Lao-tze is traditionally deemed the author of the *Tao-teh-king*, but the text must have been composed several centuries after his supposed lifetime This work and the figure of Lao-tze are central to TAOISM

La Paz (lu päz', Span lä päs'), city (1948 estimated pop 319,600), W Bolivia, *de facto* capital and largest city of Bolivia SUCRE is the legal capital of the republic Founded by Alonso de Mendoza in 1548, La Paz is at an altitude of more than 12,000 ft and is crowded into a long, narrow valley cut by the La Paz river The site was chosen by the Spanish because it offered some modicum of protection in winter from the cold and the winds of the barren high plateau c 1,400 ft above Because of the narrowness of the valley, the city could not be laid out in the customary Spanish gridiron pattern The plaza, with the national palace, cathedral, and other buildings, is small, there are only a few broad, long avenues, the streets ascend steeply on either side Since the climate is generally chill and extreme variations in temperature are a common daily feature, what trees and flowers there are must be carefully tended Lacking natural fuel, La Paz, in order to operate as a modern, comfortable city, uses electric transportation and heating Its location on colonial trade routes made it the commercial and political focus of colonial life, once established, it held its preeminence, in spite of gradual extension and modernization of Bolivian communications Industry, hampered by lack of fuel and power, is limited to flour and textile mills, a cannery, glass, cement tobacco, and shoe factories, and beverage plants ILLIMANI, Lake TITICACA, and the tropical YUNGAS are the principal tourist attractions of the region The original official name Pueblo Nuevo de Nuestra Señora de la Paz, was later altered to La Paz de Ayacucho

La Paz, city (pop 10,401), capital of the southern district of Lower California, Mexico On La Paz Bay, near the entrance of the Gulf of California, La Paz is a pearl-fishing center The town was briefly captured in 1853 by the American filibuster, William WALKER

Lapeer (lupēr'), city (pop 5,365), co seat of Lapeer co , S Mich , E of Flint and on the South Branch of the Flint river, in a farm and lake region, settled 1831, inc as a city 1869 It has varied manufactures There is a large state home and school for the feeble-minded and the epileptic

Lapel (lupĕl'), town (pop 1,146), Madison co , central Ind , NE of Indianapolis

La Pérade (la pārad') or **Sainte Anne de la Pérade,** town (pop 1,014), S Que , NE of Trois Rivières on the north shore of the St Lawrence

La Pérouse, Jean François de Galaup, comte de (zhäⁿ' frāswä' du galō' kōt' du la pārōōz'), 1741–c 1788, French navigator He joined the navy and fought against the British in the Seven Years War In 1782 he was sent to Canada to attack the British forts on Hudson Bay In 1785 he was placed in command of a French government expedition of discovery He was to search for the Northwest Passage from the Pacific side and to explore along the coasts of America, China, and Siberia and in the South Seas He reached Alaska, visited the Hawaiian Islands, Macao, and the Philippines, then went to Japan and Kamchatka, and discovered La Pérouse Strait in 1787 He touched at Samoa and the Friendly Islands From Botany Bay he sailed (1788) on his last voyage In 1826 the wrecks of what appeared to be his ships were discovered in the New Hebrides La Pérouse's journals have appeared in French in several editions

La Pérouse Strait (lä purōōz'), channel, 25 mi wide, separating the north point of Hokkaido island, Japan, from the south end of Sakhalin island, USSR, and connecting the Sea of Japan on the west with the Sea of Okhotsk on the east It is sometimes called Soya Strait

Lapidoth (lă'pĭdŏth) [Heb , = torches], Deborah's husband Judges 4 4

lapis lazuli (lă'pĭs lăz'yŭlī, -lē), a gem, deep blue, violet, or greenish blue in color and usually flecked with yellow iron pyrites. It is composed of lazurite mixed with other minerals and is usually found in masses, rather than in crystals, in metamorphosed limestones Sources of supply are Afghanistan, Chile, Siberia, Upper Burma, California, and Colorado It was formerly made into vases and bowls and has been used from ancient times for beads and small ornaments Once highly valued for grinding into a pigment (natural ultramarine), it has now been replaced for this purpose by artificial ultramarine It was also extensively used in mosaics and was the "sapphire" of the ancients

Laplace, Pierre Simon, marquis de (pyĕr' sēmō' markē' du la plās'), 1749–1827, French astronomer and mathematician At 18 he went to Paris, proved his gift for mathematical analysis to Alembert, and was made professor of mathematics in the École militaire of Paris He had a seat in the senate (1799) and became its vice president and (1803) chancellor He was elected to the French Academy in 1816 He investigated the variations of the moon's motions, especially as affected by the eccentricity of the earth's orbit, the inequalities in the motions of Jupiter and Saturn, the motion of the satellites of Jupiter, the aberration in the movements of comets, and the theory of the tides With J L Lagrange, he established beyond a doubt Newton's hypothesis of gravitation The results of his researches were published in his famous *Mécanique céleste* (1799–1825, Eng tr by Nathaniel Bowditch, 1829–39) In the more popular work, *Exposition du système du monde* (1796), a summary of the history of astronomy is included This work contains also a statement of the NEBULAR HYPOTHESIS which is linked with the name of Laplace His *Théorie des attractions des sphéroïdes et de la figure des planètes* (1785) introduced "Laplace's coefficients" and the potential function, two important means of applying analysis to physical problems The *Théorie analytique des probabilités* (1812), a mathematical classic, was followed by *Essais philosophique sur les probabilités* (1814) An edition of Laplace's works was published by the French government (1843–47), and in 1878 the academy began another edition

Lapland (lăp'lănd") Finnish **Lappi** (läp'pē), Nor *Lapland* (läp'län), Swed *Lappland* (lap'land), vast region of N Europe, largely within the Arctic Circle It includes the Norwegian counties of FINNMARK and TROMS and part of NORDLAND, the Swedish historic province of Lappland, N Finland, and the KOLA PENINSULA of the RSFSR Swedish Lappland (42,349 sq mi , pop 126,198) is now comprised in the administrative counties of NORRBOTTEN and VÄSTERBOTTEN Lapland is mountainous in N Norway and Sweden, reaching its highest point in the KEBNEKAISE (Sweden), it consists largely of tundra in the northeast There also are extensive forests and many lakes and rivers The climate is arctic, and the vegetation is generally sparse, except in the forested southern zone Lapland is very rich in mineral resources, particularly in high-grade iron ore at Gallivare and KIRUNA (Sweden), in copper at SULITJELMA (Norway), in nickel at PECHENGA (RSFSR), and in apatite at KIROVSK (RSFSR) Kirkenes and Narvik are the chief maritime outlets for Scandinavian Lapland and Murmansk is the port for Russian Lapland The region abounds in sea and river fisheries and in aquatic and land fowl Reindeer herds are essential to its economy The **Lapps** or **Lapplanders,** who constitute the indigenous population, number c 30,000 and are concentrated mainly in Norway, where they are called Finns (hence the name Finnmark) They speak a Finno-Ugric language Largely nomadic, the majority of the Lapps follow their reindeer herds, wintering in the lowlands and summering in the western mountains Their movements are more restricted than in former times Others are sea and river fishermen and hunters Little is known of their early history, it is believed that they came from central Asia and were pushed to the northern extremity of Europe by the migrations of the Finns, Goths, and Slavs They may have assumed their Finnic language within the last millennium B C Though nominally conquered by Sweden and Norway in the Middle Ages, the Lapps long resisted Christianization, which was completed only in the 18th cent by Russian and Scandinavian missionaries See J O Turi, *Turi's Book of Lapland* (1931), O M Chapman, *Across Lapland* (1932), Halliday Sutherland, *Lapland Journey* (1938)

La Plata (lä plä'tä), city (pop 217,738), capital of Buenos Aires prov , E Argentina, SE of Buenos Aires and 5 mi inland from Ensenada, its port on the Río de la Plata It is a modern, well-planned, and well-built city, with wide streets and fine public buildings La Plata's chief function is that of provincial capital, but some manufacturing has developed, and large quantities of meat, meat products, and grain are exported The port suffers, however, from its proximity to Buenos Aires. The city was founded in 1882 as the capital of the province after Buenos Aires had been federalized (1880) as the national capital

La Plata, Bolivia see SUCRE

La Plata (lu plä'tu), city (pop 1,421), N Mo., SSE of Kirksville, in a farm area, laid out 1855.

La Plata, Río de see PLATA, RÍO DE LA.

Lapointe, Ernest (lapwĕt'), 1876–1941, Canadian statesman, b Quebec prov., studied at Laval Univ.

He practiced law at Rivière du Loup and in Quebec From 1904 to 1941 he was a member of the Canadian House of Commons. After the death of Laurier in 1919, Lapointe was regarded as the leader of the French Canadian Liberal party Appointed (1921) minister of marine and fisheries, he negotiated and signed (1923) with the United States a treaty concerning fisheries in the Pacific, this was the first treaty signed by a Canadian alone and with full powers from the king A close friend and adviser of W. L Mackenzie King, he was powerful in the dominion government and was minister of justice from 1924 to 1930 and again from 1935 to 1941, he was also attorney general (1935–41) A delegate (1922) to the League of Nations, he attended the imperial conferences in London in 1926 and 1937 and firmly supported Canada's entry into the Second World War although he opposed conscription

La Pointe (lu point'), town (pop 236), on Madeline Island (largest of the APOSTLE ISLANDS), N Wis A French fortified trading post was built here in 1693, evacuated in 1698, and reoccupied from 1718 to 1759 Later (early 19th cent) the American Fur Company had a post here

Laporte, Roland (rōlä' lapôrt'), 1675–1704, a leader of the CAMISARDS, known as Roland He was noted for his fearlessness, his knowledge of military tactics, and his ability at organizing guerrilla warfare Unlike his colleague CAVALIER, Roland refused (1704) to treat with Marshal Villars unless the Edict of Nantes was restored Shortly afterward he was betrayed and fell defending himself

La Porte (lu pôrt') **1** City (pop 16,180), co seat of La Porte co , NW Ind , midway between South Bend and Gary, settled 1830, inc as a town 1835, as a city 1852 Its products include road-building material and farm implements Nine lakes are clustered to the north and west of the city, and two are within city limits **2** Town (pop 3,072), S Texas, on Galveston Bay SE of Houston, settled 1889, inc. 1892 It is a summer resort with many sailboats and also has small industries

La Porte City, town (pop 1,594), E central Iowa near the Cedar river below Waterloo, inc 1871

Lappa (läp'pä'), Mandarin *Kung-pei*, former TREATY PORT, Kwangtung prov , S China, near Macao, opened in 1887 to check smuggling

Lappeenranta (lap'pänran"ta), city (pop 13,464), SE Finland The southern terminus of traffic on Lake Saima, it is an important commercial and industrial center, producing sulphuric acid, lime, cement, machines, and lumber

Lapps · see LAPLAND

Laprairie (läprä'rē), town (pop 2,936), S Que , on the south shore of the St Lawrence and S of Montreal Founded in 1673, it was the scene of fighting in 1691 between the French and raiding forces under Major Peter Schuyler from New York It has several old religious establishments

La Providence (la prō"vidäs'), village (pop 1,924), S Que , near St Hyacinthe Formerly part of the old town of St Hyacinthe, it was made a separate village in 1899

Laptev Sea (läp'tyif), section of the Arctic Ocean It is bounded in the south by the coast of E Siberia, in the west by Severnaya Zemlya and the Taimyr peninsula, and in the east by the New Siberian Islands The Khatanga and Lena rivers empty into the Laptev Sea, which is navigable only in August and September Formerly called Nordenskjold Sea for the Swedish explorer, it has been renamed in honor of Khariton Laptev and Dimitri Laptev, two Russian navigators of the 18th cent

lapwing, crested PLOVER of the Old World, also called the green plover or pewit, which is a casual visitor in North America Its back is an iridescent deep green, the crown and crest are greenish black, the throat and upper breast black, the under parts white, and the tail coverts fawn During courtship the male indulges in unusual aerial feats The use of the bird and its eggs for food reduced its numbers Its "screaming" cry is referred to in Robert Burns's "Flow Gently Sweet Afton "

Larache (lärish'), Arabic *El Araish* (ĕl ärish'), city (pop 41,286), Spanish Morocco, a fishing and trading port on the Atlantic coast The town, near the site of Punic and Roman colonies, was captured by Andalusian Christians (1270), was later frequented by Genoese and Venetian merchants, and was held by Spain (1610–89) It was used as a base for pirates in the 18th and 19th cent

Laramie (lă'rumē), city (pop 10,627, alt 7,145 ft), co. seat of Albany co , SE Wyo , on the Laramie river and WNW of Cheyenne. It is a rail, air, trade, and industrial center for a cattle and sheep region and has brick, tile, and cement plants The city was settled in 1868 with the arrival of the railroad and grew with the development of the surrounding ranch country The Univ of Wyoming (see WYOMING, UNIVERSITY OF) is here. Laramie is headquarters for the Medicine Bow National Forest. Near by is the site of Fort Sanders, established in 1866 for the protection of the Overland Trail and workers on the Union Pacific RR.

Laramie, river rising in N Colorado in the S Medicine Bow Mts and flowing 216 mi generally NE to the North Platte above Torrington, Wyo.

Laramie, Fort: see FORT LARAMIE NATIONAL MONUMENT

Laramie Mountains, range, chiefly in SE Wyoming but extending into N Colorado near the Cache la Poudre river They are part of the Front Range.

Laranda (lürăn'dù), ancient city of Pisidia, near the Isaurian border, in Asia Minor, on the site of the present Karaman, Turkey It was in ancient days a stronghold of Isaurian pirates, and it is said that they burned their city rather than let Perdiccas capture it.

larceny, in law, the unlawful taking and carrying away of the property of another, with intent to deprive the owner of its use or to appropriate it to the use of the perpetrator or of someone else. It is usually distinguished from EMBEZZLEMENT and FALSE PRETENSES in that the actual taking of the property is accomplished unlawfully and without the victim's consent (see ROBBERY), along with the taking there must be a carrying-off Recent statutes in some states of the United States have enlarged the scope of larceny to include embezzlement and false pretenses Grand larceny, usually a FELONY, is distinguished from petty larceny, usually a MISDEMEANOR, by the value of the property stolen

larch or **tamarack** (tă'murăk), any of several trees of the genus *Larix*, conifers of the pine family which are unusual in that they are not evergreen The various species are widely distributed in the Northern Hemisphere Needles of the larches are mostly borne in characteristic radiating clusters A western American larch (*Larix occidentalis*) achieves a great height, and its lumber is used in interior construction, ties, posts, and cabinetmaking The American or black larch, commonly called also tamarack and hackmatack (*L laricina*), ranges from the Arctic Circle eastward to Newfoundland, westward to Alaska, and south through the northeastern states, where it prefers bogs but is cultivated elsewhere for its beauty The wood of this species has been used in shipbuilding and for posts, ties, and poles The European larch has long been valued for its durable wood and as a source of Venice turpentine The European and Japanese larches are also cultivated for ornament. The golden larch is *Pseudolarix amabilis*.

Larchmont (lärch'mŏnt"), suburban village (pop 5,970), SE N Y , in Westchester co , on Long Island Sound between New Rochelle and Mamaroneck, developed c 1845, inc. 1891 The Larchmont Yacht Club holds annual regattas Joyce Kilmer lived here

Larcom, Lucy (lär'kum), 1824–93, American poet, b Beverly, Mass Precocious and idealistic, she worked in the Lowell, Mass , cotton mills, and contributed to the mill operatives' literary journal, the *Lowell Offering* Whittier became interested in her poetry, and eventually they collaborated in making anthologies She was a teacher (1854–62) at Wheaton Female Seminary (now Wheaton College) and was on the staff (1865 73) of *Our Young Folks*, which was later merged with *St Nicholas* Among her books of verse are *Similitudes* (1854), *Poems* (1869), and *Childhood Songs* (1873) See her autobiographical *New England Girlhood* (1899)

lard, hog's fat melted and strained from the tissues, an important by-product of the packing industry The highest grade, leaf lard, is from the fat around the kidneys, the next best is from the back, the poorest from the small intestines Lard is classed by method of preparation as prime steam, rendered in a closed vessel into which steam is injected, neutral, melted at low temperature, the highest grades used chiefly for oleomargarine, kettle-rendered, heated with added water in steam-jacketed kettles, and dry-rendered, hashed, then heated in cookers equipped with agitators Good lard melts quickly and is free from disagreeable odor

Larder Lake, mining town (pop 1,464), E Ont , N of Haileybury, inc 1938

Lardner, Ring (Ringgold Wilmer Lardner), 1885–1933, American humorist and short-story writer, b Niles, Mich He was a sports reporter in Chicago, St Louis, and Boston from 1907 to 1919, and his first collection of short stories, *You Know Me Al* (1916), showed his talent at the racy sports idiom he made famous *How to Write Short Stories (with Samples)* (1924), his first clear demonstration of bitterness and contempt for American sports heroes, contains "The Champion," a character sketch of a mean and brutal pugilist Lardner collaborated successfully with George S. Kaufman on the comedy *June Moon*, produced in New York in 1929–30 Other volumes which reveal his satirical genius and sardonic humor are *Round Up* (1929) and *The Portable Lardner* (ed by Gilbert Seldes, 1946)

Laredo (lurā'dō), city (pop 39,274), co seat of Webb co , SW Texas, on the Rio Grande A border city and important port of entry, connected by international bridge with Nuevo Laredo, Mexico, it has a semi-Mexican air. It was founded by the Spanish in the 1750s and grew as a post on the road to San Antonio and other Texas cities After the Texas Revolution it was in Mexican hands but in territory disputed until it was ceded to the United States following the Mexican War. The railroads in the 1880s enhanced the position of this ranching center; later the development of irrigated farming to produce onions and truck and still later the discovery of oil and gas speeded the city in its growth. The opening of a good highway to Mexico city in 1936 forwarded the tourist industry. Laredo has an antimony smelter, foundries, an oil refinery, a hat factory, and processing plants The former army post Fort McIntosh, founded as Camp Crawford in 1849 and later intermittently occupied and rebuilt, now houses a junior college

La Reine, Fort (la rĕn'), S Man , on the Assiniboine river and near the present Portage la Prairie Built (1738) by Vérendrye on the fur-trading route between the Assiniboine and Lake Manitoba, it was near the site of a later Hudson's Bay Company post

Larentia or **Larentina** · see ACCA LARENTIA

lares and penates (lā'rēz, pūnā'tēz), in Roman religion, household gods The normal custom was that each house have a lar and two penates The images were placed in a niche together, the lar between the two penates The lar was a youth in a high-girt tunic carrying a cup and a drinking horn, the penates were dancing youths with drinking horns in their hands Before each meal and on all festive occasions, offerings were made to the lar and the penates, and sometimes they were garlanded The state, the clans, the emperor, had each its lar and its penates The lar was originally apparently a god of the fields, each ploughed tract having its lar The penates were gods of the storeroom and kitchen, hence Romans often had niches in one of these rooms for the penates In the later republic and in the empire the lar and penates were confused and called lares, penates, or lares and penates

Largillière, Nicolas de (nēkôlä' dù larshēlyĕr'), 1656–1746, French portrait painter, b Paris He was brought up in Antwerp, and the influence of Rubens is discernible in his vigorous and colorful style Favored by Le Brun, he became a successful portrait painter in Paris and London One of his best-known pictures is *The Painter and His Family* (Louvre) Fine examples of his work are in the National Portrait Gallery and the Wallace Collection, London, and in the Metropolitan Museum

Largo, city (pop 1,031), W Fla , on the Pinellas peninsula NW of St Petersburg It is a packing, canning, and shipping center in a citrus-fruit area

Largo Caballero, Francisco (fränthĕ'skō lar'gō kabulyä'rō), 1869–1946, Spanish Socialist leader and statesman A stone mason, he became a trade union leader and was imprisoned under the monarchy for his revolutionary activities He led in the overthrow of the monarchy in 1931 and was minister of labor in 1931 and 1933 and premier (1936 37) of a leftist coalition cabinet in the civil war. He fled to France in 1939 Arrested in 1941, he was liberated from a German concentration camp in 1945 He died in Paris

Largs (lärgs), burgh (pop 6,134), Ayrshire, Scotland, on the Firth of Clyde It is a port and a resort At the battle of Largs (1263) an attempted invasion by Haakon IV of Norway was defeated

lariat. see LASSO.

Larimore, city (pop 1,222), E N Dak , W of Grand Forks, in a livestock and poultry area, inc 1883

Larissa (lurĭ'su, Gr lă'rēsa), city (pop 35 344), Thessaly, N Greece, on the Peneus river It is an agricultural trading center The chief city of ancient Thessaly, it was annexed (4th cent B C) by Philip II of Macedon and in 196 B C became a Roman ally It was taken from the Byzantine Empire by Bulgaria and later was held by Serbia, with which it passed (15th cent) under Turkish rule Turkey ceded Larissa to Greece in 1881 In the Second World War the city suffered partial destruction by aerial bombardments (1940–41) and by an earthquake

lark, member of a large family of perching birds of terrestrial habits, chiefly of the Old World and best known through the SKYLARK The horned larks belong to the one species native to America They vary in color and markings in different geographic areas but are generally protectively plumaged in mixed browns and grays above, with light under parts and with black and yellow or white about the head and throat. Dark feathers form the tufts on their heads On the ground they run rather than hop They have a melodious flight song The prairie larks' song is less pleasing The MEADOW LARK belongs to the blackbird family.

Larkin, James, 1877?–1947, Irish labor leader The Irish Transport and General Workers' Union, which he organized and of which he was secretary, had for its purpose the combining of all Irish industrial workers, skilled and unskilled, into one organization After his activity in the general strike of 1913 he was tried by the British for sedition and jailed briefly. When the First World War began, Larkin came to the United States with the purpose of raising funds for the Irish to fight the English. He turned to radicalism and was an organizer, with other left-wing Socialists, of the American Communist party. In 1920 he was convicted of criminal anarchy and imprisoned. Pardoned in 1923 by Gov. Alfred E. Smith, Larkin was deported.

Larkin, Thomas Oliver, 1802–58, American merchant and consul, b. Charlestown, Mass. After

spending some time in North Carolina and South Carolina, Larkin settled (1832) at Monterey, Calif., where he became a successful merchant trading with Mexico and the Hawaiian Islands He was (1844–48) U S consul in California and was confidential agent of the U.S. government His insistence on the danger of possible British and French acquisition of California and his pro-U S propaganda launched in the state helped to bring about U S. seizure of California in the Mexican War After serving as navy agent (1847–49), Larkin retired from public life See R L Underhill, *From Cowhides to Golden Fleece* (1939, new ed , 1946)

Larkspur, residential town (1940) pop 1,558, 1945 special census pop 2,549), W Calif , N of San Francisco and near Mt Tamalpais, inc 1908 Larkspur Canyon, near by, has a redwood grove

larkspur or **delphinium,** any plant of the genus *Delphinium,* annual or perennial herbs, many popular for garden cultivation The annuals are commonly referred to as larkspur and the perennials as delphinium Blue is the most common color of the flowers—borne in a spire above the deeply cut leaves—but there are also white, purple, pink, scarlet, and yellow kinds, which, if cut back after blossoming, will often bloom again Most native North American larkspurs are poisonous to cattle, garden kinds are chiefly derived from Old World species The cultivation of larkspurs is encouraged by the American Delphinium Society See L H Bailey, *The Garden of Larkspurs* (1939).

Larksville, anthracite-mining borough (pop 8,467), NE Pa , near Wilkes-Barre, inc 1909

Larnaca (lär'näku), town (pop 14,772), SE Cyprus It is a port trading in local products The modern section of the town, called Scala, occupies the site of ancient CITIUM

Larne (lärn), urban district (pop 11,090), Co Antrim, Northern Ireland, at the mouth of Lough Larne, an inlet of the North Channel It is a seaport and a tourist center It exports bauxite, alumina, iron ore, beef, and potatoes and has bauxite refineries, linen mills, and clothing factories Early in the 14th cent Edward Bruce landed here with his men before his conquest of Ireland

Larned, Josephus Nelson (lär'nĕd), 1836–1913, American librarian and author, b Canada After 12 years on the editorial staff of the Buffalo *Express,* he was superintendent of education in Buffalo (1871–76) and director of the Buffalo library (1877–97) He was active in municipal affairs and a leader in the cultural life of the city Besides school histories, he wrote *Books, Culture, and Character* (1906), *A History of Buffalo* (1911), and, best remembered, *History for Ready Reference* (5 vols , 1894–95), which was revised in 1922 and issued in 12 volumes

Larned, city (pop 3,534), co seat of Pawnee co , central Kansas, SW of Great Bend, on the Arkansas and on the old Santa Fe Trail, laid out 1873, inc 1886 Larned is a trade center, and dairy products are made Pawnee Rock, near by, was the scene of bitter Indian battles, it is included in a state park Neighboring Fort Larned, established in 1859 to protect Santa Fe Trail traffic, was abandoned in 1878 The state hospital for the insane is near by

La Rochefoucauld, François, duc de (fräswä', dük du la rôshfōōkō'), 1613–80, French writer of the classical period, b Paris As leader of an ancient family (in his youth he bore the courtesy title prince de Marcillac) he opposed Richelieu and later was active in both Frondes Wounded and disheartened, he made his peace (1652) and lived quietly at Paris Thereafter he moved in the literary circle of Mme de SABLÉ, which included Mme de LA FAYETTE, whose close friendship was an important influence His *Mémoires* are among the great French memoirs, and they are interesting historically But La Rochefoucauld's place in French literature is assured by his maxims It had been fashionable for some time, especially at Mme de Sablé's salon, to coin epigrams of a reflective or moral type, La Rochefoucauld's were by far the most successful, and in 1665 a collection was published, *Réflexions ou sentences et maximes morales* The fifth edition, which appeared in his lifetime, contained 504 maxims They are usually either observations on human nature or maxims on conduct La Rochefoucauld's ideas spring from the pessimistic view that selfishness is the center of all man's behavior, a famous maxim is "The virtues join with self-interest as the rivers join with the sea " La Rochefoucauld's style is peerless in its diamond brilliance and incisive clarity, and it is his work perhaps that has made the maxim a major genre in French literature There are translations of both *Mémoires* and *Maximes,* e g , Louis Kronenberger, *La Rochefoucauld the Maxims* (1936)

La Rochefoucauld-Liancourt, François Alexandre Frédéric, duc de (fräswä' älĕksä'drü frädārĕk' dük dü la rôshfōkō'-lyäkôr'), 1747–1827, French philanthropist Before the French Revolution he established a model farm, two factories, and a trade school on his Liancourt estate and as a member (1789) of the Constitutional Assembly urged the necessity of public welfare. With the progress of the Revolution he fled to America; as a result of his studies here, he produced *Voyage dans les États-Unis d'Amérique* (1799). Returning to France, he took up his previous activities, working for many different reforms He was instrumental in founding a society to promote national industry

La Rochejaquelein or **La Rochejacquelin, Henri du Vergier, comte de** (both ärĕ' du vĕrshyä' kôt' du la rôshzhäkulĕ'), 1772–94, French commander, leader of the counterrevolutionary army in the VENDÉE His legendary gallantry and tactical abilities were of little avail against superior republican armies He was killed in battle

Larra, Mariano José de (märyä'nô hôsā dā la'rä), 1809–37, Spanish essayist He wrote under different pseudonyms (of which the most famous is "Fígaro") a series of satirical articles on Spanish politics, customs, and characteristics published in a small periodical, the *Pobrecito hablador* (1832–33) He also wrote novels and plays, of which the best known are the novel *El doncel de don Enrique el Doliente* [the page of Don Enrique el Doliente] (1834), the drama *Macías,* and *No más mostrador* [good-by to the shop counter], an adaptation of a play of Scribe

Larreta, Enrique Rodríguez (ānrĕ'kā rôdrē'gĕs lrä'tä), 1875–, Argentine novelist A man of means, he lived in Spain and in France, where for a while he was Argentine minister plenipotentiary His admiration for things Spanish led him to write in polished style a historical novel of the days of Philip II, *La gloria de don Ramiro* (1908, Eng tr , 1924) He also wrote *Zogoibi* (1926), an unsuccessful novel about the gaucho

Larrey, Dominique Jean (dômēnēk' zhä' lärā'), 1766–1842, French military surgeon While surgeon in chief of Napoleon's army he introduced (1792) "flying ambulances," light vehicles which carried aid to the wounded on the battlefield and were the precursors of modern ambulance service

Larsa (lär'su), ancient city of S Babylonia, between the Tigris and Euphrates rivers c 30 mi NE of Eridu It was the biblical Ellasar In the time of Abraham (Gen 14 1) Arioch, king of Larsa, invaded Canaan The city, dedicated to the sun-god, Shamash, was the capital of a Semitic dynasty and later, under the Elamites, conquered N Babylonia, becoming, in turn, subject to Babylon In the ruins temple libraries and important documents have been found

Larsen, Peter Laurentius, 1833–1915, American educator, b Norway He came to America in 1857 as a Lutheran missionary From 1859 to 1861 he was a professor of theology at Concordia College, St Louis, but left that institution to become president of the new Luther College, established by the Norwegian Synod Larsen directed it until his resignation from the presidency in 1902 and taught there until 1911 He was also a prominent theological leader and was long editor of the weekly *Evangelisk luthersk kirketidende* [Evangelical Lutheran Church times] See Karen Larsen, *Laur Larsen* (1936)

Lars Porsena or **Lars Porsenna** (lärz' pôr'sunù, pôrsĕ'nù) [Etruscan *Lars*=lord] semilegendary king of Clusium (modern Chiusi) in Etruria, who to reinstate Tarquinius Priscus, marched against Rome It was said that the heroism of such Romans as Horatius, Scaevola, Cloelia, and Publicola moved him to grant honorable terms of peace and to withdraw Actually the city was completely conquered by Porsena The Romans recovered their independence after Aruns, son of Porsena, was defeated before Aricia by the united forces of the Latin cities Roman annalists dated these events c 500 B C , but with no evidence

Larsson, Carl (kärl' lär'sôn), 1853–1919, Swedish painter and illustrator He was early a popular and imaginative illustrator and was equally successful as a water-color painter He is perhaps best known, however, for his historical mural decorations in fresco for the Fürstenberg Gallery and the national museum in Stockholm

larva (lär'vu), term usually referring to the stage between egg and pupa in the life of an insect which undergoes a complete metamorphosis or to the nymph stage of insects with an incomplete metamorphosis It is also used to refer to the immature stages of some other animals which undergo changes in form before becoming adults, e g , mollusks, crustaceans, fish, and amphibia Larvae of the beetle and of the bee and some of its relatives are called grubs Some beetle grubs are aquatic, and others are either terrestrial or subterranean Certain fly larvae are known as maggots Mosquito larvae are called wigglers or wrigglers Insect larvae are frequently called worms although they are not true worms Inchworms, measuring worms, or loopers are larvae of geometrid moths, bagworms or basketworms are larvae of psychid moths; wireworms are larvae of the elater or click beetle Sawfly larvae are sometimes mistaken for caterpillars Larvae usually eat ravenously, and many do great damage to crops, stored foods, textiles, and other products Caterpillars are the larvae of moths and butterflies Some remain caterpillars for two or three months, others for about 10 months, hibernating over the winter in this stage In the arctic regions are some forms which require two or three years to develop from egg to adult Caterpillars have distinct heads and are segmented and wormlike, with three pairs of short jointed legs on the thorax and unjointed, fleshy prolegs on some abdominal segments Some have smooth skin; others are hairy, e g , the woolly bear or hedgehog caterpillar of the Isabella tiger moth. The mature luna moth caterpillar is about 3 in long, smooth, and yellowish green, turning to pink when ready to pupate. The tubercles vary in color, and there is a yellow line along each side The larva of the polyphemus moth is similar, but brownish The green larva of the Io moth has sharp spines connected with glands which secrete an irritating substance Almost all caterpillars are vegetarian and have strong jaws for chewing The adult moth or butterfly has a coiled tube for sucking nectar A caterpillar molts its skin, usually four or five times, before it becomes a pupa The larva of the eel is very small and transparent The larvae of some mollusks, such as the oyster, are free-swimming, while the adults are sessile The tadpole or larva of amphibians differs in many ways from the adult (see FROG)

larvae (lär'vē), in Roman religion, ghosts of the dead To keep them from returning to frighten the living, in May the Romans held rites, the Lemuria, to quiet these spirits—also called *lemures* (singular *lemur*)—and keep their evil influence away from the home The rites, like many of those for the underworld (chthonian) gods were performed at night and in silence See MANES

Larvik (lär'vĭk), city (pop 9,824), co seat of Vestfold co , SE Norway It is a seaport at the head of the Larvik Fjord and SSW of Oslo

larynx (lă'rĭngks), the organ of voice, located between the oral pharynx and the trachea (windpipe) It is also a mechanism for protecting the airway to the lungs, the epiglottis, a flap at the base of the tongue, closes it against the entrance of solids and liquids The larynx is composed of a number of cartilages and elastic membranes Two elastic cords which extend from the front to the back wall of the larynx form the vocal cords Between them is the opening called the glottis A number of muscles act upon the cartilages of the larynx, producing changes in the relative position of the vocal cords Mucous membrane lines the inner surface of the voice box The largest cartilage is sometimes called the Adam's apple Colds extending to the larynx cause laryngitis, which may be accompanied by loss of voice Tuberculosis and cancer are possible causes of persistent hoarseness

Las For names beginning thus and not listed here, see last element, e g , for Río de las Balsas, see BALSAS, RÍO DE LAS

La Salle, Jean Baptiste de see JOHN BAPTIST DE LA SALLE, SAINT

La Salle, Robert Cavelier, sieur de (rôbĕr' kävülyä' svûr' du la sal') 1643–87, French explorer in North America He entered a Jesuit novitiate as a boy but left the religious life to become one of the most celebrated explorers and builders of New France In 1666 he went to Canada, where he developed a seigniory at Lachine He may have made a journey in 1669, possibly to the Ohio river, but there are no records In 1673 the governor, Frontenac, made him commandant of Fort Frontenac (see FRONTENAC, FORT) La Salle after a visit to France, where he was granted a patent of nobility, began in 1675 to develop the trade at the post In 1677 he was in France again and obtained a patent to build forts, explore, and trade When he came back he brought with him Henri de TONTI, who was his lieutenant in later enterprises In 1679 a blockhouse was built at the outlet of the Niagara river, and in August they set out across the Great Lakes in the *Griffon,* which Tonti had built This first sailing vessel on the lakes took the adventuring traders to Green Bay (an arm of Lake Michigan in present Wisconsin), the party then went by land The *Griffon* was lost a little later, probably in a storm La Salle went along Lake Michigan, erected a fort (Fort Miami) on the site of present St Joseph, Mich , then went to the Illinois river On that stream Fort Creve Coeur (Fr *Crèvecœur*) was built La Salle sent out Michel Acau and Father HENNEPIN on an expedition to the upper Mississippi, while he himself went back to Fort Frontenac for supplies Tonti, left on the Illinois, started to build a fort on Starved Rock but was interrupted when the Iroquois attacked the village of Illinois Indians beneath the rock La Salle, returning, found the Illinois posts deserted He set out to find Tonti and also organized (1681) an Indian federation of the Illinois, the Miami, and smaller tribes to fight the Iroquois He was reunited with Tonti at Mackinac Island, and the two men with Father Zenobe Membré and a small party went to the Mississippi They descended the river to its mouth, where they arrived on April 9, 1682 La Salle took possession of the whole valley, calling the region Louisiana Tonti went back to the Illinois and at Starved Rock began reconstruction of the Illinois village, La Salle joined him, and Fort St Louis was completed (1682–83) La Salle was deprived of his authority by the new governor in 1683 and went again to France, leaving Tonti in the Illinois country He was given power to colonize and to govern the region between Lake Michigan and the

Gulf of Mexico, and he set out with four ships for the mouth of the Mississippi He never reached it Disaster hung on the expedition one vessel was captured by the Spanish, a second was wrecked, a third turned back to France The coast of the Gulf stretched in sandy sameness, and La Salle could not find the Mississippi He and his men landed on the Texas shore, probably on Lavaca Bay (an arm of Matagorda Bay) They made futile attempts to reach the Mississippi overland, and the men grew mutinous On the third attempt the great explorer died, murdered by his own men Original narratives are translated in I J Cox, *The Journeys of René Robert Cavelier, Sieur de La Salle* (1905) A classic account is that of Francis Parkman in *La Salle and the Discovery of the Great West* See F O Gaither, *Fatal River* (1931), biography by R F Lockridge (1931)

Lasalle (lusăl') or **Ville Lasalle,** town (pop 4,651), S Que , SW of Montreal and on the north shore of the St Lawrence at the head of the Lachine Rapids La Salle built a fort here

La Salle (lă săl'), city (pop 12,812), N Ill , on the Illinois river and NNE of Peoria, contiguous to Peru, in an area mining coal and other minerals, laid out 1837, inc 1852 For several decades after the opening of the Illinois and Michigan Canal in 1848 it developed as an important water transportation center Zinc products, Portland cement, and clocks are made here There is a junior college Near by is Starved Rock A fort begun in 1680 by Henri de Tonti was completed by La Salle and Tonti in 1682–83 on the rock itself

Las Animas (lăs a'nĕmas, ăn'I-), city (pop 3,232), co seat of Bent co , SE Colo , on the Arkansas and E of Pueblo, founded 1869 near by, moved here 1873, inc 1886 It is a processing center in a farm region Near by are Kit Carson Museum, a U S veterans' hospital, and the site of BENT'S FORT

La Sarre (lă sar'), village (pop 2,167), W Que , on the transcontinental line of the Canadian National Railways and E of Cochrane, Ont It is the center of a rich agricultural area

Lasca, Il see GRAZZINI, ANTONIO FRANCESCO

Lascaris (lă'skŭrĭs), family name of the Greek emperors of Nicaea (see NICAEA, EMPIRE OF) The empire was founded in 1204 by THEODORE I, a son-in-law of Alexius III (Alexius Angelus) Theodore I was succeeded (1222) by his son-in-law, JOHN III (John Ducas Vatatzes) John's son, THEODORE II (1254–58), assumed the family name Lascaris He was succeeded by his son JOHN IV, who was forced (1259) to share his throne with Michael VIII, founder of the Palaeologus dynasty John was deposed in 1261

Lascaris, Constantine (kŏn'stuntēn lă'skurĭs), d 1501?, Greek grammarian After the fall of Constantinople he came to Italy, and in Milan he obtained the patronage of Francesco Sforza His Greek grammar (1476) was the first book printed in Greek characters He earned fame as a teacher of Greek and may be considered a herald of the new learning of the Renaissance in Italy So was his brother, **Andreas Joannes Lascaris** (ăn'drēus jō'ă-nēz) or **Janus Lascaris** (jā'nus), c 1445–1535 He taught Greek in Florence, Paris, and Rome

Las Casas, Bartolomé de (bartōlōmā' dā lăs kā'sas), 1474–1566, Spanish missionary and historian, called the Apostle of the Indies He went to Hispaniola with his father in 1502, and eight years later he was ordained a priest In 1514 he began to work for the improvement of the lot of the Indian, especially abolition of Indian slavery and the forced labor of the ENCOMIENDA He devoted the rest of his life to that cause, going to Spain to urge the government to action, converting uncivilized tribes, and striving to break the power of Spanish landholders over Indian laborers He tried unsuccessfully to establish a model Indian colony (1520–21), went to Peru with a royal cedula prohibiting Indian enslavement, worked among the natives of Guatemala, and for a brief time (1544–47) was bishop of Chiapa In his anxiety to help the Indians he indorsed the proposal to import Negro slaves, but repented his action almost immediately Chiefly through his agency, humanitarian laws, called the New Laws, were adopted (1542) to protect the Indians in Spanish colonies, though later alterations rendered them almost impotent The writings of Las Casas contain good anthropological and historical material He spent much of his time writing the monumental *Historia de las Indias* (first pub. 1875–76).

Las Cases, Emmanuel, comte de (ĕmänŭĕl' kōt dŭ lăs käz'), 1766–1842, French historian He accompanied Napoleon into exile to St Helena, where the emperor dictated to him a part of his memoirs His famous *Mémorial de Sainte-Hélène* was published simultaneously in French and in English translation with the subtitle, *Journal of the Private Life and Conversations of the Emperor Napoleon at Saint Helena* (8 vols in 4, 1823). A primary source for Napoleon's last years and his judgment of himself, the *Mémorial* also became the bible of Napoleon-worshipers

Lascelles, Henry George Charles· see HAREWOOD, HENRY GEORGE CHARLES LASCELLES, 6TH EARL OF.

Las Cruces (lăs krōō'sĭs), town (pop. 8,385), co. seat of Dona Ana co , SW N Mex , on the Rio Grande and NNW of El Paso, Texas, in a rich irrigated farm and dairy area, founded 1848, inc 1907 The historic village MESILLA, the NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS, and Tortugas, an Indian village, are near by.

Lasea (lăsē'ă), ancient town, Crete, S of Candia It is known from Acts 27 8, it was near the harbor called the Fair Havens, where Paul landed Some ruins remain

Lasharon (lăshā'rŏn), unidentified town, N Palestine, W of the Sea of Galilee Joshua 12 18

Lashio (lăsh'yō, lushyō'), town (pop 4,038), capital of the Shan State, E Burma It is the terminus of a railroad from Mandalay and the head of the BURMA ROAD

Lashkar (lŭsh'kŭr), city (pop 113,718), capital of Madhya Bharat, India It adjoins Gwalior town It is a communications center with extensive trade in agricultural produce and various light manufactures Places of interest include Victoria College, a palace of the maharaja of Gwalior, and a museum

Lasker, Emanuel (ămŭ'nōōĕl), 1868–1941, German chess player and mathematician He won the world's championship in 1894 when he defeated Steinitz and held it until he was defeated by CAPABLANCA in 1921 Lasker studied the games of his opponents for their weaknesses and predilections in technique and played primarily against the temperament of his opponents He was a master in closed positions See his *Common Sense in Chess* (1896) and *Lasker's Manual of Chess* (1934)

Laski, Harold Joseph (lă'skē), 1893–1950, English political scientist, economist, and writer, chairman (1945–46) of the British Labour party, grad New College, Oxford, 1914 A member (1922–36) of the executive committee of the Fabian Society, he was in 1936 made a member of the Labour party executive committee He was a lecturer in history at McGill Univ (1914–16), Harvard (1916–20), Amherst (1917), and Yale (1919–20, 1933) and in political science at Magdalene College, Cambridge (1922–25), the Institute of Soviet Law, Moscow (1934), and Trinity College, Dublin (1936) He was in 1920 appointed to the faculty of the London School of Economics and in 1926 made professor of political science at the Univ of London He held various government posts, official and semi-official, but is best known for his books on political science and for his speeches in England and the United States on political, social, and economic trends His books include *Studies in the Problem of Sovereignty* (1917), *Authority in the Modern State* (1919), *Political Thought in England from Locke to Bentham* (1920), *Karl Marx* (1921), *Communism* (1927), *An Introduction to Politics* (1931), *Nationalism and the Future of Civilization* (1932), *Democracy in Crisis* (1933), *The American Presidency* (1940), *Where Do We Go from Here?* (1941), *Reflections on the Revolution of Our Time* (1943), *Faith, Reason, and Civilization* (1944) *The American Democracy* (1948), and *Liberty in the Modern State* (1949)

Laski, John (lă'skē), Pol *Jan Łaski* (yan' wă'skē), Latin *Johannes Alasco* or *à Lasco,* 1499–1560, Polish Protestant reformer A learned priest, he went in 1523 to Basel, where he was a close friend of Erasmus After returning to Poland he rose to be archbishop of Warsaw, but because of his Calvinistic views he had to leave He became pastor of a Protestant church at Emden in 1542 and a little later went to England, where in 1550 he was superintendent of the church for Protestant foreigners and had some influence on ecclesiastical affairs in the reign of Edward VI On the accession of the Catholic Queen Mary he fled to the Continent In 1555 he was recalled to Poland, where he was secretary to King Sigismund II and was a leader in the Calvinistic Reformation

Las Palmas, Canary Islands see PALMAS, LAS

Lassalle, Ferdinand (fĕr'dēnant lusăl'), 1825–64, German socialist, son of a Jewish merchant He studied at the universities of Breslau and Berlin, where he became a disciple of Hegel A long-drawn and famous lawsuit (1846–54) brought him wide recognition In this period he became acquainted with Marxian doctrines and, partly influenced by them, developed a theory of state socialism He emphasized the role of the state and nationalism in contrast to Marx's teachings Thus he believed in state action rather than revolution and favored a state system of workers' cooperatives Lassalle's influence on German politics was great, particularly in introducing into the contest between Bismarck and the Prussian liberals the laborer as a third element He played a key part in establishing (1863) the first workers' political party in Germany, this later developed into the Social Democratic party He was killed in a duel over a love affair. He is the hero of *The Tragic Comedians* by George Meredith His collected writings have been published in German (10 vols , 1899–1909) See biographies by Arno Schirokauer (Eng tr , 1931) and D. J. Footman (1946)

Lassell, William (lusĕl'), 1799–1880, English astronomer He is noted for the construction of reflecting telescopes of such power that some of the planetary satellites discovered by him were not seen by other astronomers until many years later. He discovered the satellite of Neptune in 1846, Hyperion, the 8th satellite of Saturn (simultaneously with G. P Bond), in 1848; and two new satellites of Uranus (Ariel and Umbriel), in 1851.

Lassen Volcanic National Park (lă'sun), 103,429 28 acres, N Calif , est 1916 In a volcanic area of the Cascade Range, not far from the beginning of the Sierra Nevada, the park exhibits volcanic peaks, lava formations, and like phenomena The chief peak is Lassen Peak, 10,453 ft high, the only active volcano in the United States proper It erupted in 1914 and was intermittently active until 1921 It was discovered by Luis Argüello, probably in 1821, and later named for Peter Lassen, pioneer and guide

Lasso, Orlando di (ôrlän'dō dē lăs'sō), Latin *Orlandus Lassus* (ôrlän'dus lă'sus), 1532?–1594, composer of the Flemish school, b Mons At about 12 he entered the service of the viceroy of Sicily He studied in Milan and in Rome, where he became choirmaster (c 1553) in St John Lateran The first collection of his compositions was published at Antwerp in 1555 He went to Munich in 1556 to enter the service of the duke of Bavaria and in 1563 became court musical director, a position he held for the rest of his life His compositions represent the culmination of the Flemish choral school Although he knew and occasionally used all the stylistic innovations of his contemporaries, his own compositions are conservative Among his more than 2,000 compositions are works in every form known in his day Early in his career he composed in secular forms—French chansons and Italian *frottole,* villanelle, and madrigals—but later he turned increasingly toward sacred composition, writing Masses, motets, his great penitential psalms (pub 1584), and works which he called *madrigali spirituali.* Though not in every respect Palestrina's equal, Lasso was the more versatile and cosmopolitan master and was often more dramatic, certain of his sacred works are almost indistinguishable from Palestrina's

lasso (lă'sō, lăsōō'), light, strong rope, usually of horsehair, rawhide, or hemp, used primarily for catching large animals, as cattle and horses At one end of the rope is a running knot or a metal ring by means of which a loop or noose is made The loop is thrown around the horns or the feet of an animal and drawn tight The lasso was invented by American Indians and was used by them effectively in war against the Spanish invaders In the W United States and in parts of Latin America the lasso is regularly a part of the equipment of a cowboy To use it on horseback requires great skill of the rider and his horse If the skill is inadequate, the pull of the captured animal may throw the rider's horse, or the horse or rider may be entangled in the rope The lasso is often called a lariat, but this name is applied also to a rope used in picketing animals

L'Assomption (lăsōsyō'), town (pop 1,829), S Que , on L'Assomption river and NE of Montreal It is in a tobacco-growing district

L'Assomption (lăsōsyō'), river of S Quebec, rising in the Laurentians and flowing SE to Joliette, then S past L'Assomption to the St Lawrence at the northern end of Montreal island

Last Judgment see JUDGMENT DAY

Last Supper, of Jesus and his disciples (Mat 26 17–30, Mark 14 12–26, Luke 22 7–39, John 13–17, 1 Cor 11 23–29) For the sacrament, see EUCHARIST It has been a favorite subject of painting Duccio di Buoninsegna's painting of this ceremony is now in the Academy of Fine Arts, Siena, and in Florence are the interpretations of Ghirlandaio (refectory of Ognissanti), Andrea del Castagno (Sant' Apollonia monastery), and Andrea del Sarto (San Salvi) The best-known painting of all, that by Leonardo da Vinci, still forms a wall decoration at Santa Maria delle Grazie, Milan, a place of pilgrimage for art lovers, and in the Church of San Giorgio Maggiore, Venice, is Tintoretto's imposing and spirited composition Hans Holbein, the younger, painted this subject in Basel, and Nicolas Poussin, for the royal chapel, Versailles (now in the Louvre)

Lasus (lă'sus), fl 6th cent B C , Greek poet of Hermione in Argolis He is said to have been Pindar's teacher and to have written the first book on music Lasus contributed to the development of the dithyramb

Las Vegas (lăs vā'gŭs). **1** City (pop 8,422), co seat of Clark co , S Nev , near the Colorado, inc 1911. By the springs which made this a watering place on the trail to S California the Mormons built a fort in 1855 It was abandoned in 1857, but in 1864 the U S army established Fort Baker here The city grew rapidly after the arrival of the railroad in 1905. Las Vegas is principally an active resort city in a ranching and mining area The offices for HOOVER DAM were in Las Vegas until Boulder City could accommodate them in 1932 **2** City (pop 5,941, alt. 6,398 ft.), sometimes called East Las Vegas, co seat of San Miguel co., N N Mex , ESE of Santa Fe It forms one community with the town (pop. 6,421) of Las Vegas, sometimes called West Las Vegas, which was settled c 1835 on the west side of the Gallinas river and on the Santa Fe

Trail. Las Vegas is a mountain and health resort in a dude-ranch area and a shipping center for a sheep, cattle, and farm region New Mexico Highlands Univ and the state hospital for the insane are here. The ruins of Fort Union (1851–91), an important post on the Santa Fe Trail and a military base in the Civil War, lie to the northeast.

Latacunga (lätäkōōng'gä), city (1944 estimated pop 20,357), N central Ecuador A town of the ancient Incas, it is in a high mountain basin between the eastern and western Andean cordilleras Not far from COTOPAXI volcano, it has suffered from several earthquakes, one of which destroyed it in 1797 The porous volcanic soil makes the region poor for farmers, but rail and highway connections give it some commercial importance

Latakia (lätūkē'u, lätü-), city (pop c 35,000), W Syria, a port on the Mediterranean opposite Cyprus It was an ancient Phoenician city and later prospered as the Roman Laodicea ad Mare It remained in Byzantine hands until captured (1103) by the Crusaders under Tancred It throve in the 12th cent until after it was taken (1188) by Saladin In modern times it has been most famous for the kind of tobacco called Latakia It has much commerce During the period when Syria was under French mandate, Latakia was the capital of the territories of the Alawites It was incorporated into Syria in 1942

Latané, John Holladay (lä'tunā), 1869–1932, American historian, b Staunton, Va, grad Johns Hopkins (B A, 1892, Ph D, 1895) He was professor of history at Washington and Lee Univ (1902–13) and professor of American history and head of the department of history at Johns Hopkins (1913–30) He helped found the Walter Hines Page School of International Relations at Johns Hopkins in 1930 and was a member of its research staff until his death A champion of Woodrow Wilson and the League of Nations, he was especially interested in diplomatic history Among his books are *America as a World Power, 1897–1907* (1907), *From Isolation to Leadership* (1918), *The United States and Latin America* (1920), and *A History of American Foreign Policy* (1927, 2d ed, revised by David W Wainhouse, 1941)

La Tène (lä tĕn'), ancient Celtic settlement, Lake Neuchâtel, Switzerland, which, because of the antiquities of the period found here, gives its name to the culture of the second Iron Age The earliest phase of Tenian culture, from the 6th to the late 5th cent B C, spread from the middle Rhine region to E France, E Bavaria, and W Bohemia and is represented by metal swords, knives helmets, rings, etc, and by pottery showing Greek and Etruscan influence In its second phase (into the 3d cent B C), Tenian culture spread to Britain on the northwest, beyond Budapest on the east, and into Italy on the south Celtic coins were, perhaps, first made at this time, but they appear more generally in use in the third phase This ends in the late 2d cent B C and witnesses the penetration of Celtic influence into Asia Minor In the Late Tenian period, or the fourth phase, lasting up to the Christian era, Celtic art in Britain reached a high stage of development, while that on the Continent had lost much of its vigor At Glastonbury and at Aylesford in Kent, England, are interesting characteristic remains of the 1st cent B C

Lateran (lä'turun), name applied to a group of buildings of SE Rome facing the Piazza San Giovanni They are on land once belonging to the Laterani, it was presented to the Church by Constantine The Lateran basilica is the cathedral of Rome, the pope's church, the first-ranking church of the Roman Catholic Church, officially named the Basilica of the Savior, familiarly called St John Lateran, from a monastery of St John formerly near by The basilica, built perhaps before 311, was restored in the 5th and the 10th cent, rebuilt in the 14th and the 15th, and altered again in the 16th, the 17th, and the 18th cent, the main façade was added in 1734 Much of the decoration dates from the Middle Ages and includes the mosaics of the apse, which are among the most celebrated The Lateran baptistery, built probably in the 4th cent, was much restored The Lateran palace, the papal residence until the 14th cent, survived, greatly changed, until the 16th cent, when it was demolished to make way for the present palace, much smaller than the old one It now contains the pontifical museum of Christian antiquities The older palace was the scene of the five Lateran Councils, and the new one of the signing of the Lateran Treaty.

Lateran Council, First, 1123, the ninth ecumenical council of the Roman Catholic Church, summoned by CALIXTUS II to signalize the end of the INVESTITURE controversy by confirming the Concordat of Worms (1122) Some hundreds of bishops attended, at the Lateran Palace Its most important canons forbid the marriage of clerics or their cohabitation with women

Lateran Council, Second, 1139, the 10th ecumenical council of the Roman Catholic Church, convened at the Lateran Palace by INNOCENT II to heal the wounds left by the schism of the anti-pope Anacletus II (d. 1138). It punished the more obstinate followers of Anacletus. Among its canons were prohibitions of clerical concubinage and marriage and of the use of bows and crossbows in fighting Christians, usury also was condemned.

Lateran Council, Third, 1179, the 11th ecumenical council of the Roman Catholic Church It was convened at the Lateran Palace by ALEXANDER III after the Peace of Venice (1178) had reconciled Emperor Frederick I It was well attended and included an envoy from the Orthodox Greeks. The most important legislation was the first canon, which provided that the election of the pope was thereafter to be in the hands of the cardinals alone, two-thirds being necessary to elect Among the social decrees of the council were condemnations of usury, tournaments, and brigandage

Lateran Council, Fourth, 1215, the 12th ecumenical council of the Roman Catholic Church, convened at the Lateran Palace by INNOCENT III to crown the work of his pontificate It was one of the most brilliant councils ever held, and its canons sum up Innocent's ideas for the Church They include a statement of faith with a definition of transubstantiation, confirmation of all kinds of previous disciplinary canons, regulations for the trials of ecclesiastics, arrangements for a new crusade, and many other important matters This council established as the minimum of church membership the precept of annual confession and communion at Easter time, this is the Easter duty, still binding on all Roman Catholics

Lateran Council, Fifth, 1512–17, the 18th ecumenical council of the Roman Catholic Church, convened by JULIUS II and continued by LEO X, at the basilica and palace of the Lateran at Rome Julius called the council to counter an attempt begun (1510) by Louis XII of France to revive the conciliar theory of a hundred years before (see SCHISM, GREAT) and thus precipitate a schism In this maneuver the council was a success, at it was ratified a papal settlement with France, the Concordat of 1516 Otherwise the council did not accomplish much, the reforming party had to wait until the Council of Trent It did republish the bull of Julius (1503) which declared that simony invalidated a papal election—a signal reform Interesting provisions of the council include a decree legalizing the charitable pawnshops the Franciscans had been establishing and another which set up a censorship of printed books

Lateran Treaty, a concordat between the Holy See and the kingdom of Italy signed in 1929 in the Lateran Palace by Cardinal GASPARRI for PIUS XI and by MUSSOLINI for Victor Emmanuel III One of the important negotiators was Cardinal Pacelli, later Pope Pius XII In 1871 the unity of Italy was perfected by restricting the papal sovereignty to a few buildings and awarding to PIUS IX and his successors an annual indemnity for the lost Papal States The Roman Catholic Church never recognized this arrangement and never accepted the indemnity, and the popes considered themselves prisoners in the Vatican The problems involved were called the Roman Question, and the treaty solved them It states that the Roman Catholic is the only state religion of Italy and that Italy recognizes as fully sovereign and independent the new state called Vatican City Italy guarantees Vatican City public services and protection and recognizes as parts of it certain buildings outside it The Italian government will punish crimes committed within Vatican City, when so requested, and the Holy See will extradite to Italy persons accused of acts recognized by both parties as crimes As to the reestablishment of the canon law in Italy, matrimony is a sacrament, and banns must be published, nullity of marriages is a question for the Church, while separations are adjudicated by the state Religion is to be taught in primary and secondary schools, and the Holy See guarantees that Catholic organizations will abstain from politics The Italian government guarantees the inviolability of the pope The Holy See, pursuant to its perpetual mission of peace, will remain apart from temporal competitions of other states and from international congresses for peace, unless a unanimous appeal is made to its mission, the Holy See will use its moral and spiritual power to prevent warfare when it sees fit The Holy See announced in the treaty that it had its proper liberty, that the Roman Question was closed, and that it recognized the kingdom of Italy under the house of Savoy The Lateran Treaty remained in effect after the Second World War.

Lateur, Frank. see STREUVELS, STIJN.

latex. see RUBBER

Latgale (lät'gälĕ) or **Latgallia** (lätgă'lēu), region, E Latvia, N of the Western Dvina Daugavpils is the chief city It was settled in the early Middle Ages by the Latgalians, a people closely akin to the Letts, speaking a Lettish dialect Latgale shared the history of LIVONIA (of which it formed the southern part) until 1561, when it passed to Poland Unlike the rest of Latvia, it retained Roman Catholicism By the first partition of Poland (1772) it passed to Russia, and in 1918 it was proclaimed part of newly independent LATVIA

lathe (lādh), machine tool for holding and turning wood, metal, or other hard material while it is cut into forms such as balusters, gate or porch posts, legs, rungs, or posts for chairs and other furniture, and candlesticks The term also applies to the movable frame of a loom which carries the reed used to part the warp and beat up the weft and to a kind of potter's wheel

Lathrop, Francis (lă'thrup), 1849–1909, American painter and designer, b at sea He designed the chancel of Trinity Church, Boston, and assisted John La Farge with its decoration His best-known mural paintings are *Apollo* (Metropolitan Opera House, New York), *The Light of the World* (St Bartholomew's Church, New York), and *Moses with the Tablets of the Law* (Bowdoin College chapel, Brunswick, Maine) The best examples of his work in stained glass are the Marquand memorial window in the Princeton Univ chapel and the chancel window in Bethesda Church, Saratoga, N Y

Lathrop, George Parsons, 1851–98, American author and editor, b near Honolulu, studied in Germany (1867–70), husband of Rose Hawthorne LATHROP His works include verse and novels, *A Study of Hawthorne* (1876), the Riverside edition of Hawthorne's works, with notes and a biographical sketch, and an adaptation of Hawthorne's story for Walter Damrosch's opera *The Scarlet Letter* (1896) He helped organize the American Copyright League in 1883 and was its secretary

Lathrop, Julia Clifford, 1858–1932, American social worker and administrator, b Rockford, Ill, grad Vassar, 1880 Associated with Jane Addams at Hull House in Chicago, she was active in civic work, aiding in founding (1899) the country's first juvenile court From 1912 to 1921 she was head of the U S Children's Bureau, where she was responsible for notable achievements in child welfare. See biography by Jane Addams (1935)

Lathrop, Rose Hawthorne, 1851–1926, American nun, philanthropist, and writer, youngest daughter of Nathaniel Hawthorne In 1871 she married George Parsons LATHROP In 1891 she and her husband embraced Roman Catholicism She chose as a mission the work of helping relieve the pains and discomforts of penniless sufferers from incurable cancer She went to live in New York slums to be near them She founded St Rose's Free Home for Incurable Cancer in New York city, and in 1901 she established for the same purpose Rosary Hill Home at Hawthorne, N Y, a place named after her She entered into religion after her husband's death in 1898, and became Mother Mary Alphonsa Lathrop She founded a community of sisters to perpetuate her work, they are Dominican tertiaries Her literary works include *Along the Shore* (1888), verse; with her husband, *A Story of Courage* (1894), an account of the Visitation convent at Georgetown; and *Memories of Hawthorne* (1923) See Katherine Burton, *Sorrow Built a Bridge* (1937)

Lathrop, city (pop 1,049), NW Mo, NE of Kansas City, in a livestock area, laid out 1857

Latimer, Hugh (lă'tĭmur), c 1485–1555, English bishop and Protestant martyr Latimer was educated at Cambridge, entered the Church, and came under the influence of the Reformation He first became prominent by defending Henry VIII's divorce from Katharine of Aragon and in 1535 was made bishop of Worcester His strong Protestant convictions, however, prevented him from subscribing to Henry VIII's Six Articles (1539), and he resigned his see and was imprisoned for nearly a year after the accession of Edward IV (1547) He preached against the abuses of Church and clergy in eloquent and vivid sermons When the Catholic Mary I came to the throne he declined to evade trial, refused to recant his Protestantism, and with Nicholas RIDLEY was burned at the stake as a martyr See C M. Gray, *Hugh Latimer and the Sixteenth Century* (1950)

Latina (lätē'nä), formerly **Littoria** (lēt-tōr'yä), town (pop 2,577), capital of Latina prov, Latium, central Italy, the first population center founded (1932) by Mussolini in the reclaimed PONTINE MARSHES The entirely modernistic town has a town hall, schools, a church, and all public utilities Its name was changed after the fall of Mussolini

Latin America, the Spanish-speaking, Portuguese-speaking, and French-speaking countries of North America, South America, Central America, and the West Indies The 20 republics are Argentina, Bolivia, Brazil, Chile Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela. The term is also used to include Puerto Rico, the French West Indies and other islands of the West Indies where a Romance tongue is spoken, and sometimes French Guiana

Latin Empire of Constantinople: see CONSTANTINOPLE, LATIN EMPIRE OF

Latini, Brunetto (brōōnĕt'tō lätē'nē), d 1294?, Italian scholar and diplomat He was ambassador to Alfonso X of Spain and a friend of Dante Latini was one of the first to make translations into Italian. He also wrote, in *langue d'oïl*, the *Tesoretto* [the treasure], an encyclopedia

Latin Kingdom of Jerusalem: see JERUSALEM, LATIN KINGDOM OF.

Latin language, Italic language of ancient Rome. As the standard language of most of the Roman Empire it spread widely and continued in the Romance languages. Schoolbook Latin is the standard language of Cicero and Caesar The Latin of the Christian Fathers, the standard of some centuries later, continues to be the official language of the Holy See and of the Roman liturgy in the Roman Catholic Church.

Latin literature. Very little remains of the rude songs and the native poetry of the Romans and Latins before the rise of a literature The close of the First Punic War (c 240 B C) marks the beginning of literary work in Rome with the plays of LIVIUS ANDRONICUS, adapted from the Greek NAEVIUS also wrote dramas, but he was far surpassed by the greatest of Roman dramatists, PLAUTUS, a first-rate writer of comedy His plays were much nearer the people than subsequent Latin works, as, for instance, those of ENNIUS, who introduced the hexameter into Latin CATO THE ELDER opposed the Hellenizing group, to which Ennius belonged, and wrote his works on history and agriculture in as rude a Latin as possible His efforts had little effect, for before he died elegance had come into its own as desirable in literature The comedian TERENCE and the historian POLYBIUS exemplify the increasing interest in things Greek The 1st cent B C, the last era of the republic, produced some of the greatest figures in Latin literature—CICERO and Julius CAESAR, who excelled in prose, and LUCRETIUS and CATULLUS, masters of poetry. Lesser lights were the historian SALLUST and the encyclopedist VARRO The Augustan Age had a fundamentally different atmosphere from the epoch of Caesar VERGIL shows the temper of his circle, with his admiration of the new empire More worldly was HORACE, who brought the Latin lyric to perfection The elegy was cultivated by TIBULLUS, PROPERTIUS, and the very brilliant OVID This is also the period of the historian LIVY The 1st cent A D marked a decline from which Latin literature in its classical form never recovered SENECA, father and son and LUCAN with PERSIUS and STATIUS typify a period of tendencies to imitate the masters, both Latin and Greek The most original poets were MARTIAL and JUVENAL, masters of mordant satire PETRONIUS, FRONTINUS, PLINY THE ELDER, PLINY THE YOUNGER, and the greater TACITUS were the chief writers of prose, and Quintilian brought literary criticism to its apogee The 3d and 4th cent found the classical inspiration in Rome wearing thin New subjects were occasionally introduced, as by AUSONIUS and AVIENUS, but in general writing had ceased to be anything but a purely literary affair CLAUDIAN was the best of the late poets, and FRONTO and MARCUS AURELIUS the chief prose writers APULEIUS and AMMIANUS MARCELLINUS were exceptional, because both wrote as they spoke rather than according to arbitrary canons The philological scholars of the empire became numerous with time These included Aulus GELLIUS, Terentianus, MACROBIUS, Martianus CAPELLA, and PRISCIAN. As the classical inspiration died, an entirely new kind of Latin literature was growing up This was formed in the writings of Christians PRUDENTIUS attempted to build a Christian style on classical models, but failed Latin became the standard language of the West and by far the greater bulk of medieval literature as well as the records and even letters were in Latin (see PATRISTIC LITERATURE, MEDIEVAL LATIN LITERATURE, ROMAN LAW) The literature of the RENAISSANCE represents a conscious attempt to recapture the classical spirit Most distinguished men cultivated Latin, and many of them succeeded in writing a Latin style that stands comparison with classical Latin models. PETRARCH and BOCCACCIO regarded their works in Latin as highly as those in Italian Such humanists as POGGIO BRACCIOLINI, POLITIAN, PONTANO, and PIUS II were accomplished Latin writers. Of the prose writers in Latin at this period ERASMUS was the greatest He attacked violently the all-pervasive Ciceronianism of the time, which was making Latin writing again a matter of *tour de force* Good Latin poets have been fewer since the Renaissance, but two famous men are among them, George BUCHANAN and JOHN MILTON Latin literature, as such, by the 20th cent is nearly dead, for its cultivation is limited to the ever-narrowing circles of classicists and to the Roman Catholic Church, which adds new matter to the liturgy only rarely and confines use of extra-liturgical Latin to official, nonliterary documents See Tenney Frank, *Life and Literature in the Roman Republic* (1930), H J Rose, *Handbook of Latin Literature from the Earliest Times to the Death of St Augustine* (1937)

Latin Monetary Union. In 1865 France, Belgium, Italy, and Switzerland (joined in 1868 by Greece) agreed to regulate their national coinage on a uniform basis Their coins thus became freely interchangeable The First World War disrupted the system, which was abandoned in 1927

Latin Road: see ROMAN ROADS

Latins, in ancient times, inhabitants of Latium, particularly of the great plain of Latium. They succeeded an earlier people, whom they probably absorbed. The Latins established themselves in many small settlements, which gradually increased in size They were joined in religious leagues, which took on a political color. Rome early took a dominant place, but the Latins were united against the Etruscans and the Samnites. Roman hegemony was, after many changes of fortune, definitely established in 338 B C, when the smaller states were absorbed and the larger states made subject allies by Rome The Latins, however, continued to have a special status, and in theory the social and political equality of the Latins continued There was some rebellion, especially late in the 2d cent. B.C., but generally the Latins remained loyal to Rome They were admitted to Roman citizenship in 90 B C at the time of the Social War

Latin Way see ROMAN ROADS.

latitude, the angular distance of any point on the surface of the earth north or south of the equator, measured from the center of the globe Since this angle cannot be measured directly, latitude is determined by instrumental observation (by means of a sextant) of the angles between the horizon and the zenithal position of the sun at noon It may also be obtained by the instrumental observation of the North Star (Polaris) In the measurement of latitude, the meridian circle is divided into four quadrants, each being subdivided into 90 parts called degrees (°) of latitude The numbering of degrees proceeds from the equator (0°) to either pole (90° N or 90° S), any point on the earth being on an imaginary line parallel to the equator, called PARALLEL of latitude The length of one degree of latitude (c 69 mi) increases slightly from equator to pole as a result of the earth's polar flattening

Latium (lā'shēum), Ital *Lazio* (lä'tsyō), region (6,634 sq mi, pop 2,654,924), central Italy, between the Apennines and the Tyrrhenian Sea and between the Fiora and Garigliano rivers It is divided into the provinces of Rome, Frosinone, Latina, Rieti, and Viterbo. Rome is the capital Latium contains high mountains, hills, and crater lakes, a coastal plain (the CAMPAGNA DI ROMA and the former PONTINE MARSHES), and the lower Tiber valley Wine, olive oil, cereals, and vegetables are produced Agriculture has expanded since reclamation works were completed Industries are scarce, there are some hydroelectric plants and paper and chemical industries Anciently Latium included a limited area E and S of the Tiber to the Alban Hills, only after its annexation (1870) to Italy did it reach approximately the present limits In early Roman times Latium proper was inhabited by the LATINS, while the Etruscans lived N of the Tiber and several Italic tribes held other areas Rome subdued all cities of Latium After the 8th cent. A D the duchy of Rome, including most of modern Latium, belonged to the popes, although their authority was not always recognised in the towns, ruled at times as free communes or by local feudal lords Excluding the area S of Terracina, which belonged to the kingdom of Naples, Latium remained a part of the PAPAL STATES until 1870

Latona. see LETO

La Tour, Georges de (zhôrzh' du la tōōr'), 1593–1652, French painter Little is known about his life About 1620 he settled in Lunéville in Lorraine At the instigation of Charles IV, duke of Lorraine, he presented a painting of St Sebastian to Louis XIII By 1646 he bore the title of painter in ordinary to the king After his death his reputation declined and his works were attributed to other painters until critical interest in his art revived in the 20th cent Characteristic of his style is a bold use of nocturnal lighting effects and marked simplification of plastic form, suggestive of the influence of Caravaggesque naturalism, possibly through Gerard van Honthorst Of his few known works outstanding examples, outside of those in the French national museums, are the *Education of the Virgin* (Frick Coll., New York) and *St Sebastian* (Berlin Mus collection).

La Tour, Maurice Quentin de (mōrēs' kätē dù la tōōr'), 1704–88, French pastelist He early devoted himself to portraiture in pastel From 1737 to 1774 he exhibited at the Salon over 150 remarkable portraits His spirited and penetrating likenesses brought him an immense popularity which lasted throughout his life His work is still highly prized. Among his famous sitters were Marie Leszczynska, Mlle Diderot, Crébillon, Voltaire, Louis XV, Mme de Pompadour (a full-length, life-size portrait in pastel), Marshal de Saxe, and Mlle Fel. Most of his work is in the Louvre and in the museum of his native Saint-Quentin.

La Tour d'Auvergne, Théophile Malo Corret de (täôfēl' mälō' kôrā' dù lä tōōr' dōvĕr'nyù), 1743–1800, French soldier He entered the army and was a captain by 1779 In the wars of the American Revolution he fought with Spanish forces against the British at Minorca Although an aristocrat, he fought for the revolutionists in the French Revolutionary Wars He was in 1795 captured by British corsairs and imprisoned until he was exchanged in 1797 He fought in the Swiss campaign La Tour d'Auvergne was notable for his bravery and modesty, when he refused promotion he was officially dubbed the "first grenadier of France." He was killed in battle. For years afterward his name was called at roll call, and the answer was made by his comrades, "Dead on the field of honor!" La Tour d'Auvergne was also a scholar of Gallic antiquities and Celtic languages (especially Breton).

La Trappe: see TRAPPISTS.

Latreille, Pierre André (pyĕr' ändrā' lätrā'yù), 1762–1833, French naturalist. One of the founders of entomology, he erected several insect orders and arranged the insect collection of the Jardin des Plantes. He wrote extensively on insects and crustaceans and assisted Lamarck and Cuvier in some of their works.

La Trémoille or **La Trimouille, Georges de** (zhôrzh' du lä trămwä'yù or trĕmōō'yu), c 1385–1446, favorite of Charles VII of France, sometime chamberlain to John the Fearless of Burgundy He was captured by the English at Agincourt (1415), and he later served as a mediator between John and the dauphin, Charles VII Having become Charles's favorite after the murder of Pierre de Giac (1427), he opposed Joan of Arc and by his ruthless policies plunged France into anarchy Overthrown (1433) by a coalition under Constable de Richemont (ARTHUR III of Brittany), he joined the PRAGUERIE (1440) but was later pardoned

La Trémoille or **La Trimouille, Louis de** (lwē), 1460–1525, French general, grandson of Georges de la Trémoille He commanded the army which invaded Brittany in 1488 and subsequently fought in the ITALIAN WARS, notably at Fornovo (1495), Marignano (1515), and Pavia (1525)

Latrobe, Benjamin Henry (Benjamin Henry Boneval Latrobe) (lutrōb'), 1766–1820, American architect, b Yorkshire, England, of American parents He is considered the first professional architect in the United States Latrobe received his training both in architecture and in engineering in England and practiced successfully in London After the death of his first wife he came to the United States, arriving in Norfolk in 1796 He practiced his profession there and in Richmond until 1799, when he went to Philadelphia In 1803 President Jefferson appointed him surveyor of public buildings Besides building residences in Washington, Philadelphia, and other cities, Latrobe did much monumental work and introduced Greek forms, an important element of the classic revival His design (1799) for the Bank of Pennsylvania in Philadelphia was in the form of a Greek Ionic temple, and his Bank of the United States (completed by William Strickland, 1819–24), now the old Philadelphia Custom House, was patterned after the Parthenon These, together with his Roman Catholic cathedral in Baltimore (1805–18)—the first cathedral built in the United States—make a group expressive of the best monumental architecture of the time Other works are St. John's Church in Washington (1816) and the penitentiary in Richmond, Va (1797–1800) His design for Sedgeley (1800), a residence near Philadelphia, is supposed to be the first executed example of the Gothic revival in the country After the burning of the Capitol, he was engaged, from 1815 to 1817, in rebuilding Latrobe's son Henry Latrobe had been sent to New Orleans to construct the city's waterworks after his father's design, but died of yellow fever in 1817 In 1818 Latrobe sailed to New Orleans to complete the project, bringing his family overland in 1820 He too died of yellow fever. See Latrobe's diary of his trips to New Orleans and his stay there, *Impressions respecting New Orleans* (ed by Samuel Wilson, Jr, 1950) His other sons were John H B LATROBE and **Benjamin Henry Latrobe,** 1806–78, an engineer He served (1847–75) as chief engineer of the Baltimore & Ohio RR, laying out the line between Washington and Baltimore, between Harpers Ferry and Cumberland, and over the mountains between Cumberland and Wheeling, a major engineering feat.

Latrobe, John Hazlehurst Boneval, 1803–91, American philanthropist, son of Benjamin H Latrobe He studied law, and from 1828 until his death he was regularly retained as counsel for the Baltimore & Ohio RR, but he appeared in many independent cases. Throughout his life he was much interested in the progress and welfare of Baltimore and did much for Druid Hill Park He was a founder of the Maryland Institute for the Promotion of Mechanic Arts and of the Maryland Historical Society. He was a prominent supporter of the African colonization of Liberia and in 1853 succeeded Henry Clay as president of the American Colonization Society See John E Semmes, *John H. B. Latrobe and His Times* (1917).

Latrobe (lutrōb'), industrial borough (pop. 11,111), SW Pa., ESE of Pittsburgh; inc. 1854. It has coke and metal-products works. St. Vincent College (Catholic; for men, 1846) is here.

Latrocinium: see EUTYCHES

Latta, town (pop. 1,334), NE S.C., NE of Florence, in a cotton and tobacco area

Latter-Day Saints, Church of Jesus Christ of, name of the religious sect founded (1830) at Fayette, N.Y., by Joseph Smith The headquarters are in Salt Lake City. Its members, now numbering more than a million, are generally called Mormons

(for their history, see MORMONS). Their beliefs are based primarily on the Bible and the Book of Mormon, a translation of inscriptions on tablets of gold revealed to Joseph Smith (for the story of discovering them, see SMITH, JOSEPH), on revelations made to Smith and contained in the volume *Doctrines and Covenants*, on later revelations, and on *The Pearl of Great Price* (sayings attributed to Moses and Abraham). The Book of Mormon is primarily a record ascribed to the prophet Mormon and recounting the early history of peoples in America from the Diaspora to A D 600. In a further vision priesthood was conferred upon Smith and upon an associate, Oliver Cowdery. The Church was then founded on the basis of the priesthood of the two orders of Aaron and Melchizedek The Aaronic priesthood (deacons, teachers, and priests) is primarily concerned with the temporal affairs of the Church, that of Melchizedek (elders, seventies, and high priests) with the spiritual leadership Both are represented in the Council of Twelve (the Apostles) and in the first presidency (the president and two counselors—three high priests vested with supreme authority) The territorial divisions of the Mormon settlements are wards, each ward having a bishop and two counselors. Several striking characteristics have marked the Church One is the importance of revelation, for many practices and doctrines have been established by revelations in vision to the spiritual leaders Another is the interdependence of temporal and spiritual life, the tithing, and attention to community welfare A third is the vigorous proselytizing which has in the course of a century and a quarter raised the Church from a handful of followers to its present great size

Latter Day Saints, Reorganized Church of Jesus Christ of, formed among the faithful of the church founded by Joseph SMITH They reorganized the organization in 1852, and since that time it has been separate and distinct from the Church of Jesus Christ of Latter-Day Saints with its headquarters in Salt Lake City. The headquarters of the Reorganized Church were first at Plano, Ill , until 1881, then at Lamoni, Iowa, until 1904, and since 1904 in Independence, Mo The doctrines of the Church are derived from the Bible, the Book of Mormon, *The Pearl of Great Price* (sayings ascribed to Moses and Abraham), and the revelations made to Joseph Smith

Lattimore, Owen (ō'ĕn lă'tĭmôr), 1900–, American author and educator, b Washington, D C He was educated (1915-19) at St Bees School, Cumberland, England, and did graduate research (1928–29) at Harvard From 1920 to 1926 he was engaged in business and newspaper work in China Afterwards he traveled and did research for various organizations in China, Manchuria, Mongolia, and Chinese Turkistan, writing such books as *The Desert Road to Turkestan* (1928), *High Tartary* (1930), *Manchuria Cradle of Conflict* (1932), and *The Mongols of Manchuria* (1934) He edited (1934–41) the journal *Pacific Affairs* and in 1938 was made director of the Walter Hines Page School of International Relations at Johns Hopkins In the Second World War, Lattimore was adviser (1941–42) to Generalissimo Chiang Kai-shek in China, deputy director (1943–44) of Pacific operations in the Office of War Information, and economic adviser (1945–46) to the Japanese Reparations Commission In 1950 he was accused by Sen Joseph R McCarthy of being Russia's top espionage agent in the United States, but subsequent investigation cleared him of the charges Among his other books are *Inner Asian Frontiers of China* (1940), *America and Asia* (1943), *Solution in Asia* (1945), *Pivot of Asia* (1950), and *Ordeal by Slander* (1950)

La Tuque (la tük'), town (pop 7,919), S Que , on the St Maurice river and NW of Quebec. A hat-shaped rock on the river bank gave the town its name La Tuque, in a lumbering and farming country, was established as a trading post in the French period, it grew after the advent of the railroad in 1908 It is a pulp-milling center with a hydroelectric power station

Latvia (lăt'vēu), Latvian *Latvija*, republic (24,900 sq mi , 1935 pop 1,950,502), NE Europe, since 1940 a constituent republic of the USSR, but at the beginning of 1950 still unrecognized as such by the United States. It borders on Estonia in the north, Lithuania in the south, the Baltic Sea with the Gulf of Riga in the west, the RSFSR in the east, and Belorussia in the southeast RIGA (the capital), Liepaja, Daugavpils, Cesis, and Jelgava are the chief cities Latvia falls into four regions N of the Western Dvina river are Vidzeme and Latgale, which were parts of historic LIVONIA, S of the Dvina are Kurzeme and Zemgale, which belonged to the former duchy of COURLAND Dairying and stock raising are intensively carried on. Primarily a hilly, agricultural plain, Latvia also has valuable timber resources. Lumber and fine and heavy machinery are the chief industrial products. Besides a Russian minority, the inhabitants consist of Letts and of the closely related Latgallians, both members of the Baltic language subfamily. Lutheranism is the predominant religion, except in Latgale, where Roman Catholicism prevails. The Letts (after whom the country is also called Lettland) were conquered and Christianized after hard struggles by the LIVONIAN KNIGHTS early in the 13th cent. Their country formed the southern part of Livonia until 1561, when Courland became a vassal duchy under Polish suzerainty and Livonia passed to Poland. In 1629 Sweden conquered Livonia (save Latgale), which it lost in turn to Russia in 1721. With the first and third partitions of Poland, Latgale and Courland also passed to Russia (1772, 1795) The entire region had been dominated since the times of the Livonian Knights by German merchants, settled there by the Hanseatic League, and by a German landowning aristocracy, the Letts were reduced to servitude Under the Russian regime these German "Baltic barons" retained their power, and German remained the official language until 1885, when it was replaced by Russian In 1817-19 the serfs were emancipated, and in the middle of the 19th cent a Lettish national revival began By the end of the 19th cent Latvia had attained great agricultural and industrial prosperity In the revolution of 1905 the Letts played a prominent role, and bloody reprisals were meted out Latvia was devastated in the First World War Lettish regiments supported the Bolshevik Revolution of 1917, and in 1918 the independence of Latvia was proclaimed However, early in 1919, Soviet troops briefly occupied Latvia They were expelled by the Latvians, as were German volunteer bands under the adventurers Bermondt von der Goltz and Rudiger von der Goltz Peace with Russia followed in 1920 Agrarian reforms expropriated the largest land holdings Latvia had a parliamentary regime until 1934, when Karlis Ulmanis established a reactionary dictatorship In Oct , 1939, Russian pressure forced Latvia to grant the USSR several naval and military bases, a subsequent Latvian-German agreement provided for the transfer of the German minority to Germany In June, 1940, Soviet troops occupied Latvia, elections held under Russian auspices in July, 1940, resulted in the absorption of Latvia into the USSR as a constituent republic Occupied (1941–44) by German troops, it was reconquered by Russia Many Latvians fled to Germany on the approach of the Russians In the post-war years, the remaining estates were at first distributed to landless peasants, but soon collectivization of the farms set in Industrial expansion was speeded up by the Communist government

Laube, Heinrich Rudolf (hīn'rĭkh rōō'dôlf lou'bu), 1806–84, German novelist and dramatist Prominent in the Young Germany movement, he wrote two series of historical novels, *Das junge Europa* [young Europe] (1837) and the nine-volume *Der deutsche Krieg* [the German war] (1863–66), travel sketches and stories, and several plays, among them *Die Karlsschüle* (1847) and *Graf Essex* (1856).

Laud, William (lôd), 1573–1645, English churchman, archbishop of Canterbury He studied at St John's College, Oxford, and was ordained a priest in 1601 From the beginning Laud showed his hostility to Puritanism He became president of St. John's College in 1611, dean of Gloucester in 1616, and bishop of London in 1628 Laud thought of the English Church as a branch of the universal Church, claimed apostolic succession for the bishops, and believed that the Anglican ritual should be prescribed in all churches To accomplish his ends Laud, working closely with Charles I, tried to eliminate all Puritans from important positions in the Church As chancellor of Oxford (from 1629) he carried out many reforms, strengthened the intellectual and moral discipline, and increased the number of students In 1633 Laud became archbishop of Canterbury and continued on a larger scale his efforts to enforce High Church forms of worship in the Church Through the court of high commission and the Star Chamber he persecuted and imprisoned many nonconformists, such as William Prynne The tyranny of his courts and his identification of the episcopal form of church government with the absolutism of Charles brought about violent opposition not only from the Puritans but also from those who were jealous of the rights of Parliament In 1637 he decreed the Anglican prayer book compulsory in Scotland and thus precipitated the Bishops' Wars between Charles and Scotland Supporting Charles and the earl of Strafford to the end, Laud was impeached (1642) by the Long Parliament Found not guilty of treason by the House of Lords (1643), he was condemned to death by the Commons through a bill of attainder The courage he displayed at the scaffold impressed even his enemies See biographies by Arthur Duncan-Jones (1927), Robert Coffin (1930), and Hugh Trevor-Roper (1940)

laudanum · see OPIUM

Lauder, Sir Harry (lô'dûr), 1870–1950, Scottish baritone, popular for his singing of ballads and comic songs, many of them his own composition His original name was MacLennan In the Second World War he emerged from retirement to entertain the Allied soldiers He was knighted in 1919 See his autobiography, *Roamin' in the Gloamin'* (1928), and his reminiscences, *Wee Drappies* (1932).

Lauderdale, James Maitland, 8th earl of (māt'lŭnd, lô'dûrdāl), 1759–1839, Scottish statesman and author. As a member of the House of Commons (1780–89) he was strongly Whig and opposed the American and French wars He was one of the leaders of the impeachment of Warren Hastings and attacked (1794) the granting of a pension to Edmund Burke In the House of Lords, Lauderdale was long an active member of the opposition, but finally became a Tory He wrote many political and economic tracts, the most important of which was the *Inquiry into the Nature and Origin of Public Wealth* (1804; enl ed , 1819).

Lauderdale, John Maitland, duke of (lô'dûrdāl), 1616–82, Scottish politician. He entered public life as a Covenanter and was one of the parliamentary commissioners to treat with Charles I at Uxbridge (1645) In the complicated dealings which followed he attached himself to the royalists and gained the confidence of Charles II, with whom he went to Scotland (1650) Captured at Worcester (1651), he was kept prisoner by the Puritans until 1660 Charles II made him secretary of state (1660) After 1667 he was all-powerful in Scotland, where he attempted to establish the supremacy of the crown in both state and Church. Although a member of the CABAL ministry, he took little part in English affairs Made earl of March and duke of Lauderdale (Scottish) in 1672, he was raised to the English peerage as earl of Guilford and made a privy councilor in 1674 In 1677 his use of Highland troops to suppress conventicles brought attacks upon him He kept his influence by intrigues until 1680, when his health broke and Parliament undertook to force his resignation In 1682 he gave up all his offices Debauched, arrogant, unscrupulous, but able, he was one of the most unpopular statesmen of the court. See biography by W C Mackenzie (1923)

Laudon or **Loudon, Gideon Ernst, Baron von** (both gē'dēōn ĕrnst' barōn' fŭn lou'dŏn), 1717–90, Austrian field marshal In the Seven Years War he defeated Frederick II of Prussia at Kunersdorf, and in 1789 he captured Belgrade from the Turks.

Laudonnière, René Goulaine de (runā' gōōlĕn' du lôdônyĕr'), fl 1562–82, French colonizer in Florida After accompanying Jean RIBAUT on the first French expedition to Florida (1562), he led a second colonization attempt in 1564, establishing Fort Caroline (named for Charles IX) on the south bank of the St Johns river near its mouth The colonists soon incurred the enmity of the Indians, many refused to work, others took to piracy, and finally most of them mutinied Fort Caroline was in desperate straits when Sir John Hawkins appeared in Aug , 1565, and sold Laudonnière food and one of his ships He was prepared to sail for France when Ribaut arrived with supplies, reinforcements, and an order for Laudonnière to return to answer charges which had been brought against him His departure was delayed by the appearance of the Spanish Ribaut sailed to attack them at St Augustine, but Pedro MENÉNDEZ DE AVILÉS attacked Fort Caroline by land and massacred most of those left there by Ribaut Laudonnière, one of the few who escaped, finally reached France in Jan , 1566 His *L'Histoire notable de la Floride* (1586) was translated by Richard Hakluyt as *A Notable Historie Containing Foure Voyages Made by Certayne French Captaynes into Florida* (1587)

Laue, Max von (mäks' fŭn lou'u), 1879–, German physicist, studied under Max Planck From 1919 he was professor of theoretic physics at the Univ. of Berlin He worked out a method for measuring X-ray wave lengths, in which a crystal (rock salt) is used, producing diffraction of the rays. For this work (which also made possible a closer study of crystal structure), he received the 1914 Nobel Prize in Physics

Lauenburg (lou'unbôrk), former duchy, now in Schleswig-Holstein, N Germany, on the right bank of the lower Elbe Lauenburg or Lauenburg an der Elbe (pop 10,613) is the chief city Conquered (12th cent) by Henry the Lion, the duchy of Saxe-Lauenburg was (1181–1689) the fief of a branch of the Ascanian house of Saxony, when that dynasty was extinguished, it passed to the house of Hanover The Congress of Vienna awarded (1815) the duchy to Prussia and made it a member state of the German Confederation, but Prussia ceded it to the Danish crown in exchange for W Pomerania, this exchange, however, did not affect the membership of Lauenburg in the confederation In the Danish war of 1864 the duchy was seized by Prussia and Austria, and Austria soon afterward ceded its rights to Prussia, which incorporated it into Schleswig-Holstein In 1890 Bismarck received the title duke of Lauenburg, which, however, he never used

laughing gas, colorless gas with a sweetish taste and odor It is a compound of nitrogen and oxygen known as nitrous oxide, is soluble in water, boils at −89 5°C , and solidifies at −102.4°C. It is liquefied without difficulty, its critical temperature being 36 5°C It supports combustion but does not provide oxygen for respiration It is prepared by heating ammonium nitrate (care must be taken to avoid an explosion), which breaks up into the

oxide and water. Nitrous oxide was discovered by Joseph Priestley in 1772 when he removed oxygen from nitric oxide by the action of moistened iron filings, and its properties were later investigated by Sir Humphry Davy. It is widely used to produce anesthesia in dental extractions and minor operations, the name laughing gas being given because a common aftereffect is a laughing hysteria

Laughlin, James Laurence (lô'flĭn), 1850–1933, American economist, b Deerfield, Ohio, Ph D Harvard, 1876 He was a distinguished teacher, and as head of the department of political economy at the Univ of Chicago (1892–1916) he gathered a group of brilliant men A classicist and follower of Mill in economic theory, he nevertheless encouraged such unorthodox thinkers as Thorstein Veblen and Wesley C Mitchell He edited (1892–1933) the *Journal of Political Economy* Laughlin's chief interests were in currency and monetary problems, and he served as adviser to various state and national governments In 1894–95 he reorganized the monetary system of Santo Domingo He later urged reform of the U S Federal Reserve Act Important among his prolific writings is *A New Exposition of Money, Credit, and Prices* (1931)

Launay, vicomte de see GIRARDIN, DELPHINE GAYDE

Launcelot of the Lake, Sir see ARTHURIAN LEGEND

Launceston (lôn'sĕstun, lŏn'–), city (pop 37,724), on N Tasmania, Australia, at the confluence of the North Esk and South Esk, founded 1805 Second city of the state in size, it is a port and the center of a rich agricultural area There are woolen mills and brassworks, the principal exports are dairy products, flour, and lumber

launch, small motor-propelled BOAT, usually open, but sometimes with a small cabin Launches are used for short pleasure cruises on rivers and along coasts and also for carrying officials and sometimes passengers to and from ocean liners The largest of a ship's boats is also called a launch and may be propelled by steam, motor, or sail, it is much used for carrying men and stores to and from shore

laundry, a commercial plant for washing clothing and household linens, the room in a house reserved for washing, and the operation of washing Laundering has always been one of the major duties of the housewife, whether the work was done by treading or beating on stones or by boiling in a caldron over an open fire in the open air, the labor has required both strength and skill The making of soap and compounding of bleaches were household duties up to the later years of the 19th cent, when commercial soaps and various cleansing and disinfecting agents began to be extensively manufactured In a modern domestic laundry the equipment often includes, besides the electric washing machine, a small mangle, electric irons, racks for drying, soaps, bleaches, bluing, and starch For successful laundering an abundant supply of water, both hot and cold, is necessary, careful rinsing and a different treatment of white and colored fabrics are needed for satisfactory results In a commercial laundry all the processes of soaking, washing, sterilizing, bleaching, rinsing, bluing, and drying are highly mechanized Most ironing is done by means of heated, revolving rolls or specially designed pressers, like those used for shirts Some of the work is hand finished Most laundries do "wet wash" and "rough-dry" work to be finished in the home Conditions of modern living, such as the employment of married women, concentration of population in cities, and small apartments, have contributed to the enormous increase of commercial laundries Improved methods of sterilization have also been a factor in the growth of public laundries A more recent development is the shop which rents the use of washing machines, driers, and sometimes ironers for the family wash

Laura, subject of the love poems of PETRARCH She is thought to be Laura de Noves (1308?–1348), wife of Hugo de Sade, but this has not been proved

Laurance, John (lô'runs), 1750–1810, American Revolutionary officer, b near Falmouth, Cornwall, England, son-in-law of Alexander MacDougall A lawyer, he was judge advocate general of the army and presided at the trial of Major John André Later he succeeded Rufus King as a Senator from New York (1796–1800)

Laurel. **1** Town (pop 2,884), SW Del, on Broad Creek, laid out 1802, inc 1883 Truck products from the area are packed and canned here Near by is Christ Church (1771) **2** Town (pop, 2,823), W central Md, NE of Washington, D C, patented late in the 17th cent. It has a large race track **3** City (pop 20,598), a co seat of Jones co, SE Miss, SE of Jackson and on Tallahala Creek, founded 1881 It is a processing center for lumber and farm products There is a museum of art in Lauren Rogers Library Near by is a U S. school and reservation for Indians. **4** City (pop. 2,754), S Mont, on the Yellowstone and SW of Billings, inc 1908 It is primarily a railroad city

laurel. The true laurel—that of history and classical literature—is *Laurus nobilis*, called also bay and sweet bay It is an evergreen tree native to the Mediterranean region, where to the ancients it symbolized victory and merit, it was a plant sacred to Apollo. In America laurel is usually cultivated as a tub plant and pruned to a formal shape The leaves—commonly sold as bay leaves—are used as a flavoring, particularly in certain meat dishes and soups, they were formerly used in medicine Other plants with dark, glossy leaves similar to those of the laurel are often called laurel, these include MOUNTAIN LAUREL, CALIFORNIA LAUREL, and great laurel or RHODODENDRON The cherry laurel, known also as laurel (*Laurocerasus officinalis* or *Prunus laurocerasus*), is an Old World evergreen shrub or tree cultivated in the United States in the milder regions The leaves of this plant, though they contain HYDROCYANIC ACID, are sometimes used as a flavoring and in making cherry laurel water A similar and related species native to the South (*Laurocerasus*, or *Prunus, caroliniana*) is also called cherry laurel

Laureldale, industrial borough (pop 3,397), SE Pa, near Reading, settled 1902, inc 1930 It has knitting mills

Laurel Run, borough (pop 1,057), Luzerne co, NE Pa, near Wilkes-Barre, inc 1881

Laurel Springs, borough (pop 1,344), SW N J, SE of Camden, inc 1913

Laurencin, Marie (marē' lôrāsĕ'), 1885–, French painter and print maker She studied under Carrière and was influenced by the fauvist and cubist movements By 1918 she had achieved her highly personal style, which became extremely popular and which altered very little subsequently It is characterized by extreme simplification of form, flat and highly decorative surface, and delicate pastel colors Young girls are a favorite subject Laurencin is represented in galleries of contemporary art everywhere

Laurens, Henry (lô'runz), 1724–92, American Revolutionary statesman, b Charleston, S C A wealthy merchant and planter, he was a member (1757–64, 1765–74) of the South Carolina assembly He disapproved the Stamp Act, yet felt it should be enforced, but the Townshend Acts aroused him to real ire, particularly after two of his ships were seized He wrote (1769) a pamphlet denouncing the acts, he has low opinion of British officials, reinforced by residence (1771–74) in England, drove him to promote colonial opposition to Britain, in which he was heartily active He helped to organize the state of South Carolina and later was a member of the Second Continental Congress and its president (1777–78) Sent in 1780 as U S commissioner to the Netherlands, he threw overboard the unauthorized draft of a U S.–Dutch treaty prepared by William Lee, but it was recovered He was imprisoned in the Tower of London until exchanged (1781) for Cornwallis, and the treaty was used as a reason for war between Great Britain and Holland Laurens was a commissioner to negotiate the Treaty of Paris (1783) but arrived too late to take much part in the negotiations See biography by D D Wallace (1915)

Laurens, John, 1754–82, patriot officer in the American Revolution, b Charleston, S C, son of Henry Laurens In 1777 he joined Washington's staff and fought at Brandywine and in subsequent battles, earning a reputation for bravery and ability After serving in Rhode Island he was offered a lieutenant colonelcy, but refused it because he did not wish to be promoted over his seniors The intemperate criticism of Washington by Charles LEE caused Laurens to challenge Lee and fight an inconclusive duel Going to the South, Laurens was captured (1780) when the British took Charleston, but was soon exchanged In 1781 he was sent on a special and successful mission to procure money, arms, and supplies He showed conspicuous gallantry in the Yorktown campaign and drew up the terms for the surrender of Cornwallis He accompanied Nathanael Greene on a mopping-up campaign in the Carolinas and was killed in a minor skirmish

Laurens (lô'runz) **1** Town (pop 1,304), NW Iowa, NW of Fort Dodge, inc 1890 Rush Lake State Park is near **2** City (pop 6,894), co seat of Laurens co, NW S C, NW of Columbia, in a farm area Textiles and glass are manufactured here

Laurent, Robert (lô'rŭt), 1890–, American sculptor, b Brittany He came to the United States in 1902 as the protégé of Hamilton Easter Field, American painter In 1908 he went to Rome, where he was employed by a frame maker and acquired experience in wood carving His earliest works in sculpture were decorative wood panels for the Field house in Brooklyn Later he worked in many materials, his *Goose Girl* (Radio City Music Hall, New York) is aluminum, his *Awakening* (Whitney Mus, New York) is bronze Laurent taught at the Art Students League after 1927 He is best known for his sensitive interpretations of the figure, which have a slightly archaic quality and charm

Laurentian Mountains (lôrĕn'shun), S Que, N of the St Lawrence and Ottawa rivers, rising to 3,150 ft in Mont Tremblant. The Gatineau, L'Assomption, Lièvre, Montmorency, and St Maurice rivers rise in lakes in this region, which is a popular summer and winter resort

Laurentian Plateau (lôrĕn'shŭn, lu–) or **Canadian Shield,** roughly shield-shaped region of rock, the nucleus of North America. The first part of the continent to be permanently elevated above sea level, it has remained during geologic time almost wholly untouched by successive encroachments of the sea upon the continent. It stretches SW over Labrador to the St Lawrence, includes a part of Wisconsin and Minnesota, and extends NW from Lake of the Woods to the Beaufort Sea E of the Mackenzie basin. Many geologists include the barren lands of Canada, parts of islands in the Arctic Ocean, and Greenland It is the earth's greatest area of exposed Archaean rocks, the granite, gneiss, and schist of which it is largely composed were probably formed during the ARCHEOZOIC ERA Repeatedly uplifted and eroded, it is today an area of low relief with a few monadnocks and low mountain ranges (including the Torngat and the Laurentian Mts) probably eroded from the plateau during the Cenozoic era During the Pleistocene epoch, ice sheets scooped out numerous lake basins and carried away much of the soil of the region The area today is a source of minerals, timber, and fur-bearing animals, the numerous lakes, streams, and waterfalls are capable of producing vast water power

Laurentides (lô'runtĭdz, Fr lôrätĕd'), town (pop 1,342), S Que, on L'Achigan river and SW of Joliette Originally known as the village of St Lin, it received its present name when incorporated as a town in 1883 St Lin was the native parish of Sir Wilfred Laurier

Lauria, Roger of see ROGER OF LORIA

Laurier, Sir Wilfrid (lô'rēā, Fr lôryā'), 1841–1919, Canadian statesman, b St Lin (now Laurentides) Que, studied law at McGill Univ His premiership of Canada, the first to be held by a French Canadian, covered 15 years—the longest continuous term in the history of the dominion Called to the bar in 1864, he practiced for a short time in Montreal, then in Arthabaska From his first speech in the Quebec legislature, to which he was elected in 1871, his notable oratory was recognized He served (1874–78) in the Canadian House of Commons, where he worked for moderate protection and for cooperation between the French and British in Canada, an objective which was Laurier's lifelong concern He was briefly (1877–78) a minister in the cabinet of Alexander Mackenzie Then, while the Conservative party was in power, he was prominent in the Liberal opposition in Parliament, in 1887 he succeeded Edward Blake as Liberal leader As prime minister of Canada from 1896 to 1911, Laurier visited England in 1897 and was knighted by the queen, he represented Canada at the coronation of King Edward VII, at the colonial trade conference (1902) in London, at the imperial conferences of 1907 and 1911, and at the coronation of George V When in 1911 his party met defeat on the question of trade reciprocity with the United States, he resigned The years of his premiership witnessed Canada's steady growth and progress Ambitious for the development of the dominion, but within the framework of the empire, Laurier was committed to such policies as the development of Western territories, building of railroads, tariff arrangements with the United States as well as Great Britain, and Canadian control of its own defences As leader of the Liberal opposition during the First World War he supported Great Britain, but opposed conscription and refused to form a coalition with the Conservative government of Canada in 1917 See biographies by O D Skelton (2 vols, 1921), J W Dafoe (1922), and John Willison (rev ed, 1926)

Laurinburg, town (pop 5,685), co seat of Scotland co, S N C, near the S C line SSW of Fayetteville, in a cotton, fruit, and grain area Laurinburg Industrial Institute (Negro) is here

Lavrion (lăv'rēŏn) or **Lavrion** (lăv'rēŏn), Latin *Laurium*, city (pop 6,680), E central Greece, in Attica, a port on the Aegean Sea There are lead-zinc, iron, and silver mines Silver has been mined here since ancient times and contributed to the prosperity of Athens Lavrion was also formerly known as Ergasteria

Lauriston, Jacques Alexandre Bernard Law, marquis de (zhäk' älĕksä'dru bĕrnar' lô' märkē' du lôrēstô'), 1768–1828, marshal of France, grandnephew of John Law He fought in the French Revolutionary and Napoleonic Wars and won particular distinction at Wagram (1809) Louis XVIII accepted him and made him a marquis (1817) and a marshal (1823). In 1823 he took part in the invasion of Spain

Laurium, Greece see LAVRION

Laurium (lô'rēum), residential village (pop 3,929), Keweenaw peninsula, extreme N Mich, near Calumet, in a copper-mining region, inc 1889 Its inhabitants work mainly in Calumet

Lausanne (lōzăn', Fr. lōzän'), city (pop. 92,541, including OUCHY), capital of Vaud canton, SW Switzerland, on the slopes of Mt. Jorat near the Lake of Geneva There are watchmaking and printing industries. The city has been a meeting place of many international conferences and is a well-known resort city. Lausanne has a 13th-century cathedral (Notre Dame) It is the seat of the Swiss federal tribunal An episcopal see since the late 6th cent, it was ruled by prince-bishops in the

Middle Ages till 1536, when it was conquered by Bern and accepted the Reformation. Bernese rule ended in 1798, and Lausanne became the capital of the newly formed canton of VAUD Here Edward Gibbon in his youth courted the future Suzanne Necker, and here he later wrote part of the *Decline and Fall* Voltaire and Dickens, among many other celebrities, also lived here for a time The Univ of Lausanne was founded as a Protestant school of theology in 1537 and became famous as a center of Calvinism It was made a university in 1890

Lausanne, Conference of, 1922-23 The peace treaty (see SÈVRES, TREATY OF) imposed by the Allies on Turkey after the First World War had virtually destroyed Turkey as a national state It was not recognized by the nationalist government under Kemal Pasha (later known as ATATURK) After the nationalist victory over the Greeks and the overthrow of the sultan, Kemal's government was in a position to request a new peace treaty Accordingly, the signatories of the Treaty of Sèvres and delegates of the USSR (excluded from the previous treaty) met at Lausanne, Switzerland After lengthy negotiations a peace treaty was signed in 1923 Turkey recovered E Thrace, several Aegean islands, a strip along the Syrian border, the Smyrna district, and the internationalized Zone of the Straits, which, however, was to remain demilitarized and remain subject to an international convention (see DARDANELLES) Turkey recovered full sovereign rights over all its territory, and foreign zones of influence and capitulations (see OTTOMAN EMPIRE) were abolished Outside the Zone of the Straits, no limitation was imposed on the Turkish military establishment No reparations were exacted In return, Turkey renounced all claims on former Turkish territories outside its new boundaries and undertook to guarantee the rights of its minorities A separate agreement between Greece and Turkey provided for the compulsory exchange of minorities

Lausanne Pact, 1932 see REPARATIONS.

Lausitz see LUSATIA

Lausitzer Neisse see NEISSE

Lautaro (loutä'rō), c 1534–1557, leader of the ARAUCANIAN Indians who almost succeeded in reconquering S central Chile from the Spanish Captured while a youth by Pedro de VALDIVIA, he returned to his people in 1553 to begin the struggle for freedom In a memorable fight in Dec , 1553, near Tucapel, Lautaro sent one Indian band after another against a force under Valdivia Not one Spaniard escaped death Aiming at nothing less than the reconquest of Chile, he won several more battles, destroyed cities such as Concepción, and finally advanced on Santiago, the capital Francesco de Villagra through an Indian traitor surprised Lautaro in his strong encampment, and in the desperate conflict Lautaro fell Resistance continued under CAUPOLICÁN Lautaro, who figures in Ercilla y Zúñiga's epic, *La araucana*, later became the symbol of Chilean independence

Lauterbrunnen (lou'tərbrŏonun), village (pop 2,819), Bernese Alps, Switzerland It is noted for its many springs and waterfalls, such as the Staubbach, which leaps from a rock 980 ft high, and the Trümmelbach, which descends in five cascades

Lautrec, Henri de Toulouse- see TOULOUSE-LAUTREC MONFA, HENRI DE

Lautrec, Odet de Foix, vicomte de (ôdā' du fwa' vĕkôt' du lōträk'), 1485–1528, marshal of France in the ITALIAN WARS He fought at Marignano (1515) and was subsequently governor of Milan Defeated at La Bicocca (1522), he was forced to evacuate Italy, he returned at the head of the French expedition of 1527 and reconquered Milan but died besieging Naples

Lauzon (lōzŏ'), town (pop 7,877), S Que , on the St Lawrence just NE of Lévis and opposite Île d'Orléans Settled in 1647, the town was named in 1867 for Jean de Lauzon, governor of New France, to whom the seigniory of Lauzon was granted in 1636 It is a shipbuilding and lumbering town with a large dry dock There are a commercial college and a convent

Lauzun, Antonin Nompar de Caumont, duc de (ätônĕ' nôpär' du kômô' dük' dŭ lōzŭ'), 1633–1723, French courtier and soldier He was sought in marriage by Mlle de MONTPENSIER, the king consented to the match, but forbade it three days later (1670) Suddenly imprisoned (1671), Lauzun was not freed till 1681 There were rumors of a secret marriage with Mlle de Montpensier, to which the intimacy of their relations from 1681 to 1684 and his mourning at her death (1693) lend support. They quarreled and separated in 1684 Lauzun brought the family of James II of England to safety in France after the Revolution of 1688, and in 1689–90 he commanded the Irish expedition which ended in failure at the battle of the Boyne.

lava (lä'vu), igneous ROCK erupted on the earth's surface or on the floor of the sea by a VOLCANO or through a fissure in the earth's surface The term is applied both to the liquid which issues from the earth and to the hardened rock In its state before being exposed to the air, liquid rock, mixed with gases, is known as magma. Lavas are composed chiefly of silica and the oxides of aluminum, iron, magnesium, calcium, sodium, and potassium Silica, with soda and potash, predominates in the light-colored, acid felsites, iron oxides, lime, and magnesia, in the dark-colored, basic basalts. Rock froth forms on the upper part of a lava flow if bubbles solidify before the gas can escape. Light-colored, glassy froth is pumice, dark, cindery or slaggy froth, of a coarser texture than pumice, makes scoriae Lava flows which solidify as a mass of blocks and fragments with a rough surface are called block lava, those which solidify with a smooth, ropy, billowy surface are known as corded lava or pahoehoe Lava is sometimes poured out over wide regions through great fissures in the earth's surface, as in the Columbia river plateau of the NW United States, in the Deccan plateau of India, and in Iceland The reasons for the heat and liquidity of magma, its exact source, and the causes of its rise in the earth are not clearly known, and there are conflicting interpretations dependent on conflicting hypotheses of the earth's origin Those who believe the earth was molten either at the beginning or very early in its history regard the heat and liquidity of magma as survivals of such a state Those who hold the earth to have been solid at the beginning generally explain hot, molten matter as the result of subsequent compression or of radioactivity Suggested causes of the rise of magma are the pressure exerted by overlying rock or in the formation of faults and folds, the enclosed gases undoubtedly play an important role

Lava Beds National Monument see NATIONAL PARKS AND MONUMENTS (table)

Lavaca Bay see MATAGORDA BAY

Laval, François Xavier de (frāswa' zavyā' du laval'), 1623?–1708, French prelate in Canada, first bishop of Quebec Of very noble family (his family name in full was Laval-Montmorency), he gave up his large patrimony to enter the Church The clergy of New France was under the archbishop of Rouen, and it was the desire of the Jesuits to be directly under the pope that caused Laval to be sent (1659) as vicar apostolic in New France Its such and later (1674–88) as first bishop of Quebec, he was the strongest figure of the Canadian church and one of the most powerful in the colony His vigor—which continued undiminished into his old age—and his stubborn fight for what he considered the welfare of his people made the Quebec church the vital force of colonial life He transformed education and founded a seminary which later was the nucleus of Laval Univ With the governors he fought bitterly, partly because they attempted to subordinate missionary effort to the state but more because the bishop was determined to prevent the debauching of the Indians by the alcohol of the traders Laval went back (1679) to France to protest against the actions of Frontenac and the "brandy parliament," and though he did not get government support, Frontenac was, nevertheless, recalled in 1682 Laval was succeeded as bishop by his former vicar general, Saint-Vallier Laval testily disapproved some of the new bishop's ways, but the Church continued strong and Laval's influence continued, he administered the see (1694–97, 1700–1708) in Saint-Vallier's absence Thus to the end of his life he had a hand in the building of New France He appears as a principal character in Willa Cather's novel *Shadows on the Rock* See biography by H A Scott (1926)

Laval, Pierre (pyĕr' läval'), 1883–1945, French politician Elected (1914) to the chamber of deputies as a Socialist, he fought in the First World War and in 1924 returned to the chamber as a Republican (conservative) He held various cabinet posts under Painlevé, Briand, Tardieu, Doumergue, and Flandin, and was premier in 1931–32 and in 1935–36 In 1931 Laval conferred with President Hoover on the problem of WAR DEBTS His fall in 1936 followed the publication of the Hoare-Laval plan, he and Sir Samuel Hoare had proposed to appease Mussolini by giving Italy a large part of Ethiopia Increasingly conservative, Laval championed Franco-German cooperation and reached new prominence on the fall of France in 1940 In the VICHY GOVERNMENT under Marshal Pétain he became foreign minister and successor-designate to Pétain but in Dec , 1940, he was abruptly dismissed and replaced by DARLAN, apparently on the suspicion that he was planning to overthrow the Pétain regime Passing into the German-occupied part of France, Laval became an outspoken advocate of collaboration with Germany Pétain reinstated Laval in April, 1942, and gave him dictatorial powers (Nov , 1942) Laval agreed to draft labor for Germany, authorized a French fascist militia, and instituted a rule of terror After the Allied invasion of France he moved (1944) his government to S Germany, fled (May, 1945) to Spain, was expelled, and flew to Austria. There he surrendered to American forces, who extradited him to France He was tried for treason and sentenced to death After an unsuccessful attempt at suicide he was executed Laval's trial, even if the justice of the verdict is not questioned, was conducted in an irregular manner which was denounced by many as a failure of justice. Laval defended himself brilliantly and tried to ascribe patriotic motives to his opportunist policies His notes for his defense, written in prison, were edited by his daughter, Josée Laval, comtesse de Chambrun, and appeared in English as *The Diaries of Pierre Laval* (1948).

Laval (laval'), town (pop 28,171), capital of Mayenne dept , NW France, in Maine The Mayenne river divides the old and modern sections of the town, which was founded in the 9th cent Laval has been noted for its linen manufactures since the 14th cent It was a center of the Chouans in the French Revolution

Laval des Rapides (läval' dā răpēd'), town (pop 3,242), on Île Jésus, S Que , on the north bank of the Rivière des Prairies and W of Montreal

Lavalle, Juan (hwän' lava'yā), 1797–1841, Argentine general, governor of Buenos Aires province (1828–29) He served (1816–24) in the War of Independence and (1826–28) in the war with Brazil Returning to Buenos Aires, he led his troops in revolt (Dec 1, 1828) against the governor, Manuel DORREGO, who fled Lavalle was proclaimed governor He pursued Dorrego, defeated him, and ordered his summary execution (Dec. 13, 1828) The Argentine provinces protested, a national convention pronounced the execution high treason Forces commanded by Estanislao Lopez, governor of Santa Fe, and Juan Manuel de ROSAS defeated Lavalle (April, 1829), who took refuge in Montevideo Aided by Argentine exiles there and, for a time, by French officials, Lavalle organized an army in 1839 and, invading Argentina, campaigned against Rosas The campaign was generally unsuccessful, Lavalle was decisively defeated by Manuel ORIBE, an ally of Rosas, in 1841 He was killed when attempting to reach Bolivia

Lavalleja, Juan Antonio (hwän' antô'nyō laväyä'ha), c 1786–1853, Uruguayan revolutionist After serving under ARTIGAS, Lavalleja was imprisoned for a short time by Brazil, then in control of Uruguay Subsequently he led a small group—the Thirty-three Immortals—in a declaration of independence from Brazil in 1825 To secure support from Buenos Aires this declaration accepted the sovereignty of the United Provs of La Plata After the victory of ITUZAINGÓ (1827), Uruguay became (1828) an independent buffer state Two bitter rivals sought the presidency in 1830—Lavalleja and Fructuoso RIVERA Rivera ultimately won power, and the disgruntled Lavalleja twice (1832, 1834) revolted unsuccessfully From exile in Buenos Aires he joined Manuel ORIBE against Rivera After the long civil war (1843–51), Lavalleja was one of a triumvirate chosen (1853) to govern Uruguay, but he died before serving

La Vallière, Louise Françoise de la Baume Le Blanc de (lwēz' frāswaz' du la bōm' lu blă' du la valyĕr'), 1644–1710, French beauty, favorite of Louis XIV Maid of honor to Louis's sister-in-law, Henrietta of England, she became the king's mistress in 1661 She bore him four children, of whom two died in infancy In 1667, by the same government act which legitimized her daughter, she was created a duchess She was replaced in the king's affections by Mme de Montespan In 1674 she retired to a Carmelite convent and became celebrated for her piety See Jules Lair, *Louise de la Vallière and the Youth of Louis XIV* (1908)

Laval-Montmorency, François Xavier de. see LAVAL, FRANÇOIS XAVIER DE

Laval University, at Quebec, Que , Catholic, partly coeducational, French language, chartered 1852, an outgrowth of a seminary established 1663 by Bishop Laval In 1876 a branch was established in Montreal, which in 1920 became independent as the Univ of Montreal Laval has faculties of arts, law, medicine, theology, philosophy, and commerce Plans for expansion and modernization were made in 1948 Affiliated institutions include numerous "classical colleges" in Quebec prov , St Dunstan's Univ in Prince Edward Island, and the Jesuit College in Alberta

Lavater, Johann Kaspar (yo'han kas'par lă'vätur, lava'tur), 1741–1801, Swiss preacher and theological writer He is remembered for his work on physiognomy, the art of judging character from facial characteristics

Lavedan, Henri Léon Émile (ärē' läd' ämēl' lavudă'), 1859–1940, French dramatist His comedies, some of which were produced by Otis Skinner in the United States, include *Le Prince d'Aurec* (1892), *Les Deux Noblesses* (1897), *Le Marquis de Priola* (1902, Eng tr , 1919), *Le Duel* (1905, Eng tr , 1906), *Le Goût du vice* (1911), and *Servir* (1913, Eng tr , *Service*, 1918) He was also known for his risqué novelettes Lavedan was elected to the French Academy in 1898

lavender, any plant of the genus *Lavandula*, herbs or shrubby plants of the mint family, most of which are native to the Mediterranean region but naturalized elsewhere The true lavender has grayish foliage and small blue flowers (white in one variety) It is popular for herb gardens and is cultivated commercially (chiefly in France and England) for the fragrant flowers, valued for scenting linens and clothes and as the source of oil of lavender The oil is distilled for use in perfumery, in toilet preparations (e g , lavender water, a mixture composed chiefly of lavender oil and alcohol with perhaps

musk or civet as a fixative), and in medicine. Lavender is sometimes used as a flavoring Spike lavender, a broader-leaved, less fragrant species, yields spike-lavender oil, which is also used in perfumery and in varnishes and porcelain painting

Laveran, Charles Louis Alphonse (shärl' lwē' älfôs' lävürä'), 1845–1922, French physician While an army surgeon in Algiers he discovered (1880) the parasite which causes MALARIA and wrote many treatises on this subject He received the 1907 Nobel Prize in Physiology and Medicine for his work on protozoa in the causation of disease.

La Vérendrye, Pierre Gaultier de Varennes, sieur de see VÉRENDRYE

La Verne (lä vûrn'), city (pop 3,092), S Calif , E of Los Angeles, inc 1906 La Verne College is a Dunkard foundation

Lavery, Sir John (lā'vürē), 1856–1941, British painter, leader of the Glasgow school of painting, b Belfast, studied in Glasgow, London, and Paris He enjoyed international honors and is represented in many European and British galleries He was knighted in 1918 Well-known paintings are *The Bridge at Grés* (Carnegie Inst , Pittsburgh) and *The Royal Family in Buckingham Palace* (National Portrait Gall , London) A portrait of Cardinal Hayes is at Fordham Univ See his autobiography, *The Life of a Painter* (1940)

Lavigerie, Charles Martial Allemand (shärl'märsäl' älmä' lavēzhürē'), 1825–92, French churchman, cardinal of the Roman Church, b near Bayonne He was ordained in 1849 and became prominent in the new Écoles d'Orient He was an authority on Islam He was bishop of Nancy (1863–67), archbishop of Algiers (1867–92), and archbishop of the reestablished see of Carthage (1884–1902) His jurisdiction included all French Africa His most successful efforts were directed toward African missions to Moslems, and he founded the White Fathers (the Society of Missionaries of Africa) for this work He was a leader in the abolition of slavery in Africa Cardinal Lavigerie made a sensation when (1890) he repudiated royalism and called on Catholics to support the republic wholeheartedly

Lavisse, Ernest (ĕrnĕst' lavēs'), 1842–1922, French historian, professor at the Sorbonne His earlier works deal chiefly with the history of Prussia Among them are *Études sur l'histoire de la Prusse* (1879), *La Jeunesse du grand Frédéric* (1891, Eng tr , *The Youth of Frederick the Great*, 1891), and *Le Grand Frédéric avant son avènement* [Frederick the Great before his accession] (1893) His chief fame rests, however, on his brilliantly successful editorship of several large collectively written works With Alfred Rambaud he edited *Histoire générale du IV ème siècle à nos jours* (12 vols , 1893–1901) Alone, he edited *Histoire de France depuis les origines jusqu'à la révolution* (9 vols in 18, 1900–1911) and *Histoire de France contemporaine* (10 vols., 1920–22) Some of the best volumes in all three collections are by Lavisse himself; among his distinguished collaborators were Aulard, Luchaire, Pirenne, and Seignobos Their volumes are a synthesis of political, cultural, economic, and social history and remain a model for similar undertakings Lavisse also wrote *Souvenirs* (1912).

Lavoisier, Antoine Laurent (ätwän' lôrä' lävwäzyā'), 1743–94, French chemist and physicist, a founder of modern chemistry He studied under eminent men of his day, won early recognition, and was admitted to the Academy of Sciences in 1768. Much of his work was the result of extending and coordinating the research of others, his concepts were largely evolved through his superior ability in organizing and interpreting and were substantiated by his own experiments He was one of the first to introduce effective quantitative methods in the study of chemical reactions He found the explanation of combustion, thereby discrediting the phlogiston theory, and explained the role of oxygen in the respiration of both animals and plants His classification of substances is the basis of the modern distinction between chemical elements and compounds and of the system of chemical nomenclature He also conducted experiments to establish the composition of water and of many organic compounds Lavoisier was appointed director of the gunpowder commission (1775), member of the committee on agriculture (1785), director of the Academy of Sciences (1785), member of the commission on weights and measures (1790), and commissioner of the treasury (1791). He worked to improve economic and social conditions in France. As one of the farmers general, charged with the collection of taxes, he was guillotined during the Reign of Terror His works include *Traité élémentaire de chimie* (1789) and the posthumously published *Mémoires de chimie* (2 vols., 1805). See biographies by Douglas McKie (1935) and S. J. French (1941)

La Voisin: see POISON AFFAIR

Lavongai (lävông'ī), volcanic island (c 460 sq. mi.; pop c 5,000), SW Pacific, in the BISMARCK ARCHIPELAGO and part of the Territory of New Guinea. The island is mountainous and densely forested. It was formerly called Neu Hannover, later New Hanover.

Lavonia, city (pop. 1,667), NE Ga., near the S.C. line NE of Athens, in a farm area.

Lavrion, Greece see LAURION

Law, Andrew, 1748–1821, American composer, b. Milford, Conn. He wrote rather simple hymn tunes, being opposed to the florid style of William Billings In his *Select Harmony* (1778), *Collection of Best Tunes and Anthems* (1779), and other compilations, he collected and arranged many tunes of other composers. He was one of the first Americans to arrange hymns with the melody in the soprano instead of the tenor part, and he devised a system of notation using notes of various shapes and dispensing with the staff. The latter innovation was virtually ignored in New England, where he worked, but something like it was later used in the South in the notation of gospel songs Law was one of the first Americans to write about music, his *Essays on Music* appearing in 1814

Law, Andrew Bonar (bō'nûr), 1858–1923, British statesman, b Canada He went to Scotland as a boy and in 1900, after a business career, was elected as a Conservative member of Parliament In 1911 he succeeded Balfour as leader of the Conservative opposition In the first coalition cabinet under Herbert Asquith (1915) he became colonial secretary and in 1916, under Lloyd George, became chancellor of the exchequer and leader in the House of Commons He resigned party leadership in 1921 and in 1922 led the revolt from the wartime coalition He became prime minister that year, but had to resign the next May because of ill-health

Law, Edward see ELLENBOROUGH, EDWARD LAW, 1ST BARON, and ELLENBOROUGH, EDWARD LAW, 1ST EARL OF

Law, John, 1671–1729, Scottish financier in France After killing a man in a duel he fled to Amsterdam, where he studied banking Returning to Scotland (1700), he proposed to Parliament plans for trade and revenue reforms and published *Money and Trade Considered* (1705) His ideas and a proposal for a national bank were rejected, and Law went to France The finances of France were in critical condition at the death of Louis XIV, and Law succeeded in winning the support of the regent, Philippe II, duc d'ORLÉANS, for a scheme which promised quick and easy gains for the treasury, for French trade and industry, and for speculators (among whom the regent was not the least greedy). In 1716 the regent chartered Law's Banque générale and authorized it to issue paper currency, in 1717 Law acquired the monopoly of commercial privileges in Louisiana and organized the Compagnie d'Occident, which was consolidated (1719) with the French East India Company and other organizations as the Compagnie des Indes, in 1719 the Banque générale was made the royal bank, and its issues of notes were guaranteed by the state Finally (1720) Law, made controller general of finances, merged the huge stock company with the royal bank and took over most of the public debt and the administration of revenue A frenzy of speculation swept France from 1717, all but the destitute bought stock, which soared to heights far beyond what could be expected in returns, within a reasonable future, from the exploitation of the colonies (see MISSISSIPPI SCHEME). The bubble burst suddenly An attempt to devaluate the paper currency destroyed public confidence Well-informed speculators sold their stock at huge profits, but then the whole system collapsed, ruining thousands of investors, and Law left France in disgrace He died in Venice, where he had supported himself by gambling The three years of dizzy speculation caused by Law's "system" left a profound impression on France and greatly helped to discredit the *ancien régime* Law's monetary theories have found defenders among later economists, but their application was certainly reckless and clumsy

Law, William, 1686–1761, English clergyman, noted for his controversial, devotional, and mystical writings. As a nonjuror, refusing to take the required oaths upon the accession of George I, Law was deprived of his fellowship in Emmanuel College, Cambridge, and gave up all chances for advancement in the Church. Unexcelled among the controversialists of his day, he was also a leading writer on practical divinity In the former role he wrote *Three Letters to the Bishop of Bangor* (1717–19) in the BANGORIAN CONTROVERSY, *Remarks on the Fable of the Bees* (1724), an attack on Mandeville's satire, and *The Case of Reason* (1731), in reply to Matthew Tindal, the deist. In the field of practical religion, few books have been given so high a place as his *Serious Call to a Devout and Holy Life* (1728). Its influence was acknowledged by Dr Samuel Johnson, Edward Gibbon, and John Wesley and reached deeply into early Methodism In *The Spirit of Prayer* (1750) and *The Spirit of Love* (1754) is discernible the influence of Law's study of Jakob Boehme, the mystic Law's collected works (9 vols , 1753–76) were edited by G. B Morgan in 1892–93 See biography by J. H. Overton (1881); W. R Inge, *Studies of English Mystics* (1906); Stephen Hobhouse, *William Law and Eighteenth Century Quakerism* (1927), J. B. Green, *John Wesley and William Law* (1945).

Law, the, in Judaism: see TORAH.

law. Any organized society, however simple or small, of necessity has rules of conduct which are enforced by threat of punishment if they are violated. In essence, such rules may be denoted as law. Law does not, however, develop systematically until a state with a centralized police authority has appeared For this development a written language is not required, but necessarily the first records known are from literate societies. Examples of early law systems are to be found in the code of HAMMURABI (Babylonia), the Laws of MANU (India), and the Mosaic code (Palestine) These codes show what would seem to be the universal tendency of the religious and ethical system of a society to produce a legal order to enforce its ethical and social mandates. In classical antiquity the first codes of law are those attributed to SOLON and to LYCURGUS The first in Roman history was the Law of the Twelve Tables, the prelude to the development of ROMAN LAW, a highly elaborate system which has been of immeasurable influence on the growth of Western law It was summarized in the CORPUS JURIS CIVILIS in the time of Justinian Roman law developed the distinction between public law (in which the state is concerned directly, e g , treason and taxation) and private law (concerned with disputes between persons, e g , over contracts). The breakup of the Roman Empire under the pressure of the Germanic invasions brought the disruption of the Roman legal administration. Temporarily the codes of GERMANIC LAWS eclipsed Roman law in Western Europe In the simpler Germanic codes the main distinctive element was the use of composition for crimes, but most of the Germanic codes showed at least some Roman influence, and Roman law, together with the Bible, was the basis of CANON LAW, the legal system of the Roman Catholic Church, while Moslem law was derived from the Koran and the traditional sayings of Mohammed and later Hebrew law was based on the Talmud Feudal law also showed the effects of Roman law, though in theory it was based not upon any concept of the state but on personal relations (see FEUDALISM) The revival of trade in the commercial revolution and the Renaissance brought new developments in the law of the sea (see MARITIME LAW) The study of Roman law itself was also revived, notably at the Univ of Bologna It became the basis of most Continental law, as exemplified in the French Code Napoléon, the archetype of codes that govern the jurisdiction of CIVIL LAW In England after the Norman Conquest the feudal law was ultimately replaced by the law of the royal courts, such as the king's bench. The royal courts developed COMMON LAW, i e , judicial legislation as opposed to the law of the formally enacted STATUTE Common law adhered excessively to precedent, and EQUITY, exercised by the king's chancery, appeared, with its reliance upon the dictates of conscience rather than upon precedent The two systems became bitter rivals In the early 17th cent Francis BACON championed equity, while such eminent jurists as Edward Coke upheld the common law. In the 18th cent. English jurisprudence stressed natural law (the theory that law must incorporate the NATURAL RIGHTS of man), and the highly influential work of Sir William BLACKSTONE exemplifies the theory The work of Blackstone was the most important influence in U S. law (except for Louisiana, Puerto Rico, and the Virgin Islands, where Continental civil law prevailed) Among those who helped to develop the American concept of law James KENT and Joseph STORY may be mentioned, in constitutional law the most important figure was John MARSHALL. In the United States the distinctive feature is the coexistence of Federal and state law, for the U.S. Constitution limits the sphere in which Federal law is supreme Modern law has a wide sweep and regulates many branches of conduct An instance of the continual evolution of law to meet the ever-changing conditions of society is the development of corporation law in recent days.

Lawes, Sir John Bennet (lôz), 1814–1900, English agriculturist. He founded the famous experimental farm at Rothamsted, where, with Sir J H. Gilbert, he experimented with plants and animals. He developed the fertilizing material called superphosphate, which marked the beginning of the chemical fertilizer business. His experiments are recorded in the journals of various scientific organizations. See also ROTHAMSTED EXPERIMENTAL STATION.

Lawes, Lewis Edward, 1883–1947, American penologist, b. Elmira, N Y. As warden (1920–41) at Sing Sing Prison, Ossining, N.Y., he carried out many reforms. He was active in promoting general prison reform, advocating education of convicts and abolition of capital punishment. *Twenty Thousand Years in Sing Sing* (1932) is the best known of his books Others include *Man's Judgment of Death* (1924) and *Stone and Steel* (1941).

Lawless, Emily (lô'lĭs), 1845–1913, Irish novelist, b. Co. Kildare. She led a secluded life on her estate, writing novels of the Irish peasantry. Her work includes *Hurrish* (1886), *Grania* (1892), and poems, *With the Wild Geese* (1902).

law merchant: see COMMERCIAL LAW.

lawn, grass turf or greensward in private yard or public park A good lawn or green has both beauty and usefulness, its maintenance for golf, tennis, and other sports is a costly and specialized procedure It requires good soil, frequent watering and mowing, and occasional rolling and fertilising The grass planted should be suited to the climate, soil, and ultimate uses of the lawn Grasses most often selected for northern climates are bent types (which include redtop), bluegrass (the most widely used is Kentucky bluegrass), fescue grass (Chewings' variety is shade tolerant), and white clover. In southern areas, lawns are usually planted with Bermuda grass, St Augustine grass, carpet grass, or Korean lawn grass To start a lawn, seed is generally sown, but runners or stolons may be planted if the grasses are creeping bents, Bermuda grass, or carpet grass, or the area may be sodded, in which case blocks of turf are cut Weed pests, such as dandelions and crab grass, must be kept from gaining a foothold Chemical preparations are available which when sprayed on the lawn will kill many weeds present but will not injure the grass See *Planting and Care of Lawns* (U S Dept of Agriculture, Farmers' Bul 1677), H B Sprague, *Better Lawns* (1940).

lawn bowling. see BOWLS

Lawndale, town (pop 1,006), W N C , N of Shelby, in a piedmont farming area

Lawnside, borough (pop 1,270), SW N J , SE of Camden, inc 1926 The site was bought for Negroes by abolitionists in 1840 and named Free Haven Almost all the inhabitants are Negroes

lawn tennis· see TENNIS

Lawrence, Saint, d 258, Roman deacon and martyr He is supposed to have been roasted to death on a gridiron because of his faithful administration of church funds He is honored in the Roman Church by a mention in the canon of the Mass and by a vigil and octave to his feast, Aug 10 His attribute is a gridiron The Escorial was dedicated in his honor.

Lawrence, Abbott, 1792–1855, American manufacturer and statesman, b Groton, Mass In 1808 he was apprenticed to his brother, Amos Lawrence, a merchant in Boston, and in 1814 he became a member of the firm known as A & A Lawrence Later he was active in the cotton mills at Lowell and was a founder of the textile city of Lawrence, Mass , which was named for him A reluctant convert to the protective tariff, along with other New England merchants turned manufacturers, he later supported it in the U S Congress (1835–37, 1839–40) He served on the Northeast Boundary Commission (1842) and was minister to Great Britain (1849–52) While in England he was able to relieve somewhat the strained relations between the two countries over the proposed Isthmian canal and the status of the Mosquito Coast Lawrence supported the work of Louis Agassiz and other scientists, giving $50,000 to Harvard to establish the Lawrence Scientific School. See biography by H A. Hill (1883)

Lawrence, Amos Adams, 1814 86, American colonizer and philanthropist, b. Boston, grad Harvard, 1835, nephew of Abbott Lawrence After working in the textile mills of Lowell, he set up a bank in Boston and later established (1860) a huge knitgoods factory at New Ipswich Lawrence contributed liberally for the colonization of Liberia and the EMIGRANT AID COMPANY which sent settlers into Kansas. His interest in education aided the founding of the Univ of Kansas at Lawrence, Kansas (the city was named for him) and Lawrence College at Appleton, Wis Lawrence was also a generous benefactor of the Episcopal Theological School and Harvard Univ See biography by his son, Bishop William Lawrence (1888)

Lawrence, Charles, 1709–60, governor of Nova Scotia, b. England He came to Nova Scotia in 1747 in command of a regiment He was appointed (1749) to the council of Nova Scotia and was made lieutenant governor (1754) and governor (1756). It was mainly by his orders as governor that the Acadians were deported (see ACADIA) It was in his regime, but not with his approval, that the first elected assembly of Nova Scotia met (1758), it is the oldest representative body in Canada He attained the rank of brigadier general and commanded a brigade at the siege of Louisburg.

Lawrence, David Herbert, 1885–1930, English author The son of a Nottingham coal miner, Lawrence was encouraged by his mother to go to school and college and to become a teacher Dissatisfied and unhappy, he attempted in his fiction to show the deep natural and instinctive forces in men and women which might bring them happiness These he expressed by writing symbolically or explicitly of primitive peoples and of primitive passions in more sophisticated individuals. Psychoanalysis, theosophy, history, archaeology, and observation furnished him materials and interpretations, all transmuted by his unusual personality His novels include *Sons and Lovers* (1913), probably his most widely known work, *The Rainbow* (1915), *Women in Love* (1920), *The Plumed Serpent* (1926), *Lady Chatterley's Lover* (1928), and *The Virgin and the Gypsy* (1930) Of his poems, the series "Birds, Beasts, and Flowers" is both typical and important. He wrote a play, many short stories, some of which are collected in *Love among the Haystacks* (1930), and essays such as *Reflections on the Death of a Porcupine* (1925) Other writings include *Psychoanalysis and the Unconscious* (1921), *Studies in Classic American Literature* (1923), and *Mornings in Mexico* (1927) Lawrence exhibited his paintings in London in 1929 He used much of his restless life seeking healthful climates, especially in Italy, New Mexico, and Mexico, with his German wife, Frieda von Richthofen Lawrence He died in S France of tuberculosis See his wife's book, "*Not I, but the Wind* " (1934), his letters (ed by Aldous Huxley, 1932), letters to Bertrand Russell (ed by H T Moore, 1948), and Earl Brewster and Achsah Brewster, *D H Lawrence Reminiscences and Correspondence* (1934), his *Apocalypse* (introduction by Richard Aldington, 1932) and *Phoenix* (posthumous papers, ed, by E D McDonald, 1936), selections of his work, *The Portable D H Lawrence* (ed by Diana Trilling, 1947) and *Selected Poems* (ed by Kenneth Rexroth, 1948), studies by J Middleton Murry (1931), Catharine Carswell (1932), Dorothy Brett (1933), Hugh Kingsmill (1938), W Y Tindall (1939), Knud Merrill (1939), and Richard Aldington (1950)

Lawrence, Ernest Orlando, 1901–, American physicist, b Canton, S Dak , grad Univ of South Dakota (B A , 1922), Ph D Yale, 1925 Affiliated with the Univ of California from 1928, he became professor in 1930 and director of the radiation laboratory in 1936 For his invention and development of the atom-smashing CYCLOTRON and his researches in atomic structure and transmutation he received the 1939 Nobel Prize in Physics With the cyclotron he has produced artificially radioactive elements and neutrons useful in nuclear, chemical, and biological research

Lawrence, Sir Henry Montgomery, 1806–57, British general and administrator in India He fought in expeditions against Burma (1824–27), in the first Afghan War (1839), and in the Sikh Wars (1845–49) In charge with his brother John Laird Mair Lawrence of the reorganization of the Punjab, he resigned (1850) because of a difference on policy He was killed in the heroic defense of Lucknow during the SEPOY REBELLION See biography by McLeod Innes (1898) and biography of his wife, *Honoria Lawrence,* by Maud Diver (1936)

Lawrence, James, 1781–1813, American naval hero, b Burlington, N J He entered the navy in 1798 and saw his first important service in the Tripolitan War He commanded the *Enterprise* under Decatur He participated in both David Porter's gallant attack on Tripoli and the burning of the frigate *Philadelphia* He commanded the *Hornet* at the outbreak of the War of 1812 and in a cruise along the South American coast met and defeated the British brig of war *Peacock* Promoted captain in 1813 and given command of the *Chesapeake* at Boston, he was ordered to proceed northward to intercept British supply ships coming to Canada On his way out he met and engaged the British frigate *Shannon* which had been blockading Boston His words "Don't give up the ship!" shouted as he was carried from the deck, mortally wounded, became a popular naval battle cry See biography by Albert Gleaves (1904)

Lawrence, John Laird Mair Lawrence, 1st **Baron,** 1811–79, viceroy of India, brother of Sir Henry Montgomery Lawrence. He served with energy and intelligence in many administrative posts and took an important part in the Sikh Wars (1845–49) The Punjab, acquired at this time and reduced to order by John and Henry Lawrence, was also reclaimed from the SEPOY REBELLION (1857) by John As viceroy (1864–69) of India he accomplished much in public works and sanitation and opposed, both in office and after his retirement, the policies of expansion which led to the Afghan Wars See Charles Aitchison, *Lord Lawrence and the Reconstruction of India under the Crown* (1897)

Lawrence, Sir Thomas, 1769–1830, English portrait painter. He began to draw when very young and at the age of 12 was making excellent portraits in crayon In his 17th year he commenced to paint in oil and in 1787 entered the Royal Academy schools, exhibiting a number of portraits and imaginative works in the same year His portrait of Miss Farren, the actress, exhibited in 1789, established his reputation He soon won royal patronage and, after the death of Reynolds and Hoppner, became the fashionable portrait painter of his day He succeeded (1792) Reynolds as painter in ordinary to the king, became (1794) Academician, and was knighted in 1815 After the fall of Napoleon, he was sent by George IV to the conference at Aix-la-Chapelle to paint the dignitaries assembled there (portraits in Waterloo Gall., Windsor Castle, England). He then visited Vienna and painted portraits of the emperor and others and subsequently went to Rome, where he painted Pope Pius IV and Cardinal Gonsalvi (both in Windsor Castle) Upon his return, in 1820, he succeeded Benjamin West as president of the Royal Academy of Arts. Lawrence's portraits of children, though somewhat artificial in pose and expression, are decorative and charming The best of these are the group *The Calmady Children,* also called *Nature* (Metropolitan Mus); the children of the marquess of Londonderry, and *Penize* (Huntington Gall), one of his masterpieces Among the best known of his numerous works are portraits of Mrs Siddons, Benjamin West, and Princess Lieven (National Gall , London), George IV, Princess Caroline, and Wilberforce (National Portrait Gall , London), Lady Ellenborough, Lady Wyndham, John Julius Angerstein (Metropolitan Mus), Julia, Lady Peel (Frick Coll., New York), Lord and Lady Lyndhurst (Mus of Fine Arts, Boston). See study by Sir Walter Armstrong (1913)

Lawrence, Thomas Edward, 1888–1935, British adventurer, soldier, and scholar, educated at Oxford Lawrence in 1910 set out alone on a walking tour of Syria The following year he joined a British Museum archaeological expedition in Mesopotamia He remained in the Arabian regions until 1914, learning colloquial Arabic and making exploratory trips into the surrounding area After the outbreak of the First World War, Lawrence was attached to the intelligence section of the British army in Egypt In 1916, feeling the need for closer liaison with the Arabs, Lawrence joined the Arab forces under Feisal al Husain (FEISAL I) and fostered their revolt against Turkish domination Lawrence threatened Turkish communications by attacks on the Hejaz railroad and later led in the occupation of the important port of Aqaba In cooperation with General ALLENBY, Lawrence induced the Arab forces under Feisal to move northward, attacking trains and rail lines with great success Turkish forces were defeated and Turkish power permanently broken In 1918 Lawrence entered Damascus with the Arabs before Allenby He was a delegate to the Paris Conference, but there failed to achieve Arab independence Pursued by a feeling that he had betrayed his friends and by an almost pathological aversion to publicity, Lawrence, under the name of Ross, enlisted as a mechanic in the Royal Air Force When his identity had been discovered he went into the tank corps, he later again served with the Royal Air Force He legally adopted the name T E Shaw, meanwhile "Lawrence of Arabia" was a semilegendary figure in his own lifetime In 1919 he lost the greater part of the manuscript of the narrative of his Arabian adventures which he had written after his failure at Paris and rewrote the whole without his notes, which he had destroyed as he worked on the first draft In 1927 an abridged version appeared as *Revolt in the Desert,* and the complete work came out as *The Seven Pillars of Wisdom* (privately printed, 1926, pub 1935) *The Mint,* an account of his life in the Royal Air Force, written under the pseudonym J H Ross, was by his will forbidden publication before 1950 Other works are a translation of the *Odyssey* (1932), *Oriental Assembly* (fugitive papers, ed by his brother, A W Lawrence, 1940), and his letters (ed by David Garnett, 1939) See biographies by Robert Graves (1928) and B H Liddell Hart (1934), *T E Lawrence* (ed by A W Lawrence, 1937), *T E Lawrence to His Biographers* (ed by Robert Graves and Liddell Hart, 1938)

Lawrence, William, 1850–1941, American Episcopal bishop, b Boston, grad Harvard, 1871, and Episcopal Theological School, Cambridge, Mass , 1875, son of Amos A Lawrence He was rector (1876–84) of Grace Church, Lawrence, Mass , and taught homiletics and pastoral theology at the Episcopal Theological School from 1884 to 1893, when he succeeded Phillips Brooks as bishop of Massachusetts A supporter of liberal theological views in his denomination and a man of marked business ability, he founded the Episcopal church pension system, for which he raised an initial fund of over $8,000,000 He wrote biographies of his father (1889), of Roger Wolcott (1902), of Henry Cabot Lodge (1925), and of Phillips Brooks (1930) See his autobiography, *Memories of a Happy Life* (1926), biography by H K Sherrill (1943) His son, **William Appleton Lawrence,** 1888–, b Cambridge, Mass , grad Harvard, 1911, and Episcopal Theological School, 1914, became bishop of Western Massachusetts in 1937

Lawrence, William Beach, 1800–1881, American political leader and jurist, b New York city, grad Columbia, 1818 He was appointed secretary of legation in Great Britain in 1827 and in 1828 was made chargé d'affaires He returned to New York city in 1829, there he practiced law and wrote several legal studies Lawrence moved to Rhode Island in 1850, was elected lieutenant governor in 1851, and was acting governor in 1852 Soon afterward he retired from politics to devote himself to international law His annotated edition of Henry Wheaton's *Elements of International Law* (1855) was long standard From his service on a commission to codify international law came his *Commentaire sur les éléments du droit international* [commentary on the elements of international law] (4 vols , 1868–80)

Lawrence. 1 Town (pop. 1,087), central Ind., near Indianapolis. 2 City (pop. 14,390), co. seat of

Douglas co , NE Kansas, on the Kansas river and WSW of Kansas City, inc 1858 It was founded in 1854 by the New England Emigrant Aid Company with Charles ROBINSON as agent and named for Amos A Lawrence The Plymouth Congregational Church (1854) here was the first church of white settlers in Kansas During the next few years the town was the political center of the Free Staters and was actually, though not legally, capital for a while after 1857 A proslavery raid on the town (1856) led to the retaliatory Pottawatamie killings by John BROWN In 1863 the town was again sacked and burned, this time by William QUANTRILL The city is the industrial, commercial, and shipping center for an agricultural area and has processing plants The Univ of Kansas (see KANSAS, UNIVERSITY OF) and Haskell Institute (1884), largest Indian school in the United States, are here **3** City (pop 84,323), a co seat of Essex co , NE Mass , on the Merrimack and NE of Lowell, settled 1655, set off from Andover and Methuen 1847, made a city 1853 It is a port of entry Boston capitalists laid out an industrial town here in 1845 and built in the Merrimack a granite dam that has stood through all the floods, including that of 1936 They built mills and workers' dwellings, which were soon crowded with laborers, mainly from Europe Lawrence became one of the world's greatest centers for woolen textiles Shoes, paper products, and radio equipment are also made Several disastrous events occurred the collapse and fire of the Pemberton Mill in 1860, when over 500 trapped workers were killed or injured, the tornado of 1890, and the labor strife of 1912, when the strikers (I W W members) finally won some of their demands See M B Dorgan, *History of Lawrence, Massachusetts* (1924) **4** Residential village (pop *3,649*), on the south shore of Long Island, SE N Y , near Lynbrook, inc 1897 Toys are made here

Lawrenceburg. **1** City (pop 4,413), co seat of Dearborn co , SE Ind , on the Ohio and W of Cincinnati, laid out 1802 It is a port of entry Whisky is distilled here Prehistoric fortifications were found near by A flood inundated the city in 1937 **2** City (pop 2,046), co seat of Anderson co , N Ky , just S of Frankfort, in the bluegrass region, settled 1776 as Coffman's Station, inc 1820 It is a farm trade center, with a distillery and several small factories **3** City (pop 3,807), co seat of Lawrence co , S Tenn., SSW of Nashville, in a dairy, livestock, and cotton area, founded c 1815 It has a cheese factory and other industries

Lawrence College of Wisconsin, at Appleton, always nonsectarian, one of the coeducation pioneers, chartered 1847, opened 1849 by Methodists with a gift from Amos A Lawrence It was called a university until 1908 It has a music conservatory, the affiliated Institute of Paper Chemistry (graduate, first of its kind), and an American history museum Student guidance and individualized education are stressed

Lawrenceville. **1** City (pop 2,223), co seat of Gwinnett co , N central Ga , NE of Atlanta, inc 1821 Shoes are made here **2** Industrial city (pop 6,213), co seat of Lawrence co , SE Ill , on the Embarras near the Wabash, in an oil, natural-gas, and farm region, founded 1821, inc 1835 The city has oil refineries and manufactures oil-well and telephone equipment, asphalt products, chemicals, and gasoline **3** Village, W N J , between Trenton and Princeton, settled 1692 It is the site of a transoceanic radiotelephone transmitting station Lawrenceville School for boys (preparatory, nonsectarian, est 1810) is here **4** Town (pop 1,703), S Va , SSW of Richmond and near the N C line, in a tobacco area, founded 1814, inc 1874 St Paul's Polytechnic Institute (for Negroes) and the courthouse of Brunswick co are here

Lawrie, Lee (lô'rē), 1877–, American sculptor, b Germany Brought to America as an infant, he studied with Augustus Saint-Gaudens and Philip Martiny He has specialized in architectural sculpture Among his works are decorations for the U S Military Academy at West Point, the state capitol at Lincoln, Nebr , and the Harkness Memorial Tower and Arch at Yale, the *Prometheus* in Rockefeller Center, New York, and sculptures in the Church of St Vincent Ferrer, St Thomas Church, and the Chapel of the Intercession, New York

Lawson, Ernest, 1873–1939, American landscape painter, b San Francisco He studied art in Kansas City, in New York under J Alden Weir and Twachtman, and in Paris On returning to New York he joined the independent artists' group called The EIGHT and was one of the organizers of the Armory Show of 1913 His fine, impressionistic landscapes won him many awards and he is represented in most leading American galleries. *High Bridge* (Whitney Mus , New York) is a characteristic example of his work

Lawson, John, d 1711, English explorer of North Carolina He came to the Carolinas in 1700 and within the next few years traveled approximately 1,000 mi through previously unexplored parts. His detailed, lively description of the flora, the fauna, and the Indians, *A New Voyage to Carolina* (1709), was several times reissued as the *History of Carolina* Lawson was one of the incorporators (1705) of Bath, N C , was made surveyor general of North Carolina in 1708, and was one of the founders of New Bern, N C He was captured and put to death in the Tuscarora uprising of 1711 See F L Harriss, ed , *Lawson's History of North Carolina* (1937)

lawsuit. see PROCEDURE.

Lawton. **1** Village (pop 1,134), SW Mich , SW of Kalamazoo, in a grape area, inc 1858 Grape juice and roller bearings are made **2** City (pop 18,055), co seat of Comanche co , SW Okla , near the Wichita Mts ,, founded 1901 It is the commercial and industrial center for a farm area in which cotton is the chief crop Asphalt and granite deposits are in the vicinity A state junior college is here, and near by are U S Fort Sill, Fort Sill Indian school, a wildlife refuge, and Medicine Park resort.

laxative, drug or other substance used to stimulate the action of the intestines in eliminating wastes from the body The use of laxatives (or cathartics) is harmful unless they are resorted to only occasionally Cases of chronic CONSTIPATION require the attention of a physician Normally the intestinal wastes are eliminated at fairly regular intervals by the muscular action of the walls of the intestines, muscular contractions move the undigested residue or roughage of food materials along within the tubular intestine until it reaches the anus and is eliminated If the diet is adequate and the water intake is sufficient and if a fairly regular time for elimination is established, this process should not require the artificial stimulation of a laxative Laxatives delay the reestablishment of the normal action of the intestines, and by hastening the progress of food through the digestive system they may prevent the absorption by the body of vitamins and other essential food elements Many deaths have resulted from the rupturing of an infected appendix as a result of the use of a laxative (see APPENDICITIS) Habitual use of laxatives is a contributing cause to the formation of hemorrhoids Laxatives fall into three general groups according to their mode of action Usually known as irritants are those substances that by irritating the intestinal tract increase the muscular action of the intestines, among these are cascara sagrada, castor oil, croton oil, phenolphthalein, and rhubarb A second group act by increasing the amount of bulk in the intestines, these include the saline substances (chiefly salts of magnesium and sodium), which increase the fluid content of the intestines by withdrawing water from the circulating blood and thus produce a mechanical stimulation of the intestines Materials which themselves add bulk to the intestinal content include agar-agar and bran The third group, often called emollients, include liquid petrolatum (or mineral oil) and various vegetable oils, their action is to lubricate and prevent excessive dehydration of the contents of the large intestine After the use of a laxative, which empties the lower part of the intestine, a period longer than the usual time will pass before another natural elimination occurs The effects of a laxative vary with the dosage and with the individual Their use in cases of abdominal pain should be avoided

Laxness, Halldor Kiljan, Icelandic *Halldór Kiljan Laxness* (häl'dōr kil'yän läkhs'nĕs), 1902–, Icelandic novelist During the 1920s Laxness traveled widely, he lived in a monastery in Luxembourg and was, briefly, a Roman Catholic Further travel turned his sympathies toward Socialism and Communism, whose philosophies are reflected in his later novels In *Salka Valka* (1931–32, Eng tr , 1936) and *Independent People* (1934–35, Eng tr , 1946), both of which are units in a large cycle of novels, Laxness has created a new, modern style in Icelandic literature

Layamon (lä'umun, -mŏn, lī'-, lä'mūn), fl c 1200, first prominent Middle English poet His *Brut* survives in manuscripts of the 13th cent The longer version is a chronicle of 32,341 short lines on the history of Britain, from the fall of Troy and the arrival of Brutus in Britain through the death of Cadwaladr Layamon relied upon, but adapted freely from, the *Brut* of WACE and added material from other sources His Anglo-Saxon narrative meter foreshadows the Middle English metrical system. This chronicle is the first treatment in English of the ARTHURIAN LEGEND and is interesting because it adds a large amount of fairy lore

Layard, Sir Austen Henry (lā'ûrd), 1817–94, English archaeologist, diplomat, and traveler Between 1842 and 1851 he explored and excavated in Mesopotamia and Babylon, especially on the site of Nineveh In the period 1852–69 he held several government positions, at one time being undersecretary of foreign affairs and chief commissioner of works He was minister to Spain (1869–77) and ambassador to Constantinople (1877–80). His fine collections are in the Assyrian section of the British Museum He wrote, among other books, *Discoveries in the Ruins of Nineveh and Babylon* (1853), *Early Adventures in Persia, Susiana and Babylonia* (1887), and his autobiography (1903).

layering, horticultural practice of propagating a plant by rooting a branch before severing it from the mother plant Typically the branch is bent and a section, which has usually been slit or broken on the underside, is covered with soil and held in place by means of stakes or pins For mound layering, earth is heaped around the lower part of the branches. In pot layering, used for branches too stiff to bend to the ground, a pot of earth is attached to the branch where the new shoot is wanted Layering is used largely for multiplying plants not easily propagated from cuttings See publications of the U S Dept of Agriculture

Laynez, Diego see LAINEZ, DIEGO

Laysan (lāsän'), small island, central Pacific, NW of the Hawaiian Islands Annexed (1857) by the Hawaiian kingdom, it now belongs to the United States Its bird life has been studied by naturalists, and quantities of guano were shipped from Laysan

Lazarillo de Tormes (lathärē'lyō dā tôr'mās), Spanish picaresque novel, anonymously issued before 1554 and formerly ascribed to Hurtado de Mendoza It is considered one of the masterpieces of Spanish prose and was the prototype for similar romances

Lazarus (lă'zurus) [Gr ,=Heb , ELEAZAR] **1** Brother of Mary and Martha of Bethany who, after four days in the tomb, was brought back to life by Jesus John 11 1–44, 12 1–5 **2** Beggar in the parable who lay suffering and neglected at the rich man's gate After death the rich man, parching in hell, pleads in vain that Lazarus, now happy in heaven, be allowed to give him a cooling drink Luke 16 19–25

Lazarus, Emma, 1849–87, American poet and essayist, b New York city, educated privately Her *Poems and Translations* (1867) was followed by *Admetus and Other Poems* (1871), dedicated to Emerson She wrote a prose romance, *Alide* (1874), about Goethe, and a poetic drama, *The Spagnoletto* (1876), which was praised but never produced, and translated Heine's poems and ballads (1881) In the '80s she devoted herself to helping Russian Jewish refugees in America and wrote in defense of Judaism in many periodicals and in her *Songs of a Semite* (1882) Her sonnet to the Statue of Liberty, written in 1886, was placed inside the statue's pedestal See memoir in her *Poems* (1889), H E Jacob, *The World of Emma Lazarus* (1949)

Lazear, Jesse William (luzēr'), 1866–1900, American physician, b Baltimore, grad Johns Hopkins (B A , 1889), M D Columbia, 1892 He served on the staff of Johns Hopkins and carried on researches in bacteriology In 1900 he was appointed a member of the Yellow Fever Commission in Cuba under Walter Reed While working in a hospital, Lazear was bitten by a carrier mosquito, he contracted yellow fever and died See H A Kelly, *Walter Reed and Yellow Fever* (3d ed, 1923)

Le. For names beginning thus and not listed here, see second element, e g , for Le Havre, see HAVRE, LE

Lea, Henry Charles (lē), 1825–1909, American historian, b Philadelphia He was long associated with the family publishing business, but his real interest was in historical work, and he undertook very careful work on primary sources The result was a series of works on the Roman Catholic Church, which he examined as a source of evil in society Perhaps best known among his works are his first, *Superstition and Force* (1866, reprints and additions, 1878–92), and *A History of the Inquisition of the Middle Ages* (3 vols , 1888), *A History of Auricular Confession and Indulgences in the Latin Church* (3 vols , 1896), *The Moriscos of Spain* (1901), and *The Inquisition of Spain* (4 vols , 1906–7) The great importance of Lea's work is its originality and the profound influence it had in impressing on American historians the importance of direct study of the sources See biography by E S Bradley (1931)

Lea, Homer, 1876–1912, American soldier and writer, b Denver, educated at Stanford. A hunchback, he had a passion for soldiering, which was assuaged in China when in 1904 he was made lieutenant general in the new Chinese army He was exiled in Japan with his friend Sun Yat-sen, and his works *The Valor of Ignorance* (1909) and *The Day of the Saxon* (1912) contain bitter warnings against Japanese militarism Originally considered sensational, they were reissued in 1942 as accurate predictions of Japanese aims and plan of attack

Lea, Isaac, 1792–1886, American naturalist, b Wilmington, Del , father of Henry C Lea and Mathew Carey Lea He was a member (1821–51) of the publishing house of his father-in-law, Mathew Carey, but was primarily interested in the study of natural history and of conchology in particular, he became recognized as a leading authority on freshwater mollusks. He wrote *Observations on the Genus Unio* (13 vols , 1827–74) and *Synopsis of the Family of Naiades* (1836)

Lea, Mathew Carey, 1823–97, American chemist, b. Philadelphia, son of Isaac Lea He made important contributions to the chemistry of photography, particularly in connection with the action of light and color, and was the author of the *Manual of Photography* (1868). See biography by E. F Smith (1923).

Leachville, town (pop. 1,076), NE Ark., near the Mo boundary.

Leacock, Stephen Butler (lē'kŏk), 1869–1944, Canadian economist and humorist, b England, grad. Univ of Toronto (B A , 1891), Ph D Univ of Chicago, 1903. Head of the department of political science and economics at McGill Univ , Montreal (1908–36), he wrote standard works in his own field, in Canadian history, and in biography He is best remembered, however, for his many volumes of humorous essays and stories, many of them genial satires, including *Literary Lapses* (1910), *Nonsense Novels* (1911), *Behind the Beyond* (1913), *Frenzied Fiction* (1918), *Winnowed Wisdom* (1926), *My Discovery of the West* (1937), and *How to Write* (1942) *Last Leaves* (1945) are posthumously published essays See his autobiographical fragment, *The Boy I Left behind Me* (1946)

Lead (lĕd), city (pop 7,520, alt 5,320 ft), W S. Dak , in the Black Hills near the Wyo line, laid out 1876 after the discovery of gold here, inc 1890 It is the site of the Homestake Mine, largest gold mine in the United States A company-owned city, it houses Homestake's miners and the health and recreation facilities provided for them

lead, heavy metallic element (symbol=Pb [Latin *plumbum*], for physical constants, see ELEMENT, table) It is light silver when freshly cut, but darkens upon exposure to moist air because of the rapid formation of a protective film Lead is relatively soft, malleable, of low tensile strength, and a poor conductor of electricity and heat It resists the action of some substances, e g , concentrated (but cold) sulphuric acid, reacts slowly with others, e g , hydrochloric acid, and reacts readily with nitric acid It forms various compounds with oxygen, among others, a monoxide (LITHARGE), a dioxide used in storage batteries, and a tetroxide (RED LEAD), with oxygen and hydrogen, a hydroxide, which, mixed with the carbonate, forms WHITE LEAD, with chlorine, the chloride and tetrachloride, with iodine, an iodide, with carbon, hydrogen, and oxygen, lead acetate (SUGAR OF LEAD), with sulphur and oxygen, the sulphate ("sublimed white lead"), with arsenic, hydrogen, and oxygen, the arsenate, with chromium and oxygen, the chromate used as a pigment (chrome yellow), and with nitrogen and oxygen, a nitrate Lead is a component in many alloys, such as the low-melting alloys Rose's metal and Wood's metal and shot (lead and arsenic), lead foil (lead, tin, and copper), white metal (lead, tin, and copper, see ANTIFRICTION METAL), SOLDER, and TYPE METAL Lead is used also for covering cables, as a lining for laboratory sinks and tanks, in electrolytic cells, and in the "chambers" in the manufacture of sulphuric acid (lead-chamber process) It is utilized commonly for storage battery plates (see BATTERY, ELECTRIC), and its compounds are used in paints as a pigment and drier (lead borate), in glass, in gasoline, in thickening certain oils (when it is used as lead soap), and in building construction Lead pipes for conducting water for drinking purposes are dangerous since water may react with the metal to form poisonous compounds All lead compounds are poisonous (see LEAD POISONING) The "lead" of lead pencils does not contain lead, it is a mixture of graphite and clay Lead is one of the oldest metals used by man It was known to the Egyptians and ancient Babylonians The Romans used it for pipes and also in an alloy (lead and tin) for soldering In North America it was one of the first metals mined, it was sought after especially for making shot Although widely distributed throughout the world in its compounds, e g , in GALENA and to a less extent in CERUSSITE and ANGLESITE, the metal is seldom found "free" or uncombined The method used to separate lead from its ores depends upon the composition and lead-content of the ore Ores rich in the metal are treated in the open-hearth furnace or in the reverberatory furnace, and the lead oxide formed is subjected to still higher temperatures until the metal is set free Low-grade ores are concentrated After roasting they are treated in a BLAST FURNACE, the charge being a mixture of the lead-ore concentrate, coke, and a flux (a substance to remove impurities) Since the lead from the furnaces is impure, it has to be refined The Betts process is an electrolytic refining method Impure lead forms the anodes and pure lead the cathodes, the electric current causes the lead to pass from the anodes and be deposited upon the pure lead sheets of the cathodes The Parkes process is used to separate silver and gold from lead Zinc is added to the impure molten lead to form an alloy with the silver and gold, this alloy, being lighter than the lead, floats on the surface and is skimmed off

lead glance: see GALENA.

lead poisoning, plumbism, or **painter's colic,** industrial disease caused by the absorption of lead through either the respiratory tract or the digestive tract. It may also be caused by drinking water or other beverages from pipes or receptacles containing lead The progress of the disease is slow The symptoms are gradual weakness, constipation, abdominal colic, anemia, and often a typical paralysis of the wrists and ankles Properly supervised working conditions and regular examinations of individuals employed in such industries as the manufacture of white and red lead and storage batteries and of those engaged in pottery making, painting, printing, and acetylene-torch welding have reduced the relative frequency of the disease The elimination of lead from the body by the use of drugs, cathartics, and enemas is important in treatment The reduction of lead storage in the body is accomplished by the intake or injection of calcium An individual suffering from symptoms of lead poisoning should avoid further exposure to lead

Leadville (lĕd'vĭl), mining city (pop 4,774, alt c 10,200 ft), co seat of Lake co , central Colo , near the headwaters of the Arkansas river SW of Denver, inc 1878 In California Gulch rich placer gold deposits were discovered c 1860 Oro City, the principal camp, flourished for about two years until the diggings were exhausted The camps were virtually deserted until 1877, when carbonates of lead with a high silver content again transformed Oro City into a boom town By 1880, two years after its incorporation, Leadville had become one of the greatest silver camps in the world, with a lusty, heterogeneous population, estimated at nearly 40,000 In 1893, with the repeal of the Sherman Silver Act, silver mining collapsed, but in the late 1890s, with the discovery of gold near by, Leadville revived In the district, one of the world's most highly mineralized, great fortunes were quickly made and often quickly lost The spectacular history of H A W TABOR symbolizes Leadville's amazing story Some mining and smelting are still carried on (at near-by Climax is a large percentage of the world supply of molybdenum), and agriculture, ranching, and the growth of the tourist trade keep Leadville out of the "ghost town" category See G F Willison, *Here They Dug the Gold* (1946)

Leaf, Walter, 1852–1927, English banker and classical scholar, grad Trinity College, Cambridge Leaf was chairman of the Westminster Bank (after 1918) and an officer of bankers' associations, his *Banking* (1926) is a standard work His literary fame rests chiefly on a translation of the *Iliad* (with Andrew Lang and E J Myers, 1882)

Leaf, river of N Quebec, c 300 mi long, issuing from Lake Minto and flowing NE through Leaf Lake to Ungava Bay, NNW of Fort Chimo

leaf, one of the chief vegetative organs of a plant—a lateral appendage or extension of the STEM Green leaves, because of their capacity for PHOTOSYNTHESIS by which carbohydrates are formed and oxygen is released, are the source of practically all carbohydrate foodstuff and thus are the ultimate basis of most animal life A complete and typical leaf consists of the blade, the petiole or leaf stalk, and a pair of stipules on the stem at the base of the petiole The leaf blade has veins for support and conduction of materials, one or more layers of green cells, and usually many air spaces which are continuous with one another and with the external air by means of epidermal pores, the stomata (see TRANSPIRATION) This aerating allows for the gaseous interchange essential in photosynthesis The green color of leaves is caused by the pigment chlorophyll, which is necessary for photosynthesis Two other pigments, carotin and xanthophyll, which are associated with the chlorophyll, are visible as the orange-red or yellow color of leaves in autumn in north temperate regions They appear following the destruction of chlorophyll by a combination of low temperature, fairly strong sunlight, and other factors Under the same conditions other leaf pigments may be exposed or produced in autumn, e g , brown tannins and red, purple, or blue anthocyanins These same pigments in different combinations are responsible for color in variegated leaves White results from the absence of pigments (often produced by BLANCHING) Leaves may be simple (undivided) or compound (divided into leaflets, as in the walnut) and may be modified in form and in function into organs for storage (cotyledon), climbing (TENDRIL), protection (spine, see THORN), and trapping insects (see PITCHER PLANT) In temperate regions deciduous plants drop their leaves in the autumn and remain leafless through the winter, while evergreens produce new leaves as soon as the old ones fall

leafhopper, any of numerous species of small leaping insects of the family Cicadellidae of the order Homoptera Leafhoppers are found throughout the world, and almost all cultivated and wild plants are damaged by some species Most species are small (from 1/20 to ¼ in) and yellowish or greenish Some species of the Pacific region are brightly colored and several reach ½ in. in length

leaf insect, member of a group of leaf-eating, generally arboreal insects of the order Phasmatida, formerly included in the order Orthoptera. Tropical winged species are often called walking leaves since they so closely resemble leaves in shape and color The WALKING STICK and some other phasmids look like twigs.

leaf mold: see HUMUS

League or **Holy League,** 1576–98, organization of French Catholics, aimed at the suppression of Protestantism and Protestant political influence in France. It was foreshadowed as early as 1561 by the formation of the triumvirate of Anne de MONTMORENCY, François de GUISE, and Marshal Saint-André After the outbreak of the Wars of RELIGION, local and provincial leagues were formed; finally, when the HUGUENOTS won unprecedented concessions at the Peace of Monsieur (1576), a declaration calling for a national League of Catholics was issued by Henri, 3d duc de GUISE King HENRY III fearing the ambition of Guise, proclaimed himself its head A Huguenot uprising soon followed After a successful campaign which enabled him to withdraw some of his previous concessions to the Huguenots, Henry III dissolved the League (1577) It was revived in 1585, soon after Henry of Navarre (later King HENRY IV) had become the heir presumptive Having taken up arms, Guise forced the king (July, 1585) to issue an edict for the conversion or exile of Protestants and the exclusion of Navarre from the succession In the war which followed (the War of the Three Henrys), the League and the king were technically allied, but the League assumed the right to dictate, forcing the king to leave Paris (1588) and to renew his previous concessions This dictation led to Henry's ordering the assassination of Henri de Guise, who was succeeded at the head of the League by his brother MAYENNE. After the accession (1589) of Henry IV, the League controlled all the large cities, including Paris, and had the active support of Philip II of Spain, who sent Alessandro FARNESE to Mayenne's aid It split into two factions, however, over the question of Spanish interference, and it was weakened by Henry's military successes Henry's victory at Ivry (1590), his abjuration of Protestantism (1593), and his entry into Paris (1594) brought the League's organized resistance to an end, and by 1598 the last important League member had submitted to Henry.

League of Nations, former international organization, predecessor of the UNITED NATIONS, having as its purpose the maintenance of peace, arbitration of international disputes, and the promotion of international cooperation It may be called a product of the First World War, which made acceptable to national minds any plan to avert another such cataclysm However, the idea of a European league existed in germ in the "grand design" of SULLY and in the writings of Immanuel Kant and other philosophers of the Enlightenment The HOLY ALLIANCE of the early 19th cent and the Concert of Europe in the late 19th cent provided for concerted action to avert wars and revolutions; the RED CROSS, the HAGUE CONFERENCES, and the Permanent Court of Arbitration (HAGUE TRIBUNAL) were important steppingstones toward international cooperation At the close of the First World War such prominent figures as General SMUTS, Lord Robert Cecil, and Léon BOURGEOIS advocated a society of nations President Woodrow WILSON incorporated the proposal into the FOURTEEN POINTS and was the chief figure in its establishment at the Paris Peace Conference in 1919 The basis of the League was the Covenant, which was included in the Treaty of Versailles (see VERSAILLES, TREATY OF) Geneva, Switzerland, was chosen as League headquarters The League of Nations consisted of an assembly, composed of all member nations, of a council, composed of the Great Powers (originally England, France, Italy, and Japan, later also Germany and the USSR) and of several other nonpermanent members, a secretariat, and several allied bodies, e g , the Permanent Court of International Justice (see WORLD COURT) and the INTERNATIONAL LABOR ORGANIZATION The organization was thus in many ways similar to that of the United Nations The Assembly, like the General Assembly of the United Nations, was entitled merely to make recommendations, while actual decisions rested with the Council In the Council, however, unanimous decisions were required, while in the Council of the United Nations the "veto" power is restricted to the permanent members The Covenant of the League of Nations consisted of 26 articles Articles 1–7 concerned organization Articles 8–9 recognized the need for disarmament and set up military commissions Article 10 was an attempt to guarantee the territorial status quo against aggression Articles 11–17 provided for arbitration and conciliation and for sanctions against aggressors The rest of the articles dealt with treaties, the MANDATE system of colonial administration, international cooperation in labor and in humanitarian enterprises, and amendments to the Covenant The League of Nations suffered a severe handicap through the refusal of the United States to become a member and through the persistence of all members in regarding national sovereignty and interests as superior to mutual concession The absence of the United States, however, may have been overemphasized as a cause of the League's failure, the United States and Russia, though neither was then a member did take a valuable part in the DISARMAMENT CONFERENCE the failure of which was certainly not their responsibility As a rule, the League of Nations settled successfully such disputes as involved the smaller nations, but it foundered because the powerful nations could not be coerced into mutual compromise or into acceptance of its decisions At the start, the League included only the victors of the First World War and most of the neutral na-

tions Among later admissions to membership were those of Bulgaria (1920), Austria (1920), Hungary (1922), Germany (1926), Turkey (1932), and the USSR (1934) Among the problems settled by the League of Nations were the Swedish-Finnish dispute regarding the ALAND ISLANDS (1920), the status of N SCHLESWIG and Upper SILESIA, settled by plebiscites (1920, 1921), the population exchanges among GREECE, Turkey, and Bulgaria, after the Treaty of Lausanne of 1923, and the Yugoslav-Hungarian dispute caused by the assassination (1934) of King ALEXANDER of Yugoslavia The League furthermore extended considerable aid to refugees, particularly Armenians, it helped to suppress white slave and opium traffic, it did pioneering work in surveys of health, it extended financial aid to needy states, particularly to Austria, and it furthered international cooperation in many fields An early failure was the Polish refusal to abide by the League decision in the VILNA dispute More ominous was the shelving of the Geneva Protocol (see PROTOCOL) because of British opposition The split between France and its allies, the LITTLE ENTENTE, on the one hand, and Great Britain on the other, was caused by French insistence on forming a European system of collective security, i e , a network of defensive alliances intended to maintain the *status quo*, and by British refusal to support the plan The League's decay began with the Second CHINO-JAPANESE WAR in 1931 and the withdrawal (1933, effective 1935) of Japan from the League Another serious failure was the inability of the League to stop the war (1932-35) of Bolivia and Paraguay over the CHACO The Disarmament Conference, opened in 1932, foundered while Germany under Adolf Hitler began to rearm, withdrew from the League (1933), remilitarized the Rhineland (1934), denounced the Treaty of Versailles (1936), and seized Austria (1938) Encouraged by the League's inaction, Italy under Mussolini attacked (1935) ETHIOPIA (disregarding the ineffective and half-hearted economic sanctions imposed by the League), interfered in the civil war (1936–39) in SPAIN, and left the League in 1937 Japan resumed its war against China in 1937, and in 1938 the appeasement policy of the dominant League members —Great Britain and France—reached its apex in the MUNICH PACT, which virtually discarded the League as an international instrument German claims on DANZIG, where the League commissioner had become powerless, led to the outbreak (1939) of the Second World War In Dec , 1939, the League briefly rose from the dead to expel Russia because of its aggression against Finland The only effective political action of the League in the last years of its existence was its orderly supervision, carried out by an international police force, of the plebiscite in the SAAR TERRITORY (1935) In 1940 the League secretariat in Geneva was reduced to a skeleton staff, some of the technical services were removed to the United States and to Canada The International Labor Office continued its activities and eventually became affiliated with the United Nations In April, 1946, The League dissolved itself, and its services and real estate (notably its huge palace in Geneva) were transferred to the United Nations. See P J Noel Baker, *The League of Nations at Work* (1926), J S Bassett, *The League of Nations* (1928), T P Conwell-Evans, *The League Council in Action* (1929), Felix Morley, *The Society of Nations* (1932), J I Knudson, *A History of the League of Nations* (1938), H E Davis, ed., *Pioneers in World Order* (1944), J T. Shotwell and Marina Salvin, *Lessons on Security and Disarmament* (1949) See also A C Breycha-Vautier, *Sources of Information a Handbook on the Publications of the League of Nations* (1939)

League of Women Voters, organized in Chicago in Feb , 1920 An outgrowth of the National American Woman Suffrage Association, it had as its nucleus the leaders of this successful movement The league was organized to educate American women in the intelligent use of their newly won suffrage While championing advancement in the status and rights of women, the league seeks this advancement through the improvement of the entire political, economic, and social structure and has directed its educational and research campaigns to these ends on local, state, and national levels. Originally called the National League of Women Voters, in 1948 its name was changed to League of Women Voters of the United States.

Leah (lē'ə), Laban's elder, uglier daughter and Jacob's first wife Gen. 29–30.

Leahy, Frank William (lā'hē), 1908–, American football coach, b. O'Neill, Nebr., grad. Notre Dame, 1931. He was an assistant coach at Georgetown (1931), Michigan State College (1932) and Fordham (1933–38), and after his success as head coach (1939–41) at Boston College, he was made (1941) athletic director and head coach at Notre Dame Following service (1944–45) in the U.S. navy in the Second World War, he returned to coaching football at his alma mater. Under Leahy, one of the leading exponents of the T-formation in college football, Notre Dame regained the dominant position it had enjoyed in the days of his old coach, Knute Rockne. In four complete seasons through 1949, Notre Dame played 38 straight games without a defeat (but with two ties). He wrote *Notre Dame Football* (1949). See Archie Ward, *Frank Leahy and the Fighting Irish* (1944).

Leahy, William Daniel (lā'hē), 1875–, American admiral and diplomat, b Hampton, Iowa, grad. Annapolis, 1897 He served in the Spanish-American War, in the Philippines, in Nicaragua (1912), in Haiti (1916), in the Mexican punitive expedition (1916), and in the First World War. He later became chief of naval operations (1937) and governor of Puerto Rico (1939) and served (1940–42) as ambassador to Vichy France While he was (1942–48) chief of staff to the President, he was made (1944) an admiral of the fleet ("five-star admiral"). He is the author of *I Was There* (1950)

Leake, William Martin (lēk), 1777–1860, English topographer and numismatist. He served in the army in the West Indies, was artillery instructor to the Turks (1799–1800), and spent the next 15 years combining the work of observation of the country and collection of coins with diplomatic missions and military surveys

Leaksville, textile-mill town (pop 1,886), N N C , near the Va line, on the Dan and N of Greensboro, laid out 1797, inc 1874.

Leamington (lē'mĭngtŭn, lĕ'-), town (pop 5,858), S Ont , on Lake Erie and SE of Windsor In a fruit and tobacco district, it has canneries, basket factories, and cement works

Leamington (lē'mĭngtun), municipal borough (1931 pop 29,669, 1947 estimated pop 35,740), Warwickshire, England, on the Leam, a tributary of the Avon, and NE of Warwick It has ironworks and brick factories, but is primarily a health resort, largely of 19th-century growth, with mineral springs Among its features are Jephson Gardens, the Royal Pump Room and Gardens, and Victoria Park Victoria as a princess paid a visit to the borough, which officially became Royal Leamington Spa in 1838

Leander: see HERO

leap year see CALENDAR

Lear (lēr), English legendary king, supposed descendant, through Locrine and Brut, of Aeneas of Troy The story of Lear and his three daughters probably originated in early Celtic mythology GEOFFREY OF MONMOUTH claimed to have translated the story from old British records, and succeeding historians and authors perpetuated the legend It is best known as the subject of one of Shakspere's greatest tragedies, *King Lear* (produced 1606, pub 1608).

Lear, Edward, 1812–88, English artist and humorist Once drawing master to Queen Victoria, he was a painter of birds and landscapes, some of his sketches, in pen line and washes of water color, have been exhibited His illustrated limericks and poems in *A Book of Nonsense* (1846), *Nonsense Songs and Stories* (1871), and other works have given him fame Lear jests at sense and pathos in lyrics which attain, at times, a fantastic gaiety A traveler, he wrote several illustrated journals of his journeys See biography by Angus Davidson (1939)

Learchus (lēär'kŭs), in Greek mythology, son of INO and ATHAMAS His father, driven mad by HERA, killed him

learned and literary societies: see SOCIETIES, LEARNED AND LITERARY

Lease, Mary Elizabeth, 1853–1933, American agrarian reformer and temperance agitator, b Ridgway, Pa Going to Kansas as a young woman, she was admitted to the bar there She was active in politics with the Populists in the campaign of 1890, urging the popular election of Senators, postal savings banks, government control of railroads, Federal supervision of corporations, woman suffrage, free silver, prohibition, and other reforms, and her effectiveness as a speaker was credited with securing support for these measures She was called the Kansas Pythoness In 1908 she became a lecturer for the New York department of education and in 1912 joined the Bull Moose party After 1918 she was politically inactive

Leaside (lē'sĭd), town (pop. 6,183), S Ont , industrial and residential suburb NE of Toronto

leather, skin or hide of animals, reptiles, or birds cured by tanning to prevent decay and to impart flexibility and toughness Prehistoric and primitive peoples have preserved pelts with grease and smoke and have used them chiefly for shoes, garments, coverings, tents, and containers Today pelts are perpared for tanning by dehairing, usually with lime, followed by fleshing and cleaning After TANNING, leather is generally treated with fats to assure pliability. The wasteful practice of shaving leather to the required thickness was replaced early in the 18th cent. after the invention of a machine which split the pelt or the tanned leather into flesh and grain (hair-side) layers; skivers are thin grain splits used for linings and for covering firm surfaces. Characteristic grains may be brought out by boarding, as in morocco leather, or may be imitated by embossing. Finishes include glazing, a high glaze being achieved by rolling with glass cylinders; coloring with stains or dyes, enameling or lacquering as for patent leather; and sueding, buffing with emery or carborundum wheels to raise a nap, usually on the flesh side. Russia leather, originally vegetable-tanned calfskin dressed with birch oil which imparted a characteristic odor and often dyed red with brasilwood, is a trade name covering a number of variants. Rawhide is similar to parchment and is untanned. Cordovan, or Spanish, leather, a soft, colored leather made at Córdoba during the Middle Ages and often richly modeled and gilded, is imitated for wall coverings, panels, and screens Leather is much used in BOOKBINDING. Artificial leather, made since c 1850, is usually a strong fabric coated with a rubber composition or with a synthetic substance such as pyroxylin and embossed to imitate leather grains See Tanners' Council of America, *The Romance of Leather* (1937), J W. Waterer, *Leather in Life, Art, and Industry* (1946)

Leatherstocking Tales: see COOPER, JAMES FENIMORE

leaven (lĕ'vŭn), agent used to raise bread or other flour foods Physical leavens include water vapor, which is released as steam at high temperatures (as in popovers), and air, which is incorporated by beating, held by the gluten and protein in the mixture, and expanded by heat. Chemical leaven (BAKING POWDER and baking SODA) and biological leavens (yeasts and certain bacteria) raise the mixture by the formation of carbon dioxide gas, which is expanded by heat Earliest leavens were barm, a yeast of fermenting liquor, and sour dough, a portion saved from a mass of yeast-fermenting dough as a starter for the next batch The seemingly mysterious action of leaven gave rise, in early times, to various customs and superstitions For instance, in Palestine it was a burial custom to throw out of the house of mourning and from the three nearest houses all leaven and water, because into these the angel of death had thrust his sword

Leavenworth (lĕ'vənwŭrth, -wurth) **1** City (pop 19,220), co seat of Leavenworth co , NE Kansas, on the Missouri and NW of Kansas City The oldest city in Kansas, it was settled (1854) near Fort Leavenworth (see LEAVENWORTH, FORT) by proslavery Missourians, it was the first Kansas city to be incorporated (1855) The first newspaper in Kansas was printed here in 1854. The town flourished as a supply point on the westward travel routes and later became the commercial center of a farming and livestock region Coal is in the vicinity, and furniture, automobile batteries, and machinery are made here A state penitentiary and a national soldiers' home are near **2** City (pop 1,608), central Wash , on the Wenatchee river and NW of Wenatchee, in a farming, lumbering, and mining region, inc 1906 A large U S salmon hatchery is here

Leavenworth, Fort, U S military post, on the Missouri river and c 2½ mi northwest of the center of LEAVENWORTH, Kansas It was built in 1827 by Col Henry Leavenworth to protect the traffic of the old Santa Fe Trail From the fort many military expeditions set out for the West At present it includes a military post, a command and general staff school, and a Federal penitentiary

Lebanon (lĕ'bənən), republic (c 3,400 sq mi , pop more than 1,500,000), SW Asia The capital is Beyreuth The country faces on the Mediterranean in the east and is bordered on the north and east by Syria and on the south by Palestine The seacoast has the historic ports of Tripoli, Tyre (Arabic *Sur* or *El Sur*), and Sidon (now Saida) Much of the area is given over to the Lebanon mts , which run parallel to the coast On the eastern border is the range of Anti-Lebanon, and between the two mountain ranges lies the fertile valley of El BIKA (ancient Coele-Syria), the heart of Lebanon The country is largely agricultural, growing grains and fine fruits There are many olive groves, and mulberry trees are still grown for silk culture, though silk has declined from the high position it once had in the area Cotton is grown, and there is a cotton textile industry Tobacco is another important product The iron mines of Lebanon have been worked since ancient times and are no longer productive, but lignite is still mined The famed cedars of the Lebanon mts are greatly thinned but some remain Historically the region has been connected with Syria In very ancient times the Hittites and Aramaeans had sway here, and the great Phoenician cities later established a virtual commercial empire (see PHOENICIAN CIVILIZATION). The cities were the object of conquest for the Assyrians and the Persians and occupied a favored position in the Persian Empire Alexander the Great took them, and they were disputed by his successors. The region, with Syria, came under Roman dominion and was included in the Byzantine Empire until part of it fell to the Arabs in the 7th cent Long before that time the MARONITES had established themselves—a cardinal fact in the history of Lebanon, which remained predominantly Christian while Syria was becoming Moslem The DRUSES also settled in part of Lebanon and in adjacent regions of Syria, and trouble between them became a constant strain in regional history. The Crusaders were active in Lebanon, and the Lebanese Christians lent them some aid. After that time Lebanon was under Ottoman control until the First World War.

Massacres of the Maronites by the Druses in 1841 and 1860 led to pressure from the European governments and forced the sultans to grant some autonomy to Great, or Greater, Lebanon, as the region was then called. After the First World War, Lebanon passed under the French mandate over the Levant States (Syria and Lebanon) There was much discontent and widespread desire for independence. In 1926 Lebanon became a republic under the mandate, but difficulties continued. A treaty with France in 1936 provided for independence after a three-year transition period, but it was not ratified by France In the Second World War the French Vichy government retained control until a British and Free French force conquered (June–July, 1941) the Lebanese coast The Free French proclaimed Lebanon a republic, but this did not become an accomplished fact until Jan 1, 1944.

Lebanon. 1 Town (pop 1,467), E Conn., NW of Norwich, inc 1700. Its buildings include the Revolutionary War Office (1727) and the Governor Trumbull House (1740) It was the birthplace of Jonathan Trumbull (father and son), of John Trumbull, and of William Beaumont **2** City (pop. 1,867), SW Ill , E of St Louis, in a farm area, settled in the early 19th cent , inc 1857 McKendree College (coeducational, 1828) is here **3** City (pop 6,529), co seat of Boone co , central Ind , NW of Indianapolis, laid out 1832 In a dairying region, it manufactures oil-refining equipment **4** City (pop. 3,786), co seat of Marion co , central Ky , SE of Louisville, in the bluegrass region It has distilleries In the vicinity are a national cemetery and St Mary's College (for men, 1821) **5** Lumber town (pop 1,452), SW Maine, near the Salmon Falls River above Berwick, settled 1738, inc 1767 **6** City (pop 5,025), co seat of Laclede co , S central Mo , NE of Springfield, founded c 1849 It is in a timber and farm area of the Ozarks and has a garment factory and food-processing plants Richard Parks Bland lived here **7** Town (pop 7,590), W N H , on the Mascoma near its confluence with the Connecticut, granted and inc 1761 Lumber products and woolen fabrics are made here, and hunting is done W D Ticknor was born here **8** Village (pop 3,890), co seat of Warren co , SW Ohio, NE of Cincinnati, laid out 1802. Canning and shoe manufacturing are its chief industries Near by is Fort Ancient State Park, an earthwork fortification constructed by the mound builders **9** City (pop 2,729), NW Oregon, in the Willamette valley SSE of Salem and on the South Santiam, platted 1851, inc 1878 It is in a fruit- and nut-raising area and has paper mills **10** City (pop 27,206), co seat of Lebanon co., E Pa , between Reading and Harrisburg, settled c 1720, laid out 1750, inc as a borough 1821, as a city 1868 It lies in a farming area, and its manufactures include steel, iron, textiles, and tobacco products Early-18th-century German religious groups are represented here, and Lebanon was a flourishing town before 1790 **11** Town (pop 5,950), co seat of Wilson co , central Tenn , E of Nashville, in a timber and farm area, founded c 1802 It is the seat of Cumberland Univ (Presbyterian, coeducational, 1842) and Castle Heights Military Academy Fine ante-bellum houses are here and in the vicinity, near by is the HERMITAGE A marker indicates the site of Sam Houston's law office

Lebanon, anc *Libanus*, mountain range, Lebanon, paralleling the Mediterranean coast from the border of Palestine N into Syria It rises to more than 10,000 ft It was famed in ancient times for its huge and old cedars Of these only a few now remain Clusters of villages nestle about its terraced slopes, and between it and the Anti-Lebanon range lies the valley of El Bika (ancient Coele-Syria), the heart of Lebanon

Lebanon Independent, borough (pop. 2,425), SE Pa , E of Harrisburg, inc 1912

Lebanon Junction, town (pop 1,141), N Ky., S of Louisville, in a farm area

Lebanon Valley College. see ANNVILLE, Pa

Lebaoth, the same as BETH-LEBAOTH

Lebbaeus (lĭbē'ŭs), apostle see JUDE, SAINT

Leblanc, Maurice (mōrēs' lŭblă'), 1864–1941, French author. His popular detective stories, featuring Arsène Lupin, gentleman thief turned detective, have been translated into many languages

Leblanc, Nicolas (nēkōlă'), 1742–1806, French chemist. He was appointed (1780) physician to Louis Philippe Joseph d'Orléans, who later aided him in setting up a factory for the production of soda ash from salt. Leblanc developed his process after a prize had been offered by the government for a method of obtaining a commercial supply of the soda Leblanc's patents were confiscated in the Revolution, and Leblanc, impoverished, finally committed suicide.

Leblanc process [for Nicolas Leblanc], commercial process for the preparation of soda from common salt. It involves the treatment of salt with sulphuric acid to yield finally sodium sulphate, the reduction of this product by carbon to produce sodium sulphide, and the formation of sodium carbonate (soda) by reaction between the sodium sulphide and limestone (calcium carbonate). The process was commercially successful upon its inception because of the by-products (sulphur and hydrogen chloride) produced. However, when cheaper means for the production of sulphur and hydrogen chloride were discovered, the Solvay process proved more economical, and it has almost entirely displaced the Leblanc process.

Le Bon, Gustave (güstäv' lu bôⁿ), 1841–1931, French psychologist and sociologist. He was the author of a number of works on social psychology Antidemocratic and a racialist, he is known for his *Psychologie des foules* (1895, Eng tr of the 2d ed , *The Crowd a Study of the Popular Mind*, 1897)

Lebonah (lĭbō'nŭ) [Heb ,=frankincense], place, central Palestine, near Shiloh Judges 21 19

Lebrun, Albert (ălbĕr' lubrŭ'), 1871–1950, French statesman, last president of the Third Republic A moderate, he served in many cabinets, was elected (1932) to the presidency to succeed Paul Doumer and was reelected in 1939 In July, 1940, the establishment of the Vichy government under Marshal Pétain deprived Lebrun of all authority In 1944 he recognized Charles de Gaulle as provisional president of France

Le Brun, Charles (shärl' lu brŭ'), 1619–90, French painter, decorator, and architect He studied with Vouet and in Rome In 1648 he founded the Académie royale de Peinture et de Sculpture, which was designed to replace the old guild system of apprenticeship A favorite of Colbert, he became painter to Louis XIV in 1662, and from that date until the death of Colbert in 1683 he acted as artistic arbiter to the king, inspiring or directing all of the many and grandiose decorative works of that time Notable among his achievements are the decorations at Versailles and those of the Château de Vaux and the Galerie d'Apollon (Louvre) His best-known paintings, the *History of Alexander* series, are in the Louvre Less gifted as a painter than some of his contemporaries, Le Brun had energy, draughtsmanship, and administrative capacity that made him a dominant figure in all fields of art In 1663 he was appointed director of the Gobelin works.

Lebrun, Charles François (shärl' frāswä' lŭbrŭ'), 1739–1824, French statesman A moderate member of the Constituent Assembly, he was imprisoned in the Terror Napoleon made him third consul (1799), later created him duke of Piacenza, and in 1810 appointed him governor of Holland Made a peer by Louis XVIII (1814), he supported Napoleon during the Hundred Days and was excluded from the house of peers from 1815 to 1819

Lebrun, Élisabeth Vigée- see VIGÉE-LEBRUN

Lecah (lē'kŭ), descendant of Judah 1 Chron 4 21

Le Cap, Haiti see CAP-HAÏTIEN

Lecce (lĕt'chā), city (pop 42,622), capital of Lecce prov , S Apulia, S Italy It is an agricultural center with ceramics, glass, and toy industries A Greek and later a Roman town, it was from 1053 to 1463 a semi-independent county under various lords In the 16th and 17th cent culture and commerce flourished There are many fine churches and palaces built or restored in a characteristic baroque style

Le Center, village (pop 1,232), co seat of Le Sueur co , S Minn , SSW of Minneapolis, settled 1864, inc 1876, called Le Sueur Center until 1931 It is a farm trade center The county fairgrounds has a log house containing pioneer relics

Lech (lĕkh), river, c 175 mi long, Austria and Bavaria It rises in Vorarlberg, Austria, and flows NE past Landsberg and Augsburg into the Danube In 1632 Gustavus II of Sweden defeated Tilly on the Lech near its confluence with the Danube, Tilly was fatally wounded The battle of the Lechfeld (955) took place near Augsburg

Lechfeld (lĕkh'fĕlt), plain near Augsburg, Bavaria Here in 955 King (later Emperor) Otto I defeated the Magyars and stopped their expansion, which had threatened central Europe

Lecky, William Edward Hartpole, 1838–1903, British historian, born and educated in Ireland His *History of the Rise and Influence of the Spirit of Rationalism in Europe* (2 vols , 1865) and his *History of European Morals from Augustus to Charlemagne* (2 vols , 1869) first won him a large public His masterpiece is his *History of England in the Eighteenth Century* (8 vols , 1878–90), which ranks him as a literary historian not far below Gibbon The combination of social and political history made the work a lasting contribution to history, but his moderate liberal views, his rationalism, and his dislike of democratic reforms color the history considerably. Especially distinguished are those parts dealing with Ireland, with the American and French Revolutions, and with the Wesleyan movement. Others of his works are *The Leaders of Public Opinion in Ireland* (1861), *The Map of Life* (1899), *The Political Value of History* (1892), *Democracy and Liberty* (2 vols , 1896), and *Poems* (1891). See memoir by his wife (1909).

Leclerc, Charles Victor Emmanuel (shärl' vēktôr' ĕmänüĕl' lŭklĕr'), 1772–1802, French general He served under Napoleon Bonaparte in the Italian campaign, married (1797) Pauline BONAPARTE, and took part in the coup d'état of 18 Brumaire (1799) In 1801 he commanded the French expedition to Portugal, then headed the force sent to subdue HAITI, where TOUSSAINT L'OUVERTURE had established a virtually autonomous state The French, after severe fighting, won several victories, and an agreement was reached This was broken by Leclerc, who, acting on Napoleon's secret instructions, had Toussaint seized by trickery and deported to France The natives, led by DESSALINES and CHRISTOPHE, rose in revolt and expelled the French, who were weakened by an epidemic of yellow fever Leclerc retired to Tortuga, where he died of fever. His failure doomed French colonial ambitions in America and led to the LOUISIANA PURCHASE

Leclerc, Jacques Philippe (zhäk' fēlēp' lŭklĕr'), 1902–47, French general His real name was Philippe, comte de Hauteclocque, but he adopted the name Leclerc in the Second World War, when he took command of the Free French forces in French Equatorial Africa He won for himself a place in military history when he led (Dec , 1942–Jan , 1943) the march of the Free French from Lake Chad to Tripoli, over c 1,500 mi. of deserts and mountains, including Fezzan and the Libyan Desert, and through enemy-held territory His forces entered Tripoli at the same time as the British 8th Army, their feat was unparalled Leclerc and his troops then took part in the Tunisian campaign under Gen B L Montgomery, and in 1944 he commanded the French 2d Armored Division, which had as its nucleus the veterans of his African campaign Gen Omar N Bradley, under whose command he then was, paid tribute to Leclerc by letting his division enter Paris first (Aug , 1944) and thus complete the liberation of the city Later in the year he took Strasbourg Leclerc was made (1945) French commander in the Far East He accepted the Japanese surrender at Tokyo for France and subsequently commanded in the campaign against the insurgents in Indo-China Made inspector general of the French forces in North Africa in 1946, he died a year later in an airplane crash

Le Clerc, Jean (zhäⁿ), Latin *Johannes Clericus*, 1657–1736, Swiss Protestant theologian and writer He preached in France and in London, then, drawn to the teachings of the Dutch Remonstrants, settled in Amsterdam, where he became professor in the Remonstrant Seminary His biblical commentaries pointed the way to scientific criticism Among his important works are *Bibliothèque universelle et historique* (1686–93), *Bibliothèque choisie* (1703–13), and *Bibliothèque ancienne et moderne* (1714–27)

Lecompte (lŭkŏmpt'), cotton town (pop 1,311), central La , S of Alexandria, settled c 1855

Lecompton (lŭkŏmp'tun), city (pop 250), NE Kansas, on the Kansas river between Lawrence and Topeka At Lecompton, made territorial capital in 1855, was formulated the proslavery **Lecompton Constitution.** Its slavery clause was approved in Dec , 1857, as Free State men declined to vote President James Buchanan urged Congress to admit Kansas under the Lecompton Constitution, but with Stephen A Douglas and his followers breaking with the proslavery Democrats, the bill could not pass the House A compromise was effected by which the constitution as a whole was to be submitted to popular vote, and if it were approved, Kansas would receive a Federal land grant Despite this inducement, the Lecompton Constitution was decisively rejected in Aug , 1858, and Kansas was admitted (1861) as a free state

Le Conte, Joseph (lukŏnt'), 1823–1901, American geologist, b Liberty co , Ga , grad. Univ. of Georgia, 1841 He studied under Louis Agassiz at Harvard and taught at the Univ of South Carolina (1857–69) and at the Univ of California from 1869 He made major contributions in his study of mountain making and in his concept of critical periods in the history of the earth His writings include *Sight* (1881), *Evolution* (1888), and *Elements of Geology* (1878), long a standard text See his autobiography (1903) and *Journal of Rambles through the High Sierra* (1875, 1930)

Leconte de Lisle, Charles Marie (shärl' marē' lukôt' dŭ lēl'), 1818–94, French poet His first two books of poetry, *Poèmes antiques* (1852) and *Poèmes et poésies* (1855), were immediately successful It was, however, *Poèmes barbares* (1862, later enlarged as *Poèmes barbares*, 1872) which established him as the leading figure of the group later to be known as the Parnassians Anti-Christian and a pessimist, Leconte de Lisle saw death as the only existing reality and drew his inspiration from antiquity Later works include *Les Erinnyes* (1872), a verse drama, and *Poèmes tragiques* (1884) He was elected to the French Academy in 1886 See I. H Brown, *Leconte de Lisle a Study on the Man and His Poetry* (new ed , 1929)

Le Coq, Robert (rôbĕr' lukôk'), d. 1368, French statesman, bishop of Laon Rising rapidly in the service of John II, he was John's ambassador (1354) to CHARLES II of Navarre, whose partisan he became He sided with the popular party of Étienne MARCEL in the States-General of 1356, but after Marcel's assassination (1358) he was compelled to flee to Spain, where he became bishop of Calahorra

Lecoq de Boisbaudran, Paul Émile: see BOISBAUDRAN, PAUL ÉMILE LECOQ DE

Le Corbusier (lu kôrbüsyā'), pseud, of **Charles Édouard Jeanneret** (shärl' ādwär' zhanürā'), 1887–, Swiss architect, a leader of international importance in the development of modern architecture At the age of 21 he entered the office of Auguste Perret, where he received his training in modern construction, and later he worked for brief periods under the German architect Peter Behrens and the Viennese, Josef Hoffmann In 1915 appeared his first experimental studies incorporating a new and radical attitude towards the technical and aesthetic problems of building, and in the following years he produced schemes for houses and apartments and for a city built on pillars For inspiration he drew largely upon the forms characteristic of steamship construction In 1921, in his widely known "Citrohan" model for dwelling houses, he definitely arrived at an architectural form expressive of new construction methods and in 1923, in a villa at Vaucresson, near Paris, produced the first building embodying his principles Between 1920 and 1925 he not only crystallized the modern style in his studies and buildings, but produced propaganda for it in articles contributed to the review *Esprit nouveau*, which he had founded in 1920 with Amédée Ozenfant These articles were collected and published as *Vers une architecture* (Eng tr from the 13th French ed , *Towards a New Architecture*, 1927), which attained international circulation and has been one of the most influential publications concerning modern architecture Among Le Corbusier's better-known works are studio houses at Boulogne-sur-Seine, a housing development at Pessac near Bordeaux, and the Swiss Building at Cité Universitaire, Paris In the competition (1927) for the palace of the League of Nations in Geneva he was one of the prize winners In 1946 he was selected as one of the international group of architects to design the headquarters of the United Nations in New York See *Le Corbusier, Artist, Painter, Writer* (ed by Stamo Papadaki, 1948)

Lecouvreur, Adrienne (adrēĕn' lukōōvrŭr'), 1692–1730, French actress She made her debut in the title role of Crébillon's *Electre* in 1717 at the Comédie Française and for 13 years was the idol of the French public in both comedy and tragedy Her diction and manner were natural, and she was unrivaled in the plays of Racine and Voltaire Her devotion to Maurice de SAXE made her life tragic, and her mysterious death was ascribed to poisoning by a rival, the duchesse de Bouillon The play *Adrienne Lecouvreur* by Scribe and Legouvé describes her romantic life

Lecuona, Ernesto (ĕrnā'stō lākwō'na), 1895?–, Cuban composer and pianist, grad National Conservatory of Music of Havana, 1913 He appeared as a pianist in Spain, France, and the United States His dance orchestra, Lecuona's Cuban Boys, became popular both in South America and the United States In addition to his *Rapsodia negra* (New York, 1943) he is famous for his piano pieces, particularly *Malagueña*, his rhumba *Siboney*, and numerous popular songs

Leda (lē'du), in Greek mythology, wife of Tyndareus (tĭndā'rūus), king of Sparta She was the mother of Helen, Castor and Pollux, and Clytemnestra According to one legend Zeus visited Leda as a swan From this union Leda brought forth two eggs, from one issued Helen and from the other Castor and Pollux Other legends say that Tyndareus was the father of Castor as well as Clytemnestra

Le Daim or **Le Dain, Olivier** (both ôlēvyā' lù dĕ'), d 1484, favorite of Louis XI of France Originally the king's barber and surgeon, he gained great influence over Louis and became one of the most powerful and feared men in the country Shortly after Louis's death, Le Daim's enemies had him tried and hanged

Ledebour, Karl Friedrich von (kärl' frē'drĭkh fŭn lā'dubōōr), 1785–1851, German botanist and traveler His *Flora rossica* (1842–53), on the plants of Russia, is his most important work

Ledochowski, Count Mieczislaw, Pol *Mieczisław Ledóchowski* (myĕchĭs'wäf lĕdōōkhôf'skē), 1822–1902, cardinal of the Roman Church, b Russian Poland He became (1865) archbishop of Gniezno and Poznan (then in Prussian Poland) When the Prussian government, opening the KULTURKAMPF, forbade the use of Polish in instruction in Poznan, Ledochowski ordered the religious instruction in the lower grades to continue in Polish. The teachers obeying the archbishop were dismissed and Bismarck's government demanded his resignation The archbishop ignored the government and was jailed in 1874 In March the pope created him a cardinal, and in April the government declared him deposed. In 1875 Ledochowski was released and banished and thereafter ruled his see from Rome He resigned in 1885

Ledo Road: see BURMA ROAD

Ledoux, Claude Nicolas (klōd' nēkôlä' ludōō'), 1736–1806, French architect He built palaces and various public buildings, among them the toll-houses (*barrières*) around Paris (1784) His main work was the planning of an ideal city, "Chaux," for the salt mines of the Franche-Comté, which was never built Ledoux's bold, purely geometrical designs anticipated many ideas of the 20th cent

Ledru-Rollin, Alexandre Auguste (älĕksä'drŭ rôlăN' ôgüst' ludrü'-rôlă'), 1807–74, French politician A lawyer, he first became known as a radical member of the opposition to the July Monarchy and the defender of the journalists He was elected to the chamber of deputies in 1841 and was very active in the FEBRUARY REVOLUTION of 1848, becoming minister of the interior in the provisional government formed by LAMARTINE It was largely due to his pressure that universal suffrage was adopted in the elections to the Constituent Assembly Ledru-Rollin, supported by Lamartine, was included (May, 1848) in the executive commission that replaced the provisional government, but passed to the opposition during the JUNE DAYS He formed the Social Democratic party and denounced the government of Louis Napoleon (later NAPOLEON III) His "campaign of banquets" led to his election in five departments by 2,000,000 votes (May, 1849), but the countermeasures of the government forced him to flee to England in the same year During his long exile, he wrote numerous revolutionary pamphlets At the fall of the Second Empire, he returned to France and was elected (1874) to the chamber of deputies, where he sat with the extreme left Ledru-Rollin was a powerful speaker His speeches and pamphlets were collected in his *Discours politiques et écrits divers* (2 vols , 1879) See A R Calman, *Ledru-Rollin and the Second French Republic* (1922)

Ledwidge, Francis (lĕd'wĭj), 1891-1917, Irish poet, killed in the First World War His poems, which are mainly concerned with celebrating nature, were collected in *Complete Poems* (1919)

Ledyard, John (lĕd'yŭrd), 1751–89, American adventurer, b Groton, Conn He studied briefly at Dartmouth but left college to ship as a sailor In 1776 he joined Capt James Cook's last expedition Having seen the Pacific Northwest, he was fired with a desire to establish a post there Though Cook had not found the fabled Northwest Passage, Ledyard was convinced that a practicable route to the Northwest coast could be found Failing to obtain support in America for his scheme of an exploratory expedition, he went to France There he was encouraged by Thomas Jefferson and John Paul Jones, but still got no funds He then undertook to walk across Europe and through Siberia The Russian government at first refused permission, but in 1787 he reached St Petersburg and was permitted to start the long, dangerous journey that took him to Yakutsk There he was arrested and sent back He was engaged in a plan for exploring the interior of Africa when he died in Cairo See the fictionized biography by Kenneth Mumford (1939) Helen Augur, *Passage to Glory* (1946)

Ledyard, William, 1738–81, American Revolutionary officer, b Groton, Conn In 1781, as commander of Fort Griswold (near Groton), he refused to surrender, despite threats of massacre if he resisted the overwhelming British force After heroic defense, the fort fell and Ledyard and most of his men were butchered

Ledyard, town (pop 1,426), SE Conn , bordered on the west by the Thames, settled c 1653, inc 1836 The site of Fort Decatur is marked

Lee, Ann, 1736–84, religious visionary, founder of the SHAKERS in America Born in Manchester, England, she worked there in the cotton factories, then became a cook In 1762 she was married to Abraham Stanley, a blacksmith, her four children died in infancy In 1758 she had joined the "Shaking Quakers" Claiming revelation in a vision (c 1770) that the second coming of Christ was fulfilled in her, she became their accepted leader, known as Ann the Word or Mother Ann Though illiterate, she claimed the gift of tongues and the ability to discern spirits and work miracles She was also convinced of the holiness of celibacy In 1774 Mother Ann led a band of eight to America, where, two years later, at Watervliet, N Y , the first Shaker settlement in America was founded

Lee, Arthur, 1740–92, American Revolutionary diplomat, b "Stratford," Westmoreland co , Va , brother of Francis L , Richard H , and William Lee He was educated at Eton and the Univ of Edinburgh (M D , 1764) and returned to practice medicine in Virginia, but decided to study law and went to London There, like William Lee, he became a partisan of John Wilkes and a political pamphleteer After the American Revolution broke out, he was an agent for the Continental Congress and helped to persuade BEAUMARCHAIS to aid the rebellious colonials In Paris, however, he quarreled with Benjamin FRANKLIN and Silas DEANE, and his unfavorable reports to Congress resulted in the recall of Deane and stoppage of payment to Beaumarchais His hopes of arriving at a treaty with Spain were disappointed, though Spain later entered the war on the American side, and he could not secure recognition at the Prussian court in Berlin In 1779 he was recalled. See B. J. Hendrick, *The Lees of Virginia* (1935)

Lee, Charles, 1731–82, American Revolutionary general, b Dernhall, Cheshire, England. He first came to America to serve in the French and Indian War and took part in Braddock's disastrous campaign (1755), in the unsuccessful campaign against Ticonderoga (1758), and in Amherst's taking of Montreal (1760) His duties as a British officer later took him to Portugal under Gen. John Burgoyne (1762) and to Poland (1763) In 1773 he came to Virginia to live At the start of the American Revolution his military experience won him a commission as major general, but his ambition drove him to demand credit and to desire the high command. After directing the fortification of New York city early in 1776, he went to Charleston and got the credit for the successful defense of that city though he had advised William MOULTRIE to abandon the fort, which in Moultrie's defense saved the city Back in New York he repeatedly disregarded Washington's command to cross the Hudson in the retreat after the battle of White Plains, in the hope that he could win a personal success and replace Washington as commander in chief When he did cross he was captured (Dec 13, 1776) by the British at Basking Ridge, N J As a captive he tried to work out peace proposals, which Congress rejected, then traitorously assisted Gen William Howe in plans for taking Philadelphia Lee was exchanged and joined Washington at Valley Forge (1778) At the battle of Monmouth (1778) he ordered a retreat and thus prevented an American victory The rout was stemmed only by Washington, Baron von Steuben, and Nathanael Greene, and Washington angrily ordered Lee to the rear Lee brazenly criticized Washington so violently that John Laurens challenged him to a duel A court-martial ended in a year's suspension from command for Lee, who continued to criticize Washington abusively In 1780 he was finally dismissed See W S Stryker, *The Battle of Monmouth* (1927)

Lee, Fitzhugh, 1835–1905, Confederate cavalry general, b "Clermont," Fairfax co , Va , grad West Point, 1856, nephew of Robert E Lee He campaigned against the Comanche Indians in Texas and in May, 1861, was an instructor at West Point when he resigned to serve his state In the Civil War, Lee was made a brigadier general for his part in the raid led by J E B STUART around G B McClellan's army, and he brilliantly covered the Confederate retreat from South Mt in the Antietam campaign (1862) In a cavalry engagement at KELLY'S FORD in March, 1863, his brigade opposed the superior Federal force under Gen W W Averell His discovery of the weakness of Joseph Hooker's right led to Stonewall Jackson's successful flanking movement in the battle of CHANCELLORSVILLE (May, 1863) Lee was with Stuart in the Gettysburg and Wilderness campaigns (1863, 1864) He was promoted major general in Sept , 1863 Sent to support J A EARLY in the Shenandoah Valley in Aug , 1864, Fitz Lee was wounded at Winchester and did not return to active service till Jan , 1865 He was chief of the cavalry corps of the Army of Northern Virginia in the last days of the war and covered the retreat to Appomattox He was (1886–90) governor of Virginia, and in 1896 President Cleveland appointed him consul general at Havana Lee won national approval by his conduct in the difficult period preceding the Spanish-American War, and in that conflict he was a major general of volunteers He was military governor of Havana after the war and later commanded the Dept of the Missouri He wrote a biography of his uncle (1894) See D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Lee, Francis Lightfoot, 1734–97, American Revolutionary patriot, signer of the Declaration of Independence, b "Stratford," Westmoreland co , Va , brother of Arthur, Richard H , and William Lee While a member of the house of burgesses (1758–75), he urged resistance to Great Britain in the disturbances leading to the Revolution He served in the Continental Congress (1775–80), and later he supported the Federal Constitution See B J Hendrick, *The Lees of Virginia* (1935).

Lee, George Washington Custis, 1832–1913, Confederate general, b Fort Monroe, Va , grad West Point, 1854, eldest son of Robert E Lee He served in the Corps of Engineers until May, 1861, when he resigned to fight for the Confederacy Aide-de-camp to President Davis through most of the Civil War, he was promoted major general in 1864 In the last days of the war Lee commanded a brigade attached to R S Ewell's corps and was captured in the fighting at Sailor's Creek (April, 1865) He was professor of civil and military engineering at the Virginia Military Institute (1865–71) and, succeeding his father, president of Washington and Lee Univ (1871–97) In 1883 the United States paid him $150,000 for Arlington House (see LEE MANSION NATIONAL MEMORIAL)

Lee, Henry, 1756–1818, American Revolutionary cavalry general, usually known as Light-Horse Harry Lee, b "Leesylvania," Prince William co , Va , grad College of New Jersey (now Princeton), 1773 He was a cousin of Arthur, Francis L , Richard H , and William Lee and was the father of Robert E Lee. As a commander of light dragoons he established an enviable record in the Revolution. He first gained wide notice for his capture of

the fort at Paulus Hook (now in Jersey City), N.J , on Aug 19, 1779 His service under Nathanael Greene after 1780 in the CAROLINA CAMPAIGN was notable for daring and brilliance After the war he was elected (1785) to the Continental Congress, favored a stronger Federal government, and in 1788 was a leader in the struggle to ratify the Constitution He was elected governor of Virginia in 1792, and two years later he commanded the troops who suppressed the Whisky Rebellion He returned to Congress in 1799 He was author of the description of Washington as "first in war, first in peace, and first in the hearts of his countrymen" in the resolutions on the first President's death Henry Lee was a poor business manager and in 1808 was imprisoned for debt, though the circumstances of life at STRATFORD were not straitened. He wrote *Memoirs of the War in the Southern Department* (1812, reprinted 1869 with a biographical sketch by Robert E Lee) See biography by Thomas Boyd (1931)

Lee, Jason, 1803–45, American pioneer in Oregon, a Methodist missionary, b Stanstead, then considered to be in Vermont, now in Quebec After conversion (1826), he became a minister and in 1833 was chosen to go to Oregon in response to the plea (1831) of the Indians He went out with the expedition of Nathaniel J WYETH in 1834 and was persuaded by Dr John MCLOUGHLIN to found his mission in the Willamette valley The missions founded by him and his associates were centers of American settlement Lee on a trip (1838–40) to the East got missionary reinforcements, promoted American emigration to the Columbia region, and asked Congress to extend protection to settlers there He died when on a second journey in the East Like Marcus Whitman, he was influential in making Oregon American territory See biography by C J Brosnan (1932), Theressa Gay, *Life and Letters of Mrs Jason Lee* (1936)

Lee, Jesse, 1758–1816, American Methodist clergyman, b Virginia He is known as the apostle of Methodism in New England where, from 1789 to 1798, his labors as an itinerant preacher over a wide area met with signal success After serving for three years as assistant to Bishop Asbury, Lee was appointed presiding elder of the South District of Virginia in 1801 He served three terms as chaplain in the House of Representatives and one in the Senate His *Short History of Methodism in America* (1810) is the first of its kind

Lee, John Doyle, 1812–77, American Mormon leader He joined (c 1837) the Mormon Church and became a bodyguard for Joseph Smith and later for Brigham Young He was one of the first Mormon migration to Utah and was active in helping to plant settlements there, one of them Provo It seems that he was especially stirred to anger when the U S government sent Albert S JOHNSTON and his troops on the Mormon campaign or "Mormon War" in 1857 At any rate he was the leader of the massacre at MOUNTAIN MEADOWS in 1857 He was finally brought to justice in 1875 The jury disagreed at his first trial, but he was at a second trial found guilty and sentenced to be shot at the scene of the massacre While the case was being vainly appealed, he wrote *Mormonism Unveiled* (later republished as *The Mormon Menace*), a book blaming the Mormon Church for his crime He was executed

Lee, Light-Horse Harry see LEE, HENRY

Lee, Nathaniel, 1653?–1692, English dramatist He specialized in tragedies with a classical background His earlier plays are written in rhyme, but his most successful play, *The Rival Queens, or, The Death of Alexander the Great* (1677), is in blank verse He collaborated with Dryden on *Oedipus, King of Thebes* (1679) and *The Duke of Guise* (1682)

Lee, Richard, d 1664, American colonist, founder of the Lee family of Virginia A member of the Coton branch of the Lees of Shropshire, England, he came (c 1642) to York co , Va , and later settled in Northumberland co A tobacco planter, Lee became wealthy for his time and was an important figure in Virginia, being at various times justice, burgess, member of the council, attorney general, and secretary of state See E J Lee, *Lee of Virginia, 1642–1892* (1895)

Lee, Richard Henry, 1732–94, American Revolutionary statesman, b "Stratford," Westmoreland co , Va , brother of Arthur, Francis L , and William Lee He served in the house of burgesses (1758–75), where he favored halting the slave trade He voiced his protest against the Stamp Act (1765) and was the leader in forming a nonimportation organization To help unite colonial resistance further, he advocated, and helped to form, the intercolonial committees of correspondence As a member of the Continental Congress (1774–80), he was most active in promoting a nonimportation agreement Lee was a member (with John Adams and Edward Rutledge) of the committee that placed George Washington in command of the Continental army He was also vigorous in arguing for independence and introduced the motion that led to the Declaration Lee served again in the Continental Congress (1784–87) He opposed the Federal Constitution because he feared that it would destroy states' rights As U S Senator (1789–92) Lee was largely responsible for adoption of the first 10 amendments to the Constitution See J C Ballagh, ed , *The Letters of Richard Henry Lee* (2 vols , 1911–14), B J Hendrick, *The Lees of Virginia* (1935)

Lee, Robert Edward, 1807–70, general in chief of the Confederate armies in the Civil War, b Jan 19, 1807, at STRATFORD, Westmoreland co , Va.; son of Henry ("Light-Horse Harry") LEE On his graduation from West Point in 1829, he was commissioned in the Corps of Engineers He married (1831) a great-granddaughter of Martha Washington, and Arlington House (see LEE MANSION NATIONAL MEMORIAL), her father's residence near Alexandria, Va , was their home until the Civil War In the Mexican War, Lee made a brilliant record as captain of engineers with Scott's army, winning three brevets, his reconnaissances on the advance to Mexico city were important to the American success Lee was superintendent at West Point from 1852 to 1855, when he was made lieutenant colonel of the 2d Cavalry and sent to W Texas He commanded the regiment from 1857 to 1861 While at Arlington House on an extended leave, he was called to lead the U S marines which captured John BROWN at Harpers Ferry in Oct , 1859 In Feb , 1861 (after the secession of the lower South), General Scott, with whom Lee was a great favorite, recalled him from Texas Lee had no sympathy with either secession or slavery and, loving the Union and the army, deprecated the thought of sectional conflict But in his tradition, loyalty to Virginia came first, and upon Virginia's secession he resigned from the army on April 20, 1861 His resolve not to fight against the South had already led him to decline the field command of the U S forces (April 18) On April 23 he assumed command of the military and naval forces of Virginia, which he organized thoroughly before they were absorbed by the Confederacy Lee then became military adviser to President Jefferson DAVIS and was made a Confederate general After his efforts to coordinate the activity of Confederate forces in the western part of Virginia failed (July–Oct , 1861), Lee organized the South Atlantic coast defenses In March, 1862, Davis recalled him to Richmond His plan to divert reinforcements from Gen G B MCCLELLAN, whose army was threatening Richmond, was brilliantly executed by T J (Stonewall) JACKSON in the Shenandoah Valley When J E JOHNSTON was wounded at Fair Oaks in the PENINSULAR CAMPAIGN, Lee assumed command of the Army of Northern Virginia (June 1, 1862) His leadership of that army through the next three years has placed him among the world's great commanders Lee immediately took the offensive, and after ending McClellan's threat to Richmond in the SEVEN DAYS BATTLES (June 26–July 2), he thoroughly defeated John POPE at the second battle of BULL RUN (Aug 29–30) McClellan, however, checked him in his first Northern invasion, the ANTIETAM CAMPAIGN (Sept) Successive advances by A E BURNSIDE and Joseph HOOKER were handsomely repulsed in the battles of Fredericksburg (Dec 13, 1862, see FREDERICKSBURG, BATTLE OF) and CHANCELLORSVILLE (May 2–4, 1863), though in the last victory Lee lost his ablest lieutenant, Stonewall Jackson For his failure against G G MEADE in the GETTYSBURG CAMPAIGN (June–July, 1863), Lee assumed full blame, although the defeat was more probably due to the action of his subordinates, particularly James LONGSTREET Davis refused to entertain Lee's offer of resignation After Gettysburg, he was not engaged in any major campaign until May, 1864, when U S GRANT moved against him He repulsed Grant's direct assaults in the WILDERNESS CAMPAIGN (May–June), but was not strong enough to turn him back, and in July, 1864, Grant began the long siege of PETERSBURG Lee's appointment as general in chief of all Confederate armies came (Feb , 1865) when the Confederacy had virtually collapsed On April 2, 1865, the Army of the Potomac broke through the Petersburg defenses, and one week later Lee surrendered to Grant at APPOMATTOX COURTHOUSE After the war Lee became president of Washington College (now WASHINGTON AND LEE UNIVERSITY) and made it one of the outstanding educational institutions of the South Although the cause he championed was lost, Robert E Lee was the greatest general of the war His military genius, hampered though it was by lack of men and material, was a principal factor in keeping the Confederacy alive Of an exalted character, Lee was idolized by his soldiers and the people of the South and soon won the admiration of the North He has remained a Southern ideal and an American hero The definitive biography, *R E Lee* (4 vols , 1934–35), is by Douglas Southall FREEMAN See also biographies by H. A White (1897), T N Page (1911), Gamaliel Bradford (1912), Sir Frederick Maurice (1925), J C Young (1929), W E Brooks (1932), and R W. Winston (1934), Capt R E Lee, *Recollections and Letters of General Robert E Lee* (2d ed., 1924), A. H. Burne, *Lee, Grant, and Sherman* (1939), Roy Meredith, *The Face of Robert E. Lee* (1947), S F Horn, ed , *The Robert E. Lee Reader* (1949)

Lee, Rooney. see LEE, WILLIAM HENRY FITZHUGH

Lee or Legh, Rowland (both lē), d 1543, English bishop. Educated at Cambridge, he received preferments under the patronage of Cardinal Wolsey and was employed by him in the suppression of the monasteries (1528–29). He was greatly esteemed by Henry VIII and supposedly celebrated Henry's marriage to Anne Boleyn (1533) Made bishop of Chester (1534), he was one of the first to take the oath of supremacy recognizing Henry as head of the Church

Lee, Sir Sidney, 1859–1926, English editor and author He succeeded Sir Leslie Stephen as editor of the *Dictionary of National Biography* in 1891 His *Life of William Shakespeare* (1898) is a standard work which has passed through many editions. Both this and *Queen Victoria* (1902) are enlargements of his work for the *Dictionary* Lee also wrote *Shakespeare and the Modern Stage* (1906) He was knighted in 1911

Lee, William, 1739–95, American Revolutionary diplomat, b "Stratford," Westmoreland co , Va , brother of Arthur, Francis L , and Richard H Lee He opened a business house in London in 1768 and later was a political supporter of John Wilkes and became (1775) an alderman of London He accepted appointment by the Continental Congress as a diplomatic agent for the newborn United States, but was unable to obtain support from either Austria or Prussia He and an unauthorized Dutchman made a draft of a possible U S –Dutch treaty This, which had no official sanction at all, Lee sent back to America A copy of it, seized by the British when they captured Henry Laurens, was used as a cause for warfare between Great Britain and the Netherlands See W C Ford, ed , *Letters of William Lee* (3 vols , 1891), B J Hendrick, *The Lees of Virginia* (1935)

Lee, William Henry Fitzhugh, known as **Rooney Lee,** 1837–91, Confederate cavalry general, b Arlington, near Alexandria, Va , son of Robert E Lee He entered Harvard in 1854 but left in 1857 when Gen W S Scott secured him a commission in the infantry After serving under A S Johnston in the "Mormon War," he resigned (1859) and lived at "White House," his Virginia plantation, until the Civil War Like his cousin Fitzhugh LEE, Rooney saw most of his service in J E B Stuart's cavalry Wounded at Brandy Station in June, 1863, he was subsequently captured by the Federals Upon his exchange in March, 1864, he was promoted major general and served creditably till the end of the war From 1887 Lee was a Democratic Representative in Congress See D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Lee, town (pop 4,222), W Mass , in the Berkshires, on the Housatonic and S of Pittsfield, settled 1760, set off from Great Barrington and Washington 1777 It has paper mills and marble quarries

Leech, John, 1817–64, English caricaturist and illustrator, educated at Charterhouse with his friend Thackeray He studied medicine but soon abandoned it for art His first work appeared under the title *Etchings and Sketchings of A Pen, Esq* (1835) and was followed by drawings for Robert Bell's *Life in London* (1822) From 1841 until his death, Leech was associated with *Punch* His many brilliant social and political cartoons for this magazine were published separately as *Pictures of Life and Character* and *Pencilings from Punch* He also contributed to *Once a Week* and the *Illustrated London News*, and he illustrated Dickens's *Christmas Stories*, Gilbert A Beckett's *Comic History of England* and *Comic History of Rome*, the sporting novels of R S Surtees, and S R Hole's *Little Tour in Ireland* See biographies by F G Kitton (1883) and W P Frith (2 vols , 1891)

leech, annelid worm with a cylindrical or slightly flattened body, the segments of which are divided externally by secondary rings There is a suction disk at each end of the body The anterior one surrounds the mouth Leeches are found in temperate and tropical regions, chiefly in fresh water Some are land and a few are marine forms Most leeches are bloodsuckers Various species are temporary or permanent external or internal parasites of man, horses, cattle, fish, and mollusks The medicinal leech of the genus *Hirudo* is widely distributed in fresh water Its triple jaws inflict a three-parted bite It releases a glandular secretion containing hirudin which delays the clotting of the victim's blood It has internal pouches for storing enough blood to last for a number of months For many years physicians used leeches to bleed patients suffering from almost any ailment Occasionally one is used now to remove a small amount of blood from an injured region In countries of the E Mediterranean region, humans and animals sometimes become infested with small leeches which enter the body in drinking water and become parasites in the mouth or respiratory passages

Leechburg, industrial borough (pop. 4,275), W Pa , NE of Pittsburgh, laid out 1828, inc. 1850 Strip steel is manufactured, and coal is mined here.

leechee: see LITCHI.

Leech Lake, large lake, N central Minn , SE of Bemidji, with an irregular shore line and lying mainly within the Leech Lake Indian Reservation.

Leeds, county borough (1931 pop. 482,809; 1947 estimated pop 498,650) and city, West Riding of Yorkshire, England, in the Aire valley To the west and south lies one of the leading manufacturing regions of England, centered at Bradford, Halifax, and Wakefield, and an agricultural region is north and east of the city Leeds is "capital" of the industrial district and an important junction of transportation routes, both rail and water—canal and river connect the city with both east and west coasts Manufactures include woolen goods (produced since the 14th cent), clothing, metal goods—locomotives, machinery, farm implements, and airplane parts—leather goods, chemicals, and glass Color printing and art work are important Yorkshire College founded here in 1874, became in 1887 a constituent college of Victoria Univ and in 1904 the independent Univ of Leeds Leeds has a Corinthian town hall (1858) wherein are held triennial musical festivals, of interest also are St. Peter's Church, the Cathedral of St Anne, St John's Church, the Coliseum, and museums Kirkstall Abbey, founded in 1152, is near the city Joseph Priestley was pastor at Mill Hill Chapel, a library is dedicated to him Extensive slum-clearance and rehousing schemes have been successfully carried out since 1920 See J S Fletcher, *Leeds* (1919)

Leeds, city (pop 2,910), N central Ala , just E of Birmingham, in a mine and quarry area, founded 1881 It has a large cement plant

Leek, urban district (1931 pop 18,567; 1943 estimated pop 19,500), Staffordshire, England, near the Churnet, in an agricultural region It has silk textile manufactures The parish church has four Saxon crosses Ruins of Dieulacresse or De la Croix, a Cistercian abbey founded in 1214, are near by

leek, hardy biennial garden plant (*Allium porrum*), related to the chive and onion In cultivation it is treated as an annual, and the leafstalk and basal leaves are blanched, like celery Though not much grown in America, the leek is a popular vegetable in the British Isles and elsewhere in Europe The whole plant is edible and of a milder flavor than the onion It is used in soups and stews—a favorite Scottish dish is cocka-leekie—and is also served like asparagus It was cultivated in Egypt in the time of the Pharaohs and probably came to England by way of the Romans It is a national emblem of the Welsh, who adorn their hats with its leaves on St David's Day. Leeks, shallots, and onions are sometimes called scallions The wild leek (*Allium tricoccum*) is a broad-leaved North American species found in woodlands from Minnesota eastward

Lee Mansion National Memorial, N Va , across the Potomac from Washington, D C , in Arlington National Cemetery Formerly named Arlington House, it was the home of Robert E Lee, inherited by his wife, the daughter of George Washington Parke Custis It was abandoned by the Lees early in the Civil War and after the first battle of Bull Run was used as a field hospital The Federal government seized the estate (1,100 acres) in 1864, but in 1883 paid Lee's son, G W. C Lee, the rightful heir, $150,000 for it The house and the land immediately around it were made a national memorial in 1925

Lee of Fareham, Arthur Hamilton Lee, 1st Viscount (fā'rŭm), 1868–1947, English soldier and statesman He was from 1900 to 1918 a Conservative member of the House of Commons In the First World War, Lee was made military secretary to Lloyd George (1916) and director general of food production (1917–18) He was later minister of agriculture, first lord of the admiralty, a member of the imperial cabinet, and a delegate to the Washington Conference (1921–22) In 1921 he presented his estate, "Chequers," to the nation as country residence for the prime minister

Leerdam (lārdăm'), municipality (pop 9,781), South Holland prov., W Netherlands, S of Utrecht. It is famous for its glass and ceramics manufactures.

Leesburg. 1 City (pop. 4,687), N central Fla , between Harris and Griffin lakes in the beautiful hill and lake region; settled 1856, inc 1875. It is a processing and shipping center in a productive fruit and truck area. There is an annual freshwater-bass tournament here. 2 Town (pop 1,698), N Va., NW of Washington, D C ; settled 1749, inc 1758. It is in an area noted for purebred cattle and horses The courthouse of Loudoun co. is here Near by was fought the Civil War battle of Balls Bluff.

Lees Summit, city (pop 2,263), W Mo., near Kansas City; laid out 1865. It is the center of a farming and dairying region.

Leesville (lēz'vĭl). 1 Town (pop. 2,329), parish seat of Vernon parish, W La , E of the Sabine river, in a lumber and stock-raising area; inc. 1899. Near by are a state park and a national forest. 2 Town (pop. 1,217), W central S.C., WSW of Columbia, in a farm area.

Leetonia, village (pop. 2,259), NE Ohio, S of Youngstown; laid out 1866 There are coal mines here.

Leetsdale, residential borough (pop 2,332), SW Pa , on the Ohio and c 15 mi. NW of Pittsburgh; settled 1796, inc 1904. Steel products are made here.

Leeuwarden (lā'vär"dŭn), Frisian *Leeuwert* (lā'-vĕrt"), municipality (pop 75,864), capital of Friesland prov , N Netherlands. The center of an agricultural and dairying district, it has an important cattle market and manufactures clothing and artificial silk Chartered in 1435, Leeuwarden was (16th–18th cent) a center of gold working and silver working. There are many buildings dating from the 16th and 17th cent , notably the chancellery An 18th-century mansion houses the Frisian museum

Leeuwenhoek, Antony van (ān'tōnē vän lā'vŭn-hōōk"), 1632–1723, Dutch student of natural history and maker of microscopes, b Delft He was apprenticed to a draper at Amsterdam, where his use of lenses in examining cloth probably led to his interest in lens making He assembled over 247 microscopes, some of which magnified objects 270 times He gave the first complete description of red blood cells and was the first to see protozoa and bacteria His work gained recognition in his lifetime, and he was made a member of the Royal Society of England See his *Collected Letters* (Part I, 1939), study by Clifford Dobell (1932)

Leeuwin, Cape (lōō'ĭn), southwestern extremity of Australia, in the Indian Ocean, notable for the treacherous waters around it

Leeward Islands (lōō'ŭrd, lū'-, lē'-), northern group of the Lesser Antilles in the West Indies, extending SE from Puerto Rico to the Windward Islands The principal islands are the Virgin Islands of the United States, the French island of Guadeloupe and its dependencies, the Dutch islands of Saint Eustatius and Saba, the jointly owned Saint Martin, and the British Leeward Islands colony (c 422 sq mi , pop 108,812), grouped into the presidencies of Antigua, Saint Kitts-Nevis, Montserrat, and the British Virgin Islands In the British colony, the central government of the presidencies is headed by a governor, a federal executive council, and general legislative council Volcanic in origin and mountainous, nearly all the Leeward Islands have lush, subtropical vegetation, rich soil, and abundant rainfall The warm, delightful climate is tempered by the surrounding water so that there is little variation in temperature Products for the most part are agricultural—fruits and vegetables (limes and lime juice, oranges, mangoes, coconuts, tomatoes, and onions), sugar, cotton, coffee, and tobacco Although the population varies from island to island, in general the Negro predominates, the white is of French or English descent After Columbus discovered the Leeward Islands in 1493, settlement did not begin until the British arrived in the 17th cent Sir Thomas Warner, sent to St Kitts in 1623, was made governor general of the yet uncolonized neighboring islands (Nevis, Antigua, Montserrat, and Barbuda), and in the same year the Frenchman, Esnambuc, also established a colony on St Kitts By 1632, when the English had settled the neighboring islands, the sharp, three-cornered colonial conflict of England, France, and Spain had begun The Spanish were forced from the struggle But for nearly two centuries afterwards the islands were pawns in the Anglo-French world-wide wars, they changed hands with each fresh attack by British or French forces and were reshuffled in ownership whenever a new treaty was signed Their final disposition did not come until the end of the Napoleonic Wars in 1815 See the current *West Indies Yearbook*, T R St Johnston, *From a Colonial Governor's Notebook* (1936)

Le Fanu, Joseph Sheridan (lĕ'fănū'), 1814–73, Irish novelist and journalist, educated at Trinity College, Dublin. In 1839 he began issuing his own paper, the *Evening Mail*, which voiced his own Conservative views He became editor of the *Dublin University Magazine* in 1869 He wrote several ballads and other verse, but it was for his stories of mystery and terror that he was best known Of these, *Uncle Silas* (1864) is generally considered the best. Others are *The House by the Churchyard* (1863), *In a Glass Darkly* (1872), containing his famous short story "The Watcher", and *The Purcell Papers* (pub. posthumously, 1880)

Lefebvre, Jules Joseph (shül'zhōzĕf'lufĕ'vrŭ) 1836–1912, French figure painter, long a popular instructor at Julien's academy in Paris He won many official honors in his day His work is to be seen in the Luxembourg Museum and the École des Beaux-Arts, Paris, and in the Metropolitan Museum and the St Louis Museum

Lefebvre, Pierre François Joseph (pyĕr'frāswä'), 1755–1820, marshal of France. He rose from the ranks in the French Revolutionary Wars and distinguished himself under Napoleon, who created him duke of Dansig His wife, who had been a washerwoman, caused some sensation through her unconventional manners and is the heroine of Sardou's play, *Madame Sans-Gêne.*

Lefèvre d'Étaples, Jacques: see Faber Stapulensis, Jacobus.

Lefkosha, Cyprus: see Nicosia.

Lefort, François (frāswä' lŭfôr'), 1656–99, Swiss soldier of fortune in Russian service, b. Geneva. He was one of the early boon companions of Peter I (Peter the Great) and remained Peter's favorite until his death A drunkard and a debauchee, Lefort nevertheless implanted serious ambitions into Peter's mind. He advised Peter's attack on Asov, helping in its capture (1696) and counseled Peter's apprenticeship abroad. Made a general and an admiral, Lefort was instrumental in the reorganization of the Russian army and the creation of the Russian navy

Lefroy, Harold Maxwell (lŭfroi'), 1877–1925, English entomologist, educated at Cambridge He is noted for his work on the economic importance and control of insects, especially those affecting the rice, silk, cotton, and tobacco industries His writings include *Indian Insect Pests* (1906), *Indian Insect Life* (with F M. Howlett, 1909), and *Manual of Entomology* (1923)

Lefroy, Mount (lŭfroi'), 11,230 ft high, on the British Columbia–Alberta border, in the Rocky Mts and on the west edge of Banff National Park.

left, in politics, the more radical wing in any legislative body or party The designation apparently came from the supposedly accidental grouping of the radicals in the National Assembly in France in 1789 to the left of the presiding officer, but there is some question as to whether this is the true origin of the word In the British Parliament the more radical members have sat to the left of the speaker since the 18th cent.

leg, that portion of a limb between the knee and the foot More loosely the term is applied to any appendage useful to an animal for support and locomotion In man and other bipeds, the leg is limited to the segment of the lower limb between the knee and ankle joints, the segment above the knee is described as the thigh, and the femur or thigh bone articulates at its upper end with the hip, forming the hip joint The bones of the leg are the tibia and the fibula. At its lower end the femur articulates with the upper end of the tibia, forming the knee joint, which is protected by the patella (kneecap), the tibia and the fibula both articulate with a bone of the foot (talus), thus forming the ankle joint In quadrupeds both fore and hind limbs are referred to as legs.

legacy (lĕ'gusē), bequest by WILL of personal property, similar in many respects to a GIFT *causa mortis* A legacy ordinarily is distinguished from a devise, which transfers real property by will The person who receives a legacy is called a legatee Legacies are of various types. A specific legacy bequeaths a designated object, e g , a named painting A general legacy is a sum of money to be paid out of any assets of the estate. The residuary legacy is all of the testator's personal property otherwise undistributed The debts of the estate take precedence over all legacies. Deficiencies are met first from the residuary legacy, then from general legacies, and last from the specific legacies

Le Gallienne, Eva (lu găl'yŭn), 1899–, American actress, producer, and manager, b. London, daughter of Richard Le Gallienne She made her debut at the Prince of Wales Theatre, London, in 1915 and the next year in New York. She first achieved distinction in Molnar's *Liliom* in 1921–22 and added to her stature in Gerhart Hauptmann's *Hannele* and in the dramas of Ibsen In 1926 she founded in New York the Civic Repertory Theatre, of which she was manager and director, producing among other plays *Cradle Song, Romeo and Juliet, The Cherry Orchard,* and *Alice in Wonderland* The work of this company ended in 1933 In 1946 she was a cofounder, with Margaret Webster, of the American Repertory Theatre, which presented the plays of Ibsen, Shaw, and others and dissolved in 1947 See her autobiography, *At 33* (1934)

Le Gallienne, Richard, 1866–1947, English journalist and man of letters Literary critic of the London *Star* (1891) and a contributor to the *Yellow Book*, he became a resident of the United States, where his daughter Eva Le Gallienne was born His works include *My Ladies' Sonnets* (1887), *The Quest of the Golden Girl* (1896), reminiscences, *Attitudes and Avowals* (1910), essays; *Vanishing Roads and Other Essays* (1915), *The Junk-Man and Other Poems* (1921), and later books of reminiscences, *The Romantic '90's* (1925), *From a Paris Garret* (1936), and *From a Paris Scrapbook* (1938)

Legal Tender cases, lawsuits brought to the U S Supreme Court involving the constitutionality of the Legal Tender Act of 1862, which was passed to meet wartime currency needs. It authorised the issue of $150,000,000 in "United States notes" (see GREENBACK) without any reserve or specie basis. The notes ($432,000,000 had been issued by the end of the war) depreciated in terms of gold and became the subject of argument, particularly because debts contracted earlier could be paid in this cheaper currency. Many cases concerning the greenbacks were entered in the courts. The Supreme Court decided certain of them in 1868 without passing on the question of constitutionality In *Hepburn* vs. *Griswold* (1870), Chief Justice S. P. Chase declared the act unconstitutional; but with

changes in its membership, the court reversed its decision and the act was held valid in *Knox* vs. *Lee* and *Parker* vs *Davis* (1871). Its constitutionality was more widely sustained in *Juillard* vs. *Greenman* (1884). See GREENBACK PARTY

Legaré, Hugh Swinton (lŭgrē'), 1797–1843, American lawyer and statesman, b. Charleston, S C, grad South Carolina College (now the Univ. of South Carolina), 1814 He was admitted to the bar in 1822, served in the South Carolina legislature (1820–22, 1824–30), and was state attorney general (1830–32) He was a founder, editor (1828–32), and a chief contributor to the *Southern Review* From 1832 to 1836 he was chargé d'affaires at Brussels, where he furthered his studies in civil law In 1837 Legaré, who had been a strong opponent of nullification, was elected to Congress as a Union Democrat, but was not reelected because of his opposition to the sub-treasury project. He supported William Henry Harrison for President in 1840 and when, on Harrison's death, John Tyler succeeded to the office, Legaré became Attorney General (1841) He also became Secretary of State ad interim (1843) after Webster's resignation, but died two months later

Legaspi, Miguel López de. see LÓPEZ DE LEGASPI, MIGUEL.

Legaspi (lŭgä'spē, lāgä'–), town (pop 15,780), on SE Luzon, capital of Albay prov, Philippine Islands, on Albay Gulf It has an extensive trade in hemp and rice It was formerly known as Albay

legate (lĕ'gŭt), in Roman history, one sent to the provinces as a personal envoy of the emperor Many legates served as governors About the 12th cent the word came into use again to designate a papal ambassador extraordinary In time they became differentiated into *ablegati*, those sent on formal religious errands, e g, to bear the cardinal's hat to a newly elected member of the sacred college, and *legati a latere*, cardinals sent on political missions Later agents of lower rank than cardinal came to be known as *legati missi* These, when in permanent residence, were called nuncios or internuncios In modern times nuncios and internuncios have performed all the functions of legates

legation see DIPLOMATIC SERVICE and EXTERRITORIALITY

Legendre, Adrien Marie (ädrēĕ' märē' luzhä'drŭ), 1752–1833, French mathematician He is noted for his work on the theory of numbers, on which he wrote an essay (1798) and several supplements, all later incorporated in a definitive work *Théorie des nombres* (1830) The results of his long study of elliptic integrals appeared in *Traité des fonctions elliptiques* (3 vols, 1825–32) He invented independently of Gauss, and was the first to state in print (1806), the method of least squares, and he collaborated in drawing up centesimal trigonometric tables He taught at the École militaire, Paris, and at the École normale and was associated with the bureau of longitudes from 1812 His *Éléments de géométrie* (1794, Eng tr, 1867) was an influential textbook

Léger, Alexis Saint-Léger (älĕksēs' sĕ-lāzhä' lāzhā'), pseud **St-J Perse**, 1887, French poet and statesman, b West Indies Educated in France, he entered the foreign service in 1914 He spent the years 1917–21 in Peking and acted as expert on Far Eastern affairs at the Washington Conference (1921–22) on naval armaments He was Briand's aid in negotiations leading to the Locarno Pact and the Kellogg-Briand Pact and in 1933 became general secretary of the ministry of foreign affairs He had violently opposed appeasement, and when France fell in 1940 he came to America. The poetry published under his pseudonym is slight in volume, but many critics consider him the greatest French poet of his age Sometimes obscure, it is rich in imagery, virile, and superbly skillful in the use of words Most of his work has been translated—*Éloges* (1910, Eng tr, 1944), *Anabase* (1924, Eng. tr by T S Eliot, *Anabasis*, 1930), and *Exil* (1942, Eng tr, *Exile*, 1949).

Léger, Fernand (fĕrnä' lāzhä'), 1881–, French painter, studied under Gérôme at the École des Beaux-Arts He was first widely known for his cubist paintings in 1910, and a modified cubism is apparent in most of his subsequent work. A highly individual painter, Léger celebrates the machine in a dynamic style characterized by the use of flat tones of pure color, black, white, and gray He has been a popular teacher of painting both in Paris and in New York, where he spent the years 1941–46. His compositions are in leading galleries of contemporary painting everywhere

Leggett, William (lĕ'gĭt), 1801–39, American editor and author, b New York city He wrote the poems *Leisure Hours at Sea* (1825) while serving in the navy and in 1828 established a weekly, the *Critic*, which he wrote almost singlehanded He became part owner and associate editor (1829–36) of the New York *Evening Post*, under William Cullen Bryant, and his thorough-going Jacksonian principles made him spokesman of the radical Democrats. He was appointed diplomatic agent to Guatemala, but died before sailing. A collection of his political writings appeared in 1840.

Legh, Rowland: see LEE, ROWLAND.

Leghorn (lĕg'hôrn), Ital. *Livorno* (lēvôr'nō), city (pop. 109,188), capital of Livorno prov, Tuscany, central Italy. It is, after Genoa and Naples, the most important port on the west coast of Italy and a busy commercial center Wine, olive oil, textiles, borax, and marble are exported. Leghorn is the seat of the Italian naval academy and has an arsenal, shipyards, foundries, and other industries It was a mere fortified castle in the Middle Ages The Medici developed it into a flourishing town, and in 1590 Ferdinand I, grand duke of Tuscany, made it a free port and opened it to all religious and political refugees In the Second World War it suffered very severely; the cathedral was damaged beyond repair, as was the synagogue (1591) Shelley wrote *The Cenci* at Leghorn.

legion, large unit of the Roman army The legions varied greatly in size at different times, but in Caesar's day each legion generally had from 3,000 to 6,000 men The average legion in later times had about 3,000 heavy infantrymen, about 1,200 light infantrymen, and 300 cavalrymen The legion was divided into 10 cohorts, and the cohorts were divided into centuries (theoretically 100 men each) In Caesar's time each legion had six tribunes, a legate (an office set up by Caesar), a prefect, and some 60 centurions Originally the Roman army was a militia, later it was made up of Roman citizens, and finally it was composed of professional soldiers, largely recruited from the provinces After their years of service were done, the soldiers were retired with grants of land Training was hard, with much difficult drilling to prepare the men especially for shock tactics and for rapid marches They carried not only armor and weapons but also provisions and some equipment for setting up field camps The standard weapons were the spear (*pilum*) and (after Scipio Africanus Major conquered Spain) the sword Their characteristic emblems were the eagles inscribed SPQR [*Senatus Populusque Romanus*, the Senate and the people of Rome], and they carried the eagles in triumph over the far reaches of the empire for hundreds of years The glory of Rome to a large extent rested upon them The legions were primarily heavy infantry, and they were vulnerable chiefly to quickly moving cavalry and archers (e g, the defeat of M Lucinius Crassus at Carrhae) and to guerrilla fighters (e g, the famous defeat of Varus by the Germans) After the Germanic invasions had begun, the Roman army was more and more staffed with Germans The legions proved unable to match the barbarian horsemen and disappeared

Legion of Honor see DECORATIONS, CIVIL AND MILITARY

legislature (lĕ'jĭslā"chŭr), representative assembly empowered to enact STATUTE law The term is equally applicable to national, state, and local bodies although usages vary, e g, a municipal legislature may be called a board of aldermen or a city council Legislatures are a modern development The popular assemblies of the Greek city-states or of early Rome were not legislatures in that the citizens, instead of being represented by a small percentage of their number, sat (or could sit) in person Local popular assemblies (*Landsgemeinden*) are still found in Switzerland, and the New England town meeting has this democratic character In lay terminology the word *legislature* is often extended to such popular assemblies The first modern legislature to become prominent, the British PARLIAMENT, originally was not elective but consisted of selected representatives of the clergy, the nobility, and the bourgeoisie Somewhat similar in the type of representation was the French STATES-GENERAL, which adopted the practice of having a separate body for each estate (see ESTATE, in constitutional law) The legislature of the Holy Roman Empire is usually called in English the DIET (the usual name for several modern legislatures, e g, the Finnish and the Japanese) Out of the estates arose the typical BICAMERAL SYSTEM, with the upper house representing the nobility and clergy and the lower house the bourgeoisie The CONGRESS OF THE UNITED STATES and the American state legislatures (except Nebraska since 1937) are bicameral However, in the United States, as in most modern countries, the two houses do not reflect differences of social status, and the members of both houses are elected by all the citizens Some of the modern national legislatures are the ALTHING (Iceland), the *Bundes-Versammlung* (Switzerland), the CORTES (Spain), the Knesset (Israel), the Legislative Yuan (China), the Majlis (Iran), the Oireachtas (Ireland, see DÁIL ÉIREANN), the REICHSTAG (Germany), the RIGSDAG (Denmark), the RIKSDAG (Sweden), the States-General (Netherlands), the STORTING (Norway), and the Supreme Soviet (USSR; the national legislatures of some other Communist nations have similar names) The legislative bodies of the members of the British Commonwealth of Nations are called Parliaments, and the legislatures of the Latin American countries are usually called congresses or national congress in English The term *parliament* is often applied in English to national legislatures without regard to the official designation. See Robert Luce, *Legislative Assemblies* (1924), F G Crawford, *State Government* (1931), Council of State Governments, *Our State Legislatures* (1948)

legitimation, the act of giving to a child whose parents were not married at the time the child was born the status of legitimacy This is accomplished by the subsequent marriage of the parents Under the common law, legitimation by this process was not allowed, although this rule came under the displeasure of the church It was not until 1926 that a statute was passed in England allowing legitimation by subsequent marriage In the United States legitimation by subsequent marriage is the general rule In some states there are, moreover, special judicial proceedings for the legitimation of a child In other states one or both of the parents may adopt the child. See BASTARD and ILLEGITIMACY

Legnano (lānyä'nō), city (pop 31,959), N Italy, NW of Milan It is an important industrial center Near here in 1176 the Lombard League decisively defeated Emperor FREDERICK I

Legnica, Lower Silesia see LIEGNITZ

Legros, Alphonse (älfôs' lŭgrō'), 1837–1911, French etcher, painter, and sculptor In 1857 he exhibited in the Salon a portrait of his father (Toulouse) He moved to England in 1863, and as professor of fine arts at the Slade School of Art, London, he exercised a healthy and stimulating influence He painted portraits, religious subjects, and peasant scenes Legros is represented in the Luxembourg Museum, Paris, the Tate Gallery, London, and the Metropolitan Museum

Leguía, Augusto Bernardino (ougōs'tō bĕrnärdē'nō lāgē'ä), 1863–1932, president of Peru (1908–12, 1919–30) In his second administration (1920), expanded and developed Lima, and considerably modernized his country, but increased the national debt and suppressed all opposition harshly In 1929 the long-drawn-out TACNA-ARICA CONTROVERSY with Chile was terminated, and Leguía was bitterly criticized for accepting the compromise Coupled with the economic depression, his financial dealings, and his harsh rule, the reaction brought about his overthrow He was charged with misappropriating government funds and imprisoned

legume (lĕ'gūm, lĭgūm'), common name for the large pulse family (Leguminosae) of flowering plants, which is next in importance to the grasses The fruit, also called a legume, is a POD Among the common legumes are peas, beans, typical clovers, the honey locusts and acacias, the wisteria, and the laburnum In agriculture, various legumes are used as green manures—they are the only class of plants which increase the nitrogen of the soil The group also contains poisonous weeds, such as the loco weeds and wild lupines, dye plants, such as genista, and ornamental garden plants such as the sweet pea and the lupine The word is often used in the plural for vegetables in general

Leh (lā), town (pop 3,372), E Kashmir state, India It is at an altitude of c 11,500 ft Buildings include the palace of the former rulers of W Tibet and a Lamaist monastery Much of the trade between India and Tibet passes through Leh

Lehabim (lēhā'bĭm), African people, perhaps the same as the LUBIM Gen 10 13 (=1 Chron 1 11)

Lehar, Franz (frants' lā'här), Hung *Lehár Ferenc* (lĕ'här fĕ'rĕnts), 1870–1948, composer of operettas He was born in Komarno (then in Hungary), studied (1882–88) at the Prague Conservatory, and later became a citizen of Czechoslovakia, although after 1889 he lived in Vienna His first operetta, *Wiener Frauen* (Vienna, 1902), was successful enough that he could thereafter devote himself entirely to composition He wrote one opera and some orchestral music, but his operettas overshadowed his other works *Die lustige Witwe* (*The Merry Widow*, Vienna, 1905), his outstanding work, had international success

Lehi (lē'hī) [Heb, =jawbone], place, SW Palestine, where Samson slew the Philistines with the jawbone of an ass Judges 15 9–20

Lehi (lē'hī), city (pop 2,733), N central Utah, in the valley of Utah Lake S of Salt Lake City, settled 1850 by Mormons inc 1852 Fields watered from Utah Lake and now also by the Provo river project yield alfalfa and beets (for a sugar refinery opened in 1890) Clay products are made

Lehigh (lē'hī), town (pop 1,004), central Iowa, just SE of Fort Dodge and on the Des Moines river, in a clay and farm area, settled in the early 1850s

Lehigh, river rising in NE Pennsylvania and flowing south, with a wide bend west, 103 mi past Mauch Chunk, Allentown, Bethlehem, and many smaller places to the Delaware river at Easton Its valley, of great natural beauty, has rich coal mines and industrial towns

Lehighton (lē'hī'tun), industrial borough (pop. 6,615), E Pa, on the Lehigh river and NNW of Allentown, laid out c 1805, inc 1866. It has textile mills Molding sand, used for pipe and machinery castings, is dug on the river flat

Lehigh University, at Bethlehem, Pa.; nonsectarian, mainly for men, chartered and opened 1866 by Asa Packer. It stresses engineering (with a fine li-

brary), but also has colleges of arts and science and business administration

Lehman, Herbert Henry (lē'mŭn), 1878–, American statesman, b New York city, grad Williams, 1899 At first an executive of a textile firm, he became (1908) a partner in the banking house of Lehman Brothers—originally a cotton-brokerage firm but later the bank for some of the largest businesses in the country. In the First World War he was special adviser to the Secretary of War and was assistant director of purchase, storage, and traffic of the U S army. He was finance chairman of the Democratic National Committee in 1928, the year he was elected lieutenant governor of New York state In 1932 Lehman was elected governor of the state, succeeding Franklin D Roosevelt He was later reelected In the course of Lehman's gubernatorial administrations, state income taxes were cut, a budgetary surplus of $92,000,000 was accumulated, and much liberal legislation was enacted He refused to run again in 1942, and Thomas E Dewey was elected to succeed him Lehman was appointed (1943) director of the United Nations Relief and Rehabilitation Administration, but resigned (1946) because of ill-health In a special senatorial election in 1949, he defeated John Foster Dulles to fill the unexpired term of Robert F Wagner.

Lehman Caves National Monument see National parks and monuments (table)

Lehmann, Lilli (lĭ'mən), 1848–1929, German operatic soprano She made her debut in 1865 in Prague and in 1870 joined the Royal Opera, Berlin In 1876 she sang in the first Bayreuth Festival, having been coached in several roles by Wagner She was a member of the Metropolitan Opera Company, New York, from 1885 until 1890, there her true stature as one of the greatest singers of her time was realized While most famous as a Wagnerian singer, she knew 170 roles and actually began her career as a coloratura She was also a lieder singer and a great teacher, Olive Fremstad and Geraldine Farrar being among her pupils Her *Meine Gesangskunst* was translated by Richard Aldrich as *How to Sing* (1902) See her autobiography (Eng tr, 1914)

Lehmann, Lotte (lä'mən, Ger lā'mən), 1888–, German-American soprano, studied at the Berlin State Conservatory She made her debut in 1910 in Hamburg and was a member (1914–38) of the Vienna State Opera In 1922 she sang in South America Her North American debut was in Chicago as Sieglinde in *Die Walkure* in 1930 She sang from 1934 to 1946 with the Metropolitan Opera Company In 1945 she became a U S citizen She wrote *Eternal Flight* (Eng tr, 1938), a novel, her autobiography, *Midway in My Song* (Eng tr, 1938), *More than Singing* (Eng tr, 1945), discussing her song repertoire, and *My Many Lives* (Eng tr, 1948), discussing her operatic roles

Lehmbruck, Wilhelm (vĭl'hĕlm lām'brōōk), 1881–1919, German sculptor, studied at Düsseldorf His early work was neoclassic, later he was influenced by Aristide Maillol Most of his figures, often with a Gothic elongation, are female nudes His *Kneeling Woman* (Mus of Modern Art, New York) is generally considered his best work Although Lehmbruck died at 38, by suicide, his influence on later sculptors was marked

Leibl, Wilhelm (vĭl'hĕlm lī'bul), 1844–1900, German genre and portrait painter, studied in Munich During most of his life he lived as a Bavarian peasant and painted the familiar scenes and types about him His earlier works reflect the influence of the Dutch and French realists, but he gradually developed an original, intensely realistic style, characterized by robustness, superb color, and a brilliant and facile technique Despite his secluded life, Leibl's influence upon modern realistic painting was wide His works were in many German galleries, *Peasant Girl with a White Head-Cloth* is in the Metropolitan Museum

Leibniz or **Leibnitz, Gottfried Wilhelm, Baron von** (both gŏt'frēt vĭl'hĕlm bärōn'lĭp'nĭts), 1646–1716, German philosopher and mathematician He was active in the physical sciences, history, law, diplomacy, and other fields After studying at Leipzig, his native city, and at Jena, he became a doctor of law (1666) at Altdorf He declined a professorship in law to enter the diplomatic service of the archbishop of Mainz and was in Paris from 1672 until 1676 to promote German interests at the court of Louis XIV While there he met among other intellectuals Christiaan Huygens and Malebranche He developed (1675–76) the infinitesimal calculus without knowledge of Newton's earlier unpublished work Leibniz's calculus was published in 1684, nine years before Newton's, using the notation later adopted universally In 1676 he visited Spinoza in Holland and then went to Hanover as privy councilor, librarian, and historian to the duke of Brunswick Through the house of Brunswick he came into contact with the king of Prussia, to whom he suggested the establishment of an academy of science in Berlin Leibniz became the first president (1700) of the academy At the request of the queen of Prussia he wrote a systematic discussion of his philosophy, *Essais de Théodicée sur le bonté de Dieu, la liberté de l'homme, et l'origine du mal* (1710), which he followed with the *Monadology* (1714; Eng. tr, 1890) and the *Principles of Nature and Grace* (1714, Eng tr, 1890) A large part of the philosophy of Leibniz is contained in letters and essays, many of which were overlooked by commentaries for years because Leibniz himself gave them no publicity Some of the letters disclosed in 1903 present aspects of his philosophy which contradict the published portions Leibniz's philosophy differed from that of Descartes and Spinoza initially in that Leibniz held that extension cannot be an attribute of substance, since extension implies plurality It follows that the attribute of substance is thought or force He conceived of an infinite group of souls, which he called monads These monads cannot interact, since substance cannot interact They are, therefore, windowless. To account for perception Leibniz held that each monad reflected the universe in itself Through the principle of preestablished harmony of sensation and development, interaction among monads seems to occur The relative positions of monads also makes perception possible and forms the basis for scientific objectivity There was, for Leibniz, a hierarchy of monads in ascending order according to the clearness with which each reflected the universe Thus, in the human body there was one dominant monad called the soul and many lower monads Leibniz maintained that man is free in that the compulsion of the preestablished plan makes him tend in a certain direction without forcing him This permission of free will is the source of evil and punishment God is the supreme monad who allows free will and still shapes the world as the best of all possible worlds, a view satirized by Voltaire Leibniz presented four closely reasoned arguments for the existence of God In the works he did not make public Leibniz proposed a theory of mathematical logic based on the proposition that every predicate is forever and always has been comprised in the subject This doctrine imposes on the world strict determinism in total contradiction of his notion of freedom of the will He further argued that logic determines only a basis of compatibility what does and what does not come into the realm of being Leibniz attempted to argue from logic to metaphysics, an exercise which was severely criticized by the empiricists See Bertrand Russell, *Critical Exposition of the Philosophy of Leibnitz* (1900) and *A History of Western Philosophy* (1945), G M Duncan, *The Philosophical Works of Leibnitz* (1908), J M Child, *The Early Mathematical Manuscripts of Leibniz* (1920), biography by H W Carr (1929)

Leicester, Robert Dudley, earl of (lĕ'stûr), 1532?–1588, English courtier and favorite of Queen Elizabeth Son of the duke of Northumberland, he was early brought into the society of Edward VI and Princess (later Queen) Elizabeth Knighted at an early age, Dudley married Amy Robsart in 1550 and received preferment from the crown Upon Edward's death (1553), he aided his father in the plot to place Lady Jane Grey upon the throne, was sent to the Tower, and condemned to death He was later released, pardoned, and, for military service in France, restored to his rights (perhaps through the intervention of Philip II) On the accession of Elizabeth (1558), Dudley was made master of the horse and later a privy councilor Within a year he was acknowledged as her favorite His wife's mysterious death in 1560 darkened his reputation, and Dudley undertook (1561) to gain power by proposing to Philip II of Spain to restore Catholicism in England By 1563 Elizabeth seems to have realized the impracticality of a possible marriage with Dudley, but her personal feeling toward him did not change She offered his hand to Mary Queen of Scots and, to facilitate this scheme, created him earl of Leicester (1564), but the plan was halted by Mary's marriage to Lord Darnley Leicester married secretly in 1573 and in 1578 (bigamously) wed the countess of Essex, an act that led to a temporary estrangement from Elizabeth From c 1564 Leicester was leader at court of the Puritan party, which desired war with Spain In 1585 he was named commander of an unsuccessful expedition to the Low Countries, where he accepted the title of governor, enraging Elizabeth at his presumption He returned to England, was sent again to the Low Countries, and finally recalled in 1587 Upon the approach of the Spanish Armada (1588), Leicester was appointed captain general of the armies Leicester was a patron of letters and the drama The first royal patent for actors was granted to his company

Leicester, Robert Sidney, earl of, 1563–1626, English soldier and man of affairs. He was a younger brother of Sir Philip Sidney and nephew and heir of Robert Dudley, under whose command he fought in the Low Countries. Long a member of Parliament, he carried Elizabeth's thanks to James VI of Scotland for his help in defeating the Spanish Armada Sidney became (1618) earl of Leicester after James's accession to the English throne as James I His later years were spent as a sponsor of colonial exploration in North America and India and as a patron of music and literature

Leicester, county, England: see Leicestershire.

Leicester (lĕs'tûr), county borough (1931 pop. 239,169; 1947 estimated pop, 280,170) and city, co seat of Leicestershire, England. It is the Ratae Coritanorum, or Ratae, of the Romans, whose Fosse Way passed the town It was also a town of the ancient Britons and was one of the Five Boroughs of the Danes. Its antiquities include an artificial mound (site of an ancient castle), the Jewry Wall, a Roman structure 20 ft high and 75 ft long (near which extensive Roman remains have been found, including a forum with basilica and courtyard); remains of the ancient Norman castle in whose banquet hall county assizes are now held, ruins of an abbey founded in 1143, in which Cardinal Wolsey died in 1530, and two city gates Several of the churches (St Nicholas, St Mary de Castro, and All Saints) show Roman or Norman work, and Trinity Hospital is a 14th-century foundation Richard III stayed in Leicester the night before he was killed in the battle of Bosworth Field, his body was brought back to Leicester for burial In the civil war the town was twice besieged It was of industrial importance as early as the 14th cent, the making of hosiery and shoes are old-established industries, it also makes chemicals, aniline dyes, textiles and textile machinery, and light-metal products The University College was founded in 1921

Leicester, town (pop 4,851), central Mass, W of Worcester, settled 1713, inc 1722

Leicester of Holkham, Thomas William Coke, earl of (kōōk, hōl'kum), 1752–1842, English politician and agriculturist For over 50 years he represented Norfolk in Parliament By developing his country estate and improving breeds of cattle, sheep, and hogs, he led many to try more scientific farming See A M D Stirling, *Coke of Norfolk and His Friends* (1907)

Leicester sheep, breed of sheep originated in Leicestershire, England, by Robert Bakewell One of the first to employ scientific breeding principles, Bakewell developed the English Leicester sheep, from native stock, as mutton producers Both sexes are polled and the face and legs are white-haired The wool hangs in curls and is medium long and fine The sheep were important for cross-breeding in the development of long-wool and many medium-wool breeds The other Leicester strain is the Border Leicester originated in the border country of England and Scotland partially from English Leicester stock English Leicesters were brought to the United States in colonial times, these and crosses between the two strains are bred in small numbers in parts of the N United States In Canada the Border Leicesters are more numerous than the English

Leicestershire (lĕ'stûrshĭr) or **Leicester,** inland county (832 sq mi, 1931 pop 541,861, 1948 estimated pop 618,100), central England The county town is Leicester The terrain is undulating, and the principal rivers are the Soar and the Wreak Leicestershire is primarily an agricultural and pastoral county (sheep grazing and cattle breeding) Stilton cheese is a well-known dairy product of the region Leicester is one of the great industrial cities of England and the center of the boot and shoe industry Melton Mowbray and Market Harborough are famous fox-hunting centers A part of the Anglo-Saxon kingdom of Mercia, Leicestershire was organized as a shire by the 10th cent At Bosworth, in 1485, Richard III was slain by the forces of Henry Tudor, earl of Richmond, who ascended the throne as Henry VII See Arthur Mee, *Leicestershire and Rutland* (1937).

Leichhardt, Friedrich Wilhelm Ludwig (frē'drĭkh vĭl'hĕlm lōōd'vĭkh lĭkh'härt), 1813–1848?, Prussian explorer in Australia He led an expedition from Moreton Bay to Port Essington (1844–45) and in 1848 set out from Moreton Bay to cross the central part of the continent east to west After sending a message from Macpherson's Station, on the Cogoon river, he disappeared No trace of him has ever been discovered He wrote *Journal of an Overland Expedition in Australia from Moreton Bay to Port Essington* (1847)

Leiden or **Leyden** (both lī'dŭn), municipality (pop 86,451), South Holland prov, W Netherlands, on the Old Rhine river, NE of The Hague Though it has important textile, machinery, and other manufactures, it is famed chiefly for its university, founded in 1575, which is the oldest in the Netherlands and one of the most famous in the world In the 17th and 18th cent the Univ of Leiden was celebrated both as a center of Protestant theological learning and of science and medicine The Leyden jar was invented here, and Boerhaave taught here Leiden was equally famous as a printing center after the Elzevir family established its press here in 1580 Dating from Roman times, when its name was Lugdunum Batavorum, Leiden was important for its textile industry in the late Middle Ages and took a prominent part in the revolt of the Netherlands against Spanish rule. Besieged and reduced to famine in 1574, it was saved from surrender when William the Silent ordered the flooding of the surrounding land by cutting the dikes, thus enabling the fleet of the Beggars of the Sea (see Gueux) to sail to its relief across the

countryside. Leiden was for years the home of many of the Pilgrims before they embarked for America. It was the birthplace of John of Leiden and of the painters Jan van Goyen, Rembrandt, and Jan Steen. Leiden has two ancient churches, the Hoglandsche Kerk (15th cent.) and the Pieterskerk (14th cent.), an observatory, several museums, and many 17th-century houses.

Leidy, Joseph (lī'dĭ), 1823–91, American scientist, b. Philadelphia, grad. Univ. of Pennsylvania medical school. From 1853 he taught anatomy at his alma mater. He was also professor of natural history at Swarthmore College (1870–85) and served as chairman of the board of curators (1847–91) and president (1881–91) of the Academy of Natural Sciences of Philadelphia. He ranked among the foremost anatomists of the day, and his *Elementary Treatise on Human Anatomy* (1861) was long the best American textbook in the field. He studied the fossil beds in Nebraska and South Dakota and, later, in Wyoming and Oregon and classified the fossils collected by the F. V. Hayden survey. Three important monographs followed, *Ancient Fauna of Nebraska* (1853), *Extinct Mammalian Fauna of Dakota and Nebraska* (1869), and *Contributions to the Extinct Vertebrate Fauna of the Western Territories* (1873), all of them landmarks in American paleontology. He was the first to identify in the United States extinct species of the horse, camel, sloth, tiger, rhinoceros, and many other genera and species. His *Flora and Fauna within Living Animals* (1853) was epoch-making in the field of parasitology, and his *Fresh Water Rhizopods of North America* (1879), with his own notable drawings, is still one of the finest works in its field.

Leif Ericsson (lēf' ĕr'ĭksun), Old Norse *Leifr Eiriksson*, fl. 999–1000, Norse discoverer of America, b. probably in Iceland, son of ERIC THE RED. He spent his youth in Greenland and in 999 visited Norway, where he was converted to Christianity and was commissioned by King Olaf Tryggvason to carry the religion to Greenland. According to the "Saga of Eric the Red" in the collection of sagas known as *Hauksbok*, it was on the return voyage from Norway to Greenland in A.D. 1000 that Leif Ericsson, blown off his course, discovered hitherto unknown lands in which he found grapes, self-sown wheat, and a species of tree called "mausur." He landed, secured specimens of these things, and continued on to Greenland, where he was successful in introducing Christianity. In another version of the story, interpolated in the "Saga of Olaf Tryggvason" in the *Flateyjarbok*, Leif completed his mission to Greenland and from there set out, c. 1002, on a voyage to western lands, discovered several places, and settled for a winter in VINLAND. This account is much more detailed, but the first is more widely accepted. Many scholars believe that Leif Ericsson landed on some part of the North American coast, but there has been no agreement on the modern identity of Vinland. Various sites have been nominated, from Newfoundland to Virginia, with Nova Scotia and New England as favorites. For the sources, see A. M. Reeves, *The Finding of Wineland* (1890). See also Matthias Thordarson, *The Vinland Voyages* (1930), Edward Reman, *The Norse Discoveries and Explorations in America* (1949). For Norse colonization of North America, see THORFINN KARLSEFNI.

Leigh (lē), municipal borough (1931 pop. 45,317, 1947 estimated pop. 47,750), Lancashire, England, NE of Liverpool. It has coal mines, cotton and rayon mills, metalworks, and other manufactures.

Leigh-Mallory, George Herbert. see MALLORY, GEORGE HERBERT LEIGH.

Leighton, Clare (lā'tun), 1899–, English print maker, writer, and illustrator, studied at the Slade School of Art, London. She is probably best known for her fine woodcuts and engravings, but she has worked in many printing processes and is represented in leading print collections in England and America. She illustrated works by Hardy and the Brontës and wrote and illustrated *Wood-engraving and Woodcuts* (1932), *The Farmer's Year* (1933), *Southern Harvest* (1942), and other popular works.

Leighton, Frederick Leighton, Baron, 1830–96, English painter and sculptor. As a young man he lived abroad. His first exhibited picture, which showed Cimabue's *Madonna* being carried through the streets of Florence, was purchased by Queen Victoria in 1855. In 1860 he settled in England, where he enjoyed all official honors and was president of the Royal Academy from 1878 until his death. His popular pictures largely dealt with subjects taken from antiquity. Leighton was also known as a sculptor, muralist, and draughtsman. His work is characterized by erudition and polish. He is represented in many British galleries and in the Metropolitan Museum. See biographies by Ernest Rhys (3d ed., 1900), Mrs. Russell Barrington (1906), and J. E. Staley (1906), M. H. Shackford, *The Brownings and Leighton* (1942).

Leighton, Robert, 1611–84, Scottish prelate, M.A. Univ. of Edinburgh, 1631. After several years in France, where he seems to have developed an admiration for the Jansenists, he became (1641) a Presbyterian minister in Midlothian and signed the Covenant in 1643. A noted preacher, he was made principal of the Univ. of Edinburgh in 1653 and professor of divinity. With the Restoration came the attempt of Charles II to force episcopacy on the Church of Scotland, the king persuaded Leighton to accept (1661) the bishopric of Dunblane. Leighton's attempts to find a basis for union between Presbyterianism and episcopacy led to accusations of treason by the Covenanters and of lukewarmness by the Episcopal party. Temperamentally unfitted for his work, and grieved by the government's persecution of the Covenanters, he tried to resign, only to be appointed (1670) archbishop of Glasgow. In 1674 he retired to private life. Leighton's collected writings, including many of his sermons, appeared posthumously in several editions. See study by E. A. Knox (1930).

Leinster (lĕn'stur, lĭn'-), province (7,580 sq. mi.; pop. 1,281,117), Ireland, comprising the counties of CARLOW, DUBLIN, KILDARE, KILKENNY, LAOIGHIS, LONGFORD, LOUTH, MEATH, OFFALY, WESTMEATH, WEXFORD, and WICKLOW. Most populous and fertile of the Irish provinces, it makes up the bulk of the great central Irish plain and contains the capital and greatest city of Ireland, Dublin. Its wealth and accessibility made the ancient province subject to Danish and Anglo-Norman invasions. See George Fletcher, *Leinster* (1922).

Leipsic (līp'sĭk), village (pop. 1,525), NW Ohio, N of Lima.

Leipzig (Lip'sĭg, Ger. līp'tsĭkh), city (1939 pop. 707,305, 1946 pop. 607,655), Saxony, E Germany, on the Pleisse river at its confluence with the White Elster and the Parthe. It is the largest city of Saxony and its chief commercial, industrial, and cultural center. Until the Second World War it was the center of German book and music publishing and of the European fur trade, its two great yearly industrial fairs were resumed after the Second World War. Among its chief industrial products are textiles, steel, machinery, and chemicals. The University of Leipzig was founded in 1409. Leipzig takes its name from the Slavic settlement of Lipsk, it was chartered in 1174 and, thanks to its position at the intersection of two important trade routes, soon developed its commerce. Its fairs date from the Middle Ages, and its printing industry from c. 1480, when the first press was established here. In 1539 Leipzig accepted the Reformation. The city became one of the leading cultural centers of Europe in the age of Leibniz, who was born here, and of J. S. Bach, who was cantor at the Church of St. Thomas from 1723 to his death. In the 18th cent. Gottsched, Gellert, Schiller, and many others made Leipzig a literary center, and young Goethe studied here. Its musical reputation reached its peak in the 19th and early 20th cent. Mendelssohn, who died here, made the Gewandhaus concerts (begun in 1743 in a former guildhouse) internationally famous. Robert Schumann worked here. Richard Wagner was born at Leipzig, and the Leipzig conservatory became one of the world's best-known musical academies. The city was heavily bombed in the Second World War. It was taken (April, 1945) by American forces, but was later assigned to the Russian zone of occupation. The division of Germany after the war greatly harmed the Leipzig book trade, for Leipzig had been the clearing point for nearly the entire German publishing business. Among the damaged buildings are the old Church of St. Thomas, the modern buildings of the German National Library and of the former German supreme court and the huge railroad station. Other buildings are the Gewandhaus, built in 1884 to replace the earlier structure, the 13th-century Pauline church, Auerbach's Keller, an inn in which a scene of Goethe's *Faust* is laid, the old city hall (1558), the old stock exchange (1682); and the 17th-century Church of St. John, where Bach is buried. The Brühl, one of the main streets of the city, has the house in which Richard Wagner was born. Leipzig is sometimes spelled Leipsic in English and French. The **battle of Leipzig,** Oct. 16–19, 1813, also called the Battle of the Nations, was a decisive victory of the Austrian, Russian, and Prussian forces over Napoleon I. On Oct. 16 the Prussians under Blücher defeated the French under Marmont at Mockern. A peace offer by the vastly outnumbered French was rejected on the following day while the Allies closed in. On Oct. 18 the French were driven to the gates of Leipzig, and most of their Saxon and Württemberg auxiliaries (but not the king of Saxony himself) passed over to the enemy camp. Leipzig was stormed on Oct. 19, and Napoleon's forces began their flight across Germany beyond the Rhine. It is estimated that 120,000 men (of both sides) were killed or wounded in the battle. Allied losses were even heavier than those of the French. The battle is commemorated by a large monument.

Leiria (lārē'ə), city (pop. 7,208), capital of Leiria district, SW Portugal, in Estremadura. Here Alfonso I erected (beginning 1135) a castle on a cliff above the present city; it was taken and retaken in the wars with the Moors. Leiria continued prominent, and here in 1254 Alfonso III summoned the first Cortes to have representatives of the towns. The first duke of Braganza, son of a natural son of John I and a daughter of Nun' Alvares Pereira and ancestor of the Braganza royal line, was reared here. At Marinha Grande, near Leiria, is the national glass factory. The first printing press in Portugal was opened here in 1466.

Leisler, Jacob (līs'lur), 1640–91, leader of an insurrection (1689–91) in colonial New York, b. Frankfurt, Germany. He came to America in 1660 and became a trader in New York. The accession of the Protestant monarchs William III and Mary II caused uprisings in the colonies, where many royal officials were suspected of being Roman Catholics, and the fear of a Catholic French invasion prevailed. Leisler, a Protestant champion, in 1689 gained control of S New York with the aid of militia, proclaimed the new sovereigns, and was appointed commander in chief by his followers. The English lieutenant governor, Francis Nicholson, fled the country, Leisler assumed his office upon seizure of letters from King William which he interpreted as authorization. The council at Albany eventually recognized his authority, although he was bitterly opposed by the wealthy and aristocratic faction. He maintained power through military force and the suppression of opposition. Meanwhile, William commissioned Col. Henry Sloughter as governor, and troops were dispatched to New York under Major Richard Ingoldesby, who, arriving early in 1691, sided with the faction opposed to Leisler and demanded the surrender of the fort on Manhattan island. After holding out for several months, Leisler surrendered to the new governor, was tried as a traitor, and was hanged in May, 1691. Parliament, in 1695, on petition of the Leisler family, passed an act reversing the attainder and later voted an indemnity to his heirs. For several decades after the execution, the politics of New York were marked by the struggles of Leislerians and anti-Leislerians. Despite Leisler's dictatorship, the Leislerians generally set up certain ideals of popular rights as part of their goal, and the rebellion represented an early stage in the revolt against autocratic government in the colonies. See H. L. Osgood, *The American Colonies in the Seventeenth Century*, Vol. III (1907).

Leitchfield (lĭch'fēld), town (pop. 1,146), co. seat of Grayson co., W Ky., SSW of Louisville. It is in an agricultural area, in which there are also asphalt mines.

Leith (lēth), former burgh, Midlothian, Scotland, incorporated in Edinburgh in 1920. Located on the south shore of the Firth of Forth, it is the second seaport in importance in Scotland and has regular steamship connection with London, Aberdeen, continental European ports, and America. It is also an important headquarters for fishing boats, and fish curing is a leading industry. Its manufactured products are varied, including whisky, shoes, chemicals, flour, biscuits, and paper. Its strategic situation caused Leith to be the object of contention in several struggles; it was taken by the English in 1544 and 1547, was besieged by English and Scots in 1559–60, when it was a French and Catholic stronghold, and was partly burned by the Jacobites in 1715. Leith Fort (1779) is now a military headquarters. Trinity House is an organization of shipmasters.

Leitha (līt'ə), Hung. *Lajta* (loi'tŏ), river, 112 mi. long, formed in E Austria by the Schwarza and Pitten rivers. It flows northeast and east to an arm of the Danube near Magyarovar, Hungary. The historic boundary between Austria and Hungary, it divided Cisleithania on the west from Transleithania on the east.

Leithbhearr, Co. Donegal, Ireland. see LIFFORD.

Leith Hill (lēth), 965 ft. high, Surrey, England, on the North Downs SW of Dorking. On the summit is a tower, with a view on clear days of London and the English Channel.

Leitmeritz, Czechoslovakia. see LITOMERICE.

Leitrim (lē'trĭm), county (589 sq. mi., pop. 44,591), N central Ireland, in Connaught and in the republic of Ireland. The county town is Carrick-on-Shannon. The region, which extends SE from Donegal Bay, is mountainous in the northern part but level S of Lough Allen, which extends almost across the county. The river Shannon drains through Lough Allen and forms much of the southwestern border. Grazing and agriculture are the chief occupations, but the soil is generally unproductive and the climate excessively moist. Leitrim was created a county in 1583.

Leix, county, Ireland. see LAOIGHIS.

Leixões (lāthō'ĕsh), artificial seaport of OPORTO. It was built because Oporto had only a river port.

Lek (lĕk), river, 40 mi. long, central Netherlands, a northern arm of the Rhine. Flowing west, it connects the Lower RHINE with the New Maas (see MEUSE) and is crossed by the Merwede Canal. It is navigable in its entire length.

Lekain (lukĕ'), 1728–78, French actor, whose real name was Henri Louis Cain. A protégé of Voltaire, he was one of the great tragic actors of his time. Lekain employed natural diction and costuming in such plays as Voltaire's *Zaïre* and *L'Orphelin de la Chine* and had a salutary effect on the stage of his day. His memoirs were published in 1825.

L. E. L. see LANDON, LETITIA ELIZABETH.

Leland, Charles Godfrey (lĕ'lŭnd), pseud **Hans Breitmann** (hans' brītmăn), 1824–1903, American author and philologist, b Philadelphia, grad. College of New Jersey (now Princeton), 1845, studied at Heidelberg, Munich, and Paris While editor of *Graham's Magazine* in 1857, he printed in it a German dialect poem, "Hans Breitmann's Party," which was so popular he wrote others and published *Hans Breitmann's Ballads* in 1869 He founded and edited the *Continental Monthly* in Boston in 1862 to further the Union cause and served briefly in the Civil War After other journalistic ventures he devoted himself to traveling and studying languages and folklore He published more than 50 books, including *The English Gypsies* (1873), *Algonquin Legends* (1884), and *Legends of Florence* (1895–96) In the '50s he also successfully introduced industrial and craft arts into American schools See his memoirs (1893), E R Pennell, *Charles Godfrey Leland* (2 vols , 1906)

Leland or **Leyland, John,** c 1506–1552, English scholar, librarian, and chaplain to Henry VIII, later (1533) appointed king's antiquarian The mass of historical and geographical data he collected on his famous tour through England (1536–42) was never used for his proposed *History and Antiquities* because he became insane, but his notes were invaluable to later scholars His Latin poetry was graceful and imaginative See his *Itinerary* (ed by Thomas Hearne, 9 vols , 1710 12) and *Collectanea* (ed by Hearne, 6 vols , 1715), biography by Edward Burton (1896)

Leland, city (pop 3,700), W Miss , just E of Greenville and on Deer Creek, in a rich cotton and truck area, settled 1847, laid out 1884 Near by is an agricultural experiment station

Leleges (lĕ'lŭjēz), primitive people of ancient Greece, inhabiting the Aegean Islands and the sea coast of Asia Minor from the Maeander to the Lycian border. They were said to be kin to the Carians It is possible that they were a race of mixed blood which had come under Phoenician and Carian influence

Lely, Sir Peter (lē'lē), 1618–80, Dutch portrait painter in England His real name was Pieter van der Faes, and he studied in Haarlem In 1641 he went to England, where he promptly inherited the position of first court painter, just left vacant by the death of Van Dyck For 30 years he maintained the supremacy merited by his fine craftsmanship, he painted in turn the great figures of the court of Charles I, the Protectorate, and the Restoration Fine examples of his work are to be seen in the National Portrait Gallery, London, and at Hampton Court. The Metropolitan Museum contains four of his portraits, including those of Sir William Temple and Nell Gwynne See C H. C Baker, *Lely and Kneller* (1923)

Lemaître, Frédérick (frādārĕk' lumĕ'tru), 1800–1876, French actor, whose real name was Antoine Louis Prosper Lemaître First known in pantomimes and melodramas, he gained fame (1823) for his creation of the part of Robert Macaire in *L'Auberge des Adrets* and added to his stature in the plays of Victor Hugo and other romantic dramatists. He wrote the play *Robert Macaire* (1834)

Lemaître, Georges Édouard, Abbé (zhôrsh' ādwär' ābā'), 1894–, Belgian astrophysicist and mathematician He postulated the theory that the universe originated as a condensed primeval atom that exploded, producing the force by which the universe is still expanding

Lemaître, Jules (shul'), 1853–1914, French literary critic, a leader in the skeptical revolt against the "scientific" criticism of the 1870s His works consist of sparkling plays, novels and stories in the manner of Anatole France, series of critical essays, *Les Contemporains* (1885–89, Eng tr of excerpts, *Literary Impressions*, 1921) and *Impressions de théâtre* (1888–; Eng. tr. of excerpts, *Theatrical Impressions*, 1924), and literary biographies, notably *Jean Racine* (1908) and *Jean-Jacques Rousseau* (1907; Eng tr., 1907).

Leman, Lake: see GENEVA, Switzerland.

Le Mars (lē mārs'), city (pop 5,353), co seat of Plymouth co., NW Iowa, on the Floyd river and NE of Sioux City, founded in the 1870s, inc 1881 It is a trade center for a farming and dairying area. A colony of English people lived here in the early years. Westmar College (coeducational, 1890) is here

Lemberg, Ukraine, see LVOV

Lemercier, Jacques (shāk' lùmĕrsyā'), c 1585–1654, French architect of the Renaissance, one of the group which evolved a classical mode of expression for French architecture. With Cardinal Richelieu as patron, he received his chief opportunities as designer of churches for the Jesuits His chief remaining work is the church of the Sorbonne, Paris (1635), inspired by Vignola's designs and containing a dome which furnished a model for that of the church of the Invalides It was built at Richelieu's order, as were also Richelieu's Paris residence, later transformed into the Palais-Royal, and the entire town of Richelieu, an ambitious piece of 17th-century town planning At the palace of the Louvre, Lemercier designed the Pavillon de l'Horloge, and c 1646 he superseded François Mansart in supervising the construction of the Church of Val-de-Grâce, Paris.

Lémery, Nicolas (nēkôlà' lāmürē'), 1645–1715, French chemist. He was a pharmacist and lecturer in Paris and was the author of a standard textbook in chemistry (1675) and also of a treatise on antimony (1707)

Lemieux, Rodolphe (rôdôlf' lùmyö), 1866–1937, Canadian lawyer and politician, b. Montreal, educated at Nicolet Seminary and at Laval Univ Called to the bar in 1891, he was professor of law (1896–1926) at Laval Univ. Entering Parliament in 1896 with the noted group of Liberals led by Laurier, he served for nearly 35 years, first in the House of Commons and later (1930–37) in the Senate Close friend and adviser of Laurier, Lemieux was solicitor general (1904–6), postmaster general (1906–11), and briefly (1911) minister of marine and fisheries during Laurier's administration

Lemire, Jules Auguste (shül' ōgüst' lumĕr'), 1853–1928, French social reformer, a Catholic priest called Abbé Lemire He served as a member of the chamber of deputies In 1896 and 1900 Lemire held congresses attempting to arouse French priests to active work in social causes He founded the Ligue du Coin de Terre et du Foyer for the purpose of giving to every family ownership in a bit of property Lemire wrote *Le Cardinal Manning et son action sociale* (1893), and *Le Coin de terre et le foyer* [the bit of land and the fireside] (1897)

lemming, rodent related to the mouse The common or brown lemming (genus *Lemmus*) inhabits arctic regions of both hemispheres The long fur is brownish, grayish, or black throughout the year In Scandinavia particularly, the lemming undertakes mass migrations at intervals During periods of overpopulation and scarcity of food lemmings swarm over land and through water, deterred by no obstacle, eating vegetation on the way If they reach the sea before the migratory urge subsides, they plunge in and swim until they drown In America migrations are less extensive and less frequent The collared lemming (*Dicrostonyx*), which turns white in winter, also has a circumpolar range The lemming mouse (*Synaptomys*) of North America is not a true lemming but a related form, of which a species known as the bog lemming is found as far south as the NE United States

Lemmon, city (pop 1,781), NW S Dak , at the N Dak line It is the trade center for a grain and livestock region extending into North Dakota, with coal mines near by

Lemnos (lĕm'nŏs, Gr lēm'nôs), island (186 sq mi , pop 23,842), between Greece and Turkey, in the NE Aegean Sea, belonging to Greece It is largely mountainous. Fishing, sheep and goat raising, and agriculture are the main occupations Olive oil, wine, vegetables, fruit, silk, and wheat are produced Kastron is the chief town and port. In ancient Greece, Lemnos, which is of volcanic origin, was sacred to HEPHAESTUS It became an Athenian colony c 500 B C After the fall (1204) of the Byzantine Empire to the host of the Fourth Crusade, Lemnos was ruled by various Latin princes and (1464–79) by Venice It then was seized by the Turks, who held it until 1912. The port of Moudros was used (1915) by the Allies in the Gallipoli campaign

Le Moine, François see LE MOYNE, FRANÇOIS.

Lemon, Mark, 1809–70, English editor and humorist. Lemon was a founder and one of the first editors of *Punch* (1841) A contributor to periodicals, he wrote farces, melodramas, and songs

lemon, citrus fruit (*Citrus limonia*), probably native to India It seems to have been unknown to the Greeks and Romans, but in the 12th or 13th cent was introduced by the Arabs into Spain, from there its culture was extended to the Mediterranean basin and eventually to most tropical and subtropical regions The tree grows 10 to 15 ft. high, with a straggling growth requiring careful pruning, it is propagated by budding, and the final planting distance in the orchard is about 20 ft apart It requires a mild, equable climate The trees are prolific, ripening fruit practically all the year In Sicily the main harvest is between October and the last of December. In the United States the fruit is cut from the tree while green, at a standard size, and the good lemons are placed in cool, dark rooms to ripen slowly The skin grows yellow, thin, and pliable, and the quality is considered better than when ripened on the tree The imperfect fruit is manufactured into lemon oil, lemon juice, CITRIC ACID, pectin, and other useful products Lemon culture in California began c 1850 but did not become important till late in the 19th cent. Production there is on a large scale. Lemons have better keeping and transportation qualities than other citrus fruits. The fruit is valuable for its high vitamin content (especially of vitamin C) and acid, refreshing flavor, it is in great demand for summer drinks, such as lemonade and punch, and is preferred by many to vinegar as an ingredient for sauces and salad dressings It has long been known as a preventive of scurvy. Lemon juice is the main source of citric acid, which is used by calico printers to keep the fabric clear of rusty stains from the machinery; it is also a domestic remedy for rust, ink, and mildew stains Lemon oil, or the essential oil extracted from the skin, usually while green, is manufactured mostly in Italy and France It is used in the making of flavoring extract (essential oil combined with alcohol), perfumes and cosmetics, and furniture polish.

lemon balm, perennial herb, European, but becoming naturalized in the United States, cultivated for its lemonlike flavor and odor It has long found favor for use in wine and tea and as a seasoning and was once considered a curative for many ailments The plant is a typical MINT with square stems, opposite leaves, and with small white flowers in the axils of the leaves. Bees are very fond of the flowers, but the lemon balm (*Melissa officinalis*), occasionally called bee balm, should not be confused with the other bee balm or OSWEGO TEA.

lemon lily see DAY LILY

Lemonnier, Pierre Charles (pyĕr' shärl' lùmônyā'), 1715–99, French astronomer For many years he was professor of physics at the Collège de France Over a period of more than 50 years he made observations of the moon; he investigated the influence of Saturn upon the motion of Jupiter, determined the positions of many fixed stars, and made extensive researches in terrestrial magnetism and atmospheric electricity. He many times saw and recorded in his charts the distant Uranus before it was recognized as a planet by Sir William HERSCHEL Among his works are *Observations de la lune, du soleil, et des étoiles* (1751–76) and *Astronomie nautique lunaire* (1771)

Lemont (lùmŏnt'), village (pop 2,557), NE Ill , SW of Chicago and on the Des Plaines river, inc 1873 Aluminum products are made here, and oil is refined

Lemoore, city (pop 1,711), S central Calif , S of Fresno, inc 1900 It processes the dairy products of a diversified farming region in the San Joaquin Valley

Le Moyne (lu mwän'), Canadian family It was founded by Charles le Moyne, sieur de LONGUEUIL, whose 11 sons were noted soldiers, explorers, and colonizers. The two most famous were the sieur d'IBERVILLE and the sieur de BIENVILLE.

Le Moyne, Le Moine, or **Lemoine, François** (all frāswä' lùmwan'), 1688–1737, French painter Among his works are the decorations in the Salon of Hercules at Versailles, *Louis XV Giving Peace to Europe* (Versailles), *Apotheosis of Hercules* (Toulouse), and the *Marriage at Cana* (Montpellier)

Lemoyne, Jean Baptiste (shä' bäptēst lumwan'), 1704–78, French sculptor, an important figure in his day Much of his work, including three statues of Louis XV, was destroyed in the French Revolution His picturesque portrait busts of Voltaire, Fontenelle, and Mme de Pompadour are perhaps his best work He was the master of Pigalle, Falconet, and Pajou, all famous sculptors

Lemoyne (lumoin'), residential borough (pop 4,358), S Pa , on the Susquehanna river opposite Harrisburg The site of Fort Washington marks the northernmost point of Confederate invasion

Lempa (lām'pä) river, c 200 mi long, the longest of the Central American rivers flowing into the Pacific The fertile Lempa valley, largely within Salvador, supports a dense agricultural population.

Lemuel (lĕm'ŭul), unknown king Prov 31 1

lemur (lē'mur), primitive Old World primate. Lemurs have foxlike muzzles and huge eyes, tails, when present, are nonprehensile and frequently long and bushy They are arboreal and usually gregarious, and many are chiefly nocturnal. The thumb is opposable Insects, fruits, small birds, eggs, and lizards form their diet The true lemurs are confined to Madagascar and the neighboring islands. The ring-tailed lemur is the one most often seen in captivity. Closely related to the true lemurs are the galagos or "bush baby" of South Africa, the potto of Africa, the slow loris and the slender loris of the Orient, the indri or endrina, the sifaka, and the mouse lemur of Madagascar, and the aye-aye of E Madagascar, named for its strange cry Like some other lemurs it is regarded with superstitious awe by the natives. The tarsier, of which about nine species range from the Philippines to the East Indies, is usually considered intermediate between the lemur and the New World monkeys. The colugo, miscalled the flying lemur, is not a primate but a member of the single living genus of the order Dermoptera

lemures: see LARVAE

Lena, town (pop 1,169), N Ill , near the Wis line NW of Freeport, inc 1869 Cheese is made here

Lena (lĕ'nu, Rus lyĕ'nŭ), river, 2,850 mi long, RSFSR, the easternmost and longest of the great rivers of Siberia. It rises near Lake Baikal at an altitude of c.4,700 ft and flows first northeast, then northwest, through the central Siberian uplands and parallels the Verkhoyansk range, reaching a width of 8½ mi. It empties through a delta 150 mi wide into the Laptev Sea, a branch of the Arctic Ocean It is navigable for 2,135 mi At Yakutsk (915 mi from the mouth) it is icefree from June to October, at the delta, from July to September Coal, oil, and—chiefly—gold are found along the Lena and its tributaries (the Vitim and the Aldan).

Le Nain (lə nĕ'), family of French painters consisting of three brothers: **Antoine Le Nain** (ätwän'), 1588?–1648, **Louis Le Nain** (lwē'), 1593?–1648, and **Mathieu Le Nain** (mätyö'), 1607–77. They came to Paris from Laon c 1629 and were admitted to the Académie royale de Peinture et de Sculpture on its foundation in 1648. Little is known of their lives, and despite recent efforts to distinguish between the work of the brothers it would seem that much of it was done in collaboration. The painting of the Le Nains is strikingly different from that of their French contemporaries. At a time when allegorical compositions were the rule, they chose to paint humble people in everyday settings, with a sober palette and a realistic execution reminiscent of the Spanish school. Among their many and admirable paintings may be cited *The Forge* and *Peasants' Repast* (Louvre), *Portrait Group* (National Gall., London), *Mendicants* (Metropolitan Mus.). See studies (in French) by Champfleury (1850) and Antony Valabrègue (1904).

Lenape: see DELAWARE INDIANS.

Lenard, Philipp Eduard Anton (fē'lĭp ā'dōārt an'tōn lā'närt), 1862–1947, German physicist, b. Bratislava. He received the 1905 Nobel Prize in Physics for his research on the properties of cathode rays. He is noted also for his work on the structure of the atom and for the discovery (1902), in connection with the photoelectric effect, that the velocity of electrons is independent of the intensity of the light which emits them. He was professor at the universities of Kiel (1898–1907) and Heidelberg (1896–98, 1907–31).

Lenau, Nikolaus (nē'kōlous lā'nou), pseud of **Nikolaus Niembsch von Strehlenau** (nēmpsh' fŏn shtrā' lunou), 1802–50, Austrian poet, b. Csatad, Hungary (now Lenauheim, Rumania). In 1833 he visited America, but despite its tributes returned disillusioned. In 1844 his mind failed and he was confined. One of the great lyricists of his day, he gave poignant expression to a profound pessimism. His works include three volumes of *Gedichte* [poems] (1832, 1838, 1840), the epics *Savonarola* (1837) and *Die Albigenser* (1842), the long poem *Faust* (1836), and the unfinished *Don Juan* (1851).

Lenbach, Franz von (frants' fŏn lān'bakh), 1836–1904, German portrait painter. He studied in Munich and Rome and from 1862 to 1868 worked as a copyist of old masters in Italy and Spain. His early work was in genre, but from 1868 he devoted himself to portraiture, becoming the foremost German painter of his time in this field. While his style is derived rather than personal, it has great vigor. His pictures evoke the personality of his famous sitters with compelling realism and great psychological penetration. Among them are portraits of Bismarck, Emperor William I, Field Marshal von Moltke, Pope Leo XIII, Gladstone, Mommsen, Wagner, Liszt, and Johann Strauss. The Metropolitan Museum has *A Young Woman* and a portrait of Edwin Emerson.

Lenclos, Ninon de (nēnō' du lāklō'), b. 1620?, d. 1705 or 1706, celebrated French beauty and wit. She numbered among her many lovers and friends such eminent men as the Great Condé, La Rochefoucauld, and Saint-Évremond. She gathered in her Paris salon a circle of wits and literary figures.

lend-lease. The Lend-Lease Act, passed (1941) by the U.S. Congress, gave the President power to sell, transfer, lend, or lease necessary war supplies (including food, machinery, and services) to nations whose defense was vital to the defense of the United States in the Second World War. The act provided that a country should receive aid on such terms as "the President deems satisfactory" and that repayment to the United States was to be "in kind or property, or any other direct or indirect benefit which the President deems satisfactory." Harry L. Hopkins was appointed (March, 1941) executive to administer the act. He was replaced (July, 1941) by Edward R. Stettinius, Jr. Stettinius headed the Office of Lend-Lease Administration, set up in Oct., 1941, until Sept., 1943, when it was incorporated in the Foreign Economic Administration under Leo T. Crowley. In Sept., 1945, it was transferred to the Dept. of State. Lend-lease was originally intended for the British Empire and China. In Oct., 1941, the USSR was included, and by the end of the war practically all the United Nations had been declared eligible for lend-lease aid, though not all demanded or received it. A lend-lease agreement was concluded with Turkey in Dec., 1941, but shipments were halted in March, 1944, and a new agreement was reached only in Feb., 1945. A "master agreement" was signed with Great Britain on Feb. 24, 1942, and identical texts were subsequently signed by China, the USSR, Belgium, Poland, Greece, Norway, Czechoslovakia, Yugoslavia, Ethiopia, Liberia, and the Netherlands. Australia and New Zealand accepted the terms of the agreement, and Canada agreed to its principles. Lend-lease aid was extended to the USSR and other nations by Great Britain and Canada also. On Sept. 3, 1942, a reciprocal aid agreement of the United States with Great Britain, Australia, New Zealand, and the Free French was announced. Under its terms "reverse lend-lease" in the forms of goods, services, shipping, and real estate was given to American forces overseas. The agreement was subsequently joined by other countries in which U.S. forces were stationed. Belgian reverse lend-lease exceeded the aid received by Belgium from the United States. The Lend-Lease Act, one of the main factors in shaping Allied victory, was extended by Congress until June 30, 1946. On Aug. 21, 1945, President Harry S. Truman announced the end of lend-lease aid. Arrangements were made on a cash or credit basis—notably with Great Britain and China—to continue shipments of goods earmarked for them under lend-lease appropriations. Total lend-lease aid given exceeded $50,600,000,000, of which Great Britain had received some $31,000,000,000 and the USSR received over $11,000,000,000. The British lend-lease account was settled (July, 1948) with the agreement that Britain would pay the balance in 50 annual installments beginning in 1951. Although the USSR agreed (April, 1947), to resume negotiations, by April, 1950, the lend-lease account of the USSR was still unsettled.

L'Enfant, Pierre Charles (pyĕr' shärl' läfä'), 1754–1825, American soldier, engineer, and architect. Born in France, he volunteered as a private in the American Revolution, emerging from the war with the rank of major. He won Washington's attention with his design for the insignia of the Society of the Cincinnati. He had remodeled the New York city hall to serve as a temporary seat of Federal government when he was asked (1789) by Washington to submit plans for the capital city at Washington. His plans were presented in 1791, but he antagonized Congress and was opposed by Thomas Jefferson. In 1792 he was forced to resign. He was offered in payment of his services 500 guineas and a lot in Washington, which he refused. In 1889 L'Enfant's plans were exhumed from the archives, and in 1901 the design of the capital was developed along the lines which he had laid down. L'Enfant's body was moved to the Arlington National Cemetery in 1909.

L'Enfant Jésus, Que see VALLÉE JONCTION.

Lenglen, Suzanne (suzan' läglĕn'), 1899–1938, French tennis player. She won her first tennis title at the age of 14 and the world hard-court singles and doubles titles in 1914. She was champion of French women's singles (1920–23, 1925–26) and one of the winners of women's doubles (1925–26), from 1919 to 1923 and again in 1925. She won the British women's singles crowns and was also a doubles champion. In 1920 she took the tennis honors of the Olympic games at Antwerp. One of the most skillful of women tennis players, Lenglen also attracted wide notice because of her volatile temperament. She turned professional in 1926 and played in the United States in 1927. She wrote *Lawn Tennis* (1925), *Lawn Tennis for Girls* (1930), and *Tennis by Simple Exercises* (1937).

Lenin, Vladimir Ilyich (lĕ'nĭn, Rus. vlädyē'mĭr ĭl'yĭch lyĕ'nĭn), 1870–1924, Russian revolutionist and statesman, founder of Bolshevism and of Soviet Russia. His real name was V. I. Ulyanov, though listed as Nikolai Lenin in many reference works, he did not use Nikolai as a first name. Born at Simbirsk (now called Ulyanovsk in his honor), the son of a school official belonging to the minor gentry, he was early drawn to the revolutionary cause, especially after the execution (1887) of his brother, Aleksandr I. Ulyanov, who had participated in a plot on the life of Alexander III. Lenin's law studies at the universities of Kazan and St. Petersburg were interrupted for some time by his banishment because of revolutionary activities. He soon renounced his legal practice, turning entirely to the study of the teachings of Karl Marx and to revolutionary propaganda among the workers, particularly at St. Petersburg. After a second exile in Siberia he left (1900) Russia to continue his propaganda abroad. In 1903, at a meeting of the Russian Social Democratic party held at London, Lenin brought about the split of the party into the Bolsheviks, whom he headed, and the Mensheviks (see BOLSHEVISM and MENSHEVISM). Lenin continued to be the chief exponent of Bolshevik thought in the long struggles for supremacy among the Marxists, against PLEKHANOV, KAUTSKY, and other less radical leaders. With the outbreak of the revolution in 1905, Lenin returned to Russia. His view that the Bolsheviks should take part in the imperial DUMA prevailed in 1907 against that of other Bolshevik leaders, but he left Russia again in the same year. Lenin was in Switzerland during the First World War. In his view of Marxism, set forth in his writings and speeches, the war was an imperialist struggle, imperialism being "the final stage of capitalism," it was an historical necessity that the war would bring opportunities for a revolution of the proletariat. Consequently, Lenin urged the proletariat to oppose the war by a civil war on an international scale against the capitalist class. After the outbreak of the RUSSIAN REVOLUTION of Feb., 1917, the German government helped Lenin to return to Russia by allowing him to cross Germany from Switzerland to Sweden in a sealed railway car, the Germans thus hoped (rightly) to disrupt the Russian war effort. An abortive Bolshevik uprising (July, 1917) against the KERENSKY government forced Lenin to flee to Finland. Bolshevism, however, though represented by a minority in the first all-Russian Soviet congress, soon gained the decisive power due to the weakness and disorganization of the government. In Nov., 1917, (October according to the Old Style), the Bolsheviks overthrew Kerensky and set about establishing a dictatorship of the proletariat by the organization of the Council of People's Commissars. Lenin became chairman of the council and virtual dictator, TROTSKY, STALIN, and RYKOV were the other chief members. Their first acts were a decree proposing an armistice among the warring nations and another decree abolishing private ownership of the land. Nationalization of industries, begun under Kerensky, was speeded up. Opposition was ruthlessly suppressed by the Cheka under DZERZHINSKY. Lenin fulfilled his promise of peace by accepting the humiliating Treaty of BREST-LITOVSK (1918), but civil war in Russia and wars against the western neighbors of Russia ended only late in 1920 (see UNION OF SOVIET SOCIALIST REPUBLICS). The victory of the Bolsheviks (who had become the Russian Communist party) was won at a staggering price. The war had forced Lenin to resort to temporary expedients designed to appease the opposition among the peasants. Thus land was distributed to the peasants. After the civil war, Lenin introduced (1921) the NEW ECONOMIC POLICY (NEP), a compromise with capitalism, as an expedient to increase the production of war-torn and impoverished Russia. Toward religion Lenin was uncompromising. The Christian churches were severely persecuted and atheism became official state doctrine. To further world revolution, the Third International or COMINTERN was established in 1919. In the political reorganization of the Russian Empire, Lenin retained the post of chairman of the Council of People's Commissars until his death. He furthermore was chairman of the Communist party, which exerted the actual power over the state. The strain of his labors broke down his health. He suffered his first stroke in 1922, a later stroke (1924) deprived him of speech. His death in 1924 opened a contest for his succession among the other Bolshevik leaders, a struggle from which Stalin emerged victorious. After his death Lenin came to be venerated like a prophet by the Communists. His mausoleum in the Red Square of Moscow is a Communist shrine. His writings, though distinguished by clarity, began to be interpreted variously by the different Communist groups, notably the Trotskyists and the Stalinists, each group maintains that its interpretation is the sole pure Leninist doctrine. Lenin elaborated on the teachings of Marx through his analysis of imperialism and by his belief that the revolution of the proletariat, though historically inevitable, must be prepared and guided by a strongly organized and well trained Communist party. One of the greatest and most practical revolutionists of all times, he favored opportunistic compromises if they were certain to further the ultimate establishment of socialism, but his doctrine always remained purely revolutionary and opposed to all gradualism and revisionism. An impartial and comprehensive biography of Lenin remains an impossibility at a time when his thought and accomplishment still remain the center of political and ideological controversy. His writings and speeches have appeared in English collected and selected editions and in single volumes and pamphlets. See N. K. Krupskaya (Lenin's wife), *Memories of Lenin* (1930), biographies by Leon Trotsky (1925), Valeriu Marcu (1928), G. V. Vernadsky (1931), James Maxton (1932), R. W. Fox (1934), W. C. White (1936), P. M. Kershentsev (1938), and David Shub (1948), Joseph Stalin, *Leninism* (Eng. tr., 1928–33) and *Problems of Leninism* (Eng. tr., 1934), S. J. Liberman, *Building Lenin's Russia* (1945), B. D. Wolfe, *Three Who Made a Revolution* (1948).

Leninabad (lyĕ"nyĭnäbät'), city (1939 estimated pop. 45,900), capital of Leninabad oblast, Tadzhik SSR, on the Syr Darya river at its exit from the Fergana Valley. A center of the cotton and silk industry, it is on the site of an ancient city, captured (c. 329 B.C.) by Alexander the Great. Before 1936 it was named Khodzhent.

Leninakan (lyĕ"nyĭnŭkän'), city (pop. 67,707), NW Armenian SSR, near the Turkish border. Now a textile center, it was founded (1837) as Aleksandropol, a Russian fortress, on the site of the old village of Gumri.

Leningrad (lĕ'nĭngrăd, Rus. lyĭ'nyĭngrät'), city (pop. 3,191,304), capital of Leningrad oblast, RSFSR, at the southern end of the Karelian Isthmus. It is the second largest city and formerly was the capital of Russia. It was named St. Petersburg until 1914, and Petrograd from 1914 to 1924. Its founder, Peter I (Peter the Great), ordered (1703) his new capital built in newly conquered Ingermanland, on the delta through which the NEVA joins the Gulf of Finland, an arm of the Baltic Sea. To defend the new city the fortress of KRONSTADT was built according to Peter's plan. St. Petersburg was to be a modern capital, a "window looking on Europe." Western European in character, built entirely of stone and on a grand scale. The work was

carried out at tremendous human and material cost, and in 1713 Peter abandoned Moscow for his new capital Excellent Italian and French architects planned the city for Peter and his successors, giving it the spacious, classical beauty which it has retained St Petersburg became one of the world's most brilliant capitals and cultural centers Its life has been made familiar to the international public in the great novels of Pushkin, Turgenev, Dostoyevsky, and Tolstoy Its apex as an international center of literature, music, theater, and ballet, and as the scene of lavish and reckless social life, was reached in the late 19th and early 20th cent Under that brilliant but brittle surface, however, the seeds of social upheaval had grown to ripeness St Petersburg had also become the chief industrial center of Russia, seat of the large Putilov (now Kirov) armaments plant There was a large and dissatisfied proletariat, and the city was the center of secret revolutionary societies of all shades An attempted petition of the St Petersburg workers to the tsar precipitated the revolution of 1905 Again, it was the workers, soldiers, and sailors of Petrograd who carried out the world-shaking revolutions of February and October, 1917 Though it lost much of its former glamor, Leningrad remained the economic and cultural rival of Moscow, which in 1918 replaced it as capital In the Second World War, Leningrad was cut off from the rest of Russia by the fall of SCHLÜSSELBURG to the Germans (Aug , 1941) For nearly two years the citizens of Leningrad withstood siege by three German armies and almost daily shelling and air raids, while work in the vital armaments plants continued When the siege was raised (Jan , 1943), thousands had died of famine and disease, but the spirit of the city was unbroken Most of the war damage was quickly repaired The principal thoroughfare of Leningrad is the celebrated Nevsky Prospekt, leading to the city center On it are the high-spired admiralty building, the Winter Palace built by RASTRELLI, the HERMITAGE museum, the huge domed cathedral of St Isaac, Mariinsky Palace, and the equestrian statue of Peter the Great, Falconet's masterpiece, which served as subject for Pushkin's well-known poem, "The Bronze Horseman " Other important buildings include the university (founded 1819), the fortress of SS Peter and Paul, the oldest building in the city, which in imperial days served as political prison, the opera, and numerous theaters, churches, palaces, museums, and scientific and medical institutes Outside Leningrad are PUSHKIN (formerly Tsarskoe Selo), with the Summer Palace, and the former imperial residences of PETERHOF and GATCHINA Leningrad is the principal seaport of Russia and is connected with the chief inland waterways Its large industrial suburbs produce armaments, heavy and fine machinery, cotton textiles, and rubber There also are large navy yards Leningrad is connected with Moscow by the oldest Russian railroad, built in 1848–51 in a perfectly straight line It is also linked with natural gas fields in Estonia by a pipeline built after the Second World War

Leninogorsk (lyĭ"nyĭnŭgôrsk'), city (1926 pop 9,469, 1939 estimated pop 50,000), E Kazakh SSR, in the Altai Mts It is the industrial center of a zinc-mining area, exploited since 1784 Until 1940 it was named Ridder

Lenin Peak, 23,377 ft high Tadzhik SSR, USSR, in central Asia, second only to Stalin Peak in the Pamir and highest point of the Trans-Alai range Its former name was Kaufmann Peak

Leninsk-Kuznetski (lyĕ'nĭnsk-kōōznyĕt'skĭ), city (pop 81,080), RSFSR, in S Siberia, SE of Novosibirsk On a branch of the Trans-Siberian RR and a center of the KUZNETSK BASIN, it has more than quadrupled its population since 1926

Lenkoran (lyĕnkŭran'), city (1936 estimated pop 24,000), SE Azerbaijan SSR, a port on the Caspian Sea near the Iranian border The **Lenkoran Lowland**, a coastal strip 40 mi long, has a humid, subtropical climate Citrus fruit, tea, and rice are grown here, and there are fisheries

Lennep, Jacob van (yä'kŏp vän lĕ'nĕp), 1802–68, Dutch novelist, poet, and dramatist, best known for his historical novels influenced by Walter Scott Two of the most successful of these are *De Plegzoon* (1833, Eng tr , *The Adopted Son*) and *De Roos van Dekama* (1836, Eng tr , *The Rose of Dekama*)

Lenni-Lenape : see DELAWARE INDIANS

Lennox, Charlotte (Ramsay), 1720–1804, American novelist, b New York city Little is known of her origins, but she moved to London in 1735 and became a friend of Dr Johnson and Samuel Richardson Her work includes her well-known *Female Quixote* (1752) and *The History of Henrietta* (1758) See G H Maynadier, *The First American Novelist?* (1940)

Lennox, Matthew Stuart or **Stewart,** 4th **earl of,** 1516–71, Scottish nobleman Related to the royal family, being heir presumptive after James HAMILTON, 2d earl of Arran, Lennox returned to Scotland in 1542, after service in France, to contest the claims of Arran In 1544 he joined the English party, later led invasions of Scotland, and lived for 20 years in England He married Lady Margaret Douglas, the niece of Henry VIII and daughter of the 6th earl of Angus, a woman of great ambition and ability Until the death of Mary I, Lennox and his wife were in great favor in England, but Elizabeth did not trust them They became the leaders of the Catholic nobles and succeeded in marrying their son, Lord DARNLEY, to MARY QUEEN OF SCOTS After his son's death, Lennox accused Bothwell of murdering him When Mary was imprisoned at Lochleven, Lennox again became prominent and, through Elizabeth's intervention, was chosen regent to succeed (1570) the earl of Murray The queen's party, led by the Hamiltons and MAITLAND OF LETHINGTON, at once declared war against him Lennox was stabbed to death in a raid during this war His surviving son, Charles (d 1576), was created earl of Lennox and was the father of Arabella Stuart

Lennox, Lady Sarah, 1745–1826, English noblewoman, daughter of the 2d duke of Richmond and great-granddaughter of Charles II and the duchess of Portsmouth She was wooed by George III until his mother dissuaded him from marrying less than a princess In 1762 Lady Sarah was married to Sir Charles Bunbury and was divorced by him in 1776 The children of her marriage (1781) to George Napier included three English generals, Sir Charles James Napier, Sir George Napier, and Sir William Napier (also a historian) See biography by E R Curtis (1946)

Lennox, city (pop 1,164), SE S Dak , SW of Sioux Falls, settled 1879, inc 1906 It is a farm trade center

Lennox, Fort see ÎLE-AUX-NOIX, FORT

Lennoxville, town (pop 2,150), SE Que , on the St. Francis and Massawippi rivers and E of Sherbrooke It is chiefly a residential town and an educational center, the seat of Univ of Bishop's College (Anglican, coeducational, 1843) and Bishop's College School for boys

Leno, Dan (dē'nō), 1861–1904, English music-hall comedian, whose real name was George Galvan He won the clog-dancing championship of the world in 1880 and from 1883 appeared with great success in Drury Lane pantomimes and music-hall shows His patter and songs and infinite antics endeared him to several generations See essay by Max Beerbohm, *Dan Leno* (1904)

Lenoir (lŭnôr'), town (pop 7,598), co seat of Caldwell co , W N C , WSW of Winston-Salem near the Blue Ridge It has furniture factories

Lenoir City (lunôr'), industrial city (pop 4,373), E Tenn , SW of Knoxville and on the Tennessee, in a timber and farm area, founded 1840 Fort Loudoun Dam is at the edge of the city

Lenoir Rhyne College see HICKORY, N C

Lenormand, Henri René (ānrē' runā' lunôrmä'), 1882–, French dramatist He wrote plays admittedly Freudian in tone and theme, in some of them he relied heavily on a symbolic representation of the thesis Among his well-known and successfully produced plays are *Le Temps est un songe* (1919, Eng tr , *Time Is a Dream*, in *Failures*, 1923) and *L'Homme et ses fantômes* (1924, Eng tr , *Man and His Phantoms*, in *Three Plays*, 1928)

Lenôtre or **Le Nôtre, André** (ädrā' lunō'tru), 1613–1700, French landscape architect At the death of his father, he succeeded him as superintendent of the Tuileries palace gardens André's first important design, the park of Vaux-le-Vicomte, attracted the attention of Louis XIV, who then entrusted to him the direction of nearly all the royal parks and gardens He brought to full development that type of spacious formal garden, characterized by extensive unbroken vistas, which was his own special creation and which so accurately expressed the grandeur of his period The gardens of the palace of Versailles are his most celebrated work He designed also the gardens and parks for Saint-Cloud, Marly-le-Roi, Chantilly, Fontainebleau, and Saint-Germain-en-Laye He visited Italy in 1678, the gardens of the Vatican and those of several Roman villas have been ascribed to him He was active in his art for 50 years His principles in garden design dominated throughout Europe until the rise of the English school of informal and naturalistic gardens

Lenox, James, 1800–1880, American bibliophile and philanthropist, b New York city He was founder of the Presbyterian Hospital, New York His fine collection of paintings and books was housed on Fifth Ave after 1870 The Lenox Library in 1895 became part of the New York Public Library The building was torn down in 1913 after the collection had been moved to the central library On its site is now the Frick Museum.

Lenox 1 Town (pop 1,220), SW Iowa, SW of Creston, inc 1875 **2** Resort town (pop. 2,884), W Mass , in the Berkshires S of Pittsfield, settled c 1750, set off from Richmond 1767 "Tanglewood," a former estate, mainly in the adjoining town of Stockbridge, is the scene of the annual BERKSHIRE SYMPHONIC FESTIVAL Hawthorne's red cottage, on the estate, burned in 1890 and was rebuilt and dedicated as a shrine in 1948. Fanny Kemble, Henry Ward Beecher, and Edith Wharton lived in Lenox It is noted for its many beautiful estates

Lenroot, Katharine Fredrica, 1891–, American social worker, an authority on child welfare, b Superior, Wis , grad Univ. of Wisconsin, 1912 After serving (1913–15) as deputy industrial commissioner for Wisconsin, she was appointed (1915) special agent for the Children's Bureau, U S Dept of Labor, she became assistant chief (1922), and chief (1934) on the retirement of her predecessor. For her work in the reform of child labor laws she was awarded (1943) the Rosenberger medal

Lens (lăs), town (pop 34,134), Pas-de-Calais dept , N France, between Arras and Lille It is an industrial center in a coal district. The victory here (1648) of the French led by Louis II de Condé over the imperial troops was the last important battle of the Thirty Years War Lens suffered very heavy damage in both world wars

lens, piece of transparent substance, commonly glass, circular in form and with its two surfaces curved or with one surface plane and the other curved All rays of light passing through a lens are bent (see REFRACTION) except those which pass directly through a point called the optical center Lenses are classified according to the way in which they bend the rays of light entering them Those which refract light so that the rays leaving the lens are bent inward and toward one another are known as converging lenses, these lenses are thicker at the center than at the edges Examples of this type are the double convex lens which has both its surfaces curved outward, the plano-convex lens which has one surface flat and one surface convex, and the concavo-convex lens which has one surface convex and one concave Lenses of the other general type cause the rays to be bent outward and away from one another and are called diverging lenses, these are thicker at the edges than at the center Examples are the double concave lens which has both surfaces concave, the plano-concave lens which has one surface flat and the other concave, and the convexo-concave lens which has one surface concave and one convex Each curved surface of a lens is considered as part of the surface of a sphere, the center of this sphere is called the center of curvature of the lens, and every point on the surface of the lens is equidistant from it Since most lenses have two curved surfaces, there are usually two centers of curvature A line connecting these two points and passing through the optical center of the lens itself is called the principal axis Any other line passing through the optical center but not through a center of curvature is called a secondary axis In converging lenses all those rays which enter parallel to the principal axis are bent toward one another and are brought together at a point on the principal axis called the principal focus The distance from the principal focus to the optical center of the lens is the focal length of the lens It varies with different lenses, according to the curvature of the surfaces Conjugate foci are two points on opposite sides of a lens in such positions that rays from one, after passing through the lens, will converge at the other Light rays are not always brought to a focus at one point, this condition of exact focus is known as aberration Spherical aberration results from the spherical nature of lenses, the rays striking the thinner and the thicker portions are refracted differently and, coming to focus at different distances from the lens, produce an indistinct image Some correction can be achieved by variations in grinding the lens and by using combinations of lenses instead of a single lens Chromatic aberration is caused by differences in the degree to which light rays of different color, and hence of different wave length, are bent in passing through the lens Achromatic lenses, those in which chromatic aberration is corrected, are compound lenses made from glasses differing in their index of refraction The IMAGE formed by a lens is real or virtual, erect (upright) or inverted, the same size as the object or larger or smaller, and is at a distance nearer to or farther from the lens than the object, depending upon the type of lens used, its focal length, and the position of the object with respect to the principal focus Lenses are used singly or in groups in such instruments as cameras, magic lanterns, microscopes, moving-picture projectors, spectacles, stereopticons, telescopes, and common field, opera, and reading glasses The lens present in the EYE is known as a crystalline lens Lenses have long been made of glass, a piece approximating roughly the desired size and shape of the lens is cut from a glass block and then ground and polished to the correct curvature Great skill and accuracy are required in the process A number of transparent plastics which permit the lenses to be cast in a mold are offered as substitutes for glass For the history of the use and manufacture of lenses, see SPECTACLES, TELESCOPE, MICROSCOPE, STEREOSCOPE, SEARCHLIGHT

Lent [Old Eng , =spring], Latin *Quadragesima*, Christian period of FASTING and penitence preparatory to EASTER Observance of Lent is as old as the 4th cent In Eastern churches it is reckoned as the six weeks before Palm Sunday In the West the penitential season begins liturgically with Septuagesima, the ninth Sunday before Easter; the next Sundays are Sexagesima and Quinquagesima Lent begins on ASH WEDNESDAY, the 40th weekday be-

fore Easter. Of the Sundays in Lent the fourth is Laetare Sunday, the fifth is Passion Sunday, and the last is Palm Sunday. Lent ends at noon on the next Saturday (Holy Saturday) The last week of Lent is Holy Week Roman Catholics are bound in Lent to fast and perform other works of mortification There are various observances, particularly those connected with the Crucifixion MARDI GRAS precedes Lent (see also SHROVE TUESDAY)

Lentelli, Leo (lĕntĕ'lē), 1879–, American sculptor b Italy He came to America in 1904 and was instructor in the California School of Fine Arts and later in the Art Students League of New York He furnished figures or decorations for the Panama-Pacific Exposition, San Francisco, 1915, and the Sesquicentennial Exposition, Philadelphia, 1926, and for many public buildings, libraries, and churches In New York he made figures for the reredos in the Cathedral of St John the Divine, a doorway of the Straus Bank, and the lunette of the Steinway Building, in San Francisco, groups and figures on the library buildings, and in St Louis, decorations for the Orpheum Theater

lentil, leguminous Old World annual plant (*Lens esculenta*), with whitish or pale blue flowers and pods with two seeds, also called lentils, which when fully ripe are ground into meal or used in soups and stews Probably among the first plants cultivated in Europe, it is known to have been used as early as the Bronze Age Esau sold his heritage for a mess of lentils—though the name of the Scriptures may have been applied to several plants Lentils are much used in Europe, especially by the poor, and increasingly in America The common varieties are the grayish French or dark green German—considered the most palatable—and the reddish Egyptian kinds Yellow and brown varieties are grown too The plant is also cultivated for forage Revalenta Arabica, a lentil meal used in invalids' diet, is an article of commerce The GUIFWEED is sometimes called sea lentil

Lentulus (lĕn'tŭlus), ancient Roman patrician family of the Cornelian gens **Publius Cornelius Lentulus Sura** (sū'rŭ), d 63 B C, was notorious for his private life and was ejected from the senate because of it He was quaestor (81 B C) and praetor (75 and 63 B C) He joined the conspiracy of CATILINE, who put him in charge of the operations in the city It was he who, by opening negotiations with the Allobrogian ambassadors, spoiled the plot He was arrested and strangled **Publius Cornelius Lentulus Spinther** (spĭn'thur), d after 49 B C, was curule aedile (63 B C), praetor (60 B C), and consul (57 B C) He was a consistent partisan of Cicero, who gave him charge of P C Lentulus Sura on the revelation of the conspiracy As consul he was instrumental in procuring Cicero's recall, and he received Cilicia for his proconsulship In 49 B C, Lentulus Spinther took sides with Pompey against Caesar

Lenz, Jakob Michael Reinhold (yä'kôp mĭkh'ā-ĕl rĭn'hôlt lĕnts'), 1751–92, German poet, critic, and dramatist He was a friend of Goethe whom he imitated in his life and writings, but later lampooned A gifted poet, he wrote lyric poems (some to Goethe's old love, Friederike BRION), plays, including the comedies *Der Hofmeister* (1774) and *Die Soldaten* [the soldiers] (1776), and critical works, notably *Anmerkungen übers Theater* [remarks on the theater] (1774) His poems were collected in 1891

Leo I, Saint (Saint Leo the Great), c 400–461, pope (440–61), an Italian, successor of St Sixtus III and predecessor of St Hilary A Doctor of the Church, he was one of the greatest pontiffs of early times He waged a firm campaign against schism and heresy With the aid of Emperor Valentinian III, he campaigned to eliminate Manicheism from Italy Later, asserting his authority over St HILARY OF ARLES, he obtained an imperial rescript which effectively confirmed the authority of the pope over all his bishops In the Nestorian-Monophysite controversy Leo was the leader in defending Catholic teaching He wrote the celebrated *Tome of Leo*, a doctrinal letter defining the two natures and one person of Christ which was later adopted as ecumenical at Chalcedon (see CHALCEDON, COUNCIL OF), when the heresiarch EUTYCHES was condemned He was also effective as a statesman and met (452) ATTILA to persuade him not to invade Rome In 455 he similarly urged Gaiseric the Vandal to spare the lives of the Romans St Leo's letters and sermons reflect the many aspects of his career and personality, including his great personal influence for good, and are invaluable historical sources Feast April 11

Leo III, Saint, d 816, pope (795–816), a Roman, successor of ADRIAN I and predecessor of Stephen V (called Stephen IV, see ZACHARIAS) The pope was attacked about the face and eyes by some of Adrian's family, who hoped to render him unfit for the papacy. Leo recovered and fled (799) to Charlemagne's protection at Paderborn In 800 CHARLEMAGNE came to Rome and conducted a trial during which the pope publicly defended himself against charges of misconduct made by his enemies, Charlemagne declared Leo's enemies guilty and afterwards guaranteed papal liberty. It was Leo who crowned Charlemagne Leo worked to unite East and West, declaring that the *filioque* clause might be said in the CREED, but that its omission was desirable out of respect for the Eastern Church This policy failed Leo did much to beautify Christian Rome Feast June 12

Leo IV, Saint, d 855, pope (847–55), a Roman, successor of Sergius II and predecessor of Benedict III He had seen the Saracen attack on Rome (846), and to prevent its recurrence he fortified the city and its suburbs He built a wall around the Vatican, established and fortified the part of Rome still called the Leonine City, and rebuilt churches He crowned Louis II emperor Feast July 17

Leo IX, Saint, 1002–54, pope (1049–54), a German (b Alsace) named Bruno, successor of Damasus II and predecessor of Victor II A relative of Emperor Conrad II, he was educated at Toul and was made bishop there in 1027 As pope he traveled widely, vigorously combating clerical incontinency and simony The chief figure in this reform program was Hildebrand (later GREGORY VII) The heresy of Berengar of Tours on the Real Presence and his quarrel with Lanfranc also occupied the attention of the pope and Hildebrand St Leo mediated questions presented by England, France, and Hungary He added to the papal lands in Italy through an exchange with Emperor Henry III He fought the Normans of S Italy but was defeated at Civitella (1053) The bitter feeling between East and West brought an attack (1042) on the pope by Michael Cerularius, patriarch of Constantinople This culminated in excommunication of Michael and those in his communion by the papal legates (1054), an action which began the formal schism between East and West The schism became definite in 1439 Feast April 19

Leo X, 1475–1521, pope (1513–21), a Florentine named Giovanni de' Medici, successor of JULIUS II and predecessor of ADRIAN VI He was the son of Lorenzo de' Medici, was made a cardinal in his boyhood, and was head of his family before he was 30 (see MEDICI) Leo was not a competent ruler, he was a good, pious man, a dilettante of letters and art but not greatly interested in the advancement of the Church His chief fame rests on his patronage of RAPHAEL, on the continuation of St Peter's by Bramante, and on his literary circle, including Cardinals Bembo and Bibbiena and many others The Fifth LATERAN COUNCIL called with the hope that it would effect reforms failed to meet the crisis, and the Protestant REFORMATION began when Martin LUTHER posted (1517) his theses Leo condemned the heresies and excommunicated the reformers, notably with the bull *Exsurge Domine* (1520), but he was too much involved in other affairs to pay much attention He spent huge sums and extorted money for cardinals' creations without scruple In politics he brought the papacy temporary hegemony in Italy by dexterity in playing off his opponents one against another Leo granted Henry VIII the title Defender of the Faith (*Defensor Fidei*)

Leo XII, 1760–1829, pope (1823–29), an Italian (b Genga, near Fabriano) named Annibale della Genga, successor of PIUS VII and predecessor of PIUS VIII He was ordained in 1783 He was nuncio in Switzerland, at Cologne, at the Diet of Ratisbon (1805), and at Paris (1808) After the difficulties of Pius VII with the French he went into retirement He was created cardinal in 1816 Cardinal della Genga was elected as a compromise candidate He followed a reactionary course in the Papal States and repressed agitation severely He was better advised in the Church at large, and he gave all support to the movement for Catholic Emancipation in England

Leo XIII, 1810–1903, pope (1878–1903), an Italian (b Carpineto, E of Rome) named Gioacchino Pecci, successor of PIUS IX and predecessor of PIUS X He was ordained in 1837 He earned an excellent reputation as archbishop of Perugia (1846–77), he was created cardinal in 1853 Leo's election brought a turn in the course of the PAPACY, he was abreast of the times and tried, especially by preaching to the whole Church in encyclical letters, to form Catholic attitudes appropriate to living in the modern world His influence was increased by the length of his reign, thus he was able to furnish the college of cardinals with an unusual number of excellent men (including J H Newman in 1879 and James Gibbons in 1886) By a combination of vigor and tact he ended the KULTURKAMPF (1887) He tried repeatedly to bring French Catholics to support the republic In 1885 his encyclical *Immortale Dei* charted the course of Catholics as responsible citizens in modern secular, democratic states, he thus refuted both the claims of French royalists to be especially good Catholics and the contention of French anti-Catholics that the Church was committed to political reaction The letter was a great vindication of Catholic democrats With the anti-Catholic government of Italy there was no conciliation Leo's program for society appeared in *Rerum novarum* (1891), an arraignment of capitalism, showing also the insufficiencies of Marxian socialism; it set up Catholic aims and ideals. This was supplemented in *Quadragesimo anno* of PIUS XI The intellectual attack on Christianity Leo met by advancing Thomism, with its insistence that there can be no conflict between science and faith, to this end he wrote *Aeterni Patris* (1879), declaring the philosophy of St Thomas Aquinas official and requiring its study, he also founded the institute of Thomistic philosophy at the Univ of Louvain. He was profoundly interested in the advancement of learning Thus he opened (1810) the Vatican secret archives to all scholars, and he reminded Catholic historians that nothing but the whole truth must be found in their work He encouraged Bible study and set up (1902) the permanent Biblical Commission He sponsored a number of faculties and universities, including the Catholic Univ at Washington, D C For sheer productivity Leo surpassed all his predecessors in modern times See René Fülop-Miller, *Leo XIII and Our Times* (Eng tr, 1937), Joseph Husslein, ed, *Social Wellsprings Fourteen Epochal Documents by Leo XIII* (1940)

Leo I (Leo the Great or Leo the Thracian), d 474, Byzantine or East Roman emperor (457–74) Chosen by the senate to succeed Marcian, he sought to counteract the preponderance of Germans in the Roman army by enlisting Isaurians A naval expedition (468) against the Vandals of Africa failed through the stupidity or treachery of BASILISCUS, who delayed his attack until Gaiseric was able to fall on him with fire ships Leo I was succeeded by his grandson, Leo II, a child of seven, who died in the year of his accession, Leo I's son-in-law, Zeno then became emperor

Leo III (Leo the Isaurian), c 680–740, Byzantine emperor (717–40), b Isauria, in Asia Minor He held high diplomatic and military posts before he deposed Theodosius III and was crowned in his stead His accession ended the anarchy into which the empire had fallen in the reign of JUSTINIAN II Leo defended Constantinople against an Arab siege (717–18), checking the Arab threat for nearly two centuries, and reorganized the empire in every phase—military, fiscal, judiciary, and administrative His civil code, the *Ecloga*, written in the popular language, was characterized by its Christian approach to marriage and family Leo's attack (726) on devotion to holy images began the long struggle over ICONOCLASM Riots and rebellions broke out in Greece while Byzantine rule in Italy (the exarchate of Ravenna and the Pentapolis) began to crumble The popes Gregory II and Gregory III opposed Leo's iconoclasm and successfully defied his armed expeditions, thus virtually ending Byzantine suzerainty over Rome However, despite these losses, Leo left to his son, Constantine V, a revitalized empire The Isaurian dynasty, which he founded, ruled the Byzantine Empire until 802

Leo IV (Leo the Khazar), d 780, Byzantine emperor (775–80), son and successor of Constantine V He owed his nickname to his mother, a Khazar princess He defeated (778) the Arabs Near the end of his reign he resumed the iconoclastic policy of his father On Leo's death his wife, Irene, became regent for their young son, Constantine VI

Leo V (Leo the Armenian), d 820, Byzantine emperor (813–20) A general, he was crowned after the dethronement of Michael I Leo successfully defended (813) Constantinople against the Bulgars (whose earlier success had caused consternation at the capital and caused Michael's deposition) and concluded a 30-year truce with them Reviving ICONOCLASM, he deposed the patriarch NICEPHORUS in 815 and persecuted the orthodox party among the monks, led by THEODORE OF STUDIUM Leo was murdered, while worshiping in the sanctuary, by conspirators who proclaimed MICHAEL II emperor

Leo VI (Leo the Wise or Leo the Philosopher), 862?–912, Byzantine emperor (886–912) He succeeded BASIL I, who was—at least under the law—his father His chief accomplishment was the publication (887–93) of the *Basilica*, a modernization of the law of Justinian I, intended to supersede the *Ecloga* of LEO III He sought (900) to end the schism provoked by the patriarch PHOTIUS, but the quarrel was renewed (906), partly over the issue of Leo's fourth marriage During Leo's reign the Arabs completed the conquest of Sicily with the capture (902) of Taormina, sacked Salonica (906), and advanced in Asia Minor Among Leo's edicts are the *Tactica*, for the army and navy, and the *Book of the Prefect*, applicable to the guilds of Constantinople Leo was succeeded by his son, Constantine VII

Leo (lē'ō) [Latin, =the lion], fifth sign of the zodiac It is also the zodiacal constellation named from the Nemean lion, which, according to the story in Greek mythology, was given a place in the heavens in honor of Hercules, after he had killed it The two brightest stars in the constellation are Alpha Leonis, or Regulus, and Beta Leonis, or Denebola. The **Leonids** (lē'ŭnĭdz) are swarms of meteors, radiating from the constellation Leo, through the path of which the earth moves in November and which are visible in greatest numbers in showers occurring at intervals of about 33 years There were remarkably splendid showers of the meteors in 1833 and 1866,

Leo Africanus (äfrĭkā'nŭs), early 16th cent., Moorish traveler in Africa and the Near East. His Arabic name was Al-Hassan ibn Mohammed. Captured by pirates, he was sent as a slave to Pope Leo X. He became a Christian, adopting the name Johannes Leo, and taught Arabic in Rome. Here he wrote in Arabic a description of his journeys in Africa which he issued in Italian in 1526. This was long the only known source on the Sudan. An English translation (1600) was reissued by the Hakluyt Society as *The History and Description of Africa* (3 vols., 1896)

Leoben (lā'bŭn), city (pop 35,785), Styria, S central Austria, on the Mur river and NNW of Graz. It is an industrial center in a coal-mining area. An armistice between France and Austria, preliminary to the Treaty of CAMPO FORMIO, was signed here (1797) to conclude Napoleon Bonaparte's victorious Italian campaign.

Leochares (lēō'kurēz), 4th cent. B.C., Greek sculptor, probably an Athenian. He was associated in the decoration of the Mausoleum at Halicarnassus. He is known to have made portraits, including a gold and ivory group of Philip, Alexander, and others, for Olympia. His *Lyon Hunt of Alexander* was made with Lysippus after 321 B.C. A copy of his *Ganymede and the Eagle of Zeus* is in the Vatican. The *Apollo Belvedere* (Vatican) is sometimes attributed to him.

Leominster (lĕm'stur, lēm'ĭnstur), municipal borough (1931 pop. 5,707; 1943 estimated pop. 6,500), Herefordshire, England. The 11th-century minster was restored in 1866. Farm machinery is made.

Leominster (lĕm'ĭnstur), city (pop. 22,226), N Mass., N of Worcester, set off from Lancaster 1740, inc. as a city 1915. Plastics are made here.

Leôn, Juan Ponce de: see PONCE DE LEÓN, JUAN.

Leôn, Luis Ponce de (lwĕs' pōn'thā dā lāōn'), 1527?–1591, Spanish mystic and poet, an Augustinian monk called Fray Luis de León. He was a professor at Salamanca after 1561. He translated the Song of Songs and the book of Job. In 1572 he was arrested by the Inquisition and spent four years in prison. He is generally considered Spain's greatest lyric poet, and his chief poems are odes, e.g., "Noche serena," "Profecia del Tajo," and "Vida retirada." A love of nature and simplicity of style mark his poetic works. In prose Fray Luis wrote *Los nombres de Cristo* (1583, Eng. tr., *The Names of Christ*, 1926) and *La perfecta casada* [the perfect wife] (1583). See biographies by James Fitzmaurice-Kelly (1921) and A. F. G. Bell (1925).

León (lāōn'), city (pop. 74,155), Guanajuato, central Mexico. Founded in 1576 in a fertile river valley, some 5,600 ft. high but having a mild, temperate climate, León once was the second largest city in Mexico. Frequent floods, especially that of 1888, which almost washed the city away, destroyed its preeminence. A dam has been built to protect it. On the main rail line between El Paso, Texas, and Mexico city, León is a commercial, agricultural, and mining center, with some manufacturing. Wheat is the principal product, but corn, barley, and other staples are also raised, from the mines come gold, copper, silver, lead, and tin. Manufactures include saddles and other leather goods, woolen and cotton fabrics, goldwork and silverwork, and hats.

León (lāōn'), city (1946 estimated pop. 36,475), NW Nicaragua, second largest city of the republic. Founded in 1524 on Lake Managua by Francisco FERNÁNDEZ DE CÓRDOBA, it was moved westward to its present site in 1610 after a severe earthquake. In colonial times León was the political hub of Nicaragua. Center of the intellectuals and artisans, León became the stronghold of the liberal forces after independence from Spain (1821) and engaged in bitter rivalry with the conservative GRANADA. Costly revolutions, in one of which León accepted aid from William WALKER, led to the founding of MANAGUA (1855). León is the commercial rail center between CORINTO and Managua for agricultural products (coffee, cotton, sugar, tobacco) and the industrial output of the region. Some of its Spanish colonial atmosphere survives. In the cathedral Rubén Darío is buried.

Leon (lē'ŏn), Span. *León* (lāōn'), region and former kingdom (20,594 sq. mi., pop. 1,732,082), NW Spain, E of Portugal and Galicia. It includes the provinces of Leon, Palencia, Salamanca, Valladolid, and Zamora, named after their chief cities. Except in the north, where it is crossed by the Cantabrian Mts., Leon is mostly a dry plateau crossed by the Duero and its tributaries. The north has coal mines, forests, and mountain pastures, the rest is agricultural. Leon has long been noted for its linen industry. Early in the Christian reconquest the kings of ASTURIAS gained control over Leon (8th-9th cent.); their territory, of which the city of Leon was made the capital in the 10th cent., became the kingdom of Asturias and Leon. The power of the kings extended also over Galicia and parts of Castile, Navarre, and the Basque Prov., but it was too weak to prevent the rise of the independent kingdoms of NAVARRE and CASTILE. Leon was conquered (1037) by FERDINAND I of Castile, on whose death (1065) the kingdoms again became separate under his sons, ALFONSO VI of Leon and SANCHO II of Castile. In 1072 Alfonso VI reunited the kingdoms, but from 1157 to 1230 Leon again was independent under FERDINAND II and ALFONSO IX. Alfonso married a daughter of Alfonso VIII of Castile, his son, FERDINAND III, permanently united Leon and Castile in 1230. The kings of Leon took a gallant part in the reconquest from the Moors.

Leon (lē'ŏn), Span. *León* (lāōn'), city (pop. 43,260), capital of Leon prov., NW Spain, an agricultural and commercial center. Dating from Roman times, it was reconquered from the Moors in 882 by Alfonso III of Asturias. Early in the 10th cent. Leon replaced Oviedo as the capital of the kingdom of Asturias, which became the kingdom of Leon. The city flourished in the 12th and 13th cent. but declined after the kings of Leon and Castile made Valladolid their favorite residence. One of the many ancient buildings of the city is the cathedral, a fine example of Spanish Gothic (13th–14th cent.).

Leon (lē'ŏn), city (pop. 2,307), co. seat of Decatur co., S Iowa, S of Des Moines and near the Mo. line, settled 1840 as South Independence, named Leon 1855, inc. 1867.

Leonard, William Ellery, 1876–1944, American poet, b. Plainfield, N.J., grad. Boston Univ., 1899, and studied at Harvard, Gottingen, and Columbia universities. He taught English at the Univ. of Wisconsin, becoming professor after 1926. His Miltonic sonnets, *Two Lives* (1925), tell the tragic story of his first marriage, while *The Locomotive-God* (1927), a psychological autobiography, probes the phobia which kept him confined to the environs of his home a large part of his life. He is known also for his verse translations *Empedocles* (1908), *Lucretius* (1916), and *Beowulf* (1923).

Leonard, town (pop. 1,331), E Texas, NE of Dallas, in a farming area, settled c. 1880.

Leonardo da Pisa: see FIBONACCI, LEONARDO.

Leonardo da Vinci (dä vĭn'chē, Ital. lāōnär'dō dä vēn'chē), 1452–1519, Italian painter, sculptor, architect, musician, engineer, and scientist, b. Vinci, a hill village near Empoli. He was the natural son of a Florentine notary and a peasant girl. Little is known about his early life. It is presumed that he passed his childhood with his father's family in Vinci, where he developed his enduring interest in nature. Early sources describe his beauty, charm of manner, and precocious display of artistic talent. In 1466 he moved to Florence, where he entered the workshop of Verrocchio and came into contact with such artists as Botticelli, Ghirlandaio, and Lorenzo di Credi. Early in his apprenticeship, he won admiration with his painting of an angel, and perhaps portions of the landscape, in Verrocchio's *Baptism of Christ* (Uffizi). In 1472 he was registered in the painters' guild. The culmination of Leonardo's art during his first period in Florence is marked by the magnificent unfinished *Adoration of the Magi* (Uffizi) commissioned in 1481 by the monks of San Donato at Scopeto. In this work there is fully revealed the integration of dramatic movement and chiaroscuro that characterizes the master's mature style. He went to Milan c. 1482, he remained at the court of Lodovico Sforza 16 years. In this time he composed the greater part of his *Trattato della pittura* and the extensive notebooks which attest the marvelous versatility and penetration of his genius. As court artist he also organized elaborate festivals. Severe plagues in 1484 and 1485 drew his attention to problems of town planning, an interest which was revived during his last years in France. Many drawings of plans and elevations for domed churches reflect a concern with architectural problems that must have been stimulated by contact with Bramante during these years. He worked c. 1488 on a model for the tambour and dome of the cathedral at Milan. In 1490, he was employed with Francesco di Giorgio as consulting engineer on the restoration of the cathedral at Pavia and later on the cathedral at Piacenza. In 1483 Leonardo, with his pupil Ambrogio de Predis, was commissioned to execute the famous *Madonna of the Rocks*. Two versions of the painting exist. It is generally agreed that the Louvre version was executed first, largely by Leonardo himself, and that the example in the National Gallery, London, was executed later, largely by Ambrogio de Predis after Leonardo's design. Leonardo's fresco of the *Last Supper* (Milan) was begun c. 1485 and completed by 1498. This work is now in badly damaged condition. Leonardo's own experiments with the fresco medium account in part for its disintegration, which was already noticed by 1517. Ravages of time and repeated restorations have obliterated the master's hand in the details and individual figures. Despite this, the composition and general disposition of the figures reveal a power of invention and a sublimity of spiritual content that mark the painting among the world's masterpieces. While at Lodovico's court Leonardo also worked on an equestrian monument to the duke's father, Francesco Sforza. The work was never cast, and the model, admired by his contemporaries, perished during the French invasion of 1499. In 1511 he undertook a similar work with the commission of an equestrian monument for Gian Giacomo Trivulzio. This work was also never completed and known only through drawings related to the project. After the fall (1499) of Lodovico Sforza, Leonardo left Milan and, following brief sojourns in Mantua and Venice, returned to Florence in 1500. Here he engaged in much theoretical work in mathematics and pursued his anatomical studies at the hospital of Santa Maria Nuova. In 1502 he entered the service of Cesare Borgia as a military engineer. His engagement took him to central Italy to study swamp reclamation projects in Piombino and to tour the cities of Romagna. At Urbino he met Niccolò Machiavelli, who later became a close friend. By 1503 he was back in Florence, where he was commissioned to execute the fresco of the battle of Anghiari. This work, like its companion piece assigned to Michelangelo, was never completed, and the cartoons were subsequently destroyed. The work exerted enormous influence on later artists, however, and some impression of the original may be had from anonymous copies in the Uffizi and Casa Horne (Florence), from an engraving of 1558 of Lorenzo Zacchia, and from a drawing by Rubens (Louvre). From about this time dates the celebrated *Mona Lisa* (Louvre). In 1506 Leonardo returned to Milan, engaged by Charles d'Amboise in the name of the French king, Louis XII. Here he again served as architect and engineer. He continued his scientific investigations, concerning himself with problems of geology, botany, hydraulics, and mechanics. In 1510–11 his interest in anatomy quickened considerably. At the same time he was active as painter and sculptor, had many pupils, and profoundly influenced the Milanese painters. A painting generally ascribed to this period is the *St. Anne, Mary, and the Child* (Louvre), a work which exemplifies the characteristics of Leonardo's late style. In 1513 he went to Rome, attracted by the patronage of the newly elected Medici pope, Leo X, and his brother Giuliano. Here he found the field dominated by Michelangelo and Raphael. The aging master was assigned various architectural and engineering projects at the Vatican and received commissions for several paintings. It was perhaps in this period that he executed the enigmatic painting of the young *St. John the Baptist* (Louvre). Giuliano Medici left Rome in 1515 and died at Fiesole in the following year. It is conjectured that Leonardo left with him, attached to his household, and that soon afterwards he accepted an invitation of Francis I of France to settle at the castle of Cloux, near Amboise. Here the old master was left entirely free to pursue his own researches until his death. Although there is no certain record of his last years, he seems to have been active with festival decoration and to have been interested in a canal project. Notes and drawings ascribed to this late period show his continued interest in natural philosophy and experimental science. The versatility and creative power of Leonardo mark him as a supreme example of Renaissance genius. The richness and originality of intellect expressed in his notebooks reveals one of the great minds of all time. As an artist he both epitomized the achievements of the *quattrocento* and realized a new kind of dramatic and formal unity that paved the way for the art of the *cinquecento*. See Edward McCurdy, *The Mind of Leonardo da Vinci* (1928) and *The Notebooks of Leonardo da Vinci* (definitive ed., 1939); Sir Kenneth Clark, *A Catalogue of the Drawings of Leonardo da Vinci in the Collection of His Majesty the King at Windsor Castle* (1935) and *Leonardo da Vinci* (1939).

Leoncavallo, Ruggiero (rōōd-jā'rō lā"ōn-käväl'lō), 1858–1919, Italian composer. His *Pagliacci* (Milan, 1892), his one outstanding success, and Mascagni's *Cavalleria rusticana* are the classic examples of Italian *verismo*. Of his numerous other operas, only *Zaza* (1900) was even a moderate success.

Leoni, Leone (lāō'nē lāō'nē), 1509–90, Italian sculptor and medalist, called Leone Aretino. Entering the service of the emperor, Charles V, he devoted himself to making statues, busts, and reliefs for the imperial family. His *Charles V Repressing Violence* and other works are in the Prado. His son, **Pompeo Leoni** (pōmpā'ō), c. 1533–1608, who worked with him, continued in the imperial service. His most important works were kneeling bronze figures of Charles V and Philip II, with their families, for the sanctuary in the Escorial.

Leonia (lēō'nēu), residential borough (pop. 5,763), NE N.J., near the western approach to the George Washington Bridge, inc. 1894.

Leonidas (lēō'nĭdus), d. 480 B.C., king of Sparta. He succeeded (c. 491 B.C.) his half brother, Cleomenes I. When the Persians invaded Greece under Xerxes (480 B.C.), Leonidas with 300 Spartans and 5,000 auxiliaries was given the pass at Thermopylae to hold. There was treachery. Most of the Greeks got away, but the Spartans and 700 Thespians disdained to flee and were killed. Herodotus immortalized the incident. See PERSIAN WARS.

Leonids: see LEO, sign of the zodiac.

Leonov, Leonid (lyĭunyĕt' lyĭō'nŭf), 1899–, Russian novelist. A major figure in the revival of the novel of psychological and social realism, he is concerned primarily with the problem of adjustment to a society in flux. In *The Badgers* (1924;

Eng. tr., 1947) this appears as a clash between country and city types, in *Skutarevsky* (1932; Eng. tr., 1936) as the struggle for adjustment of a great scientist. Of his major works, *The Thief* (1927; Eng. tr., 1931), *Sot* (1930, Eng tr., 1931; American ed., *Soviet River*, 1932), *The Road to the Ocean* (1935, Eng tr., 1944), and *Chariot of Wrath* (1944, Eng. tr., 1946) are known abroad. *Chariot of Wrath* is an important novel of the Second World War. His drama *Invasion, 42* (Eng tr., 1943) was one of the three plays most often staged during the war.

Leontini (lēŏntī'nĪ), ancient city, E Sicily, c 20 mi S of Catania. It was a colony of Chalcidians from Naxos (729 B.C.) and passed under the rule of Syracuse (5th cent. B.C.). It was sacked (A.D. 848) by Saracens and destroyed (1693) by earthquake. The town on the site is Lentini (lĕntē'nē).

leopard, mammal of the cat family, widely distributed through Africa and Asia. It is also called panther and pard. In various races the ground color of the thick fur is yellow buff, rusty, or gray, patterned with black rosettes. Black leopards are not of a separate species. They frequently occur in a litter of those of the normal color. The male Indian leopard sometimes reaches a total length of nearly 7½ ft. Hunting both in trees and on the ground, leopards prey on monkeys, dogs, and other mammals as well as on birds and reptiles. At high altitudes in Tibet and the Himalayas is found the snow leopard or ounce.

Leopardi or **Leopardo, Alessandro** (älĕsän'drō lāōpär'dē, lāōpär'dō), d. c 1522, Venetian architect and decorative sculptor. He cast (c 1490) the statue of Colleoni left unfinished by VERROCCHIO and also designed the bronze frieze for its pedestal. He later made the bronze sockets for the flagstaffs in the Piazza San Marco. He is said to have worked on the tombs of the doge Andrea Vendramin and of Cardinal Zeno.

Leopardi, Giacomo, Conte (jä'kōmō kōn'tā lāōpär'dē), 1798–1837, Italian poet. An invalid from infancy, he lived a life of suffering and frustration, much of the time practically a prisoner in the home of his parents, who kept him without funds partly through mistrust of his ideas. He was a liberal and an agnostic at a time when independence of thought was dangerous in Italy. His poetry, so deeply patriotic as to be filled with contempt for Italy's present governors, is lofty in feeling, lyrical, but profoundly pessimistic. His early poems, "Appressamento alla morte" [approach to death] (1816) and the odes "All' Italia," "Sopra il monumento di Dante," and "Ad Angelo Mai" (all pub. 1820) were written before he was 20. Toward the end of his short life he turned to political and social satire, his prose works of this period include *Patinodia* and *Paralipomeni* (both 1837). A complete edition of his works was brought out by his friend Antonio Ranieri in 1845. Leopardi's poems have been translated by F. H. Cliffe (1893), G. L. Bickersteth (1923, with the Italian version), and R. C. Trevelyan (1941). His chief prose work, *Operette morali* (1826–27), was translated as *Essays, Dialogues, and Thoughts* in 1893 and 1905. See biography by the Marchesa Iris Origo (1935).

Leopold I, 1640–1705, emperor (1658–1705), king of Bohemia and Hungary, second son and successor of Ferdinand III. Upon his older brother's death (1654), Leopold, who had been educated for the Church, became Ferdinand's heir. Throughout his reign the empire was menaced by Turkey in the east and by Louis XIV of France in the west. The Turkish invasions of Hungary were checked by MONTECUCCULI, but by the Treaty of Vasvar (1664) the Turks kept their conquests and suzerainty over Transylvania. Leopold headed the anti-French coalition in the third (1672–78) of the DUTCH WARS. The Hungarian revolt led by THOKOLY (1678) made Leopold decide upon a policy of conciliation, but Thokoly rejected his concessions and appealed to the Turks. They besieged Vienna (1683), which was saved by JOHN III of Poland and CHARLES V of Lorraine. Leopold's attempts to stop French aggression by the formation of the League of Augsburg divided his energies, and the struggle with the Turks was prolonged, but after the conclusion of the War of the GRAND ALLIANCE and the triumph of EUGENE OF SAVOY at Zenta (1697), victorious peace with the Turks was made by the Treaty of KARLOWITZ (1699). In 1701 Leopold entered the War of the SPANISH SUCCESSION. He died before its end and was succeeded by his son, JOSEPH I.

Leopold II, 1747–92, emperor (1790–92), king of Bohemia and Hungary (1790–92), as Leopold I grand duke of Tuscany (1765–90), third son of Maria Theresa. Succeeding his father, Emperor Francis I, as grand duke of Tuscany, Leopold reorganised the Tuscan government, abolished torture and the death penalty, equalised taxation, and sought to gain control over the Church by reviving Gallican doctrines. When Leopold succeeded (1790) his brother JOSEPH II as emperor and as ruler of the Hapsburg lands he took over a nearly disrupted state. To pacify his subjects in the Austrian Netherlands (see NETHERLANDS, AUSTRIAN AND SPANISH), in Hungary, and in Bohemia, he repealed most of Joseph's radical reforms. Unlike Joseph, he had himself crowned king at Pozsony (now Bratislava) and at Prague, he was the last crowned king of Bohemia. Having reached an agreement (1790) with Frederick William II of Prussia (who was about to side with Turkey in its war against Russia and Austria), Leopold abandoned his alliance with Catherine II and concluded a separate peace treaty at Sistova (1791) with Turkey, the pre-war borders were substantially restored. Leopold's troops marched into the Austrian Netherlands and suppressed the Belgian republic in 1790. In order to prevent the fall of the French monarchy and to come to the aid of his sister and brother-in-law, Marie Antoinette and Louis XVI of France, Leopold instigated (1791) the Declaration of Pillnitz, by which the emperor and the king of Prussia promised to mobilize their forces against the French revolutionists and invited the other powers to join them. This declaration was a basic cause of the outbreak of the French Revolutionary Wars a few weeks after Leopold's death. Leopold was succeeded by his son, Francis II. Leopold II is generally considered a ruler of outstanding diplomatic and administrative abilities. An Italian by upbringing and taste, he brought a fresh approach to the problems inherited from his German predecessors.

Leopold I, 1790–1865, king of the Belgians (1831–65), third son of Francis Frederick, duke of Saxe-Coburg-Saalfeld. He married (1816) Princess Charlotte, only child of the English prince regent (later King GEORGE IV) and heiress presumptive to the English throne, after her death (1817) he remained in England. He refused the throne of Greece (1830), but in 1831 accepted election as king of newly formed Belgium. Leopold I's wide family connections as well as his talent for negotiation and secret diplomacy gave him a considerably greater importance in European affairs than the size of his kingdom justified and earned him the nickname "Uncle of Europe." He brought about the marriage of his niece, Queen VICTORIA of England, to his nephew, Prince ALBERT, and attempted to influence English policy through them, but was balked in his efforts by the obstinacy of his pupils and of their ministers. His son, Leopold II, succeeded him.

Leopold II, 1835–1909, king of the Belgians (1865–1909), son and successor of Leopold I. His reign was one of industrial and colonial expansion. He organized, with the help of H. M. STANLEY, the International Association for the Exploration and Civilization of the Congo (1876). At a European conference on African affairs (Berlin, 1884–85), the Congo Free State was established under Leopold's personal rule (see BELGIAN CONGO). Leopold used his power to build up a huge personal fortune through its direct exploitation and the letting of concessions. Forced labor was extorted from the natives, frequently by methods of barbarous cruelty, till the steadily rising scandal compelled Leopold to turn over the Congo to the Belgian government (1908). In Belgium itself the Conservative Catholic party replaced (1880) the Liberals in power. Increasing social unrest and the rise of the Labor party forced (1893) the introduction of universal male suffrage, but labor unrest continued because of the appalling condition of industrial workers amid the growing prosperity of Belgian economy. Leopold's private life was scandalous and dissolute. He was succeeded by his nephew, Albert I.

Leopold III, 1901–, king of the Belgians (1934–), son and successor of Albert I. A year after his father's tragic death, Leopold's queen, Astrid, a Swedish princess, was killed near Lucerne, Switzerland, in an automobile accident while Leopold was at the wheel. In 1936 Leopold announced a fundamental change in Belgian foreign policy. Belgium abandoned its military alliance with France in favor of returning to neutrality. Leopold and Queen Wilhelmina of the Netherlands vainly sought to mediate at the outbreak of the Second World War (1939). In May, 1940, Germany—which in 1937 had guaranteed the neutrality of Belgium—invaded the Low Countries. Leopold led the Belgian army in resisting the invaders, but when the defense of Belgium became hopeless, Leopold decided, over the opposition of his cabinet, to make a separate armistice. On May 28 he surrendered unconditionally, thus provoking accusations of treason. Leopold, a prisoner of war at his castle at Laken, refused to exercise active rule under German tutelage. In 1941 he married a commoner, whom he later created princess of Réthy. In 1944 Leopold was removed to Germany, where he was freed by Allied troops in 1945. His return to Belgium, a burning question in Belgian politics, still hung in the balance at the end of 1949. Accused of cooperation with National Socialist Germany and of fascist sympathies by the Liberal and leftist parties and supported by the Catholic Conservatives, Leopold was barred (1945) from returning without permission of the parliament. Leopold refused to abdicate, asking for a popular referendum. He spent his exile mostly in Switzerland while his brother, Prince Charles, acted as regent. A referendum held in March, 1950, favored the king's return by a narrow margin (57.68 percent of the votes). Leopold's strongest support came from the Flemish-speaking provinces, while French-speaking Belgium voted heavily against him. The heir to the Belgian throne is Leopold's son by Queen Astrid, Baudouin (Baldwin), duke of Brabant.

Leopold I, 1676–1747, prince of Anhalt-Dessau (1693–1747). He served as field marshal in the Prussian army and was nicknamed the old Dessauer. Under Frederick William I of Prussia, he organized the Prussian infantry. Leopold, a stern disciplinarian, was an able commander and was considered one of the chief military men of Europe. He distinguished himself in the War of the Austrian Succession.

Leopold I, grand duke of Tuscany: see LEOPOLD II, emperor.

Leopold II, 1797–1870, grand duke of Tuscany (1824–59). Liberally inclined at first, he granted many reforms and undertook useful public works. In 1848 he approved a constitution and joined Sardinia in its war against Austria (see RISORGIMENTO). Refusing the demands of the extremists, however, Leopold left Tuscany in Feb., 1849, and returned six months later in the wake of Austrian troops. He turned to reaction and repealed (1852) the constitution. In 1859 he was forced to abdicate in favor of his son, Ferdinand IV, who was deposed in 1860.

Leopold III (Leopold the Pious), c 1073–1136, margrave of Austria (1096–1136). By his marriage (1106) with Agnes, widow of Duke Frederick I of Swabia (see HOHENSTAUFEN), he became the stepfather of King Conrad III and the father of Otto of Freising and of Duke Henry II of Austria (see BABENBERG). In 1125 he refused an offer of the imperial crown. The founder of numerous monasteries (of which Heiligenkreuz, Klosterneuburg, and Mariazell still exist), he was canonized in 1485 and is the patron saint of Austria.

Leopold II, Lake, 70 mi. long and 30 mi. wide, SW Belgian Congo. It ultimately drains to the Congo.

Leopoldville, city (pop. c 157,000), capital of Belgian Congo (since 1926), on Stanley Pool of the Congo. It was founded by Henry Stanley and named in honor of the Belgian king, Leopold II. It is the terminus of navigation on the Congo from Stanleyville, and it is connected by rail with the coast. There are light industries. The European population is c 7,000.

Leovigild (lēō'vĭgĭld", lā'ō-), d. 586, Visigothic king of Spain (568–86), brother and successor of Athanagild. He was joint ruler to 573 with his brother Liuva. He planned the conquest of the whole Iberian Peninsula, reorganized the administration, and assumed a royal pomp imitated after that of the Byzantine court. He suppressed a revolt of the Basques in 581 and in 584–85 annexed the kingdom of the Suevi. His son Hermenegild, having been converted from Arianism to Catholicism, rebelled against his father with the support of the Catholic party, in 585 he was put to death. At the end of Leovigild's reign the only non-Visigothic parts of Spain were two small territories of the Byzantine Empire. Leovigild made important additions to the Visigothic laws (see GERMANIC LAWS). His son Recared succeeded him.

Lepage, Jules Bastien-: see BASTIEN-LEPAGE, JULES.

Lepanto (lĭpăn'tō), town (pop. 1,198), NE Ark., near the Mississippi, inc. 1909.

Lepanto, battle of (lĭpăn'tō), Oct. 7, 1571, naval battle fought off Lepanto (see NAUPAKTOS), Greece, between the fleet of the Holy League, commanded by JOHN OF AUSTRIA, and the Turkish fleet, commanded by Ochiali Pasha. The allied fleet (about 200 galleys, not counting smaller ships) consisted mainly of Spanish, Venetian, and papal ships and of vessels sent by a number of Italian states. It carried c 30,000 fighting men and was about evenly matched with the Turkish fleet. The battle ended, after a bitter struggle, with the virtual destruction of the Turkish navy (except 40 galleys, with which Ochiali escaped). Some 15,000 Turks were slain or captured, some 10,000 Christian galley slaves were liberated, and much booty was taken. Among the allied wounded was Cervantes, who lost his left arm in the fighting. Lepanto was the first major Turkish defeat by the Christian powers. It did not, however, affect Turkish supremacy on the land, and a new Turkish fleet was speedily built by Mohammed Sokolli, the grand vizier of Selim II. The battle was decisive in the sense that a Turkish victory probably would have made the Ottoman Empire supreme in the Mediterranean. The well-known poem, *Lepanto*, by G. K. Chesterton glorifies the Christian victory.

lepidodendron (lĕp"ĭdōdĕn'drun) [as if Gr., =scaly-leaf], plant of the genus *Lepidodendron*, extinct trees of which many species flourished in the CARBONIFEROUS PERIOD of geologic time. They are related to the club mosses of the present time. Lepidodendrons grew to heights of from 50 to 100 ft. and reached a diameter of from 4 to 6 ft., the trunk dividing into two main branches which divided repeatedly to form a spreading top of stumpy branches. The long, stiff, needlelike leaves grew chiefly on the smaller branches, dropping early from the trunk and large branches and leaving the

spirally arranged, diamond-shaped scars which give the trees their name The rhizomes of the lepidodendron, like those of the allied SIGILLARIA, are known as STIGMARIA

Lepidus (lĕp'ĭdŭs), family of the ancient Roman patrician gens Aemilia **Marcus Aemilius Lepidus** (ēmĭl'ĭŭs), d 77 B C , was praetor of Sicily (81 B C) He was consul in 78 B C He was bitterly opposed to the senatorial leader CATULUS, his colleague, and after his term, when he was ostensibly on his way to his proconsulship in Transalpine Gaul, he raised an army in N Italy Pompey and Catulus defeated him, and he fled from Italy **Marcus Aemilius Lepidus,** d 13 B C , his son, was praetor (49 B C) and consul (46 B C) with Caesar He was appointed to Narbonese Gaul and Nearer Spain He supported ANTONY, who joined him in Gaul after the defeat at Mutina (modern Modena) in 43 B C They formed the Second Triumvirate with Octavian (AUGUSTUS) After the battle of Philippi (42 B C) Lepidus received the governorship of Africa, whence he returned ('36 B C) to conquer Sicily Octavian suspected him of trying to keep Sicily for himself and deprived him of his offices, excepting that of pontifex maximus

L'Épiphanie (lāpē"fänē'), village (pop 1,941), S Que , NE of Montreal Furniture is made here

Le Play, Pierre Guillaume Frédéric (pyĕr' gēyōm' frādārĭk lu plā'), 1806–82, French sociologist and economist As an engineer, he traversed Europe, at the same time gathering data on the economic status of workers and making detailed studies to determine relationships of the family and worker to environment He upheld Christian morality and existing institutional forms, but urged social reform His influence, as one of the first to use the social-survey method, has been widespread Among his books are *Les Ouvriers européens* [the European workers] (1855), condensed and republished as *Reforme sociale en France* (1864), and *La Constitution de l'Angleterre* [the constitution of England] (1875)

leprechaun (lĕ'prŭkôn), Irish FAIRY, said to be about 2 *ft* tall, looking like an old man Leprechauns are thought to own great treasures, which they will not yield unless frightened into it by human beings

leprosy, infectious disease caused by a bacterium (*Mycobacterium leprae* or *Bacillus leprae*) There are two forms of the disease, and although both commonly appear in the same patient, the symptoms characteristic of one of the two usually predominate The lepromatous or cutaneous form is the more acute of the two types and is marked by the formation of hard nodular swellings (teeming with the bacteria) in the skin, in the mucous membranes of the nose, throat, and eyes, and sometimes in the internal organs In the neural type, the more benign form, the germs accumulate in the nerves and cause loss of sensation especially in the extremities The patient usually lives for many years after the onset of the neural type of the disease, but frequently various forms of paralysis and atrophy of tissues with loss of fingers and toes and sometimes of limbs result Leprosy is not a highly communicable disease It is believed to be transmitted through close contact, over a period ranging from a few months to years, with a leprous person, possibly by the entrance of the germs through lesions of the skin Determination of the exact mode of transmission is difficult partly because of the great variation in the incubation period Sometimes the disease occurs within a few months or a year after contact with a leprous person, but more often it develops from 5 to 20 years after exposure Young children are more susceptible than are adults Many persons seem to possess immunity to the disease, but as in the case of many other diseases, the degree of immunity varies with the individual and with the peoples of different countries A tropical or subtropical climate and crowded unsanitary living conditions contribute greatly to the spread of leprosy Most of the cases diagnosed in the United States have been contracted in tropical or Oriental countries, although it is endemic in parts of Florida, Louisiana, and Texas In the United States all patients known to be capable of transmitting the disease are cared for in the National Leprosarium, Carville, La Leprosy is a disease of antiquity, its origin is not definitely known, although records indicate that it was endemic in Egypt possibly c 4000 B C and in India and Japan probably earlier than 1000 B C The Bible describes the disease and advocates segregation and disinfection as methods of control (Lev 13, 14) Because leprosy was sometimes confused with other diseases, its history is difficult to trace in Europe, some think that it was introduced from Egypt in the 1st cent. It gradually spread over most of the continent and to the British Isles The Crusades were a factor in disseminating the disease, and in the 13th cent. leprosy reached the height of its epidemic proportions. Laws concerning the segregation of lepers date from about the 7th cent Leprosariums or retreats to which lepers were sent were established in most countries, these were a factor in stamping out the epidemics, and by the end of the 16th cent. it was no longer a scourge

Lepsius, Carl Richard (rĭkh'ärt lĕp'syōŏs), 1810–84, German Egyptologist He made an expedition (1842–45) to the Nile valley and the Sudan and as a result of his excavations and studies wrote *Denkmäler aus Ägypten und Äthiopien* [monuments from Egypt and Ethiopia] (12 vols , 1849–59), which remains an important archaeological work

Leptis (lĕp'tĭs), ancient city of Libya, E of Tripoli It was founded (c 600 B C) by Phoenicians from Sidon It flourished as an important port under the Romans The most extensive ruins of Roman Africa are here The site is now Lebda It is sometimes called Leptis Magna to distinguish it from another Leptis, in Tunisia, S of Hadrumetum

Lerdo (lĕr'dhō) or **Ciudad Lerdo** (syōōdhädh'), city (pop 9,349), Durango, N Mexico, 4 mi W of Torreón A rail and processing center in an irrigated agricultural district, it is a pleasantly prosperous small city

Lerdo de Tejada, Miguel (mēgĕl' lĕr'dhō dā tähä'dha), d 1861, Mexican liberal statesman, a leader of the Revolution of AYUTLA, cabinet member under Juan ÁLVAREZ As minister under COMONFORT, he initiated the Ley Lerdo (1856), a law providing for the forced sale of all real property of the Catholic Church He helped to draft the constitution of 1857 and later drew up a law nationalizing church property His laws were essential parts of the reforms of Benito JUÁREZ His younger brother, **Sebastián Lerdo de Tejada** (sāvēstyan'), 1820?–1889, also an important liberal in the Revolution of AYUTLA, was for years a close associate of Juárez He succeeded as provisional president after the death of Juárez (1872) A revolt under Porfirio Díaz, begun in 1871, was put down The reform laws were incorporated in the constitution (1874) Order was restored for a time, but when in 1876 Lerdo procured the consent of congress to his continuance in office, a new revolt began, again led by Porfirio Díaz Lerdo's forces were defeated, and he fled to New York, where he died

Lérida (lā'rĕdhä), city (pop 35,061), capital of Lérida prov , NE Spain, in Catalonia, on the Segre river It is the center of a fertile region producing sugar beets, cereals, wine, and olive oil The ancient Ilerda, it was taken (49 B C) by Julius Caesar, who here defeated Pompey's generals Lérida fell to the Moors in A D 714 and was liberated (1149) by Raymond Berengar IV of Barcelona The university founded here (c 1300) by James II of Aragon was discontinued in 1717 In the Spanish civil war of 1936-39 Lérida was a key defense point for Barcelona, it fell to the Insurgents in April, 1938 The old section of the city is dominated by the castle, the ramparts of which also enclose the Romanesque cathedral

Lérins (lārĕs'), small group of islands, Alpes-Maritimes dept , SE France, in the Mediterranean opposite Cannes On the isle of Saint-Honorat is a monastery, the oldest in Western Europe, founded c 400 by St Honoratus Part of the buildings are early Romanesque. St Patrick spent several years here

Lerma, Francisco Gómez de Sandoval y Rojas, duque de (fränthĕ'skō gō'mĕth dā sändōvāl' ē rō'häs dōō'kā dā lĕr'mä), 1552?–1625, Spanish statesman, favorite of King Philip III He became premier upon Philip's accession (1598) and controlled the government for 20 years The expulsion of the Moriscos (1609) enabled him to enrich himself tremendously by confiscating their property His venality and corrupt administration finally led to his downfall (1618), although he had shortly before become a cardinal After an inquiry ordered by Philip IV (1621) Lerma was compelled to restore to the state part of his wealth

Lerma (lĕr'mä), river rising in Mexico state, central Mexico, near Toluca, and flowing NW and W through Guanajuato and between Jalisco and Michoacán to Lake CHAPALA The river draining the lake and flowing NW through Jalisco and Nayarit to the Pacific is generally called the Santiago, but it is considered a continuation of the Lerma It is widely used for irrigation and hydroelectric power.

Lermite, Tristan: see TRISTAN L'HERMITE

Lermontov, Mikhail Yurevich (mĭkhīŏōĕl' yōōr'yĭvĭch lyĕr'muntōf), 1814–41, Russian poet and novelist He began to write in 1829 but was catalyzed into genuine poetic activity in 1837 by the death of Pushkin, against which he protested in a violent poem, "On the Death of the Poet " A prevailing element in his poetry is the Caucasus, to which he was temporarily banished as a result of this poem and to which he often returned Although strongly influenced by Byron, he displays in such works as the ballads "Borodino" (1837) and "The Song of Tsar Vasilievich" (1837, Eng tr in *A Treasury of Russian Life and Humor,* 1943) and the novel *A Hero of Our Time* (1840, Eng tr , 1928) foreshadowings of realism, so that he is a transition figure between Pushkin and Gogol His masterpiece is *The Demon* (1829–41, Eng tr , 1930), an autobiographical poem of the Caucasus used by Anton Rubinstein as the basis of an opera Also to be noted is *Mtsyri* (1840), a poem of rebellion, translated as *The Circassian Boy* (1875). Lermontov as a lyricist ranks almost on a par with Pushkin Like Pushkin, he was killed in a duel See Vladimir Nabokov, *Three Russian Poets* (1944).

Leros (lĕ'rŏs, lē'rŏs), island (21 sq mi ; pop. 6,131), off W Turkey, one of the DODECANESE islands, belonging to Greece.

Le Roy, 1 City (pop 1,783), central Ill , SE of Bloomington, inc 1857 It is a trade and processing center in a farm area 2 Village (pop 4,413), W N Y., E of Batavia, in a fertile farm region; settled 1793, inc 1834 Gelatine products are made An egg-laying test farm, sponsored by Cornell Univ , is near by

Leroy-Beaulieu, Anatole (anätôl' lurwä'-bōlyû'), 1842–1912, French writer on political science After long residence in Russia, he wrote *L'Empire des tsars et les Russes* (1881, Eng tr , *The Empire of the Tsars and the Russians,* 1893–96), a study of Slavic political and economic organization Other of his publications are *Un homme d'etat russe, Nicolas Milutine* (1885) and *Le Papauté, le socialisme et la démocratie* (1892) His brother **Pierre Paul Leroy-Beaulieu** (pyĕr' pôl'), 1843 -1916, economist, edited the *Journal des débats* and founded the *Économiste français* in 1873, editing it until his death His most important works are *Traité de la science des finances* (1877) and *Essai sur la répartition des richesses* [essay on the division of wealth] (1881), in which he refuted the Ricardian theory of rent

Lerroux, Alejandro (älähän'drō lĕrōō'), 1864–1949, Spanish statesman A republican member of the Cortes after 1901, he played an important role in the overthrow of the monarchy in 1931. He was several times premier and held other cabinet posts between 1933 and 1935 As leader of the Radical Center party he represented middle-of-the-road republicanism Late in 1935 he resigned after bribery charges were leveled at members of his party The 1936 elections brought the Popular Front into power Lerroux fled to Portugal after the outbreak (1936) of civil war, but was allowed to return to Spain in 1947

Lerwick (lûr'wĭk, lĕr'rĭk), burgh (pop 4,221), county town of the Shetland Islands, Scotland, on the east coast of the island of Mainland It is the most northerly town in the British Isles Fort Charlotte, a naval reserve station, was built by Oliver Cromwell and rebuilt by Charles II Lerwick is the chief market town for the Shetlands and the center of the northern herring fisheries An annual festival (uphelya) is held here in January to celebrate the new year

Les. For names beginning thus and not listed here, see second element, e g , for Les Andelys, see ANDELYS, LES

Le Sage, Alain René (alĕ' rünä' lusazh'), 1668–1747, French novelist and dramatist, author of *Gil Blas* Le Sage made his living by writing light pieces for the theaters of Paris, his dramatic masterpiece is *Turcaret* (1709), a comedy of character, bitterly satirizing the farmers of the revenue and money-seekers in general The great *Gil Blas de Santillane* (1715–35, Eng tr by Tobias Smollett, *The Adventures of Gil Blas of Santillane,* 1749) is a long rambling story in the manner of the Spanish picaresque romances, but not like them in tone or treatment It is instead strongly realistic, especially in its incidents, it is the first great novel of material realism Smollett's translation of *Gil Blas* is the most popular one in English, a different, less exact translation by B H Malkin (1st ed , 1809) has also been published under Smollett's name Smollett drew heavily on *Gil Blas,* especially in *Roderick Random* Of Le Sage's lesser novels, *Le Diable boiteux* (1707, Eng tr , *Asmodeus, or, The Devil upon Two Sticks*) is an adaptation of a Spanish novel, and *Estevanille Gonzalès* (1734) and *Le Bachelier de Salamanque* (1736, Eng tr , *The Bachelor of Salamanca*) are imitations of *Gil Blas*

Lesbos (lĕz'bŏs), island (632 sq mi , pop 134,054), off W Turkey, in the Aegean Sea, but belonging to Greece MYTILENE is the name of the chief city and an alternate name of the island Wheat, olives, vegetables, and citrus fruit are grown here, and stock raising and fishing are important occupations Lesbos was settled by Aeolians in the Aegean expansion of the Greeks (c 1000 B C) and became a brilliant center of civilization in the 7th cent B.C Then flourished the poets Alcaeus and Sappho and the statesman Pittacus Lesbos joined the Delian League and revolted unsuccessfully against Athens in 428 B C Aristotle and Epicurus lived here, and Theophrastus was born on Lesbos See Winifred Lamb, *Excavations at Thermi in Lesbos* (1936)

Lescarbot, Marc (märk' lĕskarbō'), fl 1599–1619, lawyer, poet, and historian of New France, b near Laon, France In 1599 he was called to the bar in Paris While briefly (1606–7) in Port Royal, Acadia, Lescarbot wrote and produced *Le Théâtre de Neptune* (Eng tr , 1927), the first existing play written and produced in North America His *Histoire de la Nouvelle-France* (1609, Eng tr , 3 vols., 1907–14) recounts in lively vein some of the early annals of New France He also published a volume of verse, *Les Muses de la Nouvelle-France* (1609)

Les Cayes, Haiti. see AUX CAYES.

Lescaze, William (lĕskäz'), 1896–, American architect, born and trained in Switzerland. Coming to the United States in 1920, he became a citizen in 1929. He was known soon as a master of the inter-

national style. His works include the Philadelphia Saving Fund Society building (with George Howe, 1932) and the CBS studios in Hollywood (1938). Lescaze wrote *On Being an Architect* (1942).

Les Cheneaux Islands (lā shĕn'ō) [Fr., = the channels], group of 35 small wooded islands, S of the E Upper Peninsula, N Mich., in Lake Huron NE of the Straits of Mackinac. The name is sometimes locally altered to "the Snows." An annual regatta is held here.

Leschetizky, Theodor (tā'ōdōr lĕshutĭts'kē), 1830–1915, Polish pianist and teacher, pupil of Czerny. He taught (1852–78) at the St. Petersburg Conservatory, afterward teaching privately in Vienna, where among his many pupils were Paderewski and Gabrilowitsch. He composed an opera and some piano pieces, but it was as a teacher that he distinguished himself.

Lescot, Pierre (pyĕr' lĕskō'), c 1510–1578, French architect of the early Renaissance. Appointed by Francis I to design a new royal palace in Paris, he built the earliest portions of what was later to become the vast palace of the Louvre and worked on it from 1546 until his death. In this, as in all his other known works, the fine sculptural decorations were executed by Jean Goujon, and the two names are generally associated. To Lescot is attributed the original design of the Hôtel Carnavalet in Paris, later altered by François Mansart. Lescot's works showed the influences of the Italian Renaissance.

Lesdiguières, François de Bonne, duc de (frāswä' du bŏn' dük' du lādēgyĕr'), 1543–1626, marshal and constable of France. He fought on the Huguenot side in the Wars of Religion and in 1575 became chief of the Huguenots of the Dauphiné. He supported Henry IV and in 1590 took Grenoble from the League, but subsequently fought a series of campaigns, ending in 1601, against Charles Emmanuel I of Savoy. He fought with Savoy against Spain (1616–17) and became constable after his abjuration of Protestantism (1622).

lese majesty or **leze majesty** (both lēz' mă'jĭstē) [Fr. *lèse majesté*, Latin *laesae maiestatis (crimen)* = (crime of) violating majesty], offense against the dignity of the sovereign of a state or of a state itself. The offense as such first appeared in Rome but bore a decided resemblance to the crime against the people of Greek law. Lese majesty seems to have been originally considered as a violation of the fundamental laws of the Roman state, a crime against the Roman people. Apparently it was not defined with great exactness. When the Roman Empire replaced the republic, the crime became an offense against the person of the emperor, but it still included the cases which were more generally denominated treason, all attempts to upset the state, as well as actions or words derogatory to, or dangerous to, the state were interpreted as offenses against the sovereign's person. This personality of conception became the main element in the term lese majesty, which in time was applied especially to physical or verbal attack on the sovereign. The legislation against the crime passed into Germanic law, and feudal law heightened the personality of the conception because of the fundamental constitutional importance of the feudal bond. In most modern states the specific crime of lese majesty was confounded with, and included in, the crime of treason. With the decline of absolute monarchies the disappearance of the crime was hastened, though it continued in German law until the fall of the German monarchy in 1918. In some modern countries, however, verbal attacks on the form of government, the head of the state, or public officials are made crimes analogous to lese majesty. In the United States such attack is protected by the right of free speech if not attended by threat of violence. See P. M. Schuss, *Offences against the State in Roman Law* (1926).

Leshem (lĕ'shəm), original name of Dan **2**.

Lesina, Yugoslavia: see Hvar.

Leskov, Nikolai Semyonovich (nyĭkulĭ' sĭmyô'nuvĭch lyĭskôf'), 1831–95, Russian novelist and short-story writer. An early story, *Lady Macbeth of Mzensk* (1866), was used by Shostakovich as the basis of an opera. Leskov won popularity in 1872 with *Cathedral Folk* (Eng. tr., 1924), a pleasant chronicle of a cathedral town. He is best known for his short stories, full of action and written in colorful popular language. Some of these appear in English in *The Sentry* (1923), *The Enchanted Wanderer* (1924), *The Steel Flea* (1943), and *The Tales of N. S. Leskov* (Vol. I, 1944). Under the influence of Tolstoy, Leskov wrote several stories of the early Christians (e.g., *The Mountain*, *The Robber of Ascalon*). *The Hare Chase* (1917) is a brilliant satire written in a mixture of Russian and Ukrainian; it was not published until after his death. See Janko Lavrin, *From Pushkin to Mayakovsky* (1948).

Lesley, John: see Leslie, John.

Lesley, J. Peter, 1819–1903, American geologist, b. Philadelphia, grad. Univ. of Pennsylvania, 1838. Later he studied theology, was licensed (1844) as a minister, and served (1848–51) as pastor of the Congregational Church at Milton, Mass. He returned to geological work in 1852 and became (1859) professor of mining at the Univ. of Pennsylvania and then dean of the scientific faculty (1872). Appointed state geologist in 1874, he directed a survey of Pennsylvania. His writings include *A Manual of Coal and Its Topography* (1856) and *The Iron Manufacturer's Guide* (1859). See biography by his daughter, Mary Lesley Ames (1909).

Leslie, Alexander, 1st **earl of Leven** (lē'vun), 1580?–1661, Scottish general. He served in the Swedish army some 30 years, being knighted by Gustavus II (Gustavus Adolphus) and fighting in the Thirty Years War. Returning to Scotland in 1638, he led the army of the Covenanters in the Bishops' Wars, at the end of which Charles I made him earl, hoping to gain his aid. Nevertheless, in the early wars of the Puritan Revolution, Leven commanded Scottish parliamentary troops in support of Oliver Cromwell against Charles in the royalist defeat at Marston Moor. When Charles fled to the Scottish army in 1647, Leven had charge of the king until the royal prisoner was handed over to the English in 1648. Leven resigned actual command of the army to David Leslie before the Scottish Covenanters, now royalists, were defeated at Dunbar in 1650, but he was twice imprisoned briefly in the Tower of London.

Leslie, Charles Robert, 1794–1859, English painter, b. London, of American parents. He was brought up in Philadelphia but returned to London as a youth and remained there save for a brief period in 1833, when he was drawing professor at West Point. He is best known for paintings illustrating humorous incidents from great books, such as *Uncle Toby and the Widow Wadman* and *Falstaff Impersonating the King* (Tate Gall., London). He painted portraits of Washington Irving, Sir Walter Scott, and other celebrities. The Metropolitan Museum has his portrait of Dr. John Wakefield Francis. Leslie wrote *A Handbook for Young Painters* (1855) and *Memoirs of the Life of John Constable* (1843). See his *Autobiographical Recollections* (1860).

Leslie, David, d. 1682, Scottish commander. After serving in the Swedish army, he was a major general under his uncle, Alexander Leslie, earl of Leven, in the Scottish army that joined the forces of Oliver Cromwell in defeating the royalists at Marston Moor (1644). He also defeated the Scottish royalist, James Graham, earl of Montrose, in 1645. By 1650 he himself was supporting Charles II and as commander of the Scottish royalists was defeated by Oliver Cromwell at Dunbar (1650). After Charles's defeat at Worcester, Leslie was imprisoned (1651–60), and after the Restoration he was made Lord Newark.

Leslie, Frank, 1821–80, American engraver and publisher, b. England. He learned his trade on the *Illustrated London News*, but in 1848 emigrated to New York city, where in 1855 he began publishing *Frank Leslie's Illustrated Newspaper*. His real name, Henry Carter, was discarded when the pseudonym Frank Leslie became widely known. Later he added other family periodicals, all of them bearing his name. He inaugurated a method for more speedily illustrating current events by dividing his drawings into blocks which could be distributed among a number of engravers and afterwards reassembled. His profits and fame were greatest when, in the Civil War, his artists on the battlefields sent back illustrations. They now have much historical value. He became bankrupt in 1877. His second wife was **Miriam Florence** (**Follne**) **Leslie,** c. 1836–1914, b. New Orleans. She had become editor of *Frank Leslie's Lady's Journal* in 1871 and married Leslie in 1873. After his death Mrs. Leslie ably managed the business, bringing it out of debt. She leased it to a syndicate in 1895, but in 1898 was again obliged to take charge to save it. She wrote several books, including *Rents in Our Robes* (1888) and *Are Men Gay Deceivers* (1893), and was an ardent feminist, to which cause she gave much of her fortune.

Leslie or **Lesley, John,** 1527–96, Scottish bishop, historian, and statesman. After the death of Francis II, husband of Mary Queen of Scots, he became her ecclesiastical adviser. He was made bishop of Ross in 1566 and was a member of the privy council which ordered the trial of Lord Bothwell for the murder of Lord Darnley. In 1569 he was made Mary's representative at Queen Elizabeth's court, but was himself arrested (1571) for complicity in the plot to marry the Scottish queen to Thomas Howard, duke of Norfolk. He was released after his full confession and fled to France and thence to Rome. An able historian, he left valuable accounts of the Catholic view of the events of his time. His 10-volume Latin history of Scotland (1578) was translated by James Dalrymple (ed. by E. G. Cody, 1888–95).

Leslie, Sir John, 1766–1832, Scottish physicist and mathematician, studied at the universities of St. Andrews and Edinburgh. He was professor of mathematics (1805–18) and thereafter professor of natural philosophy at the Univ. of Edinburgh. His inventions include a differential thermometer, a photometer, and a hygrometer, as well as a process of artificial refrigeration (freezing water by the use of sulphuric acid and an air pump). His researches in heat radiation won him the Rumford medal, and he was knighted in 1832. His publications include *An Experimental Inquiry into the Nature, and Properties of Heat* (1804), books on mathematics, and *Elements of Natural Philosophy* (1823).

Leslie, Miriam Florence (**Follne**). see Leslie, Frank.

Leslie (lĕs'lē), village (pop. 1,281), S Mich., N of Jackson, in a farm area, inc. 1869.

lespedeza, name used to refer to plants of the genus *Lespedeza*, also called bush clovers, and especially to the Japanese clover (*Lespedeza striata*). The Japanese clover is an annual leguminous plant native to Japan and China and naturalized in North America. It grows to a height of about 18 in.; the stems are much branched, the leaves are divided into three leaflets, and the small flowers are pink or purplish. It is an important forage crop in the S United States, it is also valuable as a means of enriching sandy soils and of checking erosion.

Lespinasse, Julie Jeanne Éléonore de (zhülē' zhan' ālāônôr' du lĕspēnas'), 1732–76, French woman of letters. She aided (1754–64) Mme du Deffand in her salon and organized (1764) one of her own, which superseded that of her patroness after a break came between the women. Mlle de Lespinasse's salon was a center for the writers of the Encyclopédie. Her letters (Eng. tr., 1901, 1929) to the comte de Guibert (written 1773–76) are celebrated as a chronicle of unhappy love. See Camilla Jebb, *A Star of the Salons* (1908).

Lesquereux, Leo (lākurû'), 1806–89, Swiss-American paleobotanist. He attracted the attention of Louis Agassiz when he won a Swiss government prize for a treatise on the peat bogs of his locality, and in 1845 he was commissioned by the government of Prussia to explore the peat bogs of Europe. On his arrival in America (c. 1848), he assisted Agassiz at Cambridge and later went to Columbus, Ohio, where he worked with the eminent bryologist, W. S. Sullivant. He made reports on the flora of the coal formations of Pennsylvania, Ohio, Illinois, Arkansas, and Kentucky, which appear in the geological surveys of those states. His work on the second geological survey of Pennsylvania, published with the title *Description of the Coal Flora of the Carboniferous Formation in Pennsylvania and throughout the United States* (3 vols. in 2, 1880–84, with 1879 atlas), gave him his chief distinction.

Lesse (lĕs'u), river, 50 mi. long, SE Belgium, a tributary of the Meuse, which it joins near Dinant. Traversing the Ardennes, it passes underground through limestone caves.

Lesseps, Ferdinand Marie, vicomte de (fĕrdēnā' marē' vēkôt' du lĕsĕps'), 1805–94, French diplomat and engineer. He entered the consular service in 1825 and was minister to Spain (1848–49). He formulated plans for the Suez Canal while serving in Egypt and in 1854 received the concession for opening a canal through the Isthmus of Suez. He was the chief figure in organizing the canal company and in raising by popular subscription in France over half the capital needed, and he supervised the actual work. Spurred by his success at Suez, he accepted the presidency of a French company that started work on the Panama Canal in 1881, but unforeseen difficulties and lack of funds brought failure (see Panama Canal). The popular indignation helped to bring about the trial of Lesseps for misappropriation of funds, and despite Waldeck-Rousseau's efforts as defense attorney, he was convicted. The prison sentence imposed was not carried out, and most objective observers then and since believed him to have been guilty only of negligence. See his autobiography (1887, Eng. tr., 1887).

Lesser Antilles see West Indies.

Lesser Slave Lake, 60 mi. long and 3 to 10 mi. wide, central Alta., NNW of Edmonton. It drains E into the Athabaska river by the Lesser Slave river, c. 50 mi. long.

Lessing, Gotthold Ephraim (gôt'hôlt ā'fraĭm), 1729–81, German dramatist and critic, one of the most influential literary figures of the 18th cent. He was connected with the theater in Berlin, where he produced some of his most famous works, and in Hamburg, where a plan to establish a national theater failed. In this period he published a collection of fables (1759), adding an essay on the fable. His series of critical essays, *Hamburgische Dramaturgie* (1767–69), which stressed Aristotelian unity of action in dramatic construction, was written in Hamburg. From 1770 he was librarian at Wolfenbüttel, writing there *Zur Geschichte und Literatur* [on history and literature] (1773–77). Other significant critical works are *Literaturbriefe* [literary letters] (1759–65) and *Laokoon* (1766). His dramatic works include *Miss Sara Sampson* (1755), *Minna von Barnhelm* (1767), *Emilia Galotti* (1779), and *Nathan der Weise* (1779, Eng. tr., *Nathan the Wise*), which was partly the result of the numerous theological controversies into which he was drawn by his insistence on freedom of thought. Lessing's introduction into Germany of English literature, especially Shakspere, was an important contribution. See biography by T. W. Rolleston (1889), H. B. Garland, *Lessing, the Founder of Modern German Literature* (1937).

Le Sueur, Eustache (ûstāsh' lü sûr'), 1617–55, French painter, disciple of Vouet and founding

member of the Académie royale de Peinture et de Sculpture (1648) In his short life he painted many decorative works for the palaces of the Louvre and for many churches and convents Much of his work has been badly preserved The best of it is now in the Louvre, which contains, among others, his *St Paul Preaching at Ephesus* and episodes from the *Life of St Bruno*, as well as a collection of chalk drawings in black and white Essentially a religious painter, Le Sueur is notable for fine composition and drawing and sincerity of expression

Lesueur or **Le Sueur, Jean François** (zhäⁿ' frāswä'), 1760–1837, French composer He was director of music (1786–88) at Notre Dame de Paris During the Revolution his operas *La Caverne* (1793) and *Paul et Virginie* (1794), with their violence and sensationalism, so caught the spirit of the time that they were enormously successful and often emulated On the founding (1795) of the Paris Conservatoire he became an inspector and was the teacher of Ambroise Thomas, Gounod, and Berlioz He was composer to the court chapel under both Napoleon and Louis XVIII

Le Sueur, Pierre Charles (pyĕr' shärl' lu sûr'), c 1657–c 1705, French trader and explorer in North America He came to Canada c 1679, traded with the Sioux and the Ojibwa and helped to keep peace between them, and built a number of posts in the Old Northwest, notably one (1693) at La Pointe in the Apostle Islands He went to France for permission to exploit copper deposits When he returned (1700) via the Mississippi and Minnesota rivers, he built a post at the Blue Earth river The ore proved worthless, and he again went to France to secure new concessions but died on the return voyage

Le Sueur (lu sōr'), city (pop 2,302), S Minn , on the Minnesota and N of Mankato, settled 1852 It is a trade center and processes farm products

Leszno (lĕsh'nô), Ger *Lissa* (lĭ'sə), town (pop 20,820), Poland, S of Poznan It passed to Prussia in 1793 and again in 1815 Chiefly a trade center, Leszno also has several industries, there are lignite deposits in the vicinity

Letcher, John, 1813–84, governor of Virginia (1860–64), b Lexington, Va , grad Washington (now Washington and Jefferson) College, 1833 He studied law and practiced at Lexington, where he also edited the Jacksonian Democrat *Valley Star* In Congress (1851–59), he was known as "Honest John" because of his opposition to government extravagance. Letcher opposed secession until, asked to supply its quota of troops for action against the South, Virginia seceded He thereupon turned the state's military forces and supplies over to the Confederacy, which he supported vigorously throughout his Civil War governorship

Letchworth, urban district (1931 pop 14,454, 1943 estimated pop 17,750), Hertfordshire, England, N of London It is a planned industrial town or GARDEN CITY, founded by Sir Ebenezer HOWARD in 1903

Le Tellier, Michel (mĕshĕl' lu tĕlyā'), 1603–85, French statesman He was one of Mazarin's ministers and held several posts under Louis XIV At the time of his death he was chancellor of France He was the father of LOUVOIS

Lethaby, William Richard (lĕ'thubē), 1857–1931, English architect. He was a founder and first principal (1893–1911) of the London County Council Central School of Arts and Crafts, and professor of design at the Royal College of Art He was also an influential writer on architectural subjects Besides his important books *Greek Buildings* (1908), *Mediaeval Art* (1912), and *Architecture* (1912), he contributed to many periodicals

Lethbridge (lĕth'brĭj), city (pop 16,522), S Alta , on Oldman river near the Mont border and SE of Calgary It is the center of one of the largest coalmining districts of Canada, of a ranching country in the foothills of the Rockies, and of an irrigated farming district It is a distributing point for mining and lumbering camps to the west and has grain elevators, cereal mills, and knitting mills It is headquarters for the Royal Canadian Mounted Police in Alberta, and a dominion experimental station and a technical school are here The reservation of the Blood Indians is southwest of the city Founded by Sir A T Galt, it was called Coalbank until 1885 In the Second World War the Canadian government established a large artillery and bombing practice field northeast of the city

Lethe (lē'thē), [Gr , =oblivion], in Greek mythology, river of forgetfulness in Hades The dead drank from Lethe upon their arrival in the underworld, and souls who were being reincarnated drank of its waters upon their departure for the world of the living

Lethington, William Maitland of: see MAITLAND, WILLIAM

Leticia (lātā'sēä), town, SE Colombia, on the upper Amazon The Letecia region, a narrow strip of land extending S of the PUTUMAYO river to the Amazon, had been confirmed as Colombian territory by a treaty in 1922 between Colombia and Peru On Sept 1, 1932, Peruvian irregulars seized it. Hostilities ensued, and diplomatic relations were broken off After Brasil's conciliatory efforts failed, Colombia invoked Article 15 of the League of Nations Covenant; the League appointed (June, 1933) a commission to govern the territory during arbitration On June 19, 1934, it restored the territory to Colombia Active U S. participation by Secretary Stimson with the League established a precedent, permitting interference by an international body in an area covered by the Monroe Doctrine.

Leto (lē'tō), in Greek religion, daughter of the Titans Coeus and Phoebe She was loved by Zeus, and when she was with child, Hera, jealous of her, forbade men or gods to give her aid Leto wandered from place to place until she arrived at Delos, which was then a floating island Zeus chained the island to the bottom of the sea so that it would be a secure resting place Here Leto gave birth to Apollo and Artemis Her children were devoted to her and protected her They killed Niobe for boasting that she was superior to Leto Leto was worshiped only in connection with her children. The Romans called her Latona (lŭtō'nŭ)

Letrinoi, Greece see PYRGOS

letter · see ALPHABET

lettering, specialty in the graphic arts An artist reproduces hand-drawn words, phrases, or sentences for reproduction by one of the printing processes Lettering is used by advertising agencies and publishers for display typography because the artist can produce better-spaced and better-balanced letters than is possible with type set by hand or machine Lettering also permits the advertiser to get the exact degree of blackness needed to suit the layout A good lettering artist is sufficiently familiar with the basic design of letters to produce a wide variety of letter designs, yet within each design keep all the letters in harmony Many lettering artists have designed alphabets for type founders

Letteris, Meir ha-Levi (mīr' hä-lā'vē lĕtā'rĭs), 1800–1871, Austrian-Jewish poet He wrote about 30 volumes of prose and poetry The poem called *Yonah Homiyah* [the plaintive dove] became very widely known and is still popular He is also famous for his Hebrew version of *Faust* called *Ben Abuya*

Letterman, Jonathan, 1824–72, Union army surgeon in the Civil War, b Canonsburg, Pa , grad Jefferson (now Washington and Jefferson) College, 1845, and Jefferson Medical College, 1849 Made medical director of the Army of the Potomac in June, 1862, he ably organized its field medical service, creating effective mobile hospital and ambulance organizations Letterman's system was adopted throughout the Union army and is now used by armies throughout the world See his *Medical Recollections of the Army of the Potomac* (1866)

letter of credit · see CREDIT, LETTER OF

Lettish, Baltic language of Latvia It belongs to the Indo-European family See LANGUAGE (table)

Lettland, see LATVIA

Lettow-Vorbeck Paul von (poul' fŭn lĕ'tō-fôr'bĕk), 1870–, German general He defended German East Africa during the First World War

lettre de cachet (lĕ'trə du käshā'), formerly, in French law, private, sealed document, issued as a communication from the king to an individual or particular group of subjects Theoretically, the king signed, and a secretary of state countersigned, the document, but in later practice the signature of the king was affixed by a clerk The *lettre de cachet*, although of very early origin, came into common use as an instrument of royal justice in the 16th and 17th cent An individual, imprisoned or exiled by a *lettre de cachet*, had no recourse The institution was subjected to some abuse, particularly in the 18th cent , when many leaders of revolutionary thought, including Voltaire and Mirabeau, were punished for crimes of opinion The place of imprisonment sometimes was the BASTILLE *Lettres de cachet* were used by the revolutionaries as a symbol of royal tyranny and were a point of argument at the outbreak of the French Revolution They were abolished by the Constituent Assembly

lettuce, annual garden plant (*Lactuca sativa* and varieties), probably native to the East Indies It is not known anywhere in a wild state, having been in cultivation as a salad plant from antiquity Three varieties of lettuce are planted—head or cabbage lettuce, the leaf or loose type, and Cos lettuce or romaine The first forms a tight, crisp white head, the second has many more leaves and a less compact head which is white toward its center only Cos lettuce or romaine forms long, upright leaves, which, according to variety, may or may not have to be tied up to blanch and form a head It is not as commonly planted but is useful where summers are too hot for the other two varieties. Since lettuce has come into increased favor as a source of vitamins, its culture has been greatly stimulated in the United States, and forcing it for winter use is becoming an extensive industry, especially near large cities Much of the winter crop comes from Florida and California Market gardeners sow the seed in greenhouses, setting out the young plants in the spring, 8 to 12 in apart in a rich, loose soil The plant is generally eaten as a salad but may be cooked, as it often is in France.

Letushim (lĕtū'shĭm) [Heb., =sharpened], eponymous ancestor of an Asiatic tribe. Gen. 25.3.

Leucas, Leukas (both: lū'kəs), or **Levkas** (lĕfkäs'), **island** (114 sq. mi.; pop. 11,000), off W Greece, in the Ionian Sea, one of the IONIAN ISLANDS. It is also known as Santa Maura. The chief town, Leukas (pop. 5,826), is at the northern end of the island. Leucas was colonized (7th cent. B.C.) by Corinth, with which it sided in the Peloponnesian War It later was the capital of the Acarnanian League (3d cent B C). Leucas was captured (1697) from the Turks by the Venetians, who kept it until 1797

Leucippus (lūsĭ'pŭs), 5th cent B.C , Greek philosopher Aristotle believed that Leucippus inspired the atomistic theory with which Democritus is identified Little is known about Leucippus

Leuckart, Karl Georg Friedrich Rudolf (kärl' gä'ôrk frā'drĭkh rōō'dôlf loi'kärt), 1823–98, German zoologist, a founder of the science of parasitology. He made important discoveries in animal physiology and in comparative morphology and classification of invertebrates. His studies and writings on parasitic forms, including worms and insects, were valuable

leucocyte: see WHITE CORPUSCLE

Leucothea (lūkōth'ēə), in Greek mythology, sea deity, with whom the Romans identified MATUTA. She had been a mortal, INO

Leuctra (lōōk'trə), village of ancient Greece, in Boeotia, 7 mi SW of Thebes Here the Spartan king Cleombrotus was defeated by the Thebans under EPAMINONDAS (371 B.C) Leuctra, a brilliant tactical success, was also decisive politically in that it ended Spartan hegemony.

Leukas · see LEUCAS

leukemia (lōōkē'mēə), disease of the bone marrow in which there is an abnormal proliferation of white blood cells (leucocytes) or their precursors It is generally thought to be a malignant neoplastic disease which spreads by means of the blood stream to other organs It occurs in either sex at any age and it may be either chronic or acute The blood picture is that of an excessive number of leucocytes (the type of leucocyte or of immature white blood cell present in the largest percentage denotes the type of leukemia), and a severe anemia is a fairly constant finding The lymph nodes become enlarged, the spleen is greatly enlarged, and the liver is always involved X-ray therapy and transfusions of whole blood relieve the symptoms temporarily

Leummim (lĕūm'ĭm) [Heb , =peoples], unidentified tribal name Gen 25 3

Leuna (loi'nə), town (pop 9,918), in the former Saxony prov of Prussia, E Germany, near Merseburg Here in 1916 the first synthetic nitrogen plant began to operate after the invention of the Haber process. The town grew as the center of the German synthetic chemical industry The installations, heavily bombed in the Second World War, were subsequently repaired

Leuthen (loi'tun), village, Lower Silesia, 10 mi W of Breslau Here Frederick II won (1757) a brilliant victory over the Austrians in the Seven Years War

Leutze, Emanuel (loit'su), 1816–68, American historical painter, b Germany In 1859 he settled in the United States, working in Washington and New York. His pictures are chiefly English and American historical episodes, good in composition and characterization but famous more for their patriotic than aesthetic value He also painted portraits of Washington, Lincoln, Grant, and the landscape painter Worthington Whittredge (Metropolitan Mus) His works include the mural painting on the staircase of the Capitol at Washington, D C , *Landing of the Norsemen in America* and *The Poet's Dream* (Pa. Acad. of the Fine Arts), *Cromwell's Visit to Milton* (Corcoran Gall), *Princess Elizabeth in the Tower* (N. Y. Public Library), and *Washington Crossing the Delaware* (Metropolitan Mus)

Levant (luvänt') [Ital , =east], collective name for the countries of the eastern shore of the Mediterranean from Egypt to, and including, Turkey The divisions of the French mandate over Syria and Lebanon were called the Levant States, and the term is still sometimes applied to those two nations

Levasseur, Émile (Pierre Émile Levasseur) (āmēl' lŭväsûr'; pyĕr'), 1828–1911, French economist. He was noted especially for his historical approach to the study of economics He studied at the École normale supérieure, Paris, and taught (1868–72) economic history at the Collège de France before becoming (1872) professor of geography, history, and economic statistics. His most famous works are the histories of the French working class, *Histoire des classes ouvrières en France depuis la conquête de Jules César jusqu'à la révolution* (1859) and *Histoire des classes ouvrières en France depuis la révolution jusqu'à nos jours* (1867). He also wrote *La Question de l'or* [the question of gold] (1858), *La Population française* (3 vols , 1889–92), and *Histoire du commerce de la France* (1911–12)

Le Vau, Louis (lwĕ' lŭ vō'), 1612–70, French architect. He succeeded (1654) Jacques Lemercier as architect for the Louvre and the Tuileries. He designed for Louis XIV the palace of Versailles, creating a nucleus later completed by J. H. Mansart. Among his other designs are the château of Vaux-le-Vicomte; the Collège des Quatre Nations, Paris, now the Palais de l'Institut; and the Church of

St. Sulpice (1650), Paris, the façade of which was later built by Servandoni.

levee (lĕ'vē) [Fr.=raised], embankment along a river to prevent inundation of the flood plain by high water. Levees are constructed by piling earth on a surface that has been cleared of vegetation and leveled. They narrow from a broad base to a level crown on which temporary embankments or sacks of soil can be placed to prevent overtopping by unusually high waters. Levee surfaces are usually protected by vegetation, notably Bermuda grass. A low terrace of earth (banquette) is commonly added on the land side of high levees to prevent loss of material from the slope caused by seepage. Sections of levee exposed to strong wave or current action or to long periods of high water may be protected on the river side by plantings of willows, by weighted brush mattresses, or by concrete revetments. Ditches or drainage tiles on the water side prevent saturation of the foundation. Levees are the oldest and the most extensively used method of preventing inundation. Piecemeal building of levee sections by individual landowners and by local groups caused inundation of unprotected areas. Since the intensity of flood discharge is increased in a channel leveed on both banks and since silt deposits raise the level of river beds, levees must be built to ever greater heights, and flood control must be accomplished by additional measures (see FLOODS) and by levee-system planning. Under such planning, sections of levees are commonly set back from the river to form a wider channel and flood valley basins are often divided by cross levees to prevent inundation of large areas by a single break. The most extensive levee systems in the United States are along the Mississippi and the Sacramento rivers and their tributaries. The dikes of Holland are a form of levee, and embankments are used along the Danube, Vistula, Po, and other European rivers.

level: see SPIRIT LEVEL.

Levelers, extremist English Puritan sect active at the time of the Puritan Revolution. The name was apparently applied to them in 1647, in derision of their beliefs in equality. The leader of the movement and its most indefatigable propagandist was John LILBURNE. The Levelers demanded fundamental constitutional reform—a written constitution, a single, supreme representative body elected by universal manhood suffrage, and the abolition of monarchy and noble privilege. Their ideals, far in advance of their time, were those of complete religious and social equality and a state communistic in its nature. Their methods were those of violent agitation and extensive pamphleteering. Lilburne conducted much of his campaigning from within prison walls, where he was protected from execution by the strength of his following. The movement was closely associated with Cromwell's New Model Army and drew much of its support from the military. In 1647 the army presented to its leader the 3d Baron FAIRFAX, the pamphlet *The Case of the Army Truly Stated*, advocating the proposed reforms. Lilburne's *Foundations of Freedom, or, An Agreement of the People* (1648) became the Bible of the cause. Cromwell constantly opposed and finally (1649) crushed the movement in the army. Lilburne and his associates were tried for treason (1649) and acquitted, but the movement had run its course and been vitiated by sectarianism. In 1650 a few Levelers led a riot of the tenants of Epsworth Manor to protest the inclosure of lands. Many similar radical politico-religious groups flourished in the same period—the Agitators, the DIGGERS, and, in the following decade, the FIFTH MONARCHY MEN. Parallel movements of Quakers and Baptists have come down to modern times. See T. C. Pease, *The Leveller Movement* (1916), R. M. Jones, *Mysticism and Democracy in the English Commonwealth* (1932), *The Leveller Tracts, 1647-1653* (ed. by William Haller and Godfrey Davies, 1944), D. M. Wolfe, ed., *Leveller Manifestoes of the Puritan Revolution* (1944).

leveling: see SURVEYING.

Levelland (lĕ'vulănd"), town (1940 pop. 3,091, 1947 estimated pop. 5,000), co. seat of Hockley co., NW Texas, W of Lubbock on the Llano Estacado, founded 1921, inc. 1926. The area produces cotton, grains, truck, and recently much oil.

Leven, Alexander Leslie, 1st earl of: see LESLIE, ALEXANDER.

Leven (lē'vŭn), burgh (1931 pop. 7,411, 1948 estimated pop. 8,578), Fifeshire, Scotland, at the mouth of the Leven river on the Firth of Forth. It is a seaport and summer resort with metallurgical and chemical engineering works.

Leven, Loch (lŏkh). **1** Lake, 11½ mi. long, between Inverness-shire and Argyllshire, Scotland, extending from the mouth of the Leven river to Loch Linnhe. **2** Lake, c.3½ mi. long, Kinross-shire, Scotland. Its several islands include Castle Island, with the ruins of the castle in which Mary Queen of Scots was imprisoned in 1567–68, and St. Serf's, with ruins of an ancient priory. The Leven river, outlet of the lake, flows E through Fifeshire to the Firth of Forth.

Lever, Charles James (lē'vûr), 1806–72, Irish novelist. After a haphazard education, he started practicing medicine in Ireland (1831). His writing began with *Harry Lorrequer* (1837); its popularity guaranteed the success of the *Dublin University Magazine*, which he later edited (1842–45). His best novels appeared early—*Charles O'Malley* (1841), *Arthur O'Leary* (1844), *Tom Burke of "Ours"* (1844), and *The O'Donoghue* (1845). Lever wrote chiefly of army life, in an episodic, loose-jointed style. With *Roland Cashel* (1850) he turned to more careful plotting and characterization but lost in popularity. See biography by Edmund Downey (1906), Lionel Stevenson, *Dr. Quicksilver* (1939).

lever, simple MACHINE consisting essentially of a bar or rod, in diameter either uniform throughout or nonuniform, which is either attached or supported at some point (the fulcrum) along its length. A FORCE applied to a lever at a point along its length tends to rotate it about the fulcrum in a clockwise or a counterclockwise direction. It has been found by experiment that two equal forces acting in opposite directions and applied to a uniform lever at equal distances from the fulcrum counteract each other and establish a state of equilibrium or balance in the lever. Experiment has also shown that two unequal forces when acting in opposite directions will bring about equilibrium when the product of the magnitude of one and its effort arm or lever arm (the perpendicular distance of its point of application from the fulcrum) is equal to the product of the magnitude of the other and its effort arm. In physics the product of a force by its effort arm is called a moment of the force, the general conclusion known as the principle of moments states that equilibrium is established when the sum of the moments of the forces acting in one direction (clockwise) is equal to the sum of the moments of the forces acting in the other direction (counterclockwise). It is possible, as a result, to overcome a very large force at a short distance from the fulcrum with a very small force at a great distance from the fulcrum. Archimedes is supposed to have boasted, with the lever in mind, that given a place to stand upon he could move the world. In the use of a small force to overcome a large one the lever finds its many common applications. For example, the crowbar is a practical application of the lever. The fulcrum is the point upon which the crowbar rests when being used in prying loose some object, the effort is applied at the end farthest from the fulcrum and is relatively small, the distance from the operator's hands to the fulcrum is the lever arm or effort arm, the object being pried loose is the resisting force, or resistance, and its distance from the fulcrum is the resistance arm. Spades, nutcrackers, pliers, scissors, fire tongs, forceps, the beam balance, the wheelbarrow, and many other common tools, instruments and appliances are applications of the principle of the lever. The human forearm is an application of the lever, the elbow acting as the fulcrum, the weight held in the hand and being lifted as the resistance, and the pull of the muscles between the elbow and the hand as the effort. In general, levers are classed according to the position of the fulcrum in relation to the effort and the resistance. A first-class lever is one in which the effort and the resistance are on opposite sides of the fulcrum (e.g., beam BALANCE), a second-class lever is one in which the fulcrum is at one end, the effort at the other, and the resistance between (e.g., wheelbarrow), and a third-class lever is one in which the fulcrum is at one end, the resistance at the other, and the effort between (e.g., forceps).

Leverett, John (lĕ'vurĭt), 1616–79, American colonial governor, b. Boston, England. He went to Boston, Mass., with his father in 1633, but returned to England to serve in the parliamentarian army in 1644 and became a close friend of Oliver Cromwell. He returned to Boston (1651), served a term in the General Court, was appointed one of the commissioners sent to Maine to bring it under the jurisdiction of Massachusetts, and represented (1653–62) Massachusetts in England. On his return to Massachusetts he served in the General Court or the governor's council until 1671, when he was appointed deputy governor. On the death of Bellingham (1673), he became governor, he was reelected until his own death. In his administration he successfully directed the colonial forces in King Philip's War. His knighthood, c.1676, has not been definitely established.

Leverrier, Urbain Jean Joseph (ürbĕ' zhă' shôzĕf' luvĕryā'), 1811–77, French astronomer, discoverer of the planet Neptune. In considering the perturbations of Uranus, Leverrier made calculations indicating the presence of an unknown planet in an orbit outside that of Uranus. The same conclusion had been reached by the Englishman J. C. ADAMS a little earlier, but had not been published. Both were honored as responsible for the discovery of the new planet, Neptune. In 1854 Leverrier became director of the Paris Observatory. His revision of the planetary theories was completed in 1875. He wrote a number of valuable memoirs.

Leveson-Gower, Sir Francis: see ELLESMERE, FRANCIS EGERTON, 1ST EARL OF.

Leveson-Gower, Granville George: see GRANVILLE, GRANVILLE GEORGE LEVESON-GOWER, 2D EARL.

Levi (lē'vī). **1** Son of Jacob and Leah and eponymous ancestor of the Levites. His name appears infrequently—at his birth, when he and Simeon massacred the Shechemites out of revenge, when Jacob migrated to Egypt, finally when he is named in the prophecy of his father. Gen. 29:34, 34, 46:11; 49:5–7. **2** See MATTHEW, 3, 4. Names in the Gospel genealogy, Luke 3:24, 29.

Levi, Carlo (kär'lō lā'vē), 1902–, Italian writer, painter, and physician, noted as an anti-Fascist leader. After taking a medical degree, Levi devoted himself to painting. He became active in politics in the 1920s, and his unpopular ideas caused his exile (1935–36) to the remote province of Lucania. His experiences there he described in *Cristo non è fermato a Eboli* (1945, Eng. tr., *Christ Stopped at Eboli*, 1947). While living (1939–41) in France he wrote the essay *Paura della libertà* (1946, Eng. tr., *Fear and Freedom*, 1950). He organized and edited various anti-Fascist periodicals.

leviathan (lĭvī'uthŭn) [Hebrew], huge animal, presumably the crocodile, mentioned in the Bible. Job 41, Pss. 74:14, 104:26, Isa. 27:1. *The Leviathan* is the work of Thomas HOBBES.

Levi ben Gershon see GERSONIDES.

Levi-Civita, Tullio (tōō'lyō lā'vē-chē'vētä), 1873–1942, Italian mathematician. He taught at the universities of Padua (1898–1919) and Rome (1919–38) and was noted for his researches in pure geometry, hydrodynamics, and absolute differential calculus (on which Einstein's work depended in part). He wrote *A Simplified Presentation of Einstein's Unified Field Equations* (authorized Eng. tr., 1929).

levirate marriage: see MARRIAGE.

Lévis, François Gaston, duc de (frăswä' gästō' duk' du lāvē'), 1720–87, French soldier. Entering the army in 1735, he distinguished himself in the War of the Austrian Succession. As second in command to Montcalm, he was sent (1756) to Canada, where again his record was noteworthy. After Montcalm's death, he was commander (1759–60) of the French troops in Canada. Lévis defeated James Murray at Ste. Foy, near Quebec, but abandoned his siege of Quebec on the arrival of the English fleet. Later that year (1760) he was forced to surrender Montreal to the British. After his return to France, he became lieutenant general (1761), marshal (1783), and duke (1784). H. R. Casgrain edited Lévis's papers (12 vols., 1889–96) and wrote *Montcalm et Lévis* (1891).

Lévis (lĕ'vĭs, Fr. lāvē'), city (pop. 11,991), S Que., on the St. Lawrence opposite Quebec. Settled in 1647 by Guillaume Couture, interpreter between Jesuit missionaries and the Iroquois, it was named for the duc de Lévis. It was the base (1759) for Wolfe's siege of Quebec. Lévis is a port with shipbuilding, woodworking, and varied manufactures. It is the site of an arsenal and of fortifications built in 1865–71 and in 1914.

levitation (lĕvĭtā'shun), the raising of a human or other body in the air without mechanical aid. The idea is ancient, holy men both pagan and Christian were reputed to have had the power of becoming light at will and of moving through the air. It is a favorite manifestation in spiritistic séances. It is also a popular conjuring trick, the illusion being produced by clever mechanical or lighting arrangements or other means.

Levites (lē'vīts), among the ancient Hebrews, a religious caste, descendants of Levi, son of Jacob. Alone of the 12 tribes they had no allotment of land, instead they received revenues from certain cities, and each city had its quota of Levites to support. The priests were of the family of AARON within the tribe. With the unification of worship at Jerusalem the Levites became temple servants with hereditary assignments. Later they became teachers of the Law. There were three divisions of Levites—Kohathites, Merarites, and Gershonites. They are mentioned constantly in the Old Testament, and Leviticus is named after them. Ex. 6:16, 32:26–28, 38:21, Num. 1; 3–8, Deut. 18, Joshua 21, I Chron. 6, 9, 15, 23, 2 Chron. 17:8,9, 19:8–11, 20:19–21, 23, Ezra 7:24, 8:20. Anthropology presents many other cases of hereditary religious castes and consecrated families. In this light many of the biblical statements about the Levites are reinterpreted by critics.

Leviticus (lĕvĭ'tĭkus) [Latin,=levitical], book of the Old Testament, third of the five books of the Law (the Pentateuch or Torah) ascribed by tradition to Moses. It is in essence a collection of liturgical legislation, introduced in the scriptural sequence immediately after the institution of public worship at the end of Exodus. There are laws of general application, e.g., on marriage, morality, charity, and so forth (18–20) on blasphemy (24), on the jubilee year (25), and on vows (27). The only narrative incident of the book is the destruction of Aaron's sons Nadab and Abihu for violation of laws after their consecration as priests. For critical views on Leviticus and books concerning it, see OLD TESTAMENT.

Levkas: see LEUCAS.

Levkosia, Cyprus: see NICOSIA.

levulose: see FRUCTOSE.

Levy, Ark.: see NORTH LITTLE ROCK.

Lévy-Bruhl, Lucien (lüsyĕ'lävü-brül'), 1857–1939, French philosopher, sociologist, and ethnologist He was professor at the Sorbonne from 1899 and editor of the *Revue philosophique de la France et de l'étranger* His research on the mentality of remote peoples is outstanding His numerous writings include *Ethics and Moral Science* (1903, Eng tr, 1905), *How Natives Think* (1910, Eng tr., 1926), *Primitive Mentality* (1922, Eng tr, 1923), and *Primitives and the Supernatural* (1931, Eng tr, 1935)

Lewes, George Henry (lōō'ĭs), 1817–78, English critic and author He abandoned business, medicine, and acting before devoting himself to literature and scientific philosophy As editor of the *Leader* (1850–54) and of the *Fortnightly Review* (1865–66), Lewes distinguished himself as a critic Influenced by Comte, he wrote *Biographical History of Philosophy* (1845–46), *Comte's Philosophy of the Sciences* (1853), *The Physiology of Common Life* (1859–60), and *Problems of Life and Mind* (1874–79) Lewes's plays and novels are forgotten but his most noted work, the *Life of Goethe* (1855), had a tremendous success Having been separated from his wife some years earlier, in 1854 he began a marriage in all but law with George Eliot, whose work he encouraged and influenced profoundly. See A T Kitchel, *George Lewes and George Eliot* (1933)

Lewes (lōō'ĭs, -ĭz, lū'-), municipal borough (1931 pop 10,784, 1943 estimated pop 11,960), county town of Sussex East, England, S of London and on the Ouse near Newhaven, its port Lewes is a farm center There are ruins of an ancient castle, the Sussex Archaeological Society museum, several old churches, libraries, and science and art schools. Archaeological remains have been found in the vicinity A priory was founded here in 1078 by William de Warenne and Gundrada, his wife In 1264 Lewes was the scene of a victory by Simon de Montfort over Henry III

Lewes (lōō'ĭs, lū'-), resort and deep-sea-fishing town (pop 2,246), SE Del, at the mouth of Delaware Bay NW of Rehoboth Beach, inc 1857 It is a port of entry The first white settlement along the Delaware, named Swanendael or Zwaanendael, was made here by the Dutch in 1631 and eventually passed to the English There are several 18th-century houses The Delaware Breakwater protects the harbor

Lewes (lōō'ĭs, lū'-), river, c 300 mi long, a main source of the YUKON It is formed by streams rising in N British Columbia and in Yukon territory and flows NW to the Pelly at Fort Selkirk The Lewes was discovered (1843) by Robert Campbell, of the Hudson's Bay Company

Lewis. For rulers thus named, see LOUIS

Lewis, Alfred Henry, 1858–1914, American editor and author, whose pseudonym was Dan Quin, b Cleveland He was Washington correspondent of the Chicago *Times* and later was head (1890–94) of the Washington bureau of the Hearst papers Afterwards he was a staff contributor to the Hearst magazines The "Wolfville" stories, supposedly told by an old cattleman, are his best fiction—*Wolfville* (1897), *Sandburrs* (1900), *Wolfville Days* (1902), and *Wolfville Nights* (1902)

Lewis, Andrew, 1720?–1781, American frontiersman and Indian fighter, b Ireland When a boy he came with his family to settle near Staunton, Va He grew up to be one of the leading frontier Indian fighters In 1754 he was with George Washington at Fort Necessity He led an unsuccessful expedition (the Sandy Creek expedition) against the Indians in the Ohio country in 1756 and was captured when on the expedition of Gen John Forbes against Fort Duquesne He is best remembered for his victory (1774) in Lord Dunmore's War over the Indians led by Cornplanter at Point Pleasant (now in West Virginia) In the American Revolution he was a patriot leader and opposed Lord Dunmore

Lewis, Cecil Day see DAY LEWIS, CECIL

Lewis, Clive Staples, 1898–, British writer, noted for his eloquent advocacy of Christianity, b Belfast, Ireland. He has been fellow and tutor of English at Magdalen College, Oxford, since 1925 Of his books discussing religion, the best known is *The Screwtape Letters* (1942), others include *Pilgrim's Regress* (1933), *Out of the Silent Planet* (1938), *Christian Behaviour* (1943), *The Great Divorce* (1945), and *Miracles* (1947) He presents his arguments in an intellectual, witty, and modern manner See Chad Walsh, *C S. Lewis, Apostle to the Skeptics* (1949)

Lewis, Francis, 1713–1802?, American Revolutionary patriot, signer of the Declaration of Independence, b. Llandaff, Wales, educated at Westminster School, London He served in the French and Indian War, was captured (1756) at Oswego, and was sent to France Lewis returned to America and later became a member of the Stamp Act Congress (1765) and the Continental Congress (1774–79) He died either on Dec 31, 1802, or on Jan 1, 1803

Lewis, Sir George Cornewall, 1806–63, English statesman and man of letters He was admitted to the bar in 1831 and began his political career in the government home office As a Liberal member of Parliament (1847–52) he held various posts in the government. He served as chancellor of exchequer (1855–58), home secretary (1859–61), and secretary of war (1861–63). While editor (1852–55) of the *Edinburgh Review*, he contributed many articles to the publication, he was also the author of *An Essay on the Origin and Formation of the Romance Languages* (1835), *Enquiry into the Credibility of the Early Roman History* (1855), and *An Historical Survey of the Astronomy of the Ancients* (1862)

Lewis, Gilbert Newton, 1875–1946, American chemist, b Weymouth, Mass, grad Harvard (B A, 1896, Ph D, 1899) He taught at Harvard and at the Massachusetts Institute of Technology (1907–12) and from 1912 was professor of physical chemistry and dean of the college of chemistry, Univ of California He made special studies in thermodynamics and atomic structure and wrote *Valence and the Structure of Atoms and Molecules* (1923) and Anatomy of Science (1926)

Lewis, Isaac Newton, 1858–1931, American artillery officer and inventor, b New Salem, Fayette co, Pa, grad West Point, 1884 An artillery officer until his retirement in 1913, he invented (1888) an artillery range finder, devised electrical systems for artillery-fire control, and designed a new quick-firing field gun and mount He is best remembered for invention (1911) of the first efficient, portable, air-cooled machine gun, the Lewis gun The U S army rejected it, but after retirement Lewis went to Europe and succeeded in getting Great Britain, France, and Belgium to use it In the First World War he superintended factories producing the gun In 1916 the U S army finally adopted it

Lewis, John Llewellyn, 1880–, American labor leader, b Lucas co, Iowa, son of a Welsh immigrant coal miner He became a miner and after 1906 rose through the union ranks to become president (1920) of the UNITED MINE WORKERS OF AMERICA Forceful and determined, Lewis fought vigorously to build up the union, won the loyalty of the miners, and thus consolidated his own power He was one of the most important figures in the AMERICAN FEDERATION OF LABOR until, moved partly by the desire to unionize the mass-production industries, he split with the A F of L and its leader, William Green Taking several of the largest unions with him, Lewis headed (1935) the new organization (see CONGRESS OF INDUSTRIAL ORGANIZATIONS) He had supported F D Roosevelt for President in 1932 and had welcomed the New Deal, but coolness developed between Lewis and the President, and in 1940 the labor leader supported Wendell Willkie for the presidency and staked his C I O presidency on Willkie's victory Roosevelt won, and Lewis resigned Increasing antagonism between him and PHILIP MURRAY, the new head of the C I O, led to a break, and in 1942 the United Mine Workers withdrew from the C I O Lewis kept his own power In the Second World War, Lewis was faced with the hostility of the War Labor Board and with unfavorable public sentiment because of the many strikes of the coal miners in the "no-strike" period Though these strikes perhaps helped to pave the way for antistrike legislation, they did win the demands of the miners The United Mine Workers was again joined (1946) to the A F of L, but split off (1947) once more in dispute over means of combating the restrictive Taft-Hartley Act Though failure to obey a Federal court order to end a protracted coal strike led (1948) to a heavy fine for criminal contempt of court, Lewis continued in 1950 his aggressive and successful strike tactics See J A Wechsler, *Labor Baron* (1944), Saul Alinsky, *John L Lewis: an Unauthorized Biography* (1949)

Lewis, Matthew Gregory, 1775–1818, English author One of the early horror writers, he was often called "Monk" Lewis from the title of his extravagant thriller *The Monk* (1796) In writing this novel, Lewis was influenced by the Gothic tales of Ann Radcliffe. He abandoned, however, any pretense of a happy ending and so far overstepped the bounds of taste and decency that the original version was never republished A less offensive second edition was popularly revived Of his horror dramas, his best known is *The Castle Spectre* (1797), and he is also remembered for his gruesome ballad, *Alonzo the Brave and the Fair Imogene* With Southey and Sir Walter Scott he compiled *Tales of Terror* (1801)

Lewis, Meriwether, 1774–1809, American explorer, b near Charlottesville, Va He was a captain in the army and served in a number of Indian campaigns before becoming (1801) secretary to his friend President Thomas Jefferson He was selected to head the continent-spanning LEWIS AND CLARK EXPEDITION and chose William CLARK as helper Upon that successful venture Lewis's fame rests In 1807 he was made governor of Louisiana Territory, with headquarters at St Louis In 1809 when traveling to Washington to prepare the journals of the expedition for publication, he died suddenly—possibly by murder—in a lonely inn on the Natchez Trace. See biography by C. M. Wilson, bibliography under LEWIS AND CLARK EXPEDITION.

Lewis, Morgan, 1754–1844, American general and governor of New York (1804–7), b New York city, grad. College of New Jersey (now Princeton Univ.), 1773, son of Francis LEWIS. In the American Revolution he served as an aide to Gen. Horatio Gates at Ticonderoga and Saratoga. After being admitted (1783) to the bar, he served in the state assembly (1789–90, 1792), as state attorney general (1791–92), and on the state supreme court (1792–1804), being the chief justice (1801–4) Lewis was aided in his career by his marriage to a daughter of Robert R Livingston. His term as governor was marred by factional rivalry, but he did much to encourage the growth of the public school system In 1812 he was appointed quartermaster general and, later, major general, serving on the Niagara frontier in the War of 1812 There he captured Fort George and commanded at the battles of Sackets Harbor and French Creek He advanced the funds necessary for the release of American prisoners held in Canada after the war and remitted rents for his tenants who had served in the war He was president of the New York Historical Society (1832–36) and was also a founder of New York Univ. See biography by Julia Delafield (1877)

Lewis, Sinclair, 1885–, American novelist, b Sauk Centre, Minn, grad Yale, 1907 He was a journalist and a hack writer whose early novels were little known *Main Street* (1920), a satire on small-town life in the American Middle West, was sensationally popular here and abroad In his next novel, *Babbitt* (1922), he named the typical American businessman, *Arrowsmith* (1925) concerned a medical scientist and *Elmer Gantry* (1927) a religious revivalist, *Dodsworth* (1929) caricatured a provincial American in Europe These broad-stroke satirical novels presented a devastating picture of the middle class In 1930 Lewis was the first American to be awarded the Nobel Prize in Literature Among his other works are *It Can't Happen Here* (1935), an anti-fascist novel, *Cass Timberlane* (1947), *Kingsblood Royal* (1947), an angry and uneven treatment of race prejudice, and several plays From 1928 to 1942 he was married to Dorothy Thompson See biography by C C Van Doren (1933)

Lewis, Wyndham (Percy Wyndham Lewis), 1886–, English writer and painter, b Maine, of English parents As leader of the artistic movement known as vorticism, he was associated with Roger Fry and with Ezra Pound, with whom he edited the vorticist magazine *Blast* (1914 15) His more conventional but still dynamic paintings of scenes suggested by the First World War gained him wide recognition His works are in the Tate Gallery and the Victoria and Albert Museum, London, in the Museum of Modern Art, New York, and in museums of Detroit, Ottawa, and Toronto His novels and political or quasi-philosophical essays, satirical and often angry, include *Tarr* (1918), *Time and Western Man* (1918), *The Art of Being Ruled* (1926), *Paleface* (1929), *The Apes of God* (1930), *Hitler* (1931), and *America and Cosmic Man* (1949)

Lewis, Hebrides, Scotland see LEWIS WITH HARRIS

Lewis. 1 Early name of the SNAKE river **2** River rising in the Cascade Range, SW Wash, and flowing generally southwest c 95 mi to the Columbia NW of Vancouver Ariel Dam (c 300 ft high, completed in 1931) forms Lake Merwin (12 mi long) There is also a fish hatchery

Lewis and Clark Cavern National Monument see MORRISON CAVE STATE PARK

Lewis and Clark expedition, 1803–6, military exploring expedition across the North American continent Thomas Jefferson had long considered the project of a Western expedition, and after he became President he contemplated the matter in earnest and discussed it with his private secretary, Capt Meriwether Lewis When Congress approved the plan in 1803 and appropriated money for it, Jefferson named Lewis to head it, and Lewis selected William Clark as his associate in command The purpose was to search out a land route to the Pacific and to gather information about the Indians and the country of the Far West Before the long march was begun, the LOUISIANA PURCHASE was made, and the value of a survey of the newly acquired lands was enhanced The men were gathered and in the winter of 1803 4 were trained in Illinois across the Mississippi from St Louis, the starting point In 1804 they set out up the Missouri, and the next winter was spent at the Mandan villages (near present Bismarck, N.Dak) In 1805 the hardest part of the journey was made After reaching the Three Forks of the Missouri (and naming the three branches after Jefferson, Madison, and Gallatin in loyalty to the administration), they followed the Jefferson as far as they could Then their Indian woman guide, the remarkable SACAJAWEA (the Bird Woman), who was of great value to the expedition, helped to obtain horses for them to continue across the high Rockies They crossed the Continental Divide at Lemhi Pass and went over the Bitterroot Mts. through Lolo Pass. They had reached the land of westward-flowing rivers, and for part of their way they followed the Clearwater down to the Snake (long called the Lewis). The Snake took them to the Columbia, and they spent a miserable, rainy winter season in a crude post, Fort Clatsop, that they

built on the coast. No ship arrived with provisions, and in the spring the men started back across the continent. The party split for a time, Lewis taking a group down the Marias river while Clark and most of the men went down the Yellowstone; they were reunited on the Missouri at the mouth of the Yellowstone. The party arrived in St Louis on Sept. 23, 1806, and were greeted with much acclaim. The importance of the well-planned, well-executed expedition was recognized at the time and has never been underrated since. Though it was not the first transcontinental crossing in the north (Alexander Mackenzie had long anticipated them by his remarkable voyage), it opened vast new territories to American knowledge. Its influence on the history of the West is incalculable. Its results matched the efficiency and capability of its leaders. Since the journey was under official auspices many records were kept. The first report of it to be published appeared in a message of President Jefferson in 1806. In 1807 appeared the journal of Patrick Gass, which was several times reissued before the official journal appeared as *The History of the Expedition under the Command of Captains Lewis and Clark* (ed. by Nicholas Biddle and revised by Paul Allen, 2 vols., 1814). This appeared in later editions by Elliott Coues (4 vols., 1893) and J. B. McMaster (1904). R. G. Thwaites edited a full issue of *Original Journals of the Lewis and Clark Expedition* (8 vols., 1904–5). There have been many studies and monographs on the expedition. One of the more recent general accounts is John Bakeless, *Lewis and Clark, Partners in Discovery* (1947).

Lewisburg **1** Village (pop. 1,126), SW Ohio, WNW of Dayton, in a limestone quarry area. **2** Borough (pop. 3,571), co. seat of Union co., central Pa., on the West Branch of the Susquehanna and NW of Sunbury; laid out 1785, inc. 1813. Its manufactures include furniture and textiles. It is the seat of Bucknell Univ. (Baptist, coeducational, 1846). There is a Federal penitentiary here. **3** Town (pop. 3,582), co. seat of Marshall co., central Tenn., S of Nashville, inc. 1837. It is a livestock and dairy center. James K. Polk practiced law here. Near by is a U. S. dairy experiment station. **4** Trading town (pop. 1,466), co. seat of Greenbrier co., S. W. Va., NE of Bluefield, in a farm and stock-raising section, inc. 1782. Greenbrier College (junior) for women, Greenbrier Military School, an old church (1796), and the site of Fort Savannah (later Fort Union) are here.

Lewis Institute see ILLINOIS INSTITUTE OF TECHNOLOGY

lewisite see POISON GAS

Lewisohn, Ludwig (lōō'ĭzōn), 1882–, American novelist, b. Berlin. He was converted to Christianity in his youth but later became interested in Zionism and reverted to Judaism. After teaching German at the Univ. of Wisconsin and at Ohio State Univ., he was (1920–24) on the editorial staff of the *Nation*. His novels include *Don Juan* (1923), *The Island Within* (1928), *Stephen Escott* (1930), and *The Case of Mr. Crump* (1921, 1st American ed., 1947). *Up Stream* (1922), *Mid-Channel* (1929), and *Haven* (1940) are autobiographical. He has also written books of criticism and studies of the Jews and made translations of German works.

Lewiston. **1** City (pop. 10,548), co. seat of Nez Perce co., NW Idaho, at the junction of the Snake and the Clearwater and at the Wash. border. Lewis and Clark encamped (1805) here, and near by, at Lapwai, Henry H. Spalding established (1836) a mission (see WHITMAN, MARCUS) and operated the first printing press in the Pacific Northwest. The town was founded (1861) after gold was discovered on the Clearwater and grew as a supply and shipping center in the gold rush. It was the first capital (1863–64) of Idaho Territory and had the first newspaper, the *Golden Age* (1862), in Idaho. It is the commercial and industrial center for a lumbering, fruitgrowing, and livestock region, and an irrigation project, Lewiston Orchards, is being developed near by. The Northern Idaho College of Education is here. **2** Industrial city (pop. 38,598), SW Maine, on the Androscoggin (here crossed by several bridges) opposite Auburn, settled 1770, inc. as a town 1795, as a city 1861. The power of a 50-foot fall has supplied mills and textile factories here from the early 19th cent., brick, shoes, metal, and lumber are also produced, and printing is done. Bates College (coeducational, 1863) is here. The city has a large state armory which is the site of the state fairgrounds. **3** Village (pop. 1,280), W. N. Y., on the Niagara and near Niagara Falls, settled c. 1796, inc. 1822. Silica deposits are in the area. **4** City (pop. 1,804), extreme N Utah, at the Idaho line; settled 1870 by Mormons, inc. 1904. The center of a reclaimed dairy and farm region of Cache Valley, it has a beet-sugar refinery. The Bear river battle monument near by commemorates an Indian battle (1863) won by Gen. P. E. CONNOR.

Lewistown. **1** City (pop. 2,355), co. seat of Fulton co., central Ill., SW of Peoria, in a farm and coal area; settled 1821, inc. 1857. It was the home of Edgar Lee Masters, and the territory, its people, and the local legends are sources of his *Spoon River Anthology*. Lincoln and Douglas delivered speeches here. Indian mounds near by have yielded several hundred skeletons and a number of artifacts. **2** City (pop. 5,874), co. seat of Fergus co., central Mont., SE of Great Falls, laid out 1882, inc. 1899. It is the trading center of the Judith Basin, which had a gold rush after 1880, later became a prosperous cattle-ranching region, and after 1910 was peopled by wheat-farming pioneers. Lewistown also has a petroleum refinery. **3** Industrial borough (pop. 13,017), co. seat of Mifflin co., central Pa., on the Juniata river and NW of Harrisburg, settled as a trading post 1754, laid out 1790, inc. 1811. It has great metal-products works and produces rayon, glass sand, and tools. In the surrounding area are farms and dairies. Fort Granville, near here, was destroyed in the French and Indian Wars.

Lewisville, town (pop. 1,314), co. seat of Lafayette co., SW Ark., near the Red River.

Lewis with Harris, island (825.2 sq. mi., pop. 28,042), off NW Scotland, most northerly of the Outer Hebrides. The northern part, Lewis, is in Ross and Cromarty co., and the southern part, Harris, much the smaller, is in Inverness-shire. The island is separated from the mainland of Scotland by the Minch, c. 25 mi. wide. There are abrupt cliffs and deep indentations along the coast. The surface is hilly, especially in Harris, fresh-water lakes, peat bogs, marshes, and treeless wasteland are characteristic, and little of the land is cultivable. Fishing and stock raising are pursued, and hand-woven tweeds are made. Sportsmen frequent the island. The only town of any size is Stornoway, which, with Callernish, Port of Ness, and Carloway acts as distributing center. The Standing Stones of Callernish, prehistoric monument of 39 stones, are in the form of a cross, with a circle in the center. The island is also called Lewis or the Lews.

Lexington **1** City (pop. 1,284), central Ill., E of Peoria, in a farm area, settled 1828, inc. 1867. **2** City (pop. 49,304), co. seat of Fayette co., N central Ky., SE of Frankfort, in the heart of the bluegrass region, founded 1779, chartered 1782, inc. 1832. The city is the outstanding center in the country for the raising of thoroughbred horses and is an important market for tobacco and bluegrass seed. It is a railroad shipping point for the products of E Kentucky and has railroad shops, meat-packing plants, distilleries, and other industries. The city was named in 1775 by a group of hunters (including Simon Kenton) encamped on the site when they heard the news of the battle of Lexington. The Univ. of Kentucky (see KENTUCKY, UNIVERSITY OF), TRANSYLVANIA COLLEGE, and College of the Bible are among the city's educational institutions. Other places of interest are "Ashland," the home of Henry Clay (designed by Latrobe in 1806 and rebuilt of the original materials in the 1850s), "Hopemont," the home of John Hunt Morgan (1811), the Thomas Hart house (1794), the home of Mary Todd Lincoln, and the library, which has a file of the *Kentucky Gazette*, founded by John BRADFORD in 1787. Lexington cemetery contains the graves of Henry Clay, J. H. Morgan, J. C. Breckinridge, and James Lane Allen. A U. S. hospital and farm for the treatment of drug addicts, a U. S. veterans' hospital, and a state hospital for the insane (1824) are here. A national cemetery is near by. See Federal Writers' Project, *Lexington and the Bluegrass Country* (1938). **3** Residential town (pop. 13,187), E. Mass., NW of Boston, settled c. 1640, inc. 1713. On April 19, 1775, the first battle of the Revolution (see LEXINGTON AND CONCORD, BATTLES OF) was fought here. The site is marked by a monument on the triangular green, around which are several 17th-century houses and an old burying ground. The first state normal school in the country was established here in 1839. See F. S. Piper, *Lexington, the Birthplace of American Liberty* (rev. ed., 1934). **4** City (pop. 2,930), co. seat of Holmes co., central Miss., N of Jackson, and on Black Creek; inc. 1836. It has sawmills and sand quarries and ships cotton and dairy products. **5** City (pop. 5,341), co. seat of Lafayette co., W. Mo., on the Missouri and E of Kansas City, in a coal and farm area, laid out 1822, inc. 1845. In the Civil War the city, with its Union garrison, was besieged and captured (Sept., 1861) by Missouri militia under Gen. Sterling Price. The courthouse, dating from 1847, and other ante-bellum buildings are among the points of interest. Wentworth Military Academy is here. **6** City (pop. 3,688), co. seat of Dawson co., S Nebr., on the Platte river and SE of North Platte. Laid out in 1872 and named Plum Creek to commemorate a camping spot on the old Oregon Trail, it was renamed in 1889. In an alfalfa region, it is the center of an irrigation and power project. **7** City (pop. 10,550), co. seat of Davidson co., central N. C., S of Winston-Salem in the Yadkin valley, settled 1775, inc. 1828. It has flour, lumber, and cotton mills. **8** Farm trade town (pop. 1,084), S central Okla., on the Canadian river and SE of Oklahoma City, settled 1889 on the site of an old military and trading post. **9** Textile town (pop. 1,033), co. seat of Lexington co., W central S. C., W of Columbia, in a farm area. The Saluda is dammed near by to supply hydroelectric power, the dam forms Lake Murray. **10** Town (pop. 2,526), co. seat of Henderson co., W Tenn., E of Jackson, in a fertile area. **11** Town (pop. 3,914), western Va., in the Shenandoah Valley NNE of Roanoke, in a beautiful farm area not far from Natural Bridge, laid out 1777, inc. 1841, reinc. 1874. In 1864 it was bombarded and partially burned by Gen. David Hunter. The courthouse of Rockbridge co. is here. On the campus of WASHINGTON AND LEE UNIVERSITY is the tomb of Robert E. Lee. Stonewall Jackson, who taught at VIRGINIA MILITARY INSTITUTE here, is buried in Lexington cemetery. See Henry Boley, *Lexington in Old Virginia* (1936).

Lexington and Concord, battles of, the opening engagements of the AMERICAN REVOLUTION, April 19, 1775. Gen. Thomas GAGE, in the midst of unrest caused by the INTOLERABLE ACTS, sought to avoid armed rebellion by sending a column of royal infantry under Major John PITCAIRN from Boston to capture colonial military stores at Concord. News of his plan was dispatched to the countryside by Paul Revere, William Dawes, and Samuel Prescott. The column reaching Lexington, came upon a group of militia (the minutemen). After a brief exchange of shots in which several Americans were killed, the colonials withdrew and the British continued to Concord. Here they destroyed some military supplies, fought another engagement, and began a harried withdrawal to Boston, which cost them over 200 casualties.

Leyden, Lucas van see LUCAS VAN LEYDEN

Leyden, Netherlands: see LEIDEN.

Leyden jar, one of the earliest forms of electrical CONDENSER, originated at the Univ. of Leiden in the middle of the 18th cent. It consists today of a glass jar partially coated inside and out with tin foil and closed by a stopper which is made of some nonconducting material such as wood and which is punctured by a brass rod knobbed at one end and at the other connected to the inner layer of foil by a small brass chain. Today other forms of condensers are much more commonly employed commercially, the Leyden jar remaining in use chiefly in the laboratory for experimental use.

Leyland, John see LELAND, JOHN

Leys, Hendrik, Baron (hĕn'drĭk, līs'), 1815–69, Belgian historical and genre painter. He studied with Wappers (in Antwerp) and in Paris and early achieved a high reputation. He is remembered chiefly for his historical paintings, such as *Charles V Entering Antwerp* (Brussels) and *Lucas Cranach Painting Luther* (Vanderbilt Coll., New York), and for his frescoes decorating the town hall in Antwerp. He was a member of the Brussels Academy.

Leysin (lĭ'zĭn), resort village (resident pop. 3,240), Vaud canton, Switzerland, with sanatoriums for tubercular diseases.

Leyte (lā'tē, lā'tā), island (2,785 sq. mi., pop. 835,532), one of the Visayan Islands, in the Philippine Islands. It is just SW of Samar across Leyte Gulf and the Samar Sea. The fertile island produces sugar cane, rice, hemp, and corn and has deposits of manganese, oil, and sulphur. The principal towns are Tacloban and Ormoc. During the Second World War, Leyte was occupied by the Japanese in early 1942, in the decisive battle of Leyte Gulf (Oct., 1944), U. S. forces defeated the Japanese and a few months later regained control of the entire island. Leyte prov. (3,084 sq. mi., 1948 pop. 1,006,891) comprises Leyte and offshore islands, with the capital at Tacloban.

Leyton (lā'tun), municipal borough (1931 pop. 128,313, 1947 estimated pop. 106,830), Essex, England. It is a northeastern residential suburb of London.

leze majesty see LESE MAJESTY

Lhasa (lā'sə, lä'sə), city (pop. c. 50,000), capital of Tibet. It is near the Tsangpo (Brahmaputra) river at an altitude of c. 11,800 ft. A large percentage of the inhabitants are Lamaist monks, and the city is the center of LAMAISM. The diverse population is drawn from India, Mongolia, and China, as well as from Tibet. Most of Lhasa is ill-built, but there are impressive religious edifices. On a near-by hill, backed by lofty mountains in the distance, stands the Potala, the palace of the Dalai Lama, a gigantic block of buildings nine stories high, white-washed save for the central portion, which is red, and surmounted by gilded roofs and towers. It has reception rooms, chapels, and quarters for thousands of monks. A smaller palace of the Dalai Lama is set in the beautifully wooded grounds of the Jewel Park. Near the city is the Drepung monastery, one of the largest in the world. The holiest temple in Lhasa, unimpressive from the outside, is the Jokang, which contains a jeweled image of the young Buddha. The 14th Dalai Lama, a six-year-old peasant boy, was installed in Lhasa in Feb., 1940. Several Western travelers have recorded their impressions of the city, jealously guarded from foreigners and called the Forbidden City. The name also appears as Lassa. See F. S. Chapman, *Lhasa* (1939), Theos Bernard, *Penthouse of the Gods* (1939).

Lhasa terrier: see TERRIER.

Lhermitte, Léon Augustin (lĕs' ōgüstē' lĕrmēt'), 1844–1925, French genre painter and etcher. He

is best known for his paintings of rustic life and his representations of Christ with peasants in modern dress Characteristic are *The Friend of the Lowly* (Mus of Fine Arts, Boston), *Among the Lowly* and *The Vintage* (Metropolitan Mus), and *Harvesters' Wages* (Luxembourg Mus, Paris).

L'Hôpital or **L'Hospital**, Michel de (both mēshĕl' dŭ lōpētäl'), c 1505-1573, chancellor of France under CATHERINE DE' MEDICI He was Catherine's chief collaborator in the policy of religious toleration which she followed during most of her early administration He favored, although he did not originate, the Edict of Romorantin (1560), which deprived the secular courts of jurisdiction in cases involving religion, and he was responsible for the edicts granting liberty of conscience (1561) and restricted liberty of worship (1562) He withdrew from court during the first War of Religion (1562–63), but subsequently returned to power and in 1566 was the author of important judicial reforms After the outbreak of the second War of Religion (1567), he was forced out of office by Charles and Henri de GUISE In his retirement he composed much Latin poetry

Li, chemical symbol of the element LITHIUM

Liao (lyou), river, c 800 mi long, rising in W Jehol prov, China, and flowing E through Jehol and Liaopei provs and S through Liaoning prov to empty into the Pohai at Yingkow The Liao is navigable in the final 400 mi of its course

Liaoning or **Liao-ning** (lyou'nĭng'), province (26,372 sq mi, pop 9,943,315), NE China, on the Pohai and Korea Bay The capital is Mukden Liaoning, a portion of Manchuria, was created in 1945 out of the southwestern section of a former province also called Liaoning The Liaotung peninsula occupies one third of the province Rainfall is adequate in Liaoning, but the long, severe winters permit only one harvest annually Soybeans are the major crop, and millet, kaoliang, corn, barley, wheat, and flax are also grown Coal and iron are abundant in the mountainous areas which make up most of the province, copper and asbestos are found in lesser quantity The Liao river, which crosses Liaoning, is navigable, and a fairly extensive rail net, including sections of the South Manchurian RR, connects the interior with the ports along the coast (c 500 mi long), including Port Arthur, Talien (Dairen), and Hulutao Liaoning's fine harbors were long coveted by Russia and Japan for their strategic position In 1898 Russia acquired a 25-year lease of Kwantung, the southern portion of the Liaotung peninsula After the Russo-Japanese War (1904–5), Japan took this territory and held it until the end of the Second World War, when approximately the same area was made the Port Arthur Naval Base District, under joint Soviet and Chinese operation

Liaopei or **Liao-pei** (lyou'bā'), province (46,949 sq mi, pop. 4,904,399), NE China The capital is Liaoyüan. Liaopei is a portion of Manchuria It was created in 1945, largely out of the northwest section of the former province of Liaoning. Liaopei consists almost entirely of a level plain The people farm and raise livestock Soybeans are the chief crop, wheat, corn, millet, and kaoliang, are also grown. Fairly good communications are provided by a railroad network, which connects with the major Manchurian ports, and by the navigable Liao river, which crosses the southwest corner of the province.

Liaotung, peninsula, China see LIAONING

Liaoyang or **Liao-yang** (lyou'yang'), city (pop. 100,165), NE Liaoning prov, China It contains several Buddhist temples built in the 11th cent The city is a commercial center on the South Manchurian RR

Liaoyüan or **Liao-yüan** (lyou'yüän'), city and county (pop. 191,910), Liaopei prov, China The city is the capital of the province. It is a railroad junction.

Liaquat Ali Khan (lēä'kut a'lē kän'), 1895–, political leader of Pakistan, educated at Aligarh Moslem Univ. and at Oxford In 1922 he was admitted to the bar. He served (1926–40) in the United Provs legislative council and for a time was its deputy president. A member of the Moslem League after 1923, he represented that organization in the Central Legislative Assembly of India from 1940 to 1946. In 1946 he was appointed leader of the Moslem League in the interim Indian government organized by the British to prepare the way for India's independence. With the creation of Pakistan (Aug., 1947) he became prime minister and minister of defense of the new dominion.

Liard (lē'ärd"), river, c.600 mi long, a tributary of the Mackenzie It rises in SE Yukon, not far from the headwaters of the Yukon river, and flows south and east in a curve through N British Columbia, passing through the main range of the Rocky Mts, thence northeast through densely wooded country to the Mackenzie, which it enters at Fort Simpson. It is navigable to Fort Liard, an old Hudson's Bay Company post, c 165 mi from its mouth.

Libanus: see LEBANON

Libau, Latvia, see LIEPAJA.

Libby, city (pop 1,837), co. seat of Lincoln co., extreme NW Mont., on the Kootenai river near the Cabinet Mts; inc. 1910. Founded as a gold-mining town in the 1880s, it still has mining but is primarily a lumbering center, with a large sawmill

Libby Prison, for captured Union officers in the Civil War, at Richmond, Va., formerly a tobacco warehouse Living conditions were extremely bad, the food, sometimes lacking altogether, was poor and sanitation practically nonexistent. Thousands died here Except for ANDERSONVILLE PRISON, Ga, it was the most notorious in the Confederacy

libel and **slander**, in law, types of defamation. Libel is a defamatory statement in some permanent form, e g, a writing or a derogatory picture Slander is defamation by word of mouth, by gesture, or the like The offenses are alike in several respects The defamation—essentially exposure to hatred, contempt, ridicule, or pecuniary loss—must directly affect a living person It must be published, i e, revealed to some one besides the subject of the attack It is no defense that the defendant merely repeated but did not originate the defamation The plaintiff is required to prove the colloquium (circumstances of utterance showing that the statement was directed against him specifically) and, when necessary, the innuendo (the factors making an apparently innocent statement defamatory) The requirement of colloquium makes unactionable defamation of a large group, e g, Jews or lawyers Generally truth is an absolute defense in a suit for defamation Even if a false defamatory statement is made, a defendant who is innocent of malicious intent may claim a privilege in some circumstances, e g, a credit-rating agency making an erroneous report Libel and slander are quite different in their procedural consequences Any libel is deemed injurious and gives immediate ground for suit However, only certain types of statements are slanderous per se so as not to require proof of damages, these are imputation of crime, of loathsome disease, of professional or occupational incapacity, or of unchastity in a woman If the alleged slander falls into some other category, there may not be any recovery unless the loss caused by the injury is proved The award to the successful plaintiff in a suit for defamation will usually include punitive, as well as compensatory, DAMAGES if the defendant willfully lied or published the defamation repeatedly In recent years the distinction between libel and slander and the immunity from suit of those who commit group defamation have been much criticized There is also judicial disagreement as to whether oral defamation widely diffused by radio or television is libel or slander. For criminal, or seditious, libel, see PRESS, FREEDOM OF THE. See Philip Wittenberg, *Dangerous Words: a Guide to the Law of Libel* (1947).

Liber (lī'bur) [Latin,=free], in Roman religion, god of fertility and wine. He was usually identified with Bacchus, the Greek Dionysus His consort **Libera** (lī'burŭ) was identified with Persephone or Ariadne Although Liber and Libera were rustic deities, they had a famous cult on the Aventine Hill in Rome in connection with Ceres The festival LIBERALIA was celebrated in their honor

Liberal, city (pop 4,410), co seat of Seward co, SW Kansas, near the Okla line, inc 1888 It is the trade center of a grazing and agricultural area, and dairy products are made. Gas fields are in the region.

liberal arts, term originally used to designate the arts or studies suited to freemen It was applied in the Middle Ages to seven branches of learning, the trivium of grammar, logic, and rhetoric and the quadrivium of arithmetic, geometry, astronomy, and music The study of the trivium led to the Bachelor of Arts degree, and the quadrivium to the Master of Arts The broad Renaissance interpretation of the liberal arts as those studies which impart a liberal, as opposed to a vocational or specialized, education corresponds more nearly to that of the modern undergraduate college of liberal arts, which has an extensive and flexible curriculum. See Abraham Flexner, *Universities American, English, German* (1930), Patricia Beesley, *Revival of the Humanities in American Education* (1940), Mark Van Doren, *Liberal Education* (1943), Jaoques Barzun, *The Teacher in America* (1945), Harvard Committee, *General Education in a Free Society* (1945); writings of Robert Maynard HUTCHINS

Liberale da Verona (lēbärä'lā dä värō'nä), b c.1445, d.1526 or 1529, Italian painter of the Veronese school, whose name was Liberale di Jacopo della Biava He was employed at Monte Oliveto near Siena as a miniature painter and illustrator of liturgical books (some of which are now preserved at Chiusi) and in the cathedral of Siena. Returning (c 1488) to Verona, he took up fresco and oil painting His earlier paintings are executed in a meticulous and minute style, but his later works are more broadly treated, apparently under the influence of Mantegna. Notable examples are *Madonna with Saints*, his earliest known painting; *Adoration of the Magi* (cathedral, Verona), a predella, with a *Nativity*, *Epiphany*, and *Death of the Virgin* (Episcopal Palace, Verona), *Glory of St. Anthony* (San Fermo, Verona); *St. Sebastian* (Brera, Milan); and *Entombment of Christ* (Santa Anastasia, Verona).

Liberalia (lĭburā'lēŭ), in Roman religion, festival of Liber and Libera. It was held on March 17 and was a festival of great rejoicing and freedom, like the BACCHANALIA and DIONYSIA. Roman youths generally first assumed the **toga virilis** (see TOGA) at this time.

liberalism, word used to describe the principles and methods of those who favor greater freedom in political and religious matters. In practical terms it connotes social reform and political democracy, and the liberal method is that of gradual change and improvement At various times liberals have advocated the abolition of slavery, freedom from ecclesiastical authority, universal suffrage, government responsibility to the people, and maintenance of civil liberties In these different fields liberals have occupied middle ground between conservatives, who wish to maintain the status quo, and radicals, who desire to make revolutionary changes in the existing order. The classic development of political liberalism took place in England after the Industrial Revolution. The Whigs and, after 1830, the Liberal party undertook to repeal the mercantilist laws (see MERCANTILISM) that hampered the growth of manufacturing and trade Its watchwords were free trade and free enterprise in general as against the vested interests of the landed gentry The new laws generally embodied the principles of LAISSEZ FAIRE or economic liberalism held by the so-called MANCHESTER SCHOOL Inspired by the writings of Adam Smith, Jeremy Bentham, and John Stuart Mill, industrialists and merchants were prominent in the liberal movement Under such statesmen as Gladstone liberal ideas dominated British politics for more than half a century After 1880 liberal political parties in Europe began to lose ground to socialist and labor parties. Liberal thinkers such as T H Green and L T Hobhouse began to favor the restoration of state control to cope with the huge combinations of capital which had resulted from the operation of free enterprise Early in the 20th cent political liberals such as Lloyd George followed a program of radical reform that many regarded as socialistic In France, Spain, and Italy liberalism connotes primarily anticlericalism Modern liberals have come to favor as their cardinal tenet the free development of all forces in the community and such a balance of these forces as will prevent any group or class from dominating the community In the United States the word *progressive* has been used more or less as a synonym of liberal Many, especially in the United States, who in other respects are extremely conservative, call themselves liberals because they advocate the 19th-century principles of competition and free enterprise. See Guido de Ruggiero, *History of European Liberalism* (Eng tr, 1927), John Dewey, *Liberalism and Social Action* (1935), H J Laski, *The Rise of Liberalism* (1936), J. J Saunders, *The Age of Revolution* (1949)

Liberal party, in British history, organization that grew out of the Whig party The membership of the Liberal party was largely drawn from nonconformists and from those adversely affected by the conservative economic policies of the government In the election of 1832, the Whig party spoke as an agent of reform in the interests of business and gained the support of the great industrialists A new party arose This, after its victory, became the active champion of the liberal economic doctrine of the day, and Lord John RUSSELL is credited with giving it the name Liberal party, which he used in correspondence with Queen Victoria The party's distinguishing policies were free trade, religious liberty, abolition of slavery, extension of the franchise, and other reform measures The first years of its existence—until the death of PALMERSTON in 1865—were a period of relatively cautious change, but Whig and Tory (Liberal and Conservative) realignments were taking place W. E GLADSTONE first became prime minister in 1868 For thirty years thereafter he was to dominate the Liberal party and to sponsor many of the great reforms of the second half of the 19th cent. (e g, REFORM BILLS) It was Gladstone's first Home Rule Bill for Ireland (1886) that gave a new character to the two-party system in England Previously party members had been drawn to each party from all enfranchised classes, but as time went on the split was more and more on a class basis The great Whig landowners and nobles seceded from Liberal to Conservative ranks, Joseph CHAMBERLAIN, John BRIGHT, and other Liberal radicals seceded from the industrialist party to form the Liberal Unionist party, later absorbed into the Conservative ranks The Liberals were forced to depend increasingly on the "Celtic fringe," their Irish supporters in Parliament In the 1890s an imperialist group, headed by Lord Rosebery and Sir William Harcourt dominated the party. By this time, however, the Liberals were being threatened from without by the growth of the labor movement and the formation of the LABOUR PARTY. The socialistic tendencies of the labor movement suggested a fundamental division in political allegiance rather than the comparatively superficial one between Conservatives and Liberals. Reorganized by Sir Henry CAMPBELL-

BANNERMAN, the Liberals won a great victory at the polls in 1906. The ties of the empire were strengthened, extensive military preparations were undertaken, and a comprehensive program of social legislation was inaugurated. The veto power of the House of Lords was ended after the unsuccessful resistance of the Lords to the budget of 1909, which taxed land values. Britain entered the First World War under the Liberal leadership of Herbert Asquith (see OXFORD AND ASQUITH, 1st EARL OF), but the stress of the war demanded a coalition government, which was formed (Dec., 1916) with the Liberal leader, LLOYD GEORGE, at its head. The ministry lasted until 1922, when the Conservatives withdrew. The Liberal party was discredited by the feeling of many that one great Liberal leader, Asquith, had come near to losing the war, and that another, Lloyd George, had "lost the peace." In the 1930s the party split into several fragments. One group, led by Sir John Simon, held office in the coalition called the National government, while Sir Archibald Sinclair continued in opposition with the Liberal party proper. During the Second World War the party was dormant. In 1945 it attempted a return to influence on the socialistic platform enunciated by Sir William Beveridge in his *Full Employment in a Free Society*, but this new program was unsuccessful, and the party received only 10 percent of the popular vote in the Labour landslide. See Hamilton Fyfe, *The British Liberal Party* (1928), Sir Henry Slesser, *A History of the Liberal Party* (1944).

Liberal party, in U S history, organized in 1944 in New York city by dissident members of the AMERICAN LABOR PARTY who favored a closer alignment with New Deal policies and who staunchly opposed the spread of totalitarianism. The Liberal party platform called for a strong United Nations organization, a greater national development program, encouragement to the American trade-union movement, sounder economic safeguards in postwar America, and a thoroughgoing extension of civil liberties. Although it operated almost entirely in New York state, the Liberal party played an important role by endorsing national candidates of the major parties—generally those of the Democratic party—and by putting up strong opposition to the American Labor party. In 1949 the Liberal party, which was headed by John L. Childs (1944–47) and Adolf A. Berle (1947–), seemed to have gained a clear-cut victory by bringing about the election (1949) of Franklin D. Roosevelt, Jr., to the U S. House of Representatives.

Liberal Republican party, in U S history, the organization formed in 1872 by Republicans discontented at the political corruption and the policies of Grant's first administration. Other disaffected elements were drawn into the party. Among its leaders were Carl Schurz and B. Gratz Brown, both of Missouri, who had defeated the regular Republicans in the election of 1870. Horace GREELEY, Charles Sumner, Samuel Bowles, Horace White, and Lyman Trumbull. The party convention held at Cincinnati in May passed over Charles Francis Adams, David Davis, and others to nominate Greeley for President, Brown was named for Vice President. In their convention at Baltimore, the Democrats also accepted these candidates. The party program called for civil service reform and an end to the vindictive Reconstruction program of the radical Republicans and, so as not to offend its divergent segments, contained some weasel words on the tariff question. Greeley's nomination was not popular with many of the party leaders, who supported him without enthusiasm, and Grant was easily reelected. See E. D. Ross, *The Liberal Republican Movement* (1919).

Liberec (lĭ'bĕrĕts), Ger. *Reichenberg* (rī'khənbĕrk), city (pop. 29,690), N Bohemia, Czechoslovakia, on the Lausitzer Neisse. It is the largest industrial and trade center in the W Sudeten Mts. It produces textiles (wool, cotton, linen, silk) and textile machinery.

Liberia (lībēr'ēə) (New Latin, = place of freedom), republic (c 43,000 sq. mi., pop. between 1,000,000 and 2,000,000), W Africa. The capital is Monrovia. It fronts on the Atlantic for some 350 mi. between the British Sierra Leone and the French Ivory Coast and stretches inland over a low and broken plateau. The rainfall is very heavy (more than 160 in. annually), and most of the country is covered by dense jungle. Climate and terrain make the region very difficult to develop, and until recently little extensive use could be undertaken. It is the only Negro republic in Africa and was founded by the American Colonization Society with colonization of freed slaves from the United States; the governing group has been made up of descendants of those settlers, numbering in 1950 possibly between 15,000 and 20,000. Universal manhood suffrage was established in 1947 and was extended in 1949 to women, but the working of this democracy is as yet largely theoretical. The huge bulk of the population is made up of Negro tribes still occupying the vast interior with their tribal organization and immemorial African mode of village life. Recently (1932–36) the large group of Kru tribes were subdued by the government after heavy fighting. Christian missionaries have in the past extended some education to part of the population, but many of the inhabitants are still pagan, and one large group, the Mandingos, are Moslems. Recently with the plans for economic development of the country, wide-scale plans for education have also gone forward, and the projects were showing some activity in 1950. At the present time the largest export is rubber, grown mostly on the huge rubber plantations of the Firestone company and shipped from the port of Marshall. From the forests products have also been gathered to some extent; piassava fiber and palm kernels (for palm oil) have been shipped out. Agriculture has not been much extended because, although the soil is said to be fertile, holding back the jungle growth is difficult and transportation has been completely lacking. Lack of transport has also prevented exploitation of the mineral wealth of Liberia or even a proper survey of it. The railroad being built in 1950 will, however, tap the iron deposits of the Bomi Hills region, where the ore is said to be remarkably pure. These developments are being undertaken with the help of American capital, and relations between Liberia and the United States are close. They have been close ever since the agents of the American Colonization Society purchased an area on the coast and managed to get the little colony of Monrovia started by 1822. It was beset by fever and attacks of hostile natives, and its survival through the early years of extreme hardship was due primarily to the company's agent, Jehudi ASHMUN, and his successor, Ralph Gurley. The immigration of freed slaves from the United States soon dwindled, particularly as the abolitionist movement grew strong. The small state, once established, was hard pushed to maintain its very existence. The British and French both eyed its potential wealth in rubber, but throughout the 19th and early 20th cent. the aegis of the United States protected Liberia from encroachments of other powers. The financial struggles of the government were enormous and came to no very successful issue. American financial counsel was offered, especially in 1909. A loan was floated in 1925–26, and in 1926 the Firestone company was granted a long lease to about a million acres for development of its rubber plantations. In 1930 a great scandal broke over the exportation of forced labor from Liberia, and a League of Nations investigation in 1931 upheld the charges that slave trade had gone on with the connivance of the government. The president and the vice president resigned, and it looked for a time as if the republic might be put under international control. Instead, under the leadership of Presidents Edwin Barclay and William V. S. Tubman, Liberia in the 1930s and 1940s began to climb out of the depression and disgrace and look toward development of natural resources. The Second World War made Africa of strategic importance, and by agreement with the Liberian government, the United States undertook to create defense bases in Liberia. The harbor at Monrovia was deepened and modernized (the deep-water harbor was opened in 1948), and a large air field (Roberts Field) was opened. A U S. public health mission was also sent to guide improvements of health conditions. After the war a group of American businessmen, headed by Edward R. Stettinius, undertook an ambitious program for the development of Liberia, and by agreement with the Liberian government in 1947 two companies were set up, the Liberia Company, intended with various subsidiary companies to forward economic development, and the Liberian Educational Foundation, intended to forward educational and social development. The Liberia Company, interested at the beginning in developing the opening of iron mines, the establishment of cacao growing, and the use of lumber resources, has been responsible for recent economic expansion, including the building of the railroad. See the works of G. W. ELLIS, E. D. Furbay, *High Hats and Tom-Toms* (1943), Henry Huberich, *The Political and Legislative History of Liberia* (1947); Charles Morrow Wilson, *Liberia* (1947).

Liberius, (lĭbēr'ēəs), pope (352–66), a Roman, successor of St. Julius I and predecessor of St. Damasus I. The status of ATHANASIUS was still disputed, and Liberius requested Emperor Constantius to call the Council of Arles (353). Subdued by imperial favor toward ARIANISM, the papal legates signed against Athanasius, but Liberius refused to be coerced or bribed. He was banished to Thrace by Constantius, who set up an antipope, Felix. In 358 Liberius was permitted to return to Rome after signing a vaguely worded creed and repudiating communion with Athanasius. Felix was forced to retire. After Constantius died, Liberius openly avowed his orthodox position and reasserted the primacy of Rome as arbiter in matters of faith.

Libertad, La (lä lĕbĕrtädh'), Pacific port (1946 estimated pop. 2,109), S Salvador. An open roadstead, La Libertad is an important passenger and import point for San Salvador, to which it is connected by paved highway.

Liberty. 1 Residential town (pop. 1,496), co. seat of Union co., E Ind., E of Connersville; settled 1822. It has many fine old houses. 2 City (pop. 3,598), co. seat of Clay co., W Mo., NE of Kansas City, laid out 1822. In a grain, bluegrass, and tobacco area, it has railroad yards. William Jewell College (Baptist; coeducational, 1849) is here. 3 Resort village (pop. 3,788), SE N Y., in the Catskills and NW of Middletown, settled 1793, inc. 1870. There is a tuberculosis sanatorium here. 4 Borough (pop. 1,084), Allegheny co., SW Pa., near Pittsburgh, inc. c 1912. 5 Town (pop. 2,240), NW S C., WSW of Greenville, in a farm area. 6 City (pop. 3,087), co. seat of Liberty co., E Texas, on the Trinity and NE of Houston, founded c 1830 as Atascosita. A river port at the head of navigation on the Trinity, it flourished before the Civil War but later lost much of its traffic. Liberty is the center of an area producing oil, hogs, rice, and lumber.

liberty, word used to describe various types of individual freedom, such as religious liberty, political liberty, freedom of speech, right of self-defense, and the like. It is also used as a general term for the sum of specific liberties. Fundamental perhaps is personal liberty, the physical freedom of the person to come and go as he pleases without unwarranted restraint. Like other freedoms, this one has a history which shows that liberty varies with time and place. In England prior to the Habeas Corpus Act (1679) a person could be seized and kept in prison indefinitely without trial or hearing. The common-law prohibition of combinations as dangerous to domestic peace and order was invoked far into the 19th cent. to limit the right of association in labor unions. Specifically political liberties, such as the right to vote and hold public office, were practically unknown much before the 19th cent., when they were achieved by the liberal movement in England. The same is true of such civil liberties as freedom of speech and of the press (writing and publishing). Freedom of conscience, the right of private judgment in religious matters, and the right to worship with groups of one's own choosing were nonexistent before the Protestant Reformation. Liberty has found philosophical expression in individualism and ANARCHISM, an extreme form of individualism, as well as in NATIONALISM. Such philosophers as John Locke and Jean Jacques Rousseau popularized the conception of the individual as having certain natural rights which could not be denied or taken away by society or by any external authority, rights which Thomas Jefferson spoke of in the Declaration of Independence as "unalienable" and which were embodied in the Bill of Rights of the Constitution. Rousseau especially thought of them as the rights possessed by men living in a "state of nature" and never surrendered, but only modified, in the "social contract" by which they agreed to live together in society. Political scientists point out that even in a state of nature men are subject to the law of nature and that the rights enjoyed by them in society are historically acquired and not "natural" except in a strictly social sense. The process of acquiring liberties is through the joining of like-minded individuals to gain special privileges for themselves. Thus through the Magna Carta the barons in 1215 wrested from King John a certain freedom from royal authority which in time they had to share with the rest of the people. The history of liberty in the later Middle Ages is that of numerous corporate groups, such as guilds of artisans and merchants, winning immunity from external control. By agreements with their feudal overlords these groups obtained release from certain feudal dues and bonds, gaining a limited freedom to carry on trade and manufacture, which forms the nucleus of the liberties extended to the so-called middle class in the 19th cent. So-called "racial" or ethnic minorities, as in the old Austro-Hungarian Monarchy, have been able by a show of strength to gain legal status for their language and cherished folkways as well as assured political rights. Freedom to follow the trade or profession of one's inclination, as of women to practice medicine, denied in certain societies, has been gained only in recent times. The feminist movement in the 19th and 20th cent. is a good example of the peaceful acquisition of rights, in this case abetted by the partisans of other democratic liberties. The acquired nature of rights—their dependence on conditions of time and place—also makes them peculiarly subject to danger of loss. Liberties need to be defended against encroachment, and sometimes populations have to submit to their temporary curtailment. In times of national danger rights are sometimes suspended, as was the right of habeas corpus by President Lincoln in the Civil War, and the struggle for rights not yet acquired may have to be discontinued. Philosophers have made a distinction between the negative aspect of liberty, freedom from external restraint, and the positive aspect, freedom for self-expression. Since medieval times much of the increase of liberty has been through the removal of restraints once imposed by Church and state, by custom and law, in the 20th cent. attention was turned to the creation of certain conditions regarded as necessary if individuals are to develop their best talents. The idea of equality, emphasized by the philosophers of the French Rev-

olution, came to be closely associated with the idea of liberty in democratic societies, not equality based on a supposed equality of ability but equality of opportunity. Inequality, especially economic inequality, was held to be as great an obstacle to individual development as any form of external restraint. Therefore it was proposed that the state should seek to equalize as far as possible the conditions of education, health, housing, and the like for all, establishing economic and social security, freedom from want and fear, so that every individual might have equal opportunity for self-realization See George Soule, *The Future of Liberty* (1936), R N Anshen, ed, *Freedom* (1940), C. L. Becker, *New Liberties for Old* (1941)

Liberty, Statue of, colossal statue, a national monument, on Bedloe's Island in New York harbor. The statue, originally known as *Liberty Enlightening the World*, was proposed by Edouard Laboulaye to commemorate the French and American Revolutions Funds were raised by the Franco-American Union (organized 1875), and the statue was designed by F A Bartholdi in the form of a woman with uplifted arm holding a torch. The statue, 152 ft high, was constructed of copper sheets from Bartholdi's 9-foot model It was presented to the United States in 1884 and was dedicated in 1886 The base of the statue is an 11-pointed star, part of old Fort Wood, and the pedestal, almost 150 ft high, is built of concrete faced with granite An elevator runs to the top of the pedestal In 1924 the Statue of Liberty became a national monument. The statue commands the entrance to New York city and can be seen for a long distance

Liberty Bell, historic relic in INDEPENDENCE HALL, Philadelphia First hung in 1753, it bore the inscription, "Proclaim Liberty throughout all the Land unto all the Inhabitants Thereof" (Lev 25 10), thus it was fitting that the bell was rung in July, 1776, to proclaim the Declaration of Independence Taken to Allentown and hidden (1777–78) during the British occupation of Philadelphia, it was later brought back In 1781 it was moved from the steeple to the brick tower It was cracked in 1835, and it rests on its original timbers as an exhibit See Victor Rosewater, *The Liberty Bell* (1926).

Liberty party, in U S history, an antislavery political organization founded in 1840 It was formed by those ABOLITIONISTS, under the leadership of James G BIRNEY, who repudiated William Lloyd Garrison's nonpolitical stand Birney, their presidential candidate in 1840, received a little more than 7,000 votes Because of better local organization and the Texas issue, Birney polled over 60,000 votes in 1844, drawing enough support from Henry Clay in New York state to throw the presidency to James K Polk The party continued strong in local elections in 1846, but in 1848 withdrew its nominee, John P Hale, and united with antislavery Whigs and Democrats to form the stronger FREE-SOIL PARTY See T C Smith, *The Liberty and Free Soil Parties in the Northwest* (1897)

Libertyville, village (pop 3,930), NE Ill, NNW of Chicago, named 1837, inc 1882 It is a shipping and processing center in a farm region

libido (lĭbĭ'dō, -bē'-) [Latin, =lust], psychoanalytic term used by Freud to represent the energy, striving activity, or force through which the sex instinct is expressed It was used by C G Jung to include the energy having its source in any or all instincts See PSYCHOANALYSIS

Libnah (lĭb'nə) [Heb, =whiteness] **1** Unidentified place in the desert wanderings Num 33 20 **2** Prominent city, SW Palestine, of undetermined location Joshua 10 29, 12,15, 15 42, 21 13, 2 Kings 8 22; 19 8, 23 31, 24 18, 1 Chron 6 57, 2 Chron 21 10, Jer 52 1

Libni (lĭb'nī) [Heb, =white] **1** Founder of a Gershonite family Ex 6 17, Num 3 18,21, 26 58, 1 Chron 6 17,20 Laadan 1 Chron 23 6, 26 21 **2** Head of a Merarite family 1 Chron 6 29

Libon (lī'bŏn), 5th cent B C, Greek architect Within the sacred precincts of Altis at Olympia where the Greeks celebrated their Olympic games, Libon built the Doric temple to Zeus (completed 456 B C)

Libourne (lēbōōrn'), town (pop 14,563), Gironde dept, SW France, on the Dordogne and near Bordeaux It has a large river port for its wine trade

Libra (lī'brə) [Latin, =the balance], seventh sign of the zodiac It is also a southern zodiacal constellation, known by this name among the Romans, but called by the Greeks, as a rule, Chelae, the "Claws" of the Scorpion The idea of the balance, or pair of scales, may have reference to the fact that the sun passes into the part of the ecliptic corresponding to this sign at the time of the autumnal equinox, when days and nights are of equal length In the constellation the most prominent stars are Alpha Librae and Beta Librae It also includes the globular cluster, Messier 5

library. The earliest known library was a collection of clay tablets in Babylonia in the 21st cent B C Ancient Egyptian temple libraries are known through the Greek writers Diodorus Siculus describes the library of Ramses III, c 1200 B.C The library of Assur-bani-pal (d. 626? B C.) in Nineveh was the most noted before that at Alexandria The temple at Jerusalem contained a sacred library In Greece the earliest private book collections (dating from the 6th cent B C) were those of Pisistratus, Polycrates of Samos, Plato, Euripides, and Aristotle. The first public library in Greece was established in 330 B C, in order to preserve accurate examples of the work of the great dramatists The most famous libraries of antiquity were those of ALEXANDRIA, founded by Ptolemy I The library at PERGAMUM, founded or expanded by Eumenes II, rivaled those at Alexandria The first Roman libraries were brought from Greece, Asia Minor, and Syria as a result of conquests in the 1st and 2d cent B C Sulla brought back from Athens (84 B C) the library of Aristotle The great public libraries of the Roman Empire were the Octavian (destroyed A D 80) and the Palatine (destroyed A D c 190) and the more important Ulpian library, founded in the reign of Trajan In the early Middle Ages, Roman libraries, being filled with pagan learning, were destroyed or neglected The early Christian libraries were in monasteries, the Benedictines amassed a fine collection at Monte Cassino The Romans had brought book collections to the British Isles, but early monastic libraries were founded by St Columba and other missionaries in the 6th cent In the 14th and 15th cent Charles V of France, Lorenzo de' Medici, and Frederick, duke of Urbino, all formed fine libraries, part of the Urbino library is now in the Vatican The Arabs in the 9th to 15th cent collected and preserved many libraries In the 15th cent the Vatican Library, the oldest public library in Europe, was formed In 1475 Platina, as its first librarian, made a catalogue which included 2,527 volumes In 1257 the Sorbonne library at Paris was founded, and in 1525 the erection of the Laurentian Library at Florence was begun Many of the great university libraries (e g, Bologna, Prague, Oxford, and Heidelberg) were opened in the 14th cent Among the chief modern libraries are the BIBLIOTHÈQUE NATIONALE and the Mazarine, Paris, the BRITISH MUSEUM, London, the Bodleian Library, Oxford, the VATICAN LIBRARY, Rome, the AMBROSIAN LIBRARY, Milan, the Laurentian, Florence, the Lenin Library, Moscow, the LIBRARY OF CONGRESS, Washington, D C, the NEW YORK PUBLIC LIBRARY, the libraries of Columbia, Harvard, Yale, Princeton, Chicago, and other great American universities, and the Newberry and John Crerar libraries, Chicago In the United States a circulating library, the Library Company of Philadelphia, was chartered in 1732 on the initiative (1731) of Benjamin Franklin, this celebrated its bicentennial in 1931 A public library had, however, been opened in Boston as early as 1653 In 1833 the first tax-supported library in the country opened at Peterborough, N H The American Library Association was formed in 1876, and this organization spurred improvements in library methods and in the training of librarians Among the innovations of the late 19th cent were free access to books by the public (involving elaborate classification schemes) and branch libraries or deposit stations for books in many parts of cities, in the early 20th cent "traveling libraries," or "bookmobiles," began to take books to the readers Three widely used systems of book classification were the Dewey decimal system of Melvil DEWEY, the system of Charles Ammi CUTTER, and the Library of Congress system The classic work on the history of libraries is Edward Edward's *Memoirs of Libraries* (1859) See also E A Savage, *The Story of Libraries and Book Collecting* (1909), A E Bostwick, *The American Public Library* (4th ed., 1929), J W Thompson, *The Medieval Library* (1939) and *Ancient Libraries* (1940), L R Wilson and M F Tauber, *The University Library* (1945)

Library of Congress, national library of the United States, Washington, D C, est 1800 Copies of all books copyrighted in the United States must go to the Library of Congress Intended primarily to serve the legislative branch of the government, it is now open to the public as a reference library and sends out many books by an interlibrary loan system An act of 1870 made the library responsible for handling copyrights, a copyright department within the library was established in 1897. Mainly supported by congressional appropriations, the library also has the income from gifts by foundations and individuals, administered by the Library of Congress Trust Fund Board The library has divisions of manuscripts, maps, rare books, prints and photographs, music, aeronautics, and Orientalia and a Hispanic Foundation The library building, near the Capitol, was erected in 1897, an annex five stories high was opened in 1939

library school. Since Melvil Dewey established (1887) at Columbia Univ. a school for training library workers, more than 30 such schools have come into operation in the United States and Canada Some of these are schools of universities (as at Columbia and the Univ. of Illinois), others are at independent undergraduate institutions (e g, Pratt Institute), some are parts of great public libraries (e g, Los Angeles Public Library). Elementary training is also given in summer schools and training-class courses. The first graduate school to confer the doctoral degree in library science was the Univ. of Chicago. In 1915 the Association of American Library Schools was formed, and in 1924 the American Library Association Board of Education for Librarianship was established to determine and maintain standards. There are library schools in London, Paris, and other European cities, and one is at Lima, Peru

libretto (lĭbrĕ'tō) [Ital, =little book], the text of an opera or an oratorio The problem of securing a suitable libretto is ever present with the opera composer. The first important librettist was OTTAVIO RINUCCINI, librettist for Peri, Caccini, and other 16th-century opera composers. The outstanding librettist of the 18th cent was Pietro METASTASIO, and in the 19th cent Eugène SCRIBE stood in somewhat comparable position Other important librettists are Philippe QUINAULT, Raniero Calzabigi (Gluck's librettist), Lorenzo DA PONTE, Henri MEILHAC and Ludovic HALÉVY (librettists of Bizet's *Carmen*), W S GILBERT, Arrigo BOITO, and Hugo von HOFMANNSTHAL. Wagner wrote his own librettos, achieving thereby the fusion of text and music that he sought See D J. Grout, *A Short History of Opera* (1947)

Libreville (lēbrūvēl'), town (pop. 17,868), NW French Equatorial Africa, a port on the Gulf of Guinea Hardwoods are exported

Libya (lĭb'bēə), former Italian possession (679,358 sq mi, 1938 pop 888,401), on the north shore of Africa, fronting on the Mediterranean Sea Tripoli is the chief administrative center Libya is bordered on the west by Tunisia and Algeria, on the south by French West Africa and French Equatorial Africa, and on the east by the Anglo-Egyptian Sudan and Egypt The country is divided into three main regions of indeterminate extent. TRIPOLITANIA occupies approximately the western two thirds of the northern section, CYRENAICA the eastern third, and FEZZAN the western section of central and S Libya The coast of Libya, c 1,000 mi long and deeply indented by the wide Gulf of Sidra, has only two good ports, Tripoli and Bengasi There are many coastal oases where large crops of dates, olives, and oranges are grown A short distance inland are stretches of plateau land brought under cultivation in the late 1930s and producing grapes and grain The greater part of the country is desert belonging to the Sahara and in places extending to the coast (the Libyan Desert) Here all is barren except around the water holes and along the banks of intermittent streams in the mountainous areas The habitable portions of Libya are linked chiefly by road, railroads are confined to sections of the coast Libya has endured the domination of many foreign powers In ancient times it was successively under Carthage, Rome, and the Vandals In the Middle Ages, Moslem states - Arabia, Morocco, and Egypt—contended for control Spain and the Knights of Malta held dominion for a time in the early 16th cent The Ottoman Empire took Libya in 1551, but the pashas ruling the area generally enjoyed great independence The Ottoman hold was strengthened in the 19th cent After the Turco-Italian War (1911–12) Italy annexed substantially the present territory, although the boundaries with Tunisia and Egypt were not established until after the First World War Italy made comparatively little effort to develop its colony of Libya until the '30s, when roads, civic buildings, schools, and hospitals were built Some 20,000 colonists were sent from the home country to the plateau region in 1938 and 1939 In 1939 the four administrative divisions of Libya were formally constituted provinces of Italy, and the Moslem population was given a limited form of citizenship Libya became one of the chief battlegrounds of North Africa after Italy entered the Second World War in June, 1940 (for military details, see NORTH AFRICA, CAMPAIGNS IN) After the United Nations completely defeated the Axis in Africa (1943), Fezzan was assigned to France for occupation, and the remainder of the country was assigned to Great Britain. The native population, overwhelmingly composed of Arabic-speaking Moslems, strongly demanded independence The Big Four (Great Britain, France, the United States, and the USSR) having failed to reach agreement on the future of Libya, the problem was turned over to the General Assembly of the United Nations In Nov, 1949, the Assembly decided that Libya should become an independent country not later than Jan 1, 1952 See Dugald Campbell, *Camels through Libya* (1935), Knud Holmboe, *Desert Encounter* (1936), Martin Moore, *Fourth Shore: Italy's Mass Colonization of Libya* (1940), W. C Askew, *Europe and Italy's Acquisition of Libya, 1911–1912* (1943).

Licata (lēkä'tä), city (pop 30,641), S Sicily, Italy It is a seaport and an industrial and commercial center exporting sulphur, asphalt, and cheese Founded in the 3rd cent. B C. and called Phintias after the tyrant of Acragas, it was the refuge of the people of GELA after their city's destruction Off near-by Cape Ecnomus (now Poggio Sant' Angelo), the Roman consul Regulus won (256 B C) a decisive battle in the PUNIC WARS. Licata was one of the initial landing points in the Allied invasion of Sicily, July 9–10, 1943.

license, in public law, permission by legal authority to engage in certain acts and also the document showing such permission Some licenses are required for the protection of the public and assure professional competence (e g., physicians) or moral fitness (e.g., tavern keepers). Others are designed primarily to raise revenue or to keep a registry (e g , automobile licenses) It is a crime to engage in a licensed activity without having first procured a license In property law, a license is a right which the owner grants some other party to make use of his land Such licenses are revocable at will if they are not part of a contract They are personal and hence may not be sold, they expire on the death of the grantee A license to cross another's land is an EASEMENT in gross

lichen (lī'kŭn), slow-growing plant form of simple structural appearance, composed of algae and fungi living together The relationship is interpreted by some scientists as symbiosis, but usually the fungus is considered to be parasitic on the alga Lichens are flowerless and show no distinction between stem and leaf Reproduction is by dispersal of small portions of the plant body Lichens grow from arctic to tropical regions and are common on rocks, stumps, and tree trunks When they grow on rock their acid content acts upon its surface, thus beginning the long, slow process of weathering by which the rock becomes soil Though mostly gray in color, lichens are also of beautiful reds, rusts, violets, blues, and browns The lichens called REINDEER MOSS and Iceland moss provide food for mammals and other animals in northern regions. Iceland moss is probably the only lichen of medicinal value today Before the discovery of aniline dyes, lichens were much used for silk and wool dyes Litmus and archil are obtained from species of lichens Others have been used in perfume manufacturing and brewing The "manna" of the Bible is thought by some to have been a lichen found in Old World deserts and easily carried along by winds See A L Smith, *Lichens* (1927, reissue, 1936), G G Nearing, *The Lichen Book* (1947)

Lichfield, municipal borough (1931 pop 8,507, 1943 estimated pop 11,000), Staffordshire, England It is a peaceful market town famous for its three-spired cathedral and its close associations with Dr Johnson The cathedral, dating from the 13th and 14th cent , replaced the original church built by St Chad, who founded the see in the 7th cent It suffered considerable damage at the hands of the parliamentary forces during the civil war and was not completely restored until the 19th cent The Lady chapel, one of the oldest parts, is of special interest The house where Dr Johnson was born and where he lived is now a museum containing many relics of his life and works, and there is also a statue of him in the market square At the old grammar school (founded 1495) Johnson, Addison, and Garrick studied In the 18th cent a literary circle which included Erasmus Darwin, Thomas Day, and Anna Seward was known as the Lichfield group

Lichnowsky, Karl Max, Fürst von (kärl' mäks' fürst' fŭn lĭkhnôf'skē), 1860–1928, German diplomat, ambassador to London (1912–14) In a privately printed pamphlet (1916) he asserted that his efforts to prevent the outbreak of the First World War were not supported by his own government This pamphlet, published in the United States in 1917 as *My London Mission*, caused his expulsion from the Prussian upper house He later wrote *Heading for the Abyss* (Eng tr , 1928)

Lichtenberg, Georg Christoph (gā'ôrk krĭs'tôf lĭkh'tunbĕrk), 1742–99, German physicist and satirist He taught at the Univ of Gottingen from 1769 His special field was electricity Lichtenberg made several visits to England and was influenced by the satire of Swift and by the English theater He satirized the pseudo science of Lavater and attacked the *Sturm und Drang* writers His work on Hogarth's engravings is noted

Licinio, Giovanni Antonio see PORDENONE

Licinius (lĭsĭn'ĭŭs), d 325, Roman emperor He became coemperor with Galerius, being given the rule of Illyricum (308), after the death of Galerius he added Greece and Thrace to his territories He allied himself with Constantine I and defeated Maximin in 313, thus becoming sole ruler in the East He subsequently fell out with Constantine who defeated him (314) and forced him to cede all his European territories but Thrace War was resumed in 324, and Constantine defeated Licinius at Adrianople and Chrysopolis Licinius was imprisoned and finally put to death

Licinius, Roman plebeian gens, of which several men were noteworthy **Caius Licinius Calvus Stolo** (kā'yŭs, kăl'vŭs stō'lō), fl 375 B.C , was tribune of the people with Lucius Sextius Roman historians attributed to him a number of laws of different periods These laws, the Licinian Rogations, provided a strict limitation on the amount of public land one person might hold and on the number of cattle, sheep, and goats that he could graze on the public land They included also a strict regulation of the collection of debts; and, most significant politically, they abolished the office of military tribune with consular power and ordained that one consul must be plebeian. It is said that Licinius Stolo was later fined for violating his own law on the possession of public land **Caius Licinius Macer** (mā'sur), d 66 B.C , orator and historian, committed suicide after his conviction by Cicero under the law against bribery and extortion His son, **Caius Licinius Macer Calvus,** 82 B C–c 47 B C , poet and orator, was considered anciently the peer of Catullus, his works are lost

Licking, river, c 320 mi long, rising in E Kentucky SE of Salyersville and flowing NW to the Ohio opposite Cincinnati Its principal tributaries are the North and South forks It was an important means of travel for Indians and pioneers and later a busy trade route The river has been the setting for more than one historical happening, at its mouth in 1780 gathered George Rogers Clark's frontiersmen for their march up the Little Miami, and the battle of Blue Licks (1782) occurred in the Licking valley Covington and Newport are at the mouth of the Licking, Cynthiana and Paris are on the South Fork

Lick Observatory. see HAMILTON, MOUNT.

licorice (lĭk'ŭrĭs, -rĭsh), name for a European plant (*Glycyrrhiza glabra*) and for the sweet substance obtained from the root Since early times the root has been used medicinally (for coughs and as a laxative), it is used also in brewing, for confectionery, and for flavoring (e g , in some tobacco) The licorice plant, a perennial, with blue pealike blossoms, is cultivated chiefly in parts of the Old World Another species, the wild licorice, is native to North America, other plants of similar flavor may be called licorice

lictor, in ancient Rome, guard who bore the FASCES before a magistrate

Liddell, Henry George (lĭ'dul), 1811–98, English clergyman and classical scholar He was dean (1855–91) of Christ Church, Oxford, and is celebrated for his collaboration with Robert Scott in the compilation of the *Greek-English Lexicon* (1843, new ed , 1925) It was his daughter, Alice Liddell (d 1934), for whom Lewis Carroll wrote *Alice in Wonderland*

Liddell Hart, Basil Henry (lĭ'dul hart'), 1895–, English author and military strategist, b London His education at Cambridge was interrupted by the First World War, in which he served (1914–18) and was twice wounded Retiring from the army as a captain in 1927, he was military correspondent for the London *Daily Telegraph* (1925–35) and the London *Times* (1935–39) An early advocate of mechanized warfare he evolved a number of tactical developments, especially in infantry training, which were officially adopted From 1937 to 1938 he was personal adviser to the British war minister, Leslie Hore-Belisha, and suggested a program of reorganization and reform which was partly instituted Among his numerous books are *A Greater than Napoleon Scipio Africanus* (1926), *Reputations, Ten Years After* (1928), *Sherman, Soldier, Realist, American* (1929), *The Decisive Wars of History* (1929), *Foch, the Man of Orleans* (1931), *The Future of Infantry* (1933), *A History of the World War, 1914–1918* (1934), *Colonel Lawrence, the Man behind the Legend* (1934), *The Defence of Britain* (1939), *Thoughts on War* (1944), and *The German Generals Talk* (1948)

Liddesdale, William Douglas, Knight of (lĭdz'dāl), 1300'–1353, Scottish nobleman Called the Flower of Chivalry, he was a relative of the earls of Douglas Under DAVID II he was warden of the Western Marches and was given the lordship of Liddesdale in 1342 He served as ambassador to the French court and fought against the English in the Lowlands until Edward III took him prisoner near Durham (1346) and made him do homage He had murdered his rival, Sir Alexander Ramsay of Dalhousie, and was in turn murdered by William Douglas, 1st earl of Douglas, who inherited some of Liddesdale's lands

Liddon, Henry Parry, 1829–90, English clergyman and noted preacher and lecturer His Bampton Lectures of 1866, *The Divinity of Our Lord and Saviour Jesus Christ*, have passed through many editions As canon of St Paul's Cathedral (from 1870) he won wide attention with his sermons He was identified with the OXFORD MOVEMENT His life of his friend Pusey, left unfinished, was completed and published (1893–97) See biographies by J O Johnston (1904) and G W E Russell (1909)

Lidgerwood, city (pop 1,042), extreme SE N Dak , near the S Dak. line, in a farm area, inc 1901

Lidice (lĭ'dĭsĕ, Czech lĭ'dyĭtsĕ), village (former pop 446), central Bohemia, Czechoslovakia, near Kladno In reprisal for the assassination of Reinhard HEYDRICH the Germans "liquidated" (1942) Lidice by killing all the men, deporting all women and children, and razing the village to the ground Post-war plans called for the establishment of a national park on the site and for a new village near by

Lidköping, Swed *Lidköping* (lēd'chö"pĭng), town (pop 13,031), Skaraborg co , SW Sweden, on Vanern Lake It has sugar refineries, match factories, and porcelain works

Lido di Venezia (lē'dō dē vānā'tsyä), long, thin, sandy island separating the lagoon of Venice from the Adriatic Only 20 minutes by boat from Venice, it has a beautiful beach and is one of the most fashionable bathing resorts in Europe

Lie, Jonas (lē), 1880–1940, American landscape and marine painter, b Norway, nephew of the Norwegian novelist Jonas Lie He came to the United States in 1893 and began earning his living at 17, studying art in the evening After 1903 his pictures became increasingly known and were acquired by museums throughout the country His series of pictures on the construction of the Panama Canal were bought for the U S Military Academy A member of the National Academy of Design and its president from 1934 to 1939, he worked to liberalize the attitude of the academy toward young artists

Lie, Jonas Lauritz Idemil (yō'näs lou'rĭts ē'dumēl lē'), 1833–1908, Norwegian novelist As a writer of novels dealing with the family life of ordinary people, their problems and pleasures, Lie is considered the creator of the modern Norwegian novel His first book was *The Visionary* (1870, Eng tr , 1894), this was followed in 1874 by his masterpiece, *The Pilot and His Wife* (Eng tr , 1876) Two later books, *The Family at Gilje* (1883, Eng tr , 1920) and *The Commodore's Daughter* (1886, Eng tr , 1892), are studies of women's social and intellectual restrictions in upper middle-class life See Alrik Gustafson, *Six Scandinavian Novelists* (1940)

Lie, Marius Sophus (ma'rēōs sō'fōos lē), 1842–99, Norwegian mathematician He is noted for his contributions to the theories of differential equations and continuous transformation groups He was professor at the Univ of Christiania and at Leipzig

Lie, Trygve Halvdan (trug'vu hälv'dhan lē'), 1896–, Norwegian statesman, first secretary general of the United Nations A lawyer and Labor party leader, he was Norwegian minister of justice (1935-39) and minister of trade and supply (1939–41) Active in the government in exile, he became foreign minister (1941) and retained his post after the government's return (1945) to Oslo Howard (1948) secretary general of the United Nations, Lie set a precedent by taking an active part in negotiations rather than contenting himself with the role of a figurehead

Lieber, Francis (lē'bur), 1798–1872, German-American political philosopher, b Berlin Ardently patriotic, he enlisted in the Prussian army and fought and was wounded at the battle of Waterloo On his return to Germany he joined Jahn's *Turnverein* movement In the suppression of student organizations in 1819 Lieber became suspect for his liberal ideas and was harried by the police for the remainder of his life in Germany, he was twice imprisoned Not permitted to attend a Prussian university, he obtained a degree at Jena In 1826 he fled to England He went to Boston in 1827 to teach Jahn's system of gymnastics From his idea of translating the Brockhaus encyclopedia into English sprang the first edition of *The Encyclopaedia Americana* (13 vols , 1829–33), which he edited Lieber was professor of history and political economy (1835–56) at South Carolina College While there he wrote the books which established his reputation as a political philosopher—*A Manual of Political Ethics* (1838), *Essays on Property and Labor* (1841), and *On Civil Liberty and Self-Government* (1853) He taught at Columbia from 1856 until his death. For the Union government he prepared *Instructions for the Government of Armies of the United States in the Field*, known in its final form as *General Order No 100* It was the basis for subsequent efforts to codify the international law of war Lieber after the Civil War aligned himself with the radical Republicans See biography by Frank Freidel (1947)

Lieber, Thomas see ERASTUS, THOMAS

Liebermann, Karl (kärl' lē'burman), 1842–1914, German chemist He was professor of organic chemistry at Charlottenburg (1873–1913) and at the Kaiser Wilhelm Institute, Berlin (from 1913). In 1868, with Carl Graebe, he synthetized ALIZARIN, which gave rise to the alizarin dye industry in Germany

Liebermann, Max (mäks'), 1847–1935, German genre painter and etcher He was leader of the Secessionists and was president of the Berlin Academy He was strongly influenced by the Barbizon painters, and his best work depicts the life of the working classes and peasants in Germany and Holland His early work was somber, but he later achieved a brighter palette and a fine luminosity His frank and realistic style aroused some opposition, but he later acquired a high reputation In addition to genre he painted numerous portraits and was an accomplished etcher Among his works in the United States is *The Rope-Walk* (Metropolitan Mus) In his last year he was forbidden by the Nazi authorities to carry on artistic activities.

Liebig, Justus, Baron von (yŏos'tŏos bärŏn' fŭn lē'bĭkh), 1803–73, German chemist As professor at Giessen (1824–52), he was among the first to establish a chemical teaching laboratory, there some of the leading chemists of the 19th cent were trained He was professor at Munich from 1852 to 1873. He improved methods of organic analysis and investigated organic compounds such as uric acid. He

made valuable contributions to agricultural chemistry Liebig refuted the prevalent theory that plants derive their nourishment from humus and emphasized the importance to plants of the nitrogen and carbon dioxide of the air and of the mineral constituents of the soil; subsequently he did important work in the development of artificial fertilizers. His works include *Organic Chemistry in Its Applications to Agriculture and Physiology* (1840, Eng tr, 1840), See F R Moulton, ed., *Liebig and after Liebig* (1942)

Liebknecht, Karl (karl' lēp'kŭnĕkht), 1871–1919, German socialist leader, son of Wilhelm Liebknecht His antimilitaristic writings caused his conviction (1907) of high treason Released from prison, Liebknecht entered the Prussian lower house in 1908 and the Reichstag in 1912 As member of the extreme left wing of the Social Democratic party, he refused to follow his party in its support of the government during the First World War Over the signature Spartacus he published pamphlets which gave to his followers the name Spartacists The SPARTACUS PARTY was the nucleus of the German Communist party Imprisoned again, Liebknecht was released just before the armistice of Nov, 1918 With Rosa LUXEMBURG he opposed the moderate Socialists and advocated a dictatorship of the proletariat. With the failure of the Spartacist revolt (Jan, 1919), Liebknecht and Rosa Luxemburg were arrested and killed while being carried to prison

Liebknecht, Wilhelm (vĭl'hĕlm), 1826–1900, German Socialist leader and journalist His participation in the Revolution of 1848 forced him into exile. While in England, he associated for 12 years with Karl MARX Although greatly influenced by Marx, he disagreed with him on many fundamental principles of socialism Returning to Germany in 1862, he and his disciple August BEBEL were founders of the Social Democratic party (1869) A confirmed pacifist and ceaseless fighter for human freedom and social justice, he incurred the enmity of Bismarck, was convicted of treason, and with Bebel spent two years in prison Elected to the Reichstag in 1874, he remained a member until his death Liebknecht wrote many books on historical and social topics and edited several Socialist newspapers (*Demokratisches Wochenblatt*, *Volksstaat*, and *Vorwärts*).

Liebler, Thomas: see ERASTUS, THOMAS

Liechtenstein (lĭkh'tunshtīn″), principality (62 sq mi, pop 11,218), W central Europe, between Austria in the east and Switzerland in the west, where it is bounded by the Rhine Vaduz is the capital. Liechtenstein is a pastoral and agricultural district, beautifully situated amid the Alps It has no army and (as of 1947) had a police force of nine Much revenue is derived from the issue of postage stamps and from the minimal taxes imposed on international holding companies which, for obvious reasons, chose Vaduz as headquarters The ruling prince, Francis Joseph II, acceded in 1938 The constitution of 1921 provides for an elected diet of 15 members Liechtenstein adopted Swiss currency in 1921, entered a customs union with Switzerland in 1924, and is represented abroad through the Swiss government Catholicism is the predominant religion, and German is the national language The principality was created in 1718 as an immediate fief of the Holy Roman Empire by uniting the county of Vaduz and the barony of Schellenberg, acquired by the ancient Austrian family of Liechtenstein. The princes, who own huge estates (many times larger than their principality) in Austria and—until recently—in Czechoslovakia, rarely visited their country, but played an important role in the service of the Hapsburg monarchy. Thanks to its smallness, Liechtenstein was overlooked in the upheavals of the past century and a half It was a member of the German Confederation from 1815 to 1866 and, being technically allied to Austria in the Austro-Prussian War of 1866, was overlooked in the peace treaty and thus remained theoretically at war with Prussia After the First World War the principality became increasingly oriented toward Switzerland In recent years the prince has made his castle at Vaduz his residence.

lied and **lieder:** see SONG.

lie detector, general name given to any scientific instrument designed to record bodily changes resulting from the telling of lies. Cesare Lombroso, in 1895, was the first to utilize such an instrument, but it was not until 1914 and 1915 that Vittorio Benussi, H. E Burtt, and, most importantly, W M Marston produced scientific devices enabling correlation of blood pressure and respiratory changes with lying. In 1921 an instrument capable of continuously recording blood pressure, respiration, and pulse rate was devised by John A. Larson. This was followed by the polygraph (1926) of Leonarde Keeler, a refinement of earlier detecting devices, and by the psychogalvanometer (1936) of W. G. Summers, a machine which measures electrical changes occurring on the skin. Although the lie detector is used in police work, the similarity of physical changes caused by emotional factors such as feelings of guilt to those caused by lies has made its evidence for the most part legally inacceptable.

Liége (lēāzh', Fr. lyāzh), Flemish *Luik* (loik), province (1,526 sq. mi., pop 932,227), E Belgium. It is part of the industrial valley of the Meuse and of the agricultural Ardennes plateau. Liége is the capital, other centers are Verviers, Huy, Spa, and Seraing The province is French-speaking (see WALLOONS) except in the eastern districts of EUPEN and MALMÉDY, along the German border, where German prevails. Coal mining, metallurgy, armament manufactures, and wool textile manufactures are the chief industries. The province shared the history of the prince-bishopric of Liége, of which it was a part

Liége, Flemish *Luik*, city (with suburbs pop c 430,000), capital of Liége prov., E Belgium, on the Meuse and Ourthe rivers The core of the city is the commune of Liége (pop 150,103), among its other communes are Herstal, Grivegnée, and Ougrée The commercial center of the industrial Meuse valley and itself a major industrial center, it also is a vital communications point at the head of the ALBERT CANAL and the Liége-Maastricht Canal and at the center of a road and railroad net connecting Belgium and Germany. Liége is furthermore the cultural center of French-speaking Belgium, an episcopal see, and the seat of a university (founded 1817) Its industries include metallurgy (processing of aluminum and zinc), the making of machinery, armaments manufactures (at Herstal), brewing, and flour milling. A growing trading point by the 10th cent., Liége became the capital of the extensive prince-bishopric of Liége, which comprised most of modern Liége prov and parts of Limburg and Namur prov This ecclesiastic state lasted until 1792 Its cloth and metal industries soon found an international market, at the same time the burgher class grew to great prominence In the late Middle Ages, Liége was torn by bitter social strife In the 14th cent the "lesser folk" (the guilds) won far-reaching concessions from the nobles and wealthy merchants and began to take part in the city government The episcopal functionaries were placed (1373) under the supervision of a tribunal of 22 persons, 14 of whom were burgesses This Peace of the Twenty-Two remained, with interruptions, the basic guarantee of the constitutional liberty of Liége until 1792 In 1467 Charles the Bold, duke of Burgundy, who had imposed his protectorate on Liége, punished the rebellious citizens by abolishing their communal liberties The citizens, encouraged by LOUIS XI of France, rose in rebellion, but Charles forced Louis to assist him in repressing the revolution and sacked Liége (1468) As an episcopal principality, Liége remained technically a sovereign member of the Holy Roman Empire after the Netherlands passed under Hapsburg rule (see NETHERLANDS, AUSTRIAN AND SPANISH), actually, however, the prince-bishops were dependent on the Spanish kings and (after 1714) the emperors The strategic position of Liége as a key to the Meuse valley made the strongly fortified city the scene of numerous sieges throughout its history. In 1792 the French under Dumouriez entered Liége, which from then on fully shared the history of Belgium. In the 19th cent it was a center of Walloon particularism (see WALLOONS), of rapid industrial expansion, and of socialism Its greatly strengthened fortifications fell before the German onslaughts in Aug. 1914, and May, 1940 A major supply center after its liberation (1944) by American troops, it suffered intense and destructive bombardment by rocket weapons during the BATTLE OF THE BULGE. However, because of the inaccuracy of the rocket bombs, the principal buildings and thoroughfares of the handsome city suffered no mass destruction Among the ancient monuments of Liége—which has a generally modern aspect—are the cathedral (partly dating from the 13th cent.), the Church of St Denis (10th cent.), and the palace of justice, former residence of the prince-bishops (16th cent.).

Liegnitz (lēg'nĭts) or **Legnica** (lĕgnē'tsä), city (pop 24,357), Lower Silesia, W of Breslau and on the Katzbach river It was transferred to Polish administration in 1945 A commercial center since the 12th cent., it was the seat (1248–1675) of a principality ruled by a branch of the PIAST dynasty, on the extinction of which it passed to the house of Austria In the War of the Austrian Succession it was acquired (1742) by Prussia. Liegnitz was heavily damaged in the Second World War, but it has retained its 11th-century castle, parts of its medieval walls and towers, and two churches (13th–14th cent.), one of which contains the tombs of the Piasts It is a rail center and has a textile industry Near Liegnitz is the village of Wahlstatt, where the Mongols defeated (1241) the Germans and Poles and where the Prussians under Blücher defeated (1813) the French.

Liepaja (lēĕ'pāya), Ger. *Libau* (lē'bou), city (pop. 57,098), SW Latvia, an ice-free port on the Baltic Sea. In size it is second in Latvia only to Riga, and it is an industrial center with steel mills, shipyards, paper mills, and various manufactures First mentioned in 1263, it was a city of Livonia and later of the duchy of Courland, with which it passed (1795) to Russia. In the late 19th and early 20th cent. Liepaja acquired great commercial importance and was one of the main Russian emigration ports with a direct shipping line to the United States Liepaja had c.100,000 inhabitants at the beginning of the First World War It was (1915–18) under German occupation, and in 1919 it was briefly controlled by a German free corps under Rüdiger von der Goltz. In the Second World War it was again occupied (1941–45) by the Germans Liepaja was called Libava by the Russians until 1917, the spelling Lepaya is a transliteration from the Russian.

Liestal (lēs'täl), town (pop 7,211), capital of the half-canton of Basel-Land, Switzerland There is a 16th-century town hall and a cantonal museum The town produces woolen and silk textiles and clothes

Lieurance, Thurlow (lū'runs), 1878–, American composer, b Oskaloosa, Iowa. He spent 20 years collecting Indian songs, of which he has compiled several anthologies He is the composer of an opera, *Drama of the Yellowstone*, and many songs, the best known of which is *By the Waters of Minnetonka*, based on an Indian melody

Lieven, Dorothea, Princess (lē'vun), 1785–1857, Russian noblewoman, wife of the Russian ambassador to London (1812–34). On her husband's recall, she settled in Paris A brilliant personality, she was on intimate terms with the great world of London and Paris, and her Paris salon acquired some celebrity She was a friend of Metternich, Wellington, and Guizot Her witty and lively correspondence has been published in English as *The Private Letters of Princess Lieven* (ed by Peter Quennell, 1938) See biography by H Montgomery Hyde (1938)

Lièvre (lēā'vrŭ), river, 205 mi long, rising in S Quebec in the Laurentians and falling into the Ottawa near Buckingham Parts of it are navigable

life. Although there is no general agreement as to a definition of life, the biological manifestations of life are generally considered to be the ability of an organic unit to carry on the functions necessary for self-preservation and the function of reproduction Protozoa perform, by means of a single cell, life functions corresponding to those carried on by the complex tissues and organs of man and other highly developed organisms The attributes of life are inherent in such minute structures as viruses, bacteria, and genes just as they are in the largest animals and plants The living substance common to both plant and animal tissues is called PROTOPLASM, in both large and small forms of life it exists in units known as cells (see CELL, in biology) The chemical composition of protoplasm is known, but what gives it the qualities of life is not known In seeking an understanding of life scientists have, to a great extent, broken down the barriers that once separated the physical sciences from the biological sciences, a result of the growth of biochemistry and biophysics is a better understanding of the functioning of living tissues, of the composition of living matter and its secretions, and of various other biological phenomena Considerable research in recent years has been concerned with problems believed fundamental to an understanding of life These include studies of hormones and enzymes, of the nature of catalysis, and of the mode of operation of the genes in heredity. A solution has long been sought to the problem of how green plants bring about the chemical changes involved in PHOTOSYNTHESIS, the process on which all life ultimately depends for food Much of the history of biology and of philosophy as related to biology has been marked by a division of thought between vitalistic and mechanistic concepts. In the most antithetic interpretations of these concepts the vitalistic school maintains that there is a fundamental distinction between the living and the nonliving, the mechanistic school holds that there is no essential difference between the animate and the inanimate and that all life can be explained by physical and chemical laws. Such diametrically opposed views actually have seldom been held by investigators of either school, elements of both are usually involved Many phenomena of life can be explained materialistically; discoveries of the processes of heredity through genetic studies have presented an adequate materialistic explanation which generally outweighs the vitalistic. Mechanistic theories have not, however, explained the origin of life Fundamental religious concepts of the origin of life center around special creation and belief in the infusion of life into inanimate substance by God or another divine being On the other hand, many believe that life originated in the sea in pre-Cambrian times from a simple minute mass of protoplasmic material formed by a chance combination of chemical elements. See A. M. Low, *Life and Its Story* (1937); A I. Oparin, *The Origin of Life* (Eng. tr, 1938); Reinhard Beutner, *Life's Beginning on the Earth* (1939); David Forsyth, *How Life Began* (1939); V. L. Burns, *Life—Mechanistic or Teleological* (1940); Erwin Schrödinger, *What Is Life? the Physical Aspect of the Living Cell* (1945), J. B. S. Haldane, *What Is Life?* (1947); Jerome Alexander, *Life: Its Nature and Origin* (1948).

lifeboat, boat especially designed for saving persons in case of shipwreck. Its main features are

buoyancy, stability, and the power to right itself when capsized, it must be designed to make headway in rough seas. The first lifeboats appeared in England in the late 18th cent, when the interest in LIFESAVING was growing, and its invention is often attributed to Lionel Luken in 1786. Lifeboats may be operated from shore stations, and seagoing vessels are required to carry them. Motor lifeboats have been in use since 1904. Those operated from shore stations are equipped with line-throwing guns and electric searchlights. In 1945 the U.S. coast guard approved for use hand-propelled aluminum lifeboats. There are in use self-righting rafts of aluminum alloy, very buoyant and capable of carrying 20 men and more than 1,000 lb. of equipment. Airborne lifeboats came into much use in the Second World War. They are compact motorboats carried usually under the aircraft's fuselage. They are built so that they cannot capsize, no matter how hard they hit the water, they right themselves.

life insurance: see INSURANCE

life preserver, contrivance, usually adjustable to the body, for buoying up persons in water, particularly in case of shipwreck. The most common type, generally considered the most reliable in spite of its clumsiness, is made of cork blocks sewed in canvas, with belts and shoulder straps; it is constructed so that cork beneath the shoulders and around the body of the person keeps him afloat. It should contain at least 6 lb. of cork. Another common type has a lining of rubber and may be inflated. Some life preservers have the form of pillows, vests, or mattresses—either inflatable or filled with buoyant material such as cork. A familiar type is the life buoy, a ring of canvas-covered cork, which is fitted with a rope so that several persons may cling to it. Warships have large life buoys, often consisting of a frame supported by metal air chambers and able to support six men. The law of most countries requires that ships carry life preservers and that crew and passengers should be drilled in using them.

lifesaving, term usually applied to rescue of persons after shipwreck. The first organized effort to provide such lifesaving service was made in England in the late 18th cent. by private societies. It was hastened by the much-publicized wreck of the ship *Adventure* in 1789. The first practical LIFEBOAT had been launched a little earlier. In the United States the first institution to work in the field was the Humane Society of Massachusetts, which built huts on the Cohasset shore for protecting victims of shipwreck. Lifeboats were also supplied, manned by volunteers. In 1848 the government began to organize lifesaving on the New Jersey coast and later extended operations to Long Island. In 1871 the service was reorganized by Sumner I. Kimball, who headed the Life Saving Service until it was merged (1915) into the U.S. coast guard. Modern lifesaving stations have a good deal of equipment—lifeboats, surfboats, flag signals, pyrotechnic signals, life preservers, line-projecting guns (invented by Col. David A. Lyle and in use since 1877), and the like—as well as watchtowers and good telephone and radio systems. Ships also carry much lifesaving equipment. Most countries require them to carry life preservers and lifeboats and may require life rafts and floats. The life raft, easily stored and transported, is considered by many more convenient and useful than the lifeboat. The Second World War brought many refinements of lifesaving equipment for lifeboats and life rafts, including fishing kits, chemical apparatus to make salt water drinkable, portable radio transmitters, tiny searchlights with long-range beams, and easy-to-read astronomical charts.

Liffey (lĭf'fē), river of Ireland, rising in the mountains of Co. Wicklow and flowing 50 mi. W, then NE, and finally E through Dublin to Dublin Bay.

Lifford, Irish *Leithbhearr,* town (pop. 476), county town of Co. Donegal, Ireland, on the Foyle and SW of Londonderry.

lift: see ELEVATOR and LOCK, CANAL.

ligan: see TACKLE.

Liggett, Hunter (lĭg'gĭt), 1857–1935, American army officer, b. Reading, Pa., grad. West Point, 1879. He served in Cuba with the army of occupation after the Spanish-American War, then spent three years in the Philippines. In 1910 he was graduated from the Army War College, of which he was director (1910–12) and president (1913). He was sent from a command at Texas City, Texas, to the Philippines in 1915, remaining until 1917. In the First World War he commanded the 41st Division in 1917, took over the 1st Army Corps in Jan., 1918, and in Oct., 1918, as a brigadier general, assumed command of the 1st Army, which he commanded at Saint-Mihiel and in the Meuse-Argonne operations. He also commanded the 3d Army on the Rhine in 1919. After returning to the United States, as a major general, he was in command of the Western Dept. at San Francisco in 1919 and of the 9th Corps Area in 1920, retiring in 1921. He wrote two volumes of memoirs—*Commanding an American Army* (1925) and *A.E.F.* (1927).

light, a form of energy the nature of which is not yet satisfactorily established. No one theory has proved entirely adequate to explain all the phenomena connected with light, although a number of theories have been advanced at various times. According to the corpuscular or emission theory as supported by Sir Isaac Newton, light consists of minute particles or corpuscles which are emitted from luminous bodies and travel through space at a great velocity. This theory was, however, finally superseded by the wave theory of Christiaan Huygens, which obtained its original acceptance in the scientific world chiefly through the work of Thomas Young and later of A. J. Fresnel, whose experiments, especially those on the interference and diffraction of light, offered important and convincing proof. One objection to the theory, raised at the time and still advanced, questions the assumption of the existence of a special medium, the luminiferous ETHER, which is held to be necessary for the transmission of light waves. Nevertheless the wave theory is widely used today, though with reservations, most of the common phenomena associated with light can be very simply explained by it. In its terms, light consists of waves, or a kind of vibratory motion, traveling in the luminiferous ether at a high velocity, having a transverse VIBRATION (i.e., vibrating at right angles to the direction of the WAVE), and proceeding in straight lines through a uniform medium. The electromagnetic theory of James Clark MAXWELL, of wide importance today, definitely classifies visible light as of electromagnetic origin, as a form of electromagnetic RADIATION, and as occurring in waves of a definitely limited length, shorter than the invisible infrared and radio waves but longer than ultraviolet and X rays. The most recent theory of the nature of light is the QUANTUM THEORY, in which light as a form of radiant energy is held to be given off by a luminous body in tiny spurts or quantities called photons. Popularly, light is often described in terms of its effect upon the human EYE (see also VISION). As such, however, it is limited to radiation of wave lengths between those of infrared on the one hand and of ultraviolet on the other, neither infrared nor ultraviolet rays can be "seen" by the eye of man. Light is said to be the energy that makes visible those bodies producing it (luminous bodies), e.g., the sun, an electric-light filament, and the wick of a lighted lamp, and those reflecting it (illuminated bodies), such as the moon and most of the bodies of our environment. An important factor, therefore, in determining the visibility of an object is the degree of intensity of the light which it gives off or by which it is illuminated. A special branch of physics called PHOTOMETRY deals with the measurement of the relative intensity of light sources and with the intensity of illumination. Besides bodies that give off light and those that reflect it in a marked degree, there are others which are described by the way in which they affect light. Many substances such as air and window glass are said to be transparent because they permit light to pass through them, others such as ground glass and tissue paper are called translucent because, although they allow light to pass through them, they cause it to be scattered or diffused in the process, and still other substances are described as opaque because they do not permit passage of light at all. Through a uniform, transparent substance or medium, light is held to travel in straight lines under ordinary conditions. The velocity varies with different media. In air, for example, it is approximately 186,000 mi. per second, a figure determined by much careful experiment, first successfully by Olaus Romer, later by A. H. L. Fizeau, J. B. L. Foucault, A. A. MICHELSON, and E. W. Morley. In a vacuum, the velocity is greater than in air, but it is less in water, glass, and other substances denser than air. Upon the differences in velocity in different media is based, according to the wave theory, the explanation of the bending or REFRACTION of light rays as they pass obliquely from one medium into another. When rays of light coming from an object pass from the air into (for example) the more dense substance of the lens of the eye the rays are bent and then focused by the action of the lens, so that an image is formed upon the retina of the eye and the object from which they come is "seen." The same principle of refraction of light by a LENS to form an IMAGE is involved in optical instruments such as the camera, microscope, and telescope. Crystals of certain substances, such as calcite, refract light in two ways, i.e., cause double refraction, directing one part of the split ray off to one side (the extraordinary ray) and permitting the other part (the ordinary ray) to pass through after undergoing ordinary refraction, both rays upon emergence from the crystal are found to have been polarized (see POLARIZATION OF LIGHT). In the NICOL PRISM the ordinary ray is totally internally reflected and only the extraordinary ray, which is polarized, is transmitted. When rays of light strike the surface of bodies through which they cannot pass, some of them are absorbed and some are thrown back or undergo REFLECTION. Rough surfaces reflect light rays irregularly, in a scattered or diffused manner, while very smooth or highly polished surfaces, like that of a MIRROR, reflect them regularly, forming a clear image of the object. The color of an object depends upon the color of the light refracted, reflected, and absorbed by it. For example, an opaque object appears red when it absorbs the light of all other colors and reflects only red; a transparent object appears red when it absorbs the light of all other colors and transmits only the red. The color of the light itself depends upon the wave length, and it is believed that the human eye learns to distinguish between the longer wave lengths of the red end of the spectrum and the shorter wave lengths of the violet end. In COLOR BLINDNESS the eye cannot make this distinction. The shortest wave visible in the spectrum (violet) has a WAVE length of about 0.0004 mm., the longest (red), of about 0.0007 mm. White light consists of all the colors combined. Its composition is determined by its DISPERSION, i.e., by its being broken up into its components, as when it passes through a prism and its colors are separated to appear ranged in a continuous, rainbow-colored band called a SPECTRUM. Light passing through certain lenses is dispersed as well as refracted, the resulting condition being known as chromatic aberration. Although light travels in straight lines through a uniform medium under ordinary conditions, yet it is bent slightly when it passes the edges of an opaque object present in the medium, this DIFFRACTION results in some INTERFERENCE which may be apparent in the shadow cast by the object. Biologically, light is of the greatest importance for it is the energy involved in PHOTOSYNTHESIS, a process essential to the continuance of both plant and animal life on the earth. Light and the phenomena connected with it have long been a subject for investigation. The ancient Greeks acquired some knowledge of the phenomena of reflection and refraction and of the principles governing vision. It was believed then that light travels in straight lines. Cleomedes and Ptolemy, the astronomers, were acquainted with refraction. Not until after the 13th cent. and the work of Roger Bacon, however, was there sufficient knowledge to begin to construct instruments to assist human vision. Galileo is commonly credited with the invention of the astronomical telescope in the 17th cent. Shortly after this Snell discovered the law governing the refraction of light and the beginning was made in the scientific study of light. At about this time too came the work of Descartes, Grimaldi, and James Gregory. Huygens advanced his wave theory in opposition to the corpuscular theory of Newton. There followed the work of Romer, James BRADLEY, Thomas YOUNG, Fresnel, MALUS, Fizeau, Foucault, HELMHOLTZ, Maxwell, Michelson, and E. W. MORLEY. See R. A. Houstoun, *Light and Color* (1923) and *A Treatise on Light* (rev. ed., 1948), W. H. Bragg, *The Universe of Light* (1933), Matthew Luckiesh, *Light, Vision, and Seeing* (1944), W. G. Davies, *Light* (1945).

lighter, barge used in ports for loading and unloading ships, particularly when the harbor is such that the ships cannot come alongside a pier or dock. Lighters are usually open but sometimes have a deck and large hatches with light covers and are either towed or self-propelled, in earlier times and sometimes today they are rowed or operate under sail. Their speed is low, not usually more than 10 knots an hour. They are usually equipped with derricks.

Lightfoot, Joseph Barber, 1828–89, English prelate and scholar. Much of his life was spent at Cambridge Univ., where he was a fellow in Trinity College. In 1861 he became Hulsean professor of divinity, and in 1875 Lady Margaret professor. In 1871 he became a canon of St. Paul's, London, in 1879 he was consecrated bishop of Durham. He was learned in biblical and early Christian literature. He published commentaries (3 vols., 1865–75) on St. Paul's epistles to the Galatians, Philippians, Colossians, and Philemon. Lightfoot's editions of the Apostolic Fathers include *Clement of Rome* (1869) and *Ignatius and Polycarp* (1885). See biography by B. F. Westcott (1894).

lighthouse, structure put up to give guidance and warning to ships and airplanes by either optical or radio-electrical means. Lighthouses were first built in ancient Egypt, where the priests maintained the beacon fires. The lighthouse of PHAROS built in the 3d cent. B.C. was regarded as one of the Seven Wonders of the World. For about 1,500 years it guided ships into the Nile, it was lighted by wood fire, showing smoke by day and a glow by night. It was destroyed by an earthquake in the 13th cent. The Romans built famous lighthouses in Ostia, Ravenna, and Messina and on both sides of the Channel in France and England. None of them have survived. One of the oldest existing lighthouses is the light of Cordouan at the mouth of the Gironde, the present structure was begun in the late 16th cent., but it is believed that the first lighthouse on the site was erected c.805. Probably the first lighthouses in the United States were the Boston Light on Little Brewster Island (the original tower built in 1716), Brant Point Light, Nantucket (the first structure built in 1746), and Beavertail Light on Conanicut Island, Narragansett Bay (first erected in 1749). In 1789 Congress passed an act for maintenance of lighthouses by

which the government took over the care of lighthouses from their former private owners In 1852 the Lighthouse Board was appointed and in 1910 it was superseded by the Lighthouse Service, established to supervise lighthouses and lightships In 1939 the Service was transferred from the Dept of Commerce to the U S coast guard. Lighthouses were long built to conform in structure to their geographical position Where a good rock foundation existed, masonry tower lighthouses were preferred, circular in form, with a low center of gravity Later reinforced concrete was substituted for masonry An openwork steel construction was chosen where it was necessary to drive in wooden or steel piles in order to obtain a firm foundation Sometimes towers were erected on foundations of cylinders or of caissons For illuminating agents tallow candles, coal fires, and oil lamps were used until the beginning of the 19th cent A lighthouse near Trieste was probably the first to use coal gas for illumination Acetylene followed soon, and in 1858 electricity was used first in South Foreland Light, England Other improvements made during the 19th cent were the incandescent oil-vapor light, rapidly revolving lights, fog bells, whistles, sirens, diaphones (fog signals similar to sirens), and the Fresnel lens which focuses the beam. Lighting systems used in lighthouses are of three kinds—the catoptric system, in which rays of light are reflected from silvered mirrors to form a parallel beam visible at a distance, the dioptric or refractive system, in which the rays pass through optical glass and are refracted as they enter and emerge from it, and the catadioptric system, in which rays are both refracted and reflected The increasing knowledge of radio waves and especially the invention of radar are making the earlier forms of lighthouses obsolete In the newer lighthouses radio has taken the place of the light beam The first radio beacon for directing ships was erected in New York in 1921 From 1934 the so-called remote-control stations began to replace lighthouses They are equipped with radio apparatus to operate lamps, fog signals, and the radio beacon An electric eye starts a light signal when daylight fails A gear turns on the fog horns when moisture increases in the atmosphere See G R Putnam, *Lighthouses and Lightships of the United States* (rev ed , 1933), R T Sterling, *Lighthouses of the Maine Coast* (1935), G G Carter, *Looming Lights* (1945), E R Snow, *Famous New England Lighthouses* (1945)

lighting. The earliest means of artificial lighting were the open fire, firebrands, and torches The first LAMP was a dish of stone (later of clay, pottery, or metal) containing vegetable or animal oil and a wick This was succeeded by the CANDLE, first made of wax and later also of tallow, and by the LANTERN, which is of early origin The ARGAND BURNER was an improved oil lamp with a burner and a chimney, and this type of lamp was widely used after the discovery of kerosene by Abraham GESNER All these early illuminants have survived to the present —the use of torches appears in the United States in the torchlight parade and in the small pots of slow-burning fuel marking a road under repair, while primitive oil lamps are used by the Eskimo and in some Oriental countries, and candles are employed for decorative as well as for lighting purposes and in church ritual The lantern, enclosed in glass or equipped with a chimney, has many modern uses, although it is superseded to some extent by the electric flashlight Coal gas was first used as an illuminant in the late 18th cent by William Murdock in England and by Philippe Lebon in Paris, it was introduced in London early in the 19th cent , in Baltimore in 1817, and in New York state in 1823 Air gas, acetylene, water gas, and producer gas are also important illuminants The invention of the BUNSEN BURNER and of the WELSBACH MANTLE and burner greatly stimulated the use of gas for lighting purposes The first development in electric lighting was the arc lamp, which was evolved from the carbon arc demonstrated by Sir Humphry Davy in 1801 and in which an electric current, bridging a gap between two carbon rods, forms an arc Early lamps of this type were made with an open arc, later ones were enclosed in glass and thus made more practical Carbon-arc street lamps, first made by C F BRUSH and used in Cleveland in 1879, came into wide use The mercury-arc lamp was discovered by P C HEWITT in 1903 Among modern applications of the arc light are floodlights, searchlights, spotlights, and projectors The incandescent electric lamp, in which the current passes through a filament offering high resistance (e g , CARBON and WOLFRAM) and enclosed in a vacuum tube, was developed by M G. FARMER in 1858, but was not practical Sir J W Swan in England and Edison in the United States both developed lamps of this kind That patented by Edison in 1879 contained features not original with him, but combined in a new form, and was the first widely marketed incandescent lamp. NERNST c 1899 invented a glow lamp which was an improvement over the carbon lamp but which was supplanted by later developments. A gas-filled incandescent lamp was invented by LANGMUIR in 1913 The NEON lamp invented by Georges Claude in 1911 has been largely used in advertising signs. Various colors are obtained in similar lights by the use of different gases (e g , argon for blue, neon for orange red, helium for yellow, carbon dioxide for white). By making use of mixtures of gases and special glasses, all colors can be produced In recent times much attention has been given to the problem of lighting public buildings, homes, offices, and factories from the standpoint of maximum efficiency and minimum eyestrain Fluorescent lighting, approaching natural daylight, is used in many buildings and homes Fluorescent lamps consist of a tube containing a small amount of argon and a trace of mercury The inner walls of the tube are coated with a fluorescent powder A flow of electricity through the tube causes the mercury vapor to emit ultraviolet radiation which in turn causes the powder to fluoresce There has been considerable experimentation to secure proper street and highway lighting Sodium vapor lamps are used on some highways See Matthew Luckiesh, *Artificial Light* (1920) and *Torch of Civilization* (1940), Jeanette Eaton, *The Story of Light* (1928), F W Robins, *The Story of the Lamp* (1939)

lightning, electrical discharge accompanied by THUNDER, commonly occurring during a THUNDERSTORM The discharge may take place between one part of a cloud and another part, between one cloud and another, or between a cloud and the earth Lightning may appear as a jagged streak (forked lightning), as a vast flash in the sky (sheet lightning), or, rarely, as a brilliant ball (ball lightning) Illumination from lightning flashes occurring near the horizon, often with clear sky overhead and with the accompanying thunder too distant to be audible, is referred to as heat lightning Benjamin Franklin, in his kite experiment (1752), proved the identity of the electricity of lightning (atmospheric electricity) and ordinary electricity He invented the lightning rod, which, when correctly installed on a building, offers a certain degree of protection to the structure during electrical storms

lightship, moored vessel bearing a light to warn ships from dangers of shoal, reef, and rock and to guide them They are used at points where a lighthouse or beacon cannot be erected They vary from small decked boats with automatic lights tended only every few months to ships of several hundred tons and a crew of 15, with powerful light and fog-signal apparatus and good radio equipment for lifesaving The first lightship was built in England in 1732 The first lightship in the United States was posted in Chesapeake Bay in 1820 Shortly before the Second World War, all lightships were made part of the U S coast guard Probably the best-known American lightship is that off Nantucket The duties of lightship crews are so hard that they usually get one month's vacation for every two months of service and are privileged to retire at half pay after 20 years of service In 1935 the Nantucket lightship was sunk when the liner *Olympia* ran into it

light-year. Astronomical distances are so great that the figures, expressed in miles, would be too cumbersome The first astronomical unit used, the distance from earth to sun, is 92,900,000 mi As the telescope penetrated farther into space, this unit became too small, so one based on the speed of light, which is 186,000 mi per second, was used An object is one light-year distant when its light takes one year to reach the observer As all interstellar space is a vacuum, the speed of light does not vary, so one light-year is about 5 87 million million miles The stars nearest to our solar system are Alpha Centauri and Proxima Centauri, both about 4 3 light-years distant

lignaloes: see ALOES

Ligne, Charles Joseph, prince de (shärl' zhōzĕf' prĕs' dŭ lē'nyu), 1735–1814, Austrian field marshal, celebrated for his cosmopolitanism and wit He belonged to an ancient princely family of Hainaut, in the Austrian Netherlands (now Belgium) He held high military and diplomatic posts, was an adviser of Emperor Joseph II, and won the favor of Catherine II of Russia while on mission at her court Though deprived of most of his estates by the French and sunk to a relative obscurity, he continued to take part in European affairs in his last days It was then that he made the most famous of his witty remarks, saying of the Congress of Vienna, *Le congrès danse, mais ne marche pas* Of the 40 volumes of his collected works, his memoirs and his correspondence remain of interest His memoirs, in an easy and unself-conscious style, are the mirror of his personal charm, polished gaiety, and unpretentious wisdom They also paint the portrait of a good European, free from national prejudice A selection of his works appeared in English in 1927

lignite (lĭg'nīt) or **brown coal,** a carbonaceous fuel intermediate between COAL and PEAT, brown or yellowish in color and woody in texture It contains more moisture than coal and tends to dry and crumble when exposed to the air; the flame is long and smoky and the heating power low. It is found chiefly in geologically young formations in the United States, Canada, Germany, and elsewhere

lignum vitae (lĭg'nŭm vī'tē) [Latin, =wood of life], tropical American evergreen tree of the genus *Guaiacum* The hard, heavy, valuable wood, obtained chiefly from *Guaiacum officinale* and *G sanctum*, is used for bearings, blocks, mallets, bowling balls, and other articles The trees are cultivated to some extent in Florida and California for ornament They also yield guaiacum, a gum resin used in certain drugs Various other hardwood trees of Australasia, such as the acacia and the eucalyptus, are popularly called lignum vitae

Ligny (lēnyē'), village (pop 1,965), Namur prov , central Belgium, NE of Charleroi and near Fleurus Here on June 16, 1815, Napoleon I defeated the Prussians under Blücher early in the WATERLOO CAMPAIGN

Ligonier (lĭgŭnēr') **1** City (pop 2,178), NE Ind , NW of Fort Wayne It is a trading center for a rich dairying and poultry-raising area **2** Borough (pop 2,111), SW Pa , SE of Greensburg, laid out 1817, inc 1834 Its industries include coal mining, dairying, and farming.

Liguori, Alfonso Maria de': see ALPHONSUS LIGUORI, SAINT

Liguria (lĭgyō'rēŭ), region (2,089 sq mi , pop 1,466,810), NW Italy, extending along the Mediterranean (called here the Ligurian Sea) from the French border to La Spezia The coastal strip forms the Italian RIVIERA, famed for its scenery, climate, and resorts, further inland rise the Ligurian Alps in the west and the Ligurian Apennines in the east Fishing and the growing of fruit, vegetables, olives, grapes, and some cereals are the main resources along the coast Chestnuts are plentiful in the mountains, which also have extensive pastures GENOA, the capital of the region, is also its commercial, maritime, and industrial center The region is divided into four provinces, Genoa, Imperia, La Spezia, and Savona Liguria derives its name from the ancient Liguri, who occupied the Mediterranean coast from the Rhone to the Arno Celtic migrations drove them (4th cent B C) from the Alpine regions, while the coast was colonized by Phoenicians, Greeks, and Carthaginians The region was subdued (2nd cent B C) by the Romans The salient feature of Ligurian history in the Middle Ages was the long struggle between Genoa and the local feudal lords for control By the 16th cent Genoa virtually controlled all of present Liguria, from that time until its annexation (1815) to the kingdom of Sardinia, Liguria shared the history of its capital

Ligurian Sea, part of the Mediterranean, between the Ligurian coast (Italian Riviera) and the islands of Corsica and Elba It includes the Gulf of Genoa

Lihue (lēhōō'ā), town (pop 4,254), co seat of Kauai co , on the southeast coast of Kauai, T H , near Nawiliwili Harbor Kilohana crater rises just behind Lihue

Li Hung-chang (lē' hōōng'-jäng'), 1823–1901, Chinese statesman and general His first success was as a commander of forces fighting the Taiping Rebellion He controlled Chinese foreign affairs for the dowager empress Tz'u Hsi Li was the chief negotiator of the Treaty of Shimonoseki (1895) which ended the First Chino-Japanese War He protected foreigners when he was viceroy of Canton during the Boxer Rebellion (1900), and he was able to reduce the demands of the foreign powers for reparations His moderately progressive internal policy included modernization of the army and the building of railroads See biography by J O P Bland (1917)

Likhi (lĭk'hī), Manassite 1 Chron 7 19

lilac [ultimately from Persian, =bluish] Since colonial days, the common lilac has been in America one of the best loved of the flowering shrubs and has merited its position by its cone-shaped masses of lavender or white flowers, its fragrance, and its ease of cultivation A familiar shrub of American dooryards, it often marks the site of old farmhouses Some cities (e g , Rochester, N Y) have lilac festivals The purple flower clusters are the floral emblem of New Hampshire From this old-fashioned common lilac (*Syringa vulgaris*) and others, many hybrids have been developed with variations in form (such as double flowers) and in color (such as rosy-pink) These hybrids, which may lack the fragrance of the common lilac, are often called French lilacs, because much of the pioneer hybridizing was done in France The various species of lilac are native to different regions of Europe and Asia Lilacs will bloom profusely under proper care, which includes a sunny situation, occasional fertilizing, removal of fading flowers, and, for older plants, PRUNING Florists often force the shrubs for winter bloom, particularly in Europe Among the available species of *Syringa* which offer some variation from the more popular common lilac are *japonica* (tree form), *oblata* (red autumnal foliage), and *reflexa* (drooping flower clusters) The lilac, botanically *Syringa*, should not be confused with the MOCK ORANGE or syringa, botanically *Philadelphus;* both these plants are sometimes called pipe tree The most famous use of the lilac in poetry is Whitman's elegy on Lincoln, "When

Lilacs Last in the Dooryard Bloom'd." See J. C. Wister, *Lilac Culture* (1930); Alice Harding, *Lilacs in My Garden* (1933).

Lilbourn, city (pop 1,378), SE Mo., near the Mississippi SW of Cairo, Ill.; inc 1910. It is a processing center in a cotton, grain, and timber area.

Lilburne, John (lĭl'bûrn), 1614?–1657, English political leader and pamphleteer for the LEVELERS, an extremist sect in the PURITAN REVOLUTION. Lilburne was tried before the Star Chamber as early as 1638 for his pamphlets against the Anglican establishment and the House of Lords. Imprisoned from 1638 to 1640, he was released with the aid of Cromwell and rose to be a lieutenant colonel in the parliamentary army (1642–45). Resigning because of disagreement with the Presbyterians, he resumed his demands for parliamentary reform and was a tireless pamphleteer for the powerful army following that hoped for a fundamental, democratic revision of the constitution and the social system. From 1646, when he was again arrested, he spent much of his life in prison or exile, but continued his propaganda work even there. His pamphlet, *England's Birthright* (1645), contained the principles which became the basis for the Leveler program later stated in *The Foundations of Freedom, or, An Agreement of the People* (1648). But when Cromwell and his officers arbitrarily revised the agreement they halted the Leveler movement at the moment of Lilburne's greatest power. Lilburne protested the arbitrary rule of the Rump Parliament and, though no royalist, protested the illegal court which condemned Charles I to death. In 1649 Lilburne, with several of his associates, was tried for treason and acquitted. Lilburne hastened the advent of the Commonwealth, but under it he was banished (1652), returned to England, and was again tried and acquitted (1653). He was deemed dangerous and held in confinement. In his last years he became a Quaker. Though a contumacious man, Lilburne had a gift for attracting followers. His political idealism was premature and ineffective, but his personal integrity and sense of justice were of the highest. See biography by M. A. Gibb (1947), bibliography under LEVELERS.

Liliencron, Detlev Freiherr von (dĕt'lĕf frē'hĕr fŏn lē'lyənkrōn), 1844–1909, German lyric poet, b. Schleswig-Holstein. A Prussian army officer, he resigned because of debt, tried his fortunes in the United States for two years, returned to become a minor government official, and at 41 devoted himself to literature. His verse is musical, varied, and powerful. Brahms and Richard Strauss set some of it to music. Besides his lyrics (collected 1897) and ballads, he wrote the humorous epic *Poggfred* (1896, several times reissued, with new verses, before 1900), the stories *Kriegsnovellen* (1895), and novels and plays.

Lilienthal, David Eli (lĭl'yənthôl), 1899–, American public official, b. Morton, Ill., grad. DePauw Univ., 1920, and Harvard Law School, 1923. He was admitted (1923) to the bar, practiced law, and was appointed by Gov. Philip La Follette to the Wisconsin public-service commission. President F. D. Roosevelt made (1933) him one of three directors, together with Arthur E. Morgan and Harcourt Morgan, of the TENNESSEE VALLEY AUTHORITY. There were severe internal struggles as well as violent contests with opponents of the TVA. As chairman (1941–46) of the TVA, he fought bitter battles with various competing private interests, and he insisted on nonpolitical administration. He was appointed chairman of the U. S. Atomic Energy Commission by President Harry S. Truman, and in that office (1947–49) he was a pioneer in civilian control of the American atomic-energy program. He wrote *Democracy on the March* (1944) and *This I Do Believe* (1949). See biography by Willson Whitman (1948).

Lilienthal, Otto (ō'tō lē'lyəntäl), 1848–96, German aeronautical engineer, a pioneer in his experiments with heavier-than-air machines. He made major changes in the glider based on his observations of birds. He wrote *Birdflight as a Basis of Aviation* (1889, Eng. tr., 1911) and *The Flying Machine* (1894). His brother, **Gustav Lilienthal** (gōōs'täf), 1849–1933, was associated with Otto in his flying experiments, he continued them after Otto's death and also made several inventions, including a weatherproofing material.

Lilith (lĭ'lĭth), Jewish demon, originally probably Babylonian. In Talmudic tradition female form and evil attributes were given to this supposedly nocturnal creature, of the various legends connected with her, the one making her Adam's first wife is the strongest. Lilith is used by Goethe in the Walpurgis Night section of *Faust* and by D. G. Rossetti in various poems.

Liliuokalani (lēlēōō"ōkälä'nē), 1838–1917, last reigning queen of the Hawaiian Islands. She ascended the throne in 1891 upon the death of her brother, King Kalakaua. She was out of sympathy with the constitutional reforms inaugurated in 1887 and attempted to brush them aside, whereupon a revolt, fostered largely by American residents of Hawaii, led to her dethronement early in 1893 and the establishment of a provisional government. Failing in an attempt to regain the throne in 1895, she formally renounced her royal claims. Much of the remainder of her life was spent in the United States, where she entered against the Federal government claims totaling $450,000 for property and other losses, but the court decided against her. The territorial legislature of Hawaii finally voted her an annual pension of $4,000 and permitted her to receive the income from a sugar plantation of 6,000 acres. She wrote many songs, including the popular *Aloha Oe* or *Farewell to Thee*.

Lille (lēl), city (pop 179,778), capital of Nord dept., N France, near the Belgian border. It is a manufacturing city and a commercial and cultural center. It has long been known for its textile products, notably lisle (the name is derived from an older spelling of the city's name). It was the chief city of the county of FLANDERS, a brilliant residence of the 15th-century dukes of Burgundy, and (after 1668) the capital of French Flanders. Taken (1708) after a costly siege by Eugene of Savoy and the duke of Marlborough, it was restored to France in the Peace of Utrecht (1713). Lille was occupied by the Germans in 1914–18 and suffered considerable damage in the Second World War. Among the principal buildings of Lille are the huge citadel, one of the finest works of Vauban, the old stock exchange (17th cent.), several fine churches containing paintings of the Flemish school, and the unfinished cathedral (begun 1854). Lille has a large university (founded 1887) and one of the most important art museums in Europe. Its paintings, removed by the Germans in the Second World War but recovered since, include many of the best works of the Flemish, Dutch, French, and Spanish masters.

Lillehammer (lĭl'hŭhamur), town (pop 6,565), co. seat of Opland co., SE Norway, N of Oslo and on the northern end of Lake Mjosa. Founded in 1827, it is a commercial center for the fertile Gudbrandsdal and has a fine open-air museum exhibiting old peasant cottages of the region.

Lillie, Beatrice, 1898–, English comedienne, b. Toronto, Canada. She made her first stage appearance in London in 1914 and in New York in 1924. In *The Nine o'Clock Revue* (1922), *André Charlot's Revue* (1922, 1924), *This Year of Grace* (1928), *The Show Is On* (1937), *Seven Lively Arts* (1945), and *Inside U.S.A.* (1948) she won an international reputation for sophisticated wit and vivacity. She married Sir Robert Peel in 1920.

Lillie, Frank Rattray, 1870–1947, American zoologist and educator, b. Toronto, grad. Univ. of Toronto (B.A., 1891), Ph.D. Univ. of Chicago, 1894. Best known for his work with the Marine Biological Laboratory and the adjacent Woods Hole Oceanographic Institute in Massachusetts, he was an educator for four decades. He began teaching in 1894, was professor of zoology (1906–31) at the Univ. of Chicago, chairman of the department (from 1910), and dean of the division of biology (1931–35). The Marine Biological Laboratory was under his direction (1908–26), and he was its president (1926–39) and president (1930–39) of the Woods Hole Oceanographic Institute. Lillie was managing editor (1902–26) of the *Biological Bulletin*. In addition to many scientific papers he wrote *The Development of the Chick* (1908), a leading text in embryology for several decades, and *Woods Hole Marine Biological Laboratory* (1944).

Lillo, George, 1693–1739, English playwright. He was the author of *The London Merchant, or, The History of George Barnwell* (1731). Using middle-class characters in this play, he created the first modern melodrama, and his naturalistic tendency influenced both Diderot and Lessing.

Lilly, John. see LYLY, JOHN.

Lilly, William (c. 1468–1522) see LILY, WILLIAM.

Lilly, William, 1602–81, English astrologer. He enjoyed some popularity as a prophet and caster of horoscopes. He issued an annual almanac, foretold definite events, and was occasionally embroiled in the politics of the day. He was satirized in Butler's *Hudibras*. Of his many books and pamphlets the *Christian Astrology* (1647) is best known. His autobiography appeared in 1715.

Lilly, borough (pop 2,282), SW Pa., in the Allegheny Mts. SW of Altoona. Coal mining is done here.

Lily, William, c. 1468–1522, English scholar and teacher of grammar. He was the first headmaster of St. Paul's School (after 1512) and co-author of the old Eton Latin grammar. The name also appears as Lilly, Lilye or Lyly.

lily, ornamental herbs, either hardy or tender, of the genus *Lilium*. They are perennial, with scale bulbs, leafy stems, and flowers of great diversity in form and color. Of the 80 or more species native to the Northern Hemisphere, 21 are North American, including the meadow lily, Turk's-cap, and wood lily of the East and the leopard, Washington, and Humboldt lilies of the West. Widely cultivated are the Madonna and the martagon lilies of Europe, the Easter lily, the golden-rayed lily of Japan, and the regal and tiger lilies of China. Many good hybrids have resulted from extensive experiments in recent years. The genus *Lilium* is one of the more than 200 genera and over 2,000 species comprising the large group of Monocotyledons known as the lily family (Liliaceae). Some botanists divide the group into a number of smaller families. Most of the members are perennials, and they usually produce either bulbs or corms. Among the ornamental plants of the family (in addition to the true lilies of the genus *Lilium*) are the day lily, hyacinth, lily of the valley, and tulip. Some members of the family have edible parts (e.g., asparagus and onion) and others are medicinal (e.g., meadow saffron and squill). A number of plants not related to the lily family are called lilies, among these are the calla lily and the water lily. The blossoms of the amaryllis resemble lilies, but this plant belongs to the family Amaryllidaceae. In religion and art the lily symbolizes purity, and as the flower of the Resurrection and of the Virgin it is widely used at Easter. The lily of the Bible has sometimes been identified with the scarlet anemone (Cant. 2:1), the "lilies of the field" (Mat. 6:28) probably mean any wild flowers, perhaps the iris. See H. B. Woodcock and John Coutts, *Lilies. Their Culture and Management* (1935), G. L. Slate, *Lilies for American Gardens* (1939), Alan Macneil and E. L. Macneil, *Garden Lilies* (1946), Isabella Preston, *Lilies for Every Garden* (1947).

Lilybaeum (lĭlĭbē'um), ancient city, Sicily, the modern MARSALA. It is on the extreme W coast near Cape Lilybaeum (today Lilibeo). It was founded by Carthage (396 B.C.) and became a stronghold. In the First Punic War it resisted a long Roman siege (250–242 B.C.).

lily of the valley, hardy perennial spring-blooming herb (*Convallaria majalis*) native to Europe, Asia, and the mountains of the SE United States. It grows in shady places and is cultivated for its delicate, bell-shaped, fragrant white flowers growing on a stalk between two shiny leaves. The plant was long used medicinally in cardiac troubles and contains poisonous principles. It is a symbol of humility in religious painting.

Lima (lē'mə, Span. lē'mä), city (pop 533,645), W Peru, capital of Lima dept., capital and largest city of Peru. Its port is CALLAO. Founded Jan. 18, 1535, by Francisco PIZARRO, Lima is the second oldest capital city in South America. Its cultural supremacy on the continent was contested in colonial times only by Bogotá, Colombia, and its lavish magnificence and political prestige its only peer in Spanish America was Mexico City. Named the City of Kings by Pizarro, Lima derives its present name from the RÍMAC river, as do lima beans, which are native to the valley. The central square, the Plaza de Armas, focus of the capital's life and scene of its historical pageantry, is dominated by the huge national palace and the cathedral. The cathedral, begun by Pizarro's order and containing under glass what are claimed to be his shriveled remains, was almost totally destroyed by the earthquakes of 1687 and 1746, along with much of the city. Subject to frequent shocks, Lima shows the architectural styles prevalent at various periods, much of the city is characterized by the steel and concrete of modern buildings. While many streets are narrow and preserve some of the colonial atmosphere, there are spacious boulevards which traverse the entire metropolitan area. Smaller squares, statues of national heroes, parks, and botanical gardens are common. Besides the palace, the cathedral, and numerous churches, other public buildings of note are the National Library, founded in 1821 by SAN MARTÍN, and the Univ. of San Marcos, founded in 1551. The library, which once contained priceless documents of the Spanish Conquest and rare European books, was looted by Chilean soldiers during Chile's occupation of Lima (1881–83) in the War of the Pacific. The university retains its prominence as one of the finest in South America. With an annual mean temperature of about 66°F., Lima has a cool climate which varies only slightly according to season, but is subject to the fogs and heavy mists peculiar to Peru's southern desert coast during the winter months. It almost never rains. Not far from the city are the pre-Incan ruins, PACHACAMAC, where Pizarro encamped while his capital was being planned and begun.

Lima (lī'mə), city (pop 44,711), co. seat of Allen co., NW Ohio, N of Dayton, laid out 1831, inc. 1842. Locomotives, Diesel engines, steel castings, and cigars are among its varied products. There are limestone quarries here. Near by is a state hospital for the criminal insane.

Liman von Sanders, Otto (ō'tō lē'män fŭn zan'-durs), 1855–1929, German general. He headed the German military mission to Constantinople to reorganize the Turkish army (1913). In the First World War he commanded Turkish armies in the GALLIPOLI CAMPAIGN (1915–16) and was given supreme command in Palestine (1918). There he was defeated by Allenby and T. E. Lawrence.

Limassol (lēməsōl'), city (pop 22,799), S Cyprus, a Mediterranean port. It has a large wine trade. Here in 1191 Richard I of England married Berengaria.

Limburg (lĭm'bûrg, Flemish lĭm'bûrkh), Fr. *Limbourg* (lĕbōōr'), province (930 sq. mi.; pop. 447,351), NE Belgium, bordering on the Netherlands in the east and north. Hasselt (the capital), Tongres, and Saint-Trond are the chief towns. The province is traversed by the Meuse river and the Albert Canal. Largely agricultural, it has a coal-

mining industry in the CAMPINE region. Most of the region was included until 1792 in the prince-bishopric of LIÉGE. It became (1815) part of the Dutch province of Limburg (see separate article), which was divided between the Netherlands and Belgium in 1839. The province is largely Flemish-speaking.

Limburg (lĭm'bûrg, Dutch lĭm'bûrkh), province (846 sq mi, pop 677,623), SE Netherlands, bordering on Belgium in the west and south and on Germany in the east. MAASTRICHT, on the Meuse river, is the capital. In the hilly southern section of the province are the chief coal deposits of the Netherlands, centered around Heerlen. Other towns are Roermond and Venlo. Limburg is predominantly Roman Catholic. It takes its name from the former duchy of Limburg, which comprised the southern part of the modern province, including Maastricht, and an eastern portion of modern Liége prov., Belgium. The small town of Limbourg, E of Liége, was its capital. In the Peace of Westphalia (1648) the duchy was divided between the United Netherlands (which received Maastricht) and the Spanish Netherlands. It was united (1815) under the kingdom of the Netherlands. Limburg prov., as established in 1815, no longer corresponded to the borders of the old duchy. It was contested after the establishment (1831) of an independent Belgium. The Dutch-Belgian treaty of 1839 divided the territory, which was incorporated, respectively, with the Dutch and Belgian provinces of Limburg.

lime in botany, small shrublike tree (*Citrus aurantifolia*), one of the citrus fruit trees, similar to the lemon but more spreading and irregular in growth. It is native to SE Asia and has been introduced into S Europe, the West Indies, Mexico, and Florida. It is the most susceptible to frost injury of all citrus fruits, this confines its commercial culture in the United States to the southernmost parts of Florida. Here some of the varieties often do well in sandy or rocky soils—conditions usually unfavorable to most citrus fruits. It is propagated from seed, buds, or cuttings and in other respects its culture is similar to that of the lemon, though the trees may be planted closer. The fruit is smaller than the lemon, more globular, more acid, and with a thinner rind. It has the vitamin value and other properties of the citrus fruits. The juice has long been known as a preventive of scurvy and is one of the main sources of CITRIC ACID. The name lime is also applied to the linden, or BASSWOOD tree, and sometimes to a species of tupelo or sour gum—the Ogeechee lime.

lime or quicklime, calcium oxide, a compound of calcium and oxygen, a common, white, amorphous solid, fusible with great difficulty (melting point= 2570°C.). The Drummond light or limelight was produced by directing an oxyhydrogen flame against a cylinder of lime. Lime is prepared by heating LIMESTONE (calcium carbonate) in a kiln, when it is formed with the evolution of carbon dioxide. Lime is of great importance in industry, being used in making porcelain and glass, in the purification of sugar, and in preparing alkalies, chloride of lime (bleaching powder), calcium carbide used in generating acetylene, and calcium cyanamide used as a fertilizer. In agriculture it is used for treating soils and for certain insecticide sprays. Lime, a typical basic oxide (basic ANHYDRIDE), reacts with water with the evolution of much heat to form calcium hydroxide. The process is known as slaking and the hydroxide, consequently, as **slaked lime.** This substance is white and resembles lime but is a more bulky powder. It is the common form in which lime is sold and used. When mixed with sand, mortar is formed. Plaster, prepared in a similar way, usually contains hair. Slaked lime is slightly soluble in water, the clear solution is known as **LIMEWATER,** the suspension in water as milk of lime, and the emulsion with linseed oil as CARBON OIL. WHITEWASH contains lime slaked in a small quantity of water and mixed with other substances. In agriculture slaked lime is used (liming) to counteract acidity in soil caused by the presence of too much decaying organic matter or of undesirable organisms. It is employed also in the refining of beet sugar. In most industrial processes the lime to be used is generally slaked first. Because of its low cost, it is widely used when a strong base is necessary. It is employed in tanning to remove hair from hides. **Lime-sulphur,** formed by mixing slaked lime with sulphur, is a mixture of calcium sulphides, used as an insecticide.

Limehouse, parish of Stepney metropolitan borough, London, England, on the Thames. A district of docks, wharves, warehouses, factories, and workers' homes, it suffered widespread damage in air raids in 1940–41.

Limerick (lĭ'mərĭk), county (1,037 sq. mi; pop 142,559), S Ireland, in Munster. Limerick, a port formerly of greater importance, is the county seat and only town of any size. The region is an agricultural plain lying S of the Shannon estuary. The Golden Vale in the eastern part of the county and the Shannon bank are especially fertile. Dairy farming and salmon fishing are the chief occupations. On the Shannon above Limerick is an important hydroelectric plant. There is some manufacture of wool, paper, and flour. After the Anglo-Norman invasion and organization of Limerick as a shire (c 1200) the district was controlled for many centuries by the Desmond Fitzgeralds.

Limerick, county borough (pop 42,987), co. seat of Co. Limerick, Ireland, at the head of the Shannon estuary. The town is a seaport with quays and graving and floating docks. It was occupied by the Danes in the 9th cent., under Brian Boru became the capital of Munster, was taken by the English toward the end of the 12th cent., and in 1689 was James II's last stronghold in Ireland. There are three sections—English Town, the oldest, which originated in King John's time, on King's Island, Irish Town to the south, and Newtown Pery, S of Irish Town, founded in 1769. The Treaty Stone on which was signed (1691) the treaty granting the Irish and Catholics certain rights, chiefly the guarantee of political and religious liberty to Roman Catholics, is preserved. The repeated violations of this treaty in the reigns of William III and Queen Anne caused Limerick to be called City of the Violated Treaty. There are a Protestant cathedral (12th cent.), a Roman Catholic cathedral, and the Norman castle of King John. Industry includes salmon fishing, bacon curing, flour milling, and lacemaking.

Limerick, town (pop 1,080), SW Maine, W of Portland, settled c 1775, inc 1787.

limerick, type of humorous verse. It is always short, often nonsensical, and sometimes ribald. Of unknown origin, the limerick is popular rather than literary and has recently been used in advertising. The rhyme scheme of most limericks is usually *aabba*, as in the following example:

> There was an old dame of Nantucket
> Who kept all her cash in a bucket.
> Her daughter, named Nan,
> Ran away with a man,
> And as for the bucket, Nantucket.

The most famous collection of limericks is Edward Lear's *Book of Nonsense* (1846). See Carolyn Wells, *Book of American Limericks* (1925), Herbert Reed, *Complete Limerick Book* (1926), H. I. Brock, comp., *The Little Book of Limericks* (1947).

Limestone, town (pop 1,855), NE Maine, ENE of Caribou near the N.B. line, in potato-growing country, settled 1849, inc 1869. It is a port of entry.

limestone, sedimentary rock wholly or in large part composed of calcium carbonate. It is ordinarily white but may be colored by impurities, iron oxide making it brown, yellow, or red and carbon making it blue, black, or gray. The texture varies from coarse to fine. Most limestones are formed by the deposition and consolidation of the skeletons of marine invertebrates, some few originate from chemical precipitation from solution. Limestone deposits are frequently of great thickness. The action of organic acids on underground deposits causes such formations as the Luray Caverns, the Carlsbad Caverns, and Mammoth Cave. Limestone is used as a flux in the extraction of iron, as an ingredient in Portland cement, as a source of LIME, as a building stone, and for ornamental purposes. Among the important varieties of limestone are MARL, CHALK, OOLITE, TRAVERTINE, DOLOMITE, and MARBLE.

Limestone College. see GAFFNEY, S.C.

lime-sulphur. see LIME.

limewater, clear solution of calcium hydroxide, or slaked lime in water. It is commonly used in the laboratory in testing for carbon dioxide, since it becomes cloudy because of the formation of a white precipitate of calcium carbonate. It is used also in treating acid burns. The solution is not poisonous and is used in medicine as an antacid.

Lim Fjord (lēm' fyôrd'), strait cutting across N Jutland, Denmark, and connecting the North Sea with the Kattegat. It is c 110 mi. long and very irregular in shape, forming a lagoon 15 mi. wide in its middle section; its maximum depth is 50 ft. There are several islands, notably MORS. Before 1825, when the fjord cut through to the North Sea, its western part consisted of several freshwater lakes, drained into the Kattegat through the eastern part. Aalborg is the chief port on the waterway.

liming (lī'mĭng), application to the soil of the element calcium in various forms, e.g., marl, chalk, limestone, shells, or hydrated lime. Lime benefits soil by neutralizing acidity, improving texture, and increasing the activity of soil bacteria. It enables the bacteria on the roots of legumes, as alfalfa and the clovers, to secure nitrogen from the air in the soil, making the soil richer in nitrogen. Its good effect was recognized in ancient Rome, and it was extensively used in France and England during the Middle Ages. Some soils are naturally supplied with enough lime, and an oversupply may be injurious to plant growth. See publications of the U.S. Dept. of Agriculture.

Limoges (lĭmōsh', Fr. lēmôsh'), city (pop 63,225), capital of Haute-Vienne dept., S central France, on the Vienne. An ancient town, it became (10th cent.) the seat of the viscounty of Limoges and (1589) the capital of LIMOUSIN prov. It was often visited by war, pestilence, and famine. Richard Cœur de Lion (Richard I of England) was killed in battle near Limoges (1199). In 1371 EDWARD THE BLACK PRINCE burned the city and massacred its inhabitants, including women and children. The famous Limoges enamel industry was fully developed by the 13th cent. and culminated in the work of Léonard LIMOUSIN, but it declined when Limoges was once more devastated in the Wars of Religion. TURGOT, who was intendant of Limoges (1761–74), brought back its prosperity by introducing its celebrated china manufactures. Limoges has a cathedral (13th-16th cent.), a notable ceramics museum, and an art gallery which includes works by Renoir, who was born here.

Limón (lēmōn'), Caribbean port (1944 estimated pop 10,033), E Costa Rica. Hot, but clean and healthful, Limón has modern, efficient port facilities developed by the United Fruit Company. Founded by Minor Cooper KEITH when he began building (1874) the railroad to San José, the capital, it is the leading port of the country. Chief exports are coffee and bananas. Recently developed is the balsa industry. Columbus may have visited the site on his voyage in 1502.

Limon (lī'mən), town (pop 1,053, alt 5,280 ft.), E Colo., SE of Denver and on the Big Sandy River, founded 1888, inc 1909. It is a trade and shipping center for a farm area.

limonite (lī'mənīt), **brown hematite** (hĕ'mətīt, hē'–), or **bog iron ore,** a yellowish to dark brown, amorphous mineral, a hydrated oxide of iron, occurring commonly in deposits of secondary origin, i.e., those formed by the alteration of other minerals containing iron. It serves as a pigment (see OCHER) and as an ore of iron, it is found widely distributed throughout Europe and in the E United States.

Limosin, Léonard see LIMOUSIN, LÉONARD.

Limousin or **Limosin, Léonard** (lēônar' lēmōōzĕ', lēmōzĕ'), c 1505–c 1577, French painter in enamel, most celebrated member of a family of Limoges enamel artists. His earliest authenticated works (1532) show both German and Italian influence. He was court painter and *valet de chambre* to Francis I and Henry II, executing for them plates, vases, goblets, medals, and exquisite portraits in enamel which included numerous plaques of Diane de Poitiers. He is said to have executed over 2,000 enamels, distinguished for their individuality of style, graceful design, and splendid color. His art is best studied in the Louvre, which possesses many portraits and two celebrated votive tablets of 23 plaques each. There are also excellent examples in the Limoges and Chantilly museums and the Cluny Museum, Paris, and in the Metropolitan Museum, which has portraits of Francis I and Henry d'Albret, king of Navarre. See study by Louis Bourdery and Emile Lachenaud (1897).

Limousin (lēmōōzĕ'), region and former province, S central France, W of the Auvergne Mts., which continue in the arid Limousin hills. It is occupied by Corrèze dept. and most of Haute-Vienne dept. LIMOGES, the historical capital, is the center of ceramics industries, for which the abundant kaolin of the region is used, both Limoges and Tulle are important markets for the cattle raised in most of Limousin. Brive-la-Gaillarde is surrounded by fertile lowlands. In 1152 the region, divided into several viscounties enfeoffed to the duchy of AQUITAINE, passed under English domination. Philip II of France contested it with Richard I of England, who fell (1199) near Limoges. Philip annexed it in 1204, but in 1259 Louis IX ceded it to the English. Ravaged by EDWARD THE BLACK PRINCE in the Hundred Years War, it was reconquered for France by Bertrand du Guesclin. The viscounty of Limoges, held by the Bourbon-Vendôme family, was incorporated into the royal domain only in 1589 when Henry IV ascended the French throne. Colbert, when he created the intendancies as administrative units for France, united Limousin, Marche, and Angoulême in the intendancy of Limoges, which remained a depressed area until TURGOT became intendant (1761–74) and introduced his reforms.

limpet, marine gastropod mollusk allied to the snails and slugs. It has a low conical shell and a suckerlike foot with which it clings to rocks or creeps over rocky shores. It feeds on algae and seaweeds. Some species are useful as food and bait.

Limpopo (lĭmpō'pō), river, c 1,000 mi. long, rising in Transvaal prov., Union of South Africa. It flows in a great arc, north and then southeastward, through South Africa, along the border of South Africa and Southern Rhodesia, and through Mozambique into the Indian Ocean. It is navigable for c 100 mi. above its mouth. It was formerly sometimes called the Crocodile river.

Linacre or **Lynaker, Thomas** (both. lī'nukur), 1460?–1524, English humanist and physician. He took the degree of doctor of medicine at the Univ. of Padua, returned to England c 1492, and became tutor to Prince Arthur and later physician to Henry VIII. He was interested in the humanistic revival, wrote a Latin grammar (c.1523) for Princess Mary, and included among his pupils Desiderius Erasmus and Sir Thomas More. Linacre translated many of Aristotle's and Galen's works into Latin and found-

ed readerships in medicine at Oxford and Cambridge. He was the founder and first president of the Royal College of Physicians See biography by Sir William Osler (1908)

Linares (lēnä'rĕs), city (pop 31,720), Jaén prov, S Spain, in Andalusia. The rich silver and lead mines near by have brought prosperity to the city, which now has many metallurgical industries. Near here are ruins of the Roman town Castulo

Lincoln, Abraham, 1809–65, 16th President of the United States Born on Feb 12, 1809, in a log cabin in backwoods Hardin co, Ky (his birthplace is now in Larue co), he grew up on newly broken pioneer farms as the family moved forward, always on the edge of the frontier. His father, Thomas Lincoln, was a migratory carpenter and farmer, nearly always poverty-stricken His mother was Nancy Hanks, a shadowy figure of history, who died in 1818, not long after the family had settled in the wilds of what is now Spencer co, Ind Thomas Lincoln soon afterward married Sarah Bush Johnston, a widow, she was a kind and affectionate stepmother to the boy The young Lincoln grew up in Indiana, battling with all the hardships of pioneer life Of formal schooling he had almost none the scattered weeks of school attendance in Kentucky and Indiana amounted in all to less than a year Yet so avid was he for learning that he schooled himself, reading over and over the small stock of books that he could acquire By the light of the hearth fire he did his sums on boards that he shaved off for the purpose His first glimpse of the world came in his voyage down river to New Orleans on a flatboat, in 1828 Of that journey almost nothing is known In 1830 the Lincolns moved once more, into Macon co, Ill Young Abe had by then grown to be a tall (he was 6 ft 4 in), rawboned young man of great strength and a singularly homely face. He soon set out to make his own way in the world, and, after another trip down the river to New Orleans, he settled in the unthriving little village of New Salem, Ill, not far from Springfield There he remained from 1831 to 1837 He worked in a store, managed a mill, then was a partner in a grocery store that failed, leaving him a heavy burden of debt He split rails and did odd jobs for a living, was village postmaster, studied surveying and worked for a time as surveyor, and all the while studied law and sought to improve his education He won much popularity among the inhabitants of the frontier town by his great strength, his inimitable ability at telling stories, but most of all by sheer character His honesty has become almost proverbial in America His sincerity and his capability won respect that was secured by his ability to hold his own in the roughest society He was chosen captain of a volunteer company gathered for the Black Hawk War, but the company did not see service In 1834, Lincoln was elected to the state legislature, in which he served for four terms (until 1841) The story of his brief and tragic love affair with Ann Rutledge (who died in 1835), which supposedly occurred at this time, is now discredited He achieved prominence as a Whig in the legislature In 1836 he obtained his license as an attorney and the next year he moved to Springfield, where he and J T Stuart became law partners Lincoln's practice steadily increased in the years that followed The first partnership was succeeded by others, with Stephen T Logan and then with William H Herndon, who was later his biographer Lincoln displayed great ability in law, a ready grasp of argument and sincerity, color, and lucidity of speech He settled into a rut of small-town life In 1842 he married Mary Todd after a troubled courtship He continued his interest in politics and entered on the national scene by serving one term in Congress (1847–49). He remained obscure, and his attacks as a Whig on the motives behind the Mexican War (though he voted for war supplies) seemed unpatriotic to his constituents, and he lost popularity at home Lincoln, in disgust, retired from politics and settled down to the practice of law He grew, rather than diminished, in stature as a public figure The prairie lawyer emerged again into politics in 1854, when he was caught up into the rising quarrel of section against section in the United States He stoutly opposed the policy of Stephen A Douglas and particularly the Kansas-Nebraska Bill In a speech at Springfield, repeated at Peoria, he attacked the compromises concerning the question of slavery in the territories and appealed to the purely democratic phrases of the Declaration of Independence The next year he sought to become a Senator, but failed He had already realized that his sentiments were leading him away from the Whigs and toward the new Republican Party, and in 1856 he became a Republican and made a notable, though unrecorded, speech before the state convention of the party He quickly came to the fore as a moderate opponent of slavery, who could win both the abolitionists and the conservative Free Staters. In 1856 he was prominent as a possible vice presidential candidate, but it was not until two years later that he emerged from obscurity into national prominence, when he was nominated by the Republican Party to oppose Douglas in the senatorial race Lincoln's speech of acceptance, delivered at Springfield on June 16, contained a ringing declaration in support of the Union. This was the speech in which he declared that "A house divided against itself cannot stand" The campaign that followed was impressive Lincoln challenged his opponent to a series of debates, and the seven debates held were momentous in their suggestion In these Lincoln-Douglas debates, the backwoods lawyer delivered masterful addresses for the Union and for the pure democratic ideal He was not an abolitionist, but he regarded slavery as an "injustice" and an evil, and uncompromisingly opposed its extension In the debate at Freeport (Aug 27) he embarrassed Douglas, who, in an effort to reconcile the Dred Scott decision and the "squatter sovereignty" principle, enunciated the Freeport doctine, that doctrine was to cost Douglas many Southern votes Though his opponent won the election, Lincoln had made his mark by the debates He was a potential presidential candidate His first appearance in the East was in February, 1860, when he spoke at Cooper Union in New York city He gained a large following in all the antislavery states, but he still might not have been nominated for President by the Republican Convention in Chicago (May, 1860), but for the enemies of William H Seward, the leading contender Lincoln was nominated on the third ballot In the election the Democratic party split, and there were four candidates, including Douglas, for the presidency Lincoln was victorious at the polls, Nov 6 1860 The South regarded his election as the end of the South, and in the months that followed the two sections drifted closer and closer to war Lincoln killed the Crittenden Compromise by refusing to accede to it, no settlement of the sectional quarrel was effected Lincoln was determined to preserve the Union at all costs His course in the matter of provisioning Fort Sumter was complicated by the actions of Seward, who had been made Secretary of State Secession Lincoln condemned In April, 1861, Fort Sumter was fired on and the Civil War began Lincoln became the leader of the people of the North in the greatest crisis and the most tragic interlude through which the United States has passed Whatever criticism may be leveled against him for his vacillation and his putative responsibility for the outbreak of the war, it is generally agreed that he attacked the vast problems of the war with vigor and surpassing skill His war message to Congress, his sharp executive actions in suspending constitutional rights and in inaugurating the operations of the war, all paved the way for his wise control that amounted practically to dictatorship Yet even in prosecuting Southern sympathizers in the North (for which he has been much criticized) he sought to temper punishment with mercy He seems to have felt sorrow rather than anger toward the South He was beset not only by the difficulties of the war, but by opposition of men on his own side His cabinet was rent by internal jealousies and hatred, radical abolitionists condemned him as too mild, conservatives were gloomy over the outcome of the war In the midst of all this strife Lincoln continued his course, sometimes almost alone, yet persevering with wisdom and patience The course of battle went against the North at first and there was a hasty succession of Union commanders in chief, this was partially due to Lincoln's own lack of military knowledge, he was in constant trouble with the generals The somewhat dubious victory at Antietam (1862) gave the President his chance to make a great stroke of political and diplomatic policy in the Emancipation Proclamation, which gave a high moral tone to the Northern cause The restoration and preservation of the Union was still the main tenet of Lincoln's war aims He kept close to the heart of his people, and the sorrows of war and its rigorous necessity afflicted him, both he expressed in what is certainly one of the noblest public speeches ever made, the Gettysburg Address, made at the dedication of the soldiers' cemetery at Gettysburg in 1863 The forces of his enemies gathered against him, and for a time he was threatened by the desertion of the Republican leaders as well as by a strong opposition party, in the presidential election which loomed ahead in the dark days of 1864, but a turn for the better took place before the election, a turn brought about to some extent by the change of fortunes in arms after Ulysses S Grant became commander and particularly after William T Sherman took Atlanta Lincoln was reelected over George B McClellan by a great majority. His second inaugural address, delivered when the war was drawing to its victorious close, was a plea for the new country that would arise from the ashes of the South, and his large-souled view of the South and his purpose expressed in the memorable phrase, "With malice toward none; with charity for all," presaged a peace without conquest, a Reconstruction without destruction He lived to see the end of the war, but he was not to try his hand at reconstructing the Union. On the night of April 14, 1865, when attending a performance at Ford's Theater, he was shot by the half-mad actor, John Wilkes Booth. The next morning Lincoln died His death was the occasion of grief even among the men who had been his opponents, and as a martyred President he became a titanic figure As time passed he became more and more the object of adulation, men of both North and South, ignoring or arguing around palpable mistakes and faults and vacillations, heaped praise beyond reason upon him, and a full-blown "Lincoln legend" appeared Yet, no man in American history is dearer to the hearts of the people than this uncouth backwoods lad who came to be the savior of the Union and the symbol of the pioneer and of American democracy Paintings, sculptures, and architectural works memorialising Lincoln are legion, and he has perhaps been written about more than any other American figure Not only innumerable biographies but novels, poems (including some of the finest in American literature), plays, and many essays have been devoted to him. The Robert Todd Lincoln Collection of the Papers of Abraham Lincoln in the Library of Congress, opened in 1947, will doubtless add to the flow of books about Lincoln His own writings have been edited by J G Nicolay and John Hay (2 vols., 1894, new and enlarged ed, 12 vols, 1905–6), A B. Lapsley (8 vols, 1905–6), Philip Van Doren Stern (1940), and R P Basler (1946) G A Tracy compiled *Uncollected Letters of Abraham Lincoln* (1917) and R R Wilson assembled *Uncollected Works of Abraham Lincoln* (2 vols, 1947–49) The most complete bibliography is Jay Monaghan, *Lincoln Bibliography, 1839–1939* (2 vols, 1943–45) See also Paul M Angle, *A Shelf of Lincoln Books* (1946) One of the most important early biographies was W H Herndon and J W Weik, *Herndon's Lincoln* (3 vols, 1889, edited by Paul M Angle, 1930) J G Nicolay and John Hay wrote the monumental *Abraham Lincoln a History* (10 vols, 1890) Probably the most popular biography is Carl Sandburg, *Abraham Lincoln the Prairie Years* (2 vols, 1926), and *Abraham Lincoln the War Years* (4 vols, 1939) An outstanding work is Albert J Beveridge, *Abraham Lincoln, 1809–1858* (2 vols, 1928). See also biographies by Lord Charnwood (1916), N W. Stephenson (1922), and W E Barton (2 vols, 1925) Almost the only work portraying Lincoln in a completely unfavorable light is Edgar Lee Masters, *Lincoln the Man* (1931) Preeminent among the special studies on Lincoln are those of James G Randall See also T H Williams, *Lincoln and the Radicals* (1941), H J Carman and R H. Luthin, *Lincoln and the Patronage* (1943), F H Meserve and Carl Sandburg, *The Photographs of Abraham Lincoln* (1944), Jay Monaghan, *Diplomat in Carpet Slippers* (1945), B J Hendrick, *Lincoln's War Cabinet* (1946), B P Thomas, *Portrait for Posterity Lincoln and His Biographers* (1947), Paul M. Angle, ed, *The Lincoln Reader* (1947), W B Hesseltine, *Lincoln and the War Governors* (1948), D C. Mearns, ed, *The Lincoln Papers* (2 vols, 1948), A H Shaw, ed, *The Lincoln Encyclopedia* (1950)

Lincoln, Benjamin, 1733–1810, American Revolutionary general, b Hingham, Mass He served under Horatio Gates in the Saratoga campaign before becoming (1778) commander in the South In 1779 he failed, in conjunction with a French fleet under Admiral d'Estaing, to take Savannah and was beaten back to Charleston, where he surrendered (1780) to an overwhelming force commanded by Sir Henry Clinton Lincoln was exchanged in time for the Yorktown campaign and received Cornwallis's sword at the surrender In 1787 he commanded the Massachusetts state militia which helped suppress Shays's Rebellion

Lincoln, Joseph Crosby, 1870–1944, American novelist, b Brewster, Mass His numerous regional novels of Cape Cod include *Cap'n Eri* (1904), *Shavings* (1918), *Fair Harbor* (1922), and *The Bradshaws of Harniss* (1943) *Cape Cod Yesterdays* (1945) contains reminiscences

Lincoln, Levi, 1749–1820, American statesman, b. Hingham, Mass, grad Harvard, 1772 A lawyer, he held various local offices in the American Revolution and later became a Jeffersonian political leader Lincoln resigned from Congress (1801) and served (1801–4) as U S Attorney General He was later lieutenant governor and governor of Pennsylvania

Lincoln, Levi, 1782–1868, American statesman, b Worcester, Mass, grad Harvard, 1802, son of Levi Lincoln (1749–1820) He became a lawyer (1805) and held several public offices Lincoln became lieutenant governor (1823) and associate justice of the state supreme court (1824) As governor of Massachusetts (1825–34) he proved able and popular He was sent to Congress as a Whig (1835–41)

Lincoln, Mary Todd, 1818–82, wife of Abraham Lincoln, b Lexington, Ky Of a good Kentucky family, she was living with her sister, daughter-in-law of Gov Ninian Edwards of Illinois, in Springfield when she met and married (1842) Lincoln It has been generally said that their married life was not happy, and many unkind comments have been made concerning Mary Lincoln, especially by William H Herndon, Lincoln's friend and biographer Of the four sons she bore (Robert Todd, Edward Baker, William Wallace, and Thomas or "Tad"),

only Robert Todd lived to manhood. The death of Willie in 1862 was a great sorrow to both Abraham and Mary Lincoln, and Tad's death in 1871 seems to have unsettled her mind (already affected by seeing her husband murdered at her side) She later was, however, adjudged sane. See biographies by Katherine Helm (1928) and by Carol Sandburg and Paul M. Angle (1932), W A Evans, *Mrs Abraham Lincoln· a Study of Her Personality and Her Influence on Lincoln* (1932).

Lincoln, Robert Todd, 1843–1926, American lawyer and public official, b Springfield, Ill, grad Harvard, 1864, son of Abraham Lincoln He served on Grant's staff and after the Civil War studied and practiced law in Chicago. An able corporation lawyer, he served chiefly railroad interests and was president of the Pullman Company from 1897 to 1911 Lincoln was of retiring disposition and avoided public affairs He never ran for office, but was Secretary of War under Presidents Garfield and Arthur and minister to Great Britain under President Benjamin Harrison. Access to those papers of his father which he owned was denied by Lincoln to all except the authorized biographers, Nicolay and Hay. However, he left the papers to the Library of Congress on the condition that they be sealed until 21 years after his death, and on July 26, 1947, the Robert Todd Lincoln Collection of the Papers of Abraham Lincoln was opened to the public

Lincoln, county, England see LINCOLNSHIRE.

Lincoln, county borough (1931 pop 66,243, 1947 estimated pop 66,130) and city, co seat of Lincolnshire, England, in the Parts of Lindsey, on the Witham and N of London It was an ancient British fort, the Roman Lindum or Lindum Colonia, and was important under the Danes in the 9th cent The modern city is a center of water and rail transportation and manufactures radios, machinery, light-metal products, automobile parts, and food products The great Lincoln Cathedral, built from 1075 to 1501 and extensively repaired in 1922–32 (with some American contributions), has a central tower 271 ft high, containing the famous bell "Great Tom of Lincoln" The Lincoln Castle was begun by William I in 1068. It was several times the center of strife and siege (Empress Matilda recovered it from Stephen in 1141, and the parliamentarians besieged it in 1644) The town was burned in the 12th cent, and five parliaments were held in Lincoln in the 14th cent For centuries horse races and fairs have been held in the town

Lincoln. 1 City (pop 2,044), N central Calif, NNE of Sacramento, in a fruit and grain area of the Sacramento valley, inc 1890 Clay products are made here, and fruit is processed. **2** City (pop 12,752), co seat of Logan co, central Ill, NNE of Springfield, in a farm and coal area, settled in the 1830s, platted and promoted with the aid of Abraham Lincoln 1853, inc 1857 It is a shipping and industrial center with china and cigar factories and a creamery Lincoln practiced law here from 1847 to 1859 Lincoln College (junior, 1865), now part of James Millikin Univ, and a state school for the feeble-minded are here **3** City (pop 1,761), co seat of Lincoln co, N central Kansas, on the Saline and NW of Salina; laid out 1871, inc 1879 It is a shipping point for wheat and livestock and has limestone quarries. **4** Town (pop 3,653), central Maine, on the Penobscot above Bangor, settled c 1825, inc 1829. Its earliest name survives in the name of Mattanawcook Pond Textiles, paper, and lumber are produced **5** Town (pop 1,783), E Mass, SE of Concord; settled c 1650, set off from Concord, Lexington, and Weston 1754 **6** City (pop 81,984), state capital, and co seat of Lancaster co, SE Nebr, c.50 mi W of the Missouri, in a prairie area Founded in 1864 as Lancaster, it was chosen the site of the capital in 1867 and was replatted as Lincoln It was incorporated in 1869 and in 1887 made a city of the first class In 1913 Lincoln adopted the commission form of government It is the educational center of the state and the railroad, trade, and industrial center for a large grain and livestock area Farm machinery, woodwork, rubber goods, and brick are produced, and farm products are processed and shipped The state capitol, designed by B G Goodhue, with sculptures by Lee Lawrie, was completed in 1934, it is a fine example of modern architecture The city is the seat of the Univ of Nebraska (see NEBRASKA, UNIVERSITY OF), Union College (Seventh-Day Adventist, coeducational, 1891), and Nebraska Wesleyan Univ (coeducational, 1887) Many state institutions are here the historical society and its museum, the penitentiary, an insane asylum, the home for dependent children, the reformatory for men, the orthopedic hospital, and the fair. It has a veterans' hospital, a flying school, an airport, and a municipal park. W J Bryan lived here from 1887 to 1916 **7** Town (pop. 1,560), N central N.H., in the White Mts S of Franconia Notch, inc 1764 Lumbering and logging are done here. **8** Town (pop. 10,577), NE R I, set off from Smithfield and inc. 1871 Limestone has been quarried in the town since colonial times Many pre-Revolutionary houses and a state park are here.

Lincoln, Mount, peak, 14,284 ft high, central Colo, highest of the Park Range of the Rockies.

Lincoln City, settlement, SW Ind., NE of Evansville, laid out 1872 on the site of the farm of Thomas Lincoln Lincoln State Park, S of, and adjoining, the town, has a Nancy Hanks Lincoln Memorial (where she is buried) and is the site of the Lincoln cabin, built in 1816

Lincoln College· see OXFORD UNIVERSITY.

Lincoln Memorial, monument in Potomac Park, Washington, D C, designed by Henry Bacon Like a Greek temple, with a colonnade of 36 Doric columns, the building has a heroic statue of Lincoln by Daniel Chester French and murals by Jules Guérin. The memorial was dedicated in 1922

Lincoln Memorial University, at Harrogate, Tenn, near the Ky and Va lines, nonsectarian, coeducational, chartered 1897 for the mountain people It is a liberal arts college where arts and crafts are taught. Students operate the college industries

Lincoln Park. 1 City (pop 15,236), SE Mich, residential suburb of Detroit, inc as a village 1921, as a city 1925 **2** Borough (pop 2,186), N N J, W of Paterson, inc 1922

Lincolnshire (lĭng'kŭnshĭr) or **Lincoln,** maritime county (2,665 sq mi, 1931 pop 624,589, 1948 estimated pop 673,490), E central England, bordering on the Humber estuary, the North Sea, and the Wash It is divided into three administrative districts—known as the Parts of Holland, in the southeast, with the county town at Boston, the Parts of Kesteven (kĕstē'vun), in the southwest, with the county seat at Sleaford, and the Parts of Lindsey, with the county seat at LINCOLN (also the seat of the county) The region is generally low and flat, with extensive marshes along the coast It is crossed by many dikes and canals, some of which, notably the Foss Dyke, date back to the times of Roman occupation Primarily an agricultural county, Lincolnshire also has fishing as an important occupation, and there is some shipbuilding and manufacturing Lincoln, famous for its cathedral, and the port of Grimsby are the only two large towns In Anglo-Saxon times Lincolnshire was variously under the control of Mercia and Northumbria There are a large number of medieval churches and other ecclesiastical remains See Arthur Mee, *Lincolnshire* (1949).

Lincoln's Inn. see INNS OF COURT

Lincolnton, textile-mill town (pop 4,525), co seat of Lincoln co, W central N C, NW of Charlotte, inc 1785

Lincoln University· see JEFFERSON CITY, MO

Lincoln University, near Oxford, Pa, Negro, Presbyterian, for men, chartered 1854, opened 1857 as Ashmun Institute, renamed 1866 It has a college of liberal arts and a theological school

Lind, Jenny, 1820–87, Swedish soprano She made her debut in 1838 as Agathe in Weber's *Der Freischütz* In 1841 she studied with Manuel García in Paris, she sang (1844-45) in Germany, made her London debut in 1847, and in 1849 abandoned opera, singing in concert and oratorio until 1870 Under the management of P T Barnum she toured (1850–52) the United States with enormous success She married Otto Goldschmidt in 1852 They lived for a time in Dresden and in 1856 returned to London, where, in 1883, she began to teach at the Royal College of Music Called "the Swedish nightingale," she was the greatest coloratura soprano of her time, possessing a voice of remarkable range and quality. Her singing was highly praised by musicians and critics as well as an adoring public See biographies by H S Holland and W S Rockstro (1891), Grace Humphrey (1928), and E C Wagenknecht (1931)

Lind, John, 1854–1930, American statesman, b Sweden As a boy he came (1867) with his family to Minnesota His early career was varied, it included schoolteaching, attendance (1875–76) at the Univ of Minnesota, practice of law, and holding public office Elected to Congress in 1886, he served three terms (1887–93) as a Republican and was a spokesman of the West Breaking with his party on the free-silver issue, he was in 1896 unsuccessful as the Democratic and Populist candidate for governor, but after brief service in the Spanish-American War, he ran successfully as an independent and was governor (1899–1901) In 1913 Woodrow Wilson sent him on an unsuccessful mission to Mexico See biography by G M Stephenson (1935)

Lindau (lĭn'dou), town (pop 17,915), SW Germany, on an island in the Lake of Constance It is a resort center The Lindau dist (120 sq mi, pop 52,621) was detached from American-occupied Bavaria in 1945 and was incorporated with the French-occupied state of Württemberg-Hohenzollern

Lindbergh, Charles Augustus, 1859–1924, American Congressman (1907–17), b Stockholm, Sweden, grad Univ of Michigan, 1883 Brought (1860) to Minnesota when still an infant, Lindbergh was reared on a farm there and practiced law in Little Falls, Minn. As a Republican member of the U.S House of Representatives, he consistently attacked the methods of large industrial trusts, sponsored various reforms, and incurred vilification by his denunciation of war propaganda and war profiteering His outspoken book, *Why Is Your Country at War?* (1917; reprinted 1934), was suppressed and contributed to his defeat (1918) for the post of governor of Minnesota. *The Economic Pinch,* containing his economic and social doctrines, appeared in 1923 He was the father of Charles Augustus Lindbergh, the aviator. See Lynn Haines and Dora Haines, *The Lindberghs* (1931).

Lindbergh, Charles Augustus, 1902–, American aviator, b Detroit, son of Charles A Lindbergh (1859–1924) He left the Univ of Wisconsin (1922) to study flying, and after service as a flying cadet he was commissioned (1925) in the air force reserve On May 21, 1927, Lindbergh astounded the world by landing in Paris after a solo, nonstop, transatlantic flight in *The Spirit of St Louis* from New York Upon his return to America he received an unprecedented welcome, was promoted to colonel, and made a nation-wide tour to foster popular interest in aviation Lindbergh married (1929) Anne Morrow, daughter of Dwight W. MORROW, and with her made several long flights After the kidnaping and death of his son (see HAUPTMANN, BRUNO RICHARD) in 1932, Lindbergh moved (1935) his family to England In 1936 he invented with Alexis CARREL a perfusion pump called an artificial heart. After inspecting (1938) European air forces, Lindbergh became convinced of German superiority and favored appeasement of Germany. He returned (1939) to America, made a survey for the War Dept, and made anti-war speeches for the America First Committee When these speeches were branded pro-Nazi, he resigned his reserve commission and quit the National Advisory Committee for Aeronautics When the United States entered the war, Lindbergh offered his services to the air force and made several missions to the Pacific and Europe as a civilian consultant See his *We* (1927) and *Of Flight and Life* (1948) His wife, **Anne Spencer Morrow Lindbergh,** 1907–, b Englewood, N J, is the author of *North to the Orient* (1935), *Listen! the Wind* (1938), and *The Steep Ascent* (1944)

Linden. 1 Town (pop 1,203), co seat of Marengo co, W central Ala, W of Montgomery, in a farm area, founded 1823 **2** City (pop 24,115), NE N J, SSW of Elizabeth, inc 1924 The site was bought from the Lenni-Lenape in 1664 Linden has a large oil refinery, a motor assembly plant, and a pharmaceutical factory **3** Town (pop 1,168), co seat of Cass co, E Texas, near the point where Texas, Arkansas, and Louisiana meet, founded c 1850 The red sandy land supports lumbering and truck farming

linden· see BASSWOOD

Lindenhurst, village (pop 4,756), SE N Y, on the south shore of Long Island, close to Babylon, settled 1869, inc 1923 Airplane and navigation instruments are made here

Lindenthal, Gustav (lĭn'dunthôl"), 1850–1935, American mining engineer, b Austria He came to the United States in 1874 and rapidly rose to a foremost place as a consulting engineer, chiefly in the construction of bridges and tunnels Among his chief works were the Hell Gate Bridge over the East River, New York city, and the Pennsylvania RR tunnels under the Hudson and East rivers

Lindenwold, borough (pop 2,552), SW N J, SE of Camden, settled 1742, laid out 1885, inc 1929

Lindenwood College. see SAINT CHARLES, MO

Lindesnes (lĭn'dusnĕs) or **the Naze** (nāz), cape, extreme S Norway, on the North Sea at the entrance of the Skagerrak Its powerful beacon, placed in 1650, was the first in Norway

Lindisfarne (lĭn'dĭsfārn) or **Holy Island,** small island c 2 mi off the coast of Northumberland, England At low tide it is connected with the shore by a stretch of sand The island is partly cultivated A church and monastery, built in 635 by St Aidan, were the first establishment of Celtic Christianity in England St CUTHBERT was the most famous of the bishops of Bernicia at Lindisfarne The settlement was burned by the Danes in 793, but rebuilt The Danish invasion of 875 caused the bishop to flee and wander for seven years, settling finally at Chester-le-Street A Benedictine priory was set up in 1093 There are remains of a church and of an early-16th-century castle The Lindisfarne Gospels or Book of Durham is an illuminated Latin manuscript of the Gospels, now in the British Museum, written at Lindisfarne before 700, an Anglo-Saxon gloss was added at Durham in the 10th cent

Lindley, John, 1799–1865, English botanist and horticulturist He organized the first flower shows in England and was influential in preserving the Royal Gardens at Kew. In 1829 he was appointed the first professor of botany at the Univ of London (later University College), and in 1860 he became emeritus professor. Lindley wrote the botanical articles for the *Penny Cyclopaedia* and a major portion of those in Loudon's *Encyclopaedia of Plants.* He also wrote *The Fossil Flora of Great Britain* (with William Hutton, 1831–37), *The Theory of Horticulture* (1840), and *The Vegetable Kingdom* (1846)

Lindley, Nathaniel Lindley, Baron, 1828–1921, English jurist. He served as judge of the court of ap-

peal and privy councilor and wrote *An Introduction to the Study of Jurisprudence* (1855).

Lindsay or **Lyndsay, Sir David** (lĭn'sē), c 1490–c 1555, Scottish poet and one of the last of the so-called Chaucerians He is remembered for his satires against the Church, especially *The Testament and Complaynt of Our Soverane Lordis Papyngo* (1530), which attacks the abuses of the clergy He wrote *Ane Pleasant Satyre of the Three Estaitis* (1540), a long morality play with a political twist, as well as several other pieces, including *The Dreme* (1528), *The Historie and Testament of Squyer Meldrum* (c 1549), and *The Monarchy* (1552) His poems, full of reason, learning, and rich but often coarse verse, probably exerted an influence over the Reformation in Scotland He is known to have been knighted and made Lyon King-Of-Arms in 1529, to have held diplomatic posts in England, Spain, France, and Denmark, and to have served as M P for Cupar-Fife See edition of his works by David Laing (1879) and by Douglas Hamer for the Scottish Texts Society (1931–), William Murison, *Sir David Lyndsay* (1938)

Lindsay, Norman, 1879–, Australian artist He was the chief cartoonist of the Sydney, Australia, *Bulletin* from 1901, and his powerful, rugged, and markedly individualistic cartoons are widely known, as are his paintings in oil and water color, lithographs, etchings, and bookplates He has also illustrated with line and wash drawings editions of Theocritus, Casanova, Petronius, and Boccaccio and Hugh McCrae's *Satyrs and Sunlight*. His publications include *The Pen Drawings of Norman Lindsay* (1918), *Creative Effort* (1920), *Magic Pudding* (1930), *Curate in Bohemia* (1937), and *Age of Consent* (1938)

Lindsay, Vachel (Nicholas Vachel Lindsay) (văˊchĭl), 1879–1931, American poet, b Springfield, Ill , studied at Hiram College, the Art Institute of Chicago, and the New York School of Art He toured the South in troubadour style, living by the penny sales of his poems and drawings and his *Rhymes to be Traded for Bread* (1912), a leaflet which he distributed. His best volumes were products of this period and are characterized by a jazz-like rhythm and lyrical fervor—*General William Booth Enters into Heaven* (1913), *The Congo* (1914), and *The Chinese Nightingale* (1917) His later poetry included *Johnny Appleseed* (1928) and *Every Soul Is a Circus* (1929) *Selected Poems of Vachel Lindsay* appeared in 1938 He staved off want with spectacular readings and lecture tours which popularized his early work but drained his creative powers and eventually broke him completely and led to his suicide See his autobiographical *Adventures While Preaching the Gospel of Beauty* (1914) and *A Handy Guide for Beggars* (1916) and his letters (ed by A J Armstrong, 1940), biography by Edgar Lee Masters (1935)

Lindsay, town (pop 8,403), S Ont , NE of Toronto It is an industrial town, with woolen, flour, and lumber mills, in a scenic lake district It has steamboat connections with many small villages and with fishing and hunting areas

Lindsay. **1** City (pop 4,397), S central Calif , SE of Fresno, inc. 1910 It manufactures canning and spraying equipment, processes olive oil, and packs the fruits, vegetables, and olives of the surrounding San Joaquin Valley area **2** Town (pop 1,792), S central Okla , near the Washita river S of Oklahoma City

Lindsborg (lĭnzˈbôrg), city (pop 1,913), central Kansas, on the Smoky Hill River and S of Salina, laid out 1868 by Swedish settlers, inc 1879 It is a rail and trade center for an agricultural region The town has a famous chorus, which has been presenting Handel's *Messiah* at Easter since 1880 with the cooperation of Bethany College (Lutheran, coeducational, 1881).

Lindsey, Benjamin Barr (Ben Lindsey), 1869–1943, American judge and reformer, b Jackson, Tenn At Denver, Colo , he helped establish one of the pioneer juvenile courts in the United States and served as its judge from 1900 to 1927. During this time he aided in the reform of the state's methods in dealing with juvenile offenders and also secured legislation holding negligent parents and employers accountable The appearance of his book *The Companionate Marriage* (with Wainwright Evans, 1927), advocating trial marriages with unhindered separation for childless couples, raised a storm of protest from the clergy and the public Among his other books are *The Revolt of Youth* (with Wainwright Evans, 1925) and his autobiographical *The Dangerous Life* (with Rube Borough, 1931).

Lindsey, Parts of, administrative division· see LINCOLNSHIRE, England

Linea, La (lä lāˈnää), fortified city (pop. 35,101), Cádiz prov , S Spain, on the Strait of Gibraltar. Situated on the Spanish border, north of the neutral zone which separates it from the British colony, it is chiefly of strategic importance

Line Islands or Equatorial Islands, coral group, central and S Pacific, including JARVIS ISLAND, PALMYRA, CHRISTMAS ISLAND, FANNING ISLAND, WASHINGTON ISLAND, and Flint, Vostok, Caroline, Starbuck, and Malden islands. Great Britain owns Christmas, Fanning, and Washington islands; Palmyra and Jarvis Island belong to the United States Both countries have claims on the rest of the islands. Once worked for guano, the islands are now important as potential air bases.

linen, fabric or yarn made from the fiber of flax, probably the first vegetable fiber known to man Linens more than 3,500 years old have been recovered from Egyptian tombs The Hebrews carried the culture to Palestine Phoenician traders marketed linen in Mediterranean ports It was worn by Egyptian, Greek, and Jewish priests as a symbol of purity, and it typified luxury also, as in the phrase "purple and fine linen " Flax was cultivated by the Romans and introduced by them into N Europe The industry was revived by Charlemagne, and linen became the principal European textile of the Middle Ages Flanders has been renowned from the 11th cent for its creamy flax and fine thread French Huguenots excelled in working flax and carried the art abroad, notably to Ireland, where Louis Crommelin established (c 1699) a manufactory at Lisburn, near Belfast Ireland is today the largest producer of fine linen, having a third of the world's flax spindles The first flax-spinning mill was opened in England in 1787, but only in 1812 was linen successfully woven with power looms The industry suffered in relation to cotton because many textile inventions were not applicable to linen, the inelasticity of the fiber causing it to break readily under tension Although linen exceeds cotton in coolness, luster, strength, and length of fiber, the expense of production limits its use After scutching (see FLAX), the fiber is delivered to the mills, where it is hackled to separate and straighten the fibers, overlapped on a spreadboard to form a continuous ribbon, drawn out through rollers, then wound from the roving frame on bobbins in a loosely twisted thread For fine goods the thread is usually spun wet Linen may be bleached in the yarn or the piece It is woven into fabrics ranging from heavy sailcloth to the sheerest lawn. The greatest quantity of fiber is raised in Russia, the best in Belgium The amount of handwork required until recently in processing linen and the high cost of labor in the United States have inhibited the industry here, although early settlers made much homespun See M D Potter, *Fiber to Fabric* (1945), M S Woolman and E A B McGowan, *Textiles* (3d ed , 1943)

liner, ocean-going passenger ship which makes regular journeys over the same route on fixed schedule Express luxury liners, introduced in 1871 by the White Star Line on the Liverpool–New York run, are "floating hotels " They carry, besides the passengers, small quantities of cargo, generally valuable luxury goods Except for some on the Europe–U S route, luxury liners generally run at a loss and are maintained for the prestige of the shipping lines Cabin liners are lower-priced passenger vessels Very few vessels are built for this service, older ships are often used The Canadian Pacific Line, however, after 1914 built a number of vessels of 12,500 and 20,000 tons for this type of service, and they have been widely imitated Cargo liners are freight vessels faster than the ordinary freighters and usually equipped to carry a few passengers. This type has been used especially in transporting fruit from Latin America to the United States and Argentine meat to Europe

Linesville, borough (pop 1,150), Crawford co , NW Pa , near the Ohio border, on Pymatuning Reservoir W of Meadville, inc 1862

Lineville, town (pop 1,300), E central Ala , S of Anniston, in a farm area.

Linfield College: see MCMINNVILLE, Oregon.

Ling, Per Henrik (pârˈ hĕnˈrĭk lĭngˈ), 1776–1839, Swedish author, especially noted as the founder of the Swedish medical-gymnastic system. From 1805 he was fencing master at the Univ of Lund, there he developed his system of gymnastics described in *The Gymnastic Free Exercises of Per Henrik Ling* (1834–40, Eng tr , 1853). In 1813 he organized the Royal Gymnastic Central Institute in Stockholm.

Lingard, John (lĭngˈgärd), 1771–1851, English historian A Roman Catholic, Lingard was educated at the English College at Douai, was ordained priest in 1795, and for many years was professor of philosophy at the Douai college established at Crookhall, later at Ushaw. In 1811 he became pastor at Hornby, where he wrote *A History of England* (8 vols , 1819–30) It is a scholarly and temperate study. It was widely praised and, by Catholic enthusiasts on the one hand and Protestant enthusiasts on the other, vigorously attacked. His other very important work was *The History and Antiquities of the Anglo-Saxon Church* (1845). See Martin Haile and Edward Bonney, *Life and Letters of John Lingard* (1911).

Lingeh (lĭngˈgĕˈ), city (pop 9,607), S Iran, a port on the Persian Gulf, near Hormus It was held before 1711 by Portugal; in 1887 Persia took it from the Arabs The region produces dates.

Lingelbach, Johannes (yōhäˈnŭs lĭngˈülbäkhˈ), 1622–74, Dutch genre and landscape painter, b Frankfurt-am-Main. He first went to Amsterdam in 1637 and settled there 13 years later after some years of study in Rome. He painted Italian landscapes, seaports, military subjects, and genre somewhat in the style of Wouwerman, with cool colors, good draughtsmanship, and careful execution. He often inserted little figures in the landscapes of Wynants, Hobbema, and other masters His *View of the Dam* (town hall, Amsterdam), *Hay Harvest* (National Gall , London), and *Battle Scene* and *Dance of the Peasants* (both Metropolitan Mus) are well known

Lingga Archipelago· see RIOUW ARCHIPELAGO.

Linggajati, Indonesia see CHERIBON

lingua franca (lĭngˈgwu frängˈku), spoken language used for communication among groups of speakers of different and mutually unintelligible languages. A language with mixed French, Italian, Greek, Arabic, and other words seems to have come into use for commerce in the Mediterranean area after the time of the Crusades and was called lingua franca [language of the Franks] Other such polyglot combinations have developed in various areas for commercial purposes, notably pidgin English, Chinook jargon, Swahili, and a variety of Malay Occasionally the term "lingua franca" is applied to a fully established formal language, thus formerly it was said that French was the lingua franca of diplomacy Usually, however, it means only hybrid, partially developed languages used solely for limited purposes

linguistics, scientific study of LANGUAGE Its central aspect is the descriptive study of a given LANGUAGE, see GRAMMAR and PHONETICS Scientific methods had been successfully devised to handle some, but not all, parts of grammar by the mid-20th cent The first field of linguistics to be exploited was the study of the relation of languages to each other, this, called comparative, or historical, linguistics, was a field developed especially in 19th-century Germany, important names in this field of the science include Jakob Grimm, Karl Brugmann, R C Rask, William Dwight Whitney, and Antoine Meillet The descriptive field developed notably in the United States, partly under the impetus provided by American Indian language study Pioneers of the science were Franz Boas, Edward Sapir, and Leonard Bloomfield. Linguistics has contacts with other scientific fields, e g , with physics through phonetics Since every language is a part of the culture of its speakers, linguistics is an anthropological science Some parts of language study are not apparently amenable to attack by scientific methods and are not, therefore, fields of linguistics at all; e g , PHILOLOGY, rhetoric, literary criticism, and theoretical semantics

Liniers, Jacques de, Span *Santiago de Liniers y de Bremond* (säntēäˈgō dĕ lēnēärsˈ ē dĕ brämōndˈ), 1753–1810, French officer in Spanish service, viceroy of Río de la Plata After a military and naval career in Europe, he was transferred to the Río de la Plata (1788) as a Spanish naval officer In 1806 he recaptured Buenos Aires from British forces under William Carr BERESFORD The viceroy had fled, and Liniers was named commander in chief and lieutenant to the viceroy When a second British invasion occurred the following year, Liniers called a junta of war, which deposed the viceroy (Feb 10, 1807) Despite the rout of the creole army outside Buenos Aires, the hastily organized defenses of the city proved effective (July 5, 1807), the British general, John WHITELOCKE, surrendered. In May, 1808, the appointment of Liniers as viceroy became known, he served until Aug , 1809, though there were attempts by his political enemies to oust him After retirement, he became involved in a counterrevolutionary plot and was executed.

liniment (lĭˈnĭmĕnt), liquid or semiliquid preparation used in medicine to relieve pain by rubbing on the skin It is for external use only; most liniments are poisonous if swallowed Among the constituents of various liniments are camphor, chloroform, oil of turpentine, oil of wintergreen, and ethyl alcohol

linn, see CELL, in biology

Linköping, Swed *Linköpˈing* (lĭnˈchûˈpĭng), city (pop 47,419), co seat of Ostergotland co , SE Sweden, on the Gota Canal, It is an industrial city with railroad shops, ironworks, sugar refineries, and textile manufactures An episcopal see since 1120, the town flourished during the Middle Ages Its cathedral was begun in 1230 After 1700, when a fire devastated the city, Linköping declined; its modern industrial development began with the building of the Gota and Kinda canals

Linlithgow, Victor Alexander John Hope, 2d marquess of (lĭnlĭthˈgō), 1887–, British statesman, viceroy of India After an army career and service in the First World War, Linlithgow was civil lord of the admiralty (1922–24) and held numerous other public positions In 1933 he was made chairman of the committee on Indian constitutional reform He helped formulate and enact the Government of India Act of 1935 and was appointed viceroy of India (1936) At the outbreak of the Second World War, Linlithgow declared that the country was at war with Germany Indian nationalists objected to this arbitrary declaration and the Indian National Congress voted a policy of noncooperation. Thousands of Indian nationalists were jailed,

including Gandhi and Jawaharlal Nehru. In 1943 Linlithgow was replaced as viceroy by Field Marshal Wavell

Linlithgow (lĭnlĭth'gō), burgh (pop 3,666), county town of West Lothian (formerly Linlithgow), Scotland, near the south shore of Loch Linlithgow and W of Edinburgh The burgh was a residence of Scottish kings, Linlithgow Palace, on an elevated promontory above the loch, was the birthplace of James V and Mary Queen of Scots The parish church of St Michael was founded by David I Linlithgow was the scene of the murder of James Stuart, 1st earl of Murray

Linlithgowshire, county, Scotland· see WEST LOTHIAN

Linnaeus (lĭnē'ŭs), 1707–78, Swedish botanist, founder of modern systematic botany, originator of the binomial method of designating plants and animals His name was originally Karl von Linné His first use of specific names was made in the work *Genera plantarum* (1737) and was more fully developed in *Species plantarum* (2 vols , 1753) The 1758 edition of his *Systema naturae* (1735) is used by biologists as the basis of Linnaean nomenclature Among the more than 180 books published in his lifetime are several on the flora of Lapland and Sweden and *Philosophia botanica* (1751) See biography by T M Fries (1903, Eng tr , 1923)

Linnhe, Loch (lŏkh lĭ'nē), inlet, Argyllshire, Scotland, extending 20 mi NE from the Firth of Lorne Lismore island is at the mouth

linoleum (lĭnō'lēŭm), resilient floor or wall covering made of jute or burlap surfaced with a composition of powdered cork, oxidized linseed oil, gums or other ingredients, and coloring matter The linseed oil is exposed to the air in a succession of thin films until it is of a rubbery consistency, or it is thickened by heating until it becomes a spongy mass, after which it is ground, mixed with the pulverized cork and other ingredients, and then applied to the foundation and rolled smooth The final process is a thorough seasoning in drying rooms In inlaid linoleum the pattern is built up from the base in the colors of the design and is therefore permanent Linoleum is made in several thicknesses and in the form of tiles It is sometimes surfaced with a durable pyroxylin lacquer Its sanitary value, together with its improved designs and colors, has led to an increased use of linoleum in public buildings and in homes An English rubber manufacturer, Frederick Walton, patented linoleum in 1863 It replaced Kamptulicon, a costly rubber product

linoleum block printing, 20th-century development in the art of relief cuts The linoleum block consists of a thin layer of linoleum mounted on wood, in this the design to be printed is cut in the same manner as for WOOD ENGRAVING The advantage of linoleum cuts lies in the softness of the material and the consequent ease with which it can be cut, but linoleum is not so suitable for fine lines as wood, nor can as many prints be produced The process has been used widely in textile printing See E W Watson, *The Relief Print* (1945)

linotype (lī'nō, line of type), trade name of a machine for making slugs each of which does the work of a line of hand-set type in printing It was invented in Baltimore by Ottmar MERGENTHALER, was first patented in 1885, and was first put into operation at the New York *Tribune* in 1886 It is operated by a keyboard like that of a typewriter The machine assembles brass matrices into a line, casts the slug, and distributes the matrices See INTERTYPE and MONOTYPE.

Lins do Rego, José· see REGO, JOSÉ LINS DO

linseed, seed of the flax plant, from the cotyledons and inner coats of which is expressed the amber-colored fatty oil known as **linseed oil** Two methods are commonly used for the preparation of the oil—it is extracted from the seeds either by hydraulic pressure (raw oil), when it is pale in color and practically without taste or odor, or by the application of pressure and heat, when it is darker and has a bitter taste and an unpleasant odor. It has long been used as a DRYING OIL in paint and VARNISH, its activity resulting from the large absorption of oxygen Lead and other metallic soaps are used to speed up the activity Linseed oil is used also in making linoleum, oilcloth, and certain kinds of ink, and in medicine Flax to be used for preparing oil is extensively grown in the United States, South America, and Europe **Linseed cake** is prepared when flaxseed, from which most of the oil has been extracted, is pressed into cakes to be used as a concentrated feed for livestock The amount of oil varies and the husks of the seeds may or may not be removed Linseed cake has a high protein value and a tonic effect and assumes a greater importance in livestock diet as less legume hay is used

Lin Sen (lĭn' sŭn'), 1864–1943, president of China (1932–43) He was a supporter of Sun Yat-sen and of Chiang Kai-shek Politically Lin was unimportant, and his appointment to the essentially honorary office of president was a personal tribute Lin's successor was Chiang Kai-shek

lintel, in architecture, the horizontal member which spans an opening, such as a door or window, or which connects two columns. The post-and-lintel or trabeated system of construction, with spans limited to the length of available wood or stone beams, is the basis of the Egyptian and Greek styles of architecture, as contrasted with the later arched and vaulted, or arcuated, styles.

Linton, William James, 1812–97, Anglo-American wood engraver, author, and political reformer. In 1842 he set up as a wood engraver with John Orrin Smith and produced illustrations for the newly formed London *Illustrated News* An ardent radical, he edited the *Cause of the People*, contributed verses to the Dublin *Nation*, helped found the *Leader*, expounded the principles of Mazzini in the *Red Republican*, and started (1852) the *English Republic* Later, he returned to wood engraving and in 1867 moved to the United States and set up a printing press in New Haven, Conn , he continued the tradition of Thomas Bewick, advocating the use of the white as well as the black line The best wood engraver of his day in England, he contributed more than any other to the regeneration of the art in America His publications include *The Life of Thomas Paine* (1840), *Some Practical Hints on Wood-Engraving* (1879), *The History of Wood-Engraving in America* (1882), *The Masters of Wood-Engraving* (1889), and *Memories* (1895).

Linton. 1 City (pop 6,263), SW Ind , SSE of Terre Haute, laid out 1830, inc as a town 1886, as a city 1900 Coal is mined here 2 City (pop 1,602), co seat of Emmons co , S N Dak , on Beaver Creek and SSE of Bismarck, inc 1916 It is a farm center

Linus, Saint (lī'nŭs), pope (A.D 67?–A D 76?), martyr, an Italian, successor of St Peter and predecessor of St Cletus He is often identified with the biblical Linus Feast Sept 23

Linus, in Greek mythology 1 Bard who taught music to Hercules and Orpheus According to one legend he was killed by Apollo when he attempted to compete with the god Another legend says that Hercules killed him when he tried to punish the hero 2 Son of Apollo and Psamathe His mother exposed the child, and he was killed by dogs Psamathe's father, discovering what his daughter had done, had her killed Apollo, the lover of Psamathe, visited her village with a plague from which no release could be had until mother and son were propitiated with prayers and songs of lamentation The "Linus song," a lament derived from this legend, was sung at harvest time as a dirge for the dying vegetation, which was "killed" by the heat of the dog days

Linus, Roman Christian 2 Tim 4 21 He is often identified with St Linus

Linwood, city (pop 1,479), SE N J , SW of Atlantic City, inc as a borough 1889, as a city 1931

Linyü or **Lin-yü** (lĭn'yü'), city and county (pop 218,803), Hopeh prov , China The city, strategically situated on the narrow coastal route to Manchuria, has been the site of many battles It was formerly called Shanhaikwan

Lin Yutang (lĭn' yü'täng'), 1895–, Chinese-American writer, educated in mission schools in China and at Harvard, Ph D Leipzig, 1923 Dr Lin returned to China to teach philology and English at the Univ of Peking He edited several linguistic and literary magazines Living in America since c 1928, he has written chiefly in English His books, ironical, gentle, and highly civilized, include *My Country and My People* (1935), *The Importance of Living* (1937); *Moment in Peking* (1939), a novel, *With Love and Irony* (1940), *A Leaf in a Storm* (1941), a story of war-torn China, *Between Tears and Laughter* (1943), a criticism of Western diplomacy in China, and *Chinatown Family* (1948), a novel

Linz (lĭnts), city (pop 181,532), capital of Upper Austria, on the Danube and W of Vienna It is a rail, commercial, and manufacturing center and a river port, with large iron works and steelworks, machine manufactures, textile industry, and nitrogen plants It is an episcopal see with an old and a new cathedral and a museum Near by is an 8th-century Benedictine abbey Linz is on the site of the Roman Lentia

lion, mammal (*Felis leo* or genus *Panthera*) of the cat family, found in open country in Africa, SW Asia, and W India It is extinct in Europe and much of its former range in Asia and Asia Minor The lion's short-haired coat varies from yellow to brown, and in both sexes the tail ends in a dark tuft Most males have a black or tawny mane, either short or long Males sometimes measure 9 to 10 ft from nose to tip of tail and weigh up to 500 lb The lion hunts antelope, zebra, and other large animals as well as smaller ones It also eats carrion Lions sometimes travel in groups Usually only old or weak lions attack man In folklore the lion is the king of the beasts In Christian symbolism the lion anciently represented Jesus. It also represents St Mark, hence the LION OF ST MARK For the constellation and sign of the zodiac, see LEO.

Lion, Gulf of, Fr *Golfe du Lion* (gôlf" dü lyŏ'), bay of the Mediterranean, S France, extending from the Spanish border to Toulon.

Lions International, organization of business and professional men, founded in 1914 by Melvin Jones. The International Association of Lions Clubs (popularly known as Lions International) was founded in 1917 at Chicago. The purpose of the club is to recognise and meet community needs either through its own efforts or in cooperation with other agencies It has clubs in about 30 countries. Its activities are grouped under 10 headings, agriculture, boys and girls, citizenship and patriotism, civic improvements, community betterments, education, health and welfare, safety, sight conservation and blind, and United Nations The official organ is the *Lion*.

Liotard, Jean Étienne (shäⁿ' ātyĕn' lyôtär'), 1702–89, Swiss painter. He is best known for his portraits and drawings in pastel, but he also made portraits in oil, engravings, enamels, and paintings on glass and porcelain He painted the portraits of Pope Clement XII, some of the cardinals, Marie Antoinette, Francis I, and Maria Theresa. *Portrait of a Seated Turk* is in the Victoria and Albert Museum His work is best seen in Amsterdam and Geneva

Lipari Islands (lĭ'pŭrē) or **Aeolian Islands** (ēō'lēŭn), volcanic group (44 sq mi , pop. 17,697), N of Sicily, in the Tyrrhenian Sea. They belong to Italy The mythical residence of Aeolus, the wind god, after whom they were named, the islands were colonized by the Greeks (6th cent B C) All rich in natural beauties and geologically interesting, they include Lipari (14 5 sq mi , pop 10,342), with the capital by the same name, exporting pumice, Salina, producing malmsey wine and currants, Vulcano, the mythical site of the fire god's workshop, with a high volcano emitting hot sulphur vapors, Stromboli, with an active volcano, 3,040 ft high, having several craters, and the less important Panarea, Filicudi, and Alicudi The islands have long been a place of exile for political prisoners

lipase. see ENZYME

Lipchitz, Jacques (shäk' lĕpshĕts'), 1891–, French sculptor, b Lithuania He came to the United States in 1940 After going (1909) to Paris, where he studied, he became a member of the *Esprit Nouveau* group and was associated with the cubists His skeletal constructions, which he began as early as 1913, are unique among modern sculpture In 1925 he began creating transparents, using the melted-wax technique, and it is for this type of sculpture that he is best known He has also done portrait busts His work is in the Museum of Modern Art, New York, and the Barnes Foundation, Philadelphia, and in private collections

Lipetsk (lyĕ'pyĭtsk), city (pop 66,625), central European RSFSR, N of Voronezh It is the center of an iron-ore district Founded (1707) by Peter I as an iron-milling center, it now has foundries, blast furnaces, and machinery plants

Li Po (lē' pō', bō') or **Li Tai Po** (tī'), c 700–762, Chinese poet of the T'ang dynasty He was born in what is now Szechwan prov Most authorities believe that he was a Taoist, and his unconcern for worldly preferment and his love for retirement and wandering are expressive of both Taoism and the delicate romanticism typical of Chinese poets An early period of patronage by the court was followed by banishment The poet remained, as ever, a lighthearted winebibber The traditional account of his death is that while drunk he attempted to kiss his reflection in a moonlit river, fell into the water, and drowned Li Po was an extremely fecund and facile poet He made no attempt to preserve his work, and most has been lost; the nearly 2,000 poems collected in the official recension in 1080 are believed to comprise only about one tenth of his output His themes, largely traditional, are the grief of lovers separated by official duty or military service, the beauty of mountain and river scenery, and the surcease from melancholy and the apparent wisdom to be found in wine An exquisite choice of language and a groping sense of mystery in the universe raise him, in the opinion of many, to the highest poetical eminence His name is sometimes spelled Li Tai Peh For anthologies containing selections from his work, see the bibliography of CHINESE LITERATURE

Lippe (lĭ'pŭ), former state (469 sq. mi ; 1939 pop 187,220), NW Germany, between the Teutoburg Forest and the Weser river It was incorporated in 1946 with the newly formed state of North Rhine—Westphalia, in the English zone of occupation Detmold is the chief city and former capital The region is mainly agricultural. Originally comprised in the duchy of Saxony, Lippe became (12th cent.) a lordship under Bernhard I In the 16th cent. it was raised to a county. From the various divisions of the county after the death (1613) of Simon VI, two counties (after 1720, principalities) emerged—Lippe or Lippe-Detmold and SCHAUMBURG-LIPPE. Lippe joined (1815) the German Confederation, sided with Prussia in the Austro-Prussian War (1866), and joined the German Empire in 1871. In 1897 the contested succession to Lippe was awarded by a special imperial court to Count Ernest of Lippe-Biesterfeld, of a collateral branch. His son, Prince Leopold, abdicated in 1918, and Lippe joined the Weimar Republic. A local electoral victory (Jan., 1933) of the National Socialists in Lippe helped Hitler into power. A nephew of Prince Leopold, Bernhard zu Lippe-Biesterfeld (b. 1911), married Princess—later queen—Juliana of the Netherlands.

Lippe, river, c.150 mi. long, NW Germany It rises in the Teutoburg Forest and flows W into the Rhine.

Lippi (lĭp'pē), name of two celebrated Italian painters of the 15th cent **Fra Filippo Lippi** (frä' fēlĭp'pō), c.1406–1469, called Lippo Lippi, one of the foremost Florentine painters of the early Renaissance, was brought up in the convent of the Carmelites in Florence His earliest works show the influence of Fra Angelico and of Masaccio He left the convent c 1431 to pursue his art in a wider field, but without renouncing his order, for he later served as rector of San Quirico near Florence He is known to have enjoyed the patronage of the Medici throughout his career In the 1450s he was at Prato, decorating the choir of the cathedral These great frescoes, representing scenes from the lives of John the Baptist and St Stephen, are Lippi's most important work In 1467 he painted a series of frescoes from the life of the Virgin in the cathedral at Spoleto, where he is buried These were completed after his death by Fra Diamante Lippi is perhaps best known through his many easel pictures, among which are the famous *Coronation of the Virgin*, painted (1441) for the altar of the nuns of Sant' Ambrogio, and *Virgin Adoring the Christ Child* (Uffizi), *Madonna with Saints* (Louvre), *Annunciation* and *Vision of St Bernard* (National Gall , London), *Coronation with Saints and Donors* (Palazzo Venezia, Rome), *Four Saints* (damaged) and *Madonna and Child with Angels* (Metropolitan Mus) One of the best colorists and draughtsmen of his day, Fra Filippo excelled in a graceful, narrative style If his religious painting falls short of the sublime, it is always decorative and full of keen observation and human interest Among his pupils were Botticelli, Benozzo Gozzoli, and Il Pesellino **Filippino Lippi** (fēlēp-pē'nō), c 1457–1504, son of Fra Filippo and Lucrezia Buti, was placed after his father's death with Fra Diamante and later studied under Botticelli He soon became an accomplished painter, revealing the same mastery of color and line as his father and in 1480 was entrusted with the completion of Masaccio's frescoes in the Brancacci Chapel, Florence He completed Masaccio's *Raising of the Dead Youth* and painted *Peter and Paul before Nero*, *Paul's Interview with Peter in Prison*, *Liberation of St Peter*, and *Crucifixion of St Peter*, adapting his style to that of Masaccio His early works, which show the influence of his father and Botticelli, also include a charming altarpiece in tempera, *Vision of St Bernard* (Florence), the great altarpiece in the Nerli Chapel in Santo Spirito, Florence, and *Madonna Enthroned* (Uffizi), containing remarkable portraits of the donor and his wife Filippino painted a series of frescoes in the Church of Santa Maria sopra Minerva, Rome, and he executed the baroque but impressive frescoes in the Strozzi Chapel in Santa Maria Novella, Florence, representing episodes from the lives of St Philip and St John To the later period belong also *Adoration of the Magi* (Uffizi) and *Virgin and Child with St Joseph and a Child Angel* (Metropolitan Mus) See E C Strutt, *Fra Filippo Lippi* (1906), Henriette Mendelsohn, *Fra Filippo Lippi* (1909), K B Neilson, *Filippino Lippi* (1938)

Lippincott, Sara Jane Clarke see GREENWOOD, GRACE

Lippmann, Gabriel (gäbrēĕl' lēpmän'), 1845–1921, French physicist, b Luxembourg He was professor of experimental physics (from 1883) and later director of the research laboratory at the Sorbonne He is noted for his researches in electrocapillarity, thermodynamics, and optics For his discovery of a method for the photographic reproduction of colors through the use of an interference process he received the 1908 Nobel Prize in Physics

Lippmann, Walter (lĭp'mun), 1889–, American essayist and editor, b New York city, grad. Harvard, 1909 He was associate editor of the *New Republic* in its early days, but at the outbreak of the First World War, he left to become Assistant Secretary of War, later helping to prepare data for the peace conference From 1921 to 1931 he was on the editorial staff of the New York *World* and served as editor the last two years After 1931 he had a syndicated column in the New York *Herald Tribune* Lippmann's earlier books, written when he was a champion of liberalism, include *A Preface to Politics* (1913), *Public Opinion* (1922), and *A Preface to Morals* (1929) An early supporter of Roosevelt and the New Deal, Lippmann turned slowly to conservatism, condemning planned society and collectivism in *The Good Society* (1937) His *U S War Aims* (1944) and *The Cold War* (1947) show his powers of news analysis See biography by D E Weingast (1949)

lip reading, method by which the deaf are able to read the speech of others from the movements of the lips and mouth. Lip reading is the medium of education in many schools for deaf children, it came into wide use after the First World War in the rehabilitation of shell-shocked, or otherwise deafened, soldiers See publications of the American Hearing Society; Fred De Land, *The Story of Lip Reading* (1931); Cora Elsie and Rose Kinzie, *Lip-Reading for the Deafened Adult* (1931); I. R. Ewing, *Lip-Reading and Hearing Aids* (1944 ed.).

Lipscomb (lĭps'kŭm), town (pop 1,740), N central Ala , near Birmingham, settled c.1890, inc 1910

Lipsius, Justus (jŭ'stŭs lĭp'sēus), 1547–1606, Flemish scholar, whose original name was Joost Lips He was one of the most celebrated authorities of his day on Roman literature, history, and antiquities He edited many works of Latin literature, his edition of Tacitus being particularly famous

Lipton, Sir Thomas Johnstone, 1850–1931, British merchant and yachting enthusiast After 10 years in the United States as a young man he returned to his native Glasgow (1876) and opened a small grocery store As he prospered he extended a chain of stores throughout the United Kingdom, acquired tea, coffee, cocoa, and rubber plantations in Ceylon, and set up bakeries, fruit farms, jam factories and bacon-curing establishments in England He made benefactions to the London poor and was knighted (1898) and created a baronet (1902) He spent an enormous amount of money in five attempts to win the *America's* Cup yachting trophy Each of his yachts he named *Shamrock* His good sportsmanship endeared him to the American public which gave him a gold cup after his last defeat, in 1930 See his autobiography (1932), Alec Waugh, *The Lipton Story* (1950)

liquefaction, in physics, the changing of a substance from the solid or the gaseous state to the liquid Since a change in the state of MATTER is held to be a change in the kinetic energy of the molecules of a substance and since heat is defined as the kinetic energy of the molecules, a change from solid to liquid and from liquid to gas involves the application of heat, while a change from gas to liquid and from liquid to solid requires the taking away of heat In the liquefaction of gases, extreme cooling is not necessary, for if a GAS is held in a confined space and is subjected to high pressure, heat is given off as it undergoes COMPRESSION and it turns finally to a liquid Some cooling is, however, necessary, it was discovered by Thomas Andrews in 1869 that each gas has a definite temperature, called its critical TEMPERATURE, above which it cannot be liquefied, no matter what pressure is exerted upon it A gas must, therefore, be cooled below its critical temperature before it can be liquefied According to the kinetic molecular theory, when a gas is compressed its molecules are forced closer together and, their vibratory motion being reduced, heat is given off As the compression goes on, the speed of the molecules and the distances between them continue to decrease, until eventually the substance undergoes change of state and becomes liquid Although before the 19th cent a number of scientists had experimented in liquefying gases, Davy and Faraday are usually credited with being the first to achieve success The production of liquefied gases in large quantities (and consequently their use in refrigeration) was made possible by the work of Z F Wroblewski and K S Olszewski, two Polish scientists The work of Sir James Dewar is also of importance, especially in the liquefaction of air and its change to a solid Heike Kamerlingh Onnes first liquefied helium, of which the critical temperature is −267 9°C , within but a few points of absolute zero (−273°C) The processes for the liquefaction of gases as developed by Linde and others form the basis for those used in modern REFRIGERATION

liqueur (lĭkûr', lĭkyŏŏr'), strong alcoholic beverage made of nearly neutral spirits, flavored with herb mixtures, fruits, or other materials, and usually sweetened The processes and ingredients are strictly guarded trade secrets The alcoholic content ranges from about 27 percent to the 80 percent of absinthe Fine liqueurs are distilled after flavoring matters have been macerated in spirits In inferior liqueurs natural or artificial essential oils are added to strong spirits, filtered, and sweetened Cordials, often homemade, are prepared by steeping in sweetened alcohol fruit pulps or juices, as cherry, apricot, peach, and berry Many famous liqueurs were originated by monks, notably BENEDICTINE and CHARTREUSE Other liqueurs are ABSINTHE, ANISETTE, CRÈME DE MENTHE, CURAÇAO, KIRSCHWASSER, KÜMMEL, and MARASCHINO

liquid, one of the three states in which matter occurs, i e , that state, as distinguished from solid and gas, in which a substance has a definite volume but no definite shape Liquids differ from solids, but resemble gases, in that they flow into the shape of a containing vessel For this reason they are classed with gases as fluids According to the kinetic molecular theory of MATTER, the molecules of a substance in the liquid state are relatively closer together (the force of cohesion between the molecules is greater) and are moving more slowly than in the gaseous state, but they are farther apart and are moving more rapidly than in a solid (see MOLECULE) A liquid changes at its boiling point to a gas and at its freezing point or melting point to a solid The boiling point is especially important because, since every liquid changes its state at a different temperature, liquids in a mixture can be separated from one another by raising the temperature of the mixture gradually so that each component in turn undergoes vaporization at its boiling point. This process is known as fractional distillation. Although the molecules of a liquid have greater cohesion than those of a gas, it is not sufficient at ordinary temperatures to prevent those at the free surface of the liquid from bounding off (see EVAPORATION) On the other hand, the cohesive forces between the molecules at the surface of a mass of liquid and those within cause the free surface to act somewhat like a stretched elastic membrane, it tends to draw inward toward the center of the liquid mass, to draw the liquid into the shape of a sphere, thus exhibiting the phenomenon known as SURFACE TENSION A liquid is said to "wet" a solid substance when the attractive force between the molecules of the liquid and those of the solid is great enough to hold the liquid's molecules at the solid surface For example, water "wets" glass since its molecules cling to glass surfaces, whereas mercury does not since the adhesive force between its molecules and those of glass is not strong enough to hold them together CAPILLARITY is an example of surface tension and adhesion acting at the same time Liquids exhibit, though in less degree, many of the properties of gases DIFFUSION occurs when two liquids which can be mixed are placed in the same container, one above the other (in layers), the mixing of the two takes place whether the more dense liquid is placed above or below the less dense In general, liquids show expansion upon heating, contraction upon cooling, water, however, does not follow the rule exactly Liquids exert pressure upon the sides of a containing vessel and upon any body immersed in them, and pressure is transmitted through a liquid undiminished and in all directions Liquids exert a buoyant force upon an immersed body, equal to the weight of the liquid displaced by the body (see ARCHIMEDES' PRINCIPLE and SPECIFIC GRAVITY) Unlike gases, liquids are very nearly incompressible, and for that reason are useful in such devices as the hydraulic press Liquids are useful as solvents No one liquid can dissolve all substances, and each takes into solution only certain specific substances For example, although crystalline forms of sulphur are soluble in carbon disulphide, they are not soluble in water With few exceptions, all the chemical elements have been obtained in the liquid state Mercury is the only metal that is liquid at ordinary temperatures

liquid air, ordinary air which has been liquefied by compression and cooling to extremely low temperatures Its commercial preparation involves purification by washing to remove soluble impurities and by passing over calcium oxide (lime) to remove the carbon dioxide, compression, under a pressure of 200 atmospheres or about 3,000 lb per square inch, cooling, by passing it through pipes immersed in cold water, treatment with sodium hydroxide to remove excess water, rapid expansion, the gas expanding and being passed back over the pipe from which it has just escaped, when it absorbs so much heat from the air still remaining in the pipe that this air becomes liquid Since air is essentially a mixture of oxygen and nitrogen and, therefore, without fixed composition, its properties in the liquid state depend upon the relative quantities of oxygen and nitrogen present It is extremely cold and must be kept in a specially prepared container, the DEWAR FLASK, because at ordinary temperatures it absorbs heat rapidly and reverts to the gaseous state Liquid air is used commercially for freezing other substances and especially as a source of nitrogen, oxygen, and argon (and also the other inert gases) When allowed to evaporate, as the temperature rises the nitrogen comes off first at −195 8°C , the argon next at −185 7°C , and the oxygen last at −183°C

liquor see BEVERAGE

liquor laws, legislation designed to restrict, regulate, or control the manufacture and sale of alcoholic beverages The passage of liquor laws has been prompted chiefly by the desire to prevent immoderate use of intoxicants, but sometimes also in the interest of raising revenue Direct taxation and license requirements are among the oldest methods of regulation of the sale of liquor With the license system the state can exercise extensive regulatory power by revoking permits upon violation of rules and through restriction of licenses, although the system is vulnerable to political corruption Licensing has been practiced most extensively and successfully in Great Britain (especially since 1904), where regulation of the public house has resulted in the decrease of liquor consumption Licenses are also used in the United States, and there are general regulatory provisions as to hours of closing and the like National PROHIBITION of the manufacture and sale of liquor received its major test in the United States from 1919 to 1933. Local option to prohibit the use of liquor is retained by a number of states, counties, and municipalities Several states have monopolies of retail distribution, and a similar system prevails in most of Canada Sweden in 1855 passed a licensing law of which Goteborg took advantage to introduce (1865) a plan, known as the Goteborg licensing system, by which private profit was eliminated from the sale of spirits. A monopoly of such sales was placed in the hands of a private company which took over

existing retail licenses, subleased a number of hotels, clubs, and restaurants, and reduced the number of licenses in use Similar companies were organized in other cities, and eventually the government set up a semi-state monopoly, collecting all profits above a fixed dividend in the investment. The individual companies did not control the sale of imported heavy wines and spirits, and a need for greater control of home consumption and of wholesalers was apparent, these defects were remedied by the Bratt system, proposed by Dr. Ivan Bratt of Stockholm and legalized in 1919 A feature of the system is the personal passbook in which are entered age and quota restrictions on purchases This passbook may be revoked for excessive drinking Norway and Finland have variations of this plan A state monopoly of vodka manufacture was instituted (1894) in Russia for reasons of public finance and, after a period of prohibition during the First World War, was restored by the Soviet Union In France and other Latin countries where wine making is an important industry and where there is less heavy consumption of distilled liquors, few government restrictions have been imposed Notable is the prohibition in France of the manufacture and sale of absinthe Conditions before the Second World War were similar in Germany and other countries where malt liquors had wider use than spirits See G E G Catlin, *Liquor Control* (1931), J E Johnsen, ed, *The Problem of Liquor Control* (1934), M E Stone, *American Liquor Control* (1943)

Liri (lē'rē), river rising in S central Italy in the Apennines and flowing SE and S into the Tyrrhenian Sea E of Gaeta Below its junction with the Rapido river it is called GARIGLIANO; the combined length of the Liri and Garigliano is 98 mi There are hydroelectric stations along its course In the Second World War the Allies were long blocked (1943–44) from access into the Liri valley, through which they had to pass to reach Rome, and it was only after months of heavy fighting, particularly at CASSINO, that the Germans gave way.

Lisa, Manuel (lē'sù), 1772–1820, American fur trader, b New Orleans He went to St Louis c 1790, and by 1800, with a monopoly of the Osage trade, he had become well established In 1807, a few months after the return and favorable reports of Lewis and Clark, Lisa led the first commercial expedition to the upper Missouri region, building, at the junction of the Bighorn with the Yellowstone, Fort Manuel, the first trading post in the present state of Montana Upon his return to St Louis, Lisa with Pierre Choteau and others formed the Missouri Fur Company Lisa was the recognized leader of the company's expeditions Fort Lisa was built among the Mandan and Gros Ventres in the present state of North Dakota Lisa's influence with the Indians of the upper Missouri became very strong, and, as subagent for the region during the War of 1812, he was successful in counteracting British influence and in keeping the tribes friendly He distributed pumpkin, bean, turnip, and other vegetable seeds among the Indians He made, in all, 12 or 13 trips up the river

Lisbon (lĭz'bŭn), Port *Lisboa* (lēzhbō'u), city (pop 709,179), W Portugal, capital of Portugal, of Estremadura prov, and of Lisboa dist, on the Tagus river where it broadens to enter the Atlantic It has one of the best harbors of Europe and handles a large carrying trade In the Second World War it also became one of the most important centers of transoceanic air transport It has varied minor manufactures, including textile and paper mills The city is set on seven hills and is dominated by a fort, the Castel de São Jorge, which may occupy the site of the old Roman fortification of the town then called Olisipo It may also be on the spot where the early inhabitants had a citadel when they traded with Phoenician and Carthaginian navigators. The town's true importance dates, however, from the reconquest from the Moors in 1147 by King Alfonso I with the help of Crusaders It became the capital of the kingdom and was much beautified by several of the kings Though many of the old buildings were destroyed by earthquake, particularly by the famous earthquake of 1755, some of the medieval buildings remain The old section of the city about the cathedral, Alfama, has picturesque relics The new city built by the marquês de Pombal after the great earthquake centers about a large square, the Terreiro do Paço Some of the well-known buildings in and near Lisbon are the Renaissance Monastery of São Vicente de Fora, with the tombs of the Braganza kings, the Church of St Roque, with the fine Chapel of St John (built by John V in the 18th cent), and the magnificent monastery built at Belém, on the north shore of the river toward the sea, built by Manuel I to commemorate the discovery of the route to India by Vasco da Gama. Camões was born in Lisbon. The Univ. of Lisbon was founded in 1910

Lisbon. **1** Town (pop 1,131), SE Conn, NE of Norwich; inc. 1786 **2** Town (pop 4,123), SW Maine, on the Androscoggin and SE of Lewiston; inc. 1799 Lisbon Falls village manufactures textiles and gypsum products. **3** Town (pop 2,103), NW N H, on the Ammonoosuc and SW of Littleton, settled 1753, inc. 1768. Its industries derive from local mineral, stone, and lumber supplies. Solon I Bailey was born here. **4** City (pop. 1,997), co seat of Ransom co, SE N Dak., on the Sheyenne river and SW of Fargo, in a stock-raising region, settled 1878, platted 1880, inc 1883 It has a state soldiers' home **5** Industrial village (pop 3,379), co seat of Columbiana co, NE Ohio, SSW of Youngstown, founded 1802 as New Lisbon Limestone quarries are here Ceramics, electrical porcelain, and leather goods are manufactured. Marcus A Hanna and Clement L Vallandigham were born here

Lisburn (lĭz'bûrn, lĭs'–), urban district (pop 13,042), Co Antrim, Northern Ireland, on the Lagan and SW of Belfast Charles I granted (1627) the town to Viscount Conway, who built the castle, which burned in 1707 Its chief industry, linen manufacture, was introduced by the Huguenots in 1694 There is a monument to Jeremy Taylor, who died here This is the seat of the Roman Catholic bishop of Down and Connor and of the Protestant bishop serving the dioceses of Down, Connor, and Dromore In the vicinity are Castle Robin (16th cent) and a round tower Over 300 buildings were burned here during the religious riots of 1930

Lisieux (lēzyû'), town (pop 11,569), Calvados dept, N France It is one of the oldest towns in Normandy Its modern importance dates from the canonization (1925) of St THERESA (Theresa of the Child Jesus), whose shrine here is a major place of pilgrimage The town, including its two old churches (12th cent and 15th cent), was seriously damaged in the Second World War

Liskeard (lĭskärd'), municipal borough (pop 4,268), Cornwall, England, WNW of Plymouth Now a market town, it was formerly a mining center It has an ancient castle The well of St. Keyne, celebrated in a poem by Southey, is south of the town

Lismore (lĭs'môr), town (pop 15,211), New South Wales, Australia, a port on the Richmond river It exports dairy foods, sugar cane, and bananas There is a Roman Catholic cathedral

Lismore (lĭsmôr', lĭz–), market town (pop 1,174), Co. Waterford, Ireland, on the Blackwater and WNW of Dungarvan In the 7th cent it was the site of an abbey founded by St Carthach, and in the 12th cent King John built a castle here One of the greatest of the Irish 7th-century schools was at Lismore The medieval Irish manuscript the Book of Lismore is in Lismore Castle, a seat of the duke of Devonshire

Lismore (lĭs'môr, lĭzmôr'), island, c 10 mi long and 1½ mi wide, Argyllshire, Scotland, in Loch Linnhe There are several old castles, one of which was the residence of the bishops of Argyll Part of the 13th-century cathedral has been restored for use as the parish church The 16th-century Gaelic **Book of the Dean of Lismore,** compiled by Dean James Macgregor and his brother Duncan, is one of the most precious and, next to the Book of Deer, the oldest of Gaelic collections Its several thousand lines of miscellaneous poetry are written in a phonetic orthography, instead of the traditional Gaelic spelling

Lissa, town in Poland see LESZNO

Lissa, Yugoslavia see VIS

Lissoy, Co Westmeath, Ireland see AUBURN

List, Friedrich (frē'drĭkh lĭst'), 1789–1846, German economist The first professor of economics at the Univ of Tübingen, he was elected (1820) to the Wurttemberg legislature For his advocacy of administrative reforms, he was sentenced to imprisonment, but was released on condition that he emigrate to the United States Here he engaged successfully in various enterprises and in 1832 returned to Germany as U S consul at Leipzig. Insisting upon the necessity for a commercial association of German states and the full development of productive powers in those states, he became a ceaseless advocate of a customs union (ZOLLVEREIN), a merchant marine, railroads, and a policy of protection for young industries and nations His ideas were influential, and many of them were subsequently adopted by the government List's most important work is *The National System of Political Economy* (1840, Eng tr, 1904) See Margaret Hirst, *Life of Friedrich List and Selections from His Writings* (1909)

Lister, Joseph Lister, 1st **Baron** (lĭ'stûr), 1827–1912, English surgeon, educated at University College, London He brought to surgery the principle of antisepsis, an outgrowth of Pasteur's theory that bacteria cause infection In 1865 Lister proved the effectiveness of his methods, thus founding modern antiseptic surgery Using carbolic acid as the antiseptic agent, he devised techniques of applying it which, when used in conjunction with his heat sterilization of instruments, brought about dramatic decreases in postoperative fatality. He developed absorbable ligatures and the drainage tube, both of which have come into general use for wounds and incisions Lister is credited with first using sinus forceps and certain other instruments, as well as with numerous new operations. He was professor of clinical surgery at Edinburgh Univ. (1869–1876) and at King's College, London (1877–93). See studies by Cuthbert Dukes (1924), C. J. S. Thompson (1934), M. L. Andrews (1935), and Rhoda Truax (1944)

Listowel (lĭstō'ŭl), town (pop. 3,013), S Ont, on the Maitland river and W of Toronto It is in a dairy farming district with textile mills

Liszt, Franz (fränts' lĭst'), 1811–86, Hungarian pianist and composer. He made his debut at nine, going thereafter to Vienna to study with Czerny and Salieri. In Paris (1823–25) after his debut there, he knew all the principal artistic figures of the time and was influenced by Berlioz, Chopin, and Paganini He lived with Mme d'Agoult, 1833–44, and their daughter Cosima was the wife of Hans von Bülow and later of Wagner. He became known as the greatest pianist of his age and played all over Europe until 1848, when he became musical director to the duke of Weimar He resigned (1859) and two years later went to Rome, where he became an abbé (1865) During the years 1880–85, in Rome, Weimar, and Budapest, he taught most of the famous pianists of the succeeding generation Following a jubilee concert tour (1886), he died of pneumonia in Bayreuth His compositions are highly romantic and programmatic He is considered the inventor of the symphonic poem, of which he composed many, including *Les Préludes* (1856) For the piano he composed prolifically in addition to transcribing an enormous number of other composers' works *Années de pélérinage, Douze Études d'execution transcendante* (final form, 1854), Six Paganini Études, concertos in E flat (1857) and A (1863), his Sonata in B Minor (1854), and his Hungarian Rhapsodies are outstanding piano works His Dante (1856) and Faust (1853–61) symphonies are also important See biographies by James Huneker (1911), Ernest Newman (1934), and Sacheverell Sitwell (1934).

LI TAI PO see LI PO

litany (lĭ'tănē), [Gr., =prayer], solemn prayer characterized by varying petitions with set responses The term is mainly used for Christian forms They were developed in Christendom for use in processions In the West there are four days for these processional litanies, the ROGATION DAYS The Eastern liturgies make frequent use of litanies, recited by the deacon, the response is usually "Lord, have mercy." The KYRIE ELEISON is a relic of such a litany In the Roman Catholic Church the one liturgical litany, the Litany of the Saints, dates from the 5th cent substantially Modeled after it are a number of popular litanies, of which the following are authorized Litany of the Holy Name of Jesus (15th cent), of the Blessed Virgin Mary (or of Loreto, 16th cent), of the Sacred Heart, and of St Joseph The litany in the Anglican Book of Common Prayer is much like the Litany of the Saints Moravian and Lutheran liturgies also use litanies

Litchfield. **1** Town (pop 4,029), a co seat of Litchfield co, W Conn, inc 1719 It includes the boroughs of Litchfield (pop 1,234, inc 1879) and Bantam (pop 564, inc 1915) Bantam Lake lies partly in the town Metal goods are produced A beautiful town with a long green and elm-shaded streets, Litchfield preserves its early 19th-century appearance It has been the home of many famous people Oliver Wolcott lived here, Judge Tapping Reeve started the first law school in the country (1784–1833), Ethan Allen was born here, Lyman Beecher was minister of the Congregational church, 1810–26, and his two most famous children, Harriet Beecher Stowe and Henry Ward Beecher, were born in Litchfield **2** City (pop 7,048), S central Ill, S of Springfield and NE of St Louis, in a coal and farm area, inc 1859 Its manufactures include radiators, shoes, milk products, and soft drinks **3** Village (pop 3,920), co seat of Meeker co, central Minn, W of Minneapolis, settled 1856, platted 1869, inc 1872 It is an industrial and trade center in a farm area and is headquarters for a Federal farm resettlement project

Litchfield Hills, term used loosely for hills in Litchfield co, NW Conn They are part of the Taconic Mts

litchi, Chinese tree (*Litchi chinensis*) of the soapberry family, having a small, aromatic, nutlike fruit in a thin, rough shell It is the best-known Chinese fruit and a favorite with the Chinese, who use it fresh, dried, or preserved In commerce it is usually seen dried, in which form it appears as a nut with a raisinlike center The fresh fruit looks much like a strawberry and has a juicy pulp The pulp is also canned The tree is now grown in other warm countries and to some extent in the United States in S Florida and California Among variant spellings are leechee, lichee, and lychee See G. W. Groff, *The Lychee and the Longan* (1921).

literary frauds, manuscripts which are presented to the public as being works of famous authors but which are actually forgeries or imitations. Literary frauds occur for the purpose of selling the manuscripts or books for large sums, to win recognition for an original work which would not attract attention by itself, or sometimes simply for fun, as in a literary hoax. Literary frauds have probably flourished in all periods. To give his history of Phoenicia an air of authenticity, Philo Biblos (1st cent. A.D.) invented a Phoenician source whom he

called Sanchoniathon. In the Middle Ages stories of the Trojan War were ascribed to two imaginary eyewitnesses, Dictys Cretensis and Dares Phrygius Also popular were letters supposedly written by Alexander the Great to Aristotle and filled with fantastic adventures in India Another spurious account of the Far East was *The Voiage and Travaile of Sir John Mandeville* (c 1371), translated from the original French into many languages, including English. Actually the book was written by a man who had never traveled and had compiled his information from books In England the 18th cent was the period of the most famous literary frauds A man who pretended to be a native of Formosa in 1704 published a *Description of Formosa* with an autobiography Subsequently he confessed that he was George PSALMANAZAR and that he was born in France. In the 1760's James Macpherson wrote a group of poems which he claimed were translations of the 3d-century Celtic poet OSSIAN, the fraud was exposed by Samuel Johnson Not many years later Thomas CHATTERTON wrote poetry in an imitation of 15th-century English and claimed that the poems were transcribed from a manuscript of a poet-priest of that period, Thomas Rowley William IRELAND falsely claimed to have found two lost plays of Shakspere Less pretentious literary frauds of this period include the claim of Charles Bertram that his work was a copy of a manuscript written by Richard of Cirencester, a 14th-century monk, George Stevens's forgery of a letter by George Peele describing a meeting with Shakspere, and William Lauder's interpolation of lines from Milton into 17th-century Latin poems to prove that these poems were a source for *Paradise Lost* Robert Spring, who opened a bookshop in Philadelphia in 1858, was a skillful forger of autographs, especially of George Washington and Benjamin Franklin. The most famous 19th-century literary frauds were spurious first editions of such famous writers as Tennyson, Dickens, Matthew Arnold, Elizabeth Browning, and Kipling They were long considered genuine and were not definitely proved forgeries until 1934 In 1939 the author of these forgeries was shown to be Thomas James WISE, a noted book dealer and collector An innocent form of literary fraud was H L Mencken's "History of the American Bathtub," which was believed by many even after Mencken declared it a hoax In 1944 an Australian magazine discovered that poems which they had printed under the name of Ern Malley were actually nonsensical phrases put together as a hoax by two poets

literature For the literature of England, see ENGLISH LITERATURE, for that of the Netherlands, see DUTCH LITERATURE, etc For the forms of literary art, see BIOGRAPHY, ESSAY, NOVEL, THEATER, etc , for its methods and purposes, see CRITICISM, SATIRE, VERSIFICATION See also JOURNALISM

litharge (lĭt'härj, lĭthärj') [Gr ,=stone-silver], a yellow solid, either flaky or powdery, the monoxide of lead, prepared by heating lead in air It is the most stable of the oxides of lead and is formed also when other lead oxides are heated It is used in the manufacture of paints, enamels, varnishes, glass, pottery, and earthenware and in treating rubber Combined with glycerine it makes a firm, binding cement

Lithgow (lĭth'gō), municipality (pop 14,462), New South Wales, Australia, in the Blue Mts WNW of Sydney It is a coal-mining center, with steel and woolen mills

lithium (lĭ'thēŭm), silvery-white metallic element (symbol=Li, for physical constants, see ELEMENT, table) It is very soft, the lightest of the metals, and is classed, according to the periodic table, with sodium, potassium, rubidium, and cesium as an ALKALI METAL Like sodium it reacts with water. It combines directly with hydrogen to form a hydride, with nitrogen to form a nitride, and with oxygen to form an oxide With the hydroxyl group it forms the hydroxide, with carbon and oxygen, the carbonate, and with phosphorus and oxygen, the phosphate. It burns in air with a brilliant white flame, combining with the oxygen to form the oxide, lithia Its compounds color a flame bright red or crimson, and consequently these, as well as the metal, are used in pyrotechnics Lithium is alloyed with aluminum and lead (for hardness) and with beryllium (for lightness) Certain salts of lithium are used to increase the capacity of storage cells, and others (e g., the carbonate, which is practically insoluble in water) are used in medicine Lithium is widely distributed in nature, appearing in the soil (traces), in plants (being present in the ashes), and especially in the minerals lepidolite (a lithia mica), spodumene (lithium, aluminum, silicon, and oxygen), and amblygonite (lithium, aluminum, fluorine, phosphorus, and oxygen) It was discovered in 1817 by J A Arfvedson. The metal is prepared by electrolysis of the fused chloride. Its spectrum exhibits two red lines.

lithography (lĭthŏ'grŭfē), type of planographic or surface printing It is distinguished from letterpress (relief) printing and from intaglio printing (in which the design is cut or etched into the plate). It is used both as an art process and as a commercial printing process In commercial printing the term is used synonymously with offset PRINTING All planographic printing is based on chemical action, and lithography is based on the mutual antipathy of oil and water. As the name [from Gr.,=writing on stone] implies, a lithograph is printed from a stone except in commercial lithography, where grained metal plates are employed The process was invented c 1796 by Aloys Senefelder, and the Bavarian limestone which he employed is still considered the best material for lithography as an art process The slab of stone is ground to a level surface which may be of coarse or fine texture as desired The drawing is made in reverse directly on the stone with a lithographic crayon or ink that contains soap or grease The fatty acid of this material interacts with the lime of the stone to form an insoluble lime soap on the surface, which will accept the greasy printing ink and reject water Accordingly, those parts of the stone which have been drawn upon have an affinity for ink Sometimes the drawing is made on paper and transferred to a heated stone by pressure This is known as a transfer lithograph and does not require the artist to reverse his drawing Next, the surface of the stone untouched by grease is desensitized to it, and the portions drawn upon are fixed against spreading by treatment with a gum arabic and nitric acid solution The grease has now penetrated the stone, and the drawing is washed off with turpentine and water The stone is ready to be inked with a roller and printed, but it must be kept moist The printing requires a special, lithographic press with a sliding bed passing under a scraper As a printing process lithography is probably the most unrestricted It produces tones ranging from intense black to the most delicate gray and simulates with equal facility the effects of pencil, pen, crayon, or brush drawing White lines are readily produced by scratching through the drawing on the stone Several hundred fine proofs can be taken from a stone The medium was exploited by many artists in the 19th cent, including Goya, Delacroix, Daumier, Gavarni, Manet, Degas, and Toulouse-Lautrec In the United States, A B Davies, George Bellows, Joseph Pennell, and many others are noted for their lithographs For the commercial reproduction of art works, photolithography plays an increasingly important role A photographic negative is exposed to light over a gelatin-covered paper Wherever the light does not strike the gelatin, the latter remains soluble while the other parts are rendered insoluble When the soluble portions are washed away, the pattern to be printed can be inked and transferred to the stone or plate Color lithography and color photolithography require as many stones or plates as the number of colors employed

Lithonia (lĭthō'nēŭ), city (pop 1,554), NW Ga , just E of Atlanta It is the center of an important granite-quarrying area

lithopone (lĭ'thupōn), a white pigment, a mixture of barium sulphate and zinc sulphide, prepared by precipitation from solutions of barium sulphide and zinc sulphate It is widely used in paints and cheaper enamels Although, unlike WHITE LEAD, it discolors on exposure to sunlight, it costs less than white lead, has a greater covering power, is not poisonous, and is not discolored by hydrogen sulphide, a gas often present in the air of manufacturing cities It is used mostly in paints for interiors

Lithuania (lĭthōōā'nēŭ, lĭthū-), Lithuanian *Lietuva* (lyĕtōō'vä), republic (1946 estimated area 25,000 sq mi , 1946 estimated pop 3,000,000), NE Europe, since 1940 a constituent republic of the USSR, but still unrecognized as such by the United States in 1949 VILNA is the capital Lithuania borders on the Baltic Sea in the west, Latvia in the north, Belorussia in the east, Poland in the south, and former East Prussia in the southwest Lithuania is a flatland, drained by the Niemen river and its tributaries Dairy farming and stock raising are prominent in its primarily agricultural economy. Food processing and textile manufacturing are the chief industries KAUNAS and MEMEL (Lithuanian *Klaipeda*) are the only important cities besides Vilna The Liths or Lithuanians speak a Baltic LANGUAGE, Roman Catholicism is the prevailing faith The pagan Liths began to form a unified state in the 13th cent to protect themselves against the LIVONIAN KNIGHTS and the TEUTONIC KNIGHTS, who pressed on them from the north and the south respectively The grand dukes Gedimin (1316–41) and Olgerd (1345–77) expanded their territories at the expense of the neighboring Russian principalities, which were weakened by the Mongol invasion. Lithuania became one of the largest states of medieval Europe, including all Belorussia, a large part of the Ukraine, and sections of Great Russia White Russian became the chief language of the grand duchy. Olgerd's son, Jagiello, became king of Poland in 1386 as LADISLAUS II by his marriage with JADWIGA, daughter of Louis I of Poland and Hungary He accepted and introduced Christianity. The union between Lithuania and Poland had at first the character of an alliance between two independent nations. WITOWT, cousin of Ladislaus II, ruled Lithuania independently (1392–1430) and brought it to the height of its power and expansion In 1410 the Polish-Lithuanian forces severely defeated the Teutonic Knights at TANNENBERG. With Witowt's death decline set in The White Russians, who had retained their Greek Orthodox faith, tended toward the rising grand duchy of Moscow In 1569, hard pressed by the Russians under Ivan IV, Lithuania fully merged with Poland by the Union of Lublin The Lithuanian aristocracy and burghers became thoroughly Polonized, while the peasantry lingered in ignorance and servitude By the three successive partitions of Poland (1772, 1793, 1795) Lithuania passed to Russia Russian efforts after 1831 to obliterate Lithuanian national sentiment were futile in face of the movement of nationalist revival Proclaimed (Feb , 1918) an independent kingdom under German protection, Lithuania became (Nov , 1918), an independent republic It successfully resisted attacks by Bolshevik troops and by volunteer bands of German adventurers, but in 1920 its capital, Vilna, was seized by Poland, and Lithuania remained technically at war with Poland until 1927 In 1923 Lithuania seized the MEMEL TERRITORY Internal politics were unstable The virtual dictatorship of Augustine Voldemaras (1926–29) was succeeded by that of Antanas SMETONA (1929–39). An authoritarian constitution on corporative (fascist) lines became effective in 1938 Poland forced the official cession of Vilna (1938), which, however, passed to Lithuania after the partition of Poland in 1939 A German ultimatum forced (1939) the restitution of Memel In 1940 the USSR, which had obtained military bases in Lithuania, occupied the country and, after a new election, Lithuania became a constituent republic of the USSR During the German occupation (1941–44) of Lithuania in the Second World War the considerable Jewish minority (7 per cent) was largely exterminated In 1944 the Communist government returned Memel was again restored to Lithuania

Lithuanian, Baltic language of Lithuania It belongs to the Indo-European family See LANGUAGE (table)

Lititz (lĭ'tĭts), borough (pop 4,840), SE Pa , N of Lancaster, settled c 1740 by Moravians, laid out 1757, inc 1759 It manufactures shoes, textiles, and chocolate Pretzel bakeries here are famous. German customs and language are maintained in this locale Linden Hall Junior College is here

litmus, organic dye used commonly in the laboratory since alkalies turn it blue and acids red For this reason it is classed as an indicator Commonly, paper is treated with the coloring matter to form so-called litmus paper Litmus is prepared, in the Netherlands chiefly, from certain lichens (see ARCHIL) which are mashed, treated with potassium carbonate and ammonia, and allowed to ferment. The resulting product is mixed with various colorless substances, such as chalk and calcium sulphate (gypsum), and appears on the market as dark blue lumps, masses, or tablets Although the chemical nature of litmus is not completely understood, it is known to contain a brownish-red coloring matter (azolitmin—a compound of carbon, hydrogen, oxygen, and nitrogen) and a reddish substance, erythrolitmin, which is affected by alkalies and acids

Litomerice, Czech *Litoměřice* (lĭ'tōmyĕrzhĭtsĕ), Ger *Leitmeritz* (līt'mərĭts), city (pop 14,402), N Bohemia, Czechoslovakia, on the Elbe It is the center of a region of vineyards and orchards

Littell, Frank Bowers (lĭtĕl'), 1869–, American astronomer, b Scranton, Pa , grad Wesleyan Univ (Ph B , 1891), M A Columbian Univ (now George Washington Univ), 1894. He was with the U S Naval Observatory as a computer (1891–96, 1897–98) and as assistant astronomer (1898–1901) In addition to serving on several government missions, he was professor of mathematics (1901–33) in the U S navy He made vertical circle observations of the declinations of standard stars and photographic zenith tube observations for variation of latitude With W S Eichelberger he made a catalogue of 23,521 stars

Little, Arthur Dehon, 1863–1935, American chemical engineer, b Boston An authority on the chemistry of paper making and a pioneer in the industrial application of chemistry, he invented many processes, including one for chrome tanning and another for making artificial silk He was a founder of the school of chemical engineering practice at the Massachusetts Institute of Technology

Little, Clarence Cook, 1888–, American biologist and educator, b Brookline, Mass , grad Harvard (B A , 1910, D Sc , 1914) At Harvard he began his noted research in genetics and the inherited susceptibility to cancer He served as president of the Univ of Maine (1922–25) and of the Univ of Michigan (1925–29) He long held (1929–45) the post of managing director of the American Society for the Control of Cancer. His writings include *The Awakening College* (1930) and *Civilization against Cancer* (1939)

Little, Lou, 1893–, American football coach, b Leominster, Mass. He studied and played football at the Univ. of Pennsylvania (1915–19), with a two-year gap when he was an infantry captain in the

First World War Little coached at Villanova College (1921–22) and at Georgetown (1924–29) before coming to Columbia in 1930 His tenure at Columbia was notably successful, partly because of the outstanding upsets his teams scored—e g , the defeat (7–0) of Stanford in the 1934 Rose Bowl game and the 1947 victory (21–20) over Army, Army's first defeat in 33 games since Nov , 1943 Little became chairman of the Football Coaches Association in 1939 He has collaborated in writing several books and many articles on football

Little America, base for Antarctic exploring expeditions, Antarctica, on the Ross Shelf Ice and S of the Bay of Whales Richard E Byrd established (1929) and named Little America and used it as a base for subsequent expeditions It has also been used by other explorers.

Little Armenia: see Cilicia

Little Belt: see Belt, Great

Little Bighorn, river rising in N Wyoming in the Bighorn Mts and flowing north to enter S Montana and join the Bighorn river at Hardin On June 25, 1876, it was the scene of the defeat and death, at the hands of the Sioux, of G A Custer The battlefield (proclaimed a national reservation in 1886) is today a national monument (765 14 acres)

Little Chute (shōōt), village (pop 3,360), E Wis , on the Fox near Appleton, settled 1850, inc 1899

Little Colorado (kŏlurä'dō, -rä'dō), river rising in the mountains about the Ariz –N Mex boundary and flowing generally northwest more than 200 mi to the Colorado just above the Grand Canyon In Arizona, Holbrook is on the river, Winslow near it

Little Compton, town (pop 1,492), SE R I , between the Sakonnet river and the Mass line, inc as a Plymouth Colony town 1682, passed to Rhode Island 1746 It includes the villages Sakonnet (a resort), Little Compton, and Adamsville A monument proclaims the origin of the Rhode Island Red fowl Elizabeth, daughter of John and Priscilla Alden, lived and is buried here, Benjamin Church also lived here

Little Current, town (pop 1,088), on N Manitoulin island, S Ont , on North Channel of Lake Huron and SW of Sudbury It is a popular yachting resort and has rail connection with the mainland

Little Dipper: see Ursa Major and Ursa Minor

Little Entente (antant', ätät') After the First World War, Czechoslovakia, Rumania, and Yugoslavia drew together by three dual treaties of defensive and economic alliance (1920–21) and by later agreements This combination, closely bound to France by financial and treaty obligations, became known as the Little Entente Poland, though it sometimes cooperated with it, did not enter the alliance Yugoslavia and Rumania were also members of the Balkan Entente, formed in 1934 The main purposes of this system of alliances were the preservation of the territorial status quo established by the treaties of Versailles, Saint-Germain, Trianon, and Neuilly against the efforts of Germany, Hungary, Italy, and Bulgaria to have those treaties revised, the prevention of union (Ger *Anschluss*) between Germany and Austria, and the encouragement of closer economic ties among its members The Little Entente was successful in its aims until the rise of Hitler in Germany, when French prestige was gradually displaced by German economic penetration and political pressure It began to break apart in 1936 and was effectively ended when Czechoslovakia was dismembered by the Munich Pact (1938)

Little Falls. **1** City (pop 6,047), co seat of Morrison co , central Minn , on the Mississippi and NNW of St Cloud, in a rich farm area, settled 1855, inc as a village 1879, as a city 1889 The power of the falls was used by various mills Wood and paper products, flour, and clothing are made Charles A Lindbergh's childhood home (restored in 1935 by the WPA) is near by, in a state park which is a memorial to the aviator's father **2** Township (pop 5, 368), NE N J , SW of Paterson, settled 1711 It has a large laundry plant **3** City (pop 10,163), E central N Y , SE of Utica, at falls of the Mohawk and on the Barge Canal, in a dairy region, settled c 1725, inc 1895 Knit goods and slippers are among its manufactures

Little Ferry, borough (pop 4,545), NE N J , on the Hackensack and ESE of Paterson, settled 1636, inc 1894

Littlefield, George Washington, 1842–1920, American cattle man, b Panola co , Miss His family settled (1850) in Texas, where his father built up a large cotton plantation In the Civil War, Littlefield enlisted in a company of the 8th Texas Cavalry (which came to be known as the Texas Rangers) and was severely wounded in 1863 He returned to his family plantation, and after floods ruined (1871) his crops he retrieved the family's wealth by driving a herd of Texas cattle over the trail to Kansas He amassed a fortune at this business, and by 1883 he was also engaged in banking. He interested himself in the welfare of Texas and of the South, and to this end he liberally endowed the Univ. of Texas See biography by J. Evetts Haley (1943).

Littlefield, city (pop. 3,817), co. seat of Lamb co , NW Texas, NW of Lubbock on the Llano Estacado, settled 1911, inc. 1925. The region yields cotton, sorghum and other grains, and dairy and poultry products

Little Flower of Jesus: see Theresa, Saint (Theresa of the Child Jesus)

Littlehampton, urban district (1931 pop 10,178; 1943 estimated pop 12,597), Sussex West, England, at the mouth of the Arun river It is a seaside resort and the port for Arundel

Little Kanawha (kənô'wə), river rising in central West Virginia and flowing NW to the Ohio at Parkersburg

Little Masters, term applied to a group of German engravers of the 16th cent , most of whom were followers of Dürer. Their work, usually upon small plates, was marked by minute detail, delicate handling, and admirable design Those better known, who were also painters, include Albrecht Altdorfer, Heinrich Aldegrever, the Beham brothers, and Georg Pencz

Little Minch, Scotland see Minch

Little Missouri, river rising in NE Wyoming and flowing 560 mi NE and E to the Missouri in W North Dakota.

Little Rock, city (1940 pop 88,039, 1948 special census pop 98,302), state capital, and co seat of Pulaski co , central Ark., on the Arkansas river and near the Ouachita foothills, laid out 1820, chartered 1831 On several railroads and in a rich diversified-farming and bauxite-producing area, the city is the commercial center of the state It has a large cotton trade and, with North Little Rock across the river, many industries, notably cottonoil and lumber processing A number of state institutions are here, including the medical school of the Univ of Arkansas, also in the city are Philander Smith and Arkansas Baptist colleges for Negroes, a junior college, Catholic (1882) and Episcopal (1888) cathedrals, and the beautiful old capitol (1836), now a war memorial Gen Douglas MacArthur was born here Near by are a U S veterans' hospital, a state forest nursery, a fish hatchery, and corrective institutions.

Little Russia: see Ukraine

Little Silver, borough (pop 1,461), E N J , near Red Bank, inc 1923

Little Sioux (sōō), river rising in SW Minnesota near the Iowa line and flowing southwest 221 mi across NW Iowa to the Missouri S of Sioux City Its main tributaries are the Maple, the West Fork, and Elliott Creek In 1947 a government-sponsored program for flood control and soil conservation was started in the area (4,500 sq mi) of the Little Sioux watershed The Soil Conservation Service of the U S Dept of Agriculture is directing the building of some 800 gully control structures in the watershed and is advising on crop rotations, contour cultivation, and similar methods of controlling soil erosion The Nepper watershed project, near Mapleton, Iowa, consisting of four dams, was completed in July, 1948. The U S Corps of Engineers has charge of channel improvement, levees, and other flood control measures on the Little Sioux river and its tributaries It is estimated that the total project will be completed in about 15 years

Little Smoky, river rising in W Alberta in the Rockies N of Jasper National Park and flowing 185 mi ENE, then N and NW to the Smoky river, NE of Grande Prairie

Littlestown, borough (pop 2,463), S Pa , c 40 mi SW of Harrisburg, laid out 1765, inc 1864

Little Tennessee, river, c 135 mi long, rising in NE Georgia in the Blue Ridge and flowing across the northwest corner of North Carolina, around the Great Smoky Mts , and NW through Tennessee to empty into the Tennessee river It is much used for dams for flood control and power development Fontana Dam in North Carolina, built in 1942–45 at a site obtained from the Aluminum Company of America, is an important unit in the Tennessee Valley Authority Cheoah Dam is also in North Carolina, and Calderwood Dam is in Tennessee

Little Theater Movement: see Theater

Littleton, Sir Thomas, 1422–81, English jurist He became a sergeant-at-law, i e , a barrister in the Court of Common Pleas in 1453 and a judge of that court in 1466. He is best known for his *Tenures,* a short work in law French on the types of estates in land in England The work, one of the earliest printed books in England, was much admired for its concise and simple quality. In the much-expanded edition of Sir Edward Coke, the *Tenures* was the standard text on property law until the 19th cent The name also occurs as Lyttelton or Lyttleton.

Littleton, **1** Town (pop 2,244; alt. 5,362 ft), co seat of Arapahoe co., N central Colo , just S of Denver, inc. 1890. It is in an irrigated farm area. **2** Town (pop 1,049), E Maine, N of Houlton, in a potato area, inc. 1856 **3** Town (pop. 1,651), NE Mass., NW of Boston, inc 1715. It was settled on the site of the "praying Indian" village Nashoba, established c 1686 by John Eliot. Elastic products are made. **4** Town (pop 4,571), NW N.H., between the Connecticut river and White Mt. peaks and crossed by the Ammonoosuc; settled 1769, inc 1784. It is a resort and a commercial and industrial center, at falls of the Ammonoosuc. Shoes and gloves are made here. It has a Federal building (1936), a fine library with art collections, and a community house The 1936 flood caused much damage in the town. See history by James R. Jackson (3 vols , 1905) **5** Town (pop 1,200), N N C., near the Va line NE of Raleigh, founded before 1775 It is in a lumber and truck-farm area.

Little Turtle, c.1752–1812, chief of the Miami Indians, born in a Miami village near Fort Wayne, Ind. He was noted for his oratorical powers, military skill, and intelligence. He was a principal commander of the Indians in the defeat of Gen. Josiah Harmar on the Miami in 1790 and of Gen. Arthur St. Clair on the Wabash in 1791. After several attacks on the forces of Gen. Anthony Wayne, he counseled peace but was overruled Consequently he was not in command at Fallen Timbers. He reluctantly signed the Treaty of Greenville (Ohio) in 1795, ceding a great part of Ohio to the whites, and he also signed several subsequent treaties Later he refused to join Tecumseh's confederacy against the whites He persuaded many of the Miami to turn to agriculture and appealed to the government to halt the liquor trade among his people. In later life he became a popular Indian hero with the American people See biography by C. M Young (1917).

Little Valley, village (pop. 1,234), co seat of Cattaraugus co , W N Y., NW of Olean, in a dairy region; inc 1876 Cutlery and dairy products are made here.

Littoria: see Latina

Littré, Maximilien Paul Émile (mäksēmēlyē' pōl' āmēl' lētrā'), 1801–81, French lexicographer Known as a positivist philosopher and as professor of history and geography at the École polytechnique, he is better remembered for his dictionary of the French language (5 vols , 1863–72), for his translation of Hippocrates, and for his works in medical history.

liturgy (lĭ'tûrjĭ), in Christian practice, the service of the sacrament of the Eucharist Since very early times Christians celebrated the chief sacrament in a similar manner, bread and wine were brought to the leader of the congregation who thanked God for His blessings, said a prayer including the words of institution (from the Gospels —Mat 26 26–28 and elsewhere), prayed for his people, and distributed the communion A preparatory ceremony including lessons, a sermon, prayers, and the kiss of peace, preceded the communion service There is today a comparatively small number of liturgies They are in several languages They are all very similar in certain essentials initial lessons ending with the Gospel, recital of the Creed, a formal offering of bread and wine, then a solemn dialogue and thanksgiving (the preface), and a long prayer (the canon) containing recital of the words of institution (the consecration) and prayers for the living and the dead, and finally, the Lord's Prayer, communion, and a dismissal Scholars classify the liturgies according to the variations in the text of the canon (1) The Antiochene liturgies, an example of which appears in the *Apostolic Constitutions,* to this group belongs the Byzantine liturgy, used by the Orthodox and many Roman Catholics of E Europe (in Greek and Old Slavonic and Rumanian), the Armenian liturgy (in classical Armenian), and the liturgies of the Jacobites, Maronites, and St Thomas Christians (Arabic and Syriac) (2) The Alexandrine liturgies, including the liturgies of the Copts (in Coptic) and Ethiopians (in Ethiopic) (3) The Roman liturgy (in Latin), the shortest, simplest, and most widely used of ancient liturgies, now represented only by the Mass, there are a few variations, as used by the religious orders (4) The Gallican liturgies (in Latin), used anciently in western Europe, except in central and S Italy, the only surviving liturgies of this group are the Ambrosian liturgy used in the diocese of Milan, Italy, and the Mozarabic liturgy of Toledo, Spain The liturgies of Protestant churches differ fundamentally from the ancient liturgies in not implying transubstantiation, in being of very recent adoption, and in always using the vernacular, for them, see Lord's Supper The use of the ancient liturgies cuts across the lines of heresy and schism, and generally users of ancient liturgies recognise the validity of other ancient liturgies. See Virgil Michel, *The Liturgy of the Church according to the Roman Rite* (1937); Sévérien Salaville, *An Introduction to the Study of Eastern Liturgies* (Eng adaptation, 1938).

Litvinov, Maxim Maximovich (mŭksyēm' mŭksyē'-mŭvĭch lyĭtvē'nŭf), 1876–, Russian revolutionist and statesman. He changed his name from Wallach after joining the Social Democratic party An early Bolshevik, he took part in the Revolution of 1905 but subsequently spent years in exile in London and in Switzerland. After the October Revolution of 1917 he was sent as first Soviet representative to London, but was expelled by the British authorities in 1918. He became the chief assistant of the commissar for foreign affairs, Chicherin, and during Chicherin's last years

carried the burden of his superior's work. In 1928, representing the USSR at the preparatory committee for the Disarmament Conference at Geneva, Litvinov declared that the Soviet Union was ready to abolish all military forces as soon as the other powers declared themselves ready to do likewise. The other powers accused him of sabotaging disarmament, and his startling proposal to accomplish disarmament by disarming came to nothing. Litvinov succeeded Chicherin as foreign commissar in 1930. He obtained (1933) American recognition of the USSR, and in 1934 Russia entered the League of Nations, where Litvinov continued to promote a peace policy and called for joint action against the aggression of the Axis Powers. His policy was abandoned by Stalin after the Munich Pact of 1938. As a Jew and as a consistent foe of Nazi Germany, Litvinov was scarcely in a position to negotiate a nonaggression pact with Germany, in May, 1939, he was replaced by Molotov as foreign commissar. He emerged from virtual retirement late in 1941, when he was appointed ambassador to the United States, but he was recalled in 1943. In 1946 he was relieved of his post as deputy foreign minister (held since 1941), but he continued to hold office in the government. Litvinov was considered the chief exponent of Soviet cooperation with the Western powers.

Liu-ch'iu: see RYUKYU ISLANDS

Liukiu Islands. see RYUKYU ISLANDS.

Liutprand (lēōōt'prănd), d 744, king of the Lombards (712–44). Under his rule the Lombard kingdom of Italy reached its flower. Liutprand strongly favored Roman law and institutions. His legislation anticipated the reforms of Charlemagne by protecting his subjects from denial of justice through his *missi* (special envoys authorized to administer justice and redress grievances). He curbed the powers of the local dukes and bishops, thus creating a centralized state, and he obtained the submission of the duchies of Spoleto and Benevento. In the north, he expanded his dominions at the expense of Bavaria. Liutprand died while campaigning against the Byzantine exarchs of Ravenna. After an interregnum, he was succeeded (749) by his brother Aistulf, who captured Ravenna in 751.

Liutprand (lēōōt'prănd), c 922–972, Italian historian of Lombard origin. He served at the courts of Hugh of Italy and Berengar II, but attached himself to King (later Emperor) Otto I after Otto's invasion of Italy. In 961 he was made bishop of Cremona. He went on several diplomatic missions to Constantinople. His chief works, which are important sources of Italian, German, and Byzantine history, are the *Antapodosis* [tit-for-tat], dealing with the period 887 to 952, the *Liber de rebus gestis Ottonis* [chronicle of the reign of Otto], an account of events from 960 to 964, strongly biased in Otto's favor, and the *Relatio de legatione Constantinopolitana*, an account of his embassy to Constantinople in 968. His works have appeared in an English translation by F. A. Wright (1930).

Livadiya (lyĭvä'dyĕŭ), small town near Yalta, RSFSR, in S Crimea, a Black Sea resort. The Livadiya palace, built (1910–11) in Italian Renaissance style for Tsar Nicholas II, is now a sanatorium. It was (1945) the residence of F. D. Roosevelt during the Yalta Conference.

live-forever see SEDUM

Live Oak, city (pop. 3,427), co. seat of Suwannee co., N Fla., near the Suwannee W of Jacksonville. It is the principal bright-leaf-tobacco market of the state. The main period for marketing is August. Florida Memorial College (preparatory, Negro) is at Live Oak.

liver, largest gland in the body. It lies in the abdomen just below the diaphragm, the bulk of it on the right side. It is a soft, reddish-brown organ, weighing from about 2½ lb to about 3½ lb and divided into four lobes of unequal size and irregular shape. The secretion of BILE is one of its important functions. Glycogen (or animal starch) is stored in the liver, the liver cells extract glucose from the blood in the portal circulation (which carries blood from the small intestine to the liver) and convert it into the insoluble glycogen which can be converted back to glucose and transported in the blood stream to be used for energy production when the need arises. Other functions of the liver include the conversion of waste products of protein digestion into a form that the kidneys can eliminate and the completion of the destruction of worn-out red corpuscles. The liver stores a substance known as the antianemic principle. In cases of pernicious anemia as well as in some cases of secondary anemia, liver extract is injected intramuscularly.

liver fluke: see FLUKE.

Livermore, Mary Ashton Rice, 1820–1905, American reformer, b. Boston, an ardent advocate of woman suffrage, temperance, and the higher education of women. At the outbreak of the Civil War she served on the U.S. Sanitary Commission and later edited and contributed to a suffrage paper, the *Agitator*, which merged with the *Woman's Journal*. She was a popular lecturer and was the author of *My Story of the War* (1888) and *The Story of My Life* (1897).

Livermore. 1 City (pop. 2,885), W Calif., E of San Francisco, in the agricultural Livermore Valley; settled 1835, inc. 1876. Wines are made in the city. A U.S. veterans administration hospital is here. 2 Town (pop. 1,601), W. Ky., on the Green River and S of Owensboro. Wood products are made here. 3 Farming town (pop. 1,302), SW Maine, NW of Augusta, inc. 1795. It has small industries. "The Norlands" was the home of the Washburns.

Livermore Falls, town (pop. 3,190), SW Maine, NW of Augusta and on the Androscoggin, settled 1786, inc. 1843, called East Livermore until 1930. It has paper mills.

Liverpool, Charles Jenkinson, 1st **earl of,** 1727–1808, British statesman. Entering Parliament in 1761, he became George Grenville's secretary of state. As war secretary (1778–82) he was responsible for British military direction in the American Revolution. He wrote *On the Conduct of Government respecting Neutral Nations* (1758).

Liverpool, Robert Banks Jenkinson, 2d **earl of,** 1770–1828, English statesman. He served as foreign secretary and home secretary and secretary for war and the colonies. As prime minister (1812–27) he headed a Tory government whose policies were directed by its more dynamic members, Wellington, Castlereagh, Canning, Peel, and Huskisson. His administration saw the end of the Napoleonic Wars and the change from repressive post-war policy to the Tory reforms in the 1820s. See biography by C. D. Yonge (1868), W. R. Brock, *Lord Liverpool and Liberal Toryism, 1820 to 1827* (1941).

Liverpool, town (pop. 3,170), SW N.S., on the coast SW of Halifax. It has pulp and paper and shipbuilding industries.

Liverpool, seaport (1931 pop. 855,688, 1948 estimated pop. 791,800), Lancashire, England, on the Mersey near its mouth. It is a great industrial city. In 1207 King John granted Liverpool its first charter, and in 1229 Henry III confirmed it as a free borough. During the 16th and 17th cent. it suffered severely from the plague, and in 1644 it surrendered to Prince Rupert after several sieges. By 1709 it acquired the first wet dock in Great Britain and since then has become the greatest port in W Britain and one of the world's leading trade centers. Liverpool's vast docks are over 7 mi long. The city is connected by tunnel with Birkenhead. Liverpool was once famous for its pottery, and its milling industry was a source of great revenue, however, after the Second World War the great cotton market diminished considerably. Liverpool Cathedral, still uncompleted, will be the largest in England. A Roman Catholic cathedral is also in process of construction. St. George's Hall is an imposing building on high ground in a group which includes libraries and art galleries. The Univ. of Liverpool was independently chartered in 1903. Concentrated air raids in 1940–41 over the whole Merseyside area caused heavy damage and many casualties.

Liverpool, village (pop. 2,500), central N.Y., on Onondaga Lake and near Syracuse, in a farm area; inc. 1830.

liverwort (lĭ'vurwûrt), small flowerless plant of the class Hepaticae. The liverworts generally grow in moist places and are considered to be intermediate between the aquatic algae and terrestrial plants such as mosses, ferns, and the seed plants. Nearly all liverworts are flattened and grow prostrate, the plant body may be either a simple, flat, ribbonlike mass or it may be differentiated into stem and leaves, in which case it sometimes resembles some of the mosses. The ancients considered liverworts remedies for diseases of the liver. They are also called hepatics, and the flowering plant HEPATICA is frequently known as liverwort. For the common liverworts, see A. J. Grout, *Mosses with a Hand-Lens* (1924).

livery companies, name used for the English GUILDS in the city of London. They were chartered largely in the reign of Edward III in the 14th cent. and by each king thereafter. They assumed a distinctive livery or costume and a distinctive badge for ceremonial use, and thus attired they have formed a colorful part of municipal pageants and royal coronations down to the present time. Each livery company controlled the product of the members (if it was a craft guild) or the trade of the members (if it was a merchant guild). It regulated conditions of work, of apprenticeship, and of trade, and it limited membership, although all freemen of London were originally required to join a livery company. In organization each company was governed by its court, made up of the master and wardens. They and the middle class of members were the liverymen. The large body of freemen of the company were called yeomen. Edward III and his immediate successors gave to the livery companies the right not only to elect their own wardens but also to elect the common council of the city of London, which in turn elected the mayor and other officials and the members of Parliament for London. This latter provision held until the Reform Act of 1832. The companies were also incorporated and came to hold lands and to own other considerable wealth. They cared for indigent members and had numerous pensioners. The heyday of the companies lasted until the 17th cent., although they suffered from the royal exaction of forced loans under Henry VIII and his successors, and much of their property in trust was taken from them in the Reformation. Charles II in 1684 asserted royal control of the companies. Gradually, meanwhile, the character of the livery company changed from an association of artisans or traders to one in which the richer members controlled policies and knowledge of the craft or trade was no longer required for membership. The losing battle of exclusive guilds with competition and the impossibility of regulating industry by guilds under capitalism reduced them to little more than administrators of trusts. As such they had long played an important part in English development. For instance, the companies contributed funds for the plantation of Ulster under James I and invested funds in many colonization ventures in the 16th and 17th cent. Of the schools which have been for years administered by the companies, famous are St. Paul's and the Mercers' (both under the company of mercers), the Merchant Taylors', and the City and Guild of London Institute of the Imperial College (started by the cloth workers). There are some 75 livery companies today, of which 12 have long been known as the great companies—those of mercers, grocers, drapers, fishmongers, goldsmiths, skinners, merchant taylors, haberdashers, salters, ironmongers, vintners, and clothworkers. See William Herbert, *The History of the Twelve Great Livery Companies of London* (2 vols., 1837), W. C. Hazlitt, *The Livery Companies of the City of London* (1892).

Livia Drusilla (lĭv'ēŭ drōōsĭl'ŭ), c 55 B.C.–A.D. 29, mother of the Roman emperor TIBERIUS. She was a daughter of Livius Drusus Claudianus and married first Tiberius Claudius Nero. Tiberius was his son. In 38 B.C., AUGUSTUS forced her husband to divorce her that he might marry her himself. Her son Drusus Senior (see DRUSUS), born soon after her remarriage, was not Augustus' son, but the son of her first husband. On Tiberius' accession Livia Drusilla attempted unsuccessfully to control the government.

Livingston, family of American statesmen, diplomats, and jurists. **Robert Livingston,** 1654–1728, b. Roxburghshire, Scotland, lived in Holland from the age of nine and emigrated to America in 1673 after his father died. He made Albany, N.Y., his home, married (1679) Alida Van Rensselaer, and, mainly through trade with the Indians, rose quickly to a position of wealth and influence in New York. Through the influence of Thomas DONGAN, he secured (1686) a patent (later confirmed by a charter of King George I) to shape his extensive land holdings, amounting to 160,000 acres, into Livingston Manor—in the present Dutchess and Columbia counties. Livingston and his brother-in-law, Peter Schuyler, were the leaders of the Albany opposition to the rebellion of Jacob LEISLER, and afterwards Livingston found his estates and privileges so endangered by the Leislerian faction, that he twice had to go to England to defend them. He served as secretary of Indian affairs from 1695 until his death and had considerable influence on the Indian policy of the colony, the governors of New York in this period relied heavily on Livingston's advice and were careful to retain his favor. A representative (1709–11, 1716–25) in the New York provincial assembly, he was elected (1718) speaker and supported the legislative body in opposition to the royal control of the governor. He had two sons, Robert and Philip. The younger Robert was the father of **Robert R. Livingston,** 1718–75, who became noted in New York as a Whig political leader, as a judge of the admiralty court (1759–63) and of the supreme court of the colony (1763–75), and as chairman of the New York Committee of Correspondence. Four of his five daughters made notable marriages, bringing into the family Gen. Richard Montgomery, Freeborn Garrettson, Morgan LEWIS, and John Armstrong (1758–1843). His son, the younger **Robert R. Livingston,** 1746–1813, b. New York city, grad. King's College (now Columbia), 1765, was admitted to the bar and became a partner of John JAY. He was a member of the Continental Congress and a member of the committee to draft the Declaration of Independence, but he did not sign that document because he had returned to New York to meet with the provincial congress. He was the first secretary of the department of foreign affairs, a post created in 1781, and he wrote the instructions for the commissioners to negotiate peace in France. He was (1777–1801) the first chancellor of the state of New York and an ardent New York supporter of the new Constitution of the United States. As chancellor, he administered the presidential oath to George Washington. Livingston earned a name as one of the best legal minds of his time. Thomas Jefferson appointed (1801) him minister to France, and he conducted the negotiations which resulted in the LOUISIANA PURCHASE. He held a monopoly on steamboating in New York waters and his financing of the experiments of Robert FULTON resulted in the launching of the *Clermont*, the first American steamboat to be com-

mercially successful. A brother of the younger Robert R. Livingston, **Edward Livingston,** 1764–1836, b Livingston Manor, grad College of New Jersey (now Princeton), 1781, also established a reputation as a jurist and statesman. As a member (1795–1801) of the U S Congress he opposed Jay's Treaty and the Alien and Sedition Acts. President Jefferson appointed him U S district attorney of New York in 1801, the same year that he became mayor of New York city. Because one of his clerks lost or misappropriated public funds, Livingston sold his property to pay off the debt. He then went to New Orleans, La. In the War of 1812 he became chairman of the committee on public defense and acted as confidential military secretary to Gen. Andrew Jackson. He was elected (1820) to the Louisiana legislature, and in 1821 was appointed to prepare a new code of laws and criminal procedure. Though the code was not adopted, its completeness and reasoned unity brought him international fame. He served again (1822) in the U S House of Representatives and later (1831) resigned from the U S Senate to become Secretary of State under Andrew Jackson—for whom he wrote many important state papers. As minister (1833–35) to France, Livingston was unable to secure payment on American claims for spoliations incident to the Napoleonic Wars. See biography by W. B. Hatcher (1940). Another line of Livingstons descended from Philip Livingston, son of Robert Livingston (1654–1729). Philip had three sons. The eldest of these three brothers, **Peter Van Brugh Livingston,** 1710–92, b. Albany, N.Y., grad. Yale, 1731, was on the Whig side in the bitter political contests preceding the American Revolution and was a strong opponent of the Stamp Act and other British taxation measures. He was a leader in the Committee of One Hundred and was president (1775) of the first provincial congress. He became (1748) an original trustee of the College of New Jersey (now Princeton). The second brother, **Philip Livingston,** 1716–78, b. Albany, N.Y., grad. Yale, 1737, also was a leader in the protest against the Stamp Act and other British trade restrictions. Though he looked with disfavor upon radicalism and was not originally an advocate of independence, he nevertheless signed the Declaration of Independence and after that time remained an active member of the Continental Congress. He was generous with the large fortune he accumulated as a merchant in New York city and was a supporter of many philanthropies. He was one of the original promoters of King's College, established a professorship of divinity at Yale, and helped to found the New York Society Library. A third brother, **William Livingston,** 1723-90, b. Albany, N.Y., grad. Yale, 1741, fought actively in the American Revolution. He was admitted (1748) to the bar and became one of the leading lawyers of New York city. He moved (1772) to New Jersey and was sent to the First and Second Continental Congresses, resigning in 1776 to become commander of the New Jersey militia. Under the state constitution of 1777 he became New Jersey's first governor and remained in this office for the remainder of his life. His daughter married John Jay. His son, **Henry Brockholst Livingston,** 1757–1823, b. New York city, grad. College of New Jersey, 1774, served in the American Revolution and went (1779) to Spain as private secretary to John Jay. On the return journey Livingston was captured (1782) by the British but was soon released. After he was admitted (1783) to the New York bar, he became an ardent Jeffersonian and wrote a number of newspaper articles opposing Jay's Treaty. In 1802 he was appointed a judge of the New York supreme court, and in 1806 Jefferson appointed him Associate Justice of the U S Supreme Court. He remained on the Supreme Court bench for 17 years. See E. B. Livingston, *The Livingstons of Livingston Manor* (1910).

Livingston, Burton Edward, 1875–1948, American plant physiologist, b. Grand Rapids, Mich., grad. Univ. of Michigan, 1898. He invented the atmometer (a device useful in physiological and ecological studies for measuring evaporation in plants) and other instruments for studying and controlling relationships between plants and moisture. He was connected with the U S Bureau of Soils (1905–6), with Carnegie Institution (1906–9), and with Johns Hopkins (1909–40), as professor from 1909 and director of the laboratory of plant physiology from 1913. He wrote *Rôle of Diffusion and Osmotic Pressure in Plants* (1903) and *Distribution of Vegetation in the United States* (with Forrest Shreve, 1921) and edited V. I. Palladin's *Plant Physiology* (3d American ed., 1926).

Livingston, Edward: see LIVINGSTON, family.

Livingston, Henry Brockholst: see LIVINGSTON, family.

Livingston, Peter Van Brugh: see LIVINGSTON, family.

Livingston, Philip: see LIVINGSTON, family.

Livingston, Robert: see LIVINGSTON, family.

Livingston, Robert R. (1718–75): see LIVINGSTON, family.

Livingston, Robert R. (1746–1813): see LIVINGSTON, family.

Livingston, William: see LIVINGSTON, family.

Livingston, small Caribbean port (pop. 5,151), E Guatemala, at the mouth of the Río Dulce. The growth of PUERTO BARRIOS in the 20th cent. has to a large extent destroyed the commerce of Livingston, but coffee, woods, and bananas are exported, and it is still the port of supply for the Lake IZABAL region.

Livingston 1 Town (pop. 1,170), co. seat of Sumter co., W. Ala., between the Tombigbee river and the Miss. line, founded c. 1833. A state teachers college is here. 2 Village (pop. 1,115), SW Ill., NE of St. Louis, in a farm and coal area, inc. 1905. 3 City (pop. 6,642), co. seat of Park co., S. Mont., on the Yellowstone and N of Yellowstone National Park, inc. 1889. Founded (1882) by the Northern Pacific RR, it became a cattle-shipping point and is still a center of ranching as well as of farming and of tourist trade. 4 Township (pop. 5,972), NE N.J., near the Passaic river SW of Caldwell. Many species of birds are observed near here. 5 Town (pop. 1,527), co. seat of Overton co., N. Tenn., ENE of Nashville, in a farm and timber area. Standing Stone State Park is near by. 6 Town (pop. 1,851), co. seat of Polk co., E. Texas, NE of Houston. Development of oil fields in the 1930s brought new resources to this sawmill town in the pine lands. Near by is the Alabama and Coushatta Indian Reservation.

Livingstone, David (lĭ'vĭngstŭn), 1813–73, Scottish missionary and explorer in Africa. While a medical missionary for the London Missionary Society in Bechuanaland (1841–52) he crossed the Kalahari desert and reached Lake Ngami in 1849 and discovered the Zambezi river in 1851. Inspired with the hope of abolishing the slave trade by opening Africa to Christian commerce and missionary stations, he traveled to Loanda (1853) on the west coast, then, following the Zambezi river, he discovered Victoria Falls (1855) and reached the east coast at Quelimane, Portuguese East Africa, in 1856. His *Missionary Travels* (1857) in South Africa is an account of this journey. He was appointed British consul at Quelimane and given command of an expedition (1857–63) to explore the Zambezi region. He returned to England (1864) and wrote with his brother Charles *The Zambezi and Its Tributaries* (1865). In 1866 he returned to Africa to learn the source of the Nile. He discovered Lakes Mweru and Bangweolo and in 1871 reached the Lualaba tributary of the Congo. Sickness compelled his return to Ujiji on Lake Tanganyika, where H. M. STANLEY found him in 1871 and joined him on a journey (1871–72) to the north end of Tanganyika. In 1873 Livingstone died in the village of Chief Chitambo. Native followers carried his body to the coast, whence it was sent to England and buried in Westminster Abbey. Livingstone's last journals were edited by Horace Waller (1874), his letters by David Chamberlin (1940). See H. M. Stanley, *How I Found Livingstone* (1872), biographies by R. J. Campbell (1930) and J. I. Macnair (1940).

Livingstone, town (pop. 10,730), S. Northern Rhodesia, near the Victoria Nyanza. It was founded in 1905 and was named after David Livingstone, the African explorer. It was the capital of Northern Rhodesia from 1911 to 1935. It is now a tourist center and the site of the Rhodes-Livingstone Museum, which has a collection of native crafts.

Livingstone, Fort, post of the Northwest Mounted Police, W. Man., near Swan River. It was from 1875 to 1877 the headquarters for the mounted police and the capital of the Northwest Territories.

Livingstone College, see SALISBURY, N.C.

Livius Andronicus (lĭ'vēŭs ăndrunī'kŭs), fl. 3d cent. B.C., Roman poet, a Greek, b. Tarentum (Taranto). He was taken slave at the fall of Tarentum and was freed by a noble of the Livian gens, hence his name. He then became a teacher and an actor. He introduced Greek literature into Rome, translating the *Odyssey* and adapting Greek plays which he first produced in 240 B.C. Although his few extant fragments show no signs of genius, he deserves all credit as the founder of the Roman comedy.

Livonia (lĭvō'nēu), region and former Russian province, comprising present ESTONIA and parts of LATVIA (Vidzeme and LATGALE). It borders on the Baltic Sea and its arms, the Gulf of Riga and the Gulf of Finland, in the west and the north and extends E to Lake Peipus and the Narva. Livonia, also known as Livland, was named after the Livs, a Finnic tribe which inhabited the coast when in the 13th cent. the German Livonian Knights (see separate article) conquered the entire region now composing Estonia and Latvia. The knights, in union with the Teutonic Knights, formed a strong state which threatened Lithuania and Novgorod in the 13th and 14th cent. They reduced the native population to servile status. The chief cities—among them RIGA, TARTU, and TALLINN—were German in culture and were dominated by the Hanseatic League. After the dissolution (1561) of the Livonian Order, Livonia was contested by Poland, Russia, and Sweden. COURLAND, in the southwest, became a duchy under Polish suzerainty, and Latgale, in the southeast, became part of Poland. Vidzeme, in the center, passed first to Poland, then (1629) to Sweden, which also held the northern part (Estonia). The Swedish share was conquered (1710) in the NORTHERN WAR by Peter I of Russia, who kept it at the Peace of Nystad (1721). Latgale passed to Russia in 1772. In 1783 Livonia was constituted a Russian province (government), and in 1918 it was divided between Estonia and Latvia.

Livonian Knights (lĭvō'nēŭn), German military religious order, founded c. 1202 by the bishop of RIGA to Christianize the Baltic countries. The knights, also called Brothers of the Sword and Knights Swordbearers, were organized on lines similar to those of the TEUTONIC KNIGHTS. Their habit was a white robe with a red cross and sword. They conquered the Livs, Ests, and Letts, whose territories, subsequently known as LIVONIA (see separate article) and COURLAND, became the domain of the order. In 1236 the knights were severely defeated by the Lithuanians at Siauliai, as a result, they merged with the Teutonic Order, but they continued to form a separate state. After the secularization (1525) of the Teutonic Order, they resumed their independence. In 1557 Ivan IV of Russia invaded their territories, and in 1561 the knights, whose power was weakened by the Reformation, disbanded. However, they retained their vast estates. The "Baltic barons"—the German landed aristocracy which dominated the Baltic provinces until the First World War—were largely descended from the knights. Although they kept the native rural population in servitude and misery, the Livonian Knights, cooperating with the merchants of the Hanseatic League, founded numerous prosperous cities, notably Riga.

Livorno, Italy: see LEGHORN.

Livy (Titus Livius) (lĭ'vē), 59 B.C.–A.D. 17, Roman historian, b. Patavium (Padua), probably of noble family. He lived most of his life in Rome. The breadth of his education is apparent in his evident familiarity with the ancient authors, both Greek and Latin, to whose authority he is in frequent debt. His life work was the *History of Rome* from its founding in 753 B.C. The narrative comes to an end with Drusus (9 B.C.). Of the original 142 books of the work (published in sections) 35 are extant (Books I–X, XXI–XLV). There are fragments of some others, and all but two are known through epitomes. Livy gathered his material from the best sources at his command, chose what seemed to him most authentic and credible, and presented it with the enthusiasm of a patriot in the form of annals. While Livy's accuracy is very questionable, he has achieved and deserved a long popularity because of his imaginative and vivid depictions, his freedom of expression, his intense interest in his work, and his masterly style (developed from Cicero and with a poetic strain).

Lizard, the, promontory, Cornwall, England. The whole peninsula S of the Helford is sometimes called the Lizard, and its southern extremity (the southernmost point of Great Britain) Lizard Point or Lizard Head. The coast has colored serpentine rocks, small coves and bays, wave-hollowed caves, islets (e.g., Asparagus Island), and dangerous reefs. There are two lighthouses.

lizard, reptile of the suborder Lacertilia of the order Squamata, most abundant in warm or tropical regions but with some species in all temperate areas. The body is scaly, there are four limbs in most species, eyelids and ear openings are usually present, and the tail in many forms is easily broken off and regenerated. Many can undergo color changes. The tongue may be short and wide, long and forked, or highly extensible. Most species are insectivorous, but a few are herbivorous or omnivorous. Some lay eggs, others bear live young. Lizards range in size from a length of a few inches to the 8 to 12-foot komodo or dragon lizard. Flying lizards which glide from tree to tree are found in the Malay Archipelago. The bizarre frilled lizard inhabits N Australia. See also CHAMELEON, GILA MONSTER, GLASS SNAKE, HORNED TOAD, IGUANA. See H. M. Smith, *Handbook of Lizards of the United States and Canada* (1946).

Ljubljana (lyōō'blyänä), Ger. *Laibach* (lī'bäkh), city (pop. 120,944), capital of Slovenia, NW Yugoslavia, on the Sava river. It is a trade center with varied industries and is a Roman Catholic archiepiscopal see. Dating from Roman times, Laibach was until 1918 the capital of CARNIOLA, a part of Austria. Its university was founded in 1919. For the international congress held here in 1821, see LAIBACH, CONGRESS OF.

llama (lä'mä), South American domesticated hoofed mammal of the CAMEL family, believed to be a descendant of the guanaco. Smaller than the camel and lacking a hump, it somewhat resembles a large sheep. In color it may be brown, white, black, or piebald. It lives in herds up to the snow line in the Andes. Used as a beast of burden since the days of the Incas, it is also valued for its flesh, wool, and milk. If it is too heavily loaded it refuses to move.

Llandaff (lăn'dăf'), suburb, Glamorganshire, Wales, NW of Cardiff and on the Taff. St. Dubricius founded a church here in the late 6th or early 7th cent. The present cathedral, the oldest parts of which date from 1120, was restored in the 19th

cent. Parts of a palace built by Bishop Urban remain. There is a Protestant theological college

Llandudno (lăndĭd'nō, -dlĕ'nō), urban district (1931 pop. 13,679; 1943 estimated pop 16,000), Caernarvonshire, Wales, on a point of land jutting into the Irish Sea It is connected by bridge with Conway. Llandudno is a popular seaside resort with a mild climate. Great Ormes Head, at the west, is a promontory 679 ft high; Little Ormes Head is east of the town.

Llanelly (lănĕ'lĭ, -ĕ'thlĕ), municipal borough (1931 pop 38,416, 1947 estimated pop 34,810), Caermarthenshire, Wales, on the estuary of the Burry Great quantities of coal are exported, and there are important tin-plate works, steelworks, and copperworks

Llangollen (lăn-gŏ'lĭn, -gō'thlĭn), urban district (pop. 2,937), Denbighshire, Wales, in the Vale of Llangollen on the Dee It is a resort of fishermen and a headquarters for tourists to the antiquities in the vicinity, which include Dinas Bran or Crow Castle, Eliseg's Pillar (a stone monument dating probably from the 9th cent), and Valle Crucis Abbey (1200) The partly Norman Church of St Collen and a 14th-century bridge are noteworthy Plas Newydd, near the town, was the residence of Lady Eleanor Butler and Sarah Ponsonby, the "Ladies of the Vale" or "Ladies of Llangollen," eccentric recluses

Llano (lă'nō), town (pop 2,658), co seat of Llano co , S central Texas, on the Llano river and NW of Austin, inc 1901 The rough country has goat and sheep ranches and some farms, and Llano has processing plants and a notable granite-quarrying industry

Llano Estacado (lă'nō ĕstŭkă'dō), southerly part of the Great Plains plateau, E N Mex and W Texas It ends in the south with the Cap Rock escarpment, which runs from near the northeast corner of the Texas Panhandle almost to the southeast corner of New Mexico The high northern plains of the Panhandle, with their center at Amarillo, Texas, are usually distinguished from the somewhat lower South Plains, of which Lubbock, Texas, is the center, but all are wind-swept grasslands, formerly used for cattle ranching, now dotted with dry-land and irrigated farms and oil and gas fields. The plains are called in English translation the Staked Plain or Staked Plains

llanos (yä'nōs), Spanish American term for prairies, specifically those of the Orinoco basin in Venezuela and part of E Colombia Shunned by man before the Spanish came, the llanos support little wild life except egrets, whose plumes once were a valuable export The region is a vast, hot, sparsely populated savanna broken by low-lying mesas, scrub forest, and scattered palms Elevation above sea level never reaches more than a few hundred feet Plagues of insects, often deadly, make human and animal life almost intolerable During the dry season (Nov to April) the land is sear, the grass brown, brittle, and inedible, during the rains much of the area is inundated Still, until the recurrent revolutions of the 19th cent , the llanos supported several million head of cattle, herded by the hard-riding tough *llanero*, an expert horseman comparable to the GAUCHO of the Argentine pampas The LLANERO has played an important role in Venezuelan history as an ardent henchman of successive revolutionary *caudillos* Today the cattle industry is being revived and agriculture encouraged

Llewellyn, Richard (lōō'ĕlĭn), 1907–, Anglo-Welsh novelist and film writer, whose full name is Richard David Vivian Llewellyn Lloyd He is the author of *How Green Was My Valley* (1939), a story of life in the S Wales mining areas, and *None but the Lonely Heart* (1943). Both novels have been successfully filmed in the United States *A Few Flowers for Sinner* appeared in 1950

Llewelyn ap Gruffydd (lōō-ĕ'lĭn ăp grŭf'fĭdh, thlōō'-lĭn, grĭ'fĭdh), d 1282, Welsh prince, grandson of Llewelyn ap Iorwerth He early gained the allegiance of minor Welsh princes and shortly acquired in North Wales authority as wide as that of his grandfather In the BARONS' WAR he was allied with Simon de MONTFORT against Henry III and increased his power Even the enmity of the English border lords and Simon's downfall (1265) did not check Llewelyn's progress, by the Treaty of Montgomery (1267) he was recognized as prince of Wales—the first official use of the title On the accession of EDWARD I in 1272, Llewelyn, at the height of his prestige, refused homage to the English king In the English invasion of 1276 he lost all but a portion of North Wales, a second rebellion in 1282 brought total disaster The elegies of Welsh bards express the nation's grief at the passing of this last fighter for Welsh liberties (scion of one of the oldest ruling families of Western Europe) The name also appears as Llewelyn ap Griffith

Llewelyn ap Iorwerth (ĕôr'wĕrth) (Llewelyn the Great), 1173-1240, Welsh prince He first proved his capacity by wresting North Wales from his rivals and by taking (1199) the border fortress Mold from the English His friendship with JOHN of England (whose illegitimate daughter Joan was married to Llewelyn in 1206) was strained after 1208, and the Welsh prince sided with Pope Innocent III against John and was a powerful ally of the English barons in their revolt His rights and those of the Welsh were recognized in the MAGNA CARTA (1215) Thereafter as overlord of the descendants of the Lord Rhys (RHYS AP GRUFFYDD), he set about establishing his power and destroying Norman castles in South Wales Under HENRY III of England he was a magnate of the realm until 1238, when he became a Cistercian monk and left his principality to his son Dafydd Llewelyn's munificent patronage of the bards brought a renaissance of Welsh letters He was an able soldier, a generous supporter of the Church, and, above all, a zealous fighter for national unity

Lloyd, David, c 1656–1731, political leader in colonial Pennsylvania, b Wales Having been commissioned attorney general of Pennsylvania by William Penn, Lloyd arrived in Philadelphia in 1686 He later became a member of the provincial assembly, acting as its speaker and serving in the provincial council on several occasions After 1703 Lloyd assumed the leadership of the antiproprietary party there, championing the rights of the people over the proprietaries and governors and coming into constant sharp conflict with James LOGAN He served as chief justice of Pennsylvania from 1717 until his death

Lloyd, Henry Demarest, 1847–1903, American reformer, b New York city, grad Columbia, 1867 He was on the editorial staff of the Chicago *Tribune* from 1872 to 1885, but resigned to study social problems His *Wealth and Commonwealth* (1894) is an attack on monopolies, based especially upon the methods of the Standard Oil Company He traveled widely, writing on conditions in various countries and always giving support to the causes of the underprivileged See biography by C A Lloyd (1912).

Lloyd George, David, 1st **Earl Lloyd-George of Dwyfor** (dōō'ĕd'vôr), 1863–1945, British statesman In 1890 Lloyd George was elected as a Liberal to Parliament by the Welsh constituency that he was to represent for 54 years He was raised to the peerage only a few months before his death and never sat in the House of Lords After his election to the House of Commons as a young man Lloyd George became known as a radical and an anti-imperialist He bitterly opposed the South African WAR In 1906 he entered Campbell-Bannerman's ministry as president of the Board of Trade, and in 1908 he was raised to be chancellor of the exchequer by Herbert Asquith His budget of 1909–10, providing a system of social insurance partly financed by land and income taxes, was blocked by the House of Lords The Lords were forced to capitulate, however, when Lloyd George and the Asquith ministry took the issue to the people in a general election (1910) It was the virtual end of the veto power of the Lords During the First World War, Lloyd George became minister of munitions (1915), then minister of war (on the death of Lord Kitchener, June, 1916), and finally (Dec , 1916), prime minister in the new coalition cabinet His war policy was bold and aggressive, and he was largely responsible for the unification of military command under Marshal Foch, although Lloyd George was often at odds with other Allied military leaders He was one of the "Big Four" statesmen (with Georges Clemenceau, Vittorio Orlando and Woodrow Wilson) at the Paris Peace Conference (1919) There was much dissatisfaction with his handling of the Irish question (see IRELAND) and the Greco-Turkish conflict The Conservatives withdrew from the coalition, and his ministry fell (1922) Lloyd George continued active in Parliament and strongly opposed the appeasement policy that preceded the outbreak of the Second World War See his *War Memoirs* (6 vols , 1933–36, 2 vols , 1943), and *Memoirs of the Peace Conference* (2 vols , 1939), biographies by John Edwards (2 vols , 1929), and Malcolm Thomson (1948)

Lloydminster (loid'mĭn'stur), town (pop in Sask , 1,135, in Alta , 698) on the Alta.-Sask boundary WNW of Battleford, Sask , founded 1903 Farming and ranching are the chief activities of the region, which has oil and natural gas In 1930 the separate municipalities were merged

Lloyd's, London insurance underwriting corporation of some 300 individual syndicates. Founded in the late 17th cent by a group of merchants, shipowners, and insurance brokers at the coffeehouse of Edward Lloyd, the association is now international in its scope It is primarily concerned with the underwriting of marine insurance, but issues insurance against many other types of risk, except life insurance *Lloyd's List* is published daily and contains world-wide shipping reports and mercantile information *Lloyd's Register of Shipping*, also affiliated with Lloyd's, is an annual publication containing detailed information, such as age, tonnage, class, construction, of the vessels of all nations, together with supplementary data about docks, harbors, and port facilities See Charles Wright and C. E Fayle, *History of Lloyd's* (1928), Ralph Straus, *Lloyd's: a Historical Sketch* (1937)

Llullaillaco (lyōōlyīyă'kō), extinct volcano, 22,014 ft high, on the border of Chile and Argentina One of the highest peaks in the Andes, perpetually snowcapped, it overlooks the only pass N of USPALLATA PASS for rail and highway traffic between Chile and Argentina

Llywarch Hen (thlĭ'ôôărkh hĕn'), fl late 6th cent , Welsh poet The poetry attributed to him conforms more to the popular idea of Celtic poetry than does that of other bards of the period, being elegiac rather than epic It is characterized by an exquisite simplicity and a plaintive melancholy reminiscent of the Irish keen

Loa (lō'ä), river, c 270 mi long, N Chile, flowing S from the Andes, west and north through the desert of ATACAMA, then W to the Pacific Longest of the Chilean rivers, it is not navigable, but affords some water supply for mining communities

loadstone see MAGNETITE

loam, soil composed of clay, sand, and silt The particles are of many sizes and are rather evenly mixed Loam has a gritty texture but is plastic when moist Loams are valuable for many general purposes, since they are more retentive of moisture and contain more nutriment than sandy soil According to the preponderance of their ingredients loams are designated as sandy, clay, or silt loams

Loammi (lōăm'ī) [Heb ,=not my people], figurative name of Israel before reconciliation with God Hosea 1 9,10 Cf AMMI

loan, anything given on condition of its return or repayment of its equivalent A loan may be acknowledged by a bond, a promissory note, or an IOU Personal loans were interest free in ancient civilizations, and the early Christian Church forbade the taking of interest In feudal European society, loans were little needed by the great mass of relatively self-sufficient and noncommercial peasants and serfs, but kings, nobles, and ecclesiastics were heavy borrowers for personal expenditures Merchants and other townsmen, especially the Jews, were the moneylenders, and various devices were found for circumventing the prohibition of usury With the rise of a commercial society, restrictions on the taking of interest were gradually relaxed Today, banks and finance companies make most loans, usually on COLLATERAL such as stocks, personal effects, and mortgages on land and other property, or on assignments of wages CREDIT UNIONS have attained some importance in making personal loans at low interest rates Pawnbrokers lend money on the security of articles left in their shops

Loanda, Angola see LUANDA

Lobachevsky, Nikolai Ivanovich (nyĭkŭl' ēvä'nuvĭch lōbŭchĕf'skē), 1793–1856, Russian mathematician A pioneer in non-Euclidean geometry, he originated a system of geometry which challenged Euclid's fifth postulate that only one line parallel to a given line can be drawn through a fixed point Lobachevsky first announced his system in 1826, he subsequently wrote several expositions of it, including *Geometrical Researches on the Theory of Parallels* (originally pub 1840 in German, Eng trs , 1891, 1914), and a statement of his completed work, *Pangeométrie* (issued 1855 in Russian and French) A graduate of the Univ of Kazan, he remained there as teacher (1812), professor (1816), and rector (1827) Despite his efficient and devoted service, he was relieved (1846) by the government of his posts of professor and rector

lobbying, practice of influencing legislation or government officials by agents who serve special interests The pressure may be exerted through data, publicity, threat of political reprisals, or pledges of support In the United States lobbying has become an accepted part of the political system, supplementing geographical representation by functional representation It is defended as a necessary method by which voters make known their approval or dislike of proposed legislation and is attacked for its real or potential abuses Large sums of money have been spent by such organized groups as corporations, railroads, trade associations, labor unions, public utilities, and farm groups seeking to secure passage of legislation favorable to their interests, and these and many other organizations representing business, racial, educational, and public welfare interests maintain permanent lobbies in Washington and in state capitals There have been many attempts to control lobbying through legislative acts, among them the Regulation of Lobbying Act of 1946, requiring registration of lobbyists, with a statement of their purposes and periodical reports of their expenditures See K G Crawford, *The Pressure Boys* (1939), V. O Key, *Politics, Parties, and Pressure Groups* (1942), Stuart Chase, *Democracy Under Pressure* (1945)

Lobel or **l'Obel, Matthias de** (du lōbĕl'), 1538–1616, Flemish botanist and physician. He lived mainly in England and was botanist and physician to James I He attempted a classification of plants based on leaf form and wrote *Stirpium adversaria nova* (with Pierre Pena, 1570) and *Plantarum seu stirpium historia* (1576) The genus *Lobelia* is named for him

lobelia (lōbē'lyŭ), any plant of the genus *Lobelia*, chiefly annual or perennial herbs with tubular flowers split on the upper side. North American

species include the beautiful scarlet cardinal flower (*Lobelia cardinalis*), nearly exterminated as a wild flower but still in cultivation and adapted to shady places, the great or blue lobelia (*Lobelia syphilitica*), also in cultivation, said to have been used by Indians to treat syphilis and introduced into the Old World for that purpose but later abandoned, and the Indian tobacco (*Lobelia inflata*) with a tobacco-like odor, once a popular home remedy, now a standard medicament considered poisonous in quantity. Introduced lobelias are mostly cultivated as annual garden and house plants. These have flowers varying in color but predominantly blue, sometimes double, the plants are compact, trailing, or erect in form.

Lobengula: see MATABELE

Lobito (lōbē'tō, lōvē'tō), town (pop. c 17,000), Angola, on Lobito Bay, an arm of the Atlantic. It is the chief port of the colony and the terminus of a railroad to the rich copper-producing area of Katanga in Belgian Congo.

Lob Nor or **Lop Nor** (both lōp'nôr'), Mandarin *T'ai-t'e-ma*, lake, SE Sinkiang prov., China, in the Tarim river basin. The lake is in a level area, and it has shifted position several times.

Lobos Islands (lō'bōs) or **Seal Islands,** off the coast of NW Peru. They are valuable for their deposits of guano.

lobster, marine crustacean with five pairs of jointed legs, the first pair bearing large pincerlike claws of unequal size. The exoskeleton, which covers the body and appendages, is usually greenish brown. When cooked it turns bright red. Large numbers are taken for food on the Atlantic coasts of North America and Europe. Lobsters crawl briskly over the ocean bottom and swim backwards with great speed by movements of the tail and abdomen, but locomotion on land is difficult. They eat living and dead animal food. The eggs are fastened to the swimmerets of the female for 10 months or more until they hatch. While carrying the eggs the female is called a "berried" lobster. In America the common lobster is *Homarus americanus*. It is found along the coast from Labrador to North Carolina, but is rare in the southern part of its range. The chief fisheries in the United States are in Maine and Massachusetts. Laws regulating lobster fishing do not yet provide adequate protection. Hatcheries are established at Boothbay Harbor, Maine, and at a few other places on the coast. Lobsters are caught in traps or "pots" made of wooden slats, with an entrance through a mesh cone which prevents the animal's escape. The European lobster of the genus *Homarus* is similar to the American species. The spiny or rock lobsters are sea crayfish of the genus *Palinurus*, found chiefly in the warmer seas of both hemispheres. The flesh is much like that of the true lobsters.

local government, political administration of the concerns of the smallest groups of citizens. In Western European culture and its variations (e.g., in Japan, in Communist states) an important distinction in methods is found between urban and rural government, natural because in cities there are many more matters to be regulated. Hence in the United States (apart from the unique New England TOWN) the territory is usually unincorporated if it is not thickly populated, urban areas have limits and governments established (incorporated, chartered, organized) by state action. The CITY is the norm of incorporated government, but some states differentiate smaller municipalities, e.g., as boroughs or villages (see CITY GOVERNMENT). Incorporated governments have freedom for wide purposes, as borrowing money, taxing, maintaining order, controlling utilities, and keeping up schools. Rural areas in most of the United States are dependent on COUNTY government for law and order, but a group of citizens will often have an incorporation for one specific function, as operating schools, this is a school district, and there may be other applications of the system, as in power or water districts. The English-speaking nations have similar political forms, and they share with some others (e.g., Switzerland, Iceland, and nations of Scandinavia) the concept of local government as handled best when left in local hands and the belief that local freedom and self-government are a popular right. Hence, whenever a function of government is taken out of local hands, it is explained in these countries on the grounds of efficiency. In England a series of reforms (especially in 1835, 1882, 1888, and 1926) has regularized local government. The normal incorporated municipality (borough) has a mayor and a council of aldermen. London has special features. A borough may be exempted from county jurisdiction; it is then a county borough. A parliamentary borough is simply a district represented in Parliament. In the United Kingdom the term *city* is a historic title of honor conveying nothing about the government. In other than the English-speaking countries and those following their system the rule is centralization. The classic and typical case is France as reorganized in the French Revolution and by Napoleon. Until that period local government had remained, as in England, in the hands of the local gentry and freeholders. The Revolutionary authorities, to hasten the propagation of the standards set up in Paris, replaced the power of the local authorities not by giving it to the people but by removing it from local levels altogether, the provinces were abolished, and all local rights were wiped out. The nation was reorganized from the top down with the most extensive uniformity, even in infinitesimal matters (e.g., painting the city hall) decisions are taken above the local level. The divisions in descending order are departments, *arrondissements*, cantons, and communes, the system is headed by the minister of the interior, who thus has a control of national life unparalleled in English-speaking countries. The schools and courts are under other ministries. The system was imitated all over Europe, including the Communist states. In the French system there are locally elected councils (called soviets in Communist states), but they have no power. In France there was opposition from the start (naturally crushed as being counterrevolutionary), in the 20th cent., bureaucratic control of local government has been increasingly attacked as inefficient. The occupation authorities in Western Germany and in Japan after the Second World War prescribed increased local self-government as a requisite step to develop in the people a sense of democracy. See William Anderson, ed., *Local Government in Europe* (1939), R. H. Wells, *American Local Government* (1939).

local option see LIQUOR LAWS and PROHIBITION.

Locarno (lōkär'nō), town (pop. 6,760), Ticino canton, Switzerland, on Lago Maggiore. Taken from Milan by the Swiss cantons (1512), it was included (1803) in Ticino canton. In 1925 the Locarno Pact was signed in the palace of justice. There is a small jewelry industry. The beauty of the region attracts tourists, who far outnumber the permanent population.

Locarno Pact, 1925, series of treaties concluded at a conference held at Locarno, Switzerland, by representatives of England, France, Germany, Italy, Belgium, Czechoslovakia, and Poland. It was for the first time since the First World War that Germany met the other powers on an equal footing. Under the leadership of Aristide BRIAND, Gustav STRESEMANN, and Austen CHAMBERLAIN, a series of treaties of mutual guarantee and arbitration were signed. In the major treaty the powers individually and collectively guaranteed the common boundaries of Belgium, France, and Germany as fixed by the Treaty of Versailles of 1919. Germany, Belgium, and France agreed not to resort to aggressive war against each other, and Germany, agreeing to demilitarize a strip of the RHINELAND, was guaranteed entry into the League of Nations. The treaties, which promised to become the foundation of European security, were hailed as ushering in an era of peace. A serious flaw in the pact was the absence of a guarantee of the eastern frontiers of Germany, the result of this weakness was the conclusion of mutual defense pacts between France and Poland and France and Czechoslovakia against possible German aggression, and the refusal of France to disarm.

locative (lōk'-) [Latin,=for placing], in the grammar of certain languages (e.g., Sanskrit), CASE referring to location. Nouns in this case are often translatable into English phrases beginning with *at*, *in*, or *on*.

Loch (lōkh, lōk). For names of Scottish lakes and inlets beginning thus, see second part of name, e.g., for Loch Awe, see AWE, LOCH. See also LAKE.

Lochaber (lōkhä'bur, -ä'bûr), mountainous district, Inverness-shire, Scotland, E of Lochs Leven and Linnhe. Glen, moor, mountain, and water are celebrated in Allan Ramsay's "Lochaber No More" (as a song sometimes titled *Farewell to Lochaber*).

Loches (lōsh), town (pop. 4,102), Indre-et-Loire dept., NW central France, in Touraine, on the Indre. In its castle (15th–16th cent.) is the tomb of Agnès Sorel. The dungeon was first used as a state prison by Louis XI. Loches was the birthplace of Alfred de Vigny.

Lochgilphead (lōkhgilf'hĕd), burgh (pop. 974), Argyllshire, Scotland, at the head of Loch Gilp, a small arm of Loch Fyne. The Crinan Canal (9 mi. long) was cut from here to the Sound of Jura in 1801, to avoid the 75-mile voyage around the Mull of Kintyre.

Lochiel, Sir Ewen Cameron of: see CAMERON, SIR EWEN.

Lochiel, the Gentle: see CAMERON, DONALD.

Lochner, Stephan (shtĕ'fän lōkh'nûr), d. 1451, German religious painter, chief representative of the school of Cologne, known also as Meister Stephan. His earliest known work is a *Last Judgment*. His masterpiece is the altarpiece called the *Dombild* in the Cologne cathedral. The central panel represents an *Adoration of the Kings*; the wings, *St. Ursula* and *St. Gereon*. Other works include *Virgin with the Violets*, *Presentation at the Temple*, and *Madonna of the Rose Bush*. Lochner's fine, brilliant color and tender sentiment have made him one of the best-loved German primitives.

Lochy, Loch (lōkh lō'khē), lake, Inverness-shire, Scotland. It is part of the CALEDONIAN CANAL.

lock, air: see AIR LOCK.

lock, canal, enclosed stretch of water with a gate at each end, used for raising or lowering a vessel from one water level to another. Locks are used in rivers and canals where the water course is not level and at the entrance to docks. The procedure of passing to a higher level starts with the lowering of the water in the lock until it is on a level with the floating vessel. Then the gate is opened, the ship moves within the lock, and the gate is closed. Water is then allowed to enter the lock from the higher level until the water in the two is at the same level. The gate at the higher end is then opened and the ship passes to the higher level. The procedure is reversed when the vessel is proceeding from a higher to a lower level. Floating or rolling caissons are used to close the lock entrance. Most modern locks are equipped with an intermediate pair of gates, which makes it possible to use only part of the lock for small ships. The water pours into the locks from culverts in the masonry structure of the lock wall. The influx of water is controlled by sluice gates. Locks were for many years made of wood, but more recently steel has been used. The gates swing on heelposts at the sides of the locks and meet at the center of the entrance. They are constructed in such a way that when closed they form an arch with the convex side towards the pressure of the water. The gates are opened and closed by either hydraulic or electrical power. Modern canal locks are able to lift ships up to 40 ft. Among the well-known canal locks are those of the PANAMA CANAL and those in the canal at Ijmuiden, Netherlands.

lock and key. A lock usually consists of a sliding, pivoted, or rotary bolt guarded by an obstacle either fixed (warded) or movable (tumbler) and controlled by a key having a shank which is flat or in the form of a pipe or a pin. The lock and key were known to the Egyptians and other ancient peoples. They are mentioned in the Bible, a celebrated passage is Mat. 16:19, the bestowal of the keys of the kingdom of heaven upon Peter. Until the 19th cent. locks and keys were usually massive and ornate, modern ones tend to be utilitarian. Warded locks were known to the Etruscans, and the combination lock, opened by dialing a sequence of letters or numbers, was used in the 17th cent., but most early locks were of the pin-tumbler type. The modern door lock is a compact pin-tumbler cylinder lock of the type developed by Linus Yale. The warded lock, the simplest and least secure, is used for most padlocks. The lever tumbler, probably originated in China, is often used for safe-deposit boxes. The time lock, suggested in 1831 but first successfully used c. 1875, has a clock mechanism set to prevent opening until a time previously fixed. The key symbolizes authority in religion and art, the coat of arms of the Holy See bears two keys crossed.

Locke, David Ross see NASBY, PETROLEUM V.

Locke, John (lŏk), 1632–1704, English philosopher, founder of British empiricism. Educated at Christ Church College, Oxford, he became a lecturer there (1660) in Greek, rhetoric, and philosophy. Throughout his life he was interested in the new science and in medicine, which he briefly practiced. In 1667 he left Oxford for employment by the 1st earl of Shaftesbury, with whom he was associated for many years. He was conversant with public affairs and was in frequent contact with congenial thinkers, as a result of whose stimulation he came to set down his own ideas. In 1675 when Shaftesbury fell from power, Locke left England for France, where he met leaders in science and philosophy. Returning to England in 1679, he retired soon to Oxford, where he stayed quietly until, suspected of radicalism by the government, he went to Holland and remained there several years (1683–89). In Holland he completed the famous *Essay concerning Human Understanding* (1690), which was published in complete form after his return to England at the accession of William of Orange (William III) to the English throne. In later life he held various minor offices and acted as an occasional state adviser. His fame increased, and he became known in England and on the Continent as the leading philosopher of freedom. His main works included, in addition to the famous *Essay*, his *Letters on Toleration*, which appeared from time to time; *Some Thoughts concerning Education* (1693), and *The Reasonableness of Christianity* (1695). Locke made important contributions to philosophy in almost every field, but his greatness is chiefly a function of his method. He invariably stressed the necessity of tolerating opposite opinion and maintained that each man can, with honesty and reason, see truth in differing aspect. His system was practical and was anchored in human experience. He thought in concrete details and seemed distrustful of metaphysical speculation. This resulted in an occasional inconsistency and a lack of coherence which did not appear to bother Locke. In psychology he held that matter harbored primary and secondary qualities, the primary giving the stuff of science, the secondary being the source of men's perceptions. A nominalist, he denied any independent existence to abstractions. The mind of each person at birth is a blank slate, a *tabula rasa*,

on which his personal experiences inscribe themselves. With these experiences, and only with these, he may reason. Locke's theory of the process of reasoning forecast associationist doctrines In ethics Locke maintained that happiness and pleasure are the pursuit of all people In the long run the private happiness and the general good coincide, and therefore prudence and attention to the long run are virtuous Locke held that eventual reward and punishment in the afterlife are balancing factors rendering inadequate any pleasure or happiness calculus of the moment. Passions must be controlled through piety He urged in his *Letters on Toleration* that there should be an established church with the broadest possible toleration Only atheism and Catholicism should be legislated against as inimical to religion and the state Locke is most renowned for his political theory Contradicting Thomas Hobbes, Locke believed the original state of nature was happy and characterised by reason and tolerance In that state all men were equal and independent, and none had a right to harm another in his "life, health, liberty, or possessions" The state was formed by social contract because in the state of nature each was his own judge, and there was no protection against those who lived outside the law of nature The state should be guided by natural law Rights of property are very important, for each man has a right to the product of his labor. Locke forecast the labor theory of value The policy of checks and balances as followed in the Constitution of the United States was set down by Locke, as was the doctrine that revolution in some circumstances is not only a right but an obligation. He wrote a model constitution, never put into effect, for the colony that later became North and South Carolina His influence on philosophy and political theory is incalculable Berkeley, Hume, and the other empiricists were directly influenced Voltaire and Rousseau show the impact of his ideas, and the theorists of the American Revolution drew heavily upon his politics See S P Lamprecht, *The Moral and Political Philosophy of John Locke* (1918), H J Laski, *Political Thought in England from Locke to Bentham* (1920)

Lockeport (lŏk'pôrt), town (pop 1,084), SW N S, SW of Liverpool and on the coast It is a herring fishing center

Locker-Lampson, Frederick, 1821–95, English author He is remembered for his light verse in *London Lyrics* (1857) and other volumes *My Confidences* (1896), memoirs, was edited by his son-in-law, Augustine Birrell, who also wrote his biography (1920)

Lockhart, John Gibson, 1794–1854, Scottish lawyer and literary critic, son-in-law and biographer of Scott Educated at the Univ of Glasgow and at Oxford, he was a classical scholar and a student of Spanish and other modern languages He contributed to *Blackwood's Magazine* and was editor of and contributor to the *Quarterly Review* (1825–53) Among his works are a volume of ballads from the Spanish, several novels, a biography of Burns (1828), and a history of Napoleon (1829), but his fame rests on his *Memoirs of the Life of Sir Walter Scott* (7 vols, 1837–38), generally ranked among English biographies as second only to Boswell's *Johnson* See biographies of Lockhart by Andrew Lang (1897) and Gilbert Macbeth (1935)

Lockhart, city (pop 5,018), co. seat of Caldwell co, S central Texas, SSE of Austin, founded 1848, inc 1870. In a region of cotton and dairy farms, the city has a mattress factory and other small industries There are oil fields near by Lockhart State Park, to the northeast, encloses the battlefield of Plum Creek, where Texans defeated the Comanche in 1840

Lock Haven, industrial city (pop, 10,810), co seat of Clinton co, N Pa., at the junction of Bald Eagle Creek and the West Branch of the Susquehanna SW of Williamsport, settled 1769, inc as a borough 1840, as a city 1870 Its manufactures include airplanes, brick, chemicals, furniture, and metal products It has a state teachers college

lockjaw: see TETANUS

Lockland, city (pop 5,601), SW Ohio, near Cincinnati Aircraft, chemicals, and rock-wool insulation are among its products

Lockney, town (pop 1,231), NW Texas, NNE of Lubbock, in a grain area on the Llano Estacado, settled 1894, inc 1907

lockout, dismissal and prevention of reemployment, adopted by employers to resist labor demands or to break a strike by importing new workers. Employers sometimes accomplish the same purpose without stopping production by discharging individual labor leaders. Lockouts have generally been regarded as legal by the courts, although in some cases they have been held unlawful if in violation of the terms of a joint agreement See E. S. Oakes, *Organised Labor and Industrial Conflict* (1927), Florence Peterson, *Strikes in the United States, 1880–1936* (1938).

Lockport, 1 City (pop. 3,475), NE Ill., SW of Chicago and near Joliet; laid out 1837, inc. 1853. Here are the locks of the old Illinois and Michigan Canal and of the modern Chicago Sanitary and Ship Canal, which connects at Lockport with the Des Plaines river and is a link on the Great Lakes to Gulf waterway 2 Industrial city (pop 24,379), co seat of Niagara co, W N.Y, on the Barge Canal and NE of Buffalo; settled 1816, inc as a village 1829, as a city 1865 It was built around a series of locks on the old Erie canal Steel and paper products are made

Lockwood, Belva Ann Bennett, 1830–1917, American lawyer and reformer, born on a farm near Lockport, N Y. She was the first woman admitted to practice before the U S Supreme Court Early widowed, she taught school to support herself and her child until she went to Washington, D C, where she married (1868) Dr Ezekiel Lockwood, studied law, and was admitted to the bar in 1873 Finding that women could not practice before the Supreme Court, she worked to secure passage (1879) of the law to permit this She wrote and lectured for peace, temperance, disarmament, and woman suffrage and was influential in securing equal pay for women in Federal employment In 1884 and again in 1888 she was the Equal Rights party's candidate for President She represented the United States at the Geneva Congress of Charities and Corrections (1896)

Lockwood, James Booth, 1852–84, American arctic explorer, b Annapolis, Md In 1873 he was commissioned second lieutenant in the U S army In 1881 Lockwood joined the arctic expedition of Adolphus W Greely, in the course of which he performed two noteworthy feats—he led a sledging party to Mary Murray Island, off N Greenland, thus achieving a record for the most northerly point reached up to that time (lat 83°24′ N, according to his calculations), and later (1883) he crossed Grant Land on Ellesmere Island to the west shore He died at Cape Sabine, as did other members of the ill-fated Greely expedition

Lockyer, Sir Joseph Norman (lŏk'yûr), 1836–1920, English astronomer, educated on the continent of Europe One of the first to make spectroscopic examination of the sun and stars, he devised (1868), independently of P J C Janssen, a method of observing solar prominences with the spectroscope in daylight In the same year he identified the element helium in the sun and applied the name chromosphere to the layer or envelope of gas around the sun He was elected to fellowship in the Royal Society (1869) and served as professor of astronomical physics of the newly founded Royal College of Science and director of the Solar Physics Observatory (1890–1913) Between 1870 and 1905 he headed eight government expeditions to observe total eclipses of the sun In 1897 he was knighted His works include *Studies in Spectrum Analysis* (1872), *Contributions to Solar Physics* (1874), *The Chemistry of the Sun* (1887), and *Recent and Coming Eclipses* (1897) His son **William James Stewart Lockyer,** 1858–1936, also an astronomer, studied at Cambridge and at the Univ of Göttingen He was director (1920–36) of the Norman Lockyer Observatory in Sidmouth, Devonshire

Locle, Le (lû lô'klû), town (pop 11,336), Neuchâtel canton, Switzerland It has a very old watchmaking industry

Locofocos (lō"kōfō'kōz), name given in derision to the members of a faction that split off from the Democratic party in New York There were in 1835 many radical Democrats who were anxious for reforms and were bitterly hostile to the privileged classes that had the control of Tammany in New York city The chief grievance was against the bankers and banking The working classes were discontented with the failure of the New York politicians to give them aid and to reform the government At a Tammany Hall meeting held in the Wigwam on Oct. 29, 1835, to ratify the Tammany nominations, the revolt got under way The anti-bank men voted down the chairman selected by the organization and were gaining a victory over their opponents, before the meeting could be reorganized, the gas was turned off and the hall plunged in darkness The reformers, however, continued their work by the light of candles and of matches It was from the name of the "locofoco" matches that the party name came. The new group drifted into calling itself a new party, the Friends of Equal Rights or the Equal Rights party Theirs was a leveling program, vague in details but fervid in feeling They opposed monopolies and corporations and stood for pure democracy. A Workingman's party united with them in this opposition to privilege, and for several years the group had a very disturbing and vitalizing influence on the regular parties. They nominated a candidate for mayor of New York city in 1836 and in September of that year held a state convention But with the adoption of the more or less radical ideas by the Van Buren Democrats in 1837, the Equal Rights men were left without a platform and were reabsorbed into the Democratic party For years afterward the name Locofoco survived as an epithet hurled by the Whigs at the Democrats.

locomotive, a RAILROAD engine. Richard TREVITHICK built and operated (1803–4) a steam engine for hauling cars on a track in Wales. George STEPHENSON built his first locomotive, the *Blucher*, in 1814, and in 1829 he demonstrated with his famous *Rocket* the practicability of the steam engine for locomotion His engine had four wheels (one pair being drivers) and a boiler 6 ft long, working at a pressure of 50 lb The locomotive, when running light, attained 29 mi per hour. The first locomotive in the United States was designed and tested on a private track by John Stevens in 1826 The English-built *Stourbridge Lion*, imported c 1829, was not a commercial success, the engine being too heavy for the American track The *Tom Thumb* (1830), built by Peter Cooper for the BALTIMORE & OHIO RAILROAD, was the first practical American-built locomotive Matthias Baldwin's first engine, *Old Ironsides*, built in 1832, long remained in operation In 1832 J. B. Jervis built the first locomotive with a swivel truck at the forward end, giving freedom of action which permits a locomotive to pass more safely around corners. The modern reciprocating steam locomotive is a self-contained power unit consisting essentially of a STEAM ENGINE and a BOILER (of the horizontal fire-tube type) with fuel and water supply Superheated steam, controlled by a throttle, is admitted to the cylinders by a suitable valve arrangement, the pressure on the pistons being transmitted through the main rod to the driving wheels The driving wheels, which vary in number, are connected by side rods The exhaust steam from the cylinders is allowed to pass up through the smokestack, inducing a draft through the firebox which hastens the combustion of the fuel Early locomotives used wood for fuel, modern engines generally use coal or fuel oil An important factor in locomotive design is the size of the driving wheels and the distribution of weight on them, since it is from them that tractive force is obtained This factor governs the difference in wheel arrangement between freight and passenger locomotives, freight locomotives having small driving wheels carrying a large proportion of weight, while the passenger locomotives have larger and fewer wheels, with leading and trailing trucks to carry the large boiler. Locomotives are usually classified under the Whyte system by the number and arrangement of the wheels—an engine classified as 2–6–0 would have one pair of wheels under the front truck, three pairs of coupled or driving wheels, and no wheels under the trailing truck In some cases the truck wheels of the tender (fuel carrier) are added The largest and most powerful locomotives used in the United States are usually of the articulating or Mallet, 2 8–8–4 or 2–10–10–2, type (introduced in 1904), having two complete sets of frames and cylinders flexibly connected to enable them to pass around sharp curves Electric locomotives, introduced c 1895, range from the small type used in plants and coal mines for local hauling to the great engines used on railroads Electric locomotives are generally provided with two or three motors. Power is collected from a trolley or pantagraph running on an overhead wire or from a third rail at the side Battery locomotives, used only for local haulage, carry electric storage batteries of about 90 kilowatt hours' capacity, giving a speed of approximately 3 mi per hour Electric railroad locomotives are used chiefly on steep grades and on runs of high traffic density, and although highly efficient they are not more widely used because of the cost of electric substations and overhead wires or third rails. Diesel-electric locomotives, introduced in the United States c 1924, have been widely adopted as switching engines and are rivaling the steam engine for freight and passenger runs Electric power is generated by a Diesel engine, and the energy is applied through electric motors to the driving axles. The relative importance of the reciprocating steam locomotive and the Diesel-electric locomotive will depend in part on the availability of fuel and on the progress of new types of engines, e g, the steam turbine and the gas turbine See R S Henry and Otto Kuhler, *Portraits of the Iron Horse* (1937), P W Kiefer, *A Practical Evaluation of Railroad Motive Power* (1947)

locomotor ataxia (lōkūmō'tur utăk'sēu) or **tabes dorsalis** (tā'bēz dôrsā'lĭs), chronic progressive disease of the nervous system Symptoms include sharp, shooting pains (either paroxysmal or lasting from a few seconds to a few hours) and visceral pains known as crises, especially gastric crises accompanied by retching and vomiting. Because of the impairment of the senses determining position and vibrations, failure of muscular coordination results and uncertainty in walking occurs (a condition called ataxia) The pupils of the eyes are pinpoint in size, fail to react to light, and may be unequal in size (Argyll-Robertson pupil). Optic degeneration may occur, impairing vision and finally resulting in blindness There may be a lowering of the lid of the eye (ptosis). The joints are sometimes involved, the characteristic tabetic joint (Charcot's joint) is swollen and painless Locomotor ataxia occurs in syphilitic individuals, the spinal Wassermann test is usually positive

locoweed or **crazyweed** [Span, loco=crazy], any of several species of the genera *Astragalus* and *Oxytropus*, leguminous plants that, when eaten by horses, cattle, or sheep, cause a nervous disorder

called loco disease. The locoweeds are perennials native to the West and Southwest and have pea-like flowers and pinnately compound leaves The more common kinds include the purple-flowered woolly locoweed (*Astragalus mollissimus*) and the purple- or white-flowered stemless locoweed or crazyweed (*Oxytropus lambertii*). Not all species of these genera have been found poisonous

Locris (lō'krĭs), region of ancient Greece The Locrians were probably in the country before the arrival of the Phocians There were in historical times three parts Epicnemidian Locris [Gr ,=at Mt. Cnemis], a strip of the south shore of the Malian Gulf, was bounded on the west by Malis, on the south and east by Phocis Its chief place was Thronium Eastern, or Opuntian, Locris [Gr ,=of Opus] was separated from Epicnemidian Locris by a strip of Phocis 5 mi wide It was part of the shore of the Euboic Gulf and was bounded on the south by Boeotia. Opus was its main port Western, or Ozolaean, Locris, was on the north coast of the Gulf of Corinth and had for its principal towns Amphissa and Naupactus One of the earliest Greek colonies in Italy was founded by Locrians and called Epizephyrian Locris [Gr ,=western, or near the promontory of Zephyrium], it was in the east of the peninsula, 30 mi E of Scylla The earliest known legal code in Europe was used here, it was attributed to Zaleucus (7th cent B C).

locust, name applied sometimes to any GRASSHOPPER with antennae shorter than the body and sometimes only to the short-horned forms which migrate in swarms The 17-year locust is a CICADA

locust, any species of the genus *Robinia*, leguminous deciduous trees or shrubs native to the United States and Mexico The locusts have clusters of flowers similar to the sweet pea, these are very fragrant in the yellow, or black, locust (*Robinia pseudoacacia*), which is the common locust, sometimes also called acacia or false acacia This species has been widely planted in the past for ornamental purposes, for erosion control, and for its useful wood, but the locust borer has now killed it in many areas Its heavy, hard, durable wood is used extensively for treenails in shipbuilding, for fence posts, for turning, and for fuel The shoots and bark of the black locust are poisonous The honey locust belongs to a different genus, as does the CAROB, which is thought to have been the biblical locust.

Lod, Palestine see LYDDA.

lode see ORE

Lo-debar (lō-dē'bär), unidentified town of Gilead, E of the Jordan. 2 Sam 9 4, 17 27.

lodestone see MAGNETITE

Lodge, Henry Cabot, 1850–1924, U S Senator from Massachusetts (1893–1924), b Boston, grad Harvard (B A , 1871, LL B , 1875, Ph.D , 1876) He was admitted to the bar in 1876 Before beginning his long career in the U S Senate he edited (1873–76) the *North American Review*, was lecturer (1876–79) on American history at Harvard, edited (1880–81) the *International Review* with J T Morse, was a member of the Massachusetts house of representatives in 1880 and 1881, and was a member of Congress (1887–93) He also wrote some historical works as well as biographies of his great-grandfather George Cabot (1877), of Alexander Hamilton (1882), of Daniel Webster (1883), and of George Washington (1889) and edited the complete works of Hamilton (9 vols , 1885) As a Senator he was a close friend of Theodore Roosevelt, welcomed war with Spain in 1898, and favored the acquisition of the Philippines and the development of a strong army and navy A conservative, party-line Republican, he supported the gold standard and a high protective tariff, was a bitter opponent of Woodrow Wilson's peace policy, and led the Senate isolationists in the attack on the Treaty of Versailles and the League of Nations. He was permanent chairman of the Republican national conventions in 1900, 1908, and 1920 In 1920 he was one of the group of Senators who brought about Harding's nomination As chairman of the Senate Committee on Foreign Affairs he opposed President Coolidge's efforts to bring the United States into the World Court and to end the exclusion of Japan See his *Early Memories* (1913); biographies by William Lawrence (1925) and Karl Schriftgiesser (1944).

Lodge, Sir Oliver Joseph, 1851–1940, English physicist, grad University College, London (B S , 1875; D Sc., 1877) He made valuable contributions to the development of wireless telegraphy and conducted research on electrons, the ether, and lightning. From 1881 to 1900 he was professor of physics at University College, Liverpool, and from 1900 to 1919 principal of the Univ. of Birmingham In 1902 he was knighted He was greatly interested in reconciling science and religion and was an ardent believer in survival after death. His writings on both physical and psychical research are listed in *Bibliography of Sir Oliver Lodge* (1935), compiled by Theodore Besterman. See his autobiography (1932)

Lodge, Thomas, 1558?–1625, English writer, grad. Oxford Univ., 1577. He studied law, made a name for himself in literature probably between 1580 and 1595, during which time he also served as a soldier, and went with an expedition to South America (1591–93) He took an M.D. degree at Avignon (1598) and at Oxford (1602) and practiced medicine for some 25 years. His first work, *Honest Excuses* (1579), was his reply to an attack on the arts by Stephen Gosson, and the quarrel continued through Lodge's *Alarum against Usurers* (1584). Known to be by Lodge are the plays *The Wounds of Civil War* (1586) and *A Looking Glass for London and England* (with Robert Greene, 1594), and he has been assigned parts of many others on meager evidence. More important are his euphuistic tales in the style of John Lyly, prose interspersed with poems—*Scillaes Metamorphoses* (1589), a source of Shakspere's *Venus and Adonis*, and *Rosalynde* (1590), Shakspere's source for *As You Like It Phillis* (1593) is a tuneful sonnet-cycle plus songs and odes, and *A Fig for Momus* (1595) contains satires. *A Margarite of America* (1596) grew out of his voyage to South America *A Treatise of the Plague* (1603) is important among his medical works See biographies by N B Paradise (1931) and E. A Tenney (1935)

Lodi (lō'dē), city (pop 23,305), Milan prov , Lombardy, N Italy, on the Adda It is an important center for dairy products. Ancient Lodi was destroyed by Milan in 1155 and rebuilt by Frederick Barbarossa in 1158 Here on May 10, 1796, Napoleon Bonaparte defeated the Austrians after personally leading his troops across the bitterly contested bridge over the Adda Besides some medieval buildings, there is the beautiful Renaissance Church of the Incoronata

Lodi (lō'dī). **1** City (pop 11,079), central Calif , N of Stockton, inc 1906 It packs, ships, and processes fruits and vegetables and produces wine and olive oil **2** Industrial borough (pop 11,552), NE N J , NE of Passaic It has dye works **3** Village (pop 1,304), N Ohio, W of Akron Dairy products are made **4** City (pop 1,116), central Wis , NW of Madison and on Spring Creek, inc. as a village 1872, as a city 1941

Lodomeria, Latinized name of the duchy of Vladimir See VLADIMIR-VOLYNSKIY

Lodore (lōdōr'), waterfalls, Cumberland, England, near the head of Derwentwater, between steep, wooded hills They are celebrated in Southey's poem "The Cataract of Lodore"

Lodz (lōdz, lŏdz, lōō), Pol *Łódź* (wōōj), industrial city (pop 496,929), Poland, SW of Warsaw Incorporated early in the 15th cent , Lodz passed to Prussia in the second partition of Poland (1793), and to the Russian Empire in 1815, it reverted to Poland in 1919 Its industrial development began about 1820, by 1900 it was the capital of Polish industry Textiles and clothes are its main products During the Second World War, Lodz, with a German population of less than nine percent, was incorporated in Germany, renamed Litzmannstadt, and subjected to ruthless Germanization However, it suffered relatively little physical war damage The city, which constitutes the district province of the municipality of Lodz, is also the administrative seat of Lodz province (7,800 sq mi , pop 1,772,420), a largely agricultural region with some mineral deposits Its cities include Piotrkow Trybunalski, Pabianice, and Tomaszow Mazowiecki

Loeb, Jacques (lōb), 1859–1924, American physiologist, b Germany, M D Univ of Strasbourg, 1884 He came to the United States in 1891 and taught at Bryn Mawr, the Univ of Chicago (1892–1902), and the Univ of California (1902–1910) From 1910 he was a member of the Rockefeller Institute for Medical Research Best known for his tropism theory and for his experimental work on inducing parthenogenesis and regeneration by chemical stimulus, he also propounded a mechanistic philosophy which held that all ethics were the outgrowth of man's inherited tropisms He was a founder and editor of the *Journal of General Physiology* His works include *The Mechanistic Conception of Life* (1912), *Artificial Parthenogenesis and Fertilization* (1913), *Forced Movements, Tropisms, and Animal Conduct* (1918), and *Regeneration* (1924)

Loeb, James (lōb), 1867–1933, American banker and philanthropist, b New York city, grad Harvard, 1888, son of Solomon Loeb He entered (1888) Kuhn, Loeb & Company and retired from business at 34 years of age Most of the rest of his life was spent abroad He founded and endowed the Loeb Classical Library, a series of inexpensive, yet attractive books containing on facing pages the original Greek and Latin texts and the English translations He also founded (1905) in New York city the Institute of Musical Art, now part of the JUILLIARD SCHOOL OF MUSIC, and in Munich, a clinic for psychiatric study

Loeb, Solomon (lōb), 1828–1903, American banker, b Germany. After he came (1849) to the United States, he settled in Cincinnati and became wealthy as a dry-goods merchant He removed (1865) to New York city and with Abraham Kuhn started the banking house of Kuhn, Loeb and Company. After his retirement, most of his financial interests were taken over by his son, James LOEB. He gave large amounts to Jewish charities.

Loeffler, Charles Martin (lĕf'lûr), 1861–1935, American composer and violinist, b. Alsace, studied in Kiev, Berlin, and Paris In 1881 he came to the United States, and from 1882 until 1903 he shared with Franz Kneisel the position of first violinist and soloist of the Boston Symphony Orchestra. His *Pagan Poem* (1909) for orchestra shows the influence of French impressionism, as does his *Evocations* (Cleveland, 1931) for women's chorus and orchestra, which, like his *Canticle of the Sun* (1925) for solo voice and orchestra, evidences his knowledge of Gregorian chant. He also composed chamber music and choral works. Highly personal in style, he is considered by many the outstanding American composer of his generation.

loess (lō'ĭs), unstratified soil deposit of varying thickness, usually yellowish and composed of fine-grained angular mineral particles mixed with clay It is found in many regions of the world and is probably related to the BLACK EARTH of Russia; extensive deposits occur along the Mississippi river and its tributaries, on the Columbia Plateau in Oregon, Washington, and Idaho, and in China Although some authorities believe loess was deposited by running water, a more commonly accepted theory is that it originated as dust carried by the wind from adjacent deserts, from frost-pulverized outwash of glaciers (during the Pleistocene epoch), or from the flood plains of glacier-fed streams Studies of particles transported by wind from plains recently denuded by tillage show that the material is sorted to about the same degree as loess. Much of the loess in the United States is of glacial origin, in China, of desert origin Loess is usually deep, fertile soil, rich in organic remains (especially the shells of snails) and characterized by slender, vertical tubes that are said to represent stems and roots of plants buried by sediment When cut by streams or other agencies, loess remains standing in cliffs exhibiting a vertical, columnar structure, this is attributed to the vertical tubes and to the angularity and consequent tendency of the grains to interlock The uncompacted character of loess makes it subject to rapid erosion.

Loewi, Otto (lō'ē), 1873–, German scientist He was professor of pharmacology (1909–38) at the Univ of Graz, Austria He was forced into exile after the Nazi purge of professors and in 1940 became research professor of pharmacology at the college of medicine of New York Univ For his discovery of the chemical transmission of nerve impulses he shared the 1936 Nobel Prize in Physiology and Medicine with Sir Henry Dale Loewi has investigated the physiology and pharmacology of metabolism, the kidneys, heart, and nervous system

Loewy, Raymond Fernand (lō'ē), 1895–, American industrial designer, b France, studied engineering abroad He came to the United States in 1919 and was naturalized in 1938 At first a fashion illustrator, he entered (1920) the field of industrial designing In 1928 he started his own office, which, in 1943, he reorganized as Raymond Loewy Associates, a firm of consultant engineers He is noted for his designs in the transportation field. He wrote *The Locomotive (Its Esthetics)* (1937)

Löffler, Friedrich (frē'drĭkh lûf'lur), 1852–1915, German bacteriologist He was from 1888 professor of hygiene at the Univ of Greifswald His many contributions to bacteriology include the relating of diphtheria to the particular organism known as the Klebs-Löffler bacillus He also showed the cause of foot and mouth disease to be a virus

Lofoten (lōfō'tŭn), Nor *Lofoten* (lōō'fōōtun), and **Vesteralen,** Nor *Vesterålen* (vĕ'stŭrō'lŭn), two contiguous island groups (c 2,000 sq mi , pop c 80,000), off NW Norway, in the Norwegian Sea. 1 to 50 mi off the mainland. They are part of Nordland and Troms counties. Entirely situated within the Arctic Circle, they extend c 150 mi from northeast to southwest Owing to the North Atlantic Drift, they have a tempered climate at a northern latitude The chief islands of the Lofoten group are Vaeroy, Moskenes, Vestvagoy, and Austvagoy The celebrated MAELSTROM is S of Moskenes The Vesteralen group, which is separated from the Lofoten by the narrow Raftsund, includes the islands of Hinnoy (the largest island of Norway), Langoy, and Andoy. Svolvaer, on Austvagoy, and Harstad, on Hinnoy, are the chief trading centers. The chief economic importance of the Lofoten and Vesteralen islands lies in their herring and cod fisheries, which are among the largest in the world The codfish shoal on the eastern coast from February to April, the herrings on the west coast from August to November. During these seasons thousands of fishing craft come to the fish banks Operations are extremely difficult and dangerous because of the treacherous tidal currents. The local population also engages in cattle and sheep raising. Magnetite and coal deposits are mined on Langoy and Andoy. An alternate spelling of Vesteralen is Vesteraalen.

Lofting, Hugh, 1886–1947, American writer of juvenile stories, b. Maidenhead, England. He settled in the United States in 1912. His famous "Dr. Dolittle" stories, begun as letters to his children during the First World War, include *The Story of Dr.*

Dolittle (1920); *The Voyages of Dr. Dolittle* (1922), awarded the Newbery medal; and *Dr. Dolittle and the Secret Lake* (1948) All were illustrated by the author.

log, speedometer of a ship About the 16th cent the common log was introduced to measure the ship's speed. This contrivance consisted of a log chip, a log reel, and a log glass The log chip, a triangular piece of wood with a rounded base weighted to make it stand upright, was cast off the stern of the vessel on a line The log line, attached to the log chip, had a certain amount (10 or 20 fathoms) of stray line to allow the log chip to clear the vessel before the speed was marked The rest (c 100 fathoms) was wound on the log reel and was marked off by knots 47 ft , 3 in. apart At the beginning of the marked portion of the line a piece of colored bunting was fastened When the log line had been paid out to the point where this appeared from the reel, the time was counted This was done by the log glass, which was a simple sand glass As the knots passed they were counted until the log glass had run out Thus the speed of the ship was computed, and therefore the nautical mile was counted by divisions called knots About 1835 an improved patent log was introduced It consisted of a tapered tube with inclined vanes that caused the speed of the ship to be registered on a dial About 1875 the cherub log was introduced It has a small screw propeller and is towed astern on a long line attached to a dial, the rotation of the propeller causes the distance run to be recorded on the dial It is still much used The Forbes log is a more recent development A tube projects through the bottom of the ship and is open on the forward side so that the water passes up the tube and turns a small propeller, which in turn actuates a distance-recording mechanism On most modern ships the speed can be computed from the revolutions of the propeller Ships since the 18th cent have kept records in which the log findings are recorded These are log books or logs They also record all important events of the voyage and are thus official diaries of the ships Generally the entries are made by the navigating officer and approved by the ship's master

Logan, Benjamin, c 1743–1802, American frontiersman, b Augusta co , Va He was active in the settlement by Richard Henderson's TRANSYLVANIA COMPANY and built (1775) Fort Logan (now Stanford, Ky) He won a reputation as an Indian fighter and was a leading figure in Kentucky history throughout the American Revolution and the following period, serving in the Virginia assembly (1781–82, 1785–87), in Kentucky's first constitutional convention (1792), and in the Kentucky legislature (1793–95)

Logan, George, 1753–1821, American statesman and agriculturist, b near Germantown, Pa , studied medicine at the Univ of Edinburgh and in Paris, grandson of James Logan During the American Revolution he turned, by necessity, from medicine to farming and at the same time served several terms in the Pennsylvania legislature On his own authority he went (1798) to France to secure its accord with the United States His mission, in part successful, was resented by Federalists, who secured the passage of the so-called Logan Act, prohibiting civilian participation in diplomatic negotiations except by official authority He served as U S Senator (1801-7,1810) and, despite the Logan Act, went to England to reconcile differences between that country and the United States Logan was long active in the furtherance of agricultural advancement

Logan, James, 1674–1751, American colonial statesman and scholar, b. Ireland, of Scottish parents While engaged in the shipping trade, Logan met William Penn and became (1699) his secretary He came to Philadelphia with Penn, and remained his confidential adviser for many years He served as provincial secretary and clerk of the provincial council, where he was a member from 1702 to 1747 A staunch supporter of the aristocratic Proprietary party, Logan often came into bitter opposition to David LLOYD He became mayor of Philadelphia (1722), justice of the court of common pleas (1727), and chief justice of the supreme court (1731) He was acting governor of the province from 1736 to 1738 Having large landholdings and a lucrative Indian trade, he had a vast estate, where his hospitality to the Indians established their long-lasting friendship with the colony Logan's wide scholarly interests included botanical research that received recognition from Linnaeus, who named the genus *Logania* after him He was also the author of numerous scientific works, and at his death he left his large library of classical and scientific books to Philadelphia.

Logan, James, 1725?–1780, American Indian, b Pennsylvania. He took his name presumably from James Logan (1674 -1751) and is frequently called just Logan He was a leader of the Indians on the Ohio and Scioto rivers Logan was long the friend of the whites When his family was massacred by white settlers (1774), his attacks against them helped bring on Dunmore's War Logan refused to participate in the treaty making, and his eloquent speech became famous. He served with the British during the American Revolution.

Logan, John Alexander, 1826–86, American politician, Union general in the Civil War, b Murphysboro, Ill. He fought in the Mexican War, was graduated from the Univ of Louisville law school (1851), and practiced law in Illinois A Douglas Democrat, he served several terms in the state legislature and was elected to Congress in 1858 and reelected in 1860 At the first battle of Bull Run (July, 1861), Logan fought in the ranks Afterwards, he organized the 31st Illinois Infantry, of which he was made colonel The Union victory at Fort Donelson (1862) brought him a brigadier generalcy of volunteers, and he was promoted major general of volunteers for his service in the Vicksburg campaign (1862–63) Logan led a corps of the Army of the Tennessee in Sherman's Atlanta campaign (1864) and commanded that army for a short time after the death of J B MCPHERSON However, O O HOWARD was given the permanent command, and Logan returned to his corps He went to Illinois in the fall of 1864 to campaign for Lincoln, but rejoined Sherman's army for the march through the Carolinas A radical Republican Congressman (1867–71), he was one of the House managers of the impeachment trial of Andrew Johnson From 1871 to 1877 and from 1880 until his death he was a U S Senator from Illinois He was a leader of the third-term movement for Grant in 1880 Logan himself was a candidate for the Republican presidential nomination in 1884 but lost to BLAINE and was then nominated for Vice President He was a founder, and three times president, of the Grand Army of the Republic and was an outstanding supporter of legislation for veterans Logan inaugurated MEMORIAL DAY in 1868 He wrote *The Volunteer Soldier of America* (1887), which contains his reminiscences of the Civil War See also Mrs John A Logan, *Reminiscences of a Soldier's Wife* (1913)

Logan, Stephen Trigg, 1800–1880, American lawyer, b Franklin co , Ky He moved to Illinois in 1832 and practiced law at Springfield until his death Regarded in his day as the leader of the Illinois bar, he is chiefly remembered as the senior law partner of Abraham Lincoln from 1841 to 1844 Logan served several terms in the state legislature and was a delegate to the Republican convention at Chicago which nominated Lincoln in 1860

Logan, Sir William Edmond, 1798–1875, Canadian geologist, b Montreal He was educated in England, where he entered his uncle's business As manager of a copper smeltery and coal mines in Wales (1831–38), he made extensive geological maps and sections, which were utilized by De la Beche in the Geological Survey, and made studies of the underclays of coal seams As head of the Geological Survey of Canada (1843–69), he did thorough work in constructing maps and sections, often of areas for which no topographical map was available His results were summarized in *The Geology of Canada* (1863), in which he had the collaboration of T S Hunt His studies and classification of the Pre-Cambrian of Canada were the basis of later work See biography by B J Harrington (1883)

Logan 1 Town (pop 1,700), co seat of Harrison co , SW Iowa, on the Boyer river and N of Council Bluffs, in a farm area, settled as Boyer Falls, named Logan 1864, inc 1876 2 City (pop 6,177), co seat of Hocking co , S central Ohio, on the Hocking river and SE of Columbus, founded 1816, inc 1839 Shoes, furniture, pottery, and oil-well tools are made here 3 City (pop 11,868), co seat of Cache co , N Utah, N of Ogden and on the Logan river, founded 1859 by Mormons, inc 1866 On the edge of Cache Valley, Logan is a busy center of an irrigated dairy and farm area with dairy-products plants, flour mills and other processing plants The city is the seat of a Latter-Day Saints tabernacle, Logan Temple (also Mormon), and Utah State Agricultural College Logan Canyon is near, and Logan Peak (9,713 ft) is visible from the city 4 Trading city (pop 5,166), co seat of Logan co , S W Va , on the Guyandot river and SSW of Charleston, in a mining and lumbering area

Logan, Mount [for Sir William Logan], 19,850 ft high, extreme SW Yukon, just E of Alaska, highest mountain in Canada and second highest in North America It caps an immense tableland and is the center of the greatest glacial expanse in North America The only ascent was made in 1925 by a party which was headed by A H McCarthy and H F Lambert

loganberry, tender blackberryhike plant of the genus *Rubus* (often called *Rubus loganobaccus*), cultivated chiefly along the Pacific coast for its acid, purplish-red fruits used fresh, dried, or canned The original plant appeared in the orchard of Judge J H Logan, of Santa Cruz, Calif , in 1881 It is thought to be either a variety of the Pacific dewberry or a hybrid between that species and the red raspberry

Logansport. 1 City (pop 20,177), co seat of Cass co , N Ind , at the confluence of the Wabash and Eel rivers midway between South Bend and Indianapolis, settled c 1826 It is a shipping center for farm produce, and its manufactures include farm equipment and beer. A state mental hospital is near by The city was named for the Indian, Logan 2 Town (pop 1,222), NW La , on the Sabine river and SW of Shreveport, in a cotton district, founded in the 1830s

logarithm (lôg'ərĭdhĭm) [Gr , =relation-number]. With each positive number is associated another number called its logarithm, which is actually the power to which a third number called the base, must be raised in order to obtain the given positive number For example, the logarithm of 100 to the base 10 is 2, it is written $\log_{10} 100 = 2$ Logarithms of positive numbers using the number 10 as the base are called common logarithms, those using e (approximately 2 718) as the base are called natural logarithms Since logarithms are exponents, they satisfy all the usual rules of exponents Consequently tedious calculations such as multiplications and divisions can be replaced by the simpler processes of adding or subtracting the corresponding logarithms Logarithmic tables are generally used See also NAPIER, JOHN See K C Bruhns, *New Manual of Logarithms* (rev ed , 1947), J. B. Dale, *Logarithmic and Trigonometric Tables* (2d ed., 1947)

Logau, Friedrich, Baron von (frē'drĭkh bärōn' fŭn lō'gou), 1604–55, great German epigrammatist, b Silesia He served the duke of Liegnitz, belonged to the literary society Fruchtbringende Gesellschaft, and published two collections of epigrams which were written in verse, *Erstes Hundert deutsch Reimen-Sprüche* (1638) and *Deutscher Sinngetichte drey Tausend* (1654)

log cabin or **log house.** The typical home of the American pioneer on the Western frontier of the United States in the great westward expansion after 1765 was the log house It was constructed with few tools, usually an axe or an adz and an auger All the fastenings were of wood The log walls were chinked with mud to make them reasonably proof against the wind There was no glass, and across window openings greased paper might be used to let some light through The shutters and doors were fastened on with wooden pegs There was usually only one door When the ridgepole of the roof was put in place, roughly hewn flat slabs were laid for a roof Frequently there was no floor, if there was it was usually of puncheons, logs split in half, placed with the flat sides up The furniture was very often roughly made with the same tools that were used in making the house All were of crude but efficient work In settlements where Indian attacks were feared the log houses were sometimes placed to form a protected rectangle The BLOCKHOUSE on the Western frontier was often made of logs Log cabins were frequently built by community enterprise, a "house-raising" being an occasion for entertainment as well as work Log houses were unknown to the American Indian, and the first English settlers did not build them They are known in some countries of Europe, especially Scandinavia, Germany, and Switzerland, and it is a generally accepted hypothesis that they were introduced in America by Swedish settlers on the Delaware in 1638 The log cabin was later adopted by the other settlers in America, and by the end of the 18th cent at the latest the log house was the typical backwoods dwelling It became a characteristic of the frontier and was universally used by settlers in the West until the Great Plains were reached, when the SOD HOUSE was the customary dwelling, the log cabin reappeared in the Rockies The significance of the log house as a symbol of the frontier was shown by its use in the Harrison election of 1840 Many famous Americans were born in log cabins, notably Abraham Lincoln See H R Shurtleff, *The Log Cabin Myth* (1939)

Log College · see TENNENT, WILLIAM

logic, systematic study and discipline dealing with the principles of valid inference Its distinction from psychology is in its subject matter, i e , logic concerns itself solely with the validity of thought, psychology with the nature of thought and its relation with other vital processes Aristotle was the founder of systematic logic He posited three basic presuppositions as the laws of thought—the law of identity (A is A), the law of contradiction (A cannot be both B and not-B), and the law of the excluded middle (A is either B or not-B) Deductive thinking is largely reducible to such a form as: All men are mortal, Socrates is a man, therefore Socrates is mortal Such a form is known as a SYLLOGISM The investigation of deduction and the elaboration of the syllogism are the work of Aristotle, and his logic has been the formal logic of the schools and of men in general, appearing especially in the scholastic philosophies and in Euclidean geometry The method of INDUCTION involves moving from particular instances to general principles It does not lend itself readily to analysis Since all the particular instances of an order can never be observed, induction works on a theory of probability John Stuart Mill sought to formulate the principles of inductive experimentation The theory of probability and the statistics of inference are basic tools of induction In the post-Renaissance period many philosophers criticized the Aris-

totelian logic for certain inadequacies of formulation and for dealing only with fixed forms. For example, Hegel developed the dialectical logic as the fundamental principle of his philosophy Forecast by Leibniz, it was not until the 19th cent that logistic, or symbolic, logic was developed, chiefly through the work of George Boole and Augustus de Morgan It seeks to apply mathematical symbols to logic, and its substance is the analysis of relation Symbolic logic removes the possibility of verbal ambiguities and so simplifies the manipulation of relationships of logical elements that it makes possible analyses far wider than those of traditional logic Alfred North Whitehead and Bertrand Russell have developed symbolic logic to cover much the same extension as higher mathematics The use of symbols in logical analysis leads even to the use of modern calculating machines in the solution of problems A relatively recent development in logic has been called dynamic logic This method is based primarily on inductive techniques and stresses that universal law cannot be discovered, that the elements of an investigation are relative to the observer, and that the process of development is a process of evolution demanding a principle of novelty and uncertainty See Aristotle, *Selections* (comp by Sir Alexander Grant, (1927), J G Hibben, *Logic, Deductive and Inductive* (1910), A N Whitehead and Bertrand Russell, *Principia Mathematica* (1910–13), P W Bridgman, *The Logic of Modern Physics* (1927), John Dewey, *Logic, the Theory of Inquiry* (1938)

Logos (lō'gŏs) [Gr ,=Word] concept of Greek and Hebrew metaphysics The central idea of the Logos is that it links God and man, hence any system in which the Logos plays a part is monistic The Greek Heraclitus held that the orderly world is animated and kept in order by fire—this fire is the Logos, it is the power of order in the world and the order itself It thus became the unifying feature of the Heraclitan system The Stoics were influenced in part by Platonism and Aristotelianism in their conception of the Logos To them God was all pervading in the world, its vitalizing force, and God as the law guiding the universe they called Logos, with the additional idea that all things develop from this force, it is called the "spermatic" Logos The Logos reappears in Greek philosophy in a much-restricted form in the system of emanations of Neoplatonism Certain books of the Old Testament present a principle called the Wisdom of God active in the world At the same time there was a very ancient Hebrew idea of the Word of God, also active in the world Thus the Wisdom and the Word of God, sometimes quasi-distinct from Him, coalesced Philo, in his harmony of Judaism and Greek thought, naturally hit upon the Logos as a union between the systems, hence his Logos retains qualities both of the Stoic Logos and the Hebrew Word of God Philo's God is remote, unaffected by the world, without attributes, unmoving, hence He must have mediation to connect Him with the world At times Philo's Logos is independent of God (because of God's remoteness), at other times the Logos is simply the Reason of God (because Philo's monism obliges God to act in the world through His mediating forces). St John in his Gospel adapted the term to his purpose In the prologue of 14 verses the idea of the Gospel is stated clearly and simply The Logos, which is the eternal God, took flesh and became man, in time The Logos is Jesus The impersonal, remote God of Philo is not there, the intermediate Logos, neither God nor man, has been replaced by a Logos which is both God and man. This clear explanation of the relation of God and man became an abiding feature of Christian thought, the term itself lost out to the term *Son*, which is universally used in statements concerning the Trinity.

Logroño (lōgrō'nyō), city (pop 43,709), capital of Logroño prov , NE Spain, in Old Castile, on the Ebro river An agricultural center, it is noted for the Rioja wine of the region. The kings of Navarre and Castile fought over it from the 10th cent. until its final annexation (1173) to Castile The charter granted by Alfonso VI served as a model for those of other cities.

Logue, Michael (lōg), 1840–1924, Irish prelate, cardinal of the Roman Church In 1879 he was made bishop of Raphoe and in 1887 archbishop of Armagh. In 1893 he was created cardinal Cardinal Logue was one of the moderate, conciliatory voices in the Anglo-Irish struggle He was particularly successful in his relations with the Protestants of Northern Ireland, in which his see was included.

logwood, leguminous tree (*Haematoxylon campechianum*) and its wood, native to Central America and introduced in parts of N South America and the West Indies. The brown-red heartwood is the source of the dye haematoxylin, which is used as a stain in histological work, as a textile dye, and in making some inks. Logwood was exported to Europe probably as early as the mid-16th cent. Local names for the wood include campeachy wood and blackwood. The name logwood is sometimes applied to other similar woods.

Lohengrin (lō'ŭn-grĭn), in medieval German story, a knight of the Grail, son of Parsifal, sent to rescue Princess Elsa of Brabant, who is being forcibly wooed by an unwanted suitor Lohengrin, led to Antwerp by a swan, saves Elsa and marries her He must not be asked his name, but his wife's curiosity overcomes her and she asks it Lohengrin must now return to the castle of the Grail, the swan reappears and turns out to be Elsa's brother. In its fullest form the story is the subject of a German epic poem composed c 1285–1290 and ascribed to Wolfram von Eschenbach by its unknown author The story was used by Wagner for his fourth opera, *Lohengrin* The swan's metamorphosis is a theme found also in classical, Celtic, and other mythologies See Sabine Baring-Gould, *Curious Myths of the Middle Ages* (1906)

Loir (lwär), river, 193 mi long, N central France, rising S of Chartres and flowing generally SW past Châteaudun and Vendôme to join the Sarthe N of Angers

Loire (lwär), department (1,853 sq. mi , pop 631,591), E central France, in Lyonnais, traversed by the upper Loire Saint-Étienne (the capital) and Roanne are the main cities

Loire, river, 625 mi long, the longest of France It rises SE of Le Puy in the Cévennes mts and, describing a wide arc, flows NW to Orléans, then swings SW to the Atlantic at Saint-Nazaire Other cities on or near its course are Nevers, Blois, Tours, Angers, and Nantes Its chief tributaries are the Allier, the Cher, the Vienne, and the Maine The Loire is the heart and cradle of Gallic France In its basin lie the rich fields, gardens, and vineyards of Orléanais, Touraine, and Anjou Lovely rather than majestic, the Loire valley has fostered traditions of civilized living which have become the heritage of all France Ronsard, Rabelais, Descartes, and Balzac had their roots here The châteaux of the Loire—Blois, Amboise, Chambord, Chenonceaux, Chinon, Loches, Azay-le-Rideau, and many others—are synonymous with French history and civilization.

Loire-Inférieure (lwär'-ănfārēūr'), department (2,693 sq mi , pop 665,964), NW France, in S Brittany, on the Atlantic coast Here the Loire, after passing Nantes, the departmental capital, enters the ocean at Saint-Nazaire

Loiret (lwärā'), department (2,630 sq mi , pop 346,918), N central France, traversed by the Loire and its small tributary, the Loiret It occupies part of the Orléanais region, and Orléans is the departmental capital

Loir-et-Cher (lwär-ā-shĕr'), department (2,479 sq mi , pop 242,419), N central France, forming W Orléanais It is drained by the Loire, Loir, and Cher rivers Blois is the capital

Lois (lō'ĭs), grandmother of Timothy 2 Tim 1 5

Loisy, Alfred Firmin (älfrĕd' fĕrmĕ' lwazē'), 1857–1940, French biblical critic He was ordained (1879) a Roman Catholic priest and was (1881–93) professor at the Catholic Institute in Paris He lost his position because of an article he wrote, considered suspicious of heresy by the authorities He taught (1900–1904) at the École des Hautes Études and (1909–26) at the Collège de France At the beginning of the 20th cent he became the principal leader of the movement called Catholic modernism, which accepted the theories of the higher criticism and developed a kind of liberal humanitarianism His books were condemned severally and collectively by the Holy See, and in 1908 he was excommunicated Thereafter he became increasingly opposed to the teachings of the Church Among his works are *L'Évangile et l'église* [the Gospel and the Church] (1902), *Le IVe Évangile* [the Fourth Gospel] (1903), and *Les Évangiles synoptiques* [the Synoptic Gospels](1908). His autobiography appeared in 1924

Loja (lō'hä), city (1944 estimated pop 20,776), S Ecuador One of the republic's few cities not sending its exports exclusively to Guayaquil, Loja is a commercial center for its region Subsistence crops and cattle are raised, and some cattle shipped to the desert coastal cities of NW Peru

Loki (lō'kē), in Norse myth, personification of the evil principle He caused trouble for the other Aesir His worst exploit was the murder of Balder, for which he was punished by Thor He is to lead the enemies of heaven at Ragnarok.

Lokoja (lŭkō'yŭ), town (pop 8,085), N Nigeria, at the junction of the Niger and Benue rivers The site was visited (1859) by the Scottish explorer William Baikie There are iron deposits near by.

Lolland, Denmark see Laaland

Lollardry (lŏ'lŭrdrē) or **Lollardy,** medieval English movement for ecclesiastical reform, led by John Wyclif, whose "poor priests" spread his ideas about the countryside in the late 14th cent. The Church in England was ridden with abuses, especially in the ownership and management of great ecclesiastical properties. Many common people lived in miserable circumstances aggravated by the plague and by expensive wars. Wyclif's doctrines, underscored by the shocking fact of the Great Schism (1378), gave form to widespread discontent with the state of the Church and the state of society. The chief goal of Lollardry was the establishment of evangelical poverty in the Church, and from this idea developed the other tenets of the movement The clergy, it was claimed, had become rich and worldly, the Church had forsaken her mission to preach God's word, the sacraments had become ineffectual through the false teachings surrounding them, and the only reliable rule of holy life was to be found in the Bible, which a man could interpret for himself The most complete statement of the Lollard creed is in a memorial presented to Parliament in 1395 It denied transubstantiation; it condemned the use of sacramentals, images, prayers for the dead, and auricular confession; it declared against all war, and it attacked clerical celibacy and the vows of nuns as unnatural At its peak just before the turn of the century, Lollardry appealed to members of the middle and upper classes as well as to those of the lower, but severe repressive measures began with the accession of Henry IV The statute *De haeretico comburendo* [on the burning of the heretic] was passed by Parliament in 1401, but burnings at the stake were actually rare Under persecution the Lollards tended to fanaticism, and a petty rebellion broke out among followers of Sir John Oldcastle, a prominent Lollard who had escaped from imprisonment in the Tower The rebellion was easily put down (1414), and Oldcastle, after several other minor conspiracies, was captured and executed (1417) Stricter suppression then drove the movement underground, where it survived until the 16th cent The alarm of the clergy in England over the Lutheran doctrines was partly caused by a fear that Lollardry would be revived It is difficult to state how much Lollardry actually encouraged the English Reformation Undoubtedly it weakened the hold of the Church on the people, and the popular use of the Bible helped to stimulate the later movement Finally, although Lollardry knew nothing of Luther's doctrine of justification by faith, it did in effect proclaim the direct responsibility of the individual soul to God —the essential idea of the Reformation See James Gairdner, *Lollardy and the Reformation in England* (1908–13), G G Coulton, *Medieval Panorama* (1938)

L'Olonnois, François see Nau, Jacques Jean David

Lomax, John Avery (lō'măks), 1867–1948, American folklorist, b Goodman, Miss , grad Univ of Texas (B A , 1897, M A , 1906), M A Harvard, 1907 At Harvard he was encouraged in the collection of folk songs by Barrett Wendell and G L Kittredge His first book, *Cowboy Songs* (1910, rev ed , 1938), contained, for the first time in print, such songs as *The Old Chisholm Trail, Git along Little Dogies,* and *Home on the Range* In addition he collected ballads, Negro songs, mountain songs, and folk songs of every sort from all over the country Many of his Negro songs were collected in the Southern penitentiaries, where he discovered Huddie Ledbetter, known as Lead Belly, who provided the material for his *Negro Folk Songs as Sung by Lead Belly* (with his son, 1936) See his autobiographical *Adventures of a Ballad Hunter* (1947) In 1933 he was joined in his work by his son **Alan Lomax,** 1915– Father and son collaborated in compiling *American Ballads and Folk Songs* (1934), the Lead Belly collection, *Our Singing Country* (1941), and, with Mr and Mrs Charles Seeger, *The One Hundred and One Best American Ballads* (1947) Alan Lomax became curator of the American folk song archives of the Library of Congress in 1934

Lombard, Peter: see Peter Lombard

Lombard, residential village (pop 7,075), NE Ill , just W of Chicago, settled 1834, inc 1869

Lombard League. In the early 12th cent the communes of Lombardy were, in general, grouped in two rival leagues, of which one, led by Pavia, tended to be in favor of the emperor, and the other, led by Milan, in favor of the pope When Emperor Frederick I at the Diet of Roncaglia (1158) asserted the imperial authority over all Lombard communes, even the imperialist cities turned against him and joined (1167) the League of Verona, which had been formed in 1164 This widened coalition, known as the Lombard League, received the support of Pope Alexander III, after whom its fortified city of Alessandria was named The League defeated (1176) Frederick at Legnano, but after the Peace of Constance (1183), which confirmed the freedom of the cities, it tended again to break into two rival leagues (see Guelphs and Ghibellines) The League was revived in 1226 against Emperor Frederick II. After its defeat (1237) at Cortenuova it split again into Guelph and Ghibelline cities

Lombardo (lōmbär'dō) Italian family of sculptors and architects Emigrants from Lombardy c 1450, they were leaders in the architectural Renaissance in Venice **Pietro Lombardo** (pyā'trō), c 1435–1515, architect of numerous churches and palaces, worked on the court façades of the doge's palace from 1498. As sculptor, he is noted for the mausoleum of Doge Pietro Mocenigo in Santi Giovannie Paolo and for other tombs, including that of Dante at Ravenna. In most of his undertakings he had as associates his sons, **Antonio Lombardo** (äntō'nyō), c.1458–1516?, and **Tullio Lombardo** (tōōl'lyō),

c 1455–1532. One of their greatest joint productions was the Church of Santa Maria dei Miracoli. These three were the most distinguished of the Lombardo family.

Lombards (lŏm'bŭrdz,–bärdz), ancient Germanic people Mentioned by Tacitus, the Lombards (Latin *Langobardi*) were settled along the lower Elbe in the 1st cent A.D. After obscure migrations they were allowed (547) by Emperor Justinian I to settle in Pannonia and Noricum (modern Hungary and E Austria). In 568, under the leadership of ALBOIN, they invaded N Italy and established a kingdom with Pavia as capital They soon penetrated deep into central and S Italy, but the exarchate of RAVENNA, the PENTAPOLIS, and much of the coast remained under Byzantine rule while Rome and the Patrimony of St Peter were kept by the papacy. After Alboin's death (572?) no king was elected and Lombard Italy fell under the disunited rule of some thirty "dukes" The Lombard duchies of SPOLETO and BENEVENTO in central and S Italy were set up independently In 584 the Lombard nobles united to elect a new king, AUTHARI, in order to strengthen themselves against the enmity of the Franks, the Byzantines, and the popes. The Lombard kingdom reached its height in the 7th and 8th cent Arianism, at first the prevalent faith of the Lombards, gradually lost out to Catholicism, Roman culture and Latin speech were accepted, and the bishops emerged as the chief magistrates in the cities King LIUTPRAND (712–44) consolidated the kingdom through his legislation and reduced Spoleto and Benevento to vassalage His successor, Aistulf, took Ravenna (751) and threatened Rome Pope Stephen II's appeal to PEPIN THE SHORT brought the Frankish invasion of Italy, the Lombards lost the territories comprised in the Donation of Pepin to the papacy (see PAPAL STATES) After Aistulf's death DESIDERIUS renewed (772) the attack on Rome This time CHARLEMAGNE intervened, defeated the Lombards, and was crowned (774) with the Lombard crown at PAVIA Only the duchy of Benevento survived until conquered (11th cent) by the Normans The iron crown of the Lombard kings (now kept at MONZA, Italy) was also used for the coronation (951) of Otto I as king of Italy and for the crowning of several succeeding emperors Thus the Lombard kingdom prepared the creation of the Holy Roman Empire The Lombards left their name to the Italian region of Lombardy The chief historian of the Lombards was PAUL THE DEACON See Thomas Hodgkin, *Italy and Her Invaders*, Vols V and VI (1895), Pasquale Villari, *Barbarian Invasions of Italy* (Eng tr, 2 vols, 1902), H B Cotterill, *Medieval Italy* (1915)

Lombard Street, in London It is a street of banks and financial houses which takes its name from the Lombard merchants and moneylenders who settled here in the 12th cent See Walter Bagehot, *Lombard Street* (1873)

Lombardy (lŏm'bŭrdē), region (9,189 sq mi, pop 5,836,479), N Italy, extending from the Swiss border to the Po and from the Ticino to the Mincio river It comprises the provinces of Bergamo Brescia, Como, Cremona, Mantua, Milan, Pavia, Sondrio and Varese, named after their chief cities Milan is the capital Within the borders of Lombardy lie Alpine peaks and glaciers, some of the Italian lakes, and upland pastures sloping to the rich Po valley, where agriculture has been intensified by artificial irrigation since Roman times Cereals are the main crops, and the mulberry is extensively cultivated for silk production Lombardy is the richest industrial region of Italy, manufacturing textiles, iron and steel products, machinery, chemicals, and a great variety of other products Milan is the chief industrial and commercial city of Italy Lombardy has been through the centuries a possession much coveted and frequently invaded and a battlefield in many wars. First inhabited by a Gallic people, it became (3rd cent B C) part of the Roman province of Cisalpine Gaul It suffered heavily in the barbaric invasions and became (569) the center of the kingdom of the LOMBARDS, for whom it was named The region was united (774) with the empire of CHARLEMAGNE In the 11th cent power gradually passed from the feudal lords to autonomous communes, and a general economic revival took place Commercial exchange between northern Europe and the Orient was largely effected through the Po valley Lombard merchants and bankers extended their business throughout Europe Several cities united in the LOMBARD LEAGUE to defy Emperor Frederick I, who wanted to reaffirm his authority over the communes The emperor was defeated at Legnano (1176) The 13th cent also was marked by wars among cities and rivalries between families within cities Except for the district of MANTUA under the GONZAGA family, Lombardy fell in the 14th and 15th cent under the sway of the VISCONTI and the SFORZA dukes of Milan; however, Bergamo and Brescia (1428) and Crema (1529) were lost to Venice and the VALTELLINA to the Grisons (1512). After the ITALIAN WARS, Lombardy followed the fortunes of MILAN. Spanish rule (1535–1713) was succeeded by that of Austria (1713–96) and France (1796–1814). The Lombardo-Venetian kingdom, set up under Austrian rule in 1815, was dissolved when Lombardy was liberated in 1859 In the 11th and 12th cent. there was a characteristic Lombard Romanesque architecture and in the Renaissance a flourishing school of painting, of which Bernardino Luini and Gaudenzio Ferrari were leading figures

Lombardy poplar, see POPLAR

Lombok (lŏmbŏk'), island (1,825 sq mi.; pop 701,290), East Indonesia, one of the Lesser Sundas It is E of Bali, from which it is separated by Lombok Strait The volcanic and mountainous terrain rises to 12,224 ft at Mt Rindjani or Rindjani In the southern area is a level plain producing rice, coffee, corn, sugar, cotton, tobacco, and indigo Mataram is the chief town, with the port of Ampenan near by The inhabitants, known as Sassaks, are Mohammedan The Dutch came here in 1674 The English naturalist A R Wallace noted that Lombok is a part of the dividing line which separates the fauna of Asia from that of Australia

Lombroso, Cesare (chā'zärā lōmbrō'zō), 1835–1909 Italian criminologist and physician In 1876 he published a pamphlet setting forth his theory of the origin of criminal traits In the study, later enlarged into the famous *L'uomo delinquente* (5th ed, 3 vols, 1896–97, partial Eng tr as *Criminal Man*, 1911), he compared anthropological measurements and concluded that the average criminal was an atavistic type marked by distinct physical and psychological traits. The theory has been outmoded, but at the time it gave impetus to further scientific study of crime and was important in focusing attention on the nature of the criminal and the situation Lombroso advocated humane treatment of criminals and opposed frequent use of the death penalty He wrote several books on crime and medicine Three have been translated as *The Female Offender* (partial Eng tr, 1895), *The Man of Genius* (1891), and *Crime Its Causes and Remedies* (1911) See biography by H G Kurella (Eng tr., 1911)

Lomé (lōmā'), town (pop c 15,000), capital of French Togoland, a port on the Gulf of Guinea It is a railroad junction

Loménie de Brienne, Étienne Charles (ātyĕn' shärl' lōmānē' du brēĕn'), 1727–94, French statesman, archbishop of Toulouse (1763–88) and of Sens (1788–91), cardinal of the Roman Church (1788–91) In the Assembly of Notables (1787) he worked against CALONNE and, though Louis XVI looked with disfavor on his notorious immorality, he succeeded (1787) Calonne in control of finances Thereupon he adopted Calonne's plans for abolition of excessive internal customs duties, for calling of provincial assemblies, and for other reforms The opposition of the Parlement of Paris led him to exile that body to Troyes for a time and finally resulted in the calling of the fateful States-General Having done nothing to relieve the financial ills of France, he left office (Aug, 1788) in great popular disfavor He was made a cardinal in 1788, but after he took the civil oath of the clergy (1791), the pope deprived him of his cardinalate He was arrested by the revolutionary government in 1793 and died in prison His incompetence had helped to precipitate the French Revolution

Lomond, Loch (lŏkh lō'mŭnd,–mun), lake, between Dumbartonshire and Stirlingshire, Scotland, drained by the Leven to the Clyde The lake is 23 mi long and 5 mi to less than 1 mi wide, being broadest at the southern end, near its outlet, where there are numerous wooded islands Its inlets include the Endrick and the Luss The northern end is overlooked by Ben Lomond (3,192 ft high), in Stirlingshire Lomond is the largest and one of the most beautiful of Scottish lakes There are numerous associations with Rob Roy, including a cave refuge on the shore At Inversnaid is an 18th-century fort, and there are several castles in the vicinity or on the islands

Lomond Hills, mountains, Fifeshire, Scotland East Lomond is 1,471 ft high, and West Lomond is 1,713 ft high

Lomonosov, Mikhail Vasilyevich (mēkhŭyēl' vŭsē'lyuvĭch lŭmŭnô'sŭf), 1711–65, Russian scientist and writer; son of a prosperous fisherman of the Archangel district In his early years self-taught, he later went to Moscow and then to St Petersburg to study He was one of 12 chosen by the St Petersburg Academy to study chemistry and metallurgy in Germany In 1741 he returned to Russia and received an appointment to the Academy of Sciences which he held for life He was a dominant figure in Russian culture and especially notable in science, in which by his experiments he anticipated such modern principles as the mechanical nature of heat and the kinetic theory of gases He wrote a history of Russia (1766) and a Russian grammar (1755) In his odes and other verses he adopted the new principle of tonic rather than syllabic versification, thus altering the character of Russian prosody His greatest service lay in his reform of the Russian literary language For this he chose an idiom midway between the Old Church Slavonic and spoken Russian

Lomonosov (lŭmŭnô'sŭf), formerly **Oranienbaum** (ôrē'nyŭnboum), city (1939 pop over 10,000), RSFSR, on the Gulf of Finland, SW of Leningrad and opposite Kronstadt A summer resort, it is the site of a palace built (1714) by Peter I and of the "Chinese Palace," built (1768) by Catherine the Great. In the Second World War, during the German siege (1941–44) of Leningrad, Oranienbaum was part of the Russian bridgehead on the Gulf of Finland It was renamed in 1948

Lompoc (lŏm'pōk), city (1940 pop 3,379, 1944 special census pop 5,844), S Calif, NW of Santa Barbara, founded 1874, inc. 1888 It is in a fertile valley noted for its flowers, and seeds are extensively produced and shipped Kieselguhr is quarried here, and there are oil wells in the vicinity La Purisima Concepcion Mission, a state historic monument, is near by.

Lomza (lŏm'zha, –shu), Pol *Łomża* (wôm'zhä), city (pop 13,772), Poland, on the Narew and W of Bialystok Probably founded in the earliest times of the Polish kingdom, Lomza passed to Prussia in 1795 and to the Russian empire in 1815 Chiefly a trade center, it also has an electrical industry There are peat deposits in the vicinity

Lonaconing (lōnukō'nĭng), coal-mining town (pop 2,429), NW Md, in the Allegheny Mts SW of Cumberland, settled c 1835 It also has silk manufacturing

London, Jack (John Griffith London), 1876–1916, American author, b San Francisco At 17 he shipped as an able seaman to Japan and the Bering Sea He was an oyster pirate, a gold-seeker in the first Klondike rush, a newspaper correspondent during the Russo-Japanese War, and in 1914 a war correspondent in Mexico His stories, romantic adventures with realistic setting and character, began to appear first in the *Overland Monthly*, and in 1900 *The Son of the Wolf Tales of the Far North* was published His Klondike tales are among his most vigorous, and *The Call of the Wild* (1903) has remained one of the best dog stories ever written Other works are *The Sea-Wolf* (1904), *White Fang* (1905), and *Smoke Bellew* (1912) *Martin Eden* (1909) and *Burning Daylight* (1910) are semi-autobiographical Though he was a highly paid writer of extremely popular fiction, London considered his social tracts as his most important work—*The People of the Abyss* (1903) and *The Iron Heel* (1907) *The Cruise of the Snark* (1911) is a vivid account of his interrupted voyage around the world in a 50-foot keteh-rigged yacht, and *John Barleycorn, or, Alcoholic Memoirs* (1913) is autobiographical Plagued by mental depression, an excess of alcohol, and financial disasters, London committed suicide See Charmian London (his second wife), *The Log of the Snark* (1915), *Our Hawaii* (1917), and *The Book of Jack London* (2 vols, 1921), Irving Stone, *Sailor on Horseback* (1938), Joan London (his daughter), *Jack London and His Times* (1939)

London, city, (pop 78,264), S Ont, on the Thames and SW of Toronto, inc 1848 The site was visited in 1793 and selected as the place for the capital of Upper Canada, but the city was not founded until 1826 Its streets and bridges are named after those of old London in England In a rich agricultural district, it has become a notable industrial, commercial, and financial center The Univ of Western Ontario (coeducational, 1878) and the affiliated Ursuline and Huron colleges are here, as are a provincial normal school and the provincial mental hospital

London, capital of the United Kingdom and chief city of the British Empire, on both sides of the Thames at the head of tidewater. Greater London (c 693 sq mi, 1931 pop 8,203,942, 1948 estimated pop 8,282,217) includes sections of the home counties, Essex, Kent, Hertfordshire, Middlesex, and Surrey The administrative county of London (117 sq mi, 1931 pop 4,397,003, 1948 estimated pop 3,339,100) includes the 28 metropolitan boroughs, Battersea, Bermondsey, Bethnal Green, Camberwell, Chelsea, Deptford, Finsbury, Fulham, Greenwich, Hackney, Hammersmith, Hampstead, Holborn, Islington, Kensington, Lambeth, Lewisham, Marylebone, Paddington, Poplar, St Pancras, Shoreditch, Southwark, Stepney, Stoke Newington, Wandsworth, Westminster, and Woolwich, each of which has its own mayor and council, responsible to the London County Council The core of London historically and commercially is the City (1 sq mi, 1931 pop 11,000, 1948 estimated pop 4,810), on the north bank of the Thames Little is known of London prior to A D 61, when, according to Tacitus, the followers of Queen Boadicea revolted and slaughtered the inhabitants of the fort Londinium after the departure of the Roman governor Paulinus Roman authority was soon restored, and the first city walls were built, remnants of which still exist After the final withdrawal of the Roman legions in the early part of the 5th cent, London became lost in obscurity Celt, Saxon, and Dane contested the general area, and it was not until 886 that London again emerged as an important town under the firm control of Alfred the Great, who rebuilt the defenses against the Danes and gave the city a form of government It is a measure of London's independence that William the Conqueror treated with it separately

In his reign was built just east of the city's wall the White Tower, the nucleus of the TOWER OF LONDON Under the Normans and Plantagenets the city grew commercially and politically and in the reign of Richard I (1189–99) obtained that form of municipal government by a lord mayor and corporation which exists to the present The GUILDS, which became important in the 13th and 14th cent, gained control of civic affairs and grew sufficiently strong to restrict trade to freemen of the city Medieval London saw the foundation of the INNS OF COURT and the original structures of SAINT PAUL'S CATHEDRAL and WESTMINSTER ABBEY The wealth of the religious orders provoked personal outcry in *Piers Plowman*, and the rich panorama of medieval life is reflected in Chaucer's *Canterbury Tales* With the questionings of church dogma by Wyclif in the 14th cent and the uprisings of Wat TYLER (1381) and Jack CADE (1450), the normal peace of the city was broken At the Reformation period many great ecclesiastical buildings were destroyed or converted to other uses by Henry VIII, who founded several grammar schools for the poor The reign of Elizabeth brought London to its greatest height of wealth, power, and influence—the undisputed center of England's Renaissance culture Spenser, Byrd, Nashe, Greene, Peele, Kyd, Marlowe, and Shakspere found the diverse and vigorous elements of London life inspiring to their creative efforts With the advent (1603) of the Stuarts to the throne, the city became involved in struggles with the crown on behalf of its democratic privileges, culminating in the civil war In 1665 the great plague (see PLAGUE) took c 75,000 lives On Sept 2, 1666, began the great fire, which lasted five days and virtually destroyed the city, including St Paul's From its ashes rose the London of Sir Christopher WREN, the City whose face was not greatly altered until the Second World War In the Restoration period there was a revival of the theaters (closed under the Commonwealth), Dryden, Congreve, and Wycherley were leading dramatists Much of the business of the late 17th and early 18th cent was transacted in COFFEEHOUSES, the forerunners of the later exchange Until 1750, when Westminster Bridge was opened, LONDON BRIDGE was the only one to span the Thames at London, and ferries did a profitable business, other bridges include Blackfriars (1770), Southwark (1819), the Tower Bridge (1894), and Waterloo (completed 1944, replacing the bridge built 1811–17) The City itself stretches from the TEMPLE on the west to the Tower of London on the east The financial center of London, it includes the BANK OF ENGLAND and other banks and business houses In the Second World War many of its historic buildings (including the Guildhall, scene of the lord mayor's banquets and other public functions) were destroyed or greatly damaged The Mansion House, residence of the lord mayor, was only slightly damaged. The best-known streets of London are FLEET STREET, the STRAND, PICCADILLY, WHITEHALL, PALL MALL, DOWNING STREET, LOMBARD STREET, and Bond and Regent streets (noted for their shops) Besides the BRITISH MUSEUM, the art galleries and museums of London include the VICTORIA AND ALBERT MUSEUM, the NATIONAL GALLERY, the Tate Gallery, and the Wallace Collection The Univ of London (see LONDON, UNIVERSITY OF) is in Bloomsbury See P. H Boynton, *London in English Literature* (1915), Sir Laurence Gomme, *London* (1914), Dorothy Nicholson, *The Londoner* (1944), Parry Marshall, *City of London* (1947), William Kent, *Mine Host London a Chronicle of Distinguished Visitors* (1948)

London. 1 City (pop 2,263), co seat of Laurel co, S Ky, NNW of Middlesboro It is the trade center for a coal, corn, and tobacco area Sue Bennett College (junior, coeducational) is here Near by are the Sublimity Farms (a U S land-use project), Levi Jackson Wilderness Road State Park, and Cumberland National Forest 2 Village (pop 4,697), co seat of Madison co, SW central Ohio, WSW of Columbus, founded 1811, inc 1831 Metal products are made Near by is the London State Prison Farm

London, Declaration of, international code of maritime law, especially as related to war, proposed in 1909 The declaration largely grew out of the attempt at the second of the HAGUE CONFERENCES to set up an international prize court with compulsory jurisdiction Great Britain, then the chief naval power, felt that such a court should be governed by defined principles At British invitation the leading European naval powers and the United States and Japan assembled at London in 1908 The Declaration of London which they issued comprised 71 articles dealing with many controverted points, including BLOCKADE, CONTRABAND, and PRIZE. In general it was a restatement of the existing law, but in its high regard for the rights of neutrals it represented a distinct advance. Although the U S Senate ratified the declaration, unanimous ratification by the signatories did not follow, and the code never went into effect officially In the First World War a proposal of the United States that the belligerents voluntarily abide by the code was rejected. Its provisions were not widely observed in the Second World War. See J. A. Hall, *The Law of Naval Warfare* (1921).

London, University of, founded in London, England, in 1836 as an examining and degree-giving body. Teaching functions were not added until 1898 It comprised at first University College (which had been founded in 1826 as the Univ. of London, a nonsectarian school) and King's College (founded 1829 by adherents of the Church of England). It is now a large aggregation of affiliated schools, colleges, institutes, and hospitals Besides University and King's, its schools and colleges include Bedford (1849, for women), Birkbeck (1823), Imperial College of Science and Technology (1907), King's College of Household and Social Science (1928), London School of Economics and Political Science (1895), Queen Mary College (1887), Royal Holloway College (1883, for women), School of Oriental and African Studies (1916), Westfield College (1882, for women), and Wye College (1894), it has also several theological and medical schools Many of the university buildings, in various parts of London, suffered severe damage in the Second World War

London Bridge, granite, five-arched bridge over the Thames, in central London It is 928 ft. long and was designed by John Rennie and built in 1824–31. The early wooden bridge (963–75) was replaced (1176–1209) by a stone bridge with houses and a chapel The buildings were removed in 1756–62. It was many times damaged by fire It was the only bridge over the Thames in London until the construction (1739–50) of Westminster Bridge

London Company, a corporation composed of persons residing in and about London which, together with the Plymouth Company, was granted (1606) a charter by James I to locate colonies in America between lat 34° and 45° N, territory claimed by England The London Company, under the chief patronage of Sir Robert Cecil, was granted a tract of land fronting 100 mi on the sea and extending 100 mi inland somewhere between lat 34° and 41° N, while the Plymouth Company's grant (see GORGES, SIR FERDINANDO) lay somewhere between lat 38° and 45° N The government of the colonies was conferred upon a royal council which was to appoint a local council for each colony, both councils to govern according to the king's instructions The London Company expedition, under the command of Capt Christopher NEWPORT, founded (1607) JAMESTOWN, first permanent English settlement in America (see VIRGINIA) In May, 1609, the company received a new charter, making it independent of the Plymouth Company, extending its territory, and enabling it to replace the local council with an absolute governor Thomas West, Baron DE LA WARR, was the first to hold that office, with Sir Thomas GATES as his deputy A third charter, granted in March, 1612, made the London Company, now more commonly known as the Virginia Company, a self-governing body There was, however, dissension within the company over governing policies, and the corporation was soon divided into two parties. The court party, headed by Sir Robert Rich, favored prolongation of martial law in the colony The country or patriot party, led by Sir Edwin SANDYS, Sir John Danvers, and John and Nicholas Ferrar, favored discontinuance of the system of servitude The country party was in the majority, but a liberal form of government was not established in Virginia until after the arrival of Sir George YEARDLEY as governor in 1619, when representative government was inaugurated in America with the convening of the first legislative assembly at Jamestown Although affairs in Virginia gradually improved, a petition was presented (1623) to the king calling for an investigation of conditions in the colony. Shortly afterwards there appeared a paper, *The Unmasked Face of Our Colony in Virginia* Already offended by the company, the king now took extreme measures A report was made by an investigating commission, the case was tried before the King's Bench, and the unfavorable decision rendered in May, 1624, resulted in the dissolution of the company About £200,000 had been spent by the company and more than 14,000 emigrants sent to Virginia See S M Kingsbury, ed., *The Records of the Virginia Company of London* (4 vols, 1906–35), H. L Osgood, *The American Colonies in the Seventeenth Century*, Vol I (1904), W R Scott, *The Constitution and Finance of English, Scottish, and Irish Joint-Stock Companies to 1720* (3 vols, 1910–12), W F. Craven, *Dissolution of the Virginia Company the Failure of a Colonial Experiment* (1932), C. M Andrews, *The Colonial Period of American History*, Vol I (1934), C. W. Sams, *The Conquest of Virginia The Third Attempt, 1610–1624* (1939).

London Conference, name of several international conferences held at London, England, in the 19th and 20th cent The following list includes only the most important of these meetings. At the **London Conference of 1830–31** the chief powers of Europe met to discuss the status of Greece. It was decided that Greece should be a fully independent principality, instead of an autonomous state as had been provided in the London Protocol of 1829. The territorial limits of Greece were, however, considerably reduced from those provided in the London Protocol, and the decision was rejected by the Greeks. A new protocol (1831) was drawn up, restoring the 1829 border but retaining the sovereign status of Greece This was accepted. While the Greek problem was under discussion, the Belgians revolted against the Dutch king. The matter was taken up at the conference, which ordered (Nov., 1830) an armistice between the Dutch and the Belgians. The first draft for a treaty of separation of Belgium and the Netherlands was rejected by the Belgians A new draft (June, 1831) was rejected by William I of the Netherlands, who resumed hostilities Franco-British intervention compelled the Dutch to evacuate their forces from Belgium late in 1831, and in 1833 an armistice of indefinite duration was concluded William's designs to recover Luxembourg and Limburg led to renewed tension, and the **London Conference of 1838–39** followed This prepared the final Dutch-Belgian separation treaty of 1839 and divided Luxembourg and Limburg between the Dutch and Belgian crowns The neutrality of Belgium was guaranteed For the **London Conference of 1852,** see SCHLESWIG-HOLSTEIN, for the **London Conference of 1867,** see LUXEMBOURG, for the **London Conference of 1908,** see LONDON, DECLARATION OF The **London Conference of 1933** was the World Monetary and Economic Conference, which had as its object the checking of the world depression by means of currency stabilization and economic agreements Unbridgeable disagreements among the participants and the attitude of the United States made the meeting a total failure; customs and currency restrictions instead became increasingly stringent throughout the world After the Second World War several meetings of the Council of FOREIGN MINISTERS took place at London

Londonderry, Robert Stewart, 2d marquess of see CASTLEREAGH, ROBERT STEWART, 2D VISCOUNT

Londonderry (lŭn"dŭndĕ'rĭ, lŭn'dŭndĕr"rĭ) or **Derry,** maritime county (804 sq mi, 1937 pop 142,736, 1948 estimated pop 150,830), Northern Ireland, in Ulster The capital is Londonderry, a major Irish port and trading center The county is largely mountainous, with a low cultivated plain along Lough Foyle and the Bann river The damp, cold climate is unfavorable to agriculture The making of linen and distilling are the chief industries of the region, and fishing is an important occupation The district was dominated for many centuries by the O'Neill family, whose confiscated estates were granted, in 1609, to the city companies of London, whence the name of the county The *Londonderry Air*, a traditional Irish melody, was probably originally indigenous to the region

Londonderry or **Derry,** county borough (pop 47,813), co seat of Co Londonderry, Northern Ireland, on the Foyle near the head of Lough Foyle It is a seaport with extensive quays, dry docks, and shipyards The chief export is cattle The city's industries include linen weaving, flour milling, tanning, iron founding, distilling, and fishing An abbey was founded here in 545 by St Columba, and the town grew up around this, it was burned by the Danes in 812 In 1311 the town was granted to Richard de Burgh When in 1608 it was turned over to the corporations of the City of London, the name was changed from Derry to Londonderry The siege of Londonderry by the forces of James II began in April, 1689, it held out for 105 days under the leadership of the Rev George Walker A triumphal arch, one of the towngates, and a column commemorate the siege The town is the seat of a Protestant cathedral (built 1628–34, restored 1886–87) and of a Roman Catholic cathedral and a monastery church (founded 1164) It was a U.S naval base in the Second World War

Londonderry, rural town (pop 1,429), S N H, SE of Manchester, settled 1719 by Scotch-Irish, chartered 1722 Settlers introduced the growing of potatoes and flax and the manufacture of linen in this region Windham, Derryfield (now Manchester), and Derry were set off from the original town, and Londonderry, Vt, was founded from here In 1934 a successful cooperative egg market was opened

Lone Wolf, d 1879, Kiowa Indian chief He led some Kiowa braves on the warpath in 1874, but he was quickly defeated and with a number of followers was deported to Florida, where he remained in military confinement for three years

Long, Crawford Williamson, 1815–78, American physician, b Danielsville, Ga., M.D. Univ. of Pennsylvania, 1839 He practiced in Georgia at Jefferson In 1842 he excised a tumor of the neck using ether anesthesia, but this was not made public until after the demonstration by W. T. G Morton in Boston in 1846 See study by F. L. Taylor (1928).

Long, Huey Pierce, 1893–1935, American political leader in Louisiana, b. Winnfield, La. A farm boy, he became a traveling salesman, winning many friends among the "red necks" of back-country Louisiana He completed the law course at Tulane Univ in seven months and, admitted to the bar in 1915, practiced at Winnfield and Shreveport Long served on the state railroad commission (1918–21) and the public service commission

(1921–28) and was attorney for the state in a great deal of public-utility litigation He was narrowly defeated for governor in 1924, but was swept into office four years later. Long was responsible for the building of badly needed roads and hospitals and for educational benefits, featured by free textbooks A clever demagogue with an insatiable lust for power, he brought these improvements with new and increased taxes and the virtual suspension of democracy. A supine legislature was bludgeoned or bought into passing his laws "The Kingfish," as he was called, resigned (1931) as governor to enter the U S Senate and directed his fascistic Louisiana dictatorship from Washington At first a supporter of the New Deal, he became one of Franklin D Roosevelt's most vociferous critics In the Senate (where he was a master of the filibuster technique), on speaking tours, and in his *Every Man a King* (1933), Long advocated his "Share-the-Wealth" program, and self-styled reformers such as Gerald L K Smith attached themselves to the crusade He had set the presidency as his next goal (*My First Years in the White House* was published in 1935) and organized a steadily increasing national following when he was assassinated in Sept , 1935, at the new state capitol he had built in Baton Rouge The assassin, Dr Carl A Weiss, son-in-law of a political opponent about to be liquidated after Long's usual ruthless fashion, was immediately slain by the dictator's bodyguards. His political machine flourished for several years after his death (see LOUISIANA), and Long's name is still important in the state See biographies by Forrest Davis (1935) and Carleton Beals (1935), H T Kane, *Louisiana Hayride* (1941)

Long, John Davis, 1838–1915, U S Secretary of the Navy (1897–1902), b Buckfield, Maine, grad Harvard, 1857 In 1861 he was admitted to the bar, and he moved his legal practice to Boston in 1863 He entered the Massachusetts legislature in 1875, becoming speaker in 1876 In 1879 he was elected lieutenant governor, and in 1880, 1881, and 1882 he was elected governor of Massachusetts He became a member of Congress in 1883, returning to the practice of law in 1889 As Secretary of the Navy appointed by President McKinley he was in charge of the highly successful naval operations in the Spanish-American War He wrote *The New American Navy* (1903) See his papers for the years 1897–1904 (1939), *America of Yesterday, as Reflected in the Journal of John Davis Long* (ed by L S Mayo, 1923)

Long, John Luther, 1861–1927, American playwright, b Hanover, Pa His short story, "Madame Butterfly" (1898), was dramatized by Belasco (1900) and used by Puccini (1906) for an opera Belasco and Long also collaborated successfully on *The Darling of the Gods* (1902) and *Adrea* (1905).

Long, Perrin Hamilton, 1899–, American physician, b Bryan, Ohio, M D Univ of Michigan, 1924 He taught medicine at Johns Hopkins from 1929 and in 1940 became head of the new department of preventive medicine there He made a special study of sulfanilamide and its derivatives and wrote *Clinical and Experimental Use of Sulfanilamide, Sulfapyridine, and Allied Compounds* (with E A Bliss, 1939) and *A-B-C's of Sulfonamide and Antibiotic Therapy* (1948)

Long, Stephen Harriman, 1784–1864, American explorer, b Hopkinton, N H , grad Dartmouth, 1809 He had taught school before he entered the army and became an army engineer Long was sent on several exploring and surveying expeditions The first in 1817 was to the region of the upper Mississippi and the Fox-Wisconsin portage, it is recorded in his *Voyage in a Six-oared Skiff to the Falls of St Anthony* (1860) A voyage to the Rocky Mts in 1819–20 brought much new knowledge of the mountains. He climbed several peaks, including Longs Peak, and explored the regions of the Platte and Arkansas Edwin James's *Account of an Expedition from Pittsburgh to the Rocky Mountains* (2 vols and an atlas, 1822–23) tells of this journey In 1823 he led an expedition to determine the source of the Minnesota river and to study the United States–Canadian boundary W of the Great Lakes Some of his notes were used in W H Keating's *Narrative of an Expedition to the Source of the St Peter's River* (2 vols , 1824) Chosen to select a route for the Baltimore and Ohio RR, he made a survey that resulted in an authoritative railroad manual, with tables of grades and curves.

Long, William Joseph, 1866–, American nature-writer, b Attleboro, Mass , grad Harvard, 1892. His works include *Wilderness Ways* (1900), *Brier Patch Philosophy* (1906), and *Mother Nature* (1923). Long was called a "nature faker" by Theodore Roosevelt in a famous controversy

Long, Loch (lŏkh), inlet, c 20 mi long, between Argyllshire and Dumbartonshire, Scotland, extending NE from the Firth of Clyde There is a narrow isthmus between Arrochar on Loch Long and Tarbet on Loch Lomond. Loch Goil is a western branch of Loch Long, overhung by Ben Arthur (the Cobbler), 2,891 ft. high.

Long Beach. 1 City (1940 pop. 164,271; 1946 special census pop. 241,109), S Calif , S of Los Angeles and on San Pedro Bay; laid out 1882, inc 1888 With a fine harbor and beach, it is a year-round resort. It is a residential and manufacturing city, with a large oil industry, aircraft factories, fish and fruit canneries, soap and vegetable-oil plants, lumber mills, shipyards, and extensive shipping The oil wells at SIGNAL HILL are highly productive. 2 Resort town (pop 1,495), SE Miss , on Mississippi Sound just W of Gulfport, in a truck area 3 Resort city (pop 9,036), on the south shore of Long Island, SE N Y , S of Rockville Centre, inc as a city 1922

Long Branch, residential town (pop 5,172), S Ont , on Lake Ontario SW of Toronto

Long Branch, city (pop 17,408), E N J , on the Atlantic between Sandy Hook and Asbury Park, settled 1740, inc 1904 It became a popular resort early in the 19th cent Presidents Grant and Garfield had homes here, and President Wilson a summer home at West Long Branch See Federal Writers' Project, *Entertaining a Nation* (1940)

Longchamp, William of (lôngˈshămp, lôshäˈ), d 1197, chancellor of England (1190–91), bishop of Ely, of Norman extraction After service with Geoffrey, son of Henry II, he joined Richard (later RICHARD I) and his brothers in the uprising (1189) against Henry Upon Richard's accession (1189), William was made chancellor, bishop, and joint justiciar Rising to be chief justiciar and papal legate within a year, he became the acting head in England of both state and church His autocratic administration led to a rebellion by JOHN and the barons, who in 1191 drove him from England In 1193 he joined the captive Richard in Germany, tried unsuccessfully to arrange for raising the king's ransom in England, and performed other royal missions to France and Rome

Longchamp (lôshäˈ), famous racecourse of Paris, France, in the Bois de Boulogne It was the site of an abbey, founded in 1260 and suppressed in the French Revolution

Long Eaton, urban district (1931 pop 22,345, 1943 estimated pop 26,120), Derbyshire, England It has cotton mills

longevity (lônjĕˈvĭtē), long life The length of an individual's life depends upon a number of factors which include heredity, disease, accident, and general mode of living The average life expectancy for the world's population is about 62 years There are numerous records of individuals who attained ages from 120 to 150 years, these, however, are questionable The famous Thomas Parr of Shropshire, England, is reputed to have lived 152 years The scientific study of old age, its phenomena and diseases, is known as gerontology Among plants, the giant sequoias (*Sequoia gigantea*) of California are said to be from 2,000 to 4,000 years old See also VITAL STATISTICS

Longfellow, Henry Wadsworth, 1807–82, American poet, b Portland, Maine, grad Bowdoin, 1825, in the class with Nathaniel Hawthorne In Europe in 1826–29 he prepared himself to teach modern languages at Bowdoin and was so successful there that Harvard invited him to become Smith professor of modern languages and belles lettres He wrote his own textbooks and also Irvingesque sketches of Europe, *Outre-Mer* (first issued in two parts, 1833–34) Studying in Europe once more, he was saddened by the death in Rotterdam of his first wife In the period 1836–54 he was distinguished not only as a professor at Harvard with a command of some 10 languages and a contagious enthusiasm for their literatures but also as a poet, producing some of his best-known work *Voices of the Night* (1839) contains "A Psalm of Life," and *Ballads and Other Poems* (1841) includes "The Skeleton in Armor," "The Wreck of the Hesperus," "Excelsior," and "The Village Blacksmith" His *Hyperion* (1839), a sentimental prose romance, had as its heroine Frances Appleton, whom he married in 1843 *Poems on Slavery* (1842) and *The Belfry of Bruges* (1846) followed An accomplished metrist, he next wrote *Evangeline* (1847), a tale in hexameters of the expulsion of the French from Acadia, *The Song of Hiawatha* (1855), an "edda" based on Indian legend and written in the trochaic meter of the Finnish epic *Kalevala*, and *The Courtship of Miles Standish* (1858), an incident in the lives of Priscilla and John Alden His *Tales of a Wayside Inn* (1863) includes the popular "Paul Revere's Ride" Among later volumes of short poems is *The Hanging of the Crane* (1874) His ambitious trilogy *Christus* (1872) is remembered for its first section, the medieval *Golden Legend* After the tragic death from burns of his second wife in 1861, Longfellow started translating Dante, his poetic version (1867) of the *Divine Comedy* was for years highly regarded Longfellow was a national figure, and his home, Craigie House, was a place of literary pilgrimage His work was read all over the world, and he was the first American whose bust was placed in the Poets' Corner of Westminster Abbey, but 20th-century critical preferences have veered away from his romantic, moralising tone. Some of his poems are in schoolbooks, many are quoted, and his serene and gracious figure must be reckoned with in any study of 19th-century American culture See biographies by his brother, Samuel Longfellow (1886), and by T. W. Higginson (1902); J. T. Hatfield, *New Light on Longfellow* (1933), Lawrance Thompson, *Young Longfellow, 1807–1843* (1938)

Longfellow, Samuel, 1819–92, American clergyman and hymn writer, b Portland, Maine, brother and biographer of H W Longfellow He was pastor (1853–69) of the First Unitarian Church, Brooklyn, N Y. He compiled two hymnals—*Vespers* (1859), containing his own *Now on Land and Sea Descending*, and *Hymns of the Spirit* (1864)

Longford (lôngˈfurd), inland county (403 sq mi , pop 36,218), near Northern Ireland, in Leinster The county town is Longford A part of the central plain of Ireland, it has level land with numerous small lakes, bogs, and marshes The River Shannon and Lough Ree make up its western border Dairy farming is the principal occupation, oats and potatoes are the chief crops There are a number of monastic remains, notably on the islands of Lough Ree Longford was organized as a county in 1569

Longford, urban district (pop 4,019), co seat of Co Longford, Ireland, on the Camlin river It is an agricultural market and has the Roman Catholic Cathedral of St Mel, the seat of the bishop of Ardagh

Longhi, Pietro (pyäˈtrō lôngˈgē), 1702–85, Venetian genre painter He is best known for his small pictures depicting with good-natured satire the life of the Venetians of his day Most of these are in Venetian collections His works include a series of frescoes of carnival life (staircase of the Grassi-Stucky Palace, Venice), *Domestic Group* and *Exhibition of a Rhinoceros* (National Gall , London), two genre paintings (Hampton Court Palace), portrait of Senator Pisani (Liechtenstein Gall , Vienna), four genre paintings (Metropolitan Mus), and two in the National Gallery of Art, Washington, D C His son, **Alessandro Longhi** (älēsˈsänˈdrō), 1733–1813, was a portrait painter and engraver of note and the author of a work on the lives of painters A portrait of Count Carlo Aurelis Widmann, attributed to him, is in the Metropolitan Museum

Longinus (Dionysius Cassius Longinus) (lŏnjīˈnŭs), c 213–273, eminent Greek rhetorician and philosopher of the Platonic school In early life he had the advantages of travel and of knowing prominent scholars He was a student of Greek literature at Alexandria Later, he became highly regarded for his learning and his critical skill in Athens, where he was a teacher of rhetoric His last years were spent in Palmyra, where he had supervision of the education of the children of Queen Zenobia She made him her principal counselor after her husband's death When he encouraged her to resist the authority of Rome, Palmyra was overthrown by Emperor Aurelian, who had Longinus beheaded as a traitor in 273 Of the numerous works of a rhetorical, philosophical, and critical nature which he is known to have produced, only slight fragments are left His chief fame rests on a treatise incorrectly attributed to him, *On the Sublime*, usually called *Longinus on the Sublime* It is one of the monuments of literary criticism and treats what would be called now "loftiness of style " The test of loftiness the author would apply is the amount of transport it causes in the reader The treatise is the sole source for Sappho's second ode See *Longinus on the Sublime* (tr by W Rhys Roberts from the Paris MS, 1899), George Saintsbury, *History of Criticism* (1904)

Long Island see BAHAMA ISLANDS

Long Island, name applied locally to the Outer Hebrides, Scotland see HEBRIDES

Long Island, 118 mi long and 12 to 20 mi wide (pop 4,600,022), SE N Y , extending east-northeast from the mouth of the Hudson It is separated from Staten Island by the Narrows between Upper and Lower New York bays, from Manhattan and the Bronx by the East River, and from Connecticut by Long Island Sound On the south is the Atlantic Ocean The eastern part has two flukelike peninsulas, the southern fluke, 40 mi long, terminating in Montauk Point Long Island comprises four counties, Kings, Queens, Nassau, and Suffolk Kings (coextensive with Brooklyn) and Queens are part of New York city, residents of Nassau and Suffolk include commuters to New York, truck gardeners, potato farmers, poultry raisers, and fishermen Summer resorts are numerous both on the irregular wooded north shore and on the south shore, which has long beaches Beautiful estates are scattered over the island Of the state parks, Jones Beach is most popular Indians lived on the island before the advent of white men in 1636 Both Dutch and English established colonies here, the English gaining complete control in 1664 Farming, whaling, and fishing were pursued, but the population increased rapidly only after New York city, with its huge market, developed and after railroads and highways were built Important among its airfields are LaGuardia Field and New York International Airport See Birdsall Jackson, *Stories of Old Long Island* (1935), William O Stevens, *Discovering Long Island* (1939).

Long Island, battle of, in the American Revolution, Aug 27–30, 1776. To protect New York city and the lower Hudson valley from the British forces

massed on Staten Island, George Washington sent part of his small army to defend Brooklyn Heights on Long Island After several unsuccessful peace overtures, Sir William Howe landed near Coney Island while his British fleet under his brother, Richard Howe, Viscount Howe, shelled New York Sir William's troops defeated the American outguard under John Sullivan and William Alexander (Lord Stirling) Israel Putnam, the corps commander, prepared for the main attack Sir William, not wanting another Bunker Hill, decided to lay siege instead of storming Brooklyn Heights Washington saw the position was hopeless and evacuated (night of Aug 29–30) his army back to Manhattan Shortly afterwards, the Americans began the retreat northward in which delaying actions were fought at Harlem Heights, White Plains, and Fort Washington Washington had managed to extricate most of his troops, and he regrouped them before striking at TRENTON

Long Island City, part (since 1898) of W Queens borough of New York city, SE N Y. Formerly it was a city of Queens co , Long Island It is largely industrial, has a long water front on the East River, and is connected with Manhattan by bridge and tunnel

Long Island Sound, arm of the Atlantic, c 90 mi long and 3 to 20 mi wide, separating Long Island from Westchester co (N Y) and Connecticut The East River connects it with New York Bay. The sound is popular for pleasure boating, it is important as a shipping route and for its fish

Long Island University, at Brooklyn, N Y ; nonsectarian, coeducational, chartered 1926, opened 1927 It has a college of pharmacy and an institute of podiatry

longitude, distance of a place east or west of a prime meridian In the United States, England and her dominions, the Netherlands, and many other states the meridian (a line connecting all places of the same longitude) which passes through the observatory of Greenwich in London is used as a prime meridian It was accepted for nautical and international calculations by the Washington Meridian Conference in 1884 The conventional dividing line between the Eastern and Western hemispheres is the meridian of Ferro, Canary Islands, which is situated 17° 40′ W of Greenwich The meridian of Ferro is sometimes to be found on older German maps, while French cartographers used the meridian of Paris in earlier times Geographical longitude is computed east and west from 0° to 180° In astronomy, celestial longitude (or right ascension) is measured in degrees eastward along the ecliptic from the vernal equinox A difference of one hour in time is represented by 15° of longitude The meridians focus at the two poles and cross the equator and the parallels of latitude at right angles

Longman, Evelyn Beatrice, 1874–, American sculptor, b Winchester, Ohio, studied with Lorado Taft at the Art Institute of Chicago She married (1920) N H Batchelder She became known (1904) with *Victory* for the St Louis Exposition and in 1906 won a competition for the bronze doors of the U S Naval Academy chapel Other works include bronze doors for the library, Wellesley College; the colossal *Electricity* for the American Telephone and Telegraph Company, New York, and many memorials Several works are in the Metropolitan Museum

Longmeadow, suburban town (pop 5,790), SW Mass , on the Connecticut, settled 1644, set off from Springfield 1783

Longmont, city (pop 7,406), N Colo , N of Denver; founded c 1870, inc as a town 1873, as a city 1885 It is the trade and processing center for a rich farm area Coal mines are in the region

Longomontanus (lŏng"gōmŏntā'nŭs), 1562–1647, Danish astronomer, whose real name was Christian Severin The name by which he is best known is a Latinized version of Longberg, Jutland, his birthplace From 1589 to 1600 he was assistant to Tycho BRAHE and later was professor of mathematics (1607–47) at the Univ of Copenhagen, where he founded an observatory His most noted work was *Astronomia Danica* (1622) Other works were *Systematis mathematici* (1611), *Disputatio de eclypsibus* (1616), and *Coronis problematica ex mysteriis trium numerorum* (1637).

Long Parliament: see PARLIAMENT

Long Prairie, village (pop 2,311), co seat of Todd co , central Minn , between Little Falls and Alexandria; platted 1867, inc 1883 It is a farm trade center The Winnebago Indian agency was here from 1848 till 1855

Long Sault Rapids (sō, sōō), in the Ottawa river, Canada, midway between Ottawa and Montreal Here in 1660 the Iroquois defeated a party of 18 Frenchmen, who were all killed, some being tortured to death.

Longs Peak [for Stephen H LONG], 14,255 ft high, N central Colo., in the Front Range It is included in Rocky Mountain National Park

Longstreet, Augustus Baldwin, 1790–1870, American humorist, b. Augusta, Ga , grad. Yale, 1813. He became judge, editor, and Methodist minister and later was president successively of four Southern colleges As a writer he is remembered for *Georgia Scenes* (1835), boisterous and realistic sketches ranking high in frontier humor.

Longstreet, James, 1821–1904, Confederate general, b. Edgefield District, S C , spent his early life in Georgia and Alabama After graduation from West Point (1842), he served in the Indian campaigns and in the Mexican War, reaching the rank of major At the outbreak of the Civil War he resigned from the U S army and became a Confederate brigadier general He took part in the first battle of BULL RUN and in the defense against McClellan's PENINSULAR CAMPAIGN He fought at the second battle of Bull Run (1862) and at Antietam, his corps was the backbone of the defense in the battle of FREDERICKSBURG In 1862–63 he held a semi-independent command south of the James river, returning too late to aid Lee at Chancellorsville He commanded the right wing at Gettysburg (1863), where his delay in taking the offensive is generally said to have cost Lee the battle (see GETTYSBURG CAMPAIGN) He fought under Braxton BRAGG at Chickamauga in the Chattanooga campaign and unsuccessfully besieged Knoxville (1863) Returning to Virginia in 1864, he distinguished himself in the battle of the Wilderness (see WILDERNESS CAMPAIGN), where he was wounded. Longstreet participated in the last defense of Richmond, surrendering to Grant with Lee After the war he established himself in New Orleans. A personal friend of Grant he became a Republican He criticized Lee's conduct at Gettysburg harshly and was long unpopular in the South Grant appointed him minister to Turkey (1880), and he later served as Federal commissioner of Pacific railroads under McKinley and Roosevelt (1897–1904) As a general, he is considered a poor strategist but an excellent tactician There is still considerable dispute about his career, and he has been defended by apologists His opinions on the war are expressed in his *From Manassas to Appomattox* (1876) See Helen D Longstreet, *Lee and Longstreet at High Tide* (1904), H J Eckenrode and Bryan Conrad, *General James Longstreet, Lee's War Horse* (1936); D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Longton, part (since 1910) of STOKE-ON-TRENT, Staffordshire, England, in the Potteries district

Longueuil, Charles le Moyne, sieur de (shärl' lu mwän' syûr' dù lôgû'yu), 1626–85, French colonial leader in Canada, founder of a famous Canadian family, b Dieppe, France Coming to Canada c 1641, he worked for the Jesuits among the Hurons, was a trader, soldier, and interpreter at Trois Rivières (Three Rivers), and finally settled at Ville Marie (Montreal) For his services to France, especially in his dealings, both warlike and peaceful, with the Iroquois, Le Moyne was ennobled and granted the seigniory he named Longueuil Of his 11 sons, all of whom distinguished themselves in the French service, the sieur d'IBERVILLE and the sieur de BIENVILLE were most famous

Longueuil, city (pop 7,087), S Que It is a residential suburb of Montreal with a cathedral church and several old French houses The site was granted to the sieur de Longueuil in 1657

Longueville, Anne Geneviève de Bourbon-Condé, duchesse de (ân' shunuvyĕv' du bōōrbŏ-kōdā' dûshĕs' du lôgvēl'), 1619–79, daughter of Henri II de Condé and sister of the Great Condé A noted beauty, she was one of the leaders of the FRONDE She made her peace with the court in 1653 Much of her remaining life was spent in convents, notably that of Port-Royal, which through her influence was saved from persecution in her lifetime. See biography by Alfred Cook (1899).

Longus: see DAPHNIS AND CHLOË.

Longview. **1** Town (pop 1,489), W N C , WSW of Winston-Salem near Hickory, in a cotton region **2** City (pop 13,758), co seat of Gregg co , E Texas, W of Shreveport, La , and near the Sabine, settled 1865, inc 1872 Decline, which set in as the pine lumbering sank, was arrested, and the city boomed after the stupendously rich East Texas oil field was discovered in 1930 **3** City (pop 12,385), SW Wash , a port of entry at the junction of the Cowlitz with the Columbia A bridge (1930) crosses the Columbia to Oregon Longview was founded in 1923 as a lumber-manufacturing city on the site of Monticello, historic pioneer settlement It also processes food and produces aluminum A junior college is here.

Long Walls: see PIRAEUS, Greece.

Longworth, Nicholas, 1782–1863, American horticulturist, b. Newark, N J Although he experimented with many crops, he was most noted for the establishment of grape culture in the Ohio valley. Large tracts of his land were devoted to the raising of Catawba and Isabella grapes, which he found to be best suited to that locality The wine that he manufactured from his grapes and his wine house were internationally famous In addition to many horticultural articles he wrote *A Letter . . on the Cultivation of the Grape and Manufacture of Wine* (1846).

Longworth, Nicholas, 1869–1931, American legislator, b. Cincinnati, grad. Harvard, 1891, and Cincinnati Law School, 1894. After he was admitted (1894) to the bar, he practiced in Cincinnati, where his family had been prominent since the days of his great-grandfather, Nicholas Longworth (1782–1863). He served (1889–1903) in the Ohio legislature and was elected (1903), with the support of George B. Cox, to the U.S. House of Representatives In 1906 he married Alice Lee Roosevelt, the daughter of President Theodore Roosevelt, the wedding taking place at the White House. As a U.S. Congressman (1903–13, 1915–31) Longworth was (1925–31) Speaker of the House and became recognised as a master of congressional procedure See biography by Clara Chambrun (1933); Alice Roosevelt Longworth, *Crowded Hours* (1943).

Longwy (lôvwē'), town (pop. 12,064), Meurthe-et-Moselle dept , NE France It is in an iron-mining district, near the Belgian and Luxembourg borders It consists of two separate sections Longwy-Bas, the lower town, is a center of the Lorraine iron and steel industry; Longwy-Haut has kept the fortifications built (17th cent) by Vauban

Longyear City, Nor *Longyearbyen*, settlement (pop c 1,000), West Spitsbergen, on Advent Bay. It is a coal-mining center founded by the American miner Longyear

Lönnrot, Elias (ĕlē'ăs lûn'rōt), 1802–84, Finnish philologist, compiler of the KALEVALA Trained as a physician, he became more interested in folklore and philology than in medicine From 1828 he traveled through Finland, Lapland, and NW Russia, collecting from the rune singers fragments of the *Kalevala*, of which he published (1835) about 12,000 lines A second edition of nearly 23,000 lines appeared in 1849 To Lönnrot must go the credit of creating a national epic from the[scattered fragments sung or recited. He also collected other folk songs and proverbs.

Lonoke (lō'nōk), trading city (pop. 1,715), co. seat of Lonoke co , central Ark , E of Little Rock, in an area producing rice, strawberries, and cotton A large state fish hatchery is here.

Lons-le-Saunier (lôⁿ"-lu-sônyā'), town (pop 14,247), capital of Jura dept , E France. Known since Roman times for its saline springs, it is also the center of an agricultural region Rouget de Lisle was born here

Loo-Choo Islands see RYUKYU ISLANDS

Loogootee (lōgŏ'tē), residential city (pop 2,325), SW Ind , between the forks of the White River E of Washington

Lookout, Cape, point of a sandy reef (Core Banks), off E North Carolina, SW of Cape Hatteras The reef guards the port entrance to Beaufort and Morehead City. A lighthouse on the point was erected in 1859

Lookout Mountain, residential town (pop. 1,545), E Tenn , near Chattanooga It is on Lookout Mt , which rises to 2,126 ft and extends into Georgia and Alabama The part near Chattanooga was the scene of a Civil War battle (see CHATTANOOGA CAMPAIGN) Parts of the area are included in Chickamauga and Chattanooga National Military Park A cable railway ascends the mountain, a visiting point for tourists There are lighted limestone caves and interesting rock formations An observatory and museum, a memorial to Adolph S Ochs, was dedicated in 1940

loom, frame or machine used for WEAVING The fundamental parts are the warp beam, a cylinder on which the warp threads are wound, heddles (rods or cords), each with an eye through which is drawn a warp thread, the harness, a rectangular frame set with a series of heddles operated to form a shed between the warp threads for the insertion of the weft threads, the reed, a combike frame which pushes the filling yarn firmly against the finished cloth after each pick or row, the shuttle, a boat-shaped bobbin holder which carries the weft yarn through the shed, and the cloth beam, on which the cloth is rolled as it is constructed Vertical looms, such as the Navaho and some tapestry looms, developed from the practice of hanging the warp beam from a tree and holding the yarns taut with stones, pegs, or a weighted pole The horizontal form, at first two poles holding the warp extended on the ground, was widely used for the Western European hand loom and for the foot loom, the forerunner of the[modern] power loom In the foot loom the harnesses were operated by treadles, leaving the hands free to pass and catch the shuttle John Kay in 1733 invented the automatic fly shuttle, and in 1760 his son Robert devised a drop box by which multiple trays automatically brought bobbins of colored threads in line as desired. These aids to weaving necessitated inventions to speed up SPINNING, which in turn made faster weaving essential. Edmund Cartwright patented in 1785 the first practical power loom, the basis of the modern loom with its multiplicity of automatic devices Elaborate patterns had been woven on the draw loom probably in use in Egypt by 1 B C. and introduced into Europe from Damascus by Crusaders. Strings attached to the heddles were pulled by an assistant to form the desired shed. By 1804 JACQUARD had perfected an attachment applicable to the power loom whereby any design might be woven on it. In the modern Jacquard, one repeat of the design is laid out on squared paper, then punched on cards which are

laced into a continuous chain rotated on an overhead device. The cards are brought in contact with needles each controlling a cord or wire that lifts a heddle when the needle passes through a hole in the card. In the Lefier robot, a design made on copper with insulating paint is transmitted by electricity to needles which lift the heddles

looming see MIRAGE

Loomis, Elias, 1811–89, American physicist and mathematician, b Willington, Conn, grad Yale, 1830. He taught at Western Reserve (1837–44), at New York Univ (1844–47, 1849–60), and at Yale (from 1860). He established an observatory at Western Reserve and evolved there the type of weather map later used by the U S Weather Bureau; he also made astronomical and magnetic observations for the government. He wrote several mathematical texts

Loomis, Mahlon, 1826–86, American inventor, b Oppenheim, N Y. He was a dentist by profession but spent much of his time pioneering in wireless communication. Using aerials borne by kites, he successfully transmitted signals (1866) between two mountains in Virginia. He was granted a patent on July 30, 1872. In 1873, by an act of Congress, the Loomis Aerial Telegraph Company was incorporated, but no appropriation was provided. Absence of financial support caused the project to fail.

loon, migratory aquatic bird of the colder parts of the Northern Hemisphere, found in fresh and salt water. Its weird call can be heard for great distances. Like the related grebes, loons are strong swimmers and adept divers. On land they use bill and wings to aid their awkward progress. Although they have difficulty in getting into the air, they are swift fliers. Then long, sharp, strong beaks are well adapted for catching the fish which form the bulk of their diet. The common North American loon, or great northern diver, is a black and white bird about 32 in. long.

Loos, Adolf (ä'dôlf lōs'), 1870–1933, Austrian architect. He built mainly residences in and around Vienna. His best-known work is the office building on Michaelerplatz (1910). Loos's emphasis on pure form and proper material and his polemics against ornament and decoration had a strong influence upon the development of the functional style. Two volumes of his essays were published as *Ins Leere gesprochen* [spoken into a void] (1921) and *Trotzdem* [nevertheless] (1931)

Loos (lōs), town (pop 3,170), Pas-de-Calais dept, N France, NW of Lens, in a coal-mining district. In the First World War, British forces recaptured (Oct, 1915) Loos from the Germans at the price of tremendous losses. Since 1937 the official name has been Loos-en-Gohelle

Lope de Rueda (lō'pā dā rwā'dhä), 1510?–1565, Spanish dramatist. In technique and management he was the most important precursor of the Golden Age. He was actor and manager as well as playwright and traveled with his troupe in a stagecoach, which he used as a stage. Rueda's outstanding value is his use of the language and manners of the rustic people. He created the dramatic genre known as *pasos*. Among these the one called *Paso de las Aceitunas* [the olives] is widely known. His witty comedies and farces include *Eufemia*, *Armelina*, *Medora*, and *Los engañados* [the cheaters]

Lope de Vega Carpio, Félix (fā'lēks lō'pā dā vä'gä kär'pyō), 1562–1635, Spanish dramatic poet, one of the great figures of Spanish literature. Orphaned young, he was not highly educated. His early life was a series of escapades. In 1587 he was banished from Madrid for libel. After eloping with Isabel de Urbina (who appears as Belisa in many of his poems), he joined (1588) the Spanish Armada. His epic *La hermosura de Angélica* [the beauty of Angelica] (1602), modeled on Ariosto, was completed in the intervals of fighting the English. Two epics which deal with English history are *La dragontea* (1598), against Sir Francis Drake, and *La corona trágica* (1627), defending Mary Queen of Scots. His plays, mostly in verse, were turned out with incredible speed. They were distinguished by wit, by brilliant dramatic effects, and sometimes by fine portrayal of character. Lope's disregard of the neoclassical unities had an important effect on European drama. Among his best-known plays, which range from farce to tragedy, are *El mejor alcalde el rey* [the greatest alcalde, the king], *La estrella de Sevilla* [the star of Seville], *El rey don Pedro en Madrid* [King Peter in Madrid], *La tragedia del rey don Sebastián y bautismo del príncipe de Marruecos* [the tragedy of King Sebastian and the baptism of the prince of Morocco] (written 1593), and *El vellocino de oro* [the golden fleece] (written 1622). Lope was successful as a lyric poet and as a writer of tales. He took holy orders late in life but continued to write for the stage. See Rudolph Schevill, *The Dramatic Art of Lope de Vega* (1918).

López, Carlos Antonio (kär'lōs änt'nyō lō'pās), 1790?–1862, president of Paraguay (1844–62). Emerging into prominence immediately after the death of J. G. Rodrigues FRANCIA, he soon became president. With arbitrary rule, he improved the army and navy and attempted to better economic conditions by creating government monopolies. He tried to establish contact with the outside world and so do away with Francia's isolationism, but his foreign policy caused friction with other nations.

López, Francisco Solano (frän'sēs'kō sō'lä'nō), 1826?–1870, president of Paraguay (1862–70). He was considered to be the son of Carlos Antonio López, who made him a brigadier general at 18. Appointed head of a diplomatic mission, he went to Europe in 1853, where he placed orders for munitions and arranged for the building of the first railroad in Paraguay. Upon his return he was made minister of war, and in 1862, on the death of his father, he assumed power as a dictator. Following in the steps of his father and Francia, he ruled with an iron hand. Ambitious and desirous of increasing the prestige of Paraguay, López got into difficulties with Brazil concerning Uraguayan affairs. In 1865 he found himself at war with Brazil, Argentina, and Uruguay (See TRIPLE ALLIANCE, WAR OF THE). He was finally defeated and killed (1870) at Aquidabán, after heroic resistance. He demanded blind allegiance from his officers, and, obsessed with a persecution complex, even had members of his own family killed on suspicion of conspiracy. An incident with the United States arose over his imprisonment of Porter Cornelius Bliss. Many of the cruelties which marked his rule were attributed to Madame Eliza Lynch, his Irish mistress, whom he had met in Paris. Solano López is, however, regarded by some in Hispanic America today as the champion of the rights of small nations against the aggression of more powerful neighbors

López, Narciso (närsē'sō), 1798?–1851, Spanish American soldier, b Venezuela. After serving in the Spanish army in the Venezuelan revolution against Spain, he left his native country for Cuba (1823). He went to Spain, fought against the Carlists, and became a field marshal and a senator in the Cortes. He obtained an appointment as governor of Trinidad in Cuba, but lost it when the supreme command in Cuba was changed in 1843. A liberal, he began to plan a revolution against Spain, and in 1848 he was forced to flee to the United States when his scheme was discovered. He obtained American aid and planned a filibustering expedition to Cuba (1848). This did not get well under way and, two years later, a new expedition against Cárdenas was scarcely more successful. In 1851, a third expedition did gain a foothold on the island, but ended in complete defeat—López himself was captured and executed. See R G Caldwell, *The Lopez Expeditions to Cuba, 1848–51* (1915)

López, Vicente Fidel (vē-sän'tā fēdhäl'), 1815?–1903, Argentine historian, journalist, novelist, and politician, son of Vicente López y Planes. A member of the liberal May conspiracy against the dictator Juan Manuel de ROSAS, he had to seek refuge in Chile (1840–52), where he founded a critical review and aided the educational schemes of Sarmiento. He returned to Argentina to aid Urquiza and was again an expatriate after Urquiza's fall from power. Later he became rector of the Univ of Buenos Aires. With Juan María Gutiérrez he edited (1871–77) the *Revista del Río de la Plata*. Of his historical works the most important is *Historia de la República argentina* (10 vols, 1883–93). He also wrote novels, essays, and political tracts

López de Ayala, Pedro (pā'dhrō lō'pāth dā ä'yä'lä), 1332–1407, Spanish statesman and writer. He sided with Henry II of Castile (Henry of Trastamara) against Peter I (Peter the Cruel) and held high offices under Henry II, John I, and Henry III. He is best known for his chronicle covering the reigns of these four Castilian kings, which is considered very reliable. He also wrote poetry

López de Legaspi, Miguel (mēgĕl' lō'pāth dā lāgä'spē), d 1572, Spanish navigator, conqueror of the Philippines. In 1545 he went to Mexico and was later chosen by the viceroy, the elder Luis de Velasco, to head an expedition for the conquest of the Philippines. He sailed in 1564, occupied the Ladrone Islands (which he named Marianas), and in 1564 reached the Philippines. With tact and ability he took possession of the islands (Cebu in 1565, Luzon in 1570) almost without fighting. He was helped by the Austin friars who accompanied him in organizing the government. He preferred pacific methods to those of conquest, and his short rule was beneficial. In 1571 he founded modern Manila

López de Mendoza, Iñigo, marqués de Santillana: see SANTILLANA

López de Santa Anna, Antonio: see SANTA ANNA, ANTONIO LÓPEZ DE

López y Fuentes, Gregorio (grĭgō'rēō lō'pās ē fwān'tās), 1895–, Mexican novelist, poet, and journalist. A native of Veracruz, he became interested in the condition of the Indians there and spent time in teaching them. Some of his verses and stories were published when he was 20 and he attained some note as editor of the newspaper *Universal gráfico*, but his fame rests upon his novels, which began with *Campamento* (1931) and reached a peak with *El indio* (1935; Eng. tr., 1937). All of them deal in a photographically realistic style with the Mexican revolution that began in 1910 and with the heritage of centuries of wrong done to the Indians.

López y Planes, Vicente (vēsän'tā lō'pās ē plä'nās), 1784–1856, Argentine statesman and poet. He served (1806–7) under Jacques de Liniers against the British invaders. After the resignation of Rivadavia, he became (1827) provisional president of the United Provs of La Plata. He was a minister under Dorrego and a prominent jurist under Juan Manuel de Rosas. After the fall of Rosas, López y Planes was made (1852) governor of Buenos Aires prov. Outstanding among his poems are two—*Triunfo argentino*, a ballad celebrating the successful Argentine defense against the British, and a war song commemorating the triumph of the revolution, which was adopted as the national hymn in 1813. He was the father of Vicente Fidel López

Lop Nor see LOB NOR

loquat (lō'kwŏt), small ornamental evergreen tree (*Eriobotrya japonica*) and its fruit. It belongs to the rose family and is probably indigenous to China. It has been grown from antiquity in Japan and N India and is cultivated also in Indo-China, the Mediterranean region, and from the S United States through N South America. A subtropical climate seems to be most favorable to its growth. Usually the tree reaches a height of 20 or 25 ft (occasionally 30 ft), its trunk branches 2 or 3 ft from the ground. The thick, shiny, dark green leaves are from 6 to 10 in. long and have slightly toothed margins. Its small, fragrant, white flowers are borne in panicles ranging in length from 4 to 8 in., and the fruits ripen in loose clusters. Varying from 1 to 3 in. long, the fruit is oval or pear-shaped, the skin is thin but tough, and the slightly tart fruit varies from pale yellow to orange. It is commonly eaten fresh but is used also for making jam, jelly, pie, and sauces. The usual methods of propagation are by budding and grafting, although some trees are grown from seed. Sometimes the loquat is called the Japanese medlar, probably because it somewhat resembles the medlar of Europe and Asia

Lorain (lôrān') **1** City (pop 44,125), N Ohio, on Lake Erie at the mouth of the Black River and W of Cleveland, settled 1807 as a trading post, inc 1836 as Charleston, rechartered 1876 as Lorain. It is an important ore-shipping port, and its numerous industries include shipbuilding, blast furnaces, and the making of machinery, heating equipment, and chemicals. There are commercial fisheries, sandstone quarries, and railroad shops. Lake View Park and a U S coast guard station are here. **2** Borough (pop 1,373), SW Pa., at the southeastern edge of Johnstown. Steel is made here

Loran. see RADAR

Loras College (lō'rus), at Dubuque, Iowa, Catholic, mainly for men, opened as a pioneer theological seminary 1839, chartered as a college 1894. Before 1939 it had various names, including St Joseph College and Columbia College. A music school is attached

Lorca, Federico García see GARCÍA LORCA

Lorca (lôr'ka) city (pop 24,491), Murcia prov, SE Spain, in Murcia. In the midst of a fertile, irrigated region, the city has a Moorish castle, a 17th-century collegiate church, and several fine private homes

Lord Howe Island, volcanic island (5 sq mi, 1941 pop 150), S Pacific, 435 mi NE of Sydney. A dependency of New South Wales, Australia, it is a resort for continental Australians. It was discovered in 1788 by the British

Lord of Misrule, mock official appointed to preside over the festivities of Yuletide (particularly Twelfth Night) in England during the Middle Ages. A similar mock ruler in Scotland was the Abbot of Unreason

Lords, House of see PARLIAMENT

Lordsburg, village (pop 3,101), co seat of Hidalgo co, SW N Mex, SW of Silver City near the Ariz. line. It is the trade center of a region yielding copper, gold, silver, and lead. Cattle and sheep raising and truck farming are carried on in the area.

Lord's Prayer or **Our Father,** the principal Christian prayer, beginning, "Our Father, which art in heaven." Mat 6:9–13, Luke 11:2–4. Several English versions are current, thus, many say "Forgive us our debts as we forgive our debtors" (as in the Wyclif and Douay versions) rather than "Forgive us our trespasses," etc. Roman Catholics have never added the doxology ("For thine is the kingdom," etc.), which was adopted by most Protestants from a version of Matthew. The prayer is called, in Latin, Pater or Pater Noster

Lord's Supper, Protestant sacrament of the EUCHARIST. In the REFORMATION the leaders generally rejected the traditional belief in the sacrament as a sacrifice and as an invisible miracle (transubstantiation) but retained the belief in it as mystically uniting the believers with Christ and with one another. The Lutherans held that there is a change by which the body and blood of Christ join with the bread and wine, this principle (consubstantiation) entered into the controversy over the sacrament with ZWINGLI, who held that communion was only symbolic. Calvinists imputed a spiritual meaning only to the words of institution, and this view has practically prevailed among Protestants. The Church of England affirmed the Real Presence but

denied transubstantiation, since the Oxford Movement, Anglicans tend to accept either transubstantiation or the Calvinist interpretation The Lutheran and Anglican communion services follow the Roman MASS in outline, but the service books have eliminated references to a sacrifice and have cut down the service Other forms for communion are recast and resemble other services with the addition of a recital of the institution and distribution of communion Anglicans hold to the Western tradition in using unleavened bread Most Protestant churches use raised bread, many use unfermented grape juice instead of wine Communion in one kind is unknown among Protestants, this was a crucial point with the Hussites Lutherans and Anglicans (especially since the Oxford Movement) celebrate communion much more frequently than most other Protestant churches, which often restrict it to a few times a year The Quakers are one of the few Protestant groups to reject this sacrament entirely

Lorelei (lō'rulī, Ger lō'rulī), cliff, 433 ft high, on the right bank of the Rhine, W Germany, about midway between Coblenz and Bingen The Rhine here forms a dangerous narrows, and in German legend a fairy similar to the Greek Sirens lived on the rock and by her singing lured the sailors to their death Heinrich Heine's poem, *Die Lorelei*, is world famous The rock has sometimes been identified as the place where the hoard of the Nibelungs is hidden under the Rhine

Lorentz, Hendrik Antoon (hĕn'druk än'tōn lō'rĕnts), 1853–1928, Dutch physicist, a pioneer in formulating the relations between electricity, magnetism, and light He was one of the first to postulate the concept of electrons On this he based his explanation of the Zeeman effect (a change in spectrum lines in a magnetic field), for which he shared with Pieter Zeeman the 1902 Nobel Prize in Physics He extended a hypothesis of G F Fitzgerald, an Irish physicist, that the length of a body contracts as its speed increases, and he formulated the Lorentz transformation by which space and time coordinates of one moving system can be correlated with the known space and time coordinates of any other system This work influenced, and was confirmed by, Einstein's special theory of relativity Lorentz also discovered (1880), simultaneously with L V Lorenz of the Univ of Copenhagen, the relations (known as Lorentz-Lorenz relations) between the refraction of light and the density of a translucent body He was professor (1878–1912) at the Univ of Leiden and director from 1912 of the Teyler laboratory, Haarlem His works in English include *The Theory of Electrons* (1909) and *Problems of Modern Physics* (1927)

Lorentz, Pare (pâr' lōrĕnts'), 1905–, American author and moving-picture director, b Clarksburg, W Va In 1924 he became a moving-picture critic in New York As consultant to the government on moving pictures after 1935 and director (1938–40) of the U S Film Service he produced such notable documentary films as *The Plow That Broke the Plains* (1936), *The River* (1937), which appeared in book form in 1938, and *The Fight for Life* (1940) He wrote *The Roosevelt Year* (1934) and, with Morris Ernst, *Censored the Private Life of the Movies* (1930)

Lorenz, Adolf (ä'dôlf lō'rĕnts), 1854–1946, Austrian orthopedic surgeon He introduced manipulative methods of treatment (bloodless surgery) and was noted especially for his treatment of clubfoot and of congenital dislocation of the hip joint See his autobiography (1936)

Lorenzetti (lōrĕntsĕt'tē), two Sienese painters, brothers, the first to introduce into Sienese painting the naturalism of Giotto **Pietro Lorenzetti** (pyā'trō), c 1280–1348, called Pietro Laurati by Vasari, was probably a pupil of Duccio di Buoninsegna and was influenced by Simone Martini and Giovanni Pisano His earliest known work (1320), and one of the most beautiful, is an altarpiece in the Pieve di Santa Maria at Arezzo He painted a *Madonna* (destroyed) for the cathedral at Siena and, with his brother, a fresco, *Marriage of the Virgin* (also destroyed), for the façade of the hospital of Santa Maria della Scala, Siena Other works are the *Birth of the Virgin* (Opera del Duomo, Siena) and a *Madonna*, painted for San Francesco at Pistoia (Uffizi). Attributed to Pietro are the frescoes *Virgin and Child with Saints Francis and John* and the *Passion* (both Lower Church, Assisi) and the *Crucifixion* (San Francesco, Siena) *St Catherine*, part of an altarpiece, is in the Metropolitan Museum. The National Gallery of Art, Washington, D.C, has four works **Ambrogio Lorenzetti** (ämbrō'jō), d 1348?; was also influenced by Pisano His authenticated paintings, though few, rank him as one of the most important figures of the Sienese school Of the earliest, *St Louis and the Franciscan Martyrs*, painted for San Francesco, Siena, only fragments survive His decoration of the Sala della Pace in the Palazzo Pubblico of Siena consisted of six allegories illustrating good government and tyranny. Other known works by Ambrogio are parts of an altarpiece, *Life of St Nicholas*, painted for San Procolo, Florence (Florence Acad), *Presentation in the Temple* (Uffizi), and *Annunciation* (Siena Academy) *St. Agnes* (Fogg Mus. of Art, Cambridge) is attributed to this artist A *Madonna and Child* is in the Museum of Fine Arts, Boston No records of the brothers appear after 1348, and they are believed to have perished in the plague.

Lorenzini, Carlo. see COLLODI, CARLO

Lorenzo, Fiorenzo di: see FIORENZO DI LORENZO.

Lorenzo de' Medici: see MEDICI, LORENZO DE'

Lorenzo di Credi (lōrän'tsō dē krā'dē), 1459–1537, Italian painter and sculptor of the Florentine school; pupil of his father, Andrea di Credi, a goldsmith He assisted Andrea del Verrocchio, Perugino, and Leonardo da Vinci, being greatly influenced by the last, whose works, as well as those of Verrocchio, he copied accurately His best works are the altarpiece in the cathedral at Pistoia, *The Madonna and Child with Saints*, considered his masterpiece, *The Nativity* (Florence Acad), the *Annunciation* (Uffizi), *Madonna and Child* (National Gall, London), *Madonna Adoring the Child* (Metropolitan Mus), and *Boy's Head* (Mus of Fine Arts, Boston)

Lorenzo di Pietro (lōrän'tsō dē pyā'trō), c 1412–1480, Sienese painter, sculptor, and goldsmith, called Il Vecchietta He painted a group of frescoes and a relic press in the Hospital at Siena, four ceilings in the baptistry of San Giovanni at Siena, an altarpiece, *The Assumption of the Virgin*, his masterpiece (cathedral, Pienza), a triptych, *Madonna with Saints* (Uffizi); *St Catherine* and the *Virgin of Mercy*, fragments of frescoes (Palazzo Pubblico, Siena), and a *Madonna* (Siena) Vecchietta was one of the most important painters of the later Sienese school He also executed many sculptures, the most important being *The Risen Christ*, for the high altar of the cathedral at Siena

Lorenzo Monaco (mô'näkō), c 1370–1425?, Italian painter, whose real name was Piero di Giovanni He was a Camaldolite monk, and most of his life was spent in the monastery of Santa Maria degli Angeli in Florence In painting he was a follower of Agnolo Gaddi and the Sienese school and combined stately, decorative composition and flowing line with deep religious feeling and the traditions of Giotto His only signed work, *Coronation of the Virgin*, a triptych (painted 1413), is in the Uffizi Other works are an altarpiece, *Annunciation*, and frescoes from the *Life of the Virgin* (Bartolini Chapel, Santa Trinità, Florence), a smaller *Coronation of the Virgin* (National Gall, London), *Adoration of the Magi* (Uffizi), a *Madonna and Child* (Metropolitan Mus), and a *Madonna and Child* (National Gall of Art, Washington, D C) See study by Osvald Sirén (1905)

Loreto (lurĕ'tō, Ital lōrā'tō), small town, central Italy, 13 mi SE of Ancona It has a celebrated shrine According to tradition, the Holy House of the Virgin in Nazareth was brought here through the air by angels at the end of the 13th cent Belief in this miracle is not required in the Roman Catholic Church Around the Holy House, a small brick building, a church was begun in 1468 by Pope Paul II, Bramante contributed to its construction There are fine bronze doors, and there are frescoes by Michelozzo da Forlì and Luca Signorelli The church was damaged by German air raids in 1944 Our Lady of Loreto is a patron of aviators

Loretteville (lōrĕt'vĭl), town (pop 2,564), S Que, WNW of Quebec and on the Nelson river

Loretto Heights College see DENVER, COLO.

Loria, Isaac ben Solomon see LURIA

Loria, Roger of see ROGER OF LORIA

Lorient (lōryä'), town (pop 10,704, 1936 pop 40,753), Morbihan dept, NW France, a port and naval station on the Atlantic Established (17th cent) as L'Orient to serve as a shipbuilding port of the French East India Company, it was later fortified, was developed as a naval base by Napoleon I, and became the chief naval yard of France In the Second World War the Germans made it their chief submarine base on the Atlantic, repeated Allied bombings, though they did not greatly damage the submarine pens, virtually destroyed the town The German garrison held out against its American besiegers until the end of the war in Europe

L'Orignal (lôrĭnyäl'), town (pop 1,118), SE Ont, on the Ottawa river and ENE of Ottawa, founded 1797. It is a lumbering and dairying center and a resort

Lorimer, George Horace (lô'rĭmûr), 1867–1937, American editor, b Louisville, Ky He became editor in chief of the *Saturday Evening Post* in 1899, and until 1936 his guidance was responsible for its growth and success He was president (1932–34) of the Curtis Publishing Company *Letters from a Self-made Man to His Son* (1902) was reprinted from the *Post* See John Tebbel, *George Horace Lorimer and the Saturday Evening Post* (1948)

Loring, William Wing, 1818–86, American soldier, b Wilmington, N C He served against the Seminole, in the Mexican War, and in various commands and campaigns on the frontier. A Confederate major general in the Civil War, Loring fought principally in the West (1863–65), he led a division in the Atlanta campaign and in Hood's Tennessee campaign From 1869 to 1879 Loring was in Egypt, where he held high rank in the army of the khedive. He wrote *A Confederate Soldier in Egypt* (1883).

Loris, town (pop 1,238), E S C, near the N C line E of Florence It is a farm trade center and market point for strawberries and tobacco

Loris-Melikov, Mikhail Tarielovich (mĕkhŭyĕl' tŭryĕl'ŭvĭch lô'rĭs-mĕ'lyĭkuf), 1825–88, Russian general and statesman, of Armenian descent. He was created a count for his services in the Russo-Turkish War of 1877–78 and in 1880 became minister of the interior under Alexander II He promoted liberal reforms and drafted a representative constitution which Alexander II signed the day he was assassinated (1884) The new tsar, Alexander III, voided the reform and dismissed its author Loris-Melikov in his youth is charmingly portrayed in Tolstoy's *Hadji Murad*

Lorme, Marion de. see DELORME, MARION

Lorne, Firth of (lôrn), bay, Argyllshire, Scotland

Lörrach (lûr'ăkh), town (pop 19,294), S Baden, SW Germany, at the foot of the Black Forest and near the Swiss border at Basel It is a rail junction and has textile, machinery, and chocolate manufactures

Lorrain, Claude see CLAUDE LORRAIN

Lorraine (lurān', lō–, Fr lôrĕn'), Ger. *Lothringen* (lō'trĭngun), region and former province, E France, bordering in the north on Belgium, Luxembourg, and the Saar Territory, in the east on Alsace, and in the west on Champagne It is now divided into four departments, Moselle, Meurthe-et-Moselle, Meuse, and Vosges In Moselle dept, of which METZ is the capital, German is widely spoken along with French The rest of Lorraine is French-speaking NANCY is its economic and intellectual center Except for the VOSGES mts in the southeast and the ridges paralleling the Moselle and Meuse rivers, Lorraine is a slightly rolling plateau, with pastures and some agricultural districts Hops are grown (Lorraine has large breweries) and there are numerous vineyards In the east salt is mined. The principal wealth of Lorraine lies in its iron fields, concentrated along the Belgian and Luxembourg borders in the BRIEY, Longwy, and Thionville basin and near Nancy Despite the low grade of the ore, these fields, as yet not fully exploited, constitute the richest deposit of iron in Europe outside Russia and Sweden The major obstacle to their full exploitation is the necessity of importing coal and coke from the RUHR basin in Germany or from Belgium and N France Combined, the Lorraine and Ruhr areas would form a formidable industrial concentration Lorraine, as its name indicates, was before the 10th cent part of the kingdom of LOTHARINGIA, it became a duchy under the Holy Roman Empire Several fiefs emerged in the 13th cent which escaped the control of the dukes Chief of these were the county, later duchy, of Bar (see BAR-LE-DUC) and the three bishoprics, Metz, TOUL, and VERDUN Lorraine and Bar were reunited when Lorraine passed, by marriage, to RENÉ of Anjou, duke of Bar, the three bishoprics were annexed to France in 1552 René II of Lorraine helped (1477) to defeat, at Nancy, CHARLES THE BOLD of Burgundy, who had seized most of the duchy In the 16th cent a cadet branch of the house of Lorraine, the GUISE family, gained tremendous influence in France, while Lorraine itself, under Duke Charles II (1559–1608), knew a period of relative order and prosperity amidst a Europe torn by religious and imperialistic strife Lorraine was occupied by France in the Thirty Years War. Duke CHARLES IV spent most of his life trying to recover his lands and his successor, CHARLES V, though he helped to recover Hungary from Turkey, never managed to recover Lorraine At last, in the Treaty of Ryswick (1697), Leopold I was recognized in possession of the duchy Under his rule Lorraine flourished once more His heir, Francis, married Maria Theresa of Austria, became emperor as FRANCIS I, and founded the house of Hapsburg-Lorraine By an arrangement (1735) with Louis XV, he exchanged the duchies of Lorraine and Bar for Tuscany, Lorraine and Bar were given to Louis XV's father-in-law, STANISLAUS I, ex-king of Poland, upon whose death they were to pass to France Stanislaus died in 1766 As a French province, Lorraine continued to enjoy certain exemptions and privileges In 1871, as a result of the Franco-Prussian War, the present department of Moselle was ceded to Germany and united with Alsace as the imperial land (*Reichsland*) of Alsace-Lorraine. It reverted to France in 1918 and was again annexed to Germany in 1940–44. (The peculiar problems of Alsace-Lorraine are discerned in the article ALSACE) During both world wars, Lorraine suffered heavily. In the first, some of the most destructive fighting occurred at Verdun, in the second, most French-speaking citizens were expelled by the Germans, and heavy fighting occurred in 1944 at Metz, in the area E of Nancy, and in the Vosges.

Lorraine, Lower and Upper: see LOTHARINGIA.

Lorris, Guillaume de: see GUILLAUME DE LORRIS

Lo-ruhamah (lō"rōōhä'mù) [Heb, =uncompassionated], daughter of Hosea. Hosea 1 6,8.

Los Alamos (lŏs ăl'ŭmōs), community (1947 pop c 7,000; alt 7,500 ft), N N Mex., on the west side of the Rio Grande valley and NW of Santa Fe. It is on a long mesa extending down from the Jemez Mts. An atomic-bomb laboratory was built near by, the first bomb, made here, was tested (July, 1945) on ALAMOGORDO air base

Los Angeles (lŏs ăng'gŭlŭs, ăn'jŭlŭs, -lēz), city (1940 pop. 1,504,277, 1946 special census pop. 1,805,687), co seat of Los Angeles co, S Calif, near the Pacific coast Beautifully situated, with numerous resorts near by and a fine harbor at San Pedro Bay, it is a tourist resort, an important port of entry, a railroad and aviation center, the moving-picture center of the United States, a radio center, and a trade and commercial center for an agricultural area producing citrus fruits, vegetables, grains, nuts, sugar beets, and dairy products It is also a manufacturing city with a wide variety of industries, which include iron, steel, airplanes, oil (large petroleum deposits are near by), and canned goods The site of the city was visited by Gaspar de Portolá in 1769, and in 1781 El Pueblo de Nuestra Señora la Reina de los Angeles de Porciuncula [the town of Our Lady Queen of Angels of Porziuncola (see ASSISI)] was founded From time to time it was the capital of Alta California and was a center of cattle ranching in Spanish and Mexican days In 1846 it was taken by U S military forces The city was incorporated in 1850 The arrival of the railroads (Southern Pacific in 1876, Santa Fe in 1885) and the discovery of oil in the early 1890's stimulated expansion, as did the development of the moving-picture industry early in the 20th cent Other industries, aircraft in particular, have contributed to growth From 1900 to 1940 the population of Los Angeles increased about 1,535 percent In 1940 it ranked first in area and fifth in population in the United States The metropolitan district covers an area of 451 sq mi and the population was estimated in 1947 as 3,917,000 Los Angeles has absorbed numerous suburbs and enclosed many independent communities HOLLYWOOD is part of the incorporated city, as are Encino, Tujunga, Universal City, Van Nuys, Venice, and many other communities Incorporated cities in the metropolitan area with populations above 20,000 are Alhambra, Beverly Hills, Burbank, Glendale, Huntington Park, Inglewood, Long Beach, Pasadena, Pomona, Santa Ana, Santa Monica, and South Gate Los Angeles has botanic gardens, art and history museums, many parks, a magnificent stadium, and a symphony orchestra The city was host to the Olympic Games in 1932 The Univ of Southern California (see SOUTHERN CALIFORNIA, UNIVERSITY OF), the Univ of California at Los Angeles (see CALIFORNIA, UNIVERSITY OF), Occidental College (coeducational, 1887), LOYOLA UNIVERSITY OF LOS ANGELES, Chapman College, George Pepperdine College (coeducational, 1937), and other colleges and professional and technical schools are in Los Angeles Water is supplied to the city from the Colorado and Owens rivers and the Mono Basin, at distances of from 238 to c 400 mi Power from Hoover Dam was made available to Los Angeles in 1936 See Harry Carr, *Los Angeles, City of Dreams* (1935), Federal Writers' Project, *Los Angeles* (1941),

Los Banos (lŏs ba'nōs), city (pop 2,214), central Calif, NW of Fresno, inc 1907 It processes the dairy products of the area

Los Gatos (lŏs gä'tōs, gă'tŭs), town (1940 pop 3,597, 1948 special census pop 4,895), W Calif, SE of San Francisco, inc 1887 It is a health resort, and the area has fruit and poultry farms, oil wells, and quicksilver mines

Loshan or **Lo-shan** (lō'shan'), city (pop 33,038), Szechwan prov, China, on the Min river Near by are decorated grottoes, a colossal stone Buddha, and the sacred peak Omei There are silk mills Loshan was formerly called Kiating

Lossiemouth (lŏsēmouth', lō'sēmouth), burgh (pop 3,915), Morayshire, Scotland, on Moray Firth and N of Elgin It is a seaport and a resort J Ramsay MacDonald was born and lived here

Lossing, Benson John (lō'sĭng), 1813–91, American historian and wood engraver, b Dutchess co, N Y His reputation was made by his *Pictorial Field-Book of the Revolution* (2 vols, 1850–52), an immensely popular work which still has its uses Besides a competent narrative, it contains engravings of scenes and localities which Lossing traveled thousands of miles to sketch It was followed by similar works such as *Pictorial History of the Civil War* (3 vols, 1866–68) and *Our Country* (2 vols, 1876–78) He wrote a two-volume biography of Philip Schuyler and a life of Garfield.

Lost Battalion, popular name given to those American units of the 77th Division—six companies of the 1st and 2d Battalion of the 308th Infantry, one company of the 307th Infantry, and the 306th Machine Gun Battalion—which were cut off by German forces in the First World War after the launching of an American attack in the Argonne Forest in early Oct, 1918 The Lost Battalion, numbering c.600 men and under the command of Major Charles W. Whittlesey, put up a heroic five-day defense in the Binarville Ravine without food, water, or reserve ammunition After withstanding several heavy barrages and attacks, the Lost Battalion, which defiantly refused the German demand of surrender, was rescued (Oct 8, 1918) by American relief troops—but not until after some 400 men of the Lost Battalion had perished See Thomas M Johnson and Fletcher Pratt, *The Lost Battalion* (1938)

Lost Dauphin (dō'fĭn) Because the circumstances of the death of LOUIS XVII of France (who had been the dauphin), the little son of Louis XVI and Marie Antoinette, were not made public, rumors began almost immediately that the boy had not died but had been spirited away and was living incognito There were various stories of his escape, in varying tones of romanticism Early in the 19th cent a series of impostors began to appear Some actually laid claim to being Louis, others dropped only mysterious hints, and a few made no claims but had unexplained origins that stimulated the imagination of their romantic-minded acquaintances Thus, there were even rumors that made John James Audubon into the Lost Dauphin There were a number of claimants in the United States and a few in Europe Of these the most important in the United States was Eleazer WILLIAMS, a missionary among the Indians of the Old Northwest The most important in Europe was a young watchmaker, Karl Wilhelm Naundorff, who emerged from Germany to advance his claims and gather a number of followers Historians for the most part have disregarded the Lost Dauphin theory altogether Meade Minnigerode's *Son of Marie Antoinette* (1934) discusses the claims of Williams, H R Madol's *Shadow King* (1930) pleads Naundorff's cause

lost property see FINDER

lost tribes, 10 Jewish tribes which, according to the Bible, were transported to Assyria by Tiglath-pileser or Shalmaneser after the conquest of Israel Numerous conjectures have been advanced as to the fate of these tribes they have been identified with the people of Arabia, India, Ethiopia, and America (North, Central, South) and with other groups, including the Nestorians of Mesopotamia, the Afghans, the high-caste Hindus, and the holy Shinda class of Japan The Anglo-Israelite theory, still maintained by some, identifies the English people with the lost tribes, it was, in the 17th cent, a factor in helping the Jews to reenter England

Lot [Heb, =wrapping], son of Abraham's brother Haran Lot settled in Sodom and received a special warning of its destruction As he fled with his family, his wife was turned into a pillar of salt for looking back Gen 11–14, 19

Lot (lôt'), department (2,018 sq mi, pop 154,897), SW France It is in QUERCY and is drained by the Lot river Cahors is the capital

Lot, river, 300 mi long, S France, rising in the CÉVENNES mts and flowing W past Mende and Cahors through QUERCY to join the Garonne NW of Agen The limestone plateaus through which it winds are intersected by fertile valleys and vineyards

lot. The casting of lots was an ancient method of making a choice, settling a dispute, or determining a course of action In biblical times lots were cast to determine the will of God (it is believed that the URIM AND THUMMIM, mysterious sacred objects placed on the breastplate of the high priest, were originally used for casting lots and determining a course of action), to discover the guilty (1 Sam 14 41), to select officials (1 Sam 10 20, Acts 1 24), and in numerous other instances The lot, probably a stone, die, or other object, was cast upon the ground, the manner of its fall determining the question in doubt, in other cases, lots were cast into a receptacle and drawn from it It is possible that dice originated, not as a game, but as a device for casting lots

Lota (lō'tä), port (pop 31,087), S central Chile, S of Concepción Established in the second half of the 19th cent as a coal-mining center, Lota also has copper mines and smelters and manufactures ceramics The botanical park on a hill above the city is famous for its landscaping and sea views

Lotan (lō'tăn) [Heb, =covering], duke of Edom Gen 36 20,22,29

Lot-et-Garonne (lôt"-ā-gârôn'), department (2,079 sq mi, pop 265,449), SW France The Lot and Garonne rivers join W of AGEN, the capital

Lothair I (lōthâr'), 795–855, emperor (840–55), son and successor of Emperor Louis I Designated (817) as his father's colleague and as heir to the imperial title, he was crowned at Rome by the pope (823) and issued (824) a constitution, proclaiming his right to confirm papal elections—a claim Louis I had abandoned in 817 He twice (829, 833) revolted against his father, who favored Lothair's half brother Charles (Charles the Bald, later CHARLES II) at his elder sons' expense (see LOUIS I), in 839 Lothair was allotted almost the whole eastern half of the empire, the west (France) going to Charles After Louis's death Charles and LOUIS THE GERMAN made war on their brother Lothair, who tried to reunite the whole empire under his sole rule The battle of FONTENOY (841), though indecisive, checked Lothair. Renewing their alliance in 842 (see STRASBOURG, OATH OF) Charles and Louis the German in 843 forced Lothair to sign the fateful Treaty of Verdun (see VERDUN, TREATY OF) What remained of Lothair's territories was divided at his death among his sons, the larger shares falling to Emperor LOUIS II and to LOTHAIR, king of Lotharingia

Lothair II or **Lothair the Saxon**, 1075–1137, emperor (1133–37) and German king (1125–37), successor of Emperor Henry V His predecessor invested him with the duchy of SAXONY in 1106, but after 1112 Lothair in several rebellions successfully championed local independence against the royal authority He was elected with the support of the higher clergy, defeating his rival candidate, Frederick of HOHENSTAUFEN, who claimed the succession as Henry V's nephew Frederick and his brother Conrad (later Emperor CONRAD III) made war on Lothair, and Conrad was elected antiking However, Lothair and his son-in-law, HENRY THE PROUD of Bavaria, forced Frederick to submit in 1134 and Conrad to submit in 1135 In 1131 Lothair promised his support to Pope INNOCENT II, whose election was disputed, and in 1132 he entered Italy, being crowned emperor at Rome (1133) He returned in 1136 and campaigned successfully against the Normans, but died on the journey home Lothair adhered loyally to the Concordat of WORMS, and actively supported the extension of missionary activity among the heathen. He forced various heathen princes to pay tribute, and received the homage of BOLESLAUS III of Poland for Pomerania and Rügen At his death his rival, Conrad III, was elected king

Lothair, 941–86, French king (954–86), son and successor of Louis IV In 978 he tried unsuccessfully to occupy Lorraine, and Emperor Otto II retaliated by invading France Although Lothair renounced all claims to Lorraine at a meeting with Otto (980), he tried to regain it after Otto's death (983) He died during the campaign and was succeeded by Louis V

Lothair, d 869, king of Lotharingia (855–69), second son of Emperor Lothair I He inherited the region bounded by the Alps, Rhine, Scheldt, and North Sea (including modern Lorraine) His attempts to secure a divorce were opposed by Bishop HINCMAR and by Pope NICHOLAS I, who forced him to reinstate his wife His lands were divided (870) between his uncles, Charles the Bald (later Emperor CHARLES II) and LOUIS THE GERMAN

Lotharingia (lŏthurĭn'jĭə), name given to the northern portion assigned (843) to Emperor LOTHAIR I in the first division of the Carolingian empire (see VERDUN, TREATY OF) It comprised, roughly, the present Netherlands, Belgium, Luxembourg, Lorraine, Alsace, and NW Germany, including Aachen and Cologne Lothair also received Italy and Burgundy (including Provence and W Switzerland) His son, King LOTHAIR (for whom the region is named), inherited Lotharingia as a kingdom, while Italy and Burgundy went their separate ways He died in 869, and in 870 his lands were fairly evenly divided between the East Frankish and West Frankish kingdoms (i e, Germany and France) in the Treaty of MERSEN After a period of confusion and warfare, Emperor Otto I, whose predecessor, Henry I, had gained control over all Lotharingia, gave it to his brother St Bruno, archbishop of Cologne Bruno's difficulties with the Lotharingian nobles caused him to divide (959) the country into the duchies of Lower Lorraine, in the north, and Upper Lorraine, in the south (the name Lorraine being merely the modern form of Lotharingia) The ducal titles in both duchies subsequently were awarded in confusing succession to various noble houses, but its significance became nil as the great feudal lords gained in power In Upper Lorraine, the ducal title continued until 1766 in what came to be known simply as the duchy of LORRAINE, this, however, was greatly restricted in extent and no longer included Alsace, Luxembourg, the bishoprics of Metz, Toul, and Verdun, and the archbishopric of Trier, all of which originally had been parts of Upper Lorraine In Lower Lorraine, the title soon lapsed completely, chief among the fiefs that emerged here were the duchies of Brabant, Bouillon, Limburg, Julich, Cleves, and Berg, the county of Hainaut, and the bishopric of Liége Cologne and Aachen became free imperial cities Both Upper Lorraine and Lower Lorraine thus ceased in the 11th cent to have a unified history From the Treaty of Verdun until the present time the territories comprised in Lotharingia, particularly Upper Lorraine, have been chronically contested between Germany and France and have been an almost continual battleground

Lothian, Philip Henry Kerr, 11th **marquess of** (kär', lō'dhēun), 1882–1940, British statesman As Philip Kerr he assisted Lord Milner in creating the Union of South Africa after the Boer War He returned to England and helped to found and edited (1910–16) the liberal scholarly journal, the *Round Table* As Lloyd George's chief secretary he was active at the Paris Peace Conference (1919) and became an admirer of Woodrow Wilson. He inherited his titles in 1930 and served during the 30s on the

India franchise committee. After conversations with Hitler in 1935, Lothian advocated appeasement of Germany and stood behind Neville Chamberlain and Lord Halifax, but in 1939 he came round to a vigorous advocacy of resistance to Hitler Secretary of the Rhodes Trust after 1925, he had traveled widely in the United States, he was, too, a proponent of closer Anglo-American cooperation, and his appointment as ambassador to Washington in April, 1939, was very popular.

Lothians, the (lŏ'dhēuns), division of Scotland, including East Lothian, Midlothian, and West Lothian The ancient district of Lothian extended from the Tweed to the Firth of Forth and was from 547 until 1018 a part of Northumbria

Lothrop, Amy, see WARNER, SUSAN BOGERT

Loti, Pierre (pyĕr' lōtē'), pseud of **Julien Viaud** (zhülyē' vyō'), 1850–1923, French novelist, an officer in the French navy His novels, which have been very popular, excel in accurate, exotic description and in the pessimistic tone of the romantics, Loti's style in its simple sobriety resembles that of the realists His many novels include *Pêcheur d'Islande* (1886, Eng tr, *An Iceland Fisherman*), a tale of Breton fishermen, and *Ramuntcho* (1897, Eng tr, 1897), a story of French Basque peasant life, of his many travel books, *Vers Ispahan* [toward Isfahan] (1904) is highly esteemed See A L Guérard, *Five Masters of French Romance* (1916)

Lotophagi: see LOTUS-EATERS.

Lötschberg Railway (lŭch'bĕrk), Swiss electrical railroad crossing the Bernese Alps from Thun to Brig It passes through the **Lötschberg Tunnel** (9 mi long, alt 4,078 ft) under Lötschen Pass and emerges in the Lötschen Valley

Lott, city (pop. 1,021), central Texas, S of Waco and near the Brazos, in a farm area, inc 1896

lottery, scheme for distributing prizes by lot or other method of chance selection to persons who have paid for the opportunity to win The term is not applicable when lots are drawn without payment by the interested parties to determine some matter, e g, the distribution of property among heirs. The lottery is distinguished as a form of gambling by absence of any element of skill or play Under common law in England and the United States lotteries were lawful They paid for many public buildings and founded and supported educational, charitable, and religious enterprises Private lotteries, with their grave likelihood of fraud, were first generally prohibited in the early 19th cent Most publicly sponsored lotteries were discontinued not long afterwards With the adoption in 1890 of a Federal statute prohibiting the transportation of lottery tickets or prizes by mail or in interstate commerce, the last American state lottery—that of Louisiana—came to an end Lotteries are still lawful in certain countries (e g, Ireland and Cuba), and tickets are avidly purchased abroad. It has been argued by some that the supposedly irresistible tendency to gamble ought to be exploited as a regular source of municipal and state revenue by reinstituting public lotteries.

Lotto, Lorenzo (lōrān'tsō lŏt'tō), c 1480–1556, Venetian painter. His work reflects the influence of several great contemporaries from Bellini to Titian, but preserves throughout a fine sensibility and intimacy quite his own Notable among his earlier works are *St. Jerome* (Louvre), the fresco *Annunciation* (Church of Santo Domenico, Recanati, Italy), and *Madonna and Saints* (cathedral, Asolo) Of a later period are *Bridal Couple* (Prado), *Christ and the Adulteress* (Louvre), and portraits in the galleries of London, Milan, Rome, and Vienna After 1552 Lotto lived with the monks of the sanctuary at Loreto, where his *Presentation in the Temple* remains The Metropolitan Museum and the National Gallery of Art, Washington, D C, have portraits by Lotto

lotus (lō'tus), name given several different plants, most commonly certain water plants The true Egyptian lotus (either *Nymphaea coerulea*, blue, or *lotus*, white) is a WATER LILY and the national emblem of Egypt—sacred from remote times, the flower, in both natural and conventionalized design, is traditional to Egyptian art and architecture, as in the lotus CAPITAL The Indian lotus or sacred bean (*Nelumbo nucifera*) is a tall, stately aquatic plant, usually emerged, with large pink flowers, round leaves, and seed pods resembling the nozzle of a sprinkling can. The blossom is used symbolically in the religion and art of India, often incorporated with figures of gods This and the Egyptian lotus are frequently confused horticulturally. The American lotus or water chinquapin (*Nelumbo lutea*) is similar to the Indian lotus but has yellow flowers, the nut-flavored seeds, roasted or boiled, and the large tuberous roots were used as food by the American Indians. The fruit of the LOTUS-EATERS of classical literature, fabled to make the eater forget his past and live a life of happy indolence, has been variously identified, but usually as that of a species of jujube or of a nettle tree Botanically, *Lotus* is the name for a genus that includes the bird's-foot TREFOIL.

lotus-eaters or **lotophagi** (lōtŏf'ŭjī). They were a fabulous people who occupied the north coast of Africa and lived on the lotus, which brought forgetfulness and happy indolence. They appear in the *Odyssey* When Odysseus landed among them, some of his men ate the food. They forgot their friends and home and had to be dragged back to the ships "The Lotos-Eaters" of Tennyson has become an English classic.

Lotze, Rudolf Hermann (rōō'dôlf hĕr'mān lō'tsŭ), 1817–81, German philosopher and psychologist After studying medicine and philosophy at Leipsig, he lectured in both departments and was made professor in 1842 He succeeded Herbart as professor at Göttingen (1844–81) and in 1881 served as professor at Berlin Among his works, which included medical and biological discussions, were *Allgemeine Physiologie* (1851), *Medizinische Psychologie oder Physiologie der Seele* (1852), and *Mikrokosmus* (1856–64, Eng tr, 1885) The first parts of his projected, though never completed *System der Philosophie* appeared as *Logik* (1874, Eng tr, 1884) and *Metaphysik* (1879, Eng tr, 1888) Lotze sought to reconcile the mechanistic views of science with the principles of romantic idealism He started from the idea that all phenomena are determined by the interaction of atoms. Since these exist in extension, there must also be some deeper mode of existence through which they interact and exhibit their quality of extension. He saw the atoms as centers of force operating in a matrix of a more basic substance By analogy from the immediate knowledge of spiritual existence in the self, he argued that the centers of force are stages of development within the underlying substance of the world mind Lotze's psychology reflects his metaphysics, though his scientific background brought him to an empirical and physiological position which helped insure the advance of scientific psychology. His theory of space perception, an important contribution to philosophy, was that we perceive various local signs whose movements can be related spatially by the mind which, in turn, tends to interpret its contents in terms of space See E. E Thomas, *Lotze's Theory of Reality* (1921)

Loubet, Émile François (āmēl' frāswā' lōobā'), 1838–1929, president of the French republic (1899–1906). He began his political life as a follower of Gambetta, and as a deputy he advocated secular education After service (1887–88) as minister of public works, he became premier in 1892 The PANAMA CANAL scandal forced his resignation, but he continued as minister of the interior till 1893 He was made president of the senate in 1896 and in 1899 was chosen to succeed Félix Faure as president of the republic During his presidency, agitation over the DREYFUS AFFAIR reached its peak, Loubet and WALDECK-ROUSSEAU repressed it by granting a pardon to Dreyfus (1899) Equally important events were the laws against church education and orders (1905), which put an end to the CONCORDAT OF 1801, and the visit (1903) of Edward VII of England, which Loubet reciprocated This inaugurated the Franco-British Entente Cordiale (see TRIPLE ALLIANCE AND TRIPLE ENTENTE). Loubet retired in 1906 and was succeeded by Fallières.

Loudon, Gideon Ernst, Baron von, see LAUDON.

Loudon, John Claudius (lou'dŭn), 1783-1843, Scottish botanist and landscape gardener He compiled the *Encyclopaedia of Gardening* (1822) and the *Encyclopaedia of Agriculture* (1825). His other writings include *Encyclopaedia of Cottage, Farm, and Villa Architecture* (1833), and *Arboretum et Frutcetum Britannicum* (1838).

Loudon (lou'dun), farm trade town (pop 3,017), co seat of Loudon co, E Tenn, SW of Knoxville and on the Tennessee, settled 1828, inc. 1927 Near by, on the Little Tennessee near its junction with the Tennessee, is the site of Fort Loudoun (1756), which fell to the Cherokee in 1760 after a long siege

Loudonville (lou'dŭnvĭl), village (pop 2,334), N central Ohio, SE of Mansfield and on the Black Fork of the Mohican river, laid out 1814 Busses and hearses are made here. Near by is Mohican State Forest, with a flood-control dam

Loudoun, John Campbell, earl of: see CAMPBELL, JOHN, EARL OF LOUDOUN

loudspeaker or **speaker,** device for translating audiofrequency electric currents into audible sound. Its actuating element consists of a small coil, called a voice coil, free to move slightly back and forth along its axis, and a strong magnet so placed that its lines of force cut the turns of the voice coil. In operation, current is caused to flow in the voice coil by the driving amplifier, developing around the voice coil a magnetic field of its own, changing in direction and intensity at the same frequencies as those of the driving current In the same degree and at the same rate the two fields attract and repel each other, causing corresponding excursions of the voice coil. A diaphragm is attached to the voice coil and moves with it, setting up a molecular disturbance in the air which constitutes, ideally, an exact replica of the sound originally broadcast or recorded. The most familiar form of diaphragm is a stiff paper cone, although some units employ a light metal disk. When the metal disk is used, since the vibrating surface is small and its radiation pattern narrow, a horn is used to provide efficient coupling to the air and to spread the sound through a broad angle. In public address systems and theater installations, horns are employed also with cone speakers to improve loading or coupling to the air; here the purpose is to enhance low-frequency reproduction In home radios of good quality the cabinet is designed to act as a baffle to improve the reproduction of sounds of low frequency A speaker using air-stream modulation, patented in 1930 by Lee DE FOREST, was afterward modified It is able to deliver economically very large amounts of audio power The system includes a compressor which supplies air to a horn through a valve fixed at the horn's throat The valve assembly contains a solenoid (analogous to the conventional voice coil) which, instead of agitating the conventional diaphragm, opens and closes the valve at audio speeds, thus regulating (modulating) the stream of air entering the horn The action corresponds almost perfectly to that of the human larynx and articulation mechanism

Lough (lŏkh, lŏk) For names of Irish lakes and inlets beginning thus, see second part of name; e g, for Lough Erne, see ERNE, LOUGH See also LAKE.

Loughborough (lŭf'-), municipal borough (1931 pop 26,945, 1947 estimated pop 34,570), Leicestershire, England, on the Soar river It has hosiery, shoe, and lace factories and makes pharmaceuticals, boilers, and pottery Bell foundries were built in 1840, the great bell of St Paul's in London was cast here in 1881 Loughborough's war memorial, with a carillon of 47 bells, was built in 1923

Louis I or **Louis the Pious,** Fr *Louis le Débonnaire,* 778–840, emperor (814–40), son and successor of Charlemagne He was crowned king of Aquitaine in 781 and coemperor with his father in 813 In 817 he took his eldest son, LOTHAIR I, as his associate and coemperor and gave Aquitaine and Bavaria to his sons PEPIN I and LOUIS THE GERMAN Wishing to create a kingdom for Charles (later Emperor CHARLES II), his son by a second marriage, Louis made a new partition (829), to the detriment of Lothair Supported by Pepin, Lothair forced his father to revoke the grant and in 830 became virtually sole ruler of the empire However, Pepin and Louis the German, fearing Lothair's supremacy, deserted him soon and restored their father to power A new attempt by Louis to create a kingdom for Charles—this time at the expense of all three elder sons—led to another revolt (833) Louis met the rebels near Colmar on a field known since then as the Field of Lies (Ger *Lügenfeld*) because of the general defection of the imperial troops Louis, compelled to surrender to his sons, was formally deposed and Lothair became sole emperor Yet in 834 Louis the German and Pepin once more joined against Lothair and restored Louis Later he partitioned his empire between Lothair and Charles and died while attempting to uphold the partition against the Aquitanians and Louis the German The weak rule of Louis I not only resulted in internal disorder but also exposed the empire to recurring Norse raids, which Louis was unable to stop.

Louis II, d 875, emperor (855–75), king of Italy (844–75), son of Emperor Lothair I His father assigned Italy to him and Lotharingia to Louis's brother, LOTHAIR Louis supported Lothair's divorce against the opposition of Pope Nicholas I, who refused to yield even after the emperor occupied Rome (864) At Lothair's death (870) Louis claimed Lotharingia, but the Treaty of Mersen divided it between his two uncles, Charles the Bald (who succeeded Louis as Emperor CHARLES II) and LOUIS THE GERMAN Throughout Louis's reign his power in Italy was curbed by the independent Lombard dukes and by the Arab invaders of S Italy

Louis IV or **Louis the Bavarian,** 1287?–1347, emperor (1328–46) and German king (1314–46), duke of Upper Bavaria. After the death of Emperor Henry VII the Luxemburg party among the electors set aside Henry's son, John of Luxemburg, because of his youth and chose Louis, FREDERICK THE FAIR was declared elected by the Hapsburg faction In 1322 Louis defeated and captured Frederick at Mühldorf Pope JOHN XXII questioned the legality of Louis's election and in 1324 excommunicated him. In 1327–30 Louis was in Italy, where he was crowned emperor by the "representatives of the Roman people," and set up Pietro RAINALDUCCI as Antipope Nicholas V The failure of protracted negotiations with the papacy led (1338) to the declaration at Rhense by six electors to the effect that election by all or the majority of the electors automatically conferred the royal title and rule over the empire, without papal confirmation. By the decree *Licet jure* (1338) Louis further claimed that even the imperial title was conferred by the electors. Throughout his reign Louis kept adding to the possessions of his family, the house of WITTELSBACH. He conferred Brandenburg on his son, added Lower Bavaria to Upper Bavaria, and in 1342 acquired Tyrol by voiding the first marriage of MARGARET MAULTASCH and marrying her to his own son. In 1346 he further alienated the lay princes by conferring Holland, Zeeland, and Friesland upon his wife.

In the same year, however, Pope CLEMENT VI declared the emperor deposed and secured the election of Charles of Luxemburg (later Emperor CHARLES IV) as German king. Louis was successfully resisting his rival when he was killed in a hunting accident. The controversy between Louis and the popes caused the publication of many books and pamphlets, notably the *Defensor Pacis*, by MARSILIUS OF PADUA. WILLIAM OF OCCAM was another of his supporters

Louis I, 1786–1868, king of Bavaria (1825–48), son and successor of Maximilian I. He was chiefly responsible for the transformation of MUNICH into one of the handsomest capitals of Europe and for making it a center of the arts. His reign, liberal at first, became increasingly reactionary, and his unpopularity was heightened by his extravagant liaison with Lola MONTEZ. The Revolution of 1848 forced him to abdicate in favor of his son, Maximilian II

Louis II, 1845–86, king of Bavaria (1864–86), son and successor of Maximilian II. Much was hoped from the handsome, talented, liberal, and romantic young prince at his accession, but his prodigality and eccentricity, which always were close to madness, soon alienated his subjects. Louis II was the patron and friend of Richard WAGNER, who for many years exerted a strong influence over him. He aided Austria in the Austro-Prussian War (1866) but sided with Prussia against France in 1870 and in 1871 reluctantly joined the newly created German Empire. In 1866 his insanity necessitated his confinement at his fantastic château on Lake Starnberg, Bavaria, where he committed suicide by drowning, forcing his physician to share his death. His brother, Otto I, succeeded him

Louis III, 1845–1921, last king of Bavaria (1913–18). He succeeded (1912) his father, LUITPOLD, as regent for OTTO I, proclaimed himself king in 1913, and was forced to abdicate in 1918

Louis I, French king. see LOUIS I, emperor

Louis II or **Louis the Stammerer**, 846–79, French king. He succeeded (877) his father, Emperor Charles II. At his death his succession was divided between his sons Carloman and Louis III

Louis III, c 863–882, French king, son of Louis II. He became joint ruler with his brother CARLOMAN in 879, despite the attempts of LOUIS THE YOUNGER to become French king. Louis III and Carloman fought against the secessionists of Burgundy and Provence and resisted an invasion of the Normans, whom Louis routed at Saucourt (881). His death left Carloman sole ruler

Louis IV or **Louis d'Outre-Mer** (lwē dōōtrəmĕr') [Fr., = Louis from overseas], 921–54, French king (936–54), son of Charles III (Charles the Simple). He spent his youth as an exile in England, but at the death of King RAOUL he was recalled by the nobles under the leadership of HUGH THE GREAT. However, Louis's energy and independence displeased Hugh, who fought against him with the German king, Otto I, until 942. Captured by the Normans (945), Louis was surrendered to Hugh, by whom he was released only on the cession of Laon (946). Now in alliance with Otto, Louis made war on Hugh and received his submission in 950. Louis was succeeded by his son Lothair

Louis V (Louis the Sluggard), c 967–987, last French king of the Carolingian dynasty. He succeeded his father Lothair in 986. His successor was Hugh Capet

Louis VI (Louis the Fat), 1081–1137, king of France. He succeeded his father Philip I in 1108, having previously been associated with him in the government. He firmly established his authority within the royal domain, seising vacant fiefs, demolishing the castles of robber barons, and executing swift vengeance upon wrongdoers. He continued his father's policy of opposing the English in Normandy and was almost continuously at war with King Henry I (1109–13, 1116–20, 1123–35); he often met with defeat, but his resistance checked a greater English advance. In 1124 he received the unexpected aid of a coalition of nobles in resisting the invasion of Emperor Henry V. As a part of his plan for strengthening royal authority, Louis favored the Church, liberally endowing its enterprises and selecting churchmen—notably the Abbé SUGER—as his ministers, he was vigorous, however, in enforcing his privilege of interference in ecclesiastical affairs. Toward the end of his life he obtained a foothold in Guienne by marrying his son Louis to the heiress of the duchy, ELEANOR OF AQUITAINE. His enforcement of order and justice made Louis extremely popular with the middle classes, the peasantry, and the clergy. See J. W. Thompson, *The Development of the French Monarchy under Louis VI le Gros* (1895)

Louis VII (Louis the Young), c 1120–1180, king of France. He succeeded his father, Louis VI, in 1137. Before his accession he married ELEANOR OF AQUITAINE. A controversy over ecclesiastic matters with Pope Innocent II (1141) led to a papal interdict on Louis and to warfare between the king and the count of Champagne. It was settled, after the intervention of St. BERNARD OF CLAIRVAUX, by Louis's capitulation to Pope Celestine II (1144). In the course of this war Geoffrey Plantagenet, count of Anjou, completed his conquest of Normandy; Louis, in return for a small concession, acquiesced in the conquest. In 1147 Louis left for the Holy Land (the Second Crusade, see CRUSADES), after appointing SUGER as regent. The crusade having failed, he returned in 1149. Louis divorced Eleanor of Aquitaine in 1152. Her subsequent marriage with Henry Plantagenet (later HENRY II of England) resulted in Henry's claims to AQUITAINE as Eleanor's inheritance and precipitated recurrent warfare between Louis and Henry. Louis supported THOMAS À BECKET during his exile from England and joined in the revolt of Henry's sons (1173–74), but lost his opportunity. He completed his father's work of subduing the barons on the royal domain and continued to increase his influence over his more distant vassals. His successor was Philip II

Louis VIII, 1187–1226, king of France (1223–26). For his father, PHILIP II, he fought against the ALBIGENSES (1215, 1219) and in 1216 invaded England, disregarding his excommunication by Pope Innocent III. The death of King JOHN of England and the accession of Henry III lost him most of his supporters among the English nobles, and after his defeat at Lincoln (1217) he made peace, accepting an indemnity. In 1224 he conquered Poitou but was unable to subdue Gascony. At the persuasion of Pope Honorius III he resumed (1226) the Albigensian Crusade and conquered Languedoc

Louis IX or **Saint Louis**, 1214–70, king of France (1226–70), son and successor of Louis VIII. His mother, BLANCHE OF CASTILE, was regent during his minority and his chief adviser till her death. The early years of his rule were disturbed by the revolts of the great feudatories, supported by Henry III of England, but in 1241–43 Louis secured the submission of Poitou, repulsed an English invasion, and inflicted lasting defeat on the Albigensian leader, RAYMOND VII of Toulouse. In 1248 Louis went on crusade to Egypt (the Seventh Crusade, see CRUSADES), leaving his mother and his brother Alphonse as regents. Defeated and captured at El Mansura (1250), he was ransomed but remained in the Holy Land till 1254. He increased and consolidated the royal domain by ceding Limoges, Cahors, and Périgueux to Henry III of England in exchange for Henry's renunciation of Normandy, Anjou, Maine, Touraine, and Poitou (Treaty of Paris, ratified in 1259) and by yielding the French claim to Roussillon and Barcelona in return for the abandonment by the king of Aragon of his claim to Provence and Languedoc (Treaty of Corbeil, 1258). Louis was arbitrator in succession disputes in Flanders and Hainaut and in Navarre, he attempted to settle the dispute between Henry III and the English barons by giving judgment in favor of the king. In 1270 Louis undertook a new crusade, against Tunis, but died of the plague soon after landing. He was succeeded by his son, Philip III. Under Louis IX, France enjoyed unprecedented prosperity, peace, and progress. Louis continued the reforms of his grandfather, Philip II. He stamped out private feudal warfare, simplified administration, improved the distribution of taxes, abolished the judicial duel, sought to introduce uniform Roman law, and extended the appellate jurisdiction of the crown to all cases. Louis also built the first French navy. His reign witnessed a flowering of Gothic architecture with the building of the cathedrals of Amiens, Beauvais, Bourges, and Chartres and, on Louis's personal order, the SAINTE-CHAPELLE in Paris. He also encouraged learning and helped to found the SORBONNE. In his person, St. Louis embodied the qualities of the ideal Christian monarch. He was pious and ascetic, yet manly and affable, his charity and justice endeared him to his people and won him the respect of the Christian and even of the Moslem world. He was canonized in 1297. Feast: Aug. 25. See memoirs of his contemporary, Jean de JOINVILLE

Louis X, Fr. *Louis le Hutin* [the quarrelsome], 1289–1316, king of France (1314–16), son and successor of Philip IV. He was dominated by his uncle, Charles of Valois. His reign was undistinguished. John I, his posthumous son and successor, died shortly after his birth, thus opening the succession to Philip V

Louis XI, 1423–83, king of France (1461–83), son and successor of Charles VII. As dauphin he was almost constantly in trouble with his father. He was pardoned after joining (1440) the PRAGUERIE revolt, however, after conspiring (1446) against Agnès SOREL, he was exiled to the Dauphiné. His continued intrigues with his father's foreign and domestic enemies forced him to flee to exile (1456–61) at the court of PHILIP THE GOOD of Burgundy. Louis began his reign by dismissing many of his father's best advisers, some of whom he later recalled, but he soon deserted his former allies and stubbornly set himself to the task of centralising all authority in the crown. His measures to curb the power of the great nobles brought forth (1465) the League of the Public Weal, headed by CHARLES THE BOLD, FRANCIS II of Brittany, DUNOIS, Antoine de CHABANNES, and the dukes of Alençon and Bourbon, under the nominal leadership of the king's brother Charles. The lesser nobility, the bourgeoisie, and the people supported the king, who also allied himself with the citizens of Liége against Charles the Bold. Louis fought an indecisive battle at Montlhéry and successfully defended Paris, but granted (1465) the demands of the rebels in the treaties of Conflans and Saint-Maur-des-Fossés. He soon violated the treaties, taking Normandy from Charles the Bold. In 1467 a new coalition was formed, for which Charles the Bold, now duke of Burgundy, obtained the support of Edward IV of England. The duke of Brittany having invaded Normandy and Charles the Bold having assembled an army to crush Liége, Louis arranged a truce with each, in 1468, at the expiration of the truce with Brittany, he subdued Normandy and forced Francis II to sign the Peace of Ancenis (1468). Having visited Péronne for a personal interview with Charles the Bold, Louis was suddenly made prisoner (1468) and forced to sign a treaty containing important concessions and compelling him to help suppress the revolt of Liége, which he had shared in inciting. After his release, he unsuccessfully interfered in the affairs of England, supporting the York party in the Wars of the Roses (see ROSES, WARS OF THE). He succeeded, however, in buying off Edward IV when he invaded France (1475) and in uniting the enemies of Charles the Bold. The Swiss victories over Charles and his death at Nancy (1477) gave Louis an opportunity to take Burgundy, Picardy, Boulogne, Artois, and Franche-Comté from Charles's daughter, MARY OF BURGUNDY. Although Mary's husband, Maximilian of Austria (later Emperor MAXIMILIAN I), defeated Louis at Guinegate (1479), he was ultimately forced (1483) to concede these territories to Louis in the Treaty of ARRAS. A mediocre warrior but a born diplomat, Louis skillfully checked his enemies abroad, broke the power of his vassals, and set up an efficient central administration, thus laying the basis for the absolute monarchy of Louis XIV. He exerted an autocratic rule, though he used commissions (and the one States-General he convoked) to give his acts the appearance of popular approval. He diminished the prestige of the courts. Despite his revocation of his father's PRAGMATIC SANCTION, he intervened freely in church affairs. He imposed heavy taxes, using much of the money thus obtained in purchasing support. On the other hand, he encouraged industry and expanded domestic and foreign trade. Louis favored the company of men of humble origin and constantly employed such corrupt and sinister advisers as LE DAIM, TRISTAN L'HERMITE, and Cardinal BALUE, whom he rewarded liberally, though he was niggardly in his own expenses. Haunted by a bad conscience and the fear of assassination, he spent his last years in virtual self-imprisonment at the château of Plessis-les-Tours, appeasing his conscience by squandering extravagant sums to promote the cult of his favorite saints. He was succeeded by his son, Charles VIII. See writings of his contemporary, COMINES; P. H. Champion, *Louis XI* (Eng. tr., 1929), and D. B. Wyndham Lewis, *King Spider* (1929)

Louis XII, 1462–1515, king of France (1498–1515), called the "father of the people," son of Charles d'ORLÉANS. Having rebelled, as duke of Orléans, against the regency of Anne de Beaujeu, he was imprisoned (1488) but was released (1491) by his cousin Charles VIII, whom he succeeded on the throne (1498). Immediately after his accession he insured the continuance of the personal union of Brittany and France by having his first marriage annulled and marrying his predecessor's widow, ANNE OF BRITTANY. Thereafter the king and his minister, Georges d'AMBOISE, turned their attention almost entirely to the ITALIAN WARS. Louis conquered Milan and Genoa, but failed to secure Naples. By the treaties of Blois (1504), Louis attempted a compromise with Spain and with Emperor Maximilian I, who had so far remained an inactive opponent, the treaties subsequently collapsed, and the king's daughter Claude, whose marriage to Charles of Austria, later Emperor Charles V, was to have been the keystone of the new entente, was betrothed to her cousin, Francis of Angoulême, later King FRANCIS I. In 1507 Louis suppressed the revolt of Genoa (1506–7), and in 1508 he joined the League of Cambrai (see CAMBRAI, LEAGUE OF), he advanced the projects of the league by his victory over the Venetians at Agnadello (1509). When his Italian territories were attacked by Pope Julius II's HOLY LEAGUE (1511), he committed their defense to Gaston de Foix, but after Gaston's death (1512), his troops were forced by the Swiss (then the pope's main allies) to evacuate Milan. In 1513 the Swiss routed his army at Novara while another army was defeated by Maximilian and Henry VIII of England at Guinegate. In 1514 he made a truce with all his enemies save Maximilian. See J. S. C. Bridge, *A History of France from the Death of Louis XI*, Vols. III–IV (1929), M. R. Bolton, *The Golden Porcupine* (1947), a historical novel

Louis XIII, 1601–43, king of France (1610–43). He succeeded his father, HENRY IV, under the regency of his mother, MARIE DE' MEDICI. He married

ANNE OF AUSTRIA in 1615 Excluded from affairs of state by his domineering mother, he caused the assassination of her minister CONCINI, with the aid of his own favorite, LUYNES, and his mother was forced into retirement (1617) He was reconciled to her in 1622 and entrusted the government to her protégé, Cardinal RICHELIEU (1624) In 1630, urged by his mother to discharge Richelieu, he refused and instead sent his mother into a new exile Melancholy and retiring by nature, Louis thenceforth left affairs to Richelieu and his successor, MAZARIN His reign was remarkable for the establishment of the French Academy, the work of St FRANCIS OF SALES and St VINCENT DE PAUL and of PORT-ROYAL in religion, DESCARTES in philosophy, CORNEILLE in literature, and VAUCELAS and the Hôtel de Rambouillet in language See K A Patmore, *The Court of Louis XIII* (1910)

Louis XIV, 1638–1715, king of France (1643–1715), son of Louis XIII His reign may be divided into three periods The first was the regency of his mother, ANNE OF AUSTRIA, which may be considered as prolonged past 1651, when Louis's majority was declared, until the death of MAZARIN (1661), when Louis took full control The second covered the first half of Louis's personal rule and saw France rise to the place of first power in Europe The last 30 years were marked by economic decline and military reverses In 1661, France was economically exhausted by the Thirty Years War, by the FRONDE, and by fiscal abuses But Richelieu's and Mazarin's centralizing policies had prepared the ground for Louis, who transformed the state into an absolute monarchy, based on the theory of divine right and characterized by the apocryphal remark attributed to him, *L'état, c'est moi* [the state is I] Louis forced the nobles into financial dependency on the crown, curtailed local authorities, and originated the cabinet in its modern form by creating specialized ministries, filled largely with professionals and responsible solely to him He replaced (1661) Nicolas FOUQUET, the superintendent of finance, with J B COLBERT, whose genius brought prosperity to France Industry and commerce were expanded on mercantilist principles, a navy was developed to further foreign trade, the colonial empire was increased, and some attempts were made at reforming fiscal abuses In foreign policy Louis vigorously strove for French supremacy His marriage (1660) with MARIE THÉRÈSE OF AUSTRIA served as pretext for the War of DEVOLUTION (1667–68), which netted him part of Flanders, although projects of further expansion were stopped by the Dutch, who negotiated the TRIPLE ALLIANCE Louis decided to crush Holland and precipitated the third (1672–78) of the DUTCH WARS This war netted Franche-Comté to France, but it depleted Louis's treasury For the next 10 years the king limited his aggressive policies to the field of diplomacy The "chambers of reunion" were set up to unearth legal grounds for claims on a number of cities, which Louis promptly annexed Strasbourg, notably, was seized in 1681 Fear of Louis's rapacity resulted in a European coalition (see AUGSBURG, LEAGUE OF, and GRAND ALLIANCE, WAR OF THE), which confronted him when he attacked the empire in 1688 This war ended with the Treaty of RYSWICK (1697), which, though Louis lost only minor territories, marked a decline in French foreign successes As an outcome of the War of the SPANISH SUCCESSION (1701–14), Louis's grandson retained the Spanish throne, but French military power was broken and France was thereafter stalked by hunger, disease, and bankruptcy With the passing of Colbert (1683) and of LOUVOIS (1691), who as minister of war had laid the foundations of French military greatness, Louis ceased to rely on his ministers' advice To impose unity on his subjects he resorted to tyrannical means His persecution of the HUGUENOTS culminated (1685) in the revocation of the Edict of Nantes (see NANTES, EDICT OF) This disastrous measure depopulated vast sections of the kingdom, intensified its economic decline, and alienated the Protestant powers Louis strongly favored GALLICANISM, and controversy with the popes nearly approached schism (1673–93), but then he abandoned this position As for JANSENISM, he suppressed it ruthlessly In the early period the reign was one of lavish display, marked by the building of the palace of VERSAILLES and by Louis's devotion to a series of mistresses, among them Mlle de LA VALLIÈRE and Mme de MONTESPAN, but Louis finally came under the influence of Mme de MAINTENON, whom he married morganatically (1684) after the queen's death and who had an important share in bringing him to the religious devotion of his later years Louis XIV's reign not only marked the apogee of the monarchical idea in politics, but also was a golden age for the arts Among the important painters and sculptors were PUGET, the brothers ANGUIER, COYSEVOX, CLAUDE LORRAIN, the brothers LE NAIN, Nicolas POUSSIN, and Philippe de CHAMPAIGNE Notable literary figures were Pierre CORNEILLE, MOLIÈRE, Jean RACINE, BOILEAU-DESPRÉAUX, Jean de LA FONTAINE, BOSSUET, FÉNELON, La BRUYÈRE and LA ROCHEFOUCAULD PASCAL and MALEBRANCHE made unique contributions to mathematics, physics, and philosophy. Jules MANSART set a new style in architecture, and LENÔTRE in landscaping; LULLY and François COUPERIN were among the foremost composers of their time Because of the brilliance of his court Louis was called "Le Roi Soleil" (the Sun King) and "Le Grand Monarque" He possessed infinite capacity for work, was cold and haughty in his bearing, and surrounded even the most trivial activities of his daily life with pomp and etiquette His death caused unconcealed rejoicing and unleashed the energies of the Age of Reason For contemporary sources, see the memoirs of Cardinal de RETZ, the extremely prejudiced but indispensable memoirs of the duc de SAINT-SIMON, the letters of Mme de SÉVIGNÉ, which brilliantly portray the social life of the time. See Voltaire, *Age of Louis XIV*, Louis Bertrand, *Louis XIV* (1924, Eng tr, 1928), Paul Hazard, *La Crise de la conscience européenne* (3 vols, 1935)

Louis XV, 1710–74, king of France He succeeded (1715) his great-grandfather, Louis XIV, with Philippe II d'ORLÉANS as regent After the regent died, Louis was guided chiefly by FLEURY, who was minister from 1726 to 1743 Shortly after the death of Fleury the influence of Mme de POMPADOUR became dominant Louis XV was married to MARIE LESZCZYNSKA (1725) but neglected her for mistresses, of whom the most celebrated were Mme de Châteauroux, Mme de Pompadour, and Mme DU BARRY In his foreign policy Louis was more concerned with dynastic than with national interests During his reign France was involved in the War of the POLISH SUCCESSION, in the War of the AUSTRIAN SUCCESSION, and in the SEVEN YEARS WAR, which resulted in the loss of France's colonial empire The abuses of Louis XIV's reign and the disastrous financial policy of the regency were partly liquidated by Fleury, but the extravagance of the court, the expense of warfare, and repeated failure to reform the governmental machinery again brought France to the point of ruin by the time of Louis XV's death Throughout the reign, the government had alienated important sections of the population and created the conditions which were later to result in the French Revolution The indifference of Louis's court to the predictable consequences of such mismanagement found expression in the saying, *Après moi le déluge* [after me, the flood], wrongly attributed to the king himself The age of Louis XV is often known as the Age of Reason, because of the galaxy of French philosophers, economists, and scientists who criticized his government and the established order MONTESQUIEU, FONTENELLE, DIDEROT, ALEMBERT, VOLTAIRE, HELVÉTIUS, J J ROUSSEAU, and QUESNAY were among the best known The age also witnessed the rise of the upper bourgeoisie to a decisive role Intellectually, the period was one of ferment, artistically and socially, one of refinement and luxury, exemplified by the ROCOCO style WATTEAU, CHARDIN, François BOUCHER, and FRAGONARD were representative painters of the time, RAMEAU was the foremost French composer Poetry was in eclipse, but drama and romance were well served by MARIVAUX, LE SAGE, and the Abbé PREVOST Intellectual and cosmopolitan life were greatly stimulated by the salons of Mme DU DEFFAND, Mlle de LESPINASSE, Mme d'ÉPINAY, and baron d'HOLBACH See J B Perkins, *France under Louis XV* (1899), F Funck-Brentano, *The Old Regime in France* (1929), Pierre Gaxotte, *Louis the Fifteenth and His Times* (1934)

Louis XVI, 1754–93, king of France, third son of the dauphin (Louis) and Marie Josèphe of SAXONY, grandson of Louis XV, whom he succeeded in 1774 Early in his reign his attempts to improve the condition of the people, to practice personal economy, and to appoint competent and upright ministers met with general approval, but his character was unsuited for the exercise of the strong crisis government which France needed Shy, of subnormal intelligence and abnormal physique, he preferred the hunting field and his locksmith's workshop to the council chamber, his indecision and phlegm made him subject to the ill-advised influence of his intimates The reforms begun by his able ministers TURGOT and MALESHERBES were opposed by the court faction, with Queen MARIE ANTOINETTE, whom Louis had married in 1770, among those who persisted in ignoring the threat of bankruptcy and the economic plight of the lower classes Another obstacle to Turgot's plans was the opposition of the parlements, which were revived after the dismissal of MAUPEOU Turgot was dismissed in May, 1776, but the impending financial debacle forced Louis to appoint Jacques NECKER director of the treasury (Oct, 1776) The king supported most of Necker's reforms and economies, but the costly French intervention in the American Revolution more than canceled the savings derived from Necker's stringent measures The jealousy of the prime minister, Maurepas, and the intrigues of the queen's party caused the reluctant king to dismiss Necker (May, 1781) Popular anger was aroused Necker's successors CALONNE (1783–87) and LOMÉNIE DE BRIENNE (1787–88) were unable to ward off bankruptcy. When the interest-bearing debt had risen to about $600,000,000, the king convoked the Assembly of Notables and asked their consent to tax the privileged classes The notables made a few minor reforms, but refused to share the tax burden Seething discontent finally frightened the monarch into convoking the STATES-GENERAL of 1789 Necker, restored in 1788, prevailed upon Louis to call the third estate in double numbers in order to offset the dominance of the privileged classes In 1789 the history of the king became that of the FRENCH REVOLUTION The king's unsuccessful attempt to prevent the formation of the National Assembly resulted in the Oath of the Tennis Court, which signalized the end of absolutism in France Louis then attempted to require the estates to meet separately and vote by order but again had to yield and allow the estates to sit together and vote by head An evident desire to intimidate the Assembly was indicated when the king ordered troops to advance from the frontier to Paris The Assembly protested, Louis refused to countermand his order and dismissed the popular Necker Only when the insurgent Parisians stormed the Bastille (July 14, 1789) did Louis realize the gravity of the situation, he then ordered the retirement of the royal troops, reinstated Necker, and recognized the commune The king, however, was still completely dominated by his court, and the Parisians feared another royal coup d'état An enraged and hungry mob marched on Versailles (Oct, 1789) and, after wild scenes of disorder, brought the royal family to Paris, where they were confined in the Tuileries palace Louis's position, further compromised by the plots of ÉMIGRÉ circles, was definitively ruined when the royal family, aided by Hans Axel FERSEN and BOUILLÉ, attempted to flee France in disguise (June, 1791) They were apprehended at Varennes, and their attempted flight was held, with considerable justification, to be further proof of their treasonable dealings with foreign powers Louis was forced to give his assent to the radical reforms of the Constituent Assembly and to sign the constitution of 1791, which reduced his authority to that of a figurehead In 1792 the early reverses of the French army in the war with Austria and Prussia and the duke of Brunswick's threat to destroy Paris if the royal family were harmed aroused the fury of the revolutionists, the monarchy was "suspended" and the royal family imprisoned (Aug, 1792) in the Temple When the invasion was repulsed at Valmy (Sept), royalty was abolished in France After Louis's deposition, further incriminating evidence was produced against him He was tried by the Convention in Dec, 1792, and condemned to death by a vote of 387 to 334 He was guillotined on Jan 21, 1793, facing death with steadfast courage The financial difficulties of Louis XVI's government, though they had hastened the outbreak of the Revolution, were not reflected in the economy of the nation as a whole While the government faced bankruptcy, French commerce and industry were prospering The bourgeoisie was replacing the nobility as the center of social and political life—a trend which the Revolution merely confirmed This prosperity, however, was not shared by the peasantry and by the proletariat, which began to grow in the industrial centers Intellectual France under Louis XVI saw the passing of the principal figures of the Age of Reason—Voltaire, Rousseau, and Diderot—and, to some extent, the fruition of their philosophies Rousseau's influence resulted in a somewhat artificial movement "back to nature," typified by the novels of BERNARDIN DE SAINT-PIERRE and innumerable pastoral plays and operas, but it also inspired the beginnings of genuine romanticism André CHÉNIER was the foremost poet of his time, BEAUMARCHAIS reinvigorated French drama Painting, represented by GREUZE, VIGÉE-LEBRUN, and J L DAVID, underwent a relative decline The foremost achievements of the period were in the fields of science (by LAVOISIER, BUFFON, and the brothers MONTGOLFIER) and of philosophy (by CONDILLAC and CONDORCET) See S H MacLehose, *The Last Days of the French Monarchy* (1901), Saul K Padover, *The Life and Death of Louis XVI* (1939)

Louis XVII (Louis Charles), 1785–1795?, titular king of France (1793–95) The second son of Louis XVI and MARIE ANTOINETTE, he became dauphin at the death (1789) of his elder brother In 1792 the revolutionists imprisoned him with the royal family in the Temple After the execution of Louis XVI (1793), the count of Provence (later Louis XVIII) proclaimed him king as Louis XVII, but he remained in prison until his death Cruel treatment by his jailer, Antoine SIMON, is said to have hastened his end His death has often been disputed, it was rumored that Barnave had taken the true dauphin from the prison and substituted another in his place. Though most evidence indicates that the dauphin really died in 1795, legends have gathered about the Lost DAUPHIN and several impostors appeared. See E R Buckley, *Monsieur Charles* (1927), Meade Minnigerode, *The Son of Marie Antoinette* (1934); J. B Morton, *The Dauphin* (1937)

Louis XVIII, 1755–1824, king of France (1814–24), brother of Louis XVI. As count of Provence, he

was of some prominence in the reign of Louis XVI, notably in the plot of FAVRAS (1789) He fled (1791) to Coblenz from the French Revolution and was recognized as king by the émigrés after the death (1795) of Louis XVII He was hunted through Europe by Napoleon I, but was restored (1814) to the French throne by the allies after their entry into Paris, with the assistance of TALLEYRAND. He adopted a conciliatory policy towards the former revolutionists and granted a liberal constitutional charter Forced to flee abroad once more on the news of the return of Napoleon I, he returned with the allies (1815) after the defeat at Waterloo had ended Napoleon's rule of a HUNDRED DAYS His influence was much reduced after this second restoration His chief ministers were at first moderates—Armand Emmanuel, duc de RICHELIEU, and DECAZES—but the ultraroyalists, led by Louis's brother (later CHARLES X), triumphed over the moderate Doctrinaires after the assassination (1820) of Charles's son, Charles Ferdinand, duc de Berry The new VILLÈLE ministry was thoroughly reactionary Electoral laws were revised to increase the influence of the wealthy classes, and civil liberties were curbed This trend continued and was intensified during the reign of his successor, Charles X Louis's reign saw the beginning of the romantic movement in France, of which Mme de Staël and Chateaubriand were the first great representatives

Louis I OF **Louis the Great,** 1326–82, king of Hungary (1342–82) and of Poland (1370–82) He succeeded his father, Charles I, in Hungary, and his uncle, Casimir III, in Poland He continued the internal policy of his father, favoring the Church and the commerce of the towns In 1351 he confirmed the Golden Bull of ANDREW II, but to assure the continuance of a strong and wealthy military class he applied the system of ENTAIL to the estates of the nobles and made it mandatory for serfs to pay one ninth of their farm produce to their overlord His finances were sound, and he was rarely forced to appeal to the diet for funds, as a result its meetings became less and less frequent Louis tried, without success, to keep the Venetians from taking Zara (1346) Two expeditions to avenge the murder of his brother Andrew at the court of JOANNA I of Naples ended in a truce (1352) between the two monarchs Louis fought two successful wars against Venice (1357–58, 1378–81), which ceded Dalmatia to him The rulers of Serbia, Wallachia, Moldavia, and Bulgaria became his vassals In Poland, where his campaign (1354) against the Tatars and the Lithuanians had made him popular, he was unable to prevent revolts and restlessness after his accession (1370) He had no male heir but provided for his succession by marrying his eldest daughter, Mary to SIGISMUND (later emperor), and a younger daughter, JADWIGA, to Jagiello (see LADISLAUS II) of Lithuania In 1377 Louis campaigned successfully against the Turks Louis not only brought Hungarian power to its greatest height, but also fostered art and learning, which were influenced both by his French background and by his campaigns, which brought Hungarians in contact with the Italian Renaissance

Louis II, 1506–26, king of Hungary and Bohemia (1516–26), son and successor of Ulaḍislaus II He was the last of the Jagiello dynasty in the two kingdoms In face of the intensified attacks by Sultan SULEIMAN I, Louis in 1526 hastily sought to unite Hungary and Christendom behind him, but only the pope sent help With a pitiful army Louis joined battle with the Turks at MOHACS The Hungarian army was destroyed Louis was killed Through the marriage treaty concluded by his father (see ULADISLAUS II) the crowns of Hungary and Bohemia passed to Louis's brother-in-law, Ferdinand of Hapsburg (later Emperor FERDINAND I), but Hungary fell under Turkish rule

Louis I, 1339–84, king of Naples (1382–84, rival claimant to Charles III), duke of Anjou, count of Provence, second son of John II of France He was the founder of the second ANGEVIN line in Naples As a regent for his nephew, CHARLES VI of France, he was noted for his rapacity In 1380 JOANNA I of Naples adopted Louis as heir to the throne and to Provence, repudiating her first choice, Charles of Durazzo Charles, however, conquered the kingdom (1381) and was crowned king of Naples as Charles III Supported by Charles's enemies, Louis invaded the kingdom but died at Bari before a decisive battle could be fought His claim passed to his son, Louis II

Louis II, 1377–1417, king of Naples (1384–1417, rival claimant to CHARLES III, LANCELOT, and Joanna II), duke of Anjou, count of Provence, son and successor of Louis I In 1389 the antipope Clement VII invested him with the kingdom, Lancelot, heir of Charles III, having been expelled in 1386 Louis took possession of Naples in 1390, but was thrown out in turn by Lancelot in 1399 In 1409 Louis liberated Rome from Lancelot's occupation, in 1410, as an ally of the antipope John XXIII (see COSSA, BALDASSARRE), he attacked Lancelot Though victorious at Roccasecca (1411), Louis eventually had to retire His claim to Naples passed to his son, Louis III

Louis III, 1403–34, king of Naples (1417–34, rival claimant to JOANNA II), duke of Anjou, count of Provence, son and successor of Louis II He invaded Naples in 1420 Queen Joanna called in the aid of ALFONSO V of Aragon and Sicily and adopted him as heir (1421), but Alfonso's domineering attitude caused her (1423) to adopt Louis instead Louis had gained control of most of the kingdom when he died Joanna made his brother RENÉ heir

Louis I, 1838–89, king of Portugal (1861–89), son of Maria of Portugal and Ferdinand of Saxe-Coburg-Gotha His reign was troubled by much political tumult, and a succession of ministries accomplished little Slavery was abolished in the Portuguese colonies There was much talk of Louis's claiming the Spanish throne, but it came to nothing His reign saw great progress in transportation, commerce, and industry He was succeeded by his son CHARLES I

Louis, 1682–1712, titular duke of Burgundy, grandson of Louis XIV of France He became heir to the throne on the death (1711) of his father, Louis, the Great Dauphin FÉNÉLON was his tutor and wrote *Télémaque* for his use Louis was the rallying point of the opposition to Louis XIV—reactionary nobles and liberals alike—and miracles were expected of him When he died suddenly during an epidemic (possibly of scarlet fever), rumors of poisoning circulated His death is described in a famous passage in the memoirs of Saint-Simon He was the father of Louis XV of France and the brother of Philip V of Spain

Louis, Joe (Joseph Louis Barrow) (lōō'ĭs), 1914–, American pugilist, world heavyweight champion, b Lafayette, Ala His father, a Negro sharecropper, died when Joe was four years old, and after his stepfather took (1926) the family to Detroit, Joe held odd jobs to bolster the family income When he was 16 he became a sparring partner at a makeshift gymnasium in Detroit, and at 18 he began an amateur career in the ring After winning (1934) the National Amateur Athletic Union light heavyweight title, Louis immediately turned professional In an unprecedented meteoric rise in professional boxing, Louis—with magnificent physique, lightning punches, and stolid calmness—fought his way from the ranks of beginners to become (1937) the world heavyweight champion by knocking out James J Braddock in the eighth round at Chicago In 1938 he knocked out Max Schmeling—the only man ever to defeat Louis (by a 12-round knockout in 1936) in professional boxing—in the first round in New York city He continued to meet and vanquish all challengers—including Tommy Farr, John Henry Lewis, Bob Pastor, Arturo Godoy, Billy Conn, Joe Walcott, and Lou Nova By the time he announced his retirement from the ring in 1949, Louis, often called the "Brown Bomber" by his admirers, had defended his title 24 times, scoring 21 knockouts While serving (1942–45) in the U S army in the Second World War, he fought in many exhibition bouts See his autobiography, *My Life Story* (1947)

Louis, Pierre Charles Alexandre (pyĕr' shärl' alĕksä'dru lwē'), 1787–1872, French physician He is noted for introducing the statistical method in the study of disease He studied phthisis (tuberculosis) and typhoid fever, which with W W GERHARD, he distinguished from typhus

Louisa (lōō-ē'zu), town (pop 2,023), co seat of Lawrence co, E Ky, at the W Va line where the junction of the Levisa and Tug forks forms the Big Sandy River, settled c 1790 It is the trade and shipping center for a mountain farm area having also oil and gas wells, coal mines, and fire-clay and sand pits Big Sandy Dam here was built in 1896

Louisburg (lōō'ĭsbûrg), town (pop 1,012), on E Cape Breton Island, N S, near the site of the great fortress of Louisbourg, built (1720–40) by France as its Gibraltar in America Plans were drawn by Vauban, but the work was poorly done, and the garrison was inadequately supplied, indifferent, and at odds with the civilian population French privateers, using the harbor as a base, preyed on New England fishermen on the Grand Banks, and in 1745 a small force of colonials under William PEPPERRELL, supported by a fleet of merchantmen commanded by Sir Peter Warren, attacked Louisbourg and forced its surrender Three years later it was returned to France by the Treaty of Aix-la-Chapelle, in exchange for Madras, India, but it fell (1758) to a British land and sea attack led by Gen Jeffrey AMHERST and Admiral BOSCAWEN which reduced it to ruins In 1928 the ruins, with 328 acres, were set aside as the Louisbourg National Historic Park The present town of Louisburg is a fishing and tourist center and a shipping point for coal and steel when ice closes the harbor at Sydney

Louisburg, town (pop 2,309), co seat of Franklin co, N N C, on the Tar and NE of Raleigh, in a lumber and farm area, settled 1758 It has a junior college

Louisburgh, Caithness, Scotland see WICK

Louis d'Outremer see LOUIS IV, French king.

Louise, 1776–1810, queen of Prussia, consort of FREDERICK WILLIAM III, a princess of Mecklenburg-Strelitz Her patriotic bearing in the Napoleonic Wars, contrasting with her husband's weakness, won her lasting popularity In 1807 she humiliated herself in vain at Tilsit before Napoleon, begging him to lighten the peace terms for Prussia See biography by Gertrude Aretz (Eng tr, 1929)

Louise, Lake, 1½ mi long, alt 5,680 ft, SW Alta, near the British Columbia border, in Banff National Park It is noted for its scenic beauty, being surrounded by high mountain peaks, glaciers, and snow fields, which are reflected in its waters The lake was discovered in 1882 and later was named for Princess Louise It has become a popular tourist and mountain-climbing center The lake drains to the east into the Bow river

Louise of Savoy, duchess of Angoulême (ăgōōlĕm'), 1476–1531, regent of France, daughter of Duke Philip II of Savoy and mother of FRANCIS I of France In Francis's absence in the Italian Wars, she acted as regent She had much influence over Francis, and during his captivity in Spain (1525–26) she made an alliance with Henry VIII of England She negotiated (1529) the Ladies' Peace (see CAMBRAI, TREATY OF) with Margaret of Austria See her journal (in French, ed by J F Michaud and J J F Poujoulat, 1854)

Louiseville, town (pop 3,542), S Que, on the Rivière du Loup and WSW of Trois Rivières It was founded in 1714

Louisiade Archipelago (lōōē"zēăd', -ad'), comprising c 10 volcanic islands and numerous coral reefs, SW Pacific, part of the Territory of Papua The chief islands are Tagula (the largest), Rossel Island, Misima, and Deboyne Islands Most of the mountainous, volcanic islands are gold-bearing In the Second World War the Deboyne Islands were the site of a Japanese seaplane base The battle of the Coral Sea (1942) was fought near Misima

Louisiana (luwē"zēă'nu, lōōē"-), state (50,820 sq mi, 1940 pop 2,363,880, 1949 estimated pop 2,630,000), S United States, admitted 1812 as the 18th state (slaveholding) BATON ROUGE is the capital, NEW ORLEANS is the metropolis, and other cities are SHREVEPORT, MONROE, ALEXANDRIA, and LAKE CHARLES The state is bounded on the north by Arkansas, on the east by Mississippi (in the north the Mississippi river is the line, in the extreme south the PEARL), on the south by the Gulf of Mexico, and on the west by Texas (the SABINE marks most of the line) A low country on the Gulf coastal plains and the Mississippi alluvial plain, it rises in uplands near Arkansas only to some 500 ft The wet coast country has marshes and delta lands, and inland are pine hills The Mississippi dominates the many waterways of the rainy land, but other rivers (the RED RIVER, the OUACHITA, the ATCHAFALAYA, and the CALCASIEU) and many slow bayous (e g, the TECHE, the MACON, and the LAFOURCHE) thread the coast There are lagoons such as Lake PONTCHARTRAIN, oxbow lakes made by Mississippi cutoffs, and other lakes where the slow streams are clogged The semitropical climate and alluvial soil make the state the leader in rice (grown on irrigated prairies of the southwest) and sugar cane (the region around Donaldsonville is the "Sugar Bowl"), but almost any crop of the Western hemisphere may be grown, and cotton, corn, sweet potatoes, Irish potatoes, and truck are grown in quantity Petroleum, natural gas, sulphur, and salt give the state mineral wealth, and lumbering, fur trapping (muskrats are chiefly responsible for the state's leading position as fur producer), the taking of shell fish (shrimp, oysters, and crabs), and livestock raising add to Louisiana plenty The industries depend on processing these products and include besides the usual refining, milling, and canning, such things as the making of paper and manufacture of wall boards The region was possibly visited by Cabeza de Vaca and his fellow survivors of the Spanish expedition of 1528 and was certainly seen by some of De Soto's men (1541–42) In 1682 LA SALLE reached the mouth of the Mississippi and claimed all its drainage basin for France, naming it Louisiana after Louis XIV His attempt to return to the great river failed, and it was not until 1699 that Pierre le Moyne, sieur d' IBERVILLE founded the first of two settlements called BILOXI His younger brother, the sieur de BIENVILLE, transferred (1702) the settlement to Fort Louis de la Mobile and founded (1710) MOBILE French missionaries and fur traders explored some of the vast territory, and NACHITOCHES, the oldest settlement in present Louisiana, grew from a fort built in 1714 to protect the Red River area from the Spanish Getting no easy riches from the colony, France gave it (1712) to a merchant, Antoine Crozat, for development CADILLAC was named governor Crozat did not prosper and gladly yielded (1717) his monopoly to the company organized by John LAW The illusory riches of Law's MISSISSIPPI SCHEME brought many settlers to Louisiana, and many remained after the scheme fell to dust Rhenish Germans settled above New Orleans (founded 1718 and made the capital 1723) on what is still the German Coast (*Côte des allemands*) Negroes were brought in great numbers as slaves, and the *Code Noir* (1724) was adopted to control their lives completely, it also established Catholicism as the state

religion and Jews were barred from Louisiana The settlers were menaced by Indians, as in the destruction (1729) of the garrison at Fort Rosalie (Natchez) by the Natchez Indians, who were then wiped out by the French and the once anti-French Choctaw Indians. Indigo plantations and fur trading (despite the rival British fur traders in South Carolina) brought some wealth, but the colony did not prosper As the French and Indian War was ending disastrously for the French, Louisiana W of the Mississippi and the "Isle of Orleans" were ceded to Spain by the secret Treaty of Fontainebleau (1762) The cession, made public with the Treaty of Paris in 1763, gave Great Britain all Louisiana E of the Mississippi except the "Isle of Orleans", it was announced in Louisiana in 1764 The first Spanish commissioner, Antonio de Ulloa, met with a revolt in New Orleans and departed (1768) for Cuba, but short-lived independence ended when Alejandro O'Reilly arrived (1769) with troops, executed or imprisoned the insurrectionist leaders, and instituted the Spanish rule and Spanish mercantilist monopoly of trade Louisiana was receiving then new French recruits deported from ACADIA, who arrived in numbers to about 5,000 by 1800 and settled the "Cajun" country, especially in the Attakapas region In the American Revolution, New Orleans gave supplies to the rebellious colonies, and after Spain entered the war in 1779, Louisiana's Bernardo de GÁLVEZ took Manchac, Baton Rouge, and Natchez and had by 1781 carried his conquests to take Mobile and Pensacola, thus gaining both East and West Florida After the war as the United States pushed west, trade down the Mississippi, though it was illegal, grew Both Great Britain and the United States claimed free access to the Mississippi under the Treaty of Paris of 1783, but Spain, no party to the agreement, denied the river to both Intrigues by Western frontiersmen menaced the Spanish control or, alternately, threatened to turn the West over to Spain The Pinckney treaty (1795) with Spain gave Americans free navigation of the river, and the reversal of this policy by a Spanish official in 1802 was ultimately meaningless, for Spain returned Louisiana to Napoleon's France (see SAN ILDEFONSO, TREATY OF) An aroused West and fear of Napoleon as a neighbor influenced President Thomas Jefferson to take advantage of Napoleon's willingness to relinquish the territory The LOUISIANA PURCHASE was made, and on Dec 20, 1803, W C C CLAIBORNE and Gen James WILKINSON in New Orleans took possession of Louisiana for the United States The territory was divided (1804) into two parts, that north of lat 33° N (the present boundary of Louisiana) being called the District (1804–5) and then the Territory (1805–12) of Louisiana and finally Missouri Territory, that of the south being the Territory of Orleans Settlement of the WEST FLORIDA CONTROVERSY extended the administration of the state, which was admitted into the Union as Louisiana French influence remained, not only in the Creole and "Cajun" societies but in the civil law (based on French and Spanish codes) and the division of the state into parishes rather than counties. In 1819, when Spain relinquished all claims E of the Sabine, Louisiana took on its present boundaries In the early years of the 19th cent the people of Louisiana—Frenchmen, Spaniards, Germans, Isleños brought by Gálves from the Canary Islands, and such frontier adventurers as Jean LAFFITE—resisted the American minority and American ways The victory of Andrew Jackson over the British (hated by all) in the battle of New Orleans (1815) served, however, to mold them all to the new pattern The invention (1793) of the cotton gin, the discovery (1795) of a method for refining sugar on a commercial scale, and the use of the steamboat (the first to dock at New Orleans came in 1812) all helped prepare for the development of great sugar and cotton plantations in the early 19th cent, as settlers poured in from other Southern states The plantation owners took control while New Orleans became the nation's second port and less fortunate settlers (ancestors of the "red necks") took over the unproductive uplands Donaldsonville was the capital (1825–31), then New Orleans again (1831–49) The plantation owners kept control, with their big estates and many slaves (more than half the population was Negro) The state left the Union on Jan 26, 1861, and after a brief period of independence joined the Confederacy P G T BEAUREGARD and Judah P BENJAMIN were among the Louisianans who served the Confederacy well The fall of New Orleans to David G. FARRAGUT in 1862 prefaced the detested military occupation under Gen B F BUTLER Grant's VICKSBURG CAMPAIGN and the fall of PORT HUDSON left to the Confederacy only W Louisiana, which was defended by Dick Taylor's Confederate victory at SABINE CROSSROADS (April 8, 1864) over the Red River expedition of Gen N P BANKS Louisiana suffered much in RECONSTRUCTION A proving ground for Lincoln's moderate program during the war, the state adopted (1864) a Republican constitution, which Congress rejected Former Confederates gained control in 1865 and passed laws discriminating against the freed slaves. The Republicans, largely dependent on Negro votes, tried to convoke another constituent convention Bloody race riots developed The radical Republicans, taking charge of Reconstruction policy, put Louisiana with Texas into a military district under Gen Philip H. SHERIDAN, who ruled very sternly The state was readmitted to the Union in 1868 under a constitution giving the freedmen power at the expense of the former governing classes, the result was not democracy but confusion, corruption, and great economic distress in the bitter years 1868–77 The KU KLUX KLAN was particularly active from 1866 to 1871 In the election of 1872 the radical Republican candidate for governor lost by vote but was installed anyway with the help of Federal troops The period was brought to a close with the disputed presidential election of 1876, when the Louisiana votes were "negotiated" for Rutherford B Hayes but Francis T R NICHOLLS, a Democrat, was allowed to take the governorship to which he was elected, and white control was reestablished Economic recovery was slow The broken plantation system was largely replaced by farm tenancy and share cropping. The decline of steamboat traffic was offset somewhat by new railroad building and the improvements of the New Orleans port by Capt J B Eads The Mississippi flood constituted a serious problem, and levee building increased after the flood of 1882, but it was only after the disastrous flood of 1927 that the Federal government undertook a vast control system (see MISSISSIPPI, river) Louisiana politics, colorful and individual from early French days, continued exciting In 1891 the murder of the New Orleans chief of police, David C Hennessy when investigating the secret Italian society, the Mafia, led to a trial of alleged members of the society, who were acquitted, a mob then lynched 11 of the accused men In 1891, too, the friends of the Louisiana state lottery (organized in 1866 for state revenues) were defeated, and the lottery was outlawed in 1895 The pattern of Louisiana economy was changed by the discovery of oil and natural gas in the early 1900s, and industries began to grow on the basis of cheap fuel and cheap labor The old curse of yellow fever epidemics was ended in 1905 The new influence and the continuing woes of the tenant farmers did not alter the control of the state by "Bourbon" Democrats, but in 1928 a virtual revolution occurred when Huey P LONG was elected governor His dictatorial rule, detested by all liberals across the nation, did bring material progress as well as widespread official corruption He withstood all outside pressures, including the opposition of F D Roosevelt's administration After his assassination in 1935 (he had been U S Senator since 1935), his political heirs made their peace with the New Deal, and Federal funds, withheld in Long's last years, were poured into the state, and Louisiana came out of the long national depression better than most states After the collapse (1939–40) of the Long machine, several prominent men, including ex-Governor Richard W Leche and James Monroe Smith (president of the state university), were convicted of crimes Huey's brother, Earl K Long, who as lieutenant governor had succeeded Leche, was defeated (1940) for the Democratic nomination by Sam H Jones, whose reform administration (1940–44) was continued by James H Davis (1944–48) In 1948, however, Earl Long, invoking the memory of his dead brother (still regarded by his followers as a savior and a martyr), captured the governorship and Huey's son Russell was elected to the U S Senate Traditionally Democratic, Louisiana in the presidential election of that year bolted to the States Rights party candidate, J Strom Thurmond, a strong upholder of "white supremacy" Since Reconstruction the issue of Negro rights has been a bitter one in the state, which has a large Negro population The Negroes live primarily in S Louisiana and in the east, where they are partially blended into the old Creole culture, which persists faintly in New Orleans even today The descendants of the Acadians also preserve some of their distinctive culture The French language and French patois have tended to disappear, but Roman Catholicism and French customs survive Completely different is the "American," Protestant, predominantly white culture of N Louisiana The diversity of rich local color has been reflected in the literary works of George W Cable, Grace King, Lafcadio Hearn, Roark Bradford, Lyle Saxon, and Robert Penn Warren Outstanding among institutions of higher learning are Tulane Univ and Louisiana State Univ See C E A Gayarré, *Histoire de la Louisiane* (2 vols, 1846–47, Eng tr., 1866), Alcée Fortier, *A History of Louisiana* (4 vols, 1904), Albert Phelps, *Louisiana* (1905), Lyle Saxon, *Old Louisiana* (1929), W O Scroggs, *The Story of Louisiana* (1924, rev ed, 1936); W. M Caskey, *Secession and Restoration of Louisiana* (1938), R W Shugg, *Origins of Class Struggle in Louisiana* (1939), J D Bragg, *Louisiana in the Confederacy* (1941); H. T. Kane, *Louisiana Hayride* (1941); Federal Writers' Project, *Louisiana, a Guide to the State* (1941).

Louisiana, city (pop 4,669), NE Mo, on the Mississippi below Hannibal, laid out 1818. There are varied small industries, and near by is the Stark nursery. A large government ammonia plant here has been converted into a laboratory for the study and production of synthetic fuels The Champ Clark Bridge crosses the river here

Louisiana Polytechnic Institute: see RUSTON.

Louisiana Purchase. The revelation of the secret agreement of 1800 (see SAN ILDEFONSO, TREATY OF), whereby Spain retroceded Louisiana to France, aroused uneasiness in the United States, and on April 18, 1802, President Jefferson wrote to Robert R Livingston, the American minister to France "The cession of Louisiana and the Floridas by Spain to France, works most sorely on the United States . From that moment [French occupation of New Orleans], we must marry ourselves to the British fleet and nation " Demands for the seisure of New Orleans were heightened late in 1802 when the right of deposit granted by the Pinckney treaty of 1795 was withdrawn by the Spanish intendant (Louisiana was still under Spanish control) Although Spain soon restored the right of deposit, the acquisition of New Orleans became of paramount national interest Jefferson instructed Livingston to attempt to purchase the "Isle of Orleans," i e, New Orleans and West Florida from France He then appointed James Monroe as minister extraordinary and plenipotentiary to serve with Livingston, and Congress granted the envoys $2,000,000 to secure their object The international situation favored the American diplomats Louisiana was of diminishing importance to France, for difficulties in Saint-Domingue (see HAITI) had forced Napoleon to give up his idea of making that island the keystone of his colonial empire Furthermore, impending war with Great Britain made him question the possibility of holding Louisiana against that great naval power He decided to sell Louisiana to the United States On April 11, 1803, Talleyrand, anticipating Napoleon's instructions to his minister of the public treasury, François Barbé-Marbois, opened negotiations by asking the surprised Livingston what the United States would give for all Louisiana Bargaining began in earnest the next day, on Monroe's arrival in Paris On April 29, the U S envoys accepted Barbé-Marbois's price—80,000,000 francs (about $15,000,000), including 20,000,000 francs for discharging claims of American citizens against France The treaty, dated April 30, 1803, was signed several days later Jefferson, a strict constructionist, believed that the Constitution granted no power to acquire foreign territory and proposed the adoption of a permissive amendment The overwhelming public approval of the Louisiana Purchase (though there was some objection from Federalists, especially in New England) and Livingston's intimation that Napoleon might change his mind caused Jefferson to reconsider his plan The treaty was ratified on Oct 21, 1803, and the U S flag was raised over New Orleans on Dec 20 Although the French had regarded the Iberville and Rio Grande rivers as the east and west boundaries of Louisiana, no such limits were set forth in the treaty, and the boundaries were not settled for several years (see WEST FLORIDA CONTROVERSY) From the Louisiana Purchase, which increased the national domain by about 140 percent, were carved all or part of 13 states Louisiana (admitted 1812), Missouri (1821), Arkansas (1836), Iowa (1846), Minnesota (1858), Kansas (1861), Nebraska (1867), Colorado (1876), North Dakota (1889), South Dakota (1889), Montana (1889), Wyoming (1890), and Oklahoma (1907) See Henry Adams, *History of the United States* (9 vols, 1889–91), J K Hosmer, *The History of the Louisiana Purchase* (1902), E S Brown, *The Constitutional History of the Louisiana Purchase* (1920), E W. Lyon, *Louisiana in French Diplomacy, 1759–1804* (1934), A P Whitaker, *The Mississippi Question, 1795–1803* (1934)

Louisiana State University and Agricultural and Mechanical College, mainly at University, near Baton Rouge, land-grant and state supported, coeducational, chartered 1853, opened as a state seminary 1860 near Alexandria (with W. T. Sherman as superintendent), moved 1869, became a university 1870, absorbed the Agricultural and Mechanical College 1877 It includes colleges of agriculture, arts and sciences (journalism, music, and other schools), chemistry and physics (Audubon Sugar School), commerce, and engineering, schools of education, law, and library science, and a medical center in New Orleans There are lower schools, a university press, an engineering and five agricultural experiment stations, the state geological survey, and historical museums. During the period of Huey Long's influence in the state, the university gained magnificent physical equipment

Louis Napoleon: see NAPOLEON III

Louis of Baden (bä'dŭn), 1655–1707, margrave of Baden (1677–1707), German general in the imperial service. In 1689 he was made chief commander of the imperial army in Hungary, where he inflicted a resounding victory on the Turks at Slankamen (1691) He later commanded in the War of the Spanish Succession, but his fame was overshadowed by that of his maternal cousin, Prince Eugene of Savoy.

Louis period styles, 1610–1793, a succession of modes of interior decoration and architecture which established France as a leading influence in the decorative arts During the reign of Louis XIII (1610–43) there was a transition from the earlier baroque style, strongly influenced by Italy, to the classical dignity of the period of Louis XIV (1643–1715). The Louis XIV [*Louis Quatorze* (lwē kätôrz')] style, established after the king took personal control of the government in 1661, was molded by the chief minister, Colbert, who established manufactories of tapestries, textiles, furniture, and bibelots, assembled leading artists and craftsmen in the royal service, and appointed Charles Le Brun director of the Gobelins (see Gobelin) and decorator of the palace of Versailles Interiors showed a unity of composition which subordinated the elaborate decoration to a simple architectural framework Neutral backgrounds emphasized the strong, rich colors of Gobelin, Aubusson, and Beauvais tapestries, Savonnerie and Oriental rugs, velvet or brocade upholstery hangings, and large paintings on walls and ceilings Such ornaments as scrolls, the acanthus, caryatids, busts, and full figures with festoons of flowers and fruit were employed Large mirrors decorated the walls Furniture scaled to the huge proportions of the rooms was made of ebony or covered with silver, gilt, or lacquer and decorated with carving, marquetry in the manner of A C Boulle, and metal mounts The Regence style, established during the regency of Philippe II, duc d'Orléans (1715–23), made a transition between the formality of the Louis XIV period and the intimate gaiety of the Louis XV style Finely sculptured bronze reliefs became the outstanding mode of furniture decoration under the leadership of the cabinetmaker Charles Cressent The Louis XV [*Louis Quinze* (lwē kēz')] (1723–74) style was characterized by free curves and the use of rococo ornament and chinoiserie Rooms were smaller, specialized, and arranged for convenient use Colors were delicate Tinted wood, veneer, lacquer panels, marquetry, mounts by Caffieri and Pierre Gouthière, and porcelain plaques of Sèvres ware distinguish the furniture The style in its later phase was more restrained and presaged the strong reaction of the Louis XVI [*Louis Seize* (lwē sēz')] (1774–93) period, during which simplicity replaced excess and the classic revival influenced decorative motifs and brought a return to straight lines and symmetry Slenderness of proportion is apparent in wall treatment and furniture Colors were grayed and light in tone, ornament delicate and in low relief, embossed, or painted Furniture details comprise slender fluted legs, convex moldings, and rosette, leaf, and flower motifs in the carved frames often painted white and touched with gilt Upholstery and hangings show a varied use of fabrics The Revolution abolished the guilds which had maintained high standards of craftsmanship and weakened the practice, instituted under Louis XIV, of cooperation between artists and masters of the various crafts in producing fine furniture and decorative accessories

Louis Philippe (lwē' fēlēp'), 1773–1850, king of the French (1830–48), known before his accession as Louis Philippe, duc d'Orléans The son of Philippe Egalité (see Orléans, Louis Philippe Joseph, duc d'), he joined the forces of the French Revolution, but deserted from the French army with Dumouriez (1793) He spent a large part of his long exile in straitened circumstances in England and in the United States After the Bourbon restoration he returned to France and was a quiet but prominent figure in the liberal opposition to Louis XVIII and Charles X He was favored by the discontented upper bourgeoisie led by the banker Laffitte and supported by journalists such as Thiers When Charles X was overthrown by the July Revolution of 1830, Louis Philippe was made lieutenant general of the realm and, finding the approval of the marquis de Lafayette, who commanded the national guard, was chosen "king of the French" (not "of France," a significant change) His reign, known as the July Monarchy, marked the triumph of the wealthy bourgeoisie and big business The constitutional charter of 1814 was revised (1830) in a liberal direction, but as the years progressed it became increasingly evident that the king totally lacked understanding of the economic and political rights of the working classes, whose numbers had been increased and whose living conditions had deteriorated as a result of the Industrial Revolution To the agitation for reduction of property qualifications in voting, the government replied with the classic slogan, "Get rich!" The king's increasingly reactionary outlook was encouraged by numerous radical outbreaks and by the attempt (1835) of Fieschi on his life, it was faithfully reflected by his successive ministries, headed by Laffitte (1830–31), Casimir Périer (1831–32), Soult (1832–34), C A L V de Broglie (1835–36), Molé (1836–39), Thiers (1840), Soult (1840–47), and Guizot (1847–48) Guizot was the chief political figure from 1840 onward. Louis Philippe favored colonial expansion, Algeria was conquered in his reign. He maintained friendly relations with England, based on French and English intervention in favor of Belgium, and on the Quadruple Alliance of 1834, but the Franco-British entente was ended in 1846 by the Spanish Marriages (see Isabella II) In France, Louis Philippe became increasingly unpopular On the right wing, he was opposed by the legitimists (who favored the restoration of the senior Bourbon line) and by the Bonapartists The leftist elements organised in numerous secret revolutionary societies Louis Blanc and Karl Marx were among the socialist and communist writers whose doctrines were about to open a new era The opposition to Guizot undertook (1847–48) the "campaign of banquets," organised all through France to propagate the demand for electoral reform This campaign culminated in the February Revolution of 1848 Louis Philippe abdicated in favor of his grandson (see Orléans, family), but a republic was set up The king fled to England, where he died He enjoyed the friendship of Queen Victoria Louis Philippe was known as the "citizen king" because of his ostentatiously bourgeois manner and dress (he was often seen walking on foot, equipped with an umbrella) He and his regime were mercilessly satirized by Daumier His reign was marked by tremendous industrial expansion and by material progress In the arts and literature romanticism, represented by Delacroix, Berlioz, Victor Hugo, Musset, and many others, reacted against the materialistic spirit of the time French society in the July Monarchy has been described in a large body of the work of Honoré de Balzac See J S C Abbot, *Louis Philippe* (1902), J Lucas-Dubreton, *The Restoration and the July Monarchy* (Vol VIII of National History of France)

Louis the Bavarian see Louis IV, emperor

Louis the Child, 893–911, German king (899–911), son and successor of Emperor Arnulf He was the last of the German line of the Carolingians The archbishop of Mainz was regent for him During his reign the Magyars began their devastating raids into Bavaria, Saxony, and Thuringia Louis was succeeded by Conrad I

Louis the German, c 804–876, king of the East Franks (817–40) His father, Emperor Louis I, partitioning his empire in 817, gave Louis Bavaria and adjacent territories In the conflict between his brother Lothair I, and their father, Louis the German repeatedly changed sides (see Louis I) In 839 his father deprived Louis of certain territories in favor of Lothair Louis again rebelled against his father, who died on the campaign against him Louis now joined with his half brother Charles (Charles the Bald, later Emperor Charles II) against Lothair, who sought to establish his supremacy in their kingdoms They checked Lothair at Fontenoy (841), renewed their alliance (842, see Strasbourg, Oath of), and forced Lothair to accept the fateful Treaty of Verdun (843, see Verdun, Treaty of) In 858–59 Louis turned against Charles and unsuccessfully invaded France, but both brothers soon directed their attention to the lands of Lothair's heirs, Emperor Louis II and King Lothair of Lotharingia Lotharingia was divided between them by the Treaty of Mersen (870) The death (875) of Emperor Louis II brought on war between Louis the German and Charles, who quickly conquered Italy and was crowned emperor Louis the German, in the course of his reign, defended his frontiers against the Slavs and the Danes and suppressed several revolts of his sons, Carloman of Bavaria, Louis the Younger, and Charles the Fat (later Emperor Charles III)

Louis the Great see Louis I, king of Hungary

Louis the Pious see Louis I, emperor

Louis the Stammerer see Louis II, French king

Louis the Younger, d 882, German king, ruler (876–82) over Saxony, Franconia, and Thuringia, son of Louis the German He shared the succession with his brothers Carloman (d 880) and Charles the Fat (later Emperor Charles III) In 876 Louis the Younger at Andernach defeated his uncle Emperor Charles II (Charles the Bald), who had claimed a portion of Louis's share of Lotharingia Louis attempted twice to win France from Louis III and Carloman, but gave up this plan in return for the cession of the remainder of Lotharingia At his death Germany was reunited under Emperor Charles III

Louisville. 1 (lōō'ĭsvĭl) Coal-mining town (pop 2,023, alt c.5,350 ft), N Colo , NNW of Denver, in a grain and sugar-beet area, inc 1892 **2** (lōō'ĭsvĭl) City (pop 1,803), co seat of Jefferson co , E Ga , SW of Augusta and on the Ogeechee river, in a farm area, laid out 1786 as the prospective capital of Georgia The state buildings were completed in 1795, and Louisville was the seat of government until 1804, when Milledgeville became capital In the city are an old slave market (built before 1800) and several late-18th-century houses **3** (lōō'ĭvĭl) City (pop 319,077), co seat of Jefferson co , N Ky , SW of Cincinnati and at the Falls of the Ohio, inc 1828 The falls are used for power, and the river is here bridged to Indiana Louisville is the largest city in Kentucky, a port of entry, and one of the important industrial, financial, market, and shipping centers in the South Laid out in 1773, it was settled after George Rogers Clark built a fort here in 1778 and was in 1780 named by the Virginia legislature Louisville for Louis XVI In 1782 Fort Nelson was built here The city—a portage place around the falls until a canal was built in 1830—grew as a river port; after the arrival of the railroads in the mid-19th cent. its shipping was even more significant During the Civil War the city was a military and supply base for Union forces It is a railroad center, with repair shops, and has distilleries, tobacco factories, meatpacking plants, oil refineries, and hundreds of other industries The Univ of Louisville (see Louisville, University of), Nazareth College (Catholic, for women, 1920), Louisville Presbyterian Theological Seminary, Southern Baptist Theological Seminary, the Univ of Kentucky college of pharmacy, Jefferson School of Law, Ursuline College, the state school for the blind, and the American Printing House for the Blind are here Churchill Downs, noted race track and scene of the famous annual Kentucky Derby (first held in 1875), is in Louisville The city has a fine park system and is the site of the state fairgrounds The Louisville *Courier-Journal* is one of the nation's distinguished newspapers Among the points of interest in the city are the Filson Club (with its historical library and museum), the public library, the Memorial Auditorium, and old Cave Hill Cemetery with the grave of George Rogers Clark Near by are the home and the tomb of Zachary Taylor See I M McMeekin, *Louisville the Gateway City* (1946) **4** (lōō'ĭsvĭl) City (pop 3,451), co seat of Winston co , E central Miss , SW of Columbus, in a timber, dairy, and farm area, inc 1836 A state park is near by **5** (lōō'ĭsvĭl) Village (pop 3,379), NE Ohio, near Canton It manufactures steel and women's clothing

Louisville, University of, at Louisville, Ky ; city supported, coeducational, opened as a noted medical institute 1837, chartered as a university 1846 It has a liberal arts college, schools of dentistry, law, music, medicine, and social work, Speed Scientific School, an adult education division, and Louisville Municipal College for Negroes (opened 1931 on the site of Simmons Univ) Speed Memorial Museum of art is at the university See Federal Writers' Project, *A Centennial History of the University of Louisville* (1939)

Lounsbury, Thomas Raynesford, 1838–1915, American author and educator, b Ovid, N Y , grad Yale, 1859 From 1871 to 1906 he was professor of literature at Yale and during that time became an outstanding authority on Chaucer, Shakspere, and the English language His works include *A History of the English Language* (1879–94) and *Life of James Fenimore Cooper* (1882)

Loup (lōōp), river formed in E central Nebraska by the junction of the North Loup, 212 mi long, and the Middle Loup, 221 mi long (the South Loup flows into the Middle Loup) It flows 68 mi E to the Platte at Columbus and is used for a power project

Loup City, city (pop 1,675), co seat of Sherman co , central Nebr , NW of Grand Island and on the Middle Loup river; settled 1873 Dairy products are made here

Lourdes (lōōrd, lōōrdz, Fr lōōrd), town (permanent pop 12,421), Hautes-Pyrénées dept , SW France, at the foot of the Pyrenees It is the greatest place of pilgrimage established in recent times Near by is the grotto where Our Lady of Lourdes (Feast Feb 11) appeared to St Bernadette in 1858 The miraculous cures worked here since then have attracted up to a million pilgrims a year All reported cures are strictly investigated by an ecclesiastic and a medical commission, and the number of cures actually declared authentic by the Church is relatively small

Lourenço Marques (lōrĕn'sō mar'kĕs, Port lōrān'tsō mär'kĭsh) city (pop 69,861), capital of Mozambique, a port on Delagoa Bay It is named for Lourenço Marques, a Portuguese trader who explored the area in 1544 The city was laid out on a modern plan in the 19th cent It exports the gold and diamonds of the Transvaal, the iron and chrome of Southern Rhodesia, and the cattle products of Swaziland Textiles are manufactured

louse, name used to refer to both a bloodsucking and a chewing or biting insect Both groups are small wingless insects The bloodsucking lice have piercing, sucking mouth parts They are external parasites of man and of many other mammals both wild and domestic The biting or chewing lice attack birds, including poultry, and some mammals They feed on epidermal scales, hairs, feathers, or dried blood of wounds Lice are usually found where there is lack of cleanliness Effective treatment is necessary to prevent serious injury or even death of the animal See bulletins of the U S. Dept. of Agriculture

Louth (louth, loudh), maritime county (317 sq. mi.; pop 66,194), Ireland, on the border of Northern Ireland, in Leinster The county town is Dundalk Smallest of the Irish counties, it borders on the Irish Sea from the mouth of the Boyne to Carlingford Bay. The terrain is an undulating plain except for a hilly district in the north Dairy farming and

fishing are the chief occupations There are some linen manufactures at Dundalk, Drogheda, and Ardee The region, which was incorporated as a shire c.1200, is associated with the exploits of the legendary Irish hero, Cuchulain

Louth (louth), municipal borough (pop 9,682), in the Parts of Lindsey, Lincolnshire, England, on the Lud river and NE of Lincoln Late in the 18th cent a canal was built to the Humber river The town's industries include trade in farm produce and the manufacture of agricultural implements and chemicals At the grammar school, founded in the reign of Edward VI, Tennyson was a pupil There are ruins of a Cistercian abbey founded in 1139, for centuries Louth was an important religious center The parish church dates in part from late in the 12th or early in the 13th cent In 1536 it was the meeting place of followers of the PILGRIMAGE OF GRACE

Louvain (lōōvăn', Fr lōōvĕ'), Flemish *Leuven* (lē'vu), city (pop 36,417), Brabant prov, central Belgium, on the Dyle river and E of Brussels It was the capital of the duchy of Brabant until Brussels replaced it (15th cent) The fame of Louvain is largely due to its university, founded in 1426 by Duke John IV of Brabant It is one of the world's leading centers of Catholic learning In the First World War the city was set on fire (1914) Losses included the university library, with irreplaceable incunabula and manuscripts A new library, a gift of the American people, was designed by the American architect Whitney Warren and was opened in 1928 Through gifts from many nations the library again acquired a rich collection, but in 1940 it was once more destroyed by the invading Germans Among buildings which escaped destruction in the First World War, but which suffered damage (both from Germans and Allies) in the Second World War, is the magnificent Gothic city hall (built 1447-63) Other buildings include the 14th-century cloth hall and several medieval churches Louvain is an episcopal see Its chief industry is brewing

L'Ouverture, Toussaint see TOUSSAINT L'OUVERTURE, FRANÇOIS DOMINIQUE

Louvois, François Michel Le Tellier, marquis de (frăswa' mēshĕl' lə tĕlyā' markē' du lōōvwa'), 1639-91, French statesman, war minister of Louis XIV He was associated in office with his father, Michel Le Tellier, who had an important share in the reforms which are commonly credited to Louvois alone Among these reforms were the creation of an efficient provisioning system, the introduction of the bayonet and the flintlock rifle, the close coordination of the artillery and the corps of engineers with the infantry, the creation of grades to which officers might be promoted without purchasing their commissions, and the establishment of a fixed rate of pay By these measures the French army became the most powerful military force in Europe After the death of COLBERT (1683) Louvois became the most influential of Louis's ministers He supported the revocation of the Edict of Nantes (see NANTES, EDICT OF) and was largely responsible for the brutal enforcement of that measure Louvois also was instrumental in the shaping of Louis's aggressive policies The devastation of the Palatinate (1689) by the French army under his orders earned him the condemnation of all Europe

Louvre (lōō'vur), art museum, Paris It has the most notable collection of old masters in the world The building was a royal fortress and palace built (1204) by Philip II, reconstructed after 1541, and converted by Napoleon I into a national museum Napoleon by his conquests added vastly to the collections, but many famous works were returned after his downfall The museum is particularly rich in works of Rembrandt, Rubens, Titian, and Leonardo, as well as in French masterpieces Its *Mona Lisa* by Leonardo da Vinci was once stolen but later restored Its most famous sculptures are the *Nike* or *Victory of Samothrace* and the *Venus of Milo* All the treasures which could be removed were stored away during the Second World War, the Louvre's long gallery was reopened in 1947 See M K Potter, *The Art of the Louvre* (1904).

Louys, Pierre (pyĕr' lwē'), 1870-1925, French novelist and poet of the Parnassian school, whose real name was Pierre Louis. His early poems, collected under the title *Astarte* (1891), were first published in the *Conque*, a review which he had founded His novel *Aphrodite* (1896) made him famous, it was made into an opera in 1906 The poems *Chansons de Bilitis* [songs of Bilitis] (1894) are remarkable imitations of Sappho

Lovat, Simon Fraser, 12th **Baron** (lŭ'vŭt), c 1667-1747, Scottish chief and Jacobite conspirator He fled to France (1702) when Queen Anne's accession brought his enemy, the duke of Atholl, to power and in 1703 returned to plot against him with the duke of QUEENSBERRY (James Douglas) When the plot failed, Fraser fled again, but after imprisonment abroad by the JACOBITES returned in 1714 Instead of leading his clan in the rebellion of 1715, as expected, he joined the government forces and received back his estates In the rebellion of 1745, having posed as loyal to the crown, he sent his clan to fight for the Pretender. He was captured in hiding, impeached, convicted, and beheaded See biography by W C Mackenzie (1908)

Love, Alfred Henry, 1830-1913, American pacifist, b Philadelphia Love, a Quaker, remained firm in his principles at the outbreak of the Civil War, refusing even to hire a substitute when he was drafted, he set forth his position in *An Appeal in Vindication of Peace Principles* (1862) With others he formed the Universal Peace Union and until his death remained the leader of this body and editor of its publications and periodical He urged the outlawry of war, the negotiation of treaties of arbitration, the establishment of an international court, and arbitration in industrial disputes He was burned in effigy for his vigorous criticism of the Spanish-American War

love bird see PARAKEET

love-in-a-mist, hardy annual garden plant (*Nigella damascena*), having finely cut foliage and blue or white flowers surrounded by a cluster of thready bracts It is also called fennelflower—as are other plants of the genus—and devil-in-the-bush The seeds have been used medicinally Seeds of another species (*Nigella sativa*) are called black cumin and have been used in the Old World for seasoning, they are thought to be the fitch of the Bible (Isa 28 25, 27)

Lovejoy, Elijah Parish, 1802-37, American abolitionist, b Albion, Kennebec co, Maine, grad Waterville (now Colby) College, 1826, and later studied theology at Princeton In 1833 he became editor of the *Observer*, a Presbyterian weekly in St Louis His antislavery views (he advocated gradual emancipation) became extremely unpopular and in 1836 he moved to Alton, Ill There he advocated immediate abolition in his Alton *Observer* Mobs destroyed three of his presses, and on Nov 7, 1837, while guarding another new press, he was killed Lovejoy's martyrdom helped advance in the North the cause of the ABOLITIONISTS

Lovejoy, Owen, 1811-64, American abolitionist, b Albion, Kennebec co, Maine, educated at Bowdoin He witnessed the killing of his brother Elijah P LOVEJOY, under whom he studied for the ministry Vowing to take up Elijah's cause, he became the recognized leader of Illinois abolitionists, he persuaded them to accept the more conservative leadership of Lincoln and become a part of the Republican strength For many years Lovejoy was pastor of the Congregational church at Princeton, Ill, and served in Congress from 1857 until his death

Lovejoy, Ill see BROOKLYN

Lovelace, Richard, 1618–57, English poet The son of a Kentish knight, he was educated at Oxford In 1642 he was briefly imprisoned when he presented a Kentish petition to the Commons He served with Louis XIV in 1646, in 1648 he was imprisoned by the Commonwealth, and his fortune, then lost, was never regained His first volume of poems revealed him as one of the CAVALIER POETS This book, *Lucasta Epodes, Odes, Sonnets, Songs, &c* (1649), included his two most famous poems, "To Althea, from Prison" ("Stone walls do not a prison make") and "To Lucasta, Going to the Wars" ("I could not love thee, dear, so much loved I not honor more") The rest of his poems, together with several elegies, appeared in *Lucasta Posthume Poems* (1660) See edition of his poems by C H Wilkinson (1930), C H Hartmann, *The Cavalier Spirit and Its Influence on the Life and Work of Richard Lovelace* (1925)

Loveland 1 City (pop 6,145), N Colo, N of Denver, founded 1877, inc 1881 It is a food-processing center in a fertile farm area 2 Village (pop 1,904), SW Ohio, on the Little Miami river and NE of Cincinnati, settled c 1825 as Paxton, inc 1876 as Loveland

Lovell (lŭ'vul), town (pop 2,175), N Wyo, on the Shoshone river and near the Mont line, laid out 1900 by Mormons It is a rail and processing center in an irrigated sugar-beet area and has oil refineries

Lovelock, city (pop 1,294), co seat of Pershing co, W Nev, on the Humboldt, settled c 1860, inc 1917 A station on the old trail along the Humboldt, it is now the center of a ranch and mine area and of the Humboldt reclamation project, created in 1935–36 Alfalfa and grains are raised

Lover, Samuel, 1797–1868, Irish novelist, song writer, and painter, especially of miniatures His ballad *Rory O'More* (1836) appeared in 1837 both as a novel and as a play His other works include *Legends and Stories of Ireland* (1831), which he illustrated, *Songs and Ballads* (1839); and *Handy Andy* (1842), a novel His song "The Low-backed Car" is still sung See biographies by W B Barnard (1874) and A J Symington (1880)

Lovington 1 Village (pop 1,215), central Ill, just SE of Decatur, in a farm area, inc 1873 2 Town (pop 1,916), co seat of Lea co, SE N Mex, near the Texas line, founded 1908 It is a rail and trade center for a truck-farm, oil, and cattle area.

Low, David (lō), 1891–, British cartoonist, b Dunedin, New Zealand In 1919 he went to England, where he worked (1919–27) on the London *Star*. In 1927 he joined the staff of the *Evening Standard*, in which appeared his sharp and perceptive caricatures and cartoons on national and international affairs He created "Colonel Blimp," caricature of the British ultraconservative His cartoons have been collected in *A Cartoon History of Our Times* (1939), *Low on the War* (1941), and *Years of Wrath* (1946), which covers the period 1931–45.

Low, Seth (lō), 1850-1916, American political reformer and college president, b Brooklyn, N Y., grad Columbia, 1870 He entered his father's tea and silk importing firm, but became interested in politics and was reform mayor of Brooklyn for two terms (1882–86) His support of Grover Cleveland in 1884 angered regular Republicans and cost Low a third term As president of Columbia (1889-1901) he reorganized the existing schools, added to their number, increased affiliations with other institutions, supervised the removal of the university to Morningside Heights (1897), and gave it a library building in memory of his father In 1901 he was elected mayor of New York city as Fusion candidate against Tammany, then under Richard CROKER He reformed the police and education departments, reorganized the city finances, compelled the electrification of the New York Central RR within the city, and attacked the unsanitary tenements He was not reelected Low was a delegate to the First Hague Conference See biography by B R C Low (1925)

Low, Will Hicok, 1853-1932, American painter, illustrator, and designer, b Albany, N Y After work as an illustrator in New York city, he studied in Paris from 1873 to 1877, chiefly in the atelier of Carolus-Duran Low was an early exponent of the plein-air school, and his paintings are notable for delicate drawing and color and decorative effect Among his works are murals in the courthouses in Newark, N J, and Wilkes-Barre, Pa, and in the Federal Building, Cleveland, stained glass windows in Rock Creek Church, Washington, D C, and St Paul's Methodist Episcopal Church, Newark, N J, and a frieze in the state legislative library and murals in the rotunda, state capitol, Albany, N Y Other paintings include *Aurora* (Metropolitan Mus), *The Orange Vendor* (Art Inst, Chicago), *Victory* (Columbia Univ), and *May Blossoms* (Smith College) Examples of his illustrations are the designs for Keats's *Lamia* and *Odes and Sonnets* His *Chronicle of Friendships* (1908) records his friendship with R L Stevenson and others He became a member of the National Academy of Design in 1890

Low Archipelago see TUAMOTU ISLANDS

lowboy. see CHEST

Low Church see ENGLAND, CHURCH OF

Low Countries, region of NW Europe comprising the NETHERLANDS, BELGIUM, and the grand duchy of LUXEMBOURG The northern parts of the Netherlands and Belgium form a low plain bordering on the North Sea, but S Belgium and Luxembourg are part of the Ardennes plateau The name Low Countries thus is a political and historic rather than a strictly geographic concept One of the wealthiest areas of medieval and modern Europe, it also has been chronically a theater of war For the history of the Low Countries, see articles on the individual countries and on their provinces (e g, FLANDERS, BRABANT, DUCHY OF, HOLLAND) See also NETHERLANDS, AUSTRIAN AND SPANISH

Lowden, Frank Orren (lou'dun), 1861–1943, American political leader, b Chisago co, Minn, grad State Univ of Iowa, 1885, LL B Union College of Law (now Northwestern Univ law school), 1887 He practiced law in Chicago after 1887, and he gained extensive agricultural holdings in Illinois A leading member of the Republican party after 1900, Lowden served in the U S House of Representatives (1906–11) and as governor (1917–21) of Illinois Lowden gained wide notice as governor by his reorganization of the state government and by his effective handling of the Chicago race riots in 1919 In the Republican presidential nomination of 1920, he was deadlocked with Leonard Wood at 311½ votes on the eighth ballot, which enabled Harding to gain the nomination In 1924 he refused—much as he had rejected cabinet posts previously—to run as Vice President on the Republican ticket, but he remained an influential party leader and a spokesman of the farmer

Lowe, Sir Hudson (lō), 1769–1844, British general He fought with credit throughout the French Revolutionary and Napoleonic Wars, mainly in the Mediterranean region, and served (1815–21) as governor of St Helena and custodian of NAPOLEON He was criticized severely for his alleged mistreatment of the French exiles on St Helena His latter years were largely spent in controversy on this score, and he wrote a self-vindication See William Forsyth, *History of the Captivity of Napoleon* (1853), R C Seaton, *Napoleon's Captivity in Relation to Sir Hudson Lowe* (1903)

Lowe, Robert, Viscount Sherbrooke. see SHERBROOKE, ROBERT LOWE, VISCOUNT

Lowe, Thaddeus Sobieski Coulincourt, 1832–1913, American aeronaut and inventor, b Coos co, N H He flew (1861) a distance of 900 mi in a balloon constructed by him Later the same year President Lincoln appointed him chief of the corps of

aeronautics of the U S army During the course of the Civil War he built up a fleet of observation balloons that served in many engagements Lowe invented (1865) a machine for making ice, equipped (1868) a steamer with refrigeration for haulage of perishable food, and built regenerative metallic furnaces for gas and petroleum and a coke-oven system for simultaneously producing gas and metallic coke Among his other accomplishments were the building (1891–94) of the railway up Mt Lowe and the establishment of the Lowe Observatory in the Sierra Madre

Lowell, Abbott Lawrence (lō'ul), 1856–1943, American educator, president of Harvard Univ (1909–33), b Boston, grad Harvard (B A , 1877, LL B , 1880), brother of Percival Lowell and Amy Lowell He practiced law in Boston for 17 years and joined the Harvard faculty in 1897 as a lecturer in political science, becoming a professor in 1900 In 1909 he succeeded Charles W Eliot as president As Eliot had developed the graduate schools of Harvard, Lowell turned his attention to the undergraduate college To combat specialization, he introduced (1914) a modification of the elective system, established (1917) the requirement of a general examination in their major subject for candidates for the bachelor's degree, instituted (1917) the tutorial system for upper classmen, and, finally (1931), put into operation, in seven new residence halls along the Charles river, his "house plan," whereby, through residential units like those in English universities, he hoped to secure the advantages of intellectual and social cohesion Lowell is remembered for his spirited defense of academic freedom and for his advocacy of American participation in the League of Nations His presidency saw a period of tremendous physical growth at Harvard and the reorganization of the finances of the university His writings include *Essays on Government* (1889), *Public Opinion and Popular Government* (1913), *Conflicts of Principle* (1932), *Biography of Percival Lowell* (1935), and *What a University President Has Learned* (1938) See biography by H A Yeomans (1948).

Lowell, Amy, 1874–1925, American poet and critic, b Brookline, Mass , privately educated, sister of Percival Lowell and Abbott Lawrence Lowell Although her sensuous perception was sharpened by many years of travel, this gift was not apparent in her first book, a conventional collection of verse entitled *A Dome of Many-coloured Glass* (1912) A year later her curiosity and energy led to a meeting with the imagists, and the result was her first imagist collection, *Sword Blades and Poppy Seed* (1914), experiments in free verse (for which her term was "unrhymed cadence"), *Can Grande's Castle* (1918) is in "polyphonic prose " Her poetic importance increased with *Men, Women, and Ghosts* (1916) and *Fir-Flower Tablets* (with Florence Ayscough, 1921) *What's o'Clock* (1925), *East Wind* (1926), and *Ballads for Sale* (1927) appeared posthumously Among the best known of her poems are "Patterns" and Lilacs " She wrote several volumes of criticism, including *Six French Poets* (1915) Her finest work is perhaps her two-volume biography of Keats (1925), both perceptive and scholarly, which takes high rank among the great English biographies See *Florence Ayscough and Amy Lowell Correspondence of a Friendship* (ed by H F MacNair, 1945), biography with selected correspondence by S F Damon (1935)

Lowell, Francis Cabot, 1775-1817, pioneer American cotton manufacturer, b Newburyport, Mass , grad Harvard, 1793, son of John Lowell (1743–1802) A merchant in Boston, he traveled (1810) to England, where he studied closely the new machinery used in the textile industry of Lancashire Upon his return, and with the aid of Paul Moody, he designed and constructed from memory and imperfect drawings the first power loom in America, which had important improvements over its English prototypes With his brother-in-law Patrick T Jackson, and with Nathan Appleton among others, he formed the Boston Manufacturing Company and at Waltham, Mass , built the first factory in America to perform all the operations involved in converting raw cotton into cloth He succeeded in having a duty on cotton incorporated into the tariff law of 1816 Lowell, Mass , founded after his death, was named for him John Lowell (1799–1836) was his son See C F Ware, *The Early New England Cotton Manufacture* (1931)

Lowell, James Russell, 1819–91, American poet, essayist, editor, and diplomat, b Cambridge, Mass He was poet of his class at Harvard, 1838 He abandoned the law in 1841, after taking a degree in it, and in that year his first volume of poems, *A Year's Life*, was published With his own short-lived journal, the *Pioneer*, he began a long career as editor of or contributor to various periodicals In 1844 he married Maria White (1821–53), whose poems and letters, edited in 1936 by H J Vernon with a biography, show her strong abolitionist sentiments Lowell's *Poems* (1844) reflect the social sympathy she inspired in him After her death, he married (1857) Frances Dunlap Publication (1846) in the Boston *Courier* of the first of the *Biglow Papers*, criticizing in Yankee vernacular the war with Mexico, established his reputation as a social satirist and a wit, the papers were published as a book in 1848 A second series, on issues of the Civil War, appeared (1862–66) and were published as a book in 1867 *Conversations on Some of the Old Poets* (1845) and *A Fable for Critics*, in verse (1848), showed him to be an able critic In 1856, after a year's study abroad, he succeeded Longfellow as Smith professor of French and Spanish at Harvard A distinguished teacher, he was active until 1876 and held the title until 1886, when he became an emeritus professor In the meantime he was also the first editor (1857–61) of the *Atlantic Monthly* and later (1864–72) was an editor of the *North American Review* His most important essays and studies of English authors in these magazines were collected in *Fireside Travels* (1864), *Among My Books* (1870, Ser 2, 1876), and *My Study Windows* (1871) Critics have preferred among his poems *The Vision of Sir Launfal* (1848), *Commemoration Ode*, delivered at Harvard in 1865, and *Three Memorial Poems* (1877), tributes to Washington, to Lincoln, and to America He was appointed minister to Madrid in 1877, and three years later minister to London, where he remained until 1885 While abroad Lowell did much to increase the respect of foreigners not only for American letters but for American institutions, and his speeches in England, published as *Democracy and Other Addresses* (1887), contain some of his most enduring work His letters, edited by Charles Eliot Norton (1893) together with *New Letters*, edited by M A De Wolfe Howe (1932), remain valuable for their keen and lively comments on public affairs and the literary activities of his generation See E E Hale, *James Russell Lowell and His Friends* (1899), W D Howells, *Literary Friends and Acquaintance* (1900), J J Reilly, *James Russell Lowell as a Critic* (1915), Norman Foerster, *American Criticism* (1928), biographies by H E Scudder (1901), Ferris Greenslet (1905), and R C Beatty (1942)

Lowell, John, 1743–1802, American jurist, b Newburyport, Mass , grad Harvard, 1760 He became (1762) a lawyer and later served in the provincial assembly (1776, 1778), in the state constitutional convention (1779–80), and in the Continental Congress (1782–83) Lowell was a member (1784) of the commission that settled the New York–Massachusetts boundary dispute, and after 1789 he held several major judicial posts He was a founder of the American Academy of Arts and Sciences He was the father of Francis Cabot Lowell and John Lowell (1769–1840)

Lowell, John, 1769–1840, American political writer, b Newburyport, Mass , grad Harvard, 1786, son of John Lowell (1743–1802) He practiced law, but devoted most of his time supporting his Federalist views in newspapers and pamphlets *Mr Madison's War* (1812) was probably his most effective bit of writing

Lowell, John, 1799–1836, American philanthropist, b Boston, Mass , son of Francis Cabot Lowell Sickness forced him to leave Harvard (1816), and he traveled to India Lowell, a patron of learning, endowed the Lowell Institute in Boston as a center of adult education

Lowell, Josephine Shaw, 1843–1905, American social worker, one of the 19th-century pioneers of modern charity organization, b West Roxbury, Mass Her brother, Robert Gould Shaw, and her husband were killed in the Civil War She introduced a number of notable reforms in hospitals, asylums, and prisons and helped found the influential Charity Organization Society of New York city Her writings include *Public Relief and Private Charity* (1884) and *Industrial Arbitration and Conciliation* (1893) See W R Stewart, *The Philanthropic Work of Josephine Shaw Lowell* (1911)

Lowell, Percival, 1855–1916, American astronomer, b Boston, grad Harvard, 1876, brother of Abbott Lawrence Lowell and Amy Lowell He visited Korea and Japan and acted as counselor and foreign secretary to the Korean Special Mission to the United States and wrote about the Orient in *Chôson* (1885), *The Soul of the Far East* (1888), and *Occult Japan* (1895) Becoming interested in astronomy, he established (1894) the Lowell Observatory at Flagstaff, Ariz , and devoted himself to making personal observations It was his belief that Mars was inhabited and that there was a planet beyond Neptune (later confirmed by the discovery of Pluto) From 1902 he was nonresident professor of astronomy at the Massachusetts Institute of Technology Among his many writings on astronomy are *Mars and Its Canals* (1906), *The Evolution of Worlds* (1909), and *The Genesis of Planets* (1916). See biography by A L Lowell (1935)

Lowell. 1 Town (pop 1,448), Lake co , NW Ind , SE of Chicago, settled 1849 2 City (pop 101,389), a co seat of Middlesex co , NE Mass , on the Merrimack at the confluence of the Concord and NNW of Boston, settled 1653, set off from Chelmsford 1826, inc as a city 1836 It developed after textile mills were built here in 1822 and became one of the great textile centers of the country Electrical and other products are also made. Lowell Textile Institute (coeducational, 1895) and a state teachers college are here There are several fine parks Whistler's birthplace is preserved Dickens visited Lowell in 1842 and described it in *American Notes* See also J P Coolidge, *Mill and Mansion* (1942)

3 Village (pop 1,944), S Mich , E of Grand Rapids at the confluence of the Grand with the Flat River, in a farm area, inc 1859 A milling plant and hatcheries are here 4 Textile-mill town (pop 1,826), W central N C , E of Gastonia

Lowellville, village (pop 2,359), NE Ohio, on the Mahoning at the Pa line and SE of Youngstown, settled c 1800, inc 1836 It has steel mills and limestone quarries

Lower Austria, Ger *Niederösterreich*, autonomous province or *Bundesland* (7,097 sq mi , pop 1,268,-234), NE Austria Vienna, though outside its boundaries, is the seat of the local government Lower Austria borders in the north and northeast on Czechoslovakia More than half of Austrian industry centers in the Vienna and Wiener Neustadt basins, there are oil fields near Zistersdorf Most of the area is hilly and agricultural The Semmering region, in the south, is a tourist and health center The history of Lower Austria coincides with that of Austria

Lower Avon see Avon 1 river, England

Lower California peninsula, c 760 mi long and 30–150 mi wide, NW Mexico, separating the Gulf of California from the Pacific The land area (55,634 sq mi , 1946 estimated pop 167,367) is almost equally divided into northern and southern territories Mexicali is the northern capital, La Paz the southern Except for two large coastal plains on the Pacific side, the peninsula is a rugged mountain range averaging 5,000 ft in altitude, with one peak, San Pedro Martir more than 10,000 ft high From the temperate northern zone to the tropical southern, the land is generally semiarid and undeveloped, isolated mountain valleys, peopled almost entirely by Indians, are the only natural cultivable areas Rainfall is light, but there is enough stream water to establish small reclamation projects The mineral yield from the mountains is considerable, especially copper, silver, and gold There is some pearl fishing In the north are the resorts Agua Caliente and Tijuana Mexicali has an irrigated area The coasts were first explored by Francisco de Ulloa in 1539, but attempts at colonization of the forbidding interior, even those made by the intrepid mission fathers, were largely unsuccessful United States forces occupied (1847–48) Lower California in the Mexican War, and William Walker attempted (1853–54) to wrest it from Mexico in his first disastrous filibustering expedition See Max Miller, *The Land Where Time Stands Still* (1943)

Lower Canada see Quebec, province

Lower Saxony, Ger *Niedersachsen* (nē'dûrsäk"sun), German state (18,231 sq mi , pop 6,432,793), formed in Jan , 1946, in the British zone of occupation in NW Germany It includes the former Prussian province of Hanover and the former states of Brunswick, Oldenburg, and Schaumburg-Lippe Hanover is the capital The area has had no historic unity since 1180, when Emperor Frederick I broke up the duchy of Henry the Lion of Saxony, of which it was a part The term "Lower Saxony" continued, however, as a geographic expression It also designated (16th cent until 1806) one of the imperial circles of the Holy Roman Empire, the circle included (besides present Lower Saxony) Mecklenburg, Holstein, and Bremen The state of Lower Saxony joined (1949) the West German federal republic

Lowestoft (lō'stŏft, -stuf), municipal borough (1931 pop 41,769, 1947 estimated pop 41,880), Suffolk East, England, near Oulton Broad S of Yarmouth It is a fishing port, yachting center, and resort The Denes are an open stretch, with an esplanade and golf course, above which is the North, or Old, Town, with a lighthouse marking the most easterly point of England New Town is on the other side of Lake Lothing and the harbor Cromwell took the town in 1643, and in 1665 (June 3) it was the scene of the victory of the English under the duke of York (later James II) over the Dutch St Margaret's Church has a very old tower, but dates mostly from the 14th cent Lowestoft ware, made from 1757 to 1802, was a fine bone china, often decorated with Chinese designs

Lowie, Robert Harry, or **Robert Heinrich Lowie** (lō'ē), 1883–, American anthropologist, b Vienna, grad College of the City of New York (B A , 1901), PhD Columbia, 1908 He was (1908–21) on the staff of the American Museum of Natural History In 1917 he became associate professor, and in 1925 professor, at the Univ of California He served (1912–33) as associate editor and editor of the *American Anthropologist* He is an authority on the North American Indian, especially of the northern Plains tribes, and is an outstanding contributor to anthropological theory His works include *Primitive Society* (1920), *Primitive Religion* (1924), and *The History of Ethnological Theory* (1937)

Lowndes, Rawlins (lounds), 1721–1800, president of South Carolina (1778–79), b St Kitts, British West Indies In 1730 his family moved to Charles-

ton, S C , where Lowndes became a noted lawyer In the colonial assembly (he was speaker several times) and as associate judge of the court of common pleas, he took a leading part in opposing British measures before the American Revolution, but opposed armed rebellion and independence Nevertheless he helped draft the state constitution and was chosen President in 1778, he declined reelection After the war he was the leading opponent in South Carolina of ratification of the Federal Constitution

Lowndes, William, 1782–1822, U S. Representative from South Carolina (1811–22), b Colleton co , S C , son of Rawlins Lowndes Admitted to the bar in 1804, he served in the state legislature (1806–10) before entering Congress Fair-minded and dispassionate, he was formidable in debate and even won the admiration of his opponents He was one of the "war hawks," the group led by Henry Clay which urged the War of 1812 Lowndes favored the tariff of 1816, advocated internal improvements, urged the establishment of the Second United States Bank, and took a leading part in working out the Missouri Compromise By 1820 he had turned against the tariff and took the lead in opposing it in Congress He died at sea early in 1822 while en route to England See biography by Mrs St Julien Ravenel (1901)

Lowth, Robert (louth), 1710–87,'English prelate and scholar He was noted for his lectures on Hebrew poetry, delivered while he was professor of poetry at Oxford, 1741–50 (published in Latin as *De sacra poesi Hebraeorum praelectiones academicae*, 1753, Eng tr by G. Gregory, 1787) Lowth was bishop of London from 1777, declining the primacy when it was offered to him in 1783 His published works include *Life of William of Wykeham* (1758), *Short Introduction to English Grammar* (1762), and *Sermons and Other Remains* (1834), with a memoir

Lowville (lou'vĭl), village (pop 3,578), co seat of Lewis co , N N Y , SE of Watertown, in a farm area, inc 1871 Cheese products are made here

Loyal, town (pop. 1,600), E Ky , in the Cumberlands near Harlan, in a coal area, inc 1928

Loyalists, in the American Revolution, colonials who adhered to the British cause Since the conservatives in England and the colonies were called Tories in the 18th cent , the Loyalists are also called Tories Though there were Loyalists in all walks of life—merchants, professional men, and mechanics —they were more numerous among the propertied men and large landholders, the clergy (especially the Anglicans), and, of course, the officeholders under the crown In 1774-75, when most colonials hoped for reconciliation with the British government, the line between Loyalist and patriot was not very sharp, but later, especially after the Declaration of Independence (1776), it grew sharper, though all shades of opinion from rabid anti-British feeling to fanatic loyalty to the crown could be seen in the American population Figures on public opinion in the Revolution are obviously mere guesswork, but John Adams estimated that one third of the colonials were Loyalists, and it may be fairly supposed that another third were neutral, apathetic, or opportunistic, taking whichever side seemed better at the moment or trying to avoid taking either side The Loyalists were strongest in the far southern colonies, Georgia and the Carolinas, and in the Middle Atlantic colonies, especially New York and Pennsylvania In those places particularly the fighting became bitter civil war with raids and reprisals The patriots deeply hated the leaders of Loyalist armed bands, such as Thomas Browne, Edmund Fanning, and John and Walter Butler. Even before warfare began many Loyalists were seeking refuge in British-held lands Feeling against them, plus natural cupidity, led the patriots to confiscate many Loyalist estates The matter of restoring these properties to their owners was discussed in negotiations for the Treaty of Paris (1783), and the treaty provided that Congress should urge the states to make restitution, but actually little was done, and there were stray lawsuits concerning particular properties for many years A great many of the dispossessed Loyalists settled permanently in the Maritime Provs of Canada, in the Bahamas, in other parts of the West Indies, and in England See Egerton Ryerson, *Loyalists of America, 1820–1816* (1880), T B Myers, *The Tories or Loyalists in America* (1882), C. H Van Tyne, *The Loyalists in the American Revolution* (1929); studies of Loyalism in individual provinces by A C Flick (1901, New York), I S Harrell (1926, Virginia), E. A. Jones (1927, New Jersey, 1930, Massachusetts), and R O. DeMond (1940, North Carolina)

Loyalty Islands, coral group (800 sq. mi , pop 11,854), S Pacific, 60 mi E of New Caledonia, of which they are a dependency They comprise three large islands (Lifu, Maré, and Uvéa) and many islets. The chief export is copra

Loyang or **Lo-yang** (lō'yäng'), city and county (pop 480,254), W Honan prov , China The city is the hub of several highways and is located on the Lung-Hai RR, the principal east-west line of China It was the capital of the Eastern Chou kingdom (770–256 B C) and of the T'ang dynasty (A D. 618–906). In 1932 the national government was temporarily moved here from Nanking, then under threat of Japanese attack. Loyang was formerly called Honanfu

Loyola, Ignatius of: see Ignatius of Loyola, Saint.

Loyola College: see Baltimore, Md

Loyola University (loiō'lu), mainly at Chicago, Catholic (Jesuit), partly coeducational, chartered and opened 1870 as St Ignatius College, renamed 1909 It includes colleges of arts and sciences (one at West Baden Springs, Ind), schools of commerce, dentistry (Chicago College of Dental Surgery), law, medicine, nursing, and social work, a division of public health nursing, and an institute of social administration Of interest is a large collection of writings on the Jesuits

Loyola University, at New Orleans, Catholic (Jesuit), partly coeducational, opened 1911, chartered 1912, successor to Loyola College (opened 1904) and the College of the Immaculate Conception (opened 1849) It has colleges of arts and sciences, business administration, music, and pharmacy, schools of dentistry and law, and an institute of industrial relations It owns a seismograph

Loyola University of Los Angeles, Catholic, mainly for men, opened 1865, chartered 1869 as St Vincent's College, taken over 1911 by Jesuits, renamed 1918 It has a law school and colleges of liberal arts, business administration, and science

Loyson, Charles (sharl' lwasō'), 1827–1912, French preacher, called Père Hyacinthe He was successively a Sulpician, a Dominican, and a Carmelite In 1869, when he was perhaps the best-known preacher in France, he opposed the calling of the Vatican Council He opposed enunciation of the doctrine of the infallibility of the pope, and in 1871 he left the Church and married soon after In 1878 he founded a "Gallican" church at Paris, this joined later (1893) with the Jansenists of Utrecht

Lozère (lōzĕr'), department (2,000 sq mi , pop 90,523), S France, named for a branch of the Cévennes mts Mende is the capital

Lozier, Clemence Sophia (lō'zhur), 1813–88, American homeopathic physician, b Plainfield, N J , M D Syracuse Univ , 1853 She assisted in founding (1863) the New York Medical College and Hospital for Women, of which she became clinical professor and later dean The woman-suffrage movement received her active support

Lu, chemical symbol of the element lutecium

Lualaba. see Congo

Luanda (lōōän'du, -an'du), city (pop 66,932), capital of Angola (since 1627) It was founded in 1575 and until the 19th cent it was the center of the slave trade to Brazil It is a seaport and is on a railroad to the rich interior The European population is 9,487 It was formerly São Paulo de Loanda

Luang Prabang (lwang' prŭbang'), city (pop c 20,000),N Laos, Indo-China, on a spit of land at the confluence of the Mekong and Khan rivers It is the economic center of N Laos and was for several centuries the center of a Thai-Lao kingdom The site has been occupied by man since Neolithic times

Luapula. see Congo

Lubbock, Sir John (lŭ'buk), 1834–1913, English banker, statesman, and naturalist As a member of Parliament from 1870, he introduced many reform bills, especially in banking—to him England owes her bank holidays His scientific contributions were in entomology and anthropology and include his *Prehistoric Times* (1865), long used as a textbook in several languages, popular works include *Ants, Bees, and Wasps* (1882) and *The Pleasures of Life* (1887) He was created Baron Avebury in 1900 See biography by H G Hutchinson (1914) His father was **Sir John William Lubbock,** 1803–65, an astronomer and mathematician He made a special study of tides and of the lunar theory and developed a method for calculating the orbits of comets and planets In mathematics he applied the theory of probability to life-insurance problems He wrote *An Elementary Treatise on the Computation of Eclipses and Occultations* (1835), *On the Theory of the Moon and on the Perturbations of the Planets* (1833–61), and *An Elementary Treatise on the Tides* (1839)

Lubbock, city (1940 pop 31,853, 1947 estimated pop 45,000), co seat of Lubbock co , NW Texas, S of Amarillo on the Llano Estacado, founded 1891, inc 1909 On the broken upper reaches of the Double Mountain Fork of the Brazos, Lubbock was a cow town until a land rush in the 1920s converted it into the metropolis of the South Plains Cooperative effort has forwarded its rapid growth and has made it a clean, trim city The cotton, grain, dairy products, poultry, eggs, cattle, and oil from the surrounding treeless plains are handled by Lubbock Texas Technological College (coeducational, 1923) has been here since 1925, and there is an agricultural experiment station

Lubec (lōō'bĕk), town (pop 3,108), SE Maine, S of Eastport; settled c.1780, inc. 1811. It is a resort and fishing place Sardines are canned. At West Quoddy Head, easternmost point of the United States, SE of Lubec village, is a lighthouse Treat's Island is the terminus of a dam for the Passamaquoddy Bay project

Lübeck (lēb'ĕk, Ger. lü'bĕk), city (1939 pop. 154,811; 1946 pop. 223,059), Schleswig-Holstein, N Germany, on the Baltic Sea at the mouth of the Trave river. It is a major Baltic port and has a metallurgical industry and machinery and textile manufactures Dating from the 11th cent., Lübeck received (1158) its third charter from Henry the Lion of Saxony, this charter, which granted far-going communal rights, was copied by more than 100 other German cities In 1226 Frederick II made Lübeck a free imperial city. Ruled by a merchant aristocracy, it soon rose to great commercial prosperity, acquired hegemony over the Baltic trade, and headed the Hanseatic League. The rise of the maritime powers of Denmark and Sweden and the commercial revolution wrought by the discovery of America caused the decline of the league and, with it, of Lübeck After 1630 no more Hanseatic diets (until then held at Lübeck) took place Lübeck, however, escaped the ravages of the Thirty Years War, though it had lost its power, its patrician merchant families continued to prosper In the Napoleonic Wars the Prussian army under Blücher capitulated (1806) to the French at near-by Ratekau, and Lübeck was occupied by the French It joined the German Confederation as a free Hanseatic city, governed by a senate, it retained that status until 1937, when the National Socialist regime in Germany incorporated Lübeck into Schleswig-Holstein The construction (1900) of the Elbe-Trave Canal helped in the revival of the Lübeck trade The city of Lubeck must not be confused with the former bishopric of Lübeck, whose rulers resided from c.1300 at near-by Eutin The bishops were territorial princes of the Holy Roman Empire and accepted the Reformation in the 16th cent The prince-bishopric passed into a branch of the Danish house of Holstein-Gottorp, which in 1773 also acquired the duchy of Oldenburg Secularized in 1803, the former bishopric of Lübeck (which did not include the city of Lübeck in its territory) became a district of Oldenburg, but was transferred to Schleswig-Holstein in 1937 Despite its partial destruction (1942) by bombing in the Second World War, the inner city of Lübeck remains one of the finest relics of medieval architecture in N Europe Among the chief buildings that escaped major damage are the magnificent city hall (13th–16th cent), the churches of St Jacob (13th–14th cent) and of St Catherine (14th cent), the Hospital and Church of the Holy Ghost (13th cent), and the Holstentor (15th cent), an imposing city gate flanked by two round towers, now used as a museum Heavily damaged were the cathedral and the large Church of St Mary (both 13th–14th cent) and many of the old patrician residences In 1950 reconstruction was in progress Lubeck has an old musical tradition since the days when Buxtehude was organist here The life and decline of a Lübeck patrician family is the subject of the novel *Buddenbrooks*, by Thomas Mann, who was born here

Lubim (lū'bĭm), in the Bible, the Libyans 2 Chron 3, 16 8, Nahum 3 9 For other possible occurrences, see Chub, Lehabim, Lud

Lubin, David (lōō'bĭn), 1849–1919, American philanthropist, b Poland After accumulating some wealth as a merchant in California, he devoted himself to helping the farming population, whose problems he had come to know His efforts brought into existence a cooperative marketing group, the California Fruit Growers' Association He envisaged a solution on a world scale and tried to interest the American government in an international institute of agriculture but succeeded in getting only the Italian government to help found it The organization failed to accomplish what Lubin had hoped See biography by O R Agresti (1922)

Lubitsch, Ernst (ĕrnst' lōō'bĭch), 1892–1947, German moving-picture director He had been an actor on the German stage and an outstanding director of such German films as *Puenon, Deception*, and *One Arabian Night* before he came to the United States in 1922 as director for Mary Pickford He was best known for suave and witty comedies and musicals, such as *Forbidden Paradise, The Love Parade, The Smiling Lieutenant, Design for Living*, and *Ninotchka*.

Lübke, Wilhelm (vĭl'hĕlm lüp'kŭ), 1826–93, German writer on art He was professor of architecture at Berlin Building Academy (1857–61) and of the history of art and archaeology at Zurich (1861–66), Stuttgart (1866–85), and Karlsruhe (1885–93). Chief among his writings are *Geschichte der Architektur* [history of architecture] (1855), *Grundriss der Kunstgeschichte* (1860, Eng tr by Alexander Cook, *Outlines of the History of Art*, 1880; reedited by Russell Sturgis, 1904), and *Geschichte der Plastik* (1863, Eng. tr , *History of Sculpture*, 1878).

Lublin (lōō'blēn), city (pop. 99,400), E Poland One of the oldest Polish towns, it was the meeting place of several diets (16th–18th cent), one of which united (1569) Poland with Lithuania. Lublin passed to Austria in the third partition of Poland (1795) and to the Russian Empire in 1815. It was (1918) the seat of a temporary Polish Socialist government; in 1944 it was one of the first Polish cities to be liberated by the Soviet army and was the seat of a provisional Polish government rivaling

the government in exile in London At the YALTA CONFERENCE (Feb , 1945) it was agreed that the Lublin government should be broadened by including members of the London cabinet, after its reorganization the Lublin government was recognized as the sole Polish authority at the POTSDAM CONFERENCE (Aug , 1945) The Catholic university at Lublin (founded 1918) was reopened in 1944 and renamed Maria Curie-Sklodowska Univ Chiefly a trading center, Lublin also has metal, glass, food, and electrical industries Lublin province (c 1,000 sq mi , pop 1,889,650) is a generally flat and arable region with some mineral deposits In the Second World War the Germans established here a reservation for the Jews of Central Europe, containing the extermination camps of Sobibor, Belzec, and MAJDANEK, where millions were killed Important cities besides Lublin are Chelm, Siedlce, and Zamosc.

lubrication, the introduction of a substance (called a lubricant) between the contact surfaces of moving parts to reduce friction Dry or solid friction between unlubricated moving parts results in injury by abrasion and in the generation of heat which may cause one part to "seize" the other because of unequal expansion or, in metals, to develop "hot points" when temperatures above the melting point of the metals may cause welding The aim of lubrication is to replace dry friction by thin-film, or preferably by fluid-film, friction In thin-film friction the boundary layers of the lubricant tend to be adsorbed by the contact surfaces, thereby increasing their slipperiness and keeping them far enough apart to prevent intermolecular attraction of the surfaces Since heavy loads tend to squeeze out lubricants and speed is required to permit formation and maintenance of thick films, thin-film lubrication usually occurs with heavy loads, slow speeds, or intermittent action In fluid, or thick-film, friction a pressure film is formed between moving surfaces and carries the load, keeping the surfaces completely apart The most desirable lubrication is a fluid film sufficiently thick and viscous to bear the load, excess thickness or viscosity, however, increases internal friction in the fluid and results in loss of power Any substance inserted between moving parts to decrease friction is a lubricant Although air, water, milk, or other substances are sometimes employed, a lubricant is usually a fat or oil, a grease, or a slippery solid From ancient times until the late 19th cent , lubricants were obtained from vegetable or animal fats and oils Today over 90 percent are derived from petroleum or shale oil Lubricants may be classed as liquid, semisolid, and solid Liquid lubricants, generally mineral oils or mixtures of these with fixed oils, are the most extensively used Mineral oils may be distilled and condensed without decomposing They differ widely in specific gravity, viscosity, vapor pressure, boiling point, and other properties and therefore offer a wide range of selection for the increasingly varied needs of modern industry Although many nondrying vegetable and animal oils have a greater degree of oiliness than most mineral oils and are therefore useful for thin-film lubrication, they are not widely employed because they tend to form acids and sludges Semisolid lubricants are usually GREASE or solidified fats Since they resist being squeezed out, they are useful under heavy load conditions and in inaccessible parts where the supply of lubricant cannot readily be renewed As they ooze from the point of lubrication, they tend to form a crust that prevents the entry of dirt or grit between contact surfaces Solid lubricants tend to be held by the surface of lubricated parts, filling in crevices and increasing slipperiness They are especially useful where heavy loads would squeeze out other lubricants Most extensively used are graphite, talc, soapstone, mica, flowers of sulphur, and white lead Some, especially amorphous graphite, are finely divided and used in colloidal form in liquid carriers Efficient operation of machinery depends not only on the lubricant selected but also on the method of application Lubricants were formerly applied by hand, but the lubrication of modern machinery requires exact methods that can be controlled Mechanical contrivances to supply lubricants are called lubricators. A simple form consists of a drop-feed container mounted over a bearing or other part and having a hole or an adjustable valve of a size suitable to the viscosity of the lubricant and the rate of flow desired Wick-feed oilers placed under parts to be oiled operate by capillarity Horizontal bearings are often oiled by ring or collar devices which comprise a housing, of which the bottom forms an oil reservoir, and a ring that rotates with the bearing journal and carries oil from the reservoir to the top of the bearing where it is distributed along the bearing through grooves or channels Bath oiling is useful where the construction of oil-tight reservoirs is practicable, the large amount of oil helps to carry away heat from contact surfaces. Splash-oiling devices, also used where gears, bearings, or other parts are contained in housings, have moving parts that dip into the oil and splash it on the bearings or into distribution channels. Centralized oiling systems usually consist of a reservoir, pump, and tubes through which oil is circulated; heaters or coolers may be introduced to adapt the viscosity of the oil for various parts of the system Many oiling devices are automatically controlled so as to start and stop the flow of oil with the machinery Grease may be applied by packing enclosed parts with the lubricant, by placing grease in an adjacent well whence it is pressed onto moving parts, through grease cups mounted over bearings and fitted with a screw or spring device for forcing out the grease, and by pressure guns or pumps, often mounted on the machinery For most machinery different methods of lubrication must be employed for the various parts For example, in the modern passenger automobile the chassis is periodically lubricated at several points with grease, certain wheel bearings are grease-packed, the transmission and rear axle housings must be kept filled with heavy oil to the desired level, and the engine is generally lubricated by forced-feed circulation in which oil is pumped from the crankcase to the bearings and to the cylinders where it lubricates the piston rings and also forms a seal to prevent leakage of combustion gases See T C Thomsen, *The Practice of Lubrication* (3d ed , 1937), J I Clower, *Lubricants and Lubrication* (1939), A E Norton, *Lubrication* (ed by J R Muenger, 1942)

Luca Giordano see GIORDANO, LUCA

Lucan (Marcus Annaeus Lucanus) (lo͞o'kŭn), A D 39–A D 65, Latin poet, b Corduba (Córdoba), Spain, nephew of the philosopher Seneca At first in Nero's favor, he was later forced to kill himself when his part in a plot against the emperor was discovered Ten books of his epic commonly called *Pharsalia* (on the civil war between Caesar and Pompey) survive Though the poem, written in a severe style, is often digressive and extravagant, it has a kind of vigorous beauty and grandeur which gave Lucan a high place in the esteem of later writers

Lucania (lo͞okā'nēu), ancient region of S Italy bounded on the east by the Gulf of Tarentum (Taranto) and by Apulia, on the north by Samnium and Campania, on the west by the Tyrrhenian Sea, and on the south by Bruttium Italic tribes and Greek colonists along the coast of MAGNA GRAECIA lived here before the Roman conquest (3d cent B C), their chief cities were Heraclea and Metapontum on the Gulf of Tarentum and Paestum and Buxentum on the Tyrrhenian coast The non-Greek Lucanians were Samnites, speaking Oscan The western portion of ancient Lucania is now in Campania, the larger eastern part is in BASILICATA

Lucaris, Cyril (lo͞ka'rĭs),1572–1637, Greek churchman, b Crete (then Venetian) He studied at Venice and Padua and was elected patriarch of Alexandria (1602–20) and of Constantinople (1620–37) In Western Europe he had become imbued with Calvinistic ideas, and he attempted to synthetize them with Orthodoxy He published a *Confession of Faith* (1629) to this end and sent many young priests to study in the West He corresponded with leading Anglicans and Lutherans and sent the Codex Alexandrinus of the Bible to Charles I His Protestant tendencies had no lasting effect in the East, and after his death a synod condemned his teachings In Constantinople he was deposed several times The sultan, Murad IV, had him murdered on charges that he was involved in an anti-Turkish plot He is also called Cyril Lucar

Lucas (lo͞o'kus), variant of LUKE

Lucas, Edward Verrall, 1868–1938, English essayist and critic His many volumes of gently satirical essays and travel books include *A Wanderer in London* (1906), *Old Lamps for New* (1911), *Traveller's Luck* (1930), *Reading, Writing, and Remembering* (1932), *Saunterer's Rewards* (1933), *Only the Other Day* (1937), and *All of a Piece* (1937) *Over Bremerton's* (1908) is his best-known novel An authority on the Lambs, he wrote a biography of Lamb (1905), and collected the letters of Charles and Mary Lamb (1903–5)

Lucas van Leyden (lo͞o'kăs vän lī'dun), 1494–1533, Dutch historical and genre painter and engraver, whose real name was Lucas Jacobsz He studied with his father, Hugh Jacobsz, a Leiden engraver, and with Cornelis Engelbrechtsz and soon established himself as an engraver of extraordinary ability, as well as a painter of originality and power When Dürer visited Antwerp, Lucas met his great rival Over 170 copperplate engravings, some 30 designs for woodcuts, and about 20 paintings are attributed to him, and with him Dutch genre painting may be said to begin His art is notable for its realistic and rugged treatment, dramatic power, and careful execution, even his religious subjects are never idealized His later works reflect the influence of the Italian school Lucas's paintings include *The Chess Players* and *Virgin Enthroned* (Berlin Mus. collection), *Lot and His Daughters* (Louvre); *Death of John the Baptist* (Philadelphia Mus of Art), *The Last Judgment* (town hall, Leiden), *Last Judgment* (N Y Historical Society), and an unfinished painting in tempera, *Joseph's Coat* (Metropolitan Mus) Among his plates are *Conversion of St Paul*, *Ecce Homo*, *Return of the Prodigal Son*, and *Adam and Eve Expelled from Paradise*

Lucca (lo͞ok'kä), city (pop 32,896), capital of Lucca prov , Tuscany, central Italy, near the Tyrrhenian Sea It is an agricultural trade center (olive oil and wine) with tobacco manufactures A Ligurian settlement, later a Roman town, it became (6th cent) the capital of a Lombard duchy and (12th cent) a free commune, which soon developed into a republic In spite of ruthless internal strife between Guelphs and Ghibellines and frequent wars (especially with Pisa and Florence) the city prospered Its bankers and merchants were noted throughout Europe, as were its velvets and damasks The arts also flourished after the 12th cent Lucchese sculpture reached its zenith in the 15th cent with Matteo CIVITALI, whose fine works adorn the cathedral Numerous churches, showing Pisan influence, were built from the 12th to the 14th cent Save for short periods of rule by tyrants, foremost among them Castruccio CASTRACANI, and by foreign powers, Lucca remained an independent republic until Napoleon I made it a principality (1805) for his brother-in-law, Felice BACIOCCHI, and his sister Elisa Lucca became a part in 1817 of the duchy of PARMA and in 1847 of the grand duchy of Tuscany, in 1860 it was annexed to the kingdom of Sardinia Of the city's many churches, the cathedral, San Frediano, and San Michele, with their fine marble façades, deserve special mention, its medieval palaces, towers, and ramparts are also notable

Luce, Stephen Bleecker, 1827–1917, American naval officer, b Albany, N Y He entered the navy as a midshipman in 1841 In the Civil War he was head of the department of seamanship at the Naval Academy (then at Newport, R I) and served on blockade duty off the South Carolina coast After the war he was commandant of midshipmen at Annapolis and saw varied service afloat and ashore It was largely owing to his efforts that the naval war college was established at Newport in 1884, and he was its first superintendent (1884–86). Promoted rear admiral in 1886, he was retired in 1888 Luce was generally considered the foremost seaman of his time, and his *Seamanship* (1863), which went through many editions, was long an authoritative text See biography by Albert Gleaves (1925)

Lucedale, town (pop 1,204), co seat of George co , SE Miss , near the Ala line SE of Hattiesburg, in a diversified farming area

Lucera (lo͞och'rä), rural city (pop 17,472), Apulia, S Italy Its huge castle, built by Emperor Frederick II, was once the most important fortress of Apulia

lucern see ALFALFA

Lucerne (lo͞osĕrn', lū-), Ger *Luzern* (lo͞otsĕrn'), canton (576 sq mi , pop 206,608), Switzerland It is agricultural and pastoral, with large forested areas, its population is mainly German-speaking and Roman Catholic One of the FOUR FOREST CANTONS, its history is that of its capital, **Lucerne** (pop 54,716), which grew up around the monastery of St Leodegar, founded in the 8th cent An important trade center on the St Gotthard route, it became a Hapsburg possession (1291), but joined the Swiss Confederation in 1332 and gained full freedom after the battle of Sempach (1386) Lucerne was the chief town of the SONDERBUND (1845–47) The noted monument, Thorvaldsen's Lion of Lucerne, carved in rock, was erected (1820–21) in memory of the Swiss GUARDS Other points of interest are the covered bridges from the 14th and 15th cent , a church (Hofkirche) from the 8th cent , the Glacier Garden, the town hall (16th cent), the cantonal buildings, and several museums There are machine and printing industries A summer resort, Lucerne is on the Reuss river and on the **Lake of Lucerne,** Ger *Vierwaldstättersee* (fēr'vält''shtĕtursä') [lake of the Four Forest Cantons] (area 43½ sq mi), which is noted for its scenery Irregular in shape, the lake borders the cantons of Lucerne, Uri, Schwyz, and Unterwalden The Reuss river flows through it

Luchaire, Achille (äshēl' lüshĕr'), 1846–1908, French historian, an authority on the history of medieval France He edited, in collaboration with Berthold Zeller, *L'Histoire de France racontée par les contemporains* (65 vols , 1880–90), a collection of excerpts from original sources His *Histoire des institutions monarchiques de la France sous les premiers Capétiens* (2d ed , 2 vols , 1891), *Manuel des institutions françaises période des Capétiens directs* (1892), *Les Communes françaises à l'époque des Capétiens directs* (rev ed , 1890), and *Social France at the Time of Philip Augustus* (1909; Eng. tr , 1912) are not only authoritative and indispensable studies of medieval France under the Capetians, but are also models of lucid exposition and style The last-named work is of equal interest to the student and the general reader Luchaire also wrote a biography of Innocent III (6 vols., 1906–8).

Luchon or Bagnères-de-Luchon (bänyĕr"-dŭ-lüshō'), town (pop 4,065), Haute-Garonne dept., S France It is the most important resort in the Pyrenees, at the foot of the MALADETTA MOUNTAINS Its warm

sulphur springs have been known since Roman times Luchon is now also a winter sports center

Lu-chu Islands see RYUKYU ISLANDS.

Lucia, Santa. see LUCY, SAINT

Lucian, Saint (lū'shŭ), d 312, Syrian Christian scholar, b Samosata A pupil of PAUL OF SAMOSATA, he was the teacher of Arius at Antioch He prepared a version of the Scriptures, but none of his writings survive He was martyred Feast Jan 7

Lucian, fl 2d cent, Greek prose writer, called also Lucianus, b Samosata, Syria He traveled widely, lecturing in Italy, ASIA Minor, and Gaul In later life he held a government position in Egypt Lucian wrote an easy, masterly Attic prose, which he turned to satirical use His wit, his characterizations, his distrust of vagaries, and his hatred of fraud give his satires a vigor and an interest which have made him highly admired and often imitated He wrote nearly 80 works The most important and characteristic are his dialogues (e g , *Dialogues of the Gods, Dialogues of the Dead, The Sale of Lives*) which treat primarily of ancient mythology (the Olympian fables, which he satirizes) and of contemporary philosophers (whose ineptitude he exposes) *The True History*, a fantastic tale parodying incredible adventure stories, influenced such later writers as Rabelais and Swift, *Lucius, or, The Ass*, doubtfully Lucian's, seems to have been the model for APULEIUS Lucian also wrote poems and rhetorical, critical, and biographical works

Luciani, Sebastiano see SEBASTIANO DEL PIOMBO

Lucifer (lū'sĭfur), [Latin,=light-bearing], the planet Venus as the morning star In Isaiah 14 12 the celebrated reference to Lucifer is figurative for the king of Babylon, but it was misunderstood to mean the fallen angel Hence the name passed into tradition as a name for the devil The name in Greek was Phosphorus See SATAN

Lucifer of Cagliari (kalya'rē), d 370, bishop of Cagliari, Sardinia (353–70), violent opponent of Arianism As legate of Pope Liberius he went to the council at Milan (355) that Constantius disbanded by exiling the Catholic delegates Lucifer was bitter against those who seemed to submit to Arianism, and on his return to Sardinia (362) he formed a sect of his own, barring all who had strayed into Arianism at all His peremptory consecration of a bishop for Antioch (outside his jurisdiction) perpetuated the schism of MELETIUS

Lucilius, Caius (kā'us lĭsĭl'ēus, kĭ'us), c 180–102? B C, Latin satiric poet, considered the founder of Latin satire, b Campania, Italy. His verse, energetic and trenchant but careless in style, survives in fragments He influenced Horace, Persius, and Juvenal

Lucioni, Luigi (lwē'jē lōōchō'nē), 1900–, American painter, b Malnate, Italy, where his earliest studies began After his family moved to New York city in 1915, he studied in Cooper Union night classes for four years and thereafter at the National Academy of Design for a similar period He won a scholarship to the L C Tiffany Foundation at Oyster Bay, L I , and worked there for several summers Lucioni exhibited widely and is known as a painter of still life, landscapes, and portraits All are characterized by polished style, accurate drawing, fine design, and clear color Lucioni is represented in many private and public collections His *Pears and Pewter* (Metropolitan Mus) is characteristic

Lucius III, d 1185, pope (1181–85), a native of Lucca named Ubaldo Allucingoli, successor of ALEXANDER III and predecessor of URBAN III He was a Cistercian with St Bernard and received (1141) the red hat from Innocent II He was a successful diplomat under Alexander, notably in the peace negotiations (1177) with Emperor Frederick I. In his reign his relations with Frederick were cool, Lucius refused to crown Henry VI, Frederick's son, and there was the perennial question of the lands of the Countess Matilda Pope and emperor had a long conference at Verona in 1184 that resembled a council from the attendance, here they issued a joint decree (*Ad abolendam*) on the extirpation of heresies This had a new stringency and detail, but death was not yet invoked as a penalty The Waldensians were condemned at this meeting

Lucius. 1 Christian teacher at Antioch, a Cyrenian Acts 13 1 **2** Christian at Rome Rome 16 21

Luck, Ukraine see LUTSK

Luckner, Felix, Graf von (fā'lĭks graf fŭn lōōk'nur), 1886–, German naval hero After spending several adventurous years as a common sailor, Luckner returned to Germany and joined the merchant marine In 1916 he was placed in command of the commerce raider, *Seeadler*, shipped through the British blockade, and before his capture near the Fiji Islands (1918) destroyed Allied shipping worth over $25,000,000 His bold operations in the Atlantic and the Pacific earned him the nickname "The Sea Devil" See Lowell Thomas, *Count Luckner, the Sea Devil* (1927)

Lucknow or **Lakhnau** (both. lŭk'nou), city (pop 387,177), SW United Provs., India In 1949 it became, the capital of United Provs It was the capital of the kingdom of Oudh (1775–1856) and then of Oudh prov until that province was merged (1901) with Agra prov to make the present-day United Provs Except for the Imambara [mausoleum] of Asuf-ad-daula, its greatest king, the architectural remains of the royal period are inferior In the Sepoy Rebellion (1857–58) the British garrison under Sir Henry M Lawrence and the colony suffered heavy losses in the eight-month siege of the residency Sir Colin Campbell relieved the city in 1858 Today Lucknow is an educational center with a university and several colleges Cotton cloth, silver, copper, and brass implements and pottery are manufactured

Lucrece (lūkrēs') or **Lucretia** (lūkrē'shŭ), in Roman legend, Roman matron, illustrious for her virtue She was the victim of rape by Sextus, son of Tarquinius Superbus Having enjoined her husband, L Tarquinius Collatinus, and his friends to avenge her, she stabbed herself to death The ensuing revolt drove the Tarquins from Rome See Shakspere's *Rape of Lucrece*

Lucretius (Titus Lucretius Carus) (lūkrē'shus), c 99 B C –c 55 B C , Roman poet Of his life little can be stated A chronicle of St Jerome speaks of his birth and of the loss of his reason through taking a love potion It states that in sane intervals he had written some books which were later emended by Cicero The poetry of Lucretius is comprised in one great didactic work, *De rerum natura* [on the nature of things] In dignified and beautiful hexameter verse the poet sets forth arguments founded upon the philosophical ideas of Democritus and Epicurus, dividing his exposition into six books With intense feeling he seeks to persuade man that there need be no fear of the gods or of death, since "man is lord of himself" The proof that he builds up is based upon the atomic theory (not the same as the modern atomic theory) Everything, even the soul, is made up of atoms, and the laws of nature control all The soul is itself material and so closely associated with the body that whatever affects one affects the other If they were separated neither could survive Consciousness ends with death There is no immortality of the soul The gods exist, but the affairs of men do not concern them The universe came into being through the working of natural laws in the combining of atoms, instead of by the creative power of deity Many of the principles he gives in his scientific discussions have been upheld by modern investigations Seeing clearly and thinking seriously, he calls upon man to face life with fortitude, believing in his own independence See J Masson, *Lucretius, Epicurean and Poet* (1907–9), E E Sikes, *Lucretius* (1936)

Lucullus (Lucius Licinius Lucullus Ponticus) (lūkŭ'lus), c 110 B C –56 B C , Roman general He served in the Social War under Sulla, who made him his favorite. He fought in the East (87–85 B C), always loyal to his patron, who made him curule aedile (79 B C) and praetor (78 B C), Sulla also made Lucullus his literary executor and the guardian of his son The enmity Pompey felt for Lucullus is traceable partly to Sulla's preference Lucullus was consul (74 B C) and obtained for his proconsulship the province of Cilicia, since his colleague, Cotta, received Bithynia, the proconsuls went to the East to attack MITHRIDATES VI, who was advancing steadily through Asia Minor Mithridates defeated Cotta, but Lucullus camped behind the Pontic king, drew him out, and annihilated his army Mithridates withdrew into Pontus Next year (72 B C) Lucullus pushed Mithridates into Armenia, where Mithridates took refuge with King Tigranes Lucullus applied himself to the establishment of order in Asia, exciting great unpopularity in Rome by reforming the provincial finances The capitalists now combined with Pompey's party and began an agitation for Lucullus' recall, they sent out emissaries also to sow discontent in the army, which had never been devoted to him In 69 B C , Lucullus invaded Armenia and took the capital, Tigranocerta This was the climax of his career, for mutiny began to become a daily occurrence in his army, and Pompey's party was growing stronger In 66 B C he was recalled and Pompey, a greater general, replaced him Lucullus retired to Rome He kept out of state affairs and spent huge sums on public shows and on his estates

Lucy, Saint, d 304?, Sicilian virgin martyr, commemorated daily in the canon of the Mass She is very popular in Sicily and in S Italy Her attributes a lamp, an awl, a sword, or a wound in her throat In Italian her name is Lucia Feast Dec 13

Lud, eponym of an Asiatic people, probably the Lydians Gen 10 22, 1 Chron 1 17 There is probably textual confusion at some points with the LUBIM Isa 66 19, Jer 46 9, Ezek 27 10, 30 5

Ludd, Palestine see LYDDA

Luddites, workmen of the industrial centers of England who rioted in 1811–16 They systematically wrecked machinery, to which they attributed the prevailing unemployment They were named for Ned Ludd, who, 30 years earlier, had destroyed stocking frames

Ludendorff, Erich (ā'rĭkh lōō'dundôrf), 1865–1937, German general A disciple of SCHLIEFFEN, he served through the First WORLD WAR as chief of staff of Field Marshal HINDENBURG. It is generally believed that Ludendorff was the brain behind Hindenburg's decisions When Prince Max von Baden became chancellor (Oct., 1918), Ludendorff demanded that Germany should ask for an armistice He was dismissed and fled to Sweden Returning in 1919, he took part in the ultranationalist Kapp putsch (1920) and in the "beer-hall putsch" (1923) of Adolf HITLER He was acquitted in the subsequent trial, was a National Socialist member of the Reichstag (1924–28), and sharply criticized President Hindenburg Meanwhile he had come under the influence of his second wife, Dr. Mathilde Ludendorff, who founded a new "Aryan" religion Mentally unbalanced, Ludendorff and his wife (a specialist in mental diseases) wrote pamphlets accusing the pope, the Jesuits, the Jews, and the Free Masons of a common plot against Aryan man and for some time alienated even Hitler's friendship His saner writings include *Ludendorff's Own Story* (Eng tr , 1919) and *The General Staff and Its Problems* (Eng tr , 1920)

Lüdenscheid (lu'dunshīt), city (pop 49,926), Westphalia, NW Germany, ESE of Wuppertal It is a metalworking center manufacturing household goods Lüdenscheid was chartered in 1278 and was a member of the Hanseatic League

Lüderitz (lü'durĭts), town (pop 4,547), Southwest Africa, on the Atlantic Ocean Built after 1882, it was the chief port and settlement of the former German colony It is on a railroad to the interior and is a fishing and diamond-mining center

Ludhiana (lōōdēa'nu), city (pop 111,639), Punjab state, India Though it was founded c 1490, the present city is largely modern Ludhiana is a railroad junction and a commercial center It manufactures flour, hosiery, and rolled steel

Ludim (lū'dĭm), African people, unknown unless Ludim be a textual error for LUBIM Gen 10 13, 1 Chron 1 11 See also LUD

Ludington (lŭd'), city (pop 8,701), co seat of Mason co , N Mich , on Lake Michigan at the mouth of the Pere Marquette river, inc 1873 It is a shipping point and a resort in a region of many lakes and rivers plentiful with trout It has varied manufactures A monument in Ludington marks Father Marquette's first burial place (1675) A state park is near by

Ludlow, Edmund (lŭd'lō), c 1617–1692, English soldier and regicide judge He fought as a captain of cavalry in the first civil war and assisted (1651–52) in the plantation of Ireland He sympathized with the republican Puritans and opposed the Protectorate of Oliver Cromwell and his son Richard and likewise the Restoration of Charles II At the Restoration he was in a precarious position, and he fled (1660) to Dieppe and later to Switzerland, where he died See his memoirs (ed by C H Firth, 1894)

Ludlow, Roger, fl 1590–1664, one of the founders of Connecticut, b Wiltshire, England Educated at Oxford and admitted to the Inner Temple to study law, he was elected (1630) an assistant of the Massachusetts Bay Company and in the same year sailed to America He was one of the founders of Dorchester, Mass , and served (1634) as deputy governor of Massachusetts Moving to the new settlements along the Connecticut river, he presided (1636) over the first court held in Connecticut and is credited with the final drafting of the FUNDAMENTAL ORDERS, adopted by the colony in 1639 He also completed the first codification of Connecticut laws, known as Ludlow's Code or the Code of 1650 In 1639 he founded the settlement of Fairfield, Conn , and for many years served as a magistrate and deputy governor of Connecticut He represented (1651–53) the colony in the New England Confederation Disagreement over his proposed expedition against the Dutch settlers of New York caused him to return to England, after which he settled in Ireland See biography by J H Taylor (1900)

Ludlow (lŭd'lō), municipal borough (pop 5,642), Shropshire, England, at the confluence of the Teme and Corve rivers The town is very old, there are half-timbered houses (Castle Lodge, Feathers' Hotel) and ruins of an 11th-century castle One of the seven towngates remains Milton's *Comus* was first performed in Ludlow (1634), and here Butler wrote *Hudibras* Prince Arthur, the elder brother of Henry VIII, lived in the castle

Ludlow. 1 City (pop 6,185), N Ky , on the Ohio, settled c 1790, inc as a village 1864, as a city c 1925 It is a suburb of Covington and of Cincinnati, Ohio Ludlow has railroad shops, and among its products are furniture and machinery **2** Town (pop 8,181), S Mass , NE of Springfield and on the Chicopee, settled c 1750, set off from Springfield and inc 1774 Jute, floss, and hemp products are made here **3** Town (pop 2,458), S Vt , in the Green Mts , NW of Springfield and on the Black River. It includes Ludlow village (pop 1,780) Calvin Coolidge attended Black River Academy

Ludwig. For German rulers thus named, see LOUIS.

Ludwig, Emil (ā'mēl lōōt'vĭkh), 1881–1948, German biographer and dramatist A leader of the modern

school of humanized biography, he began his career with plays in verse and served as war correspondent His popular lives of great men gained him world fame They include *Goethe* (1920, Eng tr, 1928), *Napoleon* (1924, Eng tr, 1926), *Bismarck* (1926, Eng tr, 1927), *The Son of Man* (1928, Eng tr, 1928), a life of Jesus, *Schliemann of Troy* (1931, Eng tr, 1931), *Roosevelt* (1938, Eng tr, 1938), *Bolívar* (Eng tr, 1942), and *Doctor Freud* (Eng tr, 1947) Among his many other books are *The Mediterranean* (1927, Eng tr, 1942) and *The Nile* (1935, Eng tr, 1936) Ludwig left Germany for Switzerland in 1907 In later years the Nazis burned his works

Ludwig, Karl Friedrich Wilhelm (kärl' frē'drĭkh vĭl'hĕlm), 1816–95, German physiologist He became world famous as professor (from 1865) and head of the physiological institute at the Univ of Leipzig He pioneered in the study of physiology as related to the physical sciences and improved laboratory methods and apparatus, notably the kymograph He wrote a standard text, *Lehrbuch der Physiologie* (1852–56)

Ludwig, Otto (ō'tō), 1813–65, German dramatist and novelist He wrote the tragedies *Der Erbförster* (1853, Eng tr, *The Forest Warden*, 1912) and *Die Makkabäer* [the Maccabees] (1854) His fame now rests upon two tales, *Die Heiterethei* (1853) and *Zwischen Himmel und Erde* (1856, Eng tr, *Between Heaven and Earth*, 1911)

Ludwigsburg (lōōt'vĭkhsbōōrk"), city (pop 49,635), Württemberg, SW Germany, near the Neckar and N of Stuttgart In 1945 it was made part of Württemberg-Baden Ludwigsburg is a rail junction and an industrial center, manufacturing machine tools, metal goods, organs, and textiles There are hot mineral springs in the suburb of Hoheneck The city grew around the château built (early 18th cent) by the duke of Wurttemberg in imitation of Versailles Young Schiller attended a military school near Ludwigsburg Kerner, Mörike, D F Strauss, and F T Vischer were born here

Ludwigshafen (lōōt'vĭkhs-ha'fun), city (1939 pop 144,425, 1946 pop 106,556), Rhenish Palatinate, W Germany, a port on the left bank of the Rhine It is connected by bridge with Mannheim, on the opposite shore An important transshipment point, it is also a center of the German chemical industry and manufactures machinery and automobiles Originally a fortress built in the 17th cent, Ludwigshafen grew to industrial importance in the late 19th cent It suffered much destruction in the Second World War and was the scene (1948) of a disastrous explosion of several chemical plants

Lueger, Karl (kärl' lū'gur), 1844–1910, Austrian politician The leader of the Christian Social party, he appealed to the lower middle classes of Vienna through his anti-Semitism, which appears to have been very flexible (He was quoted as stating, "I am the one to determine who is a Jew and who isn't," when reproached for his personal friendship with prominent Jews) He was elected mayor of Vienna in 1897, despite the initial opposition of Emperor Francis Joseph, and he held that post till his death During his administration the public utilities and municipal parks of Vienna were much improved Lueger was primarily a clericalist politician and a vote getter His anti-Semitism was partly religious, but mostly opportunist However, his public took it seriously, and among the public was young Adolf Hitler, on whom Lueger's demagogic tactics were not wasted

Lufkin, city (1940 pop 9,567, 1947 estimated pop 13,000), co seat of Angelina co, E Texas, NNE of Houston, founded 1882, inc 1890 In the deep pine woods, Lufkin is the core of a region of forest industries with many sawmills and the first plant to make newsprint from native pine Lufkin also has foundries and minor industries The county grows peanuts, truck, and other crops and has mineral resources, but it is primarily given over to livestock, dairying, and forest

Lugano (lōōgä'nō), town (pop 17,030), Ticino canton, Switzerland Taken from Milan by the Swiss cantons (1512), it was ruled by them until 1798 Lugano is Italian in character and has the 13th-century Church of San Lorenzo and the 15th-century Church of Santa Maria degli Angioli There are wood, leather, and printing industries Lugano is noted for its scenery, and its yearly visitors far outnumber the inhabitants It is situated on the **Lake of Lugano,** Ital *Lago di Lugano* (lä'gō dē) or *Ceresio* (chārā'zyō), which is irregular in shape (area c 19 sq mi) and lies both in Switzerland and in Italy

Lugansk, Ukraine see VOROSHILOVGRAD

Lugard, Frederick John Dealtry Lugard, 1st Baron (lōōgärd'), 1858–1945, British colonial administrator He saw military service (1879–80) against Afghanistan and in the Sudan and Burma and led (1888) a force against the slave traders of Lake Nyassa He entered the service of the British East Africa Company, explored for the company, and campaigned against the native rulers. He was administrator of Uganda, governor general of Hong Kong (1907–12), and governor general of Nigeria (1907–19) He was (1922–36) a member of the Permanent Mandates Commission of the League of Nations

Lugdunum: see LYONS, France

Lugdunum Batavorum: see LEIDEN, Netherlands

Lugo (lōō'gō), city (pop 21,115), capital of Lugo prov, NW Spain, in Galicia, on the Miño river It is the trading center of a fertile agricultural region Lugo has well-preserved Roman walls (3d cent B C) and a 12th-century cathedral (several times restored)

Lugoj (lōō'gôzh), Hung *Lugos* (lōō'gôsh), city (pop 26,707), W Rumania It is the commercial center of an agricultural and vineyard region

Lugones, Leopoldo (lāōpōl'dō lōōgō'nĕs), 1874–1938, Argentine poet He was a friend of Rubén Darío and was the outstanding *modernista* poet of Argentina Lugones made several trips to Europe and on one occasion represented his country on the Committee on Intellectual Cooperation of the League of Nations He inaugurated his artistic career with *Las montañas de oro* [the golden mountains] (1897), followed by *Los crepúsculos del jardín* [twilights in the garden] (1905) and *El lunario sentimental* [sentimental almanac] (1909) In later years he turned to realism and satire as in *Odas seculares* [centennial odes] (1910) and emphasized native scenes in collections like *Poemas solariegos* [poems of the manor house] (1928) He also wrote successful historical works in *El imperio jesuítico* (1904) and *Historia de Sarmiento* (1911)

Lugos, Rumania see LUGOJ

Luhith (lū'hĭth), unidentified path in Moab, leading to a sanctuary on a hill Isa 15 5, Jer 48 5

Luini, Bernardino (bārnärdē'nō lōōē'nē), c 1480–1532, Italian painter, son of Giovanni Lutero of Luino Among the extant works of his early years (before 1510) are a *Pietà* (choir of Santa Maria della Passione, Milan) and *Madonna and Child with St John* (National Gall, London), in the manner of the Lombard school By 1520 he had developed a highly individual style, based upon the principles of Leonardo and characterized by admirable composition and graceful drawing and particularly by the charm of his female figures, some of which were formerly attributed to Leonardo Luini's paintings include the beautiful altarpiece for the church at Legnano, *St Catherine Borne by Angels* (Milan), *The Marriage of the Virgin, Adoration of the Magi,* and other frescoes (Madonna dei Miracoli, Saronno), *Crucifixion* (Santa Maria degli Angeli, Lugano), and the altarpieces *Adoration of the Shepherds* and *Adoration of the Magi* (cathedral, Como) He also executed the series of frescoes which include the *Martyrdom of St Catherine,* his last work (Monastero Maggiore, Milan), *Holy Family* and *Christ Crowned with Thorns* (Milan), *Madonna* (Louvre), *Virgin and Child* and *Virgin Enthroned with Saints* (Milan), *Christ among the Doctors* (National Gall, London), *Beheading of John the Baptist* (Uffizi), *Portrait of a Lady* (National Gall of Art, Washington, D C) See biographies by G C Williamson (1907) and James Mason (1908)

Luitpold (lōō'ĭtpōlt), 1821–1912, regent of Bavaria (1886–1912), third son of Louis I of Bavaria He ruled for his insane nephews LOUIS II and OTTO I His son succeeded him as regent and became king (1913) as Louis III

Luke, Saint [Gr Lucas, cf Philemon 24], early Christian Since the 2d cent he has been regarded as author of the third Gospel (see LUKE, GOSPEL ACCORDING TO SAINT) and of its sequel, the Acts of the Apostles He was a Gentile physician and the friend and companion of St Paul and of St Mark Acts 20, 21, Col 4 14, 2 Tim 4 11. According to tradition he was a painter and died a martyr As an evangelist his symbol is an ox Feast Oct 18

Luke, Gospel according to Saint, third book of the New Testament It has been ascribed since the 2d cent to St Luke and was composed in the latter part of the 1st cent. A prologue addressed to one Theophilus (1 1–4) precedes the biography The whole is a literary composition, showing thoughtful working over of matter from different sources, which included St Mark's Gospel among others (see SYNOPTIC GOSPELS). It has long been supposed that the Virgin Mary was the source of the data of the unique account of the birth and boyhood of Jesus (1–2) The center of the book (9 51–18 14) is mainly unparalleled in other Gospels, this contains some favorite passages A fourfold division of St Luke would be the coming of the Savior (1 5–4 13), his first two years of preaching (4 14–9 17), his third year (9 18–21 38), the passion and the resurrection (22–24) Acts is the sequel to St. Luke See GOSPEL, MIRACLE, NEW TESTAMENT, PARABLE.

Lukeman, Augustus (Henry Augustus Lukeman), 1871–1935, American sculptor, b Richmond, Va, studied at the National Academy of Design, New York, and the École des Beaux-Arts, Paris Among his works are *Manu, the Law Giver of India* (Appellate Court) and the fountain in memory of Isidore and Ida Straus (both New York), equestrian statues of Francis Asbury (Washington, D C) and Kit Carson (Trinidad, Colo.), a William McKinley monument (Dayton, Ohio) and *Women of the Confederacy* (Raleigh, N C), U. S. Grant Memorial (San Diego, Calif), and bas-relief of Daniel Boone (Paris, Ky) In 1925 he took over the completion of the colossal sculptures on Stone Mt, Ga, started by Gutzon Borglum.

Lukmanier (lōōkman'yur), Alpine pass, 6,296 ft high, Switzerland, linking the Grisons and Ticino cantons

Luks, George Benjamin (lōōks), 1867–1933, American portrait and genre painter, b Williamsport, Pa, studied at the Pennsylvania Academy of the Fine Arts and in Dusseldorf He worked as a newspaper illustrator and caricaturist until 1902, when he became a painter and art teacher A member of THE EIGHT, Luks is best known for his spirited portraits, painted with dash and verve and bordering on caricature *The Spielers* (Addison Gall, Andover, Mass) is characteristic Luks is represented in many leading American galleries See study by E L Cary (1931)

Lule, Swed *Lule älv* (lu'lu ĕlv'), river 273 mi long, rising in N Sweden and flowing from the Lapland mts to the Baltic at Luleå It has falls at Stora Sjofallet and Harspranget Its potential power, partly utilized at PORJUS, exceeds 2,000,000 hp

Luleå, Swed *Luleå* (lu'lŏō"), city (pop 17,134), co seat of Norrbotten co, N Sweden, on the Gulf of Bothnia and at the mouth of the Lule river The harbor, which is icebound for several months, exports iron ore from the Lapland mines, timber floated down the Lule river, and reindeer hides There is a large smelting plant, a wood pulp plant and an agricultural station which encourages farming in the surrounding region

Luling (lōō'lĭng), city (pop 4,437), S central Texas, ENE of San Antonio and SSE of Austin, near the San Marcos river, founded 1874 Oil, discovered here in 1922, enriched the former cow town The experimental Luling Foundation Farm here was donated by an oil millionaire, Edgar B Davis

Lull, Ramon (ramōn' lōōl'), or **Raymond Lully,** c 1236–1315, Catalan philosopher, b Palma, Majorca His family was wealthy, and he lived a life of ease, distinguishing himself only by writing lyrics in Catalan until 1266, when he had a vision which turned him to religion He became a Franciscan and was fired with ambition to convert Islam He devoted himself to studying Arabic language and literature and Moslem culture and became outstanding for his knowledge and his teaching at Paris, Montpellier, and at the College of the Holy Trinity, which he founded (1276) in Majorca He went to Tunis in 1291 and, after returning to Europe in 1293, went on a mission to the East His plan for converting the infidels was given some official sanction by the council held (1311) at Vienne He went again to Africa, and is there said to have been stoned to death His chief writings—notably the *Ars major* [the great art]—were composed in defense of Christianity against the Moslems and particularly against the teachings of Averroës He set forth a method of expressing all knowledge by the manipulation of symbols Lull maintained that philosophy (including science) was not divorced from theology and that every article of faith could be demonstrated by absolute logic Many of his works were strongly mystical and were in an exalted, figurative style that made them popular at the time but also gave them a vagueness that made his orthodoxy somewhat suspect Later generations attributed to him many works on alchemy and magic that were not his William Caxton's translation of one of his works *The Booke of the Ordre of Chyualry* was reissued by the Early English Text Society in 1926, and E Allison Peers translated some of his writings (notably in *Thoughts of Blessed Ramon Lull for Everyday,* 1925, and *The Tree of Love,* 1926) and wrote a biography (1929)

Lull, Richard Swann, 1867–, American paleontologist, b Annapolis, Md, grad Rutgers Univ (B S, 1893) He taught at Massachusetts State College (1894–1906) and was thereafter at Yale, as professor of paleontology (1911–36) and as curator of vertebrate paleontology (1920–26) and director (1922–36) of the Peabody Museum From 1933 to 1949 he edited the *American Journal of Science* His works include *Organic Evolution* (1917, rev ed, 1948), *Fossils* (1931), and *Revision of the Ceratopsia or Horned Dinosaurs* (1933)

Lully, Jean Baptiste (zhäⁿ' baptēst' lülē'), 1632–87, French operatic composer, b Florence, Italy His name originally was Giovanni Battista Lulli A dancer and a self-taught violinist, he went to France in 1646 and in 1652 entered the service of Louis XIV In 1653 he became chamber composer and conductor of the king's orchestra He composed numerous ballets, many to plays by Molière, until in 1672 he obtained a patent for the production of opera and took over the Académie royale de Musique, where he held a virtual monopoly on the French operatic stage Shrewd and unscrupulous, he amassed a fortune producing his own operas He composed, on an average, about one a year Outstanding are *Alceste* (1674), *Cadmus et Hermione* (1673), *Amadis* (1684), and *Armide* (1686) His librettist, Philippe Quinault, was a dramatist in his own right, and Lully called his

works *tragédies lyriques*. He established the form of the French overture, wrote recitatives which were adapted to the French language, and created a style which held the French operatic stage until the advent of Gluck See M F Bukofzer, *Music in the Baroque Era* (1947); D J Grout, *A Short History of Opera* (1947).

Lully, Raymond: see LULL, RAMON.

lumbago (lŭmbā'gō), pain in the lumbar region of the back, attributed to disorders of the muscle sheaths surrounding the muscle bundles Treatment includes rest, heat, anodynes, counterirritants (e g , a mustard plaster), and removal of foci of infection Lumbago is a term formerly used to designate many different kinds of low-back pain

lumber, name used in the United States and Canada for timber which has been cut into boards Canada and the United States are chief producers of lumber In the United States, Maine early took the lead in production, but as the industry spread the forests of the West acquired increasing importance and Oregon, Washington, and California became leading producers Lumbering was one of the first industries in the country—its first exports were ship timbers Logging (the felling and preparation of timber for shipment to sawmills) was a frontier industry, the work rough, dangerous, and difficult Romantic, exaggerated stories and legends of the feats of the lumberjack are a colorful chapter in American folklore See S H Holbrook, *Holy Old Mackinaw* (1938), S F Horn, *This Fascinating Lumber Business* (1943), A E Wackerman, *Harvesting Timber Crops* (1949)

Lumber City, town (pop 1,044), SE Ga , on the Ocmulgee river and SE of Macon, inc 1889 It is a lumber-shipping center near sand quarries.

Lumberport, trading town (pop 1,285), N W Va , on a branch of the Monongahela and N of Clarksburg, in a mine, lumber, oil, and agricultural region, inc. 1901

Lumberton. 1 City (pop 1,485), S Miss , SSW of Hattiesburg, settled in the 1880s It is in a farm area yielding pecans especially 2 Town (pop 5,803), co. seat of Robeson co , S N C , on the Lumber river and S of Fayetteville, inc 1787 It is an industrial center, with textile mills, tobacco markets, and food-processing and fertilizer plants

Lumière, Louis Jean (lwē' zhäⁿ' lumyĕr'), 1864–1948, and **Auguste Marie Louis Nicolas Lumière** (ōgüst' marē', nēkôlä'), 1862–, French inventors, brothers. They invented the cinematograph which was patented and demonstrated in 1895 This mechanism was the first to project moving pictures on a screen where they could be viewed by an audience The cinematograph was an important advance on the Edison kinetoscope

luminescence: see FLUORESCENCE and PHOSPHORESCENCE

Lumpkin, Joseph Henry, 1799–1867, American jurist, b Oglethorpe co , Ga , grad Princeton, 1819, brother of Wilson Lumpkin From 1845 until his death he was the chief justice of the Georgia supreme court, the first to occupy that position since previously that state had no court of review He organized (1859) the Lumpkin Law School, which in 1867 became the law department of the Univ of Georgia See L L Cody, *The Lumpkin Family of Georgia* (1928)

Lumpkin, Wilson, 1783–1870, governor of Georgia (1831–35), b Pittsylvania co , Va , educated at the Univ of Georgia He served in the House of Representatives (1815–17, 1827–31) and in the Senate (1837–41) The chief problem of his governorship was the removal of the Cherokee Indians from the state, which was finally effected in 1838

Lumpkin, city (pop 1,210), co seat of Stewart co , SW Ga , near the Chattahoochee SSE of Columbus, inc 1831 Much of the farm land of the county has been badly eroded Near by are the Providence Caverns, wide, eroded gullies cut through layers of sedimentary soil

lumpy jaw, infectious disease of cattle and swine, sometimes contracted by man It is caused by fungi of the genus *Actinomyces* and is named technically actinomycosis It is not uncommon in the SW United States Treatment may be either surgical or medical Infected cattle often must be destroyed

Luna, Alvaro de (älva'rō dā lōō'nä), 1388?–1453, constable of Castile, grand master of the Order of Santiago The favorite of John II of Castile, he virtually ruled the kingdom He won victories over the Moors and the rebellious nobles and became so powerful that he aroused the enmity of the nobility and of John's second wife, Isabel of Portugal, whose schemes led to Luna's trial and execution

Luna, Pedro de (pā'dhrō), 1328–1423, Aragonese churchman, antipope (1394–1417, see SCHISM, GREAT) with the name Benedict XIII. He was created cardinal (1375) and became an outstanding and courageous member of the *curia*. He was a supporter of URBAN VI at his election, and joined in the election of ROBERT OF GENEVA (Antipope Clement VII), which began the schism As Robert's legate in Spain, Cardinal de Luna secured the adherence of his country to the Avignon obedience On Robert's death the cardinals at Avignon elected Cardinal de Luna (1394). The new antipope was the ablest of all the popes and antipopes of the period The French, led by the Univ of Paris, were developing, to resolve the schism, the conciliar theory of the supremacy of a council over the pope in an emergency Discussions of the suggestions for negotiation were met with evasions, rather than argument, by Benedict Boniface IX continued in office Finally, in 1398 the French government withdrew France from the Avignon obedience (making strong antipapal claims of Gallican rights) After a reaction, France recognized Benedict from 1403 to 1408 When France's support was again withdrawn from Benedict, he left Avignon permanently to live at Perpignan He held (1408–9) a council there, but this, like the Council of Pisa (see PISA, COUNCIL OF), has not since been considered canonical The Council of Pisa, with its depositions and election only made the schism worse, and Benedict lost all his obedience but Scotland, Sicily, Castile, and Aragon When the Council of Constance (see CONSTANCE, COUNCIL OF) took place, Benedict grew even more intransigent. After a long wait the council deposed him (1417), and MARTIN V was elected to end the schism Benedict, forsaken by all but his household, lived on in his fortress at Peñiscola (near Valencia), refusing to admit his deposition

Lunacharsky, Anatoli Vasilyevich (ănätô'lyĭ vŭsē'lyuvĭch lōōnŭchär'skē), 1875–1933, Russian revolutionary, dramatist, and poet He began his revolutionary career in 1892 and joined the Bolshevik party when it appeared, forming with Gorki and the Social Democrat Bogdanov the left wing of the group, which was in opposition to Lenin Later he was Lenin's ally in overthrowing the Kerensky government His most important work was done as Soviet commissioner of education (1917–29), in which position he encouraged the theater He wrote many plays himself, of which three, *Faust and the City*, *Vasilisa the Wise*, and *The Magi*, are available in English in his *Three Plays* (1923).

lunacy: see INSANITY

lunar caustic see SILVER

Lund (lŭnd), city (pop 30,915), Malmohus co , S Sweden, NE of Malmo Principally a university town, it is also a publishing center and has some manufactures Mentioned (c 920) in the sagas as Lunda, it became an archbishop's see in the 11th cent and flourished as an ecclesiastic and commercial center After 1536, when it became a Lutheran bishopric, the city declined As part of SKANE prov , it passed definitively from Danish to Swedish rule in 1658, in the same year Charles XI founded the Univ of Lund, where Tegner later held a chair Lund has a 10th-century cathedral and several museums

Lundy, Benjamin, 1789–1839, American abolitionist, b Sussex co , N J , of Quaker parentage He established (1821) at Mt Pleasant, Ohio, the *Genius of Universal Emancipation* and, giving up his prosperous saddler's trade, devoted his whole life to the antislavery cause The *Genius*, a "weekly" which appeared irregularly, was subsequently published at Greenville, Tenn , Baltimore, and Washington For several months in 1829–30 William Lloyd GARRISON assisted in bringing out the paper, but his views were too extreme for Lundy Lundy traveled widely, visiting Haiti, Texas, and Canada in efforts to find suitable places for colonizing freed Negroes The *Genius* ceased publication in 1835, and in 1836 he founded at Philadelphia the *National Enquirer*, edited after 1838 by John Greenleaf Whittier as the *Pennsylvania Freeman*

Lundy Isle, 3 mi. long, off Devonshire, England, at the entrance to the Bristol Channel It has rocky shores and is inaccessible by boat except at the south Occupied in prehistoric times, it was in the Middle Ages and later a stronghold of pirates and smugglers Many ships were wrecked on the isle, which is now provided with lighthouses It is privately owned

Lundy's Lane, locality just W of Niagara Falls, scene of a stubborn engagement of the War of 1812, fought July 25, 1814 The American forces, commanded by Gen Winfield Scott and led by Gen Jacob J Brown, pushing into Canada, encountered British troops posted along Lundy's Lane After a night-long fight against superior numbers, the Americans withdrew to Fort Erie. There were heavy casualties on both sides

Lüneburg (lü'nuböörk), city (pop 49,169), Hanover, NW Germany, on the Ilmenau river and SE of Hamburg It is a rail junction and has large saltworks, a chemical industry, and various manufactures Dating from the 10th cent , Lüneburg was long the capital of the dukes of Brunswick-Lüneburg (see HANOVER) It was an important member of the Hanseatic League Predominantly late Gothic in character, it has several fine churches, a huge city hall (begun 12th cent , with additions as late as the 18th cent.), and many gabled houses in the characteristic North German style. There are salt springs and mud baths frequented since early times. **The Lüneburger Heide** (lü'nuböörgûr hī'dü), a vast heath, lies between the Elbe and Aller rivers. It is a sandy region, devoted largely to sheep raising, and has a wild game preserve. Its peculiar beauty has been described in the writings of Hermann Löns.

Lünen (lü'nün), city (pop. 51,989), Westphalia, NW Germany. It is an industrial center of the Ruhr district, adjoining Dortmund in the south

Lunenburg (lōō'nünbûrg), town (pop 2,856), SW N S , on Lunenburg Bay and SW of Halifax It has a large fleet of fishing vessels The district was chiefly settled c 1753 by Germans from Hanover

Lunenburg. 1 Town (pop 2,196), N Mass , E of Fitchburg; settled 1721, inc 1728 2 Town (pop 1,374), NE Vt , E of St Johnsbury and bordered by the Connecticut, chartered 1763 It is an agricultural and lumbering region

Lunéville (lünāvēl'), town (pop 19,065), Meurthe-et-Moselle dept , NE France, on the Meurthe in Lorraine The 18th-century palace was the residence of STANISLAUS I, duke of Lorraine and exking of Poland. It was damaged in the Second World War. Lunéville has a considerable faience industry The treaty signed here in 1801 between France and Austria confirmed and supplemented the terms of the treaty that had been signed at CAMPO FORMIO

lungs, respiratory organs, in the pleural cavities of the chest The lungs are separated from each other by the heart and other structures of the mediastinum In humans the right lung consists of three lobes, and the left of two Each lung is invested with a membrane known as the pleura Air enters the lungs through two large bronchi (main branches of the trachea, or windpipe), which divide into smaller branches, these open into air cells, the walls of which contain fine blood vessels An interchange of oxygen and carbon dioxide takes place in the air cells. Diseases of the lungs include pneumonia, tuberculosis, abscess, and cancer Lungs function as respiratory organs in the adult forms of most amphibians and in reptiles, birds, and mammals Only in mammals is a DIAPHRAGM present

Lunt, Alfred (lŭnt), 1893–, American actor, b Milwaukee, studied at Harvard He made his first stage appearance at the Castle Square Theatre, Boston, in 1913 He toured in vaudeville with Lilie Langtry and played with Margaret Anglin before he made a popular success in 1919–20 in Booth Tarkington's *Clarence* In 1922 he married Lynn FONTANNE, and since 1924 they have played together in Theatre Guild productions These include *The Guardsman* (1925–29), *Reunion in Vienna* (1931–32), *Design for Living* (1933), *The Taming of the Shrew* (1935), *Idiot's Delight* (1936), *There Shall Be No Night* (1939), *O Mistress Mine* (1945), and *I Know My Love* (1949–50)

Lupercalia (lü'purkā'lyu), ancient Roman feast held annually Feb 15 in honor of a pastoral deity sometimes identified with FAUNUS The occasion was marked for FERTILITY RITES

Lupescu, Magda (mäg'dä lōōpĕ'skōō), 1904?–, wife of CAROL II of Rumania Carol renounced (1925) his succession to the throne for her sake, after becoming king (1930) he installed her as his official mistress Her enemies accused her of exerting a sinister and corrupting influence on Rumanian politics Much of her unpopularity, however, was due to her Jewish origin Mme Lupescu shared Carol's exile from 1940 and finally was married (1947) to him in Brazil

lupine or **lupin** (both, lū'pĭn), any species of the genus *Lupinus*, annual or perennial herbs or shrubs, many of which are native to W North America Though it was long believed that lupines destroy soil fertility, the plants are LEGUMES that have been cultivated in the Mediterranean region since ancient times for enriching the soil The seeds of some species (e g , *Lupinus albus*, the white lupine) have been boiled and used as food to some extent in that locality, and the leafy parts are used as forage both there and in America Most species of lupines, however, and particularly their seeds, are considered poisonous as forage, causing the disease lupinosis to which sheep are especially susceptible Poisonous species and their effects have not been fully determined As a garden flower, the lupine is a favorite because of the various colors and the tall spikes of bonnet-shaped blossoms The leaves are usually composed of leaflets radiating to form a rounded handlike leaf Certain movements, as from the horizontal to a vertical position, are characteristic of the leaves of some of these plants, e g , the common wild lupine (*Lupinus perennis*), also called sundial and quaker bonnet Names for other species of lupines include deer cabbage (*Lupinus duffusus*), tree lupine (*Lupinus arboreus*, a shrub), and BLUEBONNET. The false lupine belongs to the genus *Thermopsis*.

Luray (lōōrā'), tourist town (pop 1,511), N Va., in the Shenandoah Valley SW of Front Royal, in a farm area, inc. 1812 The courthouse of Page co is here, and the town is headquarters of Shenandoah National Park The **Luray Caverns** here, a series of extensive limestone caves discovered in 1878, are remarkable for the beauty of their large stalagmite and stalactite formations.

Lurgan (lûr'gün), urban district (pop 13,766), Co Armagh, Northern Ireland, near Lough Neagh and SW of Belfast. Lurgan Castle is modern. There are linen mills and tobacco factories.

Luria or **Loria, Isaac ben Solomon** (lōō'rēū, lō'rēū), 1534–72, Jewish cabalist, called Ari, surnamed Ashkenasi, b Jerusalem At about 22 he became a hermit and a visionary; he was the teacher and leader of a large circle of mystics His philosophy has come down to us through the numerous works of his chief disciple, Hayim Vital

Luria, Roger of see ROGER OF LORIA

Luristan (lōōrĭstän'), region and former province, W Iran, bordered on the west by Iraq The chief city is Burujird It consists largely of mountain ranges rising to 12,800 ft and is inhabited mainly by the Bakhtiaris From Luristan came the Kassite conquerors of Babylonia The name also appears as Lorestan See Freya Stark, *The Valley of the Assassins* (1934)

Lurton, Horace Harmon, 1844–1914, American jurist, b Newport, Ky , grad Cumberland Univ , 1867, in law He had served in the Confederate army in the Civil War He became chief justice of Tennessee in 1893 and shortly afterwards was appointed a Federal judge He also taught law at Vanderbilt Univ , serving as dean of the law school (1905–10) In 1909 President Taft appointed him Associate Justice of the U S Supreme Court

Lusaka (lōōsä'ku), city (pop 10,336), capital of Northern Rhodesia (since 1935) In the early 20th cent it was developed from wilderness into a thriving trade center It is on a railroad to Salisbury, the capital of Southern Rhodesia, and to Elisabethville, in Katanga, Belgian Congo It has an airport Lusaka succeeded Livingstone as capital

Lusatia (lōōsā'shŭ), Ger *Lausitz* (lou'zĭts), Pol *Łużyce* (wōōzhl'tsĕ), region of E Germany, in NE Saxony, S Brandenburg, and Lower Silesia It extends N from the Lusatian Mts , at the Czechoslovak border, and W from the Oder The southern part is known as Upper Lusatia, the northern part as Lower Lusatia The Lusatian Neisse river separates the Russian-occupied and the Polish-administered parts of E Germany The region is largely forested and agricultural and has textile manufactures and lignite mines Bautzen, Cottbus, Görlitz, Sagan, and Zittau are the most important towns The Lusatians are descended from the Slavic WENDS, and part of the population, particularly in the SPREE FOREST, still speak Wendish and have preserved their traditional dress and customs The region was colonized by the Germans in the 10th cent and was constituted into the margraviates of Upper and Lower Lusatia Both margraviates changed hands frequently among Saxony, Bohemia, and Brandenburg Under the Treaty of Prague (1635) all of Lusatia passed to Saxony The Congress of Vienna awarded (1815) Lower Lusatia and a large part of Upper Lusatia to Prussia After the Second World War the Lusatian Wends (or Sorbs, as they are also called) sought unsuccessfully to obtain national recognition The population of Lusatia has been estimated at 1,000,000, less than half of whom speak Wendish.

Lüshun, China see PORT ARTHUR

Lusiads, The see CAMÕES, LUÍS DE

Lusignan (lūzēnyä'), French noble family, deriving its name from the castle of Lusignan in Poitou, built, according to legend, by the fair MELUSINE The family was powerful in the Middle Ages and ruled (13th–14th cent) the county of MARCHE One branch played a prominent role in the history of the Crusades GUY OF LUSIGNAN succeeded (1186) Baldwin V as king of Jerusalem; compelled (1192) to resign his title, he was invested by Richard I of England with the island of Cyprus His brother, AMALRIC II, succeeded him (1194) as king of Cyprus and was also king of Jerusalem His descendants continued to list the kingship of Jerusalem among their titles, and in 1342 they placed a branch of their line on the throne of Lesser Armenia (Cilicia), in 1375 the last Lusignan king of Armenia was overthrown by the Mamelukes, and the Lusignans of Cyprus added the empty title of king of Armenia to the equally empty one of king of Jerusalem Cyprus flourished under Lusignan rule until c 1370, but then began to decline and eventually became dependent on Venice and was obliged to pay tribute to Egypt The royal capital, Nicosia, was long a center of French medieval culture Famagusta, however, was ceded (1374) to Genoa as security for an indemnity to be paid in return for the release of King Peter II, whom the Genoese had captured It was later administered by the Bank of St George In 1460 Queen Charlotte was expelled by the half-Greek natural son of her late husband, John II The usurper became king as James II, recovered Famagusta (1464), and married the Venetian heiress Caterina CORNARO Their son, James III, died in 1474, and in 1489 Venice took over complete control of Cyprus

Lusin (lōō'sĭn'), 1881–1936, Chinese author, whose real name was Chou Shu-jen He left medical school in Japan to devote himself to literature, wishing to arouse the Chinese people from their cultural lethargy and isolation and to teach them the values of Western science and philosophy His character Ah Q satirizes petty tyranny and easy rationalizations to explain personal failure. Some of the tales appear in *Ah Q and Others* (Eng. tr. by Chi-Chen Wang, 1941).

Lusitania (lūsĭtā'nēū), Roman province in the Iberian Peninsula As constituted (c.5 A D) by Augustus it included all of modern central Portugal as well as much of W Spain It took its name from the Lusitani, a group of warlike tribes who, despite defeats, resisted Roman domination until their great leader, Viriatus, was killed (139 B C) by treachery In the 1st cent B C they joined in supporting Sertorius, who set up an independent state in Spain The old identification of Portugal with Lusitania and the ancestors of the Portuguese with the Lusitanians (hence Camões's great epic is called *Os Lusíadas*) is now largely ignored, but the creation of Lusitania may have had some faint echoing effect in the setting up of the separate kingdom of Portugal many centuries later

Lusitania, liner under British registration sunk without warning off the Irish coast by a German submarine on May 7, 1915 In the sinking 1,153 persons lost their lives, of whom 114 were American citizens A warning to Americans against taking passage on British vessels, signed Imperial German Embassy, appeared in morning papers on the day the vessel was scheduled to sail, but too late to accomplish its purpose The vessel was unarmed, though the Germans made a point of the fact that it carried guns and ammunition for the Allies The considerable sympathy for Germany which had previously existed in the United States in large part disappeared, and there was demand from many for an immediate declaration of war President Woodrow Wilson chose the course of diplomacy and sent to Germany a strong note asking for "reparation so far as reparation is possible " Germany refused to accept responsibility for the act in an argumentative reply, and subsequent notes became something of a debate Germany finally agreed to sink no more passenger liners without warning, and gradually the submarine campaign was relaxed The incident, however, had much to do with preparing the way for the United States to enter the First World War

Lusk, Graham (lŭsk), 1866–1932, American physiologist, b Bridgeport, Conn , grad Columbia (Ph B , 1887), Ph D Univ of Munich, 1891 He was professor of physiology at Yale (1895–98), at Bellevue Hospital Medical College (1898–1909), and at Cornell Univ Medical College (1909–32) A recognized authority on nutrition, he worked on amino acids, metabolism of fat, and animal calorimetry and wrote *The Elements of the Science of Nutrition* (1906) and *Nutrition* (1933)

Lusk, town (pop 1,814), co seat of Niobrara co , E Wyo , on the Niobrara river near the Nebr line and E of Casper, settled in the late 1880s, inc 1898 It is the trade center of a farm and livestock area

lusterware, a kind of pottery with an overglaze finish containing copper and silver in a metallic salt and exhibiting both luster and iridescence The process was known to Egyptians and Persians and in Europe from the 9th cent , the secret being lost in the 16th cent , but found c 1860 The ruby, gold, copper, and silver lusters range through varying shades of red, brown, and green and show depth and the glowing quality of metal The film producing this effect is applied over the glaze, and the ware receives a third firing in a special kiln at low temperature The process was used to enhance Italian majolica having a common lead glaze and has been employed for various kinds of chinaware, all prized by collectors in Europe and America

Lutcher (lŭ'chŭr), town (pop 2,167), SE La , near the Mississippi S of Baton Rouge, founded c 1890 by a lumber company The area produces sugarcane, perique tobacco, vegetables, and timber

lute, musical instrument, having a pear-shaped body, a fretted neck, and a variable number of strings, which are plucked with the fingers The long lute seems to have been the older instrument, existing very early in Egypt and the Near East The short lute was known in Spain as early as the 10th cent , having been brought there by the Saracens Its greatest development came in the 15th cent , and it was the chief European instrument of the late Middle Ages and the Renaissance In its larger forms, made in the 17th cent , it was called archlute, THEORBO, and *chitarrone* In the 18th cent the more easily tuned guitar supplanted it Its music was notated in TABLATURE

Luteri, Giovanni de see Dosso Dossi

Lutetia, see PARIS, France

lutetium (lōōtē'shēŭm), a rare element (symbol = Lu, for physical constants, see ELEMENT, table), a metal of the RARE EARTHS, very similar to YTTERBIUM It was discovered by Georges Urbain (1907) and independently by K A von Welsbach (1908)

Luther, Hans (hänz' lōō'tur), 1879–, German statesman As finance minister (1923–24) under Stresemann he aided Hjalmar SCHACHT in stabilizing the German currency He succeeded Wilhelm Marx as chancellor, heading two successive conservative coalition cabinets (1925–26) Stresemann, his foreign minister, negotiated the LOCARNO PACT in 1925. The election (1925) of Hindenburg as president was an important event Luther was succeeded as chancellor by Marx He was (1930–33) president of the Reichsbank and (1933–37) German ambassador to the United States

Luther, Martin, 1483–1546, German leader of the Protestant Reformation, b Eisleben, Saxony, of a family of small, but free, landholders There exists no detailed account of his early life, and much of the material available is drawn from Luther's own recollections His studies began at the age of five, and by 1505 he completed the master's examination at the Univ of Erfurt and began the study of law Several months later, in what seems to have been a sudden conversion, he entered a monastery of the Augustinian friars at Erfurt There, devoutly attentive to the services and the sacraments, he proceeded with an intensive study of the Scriptures and was ordained a priest in 1507 Assigned to the Univ of Wittenberg in 1508, he continued his studies and began to preach and lecture This period was the beginning of the intimacy between Luther and John von Staupitz, whose influence led Luther to say in 1531, "I have received everything from Staupitz " For Luther these years were times of grave doubt and spiritual agonizing, and they saw the beginning of the nervous insomnia and dyspepsia which weakened his physical condition throughout life His search for peace of mind, pursued through the Scriptures and the guidance of Staupitz, convinced him that the sinner's hope lay entirely in the grace of God and the redeeming work of Christ, accepted through faith In 1510 Luther was sent to Rome on business for his order, and there he was shocked by the spiritual laxity apparent in high ecclesiastical places Upon his return he completed the work for the theological doctorate and returned to Wittenberg as a professor In this way Wittenberg became the cradle of the Reformation, for here in the next few years his ideas were crystallized and were developed into action for the reconstruction of doctrine and the purification of church practices He devoted himself with increasing vigor to the work of the church, in 1515 becoming district vicar His indignation concerning the abuses of Church practices became public when, in 1517, he felt compelled to protest the dispensation of indulgences (see INDULGENCES) then being granted in Saxony by Johann TETZEL In the usual academic manner he posted (and challenged others to debate) his historic 95 theses on the door of the castle church, assuring himself of a wide hearing by selecting the Eve of All Saints The abuse of indulgences had been condemned by many Catholic theologians, but it had had great financial success, and ecclesiastical authorities had not halted it Luther's theses were widely distributed and read, finding sympathy among the exploited peasantry and among the civil authorities, who deplored the drainage of funds to Rome The theses had an immediate effect on the popularity of indulgences The propositions were brought to the attention of the pope, who ordered the head of the Augustinians to keep peace in his order Meanwhile Tetzel was committed to the struggle against Luther, and he found an able colleague in the controversialist Johann ECK Although Luther still considered his activities as directed toward reforms within the church, his opponents found his ideas heretical In the following years several attempts were made to reconcile Luther to the church, but the basis of compromise was lacking on both sides At a meeting with the papal legate at Augsburg in 1518 Luther refused to recant, and later in 1519 in a public disputation with Eck in Leipzig, he was forced to declare his stand as one at variance with some of the doctrines of the church As the break with Rome grew inevitable, Luther broadened his position to include a widespread program of reform In his *Address to the Nobility of the German Nation* he supported the new nationalism by advocating German control of German ecclesiastical matters and urged recognition of the authority of civil rulers He attacked usury and commercialism and recommended a return to a primitive agrarian society The ire of Catholic theologians was further aroused with the publication of *The Babylonian Captivity of the Church*, in which Luther, in an uncompromising attack on the papacy, denied the authority of the priesthood to mediate between the individual man and his God and rejected the sacraments except as aids to faith He followed this work with a tract entitled *The Freedom of a Christian Man* in which he presented a new ideal of piety—that of the Christian man, free in conscience by virtue of faith and charged with the duty of conducting himself properly in a Christian brotherhood Emphasis was laid on justification by faith alone By the time the papal bull *Exsurge Domine*, condemning his views and threatening excommunication, reached Germany, Luther's position was well understood and widely supported In a dramatic renunciation of papal authority Luther held a public burning of the bull and of the canon law In 1521 formal excommunication was pronounced In the same year Luther was given a safe-conduct and was summoned before the Diet of Worms The opinions at the diet were divided, but when an edict of the diet called for the seizure of Luther, his friends placed him for safekeeping in the Wartburg, the castle of Elector Frederick III of Saxony There he translated the New Testament into Ger-

man and began the translation of the entire Bible, a work not completed until 10 years later At Wittenberg during this time the iconoclasts under CARLSTADT had instituted radical changes, greatly deplored by Luther and the elector. Fearing that his movement was endangered, Luther disregarded his personal safety and returned to Wittenberg, where he spent most of the remainder of his life organizing and spreading the new gospel Luther suffered a loss of popular appeal when he violently opposed the PEASANTS' WAR of 1524–25, which had been fostered in part by the spirit of liberation and revolt that Luther himself had displayed His stand was further weakened by a break with the humanists brought about by Erasmus' work, *Freedom of the Will* Nevertheless, through his forceful writings and preaching his doctrines spread to many towns and free cities, strengthened by the support of many German nobles The Augsburg Confession (see CREED), a basic doctrine of the Lutheran Church, was written and presented by Philipp MELANCHTHON at the Diet of Augsburg in 1530 with the sanction of Luther, who was not permitted to attend At about this time the control of the Lutheran Church more or less passed into the hands of the Protestant princes, and Luther devoted himself to matters of faith and worship In 1525 he had married a former nun, Katharina von Bora, and his family grew to include six children His closest friends and associates, Melanchthon and Justus JONAS, shared his work and companionship and, after the death of Elector Frederick, he enjoyed the active championship of JOHN FREDERICK I, who succeeded to the electorate Luther worked actively to build a competent educational system and wrote widely on church matters, including the composition of hymns (both words and music), a liturgy, and two catechisms which are basic statements of the Lutheran faith His uncompromising attitude in regard to doctrinal matters helped to break up the unity of the Evangelical church, which he was anxious to preserve, the controversy with ZWINGLI and later with Calvin over the LORD'S SUPPER (and over predestination) divided Protestants into the Lutheran Church and the Reformed Churches The cause of the Reformation was somewhat further shaken when Luther was persuaded to condone the second marriage of PHILIP OF HESSE During the last years of Luther's life he was troubled with increasing ill-health and the plagues of political and religious disunion within the nation He died in Eisleben and was buried at Wittenberg, leaving behind an evangelical doctrine that has spread throughout the Western world and marked the first break in the unity of the Catholic Church In Germany his socio-religious concepts laid a new basis for German society His writings, in forceful idiomatic language, helped to fix the standards of modern German Luther's works have been published frequently and in many languages, the first attempt at an edition of them was in 1539–58 See biographies by Preserved Smith (1911), A C McGiffert (1911), and A Ehrhardt (1946), L H Waring, *The Political Theories of Martin Luther* (1910), Heinrich Boehmer, *Luther and the Reformation in the Light of Modern Research* (Eng tr, 1930), Joseph Clayton, *Luther and His Works* (1937), Heinrich Boehmer, *The Road to Reformation* (Eng tr, 1946), E M Carlson, *Reinterpretation of Luther* (1948), E M Plass, *This Is Luther* (1948), H H Kramm, *The Theology of Martin Luther* (1949)

Lutheranism. Since the 16th cent the name Lutherans has been used to designate those Protestants whose religious faith is based on the principles of Martin LUTHER, although he opposed such a designation When it became apparent to Luther that the reforms he desired could not be carried out in the Roman Catholic Church, he devoted himself to questions of faith rather than form in the new "Evangelical" churches that developed His was the conservative attitude, as distinguished from the views of the Reformed (Calvinistic) communions His major departures from Roman Catholic doctrine rest on these beliefs the Scriptures contain the one necessary guide to truth, and it is the right of the individual to reach God through them with responsibility of his individual conscience to God alone, salvation comes through divine grace alone, available to man through the redeeming work of Christ, and the sacraments are valid only as aids to faith In addition to the Apostles', Nicene, and Athanasian creeds, the principal statements of faith are found in Luther's two catechisms, the Augsburg Confession, the Apology of the Augsburg Confession, the Schmalkald Articles, and the Formula of Concord These are all included in the Book of Concord (1580), in them the fundamental doctrine is justification by faith. Baptism was counted necessary for regeneration, but no form was specified As to manner of worship, Luther chose to retain altars and vestments, he prepared an order of service liturgical in form, but with the understanding that no church is bound to follow any set order, there is no uniform liturgy belonging to all branches of the Lutheran body Characteristically however, an important place is given to preaching and to congregational singing Luther's own hymns, *Ein' feste Burg* and many others, gave impetus to this custom. Matters of administration and organization were worked out by others. To achieve order, superintendents over districts were appointed to work in cooperation with the secular rulers In general, a synodical form of organization was developed, but the relations of individual churches to the synods and conferences rest with their own decisions The unity of the Church is a unity of doctrine rather than of organization In Germany, Lutheranism was in close association with the political life In its early years there were many struggles to decide controversies within its own membership and to reach agreement with the Reformed churches Temporal authorities took part in these matters With doctrinal orthodoxy secured, a period of quiet followed, interrupted toward the end of the 17th cent by the influence of Pietism When in 1817, under Frederick William III of Prussia, a union between Lutheran and Reformed churches was accomplished and the new ecclesiastical body was adopted as the national Church, a large group remained outside the union These came to be known as the "Old Lutherans" In the unification of German culture under the Nazi regime, the Church did not escape In 1933 a national organization, the German Evangelical Church, including some 28 separate state churches was formed This attempt to consolidate the Protestant bodies of Germany, both Lutheran and Reformed (except for the small, scattered "Free" churches) was placed under the direction of a pro-Nazi church official He and the Nazi church group, the "German Christians," proceeded to try to develop a national, racial church, in which Aryan blood in one's veins was a qualification for membership and position Although the claim was made that reorganization alone was intended, it became apparent that the issues also deeply concerned doctrines and the confession A revolt, led by several thousand Protestant pastors, among whom was Martin Niemoeller, resulted in the formation of the Confessional Synod, which issued (1934) at Barmen its principles of rejection of the Reich interference with the Church In 1935 a law was promulgated which created the post of Reich Minister for Church Affairs, with absolute authority over the German Evangelical Church Another element in the controversy was added when the "German Faith" movement, allied with the neo-pagan philosophy of Alfred Rosenberg, began its rapid spread in 1936 After the end of the Second World War, the German Evangelical Church abandoned its Nazi-inspired constitution of 1933 and undertook reorganization The Lutheran Church is the established state church of Denmark, Iceland, Norway, Sweden, and Finland In North America, Lutherans from the Netherlands were among the settlers on Manhattan island in 1625 A congregation was formed there in 1648, but it was antedated by one established (1638) by Swedish settlers at Fort Christina (Wilmington) on the Delaware river On near-by Tinicum Island the first Lutheran church building in the country was dedicated in 1646 Early in the 18th cent exiles from the Palatinate established German Lutheran churches in New York, Pennsylvania, Delaware, and Maryland The Salzburger migration to Georgia (1734) introduced Lutheranism in the South In the 18th cent organization of the churches was begun by Heinrich Melchior MÜHLENBERG, who brought about the formation (1748) in Pennsylvania of the first synod in the country The Synod of New York and adjoining states followed (1786), that of North Carolina was created in 1803 With the settlement of the West and the Northwest, many small synods were formed by Norwegians, Danes, Finns, and other racial groups At the present time, many of the Lutheran churches of the United States are included in several conferences and synods In almost all cases, the congregation is regarded as the unit of organization and the seat of authority The Lutheran World Federation (1947), a continuation of the Lutheran World Convention (1923), publishes *The Lutheran World Review* in English and German editions See L Fuerbringer, T Engelder, and P E Kretzmann, eds, *The Concordia Cyclopedia* (1927), A R Wentz, *The Lutheran Church in American History* (2d ed, rev, 1933), L P Qualben, *The Lutheran Church in Colonial America* (1940), Edmond Vermeil, K J Hahn, and Gabriel Le Bras, *The Churches in Germany* (1949)

Luther College, at Decorah, Iowa, Evangelical Lutheran, coeducational since 1936, opened 1861, chartered 1865 (see LARSEN, PETER LAURENTIUS) Its concert band is noted The college is a center of Norwegian-American culture

Luton (lo͞o'tun), municipal borough (1931 pop 68,523, 1947 estimated pop 109,530), Bedfordshire, England, on the Lea river and NNW of London, at the southern base of the Chilterns It is the center of the straw-plaiting industry in England, established here in the time of James I, there is a great straw-plait market hall The city has engineering works and other industries

Lutsk (lo͞otsk), Pol. *Łuck* (wo͞otsk), city (1931 pop 35,700), capital of Volyn oblast (see VOLHYNIA), W Ukraine, on the Styr river. Today an agricultural market center, it was allegedly founded before the 11th cent and was the seat of the princes of Volhynia in the Middle Ages It passed to Russia in 1795, was restored to Poland in 1921, and was again ceded to Russia in 1945 In the Second World War the overwhelmingly Jewish population suffered much under German occupation

Lutter am Barenberge (lo͞o'tûr ăm bä'runbĕrgû), market town (pop 2,547), central Germany, near Brunswick Here in 1626 Tilly defeated Christian IV of Denmark in the Thirty Years War

Lutyens, Sir Edwin Landseer (lŭ'chənz, lŭ'tyənz), 1869–1944, English architect He began his career designing small houses in Surrey and later executed a long series of large country establishments, many of them complete with their furniture and gardens In these works he developed a style of domestic architecture based upon traditional English design and craftsmanship yet highly individual The noteworthy public achievement of his career was the planning of New Delhi, India, which included the design of the palace for the viceroy Among his principal works are the Cenotaph in London and other war memorials, including those at Manchester and Johannesburg, South Africa, domestic and public buildings at Hampstead garden suburb, Hampton Court bridge, and the British embassy at Washington, D C He was knighted in 1918

Lützelburger, Hans (hänz' lü'tsulbo͞orgûr), d 1526, German wood engraver, also called Hans Franck Although he is regarded as one of the greatest wood engravers of all time, very little is known of his life Lützelburger is best known as the engraver of the designs of Holbein, the younger, notably the *Dance of Death* and illustrations for the Bible His name is also printed under a large and curious woodcut, *Peasants Fighting with Nude Men in a Wood* His work is remarkable for its accuracy, clarity, and delicacy

Lützen (lüt'sun), town (pop 5,739), in the former Saxony prov of Prussia, E Germany, SW of Leipzig Here in the Thirty Years War Gustavus II of Sweden defeated (1632) Wallenstein, but fell in the battle, Pappenheim, on the imperial side, was also mortally wounded In 1813 Napoleon I defeated the Russian and Prussian forces at near-by Grossgörschen (also written Gross Gorschen)

Lützow, Adolf, Freiherr von (ä'dôlf frī'hĕr fŭn lü'tsō), 1782–1834, Prussian officer He commanded a volunteer corps, the Black Troops or Black Rifles, against Napoleon I in 1813–14 The corps was distinguished for its daring exploits, which were glorified by the poet Körner, one of its members

Luverne (lo͞ovûrn') **1** Town (pop 2,243), co seat of Crenshaw co, S Ala, on a branch of the Conecuh, in a farm area, inc 1891 **2** City (pop 3,114), co seat of Rock co, extreme SW Minn, on the Rock River, settled 1867, platted 1870, inc as a village 1877, as a city 1904 It is in a farm area, and there are granite quarries near by

Luxembourg, François Henri de Montmorency-Bouteville, duc de (frāswä' äNrē' du mômôräNsē'-bo͞otvēl' duk du lüksäbo͞or'), 1628–95, marshal of France Under his cousin, the Great Condé, he served in the FRONDE and in the conquest of Franche-Comté (1668) and distinguished himself in the Dutch War Though at first unsuccessful as the successor of Turenne on the Rhine (1676), he shared in the victory of Cassel (1677) Commanding the army in Flanders in the War of the GRAND ALLIANCE, he won three battles on which his reputation chiefly rests, Fleurus (1690), Steenkerke (1692), and Neerwinden (1693)

Luxemburg (lŭk'sumbûrg, Fr lüksäbo͞or', or **Luxemburg** (lo͞ok'sumbo͞orgûrg, Ger lo͞ok'sumbo͞ork), grand duchy (999 sq mi, pop 290,992), W Europe Roughly triangular, it borders on Belgium in the west, Germany in the east, and France in the south The city of Luxembourg is the capital In the prevailing Low German dialect the name of Luxembourg is Letzeburg French is the official, German the literary, language Luxembourg is drained by the Sauer and Alzette rivers, both tributaries of the Moselle, which forms part of its eastern border The Ardennes mts extend into N Luxembourg The southwestern section is part of the Luxembourg-Lorraine iron-mining basin and is of international importance, Esch is its main center Despite its smallness, Luxembourg ranks sixth among the steel-producing countries of Europe outside the USSR (after England, Germany, France, Belgium, and Czechoslovakia) Agriculture and cattle raising are, next to iron and steel, the main resources Luxembourg is linked by rail with its neighbors and has excellent highways It has been united since 1922 with Belgium in a customs union, the Luxembourg franc is on par with the Belgian currency The grand duchy is a constitutional monarchy, with a bicameral legislature, the upper chamber being appointed by the sovereign and the lower chamber elected by direct universal suffrage Roman Catholicism is the prevailing religion. The county of Luxembourg (originally named Lützelburg) emerged in the 10th cent. Extending between the Meuse and Moselle and including the present Belgian Luxembourg prov., it was one of the largest fiefs in the Holy Roman Empire and rose into

prominence when its ruler was elected emperor as HENRY VII in 1308 His son was JOHN OF LUXEMBURG, king of Bohemia, the father of Emperor CHARLES IV, who made (1354) Luxembourg a duchy The elder line of the house continued in Bohemia and the empire with Emperors Wenceslaus and Sigismund, while the younger line, issued from Charles's brother, Duke Wenceslaus, continued in Luxembourg (The French noble family of Luxembourg, descended in collateral line from an early count of Luxembourg, was only remotely related to either ruling line) In 1443 Philip the Good of Burgundy seized the duchy, and in 1451 he was confirmed in possession by the estates of Luxembourg With the other Burgundian holdings in the Low Countries, Luxembourg passed (1482) to the house of Hapsburg on the death of Mary of Burgundy For the following three centuries it shared the history of the S Netherlands (see NETHERLANDS, AUSTRIAN AND SPANISH), passing from Spanish to Austrian rule in 1714. Several western border areas, including Montmédy, Thionville, and Longwy, were ceded to France in the Peace of the Pyrenees (1659), in 1684 Louis XIV seized Luxembourg, but he was obliged to restore it in the Treaty of Ryswick (1697) Occupied by the French in the French Revolutionary Wars, the duchy was formally ceded to France in the Treaty of Campo Formio (1797) The Congress of Vienna (1814–15) made Luxembourg a grand duchy, in personal union with the Netherlands, at the same time, Luxembourg became a member of the German Confederation, and its capital was made a federal fortress garrisoned by Prussian troops When in 1830 the Belgians rebelled against William I of the Netherlands, Luxembourg shared in the revolt and thus became the cause of international complications Belgium, on gaining its independence, claimed the entire grand duchy, it finally obtained (1839) the major part, i e , the present Belgian Luxembourg prov , where French is the predominating language The remainder continued in personal union with the Netherlands and as a member of the German Confederation Its status was again doubtful when the German Confederation was dissolved in 1866 William III of the Netherlands agreed to sell the grand duchy to France, a project which nearly led to war between France and Prussia At the London Conference of 1867 the European powers declared the grand duchy a neutral territory, its fortress was dismantled and the Prussian garrison withdrawn William III died (1890) without male heir, while his daughter Wilhelmina succeeded him in the Netherlands, Duke Adolf of NASSAU, of a collateral line, became grand duke of Luxembourg He was succeeded (1912) by his daughter, Marie Adelaide In 1914 Germany violated the neutrality of Luxembourg and occupied the grand duchy for the duration of the First World War Grand Duchess Marie Adelaide abdicated in 1919 in favor of her sister, Charlotte, who married Prince Felix of Bourbon-Parma Germany once again invaded (May, 1940) neutral Luxembourg in the Second World War The grand duchess and her cabinet fled abroad, and a government in exile was established at London Allied troops liberated Luxembourg in Sept , 1944 One of the United Nations, Luxembourg joined (1947) with Belgium and the Netherlands in a close economic and political alliance, the Benelux bloc A constitutional revision (1948) abolished the perpetual neutrality of the grand duchy, a status which in fact had ended in Nov , 1944, when compulsory military service was introduced Luxembourg joined in the Five-Power Pact (1948) with England, France, Belgium, and the Netherlands and took part in the European Recovery Program and the North Atlantic Pact In internal policy, the Christian Socialist party was predominant in the post-war years

Luxembourg, Flemish and Ger *Luxemburg*, province (1,706 sq mi , pop 213,252), SE Belgium, in the ARDENNES, bordering the grand duchy of Luxembourg in the east and France in the south Arlon is the capital Heavily forested, it is important chiefly for its cattle and for its steel industry in the southern section, which is part of the Luxembourg-Lorraine industrial district The population is mostly French-speaking, but there is a large German minority The province was detached from the grand duchy of Luxembourg (see separate article) in 1839

Luxembourg or **Luxemburg,** city (pop 61,996), capital of the grand duchy of Luxembourg It is a picturesque old place on a rocky height above the Alzette river It grew around the 10th-century castle which gave it its name and was a strong fortress until 1867 Luxembourg's city hall dates from the 16th cent

Luxembourg Palace, large Renaissance palace, Paris, France, on the left bank of the Seine near the Sorbonne It was built (1615–20) for Marie de' Medici by Salomon de Brosse on the site of a former palace belonging to the duke of Piney-Luxembourg (hence its name), and it was enlarged in the 19th cent. The palace houses the council of the republic (formerly the senate) of France It was used for the Paris Peace Conference of 1946 It contains valuable paintings, but the collection of contemporary art, long exhibited at the Luxembourg, has been moved to another building. The panels painted by Rubens for the Luxembourg Palace are now at the Louvre The beautiful Luxembourg Gardens are a favorite playground for children and, by long tradition, a favorite walk for the students and professors of the Sorbonne

Luxemburg, Rosa (rō'zə lōōk'sumbōōrk), 1870?–1919, German revolutionist, b Russian Poland As a result of her political activities, she fled to Switzerland, where she was converted to Marxism She acquired German citizenship through marriage and was soon a leader in the German Social Democratic party Although small and crippled, she distinguished herself as an active revolutionist and as a brilliant writer and orator She participated in the revolution of 1905 in Russia, and with Karl LIEBKNECHT she founded the SPARTACUS PARTY in Germany in the First World War Rosa Luxemburg advocated the general strike as a revolutionary weapon and regarded military dictatorship as the necessary preliminary to dictatorship of the proletariat She was in protective custody during the greater part of the First World War Released upon the outbreak of the revolution (1918), she aided in the transformation of the Spartacists into the German Communist party and with Liebknecht edited its organ, *Die rote Fahne* For their part in the Spartacist uprising in Berlin she and Liebknecht were arrested (Jan , 1919) While being taken to prison, they were killed by soldiers See Paul Frolich, *Rosa Luxemburg* (1940)

Luxemburg, grand duchy and city see LUXEMBOURG

Luxeuil (lüsœ'yu), former abbey, E France It was founded in 590 by St COLUMBAN on the site of a Roman town destroyed (451) by Attila, later in Franche-Comté and now in the Haute-Saône dept The rule of Columban was soon replaced by that of St Benedict Though constantly troubled by the interference of the Merovingian kings, the monks of Luxeuil were important in upholding Christianity The abbey, devastated (c 732) by the Saracens, was rebuilt by Charlemagne and soon became one of the early centers of medieval learning, its abbots came to rank as princes of the Holy Roman Empire The French Revolution secularized the abbey, around which the town of **Luxeuil-les-Bains** (-lābē') (pop 5,264) had grown It has been a watering place since Roman times

Luxor (lŭk'sôr, lōōk'sôr), town (pop 18,664), central Egypt, on the Nile It is a mile W of KARNAK and occupies part of the site of THEBES The temple of Luxor, the greatest monument of antiquity in the town, was built in the reign of AMENHOTEP III as a temple to Amon The temple was 623 ft long It was much altered by succeeding Pharaohs, especially by Ramses II, who had many colossal statues of himself erected on the grounds In early Christian times the temple was made into a church, and later a shrine to a Moslem saint was built in the great hall See A M Blackman, *Luxor and Its Temples* (1923)

Luxora (lōōksô'rə), cotton town (pop 1,258), NE Ark , just W of the Mississippi river, founded 1882

luxury tax, tax on articles considered luxuries Such taxes may be intended to discourage consumption of certain articles, as the tax on French lawns and laces in the 18th cent in England, or they may be imposed for revenue purposes on articles deemed least necessary In modern times such "conventional necessities" as alcohol, tobacco, jewelry, furs, amusements, private automobiles, and candy have been included In the United States, luxury taxes have been levied frequently, especially in wartime

Luynes, Charles d'Albert, duc de (shärl' dalbĕr' dük' du lüēn'), 1578–1621, constable of France, minister and favorite of Louis XIII With the king's collaboration, he caused the assassination of CONCINI (1617), took over the government, and forced MARIE DE' MEDICI into exile His power was twice threatened (1619, 1620) by the activities of Marie and her partisans among the nobles He died in the course of a campaign against the rebellious Protestants of Béarn

Luz. 1 Place in Palestine, apparently to be identified with BETHEL Gen 28 19, 35 6, 48 3, Joshua 16 2, 18 13, Judges 1 23 **2** City, N Palestine Judges 1 26

Luzán, Ignacio de (ēgnä'thyô dā lōōthän'), 1702–54, Spanish scholar and critic, studied Greek, Latin, and the humanities in Italy From 1747 to 1749 he lived in Paris as secretary in the Spanish embassy Luzán owes his fame to *La poética* (1737), in which he sets down the neoclassical rules and principles which should govern the art of poetry. About one third of the book is a critical study of the Spanish drama Luzán influenced greatly the taste and the literary expression of his contemporaries

Luzern, Switzerland see LUCERNE

Luzerne (lōōzûrn'), anthracite-mining borough (pop 7,082), NE Pa , near Wilkes-Barre, inc 1882

Luzon (lōōzŏn'), island (40,420 sq mi , pop 7,374,798), largest and most important of the Philippine Islands The irregular coast line provides several fine bays, notably Manila Bay, with Manila, the capital of the republic, on its shores The Sierra Madre, a great mountain range, parallels part of the east coast, the best known of the active volcanoes are Mt Mayon and Mt Taal, both in the south Laguna de Bay and Taal are the only large lakes Watered by the Cagayan, Pampanga, Agno, and other rivers, Luzon has rich agricultural areas producing sugar cane, rice, cotton, hemp, tobacco, and coffee There are deposits of gold, iron, copper, manganese, and chromite, but the mining industries are relatively undeveloped Predominantly Christian, the native inhabitants are principally Ilocanos and Tagalogs The Hukbalahaps, a dissident group in central Luzon caused civil unrest in 1946–48 In the Second World War, Luzon was invaded by the Japanese on Dec 10, 1941, and in early 1942 the Allied forces made their last stand on BATAAN peninsula and CORREGIDOR Luzon was regained in early 1945 after a successful landing on the west coast at Lingayen Gulf and Subic Bay

Luzzatti, Luigi (lwē'jē lōōt-tsät'tē), 1841-1927, Italian statesman and economist As minister of finance in several cabinets and as premier (1910–11) he promoted liberal legislation and was noted especially for his advocacy of peoples' banks and minority rights He also secured 24 commercial treaties, one of which (1898) ended the Franco-Italian tariff struggle One of his books (pub 1909) was translated as *God in Freedom* (1930)

Luzzatto, Moses Hayyim (hä'yĕm lōōt-tsät'tō), 1707–47, Hebrew playwright, poet, and mystic, a leader of the renaissance of Hebrew literature, b Padua At the age of 17 he wrote *Samson and Delilah*, a drama in verse His finest work is the allegorical *Glory to the Righteous* (1743)

Lvov, Prince Georgi Yevgenyevich (gĕôr'gē yĭvgā'nyuvĭch lyuvôf'), 1861–1925, Russian statesman A liberal, he played a prominent part in the development of the ZEMSTVO system of local self-government He was a deputy of the Constitutional Democratic party in the Duma and chairman of the all-Russian union of zemstvos when the RUSSIAN REVOLUTION of Feb , 1917, placed him at the head of the provisional Russian government after the abdication of Nicholas II Lvov's idealism and fear of violence made him particularly unfit for coping with the turbulent situation While he sought to organize a constitutional and democratic government on the basis of the zemstvo system, the Social Democrats gained the actual power by organizing and dominating the workers' and peasants' councils (soviets) Agitation for peace with the Central Powers forced (May, 1917) the resignation of the foreign minister, MILYUKOV, and Lvov formed a second government After a Bolshevik uprising was suppressed (July, 1917), Lvov resigned and a moderate Socialist government under KERENSKY was organized Lvov subsequently escaped from the Bolsheviks and settled in Paris, where he died

Lvov (lyuvôf'), Ger *Lemberg* (lĕm'bĕrk), Pol *Lwów* (lvôōf), city (1931 pop 316,177), capital of Lvov oblast, W Ukraine, in the northern foothills of the Carpathians It is a major transportation center and has numerous industries (machinery, textiles, electrical apparatus, chemicals, food processing, and oil refining) Lvov is the seat of a university (founded 1658) and of several technical institutes Founded c 1250 by a prince of GALICIA, the city became a great medieval commercial center on the trade route from Vienna to Kiev It was a Polish stronghold against invasions from the east and underwent numerous sieges by the Tatars, Turks, Cossacks, Russians, and Swedes After the first partition of Poland (1772) Lemberg was the capital of Austrian Galicia It was lost and retaken (1914, 1915) by the Austrians in the First World War In 1918 it became the capital of the short-lived Ukrainian republic, but in 1919 it was taken by Poland, and in 1921 it was confirmed in Polish possession by the Treaty of Riga between Poland and the USSR Lvov, in a largely Ukrainian area, was claimed and annexed to the Ukraine by the USSR after the invasion of Poland (1939) From 1941 to 1944 it was occupied by German troops, most of its pre-war Jewish population (c 100,000) was exterminated In 1945 Poland formally ceded Lvov to Russia Among the ancient buildings of Lvov are its 16th-century palace and three cathedrals (two dating from the 14th cent)

Lwow, Ukraine see LVOV

Lyakhov Islands (lyä'khuf), area 2,660 sq mi , southern group of the NEW SIBERIAN ISLANDS, between the Laptev Sea and the East Siberian Sea, Yakut ASSR, RSFSR They include Bolshoi Lyakhov, Maly Lyakhov, and Stolbovoi islands and are separated from the Anjou group of the New Siberian Islands by Sannikov Strait and from the mainland by Dmitri Laptev Strait They were discovered (1770) by Lyakhov, a Russian merchant

Lyall, Sir Charles James (līəl), 1845–1920, British Orientalist and civil servant in India. He held various offices in India and became chief commissioner of the United Provs (1895-98), later he held an important post in the India Office in London (1898–1910) He received (1897) the Star of India Sir Charles was a successful student and

translator of Arabian poetry. His works include *Translations of Ancient Arabian Poetry* (1885, 1930), *The Diwan of Abid ibn al-Abras* (1913), *The Poems of Amr Son of Qamiah* (1919), *The Mufaddaliyat* (1921)

Lyautey, Louis Hubert Gonzalve (lwē' ūbĕr' gōzälv' lyōtā'), 1854–1934, marshal of France He served in Indo-China, Madagascar, and Algeria before being sent (1912) to Morocco as French resident general. With a brief interruption in 1916–17, when he was French war minister, Lyautey devoted the next 13 years to building up the French administration in the protectorate, developing its economy and resources, extending its borders, and pacifying native resistance During the First World War he maintained French rule over Morocco though much of his force was withdrawn to fight elsewhere A skillful diplomat as well as a soldier, he may be said to have created modern Morocco and to have been one of the most successful colonial administrators of all time See André Maurois, *Lyautey* (Eng tr , 1931)

lycanthropy (līkăn'thrupē) [from Gr ,=wolf-man] The belief that a man can by WITCHCRAFT or MAGIC take on the appearance and characteristics of an animal has been widespread in space and time Certain African tribes have their "leopard-men" and the like, totems are related to the idea, and folklore from literatures all over the world have tales of men changing to animals and vice versa One of the widest of these beliefs is the belief in the werewolf (called also turnskins and, in French, the *loup-garou*), a werewolf being a man or woman who either willingly or unwillingly changes to a wolf and eats human flesh or drinks human blood, then returns to his human form One of the most celebrated historic cases of the werewolf is said to have been Elizabeth Bathory The belief in the VAMPIRE is related The morbid desire for eating human flesh that appears in certain extreme psychoses is also called lycanthropy

Lycaonia (lĭk'kā'nēu), ancient country of S Asia Minor, between Galatia and Cilicia on the north and south and Phrygia and Cappadocia on the west and east Passing successively to the Persians, Syrians, and Romans, it was divided by the Romans between Galatia and Cappadocia It was visited by Paul and Barnabas (Acts 14), as were the near-by Lystra and Derbe

Lyceum (līsē'um), gymnasium of ancient Athens Here Aristotle was accustomed to teach, hence the extension of the term *lyceum* to Aristotle's school of philosophers, the Peripatetics

lyceum (līsē'um, lī'sēŭm) The National American Lyceum for the dissemination of information on the arts, sciences, history, and public affairs developed from the lectures given by Josiah Holbrook in 1826 when he founded the first lyceum group in Millbury, Mass The movement spread through groups formed in other states, and for 40 years the lyceum was a powerful force in adult education, social reform, and political discussion Many of the ablest leaders of the time lectured to lyceum audiences, and public interest in general education was greatly stimulated The movement waned after the Civil War, but its function was later performed by the CHAUTAUQUA MOVEMENT See J. F Noffsinger, *Correspondence Schools, Lyceums, Chautauquas* (1926), C B Hayes, *The American Lyceum* (1932)

Lycia (lī'shŭ), ancient country, SW Asia Minor It is a mountainous promontory, never politically important In historic times it was held by the Persians, the Seleucids, and the Romans (from 189 B C) Its chief towns, Patara and Myra, were visited by St. Paul (Acts 27 5) Ruins include rock-cut tombs and Grecian sculptures

Lycomedes (lĭk'ŭmē'dēz), in Greek legend, king of Skyros He killed Theseus, who had been banished to Skyros Achilles in disguise hid among the women at Lycomedes' court and became the father of Neopotolemus by Lycomedes' daughter, Deidamia

Lycophron (lī'kufrŏn), fl 3d cent B C , Alexandrian Greek poet and grammarian, one of the Pleiad. His extant poem, *Cassandra* or *Alexandra*, is an occult and difficult work Anciently his tragedies were highly esteemed

Lycopolis (lĭkŏ'pulĭs), ancient city of Upper Egypt, replaced by the modern Asyut

Lycurgus (lĭkŭr'gŭs), traditional name of the reformer of the Spartan constitution According to a standard hypothesis he lived in the 7th cent B C. at the time when a revolt of the Messenian subjects nearly ruined Sparta Lycurgus led a reform in the government and in the city's social system to establish a machine of war which would preclude further trouble from the helots and other subjects Some features of the unique Spartan system were certainly more recent than 600 B C , and Lycurgus may be mythical.

Lycurgus, c 396–c 325 B C , one of the 10 Attic orators of the Alexandrian canon, pupil of Isocrates. An able and honored public official, he administered the state finances from 338 to 326 B C and led (with Demosthenes) the anti-Macedonian party One of his official acts ordered the editing and preserving of the works of Aeschylus, Sophocles, and Euripides. A single oration (*Against Leocrates*) is extant. See R. C. Jebb, *The Attic Orators* (1893)

Lydd (lĭd), municipal borough (pop 2,778), Kent, England It is 3 mi inland from Romney, one of the Cinque Ports, of which Lydd is a "member." There is a military camp near, and the name lyddite has been given to an explosive (see PICRIC ACID)

Lydda (lĭ'du), Arabic *Ludd*, city (pop over 10,000), central Israel, 9 mi SE of Jaffa and with connections by road to Jerusalem The city was probably of Hebrew foundation, its name in the Old Testament is Lod. 1 Chron 8 12, Ezra 2 33, Neh 7 37, 11 35 In A D 66 it was burned by Cestius Gallus and two years later was again destroyed by Vespasian Hadrian rebuilt the city and named it Diospolis In the 5th cent it was the seat of a bishop Birthplace of St George, it contained a church in his honor It was occupied by the Crusaders in 1099, destroyed by Saladin in 1191, and rebuilt by Richard Cœur de Lion Lydda was the scene of Peter's healing of the paralytic Acts 9 32 The city today has a major airport used by planes flying between Europe and the Far East There was heavy fighting here between Israelis and Arabs in 1948

lyddite · see PICRIC ACID.

Lydekker, Richard (lĭdĕ'kŭr), 1849–1915, English naturalist, educated at Cambridge He was an authority on fossil mammals, which he first studied while with the Geological Survey of India (1874–82) He compiled for the British Museum catalogues of its fossil mammals, birds, and reptiles. He wrote many books and edited the *Royal Natural History* (6 vols , 1893–96)

Lydgate, John (lĭd'gāt), c 1370–c 1450, English poet A monk of Bury St Edmunds, he was one of the most voluminous English writers of the Middle Ages Little is known of his life His principal works are *The Fall of Princes* (c 1430), perhaps the best of his longer works, *The Siege of Thebes* (1420–22), designed as a story supplementary to Chaucer's *Canterbury Tales*, the *Troy Book* (1412–20), and *The Temple of Glass*, an allegory of love He also wrote much minor verse in varying keys—satirical poems such as *London Lackpenny*, fables, saints' lives, and religious, moral, and occasional poems A professed disciple of Chaucer, Lydgate was one of the most influential poets of his time and was perhaps even more highly esteemed than Chaucer See his *Minor Poems* (ed by H N McCracken, 1911–34)

Lydia (lĭ'dēŭ), Christian convert at whose house in Philippi Paul stayed She was from Thyatira Acts 16 14–40

Lydia, ancient country, W Asia Minor, extending W from the Aegean and occupying the valleys of the Hermus and Cayster rivers Traditionally the dynasties of rulers were three the Atyadae, ending before 1220 B C , the Heraclidae, lasting about 500 years, and the Mermnadae, who took the throne when Gyges seized power in 687 B C Only in the last dynasty was Lydia important The little kingdom grew to an empire in the chaos that had been left after the fall of the Hittites Lydia was proverbially golden with wealth, and the capital, SARDIS, was magnificent To Lydian rulers is ascribed the first use of coined money Their civilization was high, and there were close connections with the Greek cities of Asia, which were for a time within the Lydian empire. The last ruler was CROESUS, who was defeated (before 540 B C) by Cyrus of Persia Lydia was then absorbed into the Persian Empire

Lydia, Mount, Turkey see MYCALE

lye, name used for several substances which are strongly alkaline in solution Today in the United States it commonly indicates the caustic alkali sodium hydroxide (caustic SODA) This substance is very similar to potassium hydroxide (caustic potash) Lye (sodium hydroxide) is used in the manufacture of hard soaps, reacting with a fat to form soap and glycerine, in textile manufacture, in the canning industry, in tanning leather, and in the refining of petroleum Sodium hydroxide is prepared commercially by the electrolysis of common salt It is soluble in water, is a good conductor of electricity, and causes the destruction of animal tissue Lye can seriously harm the human skin, vinegar is a handy first-aid remedy Lye attacks aluminum containers rapidly It dissolves wool, but not cotton, and is used consequently in testing for wool Originally the term *lye* was used, as it still is to some extent, for the aqueous solution of potassium carbonate obtained by treating wood ashes with water ("leaching") This solution is less strongly alkaline than sodium hydroxide Like potassium hydroxide, it is used in making soft soap

Lyell, Sir Charles (lī'ul), 1797–1875, English geologist He studied law and practiced for a time, but spent most of his life in travel (he twice visited the United States) and in the popularization of his geological ideas Chief of these was his theory of UNIFORMISM, contained in his *Principles of Geology* (3 vols., 1830–33), which went into 12 editions in his lifetime. Besides *Elements of Geology* (1838) and *The Geological Evidences of the Antiquity of Man* (1863), he wrote two books on his travels in North America Lyell was one of the most influential men of the 19th cent. in shaping popular ideas about science. One of his chief original contributions was the division of the Tertiary into Eocene, Miocene, and Pliocene. See his *Life, Letters, and Journals* (ed. by his sister-in-law, Mrs. Lyell, 1881); study by T. G. Bonney (1901).

Lykens (lī'kŭnz), borough (pop 3,048), SE Pa , NNE of Harrisburg, settled c 1740, laid out 1848, inc 1872 Anthracite mining is done here.

Lyly or **Lilly, John** (lĭl'ē), 1554?–1606, English dramatist and prose writer, remembered chiefly for one work, *Euphues*, published in two parts, *Euphues, or, The Anatomy of Wit* (1578) and *Euphues and His England* (1580) This early and immature example of the novel set a new style in English literature known as EUPHUISM, a fashion attempted by writers for about 30 years thereafter and traces of which may be found in Shakspere Lyly's plays, which include *Sappho and Phao* (1584), *Endymion* (1591), *Midas* (1592), and *The Woman in the Moone* (1597), were presented at court and were among the earliest English comedies in prose He represents, both in *Euphues* and in his plays, a link between the Italian Renaissance and the literary awakening of Elizabethan England See studies by Albert Feuillerat (1910) and V M Jeffery (1929)

Lyman, Chester Smith (lī'mŭn), 1814–90, American scientist, b Manchester, Conn , studied at Yale and at Union Theological Seminary. For two years he was a Congregational minister After resigning because of ill-health, he went (1846), to Hawaii, where he investigated volcanic phenomena and was instructor in the Royal School in Honolulu Returning to the United States in 1847, he practiced surveying in California In 1859 he became professor of industrial mechanics and physics in the Sheffield Scientific School, Yale, and in 1871 of astronomy and physics Among the scientific instruments of his invention are a combined zenith telescope and transit for latitude, longitude, and time and an apparatus for use in illustrating the dynamics of ocean waves He wrote *Around the Horn to the Sandwich Islands and California, 1844–60* (ed by F J Teggart, 1924)

Lyman, Phineas, c 1716–1774, American colonial soldier, b Durham, Conn , grad Yale, 1738 As leader of the Connecticut militia, he saw much action in the French and Indian War—at Lake George (1755), in the unsuccessful attack on Ticonderoga in 1758 and the capture of Ticonderoga and Crown Point in 1759, and in the attack on Havana (1762) He went to England (1763) to secure the prize money due his troops for taking Havana In 1772 he returned with the title to a large tract of land between the Mississippi and Yazoo rivers for his company of "military adventurers "

Lyman, Theodore, 1833–97, American naturalist, b Waltham, Mass , grad Harvard, 1855, and Lawrence Scientific School, Harvard, 1858 He was in the Union army as an aide (1863–65) on the staff of Gen George Meade As Massachusetts commissioner of inland fisheries (1866–83) he was a leader in the movement for the conservation of food fish For the Harvard Museum of Comparative Zoology (with which he was associated, 1859–87), he published many scientific papers on marine forms He served in Congress (1883–85) as an independent in favor of civil service reform

Lyme (līm), town (pop 717), SE Conn , set off from Saybrook 1655 It once included the present EAST LYME and OLD LYME

Lyme Regis (līm' rē'jĭs), municipal borough (1931 pop 2,620, 1943 estimated pop 3,000), Dorsetshire, England, on the southern coast SE of Axminster It is a health resort and port and was the landing place of Monmouth in 1685, before the battle of Sedgemoor Archaeological discoveries have been made in the blue Lias rocks which are quarried near Lyme Regis

Lymington (līm'–), municipal borough (pop 5,177), Hampshire, England, on the Solent at the mouth of the Lymington river It is a market town and port, coast trading and yacht building are pursued A Roman camp was in the vicinity Henry II landed here in 1154 on the way to his coronation

lymphatic system (limfăt'ĭk), system which conveys lymph through vessels and nodes distributed throughout the body Lymph, a colorless or yellowish fluid derived chiefly from blood plasma which filters through capillary walls into intercellular spaces, acts as a medium of exchange between the blood and the body cells A network of delicate vessels (lymph capillaries) drains the tissue spaces of the body The lymph vessels in the villi of the small intestine are called lacteals The small vessels unite to form larger ones, gradually increasing in size to form two main channels, the thoracic duct from which the lymph enters the blood stream at the junction of the left internal jugular and the left subclavian veins and the right lymphatic duct which empties into the corresponding region on the right side. Small nodes (lymph glands) occur along the course of the lymph channels in such locations as the axilla, neck, groin, abdomen, and thorax. Bacteria are filtered out in the lymph nodes, which thus form a barrier

against the passage of harmful agents into the blood stream. In disease, the lymph nodes become inflamed and swollen, and therefore palpable, and of diagnostic importance

Lympne (lĭm), village, Kent, England, near HYTHE It is important now as an airport.

Lynaker, Thomas see LINACRE, THOMAS

Lynbrook, residential village (pop 14,557), on SW Long Island, SE N Y , near New York city, settled before the Revolution, inc 1911 Lamps and sportswear are made

Lynch, Charles, 1736–96, American Revolutionary soldier, b near the site of Lynchburg, Va The term "lynch law" is thought by some to have derived from his name A member of the Virginia house of burgesses, he took a prominent part in the preparations for war When a Tory conspiracy was discovered (1780) in Bedford co , where he had been a justice of the peace since 1766, Lynch, a zealous patriot, presided over an extralegal court which meted out summary punishment to the Loyalists In this he clearly exceeded his authority, but he was later exonerated by the state legislature He led a volunteer regiment at the battle of Guilford Courthouse in 1781

Lynch, John Joseph, 1894–, American seismologist, b England In 1913 he came to the United States (naturalized, 1935) and was graduated from Woodstock (Md) College in 1920 He became a Jesuit in 1914 and was ordained a priest in 1926 In 1928 he became associate professor of physics and director of the seismic observatory at Fordham He is the author of *General Physics* (1933) and *Our Trembling Earth* (1940)

Lynch, Thomas, 1749–79, American Revolutionary patriot, signer of the Declaration of Independence, b Berkeley co , S C , educated at Eton and at Cambridge Univ He was the son of a Carolina statesman, Thomas Lynch, and is known as Thomas Lynch, Jr He was elected (1776) to the Continental Congress but soon resigned Trying to regain his health, Lynch sailed for France and was lost at sea His rare autographs are valuable

Lynch. 1 Unincorporated town (pop c 10,000), Harlan co , E Ky , in the Cumberlands near the Va line It is a coal-mining community, owned by the U S Coal and Coke Company, which founded the town in 1917 Big Black Mt , highest peak in Kentucky, is near **2** Village (pop 487), N Nebr , between the Missouri and Niobrara rivers On nearby Ponca Creek, excavation of prehistoric settlements was begun in 1936

Lynchburg, city (pop 44,541), S Va , on the James and in the Blue Ridge foothills, settled 1757, founded 1786, inc as a town 1805, as a city 1852 It is a trade center and tobacco market, among its products are shoes, textiles, fertilizer, flour, and paper It was a Confederate supply base in the Civil War, in June, 1864, a Union attempt to take the city failed It is the seat of RANDOLPH-MACON WOMAN'S COLLEGE, Virginia Theological Seminary and College (Negro), Lynchburg College (Disciples of Christ, coeducational, 1903) and Virginia Episcopal School (preparatory; for boys) Near by are SWEET BRIAR COLLEGE, an old church (1792-98, restored 1901), "Poplar Forest" (1806–9, built by Jefferson, restored), and Appomattox. Carter Glass lived here

lynching, extralegal inflicting of capital punishment by a self-constituted group The origin of the word is unknown, there are various explanations, one of the most popular being that it is derived from the name of Col Charles LYNCH American pioneers whose settlements had not yet established legal institutions frequently took the law in their own hands Pioneers so situated sometimes punished lesser crimes by exile, compelling the persons believed guilty to leave their community Crimes that seemed to them capital, such as rape, were punished by lynching Horse stealing was such a crime, since often pioneers (notably cowboys) who lost their horses could not continue their work Pioneers formed vigilance committees to repress crime (see VIGILANTES) When legal institutions had been duly established, such vigilance committees normally tended to disappear Their measures were at worst extralegal, though they had the intrinsic danger of resort to violence, hasty injustice might easily be done Lynching in a community adequately supplied with officers of the law is generally regarded as a threat to the basis of the law. In the chaotic social conditions of the South in Reconstruction days, there was considerable resort to lynching, particularly by the Ku Klux Klan The tradition of using violence against Negroes accused of serious crime (especially rape of a white woman or murder of a white man) was maintained in the period after Reconstruction to support "white supremacy " It should be noted, however, that the practice has been exceptional rather than common and that a large body of Southern opinion has steadfastly opposed the practice It should also be noted that many lynchings have occurred in other sections of the nation. Nevertheless, much national attention has been riveted on the situation in the South, and a mass trial of 28 white men for the lynching of a Negro drew much notice in 1947 when it was held in Greenville, N.C. Though the defendants were acquitted and though Southern legislators have been able to block antilynching bills, there is evidence that sentiment against lynching is growing stronger in the South, as it is elsewhere in the United States

Lynd, Robert Staughton, 1892–, American sociologist, b New Albany, Ind He has taught at Columbia Univ since 1931. With his wife, Helen Merrell Lynd, he made a noted sociological study of Muncie, Ind., published in 1929 as *Middletown: a Study in Contemporary American Culture* He has also written *Middletown in Transition* (1937) and *Knowledge for What?* (1939)

Lynden (lĭn'dun), town (pop 1,696), NW Wash , N of Bellingham, in a dairy, poultry, and farm area; settled 1860, inc 1891 Bulb growing has been introduced by Dutch farmers of the region Lynden is a port of entry

Lyndhurst, John Singleton Copley, Baron (kŏp'lē, lĭnd'hûrst), 1772–1863, British jurist, b Boston, Mass , son of John Singleton Copley, the American painter A successful lawyer in England, he attained notice by his successful defense of a Luddite (1812) and of Arthur THISTLEWOOD and James Watson (1817) He became solicitor general (1819), attorney general (1824), and master of the rolls (1826) Between 1827 and 1846 he was three times lord chancellor Although his sympathies as a young man were extremely liberal, in his political life he was a Tory and a leader of his party in the House of Lords See biography by Sir Theodore Martin (1883)

Lyndhurst. 1 Township (pop 17,454), NE N J , near Rutherford, inc 1852 **2** Village (pop 2,391), NE Ohio, near Cleveland, inc 1917

Lyndon, rural town (pop 3,144), NE Vt , on the Passumpsic and N of St Johnsbury, settled 1788 It includes the villages Lyndon Center, seat of a state teachers college, and Lyndonville (pop 1,444)

Lyndsay, Sir David see LINDSAY, SIR DAVID

Lynn, Norfolk, England see KING'S LYNN

Lynn. 1 Town (pop 1,014), Randolph co , E Ind , SSE of Winchester **2** City (pop 98,123), E Mass , NE of Boston, settled 1629, inc as a town 1631, as a city 1850 From 1636 shoes have been made here In 1860 a strike in the shoe industry at Lynn spread to other cities and was broken by the importation of strikebreakers The city has other industries, notably the production of electrical appliances Mary Baker Eddy lived here

Lynn Canal, natural inlet, c 80 mi long, SE Alaska It connects in the south with Chatham Strait and Stephens Passage and thrusts north between mountains to break finally into the inlets of the Chilkoot and Chilkat rivers Navigable to its head, Lynn Canal connects Skagway with Juneau and was an important artery of the gold rush

Lynnfield, town (pop 2,287), NE Mass , W of Salem, settled c 1640, set off from Lynn 1782. The Scotch Boardman House was built in 1651

Lynn Haven, city (pop 1,246), NW Fla , on St Andrews Bay WSW of Tallahassee, in a timber area, settled 1912, inc 1915

Lynn Regis, Norfolk, England see KING'S LYNN

Lynwood, city (1940 pop 10,982, 1947 special census pop 20,650), in Compton township, S Calif , adjacent to Los Angeles, inc 1921 It manufactures metal products

lynx (lĭngks), short-tailed member of the cat family with soft, thick black-marked beige to gray fur and tufted ears The common or northern lynx of Europe now exists in small numbers in the Alps, Scandinavia, and N Russia Its head and body are about 3 ft long, the tail about 5 in Races of the European lynx are found in Asia American species are the BOBCAT and the Canada lynx

Lyon, James (lī'un), 1735–94, American Presbyterian clergyman and amateur musician, b Newark, N J His *Urania* (c 1761), a collection of psalm tunes containing some of his own compositions, established him as the second American composer (Francis Hopkinson was the first)

Lyon, Mary, 1797–1849, American educator, founder of MOUNT HOLYOKE COLLEGE, b Buckland, Mass She attended three academies in Massachusetts, later she taught at Ashfield, Mass , Londonderry, N H , and Ipswich, Mass. Interested in promoting higher education of women, she won the aid of several influential men and succeeded (1837) in establishing Mt Holyoke Female Seminary (later Mt Holyoke College) at South Hadley, Mass She served as principal for 12 years, directing the development of a well-rounded college program and emphasizing the principle of service to others. See Beth B Gilchrist, *The Life of Mary Lyon* (1910), M. F Lansing, ed , *Mary Lyon through Her Letters* (1937)

Lyon, Matthew, 1750–1822, American politician and pioneer, b Co Wicklow, Ireland. He emigrated to America in 1765, settling eventually in Vermont. During the American Revolution he served with Ethan Allen and later was in the fighting around Saratoga. He resigned from the army in 1778 He founded (1783) the town of Fair Haven, Vt , where he became a leading businessman. From 1797 to 1801 he was an Anti-Federalist member of the U S House of Representatives, where he became notorious as the result of a personal encounter with Roger Griswold. In the same year, 1798, he was indicted under the Sedition Act for the publication of a letter criticizing President John Adams While in jail he was reelected to Congress Moving to Eddyville, Ky., in 1801, he also represented that state in Congress (1803–11) Lyon was appointed (1820) U S factor to the Cherokee Indians in Arkansas, where he was elected the second delegate of that territory to Congress, but died before taking his seat He was a hero of three successive frontiers, an able exponent of frontier views in Congress, and a man of shrewd business ability See biography by J F McLaughlin (1900)

Lyon, Nathaniel, 1818–61, Union general in the Civil War, b Eastford, Conn , grad West Point, 1841 After serving against the Seminoles and in the Mexican War, he was stationed in California and Kansas until the outbreak of the Civil War, when he was put in command of the St Louis arsenal He immediately broke up Camp Jackson, where the secessionist governor, Claiborne F JACKSON, had quartered the state militia By the spring of 1861, Lyon had subdued all the hostile sections of the state On the advance of a Confederate force from Arkansas into Missouri, Lyon attacked at WILSON CREEK, Aug 10 He was killed in the battle

Lyonnais (lēunā', Fr lyônā'), region and former province, E central France, now divided into Rhône and Loire depts It included Lyonnais proper (the country around LYONS, its capital), which Philip IV acquired in 1307, and the former counties of FOREZ and BEAUJOLAIS, added in 1531 The Lyonnais has great industrial centers at Lyons, SAINT-ÉTIENNE, and ROANNE

Lyonnesse (lĭ'unĕs"), region W of Cornwall, now sunk beneath the sea more than 40 fathoms deep The Lyonnesse of Celtic legend, the home of Tristram and of the Lady of Lyones, has been identified with Lothian in Scotland

Lyons, Joseph Aloysius, 1879–1939, Australian prime minister, b Tasmania He left schoolteaching in 1909 to enter political life, was a Labour member of the Tasmanian House of Assembly until 1929, and was premier of Tasmania He became a member of the commonwealth Parliament in 1929 and held cabinet posts, but in 1931 he repudiated the Labour government's proposals of inflation to solve the depression and helped form a coalition United Australia party As prime minister of Australia for three terms (1932–39), he reduced debts and restored the country to solvency

Lyons (lī'unz), Fr *Lyon* (lyō), city (pop 439,861), capital of Rhône dept , E central France, at the confluence of the Rhone and Saône rivers Lyons leads Europe in silk and rayon production, it has important machine, clothing, and chemical industries, a river port, a stock exchange (founded 1506, the oldest in France), a university (founded 1808), and several fine museums It is, moreover, a gastronomic capital Founded in 43 B C as a Roman colony, ancient Lugdunum soon became the principal city of GAUL Here Christianity was first introduced into Gaul, and the importance of Lyons until c 1300 was chiefly religious One of the earliest archiepiscopal sees in France, Lyons (which after the breakup of the Carolingian empire passed to the kingdom of Arles) was ruled by its archbishops until c 1307, when Philip IV incorporated the city and LYONNAIS proper into the French crown land In 1320 the citizens obtained self-rule through elected consuls Of great importance were the emergence (12th cent) of the WALDENSES and the councils held here in 1245 and in 1274 The importance of Lyons as a silk center dates from the 15th cent , at first the silkworms raised in SE France sufficed the needs of the industry, but in recent times Lyons has become increasingly dependent on Far Eastern imports of raw material—a fact which caused a sharp decline of production during and after the Second World War In 1793 Lyons was devastated by French Revolutionary troops after a counterrevolutionary insurrection, but it recovered quickly thanks to the invention here of the Jacquard loom Annual international trade fairs are held at Lyons Though damaged in the Second World War, Lyons remains a handsome modern city It has preserved interesting old sections, notably around the primatial Cathedral of St John (12th–14th cent), which has lost its stained glass windows Among the many great men born at Lyons were the emperors Claudius and Caracalla, St Ambrose, and Ampère Édouard HERRIOT (b Troyes) served as mayor of Lyons after 1905.

Lyons. 1 City (pop 1,900), co seat of Toombs co , SE Ga , W of Savannah, in a farm and timber area, inc 1897 **2** Residential village (pop. 4,960), NE Ill , near Chicago, inc 1888 It was settled at the edge of an early travel route, the portage between the Chicago and Des Plaines rivers. **3** City (pop 4,497), co seat of Rice co , central Kansas, NW of Hutchinson, on the old Santa Fe Trail, laid out 1876, inc 1880 The county produces oil, and the city has large salt mines Wheat is grown in the area **4** Village (pop 1,033), NE Nebr , near the Missouri NNW of Omaha, inc 1869 **5** Village (pop. 3,863), co seat of Wayne co , W central N Y , on the Barge Canal and SE of Rochester,

settled 1800, inc 1831. Canning and furniture making are carried on

Lyons, First Council of, 1245, the 13th ecumenical council of the Roman Catholic Church, convened by INNOCENT IV to deal with his struggle with Emperor FREDERICK II In spite of the defense of Frederick by his ambassador, he was declared deposed by the council—but ineffectually

Lyons, Second Council of, 1274, the 14th ecumenical council of the Roman Catholic Church It was summoned by GREGORY X to discuss the Holy Land, to remove the schism of East and West, and to reform the Church The reunion of Constantinople and Rome had been proposed by the Byzantine emperor, Michael VIII, who hoped to avert the imperial designs of Charles of Anjou and other Latin leaders There were long preliminaries at Constantinople, and at the council the Greek delegates made all the necessary concessions, and reunion was proclaimed The reunion, however, was unpopular in the East and ignored in the West and was officially denounced by Andronicus II in Constantinople after Michael's death (1282) The legislation of the council for church reform was well prepared, supported by statements the pope had had the bishops submit Emphasis was laid on abuses of diocesan level (e g , plural benefices, absentee clerics, and faulty elections) Perhaps the most important decrees were that establishing the conclave (see PAPAL ELECTION) and that regulating religious orders and granting special protection to the Dominicans and the Franciscans St Bonaventure died at the council, and St Thomas Aquinas died on his way there

lyre, generic term for stringed musical instruments having a sound box from which project curved arms, joined by a crossbar The strings are stretched between the crossbar and the sound box and are plucked with the fingers or with a plectrum In ancient times Sumer, Babylonia, Israel, and Egypt had various sorts of lyres It was a lyre upon which the biblical King David played Ancient Greece had two lyres—the kithara, which was the larger instrument, used by the professional musician, and the lyra, the smaller instrument of the amateur Each had from 3 to 12 strings, made of hemp After the 10th cent the lyres of northern European countries were bowed instead of being plucked The bowed lyre which persisted longest was the Welsh crwth, known as early as the 11th cent and still in use in the early 19th cent At some time in its history a finger board was added, making it an early member of the violin family

lyre bird, Australian bird with tail plumage in the male which when spread out in display resembles a lyre The lyre reaches its full development in the fourth year Both sexes have brown plumage When in danger the bird runs, it is a poor flier Its dome-shaped nest is built on the ground or in a tree fork, and one egg is laid In the breeding season the males scrape up mounds of earth on which they "dance" They have a pleasant song and are good mimics

lyric (lĭ'rĭk), in ancient Greece, a short poem accompanied by a musical instrument, usually a lyre The word is still often used to refer to the songlike quality in poetry But it is more generally used to refer to any short poem which expresses a personal emotion, and in form it may be a sonnet, ode, song, or elegy It is distinguished from narrative and dramatic poetry In early Greek poetry a distinction was made between the choral song and the monody sung by an individual The monody was developed into the lyric by Sappho and Alcaeus in the 6th cent B C and by Pindar later Latin lyrics were written by Catullus and Horace in the 1st cent B C , and in the Middle Ages the lyric form can be found in the Christian hymns, in folk songs, and in the songs of troubadours In the Renaissance and later, lyric poetry achieved its most finished form in the sonnets of Petrarch, Shakspere, Spenser, and Sidney and in the short poems of Pierre de Ronsard, Ben Jonson, John Donne, Robert Herrick, and Milton The romantic poets, emphasizing the expression of personal emotion, wrote innumerable lyrics The most famous are probably those of Robert Burns, William Blake, Wordsworth, Shelley, Keats, Lamartine, Hugo, Goethe, Heine, and Giacomo Leopardi Among modern lyric poets are W B Yeats, A E Housman, Robert Frost, Elinor Wylie, and Dylan Thomas See E B Reed, *English Lyrical Poetry* (1912), H J C Grierson, *Lyrical Poetry of the Nineteenth Century* (1929), *Immortal Lyrics* (ed by Hudson Strode, 1938), *Oxford Book of Greek Verse in Translation* (ed by T F Higham and C M Bowra, 1938)

Lys (lēs), Flemish *Leie* (lī'ŭ), river, 135 mi long, rising in the hills of Artois, NE France It flows northeast, forming the Franco-Belgian border between Armentières and Menin, and continues into Belgium past Courtrai to empty into the Scheldt (Escaut) at Ghent The Lys was the scene of severe fighting in the First World War

Lysander (lĭsăn'dur), d 395 B C , Spartan naval commander and diplomat Late in the PELOPONNESIAN WAR, while in command of the Spartan fleet, he won a victory over the Athenians off Notium (407 B C) To Lysander was due the capture of the Athenian fleet at the mouth of the Aegospotamos (405 B C) and the final submission of Athens to Sparta (404 B C) It was he who planned the government of each of the allied states by 10 oligarchs and of Athens by the Thirty Tyrants Ambitious that Sparta should control all Greece and that his should be the leading power in Sparta, he supported the succession of Agesilaus II as king, but the latter proved more able and independent than had been anticipated When in 395 B C the Boeotians, with Thebes and Corinth at their head, made war upon Sparta, Lysander led an army against them, but he fell in battle at Haliartus

Lysanias (lĭsā'nēus), fl A D c 30, tetrarch of Abilene, otherwise unknown Luke 3 1

Lysenko, Trofim Denisovich (lĭsĕng'kō, Rus trŭfēm' dyĭnyē'sŭvĭch lĭsyĕn'kō), 1898— , Russian agronomist As president of the Lenin All-Union Academy of Agricultural Sciences he became the scientific and administrative leader of Soviet agriculture In 1937 he was made a member of the Supreme Soviet and head of the genetics institute at Odessa He first became known for his process (vernalization) of moistening and refrigerating the seed of spring wheat, thereby reputedly imparting to it characteristics of winter wheat He is the leader of the Soviet school of genetics which opposes the theories of heredity accepted by most geneticists and he supports the doctrine that characteristics acquired through environmental influences are inherited Lysenko rejects neo-Mendelism and is a disciple of I V Michurin Lysenko's theories are in line with Marxian ideology, they won the official support (1948) of the Soviet Central Committee, and the teaching of biology in the USSR has been oriented to them Lysenko stated his theories in *Heredity and Its Variability* (1943, Eng tr , 1946) and in *The Science of Biology Today* (1948, Eng tr , 1948) See P S Hudson and R H Richens, *The New Genetics in the Soviet Union* (1946), Julian Huxley, *Heredity East and West* (1949)

Lysias (lĭ'sĭŭs), c 459–c 380 B C , Attic orator, son of Cephalus, a Syracusan After the capture of Athens by the Spartans (404 B C), the Thirty Tyrants caused the arrest of Lysias and his brother Polemarchus, who was put to death Lysias escaped to Megara, from which he returned when the Thirty Tyrants were expelled (403 B C) He prosecuted Eratosthenes for his brother's death His oration against Eratosthenes is a model of Greek oratory The Tyrants had deprived him of his wealth, and he adopted the profession of writing speeches for litigants Only 34 of his orations are extant Lysias is preeminent in Greek oratory for his vigorous elegance and for his clear style He is one of the four or five best Greek prose writers

Lysias, Claudius: see CLAUDIUS LYSIAS.

Lysimachus (lĭsĭ'mŭkŭs), c 355 B.C –281 B C , Thessalian general of Alexander the Great He was a commander in Alexander's fleet on the Hydaspes On Alexander's death (323 B C) Lysimachus took control of Thrace He joined the other Diadochi—CASSANDER, PTOLEMY I, and SELEUCUS I in league against ANTIGONUS I (314 B C), and after the defeat of Antigonus at Ipsus, Lysimachus took W Asia Minor as his share (301 B C) In 286 B C he added Macedonia to his kingdom by defeating Pyrrhus Five years later in a war with Seleucus, Lysimachus was defeated and killed in battle near Magnesia ad Sipylum A circumstantial story is told that Lysimachus' wife, Arsinoë (Ptolemy's daughter), had persuaded him to kill his son, the son's widow took refuge with Seleucus and provoked the final war

Lysippus (lĭsĭ'pus), 4th cent B C , Greek sculptor, head of the Sicyon school Hellenistic sculpture was based largely on the style introduced by him In treating the human figure, he modified the proportions set by the canon of POLYCLETUS, making the head smaller, the form slender, the muscles close-lying Of the many bronze statues and groups mentioned by Pliny and other ancient writers as his work, no certain original exists, and the marble statues accepted as copies of his bronzes probably do not follow his modeling exactly The APOXYOMENUS in the Vatican and the *Agias* at Delphi are the most famous of these copies or adaptations He made numerous statues of Alexander the Great after 340 B C According to tradition, he produced 1,500 works The subjects were gods, heroes, and athletes The sizes ranged from small bronze figures to a gigantic statue of Zeus 60 ft high

Lystra (lĭs'trŭ), ancient city of Lycaonia, S Asia Minor, visited by Paul and Barnabas Acts 14 6

Lyte, Henry Francis (līt), 1793–1847, British clergyman and hymn writer, b Scotland He held a charge at Lower Brixham, Devonshire, from 1823 to 1844 His *Poems, Chiefly Religious* (1833) and *The Spirit of the Psalms* (1834) contain many familiar hymns Among the most widely known are *Abide with Me, Jesus, I My Cross Have Taken,* and *Praise, My Soul, the King of Heaven* A memoir is in *Remains* (ed by his daughter, 1850)

Lytham Saint Anne's (lĭdh'ŭm), municipal borough (1931 pop 25,764, 1947 estimated pop 30,960), Lancashire, England, on the north shore of the Ribble estuary, SE of Blackpool and W of Preston. It is a port and a seaside resort

Lytle, William Haines (lī't), 1826–63, American soldier and poet, b Cincinnati His best-known lyric was the once admired "Anthony and Cleopatra" He served in the Mexican War and the Civil War, being a brigadier general when he was fatally wounded at the battle of Chickamauga See his *Poems* (ed with a memoir by W H Venable, 1894, 2d ed , 1912)

Lyttelton, Sir Thomas see LITTLETON, SIR THOMAS

Lyttelton (lĭ'tultun), borough (pop 3,407), on E South Island, New Zealand The port for Christchurch, it exports frozen meat and fertilizer

Lytton, Edward George Earle Lytton Bulwer-Lytton, 1st **Baron** see BULWER-LYTTON

Lytton, Edward Robert Bulwer-Lytton, earl of, pseud Owen Meredith see BULWER-LYTTON

Lytton, Victor Alexander George Robert Lytton, 2d **earl of,** 1871–1947, English diplomat and author, b India, son of the 1st earl of Lytton and grandson of Edward Bulwer-Lytton He was undersecretary of state for India (1920–22) and, like his father, was viceroy of India (1925) He achieved prominence as chairman of the League of Nations mission to Manchuria (1942) His report recommended in effect economic sanctions against Japan Lytton's writings include a biography of his father (1913), *Antony Viscount Knebworth a Record of Youth* (letters to and from his son, 1935), and *The Web of Life* (1938)

M

M, 13th letter of the ALPHABET, usually representing, as in English, a voiced bilabial nasal It corresponds with the Greek mu (mū) In Roman numerals it stands for 1,000

M', Names beginning thus are entered as if spelled Mac- See the article MAC

Ma, the chemical symbol of the element MASURIUM

Maacah (mā'ŭkŭ), in names of persons and places in the Bible, variant of MAACHAH

Maachah (mā'ŭkŭ) **1** Absalom's mother. 1 Chron 3 2 Maacah 2 Sam 3 3 **2** See MAOCH **3** Idolatrous wife of Rehoboam She was Absalom's daughter and mother of Abijah 1 Kings 15.2, 2 Chron 11 20 Michaiah 2 Chron 13 2 **4** Caleb's concubine 1 Chron 2 48 **5** Wife of Machir the Manassite 1 Chron 7 15 **6** Child of Nahor Gen. 22 24 **7** Wife of Jehiel 1 Chron 8 29, 9 35 **8, 9** Fathers of two of David's men 1 Chron 11 43; 27 16

Maachah, ancient city-state of Syria, S of Damascus It was held by Arameans in biblical times The inhabitants are Maachathi or Maachathites Deut 3 14, Joshua 12 5, 13 11, 2 Sam 23 34, 1 Chron 19 Maacah 2 Sam 10 The town of ABEL-BETH-MAACHAH may have been in Maachah

Maadai (mā'dī, māudā'ī) [Heb , =ornament], one who had a foreign wife Ezra 10 34

Maadiah (mā'udī'u), family returned from exile. Neh 12 5 Moadiah Neh 12 17

Maai (mā-ā'ī), one who took part in the dedication of the wall Neh 12 36

Maaleh-acrabbim (māāl'u-, mā'ulu-) [Heb , =the ascent of Akrabbim], pass, S of the Dead Sea, called also "the ascent of Akrabbim" Num 34 4, Joshua 15 3

Maan (mūān'), town, S Jordan It is the terminus of a railroad (the only line in Jordan) which extends to Beyrouth, Syria.

Maarath (mā'urăth), unidentified town, in the mountains S of Jerusalem Joshua 15 59

Maas, Nicolaas see MAES, NICOLAAS

Maas, river see MEUSE

Maaseiah (mā'usē'yu) [Heb , =work of God] **1** Musician under David 1 Chron. 15 18, 20 **2** Captain who aided the restoration of Josah 2 Chron 23 1 **3** Officer of King Uzziah 2 Chron 26 11 **4** Son of King Ahaz 2 Chron. 28 7 **5** Man charged by Josiah with repairing the Temple 2 Chron 34 8 **6** The same as ASAIAH **4** **7** Father of ZEDEKIAH **3** **8** Father of ZEPHANIAH **5** **9** Grandfather of SERAIAH **3.** **10, 11, 12, 13** Men who had foreign wives Ezra 10 18,21,22,30 **14** Father of AZARIAH **20** **15** Man with Ezra at the reading of the Law Neh. 8.4 **16** Levite instructor of the Law Neh 8 7 **17** Sealer of the covenant Neh 10 25. **18** Ancestor of SALLU **2** **19, 20** Priests at the dedication of the walls. Neh. 12.41,42.

Maasiai (mā'sĭā") [Heb ,=God's work], priest. 1 Chron 9.12 See AMASHAI

Maastricht (mās'trĭkht"), municipality (pop 73,831), capital of Limburg prov , SE Netherlands, on the Meuse (Maas) and on the Albert Canal system, NNE of Liége, Belgium It is an important rail and river transportation point and an industrial center manufacturing textiles, ceramics, glass, and chemicals There are sandstone quarries near by The Meuse was forded here in Roman times, and the city derives its name from the Latin *Trajectum ad Mosam* [Meuse ford] An episcopal see from 382 to 721, Maastricht has the oldest church in the Netherlands, the Cathedral of St Servatius, founded in the 6th cent Maastricht belonged to the domain of the early Frankish kings It later came under the rule of the dukes of LIMBURG and was awarded (1648) to the United Provs of the Netherlands in the Peace of Westphalia Once a strategic fortress, Maastricht suffered many sieges The Spanish under Farnese, capturing it (1579) from the Dutch rebels, massacred a large part of the population In 1632 the Dutch under Prince Frederick Henry recovered the city, which, however, fell several times into French hands in the wars of the 17th and 18th cent (notably in 1673 and in 1794) Besides the cathedral, Maastricht has retained the Romanesque Church of Our Lady (11th cent) and a 13th-century bridge across the Meuse Until the Flemish spelling reform its Flemish name was Maestricht

Maath (mā'ăth), ancestor of Joseph Luke 3 26.

Maaz (mā'ăz) [Heb ,=anger], descendant of Judah 1 Chron 2 27

Maaziah (mā'ăzī'ə), family of chief priests 1 Chron 24 18, Neh 10 8

Mabery, Charles Frederic (mā'burē), 1850-1927, American chemist, b New Gloucester, Maine, grad Harvard (B S , 1876) After teaching at Harvard (until 1883), he was professor of chemistry at the Case School of Applied Science, Cleveland (1883–1911) An authority on petroleum, he was also known for his work on the electric furnace and the electric production of aluminum

Mabie, Hamilton Wright, 1845-1916, American critic and essayist, b Cold Spring, N Y , grad Williams, 1867 He was associated with the *Christian Union*, which after 1893 became the *Outlook* His works include *Norse Stories, Retold from the Eddas* (1882), *Short Studies in Literature* (1891), and *Essays on Books and Culture* (1896) See E W Morse, *The Life and Letters of Hamilton W Mabie* (1920)

Mabillon, Jean (zhäⁿ' mäbēyôⁿ'), 1632-1707, French scholar, a Benedictine monk His *De re diplomatica* (1681, with a supplementary volume, 1704) was the first work attempting a critical method of determining the authenticity of documents With it, Mabillon created the science of diplomatic, without which scientific history writing would be impossible The result of truly Benedictine erudition, *De re diplomatica* remains a classic in its field

Mabinogion (măbĭnō'gĕun) [Welsh plural of *Mabinogi*=youthful career], collection of medieval Welsh stories found in two manuscripts, the *White Book of Rhydderch* (c 1300-1325) and the *Red Book of Hergest* (c 1375–1425) The title is an extension of the title of the first four tales, *The Four Branches of the Mabinogi*, which are divided into *Pwyll, Branwen, Manawydan*, and *Math*, their connecting link, now obscured by many accretions, is the life story of Prince Gwri or, as he is later called, Pryderi In the first he is born and fostered, inherits the kingdom, and marries, in the second he is barely mentioned, in the third he is imprisoned by enchantment and released, and in the fourth he falls in battle The story of *Kulhwch and Olwen*, which was composed before the Conquest, shows an Arthurian tale before it passed into continental tradition Another Arthurian story is *The Dream of Rhonabwy*, which was written before 1175 and which also contains native Welsh traditions about King Arthur A story apparently based on the legend of Emperor Maximus is *The Dream of Maxim Wledig* *Lludd and Llevelys* is a short folk tale full of fairy elements The last group in the *Mabinogion* consists of three Arthurian romances, *Geraint, The Lady of the Fountain*, and *Peredur*, formerly thought to be adaptations from similar romances of Chrestien de Troyes. It now seems probable that the first two shared with Chrestien's works common sources written in French and that the last drew on the vast body of Grail tradition *The Four Branches, Kulhwch*, and the romances are invaluable in the study of the ARTHURIAN LEGEND, which owes much to Welsh mythology The *Mabinogion* was published (1838-49), with English translation by Lady Charlotte Guest See *The Mabinogion* (tr by Gwyn Jones and Thomas Jones, 1949, Everyman's Library)

Mabscott, coal town (pop 1,473), S W Va , near Beckley, inc 1906

Mabuse, Jan de (yän' dŭ mäbūz'), c 1478–c 1533, Flemish painter, b Maubeuge in Hainaut His real name was Jan Gossaert or Gossart His early work shows the influence of Gerard David, but in 1508 he went to Italy with Philip of Burgundy, natural son of Philip the Good, there he was much influenced by the work of the Italian masters. Mabuse was one of the first Flemish painters to try to incorporate in his work the lessons of the Italian Renaissance and one of the most successful in the transition period between the early masters and Rubens He is better, perhaps, in his fine portraits than in his more ambitious compositions Among the latter his early *Adoration of the Kings* (National Gall , London) and his *St Luke Painting the Virgin* (cathedral, Prague), *Neptune and Amphitrite*, and *Madonna and Child* (Metropolitan Mus) are splendid examples Beautiful specimens of his portraiture are in the Louvre, Hampton Court Palace, and the Gardner Museum, Boston

Mac, Mc, or **M'** [Irish, =son], element in names derived from Irish and Scottish Gaelic patronymics In most of these names the second element was a forename (e g , *Macdonald*, in various spellings) Other names included titles or epithets (e g , *McIntosh* [son of the chief]) Notions that some forms of the prefix are more typically Scottish or Irish are fallacious Some of the names, however, have typical local distribution, thus, McLeod is Hebridean, McSweeney is especially Irish See O and NAME

McAdam, John Loudon (mŭkă'dŭm), 1756–1836, Scottish inventor His method of road building (see MACADAM ROAD) was widely adopted He began his experiments in road making in Ayrshire, continued them at Falmouth, and finally, in 1815, won an appointment as surveyor general of Bristol roads and official recognition of his work See biography by Roy Devereux (1936)

macadam road, constructed of compacted layers of small stones It was introduced in England c 1815 by J L McAdam and soon superseded the dirt road in Europe and in the United States, revolutionizing road transportation McAdam built roads of stones placed directly on the earth roadbed, the stones were consolidated by the traffic passing over them At about the same period Thomas Telford constructed roads on a foundation of large stones topped with a macadam surface, the Telford base is still employed on poor subsoil or for roads designed to bear very heavy loads Macadam roads are constructed today of stones ranging in size from about ¾ in to 3½ in , these are spread in layers not over 6 in deep, compacted by power rollers, then spread with stone dust and screenings and sprinkled with water (puddled) and rerolled The durability of the road depends on the interlocking action of the stones and on the cementing qualities of the stone dust and water Since the surface of water-bound macadam tends to break down (ravel) under heavy traffic, bituminous macadam roads are replacing water-bound macadam The bituminous surface is applied over a macadam base which is compacted but often not puddled The surface may be applied by spreading small stones over a coating of bituminous material, then rolling (penetration method), by mixing the stones and bituminous material, or by rolling a shallow coating of bituminous mastic over a layer of small stones

McAdoo, William Gibbs (mă'kudōō), 1863-1941, American political leader, U S Secretary of the Treasury (1913–18), b near Marietta, Ga , educated at the Univ of Tennessee The son of a prominent Georgia jurist of the same name, McAdoo became a lawyer in Chattanooga and after 1892 in New York For several years he had a partner also named William McAdoo (no relation), who had been Assistant Secretary of the Navy under Cleveland William Gibbs McAdoo was a promoter of the railroad tunnels known as the Hudson tubes He actively promoted Woodrow Wilson for the presidency in 1912, was given a cabinet post, and took one of Wilson's daughters as his second wife (the marriage ended many years later in divorce) His administration of the Dept of the Treasury was notable for the beginning of the Federal Reserve System, and McAdoo was first chairman of the Federal Reserve Board He also had the heavy duties of managing the finance of American participation in the First World War and served as director general of railroads in the period of government operation He returned to law practice in New York, then moved to Los Angeles He was prominent as a contender for the Democratic presidential nomination in 1920, and in 1924 the supporters of McAdoo and the adherents of Alfred E Smith offset each other and forced the choice of a compromise candidate In 1928 he was unable to halt Smith's nomination In 1932 his California delegation at the convention was joined with the Texas delegation in support of John N Garner When this bloc of votes was shifted to Franklin D Roosevelt, Roosevelt was nominated. McAdoo later (1933–39) served as Senator from California His autobiography, *Crowded Years* (1931), ends with his resignation from the cabinet

McAdoo, borough (pop 5,127), E Pa , SW of Hazleton, inc 1896 It produces anthracite, textiles, and paper boxes

McAfee, Mildred Helen (mă'kŭfē), 1900–, American educator, b Parkville, Mo , grad Vassar, 1920, M A Univ of Chicago, 1928. She taught economics and sociology at Tusculum College and from 1927 to 1932 was dean of women and professor of sociology at Centre College of Kentucky. Miss McAfee was dean of women at Oberlin for two years before becoming president of Wellesley in 1936 She was director of the women's naval reserve (the Waves) from 1942 until 1946, receiving the rank of captain in 1943 She married the Rev. Dr Douglas Horton in 1945, she resigned the presidency of Wellesley in 1948

McAlester (mukăl'ĭstur), city (pop 12,401), co seat of Pittsburg co , SE Okla , ESE of Oklahoma City, settled c 1870 It is a trading center for a farm and coal area, with cotton- and food-processing plants The state penitentiary is near.

Macalester College: see SAINT PAUL, Minn

McAllen, city (1940 pop 11,877, 1947 estimated pop 15,800), extreme S Texas, WNW of Brownsville, settled 1904, inc as a town 1910, as a city 1927 A packing and processing center for the citrus fruit, truck, and other produce of the irrigated region of the lower Rio Grande valley, it also has chemical plants and other factories, is a winter resort and a port of entry, and refines oil from near-by fields

McAllister, Ward (Samuel Ward McAllister), 1827–95, American social leader, b Savannah, Ga Admitted to the bar, McAllister practiced law (1850–52) in San Francisco and became wealthy Ward McAllister removed to New York city in 1852, married Sarah T Gibbons -a millionaire's daughter—and then mingled widely with figures of European society Upon his return to the United States he established a second residence at Newport, R I , and soon became the arbiter of the New York and Newport social set It was McAllister who chose (1872) the "patriarchs" of New York families with long traditions and sifted out (1892) the Four Hundred—people whom he deemed the members of "true" New York society Mrs. William Astor was his friend and aid. He wrote *Society as I Have Found It* (1890)

McAlpine, William Jarvis (mukăl'pĭn), 1812–90, American engineer, b New York city He learned his trade as an apprentice to John B Jervis, served under Jervis on the Erie Canal, and succeeded him in 1836 as chief engineer of the eastern division He made his reputation as the engineer of the dry dock at the Brooklyn Navy Yard, an outstanding piece of construction in its day He later served as state engineer and railway commissioner of New York, as chief engineer of the Erie and other railroads, as consulting engineer for many railroads, as consultant in the planning of water-supply systems for many cities, as consultant in the building of the Eads Bridge at St Louis and in other bridge construction projects, as superintendent of construction of the capitol building at Albany, as engineer of parks for New York city, and as consultant for the Manchester Ship Canal and other European works Besides many technical papers of value, he wrote *Modern Engineering* (1874)

Macao (mukou'), Port *Macau*, Mandarin *Hsiangshan*, Portuguese colony (6 sq mi , pop 374,734), next Kwangtung prov , SE China, on the estuary of the Canton river It comprises Macao peninsula and two islands Portuguese settlement was begun in 1557, and the present holdings were confirmed by a treaty with China in 1887 **Macao,** city (pop 312,717), is on Macao island Until the rise of Hong Kong in the 19th cent , it was the leading port for foreign trade with China Today it is a center of fisheries and light industries Much revenue is obtained from its licensed gambling establishments

macaque see MONKEY

macaroni, generic name for shaped and dried doughs prepared from selected wheat flour and water Similar flour and rice pastes have been known in Asia for several thousand years and are believed to have been introduced into Germany during the Mongol invasions in the 13th cent and to have spread to Italy, where they became staples both for home consumption and for export Semolina, a durum wheat flour, coarsely ground and free from bran, makes the best product, although farina, similarly prepared from other varieties of hard wheat, is also used The sifted flour is moistened with hot water, kneaded to a stiff dough, forced through holes of the desired size and shape, then slowly dried in a current of warm air In modern factories open-air drying has been superseded by the use of air-conditioned rooms Long-cut macaroni is hung to dry on racks or sticks and, to support its own weight, must be made of high-grade semolina Short-cut pastes are dried on trays The dough is made in fancy shapes, ribbons, tubes, and solid rounds and may be twisted or ribbed, the commonest forms are macaroni (coarse tubes), spaghetti (cords of medium diameter), and vermicelli (fine strands) Noodles are made from dough mixed with eggs or egg solids, rolled thin, and sliced The increased use of alimentary pastes in the United States in the 20th cent has led to widespread cultivation of durum wheat and to the establishment of factories producing quantities sufficient for export as well as for domestic use Good macaroni products double in bulk when boiled, without growing sticky, and may be kept indefinitely in dry storage.

MacArthur, Arthur, 1845–1912, American general, b Springfield, Mass ; father of Douglas MacArthur In the Civil War, MacArthur, commissioned (1862) a first lieutenant of the 24th Wisconsin Volunteers, fought in many Western campaigns and in the Chattanooga campaign in 1863 After the war he joined the regular army and had risen (1906) to the rank of lieutenant general when he retired in 1909 He served in both Cuba and the Philippines in the Spanish-American War and was (1900–1901) military governor of the Philippines

MacArthur, Douglas, 1880–, American general, b Little Rock, Ark , grad West Point, 1903, son of Arthur MacArthur He was reared at frontier posts, and while his father was stationed in Texas, Douglas MacArthur attended military school At West Point he achieved an outstanding scholastic record, and after graduation he served in the Philippines and in Japan After becoming (1906) aide to President Theodore Roosevelt, he was attached (1913-17) to the army general staff In the First World War he fought in France, first as chief of staff of the 42d (Rainbow) Division and then as commander of the 84th Infantry Brigade, he participated in the Champagne-Marne and Aisne-Marne defensives and in the Saint-Mihiel and Meuse-Argonne offensives He was promoted brigadier general in 1918, and as superintendent of West Point (1919–22) he helped modernize the academy's military training program After commanding (1922–25) in the Philippines, he returned to the United States and served (1930–35) as chief of the general staff In the tense and threatening days of Japanese expansion President F D Roosevelt appointed (1935) MacArthur head of the American military mission to the Philippines, where he led in the establishment of a vast training and defense plan He retired (1939) from the U S army but later returned to duty (July, 1941) to command U S armed forces in the Far East After the Japanese attack on Dec 7, 1941, he led in the defense of the Philippines until March, 1942, when, under the orders of President Roosevelt, he left for Australia to take command of Allied forces in the Southwest Pacific From Australia he launched the New Guinea campaign, and later (Oct , 1944–July, 1945) he led in the liberation of the Philippines He was promoted (Dec., 1944) general of the army ("five-star general"). After the surrender of JAPAN, he was named supreme commander for Allied powers in Japan and directed the Allied occupation of Japan His name was entered in the 1949 Republican presidential primaries See biography by F T Miller (1945)

McArthur, Duncan, 1772–1839, American soldier and politician, b Dutchess co , N Y He moved with his family to W Pennsylvania and served under Gen Josiah Harmar in the Ohio Indian campaign of 1790 He settled near Chillicothe, Ohio, and was a member (1805–13) of the state legislature He reorganized the Ohio militia, was appointed (1808) major general, and led under Gen William Hull an Ohio regiment in the Detroit campaign of the War of 1812 As brigadier general in the regular U S army, he commanded (1813) in the defense of Fort Meigs, near Detroit, and at other frontier garrisons, in 1814 he succeeded William Henry Harrison in the chief command in the Northwest. After negotiating treaties with the Indians, he served (1823–25) in Congress and then (1830–32) was governor of Ohio

Macarthur, Mary Reid, 1880–1921, British labor organizer, b Glasgow Working in her father's draper's shop, she became prominent in the shop assistants' union As the representative of the women chainmakers of Cradley Heath, she secured a minimum wage for them in 1909 and led a strike to compel employers to pay the increase without delay She visited the United States in 1920 as a British representative in the first labor conference convened under the League of Nations In 1911 she married William Crawford Anderson, chairman of the Independent Labour party See Mary A Hamilton, *Mary Macarthur* (1925)

McArthur, village (pop 1,288), co seat of Vinton co , S central Ohio, E of Chillicothe, platted 1815, inc 1851. In an area of coal mines, oil and gas wells, and limestone quarries, the village makes chemicals and clay products

Macassar or **Makassar** (both mŭkă'sŭr), town (pop 84,855), capital of East Indonesia, on the southwest coast of Celebes In 1660 the Dutch supplanted the Portuguese, who had settled here in 1625 A free port since 1848, it exports coffee, teak, spices, and copra In the Second World War, Macassar Strait (between Borneo and Celebes) was the scene of a Japanese defeat

Macau· see MACAO

Macaulay, Catherine Sawbridge (mŭkô'lē), 1731–91, English historian She wrote effective pamphlets upholding the cause of the colonies and, after 1776, defending the American Revolution. Mrs Macaulay met Benjamin Franklin, corresponded with George Washington, and in 1785 visited the United States Her second marriage to a very young man, William Graham, in 1778, as well as her liberal views, made her notorious in London society. Her most important work was *The History of England from the Accession of James I* (8 vols., 1763–83), a publication which aroused much interest at the time

Macaulay, Rose, English writer, b Cambridge, brought up in Italy Her satirical novels include *Potterism* (1920), *Told by an Idiot* (1923), *Orphan Island* (1924), and *Crewe Train* (1926) She has also written two volumes of verse, several books of familiar essays and studies, among them *Some Religious Elements in English Literature* (1931), and studies of John Milton (1931) and E M Forster (1938)

Macaulay, Thomas Babington, 1800–1859, English historian and author, b Leicestershire, educated at Cambridge After the success of his essay on Milton in the *Edinburgh Review* (Aug , 1825), he contributed regularly to that journal He was called to the bar in 1826 and, elected to Parliament in 1830, distinguished himself as a Whig orator In India (1834–38) as a member of the supreme council he reformed the Indian educational system and composed a legal code for the colony On his return to England, Macaulay devoted himself to writing history, but returned to public office as secretary of war (1839–41), paymaster of the forces (1846–47), and member of Parliament (1839–47, 1852–56). In 1857 he was raised to the peerage as Baron Macaulay of Rothley Macaulay's greatest literary work was *The History of England from the Accession of James the Second* (5 vols , 1849–61) Because of its colorful style and theatrical presentation of historical events, it was an unprecedented success The work fails to achieve objectivity, however, because of Macaulay's Whig bias and his prejudiced use of evidence Macaulay's shorter historical and biographical essays—on Milton, Bacon, Johnson, Warren Hastings, and others—are brilliant, graphic dissertations, but not always accurate Although the *Lays of Ancient Rome* (1842) made Macaulay a popular poet, he never attained major rank See Sir G O Trevelyan, *The Life and Letters of Lord Macaulay* (1876), R C Beatty, *Lord Macaulay, Victorian Liberal* (1938)

macaw (mŭkô'), name of a number of species of the parrot family, native to the forests of Central and South America They are the largest and most vividly colored of the family and have long tails and large hooked beaks The red and blue macaws, which travel in flocks in the Brazilian jungle, and the blue and yellow macaw are often seen in captivity

McBain, Howard Lee, 1880–1936, American political scientist, b Toronto, Ont , grad Richmond (Va) College, 1900, Ph D Columbia, 1907 After teaching at George Washington and Wisconsin universities, he became, in 1913, associate professor of municipal science and administration and, in 1917, professor of constitutional law at Columbia Univ In 1929 he was made dean of the graduate faculties An authority on constitutional law, he revised (1933) the Cuban electoral code His books include *The Law and the Practice of Municipal Home Rule* (1916), *American City Progress and the Law* (1917), *The New Constitutions of Europe* (with Lindsay Rogers, 1922), and *The Living Constitution* (1927)

Macbeth (măkbĕth'), d 1057, king of Scotland (1040–57) He was a commander for Duncan I of Scotland, whom he defeated and slew and whose kingdom he took (1040) He seems to have been an able king, but was defeated by Duncan's son Malcolm with the help of Siward of Northumberland in 1054 and in 1057 was killed by Malcolm, who succeeded as MALCOLM III The versions of the story in Holinshed and Boece are the basis of Shakspere's tragedy

McBride, Sir Richard, 1870–1917, Canadian statesman, b New Westminster, British Columbia, grad Dalhousie Univ (LL B , 1890) In 1898 he was elected as a Liberal-Conservative to the legislature of British Columbia and he served there until 1915 He was prime minister of British Columbia from 1903 to 1915, when he resigned to accept the position of agent general of the province in London

McBurney, Charles, 1845–1913, American surgeon, b Roxbury, Mass He was graduated from the College of Physicians and Surgeons (M D. Columbia, 1870), later he taught there (1872–82, 1889–1907) and was a consulting surgeon at several New York hospitals He is noted for his contributions on appendicitis the site of local tenderness, in diagnosis, is called McBurney's point, and McBurney's incision was devised by him

McBurney, Robert Ross, 1837–98, leading figure in the history of the Young Men's Christian Association, b Ulster, Ireland He came to New York city in 1854 In 1862 he became the first paid secretary of the Y M C A. He was largely responsible for the traditional program and activities of the Y M C A., and his work in New York was copied in other cities in America and in foreign countries See biography by L L Doggett (1902)

McCabe, William Gordon, 1841–1920, American educator and author, b Richmond, Va., grad. Univ of Virginia, 1861. He served with the Confederate army throughout the Civil War. From 1865 until his retirement in 1901 he directed the University School, which he founded at Petersburg, Va., and moved to Richmond in 1895. A noted teacher and Latin scholar, long president of the Virginia Historical Association, McCabe was also an essayist and the author of *Ballads of Battle and Bravery* (1879), a collection of Civil War poems See biography by A C. Gordon (1925)

Maccabees (măk'ŭbēz) or **Machabees** (măk'-), Jewish family of the 2d and 1st cent B C which led in the restoration of Jewish political and religious life They are also called Hasmoneans or Asmoneans They appear in history as the family of a priest, Mattathias, dwelling in Modin, who opposed the Hellenising tendencies of the Syrian ruler Antiochus IV (175–164 B C) Antiochus had taken advantage of factionalism among the Jews and had stripped and desecrated the Temple and begun a religious persecution. Mattathias refused to take part in a pagan sacrifice and killed a Jew who did, then he killed the royal enforcing officer and fled with his five sons to the mountains Thus began a guerrilla warfare On Mattathias' death (166 B.C) the leadership passed to his son Judas Maccabeus, from whose surname the family name is derived Judas, an excellent military leader, defeated an expedition sent from Syria to destroy him Having occupied Jerusalem, he rededicated the Temple, the feast of HANUKKAH celebrates this event (165 B C). At this time there was civil strife in Syria Demetrius I, then in control, sent Nicanor with an army against Judas, this was defeated, but another, led by Bacchides, conquered, and Judas was killed (161 B C) His brother Jonathan, the new leader, was successful for a time, he supported Demetrius' rival, Alexander Balas, and made treaties of friendship with Sparta and Rome Jonathan was killed by treachery in 143 B C , and the last brother, Simon, succeeded, he was recognized by the other powers as civil ruler as well as high priest, and Palestine enjoyed some years of peace Eventually Antiochus VII sent an expedition against the Jews, Simon defeated it, but in the disorder afterwards he was murdered by an ambitious son-in-law (135 B C) John Hyrcanus, Simon's son, managed to gain the ascendancy in the subsequent strife He fought against Antiochus and remained in power until his death (105? B C) His son, Aristobulus I, succeeded him, ruled one year, and died Another son, Alexander Jannaeus, then took the throne, governed with great severity, and headed the Sadducees in their strife with the Pharisees His widow, Alexandra (more properly Salome Alexandra), who had also been the widow of his brother, Aristobulus, became queen (78? B C) She favored the Pharisees and governed well After her death, her son John Hyrcanus II, who had been high priest, acquired the temporal rule as well, but his more energetic brother, Aristobulus II, revolted A civil war followed and resulted in Roman intervention and the taking of Jerusalem by Pompey (63 B C) The house of the Maccabees had declined One of its members, Alexander, led an abortive rebellion in Syria against Rome, and in 40 B C Antigonus, the son of Aristobulus II, invaded Judea with Parthian aid Some of the Jews rallied to his standard, but he was defeated and put to death (37 B C) Hyrcanus II, who had been reinstated as high priest by the Romans, was captured by the Parthians and deprived of his ears in order to render him unfit for priestly service He returned to Judea (33 B C), but was put to death on a charge of treason (30 B C) The name Maccabees has been extended to include the Jewish martyrs of the persecution, notably those of 2 Mac 6, 7 The chief sources for the Maccabees are the biblical books and the *Antiquities* of Josephus For bibliography, see OLD TESTAMENT and JEWS See also Elias Bickerman, *The Maccabees* (1947)

Maccabees, two books of the Old Testament, placed in the Apocrypha in AV, they are the last two books in the Western canon 1 Maccabees is a straight narrative, originally written in Hebrew, concerning the Maccabean struggles against Antiochus IV, beginning with the rebellion of Mattathias (c 167 B C.) and ending with the murder of Simon (135 B C) Its order is chronological, as follows introduction (1), Mattathias as leader (2), Judas' leadership (3-9 22), including the restoration of the Temple as the high point (4 36–59), Jonathan's career (9 23-12 53), and Simon's career (13-16) The book is the best source on the history it treats, it is careful in citing and dating There is an interesting account of the reputation of republican Rome (8 1–16) and of Maccabean relations with that power (8 17–32, 12 1–18, 14 16–24, 15.15–24). 1 Maccabees is usually dated c.100 B C. 2 Maccabees is a work of another sort. It is the epitome of five books by one Jason of Cyrene about the Maccabees; it was probably composed in Greek late in the 1st cent B.C. It is a devout history of the persecutions of Antiochus and the career of Judas Maccabeus. The contents are as follows. a seemingly extraneous letter of 124 B.C. from Palestinian Jews to Jews in E Egypt referring to the feast of the restoration of the Temple (1–2.18), literary preface (2.19–32), the intrigues and troubles leading to the persecution (3–6.17), two accounts of martyrdom (6.18–31; 7); Judas' glorious career (8–15), including the horrible death of Antiochus

(9) and a vision of Judas (15.12–16) 2 Maccabees is composed in a self-deprecatory, witty style; cf 2.23–32; 4.40, 5.21, 7.42; 15.37–39 It has interesting light on Jewish belief of the period, as on creation (7 22–23) and on the resurrection and prayers for the dead (12 43–45). There are other books of Maccabees among the PSEUDEPIGRAPHA For bibliography, see OLD TESTAMENT

Maccabees, Feast of the: see HANUKKAH

McCall, Samuel Walker (mŭkôl'), 1851–1923, American political leader, U S Congressman (1893–1913), governor of Massachusetts (1916–18), b East Providence, Bedford co., Pa , grad. Dartmouth, 1874 He was a Boston lawyer when he entered politics, and throughout his service in Congress in the Roosevelt-Taft period he was a regular Republican He promoted the building of the Lincoln Memorial in Washington, D.C He wrote biographies of Thaddeus Stevens (1898) and Thomas B. Reed (1914) and *The Business of Congress* (1911). See biography by L B Evans (1916)

MacCameron, Robert, 1866–1912, American portrait and genre painter, b Chicago He achieved distinction in both America and Europe with his portraits and interpretations of theatrical and café life. His best-known works are *Absinthe Drinkers* (Corcoran Gal), *The Old Customers* (Wilstach Gal , Philadelphia); *The Daughter's Return* and a portrait of Auguste Rodin (Metropolitan Mus), and portraits of Presidents Taft and McKinley and of Justices Harlan and Brewer

McCamey (mukā'mē), city (pop 2,595), W Texas, NE of the Pecos, in an oil and sheep area Founded after the discovery of oil in 1925, it was incorporated in 1926

McCartan, Edward, 1879–1947, American sculptor, b Albany, N Y His graceful figures and groups include the Eugene Field Memorial (Chicago), *Diana* (Metropolitan Mus), the design for the great clock for the New York Central Building (New York), *Spirit of the Woods, Youth, Nymph and Goat,* and *Isolt* He became a member of the National Academy in 1925

McCarthy, Charles (mukar'thē), 1873–1921, American author and public official, b Brockton, Mass , grad Brown, 1896, Ph D Univ of Wisconsin, 1901 He organized and for the remainder of his life directed at Madison, Wis , the first official legislative reference library in the country Through published articles, lectures, and contact with legislators he became one of the chief minds behind the progressive legislation enacted in Wisconsin in the gubernatorial administration of Robert M LA FOLLETTE He wrote *The Wisconsin Idea* (1912) McCarthy served (1914–15) as the first director of the U S Commission on Industrial Relations See E A Fitzpatrick, *McCarthy of Wisconsin* (1944)

MacCarthy, Denis Florence, 1817–82, Irish poet and nationalist His political poems were printed in the Dublin *Nation* under the pseudonym Desmond, and his collected *Ballads, Poems, and Lyrics* appeared in 1850 He also translated the works of Calderón, the Spanish dramatist

M'Carthy, Justin (mukar'thē), 1830–1912, British historian, novelist, and journalist, b Ireland He was a newspaperman in England from 1853 to 1868, when he resigned as editor of the London *Morning Star* and made a three-year tour of the United States In 1879 he entered Parliament, where he was an active member of the Home Rule Party Among his better-known novels are *Lady Judith* (1871) and *Dear Lady Disdain* (1875) He also wrote *A History of Our Own Times* (1879–1905) and *The Four Georges and William IV* (1884–1901), the last half of which was completed by his son, **Justin Huntly M'Carthy,** 1860-1936 He also was a member of Parliament (1884–92) and a versatile writer His best-known work was a novel, *If I Were King* (1901), based on the life of François Villon It was later dramatized and in the 1920s was made into a musical, *The Vagabond King*

McCarthy, Lillah, 1875–, English actress and theater manager She gave distinguished performances in the plays of Shakspere, Shaw, and Galsworthy and managed the Little Theatre (1911), the Kingsway (1912 and 1919), and the Savoy (1912) Her marriage (1906) to Granville-Barker ended in divorce in 1912, she married Sir F. W. Keeble in 1920 See her autobiography, *Myself and My Friends* (1933).

McCarver, Morton Matthew, 1807–79, American pioneer, b near Lexington, Ky He was a founder (1833) of Burlington, Iowa, and after he journeyed (1843) to Oregon he founded the town of Lannton on the Willamette river and became speaker of the first legislature of the provisional government On the news of the discovery of gold he went to California, and in 1848 he united with the Sutters in building Sacramento He was commissary general in Indian wars in Oregon and joined both the Fraser river and Idaho gold stampedes He helped to found, named, and promoted TACOMA, Wash.

McCaysville, city (pop. 1,832), extreme N Ga , at the Tenn.–N C line, near copper mines

McClellan, George, 1796–1847, American surgeon, b. Woodstock, Conn , M D. Univ. of Pennsylvania, 1819. He was a brilliant practitioner and noted teacher; his private school in Philadelphia was the nucleus of Jefferson Medical College (1825), where he established one of the first clinics in America. His *Principles and Practices of Surgery* (1848) was edited by his son, **John Hill Brinton McClellan,** 1823–74, who was also a surgeon Another son was George Brinton McClellan (see separate article) **George McClellan,** 1849–1913, American surgeon, M.D Jefferson Medical College, 1870, was the son of John H B McClellan He specialized in anatomy, teaching privately in Philadelphia, where in 1881 he founded the School of Anatomy and Surgery He wrote *Regional Anatomy* (1891–92) and *Anatomy in Relation to Art* (1900)

McClellan, George Brinton, 1826–85, Union general in the Civil War, b Philadelphia, son of George McClellan He was educated at the Univ of Pennsylvania and West Point (grad 1846) He served with distinction under Scott in the Mexican War and later worked on various engineering projects, notably on the survey (1853–54) for a Northern Pacific RR route across the Cascade Range In 1855 McClellan with two other officers studied European military systems, he observed the siege of Sevastopol in the Crimea Resigning from the army in 1857, he was a railroad official until the outbreak of the Civil War, when he assumed command of Ohio troops In May, 1861, he was made commander of the Dept of the Ohio and a major general in the regular army McClellan cleared the western part of Virginia of Confederates (June–July, 1861) and consequently, after the first battle of Bull Run, was given command of the troops in and about Washington In November he succeeded Scott as commander in chief He was relieved of that office in March, 1862, but retained command of the Army of the Potomac The administration, reflecting public opinion, had pressed him for an early movement, but McClellan insisted on the adequate training and equipment of his army, and the failure of his PENINSULAR CAMPAIGN after the SEVEN DAYS BATTLES was charged by many to his overcaution In Aug , 1862, most of his army reinforced Gen John POPE After Pope's defeat at the second battle of BULL RUN, McClellan again reorganized the Union forces, and in the ANTIETAM CAMPAIGN he checked Lee's first invasion of the North He was, however, tardy in following Lee across the Potomac President Lincoln, whose steadfast support had been ill repaid by the general, was led to remove McClellan in Nov , 1862 For all his personal and military faults "Little Mac" was able—far abler than his immediate successors—and was loved and trusted by his men of the Army of the Potomac McClellan was the Democratic candidate for President in 1864 (he resigned from the army on election day) Though McClellan's candidacy caused the administration much uneasiness, Lincoln was reelected by a substantial majority After his defeat, McClellan traveled extensively with his family in Europe He was later chief engineer of the New York city department of docks and was governor of New Jersey (1878–81) He wrote *McClellan's Own Story* (1887) in defense of his military record See biographies by P S Michie (1901), W S Myers (1934), and H. J Eckenrode and Bryan Conrad (1942)

McClellan, George Brinton, 1865–1940, American politician and educator, b Dresden, Saxony, Germany, grad Princeton, 1886, son of Gen George B McClellan He studied law, was president of the board of aldermen of New York city (1893–94), served as a Democrat in Congress (1895–1903), and was mayor of New York (1903–9) Afterwards he taught at Princeton, where he was professor of economic history from 1911 to his retirement in 1931 McClellan, an authority on Venetian history, wrote *Venice and Bonaparte* (1931) and *Modern Italy* (1933)

McClellan, John Hill Brinton: see MCCLELLAN, GEORGE

McClernand, John Alexander, 1812–1900, Union general in the Civil War, b Breckinridge co , Ky In 1816 his family moved to Shawneetown, Ill , where he was admitted to the bar (1832) McClernand, a Democrat in the House of Representatives (1843–51, 1859–61), resigned from Congress, raised a brigade of Illinois volunteers, and was made a brigadier general (May, 1861) He commanded a division at Fort DONELSON (Feb , 1862), was promoted major general (March), and fought at Shiloh (April) Through political influence he superseded Sherman (Jan 2, 1863) in command of the river expedition in the VICKSBURG CAMPAIGN After McClernand—upon Sherman's suggestion—had successfully assaulted ARKANSAS POST (Jan 11), Grant assumed his command He later led the 13th Corps in Grant's successful advance on Vicksburg, fighting at Port Gibson and Champion's Hill, but was subsequently relieved (June) for insubordination. McClernand was restored to his command in Feb , 1864, but resigned his commission in November of that year.

Macclesfield (măk'ŭlsfēld), municipal borough (1931 pop 34,905, 1943 estimated pop 36,340), Cheshire, England Silk manufacture, of which Macclesfield is the principal center in England, was introduced here in 1756, other industries include tanning and papermaking. The Church of St Michael dates from 1278, the grammar school from the beginning of the 16th cent Macclesfield Forest is a moorland east of the town

McClintock, Sir Francis Leopold, 1819–1907, British arctic explorer As a lieutenant in the navy he was assigned to his first arctic service in 1848, when Sir James Clark Ross went in search of the lost expedition of Sir John Franklin On this voyage and on the Franklin search expedition (1850–51) under Capt Horatio Austin, McClintock learned and developed the Eskimo art of sledging On the Austin expedition he mapped much of the south coast of Melville Island, while on Sir Edward Belcher's expedition (1852–54), he discovered and mapped most of Prince Patrick Island In 1857 Lady Franklin placed him in command of the *Fox*, in which he set forth in search of more definite knowledge of Franklin's fate The *Fox* remained in the arctic until 1859, McClintock discovered the channel that bears his name, explored Prince of Wales Island and the east coast of King William Island, and sledged to Boothia Peninsula He found records which disclosed the fate of the Franklin expedition, publishing his account in *The Voyage of the Fox* (1859), a book which had great popularity He retired from the navy in 1884 with the rank of admiral See biography by Sir Clements Markham (1909).

McClintock, John, 1814–70, American Methodist clergyman and educator, b Philadelphia, grad Univ of Pennsylvania, 1835 From 1836 to 1848 he taught at Dickinson College, resigning to edit (1848–56) the *Methodist Quarterly Review* He preached at St Paul's Church, New York city (1857–60), and at the American Chapel in Paris (1860–64) He served (1867–70) as first president of Drew Theological Seminary With James Strong, McClintock began in 1853 the noted *Cyclopaedia of Biblical, Theological, and Ecclesiastical Literature* (10 vols , 1867–81), three volumes of which were published before his death

McCloskey, John (mŭklŏ'skē), 1810–85, American churchman, cardinal of the Roman Church, b Brooklyn He was educated at Emmitsburg, Md , and at Rome He became coadjutor to Bishop John Hughes of New York (1844), bishop of Albany (1847), and archbishop of New York (1864) and was created cardinal (1875) Cardinal McCloskey was the principal builder of the present St Patrick's Cathedral, and he founded churches, seminaries, and missions throughout his see

McClung, Clarence Erwin (mŭklŭng'), 1870–1946, American zoologist, b Clayton, Calif , grad Univ of Kansas (B A , 1896, Ph D , 1902) He was associated with the Univ of Kansas (1897–1912) and later was professor of zoology and director of the zoological laboratory at the Univ of Pennsylvania (1912–40) He made extensive studies of germ plasm and chromosomes, stating in 1902 that sex is determined by the chromosomal constitution of the germ cells He was long managing editor of the *Journal of Morphology* and was editor of the *Handbook of Microscopical Technique* (1929)

McClure, Alexander Kelly, 1828–1909, American journalist and political leader, b Perry co , Pa He edited and published the *Juniata Sentinel* of Mifflintown, Pa , before acquiring and editing (1850–56, 1862–64) the *Franklin Repository* at Chambersburg He was an early and active Republican, and at the party's national convention in 1860, Andrew G CURTIN and he swung the pivotal Pennsylvania delegation to Lincoln As chairman of the state committee, McClure built up the Republican organization which secured the governorship for Curtin and Pennsylvania's electoral votes for Lincoln He served in both houses of the state legislature and after the Civil War practiced law in Philadelphia McClure supported Gen U S Grant in 1868, but in 1872 was one of the leaders of the Liberal Republican party, which nominated Horace Greeley for President In 1873 he was defeated for mayor of Philadelphia He founded (1875) the Philadelphia *Times* and was its editor until 1901 He wrote *Abraham Lincoln and Men of War Time* (1892), *Old Time Notes of Pennsylvania* (1905), and accounts of his varied travels, and he edited *Famous American Statesmen and Orators* (6 vols , 1902) See his recollections (1902)

McClure, Sir Robert John Le Mesurier, 1807–73, British arctic explorer He entered the navy and in 1848 accompanied Sir James Clark Ross to the arctic As a naval captain he was given command (1850) of the *Investigator*, one of two ships which were to search the western part of the Arctic Archipelago for Sir John Franklin Passing through Bering Strait, he coasted along Alaska and Canada, then went by way of Prince of Wales Strait into the west part of Viscount Melville Sound He wintered (1850–51) in Prince of Wales Strait and by a sledging journey along its shores reached Barrow Strait He discovered McClure Strait and established the insularity of Banks Island. On its north coast the *Investigator* was frozen in the ice for several winters At length he abandoned ship in 1853 and by sledge retreated over Barrow Strait eastward across the ice to Dealy Island, where his party was ultimately rescued by Sir

Edward Belcher's expedition McClure first proved the existence of the Northwest Passage He was knighted in 1854

McClure, Samuel Sidney, 1857–1949, American editor and publisher, b Co Antrim, Ireland, grad Knox College, 1882 He came to America as a boy In 1884 he established the McClure Syndicate, the first newspaper syndicate in the United States He founded *McClure's Magazine* in 1893 and, as editor, made it a great success, particularly during the muckraking era, when it published the articles of Lincoln Steffens, Ida Tarbell, Ray Stannard Baker, and other journalistic leaders of the movement See his autobiography (1914)

McClure Strait, 170 mi long and 60 mi wide, arm of Beaufort Sea, W Franklin dist, Northwest Territories It extends W from Viscount Melville Sound between Melville and Eglinton islands on the north and Banks Island on the south

McColl (mukŏl'), cotton-milling town (pop 2,391), NE S C, at the N C line NNE of Florence

McCollum, Elmer Verner (mukŏ'lum), 1879–, American physiological chemist, b Redfield, Kansas, grad Univ of Kansas (B A, 1903), Ph D Yale, 1906 He taught at the Univ of Wisconsin (1907–17) and later was professor of biochemistry at Johns Hopkins (1917–44) An internationally known authority on nutrition, he made special studies of vitamins, diet, and growth and wrote standard works, including *Newer Knowledge of Nutrition* (1918, later editions with Nina Simmonds and with others), *American Home Diet* (1919), and *Food, Nutrition, and Health* (1925)

McComb, John (mukōm'), 1763–1853, American architect, b New York city He was chiefly known for the New York city hall (1803–12), the finest American building of the postcolonial period, designed with the assistance of Joseph Mangin, a French engineer, its elegant composition was inspired by the monumental work of the mid-18th cent in France Other New York works included St John's Church, Varick St, now demolished, the façade of the old government house, built in 1790, demolished in 1815, and the fort at the Battery (begun c 1807) McComb also designed churches and public and private buildings in other places, including Alexander Hall (1815) at Princeton Theological Seminary, Queen's Building (1808–9) at Rutgers College, New Brunswick, N J, and the Cape Henry lighthouse He was street commissioner of New York from 1813 to 1821

McComb, city (pop 9,898), SW Miss, SSW of Jackson and near the La line, founded c 1857 It is the industrial and trade center for a cotton and truck area and has large railroad shops

McConnell, Francis John, 1871–, American Methodist bishop, b Trinway, Ohio, grad Ohio Wesleyan Univ (B A, 1894, D D, 1905), Ph D Boston Univ, 1899 In 1909 he became president of DePauw Univ From 1912 to 1944 he was bishop of his denomination His interest in social problems has found practical expression, and his influence has been extended through his writings Among his books are *Christian Materialism* (1936) and *Evangelicals, Revolutionists, and Idealists* (1942)

McConnellsburg, borough (pop, 1,055), S Pa, W of Chambersburg, settled c 1730, laid out 1786, inc 1814

McConnelsville, village (pop 1,895), co seat of Morgan co, SE Ohio, on the Muskingum and SE of Zanesville, platted 1817 It was once a busy river port Council Rock, with Indian pictographs, is near

McCook, Alexander McDowell, 1831-1903, Union general in the Civil War, b Columbiana co, Ohio, grad West Point, 1852 One of a family known as the "fighting McCooks" he served on the frontier, 1853–57, and taught at West Point, 1858–61 In the Civil War, McCook became a brigadier general of volunteers (Sept, 1861) He commanded a division under D C Buell in the advance of the Army of the Ohio through Tennessee, fighting at Shiloh (April, 1862) McCook, promoted major general in July, served with distinction at Perryville (Oct), but at Murfreesboro (Dec, 1862–Jan, 1863) and at Chickamauga (in the CHATTANOOGA CAMPAIGN) his corps was routed He was relieved of command in Oct, 1863, and, although exonerated for his part in the Chattanooga campaign, he took small part in the rest of the war After the war, McCook saw years of varied service in the regular army, rising to the rank of major general in 1894

McCook, city (pop 6,212), co seat of Red Willow co, S Nebr, on the Republican river near the Kansas line, founded 1881 as Fairview, renamed McCook 1882, inc 1883 In a rich farming area, it has processing plants and is a railroad division point with repair shops It was the home of George W. Norris A junior college is here The city was named for Gen A M McCook

McCormack, John, 1884–1945, Irish-American tenor, b Athlone, Ireland He made his debut in London in 1907 In 1909 Oscar Hammerstein brought him to the United States After his debut in New York he sang with the Boston and Chicago opera companies, but after 1914 sang principally in concert and for phonograph records, through which he became widely beloved for the singing of simple sentimental songs He became an American citizen in 1919 and a papal count in 1928 In 1938 he retired See biographies by L A G Strong (1941) and his wife, Lily McCormack (1949)

McCormick, Cyrus Hall, 1809–84, inventor of the reaper, b Rockbridge co, Va His father, Robert McCormick (1780–1846), had worked intermittently for over 20 years at his blacksmith shop on a reaping machine, but had given it up before Cyrus, his eldest son, began working on different principles The first public demonstration of the reaper, as constructed by Cyrus, took place in July, 1831, and was a success, though he did not patent it until after Obed Hussey announced his invention in 1834 McCormick's reaper contained the straight reciprocating knife, guards, reel, divider, platform, main-drive wheel, and other innovations, which have been essential features of every satisfactory harvesting machine since that day His early machines were made for local use, and not until more than 10 years later did he begin in earnest to expand his market In 1847 he built his Chicago factory, in 1851 he introduced the reaper into England and, subsequently, into other European countries He continued to patent improvements and demonstrated his machine in the field, often in competition with Hussey's reaper After 1850 many strong competitors appeared and Hussey gave up, while only McCormick's unusual business ability kept him in the running He was quick to purchase promising inventions and added the self-rake, hand binder, and twine binder See biography by W T Hutchinson (2 vols, 1930–35)

McCormick, Joseph Medill, 1877–1925, American journalist, b Chicago, grad Yale, 1900, son of Robert S McCormick He worked as a reporter on the Chicago *Tribune*, and by 1908 the newspaper was under his management He was a leading figure in Theodore Roosevelt's Progressive party campaign (1912) and later served in the Illinois legislature (1913–17), in the U S House of Representatives (1917–19), and in the U S Senate (1919–25) He was a strong opponent of the League of Nations His wife was **Ruth Hanna McCormick,** 1880–1945, b Cleveland, daughter of Mark A HANNA She early became interested in Republican party politics She served (1929–31) in the U S Congress, but was defeated as a candidate for the U S Senate in 1930 In 1932 she married Albert Gallatin Simms, New Mexico Congressman

McCormick, Robert Rutherford, 1880–, American journalist, b Chicago, grad Yale, 1903, son of Robert S McCormick He held local public offices, was admitted (1907) to the bar, and practiced law in Chicago He worked with his brother, Joseph Medill McCormick, in the management of the Chicago *Tribune*, and, after an interruption when he fought in the First World War, he became sole owner of the newspaper He rapidly extended his journalistic holdings, took control of paper mills, and soon dominated in the Midwestern newspaper world The Chicago *Tribune* steadily and vehemently attacked the participation of the United States in world affairs

McCormick, Robert Sanderson, 1849–1919, American diplomat, b Rockbridge co, Va, brother of Cyrus Hall McCormick President William McKinley in 1902 made him minister to Austria-Hungary, and when the post was raised to an embassy that year, he became the first American ambassador to Austria-Hungary He then served as ambassador to Russia (1902–5) and to France (1905–7) He married Katherine Van Etta Medill, daughter of Joseph MEDILL

McCormick, Ruth Hanna. see McCORMICK, JOSEPH MEDILL

McCormick, town (pop 1,456), co seat of McCormick co, W S C, near the Savannah W of Columbia It was named for Cyrus McCormick

McCosh, James (mukŏsh'), 1811–94, Scottish-American philosopher and educator, b Ayrshire, grad Univ of Edinburgh, 1833 He was called to the United States in 1868 to become president of the College of New Jersey (now Princeton Univ), and he retained the position until 1888 His successful career as administrator and teacher laid an enduring foundation for the liberal development of the college His philosophical position was that of the Scottish school of Thomas Reid and Sir William Hamilton His writings, though unoriginal, were clear and concise, and he stood out as one of the first supporters of evolution Chief among his works are *Method of Divine Government, Physical and Moral* (1850), *The Intuitions of the Mind Inductively Investigated* (1860), *Christianity and Positivism* (1871), and *Psychology* (1880–87) See *The Life of James McCosh* (ed by W M Sloane, 1896)

McCoy, Frank Ross, 1874–, American army officer and international arbitrator, b Lewistown, Pa, grad West Point, 1897 He served in the Spanish-American War, in the Philippine Islands, on the Mexican border, and in the First World War He saw other varied service, including direction of Red Cross work in Japan after the 1933 earthquake President Calvin Coolidge appointed him to superintend the elections in Nicaragua in 1928, and later he served on the commission to conciliate the Chaco dispute and was a member (1932) of the Lytton Commission, which investigated Japanese penetration of Manchuria. He was promoted major general in 1929 and retired from the army in 1938 He served on the Far Eastern Commission until Nov. 1949

McCoy, Isaac, 1784–1846, American missionary among the Indians, b near Uniontown, Pa He grew up on the Kentucky frontier, experienced a religious conversion, and became a Baptist preacher in S Indiana He was appointed (1817) missionary to the Indians, chiefly Miami and Kickapoo, in the Wabash valley and subsequently established schools among them Feeling that the Indians were being harmed by their close contact with white settlement, McCoy became an ardent advocate of their removal to regions W of the Mississippi, and the Federal government appointed him an Indian agent in 1830 He selected and superintended the surveying of sites for their settlement in Kansas and Oklahoma and had charge of their removal He afterwards visited the tribes for lengthy periods In 1842 McCoy was made corresponding secretary and general agent of the American Indian Mission Association, established at Louisville, Ky, through his influence His *History of Baptist Indian Missions* (1840) contains much frontier history

McCoy, Joseph Geating, 1837–1915, American cattle-trade pioneer, b Sangamon co, Ill He selected Abilene, Kansas, as the site for a railroad shipping center for the marketing of Western cattle In 1867 he purchased the townsite, built stockyards and facilities, and advertised his cattle-shipping plan The Cherokee Indians employed him (1881) as their agent for the collection of revenue on tribal lands McCoy was superintendent of the range cattle department of the 11th U S census His *Historic Sketches of the Cattle Trade* (1874, reprint, 1932) is an important source book

MacCracken, Henry Mitchell, 1840–1918, American educator, b Oxford, Ohio, grad Miami Univ, 1857 After a brief teaching career he entered the Presbyterian ministry in 1863 He later studied in Germany, preached (1868–81) in Toledo, and from 1881 to 1884 was chancellor of Western Univ (now the Univ of Pittsburgh) In 1884 he was appointed professor of philosophy and vice chancellor of the Univ of the City of New York (now New York Univ), becoming chancellor in 1891 Before his retirement in 1910, the University Heights campus was acquired, a graduate school and schools of commerce and pedagogy were founded, and the university medical school was strengthened by union with Bellevue Hospital Medical College Henry Noble MacCracken and John Henry MacCracken, president (1915–26) of Lafayette College, were his sons See T F Jones, *New York University, 1832–1932* (1933)

MacCracken, Henry Noble, 1880–, American educator, b Toledo, Ohio, grad New York Univ (B A, 1900), Ph D Harvard, 1907, son of Henry Mitchell MacCracken He taught English at Sheffield Scientific School, Yale (1908–13), and at Smith College (1913–15) and was later president of Vassar College (1915–46) He wrote texts for English composition and edited *The College Chaucer* (1913) and, with C F T Brooke and J W Cunliffe, *Shakespeare's Principal Plays* (1917–33) His *Family on Gramercy Park* (1949) is autobiographical

McCrae, John (mukrā'), 1872–1918, Canadian physician and poet His famous poem, "In Flanders Fields," written under fire in the First World War, was published anonymously in *Punch* in 1915 and under his name in a posthumous volume, *In Flanders Fields and Other Poems* (1919) He died of pneumonia in the war

McCrory, town (pop 1,010), E Ark, in an area growing cotton, rice, and peaches, settled 1886

McCullers, Carson, 1917–, American novelist, b Columbus, Ga Her three novels deal with the South—*The Heart Is a Lonely Hunter* (1940), *Reflections in a Golden Eye* (1941), and *The Member of the Wedding* (1946), successfully dramatized in 1949 and voted the Critics Award (1950) as the best American play of the year

McCulloch, Ben (mukŭl'ŭ), 1811–62, American scout and Indian fighter, b Rutherford co, Tenn He followed David Crockett to Texas (1835), distinguished himself at San Jacinto (1836) in the Texas Revolution, and was of some prominence in the little republic At the outbreak of the Mexican War he joined Taylor with a company of Texas Rangers and for the most part was head of the spy and scout service in Mexico In 1849 he went to California, returning in 1852 to Texas, where he was a U S marshal In 1857 he was one of the commissioners to investigate the Mormon disputes Made a Confederate brigadier general (1861), he commanded in Arkansas, fought at the battle of WILSON CREEK and at PEA RIDGE, where he was killed See biography by V M. Rose (1888)

McCulloch, Hugh (hū' mukŭl'ŭ), 1808–95, American financier, b Kennebunk, Maine Educated at Bowdoin, he studied law in Boston and practiced two years at Fort Wayne, Ind, before turning to banking and eventually becoming president of the

State Bank of Indiana In 1863 he became U S comptroller of the currency, upon the recommendation of Secretary of the Treasury Salmon P Chase, and he launched the new national banking system Appointed (1865) Secretary of the Treasury by Abraham Lincoln, he held office through Andrew Johnson's term While in office he favored the rapid reduction of the huge debt left by the Civil War as well as the retirement of the legal tender notes (see GREENBACK) and a return to specie payments in order to prevent over-speculation and a panic There was opposition to such severe deflation, however, and Congress adopted a compromise program, only to revoke this schedule in 1868 After leaving the Treasury in 1869, McCulloch went to London as the resident partner of the English branch of Jay Cooke & Company, this branch withstood the Panic of 1873 when the home bank at Philadelphia crashed From Oct , 1884, to March, 1885, he again served as Secretary of the Treasury, under Chester A Arthur See his *Men and Measures of Half a Century* (1888)

McCulloch, John Ramsay (mŭk'ŭ'luk), 1789–1864, British economist, b Scotland He developed a wage theory, promoted free trade, and made several valuable statistical studies, but his chief importance was as a popularizer of classical economic doctrines His writings include *Principles of Political Economy* (1825) and *An Essay on the Circumstances which Determine the Rate of Wages* (1826)

McCulloch vs. Maryland, case, decided in 1819 by the U S Supreme Court Congress had established the Bank of the United States to help control the unregulated issuance of currency by state banks Maryland replied by imposing a tax on all banks not chartered by the state and brought suit for collection against the U S branch bank in Baltimore Chief Justice John Marshall, who wrote the opinion, gave trenchant expression to the doctrine that Congress in carrying out its express powers (including the control of currency) might use any means it thought necessary The supremacy of the Federal government in its limited sphere was held to prevent all state interference with Federal instrumentalities, hence the tax applied to the Baltimore bank was held unconstitutional

McCullough, John Edward (mŭk'ŭ'luk), 1832–85, American actor, b Ireland He came to the United States in 1853, played minor roles (1855) at the Arch St Theater, Philadelphia, and gained experience supporting Edwin Forrest and Edwin Booth His best roles, which he offered in the heroic style of Forrest, were Virginius, Spartacus, Lear, and Othello He was a great success in the plays of John Howard Payne

McCumber, Porter James, 1858–1933, American political leader, b Crete, Ill He began to practice law at Wahpeton, N Dak in 1881 and served in the territorial legislature (1885–89) From 1899 to 1923 he was a Republican U S Senator As chairman of the finance committee he had a leading part in the framing of the Fordney-McCumber Tariff Act of 1922 He tried to secure protection for many farm products and to get such legislation passed was obliged to agree to high tariffs on the products of industry

McCutcheon, George Barr (mŭk'ŭ'chŭn), 1866–1928, American novelist, b near Lafayette, Ind , studied (1882–83) at Purdue Univ While he was a newspaperman he wrote *Graustark* (1901), a romantic novel of a mythical Balkan country Its wide popularity led him to write successors, such as *Beverly of Graustark* (1904) Within 28 years he published about 40 novels, one of which, *Brewster's Millions* (1903), was successfully dramatized by Winchell Smith in 1906

McCutcheon, John Tinney, 1870–1949, American cartoonist, b Tippecanoe co , Ind , grad Purdue College, 1889, brother of George Barr McCutcheon He had been associated with the Chicago *Record* and *Record-Herald* when in 1903 he joined the staff of the Chicago *Tribune*, remaining with that paper until he retired (1945) He was war correspondent in the Spanish-American and Boer wars, in the Mexican expedition in 1914, and in the First World War He went on big-game hunts with Theodore Roosevelt and with Carl E Akeley in Africa Of his many famous cartoons, *Indian Summer* (1907) has been many times reprinted, *A Wise Economist Asks a Question* won the Pulitzer Prize in 1931 Other writings and collections of his cartoons include *Stories of Filipino Warfare* (1900), *Bud Centre Cartoons* (1904), *The Mysterious Stranger and Other Cartoons* (1905), *Congressman Pumphrey, the People's Friend* (1907), and *In Africa* (1910)

Macdhui, Ben, Scotland see BEN MACDHUI

Macdonald, Alexandre (älĕksä'dru makdônal'), 1765–1840, marshal of France, of Scottish descent He distinguished himself in the French Revolutionary Wars, was governor of Rome (1798) and of Naples (1799), and aided Napoleon's coup d'état of 18 Brumaire (1799). Temporarily in disgrace for defending Jean Victor MOREAU, he returned to favor, was created duke of Taranto, and played an important part in the battle of Wagram (1809), the Peninsular War, and the Russian campaign. In the Hundred Days he was loyal to Louis XVIII.

Macdonald, Angus Lewis, 1890–, Canadian political leader, b Nova Scotia, educated at St Francis Xavier Univ , Dalhousie Univ , and Harvard Elected as a Liberal to the legislature of Nova Scotia in 1933, he became premier of the province that year and held the post until 1940, when he resigned to become minister of national defense for naval services in the dominion cabinet In this post he served until 1945, when he withdrew and again became premier of Nova Scotia

Macdonald, Flora, 1722–90, Scottish Jacobite heroine, who aided Charles Edward STUART, the Young Pretender, to escape to the Continent after the defeat of the JACOBITES at Culloden Moor in 1746 A native of the Hebrides, Flora Macdonald received, in Edinburgh, more than ordinary education for a young lady of the times She showed great charm and sweetness of character For smuggling the prince, disguised as a woman (Betty Burke, an Irish spinning maid), to the Isle of Skye, she was imprisoned in the Tower of London (1746–47) Later she was visited by many celebrities, including Dr Johnson (1773) She lived for a time (1774–79) in North Carolina, where her husband, Allan Macdonald, served in the British forces in the American Revolution Her romantic aid to the prince is commemorated in Highland poetry and legend Boswell recounts the story as given to Dr Johnson by the lady herself

Macdonald, George, 1824–1905, Scottish novelist and poet His novels, chiefly of life in rural Scotland, include *David Elginbrod* (1863), *Alec Forbes* (1865), and *Robert Falconer* (1867) The narrative poem *Within and Without* (1855) appeared also in his *Poetical Works* (1893) The moral allegory *Phantastes* (1858) and his fairy tales and stories for children—including *At the Back of the North Wind* (1871), a classic of its kind, *The Princess and the Goblin* (1872), and *The Light Princess* (1890)—have been reprinted many times Macdonald is a moralizer, but the point of view of his eclectic ethic is flexible and delicately shaded See Greville Macdonald, *George Macdonald and His Wife* (with introduction by G K Chesterton, 1924), C S Lewis, ed , *George Macdonald an Anthology* (1947)

McDonald, James Grover, 1886–, American diplomat, b Coldwater, Ohio, grad Indiana Univ (B A , 1909 M A , 1910) An assistant professor of history and political science (1914–15, 1916–18) at the Indiana Univ , McDonald devoted himself to the study of international problems He served (1933–35) as high commander for refugees expelled from Germany After 1936 he became an editorial writer and a radio news commentator He was (1946) a member of the Anglo-American committee of inquiry on Palestine, and, appointed (June, 1948) by President Harry S Truman as special envoy to the provisional government of Israel, he later (Feb , 1949) became the first U S ambassador to Israel

MacDonald, James Ramsay see MACDONALD, RAMSAY

MacDonald, James Wilson Alexander, 1824–1908, American sculptor, b Steubenville, Ohio Examples of his monumental art are the statues of General Custer (West Point, N Y) and of Fitz-Greene Halleck (Central Park, New York)

Macdonald, Sir John Alexander, 1815–91, Canadian statesman, first premier of the Dominion of Canada, b Glasgow His parents settled in 1820 in Kingston, Ont Macdonald first practiced law With his election (1844) as a Conservative to the legislative assembly, he entered upon his long political career A forceful man and a vigorous fighter, he quickly rose to leadership in the government of Upper Canada. He and Georges Étienne CARTIER of Lower Canada headed the Liberal-Conservatives (a coalition largely of Macdonald's creating), and he became premier in 1857 When he was joined (1864) by George BROWN and others in "the great coalition" ministry, the way was paved for the union of the British North American provinces Macdonald was perhaps the most potent figure in bringing about their confederation (1867) as the dominion of Canada He was the maker of the dominion and first premier He was knighted in 1867 His policy was dominated by the vigorous attempt to build Canada Believing that the dominion's prosperity required strong bonds with England, he worked throughout his career to that end He was a member of the British commission which negotiated and signed the Treaty of Washington (1871), a pact which led to the settlement of the *Alabama* claims The Northwest Territories were taken over from the Hudson's Bay Company in 1869, to facilitate their development, Macdonald's government decided to construct the Canadian Pacific Railway His personal popularity—he knew everyone and everyone knew him—was not enough when the PACIFIC SCANDAL (1873) broke The government resigned When changing industrial conditions made Macdonald the advocate of a protectionist policy (known as the National Policy), he returned to the premiership in 1878 The transcontinental railroad was pushed to completion (1885), and other public works were accomplished See biography by G R. Parkin (rev ed , 1926), memoirs by Joseph Pope (rev ed , 1930)

Macdonald, John Sandfield, 1812–72, Canadian political leader, b Ontario Admitted to the bar (1840), he was elected (1841) as a Conservative to the Canadian legislative assembly, but he afterwards developed considerable political independence He was solicitor general for Upper Canada (1849–51), speaker of the legislative assembly (1852–54), and attorney general for Upper Canada in 1858 He was premier (1862–64), first of the Macdonald-Sicotte, then of the Macdonald-Dorion cabinet While, after confederation was accomplished (1867), his attitude towards it was loyal, he had previously opposed it Macdonald was chosen first premier of Ontario in 1867, but in 1871 he resigned, defeated by the Liberals under Edward Blake

MacDonald, Ramsay (James Ramsay MacDonald), 1866–1937, British statesman Born in poverty in Scotland, he came to London as a young man and engaged himself in Socialist and labor movements, particularly in the Fabian Society He was one of the founders of the Labour party, in which he served as secretary (1900–1912) and treasurer (1912–24) He was in addition, chairman (1906–9) of the Independent Labour party He was elected to Parliament in 1906 and was leader of the Labour party in the House of Commons (1911–14) until he was discredited and labeled traitor for his pacifist stand at the outbreak of the First World War By 1922 he had again risen to leadership of his party and he was prime minister and foreign secretary of the first Labour government of Britain (Jan –Nov , 1924) He did much to stabilize the international economy and relieve unemployment in Britain He was defeated, however, largely as a result of his supposed pro-Communist stand in connection with the ZINOVIEV LETTER He gave his unwilling support to the abortive general strike of 1926 In 1929 he again became premier under the second Labour government By 1931, however, economic conditions had become so serious as to demand concerted action, and MacDonald accepted the post of prime minister in a coalition cabinet largely dominated by Conservatives (the National government) This action and his policy of economic nationalism were regarded as apostasy by most of British labor, and in 1935 MacDonald was overwhelmingly defeated at the polls He regained a seat in Parliament as a representative of the Scottish universities and served (1935–37) as lord president of the council in Stanley Baldwins' cabinet He retired as a broken and embittered man, disavowed by his early friends and never completely trusted by his later allies MacDonald's writings include *Parliament and Revolution* (1920), and *Socialism Critical and Constructive* (1924) See biography by Lord Godfrey Elton (1939, covering his career to 1919), L M Weir, *The Tragedy of Ramsay MacDonald* (1938, an unsympathetic account of his political career)

McDonald, Ranald, 1824–94, American adventurer, b Fort George, on the Columbia river He was the son of Archibald McDonald, a Scotsman who served as a clerk with the Hudson's Bay Company at Fort George, and of a princess of the Chinook Indians Ranald McDonald was reared on the frontier, received his schooling in frontier forts, and became (1839) an apprentice clerk for the Hudsons's Bay Company at St Thomas, Ont He soon wearied of routine work and went to sea, reaching (c 1844) London on a whaler He then went to the African Gold Coast via slave ship and reached Oriental waters on another whaler On the voyage he followed his long-concealed urge to visit Japan, cast off with adequate supplies to the forbidden land in a cockleshell boat, and reached the island country in 1848 There he was imprisoned and subjected to several ordeals, but because of his stolid courage, McDonald was released in 1849 He reached Australia after a shipwreck and later toured Italy, France, and England He returned (c 1854) to the Pacific Northwest, engaged there in commercial pursuits, and spent his twilight years in a wilderness cabin at Fort Colville (now Colville), Wash See biography by M L Nichols (1940)

McDonald 1 Village (pop 1,529), NE Ohio, on the Mahoning and NW of Youngstown Pig iron is made here 2 Borough (pop 3,530), SW Pa , N of Washington

McDonald Observatory see FORT DAVIS, Texas

Macdonnell, Arthur Anthony (măk"dŭnĕl'), 1854–1930, British Sanskrit scholar He was one of the greatest figures in his field Besides many other authoritative works, he wrote the standard grammar of Vedic and a Sanskrit-English dictionary

Macdonough, Thomas (mŭkdô'nu), 1783–1825, American naval officer, b New Castle co , Del He served under Stephen Decatur in the TRIPOLITAN WAR and took part in the burning of the *Philadelphia* and the attack on the Tripolitan gunboats Macdonough resigned from the service in 1808 but returned early in the War of 1812 He was given command of a small fleet on Lake Champlain and was charged with building a force strong enough to hold the British fleet in check British military plans in 1814 required control of the lake, and their naval force struck the American fleet at Plattsburg By superior skill and planning, Mac-

donough on his flagship, the *Saratoga*, (26 guns), was able to defeat the *Confiance* (37 guns) in one of the most significant naval battles in U.S. history At the same time Alexander Macomb won a victory on land, and the British plan was thoroughly disrupted. See A. T Mahan, *Sea Power in Its Relation to the War of 1812* (1905)

McDonough, city (pop 1,232), co seat of Henry co, W central Ga, SE of Atlanta, in a farm area, inc. 1823

MacDougal, Daniel Trembly (mŭkdō'gul), 1865–, American botanist, b Liberty, Ind, grad DePauw Univ, 1890 He was connected with Carnegie Institution, Washington, from 1905 to 1933 He is noted for his researches in plant physiology, heredity, and evolution Among his publications are *Botanical Features of North American Deserts* (1908), *Water-Balance of Succulent Plants* (1910), *Conditions of Parasitism in Plants* (1910), *Alterations in Heredity Induced by Ovarial Treatment* (1911), *Growth in Trees* (1921), and *The Pneumatic System of Plants* (1933)

McDougall, Alexander, 1731–86, American Revolutionary patriot and general, b Islay, Inner Hebrides, Scotland He was brought (1738) as a child to New York In the French and Indian War he commanded (1756–63) a privateer Later he was a flaming opponent of British restrictions on trade and helped to form the SONS OF LIBERTY in New York In 1770 he was arrested on the charge of having written a seditious broadside, and while he was in prison he was much visited and was hailed as "the Wilkes of America" In 1774 he presided over the meeting that decided to send New York delegates to the Continental Congress He served in the army throughout the Revolution and was notable in the battles of White Plains and Germantown and in the fighting in New Jersey In 1780, after Benedict Arnold's treason, McDougall succeeded to the charge of West Point Later he was again delegate to the Congress After the war (1781–82, 1784–85) he was a U S Congressman from New York

McDougall, Alexander (mŭkdō'gul), 1845–1923, American shipbuilder, b Scotland He was brought (1854) by his parents to Canada At 16 he ran away to be a sailor on the Great Lakes, and his interest in ship design led him to develop (1888) the "whaleback" freighter, he built many vessels of this type at Duluth (his home), Minn, and Superior, Wis He acquired shipyards in Collingwood and Kingston, Ont, and in 1892 he established at Everett, Wash, the first yards for building steel ships in the Pacific Northwest

McDougall, William, 1822–1905, Canadian leader in the movement for confederation, b near York (now Toronto), Ont, educated at Victoria College, Cobourg A lawyer and a journalist, he was elected (1858) to the legislative assembly of Canada Later (1862–64) he was commissioner of crown lands, in 1864 he entered "the great coalition" ministry as provincial secretary He was a delegate to the two Canadian conferences (1864) on confederation and to that held in England in 1866 In 1868 he again went to England, with Georges Cartier, to arrange for taking over the territories of the Hudson's Bay Company, a project he had long urged The following year he was appointed lieutenant governor of the newly acquired region, but on his way to assume his post he was turned back near the border by Riel's Rebellion

McDougall, William, 1871–1938, American psychologist, b Lancashire, England, educated at Cambridge, Oxford, and Göttingen He was professor (1920–27) of psychology at Harvard and later at Duke Univ A pioneer in physiological and social psychology, he was known also for his biological approach to the problems of psychology, he studied eugenics and heredity and for 17 years conducted experiments in the inheritance of acquired characteristics He was also interested in psychical research His most outstanding works were *An Introduction to Social Psychology* (1908) and *Outline of Psychology* (1923)

MacDowell, Edward Alexander (mŭkdou'ul), 1861–1908, American composer, who was born in New York city and died there He studied at the conservatories in Paris and Frankfurt and taught at the Darmstadt Conservatory, 1881–82 The chair of music was created at Columbia Univ in 1896, and he held it from that date until 1904 His outstanding works are four programmatic piano sonatas—*Tragica* (1893), *Eroica* (1895), *Norse* (1900), *Keltic* (1901)—and his *Indian Suite* (1897) for orchestra, which employs adaptations of native Indian melodies In addition, he wrote two piano concertos and numerous smaller works, including the popular *Woodland Sketches* (1896) and *Sea Pieces* (1898) for piano The MacDowell Colony for composers, artists, and writers, founded by his widow, Marian Nevins MacDowell, at their summer home in Peterborough, N H, is a fulfillment of a plan of MacDowell's The colony has been financed by Mrs MacDowell, who in its interest has toured the country giving concerts at which she played her husband's music See biographies by Lawrence Gilman (rev ed., 1909) and J. F Porte (1922), J T Howard, *Our American Music* (1930)

McDowell, Ephraim, 1771–1830, American pioneer surgeon, b Virginia. He studied with John Bell in Edinburgh and practiced in Danville, Ky He was noted especially for his success in lithotomy, and in 1809 he made surgical history by performing the first ovariotomy. See biography by August Schachner (1921).

McDowell, Irvin, 1818–85, Union general in the Civil War, b Columbus, Ohio, grad West Point, 1838 He taught at West Point (1841–45) and was brevetted captain for his service in the Mexican War In the Civil War, McDowell, made a brigadier general in the regular army (May, 1861), commanded the Union troops at the first battle of BULL RUN. After that defeat he commanded a corps under his successor, G B McClellan When the PENINSULAR CAMPAIGN began, McDowell's 1st Corps (then called the Army of the Rappahannock) was withdrawn from McClellan's command to defend Washington In the summer of 1862 McDowell's force became the 3d Corps of Pope's Army of Virginia and fought at the second battle of Bull Run (Aug) McDowell shared in the blame for that defeat and was removed from command He later commanded various territorial departments until his retirement in 1882 He was promoted major general in 1872

Macduff, burgh (pop 3,276), Banffshire, Scotland, E of Banff It is a port, a coast resort, and a center for herring fishing

McDuffie, George, 1790–1851, American statesman, b Columbia co, Ga He was a member of the South Carolina legislature and served (1821–34) in the U S House of Representatives, where he quickly became noted as an ebullient debater He bitterly opposed the administration of John Q Adams and as ardently supported Andrew Jackson McDuffie later broke with Jackson, he supported the Bank of the United States and also was a leader of the South Carolina group which advocated the doctrine of NULLIFICATION He was (1834–36) governor of South Carolina and served (1842–46) in the U S Senate

mace see NUTMEG

Macedon (măs'ĭdŏn), ancient country, N Greece, the modern Macedonia Macedon proper was the coast plain NW,N, and NE of the Chalcidice peninsula, Upper Macedon was the highland to the west and the north of the plain The plain was fertile and productive, and there were important silver mines in the eastern part The population of the region was complex when first known and included peoples related to modern Albanians as well as several Hellenic groups The first influence of Greek culture in Macedon came from the colonies along the shore founded in the 8th cent B C and after, these had ties to their mother cities which tended to isolate them politically from Macedon By the 7th cent B C there was developing in W Macedon a political unit led by a Greek-speaking family, which assumed the title of king and aggrandized itself Macedon was a Persian tributary in 500 B C but took no real part in the Persian Wars Alexander I (d 450 B C) was the first Macedonian king to enter into Greek politics, he began a policy of imitating features of Greek civilization For the next century the Hellenic influences were growing and the state was becoming stronger With Philip II (reigned 359–336 B C) these processes came to critical significance, for by annexing Upper Macedon, Chalcidice, and Thrace he made himself the strongest power in Greece, then he became its ruler He created an excellent army, this was the tool with which Alexander the Great forged his empire That empire, though it was a Macedonian conquest, was a personal creation The Macedonian generals carved it up after Alexander's death (323 B C), these were the successors (the Diadochi), founders of states and dynasties—notably Antipater, Perdiccas, Ptolemy I, Seleucus I, Antigonus I, and Lysimachus They had armies largely Macedonian and Greek in personnel, and most of them founded cities with colonies of their soldiers Thus began the remarkable spread of the Hellenistic (Greek, rather than Macedonian) civilization All the armies constituted a fatal drain on the population of Macedon, which never really flourished again Macedon, with Greece as a dependency, was one of the states cut out of the Alexandrian empire Almost immediately, however, there was struggle for the hold over Greece and even over Macedon itself Cassander took (319–316 B C) Macedon and held it until his death (297); he refounded Salonica After a period of short-lived attempts by Demetrius I, Pyrrhus of Epirus, Lysimachus, Alexander II of Epirus (see EPIRUS), and others to hold Macedon, Antigonus II established himself as king He fought off the Galatian invaders and used his long reign (277–239 B C) to restore Macedon economically There was constant trouble with the Greek city-states, many of them regained independence, but Antigonus III (reigned 229–221 B C), another strong king, reestablished Macedonian hegemony. Philip V (reigned 221–179 B C) was an adventurer, a would-be Alexander, but too late In two wars (the First Macedonian War, 215–205 B C., and the Second Macedonian War, 200–194 B C) the Roman republic humbled him. Philip learned his lesson and even got his indemnity to Rome reduced for good behavior His successor, Perseus (reigned 179–168 B C), foolishly aroused Roman fears and lost his kingdom in the Third Macedonian War (171–168 B C). Now Rome divided Macedon into four republics. Later (150–148 B C) a pretender, Andriscus, tried to revive a Macedonian kingdom This time Macedonia was annexed to Roman territory and became (146 B C) the first Roman province. It never again had political importance in ancient times In the history of Greek culture Macedon had its single significance in producing the conquerors and armies who created the Hellenistic empires and civilizations. See P. Jouguet, *Macedonian Imperialism and the Hellenization of the East* (Eng tr., 1928), Max Cary, *The Legacy of Alexander* (1932).

Macedonia (măsĭdō'nēŭ), region of SE Europe, in the Balkan Peninsula, divided among Greece, Yugoslavia, and Bulgaria Corresponding roughly to ancient Macedon, it extends from the Aegean Sea N between Epirus in the west and Thrace in the east and comprises the Vardar, Struma, and Mesta river valleys The region is predominantly mountainous, pastoral, and agricultural Tobacco is one of the chief crops Greek or Aegean Macedonia is a division (13,360 sq mi, pop. 1,759,130) of N Greece It includes the CHALCIDICE peninsula and has SALONICA as its capital and chief port Its industries are largely concentrated at Salonica and EDESSA Bulgarian Macedonia was organized after the Second World War as the Gorna Dshumaya oblast (pop 252,258), which contains no important towns Yugoslav Macedonia forms an autonomous republic (10,229 sq mi, pop 1,152,054), with its capital at Skoplje, other cities include Bitolj and Prilep There are chrome ore deposits both in Yugoslav and Greek Macedonia The official territorial divisions are to some extent arbitrary, and the limits of Macedonia as a region are somewhat indefinite The imperial Roman province of Macedonia was far more extensive than the present region, comprising Thessaly as well Like neighboring Thrace and Epirus, Macedonia has been, since the early Middle Ages, a meeting place of nations, a fact which was a major factor in its complex and turbulent history The Goths and Huns passed through the region but left no permanent trace In the 9th cent, however, it was wrested from the Byzantine Empire by BULGARIA Emperor Basil II recovered it (1014) for Byzantium, but after the temporary breakup (1204) of the Byzantine Empire, Macedonia was bitterly contested among the Latin Empire of Constantinople, the Bulgars under Ivan II, the despots of Epirus, and the emperors of Nicaea It again became part of the Byzantine Empire, which was restored in 1261, but in the 14th cent STEPHEN DUSHAN of Serbia conquered all Macedonia save Salonica The fall of the Serbian empire in the late 14th cent brought Macedonia under Turkish rule, which lasted for five centuries The population of Macedonia now was split into Bulgars, Serbs, Greeks, and Turks and into Moslems and Christians (At Salonica, there also grew up a large Jewish settlement) National and religious antagonism flared in the 19th cent, and conflict was encouraged by the Turkish policy of playing one group against the other Meanwhile Turkey had lost control over the major sections of Greece, Serbia, and Bulgaria, each of which claimed Macedonia on historical or ethnical grounds At the Treaty of SAN STEFANO (1878), which terminated the Russo-Turkish War of 1877–78, Bulgaria was awarded the lion's share of Macedonia, with a large section of the Aegean coast This settlement was nullified by the European powers in the same year (see BERLIN, CONGRESS OF), and Macedonia was left under direct Turkish control A secret terrorist organization working for Macedonian independence sprang up in the late 19th cent and soon wielded great power The *komitadjis*, as the terrorist bands were called, were generally supported by Bulgaria, which gained a major share of Macedonia in the first of the BALKAN WARS (1912–13). Greece and Serbia now turned against Bulgaria in the Second Balkan War, and at the Treaty of Bucharest (1913) Bulgaria was left with only a small share of Macedonia, the rest of which they divided between themselves roughly along the present line Thousands of Macedonians fled to Bulgaria to escape Serbian and Greek rule, and after the First World War, Macedonia became a hotbed of agitation and terrorism, directed largely from Bulgaria The population exchange which took place among Greece, Turkey, and Bulgaria after 1923 resulted in the replacement of most of the Bulgarian and Turkish elements in Greek Macedonia by Greek refugees from Asia Minor, who were settled here under the supervision of a League of Nations commission Greek charges of mistreatment of the Greek minority in Bulgarian Macedonia resulted in a Greek invasion (1925) of Bulgarian territory The League of Nations, however, enforced an end to hostilities and awarded (1926) a decision favorable to Bulgaria. Bulgarian relations with Yugoslavia remained strained over

the Macedonian question. Frontier incidents were frequent, as were Yugoslav charges against Bulgaria for fostering the terrorist Macedonian nationalist movement. Macedonian agitation against Serbian rule culminated in 1934 in the assassination of King Alexander of Yugoslavia by a Macedonian nationalist at Marseilles. In the Second World War all Macedonia was briefly united (1941–44) under Bulgaria, which sided with the Axis against Yugoslavia and Greece, but the Bulgarian armistice treaty of 1944 restored the pre-war boundaries, which were confirmed in the peace treaty of 1947 The Yugoslav constitution of 1946 made Yugoslav Macedonia an autonomous unit in a federal state Tension over Macedonia continued in the post-war years, as Greece accused Yugoslavia of helping the rebel forces who held part of Macedonia in the Greek civil war, while Yugoslavia charged Greece with mistreatment of the Macedonians The breach between Yugoslavia and Bulgaria after 1948 helped to make the Macedonian question once more an explosive issue. For the campaigns in Macedonia during the First World War, see SALONICA CAMPAIGNS

Maceió (mäsäô'), city (pop 80,045), capital of Alagoas state, NE Brazil, a port on the Atlantic The area produces cotton and sugar, and the city has textile mills, sugar refineries, and light manufactures Its harbor, called Jaraguá, is just to the east

McEntee, Jervis (mă'kŭntē), 1828–91, American landscape painter of the Hudson River school, b Rondout, N Y He became a member of the National Academy in 1861 Good examples of his works are *Autumn Landscape* and *In the Clouds* (Metropolitan Mus), *Eastern Sky at Sunset* (Corcoran Gall), *The Melancholy Days Have Come, Old Mill in Winter, Indian Summer, Shadows of Autumn; A Cliff in the Catskills,* and *Clouds*

Macer see LICINIUS, Roman gens

Macerata (mächĕrä'tä), city (pop 14,460), capital of Macerata prov , central Italy, in the Marches It is an agricultural center Macerata is surrounded by medieval walls and has a university which was founded in 1290

McEvoy, Ambrose (măk'uvoi), 1878–1927, English portrait painter He studied at the Slade School, where he knew Augustus John He is best known for his brilliant portraits in line, wash, and oil, which enjoyed a deserved success for their sensitive characterization, fine color, and spontaneity His *Portrait of a Young Man* and *The Earring* (Tate Gall , London) are well known McEvoy is also represented in the Luxembourg Museum, Paris, the Imperial War Museum, London, and many private collections See study by R M Y Gleadowe (1924)

MacEwen, Walter (mŭkū'un), 1860-1943, American landscape and genre painter, b Chicago, studied in Paris His works, which received many awards, include *Greek Heroes* (Library of Congress), *Sunday in Holland* (Luxembourg Mus , Paris), *Judgment of Paris* and *Lady in White* (Art Inst , Chicago), *An Ancestor* (Corcoran Gall), and *Phyllis* (Pa Acad of the Fine Arts) He is represented in many other museums of the United States and Europe

MacEwen, Sir William, 1848–1924, Scottish surgeon A professor of surgery at the Univ of Glasgow, he was noted for his work on bone grafting, on the radical cure of hernia, and especially on the surgery of the brain and spinal cord

McFarland, John Horace, 1859–1948, American master printer, horticulturist, and rose specialist, b McAlisterville, Pa Besides contributing numerous photographs and articles to periodicals, he wrote *Photographing Flowers and Trees* (1911), *Getting Acquainted with the Trees* (1904), *My Growing Garden* (1915), *The Rose in America* (1923), and *Roses of the World in Color* (1936, 3d ed , 1947) He was editor of *The American Rose Annual* from 1916 to 1943

McFee, Henry Lee, 1886–, American painter, b St Louis He studied art in St Louis and Pittsburgh At 21 he went to Woodstock, N Y , where he studied under L B Harrison and lived for many years His early work showed the influence of cubism and expressionism, but his later style is naturalistic with emphasis on composition and structure in space His color is rich and harmonious He is perhaps best known for his still lifes and interiors but also painted landscapes, portraits, and figures McFee received many awards and is represented in many American galleries. His *Crow with Peaches* (Whitney Mus., New York) is characteristic

McFee, William, 1881–, Anglo-American author, a marine engineer, b London Before settling in the United States in 1911 he wrote *Letters of an Ocean Tramp* (1908), and with *Casuals of the Sea* (1916) his ability to depict nautical life was proved Other works include *Captain Macedonne's Daughter* (1920), *The Harbourmaster* (1932), *Spenlove in Arcady* (1941), *Ship to Shore* (1944), *In the First Watch* (1946), autobiographical), and *Family Trouble* (1949)

MacGahan, Januarius Aloysius (mŭgăn'), 1844–78, American newspaper correspondent, b. Perry co., Ohio He reported the Franco-Prussian War for the New York *Herald* and in 1876 penetrated central Asia to join the Russian army against Khiva. An account of the venture, *Campaigning on the Oxus* (1874), made him famous He was sent by the London *Daily News* to investigate the Turkish massacres in Bulgaria, and his dispatches were collected in *The Turkish Atrocities in Bulgaria* (1876) and were an incitement to the Russo-Turkish War of 1877–78 See F L Bullard, *Famous War Correspondents* (1914)

McGee, Thomas D'Arcy (mŭgē'), 1825–68, Canadian journalist and statesman, a leader in the movement for confederation, b Ireland Emigrating to Boston, Mass , in 1842, he became editor of the Boston *Pilot*, but in 1845, upon the invitation of Daniel O'Connell, he returned to Ireland to join the staff of the Dublin *Freeman's Journal* Later McGee transferred his services to the *Nation*, journal of the Young Ireland party Implicated in the uprising of 1848, he fled to America He edited Irish papers in New York and Boston before settling (1857) in Montreal, where he started the *New Era* Entering (1858) the Canadian legislature, McGee became president of the council (1862) and minister of agriculture (1864) His anti-British position had undergone a change, and to the cause of Canadian confederation within the empire he lent his brilliant oratory He lived to see the achievement (1867) of the dominion of Canada, but the following year he was assassinated by a member of the Fenians, whose tactics McGee had denounced He was a pamphleteer and a talented poet See biographies by Isabel Skelton (1925) and Alexander Brady (1925)

McGehee (mugē'), shipping city (pop 3,663), SE Ark , near the Mississippi river, in a cotton and livestock region, inc 1906

McGiffert, Arthur Cushman (mugil'fûrt), 1861–1933, American theologian, b Sauquoit, N.Y , grad Western Reserve Univ , 1882, and Union Theological Seminary, 1885 After study abroad, he was ordained a Presbyterian minister in 1888 but entered the Congregationalist ministry in 1899 At Union Theological Seminary, McGiffert was professor of church history (1893–1926) and president (1916–26) His *History of Christianity in the Apostolic Age* appeared in 1897 Other writings include *The Rise of Modern Religious Ideas* (1915) and *A History of Christian Thought* (1931–32)

Macgillicuddy's Reeks (mugil'lukŭ'dēz rēks'), mountains of Co Kerry, Ireland, in the region of the Lakes of Killarney They include Carrantuohill (3,414 ft , highest peak in Ireland) and other peaks over 3,000 ft high

McGillivray, Alexander (mugil'lĭvrā), 1759–93, Indian chief He was born in the Creek country now within the borders of Alabama, the son of Lachlan McGillivray, a Scots trader, and his French-Creek wife Given a classical education at Charleston, he returned to his mother's people at the beginning of the American Revolution when Georgia confiscated the property of his Loyalist father, who thereupon returned to Scotland In the war he was a British agent, influential in maintaining Creek loyalty to the crown At Pensacola in 1784 McGillivray, now dominant in his nation's councils, concluded with the Spanish a treaty confirming the Creek Indians in their lands, giving the Spanish a trade monopoly, and making him Spanish commissary With arms provided by the Spanish, his warriors periodically attacked American frontier settlements from Georgia to the Cumberland river In 1790 President Washington, seeking to end the depredations, invited him to a conference in New York McGillivray, a clever diplomat, accepted, meanwhile assuring Spanish authorities of his loyalty, and was well received By the treaty of New York (1790), the Creek acknowledged U S sovereignty over part of their territory, acquired lands claimed by Georgia, and agreed to keep the peace McGillivray himself accepted a brigadier generalcy and a yearly pension He continued in the pay of the Spanish, however, and in 1792 when they increased his subsidy, he entered upon another treaty with them which practically repudiated his treaty with the Americans, and the Indian attacks were resumed See J W Caughey, *McGillivray of the Creeks* (1938)

McGill University (mugil'), at Montreal, Que , nonsectarian, coeducational, chartered 1821, opened 1829 It was named for James McGill, who left a bequest to establish it Its real development dates from 1855 when John W DAWSON became principal Besides its faculties of arts and science, dentistry, engineering (with a school of architecture), law, medicine, and music, it has schools of commerce, library science, graduate nursing, physical education, and physiotherapy (for women) Anglican, Presbyterian, and United Church theological colleges are affiliated Royal Victoria College at Montreal is the woman's college of the university Macdonald College at Ste Anne de Bellevue, Que , includes the faculty of agriculture, a school for teachers, and a school of household science Dawson College is a branch at St. Johns, Que McGill is noted for its graduate work in chemistry, physics, medicine, and biology It has a fine medical library and medical museum See Cyrus Macmillan, *McGill and Its Story* (1921)

McGoldrick, Joseph Daniel, 1901–, American city official, b. New York city, grad Columbia (B A , 1922; Ph D , 1931) and Fordham (LL B , 1929) He was (1922–34) a member of the Columbia Univ staff and was recognized as an outstanding authority on municipal government He also served on many municipal and state investigating committees Mayor Fiorello H LaGuardia appointed him (1934) comptroller of New York city After he ran (1935) unsuccessfully for district attorney of Kings co , N Y , he was elected (1937) comptroller of New York city and, serving from 1938 to 1945, helped keep the city budget in balance

Macgowan, Kenneth (mugou'un), 1888–, American author and theatrical producer, b Winthrop, Mass , grad Harvard, 1911 He directed the Provincetown Players and the Greenwich Village Theatre and the Actors' Theatre of New York and produced *La Cucaracha* (1933), the first three-color process moving picture of a dramatic subject He was editor (1919–25) of the magazine *Theatre Arts*, and his books include *The Theater of Tomorrow* (1921), *Continental Stagecraft* (with Robert Edmond Jones, 1922), *Masks and Demons* (with Herman Rosse, 1923), and *Footlights across America* (1929)

McGrath, James Howard (mugrăth'), 1903–, U S Attorney General (appointed Aug , 1949), b Woonsocket, R I , grad Providence College, 1926, and Boston Univ law school, 1929 He was governor of Rhode Island (1941–45), U S Solicitor General (1945–46), and Senator from Rhode Island (1947–49) One of the more powerful Democratic politicians, J Howard McGrath succeeded Robert E HANNEGAN as chairman of the party's national committee and was rewarded for his service with a cabinet post

McGraw, John Joseph, 1873-1934, American baseball manager, b Cortland co , N Y He began playing professional baseball in 1890 and was (1891–1900) the star third baseman of the renowned Baltimore Orioles of the National League McGraw managed the Orioles in 1899, and after the team was dropped (1900) by the National League he helped organize (1900) the American League As manager (1902–32) of the New York Giants of the National League, the fiery, efficient John J McGraw became one of the outstanding figures of baseball He brought the Giants 10 pennants (1904–5, 1911–13, 1917, 1921–24) and three world series victories (1905, 1921–22) In 1914 and again in 1924 McGraw, together with Charles Comiskey, led groups of baseball players on world-wide tours to popularize the sport in Europe and the Orient He was named to the National Baseball Hall of Fame in 1937 He wrote *How to Play Baseball* (1914) See his autobiography, *My Thirty Years in Baseball* (1923), biography by Frank Graham (1944)

McGraw, village (pop 1,201), central N Y , E of Cortland, inc 1869

McGready, James (mugrā'dē), c 1758–1817, American Presbyterian minister and evangelist, b Pennsylvania Under his preaching in Logan co , Ky , in 1797, 1798, and 1799 was kindled the flame of the great religious revival which, in 1800, swept over the South and the West Gatherings encamped for McGready's revivals were the forerunners of later CAMP MEETINGS Some of his methods were questioned by the Presbyterian Church, in the division that resulted, the Cumberland Presbyterian Church was established Later McGready was received back into his presbytery and sent in 1811 to Indiana to found churches

McGregor, James Howard (mugrē'gûr), 1872–, American zoologist, b Bellaire, Ohio, grad Ohio State Univ (B S , 1894), Ph D Columbia, 1899 Associated with Columbia from 1897, he became professor of zoology in 1924 and professor emeritus in 1942 In 1916 he was made a research associate of the American Museum of Natural History His contributions include significant studies of reptilian and primate paleontology, his research has added much to the knowledge of primitive man.

MacGregor, Robert see ROB ROY

McGregor, 1 Town (pop 1,309), NE Iowa, on the Mississippi almost opposite the mouth of the Wisconsin It was settled in 1836 when Alexander McGregor established a ferry from Prairie du Chien, Wis , and was incorporated in 1857 The town is in a ravine with high bluffs on two sides The American School of Wild Life Protection holds annual assemblies in August Near by are Indian mounds and Point Ann and Pike's Peak state parks 2 Town (1940 pop 2,062, 1947 estimated pop 3,500), E central Texas, WSW of Waco It processes cotton and has a flour mill An ordnance plant was near by in the Second World War

McGuffey, William Holmes (mŭgŭ'fē), 1800–1873, American educator, b near Claysville, Pa He was graduated from Washington and Jefferson College in 1826, having meanwhile taught in rural schools, and became professor of languages at Miami Univ He remained at Miami until he became (1836) president of Cincinnati College He later served as president of Ohio Univ at Athens (1839–43), as professor of philosophy at Woodward College, Cincinnati (1843–45), and as professor of moral philosophy at the Univ of Virginia (1845–73) He helped to organize the common school system of Ohio but is now remembered chiefly as the compiler

of the famous McGuffey Eclectic Readers, the First and Second of which were published in 1836, the Third and Fourth in 1837, the Fifth in 1844, and the Sixth in 1857 These were constantly revised and passed through edition after edition, maintaining their place for nearly two generations, their estimated sales totaled 122,000,000 copies Their influence in shaping the American mind of the mid-19th cent can scarcely be exaggerated A memorial was erected to McGuffey in 1931 at his birthplace in West Finley township, Pa See *Old Favorites from the McGuffey Readers, 1836–1936* (1936), biography by H C Minnich (1936)

McGuigan, James Charles (mŭgwī'gun), 1894–, Canadian Roman Catholic churchman, cardinal of the Roman Church, b Prince Edward Island After study at Grand Seminary and Laval Univ in Quebec, he was ordained in 1918 He was archbishop of Regina from 1930 to 1934, when he became archbishop of Toronto He was given the red hat in 1946 See biography by C L Fisher (1948)

Mach, Ernst (ĕrnst' mäkh'), 1838–1916, Austrian physicist, psychologist, and philosopher He was professor of physics at the universities of Graz (1864–67) and Prague (1867–95) and of philosophy at the Univ of Vienna (1895–1901) His early work in physics and in the physiology and psychology of the senses led him to attempt to interrelate physics and psychology in a formulation of the methods and philosophy of science He advanced the theory (known as the principle of economy) that the scientist must select the simplest means of arriving at his results and must exclude elements not perceived by the senses Mach's writings include *The Analysis of Sensations and the Relation of the Physical to the Psychical* (1886, 3d Eng ed, 1914) and *The Science of Mechanics* (1883, 3d Eng ed, 1907, supplement, 1915)

Machabees (măk-) see MACCABEES

Machado, Antonio (äntō'nyō mächä'dhō), 1875–1939, Spanish poet Born in Seville, he spent most of his life in Castile and wrote his best poetry under the sober and dramatic influence of its landscape His best-known books are *Soledades* [solitudes] (1903), *Soledades, Galerías y otros poemas* (1907), *Campos de Castilla* (1912), and *Nuevas canciones* (1925) His *Poesías completas*, published in 1936, includes some new poems In collaboration with his brother, the poet Manuel Machado (1874–), he wrote many plays and translated Rostand's *L'Aiglon* and Hugo's *Hernani* into Spanish Antonio Machado belongs to the so-called Generation of 1898 He died on the French frontier, while leaving Spain at the end of the Spanish civil war (1936–39), in which he played an important part on the side of the Loyalists. See E A Peers, *Antonio Machado* (1940)

Machado, Gerardo (härär'dō mächä'dhō), 1871–1939, president of Cuba (1925–33) With the support of ZAYAS, Machado defeated MENOCAL in the campaign of 1924 A businessman, he gave considerable attention to material welfare and reform, but his primary concerns were not only to free Cuba from the political bonds of the Platt Amendment, but also from economic dependence upon the United States by taxing American capital investments, by constructing a central highway 700 mi long, by building up Havana and the tourist trade, and by fostering industrial and mining expansion Increasingly dictatorial, he succeeded in amending the constitution to permit a six-year term Secret societies, notably the ABC, banded together and led an abortive revolt in 1931 Retaliating through murderous gangs of secret police, he began a terrorism so bloody that the United States intervened Machado refused to resign until, through a general strike and loss of army support, the opposition forced him to flee and chose Carlos Manuel de CÉSPEDES provisional president Machado died in Miami Beach, Fla

Machado de Assis, Joaquim Maria (zhwukēm' murĕ'u mushī'dō dŭ äsē'zh'), 1839–1908, Brazilian novelist Born in the slums of Rio de Janeiro, the son of a Negro house painter and his Portuguese wife, he was given some education by a priest and became a typesetter, a proofreader, and finally a journalist His poetry and short stories were well received, but it is upon his realistic novels that his reputation rests, he is considered by many the greatest of Brazilian writers The best known of the novels are *Iaiá Garcia* (1878), *Memórias postumas de Braz Cubas* (1881), *Quincas Borba* (1891), and *Dom Casmurro* (1900). They are distinguished by psychological insight as well as a broad view of the social conditions in Brazil and the world The seriousness of the realistic view is high-lighted with ironic humor

Machar, Josef Svatopluk (yō'zĕf svä'tōplōōk ma'khar), 1864–1942, Czech poet and essayist He was a leader of the realist movement in Czech poetry and a master of colloquial Czech His early poems, *Confession* (1887–92), are in the spirit of Heine and Neruda He was active in Czech political circles in Vienna, and many of his poems were satires of political and social conditions. His largest undertaking was the poetic cycle *The Conscience of the Ages* (1901–21), of which *Golgotha* was the initial volume In this he contrasted antiquity with Christian civilization, glorifying the former. A satirical and amusing play, *Magdalena* (1894), is available in English (1916)

Machbanai (măk'bunā, măkbā'nā, măkbānā'ī), Gadite ally of David 1 Chron 12 13.

Machbenah (măkbē'nŭ), unidentified town, S Palestine 1 Chron 2 49

Machebeuf, Joseph Projectus (shōzĕf' prōzhĕktus' mashbūf'), 1812–89, French missionary in the American Southwest, a Roman Catholic priest He was a friend and associate of Jean Baptiste LAMY, coming with him to Ohio in 1836 and accompanying him to New Mexico in 1850 He did much missionary work, establishing churches, schools, and hospitals in New Mexico, Arizona, Utah, and Colorado He was made bishop of Denver in 1887 Father Machebeuf is the "Father Vaillant" of Willa Cather's novel, *Death Comes for the Archbishop* See biography by W J Howlett (1908)

Machek, Vladimir (vlădē'mĭr mä'chĕk), 1879–, Croatian political leader He headed the Croatian Peasant party after the assassination (1928) of its founder, Stefan Radich It was largely through his efforts that Croatia obtained autonomy within Yugoslavia in 1939 Machek entered (1939) the Yugoslav government as vice premier and headed the Croatian autonomous government After the occupation (1941) of Yugoslavia by the Axis forces, Machek was under close surveillance He opposed the Tito regime, which came into power in 1944, and left Yugoslavia

Machen, Arthur (măk'ĕn), 1863–1947, British novelist and essayist His bizarre and romantic works, written in exquisite style, include *The Great God Pan* (1894), *The Three Impostors* (1895), *Hieroglyphics* (1902), a series of essays, *The Hill of Dreams* (1907), *The Bowmen* (1915), *Far Off Things* (1922) and *Things Near and Far* (1923), autobiographical, and *The Green Round* (1933)

Machen, John Gresham (grĕ'sum mă'chun), 1881–1937, American Presbyterian clergyman, b Baltimore, educated at Johns Hopkins (B A, 1901), Princeton (M A, 1904), Princeton Theological Seminary (B D, 1905), and in Germany Ordained a Presbyterian minister in 1914, he became a leader of the fundamentalists in his denomination He objected to the liberalism of the Presbyterian Board of Foreign Missions and in 1933 set up an independent board Suspended (1935) from the ministry for this action, Dr Machen, with certain ministers and lay groups, established in 1936 an independent body which later took the name Orthodox Presbyterian Church

McHenry, James, 1753–1816, American statesman, b Ireland He emigrated to Philadelphia in 1771 and after studying medicine under Benjamin Rush served as a surgeon in the Continental army in the American Revolution Captured by the British at Fort Washington on Harlem Heights, N Y, he was exchanged in the spring of 1778 He was George Washington's secretary from 1778 to 1780, when he became attached to Lafayette's staff McHenry was (1781–86) a member of the Maryland senate and a delegate to the Confederation Congress (1783–86), and he attended (1787) the Federal Constitutional Convention, where he maintained a conservative course Later he advocated adoption of the Constitution From 1797 to 1800 he served as Secretary of War and followed the political leadership of Alexander Hamilton rather than that of President John Adams Adams finally demanded and received his resignation, and thereafter McHenry lived in retirement Fort McHenry at Baltimore was named for him See biography by B C Steiner (1907)

McHenry, city (pop 1,596), NE Ill, on the Fox river and NW of Chicago, settled 1836, inc as a village 1855, as a city 1923 It is a trade center in a lake resort and farm area

McHenry, Fort, former U S military post in Baltimore, Md In the War of 1812 it was bombarded (Sept 13–14, 1814) by a British fleet under Sir Alexander Cochrane, but the fort, commanded by George Armistead, resisted the attack, and its defense inspired Francis Scott Key to compose the STAR-SPANGLED BANNER The fort was restored (1933) and became Fort McHenry National Monument and Historic Shrine (47 6 acres, est 1939).

Machi (mă'kĭ), father of a spy Num 13 15

Machias (muchī'ŭs), coast town (pop 1,954), co seat of Washington co, SE Maine, on the Machias river It is the seat of a state normal school The English under Richard Vines established a trading post near the mouth of the Machias in 1633, but the French under Claude de la Tour, claiming this area, destroyed the post a little later Permanent settlement began in 1763 Burnham Tavern (1770), a historical museum, has mementos of "the first naval battle of the Revolution," the capture of a British ship off Machiasport, June, 1775

Machiasport, town (pop 818), SE Maine, at the head of Machias Bay E of Machias, inc 1862 A fort was built here in the Revolution and was taken by the British in 1814, its earthworks are now in a state park

Machiavelli, Niccolò (nēk-kōlō' mäkyävĕl'lē), 1469–1527, Italian author and statesman, one of the outstanding figures of the Renaissance Born in Florence of a well-to-do family, he entered political office as a clerk and rose to increasing importance throughout the period of the Florentine republic (1429–1512; see FLORENCE) As defense secretary he substituted (1506) a citizens' militia for the mercenary system then prevailing in Italy. This momentous reform sprang from his conviction, set forth in his chief writings, that the employment of mercenaries had largely contributed to the political weakness of Italy. Machiavelli became acquainted with power politics through his important diplomatic missions He met Cesare Borgia twice and was sent by Florence to Louis XII of France (1504, 1510), to Pope Julius II (1506), and to Emperor Maximilian I (1507) However, he never held an official rank higher than secretary The return (1512) of the Medici to Florence caused his dismissal, in 1513 he was briefly imprisoned and put to the torture for his unproved complicity in a plot against the Medici Machiavelli retired to his country estate, where he wrote his chief works He vainly humiliated himself before the Medici, in order to be restored to office When, in 1527, the republic was briefly reestablished, Machiavelli was distrusted by the republicans, and he died thoroughly disappointed and embittered Machiavelli's best-known work, *Il principe* [the prince] (1532), has made his name a symbol of political immorality Machiavelli, whose Italian patriotism and love of liberty cannot be questioned, lived at a time when political morality was nonexistent and when power and success justified the means by which they were attained He visualized the rise of a strong Italian state (not necessarily including all Italy) as the sole means to liberate his fatherland from foreign rule The plea for liberation forms the last chapter of the work The rest describes, with detached realism and objectivity, the means by which a prince may gain and hold power His model for the ideal prince was Cesare BORGIA In modern times the Machiavellian principles of justification by power and of political "realism" have found a large following Mussolini and Hitler are said to have been influenced by his writings, but it cannot be said that tyranny was the objective Machiavelli had in mind His exact intentions in writing *The Prince* remain a mystery and a matter of controversy Less read but of equal importance is Machiavelli's work *Discorsi sulla prima deca di Tito Livio* [discourses on the first 10 books of Livy] (1531) Commenting on the work of the Roman historian, Machiavelli expounded the first general theory of politics and government that departed from Platonic and scholastic concepts Written in Machiavelli's characteristic sober and concise style, the *Discourses* are vaster in conception and morally less offensive than *The Prince* Other works include *Dell' arte della guerra* [on the art of war] (1521), which is remarkable for viewing military problems in connection with politics, *Istorie Fiorentine* [history of Florence] (1532), a historical and literary masterpiece, entirely modern in conception, and numerous reports and brief works He also wrote many poems and plays, notably the lively, if rather ribald comedy, *Mandragola* (1524) His correspondence has been preserved and is of great interest The chief works of Machiavelli are available in several popular English editions See Pasquale Villari, *Life and Times of Niccolò Machiavelli* (Eng tr, 2 vols, 1878–83), Ralph Roeder, *The Man of the Renaissance* (1933), D E Muir, *Machiavelli and His Times* (1936), Leonardo Olschki, *Machiavelli the Scientist* (1945)

machine. Commonly the term is used to indicate a complicated arrangement of moving and stationary parts (such as a washing machine, a reaping machine, or an engine), a device made up of wheels, gears, levers, and other parts mounted on a base, which acting together can perform some useful work The technical definition, however, is not based upon the degree of complexity of structure or appearance but upon the fundamental principles involved in the contrivance by means of which some specific thing is accomplished A machine is, on this basis, any device, simple or complex, by which the intensity of an applied force is increased, its direction changed, or one form of motion or energy changed into another form Therefore, such simple contrivances as the LEVER, the PULLEY, the INCLINED PLANE, the SCREW, and the WHEEL AND AXLE are machines These are classed as simple machines, the five being grouped together by engineers as the mechanical powers or the fundamentally simple machines, of which all the more complicated machines are merely combinations Of the five, the lever, the pulley, and the inclined plane are primary, the wheel and axle and the screw, secondary The screw can be considered as an inclined plane wound around a straight central core An application of the inclined plane is seen in the WEDGE In machines, a small FORCE can be applied to overcome a much larger resistance or load The ratio between this resistance and the force applied to overcome it, i e, the number of times greater the resistance is than this force, is known as the mechanical advantage Since, however, in all machines a certain amount of the force applied is used

to overcome friction, such a ratio does not hold exactly in practice, and the mechanical advantage is calculated as the ratio between the distance the force applied moves and the distance the resistance moves In the inclined plane, for example, if a force of 2 lb can be applied to move a body of 10 lb up the incline, the mechanical advantage is 10/2 or 5, if *friction* is neglected On the other hand, if the plane is 10 ft long (the effort acts along the length of the plane) and its upper end is a perpendicular distance of 2 ft above the horizontal, its mechanical advantage is again 10/2 or 5 In a simple machine of this proportion, however, it would probably be found on testing that slightly more than a force of 2 lb would be required to keep the load moving up the plane after it had started This added force would be needed to overcome FRICTION Friction is present to some degree in all machines, and, as a result, the input of a machine or the work put into a machine is always in excess of the output or the work done by the machine The efficiency of a machine is the degree in percentage to which the machine accomplishes the work that it is capable theoretically of doing if there were no friction An efficiency of 20 percent indicates that the output is 20 percent of the theoretical output The jackscrew, for example, has a great deal of friction and therefore has a low efficiency Nevertheless it is extremely valuable to man because, even with much friction (which in this case is essential since it prevents the load from forcing the screw to turn back), a very small effort can be applied to lift an enormous load The principles of the simple machines are applied in man's common tools A pair of tongs and a crowbar are applications of the principle of the lever Complex machines are complicated combinations of the simple machines, and they may all be reduced to these mechanical powers Machines are commonly designated by the operations which they perform Complex machines used for sawing, planing, and turning are known, for example, as sawing machines, planing machines and turning machines and collectively as machine tools Certain other machines used to transform some other form of energy (as heat) into mechanical energy are known as engines, such as the STEAM ENGINE or the INTERNAL-COMBUSTION ENGINE The electric MOTOR transforms electrical energy into mechanical energy Its operation is the reverse of the electric GENERATOR, or electric machine, which is used to generate electricity and occurs usually as either the magneto or the dynamo The widespread use of machines has led to the designation of the present time as the Machine Age New machines are being invented constantly to meet the demands of modern industrial production that the relatively slow and nonuniform manual labor be reduced to a minimum and speed of production and uniformity of product be raised to a maximum The effect of the increasing use of machines has led to much controversy Labor has opposed their introduction on the basis that labor-saving machines create unemployment (the so-called technological unemployment) On the other hand, it is claimed that an increase in production brings about a reduction in price, thus creating a greater demand for the commodity and an increased employment See also HYDRAULIC MACHINE

See Michael Pupin, *Romance of the Machine* (1930), Stuart Chase, *Men and Machines* (1935), *Kent's Mechanical Engineers' Handbook* (11th ed , 1936), John Anson Clark and others, *Fundamentals of Machines* (1943)

machine gun, FIREARM that discharges rifle bullets with great rapidity The firing mechanism is operated either by the power of the recoil of the gun or by the explosion of gases as the gun is fired The machine gun was exclusively developed by inventors of American birth A forerunner was built by R J GATLING during the Civil War Later types were constructed by B B HOTCHKISS, Sir Hiram Stevens MAXIM, I N LEWIS, and J M BROWNING Machine guns were first used in the Franco-Prussian War, and the First World War revealed the enormous fire power of the automatic arms, which at times allowed a single machine to beat off the attack of six soldiers using rifles During the Second World War the machine gun was greatly improved in speed, in automatic quality, in fire power, and in portability The submachine gun ("tommy gun") is a lighter type, which can be carried by one man and has some of the advantages of the automatic rifle. It was developed in the First World War and later very much improved

Machir (mā'kûr) 1 Son of Manasseh Joshua 17 1, Num 26 29 **2** One who helped David and Mephibosheth 2 Sam 9 4–6, 17 27

Machnadebai (măknŭdē'bī, -nă'dŭ–), one who had a foreign wife Ezra 10 40

Machpelah (măkpē'lŭ), cave, near Hebron. It was bought by Abraham from Ephron, son of Zohar the Hittite, for a family burial place Gen 23; 25 9,10, 49.29–32, 50 13

Machu Picchu (mä'chōō pĕk'chōō), fortress city of the ancient Incas, Peru, c.50 mi NW of Cuzco It is perched high upon a rock in a narrow saddle between two sharp mountain peaks, and overlooks the Urubamba river 2,000 ft. below The ruins show poor as well as superb architectural construction. While the period of occupancy is doubtful, legendary history indicates that the city may have been the home of the Inca prior to their migration to Cuzco as well as their last stronghold after the Spanish Conquest See Hiram Bingham, *Lost City of the Incas* (1948)

Macia, Francisco (fransĕ'skō masē'ä), 1859–1933, Catalan leader He joined the separatist movement in CATALONIA and was elected to the Cortes in 1907 In 1917 he organized the extremist group Acción Catalana, both republican and separatist He was exiled in 1924 and directed, from Paris, the unsuccessful movement to establish a Catalan republic After the fall of the monarchy he returned (1931) to Barcelona and became the first president of the Catalonian republic He made a compromise with the central government at Madrid by which Cataloma was recognized as an autonomous region.

McIlwain, Charles Howard, 1871–, American historian, b Indiana co , Pa , grad Princeton (B A , 1894, M A , 1898) and Harvard (M A , 1903, Ph D , 1911) After teaching history at Miami Univ in Ohio (1903–5) and at Princeton (1905–10), he became (1911) a professor of history and government at Harvard, serving as Eaton professor of the science of government (1926–46) He was president (1935–36) of the American Historical Association Among his books are *The American Revolution a Constitutional Interpretation* (1923), for which he won the 1924 Pulitzer Prize in history, *The Growth of Political Thought in the West, from the Greeks to the End of the Middle Ages* (1932), *Constitutionalism and the Changing World* (1939), and *Constitutionalism, Ancient and Modern* (1940, rev ed , 1947)

McIntire, Samuel (mă'kĭntīur), 1757–1811, American architect and woodcarver, b Salem, Mass He developed high skill as a joiner and housewright and in wood sculpture McIntire's opportunities, both as builder and as carver, came in designing houses for the shipowning aristocracy of Salem In the interiors of these houses are to be seen the beautiful carved cornices and mantelpieces, influenced by the Adam style, for which McIntire is especially known At first he executed most of his work himself, but later employed his son, his two brothers, and his nephew, all skilled craftsmen The Salem residences include the Pierce-Nichols, the Peabody-Silsbee, the Gardner-White-Pingree and the Elias Haskett Derby His public buildings are Assembly Hall, Hamilton Hall, Washington Hall, and the courthouse, all in Salem, of which the two latter no longer stand In 1792 McIntire competed for the design of the Capitol at Washington, D C See M M Swan, *Samuel McIntire, Carver* (1934), S F Kimball, *Mr Samuel McIntire* (1940)

Macintosh, Charles (mă'kĭntŏsh), 1766–1843, Scottish chemist and inventor In 1823 he developed a waterproof fabric from which raincoats called mackintoshes are made He prepared sugar of lead and invented a bleaching powder

McIntosh, Lachlan (lăk'lun), 1725–1806, American Revolutionary general, b Scotland He was brought as a child to a Scottish settlement, which is now Darien, Ga In 1776 he joined the Continental army The next year he fatally wounded his personal and political foe, Button GWINNETT, in a duel In 1778 he was sent to subdue the Indians of the Pennsylvania and Virginia frontier, but, proving incompetent, he was replaced (1779) by Daniel Brodhead McIntosh took part in the unsuccessful patriot attack on Savannah, and in 1780 he was captured at the fall of Charleston He was elected to Congress in 1784 and in 1785 served as commissioner to deal with the Creek and Cherokee Indians

McIntosh, Millicent Carey, 1898–, American educator, b Baltimore, grad Bryn Mawr, 1920, Ph D Johns Hopkins, 1926 From 1926 to 1930 she taught at Bryn Mawr and was acting dean in 1929–30 She was headmistress of Brearley School, New York city, from 1930 until her appointment in 1947 as dean of Barnard College, Columbia Univ Married to Dr Rustin McIntosh, she has five children

McIntosh, William, c 1775–1825, Indian chief, b in the Creek country now within the limits of Carroll co , Ga , son of a British army officer and a Creek woman Friendly to the Americans (he was a first cousin of George M TROUP), McIntosh led the lower Creek Indians against the British in the War of 1812 and was made a brigadier general He later fought with Andrew Jackson against the Seminole In Feb , 1825, he signed a treaty ceding the Creek lands E of the Chattahoochee to Georgia and was shortly thereafter slain by the upper Creek braves, who opposed the cession

Macip or **Masip, Vicente Juan** (vēthān'tā hwän' măthēp', măsēp'), c 1500–1579, Spanish religious painter of the Valencian school, known as Juan de Juanes and Vicente Joanes One of the Spanish mannerists, Macip shows the influence of Italian painters and especially of Raphael in his design His somewhat harsh and individualized characterization, however, is Spanish. Among his chief works are five scenes from the life of St. Stephen and a portrait of Luis de Castelvi (Prado) and *Baptism of Christ, Conversion of St Paul,* and a portrait of Archbishop Tomás de Villanueva (all three: cathedral, Valencia)

MacIver, Robert Morrison (mukē'vur), 1882–, Scottish sociologist, grad Edinburgh and Oxford Since 1927 he has been at Columbia Univ His books, in which he defines and clarifies theoretical concepts, include *Community a Sociological Study* (1917), *Society Its Structure and Changes* (1931), and *The Web of Government* (1947)

Mack, Connie (Cornelius McGillicuddy), 1862–, American baseball manager, b. East Brookfield, Mass He was a catcher for the Meriden and Hartford teams in Connecticut before playing for the Washington Senators (1886–89) and the Pittsburgh Pirates (1891–94) After gaining managerial experience with the Pittsburgh (1891–96) and the Milwaukee (1897–1900) clubs, Mack became (1901) manager, and ultimately chief owner, of the Philadelphia Athletics of the newly organized American League Under his guidance, the Athletics won nine pennants (1902, 1905, 1910–11, 1913–14, 1929–31) and five world series (1910–11, 1913, 1929–30) He received the 1929 Bok Award for outstanding service to the city of Philadelphia In 1937 he was named to the National Baseball Hall of Fame After 1937 he met with repeated illnesses, and increasing managerial responsibilities were given his son, Earle Mack, but at the beginning of the 1950 season, at the age of 87, Connie Mack still led the Philadelphia Athletics See his autobiography, *My 66 Years in the Big Leagues* (1950)

Mackail, John William (mukāl'), 1859–1945, Scottish literary historian His *Latin Literature* (1895) is a standard work He was the biographer of his friend William Morris (1899) Angela Thirkell is his daughter

Mackall, Leonard Leopold (mă'kŭl), 1879–1937, American bibliographer, b Baltimore, grad Johns Hopkins, 1900, and studied at Harvard and in Germany In Germany he edited several of Goethe's works From 1924 until his death he edited "Notes for Bibliophiles" for the New York *Herald Tribune* and in 1936 was elected president of the Bibliographical Society of America At his death he left to Johns Hopkins Univ his collection of rare books

McKay, Claude (mukā'), 1890–1948, American Negro poet and novelist, b Jamaica, British West Indies After his poems *Songs of Jamaica* (1911) appeared, he came to the United States and studied at Tuskegee and at the Univ of Kansas His works include *Spring in New Hampshire* (1920) and *Harlem Shadows* (1922), poems, *Home to Harlem* (1927), *Banjo* (1929), and *Banana Bottom* (1933), novels, and *A Long Way from Home* (1937), his autobiography

McKay, Donald, 1810–80, American shipbuilder, b Nova Scotia He came to New York as a ship's carpenter and later worked in other shipyards before opening his own shipyard in Newburyport, Mass , in 1841 In 1845 he moved to Boston He grew celebrated as designer and builder of the largest ships of his time and of sleek, swift clippers, some of the most beautiful ships ever to sail the seas Some of the vessels he built were the *New World*, a three-decker, the largest ship of the world in 1845, the *Staghound*, a California clipper launched in 1850, the *Flying Cloud*, which made a record voyage from Boston to San Francisco in 1851, the *Sovereign of the Seas* (1852) and the *Great Republic* (1853), for years among the world's largest ships, the *Lightning* and the *James Baines*, clippers which established new speed records for the long England-to-Australia route, and the *Glory of the Seas*, which in 1869 made a record run of 94 days from New York to San Francisco He built several ships for the Union navy in the Civil War The building of steamships and iron vessels had advanced so far in 1873 that he closed his shipyard See R C McKay, *Some Famous Sailing Ships and Their Builder* (1928)

MacKay, Hugh (mŭkī), 1640?–1692, Scottish soldier After service with several continental armies, he joined the Dutch forces in 1673, brought his regiment to England (1685) to help suppress the rising under James Scott, duke of MONMOUTH, and in 1688 accompanied William of Orange (see WILLIAM III) to England In command of English troops in Scotland, he was defeated by John Graham of Claverhouse, Viscount DUNDEE, at Killiecrankie (1689), but later put down the Jacobite rising He was killed leading English forces for William III in the battle of STEENKERKE

Mackay, John William (mă'kē), 1831–1902, American financier, b Dublin, Ireland He came to the United States in 1840, worked in a shipyard, and in 1851 went to California to mine for gold In 1859 he joined the rush to **Nevada** when the Comstock Lode was opened He and a partner, William Shoney O'Brien, later joined by J. G. Fair and J. C. Flood, acquired control of valuable silver mines, which yielded them great fortunes Mackay formed the Commercial Cable Company with James Gordon Bennett (1841–1918) in 1883, and in 1886 he formed the Postal Telegraph Cable Company. See Oscar Lewis, *The Silver Kings* (1947)

Mackay (mŭkī), town (pop. 13,500), Queensland, Australia, NW of Rockhampton It is a port and ships sugar, copper, and gold

MacKaye, Benton (mukī'), 1879–, American forester and regional planner, b Stamford, Conn., grad Harvard (B A , 1900; M A School of Forestry, 1905); son of Steele MacKaye. He was a research forester of the U S Forest Service, he planned and helped in the construction of the Appalachian Trail (1921) and served on the regional planning staff of the Tennessee Valley Authority (1934–36) and on the staff of the Rural Electrification Administration (1942–45) MacKaye's philosophy of regional planning is given in *The New Exploration* (1928)

MacKaye, Percy (mukī'), 1875–, American author, b New York city, grad Harvard, 1897, son of Steele MacKaye His dramatic work is represented by *Jeanne d'Arc* (1906), *The Canterbury Pilgrims* (1909), and *St Louis* (1914), a masque presented by 7,500 players Interested in the mountain people of the S Appalachians, he gave them sympathetic and effective interpretation in *Tall Tales of the Kentucky Mountains* (1926) and *Kentucky Mountain Fantasies* (1928) His poems and plays were collected in two volumes in 1916

MacKaye, Steele (James Morrison Steele MacKaye), 1842–94, American actor, dramatist, and inventor, b Buffalo, N Y He first studied painting at Paris, and, after Civil War service, he studied acting there with Delsarte and François Régnier, he made his debut (1873) as Hamlet in London He returned to the United States and eventually wrote over 20 plays, of which his greatest success was *Hazel Kirke* (1880), a melodrama Although other producers made fortunes from this play, MacKaye himself was always financially straitened. He introduced the Delsarte system of acting to the United States and invented devices for overhead lighting, the first moving or double stage, and folding seats See *Epoch* (2 vols , 1927), by his son, Percy MacKaye

Macke, August (ou'gōst mä'ku), 1887–1914, German landscape painter He was a fine colorist and spontaneous and vital painter He died in the First World War. His last painting, *Mobilization*, is well known

McKean, Thomas (mŭkēn'), 1734–1817, American statesman, signer of the Declaration of Independence, b New London, Chester co., Pa He settled at New Castle, Del , and became a lawyer and a political figure, one of the strong opponents of the British colonial system He was a delegate to the Stamp Act Congress (1765) He promoted concerted colonial action and was (1774–76, 1778–83) a member of the Continental Congress He was absent when the Declaration of Independence was signed but affixed his signature later He helped to frame the Delaware constitution, was president of Delaware for a short time (1777), then was chief justice of Pennsylvania (1777–99) As president of the Congress he forwarded the Articles of Confederation, which he signed He worked to obtain the ratification of the Constitution by Pennsylvania and was a member of Pennsylvania's state constitutional convention As governor of Pennsylvania (1799–1808) he is said to have favored the Jeffersonians with political gifts With James Wilson he wrote *Commentaries on the Constitution of the United States* (1790)

McKeesport, city (pop 55,355), SW Pa , on the Monongahela at the mouth of the Youghiogheny and 12 mi SE of Pittsburgh, settled 1755, laid out 1795, inc. as a borough 1842, as a city 1890 It manufactures iron and steel products, tin plate, and cement. Braddock's camp and crossing are marked with tablets The city was an important armament center during the Second World War

McKees Rocks, industrial borough (pop 17,021), SW Pa , NW of Pittsburgh, settled c 1704, inc 1892. Its manufactures include bar iron and steel, tin containers, chewing gum, automobile parts, and car and locomotive springs It is on the site of an old Indian village

Mackensen, August von (ou'gōst fŭn mä'kŭnzŭn), 1849–1945, German field marshal In the First World War he defeated the Russians in the battle of the MASURIAN LAKES, later conducted successful operations in Galicia and in Serbia, and in 1917 occupied Rumania After the war he quelled civil disorders under the Weimar Republic and, retiring from service, became a leader of the Stahlhelm, a monarchist veterans' organization He later supported Hitler.

Mackenzie, Sir Alexander, 1764?–1820, Canadian fur trader and explorer, b Scotland. His family brought him to New York in 1774, and later he was sent to Canada In Montreal he entered (c 1779) the employ of a fur-trading firm, by whom he was sent (1784) to Detroit and later to Grand Portage He became a partner of one of the firms that merged (1787) to form the North West Company Mackenzie was given supervision of the important Athabaska fur district, succeeding Peter Pond in 1788 From his headquarters at Fort Chipewyan on Lake Athabaska, Mackenzie set forth (1789) on the first of his two noted trips of exploration, after reaching Great Slave Lake, he followed the then unknown Mackenzie river to the Arctic Ocean He was disappointed, for he had hoped that the great river which now bears his name would prove an avenue to the Pacific. Unable to relinquish his hope of discovering a route to the Pacific, Mackenzie made careful preparations for a second expedition. From a post which he had built on the upper waters of the Peace river, he set out again in 1793 He and his party fought their way up the Peace and its tributary the Parsnip, crossed the Continental Divide, and discovered the Fraser river, down whose turbulent course they traveled a short distance before they abandoned their canoe and struck overland for the coast Following the course of the Blackwater, a western tributary of the Fraser, they reached and crossed the Coast Ranges to the Bella Coola, which they descended in a borrowed dugout to its mouth in a tidal inlet of the Pacific Thus Mackenzie completed the first overland journey across North America N of Mexico Shortly after this historic exploit, he left the West, never to return He withdrew (c 1798) from the North West Company and became the principal figure of the XY Company Its union (1804) with the North West Company took him back to the old company. His *Voyages to the Frozen and Pacific Oceans* (1801) won for him wide recognition and a knighthood in 1802 Mackenzie was elected in 1805 to the legislative assembly of Lower Canada, but after serving for several years he returned (1808) to Scotland, where he lived the rest of his life See George Bryce, *Mackenzie, Selkirk, Sympson* (rev ed , 1926), biographies by M S Wade (1927), A P Woollacott (1927), and H H. Wrong (1927).

Mackenzie, Alexander, 1822–92, Canadian statesman, b Scotland Emigrating (1842) to Canada, he worked first as a stonemason in Kingston, Ont., then as a builder and contractor in Sarnia In Lambton he became editor (1852) of a Liberal newspaper Elected (1861) to the Canadian legislative assembly, Mackenzie supported the confederation movement and the Liberal leader, George Brown, he later (1882) wrote a biography of Brown. A member of the first dominion House of Commons (1867), Mackenzie headed the Liberal opposition in Sir John A. Macdonald's government, upon its resignation in 1873 he became the first Liberal prime minister of the dominion In 1878 Macdonald came back into power, and Mackenzie, who remained in Parliament until his death, again led the Liberal opposition (until 1880) His premiership, although honorable and industrious, was not notable See biography by William Buckingham and G W Ross (1892).

Mackenzie, Henry, 1745–1831, Scottish novelist, an Edinburgh attorney He is best known for his first novel, *The Man of Feeling*, published anonymously in 1771 This sentimental and humanitarian work was followed by *The Man of the World* (1773) and *Julia de Roubigné* (1777) *The Prince of Tunis* (1773) was his only successful play See H. W. Thompson, *A Scottish Man of Feeling* (1931).

McKenzie, Kenneth, 1801–61, American fur trader, b Scotland He was president of the Columbia Fur Company at the time of its union with the American Fur Company in 1827. He was then put in charge of American Fur Company interests on the upper Missouri By 1831 he had established posts at the mouth of the Yellowstone, the Bighorn, and the Marias rivers. Fort UNION, on the Yellowstone, was the most famous of these and was the best-built and best-equipped fort W of the Mississippi His usefulness in the fur trade was destroyed, however, when it was learned that, contrary to law, he had established a distillery at Fort Union See H. M Chittenden, *American Fur Trade of the Far West* (3 vols , 1902)

Mackenzie, Sir Morell, 1837–92, English physician and laryngologist A skillful surgeon, he was called to Germany to treat the crown prince, afterward Frederick III, emperor of Germany, who died of cancer of the larynx He was prompted by political and professional criticism to write *The Fatal Illness of Frederick the Noble* (1888). See biography by R. S Stevenson (1946)

McKenzie, Robert Tait, 1867–1938, Canadian-American sculptor and physical director, b Almonte, Ont , M D McGill Univ , 1892 He practiced medicine in Montreal and lectured at McGill until 1904, when he went to Philadelphia as professor and director of physical education at the Univ of Pennsylvania While working out the figure of an athlete scientifically, from averaged measurements, he discovered his ability as a sculptor Thereafter he produced some admirable figures in action, such as *The Sprinter* (Cambridge, England), *The Athlete* (Oxford), *The Competitor* and *The Supple Juggler* (Metropolitan Mus); *Benjamin Franklin as a Youth* and the Rev George Whitefield (Univ of Pennsylvania), and war memorials at Ottawa, Edinburgh (the Scottish-American Memorial), and Cambridge, England

Mackenzie, Sir William, 1849–1923, Canadian railroad builder and financier, b Ontario In the early 1870s he became a railroad contractor He constructed portions of the Canadian National and the Canadian Pacific railroads Entering (c 1888) into partnership with Sir Donald Mann, another Canadian Pacific contractor, he began the organization and construction of the far-flung network later to be known as the Canadian Northern Railway, of which Mackenzie became president. During the First World War the Canadian government decided (1917) to take over this railroad; it is now a part of the Canadian National Railways system. Mackenzie was knighted in 1911.

Mackenzie, William Lyon, 1795–1861, Canadian journalist and insurgent leader, b Scotland Emigrating to Upper Canada in 1820, he published (1824–34), first at Queenston, then at York (later Toronto), his noted *Colonial Advocate*. In it he vigorously attacked the governing clique called the Family Compact, and in 1826 his printing office was partly demolished Elected (1828) to the legislative assembly, Mackenzie was five times expelled for "libel" and five times reelected by his constituency. As a leader of the Reform party of Upper Canada he went to London in 1832 to obtain redress of grievances In 1834 he became the first mayor of Toronto In 1836 he founded the *Constitution* as a Reform party organ Enraged by the policies of Sir Francis Bond HEAD and by the defeat of the Reform party, Mackenzie and a group of insurgents attempted (1837) to seize Toronto, the capital, but the rebellion was quickly put down Mackenzie and others escaped to the United States. He set up a provisional government with fortified headquarters on Navy island in the Niagara river, but he was later imprisoned for 18 months by U S authorities for violating neutrality laws (see also CAROLINE AFFAIR) After his release he employed himself in newspaper work and writing until the proclamation of general amnesty allowed his return (1849) to Canada There he was again a member (1851–58) of the legislative assembly He was the grandfather of William Lyon Mackenzie King See biography by Charles Lindsey (rev. ed , 1908), Stephen Leacock, *Mackenzie, Baldwin, LaFontaine, Hincks* (1926 ed), E C Guillet, *The Lives and Times of the Patriots* (1938)

Mackenzie, provisional district, area 527,490 sq mi , one of the three provisional districts of the NORTHWEST TERRITORIES, est 1920 It lies between Yukon territory (on the west) and the district of Keewatin (on the east) and includes the lower two thirds of the Mackenzie valley, Great Bear Lake, Great Slave Lake, and many smaller lakes

McKenzie, city (pop 2,019), W Tenn , NNE of Jackson, inc as a city 1923 It is a processing and shipping center in a farm and timber area. Bethel College is here

Mackenzie, river of NW Canada, 2,514 mi long, second longest river in North America, flowing N and NNW to the Arctic Ocean Its basin lies between the Rocky Mts (on the west) and the LAURENTIAN PLATEAU (on the east) Much of the valley is heavily forested The soil is deep and well adapted to the growing of crops wherever the climate permits The Mackenzie proper is that part of the river (1,120 mi) from Great Slave Lake to the Arctic Above that, between Lake Athabaska and Great Slave Lake (312 mi), it goes under the name GREAT SLAVE or Slave river Flowing into Lake Athabaska are the chief headwater streams, the PEACE river and the ATHABASKA river There are a number of lakes which act as reservoirs, keeping the river from flooding more than it does, notably Lake Athabaska and Great Slave Lake, through which it passes, and Great Bear Lake, which discharges into the Mackenzie through Great Bear river At the mouth is a delta, nearly 80 mi by 100 mi in extent Though Peter Pond was possibly the first white man to enter (1777) the Mackenzie drainage area, Sir Alexander Mackenzie was the discoverer of that part of the river which bears his name He descended it to tidewater on the Arctic Ocean in 1789 Trading posts were established along the Mackenzie proper in the first decade of the 19th cent. The region was long the exclusive domain of the fur traders, in the 20th cent oil fields and mineral resources were found Below Great Slave Lake in the Mackenzie drainage area the chief trading posts are Fort Providence, Fort Simpson (opposite the mouth of the Liard river), Fort Wrigley, Fort Norman, Fort Good Hope, Fort McPherson, and Aklavik The Mackenzie is navigable from the Arctic to Great Slave Lake. Between Great Slave Lake and Lake Athabaska there are rapids (14 mi) which must be portaged Above these rapids there are over 700 mi of navigable waters. There is now regular air-mail service up and down the valley See F. L Waldo, *Down the Mackenzie through the Great Lone Land* (1923), R A Davis, *The Great Mackenzie* (1947), Leslie Roberts, *The Mackenzie* (1949).

Mackenzie King, William Lyon see KING, WILLIAM LYON MACKENZIE

Mackenzie Mountains, inaccessible and little explored range, lying partly in W Mackenzie dist. and partly in E Yukon territory, W of the Mackenzie river basin. In 1939 the Arnold Arboretum sponsored a scientific expedition to study the flora of the region.

mackerel, spiny-finned fish related to the tuna and bluefish Mackerel are characterised by their spindle-shaped bodies, their deeply forked tails, and a series of small, spiny finlets on the dorsal and ventral sides between the dorsal and ventral fins and the tail. The common mackerel (*Scomber*

scombrus), which travels in schools on both sides of the N Atlantic and in the Mediterranean, averages about a foot in length After spawning in deep water it swims to coastal waters in the spring and returns in late autumn to deeper waters. It is a popular food fish and there are large fisheries in Europe and America It is sold fresh, salted, and canned. The Spanish mackerel and the frigate mackerel are related forms

McKim, Charles Follen, 1847–1909, American architect, b Chester co , Pa , studied (1867–70) at the École des Beaux-Arts He was one of the founders of the firm of McKim, Mead, and Bigelow, which in 1879 became McKim, Mead, and White A vast number of important commissions came into their offices, in which McKim's spirit and taste were the controlling forces Following a policy of adhering to classic architecture and its Renaissance derivatives, they erected a long series of buildings with a restrained classical sobriety which turned the tide away from the vagaries of the prevailing romanticism Early examples of the style were the old Madison Square Garden (1891), New York, and the Boston Public Library (1888–95) McKim was an influential factor in the development of the Chicago World's Columbian Exposition, for which he built the Agricultural Palace He designed a fine series of clubhouses in New York, of which the University Club is one, a number of buildings for Columbia Univ , including the library (the present Low Memorial Library), the Pennsylvania RR station (1904–10), the J P Morgan private library, and many fine commercial and residential works His restorations include the work upon Thomas Jefferson's buildings at the Univ of Virginia and upon the White House at Washington McKim was associated with D H Burnham, Augustus Saint-Gaudens, and F L Olmsted, Jr , on the Senate Park Commission, which drew up plans for the development of Washington and the District of Columbia He was president of the American Institute of Architects and was largely responsible for the purchase of the historic Octagon Building in Washington to serve as the organization's headquarters He was first president of the American Academy in Rome, to the founding of which he had devoted years of zealous effort See biographies by A H Granger (1913) and Charles Moore (1929)

Mackinac (mă'kĭnô″), strait between the peninsula of Upper Michigan and Lower Michigan, separating Lake Huron and Lake Michigan In the Straits of Mackinac is Mackinac Island, and on the island is Mackinac Island city The name is a shortening of Michilimackinac, and in the course of history Mackinac has had varying and confusing applications The region was of great importance because it was a natural gathering place for nomadic Indians, the tribes fleeing before the conquering Iroquois stopped there and the place was a natural point of exchange and intertribal intercourse It became the center for the gathering of fur traders and a distributing point in New France, since it was a natural stopping place in the St Lawrence–Great Lakes communication The name has been applied to the island, to the whole fur-trading region supplied from there (greater than the drainage basin of the United States), to the northern mainland shore (St Ignace, sometimes called Ancient Michilimackinac), and to the southern mainland shore, where is Mackinaw City today and where the old fort stood (frequently called Old Mackinac or Old Mackinaw) In general, however, the name is in historical writing inclusive, meaning the island, St Ignace, and Old Mackinac, which were closely related and constituted one shifting settlement Jean Nicolet, sent out by Champlain in 1634–35, seems to have been the first white man to reach Mackinac Radisson and Groseilliers may have passed through the strait, and Father Alloues was the first of the heroic Jesuit missionaries known to have come to Mackinac Father Claude Dablon was on Mackinac island in 1670–71 Father Marquette came soon afterward, it was at his mission at St Ignace that Marquette first thought of seeking the great river, the Mississippi His companion, Jollet, was an important early trader With Duluth and Perrot, La Salle and Tonti, Mackinac became the great center of trade, and it remained the great military post of the Old Northwest for many years It lost some in importance when CADILLAC established Detroit (1701) The Jesuits had to abandon their old mission, and with the British conquest of Canada the post passed out of French control, the occupation by the British taking place in 1761 Two years later occurred one of the most stirring episodes of Northwest history when the Indians, aroused by the insurrection of Pontiac, massacred the garrison at Old Mackinac. The English regained the post, and in 1765 occurred the mysterious incidents of the command of Robert ROGERS at Mackinac (1765–68), he is suspected of conspiracy with the Spanish. The British post was threatened by the exploits of George Rogers CLARK in the American Revolution. In 1780–81 the fort and town were moved from Old Mackinac to the island. The Treaty of Paris in 1783 gave Mackinac to the United States, but it actually continued British until after Jay's Treaty It continued to be important because of the fur trade. In the War of 1812 one of the first actions of the war was the capture of Mackinac by the British (July 27, 1812) The Americans made an unsuccessful attempt to recapture it in Aug , 1814 The Treaty of Ghent gave it permanently into American ownership Mackinac was long the chief center of operations for John Jacob Astor's AMERICAN FUR COMPANY. Astor's withdrawal from the company in 1834 and the general decline of the fur trade marked the fortunes of the island After the '40s, the region, from being an important crossways, became more and more an out-of-the-way and forgotten shipping point Mackinac was associated with many great names It was rumored that the prince de Joinville when visiting there talked with and recognized Eleazer WILLIAMS, the putative Lost Dauphin Writers visited the place and wrote of it, among them Harriet Martineau, Margaret Fuller, William Cullen Bryant, and Constance Fenimore Woolson The island became a summer resort and was in 1875 made into a national park In 1894, however, the garrison was removed and the post abandoned, in 1895 the island became a state park. See Edwin O Wood, *Historic Mackinac* (1918)

Mackinaw City, resort village (pop 922), N Mich , on the south shore of the Straits of Mackinac, inc 1882 The region was well traveled during the 17th and 18th cent by traders, missionaries, and explorers French troops, sent to garrison Fort Michilimackinac here in 1715, remained for several years A rebuilt stockade of the fort and a zoo are in Fort Michilimackinac State Park Mackinaw City is the gateway to the Upper Peninsula

McKinley, William, 1843–1901, 24th President of the United States (1897–1901), b Niles, Ohio, educated at Poland (Ohio) Seminary and Allegheny College After service in the Union army in the Civil War, he returned to Ohio and became a lawyer at Canton He entered politics and was elected as a Republican to Congress in 1876 As a Congressman until 1891 (except for one term), he showed some sympathy for the "cheap money" policies of the Ohio radicals, though he opposed the continuance of the GREENBACK, he favored bimetallism, voted for the Bland-Allison Act, and advocated the original free-silver bill of 1890 At the same time he pleased the capitalist and industrial interests of Ohio by ardently championing protective tariffs The highly protective McKinley Tariff Act was unpopular and helped to bring about the Republican defeat and Grover Cleveland's victory in 1892 It had already cost McKinley his seat in Congress in the election of 1890, but he had attracted the attention of the powerful capitalist-politician Marcus A HANNA who from that time put the force of the efficiently organized Ohio Republican machine behind the ex-Congressman McKinley was elected governor in 1891 and again in 1893 Hanna in 1895 began a skillful and successful preconvention campaign to have McKinley nominated by the Republicans for President in 1896 The chief item on his conservative platform was endorsement of the gold standard Since the Democrats swung to the radical pole by nominating William Jennings Bryan with a platform favoring free silver, the issue was squarely joined Many conservative Democrats viewed their party's stand as reckless, and Hanna's handling of the campaign was a masterpiece of adroitness Conservatism and McKinley won The Republicans also had control of Congress, and in 1897 a thoroughgoing Republican tariff was adopted Interest then swung to external affairs There was much sympathy in the United States for the rebels in Cuba, who were seeking independence from Spain Relations between the United States and Spain grew worse, and the destruction of the battleship MAINE gave the advocates of war a rallying cry Though Spain had indicated willingness to make concessions, McKinley made the decision to ask Congress for a declaration of war—a decision that has been much debated since The SPANISH-AMERICAN WAR was brief, and from it the United States emerged a world power Expansionism, which was much decried as imperialism by its opponents, was paramount McKinley directed the peace commissioners to demand the Philippine Islands for the United States A more or less tight control was imposed on Cuba The President also signed the bill to annex Hawaii and supported the Open Door policy in China He and Secretary of State John Hay thus vigorously advanced the interests of the United States and American commerce The Currency Act of 1900 also consolidated the gold-standard policy on which McKinley had been elected in 1896 He was reelected in 1900, but his new administration was short On Sept 5, 1901, he addressed the Pan-American Exposition at Buffalo, N Y , advocating commercial reciprocity among nations The next day he was shot down by an anarchist, Leon Czolgosz, and on Sept. 14 he died Theodore ROOSEVELT succeeded him. See biography by C S Olcott (1916).

McKinley, Mount: see MOUNT MCKINLEY NATIONAL PARK.

McKinney, city (pop 8,555), co seat of Collin co , N Texas, NNE of Dallas, founded 1842 On the fertile blackland prairie, McKinney was one of the queen cotton cities before the Civil War Now it handles cotton, corn and other grains, pecans, onions, and truck and has small industries, including a textile mill

Mackintosh, Sir James (mă'kĭntŏsh), 1765–1832, English scholar Born in Scotland and educated as a physician there, he settled in London in 1788 His defense of the French Revolution, *Vindiciae Gallicae* (1791), was a spirited reply to Edmund BURKE, but after 1796 Mackintosh grew hostile to French radicalism He was admitted to the bar, practiced in England, and served as recorder of Bombay (1804–6) and judge in Bombay vice-admiralty court (1806–12) As a member of Parliament after 1812 he supported penal and parliamentary reform His writings include several histories See R J Mackintosh, *Memoirs of Sir James Mackintosh* (1835)

Macklin, Charles, 1697?–1797, stage name of Charles McLaughlin, English actor and playwright, b Ireland At first a strolling player, he later appeared in London (1734–53), mainly at the Drury Lane Theatre His greatest role was Shylock, and his interpretation of this and other characters restored respect for the original Shaksperian texts His acting was natural, but in private life his eccentric manners and morbid temper were well known. He wrote *Love à la Mode* (1759) and *The Man of the World* (1781), comedies which were actors' plays His rivals were James Quin and, later, Garrick. See E A Perry, *Charles Macklin* (1891).

Mack von Leiberich, Karl, Freiherr (kärl' frī'hĕr mäk' fŭn lī'burkh), 1752–1828, Austrian general In 1798 he led the Neapolitan army against the French Severely defeated in 1805, he surrendered his army to Napoleon I at Ulm

McLane, Louis, 1786–1857, American statesman, b. Smyrna, Del He studied law and was admitted (1807) to the bar He served in the U S House of Representatives (1817–27) and in the Senate (1827–29), resigning to become minister to England In England (1829–31) he succeeded in negotiating the opening of the British West Indies trade to the United States He was Secretary of Treasury (1831–33) in Andrew Jackson's cabinet, but when he refused Jackson's demand to transfer deposits from the Bank of the United States to state banks, he was transferred to be Secretary of State (1833–34) He was (1837–47) president of the Baltimore and Ohio RR and was again (1845–46) minister to England, while negotiations for the Oregon boundary were in progress

McLaughlin, Andrew Cunningham, 1861–1947, American educator and historian, b Beardstown, Ill , grad Univ of Michigan (B A , 1882, LL B , 1885) He taught history at the Univ of Michigan (1887–1906), becoming a full professor in 1891, and was professor of history at the Univ of Chicago (1906–29), serving as head of the department from 1906 to 1927 After 1929 he was professor emeritus From 1898 to 1914 he was an associate editor of the *American Historical Review*, acting as managing editor (1901–5) His reputation as an authority on constitutional history was acquired through such books as *The Confederation and the Constitution, 1783–1789* (1905), *The Courts, the Constitution, and Parties* (1912), *The Foundations of American Constitutionalism* (1932), and *A Constitutional History of the United States* (1935), which won the 1936 Pulitzer Prize in history He also wrote a biography of Lewis Cass (1891), *A History of the American Nation* (1899, rev ed , 1913), *America and Britain* (1918), and *Steps in the Development of American Democracy* (1920) He was joint editor with Albert Bushnell Hart of the *Cyclopedia of American Government* (3 vols , 1914)

Maclaurin, Colin, 1698–1746, Scottish mathematician and natural philosopher, considered in his time second only to Newton He was professor at Aberdeen and from 1725 at the Univ of Edinburgh He was an authority on fluxional calculus His writings include *Geometria organica* (1720), *A Treatise on Fluxions* (1742), *A Treatise of Algebra* (1748), and *An Account of Sir Isaac Newton's Philosophy* (1748)

Maclay, William (muklā'), 1734–1804, U S Senator (1789–91), b Chester co , Pa He was a lawyer and a provincial and state official before serving (1789–91) as U S Senator His journal, published in 1880 (new ed by Charles A Beard, 1927), is the prime account of the congressional debates of that period It reveals also Maclay's opposition to Alexander Hamilton's policies and his defense of the interests of the small farmer

McLean, John (muklān'), 1785–1861, American jurist, b Morris co , N J His family moved to Ohio, where he studied law, was admitted (1807) to the bar, and practiced in Lebanon He served in the House of Representatives (1813–16), was an associate justice of the Ohio supreme court (1816–22), and commissioner of the U S General Land Office (1822–23) President Monroe appointed him Postmaster General in 1823, and he was reappointed by John Quincy Adams McLean resigned in 1829 because of disagreement with Andrew Jackson

on the question of patronage Jackson, however, appointed him to the U S Supreme Court, where he served as an Associate Justice from 1829 until his death, he is perhaps best remembered for his dissenting opinion in the DRED SCOTT CASE

McLean, town (pop 1,489), extreme N Texas, E of Amarillo, in a farming region of the Panhandle, inc 1909

McLeansboro, city (pop 2,528), co seat of Hamilton co , SE Ill , in a farm area, inc 1840 Clothing is made here

MacLeary, Bonnie (muklā'rē), 1892–, American sculptor, b San Antonio, Texas, studied at the Art Students League and at Julien's academy, Paris Her monumental works are World War Victory Memorial, San Juan, P R , monument to Don Luiz Muñoz Rivera, Univ of Puerto Rico, Río Piedras, and Ben Milam monument, San Antonio, Texas Of smaller sculpture, *Ouch!* is in the Children's Museum, Brooklyn, N Y , and *Aspiration* is in the Metropolitan Museum

MacLeish, Archibald (mŭklēsh'), 1892–, American poet and public official, b Glencoe, Ill , grad Yale, 1915 His poetry was at first subjective and personal, as in *Poems, 1924–1933* (1933) Since the publication of *Conquistador* (1932), a narrative poem of the conquest of Mexico which won a Pulitzer Prize, MacLeish has steadily come to regard the artist as a responsible citizen whose art should be used to propagate democratic ideals His radio verse drama, *The Fall of the City* (1937), and a selection of his prose writings, *A Time to Speak* (1941) illustrate his stand In 1939 his appointment as librarian of the Library of Congress met bitter disapproval since he was not trained in librarianship, but he held the post until Dec , 1944, he then resigned and was Assistant Secretary of State until Aug , 1945 He was also director (1941–42) of the Office of Facts and Figures and assistant director (1942–43) of the Office of War Information

Maclennan, Hugh (hū' mŭklĕ'nun), 1907–, Canadian novelist, b Cape Breton Island, N S , grad Dalhousie Univ , 1929 After completing his Rhodes scholarship at Oxford in 1935, he took a Ph D in Roman history at Princeton (1940) He has written three novels, *Barometer Rising* (1941), *Two Solitudes* (1945), a study of the conflicts between English and French Canadians, and *The Precipice* (1948) Their success enabled him to give up teaching and devote his full time to writing

McLennan, Sir John Cunningham, 1867–1935, Canadian physicist, b Ingersoll, Ont , grad Univ of Toronto (B A , 1892, Ph D , 1900) He taught at the Univ of Toronto from 1892 to 1932, was professor of physics from 1907, and was dean of the school of graduate studies and research from 1930 He is known for his studies in the fields of radioactivity, low-temperature research, spectroscopy, and the treatment of cancer by radium. In 1935 he was knighted

Macleod, Fiona see SHARP, WILLIAM

Macleod, Henry Dunning (mukloud'), 1821–1902, Scottish economist, organizer of the first poor-law union in Scotland From 1868 to 1870 Macleod compiled a résumé for the government of bills of exchange laws He was the first Briton to explain credit, but his theories on the connection between credit and capital have been greatly criticized Among his works are *The Theory and Practice of Banking* (1856), *History of Economics* (1896), and one volume of a projected *Dictionary of Political Economy* (1858)

McLeod, John (mukloud'), 1788–1849, Canadian fur trader and explorer, b Stornoway, Scotland He came to the New World in 1811 as an agent of the Hudson's Bay Company He headed the first detachment of the earl of Selkirk's settlers into the Red River Settlement, which was to be the object of much bloody strife between the Hudson's Bay and the North West companies McLeod was prominent in that tense struggle, which continued until the union of the two companies in 1821 He helped to extend Hudson's Bay trade into the trans-Rockies West In 1821 he was head of Fort William After the union he had charge of the department of New Caledonia, and from 1826 to 1840 he was at Norway House, the transshipping post in the Northwest In 1830 he visited Scotland, and after his return in 1831 he was in charge of districts in E Canada Part of his valuable diary was published in George Bryce, *The Remarkable History of the Hudson's Bay Company* (1900)

Macleod, John James Rickard (mukloud'), 1876–1935, Scottish physiologist, educated at Aberdeen and Leipzig He was a professor at Western Reserve Univ (1903–18) and at the Univ of Toronto (1918–28) and later taught at the Univ of Aberdeen For the discovery of insulin and the studies of its use in treating diabetes he shared with F G Banting the 1923 Nobel Prize in Physiology and Medicine His works include *Diabetes* (1913), *Physiology and Biochemistry in Modern Medicine* (with others, 1918, 9th ed , *Macleod's Physiology in Modern Medicine*, 1941), and *Carbohydrate Metabolism and Insulin* (1926)

Macleod, Norman, 1812–72, Scottish clergyman He was one of the foremost preachers of his time, noted also for his work among the poor of Glasgow. He was editor of, and contributor to, *Good Words* (1860–72) and wrote *Eastward* (1866) and *Reminiscences of a Highland Parish* (1867) See the memoir (1876) by his brother, Donald Macleod

Macleod, town (pop 1,649), SW Alta , S of Calgary and W of Lethbridge, in an area of ranching and coal mining

Maclise, Daniel (mŭklēs'), 1806–70, British painter and illustrator, b Ireland He first attracted attention with a portrait of Sir Walter Scott, sketched without the novelist's knowledge He won (1829) the gold medal at the Royal Academy of Arts schools with *The Choice of Hercules* His character sketches contributed (1830–38) to *Fraser's Magazine* under the pseudonym Alfred Croquis were later published as *The Maclise Portrait Gallery* (1871) He was an excellent portraitist, but after the success of his *Snap-Apple Night* and *Mokanna Unveiling His Features to Zelica*, he devoted himself chiefly to historical painting In this genre are the water-glass paintings *Meeting of Wellington and Blucher* and *The Death of Nelson*, in Westminster Palace, London, where are also his *Spirit of Justice* and *Spirit of Chivalry* Other works are *Merry Christmas in the Baron's Hall* (Dublin National Gall), *Waterfall at St Weighton's Keeve, Cornwall* (Victoria and Albert Mus), and a portrait of Dickens (National Gall , London) He became a member of the Royal Academy in 1840 He illustrated Dickens's Christmas books, Moore's *Irish Melodies*, and Bürger's *Lenore* and made drawings for *The Story of the Norman Conquest* See memoir by W J O'Driscoll (1871)

McLoughlin, John (mŭklŏk'lĭn), 1784–1857, fur trader in Oregon, b Rivière du Loup, near Quebec Trained in medicine, he was first a post physician, then a trader, of the North West Company He went to London for the negotiations leading to the merger (1821) of the North West Company and the Hudson's Bay Company From 1824 to 1846 he was Hudson's Bay Company man in the Columbia river country when it was hotly disputed by British and Americans Fiery and generous, Dr McLoughlin used his power to control the Indians and expand trade He foresaw the rich farms of the Willamette valley, helped French Canadians to settle there, and—particularly on a London trip in 1838–39—urged a land-colonization scheme on the Hudson's Bay Company He himself had Oregon City platted At Fort Vancouver (now Vancouver, Wash), his headquarters after 1826, aid and shelter were given to American adventurers (Jedediah S Smith, Nathaniel J Wyeth, Hall J Kelley), missionaries (Jason Lee, Marcus Whitman), and settlers Some Americans feared his influence and were ungrateful for his aid His years after he retired (1846) to live in Oregon City were unhappy In 1849 he became a U S citizen See his letters to the Hudson's Bay Company governor and committee (3 vols , 1941–45), biographies by F V Holman (1907) and R S Johnson (1935), Eva Emery Dye, *McLoughlin and Old Oregon* (1900), R C Montgomery, *The White-headed Eagle* (1935)

Maclure, William, 1763–1840, American geologist, b Scotland The early part of his career was spent in London, where he made a fortune in business He made visits to America in 1782 and 1796 and on his third visit undertook an extensive survey, traveling on foot over large areas of the United States His *Observations on the Geology of the United States* (1809, 2d ed , 1817) and the geological map which accompanied it marked an epoch in American geological history In 1819 Maclure went to Spain, where he later founded an agricultural school, which did not long survive He returned to America (1824), he again attempted an agricultural school in connection with the socialistic community at New Harmony, Ind After the end of the experiment, he went to live in Mexico Maclure was president of the Philadelphia Academy of Natural Sciences from 1817 His works include also *Essay on the Formation of Rocks* (1818) and *Observations on the Geology of the West Indra Islands* (1832)

MacMahon, Marie Edmé Patrice de (marē' ĕdmā' patrēs' du makmaō'), 1808–1893, president of the French republic (1873–79), marshal of France He was of Irish descent MacMahon fought in the Algerian campaign, in the Crimean War, and in the Italian war of 1859 For winning a victory at Magenta (1859), Napoleon III created him duke of Magenta He was governor general of Algeria (1864–70) and a commander in the FRANCO-PRUSSIAN WAR, taking part in the great defeat at Sedan (1870) He aided (1871) in the bloody suppression of the COMMUNE OF PARIS, this episode strengthened his monarchist tendencies In 1873 the monarchist majority in the National assembly defeated THIERS and chose MacMahon president of France for a seven-year term MacMahon inaugurated a series of measures designed to repress the republicans and prepare the way for monarchy That the Third Republic was preserved despite his efforts was largely due to dissension among the monarchists, and France received its new constitution in the organic laws of 1875 In May, 1877, after arbitrarily replacing a republican by a royalist cabinet, MacMahon ordered new parliamentary elections; despite a clear republican victory at the polls, he again appointed a royalist ministry in October. This involved him in increasing conflict with the chamber of deputies and with GAMBETTA MacMahon had to give in and eventually was forced to resign Jules Ferry succeeded him

Macmanus, Terence Bellew (mŭkmă'nŭs), 1823?–1860, Irish rebel He first entered politics when Daniel O'Connell was imprisoned in 1844 and joined the "physical force" movement of 1848 After the failure of the Young Ireland revolt of 1848, he went into hiding with William Smith O'Brien in Tipperary. The patriots were caught and sentenced to death, but their sentences were commuted and they were transported to Van Dieman's Land (Tasmania) in 1849 In 1852 Macmanus, in company with Thomas Francis Meagher, escaped and reached San Francisco, where he died in poverty See Denis Gwynn, *Young Ireland* (1949)

McMaster, John Bach, 1852–1932, American historian, b Brooklyn, N Y , grad College of the City of New York, 1872 Having practiced engineering in New York city and written *Bridge and Tunnel Centres* (1875) and *High Masonry Dams* (1876), McMaster was appointed (1877) an instructor in civil engineering at the College of New Jersey (now Princeton Univ) On a trip (1878) to Wyoming to collect fossils and study geology, he was struck with the drama of the frontier and renewed his determination to write a history of the United States After the successful appearance of his first volume in 1883, he was offered a newly created professorship of American history at the Univ of Pennsylvania, where he remained until he retired in 1920 as professor emeritus His *History of the People of the United States* (8 vols , 1883–1913), covering the period from the American Revolution to the Civil War, is marked by an emphasis on social and economic affairs, by the use of newspapers and other contemporary sources previously neglected by historians, and by a simple and straightforward narrative He wrote a ninth volume, *A History of the People of the United States during Lincoln's Administration* (1927), a number of widely used school textbooks, *Benjamin Franklin as a Man of Letters* (1887), *Daniel Webster* (1902), *The Life and Times of Stephen Girard* (2 vols , 1918), and *The United States in the World War* (2 vols , 1918–20) See biography by E E Goldman (1943)

McMaster University see HAMILTON, Ont

McMasterville, village (pop 1,097), S Que , suburb of Belœil, on the Richelieu and E of Montreal

MacMechan, Archibald McKellar (mukmē'kun), 1862–1933, Canadian author, b Berlin (now Kitchener), Ont , grad Univ of Toronto (B A 1884), Ph D Johns Hopkins, 1889 He was professor of English language and literature at Dalhousie Univ from 1889 until shortly before his death His books, mainly on historical and literary subjects, include *Head-Waters of Canadian Literature* (1924), *Old Province Tales* (1924), *The Book of Ultima Thule* (1927), and *Red Snow on Grand Pré* (1931) *Late Harvest*, a volume of poems, appeared in 1934

McMechen (mukmē'kun), residential city (pop 3,726), W Va , in the industrial Northern Panhandle, on the Ohio and N of Moundsville, inc 1895

MacMillan, Donald Baxter, 1874–, American arctic explorer, b Provincetown, Mass , grad Bowdoin College, 1898, and studied at Harvard After a decade of teaching, he went on the expedition (1908–9) of Robert E Peary to the North Pole Later (1911, 1912) he made ethnological studies among the Labrador Eskimo Leader of the Crocker Land expedition (1913–17), MacMillan established a base at Etah, Greenland, from which he explored the Greenland coast and Ellesmere and Axel Heiberg islands By a notable march over the frozen ocean NW of Ellesmere Island he proved the nonexistence of Peary's supposed Crocker Land His experiences are told in *Four Years in the White North* (1918, new ed , 1933) He subsequently commanded a number of arctic expeditions and brought back much valuable scientific data In his polar expedition of 1925 he was accompanied by Richard E Byrd, who commanded a naval air unit of exploration For the Field Museum (now the Chicago Natural History Museum) he led expeditions to Greenland, Baffin Island, and Labrador in 1926 and 1927 28 In 1938 he brought back over 40,000 plants from the arctic As a member of the U S Naval Reserve, he was recalled to the navy in 1941, made a commander in 1942, and assigned to the hydrographic office in Washington Later he was placed in command of arctic expeditions in 1944, 1946, and 1947 In the 1944 voyage to Greenland, Baffin Island, and Labrador he made extensive air surveys and brought back some 10,000 photographs He received the Congressional Medal of Honor that year Sponsored by Bowdoin College, MacMillan conducted expeditions to Ellesmere Island in 1948 and to Baffin Island in 1949, returning with rare bird specimens and other material. The expedition of 1949 was his 28th voyage of arctic exploration. His writings include *Etah and*

Beyond (1927) and *How Peary Reached the Pole* (1934)

Macmillan, river rising in two main forks in E Yukon territory and flowing generally west 200 mi to the Pelly

McMinnville. 1 City (pop 3,706), co seat of Yamhill co, NW Oregon, SW of Portland in the Willamette valley, laid out 1855, inc as a town 1876, as a city 1882 A trade center and lumber-milling city, it operates its own power system It is the seat of Linfield College (Baptist, coeducational, 1857) **2** Town (pop 4,649), co seat of Warren co, central Tenn, ESE of Nashville, settled 1800, inc 1808 Wood and marble products, shoes, and hosiery are among its manufactures Numerous tree nurseries are in the county

MacMonnies, Frederick William (mukmŏ'nēz), 1863–1937, American sculptor and painter, b Brooklyn, N Y, studied with Augustus Saint-Gaudens and with Falguière in Paris His fountain for the Court of Honor at the World's Columbian Exposition, Chicago, 1893, brought him fame, and his other works, showing great craftsmanship and individuality of expression, include a statue of Nathan Hale (City Hall Park, New York), *Bacchante* (Luxembourg Mus, Paris, a replica in the Metropolitan Mus), a figure of Sir Harry Vane (Boston Public Library), central bronze doors and Shakspere statue (Library of Congress), army and navy groups for the Brooklyn Arch (Prospect Park, Brooklyn, N Y), *Winged Victory* (West Point, N Y), *Pioneer Monument* (Denver), and the Marne Battle Monument, Meaux, France *Civic Virtue*, designed for City Hall Park, New York, roused a storm of controversy and was eventually removed

McMurray, frontier settlement (pop 400), NE Alta, on the Athabaska river and NE of Athabaska It has an airport and is the northern terminus of the North Alberta Railway It is adjacent to Fort McMurray, a fur-trading post founded (1790) by the North West Company as Fort of the Forks, the post was taken over (1821) by the Hudson's Bay Company and rebuilt and renamed in 1875 In 1936 rich salt beds were discovered in the area Near-by bituminous sands, as yet little exploited, are considered by some geologists to contain the greatest oil reserves yet known in the world

MacMurray College for Women see JACKSONVILLE, Ill

McMurrough, Dermot see DERMOT MCMURROUGH

McMurry College see ABILENE, Texas

MacNab, Sir Allan Napier, 1798–1862, Canadian Tory leader, b Newark (now Niagara-on-the Lake), Ont As a youth he fought in some of the campaigns of the War of 1812 A staunch supporter of English policies, he commanded the men of Gore against the rebels in the uprising of 1837 and later took charge of the forces opposing the insurgents under William Lyon Mackenzie on the Niagara frontier In the legislative assembly of Canada he served from 1841 to 1857, he became prime minister in 1854, but he was forced to resign in 1856 In the last two years of his life MacNab was a member of the legislative council He was knighted in 1838 and made a baronet in 1858

MacNally, Leonard, 1752–1820, Irish political spy and informer He became known as a patriot before his admission to the English bar in 1783 and was one of the first members of the United Irishmen He defended many republicans in court, but his patriotic clients were invariably hanged After his death MacNally was proved to have been in the pay of the British government It was he who betrayed the United Irishmen and Lord Edward Fitzgerald (1797) and Robert Emmet (1803) MacNally wrote many dramatic pieces and the song *The Lass of Richmond Hill*

McNarney, Joseph Taggart, 1893–, American general, b Emporium, Pa, grad West Point, 1915 In the First World War he served with the U S Army Air Corps, and after he returned to the United States he held various army administrative posts In the Second World War, promoted (1942) brigadier general, he became deputy chief of staff (1942–44) under Gen George C Marshall and later (1945) served as acting supreme Allied commander in the Mediterranean theater of operations McNarney succeeded (Nov, 1945) Gen Dwight D Eisenhower as commanding general of the U S forces in Europe and of the U S army of occupation in Germany—where he altered the policy toward the German people to include amnesty for minor National Socialists Succeeded (March, 1947) by Gen Lucius D CLAY, McNarney became a representative on the United Nations military staff committee and then (April, 1949) was chosen to aid Louis JOHNSON in the unification of the U S armed forces

McNary, Charles Linza (muknâ'rē), 1874–1944, U S Senator from Oregon (1917–44), b near Salem, Oregon He was admitted to the Oregon bar (1898) and became prominent in the Republican party In the Senate he sponsored farm-aid measures and, as minority leader after 1932, supported much New Deal legislation, though he opposed Cordell Hull's reciprocal trade agreements and President F D Roosevelt's proposals for Supreme Court reform He ran for Vice President on the unsuccessful Republican ticket along with Wendell Willkie in the campaign of 1940

McNaughton, Andrew George Latta (mûknô'tun), 1887–, Canadian engineer and army officer, b Saskatchewan, grad McGill Univ (B S, 1910, M S, 1912) In the First World War he served in France and Belgium as a Canadian artillery officer As a major general (1929), he was chief (1929–35) of the general staff of Canada In 1935 he became president of the Canadian National Research Council In the Second World War he commanded the Canadian forces in Great Britain and staunchly supported the policy of keeping the Canadian army a complete and separate force McNaughton became a general in 1944, returned to Canada that year, and was appointed minister of national defense on the resignation of J L RALSTON over the compulsory service issue In Feb, 1945, he was defeated in a by-election and resigned He served (1946–48) as president of the Canadian Atomic Energy Control Board and in 1948 was made the dominion's permanent representative on the Security Council of the United Nations

MacNeice, Louis (muknēs'), 1907–, British poet, b Belfast, Ireland He was educated in England and became a teacher of the classics Together with W H Auden, Stephen Spender, and Cecil Day Lewis, he participated in the "Oxford revolt" against formal language, his poetry shows also the influence of T S Eliot and James Joyce He is a classical scholar, and his translations include the *Agamemnon* of Aeschylus (1936) MacNeice wrote *Out of the Picture* (1937), an experimental play, *Letters from Iceland* (with W H Auden, 1937), poems, *Poems, 1925–1940* (1940), *Springboard Poems, 1941–1944* (1945), and *Holes in the Sky Poems, 1944–47* (1948) See his *Modern Poetry a Personal Essay* (1938)

MacNeil, Hermon Atkins, 1866 1947, American sculptor, b Chelsea, Mass, studied in Paris and in Rome under J Q A Ward His first work of importance was for the World's Columbian Exposition, Chicago, 1893, but he is perhaps best known for his Indians and Western pioneers Among his monuments are the *Coming of the White Man* (Portland, Oregon), McKinley Memorial (Columbus, Ohio), Soldiers and Sailors Monument (Albany, N Y), Marquette Memorial (Chicago), *Pony Express* (St Joseph, Mo), and a relief of Washington for the Washington Arch (New York city) Among smaller sculptures are *Primitive Chant* and *The Sun Vow* (both Metropolitan Mus) and *Moqui Prayer for Rain* (Art Inst, Chicago) MacNeil designed the 25-cent piece (Liberty quarter) which was accepted in 1916 His first wife, Carol Brooks MacNeil (1871–1944), was also a sculptor

MacNeill, John Gordon Swift, 1849–1926, Irish politician and jurist A professor of law at King's Inn, Dublin, after 1882, and at the National Univ of Ireland after 1909, he was also a Nationalist member of Parliament from 1887 to 1919 Of his books, the best known are *Constitutional and Parliamentary History of Ireland till the Union* (1917) and *Studies in the Constitution of the Irish Free State* (1925) See his memoirs, *What I Have Seen and Heard* (1925)

McNicholas, John Timothy, 1877–, American Roman Catholic prelate archbishop of Cincinnati (1925–), b Kiltimagh, Co Mayo, Ireland Brought to the United States in 1881, he entered the Dominican order in 1894 and was ordained a priest in 1901 He received the degrees of lector (1904) and master (1916) of sacred theology from Minerva Univ in Rome From 1905 to 1909 he taught at Catholic Univ, then he was pastor (1913–16) of a church in New York city and served (1918–25) as bishop of Duluth, Minn The organizer and first national director of the Holy Name Society (1908), he edited (1909–17) the *Holy Name Journal* Becoming archbishop of Cincinnati in 1925, he devoted his attention particularly to educational and social questions In 1946 and again in 1949 he was elected president general of the National Catholic Educational Association, and he became associated with the National Catholic Welfare Conference He founded both the Athenaeum of Ohio (1928), a corporation controlling various institutions of higher learning in his archdiocese, and the Institutum Divi Thomae (1935), a graduate school of science

McNutt, Paul Vories, 1891–, high commissioner to the Philippines (1937–39, 1945–46), b Franklin, Ind, grad Indiana Univ, 1913, LL B Harvard, 1916 He taught in the law school of Indiana Univ (1917–33), becoming dean in 1925 He was national commander of the American Legion (1928–29) and governor of Indiana (1933–37) Under President F D Roosevelt he served as Federal security administrator (1939–45) and headed (1942–45) the War Manpower Commission

Macomb, Alexander (mukŏm'), 1782–1841, American general, b Detroit, Mich He entered the army in 1799 In the War of 1812 he assisted in the capture of Fort Niagara and Fort George (1813) On Sept 11, 1814, as brigadier general in command at Plattsburg, N Y, in the absence of Gen Ralph Isard, he repulsed the assault of a greatly superior force under Sir George Provost, this action, with the complete defeat of a squadron on Lake Champlain by Thomas Macdonough, caused the British to retreat to Canada He succeeded Gen. Jacob J Brown as commander in chief of the army in 1828 He was active in the Seminole War in 1835 See memoir by G H Richards (1833)

Macomb (mŭkŏm'), city (pop 8,764), co seat of McDonough co, W Ill, E of Keokuk, Iowa, laid out 1831, inc as a village 1841, as a city 1856 A trade and manufacturing center in a farm, clay, and coal area, it produces clay and metal products Western Illinois State College is here

Macon, Nathaniel (mā'kŭn), 1758–1837, American statesman, b Warren (now Edgecombe) co, N C He attended the College of New Jersey (now Princeton Univ) but left in 1776 to serve in the American Revolution Later he became a political leader in North Carolina and an ardent champion of states' rights He opposed the U S Constitution because he thought it gave too much power to the Federal government In the early years of the republic he was a national figure, serving as U S Representative (1791–1815, speaker of the House, 1801–7) and Senator (1815–28, president pro tempore of the Senate, 1826–28) He was a stout Jeffersonian, though briefly in Jefferson's second administration he headed a small faction called the Quids, who favored James Monroe rather than James Madison as the presidential candidate to succeed Jefferson From the time he opposed the Alien and Sedition Acts to the end of his career he stood for Jeffersonian ideas of personal liberty and states' rights He opposed the reestablishment of the Bank of the United States, all schemes for internal improvement, and (ironically enough) Macon's Bill No 2, which bears his name (see EMBARGO ACT OF 1807) Macon, Ga, and Randolph-Macon College are named for him Some of his correspondence was edited by Kemp P Battle (1902) See biography by W E Dodd (1903)

Mâcon (mâkŏ'), town (pop 18,221), capital of Saône-et-Loire dept, E central France, in Burgundy, on the Saône It is famous for the red wine of the region Mâcon was acquired by the French crown in the 13th cent, was added to Burgundy by the Treaty of Arras (1435), and was recovered by France in 1477 In the 16th cent it was a Huguenot stronghold Lamartine was born here

Macon (mā'kun, -kŏn) **1** City (pop 57,865), co seat of Bibb co, central Ga, at the head of navigation on the Ocmulgee and c 80 mi SE of Atlanta It was settled on the east side of the river in 1806 as Fort Hawkins, which was renamed Newtown (1821) Macon (for Nathaniel Macon) was laid out on the west bank (1823), and Newtown was annexed in 1829 It is the distributing, industrial, and shipping center for an extensive farm area producing cotton, truck, and livestock, industries include textile mills, farm-product processing plants, clay-product plants, and lumber mills Wesleyan College (for women, 1836), Mercer Univ (Baptist, coeducational, 1833), the state school for the blind, and a Negro junior college are here Sidney Lanier's birthplace is preserved Ocmulgee National Monument is not far from Macon **2** City (pop 2,261), co seat of Noxubee co, E Miss, SSW of Columbus and on the Noxubee, in a cotton, timber, and dairy area, inc 1836 **3** City (pop 4,206), co seat of Macon co, N Mo, S of Kirksville, founded c 1856, inc 1859 It is a shipping point for farm products and stock Coal mines are near by An osteopathic sanatorium is here

Macon, Bayou (bī'ŏ mā'kun), rising in SE Arkansas and flowing S into NE Louisiana to the Tensas river It was a rendezvous of the bandits Frank and Jesse James

Macphail, Agnes Campbell (mukfāl'), 1890–, Canadian legislator, b Ontario, of Scottish farmer parentage After some years of teaching, she was elected (1921) to the Canadian House of Commons as a representative of the United Farmers of Ontario and Labor, first woman in Canada to enter Parliament, she served until her defeat in 1940 On the formation (1932) of the Co-operative Commonwealth Federation, she became a leading member of this party She was elected in 1948 to the Ontario legislature

Macpherson, James, 1736–96, Scottish poet, b Ruthven, educated at King's and Marischal colleges (both at Aberdeen) and at the Univ of Edinburgh In 1760 his *Fragments of Ancient Poetry Collected in the Highlands* was published, followed by *Fingal* (1761), an epic in six books on a Norse invasion of Ireland, and *Temora* (1763) These purported to be translations from the Gaelic, and the last two he said were by the Irish bard Ossian The poems, written in a loose, rhythmical prose, filled with supernaturalism and melancholy, influenced powerfully the rising romantic movement in literature They were translated into Italian, French, and German and were widely quoted, as, for example, by Goethe in *Werther* Dr Johnson, Thomas Gray, and others expressed doubt as to the authenticity of the poems As a result of the controversy which followed, Macpherson's "original" texts were produced and were said to have been collected in the Highlands of Scotland After his death an

investigating committee of scholars agreed that Macpherson used some ancient Gaelic poems and traditions, but composed most of the poetry himself, and the "texts" were his forgeries To Macpherson rather than to Ossian must go credit for the Ossianic verse which enjoyed such popularity Macpherson also compiled histories, translated Homer, and held a colonial secretaryship in West Florida for two years See E D Snyder, *The Celtic Revival in English Literature* (1923)

McPherson, James Birdseye, 1828–64, Union general in the Civil War, b Sandusky co, Ohio, grad West Point, 1853 After teaching a year at West Point, he worked on various engineering projects In the Civil War, he became aide-de-camp to H W Halleck in Missouri and then chief engineer to U S Grant in the Union advance through Tennessee McPherson, promoted brigadier general in May, 1862, and major general in October, commanded the 17th Corps in the Vicksburg campaign, distinguishing himself at Port Gibson and Raymond He commanded the Dist of Vicksburg (July, 1863–March, 1864) and upon Grant's recommendation was made a brigadier general in the regular army (Aug, 1863) In the Atlanta campaign he ably commanded the Army of the Tennessee (Sherman's old command) until he was killed in the battle of Atlanta (July 28) His death was generally considered an immense loss to the army

McPherson, city (pop 7,194), co seat of McPherson co, central Kansas, between Salina and Hutchinson and on the old Santa Fe Trail, laid out 1872, inc 1874 It has oil refineries and ships for a large oil-producing area McPherson College, a Dunker institution, is here

Macquarie (mŭkwä'rē), river of New South Wales, Australia, rising in the Blue Mts and flowing 590 mi NW to the Darling river

Macquarie Island, uninhabited volcanic island, S Pacific, 850 mi SE of Tasmania, Australia, to which it belongs Rocky, with small glacial lakes, it is 21 mi long and 3 mi wide Elephant seals are found here

McRae, city (pop 1,595), co seat of Telfair co, S central Ga, SE of Macon and on the Little Ocmulgee river, in a farm and dairy area, settled in the mid-19th cent by Scotch, inc 1874 Helena is contiguous

macramé, see LACE

Macready, William Charles (mŭkrē'dē), 1793–1873, English actor and manager Son of a provincial manager, he first appeared as Romeo in his father's company in 1810 His London debut (1816) was in the role of Orestes in *The Distressed Mother*, and in 1817 he appeared with Mrs Siddons at John Kemble's benefit After his portrayal of Richard III at Covent Garden in 1819, he established himself as a tragedian of the first rank In 1822 he traveled to France and Italy, where he observed Talma, and in 1823 he played Othello, King John, Shylock, Romeo, and Virginius He made his first visit to the United States in 1826, achieving moderate success, and in 1827 returned to England to play Macbeth Macready sponsored and acted in Bulwer-Lytton's *Lady of Lyons* (1838) and acted in his *Richelieu* (1839) He was manager of Covent Garden (1837–39) and later of Drury Lane (1841–43), where he played opposite Helen Faucit In 1843 he again visited the United States, increasing his audience, but on his last visit (1849) to the United States, the Astor Place riot, instigated against him by partisans of Edwin Forrest, occurred He retired in 1851 A scholar of the theater, he was excellent as Lear and Richard III but was always eclipsed by Kean See his *Reminiscences* (ed by Sir Frederick Pollock, 1872) and *Diaries, 1833–1851* (ed by William Toynbee, 1912), William Archer, *William Charles Macready* (1890), M J Moses, *The Fabulous Forrest* (1929)

McReynolds, James Clark (mŭkrē'nŭldz), 1862–1946, U S Attorney General (1913–14) and Associate Justice of the Supreme Court (1914–41), b Elkton, Ky, grad Vanderbilt (1882) and Univ of Virginia law school (1884) He was a professor of law at Vanderbilt when, although a Democrat, he was appointed Assistant Attorney General by Theodore Roosevelt He served from 1903 to 1907, and later in practice in New York he still was a special assistant to the Attorney General in several antitrust cases He continued his active antitrust work as Attorney General. As a member of the Supreme Court he had a name as a strict constructionist, he wrote more opinions finding acts of Congress unconstitutional than any other Supreme Court Justice He particularly found the acts of the New Deal contrary to the Constitution and was a key figure in F D Roosevelt's unsuccessful attack on the Supreme Court

Macrinus (Marcus Opellius Severus Macrinus) (mukrī'nŭs), 164–218, Roman emperor (217–18) A Moorish officer, prefect of the Praetorian Guard under Caracalla, he was threatened by the emperor's murderous plans Macrinus therefore had the emperor killed and became the first emperor who was not a senator He himself lost the favor of the soldiers, who revolted. He was killed, and Heliogabalus succeeded.

Macrobius (mŭkrō'bēŭs), fl. c 400, Latin writer and philosopher. His *Saturnalia*, a dialogue in seven books chiefly concerned with Vergil, incorporates valuable quotations from other writers His commentary on Cicero's *Dream of Scipio* was popular in the Middle Ages, it influenced Chaucer.

McSherrystown, borough (pop 2,128), S Pa, SE of Gettysburg, inc 1882

MacSwiney, Terence James (mŭkswē'nē), 1880–1920, Irish patriot, one of the martyrs of Sinn Fein He was arrested after the Easter Rebellion of 1916 and again in 1920 MacSwiney, who was lord mayor of Cork, began a hunger strike after he was sentenced to two years' imprisonment for sedition He died Oct 25, 1920, after a fast of more than two months His death and those of three fellow hunger strikers caused a tremendous sensation in the British Isles and elsewhere, and the British government was denounced for murder Sinn Fein soon abandoned the hunger strike as a political weapon.

Mactan (mŭktän'), small coral island (pop 40,103), Philippine Islands, off the east coast of Cebu Magellan was killed by natives here in 1521.

MacVeagh, Franklin (mukvā'), 1837–1934, U S Secretary of the Treasury (1909–13), b Chester co, Pa, grad Yale, 1862, and Columbia School of Law, 1864, brother of Isaac Wayne MacVeagh He entered (1866) the wholesale grocery business in Chicago, and his company became outstanding in its field As head of the Chicago Citizens' Association he was able to force salutary civic reforms He was given his cabinet post by President W H Taft

MacVeagh, Isaac Wayne, 1833–1917, American diplomat, U S. Attorney General (1881), b Chester co, Pa, grad Yale, 1853 Wayne MacVeagh was admitted (1856) to the bar and was (1859–64) district attorney of Chester co He became prominent in the Republican party After he was (1870–71) minister to Turkey, he became (1877) chairman of the MacVeagh Commission appointed by President Hayes to adjust political difficulties in Louisiana following the disputed election He was appointed to the cabinet by President Garfield, but resigned on the accession of Chester A Arthur He served (1893–97) as ambassador to Italy and became (1903) chief counsel of the United States in the Venezuela Claims question

Macy, Anne Sullivan, 1866–1936, American educator, friend and teacher of Helen Keller, b Feeding Hills, Mass Placed in 1876 in Tewksbury almshouse, she was later admitted to Perkins Institution for the blind, since her eyes had been seriously weakened by a childhood infection She was graduated in 1886 A series of operations had restored her sight, but she had learned the manual alphabet in order to talk with Laura Bridgman In 1887 she was chosen to teach Helen Keller and thereafter remained her constant companion In 1905 Anne Sullivan married John Macy, who died in 1932 See biography by Nella Braddy (1933)

Macy, John Albert, 1877–1932, American author and critic, b Detroit, grad Harvard, 1899 His books include a biography of Poe (1907), *The Spirit of American Literature* (1913), *The Critical Game* (1922), and *About Women* (1930) He married Anne Sullivan in 1905

Madach, Emeric (mŏ'dach), Hung *Madách Imre* (Im'rĕ), 1823–64, Hungarian poet, a member of parliament He is best known for his dramatic epic, *The Tragedy of Man* (1861, Eng tr, 1908), which deals with the rise and fall of mankind An adapted version is frequently performed in Hungarian theaters.

Madagascar (mădugă'skur), island (227,737 sq mi, pop c 4,155,000), in the Indian Ocean It is, with its dependencies, an overseas territory of the French Union The capital is Tananarive One of the world's largest islands, Madagascar is separated from Africa by the Mozambique Channel Well-forested mountains occupy the interior Coffee, the principal export, is raised in the uplands, and a variety of crops are grown on the fertile coastal plains The main overseas ports are Tamatave (connected by rail to Tananarive) and Majunga There are good highways More than two thirds of the inhabitants are Malagasy (a Malay stock), the largest tribe being the Hova (c 900,000) The Portuguese (16th cent) and English (17th cent.) vainly attempted to found permanent settlements, and the island became a haunt of pirates and a field for European adventurers The Hova kings Andrianampoina (1794–1810) and Radama (1810–28) conquered nearly the whole island and established friendly relations with the British, From 1864 to 1895 Ranilaiarivony, chief minister during three reigns, played off England against France, but in 1895 a French force took Tananarive Pacification was completed by Galliéni, the first governor (1896–1905), who was very popular for his fair dealing. In the Second World War the colony adhered to the Vichy French government, despite pressure from the British, who occupied it in 1942 Since 1946 Madagascar has been ruled by a governor general with the aid of a representative assembly; it is represented in the French parliament. See S E. Howe, *The Drama of Madagascar* (1938), Olive Murray Chapman, *Across Madagascar* (1943)

Madai (mă'dāī, mă'dī), biblical form of the name of the Medes Gen 10 2, 1 Chron 1.5.

Madame. In France the eldest daughter of a king or a dauphin and the wife of Monsieur (eldest of the king's brothers) were referred to by the simple title Madame without their Christian names. Henrietta of England, in particular, is remembered under that title.

Madang (mä'dăng), town, on E New Guinea, in the Territory of New Guinea, on Astrolabe Bay. It exports copra and gold In the Second World War it was the site of a Japanese air base established in 1942; it was regained the following year by Allied forces.

Madariaga, Salvador de (salvadhōr' dā mădhăr-yä'gä), 1886–, Spanish author and diplomat He is a cosmopolitan who writes with equal ease in Spanish, French, and English Although he has written poetry, novels, and drama, his essays are most noted In 1916 he moved to London, where he became a journalist He was professor (1928–31) of Spanish literature at Oxford In 1921 he entered the Secretariat of the League of Nations and in 1922 was placed at the head of the disarmament section Madariaga served republican Spain as ambassador to the United States in 1931, as ambassador to France (1932–34), and as delegate of Spain on the Council of the League of Nations (1934–36) He resigned the last post because of dissatisfaction with his treatment by the republic He took no part in the civil war (1936–39) Some of his best-known works are *The Genius of Spain*, written originally in English (1928) and appearing as *Semblanzas españolas* in Spanish, *Spain* (1930), the historical essays on Christopher Columbus (1940) and Hernán Cortés (1941), *The Rise of the Spanish American Empire* (1947), and *The Fall of the Spanish American Empire* (1947) One of his best known books is *Ingleses, franceses, españoles* [Englishmen, Frenchmen, and Spaniards] (1928), a penetrating comparison of national psychologies Some of his political essays are *Disarmament* (1929), *Theory and Practice in International Relations* (1937), and *Anarchy or Hierarchy* (1937)

Madawaska (mădŭwŏs'sku), town (pop 4,477), N Maine, a port of entry on the St John opposite Edmundston, N B, inc 1869 Paper mills were established here in 1925–26 The town was settled by Acadians in 1785

Madawaska (mădŭwŏ'sku), river rising in S Ontario in Algonquin Provincial Park and flowing east through several lakes to Chats Lake, a widening of the Ottawa river W of Ottawa

Madden, Sir Frederic, 1801–73, English antiquarian and paleographer As a member of the British Museum staff from 1828 and as head of the manuscript department from 1837, he did notable work in editing Anglo-Saxon and Norman-French texts and collating the manuscripts of Cædmon for Oxford His edition of Matthew of Paris's history (1866–69) is noteworthy Other works he edited include *The Ancient English Romance of Havelok the Dane* (1828), *The Ancient English Romance of William and the Werwolf* (1832), *The Old English Versions of the Gesta Romanorum* (1838), and, with Josiah Forshall, the Wyclif version of the Bible (4 vols, 1850)

madder, Old World dye plant (*Rubia tinctorum*), which has whorled leaves and small yellowish flowers followed by berries It has a long, fleshy root, from which are made various fast and beautiful pigments, such as madder purple and madder orange The plant was known to many ancient peoples—madder-dyed cloth has been found in old Egyptian mummy cases—and has been cultivated in Europe for many centuries Until the artificial production of alizarin, the color principle of madder, which is also the name of the dye, the plant was the most important dyestuff source. It was also used medicinally in ancient times and has been utilized in science (because of its power to dye growing bones) for the study of bone development. The intensity of the color in the root increases with the age of the plant, and it is therefore usually left in the ground for from 18 to over 20 months or is stored in cellars to ripen

Madeira, (mudēr'u, mudā'ru), village (pop 1,384), SW Ohio, near Cincinnati

Madeira (mudā'rŭ), river, formed by the junction of the Beni and Mamoré rivers on the Bolivian-Brazil border It flows north along the border, then northeast through swamps and rain forests of Brazil to the Amazon below Manaus With the Mamoré, it is c 2,000 mi long and is the greatest tributary of the Amazon It is navigable by ocean vessels to the falls and rapids near Pôrto Velho, where the Madeira-Mamoré railroad begins a 227-mile run to Guajará-Mirim on the Mamoré.

Madeira (mudēr'u, mudā'ru), island, c 35 mi long, far off the coast of Morocco and SW of Portugal, in the Atlantic. Mountain peaks descend precipitously into deep, green valleys and, advancing to the sea as precipitous basalt cliffs, give the island unusual scenic beauty The delightful climate, marred only by the seasonal *leste*, a hot south wind, makes Madeira an attractive year-round health resort, particularly for tuberculous patients. Its chief town is Funchal. Madeira is the largest of the

Madeira Islands (c.800 sq. mi.; pop. 250,124), a group including one other inhabited island, Porto Santo, and a number of small islands divided into two groups (Desert Islands and Savage Islands). The archipelago is coextensive with Funchal dist, administratively an integral part of Portugal; Funchal is the capital. The islands produce Madeira wine, for which they are famous, and the well-known Madeira embroidery. Reed furniture and baskets are made. The tourist and resort trade is of the utmost importance. Though the islands were known and put on maps in the 14th cent., it is traditional to say that João Gonçalves Zarco and Tristão Vaz Teixeira, under orders of Prince Henry the Navigator, discovered Porto Santo in 1418 and Madeira in 1419. There were settlements before 1425. The islands have taken an inconspicuous part in Portuguese history except for a violent and unsuccessful outbreak against the Carmona government in 1921.

Madeira wine, red or amber fortified wine which is matured about six years in the cask and improved by heat and motion. The chief types are sercial, a dry wine, bual, rich, with a fine bouquet, and malmsey, a sweet dessert wine.

Madeleine (mă'dŭlĭn, Fr mädlĕn') [Fr. =Magdalen, i.e., Mary Magdalen], large church of Paris, in the Place de la Madeleine. It was planned originally by J. A. Gabriel as part of his layout for the Place de la CONCORDE, the location being selected so as to close the vista of the Rue Royale. The building was begun in 1764, but construction was halted by the French Revolution. Napoleon I selected Barthélemy VIGNON to convert the structure into a Temple of Glory. Vignon worked on the Madeleine from 1807 until his death in 1828, and his successor, J. J. M. Huvé, completed it in 1842. After the Bourbon restoration the building became a church again. Externally it is a peripteral temple of the Roman Corinthian order, set upon a basement 23 ft. high, with its columns 63 ft. high surpassing the height of all those of the ancient Greek or Roman temples. The interior contains a vestibule, a nave of three bays covered by domes on pendentives, and a semicircular apse. The building is without windows, and light is furnished by an oculus in the crown of each dome.

Madelia (mădē'lĭyu), village (pop. 1,652), S Minn., S of New Ulm, in a farm area, settled 1855, platted 1857, inc. 1873.

Madera (mudă'ru), city (1940 pop. 6,457, 1947 special census pop. 9,223), co. seat of Madera co., central Calif., NW of Fresno in the San Joaquin Valley, laid out 1876, inc. 1907. Lumber, wine, olive oil, and cottonseed oil are among the city's products. The Madera Canal, coming into this region from Friant Dam, is part of the CENTRAL VALLEY PROJECT.

Madero, Francisco Indalecio (frănsĕ'skō ēndälā'syō mädhā'rō), 1873–1913, Mexican statesman, president of Mexico (1911–13). A champion of democracy and social reform, he established various humanitarian institutions for the peons on his family's vast estates in Coahuila. In 1908, after Porfirio DÍAZ announced that Mexico was ready for democracy, Madero published *La sucesión presidencial en 1910*, a mild protest against the Díaz regime, the book made Madero a national figure. In 1910 he was the Anti-Reelectionist party's presidential candidate, with a program emphasizing effective suffrage and non-reelection. Díaz, at first contemptuous of his opponent, finally imprisoned Madero and won the election, as usual, without difficulty. Madero, released, fled to Texas and there proclaimed a revolution. Returning to Mexico, he found several groups in Chihuahua already in arms. These rebels, some led by Francisco VILLA, rallied to Madero's standard. On May 9, 1911, they captured Juárez, the prestige of the government was destroyed. At almost the same time an independent band rose under ZAPATA in the south. Throughout the republic the movement quickly gathered strength. The revolution triumphed. Díaz resigned (May 25, 1911). Madero, elected president, took office in Nov., 1911. His administration was anything but successful, and he was unable to accomplish any notable reforms because of division among his followers and his own administrative inability. The revolutionary forces, unleashed, continued active. In Feb., 1913, a revolution broke out in the capital. Victoriano HUERTA, appointed commander of the government forces, plotted with the rebels for Madero's fall. Finally, after bloody fighting — the "tragic ten days" (Feb. 9–18)—Huerta completed these negotiations. He had Madero arrested and then assumed power. Madero was shot, allegedly in an attempt to escape.

Madhya Bharat or **Madhyabharat** (mădyŭbŭ'rut), state (46,273 sq. mi.; pop. c.7,150,000), W India. Indore is the capital. It comprises 20 former princely states, including Indore and Gwalior.

Madhya Pradesh (măd'yŭ pră'dĭsh), state (130,323 sq. mi., pop. 19,647,781), central India, until 1950 called Central Provs and Berar. Nagpur is the capital. The state consists, from north to south, of three upland zones separated by plains. Adequate rainfall and plentiful good soil permit a prosperous, predominantly agricultural economy. Grains, especially wheat, are the main crops of the north. In the southeast rice is the largest crop. The abundant cotton of the southwest (especially Berar) makes this state second only to Bombay in cotton production. Spinning and weaving are the chief industries. Transportation is adequate in the areas that yield coal and manganese in the western part of the central upland, but deficient generally throughout the east. The aboriginal population (c. 5,000,000) reflects the comparatively recent development of Madhya Pradesh. Nominally within the Mogul empire, it was ruled during the 16th and 17th cent. by the Gonds and in the 18th cent. by the Marathas. Great Britain conquered a part in 1820. Berar, originally belonging to the domain of the Nizam of Hyderabad, was incorporated in 1903. In 1947 and 1948 the area was enlarged by the accession of all the surrounded princely states and many of those on the border.

Madian (mā'dēŭn), variant of MIDIAN.

Madill (mudĭl'), city (pop. 2,594), co. seat of Marshall co., S Okla., between the Red and Washita rivers, in a farm area producing livestock and oil, settled c. 1900.

Madison, Dolly, 1768–1849, wife of President James Madison, b. near present Guilford College, N.C. Pretty, sensible Dolly (not Dorothy) Payne was brought up in Quaker simplicity and was first married (1790) to a Quaker, John Todd, who died in the yellow-fever epidemic of 1793. She left the Friends to marry Madison in 1794, and in later years as official hostess for Thomas Jefferson (1801–9) and for her husband both in the White House and at MONTPELIER she was noted for the magnificence of her entertaining as well as for charm, tact, and grace. See biographies by E. L. Dean (1928) and Katherine Anthony (1949).

Madison, James, 1751–1836, 4th President of the United States (1809–17), b. Port Conway, King George co., Va. (on the Rappahannock), grad. College of New Jersey (now Princeton Univ.), 1771. Like Washington and others of the Virginia planter class, he opposed the colonial measures of the British and took the patriot side. In 1776 he helped to draft a constitution for the new state of Virginia, already putting to use his great store of knowledge about constitutional law, which was to grow greater with the years. He served in the Continental Congress from 1780 to 1783, and in 1787–88 and he saw with clear eye the weakness of Congress and of the executive under the Articles of Confederation. He did not forget when he was serving in the Virginia legislature (1784–86), playing a prominent part in disestablishing the Anglican Church in Virginia. Madison was an important figure in bringing about the conference between Maryland and Virginia concerning navigation of the Potomac. The meetings at Alexandria and Mt. Vernon in 1785 led to the Annapolis Convention in 1786, and at that conference he worked successfully to have the FEDERAL CONSTITUTIONAL CONVENTION called in 1787. There were, of course, many other men who were hoping and laboring for a revision of the form of government, but Madison and Alexander Hamilton were more than the others spokesmen and leaders in the move to form the new union. At the convention he and James WILSON were adept at formulating and crystallizing the proposals for the new government, and after the storms of argument had been cleared by compromise, Madison's was the chief hand in the actual drafting of the Constitution of the United States. His journals are the principal source of later knowledge of the convention. He fought to get the Constitution adopted. He contributed with Alexander HAMILTON and John JAY to the brilliantly argumentative FEDERALIST PAPERS, and in Virginia he led the forces for the Constitution against the opposition of Patrick HENRY and George MASON. As a Congressman from Virginia (1789–97) he had a hand in getting the new government established in practice, and he was a strong advocate of the first 10 amendments to the Constitution, generally known as the Bill of Rights. Yet, though modern historians have demonstrated the conservative nature of the Constitution and its founders, Madison was opposed to the conservative wing in the Washington administration, a steadfast enemy of Alexander Hamilton, and a steadfast supporter of Thomas JEFFERSON. He attacked the Alien and Sedition Acts and prepared the protesting Virginia resolutions (see KENTUCKY AND VIRGINIA RESOLUTIONS). When Jefferson triumphed in the election of 1800, Madison triumphed too and in 1801 became Secretary of State. He served through both of Jefferson's terms, and he was Jefferson's choice as presidential candidate. As President he had to deal with the results of the foreign policy that he had as Secretary of State helped to shape. The EMBARGO ACT OF 1807 was in effect dissolved by Macon's Bill No. 2. The bill provided that if either Great Britain or France should remove restrictions on American trade, the President was empowered to reimpose commercial nonintercourse with the other. Madison, accepting an ambiguous French statement as a bona fide revocation of the Napoleonic decrees on trade, resumed nonintercourse with Great Britain. This move was, however, only a minor incident in turning Jefferson's peace policy toward war with Great Britain. Far more important in bringing on war were the activities of the "war hawks," led by Henry Clay and John C. Calhoun who, hungry for conquest of Canada and for free expansion, clamored for action. They helped to bring on the declaration of war against Great Britain on June 18, 1812. The WAR OF 1812 was the chief event of Madison's administration. It proved to be difficult. New England merchants and industrialists were already disaffected, and their malcontent grew until at the Hartford Convention they talked of sedition rather than continuing "Mr. Madison's War." Even the friends of the President and the promoters of the war grew discouraged, as the fighting went badly. Victories in late 1813 and in the autumn of 1814 lifted the gloom somewhat, but the climax of disaster came in Sept., 1814, when the British took Washington and burned the White House. Soon afterward the war reached a happy conclusion in the Treaty of Ghent. Madison remained in office to see the beginning of the national expansion after the war and encouraged the new nationalism which hastened the split in the Democratic party, evident in the rise of Jacksonian democracy. Through these upheavals Madison lived quietly with his wife, Dolly Madison, after his retirement in 1817 to MONTPELIER. His last years were, however, disturbed somewhat by financial worries, for their lavish hospitality and elegantly gracious living beggared the ex-President and the "father of the Constitution." His writings were edited by Gaillard Hunt (9 vols., 1900–1910). See biographies by Hunt (1902) and Abbot E. Smith (1938), Irving Brant, *James Madison, the Virginia Revolutionist* (1941), *James Madison, the Nationalist* (1948), and *James Madison, Father of the Constitution* (1950), Adrienne Koch, *Jefferson and Madison the Great Collaboration* (1950).

Madison. **1** Resort town (pop. 2,245), S Conn., on Long Island Sound, set off from Guilford 1826. The Graves House dates from 1675. **2** Town (pop. 2,720), co. seat of Madison co., N Fla., near the Ga. line and the Suwannee river, settled in the 1830s. It is a trade center for an agricultural area. The city park is on the site of a Seminole War stockade. Near by is Cherry Lake Farms, a U.S. resettlement development. **3** City (pop. 2,045), co. seat of Morgan co., N central Ga., ESE of Atlanta, inc. 1809. It is the trade center for a farm area. **4** Industrial village (pop. 7,782), SW Ill., on the Mississippi and adjoining Granite City, inc. 1891. The steel industry predominates. There are terminal railroad yards, a meat-packing plant, and a planing mill. **5** City (pop. 6,923), co. seat of Jefferson co., SE Ind., on the Ohio NE of Louisville, Ky., settled c. 1809. It is a shipping point for farm produce. It has many pre-Civil War homes in a beautiful countryside. Some of the near-by waterfalls are in Clifty Falls State Park. **6** City (pop. 1,198), SE Kansas, on the Verdigris and S of Emporia, in a farm area, laid out 1879, inc. 1885. **7** Town (pop. 3,836), central Maine, on the Kennebec above Skowhegan, inc. 1804. Its water power developed textile and paper mills. Lakewood, a resort, is in the town. **8** City (pop. 2,312), co. seat of Lac qui Parle co., W Minn., SE of Ortonville near the S Dak. line, settled c. 1875, platted 1884, inc. as a city 1902. It is a trade center for a livestock, dairy, and grain region. **9** City (pop. 1,812), co. seat of Madison co., NE Nebr., S of Norfolk and NW of Omaha, in a prairie agricultural area, settled 1868, inc. 1873. **10** Residential borough (pop. 7,944), NE N.J., SE of Morristown, settled 1685, called Bottle Hill to 1834, inc. 1889. Sayre House (1745) was Anthony Wayne's headquarters. Madison's greenhouses supply florists with roses. DREW UNIVERSITY is here. **11** Market town (pop. 1,683), N N.C., on the Dan and NNE of Winston-Salem, in a farm area, laid out 1818. **12** City (pop. 5,018), co. seat of Lake co., SE S Dak., NW of Sioux Falls, platted 1873. It is the trade and shipping center for a farm region near Lakes Madison and Herman. The General Beadle State Teachers College (1881) is here. **13** Town (pop. 1,205), co. seat of Boone co., S W Va., SW of Charleston and on the Little Coal river, inc. 1906. **14** City (pop. 67,447), state capital, and co. seat of Dane co., S Wis., on an isthmus between Lakes Monona and Mendota, in the Four Lakes group, founded 1836, inc. as a village 1846, as a city 1856. Through the efforts of James Duane DOTY, Madison was chosen territorial capital before it was settled. It is the seat of the state university (see WISCONSIN, UNIVERSITY OF) and also the trading and manufacturing center of a fertile dairy region. Many parks, dotting the wooded lake shores, make it an attractive residential city. Among points of interest are the elaborate capitol, housing the legislative library organized by Charles McCARTHY, the capitol annex; and Vilas Park, containing a zoo. A state hospital for the insane and a sanatorium are near by. Madison is a cultural center and a focus of Federal and local government agencies.

Madison, river 183 mi. long rising in NW Wyoming in Yellowstone National Park. It flows generally

N through Montana to join the Jefferson and the Gallatin at the Three Forks of the Missouri.

Madison, Mount. see PRESIDENTIAL RANGE.

Madison College see NASHVILLE, Tenn.

Madisonville. 1 City (pop 8,209), co seat of Hopkins co, W Ky, ENE of Paducah, settled 1807 It is a trade and shipping center for an area of farms, timber, coal, and oil and it has food-processing plants 2 City (pop 2,095), co seat of Madison co, E central Texas, NNW of Houston

Madmannah (-măn'ŭ) [Heb, =dunghill], place, SW Palestine, perhaps the same as BETH-MARCABOTH. Joshua 15 31, 1 Chron 2 49

Madmen [Heb, =dunghill], unidentified town, in the plains E of the Red Sea Jer 48 2

Madmenah (mădmē'nŭ) [Heb, =dunghill], unidentified village, N of Jerusalem Isa 10 31

Madoc or **Madog** (both mă'dŭk, mă'-) (Madoc ap Owain Gwynedd) fl 1170?, quasi-historical Welsh prince Welsh legend has it that Madoc, a son of Owain Gwynedd, discovered America 300 years before Columbus Witnesses' accounts of finding supposedly Welsh-speaking Indians have served to keep alive the Madoc myth He is the theme of Southey's *Madoc*

Madoc (mă'dŏk), village (pop 1,188), S Ont, on Deer Creek and NW of Belleville, in a lumber and farming region

Madoera, Indonesia see MADURA

Madon (mă'-), unidentified royal Canaanite city, N Palestine Joshua 11 1, 12 19

Madonna (mudŏn'ŭ) [Ital, =my Lady, see MARY], in Christian art, the representation of the Virgin, a favorite theme since Roman times Prominent in the arts of the Byzantine, Romanesque, Gothic, Renaissance, baroque, and all succeeding periods, Mary has been portrayed in every significant phase of her life on earth and in heaven, perhaps most gloriously in Gothic sculpture and in Renaissance sculpture and painting, of which she was a perennial source of inspiration Among countless other artists, Raphael, Giovanni Bellini, Botticelli, Correggio, Titian, Rubens, and Murillo are famous for their Madonnas

Madras (mudrăs', mâdras'), state (127,768 sq mi, pop 49,840,564), S India, including the Laccadive Islands The interior of the province is relatively dry The Malabar Coast and the Coromandel Coast, bounded by the Western and Eastern GHATS respectively, are the most fertile areas About 70 percent of the population lives on farms, with rice the principal crop, cotton, tobacco, peanuts, and millet are widely cultivated Timber is cut in the uplands Food processing and the manufacture of cotton and silk cloth are the main industries The small mineral production is restricted to magnesite and mica The extensive rail net, which links the seaports, including Madras, Vizagapatam, and Calicut, with the hinterland, facilitates the economically important overseas trade The population is mainly of Dravidian stock and Hindu religion despite many occupations by various powers from the north Moslems swept away the Hindu Vijayanagar kingdom in the 16th cent and controlled the area for about a century In the 16th cent the Portuguese established colonies, followed in the 17th cent by the Dutch, French, and British After a sharp struggle (1741–63) with the French and with Hyder Ali and Tippo Sahib, the British emerged supreme and by 1801 had established virtually the present-day state boundaries In 1947, after the partition of India, several princely states joined Madras **Madras,** city (pop 777,481), the capital of the province, is situated at about the midpoint of the Coromandel Coast It was founded in 1639 by the British East India Company The French, under Dupleix, captured Madras in 1746, but it was recovered two years later From the port, which is protected by artificial breakwaters, tea, oil seeds, yarn, hides, skins, manganese, and mica are exported, rice, oil, coal, and machinery are imported Madras is a manufacturing center with silk and cotton cloth among its chief products The central facilities of the Univ of Madras, the leading educational institution of the province, are located here There are many large public buildings and a famous shore drive, the Marina Mt St Thomas, the traditional site of the martyrdom (A D 68) of Thomas the apostle, is near the city

Madrazo (madra'thō), family of Spanish painters They were leaders of the academic school and are represented in the Prado **José de Madrazo y Agudo** (hōsā'dā, ē āgōō'dhō), 1781–1859, was a student of J L David in Paris and was court painter to Charles IX and director of the Prado and of the Academy of San Fernando In both directorships he was succeeded by his son **Federico de Madrazo y Kunt** (fādārē'kō, ē kōōnt'), 1815–94 Another son was **Luis de Madrazo** (lwēs'), 1825–97 **Raimundo de Madrazo y Garreta** (rīmōōn'dō, ē gārē'tā), 1841–1920, was the son of Federico

Madre de Dios (mā'drā dā dyōs), river, c 700 mi long, rising in the Andes of SE Peru and flowing NE through Bolivia to the Beni It is only partly navigable because of frequent rapids Formerly the valley was explored for rubber

Madrid (mudrĭd', Span mădhrēdh'), city (pop 1,088,647), capital of Spain and of Madrid prov,, in New Castile, on the Manzanares river Lying in a vast open plateau, it is subject to extremes of heat and cold, the daily variation is sometimes 40°F Madrid is almost in the exact geographic center of Spain and is Spain's chief railroad communications point Its commercial and industrial life developed very rapidly after the 1890s and is rivaled in Spain only by that of Barcelona An archiepiscopal see, Madrid also has a university, transferred from ALCALÁ DE HENARES in 1836 Madrid was first mentioned in the 10th cent as a Moorish fortress Alfonso VI of Castile took it in 1083 The cortes of Castile met here in 1329, and Ferdinand and Isabella as well as Emperor Charles V often resided here, but Madrid became the capital of Spain only in 1561, in the reign of Philip II The city developed slowly at first, but it expanded rapidly in the 18th cent under the Bourbon kings From that period date the royal palace and the PRADO, now housing one of the outstanding art collections in the world At the beginning of the PENINSULAR WAR a popular uprising against the French took place at Madrid on May 2, 1808, and a fierce battle was fought in the Puerta del Sol, the central square of the city In reprisal hundreds of citizens were shot at night along the Prado promenade The events of that day were immortalized by two of Goya's most celebrated paintings, both in the Prado gallery Madrid again played a heroic role in the Spanish civil war of 1936–39, when, under the command of Gen José Miaja, it resisted 29 months of siege by the Insurgents, suffering severe bombardments and all attacks and surrendering only late in March, 1939 The general aspect of Madrid is that of a modern city Among the landmarks are the huge royal palace, the Buen Retiro park, opened in 1631, and the imposing 19th-century building containing the national library (founded 1712), the national archives, a museum of Spanish modern art, and an archaeological museum The *modern* Ciudad Universitaria [university city] suffered heavily in the civil war, as did all the other western suburbs

Madrid (mădrĭd'), city (pop 2,074), central Iowa, NNW of the Moines, platted 1852, inc 1883 Coal is mined near by

madrigal (mă'drĭgul) The Italian madrigal of the 14th cent was a poetic form created by Petrarch and his followers It consisted of from one to four stanzas of three iambic pentameters each, followed by a *ritornello* of two rhymed lines in a contrasting meter The rhyme scheme of the stanzas was abb, cdd, etc Contemplation of nature was its usual theme and its mood was often ecstatic The composers of the 14th-century Florentine school made polyphonic musical settings of the madrigal They were usually in two, sometimes in three, melodically independent voices, the top voice being somewhat florid Outstanding composers were Jacopo da Bologna and Giovanni da Florentia (both fl c 1350) The greatest was the blind organist Francesco Landini (1325–97), although he composed relatively few madrigals The Renaissance madrigal, a new form, was the creation of the Venetian school of composers Its only connection with the earlier madrigal was in its poetry, which freely imitated the 14th-century madrigal The number of voices was at first four, then five Costanzo Festa (d 1545) was the first native Italian madrigal composer of the 16th cent The Flemish composers of the Venetian school, such as Arcadelt and Willaert, combined the Flemish technique of imitative polyphony with forms taken from Italian popular music Luca Marenzio represents the culmination of this development, for the madrigals of Carlo Gesualdo (c 1560–1614) and of Monteverdi are actually creations of the baroque era, with their dissonant harmonies and their expressive tone painting which depict the textual imagery The English madrigal developed as a result of the importing of Italian madrigals in the latter half of the 16th cent and came to mean any unaccompanied part song The earliest significant English madrigals were William Byrd's first book of madrigals (1588) Other outstanding madrigalists were Thomas Morley and Orlando Gibbons See E H Fellowes, *The English Madrigal Composers* (1921), Alfred Einstein, *The Italian Madrigal* (3 vols, 1949)

madroña (mudrōn'yu), broad-leaved evergreen tree or shrub (*Arbutus menziesii*) of the West Coast of the United States, cultivated in warm regions for ornament It has glossy leaves, white flowers, and red berries

Madura (mă'jŏōru), city (pop 239,144), S Madras state, India It was the capital of the Pandya kings from the 5th cent B C until 1311 and of the Nayak kings from c 1550 to 1743 The British acquired it in 1801 The most notable monument is the large, elaborately ornamented temple to Siva which was mainly constructed during the 16th and 17th cent Cotton and silk textiles are manufactured The official name is Mathurai

Madura or **Madoera** (both mădōō'rā), island (1,762 sq mi, pop 1,858,183), Indonesia, near the north coast of Java, from which it is separated by Madura Strait Its principal products are salt, obtained from salt pans along the coast, and fish The generally chalky soil makes the island unsuitable for agriculture. The capital is Pamekasan; Sumenep is the largest town. Since about the 11th cent, Madura has been dominated by Java. The island with its offshore islets constitutes the state of Madura, belonging to the United States of Indonesia

Madvig, Johan Nikolai (yōhän' nĭkōlī' mädh'vĭg), 1804–86, Danish classical scholar Educated at the Univ of Copenhagen, he served (1829–79) as professor of Latin there As minister of education (1848–51), he worked for the improvement of classical schools He was interested in the careful edition of classics as the basis of philology and in history as the primary background of philology His edition of Cicero's *De finibus* (1839, 3d ed, 1876) is particularly fine

madwort see ALYSSUM

Maeander (mēăn'dûr), ancient name of the Buyuk Menderes river, W Turkey It is c 250 mi long and rises in three branches W of Afyonkarahisar It flows generally W into the Aegean Sea, which it reaches south of the island of Samos Olives are grown in its valley Its winding and wandering course gave rise to the term *meander*

Maebashi (mā'bāshē), city (1947 pop 90,432), capital of Gumma prefecture, central Honshu, Japan It is a silk textile center Gumma prefecture produces large quantities of raw silk

Maecenas (Caius Cilnius Maecenas) (mīsē'nus, mē-), d 8 B C, Roman statesman and patron of letters He was born (between 74 B C and 64 B C) into a wealthy family and was a trusted adviser of Octavian (AUGUSTUS), who, in his own absence, employed Maecenas as ruler of Italy Later out of favor with the emperor, he retired, devoting all his time to his famous literary circle, which included Horace, Vergil, and Propertius, to the great poets of his day he proved a friend and munificent patron His name is the symbol of the wealthy, generous patron of the arts

Maelstrom (māl'strum), Nor *Malstrøm* (mal'strŭm), *narrow sound in the Lofoten islands, NW Norway, just S of Moskenes island* Its powerful tidal currents create a whirlpool dangerous to small ships It has been celebrated in Poe's *Descent into the Maelstrom*

Maenads see BACCHAE

Maeotis, Palus see AZOV, SEA OF

Maerlant, Jacob van (yä'kŏp vän mär'länt), c 1235–c 1300, Flemish poet, earliest important figure of Dutch literature He wrote lyric poems and chivalric verse romances after the French, his later works are long didactic poems, chief of which is *Spiegel historiael*, an adaptation of the *Speculum* of VINCENT OF BEAUVAIS Jacob van Maerlant is an early literary representative of the bourgeois spirit

Maes or **Maas, Nicolaas** (nē'kōlas mās'), 1632–93, Dutch genre and portrait painter His earlier genre pictures bear, in their manner and coloring, remarkable resemblance to those of his master, Rembrandt In his best period (1655–65), at Dordrecht, he painted chiefly domestic genre on a smaller scale His later works, portraits in the main, show the influence of Van Dyck in their smooth elegance Among his paintings are *Reverie* (Rijks Mus), *Card Players*, *The Dutch Housewife*, and *The Cradle* (National Gall, London), *Saying Grace* (Louvre), and four admirable examples in the Metropolitan Museum

Maeshowe (mās'hou), prehistoric artificial mound, on Pomona, Orkney Islands, Scotland, near Stenness Within is a room which was apparently broken into by the Norse invaders in the 12th cent There are runic inscriptions on the walls

Maesteg (mīstāg'), urban district (1931 pop 25,570, 1947 estimated pop 230,010), Glamorganshire, Wales, in a coal-mining district

Maestra see SIERRA MAESTRA

Maestricht, Netherlands see MAASTRICHT

Maeterlinck, Maurice (mōrēs' mătĕrlĕk'), 1862–1949, Belgian poet who wrote in French, b Ghent His literary ties are with the SYMBOLISTS, and his dramatic efforts (intended for reading) are considered to represent "symbolistic" drama They present, then, not the everyday world, but the author's idea of the metaphysical or "real" world All his writing, prose and poetry, is suffused with rich feeling, often with pathos His works include *Le Massacre des innocents* (1886), a long short story on war and the noncombatant, a beautiful zoological study, *La Vie des abeilles* (1901, Eng tr, *The Life of the Bee*), and the dramas, *Pelléas et Mélisande* (1892), *Monna Vanna* (1902), regarded as the greatest symbolistic drama, and *L'Oiseau bleu* (1909, Eng tr, *The Blue Bird*), written to convey metaphysicomystical ideas and since become a favorite with children He also wrote critical essays Maeterlinck won the 1911 Nobel Prize in Literature The actress Georgette Leblanc, who was his wife from 1901 to 1918, earned fame in Maeterlinck roles

Mafeking (mă'fĭkĭng), town (pop 5,813), capital of Bechuanaland protectorate, Cape Prov, Union of South Africa, founded 1885 In the South African War the British garrison under Lord Baden-Powell withstood a siege (Oct 12, 1899–May 17, 1900) for 217 days until relief arrived

Maffei, Francesco Scipione, marchese di (frănchä'sko shēpyō'nā märkä'zā dē mäf-fā'ē), 1675–1755, Italian author and scholar. He wrote plays,

poems, translations of the classics, and works on the theater, theological history, archaeology, criticism, and his native city, Verona. He stimulated the development of Italian drama and is best known for his tragedy *Merope* produced in 1713 and printed in 1714.

Maffitt, John Newland (mă'fĭt), 1819–86, American naval officer. He was born at sea. Appointed a midshipman in the U S navy in 1832, Maffitt served many years in the Coast Survey. He resigned in April, 1861, and was commissioned in the Confederate navy. In the Civil War he distinguished himself particularly in 1862–63 as commander of the *Florida*, one of the outstanding CONFEDERATE CRUISERS. See biography by his wife, Emma M. Maffitt (1906).

Mafia (mä'fēä), name given to a number of organized bands of Sicilian brigands in the 19th and 20th cent. Unlike the CAMORRA in Naples, the Mafia had no hierarchic organization, each group operating on its own. The Mafia originated in feudal times, when lords hired brigands to guard their estates in exchange for protection from the royal authority. The underlying principle of the Mafia was that legal authorities were useless and that justice must be obtained directly, as in the VENDETTA. Political corruption gave the Mafia tremendous influence. The organization spread, through emigration, to the United States and created particular trouble in LOUISIANA. Mussolini suppressed the Mafia in a vigorous campaign, but after the Second World War it showed signs of revival.

Mafra (mă'frŭ), town (pop. 3,223), W Portugal, in Estremadura, near Lisbon and the Atlantic coast. It is noted for the immense monastery and palace which John V began to build in 1717 to rival the Spanish Escorial. The church is remarkable for its colored marbles and precious woods as well as for its size.

Magadan (mä'gudän'), see MAGDALA.

Magadan (mägudän'), city (1940 estimated pop. 40,000), N Khabarovsk Territory, RSFSR, in NE Siberia, a port on the Sea of Okhotsk. Founded in 1932, it is a supply point for the Kolyma gold region.

Magadha (mä'gudu), Hindu kingdom, c. 650–c. 320 B.C., in present-day S Bihar state, India. One of its later capitals was Pataliputra (now Patna). Buddhism and Jainism first developed in Magadha. Its territory fell to the Maurya empire.

Magadi Lake (muga'dē), area 240 sq. mi., S Kenya colony, in the Great Rift Valley. It is at an elevation of 1,978 ft. Carbonate of soda is dredged from the lake floor.

Magallanes, Chile: see PUNTA ARENAS.

magazine: see PERIODICAL.

Magazine, Mount, peak, 2,800 ft. high, W Ark., in the Ouachita Mts. E of Booneville.

Magbish, family in the return, EZRA 2:30.

Magdala (măg'dulu), home of St. Mary Magdalen. It is probably to be identified with Mejdel, a hamlet on the west shore of the Sea of Galilee. In some Bible sources Magdala is read in Mat. 15:39, others give Magadan, a place not otherwise known. The comparable passage reads DALMANUTHA.

Magdala (măg'dăla, măg'dulu), village, NE Ethiopia. It is on a high butte difficult of access. Here King Theodore II held as prisoners Englishmen who had come on a diplomatic mission. They were rescued in 1868 by a military expedition under Sir Robert Napier, who was created Baron Napier of Magdala for his exploit.

Magdalen: see MARY MAGDALEN, SAINT.

Magdalena, village (pop. 1,324), W central N Mex., SW of Albuquerque, founded 1884. It is a trade and shipping center for a livestock and mineral area.

Magdalena (măgdhalh'nu), river, over 1,000 mi. long, rising in SW Colombia and flowing N to the Caribbean near BARRANQUILLA. Discovered (1501) by BASTIDAS, it is the republic's most natural, vital, but difficult avenue of communication, flowing along a fault c. 50 mi. wide through the Andes to a broad, swampy, alluvial plain. Here it is joined by the CAUCA. Its course is navigable for 900 mi. but is impeded by sand bars, by rapids at HONDA, and by a fluctuating water level. Economic development of the tropical Magdalena valley has been retarded except for the recent growth of the oil industry. Ever since its exploration by JIMÉNEZ DE QUESADA in 1536, the Magdalena has profoundly influenced the economic and political life of Colombia.

Magdalen College (môd'lĭn), see OXFORD UNIVERSITY.

Magdalene College (môd'lĭn), see CAMBRIDGE UNIVERSITY.

Magdalenian: see PALEOLITHIC PERIOD.

Magdalen Islands (măg'dulun), group of nine main islands and numerous islets (102 sq. mi., pop. 8,940), belonging to Quebec, in the Gulf of St. Lawrence N of Prince Edward Island. They were discovered (1534) by Jacques Cartier. In 1787 they became the property of Sir Isaac Coffin, in 1903 they were purchased by the Magdalen Islands Company. The main islands are Alright, Amherst, Brion, Coffin, East, Entry, Grindstone, Grosse, and Wolfe. Fishing and whaling are the chief occupations of the islanders, most of whom are of French origin.

Magdeburg (măk'dûbôôrk), city (pop. 236,326), capital of the former Saxony prov. of Prussia, E central Germany, on the Elbe. A large inland port, it is also an industrial center with steel, paper, and textile mills, sugar refineries, and metallurgical and machine-building plants. It is the center of the chief beet-sugar region of Germany. First mentioned in 805, Magdeburg became under Emperor Otto I an outpost for the colonization of the Wendish territories and was made (968) an archiepiscopal see. The archbishops of Magdeburg ruled a large territory as princes of the Holy Roman Empire. The city of Magdeburg obtained from them a charter which was the model of hundreds of medieval town charters in Germany, Austria, Bohemia, and Poland. Under this Magdeburg Law a town governed itself through an elected council, had its own courts of justice, and was exempt from all duties except the payment of rent to the prince of the land. Magdeburg prospered and became one of the chief members of the Hanseatic League. It accepted (1524) the Reformation, joined (1531) the SCHMALKALDIC LEAGUE, and continued its resistance against Emperor Charles V even after the Schmalkaldic War until its fall (1551) to Maurice of Saxony. The city was now a stronghold of Lutheranism. Here Flacius Illyricus edited (late 16th cent.) the *Magdeburg Centuries*, the first comprehensive history of Protestantism. Cardinal ALBERT of Brandenburg, archbishop of Mainz and Magdeburg and bishop of Halberstadt, by his authorization of the sale of indulgences had been instrumental in bringing about Luther's reform. His successor in Magdeburg, who was also a member of the house of Brandenburg, accepted Protestantism, and after his death members of his family continued to rule the archbishopric as administrators. In the Thirty Years War the imperial forces under Tilly and Pappenheim laid siege to Brandenburg in 1630. Gustavus II of Sweden, who might have come to its relief, protracted his negotiations with the Protestant German princes. On May 20, 1631, the imperial troops stormed the city and put the garrison to the sword, fires broke out in various quarters, and on the following day virtually the entire city had burned down. At least 20,000 people (more than half the population) perished in the sacking that accompanied the conflagration. The sack of Magdeburg produced an immense impression and caused the Protestant princes to conclude a closer alliance. The Protestant charge that Tilly had ordered the sack is unfounded, in fact he took stern measures to halt it. The theory that the defenders themselves put fire to the city is equally doubtful. The city was rebuilt and its trade revived after the Peace of Westphalia (1648), which transferred both the city and the archbishopric (which was secularized and made a duchy) to the electorate of Brandenburg. Magdeburg long was an important Prussian fortress. In the Second World War more than half the city (including the entire old section) was destroyed. The 13th-century cathedral, which had survived the fire of 1631, was damaged. Otto von GUERICKE, inventor of the Magdeburg hemispheres, the composer Telemann, and Baron von Steuben were born here.

Magdiel (măg'dēĕl), duke of Edom. Gen. 36:43, 1 Chron. 1:54.

Magee, town (pop. 1,221), S central Miss., between Jackson and Hattiesburg, in a cotton, truck, and poultry area. Near by is a state tuberculosis sanatorium.

Magellan, Ferdinand (mujĕ'lun), Port. *Fernão de Magalhães*, Span. *Fernando de Magallanes*, c. 1480–1521, Portuguese navigator. Born of a noble family, he was reared as a page in the royal household. He served (1505–12) in Portuguese India, under Francisco de ALMEIDA and later under Afonso de ALBUQUERQUE. In 1513–14 he served in Morocco, where he was accused of financial irregularities. Although the authorities there refused to proceed against him, he lost the favor of Manuel I, who rejected his proposal to reach the MOLUCCAS by a western route. Hence in 1517 he went to Spain, where (March 22, 1518) his plan was approved by King Charles I (later Emperor Charles V). Portuguese efforts failed to prevent the voyage. With five vessels and some 270 men, Magellan sailed from Sanlúcar de Barrameda on Sept. 20, 1519. Sighting the South American coast near Pernambuco, he searched for the suspected but unknown passage to the South Sea. In Jan., 1520, the Río de la Plata was carefully explored. While wintering in Patagonia (March–Aug., 1520), he summarily put down a mutiny of some of his officers. On Oct. 21 he discovered and entered the strait which bears his name, and Nov. 28, 1520 he reached the Pacific. His fleet, now consisting of three vessels, sailed NW across the Pacific. No land was sighted in nearly two months, no provisions were obtained in three, the men suffered intensely. Magellan reached the Marianas March 6, 1521, and 10 days later the Philippines, where he was killed (April 27) while supporting one group of natives against another. Soon after, the *Concepción* was burned as unseaworthy, the remaining two vessels visiting Borneo and then the Moluccas, where they loaded spices. The *Trinidad* sailed for Panama but, forced to turn back, was wrecked, only four of her crew eventually reached Spain. The *Victoria*, commanded by Juan Sebastián del CANO, sailed across the Indian Ocean, rounded the Cape of Good Hope, got into trouble with the Portuguese, who held 13 men of her crew at the Cape Verde Islands, and finally, with only 18 men, reached Sanlúcar Sept. 6, 1522, thus completing the first voyage around the world. Although he did not live to complete the first circumnavigation of the world, Magellan's was the skill and determination which took the vessels over the great unknown portion, one of the greatest achievements on the sea. The voyage proved definitely the roundness of the earth, it revolutionized ideas as to the relative proportions of land and water, it revealed the Americas as a new world, separate from Asia. See the firsthand account of Antonio Pigafetta, *Magellan's Voyage around the World* (ed. by J. A. Robertson, 1906), biographies by F. H. H. Guillemard (1890), E. F. Benson (1929), and Stefan Zweig (1938).

Magellan, Strait of, c. 330 mi. long and 2½–15 mi. wide, separating South America from Tierra del Fuego and other islands south of the continent. Except for a few miles at its western end in Argentina, it passes through Chile. The strait, discovered by MAGELLAN in 1520, was important in the days of sailing ships, especially before the building of the Panama Canal, and is still used by ships rounding South America. One of the most scenic waterways in the world, it affords an inland passage protected from almost continuous ocean storms. The only city on the strait is PUNTA ARENAS.

Magendie, François (fräswa' mäzhädē'), 1783–1855, French physician. He taught at the Collège de France and is considered a founder of experimental physiology. Much of his experimental work was performed on animals. He distinguished the motor and sensory portions of peripheral nerves and studied the function of veins, the effect of air in arteries, and the effects and uses of various drugs.

Magenta (mujĕn'tu, Ital. mäjän'ta), town (pop. 10,470), Lombardy, N Italy, 15 mi. W of Milan. Here in 1859 the French and Sardinians won a decisive victory over the Austrians which opened the way to Milan. General MacMahon played a leading role in the battle and was made duke of Magenta.

magenta: see FUCHSINE.

Maggiore, Lago (lä'gō mäd-jō'rā), or **Verbano** (vĕr-bä'nō), second largest lake of Italy, area 82 sq. mi., c. 40 mi. long, in the Alpine foothills of Lombardy. Formed by the Ticino river, it lies partly in Switzerland, but mostly in Italy. Along part of its western shore run the SIMPLON road and railroad. The lake is dotted with villas and resorts, notably at STRESA, Baveno, Pallanza, Intra, and (on the Swiss side) LOCARNO. The Borromean Islands, four small islets near Stresa, include the Isola Bella, with the Borromeo Palace (now a museum) and with beautiful gardens.

maggot: see BLOWFLY, FLY, LARVA.

Maghreb or **Maghrib** (both mä'grĭb) [Arabic, =the West], Arabic term for the northern part of Africa. Some writers, especially during the Moslem domination, included Spain.

Magi (mā'jī), priestly caste of ancient Persia. Probably Median in origin, they were, according to Herodotus, a tribe rather than a priestly family. ZOROASTER is thought to have been a Magus. Study of the Magi is thorny with problems. They are thought to have molded a pre-Zoroastrian religion, nothing is known of it except by inference. After Zoroaster, Magian priests headed Zoroastrianism; the greatest was Saena. The Magi were revered by classic authors as wise men, and their reputed power over demons gave rise to the word *magic*. For the Magi of Mat. 2, see WISE MEN OF THE EAST.

magic, the practice of manipulating the course of Nature by supernatural means. In aim (i.e., the use and changing of nature to a desired end) magic approximates the aim of science, and in later times the science of chemistry grew out of the magical art of ALCHEMY. Magic, although closely allied to religion, is to be distinguished from religion in that religion is intended to reverence and worship supernatural beings, while magic seeks to control supernatural forces to a desired end. Underlying magic is generally the belief that there is a supernatural spirit permeating all things (see ANIMISM) which can be controlled and manipulated by verbal or written pronouncements (see INCANTATION, SPELL, CHARM), by the wearing of an AMULET, and by imitative acts. Imitative, or *sympathetic*, magic is based on analogy. Thus an American Indian of the N Pacific coast area, knowing that sea shells grow very old, will rub some sea-shell dust upon his son's forehead to insure, by analogy, longevity. Agricultural FERTILITY RITES are founded on an analogy between plant and human generation. Not only could human life be extended and fields made to prosper by magic but enemies could be destroyed, sickness cured, woman made to bear, rain to fall, love to prosper, and the past and

future told (see DIVINATION). Almost all the ancients practiced magic (the name comes from Persian priests who were called Magi) The Chaldeans had an extensive system of divination, dream interpretations, demonology, and medicine The Egyptians had secret names, apparently believing that there was no difference between the name and the thing it denoted. The Greeks emphasized the spoken and written word, as in oracles The Romans elevated magic to a state system of political and utilitarian prophecy From the beginning of the Christian era, the Church combated pagan religion and magic, fearing the effects of the practice Occultism was made disreputable among Christians, and thereafter was called the black art It still survived, however, and those people who practiced it became known as sorcerers and witches People believed that these followers of WITCHCRAFT and sorcery could change themselves into cats, particularly black cats, wolves (see LYCANTHROPY), bats, and the like Witches were able to cast spells and thus enchant unwary people Many of our present-day superstitions are survivals of pagan magic Authorities hold that magic was employed in late Paleolithic times It is still found in many places today, and not only in "primitive" societies, but also in urbane and educated circles See FAKIR and YOGA See Lynn Thorndike, *The Place of Magic in the Intellectual History of Europe* (1905) and *History of Magic and Experimental Science* (6 vols , 1923–41), James Frazer, *The Golden Bough* (12 vols , 1907–15), Frederick Schleiter, *Religion and Culture* (1919)

magic lantern see STEREOPTICON

magic square, a square divided into parts with letters or numbers inscribed therein which, whether combined vertically, horizontally, or diagonally, form the same word or the same sum In ancient times such squares were thought to have magic properties, perhaps connected with the stars They were worn as amulets by the Arabians, as they still are in parts of India See W W R Ball, *Mathematical Recreations* (rev ed , 1947) Example

4	9	2
3	5	7
8	1	6

Maginn, William (mugĭn'), 1793–1842, Irish poet, journalist, and short-story writer Some of his best stories and essays appeared in *Blackwood's Magazine* In 1830 he established the highly successful *Fraser's Magazine*, writing for it clever satires and parodies Captain Shandon in Thackeray's *Pendennis* is a portrait of Maginn See M M H Thrall, *Rebellious Fraser's* (1937)

Maginot Line (mă'zhĭnō, Fr măzhēnō'), mighty system of fortifications along the eastern frontier of France, extending from the Swiss border to the Belgian It was named for André Maginot (1877–1932), French minister of war (1929–30), who began its construction Considered impregnable, the line was not even completed when the Second World War broke out in 1939 Its actual strength was never tested, for the line was turned by the Germans in their French campaign of 1940 Like all fortified lines since the building of the Great Wall of China, the chief effect it had was to lull its builders into a false sense of security Though certainly complementary to the French system of defense, it could not—as it was vaguely expected to do—eliminate the necessity of mobile warfare That particular lesson was thoroughly learned after the French collapse of 1940, and military thinking has since then steered away from similar concepts

Magliabechi, Antonio (antō'nyō malyäbā'kē), 1633–1714, Italian librarian, b Florence For 40 years, while he was a goldsmith, he devoted himself to learning, mastering among other things Greek, Latin, and Hebrew He became known throughout Europe for his prodigious memory In 1673 he was appointed court librarian by Cosimo III de' Medici, grand duke of Tuscany At Magliabechi's death he bequeathed his library of 30,000 volumes to the grand duke, who gave it to the city of Florence, where it now forms part of the National Library

Magna Carta or **Magna Charta,** the most important instrument of English constitutional history, issued by King John at Runnymede, under the compulsion of his barons, June, 1215 John, by his continual extortions of money and his violations of feudal customs, had aroused not only the barons, but also many of the lesser gentry, the knights, and the townspeople In addition, a large group of churchmen, headed by Stephen LANGTON, opposed the king even after John's reconciliation with the pope The lower classes—serfs and artisans—were not actively rebellious, but, though the uprising of 1213–15 was dominated by the barons, it was in a sense a national reaction The king, faced by superior force, was compelled to enter into parleys with the barons at Runnymede. On June 15, 1215, after some attempts at evasion, John set his seal to the preliminary draft of demands presented by the barons, and after several days of debate a compromise was reached (June 19) The resulting document was put forth in the form of a charter freely granted by the king, though in actuality its guarantees were extorted by the barons from John. The original charter, in Latin, is a relatively brief, and sometimes vague, document of some 70 clauses, many of which were of only transient significance. In some respects the charter was a reactionary document; its purpose was to insure feudal rights and dues and to guarantee that the king would not encroach upon baronial privileges. Articles specifically protecting villeins and tenants were few The barons, however, did seek to retain the constitutional advances made under John's predecessors There were provisions guaranteeing the freedom of the Church and the customs of the towns, special privileges being conferred upon London The charter definitely implies that there are laws protecting the rights of subjects and communities which the king is bound to observe or, if he fails to do so, be compelled to observe by force Most important were the vaguely worded general grants against oppression of all subjects, which later came to be interpreted as guarantees of trial by jury and of habeas corpus Such interpretations, however, were the work of later scholarship and are not explicit in the charter itself The true meaning of the charter, indeed, has only been determined by recent study, but its importance in the development of the British constitution is not vitiated by the fact that many of the early interpretations of its provisions were based upon bad historical work or false reasoning As an actual instrument of government the charter was, at first, a failure John repudiated it as a grant made under coercion, and he was released from its observance by the pope The clumsy machinery set up to prevent the king's violation of the charter never had an opportunity to function, and civil war broke out the same year On John's death in 1216, the charter was reissued in the name of young King Henry III, but with a number of significant omissions relative to safeguards of national liberties and restrictions on taxation. In another reissue the following year, clauses relating to the forests were combined into a Forest Charter, the remaining larger group, in what was substantially to be its permanent form, became known as the Great Charter or Charter of Liberties In later years it became a symbol of the supremacy of the constitution over the king, as opponents of arbitrary royal power extracted from it various "democratic" interpretations This movement reached its height during the Puritan Revolution of the 17th cent in the work of parliamentary apologists such as Sir Edward COKE It came to be thought that the charter forbade taxation without representation, that it guaranteed jury trial, even that it invested the House of Commons (nonexistent in 1215) with great powers These myths persisted until the 19th cent , when extremists among scholars came to maintain that the Magna Carta was a completely reactionary, not a progressive, document—that it was merely a guarantee of feudal rights It is generally recognized now that it was more than that, the charter did definitely set forth the theory that the power of the king was not supreme But most important was the fact that it could later be interpreted as it was Potentially it was the guarantee of liberties that it came to be There are four extant copies of the charter of 1215 See W S McKechnie, *Magna Carta a Commentary* (1914), G B Adams, *Constitutional History of England* (1936), Faith Thompson, *Magna Carta* (1948)

Magna Graecia (măg'nŭ grē'shu) [Latin, =great Greece], Greek colonies of S Italy The Greek overseas expansion of the 8th cent B C founded a number of towns which became the centers of a new, thriving Greek territory They were on both coasts from the Bay of Naples and the Gulf of Taranto southward, there were no inland settlements Unlike Greek Sicily, Magna Graecia began to decline by 500 B C , probably because of malaria and endless internecine warfare Only Tarentum (now Taranto) and Cumae remained individually very significant The chief part of Magna Graecia in Greek cultural history was as the center of two philosophical groups in the 6th cent B C , that of Parmenides at Elea and that of Pythagoras at Crotona Through Cumae especially, the Etruscans of Capua and the Romans came into early contact with Greek civilization The following are the chief cities of Magna Graecia (those colonized from Greece, except Thurii, go back to the 8th cent B C ; those colonized locally are perhaps a century younger)—on the east coast from north to south, Tarentum (colonized from Sparta), Metapontum (from Achaea), Heraclea (from Tarentum), Siris (from Colophon), Sybaris (from Achaea), Thurii (from Athens, replacing Sybaris), Crotona (from Achaea), Caulonia (from Crotona), Epizephyrian Locris (from Locris), on the west coast from north to south, Cumae (from Chalcis), Neapolis (now Naples, from Cumae), Paestum or Posidonia (from Sybaris), Elea, Laos (from Sybaris), Hipponium (from Epizephyrian Locris), and Rhegium (now Reggio di Calabria, from Chalcis) See David Randall-MacIver, *Greek Cities of Italy and Sicily* (1931).

magnalium (măgnā'lēum), alloy of aluminum and magnesium (about 5 percent), often containing small amounts of copper, manganese, and silicon Its density is 2.5 g per cubic centimeter or 156 lb per cubic foot; since it is silver white and lighter and more workable than aluminum, it is used in making metal mirrors and scientific instruments

Magnesia, two ancient cities of Lydia, W Asia Minor (now W Turkey). They were colonies of the Magnetes of E Thessaly. One (Magnesia ad Maeandrum), SE of Smyrna, was later colonized by Ionians and given by Artaxerxes to Themistocles, who died there. There are important ruins, including the celebrated temple of Artemis Leucophryene Magnesia ad Sipylum, on the Hermus river at the foot of Mt Sipylus, NE of Smyrna, was the scene of the defeat of Antiochus III (Antiochus the Great) by the Romans (190 B.C) The present MANISA is near by

magnesia (măgnē'shŭ, -shō), magnesium oxide, a compound of the metal and oxygen. Because of its high melting point (2800°C) and its low heat conductivity, it is used to line electric furnaces, to make firebricks, and for covering boilers and hot pipes It reacts with water slowly to form the hydroxide, a nearly insoluble substance Magnesium oxide is usually prepared by heating the carbonate It is formed also when the nitrate is heated and when magnesium burns in air Citrate of magnesia is the magnesium salt of CITRIC ACID A suspension of magnesium oxide in water forms milk of magnesia, which is used commonly in medicine as an antacid and mild laxative

magnesite (măg'nĭsīt), a mineral, magnesium carbonate, white, yellow, or gray in color It originates through the alteration of olivine or of serpentine by waters carrying carbon dioxide, through the replacement of calcium by magnesium in calcareous rocks, sometimes limestone, more often dolomite, and through precipitation from waters rich in magnesium that have undergone reaction with sodium carbonate Caustic magnesite is not thoroughly calcined, 3 to 4 percent of carbon dioxide being left, mixed with magnesium chloride it makes oxychloride cement, which is extensively used for floorings and as a stucco Dead-burned magnesite is calcined in kilns until it contains less than 1 percent of carbon dioxide, it is made into an excellent FIREBRICK Magnesite is also used in the manufacture of Epsom salts, face powder, boiler wrappings, and disinfectants

magnesium (măgnē'sēum, -zēum, -zhum, -shum), active metallic element (symbol = Mg, for physical constants, see ELEMENT, table), silver white, resembling aluminum in physical properties, ductile malleable, not affected by dry air, but tarnishing in moist air When ignited it burns brilliantly in air (hence its use in flashlight powder and PYROTECHNICS), yielding the oxide, magnesia It is a good reducing agent Magnesium is grouped with beryllium, calcium, strontium, and barium in the periodic table and is sometimes included with the last three as a metal of the ALKALINE EARTHS It forms many compounds with other elements, several of which are found widely distributed in nature With carbon and oxygen it forms magnesium carbonate, called MAGNESITE, with calcium, carbon, and oxygen, the double carbonate, DOLOMITE, with chlorine, the chloride present in natural waters, with chlorine and potassium, the double chloride, carnallite; with sulphur and oxygen, the sulphate, as either kieserite (the monohydrate) or EPSOM SALTS (the heptahydrate, 1 e , having seven molecules of water), with oxygen, the oxide, MAGNESIA, and with phosphorus, oxygen and the ammonium radical, magnesium ammonium phosphate With silicon, in the form of the silicate, it is present in such substances as asbestos, meerschaum, serpentine, talc, and tourmaline The metal is usually prepared by the electrolysis of a fused MIXTURE of chlorides (magnesium, potassium, and sodium) or by the electrolysis of magnesium oxide dissolved in fluorides It is extracted on a commercial scale from sea water The commercial product appears either as a powder or as a metal ribbon Besides its use in making signal lights and fireworks, in medicine (as Epsom salts, milk of magnesia, and citrate of magnesia), and in photography, magnesium is extensively employed in making alloys with aluminum These are very light and strong and include DURALUMIN (aluminum, copper, and magnesium) and MAGNALIUM (aluminum and magnesium alone) Another alloy contains aluminum, copper, nickel and manganese The element is present in some glass and in the soil in the form of salts, when it is used by plants for food and is one of the elemental constituents of chlorophyll, the green coloring matter in plants A strip of the metal is used as a fuse in the thermite process Davy obtained a very small quantity of magnesium in 1808, but it was not until 1831 that A A B Bussy prepared it in larger amounts

magnet: see MAGNETISM.

magnetic poles. The earth, like every other magnet (see MAGNETISM), has two magnetic poles—places on its surface where the magnetic force is vertically downward (causing the dipping needle to stand at 90°) and where the horizontal compass is useless The north magnetic pole, first located (1831) by Sir James C. Ross at lat. 70° 51′ N and long. 96°

46′ W, in the Boothia Peninsula of N Canada, was placed in 1948 on Prince of Wales Island at lat 73° N and long. 100° W. The south magnetic pole, reached (1909) by Sir T W E David and Sir Douglas Mawson, was tentatively located by them at lat 72° 25′ S and long. 155° 16′ E, on Antarctica It is at present near lat 70° S and long. 148° E, inland from George V Coast

magnetic pyrite: see PYRRHOTITE.

magnetism, property of attracting iron, exhibited by certain substances in varying degree, as by lodestone, iron, steel, nickel, and cobalt Lodestone, a form of MAGNETITE, is said to be a natural magnet because it possesses magnetism in its natural state, the phenomenon of magnetism was probably first observed by the ancients in lodestone Substances that do not possess magnetism naturally but acquire it after special treatment are known as artificial magnets Magnetism can be produced in iron or steel in various ways If, for example, a bar of either of these substances is rubbed or stroked with a strong magnet, it will become magnetic Magnetism can be produced also when the piece of metal is laid parallel to a magnet and tapped gently a number of times, magnetizing in this way is called magnetic induction An ELECTROMAGNET can be made by winding around a soft iron bar or core a coil of insulated wire carrying an electric current Substances differ as to the ease with which they can be magnetized (i e , in permeability) and also in their ability to retain their magnetism (i e , in retentivity) For example, soft iron is easily magnetized but loses its magnetism very rapidly Certain steels are magnetized with difficulty but retain their magnetism for a long time Magnets made of such steel are commonly called permanent magnets, they are usually made in the form of a rod or bar or of a "U" or horseshoe An ordinary artificial magnet made of a bar of steel demonstrates several general properties of magnets When such a magnet is suspended in the air so that it can move freely in any direction, it comes to rest eventually with its long axis in a general north-south direction, because of the magnetic effect of the earth The end of the bar pointing in the northerly direction is called the north-seeking pole, that pointing toward the south, the south-seeking pole Experiment shows that like poles, i e , north and north or south and south, repel each other, and that unlike poles attract each other The magnetism of a magnet has been found to be concentrated in the region of its poles, a condition termed polarity Polarity can be demonstrated by placing a magnet in a horizontal position and covering it with a piece of light cardboard over which iron filings are then scattered When the paper is tapped gently, the iron filings become magnetized by induction and arrange themselves in an outline of the bar, collecting in especially thick clusters around the two poles The filings which are situated too far from the magnet to be drawn to its surface are nevertheless affected by the magnetism, they become arranged in definite curved lines that extend outward from one pole and curve backward to the other pole through the area in which the magnetism of the bar is active This area is called the magnetic field of force, and the lines through which the magnetism appears to act are called lines of magnetic force Theoretically, the flow of magnetic force is supposed to be through a continuous path (closed circuit), the direction of flow being from the north-seeking pole outward through the lines of force to the south-seeking pole and from there through the body of the magnet back to the north-seeking pole The strength of the magnetic field is measured according to the number of lines of force crossing a unit area such as a square centimeter. When a magnetized body—a compass needle, for example—is placed in a magnetic field, it tends to swing into a position parallel to the lines of force Iron, the most magnetic substance, and nickel, cobalt, and other highly magnetic substances are called ferromagnetic The paramagnetic substances are those which are only feebly attracted by a magnet When a rod of a ferromagnetic or a paramagnetic substance is placed in a magnetic field it tends to turn parallel to the field. Diamagnetic substances (e g , antimony and bismuth) are repelled by a magnet, and a rod of these substances in a magnetic field tends to turn at right angles to the field The exact nature of magnetism is not yet fully understood One theory advanced by J A Ewing holds that magnetism is a property of the molecules of the substance of which the magnet is made and depends upon their arrangement in the body of the magnet Each molecule is considered to be a tiny magnet, and it is held that if the molecules of a given body, a flat bar of iron, for example, are arranged in orderly rows along its length, with north poles all pointing in one direction and south in the other, their magnetism becomes so concentrated that the bar as a whole becomes a magnet. When all the molecules are thus arranged, "saturation" is said to have been reached This theory of magnetism is based upon the observation that if a bar magnet is cut in half, each half itself becomes a magnet and that if, in turn, each of these halves is cut in half, each yields two more magnets, and so on; it is assumed, therefore, that this division could be carried out and new magnets produced until magnets consisting of a single molecule are obtained It has been observed that any treatment given a magnet which would affect the arrangement of the molecules of the magnetized substance (such as pounding or extreme heating) results in a loss of magnetism According to this theory, the magnetizing of a body consists in causing its scattered molecules to be rearranged in orderly rows Many other theories concerning the nature of magnetism have been advanced in the past; more recently the theory that it is caused by the movement of the electrons in the atom was introduced, and this has been rather widely supported The original discovery of magnetism is not known, but to William Gilbert is commonly attributed the first important scientific work on the subject (1600) No further important steps were made in its study until the late 18th cent , when Coulomb presented the results of his research, which were later substantiated by C F Gauss Later A M Ampère showed a relationship between magnetism and electricity, Oersted demonstrated the effect produced upon a magnetic needle by a current of electricity flowing through a conductor, Faraday described the magnetic lines of force in a magnetic field and discovered electromagnetic induction, Joseph Henry demonstrated the electromagnet, and Harold Pender discovered a magnetic field around a moving, electrically charged body Especially important are the discoveries of J C MAXWELL and J J THOMSON The study of **terrestrial magnetism** is based on the assumption that the earth is a gigantic magnet Compass needles on its surface arrange themselves in a general north-south position They do not, however, point directly to the north and south geographical poles of the earth, and it is therefore concluded that the magnetic and geographical poles do not coincide The deviation of a compass needle from the geographical north-south direction is called declination The magnetic poles, unlike the geographic poles, are not fixed, but are continuously changing their positions, so that the declination at a given point varies also Maps are made which have irregular lines, called isogonic lines, drawn upon them and extending north and south, to indicate the points on the earth's surface where the declination is the same It is known also that a magnetic needle does not remain in a horizontal position (if it is so mounted that it can move freely from horizontal to vertical) at all points on the earth's surface The deviation of the needle from the horizontal is called the dip or inclination When such a needle is carried toward either magnetic pole, it dips more and more until at the pole it is in a vertical position Near the equator, however, on a line known as the magnetic equator, no dip is observable Like other magnets the earth under certain conditions is apparently able to impart magnetism to substances such as iron The discovery of the deviation of the compass needle from the geographical north-south position is a subject of controversy. Commonly, it is attributed to Columbus on his voyage to America To Robert Norman, an English instrument maker of the 16th cent , is credited the discovery of the dip or inclination The first adequate explanation of terrestrial magnetism was offered by William Gilbert in 1600 Discovery that the declination (deviation) of the compass needle varied even during each day (diurnal variation) did not come until the 18th cent , and the definite and systematic observation of the magnetic action in various parts of the world was instigated by Alexander von Humboldt and Gauss Johann von Lamont made a number of surveys during the 19th cent , a work later taken up in the 20th cent , directed, and coordinated internationally by L A BAUER See D L Hazard, *The Earth's Magnetism* (U S Coast and Geodetic Survey, Special Publication 117), J A Fleming, ed , *Terrestrial Magnetism and Electricity* (1949)

magnetite (măgˈnətītˌ), lustrous black, magnetic mineral, a compound of iron and oxygen containing a large percentage of the metal It occurs in crystals of the cubic system, in masses, and as a loose sand It is one of the important ores of iron (magnetic iron ore), being a common constituent of igneous and metamorphic rocks It is found in Norway, Sweden, the Urals, and various parts of the United States A variety of magnetite, lodestone or loadstone, exhibits polarity and is especially interesting for its natural magnetism, its best-known locality is Magnet Cove, Ark

magneto: see GENERATOR.

Magnificat (măgnĭfˈĭkătˌ) [Latin, =magnifies], song of the Virgin beginning, "Magnificat anima mea Dominum" [my soul doth magnify the Lord] Luke 1 46–55. It is the daily vesper hymn of the Roman Church and is usually sung at evening prayer in the Church of England

magnifying glass: see MICROSCOPE

Magnitogorsk (mŭgnyēˈtŭgôrskˈ), city (1946 estimated pop 200,000), RSFSR, on the Ural river and the conventional border of Europe and Asia Planned in 1929, it grew rapidly into the chief metallurgical center of the USSR. American engineers assisted in the early stages of its growth. Its industries are based on the high-grade magnetite mined in the Magnitnaya Mt (on the southwestern slope of which the city is built), on iron ore and alloys from the Urals, and on coal from Karaganda and from the Kuznetsk Basin Magnitogorsk covers an area of 30 sq mi Its largest plant, the Stalin Steel Works, constructed in 1931, includes (as of 1948) 8 blast furnaces, 26 open-hearth furnaces, and 8 rolling mills. Large residential constructions were still under way in 1950

magnitude, in astronomy, the term used for a measure of the brightness or visibility of a star or other celestial object PTOLEMY published a scale of six magnitudes in which the brightest stars are of the first magnitude and the faintest stars visible to unaided human vision are of the sixth magnitude When the use of the telescope extended the visibility of heavenly bodies, the system was extended and smaller gradations of brilliancy could be discriminated An English astronomer N R Pogson standardized the Ptolemaic scale by establishing a light ratio Measurements with photometers revealed that first magnitude stars were about 100 times brighter than the average brightness of those of sixth magnitude The ratio of brightness between any two successive magnitudes was therefore calculated to be 2 51 (the fifth root of 100) Thus if the quantity of light given out by a star of sixth magnitude be represented as one, a star of the next degree of brightness will give a quantity represented by 2 512 When brightness greater than that of the first magnitude is to be expressed, the degrees of brightness are indicated by negative numbers A star giving 2 512 times as great a light as one of the standard first-magnitude stars is of zero magnitude Sirius is 1 6 times as bright as that, therefore its magnitude is given as (−1 6)

Magnolia. **1** City (pop 4,326), co seat of Columbia co , SW Ark , near Louisiana, settled 1852, inc 1855 Its oil industry has been important since 1938, and there is a large textile mill A state junior agricultural and mechanical college is here **2** City (pop 2 125), co seat of Pike co , SW Miss S of McComb City near the La line It makes cotton goods **3** Borough (pop 1,552), SW N J , SE of Camden, inc 1915 Its early name was Greenland from the color of the marlaceous soil here

magnolia, any species of the genus *Magnolia*, evergreen and deciduous trees or shrubs native to North and Central America and Asia Among the numerous species are some considered to be the most beautiful flowering trees in North America The hardier kinds are deciduous Native American magnolias bloom when the trees are in leaf, many introduced kinds bloom before the leaves appear The bull bay (*Magnolia grandiflora*) of Southern coastal regions has huge white flowers resembling the water lily, among the largest of any tree blossom, while the Southern umbrella tree (*M tripetala*) has perhaps the largest simple leaves (from 1 to 2 ft long), of any North American tree The cucumber tree (*M acuminata*), so called because of the appearance of its unripe fruits, grows wild as far north as New York and Ohio Its wood is light and soft and is used in interior finishes and cabinetwork, sometimes as a substitute for tulip poplar The sweet bay (*M. virginiana*) is native from Texas to New England. See J G Millais, *Magnolias* (1927)

Magnus I (Magnus the Good), 1024–47, king of Norway and Denmark, son of St Olaf He was recalled by the national party when they rebelled against Sweyn, son of Canute In 1038 he made a treaty with Harthacanute of Denmark, by which either king, if he died without an heir, was to be succeeded by the other Magnus at first dealt harshly with his father's enemies and kept the oppressive laws of Sweyn in force, but later granted an amnesty and revoked Sweyn's laws He succeeded Harthacanute in Denmark (1042) and at first claimed the throne of England, but was prevented from pressing his claim by the necessity of crushing a Danish revolt and of fighting against the Wends. Later he consented to dividing the realm with his uncle HAROLD III

Magnus VI (Magnus the Law Mender), 1238–80, king of Norway (1263–80), son of Haakon IV. A man of peace, he brought an end to the Scottish war by ceding the Hebrides and the Isle of Man to Alexander III (1266) He immediately undertook a general revision of the laws, introducing a new code for the kingdom (1274) and subsequently new municipal laws His code introduced the concept that crime is an offense against the state rather than against the individual and narrowed the possibilities of personal vengeance It greatly increased the power of the king, making the throne the source of justice The municipal law gave the cities increased freedom from rural control One of his enactments fixed the law of succession to the throne, another, by its creation of a new royal council and of new ranks of nobility, laid the foundation of a new governing class. In 1277 Magnus made a concordat with the Church See L M. Larson, *The Earliest Norwegian Laws* (1934)

Magnus VII (Magnus Smek) [the effeminate, from Swed. *smeka*=to fondle], 1316–73, king of Norway

(1319–43) and Sweden (1319–64) He succeeded his grandfather, Haakon V, in Norway, at the same time he was elected king by the Swedish nobles to succeed his exiled uncle, King Birger of Sweden He was declared of age in 1332 Educated in Sweden, he neglected Norway and soon became unpopular there However, despite accusations of vice and extravagance, he appears to have been a well-intentioned, though weak, ruler His reign was beset by troubles Norwegian opposition to union with Sweden forced him to recognize (1343) his son Haakon (later Haakon VI) as his successor in Norway, over which he exercised a nominal regency until Haakon came of age (1355) In 1356 his son Eric rebelled and proclaimed himself king of Sweden, Magnus had barely resumed his rule on Eric's death (1359) when he was forced (1361) to share his rule over Sweden with his son Haakon Early in his reign Magnus had acquired the Danish provinces of Skane and Blekinge in S Sweden, but in 1343 Waldemar IV of Denmark forced him to sell these acquisitions back to Denmark The threat of the Hanseatic League, which established its colony at BERGEN during Magnus's reign, induced both Magnus and Haakon VI to enter an alliance (1363) with Denmark Haakon married Waldemar's daughter MARGARET, thus preparing the union of Sweden, Norway, and Denmark The Danish alliance was unpopular with the Swedish nobles, who deposed (1364) both Magnus and Haakon and offered the Swedish crown to the duke of Mecklenburg The duke's son, Albert, thus became king of Sweden Magnus was imprisoned from 1365 to 1371 and spent his last years in Norway

Magnusson, Arni or **Arne** (our'nĭ mag'nōōsŏn), 1663–1730, Icelandic historian and antiquarian He taught at the Univ of Copenhagen and made an important collection of ancient Icelandic manuscripts, housed at the university

Magnusson, Finnur (fĭ'nur), 1781–1847, Icelandic archaeologist and scholar Educated at the Univ of Copenhagen, he was appointed (1815) professor of Northern literature and mythology there He compiled, edited, and translated the *Elder Edda* and published a lexicon of Norse mythology (1828) and works on the origin of the *Edda* sayings

Mago (mā'gō), fl 500 B C, Carthaginian statesman, one of the founders of the military power of Carthage He forced commercial treaties on the Etruscans, Rome (509 B C), and the Greeks of S Italy

Mago, d c 202 B C, Carthaginian general He served in Italy under his brother HANNIBAL and in Spain was one of the commanders defeated by Scipio at Ilipa (206 B C) In 204, after wintering in the Balearic Isles (where Port Mahon is named for him), he landed in Liguria, only to be defeated by the Romans in Cisalpine Gaul (203)

Magoffin, Beriah, 1815–85, governor of Kentucky (1859–62), b Harrodsburg, Ky, grad Centre College 1835, and Transylvania Univ, 1838 A lawyer in Harrodsburg, he became a prominent Democratic political leader As governor, Magoffin, who was a states' rights man rather than a secessionist, urged compromise to avoid war, refused Lincoln's call for troops, and warned both North and South against violating Kentucky's armed neutrality The measures advocated by the legislature after the Confederate invasion of the state (1861) did not meet his approval Virtually deprived of all military powers, he disliked his position and resigned in 1862

Magog (mā'gŏg), in the Bible **1** Son of Japheth. Gen 10 2 **2** See GOG

Magog (mā'gŏg), town (pop 9,034), S Que, SW of Sherbrooke and on Lake Memphremagog Founded by Loyalist emigrants from the United States after 1776, Magog is a resort and trade center, with textile mills and dairying

Magoon, Charles Edward (mugōōn'), 1861–1920, American administrator, b Steele co, Minn, educated at the Univ of Nebraska Work as attorney (1899–1904) in the Bureau of Insular Affairs showed his ability to deal with the legal problems of American expansion In 1904 he was made counsel for the Panama Canal Commission and prepared laws for the Canal Zone, and in 1905 he became governor of the Canal Zone and minister to Panama As provisional governor of Cuba after 1906 he so reorganized affairs that the government was returned to the Cuban people in 1908 He was the author of *The Law of Civil Government under Military Occupation* (1902)

Magor-missabib (mā'gôr-mĭs'ŭbĭb) [Heb, =terror on every side], name given by Jeremiah to the man who put him in the stocks Jer 20 3

Magpiash (măgpī'ăsh), signer of the covenant Neh 10 20

magpie, bird of the crow family Closely related to the magpies of Europe and Asia is the American or black-billed magpie of W North America Its plumage, except for the white wing patches and abdomen, is black with some iridescence, and it is about 20 in long Magpies build huge, domed nests in trees They destroy birds' eggs and young and kill sickly, wounded, or newborn sheep or cows by pecking They are scavengers but also eat harmful insects and fruits, berries, and leaves Noisy, chattering birds, in captivity they can be taught to imitate some words The yellow-billed magpie is found in the San Joaquin and Sacramento valleys See J M Linsdale, *The Natural History of Magpies* (1937).

Magrath (mŭgrăth'), town (pop 1,295), S Alta, S of Lethbridge, in a farm (grain and sugar beets) and stock-raising region, founded by Mormons

Magruder, John Bankhead (mugrōō'dŭr), 1810–71, Confederate general, b Winchester, Va, grad. West Point, 1830 His reckless daring in the Mexican War won him a captaincy and the brevets of major and lieutenant colonel At the outbreak of the Civil War he resigned and joined the Confederate army He was given command of forces on the Virginia peninsula and in June, 1861, defeated B F Butler at Big Bethel Promoted major general (Oct), Magruder distinguished himself in the PENINSULAR CAMPAIGN, particularly in holding off G B McClellan at Yorktown As commander of the Dept of Texas (1862–64), he recaptured Galveston, Jan 1, 1863 After the war he was a major general in the Mexican imperialist army until MAXIMILIAN came to grief See D S Freeman, *Lee's Lieutenants*, Vol I (1942)

maguey see AGAVE

Magyars (mŏd'yärz, măg'yarz), the people of HUNGARY Although in the past it was believed that some common origin existed among the Magyars, the Huns, the Mongols, and the Turks, modern research has proved the baselessness of such suppositions The only similarity between the Magyars and the peoples named above was their mode of life when they first appeared in Europe in the 9th cent The Magyar or Hungarian language belongs to the Finno-Ugric family (see LANGUAGE, table) A nomadic nation, the Magyars migrated (c 460) from the Urals to the Northern Caucasus region They remained there for about 400 years, for part of that time they were allied with the Khazars Contact with Turkic peoples seems to have been close, for many Magyar words of Turkish origin, relating to animal husbandry and political and military organization, were in use before the 9th cent During that period the Magyars began to engage in agriculture Late in the 9th cent the advance of the PECHENEGS forced the Magyars W across S Russia and into present Rumania Under their leader ARPAD they defeated the Bulgar tsar Simeon I, but Simeon, with the help of the Pechenegs, forced them northward into Hungary, which they permanently settled (c 895 They were described as ferocious warriors, mounted on swift horses and almost unconquerable on their raids They conquered Moravia and penetrated deep into Germany until they were checked (955) by Emperor Otto I at the Lechfeld Under St STEPHEN, Christianity was introduced early in the 11th cent, and the Magyars consolidated their state They absorbed the other ethnic groups of Hungary proper The SZEKELY are presumably closely related to them The terms *Magyar* and *Hungarian* are identical, but in non-Hungarian languages the word *Magyar* is frequently used to distinguish the Hungarian-speaking population of Hungary from the German, Slavic, and Rumanian minorities, which were considerable until the end of the First World War, when Hungary lost its border provinces For Magyar literature, see HUNGARIAN LITERATURE

Mahabaleshwar (mŭhä'bŭlĕsh'wur), town (pop 5,090), W central Bombay state, India It is a summer resort situated in the Western Ghats at an elevation of c 4,000 ft

Mahabharata (muhä'bhä'rutŭ), great Sanskrit epic of India, composed between 200 B C and A D 200. The work, traditionally ascribed to one of its minor characters, Vyasa [Skt, =arranger], was probably written by a number of bardic poets and later partly revised by philosophical writers to gloss over barbarous elements It comprises some 110,000 couplets of 16-syllable lines The story incorporates in part that of the RAMAYANA, the other great Sanskrit epic While there are many subplots and irrelevant tales, basically the *Mahabharata* is the fabulous account of a dynastic struggle in the kingdom of Hastinapur The Pandavas, five brothers of noble character married in common to Draupadi, are rivals of their three cousins, the treacherous Kauravas After many years the two parties fight a great battle—in which the episode of the BHAGAVAD-GITA occurs—and the Pandavas win Yudhisthira, the eldest, ascends the throne, but, saddened by the spectacle of earthly glory, he abdicates, takes the path to heaven, and is received into eternal bliss For selections, see Romesh C Dutt, *The Mahabharata and the Ramayana* (1911) See E W Hopkins, *The Great Epic of India* (1901), Edward P Rice, *The Mahabharata Analysis and Index* (1934)

Mahalah (mā'hä'lu) [Heb, =disease], child of the sister of Gilead 1 Chron 7 18

Mahalaleel (mā"hulā'lēĭl) [Heb, =praise of God] **1** Descendant of Adam Gen 5 12, 1 Chron. 1.2. Maleleel Luke 3 37 **2** Judahite Neh 11.4

Mahalath and **Mahalath Leannoth:** see AIJELETH SHAHAR

Mahali (mā'hā'lī), variant of MAHLI.

Mahan, Alfred Thayer (muhăn'), 1840–1914, American writer on naval affairs, b West Point, N Y., grad Annapolis, 1859 A Union navy officer in the Civil War, he later taught naval history and tactics at the Newport War College, of which he was president (1886–89, 1892–93) Out of his lectures grew his books on sea power in its historical significance, among them *The Influence of Sea Power upon History, 1660–1783* (1890) and *Sea Power in Its Relation to the War of 1812* (1905) Mahan saw naval questions not in the narrow view of technical study of naval campaigns but rather in broader sweep of the interlocking activity of international politics and naval policy, with some emphasis on ocean commerce and its economic implications He considered sea power the decisive factor in warfare His works were widely hailed and exerted considerable influence on the thought of his time On a visit to Europe (1893–95) he was highly honored In 1896 he retired, but later he was sent to the Hague Conference of 1899, where he stoutly opposed reduction of armaments His books have been much used by proponents of a big navy He also wrote biographies of Farragut and Nelson, *The Harvest Within* (1909), a religious book, and the autobiographical *From Sail to Steam* (1907) A selection of his works appeared in 1918 See biography by W D Puleston (1939); R S West, Jr, *Admirals of American Empire* (1948)

Mahanadi (muhä'nŭ'dē), river, c 550 mi long, rising in SE Madhya Pradesh, India It flows generally N through Madhya Pradesh and then generally E through Orissa state, where it has cut a gorge through the Eastern Ghats, to empty into the Bay of Bengal by several channels The Mahanadi supplies water for extensive irrigation works

Mahanaim (mā"hunā'ĭm) [Heb, =hosts], unidentified city, E of the Jordan near the Jabbok Here Jacob met angels, here, also, David took refuge from Absalom. Gen 32 2,22, Joshua 21 38, 2 Sam 2 8, 17 24–27, 19 32, 1 Kings 4 14

Mahaneh-dan (mähä'nĕ-dän") [Heb, =camp of Dan], unidentified place, near Jerusalem Judges 13 25, 18 12

Mahanoy City (mähunoi'), industrial borough (pop 13,442), E Pa, NE of Pottsville, settled 1859, inc 1863 Its products include anthracite, textiles, and beer Mahanoy Mt near by has an altitude of c 2,000 ft

Maharai (mā'hurī) [Heb, =hasty], one of David's men 2 Sam 23 28, 1 Chron 11 30, 27 13

Mahath (mā'hăth) **1** Ancestor of the singer Heman 1 Chron 6 35 **2** Levite serving under Hezekiah 2 Chron 31 13

mahatma (muhät'mu, -hät'-) [Sanskrit, =great-souled], title used in India among Hindus for a person of superior holiness It is without theological significance Gandhi is the best-known figure to whom the title was applied

Mahavite (mā'hăvīt, mähä'vīt), obscure family name of one of David's guard 1 Chron 11 46

Mahazioth (muhā'zēŏth) [Heb, =visions], leader of temple musicians 1 Chron 25 4,30

Mahdi (mä'dē) [Arabic, =he who is guided], in ISLAM, the man who will arise in the end of the world as the leader of the faithful or IMAM In spite of the canonical saying, "There is no Mahdi but Jesus," and in spite of the belief among Sunnites that Jesus will come in the last things, the Shites and the variations of Shiism have tended to a kind of active millennialism As a result of this, men have arisen from time to time in Persia and Egypt claiming to be the Mahdi The only one of these who gained historic importance was Mohammed Ahmed See DRUSES and FATIMITE

Mahdi (mä'dē), title claimed by **Mohammed Ahmed,** 1848–85, Moslem religious leader in the Anglo-Egyptian Sudan He declared himself in 1881 the divine guide (Mahdi) of Islam and led a war of liberation from the oppressive Egyptian soldiery He died soon after capturing Khartoum, Gen Charles Gordon, the British defender there, was killed in the siege His followers, the **Mahdists,** for a time substituted a pilgrimage to his tomb at Omdurman for the customary Moslem pilgrimage to Mecca The final defeat of the Mahdists in 1898 by an Anglo-Egyptian army under Lord Kitchener gave Great Britain control of the Sudan

Mahdia (mädē'ä), town (pop 9,251), E Tunisia It is a fishing port Founded (912) by the Fatimites on the site of Phoenician and Roman colonies, it prospered as their capital (921–48) In the Middle Ages it was known to Europeans as the "town of Africa" The strongly fortified town was several times besieged and fell to Normans, Almohades, the Spanish, and others It early became a base of the Barbary pirates

Mahe: see SEYCHELLES

Maher-shalal-hash-baz (mā'hur-shăl'ăl-) [Heb, =spoil speeds, prey hastes], symbolic name of a son of Isaiah Isa 8 1,3

Mahican Indians (muhē'kŭn), confederacy of North American Indian tribes of the Algonquian linguistic stock They are also called the Mohican The Mahican were of the Eastern Woodlands culture area In the early 17th cent they occupied both banks of the upper Hudson river extending N almost to Lake Champlain. They were neighbored in the northeast by the Pennacook Indians and in

the southwest by the Wappinger Indians; both of these some writers include with the Mahican The MOHEGAN INDIANS were a tribe of the Mahican Confederacy and are to be distinguished from the larger group When the Dutch arrived in New York the Mohawk had been at war with the Mahican for some time and had steadily driven the Mahican E of the Hudson river The Mahican council fire, or capital, had been moved (1664) from Schodac, near Albany, E to Stockbridge, Mass The complete subjection and dispersal of the Mahican were hastened by the firearms provided by the Dutch to their enemies Some of the Mahican moved west to join the Delaware Indians, with whom they afterwards moved to the Ohio region (where the Mahican refugees lost their identity) Others placed themselves under the protection of the Iroquois Confederacy in S central New York The Mahican who remained in Massachusetts became part of the so-called STOCKBRIDGE INDIANS See Alanson Skinner, *Notes on Mahikan Ethnology* (1925)

Mahlah (mā'lu) [Heb ,=disease], daughter and coheiress of Zelophehad Num 27 1-11

Mahler, Gustav (gōōs'taf mā'lur), 1860–1911, Austrian composer and conductor, studied at the Univ of Vienna He was conductor of the Royal Opera, Budapest, 1888–90, the Imperial Opera, Vienna, 1897–1907, the Metropolitan Opera, New York, 1908–11, and the New York Philharmonic 1908–11 He completed nine symphonies, augmenting the orchestra with voices in many of them His Eighth Symphony, called *Symphony of the Thousand* (1910), requires 1,000 performers *Das Lied von der Erde* (1908), for solo voices and orchestra, brings to consummation his work in the song-cycle form, of which *Das klagende Lied* (1880) and *Kindertotenlieder* (1902) are significant examples See biographies by Carl Engel (1933), Bruno Walter (1941), and his wife, Alma Mahler (Eng tr, 1946), Dika Newlin, *Bruckner, Mahler, Schoenberg* (1947)

Mahli (mā'lī, mĭ') [Heb ,=sickly] **1** Son of Merari 1 Chron 6 19,29, 23 21, 24 26 Mahali Ex 6 19 **2** Grandson of Merari 1 Chron 6 47, 23 23, 24 30

Mahlon (mā'lŏn) [Heb ,=pining], Ruth's husband Ruth 1 2,5, 4 9,10

Mahmud I (mə-mōōd', mä'mōōd), 1696–1754, Ottoman sultan (1730–54), son of Mustafa II, nephew and successor of AHMED III A revolt of the Janizaries put him on the throne Affairs of state were largely in the able hands of the Nubian agha, Beshir (1653–1746), who was the power behind a number of successive grand viziers During Mahmud's reign the Ottoman Empire was involved in wars with Persia The attempt of his vassal, the khan of the Crimea, to come to Mahmud's aid led to the Russo-Turkish War of 1736–39 Emperor CHARLES VI entered the war in 1737 on the Russian side, but by the separate peace of Belgrade (1739) he restored N Serbia to Turkey Russia made peace soon afterward and was forced to raze Azov Mahmud built many splendid buildings in Constantinople He was succeeded by his brother, Osman III

Mahmud II, 1784–1839, Ottoman sultan (1808–39), younger son of Abdul-Hamid I He was raised to the throne upon the deposition of his brother, MUSTAFA IV, and continued the reforms of his cousin, SELIM III During his reign the EASTERN QUESTION assumed increasing importance Mahmud inherited the Russo-Turkish War of 1806–12, which ended with the loss of Bessarabia However, Russia was obliged to cease supporting the Serbian rebels under KARAGEORGE, and Serbia returned (1813) to Turkish control In 1817 he recognized MILOSH as prince of Serbia, a Turkish vassal He suppressed (1822) the rebellion of ALI PASHA and defeated the Greeks in the first phase of the Greek War of Independence At the height of his power he ruthlessly carried out (1826) a long-cherished project—the destruction of the JANIZARIES, whose political power was intolerable The Turkish successes in Greece were largely due to the troops sent by the viceroy of Egypt, MOHAMMED ALI, under the command of IBRAHIM PASHA British, Russian, and French intervention led to the destruction (1827) of the Egyptian fleet at Navarino, to the Russo-Turkish War of 1828–29, to a humiliating peace (see ADRIANOPLE, TREATY OF), and to the independence of GREECE The sequel of the Greek war was the invasion of Turkey by Ibrahim Pasha after Mahmud had refused to give Syria to Mohammed Ali as reward for his aid against the Greeks At Konya the Turkish army was completely routed (1832), and Constantinople was saved only by the intervention of a Russian fleet Mahmud was obliged to accede (1833) to Mohammed Ali's demands and, by a secret agreement with Russia, promised to close the Dardanelles to all warships hostile to Russia In 1839 war with Egypt was resumed, and on the day of Mahmud's death news came of the ignominious surrender of the Turkish fleet in the harbor of Alexandria Mahmud's son and successor, Abdul-Mejid, granted Egypt virtual independence Thus, despite the efforts of one of its most forceful and able rulers, the Ottoman Empire had advanced still further on its road to ruin However, Mahmud laid the basis for a modern Turkey He not only initiated the reform of the Turkish army, begun in 1835 by H K B von MOLTKE, but he sought to "Westernize" the whole structure of the state and he destroyed the old feudal pattern of his empire

Mahmud of Ghazni (mumōōd', gŭz'nē), 971?–1030, Afghan emperor and conqueror He defeated (c 999) his elder brother to gain control of Khurasan (in Iran) and of Afghanistan Mahmud, a staunch Moslem, was the scourge of the heterodox and the infidel On his raids against the states of N India, he destroyed Hindu temples, forced conversions to Islam, and carried off booty and slaves Hindus especially abhorred his destruction of the temple to Siva at Somnath in Gujarat Mahmud's territorial gains lay mainly W and N of Afghanistan and in the Punjab He was a patron of literature and art At Ghazni he built a magnificent mosque, the Celestial Bride His successors in the Ghaznavid dynasty, which he founded, ruled over a reduced domain until 1191 See biography by Muhammed Nazim (1931)

Mahnomen (monō'mun), village (pop 1,429), co seat of Mahnomen co, NW Minn It is in the White Earth Indian Reservation and is a center of livestock, poultry, and dairy cooperatives

mahogany, valuable hardwood obtained chiefly from trees of the genera *Swietenia* and *Khaya* of the family Meliaceae Spanish or West Indian mahogany, *Swietenia mahogani*, found in the West Indies and S Florida was originally carried to England from Spanish possessions in the West Indies as ballast in sailing vessels in the 16th cent It was used in shipbuilding before it became popular for furniture According to tradition Sir Walter Raleigh had a mahogany table made for Queen Elizabeth After c 1715, importations of mahogany into England were adequate to provide cabinetmakers with a fairly constant supply The popularity of the wood increased steadily in the 18th cent West Indian mahogany is golden brown to dark rich, red brown and is hard, close-grained, and fine-textured Crotches or curls, pieces obtained from a forked portion of a tree and therefore having unusual markings, became popular toward the end of the 18th cent The mahogany of the continental tropical American regions, *S macrophylla*, grows in areas of heavy rainfall from S Mexico and the Yucatán peninsula through Central America and in parts of Venezuela, Colombia, Peru, and extreme W Brazil The wood is usually golden brown and has a straighter grain than the West Indian species African mahogany, *Khaya ivorensis*, is obtained chiefly from the Gold Coast and the Ivory Coast and the coastal regions of Nigeria and Cameroons It is golden brown and more figured than any other mahogany and is much used, especially as veneers, for furniture and interior trim Mahogany is resistant to termites The name mahogany has been incorrectly applied to the wood of a number of unrelated trees, e g , Colombian mahogany from *Carapana guyanensis* and species of *Cedrela*, including Spanish or West Indian cedar (*Cedrela odorata*)

Mahol (mā'hŏl) [Heb ,=dance], father of wise men 1 Kings 4 31

Mahomet see MOHAMMED

Mahon, Port (muhōn'), Span *Mahón* (mäōn'), city (pop 14,401), chief city and port of Minorca island, Balearics prov , Spain, in the W Mediterranean Its large, excellent natural harbor is defended by two fortresses Port Mahon was named after the Carthaginian general Mago It shared the history of MINORCA

Mahone, William (muhōn'), 1826–95, Confederate general and Virginia politician, b Southampton co , Va , grad Virginia Military Institute, 1847 He was president, chief engineer, and superintendent of the Norfolk-Petersburg RR when the Civil War broke out Mahone became a Confederate brigadier general in Nov , 1861, and fought in most of the campaigns of the Army of Northern Virginia He distinguished himself particularly at PETERSBURG, where on June 30, 1864, he repulsed the Union assault at the "Crater" For this he was immediately promoted major general After the war he resumed his railroad activities and entered politics Mahone became the leader of the Readjusters, Virginia Democrats who advocated the scaling down of the state debt He led the party to victory in 1879 and in 1881, when he was elected to the U S Senate By allying himself with the Republicans there, Mahone was able to build a powerful machine which controlled Virginia politics for several years See biography by Nelson M Blake (1935), D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Mahone Bay, town (pop 1,025), S N S , N of Lunenburg It has shipbuilding and lumbering

Mahoning (muhō'nĭng), river rising in NE Ohio near Alliance. It flows north a short distance beyond Warren, where it turns southeast to flow past Youngstown into Pennsylvania and join the Shenango to form the Beaver river It is c 90 mi long and drains an exceptionally fertile valley The U S Corps of Engineers in 1943 completed Berlin Dam (5,750 ft long and 95 ft high) for controlling floods and for supplying water to the industries of the Mahoning valley

Mahony, Francis Sylvester, pseud **Father Prout,** 1804–66, Irish Jesuit priest He was dismissed from the order in 1830 His essays and poems contributed to *Fraser's Magazine* were collected in 1834–36 as *The Reliques of Father Prout*

Mahopac, Lake (mā'ŏpăk, mā'hō–), small resort lake, SE N Y , NE of Peekskill

Mahrattas or **Marathas** (both murä'tus, mura'–), Marathi-speaking people of W central India In the 17th cent their great leader SIVAJI declared his independence of the Mogul empire From the Mahratta capital at Poona, military expeditions were dispatched and much territory was conquered, especially in central India By the mid-18th cent the Mahrattas had displaced the Mogul empire as the leading power in India, but their domain soon split into several territories which warred among themselves Great Britain, determined to end the threat to its control over India, waged several wars with the Mahrattas, finally subduing them in 1818 Of the major Mahratta states, Baroda, Gwalior, and Indore alone continued in existence See J G Duff, *History of the Mahrattas* (rev ed , 1921), G S Sardesai, *New History of the Marathas* (1947)

Mährisch Ostrau, Czechoslovakia see MORAVSKA OSTRAVA

Mai, Angelo (an'jälō mī'), 1782–1854, Italian philologist, cardinal of the Roman Church As an official at the Ambrosian Library in Milan and at the Vatican Library, he discovered and published many manuscripts, some of them highly valuable His most famous discovery was Cicero's *De republica* In 1838 he received the cardinal's hat

Maia (mā'u mī'u) **1** In Greek religion, one of the Pleiades She was the daughter of Atlas and the nymph Pleione and the mother of Hermes by Zeus **2** In Roman religion, goddess of spring and fertility She was also called Maiesta (the month of May bears her name) and was usually identified with Bona Dea

Maiden, textile-mill town (pop 1,803), W central N C , SW of Charlotte

Maiden Castle, ancient fortress, Dorsetshire, England, near Dorchester The finest earthwork in the British Isles, c 115 acres in area, is here Excavations in 1934–37 revealed evidences of a Neolithic village, with a two-ditch system, indicating occupation c 2000 B C On the same site are remains of an Iron Age fortified village (300 B C) It is believed that the fortress was taken by the Romans and that occupation ceased about A D 70

maidenhair fern, popular woodland FERN (*Adiantum pedatum*) of North America, delicate and graceful It has slender, dark, shining stalks and fragile fronds It was once a popular pectoral remedy In Europe the somewhat similar Venus's-hair (*Adiantum capillus-veneris*) is called maidenhair fern Other species of *Adiantum* are called maidenhair ferns and are cultivated by florists

maidenhair tree see GINKGO

Maidenhead, municipal borough (1931 pop 17,515, 1943 estimated pop 25,453) Berkshire, England, on the Thames and W of London Of the two bridges, one, of stone, was built in 1772 The borough is a resort and residential place, with chemical and metal industries

Maidens, the, or **Hulin Rocks,** group of islets, in the North Channel off Northern Ireland, in Co Antrim There are two lighthouses

Maidstone (mād'stun), municipal borough (1941 pop 42,280, 1947 estimated pop 50,430), co seat of Kent, England, on the Medway Chillington Manor contains the Maidstone Museum, the public library, and the headquarters of the Kent Archaeological Society The grammar school dates from 1549 Noteworthy are the Church of All Saints, founded in the 14th cent , the palace of the archbishops, the College of All Saints, the hospital founded for pilgrims to Canterbury in 1260, and Penenden Heath, a recreation ground William Hazlitt was born here, and Coltree Manor, near by, is the "Dingley Dell" of Dickens's *Pickwick Papers* The chief products are hops, paper, cement, and beer

Maiduguri (mīdōō'gurē), town (pop 24,359), NE Nigeria It exports hides and skins

Maidu Indians (mī'dōō), group of North American Indian tribes belonging to the Penutian linguistic stock In the early 19th cent they were located on the eastern tributaries of the Sacramento river Maidu culture was typical of the California area, they lived in simple brush shelters, they gathered acorns, and they practiced a spirit cult in the Kuksu Society, which featured the *hesi* (initiation) dance Of the three divisions of the Maidu—valley, foothill, and mountain tribes—the valley Indians, or Nisenan, were the most prosperous and culturally developed The Maidu numbered between 8,000 and 10,000 before white contact, but there are now only some 800 living on the Round Valley Reservation, Calif See A L Kroeber, *Valley Nisenan* (1929), R L Beals, *Ethnology of the Nisenan* (1933)

Maikop (mīkôp'), city (pop 67,302), capital of Adyge Autonomous Oblast, Krasnodar Territory,

RSFSR, at the northern foot of the Greater Caucasus and on the Belaya river It has lumber, tobacco, furniture, food-processing, and other industries. To the southwest are the important Maikop oil fields, discovered in 1900–1901 and connected by pipe line with the refineries at Krasnodar and the Black Sea port of Tuapse. Founded in 1858 as a Russian fortress, the city was held (1942–43) by the Germans in the Second World War

mail, see POSTAL SERVICE For coat of mail, see ARMOR

Maillol, Aristide (ărēstēd' mäyôl'), 1861–1944, French sculptor. He was a neoclassicist, finding much inspiration in early Greek sculpture. He is best known for his simple and massive figures of women, such as *Flora*, *Pomona*, *Venus*, and the *Fame* in his celebrated memorial to Cézanne at Aix *The River* is in the Museum of Modern Art in New York See study by Maurice Denis (1925, in French)

Maimonides (mīmŏn'ĭdēz) or **Moses ben Maimon** (mī'mun) 1135–1204, Jewish rabbi, savant, physician, and philosopher, one of the greatest Hebrew scholars, b Córdoba, Spain, d Cairo He is called Rambam from the initials of the words Rabbi Moses ben Maimon His greatest scholastic work was his attempt to organize and systematize the vast mass of Jewish oral law in what was to be a reference book for laymen as well as for rabbis and judges—the Mishna Torah [copy or repetition of the Torah or the Law], generally known among scholars as the *Strong Hand* He also produced a great commentary on the six orders of the Mishna, a collection of discourses, a work on logic, a treatise on the calendar, several medical books, the most important of which is his book on hygiene, and the great philosophical work *Moreh Nebukim* (Eng tr, *Guide for the Perplexed*, 1919), in which he explained the esoteric ideas in the Bible, formulated a proof of the existence of God, expounded the principle of creation, and elucidated baffling metaphysical and religious problems The *Moreh Nebukim* has dominated Jewish thought and exerted a profound influence upon Christian thinkers See Izak Münz, *Maimonides* (1912, Eng tr, 1935)

Main (mān, Ger mīn), river, 308 mi long, central and W Germany It is formed near Kulmbach, Bavaria, by the confluence of the Red Main (Ger *Roter Main*) and the White Main (Ger *Weisser Main*), both of which rise in the Fichtelgebirge It then winds generally W through Upper and Lower Franconia and N Hesse past Schweinfurt, Wurzburg, Aschaffenburg, Offenbach, and Frankfurt to join the Rhine opposite Mainz It is navigable from its junction with the Regnitz near Bamberg and is connected by canal with the Danube.

Maine, Sir Henry James Sumner, 1822–88, English jurist and historian, educated at Cambridge Univ A pioneer in the historical and comparative study of institutions, he looked on the history of laws as the most certain way of studying the history of civilization He drew analogies between 19th-century institutions in India and those of Anglo-Saxon society and believed that society progressed from custom to law, with Roman law demonstrating the intermediate stage between ancient usage and modern British law Parts of his theories (such as his belief that the development of contract is related to society's greater respect for the will) have been demolished, but his influence on the study of the history of jurisprudence is incalculable. His first work was his most famous, *Ancient Law* (1861, new ed, with introduction by C K Allen, 1931), written while he was reader to the Inns of Court and professor of civil law at Cambridge. He was (1862–69) legal member of the viceroy's council in India, where he planned the codification of Indian law From 1869 to 1878 he was professor of jurisprudence at Oxford, from 1877 master of Trinity Hall, Cambridge, and from 1887 professor of international law at Cambridge He embodied his lectures on legal history in several books, among them *Village Communities in the East and the West* (1871) and *The Early History of Institutions* (1875) In *Popular Government* (1885) he challenged the thought of his day by warning that democracy and progress were not necessarily equated

Maine (mān, Fr mĕn), region and former province, NW France, S of Normandy and E of Brittany. It now occupies the departments of Mayenne and Sarthe and parts of Loir-et-Cher, Eure-et-Loire, and Orne Maine is primarily agricultural, with important stock raising in the hilly PERCHE Le Mans, an industrial and commercial center, was the capital Other towns include Laval, Mayenne, and Vendôme. Maine is well irrigated by the Mayenne, Loir, and Sarthe rivers Made a county in the 10th cent, it passed (1110) to ANJOU and was held for long periods by England between 1156 and 1448, when it was definitely confirmed as a fief of the French crown It was made a duchy, but in 1481 Louis XI incorporated it in the royal domain, subject to the jurisdiction of the Parlement of Paris It subsequently was an appanage of several Valois and Bourbon princes

Maine, state (area 33,215 sq mi; 1940 pop. 847,226, 1949 estimated pop 909,000), in the extreme northeastern corner of the United States, largest of the New England states, admitted as the 23d state in 1820 (a free state). AUGUSTA is the capital, PORTLAND the largest city. The Canadian provinces of Quebec and New Brunswick bound Maine from the northwest around to the southeast, with the SAINT JOHN and SAINT CROIX rivers forming part of the international line with New Brunswick To the south spreads the Atlantic Ocean (the Bay of Fundy lies off to the east) New Hampshire (on the west) is the only state bordering Maine. Geological action laid down a bedrock of sandstone, shale, and limestone, these, where crystallized by molten granite, form valuable mineral deposits Much of the soft rock eroded into tableland valleys, while the more resistant rock remained, in the generally mountainous west, the mountains of MOUNT DESERT ISLAND in the east, and isolated peaks including KATAHDIN, high point of the state Receding glaciers deposited long drift ridges across the countryside and dammed the valleys to form over 2,200 lakes (MOOSEHEAD LAKE is the largest) and to establish new, rugged watercourses for more than 5,000 rivers and streams From the higher levels in the west the land slopes to the St John river basin in the north, eastward to the PENOBSCOT river, and southward to the KENNEBEC, ANDROSCOGGIN, and SACO rivers The sea has encroached over the low coastal valleys, leaving a jigsawed coastline of 2,500 mi. and numerous irregular and rocky islands offshore East of the Kennebec waves dash against bold and precipitous cliffs, but along the west coast the shoreline has frequent sandy beaches and marshy lowlands Great stands of white pine (for which Maine takes its name as the Pine Tree State), hemlock, spruce, fir, and hardwoods once covered the entire state Three quarters of the area remains forested, and the population is centered on the cleared land along the coast and the major rivers Forest fires are a constant menace, and a particularly severe one in Oct, 1947, took 15 lives and a huge toll in timberland and property, including much of BAR HARBOR In the shelter of lakes and woods, particularly in the northern counties, wild life has found refuge Elk, deer, black bear, and smaller game are abundant, and fish and fowl are plentiful These attractions for visitors and sportsmen supplement the appeal of picturesque coastal and island resorts to make the tourist and vacationist trade an important feature in Maine's economy Many factors have unfavorably affected the state's economic life—a generally poor soil and short growing season, geographical remoteness from production centers, an inadequate distribution system, lack of coal and steel, and a reluctance to adopt modern methods of production and merchandizing Maine's major assets are its rapid rivers, with approximately one half of their potential power developed, protected harbors for fishing ports, commerce, and shipbuilding, and extensive lumber, mineral, and fishing resources Fishing, the earliest industry, yields an abundance of herring (used for sardine packing), lobsters (nationally famous), and scallops Lumbering has dominated industry and the export trade since the days when the straight white pines provided masts for the British navy The timber trade has declined, but pulpwood products and paper are manufactured at many mill and factory towns along the rivers (this is the most valuable industry), and a careful system of selective cutting and reforestation ensures the preservation of the woodlands The proximity of harbors and forests encouraged extensive shipbuilding Although the days are past when mighty clippers and freighters slipped down the gentle slopes of tidal rivers to carry the skill of Maine artisans and seamen around the world, the construction of fishing and pleasure craft remains a skilled and valuable industry After the decline of shipbuilding and timber trading, commercial activity slackened, and today Portland, the largest port, operates far below its capacity However both Portland and BANGOR are important commercial cities and, during the summer months, serve a vast resort region Other industries that produce in sufficient quantity for export include textile manufacturing (cotton and woolen goods) at LEWISTON, Augusta, WATERVILLE, and BIDDEFORD and the making of shoes, centered at AUBURN. The mineral wealth of the state is considerable, much of it undeveloped Many varieties of granite, including some superior ornamental types, have been used for construction throughout the nation Slate, limestone, and clay are produced, and pegmatite yields several different minerals, including some precious stones Agriculture, which occupies approximately one third of the population, is an achievement of perseverance over adverse soil and climatic conditions Since the opening of the prairie and grasslands of the West, Maine has tended to concentrate on dairying, poultry raising, and market gardening to serve local and New England markets The growing of potatoes, particularly in AROOSTOOK CO, was stimulated by the completion of the Aroostook RR in 1894; the versatile Maine potato, Idahoans to the contrary, now dominates the national market. With many factors operating against the establishment of a stable and prosperous economy, Maine has had a very low population increase in the last century. As a result the state exhibits more cultural homogeneity and dependence on custom than is generally found in other parts of the nation. The earliest human occupation extends back to prehistoric time, as evidenced by the burial mounds of the Red Paint people found in the south central part of the state The Indians who came later left enormous shell heaps, variously estimated at from 1,000 to 5,000 years old At the time of settlement by white men the friendly ABNAKI INDIANS were scattered along the coast and in some inland areas The coast of Maine may have been visited by the Norsemen and was known to British, French, and Spanish mariners before the sieur de MONTS and Samuel de CHAMPLAIN established a short-lived (1604–5, it was moved to Port Royal) French colony at the mouth of the St Croix river The region was embraced in the grant James I awarded to the Plymouth Company, and Sir John Popham and Sir Ferdinando GORGES sent out colonists under Sir John's nephew, George POPHAM, in 1607 This settlement, Fort St George, on the present site of PHIPPSBURG, at the mouth of the Kennebec (then called the Sagadahoc) river, did not prosper, and the colonists returned to England in 1608 The French returned to the area in 1613 when a new colony and a Jesuit mission (see BIARD, PIERRE) were established on Mount Desert Island, but Sir Samuel ARGALL soon put an end to the venture In 1622 the Council for New England (successor to the Plymouth Company) granted Gorges and Captain John MASON the territory between the Kennebec and Merrimack rivers, the grant extending 60 mi inland At this time, the region became known as Maine, either in honor of Charles I's queen, Henrietta Maria, who was feudal proprietor of the French province of Maine, or to distinguish the mainland from the off-shore islands Gorges and Mason divided (1629) their grant, with Gorges taking the area east of the Piscataqua, in which he was confirmed by Charles I, who issued him a royal charter in 1639 for "the Province and Countie of Maine" Meanwhile permanent settlements had been established at MONHEGAN, SACO, and YORK Neglected after Gorges's death in 1647, Maine settlers in 1659 came under the jurisdiction of Massachusetts With the restoration of Charles II in 1660, however, the Massachusetts title to Maine was not clear until, in 1677, it purchased the proprietary rights of Gorges's heirs French influence, recently reasserted east of the Penobscot, declined rapidly after 1688 when Sir Edmund Andros, royal governor of all New England, seized French fortifications there After the overthrow of Andros, Massachusetts received a new charter (1691), which confirmed its hold on Maine, and with Sir William PHIPS, a Maine native, as governor and the territorial question settled, local government and institutions in the Massachusetts tradition really took root in Maine Because it was on the frontier, the province was repeatedly ravaged by Indians, but their strength was broken during Queen Anne's War, at the end of which KITTERY, Wells, and York were the only remaining settlements Maine nevertheless recovered quickly and soon had prosperous fishing, lumbering, and shipbuilding industries In one of the last French and Indian Wars its militia won distinction serving under Sir William PEPPERELL, a Maine man, in the capture (1745) of Louisburg, French stronghold on Cape Breton Island Dissatisfaction with British rule was expressed openly after passage of the Stamp Act in 1765, when a mob at Falmouth (Portland) seized a quantity of the hated stamps The town paid dearly for its defiance, being devastated by a British fleet in the American Revolution In that same year, 1775, Benedict Arnold led his grueling, unsuccessful expedition against Quebec N through Maine During the war supplies were cut off and Indian attacks were frequent, but with American independence won, economic development was rapid in the Dist of Maine, one of the three admiralty districts of Massachusetts set up by the Continental Congress in 1775 However, the Embargo Act of 1807 and the War of 1812 interrupted the thriving commerce and turned the district to industrial development Agitation for statehood, which had been growing since the Revolution now became widespread Dissatisfaction with Massachusetts was aroused by the inadequate military protection provided during the War of 1812; by the land policy, which encouraged absentee ownership, and by the political differences between conservative Massachusetts and democratic Maine The imminent admission of Missouri into the Union hastened the separation, and equality of power between North and South was preserved by admitting Maine in 1820, in accordance with the MISSOURI COMPROMISE. With Portland as its capital (moved to Augusta in 1832) the new state entered a prosperous period. During the first half of the 19th cent. Maine enjoyed its greatest population increase, a highly profitable timber trade was carried on with the West Indies,

Europe, and Asia, and towns such as BATH became America's leaders in shipbuilding. The long-standing NORTHEAST BOUNDARY DISPUTE almost precipitated border warfare between Maine and New Brunswick in the so-called AROOSTOOK WAR of 1839, the controversy was settled by the WEBSTER-ASHBURTON TREATY of 1842 Political life was vigorous, particularly in the 1850s when the reluctance of the Democrats to take a firm antislavery stand swept the new Republican party into power HANNIBAL HAMLIN became a leading Republican politician and served as Vice President during Lincoln's first administration Antislavery sentiment was strong, and Maine made sizable contributions of men and money to the Union in the Civil War Generals Oliver O HOWARD and Joshua L CHAMBERLAIN were from Maine For decades regulation of the liquor traffic was the chief political issue, and Maine was the first state to adopt (1851) a prohibition law, which, framed by Neal Dow, came to be known to the rest of the nation as the "Maine Law " This was incorporated into the constitution in 1884 and was not repealed until 1934 State politics entered a hectic stage in 1878 when the newly organized Greenback party combined with the Democrats to carry the election In the following year the coalition was accused of manipulating election returns, a charge sustained by the state supreme court, which seated a rival legislature elected by the Republicans In 1880 the fusionists were again successful, but since that time the state has been prevailingly Republican, providing that party with national leaders in James G BLAINE, Thomas B REED, and Eugene HALE Only once since the Civil War, in 1912, has the state chosen Democratic presidential electors Virtually the only political contests are in the Republican primaries Maine is the only state to hold state elections in September, and the usually successful Republican party once capitalized on this by claiming that "as Maine goes, so goes the nation " After the 1936 national election, however, Democratic wags gleefully amended that slogan to "as Maine goes, so goes Vermont " In the 20th cent the nationwide interest in progressive legislation led to the adoption of the direct primary, the initiative and referendum and a corrupt practices act A law passed in 1909 to prohibit the sale of hydroelectric power outside the state precipitated a contest with the power companies that was not settled until the law was approved by direct vote in 1929 Liberals still maintain that the power companies have too much political influence in the state A unique experiment in the development of water power was started under the New Deal in 1935 with a Public Works Project to dam the tidal waters of PASSAMAQUODDY BAY The plan was abandoned in 1936 when Congress failed to appropriate funds, workers were stranded, and a state already dubious about governmental enterprises was confirmed in its attitude This same distrust of government has been expressed in an unwillingness to spend state money for such internal improvements as the extension of freight facilities or increased school aid. Some of Maine's abundant natural and industrial resources remain undeveloped The economic revival experienced in port and factory towns during the Second World War has largely subsided, and in 1949–50 the textile industry, after enjoying a brief expansion, suffered severely from competitive markets The prevailing trend toward industrialization and urbanization challenges Maine to build a modern commercial and industrial community and still preserve the Down East individualism which contributes so greatly to the charm of the state The state has four institutions of higher education—Bowdoin College at Brunswick, Colby College at Waterville, Bates College at Lewiston, and the Univ of Maine at Orono It has been remarked that in addition to potatoes and fish, Maine exports books about Maine There is no shortage of this commodity as both native and adopted citizens of the state—Sarah Orne Jewett, Kate Douglas Wiggin, Laura E Richards, Edwin Arlington Robinson, Robert P Tristram Coffin, Mary Ellen Chase, and Kenneth Roberts—have turned out or continue to turn out the product regularly with the labor of love See Glenn W Starkey, *Maine Its History, Resources and Government* (1920, 4th ed., 1947); Harrie B Coe, ed., *Maine Resources, Attractions, and Its People* (5 vols., 1928–31), W B. Smith, *The Lost Red Paint People of Maine* (1930), Orren C Hormell, *Maine Towns* (1932), Leon H Tebbetts, *The Amazing Story of Maine* (1935), Federal Writers' Project, *Maine. a Guide "Down East"* (1937), Kenneth Roberts, *Trending into Maine* (1938, rev ed., 1944); Alfred F Loomis, *Ranging the Maine Coast* (1939), Robert P Tristram Coffin, *Yankee Coast* (1947) and *Maine Doings* (1950), William H Rowe, *The Maritime History of Maine; Three Centuries of Shipbuilding & Seafaring* (1948), Edward V. Mitchell, *It's an Old State of Maine Custom* (1949), Marion J. Smith, *History of Maine from Wilderness to Statehood* (1949), Henry Beston, ed., *White Pine and Blue Water; a State of Maine Reader* (1950).

Maine, river, W France, in Anjou, formed by the confluence of the SARTHE and the Mayenne, just N of Angers. It flows S past Angers to join the Loire

Maine, U S battleship, the center of a serious international incident in 1898 Cuba was in a state of unrest and revolutionary turmoil, and the American consul general, Fitzhugh Lee, asked for protection of American nationals and property The *Maine* was sent under command of Capt Charles D Sigsbee, arriving at Havana harbor Jan 25, 1898 On the evening of Feb 15 a mysterious explosion occurred, and the *Maine* sank, with a loss of 260 men An outcry resulted The cause of the explosion was never satisfactorily explained A U S naval inquiry, headed by W T Sampson, reported on March 21 that the *Maine* had been sunk by a submarine mine but that responsibility could not be fixed on any person A Spanish naval inquiry reported (March 22) that the disaster was an accident, resulting from an explosion in the forward magazine Whatever the truth of the matter, the enraged American public considered the Spanish to blame "Remember the Maine" became a catchword that fed American patriotism in the SPANISH-AMERICAN WAR In 1912 the vessel was raised from the harbor, towed to sea, and sunk Captain Sigsbee wrote *Personal Narrative of the Battleship Maine* (1899)

Maine, University of, at Orono, land-grant and state supported, coeducational, chartered 1865 as Maine State College of Agriculture and the Mechanic Arts, opened 1868, renamed 1897 It has colleges of agriculture, arts and sciences, and technology, a school of education, a marine biological station, and an art gallery

Maine de Biran (mĕn' dŭ bĕrā), 1766–1824, French philosopher, active in the Napoleonic government His real name was Marie François Pierre Gonthier de Biran Although interested in the theories of Condillac and the ideologues, he was unable to accept the definition of knowledge as solely the sum of sensations Believing it to occur also through voluntary attention to sensation, Maine de Biran felt morality to be within the field of choice He later inclined to mysticism His writings were collected as *Œuvres inédites de Maine de Biran* (1859)

Maine-et-Loire (mĕn"-ā-lwär'), department (2,787 sq mi, pop 496,068), NW France It occupies, roughly, the historical province of ANJOU Angers is the capital

Mainland. 1 Island, Orkney Islands, Scotland see POMONA 2 Island (pop 15,172), 55 mi long and 20 mi wide, off N Scotland, largest of the Shetland Islands Lerwick, county town of the Shetlands, is on the east coast

Maintenon, Françoise d'Aubigné, marquise de (frāswaz' dōbēnyā' markēz' dŭ mătunō'), 1635–1719, second wife of Louis XIV Her grandfather was Agrippa d'Aubigné, the Huguenot hero Her father betrayed the Protestant cause and was later imprisoned as a counterfeiter She was born in prison The family spent some years in Martinique, but upon her father's death she and her mother returned to France, where they lived in great poverty Though baptized a Catholic, the child was educated by a Protestant aunt Later cared for by Catholic relatives, she was converted and became very devout At 16 she married the poet SCARRON and through his position became a figure in the literary and intellectual world of Paris After his death in 1660 the queen mother continued the poet's pension to his widow, and later Mme de MONTESPAN obtained a pension for her She became the governess for the children of Mme de Montespan and the king and gradually supplanted Mme de Montespan in the esteem and affections of Louis XIV, who made her a marquise Mme de Maintenon exercised considerable influence over Louis and greatly improved the moral tone of the court, but it is now universally believed that the ascription to her of Louis's mistakes (particularly the revocation of the Edict of Nantes) is, at least, an exaggeration The queen, Marie Thérèse, was devoted to her and died in her arms In 1684 she was morganatically married to the king In her later years Mme de Maintenon gave much of her attention to the famous school of Saint-Cyr, which she had founded for the daughters of poor but noble families She also wrote remarkable essays and letters dealing with education See biographies by C C Dyson (1910), Gonsague Truc (1929, in French), and Marcel Langlois (1932, in French)

Mainz (mīnts), city (1939 pop 158,533, 1946 pop 75,020), Rhenish Hesse, W Germany, on the left bank of the Rhine opposite the mouth of the Main Its French name, also sometimes used in English, is Mayence (mīäs') One of the great historical cities of Germany, Mainz grew on the site of the Roman Maguntiacum or Mogontiacum, in Upper Germany St BONIFACE was made (8th cent) first archbishop of Mainz The later archbishops acquired considerable territory around Mainz and in Franconia, on both sides of the Main, which they ruled as princes of the Holy Roman Empire They very early received a vote in the imperial elections and had precedence over the other electors; they crowned the German kings and, from the 16th cent, the emperors-elect, and they were, *ex officio*, archchancellors of the Holy Roman Empire. Under the rule of the archbishops-electors Mainz flourished as a commercial and cultural center The Jews, who had one of their oldest settlements in Germany here, played an important part in the prosperity of Mainz GUTENBERG lived at Mainz, which he made the first printing center of Europe Occupied (1792) by the French, Mainz was ceded to France by the Treaty of Campo Formio (1797), and the archbishopric was secularized and reduced to a diocese in 1803 The last archbishop, K T von DALBERG, received, however, ample compensation The Congress of Vienna made (1815) Mainz a federal fortress of the German Confederation and awarded it, with Rhenish HESSE, to the grand duchy of Hesse-Darmstadt Mainz thus became (1816) the provincial capital of Rhenish Hesse It was (1918–30) the headquarters of the French occupation army in the S Rhineland The city, including its many architectural and artistic treasures, was more than half destroyed in the Second World War It was taken (1945) by American troops and was soon afterward incorporated with the newly created state of Rhineland-Palatinate, under French occupation Though Mainz was declared the capital of the new state, Coblenz became the temporary seat of the government The decline of the population of Mainz is due in part to the transfer (1945) of its suburbs on the right bank of the Rhine to American-occupied Hesse Among the heavily damaged buildings in the old inner city are the Romanesque cathedral (consecrated 1009, restored 19th cent), the Renaissance electoral (archiepiscopal) palace, which housed a picture gallery and a museum of antiquities, and the Church of St Peter (18th cent) The city was, until recently, primarily a commercial center Its active river trade declined in the 19th cent and was partly taken over by Mannheim, with it declined the trade in Rhine wines The present industries of Mainz (chemicals, machinery, precision instruments, and others) are of recent origin The Univ of Mainz was founded in 477, was discontinued in 1816 and was reconstituted in 1946 by the French occupation authorities as the Johannes Gutenberg Universität

maiolica see MAJOLICA

Maipo (mī'pō), river, c 155 mi long, rising in the Andes of Chile and flowing W to the Pacific Some miles north was fought the decisive battle of MAIPÚ in the struggle for Chilean independence The river is also sometimes called Maipú

Maipú (mīpōō'), battlefield, central Chile, a few mi S of Santiago Here on April 5, 1818, SAN MARTÍN routed the Spanish royalist army and assured Chilean independence The victory made possible his liberating expedition to Peru

Maisonneuve, Paul de Chomedey, sieur de (pōl' dŭ shômdā' syûr' dŭ māzônûv'), c 1612–1676, founder and first governor of Montreal, b France A soldier in the European wars, he was sent by the Société de Notre Dame de Montréal to take possession of their grant in the new world He landed (May, 1642) on Montreal island A man of faith and courage, he administered the affairs of the colony for 22 years, until he was removed by the lieutenant general of the French territories in the Americas, and returned (1665) to France to die in obscurity in Paris

Maistre, Joseph de (zhôzĕf' dŭ mĕ'strŭ), 1754?–1821, French writer and diplomat in the service of Sardinia Born in Savoy, he was Sardinian ambassador at St. Petersburg from 1803 to 1817 Joseph de Maistre was unalterably opposed to the 18th-century philosophy, and he was passionately royalistic and ultramontane He was master of a rigidly logical method and the possessor of a great store of knowledge These qualities, combined with a fine ability in writing French prose, made him perhaps the most powerful literary enemy of 18th-century rationalism, in which he delighted to detect logical weakness and shallowness His principal works were *Du pape* [on the pope] (1819) and *Les Soirées de Saint-Pétersbourg* [discussions in St Petersburg] (1821) They develop his idea that the world should be one, ruled by the pope absolutely as the spiritual ruler, no temporal ruler having an independent authority

Maistre, Xavier de (zăvyā'), 1763–1852, French writer, b Savoy, brother of Joseph de Maistre He served in the Russian army and lived most of his life in St Petersburg His works are distinguished for their polished wit His *Voyage autour de ma chambre* [trip around my room] (1794), written when he was in prison for dueling, is a simple peregrination from object to object allowing each to call up recollections. *Le Lépreux de la cité d'Aoste* [the leper of Aosta] (1811) is a dialogue between a soldier and a leper, remarkable for its portrayal of Christian resignation *La Jeune Sibérienne* [the Siberian girl] is the story of a plea of a Russian girl to the tsar for mercy for her father in Siberia

Maitland, Frederic William, 1850–1906, English legal historian Educated at Cambridge and admitted to the bar (1876), he engaged in chancery practice until 1884. In 1888 he was made Downing professor of English law at Cambridge Univ. A

thorough scholar, he founded the Selden Society for the publication of early English documents and himself edited many texts, such as Henry de Bracton's notebook and the *Year Books of Edward II* (completed by G. J Turner, 4 vols , 1903–7) *The History of English Law before the Time of Edward I* (2 vols., 1895), which he wrote with Sir Frederick Pollock, is a brilliant work, still standard Other studies by him, notable for their prose style as well as sound theories of constitutional history are *Domesday Book and Beyond* (1897), a model for the use of a source, *English Law and the Renaissance* (1901), *Equity* (ed. by A H Chaytor and W J Whittaker, 1909, rev ed by John Brunyate, 1937), and *The Forms of Action at Common Law* (ed by A H Chaytor and W J Whittaker, 1909 and 1937) His *Constitutional History of England* (ed by H A L Fisher, 1908) is a valuable series of lectures See his collected papers (ed by H A L Fisher, 3 vols , 1911) and *Selected Essays* (ed by H D Hazeltine, G T Lapsley, and P H Winfield, 1936), biography by H A L. Fisher (1910)

Maitland, James· see LAUDERDALE, JAMES MAITLAND, 8TH EARL OF

Maitland, John see LAUDERDALE, JOHN MAITLAND, DUKE OF

Maitland, William (Maitland of Lethington), 1528?–1573, Scottish statesman, called Secretary Lethington, son of Sir Richard Maitland, Lord Lethington He began his career in the service of the regent MARY OF GUISE, but deserted her in 1559 Upon the return to Scotland of MARY QUEEN OF SCOTS two years later, he became her secretary of state A skilled diplomat, Lethington was unique in an age of religious wars in not being swayed by religious passions and in resisting attempts of the Church to dominate government This led to suspicion from both Catholics and Protestants, although his abilities were recognized by all His chief desire was to effect a union of Scotland and England based on Mary's right of succession after Elizabeth's death He was probably involved in David Rizzio's murder and almost certainly in that of Lord Darnley He abandoned Mary after the Bothwell marriage, possibly in fear of his life He later took her part and became one of the leaders of the queen's party After the earl of Lennox became regent in 1570, Maitland led the opposition to him and held out in Edinburgh Castle from 1571 to 1573 His death shortly afterward saved him from execution

Maitland, town (pop 19,156), New South Wales, Australia, on the Hunter river and NW of Newcastle It is a coal-mining and manufacturing center There is a Roman Catholic cathedral

maize· see CORN

Majano, Benedetto da see BENEDETTO DA MAJANO

Majdanek (mīdä'nĕk), extermination camp (see CONCENTRATION CAMP), Poland, near Lublin, established and operated by the Germans in the Second World War About 1,500,000 persons of 22 nationalities (chiefly Jews, Russians, and Poles) were annihilated here in its gas chambers and burned in its furnaces

majolica (mujŏ'lĭku, muyŏ'-) or **maiolica** (muyŏ'lĭ-ku) [from Majorca], an enameled and decorated FAÏENCE of Spain and Italy, produced since the 13th cent in Valencia, probably also in Majorca, whence it was shipped to Italy Later this pottery was manufactured in Gubbio by Giorgio di Pietro Andreoli and in Florence as DELLA ROBBIA ware Faenza majolica was characterized by a background of rich blue The Italian ware at first showed Hispano-Moresque influence, but later the decoration developed an original boldness and simplicity suited to architectural work (usually sculptured), for which it was much in demand The clay object—plaque, bowl, jar, or panel—is fired, given a coating of tin enamel and refired, then decorated in brilliant colors and fired again

Major, Charles, 1856–1913, American novelist Born in Indianapolis, he practiced law there Immensely popular were his historical romances *When Knighthood Was in Flower* (1898), on Mary of England, and *Dorothy Vernon of Haddon Hall* (1902).

Major, John, 1469–1550, Scottish theologian and historian He studied and taught at the Univ of Paris His works, all in Latin, were published there He was one of the most famous teachers of scholastic philosophy of his day, at Paris and later at the Univ of Glasgow and at St Salvator's College, St Andrews The best known of his works is *Historia Majoris Britanniae, tam Angliae quam Scotiae* (Paris, 1521, Edinburgh, 1740) This *History of Greater Britain, both England and Scotland* was the first critical history of Scotland An English translation by Archibald Constable was published (1892) with a biography by Aeneas J. G. Mackay. Major's name was also spelled Mair.

Majorca (mujŏr'ku), Span *Mallorca* (malyŏr'kä), island (1,405 sq mi.; pop 327,119), Spain, largest of the BALEARIC ISLANDS, in the W Mediterranean PALMA is the chief city Majorca is mountainous in the northwest, rising to 4,739 ft in the Puig Major, the south and east form a gently rolling, fertile region Its mild climate and beautiful scenery have long made Majorca a popular resort Agriculture and fruitgrowing (cereals, flax, grapes, and olives are produced), raising of hogs and sheep, and mining (lead, marble, and copper) are the chief occupations The kingdom of Majorca was formed in 1276 from the inheritance of JAMES I of Majorca It comprised the Balearic Islands, ROUSSILLON and Cerdagne (between France and Spain), and several fiefs in S France Perpignan, in Roussillon, was the capital In 1343 Peter IV of Aragon took the kingdom from JAMES II and reunited it with the crown of Aragon The flourishing commerce of Majorca declined, partly because of the warfare waged between the native peasantry and the Aragonese nobles and Catalan traders, but mainly because of the change in trade routes after the discovery of America In the Spanish civil war of 1936–39 Majorca early passed to the Insurgent side For history before 1276, see BALEARIC ISLANDS

Majorian (mujō'rēun), d 461, Roman emperor of the West He became emperor after RICIMER had deposed Avitus The only able ruler of the period, he enacted laws to protect the people from the taxgatherers and to preserve the ancient monuments of Rome His expedition against Gaiseric, though energetic, was unsuccessful Ricimer, jealous of so vigorous an emperor, attacked and defeated him in battle Majorian was slain His death prepared the disintegration of the West Roman Empire

Majuba Hill (mujōō'bu), NW Natal prov , Union of South Africa, in the Drakensberg Range Here, on Feb 27, 1881, a British force of 500 was routed by Boer troops under the command of P J Joubert

Majunga (mŭjŭng'gu), town (pop 23,684), NW Madagascar, founded by Arab traders c 1700 It is one of the island's main ports

Majuro (mäjōō'rō), atoll (pop 1,537) comprising 57 islets, central Pacific, in the Marshall Islands It is district headquarters of the Ratak Chain

Makah Indians (mäkô'), tribe of North American Indians who in the early 19th cent inhabited Cape Flattery, NW Wash According to Lewis and Clark they then numbered some 2,000 The Makah are the southernmost of the Wakashan linguistic stock, being the only member of the stock within the United States Makah culture was fundamentally that of the Pacific Northwest Coast area In 1855 they ceded all their lands to the United States except a small area on Cape Flattery which was set aside as a reservation Today they live on Makah Reservation, where they number some 450 See Albert Irvine, *How the Makah Obtained Possession of Cape Flattery* (1921)

Makapuu Point (mä'käpōō'ōō), SE Oahu, T H It is the site of a lighthouse with one of the most powerful lights (installed 1909) in the world

Makart, Hans (hans' mä'kart), 1840–84, Austrian historical painter, studied with Karl von Piloty in Berlin His early success was phenomenal The emperor of Austria provided him with a studio, and his short life was crowded with official honors and triumphs In his large historical paintings he strove to emulate Rubens in the use of gorgeous color Unfortunately his paintings have blackened badly Characteristic works are *Entry of Charles V into Antwerp, Triumph of Ariadne* (Vienna), and *Dream after the Ball* (Metropolitan Mus)

Makassar, Indonesia see MACASSAR

Makatea (mäkutā'u), formerly **Aurora,** island, 5 mi long, S Pacific, one of the most northwesterly of the TUAMOTU ISLANDS It is a district (pop 1,826) of French Establishments in Oceania The center of the island is a mass of solid phosphate 300 ft high The British and the French agreed (1908) to exploit the island cooperatively

Makaz (mā'käz), unidentified town, W central Palestine 1 Kings 4 9

Makemie, Francis (mukĕ'mē), 1658–1708, American clergyman, sometimes looked upon as having founded Presbyterianism in America Born in Ireland, he studied in Scotland and c 1682 was ordained a missionary to America In 1683 he arrived in Maryland He traveled and preached from the Carolinas to New York Makemie organized Presbyterian churches at Snow Hill and Rehoboth, Md In 1704 he went to England for funds and men to strengthen Presbyterianism in America, in 1706, through his efforts, the first presbytery in the country was organized in Philadelphia Makemie was arrested and imprisoned (1707) by Governor Cornbury of New York on the charge of preaching there without a license. Though acquitted, he had to pay heavy costs He died in Virginia See biography by I M Page (1938), C A Briggs, *American Presbyterianism* (1885)

Makeyevka (mŭkyā'ufkŭ), city (1926 pop. 79,421, 1939 pop 240,145), SE Ukraine, in the Donets Basin A major metallurgical and coal-mining center, it has iron and steel mills and coking plants

Makhachkala (mukhäk'hkälä'), city (1926 pop 33,552, 1939 pop 86,847), capital of Dagestan ASSR, SE European RSFSR It is a busy port on the Caspian Sea and a commercial and industrial center Its oil refineries are linked by pipe line with the Grozny fields The city has agricultural, technical, medical, and viticultural schools Founded in 1844 as Petrovsk, it was renamed after the Russian Revolution.

Makheloth (mākhē'lŏth), **unidentified desert encampment.** Num. 33.25.

Makin (mä'kĭn, mäg'ĭn), **formerly Pitt Island,** triangular atoll (4.5 sq mi , pop. 1,824), central Pacific, one of the N Gilbert Islands In 1915 it was included in the British colony of the Gilbert and Ellice Islands. Butaritari on the southernmost islet is the port of entry and is headquarters of a copra company In the Second World War the island was occupied (Dec., 1941) by the Japanese and was regained (Nov., 1943) by U S forces, who established an air base

Makkedah (mäkē'dä), town, SW Palestine, taken by Joshua Joshua 10.

Mako, Hung *Makó* (mŏ'kō), city (pop 35,705), S Hungary, on the Maros river near the Rumanian border It is the center of the Hungarian export of onions It has a large Slovak population

Maktesh (mäk'tĕsh) [Heb ,=mortar], unidentified district of Jerusalem Zeph 1 11

Malabar Coast (mă'lŭbăr), west coast of India from Goa to the southern tip of the peninsula at Cape Comorin It is bounded by the Western Ghats There is extensive fishing, largely based on the harbors of Cochin and Calicut Heavy monsoon rains make the coast a very fertile rice-growing area

Malacca (mulă'ku), city (pop 38,042), capital of the settlement of Malacca (638 sq mi , pop 239,244), SW Malaya, near the southern tip of the MALAY PENINSULA It is on the Strait of Malacca, one of the world's great arteries of sea-borne commerce, linking the Indian Ocean with the South China Sea The city was founded c 1400 and became rich as the center of a trade with China, Indonesia, India, and the Near East Its kings, aided by the decline of the Madjapahit empire of Java and the friendship of China, extended their power over the near-by coast of Sumatra and over the Malay Peninsula as far N as Kedah and Patani More important, it was through Malacca that Islam was introduced into the Malay world In 1511 Malacca was seized by the Portuguese under Afonso de ALBUQUERQUE Here, under Portuguese rule, St Francis Xavier preached Malacca fell to the Dutch in 1641 It was occupied by the British (1795–1818) during the French Revolutionary and Napoleonic Wars and in 1824 was ceded by the Dutch to Great Britain From 1826 to 1946 it was under the same government as Penang and Singapore (see STRAITS SETTLEMENTS) Modern Malacca still shows traces of its past in its Portuguese and Dutch buildings and in its Portuguese Eurasian community The rise of SINGAPORE made its commercial preeminence a thing of the past

Malachi (mă'lukī, -kē), **Malachias** (mă"lukī'us), or **Malachy** (mă'lukē), book of the Old Testament, 12th of the books of the Minor Prophets Its author is not otherwise known, he may have been contemporary with Nehemiah After a protestation of God's love for Israel (1 1-2), the prophet rebukes priests (1 6–2 9) for their negligence and the people (2 10–16) for their foreign marriages Finally, there is an impressive prophecy of punishment and judgment in the coming of a messiah (2 17–4 6) Christians from earliest times have regarded 2 10–11 as a prediction of the Eucharist For bibliography, see OLD TESTAMENT

malachite (mă'lukīt), a mineral, the green basic carbonate of copper occurring in crystals of the monoclinic system or (more usually) in masses It is translucent or opaque, the luster is silky, vitreous, adamantine, or dull It takes a good polish, but fails to retain it An important ore of copper, it also serves as a gem and for various ornamental purposes and, when finely ground, as a pigment It is found associated with other ores of copper (especially AZURITE) in various parts of the United States and in Cuba, Chile, Russia, Rhodesia, and Australia.

Malachy, Saint (mă'lukē), 1095–1148, Irish churchman, reformer of the Church in Ireland His Irish name was Máel Máedoc ua Morgair He was assistant to Cellach (Celsus), bishop of Armagh, who was attempting to reduce the disorderly ecclesiastical system to a state of discipline Malachy was ordained, studied at Lismore, and became abbot of Bangor (11237), bishop of Connor (1124), and archbishop of Armagh (1134–37) He resigned to be bishop of Down in 1137 The Church in Ireland was still organized with the tribal hierarchy set up by St Patrick Bishops came and went as they pleased, Armagh had been for many years a hereditary see Paganism was rife St Malachy set about vigorously to establish the Church on the plan of the Church on the Continent He founded the territorial hierarchy, regulated matrimony, disciplined the clergy, and generally revived religion. He went twice to Rome to seek the pallium for Irish archbishops On the first trip (1140) he visited Clairvaux, where he became the friend of St Bernard They planned a Cistercian house for Ireland, this resulted (1142) in the abbey of Mellifont (near Drogheda) After a second journey (1142) to Rome he died at Clairvaux, where he was buried Feast Nov. 23 The primary source is the biography by St. Bernard of Clairvaux (Eng tr by H J Lawlor, 1920)

Malad (mŭlăd') or **Malad City,** village (pop. 2,731), co seat of Oneida co., SE Idaho, on Deep Creek, a tributary of the Malad river, and SE of Pocatello

Founded by Mormons in 1864 in a valley well known to early travelers, it was a pony-express station and became the center of a farm district, which today produces sugar beets, wheat, and potatoes

Malad. 1 River, c 4 mi long, rising in S Idaho, SW of Gooding, and flowing SW to the Snake river It is now utilized in the MINIDOKA PROJECT 2 River, c 50 mi long, formed in SE Idaho by the junction of the Little Malad with several creeks, notably Devil Creek and Deep Creek, on which is Malad or Malad City The river flows S into Utah and empties into the Bear river

Maladetta Mountains (mälädĕ'tä), Span *Montes Malditos* (mōn'tĕs mäldē'tōs) [Span ,=cursed mountain], massif of the central Pyrenees, NE Spain, near the French border Its highest point, the Pico de ANETO, is also the highest in the Pyrenees The Garonne rises in this group

Málaga (mă'lugu, Span mä'lugä), city (pop 208,-344), capital of Málaga prov , S Spain, in Andalusia Picturesquely situated on the Bay of Málaga, it is one of the best Spanish Mediterranean ports Its luxurious vegetation and fine climate make it a winter resort as well The sweet Malaga wine is celebrated throughout the world, the wine, raisins, fruit, fish, and olive oil are exported There also are sugar refineries, cotton mills, and metalworks Founded by the Phoenicians, Málaga passed to the Carthaginians, the Romans, the Visigoths, and the Moors (711) It flourished from the 13th cent as a port for the Moorish kingdom of Granada, until it fell to Ferdinand and Isabella in 1487 The city has a modern aspect The cathedral, begun in the 16th cent , ruins of the Moorish alcazar, and the imposing citadel, called the Gibralfaro, are the most notable landmarks Pablo Picasso was born here

Malakhov (mŭlä'khuf), hill overlooking Sevastopol, RSFSR, S Crimea, just east of the city A fortified height in the Crimean War, it was stormed (1855) by the French after a long siege The name is often spelled Malakoff

Malaparte (mälapär'tä), pseud of **Curzio Suckert,** 1898 -, Italian journalist and short-story writer He fought and was wounded in the First World War After two years in the diplomatic service, he became a free-lance writer In his political writings, internationally known, he both defended and criticized fascism Because of his criticism he was exiled for five years to Lipari, described in *Fughe in prigione* (1936) *Sodoma e Gomorra* (1931) is a collection of stories, *Kaputt* (1944, Eng tr , 1946) describes some of the countries of N Europe in the Second World War

Malaren or **Malar,** Swed *Mälaren* (mĕ'larun), lake, area 440 sq mi , Sweden The largest of the Swedish lakes, it extends c 70 mi W from Stockholm, which is situated on the strait connecting the lake with the Baltic Sea On the lake shores and on the more than 1,000 islands of the lake there are many villas and historic castles and ruins, notably SKOKLOSTER and GRIPSHOLM Vasteras is on Malaren lake

malaria, infectious febrile disease caused by parasitic protozoa of the genus *Plasmodium*, transmitted by the anopheles mosquito There are three main types of malaria benign tertian malaria, malignant tertian, and quartan malaria In benign and malignant tertian malaria, the characteristic paroxysm occurs every 48 hr or every third day, in quartan malaria, the chills occur every 72 hr or every fourth day The uncontrollable shaking chill or ague coincides with the liberation of the microorganisms (sporelike bodies) from red blood cells within which they have multiplied As the blood cells thus destroyed by the germs rupture, the germs enter the blood stream and the patient sustains a high fever A severe anemia and weakness follows Relapses may occur in all types of the disease without reinfection, even after the use of quinine, atabrine, or plasmochin, drugs which are specific for malaria During the Second World War, quinine, difficult to procure, was largely replaced by a synthetic drug, atabrine Because the larvae of the mosquito develop in stagnant water, their growth may be prevented by pouring oil on the surface or by draining the water See M A Barber, *A Malariologist in Many Lands* (1946), M L Duran-Reynals, *The Fever Bark Tree* (1946).

Malartic (malärtĕk'), town (pop 2,895), W Que , W of Val d'Or, in the Rouyn mining area, inc 1939

Malaspina (mälŭspē'nu), glacier, SE Alaska, on the Gulf of Alaska and S of Mt. St Elias It covers an area of 1,500 sq mi The glacier was named for an Italian navigator who explored this region for Spain in 1791

Malaspina, volcano see CANLAON, MOUNT

Malatesta (mälätĕ'stä), Italian family, ruling RIMINI and near-by cities for almost three centuries. Malatesta da Verucchio, a powerful Guelph leader, became (1239) podestà of Rimini His hunchback grandson Giovanni was the husband of FRANCESCA DA RIMINI After 1295 the Malatesta rule in Rimini was well established, but papal investiture came only in 1392. Branches of the family came to rule also Pesaro, Cesena, and Fano. In the 14th and 15th cent. several members of the family were noted condottieri in the service of various Italian states The most famous was Sigismondo Pandolfo Malatesta (1417–1468), a typical lord of the Italian Renaissance A patron of arts and letters, he had the Tempio Malatestiano (the temple of the Malatesta) in Rimini built He played a role in Italian politics, but finally lost all his possessions except Rimini (1463) His brother Novello, lord of Cesena, built there the fine Malatesta library Sigismondo's son still held the little state After the fall of Cesare Borgia, the Malatesta family returned briefly but it sold Rimini to Venice in 1503 The city eventually went to the Holy See

Malatya (mälätē'ä), anc *Melitene*, city (pop 41,-530), E central Turkey, in Armenia, at the eastern foot of the Taurus mts It has cotton mills and is the trading center of an agricultural and orchard region In ancient and early Christian times, Melitene was an important city of Cappadocia and a metropolitan see Here in 1895 a terrible massacre of the Christians took place The name is also spelled Malatia

Malay see MALAYAN

Malaya (mulā'u), federation (c 50,850 sq mi , pop 4,902,678), in the southern part of the MALAY PENINSULA It consists of two British settlements (Penang and Malacca) and nine states in treaty relations with the British crown There is a federal government under a British high commissioner with federal executive and legislative councils The British colony of Singapore is outside the federation After the founding of PENANG (1786) and SINGAPORE (1819) and the Dutch cession of MALACCA (1824), the British for half a century avoided overt interference with the governments of the neighboring Malay states By a series of treaties between 1874 and 1909, the rulers were induced to accept British advisers In 1895 PERAK, SELANGOR, NEGRI SEMBILAN, and PAHANG were formed into the Federated Malay States Suzerainty over KEDAH, KELANTAN, PERLIS, and TRENGGANU was transferred from Siam to Great Britain in 1909, these, with JOHORE, were termed the Unfederated Malay States British administration developed Malaya's wealth Tin had been mined for centuries, but modern machinery made tin production spectacularly large Rubber was introduced in 1877 after the failure of the spice and coffee plantations, and in the 20th cent Malaya took world leadership in production of natural rubber In the Second World War the Japanese overran the country in two months (Dec , 1941–Feb , 1942) and occupied it till Aug , 1945 In 1946 the British established a union of Malaya to replace the former arrangements with the Federated and Unfederated Malay States and dissolved the former colony of the STRAITS SETTLEMENTS Resentment against the union plan, which would have reduced the states from protectorates to parts of a colony, caused Great Britain to replace (1948) the union with the federation Malaya suffered severe war damage, and its economy was weakened by the increase in world production of synthetic rubber A cause of internal tension is the fact that Chinese (1,882,874) and Indians (534,148) are together more numerous than Malays (2,135,811) and other Malaysians (267,030) See Sir R O Winstedt, *Malaya and Its History* (1948), Rupert Emerson, *Malaysia* (1937)

Malayalam (mă"luyä'lŭm), language of the Dravidian family See LANGUAGE (table)

Malayan (mulā'ŭn) or **Malay** (mā'lā), one of a population of some 100,000,000 persons inhabiting SE Asia and the adjacent islands The Malays vary greatly in physical appearance, which is, however, generally Mongoloid The term *Indonesian*, used as an alternative for Malayan, is also sometimes applied to the people of interior districts, who are thought to be connected with the Pygmies or Negritos (probably the earlier inhabitants of the region) In the coastal districts there has been intermixture with Chinese elements and with Indian elements Scores of languages or dialects are spoken, they form a group of the Malayo-Polynesian languages (see LANGUAGE, table)

Malay Archipelago or **Malaysia,** great island group, SE of Asia, in the Indian and Pacific oceans, comprising Indonesia and the Philippines

Malay language, one of the chief languages of the Malayo-Polynesian family See LANGUAGE (table)

Malay Peninsula (mulā', mā'lā), anc *Chersonesus Aurea* (kûrsŏnē'sus ô'rēu), southern extremity of the continent of Asia, lying between the Indian Ocean and the Straits of Malacca on the west and the South China Sea on the east It stretches south for 400 mi from the Isthmus of KRA, where it is narrowest, to SINGAPORE The northern part of the peninsula forms a part of Thailand, the southern part constitutes the federation of MALAYA A mountain range, culminating in peaks more than 7,000 ft. high, forms the backbone of the peninsula, from it numerous short, swift rivers flow east and west More than three quarters of the land surface is covered with jungle, the only open areas, aside from man-made clearings, are the alluvial plains of N Malaya and stretches along the rivers The region is one of the richest of the world in the production of tin and rubber, other products include copra and coconut oil, palm oil, tapioca, peanuts, pineapples, and bananas Rice is the chief foodstuff The peninsula forms a physical and cultural link between the Asiatic mainland and the islands of INDONESIA (often included in the Malay Archipelago) The Malays, historically the dominant cultural group, probably came originally from S China, but their ethnic characteristics have been modified by fusion with other peoples The Chinese are now nearly as numerous as the Malays, Indians and Siamese form important minority groups Small tribes of aborigines, descendants of pre-Malay immigrants, are found in the hills and jungles The Malay Peninsula was visited near the beginning of the Christian era by traders from India and in the succeeding centuries received, like Indonesia and Indo-China, Buddhist and Brahman missionaries and Hindu colonists Small Hindu-ized states sprang up, like Langkasuka in the area of modern KEDAH In the second half of the 8th cent the peninsula fell under the domination of the Sailendra rulers of SRI VIJAYA (from SUMATRA), whose cities in Kedah and Patani rivaled the importance of their capital at Palembang The peninsula was overrun in the 11th cent by the Cholas from the Coromandel Coast of India, after about 50 years, the Sailendras, somewhat weakened, resumed their sway It ended in the late 13th cent , when Sumatra and some southern areas of the Malay Peninsula fell to a Javan invasion and when the Thai king of Sukhothai swept over the peninsula from the north The Sumatran kingdom of Melayu next ruled over the south of the peninsula, to be followed in turn (late 14th cent) by Madjapahit, the last Hindu empire of Java, and by the Thai king of Ayuthia The fall of Madjapahit opened the way for the primacy of a Malay state, MALACCA The 15th cent. saw the conversion of the Malays, beginning with the Malaccans, to Islam (which remains the religion of most Malays), while the 16th cent brought the first Europeans The Portuguese seized Malacca, and soon afterwards Dutch traders appeared in Malayan waters Malacca fell to the Dutch in 1641 The first British ship appeared at PENANG in 1592, and from 1612 to 1623 the British maintained a factory at Patani British dominance in Malaya was deferred, however, till after the founding of settlements at Penang (1786) and Singapore (1819) and the definitive Dutch cession of Malacca (1824). The coming of the Portuguese plunged the peninsula into anarchy The last sultan of Malacca, in flight from the Portuguese, founded a kingdom based on the Riouw archipelago and JOHORE, but the rulers of the petty states in the south gradually took and claimed independence, while the rising power of Siam was as yet too weak to exercise more than a dubious suzerainty over its vassal states in the north In the 19th cent an increasingly centralized Siam and an increasingly imperial Britain rivaled each other in bringing order The British intervened in state after state, and in 1909 the boundary between Siam and Malaya was fixed by Siam's transfer to Great Britain of suzerainty over Kedah, Perlis, Kelantan, and Trengganu The Siamese Malay states, brought under the central power, shared in part the material prosperity that followed on British rule in Malaya, but never attained the commercial importance of their neighbors to the south The peninsula fell under Japanese domination in the Second World War, but after the war Siam and Great Britain recovered their previous holdings

Malaysia see MALAY ARCHIPELAGO

Malay States see MALAYA

Malazgirt, Turkey see MANZIKERT

Malbone, Edward Greene (mälbōn'), 1777–1807, American portrait painter and miniaturist, b Newport, R I , self-taught After painting portraits in Providence and Boston, he accompanied (1800) Washington Allston to Charleston, S C , and thence to Europe He was urged by Benjamin West to settle in London but returned to America, where he met with great success His portrait of Allston is in the Museum of Fine Arts, Boston, *The Hours* is in the Providence Athenaeum, and his miniatures are in many collections He died of tuberculosis

Malbork, former East Prussia see MARIENBURG

Malcham (mäl'kum) [Heb ,=their king] **1** One of the Benjamite chiefs 1 Chron 8 9 **2** Heathen god, perhaps to be identified with MOLECH Zeph 1 5

Malchiah (–kī'u) [Heb =God is my king] **1** Priest 1 Chron 6 40 **2, 3, 4, 5** Israelites in the return to Palestine Ezra 10 25, Neh 3 14,31, 8 4 **6** Israelite in the return Ezra 10 31. Malchijah Neh 3 11 **7** Owner of Jeremiah's prison Jer. 38 6 **8** See MALCHIJAH **1**

Malchiel (mäl'kēĕl, mälkī'ul) [Heb ,=God is my king], founder of an Asherite family Gen 46 17, Num 26 45 1 Chron 7 31

Malchijah (–kī'jû) [Heb ,=God is my king] **1** Priest 1 Chron 9 12 Jer 38 1 **Malchiah** Neh 11 12 Melchiah Jer 21.1 **2** Priest, perhaps the same as **1** 1 Chron 24 9 **3** Sealer of the covenant, perhaps the same as **1** Neh 10 3 **4** Israelite in the return. Ezra 10.25. **5** Priest in the return. Neh 12 42 **6** See MALCHIAH **6.**

Malchiram (mălk'rrp), son of King Jeconiah. 1 Chron 3.18

Malchi-shua (măl'kĭ-shōō'u) [Heb ,=my king is help], son of Saul 1 Chron 8 33; 9 39 Melchishua 1 Sam 14 49; 31 2

Malchus (măl'kŭs) [Gr ,=Heb MALLUCH], servant of the high priest whose ear Peter cut off and Jesus healed John 18 10,11

Malcolm III (Malcolm Canmore), d 1093, king of Scotland (1054–93), son of Duncan I, successor to MACBETH It took him some years to regain the boundaries of his father's kingdom About 1068 EDGAR ATHELING, pretender to the English throne, took refuge with Malcolm, who soon married Edgar's sister Margaret On behalf of Edgar, Malcolm invaded N England, but in 1072 WILLIAM I of England invaded Scotland, and Malcolm made peace with him He also sent Edgar to make peace with William in 1073 In the reign of WILLIAM RUFUS, Edgar Atheling was expelled from his Normandy shelter and appeared with Malcolm in his raid into England in 1091, but William Rufus forced both men to submit and to do homage Malcolm was killed at Alnwick, Nov 13, 1093, in still another raid into Northumbria, and his queen died three days later Malcolm's frequent wars insured the independence of his kingdom and made possible the great ecclesiastical reorganization initiated by his wife (see MARGARET OF SCOTLAND, SAINT). Four of his sons were kings of Scotland Duncan II, son of Malcolm and his first wife, was his successor (1093–94), and three sons of Malcolm and Queen Margaret—Edgar (1097–1107), Alexander I (1107–24), and David I (1124–53)—held the throne Malcolm's daughter Matilda married Henry I of England and another daughter was mother to the wife of King Stephen of England

Malcolm IV or **Malcolm the Maiden**, 1141–65, king of Scotland (1153–65) He succeeded his grandfather, DAVID I, who had outlived Malcolm's father. The young king at once met rebellion of the western Gaels and attacks by the Norse, both of which he put down Henry I of England insisted he give up Northumbria and Cumberland in 1157 and retain his earldom of Huntingdon as an English fief—largely useless because of its distance from Scotland Malcolm fought on Henry's behalf in France (1159) and returned to find rebellions in Scotland, but put them down He was succeeded by his brother, WILLIAM THE LION

Malden (môl'dŭn) 1 Residential and industrial city (pop 58,010), E Mass , a suburb N of Boston, settled 1640, set off from Charlestown 1649, inc as a city 1881 Its chief products are electrical equipment and rubber footwear. 2 City (pop 2,673), SE Mo , SE of Poplar Bluff, platted 1877 It is a cotton center.

Malditos, Montes· see MALADETTA MOUNTAINS

Maldive Islands (măl'dĭv, môl'–), group of atolls (c 115 sq mi , pop c 93,000), in the Indian Ocean, SW of Ceylon They are a British-protected state with a Moslem population ruled by a sultan and an elected assembly Coconuts are exported

Maldon (môl'–), municipal borough (1931 pop 6,559, 1943 estimated pop 9,020), Essex, England, on the Blackwater estuary It is a market town and an old port The 13th-century Church of All Saints has a unique hexagonal spire, and the town hall is a 15th-century building Prehistoric and Saxon or Danish traces have been found in the vicinity A battle against Danish raiders was fought near here (probably 2 or 3 mi below Maldon) in 991, the leader of the East Saxons, BYRHTNOTH, was killed The battle was celebrated in one of the last Anglo-Saxon heroic poems, "The Battle of Maldon" (325 lines), of unknown authorship but probably written by a contemporary See E V K Dobbie, introduction to *The Anglo-Saxon Minor Poems* (1942).

Mâle, Émile (āmāl' mâl'), 1862–, French art historian He directed the Académie de France à Rome from 1925 His distinctive work was on the sculptures of the Middle Ages, notably in such places as the cathedral at Chartres. Convinced that the sculptures were made to represent connected ideas, he showed, for example, that in some cases they actually illustrated passages from the great encyclopedia of Vincent of Beauvais Among his works are *L'Art religieux du XIIIe siècle en France* (1913, Eng tr , 1913) and *L'Art religieux du XIIe au XVIIIe siècle* (1945, Eng tr , 1949)

Malebranche, Nicolas (nēkôlà' mâlbrăsh'), 1638–1715, French Cartesian philosopher Malebranche laid greater stress on the dualism of mind and matter than Descartes and developed the doctrine of OCCASIONALISM more completely than his predecessors He believed the interaction of mind and matter to be completely impossible and taught that the mind can have knowledge of material objects only with the assistance of divine revelation. The speculative philosophy of Malebranche is best expressed in *De la recherche de la vérité* (1674; Eng tr., *The Search for Truth*, 1694) See A. A. Luce, *Berkeley and Malebranche* (1934).

Malecite Indians (măl'ŭsīt), tribe of North American Indians of the Algonquian linguistic stock. In the early 17th cent., as recorded by Samuel de Champlain, they occupied the valley of the St. John river in New Brunswick, Canada. The French settlers in this area intermarried with the Malecite, thus forming a close alliance with the Indians. Hence, during the colonial wars the Malecite supported the French against the English The Malecite have kept a remnant of their original lands along the St John river in New Brunswick, where they number some 1,050

Maleleel (mŭlē'lēĭl), variant of MAHALALEEL.

Malesherbes, Chrétien Guillaume de Lamoignon de (krātyĕ' gāyōm' dŭ lămwānyô' dŭ mâlzĕrb'), 1721–94, French statesman After serving as counselor to the Parlement of Paris, he succeeded (1750) his father as president of the court of aids at Paris His father, then chancellor, entrusted him with the censorship of the press; Malesherbes's administration was popular, and the publication of the *Encyclopédie* was largely due to his liberal policy. He protested against the dissolution of the PARLEMENT in 1771 and was exiled to his country estate, but upon the accession of Louis XVI (1774), Malesherbes was reappointed He supported his friend Turgot's program of reform and resigned because of its cold reception (1776), but became master of the king's household Recalled in 1787, he was made minister without portfolio but resigned the next year and retired from political life In 1792, at his own request, he was appointed a defender of Louis XVI in the king's trial Malesherbes was soon afterwards arrested as a royalist and guillotined See biography by J M S Allison (1938)

Malet, David see MALLET, DAVID

Malherbe, François de (frăswà' dŭ mâlĕrb'), c 1558–1628, French poet and critic, official poet of Henry IV and Louis XIII His poems, mostly occasional pieces, approach mechanical perfection but lack verve and fire, the best known is probably *Consolation à Monsieur du Perves* (c 1590) The critic Malherbe's profound influence on French literature was based upon his constant advocacy of objectivity, of perfection, and of seriousness of purpose, ideals soon to be enshrined in classicism

Malheur (mălōōr'), river of E Oregon rising in several branches in the Blue Mts The united stream flows generally NE to the Snake

Malheur Lake, SE Oregon, in the Harney Valley near Burns A federal migratory bird refuge is here

Malibran, María Felicita (García) (mălēbrà'), 1808–36, operatic contralto, b Paris, pupil of her father, Manuel GARCÍA Her voice was of enormous range, although a contralto, she made her debut (London, 1825), as Rosina in *The Barber of Seville* She sang in Grace Church, New York, before returning (1827) to Europe, where she achieved eminent success Her second husband was the Belgian violinist Charles de Bériot

Malibu Beach (măl'ĭbōō), unincorporated town (pop c 900), S Calif , W of Los Angeles and near Santa Monica It is a year-round resort popular with Hollywood stars

malice (măl'ĭs) In law, an act is malicious if it is an intentional violation of the law of crimes or torts which injures another person Malice need not involve a malignant spirit or the definite intent to do harm To prove malice, it is sufficient to show the willful doing of an injurious act without lawful excuse A malicious state of mind may be inferred from reckless and wanton acts which a normal person should know might produce or threaten injury to others Malice aforethought is a technical element of MURDER

Maligne Lake (mulēn'), W Alta , in Jasper National Park, in beautiful mountain scenery It is drained NW into the Athabaska river by the short Maligne river Its altitude is 5,490 ft

Malindi (mălēn'dē), town (pop c 2,000), NE Kenya, a port on the Indian Ocean Vasco da Gama landed here in 1497 and erected a fort which is partly preserved There are sisal plantations near by

Malines, Gerard, see MALYNES, GERARD.

Malines (mŭlēn', mulēn', Fr mălēn'), Flemish *Mechelen* (mĕ'khulŭn), city (pop 60,903), Antwerp prov , N Belgium, on the Dyle river In English it is also known as Mechlin (mĕ'klĭn) The city has long been famous for the exquisite lace it manufactured. It now has a large cotton textile industry Dating from the early Middle Ages, Malines was made an archiepiscopal see in 1561 and is the seat of the primate of Belgium In the course of the many wars that swept over the Low Countries, it was often devastated It has, however, retained many notable buildings, especially the 13th-century cathedral of St Rombaut, with a tower 319 ft high and with a famous carillon; it contains Van Dyck's great *Crucifixion* The churches of Our Lady and of St John have paintings by Rubens Other fine buildings are the archiepiscopal palace and the city hall (originally 14th cent., rebuilt 18th cent). Frans Hals was born here.

Malinovski, Aleksandr Aleksandrovich: see BOGDANOV, A.

Malinowski, Bronislaw (brônē'slôf mălĭnôf'skē), 1884–1942, Polish-English anthropologist, b. Poland, Ph.D Univ of Cracow, 1908. Working in the field of cultural anthropology, he gained renown through his studies (1914–18) of the primitive peoples of the Trobriand Islands off New Guinea. He taught at the Univ. of London (1924), became professor (1927), and thereafter traveled and did research in Africa, Latin America, and the United States His approach to the subject and his research techniques caused him to be regarded as the founder of "functionalism" in social anthropology Malinowski joined the Yale faculty as a visiting professor (1939). His writings were published in many languages They include *The Family among the Australian Aborigines* (1913), *Crime and Customs in Savage Society* (1926), *Sexual Life of Savages in North West Melanesia* (1929), *Coral Gardens and Their Magic* (1935), and *The Dynamics of Culture Change* (ed by P M Kaberry, 1945)

Malipiero, Gian Francesco (jän' frănchĕsk'skō mălēpyā'rō), 1882–, Italian composer, studied in Venice with Enrico Bossi and in Bologna He taught (1921–24) at the Conservatory of Parma and in 1936 became professor of music history at the Univ of Padua He edited the complete works of Monteverdi (16 vols , 1926–42) and has done research in early Italian music, which influenced his compositions His *Rispetti e strambotti* (1920) won the Elizabeth Sprague Coolidge chamber-music prize Among his works are songs, concertos, choral works, orchestral works, including *Pause del silenzio* (1918), the choral mystery play *San Francesco d'Assisi* (1921), and operas, including *Giulio Cesare* (Genoa, 1936) and *Antonio e Cleopatra* (Florence, 1938), both based on Shakspere's plays

mallard· see DUCK

Mallarmé, Stéphane (stāfan' mălarmā'), 1842–98, French poet He held that the poet should express the ideas of a transcendental world, intelligibility was to be eschewed, poetry should learn most from music, especially Wagnerian music Mallarmé's language is free of syntactic arrangement and is given to such obscurity that it cannot be read without commentary His best-known poem, *L'Après-Midi d'un faune* (*The Afternoon of a Faun*), inspired a composition of DEBUSSY Mallarmé's great importance is as the chief forebear of a new school, for the young SYMBOLISTS of the mid-1880s drew inspiration at the Tuesday evening gatherings where Mallarmé mused aloud for his hearers Paul VALÉRY also owed much to Mallarmé Editions of Mallarmé's poetry were published in 1887 and 1890, and a selection of prose *Divagations* in 1897 Some of the poems have been translated (with commentary by Charles Mauron) by Roger Fry, *Poems of Mallarmé* (1936) Mallarmé earned his living by teaching English

malleability, property of a metal which describes the extent to which it can be hammered, beaten, pressed, or rolled into thin sheets Metals vary in this respect, pure gold is the most malleable Silver, copper, zinc, tin, aluminum, lead, and iron are also especially malleable Tin foil and aluminum foil are used for wrapping merchandise, both are common in sheets Lead foil is used for lining tea boxes and for covering other substances The malleability of a metal is not constant but is influenced by temperature Zinc, for example, at ordinary temperatures is very brittle, but at temperatures from about 120°C to 150°C it is malleable Impurities affect adversely the malleability of metals

Mallet, Malet, or **Malloch, David** (măl'ĭt, –ŭkh), c 1705–1765, Scottish poet He and James THOMSON (1700–1748) wrote the masque *Alfred* (1740), which contained the famous song *Rule, Britannia* (music by Thomas Arne)

Mallorca· see MAJORCA

Mallory, George Herbert Leigh (mă'lurē), 1886–1924, English mountain climber After performing spectacular feats in the Alps, he participated in the Everest expeditions of 1921, 1922, and 1924 The 1924 expedition culminated in a bold and possibly successful drive toward the summit made by Mallory and Andrew Irvine, from which they did not return Mallory's intelligence, resolution, and superb leadership, together with the mystery surrounding his final effort, have made his name legendary among mountaineers His name also appears as George Herbert Leigh-Mallory See biography by D R Pye (1927), J R Ullman, ed , *Kingdom of Adventure Everest* (1947)

Mallory, Stephen Russell (mă'lurē), c 1813–1873, U S Senator, secretary of the navy in the Confederacy, b Trinidad, West Indies He was reared in Key West, Fla , where he practiced law and was a customs official Elected to the U S Senate in 1851 and reelected in 1857, Mallory served till Florida seceded. He was long chairman of the committee on naval affairs He was secretary of the navy in the Confederacy throughout the Civil War. Mallory ardently advocated ironclad warships for the navy With them he hoped to break the Union blockade, but efforts to secure ironclads from England and France proved futile, and of the few constructed in the Confederacy the most outstanding, the *Virginia* (*Merrimac*) and the *Mississippi*, had to be destroyed to prevent their falling into Union hands Mallory was captured in flight with Jefferson Davis in 1865 and was imprisoned. On his release in 1866, he resumed the practice of law in Florida. See B. J. Hendrick, *Statesmen of the Lost Cause* (1939).

Mallothi (mă'lŭthī, mŭlō'thī), leader of temple singers. 1 Chron. 25.4,26.

Mallow [Irish, =plain of the Allo, old name for the Blackwater], urban district (pop 5,217), Co Cork, Ireland, on the Blackwater and NNW of Cork. It is a railroad center and agricultural market with a sugar refinery, tanneries, and salmon fisheries Mallow Castle is the seat of the Norreys, and there are ruins of an old castle of the Desmonds After the discovery of mineral springs, Mallow became a popular resort

mallow, name sometimes given various plants of the mallow family (see HIBISCUS, MARSH MALLOW; VELVETWEED), but particularly species of the genus *Malva*, mostly pink- or white-flowered decorative or weedy plants

Malluch (măl'ŭk) [Heb, =counselor] **1** Merarite. 1 Chron 6 44 **2, 3** Two who gave up foreign wives Ezra 10 29, 32 **4, 5** Two signers of the covenant Neh 10 4,27 **6** Priestly family returned with Zerubbabel Neh 12 2 Melicu Neh 12 14 Some of these may be the same

Malmaison (mälmāzō'), château at Rueil-Malmaison, a western suburb of Paris, France It was the residence of Napoleon Bonaparte (1800–1803) and of Empress Josephine after her divorce (1809–14) It contains a Napoleonic museum

Malmberg, Aino (I'nō mälm'bĕr"yŭ), 1866–1933, Finnish patriot and feminist, grad Univ of Helsinki, 1887, in the first class to include women students She was active in the nationalist movement and in the nation-wide strike of 1905, which resulted in universal suffrage In 1910 she was exiled by Russia and went to England Her home in London was for many years a center for exiles from Finland and other oppressed nations She was a pacifist during the First World War and in 1916 a member of Henry Ford's peace delegation Her later years in Helsinki were devoted to schemes for bettering the lot of peasant farmers

Malmédy (mälmādē'), town (pop 5,702), Liége prov, SE Belgium, near the German border The town and the surrounding district belonged to the abbey of near-by Stavelot until their transfer (1815) to Prussia Under the terms of the Treaty of Versailles Malmédy and Eupen were transferred to Belgium (see EUPEN)

Malmesbury (mamz'bŭrĭ), municipal borough (1931 pop 2,334, 1943 estimated pop 2,700), Wiltshire, England It is famous for its magnificent abbey, started by Maildulf in the 7th cent, here St Aldhelm and William of Malmesbury worked and studied and Athelstan was buried Thomas Hobbes was born near Malmesbury, and at Garsdon are tombs of George Washington's ancestors

Malmo (mäl'mō), Swed *Malmö* (mäl'mö"), city (pop 171,053), co seat of Malmohus co, SE Sweden, on the Oresund opposite Copenhagen It is a large naval and commercial port and an industrial center with shipyards, machine shops, textile mills, sugar refineries, and tobacco and rubber manufactures Founded in the 12th cent, the city was a major fishing port for herring during the Hanseatic period It was under Danish rule until Sweden annexed it (1658) as a part of Skane In Malmo castle (built 1537) Bothwell was held a prisoner Other important buildings include the city hall, built (1546) in Dutch Renaissance style, and several museums

Malmohus, Swed *Malmöhus län* (mäl"mûhŭs lĕn'), county (1,871 sq mi, pop 551,610), S Sweden, opposite Denmark Part of the historical province of SKANE, it is the most populous and wealthiest county in Sweden Its fertile soil and temperate climate make it a rich agricultural region MALMO is the county seat, HALSINGBORG the shipping center, LUND the university town Other ports and fishing centers are LANDSKRONA, TRELLEBORG, YSTAD, Skanor, and Falsterbo

malnutrition, condition resulting from deficiency in the quality or quantity of food or from faulty assimilation Disturbances of the digestive and nervous systems may be the cause of malnutrition Underweight and overweight usually indicate nutritional disorders Certain deficiency diseases, e g, rickets, scurvy, beriberi, and pellagra are caused by a lack of vitamins in the diet Anemia may result from imperfect intake or absorption of iron and other minerals

Maloja (mälō'yä), pass, Grisons canton, Switzerland, leading from the Engadine Valley to Italy The resort village of Maloja lies in the northeast

Malolos (mälō'lōs), municipality (pop 33,384), on SW Luzon, Philippine Islands, NW of Manila It is a rice-trading center Filipino patriots under the leadership of Emilio Aguinaldo established their short-lived revolutionary capital here in 1898

Malone, Dumas (mûlōn'), 1892–, American historian and editor, b Coldwater, Tate co, Miss, grad Emory College (now Univ), 1910, and Yale (B.D., 1916; M A., 1921, Ph D, 1923) He served in the U S Marine Corps in the First World War and was an instructor of history at Yale (1919–23) and associate professor (1923–26) and professor (1926–29) at the Univ of Virginia He was an editor of the *Dictionary of American Biography* from 1929 to 1931 and editor in chief from 1931 to 1936 After serving as director of the Harvard Univ. Press (1936–43), Malone became (1945) professor of history at Columbia. Among his books are *The Public Life of Thomas Cooper* (1926), *Saints in Action* (1939), *Edwin A. Alderman* (1940), and *Jefferson the Virginian* (1948, Vol I of a projected four-volume work entitled *Jefferson and His Time*)

Malone, Edmund, 1741–1812, Irish Shaksperian scholar His studies (1778) in the chronology of Shakspere's plays are still generally accepted Malone was (1782) among the first to see through the supposed antiquity of the poems by Thomas Chatterton, and he exposed (1796) the Shaksperian forgeries of William Ireland Malone published an edition of Shakspere in 1790 and an elaborate edition of Dryden in 1800 A friend of Samuel Johnson, Malone advised James Boswell on the writing of Johnson's biography

Malone (mûlōn'), village (pop 8,743), co seat of Franklin co, N N Y, on the Salmon river, settled c 1800, inc 1833 Near the Quebec line, it is a port of entry Woolen, paper, and dairy products are made Members of the FENIAN MOVEMENT gathered here (1866) to attack Canada There is a state school for the deaf

Malory, Sir Thomas (măl'ŭrĭ), d 1471, English author of the great *Morte d'Arthur*, the last medieval English work of the ARTHURIAN LEGEND He was, almost certainly, Sir Thomas Malory of Newbold Revell, Warwickshire, he reputedly began in England in 1450 a career of lawlessness, though no record of his crimes remains, he wrote much of his work in prison and may have died there Malory's original book was eight more or less separate romances and was called *The Book of King Arthur and His Knights of the Round Table* It was Caxton the printer who erroneously gave it the title *Morte d'Arthur* He also tried to unify the work by some deletions and by dividing it into 21 books, each being the adventures of one knight Among Malory's French sources the chief one was a lost collection of romances, probably of the 13th cent He also used two 13th-century English romances, one of which, the alliterative *Morte Arthur*, sets the heroic tone of the work In his own relatively simple stories, Malory's tales of Lancelot and Guinevere and of Arthur's death reveal an excellent dramatic sense and grasp of character His prose style is remarkably vigorous, fresh, and simple See *The Works of Sir Thomas Malory* (ed by Eugene Vinaver, 1947)

Maloyaroslavets (mə"luyärŭslä'vyĭts), city (1939 pop over 10,000), central European RSFSR, NNE of Kaluga Here in 1812 the Russians barred the road to Kaluga to Napoleon's retreating army and forced it to retreat by way of Mozhaysk through devastated territory In the Second World War the Germans held Maloyaroslavets in the winter of 1941–42 during their drive on Moscow

Malpighi, Marcello (märchĕl'lō malpē'gē), 1628–94, Italian anatomist A pioneer in the use of the microscope, he made numerous valuable observations on the structure of plants and animals, He completed the proof of Harvey's theory of circulation by his observation of the movement of blood through capillaries and recorded this as well as his work on the structure of the lung, in *De pulmonibus* (1661) He is noted also for his studies of the structure of glands, the brain, and the spleen, liver, and kidneys, of the anatomy of the silkworm, of the embryology of the chick, and of plant tissues Malpighi was professor at the Univ of Bologna (1666–91)

Malplaquet (malplăkā'), village, Nord dept, N France, NW of Maubeuge Here in 1709, in the War of the Spanish Succession, Marlborough and Eugene of Savoy won a costly victory over the French under Marshal Villars

Malraux, André (ädrā' malrō'), 1895–, French novelist A student of Oriental languages and an archaeologist, Malraux soon became interested in the problem of revolution experienced by his generation Participant as well as observer of the 1925–27 uprisings in China, of the civil war (1936–39) in Spain, and of the Second World War, he records in his novels the violence he witnessed From his experiences in China came his first three novels —*Les Conquérants* (1928, Eng tr, *The Conquerors*, 1929), *La Voie royale* (1930, Eng tr, *The Royal Way*, 1935), and *La Condition humaine* (1933, Eng tr, *Man's Fate*, 1934), which won him the Goncourt Prize *Le Temps du mépris* (1935, Eng tr, *Days of Wrath*, 1936) is concerned with the struggle of a member of the German underground during the Nazi reign, and *L'Espoir* (1938, Eng. tr, *Man's Hope*, 1938) was a result of Malraux's participation as an aviator in the Loyalist air force in Spain In 1943 appeared in Switzerland *Les Noyers de l'Altenburg*, first volume of a long novel, *La Lutte avec l'ange* His *Psychologie de l'art* (1947) appeared in English in two volumes—*Museum without Walls* and *The Creative Act* (both 1949) Malraux became in 1947 an unofficial press agent for Charles de Gaulle

malt, a grain (usually barley) steeped in water, partially germinated, then dried and cured Enzymes, chiefly diastase, are produced by germination Malt is used in brewing for the saccharification of cereal starches Its high carbohydrate and protein content make it a valuable nutrient.

Malta (môl'tŭ), British colony in the Mediterranean S of Sicily, comprising the islands of Malta (95 sq mi), Gozo (26 sq mi), and Comino The total population is 306,996 The group is sometimes called the Maltese Islands The capital is Valletta The island of Malta (ancient Melita) has been important from early times and belonged successively to the Phoenicians, the Greeks, the Carthaginians, the Romans, and the Saracens In 1090 it passed to Sicily and in 1530 was given by Charles V to the Knights Hospitalers (therefore sometimes called the Knights of Malta) Notwithstanding a determined siege by the Turks in 1565, the order held it until 1798, when it was surrendered to Napoleon The British ousted the French in 1800 and in 1814 annexed the island In 1947 a constitution similar to that of 1921, providing for government by an elective assembly, a ministry, and a governor was granted by letters patent The 1921 constitution was abolished in 1936, Malta reverting to the status of a crown colony In 1939 a limited constitution was put into effect Malta is of great strategic value Valletta is the principal British naval and military base in the Mediterranean In the Second World War, between 1940 and 1943, Malta was subjected to well over 2,000 heavy air raids by Italian and German planes, but the solid fortifications and air-raid shelters built into the rock and an intensive anti-aircraft concentration kept the Axis from bombing Malta into surrender In 1942 the entire Maltese population was awarded a decoration for bravery by King George VI In Sept, 1943, the Italian fleet surrendered to the British at Valletta Although there is some export of potatoes, onions, lace, beer, pipes, buttons, cigarettes, and cotton, the British naval dockyards are the principal source of employment The ancient capital was Citta Vecchia Important relics of Paleolithic, Neolithic, and Bronze Age civilizations have been found in Malta St Paul was shipwrecked here

Malta, city (pop 2,215), co seat of Phillips co, N Mont, on the Milk river, inc 1909 In the late 19th cent a cow town, it is today also the chief town of the Milk river reclamation project

Malta, Knights of see KNIGHTS HOSPITALERS

Malta fever see UNDULANT FEVER

Malte-Brun, Conrad (kôn'rädh mäl'tu-brōōn", Fr maltu-brŭ'), 1775–1826, Danish geographer, originally named Malthe Konrad Bruun Born in Jutland, he settled in Paris after being exiled because of his political views He wrote an encyclopedic geography of the world and a dictionary of geography He was secretary of the French Society of Geography, as was his son, **Victor Adolphe Malte-Brun** (vēktôr' adôlf'), 1816–89, who also wrote extensively on geographical subjects

Maltese Islands see MALTA

Malthus, Thomas Robert (măl'thŭs), 1766–1834, English economist, sociologist, and pioneer in modern population study In *An Essay on the Principle of Population* (1798, rev ed, 1803), he contended that poverty and distress are unavoidable, since population increases by geometrical ratio and the means of subsistence by arithmetical ratio As checks on population growth, Malthus first accepted only war, famine, and disease, but in his revised work he admitted also the preventive check of "moral restraint" Although this theory caused general controversy, it was later adapted by neo-Malthusians (see BIRTH CONTROL), and its implications influenced classical economists, especially Ricardo Subsequent POPULATION trends have outmoded most of his predictions, but not all of his analysis He wrote *Principles of Political Economy* (1820) and other books See biography by James Bonar (2d ed, 1924)

Malton (môl'-), urban district (pop 4,419), North Riding of Yorkshire, England, on the Derwent and NE of York It has steel rolling mills At Old Malton is the Norman church of a priory founded in 1150 New Malton is adjacent to Old Malton Near by are traces of a Romano-British settlement

maltose (môl'tōs) or **malt sugar**, a carbohydrate (a compound of carbon, hydrogen, and oxygen) having the same chemical formula as cane sugar (SUCROSE) and milk sugar (LACTOSE) It forms needle-like crystals, taking up one molecule of water of crystallization It is very soluble in water, but only slightly so in alcohol Maltose results through the action of the ENZYME diastase on starch. The enzyme maltase causes it to be changed to dextrose (glucose) and alcohol Maltose, being directly fermented by yeast, is important in the brewing of BEER It is an easily digested food

Malus, Étienne Louis (ātyĕn' lwē' mülüs'), 1775–1812, French physicist In 1809 he stated his discovery of the polarization of light, in 1810 he published a memoir of his theory of double refraction

Malvasia (mälvusē'u), Gr *Monembasia* or *Monemvasia* (both mô"nŏmvāsē'ä), village (pop 638), S Greece, in the SE Peloponnesus, on a rocky island joined to the mainland by a mole In the Middle Ages it was an export center of Malvasian or malmsey (mäm'zē) wine, a type now made in many places

Malvern (môl'vurn, mô'-), urban district (1931 pop 15,634, 1943 estimated pop 17,320), Worcester-

shire, England, SW of Worcester and on the east slope of the Malvern Hills The district includes Great Malvern (with medicinal springs and leather industry), Malvern Wells (with medicinal springs), Little Malvern or West Malvern (residential), and Malvern Link (an engineering suburb) Malvern College, a public school for boys, was founded in 1863 There are ruins of a Benedictine priory church of the 11th cent Another priory of the 11th cent has been rebuilt The mineral springs, climate, and pleasant surroundings made the district a favorite watering place The annual dramatic Malvern Festival was instituted in 1928 as a tribute to George Bernard Shaw

Malvern (măl'vurn, -vûrn) **1** City (pop 5,290), co seat of Hot Spring co, S central Ark, laid out 1873, inc 1876 Lumber, cotton, chemical, shoe, and brick manufacture are important, and a large aluminum plant was started near by during the Second World War A state park is also near by **2** Town (pop 1,325), SW Iowa, SE of Council Bluffs, in a farm area, founded 1869 with the coming of the railroad, inc 1870 **3** Village (pop 1,177), NE Ohio, SE of Canton **4** Borough (pop 1,680), SE Pa, W of Philadelphia, settled 1866, inc 1889 It is a trading center for an agricultural area

Malverne, residential village (pop 5,153), on SW Long Island, SE N Y, near New York city, settled c 1790, inc 1921

Malvern Hill see SEVEN DAYS BATTLES

Malvern Hills, range of hills, c 9 mi long, England, on the Worcestershire-Herefordshire border The highest points are the Worcester Beacon (1,395 ft) and the Hereford Beacon, on which there was an ancient British camp

Malynes, Malines, or **de Malines, Gerard** (mălēn'), fl 1586–1641, English economist His leading works, which take the mercantilist point of view, include *A Treatise of the Canker of England's Commonwealth* (1601), *The Maintenance of Free Trade* (1622), and *Consuetudo vel Lex Mercatoria, or, Ancient Law Merchant* (1622)

Mamaroneck (mumă'runĕk), residential village (pop 14,034), SE N Y, in Westchester co, on Long Island Sound near New Rochelle, settled 1661, inc 1895 It has a raincoat factory, and food products and wood products are made

Mamelukes (măl'mulōks) [Arabic, =slaves], originally slaves brought to Egypt by the Fatimite caliphs in the 10th cent and by the later Ayyubite sultans and trained as soldiers Many were freed and rose to positions of great power, some even became emirs with slaves of their own It was the Mameluke emir Fibek who, in 1250, killed the last of the Ayyubite dynasty and proclaimed himself sultan For more than 250 years Egypt was ruled by these slave sultans, who waged bitter war with the last of the Crusaders and later with the Mongols in Syria and Asia Minor, at times holding all of Syria, much of Asia Minor, and cities on the Armenian frontier The Mameluke rulers were of two dynasties, the earlier Bahrites (1250–1382), chiefly Turks and Mongols, who were settled on an island in the Nile, and the later Burjites (1382–1517), chiefly Circassians, who lived in Cairo itself. With the one exception of Mohammed en-Nasir (reigned 1293–1340), each of the Mamelukes ruled but briefly, meeting usually a violent death at the hands of rival conspirators But in spite of the turbulence and carnage of their rule, they left some fine architectural monuments, especially in Cairo When Egypt was conquered by the Turks in 1517, Mamelukes remained in the army, and Mameluke beys (princes) remained in control of the provinces. The Mamelukes (in rebellion against the Turks) were defeated by Napoleon on his invasion of Egypt in 1798 Mohammed Ali finally destroyed the power of the Mamelukes in 1811 by massacring their leaders, whom he had gathered together in a fortress ostensibly for parleys See Sir William Muir, *The Mameluke or Slave Dynasty of Egypt* (1896)

Mamison or Mamisson (both mămēsŏn'), pass, 9,550 ft high, USSR, in the central Greater Caucasus, on the border between the Georgian SSR and the RSFSR Crossed by the Ossetian Military Road, it links the Ardon and Rion river valleys

mammal, an animal of the highest class of vertebrates, the Mammalia The female has mammary glands which secrete milk for the nourishment of the young after birth, in the majority the body is partially or wholly covered with hair, the heart has four chambers and only the left aortic arch is present, a muscular diaphragm separates the chest from the abdominal cavity Mammals are warm-blooded, and the mature red corpuscles in the adult animal usually lack a nucleus. Except in the order of egg-laying monotremes (the PLATYPUS and the echidna) the young are born alive A MARSUPIAL is born in an undeveloped and helpless condition In some marsupials and in higher mammals the young receive nourishment in the prenatal state through a true PLACENTA. The order of flesh-eating animals or Carnivora includes terrestrial animals such as the cat, dog, and bear families as well as the aquatic seal, sea lion, and walrus families Other aquatic mammals are the whale, porpoise, and dolphin of the order Cetacea and the manatee and dugong of the order Sirenia Unusual adaptations are also found in the bat (order Chiroptera); in the elephant (order Proboscidea), in the sloth, armadillo, and anteater (order Edentata); and in the beaver, woodchuck, porcupine and squirrel of the order Rodentia The order Insectivora includes the shrew and the mole There are two groups of ungulates or hoofed mammals most members of the order Perissodactyla, including the horse and the rhinoceros are odd-toed, and the third digit is the largest in all, those of the order Artiodactyla, the deer, antelope, camel, pig and cow, are even-toed, with the third and the fourth digits symmetrical and functional Man, the monkey, the ape, and the lemur belong to the order of Primates Some remains of mammals from the Jurassic period are identified and the group became dominant in the Tertiary period See H F Osborn, *The Age of Mammals* (1910), W B Scott, *A History of Land Mammals of the Western Hemisphere* (1937), G H. Tate, *Mammals of Eastern Asia* (1947), V H Cahalane, *Mammals of North America* (1947)

mammon [Aramaic, =riches], Aramaic term retained in the New Testament Greek Mat 6 24, Luke 16 9,11,13

mammoth, extinct elephant which ranged over parts of Europe, Asia, and North America in the Pleistocene epoch of geologic time The shoulder height of the Siberian or woolly mammoth, which roamed the northern regions of both hemispheres, was about 9 ft, and that of the imperial mammoth of the Great Plains was about 13½ ft Mammoths were covered by a long, shaggy outer coat and a dense, woolly undercoat They had complex, many-ridged molar teeth and long, slender, curved tusks The ivory of these tusks was long an article of export from Siberia, where mammoths perished in great abundance when the species died out Whole mammoths have been discovered frozen in N Siberia, it is from these and from the drawings left by the Cro-Magnon men in the caves of S France that knowledge of the mammoth's appearance is derived See Bassett Digby, *Mammoth and Mammoth-hunting in Northeast Siberia* (1929)

Mammoth Cave National Park, 50,695 73 acres, S Ky, SSW of Louisville and NE of Bowling Green, est 1936 Mammoth Cave one of the largest known caves, was discovered by white men in 1799, but it was an Indian habitation long before it was visited by Kentucky pioneers During the War of 1812 saltpeter was mined here for gunpowder The full extent of the cave is still unexplored, but the known passages extend c 150 mi, disclosing beautiful and fantastic limestone formations, lakes, and rivers The corridors occur in five separate levels, through the lowest of which flows Echo river (360 ft below the surface) draining into the Green River The cave contains many large chambers connected by relatively small and narrow passages It has two main entrances, one is natural and is known as the Old, or Historic, Entrance, the other is man made, known as the Frozen Niagara Entrance In the cave is the mummified body of a man believed to be of the pre-Columbian period, eyeless fish, bats, and insects are found here. Mammoth Cave has been famous for more than a century The park area in which it lies is hilly and forested (with a variety of animal, bird, and plant life), contains 30 mi of the Green and Nolin rivers, and offers swimming, boating, fishing, and other recreational opportunities

Mammoth Hot Sprngs see YELLOWSTONE NATIONAL PARK

Mamoré (mamōrā'), river, c 600 mi long, Bolivia, formed by tributaries rising in the Andes and plains of central Bolivia It flows N to Brazil. Joined in its lower course by the Guaporé, it forms a small section of the Brazil-Bolivia border before it joins the Beni to form the MADEIRA

Mamou (mă'mōō), village (pop 1,379), SW La, S of Alexandria

Mamre (măm'rē), ally of Abraham and owner of part of HEBRON Gen 14 24

Mamun (Abu-l-Abbas Abd-Allah al-Mamun) (mămōōn'), 786–833, 7th ABBASID caliph (813–33), son of HARUN-AL-RASHID He succeeded his brother Al-Amin but was unable to enter Baghdad until 819 His reign was full of troubles, particularly because of Mamun's preference for Persians and rationalists He was himself one of the Mutazilites, the greatest rationalistic sect of Islam, holding that the Koran was created in time He persecuted the orthodox bitterly His reign was one of great culture, and he was especially interested in scientists, particularly when they knew Greek The poet Abu Tammam, the tradition collector Bukhari, and the jurist Ahmed ibn Hanbal all flourished under Mamun

Man, town (pop 1,342), S W Va, on the Guyandot and SE of Logan, in a mining area, inc 1918

man see ANTHROPOLOGY, MAN, PRIMITIVE, RACE.

Man, Isle of, island 221 sq mi., pop 49,308), 33 mi. long and 12 mi wide, Great Britain, in the Irish Sea The coast is indented by numerous bays and has precipitous cliffs; the Calf of Man is a detached rocky islet off the southwest coast. The rounded hills rise to over 2,000 ft in Snaefell. The scenery is varied and beautiful, the climate very mild (subtropical plants are grown without protection), and the island is a resort More than half the island is cultivated, crops include fruits, flowers, vegetables, and grains Dairying, fishing, and quarrying are carried on Traces of occupants of the isle from Neolithic times exist, there are ancient crosses and other stone monuments, a round tower at Peel, an old fort, and castles Occupied c 600 by Vikings, the island was a dependency of Norway until 1266, when it passed to Scotland, but from the 14th cent to 1735 it belonged to the earls of Derby Since 1827 it has been under the British crown The ancient open-air midsummer-day assembly of the Tynwald (legislature) was attended for the first time by the British king in 1945 The isle is rich in folklore and legend Its towns include Douglas, Peel, Ramsey, Castletown, Port Erin, and Port St Mary The Manx language (Celtic, see LANGUAGE, table) is now known by very few of the inhabitants—English is generally spoken. Thomas Edward Brown, a native Manxman, used the dialect in his poetry Hall Caine lived on the island and wrote about Manx life See R H Kinvig, *History of the Isle of Man* (1944)

man, primitive, or **early man.** A comparison of man with other animals reveals that he is closely related to the so-called anthropoid or manlike apes, and scientists infer on evolutionary grounds that the anthropoid apes and man have a common ancestor This common ancestor is now generally recognized to have been the large ape, *Dryopithecus*, fossil remains of which have been discovered in late Miocene deposits (7,000,000 to 10,000,000 years old) in an area stretching from Spain and North Africa to the southern and eastern parts of Africa and to India A giant in size compared with earlier apes, *Dryopithecus* is thought to have deserted the trees for residence on the ground in order to obtain the more abundant food there Its leg bones indicate that it walked virtually upright Anatomists maintain that it gave up the vegetarian diet of arboreal apes and became omnivorous Like the modern chimpanzee, it may have been capable of a limited use of objects in obtaining food Remains of *Dryopithecus* belong to the strata of late Pliocene times, when definitely prehuman types appear. Several fossil apes, more advanced than *Dryopithecus* and the modern apes, discovered (1924–38) in South Africa, seem to belong to Pleistocene times, when human populations covered the whole Eastern Hemisphere The Pleistocene period, beginning 500,000 to 1,000,000 years ago (depending on the geological time scale employed), was marked by four advances and recessions of a north polar ice cap, and these have provided a calendar for determining the age of human remains The "age of glaciers" thus coincides with the age of early man and with the greater portion of the Paleolithic period Of the millions of people who lived during this period the fragments of only a few hundred individuals have been found, including some 20 fairly complete skeletons The significance of the early finds was not understood, the Neanderthal skull found in 1856 being thought to represent an aberrant or apelike form or a pathological specimen of man In 1886 another Neanderthal fossil man was discovered at Spy, Belgium, in association with the bones of extinct animals and flint implements of the Paleolithic period, and scientists realized that they had to do with a new type of man With the acceptance of the evolution theory the search for early man began, each new discovery being hailed as the "missing link" between modern man and the apelike ancestor postulated by Charles Darwin With the finding of Cro-Magnon fossils (see CRO-MAGNON MAN) in 1868 the age of modern man was pushed back 25,000 years In *Pithecanthropus erectus*, found in Java in 1891–92, by Eugene Dubois, a definitely primitive, apelike type was recognized Eventually, on the basis of the fossil material, scientists distinguished and named several new genera and more than a score of new species of man In the 1930s, with the excavations at Mt Carmel, Palestine, important new light was shed on the question of man's evolution In 1940 Franz Weidenreich proposed to reduce to three main types or species the fossil men then known—*Homo erectus*, *Homo neanderthalensis*, and *Homo sapiens* This classification recognizes the fact that all known fossil men have so many human traits in common that they must be placed in one genus, *Homo*, that however much they differ from one another, they often combine the most archaic with the most modern features, and that advanced and primitive physical types seem to be nearly of the same antiquity The most primitive men, Java man (*Pithecanthropus*) and Peking man (*Sinanthropus*), seem clearly to be variants of one type, *Homo erectus* The jaws of both are massive, the teeth are nearly human, the brow ridges bounding the eye sockets above are heavy and projecting, and the forehead is flat and sloping—all distinctively apelike characteristics The markings on the inside of the skullcap reveal the configuration of a near-human brain, including a speech area Both Java and Peking man knew the use of fire and probably lived in small bands or encampments and

spoke some sort of language. They are assigned to the early Pleistocene The remains of *Homo neanderthalensis*, with those of his Mousterian culture, have been found in the greatest number in W central Europe in the deposits of the third interglacial and last glacial period, laid down from 30,000 to 150,000 years ago Neanderthal man was short in stature, averaging little more than 5 ft in height He had an exceptionally long and full face, deep-set eyes, a broad, flat nose, and round, full cheeks and a robust body with deep chest The males alone seem to have possessed heavy brow ridges The arms were short and muscular, the forearm being especially short, a manlike trait He had a brain measuring about 1400 c c , nearly as large as that of the modern European, but a smaller proportion of it occurred in the frontal lobes than is the case with modern man Neanderthaloid populations dominated the scene in late Pleistocene times from Europe to Africa, Palestine, and central Asia The type was not uniform but seems to have varied from place to place in response to local conditions or as a result of intermixture with other types, as perhaps occurred at Mt Carmel Typical variants are the men of Spy, Ehringsdorf, and Rhodesia Because so many remains of these people have been found in caves, they are popularly thought of as "cave men", but they probably did not live in caves, though they visited them No relics of Neanderthal man have been found in postglacial Europe, and until the last two decades it was assumed that he had been driven out, perhaps exterminated, at the end of the Ice Age by immigrant groups of *Homo sapiens* type, the earliest known of which was the Cro-Magnon population in France and Spain, but how the Cro-Magnon people could have appeared so suddenly without known antecedents anywhere was a mystery Recent study of the fossil evidence, however, indicates that *Homo sapiens* may have been among the oldest inhabitants of Europe as well as Asia and Africa The Piltdown, Galley Hill, and Swanscombe fossils discovered (1888-1935) in England in early Pleistocene strata seem remarkably modern in several respects, though Piltdown man was found in association with eoliths, the crudest human artifacts known, Galley Hill man in association with Prechellean, and Swanscombe man in association with Acheulean implements Piltdown man lacked the massive brow ridges of most early men, and Galley Hill man possessed a large, virtually modern brain A second "Peking man," found (1933) in the upper cave at Chou Kou Tien, near Peking, China, lived in later Pleistocene times, as did apparently the Kanam, Kanjera, and Oldoway of E Africa and Boskop man of the Transvaal These fossils are definitely *Homo sapiens* relics and show how widely modern man was distributed and that he was contemporaneous with anatomically more primitive types Evidence from the Skhul cave at Mt Carmel suggests that modern man may be a mixture of Neanderthal and other types, like Cro-Magnon An even more complicated mixture of traits has been found in fossils like those of the Solo man and Wadjak man of Java, which present a strange mosaic of traits of *Pithecanthropus*, Neanderthal, and *Homo sapiens* In many such remains scientists discern the Mongoloid, Negroid, and Caucasoid characteristics of living populations Like all early men, Cro-Magnon man possessed a long head, but it was combined with a broad face, in this he resembled the modern Eskimo Few broadheaded populations are known before the Pleistocene Whatever the origin of *Homo sapiens*, many hold it to be probable that he is in part the result of crossing with other types, which took place whenever early men in their wanderings came in contact with each other No remains of man of proved antiquity have been discovered in the Americas The age of such as have been found has been compromised by the inability to determine the age of the strata in which they were found It is not known exactly when animals like the mammoth and mastodon became extinct in North America, hence the association of human relics with their bones is not significant Anthropologists who follow Ales Hrdlicka consider that all fossils found in prehistoric America cannot be of great age, since they resemble too closely living Indian populations, while Earnest A Hooton and others hold that skulls need not be primitive in order to be ancient The best claim to antiquity seems to be held by the "Minnesota girl" turned up by a road-grading machine in 1931 near Pelican Rapids, Minn , which has many characteristics of the Sioux Indian type A number of narrow, high-vaulted craniums discovered (1940) in the caves of Lagoa Santa, Brazil, illustrate a variant in head form which is found sporadically throughout the populations of America as far as Labrador and Greenland The view generally held is that the prehistoric populations of America were predominantly of Mongoloid type, possibly with some admixture of Ainu and Caucasoid elements, descendants of Asiatic immigrants who entered the continent by way of Bering Strait and Alaska soon after the retreat of the Wisconsin ice. The theory once put forward that the Western Hemisphere might have been peopled by men who drifted across the Pacific Ocean in boats never received much acceptance See G G MacCurdy, ed , *Early Man* (1937), R W Murray, *Man's Unknown Ancestors* (1943), Franz Weidenreich, *Apes, Giants, and Man* (1946), W E Le Gros Clark, *History of the Primates an Introduction to the Study of Fossil Man* (1949)

Manado, Indonesia see MENADO

Manaen (mă'năĕn), Antiochene Christian, foster brother of Herod the tetrarch Acts 13 1

management see INDUSTRIAL MANAGEMENT.

Managua (mänä'gwä), city (1946 estimated pop 105,537), W Nicaragua, capital and largest city of Nicaragua, on the southern shore of Lake Managua The city was made permanent capital in 1855 as a compromise capital to end the bitter feud between GRANADA and LEÓN Instead, it became the pivot of a rivalry so severe and continuous that American marines were brought in (1912) to restore order Withdrawn in 1925, they were again stationed there from 1926 to 1933 The capital was damaged by earthquake and fire in 1931 and by fire in 1936 Most of the public buildings are of new construction proof against earthquake The city has several fine parks, one created solely to preserve human footprints made in a lava flow before the Christian era The fortified hill, La Loma, is an important point for strategic control of the city Managua (alt 180 ft) is generally hot and sultry, but a fairly constant wind blows in from Lake Managua (area 386 sq mi), which has the same marine phenomena as Lake NICARAGUA Many residences and farms of the wealthy have been established on the cooler heights rising in the southern outskirts of the city The capital is the center of the republic's railways and is on the INTER-AMERICAN HIGHWAY International and local lines operate from the airport

Manahath (mă'nuhăth, mănā'hăth) [Heb ,=rest] **1** Unidentified place 1 Chron 8 6 **2** Descendant of Seir 1 Chron 1 40

Manahiki see MANIHIKI

Manama see BAHREIN ISLANDS

Manãos, Brazil see MANAUS

Manasquan (măn'ŭskwăn), borough (pop 2,340), E N J , a resort near the Atlantic SSW of Asbury Park, inc 1887

Manassa (mună'sŭ), town (pop 1,008, alt c 7,700 ft), S Colo , near the N Mex line, in a farm area, founded 1878-79 by Mormons, inc 1889 Jack Dempsey was born here

Manassas (mună'sŭs), town (pop 1,302), N Va , WSW of Alexandria in a farm area, inc 1873, rechartered 1938 The courthouse of Prince William co is here The town has a regional vocational school The Civil War battles of BULL RUN, fought near by, are sometimes called the battles of Manassas

Manasseh (mună'sē) [Heb ,=forgetfulness] or **Manasses** (mună'sŭs) **1** First son of Joseph and eponymous ancestor of one of the 12 tribes of Israel Manasseh was divided into two halves in Palestine it occupied the land just S of the Vale of Jezreel In the land beyond the Jordan, Manasseh received land E of Gad Gen 41 51, Num 26 28–34, Deut 3 13, Joshua 17, 2 Kings 10 33, 1 Chron 2 21–23, 5 25–26, 7 14–19, Rev 7 6 **2** Died c 643 B C , king of Judah (c 698–c 643 B C), son and successor of Hezekiah Under him Judah reached a low point of degradation 2 Kings 21, 2 Chron 33, Mat 1 10 The Prayer of Manasses, one of the PSEUDEPIGRAPHA, placed in the Apocrypha in AV, is in character a fine penitential psalm It is given as the king's prayer in captivity, alluding to 2 Chron 33 13 **3, 4** Men who had foreign wives EZRA 10 30,33 **5** Textual error for Moses Judges 18 30 **6** Husband of Judith Judith 8 2

Manasseh ben Israel, 1604?–57 Jewish scholar and historian, b Portugal, d Middelburg, Netherlands He is best known for his zealous efforts towards the readmission of Jews into England, he managed to obtain Cromwell's unofficial assent for Jews to settle in London He also started the first Hebrew press in Holland His *Conciliador* is an elaborate discussion of hundreds of conflicting passages in the Old Testament He wrote in five languages See biography by Cecil Roth (1934)

Manasses (mună'sŭs), variant of MANASSEH

Manatee (mănutē'), town (pop 3,595), SW Fla , S of Tampa, at the mouths of the Braden and Manatee rivers, near Bradenton and the Gulf; founded 1842 It packs and ships fruits and vegetables, and there is lumbering Near by are tree nurseries

manatee (mănutē'), herbivorous aquatic mammal allied to the DUGONG Three species are known, one in the waters off Florida, Central America, and the West Indies, the second, in the rivers of NE South America, and the third, in the coastal rivers and lagoons of W Africa Manatees range in length from about 9 to 15 ft The tail is rounded and flattened, there are no hind legs, and the forelegs are modified into weak flippers The upper lip is cleft into two pads, which are used to gather waterweeds into the mouth. The oil, flesh, and hide are useful to man, the animal is protected in Florida.

Manaus (munoush'), city (pop 66,854), capital of Amazonas state, NW Brazil, on the left bank of the Rio Negro near the point where that river enters the Amazon Though more than 900 mi (by river) inland, Manaus is a large port for ocean-going vessels It is the metropolis for all the upper Amazon and has been ever since its founding in the late 17th cent In the days of the boom in wild rubber before the First World War, Manaus also boomed A lavish opera house, now disused, is a reminder of former glory The city now exports chiefly Brazil nuts, rubber, tonka beans, hardwoods, and hides and skins from the cattle-grazing savannas of the Rio Branco There is a fine cathedral The name was formerly spelled Manãos

Mance, Jeanne (zhăn' mäs'), 1606–73, French missionary and nurse in Canada She accompanied Maisonneuve and his party to Montreal in 1642 and at once began caring for the ill, Indians and colonists alike, in her own home In 1644 she founded the Hôtel Dieu (forerunner of the present hospital), to which she devoted the rest of her life

Mancelona (mănsulō'nu), village (pop 1,173), N Mich , NE of Traverse City, inc 1889 Automobile parts and pig iron are made here

Mancha, La (lä man'cha), region of central Spain, in New Castile, comprising Ciudad Real prov, and part of the provinces of Toledo, Albacete, and Cuenca It is a high, barren plateau, made familiar to the whole world as the scene of most of the adventures of Don Quixote de la Mancha in the novel by Cervantes

Manche (mäsh), department (2,476 sq mi , pop 435,153), NW France, in Normandy Its name derives from the French name for the English Channel It includes the COTENTIN peninsula, which projects into the English Channel CHERBOURG, SAINT-LÔ (the capital), AVRANCHES, and MONT-SAINT-MICHEL are its chief places

Manchester (măn'chustur) [=chester from Latin,=camp], city (1931 pop 766,378, 1948 estimated pop 693,000), Lancashire, England, on the Irwell, Medlock Irk, and Tib rivers Manchester is the center of the most densely populated area of England and has long been the leading textile city of England and the world's foremost cotton city, serving as a distribution point for the mills of surrounding towns and a center of industries closely allied to the textile trade The first application of steam to machinery for spinning cotton was made here in 1789, and the first English passenger railroad (to Liverpool) was constructed here by George Stephenson in 1830 The MANCHESTER SHIP CANAL makes the city a seaport After the First World War the artificial-silk industry tended to balance the losses in cotton The John Rylands Library (1899) contains the Althorp collection, the Chetham Library (part of Chetham's Hospital) was founded in 1653 The Victoria Univ of Manchester, founded by John Owens in 1846, received a charter in 1880 in conjunction with other colleges, but it was not independent until 1903 Manchester dates from antiquity, relics having been found of the Roman city of Mancunium Manchester was mentioned in the Domesday Book Its earliest charter was granted in 1301, and its manorial rights were finally bought by the city in 1845 In early politics Manchester supported varying causes but since the early 19th cent has led in liberal reform movements In 1819 it was the scene of the PETERLOO MASSACRE The Free Trade Hall was built in 1856 on the site of the earlier buildings of the Anti-Corn-Law League The first cooperative college was founded in Manchester in 1919 The great liberal daily the Manchester *Guardian* dates from 1821 The city has two art galleries and a symphony orchestra which was founded by Sir Charles Hallé in 1857 In the Second World War, Manchester suffered heavy damage and many casualties from air raids in 1940–41 See James Tait, *Mediaeval Manchester and the Beginnings of Lancashire* (1904), W H Brindley, ed , *The Soul of Manchester* (1929), Rachel Ryan, *A Biography of Manchester* (1937)

Manchester **1** Town (pop 23,799), central Conn , E of and near, Hartford, settled c 1672, inc 1823 Textiles, especially silk, are made here **2** Industrial city (pop 3,462), W Ga , near Warm Springs NE of Columbus, inc 1909 Settled in 1905, the town grew with the establishment of railroad shops (1908) and a textile mill (1909) The state-wide textile strike flared violently here in 1934 A state fish hatchery is near by **3** City (pop 3,762), co seat (since 1881) of Delaware co , NE Iowa, on the Maquoketa river and W of Dubuque, settled 1850 as Burrington, renamed 1856, inc 1886 It is a trade and processing center for a livestock, farm, and dairy area A U S fish hatchery is here **4** City (pop 1,509), co seat of Clay co , S Ky , on Goose Creek and N of Middlesboro, in a coal, timber, and farm area of the Cumberland foothills For nearly a century after its settlement c 1790 the town was a salt-producing center **5** Resort town (pop 2,472), NE Mass , on the coast between Salem and Gloucester, settled 1626, set off from Salem 1645 **6** Village (pop 1,100), S Mich , SW of Detroit, in a farm area, inc 1867 **7** City (pop 77,685), a co seat of Hillsboro co , S N H , on both sides of the Merrimack between Concord and Nashua; settled 1722, granted 1735, inc. as a town

1751 In 1846 Manchester became the first city in the state The Amoskeag Falls (ăm'ŭskĕg) furnish abundant power. The Amoskeag textile mills, long Manchester's principal industry, were closed in Sept, 1935, and liquidated in July, 1936 Local citizens of all occupations organized as Amoskeag Industries, Inc, bought the property in Sept, 1936, and sold or leased parts to various manufacturing concerns (including textiles and shoes); the power plant was sold to a public-utilities company The collections in the granite Manchester Historic Association Building include Indian relics and sculpture of John Rogers, who worked in Manchester A statue of Lincoln, by Rogers, is in front of the Central High School An art gallery was built in 1927 Manchester also has an institute of arts and sciences and the Carpenter Memorial Library St Anselm's College is here John Stark is buried in a park named for him, the house in which he lived (1758–65) is preserved The city has a municipal airport **8** Village (pop 1,330), W central N Y, SE of Rochester, inc 1892 It is a freight transfer point, shipping fruit and truck crops Canning is done here **9** Village (pop 2,163), S Ohio, on the Ohio river and W of Portsmouth It was founded in 1791, one of the state's earliest towns It has varied manufactures **10** Borough (pop 1,004), SE Pa, N of York, laid out c 1815, inc c 1869 **11** Town (pop 1,715), co seat of Coffee co, central Tenn, SSE of Nashville and near the Duck river, in a farm and timber area, settled 1836, inc 1905 Near by is an ancient stone fort of uncertain origin **12** Resort town (pop 2,139), a co seat of Bennington co, SW Vt, N of Bennington and E of Mt Equinox (3,816 ft high); chartered 1761, settled c 1764, laid out 1784 It is in an area noted for its beauty and its fine homes In July, 1777, a council appointed at the Windsor Convention met in Marsh's tavern here Burr and Burton Seminary (1829) is in Manchester

Manchester College see NORTH MANCHESTER, Ind

Manchester school, group of English political economists of the 19th cent, so called because they met at Manchester Their chief leaders were William COBDEN and John BRIGHT, and their chief tenet was that the state should interfere as little as possible in economic matters, therefore they advocated FREE TRADE and LAISSEZ FAIRE Only a minimum of regulation was tolerated, as in the various factory acts

Manchester Ship Canal, 35½ mi long, connecting Manchester, Lancashire, England, with the Mersey estuary at Eastham, Cheshire, above Birkenhead Begun in 1887, it was opened in 1894 The canal revolutionized Lancashire's industrial life

Manchester terrier see TERRIER

Manchu (măn'chōō) This people, related to the Tungus, was known at the beginning of the 16th cent A D, when they inhabited the Sungari river valley Originally pastoral nomads, they later developed an agrarian civilization Under Nurhachu (1559–1626) they secured the allegiance of many tribes and increased their territory The Manchu claim of relation to the Ch'in dynasty of China was the justification for conquering China in the 17th cent and establishing the CH'ING dynasty The Manchu language, written in an alphabetic script dating from the 17th cent, is spoken today by less than a million persons, chiefly inhabitants of N Manchuria

Manchukuo (mănchōō'kwō), former state (512,766 sq mi, pop 43,233,954), comprising Manchuria and Jehol prov, China It was founded in 1932 The capital, then called Hsinking (Chinese, =new capital), was Changchun Henry Pu Yi, last of the Manchu (CH'ING) dynasty of China, was the ruler, first as regent and after 1934 as emperor The new country ostensibly aimed to develop the traditional home of the Manchu people independent of China, Manchukuo was, however, inspired and thoroughly controlled by Japan Of the major countries only Japan, Italy, and Germany extended diplomatic recognition With funds and direction from Japan, industry and railroads were expanded to make Manchukuo a powerful military base Following Japanese foreign policy, Manchukuo subscribed to the Anti-Comintern Pact, and on Dec 8, 1941, declared war against the United States With the end of the Second World War in 1945 Chinese sovereignty was reasserted over the area

Manchuria (mănchōō'rēu), Mandarin *Tung-pei-sheng* [northeastern provinces], region (443,275 sq mi, pop 41,487,522), NE China It is separated from the USSR largely by the Amur, Argun, and Ussuri rivers and from Korea by the Yalu and Tumen rivers Until 1949 Manchuria comprised Antung, Heilungkiang, Hingan, Hokiang, Kirin, Liaoning, Liaopei, Nunkiang, and Sungkiang provs. It was the home of the MANCHU conquerors of China Until 1860 it included territory now in Siberia Most of Manchuria is hilly to mountainous The Great and the Lesser Khingan in the north and the Changpai in the east are the greatest ranges Lumber and livestock come from the hill and mountain slopes. The mineral resources of Manchuria, mostly iron and coal, are concentrated in the southwest. The largest colliery is at Fushun, and the largest steel mill at Antung. The great Manchurian plain (average elevation c.1,000 ft.), crossed by the Liao and the Sungari rivers, is the only extensive level area It is a major manufacturing and agricultural center of China. Its rainfall is adequate and the soil is fertile, but long, severe winters limit harvests to one a year Nearly half the arable land is planted in soybeans, cereals, including corn, wheat, millet, and kaoliang, are also grown The main Manchurian industry, processing soybeans into oil, animal feed, and fertilizer, is centered in cities in or near the plain, notably Harbin, Changchun, Kirin, and Shenyang or Mukden The South Manchurian RR and the Chinese Eastern RR are the major lines in the extensive railroad system, which connects the hinterland with the coastal ports (including Talien or Dairen, Port Arthur, and Antung) and makes possible the region's prosperity In this century emigration to Manchuria from the adjacent provinces has been heavy, and the population now is predominantly Chinese Japan and Russia long struggled for control of this rich, strategically located region From 1898 to 1904 Russia was dominant The Russians built Harbin, the naval base at Port Arthur, and the Chinese Eastern RR Japan, after victory in the Russo-Japanese War (1904–5), took control of Port Arthur and the southern half of Manchuria (see LIAONING), limiting Russian influence to the north Chiefly through the South Manchurian RR, Japan developed the region's economy In 1932, under the aegis of Japan, Manchuria with Jehol prov was constituted MANCHUKUO, a nominally independent state, which expired at the end of the Second World War Russian forces occupied Manchuria from July, 1945, until May, 1946 At the end of the war the Chinese Communists were strongly established in Manchuria, and by 1949 they had completely driven out the forces of the Nationalist government The Communists divided the eastern portion of Manchuria into five provinces, Kirin (identical with the Nationalist province of that name), Heilungkiang, Liaosi, Liaotung, and Sungkiang The western part of Manchuria and the northern parts of the former Nationalist provinces of Jehol, Chahar, Suiyuan, and Ninghsia were constituted the Inner Mongolian Autonomous Region This region is largely inhabited by Mongol pastoral nomads See Owen Lattimore, *Manchuria, Cradle of Conflict* (1932), F C Jones, *Manchuria since 1931* (1949)

Mancini (manchē'nē), family name of five famous sisters, nieces of Cardinal MAZARIN, who were called from Italy to enjoy his patronage at the French court The eldest was **Laure Mancini** (lōr), 1636–57, who in 1651 married Louis de Vendôme, duke of Mercœur and grandson of Henry IV She spent much of her time at the court of Louis XIV Her son was Louis Joseph, duc de VENDÔME The second sister, **Olympe Mancini, comtesse de Soissons** (ōlĕp', kôtĕs' du swasō'), 1639?–1708, was lady of honor to the queen Because of her intrigues she was exiled Implicated in the trial of La Voisin (see POISON AFFAIR), she escaped (1680) to the Low Countries She was the mother of the famous general, Prince EUGENE OF SAVOY **Marie Mancini** (marē'), c 1640–c 1715, third of the sisters, was loved by Louis XIV, who wished to marry her Mazarin, who by his policy was committed to bringing about the king's marriage with Marie Thérèse of Austria, broke up the liaison and married Marie to the constable of Naples, Prince Colonna She left her husband (1672) and, after a troubled life in Spain and Flanders, died in obscurity **Hortense Mancini** (ôrtās'), 1646 99, fourth and most beautiful of the nieces, was Mazarin's favorite Her hand was sought by the future kings of England and Portugal, but her uncle married her to Armand Charles de la Porte, who took the title duke of Mazarin Hortense left her husband and went to England, where she was a court favorite **Marie Anne Mancini, duchesse de Bouillon** (marē' ăn', dushĕs' du bōōyō'), 1649?–1714, was celebrated for her vivacity and wit She was the center of a literary circle in Paris and a patroness of LA FONTAINE Also implicated in the trial of La Voisin, she was banished (1680) from the court

Mancini, Pasquale Stanislao (päskwa'lā stänēslä'ō mänchē'nē), 1817–88, Italian jurist and statesman After taking part in the Revolution of 1848 in Naples he fled to Turin and became (1860) a deputy in the parliament He was minister of justice (1876–78) and of foreign affairs (1881–85) and negotiated the Triple Alliance of Germany, Austria-Hungary, and Italy In internal politics Mancini represented the liberal left and was an anticlerical. He taught at the universities of Turin and Rome.

Manco Capac (măng'kō käpäk'), legendary founder of the Inca dynasty of Peru. According to the most frequently told story, four brothers, Manco Capac, Ayar Anca, Ayar Cachi, and Ayar Uchu, and their four sisters, Mama Ocllo, Mama Huaco, Mama Cura (or Ipacura), and Mama Raua, lived at Paccari-Tampu [tavern of the dawn], several leagues distant from Cuzco They gathered together the tribes of their locality, marched on the Cuzco Valley, and conquered the tribes living there. Manco Capac had by his sister-wife, Mama Ocllo, a son called Sinchi, or Cinchi, Roca. Authorities concede that the first Inca chief who was a historical figure was called Sinchi Roca (c 1105–c.1140). Thus was the foundation for an empire laid. Another legend relates that the Sun created a man and a woman on an island in Lake Titicaca They were given a golden staff by the Sun, their father, who bade them settle permanently at whatever place the staff should sink into the earth. At a hill overlooking the present city of Cuzco the staff of gold disappeared into the earth. They gathered around them a great many people and founded the city of Cuzco and the Inca state.

Manco Capac, d. 1544, last of the Inca rulers, son of HUAYNA CAPAC After the deaths of ATAHUALPA and HUÁSCAR, Manco Capac was crowned (1534) emperor by Francisco Pizarro, but was tolerated only as a puppet He escaped, levied a huge army, and in 1536 laid siege to Cuzco; the defense was commanded by Hernando Pizarro Although the Indians had by now learned some European tactics of war, they were outclassed by technical advantages Besides, Manco Capac could not prevent dismemberment of his army at harvest time. The heroic siege, which virtually destroyed the ancient Incan capital, was abandoned after 10 months, but during the ensuing eight years the Inca's name became a terror throughout Peru Manco Capac fought a bloody guerrilla warfare against soldier and settler Finally he was treacherously murdered by the defeated Almagro supporters who had taken refuge in his camp

Mandaeans (măndē'ŭns), a small religious sect in Iran and Iraq, who maintain an ancient belief resembling that of GNOSTICISM and that of the Parsees They are also known as Christians of St John, Nasoreans, Sabaeans, and Subbi Some 5,000 Mandaeans survive near the Tigris and Euphrates rivers, a few are living in the area of Shushtar, Iran, and scattered Mandaeans are in cities of Asia Minor In their customs and writings ancient practices survive Their system of astrology resembles that of ancient Babylonia and the cults of the Magi in the last centuries B C Their emanation system and their dualism suggest Gnostic origin, but unlike the Gnostics, they abhor asceticism and emphasize fertility Although some of their practices were influenced by Christianity, Judaism, and Islam, they despise all three The Mandaeans respect St John the Baptist because of his baptizing, since their principal concern is ritual cleanliness and their chief rite is frequent baptism Their custom, which antedated the baptisms of St John, stems from the belief that living water is the principle of life They have a communion sacrament, which is offered for the remembrance of the dead and resembles Parsee ritual meals The origin of the Mandaeans is not known, it is conjectured that they came from a mountainous region N of Babylonia and Persia, where they settled in ancient times Their chief holy book, the *Ginza Rba*, like their other books, contains a medley of cosmology, cosmogony, prayers, legends, and the like, written at various times and often contradictory The sect is diminishing because younger members tend to apostatize See S A F D Pallis, *Mandaean Studies*, (rev ed, 1926), Lady Drower, *The Mandaeans of Iraq and Iran* (1937)

Mandalay (măn"dulā', măn'dulā"), city (pop 163,527), central Burma, on the Irrawaddy river It is the terminus of the main rail line from Rangoon and the starting point of branch lines to Lashio and Myitkyina As a city it dates from the middle of the 19th cent, it was the capital of the Burmese kingdom, replacing Amapura, from 1860 to 1885 The Arakan pagoda was a shrine before the rise of the city, the group of sacred buildings known as the Seven Hundred and Thirty Pagodas was erected in the reign (1853–78) of King Mindon Fort Dufferin, the walled square containing the old royal palace, in the Second World War withstood a 12-day siege before the city was retaken by the Allies (1945) Mandalay was heavily damaged.

mandamus (măndā'mŭs) [Latin, =we order], legal writ directing the performance of ministerial acts A ministerial act is one which a person or body is obliged by law to perform under given circumstances, e g, on receipt of the fee, a license clerk must grant a marriage license to persons legally able to marry. If the law allows discretion in performance, the act is not ministerial, thus mandamus will not be issued if, pursuant to statute, a license to sell liquor is refused because of the applicant's immoral character Mandamus may be used to compel the directors of a corporation to produce the books for inspection in the manner provided by law or to compel a lower court to accept a suit which it has illegally refused Mandamus is an extraordinary remedy, i.e., it will not be issued if the usual remedies, e g., damages for the breach of duty, are adequate Mandamus, originally granted at the will of the British king, is now available from ordinary courts in Great Britain and the United States It is similar to INJUNCTION.

Mandan (măn'dăn), city (pop 6,685), co. seat of Morton co, S N Dak, on the Missouri opposite Bismarck; inc 1881. A railroad division point, it is the distributing center for a grain, dairy, and diversified farming area. Near by are a state re-

form school,'a U.S. agricultural experiment station, and Fort Abraham Lincoln State Park. Lewis and Clark wintered here (1804–5) in the Mandan Indian villages.

Mandan Indians, tribe of North American Indians of the Siouan linguistic stock. The Mandan Indians were a sedentary tribe of the Plains area and were culturally connected with their neighbors on the Missouri, the Arikara and the Hidatsa Indians Although the Mandan were typical "village Indians," they had certain distinctive cultural traits which included an elaborate ceremony, the Okipa dance. According to tradition, at one time the Mandan lived in an eastern locality, but their movements in historic times were westward up the Missouri river By the mid-18th cent , when they were visited (1738) by the sieur de la Vérendrye, they lived in nine villages near the mouth of the Heart river in S central North Dakota After having suffered severely from smallpox and the attacks of the Assiniboin and the Sioux, the Mandan moved farther up the Missouri river to a point opposite the Arikara villages Here the Mandan survivors merged into two villages, on opposite sides of the Knife river. They were visited (1804) by Lewis and Clark, who said that they numbered some 1,250 In 1837, after an epidemic of smallpox and cholera, the Mandan were reduced to some 150, all dwelling in a single village When the Hidatsa moved (1845) from the Knife river region N to the Fort Berthold trading post, the few Mandan joined them A large reservation was set aside (1870) for the Mandan, the Hidatsa, and the Arikara in North Dakota (Fort Berthold Reservation) The Mandan, living on this reservation, number some 380 See G F Will and H J Spinden, *The Mandans* (1906)

mandarin (măn'dŭrĭn) [from Port *mandar* = to govern], an official under the Ch'ing dynasty of China For each of the nine grades there was a different colored button worn on the dress cap Mandarin Chinese is the language spoken throughout China except in the southern coastal provinces and the west The Peiping dialect of Mandarin is the basis of the Chinese official national speech (*kuo yü*)

mandat (mädä'), paper currency issued in 1796 by the French government to replace the worthless ASSIGNATS The face value of the *mandats territoriaux* (or land notes) was based, like that of the assignats, on the value of the confiscated lands held by the state The exchange rate of assignats against mandats was fixed as 30 to 1, but actually the mandats soon fell to about 20 percent of their face value The government found itself obliged to honor the mandats by selling confiscated land for the practically worthless notes At last, early in 1797, the currency inflation was ended by the introduction of the gold franc, obtainable for 100 francs in land notes or 3,000 livres in assignats

mandates, system of trusteeship established by Article 22 of the Covenant of the LEAGUE OF NATIONS, for the administration of former Turkish territories and of former German colonies It differed from a PROTECTORATE in that obligations were assumed by the mandatory to the inhabitants and to the League, which supervised mandates, it differed from a sphere of influence in that the guardians had an acknowledged right to raise and expend revenues, to appoint officials, and to make and enforce laws As finally adopted, the mandates system was principally the work of General SMUTS International control was the result of compromise The mandated territories were divided into three classes, according to their economic and political development and their location They were then to be assigned to individual powers Class A consisted of Iraq (British), Syria and Lebanon (French), and Palestine (British) The provisional independence of these former Turkish provinces was recognized, subject to administrative control until they could stand alone In 1932 Iraq became a member of the League of Nations, thus terminating the British mandate Class B was composed of former German African colonies, Southwest Africa excepted—Tanganyika and parts of Togoland and the Cameroons (British), Ruanda-Urundi (Belgian), and the greater part of Togoland and the Cameroons (French) The establishment of military or naval bases in these regions by the mandatories was forbidden, commercial equality with other nations and native rights were guaranteed In Class C were placed Southwest Africa (Union of South Africa), former German Samoa (New Zealand), New Guinea (Australia), Nauru (Australia), and former German islands in the Pacific north of the equator (Japan). While fortification of these mandates was forbidden and native rights were guaranteed, these areas were to be administered by the mandatories as integral parts of their empires. The mandates system was administered by the League of Nations through a Permanent Mandates Commission of 11 members The focusing of public opinion was the only means of compelling the proper execution of the mandate A somewhat different system was established (1946) by the United Nations (see TRUSTEESHIP, TERRITORIAL). By 1949 all former Class A mandates had reached full independence.

Mandelstam, Osip Emilyevich (ôs'ĭp ĕmyēl'yôvĭch măn'dĭlstŭm), 1892–1942, Russian poet of the Acmeist school. He has been called the "architect of words" The volume *Stone* (1913) contains his chief poems. Some have been translated by Charles Coxwell in *Russian Poems* (1929) and by Leonid Strakhovsky in the *Russian Review* (1947)

Mander, Karel van (kä'rŭl vän măn'dur), 1548–1606, Flemish painter and humanist He wrote plays on biblical themes, made translations from the classics, and composed a biography of painters, *Het Schilder-Boeck* (1603–4, Eng. tr., *Dutch and Flemish Painters*, 1936) A painting attributed to him is believed to contain portraits of Shakspere and Ben Jonson See Tracy Kingman, *An Authentic Contemporary Portrait of Shakespeare* (1932)

Mandeville, Bernard (măn'dŭvĭl), 1670–1733, English satirical writer on ethical subjects, b Dordrecht, Holland, M D Univ of Leiden, 1691 He became a London physician in 1692 He is remembered chiefly for *The Fable of the Bees; or, Private Vices, Public Benefits* (1714, enl eds , 1723 and later), an expansion of his pamphlet poem *The Grumbling Hive* (1705) He declared that the mainspring of society is the self-seeking effort of individuals Religious or legal restraints on the satisfaction of selfish desires are therefore unnatural and harmful to society This cynical attitude was attacked by Bishop Berkeley, William Law, and others See *The Fable of the Bees* (ed. by F B Kaye, 2 vols , 1924)

Mandeville, Sir John, pseudonym of the 14-century author of *The Voyage and Travaile of Sir John Mandeville* The work was written originally in French (c 1371) and translated by others into English, Latin, and most European languages The work purports to record the actual experiences of the author's travels through Jerusalem, Egypt, Turkistan, India, China, etc Actually it is a compilation from authentic travels of others, notably William of Boldensele, Albert of Aix, and Friar Odoric of Pordenone, into which the author has interpolated extravagant details of medieval lore Although scholars are still puzzled as to the identity of the author, it is now generally believed that Mandeville is a pseudonym of Jean de Bourgogne (or Jean à la Barbe), a physician of Liége, or, more probably, that both Mandeville and Jean de Bourgogne are fictitious names invented by one Jean d'Outremeuse (1338–1400), a writer of histories and fables, a citizen of Liége See editions of the work by Arthur Layard (1895), A W Pollard (1915), and Ernest Rhys (Everyman Library, 1928) and the account of Mandeville in *The Cambridge History of English Literature*, Vol II (1933)

Mandeville (măn'dŭvĭl), resort town (pop 1,326), SE La , on Lake Pontchartrain opposite New Orleans, founded c 1830, inc 1840 A state park is near by

mandolin (măn"dŭlĭn', măn'dŭlĭn"), musical instrument of the lute family, having a pear-shaped body, a fretted neck, and a variable number of strings, plucked with the fingers or with a plectrum The earlier mandolin, with five double strings, was developed from the mandola, a 17th-century lute The Neapolitan mandolin, a smaller type having four strings, became popular in the 18th cent and is the usual present-day mandolin Notable uses of the mandolin in art music are in Mozart's *Don Giovanni* and in pieces by Beethoven

Mandor, India see JODHPUR

mandrake, European plant, the source of a dangerous narcotic much used during the Middle Ages as a painkiller and perhaps the subject of more superstition than any other plant The true mandrake is usually considered to be *Mandragora officinarum*, a herbaceous perennial with a cluster of wavy-margined leaves borne at the ground The long root, crudely resembling the human form, has been credited since ancient times with superhuman powers Among the powers attributed to it were arousing ardor, increasing wealth, and overcoming barrenness On being pulled from the ground, the root was said to give forth such screams that death or madness resulted for any who heard, so that a dog was usually forced to uproot the plant by being tied to it and then called from a distance The potency of the mandrake has made it one of the most frequently mentioned plants in literature Shakspere refers to it several times, and it appears in the Bible (Gen 30 14–16, Cant 7 13) The mandrake has also been known as devil's-apple and love apple The MAY APPLE is often called mandrake

mandrill, baboon of W Africa Unlike the typical baboons it is mainly arboreal and has a reduced tail Its coat is olive, its nose bright red, with blue swellings, it has a yellow chin beard and crimson and blue callosities The related drill is brown with a black face partially outlined in red

manes (mā'nēz), in Roman religion, the spirits of the dead, taken collectively. They are also called *di manes* [the good gods—a euphemism]. Ancestor worship was never strong at Rome, but respect and fear of the spirits of the dead, especially the larvae, were potent forces in Roman religion The Romans placated the manes with sacrifices of oil, honey, and milk at the graves of the dead. In later times the *di manes* were identified with the *di parentes*, the ancestors of the family, and as such watched over the welfare of the family along with the lares and penates The Parentalia in mid-February, therefore, became the public feast of the manes

Manet, Édouard (ādwär' manā'), 1832–83, French impressionist painter, b Paris, son of a magistrate. Rather than study law he went to sea On his return in 1850 he was permitted to study art under Couture In 1861 the Salon accepted his *Chanteur espagnol*, but two years later his *Déjeuner sur l'herbe* (Louvre) was shown in the Salon des Refusés and violently attacked The *Olympia* (Louvre), shown in 1865, received similar abuse This extraordinary hostility of the critics attended Manet throughout his life He died of paralysis at 52 before the belated recognition of his greatness became general Fortunately he had some independent means, a strong following among his fellow painters, and a companion in Zola, who lost his position on a newspaper for defending him Manet is usually considered the greatest protagonist of impressionism and of plein-air painting, of which he was one of the originators He did not indulge in broken color, however, nor was he particularly interested in light effects as such His dramatic and vigorous paintings, achieved with the utmost economy of means, are often reminiscent of Hals and Goya His influence on his contemporaries was very great At the close of the century impressionism came into its own, and the works of Manet, once hooted, were enshrined in the Louvre Today splendid examples are to be seen in the most important European and American galleries Among the large number of his famous paintings are *The Balcony*, a portrait of Zola, and *The Fife Player* (Louvre), *Dead Christ with Angels* and *Boy with a Sword* (Metropolitan Mus), part of the *Execution of Maximilian* (National Gall , London), and *Les Courses à Longchamps* (Art Inst , Chicago) He is also well known for his pastels a portrait of George Moore being in the Metropolitan Museum See study by Théodore Duret (Eng tr , 1937)

Manetho (măn'ĭthō), fl 300 B C , Egyptian historian, a priest in Sebennytos, under Ptolemy I His work, written in Greek, is known to us only through the later works of Josephus, Julius Africanus, and Eusebius Manetho's arrangement of 30 dynasties, though quite inaccurate—some dynastic changes are not recorded, some dynasties continued through two or three of Manetho's—has been found a convenient device and is still in use

Manfred, c 1232–1266, king of Sicily (1258–66), the last of the HOHENSTAUFEN on that throne A natural son of Emperor Frederick II, he acted as regent in the kingdom of Sicily for his brother CONRAD IV Conrad died in 1254 and Manfred seized the regency for Conrad's younger son, CONRADIN But Pope INNOCENT IV and his successors, Alexander IV and URBAN IV, were determined to stamp out the Hohenstaufen They refused to recognize Conradin, and in 1254 Manfred was forced to restore the kingdom to the papacy, himself retaining only the duchy of Taranto as a fief held from the pope Soon Manfred rebelled, reconquered S Italy and Sicily, assumed leadership of the Ghibellines throughout Italy, and in 1258 had himself crowned at Palermo, Conradin having been rumored dead Urban IV reacted by investing Charles of Anjou with Sicily as CHARLES I Charles invaded Italy and defeated Manfred at Benevento (1266) Manfred was killed in the battle, and his nephew Conradin soon suffered a similar fate However, after the Sicilian Vespers (1282), Manfred's son-in-law, Peter III of Aragon, was chosen king of the island and began a new dynasty

Mangaia (mang-ī'ŭ), island (pop 1,844), S Pacific, 110 mi SE of Rarotonga, one of the COOK ISLANDS It is a volcanic island, c 6 mi in diameter and has an area of 17,500 acres It is interesting geologically a *makatea*, or cliff of coral limestone, surrounds the low hills in the center of the island Fruits and copra are exported

Mangalore (măng-gŭlōr'), town (pop 81,060), W Madras state, India, a port on the Arabian Sea The town was a shipbuilding center in the 18th cent It was occupied by the British in 1799 Cloth is manufactured, and coffee is exported

Mangan, James Clarence, 1803–49, Irish poet, b. Dublin His Irish poetry in English, such as his famous "Dark Rosaleen" and *The Poets and Poetry of Munster* (1849), was based on translations from Gaelic by others His own translations in his *German Anthology* (2 vols , 1845) were free and apt See editions of his poetry (1903) and prose (1904) by D J O'Donoghue, biography by O'Donoghue (1897), studies by James Joyce (1930) and J. D Sheridan (1947)

manganese (măng'gunēs, măn'–), metallic element (symbol = Mn, for physical constants, see ELEMENT, table), gray tinged with pink, taking a high polish, brittle, not malleable, and harder than iron, which it resembles somewhat Manganese is active chemically It displaces hydrogen from water and from certain acids (sulphuric and hydrochloric). With oxygen it forms a number of oxides, its valence varying, these include manganic oxide and manganous oxide, a dioxide (pyrolusite) which is its chief source, a trioxide, a heptoxide, and another oxide

(native hausmannite) having three atoms of manganese and four of oxygen in the molecule With sulphur the element forms a sulphide, with chlorine, chlorides, with sodium and potassium, permanganates, with potassium, a manganate, and with the hydroxyl radical, two hydroxides The metal itself does not occur free in nature, but its compounds are widely distributed Ores containing the element are found in Russia, Africa, India, South America, and the United States (in Arkansas, Colorado, Georgia, New Mexico, Minnesota, Montana, and Virginia) The metal is prepared by the reduction of pyrolusite It is also obtained from ore by an electrolytic process It is widely used in making alloys, to increase hardness, and as a deoxidizer It is present in most steels, being added to the STEEL in the form of spiegeleisen or ferromanganese, any steel having between 10 and 15 percent is known as manganese steel It is also alloyed with copper and with aluminum and is used with varying proportions of copper, tin, and zinc (with small amounts of other metals) to form both manganese bronze and manganese brass Compounds of the element are used in paints, in dry cells, as oxidizing agents, and as antiseptics and disinfectants in medicine The element was first isolated by J G Gahn in 1774 and to him is credited its discovery, although its existence had been recognized previously by T O Bergman and by Scheele.

Mangareva see GAMBIER ISLANDS

mange (mānj) Especially in winter, domestic animals and sometimes man may be affected with this disease, known also as scabies (skā'bē-ēz, -bēz) or scab Several types of mite cause the disease by burrowing in the skin, hair follicles, or sweat glands The irritation causes itching and scratching, and often bacterial infection results Weight is lost, and hair falls out Treatment consists of scrubbing the animal with soapsuds and dipping him, at intervals of 10 to 14 days, in an insecticide solution which is compounded for the particular kind of animal involved

mangel-wurzel (mäng'gl-wûr"zl) [Ger ,=beet root], a kind of coarse field beet grown extensively for livestock food in Europe and Canada and less extensively in the United States Some is used in silage and some is dried It contains less sugar than the sugar beet, is succulent, and has a very long root, which keeps well in storage There are several varieties

Mangin, Charles Marie Emmanuel (shärl' marē' ĕmanŭĕl' mäzhē'), 1866–1925, French general A graduate of Saint-Cyr, he served in the Sudan under Jean Baptiste MARCHAND and in French North Africa He was one of the great figures in the colonial history of France His book, *La Force noire* (1910), shows his devotion to colonial development Mangin commanded in the First World War with great tactical skill and was prominent in the defense of Verdun From 1921 to his death he was a member of the supreme war council and inspector general of colonial troops

mango (mäng'gō), evergreen tree of the cashew family, native to tropical Asia and now grown in both hemispheres The chief species, *Mangifera indica*, is believed to have been cultivated for about 6,000 years Many horticultural varieties have been developed The mango tree grows rapidly and ranges from 30 to 90 ft in height is densely covered with lanceolate, glossy leaves, and bears panicles of small, fragrant yellowish or reddish flowers followed by fruits which are fleshy drupes The fruit is from about 2 to 6 in long and has thick greenish to yellowish-red skin, pale yellow to orange-red flesh, and a large seed, the kernel of which is edible when cooked When ripe the fruit is luscious, aromatic, and slightly acid Unripe and inferior fruits may be fibrous, acid, and pervaded by the flavor and odor of turpentine Mango fruits are a vital food source for millions of inhabitants of the tropics Most of the fruit is used fresh, often as a dessert fruit, but some is cooked, dried, and canned It is used in chutneys, jellies, and sauces The tree is propagated by grafting and to a less extent by seed

Mangravite, Peppino (pĕp-pē'nō mangravē'tā), 1896–, American painter, b Lipari, Italy From 1908 to 1914 he studied in the art school of Carrara, At 19 he came to New York and studied under Henri and at the Art Students League Mangravite served as art director of many American schools, including the Avon School, Avon, Conn, and Sarah Lawrence College His easel paintings are characterized by low, rich color and fine draughtsmanship Among his murals, that in the Dept of Labor, Washington, D C, is well known Mangravite is the author of many articles on art and education.

mangrove (mäng'grōv, măn'-), tropical, evergreen tree that grows along sea coasts Mangroves are found most abundantly in parts of Asia, Africa, and the islands of the Pacific The American mangrove (*Rhizophora mangle*) inhabits shores and brackish marshes, creeks, and lagoons of S Florida, the Florida Keys, Mexico, Lower California, the West Indies, Central America, and tropical South America It often grows to a height of about 40 ft and sometimes to 70 or 80 ft, the deeply furrowed bark is gray or grayish brown Mangroves produce from their trunks aerial roots which become embedded in the mud and form a tangled network, these serve as props for the tree and as a means of aerating the root system The aerial roots form a base for the deposition of silt and other material carried by the tides, and thus the land is built up and gradually it is invaded by other vegetation The fruit is a reddish-brown conical berry, about an inch long, the single seed germinates within the fruit, forming a large primary root, and when the fruit drops from the tree the seedling lodges in the muddy soil and, anchored by the root, develops rapidly Some species lack the aerial or stiltlike roots but have special pores on their branching root system for obtaining air The tannin content of the mangroves is high Also called mangrove are certain members of the vervain family, e g, *Avicennia nitida*, the black mangrove

Mangum (măng'gŭm), city (pop 4,193), co seat of Greer co, SW Okla, on the Salt Fork of the Red River, in an irrigated farm region, laid out 1883, inc 1900 A state park is near by

Manhasset (mănhăs'ĕt), unincorporated suburban village (pop 5,099), on the north shore of Long Island, SE N Y, near the head of Manhasset Bay Insecticides are made here

Manhattan **1** City (pop 11,659), co seat of Riley co, NE Kansas, near the confluence of the Big Blue and the Kansas WNW of Topeka, founded 1854, inc 1857 It is the trade and processing center of an agricultural and grazing area and the seat of KANSAS STATE COLLEGE OF AGRICULTURE AND APPLIED SCIENCE **2** Borough (land area 22 sq mi, pop 1,889,924) of NEW YORK city, SE N Y, roughly coextensive with New York co It is composed chiefly of Manhattan island (c 12½ mi long and 2½ mi wide at its greatest width), bounded by the Hudson river on the west, New York Bay on the south, the East River on the east, and the Harlem River on the east and north Many bridges, tunnels, and ferries link it to the other boroughs and to New Jersey The MANHATTAN INDIANS sold the island to the Dutch in 1626, in 1664 it became New York under the English New York city's boundaries did not extend beyond the island of Manhattan until 1874, when several communities in Westchester co were incorporated into the city In 1898 Manhattan became one of the five boroughs of New York Commercial and cultural heart of the city, Manhattan is the site of the Metropolitan Opera House, Carnegie Hall (home of the New York Philharmonic-Symphony), the City Center of Music and Drama, the Juilliard School of Music, and numerous other music institutions Theatrical center of the country, it developed an interest in playgoing long before the Revolution The many museums and art galleries of Manhattan include the METROPOLITAN MUSEUM OF ART, the AMERICAN MUSEUM OF NATURAL HISTORY, the MUSEUM OF MODERN ART, the Whitney Museum, and the Museum of the City of New York COLUMBIA UNIVERSITY, CITY COLLEGE, parts of HUNTER COLLEGE and of NEW YORK UNIVERSITY, the NEW SCHOOL FOR SOCIAL RESEARCH, and Manhattanville College of the Sacred Heart are in Manhattan Numbered among its professional schools are General Theological Seminary, Union Theological Seminary, and Jewish Theological Seminary of America, four medical colleges, and COOPER UNION Among the borough's noted churches are Trinity Church (chartered 1697), SAINT PATRICK'S CATHEDRAL, the Cathedral of St John the Divine (see SAINT JOHN THE DIVINE, CATHEDRAL OF), Riverside Church, and Temple Emanu-El Famous among Manhattan areas are HARLEM, GREENWICH VILLAGE, and the BOWERY, among its streets are BROADWAY, FIFTH AVENUE, and WALL STREET Its parks include the BATTERY, Bowling Green, Washington Square, CENTRAL PARK, and Fort Tryon Park (with the Cloisters) Among other points of interest are the City Hall (1803–12), the Empire State Building, Rockefeller Center, Grant's Tomb, the Polo Grounds, the JUMEL MANSION, and the Dyckman farmhouse (1783)

Manhattan Beach, resort and residential city (1940 pop 6,398, 1948 special census pop 14,641), in Inglewood township, S Calif, SW of Los Angeles, inc 1912

Manhattan College, in New York city, Catholic (Christian Brothers), for men, opened as an academy 1849, chartered as a college 1863 It has schools of arts and sciences, business, and engineering Its campus is in Bronx borough

Manhattan District: see ATOMIC ENERGY

Manhattan Indians, North American Indian tribe of the Algonquian linguistic stock. They were a small tribe of the Wappinger Confederacy The Manhattan Indians in the early 17th cent occupied N Manhattan island and the east bank of the Hudson river, their principal village was in Yonkers, N Y The Dutch bought the island from them in 1626 and then practically destroyed them in the wars of 1640–45

Manheim (măn'hĭm), borough (pop 3,831), SE Pa., NW of Lancaster, settled 1716, laid out c 1760, inc 1848 A munitions center during the Revolution, it produced the first flint glass in the United States at the factory of Henry William STIEGEL.

Mani: see MANICHAEISM

manic-depressive psychosis, severe functional mental disorder, involving mania or depression or, in some cases, a fluctuation of the two. In the manic phase the mood of the patient is exalted and is characterized by optimism, lack of concentration, extravagance, and a tendency toward moral laxness In hypermanic states antisocial behavior often occurs as well During the depressive phase there is pathological melancholia and ideas of unworthiness, sin, poverty, and suicide In general, patients exhibiting these symptoms will recover in time, however, the danger of recurrence is always present Shock therapy has had some success in shortening the depressive phase of this PSYCHOSIS. There are indications of a hereditary predisposition toward this disease

Manich, RSFSR see MANYCH

Manichaeism (mā'nĭkēĭzm) or **Manichaeanism** (mānĭkē'ənĭzm), religion founded by Mani (ma'nē) (b 216?, d 274? or 276?) He was a Persian who was born near the site of Baghdad, had a vision in his early youth, and came forward as a prophet inspired by divine revelation (242) He preached in Persia for some years, then Shapur I, encouraged by the Zoroastrian priests, banished him During his exile of more than 20 years he traveled widely, perhaps as far as N India and Chinese Turkistan, teaching his doctrines and absorbing ideas He ventured to return to Persia, where he was flayed to death by Bahram I In spite of terrible persecution Mani's religion spread rapidly and was soon disseminated throughout the Roman Empire and Asia Manichaeism was a conscious synthesis with a basis of ZOROASTRIANISM Mani felt himself to be successor to Zoroaster, Buddha, and Jesus and called himself the Paraclete The influence of Buddhism, and particularly of GNOSTICISM (Mani was early taught to be a Mandaean), is everywhere apparent Mani derived his fundamental dualism from Zoroastrianism, but he spiritualized the struggle between the two conflicting principles Light and dark are commingled in our present age as good and evil, but in the last days each will return to its proper, separate realm, as they were in the beginning The fantastic cosmology and cosmogony of Manichaeism elaborated a simple concept of the Redeemer who aided men to free their light particles from the material substance Only the higher of the two classes of Mani's followers, the elect or perfect, were assured of immediate felicity after death They repudiated darkness by leading a life of strict celibacy and austerity, teaching and preaching The elect were administered to by the auditors or hearers who were laymen Auditors might marry once, but all sensual pleasures were forbidden The begetting of children was discouraged Believing in metempsychosis, the auditors hoped to be reborn as elect All others were sinners, doomed to hell The church was organized into five orders, four of them degrees of the elect, who were initiated into higher mysteries Worship was simple and the ethical standard high, killing was forbidden Manichaeism spread in the West along the shores of the Mediterranean, in North Africa, and in S Europe St Augustine, in his youth a Manichaean, helped suppress the sect in the West It died as a dynamic faith c 500, but was revived among the PAULICIANS, BOGOMILS, CATHARI, and ALBIGENSES, who were termed Christian heretics In the Orient (e g, Khurasan and China) it was a major religion for more than 1,000 years Prime sources for the study of Manichaeism are the so-called Turfan texts, named after the region in Turkistan where they were found in the late 19th cent These include fragments of Mani's long-lost bible, and portions of Manichaean literature written in Pahlavi, Saghdian, Old Turkish, and Chinese Other sources are the refutations of Christian, Mohammedan, and Zoroastrian polemicists See A V W Jackson, *Researches in Manichaeism* (1932), F C Burkitt, *The Religion of the Manichees* (1925), Steven Runciman, *The Medieval Manichee* (1947)

Manicouagan (mănĭkwa'gun), river rising in E central Quebec in the central plateau of the Labrador peninsula and flowing S through the Laurentian Plateau c 310 mi to the St Lawrence just SW of Baie Comeau

Manihiki (mənĭhē'kē) or **Humphrey Island**, atoll (pop 435), S Pacific, E of Samoa and c 655 mi NNW of Rarotonga, in the COOK ISLANDS It comprises 12 islets It was discovered in 1822 by Americans and in 1901 was placed under the New Zealand Cook Islands administration The whole group of islands (pop 2,139) that includes Manihiki and PENRHYN is often also designated Manihiki The name was formerly spelled Manahiki

Manila (mənĭ'lu), city (1939 pop 623,492, 1948 pop 983,906), capital of the republic of the Philippines and principal port of the islands, on SW Luzon, on Manila Bay The navigable Pasig flows through the city, dividing it into two sections, with Intramuros (the old walled city) on the south bank and the newer section on the north bank Before the Second World War, Intramuros contained interest-

ing examples of 17th-century Spanish architecture, but all the buildings except San Agustín Church (1606) were reduced to rubble Opposite Intramuros are Binondo, the Chinese quarter, and Tondo, the slum district One of the most imposing structures in the city is Malacañan Palace, the presidential mansion. Institutions of higher learning include Santo Tomás (see SANTO TOMÁS, UNIVERSITY OF), the Univ of the Philippines (see PHILIPPINES, UNIVERSITY OF THE), NATIONAL UNIVERSITY, and the Philippine Women's Univ The Tagalogs are the largest native group, and the Chinese form the largest foreign element In 1571 López de Legaspi established here a fortified colony, which was developed mainly by Spanish missionaries The English took control of the city in 1762, but returned it to Spain two years later During the Spanish-American War, Manila was won by U S forces after the battle of Manila Bay Filipino uprisings occurred for several years, and not until 1901 was a civil government definitely established Early in the Second World War, Manila was heavily bombed by the Japanese, although it had been declared an open city It was occupied by the Japanese from early 1942 to early 1945 Nearby Quezon City was officially made the capital in 1948 and construction of government buildings progressed

Manila, town (pop 1,248), NE Ark , S of Big Lake, founded 1852, inc 1901 A U S bird refuge is near

Manila Bay, inlet of the South China Sea, in SW Luzon, Philippine Islands An excellent landlocked harbor, it is c 35 mi wide and extends inland c 30 mi At the entrance is the fortified island Corregidor In the Spanish-American War, Admiral George Dewey destroyed the Spanish fleet here

Manila hemp, most important of the cordage fibers It is obtained from the Manila hemp plant, *Musa textilis*, grown chiefly in the Philippine Islands, where it is known as *abacá* (abuka') The abacá is closely related to the BANANA, which it resembles except for the inedible fruit At maturity the palmlike plants are cut down and the long fibers taken from the leafstalks which converge at the base to form the false trunk The fibers are exceptionally strong and durable, the coarser ones being used for binder twine, matting, and ropes, particularly marine cordage because of resistance to the action of salt water, the finer grades are woven into beautiful native fabrics and hemp hats **Manila paper** is largely made from old Manila hemp ropes and is valuable as a strong wrapping paper

Manlius, Caius (kā'ŭs mun'lēus, kī'us), fl 66 B C , Roman statesman When he was tribune of the people (67–66 B C), he proposed the *Lex Manilia* or Manilian Law, granting to POMPEY the command of the war against MITHRIDATES VI of Pontus This Cicero supported in an oration

Manlius, Marcus, fl A D 20, Roman poet Of his didactic poem on astrology, the *Astronomica*, five books remain These may, or may not, have constituted the whole work

Manilla, town (pop 1,040), W Iowa, NW of Atlantic, inc 1887

Manin, Daniele (danyā'lā manēn'), 1804–57, Italian patriot and statesman His father, a Venetian Jew, was converted to Christianity and took, after his baptism, the name of his patrons, the illustrious Venetian family of Manin, of which the last doge was a member A successful lawyer, Manin was active in revolutionary agitation against Austrian rule in Venice and was imprisoned with Niccolò Tommaseo Released after the outbreak of the Revolution of 1848, he became head of the Venetian republic Despite his opposition, Venice voted (July, 1848) its union with the kingdom of Sardinia and Manin resigned Early in 1849 Manin again became head of a provisional government, and after the Sardinian rout at Novara he assumed dictatorial powers and organized the heroic resistance of Venice to its Austrian besiegers After famine and disease forced Venice to surrender (Aug , 1849), Manin went into exile at Paris He subsequently supported the leadership of Sardinia in the movement for Italian unification See G M Trevelyan, *Manin and the Venetian Revolution* (1923)

manioc: see CASSAVA

Manipur (mŭnĭpōor'), state (8,638 sq mi , pop 512,069), NE India Imphal is the capital Manipur consists largely of jungle The Japanese invaded the area in 1944 but they were soon repulsed Manipur was a princely state until late 1949

Manisa (ma'nĭsä), city (pop 32,079), W Turkey, NE of Smyrna It is an agricultural center There are magnesite, zinc, and mercury deposits in the vicinity Near Manisa (also spelled Manissa) are the ruins of ancient MAGNESIA ad Sipylum

Manistee (mănĭstē'), city (pop. 8,694), co seat of Manistee co , N Mich , on Lake Michigan at the mouth of the Manistee and W of Cadillac, in a fruit region, inc 1869 It is a resort and shipping center and is known for its salt plants Manufactures are varied A festival commemorates its former lumber industry and its present reforestation.

Manistique (mănĭstēk'), city (pop 5,399), co. seat of Schoolcraft co , E Upper Peninsula, N Mich., on Lake Michigan at the mouth of the Manistique, inc as a village 1885, as a city 1901. It is a resort and a shipping and industrial center Fishing, hardwood manufacturing, and papermaking are its chief industries

manito (mä'nĭtō), name used among Indians of the Algonquian linguistic stock to describe the supernatural power which permeates all things (see ANIMISM) The idea of a supreme and personified manito, Kitchi Manito, may have been learned from missionaries Manito is also spelled manitos, manitua, manitou, and manetto

Manitoba (mănĭtō'bŭ), province (219,273 sq mi , with water surface 246,512 sq mi , 1946 pop 726,923, 1948 estimated pop 757,000), W central Canada WINNIPEG, the metropolis of the province, is the capital, other important cities are BRANDON, PORTAGE LA PRAIRIE, and SAINT BONIFACE Easternmost of the Prairie Provs , Manitoba is bounded on the north by Keewatin dist , Northwest Territories (with a northeastern shore line on Hudson Bay), on the east by Ontario, on the south by Minnesota and North Dakota, and on the west by Saskatchewan Once the mighty Lake AGASSIZ covered S and central Manitoba As its waters receded into Hudson Bay it left behind numerous lakes (WINNIPEG, Manitoba, and WINNIPEGOSIS) and rivers (NELSON, CHURCHILL, and HAYES), which flow northeast into the bay In some places rock formations were swept bare, and in others they were covered with rich deposits of black loam Miles of virtually uninhabited, treeless tundra surround the port of CHURCHILL Extending S from Churchill and E from Lake Winnipeg, the topography is of the LAURENTIAN PLATEAU type, in which limited areas have been cleared for general farming and dairying, and the mineral and timber resources have been partially developed The south central part of Manitoba is dominated by lakes, with the Winnipeg paralleled in the west by Winnipegosis and Manitoba To the south, where most of the population is concentrated, disciplined fields of wheat, barley, oats, and flax cover the rich prairies The life of the province—commercial, social, and political—is centered at Winnipeg, which lies at the junction of the RED and ASSINIBOINE RIVERS Here is situated the Univ of Manitoba One of the great railroad centers of the world, Winnipeg links E Canada and W Canada by two transcontinental raillines, with connections northward to Churchill and southeast to the Great Lakes ports To the west and north of the Red River valley, toward the Saskatchewan border, the land rises in the Manitoba escarpment, extending in the plateaus of the Pembina, Turtle, Riding, Duck, and Porcupine mts Much of this heavily forested area has been set off as reserves, with Riding Mt proclaimed a national park in 1930 The municipal districts of Flin Flon and The Pas, on the Saskatchewan river, serve as gateways to the wealthy mineral and timber lands of the central west The well-settled Souris plains of SW Manitoba are famous for their wheat fields Agriculture remains the chief industry of the province, although increased exploitation of timber and minerals (principally copper, gold, and zinc) is being encouraged, and manufacturing is being stimulated by the development of hydroelectric power, a large plant having been erected near Pine Falls in the Winnipeg river While there is considerable sectional variation in climate, long and intensive sunshine makes rapid growth possible during the summer months and tempers the severity of the winter's cold The development of fur farming in the north country gives continuity to the fur trade, which played a major part in the early history of the province In 1670 Manitoba became a part of the vast area under charter to the HUDSON'S BAY COMPANY and known as Rupert's Land Previously the ASSINIBOIN INDIANS had held this country as the home of the Great Manito, a claim unchallenged either by the landing of Sir Thomas Button at the mouth of the Nelson river in 1612 or by the Hudson Bay explorations of Luke Foxe in 1631 The Hudson's Bay Company established a trading post at PORT NELSON and soon extended its operations south to the strategic valley of the Red River The opposition of the French fur interests was always great because of the many inland French trading posts, but the French-British conflict was partially resolved when England gained control of Canada by the Treaty of Paris in 1763 When the earl of SELKIRK of the Hudson's Bay Company established the RED RIVER SETTLEMENT (the first agricultural colony), the move was opposed by the NORTH WEST COMPANY, who resented the intrusion of the Hudson's Bay Company and the threat to trapping A series of disagreements led to the battle of Seven Oaks in 1816 Colonizing was deterred by this violence, but with the merger of the two companies as the Hudson's Bay Company in 1821, the settlement was increased and from 1835 to 1870 was controlled by the company. In 1869 the Canadian government purchased the Northwest Territories from the Hudson's Bay Company, although by the deed of surrender the company retained valuable land and trading privileges This caused an insurrection of Indians and half-breeds led by Louis RIEL. Despite this trouble the province of Manitoba was created in 1870 Agricultural settlement proceeded slowly, handicapped by lack of transportation facilities and plagued by the hazards of pioneer life When the Canadian Pacific reached Winnipeg, it provided an outlet to the grain markets through PORT ARTHUR on the Great Lakes, and during the 1880s the population doubled The area of the province was enlarged in 1881, and in 1912 it was given its present extension to Hudson Bay, thereby making Manitoba a maritime province With the completion of the Hudson Bay RR to Churchill in 1929, the province was in a position to use the short sea route eastward, and a huge grain elevator was built at Churchill Manitoba's post-war plans center around the extension of its agricultural areas through a network of rural highways and through farm electrification The severe flood of 1950 in the Winnipeg district resulted in considerable damage to crops and property See F H Schofield, *The Story of Manitoba* (1913), M S McWilliams, *Manitoba Milestones* (1928), Dorothy Duncan, *Here's to Canada* (1941)

Manitoba, University of, at Winnipeg, provincially supported, coeducational, chartered 1877 It has faculties of agriculture and home economics (formerly Manitoba Agricultural College), arts and science, education, engineering and architecture, and medicine

Manitoulin Islands (mănutōō'lĭn), archipelago consisting of three large and several smaller islands, separating the north part of Lake Huron from the North Channel and from the northwestern part of Georgian Bay The largest island is Manitoulin, over 80 mi long and 2 to 40 mi wide, the largest lake island in the world It encloses over 100 lakes and has a much indented, rugged coast Cockburn Island, c 7 mi in diameter, just W of Manitoulin, and Drummond Island, c 24 mi long and c 10 mi wide, just W of Cockburn, are also rocky and forested Drummond belongs to Michigan, and the others of the group to Ontario, Canada The islands, in a noted fishing region, are popular resorts

Manitou Springs (mănĭtōō'), town (pop, 1,462, alt c 6,400 ft), central Colo , near Colorado Springs at the foot of Pikes Peak, founded 1872, inc 1888 It is a resort with mineral springs Near by are the Cave of the Winds and other interesting geologic formations

Manitowoc (mă"nĭtuwŏk'), industrial city (pop 24,404), co seat of Manitowoc co , E Wis , a port of entry on Lake Michigan at the mouth of the Manitowoc and N of Sheboygan inc 1870 The North West Company established a trading post here in 1795, permanent settlement began in 1837 The early fishing industry gave way to shipbuilding in the 1860s Manufactured products include aluminum goods Portland cement, and malt

Maniu, Iuliu (yōōl'yōō mănyōō'), 1873–, Rumanian politician, head of the Rumanian Peasant party Born in Transylvania, he helped to organize the Rumanian national movement there before and during the First World War He was premier in 1928–30, with a program of liberal reform, and again premier in 1932–33 He opposed King Carol II and the dictatorship of Ion Antonescu After the Communists came into power he was denounced as a reactionary Tried for high treason in 1947, he was convicted and sentenced to solitary confinement for life

Maniwaki (mănĭwô'kē), village (pop 2,320), SW Que , at the junction of the Desert and Gatineau rivers NNW of Ottawa It originated as an Indian mission, founded by the Oblate Fathers It has lumbering, pulp milling, and dairying

Manizales (manēsä'lās), city (pop 51,025), capital of Caldas, W central Colombia Founded c 1840 on the central cordillera of the Colombian Andes, it is a commercial and agricultural center, especially of coffee growing There is mining and some manufacturing, chiefly cotton mills

Mankato (măn-kā'tō) **1** City (pop 1,426), co seat of Jewell co , N central Kansas, laid out 1872, inc 1880 It is the trade center of a grain and livestock area **2** City (pop 15,654), co seat of Blue Earth co , S Minn , at a bend in the Minnesota river SW of Minneapolis, platted 1852, inc as a village 1865, as a city 1868 It is an industrial and commercial center in a dairy, farm, and quarry region Sibley Park was the site of Camp Lincoln, where over 300 Sioux were held after their outbreak in 1862 Mankato has a state teachers college (1868) Minneopa State Park is near

Manley, Mary de la Rivière, 1663–1724, English author After writing successful plays, "Mrs" Manley produced several prose romances full of political and personal scandal The most famous, known as the *New Atalantis* (1709–10), abused prominent Whigs and involved her in a court suit In 1711 she succeeded Swift as editor of the *Examiner* and for several years wrote in support of the Tory government Her works were frequently scurrilous and her reputation unsavory.

Manlius (măn'lēus), ancient Roman gens, chiefly patrician but later containing plebeian families **Marcus Manlius Capitolinus** (kä"pĭtŭlī'nus), d 384? B C , consul (392 B C), took refuge in the Capitol when Rome was taken by the Gauls (c 389

B C) Aroused by cackling geese at night, he repulsed the Gauls from the hill According to legend, he defended plebeian debtors from harsh patrician creditors, and the following year he was impeached for high treason and thrown down from the Tarpeian Rock by the tribunes **Titus Manlius Imperiosus Torquatus** (ĭmpērō'sŭs tôrkwā'tŭs), 4th cent B C, served against the Gauls (361 B C), one of whom he slew in single combat He took the Gaul's torque, hence his name Torquatus He was dictator three times, and three times consul. In 340 B C, with his colleague, P Decius Mus, he defeated the Latins near Vesuvius and at Trifanum He killed his own son for disobeying express orders not to engage in single combat with the enemy Some of his story is legendary **Titus Manlius Torquatus**, 3d cent B C, conquered the Sardinians while consul (235 B C), subsequently becoming censor (231 B C), consul (224 B C), and dictator (210 B C) He opposed the ransom of those taken prisoner in the battle of Cannae (216 B C)

Manlius village (pop 1,520), central N Y, SE of Syracuse, settled 1789, inc 1842 It is the seat of Manlius School, a military academy

Manly, municipality (pop 33,473), New South Wales, Australia, on the shore of Port Jackson NNE of Sydney It is a seaside resort, with knitting mills and woodworking factories

Manly, town (pop 1,445), N Iowa, near the Minn line N of Mason City, inc 1898

Mann, Sir Donald, 1853–1934, Canadian railroad builder, b Acton, Ont He became a railroad contractor in 1880 While constructing a section of the Canadian Pacific Railway, he met Sir William MACKENZIE, with whom he formed (c 1888) a partnership that led to the organizing and building of the Canadian Northern Railway, of which Mann became vice president He was knighted in 1911

Mann, Erika see MANN, THOMAS

Mann, Heinrich (hīn'rĭkh man'), 1871–1950, German novelist, older brother of Thomas Mann His many novels include *Im Schlaraffenland* (1901, Eng tr, *In the Land of Cockaigne*, 1925), *Die Göttinnen* (1902–3, Eng trs, *The Goddess*, 1918, *Diana*, 1929), *Professor Unrat* (1904, Eng trs, *The Blue Angel*, 1932, *Small Town Tyrant*, 1944), *Die kleine Stadt* (1909, Eng tr, *The Little Town*, 1931), the trilogy *Das Kaiserreich*, comprising *Der Untertan* (1918, Eng tr, *The Patrioteer*, 1921), *Die Armen* (1917, Eng tr, *The Poor*, 1917), and *Der Kopf* (1925, Eng tr, *The Chief*, 1925), and *Die Jugend des Königs Henri Quatre* (1935, Eng tr, *Young Henry of Navarre*, 1937) and *Die Vollendung des Königs Henri Quatre* (1938, Eng tr, *Henry, King of France*, 1939) In contrast to the detachment of his brother, Heinrich Mann wrote with romantic passion and fierce satire See his autobiography, *Ein Zeitalter wird besichtigt* (1945–46)

Mann, Horace (măn), 1796–1859, American educator, b Franklin, Mass He received a sparse preliminary schooling, but succeeded in entering Brown Univ in the sophomore class and graduated with honors in 1819 He studied law, was admitted (1823) to the Massachusetts bar, and thereafter practiced in Dedham, Mass, and in Boston He entered the state legislature in 1827, became speaker of the senate (1835), and was made secretary of the newly created (1837) state board of education at a time when the public school system was in very bad condition Within his 12-year period of service, public interest was aroused, a movement for better teaching and better-paid teachers was instigated, school problems and statistics were brought to light and discussed, training schools for teachers were established, and schoolhouses and equipment were immeasurably improved In 1843 he studied educational conditions abroad, and in 1848 he was elected to Congress as an antislavery Whig He was defeated for the post of governor of Massachusetts in 1852 In 1853 he became the first president of Antioch College, where he also taught philosophy and theology He died there without being able to carry out his ideas, handicapped by lack of funds He had married as his second wife Mary Peabody, sister of Elizabeth Peabody See Mary T Mann and others, ed, *The Life and Works of Horace Mann* (5 vols, 1891); biographies by G A Hubbell (1900) and E I F Williams (1937), B A Hinsdale, *Horace Mann and the Common School Revival in the United States* (1937), *Selective and Critical Bibliography of Horace Mann* (comp. by the Federal Writers' Project of Massachusetts, 1937)

Mann, James Robert, 1856–1922, American legislator, b McLean co, Ill, grad Univ of Illinois, 1876, and Union College of Law (now Northwestern Univ law school), 1881 He was admitted (1881) to the bar, practiced law in Chicago, and held many local offices before he served (1897–1922) as a Republican member of the U S Congress He was (1910) one of the sponsors of the Mann-Elkins Act, which provided for railroad-rate regulation (see INTERSTATE COMMERCE COMMISSION), and he was author (1910) of the **Mann Act,** also known as the White Slave Act, which forbade, under heavy penalties, the transportation of women from one state to another for immoral purposes.

Mann, Thomas (tō'mäs măn'), 1875–, German novelist and essayist, outstanding German writer of the 20th cent, b Lübeck, brother of Heinrich Mann. He first attracted notice with the short story *Der kleine Herr Friedemann* [little Herr Friedemann] (1898), written during a year spent in Italy with his brother Heinrich With the publication of his first novel, *Buddenbrooks* (pub 1900, although volume bears date 1901, Eng tr, 1924), depicting the rise, decay, and disintegration of a merchant family, he became famous Outstanding shorter works of fiction which followed were *Tristan* (written 1902) and *Tonio Kröger* (written 1903), his verse drama, *Fiorenza* (written 1904), *Wälsungenblut* [the blood of the Walsungs] (written 1905), a short story, *Felix Krull* (written 1911), a fragment of a novel, and the short novel, *Der Tod in Venedig* (written 1911, Eng tr, *Death in Venice*, 1925) These works show Mann's preoccupation with various psychiatric problems The proximity of creative art to neurosis, the artist's longing for death, and the affinity of genius and disease are larger themes, and incest, homosexuality, and infantile sexuality appear secondarily, throughout there is the problem of the artist's position in a bourgeois society—Mann's own problem in these early years and the theme of his second novel, *Königliche Hoheit* (1909, Eng tr, *Royal Highness*, 1926) Of his remaining works of shorter fiction, the most important are his prose idyl, *Herr und Hund* (1918, Eng tr, *Bashan and I*, 1923, *A Man and His Dog*, 1930), and the short novels *Unordnung und frühes Leid* [disorder and early sorrow] (1925, Eng tr, *Early Sorrow*, 1929), in which the exaltation of death again appears, and *Mario und der Zauberer* (1929, Eng tr, *Mario and the Magician*, 1930), an allegory of fascism English translations of all his shorter fiction are collected in *Stories of Three Decades* (1936) Mann's third novel was *Der Zauberberg* (1924, Eng tr, *The Magic Mountain*, 1927), occupying him for 12 years during which time he became acquainted with Freudian psychology All the themes of the earlier works are here, treated with mastery and subtlety The protagonist is not an artist but a highly complex symbol, represented as a young man from a bourgeous background who, in the midst of disease and death in a tuberculosis sanatorium, finds the way to fulfillment of his own life Having received the suggestion quite by chance, Mann began his tetralogy on the biblical story of Joseph in 1926 and was occupied with it intermittently for 16 years It consists of *Die Geschichten Jaakobs* [the tales of Jacob] (1933, Eng tr, *Joseph and His Brothers*, 1934), *Der junge Joseph* (1934, Eng tr, *Young Joseph*, 1935), *Joseph in Ägypten* (1936, Eng tr, *Joseph in Egypt*, 1938), and *Joseph der Ernährer* (1943, Eng tr, *Joseph the Provider*, 1943), the complete work is entitled *Joseph und seine Brüder* [Joseph and his brothers] In this, the pleasantest, most idyllic of all his works, Mann is no longer preoccupied with death and disease, replacing them with a profound study of the mythological and the psychological Before its completion, two other novels appeared—*Die vertauschten Köpfe* (1940, Eng tr, *The Transposed Heads*, 1941), based on a legend of ancient India, and *Lotte in Weimar* (1939, Eng tr, *The Beloved Returns*, 1940), a study of genius in the person of Goethe In *Doctor Faustus* (1948) the guise of a modern version of the Faust legend is used to tell the story of the composer Adrian Leverkühn, who allegorically represents the German people All of these works have been published in English translations by H T Lowe-Porter and others Mann's essays fall into two general categories—political and literary His autobiographical essay *Betrachtungen eines Unpolitischen* [reflections of a nonpolitical man] (1918, not translated into English) marks the end of his belief that politics do not concern the artist Regarding politics as public morality and something in which an artist must participate to preserve a society in which he may create, Mann became an outspoken essayist against fascism, also delivering radio messages to the German people English translations of his major political speeches and essays are published in *Order of the Day* (1942) His own selection of his literary essays was published in English as *Essays of Three Decades* (1947) These elucidate the ideas which are present in his novels, taking the form of studies of the men whose thought has influenced his own—Schopenhauer, Nietzsche, and Freud—of the novelists Dostoyevsky and Leo Tolstoy, of Goethe, whose spirit is invoked throughout Mann's work, and of Wagner, whom Mann considers arch-musician and arch-romantic and with whom he feels an artistic affinity Despite these romantic influences and the decadence of his early works, Mann is an opponent of the anti-intellectual trends in German thought of the early 20th cent Mann left Germany for Switzerland in self-imposed exile in 1933, was deprived of his citizenship by the Nazis in 1936, and took residence in Princeton, N J, in 1938, giving lectures at Princeton Univ. In 1941 he built a home near Los Angeles, where all of his works since that time were written. He was awarded the 1929 Nobel Prize in Literature, and in 1949, speaking in Frankfurt, Germany, on the 200th anniversary of the birth of Goethe, he was awarded that city's annual Goethe prize. See **James Cleugh,** *Thomas Mann: a Study* (1933); H. J. Weigand, *Thomas Mann's Novel Der Zauberberg* (1933), Harry Slochower, *Three Ways of Modern Man* (1937) and *Thomas Mann's Joseph Story* (1938); J. G Brennan, *Thomas Mann's World* (1942). His daughter, **Erika Mann** (ā'rēkä), 1905–, is an actress and author and was married to the British-American poet W. H. Auden. His son, **Klaus Mann** (klous'), 1906–49, was a novelist, essayist, and playwright. He left Germany in 1933 and until 1935 edited the anti-Nazi journal *Sammlung* in Amsterdam A resident of the United States from 1935, he became a citizen in 1943, at which time he entered the U.S army In New York city he edited (1941–42) *Decision*, a review, and he was a contributor to numerous American periodicals His writings include *Alexander a Novel of Utopia* (1929, Eng tr, 1930), *Pathetic Symphony* (1936, Eng tr, 1948), a novel about Tchaikovsky, the autobiographical *Turning Point* (1942), and *André Gide and the Crisis in Modern Thought* (1943) With his sister Erika he wrote *Escape to Life* (1939) and *The Other Germany* (Eng tr, 1940), two polemics against the Nazis With Hermann Kesten he edited *Heart of Europe* (1943), an anthology of European writing since 1920

Mann, Tom (măn), 1856–1941, British labor leader and syndicalist With John Burns and Benjamin Tillett, he organized the 1889 dock strike He was first secretary of the London Reform Union and of the National Democratic League His radical activities brought him several prison terms Mann's famous speech of 1912 urged soldiers not to molest strikers See his memoirs (1923)

manna (mă'nu), in the Bible, edible substance provided by God for the people of Israel in the wilderness It is described as white, small, and flaky and was found on the ground in the morning six days a week It has been regarded by Christians as a type of Christ in the sacrament Ex 16, Num 11 7,8, Joshua 5 12 Attempts have been made to identify manna botanically Some have thought that it was an exudate of the European flowering ash (*Fraxinus ornus*) However, according to a more recent theory, some manna may have been species of lichens of the genus *Lecanora*, still found over large areas of the barren plains and mountains in many sections of W Asia and the northern part of Africa It is also postulated that part of the manna was an alga of the genus *Nostoc* which grows rapidly on moist ground

Mann Act see MANN, JAMES ROBERT

Mannerheim, Baron Carl Gustav Emil (kärl' gŭ'stăv ä'mĭl mä'nurhām), 1867–, Finnish field marshal Of a distinguished Swedish-Finnish family, Mannerheim rose to the rank of general in the tsarist army and in Jan to May, 1918, led victorious antirevolutionary Finnish forces In the following year he headed the new regime in Finland as regent Defeated in the presidential elections of July, 1919, he went into retirement He was appointed head of the Finnish defense council in 1931 and commanded the Finnish forces in the FINNISH-RUSSIAN WAR of 1939–40 and again in 1941–44 In Aug, 1944, he succeeded Risto Ryti as president of FINLAND, and in September he terminated hostilities with Russia He went into retirement late in 1945 and resigned as president in 1946 The **Mannerheim Line,** a fortified line of defense across the Karelian Isthmus, was planned by him It was taken by the Russians in 1940 and subsequently dismantled

Mannes, David (mă'nĭs), 1866–, American violinist and educator, b New York city In 1891 he began to play the violin in the New York Symphony Orchestra, of which he was concertmaster from 1898 to 1912 In 1912 he founded the Music School Settlement for Colored People and in 1916, with his wife, the Mannes Music School, both in New York He inaugurated free concerts in the Metropolitan Museum of Art in 1918 *Music Is My Faith* (1938) is his autobiography His wife, **Clara Damrosch Mannes,** 1870–1948, b Breslau, the daughter of Leopold Damrosch, was a pianist She appeared with her husband in recitals and was codirector with him of the Mannes Music School Their son, **Leopold Damrosch Mannes,** 1899–, b New York city, grad Harvard, 1920, studied piano and composition in New York and Paris He taught composition (1924–31) at the Mannes school and theory (1927–31) at the Institute of Musical Art (now Juilliard School of Music) During the 1920s he distinguished himself in composition, but in 1931 he became a research chemist with the Eastman Kodak Company and contributed to the development of color photography In 1939 he became associate director of the Mannes Music School

Mannheim, Karl (kärl' män'hĭm), 1893–1947, Austro-Hungarian sociologist and historian, born and educated in Hungary. He taught at Heidelberg and Frankfurt and, from 1933 to his death, at the Univ. of London. Using historical data, he analyzed social values as the bases of social beliefs and thought. He was influenced by but critical of Marx, whose approach he adapted for his noted *Ideology and Utopia* (1929, Eng tr., 1936)

Mannheim (män'hĭm, Ger. män'hīm), city (1939 pop. 284,957; 1946 pop. 211,564), N Baden, W

Germany, on the right bank of the Rhine and at the mouth of the Neckar. A bridge connects it with Ludwigshafen, on the opposite bank of the Rhine. It is a major inland port and transshipment point, and it produces machinery, precision instruments, and chemicals. The port trades mainly in grain and coal. A small fishing village, Mannheim was fortified and chartered in 1606–7. In 1720 it became the residence of the electors palatine (see PALATINATE), who built a large palace and held a brilliant court here. Elector Charles Theodore made Mannheim one of the great musical and theatrical centers of Europe. The famous Mannheim orchestra ranked first among 18th-century orchestras and became the model of all later symphonic groups. Mozart lived here (1777–78), and SCHILLER began (1782–83) his career at the Mannheim theater. Mannheim was awarded to Baden in 1803. It was largely destroyed in the Second World War, the château and the regularly laid-out baroque buildings of the inner city, including the Jesuit church, the theater, and the city hall, were heavily damaged or destroyed. The noted art gallery was, however, mostly preserved. Karl Benz is credited with building the first motor-driven vehicle at Mannheim.

Manning, Daniel, 1831–87, American journalist and political leader, b. Albany, N.Y. At the age of 11 he went to work for the Albany *Atlas*, which in 1856 was consolidated with the *Argus*, he became editor in 1865 and owner in 1873. As legislative reporter he had become well known in political circles, and in 1874 he became a member of the state Democratic committee, serving as chairman from 1881 to 1884, thus he had a part in electing Grover Cleveland governor in 1882 and in nominating him for President in 1884. He served (1885–87) as Secretary of the Treasury under Cleveland.

Manning, Henry Edward, 1808–92, English churchman, cardinal of the Roman Church. He was born of a Low Church family and was educated at Harrow and at Balliol College, Oxford (B.A., 1830), gaining some reputation as a debater. He lacked the financial backing to enter politics like his friend W. E. Gladstone, but worked for a year in a minor post of the colonial office and returned to Oxford as fellow of Merton College. He was ordained (1832) and was given a living in Sussex. By 1835 he had become an adherent of the OXFORD MOVEMENT. Manning was a zealous pastor, and throughout his career his devotion to pastoral care and his partisanship with the secular clergy were characteristic. By 1845 when W. G. WARD was degraded, Manning, since 1841 archdeacon of Chichester, was prominent in the Oxford movement, and his letters of succeeding years, as well as his visit to Rome (1847), foretold his following of Newman and Ward into the Roman Catholic Church. When the bishop of Exeter was compelled by the privy council (1850) to institute G. C. Gorham to a benefice despite Gorham's open disbelief in the doctrine of baptismal regeneration, Manning left the Church of England and entered (1851) the Roman communion. He was later ordained. He was a celebrated confessor, an ardent advocate of prison reform, and a constant promoter of schemes for alleviating the condition of the poor. His society of Oblates of St. Charles (1857) carried on much of this work. One of the most trusted advisers of Cardinal WISEMAN, Manning was made (1857) provost of the Westminster chapter, and on Wiseman's death he was appointed archbishop (1865). He greatly expanded Catholic education in England and furthered the education of the poor, but strongly opposed Catholic participation in Anglican universities, thereby bringing himself into conflict with J. H. Newman. His advocacy of the rights of workingmen brought much abuse upon him from conservatives, but he fearlessly forwarded the movement within his church which culminated in the encyclical of LEO XIII on the rights of labor. In his later years he was constantly called on to speak at labor-union conventions and to serve on strike arbitration boards. He was an advocate of slum clearance and tectotalism. In 1869 and 1870 Manning was a leader in the movement to enounce the dogma of papal infallibility, and he inclined to view Newman and those others who thought it an untimely move as decidedly lukewarm Catholics. This intensified the dislike between Newman and Manning. In 1875 Manning was created cardinal. Many regard as the greatest single achievement of Manning's career the strong support he gave the strikers in the great London dock strike (1889) and his single-handed settlement of it. His *Rule of Faith* (1839) and *Unity of the Church* (1842) were important in the history of the Oxford movement. Among his Catholic works, *The Eternal Priesthood* (1883) is best known. See biographies by E. S. Purcell (1896), J. E. C. Bodley (1912), and Shane Leslie (1921), G. P. McEntee *The Social Catholic Movement in Great Britain* (1927).

Manning, Robert: see MANNYNG, ROBERT.

Manning, William Thomas, 1866–1949, American Episcopal bishop of New York, b. England, received his collegiate and theological training at the Univ. of the South, Sewanee, Tenn. Ordained priest (1891), he served parishes in California, Pennsylvania, and Tennessee and for years taught dogmatic theology at the Univ. of the South before becoming rector of Trinity parish, New York city, in 1908. Manning was bishop of New York from 1921 until his retirement in 1946. Under his bishopric great progress was made toward completing the building of the Cathedral of St. John the Divine.

Manning, 1 Town (pop. 1,748), W central Iowa, on the West Nishnabotna river and N of Atlantic, inc. 1880. 2 Town (pop. 2,381), co. seat of Clarendon co., E central S.C., ESE of Columbia. It is the processing center of a farm, lumber, and dairy area.

Mannington, city (pop. 3,145), N.W.Va., NW of Fairmont at the confluence of Pyles Fork and Buffalo Creek, inc. 1871. It is a processing center in an oil, gas, and farm region and manufactures pottery, glass, and tools.

Mannyng or **Manning, Robert,** fl. 1288–1338, English poet, a member of the Gilbertine order, b. Brunne (modern Bourne), Lincolnshire. He was also called Robert of Brunne. He is chiefly remembered for his *Handlyng Synne*, a religious manual for the common man (an adaptation of William of Wadington's *Manuel des péchés*). The poem is important because it uses the Midland dialect as accepted English and because its illustrative stories reflect conditions in pre-Chaucerian England. He also wrote a chronicle of England based on Wace and de Langtoft. *Handlyng Synne* was edited by F. J. Furnivall (1901–3), as well as the first part (1887) of the chronicle, the second part was edited by Thomas Hearne in 1725.

Manoah (mənō'ə) [Heb., =rest], father of Samson. Judges 13.

Manoel. For Portuguese rulers thus named, see MANUEL.

Manor, borough (pop. 1,289), SW Pa., NW of Greensburg, laid out 1873, inc. 1890.

manor house, dwelling house of a feudal lord of a manor, occupied by him only on occasional visits if he held many manors. Though not in the class of castles with regard to fortification, many manor houses were partly fortified; they were enclosed within walls or moats, these sometimes including the farm buildings as well. The primary feature of the manor house was its great hall, to which subsidiary apartments were added as the lessening of feudal warfare permitted peaceful domestic existence. By the beginning of the 16th cent., manor houses as well as smaller castles began to acquire the character and amenities of the residences of country gentlemen. This transformation produced the smaller Renaissance châteaux and *manoirs* of France and the numerous country mansions of the Elisabethan and Jacobean styles in England. See J. A. Gotch, *Growth of the English House* (1909), W. H. Ward, *Architecture of the Renaissance in France* (1926), Ralph Dutton, *The English Country House* (1936).

manorial system (munō'rēəl, mă–) or **seignorial system** (sēnyō'rēəl), economic and social system by which the peasants of medieval Europe held the lands they tilled. Its fundamental characteristic was the holding of lands from the lord (Fr. *seigneur*) of an estate in return for fixed dues in kind, money, and services. The system was intimately connected with FEUDALISM, but it was not feudal, since it had no connection with the fief. A similar method of holding by the peasants has appeared in other lands, notably in Japan and India. The manorial system prevailed in France, England, Germany, Spain, and Italy and far into the eastern lands that had been reconquered from, or were still held by, the Slavs. It reached its final form at different times in these various lands but in general may be said to have flourished from the 11th to the 15th cent. Gradual decline took place with the wide development of towns and of capitalistic commerce which tended to break down the small economic unit, the manor, and built up larger units. This decline was early in Italy, where Roman city institutions persisted to some extent through the Middle Ages (see COMMUNE). In Spain it was soon modified, especially by Moorish conquest, but still existed in modified form in the 20th cent. In England dissipation of the system had been long in process before it was hastened by the INCLOSURE of estates. In France its disappearance was consummated by the French Revolution. In Austria and Prussia it was virtually ended by the reforms of Emperor JOSEPH II, Karl vom und sum STEIN, and HARDENBERG, but in Hungary it left traces until the 20th cent. In Russia it was profoundly altered by the abolition of serfdom (1861, see EMANCIPATION, EDICT OF). Everywhere it left its mark upon succeeding institutions. Essentially the system was a local institution, and general statements concerning it are subject to exceptions. In its simple form it consisted of the division of the land into self-sufficient estates—the great domains. The great domain was held by a lord who might be the king, an ecclesiastical lord, a baron, or any lesser noble. The land was in his holding and was not given to the man who cultivated it, but only loaned in return for services and dues. The lord, however, did not have the right to withdraw the property or to increase the dues, the rights of cultivation were in general heritable among the peasants. The peasants were divided into two classes, the free and the unfree. The unfree SERF was bound to the land and could not leave it; in the extreme case, he was otherwise entirely subject to the will of the lord in the matter of services. The freeholder was not personally bound to the land or to the lord, in the highest form of freedom, he simply held the land in return for a fixed payment. There was wide diversity in the status of VILLEIN and serf, and as far back as the manor can be traced, the tendency was for the free and unfree tenants to become confused and consolidated. The terms *free* and *servile* came to be attached to the land rather than to the man, and the holding was servile or free regardless of the status of the holder. There were also other types of holders whose status cannot be definitely determined from the records that survive, such were the cottars and the *bordars*. On the typical domain was the manor house of the lord. Some of the land he retained for his own use (the demesne land). The domain was divided into arable, meadow (the commons), woodland, and waste. The arable was held by the peasants, each holding under its own fixed conditions, usually the holdings were by strips, and a single man might hold a number of widely separated lands. The three-field system of agriculture generally prevailed, with one field devoted to winter crops, one to summer crops, and one lying fallow each year. The meadow was usually held in common, though the lord had vested rights and the peasants might have special privileges. The woodlands and fishponds usually belonged to the lord, and he had to be recompensed for the right to hunt animals, to catch fish, and to cut wood. Normally the peasants of the domain lived together in a village not far from the manor house or castle, though there are numerous instances of manors with scattered tenant houses. The payments made by serf and villein varied with the locality. There were usually fixed dues paid at certain times of the year regularly. In addition to dues paid for the use of the lands, these payments included exactions for the use of the lord's mill and oven and also personal work dues. There were also the obligations to supply the lord with entertainment—food, lodging, and the like—when he came to the manor. In addition there were dues for the rights of justice. The manor was an administrative and political unit. It was, in theory at least, the unit of medieval social organization, with its own artisans, supposedly enough to supply the needs of the manor. There were manorial courts, and the lord, or more usually his agent, presided over the administration of justice. The manor was also the unit for the raising of taxes and for public improvements. Thus the tenants were obliged to repair roads and bridges, keep up castles, and take care of the military contributions. The manor was almost always under the charge of an intendant who was the agent of the lord. He might be assisted by provosts or bailiffs. The manor was looked upon as a permanent, fixed organization, and even when part of it was alienated by the lord, it still remained a single manor. Thus one manor might have several direct lords. It did not necessarily coincide with a single estate, it might be larger or might even, in rare cases, be only part of an estate. The most vexed problem concerning the manor is the question of the origin of manorial organization. There was a long-drawn quarrel between the so-called Romanists and the so-called Germanists as to the sources of the organization. The question will probably never be settled, there is not sufficient evidence. Those who stressed Roman origin pointed to the process that was, in the days of the later Roman Empire, producing independent estates. Those who believed in German origin pointed out the likenesses of the manor to what was supposedly the ancient German system of landholding (see MARK). It is now rather generally agreed that both German and Roman influences had a bearing on the development of the great domains in Carolingian times. See P. G. Vinogradoff, *Villainage in England* (1892) and *The Growth of the Manor* (3d ed., 1920), F. W. Maitland, *Domesday Book and Beyond* (1897), C. M. Andrews, *The Old English Manor* (1892), N. J. Hone, *The Manor and Manorial Records* (1925), J. W. Thompson, *Economic and Social History of the Middle Ages* (1928) and *Economic and Social History of Europe in the Later Middle Ages* (1931), N. S. B. Gras and E. C. Gras, *The Economic and Social History of an English Village* (1930), H. B. Bennet, *Life on the English Manor* (1938).

Man o' War, 1917–47, American race horse, by Fair Play out of Mahubah, bred by August Belmont near Lexington, Ky., and owned by Samuel D. Riddle after 1918. A large reddish-colored colt capable of tremendously long strides, he raced only as a two-year-old and three-year-old, but in this short time (1919–20) he won 20 out of 21 races and set five world records. His one loss was to a horse named Upset at Saratoga in 1919, he ran second. The most renowned stallion in the history of thoroughbred racing, "Big Red," as Man o' War was often called, became the leading sire of all time.

Manresa (mänrā'sä), city (pop. 34,075), Barcelona prov., NE Spain, in Catalonia. It is an industrial

center with cotton and silk manufactures Of ancient origin, Manresa has a Roman bridge and a Gothic cathedral Below the Jesuit convent is the grotto where St Ignatius of Loyola used to retire in prayer during his sojourn (1522–23) at Manresa on his way back from Montserrat It is now a place of pilgrimage

Manrique, Jorge (hôr'hā mänrē'kā), c 1440–1479, Spanish poet and soldier Most of his verse is undistinguished, but his *Coplas* [couplets] on his father's death are among the treasures of poetry. They were translated into Latin and into English (by Longfellow) and have been set to music

Mans, Le (lu mä'), city (pop 90,693), capital of Sarthe dept, NW France, on the Sarthe river The historical capital of Maine, it is also an important manufacturing, commercial, educational, and communications center Le Mans, which dates from pre-Roman times, has witnessed frequent sieges and battles throughout the centuries Some parts were damaged in the Second World War The Cathedral of St Julien du Mans (11th-13th cent), which contains the tomb of Berengaria, queen of Richard Cœur de Lion (Richard I of England), is partly Romanesque, its Gothic part has perhaps the most daring system of flying buttresses of any Gothic cathedral Le Mans was the birthplace of Henry II of England

Mansard see MANSART

mansard roof (mān'särd), type of roof so named because it was frequently used by the French architect François Mansart However, it was not invented by him but was used early in the 16th cent, as in portions of the palace of the Louvre designed by Pierre Lescot It became particularly characteristic of French Renaissance architecture and later was much used in Victorian buildings in Europe and America In a mansard roof the slope from eaves to ridge is broken into two portions The lower portion is built with a steep pitch, sometimes almost vertical, while the upper one has a low pitch or is nearly flat This results in a higher and more useful interior space than can be obtained in other types of roof

Mansart or **Mansard, François** (both fräswa' mäsär'), 1598–1666, one of the greatest French architects of the Renaissance His work is noted as a fine and pure expression of French classical design In 1635 he was charged by the duc d' Orléans with making additions to the château of Blois His final and greatest work is the Church of Val-de-Grâce, Paris, which is believed to have later influenced Sir Christopher Wren in the design of St Paul's Cathedral, London Mansart designed the château of Maisons and, in Paris, the Hôtel de Toulouse (now the Banque de France), the Hotel d'Aumont, and the alterations to the Hôtel Carnavalet, now a museum

Mansart or **Mansard, Jules Hardouin** (zhul' ärdwē'), c 1646–1708, French architect of the classical period of the Renaissance He studied under his great-uncle François Mansart and under Liberal Bruant Favored by Louis XIV, he was ennobled and in 1699 was made chief architect for the royal buildings After enlarging the royal château of Saint-Germain-en-Laye, he undertook work at the palace of Versailles, where, among his accomplishments, are the impressive Galérie des Glaces decorated by Le Brun, the Grand Trianon, the palace chapel, and the vast orangery In Paris he designed two pieces of city planning the Place des Victoires (1684–86) and the superb Place Louis le Grand, now called the Place Vendome (1699) The building which contributed greatly to the impressiveness of the city of Paris and is considered his most splendid achievement is the Dôme des Invalides (1706), this was added as a second church to the earlier one constructed by Bruant and brought the scheme of the Hôtel des Invalides to completion In collaboration with German Bofrand (1667–1754) he designed the cathedral of Nancy

Mansel, Henry Longueville (mān'sul), 1820–71, English philosopher A follower of Sir William Hamilton, he developed theories of consciousness and knowledge in the pattern of realism of the "common-sense" school of philosophy He held several chairs at Magdalen College, Oxford, and in 1868 became dean of St Paul's, London His Bampton Lectures, *The Limits of Religious Thought Examined* (1858), were highly regarded. Other works include *Metaphysics, or, The Philosophy of Consciousness* (1860) and *Philosophy of the Conditioned* (1866)

Mansfeld, Peter Ernst von (pā'tûr ërnst fûn mans'fĕlt), 1580?–1626, military commander, one of the Protestant leaders in the Thirty Years War Natural son of a governor for the Hapsburgs in the Low Countries, Mansfeld rendered distinguished military service in the imperialist forces in the Netherlands and was legitimized, by 1607 he was styling himself count When the Bohemians revolted and the Thirty Years War began, Mansfeld became the chief general attached immediately to FREDERICK THE WINTER KING He led a band of mercenaries in trying to defend Frederick's possessions in the Palatinate He was at first successful and proved himself skillful in command. He even won an engagement with TILLY in 1622, but he was unable to oust the imperialist forces and his unruly men ravaged and terrorized the country, Frederick dismissed him He then (1623) became a mercenary leader for Holland and in 1625 with a subsidy from England recruited a force to fight on the Protestant side and seek to recover the Palatinate He was severely defeated (1626) by Wallenstein near Dessau Mansfeld attempted then to cooperate with Gabriel Bethlen but without success He died soon afterward

Mansfield, Edward, fl 1665, West Indian buccaneer Possibly born in Curaçao of Dutch parentage, he is also called Edward Mansveld He was engaged (1665) by the British governor of Jamaica, Sir Thomas Modyford, to take Curaçao for the British He set sail with a fleet of 15 vessels, with Henry Morgan as second in command, and made, instead, for Cuba where he sacked Sancti Spiritus He took the island of Old Providence, ascended the San Juan river to take Granada, Nicaragua, and plundered and burned Spanish possessions along the Central and South American coasts before he returned to Jamaica, where he was mildly reproved by Governor Modyford for his activities He died shortly afterwards and was succeeded by Morgan as chief of the buccaneers

Mansfield, Joseph King Fenno, 1803–62, Union general in the Civil War, b New Haven, Conn, grad West Point, 1822 In the ANTIETAM CAMPAIGN he was mortally wounded while leading the 12th Corps, Sept 17, 1862

Mansfield, Katherine, 1888–1923, British short-story writer, whose real name was Kathleen Beauchamp, b Wellington, New Zealand She struggled against illness all her life and died of tuberculosis In 1911 she met John Middleton Murry, author and editor, they soon formed an alliance which lasted until her death Because the divorce from her first husband was long delayed, Katherine Mansfield and Murry were not married until 1918 Her first volume of short stories, *In a German Pension*, was published in 1911 *Bliss* (1920) established her reputation, and *The Garden Party* (1922) was very well received *The Doves Nest* and *Something Childish* (1924) were issued posthumously, and a complete edition of her stories appeared in 1937 Katherine Mansfield owed a considerable literary debt to the short stories of Chekhov Her work has in turn strongly influenced recent writers of the short story, particularly in the use of the crucial moment as a device for narration See her journal (1927), letters (1928), and *Scrapbook* (1940), all ed by J M Murry, and his *Between Two Worlds* (1935)

Mansfield, Richard, 1854–1907, American actor, b Germany, of English parents He came to the United States in 1872, in 1882 he made his first appearance on the American stage Among his chief successes were *Beau Brummel* (1890) and *Cyrano de Bergerac* (1898) An interpreter of contemporary drama and a leading actor of his day, Mansfield was one of the first to bring George Bernard Shaw's plays to the United States, and in 1906 he appeared in Ibsen's *Peer Gynt* See biography by Paul Wilstach (1909), William Winter, *Life and Art of Richard Mansfield* (2 vols, 1910)

Mansfield, William Murray, 1st **earl of,** 1705–93, English jurist As solicitor general (1742–54) he prosecuted the Scottish rebel lords, Balmerino, Kilmarnock, and Lovat In 1754 he became attorney general and in 1756 lord chief justice An advocate of toleration and legal niceties, he yet was accused of showing prejudice in the case against John Wilkes and in cases involving the letters of Junius His house was burned in the Gordon riots (1780) See C H S Fifoot, *Lord Mansfield* (1936)

Mansfield, municipal borough (1931 pop 46,077, 1947 estimated pop 50,680), Nottinghamshire, England, on the western border of Sherwood Forest It is in a coal and iron district, with manufactures of hosiery, shoes, and metal products The grammar school was founded in 1561, there is a 14th-century Church of St Peter Hardwick Hall and NEWSTEAD ABBEY are near

Mansfield. **1** Town (pop 1,002), W Ark, SE of Fort Smith, in an area producing cotton, fruit, vegetables, and natural gas **2** Town (pop 4,559), NE Conn, N of Willimantic, settled c 1692, inc 1703 The town includes STORRS, Mansfield Center, and Gurleyville and has a state school and hospital for epileptics and feeble-minded **3** Town (pop 4,065), parish seat of De Soto parish, NW La, S of Shreveport, inc 1847. It is in an area yielding oil and natural gas, cotton, farm products, and lumber. Mansfield Battle Park is the site of the Civil War battle of SABINE CROSSROADS **4** Town (pop 6,530), SE Mass, SSW of Boston, settled 1659, set off from Norton 1770 It produces chiefly machine parts See J F Copeland, *Every Day but Sunday* (1936) **5** City (pop 37,154), co seat of Richland co, N central Ohio, midway between Cleveland and Columbus, in a hilly region, laid out 1808, inc 1828 Its varied manufactures include steel and brass products (the Ohio Brass Company dates from the '80s), stoves, electrical equipment, and tires A blockhouse of the War of 1812 has been moved to South Park The scene of many of Louis Bromfield's novels is laid here The city is the seat of the Ohio State Reformatory **6** Borough (pop 1,880), N Pa, W of Towanda, laid out 1824, inc 1857. A resort center, it has a state teachers college

Mansfield, Mount, peak, 4,393 ft high, NW Vt, NW of Montpelier and NE of Burlington, highest peak of the Green Mts and of Vermont A hotel was built on its summit before 1860 At the foot of the mountain is a deep gorge called Smugglers Notch.

Mansfield Woodhouse, urban district (pop 13,721), Nottinghamshire, England, near Mansfield It has stone quarries

Manship, Paul, 1885–, American sculptor, b St Paul, Minn, studied at the St Paul Institute of Arts, Pennsylvania Academy of the Fine Arts, and American Academy at Rome He has often gone to classical mythology for his subjects, which are treated with notable purity of line Among his works are *Centaur and Dryad*, *Little Brother* and *Paulus* (Metropolitan Mus), *Infant Hercules*, a fountain (American Acad, Rome), and *Indian and Pronghorn Antelope* and *Dancing Girl and Fauns* (Art Inst, Chicago) He is represented in the Cleveland Museum of Art, the Corcoran Gallery, and the Luxembourg Museum, Paris He has received many awards, and he is a member of the Legion of Honor

manslaughter, HOMICIDE committed without justification or excuse but distinguished from murder by absence of the element of malice aforethought Modern criminal statutes usually divide it into degrees, the most common distinction being between voluntary and involuntary manslaughter Voluntary manslaughter is an intentional killing done in the heat of passion provoked by acts of the victim such as to cause a reasonable man to act rashly and without reflection Such provocation may include violent assault and an unlawful attempt to arrest him, but not mere insulting words or gestures Involuntary manslaughter is a killing in which there is no intention to kill at all Instances are death resulting from negligence on the part of the slaver and killing resulting from the commission of minor crimes (e g, rioting) The advent of the automobile caused many manslaughter cases which arise from reckless and careless driving, in the statutes of some states such killing is a separate crime

Manson, town (pop 1,429), W central Iowa, W of Fort Dodge, founded 1872, inc 1877 Near by is Twin Lakes State Park

Mansur (mänsōōr') or **Al-Mansur** [Arabic,=the victorious], d 775, 2d ABBASID caliph (754–75) His name was in full Abu Jafar abd-Allah al-Mansur He was brother and successor of ABU-L-ABBAS He was active and dominating and successfully consolidated his empire He lived at first, as his brother had, near Kufa, but in 762 he began to build a new city, Baghdad He was favorable to the Persians, and the Barmecides were his ministers (see HARUN-AL-RASHID)

Mansur or **Al-Mansur** (Mohammed ibn Abi-Amir al-Mansur billah), 914–1002, Moslem regent of Córdoba, known in Spanish as Almanzor He was made minister of finance by the caliph Hakim II, after whose death he displaced the regent for the young caliph Hisham II Mansur undertook many campaigns against the Christian states of N Spain and extended the power of the Omayyad caliphs of Córdoba throughout Moslem Spain Mansur was very ambitious and is said to have aimed at the caliphate, he kept Hisham in seclusion during Hisham's manhood After putting down a powerful conspiracy (in which one of his own sons was involved), Mansur in 991 gave up his premiership in favor of another of his sons He continued however, to exercise the actual power until his death

Mansura (mänsōō'ru), town (pop 1,138), central La, SE of Alexandria, in a sugar and cotton district

Mansura, El (ĕl mänsōō'ru), city (pop 68,886), N Egypt, on the Nile Here, in 1250, Crusaders under Louis IX suffered a crushing defeat at the hands of the Mamelukes Today the city is a rail and road junction with extensive trade in cotton

Manteca (mäntā'ku), city (1940 pop 1,981, 1946 special census pop 3,215), central Calif, S of Stockton, founded 1870, inc 1918 Grapes, olives, sugar beets, and other vegetables and fruits are grown and processed The city produces brandy and ships dairy products

Mantegna, Andrea (andrā'a mäntā'nyä), 1431–1506, Italian painter of the Paduan school. He was adopted by Squarcione, whose apprentice he remained until 1456, when he procured his release Two years earlier he had married the daughter of Jacopo Bellini By 1460 he had entered the service of the Gonzagas in Mantua, in which he continued all his life Outside of Venice he was the greatest and most celebrated artist of N Italy His passion for the antique is evidenced in all his work, and he was one of the first artists to make an extensive collection of Greek and Roman works A rigorous draughtsman and anatomist and a perfectionist in perspective, he nevertheless gave to his statuesque forms an intense and dramatic life Among his early works the most celebrated are his frescoes of the lives of St James and St. Christopher (Church of

the Eremitani, Padua, destroyed in the Second World War); St Luke altarpiece (Milan), and San Zeno altarpiece (central panel, Louvre, side panels, Tours) In Mantua he decorated (completed 1474) the bridal chamber in the Gonzaga palace with frescoes portraying many members of the family and other notables, including himself Also of this period are nine cartoons painted on paper backed with canvas depicting the *Triumph of Caesar* (Hampton Court Palace) and a *Pietà* (Milan) About 1497 he executed for Isabella d'Este his *Parnassus* and *Triumph of Virtue* (Louvre) Other famous examples are scattered throughout the galleries of Europe The Metropolitan Museum has his *Holy Family* Mantegna also is noted for his admirable drawings and copperplate engravings Among the engravings are *Virgin and Child, Entombment, Flagellation of Christ*, and *Bacchanalia with Silenus* See Paul Kristeller, *Andrea Mantegna* (Eng tr, 1901), Fritz Knapp, *The Work of Andrea Mantegna* (1913), R H Wilenski, *Mantegna and the Paduan School* (1947)

Mantell, Gideon Algernon (măn'tl), 1790–1852, English paleontologist He practiced medicine at Lewes, Brighton, and Clapham, devoting his free time to paleontology He wrote *The Fossils of the South Downs*, published in 1822, and first discovered the remains of the Iguanodon in 1825, subsequently his reputation was enhanced by his museum, which contained a remarkable collection of fossils Besides monographs and technical works, he was the author of a number of widely read popular books on geology, among them *Thoughts on a Pebble* (1836), *The Wonders of Geology* (1838), and *The Medals of Creation* (1844)

Mantell, Robert Bruce (măn"tĕl'), 1854–1928, British-American actor He made his debut in England in 1876 as the sergeant in Boucicault's *Arrah-na-Pogue* In 1878 he came to the United States, where he played juvenile parts with Modjeska and in 1882 appeared in Sardou's *Fedora* with Fanny Davenport He formed his own company in 1905 and excelled in Shakspere and melodrama

mantelpiece, embellishment framing a FIREPLACE opening Its development commenced in the Middle Ages with the hood which overhung an open hearth to collect the smoke and convey it to the flue But in the Renaissance the smoke chamber began to be constructed within the chimney itself, and the exposed hood was abandoned The fireplace thus became a rectangular recess at the base of the chimney, with the chimney breast above free for decoration In France in the early Renaissance and in England in Elizabethan and Jacobean periods, a single mantelpiece composition of the entire breast from floor to ceiling was customary Columns, caryatids, or corbels supported the shelf, above which an armorial or other sculptural decoration was framed within pilasters, moldings, and the like Jacobean carved oak chimney breasts were especially rich The 18th cent, however, changed from these ponderous motives, the decoration became restricted to the space around the opening itself, often consisting of merely a molded enframement Mantelpieces were small in size, comparable to a piece of furniture In Italy boldly sculptured baroque mantels of stone or marble were characteristic In France the Louis XV and Louis XVI periods created two definite types, the first of swelling serpentine shape and rococo scroll decoration and the second of severely classic form with pilasters, colonnettes, or fasces English Georgian mantels employed the classic architectural elements in an infinite variety, the Adam brothers producing many of the finest, with marble inlays and exquisitely sculptured ornament Eighteenth-century American examples were imitative of English types but were usually of wood

Manteno, village (pop 1,547), NE Ill, N of Kankakee, in a farm area, inc 1878

Manteuffel, Edwin, Freiherr von (ĕt'vĭn frī'hĕr fŭn măn'toifŭl), 1809–85, Prussian field marshal, nephew of Otto von Manteuffel He served in the war against Denmark in 1864 and was appointed Prussian governor in conquered Schleswig In the AUSTRO-PRUSSIAN WAR of 1866 he commanded with brilliance He also distinguished himself in the Franco-Prussian War (1870–71) and commanded (1871–73) the German army of occupation in France

Manteuffel, Otto, Freiherr von (ō'tō), 1805–82, Prussian statesman As foreign minister he concluded (1850) the Convention of OLMÜTZ with Austria

Manti (măn'tī), city (pop. 2,268, alt 5,530 ft), co seat of Sanpete co, central Utah, in the Sanpete Valley, W of the Wasatch Mts and S of Provo, founded 1849 by Mormons It is a processing center of a livestock, dairy, and poultry area The white Manti Temple (built 1877–88) of the Latter-Day Saints is a landmark

Mantinea (măn"tĭnē'ŭ), city of ancient Greece, in E central Arcadia A coalition led by Mantinea and Argos and urged on by Athens was defeated by Sparta at Mantinea in 418 B C It was also the scene of the victory of Thebes over Sparta in which Epaminondas was killed (362 B.C.).

mantis (măn'tĭs), member of a group of insects usually considered a family (Mantidae) of the order Orthoptera, but treated in some classifications as a separate order Popular names for various species include praying insect, praying mantis, prophet, soothsayer, mule killer, and devil's riding horse They are found in most warm countries The body is elongated, usually green or grayish, with two pairs of wings Some tropical forms resemble leaves and flowers The eyes are large, and the head can turn in all directions The spiny forelegs are held in an attitude which is suggestive of prayer but which actually is a preparation for seizing the insects to feed upon The female often consumes her smaller mate and other females The eggs are laid in a frothy secretion which hardens to form a brownish protective case It is attached usually to a twig, stone, or other support The young hatch as small, wingless nymphs Commonly found in the NE and E United States are *Mantis religiosa* (about 2½ in long), introduced from S Europe, and species of *Tenodera*, of Asiatic origin *Stagmomantis carolina* is native to the SE United States

Manton, city (pop 1,006), N Mich, N of Cadillac, in a lake region, inc, as a village 1877, as a city 1924 Chairs are made here

Mantua (măn'chōōŭ, -tōōŭ), Ital *Mantova* (man'tôvä), city (pop 36,489), capital of Mantua prov, Lombardy, N Italy The center of a rich agricultural district, it is surrounded on three sides by the Mincio, which widens here to form three lakes The history of Mantua does not follow the general pattern of most Lombard cities Of Etruscan origin, later a Roman town, it was a free commune from the 12th to the 13th cent After much internal strife, the GONZAGA family gained power in 1328 and held it until 1708, when the city passed to Austria Liberation from foreign rule came only in 1866 The Gonzagas were munificent patrons of art and literature, and the city flourished under their rule Their palace, an aggregation of buildings dating from the 13th to the 18th cent, vies with the finest in Europe There are frescoes by MANTEGNA and GIULIO ROMANO The Palazzo del Te, created by Giulio Romano, the Church of Sant' Andrea (15th–18th cent), designed by Alberti, where Mantegna was buried, and the town hall (started in 1250) are other important landmarks Near Mantua Vergil was born

Manu (mä'nōō), in Hindu legend, a divinely inspired lawgiver The Laws of Manu, written in Sanskrit, purport to be of his authorship They were compiled, probably between 200 B C and A D 200, from diverse ancient sources The laws govern in great detail the ritual and daily life of the Brahmans and seek to preserve their high social position by enjoining deference from the lower castes The Laws of Manu, perhaps the most influential Hindu legal work extant, were used by Warren Hastings in framing regulations for India See Georg Buhler, *Laws of Manu* (1915), J M MacFie, *The Laws of Manu* (1921)

Manua (manōō'a), district (pop 2,597) in American SAMOA, comprising TAU, OFU, and OLOSEGA islands, annexed by the United States in 1899 According to Samoan tradition, the Manua group is the cradle of the race

manual training see VOCATIONAL EDUCATION

Manuel I (Manuel Comnenus) (kŏmnē'nŭs), c 1120–1180, Byzantine emperor (1143–80), son and successor of John II He began his reign with a war against the Seljuk Turks, the subjugation of Raymond of Antioch, and an alliance with Emperor Conrad III against Roger II of Sicily, but he changed his policy when the Second Crusade (1147–49, see CRUSADES) devastated his territory and caused him to make a truce with the Turks He conveyed the Crusaders to Asia Minor, but was not displeased at their failure, which has been somewhat unjustly blamed on him In 1154 Manuel invaded S Italy but was forced to withdraw (1158) by WILLIAM I of Sicily He subsequently directed his diplomacy against Emperor FREDERICK I, supporting the Italian cities and Pope Alexander III and aiming at nothing less than the reunion of the Western Empire with the Eastern as well as of the Western Church with the Eastern His neglect of Asia Minor led to his crushing defeat by the Turks at Myriocephalon (1176), which put an end to his ambitions As a theologian and a scholar, Manuel Comnenus was essentially a pretentious dilettante He showed a particular weakness for foreigners—Italians, French, Germans, English—on whom he conferred high offices During his reign Genoese, Pisan, and Venetian colonies settled at Constantinople and began to influence its destinies His son, Alexius II, succeeded him

Manuel II (Manuel Palaeologus), 1348?–1425, Byzantine emperor (1391–1425), son and successor of JOHN V. During his reign the Turks reduced the empire to Constantinople and its environs After the failure of the crusade of Sigismund of Hungary (later Emperor Sigismund) at NIKOPOL (1396), Manuel appealed to the West for aid and made an extended European journey (1399–1402) for that purpose His nephew, JOHN VII, was joint emperor after 1399 and defended, with BOUCICAUT, Constantinople against the siege by Sultan Bajazet I (1402) The victory of Tamerlane over Bajazet in the same year temporarily saved Constantinople In his last years Manuel devoted himself to writing, entrusting the government to his son and successor, John VIII

Manuel I, 1469–1521, king of Portugal (1495–1521) The cousin and brother-in-law of John II, he was duke of Beja and grand master of the Order of Christ when John II's son, Alfonso, died in a fall from a horse Manuel succeeded to the throne for one of the most glittering reigns that Portugal ever knew John had planned the expedition in search of the sea route to India and had appointed Vasco da Gama to head it, but it was in Manuel's reign that Vasco da Gama returned and that all the wealth of the Indies began to pour into Portugal Cabral announced the discovery of the coast of Brazil, and such commanders as Francisco de Almeida and Afonso de Albuquerque built up the Portuguese commercial empire around the world Portugal was the leading commercial nation of the West This sudden wealth soon, however, had some corrupting effects on officials and started the process of turning interest away from agricultural and industrial development of Portugal itself—a process that ended centuries later in national decline and bankruptcy The king, wishing to marry the widow of young Alfonso, Isabel of Castile, had to undertake measures for forcible conversion of the Jews, though he did so reluctantly in 1496–97, he promised that no investigation would be made into the faith of the "new Christians" (the converted Jews) Yet he could not prevent the departure of the Jews, who had contributed much to Portugal in learning and science and also had provided many able artisans Nor could he prevent a great massacre of the Jews in Lisbon in 1506, though he did punish the perpetrators Manuel used his new wealth to erect some beautiful buildings, the most notable, perhaps, the monastery he had built at Belém (now in Lisbon) near the spot where Vasco da Gama embarked for his epochal voyage He also revised the laws and strengthened the power of the king in a trend toward absolutism He was succeeded by John III Manuel I is often called in English Emmanuel I

Manuel II, 1889–1932, king of Portugal (1908–10), second son of CHARLES I He succeeded on the assassination of his father and elder brother The tide of republican sentiment continued to rise, economic troubles increased discontent In 1910 a successful revolution led by Admiral Antonio Machado dos Santos dethroned Manuel and established a republic, of which Teófilo Braga became president The royal family escaped, and Manuel spent most of his remaining years in England enjoying his large fortune He made no real effort to regain his throne, even when royalists proclaimed him king in attempting a coup d'état (1919)

manure, any material used for fertilizing land, whether organic (as barnyard manures, fish scrap, guano, seaweeds) or inorganic (chemicals which are often called artificial manures or fertilizers) Crops grown for plowing under for fertilizing the soil are called green manure Vegetable and animal waste is sometimes worked into COMPOST and used as manure The name manure is popularly applied specifically to barnyard manure, the most common fertilizing material, used since ancient times.

Manus see ADMIRALTY ISLANDS

manuscript, a handwritten work as distinguished from printing or typescript The oldest manuscripts were on PAPYRUS, the earliest extant dates probably to c 3500 B C PARCHMENT, which succeeded papyrus as a material on which to write, was much more durable, and most of the ancient manuscripts still extant are of parchment These could be written on both sides and could even be erased and used again (when they are known as palimpsests, if used a third time a manuscript is a double palimpsest) An important discovery of parchment scrolls of Old Testament books written in the 2d and 3d cent B C was made (1947) in Palestine, in a cave near the Dead Sea The manuscripts of the Middle Ages were often beautifully illuminated in colors (see ILLUMINATION) on vellum, a fine variety of parchment Although PAPER was invented in China in the 2d cent A D, it was not known in Europe until the 12th cent The study of ancient and medieval manuscripts and handwriting is a highly developed and complex science (see PALEOGRAPHY) With the printed book from the 15th cent on, manuscripts no longer needed to be copied for publication After the typewriter came into common use in the last quarter of the 19th cent, the printer was usually supplied with a typescript (ordinarily called a manuscript, however), and both author and publisher could be protected against its loss by the making of one or more carbon copies See BOOK See M Ilin, *Black on White* (Eng. tr, 1932)

Manutius, Aldus: see ALDUS MANUTIUS

Manville, borough (pop 6,065), N central N.J., SW of Bound Brook, laid out 1906, inc 1929. Asbestos products are made here

Man with the Iron Mask: see IRON MASK, MAN WITH THE.

Manx (măngks), language of the Celtic subfamily of Indo-European languages. See LANGUAGE (table)

Many (mā'nē), town (pop 1,474), parish seat of Sabine parish, W La., near the Texas line, in a lumber and oil district; settled in the early 19th cent. Near by are historic Fort Jesup, an American frontier post, and Los Adaes, old Spanish capital of this section

Manych (mä'nĭch), two rivers, SE European RSFSR. The Western Manych, c 200 mi long, rises near Stavropol in the N Caucasus and flows NW through Lake Manych-Gudilo into the lower Don The Eastern Manych rises in a marshy area and flows c 100 mi east to a system of salt lakes and marshes c 75 mi W of the Caspian Sea, but it reaches the sea only in rare spring floods In spring the Western and Eastern Manych join in the center of the **Manych Depression**, a broad, valleylike lowland extending c 350 mi SE from the lower Don to the Caspian Sea. A canal joining the Don and the Caspian and using the Western Manych has been projected A variant spelling is Manich

Manzanares (mänthänä'rĕs), river, c 50 mi long, central Spain, rising in the Sierra de Guadarrama and flowing S past Madrid into the Jarama river, a tributary of the Tagus

Manzanillo (mansänē'yō), city (pop 35,730), SE Cuba, a port Founded late in the 18th cent, it was a smuggling center until the pirates were driven from West Indian waters The climate is hot The chief exports are sugar, molasses, tobacco, and hardwoods

Manzanillo (mänsänē'yō), city (pop 6,831), Colima, W Mexico, a port on the Pacific The climate is hot and the rainfall heavy With a fine harbor and rail and highway connections with Mexico City, Manzanillo handles many imports and ships out minerals, hides, coffee, palm oil, and lumber Dock facilities have recently been modernized and health conditions improved

Manzikert (măn'zĭkûrt), Turkish *Malazgirt* (mälăzgĕrt'), village, E Turkey, c 85 mi SE of Erzerum It was an important town of ancient Armenia Here in 1071 the Seljuk Turks under ALP ARSLAN routed the Byzantine emperor ROMANUS IV in one of the decisive battles of history As a result, most of Asia Minor fell to the Seljuks

Manzoni, Alessandro (älĕsän'drō mändzō'nē), 1785–1873, Italian novelist and poet, one of the chief figures in Italian literature In his youth he was taken to Paris by his mother, a daughter of Cesare Beccaria, and there he formed deistical opinions, which he discarded later He returned to Italy in 1807, in his late years he became a senator He wrote tragedies—e g, *Il Conte di Carmagnola* (1816–20) and *Adelchi* (1822)—and, in addition to other poems, *Cinque maggio* (1821), an ode inspired by the death of Napoleon In 1825–26, under the influence of Sir Walter Scott, he produced his most famous work, *I promessi sposi* (Eng tr, *The Betrothed*, 1828), a novel of the 16th cent in Milan and one of the world's great romances Fifty years after its publication in Italy, 118 editions had appeared, and it has been translated into many languages An operatic setting was made by Amilcare Ponchielli

Maoch (mā'ŏk), father of Achish 1 Sam 27 2

Maachah 1 Kings 2 39

Maon (mā'ŏn) [Heb, =habitation], town, in the hills of Judah c 10 mi S of Hebron It was Nabal's home The name survives in the present Tell Main Joshua 15 55, 1 Sam 23 24–26, 25 2 The **Maonites** (mā'–) or **Mehunims** (mēhū'nĭmz) were a Canaanite tribe of extreme S Palestine Judges 10 12, 2 Chron 26 7, Ezra 2 50

Maori: see NEW ZEALAND

Mao Tse-tung (mou' dzŭ-dōōng'), 1893–, leader of the Chinese Communists Mao, of peasant stock, received a modern education One of the founders of the Chinese Communist party, he organized (1921–24) peasant and industrial unions and directed (1924–26) the peasant section of the party After the Kuomintang-Communist split (1927), Mao led a revolt in Hunan prov, where he organized soviets In 1931 he was elected chairman of the Soviet Republic of China He led (1934–35) the Red Army on the "long march" (6,000 mi) from Kiangsi prov to Yenan Mao advocated cooperation with the Kuomintang during the Second Chino-Japanese War, and at the end of hostilities he urged a coalition government for China, but, dissatisfied with the Kuomintang proposals, he resumed civil war in 1946 Late in 1949 Mao was made chairman of the central government council of the newly established People's Democratic Republic of China, which held all the mainland in April, 1950 The name is also spelled Mao Tze-tung See his *China's New Democracy* (1944) and *Fight for a New China* (1945), Edgar Snow, *Red Star over China* (rev ed, 1944).

Map or **Mapes, Walter,** c 1140–c 1210, British author, archdeacon of Oxford, b Wales A favorite of Henry II, he received various preferments The one work indubitably his, *De nugis curialium*, is a Latin prose collection of legends, tales, gossip, and anecdotes—shrewd, witty, and satirical, it shows Map as a wit and a man of the world, familiar with court life and public affairs Map is commonly associated with the Lancelot romances of the Arthurian cycle, but the consensus of modern scholars is that he had no connection with them. The ascription to him of a group of GOLIARDIC SONGS is also questioned by scholars See *De nugis curialium* (ed by M R James, 1914; tr by Frederick Tupper and M B Ogle, 1924); Thomas Wright, ed, *The Latin Poems Commonly Attributed to Walter Mapes* (1841)

map, conventionalized picture of the earth's surface pattern drawn on a flat surface Emphasis may be placed on physical features, on cultural or political features, or on both Each point on a map corresponds to a geographical position in accordance with a definite SCALE and PROJECTION. Cartography (q v, map making) antedates even the art of writing Diagrams of areas familiar to them were drawn by Marshall Islanders, Eskimo, American Indians—probably by all primitive people. Maps drawn by ancient Babylonians, Egyptians, and Chinese have been found The oldest known map, now on exhibition in the Semitic Museum of Harvard, is a Babylonia clay tablet dating from c.2500 B C Our present system of cartography was established by the Greeks, who remained unexcelled until the 16th cent The first scientific measurements of earth distances by means of meridians and parallels were made by Eratosthenes (3d cent B C) The most famous of ancient cartographers was Ptolemy, whose system was followed for many centuries His basic error in underestimating the earth's size was not eliminated until the age of Mercator Only the Mediterranean world was represented with any accuracy in early maps During the Middle Ages, Arabic map makers, notably Idrisi (12th cent), carried on the work of Ptolemy Three major events contributed to the spectacular renaissance of cartography around 1500—the rediscovery and translation into Latin of Ptolemy's *Geographia*, the invention of printing and engraving, and the great voyages of discovery This renaissance was manifested by the work of Mercator, by the first modern world atlas published in 1570 by Ortelius, and by the decorative, paintinglike maps of the French Sanson family (17th cent) With improvements in the methods of surveying and with increased emphasis on accuracy, the 18th cent is noted for the work of Guillaume Delisle and J B B D'Anville, the founders of modern cartography. After 1750 many European governments undertook the systematic mapping of their countries C F Cassini headed the first important national survey in France, which was followed by the Ordnance Survey of Great Britain (1801) and the topographic survey of Switzerland (1832) In the United States the Geological Survey (est 1879) has mapped nearly 50 percent of the country at a scale of 1 62,500, but one half of these maps (called topographic sheets) are now obsolete While the 19th cent satisfied the demand for national maps and saw the publication of famous world atlases (Adolf Stieler, Heinrich Berghaus, K T Andree, and Bartholomew's *Times Atlas of the World*), the advent of the 20th cent brought about the desire for an international map of the world at a uniform scale Accordingly, at several meetings of the International Geographical Congress (1891, 1909, 1913), Albrecht Penck presented and perfected plans for a world map on a scale of 1 1,000,000, to consist of about 1,500 sheets, each covering four degrees of latitude and six degrees of longitude in a modified conic projection Uniformity of lettering and the use of layer tints to indicate relief were agreed upon By the 1940s, however, the work was only partially completed, with many more provisional than definitive sheets published While the United States had only completed four sheets in this series, the greatest single contribution to the map of the world was made by the American Geographical Society of New York, which, by 1945, had issued its 107-sheet *Map of Hispanic America*. Meanwhile in the United States, the Army Map Service (established in the Second World War) has compiled from miscellaneous sources a good coverage of many areas of the world heretofore inadequately mapped Aerial photography as an aid in map making has recently made great technical advances While the earliest printed maps (2d half of 15th cent) were made from woodcuts, maps can today be reproduced by the processes of photoengraving, wax engraving, and lithography See Erwin Raisz, *General Cartography* (2d ed, 1949), L A Brown, *The Story of Maps* (1949); R. V. Tooley, *Maps and Map-Makers* (1949)

Mapes, Walter. see MAP, WALTER

maple, ornamental and useful tree of the genus *Acer* Of about 75 species in the Northern Hemisphere, about 13 are native to North America. Most maples have deeply cut, opposite leaves (often brilliantly colored in the fall). The fruit encloses two seeds and bears two membranous wings Maples are popular as shade trees, and several species have valuable timber. The sugar maple, *Acer saccharum*, also known as the hard or rock maple, is probably the most valuable hardwood of E North America It furnishes both bird's-eye and curly maple, much prized by cabinetmakers Hard maple is used also for telephone cable terminals and in aircraft construction, and its ashes, rich in potash, have value in fertilizers The similar black maple (*A. nigrum* or *A saccharum nigrum*) is similarly used The silver or soft maple (*A. saccharinum*) is a fast-growing tree with fine-grained but brittle wood. The red or swamp maple (*A. rubrum*) is one of the commonest North American trees and is striking in autumn with its scarlet and orange foliage. Its wood is hard and is second commercially to the sugar maple. The BOX ELDER or ash-leaved maple (*A negundo*) has ornamental compound foliage From Europe have been introduced the Norway maple (*A platanoides*) and the sycamore maple (*A pseudoplatanus*), and from Japan (where maple shows are held annually) small, delicate maples with deeply colored leaves **Maple syrup** is the concentrated sap obtained for commercial purposes from the sugar maple and the black maple The trees thrive in the NE United States and in SE Canada The syrup and sugar, first prepared by the Indians, became the staple sweetening used by the colonists and remained important until c 1875 Sap flows intermittently for periods up to six weeks in the spring, is caught in buckets, strained, concentrated by boiling to a density of 11 lb per gallon for syrup, or evaporated further for sugar The low saccharine content of the sap, the disappearance of forests, and the high cost of manufacture have made the sugar and the syrup scarce items, used mainly for confectionery and for flavoring mixed syrups See Helen Nearing and Scott Nearing, *The Maple Sugar Book* (1950).

Maple Creek, town (pop 1,280), SW Sask, ESE of Medicine Hat, Alta, in a ranching and horse-breeding district

Maple Heights, village (pop 6,728), NE Ohio, near Cleveland

maple syrup: see MAPLE

Mapleton. **1** Town (pop 1,824), W Iowa, on the Maple river and SE of Sioux City, inc 1878 Dairy products are made here **2** Town (pop 1,354), NE Maine, just W of Presque Isle, inc 1880 **3** Village (pop 1,070), S Minn, S of Mankato, laid out and inc 1870

Maplewood. **1** Suburban city (pop 12,875), E Mo, near St Louis, settled c 1865, inc 1908 **2** Suburban township (pop 23,139), NE N J, W of Newark, inc 1922 The Timothy Ball House was built in 1743

map projection. see PROJECTION.

maquis (mäkē'), French word meaning the brush country in Corsica and, hence, the Corsican robber bands who hid out in the brush Under the German occupation of France during the Second World War, the word was used to designate the organized underground resistance The *maquis* originated with the introduction of compulsory labor service by Pierre LAVAL in 1943 The evaders of the labor draft took to the countryside Subsequently they were supplied with Allied weapons by parachute and were organized into the FFI (French Forces of the Interior), who fought as part of the Allied forces after June 6, 1944 Members of the *maquis* were called *maquisards* (makēzär')

Maquoketa (mukō'kĭtu), city (pop 4,076), co seat of Jackson co, E Iowa, S of Dubuque and on the Maquoketa river, inc 1853 The Ellis Museum of Archaeology and Anthropology is here, near by is Maquoketa Caves State Scientific Preserve

Mar, John Erskine, 1st **earl of,** d 1572, regent of Scotland His strength derived from his possession of Edinburgh and Stirling castles His position was essentially one of neutrality, but in the struggle between MARY OF GUISE and the nobles, Erskine intervened to a limited degree on both sides, and on the approach of the English (1559), he received Mary into Edinburgh Castle When MARY QUEEN OF SCOTS returned from France in 1561, he was made a member of her privy council and in 1565 was created earl of Mar. In 1567 he was given custody of the young king, James VI (see JAMES I of England). The earl of Bothwell later tried to gain control of the prince, but Mar evaded him and joined the revolt of the nobles He was one of the council to whom Mary signed over the government Although Mar was chosen regent after the earl of Lennox's death in 1571, the earl of MORTON, James Douglas, held the real power Mar's death forestalled a proposal by Elizabeth that Mary be turned over to the Scots for execution His wife continued as a guardian of James

Mar, John Erskine, 2d **earl of,** 1558–1634, Scottish nobleman The son of John Erskine, 1st earl of Mar, he was persuaded by the earl of Morton to assert his claims to Stirling Castle and guardianship of the king He seized the castle keys in 1578 and ejected his uncle, Alexander Erskine. Mar emerged in control of the king After Morton's arrest and the rise of Esme Stuart, duke of Lennox, and James Stuart, earl of Arran, he fell out of favor with the king Mar participated in the capture of James in the raid of Ruthven After James's escape, Mar was received at court, but was banished in 1584 and fled to England. In 1585 the foes of Arran made up their differences, invaded Scotland, and were received by James. Mar was made a member of the privy council. In 1601 he was sent as am-

bassador to England to offer secret assistance to the earl of Essex in his rebellion. This was crushed before his arrival, and Mar spent his time negotiating the question of James's succession to the English throne. In 1603 he accompanied James to England and was made a member of the English privy council. From 1616 to 1630 he was lord high treasurer of Scotland.

Mar, John Erskine, 6th earl of, 1675–1732, Scottish leader of the JACOBITES. He was also called the 11th earl and the 27th earl because the origin of the Mar title is "lost in obscurity." He was nicknamed "Bobbing John," probably for his vacillating politics. He became earl at his father's death in 1689, alternately joined and left the duke of Queensberry and the court party, and was made (1711) a secretary of state for Scotland for his leading part in promoting the union with England. After an effusive offer of his services to George I he was dismissed (1715) and withdrew secretly to Scotland, where he raised the standard for the Old Pretender without orders from him to do so. The rebellion failed largely through Mar's incompetence, and Mar fled (1716) to France with the Pretender. He was attainted of treason in England, but his active dissatisfaction with the Jacobite court and his suspected treachery caused the Pretender also to break with him in 1724. Mar remained in exile until his death. See Alistair Tayler and Henrietta Tayler, *1715: the Story of the Rising* (1936).

Mara [Heb., =bitter], punning name taken by Naomi out of sorrow. Ruth 1:20.

marabou, large bird (genus *Leptoptilus*) of the stork family, found in Africa. It belongs to the same genus as the similar bird of India called the adjutant. Sometimes the names are used interchangeably. The marabou is usually 4 or 5 ft. tall and has long legs, a huge bill, and a wing spread of about 10 ft. It is powerful in flight. The head and neck are bare except for a few feathers, the plumage is a dark green on the back and wings and grayish white on the breast and underparts. A fold of skin hanging from the throat is sometimes inflated with air. The bird is a scavenger and also eats poultry and other small animals. Elongated feathers growing in the tail region were once used for millinery and neckwear.

Marabouts (mă'rŭbo͝ots) [Arabic, =devotee hermit], members of a Mohammedan sect of the Berbers, successors of the ALMORAVIDES. They spread from NW Africa into Spain in the 11th and 12th cent. The Marabouts are holy men, greatly venerated as saints and prophets. They live in monasteries or are attached to mosques. Their tombs, which are also called Marabouts, are often places of pilgrimage.

Maracaibo (mărăkī'bō), port (pop. 112,519), NW Venezuela, second largest city of Venezuela, at the outlet of Lake Maracaibo. Founded in 1571 by Alonso Pacheco, it was sacked five times in the 17th cent. by buccaneers, notably in 1669 by the notorious Sir Henry MORGAN. Until the development of the oil industry after 1918, Maracaibo was extremely unhealthful. With a mean annual temperature of 82.4°F. and excessive humidity, it is one of the hottest cities in South America. Foreign interests (British, Dutch, and North American), in exploring the vast petroleum resources of the Maracaibo basin, have made it a clean, thriving commercial and industrial city, with modern public services. Because of the shallow lake outlet, it serves as a transshipping point for inland products, which are transferred from lake vessels to lighters going to WILLEMSTAD, where again reloading is necessary. Besides oil, exports include coffee, cacao, sugar, and hardwoods.

Maracaibo, Lake, area c.5,000 sq. mi., NW Venezuela. Discovered in 1499 by VESPUCCI, the lake lies in the extremely hot, disease-ridden lowlands of the Maracaibo basin, a region which, almost enclosed by mountains, is semiarid in the north but has an annual rainfall of 50 in. in the south. Much of the native population lives in thatched huts built on stilts over the brackish water. Although the fertile soil produces sugar cane, cacao, and a wealth of tropical hardwoods, absentee exploitation, unhealthful living, and scarcity of labor have left the area undeveloped agriculturally. Some livestock is raised. By far the most vital activity is production of petroleum. Developed since 1918 by foreign concerns, the region is one of the greatest oil-producing areas in the world. Lake Maracaibo, with the CATATUMBO river, is a major artery of communication for products of the adjacent region and those of the Colombian-Venezuelan highlands. A channel, 34 mi. long, in places only 11 ft. deep, connecting it with the Gulf of Venezuela (or Gulf of Maracaibo), blocks ocean vessels, necessitating transshipment at MARACAIBO.

Maracay (mărăkī'), city (pop. 30,224), N Venezuela, at the eastern end of Lake Valencia. It is a commercial, agricultural, and industrial city in most respects like its neighbor VALENCIA. Only 70 mi. from Caracas, it supplies much of the meat and dairy products for the capital and raw materials for its industries. It was modernized by the recent dictator, Juan Vicente GÓMEZ.

Maragha (mărägä'), city (1947 estimated pop. 33,335), NW Iran, E of Lake Urmia and S of Tabriz. It has large exports of local fruit to Russia. The seminomadic Mongols in Persia held their court here under Hulagu Khan until the establishment of a fixed capital at Tabriz. Their celebrated observatory is now in ruins.

Marah [Heb., =bitter] bitter spring which Moses sweetened. Ex. 15:23.

Marais (mărĕ') [Fr., =swamp], old quarter of Paris, France, on the right bank of the Seine. It was, until the 18th cent., the most aristocratic section of Paris. The Hôtel des Tournelles, long the residence of the kings of France (Henry II was killed in its court during a joust), was replaced by Henry IV with the Place des Vosges. The Marais park, surrounded by uniform houses in pink brick and gray slate, remains a perfect ensemble of 17th-century architecture. Near by is the CARNAVALET, once the residence of Mme de Sévigné, which houses the municipal museum of Paris. Though the quarter is now very populous, it still has many fine mansions dating from its most prosperous period.

Marais des Cygnes (mă"rĕ du sēn'), river, c.140 mi. long, rising in E central Kansas, SW of Topeka, and flowing SE into Missouri to join the Little Osage and form the Osage.

Marajó (mărəzhō'), island, c.150 mi. long and c.100 mi. wide, N Brazil, in the mouth of the Amazon. It divides the river into the Amazon proper and the Pará. Low and swampy in the west, it has in the east extensive grasslands for cattle raising. There are aboriginal mounds of archaeological importance.

Maralah (mär'ulä), unidentified boundary mark in N Palestine. Joshua 19:11.

Maramures, Rumania: see CRISANA-MARAMURES.

Maranatha (mär"unā'thu): see ANATHEMA.

Maranhão (mărănyă'o͞), state (129,270 sq. mi., 1940 pop. 1,235,169, 1949 estimated pop. 1,491,079), NE Brazil. The capital is São Luís (also sometimes called Maranhão). It fronts on the Atlantic in the north and has a low, hot coastal plain, where most of the population lives. Here grow many babassu palms, and babassu nuts (processed for vegetable oil) are an important product. In the south the land rises to a plateau and to the edge of the Brazilian highlands. Here in the fertile valleys of the small, northward-flowing streams, cotton, sugar, rice, and tobacco are grown. The state has some alluvial gold deposits, and phosphorous bauxite deposits have recently been found. The first settlement was by the French, who founded São Luís in 1612, but were displaced by the Portuguese in 1615.

Marañón (mărănyōn'), river, a headstream of the Amazon, rising in central Peru, flowing NNE through the Andes almost to Ecuador, then northeast and east to join the UCAYALI. It is sometimes considered part of the Amazon proper. It is navigable to the Pongo de Manseriche, the gorge through which it goes before reaching the Amazon basin. URBÚA descended the Marañón in 1560.

maranta see ARROWROOT.

Maras (mărăsh'), city (pop. 33,104), S central Turkey, in the Taurus mts. It is an agricultural trade center. Ancient inscriptions found here seem to indicate that it was a Hittite city. A large part of the population is Armenian. The name is sometimes spelled Marash.

maraschino (mă"rŭskē'nō), LIQUEUR prepared by distilling the fermented juice of the marasca, a sour cherry of Dalmatia. The **maraschino cherry** is preserved in maraschino or in imitation syrup.

Marash, Turkey: see MARAS.

Marat, Jean Paul (zhäN' pōl' märä'), 1743–93, French revolutionist, b. Switzerland. He studied medicine in England, acquired some reputation as a doctor in London and in Paris, and wrote valuable scientific and medical works (some in English). His *Philosophical Essay on Man* (1773) was attacked by Voltaire for its extreme materialism. When the Revolution began (1789), he abandoned science for politics, founding the journal *L'Ami du peuple*, in which he vented his bitter hatred and suspicion of all who were in power. Outlawed, he published his paper from various hiding places, attacking Necker, Lafayette, the commune, Mirabeau, the émigrés, and, finally, the king. While hiding in the sewers of Paris, he contracted a skin disease which necessitated his remaining in a warm bath. In Aug., 1792, he entered again into public life. The September massacres were indirectly caused by his inflammatory articles, which were widely read. Elected to the Convention, he supported the Jacobins by waging a deadly war on the GIRONDISTS. Their downfall marked his triumph. He was stabbed to death in his bath by Charlotte CORDAY. The murder of "the friend of the people" was exploited by the Jacobins as a pretext for intensifying the Terror. Selections from his writings have been published as *Textes choisis* (1945). See L. R. Gottschalk, *Jean Paul Marat* (1927).

Marathas: see MAHRATTAS.

Marathi (mŭrä'tē), language of the Indic group of the Indo-Iranian subfamily of Indo-European languages. See LANGUAGE (table).

Marathon (mär'ŭthŏn), village and plain, ancient Greece, 20 mi. NE of Athens. Here the Athenians and Plataeans under MILTIADES defeated a Persian army in 490 B.C. (see PERSIAN WARS). In legend the plain was the scene of the victory of THESEUS over a great bull.

marathon race, long-distance race deriving its name from Marathon, Greece, whence, in 490 B.C., a runner carried news of victory to Athens. In the Olympic games a long-distance foot race called a Marathon was first included in the program at Athens in 1896. The distance was c.25 mi., but in 1908 was standardized at 26 mi. and 385 yds. This race has become one of the principal events of the Olympic games. The American Marathon Race, held annually (except for 1918) since 1897 under the auspices of the Boston Athletic Association, is the most famous of such races. Clarence H. Demar won it seven times between 1911 and 1930.

Maratti or **Maratta, Carlo** (kär'lō märät'tē, -tä), 1625–1713, Italian painter and engraver of the Roman school. He restored Raphael's frescoes in the Vatican and was appointed curator of the Vatican paintings. Examples of his art are *Madonna* (Rome), *The Virgin Appearing to St. Philip* (Florence), *Adoration of the Shepherds* (Basel), *Presentation in the Temple* (Vienna), *Apollo Pursuing Daphne* (Brussels), *Hagar and Ishmael* (Madrid), and portraits of Pope Clement IX (Hermitage, Leningrad, half-length replica, Metropolitan Mus.) and Cardinal Cerri (National Gall., London).

Marbach (mar'bakh) or **Marbach am Neckar** (ämnĕ'kär), town (pop. 5,463), N Wurttemberg, Germany, on the Neckar and E of Ludwigsburg. It is in a wine-producing district. Friedrich von Schiller was born here.

Marble, Alice, 1913–, American tennis player, b. Plumas co., Calif. She began playing tennis at the age of 15, and after 1931 she rose rapidly in national tennis rankings. After a serious physical collapse on a Paris tennis court in 1934, Alice Marble quickly rebounded. She four times took the U.S. singles championship (1936, 1938–40) and, with Sarah Palfrey Cooke, took the U.S. doubles crown (1937–40). She also won the British singles (1939) and doubles (1938–39) championships. In 1940 she entered the professional tennis ranks. See her autobiography, *The Road to Wimbledon* (1946).

marble, LIMESTONE composed wholly or in large part of CALCITE or DOLOMITE crystals, the crystalline texture being the result of extreme METAMORPHISM by heat and pressure. The term is loosely applied to any limestone or dolomite which takes a good polish and is otherwise suitable as a building stone or ornamental stone. Marbles range in color from snow white to gray and black, many varieties being some shade of red, yellow, pink, green, or buff, the colors, which are caused by the presence of impurities, are frequently arranged in bands or patches and add to the beauty of the stone when it is cut and polished. Marble is used as a material in statuary and monuments, as a facing stone in buildings and residences, and for pillars, colonnades, paneling, wainscoting, and floor tiles. Like all limestones, it is corroded by water and acid fumes and is thus ultimately an uneconomic material for use in exposed places and in large cities. The presence of certain impurities decreases its durability. Marbles are quarried in all parts of the world, the chief countries where they are produced in important quantities are the British Isles, Belgium, France, Germany, Italy, Greece, and the United States. Marble was extensively used by the ancient Greeks, the Parthenon and other famous buildings were constructed of white Pentelic marble from Mt. Pentelicus in Attica, and the finest statues, e.g., the Venus de' Medici, from the remarkably lustrous Parian marble from Paros in the Cyclades. These same quarries were used by the Romans after their conquest of Greece. Among the famous marbles of Italy are the Carrara and Siena marbles of Tuscany, which were used by the Romans and the Italian sculptors of the Renaissance. The finest marbles in the United States come from Vermont, which produces more marble than any other one locality in the United States. Other states important as marble producers are Massachusetts, Maryland, Tennessee, Georgia, Missouri, California, Colorado, and Arizona. See G. P. Merrill, *Stones for Building and Decoration* (3d ed., 1903), W. G. Renwick, *Marble and Marble Working* (1909).

Marble Falls, town (pop. 1,021), central Texas, on the Colorado and NW of Austin, settled 1887, inc. 1908. Granite Mt. near by yielded granite for the Texas capitol, and the town is known primarily for quarrying.

Marblehead. **1** Town (pop. 10,856), NE Mass., on the coast NE of Boston, settled 1629, set off from Salem 1633. Long a fishing village, Marblehead became a resort in the 19th cent., it is favored especially for yachting. There are 18th-century buildings in the picturesque village, including Elbridge Gerry's birthplace. In Burial Hill cemetery are the graves of hundreds of Revolutionary soldiers and a monument to the 65 Marbleheaders who died in a gale in 1846. The Revolutionary Fort Sewall is in a seaside park. **2** Village (pop. 915), N Ohio, in a fruitgrowing and limestone area; settled c.1809. It is a summer resort and fishing center at the tip of a peninsula extending into Lake Erie N. of Sandusky.

marbling, in bookbinding, a process of coloring the *sides, edges,* or end papers of a book in a design that suggests the veins and mottles of marble In tree marbling, as of tree calf bindings, the design suggests also the trunk and branches of a tree In tree marbling, liquid colors are run over a surface bent to form a trough, the trunk of the tree is produced in the bottom of the trough In other marbling, the colors are arranged on the surface of a liquid, and to this the surface to be colored is applied Marbling requires skill, it is commonly done by specialists called marblers

Marburg (mär'bûrg, Ger mär'bo͝ork) or **Marburg an der Lahn** (an dĕr län'), city (pop 37,382), Hesse, W Germany, in former Hesse-Nassau, on the Lahn river and N of Frankfurt It is famed chiefly for its Protestant university, founded in 1527 by Philip of Hesse Chemicals, machinery, and precision instruments are manufactured here Marburg grew in the 12th cent around a castle and was the residence (13th–17th cent) of the landgraves of Hesse It remained virtually unchanged in the Second World War In the castle (13th–15th cent), which dominates the picturesque city, the famous Marburg Colloquy took place in 1529 under the auspices of Philip of Hesse, it failed to bring about agreement between LUTHER and MELANCHTHON on the one side and ZWINGLI on the other St ELIZABETH of Hungary is buried in the fine Gothic church dedicated to her, here also the less-exalted remains of Frederick William I and Frederick II of Prussia and of Field Marshal Hindenburg were transferred in 1946

Marburg, Yugoslavia see MARIBOR

Marbury vs. Madison, case, decided in 1803 by the U S Supreme Court William Marbury had been commissioned justice of the peace in the District of Columbia by President John Adams in the "midnight appointments" at the very end of his administration When the new administration did not deliver the commission, Marbury sued James Madison, Jefferson's Secretary of State Chief Justice John Marshall, who wrote the opinion, held that the statute upon which Marbury relied was unconstitutional because it gave the Supreme Court authority which was impliedly denied it by Article 3 of the U S Constitution The decision was the first by the Supreme Court authorizing all courts to review the constitutionality of legislation Thus, though in this instance it limited the power of the Supreme Court, it ultimately made the American judiciary more powerful than any other in the world

Marbut, Curtis Fletcher (mär'bŭt), 1863–1935, American geologist, b near Verona, Mo, grad Univ of Missouri, 1889 He taught at the Univ of Missouri (1895–1913) and from 1910 was director of the Soil Survey of the Dept of Agriculture Internationally known for his soil research, he was on his way to China to make a soil survey for the Chinese government when he died at Harbin

Marc, Franz (frants' mark'), 1880–1916, German post impressionist painter of landscapes and animals His early work was impressionistic, but he evolved a style in which all forms are broken into colorful, crystallike patterns *The Bewitched Mill* (Art Inst, Chicago) is a fine example Together with Kandinski and Klee, Marc was a leader of the Blaue Reiter group (see GERMAN ART) He was killed in the First World War

Marcantonio, Vito (vē'tō markäntō'nēō), 1902–, U S Congressman (1934–37, 1939–), b New York city, grad New York Univ law school, 1925 He was active in community affairs in the Harlem section of New York city after the age of 18 and managed the political campaigns of Mayor F H LaGuardia until 1934 He served (1930–31) as assistant U S district attorney, and in 1934 he ran successfully for Congress on the Republican and City Fusion tickets He was defeated for reelection in 1936, but after again winning a congressional seat in 1938—the year he was read out of the Republican party—he was repeatedly returned to Congress. In 1948, after a New York state law was passed prohibiting a candidate from entering the primary of a party without its consent, Marcantonio ran only on the ballot of the American Labor party—of which he became (1947) state chairman and through which he gave staunch support to Henry A. Wallace as presidential candidate in 1948 Marcantonio backed much of the New Deal legislation in Congress, but only aligned himself with President F D Roosevelt's foreign policy after 1941, when Germany invaded the USSR In 1948 he opposed legislation for the European Recovery Plan and for selective service

Marc Antony: see ANTONY

marcasite (mär'kəsīt) or **white iron pyrites,** a mineral closely resembling and having the same chemical composition as PYRITE It differs from pyrite in that it is paler in color, becomes darker upon oxidation, and crystallizes in the orthorhombic system. Twinned crystals resembling cockscombs (cockscomb pyrites) or spearheads (spear pyrites) are of common occurrence The mineral occurs in marls, clays, and limestones in Bohemia, Saxony, England, and France, it is found also at Galena, Ill; Joplin, Mo, and Mineral Point, Wis

Marceau or **Marceau-Desgraviers, François Séverin** (frāswä' sāvürĕ' märsō'-dāgrāvyā'), 1769–96, French general He rose from the ranks, was promoted major general at 24, and fought gallantly at Verdun and in the VENDÉE In 1796 he helped raise the siege of Mainz but was killed in battle soon afterward His youthful heroism and early death were celebrated by Byron and Schiller

Marcel, Étienne (ātyĕn' märsĕl'), d 1358, French popular leader, provost of the merchants of Paris In the States-General of 1356, 1357, and 1358, he and Robert LE COQ led in bargaining for governmental reforms with the dauphin (later CHARLES V), who was in need of funds to carry on the English war After the revocation (1357) by the dauphin of the *Grande Ordonnance,* which had granted the States-General far-reaching rights, Marcel formed an alliance with CHARLES II of Navarre, broke definitely with the dauphin, and prepared Paris for resistance against the dauphin He was assassinated on July 31, 1358, on the suspicion that he was about to open the gates to the king of Navarre

Marceline (märsulēn'), city (pop 3,206), N Mo, NW of Moberly, platted 1887 It is a shipping center in a farm and coal area

Marcellinus Ammianus see AMMIANUS MARCELLINUS

Marcellus (märsĕl'ŭs), principal plebeian family of the ancient Roman gens Claudia **Marcus Claudius Marcellus,** c 268–208 B C, was five times consul (*222, 215, 214, 210,* and *208* B C) In his first consulship he fought against the Insubrian Gauls, and he killed their king with his own hand In his third consulship, being colleague of Fabius Maximus, he went into S Italy and Sicily to prosecute the Second Punic War He besieged Syracuse and took (212 B C) the city, in spite of the wonderful defenses made by Archimedes In his fifth consulship he fell in a skirmish with Hannibal's men near Venusia Plutarch wrote a biography of him **Marcus Claudius Marcellus,** d 46 B C, was a friend of Cicero and subject of the Ciceronian oration, *Pro Marcello,* curule aedile (56 B C), and consul (51 B C) As a senatorial partisan, Marcellus defended Milo against Clodius and joined the opponents of Julius Caesar in the civil war Caesar pardoned him after Pharsala **Marcus Claudius Marcellus,** 43?–*23* B C, grandnephew of Cicero's friend, was son of Octavia, sister of AUGUSTUS, who favored him extremely Marcellus was considered to be Augustus' intended heir, and he was adopted *son of the emperor, married to* Julia, *the emperor's* daughter, and was made pontifex He died at Baiae, and there was great mourning for him

Marcellus, village (pop 1,112), central N Y, SW of Syracuse, inc 1846 Woolen cloth and paper are made here

Marcellus of Ancyra (ănsī'rŭ), fl 350, Galatian churchman, the most violent opponent of ARIANISM in Asia Minor He developed the theory that the Trinity was the result of emanations from God which would revert to God in the last things. He embarrassed the Nicene party, because their defense of him against the Arians made them suspect of Sabellianism The First Council of Constantinople condemned Marcellus

March, earls of see the family name, MORTIMER

March, Auzias (ouzē'äs märch'), c 1395–c 1460, Catalan poet He wrote *songs* in the manner of the troubadours, other lyrics show the influence of Dante and Petrarch His poems were translated into Castilian and were an important influence on later lyricists

March, Peyton Conway, 1864–, American army officer, b Easton, Pa, grad Lafayette College (B A., 1884, M A, 1887) and West Point, 1888 He served (1899–1901) in the Philippines and was military governor of various provinces. He rose through the grades and was (1903–7) a member of the army general staff He commanded (1917) the artillery forces of the American Expeditionary Forces, and in May, 1918, he became chief of staff He retired (1921) with the rank of major general He wrote *The Nation at War* (1932)

March, urban district (pop 11,266), administrative center of the Isle of Ely, England, in the agricultural fen region It is a railroad and farm trade center and makes farm machinery and flour The 14th-century Church of St Wendreda has a fine carved roof

March, river, Czechoslovakia see MORAVA

March see MONTH

march or **mark,** frontier province The term is of medieval Germanic origin, but in antiquity newly acquired provinces often were given a special military status to defend them from invasion The officers entrusted with the rule of marches generally were given wider discretion and greater military power than other officials Their title (margrave, marquis) has survived the institution Charlemagne created the Spanish March in NE Spain, conquered from the Arabs, out of this grew the county of BARCELONA AUSTRIA was originally the Eastern March (Ger *Ostmark*), also created by Charlemagne The borderlands of Wales, long contested in the Middle Ages by English barons and Welsh lords, were the Welsh Marches. The name has survived in many regions, e g., the Marche, in France, the Marches, in Italy, and Brandenburg (Ger. *Mark Brandenburg*)

march, in music, composition intended to accompany marching Thus the only constant characteristics of a march are duple meter and a fairly simple rhythmic design. The mood of a march may range from the profoundly moving death march in Wagner's *Götterdämmerung* to the elemental military marches of John Philip Sousa. The funeral march in Beethoven's Eroica Symphony may be cited as the sublimation of the march in serious music Others are the varied *marches militaires* of Schubert, the *march funèbre* in Chopin's Sonata in B Flat Minor, and the Dead March in Handel's *Saul* The earliest use of the march as a form in serious music was in the English harpsichord pieces of the 16th cent Numerous examples can be found throughout opera

Marchand, Jean Baptiste (zhäʹ baptēstʹ märshäʹ), 1863–1934, French explorer and general in Africa In 1898 he established a French post at Fashoda (now Kodok) on the White Nile and resisted dervish attacks When Lord Kitchener claimed that the territory was within the dominions of the khedive of Egypt, France and England stood at the brink of war, the FASHODA INCIDENT ended with Marchand's withdrawal Marchand fought in China in the Boxer Rebellion (1900) and had a command in France in the First World War

Marche (marsh), region and former province, central France, in the MASSIF CENTRAL, W of the Auvergne Mts It occupies Creuse dept and a part of Haute-Vienne dept Primarily an agricultural region, it also specializes in sheep raising The wool is manufactured into carpets and tapestries at AUBUSSON Guéret is the chief town The name of the region derives from its situation as a northern border fief (march) of the duchy of AQUITAINE It passed (late 13th cent) to the house of Lusignan but was seized (14th cent) by Philip IV of France Raised to a duchy, it was given in appanage to various Valois princes, ultimately passing to the house of Bourbon Upon the death (1527) of Constable Charles de Bourbon, it was definitively confiscated for the crown by Francis I

Marches, the, Ital *Marche* (märʹkä), region (3,744 sq mi, pop 1,278,071), central Italy, extending from the eastern slopes of the Apennines to the Adriatic coast It is divided into the provinces of Ancona, Ascoli Piceno, Macerata, and Pesaro e Urbino, all named after their chief cities Ancona is the capital Cereals and wine are the main products, recent exploitation of hydroelectric power has encouraged the growth of some industries The Umbri and the Picentes (Greek colonists for whom part of the region was named Picenum) lived here at the time of the Roman conquest (3d cent B C). The area was invaded by the Goths, later (6th cent) the northern section, including four of the five cities of the PENTAPOLIS and adjoining territories, was ruled by the Byzantines while the southern section became a part of the duchy of SPOLETO In the 8th cent the region passed, with the donations of Pepin and Charlemagne, under the nominal rule of the popes, but later emperors granted fiefs in the area until the 13th cent The name Marches originated around the 10th cent from some of these fiefs which came to be at the border of the Holy Roman Empire (March of Ancona, of Fermo, of Camerino) In spite of the contests between emperors and popes, some cities established free communes or were governed by noble families. After the 13th cent, the popes strove to establish their rule everywhere, the last local autonomies surrendered definitively in the 16th cent. After the period of French occupation (1797–1815) the Marches were restored to the popes They were united with the kingdom of Sardinia in 1860,

Marchesi, Mathilde (matēlʹdu markāʹzē), 1826–1913, German mezzo-soprano, whose maiden name was Graumann, pupil of Manuel Patricio Garcia She was well known as a singer in opera and concert and as the teacher of such singers as Melba, Eames, and Calvé She taught at the conservatories of Cologne and Vienna and in Paris She wrote on vocal technique, and her memoirs, *Marchesi and Music,* appeared in 1897 In 1852 she married **Salvatore Marchesi, cavaliere de Castrone, marchese della Rajata** (sälvätōʹrā markāʹzē, kavälyāʹrā dā kästrōʹnā, markāʹzā dĕlʹä rəjäʹta), 1822–1908, Italian baritone, also a famous teacher, who appeared with her in opera and concert

Marchfeld (markhʹfĕltˌ), plain, lower Austria, NE of Vienna, between the Danube and the Morava (Ger. *March*) river, which here forms the Austro-Czechoslovak border Offering an easy approach to Vienna, it is of strategic significance, and several important battles were fought here In 1260 OTTOCAR II of Bohemia defeated Bela IV of Hungary on the Marchfeld, and here Ottocar was defeated and slain by the forces of Rudolf I, whose family, the house of Hapsburg, thus began its major conquests. In 1809 Napoleon I was defeated here at Aspern by Archduke Charles but briefly afterward won a major victory at Wagram

Marchmont, Patrick Home of Polwarth, 1st earl of: see HOME OF POLWARTH, SIR PATRICK

Marcian (mär'shŭn), c.390–457, Roman emperor of the East (450–57), successor of Theodosius II, whose sister PULCHERIA he married in 450. Orthodox in religious affairs, he convoked (451) the Council of Chalcedon (see CHALCEDON, COUNCIL OF). He curtailed court expenses and endeavored to lighten taxation His refusal to pay tribute to ATTILA precipitated the Hunnic invasion of the Roman Empire With him the Theodosian dynasty came to an end in the East Leo I succeeded him

Marcion (mär'shun, mar'sēŭn), fl 144, early heresiarch, founder of the Marcionites, the first great Christian heresy to rival Catholic Christianity He was born in Sinope (A D c 85) He was first excommunicated for his doctrine by his father, the bishop of Sinope He taught in Asia Minor, then came to Rome (c 139), where he perfected his theory In 144 he presented his ideas to the Romans, they, too, excommunicated him He formed a church of his own, which became widespread and powerful Marcion taught a dualism, in common with GNOSTICISM, and proclaimed that the stern, lawgiving God of the Old Testament rivaled the good, merciful God of the New The Creator was evil Marcion also rejected the real incarnation of Christ, claiming that He was a manifestation of the Father But unlike the Gnostics, he believed in salvation by faith rather than by gnosis, he rejected the Gnostic emanation theory, and he sought truth in his own truncated version of the Gospels Marcion completely rejected the Old Testament and issued a version of the Gospels which included only 10 of the Pauline Epistles and an edited version of St Luke He explained in his *Antitheses* that since law was often opposed to St Paul in both the Old Testament and the early apostles all passages in the Bible which suggested the Jewish foundation of Christianity should be suppressed, even including such statements by St Paul Marcionism emphasized asceticism and influenced the development of MANICHAEISM, by which it was absorbed Its effect on orthodox Christianity was to cause a canonical Gospel to be assembled and promulgated and the fulfilment of the Old Law in the New Law to be clearly enounced

Marcomanni see GERMANS

Marconi, Guglielmo, Marchese (gōōlyĕl'mō markä'zā markō'nē), 1874–1937, Italian physicist, celebrated for his development of wireless telegraphy (see RADIO) In the field of electromagnetic waves he correlated and improved inventions of H R Hertz, Édouard Branly, and other scientists and invented a practical antenna Experimenting with homemade apparatus, in 1895 he sent long-wave signals over a distance of more than a mile He patented his system in England (1896) and organized a wireless telegraph company (1897) to develop its commercial applications In 1899 he transmitted signals across the English Channel and in 1901 received in St John's, Newfoundland, the first transatlantic wireless signals, sent from his station at Poldhu, Cornwall Aftet the First World War he concentrated on short waves, and c 1930 turned his attention to microwaves He received, jointly with K R Braun, the 1909 Nobel Prize in Physics for work in wireless telegraphy See biographies by O E Dunlap (1937) and Douglas Coe (1943)

Marco Polo see POLO, MARCO.

Marcos de Niza (mär'kōs dā nē'sa), c 1495–1558, missionary explorer in Spanish North America A Franciscan friar, probably born in Nice of Italian parents and sometimes called Marco da Nizza, he had served in Peru and (almost certainly) Guatemala before coming to Mexico There Viceroy Antonio de Mendoza, excited by Cabeza de Vaca's stories of rich Indian cities to the north of the present Sonora, planned an exploring expedition At the head of this in 1539, Fray Marcos voyaged into SE ARIZONA and perhaps into New MEXICO (his companion, Estéban, a MOOR or Negro, almost certainly went ahead and was killed in the Zuni country) The friar wrote a report that described with enthusiasm and great inaccuracy the fabulous riches of the Seven Cities of Cibola Fabulous they proved to be when Francisco Vásquez de CORONADO led (1540) his soldiers there, and Fray Marcos was dismissed as guide and sent back in disgrace The friar may have been duped by the talk of Indians into making his false statements At any rate his inconspicuous last years were spent worthily in religious service See bibliography under CORONADO, FRANCISCO VÁSQUEZ DE See also Cleve Hallenbeck, *The Journey of Fray Marcos de Niza* (1949)

Marculf (mär'kŭlf'), fl 7th cent, Frankish monk. He compiled the *Marculfi monachi formulae* [formularies of Marculf], usually dated c 650 Formularies were model forms of official documents for the use of the Church, of the state, and of private individuals, and they were used as manuals in chanceries Marculf's is one of the best collections and is invaluable to scholars.

Marcus, in the Bible see MARK, SAINT

Marcus, town (pop 1,206), NW Iowa, NE of Sioux City, inc 1892

Marcus Aurelius (Marcus Aelius Aurelius Antoninus) (mär'kŭs ôrē'lēŭs), 121–80, Roman emperor, named originally Marcus Annius Verus He was a nephew of Faustina, the wife of ANTONINUS PIUS, who adopted him Marcus married Antoninus' daughter, another Faustina From youth Marcus was a diligent student and a zealous Stoic During the reign of his guardian he was the emperor's constant companion, and he succeeded him (161) with his adoptive brother, Lucius Verus, as colleague Verus allowed Aurelius to dominate From 169 Aurelius was sole emperor His reign was not easy, because of earthquakes and plagues, and because of the attacks of Parthians, Germans, and Britons. He won a victory over the Marcomanni (167–68), commemorated by the Antonine Column (Piazza Colonna, Rome), raised by his son COMMODUS Marcus Aurelius was devoted to his duty and humanitarian in his conception of it He was notably good to the poor, lowering their taxes and lightening their burdens He was always clement with political criminals, and he cut down much of the public brutality of such things as gladiatorial shows In all things he devoted himself to the empire Consistent with his general activity was persecution of Christians, continuing the policy of Trajan He wrote a little book, called *Meditations* (Eng tr by George Long, 1942, by A S L Farquharson, 1945), which expresses with great beauty and humanity a philosophy of Stoic type See biographies by H D Sedgwick (1921), P E Matheson (1922), and C C Dove (1930)

Marcus Hook, industrial borough (pop 4,123), SE Pa., on the Delaware and SW of Philadelphia, settled c 1640, laid out c 1701, inc 1893 It is an important oil-refining center and has textile factories Blackbeard and other pirates had their rendezvous here The congregation of St Martin's Episcopal Church (1845) was organized c 1699

Marcus Island, Jap *Minami-tori-shima* volcanic island, area 1 sq mi, W Pacific, 700 nautical mi E of the Bonin Islands Discovered in 1896 by the Japanese, it was annexed by Japan in 1899 In the Second World War the island had Japanese naval and air bases After Japan's defeat it was placed under U S military government

Marcy, William Learned, 1786–1857, American statesman, b Southbridge, Mass., grad Brown, 1808 He went to Troy, N Y, where he was admitted (1811) to the bar and where, after serving in the War of 1812, he returned to law practice and held local offices A Democrat and partisan of Martin Van Buren, Marcy entered the political group known as the ALBANY REGENCY, of which he soon became a dominant figure He served as state comptroller (1823–29) and as justice of the state supreme court (1829–31) before he entered the U S Senate As Senator (1831–32), Marcy staunchly defended Van Buren, his public defense of "the rule that to the victor belong the spoils of the enemy" in the speech supporting the nomination of Van Buren as minister to England supposedly gave rise to the term "spoils system" Marcy served (1833–39) as governor of New York for three terms and was (1839–42) a member of the Mexican Claims Commission As Secretary of War (1845–49) under President James K Polk, Marcy was faced with the conduct of a difficult office in the Mexican War He had drifted into opposition to Van Buren and headed the HUNKERS, a faction of the New York Democratic party The peak of Marcy's career was reached when he served as Secretary of State (1853–57) under President Franklin Pierce He handled many delicate problems, including the Gadsden Purchase, negotiations concerning the *Black Warrior* matter with Spain, and the trouble arising from the filibustering expedition of William Walker in Nicaragua He condemned the OSTEND MANIFESTO, but managed to maintain a neutral attitude toward the rising problem of slavery

Marcy, Mount, 5,344 ft high, NE N Y, in the Adirondacks near Lake Placid, highest peak in the state It was first ascended in 1837 Tiny Lake Tear of the Clouds near by is the source of a headstream of the Hudson

Mar del Plata (mär'dhĕl plä'ta), city (pop 104,513), Buenos Aires prov, Argentina, c 250 mi SSE of Buenos Aires On the Atlantic coast, it is a fashionable seaside resort

Mardi Gras (mär'dē grä'), French name for SHROVE TUESDAY As the last day before the fasting season of Lent, it became the occasion for great merrymaking in the Middle Ages In the cities of some of the Roman Catholic countries the custom of holding carnival for Mardi Gras has continued and has been elaborated The carnivals, with spectacular parades, masked balls, mock ceremonials, and street dancing, usually last for a week or even two weeks before Mardi Gras itself Some of the most celebrated are held in New Orleans, Rio de Janeiro, Nice, and Cologne

Mardonius (mardō'nēus), d 479 B C, Persian general, son of the conspirator Gobryas and son-in-law of Darius I Darius sent him (492 B C) to attack Eretria and Athens for aiding the Ionians, but his fleet was lost in a storm off Mt Athos, and a Thracian tribe destroyed the greater part of his army He helped plan Xerxes' invasion of Greece, and after that monarch's defeat at Salamis (480 B C.) and return to Persia he stayed behind, only to be overwhelmed and killed at Plataea. See PERSIAN WARS

Marduk: see BABYLONIAN RELIGION

Maree, Loch (lŏkh murē'), lake, Ross and Cromarty co, Scotland, among mountains near the west coast It is 13½ mi long and 2 mi wide and is drained by the Ewe There are more than 30 islands, on one, Isle Maree, are ruins of a 7th-century abbey

Marées, Hans von (hans' fŭn märā'), 1837–87, German historical painter of the mid-19th-century romantic school Best known are his frescoes in the library of the Zoological Museum, Naples

Mare Island, W Calif, in San Pablo Bay near Vallejo, NE of San Francisco The important navy yard here was established (1854) by David G Farragut

Maremma (marĕm'mä), coastal area, Tuscany, central Italy, along the Tyrrhenian Sea, extending in the east to the Apennine hills It flourished at the time of the Etruscans, but was largely abandoned in the Middle Ages because of malaria Reclamation was begun by the grand dukes of Tuscany and was continued on a large scale by the Italian government Wide areas are now fertile agricultural districts Cattle and a noted breed of horses are raised, there are good hunting grounds (foxes, wild boars) The Maremma is rich in borax

Marengo (murĕng'gō), village near Alessandria, Piedmont, NW Italy, scene of the famous battle (June 14, 1800) between the French under Bonaparte and the Austrians under Melas Melas had almost won, when Desaix arrived with fresh troops to bolster the French, Desaix lost his life, but the Austrians were completely defeated and retired to the Mincio

Marengo 1 City (pop 2,034), NE Ill, E of Rockford, in a dairy area, settled 1835, inc as a town 1857, as a city 1893 Magnets and magnetic steels are made here 2 City (pop 2,260), co seat of Iowa co, E central Iowa, on the Iowa river and NW of Cedar Rapids, in a farm area, inc 1859

Marenzio, Luca (lōō'ka murän'tsēō), c 1560–1599, Italian composer, in whose works the Renaissance madrigal reached its peak of development He served in the households of several cardinals, and toward the end of his life he was in the service of Sigismund III of Poland

Mareotis (märē'ōtĭs), salt lake (area c 95 sq mi, excluding marshes), Egypt It is separated from the Mediterranean Sea by the narrow isthmus on which Alexandria is situated There are fisheries and saltworks The name is sometimes rendered Mariut or Maryut

Mareshah (märē'shu) 1 Descendant of Caleb 1 Chron 2 42 2 Son of Laadan 1 Chron 4 21 These passages may refer to places, not persons 3 Town, Palestine, c 20 mi WSW of Bethlehem, not far above the coastal plain Excavations have revealed Hellenistic inscriptions Joshua 15 44, 2 Chron 11 8 14 9, 20 37, Micah 1 15 Marisa 2 Mac 12 35

mare's-tail, any of the three species of the genus *Hippuris*, perennial aquatic herbs of temperate and frigid regions The common mare's-tail (*Hippuris vulgaris*) has an erect stem bearing whorls of small leaves in which it resembles some of the horsetails (which are also sometimes called mare's-tail) It is cultivated in bog gardens

Marfa, city (pop 3,805), co seat of Presidio co, W Texas, N of the Rio Grande and S of the Davis Mts, founded 1884, inc 1887 It handles cattle, wool, and mohair from surrounding ranches, in the past much silver was mined at near-by Shafter Fort D A Russell here was long an army post

Margaree (margurē'), river, on W Cape Breton Island, N S, rising in two branches and flowing NNW to the Gulf of St Lawrence at Margaree Harbour

Margaret, Saint, 3d cent, virgin martyr of Antioch Almost nothing is known of her, but there are a number of legends One story tells that she was swallowed by a dragon but survived and was beheaded for her faith Her cult was widespread in medieval England She was one of the saints who counseled St Joan of Arc In the East she is known as Marina Feast July 20

Margaret, 1353–1412, queen of Denmark, Norway, and Sweden, daughter of Waldemar IV of Denmark She was married (1363) to King Haakon VI of Norway, son of MAGNUS VII of Norway and Sweden At the death (1375) of her father her son Olaf became king of Denmark under the regency of his parents As Haakon was occupied in Norway, Margaret actually wielded the power in Denmark The death (1380) of Haakon made Olaf king of Norway as Olaf V, and Margaret regent She continued to press her late husband's claim to Sweden, of which she styled her son king When Olaf died (1387), Margaret continued to rule Denmark and Norway In 1389, near Falköping, Sweden, she defeated and captured the Swedish king, Albert of Mecklenburg Sweden and Norway were prey to disorder However, Margaret succeeded in persuading the Danish, Norwegian, and Swedish diets to accept her grandnephew, Eric of Pomerania, as king He was crowned (1397) at Kalmar, and at the same time a tentative act of union of the

three realms was drawn up (see KALMAR UNION) Stockholm had held out against Margaret until then, but surrendered in 1398 In spite of Eric's nominal kingship, Margaret remained the real ruler of all three kingdoms till her death She ruled autocratically and energetically, leaving many offices unfilled and reducing others to complete dependence on her authority Norway and Sweden resented her appointment of Danes to office The empire built by her was one of the largest of Europe, but it was not lasting

Margaret Island, Hungary see BUDAPEST

Margaret Maid of Norway, 1283–90, queen of Scotland (1286–90), daughter of Eric II of Norway and of Margaret, daughter of Alexander III of Scotland. In 1284 the nobles of Scotland recognized the infant Norwegian princess as heiress presumptive to the Scottish throne On Alexander III's death Margaret became queen under a regency, and EDWARD I of England arranged a marriage for her with Edward, prince of Wales, the union of English and Scottish crowns to remain personal In 1290 the child queen started for Scotland, but apparently died on the way Her death opened the way for the great civil war of Scotland over the succession (see BALIOL, JOHN DE, and ROBERT I)

Margaret Mary, Saint, 1647–90, French nun of the Visitation of Paray-le-Monial convent, Saône-et-Loire dept, France Her family name was Alacoque Jesus appeared to her in a vision and bade her inaugurate devotion to His Sacred Heart This has become one of the principal cultuses of the Roman Catholic Church She was canonized in 1920 Feast Oct 17 See Henri Ghéon, *The Secret of St. Margaret Mary* (Eng tr, 1937)

Margaret Maultasch (moul'tash) [Ger, =pocket mouth], 1318–69, countess of Tyrol, called the Ugly Duchess On the death (1335) of her father, Henry, count of Tyrol and duke of Carinthia, Emperor Louis IV gave Carinthia to the Hapsburgs and tried to take the Tyrol from Margaret and her husband, John Henry of Luxemburg Her Tyrolean subjects remained loyal to her, and John Henry's father, John of Luxemburg, king of Bohemia, forced the emperor to restore the Tyrol to his son However, Margaret soon expelled her husband from her country, her marriage was voided, and in 1342 she married Louis, margrave of Brandenburg, son of Emperor Louis IV She sided with her husband against the Tyrolean nobles, who as supporters of the pope had rebelled against him. After his death (1361) and that of their son Meinhard, Margaret abdicated (1363), leaving Tyrol to the Hapsburgs, and retired to Vienna Legend has painted her as a woman of great power and greater evil A well-known portrait, painted long after her death, served Tenniel as model for the "duchess" in his illustrations of *Alice in Wonderland* Lion Feuchtwanger utilized the story of Margaret in his novel, *The Ugly Duchess*

Margaret of Angoulême see MARGARET OF NAVARRE

Margaret of Anjou (ăn'jo͞o, Fr äzhō͞o'), 1430?–1482, queen consort of King HENRY VI of England, daughter of René of Anjou William de la POLE, earl (later duke) of Suffolk, was chief negotiator of a truce (1444) in the Hundred Years War and of Margaret's marriage, which occurred in 1445 With him Margaret formed a political alliance The queen acquired great unpopularity by her autocratic rule through the feeble king and helped to build up the discontent which was soon centered in the question of succession to the throne Henry went insane, and Richard, duke of YORK, the heir apparent, became regent The birth of Margaret's son, Edward (1453), destroyed Richard's chances of succession, and Henry's recovery of his faculties (1454) reopened the quarrel With the clash between the followers of Richard, the Yorkists, and the supporters of the king, the Lancastrians, at St Albans (1455), the War of the ROSES was begun. Margaret of Anjou was very active in the warfare, for 16 years she fought in defense of her son's claim to the throne. Richard was killed in the defeat of the Yorkists at Wakefield (1460), but Richard Neville, earl of WARWICK, and Edward, the new duke of York (later EDWARD IV), took up the Yorkist cause The Lancastrians were defeated at Towton (1461), and Margaret went to France, where she secured aid for an invasion of England The warfare continued with fluctuations of fortune, the quarrel between Warwick and Edward IV finally resulting in a restoration of Henry VI (1470) The next year Edward IV triumphed at Tewkesbury, where Margaret was captured and her son was killed The payment of ransom by Louis XI enabled her to return to France (1476), where she spent her last years in poverty See biography by J J Bagley (1948)

Margaret of Austria, 1480–1530, regent of the Netherlands, daughter of Emperor MAXIMILIAN I She was betrothed (1483) to the dauphin of France, later King CHARLES VIII, and transferred to the guardianship of Louis XI of France (see ARRAS, TREATY OF) After Charles's marriage to ANNE OF BRITTANY, she was returned (1493) to her father She was married (1497) to John of Spain (d 1497), son of Ferdinand and Isabella, and (1501) to Philibert of Savoy (d. 1504). In 1507 she was made regent of the Netherlands and guardian of her nephew Charles (later Emperor CHARLES V) She acted as an intermediary between her father and his subjects in the Netherlands, negotiated a treaty of commerce with England favorable to the Flemish cloth interests, and played an important role in the formation of the League of Cambrai (1508, see CAMBRAI, LEAGUE OF) After his majority (1515), Charles at first rebelled against her influence, but later recognized her as one of his wisest advisers After 1518 she was again regent intermittently till her death She negotiated the Ladies' Peace with Louise of Savoy (1529, see CAMBRAI, TREATY OF)

Margaret of Navarre (nəvär') or **Margaret of Angoulême** (ăgo͞olām'), Fr *Marguerite de Navarre* (märgürēt' du nävar') or *Marguerite d'Angoulême,* 1492–1549, queen of Navarre, sister of FRANCIS I of France After the death of her first husband she married (1527) Henri d'Albret, titular king of Navarre, by whom she became the mother of JEANNE D'ALBRET She was an advocate of religious liberty and of mild church reform Her brilliant court was frequented by literary men, among them Dolet, Marot, and Rabelais She is best known for her *Heptameron,* an original collection of 72 stories in the manner of Boccaccio She also wrote short poems and a long religious poem, *Le Miroir de l'âme pécheresse* See Arthur Machen, *The Heptameron* (1905), biography by Samuel Putnam (1935).

Margaret of Parma, 1522–86, regent of the Netherlands, natural daughter of Emperor Charles V She was married (1536) to Alessandro de' Medici (d 1537) and (1538) to Ottavio Farnese, duke of Parma. Appointed Spanish governor of the Netherlands (1559), she was restricted in her authority by a council of state headed by Cardinal GRANVELLE Charged with the difficult task of carrying out the religious policy of her half brother PHILIP II of Spain, she urged and finally secured the recall of the unpopular prelate She subsequently showed favor to the national party, but after the outbreak of violence she turned against the popular leaders (Egmont, Horn, and William the Silent of Orange) In 1567 ALBA arrived at Brussels to suppress the opposition by force Margaret warned Philip II against harsh measures and resigned as regent, being unable to agree with Alba She was a woman of great ability and firmness, and her departure was generally regretted

Margaret of Scotland, Saint, d 1093, queen of Scotland, wife of MALCOLM III and sister of Edgar Atheling Through her husband she carried out a great church reform in Scotland She did this partly by bringing many English priests into Scotland and by founding new monasteries She minimized the influence of Gaelic monasteries, and her work was potent in making Scotland ultimately an English kingdom From this time the Gaelic Scots were disaffected from the royal house and remained so until the Stuart misfortunes in England Queen Margaret could not always bend her husband to her wishes, but during the first half of the 12th cent her sons reigned and carried out her policies She was very generous to the poor and led a life of extraordinary piety Feast June 10 or, in Scotland, Nov 16

Margaret of Valois (valwä'), 1553–1615, queen of France and Navarre, daughter of Henry II and Catherine de' Medici She was also known as Queen Margot Her wedding (1572) with Henry, king of Navarre (later HENRY IV of France), was the prelude to the massacre of SAINT BARTHOLOMEW'S DAY The marriage, without affection on either side, was one of mutual toleration Margaret took part in the intrigues of her husband and her brother FRANCIS, duke of Alençon and Anjou In 1583 she was exiled from Paris by Henry III because of her immoral conduct Estranged from both her husband and her brother, she took up arms against them and seized Agen Taken prisoner (1586) by royal troops, she was confined at Usson, but she charmed her jailer and became mistress of the castle Though sympathetic with the LEAGUE, she took little part in the succeeding troubles In 1599 her marriage was annulled In her retirement at Usson (1587–1605), she maintained a small court, in which men of letters were prominent Her own memoirs (latest Eng tr, 1892), correspondence, and other writings show considerable literary ability She spent her last years in Paris, where she lived on friendly terms with Henry and MARIE DE' MEDICI Margaret plays a conspicuous role in literature and legend. See H N Williams, *Queen Margot* (1907), J H. Mariéjol, *A Daughter of the Medicis* (1928, Eng tr, 1929)

Margaret Tudor, 1489–1541, queen of JAMES IV of Scotland, daughter of Henry VII and sister of Henry VIII of England. After long negotiations she was married to James four years after the peace between Henry VII and James in 1499 Margaret tried unsuccessfully to prevent James's French alliance and break with England. After James's death at Flodden (1513), Margaret became regent for her infant son, JAMES V, but her marriage (1514) to Archibald DOUGLAS, 6th earl of Angus, led to the loss of the regency to John STUART, 4th duke of Albany. Albany soon obtained custody of the king, and Margaret fled to England. She returned in 1517, during Albany's absence, and shortly thereafter she became estranged from Angus. From this time she played a considerable part in the shifting Scottish political scene. Her political affiliations varied with her personal interest of the moment and her desire for money and alternated between the French and English parties and the struggle for power between the Hamilton (Arran) and Douglas (Angus) factions James was proclaimed king in 1524, but was for several years virtually a prisoner of Angus In 1527 Margaret obtained her divorce from Angus and soon married Henry Stuart, later Lord Methven. James, upon his escape from Angus (1528), joined his mother and Methven, and they were for a time his chief advisers A plan of Margaret's for a meeting between her brother, Henry, and her son led James to accuse her of betrayal (1534) They were further estranged by James's refusal of her desire to divorce Methven Margaret's descendants by James IV and by Angus were united by the marriage of Lord Darnley and Mary Queen of Scots, whose son became James I of England (James VI of Scotland)

margarine (mär'jərēn), artificial butter, an emulsified blend of edible vegetable oils or meat fats or a combination of both It was patented in 1869 by a French chemist, Mège-Mouries, as an inexpensive substitute for butter Beef fat, known as oleo, was chiefly used at first, but later was supplemented by pork and other animal fats and vegetable oils, such as coconut oil, olive oil, and cottonseed oil Over 90 percent of the margarine produced in the United States is made from vegetable oils, chiefly cottonseed and soybean The oils, refined, deodorized, and hydrogenated to the desired consistency, are churned or homogenized, usually with cultured skim milk, then chilled and reworked to incorporate salt and remove excess water Margarine is similar in composition to butter, yields practically the same number of calories or heat units, and is easily digestible It is commonly fortified with vitamin A A number of Federal, state, and local taxes and restrictions have been imposed on the manufacture and sale of margarine, especially when colored yellow Although commonly known as margarine, oleomargarine is the legal designation in the United States and must appear on cartons

Margarita (margärē'tä), island, off the coast of N Venezuela Discovered (1498) by Columbus, it became an important colonial pearl-fishing center and was used (1561) as a base of operations by the infamous Lope de AGUIRRE There are large deposits of magnesium, livestock, pearls, and fish are the other chief products Because the population supported Simón BOLÍVAR, Margarita and neighboring small islands were made a state, Nueva Esparta, after independence was won from Spain La Asunción (pop 4,061) is the capital

Margate (mär'gĭt), municipal borough (1931 pop 31,341, 1947 estimated pop 40,720), on the Isle of Thanet, Kent, England It is a seaport, with a long sea front, and a popular resort, especially for Londoners Construction of piers began in the 15th cent Of interest are the Church of St John the Baptist (partly Norman), the Royal Sea-bathing Hospital (18th cent), the asylum for the deaf and mute, and Dane Park, with an artificial grotto Cliftonville is a residential district There are regular steamers from London in the summer

Margate City (mar'gāt, -gĭt), city (pop 3,266), SE N J, on Absecon Beach SW of Atlantic City, inc. 1909

Margelan (margĭlan', Rus mŭrgyĭlan') city (pop. 44,327), Uzbek SSR, in the FERGANA VALLEY near FERGANA It has a large silk industry and has been prominent since the 10th cent as a trade center

Marggraf, Andreas Sigismund (ändrā'äs zē'gĭsmo͞ont märk'graf"), 1709–82, German chemist, a pioneer in analytical chemistry He proved that alumina, magnesia, and lime are distinct earths, found (1743) an improved method for the commercial preparation of phosphorus, and isolated (1746) zinc In 1747 he announced his discovery of sugar in the beet Marggraf directed, from 1754, the chemical laboratory of the Berlin Academy of Sciences

Margherita. see RUWENZORI.

Margiana see MERV

margin, in the phrase "on margin," refers to the amount of cash a person places with his broker when he wishes to buy or sell a security (stock or bond) for the purpose of profiting by a rise or a fall in the price of it. It forms a percentage of the money involved, the broker supplying the balance When the market price changes, the broker may require his client to put up more cash and, if he fails to do so, may close out the account. The smaller the margin, the greater the inducement to speculation. By the Securities Exchange Act (1934) the Federal Reserve Board has the power to fix the amount of the margin. It was fixed at 50 percent in 1937 and in 1946 for a time was raised to 100 percent

marginal unit, in economics, the last unit of a given commodity that an owner will sell and a purchaser will buy. It is said to have marginal utility. Mar-

ginal land is land that barely repays the cost of labor and capital applied to its cultivation

Marguerite. For French women thus named, see MARGARET

marguerite [Fr ,=pearl, daisy], tender perennial (*Chrysanthemum frutescens*) of the Canary Islands, called also Paris daisy and cultivated mostly as a florists' pot plant for the daisylike flower heads Other plants are called marguerite See also DAISY.

Marguerite d'Angoulême or Marguerite de Navarre see MARGARET OF NAVARRE

Marguerite, Paul (pôl' margərēt'), 1860-1918, and **Victor Marguerite** (vēktôr'), 1866-1942, brothers, French novelists of the school of ZOLA. They had abandoned the beliefs of Zola before they wrote the tetralogy, *Une Époque* [an epoch] (1898–1904), on the period of the Franco-Prussian War Of the novels written separately, Paul's were the more esteemed Victor's novel, *La Garçonne* (1919, Eng tr , *The Bachelor Girl*, 1923), created a sensation because of its treatment of abnormal personal relationships

Maria I (murē'u), 1734–1816, queen of Portugal (1777–1816), daughter of Joseph I She was married to her uncle, who assumed joint rule with her as Peter III and maintained it until his death in 1786 Neither king nor queen was much interested in affairs of state but they did bring about the fall of Pombal immediately Many of the intellectuals and personal enemies of Pombal who had been imprisoned or exiled returned, and Portugal experienced a mild intellectual revival The death of her husband, the death (1778) of her son Joseph, and, reputedly at least, fears over the revolution in France helped to unhinge Maria's mind Her son (later John VI) assumed the regency in 1792, and it was he who guided Portugal in the French Revolutionary Wars and the disasters of the Napoleonic period

Maria II (Maria da Gloria), 1819–53, queen of Portugal She was the daughter of Peter IV (PEDRO I of Brazil), who on the death of his father, John VI, in 1826, abdicated the throne of Portugal in favor of that of Brazil and named Princess Maria queen of Portugal A constitutional charter was granted the Portuguese To quiet the claims of her uncle, Dom MIGUEL, the little princess was betrothed to him and placed under his regency He was, however, an absolutist, opposed to the charter, and he convened the Cortes and procured an offer of the throne He then set out to rule alone and in absolute fashion The deposed Maria was taken to England Her father, having abdicated the throne of Brazil, now gathered an army, recruited from the liberal opponents of the reactionary Miguel A loan was negotiated in England, and English troops recruited A fleet was made ready and the armed forces gathered and sailed to the Azores From those islands the army sailed (1832) to Oporto The subsequent fighting in the so-called Miguelist Wars was severe Ultimately, with the help of an English defeat of the Miguelist fleet, the forces of the liberals won Miguel capitulated in 1834 Maria's reign was torn by dissension, revolutions, and counterrevolutions Some material progress was, however, made in the building of roads, the first railroad, and schools As her second husband, Maria married Ferdinand of Saxe-Coburg (FERDINAND II) Her son was LOUIS I

Maria Christina, Span *María Cristina* (marē'a krēstē'na), 1806–78, queen of Spain, daughter of Francis I of the Two Sicilies The fourth wife of FERDINAND VII, she persuaded him to confirm the revocation of the Salic law to allow their daughter Isabella to succeed him At the king's death, Maria Christina became regent for ISABELLA II In the Carlist Wars (see CARLISTS) which this succession provoked, she was aided by the liberals, but the frequent changes in the constitution alienated their support The opposition to ESPARTERO forced her to resign The regency and she went to France (1840) She returned after Isabella was declared of age and regained influence She had to yield to Espartero again in 1854, but remained a powerful figure to the end of Isabella's ill-starred reign

Maria Christina, Span *María Cristina*, 1858–1929, queen of Spain An Austrian archduchess, she was married (1879) to Alfonso XII After her husband's death she was regent (1885 1902) for their posthumous son, Alfonso XIII During her regency the last Spanish possessions in America were lost in the SPANISH-AMERICAN WAR

María de Molina (dā mōlē'nā), d 1321, queen of Castile, consort of Sancho IV As regent (1295 1301) for her son, Ferdinand IV, she defended his throne against several pretenders, who were at various times supported by France, Aragon, Portugal, Navarre, and Granada. From 1312 to 1321 she was prominent as a guardian of her grandson, Alfonso XI

María Luisa (lwē'sä), 1751–1819, queen of Spain, daughter of Duke Philip of Parma, consort of King CHARLES IV Dissolute and domineering, she exerted, with her lover GODOY, the real power in the government, thus contributing to the downfall of Spain at the hands of Napoleon I She was present at the interview of Bayonne with her husband, her son, FERDINAND VII, and Napoleon, and she shared her husband's confinement and exile **Goya,** her favorite, painted several revealing portraits of her

Mariamne (mărēăm'nē), d. 29 B C , second of Herod the Great's 10 wives She was a descendant of the Maccabees. She was greatly loved by Herod, but after false accusations by his sister Salome, Herod had her murdered

Mariana, Juan de (hwän' dā märyä'nä), 1536?–1623?, Spanish historian and political philosopher, a Jesuit He taught in Rome and in Paris before going to Toledo, where he wrote his two great works One of these, the *Historiae de rebus Hispaniae* [history of Spain], was a notable achievement in history because it presented a unified and coordinated history, not simply a chronicle Though he is sometimes credulous, he was to some extent critical of his sources, and his ability at combining materials into a smooth-flowing narrative was remarkable His *De rege et regis institutione* [on the king and the institution of kingship] achieved particular note because it condoned tyrannicide Mariana did not approve political assassination, but he argued that when the state was operating in violation of the welfare of the people, a desperate remedy was justifiable He extolled the natural simplicity of the communal life that he supposed existed in a lost Golden Age His humanitarian ideals had a great effect, and he is supposed to have influenced Rousseau His violent attack on debasement of the coinage—expressing arguments later universally accepted-- caused him to be imprisoned for a time See John Laures, *The Political Economy of Juan de Mariana* (1928)

Marianao (märyanaō'), city (pop 114,743), NW Cuba It is practically a suburb of Havana

Marianas Islands (marēä'năs), island group (370 sq mi , pop c 29,700), W Pacific, 1,500 mi E of the Philippine Islands, extending in a 500-mile chain from north to south The most important islands are GUAM, SAIPAN, and TINIAN The north islands are composed of volcanic rock, the south, of madrepore limestone covering a volcanic base All the islands are mountainous, with the highest peak (3,166 ft) on Agrihan Sugar cane, coffee, and coconuts are the chief products There are deposits of phosphate, sulphur, and manganese ore The Japanese are the most numerous of the inhabitants, among whom are Micronesians and Chamorros Discovered (1521) by Magellan, who named them the Ladrones Islands (Thieves Islands), they were renamed the Marianas by Spanish Jesuits arriving in 1668 The group was a Spanish possession from 1668 to 1898 They were sold to Germany (1899), with the exception of Guam, which became a possession of the United States The islands belonging to Germany were occupied in 1914 by Japan, which received a mandate over them in 1922 and in 1935 claimed them as a possession In the Second World War the Japanese islands were taken in 1944 by U S forces, who established naval and air bases on Saipan and Tinian In 1947 the group (exclusive of Guam) was included in the U S Trust Territory of the Pacific Islands under UN trusteeship The group is also called the Marianne Islands

Marianna (mărēăn'ù) **1** Cotton city (pop 4,449), co seat of Lee co , E Ark , near the Mississippi, inc 1877 Near by are a state university cotton experiment station and a U S soil conservation project **2** City (pop 5,079), co seat of Jackson co , NW Fla , near the Ala line, on the Chipola river and NW of Tallahassee It is in a productive dairy and farm area yielding fruits nuts, cotton, and corn The region has limestone deposits Florida Caverns State Park, here, has a natural bridge, and the caves are lighted The Blue Springs are near by **3** Borough (pop 1,493), SW Pa , SE of Washington, inc 1901

Marianne Islands see MARIANAS ISLANDS.

Marianske Lazne see MARIENBAD

Marianus Scotus (mărēă'nŭs skō'tŭs), 1028–c 1082, Irish monk and chronicler, whose Gaelic name was Mael-brigte He left Ireland in 1056 and lived at Cologne until 1058, at the abbey of Fulda from 1059 to 1069, and at Mainz until his death His chronicle of the world from the creation until 1082 was much used by others in the Middle Ages, notably by Florence of Worcester and Sigebert of Gembloux

Marianus Scotus, d 1088, Irish churchman, whose Gaelic name was Muiredach He left Ireland in 1067 on a pilgrimage to Rome, but settled permanently at Regensburg (Ratisbon), Germany, where he became abbot He was famous for his calligraphic copies of parts of the Bible, which were usually accompanied by his commentaries

Marias (mărī'ŭs), river rising in several branches in NW Montana near the Continental Divide and flowing c 240 mi SE to the Missouri near Fort Benton It receives the Teton c 3 mi above its mouth The upper Marias is used for irrigation, and the lower waters are part of the MISSOURI RIVER BASIN PROJECT.

Maria Theresa, Ger *Maria Theresia* (marē'ä tārā'zyä), 1717–80, empress, queen of Bohemia (1740–80), "king" of Hungary (1740–80), empress consort of FRANCIS I and dowager empress after the accession (1765) of her son, Joseph II Her father, Emperor CHARLES VI, altered the Hapsburg family law by the PRAGMATIC SANCTION so that she might succeed to the Hapsburg lands She was recognized by her subjects in the Austrian duchies and the Austrian Netherlands, in Bohemia, and in Hungary, although the Hungarian diet maintained the constitutional fiction that she was king of Hungary The chief European powers had subscribed to the Pragmatic Sanction in Charles's lifetime, but when she acceded she was immediately confronted with a European coalition against her, and FREDERICK II of Prussia brazenly seized SILESIA In the War of the AUSTRIAN SUCCESSION (1740–48), Maria Theresa lost most of Silesia to Prussia but secured in exchange the imperial election (1745) for her husband Her warm personality and her strength of will won her the loyalty of her subjects and of her troops, to whom she appealed directly in moments of crisis Her husband was given a share in governing her hereditary lands, but the actual government was in the hands of Maria Theresa, assisted by her able chancellor, KAUNITZ After the Treaty of AIX-LA-CHAPELLE (1748), Kaunitz shifted to a policy of alliance with France, the former enemy The SEVEN YEARS WAR (1756–63) exhausted the strength of Austria Maria Theresa lost no territory, but leadership among German states had definitely passed to Prussia In 1772, Maria Theresa reluctantly shared with Prussia and Russia in the first partition of Poland (see POLAND, PARTITIONS OF) Partly under the influence of her son, Joseph II (with whom she jointly ruled her dominions after 1765), Maria Theresa carried out a series of beneficent agrarian and other reforms Unlike her son, however, she followed no particular plan and was, on the whole, conservative In matters of religion she was devoutly Catholic She led a life devoted to her work and to her large family, a model wife and mother as well as a popular and kindhearted ruler Her court was the most moral in Europe During her reign Vienna became a center of the arts and of music Gluck was her court composer, and Mozart played before her as a child Among her 16 children were emperors Joseph II and Leopold II Marie Caroline of Naples, and Marie Antoinette of France Her authoritative biographer is Alfred von ARNETH See also biographies by J F Bright (1897), M M Moffat (1911), J A Mahan (1932) and C L Morris (1937), E M Link *The Emancipation of the Austrian Peasant* (1949)

Maria Theresiopel, Yugoslavia see SUBOTICA

Mari Autonomous Soviet Socialist Republic (mä'rē), autonomous republic (8,900 sq mi , pop 579,456), E central European RSFSR, in the middle Volga valley Ioshkar-Ola is the capital The region is heavily forested, the nonforested area is primarily agricultural, producing wheat, rye, oats, and flax The Mari (formerly called Cheremiss) form about half of the population, the rest being Russians (44 percent) and Tatars (4 percent) They are a Finnic people of Russian culture and Eastern Orthodox religion Their land was dominated by the Eastern Bulgars (9th–12th cent) and by the Golden Horde after the 13th cent It was conquered (1552) by Ivan IV It became an autonomous republic in 1936

Maria Wörth (marē'a vûrt'), village (pop 1,460), Carinthia, S Austria, W of Klagenfurt and on the Worthersee, a small lake It is a place of pilgrimage with two Romanesque churches

Mariazell (marē"atsĕl'), town (pop 2,330), Styria, E central Austria, SW of Vienna A place of pilgrimage, it is famous for its 12th-century image of the Virgin and Child Mariazell is also a summer and winter mountain resort

Marib (mä'rĭb), ancient city Yemen, SW Arabia c 140 mi inland at an altitude of c 3 900 ft It was one of the chief cities, perhaps the capital of Sheba The site was visited by Joseph Halévy who found numerous inscriptions and ruins including the famous dam The dam, built in the 6th cent B C and enlarged to 2,000 ft in length, was one of the great engineering feats of antiquity

Maribo (marē'bō), city (pop 4,681) Laaland, Denmark It is the administrative seat of Laaland and Falster islands It has sugar refineries and meat-processing plants

Maribor (ma'rĭbôr), Ger *Marburg* (mar'bōōrk), city (pop 60,498), Slovenia, N Yugoslavia, on the Drava river and near the Austrian border A commercial and industrial center it produces automobiles, textiles leather, and chemicals It is a Roman Catholic episcopal see First mentioned in 1147, it was an important city of Styria until its transfer (1919) to Yugoslavia There are a Gothic cathedral, a castle, and a fine Renaissance city hall

Maricopa Indians (marĭkō'pù, mărĭ-), tribe of North American Indians of the Yuman linguistic stock At some time in the past the Maricopa, under pressure from the Yuma, moved up the Gila river in Arizona from the Colorado river In 1775 they lived near the mouth of the Hassayampa river in S Arizona They then numbered some 3,000 The Maricopa were sedentary farmers who lived in fairly permanent villages They joined with the Pima in SW Arizona in the early 19th cent. for protection from their kinsmen and enemies, the

Yuma In 1859 a reservation (the Gila River Reservation) was set apart for the Maricopa and the Pima in S central Arizona The Maricopa now number some 300

Marie (mürē'), 1875–1938, queen of Rumania, consort of FERDINAND I The daughter of Alfred, duke of Edinburgh and of Saxe-Coburg-Gotha, she was granddaughter of Alexander II of Russia and of Queen Victoria of England She was instrumental in bringing Rumania into the Allied camp in the First World War, and she followed the Rumanian armies as a Red Cross nurse She traveled widely, and her visit (1926) to the United States was a triumph of publicity rather than of good taste As dowager queen she was prominent during the first reign (1927–30) of her grandson Michael Marie wrote several novels and collections of fairy tales in English, among them *My Country* (1916), *The Voice on the Mountain* (1923), *The Country That I Love* (1925), *Ilderim* (1925), and *Masks* (1937) Her autobiography, *The Story of My Life* (1934), was continued by *Ordeal* (1935)

Marie, Pierre Thomas Alexandre (pyĕr' tômä' alĕksä'dru marē'), 1795–1870, French minister of public works in the revolutionary provisional government of 1848 The administration promised work to all unemployed In supposed fulfillment, but actually in direct opposition, to the plan of Louis BLANC for *ateliers sociaux*, Marie opened national workshops (*ateliers nationaux*) which proved an impracticable and costly experiment It is generally agreed that Marie intended from the beginning that they should be a failure The abandonment of the program helped to bring on the uprising in the JUNE DAYS of 1848

Marie Antoinette (äntunĕt', ätwanĕt'), 1755–93, queen of France, wife of LOUIS XVI, and daughter of Maria Theresa and Francis I of Austria She was married in 1770 to the dauphin, who became king in 1774 With an anti-Austrian cabinet in power, she sought the constant advice of the Austrian ambassador and laid herself open to suspicions of spying for her native country Unhappy in her marriage, which remained unconsummated for seven years, she surrounded herself with a dissolute clique, led by Yolande de POLIGNAC and Marie Thérèse de LAMBALLE, and threw herself into a life of pleasure and careless extravagance This completed the alienation of the French and led to scandals such as the Affair of the DIAMOND NECKLACE and to rumors concerning her relations with the officers of the guard and with Hans Axel FERSEN The famous solution to the bread famine, 'Let them eat cake,'' is probably more unjustly attributed to the queen, but it is certain that Marie Antoinette lacked understanding of economic problems With the birth of her first son, her life became more sedate Although she had contributed to the downfall of Turgot in 1776 and was hostile to Necker, her influence on the king's decisions during the first two years of the Revolution (1789–91) has been exaggerated She was brought with the king from Versailles to Paris (1789) and was seized in her attempt to escape with her family (1791) Despite her hatred of the Revolution, the apathy of the king forced her to conduct the negotiations first with Mirabeau, then with BARNAVE Simultaneously, however, she secretly urged for Austrian intervention, after war was declared, she fully identified the cause of the dynasty with that of France and betrayed the French campaign plans to the enemy Accused of treason, she and her husband were removed to the Temple (1792) After the execution of the king (Jan , 1793), she was subjected to unjustifiable brutality Her son was taken from her and no attempt was made to hide from her the harshness of his treatment (see LOUIS XVII) Transferred to the Conciergerie, the "Widow Capet," as she was called in derision, was tried before the Revolutionary Tribunal (Oct 14–15, 1793), found guilty, and guillotined (Oct 16) In her last misfortunes she displayed steadfastness, courage, and dignity Her portraits, notably by VIGÉE-LEBRUN, are well known Among Marie Antoinette's published correspondence, see *Lettres de Marie Antoinette* (2 vols , 1895–96) and *The Letters of Marie Antoinette, Fersen, and Barnave* (ed by O G von Heidenstam, Eng tr , 1926) For a comprehensive bibliography, see Maurice Tourneux, *Marie Antoinette devant l'histoire essai bibliographique* (1901) See biographies by Hilaire Belloc (1910), P M M H de Ségur (Eng tr , 1928), and Stefan Zweig (Eng tr , 1933)

Marie Byrd Land, area of Antarctica, E of the Ross Shelf Ice and the Ross Sea and S of the Amundsen Sea The Edsel Ford Ranges lie in the northwest part The region was discovered and claimed for the United States by Richard E Byrd in 1929

Marie Caroline, 1752–1814, queen of Naples, consort of Ferdinand IV (later FERDINAND I of the Two Sicilies), daughter of Emperor Francis I and Maria Theresa, and sister of Queen Marie Antoinette of France She was married to Ferdinand in 1768 With her favorites, Sir John ACTON and Emma, Lady HAMILTON, she was a center of scandal and intrigue and exercised a decisive and sinister influence on state affairs She was forced to flee Naples late in 1798, during the short-lived Parthenopean Republic, and again in 1806, when she and her husband were expelled by Napoleon and took up residence in Sicily The British requested her banishment because of her intrigues, and she died at Vienna

Marie de France (dù frās'), fl 1185, French poet She was author of a dozen lais of uneven length, some are probably of Celtic origin See translations by J L Weston (1900), Edith Rickert (1901), and Eugene Mason (1911), Alice Kemp Welch, *Of Six Medieval Women* (1914), J E Harris, *The Lays Gugemar, Lanval, and a Fragment of Yonec* (1930)

Marie de l'Incarnation (du lĕkarnasyō'), 1599–1672, French missionary, named in the world Marie Guyard She was married in her youth and bore a son, when he was 12 years old, her husband being dead, she entered the Ursuline order Her burning desire was to convert the heathen, and, at her entreaty, the authorities gave her and another nun permission to go to New France to work among the Indians In 1639 she arrived in Quebec, where she was soon head of an Ursuline convent She ruled her house with great success and worked among the Indians with notable results Her letters are valuable sources of French Canadian history She wrote devotional works and catechisms, not only in French but in Indian tongues See Agnes Reppher, *Mère Marie of the Ursulines* (1931)

Marie de' Medici (mēd'ĭchē), 1573–1642, queen of France, second wife of Henry IV, and daughter of Francesco de' Medici, grand duke of Tuscany. She was married to Henry in 1600 After his assassination (1610) she became regent for her son Louis XIII She reversed the policies set by her husband, SULLY was replaced by her favorite CONCINI, and the carefully hoarded surplus was dissipated in court extravagance and in pensions to the discontented nobles In foreign affairs she abandoned the traditional anti-Hapsburg policy A new Franco-Spanish alliance was formed by the marriage of Louis to Anne of Austria, daughter of Philip III, and further cemented by the marriage of Princess Elizabeth to the future Philip IV Having remained in power for three years beyond the king's nominal majority, Marie was forced into exile after the murder of Concini (1617) In 1619 her partisans rose in revolt, but she was reconciled to her son in 1622 After the rise to power of her former favorite, Cardinal RICHELIEU, she was forced (1630) into a new exile at Compiègne, whence she fled to the Netherlands (1631), never to return to France She was the mother of Henrietta Maria, queen of Charles I of England The marriage of Marie and Henry IV was the subject of a celebrated series of paintings by Rubens, now in the Louvre See biographies by Julia Pardoe (3 vols , 1852), A P Lord (1903), and Louis Batiffol (1906, Eng tr , 1908)

Marie Feodorovna (marē' fyô'durŭvnu), 1847–1928, empress of Russia, consort of Alexander III and mother of Nicholas II Originally named Dagmar, she was the daughter of Christian IX of Denmark and the sister of Queen Alexandra of Great Britain She made no attempt to influence the political life in Russia and devoted herself to philanthropic and educational activities, especially the Red Cross Detained (1917) in the Crimea by the revolutionists, she refused an offer of safe conduct by the Germans, who occupied the Crimea in 1918, but returned to Denmark after the armistice of 1919 She spent her last years in Denmark Her letters to Nicholas II are published in *The Secret Letters of the Last Tsar* (Eng tr , 1938)

Marie Galante see GUADELOUPE

Marie Leszczynska (lĕshchĭn'sku), 1703–68, queen of France, wife of Louis XV, and daughter of STANISLAUS I of Poland Married in 1725, she was the mother of 10 children and the grandmother of Louis XVI Her marriage to Louis XV involved France in the War of the Polish Succession.

Marie Louise, 1791–1847, empress of the French (1810–15) and duchess of Parma, Piacenza, and Guastalla (1816–47), daughter of Emperor Francis II She was married (1810) to NAPOLEON I and was the mother of NAPOLEON II When Napoleon I was defeated (1814), she fled to Vienna Her Italian duchies were awarded to her at the Congress of Vienna, she ruled them, ineptly, from Parma, with the assistance of her lover, Graf NEIPPERG, whom she married morganatically in 1821 After his death she married another Austrian count, Bombelles See J A Mahan, *Marie Louise* (1931)

Marienbad (marē'unbät), Czech *Mariánské Lázně* (mar'yanskā läz'nyĕ), spa (pop 6,027), NW Bohemia, Czechoslovakia Its many curative mineral springs and baths, known since the 16th cent , are famous throughout the world

Marienburg (marē'unbōrk) or **Malbork** (mal'bôrk), town (pop 10,017), former East Prussia, on the Nogat river and SE of Danzig It was transferred to Polish administration in 1945 Originally a castle founded (1274) by the TEUTONIC KNIGHTS, it became the seat of their grand master in 1309. Though valiantly defended against the Poles in 1410, Marienburg was sold to Poland in 1457 by mercenaries whose pay was in arrears The town passed to Prussia in the first partition of Poland (1772) The castle, mostly in 14th-century Gothic and restored in the 19th cent , is one of the noblest examples of German secular medieval architecture

Marienwerder (marē"unvĕr'dur) or **Kwidzyn** (kvē' dzĭnyu), town (pop 7,980), former East Prussia, near the Vistula and S of Danzig It was transferred to Polish administration in 1945 Founded (1233) by the Teutonic Knights, Marienwerder developed into one of their leading towns in Prussia A Gothic cathedral and a castle (both 14th cent) remain

Marie Thérèse of Austria (mārē' tĭrĕz'), 1638–83, queen of France, daughter of Philip IV of Spain She was married (1660) to Louis XIV under the terms of the Peace of the PYRENEES Louis neglected her for a succession of mistresses The claims arising from their marriage led to the War of DEVOLUTION and, indirectly, to the War of the SPANISH SUCCESSION

Marietta (mărĕt'u, măr–) **1** Residential city (pop 8,667), co seat of Cobb co , NW Ga , just NW of Atlanta, inc 1834 During the 1850s it flourished as a popular summer resort Marietta is at the foot of Kennesaw Mt , scene of a Union defeat in the Civil War (see ATLANTA CAMPAIGN) A national cemetery here has the graves of thousands of Civil War dead **2** City (pop 14,543), co seat of Washington co , SE Ohio, at the confluence of the Muskingum and Ohio rivers, inc 1800 The first planned, permanent settlement in Ohio and the Old Northwest, it was founded among mound builders' earthworks in 1788 by the OHIO COMPANY OF ASSOCIATES under Manasseh CUTLER and Rufus PUTNAM and named for Marie Antoinette The first houses of the settlement were in a stockaded enclosure called Campus Martius The town grew as a shipbuilding and shipping point for an agricultural area and now has various minor manufactures including chemicals, metal products, and furniture It is the seat of Marietta College (coeducational, 1835) Preserved are General Putnam's house (in the Campus Martius Memorial State Museum) and the old land office, both built about the time of settlement Mound Cemetery, named for a large Indian mound it encloses, has the graves of numerous noted officers of the Revolution In 1938 the city celebrated its sesquicentennial The intercollegiate regatta, formerly rowed on the Hudson river at Poughkeepsie, N Y , was held on the Ohio here for the first time in June, 1950 **3** City (pop 1,837), co seat of Love co , S Okla , near the Red River, in a farm and resort area, settled c 1887 Lake Murray State Park is near by **4** Borough (pop 2,128), SE Pa , on the Susquehanna below Harrisburg, settled 1718, inc 1812 Its manufactures include shoes, textiles, and metal products

Mariette, Auguste Édouard (ōgust' ādwar' marĭĕt'), 1821–81, French Egyptologist On a visit (1850–54) to Egypt to collect Coptic manuscripts for the Louvre, he excavated (1851) the ruins of the Serapeum at Memphis, where he found in subterranean tombs mummies of the sacred Apis bulls He was curator (1854–58) of the Egyptian department at the Louvre and in 1858 returned to Egypt as director of excavations, receiving the title of bey and later of pasha He founded (1863) at Bulak (now part of Cairo) the Egyptian national museum, made notable excavations in the pyramid fields, and uncovered the base of the Great Sphinx at Gizeh He suggested the story for the libretto of the opera *Aida*

Marieville (ma'rēvĭl"), town (pop 2,394), S Que , SE of Montreal near the Richelieu river

Marignano, battle of (marēnyä'nō), in the Italian Wars, 1515, fought by Francis I of France and his Venetian allies against the Swiss Confederates, who then controlled the duchy of Milan It was fought (Sept 13–14) near the town of Marignano (now Melegnano), 10 mi SE of Milan One of the bloodiest engagements in the ITALIAN WARS, it was decided by the timely arrival of Venetian cavalry The Swiss retreated in good order, but evacuated Milan, which was thus lost to their protégé, Massimiliano SFORZA Their military ambitions broken, the Swiss made peace with Francis and negotiated (1516) the "eternal alliance" (see SWITZERLAND) Described as a "battle of giants," Marignano established the superiority of artillery and cavalry over the reputedly invincible Swiss infantry tactics

marigold, any plant of the genus *Tagetes*, mostly Central and South American herbs cultivated elsewhere as garden flowers The two common species of marigold, annuals, are distinguished as African (or Aztec) and French, although both are native to Mexico The African commonly has large yellow or orange flower heads and strong-scented foliage, but a new odorless kind has been developed, the French has smaller flower heads, single or double, usually two tones of yellow or orange and red Other plants sharing the name of marigold include MARSH MARIGOLD and BUR MARIGOLD See also CALENDULA.

marihuana, see MARIJUANA

Mariinsk System (mŭrē'ĭnsk), canal and river system, RSFSR, linking the Baltic and Caspian seas It consists of the Neva river, the Ladoga Canals, the Svir river, the Onega Canal, the Vytegra river, the Mariinsk Canal (5 mi. long, crossing the watershed of the system), the Kovzha river, the Belozersk Canal, and the Shekana river, which empties

at Cherepovets into the RYBINSK RESERVOIR, which is traversed by the Volga. The system is also connected with the Northern DVINA and the White Sea The Mariinsk Canal was built in 1808 and reconstructed after 1940, and the entire waterway was repeatedly reconstructed and deepened It follows the historic Baltic-Volga trade route, in use since the 9th cent

marijuana or **marihuana** (both märēwä'nə, -hwä'-nə, mă-), a drug, the effects of which combine excitation and depression. Marijuana is obtained from the flowering tops of the hemp plant *Cannabis sativa*. Although it was formerly employed empirically in such conditions as migraine and insomnia, it is no longer prescribed In the United States the drug is smoked in cigarettes known as reefers The illicit sale of these is the source of the main supply of the drug to those who have developed the marijuana habit Federal authorities have taken steps to control the cultivation of the hemp See R P. Walton, *Marihuana* (1938).

Marin, John (mərēn'), 1870–, American landscape painter, b Rutherford, N J After a year at Stevens Institute of Technology, he worked for four years as an architectural draughtsman At 28 he entered the Pennsylvania Academy of the Fine Arts and in 1905 went abroad, where he painted and etched and lived precariously for several years In 1909 his work was exhibited at the Stieglitz gallery, New York After that he gained a high reputation as a leading American water-colorist, and his work was widely exhibited and received many awards His pictures, painted for the most part on the Maine coast or at his home in New Jersey, have something of the decorative quality of certain abstract expressionist work Nevertheless they are representational and convey much of the character of the landscape which inspired them Marin's water colors are in leading galleries throughout the United States His work in oils, although less well known, is also noteworthy See monograph by Duncan Phillips (1931), studies by E M Benson (1936) and MacKinley Helm (1948)

Marinduque (mārēndō'kä), island (346 sq mi, pop 79,781), Philippine Islands, between Mindoro and Bondoc Peninsula of S Luzon Coconuts and rice are raised, and gold is mined Marinduque and several offshore islets constitute Marinduque prov (355 sq mi, pop 81,768)

marine biology, study of plants and animals in the sea and their relationship to each other and to the environment Marine organisms may be grouped, according to their mode of life, as nekton, plankton, and benthos Nekton are swimming animals that can migrate freely, e g, adult fishes, whales, and squid Plankton are floating and drifting plants or animals, usually microscopic or very small, whose power of locomotion is feeble or absent Benthos are plants or animals living on the sea bottom and including sessile forms (e g, sponges, oysters, and corals), creeping organisms (e g, crabs and snails), and burrowing animals (e g, many clams and worms) The distribution of organisms depends on the chemical and physical properties of sea water (temperature, salinity, and dissolved nutrients), on the circulation of ocean waters (these carry oxygen to subsurface waters and disperse nutrients, wastes, spores, eggs, larvae, and plankton), and on penetration of light Plants, the ultimate source of food, exist only in the photic zone (to a depth of about 300 ft), where there is sufficient light for photosynthesis Since only about 2 percent of the ocean floor lies in the photic zone, benthic plants are far less abundant than plant plankton, which is distributed in a shallow ocean-wide area. Among the most numerous plant forms are algae, diatoms, radiolaria, and foraminifera Animals exist at all depths but are more numerous near the surface Bacteria are abundant in upper waters and in bottom deposits The scientific study of marine biology dates from the early 19th cent., many seaside laboratories have been established, especially in temperate regions (see OCEANOGRAPHY) The science has contributed to the efficient exploitation of fisheries and to the understanding of problems in the evolution and growth of organisms It is believed that life originated in the sea. See F.W. Flattely and C L Walton, *The Biology of the Sea-Shore* (1922), H U Sverdrup and others, *The Oceans* (1942), R E Coker, *This Great and Wide Sea* (1947)

Marine City, city (pop 3,633), S Mich, on the St Clair river and S of Port Huron, inc as a village, 1865, named Marine City 1867, inc as a city 1887 It is a shipping center for the Great Lakes area Automobile parts are made The Indian lake shore trail crossed this site

marine engine. The earliest engines used for ship propulsion were steam At the present time there are in use the reciprocating STEAM ENGINE, the steam TURBINE, the DIESEL ENGINE, and the gasoline engine (see INTERNAL-COMBUSTION ENGINE) In addition, there is the electric drive, utilizing electricity supplied from generators which are driven by steam turbines or Diesel engines So-called reduction gearing is an important development in marine propulsion, it became necessary when the steam turbine was introduced This arrangement makes it possible to run the turbine at high speed (the best for economy of operation) while the propeller is run at low speed (for highest efficiency). Although several successful installations were made in which turbine and propeller were directly connected, turbine-driven ships were later generally fitted with reduction gearing A heavier type of engine than that used in land operation is employed for marine work, reliability being of paramount importance since repairs at sea are made with danger and difficulty In the SUBMARINE, electric batteries are used when the ship is running submerged

marine engineering see ENGINEERING

marine insurance: see INSURANCE.

marines, troops, usually having ranks comparable to those of the army officers, who serve on board ships of war or in conjunction with naval operation. A British marine corps was established in 1664, and the need for skilled riflemen aboard military vessels brought about intermittent renewal of this organization In 1775 the Continental Congress established the Continental Marines in the American Revolution, and after this organization had disappeared with the end of the war, the U S Congress created (1798) its successor, the present U S Marine Corps The U S Marine Corps played a distinguished role on the Barbary coast and has been prominent in all major wars in which the U S participated After the beginning of the 20th cent, U S marines were often sent to quell disturbances in several Central American and Caribbean countries—Panama, Honduras, Nicaragua, Haiti, and the Dominican Republic In the Second World War the marines played a cardinal role in the invasion of several Pacific islands held by the Japanese Under the organization (1947) of the National Military Establishment, the U S Marine Corps operates as an integral part of the U S Navy, but is a complete operating unit within itself and has all military arms except cavalry See F O Hough, *Island War* (1947); C L Lewis, *Famous American Marines* (1950)

Marinette (mărĭnĕt'), city (pop 14,183), co seat of Marinette co, NE Wis, on Green Bay at the mouth of the Menominee, inc 1887 It is across the river from Menominee, Mich, a bridge connects them At Marinette the fur trade, begun c 1795, gave way to lumbering, which throve in the late 19th cent It is now a port of entry, has a fishing fleet, and makes paper and dairy products

Marinetti, Filippo Tommaso (fēlē'pō tōmmä'zō mārēnĕt'tē), 1876–1944, Italian poet, novelist, and critic He is best known as the founder (1909) of FUTURISM, on which he wrote and lectured, and as an advocate of Fascism, he was one of the first members of the Fascist party He wrote in both French and Italian, among his works are *Le Roi Bombance* (1905) and *Mafarka le futuriste* (1909) For translations of Marinetti's verse, see *Poet Lore*, Vol XXVI (1915) See also H B Samuel, *Modernities* (1914)

Marini, Giambattista (jäm"bät-tē'stä märē'nē), or **Giovanni Battista Marino** (jōvän'nē bät-tē'sta märē'nō), 1569–1625, Italian poet His florid, bombastic style, called *Marinismo*, was somewhat akin to euphuism and was an equally bad influence on the literature of his day His works include *Adone* (1623), a long descriptive poem, and *La strage degli innocenti* [the slaughter of the innocents] (1632)

Marinus see JONAH, RABBI

Mario (mär'yō), 1810–83, stage name of an Italian tenor, who came of the noble family of Candia He went to Paris in 1836 as an officer in the Piedmontese guard, but studied singing at the Paris Conservatoire, making his debut at the Paris Opéra in 1838 He sang with great success in Paris, London, and St Petersburg, appearing often with his wife, Giulia Grisi He was possessed of an extremely beautiful voice, which, united with personal grace and charm, made him the idol of his public He retired in 1867

Marion, Francis, c 1732–1795, American partisan leader in the Revolution, b near Georgetown, S C He was a planter and Indian fighter before joining (1775) William Moultrie's regiment at the start of the American Revolution In 1779 he fought under Benjamin Lincoln at Savannah and escaped (1780) capture at Charleston by being on sick leave Marion organized a cavalry troop (1780) which after the American defeat at Camden in the Carolina campaign constituted the chief colonial force in South Carolina Now began the guerrilla warfare that made Marion famous He broke the British lines of communication, captured scouting and foraging parties, and intimidated the Loyalists When confronted by a formidable force, Marion would retire to the swamps, only to reappear at some distant point to strike at the enemy For this reason he was known as the Swamp Fox When Nathanael Greene had succeeded in ousting the British from North Carolina (see CAROLINA CAMPAIGN), his lieutenant, Light-Horse Harry Lee brought reinforcements to Marion, and they took part together in several battles, notably that at Eutaw Springs (Sept 8, 1781) After the war, Marion was elected (1781, 1782, 1784) to the South Carolina senate, where he advocated a lenient policy toward the Loyalists There are two early biographies by Peter Horry and M L Weems (1805) and W G Simms (1844)

Marion. **1** City (pop 2,382), co seat of Perry co, W central Ala, WNW of Montgomery near the Cahaba, in a farm area, settled 1817. Judson College (Baptist, for women, 1839) and a military academy are here Near by is a U S fish hatchery **2** City (pop 9,251), co seat of Williamson co, S Ill, NNE of Cairo, in a fruit and coal area, inc 1841 It is a mining and shipping center The state's first county fair was held here in 1856. Robert Ingersoll and John A. Logan lived here It is the seat of a veterans' hospital and home **3** City (pop 26,767), co seat of Grant co, E central Ind, NNE of Indianapolis, settled 1826 It is a farm trade center and an industrial center near gas and oil fields Its manufactures include glass, electric-lighting devices, automobile parts, and beer. It has a large U S veterans' hospital Marion College is here The city boomed with the discovery of gas and oil c 1880 **4** City (pop 4,721), E central Iowa, just NE of Cedar Rapids, settled 1839, inc 1865 It is a railroad division point with repair shops and freight yards **5** City (pop. 2,086), co seat of Marion co, E central Kansas, on the Cottonwood and NNE of Wichita, in a farming and poultry-raising region, settled 1860, laid out 1866, inc 1875 **6** City (pop 2,163), co seat of Crittenden co, W Ky, near the Ohio NE of Paducah, inc 1844 It is a shipping point for fluor spar **7** Resort town (pop 2,030), SE Mass, on Buzzards Bay E of New Bedford, set off from Rochester 1852 **8** Textile-mill town (pop 2,889), co seat of McDowell co, W N C, in the Blue Ridge ENE of Asheville To the north are the Linville Caverns, with interesting limestone formations **9** City (pop 30,817), co seat of Marion co, central Ohio, N of Columbus, laid out 1821, inc 1830 Rail, industrial, and agricultural center, it is noted for its production of power shovels and dredges Conveying, farm, and refrigeration machinery are also important products There are limestone quarries The home of Warren G Harding is preserved as a museum **10** Town (pop 5,746), co seat of Marion co, E S C, E of Florence, in a lumbering and farming area, founded c 1800 There are cotton-processing plants Several old buildings remain **11** Town (pop 5,177), extreme SW Va, in the Holston river valley with Walker Mt on the west, inc 1832 Lumber and grain are processed, and there are limestone quarries and textile mills The courthouse of Smyth co is here, as are a junior college and a state hospital for the insane Near by are a state park, White Top Mt, scene of an annual music festival, and Mt Rogers **12** City (pop 1,034), central Wis, NW of Appleton and on the Pigeon river, settled 1878, inc. as a village, 1898, as a city 1939 Cheese is made

Marion, Fort see SAINT AUGUSTINE, Fla

marionette see PUPPET

Marion Heights, borough (pop 2,068), E central Pa, SE of Sunbury

Marionville, city (pop 1,127), SW Mo, SW of Springfield, in a farm area, laid out 1854

Mariotte, Edme (ĕd'mŭ märyōt'), 1620?–1684, French physicist His *De la nature de l'air* (1676) stated the theory now known as Boyle's law (sometimes called Mariotte's law in France) He also studied hydrodynamics, barometry, and color and discovered the *macula lutea*, the yellow spot of the retina of the eye

Mariposa (mă"rĭpō'zu), unincorporated town (pop 628), co seat of Mariposa co, central California A boom town of the Mother Lode in the gold rush, today it is a tourist center for near-by Yosemite National Park Its courthouse (1854) is said to be the oldest in the state

Mariposa lily (mărŭpō'su, -sū), bulbous plant of the genus *Calochortus*, of the lily family, with tulip-like flowers of white, yellow, red, or lilac It is native to California, Utah, and neighboring states One species, the sego lily, which has an edible bulb, is the state flower of Utah The Mariposa lily is also called star tulip, butterfly tulip, and globe tulip

Maris (mā'rĭs), three Dutch painters, who were brothers **Jacob** or **Jakob Maris** (yä'kōp), 1837–99, the most celebrated, painted domestic interiors, but is particularly famous for his vigorous Dutch landscapes in oil and water color Rich in color and large and simple in composition and handling, these paintings are among the finest of The Hague school They usually depict the rich countryside under luminous gray skies The Rijks Museum has a notable collection, including *The Shell Gatherers* and *View of a Dutch Town* Other works are *The Bridge* (Frick Coll, New York), *Canal in Holland* (Metropolitan Mus), and *View of a Village* (Dordrecht) **Matthew or Matthijs Maris** (mätis'), 1839–1917, genre and landscape painter and etcher, worked with his brother Jacob and later settled in London He developed a vein of mysticism in his later work exemplified in such paintings as *Reverie* (Metropolitan Mus) and *The Bride* (The Hague) His work is rare and highly prized **William or Willem Maris** (vĭl'lŭm), 1844–1910, achieved an early reputation for his bright landscapes, usually with

cattle. The Rijks Museum has six, including *Cows beside a Ditch*.

Marisco, Adam de: see MARSH, ADAM.

Marissa, village (pop 1,657), SW Ill., SE of St Louis, in a farm area, inc 1882.

Maritain, Jacques (shäk' märētē'), 1882–, French neo-Thomist theologian and philosopher. He came to the United States in 1940, teaching in several universities until 1945, when he was appointed French ambassador to the Vatican. He resigned in 1948 to teach philosophy at Princeton Dissatisfied with the values of his Protestant upbringing and influenced strongly by Léon Bloy and Henri Bergson, Maritain joined the Roman Catholic Church in 1906 and became interested in the works of St. Thomas Aquinas His writings have been an integration and development of Thomism for its application to all phases of living. This Neo-Thomistic doctrine is sometimes called existentialism The development of his Thomistic principles can be most clearly found in *Eléments de philosophie* (1923–30, Eng. tr , *An Introduction to Philosophy*, 1930–37) and *Humanisme intégral* (1936, Eng tr , *True Humanism*, 1938) and summarized in *Confession de foi* (1941, first published in English in *I Believe*, ed by Clifton Fadiman, 1939) *Art et scolastique* (1920; Eng tr , *Art and Scholasticism*, 1930) is the application of Thomism to the field of aesthetics and demonstrates his keen perception of modern French literature *Christianisme et démocratie* (1943, Eng. tr , *Christianity and Democracy*, 1944) contains his political philosophy

Maritime Commission, United States, established (1936) by act of the U S Congress The U S Maritime Commission—composed of five members appointed by the President for six-year terms—replaced the U S Shipping Board, was vested with all its functions, and was given added jurisdiction The commission was designed to develop a merchant fleet capable of serving as a naval and military auxiliary in time of war or national emergency and to provide shipping service on all routes essential for maintaining domestic and foreign waterborne commerce at all times Thus, the commission was charged with directing the construction of well-equipped, safe, and suitable merchant vessels to be manned by a trained and efficient citizen personnel, with setting the size and terms of subsidies granted to private shipping companies, with establishing regulations for wages and working conditions of seamen, with ascertaining foreign and American shipbuilding and operating costs, and with transfer, sale, and disposal of war-built merchant ships Under the direction of Emory S LAND, the U S Maritime Commission's program during the Second World War resulted in the completion of the largest merchant fleet in the history of the United States

maritime law, system of law concerning navigation and overseas commerce Because ships sail from nation to nation over seas no nation owns, there is obvious reason why nations should seek agreement over customs relating to shipping From such agreements between nations has grown a body of customs and usages which began in ancient days. This is the basis for maritime law. It was, in origin, law of customs only, but it felt the influence of the Roman civil law In the later Middle Ages, when traders were more and more venturous in crossing the waters, the rules of the sea were compiled into widely recognized collections such as the *Consolato del mare* [consulate of the sea], *The Rolls of Oléron* or *The Law of Oléron*, and the English *Black Book of the Admiralty* In England, special courts were set up to administer the law under the high court of admiralty The procedure differed from that of the common-law courts, and because of increasing opposition to the civil law, the jurisdiction of the admiralty court was restricted more and more. The Judicature Act of 1873 abolished it altogether, assigning its functions to the high court of justice. In the United States the Constitution gives the Federal courts authority in "all cases of admiralty and maritime jurisdiction " This jurisdiction covers all maritime contracts, torts, injuries or offenses, and questions of PRIZE. In cases of collision at sea, the parties may under the Judiciary Act of 1789 bring suits at common law, otherwise all maritime cases come to the Federal courts. The jurisdiction extends to all navigable waters of the United States. Though maritime law is general in character, only those parts which determine the relations among nations—particularly in war at sea, such questions as belligerency and neutrality—are part of the international law proper See ADMIRALTY, BLOCKADE, PIRACY, PRIVATEERING; SEAS, FREEDOM OF THE; LONDON, DECLARATION OF; PARIS, DECLARATION OF

Maritime Provinces, term applied to NOVA SCOTIA, NEW BRUNSWICK, and PRINCE EDWARD ISLAND, which before the confederation (1867) were politically distinct from Canada proper. Much of the economic life of the Maritime Provs. is dependent upon the sea, particularly fishing and commerce, a fact which has frequently made them oppose the rest of Canada in political questions involving these subjects

Maritime Territory, Rus. *Primorskı Krai* (prēmôr'-skĭ krī'), administrative division (64,900 sq. mi.; 1946 estimated pop. 1,475,000), RSFSR, between Manchuria in the west and the Sea of Japan in the east. VLADIVOSTOK is the capital. The coastal mountain range is densely wooded and rich in minerals (lead, zinc, tin, and molybdenum) Along the Manchurian border, formed largely by the Ussuri river, extends an agricultural plain, where most of the population (mostly Russian and Ukrainian, with Korean, Chinese, and Mongol minorities) is concentrated The region has dry winters and rainy summers. There are important fisheries along the coast and coal mines in the southern section, notably at Suchan and Artem The Trans-Siberian RR system passes through the western and southern section of the territory. For history, see FAR EASTERN TERRITORY

Maritsa (märē'tsä), river, c 300 mi. long, SE Europe It rises in Bulgaria SE of Sofia and flows SE past Pasardsik and Plovdiv and, shortly after leaving Bulgaria, turns S at Adrianople to join the Aegean Sea From Adrianople to its mouth it forms the Greco-Turkish border

Maritzburg, Union of South Africa. see PIETERMARITZBURG

Mariupol, Ukraine see ZHDANOV

Marius, Caius, c.155 B C –86 B.C , Roman general He was a plebeian He became tribune (119 B.C) and praetor (115 B C) and was seven times consul He served under Scipio Africanus Minor at Numantia and under Quintus Metellus against Jugurtha Later he was a victorious commander against Jugurtha In 102 B C he defeated the Teutones at Aix, and the next year he bested the Cimbri at Vercelli Rivalry with Sulla over the command against Mithridates VI of Pontus turned into civil war, Sulla won, and Marius fled Rome When Sulla went off to fight, Marius, now allied with the consul Cinna, returned and butchered his opponents (88 B.C) Marius had no political program, but the enmity of the senate and of Sulla gained him a reputation as a friend of the people Thus had important influence on the early career of Julius Caesar, who was the nephew of Julia, Marius' wife. See F W Robinson, *Marius, Sulla, and Glaucia* (1912)

Marivaux, Pierre Carlet de Chamblain de (pyĕr' karlā' dŭ shäblē' dŭ märēvō'), 1688–1763, French dramatist and novelist His most successful works were probably the love comedies *Le Jeu de l'amour et du hasard* (1730, Eng tr , *Love in Livery*) and *Le Legs* (1736, Eng tr , *The Legacy*, 1915) and the unfinished novels of middle-class life *La Vie de Marianne* (1731–41) and *Le Paysan parvenu* (1735–36). See Arthur Tilley, *Three French Dramatists* (1933)

marjoram: see SWEET MARJORAM

Mark, Saint [Latin *Marcus*], early Christian Since the 2d cent, he has been regarded as the author of the second Gospel (see MARK, GOSPEL ACCORDING TO SAINT) His full name was John Mark He was a friend of St Peter, who furnished many of the evangelist's facts, and for a time he accompanied St Paul His mother, named Mary, is thought to have owned the house where the Last Supper was eaten, and St Mark is generally said to have been the "young man who ran away naked " Mark 14 51–52, Acts 12 12, 25, 13 5, 15 37–39, Col 4.10, 11, Philemon 24, 2 Tim 4 11, 1 Peter 5 13. According to tradition he was first bishop of Alexandria—the liturgy of that church is called the Liturgy of St Mark St Mark is the patron of Venice and of its famous cathedral, where his relics are shown His symbol is a lion, hence the Lion of St. Mark at Venice Feast April 25

Mark, Gospel according to Saint, second book of the New Testament This is the shortest and simplest of the Gospels, and many critics hold it was the first composed, A D c 70. The authorship of St Mark has been accepted since the 2d cent , the matter probably came from St. Peter. The Gospel may be divided into four parts beginning of the ministry of Jesus (1 1-13), his first two years of preaching (1 14-6 56), his third year (7 1-13), the passion and resurrection (14-16) St. Mark is the only Gospel which has no passage unparalleled in another Gospel. See SYNOPTIC GOSPELS; GOSPEL, MIRACLE, NEW TESTAMENT, PARABLE.

mark, frontier province see MARCH

mark. According to a theory formulated in the 19th cent by G L von MAURER and others, the name mark applied to the free village community which was supposed to have been the unit of primitive German social life The mark was, according to that theory, composed of free men in voluntary association, holding lands communally, and governed by a chief elected for a short term. The theory was expanded by other scholars, among them E. A FREEMAN, but it later was bitterly attacked by FUSTEL DE COULANGES and SEEBOHM Though controversy continues, it has become generally accepted that Roman as well as Germanic institutions influenced the formation of the medieval MANORIAL SYSTEM and that there never existed as idyllic a democratic society as depicted by Maurer. The word *mark* has generally fallen into disuse. See also VILLAGE

Marked Tree, cotton city (pop. 2,685), NE Ark., at the junction of the St Francis and Little rivers; settled c.1870. An important pellagra experiment was made here after the 1927 flood.

Marken (mär'kŭn), small island in the Ijsselmeer, North Holland prov , Netherlands, NE of Amsterdam. It is visited by tourists because of the survival of its colorful local traditions and costumes. Marken was linked to the mainland until the 13th cent It was a fishing center until the construction of the Ijsselmeer dam.

Market Drayton, urban district (pop. 4,749), Shropshire, England, on the Tern and NE of Shrewsbury, in a farming region. It has a 12th-century church and a 16th-century grammar school. At Blore Heath to the east a battle of the Wars of the Roses was fought (1459). Lord Clive was born near here Market Drayton is part of Drayton in Hales ecclesiastical parish.

market gardening, branch of HORTICULTURE devoted to the production of large quantities of vegetables on comparatively small areas near the towns or cities which they supply, usually on lands having high values. Intensive cultivation is practiced, including the planting of successive crops and heavy fertilising. With improvement in transportation methods, it has been possible to cultivate market gardens at greater distances from the market cities. See also TRUCK FARMING

Market Harborough, urban district (pop 9,312), Leicestershire, England, SE of Leicester, on the Welland and on the Grand Union Canal The town is a fox-hunting center and manufactures textiles, electrical equipment, rubber goods, and farm implements The Church of St Dionysius was begun in the 14th cent

marketing, in economics, part of the process of the production and exchange of goods. In popular usage it is defined as the distribution and sale of goods, the word *distribution* being understood in a sense different from the technical economic one Marketing then includes the activities of all those who are engaged in the transfer of goods from producer to consumer—not only those who buy and sell directly, wholesale and retail, but those who warehouse, grade, transport, insure, finance, or otherwise have a hand in the process of transfer In a capitalistic economy, where all production is for a market, these activities are of first importance, it is estimated that more than 50 per cent of the price paid by the ultimate consumer is made up of the cost of marketing Where production is for use, as in subsistence farming, the feudal manor, or the communistic group, there is little need for exchange of goods In simple societies that have not passed beyond the agricultural stage there is little division of labor and likewise little need for the exchange of the products of one kind of labor for those of another Before caravan travel and navigation developed, there could be little exchange of the products of one region for those of another Trade by sea did flourish in the Mediterranean in ancient times and was revived in Europe in the later Middle Ages The village fair or market, the itinerant merchant or peddler, and the shop where customers could have such goods as shoes and furniture made to order were features of marketing in rural Europe The general store superseded the public market in England, and it was an institution of the American country town until recent times In the United States in the 19th cent the typical marketing setup was one in which wholesalers assembled the products of various manufacturers or producers and sold them to jobbers and retailers A picturesque figure in this setup was the "drummer" or traveling salesman, who, after the advent of a network of railroads, was able to penetrate to every town and hamlet in the country, calling on retailers and receiving their orders for goods The independent STORE, operated by its owner, was (and remains) the chief retail marketing agency, but in the 20th cent it met stiff competition from chain stores, which were organized for the mass distribution of goods and enjoyed the advantages of large-scale operation The advent of the motor truck and paved highways, making possible the prompt delivery of lots of goods of any quantity, still further modified the marketing setup Manufacturers, such as those of automobiles, formed their own wholesale departments and dealt directly with retailers Independent stores organized their own wholesale agencies to supply them with goods Wholesale houses organized voluntary chains as an outlet for their wares Farmers sold their products through wholesale cooperatives of their own. The automobile widened the area within which consumers could make retail purchases. Commodity exchanges, such as those of grain and cotton, enabled businessmen to buy and sell commodities for both immediate and future delivery. Methods of merchandising were changed to attract customers. The one-price system (said to have been introduced by A T. Stewart in New York in 1841) saved the time of salesmen, previously wasted in haggling, and promoted faith in the integrity of the merchant The coming of the electric light enabled even the largest department store to display its ware to advantage Advertising created a nation-wide market for many goods, especially trade-marked and

labeled goods. The number of customers, especially for durable goods, has been greatly increased by the practice of installment selling. It is possible to speak of the marketing of services as well as of goods or commodities Sometimes a service, like that of a barber, repairman, or physician is marketed through the same act that produces it. Personal services may, however, also be disposed of by intermediaries, such as employment agencies, booking agents for concert or theatrical performers, and the like. See G. B. Hotchkiss, *Milestones of Marketing* (1939).

Markham, Sir Clements Robert, 1830–1916, English geographer and writer He entered the navy and as a midshipman served under Capt. Horatio Austin in the expedition (1850–51) to the arctic to search for Sir John Franklin He was in charge (1867–77) of the geographical work of the India Office and is credited with the introduction of cinchona cultivation into India from Peru He joined the Royal Geographical Society in 1854 and later served (1893–1905) as its president Secretary (1858–86) and president (1889–1909) of the Hakluyt Society, he edited and translated for it some 20 volumes of early travels His own 50 works include accounts of his many travels and a number of biographies, chiefly of explorers and travelers. He was an outstanding authority on Inca civilization and wrote *The Incas of Peru* (1910) and edited early accounts of the Inca. See biography by Sir Albert H Markham (1917).

Markham, Edwin, 1852–1940, American poet, b Oregon City, Oregon He lived in obscurity in California until 1899, when he wrote "The Man with the Hoe," a poem which brought him instant fame and on which his entire reputation rests. After moving to New York he wrote *Lincoln and Other Poems* (1901), *The Gates of Paradise* (1920), and "The Ballad of the Gallows Bird" (1926) See biography by W L Stidger (1933)

Markham, Gervase or **Jervase**, 1568–1637, English dramatist, poet, and writer on horses and English country life His plays include the *Tragedie of Sir Richard Grinvile* (1595) and a comedy, *The Dumbe Knight* (1608) Other works are *Cavelarice, or, The English Horseman* (1607) and *A Way to Get Wealth* (1631) J H H Lyon, in an interesting study (1919), attributes the famous *Newe Metamorphoses* (c 1600–1615) to Markham's pen

Markham, village (pop 1,204), S Ont , on the Rouge river and NNE of Toronto It has flour milling, lumbering, and seed processing

Markham, village (pop 1,388), NE Ill , near Chicago, inc 1925

Markiewicz, Constance Georgine, Countess (markyā'vĭts), 1884–1927, Irish Sinn Fein politician and patriot, daughter of Sir Henry Gore-Booth For her militant part in the Dublin rebellion of 1916 she was sentenced to death, but was released in 1917 She was elected to Parliament, but refused to serve She was a member of the Sinn Fein parliament (1918–22) and of the Dáil Éireann (1923–27) W B Yeats mentions her in his poems about the Irish rebellion See her *Prison Letters* (1934), biography by Sean O'Faolán (1934)

Markland, village (1945 pop 393), SE N F, near St John's A government agricultural resettlement project for unemployed was begun here in 1934

Marks, town (pop 1,818), co seat of Quitman co , NW Miss , on the Coldwater river and S of Memphis, Tenn , in a cotton area, inc 1906

Marksville, town (pop 1,811), parish seat of Avoyelles parish, central La , near the Red River SE of Alexandria, settled in the late 18th cent by Acadians An Indian park containing ancient mounds and relics is near by

marl, a soil, essentially clay mixed with carbonate of lime, highly valued as a dressing or fertilizer It crumbles rapidly and easily Marl in which the lime is in the form of invertebrate shells is called shell marl The term is loosely used for a variety of soils low in lime content, e g , the greensand marl of New Jersey, which is characterized chiefly by its richness in potash Marling of soil tends to lighten it, to correct acidity, and to promote nitrification.

Marlboro (märl'bûrō) 1 City (pop 15,154), E Mass , W of Boston, settled on the site of an Indian village, inc as a town 1660, as a city 1890 It was almost destroyed (1676) in King Philip's War Shoes are its chief manufacture 2 Mill town (pop 1,431), SW N H , SE of Keene, granted 1752, inc 1776

Marlborough, John Churchill, 1st duke of (märl'bûrŭ, môl'–), 1650–1722, English general and statesman, one of the great military commanders of history Born in Devonshire and educated at St Paul's, he entered the army and rose in the service He gained the patronage of the duke of York (later James II) and married (1683) Sarah Jennings (1660–1744), attendant and friend of Princess (later Queen) Anne Under James II he was active in crushing the rebellion of the duke of Monmouth (1685) and was raised to the peerage and made a major general. Nevertheless, fearing the religious policies of the Catholic king, he corresponded with William of Orange, supported him against James in the Glorious Revolution of 1688, and was made (1689) earl of Marlborough at his coronation as William III. Marlborough was successful as a military commander in 1689 and 1690, but like many others in those uncertain times, he had secret communication with James and the Jacobites, and suspicion of his intrigues put him out of favor with William from 1692 to 1698 It was in the reign of Anne that he reached the fullness of his power. His military genius and remarkable gift for handling men were given wide scope in the War of the Spanish Succession, he and that other military genius, Prince Eugene of Savoy, together won such victories as Blenheim (1704), Oudenarde (1708), and Malplaquet (1709), and he alone is credited with Ramillies (1706) and countless other triumphs Marlborough, made a duke in 1702, was also in the political ascendancy. The duchess, powerful as mistress of the robes, had enormous influence with her friend, the queen. Marlborough and his friend Godolphin, though earlier bound by personal and religious ties to the Tories, turned to the Whigs, who favored the war while the Tories opposed it They secured the dismissal of Robert Harley in 1708 and were paramount in politics The duchess, however, quarreled with Anne, who had come under the influence of Mrs Masham, the war was costly, and Marlborough was accused of prolonging it for his personal glory; the prosecution of Doctor Sacheverell was unpopular, and in 1710 the Whigs fell, yielding power to Harley and Henry St John The duke and duchess were dismissed (1711) from office, and he was charged with misappropriating public funds, but was not convicted He went to the Continent, returned to England on the accession of George I in 1714, and was given chief command of the army again, but took little part in public affairs A great strategist, a shrewd diplomat, and a courtier of unimpeachable personal habits and financial honesty, he has been criticised for inordinate love of wealth and power and for unstable loyalties in politics See the duke's letters and dispatches (ed by Sir George Murray, 1845), exhaustive biographies of him by W Coxe (1820) and Winston L S Churchill (1933–38) and a short one by M P Ashley (1939), studies of his military career by C T Atkinson (1921) and Frank Taylor (1921), Elbridge Colby, *Masters of Mobile Warfare* (1944) See also memoirs and letters of his wife in various volumes and biographies of her by Frank Chancellor (1932) and Kathleen Campbell (1932)

Marlborough (môrl'burŭ), municipal borough (1931 pop 3,492, 1943 estimated pop 4,976), Wiltshire, England, near Savernake Forest Now a market town, it was long an important station on the road from London to Bath It is chiefly known for its public school, Marlborough College, which was built in 1843 on the site of a historic castle William Morris went to school here In the school grounds is a prehistoric mound which according to tradition contains the body of Merlin, of Arthurian legend

Marlborough House, in London, on Pall Mall near St James's Palace, built 1710 by Wren for the duchess of Marlborough It has been the residence of Queen Adelaide, of Edward VII (1862–1901), of George V (1901–10), who was born here, of Queen Alexandra, after the death of Edward VII, and of Queen Mary, after the death of George V

Marlette, village (pop 1,161), S Mich , NE of Flint, in a farm and dairy region, inc 1881

Marlin, city (pop 6,542), co seat of Falls co , E central Texas, SE of Waco and near the Brazos, founded 1850 With important mineral wells, it is a health resort Many hospitals (including a state institution for crippled children), bottling works, and plants processing mineral crystals are here Bricks are made from local clay

Marlinsky, Cossack: see Bestuzhev, Aleksandr Aleksandrovich

Marlinton, town (pop 1,644), co seat of Pocahontas co , S W Va , on the Greenbrier and S&W of Elkins, settled 1749 The town, in a rich wild-game belt, is a hunters' center A state fish hatchery and a tannery are here

Marlow, city (pop 2,899), SW Okla , SW of Oklahoma City, in a farming area; settled 1892

Marlowe, Christopher, 1564–93, English dramatist and poet, b Canterbury, educated at Cambridge (B A , 1584, M A , 1587) He probably lived in or near London and was co-leader of the Marlowe-Ralegh circle, whose iconoclastic views he unwisely voiced In 1593 the playwright Thomas Kyd, with whom Marlowe had at one time lived, supported charges that Marlowe held and disseminated heretical and lewd religious and moral principles, before Marlowe could appear for questioning, he was "stabd with a dagger" by Ingram Frizer, a drinking companion, in a tavern. Although a coroner's jury certified that the assailant acted in self-defense, some scholars feel that the murder may have resulted from a definite plot. As an Elizabethan dramatist, Marlowe was second only to Shakspere His most important plays were three tragedies, *Tamburlaine* (c 1587), *Dr Faustus* (c 1588), and *The Jew of Malta* (c 1589), and a history, *Edward II* (c 1592) He collaborated with Thomas Nashe in *Dido, Queen of Carthage* (c 1593), and some authorities detect traces of his work in the Shakspere canon, notably in *Titus Andronicus* and *King Henry VI*. Of his nondramatic pieces, the best known are *Hero and Leander* (1598), which was finished by George Chapman, and "The Passionate Shepherd to His Love," the beautiful lyric which begins, "Come live with me and be my love" He also translated the first book of Lucan (1600) Marlowe was a power in the Elizabethan literary Renaissance, in his dramas he discarded Senecan imitations and established blank verse as an appropriate vehicle of expression Ben Jonson, in his poem to Shakspere's memory, immortalized the grandeur of Marlowe's verse with the phrase "Marlowe's mighty line" The name was spelled variously (Marlen, Marly, Marlyn, Morley, etc). See his *Life and Works* (ed. by R H Case, 1930–33); biographies by F. S. Boas (1940), J. E Bakeless (2 vols , 1942), and P H. Kocher (1946)

Marlowe, Julia, 1865?–, American actress, b. England She came to the United States with her parents in 1871 In 1887, dropping her real name, Sarah Frances Frost, she made her New York debut in *Ingomar* Her great reputation was won by her Shakesperian roles, especially Juliet, which she later played opposite her second husband, E H Sothern See biography by C E Russell (1926)

Marly-le-Roi (märlē'-lŭ-rwä'), town (pop 2,840), Seine-et-Oise dept , N France, on the Seine near Versailles The château built here for Louis XIV by J H Mansart was destroyed after the French Revolution Near by there was built in 1684 a huge hydraulic engine, the *machine de Marly*, which supplied the fountains of Versailles Considered one of the wonders of the world, it was in use until 1804.

Marmaduke, John Sappington, 1833–87, Confederate general, b Arrow Rock, Mo , grad West Point, 1857 He served in the expedition against the Mormons and in Western army posts At the outbreak of the Civil War, he resigned from the army, served for a time with the Missouri militia, and then accepted a commission in the Confederate army After varied service, he distinguished himself at Shiloh (1862) and was sent to Arkansas and Missouri as brigadier general Commanding the cavalry on Sterling Price's raid into Missouri (1864) he was captured at Marais des Cygnes and was held prisoner until the end of the war Marmaduke was elected governor of Missouri in 1884

marmalade (mär'mulād) [Port ,=a quince preparation], thick preserve of fruit pulp, originally made from quinces (*marmelos*) and known in England from the 15th cent True marmalade should have a jellylike consistency and a slightly bitter flavor, caused by including the rind of some tart fruit such as the Seville or bitter orange or the grapefruit Orange marmalade is made commercially on a large scale The name is also applied to various jams made tart by the addition of lemon juice or other acid ingredients

Marmara or **Marmora** (both mär'mûrŭ), anc *Proconnesus*, small island (pop 3,896), Turkey, in the Sea of Marmara It gives its name, which derives from its extensive marble quarries, to the Sea of Marmara

Marmara, Sea of, or **Sea of Marmora,** area c 4,300 sq mi , between Europe in the north and Asia in the south Its shores belong entirely to Turkey The Sea of Marmara is connected, on the east, with the Black Sea through the Bosporus and, on the west, with the Aegean Sea (part of the Mediterranean) through the Dardanelles Istanbul (Constantinople) is situated on the entrance of the Bosporus into the Sea of Marmara In ancient times the sea was known as Propontis [Gr ,=fore-sea] from its relative position to the Black Sea Its modern name is derived from the island of Marmara

Marmet, town (pop 1,814), S W Va , on the Kanawha river and SSE of Charleston, inc 1921

Mármol, José (hōsā' mär'mōl), 1817–71, Argentine writer of the romantic school His invectives against Juan Manuel de Rosas earned him the nickname "the poetic hangman of Rosas" He was imprisoned by Rosas in 1839 and later fled to Montevideo, where he lived until the overthrow of the dictator His fame rests primarily upon his novel *Amalia* (1851–55, Eng tr , 1919), which, despite its stilted style, presents a powerful description of the tyranny of Rosas He had, however, a true lyric gift His two romantic dramas, *El poeta* (1842) and *El cruzado* (1851), are of secondary importance He also wrote *El peregrino* [the pilgrim] (1847), a long poem in imitation of Byron's *Childe Harold's Pilgrimage* See Stuart Cuthbertson, *The Poetry of José Mármol* (1935).

Marmolada see Dolomites

Marmont, Auguste Frédéric Louis Viesse de (ōgüst' frādārēk' lwē' vyĕs' du marmō'), 1774–1852, marshal of France He fought in the Napoleonic Wars, winning distinction especially at Wagram (1809), and was made duke of Ragusa and governor of Illyria He succeeded Masséna in the Peninsular War and held the English in check until his defeat at Salamanca (1812). In command of the defense of Paris in 1814, he signed a convention with the allies which prevented Napoleon from retaking Paris. During the Restoration he supported Charles X, and he left France when Charles was

overthrown in 1830. Marmont wrote his memoirs (9 vols, 1856)

Marmontel, Jean François (shă' frăswă' märmôtĕl'), 1723–99, French critic, dramatist, and story writer, contributor to the *Encyclopédie* Educated by the Jesuits, he taught in Jesuit schools until 1745, when, encouraged by Voltaire, he went to Paris His works, popular in his day, include *Denys le tyran* (1748), a tragedy; *Contes moraux*, which appeared in the *Mercure* between 1761 and 1786, *Bélisaire* (1767), a plea for tolerance, and his *Mémoires* (4 vols, 1804), written for his children. He became a member of the French Academy in 1763.

Marmora (mär'mûrù), village (pop 1,106), S Ont, NE of Peterborough, in a lumbering, mining, and marble-quarrying district.

Marmora: see MARMARA

marmoset (mär'mŭsĕt), small monkey of Central and South America. It is an arboreal animal about the size of a squirrel, with a long, hairy tail and clawed feet The tamarin is of the same family Both are prized as pets but are difficult to keep healthy and require a warm climate. They feed on insects, fruits, and eggs

marmot (mär'mŭt), rodent allied to the squirrel. Marmots have stout bodies, rounded ears, and strong claws for digging The coarse fur is usually brown on the upper parts, often with white-tipped hairs They are terrestrial, gregarious animals, abroad during daylight, living in burrows and hibernating during the winter Marmots whistle a shrill warning when danger threatens The best-known American marmot is the WOODCHUCK From S British Columbia to parts of the W United States the yellow-bellied marmot inhabits rocky ledges and hillsides. The hoary marmot is found from Alaska to the NW United States and in Siberia In high mountains of Europe lives the Alpine marmot. The bobac is found from the central part of Europe to central Asia Most of the marmot skins used in the fur trade are from Old World animals

Marmousets (märmōōzā') [Fr, =little fellows], ministers of CHARLES V of France, so called by the royal princes in contempt of their humble origin CLISSON was the most prominent among them. CHARLES VI recalled them on reaching his majority, but they fell from power after the outbreak of the king's madness (1392) Their administration was, on the whole, beneficent

Marne (märn), department (3,168 sq mi, pop. 386,926), NE France, traversed by the Marne river It is a part of CHAMPAGNE, with Rheims and Épernay the centers of the wine industry Châlons-sur-Marne is the departmental capital

Marne, river, 325 mi long, rising in NE France in the Langres Plateau and flowing W through CHAMPAGNE past Châlons, Épernay, and Château-Thierry to join the Seine near Paris

Marne, battle of the. Two important battles of the First World War take their name from the Marne river. In the first (Sept 6–9, 1914) the German advance on Paris seemed assured when, under circumstances which remain controversial, it was called off on the direct order of Emperor William II. The principal Allied commanders were JOFFRE, GALLIENI, and Sir John French The German retreat which followed signified the abandonment of the essential feature of the SCHLIEFFEN plan In the second battle (July, 1918) the last great German offensive was repulsed decisively by the Allies American troops participated prominently

Marne, Haute. see HAUTE-MARNE

Marnix, Philip van (fĕ'lĭp vän mär'nĭks), 1540–98, Flemish patriot, lord of Sainte-Aldegonde He became a Calvinist in his youth and was the chief author of the Compromise of Breda (1566, see GUEUX). A leading figure in the Dutch and Flemish struggle for independence from Spain, he actively supported William the Silent He wrote (c.1570) the hymn *Wilhelmus van Nassauwe*, used as the rallying song of the insurgents, which remains the national anthem of the Netherlands In 1572 he represented William at the estates of Holland, held at Dordrecht, and secured the nomination of William as stadholder of Holland Among his writings are the vehement anti-Catholic pamphlet, *De Bĭenkorf der H Roomsche Kercke* (1569, Eng. tr., *The Bee Hive of the Romish Church*, 1578?), and a flowing versification of the Psalms (1580).

Maroa (mŭrō'ŭ), city (pop. 1,033), central Ill, just N of Decatur, inc. 1867.

Marochetti, Carlo, Barone (kär'lō bärō'nā märōkät'tē), 1805–1867?, Italian sculptor, studied in Paris and Rome. He went to England after the Revolution of 1848 His principal works are a statue of Richard Cœur de Lion, Westminster, Lord Clyde, on the obelisk, Waterloo Place, London; and equestrian statues of Queen Victoria and the duke of Wellington, Glasgow. In the Metropolitan Museum is a model of an equestrian statue (destroyed) of Washington that was made for the New York Crystal Palace

Maronites (mă'rŭnīts), Christian community of Lebanon, in communion with the pope The Maronites are Arabic in language and ethnically like their neighbors; by emigration they have spread to Cyprus, Palestine, Egypt, and America Their liturgy (said mainly in Syriac) is of the Antiochene type, it has innovations imitated from the Latin rite Their ecclesiastical head, under the pope, is called patriarch of Antioch; he lives in Lebanon As in other Eastern rites, the parish priest are usually married. The Maronites have been a distinct community since the 7th cent. and have been in communion with the pope since the 12th cent In the 19th cent, massacres of Maronites by the Druses brought French intervention; this gave France its modern hold in Syria Beside the Maronites there are two other groups in Syria in communion with the pope, the Melchites and the Syrian Catholics See Donald Attwater, *The Christian Churches of the East*, Vol 1 (1947)

maroon, slave who has escaped to the wilderness, called *marron* by the French, *cimarrón* by the Spanish Formerly much used in the West Indies and South America, the term is used today with particular reference to the Negroes living in a mountainous region known as the Cockpits in W Jamaica The maroons fled when the British began their conquest of the island from the Spanish in 1655 and maintained a hostile independence until 1739, when a treaty granting them lands of their own and virtual independence was concluded See R C Dallas, *The History of the Maroons* (1803), Katherine Dunham, *Journey to Accompong* (1947)

Maros, Rumania. see MURES

Maros Vasarhely, Rumania see TARGUL-MURES.

Marot, Clément (klāmā' marō'), 1496?–1544, French court poet He was accused of heresy and spent years in exile, writing in prison at Chartres his allegory *Enfer* His light, graceful rondeaux, ballades, and epigrams were extremely popular and won him the patronage of Francis I and Margaret of Navarre He translated the Psalms into French verse for the Genevan Psalter (see HYMN)

Maroth (mā'rŏth) [Heb, =bitterness], unidentified town, SW Palestine Micah 1 12

Marprelate controversy (mär'prĕ'lĭt), 16th-century English religious argument Martin Marprelate was the pseudonym under which appeared seven Puritan pamphlets (1588–89) satirizing the authoritarianism of the Church of England under Archbishop John Whitgift. The church replied in kind, but silenced Martin only after a reaction against him by the more conservative Puritans and after the use of police powers by Whitgift A flood of both Martinist and anti-Martinist literature followed, to which Nashe, Lyly, and Richard Harvey are supposed to have contributed. The true identity of Martin Marprelate has never been determined, but John Penry, a Puritan hanged in 1593, may have been the chief author See *The Marprelate Tracts* (ed by William Pierce, 1911)

Marquand, John Phillips (markwand'), 1893–, American novelist, b Wilmington, Del, grad Harvard, 1915 His boyhood was spent in Newburyport, Mass Marquand first won popularity with the "Mr Moto" series of detective stories in the *Saturday Evening Post*, but his reputation as a satirist to be taken seriously was made with *The Late George Apley* (1937), a Pulitzer Prize winner which was later made into a play and a film This satire on Boston was followed by *Wickford Point* (1939) and *H M Pulham, Esq* (1941) *So Little Time* (1943) and *Point of No Return* (1949) satirize the upper-class white-collar workers and suburbanites of New York Other novels are *Repent in Haste* (1945), a story of the war, and *B. F.'s Daughter* (1946)

marque and reprisal see PRIVATEERING.

Marquesas Islands (murkā'sĭs), volcanic group, S Pacific, c 740 mi NE of Tahiti These 11 islands are part of FRENCH ESTABLISHMENTS IN OCEANIA The largest island is NUKU HIVA, and the second HIVA OA, the seat of the capital, Atuona The islands are fertile and mountainous with the highest peak (c 4,130 ft) on Hiva Oa There are breadfruit, pandanus, and coconut trees, the limited fauna includes wild cattle and hogs The chief exports are copra, tobacco, and vanilla Taiohae Bay, on Nuku Hiva, and the Bay of Traitors, on Hiva Oa, are good harbors. The islands are divided into two groups The southern cluster (sometimes called the Mendaña Islands), including Fatu Huku, Hiva Oa, Tahuata, Motane, and Fatu Hiva, was discovered in 1595 by the Spanish explorer Álvaro de Mendaña de Neira, the northern cluster, including Hatutu, Eiao, Motu Iti, Nuku Hiva, Ua Huka, and Ua Pou, was discovered in 1791 by the American navigator Captain Ingraham, who named the group the Washington Islands. In 1813 Commodore David PORTER won the agreement of the natives to a proposal to annex the islands to the United States, but Congress took no action The islands were ceded to France in 1842 At this time, the natives numbered 20,000, about seven times the present population Of all the Polynesian peoples, the Marquesans suffered the greatest decline from European diseases. The islands are the setting for *Typee* by Herman Melville. The grave of GAUGUIN is on Hiva Oa.

marquetry (mär'kutrē), branch of cabinetwork consisting in the application of a decorative surface of wood, or other substance, which is glued to an object on a single plane. The term is to be differentiated from inlay, in which the secondary material is sunk into portions of a solid ground cut out to receive it, whereas in marquetry both field and pattern material are applied as a veneer of equal thickness. Wood is most used, especially for the ground or field, and to a considerable extent also—when of differing color, grain, or kind—for the decorative sections Other substances are extensively employed, however, including tortoise shell, motal, ivory, and bone The process was derived from the true wood inlay known as INTARSIA and reached a high point of development in its use by the Dutch in the 17th cent, subsequently, the French were its chief exponents, the foremost manufactory of the country being conducted by the Boulle family (see BOULLE, ANDRÉ CHARLES), whose extensive employment of copper and tortoise shell created a special style Marquetry in England was never carried to the heights of elaboration or technical brilliance reached on the Continent, but in the latter part of the 18th cent work of considerable distinction and refinement was produced

Marquette, Jacques (shăk' märkĕt'), 1637–75, French missionary and explorer in North America, a Jesuit priest He was sent to New France in 1666 and studied Indian languages under a missionary at Trois Rivières In 1668 he was sent as a missionary to the Ottawa Indians, spent a winter at Sault Ste Marie, and in 1669 reached La Pointe mission on Chequamegon Bay When fear of the Sioux drove the Ottawa and the Huron Indians away from La Pointe, Marquette accompanied them to Mackinac, where he founded a new mission on Point St Ignace. Contact with the Indians of Illinois had led Marquette to plan a mission among them, and he was also interested in the reports of a great south-running river Therefore he welcomed his appointment by Frontenac, governor of New France, to accompany Louis JOLLIET on an expedition to find the river They were the first to establish the existence of a water highway from the St Lawrence to the Gulf of Mexico On his return from the Mississippi voyage, Marquette stayed at Mackinac for a time recovering his health and writing a journal of the voyage, which was first published (1681) in Thévenot's *Recueil de voyages* In 1674 he set out to establish a mission in the present Illinois but his health broke He was hastening back to Mackinac when he died near the present Ludington, Mich In 1777 his body was removed to St Ignace See edition (1898) of his journal in the *Jesuit Relations*, biographies by R G Thwaites (1902) and Agnes Repplier (1929)

Marquette (markĕt'), city (pop 15,928), co seat of Marquette co, W Upper Peninsula, N Mich, on the high rocky shore of Lake Superior, inc as a village 1859, as a city 1871 It is a center of iron-ore shipping and of industry and trade for a mining, lumbering, farming, and resort region Chemicals, foundry and wood products, and mining machinery are made, and there are railroad shops A state teachers college and a branch of the state prison are in the city Near by are Cherry Creek Fish Hatchery and Marquette State Park

Marquette University, at Milwaukee, Catholic (Jesuit), coeducational, chartered 1864, opened 1881, became a university 1907 It has colleges of business administration (Johnston), engineering, journalism, liberal arts, and nursing and schools of dentistry, law, medicine, and speech

Marquis, Don (Donald Robert Perry Marquis) (mär'kwĭs), 1878–1937, American author and playwright, b Walnut, Ill A journalist on the Atlanta *Constitution*, he went to New York in 1912, began the humorous column "The Sun Dial" in the *Sun*, and later conducted "The Lantern" in the *Herald Tribune* He used his characters "Hermione," "The Old Soak," "archy the cockroach," "mehitabel the cat," and others to express in satirical prose and poetry his opinions on society and politics Chief among his collected writings are *The Cruise of the Jasper B* and *Hermione* (both 1916), *Noah an' Jonah an' Cap'n John Smith* (1921), and *Lives and times of archy and mehitabel* (3 vols in 1, 1943) He successfully dramatized *The Old Soak* in 1922.

Marr, Carl von, 1858–1936, American painter, b Milwaukee, Wis He lived in Munich His works were awarded numerous medals in Germany In 1893 he became professor in the Munich Academy, and in 1895 a member of the Berlin Academy His best-known works include *Episode of 1813*, *Germany in 1806*, *Gossip* (Metropolitan Mus), *Dusk* (Toledo Mus.), and *The Flagellants* (Milwaukee Public Library)

Marrakesh (mărā'kĕsh, mŭ-), Fr. *Marrakech* (mărākĕsh'), city (pop. 238,237), French Morocco. It developed, in the 11th cent, from the campsite of an Almoravide leader, Yusuf ibn Tashufin, and was for two centuries the capital of Morocco It was a starting point for caravans which set out to the Sahara and to Timbuktu, often to collect slaves, and today the population has a Negro strain. Beautifully situated near the Atlas range, Marrakesh has extensive gardens and a palace of the sultan of Morocco. The 220-foot minaret (com-

pleted 1195) of the most important mosque (the Koutoubya) dominates the city; like the Giralda at Seville, it was built by Andalusians under the Almoravides. The city, renowned for its leather goods, is one of the principal commercial centers of S Morocco.

marram grass: see BEACH GRASS

marriage, state or status in which persons of opposite sex are united as husband and wife to form a new family. In many societies marriage is preceded by betrothal, an act which imposes a mutual obligation on the betrothed couple. The period between betrothal and marriage varies greatly. Infant betrothal has been practiced among certain groups. Marriage is generally initiated by a rite or ceremony, consisting of a combination of words and symbolic acts, designed to dramatize the new relationship of the man and woman and give notice to the community that they have assumed the rights and obligations of married, as contrasted with single, persons. Marriage effects important changes in the personal and social relations of the persons to each other and to the community, hence even the most primitive social groups surround it with taboos and lay down the conditions under which it may be entered into. In Western civilizations a taboo is generally directed against INCEST, which depends on the group's conventional ideas about CONSANGUINITY. Where the group is divided into clans, the individual is required to marry outside his own clan, a practice known as exogamy. At the same time he must marry within the tribe, which is called endogamy, since in groups on a low economic level a tribe may number only a few hundred persons, this rule results in a considerable amount of inbreeding. In all human groups, simple or advanced, anthropologists find monogamy to be the dominant form of marriage, even where polygamy or plural marriage is permitted as a privilege of the few. This predominance of the monogamous union has been variously explained by the fact that approximately equal numbers of males and females are born, that on lower economic levels the male is able to support only one wife, and that children born to monogamous unions have a better chance of survival. These explanations are based largely on inference, as is the theory that "marriage by capture" was once general, carrying the bride over the threshold being regarded as a survival of such a custom. Abduction of wives, as among the Australian aborigines, may have been common, but it is held that marriage must normally have been an orderly and peaceable affair. "Group marriage," the marriage of all the men in a group to all the women in it, has been assumed from the use of certain terms of relationship, e.g., from the custom, found in some present-day societies, of calling all one's uncles and aunts as well as one's own parents fathers and mothers, all the members of one's own generation brothers and sisters, and all one's nephews and nieces sons and daughters, this custom, however, can be explained otherwise. Group marriage, if it existed, was hardly an advance upon complete promiscuity, which some anthropologists have assumed to be the original marital condition of mankind. Quite general, in fact almost universal, is the custom whereby the families of the prospective bride and groom negotiate the marriage agreement, often binding it with a mutual exchange of property, a custom not connected with any particular form of marriage. Typical of it is the practice of what has been called "marriage by purchase," which requires the groom and his relatives to pay a price for the bride. Of the variant forms of marriage, polygyny, the marriage of a man to more than one woman, is the most common. Polyandry, the marriage of a woman to two or more men, is admittedly rare. In some localities it seems to be a temporary arrangement, made under special circumstances, the great majority of the population living in monogamous unions. Polyandry has been reported among the Eskimo, some Western Shoshone Indians, some Philippine Pygmies, the Marquesans, some East Africans, the Tibetans, and the Todas of S India. Among some pastoral peoples polygyny has been as widespread as monogamy, existing alongside it. It has been forbidden in some countries. In the polygynous family the wives do not always enjoy equal status, there is usually a "chief wife," who is married "with ceremony" and to whom the others are subordinate. If the chief wife dies without giving her husband children, the family or lineage may require her sister to take her place, a usage that has been called sororate marriage. Better known is the levirate marriage practiced by the ancient Hebrews (but not peculiar to them), according to which a man was expected to marry his deceased brother's wife in order to provide for him a male heir to perpetuate his name and family cult. Both customs testify to the importance assigned to the birth of children in marriage; they seem also to contain a religious element. Whatever the form of marriage, it is generally a family and community affair, which automatically obtains the sanction of custom and religion. In Christian countries marriage did not become a religious tie or ceremony before the 9th cent., when newly wed couples began coming to the church door to have their union blessed by the priest. The Christian Church eventually undertook to supervise marriage, regulating it in considerable detail through the canon law and requiring communicants to marry within the Church. Established churches have extensive jurisdiction over marriage, in England, for example, special licenses must be obtained from the archbishop of Canterbury, and in Italy the canon law holds good for all marriages. The Roman Catholic and Orthodox churches consider matrimony a sacrament and an indissoluble contract. The Roman Catholic Church has precise legislation as to the time and place of marriage and requires (as do some other churches), except by special dispensation, the publication of banns of matrimony on three successive Sundays or holy days of obligation. A unique type of marriage ceremony is that of the Friends (Quakers), who marry at a special meeting for the occasion, the only formality being a public declaration of the marriage by the couple and the signing of a certificate by all present as witnesses. Civil marriage is now permitted in most countries. Marriage among civilized, as among less advanced, people appears often to be a property transaction. In many European countries the bride brings her husband a dowry, and legal arrangements are made for the settlement of a portion of the groom's property on the bride. So-called romantic love, or marriage for love, is a phenomenon apparently connected with the decline of family authority by reason of the changed legal relations between parents and children. The large number of unsuccessful marriages and the frequency of divorce in the United States led in the 1920s to the proposal of *companionate marriage*, i.e., a sort of trial marriage, which could be dissolved at the end of a year at the will of the parties, but it did not receive the approval of public opinion or law. For the legal aspects of marriage, see HUSBAND AND WIFE. See G. E. Howard, *History of Matrimonial Institutions* (1904), E. A. Westermarck, *A Short History of Human Marriage* (1926), J. W. Madden, *Handbook of the Law of Persons and Domestic Relations* (1931), Willystine Goodsell, *History of Marriage and the Family* (rev. ed., 1939).

marriage chest: see CASSONE.

Marryat, Frederick (măr'ēăt), 1792–1848, English novelist. Years of service in the British navy, from midshipman to captain, provided background for his thrilling tales of sea adventure. His novels include *Frank Mildmay* (1829), *Peter Simple* (1834), *Mr. Midshipman Easy* (1836), and *Snarleyyow, or, The Dog Fiend* (1837). *Masterman Ready* (1841–42) is a story for children; he wrote several books about Canada and the United States. See biographies by David Hannay (1889) and Christopher Lloyd (1939). His daughter, **Florence Marryat,** 1838–99, wrote besides novels of her own, *The Life and Letters of Captain Marryat* (1872).

Mars (märz), in Roman religion, god of war. Mars was the father of Romulus, the founder of the Roman nation, and, next to Jupiter, he enjoyed the highest position in Roman religion. He was one of the ancient Roman gods, and in early times he was probably a god of fertility. The Salii, his priests, honored him by dancing in full armor on the Campus Martius. He had many temples in Rome, the most important of which was the one on the Appian Way. Horses, bulls, and rams were sacrificed to him at festivals held in March (the month bears his name). His attributes include the spear and shield, and the fig tree, the wolf, and the woodpecker were sacred to him. In later times he was identified with the Greek ARES and associated with Bellona.

Mars, Mademoiselle (märs), 1779–1847, French actress, whose real name was Anne Françoise Boutet. She was the natural daughter of Jacques Marie Boutet, an actor who used the stage name Monvel, and Mlle Mars Salvétat. Mlle Mars was a famous comedienne at the Comédie Française and appeared in many plays by Molière.

Mars, borough (pop. 1,318), Butler co., W Pa., SW of Butler, inc. 1882.

Mars, in astronomy, a major planet revolving round the sun in an orbit next outside that of the earth and fourth in order of distance from the sun. Its mean distance from the sun is c. 141,540,000 mi. Compared with the earth its mass is 0.108, and its density 0.72. The eccentricity of the orbit, 0.0933, is greater than that of most of the other planets. Moving with a velocity of c. 15½ mi. per second, Mars requires nearly 1.88 years to complete a revolution of its orbit. The mean diameter, the determination of which presents considerable difficulty, is approximately 4,216 mi., a little more than half that of the earth. At intervals of 15 or 17 years, Mars, being then at opposition near perihelion, is nearest to the earth. The distance separating the two planets at that time is c. 35,000,000 mi., while at an opposition near aphelion it is c.63,000,000 mi. When it is most favorably seen, Mars shines with a luster more than twice that of Sirius. It is red in color. Observed through the telescope, the greater part of the surface of the planet appears dull red or orange, while over about three eighths of the area are darker masses of grayish or bluish green, lying mostly near the equator and extending irregularly southward, with one noticeable projection into the northern hemisphere. As few celestial bodies offer so definite a surface to observation, this planet has been given extensive investigation. The markings show few changes that cannot be accounted for by changing seasons. The prominent white spots, known as polar snowcaps, alternately increase and diminish (almost to the point of disappearance), with the regularity that marks the return of winter's cold and summer's heat. As the axis of Mars is tilted to the plane of its orbit at an angle of about 24° 50′, the seasons resemble those on the terrestrial globe but are nearly twice as long. The greenish areas were believed by earlier observers to be oceans or seas and were called *maria;* but examination by means of powerful modern instruments has led to the opinion that they are regions of vegetation. Concerning these and the network of straight dark lines, called "canals" [Ital.=*canals*] by their discoverer, SCHIAPARELLI, who first reported them in 1877, there has been much discussion. Percival LOWELL, one of the leading investigators of conditions on Mars, made an elaborate triangulation of the surface, recording several hundred canals, about 50 of them being double. He regarded them as the work of intelligent beings. In the observatory he established at Flagstaff, Ariz., a particular study of the planet has been made. Remarkable photographs taken there and at Lick Observatory have added much to the knowledge of the subject. Spectroscopic studies reveal the presence of little or no oxygen and of only very small amounts of water vapor in the atmosphere of Mars. The presence of some carbon dioxide was reported (1947). Temperatures are reported to range from a maximum of about 80°F. (for limited periods at the equator at noon) to a minimum of -130°F. In 1877 Asaph Hall discovered two satellites with orbits close to the planet, these are called Deimos and Phobus.

Marsala (märsä'lä), seaport (pop. 24,650), Sicily, Italy, on Cape Boeo, westernmost point of the island. It is the ancient LILYBAEUM. Marsala is noted for its sweet wine. Here in 1860 Garibaldi began his conquest of the Two Sicilies. Marsala suffered damage in the Second World War.

Marschall von Bieberstein, Adolf, Freiherr (ä'dôlf frī'hĕr mär'shäl fŏn bē'bûrshtīn), 1842–1912, German diplomat. As secretary for foreign affairs (1890–97) he failed to renew the German reinsurance treaty with Russia, and as ambassador at Constantinople (1897–1912) he extended German influence on Turkish affairs.

Marseillaise (märsülāz') [Fr., =of Marseilles], French national anthem, written and composed in 1792 by Claude Joseph ROUGET DE LISLE. The original title was *Chant de guerre de l'armée du Rhin,* but it was sung by the band of soldiers from Marseilles who marched on the Tuileries on Aug. 10, 1792, and thus became known as the *Marseillaise.*

Marseilles (märsālz'), Fr. *Marseille* (marsä'yü), city (pop. 551,640), capital of Bouches-du-Rhône dept., SE France, on the Gulf of Lion. It is the second largest city of France and its chief Mediterranean port, connected with the Rhone by an underground canal (see ROVE TUNNEL). The oldest town of France, it was settled by Phocaean Greeks from Asia Minor c. 600 B.C. Ancient Massilia became an ally of Rome, which annexed it (49 B.C.) after it had supported Pompey against Caesar in the civil war. It retained, however, its internal autonomy. Sharing the history of PROVENCE, it passed definitively to the French crown in 1486. The French conquest of Algeria and the opening of the Suez Canal caused the port of Marseilles to expand tremendously in the 19th cent. and also encouraged its industries (soap, chemicals, machinery, and shipbuilding). It became a meeting place of all races. The sight of Marseilles from the sea, a gleaming white city rising on a semicircle of bare hills, is famous. Despite its long history, Marseilles is poor in relics of the past, few buildings date back further than the 18th cent. During the Second World War large sections of this handsome city were destroyed. The old slums of the port section were razed by the Germans on the pretext that they sheltered (as indeed they did) the worst criminal elements in France; the waterfront was gutted by Allied naval guns in the landing of Aug., 1944. However, the city recovered quickly. The Canebière, its principal thoroughfare, is again one of the great avenues of the world. Part of the university of Aix-en-Provence is now at Marseilles. A landmark of Marseilles harbor is the CHÂTEAU D'IF.

Marseilles, industrial city (pop. 4,455), N Ill., SW of Chicago and on the Illinois river, in a coal and farm area, inc. 1861. It manufactures building material, sodium alkalies, and biscuits. Illini State Park is near by.

Marsena (mär'sēnŭ), counselor of King Ahasuerus. Esther 1:14.

Marsh, Adam, or **Adam de Marisco** (mă'rĭskō), d. 1259?, English Franciscan scholar. He was a student of Robert GROSSETESTE. When Grosseteste became bishop, Marsh took his place in the

Franciscan school at Oxford. Marsh's advice and his services as a peacemaker were constantly sought, and Grosseteste leaned heavily on him Actively supporting the reform party of Simon de MONTFORT, Marsh was able nevertheless to retain the confidence of Henry III Of his writings only his letters survive

Marsh, Charles Wesley, 1834–1918, American inventor and editor, b. Ontario In 1849 he moved to De Kalb co , Ill. Assisted by his brother William, he designed a hand-binding harvester and obtained a patent in 1858. He established a manufacturing plant in 1863, and within several years two other plants were established In 1865 Elijah Gammon and William Deering bought an interest in the property and eventually acquired the entire business. Marsh started another company in 1869 but sold a controlling interest to J. D Easter and Company in 1876 The following year the business failed. He next attempted to build an automatic binding machine, but this project failed in 1884 He became editor of the successful *Farm Implement News* in 1885 and retired in 1904 He served in the Illinois state legislature from 1868 to 1872 He wrote *Recollections, 1837–1910* (1910)

Marsh, Ngaio (nī'ō), 1899–, New Zealand detective-story writer She studied art and worked as an actress before going to London, where her first novel, *A Man Lay Dead,* was published in 1934 Her mystery novels, excellent in writing and characterization, draw upon her New Zealand background and her knowledge of the stage and the art studio They include *Artists in Crime* (1938), *Death of a Peer* (1940), and *Died in the Wool* (1945)

Marsh, Othniel Charles, 1831–99, American paleontologist, b Lockport, N Y, grad Yale, 1860 He studied abroad and from 1866 served at Yale as the first professor of paleontology and as curator of the Peabody Museum From 1882 he was also connected with the U S Geological Survey He made many expeditions to the West, especially to the Rocky Mt regions (his chief rival in the field was E D Cope), and gathered a large collection of fossil vertebrates, now at Yale and in the National Museum Among his discoveries were Cretaceous toothed birds, swimming and flying reptiles, and the fossil ancestors of the horse—a remarkably complete collection These discoveries have had a considerable bearing upon the teachings of evolution Marsh's writings are included, chiefly, in the monographs and reports of the Geological Survey See biography by Charles Schuchert and C M LeVene (1940)

Marsh, Reginald, 1898–, American painter and graver, b Paris Both his parents were artists After their return to the United States he studied at Yale (B A , 1920), where he became art editor of the *Record* He worked as a cartoonist for *Vanity Fair, Harper's Bazaar,* and the New York *Daily News* and later as a stage-set designer He then studied under John Sloan and K H Miller at the Art Students League From 1925 to 1939 he made two trips to Europe and sketched for the *New Yorker* After his first one-man show in 1930, his lively recordings of Manhattan street life in many media were highly popular Noted also are his two murals in the Post Office Building, Washington, D.C.

marsh · see SWAMP

Marshal, William: see PEMBROKE, WILLIAM MARSHAL, 1ST EARL OF

Marshall, Alfred, 1842–1924, English economist At Cambridge, where he taught from 1885 to 1908, he exerted great influence on the development of economic thought of the time. He systematized the classical economic theories and made new analyses in the same manner, thus laying the foundation of the neoclassical school of economics Concerned chiefly with theories of costs, value, and distribution, he developed a concept of marginal utility. His *Principles of Economics* (1890) was for years the standard work and is still accepted by some Among other works is *Industry and Trade* (1919) See A C Pigou, ed , *Memorials of Alfred Marshall* (1925); *What I Remember* (1947), by M P. Marshall, his wife

Marshall, Archibald, 1866–1934, English novelist and journalist, grad Trinity College, Cambridge In 1907 he became editor of the literary supplement of the London *Daily Mail* He was Paris correspondent of the *Daily News* during the First World War and as correspondent for the *Daily Mail* traveled in Australia and America. He is best known for his stories of English country life, somewhat in the style of Trollope, including the chronicles of Squire Clinton's family which began with *The Squire's Daughter* (1909) A later series about the Dare family was not as well received. See his autobiography, *Out and About* (1933).

Marshall, Frank James, 1877–1944, American chess player, b New York city He was chess champion of the United States from 1909 to 1936. See his book, *My Fifty Years of Chess* (1942).

Marshall, George Catlett, 1880–, American army officer and statesman, chief of staff (1939–45) and Secretary of State (1947–49), b Uniontown, Pa., grad Virginia Military Institute, 1901. Marshall served in the U.S. army for 43 years In the First World War he distinguished himself as a staff officer and later (1919–24) was aide to General Pershing. After varied tasks, including service in China (1924–27) and command in maneuvers (1936–37), he headed the army as chief of staff and became (Dec , 1944) general of the army ("five-star general") Helping to direct Allied strategy, Marshall advocated the conquest of Germany through France His plan was adopted Many of his wartime tasks were diplomatic; he attended important conferences of the Allies. When he resigned as chief of staff, he was promptly appointed (Nov , 1945) ambassador to China by President Truman and was recalled (Jan., 1947) to be made Secretary of State. To counter Soviet moves in foreign policy, he integrated the EUROPEAN RECOVERY PROGRAM (called the Marshall Plan) after engineering immediate aid to Greece and Turkey (Feb., 1947) Ill-health brought his resignation in Jan , 1949 Selected speeches (ed by H A De Weerd) appeared in 1945.

Marshall, James Wilson, 1810–85, American pioneer, discoverer of gold in California, b Hunterdon co , N J Migrating to California for reasons of health, he arrived at Sutter's Fort in 1845 and soon acquired land and livestock. After participating as a soldier in the Mexican War, he returned in 1847 to find his livestock gone Penniless, he had to sell his land, and then he entered into partnership with John A Sutter to build a sawmill. In Jan., 1848, while supervising the digging of the mill race, Marshall discovered gold This discovery launched the famous gold rush of 1849 The claims of Marshall and Sutter were ignored. The sawmill failed, and Marshall ended his days, embittered and misanthropic, working as a gardener He was buried at COLOMA See biography by G F Parsons (1870, reprinted 1935).

Marshall, John, 1755–1835, fourth Chief Justice of the United States (1801–35) Born in a log cabin on the Virginia frontier (today in Fauquier co , Va), he spent his childhood and youth in primitive surroundings His father rose to prominence in local and state politics, through his mother he was related to the Lees and the Randolphs and to Thomas Jefferson, later his great antagonist Marshall first left home for any length of time to serve as an officer in the American Revolution He returned in 1779 after attending for a few months lectures on law given at the College of William and Mary by George Wythe (his only formal education) Admitted to the bar in 1780, he practiced in the West, then was elected (1782) a delegate to the Virginia assembly He married and settled in Richmond, ever afterwards his home There his brilliant skill in argument made him one of the most esteemed of the many great lawyers of Virginia A defender of the new U S Constitution in the Virginia ratifying convention, Marshall later staunchly supported the Federalist administration, and after refusing Washington's offer to make him U S attorney general or minister to France, he finally accepted appointment as one of the commissioners to France in the diplomatic dispute which ended in the XYZ AFFAIR Marshall's effectiveness here made him a popular figure, and he was elected to Congress as a Federalist in 1799 One of the tiny group that continued to support President John Adams, he was prevailed upon to become Secretary of State (1800–1801) Before he left the cabinet he was appointed Chief Justice and confirmed by the Senate despite some opposition In his long service on the bench, Marshall raised the Supreme Court from an anomalous position in the Federal scheme to power and majesty, and he molded the Constitution by the breadth and wisdom of his interpretation, he eminently deserves the appellation the "great Chief Justice " He dominated the court equally by his personality and his ability, and his achievements were made in spite of virulent quarrels with Jefferson and later Presidents A loyal Federalist, Marshall saw in the Constitution the instrument of national unity and Federal power, and the guarantee of the security of private property He made incontrovertible the previously uncertain right of the Supreme Court to review Federal and state laws and pronounce final judgment on their constitutionality He viewed the Constitution on the one hand as a precise document setting forth specific powers and on the other hand as a living instrument which should be broadly interpreted so as to give the Federal government the means to act effectively within its limited sphere (see MCCULLOCH VS MARYLAND). His opinion in the DARTMOUTH COLLEGE CASE was the most famous of those that dealt with the constitutional requirement of the inviolability of contract, another favorite theme with Marshall. His interpretation of the interstate commerce clause of the Constitution, most notably in GIBBONS VS. OGDEN, made it a powerful extension of Federal power at the expense of the states. In general Marshall opposed STATES' RIGHTS doctrines, and there were many criticisms advanced against him and against the increasing prestige of the Supreme Court. The sometimes undignified quarrel with Jefferson (which had one of its earliest expressions in MARBURY VS. MADISON) reached a high point in the trial of Aaron BURR for treason. Marshall presided as circuit judge and interpreted the clause in the Constitution requiring proof of an "overt act" for conviction of treason so that Burr escaped conviction because he had merely engaged in a conspiracy. Marshall's difficulties with President Jackson reached their peak when Marshall declared against Georgia in the matter of expelling the Cherokee Indians, a decision that the state flouted. Marshall in his arguments drew much from his colleagues, especially his devoted adherent, Justice Joseph Story, and he was stimulated and inspired by the lawyers pleading before the court, among them some of the most brilliant legal minds America has seen, including Daniel Webster, Luther Martin, William Pinkney, William Wirt, and Jeremiah Mason Marshall in his manners combined the unceremonious heartiness of the frontier with the leisurely grace of the Virginia aristocracy. So great was his winning charm and so absolute his integrity that he gained the admiration of his enemies and the unbounded affection of his friends. His style combined conciseness and precision He wrote each opinion as a series of logical deductions from self-evident propositions and it was almost never his practice to cite legal authority. It is in these opinions that his literary skill is shown rather than in his major nonlegal work, *The Life of George Washington* (5 vols 1804–7) Marshall's constitutional opinions are collected in editions by J M Dillon (1903) and J P. Cotton (1905) The standard biography is by A. J Beveridge (4 vols., 1916–19) There are also a shorter biography by David Loth (1949) and Marshall's autobiographic sketch (1937). See E S Corwin, *John Marshall and the Constitution* (1917) B M Ziegler, *International Law of John Marshall* (1939).

Marshall, Thomas Riley, 1854–1925, Vice President (1913–21), b North Manchester, Ind , grad Wabash College, 1873 A lawyer of Columbia City, Ind , he was governor of the state (1909–13) before being elected Vice President on the ticket with Woodrow Wilson See his recollections (1925)

Marshall, 1 City (pop 2,758), co seat of Clark co , E Ill , SW of Terre Haute, Ind , in a farm and oil area, inc 1853 **2** City (pop 5,253), co seat of Calhoun co , S Mich , on the Kalamazoo and near Battle Creek, in a farm area, settled 1831, inc as a village 1846, as a city 1859 Automobile parts and furnaces are among its products **3** City (pop 4,590), co seat of Lyon co , SW Minn , SW of Granite Falls, settled 1871, platted 1872, inc 1901 It is a farm trade center in a dairy and fruit area Camden State Park is near **4** City (pop 8,533), co. seat of Saline co , N central Mo , N of Sedalia, in a farm area, settled c 1840 It manufactures shoes and food products It is the site of Missouri Valley College (coeducational), a state school for defectives, and homes for crippled children and for aged women. **5** Town (pop 1,160), co seat of Madison co , W N C , NNW of Asheville and on the French Broad River, in an area producing burley tobacco, settled 1816, inc 1852 **6** City (pop 18,410), co seat of Harrison co , E Texas, WNW of Shreveport, La , settled 1838, inc 1850 Live-oak-shaded streets and mansions recall the plantation past of the city, which now has railroad shops and processes and ships the truck, cotton, clay, lumber, dairy products, carbon, and oil of the surrounding pine-covered hills There is a Baptist junior college and a Catholic academy The many Negroes of the region are served by two colleges, Wiley College (Methodist, coeducational, 1873) and Bishop College (Baptist, coeducational, 1881)

Marshall College. see HUNTINGTON, W Va.

Marshall Islands, archipelago (70 sq mi , pop 10,223), central Pacific, 2,595 nautical mi N of Auckland, New Zealand It comprises 34 atolls and coral islands of the Ratak and Ralik chains KWAJALEIN, the largest atoll, is the district headquarters of the Ralik Chain (the western group). MAJURO is the chief island of the Ratak Chain (the eastern group) Under the Japanese, Jaluit was the capital The natives are Micronesians Copra is the chief export. The group was discovered in 1526 by the Spanish and visited by Captains Gilbert and Marshall in 1788 It was a German protectorate from 1885 to 1914, when, in the First World War, it fell to Japan In 1922 Japan received a mandate over the islands and in 1935 claimed sovereignty over them In the Second World War the islands were taken (1944) by U S. forces In 1946 the atom bomb was tested at Bikini The group was included (1947) in the U.S Trust Territory of the Pacific Islands under UN trusteeship

Marshall Plan: see EUROPEAN RECOVERY PROGRAM

Marshallton, unincorporated town (pop. 1,119), N Del., near Wilmington. A vulcanized-fiber plant and a race track are here, and state tuberculosis sanatoriums and industrial schools are near by

Marshalltown, city (pop. 19,240), co. seat of Marshall co., central Iowa, on the Iowa river and NE of Des Moines; settled 1851, inc 1863 It is the rail, trade, and industrial center of a large wheat, corn, and livestock area. There are railroad shops, meat-packing plants, and factories making iron and steel products. The state soldiers' home and a junior college are here.

Marshalsea (mär'shŭlsē), former prison in London, closed in 1842. Once attached to the court presided over by the king's marshal, it became in its later days a debtors' prison. It is the setting of Dickens's *Little Dorrit*.

Marshfield. 1 Town (pop. 2,419), SE Mass., near the coast SE of Boston; inc. 1642. Daniel Webster lived and is buried here. 2 City (pop 1,764), co. seat of Webster co., S Mo., ENE of Springfield, in the Ozarks; settled c 1830. 3 City, Oregon: see COOS BAY.

Marsh gas: see METHANE.

Mars' Hill, name given in the Bible for the Areopagus at Athens. Acts 17 22. It is derived from a false etymology of Areopagus.

Mars Hill, town (pop. 1,886), NE Maine, near the N.B. line between Houlton and Fort Fairfield, settled 1842, inc. 1867.

marsh mallow, perennial marsh plant (*Althaea officinalis*), naturalized from Europe in the E United States but rarely cultivated. The rose mallow (see HIBISCUS) is sometimes called marsh mallow, but may be distinguished by its much larger flowers. The true marsh mallow has pink flowers an inch in diameter. Its mucilaginous root is used medicinally as a demulcent and was formerly used for the confection **marshmallow,** which is now usually made from syrup, gelatine, and other ingredients.

marsh marigold or **cowslip,** perennial spring-blooming Old World and North American plant (*Caltha palustris*) of wet places. It has rounded glossy leaves and large buttercuplike flowers of bright and shining yellow. The tops are reputed to be toxic but with boiling become edible and are often eaten as greens while young, the flower buds are pickled and used like capers, and the flowers have been used for beverages. Other species of *Caltha* are also called marsh marigold.

Marsh's test, chemical test for arsenic and antimony, discovered by James Marsh (1789–1846), an English chemist. In testing for the presence of arsenic, the procedure consists essentially of treating the unknown with zinc which combines with arsenic to form the compound arsine. When this compound is burned in air, there is deposited upon a smooth cold object (as a cold porcelain plate or dish) placed in its flame a thin, brown, metallike layer, called "arsenic mirror," which is soluble in sodium hypochlorite. The test for antimony follows the same procedure, but a hydrogen-antimony compound, called stibine, is formed, and the deposit it forms when burned in air is insoluble in sodium hypochlorite. By the test, minute quantities of arsenic or antimony in a substance can be detected.

Marshville, town (pop. 1,007), S N.C., SE of Charlotte, in a lumbering and cotton-growing area.

Marsic War: see SOCIAL WAR.

Marsilius of Padua (märsĭl'ēŭs, pă'dūu), d. c 1342, Italian publicist. He is often called Marsiglio. Little is known of him certainly except that he was rector of the Univ. of Paris c 1312. When Emperor LOUIS IV was seeking a theorist to assist him in his struggle with JOHN XXII, Marsilius composed a tract, *Defensor pacis* (the defender of peace), probably in collaboration with the Averroist John of Jandun. It was published in 1324 and proved to be one of the most revolutionary of medieval documents. The work held that all power derived from the people and their ruler is only their delegate, there is no law but the popular will, as expressed in him. The church too has no authority apart from the people, and the actual power of the Holy See is self-arrogated, the church should be under the ruler, its province should be purely that of worship, and it should be governed by periodic councils. The notion that princes derive their power from the people was current in scholasticism, but the anti-ecclesiastical argument of the work aroused great scandal. It was repeatedly condemned by the Holy See. Marsilius went in Louis's train to Rome for his coronation and attended him afterwards. His lesser works include an argument that the emperor had final jurisdiction in matrimonial cases (1342). The *Defensor pacis* had a long life, thus, Gerson recommended it, and Thomas Cromwell patronized its translation into English (1535). See modern editions by C. W. Previté Orton (1926) and Alan Gewirth (1950).

Marston, John, 1576–1634, English satirist, dramatist, and divine, b. Oxfordshire, educated at Oxford and studied law at the Middle Temple. His coarse, cynical vigor showed in his satirical poems, *The Metamorphoses of Pygmalions Image* and *The Scourge of Villanie* (both 1598). In 1602 appeared *Antonio and Mellida* and *Antonio's Revenge*, both gloomy and uneven tragedies. With John Webster he wrote *The Malcontent* (1604), a tragicomedy dedicated to Ben JONSON, with whom Marston conducted a sporadic literary quarrel. He collaborated with George CHAPMAN and Ben Jonson in writing *Eastward Ho!* (1605) and was briefly imprisoned with them for writing it. Marston's other works include *Sophonisba* (1606), a horror tragedy, and three comedies—*The Dutch Courtesan* (1605), *Parasitaster* (1606), and *What You Will* (1607). About 1608 he deserted the theater, took holy orders, and became a clergyman in Hampshire. See his plays (ed. by H. H. Wood, 3 vols., 1934–39).

Marston, John Westland, 1819–90, English dramatist and critic. His plays include *The Patrician's Daughter* (1842), *Strathmore* (1849), *Donna Diana* (1863), and *The Favourite of Fortune*. Philip Bourke Marston was his son.

Marston, Philip Bourke, 1850–87, English poet. He was blind from the age of three, and his poems are remarkable for a reliance on appeals to the sense of hearing unique in poetry. His works include *Song-Tide* (1871), *All in All* (1875), *Wind Voices* (1883), and *For a Song's Sake* (1887), short stories.

Marston Moor, West Riding of Yorkshire, England, W of York. The battle fought here July 2, 1644, between the royalists under Prince Rupert and the duke of Newcastle and the parliamentarians under Lord Fairfax and Cromwell resulted in a decisive victory for the parliamentarians.

marsupial (märsōō'pēul, -sū'-), member of the order of pouched mammals. A true placenta is lacking in the females, and the young are born in an undeveloped state. (Some forms have a simple placenta which functions for a short time.) At birth the great gray kangaroo (*Macropus major*) is about 1 in. long, and the OPOSSUM is about ½ in. In most members of the order the female has a marsupium or pouch, formed by a fold of abdominal skin, into which the young crawl just after birth. Each attaches itself to a mammary gland and feeds until it is strong enough to leave the pouch. Until they outgrow the pouch the young often return to it when in danger. Most marsupials inhabit Australia.

Marsyas (mär'sēus), in Greek mythology, Phrygian satyr. He found the flute which Athena had invented but had thrown away. He became so skillful with the instrument that he challenged the lyre-playing Apollo to a contest. Apollo accepted on the condition that the victor might do as he would with the vanquished. The Muses, acting as judges, awarded the contest to Apollo. Apollo promptly flayed Marsyas for his presumption. The river Marsyas sprang from his blood or from the tears of his mourners. Among the many statues depicting this event is the *Flaying of Marsyas*, in the Villa Albani, Rome.

Mart, town (pop. 2,856), E central Texas, E of Waco, in a blackland area, settled c 1875, inc. 1903.

Martaban, Gulf of (märtŭbăn', -bän'), arm of the Andaman Sea, indenting S Burma and receiving the waters of the Rangoon, Sittang, and Salween rivers. The small port of Martaban is on the left bank of the Salween at its mouth, across the river from Moulmein.

Martel de Janville, comtesse de. see GYP.

marten, carnivorous, largely arboreal mammal (genus *Martes*) of the weasel family, widely distributed in North America, Europe, and central Asia. The American marten, also called American pine marten and American sable, is 20 to 25 in. long including the 7 to 8-inch tail. It lives in coniferous forests and eats a variety of small animals, carrion, berries, nuts, and honey. Similar to the American marten are the European pine marten and the stone or beech marten of Europe and central Asia. Marten fur is durable and soft and is generally brown on the upper parts and lighter on the under parts. The stone marten is grayish. The Siberian SABLE produces the most valuable fur. See also FISHER.

Martens, Frederick (mär'tĭns), Rus. *Feodor Feodorovich Martens* (fyô'dur fyô'durōvĭch mär'tĕns), 1845–1909, Russian authority on international law. He became an official in the foreign ministry in 1868 and was professor of international law at the Univ. of St. Petersburg from 1871 to 1905. He influenced Russian diplomacy and was a representative at many international conferences. He helped lay the foundation for the Hague Conferences. His decisions as arbitrator and his many books contributed much to international law. His doctrine was based on the idea of an international community with a common standard of civilization.

Martens, Georg Friedrich von (gā'ôrk frē'drĭkh fŏn mär'tĕns), 1756–1821, German writer on international law, b. Hamburg. He was professor of international law at Gottingen (1784–89), a state councilor of Westphalia (1808–13), and the representative of Hanover in the diet of Frankfurt (1816–21). His two great works (written in French) were a comparative study of modern law, *Précis du droit des gens modernes de l'Europe* (1789, a revision of an earlier work in Latin), and an enormous collection of treaties signed after 1761, *Recueil des traités*, which was continued as a standard work by other hands.

Martha, friend of Jesus, sister of Lazarus of Bethany. Luke 10.38–42; John 11.1–46, 12.1–9. She is said to have become a missionary in Gaul. Martha is the type of the housewife encumbered with her duties, or of the active, as against the contemplative, life. Feast, July 29.

Martha's Vineyard (vĭn'yŭrd), island, off SE Massachusetts, in Dukes co. It is 20 mi. long and 10 mi. wide and is separated from the Elizabeth Islands and Cape Cod by Vineyard Sound. Gosnold visited it in 1602; settlers came from Massachusetts in 1642. It is divided into the towns of Chilmark, EDGARTOWN, GAY HEAD, OAK BLUFFS, Tisbury (including VINEYARD HAVEN village), and West Tisbury. It has harbors at Vineyard Haven, Oak Bluffs, and Edgartown. Whaling and fishing were important here, but the island is now primarily a resort. Much of the interior is set aside as state forest. The island is connected with the mainland by boats from New Bedford and Woods Hole and by airplane service. See history by C. E. Banks (3 vols., 1911–25), H. B. Hough, *Martha's Vineyard* (1936), J. C. Allen, *Tales and Trails of Martha's Vineyard* (1938).

Martí, José (hōsā' märtē'), 1853–95, Cuban writer and leader in the movement for independence. One of the greatest prose writers of Hispanic America, he was noted for his fluent style and vivid imagery. Simultaneously a poet and a man of action, he began his political activities at the age of 16, when he was arrested as a revolutionary and exiled. He resided in Spain, Mexico, and Guatemala, then was in Cuba again for a year which ended in new exile (1879). In Venezuela and in New York (1881–95) he worked for Cuba's liberation. He earned his living primarily by contributing articles to the New York *Sun* and the *Vacón* of Buenos Aires. Because of his innovations in language he is considered a precursor of the *modernista* movement in Spanish letters, and 1882, the date when his *Ismaelillo* was published, is regarded by some as the beginning of *modernismo*. He founded the Cuban revolutionary party in Tampa (1892), went to Cuba as a leader in the revolution, and was among the first to die at the battle of Dos Ríos.

Martial (Marcus Valerius Martialis) (mär'shĭl), A.D. c 40–A.D. c 104, Roman epigrammatist, b. Bilbilis, Spain. He was in Rome for many years after A.D. 64 and by his wit and poetic gifts won fame and favor. He enjoyed the patronage of Domitian, Titus, and Pliny the Younger and the friendship of Juvenal and Quintilian. The closing years of his life were spent at Bilbilis. His epigrams are characterized by a twist of wit at the end of each and original meter and form. His clever, easy, well-written verse became the model for the modern epigram, and Martial executed whole galleries of first-century Roman miniatures. His work is marred in places by grossness.

martial law, temporary government and control by military authorities of a territory or state when war or overwhelming public disturbance makes the civil authorities of the territory or state unable to enforce its law. The body of principles and doctrines under which the military authorities act is also called martial law. When territory is occupied by an invading army, martial law at once comes into operation, the supreme power is exercised by the military commander in accord with the laws and usages of war, and local law and ordinary authorities are superseded as far as he may deem necessary. This sort of jurisdiction is also called military government. Martial law, similar to a state of siege, is applied in serious cases of internal dissension, the army authorities take over the administrative and judicial functions, and civil safeguards (e.g., HABEAS CORPUS and freedom of speech) are suspended. Where the civil courts remain open, even if their orders are executed by the military, martial law is not applicable. In the United States the Federal government is limited in applying martial law by the provision of Article 1, Section 9, Subsection 2, of the Constitution which concerns the suspension of habeas corpus. In most states, martial law may be proclaimed when rendered necessary for public safety. Martial law, which applies to all persons, civil and military, in the area is to be distinguished from MILITARY LAW, the system of rules of government applying only to those in military service.

Martianus Capella: see CAPELLA, MARTIANUS.

Martignac, Jean Baptiste Sylvère Gay, vicomte de (zhäN' bätēstĕ' sēlvĕr' gā' vēkôt' du märtēnyäk'), 1778–1832, French statesman. He was made a member of the council of state in 1822. Charles X, although he disliked Martignac's moderate policies, called upon him in 1827 to form a ministry. Martignac's cabinet, composed of both liberals and reactionaries, was ineffective, his liberal reforms were killed by the ultraroyalists. He was succeeded by the reactionary Polignac in 1829.

Martin, Saint, c 316–397, bishop of Tours. Born a heathen in Pannonia, the son of a soldier, he gave his military cloak to a beggar, became a convert, and refused to fight. Christians. He went (c 360) to St. HILARY OF POITIERS and built himself a hermitage. In 371 he was acclaimed bishop, against his will. He continued to live as a monk in the monastery of Marmoutiers, near Tours, which became the training ground for Celtic missions. He was a staunch Catholic, but his zeal for orthodoxy did not prevent his withholding communion from those bishops who connived at the ruthless slaughter of the Priscillianist heretics. St. Martin was universally loved, and his cloak is a symbol of heroic charity (see CHAPEL). His principal shrine was at Tours. Feast: Nov. 11 (Martinmas). St.

Martin's summer is an English counterpart of *Indian summer*, in mid-November.

Martin I, Saint, d 655, pope (649–55), an Italian (b Todi), successor of Theodore I and predecessor of St. Eugene I On his accession he summoned a great council at the Lateran, as St MAXIMUS had urged, to deal with MONOTHELETISM, discussion of which had been forbidden by Emperor Constans II The council condemned all Monothelete utterances, including the private letter of HONORIUS I, and enunciated the Catholic dogma of two natures, two wills, and two energies in one Person in Jesus Christ Martin disseminated an encyclical confirming the council's acts For this "contumacy" Constans ordered Martin taken to Naxos and imprisoned with great privations Later, he was publicly humiliated in Constantinople and finally exiled in the Crimea He soon died there and was immediately acclaimed as a martyr by Catholics of East and West Feast Nov 12

Martin IV, d 1285, pope (1281–85), a Frenchman named Simon de Brion; successor of NICHOLAS III and predecessor of Honorius IV He was chancellor under Louis IX of France and was created cardinal by Urban IV He was thus naturally very friendly to the Angevins in S Italy and Sicily and is said to have owed his election as pope to their interest At any rate he was wholly at one with Charles of Anjou (Charles I of Naples and Sicily) in his pontificate Hence in supporting Charles's design to restore the Latin Empire of Constantinople, Martin sacrificed (1281) the recent union of East and West made at Lyons (1274) Then after the SICILIAN VESPERS he turned all his powers against Aragon He probably never knew how disastrous his policy was Martin adopted the title Martin IV because it was believed then that the two popes named Marinus were named Martin He is really only the second pope named Martin

Martin V, 1368–1431, pope (1417–31), a Roman named Oddone Colonna, successor of GREGORY XII and predecessor of EUGENE IV He was created cardinal by Innocent VII, and in the schism (see SCHISM, GREAT) he attended and supported the decisions of the Council of Pisa (see PISA, COUNCIL OF) His election (Nov 11, 1417) by the conclave at the Council of Constance (see CONSTANCE, COUNCIL OF) as pope ended the schism The election was greeted with almost universal joy and relief Declining invitations to settle elsewhere, Martin made his way slowly to Rome (1420) and set about rehabilitating the city and the Papal States His chief concern was the consolidation of the restored Church unity and the papal prestige, and to this end he made concordats with various rulers More significant was his denunciation of the conciliar theory which had gained wide following at Pisa and Constance Nevertheless he followed the wishes of the last council and summoned a new one, this met at Pavia (1423), moved to Siena, and accomplished nothing, Martin dissolved it (1424) and summoned a council for 1431 to meet at Basel In Martin's reign an attempt to prolong the schism was made in Spain by the followers of Antipope Benedict XIII (see LUNA, PEDRO DE), who chose (1425) a successor to him called Clement VIII (otherwise Gil Sánchez Múñoz) Alfonso V of Aragon patronized this antipope out of political motives, but, gaining nothing, he made Clement resign (1429) and recognized Martin

Martin I, 1356–1410, king of Aragon and count of Barcelona (c 1395–1410) and, as Martin II, king of Sicily (1409–10) He succeeded his brother, John I, in Aragon and became king of Sicily on the death of his son, Martin I of Sicily, who had married Maria, last of the Sicilian branch of the house of Aragon Martin of Aragon and Sicily died without male issue, and struggles for his territories broke out After a two-year interregnum Prince Ferdinand of Castile was chosen (1412) king of Aragon and Sicily as FERDINAND I

Martín, Esteban (ĕstäē'bän märtēn'), fl 1539, printer in Mexico He is reputed to have preceded Juan PABLOS It is held by some that Martín printed *Escala espiritual para llegar al cielo*, a translation of a work by St John Climax, in 1535, and *Catechismo mexicano* in 1537

Martin, François Xavier (frăswä' zăvyā' märtē'), 1762–1846, American jurist, b Marseilles, France He came to the United States in 1786 He was admitted to the North Carolina bar in 1789 His Federal positions were judge for Mississippi Territory (1809) and for Louisiana Territory (1810) In the government of the state of Louisiana he was attorney general (1813), justice of the state supreme court (1815), and chief justice (1836) His wide learning did much to harmonize the strands of English, Spanish, and French law in the legal system of Louisiana Besides digests of Louisiana cases, Martin wrote *A History of Louisiana* (1827) and *A History of South Carolina* (1829)

Martin, Homer Dodge (mär'tĭn), 1836–97, American landscape painter, b Albany, N Y, mostly self-taught His earlier works are in the style of the Hudson River school, but after his stay (1881–86) in France his work showed the influence of the Barbizon school, notably Corot, his style, however, retained its individuality. Martin's landscapes are poetical interpretations of nature, admirably composed, somewhat melancholy, subtle in coloring and in the treatment of light and atmosphere. Among his best-known works are *Harp of the Winds*, *Sand Dunes at Lake Ontario*, *Manor House at Criquebœuf*, and *White Mountains* (Metropolitan Mus), *Evening on the Seine* and *Lower Ausable Pond* (National Gall , Washington, D C), *Lake Sandford* (Century Club, New York); *Sea at Villerville* (Kansas City Art Inst), and *A Newport Landscape* (Lotus Club, New York) His last years were spent in St Paul, Minn , where, nearly blind, he painted from memory *Adirondack Scenery*. See study by F J Mather (1912)

Martin, Josiah, 1737–86, British colonial governor of North Carolina (1771–76), b West Indies An army officer, he had attained the rank of lieutenant colonel when he was appointed governor in 1771 He established cordial relations with the leaders of the REGULATOR MOVEMENT on the frontier, but antagonized the tidewater planters by his severe policies of taxation and court regulations He attempted unsuccessfully to organize the Loyalists of the colony to resist the American Revolution When his Loyalist Highlanders were defeated (1776) and the revolution became general, he left the colony Later he took part in the attack on Charleston and was an adviser to Generals Clinton and Cornwallis He returned to England in 1781 because of ill-health

Martin, Luther, c 1748–1826, American lawyer and political leader, b New Brunswick, N J , grad College of New Jersey (now Princeton Univ), 1766 He practiced law and became attorney general of Maryland He was a delegate to the Federal Constitutional Convention but refused to sign the Constitution because he felt it violated states' rights He was one of the defense counsel for Samuel Chase in 1804 and for Aaron Burr in 1807 and was again state attorney general He was a bitter opponent of the Jeffersonians

Martin, 1 City (pop 1,013), co seat of Bennett co , SW S Dak , SE of Rapid City and near the Nebr line, in a farm and livestock area, founded 1912, inc 1926 Pine Ridge Indian Reservation is near by 2 City (pop 3,587), W Tenn , E of Reelfoot Lake, in a farm and timber area, founded 1873 Univ of Tennessee Junior College is here

martin, name applied chiefly to certain swallows—a small bluish-black European swallow, called the European martin, the bank swallow or sand martin of Europe and North America, and the American purple martin Since the purple martin feeds on insects, chiefly harmful ones and drives away hawks and crows, it is valuable to farmers It is a sociable bird, and groups will nest in boxes provided for them It winters in Brazil Bee martin is a name of the kingbird

Martin de Porres. see PORRES, MARTIN DE

Martin du Gard, Roger (rôzhä' marte' dü gär'), 1881–, French novelist Recognition came with *Jean Barois* (1913), a novel of France during the Dreyfus Affair, and the subsequent eight-volume novel cycle *Les Thibault* (1922–40, Eng tr , *The World of the Thibaults*, 1939–41), which won for its author the 1937 Nobel Prize in Literature The story of two families, one Catholic and the other Protestant, dissects the conflicting strata of modern French society and beliefs He also wrote the *nouvelles—Confidence africaine* (1931) and *Vieille France* (1933) Extremely interested in social problems, he has long been associated with the *Nouvelle Revue française* See H C Rice, *Roger Martin du Gard and the World of the Thibaults* (1941)

Martineau, Harriet (mar'tĭnō), 1802–76, English writer, b Norwich, sister of James Martineau Deaf from early youth and poverty stricken after her father's death in 1826, she not only supported herself by writing, but became prominent in literary circles Her first success was *Illustrations of Political Economy* (9 vols , 1832–34), a series of tales interpreting political science for the layman She successively advocated Unitarianism, the abolition of slavery, mesmerism, and positivism Although greatly admired by many, Miss Martineau's views provided a constant source of controversy Important among her many published works were *Society in America* (1837) and *Retrospect of Western Travel* (1838), books resulting from a visit to the United States in 1834, *Deerbrook* (1839), a novel, *The Playfellow* (1841), popular tales for children, which included *Settlers at Home* and *Feats on the Fiord*, *Letters on Mesmerism* (1845), *The Positive Philosophy of August Comte* (1853), a free and abridged translation of his *Philosophie positive*, and her autobiography (1877) See biographies by Theodora Bosanquet (1927) and J C Nevill (1943)

Martineau, James, 1805–1900, English philosopher and divine, brother of Harriet Martineau He integrated his philosophy and religion into an interpretation of man's theistic beliefs An inspired teacher and minister, he achieved international distinction in academic and religious circles Besides numerous essays contributed to periodicals, he was the author of *A Study of Spinoza* (1882), *Types of Ethical Theory* (1885), *A Study of Religion* (1888), and *The Seat of Authority in Religion* (1890).

Martinelli, Giovanni (jōvän'nē märtēnĕl'lē), 1885–, Italian-American operatic tenor. He made his debut in Milan in 1910 and sang (1913–46) at the Metropolitan Opera, New York. His repertoire of about 50 roles included the leading tenor roles in nearly all the principal Italian operas

Martinez (märtē'nĕz), city (pop. 7,381), co seat of Contra Costa co , W Calif., on Suisun Bay and NNE of Oakland; laid out 1849, inc 1876 Important industries are oil refining, fishing, copper smelting, and wine making A reservoir, completed here in 1947, is the end of the Contra Costa Canal (see CENTRAL VALLEY PROJECT)

Martínez de Campos, Arsenio (ärsän'yō märtē'nĕth dā käm'pōs), 1831–1900, Spanish general He served in Morocco (1859–60), followed Prim to Mexico and Cuba (1864–70), played a leading role in the proclamation of Alfonso XII as king, and helped bring the Carlist Wars to an end In 1877 he was sent to Cuba, where he ended the TEN YEARS WAR In 1879 he was briefly premier of Spain and then war minister In 1895 he was sent to put down the insurgents in the Cuban revolution, but his lenient attitude caused his replacement by Weyler He later was president of the Spanish senate

Martínez de la Rosa, Francisco (fränthē'skō märtē'nāth dā lä rō'sä), 1787–1862, Spanish dramatic poet, statesman, and historian His best plays are *La conjuración de Venecia* [the conspiracy of Venice] (produced 1834), which was the first real success of the romantic theater in Spain, *Abén Humeya*, written originally in French in 1830 and translated into Spanish in 1836, and the neoclassic *Edipo* [Oedipus] (1833) Among his poems the best are the elegy entitled *Epístola al duque de Frías* and *El recuerdo de la patria* [memory of our country] He also wrote historical novels and political histories

Martínez de Rosas, Juan (hwän' märtē'nĕs dā rō'säs), 1759–1813, Chilean revolutionist, b Mendoza, Argentina Lawyer and scholar, he was a leading instigator of revolutionary ideas In 1810 he headed the junta which deposed the Spanish governor, but the next year was himself forced out because his ideas were too radical for the more conservative element of the revolution Subsequently opposing the military dictatorship of José Miguel CARRERA, he was exiled and died at his birthplace

Martínez Ruiz, José (hōsā' märtē'nāth rōōth'), 1873–, Spanish writer of the group known as the Generation of 1898 Most of his books of essays novels, and plays have been published under the pseudonym Azorín Among his novels are *La voluntad* [will] (1902), *Antonio Azorín* (1903), *Las confesiones de un pequeño filósofo* (1904), *Don Juan* (1922, Eng tr , 1923), and *Doña Inés* (1925), in all of which he disregards the anecdote to concentrate on poetic and psychological observations woven together with a superb technique. His plays include *Old Spain* (1926) and *Brandy, mucho brandy* (1927) His fame rests largely on his essays and literary criticism His essays, which excel in the description of the landscape and the small towns of Castile in an impressionistic style, include *Los pueblos* (1905), *Castilla* (1912), *Lecturas españolas* (1912), *Clásicos y modernos* (1913), and *Al margen de los clásicos* (1915)

Martínez Sierra, Gregorio (grāgō'rēō märtē'nāth syĕ'rä), 1881–1947, Spanish dramatist, novelist, and poet His masterpiece is *Canción de cuna* (1911, Eng tr , *The Cradle Song*, 1917), it has been many times produced in New York and London Others of his most popular plays are *El reino de Dios* (1915, Eng tr , *The Kingdom of God*, 1923), *Sueño de una noche de agosto* [August night's dream] (1918, Eng tr , *The Romantic Young Lady*, 1923), and *Mamá* (1912) He also cultivated the novel, of which *Tu eres la paz* [Thou art peace] (1907, Eng tr , *Ana María*, 1921) is the best known *Flores de escarcha* (1900) is a collection of verse He was active as theater manager and art director of a dramatic group. Much of his work was done in collaboration with his wife, Doña María de la O Lejárraga

Martini, Simone (sēmō'nā märtē'nē), or **Simone di Martino** (dē märtē'nō), c 1283–1344, Sienese painter, sometimes erroneously called Simone Memmi He was a follower of Duccio de Buoninsegna and a leader of the Sienese school He executed frescoes for the churches of Siena, Naples, Assisi, and Orvieto, *Madonna and Child with Saints and Angels* (Palazzo Pubblico, Siena); and an altarpiece, *Madonna and Child with Saints* (Church of Santa Caterina, Pisa) In Assisi he painted frescoes in the Chapel of San Martin in the Lower Church, and in Avignon he decorated the papal palace Other works are *King Robert Crowned by His Brother, St. Louis of Toulouse* (Naples), an altarpiece for San Domenico in Orvieto (Gardner Mus , Boston), fresco of Guidoriccio Fogliani de' Ricci (Palazzo Pubblico, Siena), *Annunciation* (Uffizi), painted with Lippo Memmi, *Christ among the Doctors* (Royal Inst., Liverpool); and others in the Louvre and in Antwerp. Martini's art is distinguished for its color and decorative qualities See Bernhard Berenson, *Central Italian Painters of the Renaissance* (1897)

Martinique (märtĭnēk'), overseas department of Metropolitan France (427 sq mi ; pop 261,595), in the Windward Islands, West Indies The capital is FORT-DE-FRANCE The department and the island of Martinique are coterminous Of volcanic origin, rugged and mountainous, the island reaches its greatest height in PELÉE volcano Most of the farming is done in the hot valleys and along the coastal strips, and about 80 percent of this area is relegated to sugar cane. Introduced from Brasil in 1654, this crop, supplying the two major exports—sugar and rum—made Martinique one of the wealthiest sugar islands in the 18th cent and has since held so commanding a position in the economy that crop diversification has largely failed However, some bananas, cacao, coffee, pineapples, and subsistence foods are raised The population is largely Negro or part Negro A dialect of French is the common language With striking scenery, abundant rainfall, and fertile soil, Martinique has nevertheless been subject to disasters, an average of one about every five years There have been hurricanes, tidal waves, earthquakes, and volcanic eruptions, besides fire, famine, and drought The most striking catastrophe was the destructive eruption of Pelée in 1902, when the old capital, St. Pierre, was ruined Discovered by Columbus, probably in 1502, it was ignored by the Spanish, and colonization was begun by the French under ENAMBUC in 1635 Several times during the colonial wars between France and England it was occupied by the English, until after the Napoleonic Wars it was finally confirmed as a French possession After the fall of France in the Second World War, Martinique remained loyal to Vichy until 1943, when it capitulated under U S pressure and joined the Free French movement In 1946 it became a department, and a prefect replaced the governor as executive officer

Martino, Simone di see MARTINI, SIMONE

Martinsburg. **1** Industrial borough (pop 1,396), S Pa , SE of Altoona, settled c 1793 by Quakers, laid out 1815, inc 1832 It has hosiery mills Quarrying and brickmaking are done here **2** Industrial city (pop 15,063), co seat of Berkeley co , W Va , in the Eastern Panhandle SW of Hagerstown, Md , chartered 1778 It produces apples, textiles, cement, and lumber, and limestone is quarried Belle BOYD, Confederate spy, lived here and was imprisoned in the old courthouse Near-by Bunker Hill, settled c 1729, is the oldest recorded settlement in the state

Martins Ferry, industrial city (pop 14,729), E Ohio, on the Ohio river opposite Wheeling, W Va , settled 1785 as Norristown, platted 1795, replatted 1835 as Martinsville and later called Martins Ferry, inc 1865 Steel and coal are its chief products William Dean Howells was born here In Walnut Grove Cemetery are the graves of Elizabeth (Betty) and Ebenezer ZANE

Martinsville **1** City (pop 1,296), E Ill , SW of Terre Haute, Ind , in a farm and oil area, platted 1833, inc 1905 **2** City (pop 5,009), co seat of Morgan co , S central Ind , on the White River and SW of Indianapolis, settled 1822 In a beautiful region, it is a health resort with artesian springs **3** Industrial city (pop 10,080), SW Va , on the Smith river, in the Blue Ridge foothills near the N C line, founded 1793, inc as a city 1929 It is a trade center for a farm area and produces furniture and textiles The courthouse of Henry co is here

Martinu, Bohuslav, Czech *Martinů* (bō'hōōslăf mär'tĭnōō), 1890–, Czech composer, studied at the Prague Conservatory He played the violin (1913–23) in the Czech Philharmonic Orchestra He lived in Paris from 1923 until 1941, when he came to the United States His debut as a composer was with the ballet *Istar* (Prague, 1922) Outstanding works are the operas *The Miracle of Our Lady* (Prague, 1934) and *Juliette* (Prague, 1938), a Concerto Grosso (Boston, 1941), two symphonies (1942, 1943), and *Memorial to Lidice* (1943) for orchestra See biography by Milos Safranek (1944)

Martiny, Philip (märtē'nē), 1858–1927, American sculptor, b Alsace He was trained in France, where he acquired a brilliant technique He executed the decorations for the Agricultural Building at the World's Columbian Exposition, Chicago, 1893, the *Fountain of Abundance* for the Pan-American Exposition, Buffalo, 1901, the grand staircase in the Library of Congress and decorations for the Carnegie Library, Washington, D C , groups for the Chamber of Commerce, statuary for the Appellate Courthouse, bronze doors for St Bartholomew's Church, and two World War memorials, New York; and the monument to President McKinley, Springfield, Mass.

Martius, Karl Friedrich Philipp von (kärl' frē'drĭkh fē'lĭp fŭn märʹtsēōōs), 1794–1868, German botanist and physician He was professor of botany (1826–64) at the Univ of Munich and from 1832 was director of the botanic gardens After a scientific expedition to Brasil, he wrote several books on South American plants, including *Historia naturalis palmarum* (1823–50), *Reise in Brasilien* (1823), *Nova genera et species plantarum* (1823–32), and *Icones selectae plantarum cryptogamicarum* (1827).

Martyn, John, 1699–1768, English botanist He wrote a number of books on systematic botany, of which the most important is *Historia plantarum rariorum* (1728–37)

Marvel, Ik, pseud. of **Donald Grant Mitchell,** 1822–1908, American author, b Norwich, Conn , grad Yale, 1841 His two most popular books, read for more than a generation, were the sentimental *Reveries of a Bachelor* (1850) and *Dream Life* (1851) See biography by W H Dunn (1922)

Marvell, Andrew, 1621–78, English poet He was also a satirist, pamphleteer, and member of Parliament He is best known for his lyrics of country life, including "The Garden," "On a Drop of Dew," and "To His Coy Mistress," and for his "Horatian Ode" to Cromwell See Marvell's poems and letters (ed by H M Margoliouth, 2 vols , 1927), biographies by Augustine Birrell (1905), Pierre Legouis (1918), V Sackville-West (1929), and M C Bradbrook and M G L Thomas (1940)

Marvin, Charles Frederick, 1858–1943, American meteorologist, b Putnam (now part of Zanesville), Ohio, grad Ohio State Univ , 1883 He entered (1884) the U S Signal Service, predecessor of the Weather Bureau, which he helped to develop and later directed (1913–34) He is especially noted for his work on humidity tables and on the measurement of wind velocity, for the invention and improvement of meteorological instruments, and for his advocacy of calendar reform

Marwar, India see JODHPUR

Marx, Karl, 1818–83, German social philosopher and radical leader, the chief theorist of modern socialism The son of a jurist, he studied law at Bonn and Berlin, but became increasingly interested in philosophy, and took a Ph D degree at Jena (1842) In 1842 he became editor of the *Rheinische Zeitung*, a liberal newspaper which was suppressed in 1843 He then went to Paris where he began his life-long association with Friedrich ENGELS At this time Marx became a socialist The work of his Paris period culminated in his *Misère de la philosophie* [poverty of philosophy] (1847, Eng tr 1910), an answer to P J Proudhon and his book *Philosophie de la misère* In 1848 Marx and Engels published the famous *Communist Manifesto* in which was set forth the basic formulation of Marxism After a brief stay in Germany in the revolutionary years 1848–49 he went into exile to London in 1850 and remained there until his death Here he founded (1864) the International Workingmen's Association (see INTERNATIONAL, FIRST), and here he wrote his monumental work, *Das Kapital* (Vol I, 1867, Eng tr 1887, vols II and III, posthumously ed by Engels, 1885–94, Eng tr 1901–9) Despite its great difficulty, *Das Kapital* has exerted an incalculable influence on the modern world, an influence which has been compared to that of the Gospels, of the Koran, or of Newton's *Principia* Marx combined a profound and powerful mind with a capacity for indefatigable research and study Spending most of his time at the British Museum, he was thoroughly familiar with all earlier and contemporary economic thought and with all reports, studies, and statistics of British economy The organization of his work (even of the first volume, for which he is entirely responsible) is difficult to follow, and he probably planned a complete integrated revision His style particularly in descriptive passages, at times attains lucidity, force, and even trenchant humor, but it is usually made arid by his technical terminology and the complexity common to German philosophers Repudiating all existing socialist theories as either utopian or unscientific, he developed a dynamic theory of social change which became the basis of scientific socialism (see MARXISM) From this most modern forms of SOCIALISM and COMMUNISM are derived From the philosophy of HEGEL he adapted the dialectical method which he applied in a sense directly opposite to Hegel's (see DIALECTICAL MATERIALISM) Much of Marx's life was spent in poverty, some of the time he supported himself as a correspondent for the New York *Tribune*, and for years he depended upon Engels for financial aid Marx was the father-in-law of Jules Guesde, chief founder of the French Socialist party In the estimate of posterity Marx has figured as a blood-thirsty destroyer of society, as Antichrist, as a scholarly intellectual, and as a Messiah The fact that he was of Jewish parentage has been exploited by anti-Semites in two ways—either to prove to other anti-Semites that Marxism, as a Jewish invention, was necessarily diabolical, or to demonstrate to anti-Marxists that the Jewish race, having invented Marxism, was necessarily diabolical Dispassionate scholars have tended to regard Marx as one of the greatest of economic theoreticians, whose views cannot be lightly discounted but whose system, like all systems, is vitiated by its rigidly doctrinaire nature Marx wrote on nearly all aspects of economics, on the impact of the Civil War on American society as well as on European problems Among his many essays are *Civil War in France* (1871, Eng. tr 1871), *The Gotha Program* (1891, Eng tr 1922), and *A Contribution to the Critique of Political Economy* (1859, 2d ed 1897, Eng tr 1904) His selected works have been edited by V V Adoratsky (2 vols , 1935), and his and Engels's selected correspondence has been translated (1942) Notable biographies include those by Otto Rühle (Eng tr , 1929), Franz Mehring (Eng tr , 1935), and Karl Korsch (1939). See also M M Bober, *Karl Marx's Interpretation of History* (1927); Sidney Hook, *From Hegel to Marx* (1936)

Marx, Wilhelm (vĭl'hĕlm), 1863–1946, German statesman A leading member of the Catholic Center party, which he entered in 1910, he was elected its president in 1921 As chancellor (1923–24) he secured the passage of the Dawes Plan He was succeeded by Hans Luther, whom he followed again as chancellor (1926–28) In the presidential elections of 1925 Marx was the unsuccessful candidate of the Center and the Social Democratic parties against Hindenburg

Marx Brothers, team of American moving-picture comedians The members are Julius (1895–) known as Groucho, Arthur (1893–), called Harpo, and Leonard (1891–), known as Chico, all of whom were born in New York city They appeared in vaudeville and on the stage and in 1929 entered moving pictures, where they were first known as "the Four Marx Brothers " The fourth brother, Herbert, called Zeppo, withdrew from the combination in 1935 Some of the films that have made them famous are *Animal Crackers*, *Monkey Business*, *Horsefeathers*, *Duck Soup*, *A Night at the Opera*, and *Room Service*

Marxism, economic-political system named for Karl MARX It is also known as economic or materialistic determinism, scientific (as opposed to utopian) socialism, and dialectical materialism No modern economic or political system can well leave Marxism entirely out of account, and virtually all modern socialist and communist thought is directly based on Marxism Though primarily an economic-political doctrine Marxism is the result of a method (DIALECTICAL MATERIALISM) which is applicable to any problem of human thought, and in its fullest application it probably has had a wider impact on the development of society than any other doctrine since the advent of Islam The chief creators of the system were Karl Marx and Friedrich ENGELS, who cooperated in 1848 in drafting the *Communist Manifesto* This contains in germ the doctrines formulated in Marx's *Das Kapital* and developed in Engels's *Landmarks of Scientific Socialism* The fundamental assumption of Marxism was "that the history of all hitherto existing society is the history of class struggles" (*Communist Manifesto*), the struggle taking place between the oppressing and the oppressed (This view was a remarkable parallel of Darwin's theory of natural selection) In the Marxist theory of dynamic change, every social order based on class division contains the germs of its own destruction Every ruling class is eventually displaced by a new ruling class until a classless society emerges from the struggle In modern society, the bourgeois (i e , capitalist) class had displaced the nobility of feudal society, the commercial and industrial revolutions had simplified the class structure, and the stage was set for the struggle between the bourgeoisie and the nonpropertied "wage slaves"—the proletariat In *Das Kapital*, Marx developed his theory, using Hegel's dialectic method for his own purposes Tracing the entire process by which capital is accumulated and transmitted, in the historical process, from one class to another, he formulated the theory of surplus value Briefly, the theory supposes that the value of a commodity is determined by the quantity of labor (measured in time) required for its manufacture This also holds for the value of labor itself, which in capitalistic society is a commodity like any other The value of the commodities consumed by the worker is less than the value (in terms of time) of the commodities he produces, the difference, called surplus value, represents the profit of the capitalist Thus the bourgeois class prospers through the labor of the proletariat, which moreover is unable to afford to buy the majority of goods it produces Thus trend, in Marx's view, was becoming even more pronounced the rich were getting richer, and the poor poorer According to the *Communist Manifesto* the revolution of the proletariat was to occur first in a country where this trend had progressed most, i e , in an "advanced" or highly industrialized nation The proletariat, after becoming itself the ruling class, was "to wrest, by degrees all capital from the bourgeoisie, to centralize all instruments of production in the hands of the State," and "to increase the total of productive forces as rapidly as possible " Class distinctions would gradually disappear and the public power lose its political character (i e , to use a later phrase, the state would 'wither away"), because the conditions for the existence of class antagonisms would have disappeared Along with social classes, the "bourgeois family," religion, and other hallowed institutions would vanish Though the process was inevitably determined, Marxists were to cooperate with it and to speed it by bringing about the union of the workers of all countries, by supporting (for reasons of expediency) whatever political party favored "the momentary interests of

the working class," and by resorting to revolution if necessary. Marx's theory of the economic and historical process must be kept distinct from his predictions, which were inevitably subject to miscalculations even if his basic assumptions were right. Thus the trade union movement resulted, contrary to Marx's predictions, in a notable improvement of the workers' conditions in highly industrialized countries, while the first proletarian state was established in industrially retarded Russia. Marxists, however, can easily explain such discrepancies in the very terms of Marxist method. It is a popular error to suppose that Marxists, because they reason on the materialistic assumption that economic factors determine human behavior, and because they reject divine providence are necessarily materialists in the popular meaning of the word and reject all but material values as useless. Some Marxists have done so, but many defenders of the capitalist system are equally strongly convinced of the primacy of matter and of the nonexistence or irrelevancy of God. However, while capitalist society is merely indifferent to metaphysics and religion, Marxism as a rule is actively hostile, and wherever Marxist doctrine has triumphed relations between Church and state have deteriorated. From Marxism the various branches of SOCIALISM and COMMUNISM have derived a common program calling for collective ownership of the chief means of production. They have split on the political issue of how their object should be attained, the moderate Socialist parties preferring gradual evolution by parliamentary methods, and the Communists advocating world revolution. Leninism, the direction Marxism took in Soviet Russia, was the contribution of V. I. LENIN. See bibliography under MARX, KARL, COMMUNISM, SOCIALISM.

Mary, the Virgin, mother of Jesus, the principal saint, called Our Lady. Her name is the Hebrew *Miriam*. The events of her life mentioned in the New Testament include Gabriel's annunciation to her of Jesus' birth, her visitation to Elizabeth, Jesus' nativity, her purification at the Temple, and her station at the Cross. According to the New Testament she was first betrothed, then married, to Joseph and was the cousin of Elizabeth, mother of John the Baptist. The New Testament references to her are Mat. 1, 2, Luke 1, 2, John 2, Mark 3:31–35; 6:3, Luke 11:27,28, Mat. 12:49, John 19:25–27, Acts 1:14. Mary has been from ancient times most highly honored by Christians, and Roman Catholics and members of the Eastern churches maintain the traditional attitude. In the Reformation, one of the principal points of contention was the veneration of the Virgin, and Protestants have generally rejected her cultus along with those of the saints. The facts of the Virgin's life unmentioned in Scripture, as handed down by tradition, are that she was the daughter of St. Joachim and St. Anne, announced miraculously to them, that she was presented and dedicated at the Temple as a virgin, that she was later given to Joseph to be protected by him, that after the Ascension she was cared for by St. John the Divine, and that in the end she was "assumed" directly into heaven, some say in the body. Important dogmas concerning the Virgin, as taught by the Roman Catholic Church, are (1) her immaculate conception, that she was conceived and born without original sin (according to a bull of Pius IX, 1854), (2) that she was freed from actual sin by a special grace of God, (3) that she remained a virgin throughout her life, "the brethren of the Lord" of the Gospels being interpreted "kinsmen", (4) that her principal title is Mother of God, because her son, Jesus, is truly God (enounced at the Council of Ephesus, 431), (5) that her intercession is especially efficacious on behalf of men and of the Church, and (6) that she is the highest of creatures and deserves the greatest honor and veneration, but as a creature she is not to be worshiped, for God is alone to be worshiped. The Virgin is venerated under many aspects, which are customarily considered more or less distinctly, thus, churches may be dedicated in her honor or her patronage may be invoked under one aspect alone, e.g., the Roman Catholic Church has named Our Lady in her Immaculate Conception as patron of the United States. Typical of her aspects and cultuses are Queen of Heaven, the Sorrowful Mother, a popular cultus (see STABAT MATER DOLOROSA) commemorated especially by two feasts of the Seven Sorrows or Dolors (Sept. 15 and the Friday before Palm Sunday), Our Lady of Perpetual Help, associated with a famous icon in Rome, and Our Lady of CZENSTOCHOWA, a rallying point of Polish nationalism. Apparitions of the Virgin have been reported since ancient times, and some have led to new cultuses and shrines, typically associated with cures. Some of these cultuses have eventually been approved by the Roman Catholic Church, without vouching for the authenticity of the apparition or the cures. These apparitions include those at GUADALUPE HIDALGO, Mexico, in 1531, at PARIS (Our Lady of the Miraculous Medal) in 1830, at LOURDES, France, in 1858, and at FÁTIMA, Portugal, in 1917. Two great pilgrim shrines of medieval England were Our Lady of Glastonbury and Our Lady of Walsingham (Norfolk). Her symbolic titles (assembled in a popular list called the Litany of Loreto) often contain Old Testament allusions without necessarily implying that the passage refers to her in prophecy, e.g., Second Eve (Gen. 3.15), Mystical Rose (Ecclus. 24.14), and Ark of the Covenant. Some of her titles are frankly poetical, e.g., Star of the Sea (*Stella maris*). The Virgin is constantly honored and invoked by Roman Catholics in the AVE MARIA, in the ROSARY, in the litany, in hymns (e.g., SALVE REGINA), in novenas, in societies formed to encourage devotion to her, and in other ways. The following are the principal feasts, universally observed in the Roman Catholic Church and many of them by Protestants: Dec. 8, the Immaculate Conception, Feb. 2, the Purification of Our Lady, or CANDLEMAS, March 25, the Annunciation, or Lady Day, July 2, the Visitation of Our Lady to St. Elizabeth, Aug. 15, the Assumption, her principal feast in Eastern and Western Churches, Sept. 8, the Birthday of Our Lady, Nov. 21, the Presentation of Our Lady at the Temple. To her are devoted many other days, besides every Saturday and all the days of May. The honor paid to the Virgin by Christians has interested scholars greatly, for many aspects of the cultus of the Virgin are paralleled in non-Christian religions. Artistic representations of Mary are innumerable, for differing aspects, see MADONNA and PIETÀ. She has been the subject of countless works from the time of the PSEUDEPIGRAPHA. For differing views of her cultus, see Henry Adams, *Mont-Saint-Michel and Chartres* (1913), F. M. Willam, *Mary the Mother of Jesus* (1938), C. C. Martindale, *Our Blessed Lady* (1940), M. J. Scheeben, *Mariology*, Vol. I (1946).

Mary I, 1516–58, queen of England (1553–58), daughter of HENRY VIII and KATHARINE OF ARAGON. While she was still a child, various marriage proposals were considered—to the eldest son of Francis I of France (1518), to the Emperor Charles V (1522), to Francis I himself (1527), and to several others. She was a pawn in her father's political intrigues. In 1525 she was given a separate household as the princess of Wales, but in 1527 Henry began negotiations for divorce, and Mary, remaining loyal to her mother and to the Catholic religion, spent the next nine years in misery. She was separated from Katharine, denied presence at court, treated as illegitimate, and forced to serve her half sister Elizabeth as lady in waiting. Plans to escape to the Continent failed, and in 1536 she was finally forced to acknowledge herself as illegitimate and to repudiate the Catholic Church, statements from which she was later absolved by the pope. During the spread of Protestantism in the reign of her half brother, EDWARD VI, Mary was stubbornly loyal to her faith, insisting on observing Mass in her private chapel in defiance of the Act of Uniformity and appealing to the emperor for protection. The activities of John Dudley, duke of NORTHUMBERLAND, led to the short-lived usurpation of the throne by Lady Jane GREY at Edward's death, Mary, however, supported by an overwhelming number of loyal subjects, soon ascended the throne. In the early part of her reign Mary showed considerable clemency toward her political opponents, but she and her advisers were set upon two policies—her marriage to Philip (later PHILIP II of Spain), son of Emperor Charles, with the consequent Spanish alliance, and the restoration of Catholicism to England. The former aroused violent opposition, which was focused in the unsuccessful rebellion of Sir Thomas WYATT, but both the marriage and alliance were carried out in 1554. Late in 1554 papal authority was reestablished in England, early in 1555 Parliament repealed the antipapal laws of Henry VIII, restored the ecclesiastical courts and the laws against heresy, and refused only to restore church property that had been seized. There then began the religious persecutions which lasted throughout the reign, the number killed amounted almost to 300 and included such men as Nicholas RIDLEY, John ROGERS, Hugh LATIMER, and Thomas CRANMER. The queen's title of "Bloody Mary" is something of a misnomer, for the persecutions were no more severe than many others. Mary acted out of sincere devotion to her religion, and many of the radical Protestants were actually guilty of sedition. In 1555 Philip, frustrated by Parliament in his attempt to win coronation, left his grieving wife and went to his dominions in the Netherlands. In 1557 England was reluctantly drawn into the existing war between Spain and France, the main results of which were the loss of Calais and the increasing hostility of the English people toward their dying queen. See A. F. Pollard, *History of England, 1547–1603* (1923), A. D. Innes, *England under the Tudors* (1924), H. F. M. Prescott, *A Spanish Tudor* (1940).

Mary II, 1662–94, queen of England, daughter of James II and Anne Hyde, b. London. Brought up a Protestant despite her father's Catholic profession, she married William of Orange in 1677. She came to England after the Glorious Revolution of 1688 and was proclaimed joint sovereign with her husband in 1689 (see WILLIAM III), but actually ruled only during his absences. Although she was relatively popular with the Dutch and English, she led an unhappy life because of the political conflicts of her husband, her father, and her sister ANNE. She sided faithfully with her husband. See biography by N. M. Waterson (1928).

Mary, 1867–, dowager queen of England, consort of George V. Daughter of the duke of Teck and granddaughter of Adolphus, duke of Cambridge (son of George III), she was second cousin to George, then duke of York, to whom she was married in 1893. Among her sons were Edward VIII and George VI.

Mary, 1897–, princess royal of England; daughter of George V and sister of George VI. In 1922 she married Viscount Lascelles, later earl of HAREWOOD.

Mary, in the Bible. **1** MARY, the Virgin. **2** MARY MAGDALEN. **3** Wife of CLEOPHAS. **4** Sister of Lazarus and Martha. She sat at Jesus' feet while Martha served and has come to symbolize the life of contemplative love of God. Luke 10:38–42, John 11:1–46, 12:1–9. Some identify her with St. Mary Magdalen. **5** Roman lady saluted by Paul. Rom. 16.6. **6** Mother of St. Mark. Col. 4:10.

Mary, Turkmen SSR: see MERV.

Mary Baldwin College: see STAUNTON, Va.

Maryborough, town (pop. 14,409), Queensland, Australia, on the Mary river, 23 mi. from its mouth, and NNW of Brisbane. It exports sugar, fruit, coal, and timber. There are shipyards and a steel mill. The Maryborough School of Arts was established in 1861.

Maryborough, Ireland: see PORT LAOIGHISE.

Mary Hardin-Baylor College: see BELTON, Texas.

Maryknoll (mā'rēnōl), place, SE N.Y., near Ossining, headquarters of the Catholic Foreign Mission Society of America. A Roman Catholic community of priests (the "Maryknoll Fathers") are here especially trained for foreign missionary work. The community was established in 1911 and sent out its first missionaries in 1918. At first the territory assigned was the Far East, especially China and Korea. During the Second World War, Maryknoll priests began to be sent to Ecuador, Peru, Bolivia, and Chile, to supplement the shortage of native clergy. There is an affiliated community of nuns (the "Maryknoll Sisters"). See Robert Considine, *The Maryknoll Story* (1950).

Maryland, state (10,577 sq. mi.; 1940 pop. 1,821,244, 1949 estimated pop. 2,175,000), E United States, in the Middle Atlantic region, one of the Thirteen Colonies. Annapolis is the capital, BALTIMORE is the metropolis, with a large percent of the state's population. The seaboard state is split by the great gash of Chesapeake Bay, which runs northward almost to the northern border. The section of Maryland (the Eastern Shore) which with Delaware and a small part of Virginia occupies the peninsula between Chesapeake and Delaware bays is thus separated from the main part of Maryland and has developed a separate pattern of culture. The western and southwestern border (except at the District of Columbia) is marked by the Potomac, which separates Maryland from Virginia and West Virginia. The land border in the north is with Pennsylvania (see MASON–DIXON LINE). The main part of the state is divided by the fall line, which runs between Baltimore and Washington, D.C., to the north and west is the rolling piedmont, rising to the Blue Ridge and to the Pennsylvania hills. The heavily indented shores of Chesapeake Bay fringe the land with bays and estuaries, helping in the development of a farm economy relying on water transport. The distinction between tidewater and upland has mirrored in some ways the older national distinction between North and South and has made of Maryland truly a border state. In the mild winters and hot summers of the coastal plains typically Southern trees, such as the loblolly pine and the magnolia, flourish, while the cooler uplands have woods of black and white oak and beech. Chesapeake Bay dominates the eastern section, and the countryside is sharp with the smell of salt water. Fish and shellfish are taken from the water to yield an annual income of several millions of dollars, and in coastal marshes wild fowl abound. The waters and the Eastern Shore attract many vacationers. In the western sections are the mineral resources of building stone and coal. The iron mines, active in the 19th cent., have declined, but the making of iron and steel products is still a major industry. Shipbuilding naturally flourished and reached a high point of art in the days when the Baltimore clipper was queen of the seas, it continued in later years on more massive lines. There are other important manufactures, including textiles, processed foods, building and construction materials, and transportation equipment. Baltimore, CUMBERLAND, and HAGERSTOWN are the chief industrial centers. Manufacturing now exceeds agriculture in value, but the farms yield grains, cereals, truck, and other diverse products. Dairy and poultry farms thrive, and Maryland is famous for breeding horses. Farming today is marked by a low percentage of tenant farmers, a high cash income, and the practice of modern agronomy—all healthful signs. Farming has been extensively practiced since before the whites came

to displace the Algonquian-speaking Indians. Verrasano probably visited (1524) the Chesapeake region, which was certainly later (1603) visited by the Englishman, Bartholomew Gilbert, and charted (1608) by the stalwart Capt John Smith William CLAIBORNE of Virginia, under license from King Charles I, set up a fur-trading post on Kent Island in 1631 The next year Charles I gave a charter to George CALVERT, 1st Baron Baltimore, yielding him feudal rights to the region between lat 40° N and the Potomac river. The territory was named Maryland in honor of Henrietta Maria. Before the great seal was affixed to the charter, George Calvert died, but his son Cecilius CALVERT, 2d Baron Baltimore, undertook development of the colony as a haven for his persecuted fellow Catholics and also as a source of income The ships *Ark* and *Dove* in 1634 brought settlers (both Catholic and Protestant) to the Western Shore, and the colony of St Mary's was set up under Leonard Calvert, brother of the proprietor The grant had, of course, caused a struggle with Claiborne, and the colony continued to meet difficulties The land was largely parceled out in quasi-feudal holdings and given to colonisers In 1637 the freemen asserted their legislative rights by opposing the governor in the first assembly The religious conflict was strong in ensuing years as the Puritans, growing more numerous in the colony and supported by the Puritans in England, set out to destroy the religious freedom guaranteed with the founding of the colony The Act of Toleration (1649) was passed in an attempt to save the Catholic settlers from persecution, but it was repealed (1654) after the Puritans had seized control By a compromise in 1658 the proprietorship was restored to Lord Baltimore briefly, but after the Glorious Revolution of 1688, Maryland became (1691) a royal province, and the Church of England was made the established church Though the proprietorship was restored in 1716, Maryland remained indistinguishable in government from other royal provinces Anti-Catholic action persisted until the 19th cent , when by a curious reversal many Catholic immigrants came to Baltimore, which is today somewhat of a center of American Catholicism In 1694, when the capital was moved from St Mary's to Annapolis, those were the two towns in the province, but the next century saw the emergence of hustling, commercial-minded Baltimore, which by 1800 had a population of more than 30,000 and a flourishing coastal trade, partly dependent on the export of flour Maryland plantation life was somewhat quickened and somewhat altered by this dash of commercialism At the time of the American Revolution most Marylanders were stalwart patriots and vigorous opponents of the British colonial policy In 1776 Maryland adopted a declaration of rights and a state constitution and sent troops and supplies to aid the war for independence, supposedly the steadfast courage of its patriots gave Maryland its nickname, the Old Line State Reluctance to sign the Articles of Confederation was linked with reluctance to yield up claims to Western lands, but the surrender of the lands and creation of the Northwest Territory helped prepare the way for a stronger Federal government A party advocating states' rights, in which Luther MARTIN was prominent, was unsuccessful in opposing the Constitution, and in 1791 Maryland and Virginia contributed land and money for the new national capital in the District of Columbia Industry was already growing to support renewed commerce, and it was furthered by the skill of the German immigrants, who brought a new element into Maryland, hitherto entirely British except for the many Negro slaves After the War of 1812—which was marked for Maryland by the British attack of 1814 and the defense of Fort McHENRY immortalized in Francis Scott Key's STAR-SPANGLED BANNER—the business and industrial elements grew stronger The Southern ways and sympathies persisted, however, among the plantation owners, and as the rift between North and South grew, Maryland was torn by conflicting interests and the intense struggles of the true border state Despite the urgings of the Southern sympathizers, made famous in J R Randall's song, *Maryland, My Maryland*, the opponents of secession were successful in keeping the state in the Union in the Civil War, but Marylanders fought on both sides in the war, and families were even split in bitter conflict. The ANTIETAM CAMPAIGN was, however, the only important action actually fought in Maryland. When the war was over, many of the citizens were disfranchised, but the Reconstruction period lasted only until a new constitution was adopted in 1867 and did not scar the state. Industry quickly revived and became a dominant force. New railroads (railroads had been important to Maryland since early days of building) crossed the state and made it more than ever a crossing point between North and South. The economy prospered Cultural life, which had been vigorous from the early days of the republic, was broadened with the years after the Civil War. The public education system, founded in 1826, was supplemented by act of the assembly in 1868 providing schools for Negroes. In 1876 Johns Hopkins Univ. was founded to join the earlier institutions of higher learning in the state, such as St Johns College, the Univ. of Maryland, and the U.S. Naval Academy. The influence that Johns Hopkins exerted over higher education in the United States was revolutionary The old conflict between traditions in the state has, however, persisted to some extent, and the heritage of the ante-bellum South is still evident Most Marylanders are proud of the customs of gracious living that continue the plantation view of life A more troublesome continuance of the Southern tradition has, however, also been evident in the problem of the Negro Negroes account for 16 percent of the state's population, but generally they find it difficult to obtain occupational or social opportunity The large reservoir of unskilled labor on the southern coastal plains tends to depress wages and to cause a serious problem in times of economic slack The Urban League, founded in 1924, and a permanent state interracial commission are working for the improvement of race relations and for better utilization of the Negro resources The Second World War saw a rise in the general economy of the state, and many hold that the war prosperity, built on the long development of Maryland, is a permanent fulfillment of Maryland's beginnings under the Calverts See J M Gambrill, *Leading Events in Maryland History* (rev ed , 1917), William Bullock Clark, *The Geography of Maryland* (1918); M P Andrews, *The Tercentenary History of Maryland* (1929); Federal Writers' Project, *Maryland· a Guide to the Old Line State* (1940); Harry Bard, *Maryland the State and Its Government* (1943), Hulbert Footner, *Rivers of the Eastern Shore* (1944).

Maryland, University of, at College Park and Baltimore (with a college for Negroes at PRINCESS ANNE); land-grant and state supported, coeducational, chartered and opened 1807 as the College of Medicine of Maryland, became a university 1812 It has absorbed Maryland Agricultural College (chartered 1856), Baltimore College of Dental Surgery (1840, first U S dental school), and several law and pharmacy schools It now comprises colleges of agriculture, arts and sciences, business and public administration, education, engineering, and home economics and (in Baltimore) schools of dentistry, law, nursing, pharmacy, and medicine There are state agricultural, horticultural, and geological research offices, a U S Bureau of Mines experiment station, and the Glen L Martin wind tunnel (completed 1948)

Marylebone, Saint (sənt mă'rĭlŭbŏn') [O Fr ,= (Church of) St Mary-at-the-bourne, i e , at the Tyburn], metropolitan borough (1931 pop 97,627, 1948 estimated pop 75,980) of NW London, England, with Regent's Park to the east It includes the zoological and botanical gardens, the British Broadcasting Corp studios, and Mme Tussaud's waxworks In Marylebone is London's chief shopping district and Harley St , a center of medical practice

Mary Magdalen or **Mary Magdalene** (both măg'dulŭn; formerly, and still in Magdalen College, Oxford, and Magdalene College, Cambridge, môd'lĭn, hence *maudlin*, i e , tearful) [traditionally Greek,= of MAGDALA], Christian saint, a woman very widely venerated in Christendom The name Madeleine is a French form of Magdalen She appears in the New Testament as a demoniac healed by Jesus, as a watcher at the cross, as an attendant at Jesus' burial, and as one of those who found the tomb empty Mat 27 56, 61, 28, Mark 15 47, 16, Luke 8 2; 24, John 19 25, 20 A universal tradition identifies her with the repentant prostitute who anointed Jesus' feet Luke 7 36–50 She has also been identified with the sister of Martha Luke 10 38 A legend of Mary Magdalen makes her go to S France as a missionary and die there, at Sainte-Baume (20 mi E of Marseilles, W Var dept), this has become a popular shrine The principal aspect of her cult is as the penitent, hence the word *Magdalen* Her position as prototype of the Christian mystic arises from the identification with the sister of Martha. Artistic representations deal particularly with her repentance, with her bathing of the feet of Jesus, and with her meeting with Jesus after the resurrection She appears in representations of Jesus' crucifixion and burial Frequently she is shown with red hair. Feast July 22

Marymount College: see TARRYTOWN, N Y.

Mary of Burgundy, 1457–82, wife of Maximilian of Austria (later Emperor MAXIMILIAN I), daughter and heiress of CHARLES THE BOLD of Burgundy At her father's death (Jan , 1477) Louis XI of France seized Burgundy and Picardy and prepared to annex the Low Countries, Artois, Luxembourg, and Franche-Comté—Mary's entire inheritance To gain the assistance of the estates of Flanders, Brabant, Hainaut, and Holland, which sat at Ghent, Mary granted (Feb , 1477) the Great Privilege, which restored the liberties that her father and grandfather had abrogated. She then rejected Louis XI's proposal that she marry the dauphin Charles, and in May she married Maximilian, who had hastened to her assistance with an army However, the Low Countries remained in turmoil, despite his victory at Guinegate (1479), Maximilian was forced (1483) to agree to the Treaty of Arras (see ARRAS, TREATY OF), by this Franche-Comté and Artois passed to France Mary's premature death, caused by a fall from horseback, left her young son Philip (later PHILIP I of Castile) her heir, but only in 1493 was Maximilian able to regain control over the Low Countries, where Philip was held a virtual prisoner The Treaty of Senlis (1493) with France restored Artois and Franche-Comté to Philip, but Burgundy and Picardy remained French The marriage of Mary was a major event in European history, for it established the Hapsburgs in the Low Countries and originated the long rivalry between France and Austria

Mary of England (**Mary Tudor**), 1496–1533, queen consort of Louis XII of France, daughter of Henry VII of England Her father and later her brother, Henry VIII, carried on long but unsuccessful negotiations for her marriage with the Emperor Maximilian's grandson (later Charles V) She was married in Oct , 1514, to Louis XII of France, then a man of 52 and in broken health Soon after the king's death (Jan 1, 1515), Mary secretly married the man of her choice, Charles Brandon, duke of Suffolk With great reluctance Henry VIII pardoned the marriage Mary was the grandmother of Lady Jane GREY Charles Major's novel, *When Knighthood was in Flower*, has made Mary a figure of romance

Mary of Guise (gēz), 1515–60, queen of Scotland, wife of James V, and mother of MARY QUEEN OF SCOTS The daughter of Claude, duke of GUISE, she was also known as Mary of Lorraine Before her marriage to James V (1538) she had been married (1534) to Louis d' Orléans, 2d duke of Longueville, who died in 1537 When James died (1542), shortly after his daughter's birth, James HAMILTON, 2d earl of Arran, became regent. He negotiated a betrothal of the little Queen Mary to Prince Edward (later Edward VI) of England, but the queen mother persuaded Parliament to repudiate it, and after the outbreak of war with England, the young queen was sent to France By 1554, with French aid, Mary of Guise had replaced the pro-English Arran as regent and made no secret of her desire to bring France and Scotland together The young queen had been betrothed to the French dauphin and was married to him in 1558 Meanwhile the leaders of the Protestant reformation in Scotland, spurred by John Knox, aligned themselves with the anti-French party and were aided by the English The regent was forced to call in French troops to resist their combined attack She died soon thereafter By the treaty which ended the war, all foreign troops withdrew from Scotland, and the way was open for the establishment of the Protestant church she had so opposed

Mary of Modena (mŏ'dĭnə), 1658–1718, queen of JAMES II of England, member of the illustrious Este family, daughter of Alfonso V, duke of Modena Her marriage (1673) to James, then duke of York, was brought about through Louis XIV of France The devoutly Catholic princess was unpopular in stoutly Protestant England and was unhappy in her life with James The birth of a son in 1688 resulted in more unpopularity and greater unhappiness Her enemies, opposed to a Catholic heir to the throne, refused to believe him her son and declared him an imposter This hostility helped to precipitate the bloodless revolution which in 1688 overthrew James II Mary and her son fled to France, where she won Louis XIV to back the claims of her son, James Edward STUART (the Old Pretender) See JACOBITES

Maryport, urban district (1931 pop 10,183, 1948 estimated pop 11,270), Cumberland, England, at the mouth of the Ellen on the Irish Sea It is a market town and seaport Improvement of the harbor was begun in 1750, coal and coke are exported, and there are flour mills and sawmills, tanneries, and breweries A hill in the vicinity was the site of a Roman fort

Mary Queen of Scots (Mary Stuart), 1542–87, only child of JAMES V of Scotland and MARY OF GUISE Through her grandmother, MARGARET TUDOR, Mary was next heir to the throne of England after the children of Henry VIII She was born at Linlithgow six days before her father's death and so became queen of Scotland almost immediately. A project for the marriage of Mary to Henry VIII's son (later Edward VI) failed Mary of Guise then betrothed her daughter to Francis, dauphin of France, and sent the girl to France in 1548 to be brought up as a princess of the powerful house of Guise The mother remained in Scotland, eventually became regent, and struggled until her death in 1560 against rebellious nobles, the rising new Protestantism, and intermittent attacks by England In 1558 Mary Stuart and the dauphin were married under an agreement which would unite the crowns of Scotland and France if the union produced male issue In 1559 they were crowned king and queen of France, but FRANCIS II died the next year, and Mary became at 18 the dowager queen of France. The accession of Charles IX, dominated by the hostile Catherine de' Medici, led to the fall from power of Mary's uncles, the duke

of GUISE and the Cardinal of Lorraine. This situation plus the recent death of her mother prompted Mary to return to Scotland as queen in 1561. She faced many severe problems. She was a Frenchwoman, and the Scots, nobles and commoners, were intensely nationalistic. She was a devout Catholic; reformers under John KNOX had already established the new Protestant faith. Together with many Protestant nobles, they frequently sought help from England. Other lords, still Catholic, looked to the new queen to preserve the remnants of the old Church. Bloody internal struggles between Protestants and Catholics and the wars with England had laid waste much of the country and impaired its economy. Finally, Mary was confronted with the double problem of insuring her right to succeed Queen ELIZABETH to the English throne and of making a suitable marriage. During her first four years of active rule, she met all her problems creditably. Her great personal charm won over many lords and commoners. Soon after her arrival, she conferred with the adamant John Knox. In response to his demands she consented to the Presbyterian establishment and to such severe ecclesiastical laws as those which imposed death for adultery or witchcraft. Although she was eventually forced to acquiesce to some laws against Catholic priests, she steadfastly refused to abandon her own faith or to give approval to a law for compulsory attendance in the Protestant church and almost succeeded in establishing freedom of worship. Many Protestant leaders demanded, however, that she abolish the Mass said for her in the palace, and ministers like Knox led in scurrilous denunciations of her interest in music and other courtly graces. Some noblemen were won over by her intelligent effort to rule constitutionally and to carry out the Stuart policy of uniting Scotland under the crown, but most of them had long before become too violently partisan to submit permanently to her plans. At the beginning she was able to control recalcitrant leaders of both parties, but in 1562 she was obliged to quell a revolt led in the North by the earl of HUNTLY, chief of the Catholics. From the beginning of her reign, Mary requested Elizabeth to acknowledge her right of succession to the English throne. The English monarch characteristically gave only hazy, unsatisfactory answers and counterproposals, so Mary proceeded to make a marriage which would reinforce her claim. Skillfully parrying the demands of both factions among her noblemen, she accepted in 1565 her English cousin, Henry Stuart, Lord DARNLEY. His descent from Margaret Tudor gave him almost as close a claim to the English throne as Mary's. Most of the Catholic lords and some of the Protestants accepted the marriage, but the earl of MURRAY, Mary's half brother, tried with other Protestant nobles to raise a revolt. Mary took personal leadership of the loyal nobles and people and chased the rebels into England. One of the chief advocates of Mary's marriage had been David RIZZIO, at first her musician but later one of her most trusted counselors. Darnley, whom Mary soon came to despise, became jealous of the Italian and was chagrined that he himself had no real power. He was easily persuaded by a promise of the crown matrimonial and the real control of Scotland to join a plot sponsored by the outlawed Protestant lords and some other malcontents in the queen's council. In March, 1566, a band led by Darnley and the earl of MORTON broke into Mary's apartments, where she was dining with several courtiers, and murdered RIZZIO, reportedly before her eyes. Mary, despite illness and pregnancy, talked Darnley over to her side, escaped to Dunbar to be joined by the earl of BOTHWELL and other loyal lords, and so defeated the coup. It soon became necessary, however, to reinstate most of the rebels. In June, 1566, Mary bore a son, who was to become James VI of Scotland and JAMES I of England. According to tradition, about this time she fell in love with Bothwell, who, despite his reputation as an unfaithful husband, had remained consistently loyal to the queen. He may have appeared to Mary the strong leader she had not found in Darnley. The latter meanwhile was dabbling in another plot against her and had succeeded in making an enemy of everyone in Scotland. All the royal advisers urged Mary to rid herself of Darnley. Late in January, Darnley, who was ill, moved into Kirk o' Field, a house outside the walls of Edinburgh. On February 9 Mary visited him briefly there. That night the house was blown up, and Darnley was found strangled in the yard. Bothwell was universally suspected of the murder, but was acquitted by a packed court. On April 24 when Mary was returning to Edinburgh from Stirling, she was intercepted by Bothwell and carried away with her attendants to Dunbar Castle. In the ensuing two weeks Bothwell secured a divorce. On May 6 he and Mary returned together to Edinburgh; on May 15 they were married by Protestant rites. Aroused by outraged Protestant preachers, the Scots now flew to arms. Mary had lost the support of the people and lords, first by her failure to punish the man universally believed to be her husband's murderer and then by the flagrant act of marrying him. Supported only by the young earl of Huntly and the Hamiltons, she was forced to surrender to the lords of the council at Carberry Hill on June 15. Bothwell escaped, only to end by dying as an insane man in a Danish prison. Taken to prison at the castle of Lochleven, Mary abdicated, conveyed the crown to her son, and named Murray as regent. Early in May, 1568, Mary escaped with the help of Willie Douglas, a servant at her island prison, and supported by the Hamiltons, she soon accumulated a considerable force of lords and men sworn to replace her on the throne. At Langside, near Glasgow, Mary was defeated by Murray, and she immediately fled to N England. Elizabeth welcomed her to England, bade her wait patiently at Carlisle until her assured restoration, and refused to turn her over to the Scottish government. But the English queen did not keep her promise. In England, Mary offered something of a rallying point for the persecuted Catholics. To restore Mary in Scotland would have meant a setback for the Protestant party in Scotland. Elizabeth astutely persuaded both parties to present their case before an English tribunal, first at York and then at Westminster (1568–1569). The judgment was that the abdication and Murray's regency were legal, but that Mary's complicity in Darnley's murder was unproved. The result was that Murray stayed in power, Mary's reputation was smirched, and she became a prisoner of the English. Consenting to a divorce from Bothwell, Mary joined a plot for her marriage to the English duke of Norfolk. The plans failed as did a subsequent rebellion of the Catholics in N England in 1569. The following year Elizabeth approved a proposal which would have restored Mary to the Scottish throne but which included severe conditions favorable to England. Mary accepted, but the project fell through at the objections of the Scottish Protestants. In 1572 much was made of a purported plot which would have replaced Elizabeth and which involved Mary, the duke of Norfolk, and other English nobles in alliance with the papacy and Spain. Despite the urging of Parliament, Elizabeth at this time did not have her enemy executed. Mary had remained steadfast in claiming that her abdication was void because it had been obtained under duress, but in 1581 she offered to share the rule of Scotland with her son. Meanwhile from her prison she was plotting with the Guises and with Spain for an ill-advised invasion of England, a scheme which was detected and foiled in 1583. Mary then confirmed her son's kingship and asked for liberty. The request was of course refused, and Mary was moved in quick succession from castle to castle. In 1586 a plot to murder Elizabeth was reported by Walsingham, who cannily permitted the affair to develop in order to implicate Mary. The ringleader was a certain Anthony BABINGTON, formerly a page of Mary. Eventually he was arrested, Mary was charged with being an accomplice, formally arrested, and taken to Fotheringay Castle. Her trial began there on Oct. 14, and on the 15th adjourned to the Star Chamber for continuance. On Oct. 25 she was found guilty. After assurance from Mary's son that he would not make trouble, Elizabeth signed the death warrant. Elizabeth hesitated, but certain councilors secretly had the warrant published. Mary was beheaded at Fotheringay on Feb. 8, 1587. Upon hearing the news, Elizabeth produced a demonstration of pretended grief and anger. Mary's body was eventually buried in Westminster Abbey in Henry VII's chapel. During the latter years of her life, Mary displayed deep devotion to her religion, at her trial and execution her conduct moved even her enemies to admiration. These factors, her great personal charm, the romantic incidents of her life, the contrast offered by her personality to that of Elizabeth—all have contributed to a popular belief that she could not have been guilty of one murder and of plotting another. Some scholars maintain that she was indeed guilty, but a clear-cut decision is made difficult by the tangled web of intrigue surrounding both incidents. The chief evidence of her part in the murder of Darnley is the Casket Letters, eight letters and a set of poems, all in French, supposedly written by Mary to Bothwell. These were allegedly found on the person of one of Bothwell's servants by servants of the earl of Morton just after the Carberry Hill incident. Alleged translations of these were shown to the English commissioners at York and Westminster. It is possible also that the originals appeared briefly at both places, but this cannot be proved, nor do the originals survive in any form. At her trial for the Babington plot, Mary handled her own defense brilliantly, demanding specific proof of her part in the conspiracy. The witnesses against her had been interrogated elsewhere under threat and did not appear at her trial. When she demanded direct evidence in the form of her own handwriting, it was not produced. Certain decodings of Mary's letters were admitted as evidence, illegally because they had been made by Walsingham's secretary during the counterplot. The final verdict was reached after the court had been adjourned to the court of Star Chamber, at which Mary did not appear. Despite these abrogations of strict judicial procedure and despite the fact that the members of the tribunal were probably more or less thoroughly decided on a verdict of guilty before the trial took place, most scholars tend to believe that Mary at least had knowledge of Babington's plot. The question of Elizabeth's supposed reluctance to have Mary executed has no bearing on the truth or falsity of the charges, nor does it affect the clemency of Elizabeth, who kept Mary from two queenships that were rightfully hers. Mary's tragic history has made her one of the most celebrated heroines of romantic story. She is the subject of dramas by Friedrich Schiller, Vittorio Alfieri, A. C. Swinburne, and Maxwell Anderson. The 20th cent. has produced many interpretative and fictionalized biographies, most of them highly colored, one of the best is Stefan Zweig, *Mary Queen of Scotland and the Isles* (1935). Among the scholarly critical biographies are D. Hay Fleming, *Mary Queen of Scots* (1898), and T. F. Henderson, *Mary Queen of Scots* (1905). Good histories of the period are P. Hume Brown, *History of Scotland*, Vol. II (1902), J. B. Black, *The Reign of Elizabeth* (1936); and Agnes Mure Mackenzie, *The Scotland of Queen Mary* (1936). Sources for Mary's life contained in state papers, in private correspondence and in contemporary diaries have been published to a great extent. For these and for other works see S. A. Tannenbaum and D. R. Tannenbaum, *Marie Stuart, Queen of Scots, a Concise Bibliography* (3 vols., 1944–46).

Marysville, town (pop. 1,651), S N. B., on the Nashwaak river and near Fredericton.

Marysville. **1** City (pop. 6,646), co. seat of Yuba co., N central Calif., at the confluence of the Yuba and Feather rivers, N of Sacramento, inc. 1851. Here was a post on the trail into California, and Marysville after 1849 grew as a supply point for gold mines. The region is fruitgrowing. Yuba College (junior; coeducational) is here. **2** City (pop. 4,055), co. seat of Marshall co., NE Kansas, on the Big Blue River and NW of Topeka, inc. 1861. Once a ferry crossing (1849) on the Oregon Trail, it is the shipping center of an area producing grain, livestock, and dairy products. **3** City (pop. 1,777), S Mich., on the St. Clair river and near Port Huron, inc. as a village 1921, as a city 1924. Its products include salt, boats, and automobile parts. The Indian lake shore trail crossed this site. **4** Village (pop. 4,037), co. seat of Union co., W central Ohio, NW of Columbus, settled 1816, laid out 1820. Dairy products and heating apparatus are made. The state reformatory for women is here. **5** Borough (pop. 1,882), SE Pa., on the Susquehanna above Harrisburg, laid out 1861, inc. 1866. **6** Farm trading town (pop. 1,748), NW Wash., at the mouth of the Snohomish river, on Puget Sound near Everett, settled 1887, inc. 1890. An Indian reservation is near by.

Maryville. **1** City (pop. 5,700), co. seat of Nodaway co., NW Mo., on the One Hundred and Two river and N of St. Joseph, settled c. 1845. It is in a farm area producing hogs especially. Northwest Missouri State Teachers College is here. **2** City (pop. 5,609), co. seat of Blount co., E Tenn., S of Knoxville, in a fruitgrowing area, settled around Fort Craig (built 1785), inc. as a town 1907, as a city 1927. Sam Houston came here in 1807, near by is the log schoolhouse where he taught. Maryville College (Presbyterian, coeducational, 1819) is here.

Mary Washington College. see VIRGINIA, UNIVERSITY OF.

Masaccio (mäsät'chō), 1401–1428?, Italian fresco painter, pioneer of the Italian Renaissance and one of the epoch-making figures in Florentine art. His real name was Tommaso Guidi. He was enrolled in the guild of St. Luke in 1424. Much of Masaccio's work has perished; one of the earliest extant examples is probably the *Virgin with St. Anne* (Uffizi), painted for the Church of Sant' Ambrogio, Florence. In 1426 he painted for the Church of the Carmine, Pisa, an altarpiece, of which the central panel, *Virgin Enthroned*, is in the National Gallery, London; one panel, *St. Paul*, is in Pisa, a *Crucifixion* is in Naples, *St. Andrew* is in Vienna, and four panels, representing the *Adoration of the Magi*, *Martyrdom of St. Peter*, *Death of the Baptist*, and *Four Saints*, were in the Berlin Museum. A damaged fresco of the *Trinity*, painted for the Church of St. Ignatius, Florence, is now in Santa Maria Novella. Masaccio's greatest work is in the Brancacci Chapel of The Church of Santa Maria del Carmine, Florence. Here he continued the series of frescoes left unfinished by Masolino, which were completed by Filippino LIPPI many years later. His independent works include *Expulsion from Eden*, *Peter and John Healing the Sick*, *Peter and John Distributing Alms*, *Peter Baptizing*, *The Raising of the King's Son*, and *The Tribute Money*, in which the artist's genius reaches its highest expression. These frescoes created a new era in Florentine painting and were for generations the training school and inspiration of painters, among them Michelangelo and Raphael. With Masaccio modern painting may be said to have begun. He advanced the art through his realism, his employment of the newly discovered laws of perspective, his knowledge of the human form and his ability

to represent it in the round, and his naturalistic treatment of figures and landscape. Leonardo da Vinci called Masaccio's frescoes "perfect works" Masaccio went to Rome, leaving the chapel unfinished: here he died See A H Layard, *The Brancacci Chapel and Masolino, Masaccio, and Filippino Lippi* (1868), Henrik Lindberg, *To the Problem of Masolino and Masaccio* (1931)

Masan (mä'sän') or **Masampo** (mä'säm'pō'), city (1946 pop 82,175), S Korea, a port on Korea Strait. There is cotton weaving

Masaniello (mäsänyĕl'lō), 1620?–1647, Neapolitan revolutionist, whose original name was Tommaso Aniello (tōm-mä'sō änyĕl'lō) He was a fisherman and took the lead among the discontented common people burdened by taxation A new tax on fruit produced the climax Tumults broke out in 1647 and soon became so serious that the viceroy came to terms with Masaniello, promised the reforms demanded, and recognized him as captain general This sudden success had an ill effect on Masaniello's mind, and he was killed by his own supporters The revolution was immediately repressed

Masaryk, Jan (yän'mä'särĭk), 1886–1948, Czechoslovak statesman, son of Thomas G Masaryk He was Czechoslovak minister to London (1925–38) In 1940 in London he became foreign minister in the Czechoslovak government in exile headed by Eduard Benes. He continued to hold this post after his government returned (1945) to Prague. A liberal, he advocated cooperation with Soviet Russia as well as with the Western powers He thus remained in office after the Communist coup d'état of Feb , 1948, but a few days later it was officially announced that he had committed suicide by leaping from a window His death caused consternation and indignation throughout the world. There was some argument whether or not his death was voluntary, but no real evidence has been adduced on either side

Masaryk, Thomas Garrigue (gurĭg'), 1850–1937, Czechoslovak statesman, first president and chief founder of CZECHOSLOVAKIA Born in Moravia, he studied at the Univ of Vienna (Ph D , 1876), where he became a lecturer on philosophy He married Charlotte Garrigue, an American From 1882 to 1911 he was a professor at the Czech Univ of Prague He was elected to the Austrian parliament but soon resigned to devote himself to the political education of his own people In 1907 he reentered the parliament as head of his own party, which stood for complete independence of the Czechs from Austria He fled to Paris at the outbreak of the First World War and with Eduard BENES formed the Czechoslovak national council, which in 1918 was recognized by the Allies as the *de facto* government of Czechoslovakia Traveling widely during the war years, he raised funds in the United States for the Czech cause and in Russia organized the Czech Legion, which was to play an important part in the Russian civil war following the Russian Revolution of 1917 The national council, over which Masaryk presided, secretly maintained close contacts with Czech and Slovak nationalist leaders (notably KRAMAR) at home Upon the collapse of the Austro-Hungarian Monarchy he was chosen by acclamation (Nov , 1918) president of the newly formed Czechoslovak republic He was reelected in 1920, 1927, and 1934, but resigned because of his advanced age in 1935, when his loyal collaborator, Benes, succeeded him. Masaryk was a philosopher-statesman and an ardent liberal One of the first acts of his administration was an extensive land reform The chief domestic problems facing him were the status of minorities (particularly the Slovaks and Germans) and the relations between Church and state Masaryk sought a moderate course and thus incurred the enmity of extreme nationalists and of a large part of the clergy A *modus vivendi* with the Vatican was reached in 1927 after bitter quarrels, in the course of which the short-lived Czechoslovak National Church was set up In foreign policy Masaryk fully backed Benes Despite the opposition of extremists, he was revered by the great majority of the people and respected throughout the world as one of its great democratic leaders. Masaryk's extensive writings on philosophical, social, and political subjects include *Spirit of Russia* (Eng. tr , 1919), *The Making of a State* (Eng tr., 1927), *Ideals of Humanity* (Eng tr., 1938), and *Modern Man and Religion* (Eng tr., 1938) See biographies and studies by D. A. Lowrie (1930), Karel Capek (1935), Emil Ludwig (1937), Paul Selver (1940), Victor Cohen (1941), W. P. Warren (1941), and R. W. Seton-Watson (1943).

Masaya (mäsä'yä), city (1946 estimated pop 26,199), W Nicaragua In a rich agricultural area, Masaya is connected by rail and highway with Granada and Managua

Masbate (mäsbä'tā), island (1,262 sq. mi ; pop. 145,065), Philippine Islands, south of the southeastern peninsula of Luzon Gold has been mined here for centuries Agricultural crops are coconuts, rice, corn, and hemp. It is the principal island of Masbate prov. (1,571 sq. mi.; pop 182,483).

Mascagni, Pietro (pyā'trō mäskä'nyē), 1863–1945, Italian operatic composer. His one big success was his *verismo* opera *Cavalleria rusticana* (1890), based on the tale by Giovanni Verga, it stands with Leoncavallo's *Pagliacci* as a classic of its type. His other operas, including *L'amico Fritz* (1891) and *Iris* (1898), were less successful.

Mascara (mä'skürä, mä'skärä), town (1936 pop. 30,780), NW Algeria, SE of Oran It occupies the site of a Roman settlement and was a capital of Turkish rulers in W Africa A headquarters for Abd el-Kader, it was captured by the French in 1835, was lost by them, and was finally reoccupied in 1841 It is a market center, especially for wines, cereals, and tobacco and is particularly noted for its white wine.

Mascarene, Paul (mäskürēn'), 1684–1760, British colonial administrator, acting governor of Nova Scotia, b France, of Huguenot parentage, educated in Geneva In 1706 he became a British citizen and entered the army As an officer in the grenadiers, he took part in the final capture (1710) of Port Royal, N S From 1740 until the arrival of Gov Edward Cornwallis in 1749, Mascarene was acting governor of Annapolis Royal (which he successfully defended against the French in 1744) and president of the council of Nova Scotia He left the province c 1752 and spent the remainder of his life in Boston, in 1758 he retired from the army as a major general

Mascarene Islands (mäskürēn'), in the Indian Ocean, E of Madagascar They include MAURITIUS, RÉUNION, and RODRIGUEZ They are named for the Portuguese, Pedro Mascarenhas, who discovered Réunion in 1507

Maschil (mäs'kĭl), in the titles of Pss 32, 42, 44, 45, 52, 53, 54, 55, 74, 78, 88, 89, and 142, a term of unknown significance, probably an indication of the character of the Psalm

Mascoutah (mäskōō'tù), city (pop 2,294), S Ill , ESE of St Louis, in a farm and coal area, inc 1839

Masefield, John (mās'–), 1878–, English poet laureate (appointed 1930), playwright, and novelist He went to sea at the age of 14 and later spent several years at odd jobs in and around New York In 1897 he returned to England and was on the staff of the Manchester *Guardian* when he began writing poetry *Salt-Water Ballads*, containing "Sea Fever" and "Cargoes," appeared in 1902 In the *English Review* (Oct , 1911) appeared the first of his vivid, long, narrative poems, *The Everlasting Mercy*, which immediately made him famous The best known of his succeeding volumes of poetry are *The Widow in the Bye Street* (1912), *Dauber* (1913), *Reynard the Fox* (1919), *The Dream* (1922), *The Wanderer of Liverpool* (1930), and *Gautama the Enlightened* (1941) Among his plays are *The Tragedy of Nan* (1909), *The Tragedy of Pompey the Great* (1910), and *The Coming of Christ* (1928) Besides many adventure stories for boys, his novels include *Multitude and Solitude* (1909), *Sard Harker* (1924), *The Bird of Dawning* (1933), and *The Taking of the Gry* (1934) He has written studies of Shakspere (1911), of his friend Synge (1915), of Chaucer (1931), and of W B Yeats (1940) Other works include two excellent war sketches, *Gallipoli* (1916) and *The Nine Days Wonder* (1941), which concerns the retreat from Dunkirk, and the history of a ship, *The Conway* (1933) He was awarded the Order of Merit in 1935 See the autobiographical *In the Mill* (1941), Gilbert Thomas, *John Masefield* (1932)

Masereel, Frans (fräns' mäsärāl'), 1889–, Belgian painter and illustrator, associated with the Paris school of art He was essentially a self-taught artist The experiences of the First World War and friendship with Romain Rolland encouraged the development of a deeply humanitarian and social preoccupation in his art He is famous for his many series of woodcuts centering on abstract themes and powerfully expressing in an intense, decorative style the miseries and inner torments of men These include *Les Morts parlent*, *Idée*, *Le Soleil*, *Histoire sans paroles*, and *Souvenirs de mon pays* The books he has illustrated include *Jean-Christophe* by Romain Rolland, *Quinze poèmes*, *Cinq récits*, and *Le Travailleur étranger* by Émile Verhaeren, *Laponie et Kopiieau* by Georges Duhamel; *Le Trésor des humbles* by Maeterlinck, and *Quelque coin du cœur* by Henri Barbusse

Maseru (mä'sürōō), town (pop 3,383), capital of Basutoland protectorate. It is on a railroad to Durban, in the Union of South Africa Wool is exported.

Mash, son of Aram Gen 10 23

Mashal (mä'shäl), variant of MISHAL

Masham, Abigail, Lady (mä'shum), d **1734**, favorite of Queen Anne of England Her maiden name was Abigail Hill A plain, intelligent person, she became bedchamber woman to the queen (1704) and gradually succeeded her cousin Sarah, duchess of Marlborough, as the power behind the throne. In 1707 she married Samuel Masham, a groom of Prince George and later a baron Through Mrs Masham, Robert HARLEY, her kinsman, exerted his influence on the queen, until in 1714 Mrs. Masham quarreled with him, secured his dismissal as lord treasurer, and assured Viscount Bolingbroke (Henry St John) of supreme political power After Queen Anne's death she lived in retirement.

Masham, Samuel Cunliffe-Lister, Baron, 1815–1906, English inventor, a worsted manufacturer at Nottingham After various experiments in the mechanical combing of wool, he patented a machine and bought out rival inventors Later, he produced a silk-combing device which made it possible to spin silk waste into yarn He patented a compressed-air brake for railroads and held over 150 patents for various cloth-making machines, many of which were financially profitable In 1891 he was raised to the peerage. His *Lord Masham's Inventions* was published in 1905.

Mashin, Draga: see DRAGA

Mashona (mäshō'nù), Bantu-speaking people, E Southern Rhodesia, inhabiting Mashonaland They were dominated by the warlike Matabele from 1837 to 1893, when the British conquered Southern Rhodesia The Mashona are herdsmen.

Masinissa or **Massinissa** (both: mäsĭnĭ'su), c.238–149 B C , king of Numidia. He succeeded (c.207) his father as king of E Numidia. He was brought up in Carthage, and he fought in a Carthaginian campaign in Spain, but he joined the Romans (206 B.C) during the Second Punic War. After defeating his old rival Syphax, king of W Numidia, he joined Scipio Africanus Major and led his cavalry in a decisive charge at the battle of Zama (202) which ended the war Rome awarded him the Punic territory E of Carthage During his long reign he extended his power and converted his band of turbulent tribesmen into a formidable and prosperous kingdom He harassed reviving Carthage, which he goaded into breaking its treaty with Rome by attacking his territory (150 B C), thus he furnished Rome with a pretext for the Third Punic War.

mask, artificial covering for the face or head used as a disguise or a protection. Masks of stone, wood, and many other materials have been used by primitive people for medicinal, protective, religious, and theatrical purposes The North American Indians and Eskimo used masks in their ceremonies, and the mask is common to the aborigines of Australia, the natives of the South Sea Islands, some Negro tribes in Africa, and to Oriental peoples Theatrical masks are an integral part of Japanese drama, especially as exemplified in the *no* plays, and of Chinese temple dramas The many masks used in Greek drama represented the character being portrayed by the actor and were constructed for a fixed emotion such as grief or rage Greek masks had metallic mouthpieces which enhanced the resonance of an actor's voice The use of masks was preserved in the Roman theater, passed into the early Italian theater, and was a characteristic device of the COMMEDIA DELL' ARTE The mask had a place in the miracle dramas of the Middle Ages and appeared in modern times in the works of the German expressionist playwrights and in Eugene O'Neill's plays *The Great God Brown* and *Lazarus Laughed* The making of death masks is an ancient practice Roman death masks were made of wax, and Egyptian death masks of thin gold plate The modern method first applies oil or grease to the face and next a coat of plaster of Paris, which is permitted to harden and is then removed This procedure results in a mold which is used to cast the mask A similar process has been used for life masks but is often dangerous to the sitter and unsatisfactory in results Gas and other protective masks, baseball catcher's masks, beauty masks, and the surgeon's operating mask are products of modern times See MASQUE See Kenneth Macgowan and Herman Rosse, *Masks and Demons* (1923), W T Benda, *Masks* (1944)

Maskat, Arabia see MUSCAT

Maskelyne, Nevil (nĕ'vùl mä'skùlĭn), 1732–1811, English astronomer As astronomer royal (from 1765) he devoted much attention to means of improving navigation and astronomical observations He wrote the *British Mariner's Guide* (1763) and in 1766 established the *Nautical Almanac* In 1774 Maskelyne made his notable experiments to determine the density of the earth, testing, by the deviation of a pendulum from the vertical, the gravitational pull of Mt Schiehallion, in Scotland

masochism (mă'zùkĭzm), sexual abnormality in which satisfaction is derived from subjection to physical maltreatment In psychoanalysis the term describes a destructive attitude which the individual turns inward upon himself rather than outward upon others The word *masochism* was suggested by the name of an Austrian novelist, Leopold von Sacher-Masoch (1835–95), whose books depicted this abnormality

Masolino da Panicale (mäsōlē'nō dä pänēkä'lā), 1383–c 1447, Florentine painter of the early Renaissance, whose real name was Tommaso di Cristoforo Fini He was admitted (1423) to the apothecaries' guild in Florence, in which painters were enrolled, and was soon commissioned to paint the frescoes in the Brancacci Chapel in Florence These were continued by his pupil Masaccio upon Masolino's departure (1427) for Hungary and were completed by Filippino Lippi, thus greatly complicating the question of authorship, the best criticism attributes to Masolino *St Peter Preaching*, *St. Peter Healing the Cripple*, *The Raising of Tab-*

tha, and *The Fall of Adam and Eve*. Upon his return to Florence, Masolino found painters occupied with problems of perspective, light and shade, and classic architecture and decoration, ideas which he utilized while retaining much of the old Giottesque tradition. The authenticated works of the master are a series of frescoes executed for Cardinal Branda Castiglione in the church and baptistery of Castiglione di Olona in the province of Como, Italy. The earliest of these, in the choir, represent scenes from the life of the Virgin, those in the baptistery (c.1435), episodes from the life of St. John the Baptist. These important and well-preserved paintings represent a transitional period in Florentine art. Attributed to Masolino are a *Madonna and Christ in Glory* and *The Founding of Santa Maria Maggiore* (Naples); *Madonna with Angels* (Church of San Fortunato, Todi), and the much-repainted frescoes in the Church of San Clemente in Rome. See A. H. Layard, *The Brancacci Chapel and Masolino, Masaccio, and Filippino Lippi* (1868), Henrik Lundberg, *To the Problem of Masolino and Masaccio* (1931).

Mason, George, 1725–92, American statesman, b. Fairfax co., Va. He was one of the wealthiest of the colonial Virginia planters, and his mansion "Gunston Hall," completed in 1758, was magnificent. In his triple capacity as trustee (1754–79) of the town of Alexandria, justice of the Fairfax co. court until 1789, and as vestryman (1748–85) of Truro parish, Mason exercised great influence in local politics. In 1752 he became a member of the Ohio Company, and seven years later he was elected to the Virginia house of burgesses. While Mason signified his opposition to the Stamp Act, the Townshend Act, and the Boston Port Act by introducing various resolutions—some of which were adopted by the Continental Congress—his active resistance to British colonial policy dated from July, 1775, when he succeeded George Washington in the Virginia convention. Mason served on the Committee of Safety, and as a member of the Virginia constitutional convention, he not only drafted a good portion of the state constitution but also drew up the renowned Virginia Declaration of Rights. The declaration was extensively copied by the other American colonies, was in some degree drawn upon for the American Declaration of Independence, and had influence on the French Declaration of the Rights of Man. He was a member of the Federal Constitutional Convention at Philadelphia (1787) and took an active part in drafting the U.S. Constitution. However, he objected to provisions for the centralization of power, the compromise between New England and the Southern states on the tariff and slave-trade issues, and the failure to include a Bill of Rights. Mason refused to sign the Constitution and with Patrick Henry led the fight in Virginia against its ratification. The long Bill of Rights which he forwarded formed the basis for the first 10 amendments to the Constitution. See biographies by K. M. Rowland (1892) and Helen Hill (1938).

Mason, Gregory, 1889–, American anthropologist, journalist, and lecturer, b. New York city, grad. Williams (B.A., 1911), Ph.D. Univ. of Southern California, 1938. He was on the staff of the *Outlook* during and after the First World War. Under the auspices of several museums he organized and led (1926–31) scientific expeditions to Central and South America. He taught journalism at New York Univ. from 1937 (as professor from 1942). His works include *Green Gold of Yucatan* (1926), *Silver Cities of Yucatan* (1927), *Columbus Came Late* (1931), *Remember the Maine* (1939), and *South of Yesterday* (1940).

Mason, James Murray, 1798–1871, U.S. Senator and Confederate diplomat, b. Georgetown, D.C., grad. Univ. of Pennsylvania, 1818, grandson of George Mason. He studied law at the College of William and Mary and began practice in Winchester, Va., in 1820. Mason served in the Virginia legislature (1826–27, 1828–31), in the House of Representatives (1837–39), and in the U.S. Senate (1847–61). A staunch supporter of Southern rights, he drafted the Fugitive Slave Act of 1850 and advocated secession. Jefferson Davis appointed him Confederate commissioner to England in Aug., 1861. Along with John Slidell, Mason was seized aboard the British ship *Trent* by Capt. Charles Wilkes, commanding the U.S. warship *San Jacinto*, and was held prisoner at Fort Warren, Boston, till Jan., 1862 (see TRENT AFFAIR). Never officially recognized by the British government, he failed to attain the aid he sought. See biography by his daughter, Virginia Mason (1903), B. J. Hendrick, *Statesmen of the Lost Cause* (1939).

Mason, John, 1586–1635, founder of New Hampshire, b. Lynn Regis, Norfolk, England, educated at Magdalen College, Oxford. A royalist, he received favors from the king and was governor (1615–21) of Newfoundland. He and Sir Fernando Gorges received (1622) a grant of the province of Maine, and in 1629 Mason received as his share a 60-mile-deep area between the Merrimac and Piscataqua rivers, confirmed (1634) to him by the Council for New England and named by him New Hampshire. Attempts by his heirs to make good their claims to this land led to long litigation and finally to the naming of the MASONIAN PROPRIETORS. See biography by C. W. Tuttle (1887).

Mason, John, c.1600–1672, New England colonial leader, commander in the war against the Pequot Indians in Connecticut, b. England. He was an army officer before he emigrated (c.1630) to Massachusetts. In New England he became a captain in the Dorchester militia and a representative in the General Court. In 1635 he moved to Windsor, Conn. When the Pequot Indians threatened to wipe out the new colonies on the Connecticut river, he and John UNDERHILL led an expedition (1637) against them with the aid of Indians under UNCAS and MIANTONOMO and virtually destroyed the tribe. After this campaign—generally called the Pequot War—Major Mason was a distinguished figure in Connecticut until his death.

Mason, John Young, 1799–1859, American statesman, b. Greensville co., Va., grad. Univ. of North Carolina, 1816. He studied law under Tapping Reeve at Litchfield, Conn., and was admitted to the Virginia bar in 1819. Mason served in the state legislature (1823–31), in Congress (1831–37), and as a Federal judge (1837–44). He was Secretary of the Navy under President John Tyler and was first Attorney General and then Secretary of the Navy again in President James K. Polk's cabinet. From 1853 till his death he was minister to France, where, with James BUCHANAN and Pierre SOULÉ, he drew up (1854) the OSTEND MANIFESTO.

Mason, Lowell, 1792–1872, American composer and music educator of far-reaching influence, b. Medfield, Mass. While working as a bank clerk in Savannah, Ga., he compiled an anthology which was published as *The Boston Handel and Haydn Society's Collection of Sacred Music* (1820). He went to Boston to direct the music in three churches, added music to the curriculum of the Boston public schools, and in 1832 founded the Boston Academy of Music. His application of the principles of Pestalozzi to music education was the subject of lectures he delivered in Europe (1850–53). With G. F. Root and W. B. Bradbury he established (1853) the New York Normal Institute for training teachers. He compiled numerous collections of hymns, adapted or arranged many hymns, and composed 1,210 of his own, including *Nearer, My God, to Thee*, *My Faith Looks Up to Thee*, and *From Greenland's Icy Mountains*. See T. F. Seward, *The Educational Work of Lowell Mason* (1879), H. L. Mason, *Hymn-Tunes of Lowell Mason a Bibliography* (1944), J. T. Howard, *Our American Music* (rev. ed., 1946), biography by A. L. Rich (1946). Lowell Mason had four sons, all active musically. The two eldest, Daniel Gregory and Lowell, formed a publishing company in New York. Lowell and the third son, Henry, founded Mason & Hamlin, a firm which first made organs and is still an outstanding maker of pianos. The youngest son, **William Mason**, 1829–1908, b. Boston, was a distinguished concert pianist and teacher. He studied in Europe with Liszt and others and was received by Schumann and Wagner. He wrote a number of light piano pieces, his *Touch and Technic* (1889) was influential in American piano teaching. With Theodore Thomas he organized a chamber-music ensemble which did much to interest American concertgoers in chamber music. See his *Memories of a Musical Life* (1901). The son of Henry Mason, **Daniel Gregory Mason**, 1873–, b. Brookline, Mass., is important as a composer, writer, and lecturer. He studied with Ethelbert Nevin, with J. K. Paine at Harvard, and with D'Indy in Paris. In 1909 he joined the faculty of Columbia Univ., where he was MacDowell professor of music from 1929 to 1942. His writings include *Contemporary Composers* (1918), *From Grieg to Brahms* (1927), *Beethoven and His Forerunners* (rev. ed., 1930), *Music in My Time* (1938), and *The Quartets of Beethoven* (1947). His compositions, in a somewhat conservative idiom, include a prelude and fugue for piano and orchestra (1920), the *Chanticleer Overture* (1928), three symphonies, of which the third, known as *Lincoln Symphony* (1936), is outstanding, and chamber music.

Mason. **1** City (pop. 2,867), co. seat of Ingham co., S Mich., SE of Lansing and on a tributary of the Grand River, settled 1836, inc. as a village 1865, as a city 1875. Pharmaceuticals are made. A state game farm is near by. **2** Unincorporated town (pop. c.2,000), W central Texas, on Comanche Creek in the Llano river valley and NW of San Antonio. Settled by Germans before the Civil War, the stone-built city and near-by farms have a mildly continental air. Mason handles the wool, mohair, and cattle from ranches in the rugged, sparsely settled hills of the Edwards Plateau. Fort Mason, a pre-Civil War army post, was near by.

Mason and Slidell Affair: see TRENT AFFAIR.

Mason City. **1** City (pop. 1,984), central Ill., N of Springfield, in a farm area; inc. 1869. **2** City (pop. 27,080), co. seat of Cerro Gordo co., N central Iowa; settled 1853 by Masons, platted 1854, inc. 1870. Rail, trade, and industrial center of an extensive farm area, it produces tile, brick, and cement and has a meat-packing plant and a beet-sugar refinery. Its public junior college (1918) is the oldest in the state. Near by is Clear Lake State Park, a resort.

Mason-Dixon line, boundary between Pennsylvania and Maryland (lat. 39° 43′ 26.3″ N), surveyed by the English astronomers Charles Mason and Jeremiah Dixon in 1763–67. Owing to the ambiguous description of boundaries in the Maryland and Pennsylvania charters, a protracted dispute, submitted (1735) to the English court of chancery, arose between the proprietors of the two colonies. A compromise between the Penn and Calvert families in 1760 resulted in the appointment of Mason and Dixon. By 1767 the surveyors had run their line 244 mi from the Delaware, every fifth milestone bearing the Penn and Calvert arms. The survey was completed to the western limit of Maryland in 1773, and in 1779 the line was extended to mark the southern boundary of Pennsylvania with Virginia (the section that is now West Virginia). Before the Civil War the term Mason-Dixon line popularly designated the boundary dividing the slave states from the free states and is still used in distinguishing the South from the North.

Masonian Proprietors. The New Hampshire grant settled on John MASON (1586–1635) in 1629 caused litigation after his death (1635). The inhabitants refused to recognize the claims of his successors. The title passed from his grandson to Samuel Allen (1691) and back to the Mason heirs (1718). The inhabitants were finally compelled to recognize the rights, which were sold (1746) by one of Mason's descendants to 12 gentlemen of Portsmouth—the Masonian Proprietors. They issued permits to settle and land titles in the grant, which was redefined by the state in 1788.

Masonic orders see FREEMASONRY.

masonry: see BRICK, CONCRETE, STONEWORK; TILE.

Masontown, borough (pop. 3,721), Fayette co., SW Pa., c.40 mi. S of Pittsburgh, inc. 1876.

Masora or **Massorah** (məsō'rə)) [Heb., =tradition], collection of critical annotations made by Hebrew scholars, called the Masoretes, to establish the text of the Old Testament. A principal problem was to fix the vowels, as the Hebrew alphabet has only consonants. Through assiduous study the Masoretes formulated rules for an accurate reading of each verse, evolving a system of vowels and punctuation for the purpose of pronunciation and intonation. Two systems of vowels were evolved, the Tiberian (now in use), consisting of curves, dots, and dashes, which can be traced to the 7th cent., and the Babylonian, of earlier origin, a more complicated superlinear system. The language of the Masora is mostly Aramaic, although some of the notes are written in Hebrew. The Masoretic compilation which consists of notes in the margins is called the Great, or Outer, Masora; the one which consists of notes written between the columns of the text is known as the Small, or Inner, Masora. Masoretic work was begun at an unknown time, the first traces of it appear in some halakistic works on the Pentateuch. Innumerable scholars have contributed to this work, which ceased c.1425. See James Kennedy, *Aid to the Textual Amendment of the Old Testament* (1929), Robert Gordis, *Biblical Text in the Making* (1937).

Masovia (məsō'vēə), Pol. *Mazowsze*, historic region, central Poland. Warsaw is the chief city. At the death (1138) of Boleslaus III, it became one of the four duchies under the four branches of the PIAST dynasty. The Masovian Piasts became extinct in 1526.

Maspero, Gaston Camille Charles (gästô' kämē'yŭ shärl' măspərō'), 1846–1916, French Egyptologist. He was professor of Egyptology at the Collège de France (1874–80, 1886–99), and in Egypt he was (1880–86, 1899–1914) director of excavations. He established the French School of Oriental Archaeology at Cairo and accomplished valuable work, especially in Luxor and Karnak. He returned to France in 1914 as permanent secretary of the Académie des Inscriptions et Belles Lettres. Among his chief works, the best known is perhaps *L'Histoire ancienne des peuples de l'Orient Classique*, of which three volumes were translated as *The Dawn of Civilization* (1884), *The Struggle of Nations* (1897), and *The Passing of the Empires* (1900). A briefer version is his *Histoire ancienne des peuples de l'Orient* (1875). Other works translated included *Egyptian Archaeology* (Eng. tr., 1887), *Art in Egypt* (1912), and *Popular Stories of Ancient Egypt* (Eng. tr., 1915).

Masqat, Arabia: see MUSCAT.

masque or **mask** (both: măsk), **form of dramatic** entertainment which reached its height in England in the reigns of James I and Charles I, taking its name from the early use in it of the MASK. Originally introduced into England in the early 16th cent., the masque imitated contemporary Italian pageants. Masques became a favorite form of private entertainment, and their popularity at court brought about their elaboration into magnificent spectacles, with great emphasis on costumes, scenery, dancing, and music. Generally

allegorical or mythological in form, the masque was presented in the open air, at court, or on the estate of a nobleman. Probably the foremost writer of masques was Ben JONSON. Inigo JONES is famous for his costume designs, settings, and machinery for masques. Milton's *Comus* has been called both a masque and a pastoral drama. See Enid Welsford, *The Court Masque* (1927), Allardyce Nicoll, *Stuart Masques and the Renaissance Stage* (1937).

masquerade. Now generally a fancy dress or costume ball in which guests wear small half-face masks, masquerades date from an early historical period, when they accompanied religious observances, festivals, and celebrations, such as the Greek Bacchanalia, the Saturnalia of Rome, and the Purim feast of the Jews. Despite ecclesiastical opposition, masquerades were popular in medieval times (see FOOLS, FEAST OF). The masquerade ball introduced into England from France in the 16th cent gained great popularity, but degenerated at times into a riotous affair.

Masrekah (măsrē'kŭ), [Heb.,=vineyard], unidentified birthplace of an Edomite king. Gen 36.36, 1 Chron 1 47

Mass [Latin,=dismissal], religious service of the Roman Catholic Church, a performance of the sacrament of the EUCHARIST. It is the ancient Latin LITURGY of the city of Rome, now used in most, but not all, Roman Catholic churches. It is the simplest liturgy; its language is typically terse. The term is also used among Anglo-Catholics. In the Roman Catholic Church, except for some variant "uses," e.g., that of the Dominican order, the service is the same everywhere, under minute regulation of the Holy See. The celebrant, who must be a priest or a bishop, follows a prescribed MISSAL and wears certain VESTMENTS. Mass is said at an altar containing RELICS; two candles must be burning. A congregation is not essential, but solitary Mass is discouraged. In full form there are priest, deacon and subdeacon (usually also priests), and choir, this is solemn, or High, Mass. Low Mass, much commoner, is the same service said by one priest without music or incense. Most of the text is invariable, or "ordinary," but certain "proper" parts change with the occasion or day. Of the sung portions, some are chanted solo at the altar with choral response; there are also nine hymns for the choir. Four of these are proper and related in theme, with texts usually from the Psalms: introit, anthem after the epistle (alleluia, gradual, tract, or sequence), offertory, and communion. The five ordinary choral pieces are KYRIE ELEISON, GLORIA IN EXCELSIS, CREED, SANCTUS, and AGNUS DEI. Plain song is prescribed for all texts, but latitude is permitted the choir. A musical setting for the five ordinary hymns, called a Mass, is a form attracting many composers, e.g., Josquin des Prés, Palestrina, Byrd, Monteverdi, Scarlatti, Bach, Haydn, Mozart, Beethoven, Gounod, and Verdi. The Mass begins with preparatory prayers and continues with the introit, the *Kyrie eleison*, the *Gloria in excelsis* (not always), a COLLECT or collects (proper chanted prayers), the proper EPISTLE, an anthem and the proper GOSPEL (chanted with all standing). Mass is often interrupted here for the Gospel in the vernacular and a sermon. Mass continues with the creed (sometimes), the OFFERTORY (anthem with offering of bread and wine), offering of incense, washing of the celebrant's hands, and proper prayers called secrets. Now there is a chanted dialogue and proper preface of thanksgiving ending in the *Sanctus*. This opens the long eucharistic prayer, or canon, which is read rapidly and inaudibly. It begins with prayers for the living. The consecration follows, then the celebrant raises Host and chalice above his head for all to see and adore. This elevation is the solemn climax of the Mass. The canon ends with prayers for the dead and a doxology. After the canon the Mass consists of the Lord's Prayer (chanted in High Mass), a prayer amplifying "Deliver us from evil," the symbolic breaking of the Host and putting a piece into the cup, the kiss of peace (a quasi-embrace of those about the altar), the *Agnus Dei*, the communion, the ablution of vessels, the communion anthem, postcommunion prayers (chanted in High Mass), the dismissal (also chanted at High Mass), the blessing, and the "last Gospel," usually John 1 1–14. There are ceremonial adjuncts such as processions, blessings, censings, and the ringing of a handbell for a warning at *Sanctus*, consecration, and communion. Normally at Low Mass a server (altarboy) or acolyte, often a boy, helps and makes responses. Mass may be offered with a special intention, as in thanksgiving or for peace. A REQUIEM is a proper Mass for the dead. Most priests say Mass daily. Sunday Mass is an important sociocultural factor in Roman Catholic life. All members are required to attend Mass on Sunday as a minimum participation in public worship. The Mass is largely unchanged since the 6th cent; the latest additions are the communion prayers (14th cent.). In the Catholic Reform the uses were restricted and local variants eliminated. There are several complete translations into English of the Roman Missal. See Adrian Fortescue, *The Mass* (1912; rev. ed., 1937); Pius Parsch, *The Liturgy of the Mass* (Eng. tr., 1936).

mass, in physics, the quantity of matter in a body without regard to its volume or to the pull of gravity upon it. The term should not be confused with "weight," which is the measurement of the force of gravity acting upon a body at any given point on the earth's surface. For all practical purposes the mass of a body can be considered constant, whereas its weight is not constant—this varies with the force of gravity (see GRAVITATION) in different localities and depends upon the place at which the measurement is made. In determining the mass of a body, it is customary to use a beam balance and a set of standard weights. In this way, the factor of gravity is eliminated, since the body whose mass is being determined and the standard weights which balance it are both being acted upon by the same pull of gravity. When the weight of a body is measured on a beam balance, as it often is, it is identical with the mass of the body. For this reason mass is commonly described as standard weight. When, however, weight is measured on a spring balance, the identity does not hold, the reading on such a balance depends upon the amount of distortion of the spring resulting from the pull of gravity acting upon the body attached to it. The mass of the body can be calculated from its local weight as recorded on a spring balance if the local "pull" of gravity—technically, the local acceleration of gravity—is known. Using an equation based upon Newton's second law of MOTION, the local weight (w) divided by the local acceleration of gravity (g'), multiplied by the standard acceleration of gravity (g), equals the mass (m) of the body. With letters, the formula reads $\frac{w}{g'} \times g = m$. As the numerical value for the mass of a body is the same anywhere in the world, it is used in the formulas for determining the density and the specific gravity of substances. According to the theory of relativity, mass is held to be not constant and to depend upon velocity. The mass of the electron is held to increase as its speed approaches the speed of light, 186,000 mi. per second. This theory has been extended to include the mass of all bodies. Their INERTIA, which is a measure of their mass, increases as their velocity approaches that of light, and their mass also increases in proportion.

Massa (mä'sŭ), seventh son of Ishmael. Gen 25 14, 1 Chron 1 30

Massa (mäs'sä), city (pop. 12,508), capital of Massa e Carrara prov., Tuscany, central Italy, 3 mi. from the Tyrrhenian Sea. Marble quarrying is the most important occupation. The old town is centered around the 15th-century Malaspina castle, in the new section are the Cybo-Malaspina Palace, a 15th-century cathedral, and a fine marble fountain. From the 15th to the 19th cent. the city was the capital of the independent principality, later duchy, of Massa and Carrara, which was ruled by the Malaspina and the Cybo-Malaspina families. In 1829 it passed through marriage to the house of Austria-Este, dukes of Modena. It united with the kingdom of Sardinia in 1859.

Massachuset Indians (măsŭchōō'sĕt), tribe or confederation of tribes of North American Indians of the Algonquian linguistic stock. In the early 17th cent. they occupied the territory about Massachusetts Bay and ranged northward. They then numbered some 3,000, but by 1631, after wars and pestilence, they were reduced to some 500. Soon thereafter they adopted Christianity and moved, with other converts, into the villages of the "praying Indians." Here they ceased to have a separate tribal existence. The Massachuset owned and occupied the site of Boston.

Massachusetts (măsŭchōō'sĭts), state (8,257 sq. mi.; 1940 pop. 4,316,721, 1949 estimated pop. 4,713,000), NE United States, principal state of the New England group, one of the Thirteen Colonies. BOSTON is the capital and metropolis. The next largest cities are WORCESTER, SPRINGFIELD, FALL RIVER, CAMBRIDGE, NEW BEDFORD, SOMERVILLE, LOWELL, and LYNN. Massachusetts is bounded on the north by Vermont and New Hampshire, on the east and south by the Atlantic Ocean, further on the south by Rhode Island (which also borders SE Massachusetts on the west) and Connecticut, and on the west by New York. The eastern part of the commonwealth (its official designation), including the CAPE COD peninsula and the islands lying off it to the south—the ELIZABETH ISLANDS, MARTHA'S VINEYARD, and NANTUCKET—is a low coastal plain. Here short, swift rivers such as the MERRIMACK have long powered the state's industry, and an indented coast line provides many good natural harbors, although Boston is the only port that has retained its commercial importance. In the interior rise uplands separated by the rich Connecticut river valley, and farther west lies the Berkshire valley, surrounded by the BERKSHIRE HILLS, part of the TACONIC MOUNTAINS. The western streams feed both the Hudson and the Housatonic rivers. The state has a mean altitude of c.500 ft. and Mount GREYLOCK in the Berkshires is the highest point (3,491 ft.). The climate, of the northeast temperate zone variety, is variable. Massachusetts is an overwhelmingly industrial state, which, with its predominantly urban population, is one of the most thickly settled in the Union. The most valuable of its many, diversified industries in 1949 were the electrical (machinery, appliances, and supplies), woolen and worsted textiles, boot and shoe (nonrubber), clothing, cotton textiles, leather, foundries and machine shops, printing and publishing, rubber (including tires and tubes), bakeries, and paper and wood pulp. Well over 500,000 Massachusetts workers are members of labor unions. Corn, apples, potatoes, tobacco and onions (in the Connecticut valley), hay, oats and cranberries (on Cape Cod) are leading agricultural crops, and dairy cattle and poultry are extensively raised. The coastal waters abound in shellfish, and the fishing fleets of Gloucester and Cape Cod still bring in a large and varied catch. Lime, clay, sand and gravel, and stone are the chief mineral resources. Norsemen almost surely skirted the coast in the 11th cent., and in the late 16th and early 17th centuries Europeans of various nationalities (but mostly English) sailed offshore. Settlement, however, did not begin until the PILGRIMS landed (1620) from the MAYFLOWER on Cape Cod at the point which they named PLYMOUTH for their port of embarkation in England. Their first governor, John CARVER, died the next year, but under his wise successor, William BRADFORD, PLYMOUTH COLONY took firm hold and, weathering early difficulties, eventually prospered. Other Englishmen soon established fishing and trading posts nearby. Thomas Weston (1622) at Wessagusset (now Weymouth) and Thomas Wollaston and Thomas MORTON (1625) at Mount Wollaston or Merry Mount (now QUINCY). The fishing post established (1623) on Cape Ann by Roger CONANT failed, but in 1626 he founded Naumkeag (SALEM), which became the nucleus of settlement for the Puritan company and colony named for the MASSACHUSETTS INDIANS (see MASSACHUSETTS BAY COMPANY). The Salem in 1628 came JOHN ENDECOTT, after the Bay Company had received a patent from the Council for New England. When this grant was confirmed by a royal charter (1629), John WINTHROP (1588–1649) led (1630) the first large Puritan migration from England (900 settlers on 11 ships). Boston was founded, and Massachusetts was well launched. Under the charter the colony was to be administered by two general courts. The first, composed of stockholders in the company or freemen, met in quarterly sessions, at one of which they selected a governor, deputy governor, and 18 assistants, who composed the other general court, the power in the colony. The legislature of Massachusetts is today still called the General Court. The colonial arrangement contained suspicions of democracy which never worked out in practice, since Winthrop, the first governor under the charter, and the other leaders planned and established a social order in which the individual was subject to God's will as interpreted by the Puritan clergymen, among whom John COTTON was most prominent. Massachusetts thus became a thoroughgoing theocracy (see PURITANISM). Only members of the church were eligible to sit in the general court. This turn of events was not popular with many freemen, but it had the salutary effect of increasing settlements as the discontented moved further into the wilderness. So long as they could direct the course of new settlements, the ruling powers had no objection to this exodus. The Puritans, who had left England chiefly because of Anglican displeasure at their religious beliefs, were themselves intolerant (the Pilgrims at Plymouth were slightly less so), and this too led to English expansion in New England. The liberal Roger WILLIAMS, banished in 1635, founded (1636) Rhode Island as a haven for religious liberty, and was shortly joined by Anne HUTCHINSON, principal figure in the controversy over ANTINOMIANISM. Her brother-in-law, John WHEELWRIGHT, also banished (1637), founded Exeter in New Hampshire. Connecticut colony, on the other hand, was established by prominent orthodox Puritans such as John HAYNES and Thomas HOOKER, although at least one of them, Hooker, was partially prompted to move from dissatisfaction with the local theocracy. The steady stream of newcomers from England more than offset these departures, and soon the South Shore (south, i.e., of Boston), the North Shore, and the west were dotted with firmly rooted communities. The early Puritans were almost exclusively an agricultural and pastoral people living in villages, beyond which lay their privately owned fields. The typical village was composed of houses (also individually owned) built of native lumber and grouped around the green, which was land held in common by the community, and hence was known as the common. Dominant structure on the common was the church, where the pastor, the most important figure in the community, held forth in long Sabbath services. In the church of the chief village of a town (in New England a town corresponds to what is usually called a township elsewhere in the United States) was also held the town meeting, that much-praised foundation of

American democracy. Actually the town meeting was a very restricted form of democracy, since only male propertyowners who had reached their majority and were also church members could take part in its deliberations. It did serve, however, to modify somewhat clerical influence, seen in its most obnoxious form in the BLUE LAWS legislated by all Puritan colonies. The towns, which elected duly qualified representatives to the General Court, dearly prized local self-government Life was rugged and nearly always grim, and, in truth, the hard work required to wrest a living from the inhospitable soil left no time for frivolity, even had the Puritans been of a mind to indulge in it Time could be spared, however, for education, which was zealously promoted by the Puritan clergymen The BOSTON PUBLIC LATIN SCHOOL was founded in 1635, one year before HARVARD UNIVERSITY was established, and in 1647 a law was passed requiring elementary schools in towns of 50 families and both elementary and secondary schools in towns of 100 families or more These were not free schools, but they were open to all and are justly considered the beginning of popular education in America Even the Indians were intended for education as part of vigorous missionary activity, largely carried on by John ELIOT While the natives probably did not mind learning the English alphabet, they did become increasingly resentful of English land grabbing After the Pequot War (see PEQUOT INDIANS) in 1637, four of the five neighboring colonies (in those days Rhode Island was always the outcast) formed (1643) the NEW ENGLAND CONFEDERATION, which in 1675–76 broke the power of the Indians of southern New England in the bloody King Philip's War (see PHILIP) In the course of the drawn-out FRENCH AND INDIAN WARS, however, frontier settlements such as DEERFIELD were subjected to devastating Indian attacks Massachusetts Bay naturally rejoiced at the triumph of the Puritan Revolution. But with the restoration of Charles II in 1660, the colony's happy prospects faded Its recently extended jurisdiction over Maine was for a time discounted by the royal authority and, worse still, its charter was revoked in 1684 That act finished the "Bible commonwealth," which had already been weakened by the adoption of the HALF-WAY COVENANT in 1657 Sir Edmund ANDROS served as royal governor of all New England from 1686 to 1689, when, James II having been deposed, aroused Bostonians ended his arbitrary rule Meanwhile, Increase MATHER had gone (1688) to England to complain of Andros's administration His mission bore fruit in 1691 when a new charter uniting Massachusetts Bay, Plymouth, and Maine as the one royal colony of Massachusetts was granted The charter abolished church membership as a test for voting, although CONGREGATIONALISM remained the established religion Sir William PHIPS, a Maine native, was the first royal governor under the new charter The witchcraft trials in the late 18th cent were a repercussion of the earlier excitement in England over witches In 1688 Mrs Glover was executed in Boston, and the witchcraft panic, largely instigated by that brilliant bigot, Cotton MATHER, reached its height in Salem in 1692, when 20 women were hanged as witches The colony had now come a long way from its humble agricultural beginnings Fish and lumber were exported along with farm products in a lively trade carried by ships built in Massachusetts and manned by local seamen That the menace of French Canada was removed by 1763 was due in no small measure to the unstinting efforts of the mother country, but the increasing British tendency to regulate colonial affairs, especially trade (see NAVIGATION ACTS), without colonial advice, was most unwelcome Because of its extensive shipping interests, e g , the traffic in molasses, rum, and Negro slaves (the "triangular trade"), the colony sorely felt these trade restrictions Massachusetts people refused to be subjects, an attitude reflected in the bitter struggle between the legislature and Governor Thomas HUTCHINSON. Samuel ADAMS and John ADAMS, John HANCOCK, and James OTIS, became the leaders of the radical anti-British party. The STAMP ACT (1765) and the TOWNSHEND ACTS (1767) preceded the BOSTON MASSACRE (1770) The Tea Act (1773) brought on the BOSTON TEA PARTY, for which the rebellious colonials were punished with the INTOLERABLE ACTS (1774), which troops under General Thomas GAGE were sent to enforce. Through Committees of Correspondence Massachusetts and the other colonies had been sharing their grievances, and in 1774 they called the First Continental Congress at Philadelphia for united action The mounting tension in Massachusetts exploded in April, 1775, when Gage decided to make a show of force. Warned by Paul REVERE and William DAWES, the minutemen readied themselves (see LEXINGTON AND CONCORD, BATTLES OF) Thus began the AMERICAN REVOLUTION Patriot militia from other colonies hurried to Massachusetts, and there George Washington took command of the Continental army, after the battle of BUNKER HILL (June 17, 1775). The British then holed up in Boston until March 17, 1776, when Gen. William HOWE evacuated the town, taking with him a considerable number of Tories British troops never returned, but Massachusetts soldiers were busy fighting elsewhere for the independence the colonies proclaimed on July 4, 1776 Delegates elected to a constitutional convention dominated by John Adams formulated a new constitution accepted by the people in June, 1780 Victorious in the Revolution, the colonies faced depressing economic conditions, nowhere worse than in W Massachusetts, where discontented Berkshire farmers erupted in SHAYS'S REBELLION in 1786 The uprising was promptly quelled, but it frightened conservatives into support of a new national constitution which would displace the weak government under the Articles of Confederation with a stronger authority When John Hancock, hero to the common man, was brought around to favor the new Federal Constitution and attained the governorship, its adoption by the commonwealth was assured (1788) Independence had closed the old trade routes within the British Empire, but newer ones were soon opened up, and trade with China in particular became especially lucrative Boston and lesser ports boomed, and the good times were reflected politically in the commonwealth's unwavering adherence to the Federalist party, the party of the dominant commercial class European wars at the beginning of the 19th cent at first further stimulated the carrying trade but then led to interference with American shipping To avoid war Congress passed Jefferson's EMBARGO ACT OF 1807, a severe blow to the economy of Massachusetts and the rest of New England When war with Britain came anyway, in 1812, it was violently unpopular with the Yankees There was talk of secession at the abortive HARTFORD CONVENTION of New England Federalists, over which George CABOT presided As it transpired, however, the embargo and the War of 1812 had an unexpectedly good effect on the local economy With English manufactured goods shut out, the United States had to begin manufacturing on its own, and the infant industries that sprang up after 1807 tended to concentrate in New England, and especially in Massachusetts Financed by some of the merchant princes and shielded from foreign competition by protective tariffs beginning in 1816, they grew rapidly to transform the character of the commonwealth and its people Clever Yankees, inventive and adaptable from necessity, became the efficient operators and managers of the new mills The power loom, perfected by Francis Cabot LOWELL, had a revolutionary effect on the textile industry Labor was plentiful—and ruthlessly exploited Agriculture, on the other hand, went into a sharp decline as Massachusetts could not compete with the new states of the West Farms were abandoned by the score, and some farmers turned to the new industries for a living So many others departed for the more fertile West that commonwealth leaders, after typical Puritan soul-searching, decided that a long-overdue reform in government and religion might moderate the exodus Thus in the noteworthy year of 1820 Maine was allowed to go its way as a separate state and a constitutional convention drafted 10 amendments whose adoption considerably liberalized the government The most important among them provided for the incorporation of cities, the removal of religious tests for officeholders, and the abolition of property qualifications for voting except for a small property tax (Massachusetts is the only old state still governed under its original constitution, the one of 1780, although it was again extensively amended by the constitutional convention of 1917–19) The spirit of reform now became contagious as Massachusetts entered upon its golden age UNITARIANISM, a more charitable creed than the stern old-time Congregationalism (which was finally disestablished in 1833), swept through the commonwealth under the guidance of William Ellery CHANNING and, later, Theodore PARKER Horace MANN set about the establishment of an enduring system of public education in the 1830s, and Dorothea Lynde DIX began her noble crusade for the mentally ill in the 1840s Of the transcendentalists, Ralph Waldo EMERSON and Henry THOREAU were quick to perceive and decry the evils of the machine, while Bronson ALCOTT, Margaret FULLER, Nathaniel HAWTHORNE and Emerson had some association with BROOK FARM. The intellectual and cultural center of the nation, Massachusetts claimed the architect Charles BULFINCH, such writers and poets as Richard Henry DANA, Emily DICKINSON, Oliver Wendell HOLMES (1809–94), Henry Wadsworth LONGFELLOW, James Russell LOWELL, and John Greenleaf WHITTIER, the historians George BANCROFT, John Lothrop MOTLEY, Francis PARKMAN, and William Hickling PRESCOTT, and the scientist Louis AGASSIZ. Beginning in the 1830s reformers devoted most of their energy to the antislavery crusade, to the vast displeasure of conservatives, especially the cotton mill tycoons, who feared to offend the South because their raw material came from there. William Lloyd GARRISON was the noisiest though not the most effective of the ABOLITIONISTS. Equally sincere were the orator Wendell PHILLIPS and the poet Whittier, who branded the great Whig leader Daniel WEBSTER a traitor for his part in effecting the despised Compromise of 1850. Charles SUMNER, however, who soon took Webster's old seat in the U. S. Senate and displaced him in the affection of the people, satisfied even the most fiery abolitionist While he eloquently denounced the Kansas-Nebraska Bill (1854), other Massachusetts men organized the EMIGRANT AID COMPANY to save "bleeding" Kansas from slavery With the Whig party broken on the slavery issue, Massachusetts turned to the new Republican party and voted for John C Frémont in 1856 and Abraham Lincoln in 1860. Largely because of its efficient governor John ANDREW, it was the first state to answer Lincoln's call for troops after the firing on Fort Sumter, and Massachusetts men were the first to die in the Union cause as the 6th Massachusetts Regiment was fired on by a mob in secessionist Baltimore Massachusetts was thorough in its support of the Civil War. The Adams family, which has a long and most distinguished record of service to the republic, was well represented in Charles Francis ADAMS (1807–86), who, accompanied by the most brilliant of his sons, Henry ADAMS, was the able wartime minister to Great Britain Massachusetts thus did nobly in the struggle which ended Negro slavery in the South, but economic slavery still enthralled most of its own people In this respect the commonwealth was neither worse nor better than the rest of the North, experiencing its tremendous post-war industrial expansion Massachusetts capital financed many of the nation's new railroads, especially in the West. People, too, continued to leave the state for the West, but labor remained cheap and plentiful as European immigrants streamed into the state. The Irish, oppressed by both nature and the British, began arriving in droves even before the Civil War, beginning in the 1840s, and they continued to land in Boston for years after the Civil War. After them came French Canadians and, later, in the 19th cent and early in the 20th cent , Portuguese, Italians, Poles and other Slavs, and Scandinavians Englishmen, Scots, and Welshmen came also from the British Isles, but of all the immigrant groups, English-speaking and non-English-speaking, the Irish came to be the most influential, especially in politics. Their religion (Roman Catholic) and their political faith (Democratic) definitely set them apart from the old native Yankee stock, though certain traits of Puritanism are not completely foreign to a type of Celtic character Practically all of the immigrants set to work in the factories The halcyon days of Massachusetts shipping were over The carrying trade had bounded back triumphantly after the War of 1812, but the supplanting of sail by steam, the growth of railroads and the Confederate cruisers in the Civil War helped reduce it to its present negligible state Whaling, once the glory of New Bedford and Nantucket, faded quickly with the introduction of petroleum The growth of cities accompanied the rise of industrialism, but almost as important in the system was the small mill town, where the factory hands lived in company houses and traded in the company store Labor unions struggled for recognition in a long, weary battle marked by strikes, sometimes violent, as was the LAWRENCE textile strike of 1912 The First World War, in which industrial production was vastly stepped up, improved the lot of workingmen, but not of Boston policemen, who staged and lost their famous strike in 1919 For his part in breaking the strike, Gov Calvin COOLIDGE won national fame and went on to become Vice President and then President, the third Massachusetts citizen to hold that office. The SACCO-VANZETTI CASE, following on the police strike, attracted international attention, as liberals raged over the seeming lack of regard for the spirit of the law, quite the contrary to the stand of the state's most eminent jurist, Oliver Wendell HOLMES (1841–1935) Unions finally came into their own in the 1930s with the blessings of Franklin D Roosevelt's New Deal, which also helped the state pull through the severe economic depression of the period Industry, including shipbuilding, which has never been lost, spurted forward again with the Second World War Although in that conflict Massachusetts men and women ranged the world as far as their early forebears had, vestiges of the parochialism that has alternately amused and infuriated the rest of the nation survive. See W B. Weeden, *Economic and Social History of New England, 1620–1789* (2 vols , 1894), S. E. Morison, *Maritime History of Massachusetts, 1783–1860* (1921) and *Builders of the Bay Colony* (1930), J. T. Adams, *The Founding of New England* (1921), *Revolutionary New England* (1923), and *New England in the Republic* (1926), A B. Hart, ed., *Commonwealth History of Massachusetts* (5 vols , 1927–30); Perry Miller, *Orthodoxy in Massachusetts, 1630–1650. a Genetic Study* (1933); C M. Andrews, *The Colonial Period of American History*, Vols. I and IV (1934 and 1938), Van Wyck Brooks, *The Flowering of New England* (1936); Federal Writers' Project,

Massachusetts: a Guide to Its Places and People (1937); Esther Forbes, *Paul Revere and the World He Lived in* (1942); M P Andrews, *The Soul of a Nation* (1943), Oscar Handlin and Mary F Handlin, *Commonwealth a Study of the Role of Government in the American Economy, Massachusetts, 1774–1861* (1947), and T. J. Wertenbaker, *The Puritan Oligarchy the Founding of American Civilization* (1947)

Massachusetts, University of, at Amherst, land-grant and state supported, coeducational, chartered 1863, opened 1867 It was called Massachusetts Agricultural College until 1931, and Massachusetts State College from 1931 to 1947. It includes schools of agriculture, liberal arts, science, engineering, home economics, and horticulture and a division of physical education. Its first president was William S Clark

Massachusetts Bay, inlet of the Atlantic Ocean, where the Massachusetts coast line curves inward. It extends from Cape Ann to Cape Cod. Boston Bay and Cape Cod Bay are arms of it

Massachusetts Bay Company, English chartered company, officially known as the Governor and Company of the Massachusetts Bay in New England Organized (1628) as the New England Company, it took over the Dorchester Company, which had established a short-lived fishing colony on Cape Ann in 1623 The group obtained (1628) from the Council for New England a grant of land between the Charles and Merrimac rivers, extending westward to "the South Sea" One of the men who negotiated for this patent, John ENDECOTT, became leader of the colony at Naumkeag (later Salem), founded (1626) by Roger CONANT and others from the Cape Ann settlement A royal charter, granted in 1629, confirmed the previous grant and created the Massachusetts Bay Company, but it did not bind the company to maintain headquarters in England Almost immediately the emphasis changed from trade to religion as the Puritan stockholders conceived of the colony as a religious and political refuge Puritan leaders, by the Cambridge Agreement (1629), engaged to go to New England on condition that the government and charter be entrusted entirely to the settlers John WINTHROP was a moving force in this arrangement, and he became the leading figure among the colonists who went to New England in 1630 They reached Salem, soon moved to Charlestown, but decided to make their chief settlement at the mouth of the Charles river, a commanding position on Massachusetts Bay There Boston was established Attempts were made by the Council for New England, under the leadership of Sir Ferdinando GORGES, to annul the colony's land claims, but they were finally unsuccessful The company and the colony were synonymous until 1684, when the charter was withdrawn and the company ceased to exist In 1691 Massachusetts was granted a new charter which extended its jurisdiction over Plymouth and Maine See N B Shurtleff, ed, *Records of the Governor and Company of the Massachusetts Bay in New England* (5 vols, 1853–54), G L Beer, *The Origins of the British Colonial System, 1578–1660* (1908), J T Adams, *The Founding of New England* (1921), C M Andrews, *The Colonial Period of American History*, Vol I (1934), Thomas Hutchinson, *The History of the Colony and Province of Massachusetts Bay* (ed by L S Mayo, 3 vols, 1936)

Massachusetts Institute of Technology, at Cambridge, nonsectarian, with land-grant support, mainly for men, chartered 1861, opened 1865 by William B Rogers in Boston, moved to the Charles river basin, Cambridge, 1916 It is a leading technical school of university grade, with schools of architecture, engineering, and science; divisions of humanities and industrial cooperation; and a large graduate school It has a combination course with a group of liberal arts colleges There are nautical and paper museums, an important technical library, a cyclotron, a wind tunnel, and laboratories of acoustics, aeronautics (Guggenheim), steam and compressed air, automotive engines, biology, chemistry, electronics, gas engines, high voltage, physics, refrigeration, public health, spectroscopy, solar energy, and testing materials An engineering camp is in Maine The institute had the first U S. school of architecture and also pioneered in various forms of engineering Its alumni have been prominent in industry, technical education, and naval building.

Massachusetts State Teachers College, at Framingham, for women, chartered 1838, opened 1839 at Lexington, a normal school until 1930 It is the oldest existing U.S. school for teachers and was the first under state control It was established by Horace MANN. Its early success influenced the development of other normal schools

massage (məsäzh'), systematic manipulation of the body by friction, stroking, and kneading. The method has some of the beneficial effects of exercise and is especially useful when active exercise is not advisable. Massage results in an increase of the blood supply and a stimulation of the musculature, it prevents atrophy from disuse in bedridden persons and aids recovery in fatigued muscles Massage has also been of aid in the treatment of paralyzed muscles in cases of infantile paralysis.

Massah (măs'ə) [Heb.,=temptation] or **Meribah** (mĕr'ĭbə) [Heb.,=strife] or **Massah and Meribah,** place, near Horeb, where Moses brought forth water from the rock Ex 17 7, Num 20 13,24, 27 14; Deut 6 16, 9 22, 32.51, 33 8; Ps. 81 7 It is associated with Kadesh in the wilderness of Zin.

Massapequa (măsəpē'kwə), unincorporated village (pop. 2,676), on the south shore of Long Island, SE N Y, E of Freeport. Several old buildings are still standing

Massasoit (măsəsoit'), c 1580–1661, chief of the Wampanoag Indians He was also known as Ousamequin (spelled in various ways), which was either his original name or a name adopted on an important occasion One of the most powerful native rulers of New England, he came to Plymouth in 1621 and signed a treaty with the Pilgrims which he faithfully observed until his death He befriended Roger Williams and was a friend of Edward Winslow In 1632 he fought his enemy, Canonicus, ruler of the Narragansett Massasoit's son, Metacomet, became famous as King PHILIP See biography by A G Weeks (1919)

Massawa (məsä'wə), Ital *Massaua*, city (pop 15,216), Eritrea, a port on the Red Sea There is a fine harbor, and the city is a market for pearls and mother-of-pearl It was the capital of Eritrea from 1885 until 1897, when the seat of government was transferred to Asmara It was the chief supply base in Italy's conquest of Ethiopia (1935–36)

Masséna, André (ädrā' məsänä'), 1758–1817, marshal of France, b Nice Of humble origin, he entered (1791) the French army and rose rapidly because of his brilliant tactical abilities He served under Bonaparte in the Italian campaign, won the battle of Rivoli (1797), and distinguished himself in Napoleon's campaigns of 1800 and 1809 against Austria His failure in the PENINSULAR WAR is often attributed to the lack of cooperation of the other French commanders Masséna's relations with Napoleon were somewhat strained by Masséna's republican convictions, but he lacked political ambition, and Napoleon honored his military achievements by making him duke of Rivoli (1808) and prince of Essling (1810) After Napoleon's fall in 1814, Masséna supported Louis XVIII, who raised him to the peerage (1815) His neutral attitude during the Hundred Days was bitterly attacked by the royalists after the Restoration

Massena (məsē'nə), village (pop 11,328), N N Y, on the Grass and Raquette rivers and NE of Ogdensburg, in a dairy area, settled 1790, inc 1886 There is a large aluminum plant, mica products are also made The Roosevelt International Bridge (1934) over the St Lawrence is near by

Massenet, Jules Émile Frédéric (zhül' zāmēl' frādārēk' məsənĕ'), 1842–1912, French operatic composer, studied at the Paris Conservatoire where he taught, 1878–96 Besides many songs, several oratorios, and orchestral suites, he composed over 20 operas, the most popular being *Hérodiade* (1881), *Manon* (1884), *Le Cid* (1885), *Werther* (1892), and *Le Jongleur de Notre Dame* (1902) See Massenet's *My Recollections* (Eng tr, 1919), H T Finck, *Massenet and His Operas* (1910)

Massif Central (măsēf' sätral'') [Fr.,=central highlands], great mountainous plateau, central France, covering almost a sixth of the surface of the country The chief water divide of France, it borders on the Paris basin in the north, the Rhone valley and basin in the east and south, and the Aquitanian basin in the west It includes the former provinces and natural regions of AUVERGNE, FOREZ, and VELAY (center); MORVAN and BOURBONNAIS (north), MARCHE and LIMOUSIN (west), QUERCY and ROUERGUE (south), and the CÉVENNES, VIVARAIS, LYONNAIS, BEAUJOLAIS, and CHAROLAIS (east) There is little unity of climate or soil The core of the Massif is the volcanic mass of the Auvergne mts with the highest point in the Puy de Sancy in the Mont Dore group There are granitic, limestone, and other soil formations, only in the average altitude (c 2,650 ft) is there a feature common to the entire Massif Central All four chief rivers of France (the Seine, the Loire, the Rhone, and the Garonne) receive tributaries from the Massif Central, the Loire, the Dordogne, and the Charente originate here Sheep grazing, dairying, cattle raising, and, in the fertile valleys, agriculture are the chief occupations Coal is mined extensively; CLERMONT-FERRAND, LE CREUSOT, SAINT-ÉTIENNE, and ROANNE are important industrial centers

Massilia: see MARSEILLES

Massillon, Jean Baptiste (zhä' baptēst' măsēyô'), 1663–1742, French clergyman, bishop of Clermont from 1717 He was celebrated for his preaching, especially at the court of Louis XIV and Louis XV Collections of sermons include a series for Advent and a series for Lent.

Massillon (mă'sĭlŏn), city (pop 26,644), NE Ohio, on the Tuscarawas and W of Canton, in a coal, clay, sand, and gravel area, settled 1812, laid out 1826. It is an important coal-distributing point and an industrial center, manufacturing steel products, machine parts, and roller bearings Jacob S COXEY lived here. It is the seat of a state hospital for the insane

Massine, Léonide (lāônēd' măsēn'), 1896–, Russian ballet dancer and choreographer He attended the Imperial Ballet School, Moscow, and became principal dancer and choreographer for the Diaghilev Ballet Russe (1914–20) and for the Ballet Russe de Monte Carlo (1932–42) His choreographical works include *Parade*, *Choreartium*, *Gaîté parisienne*, *Symphonie fantastique*, *The Three-cornered Hat*, and *Union Pacific*, and he has performed in many of these with great success

Massinger, Philip, 1583–1640, English dramatist, b Salisbury He studied at Oxford (1602–6) but left without a degree to go to London and write plays His many independent productions include *The Duke of Milan* (1618), a tragedy; *The Renegado* (1624), a tragicomedy, and two brilliant satirical comedies, *A New Way to Pay Old Debts* (1625) and *The City Madam* (1632) He is remembered, too, for his dramas in collaboration with such contemporaries as John FLETCHER, Nathaniel FIELD, Dekker, Middleton, and possibly Shakspere Among the most notable are *Sir John van Olden Barnaveldt* (1619) with Fletcher and *The Fatal Dowry* (pub 1632) with Field, he is alleged also to have had a hand in *King Henry VIII* of the Shakspere canon Modern research has revealed that several of Massinger's plays were accidentally burned by a cook in the 18th cent His coarse but fluent lines are tempered with fine rhetoric, and while his characters are often conventional, his plot structure shows great dramatic genius He died in Southwark, and he is said to be buried in the grave of his colleague, Fletcher. See his plays (ed by William Gifford, 1813, by Arthur Symons, 1887–89), study by A H Cruickshank (1920); bibliography by S A Tannenbaum (1938)

Massinissa: see MASINISSA

Massive, Mount, peak, 14,418 ft high, W central Colo, in the Sawatch Mts Of the U.S Rocky Mts, it is topped only by Mt Elbert

Masson, Frédéric (frādārēk' məsō'), 1847–1923, French historian, one of the foremost authorities of Napoleon I and his family His devotion to Napoleon did not prevent him from presenting his facts with conscientious accuracy, and his severe judgment of Napoleon's relatives is backed up by factual detail Masson's major work is *Napoléon et sa famille* (13 vols, 1897–1919) Among his books translated into English are *Napoleon at Home* (1894), *Napoleon, Lover and Husband* (1894), and *Napoleon and His Coronation* (1911) Other writings include *Napoleon à Sainte-Hélene* (1912) and, in collaboration with Guido Biagi, *Napoleon inconnu* (2 vols, 1893), containing unpublished manuscripts of Napoleon and valuable notes on his little-known early years

Masson, village (pop 1,226), SW Que, ENE of Ottawa and on the Lievre just above its mouth on the Ottawa river Lumbering and dairy and cattle farming are the chief industries

Massorah. see MASORA

mass production see PRODUCTION

Massys, Matsys, Messys, or **Metsys, Quentin** (kvĕn'tĭn məsĭs', mātsĭs', mĕ-, mĕt-), c.1466–1530, Flemish painter, b Louvain, son of a locksmith He himself worked first as a blacksmith He is thought to have studied with Dierick Bouts and early moved to Antwerp, where most of his life was spent Massys is considered one of the greatest Flemish painters of his time, a period of transition in which the influence of the Italian Renaissance was making itself felt in Flanders This influence is apparent in the use by Massys of life-size figures and in his subordination of detail However, unlike some of his contemporaries, he retained much of the freshness, realism, and intimate characterization of the earlier Flemish school, together with its rich and glowing color and meticulous finish His masterpiece is a triptych (Antwerp), the principal panel of which depicts the *Burial of Christ* and the wings of which portray the *Martyrdom of St John the Baptist* and *St John the Evangelist*, respectively Other famous works include *Pietà* and *Banker and His Wife* (Louvre), *Life of St Anne* (Brussels), *Crucifixion* and *Choirmaster* (Vienna), *Adoration of the Magi* (Metropolitan Mus), and *The Rest on the Flight into Egypt* (Worcester, Mass, Art Mus) Among his numerous and excellent portraits may be mentioned those of Jean Carondelet and Egidius (Longford Castle, Salisbury, England) See study by Jean de Bosschère (1907), Sir William Martin Conway, *The Van Eycks and Their Followers* (1921) Quentin's son, Jan **Massys** (yän'), c 1509–1575, imitated his father not over successfully His *Judith* is in the Museum of Fine Arts, Boston. Another son, Cornelis **Massys** (kôrnā'lĭs), d c 1580, excelled in painting landscape with figures and was also an engraver His *Imaginary Landscape* is in the Metropolitan Museum.

mast, large metal or timber pole secured vertically or nearly vertically in a ship and used for supporting sails and rigging—as well as signaling devices and the like The mast is as old as sailing vessels, and the oldest sailboats depicted (those of ancient Egypt) had a small mast placed forward and carrying a single sail The Phoenician bireme had one

mast, the Greek trireme two. Viking ships had one central mast. In the Middle Ages, a topmast was added, fixed to the single mast, to carry more sail, after the 16th cent., topmasts were generally demountable. By that time the building of larger vessels and the desire for greater speed on longer journeys had already brought increase in sails and in the masts—a process that continued until the clipper ships of the middle of the 19th cent were rushed forward by clouds of sails. Above the topmast was added the topgallant mast and above that the topgallant mast royal. In vessels having more than one mast, a small forward mast is called the foremast, a small mast abaft the mainmast is the mizzenmast. A platform for lookout on a mast is called a crow's nest. A modern merchant ship may have a mast of hollow steel tubes used mainly for signaling, for radio antennae, and for supporting lifts of derricks for cargoes. In the modern warship the mast has a steel platform, with the instruments for controlling gunfire, this is a descendant of the wooden platform from which gunfire was directed in battles of sailing ships.

mastaba (măˊstŭbŭ) [Arabic,=large bench of stone], in Egyptian architecture, a sepulchral structure built above ground. It was characteristic of the ancient empire and no doubt a development from the stone mass piled over the earlier mummy pits. It was built of limestone or of sun-dried mud bricks, rectangular in plan, topped by a flat roof or deck, with walls sloping inward. The mastaba was originally merely a mummy repository, but later became an elaborate lodging for it, consisting of three parts—a chamber, with decorated walls, where the offerings were placed for the ka, or vital spirit of the deceased; an inner secret chamber, where was walled up a portrait sculpture of the mortal body, and a shaft or mummy well penetrating downward through the mastaba. At the end of the shaft was a small chamber, cut in the rock, where the sarcophagus was deposited; after that the well was packed with stones and sealed. The pyramids or royal tombs were a further development of mastabas. In the Metropolitan Museum of Art is the mastaba tomb of Per-neb (c 2650 B.C.), V dynasty, with the objects found in excavating the tomb.

Masters, Edgar Lee, 1869–1950, American poet and biographer, b. Garnett, Kansas. He lived (1880–93) in Lewistown, Ill., on the Spoon river and studied briefly at Knox College. *Spoon River Anthology* (1915), published anonymously, won him literary fame but ruined his Chicago law business. This collection of epitaphs in free verse, revealing the secret lives of dead citizens, is a literary landmark for its poetic treatment of small-town American life. Volumes which followed included *Starved Rock* (1919), *Domesday Book* (1920), *Poems of People* (1936), and *Illinois Poems* (1941). His *Lincoln the Man* (1931) is a bitter and prejudiced attack. Other biographies are *Vachel Lindsay* (1935), *Whitman* (1937), and *Mark Twain* (1938). See his autobiography, *Across Spoon River* (1936).

mastic, resinous substance which exudes in drops from the bark of the small mastic tree (*Pistacia lentiscus*), found chiefly in Mediterranean countries. A similar substance is obtained from plants of N India, the West Indies, and in Peru. Mastic is used in making varnish, as an astringent, and, in the East, as a chewing gum. It is also used in the Near East to flavor a distilled liquor, called mastic, which appears milky when water is added.

mastiff, name applied to various large powerful dogs. The old English mastiff, believed to have been bred in England as a watchdog for more than 2,000 years, has short hair, a heavy head, and a short muzzle. By some it is considered the progenitor of many of the varieties of mastiffs. Mastiffs of the present day are bred chiefly from descendants of an English line. They are tan, silver fawn, or dark fawn, with the muzzle, nose, and ears black and with black around the eyes. Their disposition is generally docile, good-tempered, and courageous. There is some evidence that the mastiff originated in Asia, and the Tibetan mastiff, a rough-coated dog, is considered by some authorities to be the nearest to the original type.

mastodon (măˊstŭdŏnˌ), extinct mammal from which modern elephants are believed to have developed. The earliest known forms are identified with the Oligocene epoch in Africa. These were long-jawed mastodons about 4½ ft high, with four tusks, and a much elongated face. Their descendants of the Miocene epoch were the size of rather large elephants. During Miocene times they spread over Europe, Asia, and North America. The mastodons were forest dwellers, they obtained their food by browsing, and their teeth were more numerous and of a simpler form than those of the elephant. They are said by some to have persisted in North America and in Europe until the close of the Pleistocene. The genus name *Mammut* has been accepted by some authorities to replace the earlier genus name *Mastodon*.

mastoid (măˊstoid) or **mastoid process**, cone-shaped portion of the temporal bone of the skull palpable behind the ear. The mastoid process, also known as the mastoid bone, is less dense in children than in adults, and it may become infected from the extension of infection of the middle ear. Infection of the mastoid cells (mastoiditis) is a serious condition, since the large blood vessels of the neck and also the brain may become involved. Surgery is necessary when mastoiditis develops.

Masudi (măsōōˊdē), d. 956, Arabian historian, geographer, and philosopher, b. Baghdad. He traveled in Spain, Russia, India, and China and spent his last years in Syria and Egypt. His history of the universe from the creation to A.D. 947, *Muruj adh-Dhahab*, is a compilation of his observations and studies in all these lands and embraces social and literary history and discussions of religions, as well as geographic descriptions. A French version of this work, *Les Prairies d'or* [meadows of gold], was published in 1861–78. The first volume has been translated into English. See R. A. Nicholson, *A Literary History of the Arabs* (2d ed., 1930).

Masulipatam (mŭsōōˈlĭpătˈŭm) or **Bandar** (bŭnˈdur), town (pop. 59,146), N Madras state, India, a port on the Bay of Bengal. In the 17th cent. it was a center of French, British, and Dutch trade. Cloth is manufactured.

Masuria (mŭsōōˊrēŭ), Ger. *Masurenland* (măsōōˊrŭnlänt"), Pol. *Mazury* (măzōōˊrĭ), southern region of former East Prussia, since 1945 under Polish administration. It is a low-lying country, covered by large lakes and forests. Lyck is the chief city. Its inhabitants, originally Polish but largely Germanized in the early 20th cent., were replaced after 1945 by an almost entirely Polish-speaking population. The **Masurian Lakes** were the scene of heavy fighting early in the First World War. Two Russian armies, commanded by Generals SAMSONOV and RENNENKAMPF, advanced into the region when the war broke out. Samsonov was decisively defeated by Hindenburg at TANNENBERG (Aug., 1914). Rennenkampf was driven by Mackensen into the lake country, where he lost 125,000 men (Sept., 1914). The remnants of the Russian forces withdrew, but in the winter the Russians attempted a second drive into East Prussia. They were once again repulsed (Feb., 1915) in Masuria in the so-called Winter Battle.

masurium. see TECHNETIUM.

Matabele (mătŭbēˊlē), Bantu-speaking tribe of W Southern Rhodesia. It was founded in 1823 when Mzilikazi, a general under the Zulu king, Chaka, fled with some men across the Drakensberg into the present-day Transvaal. Reinforced by other Zulu deserters, the Matabele maintained themselves by raids as far south as the Orange river, and they destroyed or absorbed the surrounding tribes except for the Bamangwato of Bechuanaland, who paid a tribute. Driven north (1837) by the Boers and the Zulus, Mzilikazi crossed the Limpopo river and established his people in Matabeleland, their present home. From his second successor, Lobengula (1870–94), Cecil Rhodes secured permission (1888) to mine the gold deposits, but in 1893 Lobengula attacked the settlers. He was soon defeated and died while in hiding. With the suppression of a revolt in 1896, the Matabele abandoned war and settled down as herdsmen and farmers.

Matadi (mutäˊdē), town (pop. 9,110), SW Belgian Congo, a port at the mouth of the Congo. Matadi is the limit of navigation for ocean-going vessels. It is connected by rail with Leopoldville.

Matador, town (pop. 1,376), co. seat of Motley co., NW Texas, NE of Lubbock. This thoroughly Western town on the rolling prairie is near the giant Matador Ranch and is headquarters for grain and cotton farmers as well as for cowboys.

Matagorda (mătŭgôrˈdŭ), unincorporated town (pop. c 1,250), S Texas, on Matagorda Bay at the mouth of the Colorado and SSW of Houston. Settled in 1825, it was a port for Stephen F. Austin's colony but faded later. It is today known principally for fishing and oyster gathering. Despite hurricanes that often strike the coast, old Christ Church (1839) still stands.

Matagorda Bay, inlet of the Gulf of Mexico, S Texas, protected by a long sandspit, Matagorda Peninsula. The bay, with its arm, Lavaca Bay, was probably visited (1685) by La Salle's last expedition. Today small ports are Palacios, Port Lavaca, and Matagorda. Matagorda Island is a sand bar farther south at the entrance of San Antonio Bay.

Mata Hari (mäˈtŭ häˈrē), 1876–1917, Dutch dancer and spy in German service, whose real name was Margaretha Geertruida Zelle. She won wide acclaim in Paris for her interpretations of authentic Indonesian dances. In 1907 she joined the German secret service, and in the First World War she betrayed important military secrets confided to her by the many high Allied officers who were on intimate terms with her. In 1917 she was arrested, convicted, and executed by the French. See biography by Thomas Coulson (1930).

Matamoras (mătŭmôˈrŭs), residential borough (pop. 1,735), NE Pa., on the Delaware opposite Port Jervis, N.Y., and near the point where New York, New Jersey, and Pennsylvania meet. In the countryside are large estates and hunting lodges.

Matamoros, Mariano (märēäˈnō mätämôˈrōs), d. 1814, Mexican revolutionist, in the war against Spain. He was, like HIDALGO Y COSTILLA and MORELOS Y PAVÓN, a priest with liberal political opinions. Much harassed by the Spanish authorities after the outbreak of the revolution of 1810, he joined Morelos (1811). He became a prominent military leader, winning an especially important victory at San Agustín de Palmar (1813). After the second defeat of Morelos's army by ITURBIDE, Matamoros was captured, degraded from priestly office, and shot.

Matamoros (mätämôˈrōs, mätˈtŭmôˈrus), city (pop. 15,699), Tamaulipas, NE Mexico, near the mouth of the Rio Grande, opposite Brownsville, Texas. Matamoros, with rail and highway links between the United States and Mexico, is an international trading center and a point of entry for tourists. Sugar cane and cattle are raised in the surrounding area. The town, founded in 1824, fell (1846) in the Mexican War to the troops of Zachary Taylor after the battles of Palo Alto and Resaca de la Palma.

Matane (mŭtänˈ), town (pop. 4,633), E. Que., on the south shore of the St. Lawrence at the beginning of the Gaspé Peninsula, ENE of Rimouski. It is a lumbering and pulpwood-shipping center.

Matanuska Valley (mătunōōˈskŭ), settlement, S Alaska, W of the Chugach Mts., traversed by the Matanuska river. The area has coal and lumber as well as agricultural land. Here the Federal government in 1935 resettled farmers from drought-stricken areas in the Middle West. The colony and its farmers' cooperative association had varying fortune thereafter. The Second World War brought many soldiers and gave the place temporary prosperity.

Matanzas (mətanˈsäs), port (pop. 49,541), capital of Matanzas, W Cuba, E of Havana. On a large harbor, once a pirate haven, Matanzas exports sugar, molasses, coffee, fruit, and sisal. It has a free port zone, and there are sugar refineries, tanneries, and fertilizer plants. Well planned and attractive, it is also a popular tourist resort.

Matanzas, Fort. see SAINT AUGUSTINE, Fla.

Matapan, Cape (mätŭpänˈ), southern extremity of the Greek mainland, of the Peloponnesus, and of the Taygetus mts., projecting into the Ionian Sea. It was known to the ancients as Taenarum (Gr. *Taenaron*). In the Second World War the British won an important naval victory (1941) over the Italians off Cape Matapan.

Matapedia, Lake (mătŭpēˈdēŭ), 14 mi. long and 2 mi. wide, E Que., S of the St. Lawrence, at the base of the Gaspé Peninsula and S of Matane. It is drained southward by the Matapedia river, famous for salmon fishing.

Matarani, Peru. see MOLLENDO.

Mataró (mätärōˈ), city (pop. 27,573), Barcelona prov., NE Spain, in Catalonia. It is a Mediterranean port and a manufacturing center (especially of knitted goods).

Matawan (mäˈtŭwan), borough (pop. 2,758), E N.J., N of Freehold, inc. 1895. Among its old buildings is the Burrowes Mansion (1723).

match. Before the introduction of the friction match, the result of a series of inventions in different countries, fire was made by friction methods using the stick and groove, the fire drill, or flint, tinder, and steel or by employing a sunglass—methods so inconvenient that fires were kept burning as long as possible. Attempts in the 18th cent. to cause ignition by the use of chemicals resulted in a friction match devised in 1827 by an Englishman, John Walker, and in a phosphorus match invented in France in 1831 by Charles Sauria. In the United States a practical phosphorus match was patented in 1836 by J. D. Phillips and manufactured by L. C. Allin. The safe, cheap modern match was made possible by mechanized large-scale manufacture and by the use of nontoxic chemicals, notably the sesquisulphide of phosphorus. In the safety match, invented in Sweden in 1855 by J. D. Lundstrom, an oxidizing agent on the match tip is ignited by striking on a combustible material affixed to the matchbox.

mate (mätä, mäˊtä), **yerba mate** (yĕrˈbä,—bŭ), or **Paraguay tea**, evergreen tree of the HOLLY genus. From ancient times South American Indians have made a tea (also called mate) from the young leaves and tender shoots of *Ilex paraguariensis* or *I. paraguayensis*, the source of the best brew, and from closely related species. Mate is the most popular beverage in much of South America and its culture is an important industry in Brazil and Paraguay. The tea is stimulant and restorative, less astringent than genuine tea, and contains considerable caffeine. The word *mate* refers also to the cups in which the tea is infused, which are made from curiously shaped gourds or calabashes, with small openings cut in the top and sometimes decorated with silver mountings. The dried leaves are put in a container and covered with boiling water, and the tea is drunk through a *bombilla*, a tube provided at the lower end with a strainer of fine basketwork, metal, or perforated wood.

Matera (mätäˈrä), city (pop. 21,762), capital of Matera prov., Basilicata, S Italy, in the Apennines. It is an archiepiscopal see and an agricultural center. Its cathedral and its massive castle date from the 13th cent. There are many cave dwellings, which still are inhabited.

materialism, in philosophy, a widely held system of thought which explains the nature of the world as entirely dependent on matter and motion. The fundamental and final reality is matter, beyond which nothing need be sought. Certain periods in history, usually those associated with scientific advance, are marked by strong materialistic tendencies The doctrine was formulated as early as the 4th cent. B C. by DEMOCRITUS, in whose system all phenomena are explained by atoms and their motions in space. Other early Greek teaching, such as that of EPICURUS and STOICISM, also conceived of reality as material in its nature. The theory was later renewed in the 17th cent. by Pierre GASSENDI and by his associate, Thomas Hobbes, who believed that the sphere of consciousness essentially belongs to the corporeal world, or the senses. The investigations of Locke were developed in a material sense by David Hartley and Joseph Priestley. They were a part of the vigorous development of the 18th cent., strongly manifested in France, where the most extreme thought was that of LA METTRIE and its culminating expression the *Système de la nature* (1770), for which HOLBACH is considered chiefly responsible. A reaction against materialism was felt in the later years of the 18th cent., but the middle of the 19th cent. brought a new movement, largely psychological, supplemented by experimentation and investigation. Closely related to materialism are naturalism and sensualism. See DIALECTICAL MATERIALISM. See F A. Lange, *History of Materialism* (Eng tr., 1877–80), C J H. Hayes, *A Generation of Materialism, 1871–1900* (1941).

materials, strength of: see STRENGTH OF MATERIALS.

materia medica: see DRUGS.

Mater Matuta: see MATUTA

mathematics, the study of numerical quantities and the relationships between them, of spatial quantities and their relationships, and of various abstractions of these relationships. The study of these quantities includes defining them carefully, assuming certain properties for them, and deducing from these properties, according to certain laws of logic, the relationships existing between the quantities themselves and previously obtained relationships The most elementary mathematics of numerical quantities is ARITHMETIC, that of spatial quantities is GEOMETRY. ALGEBRA is an abstraction of arithmetic and so is the theory of numbers, which deals with the properties of whole numbers only In analytic geometry algebra is used as a tool to develop geometrical theorems by means of the introduction of a coordinate system. The analytic method is indispensable in the study of CALCULUS It is fundamental in almost all of the applications of mathematics to modern physics. Higher mathematics, i.e., mathematics beyond the college level, is usually divided into three categories, algebra (including number theory), analysis, and geometry. Analysis here refers to that part of the study of mathematics in which the interest is primarily upon the theorems proved by the principles and techniques of calculus and the analytic method. In applied mathematics the main interest is in the applications of mathematical techniques in other branches of knowledge such as biology, chemistry, physics, and statistics. For the history of mathematics, see articles on the various branches of the subject. See E T. Bell, *Men of Mathematics* (1937); Edward Kasner and James Newman, *Mathematics and the Imagination* (1940), Moses Richardson, *Fundamentals of Mathematics* (1941).

Mather, Cotton (mä'dhûr), 1663–1728, American clergyman and writer, b Boston, grad. Harvard (B.A., 1678, M A , 1681), son of Increase Mather and grandson of Richard Mather and of John Cotton He was ordained and became a colleague of his father at North Church, serving as pastor in his father's absences and after his father's death (1723). It was principally by his indefatigable writing that he became one of the most celebrated of all New England Puritan ministers He was a scholar of parts, working industriously to gather a library and setting forth what he learned volubly. Thus his *Magnalia Christi Americana* (1702) is a hodgepodge of materials on the ecclesiastical history of New England, vaguely intended to show how the history of Massachusetts demonstrated the working of God's will. His theological writings are now largely forgotten but had great influence in his time. He also was a power in the state as well as the church, was a leader in the revolt against the rule of Sir William PHIPS, and was an adviser in Phips's government. He is generally pictured today unsympathetically as the archetype of the narrow, intolerant, severe Puritan, and his part in the Salem witch trials in 1692 is often recalled. Though he did not approve of all the trials, he had helped to bring on the wave of hysterical fear by his *Memorable Providences Relating to Witchcraft and Possessions* (1689). Later he further pursued his inquiries into satanic possession with *Wonders of the Invisible World* (1693), which was sharply answered by Robert CALEF. Even Mather's benevolence—expressed in his actions and reflected in his writings, as in *Essays to Do Good* (1710)—had a core of smugness. Yet he helped to forward learning and education and to make New England a cultural center. He was disappointed in his hopes of being president of Harvard but was one of the moving spirits in the founding of Yale. He was deeply interested in science and was the first American to be a fellow of the Royal Society. He persuaded Zabdiel Boyleston to inoculate against smallpox and supported the unpopular inoculation even when his life was threatened See bibliography by T J. Holmes (3 vols , 1940), biographies by Barrett Wendell (1891) and R. P. Boas and Louise Boas (1928).

Mather, Frank Jewett, Jr., 1868–, American art critic and teacher, b. Deep River, Conn., grad. Williams, 1889, Ph.D Johns Hopkins, 1892 He taught (1893–1900) at Williams and was professor of art and archaeology (1910–33) at Princeton. Art critic of the New York *Evening Post* and other papers, he has written many books of criticism, including *Homer Martin* (1912), *Estimates in Art* (Ser 1, 1916, Ser. 2, 1931), *The Portraits of Dante* (1921), *A History of Italian Painting* (1923), *Modern Painting* (1927), *The American Spirit in Art* (with others, 1927; "Pageant of America" series), *Concerning Beauty* (1935), *Venetian Painters* (1936), and *Western European Painting of the Renaissance* (1939).

Mather, Increase, 1639–1723, American Puritan clergyman, b Dorchester, Mass , son of Richard Mather. After graduation (1656) from Harvard, he studied at Trinity College, Dublin (M.A , 1658), and preached in England and Guernsey until the Restoration. After returning to Massachusetts (1661), he became (1664) pastor of North Church and retained that position through his life His son Cotton Mather was his colleague, and the two Mathers cooperated in many of the affairs that occupied their busy lives They were outstanding upholders of the old Puritan theocracy and the established order in both Church and state This conservatism led to trouble with the government in the Restoration period, and Increase Mather was a particularly bitter opponent of Edward RANDOLPH and Sir Edmund ANDROS over the withdrawal of the Massachusetts charter and the conduct of royal government In 1688 he went to England to carry the grievances of Massachusetts, and after the Glorious Revolution of 1688 and the subsequent revolt in Massachusetts against Andros he obtained a new charter which united Plymouth Colony with Massachusetts Bay Increase Mather looked with favor on the government of Sir William PHIPS After 1692 his influence declined somewhat, but he remained powerful to the end He was president of Harvard College but spent little time in Cambridge and was inactive, his administration was ended in 1701. His writing was intimately connected with his career *Causes of Conscience concerning Witchcraft* (1693), appearing after the height of the Salem witch furor, denounced "spectral evidence" in witch trials He also wrote a biography of his father (1670), *A History of the War with the Indians* (1676), which was written just after King Philip's War, and *Remarkable Providences* (1684), based on an earlier work of other hands See bibliography by T J Holmes (1932); biography by K. B Murdock (1925)

Mather, Richard, 1596–1669, British Puritan clergyman in North America, b. Lancashire, England. He studied at Oxford, began preaching, and was ordained in 1620 His Puritan beliefs led him to difficulties and he fled to Massachusetts, where he was pastor of Dorchester until his death. He helped to draw up the CAMBRIDGE PLATFORM and, with John Eliot and Thomas Weide, prepared the *Bay Psalm Book.*

Mathew, Theobald, 1790–1856, Irish social worker, called "the apostle of temperance," a Capuchin priest Father Mathew spent many years working for the welfare and education of the poor In 1838 he took a pledge of total abstinence and thereafter devoted himself to the cause of temperance, campaigning in Ireland, England, and America and gaining an enormous following See biography by Patrick Rogers (1943).

Mathews, Charles, 1776–1835, English comedian He first played at Dublin, Limerick, and Cork, but left Ireland and made his debut at the Haymarket in 1803 In 1818 he began his own entertainments, called "At Homes," and became extremely popular for his gift of impersonation. From 1822 to 1823 he toured the United States with great success and in 1828 became joint proprietor of the Adelphi Theatre, London He was praised by Leigh Hunt and Byron and was well acquainted with Coleridge and the Lambs. See Mrs. Mathews, *Memoirs of Charles Mathews* (1838–39) His son, **Charles James Mathews,** 1803–78, started as an architect, but took to the stage and in 1835 began his career in comedy and farce In 1838 he married Mme VESTRIS and with her visited the United States, a venture which failed. In 1872, however, he won acclaim at Wallack's Theater in New York. He appeared in plays by Shakspere, Sheridan, and Congreve, but was more often seen in minor contemporary comedies, many of which he wrote or adapted See his autobiography (ed. by Charles Dickens, 1879).

Mathews, Shailer, 1863–1941, American theologian, educator, and author, b Portland, Maine, studied at Colby College, at Newton Theological Institution, and at the Univ. of Berlin After seven years of teaching at Colby College (then called Colby Univ.), he entered (1894) upon his long and noted association with the Univ of Chicago There he was associate professor and professor of New Testament history and interpretation (until 1905), professor of systematic theology (1905–6), and professor of history and comparative theology (1906–33), he was dean of the divinity school from 1908 to 1933 and dean emeritus thereafter. Editor (1903–11) of the *World Today,* editor (1913–20) of the *Biblical World,* and president (1912–16) of the Federal Council of Churches of Christ in America, he was also the author of many books His writings include *The French Revolution a Sketch* (1901), *The Church and the Changing Order* (1907), *The Faith of Modernism* (1924), *New Faith for Old an Autobiography* (1936), *The Church and the Christian* (1938), and *Is God Emeritus?* (1940)

Mathewson, Christopher (Christy Mathewson), 1880–1925, American baseball player, b Factoryville, Wyoming co , Pa , grad Bucknell Univ., 1902 He began playing professional baseball with the Honesdale, Pa , and Taunton, Mass , teams, and the right-hander showed great promise while pitching with the Norfolk, Va , team in 1900 He was purchased by the New York Giants in midseason, but was returned to the Norfolk club in 1901, the same year he joined the Cincinnati Reds and was traded back to the Giants After John J. McGRAW became (1902) manager of the Giants, "Big Six" or "Matty"—as Mathewson was known to the sports world—rose to greatness as a pitcher and won 373 games before he retired from active play in 1918 In three consecutive seasons (1903–5) Mathewson won 30 games or over each season, and in 1905 he led the Giants in their world series victory over the Philadelphia Athletics by pitching three shutouts He pitched two no-hit games and in 1908 recorded 37 victories Mathewson was traded (1916) to the Cincinnati Reds and successfully managed the team until 1918, when he joined the U S army's chemical warfare service in the First World War He became a victim of poison gas in France and was thus prevented from continuing as a coach for the Giants after he had signed with the club in 1920 He returned to baseball in 1923 as president of the Boston Braves, but he died of tuberculosis shortly after In 1937 he was elected to the National Baseball Hall of Fame

Mathiez, Albert (älbĕr' matyä'), 1874–1932, French historian, an authority on the French Revolution He studied under Aulard, whose scientific method he adopted, though it led him to different conclusions Mathiez's chief work, *La Révolution française* (3 vols , 1922–27, Eng tr , 1928), followed substantially the socialist interpretation, which viewed the French Revolution as the product of the class struggle and of economic necessity His arguments and presentation, however, were unbiased enough to permit the royalist historian, Pierre Gaxotte, to use much of Mathiez's work to support entirely opposite conclusions Mathiez extolled Robespierre, belittled Danton, and considered the Thermidorian reaction after Robespierre's fall in 1794 as the triumph of the bourgeoisie over the working class Among Mathiez's other works are *Autour de Robespierre* (1925, Eng tr , *The Fall of Robespierre,* 1927), *La Réaction thermidorienne* (1929), and other more specialized studies of the revolutionary period Although Mathiez's interpretation was put to use by the French Socialists, notably Jaurès, Mathiez himself was not a party member

Mathis (mă'thĭs), city (pop 1,950), S Texas, NW of Corpus Christi, inc 1937 It is near the state park around Lake Corpus Christi, a reservoir in the Nueces river much used for recreation

Mathura, India: see MUTTRA

Mathura, India see MADURA

Mathusala (măthū'sălù) see METHUSELAH

Matilda, Saint see HENRY I (Henry the Fowler)

Matilda or **Maud,** 1102–67, queen of England, daughter of HENRY I Henry arranged for her a marriage with Emperor HENRY V, and she was sent to Germany, betrothed, and two years later (1114) married to him. Empress Matilda was popular in Germany and seemed more German than English, but after her husband's death (1125) she returned to England. Her brothers having died, her father devoted himself to securing for her the succession to the English throne Probably in 1128 she married GEOFFREY IV (Geoffrey Plantagenet), to whom she bore a son (the later HENRY II). Her life with Geoffrey was stormy, but they managed to compose their differences At Henry I's death (1135), her cousin, STEPHEN, successfully contested the throne of England. Matilda in 1139, with her half brother Robert, earl of GLOUCESTER, undertook to wrest the throne from him. She acquired a large following and was made "lady of England" in 1141, but her arrogance alienated supporters and the captive Stephen had to be freed in a prisoner exchange for Gloucester Before the end of the year the same powerful clergy who had enthroned her now deposed her and declared for

Stephen The struggle continued, but never greatly in her favor In 1148 she withdrew; her son Henry inherited her claim to the throne and was in 1153 recognized as heir Matilda spent her remaining years in Normandy and became noted for her charity.

Matilda, 1046–1115, countess of Tuscany, called the Great Countess. Ruling over TUSCANY and parts of EMILIA-ROMAGNA and UMBRIA, she was the most powerful feudatory of central Italy. She sided with the popes against the emperors At her castle at CANOSSA, Henry IV humiliated himself before Pope Gregory VII in 1077 Soon afterward Matilda made a will (renewed in 1102) bequeathing her allods to the Holy See Her first husband having died in 1076, she married (1089) Duke Welf V of Bavaria, son of Henry IV's chief German enemy, who was 26 years her junior There are indications that in 1111 Matilda changed her will in favor of Emperor HENRY V, who, at any rate, seised (1116) her lands after her death The dispute over the ownership of Matilda's lands played a large part in the conflicts between the popes and the emperors, particularly the Hohenstaufen The cities of Tuscany emerged independent from the struggle, the other lands left by Matilda eventually fell under papal rule

Matisse, Henri (ärē'mätēs'), 1869–, French painter, lithographer, and sculptor, notable as the outstanding representative of FAUVISM After studying at the École des Beaux-Arts under Gustave Moreau, he first exhibited in 1896 but renounced, c 1900, the academic style, developing instead along a postimpressionistic line of brighter, simpler design. His travels in Morocco supplied him with inspiration for his highly decorative canvases in which bold, sinuous patterns of lines and flowers serve as background for odalisques, other favorite subjects are still lifes and interiors Matisse uses large surfaces of pure color to achieve light effects and reduces aerial perspective to a minimum His drawings, in pen and ink, are distinguished by the same sensitivity to line Living after the Second World War at Vence, near Nice, France, he designed there the chapel Ste Marie du Rosaire in which the austereness of the black-and-white walls is relieved by brilliantly colored stained windows In the United States his works were shown at the Armory Show of 1913 in New York, in a large one-man retrospective show at Philadelphia in 1948, and elsewhere Many of his paintings, such as *Interior with Violin Case*, *Girl in Green*, and *Three Sisters*, are in American museums and collections. See studies by Roger Fry (1930), A C Barnes and Violette de Mazia (1933), and A G Romm (Eng tr , 1947)

Matlock, urban district (1931 pop 10,545, 1943 estimated pop 16,596), Derbyshire, England, N of Derby It includes several villages along the Derwent valley Its situation in the hills and the presence of hot springs have made the region a favorite resort; use of the baths dates from 1698 There are caverns and lead mines in the vicinity

Mato Grosso (mä'tō grō'su), state (487,479 sq mi ; 1940 pop 420,835, 1949 estimated pop 508,027), central and W Brazil. The capital is CUIABÁ, the other chief city is CORUMBÁ Bordering on Bolivia in the west and on Paraguay in the southwest and south, Mato Grosso is mostly on the great central Brazilian plateau. It is drained toward the north by tributaries of the Amazon and to the south by the Paraguay and the Paraná In the extreme southwest are the hot flood plains of the Paraguay river Cattle raising is the principal occupation. Near the larger cities sugar, rice, and subsistence crops are raised, and in the southeastern part of the state the farming frontier is now pushing W from São Paulo The region was first explored by gold seekers in the 18th cent , and the first settlement followed gold strikes Some gold is still found, and mining of manganese has begun near Corumbá, but the mineral resources are largely undeveloped A railroad crosses the state from east to west and continues into Bolivia The chief population centers are linked by air lines There are Indian tribes in various stages of civilization (not included in population figures). The name was formerly spelled Matto Grosso

Matred (mā'trĕd), mother of Mehetabel, the wife of Hadar, king of Edom, Gen. 36.39.

Matri (mā'trī), Saul's family. 1 Sam. 21.

matriarchy (mā'trēär"kē), term used to describe certain features of a CLAN or a family that centers around the mother The residence of the family is that of the mother The husband comes to live with her; but he has little authority and little responsibility for his children except to contribute to their support The children receive the mother's name and reckon descent from her. The mother's brother, however, has considerable authority over her children, who inherit property from him Anthropologists no longer believe that matriarchy meant "mother rule" or that matriarchy was a universal stage in social evolution.

Matsudaira, Tsuneo (tsunä'ō mätsudī'rä), 1877–1949, Japanese diplomat. He held many important posts. He was consul general at Tientsin and Japanese commissioner during the expedition into Siberia (1918–1919). Later he was much involved in negotiations with the United States and Great Britain and as a delegate to the naval conferences He served as ambassador in Washington from 1925 to 1928 and later as ambassador at St James's. From 1936 to 1945 he was imperial household minister After Japan had surrendered to end the Second World War, he was elected (1947) president of the house of councilors

Matsue (mätsōō'ā), city (1947 pop 62,136), capital of Shimane prefecture, SW Honshu, Japan, a port on a lagoon of the Sea of Japan. A museum dedicated to Lafcadio Hearn contains a collection of his manuscripts. Shimane prefecture has extensive stock raising and lumber and fishing industries.

Matsukata, Masayoshi, Prince (mät'sōkhē mätē'kä"tä), 1835–1924, Japanese statesman. A Satsuma clansman and a genro, he was a leading figure in the modernization of Japan His greatest service was in improving the financial status of the country as finance minister (1881–91), and in 1897 he succeeded in establishing the coinage on the gold standard As prime minister (1891–92) he dissolved the hostile diet and used police force to influence the subsequent election but still lost He was prime minister again (1896–97) and keeper of the privy seal (1917–22)

Matsumoto (mätsōōmō'tō), city (1947 pop. 84,258), Nagano prefecture, central Honshu, Japan It is a raw-silk center

Matsuoka, Yosuke (yō'skē mätsōō'ōkù), 1880–1946, Japanese statesman and diplomat He came to the United States in 1893 and was graduated from the Univ of Oregon law school in 1900 before returning to Japan. He became a spokesman for the expansionist Japanese policy and led the Japanese delegation out of the League of Nations in 1932. Matsuoka was the principal promoter of Japanese alliance with the fascist powers, and as foreign minister (1940–41) in the Konoye cabinet he helped to forge the Pact of Berlin (Sept 27, 1940), which bound Japan to the AXIS. Early in 1941 he signed a five-year pact with the USSR After the German attack on Russia he left the cabinet Matsuoka was indicted as a war criminal after the Second World War but died before he could be convicted

Matsushima (mätsōō'shēmä) , town, Miyagi prefecture, N Honshu, Japan, on Ishinomaki Bay near Sendai It is a tourist center for the hundreds of scenic pine-clad islets in the bay One island is the site of a noted 9th-century Buddhist temple

Matsuyama (matsōōyä'ma), city (1940 pop 117,534, 1947 pop 147,967), capital of Ehime prefecture, NW Shikoku, Japan, a port on the Inland Sea Its manufactures include cotton textiles and paper products A noted feudal castle contains a museum In mountainous Ehime prefecture, Mt Ishizuchi (highest peak of Shikoku) rises to 6,497 ft Copper is mined in the prefecture, and there is extensive agriculture and stock breeding.

Matsys, Quentin see MASSYS, QUENTIN

Mattagami (mŭtä'gumē), river rising in E Ontario, SW of Timmins, and flowing 260 mi north to join the Missinaibi, with which it forms the Moose

Mattagami Lake, (area 88 sq. mi , W Que , drained NW by the Nottaway river to James Bay.

Mattan [Heb ,=gift] **1** Priest of Baal 2 Kings 11 18 **2** Father of Shephatiah Jer 38.1

Mattanah (mă'tŭnä) [Heb ,=gift], unidentified resting place, SE of the Dead Sea. Num. 21.18,19.

Mattancheri, India see COCHIN.

Mattaniah (mă"tunī'u) **1** Early name of King ZEDEKIAH. **2** Asaphite Levite 1 Chron 9 15, 2 Chron 10 14; Neh 11 17, 12 8,25,35 **3** Temple musician. 1 Chron 25 4,16. **4** Levite contemporary with Hezekiah 2 Chron 29 13 **5, 6, 7, 8** Men who had foreign wives Ezra 10 26,27,30,37 **9** Levite Neh 13 13.

Mattapoisett (mătŭpoi'sĕt), town (pop 1,608), SE Mass , a resort on Buzzards Bay E of New Bedford, settled 1750, set off from Rochester 1857.

Mattatha (mă'tuthä), ancestor of Joseph Luke 3 31

Mattathah (mă'tŭthŭ) [Heb ,=gift], one who had a foreign wife Ezra 10 33

Mattathias (mă"tuthī'us) [Gr variant of MATTITHIAH] **1, 2** Two in Luke's genealogy Luke 3 25,26. **3** Father of the MACCABEES 1 Mac 2 **4** Captain under Jonathan, the Maccabee 1 Mac 11 70 **5** Son of Simon, the Maccabee, murdered with his father 1 Mac 16 **6** Envoy from Nicanor to Judas Maccabeus 2 Mac 14 19

Mattawa (mă'tuwa), town (pop 1,971), S Ont., on the Ottawa river and E of North Bay, in a lumbering and mica-mining region.

Matteawan, N Y., see BEACON

Mattenai (mătēnā'ī) [Heb ,=giving] **1, 2** Two who had taken foreign wives Ezra 10 33,37. **3** Priest. Neh 12.19

Matteotti, Giacomo (jä'kōmō mät-tāôt'tē), 1885–1924, Italian Socialist leader. He was the outstanding opponent of the Fascist regime during its early days, and his murder by Fascist hirelings precipitated a parliamentary crisis which Mussolini overcame by disavowing the murder and by tightening police control. With Matteotti's removal Mussolini's dictatorship may be said to have begun. The murderers and their accomplices received only nominal sentences; several among them were arrested after Mussolini's fall in 1943, but their trial was indefinitely postponed in 1946.

matter, anything that occupies space and has weight In addition to having volume, it has mass, and it exhibits certain characteristic properties such as INERTIA, ELASTICITY, and impenetrability (two bits of matter cannot occupy the same space at the same time). The law of the conservation of matter holds that matter can be neither created nor destroyed Although the fundamental nature of matter is not yet known, two important modern theories have made possible the description and explanation of many natural phenomena and have opened up avenues for future research The kinetic molecular theory of matter holds that matter is not continuous, i e , that a material body is not one uninterrupted extent of matter, but is made up of many minute, invisible particles called molecules which are in constant vibratory motion (see MOLECULE) A solid body of matter would therefore appear, if the molecules could be seen, as a space in which millions of these tiny particles are vibrating, colliding, and rebounding. Change of state (from any one of the three states of matter, i e , gas, liquid, and solid, to another) is a physical change, as distinguished from a chemical change, for the internal structure of the molecules is not affected The modern ATOMIC THEORY of matter is in accord with the kinetic molecular theory, but goes further and concerns itself with the nature and internal structure of the molecules themselves Chemical change (see CHEMICAL REACTION) is described as change in which molecules are broken down into their atoms, these then recombining to form new molecules. In view of the work done in breaking down the atoms of various substances to nuclear particles of hydrogen and helium, the two lightest substances known, and the resulting hypothesis that all matter is composed essentially of the nuclei of hydrogen and helium, the theory of some ancient philosophers that all substances are modifications of a single fundamental substance is especially interesting. All the ancient philosophers did not, of course, agree One theory advanced by Empedocles c 450 B.C. held that all matter is made up of four "elements"—fire, water, earth, and air. Opposed to this belief the atomic school, represented by Leucippus and his pupil Democritus, maintained that matter is built up of small invisible particles—atoms—which by their shape and size determine the nature of any specific form of matter Opposing both this theory and that of Empedocles, Anaxagoras held all matter to be continuous, made of the same material throughout Later the alchemists (see ALCHEMY) searched long and fruitlessly for a *materia prima* which they supposed to be the basis of all matter and which they thought would therefore enable them to transmute one substance to another, especially base lead to gold Their failure to achieve any success brought their beliefs into disrepute, but with the introduction of the modern atomic theory the changing of one kind of elemental matter to another was again advanced as a possibility. Recent work by many scientists has definitely shown the TRANSMUTATION OF ELEMENTS to be possible For convenience in studying its properties, matter is separated into two major classifications, living matter and nonliving matter BIOLOGY is the science of living matter (see LIFE) CHEMISTRY treats the composition and structure of material substances, biochemistry is the chemistry of living matter and its products PHYSICS deals with matter in a more general way, with material bodies and the forces acting upon and between them, with motion, and with energy But in the most advanced modern research into the nature of matter, distinctions between the physical sciences have been lost, chemist has become physicist and physicist has become chemist in making the important discoveries of recent years which have been building up the proof that matter is fundamentally electrical.

Matterhorn (mă'tûrhôrn, Ger. mă'tûrhôrn), Fr *Mont Cervin*, Ital. *Monte Cervino*, peak, 14,780 ft high, on the Swiss-Italian border, 6 mi SW of Zermatt. It was first scaled in 1865 by Edward WHYMPER, four of his party fell to death on the descent The near-by **Matterjoch** (mă'tûryôkh) or **Théodule** is a pass (alt. 10,900 ft) linking Italy with Switzerland

Matteson, Tompkins Harrison (mă'tûsŭn), 1813–84, American genre and portrait painter, b. Peterboro, N Y., chiefly self-taught. His subjects were taken from American history and rural life, he is famous mainly for his painting of *The Spirit of '76*.

Matthan (mă'thăn) [Heb.,=gift], name appearing in the Gospel genealogy. Mat 1.15.

Matthat (mă'thăt) [Heb ,=gift], name appearing twice in the Gospel genealogy. Luke 3 24,29.

Matthew, Saint (mă'thu) [Latin *Matthaeus*, from MATTITHIAH], one of the Twelve Apostles, a publican of Capernaum. He was apparently also called Levi. Mat. 9.9–7, 10.3, Mark 2.14; Luke 5 27,29 Since the 2d cent. the first Gospel (see MATTHEW, GOSPEL ACCORDING TO SAINT) has been attributed to him. He is said to have died a martyr As an evangelist his symbol is a young man or an angel. Feast: Sept. 21.

Matthew, Thomas: see ROGERS, JOHN.

Matthew, Gospel according to Saint, first book of the New Testament. It differs from the other Gospels in its unique material on the birth of Jesus (1–2), in the arrangement of the Sermon on the Mount (5–7), and in the length of the discourse on the last things (24–25), there are more allusions to the Old Testament in this Gospel than in the others. A fourfold division of the book would be the coming of the Messiah (1–4 11), his first 10 years of preaching (4 12–14.36), his third year (15–25); the passion and resurrection (26–28). It is one of the SYNOPTIC GOSPELS Its composition is assigned to the latter half of the 1st cent The traditional ascription to St Matthew dates from the 2d cent See GOSPEL, MIRACLE, NEW TESTAMENT, PARABLE

Matthew of Paris or Matthew Paris, d 1259, English historian, a monk of St. Albans He became the historiographer of the convent after the death of ROGER OF WENDOVER The first part of his *Chronica majora* [great chronicle], a history of the world, is largely a corrected version of Wendover's chronicle, but the second part, from 1235 to 1259, is original and extremely valuable because its material was carefully collected from eyewitnesses or written from personal knowledge The standard edition is by H R Luard (7 vols , 1872–83) A translation by J A Giles (London, 1852–54) begins with 1235 Paris wrote the *Chronica minora* [little chronicle], also called the *Historia Anglorum*, a history of England, largely taken from the great chronicle but with some added material

Matthew of Westminster, name long given to the imaginary author of an English chronicle in Latin, the *Flores historiarum* This was actually written by various monks The portion covering the period from the creation to 1265, written at St Albans, derived largely from the *Chronica majora* of MATTHEW OF PARIS The portion covering 1265–1326 was written at Westminster, the entries for 1307–25 being written by Robert of Reading (d 1325) A translation to 1307 was made by C D Yonge (London, 1853)

Matthew Paris see MATTHEW OF PARIS

Matthews, Brander (James Brander Matthews) 1852–1929, American author and teacher, b New Orleans, grad Columbia, 1871 He traveled widely, mingled in literary circles in Paris and London as well as in New York, and for 50 years was a well-known figure at first nights in the theaters of these cities Some of his own plays were produced He taught at Columbia from 1891 to 1924, in that time holding the chairs of English and of dramatic literature, and became a leader in professional dramatic and scholarly organizations For his stimulation of American interest in French drama through such works as *French Dramatists of the Nineteenth Century* (1881) and *Molière* (1910), he was made an officer of the Legion of Honor in 1922 Some of his other works are *Americanisms and Britticisms* (1892), *The Development of the Drama* (1903), and *These Many Years* (1917), an autobiography His gift of model stage sets, costumes, and books is now the Brander Matthews Dramatic Museum at Columbia

Matthews, Washington, 1843–1905, American ethnologist and physician, b Ireland, grad Univ of Iowa medical school, 1864 He entered (1864) the army as acting assistant surgeon and retired (1895), as surgeon, having had much experience in the West He studied the habits and customs of the Hidatsa and Navaho Indians and wrote books and articles on their language, legends, and songs, the most important being *The Mountain Chant* (1887), *Navaho Legends* (1897), and *The Night Chant* (1902) While he was in charge of the Army Medical Museum (1884–90), he studied craniology and anthropometry Among his other writings is *Ethnography and Philology of the Hidatsa Indians* (1877)

Matthias, Saint (muthī'ăs) [Gr , from Heb MATTITHIAH], apostle chosen by lot to fill the place of Judas Iscariot Acts 1 23–26 He is said in ancient tradition to have died a martyr Feast Feb 24 (in leap year Feb 25)

Matthias, 1557–1619, emperor (1612–19), king of Bohemia (1611–17) and of Hungary (1608–18), son of Maximilian II In 1577 he was invited by the Catholic party in the Netherlands to assume the government there, but, overshadowed by the real leaders of the revolt, he left in 1581 In 1605 he forced his brother, Emperor RUDOLF II, to allow him to treat with the Hungarian and Transylvanian rebels under Stephen BOCSKAY, with whom he negotiated the Peace of Vienna (1606) In view of his brother's incapacity, he was recognized as head of the house of Hapsburg and future emperor (1606) He made peace with the Turks and Hungarians Allying himself with the estates of Hungary, Austria, and Moravia, he forced his brother to yield him the rule of those countries in 1608 After the revolt of the Bohemians (1611), Matthias forced Rudolf to yield Bohemia also In 1612 he succeeded Rudolf as emperor. His policy after his accession, more or less dominated by KLESL, was wavering and indecisive. Irresolute in the face of the Bohemian rising of 1618, Matthias unwittingly let Germany drift into the THIRTY YEARS WAR. FERDINAND II (already king of Bohemia and Hungary) succeeded him as emperor.

Matthias Corvinus (kôrvī'nŭs), 1443?–1490, king of Hungary (1458–90) and Bohemia (1478–90), second son of John HUNYADI He was elected king of Hungary on the death of LADISLAUS V Emperor FREDERICK III sought to contest the election, but recognized him in 1462 Matthias won a reputation as a crusader against the Turks He was persuaded by Pope PIUS II to take up arms against his first father-in-law, GEORGE OF PODEBRAD, king of Bohemia, Having conquered Moravia, Silesia, and Lusatia, Matthias had himself crowned (1469) king of Bohemia, but was not recognized by the Bohemian diet. The war continued after the accession of Ladislaus II of Bohemia In 1478 peace was made both Ladislaus and Matthias were to keep the title king of Bohemia, Matthias was to keep his conquests, which, however, were to revert to Bohemia after his death After fighting two wars (1477, 1479) against Frederick III, Matthias began (1482) a third campaign He took Vienna (1485) and conquered Styria, Carinthia, and Carniola, but his conquests were lost again after his death His military success was largely due to the establishment of a standing army During his rule Hungary reached its last flowering before its fall to Turkey He respected the national institutions but was harsh in his fiscal policy and in his administration of justice A true Renaissance despot, he protected learning and science His library at Buda, the Corvina, was one of the finest in Europe He was succeeded in Hungary by Ladislaus II of Bohemia (ULADISLAUS II of Hungary)

Matthison, Edith Wynne (măth'ĭsun), Anglo-American actress She made her debut in musical comedy in 1896 and the following year joined the Ben Greet Company In 1902 she originated the title role in the morality play *Everyman* She played in the United States in Maeterlinck's *Blue Bird* and *Sister Beatrice*, Josephine Preston Peabody's *Piper*, and Mary Austin's *Arrow-Maker* In 1910–11 she had a notable success in *The Servant in the House*, by her husband, Charles Rann KENNEDY

Matithia (măt"ĭthī'ŭ) [Heb ,=gift from God] **1** Overseer in the temple 1 Chron 9 31 **2** Musician of David 1 Chron 15 18, 16 5 **3** Man who had a foreign wife Ezra 10 43 **4** Assistant of Ezra Neh 8 4

Matto Grosso, Brazil see MATO GROSSO

Mattoon (măt"tōōn'), city (pop 15,827), E central Ill , SE of Decatur, in a farm and dairy area noted for its broomcorn, inc 1859 It is a trade, industrial and rail center Diesel engines, furniture, and shoes are among its products Near by are a large fish hatchery and Paradise Lake (artificial)

Mattson, Henry Elis, 1887–, American landscape painter, b Goteborg, Sweden, studied in Sweden and under John Carlson in Woodstock, N Y He worked on the Federal Art Project in New York city His landscapes, painted from memory, stress the universal rather than the specific and incidental in his subject In addition to rich color and strong, simple design they have a fine poetic mood created with economy Mattson is represented in leading collections of American painting His *Deep Water* (City Art Mus , St Louis) is characteristic

Maturin, Charles Robert (mă'tyōrĭn), 1782–1824, Irish novelist His works, written in the genre of Gothic romance, include the novels *The Milesian Chief* (1812) and *Melmoth the Wanderer* (1820), which was his masterpiece, and the tragedy *Bertram* (1816), produced by Edmund Kean

Matuta (mŭtū'tŭ) or **Mater Matuta** (mā'tur), Roman goddess, identified with LEUCOTHEA Goddess of birth and of the sunrise, she was also worshiped with Portunus as a sea-goddess Her festival, the Matralia, was celebrated by matrons alone

Matzenauer, Margarete (margarā'tu măt'sunou"ûr), 1881–, Hungarian-American mezzo-soprano She made her debut in Strasbourg in 1901 She sang from 1904 until 1911 at the court opera in Munich and from 1911 until 1940 at the Metropolitan Opera, New York Although she began by singing dramatic contralto roles, her voice had wide compass, and at the Metropolitan she added many dramatic soprano roles to her repertoire

matzoth (mat'sŭ, mat'sōth) [Heb ,=unleavened], Passover bread made without leaven It is eaten by Jews during the observance of PASSOVER

Maubeuge (môbûzh'), town (pop 20,310), Nord dept , N France, near the Belgian border It has manufactures of tools and metal goods An old town of Hainaut, it passed to France in 1678 and was fortified by Vauban It was damaged in both world wars.

Mauch Chunk (môk' chŭngk', môchŭngk'), industrial borough (pop 3,009), co seat of Carbon co , E Pa , on the Lehigh river and SE of Hazleton, settled 1815, inc. 1842 It is a railroad center with anthracite mines and rich mineral deposits Some of the Molly Maguires were executed in the jail here

Mauclerc, Pierre: see PETER I, duke of Brittany.

Maud. see MATILDA, queen of England

Maud, city (pop 2,036), central Okla , SE of Oklahoma City, inc as a city 1929

Maude, Cyril, 1862–, English actor and manager. He made his debut (1883) in *East Lynne* in the United States and became popular in such plays as *The Second Mrs Tanqueray*, *The Little Minister*, and *Grumpy* He co-managed (1896–1905) the Haymarket theater, London, and built the Playhouse, London, which he managed until 1915

Maude, Sir Frederick Stanley, 1864–1917, English soldier The most brilliant action of his long army career was in the First World War, when he, as commander in chief in Mesopotamia, recaptured Kut and with overwhelming force took Baghdad from the Turks. He died of cholera in Baghdad See biography by C E Colwell (1920), A. H Burne, *Mesopotamia the Last Phase* (1936)

Maugham, William Somerset (môm), 1874–, English novelist, playwright, and short-story writer, b Paris His experiences as a medical student are recorded in his first novel, *Liza of Lambeth* (1897) Also supposedly autobiographical is part of Maugham's most famous novel, *Of Human Bondage* (1915) Maugham has lived in many parts of the world, and some of his stories are set in the Far East and the South Seas Among these are *The Moon and Sixpence* (1919), a novel based on the life of Paul Gaugain, and the famous short story "Miss Thompson" (later dramatized as *Rain*), in the volume *The Trembling of a Leaf* (1921) Other works are *On a Chinese Screen* (1922), short stories, *The Painted Veil* (1925), *Cakes and Ale* (1930), which the author insists is not a satire on literary celebrities, and *The Razor's Edge* (1944) His successful plays include *The Circle* (1921), *Our Betters* (1923), *The Letter* (1925), and *The Constant Wife* (1927) Maugham has written his autobiography in *The Summing Up* (1938) He compiled *Introduction to Modern English and American Literature* (1943) and has written critical essays in *Great Novelists and Their Novels* (1948) and *A Writer's Notebook* (1949) See study by Richard Cordell (1937)

Maui (mou'ē), island (728 sq mi , pop 46,919), second largest of the Hawaiian Islands It is c 70 mi from Honolulu, separated from Hawaii by the Alenuihaha Channel and from Molokai by the Pailolo Channel Maui is made up of two mountain masses, which constitute the east and west peninsulas, connected by an isthmus The highest mountain on the island is HALEAKALA, near the center of the eastern peninsula In the west Puu Kukui rises to 5,790 ft Wailuku is the largest town and the county seat of Maui co , which includes Kahoolawe, Lanai, Maui, and Molokai The principal ports are Kahului and LAHAINA The Haleakala section belongs to the Hawaii National Park. On the east peninsula there is a tuberculosis sanatorium The chief industries are stock raising and the cultivation of sugar cane and pineapples

Maule (moul'ā), river, c 175 mi long, descending from the Andes in S Chile and flowing across a broad fertile valley W to the Pacific Probably the farthest southern limit of the ancient Incan empire, it gives its name to the coastal province of Maule

Maumbury Rings, Dorsetshire, England see DORCHESTER

Maumee (mômē'), residential village (pop 4,683), NW Ohio, on the Maumee river and SW of Toledo, founded 1817 This strategic location was often occupied after 1680 by French and British trading and military posts—the last being Fort Miami, surrendered by the British in the War of 1812 Maumee has limestone quarries and small industries Near by is FALLEN TIMBERS

Maumee, river formed in NE Indiana, at Fort Wayne, by the junction of the St Joseph and St Marys rivers It flows 130 mi NE into Ohio, through Toledo into Maumee Bay of Lake Erie

Mauna Kea (mou'nu kā'u), mountain, 13,784 ft high, on S central Hawaii, T H A dormant volcano, it is the loftiest peak in the Hawaiian Islands and the highest island mountain in the world

Mauna Loa (mou'nu lō'u), mountain, 13,675 ft high, on S central Hawaii, T H Its numerous craters include KILAUEA and MOKUAWEOWEO

Maundy Thursday (môn'dē) [Latin *mandatum*, word in the ceremony], Thursday of HOLY WEEK, anniversary of the institution of the Eucharist by Jesus at the Last Supper In the maundy ceremony set for the day in the Roman liturgy high authorities wash the feet of the lowly This is widely but not totally obsolete, at Westminster Abbey there is a survival in the distribution by the king of special "maundy money" to certain poor. In the Roman Catholic Church, Maundy Thursday is a general communion day, a single Mass is sung, and a Host, consecrated for the morrow, is placed in a specially adorned chapel for all-day worship

Maupassant, Guy de (gē' dŭ mōpusā'), 1850–93, French novelist and short-story writer, of an ancient Norman family He worked in a government office at Paris and became known c 1880 as the most brilliant of the circle of ZOLA. He poured out a prodigious number of short stories, novels, plays, and travel sketches until 1891, when he went mad, he died in a sanitarium Maupassant in his style and treatment of subject resembles FLAUBERT in classic simplicity, clarity, and objective calm. Maupassant is a modern exemplar of

traditional French psychological realism, he avoids disquisitions on his characters, and his most sordid details are never made the text for sermons on social reform His best novels are considered to be *Une Vie* (1883; Eng tr., *A Life*), the disillusioning life of a woman, *Bel-Ami* (1885), the career of a selfish man, *Pierre et Jean* (1888), the hatred of two brothers; and *Notre Cœur* (1890, Eng tr , *Our Hearts*), the emotional life of an unhappily married man His short stories, 900 in all, are superior in their genre to the rest of his work, and many of them are said to be unsurpassed A list of masterpieces would include "Boule de suif" ("Tallow Ball"), "L'Héritage" ("The Heritage"), "La Parure" ("The Necklace"), "La Maison Tellier" ("The House of Mme Tellier"), "Clair de lune" ("Moonlight"), "La Ficelle" ("The Piece of String"), "Mlle Fifi," and "Miss Harriett" Maupassant is very frequently translated See Henry James, *Partial Portraits* (1888), Ernest Boyd, *Guy de Maupassant* (1926), Francis Steegmuller, *Maupassant* (1949)

Maupeou, René Nicolas de (rünā' nēkôlä' dŭ mōpō'), 1714–92, chancellor of France (1768–74) He was president of the Parlement of Paris before he succeeded his father as chancellor He was the chief mover in the attempt of Louis XV to assert supremacy over the PARLEMENT and to crush opposition He dissolved the parlement (1771), exiled its members from Paris, and substituted a new parlement (nominating all the members) and a system of superior courts The provincial parlements suffered similar treatment Though he strove for judicial reform (notably the abolition of the sale of offices), he became highly unpopular. Louis XVI on his accession dismissed Maupeou and restored the old parlements

Maupertuis, Pierre Louis Moreau de (pyĕr' lwē' mōrō' dŭ mōpĕrtüē'), 1698–1758, French mathematician and astronomer For his skillful support of Newton's theory he was admitted to the Royal Society of London in 1728 He headed (1736–37) an expedition of academicians to Lapland, where he confirmed Newton's theory of the flattening of the earth at the poles The expedition is described in his *Examen . . . pour déterminer la figure de la terre* (1738) In 1740 he went to Berlin upon the invitation of Frederick II of Prussia, who later placed him in charge of the New academy Besides his numerous astronomical writings, including *Discours sur la figure des astres* (1732) and *Discours sur la parallaxe de la lune* (1741), he wrote a work setting forth a mechanistic view of the universe, *Essai de cosmologie* (1750) and several biological studies Quarrels, particularly with König and Voltaire (who satirized him in several writings, especially *Diatribe du Docteur Akakia*), and illness complicated his later years

Maurepas, Jean Frédéric Phélippeaux, comte de (zhäN' frādārĕk' fālēpō' kōt' dŭ mōrüpä'), 1701–81, French statesman He succeeded his father as minister of state at 14, the post being administered for him in his minority Made minister of marine (1725), he attempted to apply scientific methods to naval affairs A satirical epigram against Mme de Pompadour caused his dismissal and exile (1749) After Louis XVI's accession (1774) Maurepas returned, became minister of state, and covered his mediocre abilities by a judicial selection of his council, which included Vergennes, Turgot, and Malesherbes He supported the alliance with the American colonies and the war against England In 1776 he brought about the downfall of TURGOT, and in 1781 of Turgot's successor NECKER

Maurer, Georg Ludwig von (gā'ôrk lōōt'vĭkh fŭn mou'rur), 1790–1872, German jurist and historian He taught at the Univ. of Munich, was a member of the regency council for Otto of Greece, and was for a short time Bavarian premier Deeply interested in early Germanic institutions, he believed that he could distinguish in them the roots of the principles of liberty and democracy His theory of the MARK found enthusiastic adherents but has been generally abandoned, at least in its extreme form

Maurer, Konrad von (kōn'rät), 1823–1902, German legal historian and Germanist; son of G L von Maurer He was an authority on Old Norse, Anglo-Saxon, and early German laws and literature and wrote an excellent history of Iceland up to the year 1262—*Island von seiner ersten Entdeckung bis zum Untergang des Freistaats* (1874)

Maurer, Louis (mou'rŭr), 1832–1932, American lithographer, wood carver, and painter, b Germany He joined Currier and Ives (1852) and lithographed and colored by hand many of their prints, including the race horse Lexington and the series *The Life of a Fireman*

Mauretania, ancient district of Africa in Roman times In a vague sense it meant only "the land of the Moors" and lay W of Numidia, but more specifically it usually included most of present N Morocco and W Algeria It was a complex of native tribal units, but by the 2d cent B C. when Jugurtha of Numidia was warring against Rome, Jugurtha's father-in-law, Bocchus, had most of Mauretania under his control The Roman influence became paramount, and Augustus, having met opposition in restoring JUBA II to the throne of Numidia, placed him instead (25 B C) as ruler of Mauretania Revolts later occurred and Mauretania was subdued (A D 41–42), Emperor Claudius made it into two provinces—Mauretania Caesariensis, with Caesarea (modern Cherchel) as capital, and Mauretania Tingitana, with Tingis (modern Tangier) as capital. Roman influence was never complete, native chieftains remaining powerful With the onset of the barbarian invasions, the Roman hold was loosened and disappeared by the end of the 5th cent The district was not the same as modern MAURITANIA.

Mauriac, François (frāswä' mōryäk'), 1885–, French novelist Though he had earlier tried his hand at poetry, Mauriac achieved success in 1922 and 1923 with the novels *Le Baiser au lépreux* and *Genitrix* (Eng tr of both in *The Family*, 1930) His masterpieces, which reflect his pious Catholic upbringing, are *Le Désert de l'amour* (1925, Eng tr , *The Desert of Love*, 1929), *Thérèse Desqueyroux* (1927, Eng tr , 1928), and *Le Nœud de vipères* (1932, Eng tr , *Vipers' Tangle*, 1933) Other works include *La Pharisienne* (1941, Eng tr , *Woman of the Pharisees*, 1946) He wrote several biographies—*Vie de Racine* (1928), *Blaise Pascal et sa sœur Jacqueline* (1931), and *Vie de Jésus* (1936, Eng tr , 1937) He writes for *Figaro*, and three volumes of collected articles entitled *Journal* have been published (1934, 1937, 1940) His *Du Côté de chez Proust* (1949) was translated as *Proust's Way* (1950) He was elected to the French Academy in 1933 See Elsie Pell, *François Mauriac in Search of the Infinite* (1947)

Maurice (mô'rĭs), c 539–602, Byzantine emperor (582–602) He was a successful general when Tiberius II, successor of Justin II, proclaimed him emperor on his deathbed He ended the war with Persia in 591 and restored Khosru II to the throne, and he defeated the Avars His strict discipline caused an army mutiny and he was obliged to flee He was killed by order of the usurper Phocas, who was deposed (610) in turn by Heraclius I

Maurice, 1521–53, duke (1541–47) and elector (1547–53) of Saxony He became duke of Albertine SAXONY in 1541 Although a Protestant, he was more swayed by political than by religious motives and readily joined his father-in-law, PHILIP OF HESSE, in deserting the Schmalkaldic League In 1546 he made an agreement with Emperor CHARLES V by which he was to receive, in return for his aid against the Protestants, the lands and title of his cousin, Elector JOHN FREDERICK I of Ernestine Saxony He fought for Charles in the Schmalkaldic War and after Mühlberg (1547) received the electorate and a portion of his cousin's lands His unpopularity with his Protestant subjects, his disgust with Charles's treatment of Philip, and his still unsatisfied ambition led him, after raising an army for the execution of the ban against Magdeburg, with which he had been entrusted, to form a league against Charles and to ally himself (1552) with HENRY II of France After Charles's escape from capture, Maurice signed (1552) the Treaty of PASSAU with the emperor's brother Ferdinand (later Emperor FERDINAND I) In 1553 he appeared as the restorer of order at the head of the league of princes opposing his former ally, Albert Alcibiades of Brandenburg-Kulmbach, and was killed in battle Maurice has been roundly denounced for his double-dealing and fulsomely praised as a far-seeing Protestant and German statesman

Maurice, Frederick Denison (mô'rĭs, murĕs'), 1805–72, English author and clergyman He was brought up a Unitarian but became an Anglican He studied law at Cambridge and was a founder of the Apostles' Club Entering Oxford in 1830, he took holy orders in 1831, but in 1853 he lost the post of professor of divinity at King's College, London, because of the views contained in his *Theological Essays* (1853). He held the chair of moral philosophy at Cambridge from 1866 until his death Besides one novel, *Eustace Conway* (1834), he wrote many religious works, including *Lectures on Ecclesiastical History* (1854) and *The Doctrine of Sacrifice* (1854) Maurice was a leader of the CHRISTIAN SOCIALISM movement and also a leader in education, being a founder of Queen's College for women (1848) and the Working Men's College (1854) See biographies by Sir J F Maurice (1884) and C F G Masterman (1907)

Maurice of Nassau (nä'sô), 1567-1625, prince of Orange (1618–25), son of WILLIAM THE SILENT by Anne of Saxony He became stadholder of Holland and Zeeland immediately after the assassination (1584) of his father, was appointed (1588) captain general and admiral of the United Netherlands, and became (1589) stadholder of Utrecht, Gelderland, and Overijssel. He succeeded (1618) his elder brother, Philip William, as prince of Orange. Throughout his career the NETHERLANDS continued in its struggle for independence from Spain In 1590 he took the offensive against the Spanish under Alessandro Farnese. His campaigns were primarily distinguished by his skill in siegecraft His successes on land and on sea enabled him to conclude (1609) a 12-year truce with the Spanish (then commanded by Spinola). The truce virtually established the independence of the seven United Provs During the first part of Maurice's career his principal adviser was OLDENBARNEVELDT, chief author of the truce of 1609. Relations between the two men were, however, strained after 1600 and flared into open conflict when the struggle between REMONSTRANTS and strict Calvinists broke out Maurice took the part of the Calvinists and in 1618 compelled the summoning of the Synod of Dort, which suppressed the Remonstrants Oldenbarneveldt, as a leader of the Remonstrants, was arrested, tried, and executed Thus the house of Orange became supreme in the Netherlands. Maurice's campaigns after the resumption (1621) of hostilities with Spain met with little success. He was succeeded by his brother Frederick Henry The great commercial expansion of the Netherlands during his reign was mainly the work of Oldenbarneveldt.

Maurice of Saxony · see MAURICE (1521–53) and SAXE, MAURICE, COMTE DE (1696–1750)

Mauritania (môrĭtā'nēŭ), French overseas territory (323,310 sq mi., pop c 497,000), NW French West Africa, on the Atlantic Ocean. It is bordered on the north by Algeria and Rio de Oro, on the east by French Sudan, and on the south by Senegal Mauritania is mainly an arid desert It became a French protectorate in 1903 and a colony in 1920. Most of the inhabitants are pastoral nomads. There are salt deposits Mauritania is distinct from the ancient district of MAURETANIA.

Mauritius (murĭ'shŭs, -shēŭs, mô-), island (720 sq. mi , pop 438,703), in the Indian Ocean, with Rodriguez and outlying dependencies a British colony The capital is Port Louis Mauritius is one of the Mascarenes It was named for Maurice of Nassau Coral reefs surround Mauritius, and it is crossed by volcanic ranges rising to 2,700 ft. Sugar is the main crop and export Most of the island's food must be imported Mauritius was discovered by the Portuguese in 1507 It was occupied by the Dutch at intervals from 1638 to 1712 and was settled (1721) by the French, who named it Ile de France La Bourdonnais, governor from 1735 to 1746, established the cultivation of sugar and made Port Louis the depot between Europe and the East Indies The island was the base for his capture of Madras (1746) In the late 18th cent it was a haunt of pirates preying upon the India trade The British took Mauritius in 1810 After slavery was abolished in the British Empire (1834), laborers emigrated from India to man the sugar plantations and Indians became a majority of the population The native Negroes speak French and are Roman Catholics

Maurocordatos, Alexander see MAVROCORDATOS

Maurois, André (ädrā' mōrwä'), 1885–, French biographer, novelist, and essayist, studied at the Univ of Caen His name was originally Emile Herzog His first work, *The Silence of Colonel Bramble* (1918; Eng tr , 1920), was highly successful, but it was the publication of *Ariel* (1923, Eng tr , 1924), a life of Shelley, which established his fame as a biographer This was followed by lives of Byron, Disraeli, Chateaubriand, Washington, and others Further works include *The Miracle of England* (1937, Eng tr , 1937), *Tragedy in France* (1940, Eng tr , 1940), *From My Journal* (1946, Eng tr , 1948), and *Proust Portrait of a Genius* (1949, Eng tr , 1950) Maurois has written discerningly on the art of biography He was elected to the French Academy in 1939 See his memoirs, *I Remember, I Remember* (Eng tr , 1942)

Maurras, Charles (shärl' mōräs'), 1868–, French political writer and critic As editor of the *Action française*, he propounded his nationalistic and monarchial views, which are contained in *Enquête sur la monarchie* (1909, definitive ed , 1924) and *Mes Idées politiques* (1937) A study of George Sand and Musset, *Les Amants de Venise* (1902), is a critical work. In 1938 he was elected to the French Academy An active collaborator with the Germans, Maurras was sentenced (1945) to life imprisonment

Maury, Dabney Herndon (mô'rĭ), 1822–1900, Confederate general, b Fredericksburg, Va ; nephew of M F Maury He studied law at the Univ of Virginia and later was graduated from West Point (1846) Maury was wounded at Cerro Gordo in the Mexican War, taught at West Point (1847–52), and served in the West In May, 1861, he resigned from the U S army and entered the Confederate service He was made a brigadier general for his conduct at Pea Ridge (1862) and was promoted major general in November. As commander of the Dept of the Gulf (1863–65), he held Mobile for the Confederacy until near the end of the war. Maury was minister to Colombia (1886–89). See his *Recollections of a Virginian* (1894)

Maury, Jean Siffrein (zhäN' sēfrē' mōrē'), 1746–1817, French churchman, cardinal of the Roman Church. A court preacher and writer before the French Revolution, he was known in the Constituent Assembly as a defender of the nobles and clergy. When the Revolution grew more radical he fled (1792) to Rome and was created cardinal Driven from Italy by the French troops, he went to Russia, but returned, and in 1806 he went back to France In 1810 he was made archbishop of Paris and refused to surrender the office when commanded to do so

by the pope. After the fall of Napoleon he again fled to Rome (1814), where he was arrested and imprisoned for a time.

Maury, Matthew Fontaine (fŏntān' mō'rē), 1806–73, American hydrographer and naval officer, b. near Fredericksburg, Va. Appointed a midshipman in 1825, he saw varied sea duty until a stagecoach accident (1839) made him permanently lame. In 1842 he was placed in charge of the Depot of Charts and Instruments (later the U.S. Naval Observatory and Hydrographical Office). Soon his wind and current charts of the Atlantic began to appear. With the cooperation of mariners he broadened the field of his valuable charts, which cut the sailing time on many routes. At an international conference on oceanographic data held in Brussels in 1853, Maury was the leading spirit. He was greatly honored both at home and abroad. He wrote widely on navigation and naval reform, and his greatest book, *The Physical Geography of the Sea* (1855), was the first classic work of modern oceanography. He was forced into leave of absence in 1855, but, with wide support, was restored to active service in 1858 with the rank of commander, made retroactive to 1855. With the outbreak of the Civil War, he resigned and served the Confederacy, first in harbor defense and then as an agent in England. After the war he served (1865–66) under Maximilian in Mexico, where he attempted to establish colonies of ex-Confederates. He returned to the United States in 1868 and was professor of meteorology at the Virginia Military Institute until his death. See biographies by C. L. Lewis (1927) and J. W. Wayland (1930).

Maurya (mou'ryu), Indian dynasty, 325–184 B.C., founded by SANDRACOTTUS (Chandragupta). He conquered Magadha and established his capital at Pataliputra (now Patna). ASOKA, his grandson, for the first time in history brought nearly all India, together with Afghanistan, under one sway. Asoka substituted Buddhism for Hinduism as the state religion. The Maurya empire was administered by feudatory kingdoms and by a central government having charge of roads, forests, and defense. Little remains of the empire's apparently rich art and literature.

mausoleum (môsŏlē'ŭm) [from Gr., =belonging to Mausolus], a sepulchral structure or TOMB, especially one of some size and architectural pretension, so called from the sepulcher of that name at Halicarnassus, Asia Minor, erected (c. 352 B.C.) in memory of MAUSOLUS of Caria. It was a magnificent white marble structure, one of the seven wonders of the ancient world. Presumably in the form of an Ionic peristyle set on a lofty and massive base which contained the sarcophagus, it was surmounted by a stepped pyramid on whose truncated apex was a marble quadriga. It was richly decorated with sculpture, including works of Scopas and probably, of Praxiteles, some of which were recovered (1846) for the British Museum. The most notable Roman mausoleum was that of Augustus, a circular marble structure topped by a cone of earth planted with cypress trees in the Campus Martius, Rome (26 B.C.), only the brick shell is still visible. Also famous is the mausoleum of Hadrian (135–39), Rome. Originally a great circular drum sheathed in marble and perhaps covered by a conical stepped roof of masonry, its form has been changed beyond recognition. It is now called CASTEL SANT' ANGELO. Under the Mogul emperors of India was built a remarkable series of domed mausoleums for use as pleasure pavilions in the owner's lifetime, the most celebrated, built by Shah Jehan at Agra, is known as the TAJ MAHAL. Of the mausoleums of modern times notable are those of Napoleon under the Dôme des Invalides, Paris, of Gen. U. S. Grant on Riverside Drive, New York, and of Lenin in Red Square, Moscow. In America the term *mausoleum* is used loosely to describe any sepulchral building above the surface of the ground.

Mausolus (môsō'lŭs), d. 353 B.C., Persian satrap, ruler over Caria (c. 376–353 B.C.). He was always more or less independent. One of the satraps who revolted against ARTAXERXES II, he later went over to Artaxerxes. He aggrandized his power greatly, even to hegemony over Rhodes. After his death his wife, Artemisia, erected at HALICARNASSUS a tomb that he had planned, this gave the name to the mausoleum.

Mauston (mô'stŭn), city (pop. 2,621), co. seat of Juneau co., central Wis., on the Lemonweir and E. of La Crosse; settled c.1840, inc. 1883.

Mauve, Anton (ăn'tŏn mou'vŭ), 1838–88, Dutch landscape and animal painter. He excelled in painting quiet rural scenes with simplicity and realism. His oils and water colors are characterized by delicacy of color and atmosphere. There are examples in the museums of Amsterdam, London, and The Hague and in many English and American private collections. The Metropolitan Museum has five paintings, including *Spring*, *Autumn*, and *Return to the Fold*.

Maverick, Fontaine Maury (fŏntān' môrē măv'rĭk), 1895–, U.S. government official, b. San Antonio, Texas. He studied at Virginia Military Institute (1912–13) and at the Univ. of Texas (1913–16), and after he was admitted (1916) to the bar, he practiced law in Texas, California, and Washington, D.C. Maury Maverick as a Democratic Representative from Texas (1935–39) fought ardently for maintenance of the Tennessee Valley Authority, for public works, for antitrust laws, and for other New Deal legislation. As mayor (1939–41) of San Antonio, he reorganized the municipal government and actively opposed poll taxes. He was appointed (1941) to the War Production Board and served (1943–46) as its vice chairman. See his autobiography, *A Maverick American* (1937).

maverick (măv'rĭk, –rĭk), in cowboy terminology, the name for an unbranded yearling calf or any older animal not bearing the owner's mark. There are many stories told to explain the origin of the term. It is probable, though not certain, that it is derived from the name of Samuel A. Maverick, of San Antonio, Texas. It is said that in 1845 a debt was paid to him by giving him cattle, not being a cattleman, he neglected the herd, which increased and flourished; the young cattle were gradually taken up and branded by ranchers who continued to call all unbranded animals "Mavericks." In the confusion and demoralization of the cattle industry incident on the Civil War, there appeared a great number of ownerless cattle on the plains, and "mavericking" became a recognized and legitimate method of advancing a cattle fortune. In a few years the mavericks were all claimed and branded, and some of the men who had been rounding up mavericks took to removing unbranded animals from an owner's herd and even branded calves still following their mothers (a calf becomes a maverick when he quits his mother and is universally recognized before then as being of her brand). These men brought "mavericking" into disrepute and caused considerable trouble and bloodshed in the cattle country.

Mavrocordatos or **Maurocordatos, Alexander** (both. măv"rôkôr-dha'tôs), 1791–1865, Greek statesman. He took an active part in the Greek revolt against Turkey (1821) as author of the declaration of independence, president of the first national assembly, and commander of the army. Because he wished the English influence ascendant, he incurred the enmity of the pro-Russian Demetrios Ypsilanti and Capo d'Istria, but after Capo d'Istria's murder (1831) he emerged again into prominence as premier under King Otto.

Mawson, Sir Douglas, 1882–, Australian antarctic explorer and geologist, b. England. As a member of the scientific staff of Sir Ernest Shackleton's south polar expedition (1907–9), Mawson took part in the famous ascent of Mt. Erebus and the journey to the south magnetic pole. In 1911–14 he commanded the Australasian antarctic expedition, he studied the antarctic coast W. of Cape Adare, spent two winters in Adélie Land (now Adélie Coast), and discovered King George V Land (now George V Coast), while a subordinate party discovered and explored Queen Mary Land (now Queen Mary Coast). His *Home of the Blizzard* (1915) describes these explorations. In 1920 he became professor of geology and mineralogy at the Univ. of Adelaide. As commander of the British, Australian, and New Zealand antarctic expedition (1929–31), he revisited Enderby Land, not seen since its reported discovery a century earlier, and discovered Mac-Robertson Coast. Using a seaplane in connection with his ship, he made many short flights, in the course of this expedition, Mawson charted over 1,000 mi. of previously unknown antarctic coast and recharted c. 1,500 mi. of vaguely known coasts. He has written many scientific papers.

Max, Gabriel (gä'brēĕl maks'), 1840–1915, German painter and illustrator, b. Prague, son and pupil of Josef Max (1803–54), a sculptor. Gabriel Max is best known as a painter of mystical and spiritualistic subjects. His style is delicate and ethereal. Characteristic works include *Nun in the Cloister Garden*, *The Clairvoyant of Prevorst* (Prague), and *The Last Token* (Metropolitan Mus.).

Maxen (mäk'sŭn), village (pop. 897), Saxony, E. Germany, S. of Dresden. Here, in the Seven Years War, the Austrians under Daun forced (1759) a Prussian army to surrender.

Maxentius (Marcus Aurelius Valerius Maxentius) (măksĕn'shŭs), d. 312, Roman emperor in Italy and Africa (306–12), son of MAXIMIAN. After Diocletian and Maximian had retired, the successor to Maximian, Constantius, died. The Romans, discontent with the shift of power away from Rome, supported Maxentius, who claimed the throne. His father came out of retirement to help him as SEVERUS and GALERIUS came to force him to submission. Severus was compelled to surrender, and Galerius had to withdraw from Italy, while a fourth seeker for power, Constantine (CONSTANTINE I) was persuaded to recognize Maxentius. Maxentius and his father fell out, however, and Constantine declared against Maxentius, whom he defeated utterly in the battle of Milvian Bridge (312).

Maxey, Samuel Bell (măk'sē), 1825–95, Confederate general, b. Tompkinsville, Ky., grad. West Point, 1846. He served in the Mexican War but resigned his commission (1849) to practice law in Kentucky and, after 1857, in Texas. Maxey was made a Confederate brigadier general (1862) and commander in the Indian Territory (1863–65), where he marshaled the natives in support of the Confederacy. After his victory at Poison Springs, Ark. (1864), he was promoted major general. He was U.S. Senator from Texas from 1875 to 1887.

Maxim, name of a family of inventors and munition makers. **Sir Hiram Stevens Maxim,** 1840–1916, was born in Sangerville, Maine, but after launching on a career of inventing, moved to England. There he invented (1884) the Maxim machine gun, which used the recoil from the explosion of one cartridge to expel the empty shell and at the same time to reload the weapon. Among his numerous other inventions were a smokeless powder, a delayed-action fuse, and a heavier-than-air airplane. His arms company was consolidated (1896) with the Vickers firm, which later through another consolidation became Vickers-Armstrong, Ltd. He was knighted in 1901. His autobiography was published in 1915. His brother, **Hudson Maxim,** 1853–1927, was born in Orneville, Maine, and remained in the United States. A chemist, he developed numerous inventions, including a high explosive (maximite), smokeless powders (one of them stabilite), and a self-combustive compound to propel torpedoes (motorite). Some of his inventions were sold to the Du Pont interests. See his reminiscences (1924), Clifton Johnston, *The Rise of an American Inventor* (1927). **Hiram Percy Maxim,** 1869–1936, son of Sir Hiram, was born in Brooklyn, N.Y., and remained in the United States. After graduation from the Massachusetts Institute of Technology, he held many positions as a mechanical engineer and created several inventions, among them an automobile. The most spectacular was the Maxim silencer for explosive weapons (1908), but perhaps more useful were silencers for gasoline engines and the like (see SILENCER). He wrote *Life's Place in the Cosmos* (1933), a biography of his father, *A Genius in the Family* (1936), and the autobiographical *Horseless Carriage Days* (1937).

Maximian (Marcus Aurelius Valerius Maximianus) (măksĭm'ēăn), d. 310, Roman emperor with Diocletian (286–305). An able commander, he was made Caesar (subemperor) by Diocletian in 285 and Augustus in 286. He was in general charge of the empire in the West, but failed to put down the revolt of CARAUSIUS. Two new Caesars, GALERIUS and CONSTANTIUS I, were created (1293), and Constantius was successful against Carausius. Maximian abdicated with Diocletian in 305, but the death of Constantius in 306 brought confusion to the political scene. There was a struggle for power among SEVERUS, Galerius, Constantine (CONSTANTINE I, son of Constantius), and MAXENTIUS (son of Maximian). Into this Maximian plunged, at first to aid his son in Italy; he captured Severus, repulsed Galerius, and won over Constantine, to whom he gave his daughter Fausta in marriage. He and Maxentius then fell out, and Maximian, having failed to depose his son, fled to Constantine and abdicated again (308). He could not, however, rest content but revolted against Constantine. In 310 he was forced to commit suicide.

Maximilian I, 1459–1519, emperor (never crowned) and German king (1493–1519), son and successor of Emperor FREDERICK III. Elected king of the Romans in 1486, he assumed an increasing share of the imperial duties in the last years of his father's reign. After his marriage (1477) with MARY OF BURGUNDY he disputed his wife's inheritance in the Low Countries and Franche-Comté with Louis XI of France. Despite his victory (1479) at Guinegate, Maximilian was forced by the rebellious Flemings to adhere (1483) to the Treaty of Arras (see ARRAS, TREATY OF). Louis's successor, CHARLES VIII, repudiated the treaty; instead of marrying Maximilian's daughter MARGARET OF AUSTRIA, he married (1491) ANNE OF BRITTANY, regardless of the fact that Maximilian, whose first wife died in 1482, had already married Anne by proxy in 1490. Maximilian made a new war on France and by the Treaty of Senlis (1493) recovered his daughter's dowry, Artois and Franche-Comté. At the same time he regained control over the Low Countries and custody of his son Philip (see PHILIP I of Castile). In 1493 also he married Bianca Maria Sforza, a niece of Lodovico SFORZA, in exchange for her huge dowry, he invested (1494) Lodovico with the duchy of Milan. During Maximilian's reign two important constitutional reforms were attempted at the diets of Worms (1495) and of Cologne (1512). The first provided for a perpetual land peace, for an imperial chamber of justice, independent of the emperor; and for a general land tax. (The Swiss refused to pay the tax, defeated the imperial army, and thus won virtual independence in the Peace of Basel, 1499). In 1512 Maximilian divided the empire into 10 circles for imperial jurisdiction. He also set up, at Vienna, the Aulic Council, which gradually absorbed many functions of the imperial chamber, both courts, however, continued till the dissolution of the Holy Roman Empire. A council of regency (see REICHSREGIMENT) was forced on him, but he failed to support it. Maximilian's chief strength lay in the support of the towns of the SWABIAN LEAGUE. His alliance with the Sforzas and his

difficulties with Venice, which barred him from a Roman coronation, embroiled Maximilian in the ITALIAN WARS He joined both the League of Cambrai (see CAMBRAI, LEAGUE OF) against Venice and the HOLY LEAGUE against France, both moves merely cost him money, of which he was chronically short From his reign dated the dependency of the emperors on loans from the FUGGER family. Maximilian took (1508) the title emperor elect, which was also assumed by his successors and obviated the necessity of a coronation by the pope He also failed in his favorite project of a crusade against the Turks Maximilian's reign marked the ascendancy of the towns and the merchant classes, though he favored the trend, he is, because of his chivalrous and slightly quixotic character, often called "the last of the knights" His dynastic policy was crowned by success From the marriage of his son Philip to Joanna I of Castile issued Maximilian's successor, Emperor CHARLES V, upon whose empire "the sun never set" The marriage treaty (1515) with ULADISLAUS II of Hungary and Bohemia was of still more lasting importance Under the spell of the Italian Renaissance, Maximilian patronized such artists as DÜRER, enlarged the universities of Vienna and Freiburg, and himself indulged in literary composition The end of his reign is memorable for the first stirrings of the REFORMATION See biography by R W Seton-Watson (1902), G E Waas, *The Legendary Character of Kaiser Maximilian* (1941)

Maximilian II, 1527–76, emperor (1564–76), king of Bohemia (1562–75) and of Hungary (1563–72), son and successor of Emperor Ferdinand I He was believed to have a leaning toward Lutheranism, evidenced by his interest in Protestant writings and thought and his support of the Protestant form of the sacrament About 1560, however, he yielded to family pressure and outwardly, at least, conformed. After the abandonment of an early project by which Philip II of Spain was to have succeeded Ferdinand I as emperor, Maximilian was crowned king of Bohemia (1562), king of the Romans (1562), and king of Hungary (1563) He obtained funds from the diet for the defense of Austria against the Turks, but by the truce of 1568 with Selim II he continued to pay tribute to the sultan for his part of Hungary Maximilian granted a large degree of religious toleration in his Bohemian and Austrian possessions, during his reign the Catholic Reform made considerable progress in Germany A candidate for the throne of Poland to succeed Henry of Anjou (HENRY III of France), he was elected (1575) by the Polish senate, Stephen Bathory being elected by the diet Maximilian died, refusing the sacraments, while preparing to invade Poland His son, Rudolf II, was made king of Hungary in 1572 and of Bohemia in 1575 and succeeded him as emperor

Maximilian, 1832–67, emperor of Mexico (1864–67). As the Austrian archduke Ferdinand Maximilian, he was denied a share in the imperial government by his brother, Emperor Francis Joseph. Maximilian served as commander in chief of the Austrian fleet and was governor general of Lombardo-Venetia (1857–59), but he found no outlet for his ambition. When the Mexican conservatives sought the aid of NAPOLEON III in founding a Mexican empire, Maximilian was persuaded to accept the crown offered him He and his wife, Carlotta, left Miramar, his palace near Trieste, and sailed (1864) to Mexico The empire was a failure from the start Maximilian, who had no real understanding of Mexico, found most of the country hostile to him and loyal to Benito JUÁREZ He alienated the conservatives by his liberal tendencies and others of his supporters by his decree (1865) ordering the summary execution of all followers of Juárez Indeed, Maximilian's tenure rested solely on French soldiers, who drove Juárez and his liberal army to the north The European monarchs, except Napoleon III, were lukewarm The United States, frankly hostile, was prevented from interfering only by the American Civil War When affairs in France and the cessation of the Civil War impelled Napoleon III to withdraw (1866–67) the French troops from Mexico, the flimsy fabric of the empire dissolved. For a time Maximilian considered abdication, but he was irresolute. In 1866 Empress CARLOTTA went to Europe and vainly sought aid from Napoleon III and the pope Maximilian, in last desperation, assumed personal command of his forces, then mostly concentrated at Querétaro There, after a siege (March–May, 1867), he was captured and shot He wrote *Aus meinem Leben* (1865, Eng tr., *Recollections of My Life*, 1868) and *Mein erster Ausflug: Wanderungen in Griechenland* [my first excursion wanderings in Greece] (1868) See John Musser, *The Establishment of Maximilian's Empire in Mexico* (1918), Egon Caesar, Count Corti, *Maximilian and Charlotte of Mexico* (1928), *Maximilian, Emperor of Mexico: Memoirs of His Private Secretary, José Luis Blasio* (tr and ed. by Robert H. Murray, 1934).

Maximilian I, 1756–1825, king (1806–25) and elector (1799–1806) of Bavaria His alliance with Napoleon I earned him the royal title and vast territorial increases at the Treaty of PRESSBURG (1805) and gave him leadership over the CONFEDERATION OF THE RHINE. His daughter was married to Napoleon's stepson, Eugène de Beauharnais. In 1813, after Napoleon's retreat from Russia, he joined the coalition against Napoleon a few days before the battle of Leipzig. At the Congress of Vienna (1814–15) Maximilian lost some of his territorial gains. Devoted to Bavarian independence, he opposed all moves to unite Germany With his minister, Montgelas, he carried out important social reforms and abolished most of the relics of feudalism in Bavaria In 1818 he granted a liberal constitution and, in contrast to the reaction that prevailed elsewhere in Europe, he continued to rule as "enlightened monarch" He was succeeded by his son, Louis I

Maximilian II, 1811–64, king of Bavaria (1848–64), son and successor of LOUIS I He had strong liberal tendencies and was a patron of art and learning He sided with Austria against the rising power of Prussia, but failed in his hope of creating a union of small German states under Bavarian leadership His son, Louis II, succeeded him

Maximilian I, 1573–1651, elector (1623–51) and duke (1597–1651) of Bavaria, one of the outstanding figures of the THIRTY YEARS WAR, and an ardent supporter of the Catholic Reform. After his occupation of Donauwörth, a Protestant stronghold then under the imperial ban, Protestant indignation was aroused and the Protestant Union formed (1608) To oppose this Maximilian founded the Catholic League He tried to maintain a moderate course in the great quarrel within the empire until 1619 Then, in return for concessions, he brought the army of the League to the support of Emperor FERDINAND II against FREDERICK THE WINTER KING In 1620 Maximilian entered Upper Austria and, after the victory of Tilly at the White Mt., entered Prague After the conquest of the Palatinate, the emperor in 1623 transferred Frederick's electorate to Maximilian A few years later, Maximilian was given the Upper Palatinate in return for Upper Austria, which he had been holding Maximilian protested against Wallenstein's ascendancy and secured his dismissal (1630) In the later years of the war, Bavaria was ravaged by Swedish forces, and Maximilian attempted to negotiate a separate peace A truce was reached at Ulm, in 1647, but was later broken By the Peace of Westphalia, Maximilian retained the electorate and the Upper Palatinate

Maximilian, prince of Baden (Max of Baden), 1867–1929, German statesman A liberal, he succeeded (Oct. 3, 1918) Count Hertling as imperial chancellor, with a coalition cabinet including the Socialists G A Bauer and Scheidemann At the recommendation of the supreme command he began to negotiate for an armistice with the Allies German morale had broken after four years of war and the strain of the Allied blockade Revolution spread after the sailors' mutiny at Kiel The monarchy seemed lost, and Prince Max forced Emperor WILLIAM II to abdicate Several hours later he surrendered the government to Friedrich EBERT

Maximin (Caius Julius Verus Maximinus) (mäk'sĭmĭn), d 238, Roman emperor (235–38) A rough Thracian soldier of great physical strength, he rose in the army and when the soldiers revolted against ALEXANDER SEVERUS they proclaimed Maximin emperor at Mainz He established order among the troops and conducted (235–38) highly successful campaigns against the Germans In 238 Gordian (GORDIAN I) conspired against him Maximin marched on Italy and advanced on Aquileia In the siege he was assassinated by the soldiers

Maximin (Galerius Valerius Maximinus), d 313, Roman emperor (308–13), kinsman of Galerius He is called Maximin Daia He was made Caesar in 305 and in 308 proclaimed himself Augustus in opposition to Licinius After the death of Galerius (310) Maximin exercised considerable power He persecuted the Christians and tried to revive paganism He later allied himself with MAXENTIUS against Licinius and Constantine (CONSTANTINE I). Maxentius was crushed by Constantine, Maximin was defeated by Licinius A last-minute effort to win the Christians by an edict of toleration did not help him He died a fugitive

Maximus, Saint, c 580–662, Greek theologian He was secretary to Emperor Heraclius and subsequently abbot at the monastery of Chrysopolis To curb MONOTHELETISM he went to Rome and persuaded Pope St MARTIN I to convene the synod of 649, which denounced as heretical the *Typus* of Emperor Constans Back at Constantinople, Maximus demanded that the decrees of the synod be accepted He was imprisoned (653–62) by imperial order, then exiled He is important in the history of Byzantine mysticism St Maximus leaned much upon the Pseudo-Dionysius St. Maximus' works influenced Erigena, who translated them into Latin Feast Aug 13.

Maximus, d 388, Roman emperor of the West (383–88) After murdering GRATIAN, he was recognized as ruler of Britain, Gaul, and Spain by Theodosius I. He invaded Italy in 387, expelling VALENTINIAN II, but the next year he was defeated and put to death by Theodosius. In the reign of Maximus the heresy of PRISCILLIAN was suppressed.

Maximus Planudes. see GREEK ANTHOLOGY.

Max-Müller, Friedrich: see MÜLLER, MAX.

Max of Baden: see MAXIMILIAN, PRINCE OF BADEN.

Maxton, town (pop 1,650), S N.C., SW of Fayetteville near the S C line, in a farm area.

Maxwell, Anna Caroline, 1851–1929, American nurse, b. Bristol, N Y., grad. Boston City Hospital, in nursing. She was director of nurses in hospitals in Montreal, Boston, and New York. She organized (1892) and directed until 1921 the school of nursing at Presbyterian Hospital, New York city. Her work in the Spanish-American War demonstrated the efficacy of nursing in reducing the typhoid death rate She served also in the First World War. With A E. Pope she wrote *Practical Nursing* (1914)

Maxwell, James Clerk (klark), 1831–79, great Scottish physicist After a brilliant career at Edinburgh and Cambridge, when he won early recognition with mathematical papers, he was professor at Marischal College, Aberdeen (1856–60), and at King's College, London (1860–65) In 1871 he was appointed first professor of experimental physics at Cambridge, where he directed the organization of the Cavendish Laboratory He is known especially for his work in electricity and magnetism and wrote *A Treatise on Electricity and Magnetism* (1873) Basing his own study and research on that of Faraday, he developed the theory of the electromagnetic field on a mathematical basis and made possible a much greater understanding of the phenomena in this field He was led to the conclusion that electricity and magnetic energy travel in transverse waves and that light waves are in reality waves of this nature, i e, electric and magnetic Maxwell's electromagnetic theory of light was of great importance One of his early papers was "On the Stability of Motion of Saturn's Rings" (1859) He is also known for his investigations of heat, the kinetic theory of gases, color (which led to his invention of the color disk named for him), and color blindness In addition to his papers in these fields, he wrote also a classic elementary text in dynamics, *Matter and Motion* (1876) The unit of magnetic flux is named maxwell in his honor

Maxwell Lefroy, Harold: see LEFROY, HAROLD MAXWELL

Maxwelltown (mäk'swŭltoun), former burgh, once in Kirkcudbrightshire, now in Dumfriesshire, Scotland It is on the Nith river opposite Dumfries, to which it was added in 1929 Maxwelltown has a museum with a collection of Burnsiana

Maxwelton House, 17th-century mansion, Scotland, NW of Dumfries It was the birthplace of Annie Laurie of the song

May, Philip William (Phil May), 1864–1903, English caricaturist, b. Leeds. He earned his living at 12, working in a foundry, on the stage, and in London for a theatrical costumer He gradually found a sale for posters and cartoons and began working for the *St Stephen's Review*. In 1884 he went to Australia for his health and worked for five years on the Sydney *Bulletin* After his return to London a collection of his sketches, *The Parson and the Painter* (1891), was published Later appeared *Phil May's Sketch Book* (1895) and *Phil May's Gutter-Snipes* (1896), *Phil May's Winter Annual* began in 1892 During his last years he worked exclusively for *Punch* and the *Graphic* May's work is distinguished for its economy of line, its brilliant characterization and gentle, kindly humor Most of his types are taken from the stage, sporting events, and London slums See biography by James Thorpe (1932).

May, Samuel Joseph, 1797–1871, American reformer, b. Boston, grad Harvard, 1817 He was Unitarian minister at Brooklyn, Conn (1822–36), South Scituate, Mass (1836–42), and Syracuse, N.Y. (1845–67) An abolitionist of the Garrisonian type, he championed the Negro in spite of bitter hostility, his house in Syracuse was a station on the Underground Railroad May was also a leader in the temperance and woman's rights movements and supported Horace Mann in his reform of the public school system. At Mann's request he served as principal of the normal school at Lexington, Mass., in 1842–44 *Some Recollections of the Anti-Slavery Conflict* (1869) is the most important of his published works See T J Mumford and others, ed., *The Memoir of Samuel Joseph May* (1873)

May, Thomas, 1595–1650, English translator and poet Educated at Cambridge, he was prevented from practicing law by a speech impediment and turned to literature He wrote a number of plays, the most successful of which are *The Heir* (1622), a tragicomedy, and *The Old Couple* (1658), a comedy of manners Better known as a translator, *Lucan's Pharsalia* (1626–27), *Virgil's Georgics* (1628), and *Selected Epigrams of Martial* (1629) comprise his best work He was secretary to the Long Parliament, and *The History of the Parliament of England* (1647) is the product of his political efforts His other work includes two long historical poems on the reigns of Henry II (1633) and Edward III (1635), composed for his patron, Charles I. See A G Chester, *Thomas May, Man of Letters* (1932).

May, Thomas Erskine, 1st Baron Farnborough, 1815–86, constitutional jurist, clerk of the British House of Commons and historian. He is well

known for his writings, which include *A Treatise upon the Law, Privileges, Proceedings, and Usage of Parliament* (1844) and *The Constitutional History of England* . *1760–1860* (1861–63).

May: see MONTH.

may, name for several plants, in England, particularly the HAWTHORN.

May, Cape: see CAPE MAY

May, Isle of, small island, Fifeshire, Scotland, at the mouth of the Firth of Forth and SE of Crail It has a lighthouse, ruins of a 13th-century priory of St Adrian (who was killed here by the Danes in the 9th cent), and a former place of pilgrimage known as the Holy Wells.

Maya (mī'ə, Span mä'yä), American Indians, ethnically and linguistically related, occupying an area (c 125,000 sq mi) comprising the YUCATAN peninsula, the highland crescent of E Chiapas, much of Guatemala, and extreme W Honduras The Mayan languages are spoken in this area, and there is one Mayan island in N Veracruz (see HUASTEC) In the Maya ruins are many inscriptions written in a hieroglyphic which is as yet far from completely understood, though scholars in the 20th cent have approached the subject from the standard Mayan language written in documents under Spanish influence or from careful study of modern Maya (see LANGUAGE, table) Archaeologists have assembled masses of evidence about the Maya, but the unknown area is still great Their early history is still completely obscure One theory holds that they were an offshoot of the OLMEC culture of S Veracruz, another that the civilization of the Maya originated among nomadic tribes about the 4th cent B.C in N central PETÉN Here, 11 mi from each other, are the ruins of two city-states, TIKAL and Uaxactún, early examples of the flourishing culture of a sedentary, agricultural people well advanced in art and science According to Sylvanus G Morley, the history of the Maya may be divided into three major epochs—Pre-Maya (2500 B C –A D 317), Old Empire (317–987), and New Empire (987–1697) Since Maya political organization never developed beyond a loose federation of independent city-states (and even that far only once), the term *empire* is used merely as a convenience to differentiate the last two epochs Pre-Maya is broken down into I, II, and III No monuments survive from Pre-Maya I and II, but during this time cultivation of maize was learned In Pre-Maya III (353 B C –A D 317) came the invention of their calendar, development of chronology and hieroglyphic writing, and the beginnings of stone architecture Both Old and New Empires likewise are broken into periods In Old Empire I (317–633) archaism vanished from sculpture and epigraphy, and Maya culture spread over the entire area The second period (633–731) was one of territorial and cultural consolidation leading up to the greatest expression of the genius of the Maya in Old Empire III (731–987) at COPÁN, QUIRIGUÁ, PALENQUE, and PIEDRAS NEGRAS Before decline set in during the last third of this era, the art of the Maya reached high development These centers of culture were all abandoned within a century One explanation offered is soil exhaustion, without agricultural tools, the Maya burned off the brush and replanted corn by pointed sticks in the same fields exactly as they do today, and the method is hard on the land Disease and social decadence are also offered as causes, probable evidences of violence are entirely lacking There seem to have been two migrations —the Lesser Descent (461–623) and the Great Descent (475, 652–987)—which took the Maya N through E Yucatan The Lesser Descent resulted in the founding of several cities, one of them CHICHÉN ITZÁ The Great Descent took the peoples farther west The New Empire, thus begun, falls into three periods—Puuc or Renaissance (987–1194), Mexican (1194–1441), and Disintegration (1441–1697) A Mexican migration or invasion from Campeche, begun under Kukulcán (see QUETZALCOATL), strongly influenced the indigenous culture of the Maya Between 968 and 987 Kukulcán established his capital at Chichén Itzá and then founded Mayapán, over which he placed the Cocom family Between 987 and 1007, completing the Great Descent, Tutul Xiu founded UXMAL Probably to secure the new rulers' control, a loose confederation of the three cities, called the League of Mayapán, was formed, and a long period of stability ensued Civil war finally broke out, and Chichén Itzá was destroyed (1194) by Mayapán The federation was ended, and the ITZÁ had to abandon their city The victorious Cocom maintained a tyrannical ascendancy until the Xiu revolted (1441), destroying Mayapán and the last vestige of centralized authority. The cities were abandoned, not even the victorious Xiu returned to Uxmal, but instead founded Mani New Empire III was dominated by civil wars, a series of calamities, and the Spanish Conquest under the elder and younger Francisco de MONTEJO. The governmental and probably the ecclesiastic organization of the Maya was headed by a hereditary chieftain (*halach uinic*) who appointed lesser chieftains to govern dependent villages. All ranking officials probably constituted, with the priesthood, a hereditary nobility. The leading priest was second only to the chieftain. He and his hierarchy were not only able administrators, but also outstanding scholars, astronomers, and mathematicians. Below them came the vast majority of common people (laborers and artisans) and then the slaves (war prisoners and criminals) Religious practices in the Old Empire were stately and well organized, and they probably involved little human sacrifice, but with the New Empire and Mexican influence human sacrifice and complex idol worship were introduced Heading the cosmogony were Hunab Ku and his son, ITZAMNA Since the religion of the Maya was dualistic, there was also a chief malevolent deity, Ah Puch, god of death, presiding over hell Other important deities were the god of corn and Chac, god of rain The pantheon later grew considerably The Spanish destroyed the worship of all except the little gods of nature and fertility, the rites for these lesser idols were to a large extent incorporated by the common people into Christian practices The Maya, recording not deeds of human glorification, but chronology, astronomy, and religion, were the only people in the New World to develop an original system of writing (ideographic), which was probably borrowed by other Mexican Indians The most important of the Spanish documents giving information on the language is Bishop Diego de Landa's *Relación de las cosas de Yucatán* (1566, Eng tr by A M Tozzer, 1941) He had destroyed all but three perishable records, the Dresden Codex, the TRO-CORTESIANUS Codex, and the PERESIANUS Codex The paperlike codices were made from the pounded bark of the wild fig tree (*copo*), folded in strips, and fastened with natural gum Shortly after the Spanish Conquest, some of the natives, educated to write their language in Spanish script, recorded much of their history and life in writings known as the *Books of Chilam Balam* There were two Mayan calendars– a 365-day year (*haab*), recurring in 52-year cycles and a sacred or ceremonial year (*tzolkin*) of 260 days grouped into 13 months of 20 days each The corrected calendar year of 18 months of 20 days and one month of 5 days approximated the astronomically determined year with even more accuracy than the Gregorian calendar The positional mathematics of the Maya, developed for accurate time computation, was a magnificent abstract intellectual achievement, based on the vigesimal rather than the decimal system, but having no fractions It was an advance in knowledge that was not equaled for many centuries in Western Europe To record numbers the Maya used bars and dots (a bar equal to five, a dot equal to one) and had variant pictures or glyphs for names Mayan architecture was confined to ceremonial buildings grouped around plazas The majority of the population, estimated to have been c 14,000,000 in the 8th cent or seven times the number of Maya-speaking people today, lived in suburban agricultural communities in wattle, or sometimes adobe, houses with thatched roofs Temples (usually marked by a medial molding on all four sides and often by a flying façade or roof comb of stone rising from the flat roof as high again as the temple itself) were built on pyramidal substructures The pyramid usually had a core of rubble faced with limestone and was ascended by steep stairways Interiors, universally without windows, were small chambers roofed by a corbeled vault (the Maya had no arch), by flat slabs of lime concrete, or by wood beams Walls were covered with limestone plaster, and some buildings were decorated by elaborate stucco or sculpturing on wall panels, stairway ramps, and doorjambs New Empire architecture was characterized by ornate moldings, employing the feathered serpent, and great open colonnades In general, New Empire buildings were less massive and more graceful Sculpture, as an independent art, reached its best expression in the Old Empire, when magnificent carved stone steles marking the calendric periods were erected Usually they were painted dark red, less often blue and other colors Sculpture, at its height between 731 and 889, declined as an independent art in the New Empire, but as an adjunct of architecture reached a dignity and beauty equaled nowhere else in aboriginal America Comparing accomplishments of the Maya with those of other American Indian civilizations, the Maya emerge as undisputed masters of abstract knowledge—writing, astronomy, arithmetic, calendric development, chronology, and the recording of history Their architecture, though not as massive as that of the Inca, the Toltec, or the Aztec nor as advanced as that of the Inca in technical achievement, was outstanding in harmony of line and decorative motifs, the Maya excelled in sculpture in relief and in round Their painting, as in codices and in wall frescoes, is superb Their ceramics were beautiful in polychromatic design but lacked strength In metalwork and in lesser arts the Maya were inferior to other great pre-Columbian civilizations. Neither in governmental nor in social organization did they quite equal the Aztec and certainly not the Inca The foregoing comparisons and evaluation of the culture of the Maya are based on S G Morley, *The Ancient Maya* (1946), the most recent and comprehensive book on the Maya (all dates used in this article are also taken from the book) For an outstanding illustrated account of the modern discovery and first thorough exploration of Maya ruins, see J L Stephens, *Incidents of Travel in Central America, Chiapas, and Yucatan* (1841, new issue, 1949) and *Incidents of Travel in Yucatan* (1843). For the Spanish Conquest, see P. A Means, *History of the Spanish Conquest of Yucatan and of the Itzas* (1917), Robert S Chamberlain, *The Conquest and Colonization of Yucatan* (1949) For art and architecture, see Pál Kelemen, *Medieval American Art* (1943) For a discussion of chronology differing from that used above, see H J Spinden, *The Reduction of Mayan Dates* (1924) For ethnology of the Maya, see Robert Redfield and Alfonso Villa Rodríguez, *Chan Kom, a Maya Village* (1933), and Redfield, *The Village That Chose Progress Chan Kom Revisited* (1950), Morris Steggerda, *The Maya Indians of Yucatan* (1938).

Mayaguana (mī"əgwä'nä), one of the BAHAMA ISLANDS In 1940 the United States acquired a 99-year lease to build a naval and air base here

Mayagüez (mägwās', mäwās'), city (1940 pop 50,376, 1949 estimated pop 62,000), W Puerto Rico, a port on Mona Passage It is a port of entry and an important shipping center in a fertile agricultural region producing sugar, coffee, fruit, vegetables, tobacco, and honey These products are processed, and the craft of handmade embroidery and other needlework is important The city has the colleges of agriculture and mechanic arts of the Univ of Puerto Rico

Mayakovsky, Vladimir (vlŭdyē'mĭr mĭ"ŭkôf'skē), 1893–1930, Russian poet and dramatist He was a leader of the futurist school and chief spokesman in verse of the revolution He wrote mainly for declamation, and his poems, often crude and always iconoclastic, were virile and full of vivid imagery Besides poetry, he wrote three plays, *Mystery Bouffe* (1918, Eng tr , 1934), *The Bedbug* (1928), and *The Bathhouse* (1930) His longest poem is *150,000,000* (1920) He committed suicide See Alexander Kaun, *Soviet Poets and Poetry* (1943)

May apple, North American perennial herb (*Podophyllum peltatum*), growing in patches in wooded regions and sometimes planted in wild gardens The plant grows 12 to 18 in tall, in the spring it bears a nodding white blossom in the fork beneath the two large, deeply lobed leaves, about midsummer it dies back to the ground The rootstock, stem, and leaves are poisonous, but the well-ripened fruit, though not palatable to everyone, may be eaten in moderation The rootstock, which may produce a skin irritation, yields a drug used in certain liver ailments Other names for the May apple are hog apple, wild lemon, and MANDRAKE, but it should not be confused with the true mandrake

May beetle see JUNE BEETLE

Maybole (mābōl'), burgh (pop 4,212), Ayrshire, Scotland, SSW of Ayr It manufactures shoes and agricultural machinery Maybole was once the capital of Carrick, the domain of the Bruces, and had a number of fine mansions Crossraguel Abbey (13th cent) is not far from the burgh

Maybrook, village (pop 1,189), SE N Y , SW of Newburgh, inc 1925 It is an important rail center

May Day, the first day of May. Its celebration probably originated in the spring festivals of the goddesses of fertility of India and Egypt The festival of the Roman goddess Flora was April 28, later April 28–May 3 In medieval England the chief feature of the celebration of May Day was the Maypole, this was decorated with flowers and streamers, the loose ends of which were held by dancers, who encircled the pole, weaving intricate patterns as they passed each other in the dance These dances were forbidden during the Puritan Revolution, but were again sanctioned at the Restoration They are still danced for exhibition purposes in England and the United States, and in some places it is a May Day custom for children to dance around a Maypole in public parks In some parts of the United States children celebrate May Day by hanging baskets of flowers on doorknobs The Second Socialist International in 1889 designated May Day as the holiday for radical labor, and since that time it has been the occasion for demonstrations, parades, and speeches among Socialists and Communists It is a very important holiday in the USSR

Mayence, Germany see MAINZ

Mayenne, Charles de Lorraine, duc de (shärl' də lôrĕn' dük' də mayĕn') 1554–1611, French Catholic general, younger brother of Henri, 3d duc de GUISE After the murder of his brothers (1589), he became the head of the LEAGUE. Defeated by Henry IV at Arques (1589) and Ivry (1590), he nevertheless raised the siege of Paris (1590). For a time he wielded almost royal power over the parts of France which supported the League. He became estranged from the pro-Spanish faction and in 1596 made his peace with the king

Mayenne (mayĕn'), department (2,012 sq mi , pop. 256,317), NW France, in MAINE named for a tributary of the Maine river Laval is the capital

Mayenne, old town (pop. 6,514), Mayenne dept , NW France, in Maine, on the Mayenne river

Mayer, Johann Tobias (yō'hän tōbä'ĭas mī'ûr), 1723–62, German mathematician and astronomer. In 1751 he became professor of economics and mathematics at the Univ. of Gottingen, and in 1754 director of the observatory He is especially noted for his lunar tables (1752) Maver is remembered also for his improvements in map making and for the invention of the repeating circle, later used in measuring the arc of the meridian A collection of his memoirs was published in 1775, a revision of his catalogue of 998 zodiacal stars, newly computed, appeared in 1894

Mayerling (mī'urling), village, Lower Austria, 15 mi. SW of Vienna Here is the hunting lodge (now a convent) where Archduke RUDOLF, heir to Austria-Hungary, and Maria Vetsera met their mysterious death in 1889

Mayfair, fashionable residential quarter of W London, England, N of Piccadilly, named for a fair held here in May from the 16th to the 19th cent. It includes Berkeley and Grosvenor squares

Mayfield. 1 City (pop 8,619), co. seat of Graves co., SW Ky., 8 of Puducah, in an area of farms, clay pits, and timber, founded 1823. It is a market for tobacco and mules and a trade and industrial center with varied manufactures. In the local cemetery are the curious Wooldridge monuments—stone figures of the family, friends, and animal pets of an eccentric horse trader. 2 Anthracite-mining borough (pop 3,172), Lackawanna co., NE Pa., NE of Scranton

Mayfield Heights, village (pop 2,696), NE Ohio, near Cleveland, inc 1925

Mayflower: see TRAILING ARBUTUS.

Mayflower, the ship which in 1620 brought the PILGRIMS from England to New England She set out from Southampton in company with the *Speedwell*, the vessel which had borne some of the English separatists from the Netherlands back to England for the momentous voyage, but, the *Speedwell* proving unseaworthy, the *Mayflower* set out again from Plymouth alone Among the more conspicuous of the 102 passengers were William Brewster and William Bradford After a two-month voyage the ship sighted land on Nov 9 or 10 (Old Style) Before landing, an agreement for the temporary government of the colony by the will of the majority was drawn up in the famous **Mayflower Compact.** Some time was spent in selecting a suitable place for the colony, the choice finally falling upon Plymouth In 1894 the Society of Mayflower Descendants was formed in New York, other states opened branches and in 1897 the national society was organized. The requirement for membership is proved descent from a passenger on the *Mayflower*, a condition which has come to be regarded as the hallmark of an American "aristocracy" The society has encouraged historical work on the ship and its voyage and was the sponsor for the genealogical works of G E. Bowman Much speculation has been spent on the identification of the *Mayflower* A ship of 180 tons burden, it presumably resembled other ships of the period and bore a name common to other vessels

mayhem (mā'hĕm, mā'ûm), in law, originally the crime of willfully and violently injuring a person so as to diminish his capacity for self-defense Cutting off an arm or leg would constitute the offence, while such a battery as cutting off the outer ear would not In the United States, however, statutes treat all mutilations (including those which are self-inflicted to escape some duty, such as military service) as the same offence The victim may sue for damages

Maynard, Edward (mā'nûrd), 1813–91, American dental surgeon and inventor, b Madison, N Y He was court dentist to Nicholas I of Russia and was honored by the kings of Prussia and of Sweden He is also famous for his inventions of improved firearms, including a priming system (1845) and the breech-loading rifle which bears his name.

Maynard, George Willoughby, 1843–1923, American figure, marine, and mural painter, b. Washington, D C., studied at the National Academy of Design and in Florence and Antwerp His decorations are in the Library of Congress, the Essex co. courthouse, Newark, N J., and the Metropolitan Opera House, New York He is represented in the Rhode Island School of Design Museum of Art, Providence, the Pennsylvania Academy of the Fine Arts, the Corcoran Gallery, and the Metropolitan Museum Among his canvases are *An Ancient Mariner, Venetian Court, Strange Seas, Grandfatherly Advice, Vespers at Antwerp, Strange Gods, Rocks at Ogunquit,* and *Flood-Tide* Maynard became a member of the National Academy in 1885

Maynard, Horace, 1814–82, U.S. Representative from Tennessee (1857–63, 1866–75), b Westboro, Mass., grad. Amherst, 1838. He taught at East Tennessee College (now the Univ. of Tennessee) at Knoxville before becoming a lawyer and entering politics. With Andrew Johnson and other Unionists in E Tennessee, he vigorously opposed secession and in the Civil War was attorney general (1863–65) in the Union military government of Tennessee Maynard, a radical Republican, denounced Johnson's policies as President and was later involved in Tennessee's acrimonious political battles of Reconstruction days. He was minister to Turkey (1875–80) and Postmaster General (1880–81) under President Rutherford B. Hayes.

Maynard (mā'nûrd), town (pop. 6,812), E Mass., near Concord; settled 1638, set off from Sudbury and Stow 1871 Woolen goods are produced.

Mayno or **Maino, Juan Bautista** (hwän' boutäs'tä mī'nō), c.1569–1649, Spanish painter He early entered the Dominican order in Toledo, where he is thought to have studied with El Greco. He was drawing teacher to the youthful Philip (later Philip IV) *The Reconquest of the Bay of San Salvador* and *Adoration of the Kings* (both, Prado) and *Adoration of the Shepherds* (Leningrad) are splendid examples of his work.

Maynooth (mā'nōōth, mānōōth'), town (pop. 572), Co Kildare, Ireland, on the Royal Canal and WNW of Dublin It is the seat of St Patrick's College, the principal institution in Ireland for training Roman Catholic clergy, founded in 1795, now a constituent college of the National Univ. of Ireland Some of the buildings were designed by Pugin Near the college are the ruins of **Maynooth Castle,** founded c 1176, besieged in the reign of Henry VIII, and demolished in the 17th cent.

Mayo, Charles Horace (mā'ō), 1865–1939, American surgeon, b Rochester, Minn, M D Northwestern Univ, 1888 He specialized in goiter and cataract operations His brother, **William James Mayo,** 1861–1939, b Le Sueur, Minn, M D Univ of Michigan, 1883, was also a surgeon He specialized in abdominal surgery From a small clinic opened by their father in Rochester, Minn, in 1889, the brothers developed the **great Mayo Clinic** of international reputation In 1915 they established the Mayo Foundation for Medical Education and Research as a branch of the graduate school of the Univ of Minnesota See Helen Clapesattle, *The Doctors Mayo* (1941), Lucy Wilder, *The Mayo Clinic* (1948 ed.)

Mayo, Henry Thomas, 1856–1937, American naval officer, b. Burlington, Vt., grad Annapolis, 1876 In 1913 he became commander of the Atlantic Fleet At Tampico in 1914 he precipitated an international incident by demanding an apology and salute to the American flag after Mexican officials had arrested an American paymaster and a boat crew He was commander of the Atlantic Fleet throughout the First World War and for a time in 1919 commanded the entire U S fleet, which was, however, again divided into Atlantic and Pacific fleets He was given the permanent rank of rear admiral and in 1920 was retired

Mayo, William James: see MAYO, CHARLES HORACE

Mayo (mā'ō), county (2,084 sq mi., pop 148,200), W Ireland, in Connaught The county town is Castlebar The western portion, including large Achill island, is mountainous, the eastern part is more level There are numerous lakes (Mask, Corrib, Conn, and Carragh) and the irregular coast line is deeply indented by bays (Killala, Broadhaven, Blacksod, and Clew). The county grows oats and potatoes and raises cattle, sheep, pigs, and poultry, but its output is hardly sufficient to support its dwindling population. The region was granted to the De Burghs after the Anglo-Norman invasion of Ireland, but the family revolted and the county was not brought under English control until the late 16th cent.

Mayo Clinic: see MAYO, CHARLES HORACE

Mayodan (mā'ōdăn'), cotton-mill town (pop 2,323), N N.C, NNE of Winston-Salem, settled 1894, inc. 1897.

Mayon, Mount (mayōn'), active volcano, 7,926 ft. high, on SE Luzon, Philippine Islands.

Mayo-Smith, Richmond, 1854–1901, American statistician, b Troy, Ohio At Amherst he was influenced by John W. Burgess and after graduation (1875) studied in Berlin and Heidelberg. In 1877 he began to teach at Columbia Univ. He is best known as a pioneer in the teaching of statistics and the application of statistics to social science He also worked directly in economics After 1886 he was an editor of the *Political Science Quarterly,* and he was one of the founders (1885) of the American Economic Association. His principal works are *Science of Statistics* (2 vols., 1895–99; issued also as *Statistics and Sociology* and *Statistics and Economics*) and *Emigration and Immigration* (1890).

Mayow, John (mā'ō), 1643?–1679, English chemist and physiologist In his studies on air he recognized the presence in it of a substance (now called oxygen) that supports burning and respiration; he called the substance the "nitro-aerial" spirit. See his *Medico-physical Works* (tr from the Latin, 1907); Francis Gotch, *Two Oxford Physiologists* (1908)

maypop: see PASSIONFLOWER.

Mays Landing, unincorporated village (pop. 1,452), co seat of Atlantic co., SE N.J., on the Great Egg Harbor river and NW of Atlantic City; settled c 1710. It is an inland water resort in a poultry and truck farm area.

Maysville. 1 City (pop. 6,572), co. seat of Mason co., N Ky., on the Ohio at the mouth of Limestone Creek and SE of Covington. With air, rail, and river connections, the city is a trade and industrial center and has distilleries and tobacco plants It was settled as Limestone c.1782 by Simon KENTON and others, established in 1787, and incorporated in 1833. As an early point of transfer from river to land travel and as a station on the old highways, Maysville enjoyed a flourishing commerce. Daniel Boone and his wife ran a tavern here (c 1786–89). U S Grant attended a local school. A marker notes the site of Kenton's trading post near by. 2 City (pop. 1,026), co seat of De Kalb co., NW Mo., ENE of St. Joseph, in a farm area; settled 1845

Mayville. 1 Resort village (pop. 1,354), co seat of Chautauqua co., W N.Y., on Chautauqua Lake, inc 1830 Furniture and milk products are made here. 2 City (pop. 1,351), E N Dak., on the Goose river and SSW of Grand Forks, settled 1881, inc. 1885. It is a trade center in a farm area. A state teachers college is here 3 Industrial city (pop 2,754), E Wis., S of Fond du Lac; settled 1844, inc 1885.

Maywood. 1 City (pop. 10,781), in San Antonio township, S Calif., near Los Angeles, founded 1920, inc 1924 It is a residential city in an industrial region 2 Village (pop. 26,648), NE Ill., on the Des Plaines river and just W of Chicago; inc. 1881. It is a residential suburb in an industrial area. Tin cans are made here 3 Borough (pop. 4,052), NE N J., near Hackensack, inc 1894.

Mazaca: see CAESAREA MAZACA.

Mazagan (măzăgăn'), city (pop 40,318), French Morocco, a port on the Atlantic Ocean It was occupied by the Portuguese (1502–89) and was from 1541 the only place they held in Morocco. Vestiges of Portuguese fortifications remain A port of the fertile Doukkala region, it exports eggs and cereals

Mazanderan (măzăn"durăn'), region and former province, area 7,519 sq mi, N Iran, along the Caspian It is traversed by the Elburs range. Its fertile plain yields rice, cotton, silk, and sugar cane Mazanderan is the Tabaristan of Arab writers

Mazarin, Jules (zhül' măzărĕ'), 1602–61, French statesman, cardinal of the Roman Church, b Italy. His original name was Giulio Mazarini After serving in the papal army and diplomatic service and as nuncio at the French court (1634–36), he entered the service of France and made himself valuable to Richelieu, whom he succeeded in 1642 Though he had received only minor orders and had never been ordained a priest, he was raised to cardinal upon the recommendation of Louis XIII (1641). He retained his post during the regency through his influence over ANNE OF AUSTRIA The theory that Mazarin was secretly married to the widowed queen has been widely credited. He won favorable terms for France in the Peace of Westphalia (1648), but his financial abuses and his centralizing policy provoked the troubles of the FRONDE (1648–53) By clever diplomacy he defeated the Frondé, strengthened the crown, and negotiated the favorable Peace of the PYRENEES at the end of the war with Spain (1659) See J B Perkins, *France under Mazarin* (1886); Arthur Hassall, *Mazarin* (1903)

Mazarin Bible (mă'zurĭn), considered to be the first book printed by GUTENBERG and the earliest book printed from movable types. It was printed at Mainz The work, which probably required several years, was completed not later than 1456 The text of the Bible is Latin The type is a Gothic related to Old English and similar to the best handwriting of the time Colored initials and other illuminations are made by hand. The pages of the book are folio, each page is in two columns, and, with few exceptions, each column has 42 lines There are both vellum and paper copies. In design and workmanship, the Mazarin Bible holds its place as one of the finest of all printed books. It is called the Mazarin Bible because the first copy to recapture attention was in the library of Cardinal Mazarin, in Paris. It is called also the Gutenberg Bible and the 42-line Bible.

Mazar-i-Sharif (mazär'-ē-shärēf'), town (pop. more than 50,000), N Afghanistan, between Balkh and Tashkurgan. It is a commercial and religious center and the site of a noted mosque of Ali. Silk and cotton goods are produced.

Mazaruni (măzurōō'nē), river of British Guiana rising near Venezuela and flowing generally E to the Essequibo near its mouth. It is the center of the diamond industry of British Guiana.

Mazatlán (măzätlän'), city (pop 32,117), Sinaloa, NW Mexico, a port on the Pacific. The harbor is wide but shallow, and ships must anchor about a mile out, but Mazatlán is a large Pacific port and is on the western trunk line between the United States and Mexico city Spanish colonial trade with the Philippines began the development of the port Present exports include metals, hides, woods, and fruits. Sawmilling and tanning are minor industries. Fish products and *orégano*, a type of vervain much used in Mexican cooking, are shipped inland The climate is hot, and population fluctuates with the seasons.

Mazdaism: see ZOROASTRIANISM.

maze, a detail of landscape gardening based on the Greek LABYRINTH and consisting of intricate paths or alleys lined with high hedges and having a center and exit difficult to find. It was a prominent feature in the formal English gardens of the 17th and

18th cent., the most notable being that at Hampton Court Palace, London.

Mazeppa (mŭzĕ'pŭ), 1644?–1709, hetman of the Cossacks. He was educated at the court of the Polish king. The husband of a Polish lady, with whom he had been carrying on an intrigue, tied him naked to the back of a wild horse which was driven out into the steppes. Mazeppa was rescued in the Ukraine, where his courage and ability soon gained him the leadership of the Cossacks (1687). He became the trusted ally of Peter I of Russia, but later was discovered plotting with Charles XII of Sweden and was forced to take refuge in the Swedish camp. After the battle of Poltava he accompanied Charles to Turkey and there died. In Byron's poem *Mazeppa* he relates the story of his ride.

Maso, Juan Bautista Martinez del (hwän' boutēs'tä märtē'nāth del mä'thō), c.1612–1667, Spanish portrait and landscape painter. He was the pupil and son-in-law of Velásques, with whom he lived and collaborated and whom he succeeded in 1661 as first court painter to Philip IV. Velázques was obliged to supply several copies of certain court portraits. Maso, who assimilated his master's manner in portraiture, unquestionably painted many of these and also some of the originals later attributed to Velásques. His best undisputed portrait is that of Doña Mariana of Austria (Prado). As a landscape painter, however, Maso shows himself a great original artist. His *View of Saragossa* (with little figures by Velásques), *Fountain of the Tritons*, *Calle de la Reina de Aranjues*, and *View of the Buen Retiro* (all Prado) are superb paintings whose breadth of treatment and freshness anticipate the achievements of the later French and British landscapists. See Aureliano de Beruete y Moret, *School of Madrid* (Eng tr., 1909).

mazurka (mŭsûr'kŭ, –zōr'kŭ), Polish national dance which spread to England and the United States at the beginning of the 19th cent. Performed by four or eight couples and characterized by stamping of the feet and striking together of the heels, it is in moderate triple meter and permits improvisation. Chopin composed over 50 masurkas for piano.

Mazzaroth (măz'urŏth), name probably signifying the signs of the Zodiac. Job 38:32.

Mazzini, Giuseppe (jōōzĕp'pā mät-sē'nē), 1805–72, Italian patriot and revolutionist, an outstanding figure of the RISORGIMENTO. His youth was spent in literary and philosophical studies. He early joined the CARBONARI, was imprisoned (1830–31), and went into exile. In Marseilles he founded the secret society Giovine Italia [young Italy], which led a vigorous campaign for Italian unity under a republican government. Mazzini went to Switzerland, then to London (1837), working untiringly at revolutionary propaganda. His influence on Italian liberals was tremendous. Republican revolts were stirred up in Piedmont, the Papal States, and Naples. When Milan was liberated (1848) Mazzini went there; in 1849 he was one of the *triumvirs* of the Roman republic. After its fall he resumed his propaganda from abroad. He organized unsuccessful uprisings in Milan (1853) and an ill-fated expedition in S Italy (1857). He often came secretly to Italy, although he had been condemned to death *in absentia*. Back in London in 1858 he founded the newspaper *Pensiero ed azione* [thought and action]. He supported Garibaldi's expedition to Sicily, but, unlike him, remained a confirmed republican. His relations with Cavour were strained, though both strove for Italian unification, their ideas were opposite, Cavour relying for help on a foreign power (France), Mazzini believing in revolution and war based on direct popular action. He was briefly imprisoned (1870) in Italy for revolutionary activities. Mazzini's work was inspired by his great moral strength. His program was not only political, but deeply social, aiming at human redemption on a religious and moral basis, at liberty, and at justice. His literary style is remarkably fine. He wrote on politics, social science, philosophy, and literature. A selection of his works has appeared in English (6 vols., 1890–91). See biographies by Bolton King (1902), G. O. Griffith (1932), and Stringfellow Barr (1935).

Mazzola, Francesco: see PARMIGIANO.

Mazzuchelli, Samuel Charles (mä'shōōkĕlē), 1806–64, Italian missionary in America. He was a Dominican. He was ordered (1830) to the island of Mackinac to be the only permanent priest in the upper Great Lakes region. He preached at points as separated as Sault Ste Marie and Prairie du Chien, built a church and founded the first Catholic school in Wisconsin at Green Bay, and visited various Indian tribes as a missionary. About 1835 he moved to Galena, Ill.; he established churches in Galena, Dubuque, Davenport, Potosi, Burlington, Iowa City, Bloomington, Bellevue, Shullsburg, Sinsinawa, and other places. He founded, and for three years was first president of, a college for men at Sinsinawa and founded at the same place the Dominican Congregation of the Most Holy Rosary. He excelled in music, painting, and architecture and designed all his churches and several lay buildings. He probably drew plans for the first statehouse of Iowa, now the administration building of the state university in Iowa City. See his memoirs (Milan, 1844; Eng. tr., with biographical introduction by Archbishop Ireland, 1915).

Mc-. Names beginning thus are entered as if spelled Mac-. See the article MAC.

Mdina, Malta: see CITTÀ VECCHIA.

Mead, George Herbert (mēd), 1863–1931, American philosopher and psychologist, b. South Hadley, Mass., grad. Oberlin, 1883, and Harvard, 1888, and studied in Leipsig and Berlin. He taught at the Univ. of Chicago from 1894 until his death. The work of John Dewey and of Mead may be regarded as complementary. Mead, studying the development of the mind and the self, regarded mind as the natural emergent from the interaction of the human organism with its social environment. Within this bio-social structure the gap between impulse and reason is bridged by the use of language. Mastering language, man sets up assumptions as to his role in life, and self and consciousness-of-self emerge, giving intelligence a historical development that is both natural and moral. Mead calls his position social behaviorism, using conduct—both social and biological—as an approach to all experience and recognizing unpredictable behavior patterns as emerging from a complex of causes. An example of this type of emergence is the development of mental activity out of nonmental elements. Mead's work, collected posthumously, includes *The Philosophy of the Present* (1932), *Mind, Self, and Society* (1934), *Movements of Thought in the Nineteenth Century* (1936), and *The Philosophy of the Act* (1938).

Mead, Larkin Goldsmith, 1835–1910, American sculptor, b. Chesterfield, N.H., studied with Henry Kirke Brown, brother of W. R. Mead. He lived chiefly in Italy after 1862. His works include the Lincoln monument in Springfield, Ill. and a colossal statue of Ethan Allen for the capitol at Montpelier, Vt., of which he made a duplicate for Statuary Hall, Washington, D.C.

Mead, Margaret, 1901–, American anthropologist, b. Philadelphia, grad. Barnard (B.A., 1923), Ph.D. Columbia, 1929. In 1926 she became assistant curator, and in 1942 associate curator, of ethnology, of the American Museum of Natural History, New York city. She is known for her studies of the cultures of many remote peoples. Her works include *Coming of Age in Samoa* (1928), *Growing Up in New Guinea* (1930), *The Changing Culture of an Indian Tribe* (1932), *Sex and Temperament in Three Primitive Societies* (1935), *And Keep Your Powder Dry* (1942), and *Male and Female* (1949).

Mead, William Rutherford, 1846–1928, American architect, b. Brattleboro, Vt., grad. Amherst, 1867, brother of Larkin G. Mead. He entered the office of Russell Sturgis in New York. In 1872 he commenced the practice of architecture with C. F. McKim, their partnership being joined by Stanford White in 1879 to make the famous firm of McKim, Mead, and White. Mead was a fellow of the American Institute of Architects, was president (1907–8) of its New York chapter, and on the death (1909) of McKim succeeded him as president of the American Academy in Rome. Mead became a member of the National Academy of Design in 1910. Among the New York works of his firm are the old Madison Square Garden, buildings at Columbia Univ. and the College of the City of New York, the General Post Office, the Municipal Building, the Brooklyn Institute of Arts and Sciences, and additions to the Metropolitan Museum.

mead (mēd), alcoholic beverage fermented of honey and water, sometimes flavored with spices. It is highly intoxicating. Mead was known in classical Greece and Rome and was the favorite drink of the tribes of N and W Europe.

Mead, Lake: see HOOVER DAM.

Meade, George Gordon (mēd), 1815–72, Union general in the Civil War, b. Cádiz, Spain, son of a U.S. naval agent. Graduated from West Point in 1835, he resigned from the army the next year and became a civil engineer. In 1842 Meade reentered the army in the corps of topographical engineers. He served in the Mexican War and later on various engineering projects. In the Civil War he was made a brigadier general of volunteers (Aug., 1861). In the SEVEN DAYS BATTLES (1862), he was severely wounded at Frayser's Farm, but he recovered in time to lead his brigade ably at the second battle of Bull Run. In the Antietam campaign, in the battle of Fredericksburg (1862), and in the battle of Chancellorsville (1863), where he commanded a corps, he distinguished himself further. Meade succeeded Joseph HOOKER in command of the Army of the Potomac on June 28, 1863. Several days later he won the greatest battle of the war at Gettysburg (see GETTYSBURG CAMPAIGN). This brought him a brigadier generalcy in the regular army. He was criticized, however, for not following up his victory. Meade commanded the Army of the Potomac till the end of the war, but U. S. Grant really directed his army in the WILDERNESS CAMPAIGN and subsequent operations. Although he was thus overshadowed by the commander in chief, Meade's sound generalship contributed to the final Union success. He was promoted major general in the regular army on Grant's recommendation in Aug., 1864. After the war Meade commanded various military departments. See George Meade, *The Life and Letters of General George Gordon Meade* (2 vols., 1913); biographies by R. M. Bache (1897) and I. R. Pennypacker (1901), G. R. Agassiz, ed., *Meade's Headquarters, 1863–65* (1922).

Meade, city (pop. 1,400), co. seat of Meade co., SW Kansas, 88W of Dodge City, in a cattle area, inc. 1885. A state park with a lake is near.

meadow beauty, any plant of the genus *Rhexia*, perennials of wet places E of the Rockies, sometimes known as deer grass. A common species (*Rhexia virginica*), called also handsome Harry, has showy rose-purple flowers and a square stem. Meadow beauties may be cultivated in bog or moist wild gardens.

Meadow Lake, town (pop. 1,456), W Sask., NW of Prince Albert, in a lumbering and grain-growing district, with fishing and fur trapping near by.

meadow lark, common North American meadow bird of the blackbird family. The eastern species is a little larger than the robin and has a protectively colored black-and-brown-streaked coat, a yellow throat, a black crescent on the yellow breast, and outer tail feathers of white, conspicuous in flight. The bird nests in the grass. Its food consists mostly of insects. It has a clear, whistling song. The western species has a more melodious song than the eastern but in appearance the two are very similar.

meadow saffron or **autumn crocus,** any plant of the genus *Colchicum*, Old World hardy, crocuslike plants most of which flower in the fall when their leaves are gone. The flowers, of various colors, differ from the crocus in having six stamens. The corms and seeds of the common meadow saffron (*Colchicum autumnale*) are poisonous, yield COLCHICINE, and are used medicinally in treating gout and rheumatism. See also ROSE OF SHARON.

meadowsweet, any plant of the genus *Filipendula* (once classed as a SPIRAEA, some species of which are also called meadowsweet), generally hardy perennial herbs cultivated in borders, sometimes as pot plants. They have showy panicles of small white, pink, or purple flowers. The species include the white-flowered Eurasian dropwort, the pink-flowered North American queen of the prairie, and the white-flowered Eurasian queen of the meadow with leaves white-hairy underneath, escaped from cultivation in the United States.

Meadville, city (pop. 18,919), co. seat of Crawford co., NW Pa., S of Erie and on French Creek, settled c.1788, laid out 1793, inc. as a borough 1823, as a city 1866. A trading center for an agricultural region and near oil fields, its manufactures include rayon, zippers, and metal products. It is the seat of Allegheny College (coeducational, 1816). Meadville was founded as a frontier post on the site of Cussewago, a Munsee village.

Meaford (mē'furd), town (pop. 2,662), S Ont., on Georgian Bay and E of Owen Sound. It is a port, with boatbuilding, in a fishing, dairy, and fruit-growing region.

Meagher, Thomas Francis (mar), 1823–67, Irish revolutionist and Union general in the Civil War, b. Waterford, Ireland. Educated at Jesuit colleges in Ireland and England, he distinguished himself as a young orator for the cause of Irish legislative independence. In 1848 he was condemned to death for his part in the rebellion, but the sentence was commuted to penal servitude in Van Diemen's Land (now Tasmania). Escaping, he came to New York city in 1852, practiced law, and edited the *Irish News*. In the Civil War, Meagher fought at the first battle of Bull Run with the famous 69th Regiment and organized (1861–62) the "Irish Brigade" of New York. His command was eventually decimated in fighting with the Army of the Potomac from the Peninsula campaign through Chancellorsville, and Meagher resigned (1863) as brigadier general of volunteers. His resignation was soon canceled, and at the end of the war he was serving under Gen. W. T. Sherman. He was appointed secretary of Montana Territory in 1865 and also served as temporary governor. His autocratic rule was unpopular and he disappeared at Fort Benton under mysterious circumstances, supposedly drowned in the Missouri river. His *Speeches on the Legislative Independence of Ireland* was published in 1853. See biographies by W. F. Lyons (1870) and Michael Cavanaugh (1892), C. G. Bowers, *The Irish Orators* (1916).

Meah (mē'ŭ) [Heb., =hundred], tower of the wall of Jerusalem. Neh. 3:1, 12:39.

mealy bug, common greenhouse and crop pest of the scale insect family (Coccidae). It has an oval, segmented body which is usually covered with a waxy secretion, giving it a cottony or mealy appearance. Various species cause great damage by feeding on the juices of many plants, including citrus fruits, sugar cane, grapes, pineapple, and coffee.

mean, in statistics, a type of average. The arithmetical mean of a group of numbers is found by dividing their sum by their number. There are seven numbers in the group 4, 5, 6, 9, 13, 14, and 19 and their sum is 70. The mean, obtained by dividing 70 by 7, is 10. Less often used is the geometric mean (the square root of the product of the quantities).

Means, Philip Ainsworth, 1892–1944, American historian and archaeologist, b Boston, grad Harvard (B.A., 1915, M.A. 1917). An assistant on a Yale expedition to Peru (1914–15), he was later (1920–21) director of the National Museum of Archaeology, Lima, Peru. He traveled widely in Latin American countries, and between 1921 and 1932 he was several times an associate in anthropology at the Peabody Museum, Harvard. He wrote many books and articles, in both English and Spanish; these are admired for their scholarship and literary style. Among his works are *History of the Spanish Conquest of Yucatan and of the Itzas* (1917), *Ancient Civilizations of the Andes* (1931), *Fall of the Inca Empire and the Spanish Rule in Peru, 1530–1780* (1932), *The Spanish Main: Focus of Envy, 1492–1700* (1935), and *Newport Tower* (1942).

Mearah (mē'ärù) (Heb., =cave), unknown district of NW Palestine. Joshua 13:4.

Meares, John (mērz), 1756?–1809, British naval officer, explorer, and trader. He served in the navy, in which he attained the rank of lieutenant, until after the Peace of Paris (1783), when he entered the merchant service. In Macao he formed a commercial company for trade with the Northwest Coast of America, to which he paid his first visit in 1786, he explored along the coast of Alaska, wintered in Prince William Sound, and then returned to the Orient. Two years later he went to Nootka Sound, erected a trading post on its shores, and built the *Northwest America*, first ship launched in British Columbia. In 1789 his establishment at Nootka Sound was seized by the Spanish, war between England and Spain was narrowly averted. Meares later returned to the British navy and became (1795) a commander. He wrote *Voyages Made in the Years 1788 and 1789 to the North West Coast of America* (1790).

Mearns, the, county, Scotland: see Kincardineshire.

measles or **rubeola** (rōōbē'ùlu), contagious epidemic disease, widely prevalent, caused by a virus. The incubation period is about 10 or 11 days. Symptoms are fever, chills, running eyes and nose, and an eruption which appears on the forehead, cheeks, and back of the neck and gradually spreads over the body. This rash begins to fade in a few days and is followed by a flaking off of the dried skin, the desquamated skin is not infectious. Measles is chiefly a disease of the young, and one attack generally confers a lifelong immunity. Injections of protein material from the blood plasma of persons who have had measles have been found useful both in causing the disease when contracted to be a milder form (which nevertheless develops immunity to other attacks) and in giving temporary protection against the disease to those exposed to it. Sulfa drugs and penicillin are used to combat pneumonia and other complications which sometimes develop. German measles (rubella) is an infectious disease somewhat similar to measles, but relatively mild. It does not result in an immunity to measles. The incubation period is from 10 to 21 days. It is reported to be harmful to the embryo when contracted by the mother in early pregnancy.

measure, in music, a metrical unit having a given number of beats, the first of which receives an accent. The latter condition may be altered by syncopation. Measures are separated on the staff by vertical lines called bars. The consistent division of music into measures with regularly recurring accent did not become prevalent until about the 17th cent. See also meter and rhythm.

measures, see weights and measures.

meat, in general, the flesh of animals, intended or prepared for food, especially that of cattle, sheep, lambs, and swine. The word is sometimes used in distinction from game, poultry, and fish, sometimes as inclusive of all animal flesh. The chief constituents of meat are water, protein, and fat, with small amounts of minerals. Its food value is high, the protein contributing to the growth and repair of tissue, the fat being a source of energy. Phosphorus, iron, and vitamins are contained in meat, especially in some of the edible organs (e.g., liver). Meat is very completely digested, nearly all the protein and 95 percent of the fat, under normal conditions, becoming available for use in the bodily tissues. It remains in the stomach longer than starch or sugar foods, and varying periods of time are required for digestion of different meats, the fatter meats, such as pork, requiring a longer time. The edible parts of a carcass include lean flesh, fat flesh, and edible glands or organs, such as the heart, liver, kidneys, tongue, tripe, brains, and sweetbreads. The toughness and texture of meat depend on the character of muscular walls and connective tissue and vary with the part of the animal and its age and condition. "Ripening" or "hanging" meat for a time permits the formation of lactic acid, which acts on the tissues to soften them. Weak vinegar, sometimes used in preparing a tough cut for cooking, has a similar effect. Good meat may be recognized in the market by a uniform color, a firm, elastic texture, barely moist to the touch, and a scarcely perceptible, clean odor. The choicer cuts should be of fine texture and well interspersed with fat. Cooking meat not only softens tissues, kills parasites and microorganisms, and coagulates blood and albumen, but makes the meat more palatable by developing its flavors or introducing new ones by means of seasonings and sauces. Meat, where available, has been a staple food since prehistoric times. The meat supply, obtained at first by using the raw flesh of animals found dead, was augmented by trapping, then, as man developed his tools and a community life, by hunting, and finally by the domestication of animals. Meat has been subject to prohibitions (see vegetarianism) and to butchering regulations on religious and hygienic grounds. Meat consumption has been commonly based on the supply, lamb and mutton being preferred in the Near East, veal in Italy and pork and beef in most of Europe and America. The per capita use of meat is higher in the United States than in Europe but is exceeded in Argentina, New Zealand, Australia, and Canada, all large exporters.

Meath (mēth, mādh), county (903 sq. mi.; pop. 66,232), E Ireland, in Leinster. The county town is Trim. The land is mostly level, being a part of the central plain of Ireland, with extensive fertile areas near the Boyne and the Blackwater, the principal rivers. There is a sandy coast line of some 10 mi. along the Irish Sea. Farming and cattle raising support the bulk of the population, and there are a few minor manufactures in the larger towns. The region is important in Irish history. Tara was long the seat of the high kings of Ireland. Meath was considered a fifth province of Ireland for many centuries and was not finally organized as a county until the 17th cent.

meat packing, one of the largest modern industries. It includes the operation of large plants and the buying, inspection, and slaughter of food-producing animals, the preparation of their carcasses for food and various other purposes, and the conduct of departments for advertising, distribution, and sales. The practice of assembling cattle at a central plant where they can be slaughtered and all parts utilized is a natural outgrowth of American conditions. The plains of the Middle West and the South support cheap stock raising, but the cattle must be marketed in the densely populated Eastern states. Losses entailed by driving animals, especially swine, to distant markets led, as early as 1820, to the shipment of brine-packed meat from central points. Cincinnati was a leading center from 1840, and in the 1850s Chicago attained prominence in the industry. With its Union Stock Yards (1864), it became the dominant livestock and packing center of the United States. Modern meat packing dates from the introduction of refrigeration. In 1870 fresh beef was shipped from Hammond, Ind., to Boston in an iced car. The Union Stock Yards began c 1877 the use of refrigerated cars. Distribution now extended even to export trade, and the handling of fresh meat assumed predominant importance. Storage and distributing warehouses, coordinating with extensive lines of refrigerated cars and steamships, make possible a rapid and efficient marketing of even the most perishable products. Research has rendered profitable the by-products of a packing plant, formerly considered waste, e.g., hide, hoofs, hair, horns, bones, fats, intestines, blood, and viscera. Federal laws require examination of all animals slaughtered for export or interstate trade. The laws are administered through the Bureau of Animal Industry of the Dept. of Agriculture, and all plants are open to inspection day and night. Chicago, Kansas City, South Omaha, St. Louis, South St. Joseph, Indianapolis, Fort Worth, Ottumwa, and Sioux City are distribution centers of packing-house products in the United States. Packers may avail themselves of a grading service, offered at cost by the Dept. of Agriculture, which classes beef as prime, choice, good, medium, common cutter and low cutter steer or heifer. See P. T. Ziegler, *The Meat We Eat* (2d ed., 1948); publications of the U.S. Dept. of Agriculture.

Meaux (mō), city (pop. 13,030), Seine-et-Marne dept., N France, on the Marne and E of Paris. It is the chief city of Brie. An episcopal see since the 4th cent., it has a cathedral (12th–16th cent.) which contains the tomb of Bossuet, the most famous of its bishops. In the massacre of Meaux (1358) thousands of peasants who had participated in the Jacquerie were slain. Meaux was the farthest point of the German advance in the first battle of the Marne (1914).

Mebane (mē'bln), town (pop. 2,060), central N.C., E of Greensboro, founded 1854. It has textile and furniture plants and a tobacco market.

Mebunnal (mēbŭn'l), the same as Sibbecai.

Mecca (mĕ'kù), city (pop. c.130,000), capital of Hejaz, Saudi Arabia. The birthplace of Mohammed the Prophet, it is the holiest city of Islam. It is c 50 mi. from its port, Jidda, and is in a narrow valley overlooked by hills crowned with castles. The streets are wider than in most Oriental cities. Many of the buildings, constructed of stone, are more than three stories high. The city, called Macoraba by Ptolemy, was an ancient center of commerce and a place of great sanctity for idolatrous Arab sects before the rise of Mohammed. Mohammed's flight (the hegira) from Mecca in 622 is the beginning of the Moslem era. He captured the city shortly after. Although Mecca never lost its sanctity, it declined speedily in commercial importance after its capture by the Omayyads in 692. It was sacked in 930 by the Karmathians and taken by the Ottoman Turks in 1517. The Wahabis held it from 1803 to 1813. Here, in 1916, Husein ibn Ali proclaimed his independence of Turkey and maintained himself as king of the Hejaz until Mecca fell to Ibn Saud in 1924. The center of Mecca is the great mosque, the Haram, which encloses the Kaaba, the chief goal of Moslem pilgrimage. Next to the Kaaba is the holy well, the Zemzen, used solely for religious and medicinal purposes. The great bazaar outside the mosque is noted for its silks, beadwork, and perfumes. The commerce of the city depends almost wholly on the pilgrims, as there are few manufactures save articles of devotion. Despite the ban against unbelievers, the holy city was visited and described in the 19th cent. by Richard Burton and others. In some years as many as 150,000 Moslems make the pilgrimage to Mecca, Medina, and Arafat. See Eldon Rutter, *The Holy Cities of Arabia* (1928).

Méchain, Pierre François André (pyĕr' frāswä' ädrā' māshĕ'), 1744–1804, French astronomer, particularly remembered as an observer of comets and the discoverer of several. In the *Connaissance des temps*, which he edited for 10 years, and in the *Transactions* of the Academy of Sciences most of his memoirs on comets and on eclipses were published. He worked with J. D. Cassini and A. M. Legendre in 1787 in verifying the difference in longitude between the observatories of Paris and Greenwich, in 1791 he worked with J. B. J. Delambre in measuring a part of the arc of the meridian between Dunkirk and Barcelona, as a basis for the establishment of the metric system.

mechanical advantage: see machine.

mechanical engineering, see engineering.

Mechanic Falls, town (pop. 1,999), SW Maine, W of Auburn and on the Little Androscoggin, set off from Minot and Poland 1893. It has paper mills.

mechanics, branch of physics concerned, in general, with the study of the effects produced when forces act upon bodies (solids, liquids, or gases). Although the ancients used such simple machines as the lever, the inclined plane, and the wheel and axle and by means of them were able to do much useful work which otherwise would not have been possible, at first they were not aware, apparently, of the fundamental principles governing the action of those forces which they applied to the solid bodies. Understanding of the principles came gradually, and the mechanics of today, with its carefully tested and organized knowledge, is the result of the efforts of many men to determine what general laws govern the action of forces on bodies. Archimedes, for example, studied the action of the lever and stated his simple law, and Leonardo da Vinci in the Renaissance devoted special attention to this device. Later other simple machines were investigated and methods were devised for representing, by geometrical figures, the action of the forces applied (see machine). Galileo studied the inclined plane, the simple pendulum, and the speed of falling bodies of different weight from his experiments drawing important conclusions. Christiaan Huygens was concerned with centrifugal motion. Isaac Newton organized those principles already discovered and brought forward his own very important laws of motion and universal gravitation. Since then, especially from the times of Descartes and Leibniz, these principles have been reduced to mathematical formulas. The science of mechanics is to a large degree abstract. It treats primarily of motion, of the effects of forces applied to bodies in motion (kinetics) and of motion alone (kinematics) without consideration of the causes, such as mass and force. Although the branches of the science are variously grouped, these two fields of investigation are frequently classed together under dynamics—as opposed to statics, that branch of mechanics treating of bodies in equilibrium and of the forces holding them in that state. The mechanics of liquids deals with bodies of liquids in equilibrium (hydrostatics), with the motion of liquids and the principles involved (hydrodynamics), and with the application of these principles to various machines (hydraulics, see hydraulic machine). For example, Pascal's law of fluid pressure, a principle of hydrostatics, finds application in the hydraulic press. Archimedes' principle is applied to problems concerning the buoyant effect not only of liquids on bodies immersed in them, but also of gases, which are commonly classed with liquids as fluids. The study of fluids in motion involves, as does the study of solids, a consideration of friction and of inertia. The mechanics of gases (pneumatics) is largely concerned with the pressure exerted by the atmosphere and with the physical properties of gases in general and forms the basis for the action of such devices as the siphon and the pump.

Mechanicsburg. **1** Village (pop. 1,653), W central Ohio, NE of Springfield, in a farm area. **2** Industrial borough (pop. 5,709), S Pa., between Harrisburg and Carlisle, settled c.1790, inc. 1828. It produces textiles and metal products and is in a farming area.

Mechanicsville: see SEVEN DAYS BATTLES.

Mechanicville, city (pop 7,449), E N.Y., N of Albany, on the west bank of the Hudson and on the Barge Canal, settled before 1700, inc as a village 1859, as a city 1915 There are railroad shops here. Bricks, paper, and knit goods comprise the chief products E E. ELLSWORTH lived in the city.

mechanized warfare, in the broadest sense, modern mobile attack and defense that depend upon machines, more particularly upon those powered by gasoline motors. Central to the prosecution of such warfare are the tank and the armored vehicle, with support and supply from motorized columns and airplanes The automobile was of great use in the First World War The tank was introduced at Cambrai in 1917, and its use was enthusiastically endorsed by the Briton, Gen J. F C Fuller. The need for air protection and support was emphasized by the American, Gen. William L. Mitchell The basic essentials were thus established early, but it was not until Germany attacked Poland at the start of the Second World War that the full potentialities of mechanized warfare (as well as air warfare) began to be revealed The German armored divisions (Panzer divisions) proved their worth and were later to win spectacular success in North Africa and in Russia Outstanding among the German proponents of this sort of warfare were Heinz Guderian and Erwin Rommel The German triumphs brought recognition to the men in other countries who had advocated mechanized warfare, e g , Charles de Gaulle The British and American armies emphasized the creation of armored divisions and the development of weapons against mechanized warfare, especially the antitank gun and the air bomber The Germans used their mechanized forces for deep infiltration of enemy territory, but were ultimately beaten by superior use of artillery as shown by the Russians in such engagements as the battle of Orel and by the British in the battle of Alamein The use of air defense also told The Allies themselves developed the use of tank warfare with brilliant success, as in the thrusts of American forces under George S Patton, Jr There are many who argue that the classic age of this particular type of mechanized warfare came and went in the Second World War, but the effects on mechanized warfare of such new weapons as the atomic bomb, rockets, and jet-propelled airplanes have not yet been actually demonstrated

Mechelen, Belgium see MALINES

Mecherathite (mĕ'kurəthīt), obscure designation of one of David's guards 1 Chron 11 36

Mechitar see ARMENIAN LITERATURE

Mechlin, Belgium see MALINES

Mechnikov, Ilya Ilyich. see METCHNIKOFF, ÉLIE

Mecklenburg (mĕ'klunbûrg, Ger mā'klunboŏrk, mĕ'-), state (8,863 sq mi , pop 2,108,735), N Germany, along the Baltic Sea Schwerin is the capital As constituted after 1945 under Russian military occupation, Mecklenburg consists of the former states of Mecklenburg-Schwerin (5,068 sq mi , 1925 pop 674,045) and Mecklenburg-Strelitz (1,131 sq mi , 1925 pop 110,269) and of the part of the former Prussian province of POMERANIA situated W of the Oder (but not including Stettin) Mecklenburg is a low-lying, fertile agricultural region, with many lakes and forests Cattle raising and fishing are important occupations On the Baltic coast are the cities of ROSTOCK, WISMAR, and STRALSUND, long important as Hanseatic ports, and the Island of RÜGEN (Rugen and Stralsund were formerly in Pomerania) There are many seaside resorts Mecklenburg has no important industries The region was occupied (6th cent A D) by the WENDS (Slavs) Later awarded as a march to the dukes of Saxony, it was subdued (11th cent) by Henry the Lion, and the Wendish prince Pribislaw became a vassal of the Holy Roman Empire In 1348 the princes were raised to ducal rank In the Thirty Years War, Duke Adolphus Frederick was deposed (1628) and the duchy was given to WALLENSTEIN, who had conquered it, it was, however, retaken by Gustavus II of Sweden and restored (1632) to its former ruler The Mecklenburg dynasty divided into several branches at various times in its history The most recent division of the land took place in 1701, when the line of Mecklenburg-Strelitz was founded At the Congress of Vienna (1815) both divisions of Mecklenburg were raised to grand duchies They both joined the German Confederation, sided with Prussia in the Austro-Prussian War of 1866, and joined the German Empire in 1871 The grand dukes were deposed in 1918, in 1934 the separate states of Mecklenburg-Schwerin and Mecklenburg-Strelitz were united Mecklenburg joined (1949) the East German republic

Mecklenburg Declaration of Independence, alleged to have been proclaimed at Charlotte, N C , by the citizens of Mecklenburg co. on May 20, 1775. Although North Carolina's seal and flag bear this date, the declaration is widely regarded as a spurious document. Actually, the Mecklenburg people adopted (May 31, 1775) strong anti-British resolutions, with no mention of independence An account of the Mecklenburg Resolves, as they are called, was published in 1819, with embellishments from the national Declaration of Independence. From this grew the tale of the declaration of May 20, which still persists in North Carolina, but is completely unsupported by documentary evidence. A small matter (only one county in one colony is involved), it has nevertheless produced considerable controversy See W. M Hoyt, *The Mecklenburg Declaration of Independence* (1907), J H. Moore, *Defense of the Mecklenburg Declaration of Independence* (1908)

Medad (mē'-), one who with Eldad received the prophetic power of Moses Num 11 16,26

medal, a piece of metal, cast or struck, commonly coin shaped, but not circulated as money The obverse and reverse bear bas-relief and inscription Commemorative medals are issued to preserve the memory of a notable person or event DECORATIONS, CIVIL AND MILITARY, are medals (disk, cross, or star) conferred by state, order, or organization for signal bravery or service or for distinction in science or the arts Religious medals, often worn on the person of Roman Catholics, are believed to be efficacious if blessed by the Church, indulgences may be attached to blessed medals Medals have ranked as works of art since Greek times, Roman medals are notable for their realistic portraiture Medals returned to fashion during the Renaissance especially through the fine work of PISANELLO Many sculptors and painters were famous also as medalists, notably Filippo Lippi, Benvenuto Cellini, and Albrecht Durer France in the 19th cent became the leader in producing medals of artistic merit Cast medals were predominant in the 15th cent but by the 16th had been largely superseded by die-struck medals Dies may be cut direct, or a wax or plaster model about four times the intended size of the medal may be reproduced as a metal electrotype from which a die is made in the desired size by a reducing machine operating on the principle of the pantograph See also NUMISMATICS

medallion, in sculpture, usually a portrait relief, such as an oval, circular, or rectangular plaque or large MEDAL several inches or more in diameter Medallion in decorative art is a similarly shaped motif, it may be single, as in antique jewelry or title-page ornaments used in printing, or it may be repeated in a pattern with garland, wreath, or geometric frame to form a dispersed design, as in textile and lace patterns In architecture, a medallion is an ornamental feature in relief or color displaying mask, bust, figure, or decorative design on members such as beams, brackets, and window trims

Medan (mē'dăn), son of Abraham and Keturah Gen 25 2, 1 Chron 1 32

Medan (mädan'), town (pop 76,584), capital of the state of East Sumatra, Indonesia, on NE Sumatra. It is the trade center of a rich agricultural area producing tobacco, rubber, and tea, and it manufactures machinery and bricks Its port is Belawan, 15 mi north of the town

Medary, Samuel (mĕ'durē), 1801–64, American journalist, b Montgomery co , Pa In Ohio after 1825, he edited the *Ohio Sun* at Bethel and later the *Ohio Statesman* at Columbus and was superintendent of public printing (1837–47) Medary, a leading Western Democrat, championed the annexation of Texas and Oregon He was most influential in having adopted the Ohio constitution of 1851 He was territorial governor of Minnesota (1857–58) and of Kansas (1858–60) In 1860 he founded the *Crisis* in Columbus, Ohio, and in the Civil War, as a "Peace Democrat" and supporter of C L VALLANDIGHAM, he was bitterly hated by Union patriots, who wrecked his press in 1863

Medea (mēdē'ə), in Greek mythology, princess of Colchis, famous for her knowledge of sorcery She loved JASON and helped him, against the will of her father, Aeetes, to obtain the GOLDEN FLEECE When Jason left Colchis she fled with him, taking along her brother Absyrtus To stay her pursuing father, she murdered Absyrtus and scattered bits of his body as she fled, knowing that Aeëtes must pause to pick them up Medea lived as Jason's wife for many years and bore him two children She induced the daughters of Jason's uncle PELIAS to murder their father, promising to restore his youth When Jason wished to marry CREUSA, Medea sent her an enchanted wedding gown which burned her to death Then she killed her children and went to Athens, where she married AEGEUS, father of THESEUS She is the heroine of plays by EURIPIDES, SENECA, CORNEILLE, and others

Medeba (mĕ'dĭbə, mē'-), town, Jordan, E of the Dead Sea It is S of Heshbon In early times it was in Moab and is so mentioned in the Bible Num 21 30, Joshua 13 9,16, 1 Chron 19 7, Isa 15 2 Later it was important as a holy place and became a bishop's see One of the oldest of extant maps was found in a mosaic in a Byzantine church at Medeba It antedates Islam.

Medellín (mādhāyēn'), city (pop 143,952), W central Colombia Founded in 1675 in a small valley (alt. c 5,000 ft), Medellín was geographically isolated until the development of transportation in the 19th cent Not until after 1918 was coffee, its main agricultural product, introduced Manufacturing includes textile, shoe, soap, candy, and bottle factories, ironworks, ice plants, and breweries, coal is mined locally, and there are sugar refineries near by A clean, modern, healthful city, Medellín is the leading industrial center of the republic

Medelpad (mā'dulpād), historic province of NE Sweden. It is now administratively part of VASTERNORRLAND CO.

Medes: see MEDIA

Medfield, residential town (pop. 4,384), E Mass , SW of Boston, set off from Dedham 1650 Most of it was burned in King Philip's War George Inness lived and painted some of his best-known canvases in Medfield

Medford, 1 City (pop 63,083), E Mass , northern suburb of Boston, on the Mystic river, settled 1630, inc as a town 1684, as a city 1892 Paper products and furniture are made here It is the seat of TUFTS COLLEGE and has several 18th-century buildings Lydia Maria Child was born in Medford **2** Town (pop 1,121), co seat of Grant co , N Okla , NE of Enid, in wheat country **3** City (pop 11,281), co seat of Jackson co , SW Oregon, W of Klamath Falls and on Bear Creek, a tributary of the Rogue, founded 1883, inc as a town 1884, as city 1885 With fruit-packing plants and lumber mills, it is the trade and shipping center for a rich farming, lumbering, and quarrying region Resort activities center about near-by Crater Lake and the Rogue river fishing and game area **4** City (pop 2,361), co seat of Taylor co , central Wis , NW of Wausau and on the Black River, inc 1889

Media (mē'dēə), ancient country of W Asia, of varying limits, occupying generally what is now NW and W Iran and S Azerbaijan SSR It extended from the Caspian Sea to the Zagros Mts It was divided by the Romans into Media Atropatene (modern Azerbaijan) and Media Magna, the southern and larger division whose capital was Ecbatana, the modern Hamadan. According to Ctesias, Arbaces was the founder of the dynasty which ruled Media until its overthrow by Cyrus The country was then united with the Persian Empire See PERSIA

Media, borough (pop 5,351), co seat of Delaware co , SE Pa , near Philadelphia, settled 1682, laid out c 1848, inc 1850 It has a large business section and a few industrial plants Near by is the Providence Meetinghouse (1684), where many of William Penn's followers are buried

median (mē'dēun), in statistics, a type of AVERAGE In a group of numbers as many numbers of the group are larger than the median as are smaller In the group 4, 5, 6, 9, 13, 14, 19, the median is 9, three numbers being larger and three smaller

mediation, in international law, type of intervention in which the disputing states accept the offer of a third state to recommend a solution for their controversy Mediation by an international commission is usually termed conciliation Mediation differs from ARBITRATION in being a diplomatic rather than a judicial procedure, thus, the parties to the dispute are not bound to accept the mediator's recommendation Certain formal procedures appear in mediation which are absent from diplomatic good offices (the informal consideration of a dispute), in effect, however, the two methods are identical Resort to mediation has become increasingly frequent The Declaration of Paris (1856) expressed the hope that the signatories would ask for mediation in their disputes At the Second Hague Conference (1907) the right of friendly powers to offer mediation was recognized The Covenant of the League of Nations provided that the whole League, acting through the League Council, should offer conciliation, and the Charter of the United Nations requires all members to submit disputes to mediation on recommendation of the Security Council Mediation has been successfully used in many cases The United States was mediator between Bolivia and Chile (1882) and between Russia and Japan (1905)

medic (mĕd'ĭk), any plant of the genus *Medicago*, annual or perennial Old World legumes mostly cultivated as forage or green-manure plants They have trifoliate leaves, small yellow or purple flowers in heads or racemes, and usually twisted pods, often burry Besides ALFALFA, the most important species in America include the black medic, the toothed bur clover, and the spotted medic A few are occasionally cultivated for ornament—the snail clover for its odd fruits—and several are naturalized in America

medical care insurance see HEALTH INSURANCE.

medical jurisprudence or **forensic medicine,** the application of medical science to legal problems It is typically involved in cases concerning paternity, insanity, injury, or death resulting from violence It also defines the relation of physician and patient See B S Oppenheimer, *Medical Jurisprudence* (1935)

Medici (mĕ'dĭchē, Ital mā'dēchē), Italian family which directed the destinies of FLORENCE from the 15th cent until 1737 Of obscure origin, they rose to immense wealth as merchants and bankers, became affiliated through marriage with the major houses of Europe, and, besides acquiring (1569) the title grand dukes of Tuscany, produced three popes (LEO X, CLEMENT VII, and Leo XI), two queens of France (CATHERINE DE' MEDICI and MARIE DE'

MEDICI), and several cardinals of the Roman Church. They also ruled for a brief period (1516–21) the duchy of Urbino. The rise of the Medici in Florence coincided with the triumph of the capitalist class over the guild merchants and artisans. Until 1532 the democratic constitution of Florence was outwardly upheld, but the Medici exerted actual control over the government without holding any permanent official position. They were driven from power and expelled from Florence in 1433–34, from 1494 to 1512, and from 1527 to 1530, but the attempts (such as the PAZZI CONSPIRACY, 1478) of the Florentine republicans to restore the former liberties failed ultimately because of the Medici's wealth and powerful connections. When their influence began, in the early 15th cent., much of the most glorious period of the RENAISSANCE in Florence lay already in the past, however, the magnificence and liberality of many of the members of the house, who were passionate patrons of the arts, literature, and learning, allowed Florence to become the most stupendous repository of European culture since the Athens of Pericles. Florence such as it is today is largely the accomplishment of the Medici. This cultural flowering was accompanied by tremendous economic prosperity and expansion and by territorial aggrandisement (see TUSCANY) which reached its climax in the 16th cent. The rule of the Medici, though denounced by their enemies as tyrannical, was at first generally tolerant and wise, but became stultifying and bigoted in the 17th and 18th cent. The genealogy of the family is complicated by numerous illegitimate offspring and by the tendency of some of the members to dispose of each other by assassination. The first important member was Giovanni di Bicci de' Medici (1360–1429). His elder son, Cosimo de' Medici (see separate article) founded the senior line, which included Piero de' Medici (Piero il Gottoso), Lorenzo de' Medici (Lorenzo il Magnifico), Piero de' Medici (1471–1503), Pope Leo X, Giuliano de' Medici, duke of Nemours, Lorenzo de' Medici, duke of Urbino, Ippolito de' Medici, Alessandro de' Medici, and Pope Clement VII (separate articles on all). Giovanni di Bicci's younger son, Lorenzo (d 1440), founded the younger line, which included Lorenzino de' Medici, Giovanni de' Medici (Giovanni delle Bande Nere), and the grand dukes of Tuscany—Cosimo I, Ferdinand I, Cosimo II, Ferdinand II, Cosimo III, and Gian Gastone, last of the line (separate articles on all). See G. F. Young, *The Medici* (2 vols., 1909); Lacy Collison-Morley, *The Early Medici* (1936), Ferdinand Schevill, *The Medici* (1949). See also bibliographies under FLORENCE and RENAISSANCE.

Medici, Alessandro de' (älĕs-sän'drō dā), 1511–37, duke of Florence (1532–37), probably an illegitimate son of Lorenzo de' Medici, duke of Urbino. After his father's death (1519), young Alessandro lived in Florence with his cousin Ippolito de' Medici (see separate article) and with Cardinal Passerini, who administered the city under the orders of Pope CLEMENT VII, the head of the Medici family. In 1527 the Medici were banished from Florence as a result of the invasion of Italy by the army of Emperor Charles V. When the pope succeeded in restoring them to power (1530), he favored Alessandro against Ippolito and sent him to Florence. Alessandro was made head of the republic (1531) and hereditary duke (1532) by Emperor Charles V, whose daughter Margaret (later known as Margaret of Parma) he married. His arbitrary rule brought him general hatred. The Florentines sent Ippolito to appeal to Charles V, protesting the duke's atrocities, but Ippolito died on the way, apparently poisoned at Alessandro's orders (1535). Alessandro was, however, murdered in turn two years later by Lorenzino de' Medici (see separate article). With Alessandro the elder Medici line became extinct, and the headship of the family passed to Cosimo I de' Medici.

Medici, Catherine de': see CATHERINE DE' MEDICI.

Medici, Cosimo de' (kō'zēmō), 1389–1464, Italian merchant prince, first of the Medici family (see separate article) to rule Florence. After the death of his father, Giovanni di Bicci de' Medici, Cosimo and his family were banished from Florence by a faction headed by the powerful Albizzi family. However, he returned (1434) a year later and, supported by the people, soon became the acknowledged leading citizen of the republic. An able financier, he vastly expanded the family's banking business. In spite of his lavish expenses for the state, for charities, and for the arts and learning, he doubled his fortune. He respected the republican institutions of the city, always sought popular support, and made his power as little felt as possible. Guiding Florentine foreign policy, he sought a balance of power among the Italian states. From the traditional alliance with Venice against Milan, he shifted to an alliance with the SFORZA family, helping the Sforza to gain control over Milan. Cosimo's claim to greatness, however, rests chiefly on his generosity towards artists and scholars. He founded the famous Medici Library and an academy for Greek studies (headed by Marsilio FICINO), built extensively in Florence, and protected such artists as Brunnelleschi, Donatello, Ghiberti, and Luca della Robbia. After his death Florence voted him the official title Pater Patriae. Piero de' Medici (Piero il Gottoso), his son, succeeded as head of the family. See C. S. Gutkind, *Lorenzo de' Medici, Pater Patriae* (1939).

Medici, Cosimo I de', 1519–74, duke of Florence (1537–69), grand duke of Tuscany (1569–74); son of Giovanni de' Medici (Giovanni delle Bande Nere). In 1537 Lorenzino de' Medici (see separate article) murdered Cosimo's predecessor, Alessandro de' Medici, and fled from Florence, thus leaving the succession to Cosimo. Cosimo, despite promises to the contrary, assumed absolute authority as soon as he was installed. A group of exiles who tried to oppose him were defeated and beheaded. In 1539 Cosimo married a Spanish noblewoman, Eleonora de Toledo, whose enormous dowry replenished his empty coffers. Under Cosimo's able, though ruthless, rule Florence reached its highest political importance and material prosperity and almost doubled its territories—notably by the acquisition (1555) of the republic of SIENA. In 1569 Pope Pius V raised Cosimo to the rank of grand duke of Tuscany. His son, Francesco de' Medici, succeeded him.

Medici, Cosimo II de', 1590–1620, grand duke of Tuscany (1609–20), son and successor of Ferdinand I de' Medici. He was a patron of Galileo. His son, Ferdinand II de' Medici, succeeded him.

Medici, Cosimo III de', 1642–1723, grand duke of Tuscany (1670–1723), son and successor of Ferdinand II de' Medici. During his reign the government of Tuscany degenerated into bigoted and corrupt despotism. His son and successor, Gian Gastone de' Medici, was the last of the family to rule Tuscany.

Medici, Ferdinand I de', 1549–1609, grand duke of Tuscany (1587–1609), brother and successor of Francesco de' Medici. He was made a cardinal in his youth, and he built the famous Villa Medici at Rome. To become grand duke at his brother's death he resigned his cardinalate (he had never been ordained). Ferdinand improved the administration, strengthened the fleet, and created the port of Leghorn. His son, Cosimo II de' Medici, succeeded him.

Medici, Ferdinand II de', 1610–70, grand duke of Tuscany (1620–70), son and successor of Cosimo II de' Medici. A pupil of Galileo, he founded (1657) the Accademia del Cimento, the first European academy of natural sciences. As a ruler, Ferdinand was weak. His lavish expenses drained the family fortune. His son, Cosimo III de' Medici, succeeded.

Medici, Francesco de' (franchā'sko), 1541–87, grand duke of Tuscany (1574–87), son and successor of Cosimo I de' Medici. In his reign the decline of the family began. He allowed the Austrian and Spanish branches of the house of Hapsburg to establish a virtual protectorate over his dominion, devoting himself to alchemy and other nonpolitical pursuits. He married Joanna, daughter of Emperor Ferdinand I, and, after Joanna's death, Bianca CAPELLO. His daughter by the first marriage was Marie de' Medici, queen of Henry IV of France. Francesco was succeeded by his brother, Ferdinand I de' Medici.

Medici, Gian Gastone de' (jän' gästō'nā), 1671–1737, grand duke of Tuscany (1723–37), son and successor of Cosimo III de' Medici. He was the last male member of his family, and the question of succession was agitated even before his father's death. In 1735 it was settled, in connection with the general territorial exchanges caused by the War of the POLISH SUCCESSION, that on Gian Gastone's death Tuscany should fall to Francis of Lorraine (later Emperor FRANCIS I), husband of Maria Theresa, in exchange for Lorraine, which went to Stanislaus I of Poland. When Francis became grand duke, Tuscany had fallen from its former glory to decadence and impoverishment.

Medici, Giovanni de' (1475–1521) see LEO X.

Medici, Giovanni de', or **Giovanni delle Bande Nere** (jōvän'nē dĕl'lā bän'dā nā'rā) (Ital.=of the black bands), 1498–1526, Italian condottiere, great-grandson of Lorenzo de' Medici (d 1440, brother of Cosimo de' Medici, 1389–1464). The son of Caterina SFORZA, he was trained from childhood for the military life, and in 1516 his relative, Pope Leo X, gave him command of a troop. He soon won great reputation and eventually commanded a troop of his own. His nickname was probably acquired because of the black stripes of mourning on his banners after the death (1521) of Leo X. In the Italian Wars, Giovanni fought (1521–22) in N Italy for the pope, on the side of Emperor Charles V, against Francis I of France. He later changed sides, however, and fought on the side of Francis in the battle of Pavia (1525), where he was severely wounded. In 1526 he again sided against Charles V, fighting for the League of Cognac. He died of a wound received in battle. Giovanni delle Bande Nere possessed great courage and tactical ability. His hold over his men was remarkable, and his corps remained together long after his death. His wife, Maria Salviati, was a granddaughter of Lorenzo de' Medici (Lorenzo il Magnifico), and his son became grand duke of Tuscany as Cosimo I.

Medici, Giuliano de' (jōōlyä'nō), 1479–1516, duke of Nemours (1515–16); younger son of Lorenzo de' Medici (Lorenzo il Magnifico) and brother of Pope Leo X. He entered Florence in 1512 when the Holy League restored his family to rule the city. Having married a princess of the Nemours branch of the house of Savoy, he was invested with the duchy by Francis I of France, who also intended to place him on the throne of Naples. Giuliano was a patron of the arts and letters. His statue, by MICHELANGELO, together with the statues of Day and Night, adorn his tomb in the Church of San Lorenzo, Florence. Ippolito de' Medici was an illegitimate son of Giuliano.

Medici, Giulio de': see CLEMENT VII.

Medici, Ippolito de' (ĭp-pō'lētō), 1509–35, cardinal of the Roman Church; an illegitimate son of Giuliano de' Medici, duke of Nemours. Pope CLEMENT VII, head of the Medici family, after his election (1523) to the papacy continued to rule Florence through Ippolito and Ippolito's cousin, Alessandro de' Medici (see separate article), entrusting to Cardinal Passerini the actual conduct of Florentine affairs. Clement favored Alessandro more and more, and in 1531 he made Ippolito a cardinal and sent him on a mission to Hungary to remove him from the scene. In 1535 Ippolito was deputed by the Florentines to bring their grievances against Alessandro before Emperor Charles V. He died on his way, apparently poisoned on Alessandro's orders. Ippolito, a patron of literature, is said to have maintained 300 poets at his expense.

Medici, Lorenzino de' (lōrăntsē'nō), 1515–47, member of the cadet branch of the Medici family. A boon companion of Alessandro de' Medici (see separate article), he secretly plotted the duke's murder—possibly out of republican convictions. With a hired assassin, he stabbed Alessandro to death (1537) and fled to Venice. The uprising he anticipated failed to materialize. Lorenzino, though he had become head of the family, did not claim the succession, which fell to Cosimo I de' Medici, his distant cousin. Lorenzino was eventually assassinated in Venice on Cosimo's orders. He is the hero of Alfred de Musset's drama, *Lorenzaccio* (1834).

Medici, Lorenzo de' (lōrän'tsō), 1449–92, Italian merchant prince, called Lorenzo il Magnifico [the magnificent]. He succeeded (1469) his father, Piero de' Medici (Piero il Gottoso), as head of the Medici family and as virtual ruler of Florence. One of the towering figures of the Italian Renaissance, he was an astute politician, firm in purpose, yet pliant and tolerant, a patron of the arts, literature, and learning such as Europe had not known since Maecenas, and a reputable scholar and poet. Without adopting any official title, he subtly managed to conduct the affairs of the Florentine state. His lavish public entertainments contributed to his popularity, but, in combination with his mediocre success as a businessman, they helped to drain his funds. His growing control of the government alarmed Pope SIXTUS IV, who helped to foment the PAZZI CONSPIRACY (1478) against Lorenzo and his brother, Giuliano de' Medici. Giuliano was stabbed to death during Mass at the cathedral, but Lorenzo escaped with a wound, and the plot collapsed. Sixtus now declared war on Florence, which he excommunicated for the sacrilege committed in the cathedral. An honorable peace was made in 1481. In 1480, in order to retrieve his huge financial losses, Lorenzo by a coup d'état gained control over the public funds of Florence. The city, however, flourished, and Lorenzo, who played an important role on the international scene, constantly worked to preserve general peace by establishing a balance of power among the Italian states. Through his credit with Pope Innocent VIII he obtained a cardinal's hat for his son Giovanni (later Pope Leo X). In spite of the attacks of SAVONAROLA, Lorenzo allowed him to continue his preaching. Lorenzo spent huge sums to purchase Greek and Latin manuscripts and to have them copied. His brilliant literary circle included Politian, Ficino, Pulci, and Pico della Mirandola. He was a patron of Botticelli, Ghirlandaio, Filippino Lippi, Verrocchio, Michelangelo, and other hardly less famed artists. His own poetry—love lyrics, rustic poems, carnival songs, sonnets, and odes—shows a delicate feeling for nature. His son Piero de' Medici succeeded him as head of the family but was expelled from Florence two years later.

Medici, Lorenzo de', 1492–1519, duke of Urbino (1516–19), son of Piero de' Medici. His uncle, Pope LEO X, who controlled Florence through Lorenzo, made him duke of Urbino. After Lorenzo's death, however, Urbino reverted (1521) to the Della Rovere family. A patron of the arts and humanities, Lorenzo has been immortalized by MICHELANGELO, who designed and made his tomb in the Church of San Lorenzo, Florence. Of the three statues adorning his tomb, one represents Lorenzo in a pensive attitude (hence it is known as the *Pensieroso*), the other two represent Dawn and Dusk. Lorenzo was the father of Catherine de' Medici and, probably, of Alessandro de' Medici.

Medici, Marie de': see MARIE DE' MEDICI.

Medici, Piero de' (pyā'rō), 1416–69, Italian merchant prince. He succeeded his father, Cosimo de'

Medici, as head of the Medici family and as leader of the Florentine state. His ill-health earned him the name Il Gottoso [the gouty]. In 1466 Piero put down a conspiracy of nobles headed by the Pitti family, and although it was directed at his life, he allowed the conspirators to go free. His son, Lorenzo de' Medici (Lorenzo il Magnifico), succeeded as head of the family.

Medici, Piero de', 1471–1503, Italian merchant prince. He succeeded his father, Lorenzo de' Medici (Lorenzo il Magnifico), as head of the Medici family and as leader of the Florentine state. In 1494 he surrendered the chief fortresses of Tuscany to the invading army of CHARLES VIII of France. The democratic party in Florence, led by SAVONAROLA, took advantage of Charles's approach and of Piero's weakness to expel the Medici, who had virtually ruled Florence for half a century. After Piero's death the Medici regained (1512) control over Florence with the help of the HOLY LEAGUE. Giuliano de' Medici and Pope Leo X were brothers of Piero. Piero's son, Lorenzo de' Medici, became (1516) duke of Urbino.

medicine, the science and art concerned with the treatment and prevention of disease. Medicine had its beginnings in the earliest attempts of man to cope with injuries and with disease. Through many centuries and in many different civilizations disease, being of unknown origin, was associated with the supernatural, and its treatment was coupled with magic and superstition; wounds and other injuries, however, were more often treated by relatively rational methods. In treating various diseases primitive man sometimes employed trephining (making a circular opening in the skull) and also made some medicinal use of plants. Among early peoples a witch doctor was employed, especially when various folk methods (e.g., the use of charms, amulets, and herbs) had failed. Some of the elements of early folk medicine survive among some peoples in modern times. The historical origin of the practice of medicine on a more scientific basis is difficult to determine. Archaeological evidence points to the existence of a medical profession among the Sumerians of Mesopotamia several thousand years B.C. and among the Babylonians about the same time. The Code of Hammurabi includes laws applying to medical practice. Ancient civilizations of China, India, Egypt, and Persia showed varying degrees of progress in medical treatments and in anatomical knowledge. Ancient Israel contributed especially to the formulation of hygienic laws, most of which showed the influence of neighboring civilizations. The Arabs contributed notably to materia medica. In Europe ancient Greece, influenced undoubtedly by Babylonian and other cultures, developed the medical art to a higher degree than was again achieved for many centuries. Progress can be traced through the school of ASCLEPIADES OF BITHYNIA and Hippocrates (for the Hippocratic oath, see HIPPOCRATES) and was influenced by the studies of philosophers and scientists including Aristotle. GALEN followed in general the Hippocratic method, but his great contribution lay in his original experimental work and anatomical dissections. During the centuries following, much of the early learning was lost and only remnants were retained during the Middle Ages, chiefly through the agencies of the Christian Church and the teachings of the Arabian physicians. In the 9th cent. the famous medical school at SALERNO was founded, it was the prototype of others. Stimulus to more accurate anatomical studies resulted from the work of Leonardo da Vinci and Andreas Vesalius. Valuable contributions were made by William HARVEY, Edward JENNER, John HUNTER, and many others in later years. Medical progress had long been hampered by the low status assigned to the surgeon; the prevalent feeling that work with the hands was menial resulted in a division of work between the physician, who stood by and directed, and the surgeon or barber-surgeon, who operated on the patient. Not until the 14th cent. did the barriers between the two begin to break down. With the growth of a middle class who could afford medical treatment, such treatment became less a privilege of kings and nobles. Gradually medical training and education reached a higher plane, and the practice of medicine was raised to professional status. One of the commonest practices of the physician which persisted from antiquity up to the 19th cent. was bloodletting; this was accomplished by venesection and cupping and by the use of leeches. Toward the end of the 18th cent. there was finally a revolt against the practice, which had so long been used, often to a merciless degree. In the early 19th cent. a system of medical treatment known as HOMEOPATHY was developed. In contrast to homeopathy, the general practice at the time was to prescribe extremely large doses of medicines having effects on the body different from those caused by the disease; to this general practice the adherents of homeopathy applied the name allopathy. Allopathy has sometimes been incorrectly used for the ordinary system of using medicine. With formulation of the germ theory of disease in the 19th cent. by PASTEUR and the introduction of antiseptic methods by LISTER came a better understanding of infection and disease and a sharp decline in mortality. The work of Robert KOCH and others in bacteriology increased knowledge of the specific agents causing disease and led to the production of immunizing substances useful in combating disease. Innumerable discoveries and advances marked the further progress of medicine in the 19th and in the 20th cent. Better obstetrical care reduced both infant and maternal mortality. The development of vaccines, antitoxins, and other means of checking disease reduced mortality among children and adults. Treatment of glandular disorders became possible through studies of the action of hormones and other glandular products. The discovery of INSULIN and of the cure for pernicious anemia restored untold numbers of people to useful lives. Also among discoveries whose values can scarcely be estimated were radium, the SULFA DRUGS, and PENICILLIN and the other ANTIBIOTIC SUBSTANCES. As the scope of medicine enlarged, there was an increasing trend toward specialization in such fields as obstetrics, pediatrics, gynecology, urology, cardiology, dermatology, neurology, ophthalmology, radiology, psychiatry and medical psychology, preventive medicine, and public health. Aviation medicine assumed increasing importance with the growth of air forces and travel by air. Although a few scattered observations were made earlier, the period of the First World War saw the real beginnings of aviation medicine, and it received particular stimulus from the greatly increased development of air power in the Second World War. Among the problems with which the field is concerned are anoxia (deficiency or lack of oxygen in the tissues) and the effects of changes in barometric pressure and in acceleration. With the growth of medicine, the educational requirements for physicians and surgeons have become increasingly stringent. In addition to obtaining a medical degree (which follows only after a four-year course beyond the regular undergraduate college course) and serving an internship in a hospital, some additional years of study in a special field are usually necessary. The practice of medicine, at first limited to men, has become an increasingly important professional field for women also. It is recognized that many thousands of people do not have the benefit of good medical care, while often all doctors do not have enough patients. Attempts to adjust this situation include several forms of group medicine. In some instances a large group of employees of a firm have engaged a doctor to whom an annual salary is guaranteed, this is paid by the members of the group (each contributing a nominal sum), in return for which medical care by the physician is insured for the year. Such groups have sometimes established their own clinic or hospital. Similar plans have been followed also by community groups, where the group is small, the physician often continues private practice on a part-time basis. Sometimes a group of physicians set up practice together in a clinic where a patient may have the advantage of consultation with specialists in various fields, payment is usually made to the organization rather than to an individual doctor. Various plans of HEALTH INSURANCE have received wide support in the United States. Medical-care programs directed by the government, often called socialized medicine, have been practiced in some countries, e.g., in England. See also ANESTHESIA, PSYCHOSOMATIC MEDICINE; SURGERY, TROPICAL MEDICINE. See William Osler, *A Concise History of Medicine* (1919) and *The Evolution of Modern Medicine* (1921), Charles Singer, *A Short History of Medicine* (1928); F. H. Garrison, *An Introduction to the History of Medicine* (rev. ed., 1929), Victor Robinson, *Pathfinders in Medicine* (2d ed., 1929) and *The Story of Medicine* (5th ed., 1936); Sir George Newman, *The Rise of Preventive Medicine* (1932), H. W. Haggard, *Devils, Drugs and Doctors* (1933) and *The Doctor in History* (1934); Franz Goldmann, *Public Medical Care* (1945), Douglas Guthrie, *A History of Medicine* (1946), Arturo Castiglioni, *A History of Medicine* (Eng. tr., rev. ed., 1947), Marguerite Clark, *Medicine on the March* (1949), W. H. Woglom, *Discoverers for Medicine* (1949), P. R. Hawley, *New Discoveries in Medicine* (1950). The New York Academy of Medicine lectures to the laity are published annually.

Medicine Bow Mountains, outlying eastern range of the Rockies, SE Wyo. and N Colo. It extends from Medicine Bow town (pop. 338), Wyo., NW of Laramie, southward c. 100 mi. to Cameron Pass, Colo. Peaks include Medicine Bow Peak (12,005 ft.) and Elk Mt. (11,162 ft.). Much of the area is in Medicine Bow National Forest.

Medicine Hat, city (pop. 12,859), SE Alta., on the South Saskatchewan river near the Sask. border and SE of Edmonton. It is the center of a large natural-gas field, with coal mining, sheep and cattle ranching, and dry farming in the region. The city is a distributing center for a large area and has flour and feed mills, foundries, and railroad shops. In 1882 the site was chosen as a post for the Northwest Mounted Police.

Medicine Lodge, city (pop. 1,870), co. seat of Barber co., S Kansas, WSW of Wichita, in a wheat and livestock area, founded 1873, inc. 1879. In 1867 was concluded near here a peace treaty with the five tribes of the Plains Indians—the Apache, Arapaho, Cheyenne, Comanche, and Kiowa, every five years since 1927 a pageant has commemorated the event. Carry Nation, who lived here, began her antisaloon crusade in the city in 1899. Gypsum products are made.

medicine man: see SHAMAN.

Medieval Latin literature had its undatable beginnings in a crumbling Roman Empire whose literature had already become decadent. Transitional figures from the 4th to the 6th cent., such as St. HILARY OF POITIERS, St. AMBROSE, St. JEROME, and St. AUGUSTINE in PATRISTIC LITERATURE and the pagan BOETHIUS are hardly classical authors even if they cannot be called medieval. But although its development was gradual, Medieval Latin did produce a characteristic literature, different from that of classical Latin in its inspiration, its language, and its genres. The development resulted from two factors, the fall of the empire and with it the disappearance of the milieu which had produced Cicero and Vergil, and the rise of Christianity, the influence of which cannot be overestimated. From the 5th cent. Christian writers drew upon Greek and Latin patristic literature and the Latin versions of the BIBLE, especially the Vulgate. The language which these authors employed was the colloquial Latin which had been spoken for a long time by the lower classes in Rome and the provinces and which was simpler and more flexible than the classical. Classical language and models were never completely neglected, but attempts to revive classical standards, like that in the Carolingian renaissance, were unsuccessful. This colloquial Latin remained the language of the people in S Europe until the differentiation of vernaculars by the 10th cent. It then became the international language of Europe, and, fostered by the Catholic Church, it retained this function long after the rise of excellent vernacular literatures. Particularly in the early literature, Christianity also determined most of the genres. Poetry turned generally to hymns, and prose to homilies, theological treatises, ecclesiastical rules, saints' lives, and devotional literature in general. Some of the greatest medieval literature remains in the hymns and prayers of the Roman Catholic liturgy. There gradually developed also, especially from the 10th cent., important secular genres like the lyric, the epic, the romance, the fabliau, the beast epic, and the historical or philosophical treatise. The Medieval Latin literature extant is many times greater than the classical, and a chronological sketch can point out only the main figures and developments. One of the earlier Christian poets was the Spanish PRUDENTIUS (4th cent.), remembered especially for his hymns. Another was Sedulius (5th cent.), whose *Carmen paschale* recounts the life and resurrection of Christ. FORTUNATUS of Gaul (6th cent.) wrote, besides several occasional poems, the stirring hymn, *Vexilla regis*. Two other early hymns, both anonymous, were GLORIA IN EXCELSIS and TE DEUM. Principal prose writers in the 6th and early 7th cent. were CASSIODORUS and St. GREGORY OF TOURS, important for their histories; St. GREGORY I (Gregory the Great) for his letters, the *Dialogues*, and *Pastoral Care*, and St. ISIDORE OF SEVILLE for his *Origines*, a universal encyclopedia long prominent in the Middle Ages. From the 6th through the 8th cent. the British Isles were producing a substantial Latin literature, among the writers were St. GILDAS, St. COLUMBA, St. ALDHELM, and, most important the Venerable BEDE. ALCUIN of York, who joined the court of Charlemagne, had little literary merit, but figured largely in the Carolingian renaissance, a revival of learning which lasted nearly two centuries. Prominent figures connected with it were biographers and historians, such as PAUL THE DEACON, EINHARD, and LIUTPRAND, and theological writers, such as RABANUS MAURUS MAGNENTIUS and ERIGENA. The poets WALAFRID STRABO and GOTTSCHALK were exceptional in their attempts to use strict classical forms of quantitative verse. From the 4th cent. or earlier, however, there had been developing from a number of sources a popular, accentual, rhymed poetry. This process was stimulated by the evolution from the 9th cent. on of sequence hymns in which a single syllable corresponded to each note. Interaction between musical rhythm and words eventually produced the accentual, rhymed hymn, a forerunner of modern prosody. In the 10th cent. appeared the *Waltharius*, or *Waltharius*, a warlike Germanic epic, probably by EKKEHARD I, and the poems and plays of the nun HROSWITHA. In the same century began the simple Latin dialogues which dramatized the birth and the resurrection of Christ. They were given in French and English churches and later developed into the MIRACLE PLAY. Prominent authors in the late 10th and the 11th cent. were SYLVESTER II, his pupil Fulbert, St. PETER DAMIAN, LANFRANC, St. ANSELM, and HILDEBERT OF LAVARDIN. In all genres medieval Latin literature reached its height in the 12th and 13th cent. The GOLIARDIC SONGS.

which had begun in the 11th cent, flourished; their directness and freshness were characteristic of many of the best poems later produced in the vernacular Magnificent hymns, many of them now in the missal and breviary, were composed, e.g., *Jesu dulcis memoria*, sometimes attributed to St. BERNARD OF CLAIRVAUX, *Stabat Mater dolorosa*, probably by JACOPONE DA TODI; DIES IRAE by Thomas of Celano, and PANGE LINGUA by St THOMAS AQUINAS Other poets were ABELARD, who composed lyrics and hymns as well as philosophical works, Adam of St. Victor, who first used two-syllable rhyme with real skill; and BERNARD OF CLUNY, who produced the impressive jeremiad *De contemptu mundi* Among the many historians, chroniclers, encyclopedists, and writers of miscellanies were WILLIAM OF MALMESBURY, GEOFFREY OF MONMOUTH, GIRALDUS CAMBRENSIS, Walter MAP, and VINCENT OF BEAUVAIS. The summa of saints' lives appeared in the *Golden Legend*, collected by Jacobus de Voragine Scholars and philosophical writers of the 12th cent., such as JOHN OF SALISBURY and Robert GROSSETESTE, were forerunners of 13th-century SCHOLASTICISM Main figures in this synthesis of medieval philosophy were St BONAVENTURE, ALBERTUS MAGNUS, and St THOMAS AQUINAS himself The learning of Roger BACON, famous for his scientific and linguistic studies, pointed toward the Renaissance By the 14th cent the vernaculars were generally ascendant in literature, but both DANTE and PETRARCH esteemed their Latin writings Standing out above the numerous Latin writers involved in hair-splitting scholastic disputation were DUNS SCOTUS, WILLIAM OF OCCAM, and John WYCLIF One of the last popular works in Latin was the *Imitation of Christ* by THOMAS À KEMPIS of the 15th cent Although during the Renaissance and later times, Erasmus, Francis Bacon, Milton, Newton, and others wrote in Latin, they sought to imitate classical Latin, and Medieval Latin was displaced as a literary medium by the vernaculars It still remains an essential key to the medieval heritage See H O Taylor, *The Medieval Mind* (1925), F A Wright and T A Sinclair, *A History of Later Latin Literature* (1931), Maurice Hélin, *A History of Medieval Latin Literature* (1949)

Medill, Joseph (mədĭl'), 1823–99, American journalist, b near St John, N B His family moved to a farm near Massillon, Ohio, in 1832 He was admitted to the bar in 1846, but in 1849 abandoned the law and with his three brothers bought the Coshocton *Whig*, which he renamed the *Republican* In 1851 he founded the *Daily Forest City* in Cleveland and later merged it with a Free-Soil paper to form the Cleveland *Leader* Medill bought an interest in the Chicago *Tribune* in 1855, became its managing editor and business manager, and from 1874 till his death had absolute control of the paper He was important in the formation of the Republican party (he is credited with having suggested its name) and was a warm supporter and friend of Lincoln In the Civil War he advocated the emancipation and arming of the slaves and in Reconstruction days backed the radical Republicans in Congress He was a member of the Illinois constitutional convention of 1869, was one of the first U S civil service commissioners (1871), and was elected (1871) mayor of Chicago. See Philip Kinsley, *The Chicago Tribune* (3 vols , 1943–46), John Tebbel, *An American Dynasty* (1947)

Medina, José Toribio (hōsā'tōrē'byō mādhē'nä), 1852–1930, Chilean scholar His numerous works cover a vast range of learning—history and biography, bibliography, archaeology, and journalism Among them are a history of colonial literature in Chile, *Los aborigenes de Chile* (1882), biographical works on Juan Díaz de Solís, Esteban Gómez, and others, numerous books on the history of printing in Spanish America, and the monumental *Biblioteca hispano-americana* (7 vols., 1898–1907) See Elisabeth Roberts, *José Toribio Medina: His Life and Works* (1941)

Medina (mədē'nə), Arabic *Medinat en-Nabi* [city of the Prophet, i e , Mohammed] or *Medinat Rasul Allah* [city of the apostle of Allah], city (pop. c.15,000), Hejaz, Saudi Arabia. It is situated inland, c 110 mi. from the Red Sea, in a well-watered oasis, where much fruit is raised Before the flight (the hegira) of MOHAMMED from Mecca to the city in 622, Medina was called Yathrib Mohammed quickly gained control of Medina, successfully defended it against attacks from Mecca, and used it as the base for converting and conquering Arabia. Medina grew rapidly until 662, when the capital of the caliphate was transferred to Damascus Local warfare reduced the city's importance, and it passed to the rule of petty chieftains. It was brought under the sway of the Ottoman Turks in 1517 It fell to the Wahabis in 1804 but was recaptured by the Turks in 1812 In the First World War forces of Husein ibn Ali, who revolted against Turkey, captured Medina. In 1924 it fell to Ibn Saud, Husein's rival, after a 15-month siege The city is surrounded by two walls, flanked by bastions and pierced by nine gates The chief building is the great mosque, which contains the tombs of Mohammed, his daughter Fatima, and the caliph Omar. The great pilgrimage to MECCA which pious Moslems wish to make at least once in their lives includes a visit to Medina. See Eldon Rutter, *The Holy Cities of Arabia* (1928).

Medina (mĭdī'nə) 1 Industrial village (pop. 5,871), W N Y , on the Barge Canal and E of Lockport; in a rich farm region, inc 1832 Iron products, furniture and canned foods are made. Sandstone quarries are near 2 Village (pop 4,359), co. seat of Medina co , N Ohio, NW of Akron, in a farm area, settled as Mecca, platted 1818. Apiarian supplies and wood novelties are manufactured here

Medina Sidonia (mädhē'nä sēdhō'nyä), Spanish noble family, which received the ducal title from John II of Castile in 1445 and gave Spain several prominent citizens Best known among them was **Alonso Pérez de Guzmán, duque de Medina Sidonia** (älōn'sō pā'rĕth dā gōōthmän' dō̄'kā dä), 1550–1615 He was placed in command of the Spanish ARMADA through the favor of King Philip II. The disastrous defeat was partly due to his ineptitude.

Medinet el Faiyum, Egypt see FAIYUM.

Mediolanum see MILAN.

Mediterranean race. see RACE.

Mediterranean Sea [Latin,=in the midst of lands], largest inland sea, surrounded by Europe, Asia, and Africa Its area is 1,145,000 sq mi (highest estimate), maximum length, c 2,300 mi , maximum width, c 1,200 mi , and greatest depth, c 14,435 ft , off Cape Matapan It connects with the Atlantic Ocean through the Strait of Gibraltar, with the Black Sea through the Dardanelles, Sea of Marmara, and Bosporus, and with the Red Sea through the Suez Canal Its chief divisions are the Tyrrhenian, Adriatic, Ionian, and Aegean seas, its chief islands, Sicily, Corsica, Crete, Cyprus, Malta, Rhodes, the Dodecanese, the Cyclades, the Sporades, and the Balearic and Ionian islands Shallows (Adventure Bank) between Sicily and Cape Bon, Tunisia, divide it into two main basins It is of higher salinity than the Atlantic and has little variation in tides The largest rivers that flow into it are the Po, Rhone, Ebro, and Nile The shores are chiefly mountainous Earthquakes and volcanic disturbances are frequent, the region has local winds, such as the SIROCCO from the south and the bora and mistral from the north Fish (about 400 species), sponge, and coral are plentiful The Mediterranean was opened as a highway for commerce by the PHOENICIAN CIVILIZATION CARTHAGE, Greece, Sicily, and Rome were rivals for dominance of its shores and trade, under the Roman Empire it became virtually a Roman lake (the Romans often called it *mare nostrum* [our sea]) Products of the Orient passed to Europe over Mediterranean trade routes until the establishment of a route around the Cape of Good Hope (late 15th cent) Since the opening of the Suez Canal (1869) the Mediterranean has resumed its importance as a link on the route to the East The development of the northern regions of Africa and of oil fields in the Near East have increased its trade Its importance as a trade link and as a route for attacks on Europe resulted in European rivalry for control of its coasts and islands and was demonstrated by campaigns in the region during both world wars See Margret Boveri, *Mediterranean Cross-Currents* (Eng tr , 1938), Charles Moran, *The Sea of Memories* (1942), Emil Ludwig, *The Mediterranean* (Eng tr , 1942), William Reitzel, *The Mediterranean Its Role in America's Foreign Policy* (1948), André Siegfried, *The Mediterranean* (Eng tr , 1948)

medium, in SPIRITISM, the person through whom communication with spirits of the dead is attempted. Mediums have been the subject of intensive psychical research, and while many of them have been exposed as frauds, certain phenomena have been recorded which are not explained by known causes

medlar (mĕd'lur), small, deciduous tree (*Mespilus germanica*) of the rose family, native to Europe and Asia It grows to a height of from 10 to 20 ft , has luxuriant foliage, and in the wild state is sometimes thorny The pointed, oblong leaves are from 3 to 5 in long, the white or pinkish flowers are large and are borne singly The medlar has long been cultivated in parts of Europe for its acid, apple-shaped fruit It is usually not picked until after it has been touched by frost, which causes the hard fruit to begin to mellow, then the fruit is stored until the ripening process is completed It is commonly eaten fresh but is sometimes used for preserves

Médoc (mādôk'), region, SW France, a peninsula extending N of Bordeaux between the Bay of Biscay and the Gironde river. It is covered with some of the most famous vineyards of France (e.g., Château Lafite, Château Mouton-Rothschild, Château Margaux). Pauillac and Lesparre are the chief towns.

medulla: see PITH.

Medusa (mĭdū'zə), in Greek mythology, most famous of the three GORGON monsters. She was once a beautiful woman, but she offended Athena, who changed her hair into snakes and made her face so hideous that all who looked at her were turned to stone. When Medusa was with child by Poseidon, Perseus killed her and presented her head to Athena, his patroness. Chrysaor and Pegasus sprang from her blood when she died. Medusa's head retained its petrifying power even after death, and because of this it was a favorite device on armor. Athena used the Medusa head on her aegis

medusa, name given to the free-swimming generation of certain types of JELLYFISH.

Medveditsa (mĭdvĕ'dyĭtsə), river, 430 mi. long, RSFSR. Rising NE of Volsk, it flows southwest, roughly parallel to the Volga, into the Don. It is not navigable

Medway, town (pop. 3,297), E Mass., on the Charles and SW of Boston, settled 1657, set off from Medfield 1713 Woolens are produced.

Medway, river of SE England. Rising from two headstreams in Sussex and Surrey, it passes Maidstone, Rochester, and Chatham and enters the Thames at Sheerness It is 70 mi. long.

Meehan, Thomas (mē'ən), 1826–1901, American botanist, nurseryman, writer, and editor, b England. While in his early teens he succeeded in hybridizing the fuchsia, producing a new race, and he made and published his first scientific discovery, relating to the stamens of the portulaca He wrote the *American Handbook of Ornamental Trees* (1853) and *The Native Flowers and Ferns of the United States* (1878–80).

Meek, Fielding Bradford, 1817–76, American paleontologist, b Madison, Ind. He was an assistant in the geological survey of Iowa, Wisconsin, and Minnesota (1848–49) and subsequently assisted James Hall in the survey of New York While with Hall he made an expedition to the Badlands with F V Hayden and spent some time on the Missouri survey After 1858 he lived in Washington, D C , and worked on the government surveys, chiefly with Hayden His works include *Check List of the Invertebrate Fossils of North America* (1864) and, with Hayden, *Palaeontology of the Upper Missouri* (1865).

Meek, Joseph L., 1810–75, American pioneer, b Washington co , Va In 1828 he went to St Louis and soon became one of the mountain men, the trappers in the West. He trapped in the dangerous Blackfoot country, and in 1833–34 he and several companions made a journey to California, returning across the Mojave Desert As the days of trapping declined, he guided a party to Oregon and settled there In 1847–48 he was sent as a messenger to Washington to ask Federal protection for the Oregon settlers He served as Federal marshal for a time after Oregon became a territory His accounts of his life (mostly true) are recorded in Mrs F F Victor's *Rivers of the West* (1871).

Meeker, Ezra, 1830–1928, American pioneer, b near Bellefontaine, Ohio He and his bride went out in 1851 over the Oregon Trail, and later he became a farmer and hop grower at Puyallup, Wash He devoted much enthusiasm and hard work to preserving the historical memory of the Oregon Trail and pioneer days He founded (1926) the Oregon Trail Memorial Association and also wrote several works on the early days, including *Washington Territory West of the Cascade Mountains* (1870), *Pioneer Reminiscences of Puget Sound* (1905), and an autobiography (1916)

Meeker, town (pop 1,399, alt. c 6,200 ft), co seat of Rio Blanco co , NW Colo , on the White River, in a farm and ranch area, inc. 1885

Meeker, Mount, peak, 13,911 ft high, N central Colo , in the Front Range It is included in Rocky Mountain National Park

Meer, Jan van der, Dutch painter of Delft. see VERMEER, JAN.

Meer, Jan van der (yän' vän dur mär'), two Dutch landscape painters **Jan van der Meer**, the elder, 1628–91, was born in Haarlem, where most of his work was done Many of his views of the downs and flatlands of Holland have excellently drawn figures His son and pupil, **Jan van der Meer**, the younger, 1656–1705, became in 1683 master of the guild in Haarlem. He is best known for his landscapes with sheep.

Meer, Johannes van der: see VERMEER, JAN.

meerschaum (mēr'shŏm) [Ger ,=sea foam], a mineral that looks like white clay and is used chiefly for making tobacco pipes and cigar and cigarette holders (all have mouthpieces of amber) It is about as heavy as water Lighter pieces sometimes float to shores, and the mineral has been erroneously thought a petrified sea foam Before drying, it is relatively soft, and meerschaum pipes are often carved into ornate forms Vienna is the chief center of meerschaum carving Meerschaum is absorbent, and pipes made of it and waxed become a rich brown with use. The mineral is found in many parts of the world, the chief source being Asia Minor. Chips made in carving meerschaum are pulverized and pressed into inferior pipes, and meerschaum is imitated in other materials Chemically, meerschaum is a hydrous magnesium silicate, in mineralogy it is named sepiolite.

Meerut (mē'rŭt), city (pop. 169,290), NW United Provs , India. Its finest buildings were erected in the Mogul period. The first outbreak of the Sepoy Rebellion took place here in May, 1857, but the

British never lost the city. Grain, sugar, and cotton are traded, and flour and vegetable oil are manufactured

Megaera · see ERINYES.

megalithic monuments (mĕgŭlĭ'thĭk) [Gr ,=large stone], huge, but essentially simple, stone structures found throughout the world from prehistoric times. The earliest date back to the 2d millennium B.C. and are chiefly found along the coastal sections of Western Europe. Little is known of their builders except that they used metals and were agriculturalists who preferred areas open to the sea. Such massive structures testify to the engineering feats possible to the concerted efforts of relatively ill-equipped peoples. See also CAIRN, CARNAC, DOLMEN, STONEHENGE. See O. G. S. Crawford, *The Long Barrows of the Cotswolds* (1925), T. F. G. Dexter, *Sacred Stone* (1929)

Megalopolis (mĕgŭlŏ'pŭlĭs) [Gr ,=great city], ancient city, S central Arcadia, Greece. It was founded (c. 370 B.C.), on Epaminondas' advice, as headquarters for the new, anti-Spartan Arcadian league. Inhabitants of many villages moved there. It was the home of Philopoemen and of Polybius. There has been much excavation.

Mégantic (mugăn'tĭk, Fr. măgătēk') or **Lac Mégantic**, town (pop. 4,560), SE Que., on Lake Megantic and ENE of Sherbrooke. It is a lumbering and farming center.

Megara (mĕ'gùrù, *mĕ'gärä*), town (pop. 13,360), central Greece. Here stood the ancient town of Megara, the capital of Megaris, a small district between the gulfs of Corinth and Aegina. The Dorians who succeeded the earliest-known inhabitants made Megara a wealthy city by maritime trade and founded many colonies, including Chalcedon and Byzantium. After the Persian Wars the citizens summoned Athenian aid against the Corinthians (459 B.C.), but later expelled the Athenians, thus helping to provoke the Peloponnesian War.

megatherium (mĕgŭthē'rĭŭm) [Gr ,=large beast], extinct ground sloth which was widely distributed in North and South America in the Pleistocene. A huge beast, it attained a length of 18 ft. and was probably proportionately heavy. The hind legs and tail were massive, the forelegs slender and supple, the animal probably supported itself much of the time in a semierect position on its hind legs and tail and used its forelegs to pull from trees the foliage on which it fed.

Meghna (mĕg'nu), river of E East Bengal prov., Pakistan, flowing c. 150 mi. S to the Bay of Bengal. Several channels of the Ganges and Brahmaputra rivers discharge into the Meghna.

Megiddo (-gĭd'-), ancient city, Palestine, by the Kishon on the southern edge of the plain of ESDRAELON due N of Samaria. Archaeological excavations undertaken under American leadership in the 1930s revealed that Megiddo was a city before 2000 B.C., the finds for the middle of the 2d millennium B.C. were especially valuable. Near Megiddo several important battles have been fought. Here Thutmose III defeated a Syrian coalition (1479? B.C.), and at Megiddo, Deborah led the Jews to win over Sisera (Judges 4, 5). Josiah was defeated and killed here by the Pharaoh Necho c. 609 B.C. (2 Kings 23:29,30). The plain is called the valley of **Megiddon** in Zech. 12:11. See also ARMAGEDDON.

megrim see MIGRAINE.

Meharry Medical College (mŭhă'rē), at Nashville, Tenn., coeducational, for Negroes. It was organized in 1876 as the medical department of Central Tennessee College and was chartered as an independent school in 1915. It has schools of medicine, dentistry, and nursing.

Mehemet For persons thus named, see MOHAMMED.

Mehetabeel (mēhē'tŭbēl), ancestor of Shemaiah the prophet. Neh. 6:10.

Mehetabel (mēhē'tŭbĕl), wife of Hadad, king of Edom. Gen. 36:39.

Mehida (mēhī'dù), family returned from Babylon. Ezra 2:52, Neh. 7:54.

Mehir (mē'hĭr) [Heb.,=price], descendant of Judah. 1 Chron. 4:11.

Meholathite (mēhō'lŭthīt), biblical epithet, perhaps referring to ABEL-MEHOLAH. 1 Sam. 18:19.

Mehujael (mēhu'jăĕl) [Heb.,=God has smitten], descendant of Cain. Gen. 4:18.

Méhul, Étienne Nicolas (ātyĕn' nēkôlä' māül'), 1763-1817, French operatic composer. Encouraged by Gluck, he became one of France's outstanding composers in the Revolutionary period. At the founding of the Paris Conservatoire he was made an inspector. His masterpiece was the biblical opera *Joseph* (1807). *Euphrosine et Coradin* (1790) and *Stratonice* (1792) were the first operas which, while without comical elements, were called *opéras comiques* because they employed spoken dialogue.

Mehuman (mēhū'mŭn), chamberlain of King Ahasuerus. Esther 1:10.

Mehunim, Canaanite tribe, S Palestine see MAON.

Meigs, Henry (mēgz), 1811-77, American promoter and railroad contractor, b. Catskill, N.Y. He went to California in the gold rush, built a fortune from nothing, then, finding himself faced with debts and accusations of forgery, he fled (1854) to Chile. He became one of the most spectacular of all railroad builders in South America. No mountain passes were too high, no desert too broad, no terrain too difficult. He began in Chile with railroads from Santiago to the Maule river and to Valparaiso. After 1868 he worked in Peru and completed the Mollendo-Arequipa line in 1871. His greatest undertaking, the road from Callao to Lima and up to Oroya on dizzying mountain slopes, was halted in 1875 by lack of funds, but his work on it was an almost incredible victory over nature. See biography by Watt Stewart (1946).

Meighen, Arthur (mē'ŭn), 1874–, Canadian political leader, b. Ontario, grad. Toronto Univ., 1896. Entering the Canadian House of Commons in 1908, he became solicitor general (1913), secretary of state and minister of mines (1917), and minister of the interior (1917). He was chosen prime minister in 1920 but resigned in 1921 after his defeat in the general election. As leader of the Conservative party, Meighen was again prime minister in 1926 but resigned within the year. In 1932 Prime Minister Richard B. Bennett appointed him to the senate, from which he resigned in 1942 to contest a seat for the House of Commons. Defeated, he retired to private life.

Meigs, Return Jonathan (mĕgz), 1740–1823, American army officer in the American Revolution, b. Middletown, Conn. He served from the beginning of the American Revolution. He accompanied Benedict Arnold on the Quebec expedition, where he was taken prisoner, and was exchanged (1776), he kept a journal of his experiences on the campaign. As colonel, he led an expedition against the British at Sag Harbor, Long Island, in 1777, this was his most remarkable exploit. He served under Wayne at Stony Point in 1779. After the Revolution he was interested in the OHIO COMPANY OF ASSOCIATES and in the settlement made at Marietta in 1788. In 1801 he was appointed Indian agent for the Cherokee, and he retained the post for the remainder of his life. His son, **Return Jonathan Meigs**, 1764?–1825, American statesman, b. Middletown, Conn., grad. Yale, 1785, also went to Ohio and became politically prominent there. He had served as territorial judge, member of the territorial legislature, and chief justice of the state in Ohio before becoming a judge in the Louisiana Territory and in Michigan Territory. As Senator from Ohio (1808–10) and governor of that state (1810–14) he rendered sterling service, which was rewarded by his appointment as Postmaster General (1814–23).

Meigs, Fort, founded (Feb., 1813) in the War of 1812 by Gen. William Henry HARRISON on the Maumee river, near the present Perrysburg, Ohio, across the river from the British Fort Miami (at the present Maumee, Ohio). Through the spring and summer the British and Americans faced each other. An American relief party was wiped out, but British attacks under Gen. H. A. Proctor, especially in May and July, 1813, failed to take this "Gibraltar of the West." The defense helped to lift American morale.

Meiji (mā'jē), reign name of Emperor MUTSUHITO of Japan. Just after his accession occurred the revolution in Japanese life and government that is known as the Meiji restoration. The centuries-old power of the SHOGUN had declined, and much opposition had been built up in the late 18th and early 19th cent. The intrusion of foreigners, initiated by Matthew C. PERRY, precipitated discontent. The shogun, under pressure, submitted (1854) to foreign demands. Therefore a large group found a pretext for demanding that the shogun surrender power to the emperor, even though the emperor, too, was forced to yield later to foreign demands. The heads of the powerful clans attempted resistance on their own to the foreigners and were defeated. The proponents of Westernization found themselves strengthened. The shogun was forced to relinquish power to the emperor who had succeeded in 1867. The shogun, after defeat in battle, then surrendered himself to the emperor, and the clan heads were forced under the code of loyalty to do likewise. The emperor was thus enabled in 1868 to place the power of government in the hands of the Westernizers (among them Ito, Inouye, Okubo, and Yamagata. The renovation of Japan on Western lines was accomplished. Feudalism was abolished. A new constitution was prepared and was adopted in 1889, long after suppression of the Satsuma rebellion in 1877 had guaranteed the power of the reformers. Japan was remade into an industrial, modern, Westernized state, though it kept the old military traditions.

Meiklejohn, Alexander (mĭ'kùljŏn), 1872–, American educator, b. Rochdale, England, grad. Brown Univ., 1893, Ph.D. Cornell Univ., 1897. He taught philosophy at Brown from 1897 to 1912, serving as dean after 1901 and, after 1906, as professor of logic. From 1912 to 1924 he was president of Amherst College. Meiklejohn was professor of philosophy at the Univ. of Wisconsin from 1926 to 1938 and was chairman for the five years (1927–32) of its existence of the Experimental College, which studied intensively a period of Greek civilization. This experiment inspired similar programs in other colleges, e.g., St. John's College. From 1933 to 1936 he taught at the Social Studies Center in San Francisco. Meiklejohn's educational theories are set forth in *The Liberal College* (1920), *Freedom and the College* (1923), and *The Experimental College* (1932). He also wrote *What Does America Mean?* (1935), *Education between Two Worlds* (1942), and *Free Speech and Its Relation to Self-Government* (1948).

Mei Lan-fang (mā'lán'-fäng'), 1893–, Chinese actor of female roles. Born into a family of renowned actors, he was trained by his musician uncle, Yü-ti'en, and made his professional debut at the age of 12. The idol of Chinese theatergoers, he gave a command performance before the emperor in 1923. He brought his troupe to the United States in 1930 and performed several playlets from his large repertoire. The heroine in *The Dream of the Red Chamber* was his most famous part. News of his death by poisoning in Shanghai was given in an unconfirmed Japanese broadcast in 1943, he was, however, reported alive in 1945, having become a national hero by refusing to perform for Japanese invaders during the Second World War.

Meilhac, Henri (ärē' māynk'), 1831–97, French librettist. With Philippe Gille he wrote the libretto for Massenet's *Manon* (1884). His most successful collaborations were the librettos with Ludovic Halévy for the operas of Offenbach and for Bizet's *Carmen*.

Meiningen (mī'nĭng-un), city (pop. 23,700), Thuringia, central Germany, on the Werra river. It has machinery, textile, and lumber industries. First mentioned in 982 and chartered in 1344, Meiningen was the capital of the duchy of Saxe-Meiningen from 1681 to 1918. In the second half of the 19th cent. the ducal theater of Meiningen acquired an international reputation and long set the style for German dramatic performances. The ducal orchestra, conducted (1880-85) by Hans von Bülow, was also famous. The ducal palace was built in the 16th and 17th cent.

Meinong, Alexius (ălĕk'syōōs mī'nŏng), 1853–1920, Austrian philosopher and psychologist, pupil of Franz Brentano. He was professor at the Univ. of Graz from 1889, founding (1894) the first psychological laboratory in Austria. Opposed to the school of content, which regarded perception as a composite of elementary sensations, Meinong's school of the act believed its necessary constituent to be a definite mental act. Establishing a general theory of values based on psychological grounds, Meinong distinguished between perception as the recognition of relationships inherent in the perceived object and conception as dependent on the mental act itself. His *Gesammelte Abhandlungen* [collected essays] were published in 1914.

Meissen (mī'sùn), city (pop. 48,348), Saxony, E Germany, on the Elbe and NW of Dresden. It has been famous since 1710 for its porcelain "Dresden" china, as Meissen ware is known in English, is particularly famous for its figurines. There also are various other manufactures, and there are large kaolin deposits near by. Meissen was founded (929) by Henry of Saxony (later German king as Henry I), and it became (965) the seat of the margraviate of Meissen, where the WETTIN dynasty of SAXONY originated. The diocese of Meissen was founded in 968, was suppressed in 1581, and was restored in 1921 with its see at Bautzen. The Albrechtsburg, a large castle dominating the city, was built in the 15th cent., it housed (1710–1864) the royal porcelain manufacture, begun by J. F. BÖTTGER under the patronage of Elector Frederick Augustus I (Augustus II of Poland). Among the other ancient buildings of Meissen are the cathedral and the Church of St. Afra (both 13th–14th cent.).

Meissonier, Jean Louis Ernest (zhä' lwē' ĕrnĕst' māsônyā'), 1815-91, French genre and military painter. He began his career as an illustrator and etcher. His study of the Dutch masters was evidenced in his first painting to be shown (1834) in the Salon, *A Visit to the Burgomaster*. His small genre paintings show furnishings and costumes in exquisite detail with accuracy as to period. His figures (usually of men) seem alive. Among Meissonier's battle scenes, chiefly of the Napoleonic Wars, are *Napoleon I with His Staff* (Louvre) and *Friedland, 1807* (Metropolitan Mus.). His genre pictures include *The Voyage* (Louvre), *The Lute Player* and *The Sign Painter* (Metropolitan Mus.), *Amateurs of Painting, The Chess Player, Young Man Playing a Cello*. See study by Henri Barbusse (Eng. tr., 1912).

Meissonier, Juste Aurèle (zhüst' ōrĕl'), 1693?–1750, French painter, sculptor, architect, and goldsmith. He is best known as a goldsmith and decorator to Louis XV. He is the author of several books of designs and is considered to have originated ROCOCO.

meistersinger (mī'stûr-) [Ger.,=mastersinger], member of one of the musical and poetic guilds which flourished in the large cities of Germany from the 14th to the 16th cent., succeeding the MINNESINGER. The guilds or schools were composed chiefly of artisans who were usually obliged to go through four preparatory stages before they

could attain the coveted rank of *Meister*. Each candidate was required to submit an original song which had to conform to rigid technical formulas and to receive the approval of a group of judges before admission to full rank was granted The libretto of *Die Meistersinger von Nürnberg*, an opera in three acts by Richard Wagner, is a faithful representation of guild practices There was very little opportunity for spontaneity or inspiration owing to the strictness of the rules Hans Sachs was the greatest of the meistersingers and the only real poet among them

Meister Stephan see Lochner, Stephan

Meitner, Lise (lē'zu mīt'nûr), 1878–, Austrian-Swedish physicist and mathematician She was professor at the Univ of Berlin (1926–33) A refugee from Germany after 1938, she became associated with the Univ of Stockholm and with the Nobel Institute at Stockholm and was visiting professor (1946) at the Catholic Univ of America She discovered in 1917 with Otto Hahn the element protoactinium and is noted for her work on the disintegration products of radium, thorium, and actinium and on the behavior of beta rays In 1938 she participated in experimental research in bombarding the uranium nucleus with slow-speed neutrons Dr Meitner interpreted the results as a fission of the nucleus and calculated that vast amounts of energy were liberated Her conclusion contributed to the development of the atomic bomb In 1949 she became a Swedish citizen

Me-jarkon (mē-jär'kŏn) [Heb ,=yellow waters], unlocated town, W Palestine Joshua 19 46

Mejillones (mähēyō'näs), small port, N Chile With a good harbor and a rail connection 38 mi S to Antofagasta, it exports chiefly Chilean nitrates and Bolivian tin Here in 1879 in the War of the Pacific the capture of the Peruvian ironclad, *Huascar*, gave Chile control of the sea.

Meknès (mĕknĕs'), city (pop 159,811), French Morocco. It lies in a fertile and well-watered agricultural region, and it is an important railroad center Meknès was founded (c 1672) by Sultan Ismail, who undertook palatial building operations that gave his city the name Versailles of Morocco, little of the construction has survived In the old walled town are a large summer palace and gardens of the sultan A European town is laid out beside the old one.

Mekonah (mĕkō'nu), unlocated town, apparently in S Palestine Neh 11 28

Mekong (mā'kŏng'), one of the great rivers of SE Asia, over 2,500 mi in length It rises in Tibet and flows S through Yunnan prov , China, its Chinese name is the Lantsan After leaving Yunnan, the Mekong forms the western boundary of Laos, then curves east and south through Laotian territory, and again becomes the Thailand-Laos border. From S Laos the Mekong descends to the Cambodian plain Through Yunnan and Laos, the Mekong flows in deep gorges and is interrupted by rapids and falls. The lower Mekong is navigable for ships, and Pnom Penh is a considerable port At the Quatre Bras [four arms] near Pnom Penh, the Mekong and the Tonle Sap join, and the Mekong divides into the Mekong proper (or Mekong Anterior) and the Bassac (or Mekong Posterior), which flow SE through Cochin China There they form a delta and enter the South China Sea through numerous mouths The Mekong and other rivers of Cochin China are linked by canals into a network of waterways The alluvial soil brought by the Mekong and the irrigation it provides make Cochin China an important rice-producing area.

Mela, Pomponius. see Pomponius Mela

Melampus (mĭlăm'pŭs) [traditionally from Gr.,=black-foot], in Greek myth, physician, sage and soothsayer, said to have introduced the worship of Dionysus into Greece.

melancholia (mĕlun-kō'lēù) [Gr ,=black bile], state of general depression associated with certain neuroses and psychoses. See involutional melancholia and manic-depressive psychosis.

Melanchthon, Philip (mulăngk'thun), 1497–1560, German scholar and humanist and after Martin Luther the chief figure of the Lutheran Reformation. His original name was Schwarzend. A man of great intellect and wide learning, he achieved excellence as a teacher and a writer. While professor of Greek at the Univ of Wittenberg, he met Luther and soon became his intimate friend and chief associate Melanchthon's influence on the Lutheran movement is considerable and complex. In *Loci communes* (1521) he made a classical presentation of the principles of the Reformation which explained the new evangel to many outside the movement Melanchthon served as liaison between Luther and the humanists, tempering the Protestant disapproval of worldly culture. He represented Luther at many conferences. At the Marburg Conference he opposed Zwingli, and at the Diet of Augsburg (1530) he wrote and presented the Augsburg Confession (see creed). Melanchthon was more conciliatory than Luther, as evidenced by his friendship with Calvin after Luther's death and by his compromising on doctrinal issues. Luther had great confidence in Melanchthon as his successor, but Melanchthon was ill-suited for the role of a leader and was unable to secure the enthusiastic support which Luther had commanded As the prime mover in the building of the German school system Melanchthon is known as preceptor of Germany His *Loci communes* appeared in a modern critical edition and translation by Charles Leander Hall (1944) See J W Richards, *Philip Melanchthon, the Protestant Preceptor of Germany, 1497–1560* (1898), Franz Hildebrandt, *Melanchthon, Alien or Ally?* (1946).

Melanesia (mĕlunē'shŭ,-shù), one of the three main divisions of the Pacific islands, in the S and SW Pacific, south of the equator. It includes the Solomons, New Hebrides, New Caledonia, the Bismarck Archipelago, and the Admiralty and Fiji islands The Melanesians are largely of Negroid stock, their languages are Malayo-Polynesian (see language, table)

Melatiah (mĕ"lutī'u) [Heb ,=freed by God], worker on the wall of Jerusalem. Neh 3 7

Melba, Dame Nellie, 1861?–1931, Australian soprano, whose name originally was Helen Porter Mitchell First trained to be a pianist, she appeared as a singer in Sydney in 1885 and in London in 1886 After study with Mathilde Marchesi in Paris, she made her operatic debut in Brussels in 1887 She sang regularly at Covent Garden from 1888 until 1926 and intermittently with the Metropolitan Opera Company from 1893 to 1910, in 1907 she appeared at the Manhattan Opera House While extremely successful in lyric and coloratura roles, she nearly ruined her voice when, in 1896, she sang Brünnehilde in *Siegfried* She was made Dame of the British Empire in 1918. See her autobiography, *Melodies and Memories* (1925)

Melbourne, William Lamb, 2d Viscount (mĕl'bûrn), 1779–1848, English Whig statesman He entered Parliament in 1805, held the chief secretaryship of Ireland under George Canning (1827–28), and entered the House of Lords on the death of his father (1828), but exercised little political influence until he became home secretary for Lord Grey in 1830 He accepted the Reform Bill of 1832 with apathy In 1834 he succeeded Grey as prime minister, but was replaced the same year by the Conservative, Sir Robert Peel. When Peel failed to carry a parliamentary election and resigned (1835), Melbourne entered on a long administration (1835–41) It witnessed the municipal corporations act with important reform in city government, the Durham Commission report recommending the liberalizing of Canadian government, penny postage, and other reforms, but the prime minister was not the moving spirit and even opposed parliamentary reform and the repeal of the corn laws Lord Palmerston dominated in foreign affairs Melbourne was a favorite of the young queen, Victoria, and taught her statecraft He was briefly implicated in scandal with the divorce suit of Caroline Norton in 1835–36, years after he was separated (1825) from his wife See biography by Bertram Newman (1930), David Cecil, *The Young Melbourne* (1939)

His wife, Caroline Lamb, Viscountess Melbourne, 1785–1828, was the daughter of Frederick Ponsonby, 3d earl of Bessborough Lady Caroline was clever, beautiful, impulsive, and indiscreet She is remembered less for the minor novels she wrote than for her love affair with Lord Byron See biography by Elizabeth Jenkins (1932).

Melbourne (mĕl'burn), city (pop 99,863, metropolitan pop. 1,226,923), capital of Victoria, Australia, on the Yarra river 5 mi from its mouth on Hobson's Bay (north arm of Port Phillip Bay) One of Australia's largest cities, it was the first commonwealth capital (1901–27), being succeeded by Canberra Known as Dootigalk when it was settled in 1835, it was renamed in 1837 for the British prime minister. The port of Melbourne includes wharves at the city itself as well as those at Port Melbourne and Williamstown on Hobson's Bay The focus of railroads from the interior, Melbourne is the commercial center of a large region It has textile and knitting mills, machinery manufacturing, and an aircraft plant. The principal exports are wheat, flour, meat, wool, and fruits The city is the seat of the Univ of Melbourne (1854), the Conservatorium of Music (1910), Melbourne Technical College (1887), and the National Art Gallery (1904) There are Anglican and Roman Catholic cathedrals The royal mint is also here The botanical gardens, covering an area of 103 acres, are a notable feature of the city. The Melbourne Cup is run annually at the Flemington Racecourse. Brighton is one of the many suburbs that are seaside resorts

Melbourne, city (pop. 2,622), E Fla., on Indian River, settled 1878, inc. 1888. It is a shipping point for fruit and a sportsmen's center. Melbourne Beach, a bathing resort, is across Indian River

Melcher, coal-mining town (pop. 1,290), S Iowa, SSE of Des Moines; inc. 1912.

Melchers, Gari (gä'rē mĕl'churs), 1860–1932, American figure, genre, and portrait painter, b. Detroit, studied in Düsseldorf and Paris. In Holland he painted the canvases of Dutch peasant life that established his reputation. *The Sermon* (Corcoran Gall.) was awarded the medal of honor at the Salon of 1886, His decorations painted for the World's Columbian Exposition, Chicago (1893), are now in the library of the Univ. of Michigan In 1914 Melchers settled permanently in the United States and devoted himself primarily to portraits and mural paintings. In 1906 he became a member of the National Academy of Design Among his works are *Mother and Child* and *Nurse and Children* (Luxembourg Mus , Paris), *The Supper at Emmaus* (Essen), *Dutch Skaters* (Pa. Acad of the Fine Arts); *Madonna* (Metropolitan Mus); *Penelope* and *Maternity* (Corcoran Gall), *Sailor and His Sweetheart* (Carnegie Inst , Pittsburgh), *The Wedding*, *The Fencing Master*, portrait of Mrs Melchers, and *The Vespers* (Detroit Inst. of Art), *The Smithy* (Phillips Memorial Gall , Washington, D C), *War and Peace* (Library of Congress), and portraits of President Theodore Roosevelt (Freer Coll , Smithsonian Institution, Washington) and Charles Hutchinson (Art Inst , Chicago).

Melchi (mĕl'kī) [Heb ,=king], two names in the Gospel genealogy Luke 3 24,28

Melchiah (-kī'u), variant of Malchijah 1

Melchior (mĕl'kēôr) see Wise Men of the East

Melchior, Lauritz (lou'rĭts mĕl'kēôr), 1890–, Danish heroic tenor. He made his debut in Copenhagen in 1913, singing a baritone role in *Pagliacci* In 1918 he made his first appearance as a tenor and in 1924 sang at Covent Garden He sang at the Bayreuth Festivals regularly from 1925 to 1931 and in 1926 joined the Metropolitan Opera Company as its leading Wagnerian tenor

Melchisedec (-kĭ'zŭ-), variant of Melchizedek.

Melchi-shua (mĕl'kī-shōō'ù) see Malchi-shua

Melchites or Melkites (both mĕl'kīts) [royalists, from Syriac,=king], Christian community of Syria, Jordan, Palestine, Egypt, and America, mainly Arabic-speaking They are in communion with the pope and have a Byzantine rite much like that of Constantinople but in the Arabic language Their head, under the pope, is called patriarch of Antioch, he lives in Damascus or Egypt The name was first applied to all who followed the emperor in accepting the Council of Chalcedon, it is sometimes applied to the Orthodox of Syria and Egypt The Melchites are separate from the Maronites and from the Syrian Catholics, each of these communities has its own hierarchy under the pope and its own rite See Donald Attwater, *The Christian Churches of the East*, Vol I (1947)

Melchizedek or **Melchisedec** (both mĕlkĭ'zŭdĕk), king of Salem and "priest of the Most High God" He blessed Abram after the defeat of Chedorlaomer, and Abram gave him tithes of the spoils Gen 14 18–20 Later Melchizedek is regarded as typifying the priesthood of the Messiah Ps. 110 4, Heb 5-7

Melcombe Regis, Dorsetshire, England see Weymouth and Melcombe Regis.

Melea (mē'lēu), ancestor of Joseph Luke 3 31

Meleager (mĕlēā'jûr), hero in Greek mythology He was the son of Oeneus, king of Calydon, and Althaea and was the brother of Tydeus and Deianira When Meleager was born, a prophesy said that he would die when a certain log in the fire was burned His mother snatched the log from the fire and hid it. After Meleager returned from his adventures as an Argonaut, he led the Calydonian hunt Later, when the Calydonian boar had been killed, Meleager gave its skin to Atalanta, whom he loved. His mother's brothers, angered at his partiality, tried to take the skin from Atalanta, but Meleager slew them When his mother heard of this she threw the log into the fire, and Meleager died when it was consumed The poem "Atalanta in Calydon" by Swinburne is about this myth

Melech (mē'lĕk) [Heb ,=king], great-grandson of Jonathan. 1 Chron. 8 35, 9 41.

Melegnano, Italy see Marignano, battle of

Meletius, Saint (mĭlē'shus), d 381, schismatic Catholic bishop of Antioch. The Catholic patriarch of Antioch, Eustathius, had been deposed by the Arians, who substituted the Arian Eudoxius Eudoxius died (361), and the Arians appointed St Meletius, who was considered semi-Arian, but proved to be Catholic The Eustathians would not forgive his consecration by Arians, the Arians considered him a traitor. St. Basil the Great was working to procure recognition for Meletius by the other churches, when Lucifer of Cagliari hastily consecrated another bishop from the Eustathians, whom Alexandria and Rome recognized (362). Meletius was banished, an Arian was put in his place (361) But the Eustathians and Meletians, both Catholics, would not combine, and the Arians controlled Antioch Meletius returned (378), recognized by all Catholic churches except Rome and Alexandria He presided over the First Council of Constantinople, at which he died He is venerated as a saint. See Flavian of Antioch.

Melfi (mĕl'fē), city (pop. 14,190), Basilicata, S Italy, 18 mi N of Potenza. It is noted for its wine. In the 11th cent. it was the capital of the Norman county of Apulia. Robert Guiscard embellished it Emperor Frederick II promulgated here his important code, the Constitutions of Melfi, or Liber Augustalis In 1528 the city was sacked by Lautrec and never again recovered its flourishing com-

merce. It suffered several earthquakes, which destroyed the cathedral; the campanile (1153) still stands.

Melfort, town (pop 2,305), central Sask, in the Carrot river valley SE of Prince Albert It is a shipping point for stock ranches in the region and an oil-distributing center

Melicu (mĕ'lĭkū), same as MALLEUCH 6

Melilla (mālē'lyä), city (pop. 89,073), on the Mediterranean coast of Morocco It is administered as part of the Spanish province of Málaga Spain has held it since c.1497 despite many attacks by Moroccans Melilla exports iron ore and is a fishing port.

melilot: see SWEET CLOVER

Melita: see MALTA

Melitene, Turkey: see MALATYA.

Melitopol (mālyĭtō'pul), city (pop. 75,735), S Ukraine A growing industrial center, it produces heavy machinery and has flour mills and meat-packing plants. In the Second World War, Melitopol was recovered (1943) from the Germans after a bloody battle and prolonged house-to-house fighting

Melk or **Mölk** (both mĕlk), town (pop 3,139), Lower Austria, on the Danube. It was the earliest residence of the Austrian rulers The wealthy and splendid Benedictine abbey, founded in 1089, has a large library containing ancient manuscripts and incunabula Melk is mentioned in the *Nibelungenlied* as Medelike

Melkites see MELCHITES.

Mellen, city (pop 1,598), N Wis, SE of Ashland, in a lake and woods region, settled 1886, inc. 1907 Granite is quarried A state park is near

Mellon, Andrew William, 1855–1937, American financier, industrialist, and public official, b Pittsburgh He studied at the Western Univ of Pennsylvania (now the Univ of Pittsburgh), but he left college to organize a lumber business with his brother, Richard B Mellon Soon they joined interests with their father, Thomas Mellon, a successful banker and lawyer of Pittsburgh, who had helped Henry C Frick to expand his holdings in the coke industry When Thomas Mellon retired (1886), his two sons took over the banking firm of Thomas Mellon and Sons In 1889 Andrew Mellon led in establishing the Union Trust Company of Pittsburgh—later to become one of the larger financial institutions in the United States—and then the Union Savings Bank was created as a subsidiary firm Meanwhile Andrew Mellon expanded his holdings in key American industries and held large interests in the Gulf Oil Company, the American Locomotive Company, the Pittsburgh Coal Company, and in hydroelectric, bridge-building, public-utility, steel, insurance, and traction companies Mellon also played an important role in originating the huge Aluminum Company of America He resigned (1921) as president of the Mellon National Bank to become U S Secretary of the Treasury and held that cabinet post until 1931 under Presidents Harding, Coolidge, and Hoover Secretary Mellon worked for a downward revision of income taxes and surtaxes, and in spite of drastic tax curtailments, he reduced the national debt from $24,298,000,000 in 1920 to $16,185,000,000 in 1930 He later served (1931–32) as U S ambassador to Great Britain His income-tax return for the year of 1931 was the subject of a Federal investigation in 1935, but he was exonerated in Dec, 1937, four months after he died He gave $10,000,000 for the founding (1911) of the Mellon Institute of Industrial Research in Pittsburgh, in 1937 he donated his art collection to the public, with funds for the erection of a building in Washington in which to house it (see NATIONAL GALLERY OF ART) He wrote *Taxation the People's Business* (1924). See biographies by P. H. Love (1929) and Harvey O'Connor (1933)

Melloni, Macedonio (mächädō'nyō mäl-lō'nē), 1798–1854, Italian physicist Known especially for his investigations of heat, he pointed out the similarity of heat to light, showing that it also is refracted, reflected, and polarized

Mellon Institute of Industrial Research, at the Univ of Pittsburgh, founded 1913 by Andrew W and Richard B Mellon (see DUNCAN, ROBERT K), subsidized by the industries concerned It has a fine, well-equipped building Important discoveries of methods and products have been made

melodeon or melodium: see REED ORGAN

melodrama (mĕ'lŭdrämu) [Gr, =song-drama], originally a spoken text with musical background, as in Greek drama The form was especially popular in the 18th cent, when its composers included Georg Benda, J J ROUSSEAU, and Pietro METASTASIO, among many others The variation of the form to mean drama interspersed with song is familiar in John Gay's *Beggar's Opera*. Modern examples of the true music melodrama are found in Richard Strauss's setting of Tennyson's *Enoch Arden*, and in Arnold Schönberg's *Pierrot Lunaire*. In 18th-century melodramas the action was generally romantic, full of violent action, and characterized often by the final triumph of virtue The latter-day use of the term for plays with overdrawn characterizations and smashing climaxes and with great appeal to sentiment has naturally followed, whether or not the climaxes are heightened by the use of music. *East Lynne* is one of the most famous popular melodramas of stage and screen, its "tear-jerking" propensities increased by its tragic ending

melody, succession of single tones of varying pitch Melody is the linear aspect of music, in contrast to harmony, the chordal aspect, which results from the simultaneous sounding of tones. It is impossible to consider melody without rhythm These two, plus tone quality, are the necessary elements of music Our ears have become so accustomed to harmony that a given melody may be felt to imply certain harmonies The same melody may often be harmonized in several ways, however, and music may exist without harmony. Certain composers have been especially noted for their melodic gifts, particularly Schubert and Tchaikovsky.

melon, fruit of *Cucumis melo*, a trailing annual, which varies greatly in size, shape, color (white, orange, or green), and character of skin (smooth, netted, or furrowed) It is native to Asia and was cultivated by the Egyptians and Romans, but not until some time after the Civil War did it become an important market crop in the United States Many varieties of melons have been developed, the casaba, honeydew, and Persian are winter melons of excellent flavor and good keeping quality but require long growing seasons. The true cantaloupe (*C melo cantalupensis* from Cantalupo, Italy, where it was introduced from Armenia) is a hard-shelled or rock melon, little grown outside of the Mediterranean countries Muskmelons, which are often less correctly called cantaloupes in the United States, are nutmeg-shaped varieties with soft rinds and netted surface markings and usually have a musky flavor They are often grown in home gardens Melons are grown commercially in Arizona, Arkansas, California, Colorado, Georgia, Maryland, New Jersey, and North Carolina The WATERMELON is *Citrullus vulgaris* See J. W Lloyd, *Muskmelon Production* (1928)

Melos (mĕ'lŏs) or **Milo** (mē'lō, mĭ'lō), island (60 sq mi, pop ab 5,000), off E Greece, in the Aegean Sea, in the Cyclades The capital is Plaka, near the site of the ancient city of Melos Melos flourished as a center of the Aegean civilization (Early Minoan period, after 3000 B C), because of obsidian deposits there When the use of bronze came in, the island lost importance (c 2200 B C) The Greek expansion of c 1000 B C brought Dorians to Melos The island was neutral in the Peloponnesian War, but fell a victim to Athenian imperialism When the Melians showed resistance, the men were massacred and the rest enslaved (416 B C) Much excavation has been done at Melos, the most famous find is the Venus of Milo (now in the Louvre), discovered in 1820

Melozzo da Forlì (mālôt'tsō da fôrlē'), 1438–94, Umbrian painter His extant works, though few, reveal him as a painter of power and individuality He is especially notable for his bold foreshortening, in the use of which, particularly in vaultings, he was a pioneer His known works include the great fresco of the *Ascension*, in the cupola of the Church of the Santi Apostoli, Rome (Quirinal Palace, Rome), a fresco, *Pope Sixtus IV Giving Custody of the Vatican Library to Platina*, painted for the Vatican Library, and *Angels Making Music*, a fragment (Vatican)

Melpomene see MUSES

Melrose, burgh (pop 2,052), Roxburghshire, Scotland, on the Tweed river It is the site of one of the finest ruins in Scotland—Melrose Abbey, founded for Cistercians by David I in 1136 and now owned by the nation Scott's *Lay of the Last Minstrel* has descriptions of the abbey Several times partly destroyed and rebuilt, the abbey contains the heart of Robert the Bruce There are lesser ruins of a 7th-century abbey a few miles from Melrose Abbotsford and Dryburgh Abbey are near

Melrose 1 City (pop. 25,333), E Mass, N of Boston, settled c 1629, set off from Malden 1850, inc as a city 1899 It produces specialties 2 City (pop 2,015), central Minn, on the Sauk and WNW of St Cloud, settled 1857, platted 1871, inc as a city 1898 It is a farm trade center

Melrose Park, village (pop 10,933), NE Ill, just W of Chicago, inc 1893 It is a residential suburb in an industrial area near large railroad yards Plastics and railroad car parts are made here

melting point, temperature at which a substance changes its state from solid to liquid. Under standard pressure (15 lb per square inch) different chemical elements and compounds have different temperatures at which this change of state takes place, each having a definite melting point which is included among its specific properties When heat is applied continuously and in sufficient quantity to such solids, the temperature rises steadily until it reaches that point at which LIQUEFACTION occurs Here the rise ceases and no further change in temperature is observed until all of the substance has been converted to the liquid The heat being applied to the substance at that temperature is consumed in bringing about the change of state, and none is available to raise the temperature of that part of the substance already liquefied until all of it has changed to the liquid. When the liquefaction is complete and if heat is still applied, the temperature will then begin to rise again The quantity of heat necessary to change one gram of any substance from solid to liquid at its melting point is known as its latent heat of fusion and differs for different substances Ice, for example, requires approximately 80 calories of heat to change each gram to water at its melting point Because its heat of fusion is relatively high, ice is used in refrigeration In freezing (the reverse process or change from liquid to solid), heat is given off by the substance undergoing the change and the amount given off is the same as that taken on in melting Usually the melting point and the freezing point of a substance are the same

Melton Mowbray (mōb'rē), urban district (1931 pop 10,437, 1943 estimated pop 11,330), Leicestershire, England, at the junction of the Eye and the Wreak NNW of London It is famous for its pork pies and Stilton cheese and is a fox-hunting center in winter It has a church which was begun in the 13th cent

Melun (mulœ̃'), town (pop 15,128), capital of Seine-et-Marne dept, N France, SE of Paris An ancient place of Île-de-France, it was an early Capetian residence It has a Romanesque church (Notre Dame, 11th cent) and vestiges of a Roman fortress and a Capetian castle Melun suffered heavy damage in the Second World War Near by is the famous Château of Vaux, built for Nicolas FOUQUET

Mélusine (mālüzēn') or **Melusina** (mĕlyōōsē'na), in French legend, water sprite who fell in love with and married a mortal On their wedding she created a fairy palace in which they lived This was called Lusina, and the name Lusignan was said to be derived from it She was able to conceal from her husband that she was a mermaid and at times had the tail of a fish She had made him promise that he would not intrude on her on Saturdays He broke the promise and discovered her secret She left him. When the lord of the castle or the king of France was dying, she appeared, shrieking, on the castle wall. Several noble families claimed descent from Mélusine.

Melville, Andrew (mĕl'vĭl), 1545–1622, Scottish religious reformer A man of learning and scholarship, he studied abroad, came under the influence of Theodore Beza, and was a professor at Geneva. He was principal (1574–80) of the Univ of Glasgow, in 1580 he became principal of St Mary's College, St Andrews, and in 1590 he was made rector of St Andrews He reorganized the Scottish universities and greatly broadened their educational scope However, Melville's greater task was the molding of the Scottish church, upon him fell the mantle of John Knox He was largely responsible for the introduction of a presbyterian system into the somewhat tentative church organization developed by Knox A foe of prelacy and royal supremacy, Melville asserted the independence of the church, which brought him into conflict with the court party of James VI (James I of England) He was called before the privy council on a charge of treason in 1584 and fled to England, but shortly returned to Scotland He was several times moderator of the general assembly Melville's struggle to protect the independence of the Scottish church continued In 1606 he and other clergymen were summoned to confer with James I, but no settlement was reached Melville offended the court by his harsh criticism of the king and particularly by a Latin epigram directed against Anglican practices In 1607 he was committed to the Tower, where he remained for four years On his release he was allowed to accept a chair at the Univ of Sedan. Melville wrote a number of Latin poems of some merit See standard biography by Thomas McCrie (1819)

Melville, George Wallace, 1841–1912, American naval engineer and arctic explorer, b New York city, grad Brooklyn Polytechnic Institute In 1861 he entered the U S navy as an engineer and served in the Civil War As chief engineer of the *Jeannette* on the expedition (1879) of George W DE LONG to the arctic, he distinguished himself on the voyage, and when disaster overtook the ship, Melville commanded the only boat to reach safety After a terrible journey, his party was rescued in the delta of the Lena river He later led the expedition which recovered the bodies of De Long and his men as well as the records He was chief engineer in the Winfield Scott Schley relief expedition (1884) which rescued A. W. Greely These experiences are recounted in his *In the Lena Delta* (1885) Melville was made chief of engineers in the U S navy in 1887 and played an important part in the modernization of the navy He is credited with the introduction of the triple screw, of vertical engines, and of many other innovations From 1899 until his retirement in 1903 he held the rank of rear admiral

Melville, Herman, 1819–91, American author, b. New York city In 1841–42 he spent 18 months on the whaler *Acushnet*, rounding Cape Horn and enduring such hardships that, with a companion, he escaped from the ship in the Marquesas The two were captured by the Typees, a tribe of cannibals, by whom they were well treated After a month, Melville was rescued by an Australian whaler and

was put ashore at Tahiti, he spent some time among the Pacific islands Shipping home from Honolulu on a U S naval vessel, he was discharged Oct. 14, 1844 About these four years Melville wrote his most popular books—*Typee a Peep at Polynesian Life* (1846), *Omoo a Narrative of Adventures in the South Seas* (1847); *Mardi and a Voyage Thither* (1849), *Redburn* (1849), *White-Jacket, or, The World in a Man-of-War* (1850), and his masterpiece, *Moby-Dick, or, The Whale* (1851). The first two books caused a storm of criticism of Melville's descriptions of native life and his attacks on missionaries, but were eagerly read Melville married in 1847 and from 1850 to 1863 lived on a farm near Pittsfield, Mass., where he had the stimulus of Hawthorne's friendship and where he wrote *Moby-Dick* and later works His readers, puzzled by the symbolism and bitterness in *Moby-Dick*, ignored the ambiguous *Pierre* (1852) *Piazza Tales* (1856) contained good stories—"Benito Cereno" has been called the greatest in English His long poem *Clarel* (1876) and his last novel, *Billy Budd, Foretopman* (1924), reflect the serenity of his later life Poverty made his life difficult until in 1866 he became a customs officer in New York, he died relatively obscure In the 1920s a revival of interest in Melville began See his works (16 vols, 1922–24) and a new complete edition of which *Collected Poems* (ed by H P Vincent, 1947) is the first volume, his *Journal up the Straits* (ed by R M Weaver, 1935) and *Journal of a Visit to London and the Continent* (ed by E M Metcalf, 1948), letters ed by Meade Minnigerode (with a bibliography, 1922) and by V H Paltsits (1929), biographies by R M Weaver (1921), John Freeman (1926), Lewis Mumford (1929), Geoffrey Stone (1949), and Newton Arvin (1950), Charles R Anderson, *Melville in the South Seas* (1939), two studies of his mind by W E Sedgwick (1945) and Charles Olson (1947)

Melville, Sir **James,** 1535–1617, Scottish diplomat After some years on the Continent, he returned (1564) to Scotland and thereafter represented Mary Queen of Scots and later James VI, on important diplomatic missions His memoirs, written after James's accession to the English throne and first published in 1683, are one of the principal sources for the history of the period See edition by A F Steuart (1929)

Melville, James, 1556–1614, Scottish Presbyterian minister, nephew of the reformer Andrew Melville He was for five years professor at Glasgow and later (1580–84) at St Andrews He was forced to flee to Berwick in 1584 He was ordained (1586) to a charge in Fifeshire and became moderator of the general assembly (1589) With his uncle he went to London (1606) at the command of James I, after he had opposed some of the royal ecclesiastical measures After that he was detained within an area of 10 mi about Newcastle-on-Tyne His diary, which was printed in 1829, is valuable for the history of his time

Melville, town (pop 3,824), SE Sask., NE of Regina, in a wheat-growing region The town has a grain elevator and flour mills

Melville, town (pop 1,828), S central La., on the Atchafalaya river and NW of Baton Rouge, settled c 1875, inc 1911 It was almost destroyed by floods in 1927

Melville, Lake, 120 mi long and 25 mi at its widest point, SE Labrador, in heavily forested country It receives the Hamilton river in Goose Bay, the southwest arm of the lake, and the Naskaupi river N of Goose Bay It reaches the Atlantic through Hamilton Inlet There is an air base in Goose Bay

Melville Bay, broad indentation of the western coast of Greenland, opening to the southwest into Baffin Bay The inland icecap comes down to the coast, and glaciers discharge much ice into its waters

Melville Island, 200 mi long and 30 to 130 mi wide, off W Franklin dist., Northwest Territories, in the Arctic Ocean Largest island (c 16,503 sq mi) of the Parry Islands and one of the largest islands of the Arctic Archipelago, it is separated from Victoria Island to the south by Viscount Melville Sound Generally hilly, rising to a height of c 1,500 ft., it has several ice-covered areas in the interior and supports large herds of musk oxen, though their numbers have diminished The island was discovered (1819) by Sir William Edward Parry, and its south coast was explored (1850–51) by Sir Francis McClintock

Melville Island, area 2,400 sq. mi., in the Timor Sea, 16 mi off the north coast of Australia It is 65 mi long and 45 mi wide and is separated from Bathurst Island by Apsley Strait An aboriginal reservation, it consists largely of mangrove jungle with sandy soil The island was the site of the first British settlement (1824–28) in the Northern Territory.

Melville Peninsula, 250 mi. long and 70 to 135 mi wide, S Franklin dist., Northwest Territories, just N of the Arctic Circle This northern projection of the Canadian mainland, at the entrance of Hudson Bay, between the Gulf of Boothia and Foxe Basin, is separated from Baffin Island to the north by the narrow Fury and Hecla Strait. There are numerous connected lakes in the southern portion; large Hall Lake lies near the west coast, and at the base of the peninsula is a trading post at Repulse Bay.

Melville Sound: see Viscount Melville Sound.

Melvindale, residential city (pop 4,764), SE Mich., a suburb of Detroit, settled 1870, inc. as a village 1925, as a city 1932

Melzar (mĕl'zär) [Heb., =overseer], title of the guardian of King Jehoiakim's wards Dan 1 11,16

Memel (mā'məl), Lithuanian *Klaipeda* (klī'pĕdă), city (pop 41,297), W Lithuania, an ice-free port on the Baltic Sea, at the entrance to the Kurisches Haff There are shipyards and paper, match, and plywood manufactures Memel was founded by the Teutonic Knights in 1252, and it is German in character It was ceded (1629) by Prussia to Gustavus II of Sweden, but reverted to Prussia in 1635 In the Napoleonic Wars, Memel was (1807) the refuge and residence of Frederick William III of Prussia, who signed here the edict emancipating the serfs in his kingdom From 1919 Memel shared the history of the Memel Territory. The name also appears as Klaypeda

Memel, river see Niemen

Memel Territory, Ger *Memelland* (mā'məl-lant"), name applied to the district (1,026 sq mi., 1941 pop 134,034) of former East Prussia situated on the right (northern) bank of the Niemen The Treaty of Versailles (1919) placed the district, containing the city and port of Memel, under French administration, France administering it under the League of Nations In 1923 Lithuanian troops occupied it and forced the French garrison to withdraw The council of ambassadors then drew up a new status for predominantly German Memel, accepted by Lithuania and ratified in 1924 The territory was made an autonomous region within Lithuania and had its own legislature The electoral victory (1938) of the National Socialists in the Memel Territory was followed (March, 1939) by a German ultimatum demanding the return of the district Lithuania complied In 1945 the district was captured by Russian troops and was returned to Lithuania, by then a part of the USSR

Memling or **Memlinc, Hans** (hans' mĕm'lĭng, -lĭngk), c 1430–1494, Flemish religious painter, follower of the Van Eycks and of Van der Weyden, with whom he is thought to have studied Memling's work is distinguished for its pensive and gentle lyricism Less forceful than that of his predecessors, it is more charming Working in Bruges at the time of its commercial decline, he brought to perfection the conventional treatment of religious subjects He also painted many admirable portraits The earliest (1468) of his known works is a triptych, *The Madonna Enthroned with Saints and Donors* (Duke of Devonshire Coll., Chatsworth) Famous among his works are *The Shrine of St Ursula* and the triptych with *The Marriage of St Catherine* as the central panel (both Hôpital de St Jean, Bruges) and the large altarpiece *The Last Judgment* (last known to be in the Church of St Mary, Danzig) His surviving work is copious and widely distributed, most of the principal galleries of Europe containing one or more samples In this country fine specimens of his work are in the National Gallery of Art, Washington, D C., the Metropolitan Museum, and the Pierpont Morgan Library, New York His name is sometimes spelled Hemling See study by Alfred Michiels (1883, in French), Sir Martin Conway, *The Van Eycks and Their Followers* (1921)

Memmingen (mĕ'mĭng-un), city (pop 24,586), Swabia, SW Bavaria It manufactures metal goods and food products First mentioned in the 11th cent., it became (1286) a free imperial city and passed (1803) to Bavaria The Twelve Articles of Memmingen were drawn up here during the Peasants' War Memmingen has kept part of its medieval walls and gates and two of its Gothic churches The Fugger House dates from the 16th cent

Memminger, Christopher Gustavus (mĕ'mĭnjur), 1803–88, Confederate secretary of the treasury (1861–64), b Würtemberg, Germany, grad South Carolina College (now the Univ of South Carolina), 1819 He came to Charleston as a child and, left an orphan, was adopted in 1814 by Thomas Bennett, later governor of the state Memminger became a successful lawyer and as a state legislator and Charleston school commissioner did much toward effecting financial and educational reform. Although a late convert to secession, he took a prominent part in the proceedings of the South Carolina secession convention of 1860 and was chairman of the committee which drafted the provisional constitution of the Confederacy A "hard money" man forced by circumstances to direct the Confederacy's inflationary financial program, Memminger labored hard at the treasury post, but criticism compelled his resignation. He later practiced law again in Charleston. See biography by H D Capers (1893), B. J Hendrick, *Statesmen of the Lost Cause* (1939).

Memnon (mĕm'nŏn), in Greek mythology, king of Ethiopia He was the son of Tithonus and Eos In the Trojan War he fought against the Greeks, and after he had killed Antilochus, he himself was killed by Achilles. Eos obtained a grant of immortality from Zeus for her son. Memnon was supposed to have lived in Egypt, and the Greeks gave his name to the great statue of Amenhotep III at Thebes This statue was said to make a musical sound at dawn, at which time Memnon greeted his mother, goddess of dawn

Memorial Day or **Decoration Day,** celebrated in the North in the United States on May 30, in the South on April 26, May 10, or June 3 It was inaugurated in 1868 by Gen. John A Logan for the purpose of decorating the graves of Civil War veterans The exercises were formerly conducted by members of the Grand Army of the Republic, they are now frequently under the auspices of the American Legion The graves of all American soldiers are decorated

memory, term commonly used to indicate the power or ability of an individual to remember things or situations experienced in the past If the term is employed to mean simply the ability of an individual to retain the image of an object or of a situation of past experience (retention), it becomes so limited as not to include another definite character of memory, i e, the ability to recall that which has been retained Psychoanalysts point out that some memories which affect personality are rarely recalled except through hypnosis or PSYCHOANALYSIS As a result, the ability to retain and the ability to recall that which is retained must be distinguished, and both must be included under the more general term of memory Still another factor, that of learning, also contributes to the duration and extent of the total, general ability Much experimental work has been done to test memory Among others, Ebbinghaus, using nonsense syllables (groups of disconnected syllables without associative connection), has shown that the rate of forgetting is greatest at first, gradually slowing down until a general level is reached It has been shown also that, in general, the rapid learner retains the material learned for a longer period than the slow learner Recent experiments show that a person tends to remember better those things which are consistent with his intellectual bias and emotional needs The ability to retain is, in general, explained physiologically on the assumption that paths in the brain and nervous system over which a stimulus has once traveled offer less resistance to subsequent passage However, this, like other attempts to establish a physical basis of memory, has been purely hypothetical and subject to question

Memphis (mĕm'fĭs), capital of the Old Kingdom of ancient Egypt (c 3400–c 2445 B C), at the apex of the Nile delta 12 mi above Cairo It was reputedly founded by Menes, the first king of united Egypt Its god was Ptah The temples of Ptah, Isis, and Re, the Serapeum, two statues of Ramses II, and numerous dwellings have been brought to light Across the Nile are the great pyramids, extending for 20 mi to Gizeh Memphis remained important during the long dominance of Thebes and became the seat of the Persian satraps (525 B C) Second only to Alexandria under the Ptolemies and under Rome, it finally decayed with the foundation of near-by Fustat by the Arabs, and its ruins were largely removed for building in the new city and, later, in Cairo

Memphis. **1** City (pop 1,935), co seat of Scotland co, NE Mo, on the North Fabius river and WNW of Keokuk, Iowa, settled 1838 It is a shipping point for livestock and grain **2** City (pop 292,942), co seat of Shelby co, SW Tenn, on the Fourth, or Lower, Chickasaw Bluff beside the Mississippi just below the mouth of the Wolf river A bridge crosses the Mississippi to Arkansas Some have claimed that De Soto crossed the Mississippi near here, and La Salle's Fort Prudhomme may have been built on this site, which was involved in the British, French, and Spanish imperial rivalries of the 18th cent The United States built a fort here in 1797 Memphis, planned in 1819, was incorporated as a town in 1826, as a city in 1849, in 1909 commission government was adopted In the Civil War, Memphis fell on June 6, 1862, to a Union naval force led by the elder Charles Henry Davis and was an important Federal base for the rest of the war Severe yellow-fever epidemics occurred in the 1870s Important since early days as a river port, Memphis today is the largest city in the state, a port of entry, a great rail center (with railroad shops), a leading cotton and hardwood-lumber market, a livestock market, and an industrial city whose manufactures include cottonseed products, mixed feeds, wire and rubber products, drugs, and chemicals The city purchases power from the TVA In Memphis are Southwestern at Memphis (Presbyterian, coeducational, 1875), Memphis State College, Southern College of Optometry, the medical divisions of the Univ. of Tennessee (see Tennessee, University of), Le Moyne College (Negro), Goodwyn Institute, a museum of natural history and industrial arts, an art gallery, and a number of fine churches The city has a splendid park system and the Mid-South Fairgrounds. An annual cotton carnival is held. Beale Street, in the Negro section, has been made famous by W. C. Handy. At Memphis, Edward Hull Crump for

many years wielded notable political influence on the city and the state. See Shields McIlwaine, *Memphis Down in Dixie* (1948) **3** City (pop 3,869), co seat of Hall co, NW Texas, ESE of Amarillo, founded 1889, inc 1906 A center of farms producing grains, cotton, forage, and other crops, Memphis has processing plants and small industries

Memphremagog, Lake (mĕm"frŭmā'gŏg), 30 mi. long and up to 4 mi wide, mainly in S Quebec, partly in N Vermont Newport, Vt, and Magog, Que, are trade centers and resorts on the lake, which was a travel route for Indians and colonists.

Memucan (mĕmū'kun), counselor of King Ahasuerus Esther 1 14.

Mena, Juan de (hwän' dā mā'nä), 1411–56, Spanish poet and scholar He was greatly influenced by the Italian school, and his masterpiece, a long allegorical poem entitled *Laberinto de Fortuna* or sometimes *Las trescientas* [the 300 stanzas] (1444), was modeled upon Dante Juan de Mena was a precursor of Góngora and Gongorism, the Spanish form of euphuism

Mena (mē'nu), city (pop 3,510), co seat of Polk co, W Ark, in a rich farm section of the Ouachita Mts, founded 1896 It has flour mills, cotton gins, and wood and brick works Commonwealth College, a unique labor school here, closed in 1939

Menado (mänä'dō) or **Manado** (manä'dō), town (pop 27,544), on the northeast coast of Celebes, East Indonesia, on an inlet of the Celebes Sea A trade center and port, it exports copra, coffee, sugar, nutmeg, and ebony There is an airport

Menahem (mē'nuhĕm) [Heb, =comforter], d c 737 B C, king of Israel (c 749–c 737 B C) He was a general in command at Tirzah and murdered Shallum for the throne Menahem was made a tributary by Tiglath-pileser III of Assyria His son, Pekahiah, succeeded him

Menai Strait (mē'nī), channel of the Irish Sea, between the island Anglesey and Caernarvonshire, Wales It is 14 mi long and 200 yards to ¾ mi wide Telford's suspension bridge (1826) carries the road from Bangor on the mainland to Anglesey, over the strait, and Stephenson's tubular bridge (1850) carries a railroad

Menam (mānum') or **Chao Phraya** (chou präya'), river rising in headwaters at the Burma-Laos border and crossing Thailand north-south, the chief river of that kingdom The lower Menam is a union of four streams and enters the Gulf of Siam through several outlets, interconnected by canals that serve for both irrigation and communication The valley is the main rice-producing area of Thailand Ayuthia and Bangkok are on the river

Menan (mē'nun), ancestor of Joseph Luke 3 31

Menander (mĭnăn'dur), 342?–291? B C, Greek poet of the New Comedy, an associate of Theophrastus and Epicurus From discovered fragments he appears to have written ingenious plays with an elegant, smooth style, elaborate plot, and smoothly developed characters His fame was very great and he was often quoted Through the imitations of PLAUTUS and TERENCE he influenced late 17th-century comedy Gilbert Murray translated two plays, filling out the missing parts (1946)

Menands (munăndz'), village (pop 1,764), E N Y, near Albany, inc 1924

Menard (mĭnard'), town (pop 2,375), co seat of Menard co, W central Texas, on the San Saba river and SE of San Angelo It handles the wool, mohair, and cattle from surrounding ranches Near here was established in 1757 a Spanish mission, usually called Mission San Sabá, which was taken by the Comanche Indians in 1758 A presidio, now restored, was also founded in 1757 The mission Indians irrigated land at Menard

Menasha (mună'shu), city (pop 10,481), E Wis, on Lake Winnebago (adjacent to Neenah) and on the Fox, settled before 1850, inc 1874 Water power here serves its numerous factories, which manufacture chiefly paper and wood and paper products The region at the lake outlet was visited by Jean Nicolet and other French explorers and was described by Jonathan Carver in his *Travels* (1778) On Doty Island, part belonging to Neenah, part to Menasha, is James Duane Doty's log house, now a museum

Mencius (mĕn'shus), Mandarin *Meng-tse*, 371?–288? B C, Chinese sage The principal source for Mencius' life is his own writings He was born in the ancient state of Ch'ao, in modern Shantung prov Appalled at the anarchic condition of society, he traveled through several petty states urging the rulers to practice the doctrines of CONFUCIUS Central to the philosophy of Mencius was the belief that man is innately compassionate rather than self-seeking This trait can receive expression only if men enjoy peace of mind, which, in turn, depends upon material sufficiency It follows that the duty of the ruler is to insure the prosperous livelihood of his subjects He should particularly eschew warfare except for defense. If the ruler's conduct reduces his subjects to penury and self-seeking, he must be deposed. Many of the specific reforms in landholding and other economic relations which Mencius proposed are difficult to understand from the sole text of his works, *The Book of Mencius*, which is one of the *Four Books* (see CHINESE LITERATURE) Not until the late 11th cent A D. was Mencius regarded with veneration Since then his image has been placed in temples dedicated to Confucius, and his work is considered one of the classic commentaries on the Confucian writings The complete text of Mencius was translated by James Legge (1861) and by L A Lyall (1935). Excerpts were translated by Arthur Waley in *Three Ways of Thought in Ancient China* (1939) See I A Richards, *Mencius on the Mind* (1932)

Mencken, Henry Louis, 1880–, American editor, author, and critic, b Baltimore, grad Baltimore Polytechnic He began his journalistic career on the *Morning Herald*, became editor of the *Evening Herald*, and has been since 1906 on the staff of the *Sun* or *Evening Sun*, all Baltimore papers From 1914 to 1923 he was coeditor of the *Smart Set* with George Jean Nathan, together they started the *American Mercury* in 1924, and Mencken was sole editor from 1925 to 1933 His pungent and iconoclastic criticism, aimed chiefly at all complacent attitudes, has enlivened many magazines besides his own These essays have been collected in a series of six volumes, *Prejudices* (1919–27) In the field of philology he has compiled a monumental and lively study, *The American Language* (1st ed, 1919, 4th ed, 1936, with supplements, 1946, 1948). Among his other works are *George Bernard Shaw: His Plays* (1905), *In Defense of Women* (1917), *Treatise on the Gods* (1930), and the autobiographical *Happy Days, 1880–1892* (1940), *Newspaper Days, 1899–1906* (1941), and *Heathen Days, 1890–1936* (1943), collected in one volume in 1947 See Edgar Kemler, *The Irreverent Mr Mencken* (1950)

Mende (mād), town (pop 5,026), capital of Lozère dept, S France, in Languedoc, on the Lot river. It has a liqueur trade

Mendel, David see NEANDER, JOHANN AUGUST WILHELM

Mendel, Gregor Johann (grā'gôr yō'hän mĕn'dul), 1822–84, Austrian scientist and Roman Catholic priest, noted for experimental work on heredity He entered the Augustinian monastery at Brno in 1843, taught science at a local secondary school, and in 1869 was elected prelate of the monastery Using garden peas for hybridization experiments, he was the first to keep systematic records of a great number of offspring over several generations He recorded each inherited character separately and insured accuracy by precise technique in cross-breeding His account of the experiments and his conclusions were presented before a local scientific society in 1865 and were published in 1866 The value of his work was not recognized until it was pointed out almost simultaneously in 1900 by K E Correns, De Vries, and Tschermak-Seysenegg Mendel's impaired sight and his duties as prelate curtailed his work, but he carried out further experiments on hawkweed and four-o'clocks and on bees He anticipated Oscar Hertwig's discovery that fertilization of an egg involved only one male sex cell, but Mendel did not publish his findings Mendel's classic article on his experiments with peas, translated as *Experiments in Plant Hybridization*, has been published as a pamphlet and in William Bateson, *Mendel's Principles of Heredity* (1902, 4th impression, 1930) See biography by Hugo Iltis (Eng tr, 1932) **Mendelism** is the system of heredity revealed in Mendel's conclusions Known as Mendel's laws, these state that separate characters (e g, height in peas) are inherited independently of one another, that each reproductive cell receives only one of a pair of alternative factors (such as that determining tallness or shortness) existing in the other body cells (the law of segregation), and that some factors are dominant over others (the law of dominance) When individuals purebred in respect to one set of characters showing dominance are crossed with purebred individuals showing the alternate characters, the hybrid offspring will all exhibit the dominant character, but its cells will carry also the recessive factor A crossing of these hybrids gives an average of one out of four individuals bearing two dominant factors, one bearing two recessive factors, and two bearing both factors, therefore the offspring of hybrids exhibit the dominant character in a ratio of three to one. Mendel's laws have been used by plant and animal breeders See also GENETICS and HEREDITY

Mendelejeff, Dmitri Ivanovich (mĕndulā'uf, Rus dŭmē'trē ēvä'nŭvĭch myĭndyllyä'ûf), 1834–1907, Russian chemist He stated (1869) his concept of the PERIODIC LAW of the classification of elements and, with Lothar Meyer, who had independently reached similar conclusions, was awarded the Davy medal in 1882 Mendelejeff predicted the properties of elements unknown at the time, three of these (gallium, germanium, and scandium) were later discovered. He studied also the nature of solutions and the expansion of liquids An outstanding teacher, he was professor at the Univ of St Petersburg (1868–90) He directed the bureau of weights and measures from 1893 and served as government adviser on the development of the petroleum industry His *Principles of Chemistry* (2 vols, 1868–71, Eng tr., 1905) was long a standard text See biography by D Q Posin (1948)

Mendele mocher sforim (mĕn'dûlû mŏkh'ûr sfō'rĭm), pseud. of **Sholem** (or **Solomon**) **Yakob Abramovich** (shō'lûm yä'kōp ûbra'mûvĭch), 1836–1917, Yiddish novelist Born in Minsk, Russia, and orphaned at 14, he found his way to Kamenets in the Ukraine His early writings were in Hebrew, but his later novels and short stories were written in Yiddish. He perfected a Yiddish prose style which greatly influenced later writers

Mendelism: see MENDEL, GREGOR JOHANN

Mendelsohn, Erich (ā'rĭkh mĕn'dulsōn), 1887–, German architect, an exponent of German expressionism His designs included that of the Steinberg hat factory (1923) at Luckenwalde near Berlin, a Berlin department store (1923), and dwelling houses at Charlottenburg The Potsdam observatory, also known as the Einstein tower (1927), was a highly original concrete structure with a tower, suggestive of sculpture in its plastic conformation of volumes and surfaces In his recent works Mendelsohn has abandoned this fanciful quality and generally follows the modern international style Mendelsohn moved (1933) to England and practiced architecture there until 1937, when he went to Palestine After 1941 he lived in the United States His projects in Palestine include a government hospital in Haifa a trade school at Yagur, several buildings in Jerusalem, and the design for a Hebrew university on Mt Scopus. See study by Arnold Whittick (1940)

Mendelssohn, Jakob Ludwig Felix (mĕn'dlsŏn, yä'kōp lōōd'vĭkh fā'lĭks mĕn'dlsōn), 1809–47, German composer, b Hamburg, grandson of Moses Mendelssohn His father, Abraham, upon conversion to Christianity, changed his surname to Mendelssohn-Bartholdy, a form which is seldom used Mendelssohn's first mature work, the Overture to *A Midsummer Night's Dream*, was composed at 17, and he showed like precocity at the piano In 1829 he conducted a performance of the St Matthew Passion which stimulated a revival of interest in the music of Bach He was musical director at Düsseldorf, 1833–35, and in 1835 became conductor of the Gewandhaus concerts, Leipzig There he founded the Leipzig Conservatory, 1842–43 He was director of the music section of the Academy of Arts, Berlin, in 1841 On many occasions he conducted the London Philharmonic Orchestra His music is characterized by emotional restraint, refinement, and sentimentality Of his five symphonies, the Scottish (1830–42), Italian (1833), and Reformation (1830–32) symphonies are best known. Frequently performed are his Violin Concerto in E Minor (1844), *The Hebrides*, concert overture (1830–32), and two biblical oratorios, *St Paul* (1836) and *Elijah* (1846) Of his piano works, the *Variations sérieuses* (1841) and the *Songs without Words* (in six books, 1832–45) stand out He also composed chamber music, songs, and six organ sonatas See his letters (ed by G Selden-Goth, 1945), biography by S S Stratton (rev ed, 1934)

Mendelssohn, Moses, 1729–86, German-Jewish philosopher, grandfather of Jakob Ludwig Felix Mendelssohn He was a leader in the movement for cultural assimilation In 1743 he went to Berlin, where he studied and worked, becoming (1750) a partner in a silk merchant's firm In 1754 he met Lessing, and a life-long friendship began, out of which grew Lessing's play *Nathan the Wise* (1779) Mendelssohn's philosophy, which anticipated the aesthetics of Kant and J C F von Schiller, is best expressed in his writings, which include *Philosophische Gespräche* (1755), *Philosophische Schriften* (1761), *Phädon* (1767), and *Jerusalem, oder, Über religiöse Macht und Judentum* (1783) He also translated the Psalms and the Pentateuch into German See biography by Hermann Walter (1930)

Mendenhall, Thomas Corwin, 1841–1924, American physicist and educator, b near Hanoverton, Ohio He was professor of physics at Ohio State Univ (1873–78, 1881–84), president of Rose Polytechnic Institute, Terre Haute, Ind (1886–89), and of Worcester Polytechnic Institute (1894–1901) As professor at the Imperial Univ, Tokyo (1878–81), he helped found the Tokyo Seismological Society He conducted researches in electricity, earthquakes, and gravity, organized the Ohio Weather Bureau, and served the U S Coast and Geodetic Survey as superintendent (1889–94)

Mendenhall, town (pop 1,282), co seat of Simpson co, S central Miss, SE of Jackson, in a farm area Near by is a state tuberculosis sanatorium

Menderes (mĕndurĕs'), name of several rivers in Turkey The Buyuk Menderes is the ancient MAEANDER, the Kucuk Menderes is the ancient SCAMANDER

Mendès, Catulle (katül' mĕdĕs'), 1841–1909, French poet, critic, and novelist of the Parnassian school. He founded (1861) the *Revue fantaisiste*, contributed to the *Parnasse contemporain*, and wrote several volumes of verse, including *Philomèla* (1863) and *La Grive des vignes* (1895) Some of his fiction has been translated into English

Mendham (mĕn'dum), residential borough (pop 1,343), N N J., W of Morristown, settled before 1750, inc 1906 An aeronautical-telephone laboratory was established here in 1930 Black Horse Tavern is pre-Revolutionary

Mendieta y Montefur, Carlos (kär'lōs mĕndyā'tä ē mōntäfōōr'), 1873–, Cuban political leader. He was one of the chief opponents of Gerardo Machado Mendieta, installed as provisional president (Jan , 1934) by a coup led by Fulgencio Batista, was unable to establish political stability and resigned (Dec , 1935)

Mendip Hills, range of hills, c 23 mi long and 6 mi. wide, Somerset, England, extending SE from Weston-super-Mare, highest 1,068 ft Their structure is mostly limestone, and they contain numerous caves (including Wookey Hole), some of which show signs of prehistoric occupation. The Romans mined lead here Some of the gorges are very picturesque, notably near Cheddar

Mendocino, Cape (mĕndūsē'nō), westernmost point of California, N of San Francisco

Mendon, rural town (pop. 1,315), S Mass , SW of Boston, settled 1660, inc. 1667 It was burned in King Philip's War

Mendota (mĕndō'tŭ) 1 City (pop 4,215), N Ill., N of La Salle, inc 1859 It is a processing and shipping center in a farm and livestock area Among its manufactures are farm implements and concrete products 2 Village (pop 228), SE Minn , just S of St Paul at the confluence of the Minnesota with the Mississippi, the first permanent white settlement in the state Alexis Bailly of the American Fur Company had traded from Mendota (then St Peter's) before 1819, but settlement dates from 1834, when Henry H Sibley replaced Bailly The name was changed in 1837 The homes of Sibley (1835) and of Jean Baptiste Faribault (1837) have been restored

Mendoza (mĕndō'thä), noble family of Spain, originating (14th cent) in New Castile Iñigo López de Mendoza was created (1445) marquis of Santillana (see Santillana, Iñigo López, marqués de) The family reached great prominence in the 15th cent and became allied by marriage with some of the principal houses of Spain Iñigo's son, **Pedro González de Mendoza** (pā'dhrō gônthä'lĕth dā), 1428–95, was a cardinal of the Roman Church He supported Henry IV of Castile in his struggles against the nobles and later sided with Isabella I against Juana la Beltraneja More a soldier than a prelate, he also fought in the conquest of Granada He cultivated literature and wrote religious and political works Ana de Mendoza, princess de Éboli, was the granddaughter of the cardinal's illegitimate son, Diego Among other prominent members of the family were Antonio de Mendoza, first viceroy of New Spain, and Diego Hurtado de Mendoza (see separate articles)

Mendoza, Antonio de (äntō'nyō dā), 1490?–1552, Spanish administrator, first viceroy of New Spain (1535–50) and viceroy of Peru (1551–52) Of noble family, Mendoza held high offices before going to Mexico, where his wise rule caused him to be called "the good viceroy " He alleviated the condition of the Indians, though he opposed enforcement of the New Laws of Las Casas, fostered religion, encouraged education, brought the first printing press to America at the instance of Bishop Zumárraga, quelled numerous revolts, notably the Indian insurrection in Nueva Galicia called the Mixtón War, in which Pedro de Alvarado was killed, and pushed exploration far into the north by sending out expeditions under Marcos de Niza, Coronado, Hernando de Alarcón, and Cabrillo Industry and agriculture were developed, resulting in general prosperity In brief, he extended and consolidated the conquest, begun by Hernán Cortés, and established the sure basis for Spain's long rule in Mexico Efforts to discredit and oust him, originating with Cortés, his rival in the work of discovery, ended in failure In 1551 he took office as viceroy of Peru There also he opposed enforcement of the New Laws, but the *audiencia,* allowed liberty of action, overruled him See biography by A S Aiton (1927).

Mendoza, Diego Hurtado de · see Hurtado de Mendoza, Diego

Mendoza, Iñigo López de · see Santillana, Iñigo López de Mendoza, marqués de

Mendoza, Pedro de (pā'dhrō), b 1501 or 1502, d 1537, Spanish conquistador, first adelantado of Río de la Plata (present Argentina) After a military career in Europe, he received (1534) from Emperor Charles V a commission to conquer and colonize the Río de la Plata region With 11 vessels and 1,200 men, he sailed from Sanlúcar de Barrameda on Aug 24, 1535. He reached the estuary of the Río de la Plata in January and founded Buenos Aires early in Feb , 1536 Attacks by the Indians, scarcity of food, and disaster of every sort made the place untenable Leaving Juan de Ayolas in charge, Mendoza sailed for Spain in April, 1537, and died at sea Buenos Aires was abandoned in 1541, by order of Domingo Martínez de Irala, the colonists removing to Asunción See Paul Groussac, *Mendoza y Garay* (2d ed , 1916), and, for the account of an eyewitness, the "Voyage of Ulrich Schmidt to the Rivers La Plata and Paraguai" in Luis L Domínguez, *The Conquest of the River Plate* (Hakluyt Society, Ser 1, No. 81, 1891).

Mendoza, Pedro González de · see Mendoza, family.

Mendoza (mĕndō'sä), city (estimated pop 100,429), capital of Mendoza prov., metropolis of W Argentina, in an oasis irrigated by the Mendoza river It was founded (1561) by Pedro del Castillo and was the capital of the Chilean province of Cuyo until the creation of the viceroyalty of Río de la Plata (1776) Destroyed by an earthquake in 1861, the town was rebuilt. The wine industry is controlled mainly by a large Italian population Mendoza expanded after the completion of the railroad to Buenos Aires late in the 19th cent Alfalfa, corn, potatoes, and fruit are also grown in the vicinity, and some manufacturing has developed. Of increasing value is the exploitation of petroleum Mendoza is the eastern terminus of the Transandine Railway It was from here that San Martín and Chilean revolutionists began (1817) the final liberation of Chile from Spain

Menelaus (mĕnūlā'ŭs), in Greek mythology, king of Sparta, son of Atreus He was the husband of Helen, the father of Hermione, and the younger brother of Agamemnon Paris, prince of Troy, abducted Helen Menelaus asked the other Greek kings to join him in an expedition against Troy Thus the Trojan War began Menelaus, although subordinate to Agamemnon, took a prominent part in the war After the fall of Troy, he became reconciled with Helen, and he returned to Sparta with her Menelaus appears in the *Iliad* and in the *Odyssey*

Menelik II (mĕ'nĕlĭk), 1844–1913, emperor of Ethiopia after 1889 He was originally king of Shoa (central Ethiopia) After the death (1868) of Emperor Theodore II, Menelik, with Italian support, gained strength steadily, conquered most of the country, and seized the throne He concluded (1889) the Treaty of Uccialli with Italy, but when he learned that the Italian version made Ethiopia a protectorate of Italy he denounced the agreement In the Italian invasion which followed (1895–96) he astounded the world by his great victory, notably in the rout at Aduwa Italy was forced to concede Ethiopia's absolute independence Menelik then accepted the offered friendship of the British and the French He took many important steps to centralize and modernize his country, including the construction of a railroad, suppression of the slave trade, and curbing the feudal nobility His armies brought S Ethiopia (largely Moslem in population) under some degree of central control He was succeeded by Lij Yasu

Mene, Mene, Tekel, Upharsin (mē'nē, mē'nē tĕ'kĕl ûfär'sĭn), in the Bible, the mysterious riddle written by a hand on the wall at Belshazzar's feast Daniel made from it a prophecy of the destruction of the kingdom His solution connects these words with (Aramaic or Chaldaic) stems meaning "to number, to number, to weigh, to divide " Dan 5 5–29

Menéndez de Avilés, Pedro (pā'dhrō mänān'dĕth dä ävēlās'), 1519–74, Spanish naval officer and colonizer, founder of Saint Augustine, Fla , b Avilés, Asturias He went to sea as a youth and so distinguished himself that by the time he was 35 he held the captain generalcy of the Indies fleet, which convoyed treasure ships from the New World to Spain By a patent of March 20, 1565, Philip II made him *adelantado* of Florida and charged him with driving the French Huguenots from Fort Caroline and establishing a Spanish colony Menéndez's expedition of 11 ships and 500 colonists sailed from Spain on June 29 and on Aug 28 entered the harbor he named for St Augustine At the mouth of the St Johns river on Sept 4 he encountered a French fleet under Jean Ribaut, which he was unable to bring to combat Menéndez then returned to St Augustine, where he began to build a fort Ribaut, hoping to take the Spanish by surprise, sailed to attack them, but his fleet was wrecked in a tropical hurricane With Fort Caroline, under the command of René de Laudonnière, virtually defenseless, Menéndez marched overland and on Sept. 21 killed most of the French there Ribaut and his men, driven ashore S of St Augustine, were captured as they tried to reach Fort Caroline by land, and all but a few were slain The massacres, which aroused France, were later avenged by Dominique de Gourgues Part of his mission accomplished, Menéndez went to Cuba for supplies and then explored the Gulf Coast, where he made friendly contacts with the Indians Before he returned to Spain in 1567 there were posts on St Helena Island (S C) and on Chesapeake Bay in addition to St Augustine and San Mateo (Fort Caroline) Although he remained governor of Florida until his death, Menéndez returned only for a brief stay in 1571 The establishment of the Florida colony was due almost wholly to his energy and ability An early account is Gonzalo Solís de Merás, *Pedro Menéndez de Avilés* (tr. and ed by J T Connor, 1923) See Woodbury Lowery, *The Spanish Settlements within the Present Limits of the United States· Florida, 1562–1574* (1905)

Menéndez Pidal, Ramón (rämōn' mänān'dĕth pēdhäl') 1869–, Spanish scholar known for his philological studies and research in medieval Spanish literature He directed the *Revista de filología española* and wrote *Orígenes del español* (1926), the first work to explain the origin of a Romance language. Among his works in the field of medieval literature are *La leyenda de los infantes de Lara* (1896), *L'Épopée castillane* (French, 1909, Spanish, 1910), *El romancero español* (1910), *Poesía juglaresca y juglares* (1924), and his edition (1916) of the *Primera crónica general.* Of several works on the Cid, the first was *Cantar de Mío Cid* (1898) He has long worked on a history of the Spanish language.

Menéndez y Pelayo, Marcelino (märthälā'nō mänān'dĕth ē pälī'yō), 1856–1912, Spanish scholar and literary historian. His contribution to Spanish literary history and appreciation is outstanding His works include *Ciencia española* [Spanish science] (1876); a study of Horace's influence on Spanish poetry (1877), *Historia de los heterodoxos españoles* [history of Spanish heterodoxy] (1880–81); *Historia de las ideas estéticas en España* [history of aesthetic ideas in Spain] (9 vols., 1883–91), *Estudios de crítica literaria* [studies in literary criticism] (1884–1908), editions of the plays of Calderón (1881) and Lope de Vega (13 vols., 1890–1913), a study of the origins of the novel, *Orígenes de la novela* (1905–10), and two important anthologies, *Antología de poetas líricos castellanos* (13 vols , 1890–1908) and *Antología de poetas hispanoamericanos* (1892).

Menes (mē'nēz), fl 3400? B.C , first historic ruler of the first dynasty of ancient Egypt. He seems to have united the southern and northern kingdoms and to have settled on a new capital, the later Memphis Two tombs have been attributed to him, one (found in 1897) near Negadeh below Luxor, the other (found in 1938) at Sakkara Hieroglyphics from his reign have been found at Abydos

Menevia · see Saint David's, Wales

Mengelberg, Josef Willem (yō'sĕf vĭ'lum mĕng'ulbĕrkh), 1871–, Dutch conductor In 1895 he became conductor of the Amsterdam Concertgebouw Orchestra, a position which he held until 1945, when the Netherlands Honor Council for Music declared that because of his activities during the Second World War he would no longer be allowed to conduct in the Netherlands From 1921 to 1930 he was one of the conductors of the New York Philharmonic Orchestra

Menger, Karl (karl' mĕng'ur), 1840–1921, Austrian economist, a founder of the Austrian school of economics He was professor of economics at the Univ of Vienna from 1873 until 1903, when he retired to devote himself to research Following an empirical approach rather than the historical method, he formulated a theory of marginal utility The basic principle is that consumer goods have value of two orders, as they serve human needs directly or indirectly, thus he explained the economic phenomena of price and distribution in terms of social value His theories are well known to the English-speaking world through the works of some of his associates, especially Friedrich von Wieser and Eugen von Böhm-Bawerk His chief work is *Grundsätze der Volkswirtschaftslehre* [foundations of political economy] (1871)

Mengs, Anton Raphael (an'tōn rä'faĕl mĕngs'), 1728–79, German historical and portrait painter, b Bohemia He was the pupil of his father, Ismael Israel Mengs (c 1688–1764), a miniature painter, who lived in Dresden and with whom Anton went (1741) to Rome The younger Mengs was appointed (1749) court painter at Dresden to King Augustus III of Poland and Saxony In 1754 he became director of the Vatican Art Academy Summoned (1761) to Madrid to decorate the royal palace, he painted there some of his best work, including *The Apotheosis of Trajan* His portrait of Maria Amalia, queen of Spain, is in the Metropolitan Museum

Meng-tse see Mencius

Mengtsz or **Meng-tzu** (both mŭng'dzŭ'), city and county (pop 98,538), SE Yünnan prov , China The city is on the railroad from Kunming to Haiphong Tin is manufactured

menhaden (mĕnhā'dun) [Narragansett, =fertilizing], fish related to the shad and herring, found from Nova Scotia to Brazil Highly prolific, it is one of the most abundant fish on the Atlantic coast of the United States, although destroyed in vast numbers by bluefish and other aquatic predators An excellent oil is extracted from it, and a meal for poultry and a fertilizer ingredient are made from the residue Most of the large annual catch is used for these products The numerous common names include pogy and mossbunker

menhir (mĕn'hĭr'), [Breton, =long stone], unhewn stone or boulder found standing upright. Serving as a monument in prehistoric times, such a monolith was set on end near or at a grave Its shape is rough and squared, tapering toward the top The size varies, large and small stones are found in a pattern such as the cromlech (stone circle), where a large menhir is surrounded by smaller stones From this, lines of small menhirs form a series of alleys called alignments In France long rows of menhirs are found at Carnac. A huge circle of standing stones is the famous Stonehenge of England, portions of which consist of a variety of menhirs.

Ménière, Prosper (prôspĕr' mänyĕr'), 1799–1862, French physician. A noted otologist, he first described **Ménière's disease** of the inner ear, which

is accompanied by vertigo and often by progressive deafness.

Menin (mūnē′), Flemish *Meenen* (mā′nŭn), city (pop. 21,464), West Flanders, W Belgium, on the Lys river and on the French border It has a linen textile industry It several times changed hands during the bitter fighting between Germans and English in the Ypres sector in the First World War.

meningitis (mĕnĭnjī′tĭs) or **cerebrospinal meningitis** (sĕ″rŭbrōspī′nŭl), inflammation of the meninges (membranes) of the brain and spinal cord. The meninges are subject to infection by various organisms, e g , pneumococcus, streptococcus, meningococcus, and the bacillus of tuberculosis. An epidemic type of meningitis is caused by an organism (*Neisseria intracellularis*) which enters through the respiratory tract The disease usually occurs in children and young people Symptoms are violent headache, vomiting, fever, stiff neck, and sometimes convulsions Later a rash may appear Early use of a specific serum and of the sulfa drugs has reduced the mortality rate Meningitis is sometimes followed by hydrocephalus or by paralysis.

Ménippée, Satyre see SATYRE MÉNIPPÉE

Menken, Adah Isaacs, 1835–68, American actress, whose real name was Dolores Adios Fuertes She was born near New Orleans, probably of a Jewish family She made her first appearance as a dancer there In the title role of *Mazeppa* (first presented in San Francisco, 1863), adapted from Byron's poem, she created a sensation in New York and London for her daring unconventionality Several times married, the friend of such different literary celebrities as Dumas père and Longfellow, she never permitted her legend to pale She died under 40 in poverty She dedicated a volume of verse, *Infelicia* (1868), to Dickens See Allen Lesser, *Enchanting Rebel* (1947)

Menkure (mĕnkōō′rā) or **Mycerinus** (mīsurī′nŭs), fl 2800? B C , successor of Khafre in the IV dynasty of ancient EGYPT and builder of the third pyramid at Gizeh His reign began the decline of the IV dynasty

Menlo Park 1 Residential city (1940 pop 3,258, 1946 special census pop 7,180), W Calif , 8 of San Francisco and near Palo Alto, inc 1874 St Patrick's Seminary and a junior college are here 2 Village, NE N J , NE of New Brunswick Edison's workshops were here from 1876 to 1887 A 131-foot memorial tower was dedicated in 1938

Menninger, Karl Augustus (mĕ′nĭng-ŭr), 1893–, and **William Claire Menninger**, 1899–, American psychiatrists, brothers, b Topeka, Kansas Karl was graduated from Harvard (M D , 1917), and William from Cornell (M D , 1924) The Menninger Clinic, conceived with the idea of collecting many specialists in one place, was founded in Topeka in 1920 by Karl and his father, Charles, and in 1926 they were joined by William The Menninger Foundation, for the purpose of research, training, and public education in psychiatry, came into existence in 1941 and has since become a psychiatric center of the United States Karl Menninger, whose writings include *The Human Mind* (1930) and *Man against Himself* (1938), was instrumental in founding the Winter Veterans' Administration Hospital at the close of the Second World War This institution functioned not only as a mental hospital but as the center of the largest psychiatric training program in the world William Menninger's works include *Psychiatry in a Troubled World* (1948) and, with Munro Leaf, *You and Psychiatry* (1948)

Mennonites (mĕ′nŭnīts), sect of Protestant Christians, originating among the ANABAPTISTS in Switzerland and for a time called Swiss Brethren They derive their name from MENNO SIMONS, a Dutch reformer In Zurich a congregation formed by Conrad Grebel and others separated (1523–25) from the state church because they believed such a church unauthorized by Scripture and because they rejected the practice of baptizing infants They believed in nonresistance and refused to take oaths Taking the Bible as their sole rule of faith and purposing to restore the Christianity of apostolic times, they retained only two sacraments, baptism (for adult believers only) and the Lord's Supper Persecution drove many of the brethren to Germany, where new congregations were formed The movement spread also to the Netherlands, where it assumed importance, and to France and Russia The Dordrecht Confession of Faith, embodying the distinctive features of Mennonite belief, was issued (1632) in Holland Mennonites are numerous in the United States, where mainly they have settled in Pennsylvania, Ohio, and the Middle West. Many of them are occupied in farming, at which they excel The first permanent Mennonite settlement in America was made (1683) at Germantown, Pa , by a group from Krefeld, Germany Mennonites from Switzerland, Russia, and other parts of Europe increased the numbers in America While each congregation is at liberty to decide independently on its form of worship and other matters, all Mennonites agree on certain points—baptism of believers only, the necessity of regeneration, refusal to bear arms and to take oaths, and the importance of rejecting worldly concerns They preserve simplicity of dress and habits and disapprove of marriage with one outside their faith In celebrating the Lord's Supper, some branches include the rite of foot washing Differences of opinion on matters of discipline and performance have resulted in division into a number of branches The Mennonite Church, whose members are sometimes known as Old Mennonites, is the original body in the United States and has the largest membership It carries on missionary and other kinds of organized Christian work and publishes denominational literature in both English and German. The General Conference of the Mennonite Church of North America (1860), next largest body, may be listed among the liberal branches of the sect, together with the Central Conference Mennonites (1899) One of the most conservative divisions is the Amish Church, which, under the lead of Jacob Amman, broke away from the main body in Europe The principal Amish groups in the United States are the Old Order Amish, who do not use churches but worship in homes and conduct their services in German, and the Conservative Amish, who abide by the Dordrecht Confession of Faith but hold services in English as well as German and accept such innovations as the Sunday school The terms "House Amish" and "Church Amish" are sometimes used to distinguish the branches. Another conservative body is the Reformed or Herrite branch, established (1812) under the leadership of John Herr The Church of God in Christ (1859), the Old Order Mennonites, formed in 1870 under Jacob Wisler, and the Mennonite Brethren in Christ (1883) are among the other branches Many Mennonites are to be found in Canada Recently a number of American, Canadian, and European Mennonites have moved to colonies in Paraguay, South America See C Henry Smith, *The Story of the Mennonites* (1941), John Horsch, *Mennonites in Europe* (1942), C S Rice and J B Shenk, *Meet the Amish* (1947)

Menno Simons (mĕ′nō sē′mōnz), 1496?–1561, Dutch religious reformer The name of the MENNONITES was derived from his name In 1524 he became a priest of the Roman Catholic Church, but in 1536 he left that communion, when he could no longer believe in infant baptism and other teachings His test of the true Christian was regeneration He was active in Holland and Germany as an organizer and leader of the less aggressive division of Anabaptists His writings and sermons were published as *Opera omnia theologica* (1681)

Menocal, Mario García (märē′ō gärsē′ä mänōkäl′), 1866–1941, president of Cuba (1913–21) He was educated as an engineer at Cornell Univ An able leader in the fight for liberation from Spain, he later became a Conservative politician As president he initiated a "businessman" government that was widely criticized as corrupt and tyrannical The boom of Cuban sugar known as the "dance of the millions" rose in Menocal's time His victory in the election of 1916 was challenged by the Liberals, and José Miguel GÓMEZ led a revolt, Menocal was, however, able to avoid defeat and turned affairs into international channels by taking Cuba into the First World War on the side of the United States In 1920 he backed Alfredo ZAYAS, and in 1924 he lost to Gerardo MACHADO Taking part in the 1931 revolution led to exile in the United States After Machado's fall he returned to Cuba and to politics

Menominee (mənŏm′ənē), city (pop 10,230), co seat of Menominee co , W Upper Peninsula, N Mich , on Green Bay at the mouth of the Menominee, settled c 1840, inc 1883 A bridge connects with Marinette, Wis Fur trading and lumbering brought early development The city is an important port, a haven for a commercial fishing fleet, and the industrial center for an area producing lumber, sugar beets, and dairy products Summer sports draw scores of visitors

Menominee, river, c 118 mi long, formed by the union of the Brule and the Michigamme (or Michigamie) above Iron Mountain, W Upper Peninsula, N Mich , and flowing SSE into Green Bay at Menominee. It courses through an iron-ore region and forms part of the Wisconsin-Michigan line Once used for lumbering, it now furnishes water power

Menominee Indians, North American Indian tribe of the Algonquian linguistic stock They are also called the Menomini They were a sedentary people of the Eastern Woodlands area who chiefly subsisted on the gathering of wild rice, the Algonquian name for wild rice is *manomin* In c 1634, when they were visited by Jean Nicolet, the Menominee lived at the mouth of the Menominee river in Wisconsin and Michigan In 1671 and from then until 1854 they inhabited settlements which extended from the Menominee river S to the Fox river and bordered the western shore of Green Bay Although some of the Menominee supported the British in the American Revolution and the War of 1812, they were generally peaceful towards the whites The Menominee were, however, the bitter enemies of the neighboring Algonquian tribes, who waged constant warfare to drive the Menominee out of the rich wild-rice area. In 1854 the Menominee were settled on a reservation (Menominee Reservation) on the Wolf river, in N central Wisconsin In the 19th cent the Menominee numbered some 1,600 but today number 2,500 See Alanson Skinner, *The Material Culture of the Menomini* (1921); Felix Keesing, *The Menomini Indians of Wisconsin* (1939)

Menomonee Falls (mənŏm′ənē), village (pop. 1,469), SE Wis , NW of Milwaukee and on the Menomonee, settled 1843, inc 1892

Menomonie (munŏm′ənē), city (pop 6,582), co seat of Dunn co , W Wis , NW of Eau Claire and on the Red Cedar, platted 1859, inc 1882 Once a lumber town, it is now a farm trade center and makes dairy products It is the seat of Stout Institute (coeducational, 1903), which trains teachers in home economics and industrial education

menopause (mĕ′nŭpôz) or **climacteric** (klīmăk′tərĭk, klī″măktĕ′rĭk), the normal cessation of menstruation, also called change of life. Menopause is caused by a slowing down of the activities of the ovaries and occurs most frequently between 40 and 50 years of age The change is gradual, with shorter or less frequent menstrual periods for a varying number of years before menstruation ceases In many individuals a number of disturbances occur during the change, e g , hot flashes, profuse perspiration, vertigo, headache, and sometimes hypertension and arthritis Some disturbances accompanying the menopause are relieved by estrogenic hormones, administered either by mouth, by injection, or by means of suppositories Any bleeding or bloody discharge between menstrual periods is not caused by the menopause and requires early examination and diagnosis Recently it has been generally recognized that there is a psychological change in men which corresponds to the climacteric in women and which has some physical manifestations

Menorca, Spain see MINORCA

Menotti, Gian-Carlo (jän′-kär′lō mänôt′tē), 1911–, Italian-American composer, b Italy, studied at the Milan Conservatory and at the Curtis Institute of Music, Philadelphia His outstanding works are the operas *Amelia Goes to the Ball* (Philadelphia, 1937), *The Old Maid and the Thief* (1939), commissioned by the National Broadcasting Company, *The Medium* (1946), and *The Telephone* (1947). All of these except *The Medium*, a melodrama, follow the tradition of Italian *opera buffa* and are tuneful, witty, and mildly satirical His tragic musical drama *The Consul* (1950) is his first successful full-length work He is his own librettist

Menpes, Mortimer (mĕm′pĭs), 1859–1938, English painter, etcher, draughtsman, and writer, b Australia, chiefly self-taught in art He served as artist for the periodical *Black and White* in the South African War, painted in many lands, and held exhibitions in London He revived the art of printing in color from etched plates Menpes wrote and illustrated books on Japan (1901), Venice (1904), Brittany (1905), and India (1905) He was the founder of the Menpes Press

Menshevism. see BOLSHEVISM AND MENSHEVISM

Menshikov, Aleksandr Danilovich (ŭlyĭksän′dŭr dŭnyē′lŭvĭch mĕn′shĭkŏf), 1672–1729, Russian field marshal and statesman Of lowly origin, he became an intimate companion of the orgies of PETER I (Peter the Great), and after the death (1699) of François Lefort he was the emperor's chief adviser Despite his vices and rapacity he proved an able military commander, and he energetically carried out Peter's reforms He was successively governor of Schlüsselburg, St Petersburg, and Estonia and was created a prince Peter, while cherishing him, frequently punished him by heavy fines to relieve him of some of his ill-gotten gains Empress CATHERINE I was Menshikov's mistress before Peter took her from his house Menshikov helped to raise her to the throne on Peter's death and was the real ruler of Russia during her reign His administration was efficient but highhanded, and his enemies were legion Shortly after the accession (1727) of Peter II, he was brusquely dismissed and exiled to Siberia, where he died Several of his descendants held high posts in the empire

menstruation, the flow of blood from the uterus or womb, occurring in women from puberty to the menopause usually in cycles of 28 days. This periodic occurrence is associated with the release of an ovum from the ovary and is controlled by the hormonal activities of certain endocrine glands (the ovaries and pituitary, adrenal, and thyroid glands) The menstrual cycle begins with a flow of blood which usually ceases after four or five days Between the 5th and 14th day of the cycle, a replacement of the glandular tissue lining the uterus occurs by a rapid proliferation of the remaining cells. Between the 13th and 18th day, an ovum is released from the ovary During the following 10 days, a swelling of the cells lining the uterus occurs, and the egg, having reached the uterus during this period, is discharged with the flow of blood and of sloughed cells from the uterine lining If conception takes place, the cycle of menstruation usually ceases for the duration of the pregnancy.

mental age: see INTELLIGENCE.

mental diseases: see MANIC-DEPRESSIVE PSYCHOSIS; NEUROSIS, PARANOIA; PSYCHIATRY, PSYCHOSIS, SCHIZOPHRENIA.

mental hygiene, the science of promoting mental health and preventing mental disease through the application of psychiatry and psychology Throughout the 19th cent there were periodic waves of interest in the problems of the insane, generally stimulated by the crusading zeal of such reformers as Dorothea L DIX In reaction to public ignorance of the facts of insanity, as well as to callousness in official quarters, the National Association for the Protection of the Insane and the Prevention of Insanity was formed in 1880. While this organization performed great service in the area of public enlightenment, it could not survive the internal dissensions which caused its dissolution in 1886 It was not until 1908 that the mental hygiene movement as such took root This came about as a direct result of public reaction to Clifford W Beers's autobiography, *A Mind That Found Itself,* which described his experiences in institutions for the insane That year the Connecticut Society for Mental Hygiene was organized, to be followed in 1909 by the National Committee for Mental Hygiene The movement found early supporters in Adolf Meyer (who suggested the term "mental hygiene"), William James, Henry Phipps, T W Salmon, and F E Williams It was spread throughout the United States by organization of state societies and expanded to other countries An International Committee was formed in 1930 during the first international congress, the second congress met in 1937. In the United States the mental hygiene movement, either directly through the national committee or state societies or in cooperation with other agencies, has accomplished, among many other advances, wide reforms in institutional care, the establishment of child-guidance clinics, and public education concerning mental hygiene The First World War gave impetus to the mental hygiene movement by underlining the great need for a positive mental health program The national committee has since 1917 been issuing a quarterly journal, *Mental Hygiene,* as well as other publications designed to increase public information See W A White, *20th Century Psychiatry* (1936), *One Hundred Years of American Psychiatry* (1944)

mental tests, standardized tests for measuring psychological traits or for studying some specialized aspect of ability Psychologists and vocational advisers have become increasingly interested in evaluating mental factors other than those investigated in INTELLIGENCE TESTS Schools have made greater use of educational aptitude and achievement tests that enable them to compare ability with actual accomplishment, while administrators in business use tests for such things as special talents, interests, and motor skills to learn the potential capacities of a future employee With the development of psychoanalysis a number of so-called projective tests have come into extensive use They are based on the theory that individuals tend to project their own unconscious attitudes into ambiguous situations The most widely used of these tests is that of the Swiss psychiatrist, Hermann Rorschach, who used 10 standardized inkblots and had the patient tell what he saw The interpretation is based on whether the whole blot or details are described, the reaction to color, how much movement is seen, and a great many other factors The Thematic Apperception Test, developed by Henry A Murray, uses a standard series of pictures about which short stories must be told Each story is carefully analyzed to uncover underlying needs, attitudes, and patterns of reaction A Hungarian psychiatrist, Lipot Szondi, introduced a test designed to bring forth the hidden dynamic processes in the human personality, using photographs of 48 mentally disturbed or sexually perverted people from which a given number of those liked and those disliked must be chosen Among other commonly used projective tests are the word-association test, made famous by C G Jung, used to uncover complexes, and the finger painting and the draw-a-man tests See G K Bell, *Projective Techniques* (1948), F L Goodenough, *Mental Testing* (1949), Susan Deri, *The Szondi Test* (1949)

Mentana (mäntä'nä), village, Latium, central Italy, 13 mi NE of Rome. Here in 1867 GARIBALDI was defeated by French and papal troops

Menteith (mĕntēth'), small lake, 1¼ mi long and 1 mi wide, Perthshire, Scotland, NW of Stirling in Menteith valley. Mary Queen of Scots, as a child, was sent to Inchmahome, one of the three islands, in 1547 The same isle has remains of an Augustinian priory founded in 1238, and on another are ruins of a castle of the earls of Menteith

menthol (mĕn'thôl), soft, white crystalline solid, with a characteristic odor It is the chief constituent of oil of peppermint An alcohol, it is a compound of carbon, hydrogen, and the hydroxyl (OH) group It melts at 42° to 45°C and boils at 215°C. It is freely soluble in alcohol, ether, chloroform, and other organic solvents In medicine it is used chiefly to relieve the pains of neuralgia and to alleviate irritations of the mucous membrane and skin. It can be prepared synthetically.

Menton (mätôⁿ'), Ital. *Mentone,* town (pop 11,079), Alpes-Maritimes dept, SE France, on the Italian frontier opposite Ventimiglia It is a favorite resort on the RIVIERA Menton, till then a part of the principality of Monaco, was seized by Sardinia in 1848 and ceded to France, after a plebiscite, in 1860. It was damaged in the Second World War.

Mentor (mĕn'tûr, -tôr"), in Greek mythology, friend of Odysseus and tutor of Telemachus On several occasions in the *Odyssey,* Athena assumes Mentor's form to give advice to Telemachus or Odysseus. His name is proverbial for a faithful and wise adviser

Mentor, village (pop 1,827), NE Ohio, near Lake Erie NE of Cleveland, founded 1799 Garfield was living here when he was elected President.

Menuhin, Yehudi (yühōō'dē mĕn'ŭhĭn), 1916–, American violinist, b New York city, of Russian parents He made his debut with the San Francisco Symphony Orchestra at the age of seven and afterward studied in Europe with Adolph Busch and Georges Enesco In the season of 1934–35 he made his first world tour After nearly two years of retirement he appeared again in 1937, a mature artist, in the first rank of violinists He has often appeared in recital with his sister Hephzibah, an accomplished pianist See Donald Brook, *Violinists of Today* (1948)

Menzaleh or **Menzala** (both mĕnzä'lē), lagoon, area 620 sq mi, Egypt, partly separated from the Mediterranean Sea by the narrow peninsula on which Port Said is situated The lagoon is the northernmost section of the Suez Canal

Menzel, Adolph Friedrich Erdmann von (ä'dôlf frē'drĭkh ĕrt'man fŭn mĕn'tsul), 1815–1905, German painter and illustrator His lithographic illustrations for Goethe's *Künstlers Erdenwallen* attracted early attention His 400 designs for wood blocks illustrating Kugler's *History of Frederick the Great* established his reputation and gave a stimulus to German wood engraving These were followed by notable illustrations for the works of Frederick the Great Self-taught, Menzel ranks as an outstanding German painter While best known for his historical paintings such as *Round Table of Frederick II* and *Departure of the King from the Seat of War,* Menzel also painted excellent and realistic pictures of daily life

Menzies, Robert Gordon (mĕn'zēz), 1894–, Australian statesman A wealthy barrister, Menzies was elected as a Conservative to the Australian House of Representatives in 1934 and was attorney general (1935–39) in Joseph A Lyons's government Upon Lyons's death Menzies succeeded as leader of the United Australia party (later the Liberal party) and as prime minister (1939) In 1941 he was forced out of the premiership, which he had held by a narrow majority He led the opposition in the House from 1943 until late in 1949, when the Liberal–Country party coalition defeated the Labour government at the polls and Menzies, as leader of the Liberal party, again became prime minister

Meonenim (mēō'nēnĭm), unidentified location adjacent to Shechem Judges 9 37

Meonothai (mēō'nōthī, mēfā'ăth), unlocated city, E of the Dead Sea Joshua 13 18, 21 37, 1 Chron 6 79, Jer 48 21

Mephibosheth (mĕ"fĭbō'-, mēfĭ'bŏ-) **1** Jonathan's lame son to whom David restored Saul's lands 2 Sam 4 4, 9, 16 1,4, 19 24 Merib-baal 1 Chron 8 34, 9 40 For the relation between the names of this man, see BAAL **2** Son of Saul 2 Sam 21 8

Mephistopheles (mĕfĭstŏf'ŭlēz), in the German FAUST legend, the personification of the devil, to whom Faust sells his soul He appears in versions by Goethe, Marlowe, Gounod, Berlioz, and Boito

Merab (mē'-) [Heb ,=increase], daughter of Saul 1 Sam 18 17–19 She is referred to (by a textual error, no doubt) as Michal at 2 Sam 21 8

Meraiah (mĕ"rā'ŭ), one of the priestly family of Seraiah Neh 12 12

Meraioth (mĕrā'yŏth) [Heb.,=rebellious] **1** Descendant of Aaron 1 Chron 6 7,52, Ezra 7 3 **2** Priest 1 Chron 9 11, Neh 11 11. **3** See MERE-MOTH 3

Meramec (mĕr'umĕk), river rising in S central Missouri, E of Salem, and flowing 207 mi N, NE, and SE to the Mississippi c 20 mi below St Louis. It affords fishing, boating, and swimming

Merano (mära'nō), Ger *Meran* (märan'), city (pop 22,575), Trentino-Alto Adige, N Italy, beautifully situated in the Alps of S Tyrol Its site and mild climate have made it a popular resort Excellent grapes are grown here

Merari (mĕ'rărī, mĕrā'rī) [Heb ,=bitterness], ancestor of a division of the Levites. Gen 46 11, Num 26 57

mercantilism (mûr'kuntĭlĭzĭm), economic policy that superseded the medieval feudal organization in Western Europe, especially Holland, France, and England. The period 1500–1800 was one of religious and commercial wars, and large revenues were needed to maintain armies and pay the growing costs of civil government. Mercantilist nations were impressed by the fact that the precious metals (bullion) were in universal demand as the ready means of obtaining other commodities; hence they tended to identify money with wealth Since foreign trade was the means of acquiring bullion, foreign trade was favored above domestic trade, and manufacturing or processing, which provided the goods for foreign trade, was favored at the expense of agriculture and other extractive industries. Manufacturing in turn promoted the growth of population, an asset in war. State action, an essential feature of the mercantile system, was used to accomplish its purposes Under a mercantilist policy a nation sought to sell more than it bought and so to accumulate bullion The imports desired, besides bullion, were raw materials, and duties upon imports were levied to provide revenue for the government The state exercised its control over the economic life in part directly but chiefly through corporations and trading companies Production was carefully regulated with the object of securing goods of good quality and low cost, thus enabling the nation to hold its place in foreign markets Treaties were made to obtain exclusive trading privileges, and the commerce of colonies was exploited for the benefit of the mother country In England mercantilist policies were effective in creating a skilled industrial population and a large shipping industry Through a series of NAVIGATION ACTS it finally destroyed the commerce of Holland, its chief rival Mercantilist ideas were a force in history after 1500 and did not decline before the coming of the INDUSTRIAL REVOLUTION and of laissez-faire ideas Henry VIII, Elizabeth, and Oliver Cromwell conformed their policies to mercantilism In France its chief exponent was Jean Baptiste COLBERT See J W Horrocks *A Short History of Mercantilism* (1924), P W Buck, *The Politics of Mercantilism* (1942)

Mercator, Gerardus (jurär'dŭs mûrkā'tur, mur-), Latin form of his real name, **Gerhard Kremer** (gā'rart krā'mur), 1512–94, Flemish geographer, mathematician, and cartographer He studied in Louvain, where he had a geographical establishment (1534) From 1537 to 1540 he surveyed and mapped Flanders, in 1538 he produced his first map of the world (based on Ptolemy's map), in 1541 he made a terrestrial, and in 1551 a celestial, globe He was appointed (1552) to the chair of cosmography in Duisburg, where he subsequently lived and worked In 1554 he made a six-sheet map of Europe In 1569 appeared his first map using the PROJECTION which has since borne his name and has been more generally used than any other projection for navigators' maps of the world In 1585 Mercator began a great atlas, including many of his earlier maps, this atlas was completed by his son and published in 1594 Mercator did cartographical work for Charles V and was cosmographer to the duke of Julich and Cleves He wrote several books, mainly on the science and mathematics of geography and cartography and on ancient geography

Merced (mûrsĕd'), city (pop 10,135), co seat of Merced co, central Calif, NW of Fresno, founded 1870, inc 1889 It is a tourist and farming center in the Turlock irrigation district of the San Joaquin Valley, with plants for packing and processing fruit Yosemite National Park is northeast

Mercedes (mûrsā'dēs), city (1940 pop 7,624, 1947 estimated pop 10,000), extreme S Texas, WNW of Brownsville, founded 1907, inc 1909 It is a busy packing and processing center for the citrus fruits and vegetables of the irrigated lower Rio Grande valley, with some meat packing and small factories

Mercedes (mĕrsā'dhēs), city (1941 estimated pop 30,000), SW Uruguay Founded in 1781, Mercedes is today an agricultural and livestock center E of Fray Bentos, its port It is an attractive, modern, and popular health resort

Mercer, Henry Chapman, 1856–1930, archaeologist and anthropologist, b Doylestown, Pa, grad Harvard, 1879 He was curator (1894–97) of American and prehistoric archaeology at the Univ of Pennsylvania He is noted for his studies of the archaeology of Yucatan and of the Delaware valley He made a unique collection of the tools and utensils of American colonists and in 1916 built and endowed a museum at Doylestown, Pa, to house it. His writings include works on archaeology, *Ancient Carpenters' Tools* (1929), and *The Bible in Iron* (1914, revised by H M Mann, 1941).

Mercer, Hugh, c 1725–1777, American Revolutionary general, b Aberdeen, Scotland, studied medicine at the Univ of Aberdeen He was a surgeon in the forces of Charles Edward Stuart (the Young Pretender) and after the defeat at Culloden (1747) immigrated to America In the French and Indian War, Mercer served with Edward Braddock (1755) and John Forbes (1758) in their expeditions against Fort Duquesne At the start of the American Revolution, he helped organize the Virginia militia Mercer fought at Trenton (1776) and was mortally wounded at Princeton (Jan. 3, 1777) See biography by J. T Goolick (1906), J. M. Waterman, *With Sword and Lancet* (1941).

Mercer, John, 1791–1866, English chemist His work in his father's small cotton mill led to his interest in experiments for dyeing calicoes and, from

this, to a serious study of chemistry He invented the process known as **mercerizing**, by which cotton (cellulose) is treated with sodium hydroxide and a hydrate is formed After being washed the cotton is dried under tension, it acquires, from the process, a high luster and greatly increased tensile strength See J T Marsh, *Mercerizing* (1941)

Mercer, borough (pop 2,272), co seat of Mercer co, NW Pa, NNW of Pittsburgh, settled 1795, laid out 1803, inc 1814 It is a farm trading center

mercerizing: see MERCER, JOHN

Mercersburg, borough (pop 1,763), S Pa, near the Md border SW of Chambersburg, settled c 1729, inc 1831 A tannery and a shirt factory are here It is the seat of Mercersburg Academy, founded in 1836 See H M J Klein, *A Century of Education at Mercersburg* (1936).

Mercer University: see MACON, Ga

merchant marine: see SHIPPING

Merchants Adventurers, English trading company, flourishing in the Low Countries and the free cities of Germany in the 16th and 17th cent The company was granted the right of self-government by the English crown, and because it brought great prosperity to the cities, such as Hamburg, Bruges, and Antwerp, where it had depots, the local rulers there granted it special privileges, practically amounting to EXTERRITORIALITY Rivalry between the Merchants Adventurers and the HANSEATIC LEAGUE for the Netherlands cloth market was keen The company, by a judicious loan, managed to secure the backing of the English government, and in 1560 a treaty was signed which gave the Merchants Adventurers a monopoly for exporting cloth to the Netherlands and W Germany The organization was finally dissolved during the Napoleonic Wars The Merchants Adventurers derived from the GUILD system and was a forerunner of the great CHARTERED COMPANIES It developed the trading abilities of the English and instructed them in mercantile self-government

Merchantville, borough (pop 3,679), SW N J, E of, and near, Camden, settled 1852, inc 1874

Mercia, kingdom of (mûr'shiu), in Anglo-Saxon England, consisting generally of the region of the Midlands It was settled by Angles c 500 probably first along the Trent valley, but its early history is obscure Apparently Æthelbert of Kent was accepted as its overking in the late 6th cent PENDA of Mercia extended his power over Wessex (645) and East Anglia (650) to gain overlordship of England S of the Humber Although he had twice defeated the kings of NORTHUMBRIA (633, 642), he was killed in an effort to conquer this kingdom in 655 After a three-year loss of ascendancy during which Mercia was converted to Christianity by a Northumbrian mission, Wulfhere reestablished a Greater Mercia between the Thames and the Humber, which finally under Æthelbald in the 8th cent extended over all S England This hegemony was strengthened by OFFA (reigned 757–96), who controlled East Anglia, Kent, Essex, and Sussex and maintained superiority at least over Wessex and Northumbria He had the great Offa's Dyke built to protect W Mercia from the Welsh After his death, Mercian power gradually gave way before that of Wessex In 825 and 829 the victories of Egbert of Wessex in Mercia established him briefly as overlord In 874 Mercia weakly succumbed to the invading Danish army, and ultimately the eastern part became a portion of the DANELAW (886), while the western portion was controlled by Alfred of Wessex Thereafter Mercia has no independent history of its own, although it had one more distinguished ruler in ÆTHELFLÆD, Lady of the Mercians

Mercié, Marius Jean Antonin (maryüs' zhä' ätônĕ' mĕrsyä'), 1845–1916, French sculptor Among his works are a bronze *David* (Luxembourg Mus, Paris), *Gloria Victis* (courtyard of the Hôtel de Ville, Paris), *Quand Même* (Belfort, replica in the garden of the Tuileries, Paris), *William Tell* (Lausanne), *Jeanne d'Arc* (Domrémy and Rouen), the *Tomb of Louis Philippe and His Queen* (Dreux), and the equestrian statue of Robert E Lee (Richmond, Va)

Mercier, Désiré Joseph (dāsērā' zhōzĕf' mârsĕā'), 1851–1926, Belgian churchman, cardinal of the Roman Church He was ordained priest in 1874 and eight years later became professor of philosophy at the Univ of Louvain, where, under the auspices of Pope Leo XIII, he organized an institute for the study of the teachings of Thomas Aquinas. He became a foremost leader in the 20th-century revival of interest in Thomistic scholasticism and in its integration with modern developments He was made archbishop of Malines (1906) and cardinal (1907) Cardinal Mercier worked to secure greater cooperation between the Catholic clergy and the laity and to promote social well-being In the First World War, when the king was separated from his people and the burgomaster of Brussels had been deported, Cardinal Mercier became spokesman of the Belgians. His opposition to German encroachment was fearless, and his pastoral letters served to sustain the independent spirit of the country See the autobiographical *Cardinal Mercier's Own Story* (1920), biographies by Henry Louis Dubly (1928) and John A Gade (1934)

Mercier, Honoré (ônôrā' mĕrsyā'), 1840–94, Canadian political leader, b Quebec prov, educated at the Jesuits' College, Montreal For several years he edited a French liberal paper; in 1866 he became a lawyer Opposing confederation on the grounds that unification of the Canadian provinces would imperil the influence of the French element, Mercier was a founder of the *Parti national* He entered the Canadian House of Commons in 1872 and became (1883) leader of the Liberal party of Quebec. Nationalist excitement over the execution of Louis Riel enabled Mercier to form a coalition and to become premier of Quebec in 1887 His laws indemnifying the Jesuits for lands earlier confiscated by the government aroused much opposition After four years as prime minister, he was dismissed by the lieutenant governor for alleged malversation of public funds His son, **Honoré Mercier**, 1875–1937, was also a lawyer and a politician in Quebec He served for 31 years (1907–36) in the provincial legislative assembly He was minister of colonization, mines, and fisheries (1914–19) and minister of lands and forests (1919–36)

Merck, Johann Heinrich (yō'hän hīn'rĭkh mĕrk'), 1741–91, German critic He was the counselor of many young writers, including Herder and Goethe, whose genius he was first to recognize He may have been the inspiration for Goethe's Mephistopheles

Mercury: see HERMES

Mercury, *in astronomy*, the planet revolving in an orbit nearest the sun Mercury and Venus are called the inferior planets, because their orbits lie between that of the earth and the sun In the course of its revolution each of them passes through phases similar to those of the moon, except that their diameters seem to vary as the distance between them and the earth increases or diminishes Mercury's greatest distance from the earth is more than twice its least distance Its mean distance from the sun is c 35,960 000 mi, and the eccentricity of its orbit is 0 206 The period required for a revolution is 88 days The mass of the planet is estimated to be about one twenty-seventh, and its density about three fifths, that of the earth Mercury is never more than 28° from the sun, and therefore conditions for observation are unfavorable The planet is never visible long after sunset or long before sunrise, and the haze of the earth's atmosphere interferes with examination of an object so near the horizon Mercury has, therefore, been observed frequently in full daylight Astronomers long sought a means of determining the period of rotation on its axis Schiaparelli, in Italy, c 1880, arrived at the conclusion that this period is identical with that of the planet's revolution in its orbit and that the same side is permanently turned towards the sun Observations of Percival Lowell at Flagstaff, Ariz, and of E M Antoniadi in France (1927) support this view The planet is believed to have no atmosphere, and its surface has been described as rough and mountainous The side on which the sunlight falls is believed to have a temperature of more than 600°F, while the dark side probably approaches absolute zero in temperature The planet has no satellite Transits of Mercury across the sun's disk can be observed when conjunction occurs near one of the nodes of the planet's orbit This falls either in May or in November The November transits occur usually at intervals of from 7 to 13 years, and the May transits from 13 to 46 years They are of great value to scientists as a means of determining the positions and distances of heavenly bodies

mercury or **quicksilver**, silvery, liquid metallic element, the only metal existing as a liquid at ordinary temperatures (symbol=Hg [Latin *hydroargyrus*], for physical constants, see ELEMENT, table) Mercury forms two groups of compounds, mercurous and mercuric compounds Being below hydrogen in the replacement series, the element does not replace hydrogen in dilute acids except in the case of dilute nitric acid, when it forms mercurous nitrates With concentrated nitric acid it forms mercuric nitrates, and with hot concentrated sulphuric acid, mercuric sulphate With oxygen it forms both mercuric oxide (a red or yellow substance, used in medicine in skin ointments) and mercurous oxide, with chlorine, mercuric chloride or CORROSIVE SUBLIMATE and mercurous chloride or CALOMEL, with iodine, mercuric iodide, sometimes used as a pigment, with sulphur and oxygen, mercuric sulphate, employed in making calomel and corrosive sublimate, with sulphur alone, a sulphide, cinnabar, the chief source of the metal, with nitrogen and oxygen, mercurous nitrate and mercuric nitrate, both of which are soluble, and with carbon, nitrogen, and oxygen, a FULMINATE The metal forms a special type of alloy with other metals, called AMALGAM. Mercury's great weight (13 59 g per c c) makes it especially suitable for use in the barometer, and its equal expansion per degree rise in temperature makes it valuable for use in the thermometer. The metal occurs free in nature, but to a very limited extent, and it is obtained almost entirely from its sulphide ore, CINNABAR. It is commonly purified for use by distillation Discovery of the element is placed in antiquity. When an electric current is passed through mercury confined in a vacuum tube, the mercury vaporizes and a greenish-blue luminescence appears There are various uses for mercury-arc lamps, e g, for sterilizing, because of the properties of the light waves (ultraviolet) emitted Since ordinary glass does not transmit ultraviolet light, the tubes are made of some substance which does, such as fused quartz

Mer de Glace (mĕr" dü gläs') [Fr, =sea of ice], glacier (3½ mi long, 16 sq mi), E France, on the northern slope of MONT BLANC It stops a few miles above Chamonix There are deep crevasses and high *seracs* [ice needles] The glacier is renowned for its majestic beauty

Mered (mē'rĕd) [Heb, =rebellion], husband of Pharaoh's daughter Bithiah 1 Chron 4 17,18

Meredith, Edwin Thomas (mĕ'rĭdĭth), 1876–1928, U S Secretary of Agriculture (1920–21), b Avoca, Iowa After 1896 he owned and edited the *Farmers' Tribune*, he founded (1902) *Successful Farming*, and he started (1922) the magazine which became *Better Homes and Gardens* An unsuccessful Democratic candidate for public office, Meredith was appointed to several government posts before he entered President Wilson's cabinet

Meredith, George, 1828–1909, English novelist and poet, b Portsmouth He went to school (1842–44) in Germany Later he supported himself by contributing to newspapers and magazines in London and was for many years reader for the publishing house of Chapman & Hall In 1849 he married Mary Ellen Nicoll, widowed daughter of Thomas Love Peacock, who left him in 1858 He remarried in 1864 Meredith's first two books, *Poems* (1851) and *The Shaving of Shagpat* (1855), attracted little notice His first success, *The Ordeal of Richard Feverel* (1859), was followed by *Evan Harrington* (1860), *Rhoda Fleming* (1865), *Beauchamp's Career* (1876), *The Egoist* (1879), *The Tragic Comedians* (1880), *Diana of the Crossways* (1885), by many considered his masterpiece, and *Lord Ormont and His Aminta* (1894) His poetic works include *Modern Love* (1862), *Poems and Lyrics of the Joy of Earth* (1883), *Ballads and Poems of Tragic Life* (1887), and *A Reading of Earth* (1888) A single critical essay, *On the Idea of Comedy and the Uses of the Comic Spirit* (1877), has become famous as an illuminating statement of the theory behind his novels Because of the brilliant unconventionality and difficulty of his writing, Meredith did not receive wide recognition until the publication of *Diana of the Crossways* See various volumes of his letters, studies by G M Trevelyan (1906), M H Gretton (1926), J B Priestley (1926), R E Sencourt (1929), Robert Peel (1931), and Siegfried Sassoon (1948)

Meredith, Owen: see BULWER-LYTTON, EDWARD ROBERT

Meredith, town (pop 2,192), central N H, inc 1768 It includes Meredith, on Lake Winnipesaukee a resort village which also has linen mills

Meredith College: see RALEIGH, N C

Meremoth (mĕ'rĭmŏth) [Heb, =heights] **1** Priest under Nehemiah Ezra 8 33 Neh 3 4 **2** Israelite who married a foreigner Ezra 10 36 **3** Sealer of the covenant Neh 10 5, 12 3 He is probably the Meraioth of Neh 12 15

Meres (mē'rēz), counselor of King Ahasuerus Esther 1 14

Merezhkovsky, Dmitri Sergeyevich (dumē'trē sĭrgā'uvĭch mărlshkôf'skē), 1865–1941, Russian poet, critic, and novelist Until c 1890 he wrote verses of social import, then turned to literary criticism to produce *Tolstoi as an Essay on Dostoevsky* (1901–2, Eng tr, 1902) in which he represented the two figures as seers, respectively, of the flesh and of the spirit His greatest work is the trilogy, *Christ and Antichrist*, which includes *The Death of the Gods* (1896, Eng trs, *Julian the Apostate*, 1899, and *The Death of the Gods*, 1901, 1929), *The Gods Reborn Leonardo da Vinci* (1902, Eng trs, *The Romance of Leonardo da Vinci*, 1902, 1928), and *Peter and Alexis* (1905, Eng trs, 1905, 1931) In this he propounded his theory of history as a struggle toward harmonization of the pagan concept of the sanctity of the flesh and the Christian idea of the sanctity of the spirit Mereshkovsky was twice forced into exile, in 1905 temporarily, because of his support of the revolution, after 1918 permanently because he opposed the Bolsheviists His greatest influence was exerted in the period before and after 1900 when, with his wife Zinaida Hippius, he actively promoted the theories embodied in his novels through the forum of the Religious-Philosophic Society, which he founded In exile he attacked bolshevism, in *The Kingdom of Antichrist* (1922, Eng tr, 1922) and other works He also studied Egyptian culture and wrote the novel *The Birth of the Gods: Tutankhamen in Crete* (1925, Eng. tr, 1925)

Mergenthaler, Ottmar (ôt'mär mĕr'gŭnta"lur), 1854–99, American inventor of the LINOTYPE. He was born in Germany, learned the watchmaker's trade, came to America in 1872, and was employed to inspect and repair clocks in the government buildings in Washington After 1876 he made his

home in Baltimore, where he perfected his linotype, first patented in 1885 and put into operation in 1886

merger (mûr'jûr), in business, a combination of organizations to increase profits or diminish losses The old organizations are continued, but under unified control. In a consolidation, unification is complete, the old units, or all but one of them, being discontinued See R N Owens, *Business Organization and Combination* (3d ed , 1946).

Merian, Maria Sibylla (mâr'ĕ'ä zĭbĭl'lä mä'rēän), 1647–1717, Swiss naturalist and painter of insects and flowers; daughter of Matthäus Merian, the elder. Her first book on insects, with plates engraved and colored by herself, was published in 1699 The same year she went to Dutch Guiana to study tropical insects, and her work on that subject appeared in 1705 Her researches in natural history combined with her excellent studies, executed for the most part in water color on vellum, gave her a high reputation The British Museum has two volumes of her drawings

Merian, Matthäus (mätĕ'ōōs), the elder, 1593–1650, Swiss engraver and draughtsman He settled in Frankfurt-am-Main (c 1623), where he practiced engraving, publishing, and print selling and produced numerous etchings of battles, hunts, and landscapes These include *Dance of Death*, illustrations for the Bible, Gottfried's *Chronik*, and the series *Theatrum Europaeum*, and the copperplate illustrations for Martin Zeiller's *Topographia* His son, **Matthäus Merian**, the younger, 1621–87, Swiss portrait and historical painter, worked in Amsterdam, England, the Netherlands, Paris, and Frankfurt-am-Main and painted the portraits of many notable persons Upon his father's death he continued the print-selling business in Frankfurt-am-Main He is represented by *Martyrdom of St. Lawrence* (cathedral, Bamberg), *Resurrection* (City Library, Basel), and a portrait of his sister, Maria Sibylla Merian (Basel)

Merihah (mĕ'rĭhä) see MASSAH

Merib-baal (mĕrĭb'-bāăl) see MEPHIBOSHETH 1.

Mérida (mä'rēdhä), city (pop 98,852), capital of YUCATAN, SE Mexico, in the northwestern part of the Yucatan peninsula It is c 22 mi S of Progreso, its port Founded (1542) by Francisco de MONTEJO, the younger, on the site of a ruined Mayan city, Mérida (alt c 25 ft) is a well-planned city, with architecture Spanish colonial in type. Since the region has no surface water supply, water is pumped up by rooftop windmills from underground wells and rivers The limited nature of the soil, in which subsistence crops of maize and beans are raised, has made Mérida almost entirely dependent commercially on the large crops of henequen (see SISAL HEMP) from the surrounding region and on tourists visiting near-by Mayan ruins, notably CHICHÉN ITZÁ and UXMAL It is a station of Pan American Airways

Mérida (mä'rēdhä), city (pop. 22,440), Badajoz prov , SW Spain, in Estremadura, on the Guadiana river. The colony Emerita Augusta, founded by the Romans in the 1st cent B C., became the capital of LUSITANIA Its Roman remains, among the most important in Spain, include a magnificent bridge, a triumphal arch, a theater with marble columns, an aqueduct, a temple, an imposing circus, and an amphitheater Mérida was later the chief city of Visigothic Lusitania It fell (713) to the Moors, under whom it prospered Conquered (1228) by Alfonso IX of Leon, it was given to the Knights of Santiago and quickly declined The Church of Santa Eulalia, begun in the 13th cent , and the ancient alcazar are notable landmarks

Meriden (mĕ'rĭdŭn), city (pop 39,494), S central Conn., SW of Hartford, settled 1661, inc 1867, coextensive with Meriden town, set off from Wallingford 1806 Its products include silverware, telephone and electrical equipment, tools, ball bearings, and machinery Silver and pewter ware were made in the 18th cent. by Samuel Yale and later by the Rogers Brothers A state tuberculosis sanatorium and a state school for delinquent boys are in Meriden.

Meridian. 1 Village (pop. 1,465), SW Idaho, W of Boise; founded 1891, inc 1902. It is a center of the BOISE PROJECT 2 City (pop. 35,481), co seat of Lauderdale co , E Miss , E of Jackson and near the Ala line, founded c.1854, inc 1860. Rail and highway focus, it is the trade, shipping, and industrial center for a farm, livestock, and lumber area and has numerous factories. In the Civil War the city was destroyed (Feb , 1864) by General Sherman A city junior college (1937) and a state mental hospital are here, and a U S agricultural experiment station is near by. 3 City (pop 1,016), co seat of Bosque co , central Texas, on the Bosque river and NW of Waco; settled 1854, inc 1886 It handles wool, pecans, and the produce of variegated farming Meridian State Park attracts vacationers.

meridian [Latin,=of midday], imaginary line drawn on the earth's surface from pole to pole, cutting the equator and all parallels at a right angle Two opposite meridians form a great circle whose plane, passing through the earth's center, bisects the globe into two hemispheres Meridians, together with parallels, constitute the earth grid by means of which directions and relative locations are easily indicated By international agreement (1884) the Greenwich meridian, passing through the Royal Observatory at Greenwich, England, was selected as zero or prime meridian, from which other meridians are measured in terms of east and west LONGITUDE up to 180° At the equator the distance between two meridians encompassing 1° longitude is c 69 mi This distance diminishes north and south of the equator (it is, for example, c 34 6 mi at 60° latitude) until it reaches zero at the poles

Merighi da Caravaggio. see CARAVAGGIO, MICHELANGELO AMERIGHI DA

Mérimée, Prosper (prôspĕr' mārēmā'), 1803–70, French novelist and historian. He first wrote a collection of plays in imitation of Spanish drama, *The Plays of Clara Gazul* (1825, Eng tr , 1825), and a collection of so-called Illyrian ballads, *La Guzla* (1827) His important historical novel, *The Chronicle of the Reign of Charles IX* (1829, Eng. trs , 1830, 1890), is marked by an objectivity and psychological penetration rare among the romanticists He was master of a concise and sober style, a painstaking student of archaeology, a linguist who translated Russian authors into French, a senator under the empire, and a cultivated man of the world His reputation is based primarily on his *nouvelles*, or long short stories, of which finished and perfect examples include *Colomba* (1840, Eng tr., 1853), *Carmen* (in *Revue des Deux Mondes*, 1845, as a book, 1846, Eng tr , 1881), which was the basis of Bizet's opera, *La Vénus d'Ille* (1837), and *Letters to an Unknown* (in *Revue des Deux Mondes*, 1873, as a book, 1874, Eng tr., 1874), his one novel written with emotion His short story, "Mateo Falcone" (1876), is one of the world's best Mérimée also wrote literary and art criticism and historical studies See biographies by G. H Johnstone Derwent (1926) and Sylvia Lyons (1948)

Merino sheep (mŭrē'nō), a breed of sheep originated in Spain, from which various types have been developed elsewhere It is highly esteemed for its fine wool Typically, the rams have horns, the ewes have none, the skin is wrinkled, the fleece is heavy and fine The Rambouillet is a variety of Merino sheep developed in France It is bred on ranges of the W United States and parts of Canada for both wool and mutton

Merionethshire (mĕrō'nŭthshĭr) or **Merioneth,** county (660 sq mi , 1931 pop 43,201, 1948 estimated pop 39,166), N Wales, on Cardigan Bay The county seat is Dolgelley The region is mountainous, rising in some peaks (Aran Mawddwy, Cader Idris) to nearly 3,000 ft The chief rivers are the Dovey, the Dee, and the Mawddach The soil is generally poor, but provides good pasturage The main wealth of the county lies in its deposits of manganese, slate, and limestone The beautiful scenery makes it a popular tourist district Merionethshire was organized as a shire by the English in the 13th cent , but the remoteness of the region made it one of the last districts in Wales to submit to English influence In 1931 more than 80 percent of the inhabitants could speak Welsh

Meriwether, Lee, 1862–, American social reformer, b Columbus, Miss He made (1885–86) a "tramp trip" across S Europe and afterward prepared a report on European labor conditions for the U S Secretary of the Interior He later lived in St Louis and was active in various reform movements He was a special agent of the Dept of State in the First World War Among his books are *A Tramp Trip* (1887), *Seeing Europe by Automobile* (1911), *War Diary of a Diplomat* (1919), and *My Yesteryears* (1942)

Meriwether Lewis National Monument see NATIONAL PARKS AND MONUMENTS (table)

Merkel (mûr'kŭl), city (pop 2,005), W central Texas, W of Abilene, in a ranch and farm area, settled c 1875, inc 1906

Merle d'Aubigné, Jean Henri (zhä' ärē' mĕrl' dōbēnyā'), 1794–1872, Swiss ecclesiastical historian and Protestant preacher After studying theology at Geneva and in Berlin, he was pastor of the French Protestant church in Hamburg for five years, then court preacher to King William at Brussels until the Revolution of 1830 separated Holland from Belgium Returning to Geneva, he helped establish the new Evangelical Church there and became distinguished as professor of church history in its theological seminary His history of the Reformation (1835–53) was translated into most of the languages of Europe and has had remarkable popularity. Merle d'Aubigné traveled in England and Scotland and wrote *Germany, England, and Scotland* (1848)

Merlin, great magician at King Arthur's court see ARTHURIAN LEGEND.

mermaids and mermen (mûr'mādz, -mĕn) [English, i e , sea-maids, -men], in folklore, women and men who live in the sea or in lakes, often represented as having fishtails instead of legs. In some versions of the legend, they may assume perfectly human shapes at will, and there are many stories of mermaids living with mortal men on earth or dragging them into the sea. Such stories are told also of mermen There are similar creatures in the folklore of most peoples (see NEREIDS).

Mermaid Tavern, in Elizabethan London, where Shakspere, Ben Jonson, Beaumont, Fletcher, and their friends often met The brilliant talk at these meetings was noted at the time and is proverbial. See Keats, "Lines on the Mermaid Tavern."

mermen see MERMAIDS AND MERMEN

Merneptah (mĕrnĕp'tä), d c.1215 B.C., king of the XIX dynasty of ancient EGYPT. He succeeded his father, RAMSES II (1225 B C.) when he was already advanced in years. He quelled a revolt in Syria and repulsed an invasion of the western delta by the Libyans. The name of Israel appears first in inscriptions in a stela of Merneptah glorying in a victory His reign was apparently the beginning of the decline, for on his death a period of palace intrigues begins SETI II was one of the kings of the group that succeeded Merneptah

Merodach (mĕ'rōdăk, mĕrō'dăk), biblical form of the name of the god Marduk of Babylon Jer. 50 2

Merodach-baladan (-bā'lŭdăn) [Assyrian,=Marduk has given a son], fl 721 B C , Chaldaean prince, who tried to usurp the Babylonian throne (721 B C.) Sargon of Assyria, son of Shalmaneser and heir to the throne, put down the allies of Merodach-baladan in Syria and Palestine (including Philistia, Judah, Moab, and Edom) and eventually drove the usurper from Babylon (c 710 B C). In 705 B C , on Sargon's death, Merodach-baladan reoccupied the throne for a short time Isa. 39, 2 Kings 20 He is also called Baladan and Berodach baladan

Meroë (mĕ'rōē), district, Anglo-Egyptian Sudan, between the Blue Nile and the Atbara The ancient city of **Meroë,** c 200 mi N of Khartoum, was successor to Napata as seat of the Nubian kings The ruins, partly excavated, include 80 pyramids

Merom, Waters of (mē'-) see BAHR EL-HULEH.

Meronothite (mĕrō'nŏthīt), obscure designation used of two men 1 Chron 27 30, Neh 3 7

Merope (mĕ'rŭpē) **1** In Greek mythology, one of the Pleiades She was the daughter of Atlas and the nymph Pleione One legend says she became the lost Pleiad after she married a mortal, Sisyphus, king of Corinth Her son was Glaucus **2** In Greek mythology, daughter of Oenopion and Helice Orion, the hunter, loved her, but, failing to gain her father's consent, he violated her Oenopion blinded him

Merovingians (mĕr"ōvĭn'jĭnz), dynasty of Frankish kings, descended, according to tradition, from Merovеus (mĕr"ōvē'ŭs), chief of the Salian FRANKS, whose son was CHILDERIC I and whose grandson was CLOVIS I, the founder of the Frankish monarchy After Clovis I's death (511), the kingdom was divided and subdivided among his descendants into the kingdoms of AUSTRASIA, Orléans, Paris, NEUSTRIA, BURGUNDY, and AQUITAINE These kingdoms, whose borders were constantly shifting, were often combined, for brief periods, they were all united in a single realm under CLOTAIRE I (558–61), CLOTAIRE II (613–c 622), and DAGOBERT I (630–33) The rule of the Merovingians before Dagobert I was disturbed by chronic warfare, notably the feud (567–613) between Queen BRUNHILDA of Austrasia and Queen FREDEGUNDE of Neustria Dagobert I was the last active ruler, his descendants, called the idle kings, were entirely subject to their mayors of the palace, the CAROLINGIANS, who became the nominal as well as the actual rulers of France when PEPIN THE SHORT deposed (751) the last Merovingian king, Childeric III See also CHILDEBERT I, THEODORIC I, GUNTRAM, CHILPERIC I, SIGEBERT I, GALSWINTHA, CHILDEBERT II See F Funck-Brentano, *Earliest Times* (Vol I of *National History of France*)

Meroz (mē'rŏz), unidentified place, denounced in the Song of Deborah Judges 5 23.

Merriam, Clinton Hart, 1855–1942, American physician and naturalist, b New York city, M D Columbia, 1879. He was chief of the U S Bureau of Biological Survey (1885–1910) and served on expeditions throughout the United States and elsewhere for many years He is the author of many works on the animals and plants of different regions of North America and on the relation of climatic and other conditions to the flora and fauna

Merriam, Harold Guy, 1883–, American educator, b Westminster, Mass , grad Univ. of Wyoming, 1905, and, as a Rhodes scholar, studied at Oxford until 1908 Thereafter he taught English at Whitman, Beloit, and Reed colleges before becoming head of the English department at Montana State Univ in 1919. Merriam was later appointed chairman of the humanities division and editor of the *Frontier*, a campus publication which he has made a notable literary magazine of the West.

Merriam, John Campbell, 1869–1945, American paleontologist, b Hopkinton, Iowa, grad Lenox College (B S , 1887) He taught at the Univ. of California (1894–1920) and was president of the Carnegie Institution (1920–38) He specialized in the vertebrate paleontology of the W United States and wrote a great number of books and monographs, chiefly on the mammals of the Cenozoic and the reptiles of the Triassic. His later works deal with the general significance of geology for human history. A noted conservationist, he was consulted by King Albert in the establishment of a preserve for gorrillas in the Belgian Congo

Merrill, city (pop 8,711), co. seat of Lincoln co., central Wis., at the confluence of the Wisconsin and Prairie rivers N of Wausau; settled c.1847, inc. 1883. Once a lumber town, it now has varied industries Grandfather Falls of the Wisconsin and Council Grounds State Forest are near by

Merrimac (mĕr'ĭmăk), town (pop 2,320), NE Mass., between the Merrimack river and the N H. line; settled 1638, set off from Amesbury 1876.

Merrimac: see MONITOR AND MERRIMAC.

Merrimack (mĕr'ĭmăk), town (pop. 1,253), S N H ; inc. 1746. It includes Merrimack village, on the Merrimack and NNW of Nashua Wood products and leather are made

Merrimack, river formed in S central New Hampshire, at Franklin, by the junction of the Pemigewasset (rising in the White Mts) and the Winnipesaukee It flows S past Concord, Manchester, and Nashua, N H , into NE Massachusetts Turning east, then northeast, it passes Lowell, Lawrence, and Haverhill, Mass , entering the Atlantic below Newburyport Its power has long been used for textile and other mills

Merriman, Henry Seton, 1862–1903, English novelist, whose real name was Hugh Stowell Scott He wrote several popular works including *With Edged Tools* (1894), *The Sowers* (1896), a powerful story of Russia before the revolution, *In Kedar's Tents* (1897), and *Roden's Corner* (1898)

Merritt, Anna Lea, 1844–1930, American figure and portrait painter and etcher, b Philadelphia. In 1877 she married Henry Merritt, her art teacher in London, and lived thereafter in England She exhibited for many years at the Royal Academy and is represented in the Chantrey Collection in the Tate Gallery, London Her works include *Piping Shepherd* (Pa Acad of the Fine Arts) and a portrait of James Russell Lowell (Memorial Hall, Harvard) She was also an etcher of note and was author of a memoir of Henry Merritt (1879) and *A Hamlet in Old Hampshire* (1902)

Merritt, Wesley, 1836–1910, American army officer, b. New York city, grad West Point, 1860 He was a cavalry officer in the Civil War and was brevetted major general In 1866 he became a lieutenant colonel in the regular army He served in Indian campaigns, as superintendent (1882–87) of West Point, and in other capacities, rising in rank until in 1895 he was made a major general As commander of the land force he cooperated with George DEWEY in the taking of Manila, and in 1898 he was military governor of the Philippines

Merritt Island, c 40 mi long and c 6 mi wide at its northern end, E Fla , near Titusville Indian River separates it from the mainland on the west, and Banana river from the Canaveral Peninsula on the east The island produces citrus fruits and is noted for birds and other wildlife

Merritton, town (pop 2,993), S Ont , on the Welland Ship Canal It is a suburb of St Catharines and has steel, paper, and pulp mills

Merry del Val, Rafael (räfäĕl' mĕ'rē dĕl väl'), 1865–1930, Spanish prelate, cardinal of the Roman Church, b London He was educated for the priesthood and ordained at Rome (1888) He was secretary of the pontifical commission which studied the validity of Anglican orders (1897) He went as apostolic delegate to Canada (1897) on the occasion of the closing of Catholic and private schools in Manitoba In 1903 Pius X created him cardinal and made him papal secretary of state, in which office he was said to have increased the bitterness between France and the Holy See Benedict XV made him archpriest of St Peter's and secretary of the Congregation of the Holy Office He was a co-worker with Cardinal Gasparri in the negotiations leading to the Lateran Treaty See Vigilio Dalpiaz, *Cardinal Merry del Val* (1937)

Merryman, ex parte (ĕks" pär'tē), case decided in 1861 by Chief Justice Roger B Taney sitting as a Federal circuit judge in Baltimore, Md John Merryman, a citizen of Maryland, was imprisoned by the U S army on suspicion of favoring the Confederacy He obtained a writ of habeas corpus This the commanding general refused to respect, alleging, instead, that President Lincoln had authorized him to suspend the writ Taney held that Article 1, Section 9, of the U S Constitution gave to Congress alone the power to suspend the writ in case of rebellion or invasion and that consequently the President's action had been without warrant and represented a threat to the liberties of all Americans. Lincoln, however, continued to adhere to the same practice throughout the Civil War.

Merry Mount: see MORTON, THOMAS

Merryville, wool-marketing town (pop. 1,216), SW La., near the Sabine river. It was once a lumber center.

Merseburg (mĕr'zŭbōōrk), city (pop. 34,106), former Prussian Saxony prov., E central Germany, on the Saale It is a lignite-mining center and produces steel, paper, cellulose, machinery, and synthetic rubber. First mentioned as a fortress in the 9th cent., Merseburg was a favorite residence of Henry I (Henry the Fowler) and of Emperor Otto I. It was an episcopal see from 968 until its suppression (1561) by the Reformation, when the bishopric passed to Saxony. From 1656 to 1738 the city was the seat of the dukes of Saxe-Merseburg, and in 1815 it passed to Prussia. In the Second World War, Merseburg was half destroyed. Among its noted buildings were the cathedral (founded 1015, rebuilt in the 13th and 16th cent) and the episcopal palace (15th cent)

Mersen, Treaty of, 870, redivision of the Carolingian empire between CHARLES II (Charles the Bald) of the West Franks (France) and LOUIS THE GERMAN of the East Franks (Germany), signed at Mersen (Dutch *Meersen*), now in the Netherlands It followed the death (869) of King Lothair of LOTHARINGIA and superseded the tripartite division of 843 (see VERDUN, TREATY OF) Lotharingia was divided between France (which obtained the territories roughly corresponding to the modern Netherlands, Belgium, and Lorraine) and Germany (which received Alsace and the left bank of the Lower Rhine) Emperor LOUIS II, who ruled Italy, was excluded from the partition The borders established did not last long, but the treaty had the permanent effect of establishing a common frontier between Germany and France

Mersey (mûr'zē), river of England, formed at Stockport by the confluence of the Tame and the Goyt and flowing between Lancashire and Cheshire 70 mi to the Irish Sea NW of Liverpool Its estuary is 16 mi long and c 2 mi wide and is navigable for ocean-going liners Its drainage area comprises much of the Peak district of Derbyshire. Tributaries include the Irwell and the Weaver The Manchester Ship Canal enters the Mersey from the Cheshire side A large vehicular tunnel (1934), 2 mi long, under the Mersey connects Liverpool and Birkenhead The river is of great commercial importance to the cities served by it, especially to Liverpool and Manchester

Mersin (mĕrsĭn'), city (pop 33,148), S Turkey It is a rail terminus and a Mediterranean seaport, shipping chrome, copper, and agricultural products. Mersin, formerly called Icel, is sometimes also spelled Mersina Excavations here in the 1930s showed that this has been an inhabited place since 6000 B C Well-preserved remains of a city dating from 3600 B C were found in one of the numerous layers of the mound where the excavations were made

Merthyr Tydfil (mûr'thûr tĭd'vĭl), county borough (1931 pop 71,108, 1947 estimated pop 60,750), Glamorganshire, Wales, NW of Cardiff and on the Taff river among barren hills In the center of the great coal field of Glamorganshire, it has large ironworks and steelworks The name comes from the story of the martyrdom of St Tydfil, a Welsh princess killed by Saxons in the 5th cent

Merton, Thomas (mûr'tŭn), 1915–, American religious writer and poet, b France He grew up in France, England, and the United States and studied at Cambridge Univ and at Columbia Univ. (B A , 1938, M A , 1939) Converted to the Roman Catholic Church during his college career, he became in 1941 a Trappist monk at the monastery of Gethsemani, Ky. He was later ordained priest and is known in religion as Father M Louis Among his volumes of poems are *Figures for an Apocalypse* (1947) and *Tears of the Blind Lions* (1949) The best known of his books are his autobiography, *The Seven Storey Mountain* (1948, English title, *Elected Silence*, 1949), and its companion volume on the Trappist life, *The Waters of Siloe* (1949) *Seeds of Contemplation* (1949) is a book of meditations

Merton, Walter de, d 1277, English bishop, founder of Merton College, Oxford He was lord chancellor (1261–63), was reappointed after the death of Henry III (1272), and was made bishop of Rochester in 1274 In 1261 he obtained a charter from the earl of Gloucester for the assignation of lands for the support of scholars, and in 1264 a regular charter of incorporation established a "House of Scholars" at Malden, Surrey, this was later transferred to Oxford The establishment of a corporate body to rule and control the scholars marks the beginning of the collegiate system of education, and Merton College became the model for other colleges at Oxford and Cambridge.

Merton and Morden, urban district (1931 pop 41,227, 1947 estimated pop 76,290), Surrey, England, SW of London and on the Wandle There are remains of an Augustinian priory founded in 1115, which under Henry III was the meeting place of the Parliament that passed the Statutes of Merton. Thomas à Becket and Walter de Merton (the founder of Merton College, Oxford) received part of their education in Merton. Lord Nelson had a home here.

Merton College: see OXFORD UNIVERSITY

Meru (mā'rōō), mountain peak, 14,979 ft high, NE Tanganyika, near Mt Kilimanjaro. It is an extinct volcanic cone

Merv (myĕrf), ancient city, in a large oasis of the KARA KUM desert, Turkmen SSR, on the MURGAB river. As Margiana it was the capital of a northern border province of ancient Persia and was conquered by Alexander the Great A center of medieval Islamic culture, it was conquered by Russia from the Uzbeks in 1884 Near ancient Merv (now called Bairam-Ali) a new Merv developed. This new city was in 1937 renamed Mary (pop. 37,100). It is the capital of Mary oblast and has important textile manufactures, based on the cotton grown and the goat and karakul sheep raised in the region, especially along the Murgab

Merwede (mĕr'vā"dŭ), river, SW Netherlands It is formed near Gorinchem by the junction of the Meuse (Maas) and the Waal and is known as the Upper Merwede for the first 5½ mi of its westward course It then bifurcates into the Lower Merwede, which flows 9 mi west to form the Oude Maas (see MEUSE), and into the New Merwede, which flows 10 mi. southwest to form the Hollandsdiep, a wide estuary through which it reaches the North Sea

Meryon, Charles (sharl' mĕryôN'), 1821–68, French etcher, son of an English doctor in Paris His short life was saddened by poverty and neglect and complicated by recurring forms of mental aberration After four years of travel in the South Seas in the French navy, Meryon settled in Paris Prevented by color blindness from painting, he became an etcher and evolved an incomparable technique which has been much imitated His posthumous fame rests largely on his poetic series of about 20 etchings of old sections of Paris, *Eaux-Fortes sur Paris* (1850–54) Meryon died insane at 47 See study by Loys Delteil (Eng tr , 1928), H. J. L. Wright, *Three Master Etchers* (1930)

Mesa (mā'sŭ), city (pop 7,224), S central Ariz., in the SALT RIVER VALLEY, inc 1883 The Mormons who founded it in 1878 used old Indian irrigation canals A Mormon temple and the chief Univ. of Arizona experimental farm are here.

mesa (mā'sŭ) [Span ,=table], name given in the SW United States to a small, isolated tableland or a flat-topped hill Two or more of the sides are steep and usually perpendicular Some have all four sides practically perpendicular and are very difficult of access Their bold lines make them a picturesque part of the landscape, and they are frequently deep red or yellow in color The usual explanation of their origin is that a hard stratum acted as a cap to protect the layers beneath it from the erosion that wore down the surrounding softer rock, once level with the summit of the mesa in a plateau The strata in a mesa are horizontal, or nearly so The many "table mountains" are mesas, and buttes are usually less precipitous and smaller formations of the same sort. Two celebrated mesas are the Mesa Verde in Colorado and the Enchanted Mesa (Mesa Encantada) in New Mexico.

Mesabi (musa'bē), range of low hills, NE Minn , known for their deposits of iron ore The Mesabi is the richest of the three so-called iron ranges the Vermilion (NE Minn , between Vermilion Lake and Ely, first ore shipped 1884), the Mesabi (between Grand Rapids and Aurora, Hibbing and Virginia are centers, first ore shipped 1892), and the Cuyuna (central Minn , between Brainerd and Aitkin, first ore shipped 1911) Leonidas Merritt, with his brothers, discovered the Mesabi iron in 1887, established claims to the region, and in 1890 organized a company to exploit the deposits In the financial difficulties of 1893 the Merritts lost control of their great projects to John D Rockefeller The Mesabi ore lies in horizontal layers, and mining here is by the open-pit method The ores of the other ranges are in vertical strata, less accessible Most of the ore is shipped from Duluth. European laborers were imported to work the mines, and the population of the iron ranges is more heterogeneous than that of most of the state. Revenue from the mines provides excellent school and other public buildings Paul de Kruif, in *Seven Iron Men* (1929), tells the story of the Merritts.

Mesa Verde National Park: see NATIONAL PARKS AND MONUMENTS (table) and CLIFF DWELLERS

mescal (mĕskäl'), Mexican spirituous liquor, usually obtained by distilling a liquid made from the leaves, juicy stalk, and roots of certain species of AGAVE (maguey) The name is sometimes given to liquor distilled from agave sap which, fermented, is PULQUE *Tequila* and *sotol* are similar to mescal Presumably because of a slight similarity of effect when eaten, the name mescal is sometimes applied to the drug obtained from PEYOTE

Mescala, river, MEXICO see BALSAS, RÍO DE LAS.

Mesdag, Hendrik Willem (hĕn'drĭk vĭ'lŭm mĕs'dakh), 1831–1915, Dutch marine painter He gave up banking at 35 to study painting with Alma-Tadema in Brussels He later lived at The Hague and was known as a painter and wealthy patron of the arts He presented to the nation his fine collection, containing many paintings of the Barbizon school, together with a building to house it—Mesdag Museum, The Hague His simple and realistic marines are found in many Dutch galleries *The Return of the Fishing Boats* (The Hague) is characteristic.

Mesech (mē'sĕk), variant of MESHECH

Mesha (mē'shŭ) 1 King of Moab contemporary with Ahab. Ahab was his overlord, after Ahab's death Mesha attempted a revolt against Israel. 2 Kings 3. He composed the inscription on the MOABITE STONE. 2 Son of Caleb. 1 Chron. 2.42. 3 Benjamite 1 Chron 8.9. 4 Unidentified region of Arabia. Gen. 10.30.

Meshach (mē'shăk), one of the THREE HOLY CHILDREN.

Meshech (mē'shĕk) **1** Son of Japheth Gen 10 2, Ezek 32 26, 38 2, 39 1. Mesech Ps 120 5 **2** Son of Shem 1 Chron 1.17.

Meshed (mĕsh'hĕd, mĕshĕd'), city (pop 176,471), NE Iran The beautiful shrine [*meshed*] of the Imam Riza, which is also the burial place of Harun-al-Rashid, is the greatest place of pilgrimage in Iran The bombing of this sanctuary by the Russians in 1912 caused widespread resentment in the Shute Moslem world Meshed was the capital of Nadir Shah An air line reached Meshed in 1929, motor roads connect the city with Herat and the Caspian The name is also spelled Mashhad

Meshed Ali, see NEJEF

Meshelemiah (mĕshĕ'lĕmī'ă) [Heb, =whom God repays], gatekeeper 1 Chron 9 21, 62 1,2,9 Shallum 1 Chron 9 19,31, Ezra 2,42, Neh 7 45 Shelemiah 1 Chron 26 14 Meshullam Neh 12 25

Meshezebeel (mĕshĕ'zŭbĕl") [Heb, =delivered by God] 1 Worker on the wall Neh 3 4 **2** Signer of the covenant. Neh 10.21 **3** Descendant of Judah Neh 11 24

Meshillemith (mĕshĭ'lĕmĭth) or **Meshillemoth** (-mŏth) [Heb, =retribution] **1** Ephraimite chief. 2 Chron 28 12 **2** Priest 1 Chron 9 12, Neh 11 13

Meshobab (mĕshō'băb), descendant of Simeon 1 Chron 4 34

Meshullam (mĕshŭ'lum) [Heb, =friend] **1** Ancestor of Shaphan 2 Kings 22 3 **2** Son of Zerubbabel 1 Chron 3 19 **3** See MESHELEMIAH **4** See SHALLUM 7 **5** Father-in-law of JOHANAN 10 Neh 3 4,30, 6 18 **6** Repairer of the wall Neh 3 6 7 Assistant of Ezra Ezra 10 15 **8** Man who had a foreign wife Ezra 10 29 **9** Father of SALLU **2** 10 Ancestor of ADAIAH **4** 11 Gadite chief 1 Chron 5 13 12 Chief man of the Exile Ezra 8 16 **13, 14** Sealers of the covenant Neh 10 7,20 **15** Grandfather of AZARIAH **24** 16, 17 Priests in the time of Jehoiakim Neh 12 13,16 **18** Benjamite 1 Chron 8 17 **19** Kohathite Levite 2 Chron 34 8 **20** Prince of Judah Neh 12 33 **21** One present at the reading of the LAW Ezra 8 4 **22** See SHALLUM 6

Meshullemeth (-shĭ'lŭ-) [Heb, =fem of MESHULLAM], wife of King Manasseh 2 Kings 21 19

Mesilla (măsē'ă), historic village (pop 1,170), SW N. Mex., on the Rio Grande and near Las Cruces, settled c 1850 The whole Mesilla Valley became part of the United States under the Gadsden Purchase (1853) Mesilla was a central station on the overland mail route During the Civil War it changed hands several times From July, 1861, to August, 1862, it was headquarters for Col John R Baylor of the Confederate army, who proclaimed Mesilla the capital of the new Confederate territory A museum commemorates Billy the Kid, who once stood trial here.

Mesmer, Friedrich Anton (mĕz'mŭr, Ger frē'drĭkh ăn'tōn mĕs'mur), or **Franz Anton Mesmer** (frants'), 1733? 1815, German physician, studied in Vienna His interest in animal magnetism developed into a system of treatment through hypnotism that was known as mesmerism After his refusal to reveal the secret of his so-called magnetic cures, his large and fashionable practice in Paris was curtailed by a government investigation, and he retired See study by M L Goldsmith (1934), Stefan Zweig, *Mental Healers* (1932)

mesmerism see HYPNOTISM

Mesobaite (mĕsō'băĭt, mĕ"sōbā'ĭt), obscure term applied to one of David's guard 1 Chron 11 47.

Mesolithic period· see NEOLITHIC PERIOD

Mesolonghi, Greece see MISSOLONGHI

meson (mē'zŏn,- sŏn, mē'-) or **mesotron** (mē'zŭtrŏn, -su-, mē'-), nuclear particle intermediate in mass between the electron and the proton The existence of such a particle was predicted in 1935 by Hideki Yukawa In 1937 the meson was discovered in the course of cosmic-ray studies by Carl D. Anderson and Seth Neddermeyer and almost simultaneously by J C Street and E C Stevenson Mesons have been identified in the upper atmosphere by studies of their paths made observable in the Wilson cloud chamber; it is believed that these particles are produced in the upper atmosphere as a result of the collision between cosmic rays and atoms in the air Mesons have been produced artificially by means of the cyclotron Positive, negative, and neutral mesons have been identified. Most mesons have a life span of a few millionths of a second, but the neutral meson disappears almost as soon as it is produced, on disintegration mesons yield energy Their function is not definitely known

Mesopotamia (mĕ"sŭpŭtā'mēŭ) [Gr, =between rivers], ancient country of Asia, the region about the lower Tigris and the lower Euphrates, included in the modern Iraq The region extends from the Persian Gulf north to the mountains of Armenia, from the Iranian plateau on the east to the Syrian Desert From the mountainous country of the upper courses of the rivers, Mesopotamia slopes down through grassy steppes to the open central plain, which was once rendered exceedingly fertile by a network of canals Now the region is generally barren and arid except for occasional oases To the south the rivers unite in the Shatt el Arab, forming a delta which is a swampy wilderness of reeds Deposits of silt have encroached on the Persian Gulf, so that sites of ancient towns, originally built on or near its shores, are now several miles inland The southern part of this region was, so far as is known, the cradle of civilization, a little older even than Egypt. Here appeared the cities of Eridu, Ur Larsa, Lagash, Nippur, Akkad, and Babylon Civilization was well settled in the 4th millennium B C The rise of kingdoms, notably that of Sargon, out of the rivalry of Sumerian and Semitic cities presaged the growth of the Babylonian might (see BABYLONIA), which gave rise to the Assyrian Empire (see ASSYRIA) and the Persian Empire (see PERSIA) The region, always threatened by Egypt and held by Egyptians for centuries in earlier times, began a slow decline under Persia It still had prestige at the time of Alexander the Great, but became a more or less inconsiderable part of the Roman Empire The Arabs took it from the Byzantine Empire, and it flourished again after Baghdad was made (A D 762) the capital of the Abbasid caliphate under Mansur This glory was destroyed when the Mongols under Hulagu Khan laid the area waste in 1298 and destroyed the ancient irrigation system Mesopotamia did not recover from the ravaging and was not an important part of the Ottoman Empire. In the First World War, however, it gained new importance and was an important battlefield The new kingdom of IRAQ, created in the territory, is of international importance because of its rich oil fields, but its status in the Moslem world is enhanced by the rich finds of archaeologists searching for remains of the incredibly distant past

mesotron: see MESON

Mesozoic era (mĕsŭzō'ĭk) [Gr, =middle life], one of the grand divisions of geologic time When the Archeozoic and Proterozoic eras are considered separately (i e, not combined as Pre-Cambrian time), the Mesozoic is the fourth great division, the Paleozoic being the third As a result of the disturbances of the late PALEOZOIC ERA, the topography of North America differed in Mesozoic times in several important respects from its topography in Paleozoic times The Appalachian geosyncline was replaced by the Appalachian Mts, and the eastern part of the continent was elevated and exempt from submergence during most of the period The Appalachians were subjected to much erosion, and the products of this erosion were deposited along the Atlantic coast, now a lowland region, or in the ocean beyond Aside from the Appalachians, the other positive or consistently dry areas of the continent were the Canadian Shield, the Antilles area, and a mountain range elevated in part of the Cordilleran geosyncline The negative, always or often submerged, areas were the Pacific geosyncline of the west coast, the Colorado geosyncline, successor to the Cordilleran geosyncline and occupying much of the western interior of the continent, and the Mexican geosyncline The life of the Mesozoic was dominated by the reptiles, of which there were many more kinds than have existed at any subsequent time Already numerous in the TRIASSIC PERIOD, they were most abundant in the JURASSIC PERIOD and in the CRETACEOUS PERIOD, but all the more conspicuous varieties became extinct when violent disturbances late in the Cretaceous brought the Mesozoic to a close The Mesozoic was less than half the length of the Paleozoic, an average estimate for its duration being about 125,000,000 years See also GEOLOGY.

Mesquite (mĕskēt', mĕ'skēt), any plant of the genus *Prosopis*, leguminous spiny trees or shrubs with deciduous leaves, native to North and South America, Asia, and Africa The fruit pods of *Prosopis glandulosa*, a common mesquite, contain a sweet pulp eaten by both man and animal, they have been used for fodder and by the Indians in making a bread and a fermented beverage The stems yield a gum somewhat like gum arabic, the very durable wood is valued for fence posts and fuel Mesquites can grow in arid sites, and they form a part of the CHAPARRAL of the Southwest

Messala or **Messalla** (Marcus Valerius Messala Corvinus) (both mĕsă'lă), 64 B C -A D 8, Roman writer and soldier. He fought for the republicans at Philippi (42 B.C.), was pardoned by the triumvirs, and became a friend of Augustus He was consul in 31 B C. and proconsul in Aquitania in 28 and 27 His writings are lost He was a close friend of Tibullus.

Messalina (Valeria Messalina) (mĕsălī'nu), d. A.D. 48, notorious Roman empress, wife of CLAUDIUS I. She was the mother of his children, BRITANNICUS and Octavia. Her reputation for greed and lust was supposedly unknown to her husband until once, in Claudius' absence, she publicly married her lover, C. Silius. A political plot was apparently involved, and Narcissus informed the emperor, Messalina was killed.

Messalla: see MESSALA.

Messana, Sicily. see MESSINA.

Messene (mĕsē'nē), ancient city, central Messenia, Greece. It was founded (c.369 B.C.) under Theban auspices to be a capital and fort for the Messenians, whom the battle of Leuctra had just freed from the Spartans. The ruins, notably of the city walls, are important. Modern Messene (pop 7,323) is at some distance.

Messenia (mĕsē'nēu), ancient region, SW Greece, occupying mainly the westernmost of the great peninsulas of the Peloponnesus and corresponding to the modern nome of Messinia. Excavation has revealed an important center of Mycenean culture at Pylos in Messenia (13th cent B C). Expanding Sparta annexed Messenia (c 700 B C.) to be its granary A Messenian revolt (the Second Messenian War) is credited with driving Sparta to adopt its militaristic constitution (late 7th cent B C) Another stubborn revolt (the Third Messenian War, 464–459 B C) was a failure, but very costly to Sparta. The battle of Leuctra (371 B C) freed Messenia, and Messene was founded as a capital The country gave its name to Messina, Sicily, because of an influx of Messenian colonists (c 490 B C) See C A Roebuck, *A History of Messenia from 369 to 146 B C* (1941)

Messerschmitt, Willy (vĭ'lē mĕ'surshmĭt), 1898–, German aircraft designer and manufacturer He designed his first airplane when he was 18 and had his own factory by 1923 His planes were of value to the Germans in the Second World War, and he worked closely with the National Socialists in developing his famous pursuit planes After the war in the trials of the Nazis, he was declared a minor offender

Messiaen, Olivier (ōlēvyā' mĕsyā'), 1908–, French organist and composer, pupil of Paul Dukas at the Paris Conservatoire He became organist at La Trinité, Paris, in 1931 Having taught at the Schola Cantorum and the École normale de Musique, Messiaen became professor of harmony at the Paris Conservatoire in 1941 Well schooled in traditions of the past, he is at the same time an innovator, some of his works are based on scale formulas of his own invention A mystical Catholicism is evident in all his works, and he draws inspiration from both literature and art *L'Ascension* (1935), for orchestra, and *La Nativité du Seigneur* (1936) and *Le Banquet céleste* (1936), for organ, are best known among his compositions, which also include *Masses*, songs, and chamber music His symphony *Turangalila* (Boston, 1949) was commissioned by the Koussevitzky Music Foundation

Messiah (mŭsī'ŭ) or **Messias** (mŭsī'ŭs) [Heb, =anointed], in Judaism, a man who would be sent by God to restore Israel and reign righteously The idea developed among the Jews especially in their adversity, and such a conception is clearly indicated in Isaiah 9 This personal ruler for the restored Zion would be a member of the house of David, born in Bethlehem Micah 5 2 Jesus Christ considered himself and is considered by Christians to be the promised Messiah to whom the whole Old Testament pointed, the name Christ is Greek for Messiah Mat 16 16 The Christian ideal of the Messiah is fundamentally different from the early Jewish conception in the aspect of suffering, for the common idea of Jesus' time was that the Messiah should reign in glory as an earthly king The expectation of the second coming of Jesus is similar to the Jewish belief in the Messianic advent

Messidor. see FRENCH REVOLUTIONARY CALENDAR

Messina (mŭsē'nu, Ital măs-sē'na), city (pop 192,051), capital of Messina prov, NE Sicily, Italy, on the Strait of Messina It is the third largest city of the island, its busy seaport, connected by ferry with the Italian mainland, is a commercial and industrial center exporting citrus fruit, wine, and olive oil Founded (8th cent B C) by Greek colonists and named Zancle, it was taken (5th cent B C) by Anaxilas of Rhegium and renamed Messana Involved in several wars, particularly with Syracuse and Carthage, it was taken (228 B C) by mercenaries called Mamertines The Mamertines having appealed to Rome for help against Syracuse, the Romans intervened in Sicily, thus precipitating the first of the PUNIC WARS Messana then became an ally of Rome and subsequently shared the history of the rest of SICILY Its flourishing silk industry, its commerce, and its culture declined under Spanish rule after the 16th cent A heroic insurrection against Spain took place in 1774–78 Garibaldi took Messina in 1860, but the Bourbon garrison resisted in the citadel until 1861 Messina suffered several earthquakes That of Dec 28, 1908, destroyed 90 percent of the buildings, including its fine churches and palaces, and cost 60,000 lives The city has since then been completely rebuilt following strict quake-resistant rules. The Sicilian campaign in the Second World War ended with the fall of Messina to the Allies, Aug 17, 1943

Messina, Strait of, channel separating the Italian peninsula from Sicily and connecting the Ionian and Tyrrhenian seas. About 20 mi long and from 2 to 10 mi wide, it is crossed by a ferry from Villa San Giovanni to Messina. Reggio di Calabria, SW Italy, and Messina, NE Sicily, are the main ports The currents, whirlpools, and winds of the strait gave rise in ancient times to many legends on its dangers to navigators (see SCYLLA).

Messys, Quentin: see MASSYS, QUENTIN.

Mesta (mĕ'stä), Gr. *Nestos* (nĕ'stŏs), river, c.130 mi. long, SW Bulgaria and NE Greece. It flows from the Rhodope mts. generally SE into the Aegean Sea near Kavalla

mestizo (mĕstē'sō) [Span.,=mixture], person of mixed race, particularly in Latin American countries the descendants of Spanish or Portuguese and Indians. The mestizos, also called by various local names (e g , ladinos), constitute a large part of the population in these countries. The term is also used in the Philippines.

Mestrovic, Ivan, Serbo-Croatian *Meštrović* (ē'vän mĕsh'trôvĭch), 1883–, Yugoslav sculptor. He was a shepherd boy and then an apprentice to a marble cutter At 17 he went to the Vienna Academy, and at the International Exhibition at Rome in 1911 he was recognized as a new figure in the art world His style is a modern adaptation of archaic Greek sculpture and Byzantine tradition, his figures and reliefs are decorative in effect Many of Mestrovic's sculptures are of biblical scenes, often in wood Other works include the equestrian statue of the Serbian hero Marko Kraljevic and sculptures commemorating the battle of Kossovo He built (1920–22) at Cavtat, near Ragusa, a memorial chapel for the Racic family Canada has a war memorial, Chicago two Indian equestrian statues, by Mestrovic A one-man show of his work was held at the Metropolitan Museum in 1947

Metabetchouan (mĕ"tubĕch"wän'), village (pop. 1,469), S Que , on the south shore of Lake St John and W of Chicoutimi, in a farming and lumbering region

metabolism (mută'bŭlĭzm), the sum of the chemical processes in the body which result in growth, in the production of body heat and muscular and nervous energy, and in the maintenance of vital functions. Metabolism includes catabolism (the breaking down of substances into simpler forms) and anabolism (the building-up, or assimilative, processes). Muscular exercise, ingestion of food, and lowering of the environmental temperature stimulate metabolism Basal metabolism, which represents the minimum amount of energy required to maintain life at normal body temperature, is the heat produced by an individual at rest, a number of hours (usually 12 to 14) after the ingestion of food, in a room kept at a temperature of 20°C (68°F) The measurement of basal metabolism is known as the basal metabolic rate

metal, chemical ELEMENT possessing certain properties by which it is distinguished from a nonmetal, including a characteristic metallic luster, the ability to conduct heat and electricity, and the capacity to form a positive ION The metallic elements, which constitute about two thirds of the known elements, include aluminum, barium, beryllium, bismuth, cadmium, calcium, cerium, cesium, chromium, cobalt, copper, dysprosium, erbium, europium, gadolinium, gallium, germanium, gold, hafnium, holmium, indium, iridium, iron, lanthanum, lead, lithium, lutetium, magnesium, manganese, mercury, molybdenum, neodymium, nickel, niobium, osmium, palladium, platinum, potassium, praseodymium, radium, rhodium, rubidium, ruthenium, samarium, scandium, silver, sodium, strontium, tantalum, tellurium, terbium, thallium, thorium, thulium, tin, titanium, uranium, vanadium, wolfram, ytterbium, yttrium, zinc, and zirconium Arsenic exhibits both metallic and nonmetallic properties Antimony is similar in this respect The metals differ to such a degree in hardness, ductility (property enabling them to be pulled out into wire), malleability, tensile strength, density, and melting point that a definite line of distinction between them and the nonmetals in this respect cannot be drawn Furthermore, although all metals form crystals, this is also characteristic of certain nonmetals, e g , carbon and sulphur The hardest elemental metal is chromium, and the softest is cesium Copper, gold, platinum, and silver are especially ductile Most metals are malleable, gold, silver, copper, tin, and aluminum being extremely so Some metals exhibiting great tensile strength are copper, iron, and platinum Three metals (lithium, potassium, and sodium) have densities of less than one gram per cubic centimeter at ordinary temperatures, being, therefore, lighter than water Some heavy metals, beginning with the most dense, are osmium, iridium, platinum, gold, wolfram, uranium, tantalum, mercury, hafnium, lead, and silver. For many industrial uses, the melting points of the metals are important Wolfram fuses, or melts, only at extremely high temperatures (3370°C) while cesium has a melting point of 28 5°C Mercury, the only metal liquid at ordinary temperatures, solidifies at -38.87°C The best conductor of electricity among the metals is silver. Copper, gold, and aluminum follow in the order named All metals are relatively good conductors of heat, silver, copper, and aluminum are especially good On the basis of chemical activity, the metals can be arranged in a series, the electromotive series or replacement series, so called because it indicates what metals replace, or are replaced by, other metals and hydrogen in compounds. The order of activity, starting with the most active, is cesium, rubidium, potassium, sodium, lithium, barium, strontium, calcium, magnesium, aluminum, manganese, zinc, chromium, iron, cadmium, cobalt, nickel, tin, lead, hydrogen, antimony, bismuth, arsenic, copper, mercury, silver, palladium, platinum, gold, and iridium In general, any metal will replace any other metal, or hydrogen, which it precedes in the series and, under ordinary circumstances, will be replaced by any metal, or hydrogen, which it follows Also on the basis of chemical activity, according to the PERIODIC LAW, metals fall into groups Certain very similar elements fall into families, as the alkali metals, the alkaline earth metals (see ALKALI), or the metals of the RARE EARTHS Chemically, the metals differ from the nonmetals in that they form positive ions and basic oxides and hydroxides Upon exposure to moist air, a great many undergo corrosion, i e , enter into a chemical reaction which results in the formation of a new substance, a compound, unlike the original metal, e g , iron rusts when exposed to moist air, the oxygen of the atmosphere uniting with the metal to form the oxide Potassium, sodium, and calcium corrode rapidly Magnesium reacts to form a carbonate Aluminum and zinc do not appear to be affected, but the fact is that a thin coating of the oxide is formed almost at once, stopping further action and being unnoticeable because of its close resemblance to the metal Tin, lead, and copper react slowly under ordinary conditions Silver is affected by sulphur and becomes tarnished when exposed to air containing sulphur compounds The metals are combined with nonmetals in their salts, as in carbides, carbonates, chlorides, nitrates, phosphates, silicates, sulphides, and sulphates On the other hand, mixed with each other in definite amount, they form alloys A mixture of mercury and another metal is called an AMALGAM Although a few metals occur uncombined in nature, the great majority are found combined in their ores The extraction of metals from these ores is called METALLURGY Some metals, including copper, tin, iron, lead, gold, silver, and mercury, were known to the ancients Copper is probably the oldest known Mixed with tin, it forms BRONZE, the first alloy ever used The BRONZE AGE was followed by the IRON AGE The steel of today is essentially iron hardened by the addition of carbon For the uses of specific metals and their compounds, see the separate articles

metallurgy (mĕ'tulûr"jē), branch of chemistry concerned with the extraction of metals from their ores The processes employed depend upon the chemical nature of the ORE to be treated and upon the properties of the METAL to be extracted In certain cases (as when gold, silver, or occasionally copper occur "free," i e , uncombined chemically, in sand or rock), mechanical methods alone are sometimes sufficient to obtain relatively pure metal Finely divided waste material is washed away or separated by gravity, rock is crushed and then heated until the metal fuses and separates away Other processes involve the use of a flux—any material that will combine with the waste material when sufficient heat is applied—to form a fusible mass called slag, the slag formed, being lighter than the metal, floats and can be skimmed or drawn off The material employed as a flux varies according to the chemical nature of the ore and the impurities to be removed Silica and limestone are often used Gold and silver can sometimes be removed from the impurities associated with them by treatment with mercury, in which they are soluble (for this amalgamation process, see AMALGAM). Another method for the separation of gold and silver is the so-called CYANIDE process The Parkes process is used to free silver from lead ores In general, however, mechanical methods are inadequate, since almost all the metals occur in nature in chemical compounds and require, therefore, chemical reaction to set them free The chemical processes in metallurgy can, in general, be classified with respect to the nature of the ore treated The general term for the treatment of an ore by heat is SMELTING If the ore is an oxide, it is heated with a reducing agent, such as carbon in the form of coke or coal, the oxygen of the ore combines with the carbon and is removed in carbon dioxide, a gas (see OXIDATION AND REDUCTION) The waste material, called the gangue, mixed in with the ore is removed by means of a flux A sulphide ore is commonly roasted, i e , heated in air, the metal of the ore combines with oxygen of the air to form an oxide, and the sulphur of the ore also combines with oxygen to form sulphur dioxide, which, being a gas, passes off The oxide of the metal is then treated with a reducing agent A carbonate ore is heated, the oxide of the metal is formed, and carbon dioxide is given off The oxide is subsequently reduced. In some cases, the oxides of metals, such as chromium, cobalt, and manganese, are reduced by means of aluminum Certain active metals, e g , aluminum, calcium, barium, magnesium, potassium, and sodium, are prepared by ELECTROLYSIS a fused compound, commonly the chloride, is treated, the metal collecting at the cathode When an ore of a metal has a low percentage of the desired metal, concentration is necessary before the extraction process is begun. In one method, the ore is crushed and placed in a machine where, by shaking, the heavier particles containing the metal are separated from the gangue (lighter rock particles) by gravity Another method is the FLOTATION PROCESS, used commonly for copper sulphide ores In some cases, since the metal obtained from the ore still contains impurities, special REFINING processes are required Metallurgy is of great commercial importance because of the wide use of metals Since the methods for the treatment of ores are so diverse, see ALUMINUM, COPPER, GOLD, IRON, LEAD, NICKEL, SILVER, TIN, and ZINC for the special procedures followed See C G. Johnson, *Metallurgy* (3d ed , 1946), Joseph Newton, *Introduction to Metallurgy* (2d ed , 1947), John Elberfeld, *Metallurgical Materials and Processes* (1948), R H Harrington, *Modern Metallurgy of Alloys* (1948)

metalwork. Copper, gold, and silver were probably fashioned into ornaments and amulets in the Neolithic period GOLDWORK and SILVERWORK have since employed the talents of leading craftsmen and artists in making JEWELRY, plate, inlays, and sculpture The first great advance in metalworking came in the Bronze Age, and BRONZE has remained important for industrial and artistic uses Brass, an alloy of copper with zinc, came into use later (see BRASSES, MONUMENTAL, and BRASSES, ORNAMENTAL) The Iron Age provided a cheaper ductile medium used chiefly for tools and ornamental IRONWORK until modern times, when improved methods, alloys, and machinery made iron essential to the industrial and structural trades PEWTER, tin, and lead have had a place in industrial and art metalwork Methods of shaping metals include drawing, spinning, hammering, and casting, decorative processes include CHASING, DAMASCENING, embossing, enameling, ENGRAVING, ETCHING, FILIGREE, GILDING, inlaying, NIELLO, and REPOUSSÉ

metamorphic rocks see ROCK

metamorphism (mĕ'tumôr'fĭzm), in geology, processes by which changes are brought about in any kind of ROCK In its broadest sense, metamorphism includes such processes as WEATHERING and the cementation of loose particles into hard rock, the term is frequently restricted, however, to the subterranean processes by which rocks are profoundly altered in texture and mineral composition Metamorphism, in the narrower sense, is generally caused by heat, by the infiltration of liquids and gases into the rock, by the thrust or pull of earth movements, by the weight of overlying rocks, or (most commonly) by the simultaneous activity of two or more of these agents Alteration of the mineral composition of rock is the result of the action of circulating liquids and gases in the addition of new elements and the taking away of elements formerly present or of recrystallization under pressure, alteration of texture is commonly the result of the rearrangement of the mineral particles under pressure, the fusibility of the rock being increased in the presence of heat and water SCHIST and GNEISS are the results of metamorphism, and slaty cleavage is a common property induced by metamorphism Metamorphism usually occurs when an igneous mass, e g , a batholith, is intruded into older rock Some changes in the older rock occur simply because of the pressure the igneous rock exerts and the heat it radiates, but the more extensive alterations are produced by the liquids and gases which the intrusive gives off Metamorphism on a grander scale accompanies the occurrence of faults and folds Metamorphism is occasionally set in motion by the pressure of the overlying rocks Metamorphism is designated, according to the agent principally responsible, as hydrometamorphism (effected by water), thermal metamorphism (heat), contact metamorphism (igneous intrusion), dynamic metamorphism (earth movements), and static or load metamorphism (overlying rocks), it is evident, however, that these classifications cannot be arbitrarily applied According to the extent of the area affected, metamorphism is local or regional See Alfred Harker, *Metamorphism* (2d ed , 1939), F J Turner, *Mineralogical and Structural Evolution of the Metamorphic Rocks* (1948)

metaphor (mĕ'tufur,-fôr) [Gr ,=transfer] and **simile** (sĭ'mulē) [Latin,=likeness], in rhetoric, two figures of speech In metaphor, an object belonging to one class of things is referred to as if it belonged to another class The reference may be explicit, as in "All the world's a dream," or it may be assumed or implied, as when a beloved woman is referred to as "a rose without a thorn " In simile, an object is explicitly compared to another object, as in "My love is like a red, red rose " Thus, metaphor compares by saying A is B or by substituting B for A, while simile compares by saying A is like B Slang is rich in metaphor, as is criminal argot, in which, for instance, diamonds may be referred to as "ice "

metaphysical poets, group of English poets of the 17th cent The hallmark of their poetry was the metaphysical conceit—a figure of speech which blended passion and logic by means of unusual images Their poetry employed intellectual wit, learned imagery, skillful evolution, and subtle argument in an effort to express a highly individual

reaction to the changing times As a result, the poems of this group exhibited a fresh new depth of feeling The leading metaphysical poets were John Donne, George Herbert, Henry Vaughan, Thomas Traherne, and Richard Crashaw See studies by H J C Grierson (1921), J B Leishman (1934), H C White (1936), and Theodore Spencer and Mark Van Doren (1939)

metaphysics (mĕtŭfĭ'zĭks), the part of philosophy in which is studied the ultimate nature of existence It perpetuates the *Metaphysics* of Aristotle, a collection of treatises placed after the *Physics* [Gr. *metaphysics*=after *physics*] and treating what Aristotle called the First Philosophy The principal study of metaphysics is sometimes called ONTOLOGY, but there are other important fields of metaphysical study, e g , theology, psychology, and epistemology or the study of knowledge A conventional division of metaphysics also includes cosmology, which might be part of physics The most elaborate and one of the most carefully constructed metaphysics is that of the scholastic philosophy (see SCHOLASTICISM), which is more closely connected with the Aristotelian metaphysical system than is any other In general, the history of philosophy seems to show a tendency among thinkers to emphasize now one phase of metaphysics, now another, e g , Leibnis was more interested in ontology than Kant, who emphasized epistemology. Since the middle of the 19th cent it has been common among thinkers to make material phenomena their chief interest and, by limiting their logical processes to induction, to arrive at a philosophical materialism, which may be said in general to deny metaphysics See Jacques Maritain, *A Preface to Metaphysics* (1940), D W Gotshalk, *Metaphysics in Modern Times* (1940), R G Collingwood, *An Essay on Metaphysics* (1940)

Metapontum (mĕtŭpŏn'tŭm), ancient city of MAGNA GRAECIA, on the Gulf of Taranto, SE Italy Settled by Greeks in the 6th cent B C , it flourished and gave refuge to Pythagoreans expelled from Crotona Pythagoras taught and died here There are remains of a Doric temple, called Tavole Paladine, and other ruins

Metastasio, Pietro (pyā'trō mātästā'zēō), 1698–1782, Italian poet and dramatist, whose real name was Pietro Bonaventura Trapassi He was educated by a wealthy man who left him a fortune Court poet at Vienna from 1729, he wrote lyric verse, a masque, *The Gardens of the Hesperides* (1721–22), and librettos of a great many operas, including *Didone abbandonata* (1724), *Artaxerxes* (1730, Eng tr , 1761), *La clemenza di Tito* (1734, Eng tr , 1811), and *Il re pastore* (1751, Eng tr , *The Shepherd King*, 1765) These operas, which were properly melodramas, were set to music by such composers as Gluck, Handel, Mozart, and Hasse, some were set as many as 30 or 40 times See biography by Charles Burney (3 vols , 1796)

Metaurus (mĭtô'rŭs), river of the Marches, central Italy, flowing from the Apennines into the Adriatic near Fano On its banks in 207 B C the Romans defeated the Carthaginians under HASDRUBAL

Metaxas, John (mĭtăk'sus, Gr mā'taksas"), 1871–1941, Greek general and statesman He served as chief of staff from 1915 to 1917, but was exiled as pro-German when Greece joined the Allies in the First World War He returned in 1920, led a counterrevolution against the republic, and was exiled again (1923–24) He was prominent as a royalist politician and, after the monarchy was reestablished in Greece, became premier on April 13, 1936 His administration became a reactionary dictatorship after he dissolved parliament in Aug , 1936 In 1938 he was named premier for life After the Italian attack on Greece (Oct , 1940), he successfully directed Greek resistance. His death was considered even by his opponents a blow to the Greek cause.

Metcalf, Victor Howard (mĕt'kăf), 1853–1936, American cabinet official, b. Utica, N Y , grad Yale Law School, 1876 He practiced law in Utica, N Y , and then in Oakland, Calif He was elected (1898) as U S. Congressman from California on the Republican ticket He resigned (1904) to become Secretary of Commerce and Labor under President Theodore Roosevelt and then served (1906–8) as his Secretary of the Navy

Metcalf, Willard Leroy, 1858–1925, American landscape painter, b. Lowell, Mass., studied in Boston and at Julien's academy, Paris He was an instructor at Cooper Union and at the Art Students League, New York. His works, in most of the American museums, include *The Family of Birches* (National Gall , Washington, D.C.); *The North Country* (Metropolitan Mus of Art), *May Pastoral* (Mus of Fine Arts, Boston), *May Night* (Corcoran Gall), *Icebound* (Art Inst , Chicago), *The Prelude* (Worcester Art Mus), *Twin Birches* (Pa. Acad of the Fine Arts), and *Unfolding Buds* (Detroit Art Mus.).

Metcalfe, Charles Theophilus Metcalfe, 1st Baron, 1785–1846, British colonial administrator, b. India After a long career in the Indian civil service, which included the role of provisional governor general (1835–36) of India, and after serving as governor (1839–42) of Jamaica, he was appointed governor general of Canada in 1843. His experience in British dependencies had little prepared Metcalfe for service in a colony in which the movement for self-government was strongly under way In 1843 his ministers, headed by Robert Baldwin and L H. LaFontaine of the Reform parties, resigned He formed a Conservative administration and a general election resulted in his favor, but his health was impaired and he retired in 1845 Metcalfe was raised to the peerage that year. See biographies by J. W Kaye (rev ed , 1858) and E J Thompson (1937)

Metchnikoff, Élie (mĕch'nĭkôf), Rus *Ilya Ilyich Mechnikov*, 1845–1916, Russian biologist He studied in Germany, lectured at the Univ of Odessa, and, after working with Pasteur in Paris, became (1904) deputy director of the Pasteur Institute there He developed the theory of phagocytosis, the ingestion and destruction of bacteria by certain white blood cells (phagocytes) For his work in immunity he shared with Paul EHRLICH the 1908 Nobel Prize in Physiology and Medicine He also studied the effect of lactic-acid bacteria of the digestive tract in preventing putrefaction and worked with P P E Roux on syphilis His numerous writings include *Immunity in Infectious Diseases* (1901, Eng tr , 1905) and *The Nature of Man* (1903, Eng tr , 1938) See biography by Olga Metchnikova (1920, Eng. tr , 1921)

Metellus (mĕtĕ'lŭs), distinguished ancient Roman family of the plebeian gens Caecilia It was one of the small number of families that controlled the senate **Lucius Caecilius Metellus** (sēsĭl'ēŭs), d c 221 B C , consul (251 B C), fought in the First Punic War He was pontifex maximus (from 243 B C) and was said to have been blinded (241 B C) in rescuing the Palladium from the burning temple of Vesta **Quintus Caecilius Metellus Macedonicus** (măsĭdŏ'nĭkŭs), d 115 B C , grandson of the preceding, was a successful general in Macedonia (148 B C) and in the final pacification of Greece (146 B C) He was consul in 143 B C and defeated the Celtiberians in N Spain As censor (131 B C) he proposed to make marriage compulsory for Roman men, to increase the birth rate He had a reputation as a sound, substantial senator **Quintus Caecilius Metellus Numidicus** (nūmĭ'dĭkŭs), d 91? B C , nephew of Macedonicus, was a leader of the senatorial party As consul (109 B C) he conducted the Numidian War against Jugurtha He antagonized his legate, MARIUS, who received his command In his censorship (102 B C) Numidicus tried to remove L Appuleius Saturninus, of the popular party, from the senate In 100 B C , Saturninus and Marius took revenge by passing a law requiring senators to swear acceptance of an agrarian law, they tricked Numidicus into refusing to swear and got him exiled for it He is said to have been poisoned by the tribune Q Varius His son, **Quintus Caecilius Metellus Pius** (pī'ŭs), d c 63 B C , named Pius because of his filial devotion during his father's exile, continued his father's opposition to Marius As praetor (89 B C) he fought in the Social War, in the civil war that followed he was called to Rome by the senate to defend the city against Marius and CINNA Foreseeing its capitulation, he crossed to Africa, whence he returned (83 B C) to join SULLA He defeated the Marians in Umbria and Cisalpine Gaul and became consul with Sulla (80 B C) In his proconsulship in Spain (79 B C) he began an eight-year war with SERTORIUS, in which he was steadily unsuccessful, in spite of aid brought by Pompey After Sertorius' murder (72 B C) Metellus won at Italica and Segovia. His successor as pontifex maximus was Julius Caesar For his adoptive son, **Quintus Caecilius Metellus Pius Scipio**, see SCIPIO A great-grandson of Metellus Macedonicus by an elder branch of the family was **Quintus Caecilius Metellus Celer** (sē'lur), d 59 B C , he fought in Asia under Pompey and was praetor (63 B C) in Cicero's consulship He assisted in the suppression of CATILINE He was consul in 60 B C Celer was a leader in the stubborn defense of every senatorial prerogative This policy led to opposing Pompey in the shabbiest detail and so in driving Pompey into the fateful alliance with Julius Caesar Celer's wife, Clodia, the notorious sister of P CLODIUS, was said to have poisoned him **Quintus Caecilius Metellus Nepos** (nē'pŏs), d c 55 B C , brother of Celer, served with Pompey (67–64 B C). He supported Pompey against the senatorial party and ran as his candidate for the tribunate (63 B C). He was elected with Cato, but before his term was well under way he fled Rome to escape the senatorial hatred In his consulship (57 B.C) he allowed his sworn enemy, Cicero, to return from exile, chiefly to curry favor with Julius Caesar His proconsulship (56 B C) was in Hither Spain. **Quintus Caecilius Metellus Creticus** (krē'tĭkŭs), d c.55 B C., grandson of Macedonicus, was consul with Q Hortensius (69 B C) Crete was his proconsular assignment, and he set out to subjugate the pirate-infested island When he had conquered most of the island, the pirates in the rest sent a message to Pompey (Creticus' superior officer) offering to surrender to him, hoping for easy terms. Creticus disregarded the surrender and captured the rest of Crete. Creticus resembled Celer in his political attitude.

metempsychosis: see TRANSMIGRATION OF SOULS.

meteor (mē'tēŭr), one of the small bodies of solid cosmic matter which, coming from somewhere outside, enter the atmosphere of the earth and pass through it with such speed that the friction produced makes them incandescent. Thus they become visible and shine like stars Some of the very large ones are seen to explode and break out into showers of sparks. Some disappear at once. Occasionally one, traveling less rapidly and weighing more, falls to the surface of the earth In that case it is called a METEORITE On a clear night meteors appear to be points of light, varying much in size and brilliancy, moving across the sky in lines of brightness, sometimes leaving in their wake trains of light, visible for several seconds When they do not exceed the fixed stars in brightness, they are known as shooting stars, those that are very large and bright are fireballs or bolides At certain times of the year showers of meteors occur. They appear to coincide with the periods of certain comets. A shower of late November, called the Andromedes, has been seen to occur at the time when the comet of Biela, now lost, was due to appear The name of the shower indicates that it seemed to come from the constellation Andromeda, these showers were recorded from 1741, occurring at intervals of between six and seven years, but no real shower has been seen since 1899 Nov 14 is the time for the Leonid shower, which seems to proceed from Leo Major and which occurred with marked intensity in 1799, 1833, and 1866 This, too, is now linked with the path of a comet The same is true of the Lyrids of April 20 and the Geminids of Dec 10–13 Shooting stars of special brilliancy and showers of meteors were recorded thousands of years ago The Perseids, a great shower that brightens the sky about Aug 10, probably were observed and recorded by the Chaldeans in 2700 B C Meteors are visible only while in our atmosphere Many calculations have been made, resulting in the estimates that meteors are usually at heights of from 60 to 90 mi above the earth when they become visible and that the smaller ones disappear between 40 and 50 mi above the earth The average rate of speed as calculated is c 26 mi per second The sizes of meteors are difficult to determine with any precision, but the largest are supposed to be less than 3,000 ft in diameter, and the smallest are tiny, weighing almost nothing The most satisfactory way of studying meteors is by means of photographic records See C P Olivier, *Meteors* (1925), H H Nininger, *Our Stone-pelted Planet* (1933), F G Watson, *Between the Planets* (1941)

Meteor Crater see WINSLOW, ARIZ

meteorite (mē'tēurīt), a METEOR which reaches the earth's surface Sometimes the fall of a meteorite is observed, and it can thus be traced and recovered, others are discovered accidentally and are recognized as meteorites by their appearance and composition Those called siderites are composed entirely of metal (chiefly nickel and iron), and others, called aerolites, are of stone, a third group, called siderolites, more rare than the others, are of metal and stone in varying proportions As meteors speed through the earth's atmosphere, their outer surface becomes liquified by the intense heat and pressure, as the friction with the atmosphere finally reduces the velocity of the meteor, the surface cools and the glowing material solidifies into a dark smooth crust, which is glassy in the stony meteorites and composed chiefly of iron and nickel oxides in the metallic ones Some meteorites are somewhat cone shaped and show lines of flow in the hardened surface radiating from the rounded cone, indicating that during its flight that end of the meteorite was constantly directed forward Others that probably spun around while falling have a variety of shapes Since the flight time of meteors through the air is short, the interior does not become hot, metallic meteorites that have just fallen are hot on the surface, stony ones are warm, and both cool quickly Friction with the atmosphere has little effect in slowing down the very large meteorites, and when they reach the earth they strike with tremendous force and become buried beneath the surface The depth of burial varies with the size of the meteorite and the kind of soil The sudden impact with the earth causes great compression, heating, and partial vaporization of the outer part of the meteorite and of the materials in the ground, expansion of the gases thus formed and of steam produced from ground water causes an explosion which shatters the meteorite, scatters parts of it over the surrounding area, and carves a crater in the ground. A huge crater is the Meteor Crater, near Winslow, Ariz That it was caused by a meteorite has been disputed, but in recent years scientific studies have uncovered much evidence that it was so formed Other craters believed to have been produced by meteorites have been discovered near Odessa, Texas, in the Chaco, Argentina; in the great desert of Arabia; and in N Siberia. A meteorite, estimated to weight about 60 tons, rests where it was discovered near Grootfontein, SW Africa. Among the exhibits at the

Hayden Planetarium in New York city are those brought from Greenland (one weighing 36½ tons and two smaller ones) by R E Peary and the conical Willamette meteorite weighing about 14 tons found (1902) near Portland, Oregon. Meteorites have been discovered in most parts of the world In N Mexico have been found a number weighing a ton or more each Metallic meteorites weighing more than a ton have been discovered in Brazil, Argentina, and Australia Not until the early 19th cent did scientists fully accept the fact that meteorites came to the earth from outside space Since then many studies have been made of the composition and crystalline structure of meteorites, the development of methods of microchemical analysis and the use of X rays and of the mass spectrograph have facilitated such work. The age of meteorites can be determined by measuring the radium and helium contents The origin of meteorites is as yet unsolved Among the theories to account for them is the belief that they are fragments of some large body from which asteroids also originated See H H Nininger, *Our Stone-pelted Planet* (1933), F A Paneth, *Origin of Meteorites* (1940), F. G Watson, *Between the Planets* (1941), publications of the American Museum of Natural History

meteorology (mē"tēurŏl'ujē), the science of the ATMOSPHERE with its associated phenomena, the WEATHER The earliest indications of activity in this field date back at least to the 5th cent B C ; Aristotle in the 4th cent B C wrote the first treatise on meteorology Scientific progress began with the development of the mother science, physics, and the invention of basic instruments including Leonardo da Vinci's wind vane (1500), Galileo's thermometer (c 1593), and Torricelli's mercurial barometer (1643) Further developments include Halley's original account of the trade winds and monsoons (1686), H W Brandes's drawing of the first weather map (1820), W C Redfield's recognition of the cyclone as a revolving storm (1840), and William Ferrel's theory of the general circulation of the atmosphere (1856) The invention of the telegraph made possible the rapid collection of data from remote stations Between the First and Second World Wars, Bjerknes made his discovery of the POLAR FRONT and advanced his wave theory of cyclones, and Rossby introduced his concept of isentropic analysis Other contributors to the science include Lamarck, J P Espy, Alexander von Humboldt Alexander Buchan, Julius Hann, M F Maury, Cleveland Abbe, J W S Rayleigh, C H D Buys-Ballot, and W J Humphreys See also CLIMATE, CLOUD, DUST, HUMIDITY, RAIN, STRATOSPHERE See works of David Brunt, W J Humphreys, Sir William Napier Shaw, and Sverre Pettersen

meter, in music, the division of a composition into units of equal time value called measures In general, the first beat of a measure receives an accent Meter is usually indicated by a time signature, a fraction whose numerator indicates the number of beats in a measure and whose denominator indicates the note value which is the unit of beating. The time signature may be changed at any point in the composition, and changes of meter occur frequently in much 20th-century music In music of the 18th and 19th cent , however, the same meter is usually adhered to throughout a section or movement of a composition See also RHYTHM For meter in poetry, see VERSIFICATION, for meter as a unit of measure, see METRIC SYSTEM

methane (mĕ'thān), colorless, odorless gas, commonly called marsh gas It is lighter than air, boils at −161 4°C , and solidifies at −184°C It burns in air, but, mixed with air, forms an explosive mixture The gas is commonly formed beneath the surface of the water in swamps and marshes by the decomposition of plant and animal matter, and it is the principal component of NATURAL GAS and the fire DAMP of mines In the laboratory it can be prepared by heating together sodium acetate and sodium hydroxide, by the reaction between water and aluminum carbide, by the direct combination of carbon and hydrogen, by the reaction between carbon monoxide and hydrogen, and by the destructive distillation of coal and wood It is used as fuel and illuminant and in the treatment of steel Chemically, methane is a compound of carbon and hydrogen, its molecule consisting of one carbon atom and four hydrogen atoms Its structural formula represents the carbon atom in the center with the four hydrogen atoms around it It is the first member of a series of saturated hydrocarbons called the **methane series** or **paraffin series.** The other members of the series have the same numerical relationship between the carbon and hydrogen atoms, the number of hydrogen atoms in each molecule exceeding twice the number of carbon atoms by two Some members are gases, some liquids, and some solids They are common compounds and occur in various mixtures in such liquids as BENZINE, GASOLINE, and KEROSENE and such solids as PARAFFIN, all of which are obtained in the fractional distillation of petroleum. A number of substances are considered chemically as derivatives of this series of hydrocarbons; these include CHLOROFORM, METHYL ALCOHOL, ETHYL ALCOHOL, FORMALDEHYDE, and ACETIC ACID. The chemical formulas of these substances indicate that, theoretically, other atoms or radicals have been substituted for certain of the hydrogen atoms (see SATURATION) in the original molecules, these substances are not necessarily prepared directly from the members of the series

methanol see METHYL ALCOHOL.

Metheg-ammah (mē'thĕg-ă'mŭ), place, conquered by David from the Philistines It is identified by some with Gath 2 Sam 8 1

Methodism, the doctrines, polity, and worship of those Protestant Christian denominations which have developed from the movement started in England by the teaching of John WESLEY He, his brother Charles, George WHITEFIELD, and others belonged to a group at Oxford which in 1729 began meeting for religious exercises From their resolution to conduct their lives and religious study by "rule and method" they and their societies were given the name Methodists The leaders of the movement were ordained ministers of the Church of England, neither of the two Wesleys ever disclaimed the holy orders of that church, but they were barred from speaking in most of its pulpits, in disapproval of their evangelistic methods They preached in barns, houses, open fields, wherever an audience could be reached Societies were formed, class meetings of converts were held, and lay preachers were trained and given charge of "circuits" of several congregations When they were changed about from one appointment to another, the system of itinerancy had its beginning The Articles of Religion were drawn up at the first annual conference (1744), they were based to a considerable extent upon the Thirty-nine Articles of the Church of England, but great emphasis was laid upon repentance, faith, sanctification, and the privilege of full, free salvation for everyone Whitefield could not agree to this and became the leader of the CALVINISTIC METHODISTS The influence of Methodism was to make religion a vital personal experience and to reveal its social responsibilities Not until 1784 did John Wesley assume the authority of ordination, and he did not then apply that name to the ceremony In 1784 he ordained Dr Thomas COKE as superintendent of the societies in America The Methodists in England adopted a legal constitution in 1784, in 1791, after the death of Wesley, they were formally separated from the Church of England In the conference of that year, the WESLEYAN METHODIST CHURCH engaged "to follow strictly" the plan left by its founder In both England and America secessions have given rise to branch organizations, differing from their parent groups in some matter of church government but never in doctrine Reunions have been effected from time to time In Great Britain the Methodist New Connection was the first group to form a separate branch Then followed the Primitive Methodists, the Bible Christians, the Protestant Methodists, the Wesleyan Methodist Association, and the Wesleyan Reformers In 1857 the last three formed a union as the United Methodist Free Churches, in 1907 these were incorporated with the Methodist New Connection and the Bible Christians as the United Methodist Church Finally, in 1932, the Wesleyan Methodists, the Primitive Methodists, and the United Methodists were gathered together again in one great church under the United Conference of Methodist Churches John Wesley (with his brother) visited America in 1735 as spiritual adviser to James Oglethorpe's colony in Georgia, but the actual beginnings of Methodism in America were in New York, after 1766, when Philip Embury, a Wesleyan convert who had earlier come from Ireland, began to preach In Maryland, Robert Strawbridge started a congregation In 1769 Wesley sent several itinerant preachers into the new field, Francis ASBURY arrived in 1771. With the meeting in 1773 of 10 preachers the first annual conference in the New World was held In 1784 Coke and Asbury were made superintendents (and shortly thereafter styled bishops) of the Methodist Episcopal Church, at the "Christmas Conference" in Baltimore, where that church was formed and where the order of worship and articles of religion prepared by Wesley were adopted In 1792 the first General Conference was held In 1830, after controversy over lay representation in conferences and other questions, the Methodist Protestant Church was formed, without bishops or presiding elders The Wesleyan Methodist Connection was organized (1843) at Utica, N Y , in a strong anti-slavery protest The independent career of the Methodist Episcopal Church, South, began in 1845 over the issue of slavery In 1939 a great reunion was realized—the Methodist Episcopal Church (North), the Methodist Episcopal Church, South, and the Methodist Protestant Church united as the Methodist Church The many activities of this vast body are administered by boards, among which are the council of bishops, boards of education, missions and church extension, publication, hospitals and homes, and evangelism, and the commission on world peace. Among other branches of Methodism in the United States are the Primitive Methodist Church (introduced c 1830 by emigrants from England), the Congregational Methodist Church (1852), and the Free Methodist Church of North America (1860). Negro Methodists have formed denominations of their own, under the leadership of such men as Richard ALLEN These include the African Methodist Episcopal Church, the African Methodist Episcopal Zion Church, the African Union First Colored Methodist Protestant Church, and the Colored Methodist Episcopal Church (which became in 1870 a separate body approved in the General Conference of the Methodist Episcopal Church, South) Bishop Asbury established (1786) the first Methodist Sunday school. In 1789 the Methodist Book Concern (now known as the Methodist Publishing House) was started The great missionary enterprises of the Church began early in the 19th cent See J S Simon, *John Wesley and the Methodist Societies* (1923), H E Luccock and Paul Hutchinson, *The Story of Methodism* (1926), Umphrey Lee, *Historical Backgrounds of Early Methodist Enthusiasm* (1931), W W Sweet, *Methodism in American History* (1933), E K Nottingham, *Methodism and the Frontier. Indiana Proving Ground* (1941), N B Harmon, *Organization of the Methodist Church* (1948)

Methodius, Saint. see CYRIL AND METHODIUS, SAINTS

Methuen (mĭthōō'un), industrial town (pop 21,880), NE Mass , near the N H line NW of Lawrence, settled c 1642, set off from Haverhill 1725. It produces worsteds and shoes

Methusael (mĕthū'sāĕl), father of Lamech. Gen 4 18

Methuselah (mĕthū'zulu), descendant of Seth, son of Enoch The Bible says he lived 969 years. Gen 5 21 Mathusala Luke 3 37

methyl (mĕ'thĭl), organic RADICAL consisting of one carbon atom and three hydrogen atoms Its name is derived from methane, since the arrangement of its atoms corresponds to that of methane except that it has one less hydrogen atom It has never been isolated, but appears in many compounds, e g , methyl acetate, an ESTER formed by the action of acetic acid and methyl alcohol; methyl chloride, a gas, used in refrigeration, methyl green, a dye, methyl orange, used as a dye and also used in the chemical laboratory for testing, since it turns red with acids and yellow with bases, methyl salicylate, the oil of wintergreen, METHYL ALCOHOL, and methyl ETHER

methyl alcohol, methanol (mĕ'thĭnôl, -nŏl), or **wood alcohol,** colorless, liquid ALCOHOL, boiling at 64 5°C , melting at −97 8°C , inflammable, miscible with water in all proportions With acids it forms esters It is a fatal poison (see wood alcohol under POISONING, table) Small doses, as well as continued inhalation of the vapor, cause blindness. As a result its commercial use has been prohibited in some cases It is used as a solvent for many organic substances in making varnishes and lacquers and is extensively employed in the preparation of formaldehyde which is obtained by its oxidation Because of its poisonous properties, it is used as a denaturant (about 10 percent) in industrial alcohol, since it makes the product unfit to drink Commercially, methyl alcohol is prepared by the destructive distillation of wood It can also be produced by a synthetic process, involving the direct combination of carbon monoxide and hydrogen

methylbenzene see TOLUENE

Meton (mē'tŏn), fl 432 B C , Greek astronomer of Athens, who introduced the Metonic cycle into chronology This is a cycle of 19 years embracing 235 lunar months The moon's phases in every 19th year occur on the same date The number of any year in the Metonic cycle is known as a golden number and is used in fixing the date of Easter

metric system, system of measurements and weights planned in France and adopted there in accordance with laws passed in 1795 and 1799 It was subsequently adopted by many nations, and its use is permitted in Great Britain and the United States The system is based on the meter, a measure of length The unit of surface is the are, 100 square meters The unit of volume is the liter, the cube of 1/10 meter The unit of weight is the gram, theoretically the weight of distilled water that would fill a cubical vessel with edges of 1/100 meter The meter itself was intended to be 1/10,000,000 of the distance measured on the earth's surface from the equator to the pole In spite of careful surveying the accuracy of such a computation is sufficiently doubtful to make it expedient to define the meter legally as the length of a certain platinum bar kept in Paris Nations that have adopted or approved the metric system have recognized this bar as the standard meter, certified copies of it are available In the metric system, weights and measures larger and smaller than the meter, the are, the liter, and the gram are related to these units by a decimal system e.g., a kilometer is 1,000 meters, a kilogram is 1,000 grams, a centimeter is 0 01 meter, a centigram is 0.01 gram For equivalents of metric denominations, see WEIGHTS AND MEASURES (table)

metronome (mĕ'trunōm), in music, a clockwork mechanism to indicate the exact tempo in which a work is to be performed It has a double pendulum

whose pace can be altered by sliding the upper weight up and down Simultaneously the sliding bob indicates the rate of oscillation by means of calibrations on the pendulum A number to indicate the rate at which the metronome is to be set and a note whose value is to equal one beat of the metronome are often given on a piece of music, preceded by the initials MM, for Mälzel's Metronome, Johann Mälzel (1772–1838) having made in 1816 the type of metronome in general use today Beethoven and Schumann left such tempo indications for many of their compositions, but for earlier music and often for later music such indications are those of the editor

Metropolis (mətrŏ'pülĭs), city (pop 6,287), co seat of Massac co, S Ill., on the Ohio and E of Cairo, in a farm and timber area, laid out 1839, inc 1845 It manufactures various wood products and clothing. In Fort Massac State Park here is the site of Fort Ascension (later Fort Massiac), established by the French in 1757, it was later held by the English and by Americans George Rogers Clark landed here in 1778 at the outset of his Illinois campaign. In the area are the Kincaid Indian mounds

Metropolitan Museum of Art, New York city, founded in 1870 It opened in 1880 on its present site in Central Park facing Fifth Ave The building is owned by the city, which contributes a certain sum yearly for upkeep, but otherwise the museum is supported by private endowment and income from memberships Admission to it is free. Outstanding among the museum's collections are European paintings, pastels, water colors, miniatures, and drawings numbering more than 3,000 and the Egyptian wing with its mastaba tomb of Perneb, erected about 4,400 years ago and rebuilt here in its original form Other outstanding features include medieval art (part of which is in the CLOISTERS acquired by the museum in 1925 and moved to its present building in 1938), Chinese and Oriental art, Greek and Roman art, and arms and armor. An American wing shows the development of furniture and decorative arts from the colonial to the early Federal period The print collection includes woodcuts, engravings, etchings, and lithographs dating from the 15th cent The Costume Institute provides a practical source of inspiration and reference for designers, in fashion, the theater, moving pictures, and related fields and for students through its collection of thousands of authentic costumes and accessories, international in scope and covering three centuries

Metropolitan Opera Company, term used in referring collectively to the organizations which have produced opera at the Metropolitan Opera House, New York The house was built by members of New York society who could not be accommodated with boxes at the Academy of Music The first presentation, on Oct 22, 1883, was Gounod's *Faust* Henry E Abbey was the first manager, but the season ended with heavy financial loss to him The season 1884–85 was sponsored by the stockholders; the director, Leopold Damrosch, died during the season From 1885 to 1891 Edmond Stanton was director In the season 1891–92 H E Abbey, J B Schoeffel, and Maurice Grau were managers, and the brothers Jean and Édouard de Reszke made their first American appearances A devastating fire prevented production of any opera during the season 1892–93 Rebuilding was undertaken by a new company, the Metropolitan Opera and Real Estate Company One tier of boxes was eliminated, and the number of seats in the orchestra was increased. There was no resident company at the Metropolitan in the season 1897–98 The following season the Maurice Grau Opera Company was formed, its end in 1903 marked the end of a period (1891–1903) which was notable for a greater profusion of virtuoso singers than at any other time in the Metropolitan's history The Conried Metropolitan Opera Company was formed with Heinrich Conried as manager in 1903. In Nov, 1903, Enrico Caruso made his debut and by the following season had assumed his place as the dominant figure of the company Conried retired in 1908, and the following season saw the coming of Giulio Gatti-Casazza as director and Alfred Hertz, Gustav Mahler, and Arturo Toscanini as conductors, the name was now Metropolitan Opera Company for the first time Toscanini's departure in 1915 was an artistic loss from which the company never fully recovered In Feb, 1935, during Gatti-Casazza's final season, Kirsten Flagstad made her debut. Herbert Witherspoon was appointed in May, 1935, to succeed Gatti-Casazza but died only a few weeks later. Edward Johnson was appointed in his place In 1932 the Metropolitan Opera Association, Inc, had been formed to replace the Metropolitan Opera Company, and performances were now underwritten by public subscription In 1940 the association bought the house from the Metropolitan Opera and Real Estate Company, marking the final step in transference from private to public sponsorship. In June, 1949, Rudolf Bing was appointed to succeed Johnson at the end of the season 1949–50. See Irving Kolodin, *The Metropolitan Opera, 1883–1939* (1940), W. H. Seltsam, *Metropolitan Opera Annals* (1947).

Metsu or **Metzu, Gabriel** (both· gä'brēĕl mĕt'sü), 1630?–1667, Dutch genre painter, b Leiden. He was admitted to the painters' guild in Leiden in 1648 About 1654 he moved to Amsterdam, where he married and remained the rest of his life In his youth he painted some biblical subjects, such as *Woman Taken in Adultery* (Louvre), which shows Rembrandt's influence But he early discovered his true gift for genre, and he is best known for his quiet, charming little interiors As a rule he painted the home life of the well to do, but he was also successful in depicting humbler scenes His work is distinguished by fine draughtsmanship and exquisite handling of light and texture Among his well-known works are *Music Lesson* (Louvre), *Duet* (National Gall, London), *Mother with a Sick Child* (The Hague), *Music Lesson, Visit to the Nursery,* and *The Artist and His Wife* (Metropolitan Mus); and *The Intruder* (National Gall of Art, Washington, D C)

Metsys, Quentin: see MASSYS, QUENTIN

Metter, city (pop 1,823), co seat of Candler co., E Ga, near the Canoochee river and WNW of Savannah

Metternich, Clemens Wenzel Nepomuk Lothar, Fürst von (klā'mĕns vĕn'tsĕl nä'pōmōōk lō'tär fürst fŭn mĕ'turnĭkh), 1773–1859, Austrian statesman, b Coblenz, of a noble Rhenish family While a student in Strasbourg, he witnessed revolutionary excesses, to which he later credited his heightened conservatism and hatred of political unrest In 1795 he married Eleonora von Kaunitz, granddaughter of the Austrian statesman of the same name, who brought Metternich great estates and admission to the highest court circles He began his state career in 1797 as representative of the Westphalian college of counts at the Congress of Rastatt and became ambassador to Saxony (1801) and to Prussia (1803) The favorable impression he made upon the French envoy while in Berlin led Napoleon to request that he be sent as Austrian representative to France (1806) His influence greatly increased when he succeeded Stadion as minister of foreign affairs (1809) Until 1813 his was a policy of acquiescence in the supremacy of France, but he constantly sought to strengthen the diplomatic and military position of Austria, in order to make future resistance possible, and to disrupt the alliance between Napoleon and the tsar He was successful in securing the marriage of Archduchess MARIE LOUISE to Napoleon (1810) and a temporary alliance with France (1812) The middle course that he pursued between France and Russia developed into a policy of armed mediation The substitution of Austrian for French supremacy supplanted this policy in 1813 The Quadruple Alliance was formed, and war of the coalition against France ended with allied victory at LEIPZIG (1814) Although Metternich wished French domination checked, he had no desire to see the country crushed, for he did not want Prussia and Russia too greatly strengthened and the balance of power upset He hoped to make Austrian influence supreme in Italy and, while vigorously opposing German unity, sought Austrian ascendancy in the newly formed GERMAN CONFEDERATION The period 1815–48 has been called the Age of Metternich, for during this time he was not only master of Austria, but chief arbiter of Europe Metternich, with his skillful diplomacy and as leader of conservatism in Europe, was the guiding spirit of the international congresses at Vienna (1814–15, see VIENNA, CONGRESS OF), Aachen (1818), Carlsbad (1819, see CARLSBAD DECREES), Troppau (1820, see TROPPAU, CONGRESS OF), Laibach (1821, see LAIBACH, CONGRESS OF), and Verona (1822, see VERONA, CONGRESS OF) and was the chief statesman of the so-called HOLY ALLIANCE In 1818 he was created prince His brilliant assistant was Friedrich von GENTZ The Metternich system depended upon political and religious censorship, espionage, and the suppression of revolutionary and nationalist movements His name became anathema to liberals everywhere, and the Revolution of 1848 (which forced him to seek refuge in England) was almost wholly directed at his repressive system He returned to Austria in 1851 His memoirs were published posthumously (1880–84), as was his correspondence (1899) The authoritative work on Metternich is Heinrich, Ritter von Srbik, *Metternich, der Staatsmann und der Mensch* (2 vols, 1925) See biographies by Arthur Herman (1932), Algernon Cecil (1933), Helene du Coudray (1935), Frederick de Reichenberg (1938), and Raoul Auernheimer (1940), A J May, *The Age of Metternich* (1933)

Metuchen (mŭtū'chun), borough (pop 6,557), NE N J., NE of New Brunswick, settled before 1700, inc. 1900. Insulation products are made here. There are a few 18th-century buildings A veterans' home (1932) and a county tuberculosis hospital are near.

Metz, Christian: see AMANA SOCIETY.

Metz (Eng and Ger mĕts, Fr mĕs), city (pop. 65,472), capital of Moselle dept., NE France, on the Moselle river It is a cultural and commercial center of LORRAINE Of pre-Roman origin, Mets was an early episcopal see and became (6th cent.) the capital of AUSTRASIA. After the division of the Frankish empire, the bishops of Mets greatly increased their power, ruling a relatively vast area as a fief of the Holy Roman Empire. The town itself became (12th cent.) a free imperial city Henry II of France in 1552 annexed the three bishoprics of Lorraine (Mets, Toul, Verdun) to France after holding a sort of plebiscite Mets, under the command of François de Guise, resisted a long siege (1552–53) by Emperor Charles V The Peace of Westphalia (1648) confirmed the three bishoprics in French possession An important fortress and garrison town, it was besieged (1870) by the Germans in the FRANCO-PRUSSIAN WAR, after a two-month siege Marshal BAZAINE capitulated with 180,000 men During the German annexation (1871–1918) of E Lorraine, Metz, largely French-speaking, was a center of pro-French sentiment In the Second World War, Metz suffered greatly under the German occupation, 25,000 French-speaking citizens were expelled and 10,000 were deported. The German garrison resisted (Sept -Nov, 1944) the U S forces of Gen. George S Patton, Jr, but the city itself was scarcely damaged in the siege. Metz has preserved much of its medieval aspect. The celebrated Cathedral of St Étienne was built from the 13th to the 16th cent, the Place Sainte-Croix is a square surrounded by medieval houses (13th-15th cent.), there are several other churches and mansions from the Middle Ages Verlaine was born here

Metzu, Gabriel see METSU, GABRIEL.

Meudon (mûdō'), town (pop 20,106), Seine-et-Oise dept, N France, near Sèvres The astrophysics department of the Paris Observatory is located in a pavilion of a 17th-century château, which commands a magnificent view of Paris Rabelais was curate of Meudon.

Meulen, Adam Frans van der (ä'däm frāns' vän dĕr mû'lun), c 1632–1690, Flemish painter of battle scenes He was court painter to Louis XIV, whom he accompanied on his military campaigns in Flanders He was a member of the Académie royale de Peinture et de Sculpture and the recipient of many other honors His paintings are valued more for their historical interest than for their artistic merit They are best studied in the Louvre and at Versailles The Metropolitan Museum contains *A Combat of Cavalry* and *Encounter of Cavalry* He also painted landscape and genre and designed cartoons for the Gobelins

Meun, Jean de. see JEAN DE MEUN

Meunier, Constantin (kōstätĕ' mûnyā'), 1831–1905, Belgian sculptor and painter, son of a tax collector in a suburb of Brussels. After some youthful attempts at sculpture, he devoted himself, with notable success, to painting pictures of monastic life and of factory workers His *Tobacco Factory of Seville* (Brussels), product of a short visit to Spain, is a fine example At the age of 50 he returned to sculpture Such sincere and vigorous works as *The Puddler* and *The Hammerer* soon won him the highest recognition The remainder of his life was spent in producing the statues, bas-reliefs, and monuments, largely in bronze, for which he is famous Perhaps no modern sculptor has so successfully expressed the dignity of labor His masterpiece, the unfinished *Monument to Labor* (Brussels), is comprised of four stone reliefs, *Industry, The Mine, Harvest,* and *Harbor,* four bronze statues, *The Sower, The Smith, The Miner,* and *The Ancestor,* and a bronze group, *Maternity* From 1887 Meunier was professor in the academies first of Louvain and later of Brussels

Meurthe (mûrt), river, 106 mi long, E France, in Lorraine Rising in the Vosges, it flows NW past Saint-Dié, Lunéville, and Nancy to join the Moselle just N of Nancy Its very irregular level has necessitated an intricate system of controls

Meurthe-et-Moselle (mûrt"ā-mōzĕl'), department (2,039 sq mi, pop 528,805), NE France, in LORRAINE, bordering on Belgium Nancy is the departmental capital

Meuse (mûz), department (2,410 sq mi; pop 188,786), NE France, in LORRAINE, bordering on Belgium It is drained by the Meuse river and traversed by the hills of the ARGONNE Bar-le-Duc (the capital) and Verdun are the chief towns

Meuse (mûz, Fr mûz), Dutch and Flemish *Maas* (mäs), river, c 560 mi long, traversing NE France, S Belgium, and the Netherlands It runs N from the Langres Plateau past Verdun, Sedan, and Mézières, crosses into Belgium, and is joined by the Sambre at Namur From Namur it winds eastward skirting the Ardennes, passes Liége, and turns N into the Netherlands at Maastricht The Belgian section of the Meuse valley is an important industrial and mining region, especially in the districts surrounding NAMUR and LIÉGE After passing Venlo and Bergen in the Netherlands, the river swings westward Near 's Hertogenbosch (which it does not touch) it branches out one branch, arbitrarily called Maas, flows northwest to join the WAAL near Gorinchem; the joint Waal and Maas then form the MERWEDE. The other branch, called Bergsche Maas, flows into an inlet of the North Sea S of Dordrecht The Old Meuse (Dutch *Oude Maas*), which is a branch of the Waal, and the New Meuse (Dutch *Nieuwe Maas*), which is a continua-

tion of the LEK, both actually belong to the Rhine estuary. The Meuse is linked with the port of Antwerp by the ALBERT CANAL and with Rotterdam and other Dutch ports by the intricate system of Dutch waterways, it is thus one of the chief thoroughfares of Europe. A strategic line of defense, particularly in Belgium and France, the Meuse valley has been a battleground in many wars, and most of the cities along its course have been strongly fortified since the Middle Ages.

Mewar, India: see UDAIPUR

Mexia (mühā'ü, -hē'ü), city (pop 6,410), E central Texas, ENE of Waco, settled 1873 A long-prosperous cotton town, it experienced an oil boom after discovery of oil fields in 1920 It has plants processing cotton, textile mills, and other small industries Fort Parker State Park is near by

Mexicali (māhēkā'lē, mēksēkā'lē), city (pop. 18,775), capital of the northern district of Lower California, Mexico Across the border from Calexico, Calif , Mexicali is an important agricultural center in an extension of the Imperial Valley of California Cotton is the chief crop

Mexican art was already highly developed in the ancient civilizations flourishing before the conquest of Cortés Archaeological remains have been found in Mayan and Aztec settlements attesting to a very sophisticated technique Other cultures, such as those of the Toltec and Teotihuacán, also left their stamp on the country in the form of temples, sculpture, pottery, and wall paintings The nearly 100-inch statue of the goddess Coatlicue of Aztec workmanship is an example of the massive classic art that has influenced later artistic developments of Mexico The most unique expression of early Mexican artists are the feather paintings, in which innumerable small pieces of bird feathers in a wide range of colors are gummed against a background to produce a picture So highly developed was this craft that some of the feather paintings look, at a short distance, like meticulous oils The feather painters enjoyed immense social prestige among their people With the coming of the Spanish to Mexico, the natives were introduced to European art, especially painting A good many Spanish paintings were brought there, and the native artists, quick to learn and extremely dexterous, became during the 17th and 18th cent adept at religious oil painting and at modeling religious figures in wax The serenity and sensitivity of the early native art were added to the Spanish influence to give to Mexican painting a mellowness and richness of color not at that time yet achieved in Spain Fifty years or so before Murillo made his mark as a colorist, Mexican artists were already giving their works rich red and blue tones This type of work is sometimes referred to as Mexican baroque to distinguish it from the more rigid, less pliant European baroque Baltásar de Echave, the elder, is considered the first great Mexican artist, he founded the first native school in 1609 His *Agony in the Garden* (1582-1620) is an example of a Renaissance work with a Spanish character The 18th cent produced a large number of artists, outstanding among them were José Ibarra and Miguel Cabrera A period of academic art followed, producing no very distinctive works, this period of imitation was broken at the close of the 19th cent by the painter José María Velasco, whose perceptive landscapes, individual in their execution, again reaffirmed a national style José Guadalupe Posada was famous for his satirical prints Since the revolution of 1910 Mexico has been outstanding in its use of mural painting for the expression of social themes Diego Rivera, José Clemente Orozco, and David Alfaro Siqueiros are the chief representatives of this technique, they are noted also for their revival of fresco painting Widest known of the modern Mexican caricaturists is Miguel Covarrubias, of the abstract painters Rufino Tamayo has shown that in the new and experimental styles Mexican artists have much to contribute Influential as teacher and art critic as well as painter is Dr Atl, pseud of Gerardo Murillo Apart from painting, wood sculpture has also flourished in Mexico throughout its long centuries of civilization, folk arts, such as weaving of serapes, pottery making, and silverwork, have developed alongside the fine arts For Mexican architecture, see SPANISH COLONIAL ARCHITECTURE

Mexican hairless dog, small dog of Mexico, about the size of a fox terrier Its body is hairless, except for a fuzz on the top of the head, and sometimes there are a few hairs at the end of the tail It is of ancient and unknown origin Some say that the dog reached the Valley of Mexico with the Aztec In Mexico it was long valued partly because of the legendary healing powers ascribed to it In the United States it is recognized as a toy breed; it is an active well-proportioned little dog with an arched neck, long tail, and smooth skin (of a variety of solid colors and sometimes mottled). Similar breeds are known in China.

Mexican literature: see SPANISH AMERICAN LITERATURE.

Mexican War, 1846–48, fought by the United States and Mexico. While its immediate cause was the annexation of Texas (Dec., 1845), other factors disturbed peaceful relations between the two republics. In the United States there was agitation for the settlement of the long-standing claims of American citizens against Mexico, and many desired the acquisition of California, which was becoming restive under Mexican control with the influx of English-speaking people and upon which it was believed that France and Britain cast covetous eyes Despite the rupture of diplomatic relations between Mexico and the United States, after the admission of Texas into the Union, President James K Polk sent John SLIDELL to offer the assumption of American claims by his government in return for boundary adjustment and to purchase California and New Mexico, part of which was claimed by Texas When Mexico declined to negotiate, the United States prepared to enforce a settlement which could not be arrived at by diplomacy The war was most heartily supported by frank imperialists and by those who wished to see slaveholding territory extended The settlement of the Oregon boundary dispute (June, 1846), which took place shortly after the outbreak of hostilities, seemed to indicate British acquiescence, for it granted the United States a free hand Early in May, 1845, American troops under Gen Zachary TAYLOR were stationed at the Sabine river preliminary to an advance to the Rio Grande, the southern boundary claimed by Texas In July, Taylor advanced to Corpus Christi, and after the failure of Slidell's mission he occupied (March, 1846) Point Isabel at the mouth of the Rio Grande. To the Mexicans, who claimed the Nueces as the boundary, this was an act of aggression, and after some negotiations Gen Mariano Arista crossed the Rio Grande On May 3 the guns of Matamoros began to shell Fort Brown (then Fort Taylor), an advanced American position near the present Brownsville, Texas President Polk called these Mexican actions an invasion of American soil, and on May 12, 1846, Congress declared war Taylor, meanwhile, had rushed to defend Fort Brown, and before the formal declaration of war reached him he had defeated the Mexicans at PALO ALTO and RESACA DE LA PALMA The Mexicans retreated across the Rio Grande Taylor took Matamoros (May 18) and after a five-day battle (Sept , 1846) occupied Monterrey In June, Stephen W KEARNY left Fort Leavenworth for New Mexico with some 1,600 men including a force of Missouri volunteers under Alexander DONIPHAN Santa Fe was taken, a provisional government was set up, and Doniphan was placed in command of the area Kearny pushed on to California to find that this province with the aid of Commodore John D SLOAT (later relieved by Robert F STOCKTON) and John C. FRÉMONT had already exchanged Mexican for American rule After reinforcements reached Santa Fe, Doniphan was enabled to invade N Mexico, taking El Paso and Chihuahua before he joined forces with Gen John E WOOL (who had advanced SW from San Antonio) and with Taylor at Saltillo SANTA ANNA, who had been in exile in Cuba and had been allowed passage through the U S blockade at Veracruz, had now assumed the presidency and gathered a large force to stop Taylor's advance The American commander was weakened by the transfer of many of his best troops to the expedition Gen Winfield SCOTT was to take to Veracruz Taylor was in an extremely vulnerable position when Santa Anna struck at BUENA VISTA (Feb , 1847) The fighting was hard and was a drawn battle, but the Mexicans withdrew in confusion The final campaign of the war began with the landing of U S forces at Veracruz in March, 1847 Scott was supported by a naval task force under David CONNER (who was relieved by Matthew C PERRY), they landed some 12,000 men and after a three-day bombardment took the city Then began Scott's drive on Mexico city Santa Anna was defeated at the mountain stronghold of CERRO GORDO After hard fighting Mexican forces were routed at CONTRERAS and CHURUBUSCO The Mexicans accepted (Aug , 1847) an armistice, but after a month of futile peace negotiations fighting was resumed The Mexican capital was heavily defended by strong points at Casa Mata and Molino del Rey and the great fortress of CHAPULTEPEC William J Worth carried the strong points The supposedly impregnable Chapultepec was stormed by savage American assault led by Gen John A QUITMAN, the heroic defense offered by the Mexican boy heroes availed nothing On Sept. 14, 1847, American troops entered Mexico city, where they remained until peace was restored The United States had won an easy victory partly because Mexico was torn by civil strife and had no united opposition to face the invader The Mexican presidency had changed hands 12 times in the war, and some of the states had refused to cooperate with the central government Peace negotiations were conducted, on the part of the United States, by N P. TRIST, a secret envoy whose relations with General Scott were at first strained, the final negotiations took place after his authority had expired The treaty which he signed was, however, ratified by the U S. Senate (March 10, 1848). Mexico, by the Treaty of GUADALUPE HIDALGO, ceded to the United States two fifths of all Mexican territory and received an indemnity of $15,000,000 and the assumption of American claims by the U.S government The boundary between the two countries, as outlined, was to follow the Rio Grande from its mouth to the New Mexican line, then W to the Gila river, and with that stream to the Colorado, and then, following the boundary between Upper California and Lower California, to the Pacific See H I Priestly, *The Mexican Nation* (1923), G L Rives, *The United States and Mexico, 1821–1848* (1913), J H. Smith, *The War with Mexico* (1919), Bernard De Voto, *The Year of Decision* (1943), A H Bill, *Rehearsal for Conflict* (1947), R S Henry, *The Story of the Mexican War* (1950).

Mexico (mĕk'sĭkō), Span *México* or *Méjico* (both mĕ'hēkō), republic (760,373 sq mi , 1946 estimated pop 22,776,041), North America, between United States on the north and Central America on the south The capital is MEXICO city. It is the smallest of the three great nations of North America and the largest of the nations of Middle America It stretches south from the river border (the Rio Grande) with Texas and the land borders with New Mexico, Arizona, and California to the borders of Guatemala and British Honduras The Pacific Ocean is on the west and also, as the country tapers to the Isthmus of Tehuantepec, on the southwest and west The Mexican peninsula of Yucatan in the east juts out and helps to divide the Atlantic waters into the Gulf of Mexico and the Caribbean Administratively the country is divided into 28 states and three territories, apart from the capital, which is set aside in the Federal District The states are AGUASCALIENTES, CAMPECHE, CHIAPAS, CHIHUAHUA, COAHUILA, COLIMA, DURANGO, GUANAJUATO, GUERRERO, HIDALGO, JALISCO, MEXICO, MICHOACÁN, MORELOS, NAYARIT, NUEVO LEÓN, OAXACA, PUEBLA, QUERÉTARO, SAN LUIS POTOSÍ, SINALOA, SONORA, TABASCO, TAMAULIPAS, TLAXCALA, VERACRUZ, YUCATAN, and ZACATECAS The territories are the two sections of LOWER CALIFORNIA and QUINTANA ROO Much of Mexico is mountainous The cordilleras of the SIERRA MADRE run southward through the northern and central parts of the country, converging until they reach the transverse east-west volcanic belt, which has some of the noblest peaks of Mexico, including ORIZABA, POPOCATEPETL, and IXTACIHUATL Below the volcanic belt are jumbled masses of mountains and the Sierra Madre del Sur, which have helped to make S Mexico one of the most inaccessible, picturesque, and undeveloped sections The mountains rise above coastal plains in both east and west In the west the plain is narrow, always threatened by the mountains, which ultimately reach the sea in the south There are several good natural harbors, best known among them ACAPULCO and MAZATLÁN The thin peninsula of Lower California is a separate land between the Gulf of California and the Pacific proper In the east the coastal plain varies in width Like the coastal plain in the west, it is excessively hot, but it has rich oil-bearing lands Oil has made the fortune of the northern port, TAMPICO, and has contributed much to VERACRUZ, which has the added distinction of being the old, vital port of Mexico in Spanish times It is still the chief eastern port, supplying Mexico city and the other cities of the central plateau The central plateau, between branches of the Sierra Madre is the heart of Mexico The plateau is not actually a tableland It is broken by mountain ranges and gouged into barrancas hundreds of feet deep Within it are drainage basins that have no outlet to the sea One of them, the LAGUNA DISTRICT, is one of the most productive areas of Mexico. Storms blowing in from the sea are blocked by the mountains The central plateau in the north is desert and semidesert except for the irrigated areas It is used principally for stock raising In the south, the region called ANAHUAC, there are some semiarid sections Aridity is the curse of Mexican agriculture, greatly reducing the area of arable land, which is not naturally extensive because of the mountains and the jungle sections The shortage of food crops is a most serious problem, which even the extensive irrigation schemes will not solve for some time There are, however, many acres yet to be brought under cultivation, and the extension of modern agricultural methods will greatly increase production As yet many of the village farmers generally use the production methods of pre-Columbian days The central plateau has the greatest concentration of population and most of the large cities—MEXICO, GUADALAJARA, MONTERREY, PUEBLA, and the rest Except for the oil-based industries of the coastal cities and the many home crafts throughout Mexico (making of pottery and baskets and the weaving of wool and cotton), the industries of Mexico are concentrated in the plateau cities, notably in Mexico city and Monterrey Textiles and clothing, food and tobacco processing, making of construction materials, and manufacture of leather goods are all of importance. Paper making and publishing are of increasing importance The iron and steel mills at Monterrey are notable, and breweries at Monterrey and Mexico

city are large concerns Many of the mountain towns at the mines (which are overwhelmingly foreign owned) have industries connected with the extracting of minerals In the Yucatan peninsula rainfall is not heavy, but in Tabasco there are steaming tropic jungles with more than 100 in of rain a year The climate varies with the altitude, so that although the country lies mostly in the tropical zone, there are regions of hot, temperate, and cool lands—*tierra caliente, tierra templada,* and *tierra fría.* Mexico produces crops from all these zones, tropical fruits, rubber, chicle, hardwoods, sugar cane, cacao, corn, wheat and other grains, tobacco, and cotton Corn, squash, and beans are the basic subsistence crops today as they were in the times before the coming of the white man The wealth of the mountains in minerals has, however, since the Spanish Conquest been much exploited in silver, gold, lead, tin, antimony, zinc, iron, and mercury Ancient Indian civilizations grew and flourished in Mexico and left great stone remains that have been studied by the archaeologists—the MAYA, the TOLTEC, the AZTEC, the MIXTEC, and the ZAPOTEC The first to visit the coast were Francisco FERNÁNDEZ DE CÓRDOBA in 1517 and Juan de GRIJALVA in 1518 The conquest was undertaken in 1519 by Hernán CORTÉS, who with his able lieutenants such as Pedro de ALVARADO managed by intrigue and hard fighting to take the Aztec capital, TENOCHTITLÁN, bring down the empire of the Aztec, and ward off Spanish rivals such as Pánfilo de NARVÁEZ In 1528 the first AUDIENCIA was set up under Nuño de Guzmán, who then spread Spanish civilization N into NUEVA GALICIA The land was made into the viceroyalty of New Spain under Antonio de MENDOZA in 1535, and the process of Christianizing and Europeanizing the Indians went forward under such men as Juan de ZUMÁRRAGA Nevertheless, the Spanish remained a small number in the vast Indian population, and pacifying and establishing control over the Indians continued an arduous task through the centuries, with serious outbreaks of trouble from the MIXTÓN WAR to the Pueblo revolt The population developed slowly into three groups—the whites, the mestizos, and the Indians They did not coalesce easily, despite the efforts of many able viceroys such as LUIS de VELASCO (both father and son) and the younger conde de REVILLA GIGEDO The efforts of the Church did result fairly early in at least nominal Christianization of the Indians, and the population of Mexico today is overwhelmingly Roman Catholic Yet the Church did not succeed in mending the tissue of society, and the lands owned by the Church and its huge political power tended to add to the problems of a country burdened with the problems of large landholdings and a depressed laboring class on the lands, in the mines, and in the small factories (chiefly the textile mills, called *obrajes*). The increase in the mestizo class, without a place or privileges, and the antagonism between the Spanish-born (*gachupines*) and native-born (*criollos*) added to the stress The system of mercantilism drained the mineral wealth to Spain, and manufacturing establishments were forbidden in New Spain There was much corruption and some apathy in the administration of lesser officials. All these evils grew over the centuries while the conquest and consolidation of new territories went on Most of present Mexico and of the former Spanish holdings in the present United States were occupied early The regions known as Nueva Galicia and Nuevo León were explored in the 16th cent , as was California, but it was not until the middle and the late 18th cent that Nueva Santander (NE Mexico) and Texas were occupied in any large degree, and even then Spanish control was not strong Many of the administrative evils were wiped out by the reforms of José de GALVEZ, who introduced the system of intendancies, but discontent with Spanish rule continued to grow among the creoles Revolutionary ideas were spread from France, and the intellectual and business classes were ripe for revolt when Napoleon's subjugation of Spain offered an opportunity The priest HIDALGO Y COSTILLA opened the rebellion by issuing the *grito de Dolores* [cry of Dolores] on Sept 16, 1811 Armies sprang up under the command of such leaders as Ignacio ALLENDE, José María MORELOS Y PAVÓN, Vicente GUERRERO, and Mariano MATAMOROS. Hidalgo was at first successful but lost (1811) the decisive battle of Calderón Bridge and was captured and executed Morelos and Matamoros were defeated, and Guerrero was driven into the wilds The revolution thus almost died away, but the movement did continue somewhat. It took a new turn when the royalist general Agustín de ITURBIDE negotiated with Guerrero and arrived at the Plan of IGUALA in 1821. This set up an empire, of which Iturbide was emperor, but the scheme was short-lived In 1823 the republican leaders SANTA ANNA and GUADALUPE VICTORIA drove out Iturbide. The republic was set up with GUADALUPE VICTORIA as president. Personalism took hold, each political and military leader seeking his own ends Governments rose and fell. Nothing was done to solve the land problems and the other social evils. Guerrero and Nicolás BRAVO were rivals in Guadalupe Victoria's administration. In 1828 Guerrero, aided by Santa Anna, gained the presidency, but in 1830 he was overthrown Santa Anna's shadow hangs over the next decades of Mexican history. He and Anastasio BUSTAMANTE pursued their separate courses of personal advancement, but it was Santa Anna who dominated Mexico The Texas Revolution threw him from power, but he was able to overcome the disgrace and was again president (1841–44) Waste and corruption and inefficiency were rampant All the while the evils of the social order went unchallenged The war with Texas started a train of events that brought on the war with the United States—the MEXICAN WAR The results were disastrous, and Mexico lost a large block of territory to the United States (later augmented by the GADSDEN PURCHASE). Santa Anna returned to power as "perpetual dictator." The Revolution of Ayutla, which overthrew him in 1855, was the most significant event in Mexican history after the achievement of independence. Men who favored and demanded a reform program came to the fore —Juan ÁLVAREZ, Ignacio COMONFORT, Miguel and Sebastián LERDO DE TEJADA, and, most important of all, Benito JUÁREZ The constitution of 1857 instituted liberal reforms, including secularization of church property, attack on the privileges of the army, and land reform The opposition to the sweeping reforms grew more and more bitter, and when Comonfort resigned, Juárez became president and carried on against the conservatives the vigorous campaigns of the War of the Reform (1858–61) The liberals succeeded, and the conservatives sought foreign aid They found it in Napoleon III Intervention followed and led to the brief interlude of empire in Mexico (1864–67) As long as Emperor MAXIMILIAN was supported by French arms it was hard for Juárez even to maintain resistance, but with the loss of French aid, the frail empire collapsed completely Maximilian was shot, and Juárez again ruled Mexico He consolidated his power, but political differences prevented the accomplishment of the reform program Porfirio DÍAZ, who had led a revolt against Juárez in 1871 and continued it against Sebastián Lerdo de Tejada, once more sprang into revolt when he lost the presidential election of 1876 This time he was successful, and he established himself firmly in power until 1911 The period of his rule was one of great material development, with the spread of railroads, the increase of foreign investments, and the steady growth of national wealth But the social maladjustment was made worse with the favoring of great landowners, the Indians lost more of their lands and sank deeper into PEONAGE The introduction of foreign capital, while it made possible this material progress, also drained Mexican wealth away Education stagnated Self-government was merely formal After a pretense of reestablishing democratic forms, Díaz was reelected in 1910, and an idealistic revolutionary leader, Francisco I MADERO, raised the standard against him The revolution was successful, and Mexico was thrown into a ferment of revolt Madero proved incapable of accomplishing much in reform, because he was not strong enough to establish order He fell, and Victoriano HUERTA established a reactionary rule Revolutions promptly sprang up under the leadership of Venustiano CARRANZA, Francisco VILLA, and Emiliano ZAPATA Huerta was involved in troubles with President Wilson of the United States After a long struggle to maintain himself and after the landing of U S. troops at Veracruz, Huerta resigned (1914) Carranza had adopted a strong revolutionary program, including the nationalization of mineral-yielding lands and the restoration of the communal lands to the Indians He also favored a vast educational plan The liberals fell out Carranza's generals, especially Álvaro OBREGÓN, finally succeeded in defeating Villa and Zapata, but not until Villa's raids had brought on the U S expedition under John J Pershing and had greatly embittered the relations between United States and Mexico The constitution of 1917 outlined agrarian and labor reforms, the educational and religious provisions brought on trouble with the Church, the clauses concerning minerals brought on conflict with foreign capital There was little opportunity to put these reforms into immediate effect as the turbulent revolution went on Obregón led a successful revolt against Carranza, and after the short term of Adolfo de la Huerta as provisional president, Obregón was president (1920–24) There was a concerted effort to systematize the revolution. Uprisings were suppressed, the most important was that of De la Huerta in 1924. Plutarco E. CALLES succeeded to the presidency and continued the establishment of order. Calles became the "strong man" of Mexico His administration (1924–28) saw the advance of some reforms but generally marked a backswing toward conservatism. A working agreement was reached with the United States. Troubles with the Church reached a new extreme in bitterness. The National Revolutionary party was forged and became the one political engine of Mexico; it remained so after Calles's administration, and Calles continued the dominant figure in its organization Obregón, elected to succeed in the presidency, was assassinated. PORTES GIL became president. Calles retired to private life but returned to help put down a revolution in 1929 He was generally conceded to be the power behind the administration of Portes Gil, in which growing conservatism was apparent. ORTIZ RUBIO succeeded Portes Gil as president (1930–32) and was in turn succeeded by Abelardo L. RODRÍGUEZ (1932–34) The provisional presidency ended with the inauguration of Lazaro CÁRDENAS in 1934. Vigorous and idealistic, Cárdenas forced Calles into exile and set about long-needed reforms to improve the lot of the suppressed classes and to make the Indian an organic part of the state. He redistributed communal lands under the EJIDO system and gave power to the labor unions, which had grown large The railroads were nationalized, and foreign holdings (particularly oil and land) were expropriated. Great stress was laid on the educational program, and much progress was made in reducing illiteracy among the Indians. State medical facilities were extended. Communications were improved Reclamation, hydroelectric, and industrial projects were forwarded. A settlement with the Church was reached by the adoption of a more lenient government attitude These reforms were continued under Manuel ÁVILA CAMACHO, but with emphasis on education and industrial development and a turn toward a middle-of-the-road policy Relations with the United States were close Mexico declared war on the Axis Powers in May, 1942 In 1945 the Inter-American Conference on the Problems of War and Peace met in Mexico city and drew up the Act of Chapultepec (see PAN-AMERICANISM) The general tone of this administration was continued after Miguel ALEMÁN became president Irrigation projects were advanced and hydroelectric plants were constructed to supply power for the new industries that were springing up under encouragement Reclamation and industry were looked upon as the possible cure for the low living standard There were setbacks, notably the hoof-and-mouth disease, which in 1947 and 1948 halted the exportation of Mexican cattle The country still is primarily agricultural, but the increase in industry has been enough to make Mexico self-sufficient in textiles and leather goods and promises to bring self-sufficiency and an export surplus in many fields The building of the INTER-AMERICAN HIGHWAY greatly increased the number of U S tourists and thus improved the value of one of Mexico's greatest assets—the physical beauty of the land Roads, rails, and air lines now make most of the regions accessible The federal government has gradually assumed greater power as the reform program went forward This process is continuing and the government in 1950 played a large part in all aspects of national life, as political stability, social readjustment, and economic balance seemed permanent A number of the historical sources have been translated into English, particularly those of the Spanish Conquest Notable are the letters of Cortés and the account by Bernal DÍAZ DEL CASTILLO The most familiar work on Mexican history in English is W H Prescott's *Conquest of Mexico,* still much read See H I Priestley, *The Mexican Nation* (1923), D H Lawrence, *Mornings in Mexico* (1927), J Fred Rippy, José Vasconcelos, and Guy Stevens, *Mexico* (1928), J Fred Rippy, *The United States and Mexico* (1931), Frank Tannenbaum, *Peace by Revolution* (1933) and *Mexico the Struggle for Peace and Bread* (1950), Ramón Beteta, *The Mexican Revolution* (1937), H B Parkes, *A History of Mexico* (1938), L B Simpson, *Many Mexicos* (1941), George Hoyningen-Huene, *Mexican Heritage* (pictures, with a text by Alfonso Reyes, 1946)

Mexico, Span. *México* or *Méjico,* state (8,268 sq mi., 1946 estimated pop 1,317,303), central Mexico The capital is TOLUCA The northern section of the state forms most of the flat Valley of Mexico, part of the ANÁHUAC plateau, temperate in climate, with broad, shallow lakes, it is broken by low mountains The eastern section has mountains and deep valleys, and the southern and western parts are dominated by the rugged terrain of the volcanic belt extending across the center of the country On the southeastern border are the volcanoes, POPOCATEPETL and IXTACIHUATL. Except on the south, the state encircles the Federal District, with the nation's capital, Mexico city. A north-south range, with several peaks over 14,000 ft. high, separates Mexico city from Toluca. The principal river is the LERMA. Mining, agriculture, stock raising, and dairy farming are the chief activities From the mines come gold (El Oro is a leading producer), silver, lead, copper, antimony, and iron Cereals, maguey, coffee, fruits, sugar cane, and tobacco are important crops. Manufacturing includes the processing of the various agricultural products and making of textiles, baskets, glassware, pottery, bricks, liquor, and wines.

Mexico, Span. *México* or *Méjico,* city (pop. 1,448,422, alt. 7,800 ft.), central Mexico, capital and largest city of Mexico, in the southwestern part of the Valley of Mexico, near the southern end of the

plateau of ANÁHUAC. The horizons of the city are nearly blocked by the mountain barriers—high, barren slopes to the north and towering ranges elsewhere The peaks of POPOCATEPETL and IXTACIHUATL are not far off The climate is cool, dry, and healthful, and the annual rainfall in the rainy season (late May to early Sept) is 20 to 25 in Much of the valley is a lake basin with no outlet, and in the rainy seasons mountain floods once swelled the lakes From the time when the Aztec capital of Tenochtitlán stood on an island in Lake TEXCOCO—now the heart of MEXICO city—measures have been taken to protect the city and provide for expansion by draining TEXCOCO and the other lakes, Chalco and XOCHIMILCO. The Spanish viceroys, notably Louis de Velasco, the younger, in the 17th cent, initiated important works In 1900 a central canal with a tunnel was completed and reached to the headwaters of the PÁNUCO river. The Caracol [Span ,=snail], a 12-mile spiral canal fed by longitudinal canals begun in 1936, acts as an evaporating basin, from which valuable minerals (salt, caustic soda, sodium bicarbonate, potash, sodium sulphate, and borax) are taken Drainage and water use by artesian wells have lowered the water table so that the surface crust, formerly supported by subsoil water, can no longer sustain the heavier buildings of the city, which are sinking some 4 to 12 in. a year Some of the finest buildings in MEXICO have been damaged, among them the old cathedral (begun in 1553 on the site of a great Aztec temple) and the Palace of Fine Arts (which has sunk 10 ft) Modern office buildings on the Avenida Juárez opposite Alameda Park and west to the Monument of the Revolution have been shored up with pilings Many monuments of Spanish colonial architecture remain The cathedral and the National Palace are on the great central square, the Plaza de la Constitución (also called the Plaza Mayor and the Zócalo), around which the streets of the old town crisscross in rough gridiron pattern and from which great avenues span out to the far sections of the city Colonial churches and public buildings are also to be seen on the other streets, notably on the Paseo de la Reforma, which cuts across the city from the end of the Avenida Juárez to CHAPULTEPEC Public buildings of the 19th cent have a ponderous grandeur that shows French influence, and there are starkly modern business houses Some of the old buildings as well as the newer (e g , the Palace of Fine Arts, the National Palace, the National Univ , and the National Preparatory School) have murals by the contemporary artists Diego Rivera, José Clemente Orozco, and David Alfaro Siqueiros The noisy movement in the traffic-crowded streets is entirely modern, but the city has been the metropolis of MEXICO since New Spain was first created and the key point for colony and republic The Univ of MEXICO was founded in the 16th cent It was in 1847 taken by Winfield Scott's American army, which had marched inland from Veracruz in the MEXICAN WAR The French army captured it in 1863, and Emperor MAXIMILIAN, crowned in MEXICO city in 1864, did much to beautify the city before it was recaptured by Benito JUÁREZ and his MEXICANS In the years of revolution after 1910 it was a magnet drawing the divergent insurrectionary forces Perhaps the most spectacular incidents were the occupations (1914–15) by FRANCISCO VILLA and Emiliano ZAPATA The huge city today is the commercial, industrial, financial, political, and cultural center of the nation Railroads, highways (including the INTER-AMERICAN HIGHWAY), and airways converge here Since 1935 industry has been much expanded and modernized Among the important manufactures are textiles, tobacco products, glassware, cement and bricks, petroleum by-products, leather goods, clothing, metalwork, soap, alcohol, and matches Population recently has increased rapidly in a city which had already spread out in many middle-class and wealthy residential sections called *colonias*. Beyond them lie the cities of the Federal District, of which AZCAPOTZALCO (pop 31,486) and GUSTAVO A MADERO (pop 25,929) are the largest There are many suburbs of MEXICO city, COYOACÁN (pop. 23,724) is the oldest, with a palace built by Cortés There are noted centers (some included in later towns)—GUADALUPE HIDALGO, XOCHIMILCO, TLALPÁN (pop. 10,436), and Tacubaya.

Mexico. **1** Town (pop 4,431), W Maine, on the Androscoggin opposite Rumford, inc. 1818 **2** City (pop 9,053), co seat of Audrain co , central Mo , NE of Columbia, in a farm area, laid out 1836. Saddle horses are bred here, and the city has fire-brick, shoe, and food-processing industries and railroad shops **3** Village (pop 1,348), N N Y , near Lake Ontario E of Oswego, in a rich farming area; inc 1851. Diabetic foods are made here.

Mexico, Gulf of, arm of the Atlantic Ocean From east to west it is over 1,000 mi. and from north to south c.800 mi It is bordered by Florida, Alabama, Mississippi, Louisiana, Texas, and the east coast of Mexico from the Rio Grande to the Yucatan peninsula. At the entrance is the island of Cuba. On the north side of Cuba the Gulf is connected with the Atlantic by the Straits of Florida, and on the south side with the Caribbean Sea by Yucatan Channel The Bay of Campeche is its largest arm The area of the Gulf is c 700,000 sq mi Its deepest part (12,714 ft), known as the Sigsbee Deep, lies off the Mexican coast The GULF STREAM leaves the Gulf through the Straits of Florida. The shore line is generally low, sandy, and marshy, but there are ports at Tampa and Pensacola, Fla , Mobile, Ala , Galveston and Corpus Christi, Texas, Tampico and Veracruz, Mexico, and Havana, Cuba Chief of the many rivers entering the Gulf are the Mississippi, Sabine, Brazos, Colorado (of Texas), and Río Grande Oil deposits in the Gulf have long been known, and new fields were discovered in the Gulf 8 mi from the Texas and Louisiana coasts in 1948

Meyer, Adolf (ä'dôlf mī'ur), 1866–1950, American psychiatrist, b Switzerland, M D Zurich, 1892 Coming to the United States in 1892, he was professor of psychiatry at Cornell Univ (1904–9) and at Johns Hopkins (1910–41), where he was also director of the Henry Phipps Psychiatric Clinic He was active in the mental hygiene movement from its inception (1908) and suggested the term "mental hygiene" His system, called psychobiology, demanded that each patient's problem be considered in the light of his total personality See his selected papers, *Commonsense Psychiatry* (ed with biographical narrative by Alfred Lief, 1948)

Meyer, Conrad Ferdinand (kôn'rät fĕr'dēnänt mī'ur), 1825–98, Swiss poet and novelist He was 39 when his first volume of verse appeared and 48 when he produced his first *Novelle*, *The Amulet* His other prose fiction, in which field he is a master, includes the *Novellen*, *Der Heilige* (1880, Eng tr , *Thomas à Becket the Saint*, 1885) and *Die Hochzeit des Mönchs* (1884, Eng tr , *The Monk's Wedding*, 1887), and his only novel, *Jürg Jenatsch* (1876) His stories, historical in subject, are not mere costume pieces but studies of human problems, largely ethical His verse is polished, but warm and powerful See study by Arthur Burkhard (1942)

Meyer, Eduard (ä'dōōart mī'ur), 1855–1930, German historian He taught at the universities of Leipzig, Breslau, Halle, and Berlin An authority on ancient history, he made valuable use of numismatics, comparative philology, anthropology, and folklore His chief work is *Geschichte des Altertums* (5 vols , 1884–1902)

Meyer, George von Lengerke (fŭn lĕng'urkē mī'ur), 1858–1918, American diplomat and cabinet officer, b Boston, grad Harvard, 1879 He was a merchant and banker in Boston, held several local offices, and became a member of the Republican National Committee He was (1900–1905) ambassador to Italy, then (1905–7) ambassador to Russia On his return to the United States, he served as Postmaster General (1907–9) in President Theodore Roosevelt's cabinet and Secretary of the Navy (1909 13) under President Taft See biography by M A De Wolfe Howe (1919)

Meyer, Gustav see MEYRINK, GUSTAV

Meyer, Johann Georg (yō'hän gā'ôrk mī'ur), 1813–80, German genre painter, called Meyer von Bremen He worked principally in Düsseldorf and Berlin and excelled in sympathetic studies of peasant life and children Characteristic is his *Letter* (Metropolitan Mus) Examples of his work are in many American collections and in the New York Public Library

Meyer, Lothar (lōtär' mī'ur), 1830–95, German chemist He taught at Breslau, Karlsruhe, and Tübingen (from 1876) and is known especially for his work in the development of the PERIODIC LAW, for which, with Mendelejeff, he received the Davy medal in 1882 He evolved the atomic volume curve (1869), which represented graphically the relation between the atomic weights and the atomic volumes of the elements

Meyerbeer, Giacomo (jäkō'mō mī'yurbār), 1791–1864, German operatic composer, of Jewish ancestry, whose real name was Jakob Liebmann Beer, pupil in composition of Abbé Vogler and in piano of Clementi He traveled in Italy and experimented in various styles of composition, but his real success came only with his spectacular French grand operas—*Robert le Diable* (1831) and his masterpiece, *Les Huguenots* (1836) In these and two other grand operas, *Le Prophète* (Paris, 1849) and *L'Africaine* (produced posthumously, 1865), Scribe was his librettist Two *opéras comiques* are noteworthy, *L'Étoile du nord* (1854) and *Dinorah* (1859) He calculated the taste of his public with tremendous success and was much imitated, notably by Wagner in *Rienzi* Today much of his music seems to many vulgar and repetitious See W. J Crosten, *The French Grand Opera* (1948)

Meyerhof, Otto (ō'tō mī'urhōf), 1884–, German physiologist, M D. Heidelberg, 1909 He was professor at the Univ. of Kiel (1912–24) and at the Univ of Berlin and director of the Kaiser Wilhelm Institute of Medical Research at Heidelberg (1929–38), in 1940 he became professor of biochemistry at the Univ of Pennsylvania. He studied cellular oxidation and discovered the transformation of lactic acid in muscles For this he shared with A V. HILL the 1922 Nobel Prize in Physiology and Medicine His works include *The Chemical Dynamics of Life Phaenomena* (1924).

Meyer-Lübke, Wilhelm (vĭl'hĕlm mī'ur-lüp'kŭ), 1861–1936, Swiss philologist Educated at the universities of Zurich and Berlin, he taught at the universities of Zurich and Vienna, and Bonn He was the author of many works on Romance languages, chief among them being an etymological dictionary (in 13 parts, 1911–20, rev ed , in 20 parts, 1930–35)

Meyersdale, borough (pop 3,250), SW Pa , SE of Somerset near the Md border, laid out 1844, inc 1871 Maple-sap products and coal mining are its industries

Meyer von Bremen see MEYER, JOHANN GEORG

Meynell, Alice (Thompson) (mē'nul), 1847–1922, English poet and essayist, sister of Elizabeth, Lady Butler She was educated by her father and spent most of her youth in Italy Converted to Roman Catholicism in 1872, she wrote much on religious subjects In 1877 she married Wilfrid Meynell (1852–1948), the founder and editor of *Merry England*, a Catholic paper which published the early works of W H Hudson and Hilaire Belloc and to which Mrs Meynell was a frequent contributor The Meynells befriended and encouraged Francis Thompson, whose work also appeared in *Merry England* Mrs Meynell's poetry is in *Preludes* (1875), *Poems* (1893), *Later Poems* (1901), and a collected edition (1923) Among her essays are *The Rhythm of Life* (1893), *The Color of Life* (1896), and *The Second Person Singular* (1921) See biography by her daughter Viola Meynell (1929)

Meyrink, Gustav (gōōs'täf mī'ringk), 1868–1932, German author, whose real name was Gustav Meyer, b Vienna After a brief business career he joined the staff of *Simplicissimus* in 1902 and became famous for his sketches and parodies and for his comedies He translated many of Dickens's works The novels *The Golem* (1916, Eng tr , 1928) and *Walpurgisnacht* [Walpurgis night] (1917) brought him considerable fame His work is a mélange of irony, mysticism, the grotesque and the gruesome, the comic and the bitterly polemic.

Mezahab (mē'zähăb) [Heb ,=water of gold], grandfather of Mehetabel Gen 36 39, 1 Chron 1 50

Mezen (myĕ'zĭnyu), river, 565 mi long, N European RSFSR It rises in the Timan hills and flows generally NW into the Mezen Bay of the White Sea Its lower course is navigable from May to November Near its mouth is the city of Mezen (pop 2,952), a river port exporting lumber

Mézenc, Mont see VIVARAIS

Mézières (māzyĕr'), town (pop 7,898), capital of Ardennes dept , NE France, on the Meuse opposite CHARLEVILLE, which is its twin city An old fortified town, it was successfully defended by Bayard against Emperor Charles V (1521) Its capture (1918) by the Allies marked the last major battle of the First World War

Mezokovesd, Hung *Mezőkövesd* (mĕ'zûkû'vĕsht), town (pop 20,838), NE Hungary, 22 mi SSW of Miskolc It is noted for its traditional costumes and for the fine embroidery which is exported

mezzo-relievo see RELIEF

mezzotint (mĕt'sutĭnt, mĕd'zū–, mĕ'zu–) [Ital ,= half-tint], method of copper or steel engraving It is supposed to have been invented by Ludwig von Siegen c 1640, but it was used most in England in the late 18th and early 19th cent The process involves uniform burring with a curved, saw-toothed tool by cradling it back and forth until the surface of the plate presents an all-over, even grain This yields a soft effect in the print The picture is developed in chiaroscuro with a scraper and a burnisher, every degree of light and shade from black to white being attainable No line drawing is employed, the result being velvety and soft without the sharp lines of an etching Mezzotint is well suited for the reproduction of a certain type of painting and was especially used for reproductions of portraits by Sir Joshua Reynolds and later for landscapes by John Constable and J M W Turner One of the chief English mezzotint engravers was John Raphael Smith

Mfumbiro (mnfōōmbĭ'rō, mnfōōm'bĕrō), volcanic range, on the Belgian Congo–Uganda border There are active cones Mt Karisimbi (kärusĭm'bē) is the highest peak (c 14,780 ft)

Mg, chemical symbol of the element MAGNESIUM.

Miaja, José (hōsä' myä'ha), 1878–, Spanish general. He commanded the Loyalists' defense of MADRID from the beginning of the Spanish civil war (1936) until March, 1939, when the situation had become hopeless He went in exile to MEXICO

Miami (mī'ămē) **1** Town (pop 4,722), E ARIZ , in foothills of the Pinal Mts E of Phoenix, settled 1909. The town more or less superseded GLOBE as a copper-smelting center **2** City (pop 172,172), co seat of Dade co , SE Fla , on Biscayne Bay at the mouth of the Miami river It is one of the most popular resorts and tourist centers of the E United States and has numerous recreational activities—fishing, bathing, horse racing, and the like—and industries dependent on them It is a notable transportation center and a port of entry A number of large air bases (private and governmental) are situated here and air transport with Latin America is important The region of Greater Miami includes Miami, MIAMI BEACH, CORAL GABLES, and HIALEAH. William Brickell and Julia S. Tuttle set-

tled here in the 1870s near the site of Fort Dallas, built during the Seminole War In 1895 Henry M Flagler became interested in the area, made it a railroad terminus in 1896 (when it was incorporated), dredged the Miami harbor, and began the development of the city as a recreation center It received its greatest impetus during the Florida land boom of the mid-1920s Barry College for Women is here At Musa Isle are a Seminole Indian village and an alligator farm Occasional hurricanes have damaged the city **3** City (pop 8,345), co seat of Ottawa co , extreme NE Okla , in an area producing lead and zinc, livestock, and dairy and farm products Truck tires are manufactured A state junior college is here

Miami, Fort. see FORT WAYNE, Ind , SAINT JOSEPH, Mich , MAUMEE, Ohio

Miami, Great and Little, rivers see GREAT MIAMI.

Miami, University of, at Coral Gables, Fla , nonsectarian, coeducational, chartered 1925, opened 1926 It includes a college of liberal arts and schools of business administration, education, engineering, law, and music Its Hispanic-American Institute is well known

Miami Beach, city (pop 28,012), SE Fla , part of Greater Miami, on an island between Biscayne Bay and the Atlantic, inc 1915 In 1913 John S Collins built a wooden bridge from the mainland, but development from a jungle wilderness was slow until the 1920s, when the Florida land boom occurred A popular resort, it is an area of palatial estates and numerous recreational facilities Causeways extend to Miami

Miami Indians, tribe, or group of tribes, of North American Indians of the Algonquian linguistic stock The Miami were people of the Eastern Woodlands area, but they hunted the buffalo which ranged through most of their territory In the mid-17th cent the Miami held land in W Wisconsin, NE Illinois, and N Indiana In the mid-18th cent , however, the invading northern tribes drove the Miami to NW Ohio The Miami occupied this territory until the treaty of 1763, when they retired to Indiana They then numbered some 1,200 The Miami had aided the French in the French and Indian Wars, and they helped the British in the American Revolution With their chief LITTLE TURTLE, the Miami were prominent in the Indian wars of the Old Northwest By 1827 they had disposed of most of their lands in Indiana, and they had agreed to move to Kansas Most of the tribe went (1840) to Kansas and later to Oklahoma In 1872 the small group of Miami left in Indiana surrendered their land to be divided into severalty. The Miami who are on a reservation in Oklahoma number some 300 See Elmore Barce, *The Land of the Miamis* (1922).

Miamin (mĭ'umĭn) [Heb , =on the right hand] **1** One separated from a foreign wife Ezra 10 25 **2** Family of priests Neh 12 5 Miamin 1 Chron 24 9, Neh 10 7 Miniamin Neh 12 17

Miamisburg (mīăm'ĭzbûrg), village (pop 5,544), SW Ohio, on the Great Miami and SW of Dayton, in the leading tobacco region of the state, laid out 1818 and called Hole's Station (for Zachariah Hole) It manufactures tobacco-processing materials and wood products Near by is an Indian mound reputed to be the largest in Ohio

Miami Shores 1 Village (pop 1,956), SE Fla , inc 1932 It was once a part of Miami. **2** Former name of NORTH MIAMI, Fla

Miami University, at Oxford, Ohio, state supported, coeducational, chartered 1809, opened 1824 It includes a college of arts and science (with Scripps Foundation for population research) and schools of business administration, education (with lower schools), and fine arts William H MCGUFFEY taught here, there is a memorial museum

Miantonomo (mēăn"tŭnō'mō, mīăn"-), d 1643, chief of the Narragansett Indians, nephew of another chief, CANONICUS In 1637 he aided the English colonists in the Pequot War The following year he was induced to make a treaty of peace with the English and with his ancient enemy, UNCAS Miantonomo was friendly with the settlers of Rhode Island, particularly with Roger Williams, but was viewed with suspicion in Massachusetts and accused of instigating plots against the English He defended himself in Boston, where he was ill-treated In 1643 he was captured by Uncas and delivered to the English at Hartford, but was returned by them to Uncas to be murdered See H M Chapin, *Sachems of the Narragansetts* (1931).

Miaskovsky, Nikolai Yakovlevich (nyĭskul' yä'kŭvlyĭvĭch myĭskôf'skē), 1881–, Russian composer, b. near Warsaw, grad St Petersburg Conservatory, 1911 He completed his First Symphony in 1908, in 1943 he had composed 24 In addition he has written chamber music, piano music, choruses, and songs, in a conservative and often pessimistic style See A. A Ikonnikov, *Myaskowsky His Life and Work* (1946).

Miass (mēäs'), river, 390 mi long, RSFSR, in W Siberia It rises in the eastern slopes of the Urals and flows N and NE past Chelyabinsk into the Iset, a tributary of the Ob The city of **Miass** (pop. 19,378), on the upper course of the river, is the center of a major gold-mining district.

Mibhar, one of David's men. 1 Chron. 11.38.

Mibsam (mĭb'săm) **1** Son of Ishmael Gen 25 13; 1 Chron 1 29 **2** Son of Simeon 1 Chron 4 25.

Mibzar (mĭb'zär) [Heb , =fortress], duke of Edom. Gen 36 42

mica (mī'kŭ), general term for a large group of minerals, hydrous silicates of aluminum and potassium, often containing magnesium, ferrous iron, ferric iron, sodium, and lithium and more rarely containing barium, chromium, and fluorine All crystallize in the monoclinic system, but mica is most commonly found in the form of scales and sheets All the micas have an excellent basal cleavage, splitting into very thin, elastic laminae Some varieties are transparent, resistance to heat is high Commercially, the most important micas are muscovite (potassium mica) and phlogopite (magnesium mica) Muscovite, the commoner variety, is usually colorless, but it may be red, yellow, green, brown, or gray, with a vitreous to pearly luster It occurs in granites, syenites, mica schists, and gneisses, but is commonest in pegmatite dikes It is widely distributed Phlogopite varies in color from yellow to brown, some specimens having a coppery tint and others being greenish It occurs in crystalline limestones, dolomites, and serpentines in Canada, New York, New Jersey, and Finland Other micas, of little or no importance commercially and, in most cases, restricted in distribution to a few localities, are paragonite (sodium mica), lepidolite (lithium mica), zinnwaldite (lithium-iron mica), biotite (iron-magnesium mica, frequently associated with muscovite), and lepidomelane (iron mica) The clintonites are similar to the micas in crystal form and optical properties, but are chemically more basic and have extremely brittle laminae The chlorites, aluminum silicates with ferrous iron, magnesium, and chemically combined water, are characterized by their green color and the inelasticity of their laminae Neither the clintonites nor the chlorites are commercially important Mica mining, because of the necessity of keeping the crystals intact, is a delicate operation, drills and blasting powder must be used carefully, if at all The mined crystals are first "cobbed," i e , roughly trimmed of rock and cut, then split with a hammer into plates, and further split into sheets with a knife Sheet mica is used chiefly as an insulating material in electrical apparatus, as a resonant diaphragm in phonographs, submarine detectors, and loud-speakers, as a transparent and insulating material in stoves, optical lanterns, lamp shades, and lantern slides Scrap and ground mica is used in wallpaper, fancy paint, ornamental tile, roofing, lubricating oil, and Christmas-tree snow Ground mica is sometimes pressed into sheets (micanite) which can be used as sheet mica Most of the sheet mica used in the United States was long imported, chiefly from India and also from Brazil Synthetic mica was produced in the United States after intensive government-sponsored research began in 1946 See R. R Chowdhury, *Handbook of Mica* (1939)

Micaëlis de Vasconcelos, Carolina (kärōlē'nu mēkaā'lĭsh du vash'kônsĕ'lōōsh), 1851 1925, Portuguese scholar, b Berlin, daughter of a philologist, Gustav von Michaelis While still a girl she earned a name for herself as a Romance philologist, with a special interest in Portuguese After her marriage (1876) to Joaquim de Vasconcelos, a Portuguese art critic and writer, she moved to Portugal There she became an authority on the language, literature, and folklore of Portugal Her minutely careful work covered these fields and opened much new information to the scholarly public, e g , her edition of the *Cancioneiro de Ajuda* revolutionized the history of early Portuguese poetry She was the only woman to be a professor at the Univ of Coimbra and was only honorary professor at the Univ of Lisbon Her name is still sometimes written in the earlier form, Michaëlis de Vasconcellos

Micah (mī'kŭ) [Heb , =Who is like God?] **1** Prophet, author of the book of MICAH **2** Levite 1 Chron 23 20 Michah 1 Chron 24 24 **3** Ephraimite whose sacred belongings were taken from him Judges 17–18 **4** Son of Mephibosheth 1 Chron 8 34, 9 40 Micha 2 Sam 9 12 **5** Same as MICHAIAH **1 6** Same as MICHAIAH **2 7** Reubenite 1 Chron 5 5

Micah (mī'ku) or **Micheas** (mĭkē'us), book of the Old Testament, sixth of the books of the Minor Prophets The book contains the prophecy of Micah, of the second half of the 8th cent B C , a contemporary of Isaiah (fl 710 B C) and Hezekiah Main divisions of the book are the doom of Israel and Judah (1), its necessity founded in hypocritical worship, social injustice, and personal immorality (2–3), ultimate redemption (4–5), and a recapitulation in different form of the same themes (6–7) The Messianic passage in 5 2–6 is famous. Mat 2 6, John 7 42 Some critics attribute chapters 4–7 to later authorship. For bibliography, see OLD TESTAMENT.

Micaiah (mĭkā'yŭ, mī"kā'ĭ'u), Samaritan prophet who foretold the death of Ahab 1 Kings 22.

Micha (mī'kŭ). **1** Same as MICAH **4. 2** Sealer of the covenant Neh. 10 11 **3** Same as MICHAIAH **2**

Michael (mī'kul) [Heb., =Who is like God?], archangel prominent in Jewish, Christian, and Moslem tradition In the Bible he is mentioned several times, each time as a prince or warrior Dan 10 13,21, 12.1, Jude 9, Rev 12 7 In Christian tradition he is the angel with the sword, the conqueror of Satan. In the Roman Catholic Church and in Russia he has had widespread veneration His feast, Michaelmas, Sept 29, is the anniversary of the dedication of a Roman basilica to him, and on May 8 he is honored for his apparition on Monte Gargano, Italy He appeared to Joan of Arc, Mont-Saint-Michel owes its foundation to an apparition of the archangel

Michael I (Michael Rhangabe), d c 845, Byzantine emperor (811–13), son-in-law and successor of Nicephorus I He supported orthodoxy against iconoclasm and recalled Theodore of Studion from exile Disastrously defeated by the Bulgars, he was deposed and went into exile Leo V was proclaimed emperor

Michael II (Michael the Stammerer), d 829, Byzantine emperor (820–29) A native of Phrygia, he was a companion in arms of Emperor Leo V, whom he helped to the throne Leo had him arrested for heading a conspiracy, but the plotters murdered Leo and raised Michael to the throne Indifferent to religious controversy, Michael tolerated both orthodoxy and iconoclasm. Late in his reign, however, he actively supported iconoclasm He lost (823) Crete to the Arabs, who also began (827) the invasion of Sicily His son Theophilus (829–42) and Theophilus' son Michael III (842–67) succeeded him

Michael III (Michael the Drunkard), 839–67, Byzantine emperor (842–67), son and successor of Theophilus and grandson of Michael II His minority saw the final overthrow of ICONOCLASM and a severe persecution of the PAULICIANS Upon coming of age he entrusted the government to his capable uncle, Bardas, whose administration (856–66) was marked by the missions of SS CYRIL AND METHODIUS to the Slavs and by the conversion of Tsar Boris I of Bulgaria The Arabs continued their raids into the empire and extended their conquests in Sicily Michael was addicted to drink and vice and chose his favorites from the most questionable circles One of these favorites was the Macedonian Basil (later BASIL I), who in 866 had the Caesar Bardas assassinated Soon Michael made Basil joint emperor with himself, and in the following year Basil murdered Michael and became emperor In the last year of Michael's reign began the schism precipitated by the patriarch PHOTIUS

Michael VIII (Michael Palaeologus), 1224 82, Byzantine emperor (1261–82), first of the PALAEOLOGUS dynasty By causing the murder of the regent for Emperor JOHN IV of Nicaea, he became (1259) regent and, soon afterward, joint emperor Michael then led his army against the crumbling Latin Empire of Constantinople and recovered (1261) its capital from Emperor BALDWIN II by a simple stratagem a band of soldiers entered the city at night through an old aqueduct and opened the gates for the army, which entered unopposed With the Byzantine Empire thus restored, Michael was crowned again He had John IV blinded and imprisoned The remainder of Michael's reign was taken up by his fight against the Seljuk Turks and against CHARLES I of Naples and Sicily He negotiated with Pope Gregory X for a union of the Eastern and Western Churches, and in 1274 his emissaries at the Second Council of Lyons (see LYONS, SECOND COUNCIL OF) agreed to recognize the spiritual supremacy of the pope However, in 1281 Pope MARTIN IV, a supporter of Charles I of Naples, broke the union by excommunicating Michael, while Charles's troops invaded Epirus Michael's throne was saved only by the SICILIAN VESPERS, which broke Charles's power, an astute diplomat, Michael undoubtedly had a hand in the conspiracy that prepared the Sicilian uprising Michael was distinguished for his learning and left an interesting autobiography. His son Andronicus II succeeded him

Michael (Michael Romanov), 1596–1645, tsar of RUSSIA (1613–45), founder of the ROMANOV dynasty, grandnephew of Anastasia, wife of Ivan IV His election, following the successive appearances of false pretenders (see DMITRI), ended the so-called Time of Troubles that had begun with the death of Boris Godunov The real ruler of the country was the tsar's father, the patriarch Philaret During Michael's reign the peasantry was further reduced to serfdom His son Alexis succeeded him

Michael, 1921–, king of Rumania (1927–30, 1940–47) His father, Prince Carol (later CAROL II), having renounced his right of succession, young Michael ascended the throne under a regency on the death of Ferdinand II However, in 1930, his father returned to be recognized as king When Carol II abdicated in 1940, Michael once more became king In 1944 he overthrew the dictatorship of Ion ANTONESCU and concluded an armistice with the Allies (see RUMANIA) Increasing difficulties with the Communist-dominated coalition government after the Second World War led to his abdication (Dec., 1947) He went into exile He married (1948) Princess Anne of Bourbon-Parma at Athens, Greece.

Michael (Michael Obrenovich), 1823–68, prince of Serbia (1839–42; 1860–68); younger son of Prince

MILOSH He succeeded his brother, Milan His reforming measures aroused the conservative peasants A rebellion resulted (1842) in Michael's deposition and ALEXANDER (Alexander Karageorgevich) became prince. In 1858 Milosh was restored to the throne and Michael returned with his father, on whose death (1860) he once more became prince The ablest Serbian ruler of the 19th cent , Michael modernized his country and prepared its complete liberation from Turkish vassalage. At the end of his reign, the last Turkish garrisons withdrew from the Serbian fortresses, including Belgrade Assassinated by members of the Karageorgovich faction, he was succeeded by his cousin Milan.

Michael. **1** Father of Sethur the spy Num 13 13. **2** Chief of Issachar 1 Chron 7 3, 27 18 **3** One of David's captains at Ziklag 1 Chron 12 20 **4** Jehoshaphat's murdered son 2 Chron 21 2 **5, 6** Gadites 1 Chron 5 13,14 **7** Kohathite 1 Chron 6 40 **8** Benjamite 1 Chron 8.16 **9** Ancestor of a companion of Ezra Ezra 8 8

Michael Acominatus see ACOMINATUS, MICHAEL

Michaelis, Georg (gā'ôrk mĭkh"ăā'lĭs), 1857–1936, German statesman He succeeded (July, 1917) BETHMANN-HOLLWEG as imperial chancellor and was dominated by the military leaders When asked to endorse the resolution passed by the Reichstag favoring peace without annexation or indemnities, he tried to avoid his obligation by stating that he would support the resolution "as he understood it" In Oct , 1917, Michaelis was succeeded by HERTLING

Michaelis, Karin, Dan *Michaelis* (kä'rēn mĭkăā'lĭs), 1872–1950, Danish novelist, sociologist, and lecturer Her chief interest lay in psychological studies of women and their problems She wrote *The Dangerous Age* (1910, Eng tr , 1910), *Little Woman, Your Faith Is Great* (1925), *Mother* (1935), and in 1929-39 a series of children's books about "Bibi," illustrated by Hedvig Collin.

Michaëlis de Vasconcelos, Carolina: see MICAËLIS DE VASCONCELOS, CAROLINA

Michaelmas see MICHAEL, archangel.

Michaelmas daisy see ASTER

Michael the Brave, d 1601, prince of Walachia (1593–1601) Having been obliged to pay a large sum to the Sublime Porte for his appointment as prince, he got rid of his Turkish creditors, who had advanced him the money, by summoning them to his palace and then having them massacred This act was imitated throughout Walachia and became known as the Walachian Vespers He then repeatedly routed a Turkish punitive army with the help of Sigismund Bathory, prince of Transylvania In 1596 the sultan made peace with him, leaving Walachia virtually independent Michael now turned to the conquest of Transylvania, which he accomplished after defeating (1599) Cardinal Bathory, who had succeeded Sigismund as prince In this he claimed to have acted in the name of Emperor Rudolf II, as he did when he entered and conquered Moldavia in 1600 Actually, the emperor had opposed the scheme, but Michael now had accomplished his aim of uniting all Rumanians under his sole rule His hostility to the Hungarian nobles in Transylvania soon caused a rebellion, which was aided by the imperial army in Hungary Defeated, Michael fled and presented himself at the imperial court at Vienna, where he was pardoned and reinstated as governor of Transylvania On his return, he defeated Sigismund Bathory, who had renewed his claim to the principality, but he was shortly afterward assassinated on the order of the imperial general Basta After his death Walachia and Moldavia reverted to Turkish control, while Transylvania came under Austrian domination Though a national hero of Rumania, Michael during his lifetime exceeded the Turks in his oppressive taxation of his subjects

Michah (mī'kŭ), the same as MICAH **2.**

Michaiah (mĭkā'yŭ, mī"kāī'yŭ) [Heb ,=Who is like God] **1** Father of ABDON **2** 2 Kings 22 12 Micah 2 Chron 34 20 **2** Asaphite Neh 12 35 Micah 1 Chron 9 15 Micha Neh 11 17 **3** Priest Neh. 12 41 **4** Same as MAACHAH **3** **5** Prince sent by Jehoshaphat to teach in Judah 2 Chron 17.7 **6** Son of Gemariah who read Jeremiah's prophecies to the princes Jer 36 11–13.

Michal (mī'kŭl), wife of David and daughter of Saul. 1 Sam 18.20, 19 12, 2 Sam 6 16 See MERAB

Michaud, Joseph François (zhôzĕf' frăswä' mēshō'), 1767–1839, French journalist and historian A royalist, he was deported under the Directory for advocating the restoration of the Bourbons On his return (1799) to France he wrote a *History of the Crusades* (Eng tr , 3 vols , 1852), still one of the most widely read works on the subject He was chief editor of the *Biographie universelle* (52 vols , 1811–28; rev ed., 45 vols , 1853–66), a standard biographical reference work

Michaux, André (ädrä' mēshō'), 1746–1802, French botanist. He collected botanical specimens in Europe and Asia and in 1785 was sent by the French government to establish nurseries in America to cultivate plants for naturalisation in France Until 1796 he made botanical journeys over the United States and recorded his studies in a book on the oaks of North America (1801) and in a work on North American botany, *Flora Boreali-Americana* (1803) His son, **François André Michaux** (frăswä'), 1770–1855, is known chiefly for his work on the forest trees of North America (1810–13, Eng. tr., *The North American Sylva*, 1817)

Micheas (mīkē'ŭs), variant of MICAH.

Michel, Claude: see CLODION

Michelangelo Buonarroti (mĭkulän'jŭlō, Ital. mēkälän'jälō bwônär-rō'tē), 1475–1564, Italian sculptor, painter, architect, and poet, b Caprese, Tuscany Upon serving a year of his apprenticeship to the painters Domenico Ghirlandaio and his brother Davide at Florence, Michelangelo entered (1489) the art school held in the Medici gardens under the directorship of Bertoldo (a pupil of Donatello) His early essays in sculpture attracted the attention of Lorenzo de' Medici, who took him to live in his household between 1490 and 1492 Here he was influenced by such men as Politian, Pico della Mirandola, and Marsilio Ficino Drawings of this youthful period in the Louvre attest Michelangelo's study of works by Giotto and Masaccio, while the marble reliefs of the *Madonna of the Stairs* and *Battle of Centaurs* (Casa Buonarroti, Florence) show the influence of Donatello and of ancient Roman sarcophagi He had occasion to study (1494–95) the reliefs of Jacopo della Quercia on the portal of San Petronio, Bologna, when he executed statuettes for the shrine of San Domenico in the same church About this time he was deeply impressed by the teachings of Savonarola Between 1496 and 1501 Michelangelo worked in Rome, where he executed the marble *Bacchus* (Bargello, Florence) and the *Pietà* (St Peter's, Rome) Upon returning to Florence in 1501, he was commissioned by the city to execute the giant *David* (Academy, Florence) and to paint, with Leonardo da Vinci, one of two frescoes depicting scenes from the wars with Pisa for the council hall of the Palazzo Vecchio The cartoons (now lost) for these projected frescoes exerted enormous influence in their period From these years date the marble *Bruges Madonna* (Notre Dame, Bruges) and the painted *tondo* of the *Holy Family* (Uffizi) In 1505 he was called to Rome to execute a sepulchral monument for Pope Julius II Soon after the contract was awarded, Julius II changed his mind in favor of the decoration of the ceiling of the Sistine Chapel Michelangelo fled to Florence and could not be persuaded to undertake the decoration until after a meeting with Julius in Bologna, at which time he was commissioned to execute a seated bronze statue of Julius (destroyed in 1511) The Sistine ceiling was executed between 1508 and 1512 In its profundity of spiritual content and sublimity of style it stands as one of the world's greatest masterpieces A vast architectonic framework divides the ceiling into three superimposed zones In the highest zone are nine panels with scenes from Genesis Below are prophets and sibyls In the lunettes and spandrels of the lowest zone are enigmatic scenes with groups of figures which have been variously identified as the ancestors of Christ or of the Virgin and which seem to suggest a vision of primordial humanity After the death of Julius II the heirs again contracted for the execution of his monument Although litigations with these heirs dragged on some 30 years, the most significant work, including the colossal *Moses* (San Pietro in Vincoli, Rome) and the two statues known as *Bound Slave* (Louvre), was executed between 1513 and 1521 It was a major tragedy for Michelangelo that his plan for a vast temple-mausoleum within St Peter's had to be abandoned and that the monument finally erected in San Pietro in Vincoli was a mere travesty of his original heroic conception He worked (1520–34) on the sepulchral chapel of the Medici, in the Second Sacristy of San Lorenzo, Florence Here he was able to integrate sculpture and architecture into a powerful expressive unity Michelangelo assisted (1829) as engineer in the defense of Florence After the suppression of Florentine freedom Michelangelo established himself in Rome, where he became deeply attached to a young nobleman, Tommaso Cavalieri, to whom he dedicated many sonnets and several drawings of an allegorical nature From 1534 to 1541 he worked on the *Last Judgment* of the Sistine Chapel From this period dates his friendship with Vittoria Colonna, to whom he dedicated many religious sonnets Through her he was introduced to the ideas of such men as Cardinal Pole and Bernadino Ochino This influence was reflected in the intensified concern with religious values manifest in the writings and works of Michelangelo's later years After executing (1541–50) the Pauline Chapel (Vatican) frescoes of the *Conversion of Paul* and *Martyrdom of Peter*, he devoted himself principally to architecture In 1546 he succeeded Antonio da Sangallo the younger as chief architect of St Peter's Michelangelo put into shape Bramante's outlined ideas for the main body of the church, its centralized Greek-cross plan and the great dome which was completed, after his death, by Domenico Fontana and Giacomo della Porta, who but slightly modified Michelangelo's plan Other architectural work included remodeling the tepidarium of the baths of Diocletian into the Church of Santa Maria degli Angeli and designing the façades and court of the palace group on the Capitoline Hill Two unfinished sculptured *Pietà* groups testify to the tendency toward increasingly spiritualized and abstract form in Michelangelo's last years The one now in the cathedral, Florence, was intended by Michelangelo for his own tomb, it was for some reason smashed and survives as reassembled by another sculptor, who seems to have added or entirely reworked the figure of the Magdalen The Rondanini *Pietà* (Sanseverino Palace, Rome) was begun c 1555 and left unfinished at Michelangelo's death Michelangelo thought of himself primarily as a sculptor, and a feeling for the expressive potentialities of sculptural form manifests itself in all phases of his work As a 16th-century artist, he was forced to depend on the favor of great patrons who had means and power to award commissions worthy of his genius Throughout his career his artistic ambitions were thwarted by the caprices of these patrons, by the social instability of the times, by jealousy of other artists, and by the deep moral conflicts that arose within his own spirit This struggle is expressed in an art whose universality transcends definition in terms of one style and which scholars have variously categorized as best associated with the high Renaissance, baroque, or mannerist periods A verse translation of Michelangelo's sonnets was made by J A Symonds (1878) See biographies by J A Symonds (1893, a classic, reprinted in many editions), Ascanio Condivi (Eng tr , 1904), Romain Rolland (1915, 4th ed , 1927), and Marcel Brion (Eng tr , 1940), Charles de Tolnay, *The Youth of Michelangelo* (1943)

Michelet, Jules (zhül' mĕshulā'), 1798–1874, French writer, the greatest historian of the romantic school Born in Paris of poor parents, he visualized himself throughout his life as a champion of the people against its oppressors He was head of the historical section of the national archives and professor of history at the Collège de France, but lost his positions when he refused (1851) the oath of allegiance to Louis Napoleon (later Napoleon III) His major work is his *Histoire de France* (many volumes, 1833–67, there are several partial translations into English), its style, its emotional strength, and its powerful evocation of it among the masterpieces of French literature Michelet sought to trace the biography of the nation as a whole, rather than concentrate on persons or groups of persons His most convincing pages are those dealing with the Middle Ages Michelet possessed vast knowledge of original documents and factual detail, but his history—especially its latter part—is marred by his emotional bias against the clergy, the nobles, and the monarchic institution and tends increasingly toward the end to become a distorted indictment rather than a factual account Michelet was the author of many other political and historical works, most of them outgrowths of his history of France Remarkable among these are his biography of Joan of Arc (1853) and *Le Peuple* (1846) He also wrote romantic impressions of nature and life, among them *L'Oiseau* [the bird] (1856), *L'Insecte* (1850), *La Mer* [the sea] (1861), and *La Montagne* [the mountain] (1868)

Michelozzi, Michelozzo (mēkälôt'tsō mēkälôt'tse), 1396–1472, Italian sculptor, architect, goldsmith, and founder He was long associated with Donatello and Ghiberti Of the statues and reliefs of his first independent sculpture, the Aragazzi Tomb, some are in the cathedral at Montepulciano, for which it was made, two angels are in the Victoria and Albert Museum, London His fame rests chiefly on the architectural and decorative works to which he devoted himself after 1435 With Brunelleschi he shared the leadership in establishing the Renaissance style In Venice and in Milan he designed fine buildings, but his best work was in Florence As architect and art adviser to Cosimo de' Medici he built for him the Riccardi Palace, one of the finest city houses ever made He built the Medici Chapel in Santa Croce, enlarged and rebuilt the Monastery of San Marco, and worked on the restoration of the Palazzo Vecchio

Michelson, Albert Abraham (mī'kulsun), 1852–1931, American physicist, b Strelno, Prussia, grad Annapolis, 1873, and studied at Berlin, Heidelberg, and Paris He was professor of physics at Clark Univ (1889–92) and later was head of the department of physics at the Univ of Chicago (1892–1929) He is known especially for his determinations of the velocity of light, in some of his earliest work he tested the data of Foucault's experiments and, then and later, with apparatus designed and built by himself, obtained results on the speed of light of an unequaled degree of accuracy In general, his experiments on the interference of light waves (optical interference) are of the greatest scientific value He was invited to Paris to make measurements of the standard meter, by the use of his interferometer method, in terms of the wave length of the red portion of the spectrum of cadmium His experimental studies of ether drift contributed to the development of Einstein's theory of relativity Michelson was awarded the 1907 Nobel Prize in Physics, being the first American scientist

to receive this honor In addition to his scientific papers, he was the author of *Velocity of Light* (1902), *Light Waves and Their Uses* (1903), and *Studies in Optics* (1927)

Michigan (mĭ'shĭgŭn), state (57,022 sq mi., with water surface, including enclosed portions of the Great Lakes, c 98,000 sq mi , 1940 pop. 5,256,106, 1949 estimated pop 6,352,000), N United States, in the Great Lakes region, admitted 1837 as the 27th state (a free state) LANSING is the capital, and DETROIT is the largest city The state is in two distinct parts, separated by lake water The Lower Peninsula thrusts northward from Indiana and Ohio, with Lake Erie and Lake Huron (and their Detroit river–Lake St Clair–St Clair river link) separating it from Ontario on the east and Lake Michigan separating it from Wisconsin on the west Across Lake Michigan, NE of Wisconsin, the Upper Peninsula stretches its long eastern reach, separating Lake Michigan from Lake Superior It ends in the east with the near-closing of Lake Superior, where the Upper Peninsula is separated from Ontario only by the narrow river at Sault Ste Marie, and ends in the south with the near-closing of Lake Michigan, where the Upper Peninsula is separated from the Lower Peninsula only by the Straits of Mackinac In the east the Upper Peninsula has swampy flats and limestone hills on the Lake Michigan shore, while sandstone ridges rise abruptly from the rough waters on Lake Superior, in the west the land rises to the forested mountains that still are rich in copper and iron The whole of it is northern woods country with "ten months of winter and two months of poor sledding" The abundance of furred animals and the trees early attracted fur traders and lumbermen The animals were trapped out, many of the virgin forests were ruthlessly stripped, and even the pure copper and the high-grade iron ore were wrested rapidly from the earth Though great mines elsewhere have reduced their significance, mines are still active. In the forests are deer and bear and other big and small game, and in rushing streams and the lakes are fish, the area attracts sportsmen and vacationers The scarred timberlands are being covered with second growth, and the selective cutting and replanting of trees have replaced the rapacious methods of the old-time lumber barons Across the Straits of Mackinac, the Lower Peninsula is a different sort of country, less wild but in parts no less beautiful Its forests also were cut over in the lumbering boom days late in the 19th cent , when sawmills were busy on the many streams and for a time gave Michigan the lead in lumber production The soil of these cut-over lands proved generally too poor for farming, and reforestation is going on The Lower Peninsula has its mineral wealth in things less spectacular than copper and iron—gypsum, sandstone, limestone, and salt There is also some petroleum. The wealth of the Lower Peninsula, however, lies in its farms and its factories The climate, tempered by surrounding waters, allows a long growing season, and grain and vegetable fields cover much of the southern counties while fruit orchards line the shores of Lake Michigan Livestock raising and, more particularly, dairying have lately grown enormously The farms as well as the mines have contributed to the expansion of industry in Michigan Michigan automobile factories are known the world over, and their mass-production methods were the core of an industrial revolution. Detroit, DEARBORN, FLINT, Lansing, and PONTIAC are names to reckon with Yet food processing and lumber products are only less well known, in the United States the very names of some Michigan cities evoke the thought of their principal products—GRAND RAPIDS means furniture, BATTLE CREEK means breakfast foods The Lower Peninsula, too, has its beaches and sand dunes, its blue water, and its woods to attract tourists A state department of conservation plans and executes a program for keeping and improving the natural recreational gifts of the state Those same gifts once made life reasonably comfortable for the Ojibwa, the Ottawa, the Potawatami, and the other Algonquian-speaking Indian tribes who were living in Michigan when Étienne Brulé landed at the narrows of Sault Ste Marie in 1618, the first white man known to have reached the present Michigan Other explorers, traders, and missionaries came—Jean NICOLET seeking the Northwest Passage, Jacques MARQUETTE founding a mission in the Mackinac region, and the empire builder, LA SALLE, on the *Griffon*, the first ship to sail the Great Lakes French posts were scattered along the lakes and the rivers, and MACKINAC island became a business center of the fur trade Detroit, too, rose to prominence after it was founded by CADILLAC, and the Detroit-Mackinac water route, much used, partly explains the later combination of the two disparate peninsulas in one state All this vast, thinly held region was lost to the French by their ultimate failure in the French and Indian Wars. In 1763 Detroit was surrendered to Robert Rogers and his Rangers. The Indians of Michigan, who had lived in peace with the French, resented the coming of the British, the allies of the much-hated Iroquois. Under Pontiac they rose in bloody warfare and terrorised the British in the newly won territory, but the revolt was short-lived and the British won over the Indians so well that the Indians strongly favored them in the American Revolution Despite the Treaty of Paris in 1783, the British held stubbornly to Detroit and Mackinac until 1796 Even after the NORTHWEST TERRITORY was broken up and Detroit was made (1805) capital of Michigan Territory, British agents still held great influence over the Indians, who fought on the British side in the War of 1812 Mackinac and Detroit fell almost immediately from the inefficient grasp of William HULL and his American troops Michigan remained in British hands through most of the war until William Henry HARRISON in the battle of the THAMES and Oliver Hazard PERRY in the battle of Lake Erie restored American prestige in the Old Northwest Slowly after peace had come the flow of pioneers into Michigan rose, then more rapidly Much of the credit for the policy of pushing the Indians westward and opening the lands to settlement is given to Gen Lewis Cass, who was Michigan's governor (1813–31) and later a U S Senator He had in early days done exploring, and he reported fully the possibilities of Michigan He encouraged the Federal government to build five military highways in Michigan Steamboat navigation on the Great Lakes and sale of public lands in Detroit both began in 1818, and the Erie Canal was opened in 1825 Farmers came in numbers to the Michigan fields, and the first sawmills were built on the rivers The move toward statehood was retarded by the desire of Ohio and Indiana to absorb parts of present S Michigan After a census showed a population of 82,273, the Michigan electorate organised a government without U S. sanction and in 1836 operated as a state, though outside the Union Congress offered statehood on condition that the Toledo strip was ceded to Ohio and Indiana with compensation to Michigan of land in the Upper Peninsula Though the electorate rejected the offer, a group of Democratic leaders accepted it, and by their acceptance Michigan became a state in 1837 Detroit remained the capital until 1847, when it was succeeded by Lansing The state promptly adopted a program of internal improvement through the building of railroads, roads, and canals (including the Soo Ship Canal at Sault Ste Marie) A survey of the mineral resources made in 1837 by the state geologist, Douglas Houghton, and William A Burt prefaced the development of the copper and iron mines At the same time lumbering was developing further, and the population was being enriched by the coming of the Germans, the Irish, and the Dutch In 1841 the Univ of Michigan was opened, the first state university and a coeducational institution—a harbinger of Michigan's interest in educational and cultural development in years to come. The state was soon caught in the tension between North and South that led to the Civil War Michigan, thoroughly Northern, helped in the early steps of the formation of the Republican party, and the state was firmly Republican until 1882 Then the farmers, feeling the same radical urge that moved other Western farmers against the railroads and the interests, joined with the growing labor group from the mines and the lumber camps They succeeded in passing legislation for agrarian improvement and public welfare The labor movement early was expressed by the creation of a state bureau of labor (1883), by a law enforcing a 10-hour day (1885), and by a moderate child-labor law (1887) The lumbering business, with its logging camps, its shanty-built towns, its notable lumber-town fires, and its yield of wealth to the lumber barons, declined to nothing. Some, at least, of the loggers joined the ranks of industrial workers The ranks of labor were swelled by many Polish and Norwegian immigrants More important was the invention of the automobile, for industry in Michigan was completely changed by the building of automobile plants Henry FORD was the outstanding figure, but many others joined to build the industry. The development of mass-production methods changed the organization of labor (approximately half the industrial workers of the state are in the automotive industry) In the 1930s unionization advanced in struggles marked by sit-down strikes and by some violence The conflict continued in the 1940s, perhaps with less bitterness In the Second World War, Michigan was particularly notable for its industrial contribution to the war effort with the transformation of factories to the production of tanks, airplanes, and other war matériel On industrial frontiers the state has continued to show the vigorous pioneering spirit that marked its settlement a century ago See H. M Utley, B. M Cutcheon, and C M Burton, *Michigan as a Province, Territory, and State* (4 vols., 1906), Michigan State Planning Commission, *Study of Michigan* (1935), Stewart Holbrook, *Holy Old Mackinaw* (1938); George Fuller, ed , *Michigan. a Centennial History* (5 vols., 1939); Calvin Goodrich, *The First Michigan Frontier* (1940), Federal Writers' Project, *Michigan. a Guide to the Wolverine State* (1941, rev. ed., 1946); Angus Murdock, *Boom Copper* (1943), M. M. Quaife and Sidney Glazer, *Michigan, from Primitive Wilderness to Industrial Commonwealth* (1948).

Michigan, Lake, 307 mi. long and 118 mi at its greatest width, third largest of the Great Lakes Lying 579.79 ft. above sea level, it has a maximum depth of 923 ft and an area of 22,400 sq. mi Michigan borders it on the east and north, Illinois and Wisconsin on the west, and Indiana on the south. The Straits of Mackinac at the northeast end of the lake, its only natural outlet, connect it with Lake Huron The Illinois waterway (the Chicago Sanitary and Ship Canal, connecting with the canalized Des Plaines and Illinois rivers) links Lake Michigan with the Mississippi river and the Gulf of Mexico The harbors at the south end of the lake are usually open all year, but those in the north are closed by ice for at least four months Despite the prevalence of sudden, dangerous storms, the lake carries a vast amount of shipping Cities on its shores include Michigan City and Gary, Ind , Chicago, Evanston, and Waukegan, Ill , Kenosha, Racine, Milwaukee, Manitowoc, and Two Rivers, Wis.; and Escanaba, Manistee, Ludington, Muskegon, Grand Haven, and Benton Harbor, Mich. Among the islands in the northern reaches of the lake is Beaver Island. The largest arm of the lake is Green Bay. Lake Michigan was discovered (1634) by Jean Nicolet and was later explored by Marquette and Jolliet. See M. M. Quaife, *Lake Michigan* (1944)

Michigan, University of, at Ann Arbor, state supported, coeducational Chartered in 1817 as the Catholepistemiad (or University) of Michigania, it was rechartered in 1821 and 1837; it opened as a school in Detroit in 1817 and reopened as a college in Ann Arbor in 1841 It includes colleges of architecture and design, engineering, pharmacy, and literature, science, and arts (with library science and journalism) and schools of business administration, dentistry, education, forestry and conservation, law, music, nursing, public health, and medicine There are institutes of dentistry, human adjustment, medical research, public and social administration, state and U S fisheries research, noted museums of archaeology, anthropology, paleontology, and zoology, a herbarium, a university press; and lower schools There are observatories at Ann Arbor and in South Africa, McMath-Hulbert Observatory, with a solar tower, is near Pontiac The library has especially fine collections of Americana (in the William L Clements Library, founded 1923), Shakesperiana, papyri, and works on political science See Kent Sagendorph, *Michigan the Story of the University* (1948)

Michigan City, city (pop 26,476), NW Ind , on Lake Michigan c 40 mi. ESE of Chicago, settled 1830, inc 1836 It is a summer resort with excellent lake-front facilities. Furniture and Pullman cars are made here It is the seat of Indiana State Prison

Michigan State College of Agriculture and Applied Science, at East Lansing, with land-grant support, coeducational, chartered 1855, opened 1857 as the first state agricultural college, renamed 1925 It has divisions of agriculture (with forestry), applied science (with police administration), engineering, home economics, liberal arts (with music), and veterinary science.

Michilimackinac: see MACKINAC.

Michmas or **Michmash** (both mĭk'–), town, c.8 mi NE of Jerusalem It was a bivouac of Jonathan in his Philistine wars 1 Sam 13, 14, Ezra 2.27, Neh 7.31

Michmethah (mĭk'mĕthä), unidentified place, central Palestine Joshua 17 7.

Michoacán (mēchōäkän'), state (23,202 sq. mi , 1946 estimated pop 1,370,483), W Mexico Dominated by the mountains of the Sierra Madre Occidental and the east-west volcanic chain of central Mexico, Michoacán extends from the Pacific northeastward into the central plateau. The LERMA river and Lake CHAPALA form part of its northern boundary with Jalisco, and the Río de las BALSAS the southern boundary with Guerrero. The variety of climate and soil occasioned by topography and differences of elevation make Michoacán predominantly an agricultural state Sugar cane, coffee, vanilla, tobacco, cereals, and subsistence crops are grown, and cattle and sheep are raised From the forests come fine cabinet woods and dyewoods Mining is a leading industry, gold and silver are most important, but lead, cinnabar, iron, copper, sulphur, coal, and petroleum are also exploited. With no important Pacific port, Michoacán ships its products from the urban centers, URUAPAN and the capital, MORELIA. Of interest to tourists are Lake PÁTZCUARO and the volcano PARICUTÍN Most of the inhabitants are TARASCAN INDIANS Michoacán played an important part in the revolution against Spain and the subsequent turbulent struggles of Mexico.

Michri (mĭk'rī), ancestor of Elah. 1 Chron. 9.8.

Michtam (mĭk'tăm), in the titles of Pss. 16, 56, 57, 58, 59, 60, a word of uncertain meaning, perhaps indicating the type of psalm.

Michurin, Ivan Vladimirovich (ēvän' vlŭdyē'mĭrŭvĭch mēchōō'rĭn), 1855–1935, Russian horticulturist. He is noted for his experimental efforts to produce

better fruit trees by grafting. His theory that hereditary changes can be induced by grafting and that acquired characters are inherited was elaborated by T. D Lysenko and his followers and was officially supported (1948) by the Soviet Central Committee He founded at Kozlov (later renamed Michurinsk in his honor) a nursery that was taken over by the state after the 1917 revolution; it was placed under his direction and was enlarged to include a technical college and a research laboratory

Michurinsk (mĭchōō'rĭnsk, Rus mēchōō'rĭnsk), city (pop 70,202), central European RSFSR, NW of Tambov It is a railroad center Founded in 1636, it was known until 1926 as Kozlov. Its new name is in honor of the 19th-century Russian scientist Michurin, who founded here a horticultural experimental institute Besides the institute, there are several other educational institutions

Mickiewicz, Adam (ä'dăm mēt'skyĕ'vĭch), 1798–1855, Polish poet Born in what now is Belorussia, he studied in Vilna, where he was arrested (1823) for his activities in illegal student organizations and was deported to Russia, never to return to Poland Fearing another arrest, he left Russia (1829) and traveled through Europe, becoming a professor of literature in Lausanne (1839) and Paris (1840) Mickiewicz, influenced by the revolutionary spirit of 1848, went to organize Polish legions in Rome and later in Constantinople, where he died His body was deposited (1890) on the Wawel in Cracow Mickiewicz had been acquainted with Pushkin and Goethe Deeply attached to his homeland, he was during his exile influenced by Messianism His works include the historical poems *Pan Tadeusz* (1834) and *Konrad Wallenrod* (1825–28), the drama *Forefather's Eve* (1823), *The Books of the Polish Nation and of Polish Pilgrimage* (1832), prose, *Sonnets from the Crimea* (1825), the epic *Grazyna* (1823), and several ballads and odes These and other works have been translated into English See study by M M Gardner (1911)

Micmac Indians, tribe of North American Indians of ALGONQUIAN stock, in Nova Scotia, Cape Breton Island, Prince Edward Island, Newfoundland, and New Brunswick There are a number of confederated bands The Micmacs are expert canoeists, and their economy centers about fishing and shore hunting The French came into contact with them in the 16th cent , and the Micmacs were allies of the French and enemies of the English throughout the history of New England Contact with the whites has not had the usual effect of tribal disintegration and the Micmacs still thrive, though their culture has changed radically Thev are all Roman Catholics The men are professional hunting guides

Micon (mī'kŏn), fl c 460 B C , Greek painter and sculptor In collaboration with Polygnotus he painted *The Greeks and the Amazons* and the celebrated *Battle of Marathon* in the Stoa Poecile at Athens He is supposed to have helped decorate with paintings the temple of the Dioscuri at Athens and the Theseum

microbiology: see BIOLOGY

microcephalia. see FEEBLE-MINDEDNESS

Micronesia (mīkrōnē'shu, -shu), one of the three main divisions of the Pacific islands, in the W Pacific, north of the equator It includes the Carolines, Marshalls, Marianas, and Gilbert Islands The inhabitants are related to the Malays and stem from Negroid and Mongoloid stock. They speak Malayo-Polynesian languages (see LANGUAGE, table)

microphone (mī'krufōn), device for converting the acoustic energy of sound waves into waves of electrical energy, used in radio broadcasting, recording, and sound amplifying systems The first microphones were based on the fact that as the pressure holding electrical contacts together is increased, the resistance between them decreases The microphone, various forms of which were developed c 1877 by Emile Berliner, David E Hughes, and Thomas A. Edison, was first used as a telephone transmitter, the vibrations of an acoustic diaphragm applying fluctuating pressures on the contact point of two electrodes The present-day telephone transmitter is essentially a microphone of the carbon type, in which carbon grains are compressed by the mechanical force of sound waves, the resistance of the carbon varying inversely with the compression and thereby varying the flow of current in the associated circuit All other microphones in common use generate audio voltages of their own in response to the sound pressure applied to them The crystal microphone employs the piezoelectric effect derived from two thin plates of Rochelle-salt crystals cut in opposing grain Sound-wave pressure causes varying degrees of expansion in the plates, causing them to bend like the metal band of a thermostat and generate a voltage across their surfaces Two other types of microphone generate their voltages by the Faraday principle of electromagnetic induction; the ribbon or velocity type employs a thin metal ribbon suspended in a stable magnetic field, vibrations in the ribbon caused by sound waves generating a current from this field, the moving coil or dynamic microphone operates on similar principles, but uses a light movable coil attached to a dome-shaped diaphragm in place of the ribbon.

microscope, optical instrument used to increase the apparent size of an object. A magnifying glass, an ordinary double convex LENS having a short focal length, is a simple microscope The reading lens and hand lens are instruments of this type. The principle involved is when an object is placed nearer such a lens than its principal focus—i e , within its focal length—a virtual IMAGE is produced which is erect and larger than the original object. The magnification is commonly expressed in diameters For example, if a lens magnifies an object 5 times, the magnification is said to be 5 diameters, commonly written simply "5x " The compound microscope consists essentially of two or more such lenses fixed in the two extremities of a hollow metal cylinder This cylinder is mounted upright on a screw device, which permits it to be raised or lowered above the object until a clear image is formed The lower lens (nearest to the object) is called the objective, the upper lens (nearest to the eye of the observer), the eyepiece The total magnification of the compound microscope is computed by multiplying the magnifying power of the objective by the magnifying power of the eyepiece When an object is in focus, a real, inverted image is formed by the lower lens at a point inside the principal focus of the upper lens This image serves as an "object" for the upper lens which produces another image larger still (but virtual) and visible to the eye of the observer Briefly, the object is magnified by the lower lens, the enlarged image of the object by the upper lens The compound microscope is widely used in bacteriology, biology, and medicine in the examination of such extremely minute objects as bacteria, other unicellular organisms, and plant and animal cells and tissue. It has been extremely important in the development of the biological sciences and of medicine Its invention is variously accredited to Zacharias Janssen, a Dutch spectaclemaker, c 1590, and to Galileo, who announced his invention in 1610 Other men are known for their discoveries made by the use of the instrument and for their new designs and improvements, among them G B Amici, Nehemiah Grew, Robert Hooke, Leeuwenhoek, Malpighi, and Swammerdam The ultramicroscope is an apparatus consisting essentially of a compound microscope with an arrangement by which the material to be viewed is illuminated by a point of light placed at right angles to the plane of the objective and brought to a focus directly beneath it This instrument is used especially in the study of Brownian movement in colloidal solutions (when the particles of the COLLOID appear, by reflection, as tiny dancing points of light) The electron microscope, since it is not limited by the powers of optical lenses and light, permits greater magnification and greater depth of focus than the optical microscope and reveals more details of structure Instead of light rays it employs a stream of electrons controlled by electric or magnetic fields. The image may be thrown on a fluorescent screen or may be photographed It was first developed in Germany c 1932, James Hillier and Albert Prebus of Canada and V K Zworykin of the United States contributed notably to its development in this hemisphere See F J Muñoz and H A Charipper, *The Microscope and Its Use* (1943), E F Burton and W H Kohl, *The Electron Microscope* (2d ed , 1946)

Midas (mī'dus), in Greek legend, king of Phrygia, son of GORDIUS Because he befriended SILENUS (or one of the sileni), Dionysus granted him the power of turning everything into gold by touch Midas tired of his gift when even food became gold in his hand Dionysus allowed him to wash away his power in the Pactolus river, which afterward had gold-bearing sands It was also said that Midas was given ass's ears by Apollo for preferring, in a contest, the music of Marsyas (according to another account Pan) to the god's Midas preserved his shame from all but his barber, who, wishing to tell it, whispered it into a hole in the ground Reeds which grew out of that hole told the secret There was also a historical king of Phrygia named Midas in the 8th cent B C

Middelburg (mĭ'dŭlbûrkh), municipality (pop 20,353), capital of Zeeland prov , SW Netherlands, on Walcheren island, NNE of Flushing It is a trade center and has varied manufactures. Middelburg was a flourishing commercial city in the Middle Ages and belonged to the Hanseatic League The last Spanish fortress in Zeeland, it was captured (1574) by the Beggars of the Sea after a fierce battle In the Napoleonic Wars, Middelburg was briefly occupied (1809) by the British It was flooded in the Second World War and was taken late in 1944 by British troops There was much destruction, but the fine 15th-century city hall and the 12th-century abbey remain

Middelfart (mĭ'dhŭlfärt), city (pop. 8,080), Fyn island, Denmark It is a port on the Little Belt, which is bridged here

Middin, unidentified town, S Palestine. Joshua 15 61.

middle, in grammar: see VOICE

Middle Ages, period in Western European history following ancient times and preceding modern times. Exact dates for the beginning and end of the Middle Ages tend to mislead by suggesting that the gradual transitions were abrupt, and different dates are preferred by different scholars For the beginning, one of the convenient dates is the fall of the Western Roman Empire in 476. For the end, a convenient date is the discovery of America by Columbus in 1492. Other landmarks of the end of the Middle Ages include the REFORMATION, the change in scholarship and the fine arts known as the RENAISSANCE, and the invention of printing The Middle Ages have been called the Dark Ages As it was found that the darkness was not so much in the period as in the minds of those who considered it, the term was first limited to an earlier part of the Middle Ages and was then generally discarded So vast a division of history must show great differences in times and places, yet it is not difficult to see a unity in the Middle Ages At the beginning, the position of Christianity was apparently insecure. At the end, it was the religion of essentially all the peoples who are Christians today The Middle Ages, then, were the period of the organization and spread of Christianity Christian doctrine was systematized by able theologians, as St THOMAS AQUINAS (see SCHOLASTICISM) Monastic communities set an example of civilized Christian living Friars, as the followers of St FRANCIS of Assisi, brought the faith and spirit of Christianity to individuals throughout Europe. With Christianity came civilization, so that by the end of the Middle Ages, though much even yet remains to do, no part of Europe could be called uncivilized The unity of Europe in the Middle Ages was in the faith, doctrine, and institutions of Christianity Secular organization was typically local, with home rule or a large measure of it Noblemen had much authority over the people of their domains (see FEUDALISM), and the free town or city became the typical urban community Larger organizations, as the empire of CHARLEMAGNE and the HOLY ROMAN EMPIRE, were ambitious but insecure A secular institution allied with Christianity was chivalry, best exemplified by the orders of knighthood, codes of conduct are yet based upon it Conspicuous military adventures of the period included the CRUSADES GOTHIC ARCHITECTURE originated and was carried to its highest development, covering Europe with the "white robe of churches" that remains its chief ornament. In literature, forms wholly different from those of ancient times, as verse based on rhythm and rime, were used by such masters as DANTE and CHAUCER Printing was not invented until the 15th cent , but illuminated manuscript books were made of a beauty that printing does not achieve Artisans were organized in guilds, and their position seems to have been more satisfactory to them than artisans had found their position before or have found it since The craftsmanship of the medieval guildsmen attained a uniform excellence Possibly the fatal weakness of the system of GUILDS was that it was urban and did not include agriculture Medieval endeavor in general had other motives than riches or fame Few men of the Middle Ages are remembered for their wealth, and anonymity is characteristic of medieval art Of the older histories in English some of the most used were Ephraim Emerton, *Introduction to the Study of the Middle Ages, 375–814* (1888), *Medieval Europe, 814–1300* (1894), and *Beginnings of Modern Europe, 1250–1450* (1917) and G B Adams, *Civilization during the Middle Ages* (1894) See *Cambridge Medieval History* (8 vols , 1911–32), Henry Adams, *Mont-Saint-Michel and Chartres* (1913), Ralph Adams Cram, *The Great Thousand Years* (1918), Henry Osborn Taylor, *The Mediaeval Mind* (4th ed , 1925), E K Rand, *Founders of the Middle Ages* (1928), Lynn Thorndike, *The History of Medieval Europe* (new ed , 1931), L J Paetow, *Guide to the Study of Medieval History* (rev ed , 1931), W G Ault, *Europe in the Middle Ages* (rev ed , 1937), J W Thompson and E N Johnson, *Introduction to Medieval Europe, 300–1500* (1937), Carl Stephenson, *Medieval History* (rev ed , 1943), John L. La Monte, *The World of the Middle Ages* (1949)

Middleboro, town (pop 9,032), SE Mass , between Plymouth and Taunton, settled 1660, inc. 1669 Shoes are made here

Middleburg, 1 Village (pop 1,074), E N Y., on Schoharie Creek and SW of Albany, in a farm and resort area, settled 1712, inc 1881 2 Borough (pop. 1,124), co seat of Snyder co , central Pa , SW of Sunbury, settled c 1760, laid out 1800, inc. 1856. Its industries include dairying

Middleburgh Heights, village (pop 1,225), NE Ohio, near Cleveland, inc 1927

Middlebury. 1 Town (pop 2,173), SW Conn , between Waterbury and Woodbury; settled early in the 18th cent , inc 1807 It is the site of country and summer homes 2 Town (pop 3,175), co. seat of Addison co , W Vt., on both sides of Otter Creek, chartered 1761, first settled 1773, permanently settled 1783 It includes Middlebury village (pop 2,123) There are a few 18th-century buildings in the town Sheldon Art Museum (1829) contains collections, mainly colonial, begun by Henry Sheldon Edward John Phelps was born in Middlebury. The Middlebury Female Academy was the

scene of Emma Hart Willard's first educational work. Middlebury College (nonsectarian; for men and women) was chartered and opened in 1800. The college owns a large forest tract The foreign-language summer schools here and the writers' conferences at near-by Bread Loaf Mt are noted See W Storrs Lee, *Father Went to College* (1936) and *Stagecoach North* (1941).

middle class: see BOURGEOISIE

Middle Congo. see FRENCH EQUATORIAL AFRICA.

Middle Country: see MIDDLE KINGDOM

Middle East, in the more usual sense, term applied to the countries of SW Asia lying W of Afghanistan, Pakistan, and India Thus defined it includes Turkey, Syria, Israel, Jordan (and the annexed areas formerly part of Palestine), Iraq, Arabia, and Iran Some writers, however, use the term *Middle East* to mean the group of lands (now or until recently) predominantly Moslem in religion and Arab in background Such usage excludes Turkey from the above list but adds Egypt

Middle English literature is a conventional designation for the literature of England from 1100 to 1500 It is best considered separately from ANGLO-SAXON LITERATURE and from ENGLISH LITERATURE (modern) because the Middle English dialects differ from Anglo-Saxon and from modern English (see ENGLISH LANGUAGE) and because the Norman Conquest and the Renaissance were significant in changing both the sources and the forms of English literature For nearly 200 years after the Conquest, until c 1250, English was the language only of the lower classes, and although some popular literature was produced in it, the greater portion appeared in French, the language of the upper classes, and in Latin, still the universal language of Western Europe (see MEDIEVAL LATIN LITERATURE) The French culture of England, sometimes called Anglo-Norman, produced works commensurate in quality with those in continental France and also set the pattern for much of the later literature in English Before 1250, in its best period, it included many important compositions historical verse chronicles such as that of Geoffrey Gaimar, romances such as the *Tristan* of Thomas of Britain, such biographies as the anonymous work on William Marshal, earl of Pembroke, the lais of Marie de France; and numerous religious and encyclopedic works From c 1150, when Middle English became distinctive from Anglo-Saxon, until 1250, literature in English was predominantly religious. Outstanding in this vein were the *Ancren Riwle*, a warmly human treatise of instruction to anchoresses, and the *Orrmulum*, a lengthy redaction of the Gospels Also important were Layamon's *Brut*, a verse chronicle in which the ARTHURIAN LEGEND appears for the first time in English, and *The Owl and the Nightingale*, a lively and entertaining debate in verse Early and accomplished examples of the rhymed lyric are to be found in the songs *Alsoun* and *Sumer Is Icumen In* From 1250 to 1350 English was becoming the ascendant language in which were now produced many religious and secular works Examples of the former were *The Debate of the Body and the Soul*, *Cursor Mundi*, a legendary history of the world, Robert Manning's *Handlyng Syn*, and the writings of Richard Rolle, the mystic Important in lay literature were the many romances, most of which were translated or adapted from the French and dealt with standard subjects—Alexander, Troy, Charlemagne, and Arthur and his knights Some romances, however, owed their ultimate sources to purely English history or tradition, highly popular were *King Horn*, *Havelok the Dane*, *Bevis of Hampton*, and *Guy of Warwick* The greatest period of Middle English literature was the last half of the 13th cent when there appeared a number of individual authors with mastery of the language and of French or native forms In the alliterative meter, which had survived in English popular tradition, the anonymous author of the 14th-century poem *The Pearl* composed *Sir Gawain and the Green Knight* It is the only Arthurian romance in English which compares with the polished works of earlier French and German authors such as Chrestien de Troyes and Wolfram von Eschenbach William Langland, another alliterative poet, composed in this period *Piers Plowman*, a long allegory justly famous for its intense religious vision and social protest Geoffrey Chaucer is not only the greatest figure in Middle English, but also one of the greatest in all English literature by virtue of his broad humanity, his humor, his narrative skill, and his mastery of prosody In *Troilus and Criseyde* and the *Canterbury Tales* appears a cross section of the best medieval European literature, all transformed by the alembic of his genius A lesser contemporary was John Gower, whose *Confessio Amantis* shows considerable narrative ability The 15th cent saw many imitators of Chaucer John Lydgate and Thomas Hoccleve were the main ones in England, they were surpassed by King James I and Robert Henryson of Scotland (see SCOTTISH DIALECT) In the 15th cent also appeared a considerable body of excellent anonymous poetry in carols and in ballads (see BALLAD) like those of Robin Hood In this century, too, English medieval drama reached the peak of its long development in the mystery plays (see MIRACLE PLAY) of the Wakefield cycle. As English had become the predominant language, an adequate prose had begun to develop in the 14th cent The styles of the translator John of Trevisa and of the theologian John Wyclif are inclined to stiffness, but the translation of the Bible by the latter's follower, John Purvey, looks forward to the style of the King James Version. In the 15th cent. learned men like Reginald Pecock and Sir John Fortescue furthered the development of English for philosophical writing and argument In the evolution of an idiomatic prose, equally important were more popular works such as the translations of Mandeville's *Voyage and Travaile* and *The Book of Margery Kempe* The best-known prose work remains Sir Thomas Malory's *Morte d'Arthur*, both for its style and for its preservation of the Arthurian story Another later work genuinely medieval was the morality play *Everyman* (late 15th cent) See R M Wilson, *Early Middle English Literature* (1939), E K Chambers, *English Literature at the Close of the Middle Ages* (1945), H S Bennett, *Chaucer and the Fifteenth Century* (1947), A C Baugh, "The Middle English Period," in *A Literary History of England* (1948), translations of representative works in R S Loomis and Rudolph Willard, *Medieval English Verse and Prose* (1948)

Middlefield, industrial town (pop 1,230), S Conn , settled c 1700, set off from Middletown 1866 Dinosaur tracks found here were acquired by the Peabody Museum of Yale

Middle Kingdom or **Middle Country,** Mandarin *Chung Kuo*, Chinese name for China It dates from c 1000 B C , when it designated the Chou empire situated in the province of Honan. The modern name for China is Chung Hua Min Kuo [central glorious people's country, i e , republic]

Middleport 1 Village (pop 1,575), W N Y , NE of Buffalo and on the Barge Canal, settled 1812, inc 1859 **2** Village (pop 3,356), SE Ohio, on the Ohio river and SW of Marietta **3** Borough (pop 1,077), Schuylkill co , E Pa , near Pottsville, laid out 1830, inc 1859

Middlesboro, city (pop 11,777), S Ky , in the Cumberlands near the point where Kentucky, Tennessee, and Virginia meet, in a coal and farm area, founded 1889 It is a resort, a mining center, and a railroad division point, with a foundry, machine shops, and other plants Cumberland Gap and Pinnacle Mt are near by

Middlesbrough (-bru), county borough (1931 pop 138,274, 1947 estimated pop 142,660), North Riding of Yorkshire, England, on the southern bank of the Tees estuary It grew from a village after the opening of the Stockton-Darlington Railway and after the discovery of iron in the Cleveland Hills near here There are great iron and steel plants and technical and metallurgical schools, libraries, and museums The South Gare breakwater (1863), 2½ mi long, and the North Gare breakwater are partly built of slag from the factories The parish church of St Hilda takes its name from a very early religious establishment

Middlesex, inland county (232 sq mi , 1931 pop. 1,638,728, 1948 estimated pop 2,262,700), S central England, adjoining the city of London and wholly within the area of Greater London The administrative functions of the county are conducted in the Middlesex Guildhall in London The city of London has been separated from the rest of Middlesex as an independent administrative county since 1888 The terrain is level except for low hills on the northern border It is chiefly a residential suburban area of London, and through it main traffic routes run north and west Towns include Brentford, Ealing, Harrow, Hornsey, Tottenham, Uxbridge, Hampton, Hounslow, and Staines Middlesex has been important from Roman times, when the Roman road known as Watling Street traversed the district It was organized as a shire c 886 Hampton Court, one of England's most famous architectural monuments, was the home of Cardinal Wolsey, for whom it was built, and of Henry VIII Middlesex was heavily bombed during air attacks in the Second World War See Arthur Mee, *Middlesex* (1940)

Middlesex, borough (pop 3,763), N central N.J., near Bound Brook, inc 1913.

Middle Temple: see INNS OF COURT, TEMPLE, THE.

Middleton, Arthur, 1742–87, American Revolutionary patriot, signer of the Declaration of Independence, b near Charleston, S C , son of Henry Middleton After an education in England, he returned to America in 1763 Succeeding his father as a delegate, he served (1776–77, 1781–83) in the Continental Congress. He also fought at Charleston (1780), where he was captured by the British.

Middleton, Conyers, 1683–1750, English clergyman and controversialist. A fellow of Trinity College, Cambridge, he became known through his disputes with Richard Bentley, master of Trinity Bentley finally brought suit for libel, which he alleged was contained in *The Present State of Trinity College* (1719). Middleton was made the principal librarian of Cambridge Univ. in 1721. A storm of protest followed his *Letter from Rome, Showing an Exact Conformity between Popery and Paganism* (1729). Middleton opened the question of his own strict orthodoxy in his controversy with Daniel Waterland over the historical accuracy of the Bible. *The Life of Cicero* (1741) brought the author wide recognition, but later critics charged that it owed much to a work by William Bellenden. The latitudinarian attitude of Middleton was plainly shown and severely criticized in his *Free Inquiry into the Miraculous Powers* (1749), concerning the claims to miraculous powers in the Church His *Miscellaneous Works* (4 vols , 1752) include many of his writings. Middleton was one of the earliest English rationalistic theologians

Middleton, Henry, 1717–84, American Revolutionary leader, b near Charleston, S C. A planter of great wealth and influence, he held many official positions before resigning (1770) in protest against the British trade policies He was a member (1774–76) and president (1774–75) of the Continental Congress, but he opposed independence and resigned His son Arthur Middleton took his place The elder Middleton returned to South Carolina, and even though he resumed allegiance to the crown after the fall of Charleston (1780), his estates were not confiscated The gardens of his home near Charleston are preserved today as one of the beauty spots of that city

Middleton, Sir Hugh · see MYDDLETON, SIR HUGH

Middleton, Thomas, 1570?–1627, English dramatist and pamphleteer Remembered for his satirical plays, he also wrote civic pageants and masques and in 1620 became city chronologer The best of his realistic comedies are *A Trick to Catch the Old One* (1608), *A Chaste Maid in Cheapside* (c 1612, pub 1630), *No Wit, No Help Like a Woman's* (c 1613, pub 1657), and a tragicomedy, *The Witch* (c 1617, pub 1778) Others are *A Mad World My Masters* (1618) and, written with Dekker, *The Honest Whore* (1604, Part II, 1630) and *The Roaring Girl* (1611) His most powerful tragedies were *The Changeling* and *The Spanish Gypsie* (both c 1623, pub 1653) with Rowley and *Women Beware Women* (c 1623, pub 1657) *A Game at Chess* (1625) made political trouble for Middleton and its actors *Father Hubburd's Tales* (1604) and *The Black Book* (1604), pamphlets, show wide acquaintance with London's underworld See his works (ed by A H Bullen, 1885–86), study by W D Dunkel (1925)

Middleton, town (pop 1,172), W N S , on the Annapolis river and NE of Annapolis Royal, near the Bay of Fundy, in a fruitgrowing region It is a port of entry.

Middleton, municipal borough (1931 pop 29,188, 1947 estimated pop 31,060), Lancashire, England, on the Irk and N of Manchester It manufactures cotton and silk textiles and aircraft

Middleton. 1 Town (pop 2,348), NE Mass , NW of Salem, settled 1659, organized 1728 Chemical products are made here **2** Village (pop 1,358), S Wis , W of Madison, inc 1905

Middletown. 1 Industrial city (pop 26,495), co seat of Middlesex co , central Conn , on the west bank of the Connecticut river and below Hartford, settled 1650, inc 1784, coextensive with Middletown town, inc 1651 Synthetic fabrics are made here A typewriter factory was closed in 1936 for five weeks by a strike and moved away in 1940 Middletown was the birthplace of Reginald De Koven It is the seat of WESLEYAN UNIVERSITY and of a state training school for girls and a state hospital for the insane A suspension bridge (1938), 3,420 ft long, spans the Connecticut to Portland **2** Town (pop 1,529), N Del , between Newark and Dover, in a farming area, inc 1861 The town has several old structures, near it is the pre-Revolutionary St Anne's Episcopal Church **3** Town (pop 1,520), central Ind , ENE of Indianapolis **4** Village, E N J , NW of Red Bank, settled 1665 The first Baptist church in the state (1668) was built here Marlpit Hall (c 1684) is kept as a museum **5** Industrial city (pop 21,908), SE N Y , SW of Newburgh, inc 1888 It is a farm trade center, with railroad shops and foundries Among its varied products are clothing, leather goods, and silk textiles **6** City (pop 31,220), SW Ohio, on the Great Miami and near Hamilton, in a farm area, laid out 1802 Its industries include aircraft, paper and papermaking machinery, steel, steel products, and tobacco The Armco Steel Corp plant and its research laboratory are here **7** Industrial borough (pop 7,046), SE Pa , on the Susquehanna below Harrisburg, laid out 1755, inc 1829 A farmers' trading center, it manufactures metal products, steel, and clothing A U S military air depot is here **8** Rural and resort town (pop 3,379), between Newport and Portsmouth on Rhode Island, SE R I , set off from Newport 1743. "Whitehall," where Bishop Berkeley lived (1729–31), has been preserved

Middletown: see LYND, ROBERT STAUGHTON.

Middle West or **Midwest,** section of the United States about the Great Lakes and the upper Mississippi valley. It is a vague regional term and has been by some applied to all the northern section of the land between the Alleghenies and the Rockies More usually it is restricted to the Old Northwest and the neighboring states to the southern border of Missouri, E of the Great Plains. It thus includes

Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas, and Nebraska. The Dakotas may also be included, and the term may be extended internationally to include the Prairie Provs of Canada (Manitoba, Saskatchewan, and Alberta) The area has some of the richest farming land in the world and is known for its corn and hogs The extended area also includes great wheat fields Parts of the Middle West also have an enormous amount of industry (e g , the automobile factories of Michigan and the rubber factories of Ohio) In popular tradition the Middle West is conservative, isolationist, Protestant, and "American " Actually it has all sorts and shades of political, economic, and religious opinion and a great mixture of peoples It does, however, constitute a dialect area of American speech

Midgard [Norse, = middle court], in Norse mythology, the earth

Midgley, Thomas, Jr, 1889–1944, American chemist, b Beaver Falls, Pa, M E Cornell, 1911 While serving as chemist with the General Motors Research Laboratories he discovered in 1922 tetraethyl lead as an antiknock agent in gasoline He is known also for his work in chemical refrigerants From 1923 he was vice president of the Ethyl Gasoline Corp and from 1930 of Kinetic Chemicals, Inc

Midhat Pasha (mĭd-hät' pä'shä), 1822–84, Turkish statesman As governor of Bulgaria he succeeded within the few years of his tenure (1864–69) in raising the country from misery to relative prosperity, building schools, roads, and granaries from funds obtained by local taxation His hostility to Pan-Slavism caused the Russian ambassador at Constantinople to secure his transfer to Baghdad He briefly was grand vizier in 1872 In 1876 at the head of the reforming party he led the revolution which deposed Abdu-l-Aziz The new sultan, Murad V, was shortly deposed because of his insanity, and ABDU-L-HAMID II succeeded Late in 1876 Midhat secured the promulgation of the first Turkish constitution, but as soon as Abdu-l-Hamid regained control over the situation he sent Midhat into disgrace Midhat was later imprisoned, charged with the murder of Abdu-l-Aziz, and strangled

Midhurst, rural district (pop 15,020) and village, Sussex West, England, in an agricultural region It is the birthplace of Richard Cobden and has a Perpendicular church and ruins of Cowdray House, a 16th-century mansion

Midi, Pic du see PIC DU MIDI DE BIGORRE and PIC DU MIDI D'OSSAU

Midian (mĭ'dēun), in the Bible, a people of N Arabia and of the lands E of Palestine They invaded and oppressed Israel and were defeated by Gideon in his famous victory Their eponym was a son of Abraham Gen 25 2, 37 28, 36, Ex 3 1, Num 31 1–9, Judges 6–8 Madian Acts 7 29

Midland, town (pop 6,800), S Ont, a port on E Georgian Bay and NNW of Toronto It has lumber mills, shipyards, grain elevators, a government coal dock, and a government radio station Near it is the Martyrs' Shrine commemorating the deaths of five Jesuit priests who were among the eight North American martyrs canonized in 1930

Midland 1 City (pop 10,329), co seat of Midland co, S Mich, at the confluence of the Pine and the Chippewa with the Tittabawassee W of Bay City, inc as a village 1869, as a city 1887 An early lumber town, Midland owes its development after 1800 to the Dow Chemical Company Oil and coal as well as salt are found in the vicinity **2** Industrial borough (pop 6,373), W Pa, on the Ohio and NW of Pittsburgh, settled c 1820 Its industries include steel mills and foundries and a coke by-products plant **3** City (1940 pop 9,352, 1947 estimated pop 18,000), W Texas, on the southern border of the Llano Estacado, WNW of San Angelo, settled 1885, inc 1906 Though Midland has drawn much wealth from cattle ranches, its reputation for being fabulously rich is linked to the many offices of oil companies here (the oil fields themselves are around Odessa) The opulent and bustling city attracts travelers, and the airport between Midland and Odessa is important in transcontinental traffic

Midland College see FREMONT, Nebr

Midland Park, borough (pop 4,525), NE N J, N of Paterson, inc 1894

Midlands, region of central England Generally coextensive with the Anglo-Saxon Mercia, it is usually considered to include the present counties of Bedford, Buckingham, Derby, Leicester, Northampton, Nottingham, Rutland, and Warwick

Midlothian (mĭdlō'dhēun), formerly **Edinburghshire**, county (366 sq mi , 1931 pop 526,296, 1948 estimated pop 583,624), E central Scotland, on the south shore of the Firth of Forth The county town is Edinburgh, the capital of Scotland In the south are the Pentland and Moorfoot hills, which rise to c 2,000 ft The main rivers are the Gala Water, Water of Leith, the Esk, the Almond, and the Tyne It is a predominantly agricultural region, with market gardening, fruitgrowing, stock raising, and dairying, fishing is also an important occupation. Paper, whisky, and ironware are manufactured, and there are shipbuilding centers at Leith and Granton The county—and particularly the city of Edinburgh—has been prominent in the history of Scotland There are numerous vestiges of Roman occupation and medieval secular and ecclesiastic remains Here were fought the battles of Pinkie and of Carberry Hill, where Mary Queen of Scots was defeated The Heart of Midlothian was a popular name for the Tolbooth prison at Edinburgh and gave its title to the novel (1818) by Sir Walter Scott

Midlothian (mĭdlō'thēun) **1** Village (pop 2,430), NE Ill , near Chicago, inc 1927 **2** City (pop 1,027), N Texas, SSW of Dallas, in the rich blackland farming country, settled 1880, inc 1898

midnight sun, name for the sun when visible at midnight At the North Pole the sun shines continuously from March 21 to Sept. 23, apparently traveling in a circular path above the horizon The number of months, weeks, or days of continuous sunshine decreases from the North Pole southward At the Arctic Circle the sun is visible at midnight once during the summer, about June 22 From the South Pole to the Antarctic Circle the same conditions prevail at opposite times of the year This phenomenon is the result of the inclination of the axis of the earth to the plane of its orbit

Midrash (mĭd'räsh) [Heb , = investigation], a homiletical, rather than a literal, interpretation and elucidation of the Scriptures by Jewish rabbis since A D c 200 It is incorporated in the Mishna of the TALMUD and, like the Gemara, contains both halakic (see HALAKAH) and haggadic elements Midrashic books were compiled for a number of books in the Bible—e g , Exodus, Leviticus, Numbers, Deuteronomy, Pentateuch, Sifra, Ruth The most important halakic Midrashim are on the Pentateuch and the Five Scrolls and on Exodus, the important haggadic Midrashim are the *Tanhuma Midrashim* (on the Pentateuch) and the *Pesikta Midrashim*

midsummer day and midsummer night, names given to the feast of the nativity of St John the Baptist (June 24) and the preceding night (St John's Eve, June 23) Because midsummer is about the time of the solstice, it has been associated since long before Christianity with solar ceremonies Relics of such ceremonies are the bright bonfires and the merrymaking of midsummer night Formerly it was considered the one night of the year when supernatural beings were about The gaiety and frolic of the night were often excuses for unbridled license The importance of this night to love and lovers is undoubtedly a survival of fertility rites

Midvale, city (pop 2,875), N central Utah, on the Jordan river and S of Salt Lake City Settled by Mormons in 1859, it was called Brigham Junction, East Jordan, and (with incorporation as a city in 1909) Midvale A large smelter (lead, zinc, silver, and gold) dominates the city

Midway, group (2 sq mi , pop 437) comprising Sand and Eastern islands with the surrounding atoll, central Pacific, c 1,150 mi NW of Honolulu About halfway across the Pacific and near the 180th meridian, the group was discovered (1859) by Americans and was annexed in 1867 A cable station was opened in 1903 In 1935 Midway became an air base of the Pan American Airways A U S naval air base was commissioned here in 1941 Midway gave its name to the **battle of Midway** (June 5–6, 1942), one of the decisive victories of the Second World War, which took place near by The battle, fought entirely with aircraft, resulted in the destruction of a large Japanese battle fleet, crippled the Japanese navy, and put an end to threat of invasion in the Pacific

Midwest see MIDDLE WEST

midwifery (mĭd'wĭ'furē), the art of assisting at childbirth The term, largely superseded by the more general term OBSTETRICS, arose from the practice of placing the delivery of a child in the hands of a woman known as a midwife The midwife is mentioned in the Bible, and trained midwives were employed in ancient Greece and Rome The methods used and the training of midwives deteriorated during the medieval period Until the 16th cent physicians were called upon only when Caesarean section was necessary to deliver the child Thereafter physicians assisted more often at childbirth, a number of treatises on midwifery appeared, and the licensing of midwives became common In the 18th cent midwifery became a part of medical training, and training courses for midwives were widely established, by the end of the century obstetrics had become an important branch of medical science The services of midwives are still used in many parts of the world In many European countries and in certain states of the United States midwives must obtain a license to practice

Mie (mē'ä), prefecture, S Honshu, Japan see TSU, the capital

Mieczyslaw see MIESZKO

Mieres (mēā'rās), town (pop 9,616), Oviedo prov , N Spain, in Asturias It is an important mining center for coal, sulphur, and cinnabar and has iron and steel plants

Miereveit, Miereveld, or Mievereldt, Michiel Janszen van (all. mēkhēl' yän'sən vän mē'ruvĕlt), 1567–1641, Dutch portrait painter, court painter to the house of Orange He worked chiefly in Delft and at The Hague, where he was admitted (1625) to the guild of St Luke Mierevelt had many pupils and assistants, whose numerous, and usually inferior, works bear his name His portraits include those of William of Orange, the princes Philip William, Maurice, and Frederick Henry of Orange, Elector Palatine Frederick V, and Jacob Cats (Rijks Mus), William of Orange and four princes of the house of Orange (The Hague), and Margaretha van Cloostwyck and Jacob van Deel (Metropolitan Mus) His son and pupil, **Pieter van Mierevelt**, 1595–1623, painted portraits in the manner of his father His *Anatomy Lesson* is in the hospital at Delft

Mieris (mē'rĭs), family of Dutch genre and portrait painters of Leiden **Frans van Meiris** (frāns' vän), 1635–81, the most important, was the son of a goldsmith and pupil of Gerard Dou He early became proficient, and his tiny, meticulous paintings won him distinguished patrons and a lucrative practice Mieris excelled in the faithful rendering of texture and was an admirable portraitist His works are to be seen in many important European collections Among his numerous well-known works are *Oyster Breakfast* (Hermitage, Leningrad), *Sleeping Girl* (Uffizi), and *Lady in a Crimson Jacket* (National Gall , London) His sons and pupils, **Jan van Mieris** (vän'), 1660–90, and **Willem van Mieris**, (vĭ'lum), 1662–1747, continued his tradition, but failed to equal him A grandson, **Frans van Mieris**, 1689–1763, also followed in his steps with only slight success The younger Frans is known, however, as an antiquarian and writer on numismatics and history

Mies van der Rohe, Ludwig (lōōt'vĭkh mē'ĕs vän dĕr rō'u), 1886–, German-American architect, one of the BAUHAUS architects He was an assistant to Peter Behrens, in whose office Walter Gropius and Le Corbusier had also been trained After the First World War, Mies produced (1921) a design for an all-glass skyscraper which attracted international attention In 1927 he was placed in charge of the Werkbund Housing Exposition at Stuttgart, for which he built a modern apartment house, and in 1929 had charge of the German section of the Barcelona International Exposition In 1938 he became director of architecture at the Armour Institute (now the Illinois Institute of Technology) and among other projects has designed the buildings for their new campus Mies's buildings are distinguished by their functional composition based on the lines of interior walls and the planes of floors and roof In façades he uses great planes of glass or unobstructed wide openings His work includes residences and workmen's dwellings Mies became a U S citizen in 1944

Mieszko I (myĕsh'kō) or **Mieczyslaw I** (myĕ'chĭswäf), 921?–992, Polish ruler, duke of Poland (962–92), the first important member of the PIAST dynasty He accepted Christianity (966) and began the conversion of Poland, which he ultimately placed under the protection of the pope Anxious to regulate his relations with the Germans, who in 963 invaded Poland for the first time, Mieszko concluded (c 963) a treaty with Emperor Otto I He began the conquest of Pomerania His son, BOLESLAUS I, succeeded him

Mieszko II or **Mieczyslaw II**, 990–1034, king of Poland (1025–34), son and successor of Boleslaus I His reign was marked by internal and external strife He lost Slovakia to Hungary, Moravia to Bohemia, Lusatia to Germany, Pomerania to Denmark, and sections of Ruthenia to Kiev His kingdom was in a state of chaos when it passed to his son, CASIMIR I

Mifflin, Thomas, 1744–1800, American Revolutionary general and politician, b Philadelphia, grad. College of Philadelphia (now the Univ of Pennsylvania), 1760 Turning from commerce to public affairs, he was a member of the provincial assembly and of the First Continental Congress He joined the army early in the American Revolution and rose to be quartermaster general He resigned (1776) to recruit new patriot troops in Pennsylvania, but later he resumed his duties as quartermaster general until charges of misuse of funds caused him to offer his resignation The charges were never substantiated Dissatisfied with Washington's conduct of the war, he became involved in the so-called Conway Cabal and tried to undermine Washington, but later he renewed his friendship with the commander in chief Mifflin again served in the Continental Congress (1782–84) and was its president (1783–84) He was later a delegate to the Federal Constitutional Convention He was a governor of Pennsylvania (1790–99) in a period that saw much economic development and political dissidence, including the WHISKY REBELLION and the revolt of the Pennsylvania Germans under John FRIES

Mifflinburg, borough (pop 2,090), central Pa , SW of Lewisburg, laid out 1792, inc 1827 Its manufactures include automobile parts and textiles.

Mifflintown, agricultural borough (pop 1,097), co. seat of Juniata co , S Pa., on the Juniata river and NW of Harrisburg, laid out 1791, inc 1833. The

borough was named for Thomas Mifflin. It is a resort center.

Migdal-el (mĭg'dəl-ĕl") [Heb ,=tower of God], fortified town, extreme N Palestine Joshua 19.38.

Migdal-gad (-găd") [Heb ,=tower of Gad], town, SW Palestine Joshua 15 37 It has been tentatively identified c 4 mi NE of Ascalon

Migdol (mĭg'dŏl) **1** Place, near which the Israelites crossed the Red Sea Ex. 14 2, Num 33 7 **2** Egyptian city, where Jews lived Jer. 44 1, 46 14

Mignard, Pierre (pyĕr' mēnyär'), 1610–95, French painter He lived for 22 years in Italy, where he painted Popes Urban VIII and Alexander VII In 1657 he was summoned to France by Louis XIV to portray the king and the celebrities of the court In 1664 he decorated, in fresco, the cupola of the Church of Val-de-Grâce in Paris He became leader of the opposition against Le Brun and the Académie royale de Peinture et de Sculpture, but upon the death of Le Brun succeeded to all his honors including the directorship of the Académie and of the Gobelin tapestry works Among his best-known works are *St Luke Painting the Virgin*, *St Cecilia*, and *Mme de Maintenon* (all Louvre)

Migne, Jacques Paul (zhäk' pôl' mē'nyu), 1800–1875, French publisher of theological works, a Roman Catholic priest (ordained 1824) He set up a printing press in Paris and printed many religious and theological works His principal publication was *Patrologia*, a collection of all the writings of all Christian writers into the Middle Ages Its principal value lies in the fact that the volumes are not expensive and that in the edition countless works have been published for the first time There are three series Latin Fathers to Innocent III (217 vols and an index in 4 vols), Greek Fathers (to 1438) in Latin translation (81 vols), and Greek Fathers in Greek and Latin (166 vols)

Mignet, François Auguste Marie (frăswä' ōgüst' märē' mēnyĕ'), 1796–1884, French historian and journalist With his lifelong friend, Adolphe THIERS, he played an important part in the liberal opposition to the government of Charles X, he and Thiers were editors of the powerful opposition daily, *Le National* As a historian, Mignet is best known for his popular *Histoire de la Révolution française* (1824, many later editions and translations) A middle-of-the-roader, Mignet considered the French Revolution as the historical evolution toward a constitutional monarchy, and he deplored its violent aspects as excesses He also wrote several works on Spanish history, among them *Antonio Perez and Philip II* (Eng tr , 1846), and a life of Mary Queen of Scots (Eng tr , 1851)

Mignon, Abraham (ä'brəhăm mĕn'yôn), 1640–1679?, German still-life painter in Holland, b Frankfurt-am-Main He studied in Holland with De Heem, whose flower and fruit painting he successfully imitated His works are in many European galleries *Flowers in a Vase* (Rijks Mus) is characteristic

mignonette (mĭnyunĕt'), any plant of the genus *Reseda*, small-flowered Old World herbs The common mignonette (*Reseda odorata*) is widely cultivated as an annual garden, greenhouse, or pot plant for the delightful fragrance of the whitish, yellowish, or reddish flowers Another species (*Reseda luteola*), usually called weld or dyer's-weed, has been used for a yellow dye and is naturalized in North America

migraine (mī'grān, mĭgrān'), intense headache usually recurring periodically The pain commonly arises in one temple and may spread to the back of the head or even to the whole head, the face, and the neck It is often accompanied by visual disturbances (e g , blurred or double vision and dark spots and flashes of light), by nausea and vomiting, and by vertigo It is believed that incidence is higher in women than in men and that the tendency to migraine is sometimes inherited, usually from the mother Although there is no agreement as to the ultimate cause of migraine headache, the immediate cause is generally conceded to be the expansion of arteries in the neck and brain resulting in overstimulation of nerves and consequent pain The onset of attacks is attributed to various causes, e g , emotional disturbances, fatigue, allergies, glandular disturbance, and certain foods The attacks, which may last hours or days, are usually treated with drugs to relieve pain or to contract the arteries Some patients have been helped by inhaling oxygen Attempts to prevent migraine or to extend the period between attacks include the administration of various substances, e g , histamine, a salt of nicotinic acid, and vitamin B_1; the severing of the temporal artery, and the elimination of factors causing tenseness or fatigue See N. D. Fabricant, *Headaches* (1949)

migration, movement of people into new areas, usually a distance away from the original home Migrations have occurred throughout human history and have played an important part in the peopling of all the areas of the world Primitive migrations, of which there are traces, were tribal and were usually made in search of food. Physical changes, such as the advance of the glacial mass, and invasion by other tribes also accounted for prehistoric mass migration. In modern times economic pressure became the basic motive for migration, areas of low population density attracting people from areas where density is high and economic opportunity consequently low. The desire for religious and political freedom has also been important, and national policies have played some part in the movement of peoples Modern migrations have been those of individuals and families rather than of mass groups Since the beginning of the 19th cent the largest international migration in history has taken place, with the IMMIGRATION of vast numbers of Europeans into other continents, especially North America Regulation of migration by modern governments became significant in the 20th cent The development of totalitarianism and the Second World War resulted in a new pattern of forced mass migration within Europe Over 30,000,000 people were forcibly moved or scattered by the Nazis during the war, and in the post-war period great numbers were moved in Eastern Europe (see REFUGEES), for migration of Jews into Palestine, see ISRAEL) Normal internal migration has been characterized in modern times by a noticeable population shift from the country to the city There has also been, especially in the United States, an increasing amount of MIGRATORY LABOR See Carter Goodrich, ed , *Migration and Economic Opportunity* (1936), Julius Isaac, *Economics of Migration* (1947), Milbank Memorial Fund, *Postwar Problems of Migration* (1947), E M Kulischer, *Europe on the Move* (1948)

migration of animals, movements of animals in large numbers from one place to another Some migrations are regular seasonal journeys to and from a definite area, some are trips, long or short, to a habitat suitable for reproduction, and others are sporadic movements from which there is no return Sporadic migrations are made by the LEMMING, by the locust or migratory GRASSHOPPER, and by the army worm Many butterflies undertake seasonal migrations The SALMON migrates from salt to fresh water to breed, and the freshwater EEL breeds in the Atlantic Ocean SE of Bermuda Sea turtles return to land to lay their eggs Some whales travel long distances to breed on certain shores In Africa there are definite movements of game animals to avoid the droughts The caribou in Newfoundland migrate southward as winter approaches Regular seasonal migrations are best exemplified by birds Bird banding, which has been carried on in North America on a large scale since 1920, and observational and experimental studies have added much to the knowledge of migration, but the forces which initiate the typical migratory flights are not fully understood Attempts have been made to correlate climatic changes and glacial movements in North America with the establishment of migratory habits in some birds and the nonmigratory behavior of others Failure of food supply and temperature changes do not offer satisfactory explanations It is generally agreed that migration is probably the result of an environmental stimulus and an allied physiological one The instinct for migration is known to bear a relation to the cycle of enlargement in the spring and reduction in the fall of the reproductive organs Experiments conducted by William Rowan with juncos and some other birds support the theory that variation in day length (with resulting variation in amount of activity) is the chief external stimulus and that the production of a hormone by the reproductive organs is the internal stimulus Bird migration is not limited strictly to spring and fall There is variation and overlapping in time between species and individuals of the same species More birds (especially small songbirds) migrate by night than by day Vertical migration is characteristic of mountain-dwelling birds, many of which descend to lower altitudes for the winter Among the long-distance migrants are the arctic TERN, the golden PLOVER, and the blackpoll warbler, which travels from Alaska to South America Most ruby-throated hummingbirds winter in South America and make a nonstop flight of c 500 mi over the Gulf of Mexico, often flying in the troughs between the waves See William Rowan, *The Riddle of Migration* (1931), G C Aymar, *Bird Flight* (1938), A L Thomson, *Bird Migration* (rev ed , 1942)

migratory labor (mī'grutō"rē), term applied in the United States to several different groups of workers The harvesters of seasonal crops—wheat, cotton, sugar beets, fruits, and vegetables—may go from one place to another transporting themselves, or they may be transported by a contractor or "padrone" who has agreed to supply the farmer with so much labor at the time it is needed. They may be urban dwellers who go on the land only for the season or they may be migrants whose only means of living is to follow the crops from one place to another Efforts to enforce sanitary conditions, prevent child labor, and protect the workers from exploitation have met with slight success, though a New York state law of 1946 requires the registration of employers who recruit, transport, or are responsible for bringing into the state 10 or more workers, and it empowered state health officers to order the elimination of unsanitary conditions. In the 1930s many small farmers and farm laborers of the plains states, driven out by droughts, the depression, and the increase of mechanized farming, piled what they could of their possessions into the family car and sought a living on the West Coast, moving from one place to another The Joad family of John Steinbeck's *Grapes of Wrath* is a dramatic representation of these migrants It was estimated that this type of permanent migratory worker, without home, voting privileges, or union representation, numbered more than 3,000,000. In the Second World War a third type of migratory worker sprang into being with the need for labor in munition plants, airplane factories, and other defense industries These uprooted workers presented housing problems, but they were protected by wage and hour laws which do not apply to agricultural labor See H H Collins, Jr , *America's Own Refugees* (1941), Cary McWilliams, *Ill Fares the Land* (1944)

Migron (mī'grŏn), unlocated place or places N of Jerusalem 1 Sam 14 2, Isa 10 28

Miguel (mēgĕl'), 1802–66, Portuguese prince, son of John VI and brother of PEDRO I of Brazil. On John's death the succession was somewhat in question The reactionary absolutists favored Miguel for the throne, the liberals supported Pedro, who was the elder Pedro abdicated conditionally in favor of his daughter, MARIA II, provided that the constitutional charter he had just issued be accepted and that Miguel should act as guardian for and marry the little queen Miguel accepted these terms, but the absolutists threatened revolt Miguel came to Portugal in 1828 and convened the "traditional" Cortes, which offered him the crown He accepted The liberal leaders, who had fled the country, gathered their forces and managed to establish themselves in the Azores. There came Pedro in 1832, and the liberal forces sailed to Oporto They barely managed to withstand a long siege by Miguel In 1833 an English sea force in the employ of the liberals destroyed Miguel's fleet, and Miguel's fortunes sank By 1834 his cause was lost and he agreed to abandon Portugal. Once in Genoa he denounced his own capitulation, and Maria's reign was troubled by Miguelist uprisings, but all were vain

Mijamin (mĭ'jəmĭn), variant of MIAMIN

mikado (mĭkä'dō), a former title of the emperor of JAPAN used chiefly in the English language

Mikhailovich, Draja or **Dragoliub** (drä'zhä mĕhī'lôvĭch, dra'gôlyōōb"), 1893?–1946, Yugoslav soldier He fought with the *chetniks*, a Serbian guerrilla force, in the Balkan Wars and in the First World War, and after the conquest (1941) of Yugoslavia in the Second World War he headed the revived *chetnik* forces His successful operations earned him promotion from colonel to general and appointment (1942) as minister of war by the Yugoslav government in exile An ardent Serbian nationalist, he soon clashed with the partisans of Marshal TITO, who accused him of collaborating with the AXIS in order to fight Tito's predominantly Communist forces Mikhailovich's forces gradually dwindled while Tito's increased, and by 1944 he had lost Allied support and was reluctantly—dismissed by his king Mikhailovich continued antipartisan warfare with the remnants of his forces, but was captured by the Tito authorities and was tried on charges of collaboration and treason His trial at Belgrade was widely denounced in the outside world as a travesty of justice While it seems certain that Mikhailovich did at times act against the Tito forces in an understanding with the enemy occupation authorities, the question of treason remains open His death sentence, which was executed despite world-wide protests, was based on internal political considerations rather than on his actual guilt

Mikkeli (mĭk'kĕlē), town (pop 11,091), S central Finland It is a center of the SAIMA lake region and was incorporated in 1838

Mikloth (mĭk'lŏth) **1** Son of Jehiel and Maachah 1 Chron 8 32, 9 37, 38 **2** Captain of a division of David's army, 1 Chron 27 4

Mikneiah (mĭknē'yu) [Heb ,=possession of God], temple doorkeeper 1 Chron 15 18, 21

Mikolajczyk, Stanislaus, Pol *Stanisław Mikołajczyk* (stänēs'wäf mĭkôwī'chĭk), 1901–, Polish politician The leader of the Polish Peasant party, he became vice premier (1941) and premier (1943) in the Polish government in exile at London He sought to reach a compromise with the USSR concerning the Polish-Russian border and with the Polish Committee of National Liberation (see LUBLIN) concerning the future Polish government After the YALTA CONFERENCE he joined the new Polish government as vice premier and minister of agriculture He soon was the only center of opposition to the Communist and left-wing Socialist leaders of the state, thus finding himself in the anomalous position of opposing a cabinet of which he was a member. The procedure adopted in the elections of 1947 resulted in his defeat Mikolajczyk fled Poland and settled in the United States.

Mikszath, Koloman (kō'lōmän mĭk'sät), Hung. *Mikszáth Kálmán* (käl'män), 1849–1910, Hungar-

ian novelist. He is the author of witty novels and tales of Hungarian life, which include *St. Peter's Umbrella* (1895; Eng tr., 1900)

Mikulov, Czechoslovakia: see NIKOLSBURG.

Milaca (mĭlă'kə), village (pop 1,627), co seat of Mille Lacs co, E Minn, on the Rum and NNW of Minneapolis, settled 1858, inc 1897 Originally a lumbering town, it is now a farm trade center.

Milalai (mĭ"lälä'ĭ, mĭlä'lăĭ), musician in the dedication of the wall Neh 12 36

Milan (Milan Obrenovich) (mĭ'lən ōbrĕ'nōvĭch), 1854–1901, prince (1868–82) and king (1882–89) of Serbia, grandnephew of Milosh Obrenovich He succeeded his cousin Michael Obrenovich as prince He was educated in Paris and a regency ruled for him until 1872 Under Russian influence he declared war (1876) on Turkey in support of the rebellion in Bosnia and Hercegovina (see RUSSO-TURKISH WARS) At the Congress of Berlin (1878) he secured Austrian support and obtained European recognition of the full independence of Serbia from the Ottoman Empire, and in 1882 he took the title king of Serbia Heavy taxation, his pro-Austrian policy, his scandalous private life, and his unsuccessful campaign (1885) against Bulgaria aroused bitter opposition After proclaiming (1889) a liberal constitution, he abdicated in favor of his son, ALEXANDER (Alexander Obrenovich), and went abroad He returned in 1894 and became commander in chief of the army, but resigned upon his son's scandalous marriage

Milan (mĭlăn', mĭ'lun), Ital *Milano* (mēlä'nō), Latin *Mediolanum*, city (pop 1,068,079; with suburbs 1,115,848), capital of Lombardy and of Milan prov, N Italy Because of its geographical position in the Lombard plain, at the intersection of several European lines of communication, it became a first-class strategic and commercial center It is the most important silk market in Europe The manufacture of textiles is Milan's leading industry, printing and publishing, especially of music, and the production of machinery, airplanes, and chemicals make it today the richest industrial city in Italy Of Celtic origin, it was conquered by the Romans and was in late Roman times the seat of the Western Empire From 374 to 379 AMBROSE was bishop, and Milan became the religious center of N Italy It was destroyed by the Huns (c 450) and again by the Goths (539) and was conquered by the LOMBARDS in 569 In the 12th cent a free commune was formed, and Milan gradually gained supremacy over the cities of LOMBARDY From the 11th to the 13th cent it suffered from class warfare, the Guelph and Ghibelline strife, and the enmity of rival cities, which assisted Emperor Frederick I in destroying it (1163) A member of the Lombard League, it contributed to Frederick I's defeat at Legnano (1176) At the Peace of Constance (1183) Milan's independence was recognized In the 13th cent it lost its republican liberties first the Torriani, then the VISCONTI (1277) became its lords Galeazzo Visconti received (1395) from the emperor the title duke of Milan, and under him the duchy became one of the most important states in Italy After the death of the last Visconti (1447), the SFORZA became dukes The city flourished, but it soon became involved in the ITALIAN WARS and fell (1535) under Spanish domination This was a period of decline At the end of the War of the Spanish Succession, Austrian rule was established (1713–96) Bonaparte made it the capital of the Cisalpine Republic (1797) and of the kingdom of Italy (1805–1814) In 1815 it went back to Austria Milan was a revolutionary center throughout the RISORGIMENTO in five days of heroic fighting in 1848 the people succeeded in expelling the Austrians, who returned, however, a few months later Only in 1859 could Milan be united with the kingdom of Sardinia Its industrial importance grew after its incorporation (1861) into Italy In the Second World War the city suffered widespread damage from air raids, most of its important buildings were hit, some beyond repair The most striking feature in the city is the Gothic cathedral (1386–1813), which shows traces of many styles It is elaborately ornamented with more than a hundred pinnacles and thousands of statues On the highest pinnacle (354 ft.) is a statue of the Madonna The Romanesque Church of St Ambrose, founded in 386, is the most important medieval building A number of churches are the work of Bramante, e g, Santa Maria delle Grazie, in its refectory LEONARDO DA VINCI painted the *Last Supper*. The Brera Palace contains a picture gallery, a library, and the Institute of Fine Arts An important art museum is housed in the Poldi-Pezzoli Palace The AMBROSIAN LIBRARY, one of the richest in Europe, has a good collection of paintings The Castello Sforzesco, once a residence of the Sforza, is an imposing construction, Bramante and Leonardo collaborated with others in designing it. The world-famous Teatro alla Scala, heavily damaged by bombs, has been restored Milan, long a musical center, has an excellent conservatory. There are two universities, one state and the other Catholic

Milan (mĭ'lən) **1** Village (pop. 1,210), NW Ill., just S of Rock Island and on the Rock River near its junction with the Mississippi, in a farm area, inc 1893 **2** Town (pop 1,000), Ripley co, SE Ind, NW of Aurora. **3** Village (pop. 2,340), SE Mich, on a tributary of the Raisin and SW of Detroit, in a rich farm area, inc 1885. Furnaces and boilers are made here. A federal detention farm is near **4** City (pop 2,016), co. seat of Sullivan co, N Mo, W of Kirksville, in a livestock and truck-farm area, laid out 1845 **5** Village (pop 719), Erie co, N Ohio, SE of Sandusky, settled 1804 by Moravian missionaries and Indian converts, laid out 1816 It was once a grain-shipping center Thomas A Edison's birthplace is here **6** Town (pop 3,035), W Tenn, N of Jackson It is a shipping point in an area growing vegetables, fruit, and cotton

Milan Decree, issued, Dec, 1807, by Napoleon in an attempt to enforce the CONTINENTAL SYSTEM The Milan Decree, designed to strengthen the BERLIN DECREE, authorized French warships and privateers to capture neutral vessels sailing from any British port or from countries occupied by British armies The English government issued replies by ORDERS IN COUNCIL

Milazzo (mēlät'tsō), town (pop 10,378), NE Sicily, Italy, on a peninsula extending into the Gulf of Milazzo in the Tyrrhenian Sea The ancient MYLAE, it is now a wine trade center Garibaldi completed his conquest of Sicily by defeating the Bourbon troops here There is an imposing 13th-century castle Several palaces and churches were damaged by bombings in 1943

Milbank, city (pop 2,745), co seat of Grant co, NE S Dak, NE of Watertown near the Minn line, settled 1880 A shipping center for a dairy region, the city has granite quarries and monument works

Milbank Memorial Fund see ANDERSON, ELIZABETH MILBANK

Milcah (mĭl'kə) **1** Wife of Abraham's brother Nahor Gen 22 20 **2** Daughter and coheiress of Zelophehad Num 27 1–12

Milcom [Heb, =their king, cf MOLECH], god of the Ammonites 1 Kings 11 5, 33, 2 Kings 23 13 In Judges 11 24 the name is replaced (probably by a slip) by Chemosh

mildew, name for certain fungi and the diseases they cause in various crops and for the discoloration and sometimes weakening and disintegration of materials, such as leather, fabrics, and paper, caused by other related fungi Powdery mildews usually grow on the surface of plant tissues, forming a gray or white coating and absorbing nourishment from the host Sometimes they cause dwarfing and distortion They attack many fruits and cereals Dusting with sulphur helps to control mildews The downy mildews are really molds One of the most destructive is the downy mildew of grape, native to the United States and introduced into Europe, where it has caused great losses in vineyards Spraying with Bordeaux mixture aids in its control Methods of making fabrics and leather resistant to mildew have been devised

Milé, Jean François see MILLET, JEAN FRANÇOIS (c 1642–1679)

Miles, Nelson Appleton, 1839–1925, American army officer, b near Westminster, Mass In 1861, at the outbreak of the Civil War, he left his job in a Boston store and organized a company of volunteers He served throughout the war, distinguishing himself at Antietam and Fredericksburg, for his actions at Chancellorsville (1863) he was brevetted brigadier general After the war he was for a time custodian of Jefferson Davis Remaining in the army as a colonel, he helped subdue the Sioux in Montana, in 1877 he destroyed the village of Crazy Horse In that same year he brought to an end the gallant adventure of Chief Joseph of the Nez Percé, capturing him near the Yellowstone In 1886, as commander of the Dept of Arizona, he accepted the surrender of the Apache under Geronimo, and in 1890–91, in Dakota, he suppressed another Sioux outbreak As commander of the Dept of the Missouri he commanded the troops which were called out in the Pullman strike of 1894 In 1895 he became commander in chief of the army, rising to the rank of lieutenant general in 1901 Owing to political chicanery he was not given command of the expedition against Santiago de Cuba (1898), which was commanded instead by W R SHAFTER, Miles, however, brought reinforcements and accepted the surrender He later commanded in Puerto Rico In 1901 President Theodore Roosevelt censured him for publicly approving Admiral Dewey's report on the Schley case He visited the Philippines in 1902, made an official inspection, and reported on mistreatment of insurgents by Americans In 1903 he was retired. He wrote *Personal Recollections and Observations* (1896), *Military Europe* (1898), and *Serving the Republic* (1911).

Miles City [for Nelson A Miles], city (pop 7,313), co seat of Custer co., SE Mont, on the Yellowstone river at the mouth of the Tongue, inc 1887. It grew up around Fort Keogh (built 1877), was reached by the Northern Pacific in 1881, and was the leading cattle town of the region. Saddles and other leather goods are made here. There is some irrigation, and a Federal livestock experimental farm is in Miles City.

Miles College: see BIRMINGHAM, Ala

Milesians (mīlē'zhənz), in the legendary history of Ireland, the last invading people, who came after the TUATHA DE DANANN They were led by two brothers, sons of a Spaniard, Milesius, who had fought in Greece According to the tradition the Milesians were the ancestors of the present inhabitants of Ireland.

Miletus (mīlē'təs), ancient seaport of W Asia Minor, in Caria, on the mainland not far from Samos It was occupied by Greeks in the settlement of the E Aegean (c 1000 B C) and became one of the principal cities of Ionia From the 8th cent B C it led in colonization, especially on the Black Sea The Milesians were strong enough to resist the Lydian kings and were not molested by the Persians In 499 B C, however, they stirred up the revolt of Ionian Greeks against Persia, the Persians sacked the city (494 B C) Although less flourishing, Miletus remained an important seaport until the harbor silted up early in the Christian era Thales, Anaximander, and Aspasia were Milesians St Paul visited Miletus twice, once on the return from his third missionary trip Acts 20 15–38, 2 Tim 4 20 The name appears as Miletum

milfoil see YARROW

Milford. 1 Town (pop 16,439), SW Conn, on Long Island Sound E of Bridgeport, settled 1639 The small harbor, early scene of shipping and shipbuilding, became a yacht harbor, scientific oyster fishing has been developed Many old buildings remain **2** City (pop, 4,214), S central Del, S of Frederica, inc 1867 The Mispillion river divides the city into North and South Milford It is a trade and industrial center and a shipping point for farm products Several 18th-century buildings remain **3** Village (pop 1,628), E Ill, N of Danville, settled c 1830 on the old Hubbard Trail, platted 1836, inc 1874 It is a farm trade center **4** Town (pop 1,202), NW Iowa, near the Minn line and S of Spirit Lake, founded 1869, inc 1892 It is a farm trade center **5** Town (pop 1,264), S central Maine, on the Penobscot opposite Old Town, inc 1833 **6** Industrial town (pop 15,388), S Mass, SE of Worcester, settled 1662, set off from Mendon 1780 It included HOPEDALE until 1886 Shoes and clothing are produced **7** Village (pop 1,637), SE Mich, on the Huron river and near Pontiac, in hilly country, inc 1869 Electric welding machinery is made Near by is the General Motors proving ground **8** Town (pop 3,927), S N H, on the Souhegan and NW of Nashua, formed 1794 of parts of Hollis and Amherst There are granite quarries and textile and lumber manufactures **9** Village (pop 2,139), SW Ohio, on the Little Miami and NE of Cincinnati **10** Town (pop. 1,393), SW Utah, on Beaver river, settled 1880, inc 1903 It grew in a mining boom and today is a supply point for mines and ranches as well as a railroad town and a center of irrigated farms

Milford Haven, urban district (1931 pop 10,104, 1943 estimated pop 10,884), Pembrokeshire, Wales, a seaport on the northern side of the bay called Milford Haven The bay, headquarters for steam trawlers, forms a splendid natural harbor 10 mi long and 1 to 2 mi wide, with a lighthouse on St Ann's Head at the entrance Henry VII landed here from France in 1485 The town was very early a port for trade with Ireland and is one of the chief British fishing ports

Milford Sound, arm of the Tasman Sea, indenting SW South Island, New Zealand High mountains on its shores give it a fjordlike beauty

Milhau, France see MILLAU

Milhaud, Darius (daryüs' mēyō'), 1892–, French composer, studied at the Paris Conservatoire He began composing c 1912 In Brazil (1917–19) as an aide to Paul Claudel, French minister to Brazil, he became acquainted with Brazilian folk music Upon his return to France he became one of *Les Six* (see SATIE, ERIK) He often employs simple diatonic melodies, but combines them in polytonal counterpoint, producing a highly dissonant effect His quest for simplicity has sometimes led him to banality He is outstanding as a composer for the stage, his works include short operas such as *Le Pauvre Matelot* (Paris, 1927, libretto by Jean Cocteau), as well as those of epic proportions such as *Christophe Colombe* (Berlin, 1930, libretto by Paul Claudel) and *Medée* (Paris, 1940, text by Madeleine Milhaud) Outstanding also are the ballets *La Creation du monde* (1923) and *Le Bœuf sur le tout; or, The Nothing Doing Bar* (Paris, 1920), showing Brazilian influences, and *Salade* (Paris, 1924), called a *ballet chanté* Other works are songs, including settings of poems of Paul Claudel and Francis Jammes, concertos, orchestral music, and a great deal of chamber music In 1940 he came to the United States, where he became professor of composition at Mills College, Oakland, Calif.

Milicz of Kremsier (mē'lĭch, krăm'zēr), d. 1374, Bohemian preacher and writer He was a Roman Catholic priest In 1363 he began a career of preaching in Moravia as well as in Prague Believing that the end of the world was near, he went to Rome in 1367 to urge the remedying of abuses in the Church He was placed in prison by the Inquisition and there wrote *Libellus de Antichristo* Released by Urban

V, when the latter returned from Avignon, Milics resumed (1369-72) preaching in Prague He was the author of devotional writings in both Latin and Czech As one of the most influential preachers in Bohemia, he has been called a precursor of John Huss, but there is no question of Milics's doctrinal orthodoxy

Military Academy, United States: see UNITED STATES MILITARY ACADEMY

military engineering: see ENGINEERING

military government, rule of enemy territory under military occupation It is distinguished from MARTIAL LAW, which is the temporary rule by domestic armed forces over disturbed areas Military government is of course needed whenever hostile territory is conquered Its practices were standardized before the First World War, notably at the Hague Conferences (1899, 1907) and form a part of the laws of war (see WAR, LAWS OF) During and after the Second World War military government held sway over vast territories Germany administered occupied countries through a hierarchy of *Kommandaturen* [military government headquarters], but this normal army administration was often duplicated by civilian economic agencies and Gestapo personnel In France, Norway, Greece, and Serbia, local puppet governments were authorized to operate under German control, Belgium and NE France were under purely military government, the Netherlands was a hybrid case, and Denmark was not considered an enemy state In Eastern Europe, authority was concentrated in 1941 in the ministry for eastern occupied territories, headed by Alfred Rosenberg German military government often violated the rules laid down by the Hague Conventions The Germans held and executed hostages for acts committed by unknown individuals and deprived the conquered nations of their basic resources, they rounded up slave labor for German industries and committed wholesale executions and massacres Japanese military government, while equally ruthless, did not seek to destroy the economies of conquered nations Allied Military Government (AMG) began to function in Sicily and Italy in 1943, it sought to utilize local civilian authorities to the widest possible extent When operating in Allied territory, such as France, AMG became Civil Affairs (CA) and was limited to combat areas After the termination of military operations, Germany and Austria were divided (1945) into four occupation zones and military government was reorganized At first it was subject in general policy to the authority of the U S -Russian-British-French Allied Control Councils in Berlin and Vienna In time, the growing dissension between the Western powers and the USSR led to the breakdown of the quadri-partite system in Germany and in BERLIN For most purposes the British, French, and American zones were amalgamated, in opposition to them stood the Russian zone In Austria and Vienna disharmony was less evident In Japan, military government became a solely American responsibility, though subject to suggestions of an 11-power Allied council By 1950 the occupied countries were restored to control over most matters except foreign policy and offenses against military personnel See E H Feilchenfeld, *International Economic Law of Belligerent Occupation* (1942), Ernst Fraenkel, *Military Occupation and the Rule of Law* (1944), Raphaël Lemkin, *Axis Rule in Occupied Europe* (1944), C J Friedrich, ed , *American Experiences in Military Government in World War II* (1948), D A Graber, *Development of the Law of Military Occupation, 1863–1914* (1948)

military law, system of rules established for the government of persons in the armed services It is distinguished both from MARTIAL LAW (rule by domestic military forces over an area) and from MILITARY GOVERNMENT (rule by the military over occupied foreign territory) Regular systems of military law existed in Rome, with severe penalties for such offenses as desertion In the Middle Ages procedures were less regularized The origin of much military law is found in the codes and statutes enacted in England in the 17th cent These were substantially adopted in the United States The scope of military law differs somewhat in peace and in war In time of peace it is generally limited to military offenses—e g , absence without leave, desertion, breach of orders, during war it usually extends to crimes of a civil nature as well, and the penalties may be severer In most countries the legislature establishes the code of military law. Thus, the U S Congress has enacted the Articles of War (for the army and the air forces) and the Articles for the Government of the Navy (for the navy and the marines) These codes define the offenses for which a person under the jurisdiction of the armed forces may be subjected to court-martial In addition to allowing punishment by the commanding officer for periods not to exceed a week, the codes establish three levels of courts-martial The summary court-martial (deck court under the naval rules) consists of a single officer and may inflict a maximum sentence of one month. The special court-martial (naval summary court-martial) consists of at least three officers and may impose a sentence to run six months The general court-martial is composed of five or more members and may impose any authorized sentence, including death and dishonorable discharge The principal differences between the procedure in courts-martial and in criminal trials in the civil courts is the absence of a jury and the decision of the case by a simple majority of the court. The accused is permitted to have counsel, to compel the attendance of witnesses, and to enjoy the usual protections of the law of evidence Nevertheless it was widely felt after the Second World War that many abuses had crept into the administration of military justice and that excessively severe sentences had been imposed, especially on enlisted men The armed forces responded by establishing civilian boards of review, which recommended reduction of the punishment inflicted on a large percentage of those convicted (some 100,000) by general courts-martial during the war In 1948 Congress extensively revised the codes of military law, largely to place operations more in the hands of professional lawyers and to insure fairer review procedures An important change in the Articles of War permitted an enlisted man tried by a general court to demand that one third of the court be composed of enlisted personnel See Garrard Glenn, *Army and the Law* (rev ed , 1943), H W Campbell, *Introduction to Military Law* (1946)

military pension: see PENSION

military science: see STRATEGY AND TACTICS

militia (mĭlĭ'shu), military organization formed on a voluntary basis as a permanent force for service only in times of emergency Modern militia is said to have had its origin in the Anglo-Saxon *fyrd*, the force created by the obligation of every freeholder to defend the realm against invaders The "training bands" in England and the town and provincial military companies in the British colonies of North America continued the tradition The MINUTEMEN of Lexington and Concord are used as the sample of the worth of the militia In the 19th cent the various states of the United States had their militia, and various private companies (Zouaves and the like) were organized, principally to give the members an opportunity to drill, parade, and wear bright uniforms They were, however, called into service in all the wars of the 19th cent , showing up unevenly as to fighting ability These many bodies have been superseded by the National Guard With the adoption of conscription through selective service in the First World War, the importance of the militia sank greatly In other countries the militia is generally known as the special reserve or the territorial reserve In a broader but still technical sense the militia of a country is the entire body of citizens capable of military service

Milukov, Pavel Nikolayevich. see MILYUKOV

Milk, river, 729 mi long, rising in NW Montana It flows N into Alberta, then in long curves eastward, S into Montana again, and generally SE to the Missouri, entering just below Fort Peck Dam The Milk river reclamation project (est 1911) of the Bureau of Reclamation irrigates more than 140,000 acres with water from the Milk and the St Mary The largest of several dams is the Fresno Dam, 111 ft high and 2,070 ft long Malta, Chinook, Glasgow, and Harlem, Mont , are on the project

milk, glandular secretion of the breast or the udders of animals that suckle their young Man has used the milk of the cow and of many other animals including the mare, goat, ewe, camel, ass, zebra, reindeer, and llama Milk is valuable in the diet of adults and is a nearly complete food for infants, its carbohydrates, fats, and proteins are in a digestible form and in well-balanced proportions, and it is the best common source of calcium It contains most of the vitamins and is a major source of vitamin A and riboflavin (vitamin G or B_2) The vitamin D content is often supplemented by ultraviolet irradiation, by adding irradiated yeast to the cow feed, or by fortifying milk with a vitamin D concentrate The composition of milk varies with the species, breed, feed, and condition of the milk-producing animal, the milk of Jersey and Guernsey cows is especially rich in fat Milk is often homogenized, in this process it is pumped under pressure through small openings to break up the fat globules and destroy their ability to coalesce and rise to the top as cream In the United States the milk industry is subject to Federal, state, and local regulations concerning the proportion of butterfat and other solids in milk, adulteration, and sanitary measures covering milk handlers, herds, plant, and equipment, dairy herds are commonly tuberculin tested Certified milk is produced with exceptional precautions and may be sold either raw or pasteurized PASTEURIZATION checks bacterial growth, thereby making milk safer to drink, and increasing its keeping qualities and possible range of transportation The consumption of concentrated milk, both whole and skim, has steadily increased since its commercial production was inaugurated c 1856 by Gail Borden The water is partially evaporated in vacuum-pan machines which permit boiling temperatures lower than at atmospheric pressure Evaporated milk when sweetened is known as condensed milk Dried (or powdered) milk is made by passing a film of partially evaporated milk over a heated drum or by spraying it into a heated chamber in which the particles dry as they fall to the floor. Malted milk is a dried mixture made of milk and the liquid from a mash of barley malt and wheat flour. Skim milk is valuable in fat-free diets, although much of the nutritive value of milk remains, most of the vitamin A is removed in the cream. See also DAIRYING and FERMENTED MILK See C. L Roadhouse and J L Henderson, *The Market-Milk Industry* (1941), L. L Lampert, *Milk and Dairy Products* (1947).

milk fever, fever which occurs at the time of lactation It has been thought that such a fever is caused by the establishment of the secretion of milk and also that the condition is caused by puerperal infection. There is a disease of cattle known as trembles or milk sickness, often caused by eating the white snakeroot plant (*Eupatorium urticaefolium*) The toxic substance, tremetol, can be transmitted to other animals and to humans through the milk of the affected animal See E. L Moseley, *Milk Sickness Caused by White Snakeroot* (1941)

milk snake: see KING SNAKE

milk sugar: see LACTOSE

milkweed or **silkweed,** any plant of the genus *Asclepias*, mostly New World perennials characterized usually by a milky juice, terminal roundish clusters of small flowers, and seeds with a tuft of silky hairs The flowers are of various colors, orange in the BUTTERFLY WEED, purplish in the common milkweed (*Asclepias syriaca*) The milkweeds have been utilized for food (particularly the young shoots of the common milkweed, boiled like asparagus), medicament, and fiber by the Indian and to some extent by the white man The sap has been used experimentally as a source of rubber and the silk has been successfully employed in life jackets A number of species, particularly the Western whorled milkweed, are poisonous to livestock, especially sheep Several other milky-juiced plants are also called milkweed

Milky Way system or **Galaxy** (gă'lŭksē), the great system of stars, planetary nebulae, and diffuse nebulae lying between the earth and the more distant extragalactic nebulae (the spiral and elliptical nebulae) All the stars visible from the earth are members of the system, which comprises some 30 thousand million stars, among them white dwarf stars, red giant stars, and variable stars Also included in the system are double stars, star clusters, novae, and the solar system A broad band of stars which seem to form a white pathway across the heavens is commonly called the Milky Way A great number of stars are visible in this plane because of the flattened shape of the stellar system and the position of the earth within the system—hence the milky appearance The solar system is about 30,000 light years from the center of the Galaxy The form of the Milky Way system is that of a flattened disk or a biconvex lens, its greatest diameter is believed to be about 100,000 light years, and its thickness is thought to be from one sixth to one tenth of that distance The galactic equator (or galactic circle) is a circle midway between the poles of the Galaxy, it intersects the celestial equator at an angle of 62° Apparent positions of heavenly bodies are determined with reference to the galactic equator There is evidence that the Galaxy rotates about an axis perpendicular to the plane of the Milky Way and that its rotation period is about 200 million years Certain dark portions observed in the sky, some of them known from early times as "coalsacks," are now believed to consist of diffuse, dark material known as dark nebulae Such dark nebulae form great lanes which divide the Milky Way system into two portions along nearly one third of its extent Notable early studies of the Milky Way system were made by Sir William Herschel, Sir John Herschel, and J C Kapteyn See B J Bok and P F Bok, *The Milky Way* (1941)

Mill, James, 1773–1836, British philosopher, economist, and historian, b. Scotland, father of John Stuart Mill Educated at Edinburgh through the patronage of Sir John Stuart, Mill gave up preaching, for which he was licensed, and went to London in 1802 to make his way writing for and editing periodicals He met Jeremy Bentham c 1808 and became an ardent advocate of utilitarianism On the strength of his *History of India* (1817), on which he had worked for over 10 years, he secured a permanent position with the India House Others of his works were *Elements of Political Economy* (1821), *Analysis of the Phenomena of the Human Mind* (1829), and the *Fragment on Mackintosh* (1835), which contains the best exposition of his psychological and ethical theories Mill furnished a psychological basis for utilitarian ethics by expanding the associationism of Hume Association by contiguity, where ideas which occur frequently together form combinations, may be such a subtle process that the merging of ideas may occur without leaving any trace of the elements which went into their formulation. Derived conceptions may

thus achieve autonomy of value quite apart from their obvious utilitarian effect. This is the origin of altruistic motives, which are otherwise difficult to explain on utilitarian grounds. It is also the origin of conscience. See Alexander Bain, *James Mill* (1882), H. C. Warren, *History of Association Psychology* (1921).

Mill, John, 1645–1707, English clergyman and biblical scholar. The masterpiece of scholarly critical work to which 30 years of his life were devoted is an edition (1707) of the Greek New Testament. Dr. John Fell, bishop of Oxford, encouraged Mill to undertake the task, giving over his own notes and assuming the expense of printing.

Mill, John Stuart, 1806–73, English philosopher and economist. A precocious child, he was educated privately by his father, James Mill. In 1823, abandoning the study of law, he became a clerk in India House, where he rose to become head of the examiner's office by the time of the company's dissolution (1858). During this period he contributed to various periodicals and met with discussion groups, one of which included Macaulay, to explore the problems of political theory. His *System of Logic* (1843) was followed in 1848 by the *Principles of Political Economy*. After the death of her husband he married (1851) Helen Taylor, whom he had loved for 20 years. She died in 1858, and Mill, profoundly affected, dedicated to her the famous *Essay on Liberty* (1859) on which they had worked together. He strongly supported the North in the American Civil War. In 1863 *Utilitarianism* was published, and his *Auguste Comte and Positivism* appeared in 1865. From 1865 to 1868 he served as a member of Parliament, after which he retired, spending much of his time at Avignon, where he died. In the year of his death appeared his celebrated autobiography. John Stuart Mill's philosophy followed the doctrines of his father and Bentham, but he sought to temper them with humanitarianism. For example, Mill came close to socialism, a theory repugnant to his predecessors. His urge for reform and meliorative democratic change was in part due to the influence of his wife. In logic he formulated rules for the inductive process and stressed the method of empiricism as the source of all knowledge. In his ethics he pointed out the possibility of a sentiment of unity and solidarity which may even develop a religious character, as in Comte's religion of humanity. In addition he introduced into the utilitarian calculus of pleasure a qualitative principle which goes far beyond the simpler conception of quantity (see UTILITARIANISM). He constantly advocated political and social reforms, such as proportional representation, emancipation of women, and the development of labor organizations and farm cooperatives. His influence has been strong in economics, politics, and philosophy. See his autobiography (with preface by J. J. Coss, 1924, reissued 1944, with appendix and preface by H. J. Laski, 1924), George Morlan *America's Heritage from John Stuart Mill* (1936).

mill see MILLING

Millais, Sir John Everett (mĭlā'), 1829–96, English painter. At 11 he began studying at the Royal Academy and at an early age won all the prizes. In 1848, together with William Holman Hunt and Dante Gabriel Rossetti, he initiated the Pre-Raphaelite movement (see PRE-RAPHAELITES). His early work shows a painstaking rendering of detail, careful draughtsmanship, and extreme clarity. His excellent *Christ in the Carpenter's Shop* (1850, Tate Gall., London) was attacked at the time because of its naturalism, but his reputation was soon established, and in later life he enjoyed high honors. he was created a baronet in 1885, and in 1896 he became president of the Royal Academy. Ruskin was a close friend and a champion of his work. In 1855 Millais married Mrs. Ruskin after the nullification of her marriage. Millais excelled in painting biblical and medieval subjects and was a popular portrait painter. He is well represented in many British galleries. His *Portia* is in the Metropolitan Museum. See biographies by J. G. Millais (1899), M. H. Spielmann (1899), and A. L. Baldry (1902).

Millau, formerly **Millhau** (both mēyō'), town (pop. 15,891), Aveyron dept., S France, on the Tarn, in the causses of ROUERGUE. At the nearby village of Roquefort a famous cheese is manufactured from sheep's milk; sheepskins are used for the important glove industry at Millau. The town was a Huguenot stronghold; its forts and walls were demolished by Louis XIII.

Millay, Edna St. Vincent (mĭlā'), 1892–, American poet, b. Rockland, Maine, grad. Vassar, 1917. Her first poem, "Renascence," appeared in the *Lyric Year* in 1912 and was the title poem of her first volume (1917). *A Few Figs from Thistles* (1920) was followed by *Second April* (1921) and by *The Ballad of the Harp-Weaver* (1922), which won the 1923 Pulitzer Prize for poetry and was republished as *The Harp-Weaver and Other Poems* (1923). She supported herself by writing short stories under the name Nancy Boyd. *The Buck in the Snow and Other Poems* (1928), *Fatal Interview* (1931), *Wine from These Grapes* (1934), and *Make Bright the Arrows* (1940) are later works. As experiments in dramatic verse, Miss Millay has also written *Aria da Capo* (1920), *The Lamp and the Bell* (1921), the libretto for Deems Taylor's opera *The King's Henchman* (1927), *The Princess Marries the Page* (1932), and *The Murder of Lidice* (1942), a radio play. In 1923 she married Eugen Boissevain. A collection of her sonnets appeared in 1941, and of her lyrics in 1943. The emotional and lyric power of her poetry has been compared with that of the Elizabethan romantics, and she is one of the few modern poets able to express herself with ease in the sonnet form. See study by Elizabeth Atkins (1936), bibliography by Karl Yost (1937).

Millbridge, town (pop. 1,318), SE Maine, at the mouth of the Narraguagus, inc. 1848. It has small industries.

Millbrook, residential and resort village (pop. 1,340), E N.Y., NE of Poughkeepsie, inc. 1896. Bennett Junior College for girls and the Millbrook School for boys are here.

Millburn, residential township (pop. 11,652), NE N.J., W of Newark, settled c. 1725, inc. 1857. It includes Short Hills, a section of wealthy estates.

Millbury, industrial town (pop. 6,983), S Mass., on the Blackstone and S of Worcester, settled 1716, set off from Sutton 1813. Textile and metal products are made here.

Milledge, John (mĭl'lĭ), 1757–1818, governor of Georgia (1802–6), b. Savannah, Ga. In the American Revolution he was prominent among the patriots who seized (1775) the colonial government at Savannah. Milledge, a lawyer, was a U.S. Representative (1792–93, 1795–99, 1801–2) and a Senator (1806–9). The Univ. of Georgia campus is situated on land donated by him, and the city of Milledgeville was named in his honor.

Milledgeville, city (pop. 6,778), co. seat of Baldwin co., central Ga., on the Oconee and NE of Macon, in a fertile farm area, inc. 1836. Laid out in 1803 as the site of the state capital, Milledgeville (for John Milledge) was the seat of government from 1804 to 1807. It has various industries. In or near the city are the Georgia State College for Women (1889), the old executive mansion (1838), the old state capitol (1807, later amended), now Georgia Military College, the Ina Dillard Russell Library, with the Georgia History Museum, many fine old houses in classic revival style, state institutions (the reform school, the prison, and the mental hospital), and excavated Indian mounds.

Mille Lacs, Lac des (lak" dā mēl lak') [Fr., =thousand lakes, possibly from the Ojibwa for big lake], lake, c. 18 mi. long and c. 12 mi. wide, W Ont., WNW of Port Arthur. It drains SW into Rainy Lake.

Mille Lacs Lake (mĭl" lăk', lăks), 18 mi. long and 14 mi. wide, E central Minn., N of Minneapolis. Sieur Duluth visited Ojibwa Indians living on its shore in 1679. In 1680 Hennepin and his companions were held captive here by Indians for several weeks. The region is a tourist and sportsmen's center.

Millen, city (pop. 2,820), co. seat of Jenkins co., E Ga., S of Augusta and on the Ogeechee, settled in the 1830s, inc. 1881. It is a railroad junction in a farm area. A state fish hatchery is near by.

millennium [Latin, =1,000 years], in Christian eschatology, strictly, period of a thousand years in which Christ will reign again gloriously on earth. No great church of Christendom has ever sanctioned a belief in the millennium, but from the earliest times the idea has recurred, supported by Rev. 20. With a belief in the millennium has also gone, very often, the idea that the Second Coming is at hand. Belief in the millennium is called chiliasm (kĭ'lēăzm) by historians of the ancient church. See JUDGMENT DAY.

millepede see MILLIPEDE.

Miller, Alfred Jacob, 1810–74, American artist, b. Baltimore, studied under Thomas Sulley and in Europe. In 1837 he accompanied Sir William Drummond Stewart to the Rocky Mts. to make sketches to be developed into paintings for Stewart's castle in Perth, Scotland. The sketches, showing scenery and fur trappers, were discovered in 1935 in a storeroom of the Peale Museum, Baltimore.

Miller, Arthur, 1915–, American dramatist, b. New York city, grad. Univ. of Michigan, 1938. He won several awards for plays written while he was a student, later he wrote for radio. *Focus* (1945) was a novel about anti-Semitism. His plays *All My Sons* (1947) and *Death of a Salesman* (1949) won awards from the New York Drama Critics' Circle, the second receiving also the Pulitzer Prize.

Miller, Charles Henry, 1842–1922, American landscape painter and etcher, b. New York city, studied in Munich. He abandoned the practice of medicine for art. His pictures are chiefly Long Island scenes, such as *Sunset, East Hampton* (Brooklyn, N.Y., Mus.) and *Bouquet of Oaks* (Metropolitan Mus.). He also executed many etchings and wrote (under the pen name Carl de Muldor) *The Philosophy of Art in America* (1885). He became a member of the National Academy of Design in 1875.

Miller, Cincinnatus Heine (or **Hiner**): see MILLER, JOAQUIN.

Miller, David Hunter: see MILLER, HUNTER.

Miller, Dayton Clarence, 1866–1941, American physicist, b. Strongsville, Ohio, grad. Baldwin Univ. (B.A., 1886), D.Sc. Princeton, 1890. From 1890 he taught at the Case School of Applied Science (now Case Institute of Technology), as professor (from 1895), he is known for his work on measurements of sound and of light and for his studies of the relative motion of earth and ether. He successfully photographed and projected sound waves. His works include *The Science of Musical Sounds* (1916), *Sound Waves Their Shape and Speed* (1937), and *Sparks, Lightning, Cosmic Rays* (1939).

Miller, Frieda Segelke, 1889–, U.S. government official, b. La Crosse, Wis., grad. Downer College, 1911. After graduate study (1911–15) at the Univ. of Chicago, she taught (1916–17) social economy at Bryn Mawr College. She then became active in labor field work and attended numerous labor conferences. In the New York state labor department, she was a labor commissioner (1929–38) and then (1938–43) state industrial commissioner. She was (1943–44) special assistant to John G. Winant, U.S. ambassador to England, and after her return to the United States she became (1944) director of the Women's Bureau of the U.S. Dept. of Labor. She represented the United States at the 1946 conference of the International Labour Organisation and was (1946) a U.S. delegate to United Nations General Assembly.

Miller, George Abram, 1863–, American mathematician, b. Lehigh co., Pa., grad. Muhlenberg College (B.A., 1887), Ph.D. Cumberland Univ., 1893. He was professor at the Univ. of Illinois (1907–31). His chief work was in the theory of groups of finite order and the history of mathematics.

Miller, Henry, 1860–1926, American actor-manager, b. London. He went to Toronto with his parents in 1873. In his early career he supported Modjeska and Adelaide Neilson and appeared with the Boucicault troupe. He played a lead in Bronson Howard's *Shenandoah*, the first successful Charles Frohman production, later becoming a star in *Heartsease* (1897), written by himself. He broke with the Theatrical Syndicate and under his own management appeared in William Vaughn Moody's play *The Great Divide*. He also played in *The Havoc* and Sacha Guitry's *Pasteur*. See F. P. Morse, *Back stage with Henry Miller* (1938).

Miller, Hugh, 1802–56, Scottish geologist and writer. He was a stonemason and later an accountant in a bank. In 1829 he published *Poems Written in the Leisure Hours of a Journeyman Mason*, and in 1835 *Scenes and Legends of the North of Scotland*. His *Letter to Lord Brougham* (1839) brought him forward as a leader of the nonintrusionist party in the Scottish Church, and he became editor of the anti-intrusionist paper the *Witness*. Miller's leisure time had long been devoted to the study of geology, and in 1840 he published the articles later issued as *The Old Red Sandstone* (1841). The book was an important contribution to Devonian geology and paleontology and won him a high scientific reputation. He was instrumental in bringing about the foundation of the Free Church of Scotland, which, however, he did not join. His *Footprints of the Creator* (1847) and *The Testimony of the Rocks* (1857) were attempts to reconcile geology with the Mosaic account of the creation. Overworked, he finally suffered an attack of insanity and committed suicide. He wrote also the autobiographical work, *My Schools and Schoolmasters* (1854).

Miller, Hunter (David Hunter Miller), 1875–, American lawyer, b. New York city, grad. New York Law School, 1910. In 1918 he was legal adviser to Col. E. M. House in the Paris peace mission. He helped write the final draft of the Covenant of the League of Nations. He served (1929–31) as editor of treaties for the Dept. of State. His books include *Secret Statutes of the United States* (1918), *The Geneva Protocol* (1925), *The Drafting of the Covenant* (1928), and *The Peace Pact of Paris* (1928).

Miller, Joaquin (wakēn'), pseud. of **Cincinnatus Heine** (or **Hiner**) **Miller,** 1839?–1913, American poet, b. Liberty, Ind. In 1852 he was taken to frontier Oregon. He lived in gold-mining camps in California, later with the Indians, and was in turn an express rider, an editor, and an Oregon judge. His first book of poems, *Specimens* (1868), brought him only local acclaim, but in England, where he went next, his colorful personality, his dramatic Western costume, and his *Songs of the Sierras* (1871) made him famous as a frontier poet. Of his several plays, *The Danites in the Sierras* (produced 1877) was the best and was one of the most popular 19th-century Western dramas in the United States and in England. See his autobiography (1898, ed. by S. G. Firman, 1930), studies by Harr Wagner (1929) and M. S. Peterson (1937).

Miller, Joe (Joseph or Josias Miller), 1684–1738, English comedian, erroneously known as the author of *Joe Miller's Jests*. Joe Miller was for many years a favorite comedian in minor parts at Drury Lane. A year after his death John Mottley published the work to which he gave Joe Miller's name. It was a compendium of puns and rather dull witticisms which went through many editions.

Miller, Kenneth Hayes, 1876–, American painter and etcher, b Oneida Community, Oneida, N Y He was educated at the Horace Mann School in New York and studied art at the Art Students League and New York School of Art He was a popular art teacher, first in the New York School of Art (1899–1911) and then at the League Aside from a trip to Europe in 1900 Miller lived largely in Manhattan, whose daily life he came to paint more and more His earliest pictures show the influence of his friend Albert P Ryder, but his mature work is matter of fact and descriptive His *Fitting Room* (Metropolitan Mus) is characteristic See *monographs* by Alan Burroughs (1931) and Lloyd Goodrich (1930)

Miller, Samuel Freeman, 1816–90, American jurist, b Richmond, Ky , M D Transylvania Univ , 1838 In 1845 he abandoned his medical practice around Barbourville, Ky , to study law and was admitted (1847) to the bar An abolitionist, Miller moved in 1850 to Keokuk, Iowa, where he became a leading Republican For his political labors Lincoln appointed (1862) him an Associate Justice of the Supreme Court, where he served till his death Like John Marshall, with whom he has been compared, Miller was a great logician but not a great scholar, he was principally interested in the practical application of the law He was a strong supporter of Federal authority in the Civil War, but his opinion in the SLAUGHTERHOUSE CASES (1873) sharply defined the spheres of Federal and state jurisdiction Throughout his career he was more concerned with the welfare of society as a whole than with the protection of vested property interests This view made him a perpetual dissenter in the Supreme Court, which, more than any other time in its history, always seemed to condone the activities of those interests See biographies by C N Gregory (1907) and Charles Fairman (1939)

Miller, Wilhelm, 1869–, American horticulturist, b Duane, Va He has had a notable influence on American landscape architecture, particularly in the prairie states, by his bulletins written for the Univ of Illinois His writings include *What England Can Teach Us about Gardening* (1911) and *Practical Help on Landscape Gardening* (1914)

Miller, William, 1782–1849, American sectarian leader, b Pittsfield, Mass He was the founder of the sect of Second ADVENTISTS, often called Millerites In 1831, convinced from study of the Bible that the prophecies pointed to the second coming of Christ in 1843, he went about spreading his belief among large audiences Many prepared for the Day of Judgment, and when the year passed without a fulfillment of Miller's prophecy, a date in 1844 was set In 1845 Miller and his followers founded the Adventist Church

Miller, William, 1795–1861, English soldier and South American revolutionist After service in the British army, he went to South America, where he distinguished himself fighting under José de SAN MARTÍN in Chile and took an important part in the liberation of Peru He later took part in the tumultuous politics of Peru and was exiled in 1839 for his support of Andrés SANTA CRUZ See John Miller, *Memoirs of General Miller* (1827).

Miller, city (pop 1,460), co seat of Hand co , E central S Dak , E of Pierre, settled 1882, inc as a city 1910 It is a farm trade center in a grain and livestock area.

Millerand, Alexandre (älĕksä'drù mēlrä'), 1859–1943, French statesman, president of France (1920–24) He began his political career as a Socialist As the first Socialist to accept a post in a bourgeois cabinet—he was (1899–1902) minister of commerce in the Waldeck-Rousseau ministry—Millerand was sharply criticized by his party, which eventually expelled him in 1914 He held cabinet posts during the First World War and became commissioner general in recovered Alsace and Lorraine (1919) and premier (1920) By then an ardent nationalist, he was elected president in the same year to succeed Clemenceau During his tenure Poincaré succeeded (1922) Briand as premier. Millerand resigned when Herriot refused to form a cabinet while Millerand was president Gaston Doumergue succeeded him. He was elected (1925) to the senate and continued to exert his influence as a rightist and nationalist.

Millersburg. 1 **Village** (pop 2,239), co. seat of Holmes co , central Ohio, SW of Canton; settled 1816, laid out 1824 It has varied industries There are coal mines and sandstone quarries here **2** Residential borough (pop 2,959), SE Pa , on the Susquehanna and NNW of Harrisburg, settled c 1790, laid out 1807, inc 1850 It is a distributing center for farm and dairy produce

Millersville, borough (pop. 1,867), Lancaster co , SE Pa , SW of Lancaster It has a state teachers college

Milles, Carl (mĭl'lùs), 1875–, Swedish sculptor, whose name originally was Carl Emil Wilhelm Anderson He studied in Paris from 1897 until 1904, when he returned to Stockholm He had his first exhibition at Malmo in 1914 and was for the first time (1926–27) exhibited outside Sweden at the Tate Gallery, London In 1929 he visited the United States for the first time and in 1931 began to teach sculpture at Cranbrook Academy, Cranbrook, Mich. His work, which is inspired by Rodin and consists predominantly of large linear human figures, is represented in America by the *Peace Monument* at St. Paul, Minn ; the *Fountain of the Meeting of the Waters* at St. Louis, statues in Rockefeller Center, New York See M R Rogers, *Carl Milles: an Interpretation of His Work* (1940).

Millet, Aimé (āmā' mēlā'), 1819–91, French sculptor and painter Among his statues for public buildings in Paris is the *Apollo* on the Opéra For Napoleon III he produced a colossal *Vercingetorix* in copper

Millet, Francis Davis (mĭl'lut), 1846–1912, American illustrator, painter, and journalist, b Mattapoisett, Mass , grad Harvard, 1869, and studied art at Antwerp He had been a drummer boy in the Civil War before going to college As a correspondent, Millet covered the Russo-Turkish War of 1877–78 for the New York *Herald* and the London *Daily News* and *Graphic* He was a member of the international art jury at the Paris exposition of 1878 and was director of decorations at the World's Columbian Exposition, Chicago, in 1893 He was war correspondent in the Philippines in 1898 for the London *Times* and for *Harper's Weekly* His mural paintings, for which he was later well known, include *Evolution of Navigation* (customhouse, Baltimore) Of his genre pictures, *A Cozy Corner* and *An Old-Time Melody* are in the Metropolitan Museum, and *Between Two Fires* is in the Tate Gallery, London He became a member of the National Academy in 1885 and was first secretary of the American Academy at Rome Millet lived in England much of his later life, he died in the sinking of the *Titanic*

Millet or **Milé, Jean François** (both zhä' fräswä' mēlā'), c 1642–1679, French landscape painter, known as Francisque, b Antwerp His Arcadian and imaginary Italian landscapes painted in the manner of Nicolas Poussin are to be seen in numerous European galleries

Millet, Jean François (zhä' fräswä' mēlā'), 1814–75, French painter He came of a poor farming family In 1837 an award from the municipality of Cherbourg enabled him to go to Paris, where he studied under Delaroche In 1848 he settled in Barbizon Here he executed such famous works as the *Gleaners* (1857) and the *Angelus* (1859), both now in the Louvre He was an outstanding member of the Barbizon school As a painter of scenes of peasant labor, he has been considered a social realist and linked with such artists as Courbet and Daumier He is well represented in American museums, notably in the Quincy Shaw Collection of the Museum of Fine Arts, Boston

millet, popular name for many species of grasses and cereals of distinct genera Millets are important sources of human food in India, China, Japan, and parts of Europe and Africa In North America they are forage crops Millets are among the most ancient agricultural plants The common millet of Europe, *Panicum miliaceum*, also called hog millet, Indian millet, and other names, has been cultivated since prehistoric times in Asia and Egypt and was known to the lake dwellers of Europe Widely cultivated in Russia, S Europe and the Orient, the grain is used as groats in bread and as poultry feed. It is the best suited of the millets for human food The common millet of America is the foxtail millet, *Setaria italica* (formerly *Chaetochloa*), much grown in India for food and used in Europe as poultry feed Long cultivated, it was one of the five holy plants sown at a public ceremony by the emperor of China by an order believed to date from 2700 B C See also PEARL MILLET

Mill Hall, borough (pop. 1,513), Clinton co , N central Pa , on Bald Eagle Creek and SW of Lock Haven, laid out 1806, inc. 1850 Electric fixtures are made here

Milligan, ex parte, case decided by the U S Supreme Court in 1866 By authorization of Congress, President Lincoln in 1863 suspended the writ of habeas corpus in cases where military officers held persons for offences against the armed services Army authorities had arrested Milligan, a civilian who was involved in Copperhead activities in Indiana, and in 1864 he was tried by a military commission, convicted of fomenting rebellion, and condemned to death The court did not deal directly with the question of habeas corpus but with the limitation of martial law It held that civilians might be tried by a military tribunal only where civil courts could not function because of invasion or disorder Even though the United States was at war, the Federal courts of Indiana were operating and they alone might try the case See Samuel Klaus, ed , *The Milligan Case* (1929)

Millikan, Robert Andrews (mĭl'lĭkŭn), 1868–, American physicist and educator, b Morrison, Ill , grad Oberlin (B A., 1891), Ph.D Columbia, 1895, and studied in Germany He taught physics at the Univ. of Chicago from 1896 to 1921 and from 1921 to 1945 was chairman of the executive council of the California Institute of Technology and director of the Norman Bridge Laboratory there. One of the foremost American scientists, he received the 1928 Nobel Prize in Physics for his measurement of the charge on the electron and for his work on the photoelectric effect. He has also made important studies of cosmic rays, X rays, and physical and electrical constants and has written and lectured on the reconciliation of science and religion His books include *Electricity, Sound, and Light* (1908), *Science and Life* (1924), *Evolution in Science and Religion* (1927), *Science and the New Civilization* (1930), *Time, Matter, and Values* (1932), and *Electrons (+and−), Protons, Photons, Neutrons, Mesotrons, and Cosmic Rays* (rev. ed., 1947, 1st ed. with title *The Electron*, 1917, enl ed , 1935). See his autobiography (1950)

Millin, Sarah Gertrude (Liebson), 1889–, South African writer Her husband, Philip Millin, is a judge of the supreme court of South Africa The first of her novels of colonial and racial problems in South Africa was *Dark River* (1920). Later ones include *God's Stepchildren* (1924), *Mary Glenn* (1925), *An Artist in the Family* (1928), *What Hath a Man?* (1938), and *The King of the Bastards* (1949), a historical novel She has also written a study, *The South Africans* (1926, rev. ed , 1934), and biographies of Cecil Rhodes (1933) and of her friend General Smuts (1936).

milling, the grinding of wheat or other grains to produce flour It originated in prehistoric times, probably the original method was to pound the grain between two stones The advantages of using a stone with a rounded end to grind grain in a cup-shaped stone led to the development of the mortar and pestle This was early superseded among the more advanced peoples by the quern, a primitive mill in which grain, placed on a flat, circular nether millstone, is ground by revolving a similar upper millstone to which a handle is attached The device, operated at first by hand, was adapted to the use of animal, water, or wind power The Greeks probably used water power c 450 B C., the Romans used gears to connect several sets of millstones with one waterwheel Windmills are said to have become widespread in Europe following the Crusades and were probably introduced from Asia Minor The Industrial Revolution brought the use of steam power and of transportation facilities that resulted in the rise of large-scale operations at milling centers Wooden machinery has been superseded by metal parts, millstones, by sets of steel rollers The invention of the middlings purifier by which, after preliminary grinding, the flour is separated from bran particles by strong air currents, improved the quality of flour prepared from hard spring wheat and led to the development of great milling centers in spring-wheat areas in Minnesota (notably Minneapolis), the Dakotas, and Montana In Europe modern methods were early developed in Hungary, and Budapest became one of the chief milling centers In modern processing, grain is usually blended, cleaned, scrubbed to remove wheat hairs, tempered by heat and moisture (to prevent brittleness in the bran and consequent pulverization resulting in speckled flour), passed through sets of steel rolls with successively finer corrugations, and sifted after each grinding It is then blown in a middlings purifier, ground between sets of smooth rolls, and bolted through a very fine mesh sieve. The entire process takes about an hour and comprises some 180 operations The term *milling* is applied also to the processing of other materials, e g , soap, textiles, and metals, processing establishments are often called mills, e g , lumber mill or sawmill, cotton mill, and sugar mill

Millinocket (mĭl'lĭnŏ'kĭt), town (pop 6,223), central Maine, on the West Branch of the Penobscot SE of Millinocket Lake, inc 1901 It grew about its paper mills, built here in 1899–1900

millipede or **millepede** (both mĭl'lupēd), wormlike, segmented arthropod It is somewhat similar to the centipede, but the body is cylindrical and the legs shorter and more numerous—two pairs on most segments. Its firm cuticle and the scent glands found in many species afford some protection It seeks damp, dark places Millipedes are herbivorous, feeding on decaying vegetation and the parts of plants in contact with the soil Some damage crops. They are sometimes called thousand-legged worms

Millis, town (pop 2,278), E Mass., on the Charles and SW of Boston, settled 1657, set off from Medway 1885 Shoes and asbestos products are made

Millo (mĭl'lō), unidentified part of Jerusalem in the time of David Judges 9 6, 20, 2 Sam 5 9, 1 Kings 9 15, 24, 11 27, 2 Kings 12 20, 1 Chron. 11 8, 2 Chron 32 5

Millport, burgh (pop 2,083), on Great Cumbrae island, Buteshire, Scotland. It is the site of the Cathedral of the Isles

Mills, Clark, 1810–83, American sculptor, b Onondaga co , N.Y. Self-taught in art, he designed and in 1852 cast in an experimental foundry the statue of General Jackson for Lafayette Square, Washington, D C. Mills had never seen his subject nor an equestrian statue. The daring pose of the horse was a mechanical triumph. Later Mills made a colossal statue of Washington on horseback, and he cast in his foundry Thomas Crawford's *Armed Freedom* for the Capitol dome.

Mills, Ogden Livingston, 1884–1937, American political leader, b. Newport, R.I., grad. Harvard (B.A., 1904; LL.B., 1907). He practiced law in New York city and became an active Republican party leader He served (1914–18) in the New York state legislature and then (1921–22) in the U.S Congress—where he was noted as a fiscal expert He was appointed (1927) Undersecretary of the Treasury, succeeded Andrew Mellon as Secretary of the Treasury (Feb.–March, 1933), and afterwards severely criticized the New Deal He wrote *Liberalism Fights On* (1936) and *Seventeen Million* (1937)

Mills, Robert, 1781–1855, American architect of the CLASSIC REVIVAL period, b Charleston, S.C From 1800 to 1820 he worked as an architect in Washington, Philadelphia, and Baltimore, being associated at different times with Thomas Jefferson, James Hoban, and B H Latrobe He then returned to Charleston as state engineer and architect In 1836 President Jackson appointed Mills architect of public buildings in Washington In this post he designed the Treasury Building (1836), the Patent Office (1830), the Washington Monument (1836), and the old Post Office (1839) His design for the monument was executed without the base originally intended for it—a Greek Doric Pantheon with columns 100 ft high—and was not completed until long after Mills's death He also designed the Washington Monument in Baltimore, the Bunker Hill Monument, and the Monumental Church in Richmond, Va He was able to achieve truly monumental effects, and his works exhibit fine proportions in their unadorned simple masses See biography by H M Pierce Gallagher (1935)

Mills, Roger Quarles, 1832–1911, American politician, b Todd co, Ky He moved to Texas when he was 17 Admitted to the bar by special act of legislature (1852), he practiced law until the outbreak of the Civil War After serving with the Confederate forces, he again practiced law He entered politics, becoming a member of Congress (1873–92) and Senator (1892–98) He is remembered chiefly for the Mills Bill, a bill for reducing tariffs on manufactured goods and for putting various raw products on the free list, in 1877 It awoke great opposition to Cleveland's administration and failed of passage

Mills College, at Oakland, Calif, nonsectarian, mainly for women, opened 1852 as the Young Ladies' Seminary at Benicia, Calif, moved 1871 It was called Mills Seminary and College from 1877 to 1885 for Cyrus Mills (president 1865–84) and his wife Susan (president 1890–1909) Chartered as a college in 1885, it was the first woman's college in the Far West

Millspaugh, Charles Frederick (mĭlz'pô), 1854–1923, American botanist, b Ithaca, N Y He traveled extensively through Mexico, parts of South America, and the West Indies as a botanical explorer, specializing in the flora of the Antillean region Among his works are *American Medicinal Plants* (1887), *Weeds of West Virginia* (1892), *Plantae Yucatanae* (1903), *Flora of the Sand Keys of Florida* (1907), and (with N L Britton) *The Bahama Flora* (1920)

Mill Springs, village, Wayne co, SE Ky, on the Cumberland river, c 85 mi S of Frankfort In a battle of the Civil War fought here, Jan 19, 1862, the Confederates under Gen G B Crittenden attacked the Union forces of Gen G H Thomas at Logan's Crossroads, c 10 mi north of the river, but were routed Thus East Tennessee was left open to a Union advance

Millstadt, village (pop 1,290), SW Ill, SSE of St. Louis, in a farm and coal area, inc 1878

Milltown, town (pop 1,876), SW N B, on the St. Croix and W of St John It has lumber mills.

Milltown, borough (pop 3,515), E N J, S of New Brunswick, settled before 1800, inc 1889.

Millvale, industrial borough (pop 7,811), SW Pa., on the Allegheny river opposite Pittsburgh, settled c.1844, inc 1868. It has metal factories and a meat-packing plant

Mill Valley, residential town (pop 4,847), W Calif, in the San Francisco Bay area N of San Francisco, inc 1900. It is at the foot of Mt Tamalpais. Muir Woods National Monument is near by

Millville. **1** Town (pop. 1,722), S Mass, near the R I line SE of Worcester, settled 1662, set off from Blackstone 1916 **2** City (pop 14,806), S N J, E of Bridgeton, settled 1756, laid out 1801, inc 1866 A center for a farming and poultry-raising district, it has glassworks and Maurice river fisheries Roosevelt Park, one mile south, a WPA-built colony for the aged, was opened in 1937.

Milman, Henry Hart, 1791–1868, English clergyman and author, dean of St Paul's from 1849. He was the author of several plays on historical subjects and of important historical works, including *History of the Jews* (1830), *History of Christianity* (1840), and, his chief work, *History of Latin Christianity* (6 vols, 1854–55)

Milmore, Martin, 1844–83, American sculptor, b. Shigo, Ireland. He came to Boston in 1851 and began studying with Thomas Ball in Charlestown in 1860. Among the examples of monumental sculpture on which his fame chiefly rests are the Soldiers' and Sailors' Monument, Boston Common, and the Soldiers' Monument, Forest Hills Cemetery, Roxbury, Mass. With his brother he made a granite *Sphinx* for Mt. Auburn Cemetery, Cambridge, Mass. In spite of his early death he was known also for his portrait busts, among his subjects being Pope Pius IX, Longfellow, Emerson, Wendell Phillips, and Charles Sumner (the last Metropolitan Mus) Over Milmore's grave in Forest Hills Cemetery is D C French's *Death and the Young Sculptor*

Milne, Alan Alexander (mĭln), 1882–, English dramatist and humorous writer for children, b London He was assistant editor of *Punch* from 1906 to 1914 Of his fiction for adults, *The Red House Mystery* (1921) is a classic of its genre His small son was the "Christopher Robin" of his children's verse *When We Were Very Young* (1924) and *Now We Are Six* (1927) and of the stories *Winnie-the-Pooh* (1926) and *The House at Pooh Corner* (1928) His successful comedies include *Mr. Pym Passes By* (1919), *The Truth about Blayds* (1921), *The Dover Road* (1922), and *Michael and Mary* (1930) See his autobiography (1939)

Milne, John, 1850–1913, British seismologist, b Liverpool, educated at King's College and the Royal School of Mines He worked as a mining engineer in Newfoundland and Labrador and served (1874) as a geologist on a mining expedition to NW Arabia From 1875 to 1894 he was professor of geology at the Imperial Univ in Tokyo, where he helped to organize the seismic survey of Japan After his return to England he was influential in promoting the establishment of seismological stations throughout the world, he designed several seismographs He wrote *Earthquakes* (1883) and *Seismology* (1898)

Milne Bay (mĭln, mēl), easternmost bay of New Guinea, c 225 mi SE of Port Moresby In the Second World War an Allied air base was here

Milne-Edwards, Henri (ärĕ' mēl'nādwärs'), 1800–1885, French naturalist He became professor at the Sorbonne (1843) and served at the Museum of Natural History, Paris, as professor (from 1843) and director (from 1864) He wrote important works on the crustacea, molluscs, and corals and a noted textbook in zoology (1834) His principal work was a series of lessons on comparative anatomy and physiology (14 vols, 1857–81)

Milner, Alfred Milner, 1st **Viscount,** 1854–1925, English statesman and colonial administrator Born in Germany, Milner was educated there and in England, distinguishing himself for his scholarship at Oxford He did journalistic work in London on the *Pall Mall Gazette*, and in 1889, through the influence of George Goschen, chancellor of the exchequer, he was made undersecretary of finance in Egypt He spent four years there during a difficult period in Egypt's economic history, and on his return to England he wrote *England in Egypt* (1892) In 1897 Milner was appointed high commissioner for South Africa and governor general of Cape Colony This was shortly after the JAMESON RAID had heightened the growing tension between the British and the Boers in South Africa Long negotiations failed to halt the outbreak in 1899 of the South African War Milner remained in South Africa until 1905, laying the groundwork for the assimilation of the Transvaal and Orange River Colony into the British colonial system Milner was one of the Conservatives who opposed Lloyd George's revolutionary budget of 1909 in the House of Lords, but in 1915 Lloyd George appointed him to his war cabinet, and Milner was a major figure in the civilian conduct of the war In 1918 he was made colonial secretary and in 1920 led a commission to Egypt which recommended recognition of Egyptian independence See Cecil Headlam, ed, *The Milner Papers, 1897–1905* (1931–33), W B Worsfold, *Lord Milner's Work in South Africa* (1906)

Milner, Moses Embree. see CALIFORNIA JOE

Milnes, Richard Monckton. see HOUGHTON, RICHARD MONCKTON MILNES, 1ST BARON

Milo (mī'lō) or **Milon** (mī'lŏn), fl 500 B C, athlete of ancient Greece, b Crotona He was many times a victor at wrestling in the Olympic and Pythian games He is said to have killed a heifer with a blow of his fist and to have eaten the animal in the course of a day Finding a tree partially split, he attempted, according to legend, to rend it asunder, but he was caught fast by the hand and was devoured by wolves.

Milo (Titus Annius Papianus Milo), 95 B C.–47 B C., Roman partisan leader As tribune of the people (57 B C) he obtained the recall from exile of Cicero At the instance of POMPEY, Milo hired a gang to fight the gang of P CLODIUS The rivals kept Rome in an uproar until it ended in the death of Clodius in an affray at Bovillae, on the Appian Way (52 B C) Pompey was appointed sole consul to restore order in the city, and Milo was brought to trial. Cicero, his advocate, was so intimidated that he did not deliver his oration, which he later published (*Pro Milone*) Milo was exiled to Masilia, joined the insurrection of M. Caelius in Italy, and was defeated, captured, and killed. Milo's wife was Sulla's daughter. Milo had the historian Sallust beaten for an intrigue with her.

Milo (mī'lō), town (pop 3,000), central Maine, on the Piscataquis and NNW of Bangor, settled 1803, inc 1823 It is a center for the Schoodic, Seboois, and Sebec lakes region and has manufactures of lumber products, yarn, and thread At Derby village are railroad shops

Milo, Aegean island see MELOS

milo or milo maize. see SORGHUM

Milon see MILO.

Milosh (Miloš Obrenovich) (mī'lŏsh ōbrĕ'nuvĭch), 1780–1860, prince of Serbia (1817–39, 1858–60), founder of the OBRENOVICH dynasty and of modern SERBIA An illiterate swineherd, he was a revolutionary chieftain fighting the Turks under KARAGEORGE After Karageorge's defeat he temporarily submitted to the Turks, but in 1815 he began a new and successful rebellion In 1817, having killed his rival Karageorge, he was named prince of Serbia, a title confirmed by the national assembly (1827) and by the sultan (1830), who remained his suzerain Popular discontent with his tyrannical rule and Russian intrigue forced him to abdicate (1839) in favor of his son, Milan, who died in the same year Milosh's younger son, Michael (Michael Obrenovich), who then became prince, was deposed in turn in 1842 and succeeded by Alexander Karageorgevich In 1858 the Serbian Skupchtina [parliament] recalled Milosh He was succeeded at his death by Michael

Miltiades (mĭltī'ădēz), d 489 B C, Athenian general, who commanded at Marathon From youth he lived in an Athenian dependency in the Gallipoli Peninsula and succeeded his uncle as its ruler (c 524 B C) He accompanied (c 513 B C) Darius in the Persian expedition into Scythia Later he took part in the revolt of Ionian Greece against the Persians (499–493 B C) and retired at the end to Athens His experience, ability, and sentiments made him a leader of the patriotic party, which elected him to the board of generals to oppose the impending Persian invasion (see PERSIAN WARS) When the enemy arrived at Marathon, Miltiades went there to protect Athens from the land side After a few days' delay the Persians began the march toward Athens, and Miltiades attacked He had an infantry outnumbered two to one, but the Greek spears and armor outweighed Persian arms The Athenian center gave way, the wings enveloped the Persians, and the Persians were vanquished They retreated to their ships and started at once by sea to attack Athens, the army being absent Perhaps the chief glory of Miltiades was that he could bring his army, which had fought all day, in a 20-mile race back to Athens In the morning the Persian fleet arrived off Athens, Miltiades and his army were there already After the battle the general was given a fleet Unauthorized, he made an unsuccessful attack on Paros His enemies took advantage of him and had him fined He died of a wound soon after

Milton, John, 1608–74, English poet, b London, educated at St Paul's School and at Christ's College, Cambridge (B A, 1625, M A, 1632) His father, a wealthy scrivener, was also an amateur musician and composer who encouraged his son's early interest in literature, language, and music While John Milton was at Cambridge he wrote poetry in both Latin and English, including his ode "On the Morning of Christ's Nativity" (1629) Although the exact date is unknown, "L'Allegro" and "Il Penseroso" were probably written not long after this His increasing dislike of the ritualism which was growing stronger in the English Church at this time was the reason he later gave for not entering the Church as he had earlier planned to do Resolved to be a poet, Milton retired to his father's estate at Horton after leaving Cambridge and devoted himself to his studies There he wrote *Comus*, a masque (acted 1634, pub 1637), and "Lycidas" (1638), one of his greatest poems, an elegy on the death of his friend Edward King In 1638, after the death of his mother, Milton went to Italy, where he traveled and studied nearly two years In Florence he learned of the death in England of his closest friend, Charles Diodati, and later wrote of him one of his most austere Latin poems, "Epitaphium Damonis" Returning to England in 1640, he supported the Presbyterians in their attempt to reform the English Church His pamphlets, which attacked the episcopal form of church government, include *Of Reformation in England* (1641) and *The Reason of Church Government Urged against Prelaty* (1642) In 1643 he married Mary Powell, who left him the same year He then wrote (1643–45) four controversial pamphlets upholding the morality of divorce for incompatibility *Areopagitica* (1644), his most famous prose work and one of the great arguments in favor of the freedom of the press grew out of his dissatisfaction with the strict censorship of the press exercised by Parliament. Milton gradually broke away from the Presbyterians, and in 1649 he wrote *The Tenure of Kings and Magistrates*, which supported the Independents who had imprisoned King Charles in the PURITAN REVOLUTION In it he declared subjects may put to death an unworthy king This pamphlet secured Milton a position in Oliver Cromwell's government as secretary for foreign tongues, and he continued

to defend Cromwell and the Commonwealth government in his *Eikonoklastes* [the image breaker] (1649)—an answer to EIKON BASILIKE—and in the Latin pamphlets *First Defense of the English People* (1651), *Second Defense of the English People* (1654), and *Defense of Himself* (1655) In the midst of his heavy official business and pamphleteering, Milton, whose sight had been weak from childhood, became totally blind, and he had to carry on his work through secretaries, one of whom was Andrew Marvell Mary Powell had returned to Milton in 1645, but died in 1652 He married Catharine Woodcock in 1656, and she died two years later She is the subject of one of his most famous sonnets beginning, "Methought I saw my late espousèd saint" Milton's 19 sonnets in English and 5 in Italian follow in general the Petrarchan style (see SONNET) and are accepted as among the greatest ever written In 1663 Milton married Elizabeth Minshull, who survived him Milton supported the Commonwealth to the very end, and after the Restoration (1660) he was forced into hiding for a time and some of his books were burned He was included in the general amnesty, however, and lived quietly thereafter For many years Milton had planned to write an epic poem, and he started his work on *Paradise Lost* probably before the Restoration The blank-verse poem in 12 books appeared in 1667, was greatly admired by Milton's contemporaries, and has ever since been considered the greatest epic poem in the English language In telling the story of Satan's rebellion against God and the story of Adam and Eve in the Garden of Eden, Milton has attempted to account for the evil in this world and, in his own words, to "justify the ways of God to men" *Paradise Regained*, a second blank-verse poem in four books, describes how Christ, a greater man than Adam, overcame the temptations of Satan *Samson Agonistes*, a poetic drama modeled on classic Greek tragedy but with biblical subject matter, appeared in 1671 Milton's theology, which, although in the Protestant tradition, is extremely unorthodox and individual on many points, is set forth in the Latin pamphlet *De doctrina Christiana*, [on Christian doctrine], unpublished during Milton's lifetime and discovered and published in 1823 As a poet he has won universal acclaim, but Milton's personal life, his politics, and his theology, which can, in general, be described as Puritan, have always been subjects of much controversy See his complete works (ed by F A Patterson, 20 vols , 1931–40). There are many one-volume editions which contain all the poetry and some of the prose, among them are *The Student's Milton* (ed by F A Patterson, 1933) and *The Portable Milton* (ed by Douglas Bush, 1949) See biographies by Samuel Johnson (in *Lives of the Poets*, 1799), David Masson (7 vols , 1858–94, rev ed by Peter Smith, 1946), Eustace Tillyard (1930), Denis Saurat (rev ed , 1944), and J H Hanford (1949), J H Hanford, *The Milton Handbook* (4th ed , 1946), D L Clark, *John Milton at St. Paul's School* (1948)

Milton, Ont see MILTON WEST

Milton 1 Town (pop 1,198), S Del , on the Broadkill and W of Lewes, in a farming area, settled before 1700, inc 1865 2 Town (pop 1,851), co seat of Santa Rosa co , NW Fla , near Pensacola and on the Blackwater river, founded c 1825 It is a center for processing lumber 3 Industrial town (pop 18,708), E Mass , S of Boston, settled 1636, set off from Dorchester 1662 Chocolate and many other products are made here Harvard's meteorological observatory is at near-by Blue Hill 4 Town (pop 1,279), SE N H , on the Salmon Falls River, set off from Rochester and inc 1802 5 Town (pop 1,744), NE Oregon, near the Wash boundary S of Walla Walla, inc 1886 With the adjoining town of Freewater (pop 825), it is the canning and shipping center for a pea-growing area 6 Industrial borough (pop 8,313), E Pa , on the West Branch of the Susquehanna and SE of Williamsport, laid out c 1794, inc 1817 Its manufactures include metal products, textiles, and railroad tank cars Limestone is quarried here 7 Rural town (pop 1,750), NW Vt , bordered on the west by Lake Champlain and crossed by the Lamoille, settled 1782, organized 1788 It includes a 900-acre state game preserve 8 Trading town (pop 1,641), W W Va , on the Mud River and E of Huntington, in a gas and farm section, inc 1876 9 Village (pop 1,266), S Wis , between Janesville and Lake Koshkonong, inc 1904

Milton West, town (pop 1,964), S Ont , W of Toronto It has lumber and flour mills and dairying The town was formerly called Milton

Milverton, village (pop 1,015), S Ont , NNE of Stratford It has a textile mill.

Milvian Bridge or **Mulvian Bridge,** Latin *Pons Milvius* or *Pons Mulvius* It was built by M Aemilius Scaurus in 109 B C over the Tiber near Rome as part of the Flaminian Way. By defeating Maxentius here in A D 312, Constantine I became the unchallenged ruler of the West It was here that Constantine saw the cross in the sky.

Milwaukee (mĭlwô'kē), city (pop 587,472), co seat of Milwaukee co , SE Wis., N of Chicago and at the point where the Milwaukee, Menomonee, and Kinnickinnic rivers join and enter Lake Michigan, inc 1846 During the late 17th cent , missionaries visited the site, where Indian tribes gathered and traded, and in 1795 the North West Company set up a fur-trading post In 1818 Solomon JUNEAU came Several settlements in the region merged after 1835 to be Milwaukee village With a good harbor, a developing hinterland, accessible raw materials, and industrious and capable citizens, Milwaukee grew as a shipping center and became the largest city in the state, famous for its numerous industries, notably brewing and meat packing It is also a port of entry For several years after 1848, German refugees, such as Carl SCHURZ, stimulated the city's political, economic, and social growth After the Civil War the KNIGHTS OF SAINT CRISPIN foreshadowed the city's growing labor movement Victor L BERGER, the Socialist leader, exerted a dominant influence here, and Daniel W HOAN made Milwaukee known for efficient administration Among the city's educational institutions are MARQUETTE UNIVERSITY, a state teachers college, Mt Mary College, and Milwaukee Vocational School Milwaukee-Downer College (nonsectarian, for women), opened in 1848 as a seminary, was chartered as a college in 1851, with a program planned by Catharine Beecher In 1895 it absorbed Downer College (chartered 1855 at Fox Lake) It is a liberal arts college with special departments of art, home economics, music, and occupational therapy Other points of interest include a large auditorium, a public library and museum, an art institute, and an art gallery Milwaukee has a large U S veterans' institution Among the numerous parks are Washington Park, with a zoo, Mitchell Park, containing botanical gardens, Juneau Park, and Estabrook Park, containing one of the city's oldest houses See W G Bruce, *A Short History of Milwaukee* (1936), D W Hoan, *City Government* (1936)

Milwaukie, city (pop 1,871), NW Oregon, just S of Portland and on the Willamette, founded 1848, inc 1903 Cherry trees brought here from Iowa in 1847 inaugurated the state's important cherry-growing industry

Milyukov or **Miliukov, Pavel Nikolayevich** (both pä'vĭl nyĭkull'uvĭch mēlyōō'kôf'), 1859–1943, Russian statesman and historian A member of the Duma and a leader of the liberal Constitutional Democratic party, he became foreign minister in the first government of Prince Lvov after the February Revolution of 1917 His insistence on carrying out Russia's military obligations toward the Allies in the First World War made him highly unpopular with the war-weary masses, and in May, 1917, he was forced to resign An uncompromising opponent of Bolshevism, he settled in Paris after the failure of the counterrevolution against Lenin Among his historical works is *Outlines of Russian Culture* (Eng tr , 3 vols , 1942)

Mimico (mĭ'mĭkō), town (pop 8,070), S Ont , on Lake Ontario It is an industrial and residential suburb W of Toronto

mimicry, in biology, the advantageous resemblance of one animal to another of a different, and often an unrelated, species or to a feature of its own environment (However, this resemblance to some environmental feature is usually classed as PROTECTIVE COLORATION) Mimicry may exist among plants as well as animals, but it is most easily and most commonly observed among insects The first scientific studies on the subject were published by H W BATES (1862) and A R WALLACE (1865) The Batesian theory of mimicry is that, through the operation of natural SELECTION and without conscious effort, an edible insect (for example) acquires a deceptive resemblance to an inedible insect and thus escapes its aggressor This superficial resemblance can occur only when some anatomical feature lends itself to such adaptation, radical changes in structure do not occur The mimic is usually of a rarer species than the model, mimic and model are generally found in the same localities and exhibit similar variations in their geographic range Mimics may themselves become models for other groups In some instances the insect mimics its prey, as in the case of spiders that resemble ants A common example of mimicry seen in temperate North America is the resemblance of the viceroy butterfly to the monarch butterfly which is distasteful to birds Other examples of protective mimicry are flies which look like bees, a Borneo beetle which resembles a wasp, and a rare African swallowtail butterfly the female of which mimics an inedible common variety An aposematic or warning resemblance is believed to have the effect of inspiring dread, e g , a South American insect of which part of the head looks strikingly like that of a small alligator and harmless snakes which resemble poisonous varieties. See E B Poulton, *Colours of Animals* (1872); H W Bates, *Naturalist on the River Amazons* (new ed , 1910); Harry Eltringham, *African Mimetic Butterflies* (1910), G. D. H. Carpenter and E. B Ford, *Mimicry* (1933)

Mimnermus (mĭmnûr'mŭs), fl. late 7th cent B.C., Greek elegiac poet of Colophon. Only fragments of his poetry survive. He wrote martial and historical poems as well as love poems marked by tenderness and melancholy sentiment. One collection was called *Nanno*, after a beloved flute girl

mimosa (mĭmō'sŭ), any of the trees, shrubs, or herbs of the leguminous genus *Mimosa*, chiefly tropical American plants, usually with feathery foliage and rounded clusters of flowers Mimosas are used for ornamental purposes in warm regions The acacias of florists are often called mimosa, and many are quite similar, but they may be distinguished by the number of stamens—10 or less in mimosa, more than 10 in acacia Most widely known of the mimosas is the sensitive plant (*Mimosa pudica*), a weed in the tropics, but cultivated as a greenhouse annual elsewhere because of its interesting movements Its leaves fold up and collapse under a light touch, until the whole plant may assume a thoroughly wilted appearance for a short time When stimulated at regular and frequent intervals, the plant soon fails to respond

Mims, Fort: see WEATHERFORD, WILLIAM

Min (mĭn), rivers in China, both navigable 1 Fukien prov , flowing c 260 mi on a southwest course to empty into the South China Sea near Foochow 2 Szechwan prov , flowing c 120 mi on a southerly course to join the Yangtze at Suifu

Mina, Francisco Javier (franthĕ'skō hävyĕr' mē'nä), 1789-1817, Spanish soldier and revolutionist In the Peninsular War he fought under Palafox at Saragossa (1808–9) and carried on guerrilla warfare against the French with his uncle ESPOZ Y MINA The failure of the revolt against Ferdinand VII after his restoration (1814) forced Mina to flee to England Here he organized a group to support the Mexican revolutionists Landing in the United States (1816), he recruited some American followers, spent some time at Galveston, and then went to Soto la Marina Though deserted by some of his followers, he won a few initial successes but was captured by the royalists and executed

Minami-tori-shima see MARCUS ISLAND.

minaret (mĭnurĕt'), tower used in Moslem architecture (see MOSLEM ART AND ARCHITECTURE) The small tower is a usual part of most mosques and from a gallery the muezzin chants his summons to prayer A winding stairway mounts to the summit Many mosques have only a single minaret, while in others minarets occur at the corners or at several points on the plan Early examples are in the mosque (late 7th cent) at Kairwan, North Africa, and in that (879) of Ibn Tulun at Cairo These and other early minarets are square towers, generally of brick and with little adornment From the 12th cent , however, numerous decorative types were developed, showing increased slenderness The characteristic form was of several receding stories, each marked by a projecting balcony, with a domed or conical summit Egyptian minarets have a square base from which rises a polygonal story supporting one or two cylindrical stories The balconies project upon intricate stalactite corbeling, and the tower surfaces are covered with rich relief ornament Persian minarets are entirely sheathed in decorated glazed tiles and support a cupola with domical roof They often flank a deep portal niche, as at the imperial mosque, Isfahan (1585–1612) The Indian minarets are similar Those of Turkey are tall and exceedingly slim shafts, often fluted, with elongated conical tops There are generally six in a mosque The early square minaret became a firmly rooted type in Spain and North Africa, the most noted is the Giralda tower, Seville (c 1190)

Minas Basin (mī'nŭs), northeast arm of the Bay of FUNDY, indenting N Nova Scotia

Minas de Riotinto, Spain see RÍO TINTO

Minas Gerais (mē'nus zhurīsh') [Port , =various mines], state (224,701 sq mi , 1940 pop 6,736,416, 1949 estimated pop 8,132,111), E Brazil The capital is Belo Horizonte One of the few entirely inland states of Brazil, Minas Gerais lies on the central plateau, cut off from the coast by mountain escarpments It is crossed by the Serra do Espinhaço, which has reputedly the largest known iron reserves in the world These are now being exploited So are the rich deposits of manganese in the state Diamonds are mined at Diamantina, and gold is panned in various streams as well as dug There are also semiprecious stones and other less important minerals Gold was first discovered in 1698 on the tributaries of the São Francisco, which drain the central and most of the west of the state, and later strikes followed Minas was made a captaincy in 1720, and the old capital, Ouro Preto, was an important colonial city Diamonds were first found in 1730 Great wealth was drawn from the area, but the rugged terrain and lack of communication restricted settlement to a few centers Late in the 18th cent Minas was the center of a literary group, and here in 1788 Tiradentes led an ill-planned and hopeless revolt against the Portuguese government In 1897 when the capital was moved from Ouro Preto to the planned city of Belo Horizonte, the state still had been little developed Today it has the second highest (after São Paulo) population of any state Not only minerals but also agriculture (coffee, cotton, tobacco, rice and other grains, and sugar) contribute to Minas wealth. It

is well known for its stock breeding, the so-called Triângulo Minerio, a section between headstreams of the Paraná that drain the extreme west of the state, being particularly notable for its cattle The extension of railroads has brought industry. There are iron and steel mills E of Belo Horizonte, and Juiz de Fora is a textile center. Other plants process local produce. The climate of Minas is generally cool, and there are popular mountain resorts. The name was formerly spelled Minas Geraes

Minatare (mĭn'ŭtâr), village (pop 1,125), W Nebr, on the North Platte river and near Scottsbluff, in an irrigated farming area It has a beet-sugar factory

mincemeat see PIE

Minch (mĭnch) or **North Minch**, strait, 25 to 35 mi wide, separating the island Lewis with Harris, Outer Hebrides, from the mainland of Scotland Little Minch, southwest, 14 to 20 mi wide, separates Skye from North Uist and neighboring Outer Hebrides islands

Mincio (mēn'chō), river of Lombardy, N Italy, c 40 mi long, flowing from Lake Garda through Mantua to the Po In its upper course, before entering Lake Garda, it is called the Sarca The Sarca-Garda-Mincio line marks the natural border between Lombardy and Venetia and has been of strategic importance, especially in the wars of the Risorgimento (1848–49) Vergil referred to the Mincio in his *Eclogues*

mind see PSYCHOLOGY

Mindanao (mĭndumu'ō,-nou'), island (36,536 sq mi, pop 1,828,071), second largest of the Philippine Islands It is NE of Borneo Off its northeast coast in the Philippine Sea is the Mindanao Deep (35,400 ft), the greatest known depth of any ocean Indented by several deep bays, the island has a large western peninsula The terrain is generally mountainous, rising to 9,690 ft at Mt Apo The largest of the many rivers is the Mindanao, c 200 mi long, navigable by small steamers for 40 mi, the largest lake is Lake Lanao Mindanao lies below the typhoon belt, and its climate is more favorable than that of Luzon to the north There are valuable hardwood forests and varied tropical vegetation, although the soil is generally fertile, only a relatively small portion of the land is under cultivation Hemp, coconuts, rice, corn, and coffee are grown, and there is some mining of iron, gold, and coal ZAMBOANGA and DAVAO are the principal cities During the 14th and 15th cent, Islam spread from Indonesia to Mindanao and the other southern islands of the Philippines In later centuries the Mohammedan Filipinos, the Moros, strenuously resisted the attempts of the Spanish to gain control over them

Minden (mĭn'dun), city (pop 34,293), Westphalia, NW Germany, at the junction of the Ems-Weser and Weser-Elbe canals Minden was the see of a bishopric founded c 800 by Charlemagne It struggled throughout the Middle Ages against the temporal rule of its bishops, joined (13th cent) the Hanseatic League, and accepted (1530) the Reformation The secularized bishopric of Minden passed to Brandenburg in the Peace of Westphalia (1648) In the Seven Years War the English and Hanoverians here defeated (1759) the French In the Second World War the city suffered heavily, the cathedral (11th–13th cent) and the city hall (13th–17th cent) were destroyed Among the varied manufactures of Minden are furniture, distilled liquor, and lumber

Minden. **1** Shipping and rail city (pop 6,677), parish seat of Webster parish, NW La, NE of Shreveport, in a cotton and farm area, inc as a town 1850, as a city 1928 Oil and natural gas are in the vicinity, and recreational facilities are near by **2** City (pop 1,848), co seat of Kearney co since 1878, S Nebr, SSE of Kearney, founded 1876

Mindoro (mĭndō'rō), island (3,758 sq mi, pop 116,988), Philippine Islands, SW of Luzon and separated from the Calamian Islands by Mindoro Strait Coal is mined, and rice and coconuts are grown Mindoro and its offshore islands constitute Mindoro prov (3,891 sq mi, pop 131,569)

mind reading see TELEPATHY

Mindszenty, Joseph (mĭnd'sĕntē), 1892–, Hungarian prelate, cardinal of the Roman Church He was bishop of Veszprem during the German occupation of Hungary in the Second World War His anti-German attitude led to his imprisonment for several months by the Hungarian puppet government After the war he was made archbishop of Esztergom and Catholic primate of Hungary, and in 1946 he was raised to the cardinalate A strong opponent of Communism, Mindszenty soon entered into conflict with the Hungarian government, which arrested him and several others late in 1948 on the charges of treason and illegal monetary transactions. The main charge was that the cardinal, with the help of the Western powers, sought to restore the Hungarian monarchy under Archduke Otto of Hapsburg His visit (1946) to the United States and Canada was represented as linked to his treasonable activities Mindszenty at a sensational public trial pleaded guilty to most charges It was widely held that his confession was obtained by drugging him, because he had disclaimed in advance any confession he might make in case of arrest; however, the moral pressure put on him during his confinement would appear a sufficient explanation That he was an outspoken opponent of the Communist government and thus a major obstacle to the success of its program there can be no doubt The court found him guilty, with mitigating circumstances (based on his stand during the war), and sentenced him to life imprisonment Pope Pius XII, protesting Mindszenty's arrest and trial, excommunicated all those Catholics responsible for them and refused to fill the see of Esztergom, Outside Hungary, the case in favor of Mindszenty has been presented in several books, among them Bela Fabia's *Cardinal Mindszenty* (1949) A selection of his writings was published as *Cardinal Mindszenty Speaks* (1949)

mine, in industry see MINING

mine, in warfare, explosive weapon used in land and sea operations The submarine mine is employed for attacks against ships, for defense of harbors, and to deny the use of certain areas of water to ships It consists of a charge of explosives contained in a watertight case The first attempts to use such explosive charges against ships occurred in the 16th cent, and drifting charges were used The Continental forces used mines against England in the American Revolution The first electrically fired mine was exploded in the Civil War Mines are classified into controlled and noncontrolled or contact mines Controlled mines are connected by electric cable to a shore station The current can be switched off to enable passage of friendly ships In noncontrolled mines the means of firing is contained in the mine itself It is either electrical (small battery) or mechanical (spring) As contact mines are dangerous for friendly and inimical vessels alike, their use was limited by the London Convention on warfare on the high seas (1912) A new kind of contact mine was the magnetic mine invented by the Germans and launched for the first time in the fall of 1939 They were attracted by the iron hulls of ships and exploded when they struck them The first German magnetic mine was captured on Nov 24, 1939, and exactly one month later a successful counterweapon was tried out It consisted of a pair of long electrified cables towed behind two minesweeping tugs The cables set up a magnetic field strong enough to explode all mines within a huge area, thus clearing wide shipping lanes Mines are laid by vessels specially fitted to carry them, usually called minelayers Certain types of destroyers and submarines also are fitted for minelaying Minesweeping is performed by pairs of small vessels drawing between them a cable which engages the moorings of the mines and permits their destruction The land mine first appeared in siege warfare A system of galleries was dug to run from a point of safety under an opposing work and terminate in a chamber in which explosives were stored to be detonated at a chosen moment The Turks were the first to use explosive mines In their first siege of Vienna (1529) they were badly defeated, however, through an excellent system of countermining by the defenders These countermines blew up whole parties of assailants In the First World War, during the period of trench warfare, mining and countermining were frequently employed, and telephonic and other means of mine detecting developed. The sowing of large mine fields developed This was carried to a much greater extent in the Second World War Various types of mines were used, and they were concealed in different fashions The antipersonnel mines were quite effective, and mines were much used as defense against tank attacks One of the major duties of military engineers came to be laying of mines and detecting mines laid by the enemy

Mineola (mĭnēō'lu) **1** Village (pop 10,064), co seat of Nassau co, on W Long Island, SE N Y, inc 1906 It is a commercial center and has repair and service shops for near-by Mitchel Field, U S military flying field **2** City (pop 3,223), E Texas, E of Dallas, in the northeast corner of the state, inc 1873 Settled at a railroad junction in 1872, it has railroad shops, cotton-processing plants, and small factories The area has many truck farms

Miner, John Thomas (Jack Miner), 1865–1944, Canadian naturalist and author, b Dover Centre, near Cleveland, Ohio. He went with his parents to Canada in 1878 About 1904 he began to make a bird sanctuary of his farm near Kingsville, Ont He was a pioneer in the bird-banding movement for tracing the journeys of migratory birds In 1931 his admirers instituted the Jack Miner Migratory Bird Foundation to insure the continuance of his work Known as a lecturer and newspaper writer, he also wrote *Jack Miner and the Birds* (1923) and *Jack Miner on Current Topics* (1929)

mineral, inorganic substance occurring in nature, having a characteristic and homogeneous chemical composition, definite physical properties, and, typically, a definite crystalline form (Some substances of organic origin are sometimes included among the minerals) A few of the minerals (e g, carbon, arsenic, bismuth, antimony, gold, silver, copper, lead, mercury, platinum, and iron) are elements, but the vast majority are chemical compounds. A definite formula can usually be assigned to each mineral which is a chemical compound, although sometimes one element in a mineral may be replaced by another without changing the species of the mineral (ISOMORPHISM) Minerals combine with each other to make up rocks, which, as distinguished from minerals, are of heterogeneous composition and are lacking in definite structure Minerals may, and typically do, occur in the form of crystals, when external conditions are unfavorable to crystallization, they may be found in the massive state Among the important physical properties of minerals are specific gravity, hardness, cleavage, fracture, tenacity, fusibility, heat conductivity, luster, color, transparency, taste, odor, feel, magnetism, and electrical properties Minerals originate by precipitation from solution, by cooling and hardening of magmas, by the condensation of gases or gaseous action on country rock, and by METAMORPHISM Minerals in rocks are frequently replaced by other minerals through the action of water or gases (metasomatism) Minerals, especially the metals, are of great economic importance to civilization, entering into the composition of many manufactured articles They are especially important to a highly industrialized civilization, which could not, indeed, exist without them. Many minerals which would otherwise be of no economic significance are highly valued as GEMS. Mineralogy is the branch of geology which deals with the study of minerals See A C Hawkins, *The Book of Minerals* (1935), L V Pirsson, *Rocks and Rock Minerals* (3d ed, 1947), Frank Rutley, *Elements of Mineralogy* (24th ed, revised by H H. Read, 1948), W H Jones and David Williams, *Minerals and Mineral Deposits* (1948), E S. Dana, *Minerals and How to Study Them* (3d ed, revised by C S Hurlbut, Jr, 1949), *Minerals Yearbook*, publication of the U S Bureau of Mines.

mineral oil see PETROLEUM.

Mineral Point, city (pop 2,275), SW Wis, SW of Madison, inc 1857 Old Cornish miners' houses here recall the city's early lead-mining activity

mineral water. The water issuing from many springs throughout the world has been found to contain various mineral salts, especially the carbonates, chlorides, phosphates, silicates, sulphides, and sulphates of calcium, iron, lithium, magnesium, potassium, sodium, and other metals Present in many also are various gases, e g, carbon dioxide (the gas causing the "sparkle" in common soda water). The water probably obtains its mineral matter as it passes through the soil on its way into the spring. Those springs that contain iron (commonly in the form of the carbonate) and are usually impregnated with carbon dioxide are known as chalybeate springs Some mineral springs are hot or boiling (thermal) and some are cold They are commonly considered to be of value in the treatment of various conditions, as rheumatism, gout, liver trouble, blood ailments, dyspepsia, and many of the common diseases of various organs and parts of the human body Famous European resorts include Bath, Spa, Aix-les-Bains, Aachen, Baden-Baden, and Carlsbad, in the United States, Poland, Maine, Saratoga Springs, N Y, Berkeley Springs and White Sulphur Springs, W Va, Hot Springs, Ark, French Lick, Ind, Waukesha, Wis, and Las Vegas Hot Springs, N Mex, are well known Many of the natural mineral waters are now prepared synthetically, the various mineral ingredients being added to ordinary water in the correct proportions, after careful chemical analysis of the original ingredients See T D Luke, *Spas and Health Resorts of the British Isles* (1919), C F Mullett, *Public Baths and Health in England, 16th–18th Century* (1946), M G Foster, *Baths and Medicinal Waters of Britain and Europe* (1933), Morris Schott, *Health and Pleasure Resorts of Central Europe* (1928), W E Fitch, *Mineral Waters of the United States and American Spas* (1927), Perceval Reniers, *Springs of Virginia* (1941)

Mineral Wells, city (1940 pop 6,303, 1947 estimated pop 10,000), N Texas, near the Brazos and W of Fort Worth, founded 1872 The popularity of the wells as a health resort gave the hill city a chance to develop small industries, including manufacture of mineral crystals and making of hosiery Recently attempts have been made to plant mulberries and build a silk industry Camp Wolters, near by, was very active in the Second World War To the east is Lake Mineral Wells, a reservoir in the Trinity river system

Minersville, industrial borough (pop 8,686), E Pa, near Pottsville, settled c 1793, laid out 1830, inc 1831 Anthracite and clothing are produced here

Minerva (mĭnûr'vu), in Roman religion, goddess of learning and handicrafts She is identified with the Olympian ATHENA.

Minerva, village (pop 2,937), NE Ohio, SE of Canton and on the Sandy River, in a farm area It was founded in 1835 with the building of the Sandy and Beaver Canal It produces ceramics

Ming (mĭng), dynasty of China which ruled from 1368 to 1644 The first Ming emperor, Chu Yüan-chang (ruled 1368–98), a former Buddhist monk,

completed the expulsion of the Mongols from China by 1371 (see YÜAN). Succeeding emperors from their capitals at Nanking and Peking consolidated an empire which at its height extended from Burma to Korea. In the early years of the dynasty naval expeditions were dispatched for conquest and trade, but the traditional Chinese policy prohibiting ships from leaving the coastal waters was soon revived (c.1440) Despite a strong effort to exclude foreign trade, European settlements were made at Macao and Canton In government and in cultural life the Ming attempted to eradicate all Mongol influences An encyclopedia, a dictionary, and many scholarly works were produced, and the novel and drama reached great heights The delicate monochromatic porcelain of the Ming period is often considered the finest achievement of Chinese ceramics Oppressive taxation in the later years of the dynasty incited revolts among peasants in the border regions and prepared the way for the Manchu conquest of China (see CH'ING)

Mingan Islands (mĭng'gun), group of 15 small islands and many islets, E Que., near the mainland N of Anticosti island, in Mingan Passage of the St Lawrence river Thev were discovered (1535) by Cartier In 1679 Frontenac granted seal and cod fishing rights to Louis Jolliet, and in 1836 the islands were sold to the Hudson's Bay Company

Minghetti, Marco (mar'kō mĕngĕt'tē), 1818–86, Italian statesman. He was premier in two conservative cabinets (1863–64, 1873–76) When the leftists under Depretis gained power, Minghetti led the opposition in the parliament He wrote on politics, history, and art

Mingo Junction, village (pop. 5,192), E Ohio, on the Ohio and near Steubenville, settled 1809, inc. 1882 It is a steel center near coal mines.

Mingrelia (mĭn-grē'lēu), region, W Georgian SSR, a lowland bordering the Black Sea. Tea and grapes are the chief products. Poti is the main port. The COLCHIS of the ancients, Mingrelia was a vassal principality under the Ottoman Empire and was annexed to Russia in 1803 The Mingrelians are closely related in culture and language to the Georgians.

Minho (mē'nyō), Span *Miño* (mē'nyō), river, c 210 mi long, rising in NW Spain, in Galicia, and flowing generally S and SW to the Atlantic. It forms the boundary between Portugal and Spain. It gives its name to the northernmost province (1,868 sq mi, pop. 741,510) of Portugal, with the capital at Braga.

Minsamin (mĭnsā'mĭn) [Heb.,=Miamin] **1** See MIAMIN **2.** **2** Officer under Hezekiah 2 Chron. 31 15. **3** Trumpeter at the dedication of the wall, Neh. 12.41.

miniature painting [Ital.,=work done with the red pigment *minium*; the word originally had no implication as to size]. In a general sense the word denotes any small, detailed kind of painting, including medieval ILLUMINATION and much of the finest painting of India and Persia More commonly it is used to refer to diminutive portraits Among the earliest European masters of this latter art were Holbein the Younger, Jean Clouet, and Jean Fouquet Later masters famous for their miniatures were Nicholas Hilliard, Samuel Cooper, and Richard Cosway in England and the Petitots, Isabey, Hubert Drouais, Nattier, Fragonard, and Boucher in France In colonial America, C W Peale, Benbridge, Copley, Peter Pelham, and E G Malbone were notable exponents of the art Water color on parchment, paper, porcelain, or ivory is the commonest medium for miniatures They have also been executed in oil on copperplate and in baked enamel The Metropolitan Museum, the Louvre, and the Wallace Collection in London have notable collections

Minidoka project, S Idaho, in the Snake river valley Developed by the Bureau of Reclamation, it irrigates 215,000 acres. The Snake river is impounded by Minidoka Dam (est 1909), which is 73 ft high and 4,133 ft long and forms Lake Walcott near Rupert, and by American Falls Dam (est 1927), which is 89 ft high and 5,227 ft. long. American Falls Reservoir stores surplus water, which supplies some 600,000 acres of privately irrigated land in the Snake river valley Project land in the Minidoka and Burley areas comprises 120,000 acres in the Snake river plain below Lake Walcott Another 95,000 acres lie near Gooding and Shoshone and in the Wood river valley, irrigated with water from the Snake carried in a canal c 70 mi long Jackson Lake, in Wyoming, stores water for the project Burley, Rupert, Shoshone, and Gooding are the chief project towns. See AMERICAN FALLS.

minimum wage, lowest wage permitted in an industry or in a government or other organization The object sought in establishing minimum wages has commonly been to assure wage earners of a standard of living not below the lowest permitted by health and decency. This minimum has been set by labor unions through collective bargaining, by arbitration, by boards, and by legislation Introduced by New Zealand in 1894 through compulsory arbitration with a prohibition on strikes and lockouts, it became rapidly part of the social legislation of almost all countries. Although minimum wage laws were at first held unconstitutional in the United States, a strong fight by labor for its enactment culminated in the passage (1938) of the Fair Labor Standards Act, which set minimum wages for all workers engaged in interstate commerce (with some exceptions), this act also set up "industry committees" to recommend rates for every industry. In July, 1942, the government decreed that no wage increase over 15 percent as of Jan., 1941, should be granted (this was known as the "Little Steel Formula") This came under heavy attack by labor as the cost of living rose In 1949 a law was passed setting the minimum wage at $.75 per hour See Seth Richardson, *The Minimum Wage* (1927)

mining, extraction of ores, precious stones, COAL, and other mineral resources from the earth The search for and discovery of mines is known as PROSPECTING, the extraction of the metals from the ores after mining is the province of METALLURGY Mineral deposits are exploited either from the surface of the ground or from underground shafts and tunnels, the method of exploitation depending on the depth of the deposit below the surface of the ground A given mineral may thus be mined by different methods in different localities, e g, GOLD and DIAMOND are mined by placer, open-pit, and underground methods, coal, by both open-pit and underground methods In placer mining no excavation such as is suggested by the term *mine* is involved The gravels are removed from the deposits by hand, by hydraulic nozzles, or by dredging, the ore is separated from the waste by panning or by sluicing In open-pit mining, an excavation of any depth, similar to a quarry, is made, in deep pits, the sides are usually cut into steps or benches. Access to the bottom of the mine is made possible by arranging the benches in spiral form, by cutting inclined approaches, or by sinking a shaft outside of the mine and connecting the shaft and mine with an adit or tunnel In glory-hole mining (or mill-hole mining) a funnel-shaped excavation is connected by a raise (vertical passage driven from below) with an underground haulage level, into which the ore slides through the raise An underground mine consists, broadly speaking, of a vertical shaft, horizontal levels opening out of the shaft, and raises or winzes (vertical passages driven from above) connecting the levels The openings branching off from the levels, where the ore is actually extracted, are called stopes Stoping (extracting of ore) is carried on by a great variety of methods, the choice of which depends on local conditions, e g, the size and shape of the ore body and the strength of the surrounding rock Some mining methods, applied to liquids (e g, petroleum), gases, and soluble minerals, involve the use of wells and pumps The principal materials used in the support of mine workings are timber (often treated with preservatives), reinforced concrete, steel, brick, and stone Pillars of ore are frequently left as supports, being mined only when the workings are vacated The tools of mining were formerly the pick and shovel, the hand drill, and the mule cart, later small charges of explosives were used The value of a mineral deposit is determined by the relationship of the richness (mineral content per weight unit of ore) of the ore to the cost of extracting it from the ground Increased mechanization has permitted the profitable exploitation of low-grade deposits Modern mining equipment includes hydraulic nozzles, power-driven dredges, plows, power-driven excavators, drills operated by water, steam, compressed air, electricity, and gasoline, endless-belt and endless-chain conveyors, and self-powered machinery which combines the operations of drilling, blasting, cutting, and loading Advances have been made in transportation, illumination, and drainage, but the problems of ventilation and wetting down dust (to prevent explosions and such occupational diseases as silicosis) and the detection of imminent cave-ins still challenge mining engineers See T A Rickard, *A History of American Mining* (1932), R. S Lewis, *Elements of Mining* (1933), T J Hoover, *The Economics of Mining* (1933), W H Witcombe, *All about Mining* (1937), G. J. Young, *Elements of Mining* (4th ed., 1946)

mining engineering see ENGINEERING

minister, in diplomacy see DIPLOMATIC SERVICE and EXTERRITORIALITY

minister, in government see CABINET

ministry, term generally used to mean the clergy of Protestant churches, particularly those who repudiate the traditional views of the Roman Catholic, Eastern, Anglican, and Lutheran churches as not apostolic (for those churches, see ORDERS, HOLY) The first new polity developed in the Reformation was PRESBYTERIANISM, holding one order of ministry The Methodists have preserved the old title of bishop, but differ fundamentally from Anglicans in having a clergy often scarcely distinguished from "lay preachers" Among the FRIENDS the ministers are set apart officially, but there are many in each meeting, with only spiritual authority. Many loosely knit Protestant denominations have ministries which depend mainly on a sense of personal calling.

Minitari Indians: see HIDATSA INDIANS.

minium: see RED LEAD.

mink, semiaquatic mammal of the weasel family. One species is found over most of North America, and another, with its subspecies, inhabits Europe (where it is rare except in Russia) and central Asia. In the American mink the slender, arched body is about 20 to 30 in. long, including the bushy tail, and the shoulder height is about 5 in. The valuable and durable fur, a soft undercoat overlaid with shiny guard hairs, is a rich brown throughout the year. The secretion of the musk glands is acrid. Minks prey on fish, small mammals, birds, and other animals Much of the mink used in the fur trade is now raised on farms

Minkowski, Hermann (hĕr'män mĭn-kôf'skē), 1864–1909, Russian mathematician He was educated in Germany and was professor at the Univ of Konigsberg (1894–96), the Federal Institute of Technology, Zurich (1896–1902), and the Univ. of Gottingen (1902–9) He is noted for his contribution to the development of the theory of numbers and for having evolved a four-dimensional geometry that is credited with having influenced the formulation of the geometrical expression of the general theory of relativity.

Minneapolis (mĭn'ēē-ăp'ŭlĭs). **1** City (pop 2,087), co seat of Ottawa co., N central Kansas, on the Solomon and N of Salina, laid out 1866, inc. 1871 It is a trade center for an agricultural and livestock region A state park is east of the town, to the west is Rock City, an area of curious eroded geological formations. **2** City (pop 492,370), co. seat of Hennepin co., E Minn., largest city in the state, on both sides of the Mississippi at the Falls of St Anthony, which were visited and named by Hennepin in 1680 Fort Snelling (see SNELLING, FORT) was established in 1819, and a saw mill was built at the falls in 1821 The village of St Anthony was settled c 1839 on the east side of the river near the falls, Minneapolis, which originated on the west side of the river c 1847 and included much of the reservation of Fort Snelling, was incorporated as a town in 1856 and as a city in 1867, St Anthony was annexed in 1872 The city became the country's foremost lumber center as Minnesota was logged off As the plains were planted for wheat and railroads were built, flour milling developed, the 50-foot falls supplying power, and in this industry, too, the city reached supremacy Minneapolis is contiguous to St Paul, just east Known as the Twin Cities, they have become the financial, industrial, and commercial center of a large area having rich natural resources and excellent power and transportation facilities Minneapolis has an airport and is an important railroad center and a port of entry The city was laid out with wide streets and has many lakes and parks (including Minnehaha Park, where is preserved the Stevens House, built in 1849, first frame house in Minneapolis) The city is the seat of the state university (see MINNESOTA, UNIVERSITY OF), the Minneapolis College of Music, the Minneapolis School of Art, Augsburg College and Theological Seminary (Lutheran), and Dunwoody Institute (a trade school) See C R Walker, *American City* (1937).

Minneapolis Symphony Orchestra, founded in 1903 Its first concert was given that year under Emil Oberhoffer, who was conductor until 1921 Later conductors were Henri Verbrugghen (1923–31), Eugene Ormandy (1931–36), and Dimitri Mitropoulos, who resigned in 1949 and was succeeded by Antal Dorati Beginning in 1930 the orchestra's concerts were given in Northrop Memorial Auditorium on the campus of the Univ of Minnesota

Minnedosa (mĭn'dō'sŭ), town (pop 1,837), SW Man., on the Minnedosa river, N of Brandon and W of Winnipeg, in a lumbering and farming region

Minnehaha Falls (mĭn'hā'hŭ") [traditionally Indian,=laughing water], over 50 ft high, in the southeastern part of Minneapolis, in Minnehaha Creek, which flows from Lake Minnetonka to the Mississippi The beautiful surrounding area, including the gorge cut by the receding falls, is a public park Most of the year only a thin trickle of water passes over the falls. The name is immortalized in Longfellow's *Hiawatha*

Minneota (mĭn'ēō'tŭ), village (pop. 1,065), SW Minn, SW of Granite Falls, in a farming region, settled 1868, inc 1881

minnesinger (mĭn'sĭng"ûr), in German literature, a singer of *Minne*, or romantic love The minnesingers correspond roughly to the troubadours of other nations and flourished in the 12th and 13th cent., preceding the meistersingers. The *Minnesang* was based on the Provençal troubadour verse Its greatest exponents were Heinrich von Morungen, Walther von der Vogelweide, and Wolfram von Eschenbach.

Minnesota (mĭn'ēsō'tŭ), state (84,068 sq. mi.; 1940 pop. 2,792,300, 1949 estimated pop. 2,977,000), N United States, in the Great Lakes region, admitted 1858 as the 31st state (a free state). SAINT PAUL, the capital, and its twin city, MINNEAPOLIS, together have almost a third of the state's population The most northerly of all the states (reaching lat 49°23'55" N), Minnesota is bounded on the north by the Canadian provinces of Manitoba and

Ontario, on the east by Lake Superior and by Wisconsin (the St Croix and Mississippi rivers forming much of the border with that state), on the south by Iowa, and on the west by South Dakota and North Dakota The climate is continental. Winter locks the earth in snow, then explodes into a brief spring. Summer follows, untempered by ocean winds but modified by the many lakes which glaciers scoured out in lost prehistoric time The glaciers also left marshes, boulder-strewn hills, and rich gray drift soil from the pine wilderness in the north to the broad prairies in the south In the eastern section are worn mountains that have yielded a wealth of iron ore to make part of Minnesota's fortune and supply much of the traffic to DULUTH at the western tip of Lake Superior, the largest inland harbor of the United States In the Vermilion and Cayuna ranges the iron must be mined underground, but the rich MESABI needed only to be scratched on the surface New methods have been developed to use lower-grade ores as the better ores were exhausted To the south of the iron country, famous for the still-remembered raw boom towns, are the quieter rolling hills and then the prairies in the south and west, the fine farming country of Minnesota Wheat, paramount in older days, has yielded its preeminence to corn growing, livestock raising, and the production of dairy produce and eggs. The forests have been exploited as wheat growing exploited the soil, and the "big woods" of the early 19th cent have been to a large extent recklessly felled The scarred land was left open to further devastation by fire, but reforestation has been undertaken The use of smaller trees for pulpwood has also helped to keep timber as one of Minnesota's valuable assets Yet the great resource of Minnesota has steadily been its water—its more than 11,000 lakes and its numerous streams The rivers feed three great river systems the Red River and its tributaries in the west run N to Hudson Bay, the streams that run E into Lake Superior eventually help to supply the St Lawrence, and the Mississippi flows south from its sluggish beginning in Minnesota, gathering the waters of the St Croix and Minnesota rivers, which give it volume before it leaves Minnesota Over the lakes and the rivers came the first white men. There are many who argue on the basis of the KENSINGTON RUNE STONE and other evidence that these first white men were the Norsemen, but others deny that the Norsemen reached Minnesota That French fur traders came in the 17th cent is undeniable Explorers, traders, and missionaries of New France penetrated the country, RADISSON and GROSEILLIERS, VERENDRYE, the sieur DULUTH, and Father HENNEPIN and Michel ACO, who discovered the Falls of St Anthony (the site of Minneapolis) Archaeological evidence shows that Minnesota was inhabited many thousands of years ago, long before the MOUND BUILDERS At the time the French came the dominant groups were the OBIJWA INDIANS in the east and the SIOUX INDIANS in the west Both received the French in friendship and contributed to the fur-trading empire of New France Traders opened the country to take back the forest wealth of fur pelts to civilization Minnesota was excellent country for fur trade through the British regime after the fall of New France and remained so after the War of 1812, the AMERICAN FUR COMPANY became dominant, and American Fur Company men helped to develop the country The eastern part had been included in the NORTHWEST TERRITORY and was governed under the Ordinance of 1787, the western part was joined to the United States by the Louisiana Purchase Exploration of the country was pursued by Jonathan CARVER (1766–67), Zebulon M PIKE (1805–6), Henry SCHOOLCRAFT (1820, 1829), and Stephen H LONG (1823) The fisheries of Lake Superior were tapped by the American Fur Company. Later they were to grow into a great industry, and the fish in mountain lakes and streams still attract sportsmen to the "land of sky-tinted waters" It was only after the War of 1812 that settlement began in earnest In 1820 Fort St Anthony (later Fort SNELLING) was founded as a guardian of the frontier There a gristmill, established in 1823, initiated the industrial beginnings of Minneapolis Treaties with the Ojibwa and the Sioux and the opening of a land office at St Croix Falls in 1848 initiated a period of real expansion By 1848 the settlers were already clamoring for territorial independence They held a convention at Stillwater in that year and elected Henry H SIBLEY, American Fur Company trader, to petition Congress for territorial status, which was granted in 1849 The Missouri and White Earth rivers were the western boundary. A land boom grew as towns were platted, railroads chartered, and roads built There were the beginnings of colleges, including the Univ of Minnesota, which has had great influence on the cultural life of the state. The building of the Big Soo Canal at Sault Ste Marie, Mich., opened a water route for lake shipping to the eastward, and though fantastic land speculation helped to make the Panic of 1857 more severe, hard times did not prevent the achievement of statehood in 1858, with St. Paul as the capital. Chiefly a land of small farmers of British, German, and Irish extraction, Minnesota was strongly for the Union in the Civil War and supplied some men and much food, since wheat growing had already commenced on the Minnesota plains In the war and afterward, the Sioux expressed their displeasure with the broken promises, the fraudulent dealings, and the steady land taking of the white men by massacres and raids. A band of them under Little Crow were defeated by Col H H Sibley, and Minnesota was freed of Indian wars, while the fiercer fighting went on farther west Settlement boomed, aided by the Homestead Act of 1862 In the later decades of the century came the Scandinavians—Swedes, Norwegians, and Finns Lumbering was paramount Scouts went ahead to find desirable sites, and logging camps were established The days of logging, immortalized in the stories of the legendary Paul Bunyan and Babe the Blue Ox, were brief, but they built a number of large fortunes, such as that of Frederick WEYERHAEUSER Fortunes were quickly made in the Minnesota of the '70s and the '80s, as the railroads were pushed west, partly through the genius of James J HILL The boom in wheat made the Minnesota flour mills famous across the world and brought wealth to flour manufacturers such as John S PILLSBURY Not all went well, however, in farming Natural disasters such as the blizzard of 1873 and plagues of insects from 1874 to 1876 added to the miseries that the farmers suffered from the turn of national economy, and Minnesota was particularly a center of the farmers' discontent, expressed in the GRANGER MOVEMENT The opening of the iron mines gave a new impetus to Minnesota economy and also supplied a new element of discontent in the laborers They joined forces with the farmers in the 1890s in the POPULIST PARTY, with Ignatius DONNELLY as one of its most powerful figures This combination of farmers and laborers blossomed again in 1920 in the FARMER-LABOR PARTY, which was long powerful in Minnesota, Knute NELSON, Floyd B OLSON, and Henrik SHIPSTEAD were among the dominant figures In 1940 Senator Shipstead turned Republican, and that party once more took over the state Harold E STASSEN was one of the most prominent of recent governors The state has been notable for experimentation in novel features of local government and also has been a leader in the use of cooperatives The large percentage of Scandinavians perhaps explains the prominence of cooperatives, which are highly developed in Scandinavia itself Credit unions, cooperative creameries and grain elevators, and cooperative purchasing associations were forwarded by legislation in 1919 that protected the institutions and instructed the state department of agriculture to encourage them Today there are more than 4,000 cooperative associations in Minnesota serving diversified needs The state has by the beauty of its lakes lately attracted many tourists, and many visitors come into Minnesota for attention at the world-known Mayo Clinic at Rochester See William Watts FOLWELL, *A History of Minnesota* (4 vols., 1921–30), William Anderson, *A History of the Constitution of Minnesota* (1921), Daniel E Willard, *The Story of the North Star State* (1922), Minnesota State Planning Board, *The Cities and Industry* (1934), Theodore Christianson, *Minnesota: the Land of the Sky-tinted Water* (5 vols., 1935), Walter Havighurst, *Upper Mississippi* (1937), Theodore C Blegen, *Building Minnesota* (1938), James Gray, *Pine, Stream, and Prairie* (1945), Meridel LeSueur, *North Star Country* (1945)

Minnesota, river, *332* mi long, rising in Big Stone Lake at the western boundary of Minnesota and flowing SE to Mankato, then NE to the Mississippi at Mendota Early called the St Peter or St Pierre, it was an important route of explorers and fur traders It follows the valley of the prehistoric River Warren, the outlet of Lake Agassiz

Minnesota, University of, mainly at Minneapolis, land-grant and state supported, coeducational, chartered 1851 and 1868, opened as a university 1869 It has a two-year General College There are colleges of agriculture, forestry, and home economics (at St Paul, with three branch schools elsewhere), education, pharmacy, and science, literature, and the arts (with diplomatic and consular service, journalism, public administration, and social work) The university also has an institute of technology (chemistry, engineering and architecture, mines and metallurgy), schools of business administration, dentistry, law, and medicine (with technologist and nursing courses and a hospital, for affiliated foundation, see MAYO, CHARLES H), a library instruction division, and a branch at Duluth There are art and natural history museums, experiment stations of engineering and mines (U S), a high school, a radio station, a university press, and a child welfare institute The library has a Scandinavian collection The main campus, on heights near the Mississippi, was laid out partly after Cass Gilbert's plans, the much larger "Farm Campus," adjoining the state fair grounds, occupies a rolling wooded area. In the General College and through extension work Minnesota has made special efforts to raise the general cultural level.

Minnetaree Indians or Minnetari Indians: see HIDATSA INDIANS.

Minnetonka, Lake (mĭ"nĭtŏng'ku), 10 mi long, E Minn., just W of Minneapolis Its outlet is Minnehaha Creek Resorts line its much-indented shore Songs by Thurlow Lieurance (*By the Waters of Minnetonka*) and Charles W Cadman (*From the Land of the Sky-Blue Water*) celebrate the lake

Minni, biblical name of part of Armenia Jer 51 27

Minnith, unidentified place, E of the Jordan, associated with Jephthah Judges 11 33, Ezek 27 17

minnow, name for certain fish of the carp family In Europe it refers chiefly to a small form, *Phoxinus phoxinus*, about 3 in. long, which lives in streams In America there are a number of small minnows of the same family The squawfish or Sacramento pike of Pacific coastal rivers, which reaches a length of almost 3 ft, is the largest North American minnow A giant minnow 8 ft long was found in Siam The mud minnows and top minnows belong to other families Minnows are used as bait Many (especially the top minnow *Gambusia*) destroy mosquito larvae

Miño, river see MINHO

Minoan civilization (mĭnō'un), period of ancient culture, forming a stage in the development of the AEGEAN CIVILIZATION It is named for King MINOS of Crete and includes, according to Sir Arthur Evans, the whole of the Bronze Age In the Early Minoan Age (3000-2200 B C) pictographic writing was in use, and copper, silver, and gold became known in Crete In the Middle Minoan Age (2200–1600 B C) civilization reached its apogee Pottery became a fine art, natural objects were depicted realistically, and pictographs were superseded by linear writing in pen and ink The Late Minoan Age (1600–1200 B C) was a period of slower development (during which, however, the working in bronze and inlaying metals showed great skill) but the cultural center gradually passed to Troy and to the Greek mainland, where Archomenus, Tiryns, and Mycenae were developing an era of artistic splendor Most of the archaeological knowledge of Minoan civilization is derived from study of the great palace at CNOSSUS Finds in the Cadmeia of Thebes (1932) show that the language and script of the 14th cent. B C. were identical with that of Minoan Crete. The changes in the forms of burial places indicate the probability that beliefs varied at different periods See R M Burrows, *Discoveries in Crete* (1907), C. H and H Hawes, *Crete, the Forerunner of Greece* (1911), J L Myres, *Dawn of History* (1911), Sir Arthur J Evans, *Palace of Minos* (4 vols., 1921–35), J D. Pendlebury, *Archaeology of Crete* (1939).

Minobe, Tatsukichi (ta'tsukē'chē mēnō'bā), 1873–, Japanese scholar, professor of law at Tokyo Imperial Univ Because in an early book he described the emperor as an "organ of the state," he was accused of lese majesty in 1935 and was forced to resign from the house of peers In Jan., 1946, he was appointed to the privy council

Mino da Fiesole (mē'nō da fyā'zōlā) or **Mino di Giovanni** (dē jōvan'nē), 1431–84, Florentine sculptor of the early Renaissance Skillful in the carving of architectural detail and noted for the finish he gave to the marble, he produced many tombs and sculptures for churches Among the best are the altar in the cathedral at Fiesole, the altar and the monument to Count Hugo in the Badia of Florence, the tomb of Bishop Salutati at Fiesole, that of Francesco Tornabuoni in Rome, and busts and reliefs in Florence From 1474 to 1477 he made the monument to Pope Paul II, fragments of which are now in the crypt of St Peter's, Rome His sculptures, characterized by extreme delicacy, lack vigor and are of uneven value

Minonk (mĭnŭngk'), city (pop 1,897), central Ill NE of Peoria in a farm and coal area, inc 1867

Minorca (mĭnôr'ku), Span *Menorca* (mĕnôr'kä), island (271 sq mi, pop 43,025), off Spain, in the W Mediterranean, the second largest of the BALEARIC ISLANDS Port MAHON is the chief city and port Except in the hilly center, the terrain is mostly low Cereals, wine, olive oil, and flax are the chief products A great number of megalithic monuments show that the island has been inhabited since very ancient times It shared the history of the other Balearic Islands until 1708, when it was occupied by the English in the War of the Spanish Succession England retained it until the Seven Years War, when the defeat (1756) of Admiral John BYNG enabled the French to seize it The Treaty of PARIS (1763) restored Minorca to Britain, but the French and Spanish again seized it (1782) in the American Revolution In 1798, in the French Revolutionary Wars, England regained control, the Peace of Amiens (1802) definitely awarded Minorca to Spain In the Spanish civil war of 1936–39 Minorca remained in Loyalist hands until Feb., 1939, while Majorca early passed to the Insurgents

minority, in international law, population group with a characteristic culture and sense of identity occupying a subordinate political status Religious minorities were known from ancient times, but it was not until the 19th cent that the situation of ethnic minorities became an issue in European

politics The rise of NATIONALISM intensified the problem in two respects On the one hand, the country of residence tended to oppress the minority to compel conformity to the usual national patterns On the other hand, the minority (especially if living in a border area) would agitate for incorporation of its territory into the country (if any) with which it felt itself identified or would demand independence Before the First World War the minority problem was especially acute in Austria-Hungary, Turkey, and Russia During the war each side promised autonomy or independence to minorities in enemy states, and revolts (e g , of Arabs and Czechs) were encouraged One of President Wilson's FOURTEEN POINTS was the freeing of minorities The treaties of peace attempted to accomplish this in various ways, they established new nations of one predominate stock (e g , Hungary, Poland, and Austria) or combined several former minorities (e g , Czechoslovakia and Yugoslavia), and they made transfers of territory (e g , Alsace-Lorraine was returned to France from Germany) Most states of Central and Eastern Europe bound themselves by treaty to protect the minorities within their borders by assuring them liberty to practice their religion, speak their own language, and educate their children in the minority culture The League of Nations was responsible for enforcing these guarantees, but in the opinion of many it did not take vigorous steps to end serious abuses To some extent the problem of the Jewish minority in Central Europe was relieved by immigration to Palestine through the efforts of world ZIONISM Hitler made adroit use of the minority issue to annex the Sudetenland in Czechoslovakia and to attack Poland, thus launching the Second World War After the war Czechoslovakia and Poland took the extreme step of deporting all Germans The treaties of peace with the Axis satellites in Europe required them to guarantee minority rights as part of the protection of civil liberties, but no enforcement machinery was set up Among the areas today most strongly affected by political turmoil because of minorities are Trieste and Macedonia It is a boast of the Communist countries, especially the USSR, that they do not have minority problems because all ethnic groups are allowed full expression, some claim, however, that the USSR is repressing its large Ukrainian population See L P Mair, *The Protection of Minorities* (1928), Julius Stone, *International Guarantees of Minority Rights* (1932), Oscar Janowski, *Nationalities and National Minorities* (1945)

Minos (mī'nŏs, -nûs), in Greek myth, king of Crete, son of ZEUS and EUROPA, husband of PASIPHAË, and father of ANDROGEUS, ARIADNE, and PHAEDRA He refused to sacrifice the bull sent him for sacrifice to Poseidon, and Pasiphaë, falling in love with the bull, bore the MINOTAUR Minos was presumably the name or title of a king of Crete in history, and his name is given to the archaic MINOAN CIVILIZATION of Crete

Minot, Charles Sedgwick (mī'nut), 1852–1914, American embryologist, b West Roxbury, Mass , grad Massachusetts Institute of Technology, 1872 He studied abroad and from 1880 was on the faculty of Harvard's medical school He is known for his studies of the placenta and for his *Human Embryology* (1892), *Laboratory Text-Book of Embryology* (1903), and other works

Minot, George Richards, 1885–1950, American physician and bacteriologist, b Boston M D Harvard, 1912 He was (1928–1948) professor of medicine at Harvard and director of the Thorndike Memorial Laboratory, Boston City Hospital He specialized in diseases of the blood, and for his research on the value of liver in treating pernicious anemia he shared with W P Murphy and G H Whipple the 1934 Nobel Prize in Physiology and Medicine.

Minot, Laurence, fl 1333–52, English poet, believed to have been a soldier from his spirited, patriotic war songs—on Halidon Hill, the siege of Calais, the capture of Guines, and other historic battles—written in northern English dialect. See his poems (ed by Joseph Hall, 1914)

Minot (mī'nut), city (pop 16,577), co seat of Ward co , NW N Dak , on the Souris river and NNW of Bismarck, settled 1886, inc 1887 with the coming of the railroad It is the railroad, trade, and distributing center for an extensive farm region and processes the area's products, a lignite mine is near. A state teachers college is here. Dikes and dams have been built to check floods

Minotaur (mī'nutôr), monstrous offspring of PASIPHAË and a bull He had the head of a bull and the body of a man. Minos had Daedalus build the Labyrinth (see LABYRINTH) to keep the monster, and the Athenian captives sent to pay for the murder of ANDROGEUS were fed to him THESEUS killed him

Minots Ledge (mī'nuts), reef off Cohasset, E Mass., ESE of Boston. The first lighthouse here (1850) was destroyed in a gale in 1851; the present 114-foot granite structure dates from 1860

Minquiers (mēkyā'), small, uninhabited island group off the coast of Brittany, part of the Channel Islands The Minquiers were made an international fishing zone by an Anglo-French convention of 1839.

Minseito (mēn"sā'tō), Japanese political party The name is frequently given in English as Liberal party It was first formed by Okuma in 1881 as the Kaishinto and also took in Katsuya's Doshikai It became the Kenseikai in 1916 and was reorganized as the Minseito in 1927 The cabinets of Takaaki Kato (1924–26), Wakatsuki (1926–27, 1931), and Hamaguchi (1929–31) were Kenseikai or Minseito governments The Minseito was loosely identified with the Mitsubishi interests. See SEIYUKAI

Min Shan see KUNLUN

Minsk (mĭnsk, Rus mĕnsk), city (1939 pop. 238,772), capital of Belorussia and of Minsk oblast, on the Svisloch, a tributary of the Berezina It has important industries (automobiles, tractors, textiles) and is a cultural center, with a university (founded 1921), several technical, medical, and scientific institutes, an opera, and theaters and museums First mentioned in the 11th cent , Minsk became the capital of a principality which was conquered (1326) by Lithuania It was sacked by the Tatars in 1505. Joined to Poland by the Union of Lublin (1569), it passed to Russia in the second partition of Poland (1793) In the Middle Ages, Minsk became one of the largest Jewish centers of Eastern Europe, until the Russian Revolution the Jews (some 40 percent of the population) were confined to the ancient poverty-stricken ghetto Minsk played a leading role in the Bolshevik Revolution but was occupied (1918–20) by German and later by Polish troops The city was thoroughly modernized under the Soviet regime, but the Germans, who held it (1941–44) in the Second World War, virtually destroyed it, partly by air raids, partly by deliberate demolition The Jews, except those who had fled in time, were exterminated

Minster, village (pop 1,504), W Ohio, NNW of Dayton, settled 1831, inc. 1833 There are small industries

minstrel, professional secular musician of the Middle Ages The modern application of the term is general and includes the JONGLEUR as a minstrel. Certain especially able jongleurs ceased their wanderings and were attached to a court to play or sing the songs of the TROUBADOUR or TROUVÈRE who employed them and sometimes also to compose To these and to some itinerant musicians of similar ability was applied in the 14th cent the term *ménétrier* and later *ménestrel*, from which the word *minstrel* is derived, to indicate a higher social class than jongleur The number of these minstrels increased, and their popularity and influence was great They were even organized and given protection of the law Sometimes the minstrel's function was similar to that of the Welsh BARD. See also NEGRO MINSTREL.

mint, name often applied to any plant belonging to the family Labiatae (called also Lamiaceae), usually an easily recognized group characterized by four-angled stems and opposite, aromatic leaves A few of the better-known plants of the mint family—besides those of the mint genus—include catnip, bergamot, ground ivy, thyme, horehound, rosemary, Oswego tea, lemon balm, sage, and lavender More specifically, however, the name mint refers to any plant of the genus *Mentha*, most of them herbs with typical characteristics of the mint family and having clusters of small pink, purple, or white flowers The two best-known and most important mints are the PEPPERMINT and SPEARMINT, usually distinguishable by the presence of a short leafstalk in peppermint and the absence of a leafstalk in spearmint The European PENNYROYAL also belongs to the mint genus

mint, place where lawful coins are manufactured The name is derived from the temple of Juno Moneta, Rome, where silver coins were made as early as 269 B C Mints existed earlier elsewhere, as in Lydia and in Greece, from which coinage was introduced into Italy The first U S mint was established in Philadelphia in 1792 Coins are now minted in Philadelphia, Denver, and San Francisco See also NUMISMATICS, COIN, MEDAL.

mint julep see JULEP

Minto, Gilbert John Elliot-Murray-Kynynmound, 4th **earl of** (klĭn'mund), 1845–1914, British statesman, educated at Eton and Cambridge He was commissioned (1867) in the Scots Guards Minto was a staff officer in the Crimean War and in the Second Afghan War (1879) He was military secretary (1884) to Henry Lansdowne, governor general of Canada in RIEL'S REBELLION From 1898 to 1904 Minto was himself governor general of Canada In 1905 he succeeded Lord Curzon as viceroy of India and served until 1910 Though Minto and John Morley, the secretary of state for India, were often in conflict, they joined in sponsoring the Minto-Morley reforms (1909) which increased Indian representation on the advisory legislative councils of the viceroy and the provincial governors. See biography by John Buchan (1924)

Minton, English family of potters. The first important member of the family was **Thomas Minton,** 1765–1836, who founded a small pottery at Stoke-on-Trent. He first engraved the famous WILLOW-PATTERN WARE. **Herbert Minton,** 1793–1858, succeeded his father as head of the firm and to him was due its development and reputation. He enlisted the services of artists and skilled artisans. A memorial museum and library building was erected to him at Stoke-on-Trent

Minton, Sherman, 1890–, Associate Justice of the U S Supreme Court (Sept , 1949–), b. Georgetown, Ind , grad Indiana Univ , 1915, and Yale Law School, 1916 He interrupted his law practice to serve as a captain in the First World War In 1932 he was appointed counselor for the Indiana public-service commission Elected (1934) Senator as a Democrat, he supported New Deal legislation, and after defeat in the 1940 election he was appointed (1941) an administrative assistant to President F D. Roosevelt Minton served (1941–49) on the U S Circuit Court of Appeals before President Harry S Truman appointed him to the Supreme Court bench.

Minton, Thomas see MINTON, family.

Minturnae (mĭntûr'nē), ancient town of Latium, Italy It was important because it controlled the bridge on the Appian Way over the Liris river Founded by a people called the Aurunci or Ausones, it became a Roman colony (295 B C) and a flourishing commercial center There are important rivers (including an aqueduct), two theaters, forums, and other buildings north of modern Minturno

Minucius Felix, Marcus (mär'kus mĭnū'shŭs fē'lĭks), fl. 2d cent , Christian apologist, author of a dialogue, *Octavius*, one of the earliest Latin apologies In it a pagan and a Christian discuss the merits of Christian life See J H Freese, *The Octavius of Minucius Felix* (1919)

minuet (mĭnŭet'), French dance, originally from Poitou, introduced at the court of Louis XIV in 1650 It became popular during the 17th and 18th cent In 3-4 meter and moderate tempo, the minuet was performed by open couples who made graceful and precise glides and steps The minuet left a refined but definite imprint on music, it is found in the operatic sinfonias of Alessandro Scarlatti and appears frequently as a movement in the symphonies and sonatas of Haydn and Mozart, less frequently in those of Beethoven

Minuit, Peter (mĭn'ŭlt), c 1580–1638, first director general of New Netherland (1626–31), b Wesel (then the duchy of Cleves), probably of Walloon descent He purchased Manhattan from the Indians for trinkets valued at $24 and made New Amsterdam its center Dismissed in 1631 by the Dutch West India Company, he later entered negotiations with the Swedes and headed (1638) the group sent out to found NEW SWEDEN He was lost in a hurricane in the West Indies

Minusinsk (mēnōōsĕnsk'), city (pop 21,427), S Krasnoyarsk Territory, RSFSR, in Siberia, a port on the Yenisei river opposite Abakan It is the center of the Minusinsk-Khakass coal-mining and industrial area and is an agricultural market

minutemen, in the American Revolution, colonial militiamen or armed citizens who agreed to turn out for service at a minute's notice The term is used especially for the men who were enrolled (1774) for such service by the Massachusetts provincial congress These were "the embattled farmers" who fought on the patriot side at Lexington and Concord

Minya (mĕ'nyu), city (pop 50,688), central Egypt, on the Nile There is cotton spinning and weaving

Minya Konka (mĭn'yu kŏng'ku), peak, c 24,900 ft high, Sikang prov , China, in the Himalayas It was climbed (1932) by an American expedition See R L Burdsall and A. B. Emmons, *Men against the Clouds* (1935)

Miocene epoch (mī'usēn) [Gr , =less recent], third epoch of the TERTIARY PERIOD of geologic time North America was more extensively submerged in the Miocene than in the preceding OLIGOCENE EPOCH and underwent considerable disturbances of the earth's surface The Atlantic and Gulf coasts were flooded to about the same extent as in the EOCENE EPOCH Miocene rocks are known along the Atlantic as far north as Martha's Vineyard, but the series, everywhere thin, is thickest and least interrupted from New Jersey to Maryland, on the Gulf coast it extends from Florida westward to Texas. The Atlantic series is chiefly marls, clays, and sands, with diatomaceous earth, the Florida series, chiefly limestone (Florida having risen as an island in the late Oligocene), the Gulf series, limestone and sediments On the Pacific coast, the Great Valley of California was submerged at the beginning of the Miocene. The deposition of the Vaqueros sandstone, clay, and conglomerate was followed by the formation of the Monterey series, partly sandstone and shale but largely diatomaceous tuff, the Monterey is an important source of oil. In mid-Miocene time there was extensive mountain making in this region, the Cascades and Coast Ranges being pushed up This disturbance was accompanied by volcanic activity (to which the Monterey tuff owes its origin) and by the first known movement along the San Andreas fault zone. Late in the Miocene a new, extensive submergence laid down the San Pablo shale and sandstone The sediments of the California Miocene came chiefly from the Sierra

Nevada and the Klamaths, which, through EROSION, were peneplained by the close of the epoch. In the western interior of North America the Columbia river basalt plateau of Idaho, Washington, Oregon, N California, and N Nevada was formed by a great outpouring of lava, which was continued in the succeeding PLIOCENE EPOCH During the Miocene most of N Europe was elevated, but marine waters covered E Spain, S France, Italy, and a depressed area extending through Hungary to a basin around Vienna There was considerable mountain making, while lagoons were formed at the base of the Carpathians and N of the Caucasus, in the regions now occupied by the Rumanian and Baku oil fields The mammalian life of the Miocene was marked by further stages in the development of the horse, by the multiplication and final extinction of the giant hogs, and by the appearance of the mastodons, raccoons, and weasels Cats, camels, doglike carnivores, and rhinoceroses were common, while species of a great ape (*Dryopithecus*) inhabited S Europe, Asia, and Africa In the Miocene there was a distinct cooling of the climate, which resulted in the reduction of the area occupied by forests and an increase in that occupied by grassy plains

Miphkad (mĭf'kăd), gate in the postexilic wall of Jerusalem It was east of the Temple Neh 3 31

Miquelon (mĭ'kulŏn, Fr mēkulō'), two islands (area 83 sq mi) lying just S of Newfoundland which, with the adjacent island group of St Pierre (10 sq mi), constitutes an overseas territory of the French Union The total population is 4,175, mainly fishermen, and the capital is St Pierre The islands are barren and rocky and often fogbound, but their proximity to the Grand Banks makes them a valuable base for fishermen They were settled by the French (c 1660), taken by the British (1702), returned to France (1763), twice retaken by the British, and finally returned (1814) to France, with the provision that they should be unfortified They were granted local autonomy in 1935 In 1941 a Free French naval force entered the harbor of St Pierre and took possession of strategic points A plebiscite indicated 98 percent in favor of Gen Charles de Gaulle and the Free French The United States condemned the move as contrary to agreements, but maintained supervision of the St Pierre radio station In 1944 regulations of the Vichy government were voided, and St Pierre and Miquelon returned to France

mir see VILLAGE COMMUNITY

Mirabeau, Honoré Gabriel Riquetti, comte de (mĭ'rubō, Fr ônôrā' gäbrēĕl' rēkĕtē' kôt' du mērabō'), 1749-91, French revolutionist and statesman, son of Victor de Mirabeau His life before 1789 was characterized by wild excesses, which ruined his health and caused him to be repeatedly jailed—several times on the request of his father, with whom he carried on a public quarrel The year 1785 found him an exile in England, where he moved in Whig circles, but in 1786 he was sent on a secret mission to Prussia He failed and betrayed the trust of the French government by publishing an account of the affair The author of numerous pamphlets in which he violently denounced various abuses of the *ancien régime*, he was elected (1789) a delegate of the third estate for Aix-en-Provence in the States-General His clear and practical ideas, his fiery eloquence, and his terrifying yet imposing appearance exerted a fascination over the delegates and the populace Despite his unsavory personal reputation he almost immediately found himself the spokesman of the third estate He carried the day when the king ordered the States-General to leave the hall after the day's session had been declared closed, to the marquis de Brézé, who announced the king's order, Mirabeau replied (his words have been variously reported) "Go and tell your master who sent you that we are here by the will of the people and that we shall not leave our places save by the force of bayonets " The king did not use bayonets, and the assembly remained in session and adopted Mirabeau's motion that its members were inviolable However, despite his sonorous phrases, Mirabeau from the very beginning of the French Revolution sought to save rather than destroy the monarchy He realized the danger to the crown and exerted himself to create a constitutional kingdom on the English model The radical turn of events late in 1789 thus drove him into a secret alliance with the court In his secret correspondence with the king and queen he reveals himself as the actual prime minister, although members of the National Assembly had been barred from cabinet posts by a law specifically directed against him Mirabeau's advocacy of a strong executive power for the king and his moderate foreign policy were attacked by the Jacobins While he lost the support of the Assembly, he never entirely gained the confidence of the court, particularly of the queen He thus was unable to accomplish any part of his constructive program He died in Jan , 1791, amid impressive manifestations of public sorrow and respect, for he had never lost his popularity with the masses His predictions of the violent course of the revolution came true soon after his death. Mirabeau, who was deeply in debt, most probably was paid by the court during his last years, but his policy was certainly not influenced by his financial dependency His moral shortcomings did not diminish his status as a clear-sighted and responsible statesman, nor did his frequent borrowing of other men's ideas lessen the originality of his thought and his oratory Among the men who constituted Mirabeau's "brain trust" were CLAVIÈRE and P E L DUMONT See Louis de Loménie and Charles de Loménie, *Les Mirabeau* (5 vols , 1879-81), F M Fling, *Mirabeau and the French Revolution* (1908), biographies by Louis Barthou (Eng tr , 1913), Henry de Jouvenel (Eng tr , 1929), Pierre Nezelov (Eng tr , 1937), and Antonina Vallentin (1948)

Mirabeau, Victor Riquetti, marquis de (vĕktôr', mŭrkē'), 1715-89, French social philosopher and physiocrat, father of the statesman Mirabeau His best-known work is *L'Ami des hommes* [the friend of men] (6 parts, 1756-60)

miracle, departure from the usual course of nature attributed to supernatural interposition As Homer shows, many Greeks looked upon miracles as everyday manifestations of immortal personalities often quite limited in power Believers in one transcendent God, including the more orthodox adherents of Judaism, Christianity, and Islam, have generally agreed in explaining miracles by the omnipotence of the one God, the Creator, alone able to interrupt the operation of his decree or to delegate power to a creature to interrupt it The delegation of power is the explanation of the miracles wrought through men In the history of Christianity miracles have played a great role The Resurrection has always been considered the central Christian fact (Mat 28, Mark 16, Luke 24, John 20, 21), and the Virgin Birth is usually called a miracle The miracles of Jesus recorded in the Gospels are as follows *Raising the dead* Jairus' daughter (Mat 9 18,19,23-26, Mark 5 22-24, 35-43, Luke 8 41,42,49-56), the widow's son at Nain (Luke 7 11-18), Lazarus (John 11) *Casting out demons* Gadarene swine (Mat 8 28-34, Mark 5 1-20, Luke 8 26-40), dumb demoniac (Mat 9 32-35), deaf-mute (Mat 12 22, Luke 11 14), Syrophoenician woman's daughter (Mat 15 21-28, Mark 7 24 30), child (Mat 17 14-21, Mark 9 17-29, Luke 9 38-42), in the synagogue (Mark 1 23-28 Luke 4 33-37) *Healing* leper (Mat 8 2-4, Mark 1 40-45, Luke 5 12-15), centurion's palsied servant (Mat 8 5-13, Luke 7 1-10), Peter's mother-in-law, sick of a fever (Mat 8 14 15, Mark 1 30,31, Luke 4 38,39), palsied man (Mat 9 1-8, Mark 2 1-12, Luke 5 18-26), two blind men (Mat 9 27-31), withered hand (Mat 12 10 13, Mark 3 1-6, Luke 6 6-11), two blind men (Mat 20 30-34), deaf-mute (Mark 7 31-37), blind man (Mark 8 22-26), blind Bartimaeus (Mark 10 46-52, Luke 18 35-43), crippled woman (Luke 13 11-17), dropsical man (Luke 14 1-6), 10 lepers (Luke 17 11-19), Malchus' ear (Luke 22 50,51), nobleman's sick son (John 4 46-54), feeble man at the pool of Bethesda (John 5 1-16), man born blind (John 9) *General* stilling the storm (Mat 8 23-27, Mark 4 37-41, Luke 8 22-25), feeding 5,000 (Mat 14 15-21, Mark 6 35-44, Luke 9 12-17, John 6 5-14), walking on the water (Mat 14 22 33, Mark 6 45-55, John 6 15-21), feeding 4,000 (Mat 15 32-38, Mark 8 1-9), blasting the fig tree (Mat 21 18-22, Mark 11 12-14, 20-24), the draught of fish (Luke 5 1-9), turning water into wine at Cana (John 2 1-11), the draught of fish after the Resurrection (John 21 1-14) See also Mat 4 24,25, 8 16 17, 9 20-22, 15 30,31, Mark 1 32-34, 3 10-12, 5 25 34, Luke 4 40,41, 8 43-48, John 11 47,48, Acts 10 38, 39 There are miracles recorded in the New Testament as done by apostles Acts 9 36-43 Every age of Christianity has had miracles supposedly performed The traditional attitude that miracles happen, in Christian life, albeit infrequently, is that of the Eastern Christians and Roman Catholics Protestants generally reject miracles except those in the Bible Miracles in Christianity are especially associated with saints' bodies and relics and with shrines, thus, cures are especially associated with relics of St Anthony of Padua and with Lourdes Some saints had in their lifetime great repute for curing the sick by supposed miracles, such were St Bernard of Clairvaux and St Vincent Ferrer The Roman Catholic Church requires rigid attestation of miracles before CANONIZATION, but does not officially require belief in other than biblical miracles See George Douglas Campbell, 8th duke of Argyll, *The Reign of Law* (5th ed , 1867, conservative Protestant), J H Newman, *Two Essays on Biblical and on Ecclesiastical Miracles* (1901, Roman Catholic), C S Lewis, *Miracles a Preliminary Study* (1947, Anglican)

miracle play or **mystery play,** medieval form of the drama which derived from small scenes or tropes added at Easter and Christmas to the Mass or matins of the Roman Catholic Church It developed from the 10th to the 16th cent The miracle play enabled the clergy of Western Europe to present a scriptural, Apocryphal, or hagiographical story in a simple dramatic form The action of a miracle play was introduced by a prologue or by a herald who gave a synopsis, the play proper followed, and a herald's salute closed it First given in Latin, the plays were later performed in medieval English, French, or German vernacular The length and number of the plays increased, and the audience grew so much numbers that the churches were unable to contain them The plays were next presented on the steps of the church, and the audience stood in the churchyard This resulted in a separation of the plays from the regular church service Finding that the plays tended to become realistic, often humorous, and that they required lay actors, the Church prohibited the clergy from appearing in plays outside the church walls In England the direction of the plays was assumed by the town guilds, who gave them on church festival days, particularly the feast of Corpus Christi The subjects continued to be biblical, and the plays were arranged in cycles Often the plays were given on stages with wheels, so that each episode could be presented at one public square and drawn on to its next performance at another, while a different stage succeeded it The principal English miracle-play cycles are the York Plays (1430-40), the Towneley or Wakefield Plays (c 1450, in Yorkshire), the Coventry Plays (1468), and the Chester Plays (1475-1500) In France the plays were taken over by companies of actors, and in a charter given by Charles VI in 1402 to the most famous company, the Confrérie de la Passion, the word *miστerie* first appears The French *mystère du Viel Testament* is similar to the extant English miracle plays The PASSION PLAY is the chief modern example of the miracle play In the 15th cent a kind of offshoot of the mystery plays appeared in the dramas called moralities In these the characters were abstractions representing good or evil, and the purpose was to teach a lesson about living rather than to present biblical history The greatest English morality is EVERYMAN See E K Chambers, *The Medieval Stage* (1903), Karl Young, *The Drama of the Medieval Church* (1933)

mirage (mĭrazh'), optical illusion which causes a person to see what appears to be a real object, or water, or a complete scene in the distance Such illusions are seen when a body of water appears to be stretched out before an observer on a desert, although no such body of water is actually present, or when at sea the inverted image of a ship is seen in the heavens, or when some object actually miles away from an observer and out of his line of vision (since it is below the horizon) appears to loom up a relatively short distance away These phenomena can be explained by the fact (1) that light rays undergo REFRACTION, i e , are bent, in passing from a medium of one density into another of different density and (2) that the combined surfaces of two such media act, under certain conditions, like the surface of a mirror and cause the REFLECTION of the light rays Since the density of the atmosphere varies according to its temperature (the density being less at higher temperatures), a mirage is formed when light rays are bent in passing from a layer of air of one density into another of another density and when light rays are reflected as they strike the line of the adjacent surfaces at an extremely oblique angle The "lake" mirage in the desert is essentially a reflection of the sky Light rays from a distance are thrown upward by the surface of the area of extremely hot air just above the sand, and the effect to an observer at some distance is a shimmering expanse which resembles very closely the surface of a body of water The inverted image of a ship seen in the heavens at sea is caused by the rays of light from the ship (below the horizon) being bent downward as they leave the cooler layer of air directly over the water and reach the warmer area above that layer Because of continuous bending and of reflection, the rays tend to follow the curvature of the earth and thus finally reach the eye of the observer, although under ordinary circumstances the curvature of the earth would prevent them from doing so directly The image formed appears to be that produced by an object somewhere distant in a straight line from the observer and, therefore, at a position in the sky It is sometimes inverted because in the bending process the light rays coming from the object are changed in relative position The type of mirage described as looming, in which distant objects appear much nearer than they actually are, is explained in the same way as the ship except that the image is not inverted Mirages can be photographed The strange phenomenon known as the fata morgana (fä'tä môrjä'nä) [Ital ,=Morgan le Fay, of the Arthurian legend, the supposed author of the mirage] is a form of mirage especially in evidence at the Strait of Messina, in which images of objects such as ships, houses, or men, often two of the same object with one inverted, are seen suspended in the air over the object itself or on the water

Miramichi (mĭrumĭshē'), river rising in several forks and tributaries in central New Brunswick and flowing E past Newcastle into the Gulf of St Lawrence at Miramichi Bay. The Bay was visited by Cartier in 1534

Miranda, Francisco de (Sebastián Francisco de Miranda) (fransē'skō dā mērän'da), 1750 1816, Vene-

zuelan revolutionist, sometimes called the Precursor, b. Caracas. His birthdate is usually given as 1756, but W. S Robertson has demonstrated that this is an error, arising from confusion with a younger brother He became an officer in the Spanish army and served under Bernardo de Gálves in the Spanish attack on Pensacola (1781) when Spain was an ally of the rebels in the American Revolution He later saw varied service as a soldier of fortune and fought under Dumouriez in the French Revolutionary Wars Imbued with revolutionary ideas, he became the apostle of Venezuelan liberty. He sought foreign aid and led an expedition to the Venezuelan coast (1806), but this venture was a complete failure After the outbreak of the revolution in 1810, he returned and soon took a commanding position in the patriot forces He was dictator for a short time, but because of increasing misfortunes, including the loss of Puerto Cabello by Simón Bolívar and a destructive earthquake in Caracas, he surrendered (1812) to the Spanish Bolívar and other patriots, angered by his actions, threw him into prison The Spanish seized him and, contrary to the conditions of surrender, kept him imprisoned the rest of his life See biography by W S Robertson (1929)

Miranda, Francisco de Sá de. see SÁ DE MIRANDA, FRANCISCO DE

Mirandola, Giovanni Pico della: see PICO DELLA MIRANDOLA, GIOVANNI, CONTE

Mirbel, Charles François Brisseau de (shärl' fräswä' brēsō' du mērbĕl'), 1776–1854, French botanist, noted for his researches in the cellular structure and embryology of plants Director of gardens and greenhouses for the empire, he became professor of botany at the Museum of Natural History, Paris, in 1829 He also wrote several books on his subject

Miriam (mĭr'rēum) **1** Sister of Moses and Aaron She led the women in the song of Miriam Later she sided with Aaron against Moses and was stricken with leprosy Ex 15 20,21, Num 12. **2** Descendant of Judah 1 Chron 4 17 Miriam and Mary are diverse forms of the same original name

Mirma (mûr'mù) [Heb ,=fraud], chief Benjamite 1 Chron 8 10

Miró, Joan (hwän' mērō'), 1893-, Spanish surrealist painter, b Barcelona He early went to Paris, where his work soon attracted attention It is distinguished by the use of brilliant pure color and the juxtaposition of free forms with geometric lines It has been characterized as psychic automatism and is an attempt to express the subconscious by highly abstract forms In 1941 he settled in Majorca Miró is particularly well represented in the Museum of Modern Art, New York See study by J J Sweeney (1941)

mirror. The reflection of light from certain surfaces is such that extremely clear-cut and exact reproductions of objects are formed when the rays of light coming from the objects fall upon these surfaces (see REFLECTION) In optics, a surface which can form such a reproduction is called a mirror, and the reproduction is known as the IMAGE of the object Usually mirrors are made of plate glass one side of which is coated with metal or some special preparation to serve as a reflecting surface The junction of this reflecting surface and the plate glass is called the mirror line Highly polished metal and other materials serve also as mirrors Three common types of mirror are the plane mirror or mirror with a flat, or plane, surface, the convex mirror, the concave mirror In a fine plane mirror the rays of light falling upon it are reflected with little change in their original character and their relationship to one another in space Thus not only does each image almost exactly match its object, but the setting as a whole is also reproduced and an illusion of perspective is created Although the image appears to be behind the mirror, actually it is formed at the mirror line Its apparent position is the same distance behind the mirror as the actual object is in front of the mirror, the image is the same size as the object and is called a virtual image (i e , the rays of light from the object do not actually go to the image, but extensions of these light rays appear to intersect behind the mirror) The exactness of an image produced by a mirror depends upon the quality and condition of the mirror, as, for example, upon the clearness of the glass, the smoothness, and the cleanness The human eye often finds it practically impossible to distinguish between the image in a good mirror and the object itself, a condition upon which many optical illusions depend Convex and concave mirrors are known collectively as spherical mirrors, since their curved reflecting surfaces are considered to be part of the surface of a sphere The common concave type is one in which the mid-point, center, or vertex of the reflecting surface is farther away from the object than are the edges The center of the imaginary sphere of which it is a part is called the center of curvature and each point of the mirror surface is, therefore, equidistant from this point A line extending through the center of curvature and the mid-point of the mirror is the principal axis, and rays parallel to it are all reflected in such a way that they meet at a point on it lying halfway between the center of curvature and the vertex. This point is called the principal focus. The size, nature, and position of an image formed by a concave spherical mirror depend upon the position of the object in relation to the principal focus and the center of curvature. If the object is at a point farther from the mirror than the center of curvature, the image is real (i e , it is formed directly by the reflected rays) and inverted If the object is at the center of curvature, the image is the same size as the object and is real and inverted When the object is inside the principal focus, the image is virtual, is right side up, or erect, and is larger than the object In the case of both the real and the virtual image the size of the image is to the size of the object as the distance of the image from the mirror is to the distance of the object from the mirror In a convex spherical mirror the mid-point or vertex of the mirror is nearer to the object than the edges —the mirror bulges toward the object The image formed by it is always smaller than the object and always erect It is never real because the reflected rays diverge outward from the face of the mirror and are not brought to a focus, and the image, therefore, is determined by their prolongation behind the mirror as in the case of the plane mirror. The mirror of the ancient Greeks and Romans was a disk of metal with a highly polished face, sometimes with a design on the back, and usually with a handle In medieval Japan and also in China, some mirrors of this type were found to reflect, on a white surface, the design upon the back, these were called magic mirrors Glass mirrors date from the Middle Ages They were made in large quantities in Venice from the 16th cent., the back being covered with a thin coating of tin mixed with mercury, after 1840 a thin coating of silver was generally substituted The introduction of plate glass for mirrors (17th cent) stimulated the use of large stationary mirrors as part of household furniture Small bits of "silvered" glass were much used in the East to adorn articles of dress and of decoration The metal trench mirror of the First World War revived the manufacture of mirrors of this type In modern architecture large areas with highly polished surfaces are used to give the effect of mirrors Mirrors are a feature of modern interior decoration They also play an important part in the modern astronomical TELESCOPE

Mirs Bay. see HONG KONG

Mirzapur (mĭr'zäpōr"), town (pop 70,944), SE United Provs , India, on the Ganges river Many pilgrims visit its temple to the Hindu goddess Vindhyeshwari Shellac is manufactured

Misael (mĭ'sāul), one of the THREE HOLY CHILDREN

miscarriage see ABORTION

miscegenation (mĭ"sĭjĭnā'shŭn), the interbreeding, crossing, or hybridization of persons of different racial type Before the development of modern anthropology and genetics, opinions differed sharply as to the effects of racial crossing Some found that it produced anatomical "disharmony," others that it produced "hybrid vigor," which is sometimes the result of interbreeding domestic animals It is now known that racial crossing is a process that has been continuous in mankind from prehistoric times and that modern populations, in Europe as elsewhere, are products of this process on a grand scale In the Americas and in SE Asia and the Pacific islands, where it has been observed in recent times, the only ill effects seem to be on the personality and character of the offspring when there is social disapproval of mixed unions In some states of the United States, marriages of persons differing in race are prohibited by statute Such statutes are held to be constitutional, since the Thirteenth and Fourteenth amendments to the Constitution are construed as securing civil and political rights only, not privileges of social or domestic nature.

Mischabelhörner (mĭ'shäbulhûr"nur), group of peaks, Valais canton, Switzerland, in the Pennine Alps The highest is the DOM

misdemeanor (mĭs"dĭmē'nur) At common law a misdemeanor was a crime other than treason or a FELONY Although it might be a grave offense, it did not affect the feudal bond or take away the offender's property By the 19th cent serious crimes were labeled felonies, and minor crimes misdemeanors In the United States a misdemeanor usually is an offense which may be punished summarily by fine and by imprisonment for less than a year Commission of a misdemeanor does not cancel citizenship or subject an alien to deportation. In some states there are minor law violations which are not classified as misdemeanors, e.g , traffic offenses and breach of municipal regulations.

Miseno, Cape (mēzā'nō), S Italy, at the northwest end of the Bay of Naples. Here Augustus founded a naval station which was destroyed by the Arabs in the 9th cent There are ruins of a theater and of a reservoir.

Miserere (mĭzûrĕr'ē, -rār'ē) [Latin, =have mercy], the 51st (or 50th) Psalm, beginning, "Miserere mei, Deus (Have mercy upon me, O God)." It is one of the penitential psalms (see PSALMS). Noteworthy musical settings, are those of Palestrina, Josquin, and ALLEGRI.

Misgab (mĭs'găb) [Heb ,=height], unlocated place, SE of the Dead Sea, which was denounced by Jeremiah. Jer. 48.1.

Mishael (mĭ'shāul). **1** Kohathite Levite. Ex. 6 22; Lev 10 4 **2** Companion of Ezra. Neh. 8 4. **3** One of the THREE HOLY CHILDREN.

Mishal (mĭ'shŭl), unidentified town, N Palestine Joshua 21.30. Misheal Joshua 19.26 Mashal 1 Chron 6 74

Misham (mĭ'shăm), descendant of Shaharaim 1 Chron 8 12

Mishawaka (mĭshuwô'kù), city (pop 28,298), N Ind , on both banks of the St Joseph river and near South Bend, settled c 1830, inc 1899. Its manufactures include rubber and woolen apparel, metal products, automobile transmission units, and food products

Misheal (mĭ'shēul), variant of MISHAL

Mishma (mĭsh'mu) [Heb ,=report] **1** Son of Ishmael Gen 25 14; 1 Chron 1 30. **2** Son of Simeon 1 Chron. 4 25

Mishmannah (mĭshmă'nu) [Heb ,=fatness], Gadite ally of David 1 Chron 12 10.

Mishna see MIDRASH and TALMUD

Mishraites (mĭsh'rāĭts, mĭshrā'ĭts), one of the four families of Kirjath-jearim 1 Chron 2 53

Miskolc (mĭsh'kôlts), formerly **Miskolcz**, city (pop 77,362), NE Hungary, on the Sajo river It is an important industrial city, with large iron and steel mills and varied manufactures In the museum are Scythian excavations from the 6th cent B C and the Bronze Age The city has a 13th-century Gothic church, a law school, and a conservatory of music On near-by Mt Avar are large, state-owned vineyards, and lignite is mined in the vicinity.

Mispereth (mĭ'spērĕth) [Heb ,=number], exile who returned from Babylon Neh 7 7. Mizpar. Ezra 2 2

mispickel. see ARSENOPYRITE

Misr see EGYPT

Misrephoth-maim (mĭs'rēfŏth-mā'ĭm), unidentified place, N Palestine, to which Joshua drove the defeated Canaanites Joshua 11 8

missal [Latin, =of the mass], in the Roman Catholic Church, book containing all directions and texts necessary for the performance of Mass throughout the year At the end of the missal are votive Masses and various blessings Like the Roman BREVIARY the Roman missal is in much more widespread use than formerly The missal is in Latin, but English and bilingual editions are numerous

Missinaibi (mĭsĭnā'bē), river rising in central Ontario in Missinaibi Lake, SW of Kapuskasing, and flowing 265 mi N and NE to the Mattagami SW of Moosonee The united stream forms the MOOSE

Mission, village (pop 1,957), SW British Columbia, on the Fraser river and E of Vancouver, founded c 1861 by Father Fouquet as a mission to the Northwest Coast Indians It has fruit and vegetable canneries and fishing

Mission, city (1940 pop 5,982, 1947 estimated pop 8,700), extreme S Texas, WNW of Brownsville, founded 1908, inc 1910 It was founded on property that had belonged to the Oblate Fathers, whose chapel (completed 1824) still stands on the Rio Grande Mission packs and cans grapefruit and other citrus fruits and vegetables of the irrigated lower Rio Grande valley It has small industries

Missionary Ridge see CHATTANOOGA CAMPAIGN and NATIONAL PARKS AND MONUMENTS (table)

missions, term applied in general use to organizations formed for the purpose of extending religious teaching, whether at home or abroad It also indicates the stations or the fields where such teaching is given In a more particular sense it designates the efforts to disseminate the Christian religion From the first steps taken by the disciples of Jesus to carry out his direction to preach his gospel throughout "all the world," the history of the Christian Church has been in great part a history of missions Spreading through Asia Minor, into Europe by way of Greece and Rome, to Alexandria, the faith rapidly gained converts A missionary college was founded in Alexandria in the 2d cent , one at Constantinople in 404 The following centuries were marked by notable missionary labors in Scotland, Ireland, Central Europe, and among the Northmen, reaching even into Iceland and Greenland St PATRICK, St AUGUSTINE, and St BONIFACE are great names of that era After the Christianization of Europe there was little missionary effort until the 16th cent Roman Catholic missions were then, as now, almost entirely in the hands of the religious orders The great missionary orders are the Benedictines (which virtually civilized medieval Germany), Franciscans (especially the Capuchins), Dominicans (founded for missions among the Albigenses), Carmelites, and Jesuits (founded for the education of boys) The Jesuits were the great missionaries of the Catholic Reform (see JESUS, SOCIETY OF) Wherever they could go, they went—to the Far East (see FRANCIS XAVIER), to America, and to Protestant N Europe It was the Jesuits who kept up the English missions in the 16th and 17th cent. The first Catholic missionaries in Canada were Recollects, who worked in the first part of the 17th cent.; they were soon followed by Jesuits. Notable of

these Jesuits were Jerome Lalemant, Jean de Brébeuf, and Isaac Jogues Their labors among the Indians of the interior bore great fruit, and they may be regarded as a principal factor in the growth of the Canadian frontier and in the exploration of Canada and the upper Mississippi The *Jesuit Relations*, the individual journals of these Jesuits, are exceedingly important sources of early American history In the period of the conquest of Central and South America by Spain the Church sent her missionaries with the conquerors The Franciscans and Jesuits were the most important orders in Mexico At the end of the 18th cent and in the early 19th there was an extensive Catholic missionary interest in the Mississippi valley, and many Italians and French came to America to teach in the newly opened country Bardstown, Ky , was the chief center Since the 17th cent practically all Roman Catholic missions have been administered by one of the Roman congregations, Congregatio de Propaganda Fide (Congregation for the Propagation of the Faith), usually called the Propaganda This is made up of cardinals, whose office is a palace in Rome It is one of the most important of the papal congregations, for it directly administers all church affairs in non-Catholic countries (i e , countries not predominantly Catholic) The foreign missions are administered by the religious orders, the missionaries being responsible to the Propaganda In Propaganda countries where there is a strong hierarchy, the missionaries are responsible to the hierarchy In order to prevent overlapping, the Propaganda divides up among the various orders the territory in which there are few Catholics A new missionary policy has been in practice since the middle of the 19th cent , which emphasizes as most important the training of native clergy and the ordination of native bishops Roman Catholic missions are supported by the Propaganda, by the religious orders, and by lay missionary societies Two unsuccessful attempts were made to establish Protestant missions in the middle of the 16th cent , one by French Protestants for a colony in Brazil and the other a plan of Gustavus Vasa (Gustavus I) of Sweden for work among the Laplanders The Dutch East India Company sent missionaries to the Malaysians early in the 17th cent , and a seminary for the training of missionaries for work among the American Indians was carried on in New England in the 17th cent by John Eliot and Roger Williams (see also Stockbridge Indians) The Society of Friends also made converts among the Indians In Great Britain associations were formed to encourage the extension of the faith among the American colonists—the Society for the Propagation of the Gospel in New England (1649), the Society for Promoting Christian Knowledge (c 1698), and the Society for the Propagation of the Gospel in Foreign Parts (1701) The Scottish Society for the Promotion of Christian Knowledge appointed (1742) David Brainerd as a missionary to the American Indians Denmark sent into its colonial fields of the East and West Indies the first Lutheran missionaries—mainly German Pietists—in 1705 Members of the Moravian Church went as messengers of the Gospel to all continents except Australia before 1760 A new missionary spirit was aroused in Great Britain at the end of the 18th cent by the evangelistic fervor of John Wesley and George Whitefield The Baptist Missionary Society was formed (1792), and William Carey went to India Then followed the founding of the London Missionary Society (1795) and, among the Anglicans, the Church Missionary Society for Africa and the East (1799) In 1813 the Wesleyan Methodist Missionary Society was added In Holland, Germany, Switzerland, and France missionary societies were organized In the United States they sprang up all through the early part of the 19th cent —the American Board of Commissioners for Foreign Missions (1810), the American Baptist Missionary Union (1814), which supported the mission in Burma of Adoniram Judson, the Missionary Society of the Methodist Episcopal Church (1819), and the Domestic and Foreign Missionary Society of the Protestant Episcopal Church (1820) While its work had started much earlier, the Presbyterian Board of Foreign Missions was not actually constituted until 1837 American home mission societies began addressing their efforts to Indians, Eskimo, Negroes, and settlers on the expanding Western frontier and, later, to immigrants from Europe and Asia and to persons in isolated mountain regions of the South. The problems of missionaries in Africa and those in parts of Asia are strongly contrasted In Africa the people to be reached are in the more primitive stages of social and intellectual development In India and China, however, the inhabitants are the heirs of ancient civilization, long historical tradition, and extensive culture Medical and educational services have proved most effective in opening the way for spiritual ministry among these peoples. Organised medical work in India started in the middle of the 19th cent under doctors sent by the London Missionary Society and the American Board. With the work of Alexander Duff in India in 1830, a new enterprise in missionary effort on educational lines was launched In China a number of Christian colleges and universities have been established Work there was started (1807) by Robert Morrison, representing the London Missionary Society The China Inland Mission, with funds and personnel drawn from several denominations and countries, was founded (1865) by J H Taylor The opening of Japan by treaties in 1858 offered an opportunity to introduce foreign missionaries Educational work has been an important part of missionary activity there In 1797 the London Missionary Society laid the foundations of missionary work in the South Sea Islands Famous among mission workers in Africa are David Livingstone and Albert Schweitzer A marked trend in missionary work in recent years has been the training of indigenous leadership for church offices and administrative positions in mission enterprises The International Missionary Council, composed of some 26 national and regional missionary organizations and Christian councils in various parts of the world, was constituted in 1921 The Second World War and its aftermath severely curtailed or destroyed missionary accomplishments in many lands, but as fast as possible new mission schools, hospitals, orphanages, and churches are rising to replace those destroyed in war Missionaries have been able to return to their stations in many places Scattered congregations have reassembled, new mission leadership is in training for service See K S Latourette, *A History of the Expansion of Christianity* (7 vols , 1937-45), W O Carver, *Christian Missions in Today's World* (1942), L J Shafer, *The Christian Mission in Our Day* (1944), John Aberly, *An Outline of Missions* (2d ed , revised, 1946), H P Van Dusen, *World Christianity, Yesterday, Today, and Tomorrow* (1947), K S Latourette and W R Hogg, *Tomorrow Is Here* (1948), publications of the International Missionary Council For Roman Catholic missions, see works on the religious orders and the publications (in America) of the Society for the Propagation of the Faith and the Society of the Divine Word

Missisagi (mĭs'ĭsä'gē), river rising in S Ontario NE of Sault Ste Marie and flowing 140 mi S into the North Channel of Lake Huron

Mississippi (mĭ"sĭsĭp'ē), state (area 47,420 sq mi , 1940 pop 2,183,796, 1949 estimated pop 2,130,000), S United States, admitted 1817 as the 20th state (a slaveholding state) Jackson is the capital and largest city Meridian, Vicksburg, Hattiesburg, Greenville, Laurel, Biloxi, Natchez, and Gulfport (the only seaport) are the other important cities Across the Mississippi river, from which the state takes its name and which forms most of its western boundary, lie Arkansas and Louisiana Louisiana also cuts into S Mississippi along the parallel of lat 31°N like the toe of a boot until it reaches the Pearl river, which forms the lower part of the western boundary Mississippi Sound, an arm of the Gulf of Mexico, forms the rest of the southern line, Alabama is on the east, Tennessee on the north Where the Tennessee river loops across the extreme northeast corner of the state, the surface, generally hilly, reaches its greatest height (806 ft) Most distinctive region in the state's varied topography is the flat alluvial plain between the Mississippi and Yazoo rivers The Delta, as it is called, a highly productive cotton area, "begins in the lobby of the Peabody Hotel in Memphis and ends on Catfish Row in Vicksburg " A wide belt of longleaf yellow pine, the piny woods, covers most of S Mississippi to within a few miles of the coastal plain meadows Here are lumbering and allied industries, not so flourishing as in the early decades of the 20th cent , but still important Most of the state's many rivers belong to either the Mississippi river or the Alabama river system, with the Pontotoc Ridge the divide Mississippi has an almost subtropical climate, and the average annual rainfall is more than 50 in One of the most predominantly rural states in the Union, it is second in the production of cotton Soil erosion, resulting from overcultivation of the crop, and the boll weevil have led to the increased adoption of scientific farming techniques and to agricultural diversification, which has resulted in a great rise in livestock raising and, especially, dairying Corn, oats, hay, sorghum, sweet potatoes, pecans, soybeans, truck, and tung nuts are also grown The state's most valuable mineral resources, natural gas and petroleum, have been developed only since the 1930s Industry has also grown rapidly since oil development began and has been helped by the Tennessee Valley Authority and the state's Balance Agriculture with Industry program Under the BAWI plan many communities have subsidized and attracted new industries, and industrial products, including cotton textiles, have exceeded in value those of agriculture in recent years There is a small but profitable fishing industry on the Gulf coast Hernando De Soto's expedition doubtless wandered (1540–42) through this region of the Choctaw, Chickasaw, and Natchez Indians, but the first permanent white settlement was not made until 1699, when the sieur d'Iberville established a French colony on Biloxi Bay The region was part of Louisiana until 1763, when, by the Treaty of Paris, England received practically all the French territory E of the Mississippi and also the Floridas, which had belonged to Spain English colonists, many of them retired soldiers, had made the Natchez district a thriving agricultural community producing tobacco and indigo by the time Bernardo de Gálvez captured it, along with the Floridas, for Spain in 1781 By the Treaty of Paris of 1783 following the American Revolution, the United States, with English approval, claimed lat 31°N as its southern boundary in the West Spain denied this claim, and the long, involved West Florida Controversy ensued Spain accepted the 31st parallel as its northern boundary in the Pinckney treaty (1795) but did not evacuate Natchez until the arrival of American troops in 1798 Congress immediately created Mississippi Territory, with Natchez as Capital and William C C Claiborne as governor After Georgia's cession (1802) of its Western lands to the United States (see Yazoo land claims) and the Louisiana Purchase (1803), a land boom swept Mississippi The high price for cotton and cheap, fertile land brought settlers thronging in, most of them via the Natchez Trace, from the Southern piedmont regions and even from New England A few attained great wealth, many more simply managed a living The territory was extended in 1804 and again in 1810, and in 1817 Mississippi became a state with substantially its present boundaries, the eastern section of Mississippi Territory was then organized as Alabama Territory The aristocratic planter element of the Natchez region at first dominated the government, as the state's first constitution (1817) showed, but with the spread of Jacksonian democracy the small farmer came into his own, and the new constitution adopted in 1832 was quite liberal for its time In 1832 also was concluded a treaty by which the Chickasaw Indians yielded their remaining lands, thus ending the pressure of land hunger, which had driven virtually all Indians out of the state Mississippians were among the leading Southern expansionists, and Robert J Walker, Henry S Foote, John A Quitman, and Jefferson Davis agitated for or fought in the Mexican War Although the Union was generally revered by the old established families and by the small farmers, a strong middle class swept them along into secession on Jan 9, 1861 State pride was highly gratified in the choice of Davis as president of the Confederacy Civil War fighting did not reach Mississippi until after the battle of Shiloh in April, 1862, when Union forces were victorious at Corinth and Iuka Grant's brilliant and persistent Vicksburg campaign ended large-scale fighting in the state, but more destruction was caused by Gen W T Sherman in his march from Vicksburg to Meridian, and the cavalry of both armies, particularly the Confederate command of Gen N B Forrest, continued active, as did the resistance of anti-Confederate irregulars especially in Jones co After the war Mississippi abolished slavery but refused to ratify the Thirteenth and Fourteenth amendments and in March, 1867, under the congressional plan of Reconstruction was organized with Arkansas into a military district commanded by Gen E O C Ord With the defeat of a Republican constitution in 1868, civil government was suspended, and the next year all ex-Confederates were disqualified as officeholders The same constitution, made less objectionable to the people, was approved in Nov , 1869, and Mississippi, controlled by scalawags and carpetbaggers, was readmitted to the Union early in 1870 Extravagance and corruption were the hallmarks of government until, in the bitter election of 1875, the Republicans were defeated Lucius Q C Lamar figured largely in the Democratic triumph and was the state's most prominent national figure for many years On the ruins of the shattered plantation economy rose the sharecropping system, the merchant and the banker replaced the planter in having the largest financial interest in the farming Too often the system made the sharecroppers, white as well as black, little more than economic slaves The landowner, however, maintained his hold on politics until 1904, when the small farmers, still the dominant voting group, elected James K Vardaman governor This agrarian revolt did not, however, alter a deep-seated obscurantism which was reflected in the "Jim Crow" law (1904), prohibition (1908), and the ban on the teaching of evolution in the public schools (1926) Since the disastrous Mississippi flood of 1927 the Federal government has taken over flood-control work The race problem still plagues Mississippi where, until 1940, Negroes had for years constituted slightly more than half the total population, which is almost 100 percent native-born In Reconstruction days, the Republicans could win only with solid Negro support, and after the end of Reconstruction, Negroes were hardly encouraged to vote White supremacy was bolstered by the constitution of 1890, later used as a model by other Southern states and still in force, a prospective voter may be required to read and interpret any of its provisions. Because at that time most Negroes

could not read (neither could many white men, but the test was rarely applied to them), they were legally disfranchised The state, however, has made valiant efforts to wipe out illiteracy (it long had the highest rate in the country), spending more than half its income in recent years on its segregated schools for white and Negro children The fact that many Negroes, especially veterans of the Second World War, qualified successfully in recent elections (few actually voted) is evidence of the success of Mississippi's educational program The Negroes are feared and hated as economic competitors by the poor whites or "peckerwoods" (who also despise the more economically secure whites) It is to the poor whites that Negrophobes such as the late Sen Theodore G BILBO and Congressman John Rankin appeal In the Second World War thousands of Negroes left the state for the North, consequently decreasing the state's labor supply In 1948 Mississippi abandoned the Democratic party and supported J Strom Thurmond, the States' Rights party candidate for President The Univ of Mississippi at Oxford is the state's leading educational institution Several Mississippians have won literary renown by their widely different interpretations of Mississippi life, notably William Faulkner, Stark Young, Eudora Welty, William Alexander Percy, David L Cohn, Hodding Carter, Robert Rylee, and James Street See J F H Claiborne, *Mississippi as a Province, Territory, and State* (1880), Robert Lowry and W H McCardle, *A History of Mississippi* (1891), J W Garner, *Reconstruction in Mississippi* (1901), Dunbar Rowland, *History of Mississippi* (1925), D L Cohn, *God Shakes Creation* (1935) and *Where I Was Born and Raised* (1948), Federal Writers' Project, *Mississippi a Guide to the Magnolia State* (1938), C S Sydnor and Charles Bennett, *Mississippi History* (1939), Hodding Carter, *Lower Mississippi* (1942), J R Bettersworth, *Confederate Mississippi* (1943), Herbert Weaver, *Mississippi Farmers, 1850–1860* (1945)

Mississippi, river, 105 mi long, rising in S Ontario E of the Kawartha Lakes and flowing NE into Mississippi Lake, then northerly to the Ottawa below Arnprior It is navigable for small steamers

Mississippi, river, c 2,350 mi long, principal river of the United States, the "main stem" of a vast system that drains an area of c 1,244,000 sq mi Its drainage basin covers all or parts of 31 states and small parts of two Canadian provinces The Mississippi rises in N Minnesota, near Lake Itasca, and flows generally S to the Gulf of Mexico Minnesota, Wisconsin, Illinois, Kentucky, Tennessee, Mississippi, and Louisiana are on its east bank, Minnesota, Iowa, Missouri, Arkansas, and Louisiana border its west bank The upper Mississippi (north of the mouth of the Missouri river) is a comparatively narrow, clear stream flowing between limestone bluffs From its source to the Falls of St Anthony at Minneapolis, it is not navigable, below that city, a channel with a minimum depth of 9 ft runs to the Gulf This channel is maintained between Minneapolis and the mouth of the Missouri by 26 Federal locks and dams, construction of a 27th channel-improvement project, just N of St Louis, was started in 1947 Below the mouth of the Missouri, the Mississippi is known as the lower Mississippi, it takes the muddy color of the Missouri, follows a much more winding and variable course, and has a wide alluvial valley of great fertility which is lower in some places than the river's surface The river has carried down vast quantities of sediment, forming a delta that is crossed by the river's several mouths It extends out into the Gulf of Mexico Jetties (authorized by Congress in 1874) were built by James B EADS to provide a sediment-free navigation channel through South Pass to the Gulf The Mississippi's principal tributaries from the east are the St Croix, the Chippewa, the Wisconsin, the Rock, the Illinois, the Kaskaskia, the Ohio, the YAZOO, and the Big Black rivers, from the west come the Minnesota, the Iowa with the Cedar, the Skunk, the Des Moines, the Missouri, the St Francis, the White, the Arkansas, and the Red rivers Cities on the Mississippi include St Cloud, Minneapolis, St Paul, and Winona, Minn , La Crosse and Prairie du Chien, Wis , Dubuque, Clinton, Davenport, Muscatine, Burlington, Fort Madison, and Keokuk, Iowa, Moline, Rock Island, Quincy, Alton, East St Louis, and Cairo, Ill , Hannibal, St Louis, Ste Genevieve, and Cape Girardeau, Mo , Wickliffe and Hickman, Ky , Memphis, Tenn , Helena, Ark , Vicksburg and Natchez, Miss , and Vidalia, Baton Rouge, Plaquemine, and New Orleans, La The Mississippi river has a long record of disastrous floods, especially in its lower course, where it receives its larger affluents Levee building began in 1717 at New Orleans under the French By the middle of the 19th cent there was an almost continuous line of levees reaching N to Memphis But as the Mississippi became increasingly confined, its flood crests rose ever higher and the levees were frequently washed away or broken The valleys of the river itself and those of many of its tributaries were visited almost yearly by floods that inundated cities and farmlands, destroying homes and crops, crippling industries, interrupting transportation, and taking many lives In 1917 Congress passed a flood-control act, first of a series of Federal acts designed to improve and extend flood control Following the flood of 1927, which was a national disaster, the need for effective Federal aid was more clearly recognized The important flood-control act of 1928 was passed, and the program of Edgar Jadwin, then chief engineer of the U S army, was adopted. From these stem the widespread projects and the Federal expenditures of billions of dollars yearly which are rendering the Mississippi system's floods less destructive Hundreds of miles of high strong levees and floodwalls have risen along the banks of the river and on those of many of its affluents Cutoffs have eliminated the dangerous, winding channels An improved main channel increases the river's flood-carrying capacity Channel-improvement projects also have been instituted on many of its tributaries Floodways, for use when Mississippi river stages are dangerously high, divert some of the extra water The Birds Point-New Madrid Floodway, 34 mi long, is near the west bank of the Mississippi below Cairo, Ill The Morganza Floodway, 6 to 10 mi wide, and the West Atchafalaya Floodway, 7 to 8 mi wide, are on opposite sides of the Atchafalaya river in Louisiana, with the river, they help to carry flood waters S to the Gulf The Bonnet Carre Spillway, above New Orleans, channels flood waters to Lake Pontchartrain The Federal government's flood-control program also provides for a number of dams and reservoirs on many of the Mississippi's tributaries, particularly at their headwaters Flood-control constructions in connection with the lower Mississippi valley and navigation improvements are under the jurisdiction of the Mississippi River Commission and are executed by the U S Corps of Engineers The commission was established by Congress in 1879, it is a seven-man body of engineers, appointed by the President of the United States, three of whose members, including its president, are chosen from the Corps of Engineers The great waterway was much used by the Indians, and Coronado on his eastward exploration in 1541 heard rumors of it and of fleets of boats At about the same time De Soto coming from the east had reached and crossed it, and after his death his body was sunk in its waters The Spanish discovery was not, however, effective It remained for the French to make real use of the Mississippi After Marquette and Jolliet reached the river in 1673, it was really opened to white knowledge La Salle went down the river to its mouth in 1682, claiming the territory for France He lost his life in an attempt to find the mouth of the river on a return trip from France Despite his tragedy, France did appropriate the river, and the founding of New Orleans by Bienville in 1718 extended the French North American empire to its final reach The Mississippi was a French river in the 18th cent , and the settlements of Cahokia, Kaskaskia, Prairie du Chien, and St Louis created a chain of French control, with centers of French trade This section of empire was untouched by the fighting of the French and Indian Wars, and as they drew to a close it was transferred (1762) to Spain Spanish control created a problem for farmers of the then U S West (especially Kentucky and Tennessee), and the treaty rights for use of the Mississippi were a source of international wrangling The situation also had its bearing on schemes—more or less traitorous—to set up separate Western nations in conjunction with Spain James Wilkinson seems to have entertained such ideas, and Aaron Burr was accused of cloudy schemes of the sort These possibilities came to an end with the Louisiana Purchase in 1803 The Mississippi by that stroke became an entirely American river It was used immediately for the great westward thrust of American migration, and the river ports became busy centers of men going west by flatboat, raft, keelboat, and—later—steamboat The steamboat age on the Western waters saw the Mississippi in its full glory Especially after the 1830s the transport by river steamer was an essential part of American life, and the vessels became more and more fancy as the trade was more and more lucrative Meanwhile, the valley of the Mississippi was being peopled and, according to the theories of historians of the frontier (notably Frederick J Turner), was producing in the settlers the basis of American democracy as we know it today The river, however, flowed from north to south out of free territory into slave-holding territory, and it was to witness some of the severest fighting that arose from the war of the sections. Traffic from the North naturally ceased after the outbreak of the Civil War, and the Union was anxious to restore it to meet the demands of the politically important Northwest Even more important for the Union was the fact that the Mississippi made a splendid invasion route Victorious on the rivers of the Mississippi system, the Tennessee and the Cumberland (at Fort Henry, Fort Donelson, and Shiloh), the Union with its superior naval forces took ISLAND No 10 and Memphis in June, 1862 Two months earlier New Orleans had fallen to a combined Union naval and military expedition coming out of the Gulf The Confederates doggedly held on to Vicksburg, but the city finally succumbed to U S Grant's persistence (see VICKSBURG CAMPAIGN) on July 4, 1863, and with Port Hudson surrendering immediately thereafter, the Union had complete control of the river Vicksburg, rivaling Gettysburg as the most important single victory of the war, not only completed Union domination of the Mississippi but also effectively cut the trans-Mississippi West off from the rest of the Confederacy The loss of the supplies had a serious effect in bringing about the desperate condition of the South at the time of defeat The river was never again to have its old glory Steamboat traffic was resumed and was of great economic value, but the railroad had come, and the river ports were to molder slowly away The record that Mark Twain left in *Life on the Mississippi* (1883) of the river life and that great river pilot, Horace E Bixby, was but the preservation of the memory of a day past Today traffic is heavy on the river, but it is no longer vital There are many river boats and the descendants of the legendary John Henry still load and unload the river cargoes, but to the general public of the nation the Mississippi is more a matter of golden legend and of flood control than of commerce See Lyle Saxon, *Father Mississippi* (1927), Ben Lucien Burman, *Big River to Cross* (1940), Hodding Courter, *Lower Mississippi* (1942), Walter Havighurst, *Upper Mississippi* (rev ed , 1944), Edwin Rosskam and Louise Rosskam, *Towboat River* (1948), Richard A Bissell, *A Stretch on the River* (1950), Louis C Hunter, *Steamboats on the Western Rivers* (1950)

Mississippi, University of, at University, near Oxford, state supported, coeducational, chartered 1844, opened 1848 It includes a liberal arts college and schools of commerce and business administration, education, engineering, law, medicine, and pharmacy The Business Research Bureau, established in 1941, has aided small business

Mississippian period see CARBONIFEROUS PERIOD.

Mississippi Scheme, plan formulated by John LAW for the colonization and commercial exploitation of the Mississippi valley and other French colonial areas In 1717 the French merchant Antoine Crozat transferred his monopoly of commercial privileges in LOUISIANA and Canada to Law, who, with the sanction of the French regent, Philippe II d'Orléans, organized the Compagnie d'Occident Its shares first depreciated in value but rose rapidly when Law, director of the new royal bank, promised to take over the stock at par at an early date In 1719 the company absorbed several other organizations for the development of the Indies, China, and Africa, and Law thus controlled French colonial trade The consolidated company, renamed the Compagnie des Indes, issued quantities of stock, and the crown conceded to it control of finances When the Mississippi Company (as it was commonly called) was given, among other privileges, the right of farming the revenues, it assumed the state debt, and public confidence was so unbounded that a wild orgy of speculation in its shares set in The climax was reached with the amalgamation of the company and the royal bank in 1720 Overexpansion of its activities, the almost complete lack of any real assets in the colonial areas, and the haste with which Law proceeded soon brought an end to his scheme, despite several drastic edicts A few speculators sold their shares in time to make huge profits, but most were ruined by the "Mississippi Bubble " In the governmental crisis that followed, his system was abolished and Law fled the country (Dec , 1720) Although a failure in its financial aspects, the Mississippi Scheme was responsible for the largest influx of settlers into Louisiana up to that time

Mississippi Sound, arm of the Gulf of Mexico, c 80 mi long and 7 to 15 mi wide, separated from the Gulf by a series of narrow islands and sand bars and extending from Lake Borgne on the west to Mobile Bay on the east It washes the shores of Mississippi and part of Alabama Bay St Louis, Pass Christian, Gulfport, Biloxi, and Pascagoula, Miss , are on Mississippi Sound

Mississippi State College, at State College, near Starkville, with land-grant support, coeducational, chartered 1878, opened 1880, called an agricultural and mechanical college until 1932 It has schools of agriculture, business and industry, education, engineering, and science The state chemistry and plant offices are here

Mississippi State College for Women, at Columbus, the first state-supported woman's college, chartered 1884, opened 1885 as Mississippi Industrial Institute and College, renamed 1920 Liberal arts, music, and vocational courses are included

Missolonghi (mĭsulŏng'gē) or **Mesolonghi** (mĕsŭ–), Gr *Mesolongion* (mĕsōlŏng'gōōn), town (pop. 10,565), W central Greece, a port on an inlet of the Gulf of Patras. Missolonghi was a major stronghold of the Greek insurgents in the Greek War of Independence. It successfully resisted a Turkish siege in 1822 and held out heroically against a second siege from 1825 to 1826, when the Turks captured it. It was at Missolonghi that Lord Byron died in 1824.

Missoula (mĭsōō'lə), city (pop 18,449), co seat of Missoula co, W Mont, on the Clark Fork (called here the Missoula) very near the confluence of the Bitterroot, inc 1889. Settlement began at Hell Gate Canyon in 1860 but later centered at the present location a few miles away The coming of railroads (1883, 1908) stimulated growth, and the city has railroad shops Missoula, in the midst of watered agricultural valleys and large forests, has some lumbering industry and food-processing plants (including the refining of beet sugar) Montana State Univ (see MONTANA, UNIVERSITY OF) much affects the life of the city The U S Forest Service has a regional office here Fort Missoula was established near by in 1877

Missouri (mĭzōō'rē, mĭzōō'rə), state (69,270 sq mi, 1940 pop 3,784,664, 1949 estimated pop 3,935,000), central United States, admitted 1821 by the MISSOURI COMPROMISE as the 24th state (a slaveholding state) The capital is JEFFERSON CITY, and the largest cities are SAINT LOUIS and KANSAS CITY Missouri is bounded on the north by Iowa, on the west by Nebraska, Kansas, and Oklahoma, and on the south by Arkansas, the Mississippi river on the east separates it from Illinois and (in the extreme southeast) from Kentucky and Tennessee The state lies north of lat 36°30′N except for a small area in the extreme southeast which thrusts into Arkansas Two great rivers have done much to determine life and history in Missouri The Mississippi tied the region to the South, particularly to New Orleans, and the Missouri, which crosses the state from west to east to enter the Mississippi at St Louis, was the greatest avenue of the pioneer advance westward across the continent The tributaries to the two have also played a large part in the story of Missouri The region N of the Missouri is largely prairie land, growing corn and livestock, not unlike the Iowa plains to the north Most of the region S of the Missouri is covered by the foothills and the plateau of the OZARK MOUNTAINS, with soft hill scenery and some fruit orchards, the region is known for the simple customs, the superstitions, and "backwardness" of its hill people In the southwest there is a shaft of flat land, a part of the Great Plains, where livestock and forage crops are raised, and in the southeast below Cape Girardeau are the cotton fields of the Mississippi flood plain This southeastern region was much improved after the establishment of a drainage system in 1805 Most of the well-watered state would be affected by the development of the long-discussed Missouri Valley Authority (see MISSOURI RIVER BASIN PROJECT) The many rivers have frequently and disastrously flooded the fertile land and eroded it The waterways have been important since far back in geologic time Swampy prehistoric jungles have left their traces in the coal deposits and fire clays in various parts of the state Retreating glaciers of the Ice Age built the fertile plains in the north, and inland seas laid down the deposits of limestone and sandstone that have proved useful Even more useful have been other mineral deposits—coal in the west and the north central section, lead in the southeast, zinc in the southwest and about JOPLIN, one of the leading zinc producers of the country The lead mines, discovered early, were one of the great attractions for early settlement SAINTE GENEVIEVE and POTOSI were examples of lead-mining settlements Agriculture has, however, contributed more to the growth of Missouri and has been the chief base of the meat packing in Kansas City and the development of manufactures in St Louis Both cities are major industrial centers, with a variety of heavy and light manufactures St Louis has been traditionally famous for its clothing, shoes, beer, and railroad equipment The two cities, along with Chicago, are the major midcontinental centers of transportation by rail, road, and air The river routes were widely known and used by the Indians before the first white men arrived This was probably in 1541, when the Spanish expeditions from east and west, those of Hernando DE SOTO and Francisco Vásquez de CORONADO, pierced the continent The region was, however, opened by the French traders and missionaries who went down the Mississippi The expedition of Marquette and Jolliet and that of La Salle were the pioneering voyages, and by the end of the 17th cent trade with the Indians of Missouri was brisk In the early 18th cent Frenchmen coming from both the lower Mississippi and Canada were working the lead mines and were apparently making numerous but unrecorded river journeys through Missouri in search of furs The Mississippi led to New Orleans, and the region was part of the French colony of Louisiana Ste Genevieve was founded in 1732, and 32 years later Pierre LACLEDE and young René Auguste CHOUTEAU founded a post at St Louis The whole of Louisiana had already been ceded to Spain, but the slowly developing country about St Louis was not much affected by the change nor by the retrocession to France It passed (1803) to the United States with the Louisiana Purchase Already Americans had filtered in, particularly to the lead mines, but French influence remained dominant.

The fur trade flourished under the Spanish system of monopolies on the trade of a region and afterward, when restrictions were removed, through private companies. The members of the prominent Chouteau family and Manuel LISA of the Missouri Fur Company did much to develop the routes westward across the continent The LEWIS AND CLARK EXPEDITION set out from and returned to St Louis, which was by that early day already notable as the gate to the Far West The territory of Missouri was set up in 1812, but settlement was slow even after the War of 1812. Planters from the South had introduced the system of slavery, but the plantations were restricted to a small area The question of admitting the Territory as a state was a burning national issue, since it involved the right of extension of slavery into the territories It was resolved by the first of Henry Clay's great compromises, the Missouri Compromise of 1820 The state was admitted as a slave state, and the slaveholding interests became politically powerful in the early years Missouri was still, however, principally known as a fur trading center, and out from St Louis went W H ASHLEY, who made a large fortune in the trade, and the mountain men, who explored the West—among them Jedediah S Smith, Thomas Fitzpatrick and James Bridger The AMERICAN FUR COMPANY established the Western headquarters at St Louis in combination with the Chouteau interests and was economically powerful in the 1830s and early 1840s From Missouri traders went out over the Santa Fe Trail to the Spanish lands, and settlers went out over the Oregon Trail to people the Far West Independence, Westport, and Franklin gained fame as places for organizing these expeditions Settlement of Missouri itself quickened, spreading in the 1820s over the river valleys into central Missouri and by the 1830s into W Missouri The present bounds of Missouri were reached by the addition of the northwest corner through the Platte Purchase in 1836 Tobacco and hemp were being raised on plantations in the bottomlands of the Missouri river, but in the Ozarks and in the rich cornlands the slave system was uneconomic, and the voice of Missouri as it spoke through its celebrated statesman, Thomas Hart BENTON, was of the West rather than of the South Men from Missouri eagerly took part in the expansionist Mexican War, fighting particularly under Stephen W KEARNY and Alexander W DONIPHAN Though the MORMONS had been anything but welcomed and were expelled from the state in 1839, the Germans who came in the '40s and the '50s were received cordially They settled principally about St Louis and were to contribute outstanding leaders, notably Carl SCHURZ The slavery problem was made acute by the passage of the KANSAS-NEBRASKA BILL in 1854 The pro-slavery forces in Missouri became very active in trying to win Kansas for the slave cause and contributed vigorously to the violence and disorder that tore that territory apart and helped to prepare for the Civil War These were, however, only one element in Missouri and, as events turned out, not the most powerful one In the Civil War, most Missourians remained loyal to the Federal government, largely because of the activity of strong Unionists like Francis P BLAIR (1821–75) The state convention which first met in 1861 voted against secession and, in 1862, after deposing the pro-Southern administration of Gov C F JACKSON, set up a provisional government headed by H R Gamble Meanwhile Union forces under Gen Nathaniel LYON had forced the pro-Confederate state militia to retreat, but were defeated at WILSON CREEK (Aug 10, 1861) However, after being routed (March, 1862) at PEA RIDGE in Arkansas, the Confederates did not again reappear in force (although there was guerrilla activity in the state throughout the war) until 1864, when Sterling Price led a brief invasion of his native state Most noted of the guerrillas was William C QUANTRILL The disorder and lawlessness bred by the war continued after the war was over, and Missouri saw the activities of one of the most celebrated of all outlaws, Jesse JAMES A new Missouri was, however, rising from the war, a Missouri rapidly losing the semi-Southern air that was to linger only in tradition and in the works of one of Missouri's most celebrated sons, Mark TWAIN Steamboating and the river life dwindled slowly, but the railroads drove the old river towns to decay The railroads also tied Missouri more closely to the East and the North European immigrants—at first German and Irish and later from Eastern Europe—poured in, attracted particularly to St. Louis and Kansas City Urbanization and industrialization grew as twins The packing industry was firmly established in Kansas City, which by a few years after the Civil War had won its place as a crossroads of shipping and commerce Manufactures multiplied not only in the two great cities but in other cities as well, as at Joplin and St Joseph. When in 1904 the Louisiana Purchase Exposition was held at St Louis, the growth of Missouri in a century from backwoods and unsettled prairie to a complex modern commonwealth was dramatically shown The development of industry has not, however, blanked out agriculture The rich grain fields and orchards still offer their yield, and the progress of farming is shown in the annual state fair at Sedalia Poultry raising and dairying are important, and the raising of horses and the big Missouri mules is notable That some of the writers and artists in trying to capture the spirit of the region lay as much stress on the rural as on the urban scene shows the continuing importance of farm life One of the best-known of modern American artists is Thomas Hart BENTON, a descendant of the Senator of that name Since the brief period of radical Republican rule from 1864 to 1870, Missouri has been permanently wedded to neither party, tending toward the Republicans in the days of Theodore Roosevelt, turning solidly Democratic with Franklin D Roosevelt Political machines in the large cities have attracted unfavorable national notice (notably the Pendergast machine in Kansas City), but Missouri has contributed outstanding statesmen such as Champ Clark and James Reed The political importance of the state grew enormously when a Missourian, Harry S TRUMAN, became President Missouri has many institutions of higher learning, a few of the most widely known being the Univ of Missouri, Washington Univ, St Louis Univ (Jesuit), and Stephens College Old standard historical works are those of Louis Houck, *A History of Missouri until the Admission of the State* (3 vols, 1908) and *The Spanish Regime in Missouri* (2 vols, 1909) See Walter B Stephens, *Centennial History of Missouri* (1921), J F Ellis, *The Influence of Environment on the Settlement of Missouri* (1929), Walter Williams and F C Shoemaker, *Missouri, Mother of the West* (5 vols, 1930), Federal Writers' Project, *Missouri, a Guide to the "Show Me" State* (1941)

Missouri, river, c 2,464 mi long, longest river of the United States and principal western tributary of the Mississippi It is formed where the Gallatin, the Madison, and the Jefferson (main headstream of the Missouri) rivers join in SW Montana at Three Forks The river flows generally SE to the Mississippi c 17 mi above St Louis Flowing across the Great Plains, it crosses North Dakota and South Dakota, forms the east boundary of Nebraska and part of the east boundary of Kansas and of the west boundary of Iowa, then passes through Missouri to the Mississippi river Its tributaries include the Musselshell, the Milk, the Yellowstone, the Grand of South Dakota, the Cheyenne, the White, the Niobrara, the James (sometimes called the Dakota), the Big Sioux, the Little Sioux, the Platte, the Kansas (or Kaw), the Grand of Iowa and Missouri, the Chariton, the Osage, and the Gasconade rivers The Missouri's principal cities are Great Falls, Mont, Bismarck, N Dak, Pierre, S Dak, Sioux City and Council Bluffs, Iowa, Omaha and Nebraska City, Nebr, Atchison, Leavenworth, and Kansas City, Kansas, St Joseph, Kansas City Jefferson City, and St Charles, Mo The still-pending MISSOURI RIVER BASIN PROJECT is a Federal government plan (1941) for flood control, irrigation, and other measures The Missouri was an artery of commerce for the Indians before the coming of the white man, particularly for the village Indians of the Plains culture area, notably the Mandan, the Arikara, and the Hidatsa It is probable that the French also were involved in trade and transport not only on the lower river but also on the upper river, yet the records are too scant to yield details Certainly the wide and yellow river was well known to fur traders in the period after 1762—to such men as those of the Chouteau family and Manuel Lisa—but only the lower river was familiar, and of expeditions to the upper Missouri little is known until after the 19th cent had begun The Lewis and Clark expedition (1804–6) opened the mountain country to the world, and Lisa and his fellows of the Missouri Fur Company (including Andrew Henry) had plunged far to the sources of the river before the overland expedition to Astoria used (1811) the Missouri as the road across much of the continent. The mountain reaches of the Missouri and its headstreams were not to be well known until the days of the mountain men in the 1820s and 1830s The fur trade was well established, and the American Fur Company in 1832 brought the first steamboat to the mouth of the Yellowstone Steamboats (first introduced on the river in 1819) were to be of much importance, with Fort Benton, Mont, as the head of navigation Even more important in the 1840s and 1850s was the use of the Missouri and its tributary the Platte for the beginning of the route to Oregon and California, as well as the path for the Mormons bound for Utah River traffic began to boom before the Civil War and was hastened somewhat by the building of the Mullan Wagon Road Even after the Civil War it was prominent in the peopling of Kansas and Nebraska and in the Black Hills gold rush, but the railroads had already come, and their diminishing effect on river traffic was apparent The Missouri gradually became more important for its falls, which could be and were used for hydroelectric power than for transport Its waters and those of its tributaries have also been already much used for irrigation,

and the Missouri river valley plan envisions maximum use of the waters for agriculture See P E Chappell, *History of the Missouri River* (1911); C P Deatherage, *Steamboating on the Missouri River in the Sixties* (1924), Stanley Vestal, *The Missouri* (1945), Rufus Terral, *Missouri Valley; Land of Drouth, Flood, and Promise* (1947), Bernard De Voto, *Across the Wide Missouri* (1947)

Missouri, University of, mainly at Columbia, land-grant and state supported, coeducational; chartered 1839, opened 1841; the oldest state university W of the Mississippi It includes colleges of arts and science (with music), education, engineering, and agriculture and schools of business and public administration, journalism (1908, oldest in the world), law, medicine, and, at Rolla, mines and metallurgy The state historical society and a U S fisheries bureau are here

Missouri Compromise, 1820–21, measures passed by the U S Congress to end the first of a series of crises concerning the extension of slavery into the national territory By 1818 Missouri Territory had gained sufficient population to warrant its admission into the Union as a state Settlers came largely from the South, and it was normally expected that it would be a slave state To a Missouri statehood bill brought before the House of Representatives, James Tallmadge of New York proposed an amendment that would forbid importation of slaves and would bring about the ultimate emancipation of all slaves born in Missouri This amendment passed the House (Feb , 1819), but not the Senate Bitterness immediately appeared in the debates, and the sectional division of the United States was sharply emphasized as the matter hung fire In Jan , 1820, a bill to admit Maine as a state passed the House The admission of Alabama as a slave state in 1819 had brought the slave states and free states to equal representation in the Senate, and it was seen that by pairing Maine (certain to be a free state) and Missouri, this equality would be maintained The two bills were finally joined as one in the Senate, with the clause forbidding slavery in Missouri replaced by the measure proposed by Sen Jesse B Thomas of Illinois prohibiting slavery in the remainder of the Louisiana Purchase north of 36° 30′ (the southern boundary of Missouri) The House rejected this compromise bill, but after a conference committee of members of both houses was appointed, the bills were treated separately, and in March, 1820, Maine was made a state and Missouri was authorized to adopt a constitution having no restrictions on slavery However, the provision in the Missouri constitution barring the immigration of free Negroes was objectionable to Northern Congressmen, and not until the Missouri legislature pledged that nothing in the constitution would be interpreted to abridge the rights of citizens of the United States was the charter approved and Missouri admitted to the Union (Aug , 1821) Henry CLAY, as speaker of the House, did much to secure passage of the Missouri Compromise—so much, in fact, that he is generally regarded as its author The 36° 30′ proviso held until 1854, when the KANSAS-NEBRASKA BILL repealed the Missouri Compromise The whole problem of the extension of slavery was not solved until the battlefields of the CIVIL WAR were reached

Missouri river basin project, plan advanced in 1944 by Gen L A. Pick of the U S. Corps of Engineers and W G Sloan of the Bureau of Reclamation (see RECLAMATION, BUREAU OF) It provides for coordinated development and control of the Missouri and its basin lands Eight states—Montana, Colorado, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, and Missouri—are principally involved For the plan the Flood Control Act of 1944 authorized more than 100 dams, reservoirs, and levees intended to irrigate some 5,500,000 acres, to control floods, to improve navigation, to restore surface and ground water, and to develop hydroelectric power The project will also conserve wildlife and abate stream pollution A committee, with representatives of the Corps of Engineers, the Dept of the Interior, the Dept of Agriculture, the Federal Power Commission, the Dept of Commerce, and the governors of five states, was established in 1945 to help advance the gigantic scheme, which is ultimately intended to include existing projects in the basin such as those of the NORTH PLATTE and the SOUTH PLATTE Chief among the many tributaries to be controlled are the MILK, the YELLOWSTONE, the CHEYENNE, and the Kansas (see REPUBLICAN and SMOKY HILL RIVER) On the Missouri itself the project includes, among other units, Canyon Ferry Dam (begun 1948), near Helena, Mont , the Missouri-Souris unit to use for irrigation the water impounded by FORT PECK DAM, Garrison Dam (begun 1947), c 75 mi above Bismarck, N Dak ; and a group of three—Oahe Dam, 6 mi above Pierre, S Dak , which will back the river up to Bismarck, Big Bend Dam, c 25 mi above Chamberlain, S Dak , which will eliminate the bend in the Missouri and back the river up to Pierre, and Fort Randall Dam (begun 1947), c 75 mi upriver from Yankton, S.Dak. The first unit of the entire project to be completed (in 1948) was Kanopolis Dam on Smoky Hill River.

Missouri Valley, city (pop 3,994), SW Iowa, near the Missouri N of Council Bluffs, settled 1854, inc. 1871. It is a trade and shipping center for a farm and livestock area.

mist · see FOG.

Mistassini (mĭstŭs'nē), village (pop 1,294), S Que., on the Mistassini river N of Lake St. John. In a farm region, it has blueberry canning.

Mistassini, river of S Quebec, rising E of Lake Mistassini and flowing c 200 mi S then SE to Lake St John

Mistassini, Lake, c.100 mi. long, S Que , NW of Lake St. John, in sparsely settled country. A Hudson's Bay Company post is on its east shore It drains W to James Bay by the Rupert river

Misti, El (ĕl mō'stē), volcano, 19,166 ft high, S Peru, near Arequipa Also called Arequipa. El Misti is flanked by two other volcanos—on the NW by Chachani, 19,960 ft high, and on the SE by Pichu Pichu, 18,400 ft high With a perfect snow-capped cone, El Misti, apparently of significance in the Inca religion, has figured much in Peruvian legends and poetry

mistletoe (mĭ'sūltō), parasitic evergreen with white, semitranslucent berries, used for Christmas decoration It was sacred to the druids and has from early times featured in the folklore and superstitions of many parts of the world It was thought to cure many ills Birdlime is made from the berries. The Old World mistletoes are of the genus *Viscum*, and those of the New World belong to the genus *Phoradendron*, of which there are over 200 species, mostly tropical Contrary to general belief, the mistletoe is seldom parasitic on the English oak, but, in France and England, on the apple tree and other trees and shrubs and, in America, on many shade and timber trees including the tupelo and red maple in the Southeast, poplars and willows in the Southwest, conifers in the Northwest, and oak on the Pacific coast. There are several other less common mistletoes in the United States which attack juniper, cypress, cottonwood, mesquite, and creosote bush

Mistral, Frédéric (frādārēk' mēstral'), 1830–1914, French Provençal poet With AUBANEL he was one of the seven founders (1854) of the Felibrige, an organization to promote Provençal as a literary language He was the leader of the movement and was recognized as its greatest poet Besides many short poems he wrote four verse romances, notably *Mirèio* (1859, Eng tr , 1867) He published a Provençal dictionary (1878–86) and wrote memoirs (Eng tr , 1907) His verse is characterized rather by ease and beauty of language than by power of thought He shared with Echegaray the 1904 Nobel Prize in Literature See C A Downer, *Frédéric Mistral* (1901), C M. Girdlestone, *Dreamer and Striver* (1937)

Mistral, Gabriela (gabrēā'lä mēstrāl'), 1889–, Chilean poet, whose real name is Lucila Godoy Alcayaga (lōōsē'la gōdhoi' älkī'gä) For almost a decade she was a teacher and director of rural schools in Chile Her note as an educator was increased later when she worked with José de Vasconcelos on reorganizing the Mexican school system She was also given diplomatic posts and represented her country at the League of Nations The tragedy of an early love affair as well as her burning desire for justice for the unfortunate is reflected in the simple and fluent lyricism of her verse Two volumes are *Desolación* (1922) and *Tala* (1938) Her prose has not been collected. She received the 1945 Nobel Prize in Literature.

Misurata (mēzōōrä'tä), town (pop 5,000), Tripolitania, Libya, in an oasis It exports dates and grain and is noted for its hand-woven carpets. Its port, Misurata Marina (7 mi. to the east), was built by the Italians

mita see PEONAGE.

Mitau, Latvia see JELGAVA.

Mitcham, urban district (1931 pop 56,859; 1947 estimated pop. 65,320), Surrey, England, S of London It was once noted for its lavender There is a 480-acre common on which cricket matches are played The annual fair in Mitcham is a survival from medieval times The city's manufactures include leather, chemicals, soap, margarine, biscuits, paint, and pharmaceuticals

Mitchel, John, 1815–75, Irish revolutionist and journalist A practicing barrister, Mitchel contributed articles to the *Nation* (Dublin) and the *United Irishman*, which he founded in 1848, calling for rebellion against England He was transported to Australia for sedition before the abortive Young Ireland revolt of 1848, which he had helped prepare, could be accomplished He escaped to the United States in 1853, where he led a turbulent and contentious career as a journalist, editing the pro-slavery journal, *Citizen*, in New York and later, during the Civil War, the *Examiner* in Richmond After a short imprisonment (1865) for his Confederate activities, he became acknowledged leader of the Irish-American nationalists, and as such edited the *Irish Citizen* He returned to Ireland and was elected to Parliament shortly before his death. He edited the poems of James Mangan and Thomas Davis. His *Jail Journal* (new ed., with an introduction by Arthur Griffith, 1945) is an Irish revolutionary classic.

Mitchel, John Purroy, 1879–1918, mayor of New York city ((1913–17), b New York city, grad Columbia, 1899, son of John Mitchel. As commissioner of accounts (1907–9) for New York city, he won public approval by prosecuting corruption, and in 1909 he was elected president of the board of aldermen He served as acting mayor when Mayor William Jay Gaynor was recovering from the attack of a would-be assassin, and again Mitchel crusaded against graft He was elected mayor in 1913 on an anti-Tammany ticket and introduced educational, financial, and social reforms Defeated for reelection by J. F Hylan, he enlisted as an army aviator and was killed in an airplane crash

Mitchel, Ormsby MacKnight, 1809–62, American astronomer and soldier, b Union co , Ky , grad West Point, 1829 He taught mathematics at West Point (1829–31), but resigned from the army and moved to Cincinnati to become professor of mathematics, natural philosophy, and astronomy at Cincinnati College (later part of the Univ of Cincinnati) He secured the establishment of an observatory in Cincinnati (1842), where he conducted important astronomical investigations, he published (1846–48) an astronomical periodical, the *Sidereal Messenger* In 1845 Mitchel verified the transit of Mercury, and while at the observatory he recorded the results of observations on about 50,000 faint stars, double stars, and comets In 1860 he became the director of the Dudley Observatory at Albany, N. Y. Among his works are *Planetary and Stellar Worlds* (1848), *Orbs of Heaven* (1858), and *Popular Astronomy* (1860) When the Civil War broke out Mitchel was made brigadier general of volunteers in command of Ohio (1861) He took part in an important campaign, and shortly before his death of yellow fever at Beaufort, S C , he was promoted major general See biography by his son Frederic Mitchel (1887)

Mitchell, Donald Grant see MARVEL, IK

Mitchell, John, 1870–1919, American labor leader, b. Braidwood, Ill He became a miner at the age of 12 and in 1885 joined the Knights of Labor When the United Mine Workers of America was formed (1890), he became a member, after his successful leadership of the S Illinois soft-coal miners in the strike of 1897, he was national vice president, then president from 1898 to 1908, when he resigned His leadership of the anthracite miners' strike in 1902 secured better wages and working conditions in the industry, substantially increased membership in the union, and brought him recognition from members and the public as an outstandingly able leader As a vice president (1899–1914) of the American Federation of Labor he was a strong advocate of the "sacredness of contract," in which he was opposed by the more radical factions in the federation In 1914 he was appointed commissioner of labor for New York state and was from 1915 to 1919 chairman of the state industrial commission He wrote *Organized Labor* (1903) and *The Wage Earner and His Problems* (1913) See biography by Elsie Glück (1929)

Mitchell, John Ames, 1845–1918, American editor and author, b New York city He was founder and publisher (1883–1918) of *Life*, a humorous magazine, and author of *Amos Judd* (1895), *The Pines of Lory* (1901), and *Pandora's Box* (1911)

Mitchell, Maggie, (Margaret Julia Mitchell), 1832–1918, American actress, b. New York city. She made her New York debut as Julia in *A Soldier's Daughter* and later became popular in *Mignon* and *Fanchon the Cricket*, first presented in 1860 She was a favorite in tours throughout the country, in mining camps and on remote frontiers

Mitchell, Margaret, 1900?–49, American novelist, b. Atlanta, Ga Her one novel, *Gone with the Wind* (1936), was a large-scale picture of the Civil War and Reconstruction periods in Atlanta and its vicinity. It showed great narrative power and won enormous popularity The moving picture (1939) made from the novel was highly successful The novel won the Pulitzer Prize in 1937 Miss Mitchell, who was Mrs John R Marsh, died as the result of being struck by an automobile

Mitchell, Maria, 1818–89, American astronomer, b Nantucket, Mass She taught school in Nantucket and later became a librarian there. She made a special study of sunspots, nebulae, and satellites and discovered a comet in 1847, for which she was awarded a gold medal by the king of Denmark After 1865 she was professor of astronomy at Vassar College She was a fellow of the American Association for the Advancement of Science and was the first woman to be elected to the American Academy of Arts and Sciences. In 1922 she was elected to the Hall of Fame. See biographies by P. M. Kendall (1896), M. K. Babbitt (1912), and Helen Wright (1949).

Mitchell, Samuel Alfred, 1874–, American astronomer, b. Kingston, Ont., M. A. Queen's Univ , Kingston, 1894; Ph D. Johns Hopkins, 1898. He was connected with Columbia Univ. from 1899 to 1913. From 1913 to 1945 he was professor of as-

tronomy and director of McCormick Observatory at the Univ of Virginia. Between 1900 and 1937 he went as astronomer on 10 eclipse expeditions to different parts of the globe He is a fellow of the Royal Astronomical Society of London and member of other learned bodies of Europe and America His writings include several editions of his work on parallaxes of stars and also *Eclipses of the Sun* (1923, 4th ed, 1935) and, with C G Abbot, *Fundamentals of Astronomy* (1927)

Mitchell, Silas Weir, 1829–1914, American physician and author, b Philadelphia, M D Jefferson Medical College, 1850, studied in Paris A pioneer in the application of psychology to medicine, he won special fame for his treatment of nervous disorders and for his study of the nervous system His medical works include treatises on snake venom and neurology, as well as *Injuries of Nerves and Their Consequences* (1872) and *Fat and Blood* (1877), which summarizes his well-known rest cure Among his novels are historical romances (*Hugh Wynne, Free Quaker*, 1896) and psychological studies (*Constance Trescot*, 1905) He wrote several volumes of respectable poetry and interspersed lyrics in his novels See biographies by A R Burr (1929) and E P Earnest (1950)

Mitchell, Wesley Clair, 1874–1948, American economist, b Rushville, Ill He received his Ph D (1899) from the Univ of Chicago, where he studied under Thorstein Veblen and John Dewey, and taught at several institutions, including the Univ of California, Columbia Univ, and the New School for Social Research He also served on many government committees, was chairman of the President's Committee on Social Trends (1929–33), and helped found the National Bureau of Economic Research One of the most eminent of American economists, Mitchell refuted many of the tenets of orthodox economics and turned toward an institutional analysis based on behaviorist psychology His chief researches were centered on investigation, often statistical, of the business cycle, his *Business Cycles* (1913, 2d ed, 1927) is his most important work His other books include *A History of the Greenbacks* (1903), *The Backward Art of Spending Money* (1937), and *Measuring Business Cycles* (with A F Burns, 1946)

Mitchell, William Lendrum, 1879–1936, American advocate of air power, b Nice, France, grad George Washington Univ, 1899 He was born while his father—Sen John Lendrum Mitchell—and his mother were staying in Europe At the age of 18 he joined (1898) the U S army as a private in the Spanish-American War and then served in the Philippines After return to the United States, he led in the precarious construction of a telegraph network in Alaska and then pioneered in U S army aviation He rapidly rose in rank, and when he commanded the U S air forces in France in the First World War he was promoted brigadier general After the armistice, Billy Mitchell, made director of military aviation in the U S army, argued violently for a large, independent air force His public criticism of military and naval leaders for neglect of air power led to his demotion and to court-martial (1926) After he resigned from the army, he remained a bitter critic of army and government policy He wrote *Our Air Force* (1921), *Winged Defense* (1925), and *Skyways* (1930) See biography by Isaac Don Levine (1941)

Mitchell, town (pop 1,777), S Ont, on the Thames river and NW of Stratford It has knitting, flour, and lumber mills, milk canneries, grain elevators, and cold-storage plants

Mitchell. 1 City (pop 3,393), SW Ind, near the East Fork of the White River S of Bedford Cement is made here Spring Mill State Park near by is finely timbered, has caves and a restored pioneer village **2** City (pop 2,181), W Nebr, on the North Platte above Scottsbluff, in an irrigated farming area Sugar beets are processed here It is the seat of Scotts Bluff County Fairgrounds **3** City (pop 10,633), co seat of Davison co, SE S Dak, near the James river and near Lake Mitchell, WNW of Sioux Falls, platted 1879, inc 1881, chartered 1883. A trade and shipping center for a farm, dairy, and stock-raising area, it has meatpacking and food-processing plants In its large Corn Palace elaborate festivals are held in September celebrating the state's crops Mitchell is the seat of Dakota Wesleyan Univ (Methodist, coeducational, 1885).

Mitchell, Mount, peak, 6,684 ft high, W N C, in the Black Mts NE of Asheville, highest peak of the Eastern states.

Mitchill, Samuel Latham, 1764–1831, American scientist, b North Hempstead, L I, N Y, M D Univ of Edinburgh, 1786 Noted for his wide interests and learning, Mitchill had a varied and influential career He served as professor at Columbia (1792–1801) and at the College of Physicians and Surgeons (1807–26) In 1826 he helped found Rutgers Medical College (no longer in existence) He was a member of the New York state assembly (1791, 1798, 1810), of the U S House of Representatives (1801–4, 1810–13) and of the U.S. Senate (1804–9). His contributions in science include the introduction of the chemical nomenclature of Lavoisier, pioneer research in mineralogy, geology, botany, and zoology; and the founding and editing (1797–1820) of the *Medical Repository* See biography by C. R. Hall (1934)

mite, small, often microscopic, arachnid of the same order as the tick and of world-wide distribution Usually the body is oval and not constricted between the thorax and the abdomen The itch mite burrows into the skin of humans and other mammals and lays eggs Succeeding generations develop rapidly Intense itching and injury to the health of the host result Species of this mite cause mange in dogs, horses, and other animals Other mites attack poultry, sheep, and cattle Among those destructive to vegetation are the citrus rust mite, the red spider mite, and the gall mites Cheese, ham, sugar, flour, and stored grains may become infested with mites Some nonparasitic mites are aquatic

Mitford, Mary Russell, 1787–1855, English writer, b Alresford, Hampshire Her father, a physician, squandered the family fortune Well educated, she supported her parents with her literary earnings Her first volume of poetry (1810) sold well, though severely treated by the critics Later she turned to playwriting as a more lucrative field, but only *Rienzi* (1828) was successful *Our Village* (1824–32), a series of rural sketches which had been appearing serially in the *Lady's Magazine* from 1819, established her reputation and gained for her a wide following She later wrote a novel, *Belford Regis* (1835), other series of tales including *Atherton* (1854), and *Recollections of a Literary Life* (1852) See her letters, ed by A G K L'Estrange (2 vols, 1870) and by Henry Chorley (2 vols, 1872), biography by Constance Hill (1919)

Mitford, William, 1744–1827, English historian He left Oxford in 1761 without a degree, took up and abandoned the study of law, and at the suggestion of Edward Gibbon, began his life work, *The History of Greece* (5 vols, 1784–1818) It was opinionated, but was the most scholarly treatment of the subject before George Grote and Connop Thirlwall Mitford was a member of Parliament at intervals from 1785 to 1818

Mithcah (mĭth'kŭ) [Heb, =sweetness], unlocated desert encampment Num 33 28,29

Mithnite (mĭth'nīt), obscure designation used of one of David's guards 1 Chron 11 43

Mithra (mĭ'thrŭ) [Old Persian, =friend], ancient cultic god of Iran and India (where he is called Mitra), until the 6th cent B C apparently a minor figure in the great Zoroastrian system Under the Achaemenidae, Mithra became more and more important until he appears in the 5th cent B C as the principal Persian god The extension of his cult into Mesopotamia and Armenia resulted in making it a world-wide religion, called **Mithraism** (mĭ'thrŭizm). This was one of the great religions of the Roman Empire, and in the 2d cent A D it was more general than Christianity Its spread was caused by the legions, for Mithra (or Mithras in Latin and Greek) was the ideal divine comrade and fighter Long before this time, probably in the supersession by Mithra of Ahura Mazdah in Persia, Mithra had become the god of light and of the sun, perhaps thus was a very old feature of his cult The Mithraic system was dualistic, its central myth was the story of how Mithra slew a sacred bull in a grotto This is represented frequently in ancient reliefs The ethics of Mithraism were rigorous, loyalty was very strongly inculcated, and fasting and continence were prescribed The religion was a mystery-faith and it had several of the standard sacramental forms common to mystery religions, e g, baptism and the sacred banquet There was a strict hierarchy Women were not initiated into Mithraism Little is known in detail about Mithraism In the 19th cent there was a revival of interest in this religion, partly because of supposed borrowings by Christianity, but with the wider knowledge of comparative religion it is seen that the features common to Mithraism and Christianity are common to many other religions as well

Mithredates VI see MITHRIDATES VI

Mithredath (mĭth'rēdăth) **1** Cyrus's treasurer Ezra 1 8 **2** Persian officer who hindered the rebuilding of the Temple Ezra 4 7

Mithridates VI (Mithridates Eupator) (mĭthrĭdā'tēz, ū'pūtôr), c 131 B C–63 B C, king of Pontus, called sometimes Mithridates the Great He extended his empire until he held, besides Pontus, Cappadocia, Paphlagonia, and the Black Sea coast past the Caucasus The increasing importance of Rome in Asia Minor brought Mithridates and the republic into open conflict The First Mithridatic War (88 B C–84 B C) was the result He conquered the whole of Asia Minor (except a city or two) in 88 B C and kept the Roman army under Sulla occupied in Greece until 85 B C, when the Roman Fimbria attacked him in Asia Minor and defeated him simultaneously with the destruction of his army in Greece In the resultant treaty Mithridates paid an indemnity and gave up all but Pontus and a few colonies The Second Mithridatic War (83 B C–81 B C.) was begun by L Murena, who desired glory. In a campaign about the upper course of the Halys, the Roman was worsted and was superseded by A Gabinius, who made peace with Mithridates The Third Mithridatic War (74 B C.–63 B.C.) began when Mithridates resolved to prevent Rome's annexing Bithynia, left to Rome by a royal will LUCULLUS was sent against Mithridates, who was finally forced to flee to Armenia In 68 B.C the Romans invaded Armenia, but retreated Mithridates returned to Pontus, and Lucullus was replaced by POMPEY (66 B C) Pompey soon drove Mithridates eastward, and the king fled to the Crimea, the last of his provinces He had a slave kill him His fall is the subject of Racine's *Mithridate*. Pharnaces II was his son, Tigranes his son-in-law The name is sometimes spelled Mithradates Appian and Plutarch (in the biographies of Lucullus and Pompey) are the chief sources

Mitilini, Greece see MYTILENE

Mitla (mēt'lä) [Nahuatl =abode of the dead], religious center of the ZAPOTEC, near Oaxaca, SW Mexico Probably built in the 13th cent, the buildings, unlike the pyramidal structures of most Middle American architecture, are low, horizontal masses enclosing the plazas Wall panels, decorated with hard stucco and intricate mosaics, show more than 20 different patterns of a single motif—the stepped spiral representing the sky-serpent, QUETZALCOATL Mitla, with its subterranean chambers and passages decorated by fine frescoes, probably represents the highest expression of Zapotec architectural talent Like MONTE ALBÁN, Mitla was conquered by the MIXTEC For bibliography, see ZAPOTEC See also Elsie Clews Parsons, *Mitla, Town of the Souls* (1936)

Mito (mē'tō), city (1947 pop 61,416), capital of Ibaraki prefecture, central Honshu, Japan, on the Naka river It was in the 17th cent the seat of an important branch of the Tokugawa family Coal, tobacco, and raw silk are among the products of Ibaraki prefecture

mitosis (mītō'sĭs, mī–), method of division of the nucleus of a cell in which the chromatin material undergoes a series of complex changes resulting in the separation of the chromosomes into two groups each of which forms a new daughter nucleus Mitosis is studied in microscopic sections of various cells, frequently in the young root tips of the onion The process varies somewhat in different kinds of cells but is fundamentally the same in most cells Four or five stages are generally distinguished, although one follows another without interruption In the resting stage preceding division the nucleus contains a network of long, thin, intertwined threads, the chromonemata During the first stage, the prophase, the chromonemata uncoil and the matrix (darkly staining nuclear material) condenses on the chromonemata The chromosomes thus formed thicken and become visible as double structures, longitudinally split into two portions known as chromatids, each composed of a chromonema and matrix The nucleolus or nucleoli of the cell usually disappear completely by the end of the prophase, and the dissolution of the nuclear membrane marks the end of this stage During the next stage, the prometaphase (sometimes included in the metaphase), a spindle-shaped structure called the spindle forms, it is firmer than the surrounding cytoplasm but is probably not composed of solid fibers as some earlier cytologists believed it to be The chromosomes at the metaphase stage have moved to the equator of this spindle During the anaphase the two chromatids comprising each chromosome move apart (the cause of this movement is not fully understood), one chromatid from each chromosome thus approaches the pole nearest it Each chromatid is now known as a daughter chromosome During the telophase a nuclear membrane forms around each group of chromosomes Each daughter nucleus thus formed contains the same number of chromosomes (bearing the genes which transmit hereditary characters) as the original cell The main difference between mitosis in the cells of higher animals and that in the cells of the onion and other higher plants is that in the animal cells the spindle arises from two centrosomes Division of the cell body (cytokinesis) usually accompanies mitosis in plant and animal cells, and the term *mitosis* is sometimes used to include this process also, in some tissues cytokinesis occurs after mitosis is completed and in others it begins before mitosis is completed The importance of mitosis lies in the fact that by this mechanism each cell formed receives a number of chromosomes equal to the number in the original parent cell, that number being characteristic of the species Mitotic division is the method of nuclear division of the somatic cells, as distinguished from the gametes or sex cells (eggs and sperms) In plants and animals which form new individuals by a union of two gametes a process of reduction division, or meiosis, takes place during the maturation of the gametes A series of complex changes occurs in meiosis It begins with a pairing off of homologous chromosomes (i e, corresponding chromosomes received from the two parent organisms) Each paired chromosome then splits, forming a tetrad A division takes place in which one chromosome of each pair

passes into each of two nuclei formed. Thus each of these nuclei contains only one half of the original number of chromosomes, and this is therefore called a reduction division In the second meiotic division each nucleus again divides but there is no further reduction in the number of chromosomes, each nucleus receives one of the chromatids formed by the original splitting of the chromosomes into tetrads The mature gametes therefore contain one half the number of chromosomes characteristic of the species, and the normal number is restored by the union of two gametes

Mitre, Bartolomé (bär"tōlōmā' mē'trā), 1821–1906, Argentine statesman, general, and author, president of the republic (1862–68) An opponent of Juan Manuel de Rosas, he was forced into exile and had a colorful career as a soldier and journalist in Uruguay, Bolivia, Peru, and Chile He returned to aid Urquiza in defeating Rosas (1852) A leader of the revolt of Buenos Aires against Urquiza's federal system, Mitre held important posts in the provincial government after Buenos Aires seceded from the confederation He was defeated by Urquiza in the civil war of 1859, and Buenos Aires reentered the confederation. As governor after 1860, he was again leader when fresh difficulties led to open war in 1861 At Pavón he won an inglorious victory for Buenos Aires, he then assumed national authority In Oct , 1862, Mitre was elected president In his administration national political unity was finally achieved, and a period of internal progress and reform began He served for a time as commander of the allied forces of Argentina, Brazil, and Uruguay in the war against Paraguay In 1868 he was succeeded as president by Sarmiento, and although still a force in politics, he devoted himself chiefly to literary work He founded the *Nación* (Buenos Aires), which became one of South America's leading newspapers Mitre was known in his youth as a poet and in later years as a historian His important historical works are *Historia de Belgrano* (1858–59, 4th ed , 1887) and *Historia de San Martín y de la emancipación sudamericana* (1877–88, Eng tr , *The Emancipation of South America*, 1893)

Mitropoulos, Dimitri (dēmē'trē mētrō'pōōlōs), 1896?–, Greek conductor He studied at the Athens Conservatory, and in 1926, after conducting in Germany, he became conductor of the orchestra there He made guest appearances in the United States in 1936 and became conductor of the Minneapolis Symphony Orchestra in 1937 In 1949 he resigned from that position to share with Leopold Stokowski the conductorship of the New York Philharmonic, Mitropoulos became permanent conductor in 1950 He is also known as a pianist and for orchestral transcriptions of organ works of Bach

Mitscher, Marc Andrew (mĭ'chur), 1887–1947, American admiral, b Hillsboro, Wis , grad Annapolis, 1910 A pioneer in naval aviation, he won his wings in 1917 and in 1919 flew from Newfoundland to the Azores In the Second World War he commanded the aircraft carrier *Hornet* (from which Gen James Doolittle's planes bombed Japan) and later Task Force 58, which inflicted heavy damage on the Japanese navy He was made commander of the 8th Fleet (Jan , 1946), then was named (Sept , 1946) commander in chief of the Atlantic Fleet

Mitscherlich, Eilhard (īl'hart mĭ'churlĭkh), 1794–1863, German chemist He was professor at Berlin from 1822 Noted for his discovery of the principle of isomorphism, he did important work also on the compounds of phosphorus and arsenic and on benzene derivatives and discovered permanganic and silenic acids and nitrobenzene.

Mitsubishi see Zaibatsu.

Mitsui see Zaibatsu

Mittag-Leffler, Magnus Gosta (mäng'nŭs yō'sta mĭ'täg-lĕf'lur), 1846–1927, Swedish mathematician He was (1877–81) professor at Helsingfors (Helsinki) and at the Univ of Stockholm from 1881 In 1882 he founded *Acta Mathematica*, which he edited until his death He made important contributions to analysis (Mittag-Leffler theorem) and to linear differential equations and greatly stimulated mathematical research

Mitylene, Greece see Mytilene

Mivart, St George Jackson (mĭ'vurt), 1827–1900, English anatomist and biologist. Converted to Roman Catholicism in 1844, he studied at St. Mary's College, Oscott, near Birmingham He contributed important anatomical studies of the mammalian groups of Insectivora and Carnivora Many of his works deal with the relation between science and religion, and these eventually led to his excommunication in 1900 by Cardinal Vaughan His views on evolution are contained in *On the Genesis of Species* (1871)

Mixtec (mĭs'tĕk), Indian people of Oaxaca and part of Guerrero, SW Mexico, one of the most important groups in Mexico Their origins are obscure, but before the arrival (c 700?) of the Toltec on the central plateau of Mexico the Mixtec and the Olmec seem to have been the carriers of the advanced Highland culture Probably c.900 they began spreading southward, overrunning the valley of Oaxaca and taking Monte Albán and Mitla, cities of the Zapotec The chronic rivalry and warfare between Zapotec and Mixtec halted momentarily at the end of the 15th cent in an alliance to defeat the Aztec, but with the successful conclusion of the war and a Zapotec alliance with the Aztec, the Mixtec again began fighting When the Zapotec king, after the arrival of Cortés, made an alliance with the Spanish, the Mixtec carried on a bloody resistance until they were subjugated by Pedro de Alvarado

Mixtón War (mēstōn'), 1541, revolt of the Indians against Spanish rule in Nueva Galicia, W Mexico, The conquest under Nuño de Guzmán had been particularly harsh, the encomienda system established obvious injustice, and the Indians were thoroughly discontented When Coronado's expedition to the north in 1540 drained away many of the Spanish, the Indians rose under Tenamaxtli They fortified Mixtón, Nochistlán, and other mountain towns and besieged Guadalajara Unable to cope with the uprising, Cristóbal de Oñate asked for aid from the viceroy, Antonio de Mendoza The Spanish, reinforced by a large body of Tlaxcaltec and Aztec, succeeded in recapturing the towns by hard fighting Pedro de Alvarado was killed in a rash assault on Nochistlán, and the reconquest was slow, but Spanish authority was reestablished in New Spain

Miyagi (mēyä'gē), prefecture, N Honshu, Japan: see Sendai, the capital

Miya-jima see Itsuku-shima

Miyazaki (mēyä'zä"kē), city (1940 pop 66,497, 1947 pop 92,144), capital of Miyazaki prefecture, SE Kyushu, Japan, on the Hyuga Sea It is the seat of the great Shinto shrine, Miyazaki-jingu (with an archaeological museum), dedicated to Jimmu, first emperor of Japan The products of the prefecture include rice, lumber, raw silk, and charcoal

Miyazu (mēyä'zōō), town, Kyoto prefecture, S Honshu, Japan, a port on Wakasa Bay Near by is Ama-no-hashidate or "heaven's bridge," one of the scenic sights of Japan—a pine-wooded promontory mirrored in the waters of the bay

Mizar (mī'zär), unidentified lo ality Ps 42 6

Mizpah or **Mizpeh** (mĭz'pu) [Heb ,=watch tower] **1** See Galeed **2** See Ramath-mizpeh **3** Meeting place of Israel, in Benjamin, often identified with the place called Neby Samwil Judges 20 1, 21 1,5,8, 1 Sam 7 5 **4** Town at the foot of Mt Hermon Joshua 11 3 **5** Town in the lowland of Judah Joshua 15 38 **6** Home of Jephthah Judges 10 17, 11 11,34 **7** David's refuge in Moab 1 Sam 22 3

Mizpar (mĭz'pär), variant of Mispereth .

Mizraim (mĭzrā'ĭm) [Heb ,=Egypt], son of Ham and eponym of Egypt Gen 10 6,13

Mizzah (mĭ'zu), duke of Edom Gen 36 13,17, 1 Chron 1 37

Mjosa, Nor *Mjøsa* (myû'sä), lake, area 141 sq mi , depth 1,472 ft , SE Norway , largest in the country It empties into the Vorma river, a tributary of the Glomma Three cities, Lillehammer, Gjovik, and Hamar, are on its shores The name also appears as Mjosen

Mlada Boleslav, Czech *Mladá Boleslav* (mulä'da bō'lĕslăf), Ger *Jungbunzlau* (yōōngbōōnts'lou), city (pop 19,573), N Bohemia, Czechoslovakia. Among its industrial products is machinery.

Mn, chemical symbol of the element manganese

Mnason (munā'sŭn), Cyprian, an early convert Acts 21 16

Mnemosyne (nĕmŏ'sĭnē,-zĭnē) [Gr ,=memory], Greek personification of memory She was a Titaness, daughter of Uranus and Gaea. The nine Muses were her daughters by Zeus

Mnesicles (nē'sĭklēz), Greek architect of the Age of Pericles The Propylaea (437–432 B C) on the Acropolis at Athens was designed by him, and the Erechtheum, also on the Acropolis, is sometimes ascribed to him.

Mo, chemical symbol of the element molybdenum

moa (mō'u) [Maori], extinct flightless bird of New Zealand closely related to the kiwi and also allied to the emu, the cassowary, and the ostrich. The various species ranged in size from that of a turkey to about 12 ft The bird had a short stout bill and it had no wings—even the shoulder girdle was lacking in most species It was probably herbivorous Remains preserved in caves and bogs include bones, pieces of skin, feathers, and egg shells Largely because of the hunting activities of the Maoris the bird became extinct, probably about 500 years ago

Moab (mō'ăb), nation inhabiting in ancient times the upland area E of the Dead Sea, now part of Jordan. The country cannot be protected from the east, hence its history is a chain of raids by the Bedouin The Moabites were close kin to the Hebrews, and the language of the Moabite stone is practically the same as biblical Hebrew The relations of Moab with Judah and Israel (especially under the house of Omri) are continually mentioned in the Bible The Moabite religion was much like that of Canaan Gen 19 37, Num 22–24; Judges 3, 2 Kings 3; Isa 15–16, Jer 48, Ezek. 25, Amos 2, Zeph. 2

Moab, town (pop. 1,084), co. seat of Grand co., E Utah, on the Colorado near the La Sal Mts. The Indians caused abandonment of the Mormon mission (1855) and delayed settlement until Moab grew as a cow town after 1876 Water from creeks is used for irrigation, and tourists going to Arches National Monument and other scenic spots pause here, but Moab is primarily a ranching town

Moabite stone, ancient slab of stone with a long inscription dating from 850 B C , erected by Mesha of Moab to commemorate a victory in his revolt against Israel A large part of it was discovered at Dibon (1868) by a German minister, F A Klein It was later broken, but most of the fragments were recovered They are in the Louvre The language of the Moabite differs little from biblical Hebrew

Moadiah (mō"udī'u), variant of Maadiah.

Moallakat see Muallaqat

moat, ditch, usually filled with water, surrounding a building or fortification for defensive purposes It was a development of the circumferential trench around the primitive earthwork fortress and, in the Middle Ages, constituted a valuable element in the defense of the castle and fortified town Besides serving to insulate the base of walls from attack by battering ram and ladders, it was also an effective hindrance to mining or sapping operations Even after firearms had come into general use, the moat was occasionally retained as an obstacle against infantry attack and, notably in the French châteaux, as a decorative feature of pleasure gardens

Moawiyah, see Muawiya.

mob, as a psychological term, a group of people in direct contact who strongly interact upon each other and whose conduct is dominated by suggestion and emotion rather than by reason The crowd may be said to be more stable than the mob and also to lack its intense common emotional element However, under conditions of stress or danger, a crowd may quickly turn into a mob Throughout history, fervent and often hysterical leaders have succeeded in driving crowds to acts of mobilike heroism as well as to extreme brutality In the mob situation the individual is in a state of heightened suggestibility not unlike that prevailing in hypnosis Differing from the isolated individual, the member of the mob, by reason of his loss of controlling inhibitions, is capable of behaving in a manner foreign to his everyday life The works of Gabriel Tarde and Gustave Le Bon, at the end of the 19th cent , stimulated interest in group behavior and marked the beginning of social psychology More recently, psychiatric and psychoanalytic techniques have been applied to the study of group dynamics

Moberg, Vilhelm (vĭl'hĕlm mō'bĕry'u), 1898–, Swedish novelist and dramatist His stories have dealt with the small farmers of his native province, Smaland, a region known for its poor soil and hard workers In this group are *Raskens* (1927), *Far from the Highway* (1929), and *The Clenched Hands* (1930) His first substantial recognition came with his partly autobiographical *Knut Toring* trilogy (1935–39, Eng tr , *The Earth Is Ours*, 1940) His battle against totalitarianism reached its climax with his historical novel *Ride This Night!* (1941, Eng tr , 1943). His dramas include *Our Unborn Son* (1945)

Moberly (mō'burlē), city (pop 12,920), N central Mo , NNW of Columbia, laid out 1866 It is a railroad shipping point, with shops, its manufactures include shoes, hosiery, tools, and dairy products Deposits of coal and fire clay are in the area

Mobile (mōbēl') [from Mauvila or Maubila Indians], city (pop 78,720), co seat of Mobile co , SW Ala , on Mobile Bay at the mouth of the Mobile river The only seaport in the state, it is an important shipping and shipbuilding center, exporting and processing farm produce, lumber, cotton, and naval stores, other products include paper, asbestos, and chemicals, The town was founded in 1710 by the sieur de Bienville The original French settlement at Biloxi had been moved (1702) to Fort Louis de la Mobile on the Mobile river, and a flood caused removal to the present site Mobile was capital of Louisiana from 1710 to 1719 It was held by the British from 1763 to 1780, when Bernardo de Gálves took it for Spain In 1813 it was seized for the Americans by Gen James Wilkinson and was incorporated as a town in 1814, as a city in 1819 In the Civil War, ships from Mobile evaded the Federal blockade until Farragut's victory at Mobile Bay (1864). Gen E R S Canby captured the city in April, 1865 In 1937 the second free port in the United States was established here Besides a number of fine ante-bellum houses, the city has a Roman Catholic cathedral and a U S marine hospital, Spring Hill College (Jesuit, for men, 1831) is near by In 1941 the Bankhead Tunnel under the river was completed The colorful annual Mardi Gras was begun in 1704, the Azalea Trail Festival dates from 1929. See Erwin Craighead, *Mobile* (1930)

Mobile, river in SW Alabama formed by the junction of the Alabama with the Tombigbee It flows south c.45 mi to enter Mobile Bay at Mobile

Mobile Bay, arm of the Gulf of Mexico, SW Ala , c.35 mi. long from the Gulf to the mouth of the

Mobile river and from 8 to 18 mi. wide The ship channel passes between Mobile Point (with old Fort Morgan) and Dauphin Island (with old Fort Gaines) Here Admiral David FARRAGUT won the celebrated battle of Mobile Bay on Aug. 5, 1864

Mobridge, city (pop 3,008), N S Dak., on the Missouri, founded 1906 when the railroad built a bridge across the river here, inc 1908 It is a trade and distributing center for a farm and dairy area.

Mocambique: see MOZAMBIQUE

moccasin, snake see WATER MOCCASIN

moccasin, skin shoe worn by North American Indians, excepting the sandal wearers of the Southwest area There were two general types of moccasins, the hard-soled, which was used in the Eastern Woodlands and the Southeast areas, and the soft-soled, used in the Plains culture area The hard-soled moccasin was made by sewing, with sinew thread, a rawhide sole to a leather upper piece, and the soft-soled was one piece of soft leather with a seam at the instep and the heel Boot or legging moccasins (sometimes reaching the hip) were worn from Alaska to Arizona and New Mexico, but they were generally part of the woman's costume The moccasins of certain tribes were distinctive, and sometimes even a moccasin track indicated the tribe of the wearer Moccasins were usually symbolically decorated with porcupine quills and, after the coming of the whites, with glass beads Special moccasins were used for ceremonies such as the Iroquois adoption service, which required that a recruit put on Iroquois moccasins to indicate that he would follow Iroquois ways See Arthur Parker, *The Indian How Book* (1927), Melvin Gilmore, *Prairie Smoke* (1929)

moccasin flower see LADY'S-SLIPPER

Mocha (mō'ku), town (pop c 2,000), Yemen, SW Arabia, a port on the Red Sea It was noted for the export of the coffee to which it gave its name

mocha stone see AGATE.

mockernut hickory see HICKORY

mockingbird, North American songbird of the same family as the catbird and the brown thrasher and allied to the thrushes and wrens The southern mockingbird of the SE United States (and the Bahamas) is sometimes found as far north as Quebec It has a long, drooping tail and is gray above, with white wing patches and whitish underparts Unsurpassed in singing ability by other North American birds, it has a melodious song of its own and is noted for its skill in mimicking bird songs and other sounds The similar western mockingbird is common in Texas and is found from the SW United States to S Mexico

mock orange or **syringa** (sĭrĭng'gu) [New Latin, from Gr ,=pipe], any species of the genus *Philadelphus*, mainly deciduous late-spring-blooming shrubs, popular for their ease of cultivation and for the white blossoms generally similar to orange blossoms The various species are native to Eurasia and North America The common or sweet mock orange (*Philadelphus coronarius*) is the most fragrant species and has varieties with double flowers Other species of *Philadelphus* and their hybrids vary in shrub form (as arching branches) and size and in flower form (as doubleness and narrow petals) and size, many lack the fragrance of the common mock orange A western American species (*Philadelphus lewisii*) is the state flower of Idaho and was formerly used by Indians for arrow wood Mock oranges should be pruned (see PRUNING) following the blooming period The shrub is one of the plants formerly known as pipe tree, the twigs being supposedly utilized for pipe stems Early botanists called the plant *Syringa*, and the name is still used popularly for the mock orange, *Syringa* is now the generic name of the LILAC Various other plants are sometimes called mock orange

Mocksville, town (pop 1,607), co seat of Davie co, W central N C, SW of Winston-Salem, settled before 1750 Textiles, hosiery, and furniture are made here

Moctezuma see MONTEZUMA

mode, in grammar see MOOD

mode, in logic see SYLLOGISM

mode, in music, any pattern of arrangement of the intervals of a scale Greek music employed a highly developed modal system, known today only through theoretical treatises because so little of the music itself is extant The modal system of plain song is based upon the final development of the Greek system and comprises eight modes, four called authentic and four plagal Each authentic mode has a corresponding plagal mode whose final note, or *finalis*, is the same, the difference lies in the range Mode one (authentic) and mode two (plagal) both have D as *finalis;* the range of the first is represented by the series of white keys of the piano from D to D, whereas the range of the second is from A to A The third and fourth modes have E as *finalis*, the fifth and sixth F, and the seventh and eighth G. The range of each mode is an octave, the lowest note in the authentic mode being the *finalis*, and the range of the plagal mode being always the interval of a fourth below that of the corresponding authentic mode The representation on the white keys of the piano is merely a convenient means of showing the arrangement of whole and half steps, for mode has nothing to do with pitch, any mode may be transposed to any convenient pitch. Greek names came to be used to identify these modes—Dorian and Hypodorian for the D modes, Phrygian and Hypophrygian for the E modes, Lydian and Hypolydian for the F modes, and Mixolydian and Hypomixolydian for the G modes The only modes used for plain song, these modes were the basis of musical composition throughout the Middle Ages As practice added certain others, however, they gained theorists' recognition Glareanus (1488–1563), a Swiss scholar, in his valuable treatise *Dodecachordon* (1547), described 12 modes, adding the two A modes, Aeolian and Hypoaeolian, and the two C modes, Ionian and Hypoionian The Ionian mode is the modern major mode and the Aeolian the minor The Locrian and Hypolocrian, the B modes, were rarely used The Greek names of the medieval modes do not correspond to the Greek modes of the same names because Greek musical theory was little understood in the Middle Ages The modal system was in use when music was primarily melodic, the limiting of the series to major and minor coincided, in general, with the decline of polyphony and the rise of harmony Use of the medieval modes by later composers is called modality in contrast to TONALITY The pentatonic scales of Chinese and Japanese music, which have not only whole and half steps but also some larger intervals, have modes which are various arrangements of these intervals An extension of the term *mode* allows its application to the *raga* of Hindu music and the *maqam* of Arabian music, although these are actually melodic formulas rather than scales The *echos* of Byzantine music corresponds to the mode of Western church music to the extent that there are four authentic and four plagal *echoi*, but these are actually melodic formulas also The *echoi* served the function of modes, however, and in Western church music certain melodic patterns were characteristically associated with each mode See Gustave Reese, *Music in the Middle Ages* (1940)

mode, in statistics, an infrequently used type of AVERAGE In a group of numbers the mode is the number occurring most frequently In the group 1, 4, 5, 5, 6, 6, 6, 9, 9, the mode is 6 since it occurs four times and the others only once or twice

model and modeling, in painting, the use of light and shade to simulate volume in the representation of solids In sculpture the terms denote a technique involving the use of a pliable material such as clay or wax As opposed to CARVING, modeling permits addition as well as subtraction of material and lends itself to freer handling and change of intention The technique is exemplified not only by works executed in soft materials but also by those works in cast metal and plaster which are made from original work in clay The noun *model* is used to describe such an original and also any small three-dimensional study for a larger or more elaborate project in sculpture or architecture It also denotes a person or object used as an aid to representation in painting See Albert Toft, *Modelling and Sculpture* (1911), F J Glass, *Modelling and Sculpture* (1929)

Model Parliament see PARLIAMENT

Modena (mō'dĭnu, Ital mō'dānā), city (pop 50,541), capital of Modena prov, Emilia-Romagna, N central Italy It is an agricultural center, wine, cheese, and sausage are produced A Roman town on the Aemilian Way, it became a free commune (12th cent) and permanently passed (1288) to the Este family of Ferrara The duchy of Modena, established in 1452, became the seat of the Este after the loss of Ferrara (1598) From the fall of Napoleon I until 1859 the house of Austria-Este ruled despotically The 12th-century Romanesque cathedral has a fine façade, and the Albergo delle Arti contains several art collections, among them the rich Este art gallery and library Six miles to the northeast is the Nonantola abbey, founded in 752, a center of learning in the Middle Ages

modern architecture. In the decade after the First World War the important buildings of most countries came to possess such similar characteristics as to signalize emergence of a new architectural style, one in which homogeneity existed despite many individual and national variations By 1950 this style, no longer new, had undergone three decades of experiment and growth It possesses no appellation more precise than modern, though the labels International style and functionalism have also been used Among the multiple examples, from small houses to vast public buildings, any selections for commendation would have to refer to aesthetic criteria which have been practically a hundred years in evolution For, since the mid-19th cent, a conscious attempt to assimilate modern technology, first to architectural practice and later to both practice and formulated theory, has been continuously in progress Even earlier, at the beginning of the 19th cent, an omen was Sir John Soane's work in England, which showed a turn from heavy masonry to a use of light, widely spaced supports Technical advance in materials made possible the construction in 1851 of Sir Joseph Paxton's celebrated Crystal Palace in London, in which a revolutionary lightness was implied in the nature of the iron and glass of which it was built In the ensuing years iron, steel, and glass determined the architectural form of many train sheds, department stores, and market halls, but the structural forms were cluttered by irrelevant ornament, and as late as 1889 the newly erected Eiffel Tower found the public not yet ready for a modern conception of structure as beautiful per se The portentous first use of a complete steel skeleton for tall buildings appeared in such examples as the first SKYSCRAPER built in Chicago in 1883 by W Le Baron Jenney Vastly more important, at the end of the 19th cent, was the work of the Americans Louis H. Sullivan and Frank Lloyd Wright Wright, in his works and in his writings, showed a liberating path from stagnant architectural thinking and continued to be an active innovator In the first two decades of the 20th cent most architecture employed modern methods and tried to satisfy modern needs, but confusedly retained a clothing of obsolete forms By 1920, however, there was an increasingly wide understanding that all building types—bridges, factories, auditoriums, airplane hangars, smokestacks—must come to terms with their purposes and materials if they were to achieve intrinsic significance or beauty Now, too, instead of viewing a building as heavy volumes supported and enclosed by ponderous materials, the leading exponents considered it as areas of space, resting upon slender piers and slabs and enclosed by light, thin curtain walls The very element of enclosure was given minimum emphasis in order that the basic structural skeleton might be all the more in evidence In giving form and coherence to this new rationale of an organic modern architecture, Le Corbusier's book, *Vers une architecture* (1923), performed an eminent role, while the writings of the Dutch J J P Oud and the German Walter Gropius (head of the BAUHAUS) were also important In these early consolidations of the modern style abstract painting and sculpture contributed new ideas for the architects, while they also conditioned the public to accept a form of beauty based solely upon spatial relationships and pure geometrical shapes, freed from past associations By the mid-20th cent modern architecture became an instrument for dealing with the multiple building needs of a complex society in which such problems as housing for population masses, structures for intricate industrial uses, and highly integrated community planning could scarcely be handled except in terms of completely contemporaneous architectural concepts adjusted to the vast resources of current technology and the mass production of modern materials Large areas of glass, sometimes encompassing the entire exterior of a building, would seem to be the one most pervasive external identification of modern works, and glass in many forms seems to be the material more exploited than any other However, reinforced concrete is also intimately involved with the style's development, as are the advances in elevator transportation, air conditioning, and electric illumination The use of an unvarying module or basic dimensional unit throughout a design makes palpable the structural regularity and machine-tool precision of those buildings where it is employed In New York the monumental structures for the United Nations, produced by a collaboration among prominent architects representing their various countries, display what are presumably the style's most representative characteristics Of this group Le Corbusier of France, one of the style's earliest proponents, and Oscar Niemeyer of Brazil are two who have international recognition Other noted pioneers of the 1920s who later practiced in the United States are Mies van der Rohlo and Walter Gropius Important contributions to the progress of modern design were made by Raymond Hood and Albert Kahn in their completely American skyscraper and industrial architecture and by Marcel Breuer, Richard J Neutra, William E Lescaze, and the firm of Harrison, Foulhoux, and Abramovitz See W C Behrendt, *Modern Building* (1937), Walter Gropius, *The New Architecture and the Bauhaus* (1937), M C Rathbun and B H Hays, Jr, *Layman's Guide to Modern Art* (1949)

modern art see ABSTRACT ART, CUBISM, DADA; FAUVISM, FUTURISM, IMPRESSIONISM, POSTIMPRESSIONISM

modernism, in religion, movement intended to reconcile the developments of 19th-century science and philosophy with historic Christianity It began with the evident disparity between Darwin's evolution theory and the old literal interpretation of Genesis, but it was heavily influenced also by philosophical attempts (as of Herbert Spencer) to read Darwinian principles into the history of civilization The general trait of modernism was to reject all belief in the supernatural, hence God, no longer the Creator, was limited to a role of a spirit living in the world (an idea called immanence), the Gospels were no longer accepted as history, especially in the account of the Resurrection; prayer was conceived as important only in the psychology of the individual, and the Church was sometimes re-

jected as anything but a human society These ideas were accepted in all or in part by many of the Protestant denominations, but there was also reaction against them, e g , in FUNDAMENTALISM, in the 1920s, and in the Oxford Group of Frank Buchman Among Anglicans the High Church members and Anglo-Catholics (see OXFORD MOVEMENT) opposed modernism In the Roman Catholic Church there was a brilliant ephemeral modernistic movement, led by A F Loisy and others, their theories rejected the objective reality of sacraments, viewed the historic dogmas as transient statements of more general concepts, and attacked the spiritual authority of the Church With the decree *Lamentabili* (1907) of the Holy Office and Pius X's encyclical, *Pascendi* (1907) the tendencies were declared heretical These and later rulings have ended Roman Catholic modernism In reformed JUDAISM, especially among Americans, there is a modernist movement resembling Protestant modernism See Shailer Mathews, *The Faith of Modernism* (1924), M D Petie, *Von Hugel and Tyrrell* (1938).

modernismo (mōdhĕrnĕ'smō), movement in Spanish literature that had its beginning in Latin America It was paramount in the last decade of the 19th cent and the first decade of the 20th cent *Modernismo* is now usually said to have first appeared in the poetry of the Cuban leader, José Martí Julian del Casal, Salvador Díaz Miron, José Asunción Silva, and Manuel Gutiérrez Nájera were also writing *fin de siècle* verse of the modernist stripe before *modernismo* became an acknowledged world event with the appearance of *Azul* [blue], a volume of poetry by Rubén Darío in 1888 Darío was the great genius of the movement His exotic, highly colored, and finely wrought verse made a sensation, and soon a host of little magazines and little literary groups were forwarding his ideas of elegant form, carefully chosen images, and subtle word music. *Modernismo* derived from French symbolism and the Parnassian school, but too much stress can be laid on the French influence, for *modernismo* was spontaneous, and it borrowed from many sources, including Walt Whitman The subject matter of modernist poetry was generally remote and escapist, with symbols of princesses and swans, peacocks and lilies, and the landscape of remote lands such as the Far North and Japan It represented, like contemporary movements in other literatures, total rejection of the materialist world of the day The modernists were supremely self-conscious in their art, and there was more than a hint of artificiality in the movement Nevertheless, it had a powerful effect in remolding Spanish literary ideas and language It was the first important movement starting in Spanish America to affect peninsular Spain deeply Among the leading figures of the movement were Amado Nervo, Guillermo Valencia, Leopoldo Lugones, and Julio Herrea y Reissig Probably its most valued prose writer was José Enrique Rodó. The force of the movement began to wane after 1914 as some writers turned away from the contrived forms and extreme figures to a consideration of the everyday and the social problems of a changing world, and others took up more extreme aesthetic movements The patriotic element of concern with Latin American problems had never been absent in the Spanish American writers, including Darío himself That strain now grew stronger By the end of the First World War the new generation of writers had, in the words of Enrique González Martínez, "wrung the neck of the swan," and *modernismo* was dead

Modestinus, Herennius (hurĕ'nēŭs mōdustī'nus), fl c.250 B.C., Roman jurist, student of Ulpian Under the Roman Empire he was one of the five jurists, including PAPINIAN, whose views might be decisive in resolving legal controversies. Extensive sections of his work are preserved in the Corpus Juris Civilis.

Modesto (mōdĕ'stō), city (pop 16,379), co , seat of Stanislaus co., central Calif , SE of Stockton and on the Tuolumne river, in the San Joaquin Valley, founded 1870, inc., 1884 It is the processing and trade center of a diversified farm and fruit area A junior college (coeducational) is here

Modica (mō'dēkä), city (pop 27,928), SE Sicily, Italy It is the center of a stock-raising and agricultural region The feudal county of Modica enjoyed from the 14th to the 18th cent a high degree of independence. Near by are the Cave d'Ispica (a series of limestone grottoes containing cave dwellings) and prehistoric and early Christian tombs

Modigliani, Amedeo (ämädā'ō mōdēlya'nē), 1884–1920, Italian painter, b.Livorno. He studied at the Academy of Fine Arts in Florence, but early went to Paris, where his first work as a sculptor was greatly influenced by cubism and Negro art. Soon, however, he developed a unique style in painting characterized by distortion for emotional effect together with a purity of form reminiscent of the Florentine Renaissance Although his talent was recognized by leading young artists, he remained unknown to the public during his short life, which was one of poverty, neglect, drink, and disease Hardly had he died of tuberculosis when his magnificent portraits and figure studies became highly prized collectors' items His work may be seen in collections of 20th-century painting everywhere. Modigliani is well represented in the Art Institute of Chicago and in the Museum of Modern Art, New York See Charles Douglas, *Artist Quarter* (1941).

Modjeska, Helena (mōyĕ'skä), 1844–1909, Polish actress She had (1865–68) great success in *Adrienne Lecouvreur* and in Shakspearian roles in Poland She married Gustav Modrzejewski in 1868 and after his death married Count Bosenta Chlapowski, with whom she came to the United States in 1876 She made her American debut, with immediate success (1877), in an English adaptation of *Adrienne Lecouvreur* at the California Theater, San Francisco, and increased her reputation in such Shakspearian roles as Lady Macbeth, Juliet, and Ophelia and as Nora in Ibsen's *Doll's House*, which was given its first performance in America at Louisville, Ky , in 1883 Modjeska had charm, intelligence, and dignity, she was considered one of the greatest tragic actresses of her time Her admirers were so many that the Metropolitan Opera House, New York, was used for her farewell testimonial (1905) See her *Memories and Impressions* (1910)

Modjeski, Ralph (mujĕ'skē), 1861–1940, American engineer, b Cracow, Poland, son of Mme Helena Modjeska He came to the United States in 1876 and, after studying engineering in Paris, established himself as a leading designer and builder of bridges in America He built many railroad bridges, including those over the Columbia and Willamette rivers, and was either chief engineer or consulting engineer for bridges at St Louis, Mo , Portland, Oregon, Poughkeepsie, N Y (Mid-Hudson), New Orleans (the Huey P Long), Davenport, Iowa (Iowa-Illinois Memorial), Philadelphia (over the Delaware), and many others

Mödling (mūd'lĭng), town (pop 17,015), Lower Austria, at the entrance of the picturesque Brühl valley and just S of Vienna

Modoc Indians (mō'dŏk), tribe of North American Indians who in the early 19th cent lived in SW Oregon and N California, particularly about Modoc Lake and Tule Lake They constitute the southern branch of the Lutuamian linguistic stock, their kinsmen, the Klamath, belong to the northern branch Modoc culture was practically identical with the culture of the KLAMATH INDIANS, but the Modoc did not rely too heavily on the wokas or water lily seeds There was considerable trouble between the Modoc and the early American settlers, with atrocities being committed on both sides The Modoc were finally constrained to go (1864) on the Klamath reservation, but most of the tribe was dissatisfied In 1870 Chief Kintpuash, or Captain Jack, led the more turbulent members of the tribe back to California and refused to return to the reservation The attempt to bring back the band brought on the Modoc War (1872–73) After some struggles Captain Jack and his men retreated to the lava beds on the California border They stayed there for four months, successfully resisting efforts to dislodge them An attempt by Gen Edward R S Canby to mediate for peace came to nothing when he and another peace commissioner were treacherously killed by the Modoc After this, steady pressure bore down on the Indians, and many of them deserted to the whites In June (1873) the war ended Captain Jack and five other leaders were hanged, and the Modoc tribe was divided, some were sent to Oklahoma (where a few remain), and some to the Klamath reservation in Oregon The Modoc in Oregon number some 300 See S A Barrett, *Material Culture of the Klamath Lake and Modoc Indians* (1910), Doris Payne, *Captain Jack, Modoc Renegade* (1938).

Modred, Sir, King Arthur's treacherous nephew see ARTHURIAN LEGEND

modulation, in music, shift in the key center of a composition For its accomplishment use is made of the fact that each chord figures in the harmonic relationships of several keys In modulating from one key to another, a chord which is common to both keys is used as a pivot chord For example, in modulating from C major to D major, the G major chord, built on the fifth tone of the C scale and therefore the dominant of C, is also the chord built on the fourth tone of the D scale, serving D as the subdominant The G chord, approached naturally in the key of C, may be allowed suddenly to assume its role in relation to D, is followed by a cadence which affirms the key of D, and modulation has taken place. If there is no common chord between the two keys, a smooth modulation is more difficult, a passage may move through several keys before the desired modulation has been effected Modulation is employed as a means of achieving variety in practically every composition of any length which has a tonality.

Moe, Jorgen Engebretsen, Nor. *Jørgen Engebretsen Moe* (yûr'gŭn ĕng'ubrĕtsun mō'ŭ), 1813–82, Norwegian folklorist and poet, bishop of Kristiansand He began in early youth to collect and revise sagas and folk songs, publishing (1840) a collection of songs and ballads in Norwegian dialects. In collaboration with his friend P C. Asbjornsen he wrote *Norwegian Folk Stories* (1841–44; Eng. tr , 1858). *Fairy Tales from the Far North* (Eng tr , 1881). and *East o' the Sun and West o' the Moon* (Eng. tr , 1917) are selections from *Norwegian Folk Stories*

Moen, Dan. *Møen* or *Møn* (all: mû'ŭn), island (84 sq mi , pop 14,156), Denmark, in the Baltic Sea, S of Zealand. It produces mainly sugar beets Stege is the chief town

Moerae see FATES.

Moeris (mĕr'ĭs), ancient name of Lake Karun, area 90 sq mi , Egypt, in the Fayum, c 50 mi SW of Cairo In extent and depth the lake is much reduced from that described by ancient travelers, such as Herodotus. Crocodilopolis (later Arsinoë) was the chief town on the lake and a residence of the Ptolemies Ancient irrigation works were excavated in the late 1920s

Moesia (mē'shĭū), ancient region, SE Europe, south of the lower Danube It was not penetrated by Grecian influences and was organized as a Roman province only in A D 44, when it included roughly what is now Serbia (Upper Moesia) and Bulgaria (Lower Moesia) Under the empire Roman colonies and agriculture flourished in the Danube valley.

Mofaddaliyat (mōfu"dalēät') or **Mufaddaliyat** (mōō–), great Arabic anthology made by the celebrated philologist Al Mufaddal of Kufa (d c 775) It contains 126 poems, some complete odes, others fragmentary They are all of the Golden Age of Arabic poetry (500–650) and are the best collection of poems of that period by different authors There are 67 authors, two of them Christian The oldest poems in the collection date from c 500

Moffat Tunnel (mŏf'ŭt), railroad tube (alt c 9,000 ft) piercing James Peak, N central Colo , in the Continental Divide WNW of Denver. It was built in 1923–27 and is 6 4 mi long

Mogadishu (mōgudī'shō), Ital *Mogadiscio* (mōgadē'shō), city (pop 50,000), capital of Italian Somaliland, a port on the Indian Ocean A 13th-century mosque is the oldest building Mogadishu was sold (1905) to Italy by the sultan of Zanzibar The city processes oilseeds and has sawmilling

Mogador (mōgudôr'), town (pop 28,620), French Morocco, a port on the Atlantic Ocean It serves the Marrakesh region Sultan Mohammed XVI founded (c 1760) the town on the site of a Portuguese fort and opened the port to foreign shipping, but it did not attract the trade he had expected Mogador has a large Jewish colony

Mogadore (mōg'udôr), village (pop 1,616), NE Ohio, SE of Akron

Mogilev (mŭgēlyôf'), city (pop 99,440), capital of Mogilev oblast, E Belorussia, on the Dnieper It is an industrial center and, at the junction of four rail lines and five highways, also an important communications point The city grew around a castle dating from 1267 It was part of the grand duchy of Lithuania (united with Poland in 1569) and passed to Russia in the first partition of Poland (1772) Before the Second World War, when it was held (1941–44) by the Germans, 30 percent of the population was Jewish

Mogilev-Podolski (–pŭdôl'skē), city (pop 22,993), W Ukraine, in Podolia, on the Dniester river A medieval trade center on the border of Podolia and Moldavia, it attracted many Greek and Armenian merchants It passed to Russia in the second partition of Poland (1793) The city was held (1941–43) by the Germans in the Second World War Of the pre-war population 40 percent was Jewish

Mogollon Plateau (mōgōyŏn'), tableland, generally from 7,000 to 8,000 ft high, E central Ariz , S of Winslow and Holbrook Its southern edge is a rugged escarpment usually called the Mogollon Rim, sometimes also called the Mogollon Mts or the Mogollones It is not directly connected with the Mogollon Mts in W New Mexico.

Mogul (mō'gŭl, mōgŭl') or **Mughal** (mōōgŭl'), Moslem empire of India, 1526–1857 The name Mogul, a variant of MONGOL, stems from the claim of descent from Jenghiz Khan made by BABER, who founded the Mogul empire with the capture of Delhi Not until near the end of the reign of AKBAR was the empire, then occupying the vast territory from Afghanistan S to the Godavari river, free from divisive wars. SHAH JEHAN and AURANGZEB brought the Mogul territory to its greatest extent, but even at its zenith the empire suffered the blows of the Sikhs and the Marathas who later had brought it to near ruin by the late 18th cent When Great Britain occupied Delhi in 1803 the empire actually came to an end, but the British maintained puppet emperors until 1857 Many features of the Mogul administrative system were adopted by Great Britain in ruling India, but the lasting achievements of the Moguls were in art, particularly in painting and architecture (see MOSLEM ART AND ARCHITECTURE). Their capitals at Delhi, Fatehpur Sikri, and Agra (with the surpassing beauty of the Taj Mahal) contain some of the greatest edifices of India. See S. M. Edwards and H. L O Garrett, *Mughal Rule in India* (1930)

Mohacs, Hung *Mohács* (mō'hăch), city (pop 18,355), S Hungary, an important inland port on the Danube. Mohacs is best known for the disastrous defeat (Aug. 29, 1526) there of LOUIS II of Hungary by SULEIMAN I of Turkey. Hungary was

fil prepared for the attack. its nobles had curtailed the royal military power, magnates and gentry were in constant strife, and the oppressed peasantry was not entrusted with arms Louis's army was poorly equipped, badly led, and outnumbered at least three to one John Zapolya (see JOHN I), with a large Transylvanian contingent, never joined him, perhaps through treachery The king, the flower of the Hungarian nobility, and almost every soldier of the army were killed in the battle or massacred after being taken prisoners Thus, the worst disaster of Hungarian history, opened the 150 years of Ottoman domination. There are monuments at Mohacs to the slain, regarded ever since as martyrs to Christianity and Hungarian independence Mohacs was also the scene (1687) of a Turkish defeat by CHARLES V of Lorraine

mohair, the hair of the Angora goat or a large group of fabrics made from it, either wholly or in combination with wool, silk, or cotton. The Angora goat, native of Asia Minor for 2,000 years, is bred in other lands, e g., the SW United States, and South Africa Mohair is cool, firm, and resistant to dust and moisture The fiber is especially valuable in the manufacture of upholstery plushes, steamer and automobile rugs, automobile tops, heavy cloakings, "fur" cloths such as astrakhan, and false hair. Mohair is often sold as alpaca

Mohammed (Mahomet, Muhammad) (mōhă'mĭd) [Arabic, =praised], 570?–632, the Prophet of ISLAM, one of the great figures of history, b Mecca, son of Abdallah ibn Abd-al-Muttalib and his wife Amina, both of the tribe of Koreish, which ruled Mecca Abdallah died soon after Mohammed's birth, and the boy was brought up by his uncle Abu Talib When he was 24 Mohammed married Khadija, a wealthy widow, much his senior, whom he seems to have loved dearly He had no other wife in Khadija's lifetime Mohammed's only surviving child who had issue was Khadija's daughter Fatima Mohammed's position in the community was that of a wealthy merchant When he was 40, he felt himself selected by God to be the Arabian prophet of true religion, for the Arabs had had no prophet, as other nations had In the country N of Mecca he had a vision, in which he was commanded to preach Thereafter throughout his life he continued to have revelations, many of which have been collected and recorded in the KORAN His fundamental teachings were there is one God, man must submit in all to him, in this world nations have been amply punished for rejecting God's prophets, and heaven and hell are waiting for the present generation, the world will come to an end with a great judgment He included as religious duties frequent prayer and almsgiving and forbade usury In his first years Mohammed made few converts but many enemies His first converts were Khadija, ALI (who became husband of Fatima), and ABU BAKR From c 620 Mohammed's affairs at Mecca were in a crisis, the city was actively hostile, since much of its revenues depended on its shrine, the KAABA, and an attack on the existing Arabian religion attacked the prosperity of Mecca While he was gaining only enemies at home, Mohammed's teaching was faring little better abroad, only at Yathrib did it make any headway, and on Yathrib depended the future of Islam In the summer of 622 a plan was made at Mecca to murder Mohammed, but it was found out, and he escaped in the night from the city and made his way to Yathrib From this event, the flight or HEGIRA of the Prophet (622), Islam counts its dates The rest of his life Mohammed spent at Yathrib, now called MEDINA, the City of the Prophet, the city par excellence At Medina he built his model theocratic state, and from Medina he ruled his rapidly growing empire Mohammed's lawgiving at Medina is at least theoretically the law of Islam, and in its evolution of the next 10 years, the history of the community at Medina is seen Medina lies on the caravan route N of Mecca, and the Koreshites of Mecca could not endure the thought of their outlawed relative taking vengeance on his native city by plundering their caravans There was a pitched battle between Mohammed's men and the Meccans at a place called Badr, the victory of an inferior force from the poorer city over the men of Mecca gave Islam great prestige in SW Arabia More than a year later the battle of Ohod was fought, without such fortunate results. In the 7th year of the hegira Mohammed sent a pilgrimage to Mecca, and it returned unharmed By this time pagan Arabia had been converted, and the Prophet's missionaries or legates were active in the Eastern Empire, in Persia, and in Ethiopia. Mohammed's relations with the Jews and Christians of Arabia became gradually worse Since he believed firmly in his position as last of the prophets and as successor of Jesus Christ, Mohammed seems to have expected at first that the Jews and Christians would welcome him and accept his revelations, but he was soon disappointed. Medina had a large Jewish population, which controlled most of the wealth of the city, and they steadfastly refused to give their new ruler any kind of religious allegiance Mohammed, after a long quarrel with them, appropriated much of their property, and his first actual conquest was the oasis of Khaibar, occupied by the Jews, in 628. At the same time his teaching became strictly condemnatory of the Jews He never fell so far afoul of the Christians as of the Jews; but the failure of several missions among them made him distrustful of Christians as well as Jews His renown increased, and in 629 he made a pilgrimage to Mecca without interference There he won valuable converts, including Amr and Khalid (who had fought him at Ohod) In 630 he marched against Mecca, which fell without a fight Arabia was won Mohammed's private life has received a vast, and perhaps disproportionate, amount of attention His frequent marriages and the troubles of the harem are the subject of this His last favorite wife, AYESHA, was able and devoted, he died in her arms June 8, 632 Islam has enshrouded Mohammed's life with a mass of legends and traditions (contained in the *Hadith*) He is considered to have been sinless by most Moslems Most unprejudiced scholars consider Mohammed a man of great conviction and religious feeling, of a deeply mystical nature There have been attempts to explain Mohammed from a psychoanalytic point of view, considering his trancelike fits not epileptic, as has often been suggested, but rather ecstatic His name appears in various forms, two of the most important being Muhammad and the Turkish Mahomet The biographies and accounts of Mohammed are many Among recent ones are those by Tor Andrae (Eng tr, 1936), Essad Bey (Eng tr, 1936), and R V. C Bodley (1946)

Mohammed I, 1389?–1421, Ottoman sultan (1413–21), son of **Bajazet I** By defeating his brothers he reunited most of his father's empire, which had fallen as a result of Tamerlane's victory over Bajazet at Ankara (1402). Mohammed put down several rebellions His son, Murad II, succeeded

Mohammed II (Mohammed the Conqueror), 1429–81, Ottoman sultan (1451–81), son and successor of Murad II He completed the conquest of the Byzantine Empire by storming (1453) Constantinople after a 50-day siege, for which he constructed the largest cannons the world had yet known Emperor CONSTANTINE XI fell in the heroic defense Mohammed moved his capital from Adrianople to Constantinople and restored the greatness of that city by settling there the populations of other conquered towns To Greek and Armenian citizens of Constantinople he granted the privileges which they were to enjoy throughout Ottoman rule The Church of Hagia Sophia became a mosque Mohammed did not rest but set out to conquer the Balkan Peninsula, reducing Greece, Bosnia, and several of the Venetian possessions in the Aegean islands The khan of Crimea became his ally and vassal However, his further advance was checked at Belgrade by John HUNYADI, in Albania by SCANDERBEG, and in Rhodes by the Knights Hospitalers under AUBUSSON In Asia, Mohammed reduced the empire of Trebizond and Karamania In 1480 he captured Otranto, in Italy, but the expedition had no results Mohammed was a patron of learning and an accomplished linguist as well as a great commander He may be regarded as the true founder of the Ottoman Empire His son, BAJAZET II, succeeded him.

Mohammed III, 1567–1603, Ottoman sultan (1595–1603), son and successor of Murad III He fought inconclusively in Hungary and in his last year lost Tabriz to Shah Abbas I of Persia His son Ahmed I succeeded him

Mohammed IV, 1641–92, Ottoman sultan (1648–87) He was proclaimed emperor by the Janizaries after the deposition and murder of his father, Sultan Ibrahim. Disorder and corruption continued until in 1656 the KUPRILI family obtained the vizierate and gave the empire a new lease on life However, Turkey suffered severe setbacks Algiers freed itself (1659) from Ottoman suzerainty In 1683 the Turks, in alliance with THOKOLY, besieged Vienna but were repulsed by King John III of Poland The war was carried into Hungary, and after the Turkish defeat (1687) at Mohacs by Charles V of Lorraine, Mohammed was deposed His brother, Suleiman II, succeeded him.

Mohammed V, 1844–1918, Ottoman sultan (1909–18) He succeeded to the throne when the Young Turk revolution of 1909 deposed his brother, Abdul-Hamid II. He exercised no actual power under the new constitution, and the administration was dominated by ENVER PASHA During his reign Turkey lost most of its remaining European possessions in the BALKAN WARS (1912–13) and lost Tripoli to Italy in 1911–12. Germany gained increasing influence over Turkish affairs, resuming the construction of the BAGHDAD RAILWAY in 1911 Mohammed sided with the Central Powers in the First World War. He died shortly before the Turkish surrender and was succeeded by his brother, Mohammed VI

Mohammed VI, 1861–1926, last Ottoman sultan (1918–22), brother and successor of Mohammed V Soon after his accession he capitulated to the Allies, who occupied Constantinople and sought to rule through him what remained of Turkey He consented to the extremely harsh peace terms of the Allies (see SÈVRES, TREATY OF). In the meantime Kemal ATATURK gained control over Anatolia; after his victory over the Greeks he turned on Mohammed, who was deposed in 1922 The sultanate was abolished and the republic of Turkey established Mohammed fled and died in exile After his flight he was deposed as caliph, in which capacity he was succeeded by his cousin, Abdu-l-Mejid In 1924 the CALIPHATE was abolished and all members of the Ottoman house were exiled Mohammed VI died at San Remo, Italy

Mohammed Ahmed: see MAHDI

Mohammed Ali (ă'lē), 1872–1925, shah of Iran (1906–9), son of MUZAFFAR-ED-DIN Shah Mohammed Ali, who was an opponent of constitutional government, began to rule at a critical period just after the constitution of 1906 had been granted His struggle with the nationalists led to the bombing of the newly established parliament He called in the aid of the Russians, who organized a Cossack brigade for him His attempt to overthrow the constitutional government brought on two short civil wars (1908–9) Mohammed Ali was finally forced to abdicate in favor of his son AHMED. Later he attempted with Russian help to regain his throne, but he failed and afterward lived in complete retirement

Mohammed Ali, 1769–1849, pasha (governor) of Egypt after 1805 He was a common soldier of Albanian birth who rose steadily by his military skill and political acumen He first came to notice in 1799, when he led a large force against Napoleon As pasha he was virtually independent of his nominal overlord, the Ottoman sultan He organized a modern army and navy, ended administrative abuses, and established an educational system and public works, especially irrigation projects In 1811 he exterminated the leaders of the MAMELUKES, who had almost uninterruptedly ruled Egypt since 1250 With his son and successor, IBRAHIM PASHA, he conducted successful campaigns in Arabia against the Wahabis and in Nubia He scored great successes in Greece until the British, French, and Russians combined to defeat his fleet at Navarino in 1827 When the Ottoman sultan, Mahmud II, refused him the governorship of Syria, Mohammed invaded Syria (1833) with great success In 1839 he launched a campaign against his overlord in Asia Minor but was forced to desist when he lost the support of France and was threatened by united European opposition In a compromise arrangement the Ottoman sultan made the governorship hereditary in Mohammed's line The present royal family of Egypt is descended from him See H H Dodwell, *The Founder of Modern Egypt* (1931)

Mohammedan and **Mohammedanism**: see MOSLEM and ISLAM

Mohammed ibn Tumart (ĭ'bĭn tōōmart'), c 1080–1128?, Berber Moslem religious leader, founder of the ALMOHADES He went to the East in his youth and returned convinced he was intended to reform Islam He was a rigorist and purist in doctrine and morality He fought violently the anthropomorphism then current, and he was bitterly opposed to the use of alcohol He became increasingly fanatical, until he finally preached a holy war against Moslems who disagreed with him He was a man of compelling personality and of great sagacity

Mohammed Reza Shah Pahlevi (rĕzä' shä' pä'luvē), 1919–, shah of Iran He ascended the throne in Aug, 1941, upon the deposition of his father, Reza Shah Pahlevi He was educated in Switzerland and attended the military academy in Teheran, where he learned several languages and became an accomplished athlete and sportsman In 1939 he married Princess Fawzieh, eldest sister of King Farouk of Egypt, who bore him one daughter They were divorced in 1949 In Feb, 1949, the king narrowly escaped assassination at the hands of a leftist Tudeh party member In Nov, 1949, he made a state visit to the United States His reign coincides with a critical period in Iranian history, when the country is beset with financial and political instability To alleviate the economic situation, he has launched a liberal Seven-Year Plan for the industrial, agricultural, and social development of the country

Mohammerah, Iran see KHORRAMSHAHR

Mohave, river and desert see MOJAVE

Mohave Indians (mōhä'vē), tribe of North American Indians of Yuman linguistic stock In the mid-18th cent. they lived on both banks of the Colorado river, in Arizona and California They then numbered some 3,000 The Mohave were semisedentary farmers who depended upon the inundation of the river for moisture They lived in low, brush dwellings. Most of the tribe is settled on the Colorado river reservation, which was established in 1865 The Mohave now number some 550

Mohawk (mō'hôk), village (pop. 2,882), E central N Y, on the Mohawk river and SE of Utica, settled 1826, inc 1844.

Mohawk, largest tributary of the Hudson, c.140 mi long, rising in central New York and flowing S and SE past Rome, Utica, Amsterdam, Schenectady, and other cities to the Hudson at Cohoes. From Rome to its mouth the river is canalized as a link in the Barge Canal. The beautiful and fertile Mo-

hawk valley, named for its original Indian inhabitants, was the scene of many battles and fierce raids in the French and Indian War and the Revolution The Mohawk was an important travel route to the West The ERIE CANAL, which opened in 1825, followed the river See T Wood Clarke, *The Bloody Mohawk* (1940), Codman Hislop, *The Mohawk* (1948)

Mohawk Indians: see IROQUOIS CONFEDERACY

Mohawk Trail. 1 Old road in New York state following the Mohawk river It was an easy route through the mountain chain by which thousands of settlers emigrated from the Eastern seaboard to the Great Lakes region and the upper Mississippi valley It traverses the territory occupied by the Iroquois Confederacy, and in the colonization period it was a series of turnpikes beginning at Schenectady and extending to Rome, with lesser trails stretching westward The Erie Canal rendered the road less important, and with the construction of railroads its value was further diminished 2 Motor highway extending across N Massachusetts from Greenfield, Mass, to North Adams, Mass Running through the historic towns of Lexington and Concord and traversing the scenic Berkshire Hills, this route is popular with tourists

Mohegan, Lake (mōhē'gun), SE N Y, in Westchester Co, near Peekskill Mohegan Lake village here is the trade center of a resort area

Mohegan Indians, tribe of North American Indians, also called Mohican, of the Algonquian linguistic stock They were the eastern branch of the Mahican Indians In the early 17th cent the Mohegan occupied most of SW Connecticut, their chief village being on the site of the present village of Mohegan on the Thames river When the white settlers arrived in this region, the Mohegan and the Pequot were one tribe, living under the rule of Sassacus, who afterward became known as the Pequot chief Later UNCAS, a subordinate chief, rebelled against Sassacus and assumed the leadership of a small band of Indians on the Thames river near Norwich This band became known to history as the Mohegan Indians After the fall of Sassacus the greater part of the Pequot joined the Mohegan, who in 1643 numbered some 2,300 Uncas thereby obtained control of the territory of the two tribes The Mohegan, supported by the English, became one of the most powerful tribes in S New England As white settlements were extended, the Mohegan sold most of their land and accepted a reservation on the Thames They declined quickly, numbering but 84 in 1804 See A L Peale, *Uncas and the Mohegan-Pequot* (1939).

Mohenjo-Daro (mōhĕn'jō-dä'rō), archaeological site of NW Sind, India, on the Indus, which has given its name to the **Mohenjo-Daro civilization** or **Indus civilization.** This civilization has been revealed chiefly by finds at Mohenjo-Daro and Harappa, 400 mi to the northeast, in central Punjab near the Ravi The civilization was an urban culture closely resembling that of Sumer and contemporary with it (3d millennium B C) The Indus culture is distinguished from the Mesopotamian in the use of cotton textiles, in the excellent development of intaglio and faience work, in the rarity of temples, and in the use above the ground of burnt modern-type brick rather than square sun-dried brick The great bathhouse and the development of private homes are remarkable at Mohenjo-Daro The quasi-pictographic writing, as yet undeciphered, is found chiefly in short seal inscriptions, it is apparently related to the writing of Sumer and of early Elam, to the Brahmi alphabet of India and to the South Arabian alphabet, and probably to the script of Easter Island The Indus Civilization covered a vast area, extending from Harappa to 100 mi SW of Mohenjo-Daro Little research has been undertaken to the east Of the race of the peoples it can be said only that they were not Aryans, of their religion that it had affinities with historical Indian religions Since the era of the civilization, the annual rainfall of the Indus valley has decreased from 15 to 20 in to c 6 in, probably because of the eastward recession of the monsoon, the desiccation is the main reason for the disappearance of the civilization, and the shift of the river course accounts for the decline of Mohenjo-Daro The first period of archaeological research at Mohenjo-Daro was 1922–27 under the patronage of the imperial Indian government, the work at Harappa began earlier See Sir John Marshall, *Mohenjo-Daro and the Indus Civilization* (1931), complete discussion and corpus, Ernest Mackay, *The Indus Civilization* (1935), G R. Hunter, *The Script of Harappa and Mohenjodaro and Its Connection with Other Scripts* (1934)

Mohican Indians: see MAHICAN INDIANS and MOHEGAN INDIANS

Mohl, Hugo von (hōō'gō fŭn mōl'), 1805–72, German botanist He is noted for his research on the nature of PROTOPLASM and chlorophyll and on the physiology of higher plant forms He was professor of botany at the Univ. of Tübingen from 1835 He was an expert on microscopy and laid the foundation for later work on the structure of palms and cycads His works include *Principles of the Anatomy and Physiology of the Vegetable Cell* (1851, Eng tr, 1852) and a collection of important papers *Vermischte Schriften botanischen Inhalts* [miscellaneous botanical writings] (1845)

Mohnton (mōn'tŭn), borough (pop 1,853), Berks Co, SE Pa, near Reading, inc 1907

Moholy-Nagy, Laszlo (lä'slō mō'hoi-nō'dyu), Hung *Moholy-Nagy László*, 1895–1946, Hungarian painter, designer, and experimental photographer He turned to art after studying law and founded (1916) the review *Jelenkor* in Budapest While living (1920–23) in Berlin he was one of the founders of constructivism and wrote for various modern art magazines As a professor (1923–28) in the newly opened Bauhaus at Weimar (later at Dessau) he was coeditor with Walter Gropius of the school's regular publications Living (1928–34) again in Berlin, he became known as a typographer and designer of stage sets In 1937 he became the director of the Bauhaus School of Design at Chicago Upon the failure (1938) of this school, he opened (1939) the Chicago Institute of Design, which he headed until his death His greatest contribution to modern art lay in his teaching His vivid interest in the new and experimental together with his grasp of the fundamental principles of practical art led him to make of the Institute of Design a school which duplicated the work of the Bauhaus and which deeply influenced American commercial and industrial design He was the author of *The New Vision* (Eng tr, 1928) and *Vision in Motion* (1947)

Mohonk, Lake (mōhŏngk', hŭngk'), SE N Y, near New Paltz, in a resort area of the Shawangunk Mt Mohonk Lake village is here The Lake Mohonk Conference on International Arbitration, sponsored by the Society of Friends, was held yearly from 1895 to 1916

Mohr, Charles Theodor (môr), 1824–1901, American botanist, b Germany He took part in various state and Federal government investigations in botany and forestry Besides contributing to the National Herbarium publications, he wrote *The Timber Trees of the Southern United States* (1896–97) and *Plant Life of Alabama* (1901)

Mohr, Josef (yō'zĕf mōr'), 1792–1848, Austrian priest, author of the poem *Silent Night*

Mohr, Karl Friedrich (karl' frē'drĭkh mōr'), 1806–79, German chemist He was professor of pharmacy at the Univ of Bonn from 1867 He is noted for his work on volumetric analysis and for his invention of a pinchcock and a balance used especially in specific-gravity determination Mohr's salt is a double salt (ferrous ammonium sulphate) used in analytical chemistry

Mohs, Friedrich (frē'drĭkh mōs'), 1773–1839, German mineralogist He was professor at Vienna from 1826 He devised Mohs's scale of HARDNESS

Moir, David Macbeth (moir), 1798–1851, Scottish physician and author He was a frequent contributor to *Blackwood's Magazine*, in which his amusing study of humble Scottish character, *The Life of Mansie Wauch, Tailor in Dalkeith* (1828), appeared under the pseudonym Delta

Moira (moi'ru), river rising in S Ontario W of Sharbot Lake and flowing 60 mi SW to the Bay of Quinte at Belleville Its course is rapid and provides water power

Moirai see FATES

Moisie (mwazē') river of E Quebec, rising near the Labrador border and flowing 210 mi S to the St Lawrence The Hudson's Bay Company has an important trading post at the village of Moisie near the mouth

Moissan, Henri (ärē' mwasä'), 1852–1907, French chemist He was professor at the École normale supérieure de Pharmacie, Paris (1886–99), and at the Sorbonne (from 1900) He isolated the element fluorine (1886) and invented an electric-arc furnace (1892) For these achievements he received the 1906 Nobel Prize in Chemistry He also made diamonds (by crystallizing carbonic acid), evolved a new process of manufacturing acetylene, and made important studies of carbides, silicides, and borides

Moivre, Abraham de (ābra-ăm' du mwä'vrŭ), 1667–1754, French-English mathematician, b France He fled to England after the revocation of the Edict of Nantes He was called upon by the Royal Society to help decide the issue between Newton and Leibniz on the priority of the invention of the differential calculus De Moivre made important contributions to trigonometry and to the law of probabilities. There are three mathematical theorems which bear his name Among his writings is *Doctrine of Chances* (1718)

Mojave (mōhä'vē), river of S California rising in the San Bernardino Mts and flowing north and northeast c 100 mi to disappear in the Mojave Desert When the river reaches the plains, the porous soil and rapid evaporation deprive it of most of its water, except for a short period in the wet season.

Mojave Desert, region of barren mountains and flat desert valleys, c 15,000 sq mi, S Calif, S of the Sierra Madre and N of the San Gabriel and San Bernardino Mts Large borax deposits and gold have been found here "Dry" lakes, undrained and crusted with alkali, contain water only during wet seasons. The Mojave river is in the southern part, and Death Valley lies to the north of the Mojave Desert Once an arm of the sea, the desert was formed by volcanic action and by material deposited by the Colorado river from the arid plain to the east

Moji (mō'jē), city (1940 pop 138,997; 1947 pop. 109,567), Fukuoka prefecture, N Kyushu, Japan, a port on Shimonoseki Strait. A tunnel (1942) connects this industrial and transportation center (known in feudal times as Mojigaseki) with the city of Shimonoseki on Honshu.

Moki Indians see HOPI INDIANS

Mokpo (mŏk'pō'), Jap. *Moppo*, city (1946 pop 103,081), S Korea, a port on the Yellow Sea It is a center of food processing and cotton ginning.

Moksha (mŏk'shŭ), river, 430 mi long, central European RSFSR, rising near Penza and flowing generally NW into the Oka. Its lower course is navigable

Mokuaweoweo (mōkōō'uwä'ōwä'ō), volcano, S central Hawaii, T H, on the summit of MAUNA LOA It is one of the largest active craters With a depth of 800 ft, the crater is 3 7 mi long and 1 7 mi wide During active periods, lava streams flow down the slopes of Mauna Loa The lava flow of 1880–81 was 50 mi long

Moladah (mō'lŭdŭ, mōlä'dŭ) [Heb.,=birth], unidentified city, S Palestine Joshua 15 26, 19 2, 1 Chron 4 28, Neh 11 26

molasses, brownish, viscid residue separated from crystallized cane sugar in the manufacturing process It is called treacle in England In the United States the name is sometimes applied to syrups obtained from sorghum and the sugar maple, as well as to the uncrystallizable residue from the manufacture of sorghum and beet sugars The clarified and evaporated juice of the sugar cane is boiled until the sugar crystallizes and a mass is formed consisting of sugar crystals and molasses The mass is placed in hogsheads with perforated bottoms so that the molasses can drain off, in modern plants, is centrifuged in cylinders which revolve at high speed and throw out the liquid Molasses is usually reprocessed, sometimes twice, to recover crystallizable sugar, then purified The lowest grade, blackstrap, is used in mixed stock feed and in the manufacture of industrial alcohol Better grades such as New Orleans drip molasses and Barbados molasses, lighter in color and containing more sugar, are used in cooking and in the production of rum Standard molasses contains 12 to 16 percent sucrose and not more than 25 percent water

Molay, Jacques de (zhak' du mōlā'), 1243?–1314, last grand master of the Knights Templars He distinguished himself in defending Palestine against the Saracens After the Templars were driven from the Holy Land, he removed to Cyprus, where he began to organize a new force to recapture the lost territory He was summoned (1306) to France by Pope Clement V, at the request of Philip IV, king of France, who, jealous of the Templars' riches and fearful of their power, wished the order suppressed In 1307 all Templars in France were arrested, and their property confiscated De Molay and his knights were brought before an inquisitorial court, charged with heresy, and tortured The grand master, thus subjected, admitted the truth of certain charges, but later recanted, and was burned at the stake

Mold (mōld), urban district (1931 pop, 5,137, 1943 estimated pop 5,800), co seat of Flintshire, Wales, W of Chester It is a livestock market and is in a coal-mining district West of the town is the spot where, traditionally, St GERMANUS OF AUXERRE and the Britons won a great victory There is a 15th-century church The border fortress here was captured by Llewelyn ap Iorwerth in 1199

mold, name for certain multicellular fungi with the plant body composed of a mycelium (a mass of branching filaments) on which the reproductive bodies, spores, are borne The black, green, pink, orange, and other colors of molds are caused by the spores Most molds are saprophytic and can obtain moisture and nutriment from fruits, vegetables, jelly, cheese, butter, bread, silage, and almost any dead organic matter. Among the commonest forms is the black bread mold (*Rhizopus nigricans*), which grows also on decaying vegetables, fruits, and meals Some molds, e g, species of *Penicillium*, are useful in the preparation of Camembert, Roquefort, and other cheeses PENICILLIN and other antibiotic substances are obtained from molds A few molds are pathogenic, e g, those which cause ringworm and other skin diseases and thrush In barnyard fowls moldy feed may cause a fatal pneumonia A mold is the cause of late blight or downy mildew of potato Water molds grow on submerged organic matter and some parasitize fish

Moldau (mōl'dou), Czech *Vltava* (vŭl'tävä), longest river in Czechoslovakia It rises in the Bohemian Forest, 55 mi S of Pilsen, and flows 267 mi northward, past Budweis and Prague, into the Elbe.

Moldavia (mōldā'vēu), historic province (c 14,700 sq mi, pop. 2,598,258), E Rumania, separated in the east from the Moldavian SSR by the Pruth and in the west from Transylvania by the Carpathians.

It borders on the Ukraine in the north and on Walachia in the south JASSY, its historic capital, and GALATI, its port on the Danube, are the chief cities Moldavia, a fertile plain drained by the Sereth, is the granary of Rumania It was part of the Roman province of DACIA and has retained its Latin speech despite the centuries of invasion and foreign rule which began in the 3d cent A D. Greek, Slavic, Turkish, Jewish, and other elements have influenced its culture (see RUMANIA) In the 13th cent the Cumans, who then held Moldavia, were expelled by the Mongol invasion When the Mongols withdrew, Moldavia became (early 14th cent) a principality under native rulers It then included BUKOVINA and BESSARABIA Like its sister principality, WALACHIA, it was torn by strife among the boyars—the great landowners and officeholders—and among rival claimants to the throne The rural population was reduced to misery and virtual slavery (which lasted well into the 19th cent) by the princes, who ruled with Oriental absolutism and cruelty Moldavia reached its height under Stephen the Great, who in 1475 routed the Turks, but in 1504 it became tributary to the sultans It frequently was occupied by foreign powers in the continuous wars among Turkey, Austria, Transylvania, Poland, and Russia, but it always reverted to Turkish suzerainty S Bessarabia early passed under the rule of the khans of Crimea Early in the 18th cent the Turks ended the rule by native princes—who had sided with the enemy as often as with Turkey—and appointed governors (hospodars), mostly Greek PHANARIOTS The Greeks surpassed their predecessors in grasp-ingness, while the nobility fell into total decay and corruption Their rule was ended (1822) after the Greek insurrection instigated by Alexander YPSILANTI, and native hospodars were appointed After the Russo-Turkish War of 1828–29 Moldavia and Walachia were made virtual protectorates of Russia (see ADRIANOPLE, TREATY OF), though they continued to pay tribute to the sultan A Rumanian national uprising (1848–49) was suppressed by Russian intervention In the Crimean War, Moldavia was again occupied by Russia, but in 1856 the two Danubian principalities—Walachia and Moldavia—were guaranteed independence under the nominal suzerainty of Turkey (see PARIS, CONGRESS OF) With the accession (1859) of Alexander John CUZA as prince of both Moldavia and Walachia, the history of modern Rumania began.

Moldavian Soviet Socialist Republic, constituent republic (c 13,000 sq mi , 1946 estimated pop 2,700,000), SW USSR The Pruth separates it from Rumania in the west In the north and east the Dniester forms its approximate boundary with the Ukraine, on which it also borders in the south KISHINEV (the capital), Bender, and Tiraspol are among its chief cities Mostly a hilly plain, it occupies all but the northernmost and southernmost sections of former BESSARABIA and is largely agricultural The majority of the population are Moldavians, but there are large Russian, Jewish, Ukrainian, and Bulgarian minorities The history of the region before the creation (1940) of the republic was essentially that of Bessarabia When Rumania seized (1918) Bessarabia, Soviet Russia refused to accept the fact and established (1924) the Moldavian Autonomous SSR, in the Ukraine, with Tiraspol its capital In 1940 Rumania was forced to cede Bessarabia to Russia The predominantly Ukrainian districts in the south and around Khotin in the north were incorporated into the Ukraine, as were parts of the Moldavian Autonomous SSR, the rest was merged with what remained of the Moldavian Autonomous SSR and made a constituent republic The republic was reconquered by Rumania in 1941, but the USSR recovered it in 1944

Molde (mōl'du, mō'lu), town (pop 3,774), More og Romsdal co , W Norway, S of Kristiansund and on the north bank of the Molde Fjord Commanding a panoramic view over the fjord and the Dovrefjell peaks, it is a favorite tourist center The Molde Fjord has several arms, one of them the famous Romsdal Fjord

molding, in architecture, furniture, and decorative objects, a surface or group of surfaces of projecting or receding contours A molding may serve as a defining element, terminating a unit or an entire composition (e g , in the cap of a column or the crowning cornice of a building) or establishing a boundary or transition between portions of a design It may also serve to break the monotony of a plain surface The shape of a molding is termed its profile or section The various architectural styles have developed such specialized character in their moldings that these generally accurately reveal the period of a work Although little used in modern architecture, moldings formed an important part of most past styles, in Babylonia, Assyria, and Persia, however, their place was taken by flat ceramic enrichments in color In Egypt, moldings were limited to the cove or cavetto and the half round or torus, which, used together, formed the cornices for the walls of temple or pylon. Moldings were an essential feature of Greek orders and buildings These Greek profiles form the basic molding vocabulary for classic types and still underlie the forms currently used, such as the fillet and the fascia, flat vertical surfaces, the ovolo, of an egglike convex outline, the bead and the torus, both convex, three fourths of a circle and one half, respectively, the cavetto, a quarter circle, and the scotia, of elliptical curvature, both concave, and the *cyma recta* and the *cyma reversa*, both of compound curvature, being half concave and half convex The ovolo was carved with the alternating egg and dart, the acanthus leaf and the anthemion were used for the *cyma recta*, and the water leaf for the *cyma reversa* or ogee Roman and Renaissance designers, substituting simple segments of circles for the elliptical and parabolic curvatures, never attained the beauty of Greek forms, while in ornament they added numberless innovations In Byzantine architecture the tendency was to flatten the classic outlines, transforming them into bands of pierced enrichment Romanesque moldings were chiefly simple segments of a circle, as in the especially characteristic boltel or three-quarter round Moldings changed with the development of Gothic Cornices, jambs, arch rings, and capitals show a richly varied interplay between projecting rounds and deep concavities, the latter being often undercut to produce a more complete hollow In England, as the style advanced, the boltel became pear shaped with its tip brought to a point or flattened by a fillet This, the keel molding, is distinctively Gothic, as is also the ware molding In the 15th-century late Gothic of France and of Germany there were elaboration and smallness of scale, with ingenious combining of differing elements to produce broken, merging, and interpenetrating moldings In developed Gothic an entire rich assortment of naturalistic forms appeared, with flowers and intertwining vines From the crisp and clustered foliage emerged human figures and fabled birds and animals The Renaissance return to purely Roman moldings was preceded, in the northern work, by an experimental period in which both Gothic and classic forms freely intermingled See C H Walker, *Theory of Mouldings* (1926).

Molé, Louis Mathieu, Comte (lwē' matyŭ' môlā'), 1781–1855, French politician He was made a count and minister of justice by Napoleon I during the Hundred DAYS (1815) and later served in several cabinets under Louis XVIII Louis Philippe appointed him (1830) foreign minister and premier (1836–39) In these posts Molé steered a middle course at home, pursued a cautious foreign policy, and acted in complete harmony with the king Opposition, both from the right and the left, in the chamber of deputies caused Molé to persuade Louis Philippe to dissolve the chamber and to order new elections A large majority voted in favor of the parliamentary opposition, and Molé resigned He played some part during the Second Republic but retired after Napoleon III's coup d'état of 1851

mole, in chemistry see MOLECULAR WEIGHT.

mole, in medicine see BIRTHMARK

mole, in zoology, small insectivorous burrowing mammal, native to Europe, Asia, and North America Moles are characterized by soft, thick gray or brown fur and pointed muzzles, small, weak eyes, in many species capable only of distinguishing light from dark, the absence of external ears, and powerful, muscular fore limbs, equipped with strong digging claws They dig tunnels just under the surface of the ground, in which they hunt worms and insects Quarters for living, nesting, and wintering are in deeper burrows Mole runways leave ridges and mounds in fields, gardens, and lawns, the animals are trapped as pests (though they probably do less damage than the animals they destroy) and for their fur, which is highly valued The mole is one of the strongest of animals for its size It does not live in captivity See *Mole Control* (U S Dept of Agriculture, Farmers' Bul 1716)

Moloch (mō'lŏk) or **Molech** (mō'lĕk) [Heb , =king], Canaanitish god of fire to whom children were offered in sacrifice He had sanctuary at Topheth, in the valley of Hinnom near Jerusalem Both Solomon and Ahaz were said to have introduced this worship Lev 18 21, 20 2, 1 Kings 11 7, 2 Kings 23,10, Jer 32 35 MALCHAM and MILCOM may be identifiable with Molech

molecular weight (mulĕ'kyōolur), relative weight of a MOLECULE of a substance as compared with the weight of a molecule of some other substance taken as a standard It can be calculated from the chemical FORMULA of a substance, by adding together the relative weights (ATOMIC WEIGHT) of the atoms making up a molecule of the substance For example, to compute the molecular weight of carbon dioxide the molecular formula of this gas indicates that each molecule contains one atom of carbon and two atoms of oxygen Then, since the atomic weights of carbon and oxygen are 12 and 16 respectively, the molecular weight of carbon dioxide is 44, i e , 12+(2×16)=44 Molecular weights of substances are determined in the laboratory in various ways, the method employed depending upon the state (solid, liquid, or gas) of the substance treated Methods for determining the molecular weight of gases are based upon Avogadro's law, from which it is concluded that a comparison of the weight of equal volumes of gases under the same conditions of temperature and pressure gives the same result as a direct comparison of the weights of the molecules themselves When substances are not gaseous normally and do not volatilize without decomposition, the methods for determining their molecular weights involve examination of the increase or decrease in the boiling or freezing point of some solvent Molecular weights are important in chemistry, being used in analysis Often in chemical processes a gram-molecular weight (or mole) of a substance is used, i e , a weight in grams equal numerically to the molecular weight of the substance For example, since the molecular weight of carbon dioxide is 44, the gram-molecular weight is 44 grams The volume occupied by this weight under standard conditions is called the gram-molecular volume

molecule (mŏl'ukūl) [New Latin, =little mass], smallest particle into which any substance (element or compound) can be divided without altering its properties According to the kinetic molecular theory of matter, molecules are in constant vibratory motion (see BROWNIAN MOVEMENT) The state or form in which matter appears (solid, liquid, or gas) depends upon the relative distance between the molecules and upon their velocity In general, in a solid the molecules are relatively close together, the cohesive force between them is strong, and their velocity is relatively slow, in a liquid they are farther apart and move at a faster rate, but their motion is restricted within a definite volume by cohesive forces between the molecules, while in a gas they are farthest apart and move at greatest velocity, the attractive force between them being small Since the kinetic energy, i e , the energy of motion of the molecules, is heat energy, in general when heat is added to a substance its molecules begin to vibrate more rapidly and to move at greater distances from one another If the pressure upon the substance is kept constant, the substance is said to expand When heat is withdrawn, the activity of the molecules decreases, they come closer together, and the substance contracts If heat is added continuously to a substance, a solid or a liquid, for example, the molecules of the substance are finally moving at such velocities and in such relative distances that a change of state occurs, from solid to liquid or from liquid to gas It is believed that in the absence of all heat the motion of the molecules ceases Pressure, as well as temperature, affects the molecular condition of a substance and therefore its state For example, when pressure of sufficient magnitude is applied to a gas, the molecules of the gas are forced more closely together and their velocity is decreased Heat is given off and the gas changes to a liquid The velocity and relative position of the molecules of a substance depend upon the conditions of temperature and pressure in which the substance occurs Molecules, according to the chemist, are made up of atoms which are either of the same kind or of two or more different kinds and which are joined in chemical combination In some cases the molecule consists of only one atom Substances differ according to the structure and composition of their molecules (see ELEMENT and COMPOUND) A compound substance is indicated in chemistry by its molecular FORMULA, which shows the kinds of atoms (the elements) making up a molecule of the substance, the relative number of each kind of atom, and the relative amount by weight of each kind of element A molecule is considered the smallest particle of any given kind of matter which, when taken alone, retains the properties of that given kind of matter Molecules of different substances differ in size and weight (see MOLECULAR WEIGHT) as well as in structure In chemical action, the structure of the molecules of the substance or substances taking part is affected, the atoms breaking from their original molecular arrangement and recombining to form other molecules and therefore different substances Until the 19th cent the terms atom and molecule were treated as synonymous, but in 1811 Avogadro drew the distinction in his study of the combining volumes of certain gases, his hypothesis lending support to Dalton's atomic theory Today, the terms are clearly distinguished

Molesworth, Mary Louisa Stewart (mōlz'wûrth), 1839–1921, Scottish author, b Rotterdam She used the pseudonym Ennis Graham She is best known for her popular stories for children, including *Carrots* (1876) and *The Cuckoo Clock* (1877)

Moley, Raymond Charles (mō'lē), 1886–, American political economist, b Berea, Ohio, grad Baldwin-Wallace College, 1906, Ph D Columbia, 1918 He taught at Western Reserve Univ (1916–19) and at Columbia after 1923, becoming professor of public law and an expert on the treatment of criminals. He was an economic adviser to Gov Alfred E. Smith and became a central figure in the BRAIN TRUST, a group of advisers to Franklin D Roosevelt After Roosevelt was elected President, Moley served (1933) as Assistant Secretary of State and delegate to the World Economic Conference at London, resigning because he felt that Roosevelt did not support him As editor of *Today* (1933–37) and later associate editor of *Newsweek*, he bitterly

criticized Roosevelt's administration. He wrote much on government, the treatment of criminals, and politics. His *After Seven Years* (1939) deals with the Roosevelt administration His political ideas are expounded in *37 Masters of Politics* (1949)

Molfetta (mōlfĕt'tä), city (pop 48,898), Apulia, S Italy, a port on the Adriatic. There is a fine Apulian Romanesque cathedral (11th cent).

Mohd (mō'lĭd) [Heb ,=begetter], descendant of Jerahmeel 1 Chron 2 29.

Molière, Jean Baptiste Poquelin (zhäⁿ' bäptēst' pōkəlē' mōlyĕr'), 1622–73, French dramatist, actor, and master of comedy, b Paris, son of a merchant who was upholsterer to the king His original name was Jean Baptiste Poquelin In his youth he joined the BÉJART troupe of professional actors, from whom he never parted, Madeleine Béjart was for years his mistress The little company opened a theater in Paris, but the venture failing (1645), they toured the provinces Already he had added Molière to his name In 1658 the company returned to Paris and was established under the patronage of the king's brother From then on Molière's company was always successful and in 1665 was given the title the King's Troupe In 1662 Molière married Armande Béjart Molière's comedies excel in three ways, in delineation of character, in creation of situation, and in comic interest These elements appear best in the great comedies of character, in which he ridicules a vice or type of excess by caricaturing a person incarnating it. These comedies are *Le Tartuffe* (1664), on the religious hypocrite, *Le Misanthrope* (1666), on the antisocial man, *L'Avare* (1668, Eng tr , *The Miser*), *Le Bourgeois Gentilhomme* (1670, Eng tr , *The Merchant Gentleman*), on the parvenu, *Les Femmes savantes* (1672, Eng tr , *The Learned Women*), on the fashionable affected intellectualism which he had already lampooned in the little piece *Les Précieuses ridicules* (1659), and *Le Malade imaginaire* (1673), on the hypochondriac Molière was actang the part of the hypochondriac when he was fatally stricken Also comedies of character, but depending more on comic interest, are *L'École des maris* (1661, Eng tr , *The School for Husbands*), *L'École des femmes* (1662, Eng tr , *The School for Wives*), which was followed by a skit against the critics, *La Critique de l'École des femmes* (1663), and *Dom Juan* (1665), an adaptation of the old story of the libertine Molière's farces are uproarious—*Sganarelle* (1660), *Le Médecin malgré lui* (1666, Eng tr , *The Doctor in Spite of Himself*), *George Dandin* (1668), *Monsieur de Pourceaugnac* (1669), *Les Fourberies de Scapin* (1671, Eng tr , *Scapin, the Trickster*), and *La Comtesse d'Escarbagnas* (1671) Among Molière's other works are the poetic *Amphitryon* (1668), after Plautus, *L'Étourdi* (1653?, Eng tr , *The Blunderer*), *Le Dépit amoureux* (1656, Eng tr , *The Amorous Quarrel*), and *Le Mariage forcé* (1664, Eng tr , *The Forced Marriage*) Fortunately there is a primary source on Molière's career, the careful *Registre* or daybook of programs, expenditures, and receipts of the Paris company from 1658 It was kept by the actor Charles Varlet de la Grange (1639?–1692) Molière's comedies have been often translated into English, and his life has been extensively treated, among the standard biographies are those by H M Trollope (1905), H C Chatfield-Taylor (1906), Brander Matthews (1910), and John Palmer (1930). See P A Chapman, *The Spirit of Molière* (1941)

Molina, Luis (lwēs' mōlē'nä), 1535–1600, Spanish Jesuit theologian He taught at Coimbra and Évora In 1589 he published a work called *Concordia* Its doctrine, called Molinism, was an attempt along new lines to reconcile the two Catholic dogmas, that God's grace is supreme and the cause of sanctification of the soul and that man is endowed with a will absolutely free Molinism emphasized the freedom of the will and started from that The author was immediately attacked by the Dominicans, because he rejected the reconciliation made by St Thomas Aquinas, but the Jesuits rallied to Molina's side The dispute was extremely bitter at first The theology of Francisco SUÁREZ attempted to bridge the gap

Molina, María de: see MARÍA DE MOLINA

Molina, Tirso de see TIRSO DE MOLINA

Moline (məlēn'), city (pop. 34,608), NW Ill , on the Mississippi (here crossed by several bridges) adjacent to ROCK ISLAND and opposite DAVENPORT, Iowa, platted 1843, inc as a town 1848, as a city 1872 The three cities, with EAST MOLINE, form an economic unit called the Quad Cities Moline is a rail, air, river, trade, and industrial center, with coal fields near by. It is supplied with water power from a dam in the river Among its manufactures are plows, tractors, and other agricultural machinery, heating equipment, paints, and clothing In 1847 John DEERE moved here from Grand Detour

Molinos, Miguel de (mēgĕl' dā mōlē'nōs), 1640–97, Spanish priest and mystic. He was the founder of QUIETISM, which he held in its most extreme form From 1669 he lived principally at Rome. His *Guida spirituale* (1675) set forth his quietistic principles—the complete contemplative passivity of the soul before God. His development of the idea of a separation between the lower man and the passive soul led to difficulty. In 1685 he was tried by the Holy Office, imprisoned, and condemned (1687) by the Inquisition He died in prison, but with the rites of the Church. See John Bigelow, *Molinos, the Quietist* (1882), J H Shorthouse, *Golden Thoughts from the Spiritual Guide of M Molinos* (1883).

Molise see ABRUZZI E MOLISE.

Mölk, Austria see MELK

Mollendo (mōlyĕn'dō), Pacific port (pop 12,628), SW Peru. Formerly the chief port for S Peru and N Bolivia, it lost some importance when Matarani, a new port c 7 mi to the north, was completed in 1941. Mollendo, a rail terminus, is entirely open to the ocean, while Matarani has some natural protection aided by breakwaters. Chief export is alpaca wool

Mollison, James Allan, 1905–, British aviator. He made the first westward solo flight across the Atlantic in 1932 With his wife, Amy Johnson, he recrossed from England in 1933, but crashed at Bridgeport, Conn.

mollusk (mŏl'ŭsk), invertebrate animal of the phylum Mollusca with a soft, unsegmented body, the under part of which usually forms a muscular foot Many mollusks have an external shell, in some the shell is internal and in a few it is lacking A mantle or sheath of skin usually envelops the body and secretes the shell Most of the species are aquatic, but some are terrestrial Classes of mollusks include the gastropods, or stomach-footed forms, e g , the SNAIL, whelk, limpet PERIWINKLE, and CONCH, which characteristically have one spirally coiled shell, and the SLUG and land snail, the cephalopods or head-footed forms, such as the squid, OCTOPUS, NAUTILUS, and CUTTLEFISH, the pelecypods or lamellibranchs, bivalve forms which usually have a hatchet-shaped foot, such as the CLAM, OYSTER, MUSSEL, SCALLOP, and SHIPWORM, the chitons, and the tooth shells or tusk shells

Mollwitz (mōl'vĭts), village, Lower Silesia, SE of Breslau Here, on April 10, 1741, Frederick II of Prussia defeated the Austrians in the War of the Austrian Succession The battle conclusively demonstrated the superiority of modern infantry over cavalry

Molly Maguires (mŭgwī'ŭrz), secret organization of Irishmen in the Scranton anthracite mining districts of Pennsylvania For several years, especially from c 1865 to 1875, it dominated the industry It was a physical-force movement, which seems to have arisen to combat the oppressive industrial and living conditions Since the police and the forces for law and order were entirely controlled by the owners of mines, the Molly Magures often resorted to murdering or intimidating the police Agents and superintendents were continually molested. The apogee of the Mollies' power was c 1875, when they managed to organize a strike in a region otherwise virtually unorganized Their power was finally broken by the spying activity of James McParlan, an Irishman employed by the Pinkertons on behalf of the industrialists Twenty of them were hanged McParlan's secret reports were released for study in 1947 See Anthony Bimba, *Molly Maguires* (1932), J. W. Coleman, *The Molly Maguire Riots* (1937)

Molnar, Ferenc (fĕ'rĕnts mōl'när), Hung *Molnár Ferenc*, 1878–, Hungarian dramatist and novelist He studied law at the universities of Budapest and Geneva and was for several years a journalist in Budapest His translated plays, produced with great success in the United States, include *The Devil* (1907, Eng tr , 1909), *Liliom* (1909, Eng. tr , 1921), *The Swan* (1920, Eng tr , 1922), and *The Guardsman* (1910, Eng tr , 1924) and were collected in 1937 (*All the Plays of Molnár*) Other translated works include the novel *The Paul Street Boys* (1907, Eng tr , 1927)

Molndal, Swed *Mölndal* (mûln'dăl"), city (pop 17,822), SW Sweden, just E of Goteborg An industrial center, it produces textiles, paper, and margarine

Moloch (mō'lŏk), in the Bible. see MOLECH

Molokai (mō'lōkī'), island (259 sq mi., pop 5,340), one of the Hawaiian Islands It is c 8 mi W of Maui across Pailolo Channel and c 23 mi E of Oahu across Kaiwi Channel Molokai is generally mountainous, with Mt Kamakou (4,958 ft) the highest peak In an isolated part of the northern coast is the leper colony (established in 1860 and now a government leprosarium), Kalaupapa Settlement, shut off from the rest of the island by a rock wall c 1,600 ft high The Belgian missionary Father DAMIEN worked and died here Molokai has many cattle ranches and pineapple plantations, the poor soil is unfit for the cultivation of sugar cane The chief port is Kaunakakai

Molotov, Vyacheslav Mikhailovich (vyĕ"chĭslăf' mĭkhī'lŭvĭch mō'lŭtŭf), 1890–, Russian statesman. A Communist from early youth, he changed his name from Skriabin to Molotov to escape the imperial police He was, however, several times imprisoned and exiled After the Bolshevik Revolution he rose rapidly in the party and was chairman of the council of people's commissars (i e., premier of the USSR) from 1930 to 1941, when that post was taken over by Stalin and Molotov became vice chairman In May, 1939, he succeeded LITVINOV as commissar of foreign affairs (a title later changed to foreign minister), and in this capacity he negotiated with Ribbentrop the Russo-German nonaggression pact, signed at Moscow in Aug , 1939. After the German invasion (1941) of the USSR, Molotov helped to strengthen the alliance of Russia with the Western powers, shared in the foundation of the United Nations, and took part in all major international conferences until 1949, when his deputy, Vishinsky, succeeded him as foreign minister. Molotov kept his post as vice premier and as member of the Politburo of the Communist party Molotov's unswerving and tireless adherence to the policies dictated by his government gave him the reputation of personal inflexibility and stubbornness during the difficult post-war years, when Russian and Western foreign policies clashed continually

Molotov, city (1939 pop 255,196; 1946 estimated pop 450,000), capital of Molotov oblast, RSFSR, on the Kama river, in the western foothills of the Urals Until 1940 its name was Perm Molotov is a major inland port, a railroad center, and an important station in air transport It also has important industries, producing pig iron, machinery, and chemicals. Among its numerous cultural institutions are a university (founded 1916), medical, pharmaceutical, and agricultural colleges, museums, theaters, and an opera Perm was chartered in 1781; it was named for the Finnic population of the region, which still lives in the Komi-Permyak National Okrug (see KOMI) It was merged (1938) with the city of Molotovo (1933 estimated pop 68,900) and renamed Molotov in 1940 Its industrial development began in the late 19th cent and was intensified after the First World War Molotov oblast is a major mining region (see URALS)

molting, the periodical shedding and renewal of the outer skin, exoskeleton, fur, or feathers of an animal In birds the number and completeness of the molts varies The down feathers of the very young bird are replaced by the juvenal plumage Among birds in which the plumage colors of males and females differ, as in the oriole, the goldfinch, and the redstart, the juvenal plumage more closely resembles that of the female Soon after they learn to fly, most species molt the juvenal plumage and assume the first winter plumage From that time until they become adults the birds are called the immatures The following spring the first nuptial plumage appears It is replaced at the end of the summer by the second winter plumage This late summer postnuptial molt is repeated each year and is in most birds the only complete molt The annual spring or prenuptial molt is complete in only a few birds In some, such as the scarlet tanager and the goldfinch, the dull body feathers of winter are replaced by bright ones In others the brightening is caused by a wearing off of the tips of the winter feathers Feathers are, in most cases, lost and replaced gradually and in sequence Except among ducks, rails, and diving birds the ability to fly is not lost A series of molts gives the PTARMIGAN protective coloring at all seasons Invertebrate animals, such as insects and crabs and their relatives, which have exoskeletons shed this covering periodically to permit growth A new covering which is formed by the skin beneath hardens after the animal emerges from the old one Snakes shed their skins, and mammals change from heavy winter pelage to light summer pelage In some mammals, such as the ermine and the varying hare, the color changes with the season

Moltke, Helmuth Johannes Ludwig, Graf von (hĕl'mōōt yōhn'nus lōōt'vĭkh grăf' fŭn mōlt'kŭ), 1848–1916, German general He fought in the Franco-Prussian War (1870) and in 1882 became adjutant to his uncle, Field Marshal Moltke He became a favorite of Emperor William II and succeeded Alfred von SCHLIEFFEN as chief of general staff in 1906 Shortly before the outbreak of the First World War, Moltke modified his predecessor's famous plan by timorously withdrawing several divisions from the right wing of the potential Western front, in order to reinforce the left Because of illness he retired as chief of staff soon after the war broke out

Moltke, Helmuth Karl Bernhard, Graf von (hĕl'mōōt kärl' bĕrn'härt grăf' fŭn mōlt'kŭ), 1800–1891, Prussian field marshal, b. Mecklenburg Following his graduation from the Royal Military Academy of Denmark, he entered the Danish service, but resigned his commission in 1822 to join the Prussian army He became a member of the general staff (1832), and three years later with official sanction he entered the service of the Turkish sultan as military adviser. His advice was not followed in the campaign against Mohammed Ali, and he returned (1839) to Prussia, where he advanced rapidly and was made chief of the general staff in 1858. He worked tirelessly to mold the Prussian army into a formidable war machine. The successful completion of the Danish War (1864) and of the Austro-Prussian War (1866) was due to his tactics, and in the FRANCO-PRUSSIAN WAR (1870–71) Moltke's genius, evinced especially in his plan of mobilization, led to complete Prussian victory. On receiving news of the fall of Metz,

William I made him a count. Moltke owed many of his military successes to the elasticity of his strategy. Unlike Napoleon, he gave his subleaders liberty in making decisions. When he resigned as chief of staff in 1888, he was made chairman of the committee for national defense. Moltke was a member of the diet of the North German Confederation (1867–71) and of the Reichstag (1871–91). He wrote noteworthy books on tactics, including *The Franco-German War of 1870-71* (Eng tr, 2 vols, 1893)

Moluccas (mŭlŭ'kŭs, mō–) or **Spice Islands**, Dutch *Molukken*, island group (c 32,300 sq mi.; pop 560,000), East Indonesia, between Celebes and New Guinea. The group includes HALMAHERA, CERAM, BURU, AMBOINA, TERNATE, ARU ISLANDS, and KAI ISLANDS. Discovered in the early 16th cent by the Portuguese, they were taken in the 17th cent by the Dutch, who secured a monopoly in the clove trade. Twice the British gained a foothold in the islands, which passed definitely to the Dutch in the first quarter of the 19th cent. Of volcanic origin, mountainous, and fertile, the Moluccas yield a variety of tropical products, with exports consisting chiefly of copra and fish.

molybdenite (mulĭb'dunīt, mō–), a mineral, molybdenum disulphide, blue gray in color, with a metallic luster and greasy feel. It occurs in crystals of the hexagonal system, but more commonly in scales, grains, or foliated or massive form. It has an excellent basal cleavage and the laminae are flexible. It is found in granites, syenites, gneisses, and crystalline limestones, important producing regions are in Saxony, Bohemia, England, Australia, and various parts of the United States, especially in Colorado and New Mexico. Molybdenite is an important ore of molybdenum, the ore is first roasted to eliminate the sulphur, and the oxide thus formed is reduced with carbon in the electric furnace.

molybdenum (mulĭb'dunum), rare, silvery metallic element (symbol=Mo, for physical constants, see ELEMENT, table). It exhibits a metallic luster and can be drawn into wire and made into thin sheets. It combines with various substances with oxygen to form a number of oxides, the trioxide being the best known, with chlorine to form a number of chlorides, with sulphur, sulphides and with some other metals or the ammonium radical and oxygen to form compounds known as molybdates. The metal does not occur uncombined in nature, its chief ores being MOLYBDENITE (a compound of the element with sulphur) and wulfenite (lead molybdate, a compound of lead, molybdenum, and oxygen). It is widely, but sparingly, distributed throughout the world, in these and other rarer minerals, being found in the United States (in the northeastern and far western parts), in Canada, in South America, in Europe (in Norway, Sweden, Finland, England, France, Saxony, and Italy), in Africa, and in Australia. The metal is prepared from molybdenite by roasting followed by reduction by carbon in the electric furnace. It is used in making alloy STEEL, being introduced commonly in the form of an alloy with iron (ferro-molybdenum alloys) and acting as a good hardening agent. Molybdenum steels are employed for making high-speed tools, aircraft parts, and forged auto parts, and molybdenum is used in radio-tube grids and filaments, for electrodes, and in other products. A compound, ammonium molybdate is used in testing for phosphoric acid. The existence of molybdenum was suggested by K. W. Scheele (1778), and it was isolated by P. J. Hjelm in 1782.

Mombasa (mŏmbā'sŭ, -bă'sŭ), city (pop 102,500), Kenya, a port on the Indian Ocean, on Mombasa island and the mainland. From the 8th to the 16th cent. it was a center of the Arab trade in ivory and slaves. It was visited (1498) by Vasco da Gama on his first voyage to India. Mombasa was three times burned by the Portuguese, notably by Francisco de Almeida in 1505, and the Portuguese controlled it until it fell to the Arabs in 1698. It later became part of Zanzibar sultanate and passed to Great Britain c 1880. It is the terminus of the Kenya-Uganda RR and a center for the export of coffee, cotton, sisal, and tea.

Mombert, Alfred (äl'frät mōm'bĕrt), 1872–1942, German poet. He was briefly a lawyer and public official. His numerous volumes of verse are characterized by mysticism and fantasy. Other poets have proclaimed him the outstanding German genius of his time. His works include *Die Glühende* [aglow] (1896), *Die Schöpfung* [the creation] (1897), *Die Blüte des Chaos* [the blossoming of chaos] (1905), the trilogy *Aeon* (1907–11), *Der Held der Erde* [the hero of the earth] (1919), and *Atair* (1925). Although Jewish, he preferred to remain in Germany under the Nazis. Arrested in 1940, he became ill in a concentration camp in France, was released in 1941, and died in Switzerland.

Momence (mōmĕns'), city (pop 2,425), NE Ill., on the Kankakee river and 8 of Chicago, in a farm and quarry area; platted 1844, inc. 1874. It was an important point on the Hubbard Trail.

momentum (mōmĕn'tŭm). The term is commonly employed in popular usage to indicate the force or power that a moving body exerts to maintain its motion. This definition is not satisfactory, however, when a measurement of momentum is necessary, since it does not make clear the two elements upon which the momentum of a body depends, namely, the mass of the body and the velocity of the body, and it confuses the momentum of a body with the impulse of a force upon the body and with the energy which the body possesses because of its motion, i.e., its kinetic energy. In mechanics, therefore, the momentum of a body is defined as the quantity of motion of the body, specifically the product of the mass of the body and its velocity. When an external force acts upon a body or a system of bodies in motion, it causes a change in the momentum of the body. The impulse of a force (i.e., the product of the force and the duration of time in which it acts) upon a body is measured by the change in momentum. On the other hand, when no external force acts upon a body in motion or a system of bodies there is no change in the momentum of the body or system of bodies, even though, as in the case of a system of bodies, there is an internal disturbance of the system. This conclusion is known commonly as the principle of the conservation of momentum. The distinction between the momentum of a body and its kinetic energy can be seen in the action of a pile driver. The distance to which the pile is driven depends upon the kinetic energy, while the length of time required for the action to cease depends upon the momentum.

Mommsen, Theodor (tā'ōdōr mōm'sun), 1817–1903, German historian. Appointed (1848) professor of civil law at the Univ. of Leipzig, he lost his position in 1850 because of his moderately liberal political opinions. He subsequently taught Roman law at Zurich and Breslau and from 1858 was professor of ancient history at the Univ. of Berlin. His greatest work is his *History of Rome* (3 vols, 1854–56, available in several English translations), which became one of the classics of historical writing. The fourth volume was never completed, but the fifth appeared in 1885. His political opinions, somewhat colored his remarks on ancient politics, but his work admirably covers Roman cultural and economic life. Mommsen also wrote authoritatively on Roman law, notably in *Römisches Staatsrecht* (3 vols, 1871–76) and *Römisches Strafrecht* (1899), and on archaeology. He edited several volumes of the *Monumenta Germaniae historica*. His collected works were published as *Gesammelte Schriften* (8 vols, 1905–13). Mommsen received the 1902 Nobel Prize in Literature.

Momus or **Momos** (both mō'mus), in Greek myth, personification of mockery and rebuke, son of Night. Only Aphrodite, he said, was blameless.

Mon, Denmark: see MORN.

Mona, Roman name of an island sometimes identified with the Isle of Man, Great Britain, and sometimes with Anglesey island, Wales.

Monaca (mŏn'ŭkŭ), industrial borough (pop 7,061), W Pa., on the Ohio and NW of Pittsburgh, settled 1813, inc. 1839. Its manufactures include glass and iron and steel products.

Monaco, Lorenzo: see LORENZO MONACO.

Monaco (munä'kō, mō'nŭkō, Fr. mônäkō'), independent principality (c 370 acres, 1946 pop 19,242), on the Mediterranean, an enclave within Alpes-Maritimes dept., SE France, E of Nice and near the Italian border. Surrounding a natural harbor, it consists of three adjoining sections—La Condamine, the business district, MONTE CARLO, and Monaco, its old capital, atop a rocky promontory. Its beautiful situation and the famous gambling casino of Monte Carlo make it one of the best-known resorts of the Riviera. The ruling prince, Rainier III, succeeded his grandfather, Louis II, in 1949. According to the constitution of 1911 the principality is governed by a cabinet and a national council. Monaco has a customs union with France, and its currency is interchangeable with the French. There is no income tax, the chief source of state revenue being the casino, which is managed as a concession by a private corporation. Only c 2,000 of the population are citizens of Monaco (Monegasques), these are not admitted to the gambling tables. Probably settled by the Phoenicians in early times, Monaco was ruled by the Genoese Grimaldi family from the 13th cent. In 1731 the male line died out, but the French Matignon family, which succeeded by marriage, assumed the name Grimaldi. Monaco was under Spanish protection from 1524 to 1641, under French protection from 1641 to 1793, annexed to France in 1793, and under Sardinian protection from 1815 to 1861. The districts of Menton and Roquebrune were incorporated (1848) into Sardinia, which in turn ceded them to France in 1860. By a treaty of 1918, the succession to the throne must be approved by the French government. In the 19th cent., Monaco rose to great prosperity as a fashionable resort. The town of Monaco contains the palace (16th cent.), the cathedral (19th cent.), and a noted oceanographic museum founded (1910) by Prince Albert I.

monad: see BRUNO, GIORDANO, and LEIBNIZ, GOTTFRIED WILHELM, BARON VON.

Monadhliath Mountains (mō'nälē'ŭ), Inverness-shire, Scotland, between the Spey valley and Loch Ness. Carn Mairg (3,087 ft.) is the highest point.

Monadnock (munăd'nŏk), isolated peak, 3,165 ft. high, SW N.H., NW of Jaffrey, much visited for its wide view.

Monagas, José Tadeo (hōsā' tädhā'ō mōnä'gäs), 1784–1868, Venezuelan political leader. He fought under Bolívar in the revolt against Spain. Chosen by José Antonio PÁEZ as president in 1847, he set up a compromise administration. Páez subsequently revolted, but Monagas crushed the insurrection. In 1851 José Gregorio Monagas, a brother, was inaugurated, and in 1855 José Tadeo again took office. Reforms, including the emancipation of slaves, were introduced, but adoption of a new constitution led to a successful revolution (1858) against him. Ten years later he headed a counter-revolution with forces called the Azules [blues], but he died just after returning to power. His son, José Ruperto Monagas, continuing the dynasty, was overthrown by a new revolution that brought GUZMAN BLANCO to power.

Monaghan (mō'nŭgun), inland county (498 sq mi., pop. 57,215), one of the northern counties of the republic of Ireland, in Ulster. The county town is Monaghan. The northwest portion of the county is a part of the fertile central plain of Ireland, the hilly sections to the south and east are devoted to cattle grazing. It is primarily an agricultural county. Potatoes, oats, and turnips are the chief crops, and pigs, sheep, and poultry, as well as cattle, are raised in large numbers. Monaghan was organized as a shire in the latter part of the 16th cent.

Monaghan, urban district (pop 4,673), county town of Co. Monaghan, Ireland, NNW of Dublin. It has the Roman Catholic cathedral of the diocese of Clogher and is a farm market with some manufacturing.

Monahans (mŏn'ŭhănz), city (1940 pop 3,944, 1947 estimated pop 5,600), co. seat of Ward co., W Texas, N of the Pecos, inc. 1928. It grew from a tiny ranching center to be an oil town in the 1930s, it now refines gasoline and produces carbon black.

Mona Passage (mō'nu), 80 mi. wide, between Haiti and Puerto Rico. It connects the N Atlantic with the Caribbean Sea.

monarchianism (mŏnar'kēŭnĭzm) [Gr., =belief in the rule of one], the concept of God which maintains his sole authority even over Christ and the Holy Spirit. Its characteristic tenet, that God the Father and Jesus Christ are one person, was developed in two forms in early Christianity. Dynamistic monarchians, such as the THEODOTIANS and PAUL OF SAMOSATA, held that Jesus was born a man and received the Christ as a power from God at a later time (see ADOPTIONISM). Modalistic monarchians taught that God is unknowable, except for his manifestations or modes. Christ is one of these. Because of the consequent implication that God the Father must have died on the cross, they were called Patripassians (from Latin, =the Father suffering). SABELLIUS fully developed modalism.

monarchy. One-man rule is found in many primitive groups. Monarchy is either absolute or limited by custom or a constitution. It may be elective or hereditary or, as in the case of early German kings, chosen from a family, both. In recent times, monarchies are regularly hereditary and limited by a constitution. Many monarchs of ancient times were deified, some hereditary monarchs were believed to be descended from deities. Many later monarchs claimed to hold their power by divine right. In some instances the monarch has become primarily a symbol of political unity and has little or no power except through personal influence.

Monasterboice (mŏn'usturbois'), village, Co. Louth, Ireland. It has ancient crosses and a round tower, relics of a community founded by St. Bute or St. Boethius (d. 521).

monasticism (mună'stĭsĭzm, mō–), organized life in common, especially for religious purposes. Voluntary seclusion is a commonplace of ASCETICISM. Where the person isolates himself, he is a HERMIT, the life being called eremitic, the secluded life in common, called cenobitic, is the conventional form of monasticism. The home of a monastic society is a monastery or convent, the inhabitants are monks or nuns, all these terms have special uses in Christian practice. Typically monastic communities are of one sex only and practice CELIBACY. Monasticism has played a major role in BUDDHISM, (including LAMAISM), JAINISM, ISLAM, and Christianity. There are other cases of monasticism, as, anciently, the VESTAL virgins of Rome, the Jewish ESSENES, the THERAPEUTAE of Egypt, and the Peruvian virgins of the sun. Nonreligious communistic groups such as BROOK FARM and the AMANA SOCIETY are not generally regarded as monastic. The SHAKERS had many analogies with monasticism. Among Christians, monasticism is found only among those who hold the traditional Christian view of asceticism, i.e., mainly in the Roman Catholic and Eastern Orthodox churches. A few Anglican religious orders have been founded. In the Eastern churches monasticism is generally uniform (see BASILIAN MONKS). Roman Catholic monasticism of the West is more diverse and more

intimately connected with everyday life than that of the East The norm in the Roman Catholic Church is the religious order, a society of men or of women bound together with vows, always of chastity and obedience and usually of poverty too Members of Roman Catholic religious orders are said to be enclosed if they rarely or never go out of the enclosure they live in They are said to be regular, as distinct from the secular clergy of the parishes The terms *contemplative or active*, applied to the life of regular religious, are misleading, since though enclosure implies emphasis on contemplation, many unenclosed religious lead contemplative lives (see MYSTICISM) Male members of religious orders may be in holy orders, i e , bishops, priests, or deacons, but they are not necessarily so, laymen in religious orders are brothers Roman Catholic religious orders of men fall into six classes, monks, canons regular, friars, clerks regular, ecclesiastical congregations, and religious institutes Monks are attached to their monastery, subordinate chiefly to their abbot, and are typically BENEDICTINE, the CISTERCIANS are a class of Benedictines, and the TRAPPISTS (enclosed) are a division of the Cistercians The CARTHUSIANS, of a quasi-hermit type, are the only non-Benedictine monks of the West Canons regular are priests living in a community usually attached to a church, such have been the Lateran canons, the religious of the Alpine pass of St Bernard, the Premonstratensians, and the old Austin canons (see AUGUSTINIANS and CANON) The rest of the religious orders are highly centralized systems (not federations) and have usually their work outside their precincts The friars are the oldest of this new type (see FRIAR) These are chiefly DOMINICANS, FRANCISCANS, Augustinians (Austin friars), and CARMELITES Clerks regular are several orders, including the Jesuits (see JESUS, SOCIETY OF), the most numerous of Roman Catholic orders in the 20th cent The largest number of communities of priests are called loosely ecclesiastical congregations They number more than 50, including the Oratory of St Philip Neri, the Redemptorists, and Maryknoll Religious institutes are separate organizations of laymen, mainly teaching bodies, notably the Christian Brothers, founded by St JOHN BAPTIST DE LA SALLE Roman Catholic communities of women are generally smaller and are much more numerous—there are more than 1,000 A few are enclosed and are more properly called nuns There are enclosed nuns following the rule of most orders of monks and friars, they are often called second orders Most Roman Catholic sisterhoods are devoted to teaching or charitable work (e g , hospitals and social work), many of them are tertiaries (see TERTIARY) They differ greatly in clothing, especially in their hoods The orders also vary in purpose Some exist as a way of life for the perfection of their members—this is the classic Benedictine goal Probably the greatest number of orders are specifically for teaching or missionary work, some (Jesuits, Franciscans, Dominicans) have generalized goals realized in every field In the modern Roman Catholic Church almost the only official activity which is not mainly in the hands of religious orders is the administration, from the parish to the Holy See Christian monasticism probably began with hermits in Egypt and Palestine about the time of the legalization of Christianity The most famous hermit was St ANTHONY (4th cent) His contemporary St PACHOMIUS introduced to Egypt the life in common, and St Basil the Great's rule (late 4th cent) established the norm for the Eastern Church The earliest Western monasticism resembled that of the East and spread with Christianity to Ireland, where the church was organized (6th cent) around the monasteries as centers Meanwhile in Italy, St BENEDICT (5th cent) began the work from which sprang the BENEDICTINES From the time of Pope GREGORY I, Western monasticism became gradually universally Benedictine, with even the Celtic foundations on the Continent like Luxeuil and St Gall assimilating to the general practices The part of the monks in the rise of the new civilization of the West is incalculable Their abbeys were the foci of stability, and they almost alone preserved the Christian and Roman-Greek cultural tradition In the 10th cent there began at CLUNY a reform which affected all Europe Out of another reform arose the Cistercians (12th cent). The Dominicans and Franciscans (early 13th cent) abandoned enclosure as a principle and with the other friars became a feature in the town life of Europe until the Reformation Their energy gave the universities and schools definitive form, and the whole Aristotelian renaissance (e g., in SCHOLASTICISM) was dominated by the friars They became the chief spiritual leaders In the 15th cent monastic life, like all religion, was in decline, still it was the time of the rise of a number of quasi-monastic layman's groups, such as the BEGHARDS and BÉGUINES and the tertiaries The Reformation destroyed monasticism wherever it triumphed politically, a process begun in England by Henry VIII The 16th cent saw a new monastic revival in the Jesuits concomitant with reform within the Church. Since then, notably in the 19th cent., there has been a great increase in the number of religious communities The Paulists and the Sisters of Charity of Mother Seton are examples of American communities Anti-Catholic and anti-religious attacks concentrate typically on monasticism, e g., in National Socialist Germany and in Communist-dominated countries The result is that from nearly every country in Western Europe the religious orders have been expelled at one time or another To many (e g , France, England, the Netherlands) they have been allowed to return Individual orders resemble each other in their history, they go through wavelike periods of fervor and relaxation The reformers always are plagued by the same chief evil, laxness of the individual, which brings decline in self-discipline At times the orders have been large property holders, sometimes with beneficent results (as in pre-Reformation England), sometimes to their own decay and ruin (as in 18th-century France) Many reformers (e g , St Francis and St Dominic) have perceived the dangers of institutional property becoming an end in itself, but no monastic organization which held no property at all has long survived See the classic of Montalembert, *The Monks of the West* (Eng , tr , 6 vols , 1896), F A Gasquet, *Henry VIII and the English Monasteries* (3d ed , 1888–89), Louis Gougaud, *Christianity in Celtic Lands* (1932), David Knowles, *The Monastic Order in England* (1940), J R H Moorman, *Church Life in England in the Thirteenth Century* (1945)

Monastir, Yugoslavia see BITOLJ

monazite (mŏ'nuzīt), one of the RARE EARTHS It is a phosphate of the rare elements cerium, lanthanum, praseodymium, and neodymium and usually contains thoria (the oxide of thorium) and some silica as impurities It is brown or reddish in color, with a resinous luster, perfect basal cleavage, and conchoidal fracture, it is translucent to opaque It occurs associated with granites and gneisses but most commonly is found in river and beach sands derived from monazite-bearing rocks It was formerly mined in North and South Carolina, but most of the world's supply comes from the placer deposits of India and Brazil Monazite is the chief source of thorium and of cerium

Monboddo, James Burnett, Lord, 1714–99, Scottish judge and philosophical writer His two six-volume works are *Of the Origin and Progress of Language* (1774–92), in which he antedates Darwin in considering orangutans and human beings as similar animals, and *Antient Metaphysics* (1779–99), in which he defends the dualism of Plato and Aristotle. See William Knight, *Lord Monboddo* (1900).

Moncenisio see CENIS, MONT

Mönch (mŭnkh), peak, 13,468 ft high, in the Bernese Alps, Switzerland

Monck, Charles Stanley, 4th **Viscount,** 1819–94, governor general of Canada An Irish peer, he was elected (1852) to the British House of Commons and was a lord of the treasury (1855-57) in the Palmerston government As governor general (1861-67) of British North America (Canada), he worked to prevent a rupture between the United States and Great Britain during the American Civil War and to bring about confederation of the Canadian provinces Created (1866) a baron in the peerage of the United Kingdom, he was appointed (1867) the first governor general of the dominion of Canada, but he resigned in 1868 and returned to Ireland

Monck or **Monk, George,** 1st **duke of Albemarle,** 1608–70, English soldier and politician He fought in the Thirty Years War and against the Scots in 1639 At the outbreak of the civil war he somewhat hesitantly aligned himself with the king and was given command of the naval forces from Ireland Captured at Nantwich in 1644, he was not released until 1647 Having gained the confidence of Parliament, he was commissioned to help subdue the Irish rebellion In 1650 he was made lieutenant general under Cromwell in Scotland and in 1651 was left to complete the subjugation of the Scots He became a general of the fleet in 1652 and took part in the victories over the Dutch at Portland and off the Texel He resumed his command in Scotland (1654–60) and was an adviser of Richard Cromwell after the death of Oliver (1658). He was reluctant to accede to the proposals of Charles Stuart (later Charles II) and remained loyal to Parliament until early in 1660, when he apparently decided that order could be secured only by restoring the Stuarts to the throne After obtaining the support of the Scottish estates, he crossed the border and marched with an army upon London Through his influence the Rump Parliament readmitted the members excluded by Pride's Purge (1648), then dissolved itself and called elections for another Parliament (the convention), which proved to be sympathetic to the Restoration On Monck's advice, Charles issued the Declaration of Breda, and Monck managed the invitation to Charles to return The restored monarchy was confirmed by the new Parliament on May 1, 1660 Monck's diplomacy was hardly less conspicuous than his ability as a soldier. After the Restoration honors were heaped upon him, he was appointed gentleman of the bedchamber, created duke of Albemarle, made military commander in chief, and granted a pension In the summer of 1666 Monck was given command of the fleet and shared with Prince Rupert the victory over the Dutch He was in control of the city of London at the time of the great plague (1665) and the great fire (1666) See C. W. Jarrolds, *Hero of the Restoration* (1936)

Moncks Corner, town (pop 1,165), co seat of Berkeley co , SE S C , N of Charleston It is on the Cooper near the Santee-Cooper hydroelectric and navigation project The county hospital is here

Monckton, Robert (mŭngk'tŭn), 1726–82, British general He served in the War of the Austrian Succession in Flanders and Germany In 1752 he was sent to Nova Scotia and the next year suppressed an insurrection of German settlers at Lunenburg In 1755 Monckton led a large force mostly New England auxiliaries, from Boston and took Fort Beauséjour and other forts, reducing Nova Scotia to British control He was made lieutenant governor of Nova Scotia and followed out the governor's orders in deporting the Acadians (see ACADIA) He had been chosen by Jeffrey Amherst to succeed John FORBES as commander, but instead was made second in command to James Wolfe in the campaign against Quebec (1759) In that decisive campaign he played a fairly notable part In 1760 Amherst gave him command in Pennsylvania and the South, and in 1761 he was made governor of New York He was commander of land forces in the expedition against Martinique (1761–62) which Admiral Rodney and he accomplished brilliantly He returned to New York, but went to England in 1763 and was succeeded as governor in 1765

Monckton Milnes, Richard see HOUGHTON, RICHARD MONCKTON MILNES, 1st BARON

Moncton (mŭngk'tŭn), city (pop 22,763), SE N B , on the Petitcodiac river above its mouth on the Bay of Fundy It is an industrial and transportation center, with an airport, in a lumbering and farming area First settled by the French, who were followed (1763) by Germans from Pennsylvania, it was called The Bend until 1855, when it was renamed in honor of Gen Robert Monckton The Free Meeting House (nonsectarian) was built in 1822

Mond, Alfred Moritz, 1st **Baron Melchett** (mŏnd, mĕl'chĭt), 1868–1930, English industrial chemist He was the first commissioner of works (1916) and later was minister of health He conducted researches in pure and applied chemistry and in color photography, writing on these and on political and economic subjects He was made a peer in 1928 His father, **Ludwig Mond,** 1839–1909, was also an eminent chemist He was born in Germany and became a naturalized British subject. He experimented with alkalies and also developed a producer gas known by his name Another outstanding discovery was that of nickel carbonyl, a gas formed from carbon monoxide and metallic nickel Mond developed a valuable method known as the **Mond process** for extracting nickel from its ores by the use of this carbonyl In the process carbon monoxide passed over the crushed and smelted ore containing nickel produces the volatile nickel carbonyl, this is decomposed to yield metallic nickel

Monday see WEEK

Mondovì (mŏndō'vē), city (pop 2,077), W Wis , SW of Eau Claire and on the Buffalo river, settled 1855, inc 1889 There are limestone quarries

Mond process see MOND, LUDWIG

Mondrian, Piet (pēt' mŏn'drē-ăn), 1872–1944, Dutch painter He studied at the academy in Amsterdam and passed through an early naturalistic phase In 1910 he went to Paris, where the influence of cubism gave rise to the development of his geometric, nonobjective style which he called neoplasticism He and the painter-architect Theo van Doesburg were leaders of the so-called Stijl group of artists In 1917 they founded a magazine *De Stijl*, in which Mondrian published articles until 1925 In 1920 he published a book on his theory which appeared as *Le Neo-Plasticisme* in French and *Neue Gestaltung* in German His art and theory influenced the Bauhaus movement and the development of the international style in architecture In 1940 he settled in New York Typical of his art are compositions employing only vertical and horizontal lines at 90° angles and using only the primary colors and sometimes grays or black against a white background These are executed with consummate perfection of design and craftsmanship Much of his work is in American and European private collections. He is represented in the Museum of Modern Art, New York, and in the Art Institute of Chicago.

Mondsee see SALZKAMMERGUT.

monel metal (mŏnĕl'), silver white alloy of copper and nickel, about two thirds nickel, one third copper, with a small percentage of other metals, including iron and manganese It is produced directly by smelting a Bessemerized (see BESSEMER PROCESS) ore containing nickel, copper, iron, and sulphur The alloy is strong, resists acid corrosion well, and holds a bright finish It is used for making scientific instruments, chemical processing equipment, machinery parts, corrosion-resistant

containers for foods and other products, and condenser tubes for steamships and for various other purposes.

Monembasia or **Monemvasia,** Greece see MALVASIA

Monessen (mŭnĕs'ŭn), city (pop 20,257), SW Pa., on the Monongahela and S of Pittsburgh, laid out out 1897, inc 1898 It has steelworks and tinworks Its name is a portmanteau of *Monongahela* and *Essen*, Germany.

Monet, Claude (klōd' mōnā'), 1840–1926, French impressionist landscape painter, son of a grocer in Le Havre, where he studied with Boudin In 1862 he went to Paris, studying there he met the painters Cézanne, Renoir, and Sisley In 1865 two of his paintings were shown in the Salon For a time he lived in Argenteuil, but, driven from home by the Franco-Prussian War, he traveled abroad, making the acquaintance of Pissarro On his return to Paris, together with Berthe Morisot and Sisley he organized the impressionist exhibition of 1875, an exhibition which was so named in derision by the critics because of the title of one of his pictures, *Impression soleil levant* For years his school was in disrepute and he lived in extreme poverty. In 1883 a fairly successful exhibit enabled him to buy a small property at Giverny near Vernon, where he retired and painted for the rest of his life From then on his popularity and prosperity rapidly increased He was, however, almost blind for the last 10 years of his life Monet was one of the leading exponents of plein-air painting Often-used subjects were haystacks, the cathedral at Rouen, the Thames river, and water lilies—all of which he painted at many different times of day He entirely eliminated black and brown from his palette and excelled in rendering light effects by means of broken and contrasting colors He is admirably represented in the Art Institute of Chicago, the Metropolitan Museum, the National Gallery, London, and the Louvre, as well as in many famous private collections See study by Camille Mauclair (Eng tr, 1924), G E B Clemenceau, *Claude Monet the Water Lilies* (1930), Stephen Gwynn, *Claude Monet and His Garden* (1934)

Moneta, Ernesto Teodoro (ĕrnā'stō tāōdō'rō mōnā'ta), 1833–1918, Italian editor and pacifist He joined the movement for Italian unification, serving (1859–66) with Garibaldi From 1867 he devoted himself to the cause of peace, editing the daily *Secolo* He was president (1906) of the International Peace Congress in Milan and shared the 1907 Nobel Peace Prize His best-known work is *Le guerre, le insurrezioni, e la pace nel secolo XIX* (3 vols, 1903)

monetary union, agreement between two or more nations for the purpose of unifying currency values A monetary union presupposes close economic relations, common fiscal policies, and the movement of capital among participating nations It may consist only in the legalization of several currencies in frontier areas, or it may provide for circulation of currency in the participating states at a fixed ratio of foreign to domestic or even for a common coinage An extreme example is the assignment of the coinage function by one country to another, as by Luxembourg to Belgium Of many monetary unions attempted since ancient times, the most famous were the LATIN MONETARY UNION and the Scandinavian union of 1873 Monetary unions have generally failed on grounds of economic nationalism The Bank of International Settlements of 1930 and the Bretton Woods agreements of 1944 were attempts to fulfill some of the functions of monetary union on a world basis See also INTERNATIONAL MONETARY FUND

Monett (mŭnĕt'), city (pop 4,395), SW Mo, ESE of Joplin, surveyed 1887 It is a shipping point in the Ozark dairy and fruit (especially berries) region The city also manufactures cigars A state hospital for venereal diseases is in Monett, a state horticultural experiment station is near by

Monette, town (pop 1,074), NE Ark, E of the St Francis river and Jonesboro, inc 1900

money, term which actually refers to two concepts, the abstract unit of account in terms of which the value of goods, services, and obligations can be measured and anything which is generally acceptable as a means of payment Frequently the standard of value also serves as a medium of exchange, but this is not always the case While the Code of Hammurabi contains evidence that a single commodity—silver—was used for both purposes, many ancient communities took cattle as their standard of value but used more manageable objects as means of payment Thus the Homeric talent of gold was equivalent to an ox in value, both in Latin and in Anglo-Saxon the word for cattle also denotes money Exchange involving the use of money is a great improvement over barter, since it permits elaborate specialization and provides generalized purchasing power for the participants which may be held into the future. The growth of monetary institutions has largely paralleled that of trade and industry, while some societies, such as the Inca, were able to benefit from extensive division of labor without making significant use of a monetary medium, this was possible only through rigid reliance on custom and status and a system of extreme regimentation Today almost all economic activity is concerned with the making and spending of money incomes A great variety of objects have served as money, e g, stones, shells, ivory, wampum beads, tobacco, furs, dried fish, and cigarettes From the earliest times precious metals have had particularly wide monetary use, owing to convenience of handling, durability, divisibility, and the high intrinsic value commonly attached to them Whether an article is to be regarded as money does not, however, depend on its value as a commodity, except where intrinsic worth is necessary to make it generally acceptable in exchange, the relation between the face value of an object used as money and its commodity value has, in fact, tended to become increasingly remote State coinage, which is said to have originated in Lydia during the 7th cent B C, often enabled governments to issue coins with nominal values in excess of their value as metals—i e, they were not "full-bodied" Paper currency first appeared about 300 years ago, it was usually backed by some "standard" commodity of intrinsic value into which it could be freely converted on demand, but even during the early development of currency, issuance of inconvertible paper money was not infrequent (see for example, LAW, JOHN) The monetary system of the United States was based on BIMETALLISM during most of the 19th cent A full gold standard was in effect from 1900 to 1933, providing for free coinage of gold and full convertibility of currency into gold coin, the volume of money in circulation was closely related to the gold supply Since the passage of the Gold Reserve Act of 1934, the country has been on a "modified gold bullion standard" Gold still serves as the standard of value, the dollar is defined by law as 155/21 grains of gold 9/10 fine, making the price of pure gold $35 an ounce, gold also serves as a reserve behind much of our currency However, it may no longer be used as a domestic medium of exchange, the country's gold stock is held by the Federal government in the form of bullion, it is illegal for private persons or firms to own gold coins or certificates, ownership of gold bullion is permissible only under license from the Treasury Dept for specified export or industrial purposes While gold still seems of some importance for the maintenance of confidence in the dollar, it has only a vague connection with money in actual use About seven eighths of the currency circulating in the United States consists of Federal reserve notes, which are issued in denominations from $5 to $10,000 by the Federal reserve banks, are guaranteed by the U S government, and must have a gold backing of at least 25 percent Next in importance are silver certificates, issued by the Federal government and varying in denominations from $1 to $1,000, they are redeemable into silver dollars Other types of money in circulation include U S notes (greenbacks), originally issued by the Federal government to finance the Civil War, Federal reserve bank notes and national bank notes, both in process of retirement, and silver dollars and other coins None of the coins have a commodity value equal to their face value Under the Legal Tender Act of 1933, all American coin and paper money in circulation is now legal tender, i e, it must under the law be accepted at face value by creditors in payment of any debt, public or private Today currency and coin are less widely used as a means of payment than checks, which probably account for over 80 percent of payments made in the United States, commercial bank demand deposits (checking accounts) are, therefore, generally considered part of the money supply (see BANKING, on the regulation of the supply, availability, and cost of money, see FEDERAL RESERVE SYSTEM and INTEREST) Certain assets, sometimes called near-monies, come close to possessing the characteristics of money in that they can usually be readily converted into cash without loss, they include, for example, time deposits and very short-term obligations of the Federal government The importance of money has been variously interpreted While the advocates of MERCANTILISM tended to identify money with wealth, the classical economists, e g, John Stuart MILL, usually considered money as a veil obscuring real economic phenomena In recent years, the role of money in the determination of the national income and in economic fluctuations has received increasing emphasis See E W Kemmerer, *Money* (1935), Horace White, *Money and Banking* (6th ed, 1935), J M Keynes, *General Theory of Employment, Interest, and Money* (1936), J A Todd, *The Mechanism of Exchange* (5th ed, 1939), K H Niebyl, *Studies in the Classical Theories of Money* (1946)

Monfalcone (mōmfälkō'nā), city (pop 17,388), Friuli-Venezia Giulia NE Italy, near the border of the Free Territory of Trieste An industrial center with large shipyards, it was badly damaged in the Second World War

Monferrato, Italy, see MONTFERRAT.

Monge, Gaspard, comte de Péluse (gäspär' mōzh' kōt' dŭ pālüz'), 1746–1818, French mathematician, physicist, and public official. He was distinguished for his geometrical researches, which laid the foundations of modern descriptive geometry He was professor of mathematics (1768) and of physics (1771) at Mézières One of the founders of the École polytechnique, he served there as professor of descriptive geometry. From 1792 to 1793 he was minister of marine He wrote *Feuilles d'analyse appliquée à la géometrie* (1795) and *Géometrie descriptive* (1799)

Mongolia (mŏng-gō'lēŭ, mŏn-gō–), Asiatic region (c.906,000 sq mi, pop c.5,390,000), lying roughly between Sinkiang prov, China, on the west and the Manchurian provinces on the east and between Siberia on the north and the Great Wall of China on the south It comprises the Mongolian People's Republic (Outer Mongolia) and Inner Mongolia (the Chinese provinces of CHAHAR, SUIYUAN, and NINGHSIA) Mongolia is mainly a plateau from 5,000 to 10,000 ft high The climate is severe and the population is small The Yellow River valley of S Mongolia is the only agricultural zone of importance Central Mongolia comprises the Gobi an entirely desert region The Altai mts cut off the Gobi from the habitable area to the north There are rivers in the north, including the Selenga, Orkhon, and Kerulen, but little irrigation is attempted, and the rainfall, averaging less than 15 in a year, is insufficient for crops Throughout Mongolia livestock raising and the processing of animal products are the main industries Wool, cloth, and hides are exported Gold and coal are the important mineral resources The few rail lines of Mongolia are in the extreme north (connecting with the Trans-Siberian RR) and in the extreme south Camels are the chief means of transport Trade is greater with the USSR than with China Great hordes of horsemen have repeatedly swept down from Mongolia to establish vast, though generally short-lived, empires Mongolia was the base of the Hsiung-nu (the Huns?) who ravaged (1st–5th cent) N China The Uigur Turks founded their first empire (745–856) with its capital at Urga in W Mongolia Many smaller territorial states followed until (c 1205) Jenghiz Khan conquered Mongolia and from his capital at Karakorum led the MONGOLS in creating one of the greatest empires of all time After the disruption of the Mongol empire, Mongolia intruded less in world affairs China, which had earlier gained control of Inner Mongolia, subjugated Outer Mongolia in the late 17th cent, but in the succeeding years struggled with Japan and Russia for its control Outer Mongolia broke away in 1921 to form the Mongolian People's Republic In 1949 the Chinese Communists joined most of N Inner Mongolia to N Jehol prov and W Heilungkiang prov to form the Inner Mongolian Autonomous Region See Ladislaus Forbath, *New Mongolia* (1936), Gerard M Friters, *Outer Mongolia and Its International Position* (1949)

Mongolian languages see LANGUAGE (table)

Mongolian People's Republic, country (c 590,000 sq mi, pop c 900,000), N central Asia The capital is Ulan Bator It is bordered by China on the west, south, and east and by the USSR on the north The republic, which comprises more than one half the area of MONGOLIA, is unofficially called Outer Mongolia The area was under Chinese control from the late 17th cent until 1921, when a revolt, aided by the USSR, deposed the Chinese authorities In 1924 the present republic was constituted, but China did not recognize its independence until 1945 As the country, under a soviet form of government, became increasingly socialistic, modern industry was established and the large class of Buddhist lamas or monks (see LAMAISM) was drastically reduced The relations with the USSR have from the beginning been very close In 1946 the United Nations rejected an application of the republic for membership

Mongolism see FEEBLE-MINDEDNESS

Mongols (mŏng'gŭlz, mŏng'gōlz"), Asiatic people, numbering c 3,000,000 and distributed mainly in Mongolia, in N and W Manchuria, and in the Buryat-Mongol ASSR in the USSR The KALMUCKS also belong to the group so-called Mongolian traits, such as slanted eyes, high cheekbones, and a "yellow" pigmentation are found among many other peoples of Europe, Asia, and America, but—contrary to widely held belief—do not prove any relationship with the Mongols Although many Turkic-speaking peoples of central Asia undoubtedly have Mongol strains, they do not belong to the Mongolian linguistic family (see LANGUAGE, table) Except in the USSR, where collective farms have been introduced, the Mongols are and always have been a predominantly pastoral people They are generally Lamaist Buddhists Until recently their social organization typically included princes, a lesser nobility, a clergy, and serfs They have a written language, the earliest extant work written in Mongolian dates from A D 1240 It was at that time that the Mongols, under the leadership of JENGHIZ KHAN and his successors (among them BATU KHAN and KUBLAI KHAN), entered world history by conquering most of E Europe and Asia. Actually, the Mongol hordes (particularly those who conquered Russia and

penetrated as far as Hungary and Germany) included large elements of Turkic and other peoples; they came to be known collectively as TATARS The Mongols established the YÜAN dynasty in China, the khanate of the GOLDEN HORDE in Russia, the Jagatai khanate in TURKISTAN, and another khanate in Persia. Karakorum was their central capital TAMERLANE, who conquered a new empire in the 14th cent., claimed descent from Jenghis Khan, as did BABER, who in the 16th cent. founded the MOGUL (i e., Mongol) empire in India The connection of these conquerors with the Mongols was, at best, dynastic The Mongols were expelled from China in 1370 and lapsed into relative obscurity. See Harold Lamb, *The March of the Barbarians* (1940), Michael Prawlin, *The Mongol Empire* (1940)

mongoose (mŏn'gōōs, mŏng'-, măng'-), small carnivorous mammal related to the civet, found chiefly in India, SE Asia, and Africa and having one species in S Spain The Indian mongoose is a slender, brownish-gray animal, about 30 in. long including the tail, which is nearly as long as the head and body It is a killer of venomous snakes—among them the cobra—which it attacks fearlessly and with success, relying upon its remarkable agility to keep out of the way of the snake's fangs It is easily tamed and makes an attractive, as well as a valuable, pet In addition to snakes it destroys rats and other vermin, when introduced, as it was in the West Indies, into a new habitat it often destroys useful animals The Egyptian species, the best known and one of the largest, was venerated in ancient Egypt It is also called ichneumon

Monhegan (mŏnhē'gĭn), island, 10 mi. off the coast of S Maine SE of Boothbay Harbor. It is a summer resort favored by artists for its rock and surf scenery The battle between the *Boxer* and the *Enterprise* took place off its shores in 1813 There is a lighthouse

monism (mō'nĭzm) [Gr., =belief in one], in metaphysics, a term applied to that type of theory which seeks to explain the universe with all its phenomena by a single principle, thus reducing the whole of reality to unity of some kind In seeking to explain the contradictions apparent in a world where mind seems to be distinct from matter and soul seems to be distinct from body, monistic theories differ considerably in the choice of the principle which is made the basis of unification It may be material, if substance and energy of a physical nature be regarded as the only reality, or it may be spiritual, if mind or spirit be taken as the reality by which all is to be explained The resulting systems then will represent materialistic (or naturalistic) or idealistic (spiritualistic) monism Or an ultimate principle may be adopted in which the opposites are shown to be held in equipoise While until the time of Christian von Wolff in the 18th cent. the term was not used for types of thought which thus sought to conquer the dualism of mind and body, monism had a beginning among the thinkers of the early Greeks in their conception of cosmic matter as an explanation of the unity of the world Later the Eleatics, led by Parmenides, found all unified in a single being, whose nature was not clearly given Spinoza (17th cent.) furnishes an example of the material and the spiritual in equipoise in his doctrine of the substance (or Deity), of which the phenomena of all that has space-filling quality (physical bodies) and of all that has consciousness (mind or spirit) are the attributes. Hegel's philosophy (19th cent.) is outstanding among those of the idealistic monistic type For him the phenomena of the natural world are links in the self-unfolding of spirit (Mind or God). The monism of HAECKEL is materialistic, he gives a popular exposition in his writings Monism stands in opposition to dualism and pluralism See E. H. Haeckel, *Monism as Connecting Religion and Science* (1895), Arthington Worsley, *Concepts of Monism* (1907)

monitor, type of warship (no longer used), carrying heavy guns, having little draft, and lying low in the water. Monitors were so called from the first of the class, the *Monitor*, built for the Union navy in the Civil War by John ERICSSON at a cost of $275,000 Launched in Jan., 1862, the *Monitor* was 179 ft long, of 41½ ft beam, and weighed 1,200 tons A revolving turret, protected by 8 in. of iron armor and containing two 11-inch smooth-bore guns, was her main feature Her sides were covered by iron plates 3 to 5 in. thick, with about 27 in. of wood backing, and the deck, only 18 in. above water, was shielded with one-inch armor She was moved by steam power, with a screw propeller. Monitors were used extensively in the Civil War, but the type had its limitations and was eventually abandoned However, in the First World War the British navy revived the use of monitors See J. B. Baxter, *Introduction of the Ironclad Warship* (1933)

Monitor and Merrimac. When, at the beginning of the Civil War, the Union forces abandoned the Norfolk Navy Yard at Portsmouth, Va., they scuttled the powerful steam frigate *Merrimac*. She was subsequently raised by the Confederates, converted into a formidable ironclad, and renamed the *Virginia* On March 8, 1862, the *Virginia*, commanded by Capt. Franklin BUCHANAN, sallied forth into Hampton Roads against the wooden ships of the Union blockading squadron. She rammed and sank the *Cumberland*, destroyed the *Congress* after running her aground, and scattered the remaining ships, all the while sustaining practically no damage to herself But on the next day the *Virginia*, now under command of Lt. Catesby ap R. Jones, was challenged by the strange-looking Union ironclad *Monitor*, built by John ERICSSON and commanded by Lt. John L. WORDEN The *Monitor* had just reached the Roads after a precarious voyage from New York The ships engaged in a four-hour close-range duel which resulted in a draw, for neither was able to damage the other appreciably The *Virginia*, under Capt. Josiah TATNALL, subsequently challenged the *Monitor* several times, but the Union ship declined combat When McClellan's advance in the PENINSULAR CAMPAIGN forced the Confederates to abandon Norfolk, Tatnall, unable to lighten the *Virginia* sufficiently for passage up the James river, destroyed her (May, 1862) The *Monitor* foundered and sank in heavy seas off Cape Hatteras in Dec., 1862 Their combat, the first between ironclads, marked a revolution in naval warfare See R. S. McCordock, *The Yankee Cheese Box* (1938), H. A. Trexler, *The Confederate Ironclad "Virginia"* (*Merrimac*) (1938)

monitorial system, method of elementary education devised by Joseph LANCASTER and Andrew BELL to furnish schooling to the underprivileged even when facilities were severely limited It was sometimes called the mutual or Lancasterian system All students met in one room, with about 10 students and one monitor to each bench The monitors, older and better students, were instructed directly by the teacher and in turn instructed the other pupils This system, which might involve several levels of monitors, used elaborate programs of reward for good deportment and scholarship, supplemented by punishment based on "shame rather than pain" The success of the monitorial system stimulated interest in education for the poor See Joseph Lancaster, *The Lancasterian System of Education* (1821)

Moniz, Egas (ā'gush mō'nĭsh), 1874–, Portuguese physician and diplomat His full name is Antonio Caetano Abreu Freire Egas Moniz He shared the 1949 Nobel Prize in Physiology and Medicine with W. R. Hess Moniz developed an operation known as prefrontal lobotomy or prefrontal leucotomy, a severing of certain nerve connections in the frontal portion of the brain, the operation has been used in the treatment of some mental diseases As author and co-author of more than 300 medical works he is widely known From 1903 he served in the Cortes several times and was Portuguese minister (1917) in Madrid and secretary for foreign affairs (1918–19).

Monk, George: see MONCK, GEORGE, 1st DUKE OF ALBEMARLE

monk: see MONASTICISM

Monkchester or **Monk Chester:** see NEWCASTLE-ON-TYNE, Northumberland, England

monkey, mammal of the primate order. The New World monkeys and marmosets differ in certain anatomical characteristics from the Old World monkeys and apes The New World monkeys, found from Mexico to South America, are arboreal, and the tail is often prehensile, the nose is flat, the nasal septum is broad, and the nostrils are directed sidewise, there are usually 36 teeth, cheek pouches and callosities on the buttocks are lacking. Among the New World monkeys are the capuchin or sapajou, often seen in captivity, the howler monkey, largest of the South American group, in which the hyoid bone is enlarged to form, at the upper end of the windpipe, a hollow sound box enabling treetop choruses of the animals to be heard for several miles, the spider and woolly monkeys, which like the howler have a highly prehensile tail, the squirrel monkey and titi, smaller forms in which the tail is nonprehensile, the nocturnal durukuli (douroucouli) or owl monkey, and the saki and ouakari. Old World monkeys inhabit Africa, Asia and adjacent islands, and Gibraltar These monkeys have a narrow nasal septum, and the nostrils are directed downward, the tail, if present, is never prehensile, many are terrestrial, there are 32 teeth, and many have cheek pouches and callosities on the buttocks The Old World forms are often divided into three families (suborders in some classifications) One family includes the true monkeys Among these are species of macaques, e.g., the Gibraltar monkey (or Barbary ape), the rhesus monkey (or Bengal or bandar macaque), and the bonnet, the crab-eating, the short-tailed, and the Japanese macaques, the BABOON; the guereza or colobus monkey, species of which are hunted for fur, and the langurs, including the hanuman monkey sacred in parts of India. Comprising the second family are the apes—the CHIMPANZEE, GIBBON, GORILLA, and ORANGUTAN. Man is placed in the third family

Mon-Khmer languages (mŏn'-kumâr'), group of Austro-Asiatic languages widely scattered over SE Asia, including the Nicobar Islands and some parts of the Malay Peninsula. The most important are Mon or Talaing (tälä'ĭng), spoken along the lower Irrawaddy in Burma, Khmer or Cambodian (kămbō'dēun), spoken over an area partly in Thailand and partly in S Indo-China, and Cham (chăm), also one of the languages of Cambodia in S Indo-China.

Monkseaton, Northumberland, England: see WHITLEY AND MONKSEATON.

monkshood: see ACONITE

Monkwearmouth, Durham, England: see SUNDERLAND.

Monluc, Blaise de: see MONTLUC, BLAISE DE

Monmouth, James Scott, duke of (mŏn'muth), 1649–85, claimant to the English throne, natural son of Lucy Walter, mistress of Charles II of England, b. Rotterdam. After his mother's death, he was cared for by Lord Crofts, whose name the boy adopted, until in 1662 he went to live at Charles's court. Charles recognized him as of the blood royal, created him (1663) duke of Monmouth, and married him to Anne Scott, countess of Buccleuch, whose name James now adopted He served in the army, rose to be (1670) captain general of the forces, and commanded in Scotland and on the Continent Politically he became very important after anti-Catholic feeling against the succession of James, duke of York (later JAMES II), was heightened by the Popish Plot agitation in 1678 The first earl of SHAFTESBURY and other supporters of a Protestant succession championed Monmouth as heir to Charles and tried in vain to get Charles to prove his son legitimate After a brief absence in 1679 Monmouth returned to England despite his promise to the duke of York that they would both stay out of England, for this he was forbidden the court by Charles Monmouth worked with those who desired the exclusion of James from the succession and achieved popularity until the arrest of Shaftesbury for treason in 1681 Shaftesbury escaped to Holland and died in 1683, and after the RYE HOUSE PLOT against Charles was discovered and Whig leaders were arrested, Monmouth fled to Holland James II succeeded Charles in Feb., 1685, and in June, Monmouth, supported by such plotters as Fletcher of Saltoun and Robert Ferguson, landed at Lyme Regis, Dorset, and raised a small force At Taunton he was proclaimed king, but his army was routed at Sedgemoor by John Churchill (later duke of Marlborough) Monmouth was captured and beheaded in London July 15 See biography by George Roberts (1844)

Monmouth, county, England see MONMOUTHSHIRE

Monmouth, municipal borough (pop. 4,731), co. seat of Monmouthshire, England, at the junction of the Monnow and the Wye NE of Newport It is a market town with the remains of a 12th-century castle (in which Henry V was born), a Norman church, and an old bridge over the Monnow

Monmouth. **1** City (pop. 9,090), co. seat of Warren co., W. Ill., W. of Galesburg, laid out 1831, inc. 1852 It is a trade, industrial, and shipping center in a livestock, farm, and clay area Its manufactures include pottery, farm implements, and furnaces Monmouth College (Presbyterian, coeducational, 1856) is here **2** Town (pop. 1,500), SW Maine, between Augusta and Lewiston, settled 1775, inc. 1792 It is the seat, since the early 19th cent., of Monmouth Academy and, since 1909, of a state university agricultural experiment station

Monmouth, battle of, in the American Revolution, fought June 28, 1778, near Monmouth Courthouse (see FREEHOLD, N.J.) Gen. George Washington chose this location to attack the British troops, who were retreating from Philadelphia to New York. Gen. Charles LEE launched the assault but without warning ordered a retreat The British, under Sir Henry Clinton, immediately counterattacked, and only the arrival of Washington and Steuben prevented an American rout The British forces escaped, and Lee was court-martialed for disobeying orders The legend of Molly PITCHER grew from this battle See W. S. Stryker, *The Battle of Monmouth* (1927).

Monmouthshire (mŏn'muth-shĭr) or **Monmouth,** border county (546 sq. mi., 1931 pop. 434,958, 1948 estimated pop. 420,800), W England The county town is Monmouth. The chief rivers are the Wye and the Usk, the Severn estuary forms the southern border The lands are low and fertile along the Wye and the seaboard, rising to hills in the west and northwest (Sugar Loaf, 1,955 ft.) Much of the area is devoted to pasturage, farming and fruitgrowing are important on the lower lands The region is chiefly important, however, for the extensive coal and iron deposits, particularly those in the districts around Pontypool and Rhymney Although Monmouth became an English county in 1536, it has always been more closely associated with Wales than with England. Welsh is still spoken by many of its inhabitants. Monmouth is for certain administrative purposes treated as part of Wales Among the notable architectural remains of the county is Tintern Abbey, made famous by Wordsworth. See J. A. Bradley, *History of Monmouthshire* (4 vols., 1904–33).

Monnier, Henry (ärē' mônyā'), 1799–1877, French lithographer, writer, and actor. About 1825, when he illustrated La Fontaine's *Fables* with pen draw-

ings, Monnier's work became popular. He wrote and illustrated three series of *Scènes populaires* (1830, 1835, 1862), books of satiric sketches about the people of his day, in which he introduced the imaginary characters Mme Gibou and M Joseph Prudhomme. Their history was continued in his best-known work, *Mémoires de Monsieur Joseph Prudhomme* (1857), a collection of cartoons, with some text Some of his numerous plays also concerned themselves with these characters Monnier was an actor, though not a highly successful one See Edith Melcher, *The Life and Times of Henry Monnier* (1950)

Monocacy (mŭnŏ'kŭsĭ) river rising in S Pennsylvania and crossing Maryland to join the Potomac S of Frederick, Md On its banks, just E of Frederick, was fought the Civil War battle of Monocacy, July 8, 1864 Although defeated, Gen. Lew Wallace here delayed the Confederate force under J A EARLY so that troops from Grant's army reached Washington shortly after Early appeared before the capital on July 11

monogram (mŏ'nŭgrăm) [Gr ,=single letter], symbol of a name or names, consisting typically of one or more letters worked together A famous monogram is that of Christ, consisting of X (chi) and P (rho), the first two letters in Greek The monogram has been commonly used by artists (e g , Dürer), monarchs (e g , G R for George VI), companies, and societies Bridal monograms and monograms on seals and letterheads are common.

monologue (mŏ'nŭlôg) [Gr ,=speaking alone] Originally a monologue was a passage in which a character speaks his thoughts aloud This was an accepted theatrical convention and was used by Racine, Corneille, Shakspere and other Elizabethans, Beaumarchais, and Hugo and by Eugene O'Neill in his *Strange Interlude* Such an aside is now generally known as a *soliloquy* [Latin,=speaking alone] In the modern sense the monologue is an entertainment in which one actor presents one character or many characters Browning's *Ring and the Book* is a series of 12 dramatic monologues bearing on a single story Yvette Guilbert interpolated monologues with songs in her vaudeville sketches In the United States, Beatrice Herford was a noted monologist, and Ruth Draper and Cornelia Otis Skinner carried the monologue to a high plane of dramatic art

Monon (mō'nŏn'), town (pop 1,262), White co , NW Ind , NW of Logansport, inc 1879

Monona (munō'nu) **1** Town (pop 1,191), NE Iowa, 10 mi from the Mississippi, inc 1897 **2** Village (pop 1,323), S Wis , near Madison, inc 1938

Monongah (munŏng'gu), mining town (pop 1,790), N W Va , on the West Fork of the Monongahela and WSW of Fairmont, founded c 1768 In 1907 it was the scene of a mine disaster which killed 361 men

Monongahela (munŏng"guhē'lu), city (pop 8,825), SW Pa , on the Monongahela and S of Pittsburgh, settled 1770, inc as a borough 1833, as a city 1873 It manufactures machinery, chemicals, and firebrick Hamilton House was visited by Washington in 1784 and was famous during the Whisky Rebellion

Monongahela, river, 128 mi long, formed at Fairmont, N W Va , by the junction of the West Fork and the Tygart It flows northward into SW Pennsylvania to join the Allegheny and form the Ohio at Pittsburgh The river carries freight

Monophysitism (mŏnŏf"ĭsĭt"ĭzm) [Gr ,=belief in one nature], a heresy of the 5th and the 6th cent , which grew out of a reaction against NESTORIANISM It was anticipated by Apollinarianism and was continuous with the principles of EUTYCHES, whose doctrine had been rejected in 451 at Chalcedon (see CHALCEDON, COUNCIL OF) Monophysitism challenged the orthodox creed of Chalcedon and taught that in Jesus Christ there were not two natures, but one Discussion of this heresy was badly confused by misunderstandings of terms and by the lack of knowledge in the West of Greek In the East, the Council of Chalcedon was declared (c 476) invalid by the emperor Later, Emperor Zeno, bowing to the storm of protest, issued the *Henotikon* (482) in an attempt, based on the doctrines of St CYRIL of Alexandria, to compose the dispute with a formula which, ostensibly orthodox, left a loophole for the Monophysites Neither side was satisfied; the extreme Monophysites refused to accept the intended compromise, and the pope excommunicated the East for abrogating the Council of Chalcedon The schism ended in 519 when Emperor Justin I enforced the creed of Chalcedon Later, Justinian, although strongly Catholic, was tolerant toward the Monophysites, who were becoming more intransigent In the 6th cent , Monophysitism became the dominant faith in Syria, Egypt, and Armenia, and the Chalcedonian creed became more firmly established in the West. The quarrel, growing deeper, was further embittered when Justinian in 544 pronounced anathema upon the Three Chapters. These were the person and writings of THEODORE OF MOPSUESTIA, the writings of THEODORET against St. Cyril of Alexandria, and the letters of Ibas of Edessa to Maris the Persian. The anathema was based on the grounds that they were all tinctured with Nestorianism. Since many of these writings were considered orthodox by the majority of Catholics, the edict was confusing The vacillating attitude of Pope VIGILIUS and Justinian's control of the empire procured the convocation of the Second Council of Constantinople (553), which condemned the Three Chapters without prejudice to the canons of Chalcedon. The Monophysites remained aloof, and the West was virtually alienated Justinian's successors alternately favored and oppressed Monophysitism, but by 600 permanent schism had set in, the COPTIC CHURCH, the JACOBITE CHURCH of Syria, and the ARMENIAN CHURCH were established MONOTHELETISM was a 7th-century attempt to reconcile orthodoxy with Monophysitism

monoplane see AIRPLANE

monopoly (munŏ'pulē). When the supply of a product is controlled so that purchasers cannot buy it elsewhere and are forced to meet the terms of sale laid down by the owner, a monopoly exists Governments have often created this situation by laws excluding competition from an industry, thus operating a public monopoly These usually exist in areas of "natural monopoly," where the conditions of the market make unified control necessary in the public interest Government monopolies are not primarily operated for a profit but as a public service, such as the postal system SOCIALISM has advocated the extension of this principle to all vital industries, e g , coal and steel, which have an immediate effect on the general welfare of the economy Private monopolies are often constructed in a different manner In Europe, a CARTEL often controls the entire marketing and production of a commodity, but in the United States, monopoly is achieved by the merger of several corporations, by interlocking directorates, or by agreements among members of an industry which restrain price competition In history, monopoly has often been the source of oppression Pharaoh controlled food, and in England exclusive grants were made to court favorites until Parliament curtailed the practice in 1624 during the reign of James I In modern times, the tremendously increased production and fierce competition brought about by the Industrial Revolution gave rise to many monopoly agreements The U S government has attempted to remedy this situation by making monopoly illegal under antitrust laws, thus guaranteeing that price will be determined by market value rather than by arbitrary contracts among corporations The government still grants monopolies in the form of patents and copyrights to encourage the arts and sciences, but these are of a temporary nature See Vernon Mund, *Monopoly* (1934), Thurman Arnold, *The Folklore of Capitalism* (1937), W. H Hamilton, *Patterns of Competition* (1940); Edward Chamberlin, *Theory of Monopolistic Competition* (4th ed , 1942)

monotheism (mŏ'nuthēĭzm) [Gr ,=belief in one God], a belief in one god The term is applied par excellence to three religions, JUDAISM, CHRISTIANITY, and ISLAM In general the term is nonphilosophical, the word THEISM being used in metaphysics for the idea of one god ZOROASTRIANISM in its early stages was monotheistic, and Greek religion in its later stages became monotheistic The rationalism of the deists is not considered monotheism on the basis that it is not religious See also GOD

Monotheletism or **Monothelitism** (both munŏ'thĭlĭt"ĭzm) [Gr ,=one will], 7th-century opinion condemned as heretical by the Third Council of Constantinople in 680 (see CONSTANTINOPLE, THIRD COUNCIL OF) This doctrine, by declaring that Christ operated with but one will, although he had two natures, opposed the intent of the Council of Chalcedon Monotheletism was first proposed in 622 and was immediately adopted by the Emperor HERACLIUS I, for political reasons, as a compromise between MONOPHYSITISM and orthodoxy The Eastern hierarchy, while doubtful of the dogma, tended to support Heraclius In 631 Cyrus of Phasis, patriarch of Alexandria, promulgated a Monothelite thesis, which was opposed by Sophronius, a Palestinian monk (later patriarch of Jerusalem) At Sophronius' behest, Sergius, patriarch of Constantinople, wrote to Pope HONORIUS I for advice The pope replied with a letter which apparently supported one will, but forbade further discussion of the question Soon afterwards (638) Heraclius published the *Ecthesis*, which defined Monotheletism as the official imperial form of Christianity When the *Ecthesis* arrived in Rome, Pope Severinus, Honorius' successor, immediately condemned it, *ex cathedra* Heraclius, before he died, disclaimed the *Ecthesis* and attributed it to Sergius Heraclius' successors, Constantine III and Constans II, however, continued to enforce the heresy Popes John IV and Theodore I anathematized Monotheletism, but they could do little in face of imperial support Constans II withdrew the *Ecthesis* and promulgated instead the *Typus*, a decree flatly forbidding the mention of one will or two wills or one energy or two energies in the Second Person. The *Typus* was favorable to the Monophysitism established in the empire, but would have silenced the orthodox The *Typus* was intended to make peace, but it brought on the crisis of the controversy In 649 Pope St. MARTIN I convened a Lateran Council to condemn Monotheletism and was subsequently seized by the emperor, imprisoned, and exiled. ST MAXIMUS was the most vigorous opponent of Monotheletism The accession of Constantine IV to the imperial throne brought toleration for the Catholics After the Council at Constantinople, in 680, Monotheletism died out except among the Maronites in Syria There was a brief revival of imperial Monotheletism in 711–13 This, the last of the Christological controversies, enhanced the prestige of the papacy, which took the lead in opposing official imperial heresy

monotype (mŏ'nutīp) [Greek *mono*=one], trade name of a machine, invented by Tolbert LANSTON, for casting and setting type for printing It was first patented in 1887 and was first produced commercially in 1897 Unlike the LINOTYPE and the INTERTYPE, which cast each line of type as one slug, the monotype makes each character separately, assembling the characters as in hand composition, for which the monotype characters can be used The machine consists of two distinct units The keyboard unit, resembling a typewriter, punches holes in a roll of paper This roll, similar to that of a player piano, is taken to the casting unit of the machine, where the holes in the roll of paper govern the casting and assembling of the type

Monreale (mōnrĕā'lā), town (pop 14,340), NW Sicily, Italy, 4 mi SW of Palermo It commands a magnificent view over the Conca d'Oro with its orange, lemon, and olive groves Here is the famous cathedral founded by William II of Sicily in 1174, one of the masterpieces of Norman-Sicilian architecture. It is entirely decorated with Byzantine mosaics on a golden background and has fine bronze doors Near by is a lovely cloister with 216 twin columns and an Arabian fountain

Monro, Harold, 1879–1932, English poet, b. Belgium, grad Cambridge, 1901 He devoted his life to poetry, founding the *Poetry Review* (1911), which soon failed, and the Poetry Bookshop (1912), devoted exclusively to poetry, drama, and related subjects Thus became a refuge and intellectual center for poets The journal *Poetry and Drama* (1913) was discontinued during the First World War, but Monro republished it as *Chapbook* (1919–25) These periodicals had great influence on the poetical work of the time His own work includes *Poems* (1906) and *Elm Angel* (1930) His *Collected Poems* (1933), edited by his wife, contains biographical and critical material

Monroe, Harriet, 1860–1936, American editor, critic, and poet, b Chicago In 1892 she wrote "The Columbian Ode" for the Chicago exposition of 1893 A landmark in American literary history was her founding in 1912 of *Poetry a Magazine of Verse*, which paid and encouraged both established and new poets In its pages Miss Monroe, as editor, introduced to American readers such writers as Carl Sandburg, Rabindranath Tagore, Vachel Lindsay, Rupert Brooke, and Robert Frost Publication in the magazine came to be an accolade for young poets More important than her own volumes of poetry were her essays *Poets and Their Art* (1926, rev ed , 1933), the anthologies she compiled with Alice Corbin Henderson, *The New Poetry* (1917, enl eds , 1926, 1932), and her autobiography, *A Poet's Life* (1938) She died at Arequipa, Peru, returning from a meeting of writers in Buenos Aires

Monroe, James, 1758–1831, 5th President of the United States (1817–25), b Westmoreland co., Va Leaving William and Mary College in 1776 to fight in the American Revolution, he served the patriot cause well but did not achieve particular distinction as a soldier Afterward he studied law (1780–83) under Thomas Jefferson, and the friendship that sprang up was the foundation stone of Monroe's political career He was elected to the Virginia legislature in 1782 and the next year to the Continental Congress under the Confederation. In 1786 he returned to Virginia politics Not only was he not sent to the Federal Constitutional Convention but in his own state he supported Patrick Henry in opposing the Constitution, which seemed to him to create a government so centralized that it encroached on states' rights Under the new government he served (1790–94) in the U S Senate, where he proved himself an outstanding lieutenant of Jefferson and a violent assailant of George Washington, Alexander Hamilton, and the Federalists Appointed (1794) minister to France in the hope that his Francophile sympathies would smooth the ruffled relations between the two nations, he found his efforts thwarted by French anger over Jay's Treaty He was recalled in 1796 in the midst of wrangles between the Federalists and the Jeffersonians. Monroe was governor of Virginia from 1799 to 1802, and in that time the election of 1800 gave the Jeffersonians national power Sent in 1802 by President Jefferson to France as a special envoy, he assisted Robert R Livingston in negotiating the LOUISIANA PURCHASE In Spain he aided Charles Pinckney in the

unsuccessful negotiations with the Spanish government. A mission to England was even more disastrous He and William Pinkney struggled to arrive at a commercial treaty to end the troubles between Great Britain and the United States over shipping, but they could get no concessions, and Jefferson did not even submit the treaty they drafted (1806) to the Senate for approval In 1808 Monroe made a bid for the presidential nomination and thus alienated James Madison, but the estrangement ended shortly, and Monroe, after serving again as governor of Virginia, was Madison's Secretary of State (1811–17) and was prominent in the days of the War of 1812 For a time he was also Secretary of War (1814–15) after the dismissal of John Armstrong In 1816 he obtained the presidential nomination and was easily elected So firm was the hold of the Democratic Republicans (see DEMOCRATIC PARTY) in this 'era of good feeling" that in the 1820 election Monroe lost only one vote in the electoral college when he was reelected. The good feeling was, however, only apparent, political forces were dividing as Andrew Jackson gained followers and prepared for the peaceful revolution of Jacksonian democracy that was to come later Monroe's two administrations saw the young nation stretch its muscles and become adult Pioneers were going westward in great numbers, and the Middle West was becoming a solid part of the republic The first serious struggle over the question of slavery in the territories was composed by the MISSOURI COMPROMISE The United States asserted its right to a place among the nations of the world by the MONROE DOCTRINE, which was as much the work of Monroe's Secretary of State, John Quincy Adams, as that of the President himself The Florida question was resolved, and U S ownership was confirmed by the campaigns of Andrew Jackson The boundary question with Canada was settled The remarkable experiment of the American Colonization Society in settling Liberia was undertaken with Monroe's blessing, and Monrovia was named for him In the exciting election of 1824 Adams was chosen as Monroe's successor when Henry Clay supported him against Andrew Jackson Monroe at the end of his term retired to his estate, "Oak Hill," near Leesburg, Va (to which he had moved in 1820 from "Ash Lawn" near Charlottesville) He died on a visit to New York His writings were edited by S M Hamilton (7 vols , 1898–1903) See biographies by Daniel C Gilman (1883), George Morgan (1921), and W P Cresson (1946), B W Bond, *The Monroe Mission to France* (1907), Arthur Tryon, *The Last of the Cocked Hats* (1946)

Monroe, Paul, 1869–1947, American educator, b. North Madison, Ind , grad Franklin College, 1890, Ph D , Univ of Chicago, 1897 At Teachers College, Columbia, he was professor of education from 1902 until his retirement in 1938 and director of the School of Education from 1915 to 1923 and of the International Institute after 1923 In 1932 he became president of Robert College and of the American College for Girls, Istanbul Monroe made school surveys in the Philippine Islands, Puerto Rico, and Iraq He edited the *Cyclopedia of Education* and *Principles of Secondary Education* (1914) and wrote *China, a Nation in Evolution* (1928) and several works on education, including *Founding of the American Public School System* (1940)

Monroe. 1 Rural town (pop 1,728), SW Conn , N of Bridgeport, settled c 1755, inc 1823 **2** City (pop 4,168), co seat of Walton co , N central Ga , E of Atlanta, inc 1821 Monroe is a trade and processing center (with cotton mills) in a cotton and truck area It has some fine old houses in classic revival style **3** Town (pop 1,015), central Iowa, E of Des Moines, a Dutch community laid out 1851 **4** Industrial city (pop 28,309), parish seat of Ouachita parish, N La , on the Ouachita river between the lowland cotton country and the hilly western cattle land The first settlers founded Fort Miro c 1785 It was renamed in 1819, incorporated in 1820, and incorporated as a city in 1900 The greatest period of growth came after 1916, when natural gas was discovered in the area Carbon-black manufacture, paper mills, and railroad shops are also important A state junior college and a training school for boys are here **5** City (pop 18,478), co seat of Monroe co., SE Mich , on Lake Erie at the mouth of the Raisin and SW of Detroit, settled c 1780, inc 1837 Its chief manufactures are paper and automobile parts, there are limestone quarries near The city has large nurseries and is the shipping point for a farm region St Mary's Convent and Academy is here Monroe was the scene of the RAISIN river massacre during the War of 1812 and the center of the "Toledo War" (see TOLEDO, Ohio). A statue by E C Potter commemorates George A Custer, who lived here Indian trails crossed this site, and numerous Indian relics have been found in the vicinity Near the piers are beds of Egyptian lotus **6** Resort village (pop 1,616), SE N Y , in hilly country SW of Newburgh, inc 1894 Iron products are made **7** City (pop 6,475), co seat of Union co., S N C , SE of Charlotte, settled 1751, inc. 1844 It is a trade and manufacturing center for an area producing lumber and cotton **8** City (pop 1,292, alt. 5,380 ft), S central Utah, in the Sevier river valley S of Richfield, in a livestock and orchard area, settled 1863, inc 1926 **9** Town (pop 1,590), NW Wash , on the Skykomish river and NE of Seattle It has lumber and food industries A state reformatory is here **10** City (pop 6,182), co seat of Green co , S Wis , SW of Madison, in a dairy region, inc as a village 1859, as a city 1882 Its inhabitants are largely of Swiss descent The city is a cheese center, especially of Swiss and Limburger An annual cheese fair is held

Monroe, Fort, at Old Point Comfort, Va , commanding the entrance to Chesapeake Bay and Hampton Roads It is on the site of earlier fortifications built in the 17th and 18th cent The present fort was erected by the Federal government (1819–34) and named for President Monroe It was held by the Union throughout the Civil War, and Jefferson Davis was imprisoned (1865–67) here Long a U.S army coast artillery post and school, Fort Monroe became headquarters of the U S army field forces in 1946

Monroe, Mount: see PRESIDENTIAL RANGE

Monroe City, city (pop 1,978), NE Mo , WSW of Hannibal, in a farm area, founded 1857, inc 1869 Mark Twain's birthplace and Mark Twain State Park are at near-by Florida

Monroe Doctrine, dual principle of American foreign policy enunciated in President Monroe's message to Congress, Dec 2, 1823 The doctrine grew out of two diplomatic problems The first was the minor clash with Russia concerning the northwest coast of North America In this quarrel, Secretary of State John Quincy Adams in a note to Monroe expressed the principle that the American continents were not to be considered any longer as a field for colonization by European powers This was incorporated verbatim in the presidential message The other and more important part of the doctrine grew out of the fear that the group of reactionary European governments commonly called the HOLY ALLIANCE would seek to conquer and reduce again to colonial status the Latin American states that had recently revolted from Spain The United States had just recognized the independence of those states, and Great Britain did not care to lose the markets of Latin America The British foreign minister, Canning, proposed to the United States that a joint note of protest be sent by the two governments In a conference on the subject Adams strongly opposed a joint note with Britain The presidential message, therefore, announced that the United States would not interfere in European affairs but would view with displeasure an attempt by the European powers to subject the nations of the New World to their political systems Thus in a sense the Monroe Doctrine as the dual principle (no colonization and no intervention by European states in the Americas) was complementary to the old Washington policy of no interference in European affairs The doctrine was not ratified by any congressional legislation The European nations regarded its pronouncement as unwarranted and deliberately provoking It did not obtain a place in international law Yet it became important in American policy, particularly when President Polk reasserted it in 1845 and 1848 with respect to the disturbances over Texas and Oregon and the aspirations of European nations in Yucatan Later the strained relations with Great Britain concerning Central America in the 1850s brought a new American expression of the doctrine, Great Britain specifically denied its validity The most important question involving the doctrine in the years that followed was the French intervention in Mexico and the establishment of the empire of MAXIMILIAN Under U S Grant and his successors the doctrine was expanded It was asserted that the transference of American territory from one European power to another would also be viewed with hostility by the United States As imperialistic tendencies appeared in the United States, the Monroe Doctrine came to be associated not only with the exclusion of European (now extended to all non-American) powers from the Americas, but also with the hegemony of the United States This condition explains why the Monroe Doctrine, though it was not formally used to justify American intervention, came to be viewed with suspicion and dislike by Latin American nations The expanding designs of the United States to exercise police power in the New World appeared in the VENEZUELA BOUNDARY DISPUTE, in the VENEZUELA CLAIMS question, and in the Spanish-American War In 1904 Theodore ROOSEVELT expounded the so-called Roosevelt Corollary to the doctrine, saying that continued misconduct or continued disturbance in a Latin American country might force the United States to intervene in order to prevent European intervention This frankly imperialistic interpretation met much resistance in Latin America, and later Presidents tended to move away from it The doctrine was so deeply imbedded in U S foreign policy that Woodrow Wilson asked for a special exception for it in the Covenant of the League of Nations In later years the doctrine received much less stress. The imperialistic aspect began to disappear notably after the appointment of Dwight W. Morrow as ambassador to Mexico in 1927 and was dissolved altogether in the administration of F D Roosevelt with its "good neighbor" policy. See D. Y. Thomas, *One Hundred Years of the Monroe Doctrine* (1923), Alejandro Alvarez, *The Monroe Doctrine* (1924), Phillips Bradley, *A Bibliography of the Monroe Doctrine* (1929), Dexter Perkins, *The Monroe Doctrine* (covering 1823–1907 by periods in 3 vols , 1927, 1933, 1937), S. F. Bemis, *John Quincy Adams and the Foundations of American Foreign Policy* (1949)

Monroeville. 1 Town (pop 1,724), co seat of Monroe co , SW Ala , near the Alabama river and NNE of Mobile, settled c 1815 It is a trade center for a farm area noted for its hogs **2** Village (pop 1,173), N Ohio, S of Sandusky Stock and poultry feeds and pottery are made here

Monrovia (mŭnrō'vēă) [for President James Monroe], city (pop c 12,000), capital of Liberia, a port on the Atlantic at the mouth of the St Paul river It was founded in 1822 by the American Colonization Society as a haven for ex-slaves from the United States Descendants of those early settlers are still dominant in the town The survival of Monrovia in early years was due mainly to the efforts of Jehudi Ashmeen and Ralph Gurley The port in a hot rainy climate with poor harbor facilities did not thrive in the 19th cent In the Second World War, U S forces undertook improvements, and a deep-water harbor was opened in 1948 New plans to exploit the wealth of Liberia may enhance the city

Monrovia, city (1940 pop 12,807, 1947 special census pop 18,011), S Calif , NE of Los Angeles; laid out 1886, inc 1887 Citrus-fruit growing and packing are important industries

Mons (mônz, Fr môs), Flemish *Bergen* (bĕr'khu), city (pop 24,900), capital of Hainaut prov , SW Belgium At the junction of the Condé-Mons Canal and the Canal du Centre—two important inland waterways—it is the processing and shipping center for the Borinage coal-mining district, Mentioned from the 7th cent , Mons became (9th cent) the seat of the counts of Hainaut In the wars of the 16th, 17th, and 18th cent it was repeatedly attacked and occupied by Dutch, Spanish and French forces In the First World War, Mons was the scene (1914) of the first battle between the British and the Germans, the British were forced to retreat At the end of the war (1918) Mons was again on the line of battle The city has preserved a 12th-century castle chapel and a 15th-century town hall It is the scene of an annual pageant and festival of St George

Monsalvat, Spain see MONTSERRAT

Monserrat, Spain see MONTSERRAT

Monson 1 Town (pop 977), central Maine, NW of Dover-Foxcroft, settled 1818, inc 1822 Monson is noted for its slate quarries **2** Town (pop 5 597), S Mass , E of Springfield, settled 1715, set off from Brimfield 1760. It has granite quarries and textile mills

monsoon (mŏnsōōn') [Arabic, =season], a WIND which changes direction with change of season Use of the term is generally restricted to the monsoons of INDIA, although monsoonal winds also develop, but to a lesser degree, in the Spanish peninsula in portions of Africa, in Australia, in China, and in the United States in Texas The winter monsoon of India is largely the result of the area of high pressure which at that time develops in S Siberia From this area, dry winds blow spirally outward, crossing India in a general northeast to southwest direction The wet or summer monsoon is caused by the area of low pressure that develops in S Asia as the sun moves" northward The moisture-laden air from over the Indian Ocean rushes toward this center of low pressure As it ascends the slopes of the Himalayas, it is cooled by expansion, clouds form, and heavy rains result When shipping was confined to sailboats, mariners regulated their schedule of voyages by the monsoons

Mont, Pol de (Karel Maria Polydoor de Mont) (pôl' du mô', kä'rul marē'ä pôlĭdôr'), 1857–1931, Flemish poet and critic He was curator (1904–19) of the museum of fine arts at Antwerp In his art criticism he defended modern tendencies, and in letters he worked for the Flemish revival He wrote lyrics and short stories Some of his poems are translated in Jethro Bithell, *Contemporary Flemish Poetry* (1917)

montage: see MOVING PICTURES and PHOTOGRAPHY

Montagna, Bartolomeo (bärtōlōmā'ō mōntä'nya), c. 1450–1523, Italian painter. He was the founder and most important representative of the school of Vicenza, where he settled in 1480 His works, always religious in subject, are dignified and severe in design and finely colored The most important are a series of frescoes (damaged), illustrating the life of St. Blase (Church of San Nazaro, Verona), an altarpiece, *Madonna and Child*, painted for the Church of San Sebastiano, Verona (Academy, Venice), *Madonna Enthroned*, an altarpiece painted for San Michele at Vicenza (Milan), *Ecce Homo* (Louvre), *Madonna and Saints* (Johnson Coll , Philadelphia), *Madonna and Child* and *A Lady of Rank as St. Justina of Padua* (Metropolitan Mus.),

and *Madonna and Child* (National Gall. of Art, Washington, D C.) See Tancred Borenius, *The Painters of Vicenza* (1909)

Montagnards: see MOUNTAIN, THE

Montagu, Charles: see HALIFAX, CHARLES MONTAGU, EARL OF

Montagu, Edward: see SANDWICH, EDWARD MONTAGU, 1ST EARL OF

Montagu, Elizabeth Robinson, 1720–1800, English lady noted for her wit and beauty, "queen of the BLUESTOCKINGS" Her home was frequented by Johnson, Walpole, Burke, Reynolds, and other eminent men She wrote *An Essay on the Writings and Genius of Shakespear* (1769), defending the bard against Voltaire's condemnation She also conducted a voluminous correspondence, which was edited in part by E J Climenson (1906) and in part by Reginald Blunt (1923)

Montagu, John: see SANDWICH, JOHN MONTAGU, 4TH EARL OF

Montagu, Lady Mary Wortley, 1689–1762, English wit and letter writer, b London, daughter of the duke of Kingston She married Edward Wortley Montagu, from 1716 to 1718 ambassador to Turkey, and her letters from Constantinople are among her best On her return to England she worked to educate the public in the use of inoculation against smallpox Pope, who had been her friend, later attacked her viciously in his satires In 1739 Lady Mary separated amicably from her husband and lived in France and Italy, a long series of letters to her daughter, Lady Bute, resulted Her *Town Eclogues* (1747) was first published by Edmund Curll in a pirated edition entitled *Court Poems by a Lady of Quality* (1716) Her letters, witty and informative, appeared first in 1763 and in many editions since See studies by Lewis Melville (1925), Iris Barry (1928), and Lewis Gibbs (1949)

Montague, Charles Edward, 1867–1928, English journalist and author, b London, grad Oxford, 1887 He joined the staff of the Manchester *Guardian* in 1890, remaining until his retirement in 1925 except for service (1914–19) in the First World War, as a private and later as an intelligence officer His war experience is reflected in his antiwar essays and novels Among his best-known works are *A Hind Let Loose* (1910), *Dramenchantment* (1922), *Fiery Particles* (1923), *The Right Place* (1924), essays, *Rough Justice* (1926), and *Right off the Map* (1927)

Montague, William Pepperell, 1873–, American philosopher, b Chelsea, Mass, grad Harvard (B A, 1896, Ph D, 1898) In 1903 he entered the department of philosophy at Barnard, where he remained, with brief absences, until his retirement as professor emeritus in 1947 His philosophic system has been developed in relation to scientific discoveries, particularly in terms of mechanics His works include *The Ways of Knowing, or, The Methods of Philosophy* (1925), *Belief Unbound* (1930), and *The Ways of Things* (1940)

Montague (mŏn'tŭgū) **1** Town (pop 7,582), N Mass, SE of Greenfield, settled 1715, set off from Sunderland 1754 Turners Falls village, in the town, was the site of the first dam across the Connecticut The town has a large hydroelectric plant and varied industries **2** Resort city (pop 1,099), S Mich, at the head of White Lake, near Lake Michigan and N of Muskegon, inc as a village 1883, as a city 1935 A shipping center, it has a foundry and fisheries Indian mounds are near

Montaigne, Michel Eyquem, seigneur de (môntān', Fr mēshĕl' ākĕm' sānyûr' du môtĕn'yu), 1533–92, French essayist Born at the Château of Montaigne in Périgord, he was the son of a rich Catholic father and a Protestant mother of a Portuguese Jewish family and was destined for a life of comfort and honor He studied for the law, held a magistracy until 1570, and was (1581–85) mayor of Bordeaux From 1571 he lived mostly in a rural retreat, aloof from the political and religious quarrels of France This attitude of judicious neutrality toward life is reflected in his immortal *Essais* (1st ed, 1580, 1st complete ed, 1595), which with irony, humor, and a spontaneously flowing style incorporate wise judgments on all human affairs They are generally considered the finest examples of the ESSAY ever written These rambling collections of personal observations mirror charmingly the author's egocentric and gently skeptical views, succinctly expressed in his phrase, "Que sais-je?" [what do I know?] Few other French works have been so widely read abroad, and perhaps none has had such influence on English literature Especially famous essays are "On Friendship," commemorating the author's relationship with Étienne de la Boétie (d 1563), the skeptical "Apologie de Raimond Sebond," taking its name from the work of a Catalan theologian which Montaigne had translated (1569), and "On Books," giving some account of Montaigne's reading The old standard translation of the *Essais* was that of John Florio, there have been several recent translations, among them those of E J Trechmann (1927), Jacob Zeitlin (1934–36), and George B Ives (1947). Autobiographical excerpts edited by Marvin Lowenthal appeared in 1935 E J Trechmann translated *The Diary of Montaigne's Journey to Italy in 1580 and 1581* (1929) See studies by M E Lowndes (1898), R W Bond (1907), and André Gide (Eng tr, 1933), Donald W Frame, *Montaigne in France* (1940)

Montale, Eugenio (ā'ōjā'nyō mōntä'lā), 1896–, Italian poet and critic After serving in the First World War he was an editor and later was chief librarian of the Gabinetto Vieusseux library in Florence, retaining the post until the outbreak of the Second World War His poetry attempts to reconcile external and internal experience and has been superficially compared to that of T S Eliot His two volumes are *Ossi di seppia* (1925) and *Le occasioni* (1940) Translations of them have appeared in American and English literary journals, as have his critical writings

Montalembert, Charles Forbes René de Tryon, comte de (shärl' fôrbz' runä' du trē'ō' kôt' du môtälĕbĕr'), 1810–70, French statesman and writer, b London His mother came of an old Scottish family After much travel he went to PARIS (1830), where he became associated with LACORDAIRE and LAMENNAIS in the Catholic liberal movement, notably in editing the *Avenir* He submitted to the papal condemnation of the journal (1832) and turned to a study of ecclesiastical history, writing a life (1836) of St Elizabeth of Hungary The year before he had begun his legislative career and was always a leader in the movement for civil liberty and the freedom of the Church He was a celebrated orator As a member of the chamber of peers he sat in the constituent assembly of 1848 and was an enthusiastic republican He ceased to support Louis Napoleon after his coup d'état (1851) and was the chief (often the only) figure in the early public liberal opposition to the emperor (1852–57) His great ambition was to make liberalism a characteristic of Catholicism He opposed beforehand the enunciation of the dogma of papal infallibility, but later accepted it Montalembert's principal (though incomplete) work still invaluable, is *Les Moines de l'occident* (7 vols, 1860–77, Eng tr, *Monks of the West*, 7 vols, 1861–79)

Montalembert, Marc René, marquis de (märk' runä' märk' dŭ mōtälĕbĕr'), 1714–1800, French military engineer He continued the theories of Vauban and favored erecting chains of detached forts around a citadel, creating the effect of an entrenched camp with massed fire power In the French Revolution he emigrated but responded when Lazare Carnot summoned him back for service to the nation

Montalván, Juan Pérez de: see PÉREZ DE MONTALVÁN, JUAN

Montana (mŏntă'nu), state (146,316 sq mi, 1940 pop 559,456, 1949 estimated pop 521,000), NW United States, in the Rocky Mt region, admitted 1889 as the 41st state HELENA is the capital, BUTTE is the largest city, and other places of importance are GREAT FALLS, BILLINGS, and MISSOULA The state lies on the northern border of the United States, south of the Canadian provinces of British Columbia, Alberta, and Saskatchewan Elsewhere Montana is bordered by North Dakota and South Dakota on the east, by Wyoming and Idaho on the south, and by Idaho on the west Much of the western boundary is marked by the crest of the lofty Bitterroot Range, and the complex chains of the Rockies dominate the western section with high granite peaks, green forests, blue lakes, and such natural wonders as those of GLACIER NATIONAL PARK The mountains have, however, offered more than massive beauty, for within and on the edge of the mountainous region are found the fabulous mineral deposits that have made Montana best known to the world—copper, silver, gold, zinc, lead, manganese, and sapphires The eastern part of the state is known, too, for its natural gas and petroleum, and there are vast coal deposits not yet really exploited Yet the Great Plains of the east have been perhaps more important for the high grass that once nourished roving herds of buffalo and later fed the cattle and sheep of huge ranches The plains were broken, too, for many acres of wheat, despite the dangers of drought Small farming has not flourished too well on the plains because of the lack of rain, and severe years have driven the farmers forth and made farming communities into ghost towns In the northwest corner of the state about the Flathead river system and around the Kootenai, small farming, aided by irrigation, has been more successful, and some of the mountain valleys are fertile The eastern region is drained by the Missouri, which begins effectively in Montana where the three forks join, and by its tributaries, the Milk, the Marias, the Sun, and especially the YELLOWSTONE Important today for hydroelectric development and for irrigation, the rivers were avenues of travel for the Indians (the Blackfoot, the Sioux, the Shoshone, the Arapaho, the Kootenai, the Cheyenne, the Flathead, and others) and for the early explorers of the country The first white men to cross the northern plains were probably two Frenchmen from Canada, Pierre and François Gaultier, but the region was not really known until after most of Montana had passed to the United States with the LOUISIANA PURCHASE (1803) The LEWIS AND CLARK EXPEDITION passed westward across Montana in 1805, and in that same year the fur traders arrived François Antoine Laroque and his North West Fur Company men from Canada explored the Yellowstone In 1807 the first trading post in Montana (at the mouth of the Bighorn) was established by the men of Manuel Lisa, coming up the Missouri from St Louis For some years both the Canadian and the American traders opened the territory David THOMPSON of the North West Company built several posts in NW Montana between 1807 and 1812, and beaver in the mountain streams and lakes attracted Andrew Henry and the later MOUNTAIN MEN The American Fur Company with its posts on the Missouri dominated the later years of fur trade, which diminished in the 1840s Montana was still a wilderness of forest and grass, with a few trading posts and some missions established by such stalwart men as Father P J DE SMET Settlers were then swarming to the Oregon country and later to the gold fields of California, but Montana saw only a few of these transients FORT BENTON at the head of navigation on the Missouri did rise to prominence as an inland port Between 1859 and 1863 Capt John Mullan built a wagon road from Fort Benton across the Rockies to Walla Walla, Wash, but the Indians menaced the travel of white men across the land, and it was only in the time of the Civil War that Montana began to grow The first growth was the rapid, boisterous, and unstable expansion of a gold rush The discovery of gold brought gold seekers to mushrooming camps at Bannack (1862) and Virginia City (1864) Crude shanty towns were built with the dominant saloons and dance halls, evanescent settlements as colorful and perhaps even more lawless than earlier camps in California The Federal government, partly to provide some sort of order, set Montana off as a territory in 1864, but the experiences of the first governors, Sidney Edgerton who had to flee, and Thomas Francis MEAGHER who died mysteriously, showed that law and order did not come easily to Montana, where Northern and Southern sympathizers among the miners were fighting the Civil War in their own way After the war the grasslands attracted ranchers, the first cattle were brought in from Texas over the Bozeman Trail in 1866 Yet it was not until after the Sioux Wars were ended that ranching was safe, for the Sioux did not tamely submit to having their land taken from them and in 1876 at the battle of the Little Bighorn won one of the greatest of all Indian victories in annihilating George A CUSTER and his force They were, however, subdued, and the gallant venture of Chief JOSEPH of the Nez Percé had its pitiful end in Montana The great ranches spread out across the plains and cow towns that were to grow to cities such as Billings and Missoula sprang up as the railroads were driven westward Mining continued to dominate Montana The discovery of silver at Butte (1875) was followed (c 1880) by discovery of copper at that "richest hill on earth" Montana's fate was thereafter linked to copper, and ANACONDA became a household word The Titans of the mines, Marcus DALY and William A CLARK, contested bitterly not only for ownership of the deposits but for political control, and their rivalry was fought out by the miners with actual bloodshed F Augustus HEINZE also entered the scramble for the copper, but his brilliant promotional schemes came to nothing, and ultimately one big company (the Amalgamated, later the Anaconda) ruled triumphant, exercising some control over state affairs as well as over its private interests There were struggles between the company and the workingmen that led to bloodshed and disorder but led also to some early measures for social security The dwellers in the rough mining towns have been peculiarly dependent on the general economy, for their very living is conditioned on the market price of copper The mines have, however, contributed a very large percentage of the state's wealth The ranches after the coming of the railroad suffered from the "wheat boom" fostered by James J Hill and other railroad men for the development of the lands of E Montana Farmers were brought out by the trainload and hopefully sowed grain in the second decade of the 20th cent The yield of wheat was great and the golden promises seemed fulfilled, but not for long The great drought of 1919 and the consequent dust storms seared the fields, and in the 1920s the farms began to disappear as rapidly as they had come By the time of the great national depression in 1929 Montana was already accustomed to depression In the 1930s and 1940s the population of the state continued to shrink Vigorous measures were taken for planning and resettlement Federal projects for dams and for irrigation —on the Missouri itself and on the Yellowstone, the Marias, the Sun, and elsewhere—had opened many acres to cultivation by the late 1940s Grazing lands have also been subjected to planned use. Hydroelectric water power is being developed, and the demand for copper in the Second World War helped to restore balance to an economy that still has some of the vigorous characteristics of a frontier society. The chief state institutions of higher

learning are included in the system called the Univ of Montana. See C. B Glasscock, *The War of the Copper Kings* (1935); C. P Connolly, *The Devil Learns to Vote* (1938), Federal Writers' Project, *Montana* (1939), N C Abbott, *Montana in the Making* (1939), M G. Burlingame, *The Montana Frontier* (1942), J. K Howard, *Montana, High, Wide, and Handsome* (1943)

Montana, University of, the state system of higher education constituted 1913, with headquarters at Helena, under the executive control of a chancellor It comprises six units Montana State Univ (coeducational, chartered 1893), at Missoula, with a college of arts and sciences, schools of business administration, education, forestry, journalism, law, music, and pharmacy, a biological station (at Flathead Lake), and a state forestry experiment station; Montana State College (1893), at Bozeman, with divisions of agriculture, engineering, household and industrial arts, and science, Montana School of Mines (1893), at Butte, with the state bureau of mines and geology, Montana State Normal College (1893), at Dillon, Eastern Montana State Normal School (1925), at Billings, and Northern Montana College (junior, 1913), at Havre

Montañes, Juan Martínez (hwän' märtē'nĕth môntän'yĕs), c.1568–1649, Spanish sculptor, justly famous for his polychrome figures in wood Most of his work was done for the churches and convents of Seville, where it still remains He is best known for his beautiful and naturalistic interpretations of the Crucifixion and of the Immaculate Conception A portrait of Montañes by Velázquez is in the Prado

Montanism (môn'tunĭzm), enthusiastic Christian movement of the 2d cent It arose in Phrygia (c.172) under the leadership of a certain Montanus and two prophetesses, whose entranced utterances were deemed oracles of the Holy Ghost Because they had an instant expectation of Judgment Day they encouraged ecstatic prophesying and severe asceticism. They believed that a Christian fallen from grace could never be redeemed, in opposition to the Catholic view that, since the sinner's contrition restored him to grace, the Church must receive him again Montanism antagonized the Church because the sect claimed a superior sanctity arising from divine inspiration. Whereas Catholics were permitted to flee persecution, Montanists were told to seek it When the Montanists began to set up a hierarchy of their own, the Catholic leaders, fearing the loss of the cohesion characteristic of persecuted CHRISTIANITY, denounced the movement Even the great TERTULLIAN could not save Montanism, and it died as a sect (c 220), except in isolated areas of Phrygia, where it continued to the 7th cent But the puristic anti-intellectual movement had many descendants—NOVATIAN, DONATISM, the CATHARI, and even SWEDENBORG and Edward IRVING

Montargis (môtärshē'), town (pop 13,529) Loiret dept, N central France, in Orléanais It is an agricultural market with paper mills and tanneries Once a royal residence, it has kept a medieval aspect The younger Mirabeau was born at the near-by Castle of Bignon For the story of the Dog of Montargis, see AUBRY DE MONTDIDIER.

Montauban (môtôbä'), city (pop 23,016), capital of Tarn-et-Garonne dept, S France The Tarn river is crossed here by a 14th-century bridge built of brick. Montauban was a stronghold of the Albigenses in the 13th cent and in the 16th cent became a Huguenot center The cathedral (17th–18th cent) contains a celebrated painting by INGRES, who was born here The city has textile mills.

Montauk Point (mŏn'tôk"), eastern extremity of the south peninsula of Long Island, SE N Y It has been the site of a lighthouse since 1795 The area is included in Montauk Point State Park

Montbéliard (môbälyar'), town (pop 13,596), Doubs dept, E France, on the Rhone-Rhine Canal It has manufactures of watches, hardware, and textiles With the surrounding countryside Montbéliard constituted after the 12th cent a county of the Holy Roman Empire The county passed (1397) to the counts (later dukes) of Württemberg, who held it, with interruptions, until the French Revolution As a result, Montbéliard accepted the Reformation Captured (1793) by the French, it was formally ceded to France by the Treaty of Lunéville (1801) The castle of the counts of Montbéliard was rebuilt in the 18th cent Cuvier was born here

Mont Blanc (mô blä'), Alpine massif, on the Franco-Italian border SE of Geneva Its highest point (15,772 ft) lies in France The southeastern (Italian) face is a massive wall, on the northwestern slopes are numerous glaciers, the largest of which (the MER DE GLACE) flows into the valley of CHAMONIX Mont Blanc was first ascended in 1786 by Dr. Michel Paccard of Chamonix and in 1787 by H B de SAUSSURE of Geneva. See Edward Whymper, *Chamonix and Mont Blanc* (1896)

Montcalm, Louis Joseph de, (môntkäm', Fr lwē' zhôzĕf' dŭ môkälm'), 1712–59, French general His name in fuller form was Louis Joseph de Montcalm-Gozon, marquis de Saint-Véran. A veteran of the War of the Polish Succession and the War of the Austrian Succession, he was sent (1756) to defend Canada in the French and Indian War. His position was subordinate to that of Vaudreuil, governor of New France, and protests to the home authorities against the dishonesty of the provincial administration and the evil consequences of divided command were without avail Montcalm's capture of Fort Ontario at Oswego (1756) restored control of Lake Ontario to France, and he besieged and captured (1757) Fort William Henry, on Lake George, but the victory was marred by the massacre of English prisoners by his Indian allies, although Montcalm finally restored order at the risk of his life In 1758 Montcalm concentrated a force of 3,800 at Ticonderoga and successfully withstood an attack by a large British force under Gen James Abercromby In 1759 Montcalm, still handicapped by Vaudreuil's interference, successfully defended Quebec against the siege of Gen James WOLFE until the strategy of the English effected an open engagement (see ABRAHAM, PLAINS OF) The British were victorious (Sept 13, 1759), but both Wolfe and Montcalm were killed A classic account is that of Francis Parkman, *Montcalm and Wolfe* (1884). For bibliography, see FRENCH AND INDIAN WARS See also biography by Thomas Chapais (1911), William Wood, *The Passing of New France* (1914), H R Casgrain, *Wolfe and Montcalm* (rev ed, 1926)

Montclair, residential town (pop 39,807), NE N J, NNW of Newark, called Cranetown (for Jasper Crane, who settled here in 1669) until incorporation in 1868 as Montclair It has a state teachers college (1908) and an art museum (1918) containing works of George Inness, who lived here

Mont-de-Marsan (mô"-dŭ-marsä'), town (pop 11,929), capital of Landes dept, SW France, in the LANDES of Gascony

Mont-Dore (mô-dôr'), town (pop. 2,165), Puy-de-Dôme dept, SE central France, in the Auvergne mts It is dominated by the Puy de Sancy (6,187 ft), highest peak of the Mont-Dore mountain group A thermal station frequented since Roman times for respiratory diseases, it is now also a winter sports center.

Monte Albán (môn'tā alban'), ancient city, c 7 mi from Oaxaca, SW Mexico, capital of the ZAPOTEC Monte Albán was built on an artificially leveled, rocky promontory above the Valley of Oaxaca Located around an enormous plaza c 1,000 ft long and 650 ft wide are long, low buildings (c 30 ft. high) set off by sunken courts and stairways The tombs, particularly Tomb 7, have yielded great archaeological treasure—jewelry of gold, copper, jade, rock crystal, obsidian, and turquoise mosaic and bone and wood carving showing elaborate religious symbolism Excavation was begun (1931) by the Mexican archaeologist, Alfonso Caso The Zapotec apparently had an advanced culture here c 200 B C and already were using the bar and dot system of numerals used by the Maya The final epoch (1300–1521), terminated by the Spanish Conquest, covers the ascendancy of the Mixtec, when the Zapotec were driven from Monte Albán and MITLA To this period belongs Tomb 7 A cultural link with the TOLTEC is evident.

Montebello (môntbĕ'lō), village (pop 1,266), S Que, on the Ottawa river ENE of Ottawa It is a summer resort in a lumbering and farming area Louis Joseph Papineau lived here after 1854

Montebello (môntbĕ'lō), city (1940 pop 8,016, 1950 special census pop 21,670), S Calif, SE of Los Angeles, inc 1920 Oil wells are within the city limits as well as in the surrounding region, and the area produces truck and flowers

Monte Carlo (mŏn"tē kär'lō, Fr môtä' karlō'), famous gambling resort (pop. c 7,967), principality of MONACO, on the Mediterranean on the French RIVIERA It is noted for its scenery and its fine villas and luxurious hotels. Thousands of visitors come here each year, attracted by its world-famous casino, and the gambling concession, granted in 1861, gives the principality most of its revenue

Monte Cassino (mŏn"tē kusē'nō), Ital môn'tā kasē'nō), monastery on a hill, 1,702 ft high, overlooking the town of Cassino, Latium, central Italy The abbey was founded c 529 by St BENEDICT of Nursia, whose rule became that of all Benedictine houses in the world. Monte Cassino was throughout the centuries one of the great centers of Christian learning and piety, its influence on European civilization is immeasurable (see BENEDICTINES) Its greatest abbot after St Benedict was Desiderius (later Pope VICTOR III) The buildings of the abbey were destroyed four times by the Lombards (581), by the Arabs (883), by an earthquake (1349), and, after their restoration in the 17th cent, by a concentrated Allied aerial bombardment in 1944 (see CASSINO) The German garrison, who had used the abbey as a fortress, easily survived the bombing in previously dug caves, but the buildings were flattened and most of their art treasures destroyed A considerable part of the invaluable manuscripts of the library had been put into safety by the monks. Several reconstruction projects were under consideration in 1949.

Montecatini (môn"täkätē'nē), town (pop. 8,292), Tuscany, central Italy, at the foot of the Apennines It is a popular health resort, noted for its warm saline springs

Monte Cristo (mŏn"tē krĭ'stō, Ital. môn'tā krē'stō), small rocky island, area c 4 sq mi, belonging to Italy, in the Tyrrhenian Sea between Corsica and the Italian coast It became famous because of the novel by Alexandre Dumas père, *The Count of Monte Cristo*

Montecuccoli or **Montecuccoli, Raimondo, conte di** (rīmōn'dō kōn'tā dē mōn"täkōōk'kōlē, -kōlē), 1609–81, Italian field marshal in the imperial service He distinguished himself in the Thirty Years War and in 1661 was sent to Hungary to take the field against the Turks His victory (1664) at Szent-Gotthard was the first serious blow to Turkish power in Hungary Subsequently Montecuccoli commanded imperial forces in the Dutch War of 1672–78 with indifferent success He was made a prince of the Holy Roman Empire After his retirement he wrote works on military subjects.

Montefiore, Sir Moses Haim (mŏn"tĭfē'ō'rē), 1784–1885, British-Jewish philanthropist, b Leghorn He became affiliated with the Rothschilds and accumulated a fortune on the London stock exchange, retiring (1821) from business to devote himself to philanthropy and to the securing of political and civil emancipation for Jews in England He was sheriff of London (1837), was made a baronet in 1846, and as president (1835–74) of the Board of Deputies of British Jews worked to alleviate discriminatory practices against Jews in Europe He founded a hospital and girls' school in Jerusalem in 1855 and was influential in stimulating the rise of Jewish nationalism, out of which developed modern political Zionism The *Diaries of Sir Moses and Lady Montefiore* appeared in 1890 See biographies by Lucien Wolf (1884), Eugen Wolbe (1909), and Paul Goodman (1925)

Montego Bay (môntē'gō), port (pop 11,560), on NW Jamaica, British West Indies A rail terminus with an excellent harbor, Montego Bay is, next to KINGSTON, the most important port and commercial city on the island In winter it is a popular tourist resort

Montejo, Francisco de (frănthĕ'skō dā môntā'hō), b c 1473 or c 1479, d c 1548, Spanish conquistador After considerable experience in the New World, he was commissioned *adelantado* to conquer the Maya of YUCATAN, but failed in his attempt (1527–28) to conquer the peninsula from the east He went to Mexico and then, by first subduing Tabasco (1530), conducted (1531–35) a campaign from the west Partially successful at first, he was forced to withdraw because the Maya rose against him, and his men, finding no booty, deserted Disillusioned and impoverished, he returned to Mexico and in 1540 entrusted the conquest to his son, Francisco de Montejo, who effectively subdued the western part from 1540 to 1542 and, after a general Indian uprising had been quelled, finally conquered the eastern portion in 1546

Monteleone di Calabria, Italy see VIBO VALENTIA

Montello (môntĕ'lō), city (pop 1,138), co seat of Marquette co, central Wis, N of Portage and on the Fox, settled 1849, inc as a city 1938 There are granite quarries

Montemayor, Jorge de (hôr'hā dā mōn"tämīvôr'), c 1520–1561, Spanish poet and novelist Born in Portugal, he lived most of his life in Spain and wrote in Spanish His chief work is the first and most renowned of Spanish pastoral novels, *Diana* (1559?), which has some of his songs Many editions of this book and translations in different languages were published The *Arcadia* of Sir Philip Sidney and *L'Astrée* of Honoré d'Urfé show its influence Montemayor was also a professional musician

Montemezzi, Italo (ē'tälō mōntāmĕt'tsē), 1875–, Italian operatic composer, studied at the Milan Conservatory His first and greatest success was his *L'amore dei tre re* [the love of the three kings] (Milan, 1913), composed in the tradition of Italian romantic opera. *La nave* (Milan, 1918) is based on a tragedy by D'Annunzio *L'incantesimo* (1943) is a one-act opera written and broadcast in the United States

Montenegro (mŏn"tunē'grō), Serbo-Croatian *Crna Gora* (tsŭr'na gō'ra), autonomous republic (5,343 sq mi., pop 370,573), SW Yugoslavia, bounded by the Adriatic Sea on the southwest, Bosnia and Hercegovina on the northwest, Serbia on the northeast, and Albania on the southeast Both its names mean "black mountain" Titograd (formerly Podgorica) is the capital Situated at the southern end of the Dinaric Alps, Montenegro is nearly entirely mountainous and difficult of access It consists of two regions, the barren karst of Montenegro proper, on the west, is separated by the Zeta river and plain from the higher Brda, on the east, which has forests and pastures Sheep and goat raising are important occupations Agriculture, mainly in the Zeta valley and near the Lake of SCUTARI (which forms part of the Albanian border), is poorly developed There are only home industries, and transportation is poor. CETINJE, Niksic, and KOTOR (the main port) are the

principal towns. The Montenegrin people are Serbs, belonging mostly to the Orthodox faith. For 500 years—from the 14th to the 19th cent.—their principal activity was to fight the Turks, who never entirely conquered their mountain stronghold. In Tennyson's words, "They kept their faith, their freedom, and their height,/ Chaste, frugal, savage, armed by day and night,/ Against the Turk" The region constituting present Montenegro was in the 14th cent. the virtually independent principality of Zeta in the Serbian empire. After Serbia was defeated by the Turks in the battle of Kossovo (1389), Montenegro continued to resist and became a refuge for Serbian nobles who fled the Turkish yoke. The sultans did not formally recognize Montenegrin independence, but, although they thrice destroyed Cetinje, they never succeeded in making Montenegro tributary However, the princes of Montenegro ruled only a small part of the present republic, the rest being governed by Turkey and by Venice, which held Kotor. From 1516 until 1851 the rule of Montenegro was vested in the prince-bishops (called *vladikas*) of Cetinje, these were assisted by civil governors Social organization, geared almost exclusively to the needs of war, was largely military and patriarchal With Danilo I (Danilo Petrovich of Niegosh), who ruled from 1696 to 1735, the episcopal succession was made hereditary in the Niegosh family, the office passing ordinarily from uncle to nephew, because the bishops could not marry Danilo I also inaugurated (1715) the traditional alliance of Montenegro with Russia, the emperors of Russia were henceforth considered as at least the spiritual suzerains of the *vladikas* Peter I, who reigned from 1782 to 1830, defied both France and Austria when the Treaty of Campo Formio (1797) transferred the Venetian possession of Kotor to Austria, but he failed to obtain the coveted port He instituted internal reforms and sought to end the blood feuds and lawlessness that had become a traditional way of life He was canonized as a saint after his death Peter II (reigned 1830–51), a gifted poet, continued his predecessor's work of reform and fostered a revival of learning and culture, aside from occasional border warfare, he lived in relative peace with his neighbors, Turkey and Austria Danilo II, who succeeded him, secularized his principality in 1851 and transferred his ecclesiastic function to an archbishop Under Nicholas I (reigned 1860–1918) Montenegro was formally recognized as an independent state at the Congress of Berlin (1878), which vastly increased its territory and gave it a narrow outlet on the Adriatic In 1910 Nicholas proclaimed himself king He fought Turkey in the Balkan Wars and took Scutari in 1913, but was forced by the pressure of the European powers to evacuate it Montenegro did, however, receive part of the territory claimed by newly independent Albania, and when the First World War broke out (1914), the Montenegrins invaded Albania Montenegro declared war on Austria in Aug , 1914, but late in 1915 it was overrun by Austro-German forces In Nov., 1918, a national assembly declared Nicholas deposed and effected the union of Montenegro with Serbia The new constitution (1946) of Yugoslavia made Montenegro an autonomous people's republic and enlarged its territory by adding a section of the Dalmatian coast

Montereau, Pierre de, see Montreuil, Pierre de.

Monterey (mŏn'tûrā) 1 City (pop 10,084), S Calif , on Monterey Bay and S of San Francisco. Rich in historic tradition, it is today a resort and the home of many artists and authors The bay was entered and named by Sebastián Vizcaíno in 1602. In 1770 Gaspar de Portolá established a presidio (now a U S army post) and Junípero Serra founded a Franciscan mission (which was moved the next year near the present Carmel). Monterey was the capital of Alta California during many of the years between 1775 and 1846. In 1846 the city was taken by a U S. naval force under Commodore John D Sloat In 1849 the state constitutional convention met in Monterey The city was incorporated in 1850 California's first theater (1844) and first brick building (1847) are still standing here, and here its first newspaper was established in 1846 Monterey has an important sardine industry and fruit and vegetable canneries It holds a yearly fiesta 2 Farm trade town (pop 1,742), central Tenn , E of Nashville

Monterey Park, city (1940 pop. 8,531; 1949 special census pop. 18,865), in San Gabriel township, S Calif , E of Los Angeles, founded 1910, inc 1916

Montero Ríos, Eugenio (āōhā'nyō mŏntā'rō rē'ŏs), 1832–1914, Spanish statesman and jurist He abandoned theological studies and became professor of canon law at Oviedo, Santiago, and Madrid. He entered the Cortes (1869), was several times in the ministry, and effected many important reforms. Montero Ríos was active in securing the accession of Amadeus and was one of his most faithful supporters A liberal leader, he was chief delegate to the Paris conference which concluded the Spanish-American War (1898) and was premier in 1905.

Monterrey (mŏntûrā', Span. mŏntĕrā'), city (pop. 186,092), capital of Nuevo León, NE Mexico, the third largest city of Mexico (after Mexico city and Guadalajara). Founded in the 16th cent, Monterrey is today, except for Mexico city, the most important industrial city of the nation About 150 mi. S of Laredo, Texas, in a valley surrounded by mountains, the city is the rail and highway hub (see Inter-American Highway) of NE Mexico. The moderate, dry climate, the cool mountains and foothills, and hot springs make Monterrey a popular resort The city is bustling and prosperous, factories, housing, recreational facilities, and social centers are modern and efficient The wealthier suburbs have houses built of stucco in a style derived from Spanish colonial and called Monterrey After the discovery by early settlers of a large lake (capable of supplying water for a city several times the size of the present one) of pure water, breweries were established Later came glass factories, metalworks, and paper mills The city's iron and steel foundries are the largest in Mexico, among other factories are those making furniture, textiles, cigars, and bricks and cotton and flour mills By the laying of pipe lines to tap natural gas in Texas, industrial output was increased enormously, essential supplies of coal and petroleum come from the neighboring states of Coahuila and Tamaulipas respectively Monterrey is generally regarded as an outstanding example of Mexico's potential ability to be less dependent upon foreign industrial output and to approach a balance of agricultural and manufactured produce In the Mexican War, Monterrey was captured by Zachary Taylor only after a courageous defense (Sept 19–24, 1846) by Mexican defenders

Montes, Ismael (ēsmäēl' mōn'tĕs), 1861–1933, Bolivian statesman His studies in law were interrupted by the war with Chile (the War of the Pacific) in 1879 He was admitted to the bar in 1886 In the liberal revolution of 1898 he again took up a military career and became minister of war in 1900 He served in the Acre campaign in the war with Brazil He was elected president of Bolivia for the term 1904–8 but, upon the death of his successor, served until April, 1909 His administration was notable for its program of wide administrative reform He was again president (1913–17) Montes was the ambassador to England and to France and from 1920 to 1928 lived in France as a political exile

Montesano (mŏntĭsā'nō), lumber city (pop 2,242), co seat of Grays Harbor co , W Wash , on the Chehalis river; inc 1883

Montespan, Françoise Athénaïs, marquise de (frāswäz' atānāēs' märkēz' du mōtuspā'), 1641–1707, mistress of Louis XIV of France She was maid of honor to Queen Marie Thérèse and was introduced to the king by Mlle de la Vallière, whom she superseded as mistress (c 1667) She bore the king several children Their education was entrusted to Mme de Maintenon, who succeeded her in the king's favor She later retired to a convent See H N Williams, *Madame de Montespan* (1903)

Montesquieu, Charles Louis de Secondat, baron de la Brède et de (shärl' lwē'du sükōdä' bärō' dù la brĕd' ā dù mōtuskyû'), 1689–1755, French jurist and political philosopher He was councilor (1714) of the parlement of Bordeaux and its president (1716–28) after the death of an uncle, whom he succeeded in both title and office. Except for travels in Europe, he lived in retirement in his feudal castle near Bordeaux His *Lettres persanes* (1721, Eng tr , *Persian Letters*, 1730) brought him immediate notoriety In these letters, under the guise of light, colorful studies of Oriental life, he satirized and criticized French institutions In 1734 he produced a scientific historical study of the rise and fall of Rome, *Considérations sur les causes de la grandeur des Romains et de leur décadence* (Eng tr , 1734) His greatest work, *De l'esprit des lois* (1748, Eng tr , *The Spirit of Laws*, 1750), is a comparative study of three types of government, republic, monarchy, and despotism Written with brilliance of style, it is considered to be one of the most important political studies in existence, and its far-reaching impact is to be found in the formation of the American Constitution.

Montessori, Maria (märē'ä mŏntĕs-sō'rē), 1870–, Italian educator and physician She was the originator of the Montessori method of education for the preschool child and was the first woman to receive a medical degree in Italy (1894) She later became a lecturer on pedagogical anthropology at the Univ of Rome and government inspector of schools Encouraged by her success with subnormal children in the Orthophrenic School, of which she was appointed director in 1898, she applied her educational method to the normal preschool child in several *case dei bambini* [houses of children], the first of which was opened in the Roman schools in 1907 The main features of the Montessori method, which has been widely used in Europe and America, are the development of the child's initiative through individual freedom of action, improvement of sense perception through training, and development of coordination through exercises and games The teacher provides didactic material and acts as a supervisor and guide. Dr. Montessori wrote *The Montessori Method* (1912), *Pedagogical Anthropology* (1913), *The Advanced Montessori Method* (1917), and *The Secret of Childhood* (1936). See D. C Fisher, *A Montessori Mother* (1912), W H. Kilpatrick, *The Montessori System Examined* (1914).

Monteux, Pierre (pyĕr' mōtû'), 1875–, French-American conductor, studied at the Paris Conservatoire As conductor (1911–14) of Diaghilev's Ballet Russe, he conducted the premières of ballets by Stravinsky, Ravel, and Debussy. He came to the United States in 1916 to conduct the Ballet Russe on its American tour, and he remained to conduct two seasons at the Metropolitan Opera House and to conduct the Boston Symphony Orchestra from 1919 to 1924 For the next 10 years he appeared as guest conductor of the Amsterdam Concertgebouw Orchestra He became conductor of the Paris Symphony Orchestra in 1930 and of the San Francisco Orchestra in 1935 In 1942 he became a U S citizen

Montevallo (mŏntĭvă'lō), town (pop 1,490), central Ala , S of Birmingham, in a farm area noted for its watermelons; settled c 1815, inc 1848 Alabama College (state; for women, 1893) is here

Monteverdi, Claudio (klou'dyō mŏntāvĕr'dē), 1567–1643, Italian composer, first great figure in the history of opera He was attached to the duke of Mantua from 1590 until 1613, when he became choirmaster of St Mark's, Venice His first opera, *Orfeo* (Mantua, 1607), surpassed operas of his Florentine contemporaries Peri and Caccini Of *Arianna* (Mantua, 1608), only the celebrated lament, which Monteverdi himself later arranged as a five-part madrigal, is extant In his dramatic cantata, *Il combattimento di Tancredi e da Clorinda* (Venice, 1624), he introduced the string tremolo to portray agitation In Venice, Monteverdi occupied himself chiefly with madrigals and church music, but after 1637, when Venice built its first opera theater and assumed musical leadership, the aged composer produced several operas, including *L'incoronazione di Poppea* (1642), which show a great development over his earlier style and mark him as a master at depicting the character and emotions of human personality Of his 21 dramatic works, only six, including three operas, are extant See Henry Prunières, *Monteverdi His Life and Work* (1926)

Montevideo (mŏntĭvĭdē'ō), city (pop 5,220), co seat of Chippewa co , W Minn , on the Minnesota and NW of Granite Falls, platted 1870, inc as a village 1879, as a city 1908 It is a farm trade center, and dairy products are made Camp Release State Park, near by, commemorates the release here in 1862 of 269 white captives of the Sioux

Montevideo (mŏntĭvĭdē'ō, -vĭdä'ō, Span mŏntāvĕdhä'ō), city (1943 estimated pop 708,233), S Uruguay, capital and largest city of Uruguay On the Río de La Plata, it is one of the major ports of South America Montevideo was founded because of the colonial rivalry and expansion of the Portuguese and the Spanish Atop the hill which overlooks the harbor the Portuguese constructed a fort in 1717. Captured by the Spanish in 1724, it became the nucleus of the settlement founded in 1726 by Mauricio de Zabala, governor of Buenos Aires It is today spacious, modern, and attractive, with broad, tree-lined boulevards, numerous and beautiful parks, and fine buildings and residences Notable among the parks is the Prado, which, with its lovely botanical gardens containing many thousands of plant species, is a popular promenade, among the impressive buildings are the *cabildo*, the legislative palace, the government palace, and the cathedral As a center of learning, Montevideo has the national university, with its colleges for advanced study, and many other cultural institutions It has long been a popular tourist mecca, particularly for Argentines, because of the beaches of fine white sand and luxurious resort hotels along the Plata estuary E to Punta del Este on the Atlantic Governmental, financial, and commercial focus of Uruguay, from which all railroads and highways radiate, Montevideo is primarily a port city on which much of the S Atlantic fishing fleet is based and from which are exported the chief products of the republic—frozen and canned meats and fish, wool, grains, flax, and linseed Manufacturing is concentrated about the city environs and is largely devoted to processing meats During the turbulent 19th-century civil wars of Uruguay, Montevideo suffered much and withstood a siege from 1843 to 1851 by forces under Oribe, assisted by the Argentine tyrant, Juan Manuel de Rosas

Monte Vista (mŏn"tĭ vĭs'tu), city (pop 3,208, alt c 7,500 ft), S Colo , in the San Luis Valley on the Rio Grande, inc 1886 It is the trade and shipping center of a fertile farm and dude-ranch area, with gold and silver mines and timber The city is headquarters for the Rio Grande National Forest A state soldiers' and sailors' home is near by, as are also Picture Rocks (with pictographs)

Montez, Lola (mōn'tĕs, mŏntĕz'), 1818?–1861, Irish adventuress, whose real name was Marie Dolores Eliza Rosanna Gilbert Her early marriage to an army officer ended in scandal and divorce She adopted the name Lola Montez, claimed Spanish descent, and became a dancer Her dancing was mediocre, but her beauty, her extravagant charm,

and her adventures were legendary. She gained sensational success in Europe, and by 1847 she was recognised as the mistress of Louis I of Bavaria, who made her countess of Lansfeld She virtually ruled Bavaria until the Revolution of 1848, when she was banished She returned to England (1849) and married again In 1851 she toured the United States and after the death of her second husband married P P. Hull, a San Francisco newspaperman After an Australian tour (1855–56), she returned to the United States and ultimately died in poverty See William Boltho, *Twelve against the Gods* (1929), Isaac Goldberg, *Queen of Hearts* (1936), Horace Wyndham, *The Magnificent Montez* (1936)

Montezuma (mŏntŭzōō'mŭ) or **Moctezuma** (mŏktăsōō'ma), 1480?–1520, Aztec emperor (1502–20 or 1503–15) He is sometimes called Montezuma II because there was an earlier Montezuma who ruled from 1440 to 1469 and carried on conquests both east and west of the Aztec capital TENOCHTITLÁN The later Montezuma was his grandson His reign was marked by incessant warfare, and his despotic rule caused some unrest When Hernán CORTÉS arrived in Mexico he was thus able to gain native allies, notably the Tlaxcalans Montezuma, believing the Spanish to be descendants of QUETZALCOATL, tried by offering rich gifts to persuade them to leave This failing, he received them at Tenochtitlán in Nov , 1519 Cortés later seized him as a hostage and attempted to govern through him In June, 1520, the Aztec rose against the Spanish Montezuma was killed, whether by the Spanish or the Aztec is not certain His successor died a few months later and was replaced by CUAUHTÉMOC The name sometimes appears as Montecuzhoma

Montezuma. 1 City (pop 2,346), W central Ga , SSW of Macon and on the Flint river, developed 1851 with the railroad's coming, inc 1854 It is a processing center in a farm area, peaches, cotton, corn, and truck are shipped 2 Town (pop 1,366), W Ind , on the Wabash and N of Terre Haute, settled c 1820, platted 1849, inc 1851 Bricks is made here 3 Town (pop 1,477), co seat of Poweshiek co , SE Iowa, E of Des Moines, inc 1868

Montezuma Castle National Monument see NATIONAL PARKS AND MONUMENTS (table)

Montfaucon (môfōkô'), village (pop 412), Meuse dept , NE France, NW of Verdun Atop Montfaucon hill and amid the ruins of the old Montfaucon village (destroyed in 1918) there rises the American memorial to the Meuse-Argonne battle of 1918, the largest American First World War memorial in Europe

Montferrat (mŏntfŭrät', –rät'), Ital *Monferrato* (mônfär-ra'tô), historic region of Piedmont, NW Italy, S of the Po, now mostly in Alessandria prov A marquisate after the end of the 10th cent , it was first under the Aleramo, then under the Paleologo families Casale, the chief city, was conquered in 1404, made the capital in 1435, and strongly fortified After the extinction of the Paleologo line, Emperor Charles V gave (1536) Montferrat to the Gonzaga family of Mantua, despite the claims of the house of Savoy After Francesco Gonzaga's death in 1612, Savoy renewed its claims on Montferrat and invaded it Spain and France intervened. The treaty of Cherasco (1631) assigned part of Montferrat to the house of Savoy, while the rest, including Casale, followed the fortunes of the duchy of Mantua and passed to the Nevers (French) branch of the Gonzaga family This territory was recognized as belonging to the house of Savoy by the Peace of Utrecht (1713) Montferrat is a noted winegrowing region

Montfort, Simon de (mônt'furt, Fr môfôr'), c 1160–1218, count of Montfort and earl of Leicester, leader of the crusade against the ALBIGENSES Capable, ambitious, and fanatically religious, he became the leader of the crusaders who remained in the South of France after the taking of Carcassonne (1209) and was invested by the papal legate with the viscounties of Béziers and Carcassonne In 1211 he attacked the remaining territories of RAYMOND VI of Toulouse and overran all but Toulouse and Montauban Pope Innocent III attempted to make him recognize PETER II of Aragon as overlord, but in 1213 Simon de Montfort defeated Peter and Raymond at Muret He was proclaimed lord of Toulouse and Montauban by the crusaders (1215), and his title was confirmed by the pope in the same year Raymond having recaptured (1217) some of his territories, Simon renewed his warfare against him and was killed while besieging Toulouse Through his mother he claimed the English earldom of Leicester, to which his right was intermittently recognized by King John He was the father of Simon de Montfort, the leader of the English barons

Montfort, Simon de, c 1208–1265, earl of Leicester, leader of the revolt against HENRY III of England He was born in France, the son of Simon de Montfort, leader of the Albigensian crusade. After his father's death, he and his brother Amaury reached a settlement by which Simon received the claim to the earldom of Leicester (inherited from his grandmother) He came to England in 1229 and two years later was recognized by Henry as earl of Leicester He became one of the king's foreign advisers and in 1238 married Eleanor, Henry's sister. Flurries of disagreement with the king occurred, but no serious trouble In 1240 Simon distinguished himself on crusade in Palestine under Richard of Cornwall Returning to France in 1242, he joined Henry III in the Gascon campaigns of 1242–43. Simon was preparing to go on a new crusade when in 1248 Henry sent him to Gascony with unlimited powers to bring order out of the anarchy of petty feudal wars and rebellions against English authority Simon de Montfort was skillful and ruthless in using military force to crush the turbulent Gascon barons He accomplished much toward establishing English authority, and despite his methods he even achieved a somewhat unstable order Loud Gascon protests provoked Henry III in 1252 to call Simon to an inquiry in England After a quarrel with the king had been patched up, Simon returned to Gascony, only to be interrupted by a royal order to desist in the middle of his campaign so that young Prince Edward (later EDWARD I) might take Gascony in charge Henry's abortive scheme for obtaining the Sicilian crown for his son Edmund Crouchback increased baronial opposition to the king, and in 1258 Simon was an active member of the party that forced the king to turn over the power of government to a committee of 15, which ruled under the PROVISIONS OF OXFORD Simon was one of the 15 It is not clear what part he had in the Provisions of Westminster (1259), but they probably represented his views He was important in the negotiations which led to the Treaty of Paris (1259) between Henry III and Louis IX of France, but he broke definitely with the English king the next year When Henry III repudiated his agreements and commenced the royalist reaction, Simon de Montfort led the opposing barons until in 1261 a majority of them consented to an unfavorable compromise with the king, and Simon left England He returned in 1263 to assume leadership in the BARONS' WAR The constitutional quarrel was submitted to Louis IX to settle, in the award of Amiens (1264) he decided in favor of Henry Fierce civil war now broke out In May, Simon won a great victory at Lewes and became master of England, which he now placed under a moderately liberal government similar to that prescribed in the Provisions of Oxford Simon, his sons, and Gilbert de Clare, 8th earl of GLOUCESTER, were the most powerful men in the kingdom The so-called Great Parliament which he summoned to meet early in 1265 was one of the most important in the history of PARLIAMENT in that he called not only knights from each shire to represent the rural nobility but also, for the first time, representatives from boroughs and towns Gloucester, however, deserted and with Prince Edward joined the nobles of the Welsh Marches to start the wars again Simon de Montfort was defeated and killed at Evesham See Charles Bémont, *Simon de Montfort* (Eng tr by E F Jacob , 1930), R F Treharne, *The Baronial Plan of Reform* (1932), E C Lodge, *Gascony under English Rule* (1926), H W C Davis, *England under the Normans and Angevins* (1930)

Montgolfier, Joseph Michel (zhôzĕf' mĕshĕl' môgôlfyā'), 1740–1810, and **Jacques Étienne Montgolfier** (zhak' ātyĕn'), 1745–99, French inventors, brothers Together they invented the first practical BALLOON On June 5, 1783, they sent up at Annonay, near Lyons, a large linen bag inflated with hot air The flight covered more than a mile and lasted 10 min They gave another demonstration in Sept , 1783, before the court at Versailles

Montgomerie, Alexander (mŭntgŭ'murē), c 1550–c 1610, Scottish poet, who received for a time a pension from the Scottish crown His principal poem, *The Cherry and the Sloe* (1597), is a pedestrian and ambiguous allegory which enjoyed considerable popularity Its stanza form of 14 lines with six rhymes was much imitated and was used by Robert Burns in *The Jolly Beggars* Montgomerie's 70 sonnets are occasionally awkward, but often even and stately He wrote a verse polemic against Home of Polwarth, much in the customary fashion The Scottish Text Society has edited his poems

Montgomery, Bernard Law, 1st **Viscount Montgomery of Alamein** (mŭntgŭ'murē, ăl'umān'), 1887–, British field marshal He entered the army in 1908 and rose in rank through long service In the Second World War he commanded (1939–40) the 3rd DIVISION in France until the evacuation of Dunkirk In 1942 he was sent to Egypt to command the British 8th Army in Africa under the Middle Eastern Command headed by Gen Sir Harold R L G ALEXANDER Winning the battle of ALAMEIN and driving the Germans 2,000 mi across Africa into Tunisia (see NORTH AFRICA, CAMPAIGNS IN) made Montgomery an idol of the British public. He led the 8th Army in Sicily and Italy until Dec , 1943 In the invasion of Normandy he was field commander of all ground forces until Aug , 1944, then headed the 21st Army Group When the Germans advanced in the Battle of the BULGE he was given temporary command of two American armies Afterwards his troops thrust across N Germany to the Baltic, and he headed (1945–46) the British occupation forces in Germany. He was made field marshal in 1944 and created viscount in 1946 He was chief of the imperial general staff from 1946 to 1949, when he was made chairman of the commanders in chief in committee under the permanent defense organisation of Britain, France, Belgium, the Netherlands, and Luxembourg His writings include *Normandy to the Baltic* (1947) and *El Alamein to the River Sangro* (1948) See biography by Alan Moorehead (1947)

Montgomery, Gabriel, seigneur de Lorges, comte de (gäbrēĕl' sānyûr' dŭ lôrsh' kŏt' dŭ môgômurē'), c 1530–1574, French soldier Captain of the Scottish guards of King Henry II of France, he accidentally killed the king in a tournament in 1559. Disgraced at court, he retired first to Normandy, then to England, where apparently he was converted to Protestantism He returned to France, where he fought (1562-70) with distinction on the Protestant side in the Wars of Religion He returned again in 1574, but was captured and put to death.

Montgomery, Lucy Maud (muntgŭ'murē), 1874–1942, Canadian novelist, b Prince Edward Island, studied at Prince of Wales College and Dalhousie Univ Her first novel, *Anne of Green Gables* (1908), a warm-hearted, sentimental story for girls, met with immediate success It has been widely translated, a moving-picture version of the story was produced in 1935 A number of popular sequels followed—*Anne of Avonlea* (1909), *Chronicles of Avonlea* (1912), *Anne of the Island* (1915), *Anne's House of Dreams* (1917), and others The author (in private life the wife of Ewan Macdonald, a Presbyterian minister) also wrote other similar stories for girls

Montgomery, Richard (muntgŭ'murē), 1738?–1775, American Revolutionary general, b Swords, Co Dublin, Ireland, educated at Trinity College, Dublin He was sent as a soldier (1757) to Canada in the French and Indian War and saw action at Louisburg, Ticonderoga, and Montreal before participating in operations against Martinique and Havana (1762) Montgomery returned from Great Britain, settled (1772) near New York city, and married a daughter of Robert L Livingston He joined the patriots as a brigadier general (1775) and replaced Philip J Schuyler as commander of the Montreal expedition in the ill-fated QUEBEC CAMPAIGN After taking Montreal, he joined with Benedict Arnold and was killed (Dec 31, 1775) in the assault on Quebec

Montgomery, county, Wales see MONTGOMERYSHIRE

Montgomery (mŭntgŭ'murē) **1** City (pop 78,084), state capital, and co seat of Montgomery co , SE central Ala , near the head of navigation on the Alabama river, in the Black Belt It is a railroad center and an important cotton, livestock, dairy, and lumber market, it produces textiles, cotton goods, fertilizer, packed meat, and lumber products The city was settled in 1817 and incorporated in 1819 In 1846 it was voted state capital and was the first capital of the CONFEDERACY (1861) It fell to Union troops in 1865 The city is the seat of Huntingdon College (Methodist, for women, 1854) and of a state teachers college for Negroes, a museum of fine arts, the "First White House of the Confederacy," and the state capitol Near by are Maxwell Field, with a U S advanced military air-training school, state penal institutions, and the site of historic Fort Toulouse **2** City (pop 1,741), SE Minn , NW of Faribault, platted 1877, inc 1902 It is a farm trade center, and clothing is made **3** Borough (pop 1,893), NE Pa , SE of Williamsport, settled 1778, inc 1887 It manufactures leather products **4** Rural town (pop 1,208), N Vt , NE of St Albans, chartered 1789, settled 1793 **5** Coal city (pop 3,231), S W Va , on the Kanawha and SE of Charleston, inc 1890 A state college is here

Montgomery, municipal borough (pop 918), county town of Montgomeryshire, Wales, near the Severn and SW of Shrewsbury It has ruins of a 13th-century castle Offa's Dyke is particularly well preserved here

Montgomery City, city (pop. 1,671), co seat of Montgomery co , E central Mo , WNW of St. Louis, laid out 1853 It is a trade center in a dairy, stock, and grain area

Montgomeryshire (muntgu'murēshĭr) or **Montgomery,** border county (797 sq mi , 1931 pop 48,473, 1948 estimated pop 45,544), E central Wales The county seat is Montgomery The region is largely hilly and is drained by the Dovey, the upper Severn, the Tanat, and the Vyrnwy At one time lead was mined and flannel manufactured in the county, but now the region is devoted mostly to pasturage and, in the valleys on the English border, to farming. The district was important in medieval times as the heavily fortified border district of the Norman lords of the Welsh Marches It was organized as a county in 1535.

month [connected with *moon*], in chronology, the conventional period of a lunation, i e , the passage of the moon through all its phases It is usually reckoned at about 29 or 30 days For the computation of the month and its harmony with the solar calendar and for the months in others than the

Gregorian calendar, see CALENDAR For the difference between the sidereal month and the synodic month, see MOON. Certain stones have in ancient and modern times been connected with the months; these lucky stones or birthstones are often given as follows· *January* [from the god JANUS] garnet; *February* [from Latin,=expiatory, because of important rites in February] amethyst, *March* [from the god MARS] bloodstone, *April* diamond, *May* agate or emerald, *June* [from the gens *Junius*]: emerald or agate, *July* [from Julius CAESAR] ruby or onyx, *August* [from AUGUSTUS] carnelian, *September* [from Latin,=seven, formerly the seventh month] chrysolite or sapphire, *October* [eight]. beryl, aquamarine, or opal, *November* [nine] topaz; *December* [ten] ruby

Montherlant, Henry de (ārē′ du mōtĕrlä′), 1896–, French novelist His novels, decadent and egotistical, glorify force and masculine virility Montherlant, who fought in the First World War, later was an athlete and a bullfighter His translated novels include *Les Bestiaires* (1926, Eng tr , *The Bullfighters*, 1927), *Les Célibataires* (1934, Eng tr , *Lament for the Death of an Upper Class*, 1935, American title, *Perish in Their Pride*, 1936), and *Les Jeunes Filles*, a series in four parts—*Les Jeunes Filles* (1936), *Pitié pour les femmes* (1936, Eng tr of both in one volume, *Young Girls* and *Pity for Women*, 1937), *Le Démon du bien* (1937), and *Les Lépreuses* (1939, Eng tr of both in one volume, *The Lepers*, 1940, American title, *Costals & the Hippogriff*, 1940)

Montholon, Charles Tristan, marquis de (shärl′ trēstä′ märkĕ′ dŭ mōtôlôⁿ′), 1783–1853, French general in the Napoleonic Wars He accompanied Napoleon to St Helena Returning to Europe after the emperor's death, he lost, in commercial speculations, the legacy which Napoleon had willed him Involved (1840) in Louis Napoleon's unsuccessful coup at Boulogne (see NAPOLEON III), he was imprisoned from 1840 to 1847 After the Revolution of 1848 he was elected a deputy to the constituent assembly He was the author of *Mémoires secrets relatifs à la Révolution française* (1834) and *Histoire de la captivité de Ste Hélène* (1846)

month's mind, in the Roman Catholic Church, a solemn commemoration of the death of a person one month (or 30 days) after It is normally a Mass of requiem It was formerly customary to have a feast also

Monti, Vincenzo (vēnchän′tsō mōn′tē), 1754–1828, Italian poet and dramatist He was for a time secretary to the duke of Braschi, the pope's nephew Later he was historian to the court under Napoleon, under Austrian rule he accommodated himself to the new order Among his many works the best known is *Bassvilliana* (1793), an epic and Dantesque treatment of the assassination of Hugo Bassville, the French envoy, at Naples Monti is also remembered for the tragedies *Aristodemo* (1787), translated in 1818 by Fanny Burney, and *Caio Gracco* (1788–90) and for *Il bardo della Selva Nera* (1806), an epic dedicated to Napoleon. He also translated the *Iliad* and the *Odyssey*

Monticelli, Adolphe (adôlf′ mōtēsĕlē′), 1824–86, French painter After a number of years spent in Paris he returned (1870) to his native Marseilles, where he sold his small canvases for trifling sums in the cafés and died neglected and deranged Since his death his works have steadily increased in popularity He is best represented in Lille and in Marseilles The Metropolitan Museum has two fine examples of his works

Monticello (mŏntĭsĕl′ō) **1** City (pop 3,650), co. seat of Drew co , SE Ark , SE of Pine Bluff It is the industrial center for an area producing cotton and other farm products The Arkansas Agricultural and Mechanical College is here **2** Town (pop 2,042), co seat of Jefferson co , NW Fla , near the Ga line ENE of Tallahassee and near Lake Miccosukee, settled in the early 19th cent It is a trade center in a productive farm and dairy area **3** City (pop 1,746), co seat of Jasper co , central Ga , N of Macon, inc 1810 **4** City (pop 2,523), co seat of Piatt co , central Ill , on the Sangamon and NE of Decatur, in an agricultural area, inc 1841 **5** City (pop 3,153), co seat of White co , NW Ind , on the Tippecanoe between Shafer Lake and Freeman Lake and W of Logansport, settled 1831, laid out 1834, inc 1853. It is a resort center **6** City (pop 2,546), E Iowa, on the Maquoketa river and NE of Cedar Rapids, settled 1836, inc 1867 **7** Town (pop 1,733), co seat of Wayne co , S Ky , in the Cumberland foothills near the Tenn line, in a coal, oil, farm, and timber region, settled before 1800 It has an oil refinery Cumberland National Forest is to the east **8** Town (pop 1,504), NE Maine, near the N B line N of Houlton, settled 1830, inc 1846 **9** Village (pop 1,076), E Minn , on the Mississippi between Minneapolis and St Cloud, settled 1852, platted 1854, inc 1856 Mineral deposits used in making cement are found here **10** Resort village (pop 3,737), co seat of Sullivan co , SE N Y , in hilly country NW of Middletown, inc. 1830 Paint is made here

Monticello [Ital.,=little mountain], estate, central Va , near Charlottesville, home of Thomas Jefferson for 56 years. The mansion, of which he was architect, was begun in 1770 The building materials—the stone, brick, and lumber, even the nails—were prepared on the estate, and the construction work was carried out, for the most part, by Jefferson's artisan slaves Jefferson added to and amended the building for many years, but by 1772, when he took his bride there to live, part of it was ready for occupancy The building is one of the earliest examples of American classic revival Not long after Jefferson's death, his daughter, unable to maintain the property, sold it, retaining the family burial plot (in which Jefferson is buried) Monticello was later bought by Uriah P Levy, a naval officer, who bequeathed it to "the people of the United States", but his heirs successfully contested the will By 1879 Jefferson M Levy was in full ownership, he restored the place, which had suffered during the litigation, and finally sold it in 1923 to the Thomas Jefferson Memorial Foundation, successor to a similar group organized in 1912 "Ash Lawn," Monroe's home, is near by See J S Patton and S J Doswell, *Monticello and Its Master* (1925, 3d ed , revised, 1931), T L Rhodes, *The Story of Monticello* (1928)

Montilla (mōntēl′yä), city (pop 18,224), Córdoba prov , S Spain, in Andalusia It is the center of a famous wine district Deriving from Montilla wines, the term *amontillado* now designates a type of sherry wine

Mont Joli (mô zhôlē′), village (pop 3,533), E Que , NE of Rimouski and near the St Lawrence It has railroad workshops, metal foundries, a hydroelectric power station, and an airport

Mont Laurier (mô lô′rēā″), town (pop 2,661), SW Que , on the Lièvre, in the Laurentians and N of Ottawa It is a winter resort in a region of lumbering and potato growing and has a hydroelectric power station It is the seat of a Roman Catholic bishopric and of St Joseph's Seminary

Montluc or **Monluc, Blaise de** (blēz′ du môlük′), c 1502–1577, marshal of France A Gascon soldier of fortune, he fought in the Italian Wars and the Wars of Religion His famous *Commentaires* (1592), which Henry IV called "the soldier's bible," are admirable military history

Montluçon (môlüsô′), town (pop 45,577), Allier dept , central France, on the Cher It has iron, steel, and glass manufactures There are ruins of medieval fortifications The center of the town has many houses of the 15th and 16th cent and is topped by the castle (15th–16th cent) of the dukes of Bourbon

Montmagny, Charles Jacques Huault de (sharl′ zhäk′ ûô′ du mômänyĕ′), fl 1622–54, governor of New France (1636–49) The colony progressed under his leadership, the power of the Iroquois was checked, and a treaty of peace was concluded with them at Trois Rivières He was friendly toward the missionaries, especially the Jesuits

Montmagny (mômänyĕ′), town (pop 4,585), SE Que , on the south shore of the St Lawrence and ENE of Quebec , founded 1678, inc 1845 It has silk and rayon mills and woodworking plants and manufactures stoves and pumps

Montmartre (mômär′tru) [Fr from Latin,=hill of the martyrs, i e , St DENIS and companions], hill in Paris, France, on the right bank of the Seine, the highest point of Paris It is topped by the famous Church of SACRÉ-CŒUR Sections of the ancient quarter on its slopes were long a favorite residence of the bohemian world Montmartre is also famed for its night life, of its innumerable night clubs the Moulin Rouge is the best known The cemetery of Montmartre contains the tombs of Stendhal, Berlioz, Renan, Heine, and Alfred de Vigny

Montmorency, Anne, duc de (mônt″murĕn′sē, Fr an′ dük′ du mômôräsē′), 1493?–1567, constable of France He was made a marshal (1522) by Francis I, was captured with Francis at Pavia (1525), helped negotiate (1526) Francis's release, and soon after the king's return received the governorship of Languedoc, which remained in his family till 1632 His policy of peace with Emperor Charles V finally led to his disgrace (1541), which lasted till Francis's death (1547) King Henry II restored him to a degree of favor limited by the countervailing influence of François and Charles de GUISE. He took Metz from the Spanish (1552) and was captured (1557) by Emmanuel Philibert of Savoy at Saint-Quentin, but was soon released Dismissed by Francis II, he was restored to office by Catherine de' Medici He joined the Guises in the Wars of Religion, was captured at Dreux (1562), and was killed in the siege of Paris

Montmorency, Henri, duc de (ärē′), the elder, 1534–1614, marshal and constable of France, younger son of Anne de Montmorency He was known as Henri, comte de Damville, before 1579 He took Louis I de CONDÉ prisoner at Dreux (1562) In 1563 he succeeded his father as governor of Languedoc A zealous Catholic and adherent of the Guises till his father's death, he was led by the subsequent decline of his family's fortunes and by the murder of his relative COLIGNY to associate himself with the moderates who favored a rapprochement with the Huguenots Resisting all royal efforts to remove him from Languedoc, where he was practically an independent sovereign, he was in alliance with the Huguenots from 1575 to 1577, but thereafter remained aloof from both parties, while attempting to bring about their conciliation He adhered to KING HENRY IV in 1589 and became constable in 1593 After Henry's death (1610) he retired to his province

Montmorency, Henri, duc de, the younger, 1595–1632, admiral and marshal of France, son of the elder Henri de Montmorency He became governor of Languedoc in 1613 and fought in the religious and foreign wars of Louis XIII's reign In 1632 he joined in a conspiracy of Gaston d'ORLÉANS and was captured and executed

Montmorency, Mathieu, baron de (matvû′ bärō′ du mômôräsē′), d 1230, constable of France (1218–30), called the Great Constable He fought under PHILIP II (Philip Augustus) at Château-Gaillard (1203–4) and Bouvines (1214) and under Louis VIII against the English (1224) and the Albigenses (1226) In Louis XI's minority he supported BLANCHE OF CASTILE

Montmorency (mônt″murĕn′sē), village (pop 5,393), S Que , on the St Lawrence at the mouth of the Montmorency river and just NE of Quebec It has textile mills and a hydroelectric plant furnishing power for Quebec and the surrounding area

Montmorency (mônt″murĕn′sē, Fr mômôräsē′), town (pop 10,511), Seine-et-Oise dept , N France, a northern outer suburb of Paris The château of the ducal family of Montmorency was razed in 1814 J J ROUSSEAU lived here (1756–62), first at the near-by "Hermitage," a cottage on the estate of his friend, Mme d'Épinay, and after his quarrel with her, at Montmorency itself, under the protection of the duc de Luxembourg

Montmorency, river of S Quebec, rising in the Laurentian Mts and flowing generally S to the St Lawrence Near its mouth are **Montmorency Falls** (265 ft high), providing hydroelectric power

Montour Falls (mŏn′tōōr″), village (pop 1,345), W central N Y , in the Finger Lakes region, near Watkins Glen N of Elmira, inc 1836

Montoursville (mŏntōōrz′vĭl), residential borough (pop 3,019), NE Pa , on the West Branch of the Susquehanna and near Williamsport, settled 1807, laid out 1820, inc 1850 It has silk mills and a furniture factory

Montparnasse (môpärnäs′), quarter of Paris, France, on the left bank of the Seine, centering on the intersection of the Boulevard de Montparnasse and the Boulevard Raspail Its famous cafés (the Dôme, the Rotonde, the Coupole, and others) are centers of the Parisian artistic and intellectual world It contains the Montparnasse railroad station, the Pasteur Institute, the ancient catacombs, and the Montparnasse cemetery, with the tombs of Saint-Saëns, Houdon, Baudelaire, Poincaré, César Franck, Maupassant, and Leconte de Lisle

Mont Pelée see PELÉE, MONT

Montpelier (mŏntpēl′yur) **1** City (pop 2,824), SE Idaho, near the Bear river and SE of Pocatello Founded (1864) by Mormons and named (1865) for the capital of Brigham Young's native state, the little center of an area producing alfalfa, grain, and livestock has today a tabernacle of the Latter-Day Saints **2** City (pop 1,800), E Ind , E of Marion, settled 1836, inc 1937 **3** Village (pop 3,703), NW Ohio, on the St Joseph river and W of Toledo, settled 1855, inc 1875 Stove and office fixtures, metal stampings, and truck bodies are manufactured here **4** City (pop 8,006), state capital (since 1805), and co seat of Washington co , central Vt , on the Winooski and NW of Barre, inc 1894 Col. Jacob Davis arrived in 1787—he and others had been granted Montpelier town in 1780—and built a sawmill and a gristmill The region is known for its granite The present capitol (1836), of Barre granite, was rebuilt after a fire in 1857, the gilded dome is surmounted by Larkin G Mead's *Ceres*, and Mead's heroic *Ethan Allen* is within the Doric portico The supreme court, near by, contains, besides state and public libraries, the collections of the Vermont Historical Society, among them the Stephen Daye press Montpelier was the birthplace of Admiral George Dewey and of Thomas Waterman Wood, the Wood Gallery (1895) contains Wood's collection The Kellogg-Hubbard Library and Hubbard Park are other points of interest Daniel Pierce Thompson edited a paper in Montpelier Montpelier Seminary, a 19th-century school, is now Vermont Junior College The city was disastrously flooded in 1927, it escaped serious damage from the 1936 flood because dams had been constructed on the upper Winooski and its tributaries The city shares an airport with Barre

Montpelier, estate, central Va , near Orange, home of James Madison, now privately owned The mansion was built c 1760 by Madison's father. Madison and his wife are buried near by

Montpellier (môpĕlyā′), city (pop 80,873), capital of Hérault dept , S France, near the Mediterranean coast It is a trade center for wines, brandy, and silk Dating from the 8th cent , it was, with the surrounding countryside, a fief under the counts of Toulouse, it passed (13th cent) to the kings of Majorca, from whom it was purchased (1349) by Philip VI of France A Huguenot center, it was besieged and taken by Louis XIII in 1622. Montpel-

her was the seat of the provincial estates of LANGUEDOC The fame of the city rests mainly on its university, founded here in 1289 The faculty of medicine, celebrated for seven centuries, is traced to the 10th cent , its most famous student was Rabelais It is now housed in a 14th-century building There are many handsome houses of the 17th and 18th cent The botanical garden was founded by Henry IV in 1593

Montpensier, Anne Marie Louise d'Orléans, duchesse de (an' märē' lwēz' dôrlāä' düshĕs' du môpāsyā'), 1627–93, French princess, called Mademoiselle and La Grande Mademoiselle, daughter of Gaston d'Orléans She took an active part on the rebel side in the FRONDE of the Princes, in 1652 she relieved Orléans at the head of her troops and opened the gates of Paris to Condé's retreating soldiers Exiled with her father (1652), she returned to court in 1657 She fell in love with LAUZUN, the king's permission for their marriage was granted only to be revoked (1670) Shortly thereafter, Lauzun was imprisoned (1671) Mademoiselle bought his release in 1681 and apparently married him, but they soon separated Mademoiselle spent the rest of her life in pious works and the composition of her memoirs See Arvède Barine (pseud of Cécile Vincens), *Louis XIV and La Grande Mademoiselle, 1652–1693* (1905)

Montreal (mŏntrēôl'), city, (pop 903,007, metropolitan pop 1,138,431), S Que , on Montreal island in the St Lawrence It is the largest city in Canada and its commercial, financial, and industrial center It lies at the foot of Mt Royal (900 ft high) and has an excellent harbor with modern dock facilities at the head of ocean navigation on the St Lawrence, which is here spanned by the Victoria Bridge (opened 1860, remodeled 1898) and by the Jacques Cartier Harbour Bridge (1930) The Lachine Canal provides a direct waterway for shipping to the Great Lakes A stockaded Indian village, Hochelaga, was found here (1535) by Cartier, who climbed Mt Royal and so named it, and the site was visited in 1603 by Champlain, but it was not settled by the French until 1642, when a band of priests, nuns, and settlers, under Paul de Chomedey, sieur de Maisonneuve, founded Ville Marie de Montréal The settlement grew slowly and suffered numerous Indian attacks, but became an important center of the fur trade and the starting point for the western expeditions of Jolliet, Marquette, Father Hennepin, Vérendrye, and the sieur Duluth It was fortified in 1725 and remained in French possession until 1760, when Vaudreuil de Cavagnal surrendered it to superior British forces under Amherst. The American patriot forces under Richard Montgomery occupied it briefly in 1775 From 1844 to 1849 it was the capital of United Canada. The population has remained largely French Among the notable buildings are Hôtel Dieu (built 1644, present building 1861), Notre Dame Church (founded 1656, present building 1824), the Seminary of St Sulpice (1661, present building 1712), the Château de Ramezay (1705, a museum since 1894), the Grey Nunnery (1738), Christ Church Cathedral (1814, rebuilt 1859), the Cathedral of St James (a smaller reproduction of St Peter's in Rome), and St Joseph's Shrine and Oratory (given papal benediction 1910). It is the seat of MCGILL UNIVERSITY, of the Montreal School of Social Work, of several theological schools, and of the Roman Catholic archbishopric The Univ. of Montreal (French language, Catholic, pontifical, coeducational), founded in 1876 and opened in 1878 as a branch of Laval Univ , was separately organized in 1889 and chartered in 1920 Besides faculties of dental surgery, law, letters, medicine, philosophy, sciences, and theology, it has schools of pharmacy and of social, economic, and political sciences. The Agricultural Institute of Oka (with a school of veterinary medicine) is affiliated Montreal's industries include the manufacture of steel products, railroad equipment, glass, electrical equipment, furniture, clothing, and shoes and tobacco processing, there are flour and sugar mills, grain elevators, and cold-storage plants. Montreal is Canada's most important port for transshipment of wheat, flour, coal, oil, lumber, canned goods, iron, and steel. See Victor Morin, *Old Montreal* (1929), T. M. Longstreth, *Quebec, Montreal, and Ottawa* (1933), Stephen Leacock, *Montreal, Seaport and City* (1942)

Montreal, city (pop 1,700), N Wis , SE of Ashland and on the Gogebic iron range, inc. 1924

Montreal, University of. see MONTREAL, Que

Montreal East, town (pop 2,355), S Que , on Montreal island, SW of Montreal. It is a copper-refining center.

Montreal North, town (pop. 6,152), S Que , on Montreal island. It is a suburb of Montreal

Montreal South, town (pop 1,441), S Que., a residential suburb of Montreal, at the east end of the Jacques Cartier Harbour Bridge across the St Lawrence.

Montreal West, town (pop. 3,474), S Que., on Montreal island, near Lachine.

Montreuil or Montereau, Pierre de (pyĕr' du môtrē'yu, môtürō'), d 1266, French architect, a prominent figure under the patronage of Louis IX. He built the refectory (1239–44) and the Lady Chapel (1244) at the monastery of Saint-Germain-des-Prés, Paris, destroyed during the Revolution, and is credited with the design of the chapel of the château of Saint-Germain-en-Laye (1240) near Paris and the refectory of Saint-Martin-des-Champs (*c* 1250), Paris

Montreux (môtrü'), extreme northeast bank of the Lake of Geneva, Vaud canton, Switzerland, between Vevey and Villeneuve It is composed of three communities, Montreux-Châtelard (pop 9,990), Planches (pop 4,492), and Veytaux (pop 667), and is an unbroken succession of villages and resorts. Chocolate is made, and there is woodworking The tourist traffic is large

Montreux Convention, 1936 The request made by Turkey for permission to refortify the Straits zone (see DARDANELLES) resulted in the meeting, at Montreux, Switzerland, of the powers that had been parties to the Treaty of Lausanne of 1923 (see LAUSANNE, CONFERENCE OF) With Italy abstaining, the powers decided to return the Straits area to Turkish military control. Turkey was furthermore authorized to close the Straits to warships of all countries when it was at war or threatened by aggression, merchant ships were to be allowed free passage, the USSR was authorized to send its fleet through the Straits into the Mediterranean in peacetime, powers with no territory touching the Black Sea were permitted to concentrate no more than 45,000 tons of warships there The Montreux Convention was ratified by Turkey, England, France, the USSR, Bulgaria, Greece, Germany, Yugoslavia, and—with reservations—Japan It remains in effect despite efforts by the USSR, after the Second World War, to obtain a revision

Montrose, James Graham, 5th earl and 1st marquess of (mŏntrōz'), 1612–50, Scottish nobleman and soldier. He succeeded to the earldom in 1626 and, having been treated with disdain by Charles I, joined the COVENANTERS in 1638. At first he was a leader in the BISHOPS' WARS, suppressing royalists and Episcopalians, but after the Pacification of Berwick (1639) *he took the king's side because he* feared a Presbyterian oligarchy controlled by Archibald CAMPBELL, 8th earl of Argyll He desired a constitutional government, but believed some form of monarchy was necessary to control the turbulent Scottish nobility. Charles consented to Presbyterianism so late (1641) that compromise was impossible, warfare was resumed, and Montrose invaded Scotland in the king's name, but failed He then visited the Highlands in disguise, organized a force there, and defeated the Lowland Presbyterian army of Argyll in six engagements, of which Tippermuir, Inverlochy, and Kilsyth were the greatest (1644–45) Never in command of a very large army, Montrose was successful because of his brilliant strategy coupled with spirited and inspiring leadership of the fierce Highland clansmen He was in control of Scotland for a short time, but the defeat of Charles at Naseby (1645) left him without support, and even he could not permanently unite the Scottish royalists. David Leslie beat his small army at Philiphaugh (1645) and in 1646 Montrose fled to Norway In 1650 he returned to Scotland to try to make the nominal rule of Charles II a reality, but was captured and hanged He quite evidently acted from conviction rather than scheming ambition, and although the excesses of his wild troops have been sharply criticized, his reckless daring and his successes have made him one of the most romantic figures in Scottish history He was the author of poetry (ed by G L Weir, 1938) See John Buchan, *Montrose* (1928), Margaret Irwin, *Proud Servant* (1934), a historical novel

Montrose, burgh (pop 10,196), Angus, Scotland, on a low sandy peninsula between the mouth of the South Esk and Montrose Basin, an inlet dry at low tide There is a bridge to Rossie island, or Inchbrayock, in the Esk. Montrose was a port in the 14th cent when it was swept by fire John de Baliol surrendered to Edward I here in 1296 The burgh is a fishing center with distilleries and the manufacture of fertilisers

Montrose 1 City (pop 4,764, alt, 5,820 ft), co seat of Montrose co., SW Colo , on the Uncompahgre river and SE of Grand Junction, in an orchard and farm area, founded and inc. 1882 Carnotite deposits near by are a source of radium The Black Canyon of the Gunnison National Monument is near 2 Town (pop. 592), extreme SE Iowa, on the Mississippi above Keokuk One of the first permanent white settlements in Iowa was made here in 1799 when Louis H Tesson, a French-Canadian, established a trading post. The town was laid out in 1837 3 Borough (pop 1,977), co seat of Susquehanna co., NE Pa , NNW of Scranton, settled 1799, laid out 1811, inc 1824. It has machine shops and a publishing plant

Monts, Pierre du Guast, comte de (pyĕr' dü gwäst' kōt' dü mō'), c.1560–c 1630, French colonizer in North America, called the sieur de Monts. A wealthy Huguenot and a favorite of Henry IV, he was the holder of a trade monopoly in New France and the patron of Samuel de CHAMPLAIN. Monts had visited the St. Lawrence in 1603. In 1604–5 he and Champlain explored the coast of New Brunswick and New England as far south as Cape Cod He planted the first French colony in Canada at Port Royal (the modern ANNAPOLIS ROYAL, N.S) in 1605. Leaving it in Champlain's care, he returned to France but sent ships in 1607 and 1608 to aid the colonists Monts's monopoly of the fur trade was soon afterward revoked See William Inglis Morse, ed , *Pierre du Gua, sieur de Monts Records* (1939).

Mont-Saint-Jean (mō-sĕ-shĕ'), village, Brabant prov., central Belgium, on a height S of Waterloo Here the British resisted the French onslaught at the end of the WATERLOO CAMPAIGN (1815)

Mont-Saint-Michel (mō-sĕ-mēshĕl'), rocky isle (pop 149) in the English Channel, Manche dept , NW France, 1 mi off the Norman coast near Avranches It is accessible by land at low tide and also is connected with the mainland by a causeway. Its celebrated Benedictine abbey was founded in 708 by Aubert, bishop of Avranches, according to directions received from the Archangel Michael in a vision A gigantic pile of buildings, rising three stories high, serves, with the summit of the cone-shaped rock, as a base for the great abbey church which crowns them Six of these structures on the side facing the sea form the unit called La Merveille [the marvel], constructed from 1203 to 1228. It includes the almonry and the cellar (first story), the refectory and the hall of knights (second story), and the dormitory and the cloister (third story) The whole forms one of the most imposing achievements of Gothic architecture. Strongly fortified, the abbey was frequently assaulted by the English in the Hundred Years War, but was never captured It survived the Second World War undamaged and remains one of the major tourist attractions of Europe Henry ADAMS wrote of it feelingly in *Mont-Saint-Michel and Chartres*

Montserrat (mŏntsurät'), island (*c* 37 sq mi ; pop 14,275), British West Indies A presidency of the LEEWARD ISLANDS colony, it exports cotton, limes and lime products, and vegetables Discovered by Columbus in 1493, *Montserrat* was colonized by the British in 1632 In the colonial wars between France and England the island changed hands several times, but was finally awarded to Great Britain in the Treaty of Paris of 1783

Montserrat or **Monserrat** (both mŏn"surät', mŏnt"- , Span mônserrat'), mountain, 4,054 ft high, NE Spain, rising abruptly from a plain in Catalonia, NW of Barcelona On a narrow terrace, more than halfway up its precipitous cliffs, is a celebrated Benedictine monastery, one of the greatest religious shrines of Spain Only ruins are left of the old monastery (11th cent) The new monastery was built in the 19th cent The Renaissance church (16th cent , largely restored in the 19th and 20th cent) contains the black wooden image of the Virgin which, according to tradition, was carved by St Luke, brought to Spain by St Peter, and hidden in a cave near here during the Moorish occupation. In the Middle Ages the mountain, also called Monsalvat, was thought to have been the site of the castle of the Holy GRAIL At Montserrat, St Ignatius of Loyola devoted himself to his religious vocation just before the founding of the Society of Jesus

Montt, Jorge (hôr'hā mŏnt'), 1846–1922, president of Chile (1891-96) He was a vice admiral and distant relative of Manuel and Pedro Montt A leader in the revolution against BALMACEDA, he commanded the insurgent forces (both sea and land) and later headed the provisional junta of government His presidency was honest but undistinguished, and his program of fiscal and political reform to aid in reconstruction was largely entrusted to others

Montt, Manuel (manwĕl'), 1809–80, president of Chile (1851–61) A conservative who displayed conspicuous organizational and administrative ability, Montt continued the progressive reform begun by Diego PORTALES He especially emphasized educational and scientific advancement, improved relations with Chile's neighbors, and brought prosperity. While his stern and sometimes illegal methods of suppressing opposition earned him the hatred of the liberals, his administration is remembered as a kind of golden age

Montt, Pedro (pā'dhrō), 1848–1910, president of Chile (1906–10). Son of Manuel Montt, he held with distinction numerous governmental posts He was a minister in the BALMACEDA cabinet and took part in the overthrow of that leader. Elected president in the hope that his name and career would bring moral regeneration to Chile, he was hampered by disruptive social forces and political corruption. He died in office.

Montúfar, Lorenzo (lōrän'sō mŏntōō'fär), 1823–98, Guatemalan historian He occupied a number of governmental posts. His *Reseña histórica de Centro América* is his best-known work.

Montvale, borough (pop 1,342), NE N.J., N of Hackensack, inc 1894

Mont Valérien (mō välāryĕ'), hill, 532 ft. high, in the western part of greater Paris, France, at Suresnes. Fortified in 1841, it is a vital strong point in the outer defenses of Paris, and it played

an important part during the siege of Paris (1870–71) in the Franco-Prussian War

Montville, town (pop 4,135), SE Conn, NW of New London; settled 1670, inc 1786. Paper products are made here.

Montyon, Antoine Jean Baptiste Robert Auget, baron de (ätwän' zhäⁿ bäptēst' rôbĕr' ōzhä' bärō' du môtyō'), 1733–1820, French lawyer and philanthropist, best known for the prizes he established to reward scientific and literary achievements At his death he also left large sums to each hospital in Paris. Montyon wrote extensively on economic subjects, viewing them as a philanthropist. See biography by Louis Gumbaud (1909, in French)

monument, structure intended to perpetuate the memory of persons or events The term is also applied to buildings of unusual size or representing the architectural achievements of a period or people, e g, the Alhambra of Spain, Gothic cathedrals, the Vatican and St Peter's Church, Rome, Westminster Abbey; the Parthenon, the Temple of Heaven, Peking, the temple of Amon at Karnak, and many palaces Early monuments include MEGALITHIC MONUMENTS and such forms as the STELE, the OBELISK, the typically Roman TRIUMPHAL ARCH and column, and tombs of various types such as the PYRAMID, the Harpy tomb from Xanthus (now in the British Museum), the tomb of Mausolus at Halicarnassus, and Hadrian's tomb, Rome Monuments of a commemorative character include Chinese memorial arches (paifous), the Taj Mahal, and the Washington and Lincoln memorials at Washington, D C The last century has seen a trend to bring the preservation of monuments under state control and to apply scientific methods to their upkeep and restoration See also BRASSES, MONUMENTAL OR SEPULCHRAL

Monumenta Germaniae historica (mŏnūmĕn'tŭ jurmā'nē-ē histō'rĭkŭ), comprehensive collection of documents relating to the history of medieval Germany The society for publishing it was founded by Karl vom und zum STEIN in 1819, and the first volume appeared in 1826 G H PERTZ, the general editor until 1874, was succeeded by Georg WAITZ, the work was then taken over by the Prussian Academy of Sciences Many very eminent scholars took part in the project, and the *Monumenta* is, perhaps, the greatest of all collections of source materials

monumental brasses see BRASSES, MONUMENTAL

Monvel, Louis Maurice Boutet de Monvel. see BOUTET DE MONVEL, LOUIS MAURICE

Monviso see VISO, MONTE

Monza (mōn'tsä), city (pop 58,503), Lombardy, N Italy, 8 mi NE of Milan It is a rapidly expanding industrial center, manufacturing felt hats, textiles and machinery Its history is closely related to that of Milan Its cathedral, founded (6th cent) by the Lombard queen Theodolinda, contains the iron crown of Lombardy, which was made, according to tradition, from the nails of Christ's cross Charlemagne, Charles V, Napoleon I, and other emperors were crowned with it as kings of Lombardy or Italy An expiatory chapel was built at the place where King Humbert was assassinated in 1900 Modern Monza is also known for its automobile races

mood or **mode,** in Latin INFLECTION, one of four major sets of forms of verbs Three of them cross with the category of person and are subdivided by tenses, they are the indicative (used normally), imperative (in commands), and subjunctive (in certain kinds of subordinated constructions) The fourth set, the infinitive (nonpersonal, generalizing), is sometimes not called a mood These names of moods are often used for similar categories in other languages, and many languages are far richer than Latin in analogous patterns, especially common meanings of this sort are narrative, quotative, mythical, desiderative, optative, and negative In standard English the verb *be* has special modal inflections

Moodus, village in East Haddam town, S Conn The "Moodus noises," subterranean rumblings about which the Indians had legends, are believed to be caused by the shifting of rock strata along lines of fracture

Moody, Dwight Lyman, 1837–99, American evangelist, b Northfield, Mass He became successful in business in Chicago, where he settled in 1856 His activities there as a Sunday-school teacher and superintendent were so successful that in 1861 he withdrew from business to devote himself to city missionary work In 1870 he met Ira D SANKEY, who for a number of years thereafter was associated with him in evangelistic campaigns They made several notable tours in Great Britain, large crowds were also attracted to their meetings in the United States, and their collections of gospel hymns were received with great enthusiasm Moody's preaching was simple, colorful, and direct; he stressed God's love and mercy rather than retribution and hell-fire His interest in religious education led him to found the Northfield Seminary (now Northfield School) for girls (1879) and the Mt Hermon School for boys (1881), both in Northfield, Mass In 1889 his Bible Institute for Home and Foreign Missions (now the Moody Bible Institute) opened in Chicago The conferences for Christian workers which Moody inaugurated at Northfield, Mass, are annual gatherings See biographies by his sons, W R Moody (1900) and Paul D. Moody (1938), Gamaliel Bradford, *D. L Moody, a Worker in Souls* (1927)

Moody, Helen Wills: see WILLS, HELEN NEWINGTON

Moody, John, 1868–, American financial writer, b Jersey City, N J He worked on a newspaper and in a bank until 1900, when he founded *Moody's Manual of Railroads and Corporation Securities*, followed in 1905 by *Moody's Magazine*, a monthly, and in 1909 by *Moody's Analyses of Investments*, an annual He wrote *The Truth about Trusts* (1904), *The Art of Wall Street Investing* (1906), *The Investor's Primer* (1907), *Masters of Capital in America* (1911), *John Henry Newman* (1945), and a two-volume autobiography, *The Long Road Home* (1933) and *Fast by the Road* (1942)

Moody, William Henry, 1853–1917, American cabinet officer and Associate Justice of the U S. Supreme Court (1906–10), b Newbury, Mass, grad Harvard, 1876 He practiced law in Haverhill, Mass, and was city solicitor (1888–90) and district attorney (1890–95) for E Massachusetts Elected (1895) to the U S. House of Representatives to fill a vacancy, he was thrice reelected He resigned in 1902 and became Secretary of the Navy and then (1904) U S Attorney General under President Theodore Roosevelt, who later appointed him to the Supreme Court bench

Moody, William Vaughn, 1869–1910, American poet and dramatist, b Spencer, Ind, grad Harvard, 1893 He taught English at Harvard and Radcliffe and at the Univ of Chicago until financial returns from a textbook he wrote with Robert Morss Lovett freed him for travel His lyric, philosophic poetry appeared in *The Masque of Judgment* (1900), *Poems* (1901), and other books His most popular work was the prose play *The Great Divide* (1909, originally produced as *A Sabine Woman*, 1906), *The Faith Healer* (1909) was less successful In 1909 he married Mrs Harriet Converse Brainerd, a brilliant woman whose home was a gathering place for writers and artists and who was a famous epicure and caterer as well Moody's poems and plays were collected in 1912 (2 vols) See his *Some Letters* (ed by D G Mason, 1913) and *Letters to Harriet* (ed by Percy MacKaye, 1935), study of Moody by D C Henry (1935) and of Mrs Moody in O H Dunbar, *A House in Chicago* (1947)

moon, the one satellite of the earth, its companion in the annual circuit of the sun The mass of the moon as compared with that of the earth is greater than that of any other satellite in comparison with its primary planet The two bodies may be thought of as the earth-moon system, making their journey around the sun in an orbit which is really the orbit of the center of the mass which they make together, rather than the orbit of the earth alone, as we usually regard it The center of their combined mass lies within the earth, it is true, but c 2,900 mi. from the earth's center The mean distance between the center of the earth and that of the moon is 238,857 mi The moon revolves around the earth in an orbit that is elliptical, not circular, therefore the distance between them is not always the same When the satellite is nearest, it is said to be in perigee, when farthest, in apogee The diameter of the moon is 2,160 mi, somewhat more than one quarter that of the earth The area of its surface is about one fourteenth as great as the earth's, and its volume very nearly one forty-ninth that of the earth The moon's phases, or apparent changes of figure, result from the fact that it is itself a dark globe, one hemisphere of which reflects the light of the sun, and that varying amounts of that lighted surface are presented to the observer as the moon's revolution brings it into different positions with relation to the sun and the earth The phase of the new moon occurs when the moon holds the position between the sun and the earth, presenting to the earth its dark side, by about the second day this surface shows the light of the crescent moon. When half of the bright side has come into view, we have the first quarter, when the moon is opposite the sun, it is at full phase, the following half moon is the last quarter Between the quarter and the full phase it is gibbous The convex illuminated edge is always towards the sun On the moon there shines earthlight (sunlight reflected from the earth), just as moonlight shines upon the earth, but the earthlight shines about 40 times brighter than the light of the full moon The fullest phase of this earthlight occurs when we have a new moon When there is a crescent moon, that part of the disk not lighted directly by the sun can be seen more faintly illuminated by the earthshine It is estimated that only about 7 percent of the light that falls upon the moon's surface is reflected, the rest being absorbed In astronomy, a month is measured by the moon's revolution The sidereal month is the interval between the time when the moon is in conjunction with a certain star and the time when it is next in conjunction with the same star This period averages very nearly 27⅓ days. The synodic month, averaging somewhat more than 29½ days, is the time required to bring the moon again into the same position with relation to the sun, or the interval from one new moon to the next The difference of about 2¼ days between the sidereal and the synodic month is owing to the earth's moving forward in its path around the sun Because of the earth's rotation, the moon seems to be moving westward, rising and setting like the other heavenly bodies visible from the earth But on account of its revolution around the earth it seems to be moving eastward also, with relation to the constellations This eastward movement is so much more rapid than the sun's apparent motion in the same direction that the moon's day is longer than that of the sun, and it rises on an average about 50½ min later from one night to the next, but there are many variations in this retardation, according to the latitude and the time of year In the North Temperate Zone, when the moon is full near the time that the sun is approaching the autumnal equinox, moonrise occurs at about the same hour several nights in succession (HARVEST MOON) The average inclination to the ecliptic of the moon's apparent path through the heavens is about 5°9′ Owing to this slight inclination, the moon changes its position north and south in the course of the month in about the same way that the sun does in a whole year In winter the full moon rides across the sky at its highest Because the moon makes one rotation on its axis in the same length of time required for one revolution around the earth, it turns toward the earth almost exactly the same hemisphere always, although certain apparent rocking movements, or librations, make it possible for us to see sometimes a little farther over one edge of the exact half sphere, sometimes a little farther over another edge Actually, 59 percent of the surface of the moon comes into the view of the observer on the earth in a month The rest can never be seen Therefore about 41 percent is never visible, another 41 percent is always visible, and 18 percent is sometimes visible One kind of libration is due to the inclination of the moon's equator to the plane of its orbit The resultant tipping of the poles brings into view sometimes a region a little beyond the north pole and again a region a little beyond the south pole Another libration depends upon the lack of uniformity in the rate of the moon's revolution, although its rotation is uniform or nearly so (in the long run the periods of the two agree) This rocking motion is east and west, or longitudinal, presenting areas of the moon's surface that would not otherwise be seen. The earth's rotation accounts for another slight libration The surface of the moon was studied by scientists long before Galileo c 1610 first examined it with the telescope, but the use of photography in connection with telescopic observation in recent times has made possible the mapping in detail of the whole visible area A complete lunar atlas was finished in 1903 for the *Harvard Annals* by W H Pickering On the moon's surface large dark regions, now regarded as depressed plains, were long ago supposed to be bodies of water and were called seas (*maria*) Generally circular in shape, these are known by individual names, such as Mare Imbrium It is now believed that there is no moisture on the moon A great part of the surface is covered with mountains, usually of circular formation The heights of peaks can be accurately determined Some have an elevation of 26,000 ft Among the mountains are thousands of so-called craters Their origin is attributed by some astronomers to volcanic action within the moon and by others to bombardment of the surface by meteorites There are, besides, clefts, or rills, and bright streaks known as rays From the 17th cent, when Riccioli introduced the custom, the various features of the lunar surface have been called by the names of, for example, scientists, mythological beings, and earthly geographical divisions There is conclusive evidence that the moon has no appreciable atmosphere From careful observation, it has been estimated that the temperature of the surface may reach about 215°F in the middle of the lunar day in full sunlight and −250°F at night It is calculated that in order to produce light equal to that of the sun about 570,000 full moons would be needed An ECLIPSE of the moon takes place when at its full phase the satellite passes into such a position that the earth's shadow lies upon it, shutting off the light of the sun, and a solar eclipse occurs when the new moon takes such a position between sun and earth that its shadow lies upon some part of the earth's surface, obscuring the sun's light in that region In 1946 radar signals were sent to the moon and were reflected back to the earth See G P Services, *Story of the Moon* (1928); G C Fisher, *The Story of the Moon* (1943); R. B Baldwin, *The Face of the Moon* (1949)

Moon, Mountains of the: see RUWENZORI

Moonachie (mōōnă'kē), borough (pop 1,554), NE N J, SE of Paterson, inc 1910

Mooney, Edward Francis, 1882–, American churchman, (cardinal of the Roman Church, b Mt Savage, Allegany co, Md. He was ordained priest in 1909 He was head of the North American Col-

lege in Rome (1923–26) and then was sent to India as apostolic delegate (1926–31) He was next apostolic delegate in Japan (1931–33) and returned to be bishop of Rochester, N Y (1933–37). He became first archbishop of Detroit (1937) and gained prominence in the American hierarchy as a champion of workingmen's rights and social justice He received the red hat from Pius XII in 1946

Mooney, James, 1861–1921, American ethnologist, b Richmond, Ind After 1885 he was active in the Bureau of American Ethnology, Washington, D C Mooney had much to do with the preparation of the *Handbook of American Indians* (1907–10). He made many important ethnological studies

Mooney, Thomas J, 1883–1942, American labor agitator, b Chicago Known as an active leader in several violent labor struggles in California before 1916, he was convicted as a participant in the bomb killings of the San Francisco Preparedness Day parade in 1916 and was sentenced to death His case aroused international interest because of the widely held belief in his innocence and the confessions of perjured testimony at his trial, and in 1918 his sentence was commuted to life imprisonment Many organizations and individuals sought unsuccessfully to obtain a new trial until Jan, 1939, when Gov Culbert L Olson of California pardoned him unconditionally See the *Mooney-Billings Report* (1932), E J Hopkins, *What Happened in the Mooney Case* (1932)

moonflower, name for any plant of the genus *Calonyction*, tropical American night-blooming vines The common moonflower (*C aculeatum*) is a fast-growing perennial but is usually cultivated as a tender annual It has large, morning-glorylike, fragrant white flowers There are also purple- and blue-flowered kinds

moonlight school see ILLITERACY

moonstone, an orthoclase FELDSPAR found in Ceylon, Burma, and Madagascar and formerly in the St Gotthard district of Switzerland In spite of its softness and pronounced cleavage, it is widely used as a gem, the refraction of light by the thin, paired internal layers causes its milky bluish sheen

Moor, Antonis see MORO, ANTONIO

Moore, Albert Joseph, 1841–93, English decorative painter, pupil of his father, William Moore (1790–1851), a portrait painter His best-known works include the murals *The Last Supper* and *Feeding the Five Thousand* (Church of St Alban's, Rochdale) and the paintings *Blossoms* (Tate Gall, London), *The Open Book*, and *Somnus* (Victoria and Albert Mus) Moore's paintings evoke a dreamworld, with classical overtones

Moore, Anne Carroll, 1871–, American librarian and author of children's books, b Limerick, Maine, grad Pratt Institute Library School, 1896 She was children's librarian at Pratt (1896–1906) and supervisor of work with children at the New York Public Library (1906–41) A well-known consultant on reading for children, she has written a series of books for children (the "Nicholas" books), one of her works about children's books is *My Roads to Childhood* (1939)

Moore, Clement Clarke, 1779–1863, American educator and poet, b New York city, grad Columbia, 1798 He became in 1821 professor of biblical learning, later of Oriental and Greek literature, at the Episcopal General Theological Seminary, erected in New York city on land which he had given He published in 1809 the first Hebrew and Greek lexicon issued in the United States and in 1844 a volume of poems containing the well-known "Visit from St Nicholas," beginning, "'Twas the night before Christmas" first published in the Troy *Sentinel* in 1823

Moore, Douglas Stuart, 1893–, American composer, b Cutchogue, N Y, grad Yale (B A, 1915, B Mus, 1917), studied with Horatio Parker and Ernest Bloch and with Nadia Boulanger and Vincent d'Indy in Paris In 1926 he joined the music faculty of Columbia Univ, becoming chairman of the department in 1940 His compositions include *Pageant of P T Barnum* (1924) and *Moby Dick* (1928) for orchestra, *The Headless Horseman* (composed 1936, produced 1937), an operetta with libretto by Stephen Vincent Benét, an opera, *The Devil and Daniel Webster* (New York, 1939), based on the story by Benét, choral settings of poems by Benét, Vachel Lindsay, and Archibald MacLeish; songs to texts from John Donne, chamber music, and two symphonies (1930, 1945) He wrote *Listening to Music* (1932) and *From Madrigal to Modern Music* (1942)

Moore, Edward, 1838–1916, English Italian scholar. He edited one of the best complete editions of the works of Dante, generally called the Oxford Dante (1894)

Moore, Eliakim Hastings, 1862–1932, American mathematician, b Marietta, Ohio, grad. Yale, 1883 From 1892 to 1931 he was professor of mathematics at the Univ of Chicago and from 1896 to 1931 was head of the department of mathematics, which he created. He was a founder and editor (1899–1907) of the American Mathematical Society *Transactions* His chief work was *General Analysis* (Part I, 1935, Part II, 1939)

Moore, George, 1852–1933, Irish novelist, noted for his brilliant style, associated with George Russell, Edward Martin, Synge, Yeats, and Lady Gregory in the modern Irish literary movement He lived in Paris as a young man, trying to learn to paint He turned to poetry, but, after producing *Flowers of Passion* (1878) and *Pagan Poems* (1881), abandoned it for prose *A Modern Lover* (1883) and *A Mummer's Wife* (1885) were his earliest novels, *Esther Waters* (1894), *Evelyn Innes* (1898), and its sequel, *Sister Teresa* (1901), of his middle period, are considered by many his best These were followed by *Brook Kerith* (1916), on the life of Christ, and *Héloïse and Abélard* (1921) He also wrote short stories and several plays, of which *The Making of an Immortal* was successfully produced in 1927 His *Confessions of a Young Man* (1888), *Hail and Farewell* (1911–14), and *Conversations in Ebury Street* (1924) are autobiographical *Aphrodite in Aulis* (1931) was his last completed book See studies by Humbert Wolfe (1931) and Charles Morgan (1935), biography by Joseph Hone (1936)

Moore, George Edward, 1873–, English philosopher He was lecturer (1911–25) in the department of moral sciences at Cambridge Univ and professor of philosophy from 1925 until his retirement in 1939 as professor emeritus He edited (1921–47) the periodical *Mind* and was also visiting professor at many universities in the United States from 1940 to 1944 Moore is a neorealist whose position is similar to that of Bertrand Russell His writings include *Principia Ethica* (1903) and *Philosophical Studies* (1922) See *The Philosophy of G E Moore* (ed by P A Schilpp, 1943), which contains a short autobiography

Moore, George Foot, 1851–1931, American biblical scholar, b West Chester, Pa, grad Yale, 1872, and Union Theological Seminary, 1877 In 1878 he was ordained in the Presbyterian ministry He was professor of Hebrew (1883–1902), at Andover Theological Seminary and professor of theology (1902–4) and of religious history (1904–28) at Harvard An eminent oriental scholar and a noted teacher, he wrote a number of books, among them *The Literature of the Old Testament* (1913), *History of Religions* (Vol I, 1913, Vol II, 1919), *Metempsychosis* (1914), and *Judaism in the First Centuries of the Christian Era* (1927)

Moore, George Thomas, 1871–, American botanist, b Indianapolis, grad Harvard (B A, 1895, Ph D, 1900) He became director of the Missouri Botanical Garden in 1912 and is known for his work on algae and in plant physiology He discovered a method for preventing water pollution by algae and bacteria and perfected a method for inoculating soil with nitrogen-fixing bacteria, on both of which subjects he has written articles for scientific journals and bulletins for the U S Dept of Agriculture

Moore, Sir Henry, 1713–69, British colonial administrator, b Jamaica, British West Indies He was acting governor of Jamaica for almost all of the period 1755–62, and he put down the slave insurrection of 1760 He was rewarded for his services with a baronetcy and was governor of New York (1765–69) In the agitation concerning the Stamp Act he expressed sympathy for the hardships of the colonists

Moore, Henry, 1898–, English sculptor After studying at the Royal College of Art he was awarded (1925) a traveling fellowship which took him to Italy and Paris In 1928 he had his first one-man show in London, and in 1946 the Museum of Modern Art, New York, gave him a retrospective exhibition He executed (1944) a large *Madonna and Child* for a church in Northampton, England, and was commissioned (1945) to carve a memorial figure for the grounds at Dartington Hall, Devonshire His works, in wood, stone, and cement (done without clay models), are characterized by their organic shape and often by holes which Moore introduces for contrast and to give added three-dimensionality to the form During the Second World War, when materials for carving were scarce, he concentrated on drawing and was commissioned (1940) by the government to do a series of studies in the underground bomb shelters, these drawings were exhibited and later published (1944) in book form See studies by Herbert Read (1934), Geoffrey Grigson (1943), and J J Sweeney (1946)

Moore, Sir John, 1761–1809, British general He served (1775–83) against the Continental army in the American Revolution and between 1792 and 1809 fought successively in the Mediterranean, the West Indies, Ireland, Holland, Egypt, Sicily, Sweden, and Spain He was a master of strategy and a great trainer of men As commander (1808) of English troops supporting the Spanish army against Napoleon (see PENINSULAR WAR) he was forced by the defeat of the Spanish to conduct a valorous and brilliant retreat of 250 mi to Coruña There he was victorious over the French, but was fatally wounded See his diary (ed by J F Maurice, 1904), biographies by J C Moore (1834) and Beatrice Brownrigg (with his letters, 1923) His father was **John Moore,** 1729–1802, a Scottish physician He wrote several novels and *A View of Society and Manners in France, Switzerland, and Germany* (1779).

Moore, John Bassett, 1860–1947, American authority on international law, b Smyrna, Md, grad. Univ of Virginia, 1880. He was admitted to the Delaware bar in 1883 He was (1885–89) a law clerk in the Dept of State and in 1898 was Assistant Secretary of State He represented the United States on several important international commissions. He was (1912–38) on the panel of the Hague Tribunal and was (1921–28) the first American judge on the World Court (the Permanent Court of International Justice). Moore believed that the system of alliances which grew up after the First World War threatened to make every conflict world-wide and that maintaining neutrality would tend to localize wars. His *History and Digest of International Arbitrations* (6 vols., 1898), *Digest of International Law* (8 vols, 1906), and *International Adjudications, Ancient and Modern* (8 vols, 1937) are standard compilations His other books include *American Diplomacy* (1905), *Four Phases of American Development* (1912), *International Law and Some Current Illusions* (1924), *The Permanent Court of International Justice* (1924), and *Collected Papers* (7 vols, 1945) He also edited the works of James Buchanan (12 vols, 1909–11).

Moore, Marianne, 1887–, American poet, b St Louis, grad Bryn Mawr, 1909 She taught stenography in Carlisle, Pa (1911–15), and was an assistant in the New York Public Library (1921–25) Meanwhile she had, since 1915, been contributing poetry to the English magazine of the imagists, the *Egoist*, and her first volume, *Poems* (1921), was selected from that magazine, by friends, without her knowledge *Observations* (1924) she prepared herself She was acting editor of the *Dial* from 1925 to its expiration in 1929 Her polished, witty, and precise comments in poetry are perhaps best in her shorter pieces Later volumes are *Selected Poems* (with introduction by T S Eliot, 1935), *The Pangolin and Other Verse* (1936), *What Are Years* (1941), and *Nevertheless* (1944)

Moore, Thomas, 1779–1852, Irish poet, b Dublin Appointed admiralty registrar at Bermuda in 1803, he left the work to a deputy, whose defalcation plunged Moore into a debt of £6,000, which he paid He is best remembered for his *Irish Melodies*, a group of songs published between 1808 and 1834 and set to music by Sir John Stevenson and others His numerous hymns, patriotic airs, and love lyrics included several of lasting fame—"Believe Me if All Those Endearing Young Charms," "Oft in the Stilly Night," "The Harp That Once through Tara's Halls," "She Is Far from the Land," and the hymn, "Come Ye Disconsolate" His amusing satires, *Intercepted Letters, or, The Two-Penny Post Bag* (1813) and *The Fudge Family in Paris* (1818), were widely read, and the Oriental romance, *Lalla Rookh* (1817), was one of the most popular poems of his day He was a friend of Byron, whose memoirs, left to Moore, were destroyed by him Moore's biographies of Byron and of Lord Edward Fitzgerald (1831) are among his best prose works See biographies by S L Gwynn (1905), H M Jones (1937), and L A G Strong (1937)

Moore, Thomas Sturge, 1870–1944, English writer and wood engraver His works on art include *Albert Durer* (1905), *Correggio* (1906), and *Art and Life* (1910) Also noteworthy are *Armour for Aphrodite* (1929), a book of essays, *Mystery and Tragedy* (1930), two dramatic poems, *The Poems of T Sturge Moore* (1931–32), and *The Unknown Known* (1939) Of his wood engravings, his bookplate designs are especially noted

Moore, Willis Luther, 1856–1927, American meteorologist, b Scranton, Pa He was professor of applied meteorology at George Washington Univ and head (1895–1913) of the U S Weather Bureau He wrote *Moore's Descriptive Meteorology* (1901) and *The New Air World* (1922)

Moorefield, town (pop 1,291), co seat of Hardy co, W Va, in the Eastern Panhandle, S of Keyser at the junction of the Moorefield river and the South Branch of the Potomac, in a hunting and fishing area, settled 1777 It has a tannery

Moorehead, Warren King, 1866–1939, American archaeologist, b Italy His researches among the prehistoric mounds of the North American Indian are the most extensive of any single investigator From 1888 to 1890 he was an assistant at the Smithsonian Institution He was placed in charge of surveys for the Chicago Columbian Exposition of the Hopewell mounds in Ohio and of the San Juan and Chaco pueblos in the Southwest From 1901 to 1938 he was affiliated with Phillips Academy, Andover, Mass, where he was director of the archaeology department His appointment in 1907 to the Board of Indian Commissioners permitted his investigation of reservation conditions described in *The American Indian* (1914) Among his many publications are *Fort Ancient* (1890), *Primitive Man in Ohio* (1892), *The Stone Age in North America* (1910), *A Report on the Archaeology of Maine* (1922), and *Archaeology of the Arkansas River Valley* (1931)

Moores Creek National Military Park: see NATIONAL PARKS AND MONUMENTS (table)

Moorestown, township (pop. 7,749), SW N.J., W of Mt Holly and E of Camden, laid out 1722. It has several 18th-century houses.

Mooresville. 1 Town (pop 1,979), central Ind , SW of Indianapolis, settled 1824. Engine bearings are made here 2 Textile-mill town (pop 6,682), W central N C., N of Charlotte, founded 1868

Moorhead. 1 City (pop 9,491), co seat of Clay co., NW Minn , on the Red River opposite Fargo, N. Dak , inc. 1881 It is a commercial and industrial center and ships potatoes and dairy products. A state teachers college (1888) and Concordia College (Evangelical Lutheran; coeducational, 1891) are here 2 Town (pop. 1,504), W Miss., near the Sunflower between Greenville and Greenwood, in a cotton area, inc. 1899 A district junior college is here

Moorish art and architecture: see MOSLEM ART AND ARCHITECTURE.

moorland. see SWAMP.

Moors, nomadic people of the northern shores of Africa, originally the inhabitants of Mauretania. They mixed with successive conquerors and are now a dark-skinned race chiefly of Berber and Arab blood In the 8th cent they were converted to Islam and became fanatic Moslems Under TARIK they crossed into Spain in 711 and without difficulty overran the crumbling Visigothic kingdom of RODERICK They spread beyond the Pyrenees into France, where they were turned back at Tours by CHARLES MARTEL (732) In 756 ABDUR-RAHMAN I established the Omayyad dynasty at Córdoba This emirate became under Abdur-r-Rahman III the Caliphate of Córdoba The court there grew in wealth, splendor, and culture The regent Al MANSUR in the late 10th cent waged bitter warfare with the Christians of N Spain, where, from the beginning, the Mohammedan conquest had met with its only opposition The cities of the south, TOLEDO, CÓRDOBA, and SEVILLE, speedily became centers of the new culture and were famed for their universities and architectural treasures (See MOSLEM ART AND ARCHITECTURE) With the exception of brief periods, there was, however, no strong central government, the power was split up among dissenting local leaders and factions The caliphate fell in 1031, and the ALMORAVIDES in 1086 took over Mohammedan Spain, which was throughout the whole period closely connected in rule with Morocco Almoravid control slowly declined and by 1174 was supplanted by the ALMOHADES These successive waves of invasion had brought into Spain thousands of skilled artisans and industrious farmers who contributed largely to the intermittent prosperity of the country They were killed or expelled in large numbers (to the great loss of Spain) in the Christian reconquest, which began with the recovery of Toledo (1085) by ALFONSO VI, king of Leon and Castile The great Christian victory (1212) of Navas de Tolosa prepared the way for the downfall of the Moslems Córdoba fell to FERDINAND III of Castile in 1236 The wars went on, and one by one the Moorish strongholds fell, until only Granada remained in their hands. Málaga was taken (1487) after a long siege by the forces of Ferdinand and Isabella, and in 1492 Granada was recovered Many of the Moors had accepted Christianity, these, called Mudejares, were now joined by new converts, the MORISCOS They were allowed to stay in Spain, but were kept under close surveillance They were persecuted by Philip II, revolted in 1568, and in the Inquisition were virtually exterminated In 1609 the remaining MORISCOS were expelled Thus the glory of the Moorish civilization in Spain trailed out Its contributions to Western Europe and especially to Spain were well-nigh incalculable—in art and architecture, medicine and science, and learning (especially Greek learning) See Stanley Lane-Poole, *The Moors in Spain* (new ed , 1911); Bernard Whishaw and Ellen M Whishaw, *Arabic Spain* (1912), R. P. A. Dozy, *Spanish Islam* (Eng. tr , 1913)

Moose, river formed in central Ontario by the Mattagami and Missinaibi rivers SW of Moosonee and flowing northeast to its confluence with the Abitibi, thence past Moosonee to James Bay

moose, largest of the deer family, belonging to the genus *Alces* or *Alce*, of which the Old World species is known as the elk It is found in Canada, Alaska, and the N United States Two species are identified in North America, the American and the Alaska or Kenai moose The moose has a heavy brown body supported by long, lighter-colored legs (the front pair longer than the hind ones), flattened, usually palmately branched antlers, sometimes with a 5 to 6-foot spread, a thick, overhanging, flexible muzzle, and a short neck. A flap of skin covered with long hair and called a bell hangs from the throat The largest species is the Alaska moose, the male or bull moose weighs from 1,000 to 1,800 lb , has forelegs about 4 ft. long, and measures as much as 7½ ft. to the top of the humped shoulder Moose eat leaves, twigs, buds, and some bark of woody plants, as well as lichens, aquatic plants, and some of the taller herbaceous land plants Protection in national parks and reserves in Canada and the United States saved the moose from extermination

Moose Factory, trading post, NE Ont., on the Moose at its mouth on James Bay A fort was built here by Radisson and Groseilliers for the Hudson's Bay Company in 1671 In the struggle between the English and French in Canada, the fort changed hands several times and was finally destroyed shortly after 1696 In 1730 the company built a post close to the ruins of the original fort This post has been in continuous operation to the present day

Moosehead Lake, 35 mi long and 10 mi wide, with an area of 120 sq mi , W Maine, N of Augusta The largest lake in Maine, it has irregular shores and many islands It is beautifully situated in a mountainous region Steamers connect Greenville, Kineo, and other shore points The Kennebec river rises in the lake

Moose Jaw, city (pop 23,069), S Sask , W of Regina It is a railroad and distribution center, with oil refineries, meat-packing plants, flour, lumber, and woolen mills, and dominion grain elevators and stockyards There is also an airport

Moose Lake, village (pop 1,432), E Minn , SW of Duluth, founded before 1875 as a lumber town It was rebuilt after destruction by forest fire in 1918

Moose Lake, 4.3 mi long, W Man , E of The Pas It drains S through Cedar Lake to Lake Winnipeg

Moosic (mōō'sĭk), residential borough (pop 4,568), NE Pa , on the Lackawanna river and SW of Scranton

Moosomin (mōōsŏ'mĭn), town (pop 1,134), SE Sask , E of Regina and near the Man border It is in a dairy and stock area and has a grain elevator

Moosonee (mōō'sunē), village (estimated pop 300), E Ont , on the outlet of the Moose river on James Bay, opposite Moose Factory Moosonee is the northern terminus of the Ontario Northland RR

Moppo, Korea see MOKPO

Mopsuestia (mŏp"sūĕs'chu), ancient city of Cilicia, S Asia Minor, on the Pyramus river in present S Turkey It was a free city under the Romans, who built here a fine bridge across the river

Moqui Indians. see HOPI INDIANS

Mor, Antonis see MORO, ANTONIO

Mora, village (pop 1,494), co seat of Kanabec co , E Minn , on the Snake and N of Minneapolis, settled 1881 by Swedes It is a farm trade center The Izaak Walton League has a log museum here.

Moradabad (mōrudubăd', mōradabad'), city (pop 142,414), N central United Provs , India It is a railroad junction The Jama Masjid [great mosque], erected 1631, is the most notable building Brassware is manufactured, and there is trade in produce

Moraes, Francisco de (fransĕsh'kō du mōrĭsh'), c 1500–c 1572, Portuguese writer He was prominent at the court of John III and accompanied the Portuguese ambassador to Paris, where he was involved in a tragico-comic love affair His claim to fame is as the author of one of the Palmerin romances, *Palmeirim de Inglaterra*, an interminable, episodic narrative of chivalry It was very popular in its day Many modern scholars have attributed it to the Spanish Luis Hurtado, but there is now no doubt that Moraes was the author Moraes is the more familiar form, though the reformed spelling is Morais

Moraes Barros, Prudente José de (prōōdĕn'tù zhōōzā' du mōrĭsh' ba'rōōsh), 1841–1902, Brazilian statesman, a leader of the republicans under the empire As a deputy after 1866 he did much to bring on the revolution of 1889 He was governor of São Paulo (1889–90) and unsuccessful candidate for the presidency in 1891 but later was elected to succeed Floriano PEIXOTO and was the "first civilian president" of Brazil (1894–98) His administration brought the country through a period of great financial stress Order was established, and the republic was made secure

moraine (murān', mō–), rock debris carried and finally deposited by a GLACIER Material which falls on the sides of a glacier from the bounding cliffs makes up the lateral moraines, running parallel to the sides When two or more glaciers unite, the lateral moraines unite to form a medial moraine, running down the center of the glacier The rock material carried on the under side of the glacier is called the ground moraine, while that which is pushed ahead of the glacier is called the terminal moraine After the retreat of the glaciers the moraines remain as prominent features of the topography of the region which the glacier covered The margins of the great ice sheets of the Pleistocene are marked by terminal moraines stretching across North America and Europe

Morales, Luis de (lwĕs' dā mōrā'lĕs), c 1509–1586, Spanish devotional painter, also called El Divino Morales. He lived and worked in Badajoz, his birthplace. His vivid portrayals of saintly suffering were very popular and much copied Their harshness, intensity, and melancholy are profoundly Spanish Fine examples are his *Ecce Homo*, *Mater Dolorosa*, and *Virgin and Child* (all Prado) and *Holy Family* and *Virgin and Child* (both Hispanic Society, New York) Others exist in the churches of his native province

morality play. see MIRACLE PLAY.

morals. see ETHICS

Moran, Edward (mûrăn'), 1829–1901, American painter of marine and historical subjects, b England. He came to the United States with his family in 1844. In 1899 he completed a series of 13 paintings illustrating epochs in the maritime history of America from the landing of Leif Ericsson to the return of Admiral Dewey's fleet from the Philippines in 1899 (Pa Mus of Art, Philadelphia) Other works are *Launching of the Life-Boat, Outward Bound, Coming Storm in New York Bay, Fishing-Boats in the Irish Channel*, and *The South Coast of England* The Metropolitan Museum has a marine His brother **Thomas Moran,** 1837–1926, was an American landscape painter, illustrator, and etcher He accompanied the exploring expeditions of Professor F V Hayden to the Yellowstone (1871) and of Major J W Powell down the Colorado river (1873) and made the illustrations on wood for the expeditions' reports and the sketches from which he painted the two large canvases now in the Capitol at Washington, *The Grand Canyon of the Yellowstone* and *Chasm of the Colorado* In 1884 he became a member of the National Academy of Design As a painter Moran was strongly influenced by the art of Turner Other examples of his painting are *Ruins on the Nile* (Wilstach Coll , Philadelphia), *Bringing Home the Cattle* (Buffalo, N Y , Mus), *The Grand Canal, Venice*, *The Dream of the Orient*, and *Tower of Cortez, in Mexico*, a water color He also produced many etchings and magazine illustrations on wood Another brother was **Peter Moran,** 1841–1914, American landscape and animal painter and etcher Good examples of his painting are *Pasture Land, Santa Barbara Mission, Pueblo of Zia, New Mexico; The Stable Door*, and *Return of the Herd*, awarded a medal at the Centennial Exposition (1876), where his etchings of animals also were awarded a medal Edward's sons and pupils **Edward Percy Moran,** 1862–1935, and **John Léon Moran,** 1864–1941, were both genre painters

Morand, Paul (pôl' mōrā'), 1888–, French author He became known with two novels, *Ouvert la nuit* (1922, Eng tr , *Open All Night*, 1923) and *Fermé la nuit* (1923, Eng tr , *Closed All Night*, 1925) Educated partly in England, Morand traveled widely as a diplomat Later works include *Bouddha vivant* (1927, Eng tr , *Living Buddha*, 1928), *Magie noire* (1928, Eng tr , *Black Magic*, 1929), and *Champions du monde* (1930, Eng tr , *World Champions*, 1931), studies of cultural groups, *Air indien* (1932, Eng tr , *Indian Air*, 1933), travel sketches, and *New York* (1929, Eng tr , 1930)

Morando, Paolo see CAVAZZOLA

Morat (mōrä'), Ger *Murten* (mōōr'tun), town (pop 2,405), Fribourg canton, Switzerland, on Lake Morat The walls date from the 14th to 15th cent In 1476 the Swiss here defeated CHARLES THE BOLD.

Moratín, Leandro Fernández de see FERNÁNDEZ DE MORATÍN, LEANDRO

moratorium, extension of time for meeting financial obligations, usually by executive or legislative decree, but sometimes granted to debtors by an individual or a corporation In developed countries, the measure is seldom employed except in times of war or great disaster or of financial crisis See C B Eveiberg, *Extension Agreements with Debtors* (1944)

Morava (mō'rävä), Ger *March* (märkh), river, c 180 mi long, Czechoslovakia and Austria The chief river of Moravia, it rises in the Sudetes and flows generally S past Olmütz (Czech *Olomouc*) and Kremsier (Czech *Kroměříž*) into the Danube, just W of Bratislava Its lower course forms the border between Austria and Czechoslovakia. See also MARCHFELD

Morava (mō'rävä), river, 134 mi long, Yugoslavia It is formed by the confluence of the Western Morava, which rises NW of Novi Pazar, and of the Southern Morava, which rises N of Skoplje, and flows northward to join the Danube E of Belgrade

Moravia, Alberto (älbĕr'tō mōrä'vyä), 1907–, Italian novelist, whose real name is Alberto Pincherle He became a prominent literary figure with his first novel, *Gli indifferenti* (1929, Eng tr , *The Indifferent Ones*, 1932) His short stories have not been translated, but two later novels, grimly realistic in tone, have appeared in English– *Le ambizioni sbagliate* (1935, Eng tr , *The Wheel of Fortune*, 1937) and *La romana* (1947, Eng tr , *The Woman of Rome*, 1949)

Moravia (murā'vēu, mō–), Czech *Morava* (mō'rävä), Ger *Mähren* (mā'run), region, central Czechoslovakia With the Czechoslovak part of SILESIA, it formed until 1949 the province of Moravia and Silesia (10,350 sq mi , pop 3,134,614), with BRNO (Ger *Brünn*) its capital The western and northern boundaries of Moravia with, respectively, Bohemia and Silesia are hilly regions In the east the Little and White Carpathians separate Moravia from Slovakia Central Moravia is a valley, drained by the Morava river and its tributaries, which opens in the south on Austria Moravia is a fertile agricultural country, but it also is important for its industries Brno is one of the major textile centers of Europe, ZLIN is the seat of the Bata shoe industry, MORAVSKA OSTRAVA is a coal-mining center and has a large metallurgical industry Other important cities are OLMÜTZ (Czech *Olomouc*) and—in Silesia—TROPPAU and TESCHEN. Moravia was

probably occupied by Germanic tribes before the great migrations. The Moravians, a branch of the Western Slavs, settled here (about the 6th cent. A D) and were united by the 9th cent. under dukes who ruled a mighty empire, including Bohemia, Silesia, S Poland, and N Hungary They were chronically at war with their German neighbors In 863 the missionaries CYRIL AND METHODIUS were sent to Moravia on the appeal of Duke Rostislav, and the Moravians accepted Christianity and placed themselves under the Roman Church The Moravian empire reached its height under Svatopluk (d 894), but after his death it broke apart and early in the 10th cent fell to the Magyars Emperor Otto I defeated (955) the Magyars, and Moravia became a march of the Holy Roman Empire From the early 11th cent it was in effect a crownland of the kingdom of BOHEMIA, whose history it shared and with which it passed (1526) under Austrian rule However, Moravia retained its separate diet and was at times separated from the Bohemian crown (e g , at periods during the Hussite Wars of the 15th cent. and from 1608 to 1611, when Bohemia was ruled by Emperor Rudolf II and Moravia by his brother Matthias) Perhaps even more thoroughly than those of Bohemia, the Moravian towns had undergone a process of Germanization since the 13th cent Under Hapsburg rule nearly the entire upper and middle classes were German, cities such as Brno were predominantly German-speaking islands surrounded by Czech-speaking people in the countryside. In 1918 Hapsburg rule was overthrown, and the former Austrian crownlands of Moravia and Silesia joined the Czechoslovak republic as a province. The German element, however, continued to play an important part in Moravian life The Munich Pact of 1938 resulted in the annexation by Germany of all Czech Silesia and of NW and S Moravia. In 1939 Moravia and Bohemia became a German "protectorate," but after the Second World War the pre-1938 boundaries were restored and the larger part of the German-speaking population was expelled

Moravia, village (pop 1,231), W central N Y , in the Finger Lakes region, near Owasco Lake SW of Syracuse; inc. 1837. Fillmore Glen State Park, near here, commemorates Millard Fillmore, born near Moravia.

Moravian Church, Renewed Church of the Brethren, or **Unitas Fratrum,** an evangelical Christian communion whose adherents are sometimes called United Brethren or Herrnhuters. It originated (1457) among some of the followers of John HUSS After his martyrdom in 1415, those of his followers who wished to preserve the spirit of his teachings gathered in societies through Bohemia and Moravia In 1457 near Kunwald, Bohemia, an association was formed to strengthen the influence of spiritual teaching and apostolic standards The name Church of the Brotherhood was chosen In 1467 one of the Brethren was consecrated bishop by Stephen of the Waldenses. This brought about a break between the new brotherhood and the Church of Rome. Persecution drove many of the Brethren out of Bohemia and Moravia into Poland, Austria, and elsewhere. The Moravians established schools and printing presses—some of the finest in Europe. The last of the bishops of the United Church was John Amos Comenius, appointed in 1632 He published a history of the church and an account of its doctrines and order and also provided for a continuance of the episcopacy. However, by the end of the Thirty Years War (1648), only a remnant of the movement remained; in Moravia, secretly carrying on the tradition, were the "Hidden Seed " In 1722 a company of those still faithful to the teachings of the Brethren took refuge in Saxony, on the estates of Graf von ZINZENDORF, where they built a town, Herrnhut There the elements of the ancient church were revived. The sect was active in evangelising, in 1732 the great modern missionary movement had its beginning. The work extended to the West Indies, to North and South America, to Africa, and to Asia. In 1735 David Nitschmann and a company of fellow workers bound for Georgia met and influenced John WESLEY Bethlehem, Nazareth, and Lititz, Pa., were founded (c 1740); from these Moravian settlements and from that in Salem, N C., missionary work among Indians and white settlers was actively carried forward Educational activities also have had an important place The Moravian College for Women was founded in 1742, Moravian College (for men) in 1807, both now at Bethlehem, Pa. Moravians emphasize Christian unity and personal service. They take the Scriptures as a rule of faith and practice, they pattern their preaching and administration of the Sacrament upon apostolic example and precepts The form of organization is a modified episcopacy; there are three orders in the ministry, bishops, presbyters, and deacons. Worship is in general liturgical but the ritual is simple The music in the Moravian churches is famous, especially the part-singing of the congregations See J T Hamilton, *A History of the Church Known as the Moravian Church or the Unitas Fratrum* (1900); J. J. Sessler, *Communal Pietism among Early American Moravians* (1933); A. L. Fries, *The Road to Salem* (1944).

Moravian College and **Moravian College for Women:** see BETHLEHEM, Pa

Moraviantown, Ont see THAMES, BATTLE OF THE.

Moravska Ostrava, Czech *Moravská Ostrava* (mô'räfskä ô'strävä), Ger *Mährisch Ostrau* (mä'rĭsh ô'strou), city (pop 116,225), NE Moravia, Czechoslovakia, near the junction of the Oder and Ostravice rivers With Slezska Ostrava, in Czech Silesia, and with several other near-by communes it forms Greater Ostrava (pop c 180,000) and is the center of the most heavily industrialized region of Czechoslovakia The Ostrava-Karvinna coal field (a section of the Upper Silesian basin) produces anthracite and bituminous coal Greater Ostrava has iron and steel mills and manufactures finished and semifinished articles (notably rolling stock, machinery, and ship and bridge parts) It also has a large chemical industry. The first foundry was built in 1829, but large-scale expansion came only in the 20th cent Several plants were damaged in the Second World War

Moray. For Scottish names spelled thus, see MURRAY

Moray Firth (mŭ'rē, -rä), inlet of the North Sea, NE Scotland It stretches from Kinnairds Head in Aberdeenshire to Duncansbay Head in Caithness The name is often restricted to that part of the inlet between Morayshire and Ross and Cromarty co

Morayshire (mŭ'rēshĭr) or **Elginshire** (ĕl'gĭn-shĭr), maritime county (477 sq mi , 1931 pop 40,806, 1948 estimated pop 46,867), NE Scotland, on the south shore of the Moray Firth The county town is Elgin. The hills of the interior, which rise to more than 2,000 ft , are devoted to grazing The coastal plain is intensively cultivated, the chief crops being oats and barley The Spey and the Findhorn are the principal rivers The present county is part of the older and much larger province of Moray, which played an important role in the history of Scotland. The region was the scene of much strife among the early Pictish tribes and was not brought under the control of the Scottish kingdom until the 12th cent

Morazán, Francisco (fränsĕ'skō mōräsän'), 1799–1842, Central American statesman, b Tegucigalpa, Honduras He led the revolutionary army that overthrew ARCE (1829) and was proclaimed president of the Central American Federation (1830) The opponents of Guatemalan domination caused Morazán to move the capital to San Salvador As a liberal he promoted education and abolished most monastic orders Elected to a second term, he was unable to combat the increasing opposition of the conservatives, and his congress dissolved the federation in 1838 Nevertheless, in 1839 he attempted to recapture Guatemala from Rafael CARRERA, but was defeated In the following year he went into voluntary exile until recalled in 1842 by Costa Rica and proclaimed president there Again attempting to restore the federation, he was betrayed and shot Sept 15, 1842, by his own partisans

Morbihan (môrbēän'), department (2,739 sq mi , pop 506,884), NW France, in Brittany, on the Atlantic coast. It includes the QUIBERON peninsula and several islands Vannes is the capital, Carnac is famous for its megalithic monuments, Lorient is the chief city and port

mordant (môr'dŭnt) [Fr , =biting], substance used in dyeing to make fast certain dyes (mordant dyes) upon cloth Either the mordant itself, if it is a colloid, or a colloid produced by the mordant adheres to the fiber and attracts and fixes an oppositely charged colloidal dye, forming an insoluble precipitate called a LAKE Chemical compounds used as mordants are either acidic or basic in character Acid mordants (e g , tannic acid) are employed when the dye to be used is basic, basic mordants (e g , alum, chrome alum, and certain salts of aluminum, chromium, copper, iron, potassium, and tin) are employed for acid dyes In practice, the cloth is often treated with the mordant first and then with the dye Cloth upon which is to be printed a colored design (using an acidic dye) is first treated with the mordant in the form of a metallic salt, which is stamped on in the desired pattern When the cloth is then dipped in the dye and afterwards washed, the color remains only in the pattern Commonly, also, mordant and dye are applied together. Chemically, the activity involved is one in which the metallic salt undergoes hydrolysis, the resulting hydroxide reacting with the dye to form the colored compound (lake) which will not wash off For example, certain salts of aluminum yield the gelatinous, white aluminum hydroxide which upon precipitation reacts with the dye. Alizarin and morin are two mordant dyes so affected The vividness of certain dyes which ordinarily do not require the use of a mordant is markedly increased when one is employed.

Mordaunt, Charles: see PETERBOROUGH, CHARLES MORDAUNT, EARL OF.

Mordecai (môr'dĕkī, môr"dĕkā'ī), guardian and uncle of ESTHER

Morden, town (pop 1,690), S Man., SW of Winnipeg. It has a grain elevator and lumbering, dairying, and stock farming are carried on. A dominion experimental fruit farm is here.

Mordkin, Mikhail (mĕkhōyĕl' môrt'kĭn), 1881–1944, Russian ballet dancer. He rose to fame at the same time as Anna Pavlova and was her partner at Paris in Diaghilev's Russian Ballet, at London (1909), and on her American tour (1910–11) He remained in the United States after 1924 and later formed the Mordkin Ballet, which became (1940) the Ballet Theatre Mordkin did the choreography for the ballet *Voices of Spring.* He was a master of pantomime dancing. His "Bow and Arrow Dance" was famous.

Mordovian Autonomous Soviet Socialist Republic: see MORDVINIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC

Mordred, Sir, King Arthur's treacherous nephew: see ARTHURIAN LEGEND.

Mordva. see MORDVINIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC

Mordvinian Autonomous Soviet Socialist Republic (môrdvĭ'nēun), autonomous republic (10,080 sq mi , pop 1,188,598), central European RSFSR, in the uplands W of the Middle Volga It is also known as Mordovian ASSR Saransk is the capital Drained by the Moksha and Insar rivers, the region has a humid continental climate and is largely agricultural. Wheat, hemp, rye, oats, potatoes, sunflower seeds, and vegetables are the chief crops Mineral resources include oil shale, peat, and phosphorite The population consists of Russians (55 percent), Mordvinians (40 percent), and Tatars (5 percent) The Mordvinians (Rus *Mordva*) are a Finnic-speaking people, among them the Russians established colonies in the 16th cent , they adopted Russian culture and the Greek Orthodox religion. Many Mordvinians live outside the limits of the Mordvinian SSR, which was formed in 1934

More, Sir Anthony, see MORO, ANTONIO.

More, Hannah, 1745–1833, English author, a noted BLUESTOCKING Two tragedies, *Percy* (1778) and *Fatal Falsehood* (1779), were produced by Garrick Turning to religious and philanthropic works, she wrote *Thoughts on the Importance of the Manners of the Great to General Society* (1788) and was instrumental in founding in 1799 the Religious Tract Society In 1808 appeared her popular novel *Coelebs in Search of a Wife.* William Roberts's *Memoirs of the Life and Correspondence of Mrs Hannah More* (1834) pictures the society in which she moved. See studies by A M B Meakin (1911) and M A Hopkins (1947)

More, Henry, 1614–87, English philosopher, one of the foremost representatives of the school of CAMBRIDGE PLATONISTS. His writings emphasize the mystical and theosophic phases of this philosophy, and as he grew older the mysticism dominated his writing His chief works are *Philosophical Poems* (1647) and *Divine Dialogues* (1668) See P R Anderson, *Science in Defence of Liberal Religion* (1933)

More, Paul Elmer, 1864–1937, American editor, essayist, and critic, b St Louis, grad Washington Univ , 1887, M A Harvard, 1893. He was literary editor of the New York *Independent* (1901–3) and the New York *Evening Post* (1903–9) and editor (1909–14) of the *Nation* He then taught at Princeton, retiring in 1933 Associated with Irving Babbitt in the humanistic movement, More ultimately became an outstanding authority on Greek philosophy His major works are the *Shelburne Essays* (11 vols , 1904–21), *The Greek Tradition* (5 vols , 1921–31), and the *New Shelburne Essays* (3 vols , 1928–36) See Robert Shafer, *Paul Elmer More and American Criticism* (1935); bibliography by Malcolm Young (1941)

More, Sir Thomas (Saint Thomas More), 1478–1535, author of UTOPIA and English statesman, considered a martyr in the Roman Catholic Church He spent two years at Oxford, where he came under the influence of the new learning. Though he later devoted himself to law, his interest in humanism continued, he counted Colet, Lilly, and Erasmus among his intimate friends. A successful lawyer, he attracted the attention and friendship of Henry VIII, rose in royal favor, occupied important offices, and finally became lord chancellor at the fall of Wolsey (1529) Because he disapproved of Henry's divorce from Katharine of Aragon, he retired (1532) to private life, but Henry's disfavor and Anne Boleyn's hatred followed him. He cleared himself of charges connected with the case of Elizabeth BARTON, but, firm in allegiance to the pope, refused to subscribe to the Act of Supremacy He was committed to the Tower, imprisoned, and finally beheaded on a charge of treason A man of noble character and deep religious conviction, More had great personal charm, unfailing good humor, piercing wit, and courage that enabled him to jest on the scaffold. His *Utopia* (published in Latin, 1516, first Eng tr , 1551) is a classic picture of an ideal state. He wrote numerous religious tracts and other works, among them *The Apology of Sir Thomas More* (1533,) *A Dialogue of Comfort against Tribulation* (1553), and *The Life of John Picus, Earl of Mirandula* (1510?). His English works were edited by W. E. Campbell and A. W. Reed

(1931); his correspondence (ed by E. F. Rogers, 1947) contains all his letters except those to Erasmus. The biography of More by his son-in-law, William Roper (ed. by E. V. Hitchcock, 1935), has been the principal source of later biographies, among them one by a descendant, Cresacre More (1631?), and modern ones by W. H. Hutton (1895), R. W. Chambers (1935), Algernon Cecil (1936), and Theodore Maynard (1947) Holbein painted several portraits of him More was beatified (1886) by a decree of Pope Leo XIII and canonized (1935) by Pius XI Feast July 6

Morea, Greece see PELOPONNESUS

Moréas, Jean (zhä' môrāäs'), 1856–1910, French poet, b. Athens. His name was originally Papadiamantopoulos He went to Paris in 1872 An ardent supporter and defender of the symbolists, Moréas wrote two volumes of symbolist verse, *Les Syrtes* (1884) and *Le Pèlerin passionné* [the passionate pilgrim] (1891). However, with the publication of *Enone au clair visage* [Enone with the bright face] (1893) and *Eriphyle* (1894), Moréas showed a return to classical style, and he further refuted the new movements in poetry with his *Stances* (1899–1901) His *Iphigénie* (1903) was a restoration of dramatic classicism

Moreau, Gustave (güstav' môrō'), 1826–98, French painter, known for his pictures of the weird and mystical. He was the recipient of many honors but refused to sell his paintings except to friends. Professor at the École des Beaux-Arts, he counted among his pupils Matisse and Rouault On his death his house in Paris (now the Musée Moreau), with his fine art collection, was bequeathed to the state *Apparition* (Luxembourg Mus , Paris) and *Oedipus and the Sphinx* (Metropolitan Mus) are characteristic works

Moreau, Jean Michel (zhä' mēshĕl'), 1741–1814, French draughtsman and engraver, called Moreau le jeune. He is noted for his charming illustrations of the work of Voltaire, Molière, and Rousseau and for his admirable engravings of court masques and fêtes His brother, **Louis Gabriel Moreau** (lwē' gabrēĕl'), 1740–1806, called Moreau l'aîné, was a notable landscape painter, water-colorist, and etcher His *Coteaux de Meudon* and *Environs de Vincennes* are in the Louvre

Moreau, Jean Victor (zhä' vēktôr'), 1763–1813, French general in the FRENCH REVOLUTIONARY WARS Despite his successes on the Rhine and in Germany (1796–97), he was dismissed after the coup d'état of 18 Fructidor (1797), but was reinstated (1799) at the head of the French army in Italy, after helping Bonaparte in the coup d'état of 18 Brumaire In 1800 he was given command in Germany and routed the Austrians at Hohenlinden At the conclusion of the war Moreau began to oppose Bonaparte, and his name rallied republican sentiment Informed of the royalist CADOUDAL plot, he neither joined nor revealed it, after its discovery he was arrested and sentenced to imprisonment for two years. The sentence was commuted to exile, which he spent in Spain and America Returning to Europe in 1813 he assisted the allies as an adviser in their war against Napoleon, but was killed in battle

Moreau, Louis Gabriel. see MOREAU, JEAN MICHEL

Moreau (murō'), river rising in several branches in NW South Dakota and flowing c 290 mi E to the Missouri S of Mobridge The Missouri river basin project includes Bixby Dam, in the Moreau, and Oahe Dam, in the Missouri, which will drown the lower Moreau basin

Morecambe and Heysham (môr'kum, hē'shum, hē'sum), municipal borough (1931 pop 24,542, 1943 estimated pop 34,000), Lancashire, England, near Lancaster and on Morecambe Bay Morecambe is a seaside resort, and Heysham a port with service to Belfast

Morecambe Bay, shallow inlet of the Irish Sea, c 16 mi long and 10 mi wide separating Furness from the main part of Lancashire, England It receives the Leven, Kent, and Lune rivers

Moreh (mō'rĕ) **1** Unlocated plain, Abraham's first resting place after entering the land of Canaan Gen. 12 6, Deut 11 30 **2** Hill of N Palestine by which Gideon camped before he attacked the Midianites. Judges 7 1

Morehead, town (pop. 1,901), co seat of Rowan co , N Ky , ENE of Lexington near the Licking river It is the seat of Morehead State College. The area has valuable clay deposits

Morehead City, resort and fishing town (pop 3,695), E N C., on the Newport river opposite Beaufort, founded 1857 It is a port of entry with an ocean-shipping port terminal (built 1935–37). Fort Macon State Park is near

Morehouse, city (pop. 1,598), SE Mo , on the Little River and ENE of Poplar Bluff, in a cotton and farm area; settled 1880. Near by is a large privately owned drainage development

Morelia (mōrä'lyä), city (pop 44,304; alt. c 6,200 ft), capital of Michoacán, W Mexico. Founded as Valladolid in 1541 by Antonio de Mendosa, first viceroy of New Spain, Morelia is a clean, attractive city built on a rocky hill and surrounded by a fertile valley at the western edge of the central plateau. High peaks border the valley on three sides. The climate is warm but healthful. The city is supplied with water by an aqueduct dating from the colonial period The most imposing Spanish structure is the cathedral, begun in 1640, colonial architecture, a few modern buildings, and shaded plazas give the city a pleasant atmosphere Chief manufactures are shawls, hats, flour, cotton goods, soap, beer, *guayabate* (a sweetmeat made from quinces), cigars, cigarettes, and wine Morelia was the birthplace of Agustín de ITURBIDE and MORELOS Y PAVÓN, for whom it was renamed in 1828

Morel-Ladeuil, Léonard (lāônär' môrĕl'-lädö'yü), 1820–88, French goldsmith and sculptor, expert in the processes of chasing and *repoussé* He worked in Birmingham, England, for 23 years Among his productions was the Helicon Vase presented to Queen Victoria on the occasion of her first jubilee

Morellet, André, Abbé (ädrä' abä' môrĕlā'), 1727–1819, French writer and economist, contributor to the *Encyclopédie* He was an early advocate of laissez faire His style was forceful and caustic His *Mélanges de littérature et de philosophie du 18e siècle* (1818) contains selections from his works

Morelos (mōrā'lōs), state (1,917 sq mi , 1946 estimated pop 213,920), central Mexico Lying south of the east-west volcanic range which crosses central Mexico and separates Morelos from the Federal District and Mexico state, the state is mountainous, with numerous broad semiarid valleys opening to the south toward the southern ranges of the country The climate varies from cold in the mountains to hot in the valleys Chiefly agricultural, Morelos raises sugar cane, rice, coffee, cereals, tropical fruits, and vegetables Sugar and rum are manufactured. The principal towns are CUERNAVACA, the capital, and Cuautla Morelos, which is famous for its defense (1812) by MORELOS Y PAVÓN in the war against Spain The state, created in 1869, was named in his honor During the revolutionary depredations of Emiliano ZAPATA and the regime of Venustiano CARRANZA, the state's sugar industry and agricultural productivity suffered almost irreparable damage

Morelos y Pavón, José María (hōsā' märē'ä mōrā'lōs ē pavōn'), 1765 1815, Mexican leader in the revolution against Spain, a national hero He was, like HIDALGO Y COSTILLA, a liberal priest Joining the revolution (1810), he conducted a brilliant campaign in the south, winning a brilliant victory at Tixtla After the execution of Hidalgo he was insurrectionary chief He defended Cuautla against CALLEJA for several months, then cut through the siege After taking Orizaba and Oaxaca (1812), Morelos captured Acapulco (1813) The Congress of Chilpancingo, convened in 1813 under his protection, elected him generalissimo with the powers of chief executive Late in 1813 his forces were routed at Valladolid (later named Morelia in his honor) by ITURBIDE and were later again defeated In 1815 Morelos was captured, degraded by the Inquisition, and shot. Only a few leaders, notably GUERRERO and GUADALUPE VICTORIA, were left to continue the revolution

Morenci (mŭrĕn'sē) **1** Unincorporated town (pop 3,421), E Ariz , near the N Mex line It is built on a steep slope about rich copper mines discovered in 1872 **2** City (pop 1,845), S Mich , on the Tiffin near the Ohio line and SW of Adrian, inc as a city 1934 Chemicals are made here

Moreno, Mariano (märyä'nō mōrā'nō), 1778–1811, Argentine revolutionist and publicist He became prominent as legal counselor to the royal *audiencia* and to the *cabildo* of Buenos Aires His condemnation of the Spanish colonial system and his advocacy of liberal economic principles attracted attention A leader in the revolution of May, 1810, which deposed the viceroy, he was secretary of the first revolutionary governing junta and exerted a significant influence He founded (June 7, 1810) the *Gaceta de Buenos Aires* and, as editor, championed in its columns his democratic, reform ideas In 1810 he founded the national library His liberal policy provoked a conflict with the conservatives, who, in spite of Moreno's opposition, admitted provincial deputies to the junta, Moreno resigned (Dec , 1810) His resignation checked the democratic movement in the Río de la Plata and initiated a protracted struggle between Buenos Aires and the country provinces Appointed to a diplomatic mission abroad, he sailed for Europe (Jan., 1811) and died at sea

More og Romsdal, Nor *Møre og Romsdal* (mö'ru ô rōms'dal), county (5,809 sq. mi , pop 182,859), W Norway. It is a mountainous region, containing the DOVREFJELL and cut by numerous fjords, among them the Molde Fjord. Kristiansund (the county seat), Alesund, and Molde are the chief towns

Moresheth-gath (môr'ĕshĕth-gāth'), unidentified town, SW Palestine. Micah 1 14

Moresnet (môrānā'), commune (pop 1,363), Liége prov, E Belgium, on the German border near Aachen The former neutral territory (1½ sq mi) of Moresnet, under joint Belgian and Prussian suzerainty, was awarded (1919) to Belgium under the Treaty of Versailles

Moresque art and architecture: see MOSLEM ART AND ARCHITECTURE.

Moreton Bay (môr'tun), inlet of the Pacific, 65 mi long and 20 mi. wide, SE Queensland, Australia, nearly enclosed by the mainland and Moreton and Stradbroke islands It receives the Brisbane river. There are many resort towns on its west shore. The area around Redcliffe was the site of the state's first penal settlement (1824–43)

Moreto y Cabaña, Agustín (agōstēn' mōrā'tō ē kabä'nya), 1618–69, Spanish dramatic poet of the Golden Age He was ordained priest but continued to write for the theater He was a skillful technician, his characters are alive, and his lines witty, but he used chiefly the plots of others, especially of Lope de Vega His most famous plays are *El lindo don Diego* [the handsome Don Diego] and *El desdén con el desdén* [meeting contempt with contempt].

Moretto, Il (ēl mōrĕt'tō), c 1498–1554, Italian painter of portraits and religious subjects, whose real name was Alessandro Bonvicino He was the leading representative of the Brescian school. He worked mainly in the churches of Brescia, where his art can best be studied While following the style and technique of the great Venetian masters, he developed a markedly individual mode, characterized by cool and luminous coloring. His portraits, with those of his great pupil, Giovanni Battista Moroni, are regarded as among the best of the 16th cent Besides his works in Brescia are *Christ Bearing the Cross* (Bergamo Municipal Gall.), his earliest painting, *St Justina* (Vienna), *The Entombment*, his last work, and *Christ in the Desert* (Metropolitan Mus), *Madonna and Child with St Stephen and St Jerome, St Jerome Penitent*, and *Portrait of a Lady in White* (National Gall of Art, Washington, D C), *Portrait of a Nobleman* (National Gall , London), and *The Death of Adonis* (Uffizi)

Moret y Prendergast, Segismundo (sähēsmōōn'dō mōrā' ē prĕndĕrgast'), 1838–1913, Spanish statesman In 1863 he was elected to the Cortes, and as minister of colonies in the Prim cabinet (1869) he advocated the abolition of slavery For a brief period he was ambassador to London After the restoration of Alfonso XII he reentered the Cortes and held several cabinet posts After the death of Sagasta he became a Liberal party leader and was twice premier (1905–6, 1909) He advocated a policy of conciliation for Cuba and Puerto Rico and opposed the Spanish-American War (1898)

Morey, Samuel, 1762–1843, American inventor, b Hebron, Conn He moved to Orford, N H , where he became a successful lumberman He helped construct the Connecticut river locks He made experiments with heat and light c 1780, and c 1790 he began experimenting with steamboats In 1793, on the Connecticut river at Orford, he operated a small boat by means of a steam engine mounted on the bow, and the following year he built a boat which ran at Hartford, Conn , by means of an engine and wheel on the stern He moved to Bordentown N J , where he built a side-wheel steamship, he had hoped for financial assistance but was disappointed After failing to interest Robert Fulton in his steamboat model, Morey claimed his ideas were stolen In 1826 he obtained a patent for one of the first internal-combustion engines in the United States See biography by Gabriel Farrell, Jr (1915)

Morgagni, Giovanni Battista (jōvan'nō bät-tē'sta mōrgan'yē), 1682–1771, Italian anatomist For his accurate studies of disease and of its effects on the human body, which he observed in post-mortem examinations, he is known as a founder of modern pathology He recognized the relation of consolidation of the lungs to pneumonia, observed many of the internal lesions of syphilis, and pointed to ear infection as a cause of meningitis His influence was perpetuated by his chief work, *De sedibus et causis morborum* (1761)

Morgan, American family of financiers and philanthropists **Junius Spencer Morgan,** 1813–90, b West Springfield, Mass , prospered at investment banking When a boy he became a dry-goods clerk in Boston, later he entered a brokerage house in New York He became a partner in mercantile firms in Hartford, Conn , and in Boston and then (1854) went to London to become a partner of George PEABODY Ten years later he assumed entire control, the firm becoming J S Morgan & Company He expanded this international banking enterprise, handling most of the British funds invested in the United States His syndicate's loan of $50,000,000 to the French government at the time of the Franco-Prussian War was one of the most spectacular transactions of the time. His son, **John Pierpont Morgan,** 1837–1913, b Hartford, Conn , built the family fortunes into a colossal financial and industrial empire He studied abroad and in 1857 entered the New York banking house of Duncan, Sherman & Company Three years later he became the New York agent for his father's firm in London After he became (1864) junior partner in the new firm, Dabney, Morgan & Company, he helped form (1871) the New York firm of Drexel, Morgan & Company—which in 1895 became J P Morgan & Company On the death of his father (1890) he became sole manager of J S. Morgan & Company—later (1910) Morgan, Gren-

fell & Company—of London. J. P. Morgan's ascent to power, however, was accompanied by dramatic financial battles He wrested control (1869) of the Albany and Susquehanna RR from Jay GOULD, he broke the government-financing privileges of Jay COOKE (thereby helping precipitate the Panic of 1873), and he developed a railroad empire by reorganizations and consolidations in all parts of the United States He backed James J HILL in preventing (1901) the interests of Edward H Harriman from controlling the Northern Pacific RR and, with it, the Chicago, Burlington & Quincy RR. Agreement between the factions resulted in formation of the Northern Securities Company, which was dissolved (1904) by court action, with Morgan and President Theodore Roosevelt arrayed as antagonists In the industrial field, Morgan formed (1901) the U S Steel Corp , the first billion-dollar corporation in the world He financed manufacturing and mining and controlled banks, insurance companies, shipping lines, and communication systems Through his firm came enormous funds from abroad to develop American resources He was widely criticized on many occasions for backing the sale of obsolete carbines to the Union and for his gold speculations in the Civil War, for the harsh terms of his loan of gold to the Federal government in the 1895 crisis, for his financial dominance in the Panic of 1907, and for bringing on the financial ills of the New York, New Haven & Hartford RR He was largely deaf to popular criticism In 1912 he appeared and publicly defended himself before the Pujo Committee of Congress, which was investigating the "money trust" and which was aimed particularly at him He was an ardent sportsman, and his yacht entered many international races He was a prominent lay leader in the Protestant Episcopal Church He personally dispensed numerous philanthropies, and he was a renowned art collector After his death the Metropolitan Museum of Art, of which he had been president, received a valuable portion of his collection, which is housed in the Pierpont Morgan wing See biographies by J K Winkler (1930), Lewis Corey (1930), and H L Satterlee (1929) **John Pierpont Morgan**, 1867–1943, b Irvington, N Y, grad Harvard, 1889, became active head of the house of Morgan when his father died in 1913 The firm was called upon to help finance the first World War As American agent for Allied countries, the banking house raised huge funds—one issue valued at $500,000,000—and systematized the purchases of military supplies The Morgan firm was not important in war financing after America's entry, but in the post-war period it floated securities of foreign governments and corporations reaching $2,000,000,000, at the same time sponsoring over $4,000,000,000 of domestic securities Morgan and his partners actively promoted great mergers after 1922 and controlled numerous nonbanking corporations The younger J P Morgan resembled his father in his dislike for publicity and continued the father's philanthropic policy In 1920 he gave his London residence to the U S government for use as its embassy and later endowed the Pierpont Morgan Library in New York city as a research institute in memory of his father See biography (1949) by F L Allen A sister of the younger J Pierpont Morgan, **Anne Morgan**, 1873-1936, was devoted to numerous philanthropic and civic organizations and constantly voiced the rights of the American woman

Morgan, Arthur Ernest, 1878–, American engineer, educator, and public official, b Cincinnati He practiced engineering after 1902, directed numerous drainage and flood-control projects, and led in the drafting of state drainage codes He served (1920–36) as president of Antioch College, where he instituted the educational plan of alternate study and work He was appointed chairman of the TENNESSEE VALLEY AUTHORITY in 1933 but was dismissed (1938) by President F D Roosevelt after a split in the TVA directorate Among his writings are *My World* (1927), *The Seedman* (1932), *The Long Road* (1936), *The Small Community* (1942), *Edward Bellamy* (1944), and *Nowhere Was Somewhere* (1946)

Morgan, Conwy Lloyd, 1852-1936, English psychologist He was professor of zoology at University College, Bristol (1887-1909) and was first vice chancellor of the Univ of Bristol (1909–10) and professor of psychology and ethics until his retirement in 1919 He was one of the founders of animal psychology and a leading advocate of emergent evolution His works include *Animal Life and Intelligence* (1890), *Habit and Instinct* (1896), *Instinct and Experience* (1912), *Emergent Evolution* (1923), and *The Animal Mind* (1930)

Morgan, Daniel, 1736–1802, American Revolutionary general, b Hunterdon co , N J He moved (1753) to Virginia and later served in the French and Indian War and several Indian campaigns In the Revolution, Morgan assumed command of the attack on Quebec (see QUEBEC CAMPAIGN) after Benedict Arnold was wounded, but Morgan himself was captured He was exchanged (1776) and took part in the Saratoga campaign, but, dissatisfied with the congressional policy of promotions, he retired in 1779. Morgan reentered the army in 1780 and joined General Gates in the Carolina campaign Under Nathanael Greene's orders he defeated the British under Tarleton at Cowpens (1780) After the war he helped to suppress the Whisky Rebellion and served (1797–99) as a U S Congressman

Morgan, Edwin Denison, 1811–83, American merchant and politician, b Washington, Berkshire co , Mass He clerked in the store of an uncle in Hartford, Conn., before establishing himself in New York From his wholesale grocery, banking, and brokerage enterprises, Morgan amassed a large fortune He served in the state senate (1850–55) and, an early Republican, was chairman of the party's national committee (1856–64, 1872–76) While governor of New York (1859–62), he was made a major general of volunteers in command of the Dept of New York (1861–63) and supervised the state's Civil War recruiting He served one term (1863–69) in the U S Senate and was defeated for reelection See W B Hesseltine, *Lincoln and the War Governors* (1948)

Morgan, George, 1743–1810, American merchant, Indian agent, and land speculator, b Philadelphia In 1765 he went as his firm's representative to engage in the fur trade in Illinois, but the venture failed Morgan, interested in a tract of land (2,862 sq mi) in what is now West Virginia ceded by the Indians in repayment for property destroyed in Pontiac's War (1763), formed (1776) the Indiana Company, with a land office at Fort Pitt The state of Virginia successfully contested the company's claim after several years of litigation In the American Revolution, Morgan served as an Indian agent and as a colonel in the commissary until 1779, when he retired to his estate near Princeton, N J In 1789 he entered into a scheme with the Spanish minister to the United States for colonizing Spanish territory and established (1789) the colony of New Madrid in what is now Missouri The project was opposed by the Spanish governor of Louisiana, and Morgan abandoned it in 1796 when he took up scientific agriculture on a large tract of land he inherited in W Pennsylvania See biography by Max Savelle (1932)

Morgan, Harcourt Alexander, 1867–, American entomologist and public official, b Canada, grad Univ of Toronto, 1889 After graduate study (1891–98) at Cornell, Morgan engaged in scientific research at various experiment stations in the United States He served (1919–33) as president of the Univ of Tennessee—where he had been professor (1905-19) and then (1913–19) dean Appointed (1933) a director of the TENNESSEE VALLEY AUTHORITY by President F D Roosevelt, he became (1938) chairman of the TVA on the dismissal of Arthur E MORGAN When (1941) David E LILIENTHAL succeeded him in this post he assumed the post of vice chairman

Morgan, Sir Henry, 1635?–1688, British buccaneer, b Wales Perhaps kidnaped to Barbadoes as a child, he seems to have joined the pirates there On the death (c 1666) of Edward Mansfield, leader of the buccaneers, Morgan took command He operated as a privateer His exploits, authorized by commissions from the British authorities, included the capture of Puerto Principe (Camaguey, Cuba) and the sack of Puerto Bello (1668), the capture of Maracaibo (1669), the ravaging of the Cuban and American coasts (1670), and the daring capture of Panama (1671) His operations were always marked by indescribable brutality and debauchery, but were executed with skill and bravery, sometimes against great odds He was accused of dishonest distribution of the spoils Sent a prisoner to England (1672) on complaints of piracy, he soon became a hero, was knighted (1674), and was sent as lieutenant governor of Jamaica, where he spent the rest of his life and was acting governor (1680–82) See A O Exquemelin, *Buccaneers of America* (1891 ed), a novel by John Steinbeck, *The Cup of Gold* (1929), fictionized biographies by W A Roberts (1933) and Rosita Forbes (1940)

Morgan, Jacques Jean Marie de (zhäk' zhă' märĕ' du môrgă), 1857–1924, French archaeologist He discovered the site of a stele of the Hammurabic code at Susa, Persia After expeditionary work in India, Malacca, and Russia, he became (1892) director of the French antiquarian service in Egypt Transferred to Persia (1897), he explored the Pushti Kuh range and Mesopotamia He made a valuable collection of primitive Persian pottery His works on archaeology include *Prehistoric Man* (Eng tr , 1925)

Morgan, John Hunt, 1825–64, Confederate general, b Huntsville, Ala He spent most of his early life in Kentucky At the outbreak of the Civil War, Morgan joined the Confederates as a cavalry scout The daring and skillful raids which made him and his men romantically famous began in 1862 For his success at Hartsville, Tenn , in Dec , 1862, he was made a brigadier general The raid through Kentucky, Indiana, and Ohio in the summer of 1863 was Morgan's outstanding feat, even though it ended in capture (July, 1863) He escaped from prison in November and in April, 1864, was assigned to command in SW Virginia. Federals who had penetrated the Confederate lines killed him at Greeneville, Tenn , in Sept., 1864 See Howard Swiggett, *The Rebel Raider* (1934), C F. Holland, *Morgan and His Raiders* (1942).

Morgan, John Pierpont, 1837–1913, and 1867–1943 see MORGAN, family

Morgan, Junius Spencer: see MORGAN, family.

Morgan, Justin: see JUSTIN MORGAN.

Morgan, Lewis Henry, 1818–81, American anthropologist, b Aurora, N.Y., grad Union College, 1840 He was a practicing lawyer who became interested in the Indians of his locality, and in 1847 he was made an adopted member of the Seneca tribe His *League of the Ho-de-no-sau-nee or Iroquois* (1851) is unexcelled among early descriptive reports He was interested in social organization to the almost complete exclusion of other cultural factors, and he devised a theory correlating kinship terminologies with forms of marriage and rules of descent His *Systems of Consanguinity and Affinity of the Human Family* (1870) presented this principle His *Ancient Society* (1877), an even more extended synthesis classifying the cultures of the world into progressive stages—savagery, barbarism, and civilization—attracted the attention of Marx and Engels, who interpreted its evolutionary doctrine as support to their materialistic theory of history See biography by B J Stern (1931)

Morgan, Matthew Somerville, 1839–90, Anglo-American caricaturist and scene painter, b London He served as artist-correspondent for the *Illustrated London News* and contributed cartoons to the periodical *Fun* He was editor and owner of the short-lived *Tomahawk* In 1870 he moved to America, where he was associated with *Frank Leslie's Illustrated Newspaper* and *Harper's Weekly*, managed several theaters in New York city, and founded the Matt Morgan Art Pottery Company and the Art Students' League, both in Cincinnati He was also a clever poster and scene painter

Morgan, Thomas Hunt, 1866–1945, American zoologist, b Lexington, Ky , Ph D Johns Hopkins, 1890 He was professor of experimental zoology at Columbia (1904–28) and from 1928 was director of the laboratory of biological sciences at the California Institute of Technology He is noted for his ingenious demonstration of the physical basis of heredity, using the fruit fly, *Drosophila* For his theory that hereditary unit characters are dependent upon certain factors, or genes, in the chromosome, the behavior of which he studied and mapped in elaborate detail, he received the 1933 Nobel Prize in Physiology and Medicine His books, classics in the literature of genetics, include *Heredity and Sex* (1913), *Mechanism of Mendelian Heredity* (1915), *The Physical Basis of Heredity* (1919), *Evolution and Genetics* (1925), *The Theory of the Gene* (1926), *Experimental Embryology* (1927), and *Embryology and Genetics* (1934)

Morgan, William, 1774?–1826?, American Freemason His mysterious disappearance in W New York led to formation of the ANTI-MASONIC PARTY

Morgan, city (pop 1,078), co seat of Morgan co , N Utah, on the Weber river and SE of Ogden, settled 1860 by Mormons A trade and processing center in an irrigated region now served by the Weber river project, it is also a resort

Morgan City, city (pop 6,969), S La , a port on the Atchafalaya river at Berwick Bay, which is spanned by a bridge, settled 1850, inc 1860 as Brashear City, renamed 1876. A fishing, hunting, and lumbering center, it also ships quantities of shells for road building

Morganfield, city (pop 3,079), co seat of Union co., W Ky , near the Ohio SW of Henderson It is a railroad shipping point in an area of coal mines and farms (producing especially grain, lespedeza, and tobacco) and has a seed-cleaning plant

Morgan Hill, town (pop 1,014), W Calif , SE of San Francisco, in a fruitgrowing area, inc 1906

morganite see BERYL

Morgan le Fay, fairy sister of King Arthur, whose death she tries to procure by necromancy In some versions of his story, she reveals to him Guinevere's unfaithfulness with Lancelot, and she is one of the three queens who carry him to Avalon in a boat See ARTHURIAN LEGEND She also figures as Fata Morgana in the *Orlando Innamorato* of Boiardo

Morgan Library see PIERPONT MORGAN LIBRARY

Morgan State College, at Baltimore, Md , Negro, coeducational, opened 1869 by Methodists as Centenary Biblical Institute, renamed 1890, transferred to the state 1939 Courses in education, home economics, and liberal arts are included

Morganton, town (pop 7,670), co seat of Burke co., W N C , ENE of Asheville in the Catawba valley It has textile, hosiery, and furniture mills and a tannery Near by are a state school for the deaf and a state hospital for the insane

Morgantown, city (pop 16,055), co seat of Monongalia co., N W Va , on the Monongahela and c.100 mi S of Pittsburgh, settled 1767 Coal and natural-gas products and glass are produced WEST VIRGINIA UNIVERSITY is here Ten miles northeast is Cooper's Rock State Forest, the largest in the state

Morgarten (môr'gärtŭn), mountain slope, Switzerland, c 5 mi. N of Schwyz. Here on Nov. 15, 1315,

a small Swiss force decisively defeated the Austrians, thus paving the way for Swiss independence.

Morgenstern, Christian (krĭs'tyän môr'gunshtĕrn), 1871–1914, German poet-philosopher Both his father and his grandfather were prominent artists in Munich In his early 20s Morgenstern became tubercular; it is impossible to estimate the extent to which the prospect of an early death influenced him, but many of his writings reflect an intense desire to find a satisfactory meaning of life in what he called an "incessant effort after profundity." This search for spiritual truth led Morgenstern to mysticism and finally to the theosophical and anthroposophical teachings of Rudolph Steiner At the same time, exposed to the enthusiasms of a revived German literary world, he shared the appreciation for Goethe and Nietzsche and expressed himself in cosmopolitan and sophisticated patterns Morgenstern frequently clothed his spiritual thoughts in humorous fantasy He played with words and meanings, and his melodic gift, whimsical imagination, and clever use of enjambment and word analogy sometimes resulted in what has been called "superior nonsense", some of his most successful caprices have become proverbs *Galgenlieder* (1905) and *Palmström* (1910) are his best-known volumes of grotesque verse, while *Ich und du* (1911) contains love lyrics of great beauty Among his other writings are *Auf vielen Wegen* (1897), *Ich und die Welt* (1898), *Ein Sommer* (1899), *Melancholie* (1906), and *Wir fanden einen Pfad* (1914)

Morgenthau, Henry (môr'gunthô), 1856–1946, American banker, diplomat, and philanthropist, b Mannheim, Germany, grad Columbia School of Law, 1877 He practiced law in New York city and built up a large fortune in real-estate speculation and banking An ardent supporter of Woodrow Wilson, he became finance chairman of the Democratic National Committee in 1912 and held the same position in 1916 He was (1913–16) ambassador to Turkey, and after the outbreak of the First World War he was entrusted with the duty of acting for Great Britain, France, Italy, Russia, and other nations His service there is recorded in *Ambassador Morgenthau's Story* (1918) He attended the Paris Peace Conference as an adviser on Near East and Eastern European problems, and later (1919–21) he led in the raising of funds for relief in the Near East He was made chairman of the Greek Refugee Settlement Commission, which was created by the League of Nations in 1923, the story of his direction of the resettlement of Greek refugees was told in *I Was Sent to Athens* (1929) He was one of the incorporators of the American Red Cross (1919) and was prominent in the activities of the Federation of Jewish Charities See his autobiography, *All in a Lifetime* (1922) His son, **Henry Morgenthau, Jr**, 1891–, b New York city, attended Cornell to study architecture, but became interested in agriculture He afterwards bought a farm in Dutchess co, N Y, and in 1922 purchased the *American Agriculturalist*, a leading Eastern farm journal As governor of New York state Franklin D Roosevelt appointed Morgenthau chairman of the state agricultural advisory committee and later made him state conservation commissioner When Roosevelt became President in 1933, he appointed Morgenthau chairman of the Federal Farm Board and governor of the Farm Credit Administration Upon the illness of William H Woodin, Morgenthau was appointed (Nov, 1933) Undersecretary of the Treasury As Secretary of the Treasury (1934–45), he administered Federal tax programs which raised unprecedented revenues, supervised the sale of over $200,000,000 worth of government bonds to finance America's defense and war activities, and advocated international monetary stabilization In his book *Germany Is Our Problem* (1945), Morgenthau outlined his famous plan for controlling Germany by reconverting the concentration of heavy industries to agriculture and the service trades without a dislocation in German economy There were attempts to put this plan in operation, but they were speedily abandoned

Morghen, Raffaello (räf'fäĕl'lō môr'gĕn), 1758–1833, Italian engraver He assisted in engraving the paintings of Raphael for the Vatican and later became professor in the academy in Florence He was invited by Napoleon to Paris, where he received many honors His plates number more than 250, many of them reproducing the works of such masters as Raphael, Leonardo da Vinci, Guido Reni, and Van Dyck They also include portraits of Dante, Ariosto, Boccaccio, and Petrarch

Moriah (môrī'u), place, where Abraham was to sacrifice Isaac Gen 22 2 It has been identified by some with Mt Moriah

Moriah, Mount, biblical name of the hill of E Jerusalem. It was the site of Solomon's temple 2 Chron 3 1.

Morier, James Justinian, 1780–1849, British author, b Smyrna He spent six years in Persia with the British diplomatic service and wrote *A Journey through Persia . . 1808 and 1809* (1812) and other travel books His picaresque romance *The Adventures of Hajji Baba of Ispahan* (1824) and its entertaining sequel *The Adventures of Hajji Baba of Ispahan in England* (1828) are often reprinted.

Mörike, Eduard Friedrich (ā'dōōärt frē'drĭkh mû'rĭkù), 1804–75, German poet, a leader of the Swabian school He was a clergyman Over 50 of his rich and varied lyrics, such as "Schlafendes Jesuskind" [the sleeping Christ Child] and "Auf ein altes Bild" [to an old painting], were set to music by Hugo Wolf, and one of his best-known poems, "Beauty Rohtraut," was translated by George Meredith He also wrote a novel, *Maler Nolten* (1832), and a distinguished *Novelle, Mozart's Journey from Vienna to Prague* (1856, Eng tr, 1913–15).

Morillo, Pablo (pä'blō mōrē'lyō), 1778–1837, Spanish general Sent in 1815 to put down the revolution in New Granada, he captured Cartagena, went to Bogotá in May, 1816, and then into present Venezuela His regime was ruthless and bloody. Under orders from Spain he negotiated (1820) an armistice with Simón Bolívar Soon recalled at his own request, he continued to serve the crown in the wars in Spain

Morin, Paul (pōl' môrĕ'), 1898–, French Canadian poet, b Montreal After taking degrees in arts, science, and law at Laval Univ, he went to Paris for further study His two books of poems, *Le Paon d'émail* [the enamel peacock] (1911) and *Poèmes de cendre et d'or* [poems in ashes and gold] (1922), are remarkable for technical brilliance, exotic language, and clear music

Morínigo, Higinio (ēhē'nyō mōrē'nēgō), 1897–, president of Paraguay (1940–48) An active commander in the Chaco War, he became chief of the armed forces at the war's end and in 1940 minister of war and the navy When President José Félix Estigarribia was killed in an air accident, Morínigo seized power, suspended the constitution, and established an autocratic, army-controlled regime, public health and housing were bettered, but a disproportionate amount of the national budget went to the army Representatives of the exiled political parties were brought into a more democratic cabinet in 1946 When they were ousted (March 7, 1947) on suspicions of treason, civil war broke out and lasted for some time In 1948 he was ousted by a coup

Morioka (mōrē'ōkä), city (1940 pop 49,478, 1947 pop 107,096), capital of Iwate prefecture, N Honshu, Japan, on the Kitakami river Iwate prefecture is a major livestock-raising area, with extensive lumbering, fishing, and raw-silk industries and iron, gold, silver, and copper mines

Moriscos (môrĭs'kōz) [from Span ,=Moorish], name applied to the Moors converted to Christianity after the Christian reconquest of Spain The Moors who had become subject to Christian kings as the reconquest progressed to the 15th cent were called Mudejares (Span *mudéjares*) Their religion and customs were generally respected After the fall of Granada (1492) Cardinal Jiménez converted many by pacific means However, the rigor shown against those who refused, or apostatized from, the new faith led to a rising (1500–1502) in Granada This was soon suppressed Faced with the choice between conversion or banishment, the majority accepted conversion, but many continued secretly to practice Islam Persecuted by the Spanish Inquisition and subjected to restrictive legislation (1526, 1567), the Moriscos rose in a bloody rebellion (1568–71), which Philip II put down with the help of John of Austria Intelligent and hard-working, the Moriscos prospered in spite of persecutions and furthered Spanish agriculture, trade, and industries In 1609 Philip III, influenced by Lerma, decreed their expulsion for both religious and political reasons Like the expulsion of the Jews in 1492, this inhuman measure had disastrous consequences for Spanish economy, though it achieved religious unity and ethnic homogeneity of a sort

Morison, James (mô'rĭsun), 1816–93, Scottish clergyman In 1839 he was licensed to preach by the United Secession Church He became a successful evangelist and published a tract (1840) giving his view that atonement is for all mankind The influence of the religious awakening in the church at Kilmarnock, where he became minister in 1840, spread rapidly In 1841 the presbytery suspended him for his denial of strict predestinarianism With others of like views, Morison organized the Evangelical Union in 1843 and a theological academy, of which he was the first principal From 1853 to 1884 he was a minister in Glasgow

Morison, Robert, 1620–83, Scottish physician and botanist to Charles II His *Plantorum historiae universalis Oxoniensis*, one of the first monographs on a group of plants, was planned as a three-volume work, the first volume was published in 1680, the second in 1699, after completion by one of his pupils, and the third never appeared

Morison, Samuel Eliot, 1887–, American historian, b Boston, grad Harvard (B A, 1908, Ph D, 1912) and Oxford (M A, 1922) He began teaching history at Harvard in 1915, became full professor there in 1925, and was (1922–25) Harmsworth professor of American history at Oxford He was a private in the U S army in the First World War and later served in the American delegation at the Paris Peace Conference Among his books are *The Maritime History of Massachusetts, 1783–1860* (1921; new ed, 1941); *The Oxford History of the United States, 1783–1917* (1927); *Builders of the Bay Colony* (1930), *Three Centuries of Harvard, 1636–1936* (1936), an unofficial history; and *Admiral of the Ocean Sea* (1942), a biography of Christopher Columbus which won a Pulitzer Prize in 1943 With Henry Steele Commager he wrote *The Growth of the American Republic* (1930, 3d rev and enl ed, 1942), utilizing parts of the *Oxford History*. Historian of Harvard, he wrote the official *Tercentennial History of Harvard College and University* in three volumes—*The Development of Harvard University since the Inauguration of President Eliot, 1869–1929* (1930), *The Founding of Harvard College* (1935), and *Harvard College in the Seventeenth Century* (1936) In 1942 he was appointed historian of U S naval operations in the Second World War, with the rank of lieutenant commander (he was promoted captain in 1945) Thus far he has completed 5 of the 14 projected volumes of *History of United States Naval Operations in World War II* (1947–) Morison's literary style is much admired for its clarity and classic simplicity His skill as an amateur yachtsman has served him well in his maritime writings, notably in the biography of Columbus, whose route Morison himself retraced by sail

Morison, Stanley, 1889–, English typographer and journalist He was after 1923 typographical consultant to Cambridge Univ Press and to the English Monotype Corp and editor of the *Fleuron* from 1926 to 1930 He was (1929–44) typographical adviser to the London *Times*, and he designed a new format and a new type face called Times Roman In 1945 he became editor of *The Times Literary Supplement* Among his works on type are *Four Centuries of Fine Printing* (1924) and *First Principles of Typography* (1936) His writings cover a wide range and include a multivolume history of *The Times*, of which the third volume appeared in 1947

Morisot, Berthe (bĕrt' môrēzō'), 1841–95, French impressionist painter She studied under many gifted painters, including Corot She formed a close friendship with Manet and married his brother in 1874 She served as model for several of Manet's famous paintings and was greatly influenced by him in her earlier work Later she inclined rather toward the pure impressionism of Claude Monet *La Toilette* (Art Inst, Chicago) is a beautiful example of her work She is best known, perhaps for her studies in oil of women and children, often out of doors and always painted in clear, luminous color

Morlaix (môrlā'), town (pop 12,176), Finistère dept, NW France It is a Breton fishing port on an inlet of the English Channel An ancient town, it dates from Roman times

Morland, George, 1763–1804, English genre, animal, and landscape painter, pupil of his father, Henry Morland (c 1730–1797), a portrait painter and picture restorer At 10 he exhibited sketches at the Royal Academy and at 17 found a ready market for his copies of Dutch and Flemish masters At about 21 he left his father's shop and started on a lifelong career of debauch, which his marriage in 1786 only briefly interrupted Nevertheless he painted constantly, producing over 4,000 pictures in his short life His work was eagerly sought by dealers, and he made large sums of money, which he squandered In 1791 he painted his masterpiece, *Interior of a Stable* (National Gall, London) Often imprisoned for debt, Morland died in a sponging house His paintings of rural life and landscapes of the English countryside have never ceased to delight collectors Their rich color and gusto atone for an obvious haste in execution He is represented in the Louvre, Metropolitan Museum, Corcoran Gallery, and many British galleries His *Dogs Fighting* and *Old English Sportsman* (both N Y Historical Society) and *Pigs in a Fodder Yard* (N Y Public Library) are representative See biographies by Ralph Richardson (1895), Sir Walter Gilbey and E D Cumming (1907), and G C Williamson (1907)

Morley, Christopher, 1890–, American editor, novelist, and poet, b Haverford, Pa, grad Haverford College, 1910 He was a Rhodes scholar He was one of the founders and an editor (1924–40) of the *Saturday Review of Literature* His novels, generally in a light vein, include *Parnassus on Wheels* (1917), *The Haunted Bookshop* (1919), *Where the Blue Begins* (1922), *Thunder on the Left* (1925), *The Trojan Horse* (1937, dramatized 1941), *Kitty Foyle* (1939, filmed 1940), and *The Man Who Made Friends with Himself* (1949) Volumes of his poetry are *Middle Kingdom* (1944) and *Spun Level and Other Poems* (1946) He has revised and enlarged Bartlett's *Familiar Quotations* (1937, 1948)

Morley, Edward Williams, 1838–1923, American scientist, b Newark, N J, grad Williams College, 1860 He was professor of chemistry at Western Reserve (1869–1908) He is known for his research on the oxygen content of the atmosphere, for his determinations of the density of oxygen and hydrogen and their combining ratio in water, for his work with A A Michelson and D C Miller in investigating the relative motion of the earth and ether and in developing the interferometer as a

means of measuring length and distance; for his determination of the velocity of light in a magnetic field, and for his experiments on thermal expansion

Morley, Felix, 1894–, American journalist, b Haverford, Pa, grad Haverford College, 1915, and Oxford, 1921, brother of Christopher Morley He began his journalistic career as a reporter in Philadelphia After service in the First World War, he returned to the United States, worked (1922–29) on the Baltimore *Sun* and was editor (1933–40) of the Washington *Post* Morley was (1940–45) president of Haverford College while he served as a government adviser. His championship of internationalism and democracy are seen in *The Society of Nations* (1932) and *The Power in the People* (1949)

Morley, Henry, 1822–94, English author, educator, and editor He studied medicine, but turned to teaching and had a successful school of his own near Liverpool He closed his school to assist Dickens in editing *Household Words* and thereafter until 1867 was editor of various periodicals He was professor of English at University College, London He wrote several biographies but is best known as the editor of Morley's University Library, Cassell's National Library, and other series

Morley, John, 1838–1923, English statesman and man of letters Educated at Oxford, he was called to the bar and practiced both law and journalism in London Succeeding (1867) G H Lewes, he edited the *Fortnightly Review* with eminent success until his election to Parliament in 1883 as a strong supporter of Gladstone, who made him chief secretary for Ireland in 1886 His anti-imperialistic beliefs lost him his place in 1895, but he regained it the following year Between 1905 and 1910 he distinguished himself as a vigorous secretary of state for India He was raised to the peerage in 1908 as Viscount Morley of Blackburn, served as lord president of the council from 1910 until, in opposition to the war policy, he resigned (1914) and retired to write his *Recollections* (1917), an explanation of his Victorian liberalism One of the best biographers of his time he wrote lives of Voltaire (1872), Rousseau (1873), Cobden (1881), Robert Walpole (1889), Cromwell (1900), and Gladstone (1903, perhaps his best work) He was general editor of the "English Men of Letters" series, for which he wrote a life of Burke (1879) His political and critical writings reveal him as an agnostic and a disciple of the utilitarians Among them are *Critical Miscellanies* (1871–77), *On Compromise* (1874), *Diderot and the Encyclopedists* (1878), *Studies in Literature* (1890), and *On Politics* (1914) See F W Hirst, *Life and Letters of John Morley* (1927), studies by F W Knickerbocker (1943) and Warren Staebler (1943)

Morley, Sylvanus Griswold, 1883–1948, American archaeologist, b Chester, Pa, grad Harvard, 1907 He was a specialist in Middle American archaeology and in Maya hieroglyphics Morley did field work (1909–14) in Central America and Mexico for the School of American Archaeology In 1915 he became research associate and in 1918 associate of the Carnegie Institution of Washington, D C He was in charge of its Central American expeditions and directed (1924–40) research at Chichén Itzá His writings include *An Introduction to the Study of Maya Hieroglyphs* (1915), *The Inscriptions at Copan* (1920), *Guide Book to the Ruins of Quiriguá* (1935), and *The Inscriptions of Petén* (5 vols, 1938)

Morley, Thomas, b 1557 or 1558, d 1603, English madrigal composer, pupil of Byrd His *Plain and Easy Introduction to Practical Music* (1597) was the first English theoretical work He was a gentleman of the Chapel Royal and organist of St Paul's Cathedral He is noted mainly for his madrigals and settings of some of Shakspere's songs He also wrote anthems, services, and Latin motets His was the earliest musical setting of the burial service from the English Prayer Book

Morley, municipal borough (1931 pop 23,396, 1947 estimated pop 39,680), West Riding of Yorkshire, England, SW of Leeds It has wool and glass factories, tanneries, coal mines, and stone quarries Morley was besieged by royalists in the civil war

Mormons, name used in common parlance for the members of the Church of Jesus Christ of Latter-Day Saints (a brief description of the church is given under that heading) The religion was founded by Joseph Smith after the golden tablets containing the Book of Mormon had been revealed to him at Palmyra, N Y He rapidly gathered followers and in 1831 established his headquarters at Kirtland, Ohio Intensive missionary activity brought many converts both from the United States and (especially later) from abroad. Stakes of Zion, as the Mormons called their settlements, were started in W Missouri Smith prepared (1831) to make this the permanent home of his people, but first at Independence and then at little Far West, the Mormons came into conflict with their "Gentile" Missouri neighbors The Mormons were a close-knit body with a communal economy, and the other settlers feared the strange and aloof Saints. Trouble rose to violence and to persecution; Mormon leaders were jailed and their followers mistreated. Finally in 1838–39 Gov. Lilburn W. Boggs ordered their expulsion (see also Doniphan, Alexander W.). The Mormons sought a new Zion in Illinois in the town of Nauvoo. They received a charter giving them virtual autonomy with the right to maintain their own militia and their own court and the power to pass any laws not in conflict with state or Federal constitutions Nauvoo grew as many converts poured in from abroad, and by 1842 it was the largest town in Illinois—and consequently had the most political power It prospered as most Mormon settlements have prospered wherever planted Unfortunately this state of affairs caused envy and fear among their neighbors Dissension appeared in their own ranks and weakened them The hostility of their neighbors again mounted to violence On June 24, 1846, Joseph Smith and his brother Hyrum were arrested on charges of treason They were murdered in jail in Carthage, Ill, by a mob three days later This sealed the fate of Nauvoo as a Mormon home and threatened the unity of the Church Many fled, dissension and suspicion were rife, and there was question of the succession to Smith's leadership Another brother, William Smith, and several prominent leaders were possible choices, notably Sidney Rigdon, James Jesse Strang, Lyman Wight, and Brigham Young The church leaders chose Young He was to prove a forceful and able leader, a man who dominated and worked for the good of his people Again it was necessary for the Mormons to find a home Under Young's guidance a remote spot was chosen, the valley of the Great Salt Lake in present Utah Preparations were made for the Saints to migrate by wagon and on foot with handcarts to carry their goods across a little-known wilderness At this time those who rejected Young's leadership and claimed the succession for a son of Joseph Smith declined to accompany the main body to Utah, they ultimately constituted themselves into the Reorganized Church of Jesus Christ of Latter Day Saints In July, 1847, the first settlers reached what is now Salt Lake City There they planted crops and built shelters The first few years were extremely hard, but the organization of the Mormons for community welfare, their great industry (the beehive is one of their symbols), and their unflagging attempts to utilize all means made for their success They initiated irrigation, and the desert lands began to blossom Young's genius for organization and determination to create a self-sustaining economy helped to make the Mormon dream come true It was not, however, yet firmly established when trouble came once again The Mormons sent a force (the Mormon Battalion) to fight in the Mexican War, but that war prepared the way for the admission of California to the Union and made future trouble for the Saints The discovery of gold there was to bring hordes of "Gentiles" trooping across the land The Mormons wished to have their communities admitted to the Union as the State of Deseret, but they were to be disappointed It was in 1850 made into Utah Territory Brigham Young was made territorial governor and superintendent of Indian Affairs, but Mormon isolation was destroyed Non-Mormons filtered in They were resented by the Mormons, and in turn the newcomers were resentful of the Mormon exclusiveness and church control Clashes with overland travelers were frequent Young's formal announcement in 1852 of the doctrine of plural marriage, based on a vision of Joseph Smith in 1843, further set the Mormons apart from non-Mormon Americans. From that time for nearly 40 years the question of polygamy was lustily discussed in the newspapers of the United States, and even today the forgotten issue is sometimes refurbished in sensational magazines There were also non-Mormon stories of the dark and violent doings of a secret Mormon police force, the Danites, who forced the will of the Church on Mormon and non-Mormon alike The antagonism was very real in the 1950s, and when Albert S Johnston was sent out with an army force in 1857, Brigham Young called in the settlers who had been sent forth south and north and west and prepared to defend the Mormon state Fortunately this Mormon campaign or Utah War did not rise to serious proportions, but the bitterness of feeling was shown in the massacre of the innocent members of a wagon train at Mountain Meadows in 1857 The question of plural marriage was the important point in Utah's demand for statehood Congress passed laws against polygamy, aimed solely at Utah. By the time of Brigham Young's death in 1877 the Mormon community was a thoroughly established commonwealth with a large and prosperous population It was long overdue for statehood when a statement from President Wilford Woodruff on polygamy in 1890 made it possible for Utah to enter the Union in 1896. Wilford had succeeded John Taylor, who had succeeded Brigham Young. Later presidents have been Lorenzo Snow, Joseph F. Smith, Heber J Grant, and George A. Smith The history of Utah has been the history of the Church, but Mormonism has been spread much wider than that state. It has great strength in Idaho and Arizona, and there are Mormon temples and tabernacles in most of the states, particularly in the West.

Mornay, Philippe de, seigneur du Plessis-Marly (fēlēp' dŭ môrnā' sānyûr' dŭ plĕsē'-märlē'), 1549–1623, French Protestant leader, also known as Du Plessis-Mornay. Until 1572 he spent much time in the Netherlands and Germany. After the massacre of St Bartholomew's Day he remained a year in England He became one of the chief agents for Henry of Navarre (later Henry IV of France), for whom he arranged a reconciliation with Henry III (1589). In reward he was made governor of Saumur and, later, a councilor of state. After Henry's conversion, he became the leader of the Huguenots Louis XIII ousted him from Saumur, and he died in retirement Mornay was an excellent organizer and a spirited writer Among his works are *De l'institution, usage et doctrine du saint sacrement de l'eucharistie en l'église ancienne* (1598, Eng tr, 1600), the subject of a public disputation on the ancient Eucharist with the bishop of Évreux, who was the victor, *Le Mystère d'iniquité, c'est à dire, l'histoire de la papauté* (1611, Eng tr., 1612), and memoirs and correspondence

morning-glory, name for plants of the genus *Ipomoea*, widely distributed annuals or perennials, usually twining and herbaceous vines. *Ipomoea purpurea*, the most commonly cultivated in North America, is popular for its prolific growth and broad funnel-shaped blossoms of various colors open only in the morning In Japan unusually large flowers have been developed, grown mostly as pot plants The genus *Ipomoea* includes the sweet potato, the American manroot with enormous starchy roots, and plants sometimes used for the drug jalap A number of related plants are called morning-glory.

Morningside, village (pop 1,282), E Minn, southwest suburb of Minneapolis.

Morningside College. see Sioux City, Iowa

Morny, Charles Auguste Louis Joseph, duc de (sharl' ōgüst' lwē' zhōzĕf' dük' dŭ mônā'), 1811–65, French statesman, illegitimate son of Hortense de Beauharnais and Flahaut de la Billarderie After an army career (1830–38) during which he fought in North Africa, Morny entered politics and was elected a deputy in 1842 In 1851 he was the leading organizer of the coup d'état which gave his half brother, Louis Napoleon Bonaparte, dictatorial powers Made minister of the interior, Morny, by means of unscrupulous intimidation made certain of the issue of the plebiscite which placed Bonaparte on the throne as Napoleon III Morny subsequently was president of the legislative assembly and played a considerable role in the affairs of the Second Empire See biography by Maristan Chapman (1931)

Moro [Span, =Moor], one of a group of Moslem natives of Mindanao and the Sulu Archipelago in the Philippines and of Borneo, who were converted in the great missionary extension of Islam from India in the 15th and 16th cent Not ethnically or linguistically units, they are of largely Malayan stock Though their knowledge of the Mohammedan religion is scanty, they are devout followers of the faith Some 300,000 Moros are included in the population of the Sulu Archipelago and S Mindanao They have long maintained enmity toward the Christian Filipinos Their principal occupation is agriculture, and their products include tapioca corn, rice, sugar cane, hemp, cacao, and sweet potatoes Their industries are cloth weaving, pottery making, boatbuilding and metal craftsmanship The Moros fabricate iron, brass, silver, and gold The Sulu dialect is called Bahasa-Sug, and the Moros employ voweled Arabic in writing it Much superstition is involved with their mode of living They are conspicuous as a fierce, proud people

Moro, Antonio (ântō'nyō mō'rō), c 1512–c 1575, Flemish portrait painter, known also as Antonis Mor or Moor and as Sir Anthony More He studied in Utrecht (probably under Scorel), where he became a member of the painters' guild After a short visit to Italy he rapidly rose to fame as a portraitist and was made court painter to the house of Hapsburg In this capacity he visited Spain, Portugal, and, later, England. His portrait of Mary Tudor (Prado) is justly famous After a second visit to Spain, Moro settled in Antwerp, where he executed several commissions for the duke of Alba Moro's portraits are masterly and convincing. He was a superb draughtsman and colorist Among his most celebrated paintings are those of Jean d'Archel (National Gall., London), Hubert Goltzius (Brussels), the artist's wife (Prado), the archduchess, Margaret of Parma (Vienna), the duke of Alba (Hispanic Society, New York), and *Portrait of a Gentleman* (National Gall. of Art, Washington, D C)

Morocco (mŭrŏ'kō), sultanate (172,104 sq. mi, pop c.9,650,000), North Africa, on the Mediterranean Sea and the Atlantic Ocean It is bordered on the south by the Spanish Sahara and by Algeria (boundary partly undefined) and on the east by Algeria Ifni is a Spanish-owned enclave on the Atlantic coast. The country is nominally under the rule of the sultan of Morocco; for the most part, however, he functions only as the religious leader of the Moslem community In actual administration Morocco is divided into three territories. French Morocco (153,870 sq. mi.; pop. c.8,500,000) is a protectorate

and, since 1946, an associated state of the French Union. It is ruled by a resident general at RABAT. It occupies most of the sultanate and all but the most northerly section of the Atlantic coast. Spanish Morocco (18,009 sq mi ; pop 1,082,009), with its capital at TETUÁN, is a protectorate under a Spanish high commissioner. Here religious functions are delegated to a khalifa, a Moslem official nominated by the high commissioner and approved by the sultan For the most part Spanish Morocco lies on the Mediterranean coast and is roughly coextensive with the RIF Two of the coastal cities, Ceuta and Melilla, are part of metropolitan Spain The remaining division of Morocco is the international zone of TANGIER The population of Morocco is concentrated in the coastal regions, where rainfall is most plentiful. In parts of the Rif some 40 in fall a year, and wheat and other cereals can be raised without irrigation On the Atlantic coast, where there are extensive plains, olives, citrus fruits, and grapes are grown, largely with water supplied by artesian wells Part of the maritime population fishes for its livelihood. Agadir, Mogador, Mazagan, and Larache are among the important fishing harbors CASABLANCA is by far the largest port for the extensive overseas trade Central Morocco is largely occupied by the ATLAS MOUNTAINS In the northern foothills especially, there are large mineral deposits; phosphates lead in importance, and there are also zinc, copper, lead, molybdenum, cobalt, and the only sizable coal deposits in all North Africa. MARRAKESH, MEKNÈS, and Fez are the most important centers in the mineral trade S Morocco is part of the Sahara A few areas of oasis, notably Tafilelt, are all that relieve the desert wastes The coastal areas and the mineral-producing interior region are linked by c 1,200 mi of railroad and c 2,700 mi of road Only trails reach into the desert In ancient times Morocco was roughly coextensive with the Roman district of MAURETANIA The Vandals were the earliest (5th cent) of barbarous peoples to take the area after the Roman collapse The Arab conquest, which first swept over Morocco in 683, brought with it Islam Christianity was all but extirpated, but the Jewish colonies by and large retained their religion Many Moroccans served in the Arab forces which invaded Spain in the early 8th cent. Morocco became an independent state in 788 under the royal line founded by Idris I The country lapsed into anarchy in 974, but it revived strongly under the FATIMITE caliphs (who conquered Egypt) and two Berber dynasties, the ALMORAVIDES and the ALMOHADES, who ruled both Morocco and Spain The Merinid dynasty (1259–1550), after some successes in Spain and North Africa, was limited to Morocco Rarely, however, was the country completely unified, and conflict between Arabs and BERBERS was incessant Spain and Portugal, not content with expelling the Moors (i e , persons from Morocco) from the Iberian Peninsula, fell upon the Moroccan coast Beginning with the capture of Ceuta in 1415, Portugal took all the chief ports except Melilla and Larache, both of which fell to Spain The Christian threat stimulated the growth of resistance under religious leaders, one of whom established (1554) the Saadian, or first Sherifian, dynasty At the battle of ALCAZARQUIVIR (1578) the Saadian king decisively defeated Portugal The present ruling dynasty (the Filali, or second Sherifian, dynasty) came to power in 1660 and recaptured many European strongholds. Morocco, like the other BARBARY STATES, was, from the 17th to the 19th cent , a base of pirates preying upon the Mediterranean trade In the 19th cent the strategic and economic importance of Morocco excited the interest of the European powers France before 1850 had advanced from the south and occupied several oases, inflicting defeat on Sultan ABD-ER-RAHMAN In 1880 the major European nations decided at Madrid to preserve the territorial integrity of Morocco and to maintain the Open Door policy in trade Political and commercial rivalries soon disrupted this cordial arrangement and brought on several international crises In general France sought to gain Spanish and British support against the opposition of Germany Thus, in 1904, France concluded a secret treaty with Spain to partition Morocco and secretly agreed with Great Britain not to oppose British aims in Egypt in exchange for a free hand in Morocco In 1905, after France had asked the sultan of Morocco for a protectorate, Germany moved dramatically by having the German emperor land at Tangier from his yacht and declare for the independence of Morocco. On German insistence the Algeciras Conference (Jan – March, 1906) was called to consider the Moroccan question. The principles of the Madrid Conference were readopted and German investments were assured protection, but French and Spanish interests were given high recognition by the decision to allow France to patrol the border with Algeria and to allow France and Spain to police Morocco. Under the claim of effecting pacification, the French steadily annexed territory. In 1908 friction arose at Casablanca, under French occupation, when the German consul gave refuge to deserters from the French Foreign Legion. This dispute was settled by the Hague Tribunal Shortly afterward a coup d'état unseated ABDU-L-AZIZ IV and installed on the throne his brother, ABDU-L-HAFID He had difficulty maintaining order and received help from France and Spain, especially in a revolt which broke out in 1911 In this situation the appearance of the German warship *Panther* at AGADIR on July 1, 1911, was interpreted as a threat of war and speeded a final adjustment of imperial rivalries On Nov 4, 1911, Germany agreed to a French protectorate in Morocco in exchange for the cession of French territory in equatorial Africa Finally, at FEZ (March 30, 1912), the sultan agreed to a French protectorate, and on Nov 27 a Franco-Spanish agreement established substantially the present administrative arrangement. The French protectorate was placed under the rule of LYAUTEY, who remained in office until 1925 A strong threat to European rule was posed (1924–26) by the revolt of ABD-EL-KRIM Spanish Morocco in 1936 witnessed the beginning of Francisco Franco's successful revolt against the republic government of Spain French Morocco, under the rule of Resident General Noguès remained loyal to the Vichy government after the fall of France in 1940 The Germans swiftly organized the economy so as to supply their country On Nov 8, 1942, Allied forces landed at all the major cities of Morocco and Algeria There was sharp fighting at Casablanca only, and on Nov 11 all resistance ended (see NORTH AFRICA, CAMPAIGNS IN) Noguès, who continued in effect laws directed against the Jews (c 195,000) and was in general extremely conservative, was dismissed in 1943 After the war a nationalist movement grew powerful and received the active support of the sultan, Sidi Mohammed, who demanded a unitary state and the departure of the French and Spanish In French Morocco the sultan was supported by the strongest native political group, the Istiqlal France, with some 250,000 French people living in Morocco and with France itself heavily dependent upon Moroccan food, resisted the independence movement In Spanish Morocco political activities in general were forbidden See Budgett Meakin, *Moorish Empire a Historical Epitome* (1899), Ellis Ashmead-Bartlett, *Passing of the Sherifian Empire* (1910), Eugene N Anderson, *The First Moroccan Crisis, 1901–1906* (1930), Melvin M Knight, *Morocco as a French Economic Venture* (1937), Ima C Barlow, *The Agadir Crisis* (1940), James Haldane, *Trekking among Moroccan Tribes* (1948)

Morocco, town (pop 1,151), NW Ind , NW of Lafayette, settled 1833, laid out 1850, inc 1890

morocco, a goatskin leather, dyed on the grain side and boarded by hand or machine to bring up the grain in a bird's-eye effect Probably it originated with the Arabs in North Africa as an alum-tanned product typically dyed red, and it then spread to the Levant, to Turkey, and along the Mediterranean, where it was tanned with sumac Today the term is applied also to chrome-tanned goat leather whether boarded or embossed to show the characteristic grain, it is often crushed and glazed Hard, but pliable, it is valued especially for bookbindings and purses Levant morocco is larger grained, French morocco is a sheepskin imitation

Morone (mōrō'nā), name of two Italian historical and religious painters of the Veronese school

Domenico Morone (dōmā'nēkō), b c 1442, d after 1517, may have studied in the school of Pisano His few surviving works reveal a broad and powerful style, based upon his study of the principles of Mantegna They include two decorative panels (National Gall , London); *Miracle of St Dominic* (Metropolitan Mus), and *The Adoration of the Magi, Madonna and Ecce Homo,* and *Dominican Preaching* (National Gall of Art, Washington, D C) His son, **Francesco Morone** (frānchā'skō), 1471–1529, after assisting his father, set up an independent practice He, too, was strongly influenced by Mantegna, and his masterpiece, the frescoes in the sacristy at Santa Maria in Organo, Verona, is composed largely of incidents adapted from Mantegna's *Camera degli sposi* at Mantua Other works by the artist are an imposing altarpiece, *Virgin Enthroned with Saints,* in the same church; *Virgin and Child* (Milan), and *Virgin and Child* (National Gall , London)

Moroni, Giovanni Battista (jōvän'nē bät-tē'stä mōrō'nē), c 1525–1578, Italian portrait painter of the Brescian school, pupil of Il Moretto He also painted numerous altarpieces His portraits, which were forceful in characterization and admirable in pose and coloring, were highly esteemed by Titian and exerted a considerable influence upon the art of Van Dyck Among the best are *Widower with Two Children* (Dublin), *The Tailor* and portrait of Canon Ludovico de' Terzi (National Gall , London); *Nobleman Pointing to a Flame* and self-portraits (Uffizi), portrait of Bartolomeo Bongo (Metropolitan Mus); *Portrait of a Lady* (Walters Art Gall., Baltimore), *Portrait of a Man* (Gardner Mus , Boston); and *A Gentleman in Adoration before the Madonna* and another portrait of a man (National Gall of Art, Washington, D C)

Moroni (mōrō'nē) [for the angel who appeared to Joseph SMITH], city (pop 1,158, alt 5,520 ft), central Utah, on the San Pitch in the Sanpete Valley, S of Provo; settled 1859 by Mormons, inc 1866 Primarily a turkey-growing center, Moroni has some irrigation, supported by water brought by the Sanpete project from a Green River tributary

moronity: see FEEBLE-MINDEDNESS

Moronobu: see HISHIGAWA MORONOBU

Morosini, Francesco (frānchā'skō mōrōsē'nē), 1618–94, Italian soldier, doge of Venice (1688–94), of a family distinguished in Venice for five centuries He was captain general of the fleet in a war with the Turks (1651–61) and was tried and acquitted for being defeated by the Turks in Crete He again fought brilliantly against the Turks (1667–69, 1684–88) He conquered the Peloponnesus, and under his leadership the Venetian empire had a brief recrudescence

Morotai (mōrōtī'), island (c 695 sq mi , pop 7,833), East Indonesia, one of the Moluccas It is NE of Halmahera Heavily wooded, it produces timber and resin A leper colony is here In the Second World War, Morotai was a major Japanese air base which was easily taken in 1944

Morpeth (môr'puth), municipal borough (1931 pop 7,391, 1943 estimated pop 10,000), Northumberland, England, on the Wansbeck and N of Newcastle-on-Tyne It is an agricultural market with woolen mills Only the gateway remains of the ancient castle around which the town grew

Morpheus (môr'fēus, môr'fōs) [Gr ,=shaper], in Greek and particularly Roman mythology, god of dreams He was the son of Sleep and a creature of the night Morpheus brought dreams of human forms

morphine (môr'f n) [from MORPHEUS], an alkaloid of opium derived from the poppy plant It is of great value in medicine and surgery for the relief of pain It is also used to produce sleep, to relieve the cough reflex, and to relax tenseness caused by fear Continued doses of morphine of increasing size produce a tolerance to quantities which would ordinarily prove fatal Habitual use (morphinism) brings about a condition eventually so critical that it can be corrected only by specialized medical attention

Morphy, Paul Charles (mor'fē), 1837–84, American chess player, b New Orleans At 10 he learned the game and at 21 was acknowledged as the greatest player in the world Not only was Morphy possessed of a phenomenal memory, which he demonstrated in astounding feats of simultaneous blindfold play, but his style of play was in direct contrast to that of his time He was a master of the open game, in which center pawns are exchanged, open files are utilized, and rapid development of the pieces is demanded Harrwitz, Lowenthal, and Anderssen were among the many who fell before his crushing combinations After 1859, when he had returned to New Orleans from world triumphs, mental instability ended his chess play See biography by Regina Morphy-Voitier (1926), J J Lowenthal, *Morphy's Games of Chess* (1860), P W Sergeant, *Morphy Gleanings* (1932)

morrice dance see MORRIS DANCE

Morrill, Justin Smith (mŏ'rul), 1810–98, U S Representative (1855–67) and Senator (1867–98) from Vermont, b Strafford, Orange co , Vt A prosperous merchant, he helped organize (1855) the Republican party in Vermont In his 43 years of continuous service in Congress, the longest on record, he was chairman (1865–67) of the House Committee on Ways and Means and long headed the Senate Committee on Finance He is best known for the Morrill Act, a bill first introduced in 1857 and finally passed in 1862, which provided for the granting of public lands for the establishment of educational institutions, these came to be known as LAND-GRANT COLLEGES See biography by W B Parker (1924)

Morrilton, city (pop 4,608), co seat and trade center of Conway co , W central Ark , on the Arkansas river, founded in the 1870s A large cotton mill and Petit Jean State Park are near by

Morris, family of prominent American landowners and statesmen **Richard Morris,** d 1672, left England after serving in Oliver Cromwell's army, became a merchant in Barbados, and migrated to New York when it was known, under the Dutch, as New Amsterdam There he purchased a tract of land which, along with other real estate, descended to his son, Lewis Morris (1671–1746, see separate article) The New York estate was erected into a manor, called Morrisania, in 1697 **Lewis Morris,** 1698–1762, b Morrisania, second lord of the manor, was judge of the high court of admiralty His brother, **Robert Hunter Morris,** c 1700–1764, b Morrisania, was chief justice of New Jersey and governor of Pennsylvania (1754–56) The third and last lord of the manor was Lewis Morris (1726–98, see separate article) His brothers included Gouverneur Morris (see separate article) and **Richard Morris,** 1730–1810, b Morrisania, a state senator and chief justice of the state supreme court Morrisania was annexed to the city of New York in 1774 Other prominent members of the family were **Robert Morris,** c 1745–1815, b New Brunswick, N J., judge of the U.S. district court in New Jersey, **Lewis Richard Morris,**

1760–1825, b Scarsdale, N Y , member of the state assembly and a U S. Representative (1797–1803), and Richard Valentine Morris (see separate article) See L D Akerly, *The Morris Manor* (1916)

Morris, Alexander, 1826–89, Canadian politician, b Perth, Ont He was the first graduate in arts at McGill Univ By his speeches and his pamphlet *Nova Britannia* (1858) he lent strong support to the confederation movement, and, entering (1861) the legislative assembly as a Conservative, he played a part in effecting the coalition of 1864, which paved the way to confederation In 1869 he joined Sir John A Macdonald's cabinet as minister of inland revenue, and in 1872 he became lieutenant governor of Manitoba and the Northwest Territories

Morris, Clara, 1849–1925, American actress, b Canada She began her career as a dancer in the Academy of Music, Cleveland, but rose to be leading woman in emotional roles In 1870 she appeared with Augustin Daly's company in New York, winning fame as Cora in *Article 47* In *Camille, Miss Moulton,* and other plays of the type she excelled almost every actress of the '70s and '80s. In 1874 she married Frederick C Harriott and thereafter made only occasional appearances on the stage Her writings are voluminous and include *Life on the Stage* (1901), *Stage Confidences* (1902), and *The Life of a Star* (1906)

Morris, Edward Patrick Morris, 1st **Baron,** 1859–1935, Newfoundland statesman and lawyer, b St John's Admitted to the bar in 1885, he entered the Newfoundland legislature as a Liberal the same year He was a delegate to the conference (1895) called at Ottawa to discuss terms for the possible entry of Newfoundland into the dominion, later represented his country at many imperial conferences, and was counsel for the British government in the N Atlantic fisheries dispute at The Hague (1910) Morris edited the 19th-century Newfoundland law reports From 1909 to 1919 he was prime minister of Newfoundland After the First World War he went to England to live Morris was knighted in 1913 and raised to the peerage in 1918

Morris, George Pope, 1802–64, American poet and journalist, b Philadelphia He founded (1823) the *New-York Mirror,* a literary weekly to which W C Bryant, J K Paulding, and their friends contributed Morris's most quoted poem is "Woodman, Spare That Tree!"

Morris, Gouverneur (gŭvûrnēr', -nōōr'), 1752–1816, American statesman, b Morrisania, N Y (now part of the Bronx), grad King's College (now Columbia Univ), 1768, grandson of Lewis Morris (1671–1746) He studied law and was admitted (1771) to the bar His family background and his personal charm and intelligence gave him social prestige and furthered his political career At the outbreak of the American Revolution he adopted the patriot cause (although several members of his family were Loyalists) and was a member (1775–77) of the provincial congress of New York After helping to draft the first state constitution and serving on the Council of Safety, Morris sat (1778–79) in the Continental Congress, where he was prominent in financial, military, and diplomatic affairs In 1779 appeared his *Observations on the American Revolution* He failed of reelection to the Congress and moved to Philadelphia, resuming his law practice A series of newspaper articles on finance secured him the position of assistant to Robert Morris (no relative) in handling the finances of the new government (1781–85) As a member of the Federal Constitutional Convention of 1787 he played an active role, defending a centralized government, opposing concessions to slavery, and aiding in the writing of the Constitution He remained, however, a champion of aristocracy who distrusted democratic rule In 1789 he went to France as a private business agent for Robert Morris, remained in Europe, and was appointed (1792) U S minister to France During the French Revolution his sympathies lay with the royalists, he even planned the rescue of Louis XVI His recall was requested in 1794, but he traveled for several years before returning to America in 1798 From 1800 to 1803 Morris, a Federalist, was a U S Senator from New York He then retired to his estate at Gouverneur, N Y , married for him He condemned the War of 1812, going so far as to recommend the severance of the Federal Union He was a strong advocate of the Erie Canal, serving as chairman (1810–13) of the canal commission See his *Diary of the French Revolution* (2 vols , 1939), edited by his great-granddaughter, Beatrix Cary Davenport, biographies by Theodore Roosevelt (1888) and Daniel Walther (1934)

Morris, Lewis, 1671–1746, American colonial official, first lord of the manor of Morrisania in New York He was born in that part of Westchester co that is now part of the Bronx, New York city He inherited large properties in New York and New Jersey, and in 1697 his New York estate was made a manor In 1702 he traveled to England to help bring about the fall of proprietary government in New Jersey. He became a bitter opponent of the arbitrary rule of Lord Cornbury, who was governor of both New York and New Jersey, and aided in securing his removal. In 1715 his friend Gov. Robert Hunter made Morris chief justice of New York, but a subsequent struggle with Gov. William Cosby resulted in his removal (1733). During his terms as councilor and as member of the assembly he upheld the popular cause, and upon the separation of New Jersey from New York he became the first governor of New Jersey (1738–46) His stern administration was marked by much opposition and quarreling

Morris, Lewis, 1698–1762 see Morris, family

Morris, Lewis, 1726–98, signer of the Declaration of Independence, b. Morrisania, N Y (now part of the Bronx), grad Yale, 1746, elder half brother of Gouverneur Morris As a wealthy landowner and third lord of the manor of Morrisania after 1762, he was prominent among the opponents of British policies and was influential in promoting the provincial convention of New York (1775) In the Continental Congress (1775–77) he dealt principally with military and Indian affairs Made a brigadier general in the patriot army, he served in the New York campaign of 1776 After the war he restored his estate at Morrisania, which had been burned and plundered by the British He was prominent in New York affairs, serving as state senator (1777–81, 1784–88) and as a member (1784–98) of the first board of regents of the Univ of the State of New York

Morris, Sir Lewis, 1833–1907, British poet and lawyer, b Wales, M A Oxford, 1858 Greatly interested in higher education, he helped found the Univ of Wales He was for 27 years chairman of the Eisteddfod His poetry includes *Songs of Two Worlds* (1871–75) and *Epic of Hades* (1876–77) He was knighted in 1896

Morris, Lewis Richard, 1760–1825 see Morris, family

Morris, Mary Philipse see Morris, Roger

Morris, Richard, d 1672, and 1730–1810 see Morris, family

Morris, Richard Brandon, 1904–, American historian, b New York city, grad College of the City of New York, 1924, and Columbia (M A , 1925, Ph D , 1930). From 1927 to 1949 he taught history at the College of the City of New York, becoming a full professor in 1947 He became a professor at Columbia in 1949 In 1930 he received the joint award of the Colonial Dames of America and the National Society of Colonial Dames for his contribution to American history His works include *Civilization in Europe* (with J S Schapiro, 1928), *A Guide to the Principal Sources for Early American History (1600–1800) in the City of New York* (with Evarts B Greene, 1929), *Studies in the History of American Law, with Special Reference to the Seventeenth and Eighteenth Centuries* (1930), and *Government and Labor in Early America* (1946) He edited *The Era of the American Revolution* (1939) and, with L L Snyder, *A Treasury of Great Reporting* (1949)

Morris, Richard Valentine, 1768–1815, American naval officer, b Morrisania, N Y (now part of the Bronx), son of Lewis Morris (1726–98) After the American Revolution he entered the navy and was commissioned captain in 1798 As commander of a squadron in 1802, he was sent to the Mediterranean to undertake negotiations with Tripoli, Algiers, Tunis, and Morocco (the Barbary States) Unsuccessful in concluding peace with Tripoli and unfortunate in dealing with the other powers, Morris was relieved of his command (1803), and his commission was revoked His pamphlet, *A Defense of the Conduct of Commodore Morris during His Command in the Mediterranean* (1804), which emphasized factors other than his ineffectiveness, is of importance to historians because in it he incorporated many official documents See G W Allen, *Our Navy and the Barbary Corsairs* (1905)

Morris, Robert, 1734–1806, American banker, "financier of the American Revolution," and signer of the Declaration of Independence, b Liverpool, England Morris came to America as a boy, entered business, and later (1754) became a partner of Thomas Willing in Philadelphia He opposed British restrictions prior to the Revolution and served (1775–78) as a member of the Continental Congress From 1781 to 1784 he was superintendent of finance at a period when financial ruin threatened Morris labored hard and well, he guided the organization of a national bank, retrenched expenditures, sought to force the states to supply money, and borrowed in Europe He also acted as marine agent of the new government Morris was convinced by his financial difficulties that a stronger national organization was necessary. He was a member of the Federal Convention of 1787 and later was Senator from Pennsylvania (1789–95) His private business, continued in his terms of office, was involved in difficulties by his speculation in Western lands and ultimately ended in bankruptcy The Holland Land Company got many of his lands Morris was in debtor's prison from 1798 to 1801 and never recovered his fortune See biographies by E. P Oberholtser (1903) and Eleanor Young (1950); W. G. Sumner, *The Financier and the Finances of the American Revolution* (1891).

Morris, Robert, c.1745–1815: see Morris, family.

Morris, Robert Hunter: see Morris, family

Morris, Roger, 1727–94, Loyalist in the American Revolution, b Yorkshire, England He came to America in 1755 as aide-de-camp to Edward Braddock and fought under James Wolfe at Quebec After his army service he settled (1764) in New York city His marriage to wealthy Mary Philipse made him prominent They lived in the famous Morris Mansion (later the Jumel Mansion) At the outbreak of the American Revolution, Morris was sympathetic to the British but refused to fight against the patriots His wife, **Mary Philipse Morris,** 1730–1825, inherited her wealth from her father, Frederic Philipse Handsome and imperious, she is said to have attracted numerous suitors, among them George Washington After her marriage, her property holdings—including a large estate in Putnam co., N Y.—were passed on to Roger Morris After she and her husband were attainted (1776) by the New York state legislature and after the family's property was confiscated, she returned (1783) with her husband and four children to England Her heirs (who by Mary Philipse's marriage settlement had a right to those estates and had not themselves been attainted) sold their reversionary interests to John Jacob Astor for £20,000 To this the British government added £17,000 in compensation for Morris's losses incurred by New York state's confiscation

Morris, William, 1834–96, English artist, writer, printer, and socialist, b Walthamstow, educated at Marlborough school, grad Exeter College, Oxford, 1855 At Oxford, Morris, with his lifelong friend Burne-Jones, found artistic and poetic inspiration in the Middle Ages and confirmed it by studies of French Gothic cathedrals and by reading John Ruskin Morris's life became one of perpetual experiments in expression, made possible by his father's modest fortune He wrote (1856) for the *Oxford and Cambridge Magazine,* though articled to an architect, he studied painting instead with D G Rossetti With friends he started in 1861 the firm of decorators later famous as Morris and Company, which made carvings, stained glass, carpets, wallpapers, chintzes, and furniture and which during its long career improved and refreshed Victorian taste In his factory he incorporated parts of what he found best in medieval society—the nearness of the designer-craftsman to his product and the essential equality of the craftsmen—and thus indirectly sponsored the Arts and Crafts movement His verse tales in *The Life and Death of Jason* (1867) and *The Earthly Paradise* (3 vols , 1868–70) were literary successes His Icelandic studies and trips resulted in translations of early sagas with his teacher, Eirikr Magnusson, and in Morris's epic poem, *Sigurd the Volsung* (1876) During the last 20 years of his life he wrote and worked to foster his kind of socialism His prose *Dream of John Ball* (1888) contrasts 19th- and 14th-century England, and *News from Nowhere* (1891) pictures a socialist utopia, while *Socialism Its Growth and Outcome* (1893) sets forth his historical position In 1883 he joined the socialist Democratic Federation and in 1885 went with those who seceded from it and formed the Socialist League That group became too anarchistic for him, and in 1890 he withdrew to the Hammersmith Socialist Society Meanwhile he had continued to write romances, including *The House of the Wolfings* (1889) and *The Wood Beyond the World* (1894) His last artistic venture was the Kelmscott Press in Hammersmith, where he designed the type, page borders, and bindings of fine books See his collected works (ed by May Morris, 24 vols , 1910–15), study of his art by Aylmer Vallance (1897), biographies by J W Mackail (2 vols , 1899), May Morris (2 vols , 1936), and L W Eshleman (1940), M R Grennan, *William Morris, Medievalist and Revolutionary* (1945)

Morris, William Richard, see Nuffield, William Richard Morris, 1st Viscount

Morris. 1 City (pop 6,145), co seat of Grundy co., NE Ill , on the Illinois river and SW of Chicago, in a coal and clay area; platted 1842, inc 1853 It is a shipping and industrial center, among its manufactures are paper and leather and limestone products Near by is Gebhard Woods State Park on the old Illinois and Michigan Canal. 2 City (pop 3,214), co. seat of Stevens co , W Minn., near the Pomme de Terre W of Glenwood, in a farm area; platted 1869, inc as a village 1878, as a city 1903 The West Central School of Agriculture and experiment station here (a branch of the state university) originated as a Roman Catholic mission school for Indians. Pomme de Terre State Park is near 3 City (pop 1,197), E central Okla., SE of Tulsa, in an oil region

Morris Brown College: see Atlanta, Ga.

Morrisburg, village (pop 1,575), SE Ont., on the St. Lawrence and WSW of Cornwall. Stoves, sheet-metal products, and brushes are made here. Ferry service connects it with Waddington, N Y.

morris dance or **morrice dance,** rustic dance of the north of England which had its origin in country festivals, such as those of May Day and Whitsunday. Reference to it in English literature is made

as early as the 15th cent. The main dancers were called Robin Hood, Maid Marian, the hobbyhorse, and the bavian or fool They were accompanied by a piper or taborer. An ambulatory dance, it was often performed from one village to another by the main dancers and six other dancers, three in a row The morris dance was a sword dance in many vicinities See E K Chambers, *The Mediaeval Stage* (1903), C. J. Sharp and H C Macilwaine, *The Morris Book* (5 vols , 1909–13)

Morris Island: see CHARLESTON, S C

Morris Jesup, Cape (jĕ'sŭp), northernmost land point in the world, N Greenland, in Peary Land At lat 83° 39′ N, it is 440 mi distant from the North Pole

Morrison, Arthur, 1863–1945, English novelist and critic of Oriental art His stories of London slums, *Tales of Mean Streets* (1894) and *A Child of the Jago* (1896), are powerful He also wrote an excellent detective series, built around the character Martin Hewitt, and *The Painters of Japan* (1911)

Morrison, Herbert Stanley, 1888–, British statesman Born in London of poor parents, he went to work at the age of 14 He entered the labor movement as a young man and became chairman of the London Labour party in 1915, a position he held until 1947 He was elected to Parliament in 1923 for a brief period and served again (1929–31), in the second Labour government of Ramsay MacDonald, he was minister of transport He was a member (1931–45) of the London County Council During his leadership in the council (1934–40) he brought the transit system of London under a unified system of public ownership and embarked on an ambitious program of slum clearance He was reelected to Parliament in 1935 In the Second World War he was home secretary and minister of home security (1940–45) and served as a member (1942–45) of Churchill's war cabinet With the Labour victory in 1945, Morrison became lord president of the privy council and leader in the House of Commons He spoke for self-government of the British colonies

Morrison, city (pop 3,187), co seat of Whiteside co , NW Ill , NE of Rock Island, in a farm and dairy area, founded 1855, inc 1867

Morrison, Mount, Chinese *Erh-shan* or *Ninkao-shan*, Jap *Niitakayama*, peak, 12,956 ft high, S Formosa It is the greatest elevation in Formosa

Morrison Cave State Park, SW Mont , on the Jefferson river and SE of Butte The large limestone cavern was in the former Lewis and Clark Cavern National Monument

Morrisonville, village (pop 1,206), central Ill , SSE of Springfield, in a farm region, inc 1872

Morris Plains, borough (pop 2,018), N N J , N of, and near, Morristown, inc 1926 Greystone Park, a state hospital for the mentally ill (1871), is near

Morristown. 1 Residential town (pop 15,270), co seat of Morris co , N N J , WNW of Newark, settled c 1710, inc 1865 Electrical products are made in the town Its old buildings include the Jabez Campfield House (now D A R property), where Alexander Hamilton courted Elizabeth Schuyler, 1779–80 The courthouse (1826) and the municipal building (built in 1918 as the home and museum of Theodore N Vail) are of interest S F B Morse and Alfred Vail worked in Morristown It was a home of Thomas Nast, Bret Harte, and Frank R Stockton The Seeing Eye establishment for training dogs to aid the blind is near here Morristown was important in Washington's Revolutionary campaigns, particularly in the winters 1776–77 and 1779–80 Morristown National Historical Park (958 37 acres, est 1933) includes the Ford House (Washington's quarters), a historical museum (1938) at the rear of the Ford House, the reconstructed Fort Nonsense, and the Jockey Hollow camp of the Revolutionary soldiers **2** Town (pop 8,050), co seat of Hamblen co , E Tenn , ENE of Knoxville, settled 1783, inc 1855 It is a dairy, poultry, and tobacco center in the fertile valley of a mountainous region Morristown Normal and Industrial College (junior, Negro) is here Cherokee Dam in the Holston and Douglas Dam in the French Broad are near by **3** Town (pop 3,130), N central Vt , N of Waterbury, in a farming and lumbering region, chartered 1781 by Moses Morse and others It includes Morrisville village (pop 1,967) A municipal hydroelectric plant was built in 1894 on the Lamoille

Morrisville. 1 Borough (pop 5,493), SE Pa , on the Delaware river opposite Trenton, N J , settled c 1772, inc 1804. It is a farm trade center with a large residential section Washington had headquarters here Dec 8–14, 1776 Near by is William Penn's manor, Pennsbury, the reconstruction of which was completed in 1940 **2** Village, Vt see MORRISTOWN

Morro Castle (mŏ'rō), fort at the entrance to the harbor of Havana, Cuba It was erected in 1589 to protect the city from English, French, and Dutch buccaneers The fort was also used as a prison Morro Castle was captured by the British under Sir George Pocock in 1762 The fort at the entrance to the harbor of Santiago de Cuba is also called Morro Castle and was built shortly after the Morro Castle of Havana It was taken by the American forces in the Spanish-American War (1898) Morro Castle on the harbor of San Juan, Puerto Rico, is also a picturesque old Spanish fort

Morrow, Dwight Whitney, 1873–1931, American banker and diplomat, b Huntington, W Va , grad Amherst College (1895) and Columbia School of Law, 1899. He practiced law in New York city and, interested in banking and finance, entered (1914) the banking house of J P Morgan and Company After the United States entered the First World War, he was made a member of the transport council and chief civilian aide to Gen John J Pershing In the midst of the ill feeling aroused by the Mexican laws expropriating American holdings in Mexico, President Calvin Coolidge appointed (1927) Morrow ambassador to Mexico His service was notable because it marked a new spirit in U S relations with Latin America, the spirit of cooperation He was afterwards (1930) a delegate to the London Naval Conference and served (1930–31) in the U S Senate His daughter, Anne Spencer Morrow, married Charles A LINDBERGH See biography by Harold Nicolson (1935)

Morrow, Prince Albert, 1846–1913, American physician, b Mt Vernon, Ky , M D New York Univ , 1874 A specialist in dermatology and venereal diseases, he is also known for his work in social hygiene He advocated public dissemination of medical information on venereal diseases and instruction in sex hygiene and wrote several books on these subjects

Mors (môrs), island (140 sq mi , pop 26,988), Denmark, in the LIM FJORD It has fertile agricultural soil and there are oyster fisheries Nykobing is the chief town

Morse, Edward Sylvester, 1838–1925, American zoologist, b Salem, Mass He was an authority on brachiopods in the waters along the Atlantic coast and in the Pacific Ocean He was professor of zoology at Bowdoin College (1871–74) and later at the Tokyo Imperial Univ (1877–80) His invaluable collection of Japanese potteries (the Morse collection) was bought by the Museum of Fine Arts, Boston, which appointed Morse as its curator In 1901 he issued the noted catalogue of the collection He was well versed in many branches of science and art including astronomy, archaeology, and anthropology, and was a founder of the *American Naturalist* He was after 1880 director of the Peabody Museum Among his writings are *Japanese Homes* (1886), *Glimpses of China* (1902), and *Mars and Its Mystery* (1906)

Morse, Jedidiah, 1761–1826, American Congregational clergyman, b Woodstock, Conn , grad Yale, 1783 He taught and preached before his ordination in 1786, and in 1789 he became minister of Charlestown, Mass , where he remained 30 years A staunch conservative, he opposed Unitarianism and in 1805 founded the *Panoplist* He was interested in improving the lot of the Indians, and in 1820 he was appointed to visit various tribes, the result was the well-known *Report to the Secretary of War* (1822) He produced a series of textbooks in geography that were widely used He also wrote on the history of New England and on the American Revolution Sidney Edwards Morse and S F B Morse were his sons

Morse, John Torrey, 1840–1937, American lawyer and biographer, b Boston, grad Harvard, 1860 Admitted to the bar in 1862, he practiced law in Boston until 1880, when he turned all his attention to writing With Henry Cabot Lodge he was for a time editor of the *International Review* He wrote books on law and biographies, including those of Alexander Hamilton (1876) and O W Holmes (1896), in addition to his biographies of Abraham Lincoln, John Quincy Adams, Thomas Jefferson, and Benjamin Franklin for the "American Statesmen" series, of which he was editor

Morse, Samuel Finley Breese, 1791–1872, American inventor and artist, b Charlestown, Mass , grad Yale, 1810 He studied painting in England under Washington Allston and achieved some success with his paintings *The Dying Hercules* and *The Judgment of Jupiter* He returned to the United States in 1815, took up portrait painting, and gained considerable reputation He was a founder (1825) of the National Academy of Design He spent the years from 1829 to 1832 in further European study His interest in electricity began in his college days, it was further aroused by the lectures of James F Dana in 1827 and later by contacts with members of the faculty of New York Univ The idea for the electric telegraph occurred to him in 1832, and for the next 12 years he worked, with the aid of Leonard Gale, Joseph Henry, and Alfred Vail, to perfect his instrument. In 1844 Morse demonstrated to Congress its practicality by transmitting messages over a wire from Washington to Baltimore (see MORSE CODE) Morse subsequently was compelled to defend his invention in court, although he commanded the acclaim of the world He later experimented with submarine cable telegraphy Both Morse and John Draper were instrumental in introducing the daguerreotype into the United States See biographies by S I Prime (1875), E L Morse (1914), H B. Wehle (1932), and F C Mabee (1943)

Morse, Sidney Edwards, 1794–1871, American journalist, inventor, and geographer, b Charlestown, Mass , grad Yale, 1811, son of Jedidiah Morse and brother of S F B Morse With his brother Richard Cary Morse he founded in 1823 the *New-York Observer*, a religious weekly which he edited until 1858 He was conventor (c 1839) of a method (cerography) of making stereotype plates which permitted the printing of colored maps with type He perfected (1866) the bathometer, an instrument for exploring the ocean floor Morse edited (some in collaboration with his father) and wrote many geography textbooks His works include *A New System of Modern Geography* (1822), *The Cerographic Atlas of the United States* (1842–45), and *Premium Questions on Slavery* (1860)

Morse code [for S F B Morse], the arbitrary set of signals used on the TELEGRAPH The international (or continental) Morse code is a simplified form generally used in radio telegraphy The American Morse differs from the international in 11 letters, in all the numerals except the numeral 4, and in the punctuation The unit of the code is the *dot*, representing a very brief depression of the telegraph key The *dash* represents a depression lasting three times as long as a dot Between the depressions there is a pause equal in time to one dot, except in a few letters and signs, when there is a wait of two dots The pause between letters in a word lasts as long as one dash, between words it lasts as long as two dashes The international Morse is as follows (all but the starred letters are the same in the American Morse)

A . –	J* . – – –	R*. – .
B – . . .	K – . –	S . . .
C*– . – .	L* . – . .	T –
D – . .	M – –	U . . –
E .	N – .	V . . . –
F*. . – .	O*. – – –	W . – –
G – – .	P* . – – .	X*. – . . –
H	Q*– – . –	Y*. – . – –
I . .		Z*– – . .
1 . – – – –	5	9 – – – – .
2 . . – – –	6 –	0 – – – – –
3 . . . – –	7 – – . .	Period . . . . .
4 . . . . –	8 – – –	Comma – – . . – –

*These differ in the American Morse as follows.

C . .	O . .	R . .
F .	P	X – . . –
J . – – –	Q – – . –	Y – . – –
L . – (= 5 dots)		Z – – . .
1 . – –	5	9 – .
2 . . – .	6 –	0 – (= 7 dots)
3 . . . –	7 – – . .	Period . – . – . –
4 . –	8 –	Comma – – . . – –

mortality see VITAL STATISTICS

mortar, mixture of lime or cement with sand and water, used in building as a bedding and adhesive between adjacent pieces of stone, brick, or other material in masonry construction Lime mortar, a common variety, consists usually of one volume of well-slaked lime to three or four volumes of sand, thoroughly mixed with sufficient water to make a uniform paste easily handled on a trowel Lime mortar hardens by absorption of carbonic acid from the air Once universally used, lime mortar is now less important, because it does not have the property of setting under water and because of its comparatively low strength It has largely been supplanted by cement mortar, commonly made of one volume of Portland cement to two or three volumes of sand, usually with a quantity of lime paste added to give a more workable mix Cement mortar, besides having a high strength, generally equal to that of brick itself, has the very great advantage of setting or hardening under water by a process of crystallization Other varieties include gauge mortar, for rapid setting, composed of plaster of Paris either used pure or combined with lime or with lime and sand and grout, a thin liquid mixture of lime or cement, poured into masonry to fill up small interstices Primitive mortars took various forms in early Egypt, Nile mud was used as an adhesive, the Mesopotamians used bitumen (the slime mentioned in Genesis) or sometimes a mixture of clay, water, and chopped straw, to cement together their unbaked bricks, Greeks of the Mycenaean era probably employed a soft bituminous clay The advanced Greek buildings are notable for their construction without mortar, the huge blocks of stone being consummately fitted with dry beds The Romans likewise used little mortar in cut stonework or vaulting, but in later periods bedded the rough stone of their mass masonry in a strong cement mortar In medieval times and in all periods since, mortar of some sort has been almost universally used in masonry construction

mortar, in warfare, field piece which fires projectiles at a high trajectory Mortars vary greatly in size, but are most commonly used as a light field piece by infantry, their greatest value lies in the ease of emplacement and ease of management The mortar is not classed as artillery The length of a mortar is much shorter in relation to its caliber than

is that of other guns (e g., the howitzer) Its aim may be altered by changing either the angle or the fire power The largest mortar ever used by the Germans was at the siege (1941–42) of Sevastopol in the Second World War.

mortar and pestle (pĕs'sĭl), a vessel and tool used for pulverizing They date from prehistoric times and were at first used chiefly for making flour. The mortar is usually basin or vase shaped, the pestle is elongated and has a flattened knob at one or both ends. They have been made in a variety of sizes and of many materials, including stoneware, glass, cast iron, **brass**, and agate The mortar and pestle symbolize the apothecary.

Morte d'Arthur (môrt' dur'thûr), work by Sir Thomas MALORY on the ARTHURIAN LEGEND, published (1485) by William Caxton Alfred TENNYSON later used the same title for part of "The Passing of Arthur," one of the *Idylls of the King*

Morteratsch (môr'tŭrăch), glacier, at the foot of the **Piz Morteratsch** (pēts'), 12,315 ft high, in the BERNINA group, Switzerland

mortgage (môr'gĭj), in law, a device for protecting a creditor by giving him an interest in property of his debtor The form of the transaction, generally, is a sale upon condition subsequent, i e., the mortgagor sells realty (real property mortgage) or personal property (chattel mortgage) on the condition that if the debt is repaid by a certain time the sale will be rescinded The mortgagor continues in possession until, following default, the mortgagee brings suit to foreclose the mortgagor's right to redeem the property The mortgagee by his technical purchase has the legal title to the property and the mortgagor's equity (right) of redemption gives him the equitable title, both estates are salable During economic depressions excessive foreclosures of real property mortgages may threaten realty values In such emergencies many states enacted temporary mortgage moratorium statutes which forbid foreclosure if a given rate of interest is paid on the indebtedness

Mort Homme, Le (lu môrtôm') [Fr ,=the dead man], hill, 968 ft high, NE France, NW of Verdun During the French defense of Verdun in the First World War, it was the scene of murderous fighting and was recaptured by the French in 1916

Mortier, Édouard Adolphe Casimir Joseph (ādwăr' ädôlf' kăzēmēr' zhôzĕf' môrtyā'), 1768–1835, marshal of France He held high commands under Napoleon, who created him duke of Treviso Mortier was one of those who refused to judge at the court-martial of Michel NEY He was killed in the attempt by FIESCHI on the life of Louis Philippe

mortification: see GANGRENE

Mortimer, Edmund de, 3d **earl of March** and 1st **earl of Ulster,** 1351–81, English nobleman He succeeded (1360) his father Roger, 2d earl of March, married (1368) Philippa, daughter of Edward III's son Lionel of Antwerp, and on Lionel's death (1368) inherited his estates and the title of earl of Ulster Later the house of York traced to this union the claim to the throne which resulted in the Wars of the Roses Mortimer held the office of marshal of England from 1369 to 1377 and supported the constitutional party in opposition to John of Gaunt After the accession of Richard II (1377) he was a member of the council set up to rule for the boy king, but in 1379 he was sent as lieutenant of Ireland to subdue Irish unrest His daughter Elizabeth married Henry Percy, called Hotspur

Mortimer, Edmund de, 5th **earl of March** and 3d **earl of Ulster,** 1391–1425, English nobleman He succeeded (1398) his father, Roger de Mortimer, as earl of March and Ulster and as the heir presumptive to the throne. After the Lancastrian revolution (1399) and the coronation of Henry IV, Mortimer was imprisoned, although allowed to inherit his estates Unsuccessful attempts to effect his escape were made by partisans who supported his claim to the throne, but after the accession of Henry V (1413), he was released, served Henry in the French wars, refused to countenance plots of partisans (including his uncle, Sir Edmund de Mortimer) to raise him to the throne and even denounced a body of these conspirators to the king After Henry V's death, Mortimer became (1422) a member of the regency council, but in 1424 was required to take the post of lieutenant of Ireland, where his death by plague ended the male line of the earls of March His heiress was his sister Anne, whose son by Richard, earl of Cambridge, was Richard, duke of York, father of Edward IV and Richard III

Mortimer, Sir Edmund de, 1376–1409?, English noble and rebel in the reign of HENRY IV, youngest son of Edmund de Mortimer, 3d earl of March In 1398 when young Edmund, 5th earl, nephew of Sir Edmund de Mortimer, succeeded to the title while still a minor, Sir Edmund became the most powerful representative of his family and enjoyed the favor of Henry of Lancaster when the latter acceded to the throne as Henry IV. In 1402 Mortimer was captured by the rebellious Welshman, OWEN GLENDOWER. When the suspicious king forbade his ransom, Edmund entered an alliance with Glendower and married his daughter. Supporting the right of the young earl of March to the throne, he and Glendower continued to fight even after Henry Percy, Mortimer's brother-in-law and ally, was defeated and slain at Shrewsbury (1403). In 1405 Mortimer signed a treaty to partition England and Wales with Glendower and Henry Percy, 1st earl of NORTHUMBERLAND. As Glendower continued to suffer defeats, Mortimer's own effectiveness declined, and he died when besieged by royal forces

Mortimer, Roger de, 1st **earl of March,** 1287?–1330, English nobleman. He inherited (c 1304) the vast estates and the title of his father Edmund, 7th baron of Wigmore Under Edward II he was (1316–21) warden of Ireland, his efforts to consolidate his own estates and to pacify the English possessions there met with only moderate success, although during his viceroyalty (1316–21) Edward Bruce was finally defeated (1318) In the same period, however, he and his uncle, Roger Mortimer, obtained control of the Welsh Marches He opposed EDWARD II and the Despensers in the wars of 1321–22, surrendered, and was imprisoned, but escaped in 1324 to France There Queen ISABELLA of England, on a mission to her brother, Charles IV of France, became his mistress Mortimer and Isabella invaded England (1326) and routed Edward II, whom they forced to abdicate and later had murdered They secured the crown for young EDWARD III (1327) With Isabella, Mortimer virtually ruled England and acquired great wealth He became earl of March in 1328 Finally in 1330 he was seized by Edward III, tried and convicted by Parliament on several charges of corruption, and executed

Mortimer, Roger de, 4th **earl of March** and 2d **earl of Ulster,** 1374–98, English nobleman He succeeded (1381) his father Edmund, 3d earl of March Because of his lineage, he was brought up as a royal ward under the care of Thomas Holland, earl of Kent, whose daughter Eleanor he married (1388) In 1385 Richard II proclaimed him heir presumptive to the throne He came into possession of his estates in 1393, and in 1394 he went to Ireland with Richard II to subdue the rebel Irish chiefs His bravery, prowess, and liberality gained him great popularity with the people but stirred up animosity among court rivals However, their plot against him failed to develop before his death in a battle with the clans of Leinster

Mortimer's Cross, locality, Herefordshire, England, c 5 mi N of Leominster It was the scene of a battle in the Wars of the Roses, which ended with a decisive victory for the Yorkist forces under Edward, duke of York, over the Lancastrians under Jasper Tudor, earl of Pembroke Edward then marched to London, where he proclaimed himself Edward IV

Mortlake, parish, Surrey, England, on the Thames, W of London and near Richmond It is the terminus of the Oxford-Cambridge boat races, which begin at Putney The tapestry industry for which Mortlake became famous was established by James I

mortmain (môrt'mān") [Fr ,=dead hand], ownership of land by a religious, charitable, or business corporation Since a corporation is an imperishable legal entity (a juridical person), it can hold property permanently, in effect it is as if a dead hand, one whose control could never be relaxed, has the ownership A disadvantage of such ownership is that property instead of being periodically redistributed on the death of the owner accumulates in ever-enlarging estates. The vast landholdings of religious corporations were long considered a danger by the secular authorities Estates bequeathed as alms offerings to monasteries and similar religious corporations were generally exempt from taxation and payment of feudal dues The burden on secular property was thereby greatly increased In England attempts to limit ecclesiastical mortmain go back to the 13th cent , and elsewhere in Europe there was often conflict between Church and state on this matter. The right of religious bodies to own land was in general highly restricted by the late 19th cent In many countries the principle prevailed that ecclesiastical ownership must be limited to absolutely necessary holdings Limitation on the property rights of business corporations was usually associated with mortmain law, but in time these restrictions were all but removed in most countries In the United States ecclesiastic mortmain was never a serious problem, and the statutes on the subject in several states are essentially inoperative vestiges of the former English law See H C Lea, *The Dead Hand* (1900), Carl Zollman, *American Civil Church Law* (1917)

Morton, Henry, 1837–1902, American scientist and educator, b New York city, M A Univ. of Pennsylvania, 1857 He served as professor of chemistry at Philadelphia Dental College (1863) and at the Univ. of Pennsylvania (1868–70) and in 1870 became the first president of Stevens Institute of Technology. His researches include work on fluorescence, artificial lighting, Roentgen rays, and liquid air.

Morton, James Douglas, 4th **earl of,** d. 1581, regent of Scotland (1572–78). A nephew of Archibald DOUGLAS, 6th earl of Angus, he married Elizabeth Douglas, from whose father he inherited (1553) the earldom of Morton A member of the Protestant party, he became lord high chancellor of Scotland in 1563 He was a principal in the murder of David RIZZIO (1566) and fled thereafter to England. Pardoned, he returned to Scotland the following year after Mary's marriage to BOTHWELL. He turned against Bothwell, however, and against Mary, whose forces he defeated at Langside (1568). He was chief counselor to the regent James Stuart, 1st earl of MURRAY, and became regent himself (1572) on the death of the earl of Mar His rule was devoted to the pacification of a religiously divided and war-torn Scotland In 1578 he was forced out by a junta of nobles, who persuaded the boy king, James VI, to assert his power. Morton attempted to reestablish himself and seized Stirling Castle and the person of the young king, but in 1581 a plot against him resulted in his being tried, convicted, and beheaded for taking part in the murder of DARNLEY. Morton possessed for some time the *Casket Letters* (see MARY QUEEN OF SCOTS), which implicated Mary in Darnley's death.

Morton, John, c.1420–1500, English prelate and statesman, cardinal of the Roman Church, b Dorsetshire, educated at Oxford He studied law and began practice in the London ecclesiastical courts A supporter of the Lancastrian party in the wars of the ROSES, he received a number of church livings, but after the Yorkist victory of Towton (1461) he was attainted and lived in exile at the court of Margaret of Anjou He returned to England in 1470, taking an active part in the coalition against EDWARD IV, but after Edward's victory at Tewkesbury (1471), his petition to Edward for a reversal of his attainder was granted He was made a master of the rolls in 1473, was sent on a mission to Hungary (1474), and became bishop of Ely in 1479. Arrested after the accession of Richard III, he escaped to Flanders and was recalled by Henry VII on his accession in 1485 Morton became the king's principal counselor, was made archbishop of Canterbury (1486) and lord chancellor (1487), and was created a cardinal in 1493 He probably was the author of the original Latin version of *The History of Richard III*, which is usually ascribed to Sir Thomas More See biography by R. I Woodhouse (1895)

Morton, John, c 1724–1777, American Revolutionary patriot, signer of the Declaration of Independence, b near Glenolden, Pa He was a member of the Pennsylvania assembly (1756–66, 1769–75), the Stamp Act Congress (1765), and the Continental Congress (1774–77).

Morton, Julius Sterling, 1832–1902, American cabinet officer, b Adams, N Y , studied at the Univ of Michigan He settled in Nebraska (1854), founded the pioneer Nebraska City *News*, and became territorial secretary In 1872 he originated ARBOR DAY for tree planting, since 1885 a legal holiday in Nebraska on April 22, Morton's birthday He was Secretary of Agriculture (1893–97) under Grover Cleveland His landed estate at Nebraska City became a memorial park

Morton, Levi Parsons, 1824–1920, American banker and statesman, Vice President of the United States (1889–93), b Shoreham, Addison co , Vt He engaged in business in Hanover, N Y , after 1845 and then removed (1850) to Boston He entered (1854) the dry-goods business in New York city and in 1863 organized the banking firm of Levi P. Morton and Company—which became one of the more important financial organizations in the country In 1869 he founded Morton, Bliss and Company, and in 1899 he regrouped his holdings in the Morton Trust Company Meanwhile, he had become interested in politics and served in Congress (1879–81) and as U.S minister (1881–85) to France before he was elected (1888) Vice President on the Republican party ticket along with President Benjamin Harrison He was later (1895–97) governor of New York. See biography by R. M McElroy (1930)

Morton, Oliver Perry, 1823–77, Civil War governor of Indiana (1861–67), b Salisbury, Wayne co , Ind. He left Miami Univ in 1845 to study law, was admitted (1847) to the bar, and began practice in Centerville, Ind Morton helped organize the Republican party in Indiana and was its unsuccessful candidate for governor in 1856 When Gov Henry S Lane went to the Senate in 1861, Morton, as lieutenant governor, succeeded him, he was elected to the office in his own right in 1864 Despite having to contend with a hostile Democratic legislature for part of his tenure, he was one of the ablest of the war governors and a strong supporter of the Lincoln administration In 1867 he resigned to enter the Senate, where he served till his death There, as one of the leading radical Republicans, he fostered extremist Reconstruction legislation and was prominent in the impeachment of President Andrew Johnson He was a member of the electoral commission in the disputed presidential contest of 1876. See biography by W. D. Foulke (1899); W. B Hesseltine, *Lincoln and the War Governors* (1948).

Morton, Rosalie Slaughter, 1876–, American surgeon, b. Lynchburg, Va., M.D. Woman's Medical College of Pennsylvania, 1897 She was the first woman member of the faculties both of the New York Polyclinic Medical School and Hospital (1912–18) and of the College of Physicians and Surgeons (1916–18) During the First World War she was active in hospital work especially during the Salonica campaigns and in Yugoslavia, Serbia, and France For this work and for her efforts which made possible the education in the United States of 60 Serbian students, she was decorated by foreign governments and by the state of New York After 1930 she engaged in private practice in Florida. She took part in public health and welfare activities, invented a number of surgical instruments and appliances, and wrote many articles, especially on gynecology and arthritis. See her autobiography, *Woman Surgeon* (1937).

Morton, Sarah Wentworth, 1759–1846, American poet, b. Boston. The descendant of wealthy Boston merchants, Sarah Apthorp (she herself took her mother's maiden name, Wentworth) received an education unusual for girls of her day She moved in the best Massachusetts social circles and in 1781 married a brilliant Boston lawyer, Perez Morton Soon afterward she contributed to the *Massachusetts Magazine*, and later to other periodicals, poems that were given high praise Her pseudonym, Philenia (adopted after surrendering her first pseudonym, Constantia, to Judith Sargent Murray, who had prior claims), became widely known Mrs Morton's long poems, didactic, patriotic, sentimental, and lachrymose, were in strict imitation of English 18th-century styles Published in book form were *Ouâbi; or, The Virtues of Nature, an Indian Tale* (1790), two parts of a projected history of the American Revolution in verse, *Beacon Hill, a Local Poem, Historic and Descriptive* (1797) and *The Virtues of Society* (1799); and an odd collection of prose and verse scraps, *My Mind and Its Thoughts* (1823?). Her name is best known as the reputed author of the first American novel, *The Power of Sympathy* (1789) That work contains a highly colored episode reflecting a scandal that involved Perez Morton and Mrs Morton's sister There seems to be no real evidence for thinking her the author, and there is evidence for assigning the book to William Hill Brown See Emily Pendleton and Milton Ellis, *Philenia* (1931)

Morton, Thomas, fl 1622–47, British trader and adventurer He went to New England in 1622 and again in 1625 with Captain Wollaston, who founded a settlement in Massachusetts at Mt Wollaston (now Quincy) When Wollaston went to Virginia, Morton took charge of the settlement, which was renamed Ma-re Mount, whence it was called Merry Mount The Plymouth settlers objected to Morton and his companions, who were of the Anglican faith and who started a rival fur trade with the Indians His revelry about the Maypole at Merry Mount scandalized the Pilgrims A force under Miles Standish, prodded by John Endecott, seized Morton, who was sent (1628) to England on charges of trading arms to the Indians and harboring runaway servants He returned in 1629 and resumed his fur trading, but upon renewal of his trouble was again brought to court (1630) and sent to England There he was employed by Sir Ferdinando Gorges as legal counsel in the attempt to void the charter of the Massachusetts Bay Company Going once more to New England, he was imprisoned in Boston (1644–45). Later he moved to Maine, where he died His book, *New English Canaan* (1637, reprinted 1883, with notes by Charles Francis Adams, 1835–1915), gives his views of New England Morton's adventures are the subject of Nathaniel Hawthorne's story, "The Maypole of Merry Mount," and of two novels by John Lothrop Motley

Morton, William Thomas Green, 1819–68, American dentist and physician, b Charlton, Mass , studied at Baltimore College of Dental Surgery He practiced dentistry in Boston, for a time with Horace Wells, whose unsuccessful demonstration of laughing gas he sponsored in 1845. C T Jackson interested him in ether anesthesia, and in 1846 Morton demonstrated its use at Massachusetts General Hospital during an operation performed by J. C Warren. H J Bigelow wrote the published account. The prior work of C W Long had not then been made public Morton's subsequent efforts to patent his ether preparation under the name of letheon were sharply criticised See J T. Flexner, *Doctors on Horseback* (1937)

Morton. 1 Village (pop 2,241), central Ill , just SE of Peoria; inc 1877. It is a processing center in a farm area **2** Borough (pop 1,316), Delaware co , SE Pa , inc. 1898. **3** Town (pop 1,137), co. seat of Cochran co., NW Texas, WNW of Lubbock on the Llano Estacado; inc 1934. It is in an area of ranches and poultry and grain farms and has an oil refinery.

Morton Grove, village (pop. 2,010), NE Ill , near Evanston; inc. 1895.

Mortons Gap, town (pop. 1,072), W Ky., SSW of Owensboro, in a coal and farm area. Thomas Morton's house (1804) is standing.

Morvan (môrvä'), mountainous region, E central France, in Nivernais and Burgundy The northernmost part of the Massif Central, it rises to 2,959 ft Here the Yonne river has its source. Cattle raising is the industry

mosaic (mōzā'ĭk), art of arranging differently colored pieces of marble, glass, tile, wood, or other material in such fashion as to produce a surface ornament In Egypt and Mesopotamia furniture, small architectural features, and jewelry were occasionally adorned with inset bits of enamel, glass, and colored stone Roman marble floor mosaics were no doubt based upon Greek examples, and glass mosaics applied to columns, niches, and fountains are to be seen at Pompeii In Italy and the Roman colonies the floor patterns were produced both by large slabs of marble in contrasting colors (*opus sectile*) and by small marble tesserae or cubes (*opus tessellatum*) The tessera floors varied from simple geometrical patterns in black and white to huge pictorial arrangements of figures and animals, examples were found in Rome, Pompeii, and North Africa In the early centuries A D glass mosaics brought color and decoration to the broad walls of the basilicas By the 4th cent the triumphal arch between nave and apse and the walls above the nave arcades received mosaic adornment, while the entire domed apse was lined with a mosaic picture, generally that of Christ surrounded by saints and apostles In this period Byzantium (Constantinople) became the center of the craft, which reached perfection in the 6th cent Hagia Sophia exhibits glittering gold backgrounds, a special feature of Eastern mosaic art which later spread to the West A gold tessera was produced by applying gold leaf to a glass cube and covering it with a thin glass film to protect against tarnishing, for the other tesserae the colors were produced by metallic oxides The numberless tesserae were set by hand in the damp cement mortar, and the resulting irregularities, causing the facets to reflect at different angles, were an essential factor of effect In the West the mosaicists composed, in glorious effects of color, complete pictorial schemes In the 5th and 6th cent Ravenna became the Western shrine of Byzantine mosaic, and these examples, as well as those in Rome, show the Byzantine characteristics of stylized rigidity in the figures, symbolism of ornament, and naïveté of composition Owing to the importation of Greek workmen, a revival took place in Italy in the 11th cent which lasted into the 13th cent , producing the beautiful mural works of Rome, of Saint Mark's Church and Torcello at Venice, and of Palermo, Monreale, and Cefalù in Sicily The glorious gold backgrounds of Constantinople are often repeated, notably at St Mark's. Byzantine influence was also expressed in the rich medieval mosaic floors of Italy, Sicily, and the East These purely geometrical patterns achieved by bands and slabs of marble contrasting with tesselated areas are termed *opus Alexandrinum* From the 12th cent , mosaic in Italy and Sicily, extended to many architectural elements, such as pulpits, bishops' thrones, paschal candlesticks, and the twisted columns of cloisters These adornments are commonly termed Cosmati work, after the family of Roman craftsmen especially gifted in their execution. The rise of fresco decoration in the early 14th cent in Italy superseded mosaic, which then began to deteriorate into mere simulation of painting, though it lingered in Greece and Constantinople The Gothic revival of the 19th cent produced some modern attempts, as in Westminster Abbey and the houses of Parliament In the 20th cent. the medium has been used with truer understanding, as in the modernist mosaics for the Stockholm town hall In modern work the ancient system is followed as well as a new method of fastening the tesserae with glue upon a paper cartoon drawn in reverse, applying fairly large sections of this into proper position upon the damp mortar, and then washing away the paper after the mortar has hardened and the tesserae have set See E W Anthony, *A History of Mosaics* (1935)

Mosander, Carl Gustav (kärl' gŭs'tăv mōsēn'dur), 1797–1858, Swedish chemist and mineralogist A pupil, friend, and assistant of Berzelius, he was for many years professor of chemistry and mineralogy at Caroline Institute, Stockholm He demonstrated the complexity of two of the rare earths, ceria and yttria In 1839 he discovered in crude ceria the oxides of two new elements, cerium and lanthanum, in 1841 he isolated an oxide which he thought contained a new metal, didymium (see neodymium), and in 1843 he pointed to the presence in yttria of new elements that were later isolated by other scientists.

Mosby, John Singleton (mōz'bē), 1833–1916, Confederate partisan leader, b Powhatan co , Va , grad. Univ. of Virginia, 1852 He was practicing law in Bristol, Va , when the Civil War broke out Mosby served brilliantly in the cavalry under J E B Stuart until Jan , 1863, when he began his partisan operations in N Virginia—soon called "Mosby's Confederacy." Moving swiftly and secretly, Mosby's men (who never numbered more than 200) continually routed Federal cavalry, destroyed communications, appropriated supplies, and were, in general, a great nuisance to the Army of the Potomac. Perhaps Mosby's most famous exploit was the capture of Gen Edwin H Stoughton at Fairfax Courthouse in March, 1863. Protected by the people of the region, Mosby's Partisan Rangers eluded the strong forces sent to capture them and were active till Lee surrendered. Mosby secured his parole only through the intercession of Grant, of whom he naturally became a great admirer He joined the Republican party and later held minor government positions He wrote *Mosby's War Reminiscences and Stuart's Cavalry Campaigns* (1887) and *Stuart's Cavalry in the Gettysburg Campaign* (1908) See J J Williamson, *Mosby's Rangers* (1896); C W Russell, ed , *The Memoirs of Colonel John S Mosby* (1917), V. C Jones, *Ranger Mosby* (1944)

Moschus (mŏ'skus), fl c 150 B C , Greek bucolic poet of the school of Theocritus He is called a Syracusan and lived in Alexandria An idyl on Europa is among his few extant pieces *Lament for Bion*, a beautiful dirge traditionally ascribed to Moschus, is probably of later date.

Moscow (mŏ'skou, mŏ'skō), Rus. *Moskva* (mŭskvä'), city (125 sq mi , pop 4,137,018), capital of the USSR, of the RSFSR, and of Moscow oblast, central European RSFSR, on the Moskva river near its junction with the Moscow Canal The largest city of the Soviet Union, it also is its leading political, industrial, and cultural center and a focal point for rail, river, and air transportation It is the seat of numerous cultural and scientific institutions, notably of the Univ of Moscow (founded 1755), of the Academy of Sciences of the USSR, of a famous conservatory of music, and of the Tretyakov art gallery, and it is the center of Soviet publishing Among its many theaters are the Moscow Art Theatre and the Bolshoi Theater (opera and ballet) Moscow also is the see of a patriarch, head of the Orthodox Eastern Church in Russia, and the headquarters of the Communist party in the USSR The industrial output of Moscow represents about 15 percent of the total Soviet production Quality steels, machinery and machine tools, precision instruments, automobiles, aircraft, electric locomotives and motors, chemicals, wood and paper products, and textiles are the chief industries A subway system, remarkable for the esthetic care lavished on the stations, was opened in 1935 Administratively, Moscow is directly subordinated to the government of the RSFSR It is governed by a city council and is divided into 25 districts First mentioned in 1147, Moscow became (c 1271) the seat of the grand dukes of Suzdal-Vladimir, who later assumed the title grand dukes of Moscow (see Moscow, grand duchy of) It thus became the capital of the modern Russian state In 1713 Peter I transferred the government to St Petersburg (now Leningrad), which became the new capital, but the Soviet regime in 1918 made Moscow again the sole capital Moscow was burned down by the Tatars in 1381 and again in 1572 During the Time of Troubles (see Russia), it was taken by the Poles but was liberated (1612) by a people's army under Prince Pozharski and the merchant Minin Moscow until the 19th cent was largely built of wood and therefore suffered from many conflagrations The most famous fire of Moscow broke out in Sept , 1812, after its occupation by Napoleon I Nearly the entire city, except the great stone churches and palaces, burned down The exact cause of the fire is uncertain, Rostopchin denied the accusation of having commanded the city to be fired in order to drive out the French It is likely that the fire was accidentally begun by French looters and that it was intentionally fanned by fanatic patriots among the handful of Russians who had remained behind when Napoleon entered the city Rebuilt, Moscow developed as a major industrial center Despite the transfer of the government to St Petersburg, Moscow had never ceased to be the religious center of Russia Its cultural and social life also continued uninterrupted Under the Soviet regime the city underwent spectacular growth, and its population doubled between 1926 and 1939 In the Second World War, Moscow was the goal of a two-pronged German drive late in 1941. Although the spearheads of the German columns were stopped (Dec , 1941) at but 20 to 25 mi from the center of the city, Moscow suffered virtually no war damage The center of Moscow is the famous Kremlin, a walled city in itself Its walls represent the city limits as of the late 15th cent Adjoining the Kremlin in the east is the vast Red Square, originally a market place and a meeting place for popular assemblies, it still is used as a parade ground and for demonstrations. On the west side of the Red Square and along the Kremlin wall are the Lenin Mausoleum and the tombs of other Soviet figures, notably Maxim Gorki, on the north side is the historical museum (19th cent.), and at the southern end stands the imposing cathedral of Basil the Beatified One of the most exuberant examples of Russian architecture, the cathedral was built in the 16th cent , each of its numerous cupolas, grouped around a central dome, is of different design and painted in different colors, yet

the general impression is a happy combination of variety and unity. The monument to Minin and Pozharski stands in front of the cathedral. To the east of the Red Square extends the old district of Kitaigorod [Chinatown], once the quarter of the merchants, later the banking section, and now taken up by various ministries and government offices. Gorki St., one of the main thoroughfares, extends N from the Kremlin, it is lined with large modern buildings, including that of the council of ministers, and is continued by the Leningrad Highway, which passes the huge Dynamo stadium and the central airport. Near the beginning of Gorki St. is the large Sverdlov Square, with the Bolshoi [great] Theater and the Maly [little] Theater, also called Ostrovsky Theater. Except for its historical core, Moscow has been transformed into a modern city under the Soviet regime. Among the large modern structures the best known are the Moskva Hotel, near Sverdlov Square, and the Palace of Culture, the workers' club building of the Stalin automobile plant. The construction of the Palace of the Soviets, which is to be more than 1,300 ft. tall, was delayed by the Second World War. Moscow has numerous large parks and recreation areas, notably the Gorki Central Park, in the southwest, the forested Ismailovo and Sokolniki parks in the eastern and northeastern outskirts, and Ostankino Park, with large botanical gardens, in the north.

Moscow. 1 (mŏs'kō) City (pop. 6,014), co. seat of Latah co., NW Idaho, at the Wash. boundary N of Lewiston, founded 1871. It is a shipping and marketing center for an agricultural and wheat-raising area. The Univ. of Idaho (see IDAHO, UNIVERSITY OF) and a school of forestry experimental station are here. 2 (mŏs'kou) Borough (pop. 1,097), NE Pa., SE of Scranton, settled 1830. Maple syrup is made here.

Moscow, grand duchy of. Among the principalities of central RUSSIA in the 12th and 13th cent., the principality of Suzdal-Vladimir (see VLADIMIR), in which the present city of Moscow was a mere fortified village, was the most important. The rulers of Vladimir were the only Russian princes who bore the title grand duke, and they were regarded as suzerains of the other princes. Daniel, son of Grand Duke Alexander Nevsky, founded (c. 1271) the principality of Moscow or Muscovy. The site—at the crossing of the early trade routes and outside the area most frequently ravaged by nomad invasions—was advantageous, and Moscow gradually rose to a leading position. Under Ivan I (Ivan Kalita), grand duke of Vladimir (1328–41), the city of Moscow became the center of the chief principality and the ruler was called the grand duke of Moscow. The adjacent areas were subdued or acquired, and the importance of the grand duchy continued to increase, particularly under DMITRI DONSKOI (1359–89). IVAN III (1462–1505), by acquiring Tver, Novgorod, Rostov, and Vyatka, built the Great Russian state and threw off the Tatar yoke. Under the rule of his son, VASILY III, grand duke of Moscow and all Russia, the unification of the Great Russian lands was completed and the history of the grand duchy became that of Russia.

Moscow Art Theatre, world-famous Russian theatrical organization, founded in 1898 by Constantin Stanislavsky and Vladimir Ivanovich Nemirovich-Danchenko. In this repertory theater, actors were highly trained, plays were chosen for their literary merit, and scenery and costumes were realistic. It exercised a great influence upon the Russian theater and upon the theaters of the world. The Moscow Art Theatre gained fame when it produced the plays of Chekhov, whose works complemented its theories and atmosphere. The company made several successful tours of the United States. See *Moscow Art Theatre Plays* (ed. by O. M. Sayler, 1923); O. M. Sayler, *Inside the Moscow Art Theatre* (1925), Constantin Stanislavsky, *My Life in Art* (1924); V. I. Nemirovich-Danchenko, *My Life in the Russian Theatre* (1936).

Moscow Basin, lignite basin, central European RSFSR. It extends in an arc c. 600 mi. long NW, W, and SW of Moscow. Its reserves are estimated at 12,000,000,000 tons. Its coal provides fuel for the power plants of Moscow and the Moscow industrial area.

Moscow Conferences, four meetings held between 1941 and 1945 at Moscow, RSFSR. At the first conference (Sept.–Oct., 1941) American and British representatives laid the basis for LEND-LEASE aid to the USSR in the Second World War. The second conference (Oct., 1943), attended by the American, British, and Russian foreign ministers, resulted in the pledge to establish a United Nations organization for the maintenance of peace. At the third Moscow Conference (Oct., 1944) Prime Minister Winston Churchill and Joseph Stalin discussed the political difficulties of Poland and agreed on armistice terms for Bulgaria and a joint policy with respect to Yugoslavia. For the fourth Moscow Conference (Dec., 1945), see FOREIGN MINISTERS, COUNCIL OF.

Moseley, Henry Gwyn Jeffreys (mōz'lē) 1887–1915, English physicist, grad. Trinity College, Oxford, 1910. He began his research under Ernest Rutherford while serving as lecturer at the Univ. of Manchester and soon devoted himself entirely to research. Extending the work of Max von Laue and of W. H. Bragg and W. L. Bragg on the X-ray spectra of elements, Moseley made systematic studies of the relation between the bright-line spectra of different elements. He found that the frequency of vibration of the X rays emitted by each element when bombarded with cathode rays bore a simple relationship to whole ordinal numbers. These ordinal numbers are the atomic numbers. Moseley concluded that the atomic number is equal to the charge on the nucleus. When the elements are arranged according to their atomic numbers the sequence, although almost the same as Mendeleieff's arrangement in order of increasing atomic weight, differs slightly, these differences account for the few discrepancies inherent in the Mendeleieff system (see PERIODIC LAW). The genius of Moseley's work was widely recognized. He was killed at Gallipoli in the First World War.

Moselle (mōzĕl'), department (2,405 sq. mi., pop. 622,145) NE France, in LORRAINE, bordering on Luxembourg in the north and Germany in the east and drained by the Moselle river. METZ is the capital. Moselle was annexed to Germany (1871–1918) and again briefly in the Second World War.

Moselle (mōzĕl', mō-, Fr. mōzĕl'), Ger. *Mosel* (mō'zŭl), river, 320 mi. long, E France and W Germany. It rises in the Vosges mts. and winds generally N past Épinal, Toul, Metz, and Thionville. Leaving France, it forms the border between the grand duchy of Luxembourg and Germany, then enters Germany, passes Trier, and cuts between the Eifel and the Hunsrück ranges to reach the Rhine at Coblenz. The German section of the Moselle valley is dotted with numerous old castles and is covered with celebrated vineyards. It is navigable for c. 200 mi.

Mosera (mō'sĕ-ru), unidentified place, S Palestine, where Aaron died. Deut. 10:6.

Moseroth (mō'sĕ-rŏth), unidentified desert resting place of the Israelites. Num. 33:30,31.

Moses (mō'zĭz), lawgiver of Israel, the prophet who led his people out of bondage in Egypt to the edge of Canaan. The Bible narrative is the source of information on Moses' life. As an infant he was divinely protected, and as a young man he received a special calling at the burning bush. Ex. 2–3. Moses lived in constant touch with God, who guided him in leading Israel out of Egypt and across the desert. God promulgated the Law through his mouth, not only the Ten Commandments and the criminal code, but the whole liturgical law as well. In his old age, when the Hebrews were at the Jordan ready to cross, God gave Moses a view of the Promised Land from Mt. Pisgah, but he did not enter it, for he died and was buried in Moab. All this is told in the books of EXODUS, LEVITICUS, NUMBERS, and DEUTERONOMY. The authorship of these and Genesis (collectively the Pentateuch) has been ascribed to Moses since earliest times, hence they are called the Books of Moses. The Law he promulgated is called the Mosaic law. Many critics deny the Mosaic authorship of the books, and some even consider Moses a mythical figure. Moses, one of the great names of Hebrew history, is referred to repeatedly in the Bible. Examples of eulogies are in Ecclus. 45:1-5, Heb. 11:23-29. Among the PSEUDEPIGRAPHA there is an Assumption of Moses. Among artistic work inspired by him is Michelangelo's celebrated ideal sculpture.

Moses, Anna Mary Robertson, 1860–, American painter, known as Grandma Moses, b. Washington co., N.Y., self-taught. She lived the arduous life of a farmer's wife, first in the Shenandoah Valley and later at Eagle Bridge, near Hoosick Falls, N.Y. When she was in her 70's and too frail to do hard work she began to paint. Her pictures, called American primitives, simple, gay scenes of farm life, struck the popular fancy and became widely known through prints and Christmas cards. They have such subjects as *Sugaring-off*, *Catching the Thanksgiving Turkey*, and *The First Skating*. See *Grandma Moses, American Primitive* (ed. by Otto Kallir, 1946), with reproductions of 40 paintings.

Moses, Bernard, 1846–1930, American historian, b. Burlington, Conn., grad. Univ. of Michigan, 1870, Ph.D. Univ. of Heidelberg, 1873. From 1876 until his death he was professor of history and political science, actively and as professor emeritus, at the Univ. of California. He served on the U.S. Philippine Commission (1900–1902) and in 1910 was minister plenipotentiary to Chile on a special mission. An authority on the colonial era of Spanish America, he wrote *The Establishment of Spanish Rule in America* (1898), *South America on the Eve of Emancipation* (1908), *The Spanish Dependencies in South America* (2 vols., 1914), and *The Intellectual Background of the Revolution in South America, 1810–1824* (1926).

Moses, Robert, 1888–, New York city park commissioner (1934–), b. New Haven, Conn., grad. Yale (B.A., 1909) and Oxford (B.A., 1911), Ph.D. Columbia, 1914. He was appointed (1919) by Alfred E. Smith to the committee to study and revamp New York state government machinery, became (1924) chairman of the state council of parks, and served (1927–28) as New York secretary of state until disagreement with Gov. Franklin D. Roosevelt forced him from that position. In 1933 he declined the Fusion nomination for mayor of New York city, and in 1934 he was, as Republican candidate for governor, defeated by Herbert H. Lehman. As park commissioner under Mayor Fiorello H. LaGuardia and Mayor William O'Dwyer, Moses was responsible for reorganizing the department of parks and for altering the face of New York city with new and improved highways, parks, bridges, and beaches.

Mosinee (mōzĭnē'), city (pop. 1,361), central Wis., on the Wisconsin and SW of Wausau, inc. as a city 1931. It has paper mills.

Moskva (mŭskvä'), river, 315 mi. long, central European RSFSR. It rises in the hills W of Moscow and flows generally E past Moshaisk, Moscow, and Kolomna into the Oka. It is connected with the Volga by the Moscow Canal (80 mi. long), completed in 1937, and is navigable (April–Nov.) from Moscow.

Moslem (mŏz'lŭm) [Arabic *Muslim*=one who surrenders (himself to God), an agent form of the verb of which ISLAM is a verbal noun], one who has embraced Islam, a follower of MOHAMMED. The forms Muslim and Mussulman have also appeared in English. Moslems are also called Mohammedans.

Moslem art and architecture. The nomadic Moslems who, in the 7th cent., conquered the lands around the Mediterranean—Syria, Egypt, Mesopotamia, Armenia, Persia, North Africa, and Spain—possessed no definite building style, they practiced a merely decorative art based on pure ornament, in which naturalism never existed. Since their religion discouraged the representation of all living forms, their designers produced instead a superb scheme of purely geometrical decoration consisting chiefly of complex interlacing lines. Local builders in the new territories, however, were soon pressed into service, and the local styles, mainly Christian—i.e., Syrian, Byzantine, or Coptic—were used as a basis on which the great mosques evolved, embodying the designers' highest artistic talents. Moslem architecture is not founded on a great structural system, it is, rather, a style whose surface decorations form its most impressive element and give a general unity to its various local forms. In the 8th cent. a technique of monumental building arose in the Moslem world, as well as a distinctively Eastern system of ornament, characterized by the covering of large unbroken surfaces with stucco carvings and brilliant polychrome ceramics. Important mosques were built as early as the 7th cent.—the mosque of Amr at Cairo, the great mosque of Kairwan in North Africa, and the Dome of the Rock at Jerusalem. To the 8th cent. belong the great mosque of Damascus and the largest of all mosques, that at Córdoba, Spain, begun in 780 with the establishment of the Western caliphate and enlarged in the 10th cent. Under the Fatimites, Egypt became the center of architectural activity, and here, in the 11th cent., the Persian dome was adopted and a distinctive type of tomb mosque was developed, culminating at Cairo in the mosques of Kalaun (1284), of Sultan Hasan (1356), and of Kait Bey (15th cent.). Elaborate minarets were built, and the decorative arts were highly developed, especially ceramics and stalactite work. This flowering of the Cairene school synchronized with the culmination of the Moslem style in Spain in the centuries prior to the expulsion (1492) of the Moors. Examples of this Spanish-Moresque school are the GIRALDA tower (c. 1190), Seville, several alcazars or palaces (see ALCAZAR), and the palace of ALHAMBRA (1248–1354), Granada, with its picturesque courts and galleries, unsurpassed in the rich juxtaposition of stuccoes, ceramics, and stalactites. Even with the departure of the Moors, their influence on Spain's subsequent arts continued into the 16th cent. and is covered by the term MUDEJAR. Persia brought into the Moslem world in the 7th cent. a race endowed with an independent artistic heritage—a system of building pointed arches and vaults of brick, the dome on squinches, and the use of colorful tiles for surface decoration. Under the conquerors, therefore, the Persians met the new needs with their own equipment. A distinctive MOSQUE type was created, the madrasah, which served also as a theological school. In this a courtyard is surrounded by arcades, and upon it open assembly halls, one in the center of each side of the court. The chief hall is domed, for this, as well as for the sepulchral chambers of the founders, the bulbous pointed dome, narrowed at the bottom, is the distinctive Persian type—most extensively used from the 13th to the 16th cent. The primitive colonnaded prayer halls were replaced in the 15th and 16th cent. by large, square, domed chambers, and magnificent polychrome tiles, used as an all-over veneer on the surfaces of walls, domes, and vaults both inside and out, attained a splendor of color and design rarely, if ever, surpassed. Major works of the period are the Blue Mosque at Tabriz (1437–68), sheathed with incomparable blue tiles, and the imperial

mosque at Isfahan (1585–1612). In the Moslem architecture of India, Persian influences dominated even the native traditions inherited from Jain and Buddhist construction This is clear in the façades composed of lofty niched portals flanked by minarets, as well as in the use of bulbous domes and four-centered pointed arches, although the traditional Persian tile sheathing is largely restricted to interiors Stone and white marble give them a solid monumentality, while inlays of colored stones create rich, flowing arabesques, best seen in the famed TAJ MAHAL at Agra (1630) The Mogul dynasty introduced a culminating period of brilliant work—the mosque (16th cent) of Fatehpur Sikri, the tomb of Mahmud Shah at Bijapur, and the Pearl Mosque (1646–53) at Agra In Turkey the established Byzantine scheme of planning and domical construction, as seen in HAGIA SOPHIA, was taken over by the Seljuk Turks after the fall (1453) of Constantinople Turkish mosques thus use the Byzantine dome on pendentives buttressed by half domes and show few changes other than the addition of tall, slender minarets on exteriors and of Moslem surface adornment in the vast interiors The style's greatest architect was Sinan, who built at Constantinople such superb monuments as the mosque (1550–57) of Suleiman I and the huge mosque (1608–14) of Ahmed I In all Moslem styles the arch occurs in many variations, reducible to four general types—the pointed, used chiefly in Egypt, the ogee, in Persia and India, the multifoil, in Spain and also in India, and the horseshoe, in Spain and North Africa Interlacing arches are featured in Spanish work, the horseshoe and multifoil types being sometimes thus combined, and stalactite arches and vaults are common Distinct architectural types were developed in mausoleums, caravanseries, alcazars, fountains, and baths (an establishment existed in every community) and in dwelling houses—the arrangement of which has been preserved to the present In these protection from heat and the insuring of privacy are primary considerations Their ornamentation is almost exclusively internal, with ceramic wainscots and pavements and stucco wall carvings, which appear in inner courtyards enclosing fountains and in rooms grouped around them Houses are flat-roofed, with blank exterior walls relieved only by an ornamented doorway and by small, closely latticed windows Women's quarters are segregated at the back or in the upper story In all forms of Moslem art, ornament tends to cover the surface, but is generally organized into bands and panels, delicately carved in low relief or inlaid in contrasting tones or materials Arms, armor, and other metal work, especially of Cairo and Damascus, show damascening, chasing, chiseling, or encrusting Pottery is rich in color and all-over designs, and ivory has been much used for inlays and carving Ornament, in short, is the center of Moslem art and has supplanted all the other possibilities offered by different individual techniques Based on the arabesque, intertwined bands and the flowing Arabic script, it is a self-contained world of form, turning every material to its own uses Texts from the Koran formed the so-called mnemonic ornament, in either the early Kufic or the later Italic characters, and were used especially in textile designs Moslem fabrics and rugs are of exceptional fineness and beauty Lattice-work screens of turned wood, in house façades, projecting bays, and windows and at drinking fountains, are particularly characteristic The galleries of Near Eastern art in the Metropolitan Museum and the Saracenic Galleries of the Victoria and Albert Museum exhibit fine collections of Moslem art objects See M S Briggs, *Muhammadan Architecture in Egypt and Palestine* (1924), M S Dimand, *Handbook of Muhammadan Art* (1947)

Moslem League, political organization of India, founded 1906 It was weak until 1934 when JINNAH won control Few candidates of the Moslem League won office in the elections of 1936, but by 1940 it had gained such power that it demanded the establishment of PAKISTAN despite the opposition of the INDIAN NATIONAL CONGRESS In the Second World War the Congress was banned, but the League was free and gained strength Its claim to represent the Moslems was vindicated when it won nearly all the Moslem vote in the elections of 1946 In 1947 the Congress assented to the creation of Pakistan

Mosler, Henry (mōz'lûr), 1841–1920, American genre painter, b New York city, studied with J H Beard and in Düsseldorf He served as art correspondent for *Harper's Weekly* in the Civil War and later lived in Paris, where he was the recipient of the cross of the Legion of Honor His works include *Le Retour*, the first American painting purchased for the Luxembourg Museum, Paris, *A Wedding Feast in Brittany* (Metropolitan Mus), *Spinning Girl* (Grenoble), *Saying Grace* (Corcoran Gall), *Wedding Morning* (Sydney, Australia, Mus), *Rainy Day* (Pa. Acad of the Fine Arts), and *Last Sacrament* (Polytechnic Inst., Louisville Ky). His son and pupil, **Gustave Henry Mosler,** 1875–1906, was a genre and portrait painter His portrait of Gov. J W. Stewart is in the state capitol of Vermont, and *The Empty Cradle* is in the Toledo Art Club.

Mosley, Sir Oswald Ernald (mōz'lē), 1896–, British fascist leader After a parliamentary career (1918–31) as, successively, Conservative, Independent, and Labour member, Mosley organized (1932) the British Union of Fascists, modeled upon the German and Italian fascist parties Until after the outbreak of the Second World War, he conducted a speech-making campaign of vilification and abuse, directed largely against the Jews In 1940 Mosley and his wife (the former Diana Guinness, sister of Unity Freeman-Mitford, both of whom had been friends of Hitler) were interned They were released in 1943. After the Second World War, Mosley attempted to revive his movement

mosque (mŏsk), building for worship used by the Moslem faith Certain mosques, called madrasahs, also serve as religious academies Although the early Moslems had no architectural style of their own, they were quick to learn the technique of conquered peoples, so that, with the spread of Islam, mosque designs came to vary widely in different parts of the Moslem world Nevertheless, certain essential elements, which appear in the primitive mosques and derive from the necessities of the cult itself, remain reasonably constant The first of these, the *maksoura* or prayer hall, is a roofed rectangle wider than it is deep, enclosed by walls at the back and ends and opening on the front to a court At the middle of the long wall opposite the entrance is the mihrab or prayer niche, which indicates the direction of Mecca Flanking it at the right stands the tall mimbar or pulpit, approached by a long flight of steps and covered by a high pyramidal or domical roof, and near at hand—in later mosques—appears the *dikka*, a large platform raised on arches, from which prayers and services are read by the imam Floors are covered with rugs or matting, and many oil lamps hang from the ceiling The second main element is a large rectangular court, enclosed by high walls and surrounded on its three remaining sides by arcaded porticoes In addition to its central fountain for ceremonial ablutions, it sometimes also includes the tomb of the mosque's founder Finally, the corners of the court or other points in the general plan are often marked by tall minarets from which the imam sounds the call to prayer From this primitive sort of arcaded or colonnaded mosque five regional types arose The early structures of the first school, that of Syria and Egypt, follow closely the primitive form, as in the mosque (begun 642) of 'Amr and that (879) of Ibn Tulun, both at Cairo The first domical mosque, that of Omar (687) at Jerusalem, perhaps better known as the Dome of the Rock, follows an octagonal Byzantine plan, with a dome entirely of wood Domed mosques were not commonly built, however, until some six centuries later In the 14th cent another type appeared, in which four arms roofed with pointed vaults form a cruciform plan about the central court The arm towards Mecca, wider and deeper than the others, contains the mihrab The finest example is the great mosque (1356) of Sultan Hasan at Cairo The second or Moorish school, that of North Africa and Spain, clung to the primitive type, as in the African mosque of Kairwan (late 7th cent) The more important structure at Córdoba, Spain, was begun in 780 and enlarged in the 10th cent until its prayer hall, with 16 rows of columns and arches, occupied an area greater than that of any Christian church It became the cathedral of Córdoba in 1238 Mosques of the third regional type, the Persian, inherited the Sassanian vaulting tradition and surface decoration with gorgeous ceramics They thus possess a very distinctive character in their pointed bulbous domes, lofty pointed portals, and magnificent polychrome tiles In the 15th and 16th cent the colonnaded prayer halls were replaced by large, square, domed interiors, sometimes surrounded by lower vaulted side aisles, as in the Blue Mosque at Tabriz (1437–68) This structure, of essentially Byzantine plan, is sheathed with incomparable blue ceramics The imperial mosque at Isfahan (1585–1612) had four impressive porticoes on the court, and its main prayer hall, crowned by a bulbous dome and with a porch having an enormous pointed arch flanked by slender minarets, represents the climax of Persian mosque design When the Turks took Constantinople (1453) and converted the great Byzantine Church of HAGIA SOPHIA to use as a mosque, they employed it as a model for the fourth school of Islamic religious structures To the great open type of Hagia Sophia's plan, with its dominant dome, they added smaller domes, half domes, buttresses, and minarets and, using Persian tiles and rather garish painted decoration for interiors, achieved at Constantinople such superb monuments as the mosque (1550–57) of Suleiman I, the Magnificent, by the architect Sinan and the huge Ahmediyeh mosque (1608–14) of Ahmed I. Indian mosques, the fifth regional group, betray their Persian origin in the prevalence of bulbous domes, round minarets, and great portals with pointed arches, although the traditional Persian tile sheathing is largely restricted to interiors. The use of stone and marble for exteriors, however, lends them a solid monumentality rarely seen in other Moslem styles, while colored stones inlaid against the white marble add touches of vivid beauty. During the Mogul dynasty, particularly under the brilliant reign of Shah Jehan (1627–58), mosques of surprising grandeur were erected Among the finest Mogul examples are the huge mosque with its superb domes and entrance at Fatehpur Sikri (1556–1605); the three-domed Pearl Mosque at Agra (1646–53), famous for its simple plan and delicate inlays, and the Jama Masjid [great mosque] at Delhi, the largest in India, to which the characteristic Indian beam construction and lavish use of colored marbles give a tone essentially non-Moslem

Mosquera, Tomás Cipriano de (tōmäs' sēprēä' nō dā mōskā'ra), 1798–1878, Colombian general and president He first earned notice by his service in the war against Spain As president (1845–49), he began as a conservative, but became more liberal, sponsoring numerous reforms and encouraging the nation's material growth After the conservatives gained control in 1856, Mosquera led a successful revolt (1860–62) which resulted (1863) in a federalist United States of Colombia He served as provisional president until 1864 Domineering, unscrupulous, and violently emotional, he was feared and mistrusted even by his adherents, but he was a vigorous leader Although again elected (1866) president, he was imprisoned (1867), tried, and banished He went to Peru, but returned later to become governor and senator of Cauca.

Mosquitia see MOSQUITO COAST

mosquito (mŭskē'tō), insect of the fly family found in almost all parts of the world Only the female pierces the skin, injects some of its own salivary fluid, and sucks the blood of humans and of many wild and domestic animals The males, and in some species the females, feed on plant juices Usually the eggs are laid in stagnant water The larva, or wiggler, has an air tube near the end of the abdomen which is held at the surface of the water to receive air, supplementing the work of the gills The pupa is also aquatic and active It has air tubes on the thorax In temperate regions the bite of the common house mosquito of the genus *Culex* is irritating, but in the S United States and in the tropics members of this genus are among those which carry filariasis Many species of *Anopheles* mosquitoes carry the parasites which cause malaria Yellow fever, jungle yellow fever, and dengue or breakbone fever, which are believed to be caused by viruses, are transmitted by the *Aedes* mosquito See bulletins of the U S Dept of Agriculture

Mosquito Coast or **Mosquitia** (mŭskē'tēŭ, mŏskētē' a), region, east coast of Nicaragua and Honduras Never exactly delimited, it is a belt c 40 mi wide extending from the SAN JUAN river N into NE Honduras The territory is sultry and swampy, rising to low hills in the west English and Dutch buccaneers preyed on Spanish shipping from coastal bases, and English loggers exploited the forest products Banana culture, developed in recent times, has suffered from leaf blight The name is derived from the Mosquito or Miskitto Indians, remnants of the CHOROTEGA, over whom Great Britain established a protective kingdom at BLUEFIELDS in 1678 Importation of Jamaican Negroes to increase the labor supply resulted in racial mixture British dominance of the region and of the BAY ISLANDS continued, and in 1848 the British claimed and took SAN JUAN DEL NORTE to offset U S interest in a transisthmian route to California Nicaragua protested the seizure The CLAYTON-BULWER TREATY (1850) between the United States and Great Britain checked British expansion, but relinquishment of the coast was delayed until a separate treaty was concluded with Nicaragua (1860), which established the autonomy of the so-called Mosquito Kingdom In 1894 José Santos ZELAYA ended the anomalous position of the territory by forcibly incorporating it into Nicaragua The northern part, however, is still claimed by Honduras

Moss (mŏs), city (pop 17,415), co seat of Ostfold co, SE Norway, on the east shore of the Oslo Fjord It has important shipyards, sawmills, iron foundries, and various manufactures It also is a seaside resort Here on Aug 14, 1814, the convention establishing personal union of Sweden and Norway was signed

moss, any species of the class Musci, small plants of world-wide distribution Although usually of delicate appearance, they are extremely hardy, growing almost anywhere except in the ocean Mosses are often evergreen and may be creeping or erect, they range in size from nearly microscopic to several feet in length (sphagnum) The fertilized egg cell on the moss plant gives rise to a capsule containing the spores The spores of common mosses on germinating produce green filaments from which arise buds that develop into the moss plant Mosses are of value chiefly in paving the way for higher plants in barren habitats, but SPHAGNUM or peat moss has other important uses Leafy liverworts are easily confused with mosses but they commonly have a flattened appearance not seen in many mosses Plants sharing the name of moss but not related

include the flowering moss OF PYXIE, CLUB MOSS, REINDEER MOSS, and SPANISH MOSS. See E M. Dunham, *How to Know the Mosses* (1916); A. J. Grout, *Mosses with a Hand-Lens* (1924).

moss agate: see AGATE.

Mossamedes (mŏsä'mûdĕs), town (pop 23,000), S Angola, a port on the Atlantic Ocean, founded 1840 It is the terminus of a railroad to the fertile interior Fish products are exported

Mossel Bay (mŏ'sul), town (pop 8,075), Cape Prov., Union of South Africa, a port on the Indian Ocean. It was founded (1501) by the Portuguese and has an early 16th-century church

Moss Point, city (pop 3,042), extreme SE Miss., near Pascagoula A paper mill is here

Most, Johann Joseph (mōst), 1846–1906, anarchist, b. Augsburg, Germany A bookbinder by trade, he became editor of Socialist papers in Germany and Austria. His publications were suppressed, and for his public denunciation of religion, patriotism, and the accepted moral standard he was frequently imprisoned After serving (1874–78) in the German Reichstag, he removed to France and then to England His anarchistic views led to his expulsion from England He then (1882) emigrated to the United States, where after the assassination of President McKinley he was imprisoned for alleged sedition

Most (môst), Ger *Brüx* (bruks), city (pop 23,077), N Bohemia, Czechoslovakia The center of a lignite basin, it has also a ceramic industry

Mostaert, Jan (yän' mŏ'stärt), c 1475–c 1556, Dutch painter of portraits and religious scenes. He was long associated with Margaret of Austria and may have been employed by her as court painter He was commissioned to do several altarpieces, one of which is in Brussels His work is also in collections in Amsterdam, London, and Vienna

Mostaganem (mŏ"stäganĕm'), city (pop 50,403), NW Algeria, a port on the Mediterranean Sea It was founded in the 11th cent and reached its commercial height in the 16th cent under the Turks Its population had declined to c 3,000 when the French arrived in 1833 There are exports of wine, grains, meat, and wool

Mostar (mŏ'stär), city (pop 23,239), Bosnia and Hercegovina, Yugoslavia, on the Neretva river and SW of Sarajevo It is the largest city of Hercegovina, the see of an Orthodox and of a Catholic bishop, and an agricultural market center First mentioned in 1442, it has retained many mementos of the Turkish period

most-favored-nation clause, provision in commercial treaties that the signatory will enjoy benefits equal to those accorded to any other state The purpose of such clauses is to insure equal commercial opportunities, especially with regard to freedom of investment and beneficial tariff arrangements In some cases the clause is unilateral, i e, only one of the two signatories is to receive most-favored-nation treatment, bilateral clauses are more common today Until recent years many nations of the Far East were bound to Western states by unilateral clauses

Mosul (mō'sul, mōsōōl'), city (pop c 70,000), N Iraq, on the Tigris river, opposite the ruins of NINEVEH and 15 mi S of Tepe Gawra Mosul is inhabited chiefly by Arabs, and the surrounding region is peopled by Kurds It became (c 750) the chief city of N Mesopotamia It was the seat of independent dynasties in the 10th and 11th cent. Its walls resisted sieges by Saladin and Nadir Tamerlane spared it and repaired the picturesque pontoon bridge across the Tigris It was occupied by the British a few days after the close of the First World War and was formally renounced by Turkey, in the face of united European insistence, in 1926 There are numerous mosques and several churches of the Assyrians (Nestorian Christians) The city was once known for fine cotton goods called muslins from its name Today it produces excellent metalware In the vicinity of Mosul are extensive oil fields leased to American and British companies

Motagua (mōtä'gwä, mōtä'wa), river, c 250 mi long, rising in S central Guatemala and flowing NE to the Gulf of Honduras, the longest river within Guatemala Some of the banana plantations of the United Fruit Company are in this valley The Motagua is also called the Río Grande, particularly in its upper reaches

Motala (mōō'tä"lä), town (pop 9,300) Ostergotland co, S central Sweden, on Vattern Lake It is the site of a large power plant and of a powerful radio station.

motet (mōtĕt'), name for the outstanding type of musical composition of the 13th cent and for a different type which originated in the Renaissance The 13th-century motet, a creation (c.1200) of the school of Notre Dame de Paris, was a polyphonic composition based on a TENOR which was a fragment of plain song (or, later, of any type of melody, sacred or secular) arranged in a brief, reiterated rhythmic pattern called an *ordo*. Its original text, sometimes only a word or two, was kept, but the tenor may have been played on instruments. The second part, called *motetus* (from Fr. *mot* = word), had its own text, usually sacred and in Latin but by the second half of the century sometimes secular and in French The third voice, the triplum, had still another text, and very often the motet combined a triplum which was a French love song and a *motetus* which was a Latin hymn to the Virgin Mary The outgrowth of this early motet was the isorhythmic motet of the late 13th and the 14th cent It employed a recurring rhythmic pattern called a *talea*, longer than an *ordo* and not restricted to the tenor part Of the 23 extant motets of Guillaume de Machaut (c 1300–c 1377), an outstanding 14th-century composer, 20 are isorhythmic. Isorhythmic technique was not confined to the motet and persisted into the early 16th cent The Renaissance motet had but one text, in Latin, and was a polyphonic, unaccompanied composition, it had usually from four to six voices and was free from the 13th-century rhythmic rigidity. Cultivated by composers of the Flemish school, it had spread throughout Europe by the middle of the 16th cent. Outstanding composers are Josquin des Prés and Orlando di Lasso of the Flemish school, the Italians Andrea Gabrieli, Giovanni Gabrieli, and Palestrina, the Spaniard Tomás Luis de Victoria, and the Englishmen Thomas Tallis and William Byrd In the baroque era the greatest motets were written in Germany to German texts The *Symphoniae Sacrae* of Heinrich Schütz include many motets in various styles, with the addition of solo voices and instrumental accompaniment The peak is reached in the six motets of Bach, one of which has organ accompaniment Since Bach's time the term *motet* has been applied to almost any kind of sacred choral polyphony but usually refers to unaccompanied Latin motets for use in Roman Catholic services Many anthems in English, however, have been designated motets by their composers

moth, any of the group of insects which, with the BUTTERFLY group, makes up the order Lepidoptera The pupa of most moths is protected by a covering or cocoon, in which a leaf is sometimes enclosed and which is often made largely of silk Some moths pupate underground The cocoon of the domesticated silkworm moth is the source of silk of commercial value Among the large and beautiful moths in America are the pale green luna moth, the cecropia, the promethea, and the polyphemus moths Great damage is done in the larva stage by many moths, e g CODLING MOTH, GYPSY MOTH, CLOTHES MOTH, and CUTWORM See W J Holland, *The Moth Book* (1914)

Mother Carey's chicken, name popularly applied to several species of PETREL but especially to the storm or stormy petrel

Mother Goose, name associated with nursery rhymes Most English nursery rhymes, including "Jack and Jill," "Simple Simon," and "Little Jack Horner," have been ascribed to Mother Goose The origin of the name is still a matter of dispute Some trace it to a French collection of tales by Charles Perrault (1697) which had the subtitle *Contes de ma mère Loye* [tales of Mother Goose] This name has in turn been traced to Queen Goosefoot, the mother of Charlemagne and a patron of children Others claim an American origin in *Mother Goose's Melodies*, published 1719 in Boston by Thomas Fleet, whose mother-in-law was said to be Elizabeth Vergoose A collection of Mother Goose rhymes was published by John Newbery in London in 1765 The subject matter of the rhymes has been linked by some scholars to actual events in English political history See A E Moore, *Literature Old and New for Children* (1934)

Mother Lode, belt of gold-bearing quartz, central Calif., along the western foothills of the Sierra Nevada The term is sometimes limited to a strip c 70 mi long and 1 to 6¼ mi wide, running NW from Mariposa Popularly it is used to mean the gold-bearing area E of the Sacramento and San Joaquin rivers and W of the Sierra The discovery of gold on the South Fork of the American led to the 1848 gold rush Mark Twain and Bret Harte helped make the Mother Lode famous See Joseph Henry Jackson, *Anybody's Gold* (1941)

mother-of-pearl or **nacre** (nā'kur), the iridescent substance which forms the lining of the shells of some fresh-water and some salt-water mollusks Like the PEARL it is a secretion of the mantle composed of alternate layers of calcium carbonate and conchiolin. Among the chief sources are the pearl oyster found in warm and tropical seas chiefly in the Orient, the fresh-water pearl mussel which lives in many rivers of the United States and Europe, and the abalone of California, Japan, and other Pacific regions Mother-of-pearl is used for buttons, for knife handles, for inlay work, and for many other purposes

Motherwell, William, 1797–1835, Scottish poet and journalist His collection of ballads, *Minstrelsy Ancient and Modern* (1827), contains a fine historical introduction. His well-known "Jeanie Morrison" is in *Poems, Narrative and Lyrical* (1832)

Motherwell and Wishaw (wĭ'shô), burgh (1931 pop 64,710; 1948 estimated pop 70,624), Lanarkshire, Scotland, on the Clyde and SE of Glasgow. The two parts of the burgh were officially united in 1920 In a region of coal and iron, the town has an important steel industry. Other manufactures include electrical equipment, boilers, and hosiery and (at Wishaw) chocolate, railroad equipment, and cement.

motion. When a body is in the act of changing its position in relation to some other body, it is said to be in motion with respect to that other body For example, a train is in motion when it is changing its position with respect to the earth. If, however, motion is to be considered as relative, it should be possible to advance logically the apparently paradoxical statement that a body can be in motion and at rest at one and the same time, for although such a body might be in motion (changing its position) with respect to some one other body, it might also be at rest (not changing its position) with respect to still another body That such a condition is possible is illustrated by the example of a man seated in a moving automobile, this man is in motion with respect to the earth, but at the same time at rest with respect to the automobile A body may be in motion with respect to two or more other bodies at one time. Bodies in motion on the earth are also in motion with respect to the other through which the earth is moving (if the ether is held to be stationary or not moving at the same velocity as the earth) It follows, then, that the relative motion of two bodies depends upon their relative speeds (velocities) through space Two bodies moving at the same rate of speed, or velocity, through space would be at rest with respect to each other, while two bodies moving at different velocities would be in motion with respect to each other, one body being considered to be in motion and the other at rest Although the movement of the stars and planets was observed by the ancients and although Copernicus some 1,200 years later deduced the movement of the earth and Galileo still later in the 16th cent. made his famous investigations of the relative speeds of falling bodies, it was not until Newton brought forward his *Principia* that the foundation was laid for a consideration of the relative motions of all bodies Newton's **laws of motion** hold that (1) a body remains in a state of rest or of uniform motion in a straight line unless compelled by some external force acting upon it to change that state, (2) a change in MOMENTUM is proportional to the force causing the change and takes place in the direction in which the force is acting, or the increase or decrease in velocity is proportional to the force, and (3) to every action there is always an equal and opposite, or contrary, reaction These three laws (and also that of universal GRAVITATION) have served and continue to serve as the basic principles of dynamics, maintaining their position of fundamental importance through the subsequent times of new discovery and hypothesis which led to Einstein's theory of RELATIVITY

motion pictures see MOVING PICTURES.

motive or **motif** (mōtēf'), in music, a theme expressed in a short phrase or passage and repeated or elaborated throughout the composition The term is usually used synonymously with FIGURE A special kind of motive is the leitmotiv or leitmotif, wherein a character or a dramatic idea is represented throughout an opera by one or more motives The leitmotiv technique is almost as old as opera itself, but its most extensive application is found in Wagner's works

Motley, John Lothrop (mŏt'lē), 1814–77, American historian and diplomat, b Dorchester, Mass., grad Harvard, 1831 He made an extended study tour of Europe before his marriage in 1837 Author of two novels concerning Thomas MORTON—*Morton's Hope* (1839) and *Merry Mount* (1849)—as well as a number of articles for the *North American Review*, he began (c 1847) to study the history of the Netherlands The resultant book, *The Rise of the Dutch Republic* (3 vols., 1856), achieved a success both with scholars and with the public, although it paid small attention to economic or social matters and displayed the author's dislike of Roman Catholicism *History of the United Netherlands*, a work of greater scope, was published in four volumes (1861–68), and his last work, *The Life and Death of John of Barneveld*, appeared in 1874. Motley spent a short period in 1841 as secretary of the U S. legation at St Petersburg and later was minister to Austria (1861–67) President Ulysses S Grant appointed him minister to Great Britain in 1869, but difficulties arising from Motley's tendency to ignore the instructions of Secretary of State Hamilton FISH (1808–93) and from Grant's animosity toward his sponsor and friend, Charles SUMNER, caused him to be relieved of his post in 1870 See O W Holmes, *John Lothrop Motley a Memoir* (1879), G. W. Curtis, ed., *The Correspondence of John Lothrop Motley* (1889), *John Lothrop Motley and His Family* (ed. by his daughter, Susan M. Mildmay, and Herbert S. Mildmay, 1910).

Moton, Robert Russa (mō'tŭn), 1867–1940, American Negro educator, b. Amelia co., Va., grad Hampton Institute, 1890. He was commandant there from 1890 until he succeeded Booker T Washington as principal of Tuskegee Institute in 1915, later becoming president. He retired in 1935. Moton served as presidential adviser on Negro

affairs and was a member of the National Advisory Commission on Education and chairman of the commission on education in Haiti (1930) For his achievement in the fields of Negro advancement and race relations, he received the Harmon award in 1930 and the Spingarn medal in 1932 Moton wrote *Racial Good Will* (1916), his autobiography, *Finding a Way Out* (1920), and *What the Negro Thinks* (1929).

motor, electric, machine for transforming electrical energy into mechanical energy In this respect it is the reverse of the electric GENERATOR, although it is based fundamentally upon the same general principle The electric motor consists, essentially, of a fixed member, or frame, and a revolving member The frame is commonly of cast iron and is fitted with lugs for attachment to a rigid support. It appears, in general, in the form of a hollow cylinder which has extensions at each end to accommodate bearings Within it are the field coils, which consist of copper conductors wound through or about iron parts so as to produce a magnetic field of force (see MAGNETISM) through the internal part of the cylindrical frame The revolving member consists of the ARMATURE, which is commonly cylindrical in form and is mounted on a shaft resting in the bearings of the frame The interaction between the magnetic poles (the fields of force) produces rotation of the armature which is free to revolve and which is connected to the driving gear through the shaft Electric motors are commonly classified according to the type of electric current by which they are driven, i e , as direct-current (DC) or alternating-current (AC) motors Direct-current motors are further distinguished according to whether the armature and the field coils are connected in series or in parallel, whether they are series-wound or shunt-wound, some motors are a combination of both Alternating-current motors are classified on the basis of the type of alternating current used, as single-phase, two-phase, three-phase, and multiphase One type of motor, the universal motor, can be employed for either direct or alternating current and is used widely to drive small portable machines in which not more than one horsepower is required Their efficiency is, however, not high Motors used where dust, moisture, acid, or fumes are present are totally enclosed In cases where wide variation of running speed is required, direct-current motors are usually employed Some of the variable-speed, alternating-current motors have speeds ranging from 600 to 3,600 revolutions per minute Speed reduction is obtained by varying the size of the pulleys used or by so-called speed-reduction units which are employed largely in cases where the motor is directly coupled to the driven machine Electric motors are rated according to the horsepower they develop

motorboat, small vessel propelled by a gasoline engine or other type of INTERNAL-COMBUSTION ENGINE There are various types- open launches, outboard runabouts, racing boats, cruisers, auxiliaries, tunnel boats, hydroplane boats, motor lifeboats, and aerial-propelled boats Motorboat hulls are usually of mahogany, oak, or other hard wood They may be carvel- or clinker-built Motor boats 50 ft or more in length frequently have hulls of steel plate The introduction of the outboard motor opened up a new field in the motorboat industry This motor is self-contained, and the unit is built to clamp on the stern of any boat of suitable size The propeller is geared to a vertical shaft extending up to the engine, the rudder being also a part of the unit On their inception such motors were made in small horsepower units, but their power was later considerably increased Cruisers are pleasure craft of the heavier type, fitted with internal motors and equipped with cabins These boats vary in length up to 50 ft , the larger type having a 180-horsepower motor giving a speed of 20 mi per hour Auxiliaries are sailing vessels fitted with a motor for use in adverse winds or calm weather Tunnel boats are used in shallow water or in the vicinity of sand bars and mud flats The hull is constructed with a hollow space or tunnel near the stern, in which the propeller revolves. The propeller does not extend below the bottom of the tunnel and hence is not liable to damage from grounding Aerial boats are fitted with an airplane engine mounted entirely above water and are for use in shallow waters and waters infested by weeds A hydroplane or skimmer boat has the bottom so constructed that it lifts itself out of the water towards the forward end when running, thus reducing surface resistance This tendency to lift is further increased by providing steps or jogs in the bottom A high-powered motor is necessary for this class of boat, which is mainly used for racing. The popularity of speed-boat racing has been one of the main factors in developing the present high efficiency and speed of motorboats. Speedboat records have been steadily increased. In 1939 Sir Malcolm Campbell attained a speed of 141.74 mi. per hour In warfare motorboats have been much used as torpedo boats.

motorcycle, small motor vehicle equipped with two or three wheels and with one or two saddles. Gottlieb Daimler attached an internal-combustion gasoline motor to his BICYCLE in 1885, and in 1892 Henry Hildebrand of Munich made an improved powered cycle The motorcycle became dependable and popular only after 1900. It is widely used for pleasure riding, for racing, for police patrol of highways, for commercial transportation of small and light goods, and for various purposes in the armed forces England, Germany, the United States, and France are the principal manufacturers and users of the motorcycle A sidecar, usually supported by a third wheel, is often added to carry a passenger or a goods compartment

Mott, Frank Luther, 1886–, American professor of journalism and author, b near What Cheer, Iowa, grad Univ of Chicago, 1907, Ph D Columbia, 1928 He worked as a reporter and newspaper editor and taught before he directed (1927–42) the school of journalism at the State Univ of Iowa Since 1942 he has been dean of the school of journalism at the Univ of Missouri With John T Frederick he was editor and publisher (1925–30) of the *Midland* Among his best-known works are *Six Prophets out of the Middle West* (1917), *The Literature of Pioneer Life in Iowa* (1923), *A History of American Magazines* (3 vols , 1930–38), for which he was awarded (1939) the Pulitzer Prize in American history, *American Journalism 1690–1940* (1941), and *Jefferson and the Press* (1943)

Mott, James, 1788–1868, American abolitionist, b North Hempstead, L I , N Y He and his wife, Lucretia Coffin MOTT, were Quakers who worked constantly for the antislavery cause and for woman suffrage In 1840 they were delegates to the World Anti-Slavery Convention in London, and in 1848 he presided over several sessions of the first national woman's rights convention at Seneca Falls, N Y Mott also aided in the founding (1864) of Swarthmore College

Mott, John Raleigh, 1865–, American official in the Young Men's Christian Association and authority on foreign mission work, b Livingston Manor, N Y grad Cornell, 1888 He is noted for his wide activity in organizing foreign Y M C A and missionary organizations and for his war work in connection with these groups With Emily G Balch he shared the 1946 Nobel Peace Prize He is honorary president of the World Council of Churches His many books include *The Future Leadership of the Church* (1908) and *The Larger Evangelism* (1944)

Mott, Lucretia (Coffin), 1793–1880, American feminist and reformer, b Nantucket, Mass She moved c 1803 with her family to Boston and later to Philadelphia A Quaker, she studied and taught at a Friends' school near Poughkeepsie, N Y There she met James MOTT, whom she married in 1811 and who cooperated in her later activities After 1818 she became well known as a lecturer for temperance, peace, the rights of labor, and the abolition of slavery, after 1827 she allied herself with the liberal, or Hicksite, Friends Her home became a station on the Underground Railroad, and, following the meeting (1833) of the American Anti-Slavery Society, she organized the Female Anti-Slavery Society Refusal of the world anti-slavery convention in London (1840) to recognize women delegates led to her championship of the cause of woman's rights, and with Elizabeth Cady Stanton she organized (1848) at Seneca Falls, N Y , the first woman's rights convention in the United States In 1870 she became president of the Pennsylvania Peace Society See A D Hallowell, ed , *James and Lucretia Mott Life and Letters* (1884), L C M Hare, *The Greatest American Woman, Lucretia Mott* (1937)

Mott, Valentine, 1785–1865, American surgeon, b Glen Cove, N Y , M D Columbia, 1806 He was on the Columbia medical faculty (1811–26, 1830–35, and from 1850) He was a founder (1826) of Rutgers Medical School (no longer in existence) and also took part in the founding of New York Univ (1832) and its medical school (1841), of which he was president until 1850 A famous surgeon, he was noted especially for his skill in ligating the large arteries, in operating on the bones and joints, and in performing lithotomies and amputations See memoir by S D Gross (1868)

Mott, city (pop 1,220), co seat of Hettinger co , SW N Dak , on the Cannonball river and WSW of Bismarck, inc 1928 It is a farm trade center

Mottl, Felix (fā'lĭks mŏt'tul), 1856–1911, Austrian conductor He assisted Wagner in preparing the first Bayreuth Festival, at which he conducted the *Ring* cycle He conducted (1880–1903) at the court at Karlsruhe, where he produced the complete cycle of Berlioz's operas In 1903 he went to Munich, there in 1904 he became director of the Royal Academy of Music, and in 1907 director of the Court Opera In the season 1903–4 he conducted Wagnerian opera at the Metropolitan Opera House. He made important editions of Berlioz's operas, Bellini's *Norma*, and works by Wagner, Liszt, and other composers.

Moukden, China see MUKDEN.

mould see MOLD.

Moulins (mōōlăⁿ'), city (pop. 20,832), capital of Allier dept , central France, on the Allier river. It manufactures leather goods and clothes The ancient capital of the duchy of BOURBONNAIS, Moulins has remarkable artistic and historic treasures The cathedral contains a 15th-century triptych, considered among the finest French paintings of the period. The former convent of the Order of Visitation (now a school), founded in 1616 by St. Jane Frances de Chantal (who died here), contains the tomb of Henri de Montmorency, by François ANGUIER Other historical buildings are the ruined castle of the dukes of Bourbon and the Renaissance pavilion of Anne de Beaujeu In 1566 a great assembly was held here by Charles IX, it adopted the important legal and administrative reforms proposed by the chancellor, Michel de L'Hôpital

Moulmein (mōōlmān', mōl-), town (pop 65,506), S Burma, a port near the mouth of the Salween river It has rice and teak mills In the period 1826–52 Moulmein was the chief town of British Burma

Moulton, Richard Green (mōl'tun), 1849–1924 American educator and critic, b England, grad Cambridge, 1874 He taught (1892–1919) at the Univ of Chicago The author of several volumes of Shakesperian criticism and other literary studies, he is best known as the editor of the *Modern Reader's Bible* (25 vols , 1895–1923), in which he analyzed the Bible as a literary collection See biography by his nephew, W F Moulton (1926)

Moulton, town (pop 1,181), S Iowa, near the Missouri line SW of Ottumwa, settled 1867, platted 1868 as Elizabethtown, named Moulton 1869

Moultrie, William (mōōl'trē), 1731–1805, American Revolutionary general, b Charleston, S C. He had fought against the Indians (1761) and served in the colonial assembly before the advent of the American Revolution In the war his gallant defense of a small fort on Sullivans Island (later named Fort Moultrie) prevented (1776) Sir Henry Clinton and Sir Peter Parker from taking Charleston Even Moultrie's skill failed to prevent the fall of Savannah to the British in 1778 He was captured in the fall of Charleston to the British in 1780 After the war he served as governor of South Carolina (1785–87, 1795–97) and U S Senator (1787–91) He wrote *Memoirs of the Revolution as Far as It Related to the States of North and South Carolina* (1802)

Moultrie (mōōl'trē), city (pop 10,142), co seat of Colquitt co , SW Ga , on the Ochlockonee river and NNE of Thomasville, inc 1859 It ships farm produce, especially melons, tobacco and cotton, and has a meat-packing plant

Moultrie, Fort, on Sullivans Island at the entrance to the harbor of Charleston, S C It was originally called Fort Sullivan Constructed by Col William Moultrie, it was renamed for him after he gallantly defended it against a British attack (June, 1776) Fort Moultrie figured in the action that precipitated the Civil War (see SUMTER, FORT) The Confederates held it until the evacuation of Charleston in Feb , 1865 It was the chief harbor defense until 1947, when it was abandoned The tomb of Osceola, imprisoned here in 1837, is in the fort In 1949 ownership of the fort was transferred from the Federal government to Sullivans Island township

Mound, village (pop 1,189), E Minn , on Lake Minnetonka and W of Minneapolis, settled 1854, inc 1912 It is a resort in a farm area

mound, hill or heap of earth or stones built up over a burial place (a tumulus or CAIRN) or serving as a defensive embankment or a site for religious rites Such piles are found in many parts of the world but the name is applied in particular to those of North America, ascribed to a people of undetermined origin and date, known as mound builders

Mound Bayou (bī'ō"), town (pop 806), NW Miss , NNE of Greenville, in a farm area, founded 1887, inc 1898 It is an all-Negro self-governing community See Hodding Carter, *Lower Mississippi* (1942)

mound builders, in American archaeology, name given to those people who built mounds in a large area from Wisconsin to the Gulf of Mexico and from the Mississippi river to the Appalachian Mts The greatest concentration of mounds are found in the Mississippi and Ohio valleys Although the name "mound builders" implies homogeneity, most authorities hold that they were not connected politically Economically, however, they were similar - sedentary farmers who lived in permanent villages. It is also believed that they are the ancestors of the Indians found inhabiting the regions of the mounds by the first European explorers. Due to locality and tribal customs there is much variation in the shape, size, and purpose of mounds Shapes included conical tumuli, elongated or wall-like mounds, pyramidal mounds, and effigy mounds (bird, animal, or serpentine forms). In size they varied from an area of less than an acre to that of more than 100 acres—the Cahokia Mound in Illinois being the largest (1,000 ft from north to south, 700 ft from east to west, 100 ft high) The mounds were used as burial places, foundations for buildings (e g , temples), fortresses (e g , Fort Ancient in Ohio), and totemic representations (e g , Serpent Mound in Ohio and Elephant Mound in Wisconsin). Mounds also vary in age, some go back almost 2,000 years, but others (particularly in the Southeast area) were built in historic times Stone, copper, mica, obsidian, and meteoric iron

were widely used by the prehistoric mound builders Obsidian coming from the Rocky Mts., mica from the S Appalachian Mts , and copper from Wisconsin indicate widespread trade They knew weaving and pottery making Their stone carvings of animal and human figures and especially of pipes are excellent The mounds at Hopewell, Mound City, and Newark in Ohio, as well as many in Louisiana, Illinois, Indiana, Wisconsin, and Iowa have been extensively studied See Henry Shetrone, *The Mound-Builders* (1930)

Mound City. 1 City (pop 2,465), co. seat of Pulaski co , S Ill , on the Ohio and near Cairo, in a rich agricultural region, inc 1857 During the Civil War it was an important Union naval base, the shipyard which was in use then is still in operation There is a national cemetery near by The city was severely damaged by the flood of 1937 2 City (pop 1,606), NW Mo , near the Missouri river NW of St Joseph, in a stock and grain area, laid out 1857 Near by are a state park and a U S wildlife refuge

Mound City Group National Monument see NATIONAL PARKS AND MONUMENTS (table), MOUND BUILDERS

Mounds, city (pop. 2,144), S Ill , just N of Cairo, inc 1908

Moundsville, city (pop 14,168), co seat of Marshall co , W Va , in the Northern Panhandle, on the Ohio and S of Wheeling, organized 1865 It is a coal and manufacturing center producing glass, zinc, and enamel products The state penitentiary is here Grave Creek Mound, in the city, is a large Indian burial ground

Moundville, town (pop 812), W central Ala , SW of Birmingham and on the Black Warrior river, in a region noted for the number and size of its Indian mounds. The site has been made a state monument, and a museum (1939) has been built

Mounet-Sully, Jean (zhäⁿ' mōōnā'-sülē'), 1841–1916, stage name of Jean Sully Mounet, French actor He began his career at the Odéon, Paris, in 1868, served in the Franco-Prussian War, and in 1872 made his debut at the Comédie Française He performed major roles in the plays of Voltaire, Racine, and Victor Hugo, but his finest portrayals were Hamlet and Oedipus Rex In 1900 he appeared in the title role of *The Old Age of Don Juan*, which he wrote with Pierre Barbier His brother, **Paul Mounet,** 1847–1922, made his debut at the Odéon in 1880 in Corneille's *Horace* and in 1889 joined the Comédie Française, where he excelled as a tragedian in classical and modern drama

Mount, William Sidney, 1807–68, American genre and portrait painter, b Setauket, L I , N Y His childhood was spent at Stony Brook on the north shore of Long Island, the scene of many of his pictures At 17 he was apprenticed to his elder brother Henry, a sign and ornament painter William Mount studied at the National Academy of Design for about a year (1826) and then began to support himself by portrait painting His success in that field was only moderate After 1836 he lived in Stony Brook, and there he painted the humorous genre pictures for which he is noted Horse trading, country dances, farm scenes with landscape and figures, are favorite subjects He was among the first to paint the American Negro Mount became a member of the National Academy in 1832 Most of his paintings are in private collections, but many of them are known through lithographs and engravings *Raffling for the Goose* and *Long Island Farmhouses* are in the Metropolitan Museum See study by Bartlett Cowdrey and H W Williams, Jr (1944)

Mountain, the, term designating the deputies of the extreme left who occupied the raised seats in the National Convention during the French Revolution. Identified chiefly with the JACOBINS, the Montagnards (men of the Mountain) also included the CORDELIERS and the followers of HÉBERT After crushing the GIRONDISTS, the Mountain ruled France under the REIGN OF TERROR (1793–94) See also PLAIN, THE

mountain, a high land mass having little level ground at its summit Although isolated mountains are not unusual, mountains commonly occur in a group or range, consisting of either a single complex ridge or a series of related ridges A group of ranges closely related in form and origin is a mountain system, a group of systems occupying the same general region is a chain, and the complex of ranges, systems, and chains that occupies a whole area of a continent is a cordillera, zone, or belt Mountains and mountain ranges originate in numerous ways Some are the remains of plateaus dissected by EROSION and owe their existence to being composed of more resistant rock than the rest of the plateau or to lying on the divides or at the sources of the eroding streams. Others are either cones built up by volcanoes or domes pushed up by intrusive igneous rock Fault-block mountains are formed by the raising of huge blocks of the earth's surface relative to the neighboring blocks All the great mountain chains of the earth are either fold mountains or complex structures in whose formation folding, faulting, and igneous activity have taken part. The growth of folded or complex mountain ranges is preceded by the accumulation of sediments in troughs, or geosynclines, occupied by arms of the sea The sediments—which are generally conglomerate, sandstone, shale, and limestone—are derived both from marine deposition and from the erosion of neighboring land masses, thus, the sedimentary rocks of the Appalachian Mts were formed in a geosyncline bounded on the east by Appalachia, the name given to the ancient elevated land of unknown extent which formed part of the coastal region of E North America Similar conditions entered into the formation of the Rockies, the Alps, and the Carpathians The period of sedimentation is followed by folding and thrust faulting, with alteration of sedimentary rock into metamorphic rock Most high mountain ranges are uplifted vertically subsequent to folding These processes sometimes overlap, an initial period of folding being followed by renewed subsidence and sedimentation Mountains are at all times subject to erosion, after folding ceases, sharp peaks and deep valleys are formed, then the peaks are attacked and cut down Mountains may be entirely base-leveled, or they may be rejuvenated by new uplifts Most of the great mountain systems now in existence were developed fairly late in geologic history The essential movements of the earth's surface involved in mountain building are generally conceded to be compression, which produces folding, thrust faulting, and possibly some normal faulting, tension, which produces most normal faulting, and vertical uplift The ultimate causes of these movements are not known, and there are marked contrasts among the hypotheses proposed, dependent as they are on the various hypotheses of the earth's origin One hypothesis, perhaps the most widely accepted, is that earth movements are adjustments of the crust to a shrinking interior The long-accepted explanation of this supposed shrinkage is that the interior contracts because of loss of heat, those who deny a hot interior explain shrinkage as a decrease in volume accompanied by an increase in density, caused by the pressure of the overlying crust Another hypothesis is that earth movements are isostatic, i e , adjustments which keep the weights of the sections of the earth's crust approximately equal (see CONTINENT) A third hypothesis ascribes mountain building to the horizontal thrust of the oceans and ocean bottoms against the land A hypothesis radically different from all the preceding makes mountain building an incident of the supposed drift of continents The greatest mountain masses are the North and South American cordillera, in which the Andes, Rockies, Sierra Nevada, and Coast Ranges of the United States, Canada, and Alaska are included, and the Eurasiatic mountain belt, in which lie the Pyrenees, Atlas Mts , Alps, Balkans, Caucasus, Hindu Kush, Himalayas, and other ranges There is a considerable mass in central Africa Among notable single peaks are, in Asia, Everest, Godwin-Austen, and Kanchanjanga, in South America, Aconcagua, Chimborazo, and Cotopaxi, in North America, McKinley, Logan, and Popocatepetl, in Europe, Mont Blanc and Elbrus, in Africa, Kilimanjaro, Kenya, and Ruwenzori Mountains have important effects upon the climate, population, economic life, and state of civilization of the regions in which they occur By intercepting prevailing winds they cause precipitation, regions on the windward side of a great range thus have plentiful rainfall, while those on its lee side are arid Mountains are in general thinly populated, not only because the cold and the rarefied atmosphere of high regions are unfavorable to human life, but also because the higher reaches of mountains are unfit for agriculture Timber grows only up to a certain altitude (the timber line), grass grows a little higher, but the crests of high mountains are barren and snow-covered Mountains frequently contain veins of valuable mineral ores, deposited out of solution by water or by gases Mountains act as natural barriers between countries and peoples, they determine the routes followed by traders, migrants, and invading armies The difficulties of travel and communication in mountain regions tend to favor political disunity, as well as conservatism in customs and beliefs See Roderick Peattie, *Mountain Geography* (1936), F S Smythe, *Peaks and Valleys* (1938), C L Fenton and M A Fenton, *Mountains* (1942)

Mountainair, village (pop 1,477, alt over 6,000 ft), central N Mex , SSE of Albuquerque, in a farming area Gran Quivira National Monument and Gran Quivira State Monument are south, Quarai State Monument is north

Mountain-Altai or **Mountain-Altay** (both· (älti', äl'ti, alti'), Rus *Gorno-Altai* (gôr"nu-ŭlti'), autonomous oblast (35,800 sq mi ; pop 161,431), SE Altai Territory, RSFSR, in S Siberia, bordering on Mongolia in the south. It contains most of the Altai mts and is drained by the Biya, Katun, and Chuya rivers More than half the district is forested, agriculture and dairy farming are carried on in the river valleys The region has many mineral resources, notably gold, manganese, and mercury. Slightly more than half the population is Russian The remainder consists mostly of the Altai-speaking Oirats or Oirots (see LANGUAGE, table); they were, until recently, seminomadic shamanists, but are now largely settled on collective farms Formed in 1922, the district was known until 1948 as the Oirat or Oirot Autonomous Oblast Its capital is Gorno-Altaisk (pop 23,573), an agricultural center; it was originally called Ulala and was known between 1936 and 1948 as Oirot-Tura

Mountain Ash, urban district (1931 pop 38,386, 1947 estimated pop 31,610), Glamorganshire, Wales, near Aberdare. It is an industrial town, dependent upon the great coal mines near by

mountain ash, name for any species of the genus *Sorbus*, hardy ornamental trees and shrubs native to the Northern Hemisphere, not related to the true ashes They have compound leaves and flat-topped clusters of white flowers followed by orange or red berrylike fruits, for which they are widely cultivated Of native kinds the most common is the American mountain ash, *Sorbus americana*, which ranges from Newfoundland to North Carolina. Introduced species are often cultivated in this country, especially the common European mountain ash or rowan tree (*S aucuparia*) This tree is one of the most revered plants in the folklore of the Old World It warded off evil influences and was "Thor's helper", bits of the wood were thought to avert almost any disaster

Mountain-Badakhshan (-bŭdŭkhshän'), Rus *Gorno-Badakhshan*, autonomous oblast (23,600 sq mi , 1946 estimated pop 50,000), SE Tadzhik SSR, in the PAMIR It borders on China in the east and on Afghanistan in the south and west and is separated from Pakistan only by a narrow strip of Afghan territory Khorog is the capital The region consists of a plateau, from 11,500 to 13,000 ft high, in the east and of deep valleys and lofty ranges in the west There are many lakes, notably Kara Kul Livestock (cattle, sheep, goats, yaks) is raised and some wheat is grown, and there are salt deposits and some placer mining of gold The population is mainly Tadzhik with some Kirghiz tribes Despite Afghan claims and British opposition Russia annexed the region in the late 19th cent The autonomous oblast was formed in 1927

Mountain City, town (pop 1,021), co seat of Johnson co , NE Tenn , in the mountains It is a farm trade center

mountaineering, the practice of climbing to elevated points for sport, pleasure, or research Standard mountaineering equipment includes rope, spiked botts, and pick-like instruments for cutting ice The first significant achievements in mountaineering were the ascents of Mont Blanc made in 1786 by Jacques Balmat and Michel G Paccard and in 1787 by Horace B de Saussure Between 1800 and 1850 the Finsteraarhorn, Jungfrau, Ortles, Mont Pelvoux, and several peaks of the Monte Rosa chain were climbed, and much information was gathered by geologists and topographers English and German poets glorified the Alps, while John Ruskin in the fourth volume of *Modern Painters* (1856) and Joseph M W Turner gave them a prominent place as subjects for painters Modern mountaineering may be dated from the ascent of the Wetterhorn in 1854, surpassed in popularity by the victory of Edward WHYMPER on the Matterhorn in 1865 The sport rapidly attracted devotees The Alpine Club of London was founded in 1858, and its publication, the *Alpine Journal*, was begun in 1863 A class of professional guides soon established itself, and techniques for snow and ice and for rock climbing were developed to the point where highly hazardous ascents were possible for the experienced As the Alps became familiar, climbers ventured to other mountainous areas The English Lake District, Wales, and the Scottish Highlands offered climbing problems of all degrees of difficulty William C Slingsby led the way to the Norwegian mountains Douglas W FRESHFIELD, was one of the pioneer climbers in the Caucasus, soon followed by Albert F. MUMMERY In Africa, KILIMANJARO was climbed in 1889 and Mt Kenya in 1899, the duke of the ABRUZZI explored the Ruwenzori group in 1906 The Rocky Mts of the United States were visited by various travelers early in the 19th cent The Grand Teton of the Teton Range was climbed in 1872 In the 1860s and 1870s Clarence KING and John MUIR ranged through the Sierra Nevada The duke of the Abruzzi ascended Mt St Elias in Alaska in 1897, Mt Blackburn and Mt McKinley were ascended in 1912 and 1913 In South America, Whymper climbed Chimborazo in 1880 and later (1897) Aconcagua and Tupungato Minya Konka, in China, was climbed in 1932. The most challenging of all are the mountain systems of the Himalayas CONWAY OF ALLINGTON explored the Karakorum in 1892, in 1895 J Norman Collie, C G Bruce, Geoffrey Hastings, and Albert Mummery attempted Nanga Parbat, near which Mummery disappeared. Since then many expeditions have been undertaken. Prominent among the peaks climbed are Kamet and Nanda Devi (c.25,650 ft), the highest summit yet reached, although 28,126 ft. has been reached on Mt EVEREST. The giants—Mt. Everest, Mt Godwin-Austin, and Mt. Kanchenjunga—are un-

conquered, despite the efforts of such climbers as George H. L. Mallory, Francis S. Smythe, and Harold W. Tilman. Many clubs of mountaineers have been formed, notably the Schweizer Alpen Club, Club Alpino Italiano, Club Alpin Français, the Himalayan Club, the Alpine Club (London), the Scottish Mountaineering Club, the American Alpine Club, the Appalachian Mountain Club, the Sierra Club, and the Alpine Club of Canada. Most of these render valuable service by building and maintaining shelter huts and providing information concerning topography, routes, and mountain craft. There is a rich and extensive literature of mountaineering, partly because the sport has steadily attracted persons of cultural accomplishment. See Edward Whymper, *Scrambles amongst the Alps* (1871), D. W. Freshfield, *The Exploration of the Caucasus* (1896), G. W. Young, *On High Hills* (1927) and *Mountain Craft* (7th ed., 1949), R. L. G. Irving, *The Romance of Mountaineering* (1935), Sir Leslie Stephen, *The Playground of Europe* (2d ed., 1936), H. W. Tilman, *The Ascent of Nanda Devi* (1937) and *Mount Everest, 1938* (1948), H. E. G. Tyndale, *Mountain Paths* (1949), W. R. Irwin, ed., *Challenge: an Anthology of the Literature of Mountaineering* (1950)

mountain goat. see Rocky Mountain goat.

Mountain Grove, city (pop 2,431), S Mo., ESE of Springfield, in a farm and timber area, settled 1851, inc. 1882. State fruit and poultry experiment stations are near by.

Mountain Home. **1** Ozark resort town (pop. 927), co. seat of Baxter co., N Ark., near Missouri. **2** Village (pop. 1,193), co. seat of Elmore co., SW Idaho, on a plain near the Snake and SE of Boise, inc. 1896. The name in old stagecoach days belonged to a station several miles away but was adopted by the present village, a wool-shipping center on the railroad. Some 5,000 acres near the village are irrigated, as are other isolated tracts, by dams and reservoirs in creeks of the area. A large reclamation project was authorized in 1948.

Mountain Iron, village (pop. 1,492), NE Minn., just W of Virginia, settled 1890 after iron was discovered in the Mesabi range, inc. 1892.

Mountain-Karabakh (kürŭbäkh'), Rus. *Nagorno-Karabakh*, autonomous oblast (1,700 sq. mi., 1946 estimated pop. 130,000), SW Azerbaijan SSR, on the eastern slopes of the Lesser Caucasus. It is bounded in the west by the Karabakh Range. Stepanakert, the capital, and Shusha are the chief towns. It has large forests, especially in the west. Livestock raising and dairying are important. Cotton, fruit, and grapes are grown, and silkworms are cultivated. The population is about 90 percent Armenian. The region was formed into an autonomous oblast in 1923.

Mountain Lake, village (pop. 1,745), SW Minn., between Windom and St. James, in a farm area, laid out 1872. It is the home of a Mennonite colony, which holds here an annual festival of Mennonite choirs.

Mountain Lakes, residential borough (pop. 2,205), N. N. J., E of Dover and N of Morristown, settled 1915 as a real-estate development in a district of lakes, inc. 1924.

mountain laurel, evergreen shrub (*Kalmia latifolia*) native to E North America, not the true laurel. The state flower of Connecticut and Pennsylvania, it is a beautiful bush with leathery leaves and large clusters of pink or white flowers borne in the spring at the ends of the branches. The flowers are unusual in having the anthers of the stamens held in little pockets of the corolla and released like a spring when touched by insects. Mountain laurel, called also calico bush and spoonwood, is poisonous to livestock but seldom palatable, formerly its leaves were used as a remedy for skin diseases and spoons were made from the hard wood. Like other species of *Kalmia* (named for Peter Kalm) which share its poisonous quality and elastic stamens, it is an acid-soil plant. The sheep laurel or lambkill (*Kalmia angustifolia*) has smaller deeper pink flowers not borne at the tips of the branches.

mountain lion. see puma.

Mountain Meadows, small valley, c 3 mi. long and c ¼ mi. wide, extreme SW Utah, c 300 mi. SSW of Salt Lake City. In Sept., 1857, a party of some 140 emigrants bound for California were massacred here. In a period when friction between Mormons and non-Mormons was acute and when Mormons bitterly resented the coming of U. S. troops under Albert Sidney Johnston, a party of emigrants from Arkansas, with a few from Missouri and Illinois, led by Charles Fancher, encamped at Mountain Meadows, a well-known camp site on the Spanish Trail. They were attacked by a large band of Paiute Indians. After three days (Sept. 8–11) in which the emigrants defended themselves behind their wagons, they were approached by white settlers, under a flag of truce, who offered to protect them in a retreat to Cedar City, but instructed them to go unarmed and on foot to allay the suspicions of the Indians. Following these instructions, the entire party, with the exception of a few small children, were massacred. The Mormons were charged with inciting and directing the attack, and anti-Mormon feeling was intensified. Several investigations were made, but it was not until 1874 that John D. Lee, a fanatical Mormon settler, was arrested. In 1875 Lee and three associates accused of complicity were excommunicated by the Church. Lee was convicted of murder and in 1877 was put to death on the site of the massacre.

mountain men, trappers and traders who opened the area of the Rocky Mts. of the United States to general knowledge. Expeditions had been venturing to the upper Missouri since the days of French domination, and there were famous expeditions to and through the mountain country in the early 19th cent., notably the Lewis and Clark expedition, the land voyage to Astoria and the return voyage under Robert Stuart, and the ventures of the Missouri Fur Company under Manuel Lisa. The region of the mountains was still virgin fur-gathering country, however, when W. H. Ashley led his trading expedition up the Missouri in 1822. Of the men who accompanied him, many were to spend most of the next decades living in the mountains, sharing the hardships of Indian life, learning the paths and the rivers and the peaks, and gathering furs. These and others who joined them in this life were the mountain men. They were a tough and self-reliant crew, able to deal with and fight the Indians, able to survive in the wilderness alone. They were members of loose companies, after Ashley retired, the company of Smith, Jackson, and Sublette was formed, to be succeeded by the Rocky Mountain Fur Company. The roving trappers gathered together each year at an appointed spot to receive the goods brought up from St. Louis for the year's trade. This meeting was the rendezvous and was an occasion of rough celebration—for many of the mountain men the nearest approach to civilization that they had for several years at a stretch. Prominent among the mountain men were Thomas Fitzpatrick, James Bridger, Jedediah S. Smith, Kit Carson, John Colter, Milton Sublette, William Sublette, Joseph L. Meek, Hugh Glass, James Beckwourth, Edward Rose, Old Bill Williams, Dave Cook, Warren Ferris, and Hugh Glass. The country of the Southwest where Carson, the Bent Brothers, Louis Vazques, Ewing Young, and others traded among the civilized Indians is also often included in the territory of the mountain men. The Hudson's Bay Company from the Columbia river country sent men into the mountains and the Great Basin, notably Alexander Ross and Peter Skene Ogden. In 1832 the American Fur Company also began to send traders and trappers into the fastnesses of the mountain men, William Vanderburgh and Andrew Drips were outsmarted by their rivals and killed by the Indians, but the company persisted with the activities of such able men as Lucien Fontenelle and ultimately employed many of the old mountain men. The intrusion of Capt. B. L. E. de Bonneville and Nathaniel Wyeth heralded the opening of the mountains, and with the expeditions of J. C. Frémont (who was guided by mountain men) and the beginning of the wagon trains of settlers to Oregon (also guided by mountain men), the old free life began to shrink. The fur trade fell off, civilization pressed closer, and after the early 1840s the day of the mountain men was done. See Hiram M. Chittenden, *The History of the American Fur Trade of the Far West* (3 vols., 1902), Bernard De Voto, *Across the Wide Missouri* (1947). A fictional portrait of a mountain man is A. B. Guthrie's novel, *The Big Sky* (1947).

mountain sheep see bighorn.

Mountainside, borough (pop. 1,148), NE N. J., SW of Newark, inc. 1895.

Mountains of the Moon see Ruwenzori.

Mountain View **1** City (1940 pop. 3,946, 1947 special census pop. 5,868), W Calif., SE of San Francisco, inc. 1902. In an orchard and truck region, it has fruit and vegetable canneries and produces olive oil. **2** Town (pop. 1,075), SW Okla., on the Washita river and N of the Wichita Mts.

Mount Airy, town (pop. 6,286), N. N. C., NW of Winston-Salem in the Blue Ridge foothills. It has a large granite quarry and manufactures textiles and furniture.

Mount Allison University see Sackville, N. B.

Mount Angel, city (pop. 1,032), NW Oregon, NE of Salem, inc. 1905. It is a trade center, with canneries, for a fruit-raising area. Near by is Mt. Angel Seminary (Catholic, Benedictine, for men, 1883).

Mount Auburn see Cambridge, Mass.

Mount Ayr (âr), town (pop. 1,930), co. seat of Ringgold co., SW Iowa, near the Mo. line SE of Creston, founded c. 1855, inc. 1875.

Mountbatten. see Battenberg, family.

Mountbatten, Louis Francis Albert Victor Nicholas, 1st **Earl Mountbatten of Burma** (mountbă'tŭn), 1900–, British admiral, son of Prince Louis of Battenberg (later Mountbatten), marquess of Milford Haven, and Princess Victoria, granddaughter of Queen Victoria. He entered the navy as a cadet in 1913 and saw service as a midshipman in the First World War. At the outbreak of the Second World War he was a commander in the dangerous destroyer service until he returned to England to become adviser to and later director (1942–43) of combined operations, he directed the commando raids upon Norway and France. In 1943 he was appointed to head the Southeast Asia Command and directed Allied operations against the Japanese in Burma. He was last British viceroy of India (1947), and as governor general of the dominion of India (1947–48), he relinquished British power to native rule in June, 1948.

Mountbatten, Philip see Edinburgh, Philip Mountbatten, duke of.

Mount Carmel. **1** City (pop. 6,987), co. seat of Wabash co., SE Ill., on the Wabash below Vincennes, Ind., laid out 1818, inc. 1825. It is a trade and industrial center in a rich agricultural area. Electronic equipment and paper products are made here. Indian mounds in the vicinity have been excavated. **2** Borough (pop. 17,780), E Pa., E of Sunbury, laid out 1835, inc. 1864. Anthracite mining accounts for the growth of the town.

Mount Carroll, city (pop. 1,845), co. seat of Carroll co., NW Ill., near the Mississippi, in a farm and dairy area, founded 1843, inc. 1867. It is the seat of Frances Shimer College (junior) for women.

Mount Clemens (klĕm'ŭnz), city (pop. 14,389), co. seat of Macomb co., SE Mich., NE of Detroit, on the Clinton river near its mouth on Lake St. Clair, settled c. 1798, platted 1818, inc. as a village 1837, as a city 1879. It is a health resort, known for its mineral waters. Electric irons and dinnerware are made. A U. S. military air base, Selfridge Field, was established near here during the First World War. The Indian lake shore trail crossed here.

Mount Desert Island (dĭzûrt'), off the coast of S Maine, SE of Bangor. It is almost divided by the long, narrow Somes Sound into an east and a west half, each c. 10 mi. long and 5 mi. wide, the east half includes most of Acadia National Park (except Schoodic Point, on the mainland) and the leading "village," Bar Harbor. Mountainous (Mt. Cadillac reaches 1,532 ft.) and with lakes, trout streams, rocky shores, and small beaches, the island has some of Maine's finest scenery. It is the site of resorts and summer homes, many of which were destroyed by forest fires in Oct., 1947. Champlain, who named the island, landed here in 1604. A Jesuit mission and colony, the first in what is now the United States, was established in 1613 at Fernald's Point. In the same year Samuel Argall dispersed the group and destroyed the buildings, the English claiming this region by virtue of the Cabot explorations. In 1688 Louis XIV granted the island, with other lands, to Antoine de la Mothe Cadillac, but the French relinquished their claims in 1713. The first permanent settlement is believed to have been made c. 1762. Fishing villages grew up, and Mt. Desert town (pop. 2,047) was incorporated in 1789. Resort development began about the middle of the 19th cent. A public park was set aside for the state and in 1916 transferred to the Federal government, it was called Sieur de Monts National Monument, Lafayette National Park (1919), after 1928, Acadia National Park (now 28,309.7 acres). At Islesford, on Little Cranberry Island, off the south coast, is Sawtelle Museum, with historical collections relating to the island. Seal Harbor and Northeast Harbor are resorts on the south shore. The Mt. Desert marine biological laboratory is at Salsbury Cove, a few miles from Bar Harbor. See G. E. Street, *Mount Desert a History* (new ed., 1926), Harold Peabody and C. H. Grandgent, *Walks on Mount Desert Island* (1928).

Mount Dora, town (pop. 1,880), central Fla., on Lake Dora N of Lake Apopka, settled 1874, inc. 1912. It is a yachting center, with one of the oldest yacht clubs in the state, and holds an annual regatta.

Mount Ephraim, borough (pop. 2,282), SW N. J., near Camden, settled before 1800, inc. 1926.

Mount Forest, town (pop. 1,892), S Ont., on a branch of the Saugeen river and NNW of Kitchener. It has knitting, woodworking, and woolen mills.

Mount Gilead (gĭl'ēud), village (pop. 2,008), co. seat of Morrow co., N central Ohio, E of Marion, founded c. 1824, named Mt. Gilead 1832. Hydraulic presses are made here.

Mount Healthy, village (pop. 3,997), SW Ohio, near Cincinnati, founded 1817. Machine tools and clothing are made.

Mount Holly. **1** Unincorporated village (pop. 6,831), co., seat of Burlington co., W. N. J., S of Trenton and E of Camden, settled c. 1680 by Friends. It is a trade center. Of interest are a Friends' meetinghouse (1775), used by the British as a commissary when they occupied the town in 1776, the courthouse (1796), the old firehouse (1752), and Stephen Girard's home (1777). The John Woolman Memorial Building (1771) was Woolman's daughter's home. **2** Textile-mill town (pop. 2,055), W central N C., on the Catawba and just NW of Charlotte.

Mount Holly Springs, industrial borough (pop. 1,260), S Pa., c. 18 mi. SW of Harrisburg, inc. 1873. It manufactures clothing and paper. Near here is white clay which is used as a filler and base in many products.

Mount Holyoke College (hōl'yōk), at South Hadley, Mass., nonsectarian, for women, chartered 1836, opened 1837 as Mount Holyoke Female Seminary. Founded by Mary Lyon, it equaled some of the colleges of the day and was the model for many of

the early women's schools and colleges It was rechartered in 1888 as Mount Holyoke Seminary and College and in 1893 as Mount Holyoke College It provides for graduate work, including a degree in education The college has an arboretum, a laboratory theater, and a good art museum on its campus Mary Woolley (1901–37) was a noted president See A C Cole, *A Hundred Years of Mount Holyoke College* (1940)

Mount Hope, city (pop 2,431), S W Va, NE of Beckley, in a coal area, inc 1897

Mount Horeb (hôr'ŭb), village (pop 1,610), S Wis, SW of Madison, in a dairy region, settled 1860 by Norwegians and Swiss, inc 1899

Mount Jewett, borough (pop 1,445), NW Pa, in the Alleghenies near Smethport, settled c 1838, inc 1893 Tanning is done here

Mount Joy, borough (pop 2,855), SE Pa, near the Susquehanna SE of Harrisburg, settled 1768, laid out 1812, inc 1851 Its manufactures include shoes, textiles, and iron castings

Mount Kisco, residential village (pop 5,941), SE N Y, in Westchester co, N of White Plains, inc 1874

Mount McKinley National Park, 1,939,319 04 acres, central Alaska, in the Alaska Range, est 1917, enlarged 1922 and 1932 It is only a little smaller than Yellowstone National Park A region of spectacular mountain scenery, the park contains several glaciers and some partly forested (spruce, birch, and willow) valleys Wildlife abounds, including caribou, mountain sheep, bears, and wolves The highest peaks are Mt Foraker (17,000 ft) and, notably, Mt McKinley (locally called Denali, 20,300 ft), the highest point in North America The first successful ascent of Mt McKinley was made in 1913, by Hudson STUCK Access to the park, which is open from June to September, is from McKinley Park station on the Alaska R R See A H. Brooks, *The Mount McKinley Region* (1911), Hudson Stuck, *The Ascent of Denali* (1914), W N Beach, *In the Shadow of Mount McKinley* (1931).

Mount Morris. **1** Village (pop 2,304), N Ill, SW of Rockford, settled 1838, inc 1857 A number of agricultural periodicals are printed here **2** City (pop 2,237), S Mich, residential suburb of Flint, settled 1842, inc as a village 1867, as a city 1930 **3** Village (pop 3,530), W central N Y, in the Finger Lakes region, SW of Rochester, inc 1835 Canning is done here A tuberculosis hospital is in the village Houghton College is near by

Mount of Olives: see OLIVES, MOUNT OF

Mount Olive. **1** City (pop 2,559), SW Ill, NE of St Louis, in a coal area, inc 1917 It has the graves of "Mother" Jones and "General" Alexander Bradley, pioneers in the fight for unionization of the miners **2** Town (pop 2,929), E N C, SE of Raleigh, in a tobacco, cotton, and truck-farm area, founded c 1840

Mount Oliver, borough (pop 6,981), Allegheny co, SW Pa, S of, and near, Pittsburgh, inc 1892

Mount Olympus: see OLYMPIC MOUNTAINS and OLYMPUS (Greece)

Mount Palomar Observatory: see PALOMAR, MOUNT

Mount Penn, residential borough (pop 3,654), SE Pa, near Reading, inc 1902

Mount Pleasant **1** City (pop 4,610), co seat of Henry co, SE Iowa, NW of Burlington, founded 1839, inc 1842 It was the site of Iowa's first courthouse Iowa Wesleyan College, a soldiers' and sailors' hospital, and a state hospital for the insane (1861) are here Oakland Mills State Park is near by **2** City (pop 8,413), co seat of Isabella co, S Mich, W of Bay City and on the Chippewa, settled before 1860, inc as a village 1875, as a city 1889 Dairy products are made The city has grown since oil was found near by (1928) It is the seat of a state teachers college and a state vocational school for feeble-minded children **3** Town (pop 1,017), S N C, ESE of Charlotte, in a farm area **4** Borough (pop 5,824), SW Pa, SE of Pittsburgh, laid out c 1797, inc 1828 Among its manufactures are coke and glass **5** Town (pop 1,698), SE S C, on Charleston Harbor It is connected with Charleston by a bridge **6** Town (pop 3,089), central Tenn., SSW of Nashville and near Columbia, in a phosphate-mining, timber, and farm area Meriwether Lewis National Monument is near **7** City (pop. 4,528), co seat of Titus co., E Texas, SW of Texarkana; inc. 1900 Settled before the middle of the 19th cent, Mt Pleasant was a lumbering center of the pine woods The region produces oil as well as sweet potatoes, truck, peanuts, and cotton **8** City (pop. 2,382, alt 5,850 ft), central Utah, in the Sanpete Valley S of Provo, settled 1852 by Mormons, inc 1868. Sheep are raised, and alfalfa for winter pasture is grown by irrigation, now with the aid of water brought from a Green River tributary by the Sanpete project

Mount Prospect, village (pop 1,720), NE Ill., near Evanston, in a farm area, inc 1917.

Mount Pulaski (pŭlă'skĭ), city (pop 1,378), central Ill, NE of Springfield, in the Lincoln country; inc. 1893 In 1936 the state purchased the old courthouse (1847) and made it a historical monument.

Mount Rainier (rā'nēr), town (pop. 4,830), W central Md., a suburb of Washington, D.C.

Mount Rainier National Park (rānēr', rŭ-), 241,-524 77 acres, SW central Wash., in the Cascade Range SE of Tacoma; est 1899 It is dominated by Mt Rainier, volcanic peak, 14,408 ft high, discovered and named by Captain Vancouver in 1792 The mountain is snow-crowned and has 26 glaciers, its heavily forested lower slopes are popular with mountain climbers.

Mount Revelstoke National Park, 100 sq. mi, SE British Columbia, in the Selkirk Mts, just E of the Columbia river valley, est. 1914 It is on a high plateau, rising to c 7,000 ft in Mt Revelstoke, and has several small lakes A popular resort area, it is noted especially for winter sports

Mount Robson Provincial Park (rŏb'sun), 803 sq mi, E British Columbia, in the Rocky Mts W of Jasper, Alta It is a dominion forest reserve, containing high peaks, glaciers, lakes, and waterfalls. Mt Robson (12,972 ft high), in the park, is the highest peak in the Canadian Rocky Mts

Mount Royal, town (pop 4,888), S Que., on Montreal island It is a west suburb of Montreal

Mount Rushmore National Memorial, 1,668 27 acres, SW S Dak, in the Black Hills and NE of Custer, est 1929 Carved on the face of the mountain, visible for 60 mi, are colossal busts of Washington, Jefferson, Lincoln, and Theodore Roosevelt The memorial was authorized March 3, 1925, by act of Congress Gutson Borglum was selected as sculptor The sculpture was nearly completed when Borglum died (1941), it was finished later in the year by his son Lincoln Borglum

Mount Saint Scholastica College see ATCHISON, Kansas

Mount Shasta (shă'stu), resort town (pop 1,618), N Calif, at the foot of Mt SHASTA, settled in the 1850s, inc 1905 A state fish hatchery is near by

Mount Stephen, George Stephen, 1st Baron, 1829–1921, Canadian financier and railroad builder. He came to Canada from Scotland in 1850, became a manufacturer, and was made (1876) president of the Bank of Montreal With his cousin, Lord Strathcona, and others, including James J Hill, he helped to construct the Canadian Pacific Railway, lending to the project his considerable financial skill From 1881 to 1888 he was president of the railroad In later years he lived in England His philanthropies were numerous He was created baronet in 1886 and baron in 1891

Mount Sterling. **1** City (pop 2,140), co seat of Brown co, W central Ill, E of Quincy, settled 1830, inc 1837 It is a processing center of a farm area **2** City (pop 4,782), co seat of Montgomery co., N central Ky, E of Lexington, in the bluegrass region, platted 1793 It is the trade center for a livestock and farm area Mt Sterling was captured and sacked by Gen John H Morgan in the Civil War Numerous Indian mounds are in the county **3** Village (pop 1,115), S central Ohio, SW of Columbus, in a farm and dairy area, founded 1828

Mount Union, industrial borough (pop 4,763), S Pa., on the Juniata river and SE of Huntingdon, laid out 1849, inc 1867 Its industries include brickmaking, lumbering, farming, and quarrying

Mount Union College see ALLIANCE, Ohio

Mount Vernon. **1** City (pop 14,724), co seat of Jefferson co., S Ill, SE of Centralia, inc 1837 It is a trade, rail, and industrial center for a farm, coal, and oil area. Its principal manufactures are freight cars, shoes, furniture, and hosiery **2** City (pop 5,638), co seat of Posey co, SW Ind, on the Ohio near the confluence of the Wabash and W of Evansville, settled 1816, inc. 1865. It is a trading center for a farming area Prehistoric remains have been discovered near by **3** Town (pop 1,489), E Iowa, ESE of Cedar Rapids, inc 1869 Cornell College (Methodist, coeducational, 1853) is here Palisades-Kepler State Park is near by **4** Town (pop 1,100), co seat of Rockcastle co., central Ky, S of Lexington and on the old Wilderness Road, settled 1810, inc 1818 The Langford House (1790) here served as a fort against the Indians Near by are the Great Saltpeter Caves, mined extensively during the Civil War Limestone, coal, and oil are found in the region **5** City (pop 1,982), co seat of Lawrence co, SW Mo, E of Joplin, in a farm region, laid out 1845. A milk condensery is here The city is the site of a state tuberculosis sanatorium. **6** Industrial and residential city (pop. 67,362), SE N.Y, in Westchester co, just N of the Bronx, settled 1664, inc 1892 Its industries include die casting and the making of electrical instruments, vitamin products, and decalcomania, it is a large oil distribution center St Paul's Church (c 1761) is here (see EASTCHESTER) **7** City (pop. 10,122), co seat of KNOX co., central Ohio, NE of Columbus; laid out 1805 It is a trade center for a farm and livestock area. Gas, oil, and Diesel engines are made here. Daniel Decatur Emmett was born here. Near by is a state hospital for the tubercular **8** Town (pop. 1,443), co seat of Franklin co, E Texas, SW of Texarkana The county has pine woods, cotton fields, truck farms, and oil wells. **9** City (pop. 4,276), co. seat of Skagit co., NW Wash., on the Skagit river and SE of Bellingham; settled c.1877. It has farm and dairy manufactures and a junior college.

Mount Vernon, national shrine, N Va., overlooking the Potomac near Alexandria, 8 of Washington, D C; home of George Washington from 1747 until his death. The land was patented in 1674, and the house built in 1743 George Washington inherited it in 1754 and made additions which were not completed until after the Revolution The mansion is a wooden structure of Georgian design, two and one-half stories high, with a broad, columned portico, wide lawns, fine gardens, and subsidiary buildings surround it The mansion has been restored, after Washington's detailed notes, with much of the original furniture, family relics, and duplicate pieces of the period. The estate was purchased in 1860 by the Mount Vernon Ladies' Association (organized 1856), its permanent custodian In the tomb (built 1831-37) are the sarcophagi of George and Martha Washington and the bodies of other members of the family See Paul Wilstach, *Mount Vernon* (4th ed, 1930), H. H. Dodge, *Mount Vernon* (1932)

Mount Wilson Observatory: see WILSON, MOUNT

Mourne Mountains (môrn), in the southern part of Co Down, Northern Ireland. Slieve Donard (2,796 ft) is the highest peak.

mourning bride: see SCABIOSA.

Mourzouk, Libya see MURZUK.

mouse, name for various small rodents found on all continents Mice have soft fur, usually some shade of gray or brown above, often white on the under parts The tail is scaly and hairless in some and hairy in others, and the ears are usually large The senses of smell and hearing are keen It is believed that the house mouse (*Mus musculus*) evolved from wild mice of central Asia which spread by trade and travel routes to all parts of the world It eats and contaminates man's food, damages leather and other articles, and sometimes destroys field crops It may mate at the age of two months and can produce five to eight litters a year Among the New World mice are the white-footed or deer mouse, which eats plant foods as well as insects and other small animals, the harvest mouse, which lives in wet and dry grassy places, and the predaceous grasshopper mouse of N North America Voles, stocky forms with short ears and blunt heads, include the meadow mouse (*Microtus*) of North America, Europe, Asia, and North Africa and the red-backed mouse (*Clethrionomys*) of cold north temperate regions Mice are eaten by nearly all carnivores. The mouse, especially the albino or white house mouse, is used in scientific research The dormouse, jerboa, jumping mouse, and pocket mouse are related rodents

Mousinho de Albuquerque, Joaquim (zhwăkēm' mōzē'nyō dăl"bŭkĕr'ku) 1855–1902, Portuguese military commander in Mozambique After service in India, he was made governor of Lourenço Marques in 1890 He took a large part in suppressing the rebellion of the native tribes of S Mozambique in 1895 and 1896 and, as governor of Gaza, was in command By a daring coup he captured Gungunhana, the native leader, and he established order, making the Portuguese hold on Mozambique firm Displeased with the political intrigues of colonial politics, he resigned and returned to Lisbon, where he committed suicide

Moussorgsky, Modest Petrovich (mŭdyĕst' pĕtrô'vĭch mōsôrg'skē), 1839–81, Russian composer, one of the nationalist school His masterpiece is the opera *Boris Godunov* (1868–69, revised 1871-72, produced 1874), after the play by Pushkin It was later edited and revised by Rimsky-Korsakov, as was the unfinished opera *Khovanshchina* (produced 1885) Outstanding are his piano suite, *Pictures at an Exhibition* (1874), later orchestrated by Ravel, *St John's Night on the Bare Mountain*, for orchestra (1867); and many fine songs See biographies by Oskar von Rieseman (Eng tr, 1929) and M. D Calvocoressi (1946), V I Seroff, *The Mighty Five* (1948)

Mousterian: see PALEOLITHIC PERIOD

mouth or oral cavity, the beginning of the digestive tract The mouth cavity is divisible into two portions, the vestibule and the mouth cavity proper The vestibule is the potential space between the lips and cheeks (forming the outer boundary) and the teeth and gums of both jaws The mouth cavity proper extends from the inner arches of the teeth and gums to the throat The roof of the mouth is formed by the hard and the soft palate, the tongue rests on the floor of the mouth Salivary and mucous glands open into the vestibule and into the mouth cavity proper The action of saliva, by means of an ensyme (ptyalin), changes starch to sugar in the mouth cavity, thus initiating the process of digestion. The chewing and grinding action of the teeth prepares the food for digestion by ensymes in the stomach and small intestine.

mouth organ: see HARMONICA 1.

moving pictures, motion pictures, or cinema (sĭ'nŭmă), a series of pictures produced by projecting on a screen the images in a film. Although the images are photographs of bodies at successive instants of motion, they are projected so rapidly that the human eye perceives them in continuous motion because of the retention of an image as an afterimage (persistence of vision). In the sound moving pic-

ture, photographs are recorded on a celluloid roll film; sound is recorded, in terms of light variations, on a band running the length of the film (see SOUND RECORDING). The standard width for theatrical film is 35 mm; many documentary films are recorded or reproduced on 16-millimeter film for use on smaller projectors; amateurs commonly use 8-millimeter film. The origins of the moving picture must be sought in devices, commonly wheels or disks, designed to give the illusion of motion by the rapid viewing of serial pictures and in the development of inventions and techniques for photographing movement. In the 1870s serial photographs of race horses in motion were obtained in California by Eadweard Muybridge and J. D. Isaacs by setting up a row of cameras with electrically operated shutters. To exhibit the shots, Muybridge invented the zoopraxiscope, essentially a revolving disk from which the photographs were projected. Methods of serial photography and of projection were improved in the 1880s by E. J. Marey, a French physician, in the course of his study of motion. At about this time Thomas Alva Edison and his staff were developing the Kinetograph, a camera using rolls of coated celluloid film, and the Kinetoscope, an apparatus for peep-show viewing. Marketed in 1893, the Kinetoscope became popular immediately in penny arcades. The rate of invention was accelerated. Especially notable was the work in France of the Lumière brothers, who invented the *Cinématographe*, an apparatus for taking and for projecting serial pictures, in 1895. The Lumières exhibited in Paris moving pictures projected on a screen. In the United States also projection machines, notably the Pantopticon and the Vitascope, were developed at about the same time. The Kinetoscope was soon superseded by pictures projected on a screen. Shops and storerooms were converted for presenting the brief and shaky pictures that were the product of the early cameras and projectors. Many of these impromptu theaters charged a nickel for admission and were therefore known as *nickelodeons*. The moving picture developed simultaneously as a new art form and as an industry. Early pictures recorded scenes, and simulations of scenes, from life. As the novelty wore off, the makers of pictures were forced to introduce improvements in techniques and in subject. Longer pictures were made, romance and adventure were introduced. A pioneer in the new mode was the French producer, Georges Méliès, who broadened film subjects by using incidents approaching story importance, fantasy, and comedy and who enlarged film technique with many camera tricks and film-editing devices. Influenced by the success of the Méliès films, Edwin S. Porter, an American director, carried the editing principle further, using such devices as parallel and contrast cutting for joining and interpreting separate themes into one narrative. He made *The Great Train Robbery* (1903), whose popularity insured the continuance of the new style. David Wark Griffith recognized the possibilities of motion pictures and set the general structure of the form as it is known today. He substituted the single shot for the scene as the unit in editing film, introduced or improved devices such as the close-up, fade-in, and dissolve, and used a mobile camera. His *Birth of a Nation* (1915) and *Intolerance* (1916) set a new mark in technique. Editing techniques to increase tension, contrast and meaning were further developed especially by Russian and German producers and are usually grouped under the term *montage*. The tradition of the spectacle film, popularized by Griffith, was perpetuated in later pictures such as *The Covered Wagon* (1923). The form of the motion picture was influenced also by the introduction of full-length feature pictures from Europe, notably *Quo Vadis?* (Italian, 1913). The early years of the industry were marked by bitter disputes over patent rights. Companies holding essential patents formed (1909) the Motion Picture Patents Company, which attempted to keep unlicensed companies out of production and distribution. Many independents moved their operations to Los Angeles in order to be close to the Mexican border in case of injunction, and Hollywood, Calif., eventually became the movie capital. Films were at first sold outright to exhibitors, later they were distributed on a rental basis through film exchanges. In the early films, players were presented anonymously, but the tremendous popularity of Mary Pickford, who came to be called "America's Sweetheart," and of Charles Chaplin, considered by many the world's greatest comedian, marked the star as the key to box-office success. Thereafter the star system was established; the player dwarfed the producer, and the salaries of stars rose dizzily. Acting improved and expert pantomime replaced extravagant gestures. International renown was attained by many actors, notably William S. Hart, Douglas Fairbanks, Sr., Theda Bara, Rudolph Valentino, and Greta Garbo. The skill of cameramen and directors increased, technical problems were solved, and the polished techniques for which Hollywood has become famous were developed. During the First World War the United States became dominant in the industry; American producers acquired virtual control of moving-picture distribution throughout the world. Antitrust suits by the U.S. government have sought to break the connection between distribution and production. Although the United States still dominates the world industry, its position has been challenged by the production abroad of excellent and artistic films and by foreign regulations limiting the importation of American films. Dependent upon mass production and mass support, pictures tend to mirror the opinions and attitudes of the time, in the effort to avoid offending any large section of society, strength of artistic production is frequently lost. Criticism by educational, religious, and other groups and the fear of organized censorship induced the industry to establish (1922) an organization for self-regulation, the Motion Picture Producers and Distributors of America (headed until 1945 by William H. Hays), and to accept its production code (known as the "Hays Code"). The taste in movies has in general run to the sensational, as in Western films, the "sex-appeal" films in the 1920s, and gangster movies in the 1940s. Almost from the start there were attempts to make movies with sound, movies with color, and three-dimensional movies. In 1926 sound effects and music were successfully used, dialogue was introduced in *The Jazz Singer* (1927) with Al Jolson. Color was successfully employed following the development (c. 1932) of Technicolor, a three-color (red, blue, yellow) process. Special types of films include the ANIMATED CARTOON, the documentary film, and the newsreel. The documentary, broadly defined, includes the newsreel, travel film, educational film, and all other fact or nonfiction films. The term is sometimes limited to artistic, interpretive films developing out of the work of Robert Flaherty in the '20s, examples are Flaherty's *Nanook of the North* (1922) and Pare Lorentz's *The Plow That Broke the Plains* (1936) and *The River* (1937). The documentary has proved its value in the schoolroom and in training programs during the Second World War and both here and abroad has been used as a medium for propaganda. Among the earliest film types is the newsreel, which was first presented as a regular attraction by Charles Pathé in Paris c. 1909 and in the United States in 1910. See Terry Ramsaye, *A Million and One Nights* (1926), Maurice Bardèche and Robert Brasillach, *The History of Motion Pictures* (1937, Eng. tr. 1938), Lewis Jacobs, *The Rise of the American Film* (1939), Gloria Waldron, *The Information Film* (1949), Paul Rotha, *The Film Till Now* (1930, rev. 1949).

Mowat, Sir Oliver (mō'ut), 1820–1903, Canadian statesman, b. Kingston, Ont. He was called to the bar of Upper Canada in 1841 and entered the Canadian legislative assembly as a Liberal in 1858. As a member of the Quebec conference in 1864, he helped to draft the resolutions on confederation. Mowat was a champion of provincial autonomy, his long term (1872–96) as Liberal premier and attorney general of Ontario was marked by a series of successful attempts to secure local sovereignty for that province. Appointed (1896) to the dominion senate, he was minister of justice under Sir Wilfrid Laurier until 1897, when he retired to accept the post of lieutenant governor of Ontario. See biography by C. R. W. Biggar (1905).

Mowatt, Anna Cora (Ogden) (mou'ut), 1819–70, American actress and playwright. She made her debut in 1845 in *The Lady of Lyons*, supporting E. L. Davenport, and produced her comedy *Fashion*, which won popular acclaim, in the same year. Davenport became her leading man, and they had success in her play *Armand* (1847) and in tours (1845–54) of England and the United States, when she played such roles as Lady Teazle, Juliet, and Katharina in *The Taming of the Shrew*. Edgar Allan Poe called her plays "theatrical but not dramatic," but was captivated by her charm and natural manner. In 1854 Mrs. Mowatt married W. T. Ritchie and retired from the stage. See her autobiography (1854).

Mowbray, Harry Siddons (mō'brā), 1858–1928, American figure and decorative painter, b. Egypt, of English parents. He was taken to the United States in 1859. His works include *Idle Hours* (National Gall. of Art, Washington, D.C.), *A Lady in Black* (Buffalo, N.Y., Acad.), a frieze, *Development of Law*, in the Appellate Courthouse, New York, and mural decorations in numerous residences in New York and Washington, D.C., in the library and council room of the University Club, New York, in the Federal Courtroom, Cleveland, in the art gallery of Breckenridge Long, St. Louis, and in the church and Gunn Memorial Library at Washington, Conn. He was a member of the National Academy of Design and the first director (1903) of the American Academy in Rome.

Mowbray, Thomas: see NORFOLK, THOMAS MOWBRAY, 1ST DUKE OF.

Mowequa (mōwē'kwŭ), village (pop. 1,366), central Ill., S of Decatur, in a farm and coal area; inc. 1877.

mower. The machine, drawn by horses or by a tractor, that has generally superseded the scythe in cutting meadows for hay is an adaptation of the REAPER, which has a far longer history. Mowers were first used extensively in the time of the Civil War in America, when scarcity of labor encouraged the use of machinery. The lawn mower is a relatively small machine for cutting the grass of lawns and parks. It is propelled either by hand or by gasoline engines.

Moza (mō'zŭ). **1** Son of Caleb. 1 Chron. 2.46. **2** Descendant of Saul. 1 Chron. 8.36,37.

Mozah (mō'zu), unlocated town, apparently W of Jerusalem. Joshua 18.26.

Mozambique (mō"zumbēk'), Port. *Moçambique*, Portuguese colony (297,731 sq. mi., pop. 5,085,630), on the Indian Ocean. It is also called Portuguese East Africa. The capital is Lourenço Marques. It is bordered on the north by Tanganyika, Nyasaland, and Northern Rhodesia and on the west by Southern Rhodesia and the Union of South Africa. Mozambique Channel (c. 250 mi. wide) separates it from Madagascar. There are coastal lowlands and in the interior undulating savanna highlands. Roads and railroads link the prosperous plantations and mining areas with the ports. Cotton, sisal, tobacco, coffee, and tea are grown. Aluminum, asbestos, tin, tungsten and coal are mined in the northwest. The Portuguese founded settlements and occupied the coast in the early 16th cent. When the Dutch occupied the Portuguese establishments in Angola (1640–48), the Portuguese slave traders transferred to Mozambique, and Portugal's hold on the region was strengthened. Slavery was abolished in 1878. Since then Mozambique, despite its hot, damp climate, has attracted as settlers Portuguese and other Europeans, especially British. Mozambique is ruled by a governor with the aid of elected councilors.

Mozarabs (mōzā'rubz), Christians of Moslem Spain. Their position was that of Christians and Jews usually in Islam: they were a separate community locally autonomous, and they paid a special tax instead of the requirement made of Moslems to serve in the army. In Spain the Christians elected their own ruler, called count, who was directly responsible to the Moslem emir or caliph, their taxes, separate from those of Moslems, were collected by special agents. They were allowed to maintain their hierarchy (the primate of Spain being the archbishop of Toledo), and they used the Visigothic, not the Moslem, canon law. Their LITURGY, called the Mozarabic rite, was very like that of ancient Gaul. It is preserved only in chapels at Toledo and Salamanca. For one or two periods, notably in the 11th cent., the Mozarabs were persecuted. The chief Mozarab centers were Toledo, Seville, and Córdoba. The Christians were probably Arabic-speaking, and their culture, basically Romance-Visigothic, was heavily influenced by Moslem civilization. The influence of the Mozarabs in modern Spain was very great.

Mozart, Wolfgang Amadeus (mō'zart, Ger. vôlf'gäng ämädā'ōos mō'tsart), 1756–91, Austrian composer, b. Salzburg. Under the tutelage of his father he became an infant prodigy at the harpsichord, violin, and organ, and he and his older sister were displayed by their father at the court of Maria Theresa, at the principal aristocratic households of Central Europe, in Paris, and in London. Mozart met J. C. Bach (whose influence was of great significance) in London and composed his first symphonies there. During travels in Italy (1768–71) he absorbed Italian style, successfully produced his second opera, *Mitridate, re di Ponto* (Milan, 1770), and in Rome in 1770 wrote down Allegri's *Miserere* from memory after a single hearing. He was appointed concertmeister to the archbishop of Salzburg in 1771. In 1777, accompanied by his mother, he began his last tour, in search of a satisfactory position. It lasted until 1779 and included Munich, Augsburg, Mannheim (where he fell in love with the singer Aloysia Weber), Versailles, and Paris. Paris, where his mother died, with its opera dominated by Gluck, had little time for Mozart, despite the successful performance there of his symphony in D (1778), known as the Paris Symphony. Back in Salzburg he composed *Idomeneo* (Munich, 1781) for the Bavarian court. This opera, one of the last examples of the late 18th-century *opera seria* and in many respects the best, is the first work of Mozart's maturity. In the year of its production he resigned from the archbishop's service and moved to Vienna, where in 1782 he married Constanze Weber, Aloysia's sister, and began his friendship with Haydn. The six string quartets (1782–85) dedicated to Haydn are testimony of the influence of Haydn, who was in turn influenced by the later quartets of Mozart, avowing that he considered Mozart the greatest living composer. Mozart's German Singspiel *Die Entführung aus dem Serail* (1782) had some success, but the Viennese court opera was dominated by Italian opera, and in his next three operas Mozart turned to *opera buffa*, with librettos by Lorenzo Da Ponte. *Le Nozze di Figaro* (1786) was fairly well received in Vienna, but in Prague it found immediate and lasting acceptance, and from Prague came the commission which resulted in *Don Giovanni* (Prague, 1787), which the people did not understand. At the death of Gluck (1787), Mozart succeeded him as chamber musician and court composer to Joseph II. His salary was far less than Gluck's had been, however,

and his financial troubles persisted to the end of his life In the space of three months in 1788 Mozart composed his last three symphonies—No 39 in E flat, No 40 in G minor, and No 41, called Jupiter Symphony, in C These display complete mastery of symphonic form as established by Haydn, while they are at the same time intensely personal, immitable works In 1789 Mozart accompanied Prince Carl Lichnowsky to Berlin In Potsdam he was presented to King Frederick William II, whose offer of a position he refused For the king, an accomplished cellist, Mozart's last three string quartets (1789–90) were written Returning to Vienna he composed his clarinet quintet (1789), his last *opera buffa*, *Così fan tutte* (1790), and his last piano concerto (1791), in B flat In 1791 *Die Zauberflöte*, with the actor Schikaneder as librettist, was begun as a fairy opera Both men were Masons, however, and during the course of its composition the opera was turned into a symbolic glorification of Freemasonry Its composition was interrupted by a commission from a wealthy nobleman for a Requiem Mass and by the composition of *La clemenza di Tito*, an *opera seria* for the coronation of Leopold II as king of Bohemia After the production of *Die Zauberflöte*, Mozart worked feverishly on the Requiem, with the foreboding that it was to be his own Requiem He died without finishing it, the work was completed by his pupil Franz Sussmayr Nearly all of Mozart's works were composed upon commission, and he wrote in all forms—Masses and other church music, songs, concert arias, instrumental dances, suites, serenades, and *divertimenti*, chamber music for various combinations, sonatas, concertos; cantatas, symphonies; and operas Opera, however, seems to have been his chief interest Although admired by Gluck, Mozart's operas embody the opposite of Gluck's ideals, in Mozart everything is conceived in terms of the music, and the music characterizes where the words do not In antitheses to Gluck's choruses are Mozart's ensembles, with their sharp character delineation Mastery of symphonic form is also apparent in the operas A thematic catalogue of Mozart's works was made by Ludwig von Köchel and published in 1862, an edition revised by Alfred Einstein appearing in 1937 Works are usually identified by their numbers in this list, e g , the Piano Concerto in B flat, K 595 See biographies by Otto Jahn (4 vols , 1856–59, Eng tr , 1882), Eric Blom (rev ed , 1937), W J Turner (1938), and Alfred Einstein (1945), T. F Dunhill, *Mozart's String Quartets* (1927), E J Dent, *Mozart's Operas* (2d ed , 1947), Georges de Saint-Foix, *The Symphonies of Mozart* (Eng tr , 1947), A J B Hutchings, *A Companion to Mozart's Piano Concertos* (1948), C M Girdlestone, *Mozart's Piano Concertos* (1948) Mozart's father, **Leopold Mozart** (lā'ōpōlt), 1719–87, besides being the teacher of his famous son, was a capable composer and was author of *A Treatise on the Fundamental Problems of Violin Playing* (1756, Eng tr , 1948), a work of interest today as a record of 18th-century musical practice

Mozhaisk (mŭzhīsk'), city (1939 pop over 10,000), central European RSFSR, W of Moscow and on the Moskva river Chartered in 1231, it was formerly an important fortress town Here Napoleon awaited the evacuation of Moscow by the Russians (1812) A highway junction, Mozhaisk was held (1941) by the Germans in their attempt to take Moscow in the Second World War

Mozier, Joseph (mō'zhur), 1812–70, American sculptor, b Burlington, Vt He went to Italy to study and practice art, after retiring from business in 1845 Some of his works are *Prodigal Son* (Pa Acad. of the Fine Arts), *Rebecca* (N Y Public Library), *Il Penseroso* (Horticultural Hall, Philadelphia), *Rizpah* (Metropolitan Mus), and *Wept of Wish-ton-Wish* (New Haven)

Mta (umstä'), river, c 275 mi long, NW European RSFSR It rises near Borovichi and flows generally W into Lake Ilmen near Novgorod Once an important navigation route, it is now of only local significance

Mtskhet (umtskhyĕt') or **Mtskheta** (mutskhyĕ'tŭ), town (1939 pop over 2,000), Georgian SSR, NW of Tiflis and on the Kura river and the Georgian Military Road An ancient city, it was the capital of Georgia until the 5th cent. A D , when it was superseded by Tiflis Its 15th-century cathedral, containing the tombs of Georgian rulers, was built on the site of a building destroyed by Tamerlane Another church (12th cent) was restored in 1903

Muallaqat (mōō'läkät'), Arabic anthology compiled by the scholar Hammad al Rawiya (d c 775). It consists of seven (or, in some versions, nine) odes, all by different poets of the 6th or early 7th cent They are generally esteemed the finest of Arabic odes, and they present an unexampled picture of Bedouin life in its state before Islam. According to legend (probably by popular etymology) the poems were hung up in the enclosure at Mecca The greatest Arabic poets are represented in the Muallaqat. The name also appears as Moallakat

Muawiya (mōō'wēä), d 680, first OMAYYAD caliph, one of the greatest of Moslem statesmen, son of Abu Sufyan, a native of Mecca He submitted to Islam the year of the surrender of Mecca and became Mohammed's secretary Under Omar he became the very able governor of Syria He struggled with ALI over the government of the empire and led in the deposition of HASAN As caliph he made Islam an autocracy, retaining the old forms of self-government By continual raids beyond his borders he maintained himself from aggression Under him the Arabs became an obedient, flexible instrument of war Muawiya's policy was always tolerant, and he displayed an enlightened point of view in all his dealings He made the Moslem empire the remarkably unified force that it was

Much Wenlock, Shropshire, England see WENLOCK

mucilage (mu'sĭlĭj), a thick glutinous fluid related to the natural gums It is secreted by a variety of plants, notably by the root of the marsh mallow and the seed of flax, it is the chief constituent of agar Its function in the plant is varied, it sometimes serves to check loss of water, to facilitate seed dispersal, and as a food reserve In medicine it is known as an emollient and demulcent Mucilage is used also as an adhesive, and the term is extended to include other slimy adhesives, especially solutions of gum, such as tragacanth mucilage

Muck, Karl (kärl' mōōk'), 1859–1940, German conductor, studied at the universities of Leipzig and Heidelberg (Ph D , 1880) and at the Leipzig Conservatory After a debut as a pianist, he made numerous appearances as an opera conductor and was musical director (1892–1912) of the Royal Opera, Berlin He conducted (1901–30) at the Bayreuth Festivals, and he was conductor of the Boston Symphony Orchestra from 1906 to 1908 and from 1912 until his internment as an enemy alien in 1918 In 1919 he returned to Germany and was conductor (1922–33) of the Hamburg Philharmonic Orchestra

Muckross see KILLARNEY, Co Kerry, Ireland

Mudania or **Mudanya** (both mōōdä'nyä), town (pop 5,624), NW Turkey It lies on the Asiatic shore of the Sea of Marmara and functions as port for near-by Bursa

Mudd, Samuel Alexander, 1833–83, Maryland physician and Confederate sympathizer who on April 15, 1865, set the broken left leg of Lincoln's assassin, John Wilkes BOOTH Tried along with Booth's accomplices (see SURRATT, MARY EUGENIA), he was sentenced to life imprisonment at Fort Jefferson in the Dry Tortugas, Fla Since Dr Mudd had nothing to do with the assassination and since Edward Spangler, the sceneshifter at Ford's Theater convicted of abetting Booth's escape, was let off with six years, this extreme penalty was quite unjust However, he was pardoned by President Johnson in 1869 See *The Life of Dr Samuel A Mudd* (ed by his daughter, Nettie Mudd, 1906)

Mudejar, Span *mudéjar* (mōō-dhā'här), name given to the MOORS in Spain converted to Christianity and to the style of Spanish architecture and decoration, strongly influenced by Moorish taste and workmanship, which developed after the Christian reconquest In erecting Romanesque, Gothic, and Renaissance buildings, elements of Mohammedan art were used, achieving sometimes striking results The dominant geometrical character, distinctly Oriental, emerged conspicuously in the accessory crafts—tilework, brickwork, wood carving, plaster carving, and ornamental metals Even after the Mohammedans themselves were no longer employed, many of their contributions remained as an integral part of Spanish building A particularly fine Mudejar example is the Casa de Pilatos, of the early 16th cent , at Seville See G G King, *Mudejar* (1927)

mud hen see COOT

Mueller, Paul Herman (poul' hĕr'män mü'lûr), 1899–, Swiss research chemist In 1939 he discovered the insecticidal powers of DDT (dichlorodiphenyl-trichloroethane), which was widely used as a means of checking insect-borne diseases in the Second World War For his discovery he was awarded the 1948 Nobel Prize in Physiology and Medicine

Mufaddaliyat see MOFADDALIYAT

mufti (mŭf'tē), in Moslem law, attorney who writes his opinion (*fatwa*) on legal subjects for private clients or to assist judges in deciding cases The recorded opinions of the muftis are a valuable source of information for the actual working of Moslem law as opposed to the abstract formulation Only in the fields of marriage, divorce, and inheritance are the *fatwas* binding precedents, on other subjects they might be set aside In the Ottoman Empire the muftis were state officials. The British retained the institution in some Moslem areas which they controlled, e g , in Palestine, where HUSSEINI (Amin el Hussein) was made mufti of Jerusalem in 1921

Muggleton, Lodowicke, 1609–98, English sectarian, a journeyman tailor With his cousin John Reeve, also a tailor, he founded a new sect In 1652 they claimed to have been appointed by revelation as the two witnesses of Rev 11 3, Reeve as the messenger and Muggleton as his mouthpiece in declaring a new spiritual dispensation. They denied the doctrine of the Trinity, teaching that God the Father came on earth to die and left Elijah to be his vice regent in heaven They held that God's person is that of a human being, that Eve became the incarnation of the evil spirit, and that the sun travels around the earth. Both Reeve and Muggleton were imprisoned (1653) for blasphemy; the former died in 1658. Their doctrines gained a number of adherents called the Muggletonians, and the sect did not die out until about the middle of the 19th cent An autobiography of Muggleton is included in the posthumously published *Acts of the Witnesses* (1699) See *The Works of J Reeve and L Muggleton* (ed by Joseph Frost and Isaac Frost, 3 vols , 1832)

Mughal see MOGUL

Mugodzhar Hills (mōōgŭjär'), range, c 250 mi long, Kazakh SSR The southernmost extension of the Urals, it forms the divide between the Caspian and the Aral basin Its highest point is 2,145 ft There are coal, iron, nickel, and chrome deposits

mugwumps (mŭg'wŭmps"), slang term in American political history meaning the Republicans who in 1884 deserted their party nominee, James G BLAINE, to vote for the Democratic nominee, Grover CLEVELAND The term is only rarely applied today to a voter who bolts his regular party

Muhammad: see MOHAMMED

Mühlback, Luise (lōō'sŭ mül'bäkh), 1814–73, German novelist, whose real name was Klara Mundt She wrote many historical novels, popular both in German and in English translation They include *Daughter of an Empress* (1848, Eng tr , 1869), and *Frederick the Great and His Court* (1853, Eng tr , 1866)

Mühlberg (mül'bĕrk), town (pop 4,466), in the former Saxony prov of Prussia, E Germany, SE of Torgau Here in 1547 Emperor Charles V defeated the SCHMALKALDIC LEAGUE and captured Elector John Frederick I of Saxony

Mühldorf (mül'dôrf), town (pop 8,687), Upper Bavaria, on the Inn It dates from the 10th cent Near by Emperor Louis IV defeated (1322) his rival, Frederick the Fair.

Mühlenberg, Heinrich Melchior (hĭn'rĭkh mĕl'khĭôr mü'lunhĕrk), 1711–87, American Lutheran clergyman, b Germany, educated at Göttingen and at Halle He arrived (1742) in Pennsylvania to serve as pastor of several congregations in and near Philadelphia, but he soon became the leader of all the Lutheran groups in the colonies Often called the patriarch of Lutheranism in America, he organized (1748) the first Lutheran synod in the country See his journals (Vol I, 1942, Vol II, 1945), biography by W J Mann (2d ed , 1911).

John Peter Gabriel Muhlenberg (mü'lunbûrg), 1746–1807, American Lutheran clergyman, Revolutionary officer, and legislator, eldest son of Heinrich, was born in Trappe, Pa , and studied at Halle After pastorates in Pennsylvania, New York, and Virginia, he left his church in Woodstock, Va , to raise and lead a noted regiment in the American Revolution Throughout the war he served with distinction, retiring (1783) as brevet major general He entered political life in Pennsylvania and served three terms in Congress in the House of Representatives Statues of him were erected at the Capitol, Washington, D C , and in City Hall Plaza, Philadelphia **Frederick Augustus Conrad Muhlenberg,** 1750–1801, Lutheran clergyman and legislator, second son of Heinrich, also was born at Trappe, Pa , and educated at Halle He was pastor of various churches in Pennsylvania and pastor (1773–76) of Christ (Lutheran) Church, New York city Because of Revolutionary sympathies, he left New York and returned to Pennsylvania Muhlenberg was a delegate (1779–80) to the Continental Congress and a member (1789–97) of the House of Representatives, twice serving as speaker His vote insured the ratification of JAY'S TREATY See P A W Wallace, *The Muhlenbergs of Pennsylvania* (1950)

Muhlenberg, William Augustus (mü'lunbûrg), 1796–1877, American Episcopal clergyman, hymn writer, and philanthropist, b Philadelphia, grad Univ of Pennsylvania, 1814 He was a great-grandson of Heinrich Melchior Mühlenberg Baptized in the Lutheran communion, he joined the Episcopal Church, in which he was ordained priest in 1820. In 1846, after pastorates in Lancaster, Pa , and Flushing, L I., N Y , he became rector of the Church of the Holy Communion, New York city Muhlenberg helped found (1858) St Luke's Hospital, of which he was first pastor and superintendent He also founded St Johnland, an industrial Christian settlement on Long Island He was an influential leader in movements advancing Christian brotherhood and the unity of evangelical bodies throughout the world Among his best-known hymns are *I Would Not Live Alway* and *Saviour, Who Thy Flock Art Feeding.* See biography by W W Newton (1890).

Muhlenberg College. see ALLENTOWN, Pa.

Mühlhausen (mülhou'zŭn), city (pop. 48,013), Thuringia, central Germany, on the Unstrut. It is an industrial center, manufacturing electrical equipment, sewing machines, cotton, paper, and leather. Barite is mined near by. Fortified (10th cent) by Henry I, it was a center of the Teutonic Knights in the 13th cent. and became a member of the Hanseatic League. It became (16th cent.) an

Anabaptist center and was dominated during the Peasants' War by Thomas MÜNZER, who was executed here in 1525 A free imperial city from 1251 until 1803, Mühlhausen changed hands several times before the Congress of Vienna awarded it (1815) to Prussia. It was transferred to Thuringia after 1945. Mühlhausen has a 17th-century city hall, several Gothic churches, and many houses dating from the 16th, 17th, and 18th cent

Muich-Dhui, Ben, Scotland see BEN MACDHUI.

Muir, Alexander (mūr), 1830–1906, Canadian song writer, b Scotland He was brought to Canada in 1833 and was graduated from Queen's Univ at Kingston in 1851 In 1867 he wrote the words and music for *The Maple Leaf Forever*, which is regarded by many as the national hymn of Canada

Muir, Edwin, 1887–, British poet, novelist, and critic, b Orkney In 1901 his family moved to Glasgow, and Muir at 14 became an office clerk With little schooling, he read avidly His first book, *We Moderns*, was published in 1918. He lived on the Continent from 1921 to 1927, supporting himself by contributions to the *New Age* and the *Freeman* and by translations from the German He is known especially as a shrewd and perceptive critic of fiction, *The Structure of the Novel* (1928) is representative The five collections of his poetry include *First Poems* (1925) and *The Voyage* (1946) He has written three novels, *The Marsoncite* (1927), *The Three Brothers* (1931), and *Poor Tom* (1932) A biography of John Knox appeared in 1929 See his autobiography, *The Story & the Fable* (1940)

Muir, John, 1838–1914, American naturalist, b Dunbar, Scotland, studied at the Univ of Wisconsin He came to the United States in 1849 and settled in California in 1868 In recognition of his efforts as a conservationist and a crusader for national parks and reservations, Muir Woods National Monument was named for him He made extended trips throughout the country, often on foot, he also traveled in Alaska (discovering Muir glacier) and in Russia, India, and Australia His books include *The Mountains of California* (1894), *My First Summer in the Sierra* (1911), *The Story of My Boyhood and Youth* (1913), *Travels in Alaska* (1915), *A Thousand-Mile Walk to the Gulf* (1916), and *Steep Trails* (1918) *John of the Mountains* (ed by L M Wolfe, 1938) contains his journals See studies by S H Young (1915), W F Bade (1924), and L M Wolfe (1945)

Muir Glacier, area c 350 sq mi, SE Alaska in Glacier Bay National Monument, 40 mi SW of Skagway It was named for John Muir, who explored the region in 1879–80

Muir Woods National Monument see NATIONAL PARKS AND MONUMENTS (table)

Mukachevo, Czech *Mukačevo* (both mo͞o'kuchĕvô), Hung *Munkács* (mo͝ong'kāch), city (pop 26,123), W Ukraine, in RUTHENIA It is a trade center and has oil refineries, breweries, distilleries, and various manufactures

Mukalla (mukä'lû, mo͞okä'lu), town, Aden protectorate, a port on the Gulf of Aden It is the chief settlement of the Hadramaut Hides and coffee are exported

Mukden (mo͞ok'dŭn, mo͞ok'dun), officially **Shenyang** (shŭn'yang'), city and county (pop 508,882), Liaoning prov, China The city is the provincial capital From 1625 to 1644 it was the capital of the Manchu emperors (see CH'ING, dynasty), whose palaces and tombs still stand Shenyang was largely developed by Russia in the late 19th and the early 20th cent During the Russo-Japanese War (1904–5) it was an important military objective, which fell to Japan near the conclusion of hostilities After the establishment (1912) of the Chinese republic Shenyang was the headquarters of several war lords, notably Chang Tso-lin Largely a modern city, it is important today as the junction of the two main branches of the South Manchurian RR Soybean processing and railroad maintenance are the important industries

Mulai el-Hassan (mo͞o'lī ĕl-hä'sŭn), d 1894, sultan of Morocco (1873–94) He brought the weak and disorganized country firmly under his control and held in check attempts by European powers at domination He placed (1877) the instruction of his army under a French military mission

Mulai Ismail (mo͞o'lī ĭsmāēl'), 1646?–1727, sultan of Morocco (1672–1727) He organized corps of Sudanese Negroes to subdue the revolts that followed his accession He attacked Christian strongholds in Morocco, regaining Larache and Arzila, and encouraged trade with Europe He signed a commercial treaty with France (1682) and corresponded with Louis XIV At Meknes he built his new capital, known as the Versailles of Morocco.

mulatto (mŭlä'tō, mū-) [Span], strictly, the offspring of the union of a white person and a Negro The term is frequently applied to persons of various degrees of mixed white and Negro blood The typical mulatto is of light brown color

Mulberry. **1** City (pop 1,502), W central Fla., E of Tampa, in an extensive phosphate-mining area It has a fertilizer-mixing plant. **2** City (pop 1,175), SE Kansas, at the Mo. line N of Pittsburg, near coal fields; inc 1902.

mulberry, ornamental tree of the mulberry family (Moraceae), with asymmetrical, sometimes lobed leaves and blackberrylike fruit Several species, natives of the Old World, are widely cultivated and are often found naturalized in North America The white mulberry, (*Morus alba*) has been cultivated in China since very early times for the leaves, used as food for silkworms In the Middle Ages it began to replace the black mulberry (*M nigra*), which had been grown by the Greeks and Romans and, from the 9th cent, by the people of N Europe for silkworm culture Both the red and white species have been cultivated in America since colonial times, in the South the fruit of the red mulberry (*M rubra*), which is native to North America, is considered a valuable food for pigs and poultry In Asia the bark of the paper mulberry (*Broussonetia papyrifera*), grown in the E and S United States for ornament, is converted into paper and cloth The French mulberry (*Callicarpa americana*) is a southern shrub of the vervain family, cultivated for its ornamental foliage and deep violet fruit In Greek legend the white berries of the mulberry turned red when its roots were bathed by the blood of the lovers Pyramus and Thisbe, who killed themselves

mulch, covering of manure, straw, leaves, peat moss or other loose material placed around plants to conserve moisture, to protect them from injury during the winter, or to keep down weeds The original meaning was a covering to prevent moisture evaporation from the soil

mule, the hybrid of jack and mare. The name is also used for the hybrid of stallion and jennet, more precisely called a hinny and distinguished from the mule, to which it is considered inferior Mules are usually or always sterile Reported instances of fertility are doubted The hardiness, sure-footedness, and other qualities of mules cause them to be preferred to horses in some work, as on farms in the S United States and for pack animals In general, they are larger and more spirited than asses In the U S army the mule is the favored pack and draft animal Mules are mentioned many times in the *Iliad*, the *Odyssey*, and the Old Testament George Washington imported jacks and was interested in introducing mules in America See also HORSE and ASS See C S Plumb, *Types and Breeds of Farm Animals* (rev ed, 1920)

mule, in manufacturing see SPINNING

Muleshoe (mūl'shō͞o), town (pop 1,327), co seat of Bailey co, NW Texas, NW of Lubbock and near the N Mex line, settled 1913, inc 1926 The area has ranches (the name comes from a cattle brand) and also farms irrigated by wells

Mulgrave or **Port Mulgrave** (mŭl'grāv), town (pop 1,057), NE N S, on the Strait of Canso It is a fishing port, and terminal of a railroad ferry to Cape Breton Island

Mulhacén (mo͞olāthān') or **Muley-Hacén** (mo͞olā'-āthān'), peak, 11,411 ft high, S Spain, highest of the Sierra Nevada and of Spain

Mulhall, Michael George, 1836–1900, British statistician, b Dublin, educated at Irish College, Rome, He went (1858) to Buenos Aires, where in 1861 he founded the *Standard*, the first English-language daily paper in South America He wrote *Handbook of the River Plata* (1869), but is best known for his statistical works, *Dictionary of Statistics* (1883), *History of Prices* (1885), and *Industries and Wealth of Nations* (1896)

Mülhausen, France see MULHOUSE

Mülheim (mül'hĭm) or **Mülheim an der Ruhr** (an dĕr ro͝or'), city (pop 132,370), in the former Rhine Prov of Prussia, NW Germany, on the Ruhr and adjoining Essen, Oberhausen, and Duisburg It is an industrial center of the RUHR district

Mulholland, John (mŭl'hŏ͝lund), 1898–, American magician, b Chicago, Ill While still a schoolboy he established a reputation for his skill in magical tricks, and he came to be one of the most celebrated of stage performers of magic He also wrote with simplicity and charm on the subject and on spiritism Among his works are *Quicker than the Eye* (1932), *Story of Magic* (1935), *Beware Familiar Spirits* (1938), *The Girl in the Cage* (with Cortland Fitzsimmons, 1939), and *The Art of Illusion* (1944)

Mulhouse (mülo͞oz'), Ger *Mulhausen* (mül'hou'-zun), city (pop 85,956), Haut-Rhin dept, E France, in Alsace, on the Ill river and the Rhone-Rhine Canal It has large cotton and chemical industries, and the only important potash mines in Western Europe are located near by Mulhouse became a free imperial city in the 13th cent and from 1515 was an allied member (but not a canton) of the Swiss Confederation Here Thomas Münzer and the Anabaptists had a brief government in the early 16th cent In 1798 it voted its union with France The town hall (16th cent) is the only important old building of Mulhouse The city suffered heavy damage in the Second World War

Mull, island (224,324 acres, pop 2,903), off W Scotland, in Argyllshire, one of the Inner Hebrides. Tobermory (pop 772), the only burgh, is a summer resort The island is separated from the mainland of Scotland by the Sound of Mull (¼ mi wide) The coast is deeply indented and picturesque, especially about the sea cliffs of Carsaig The surface is mountainous (Ben More is the highest peak, 3,169 ft), with lakes, streams, glens, woodlands, and pastures. Grazing is the chief occupation, but the island has some agriculture, granite quarrying, fishing, and hunting A beacon on Duart Point commemorates William Black, the novelist, who described this region

Mullan, John, 1830–1909, American army officer and pioneer road builder, b Norfolk, Va, grad St John's College, 1847, and West Point, 1852 He served (1853–54) under Gen. I I STEVENS, who was directed by Jefferson Davis, then Secretary of War, to survey a route for a railroad from St Paul, Minn, to the Pacific Later he was in regular service (1855–57) in the army From 1858 to 1862 he was engaged in building a military road from Fort Benton, Mont, at the head of navigation on the Missouri, to Walla Walla, Wash This road, known as the Mullan Wagon Road, was important in opening up the country to miners and settlers His report (1863) to the Secretary of War and his *Miners' and Travelers' Guide* (1865) added greatly to the knowledge of the country He resigned from the army in 1863 and after two unsuccessful ventures took up the practice of law, first in San Francisco and later in Washington, D C

Mullan [for John Mullan], village (pop 2,291), N Idaho, in the Coeur d'Alene Mts, near the Montline E of Wallace, inc 1904 A mining town from its founding (1884), Mullan produces lead and silver

mullein (mŭl'ĭn), any plant of the genus *Verbascum*, herbs, chiefly biennial, native to the Old World The great or common mullein (*Verbascum thapsus*), called also Aaron's-rod, flannelleaf, and torches, has become so thoroughly naturalized in America that it is a plant typical of fallow fields It has gray-green, densely hairy leaves and, the second year, a tall (often 6 ft high) flowering stalk with yellow flowers The large stalks are said to have been oiled and used for funeral torches in earlier times Numerous medicinal virtues were long claimed for the great mullein, which is occasionally used yet in domestic remedies, e g, as a tea for coughs The moth mullein (*Verbascum blattaria*) is smaller and daintier species with cream-colored flowers

Mullens, city (pop 3,026), S W Va, NW of Bluefield Coal mines were opened near by c 1907

Müller, Ferdinand von (fĕr'dēnänt fŭn mu'lur), 1825–96, German botanist and explorer He was government botanist (1848–52) for Victoria, Australia, and director (1857–73) of the botanical gardens in Melbourne which he made among the most famous in the world He introduced many plants into Victoria and made the eucalyptus known in the Mediterranean regions and other tropical and temperate lands Among his works are *The Plants Indigenous to the Colony of Victoria* (1860) and, with George Bentham, *Flora Australiensis* (1863–78)

Müller, Frederik Paludan see PALUDAN-MÜLLER

Müller, Friedrich (frē'drĭkh mū'lûr), 1749–1825, German poet, painter, and etcher, known as Maler [painter] Müller He was court painter and etcher at Zweibrücken Although without much originality, he was a prominent figure of the *Sturm und Drang* He wrote a lyric drama, *Niobe* (1778), a drama in two parts on the Faust theme (1776–78), and *Golo und Genoveva*, probably his best drama completed in 1781 but not published until 1811 Among his paintings is *Ulysses Invoking the Shade of Ajax*

Müller, Friedrich Maximilian see MÜLLER, MAX

Müller, George, 1805–98, philanthropist and preacher in England, b Prussia A firm believer in prayer, he refused to take a salary from his congregation, but depended upon voluntary contributions for his living and for his orphanage at Ashley Down, near Bristol, which eventually housed 2,000 children Late in life Müller made a world-wide missionary tour See his book, *The Lord's Dealings with George Müller* (1845)

Müller, Hermann (hĕr'mun mu'lur), 1876–1931, German statesman A Social Democrat, he succeeded (1919) BROCKDORFF-RANTZAU as foreign minister and signed the Treaty of Versailles He was chancellor in 1920 and again from 1928 to 1930 During his second tenure Germany accepted the KELLOG-BRIAND PACT and the YOUNG PLAN Largely because of the diplomatic efforts of Müller's foreign minister, STRESEMANN, the Rhineland was evacuated in 1929 Brüning succeeded Müller as chancellor

Muller, Hermann Joseph (mŭ'lûr), 1890–, American geneticist and educator, b New York city, grad Columbia (B A, 1910, Ph.D, 1916). He taught (1915–18) at Rice Institute, Texas, at Columbia (1918–20), and at the Univ. of Texas from 1920 until he became senior geneticist (1933–37) of the Institute of Genetics in Moscow For his discoveries regarding heredity changes or mutations produced by X rays he was awarded the 1946 Nobel Prize in Physiology and Medicine In 1945 he became professor of zoology at Indiana Univ His writings include *Out of the Night* (1935) and, with others, *Genetics, Medicine, and Man* (1947).

Müller, Johannes: see REGIOMONTANUS.

Müller, Johannes Peter (yōhä'nus pā'tûr mū'lûr), 1801–58, German physiologist and anatomist

From 1833 he was professor at Berlin. He was famed as a teacher and for his researches in his own fields as well as in pathology, embryology, chemistry, and psychology He evolved the law of specific energies, i e , each sensory nerve when stimulated responds by a specific sensation He wrote a monumental work on human physiology (1833–40) which included the comparative and psychological aspects of physiology

Müller, Johannes von (yōhä'nus fŭn mŭ'lur), 1752–1809, Swiss historian He spent a large part of his life in Germany, where he held important political posts under the elector of Mainz, the king of Prussia, and King Jérôme Bonaparte of Westphalia His five-volume history of Switzerland (1796–1800, in German) has long been superseded, but it was hailed in its day with extraordinary enthusiasm throughout Europe Müller's work is patriotic in tone He fully accepted the authenticity of the William Tell legend, and it was from Müller's history that Schiller drew the material for his drama

Müller, Karl Otfried (kärl' ōt'frēt' mŭ'lur), 1797–1840, German classical scholar and archaeologist In 1819 he was appointed professor of ancient literature at the Univ of Göttingen His aim was to view all aspects of Greek life as a whole, and his work toward this end helped to develop a new conception of Hellenism Müller was a pioneer in the research into the sources of Greek myths His chief work was the *Geschichte hellenischer Stämme und Städte* [history of Hellenic origins and cities], of which he completed two volumes (1820, 1824) A history of the literature of ancient Greece appeared in 1840 See J E Sandys, *A History of Classical Scholarship*, Vol III (1908)

Müller, Max (Friedrich Maximilian Müller, Friedrich Max Müller, or Friedrich Max-Müller) (mäks' mŭ'lur), 1823–1900, German philologist and Orientalist; son of the poet Wilhelm Müller After studying in Germany, he went to Oxford, where he lived the remainder of his life Müller did more than any other scholar to popularize philology and mythology, particularly in his lectures *Science of Language* (1861, 1863) He was more interested in mythology and comparative religion than in scientific linguistics His edition of the *Rig-Veda with Commentary* is standard About 1875 he began his greatest work, the edition of *Sacred Books of the East* (51 vols), translations of important Oriental non-Christian religious writings He was engaged in this task until his death

Müller, Wilhelm (vĭl'hĕlm), 1794–1827, German lyric poet, father of Max Müller. His verse, which is simple and imbued with a love of nature, was collected in *Gedichte aus der hinterlassenen Papieren eines reisenden Waldhornisten* (2 vols , 1821–24) and *Griechenlieder* (5 sections, 1821–24) The song cycles *Die schone Müllerin* (1823, Eng tr , *Maid of the Mill*) and *Winterreise* (1827, Eng tr , *Winter's Journey*) by Franz SCHUBERT are set to Müller's lyrics

Mullingar (mŭlĭngär'), town (pop 5,443), county town of Co Westmeath, Ireland, WNW of Dublin and on the Brosna river and the Royal Canal It is the market for an agricultural region and the seat of the Roman Catholic bishop of Meath It was once the site of an Augustinian and a Dominican abbey (13th cent) and was the headquarters of William III before the siege of Athlone Loughs Owel and Ennell near by are fishing resorts Mullingar has an annual horsefair

Mullins, town (pop 4,392), NE S C , near the Little Pee Dee river and the N C line, E of Florence. It is a large tobacco market in an area also yielding cotton

mullion (mŭl'yun), in architecture, a slender, upright intermediate member which subdivides an opening, as a division between lights of a window or between adjacent windows Although the mullion occurs in some form in nearly all architectural styles, it is perhaps most characteristic of the elaborate Gothic systems of stone tracery, where, often exquisitely slender and molded, it is used to divide the large windows into areas suitable for glazing

Mull of Galloway (gă'lŭwā), headland, Wigtownshire, forming the extreme southern point of Scotland

Mull of Kintyre (kĭntīr'), headland of S Kintyre peninsula, Scotland It has a lighthouse

Mulock, Dinah Maria (mū'lŏk), later **Mrs. Craik,** 1826–87, English didactic novelist She was the author of *John Halifax, Gentleman* (1856) and the children's classics, *The Adventures of a Brownie* (1872) and *The Little Lame Prince* (1875) See L P Stebbins, *A Victorian Album* (1946)

Mulock, Sir William, 1843–1944, Canadian statesman and jurist, b Ontario, grad Univ of Toronto (B A , 1863, M A , 1871). Called to the bar in 1868, he entered the Canadian Parliament in 1882 as a Liberal In Laurier's cabinet he was postmaster general (1896–1905) and Canada's first minister of labor (1900–1905) As postmaster general he achieved notable improvements in mail service and was responsible for securing the adoption of penny postage within the empire at the Inter-Imperial Postal Conference (1898). As minister of labor he organized the department and appointed Mackenzie King as his first deputy minister. In 1905 Mulock retired from political life and became chief justice of the exchequer division of the supreme court of Ontario; from 1923 to 1936 he was chief justice of the province He was long associated with the Univ of Toronto—as vice chancellor (1881–1900) and as chancellor (1924–44) His longevity and his distinguished career won for him the appellation "Canada's grand old man." See biography by W J Loudon (1932)

Mulready, William (mŭlrĕd'ē), 1786–1863, Irish genre painter He began as a drawing master and an illustrator of children's books After 1809 he devoted himself to genre and won a high reputation His popular little paintings show the influence of Sir David Wilkie and of the Dutch school Well-known examples are *Choosing the Wedding Gown*, *The Sonnet*, and *First Love* (all Victoria and Albert Mus) and *Snow Scene* (Tate Gall , London) Mulready illustrated Goldsmith's *Vicar of Wakefield*

Mulroy Bay, inlet of the Atlantic, 12 mi long, indenting the north coast of Ireland, in Co Donegal. It is almost landlocked and has small islands.

Multan (mōōltän'), city (pop 142,768), West Punjab prov , Pakistan Since 300 B C it has suffered repeated conquest and destruction Its architecture, including a wall which nearly surrounds the city, was created after the 13th cent Multan fell to the British in 1849 Today it trades in produce and manufactures cloth

Multatuli see DEKKER, EDUARD DOUWES

multiple birth, condition in which more than one offspring is brought forth at a birth Heredity is a factor in causing multiple births Twin births in humans are quite common occurrences, triplets are infrequent, quadruplets are rare, and quintuplets are extremely rare The Dionne quintuplets of Canada are well known Several cases of sextuplets have been recorded although none survived for more than a few days Twins which develop from a single fertilized ovum are known as identical twins and are of the same sex, those from two fertilized ova are known as fraternal twins—they may or may not be of the same sex and resemble each other no more than any other siblings See H H Newman, *Multiple Human Births* (1940)

multiplication, fundamental process in ARITHMETIC and algebra, in which a number or numerical quantity is increased by taking it a certain number of times The number or numerical quantity acted upon is called the multiplicand, and the number indicating the number of times the multiplicand is to be taken is called the multiplier The result is known as the product The symbol of the operation is × or the and, in algebra, simple juxtaposition (e g , xy means x × y) In the expression 2×5, the number five is shown to be taken twice The same result, however, is obtained when five is added to five, 5+5 Thus, it may be seen that the multiplicand is treated as a unit and taken the number of times there are units in the multiplier Quantities with units may frequently be multiplied (e g , 2 hr × 20 mi per hour=40 mi , 5 men × 3 hr =15 man hours) Like ADDITION, multiplication has the properties of associativity, commutivity, and distributivity, i e , in multiplying three numbers together any two can be multiplied first and this product multiplied by the third

Multscher, Hans (hänz' mōōl'chur), fl 1427–67, outstanding German sculptor and painter of the Swabian school of Ulm His principal work was the famous altarpiece at Sterzing (now Vipiteno) in the Tyrol The altarpiece, a combination of painting and wood carving, was scattered, except for the figure of the Virgin, among the churches and public buildings of the town Mussolini was said to have presented (1941) part of the altar to Hermann Goering

Mulvian Bridge see MILVIAN BRIDGE.

Mumford, Lewis, 1895–, American author, editor, and critic, b Flushing, L I , N Y He was associate editor of the *Dial* in 1919 He has lectured at various institutions, including Dartmouth (1929–47), Harvard (1939), and Stanford (1942–44) He is active in regional planning activities, but calls himself primarily a social philosopher His publications include *The Story of Utopias* (1922), *Sticks and Stones* (1924), *Herman Melville* (1929), and *The Brown Decades* (1931) His major views are set forth in a trilogy, *Technics and Civilization* (1934), *The Culture of Cities* (1938), and *The Condition of Man* (1944), supplemented by *The South in Architecture* (1941) *Green Memories* (1947) is a biography of his son who was killed in the Second World War

Mummery, Albert Frederick, 1855–95, English mountaineer He contributed notably to improvement of equipment for mountain climbers, and in the Alps and the Caucasus he made many ascents by new routes. He disappeared near Nanga Parbat in the Kashmir Himalaya He wrote *My Climbs in the Alps and the Caucasus* (1895).

mummy, a dead human or animal body preserved by the ancient Egyptian method of embalming. Mummies more than 5,000 years old consist of hardly more than bones, skin, and hair and owe their preservation largely to the dryness of the air of Upper Egypt, where they were buried. In Lower Egypt practically all mummies have perished. By the time of the New Kingdom the art of EMBALMING had reached its height, and it is possible to gain a good idea of how the great Pharaohs appeared in life, e g , Amenhotep II (in his tomb near Thebes), Thutmose III, Thutmose IV, Tut-ankh-amen, Seti I, and Ramses II (all in Cairo). Mummification seems to be connected with a belief in life after death, the body being preserved so that the soul might return to it. The method of preparing the body varied at different periods and also according to the wealth and importance of the person. In the most costly processes the internal organs were removed (leaving the heart in place, however) and the treatment included long soaking in a solution of carbonate of soda and the filling of the body cavities with spices The organs were often wrapped separately and replaced in the body. After careful wrapping in fine linen bandages treated with a gum or resin, the body was usually enclosed in a wooden case having somewhat the shape of the human At first only kings were mummified, later his courtiers and servants were also thus preserved to provide him with a retinue in the afterlife; even the meat offerings placed in the tomb for food were embalmed Cats, hawks, and other sacred animals were likewise embalmed. "Mummy," consisting of ground fragments of mummified bodies, was used as a drug in medieval Europe Mummification was also practiced by some Indians in dry climates in parts of North and South America

mumps, epidemic disease caused by a virus It is characterized by inflammation, swelling, and pain in the salivary glands (chiefly the parotid glands in front of and below the ears); the infection is also called parotitis Considered a mild disease of childhood, occurring most commonly in children from 5 to 15 years, it is more serious in male adults, since it sometimes causes sterility The incubation period ranges from 12 to 26 days, the patient is infectious before the symptoms develop and until all symptoms have disappeared Convalescent serum and gamma globulin are used after exposure to lessen the severity of the disease and, if given soon enough, to prevent it from developing An attack generally produces permanent immunity

Mumtaz Mahal see TAJ MAHAL

Mun, Albert, comte de (älbĕr' kōt' du mŭ'), 1841–1914, French Catholic leader and politician Though a monarchist at first, he later loyally supported the Third Republic and accepted the letter and the spirit of the papal encyclical *Rerum novarum* (1891) of LEO XIII Mun played the leading part in organizing associations of Catholic workers and advocated social reforms, A strong nationalist, Mun bitterly opposed Germany See P T Moon, *The Labor Problem and the Social Catholic Movement in France* (1921)

Mun, Thomas (mŭn), 1571–1641, English writer on economics A merchant in Italy and the Levant, he became (1615) a director in the East India Company In his *Discourse of Trade from England unto the East Indies* (1621) he refuted claims that the company reduced the amount of bullion in England by exporting too much of it to India He further defined his theory of the balance of trade in *Discourse on England's Treasure by Foreign Trade* (written 1630, pub 1664) See E A J Johnson, *Predecessors of Adam Smith, the Growth of British Economic Thought* (1937)

Munch, Andreas Peder (ändrā'ăs pā'dŭr mōngk'), 1810–63, Norwegian historian and philologist As one of the main figures in the Norwegian literary revival, he contributed an authoritative history of the Norwegian people, *Det norske folks historie* (8 vols , 1852–63) He maintained that the *Eddas* and sagas of Old Norse literature belonged to a purely Norwegian-Icelandic literature and not, as was generally supposed, to a common Scandinavian tradition. This view was later generally accepted

Münch, Charles (shärl' mŭnsh'), 1891–, French conductor, b Alsace He learned the violin from his father, then studied at the Strasbourg Conservatory, where he later taught and conducted. Having led the Leipsig orchestra and then various French orchestras, he was conductor (1938–46) of the orchestra of the Paris Conservatoire In 1947 he came to the United States, and for three seasons he appeared as guest conductor of the New York Philharmonic In 1949 he succeeded Koussevitsky as conductor of the Boston Symphony Orchestra

Munch, Edward (ĕd'värt mōngk'), 1863–1944, Norwegian genre, landscape, and portrait painter and etcher, leading Norwegian painter of his day. He studied in Christiania (now Oslo) and in Paris under Bonnat and traveled in Germany and Italy. Much of his life was spent abroad, but in 1909 he returned to Norway, where he painted murals for the Univ. of Oslo and an Oslo chocolate factory. His early work was realistic, but he later came under the influence of neo-impressionism Munch's work is highly original, daring in color and design, and full of psychological suggestion. Among his well-known works are *The Sick Child* (Oslo), *Lady in Black* (Copenhagen); *Ashes; The Death in the Room, Summer Night;* and *White Night* Munch is represented in the galleries of Moscow and of Detroit.

Munchausen, Baron (münchô'sün,-chou'sün), Ger. *Karl Friedrich Hieronymus, Baron von Münchhausen*, 1720–97, German cavalry officer whose alleged tales of his impossible adventures in Russia are classics of their kind Written and published in English in 1785 by Rudolf Erich RASPE, the tales were rendered into German by Wilhelm August BÜRGER and were for a time attributed to him Whatever their origin, they are inseparably bound up with the name of the German gentleman who is supposed to have related them to his friends, and in 1936 the municipality of Bodenwerder, his birthplace, established a museum in the baron's house. The original six chapters of the tales have been enlarged upon by various hands and have been translated into many languages.

Münch-Bellinghausen, Eligius, Baron von: see HALM, FRIEDRICH

München, Bavaria. see MUNICH.

München Gladbach (mün'khün glät'bäkh), city (pop. 110,444), in the former Rhine Prov of Prussia, NW Germany, W of Düsseldorf It is the twin city of adjacent RHEYDT and is the center of the Rhenish cotton textile industry The city developed around a Benedictine abbey (founded 972), which was several times rebuilt between the 14th and 18th cent and which is now the city hall

Münchhausen, Karl Friedrich Hieronymus, Baron von. see MUNCHAUSEN, BARON

Muncie (mün'sē), city (pop 49,720), co seat of Delaware co, E Ind, on the White River and NE of Indianapolis, platted 1827, inc as a town 1847, as a city 1865 It is a railroad and trading center for a rich agricultural area The city produces glass products, machinery, cutlery, silver-plate ware, and wire, other industries are dairying and meat packing It is the seat of Ball State Teachers College Muncie is the original of "Middletown" in a sociological research carried on by Robert S Lynd and Helen M Lynd and published as *Middletown* (1929) and *Middletown in Transition* (1937)

Muncy (mün'sē), borough (pop 2,606), N central Pa, on the West Branch of the Susquehanna and SE of Williamsport, laid out 1797, inc 1826 Its manufactures include textiles and machinery

Munda. see NEW GEORGIA.

Munda languages (mōōn'du), family of languages spoken in the Himalayas and in Chota Nagpur in India

Munday or **Mundy, Anthony,** 1553–1633, English dramatist and actor, a member of the earl of Oxford's company He wrote a number of plays (some in collaboration with other writers), pageants, and ballads and translated popular French romances, among them *Amadis de Gaul* His plays include *John a Kent and John a Cumber* (1595) and two on Robin Hood, *The Downfall* (1598–99) and *The Death of Robert, Earl of Huntington* (1601) See study by J C Turner (1928)

Munday (mün'dā), town (pop 1,545), N Texas, SW of Wichita Falls, inc 1906 The region has cattle ranches and cotton, wheat, and diversified farms

Mundelein, George William (mün'dulīn), 1872–1939, American churchman, cardinal of the Roman Church, b New York city He was graduated from Manhattan College in 1889 and studied also at Rome He was ordained in 1895. He was secretary to the bishop of Brooklyn (1895–98) and his chancellor (1898–1900) He became a monsignor (1906) and auxiliary bishop of Brooklyn (1909) In 1915 he was made archbishop of Chicago, and he was created cardinal in 1924 In 1937 the cardinal's bitter public remarks about Hitler and the Nazi regime drew much attention, including abuse from Germany He was a friend of President F D Roosevelt He was active in movements to reduce poverty, slums, and juvenile delinquency His diocesan seminary, St. Mary's of the Lake, Mundelein, Ill, was one of the finest in the country

Mundelein, village (pop. 1,328), NE Ill, a lake resort NNW of Chicago, inc 1909 as Area, renamed 1925 for Cardinal Mundelein. The seminary St Mary of the Lake is here. A eucharistic congress was held in 1925.

Mundelein College: see CHICAGO, Ill

Münden (mün'dün) or **Hannoversch-Münden** (hänō'vursh-), town (pop 19,193), S Hanover, W central Germany, on the Weser, which is formed here by the confluence of the Fulda and Werra rivers A picturesque old place, it has a castle (renovated 16th cent), a stone bridge (built c 1400), and a Renaissance town hall It was a member of the Hanseatic League. Münden manufactures machine tools, chemicals, and rubber goods and has a food-processing industry.

Mundy, Anthony: see MUNDAY, ANTHONY.

Munhall (mün'hôl), industrial borough (pop 13,900), SW Pa, on the Monongahela and ESE of Pittsburgh, inc. 1900 The Carnegie-Illinois Steel Company is here It was a site of the Homestead strike (see HOMESTEAD, Pa) in 1892

Munich (mū'nik), Ger. *München* (mün'khun), city (pop 751,967), capital of Bavaria and of Upper Bavaria, on the Isar river and at the foot of the Bavarian Alps It is a cultural, commercial, and industrial center and an important communications point. An archiepiscopal see, it also is the seat of a university (founded 1472 at Ingolstadt, transferred in 1800 to Landshut and in 1826 to Munich), of a famous academy of fine arts, of the Bavarian academy of arts and sciences, of a conservatory of music, and of several celebrated museums Munich also is an operatic and theatrical center and the seat of many large book-publishing and printing firms Besides its excellent beer, Munich produces machinery, chemicals, processed foods, precision and optical instruments, and textiles It has a large tourist trade Chartered in 1158, Munich became (1255) the residence of the dukes of Bavaria Though it remained the capital of Bavaria ever afterward, its main growth dates only from the 19th cent, when the art-loving kings Louis I, Maximilian II, and Louis II built it up as a "modern Athens" Munich played a leading role in the development of German painting in the 19th and 20th cent and at the same time acquired a reputation for its easygoing and somewhat bohemian life After the First World War it became a center of political unrest The Bavarian Socialist government that succeeded (1918) the monarchy was replaced (1919), after the assassination of Premier Kurt Eisner, by a Communist regime, this, in turn, was promptly suppressed by the reactionary parties National Socialism was founded here, and in 1923 Adolf HITLER attempted his Munich "beer-hall putsch" Despite this fiasco, he made Munich the headquarters of his party, which in 1933 took power in all Germany and suppressed a Bavarian separatist plot at Munich Under the National Socialist regime the archbishop of Munich, Michael Cardinal Faulhaber, was one of the few outspoken critics of the government In 1938 Munich was the scene of the signing of the Munich Pact (see separate article) Almost half of the handsomely laid-out city was destroyed in the Second World War The Old Pinakothek and New Pinakothek, which were among the foremost art museums of the world, were destroyed, but most of their collections had been taken to safety Of the chief landmark of Munich, the 15th-century Liebfrauenkirche [church of Our Lady], only the two belfries were relatively unharmed St Michael's Church, one of the finest baroque churches in Germany, was, however, undamaged, the fine neoclassic Propylaen, a monumental gate on the palace square, also escaped harm The royal palace was heavily damaged, and the GLYPTOTHEK was destroyed, though its collections remain intact Near Munich is the famous château of NYMPHENBURG

Munich Pact, 1938 In the summer of 1938 Chancellor Hitler of Germany began openly to support the agitation of Konrad Henlein, leader of the German nationalists in CZECHOSLOVAKIA, for an improved status of the German minority, particularly in the Sudetenland (see SUDETES) The Czech government promised a new nationality statute, but rejected Henlein's demands, which would have made Czechoslovakia a vassal of Germany The mission (Aug., 1938) of a British mediator, Lord Runciman, served as pretext for renewed agitation, while Hitler adopted an increasingly threatening attitude In September the crisis reached its height Hitler now demanded that the Sudetenland be given the right of self-determination Disorders broke out in Czechoslovakia, martial law was proclaimed, and war seemed imminent Prime Minister Neville CHAMBERLAIN of Great Britain at this point held his first conference with Hitler, at Berchtesgaden, and substantially yielded to Hitler's demand for annexation of the border areas of Czechoslovakia where German was predominantly spoken France, though pledged by treaty to support Czechoslovakia against aggression, also yielded, and both Britain and France forced Czechoslovakia to accept the proposal However, at a second meeting between Hitler and Chamberlain, held at Bad Godesberg, Hitler vastly increased his demands, which were rejected by Chamberlain War now seemed unavoidable At last, after appeals by President Roosevelt and Benito Mussolini, a conference met at Munich to avert open conflict (Sept. 29). Great Britain was represented by Chamberlain and Halifax, France by Édouard Daladier and Georges Bonnet, Italy by Mussolini and Galeazzo Ciano, Germany by Hitler and Joachim von Ribbentrop Neither Czechoslovakia nor Russia, which had offered aid to the threatened country under terms of a 1935 treaty, was represented or even consulted England and France, reaching the peak of their "appeasement policy" toward Germany and Italy, surrendered within a few hours to Hitler's demands The Munich Pact (signed Sept 30 but dated Sept 29) permitted the immediate occupation by Germany of the Sudetenland, but also contained provisions for plebiscites which, however, were never carried out France and Britain guaranteed the new Czech boundaries When Prime Minister Chamberlain returned from Munich to London, he announced that he had secured "peace in our time" Abandoned by its allies Czechoslovakia gave in to the terms, and President Benes, the target of Hitler's most venomous attacks during the crisis, resigned Poland and Hungary, for whose minorities promises had been made at Munich, were allowed to seize, respectively, the TESCHEN district and parts of SLOVAKIA In March, 1939, Czecho-Slovakia, as the truncated state was called, was dissolved by Hitler, but neither France nor England took action Chamberlain's and Daladier's actions have since found defenders who pleaded the military unpreparedness of England and France, on the other hand, it has been debated whether Hitler himself was actually prepared to go to war or whether he obtained his triumph through mere bluff and intimidation The Munich Pact, at any rate, became the symbol of cowardly appeasement and shook the confidence of Eastern Europeans in the good faith of the Western democracies

municipal government: see CITY GOVERNMENT

municipal home rule: see HOME RULE, MUNICIPAL.

municipal ownership: see PUBLIC OWNERSHIP

Munising (mū'nīsing), city (pop 4,409), co seat of Alger co, N Upper Peninsula, N Mich., on Munising Bay of Lake Superior and SE of Marquette It was incorporated as a village in 1897, as a city in 1916 Paper and other wood products are made. The region, heavily wooded, among cliffs and falls, is attractive to tourists and fishermen Grand Island is offshore

Munk, Kaj (kī' mōōngk'), 1898–1944, Danish playwright and clergyman His dramas, all with a strong ethical slant, were very popular in the 1930s They include *En Idealist* (1928), *The Word* (1932), a religious drama, perhaps his best work, *He Sits by the Melting Pot* (1938), an anti-Nazi play, and *Niels Ebbesen* (1943, Eng tr in *Scandinavian Plays of the Twentieth Century*, Ser 2, 1944) Outspoken against the Nazi invaders of Denmark, he was murdered by a band of Germans or of Danish sympathizers

Munkacs, Ukraine see MUKACHEVO

Munkacsy, Michael (mōōn'käch), Hung *Mihály Munkácsy* (mī'hī), 1844–1900, Hungarian genre and historical painter, whose real name was Michael Lieb His youth was spent in poverty In 1868 he went to Düsseldorf, where he painted *The Last Day of a Condemned Man* (Wallstein Coll, Philadelphia), which won him a gold medal in the Paris Salon of 1870 and wide recognition In 1872 he settled in Paris From 1881 he painted chiefly religious and historical subjects in a highly dramatic style His *Christ before Pilate* (John Wanamaker Coll, Philadelphia) was exhibited throughout Europe and America and has been widely reproduced He is represented in museums of Vienna, Philadelphia, and Chicago and in the Metropolitan Museum and the New York Public Library

Munn vs. Illinois, case decided by the U S Supreme Court in 1876 Munn, a partner in a Chicago warehouse firm, had been found guilty (1872) by an Illinois court of violating the state laws providing for the fixing of maximum charges for storage of grain He appealed to a higher state court and then to the Supreme Court, contending that the fixing of maximum rates constituted a taking of property without due process of law The Supreme Court upheld the constitutionality of the Granger laws (see GRANGER MOVEMENT), maintaining that Munn had devoted his business to a public use and that regulation of it was, therefore, a matter of public interest

Muñoz Marín, Luis (lwēs' mōō'nyōs marēn'), 1898–, Puerto Rican liberal leader and journalist He organized (1938) and headed the Popular Democratic party The slogan "Bread, Land, and Liberty" won a large peasant following Contributor to numerous Latin American and North American publications, among them the New York *Times* and the *New Republic*, he also edited and published the *Democracia*, a San Juan daily He became president of the Puerto Rican senate in 1941. In 1948 he won the first election for governorship of Puerto Rico

Munro, Dana Carleton (mün'rō'), 1866–1933, American educator and historian, b Bristol, R I, grad Brown (B, 1887, M A, 1890), brother of Wilfred Harold Munro After studying in Germany he was appointed (1893) an instructor in history at the Univ of Pennsylvania From 1902 to 1915 he was professor of European history at the Univ of Wisconsin, and in the First World War he was chairman (1918–19) of the National Board of Historical Service From 1915 to his death he was professor of medieval history at Princeton An authority on the Crusades, he adopted a rigorous scientific method of research, basing all facts on references to contemporary sources He was president (1925–26) of the American Historical Association and managing editor (1928–29) of the *American Historical Review* He wrote *A History of the Middle Ages* (1902), *The Middle Ages and Modern Europe* (with Merrick Whitcomb, 1903), *A Source Book of Roman History* (1904), *The Middle Ages, 395–1272* (1921, rev ed, *395–1500*, with R J Sontag, 1928), and *The Kingdom of the Crusaders* (1935) He translated and edited, with George C. Sellery, *Medieval Civilization Selected Studies from European Authors* (1904, enl ed, 1907) "The Speech of Pope Urban II at Clermont, 1095" and "The Children's Crusade," two brief articles he wrote for the *American Historical Review* (Vol. XI, 1906, Vol. XIX, 1914), are also noteworthy.

Munro, Hector Hugh, pseud. **Saki** (sä'kē), 1870–1916, British author and journalist, b. Burma, of Scottish parentage While he was a foreign correspondent (1902–8) for the Tory *Morning Post* and a contributor to other newspapers, he wrote urbane but often savage and fantastic short stories, collected in *Reginald* (1904), *The Chronicles of Clovis* (1911), *Beasts and Super-Beasts* (1914), and other volumes Of his two novels, *The Unbearable Bassington* (1912) somewhat recalls Oscar Wilde or Max Beerbohm. Munro was killed as a soldier in the First World War *The Short Stories of Saki* (1930) and *The Novels and Plays of Saki* (1933) continue to appeal to many readers

Munro, Hugh Andrew Johnstone, 1819–85, Scottish classical scholar His best-known work is an edition of Lucretius (1860–64) with critical notes, commentary, and an English prose translation, this was regarded as an outstanding contribution to Latin scholarship He prepared also a text of Horace (1869) and a book on Catullus (1878)

Munro, Wilfred Harold, 1849–1934, American historian and educator, b Bristol, R I , grad Brown (B A , 1870; M A , 1873), brother of Dana Carleton Munro From 1870 to 1871 he was a master at De Veaux College, Niagara Falls, N Y , where he later served as president (1881–89) After studying (1890–91) at the universities of Freiburg and Heidelberg, Munro became (1891) associate professor of history and director of university extension work at Brown From 1899 until his retirement in 1911 he held the chair of European history there In his lifetime Munro traveled widely For many years president of the Rhode Island Historical Society, he was considered the foremost expert on Rhode Island history. His works include *The History of Bristol, R I* (1880), *Picturesque Rhode Island*, (1881), *The Most Successful American Privateer* (1913), *Tales of an Old Sea Port* (1917), and *Among the Mormons in the Days of Brigham Young* (1927) He edited a 22-volume edition (1905–6) of the works of William Hickling Prescott

Munroe, Charles Edward (munrō'), 1849–1938, American chemist and educator, b Cambridge, Mass , grad Harvard (B S , 1871) From 1874 to 1886 he was professor of chemistry at the U S Naval Academy, and from 1892 to 1918 he was at George Washington Univ as professor of chemistry and in executive positions From 1910 to 1933 he served the U S Bureau of Mines An authority on explosives and the inventor of smokeless powder, he was also the author of many books and papers on explosives and related subjects

Munroe, Kirk, 1850–1930, American author of books for boys, b near Prairie du Chien, Wis At 16 he traveled with a party who were surveying for the Santa Fe RR westward from Kansas City, Mo , to California He had been a newspaper reporter and editor of *Harper's Young People* when he began writing boys' stories Several of these are laid in S Florida, which he knew well His books include *The Flamingo Feather* (1887), *Canoemates* (1893), *With Crockett and Bowie* (1897), and *The Painted Desert* (1897).

Munsee Prophet, fl 1766–75, one of the Indian prophets, successor of the Delaware Prophet and forerunner of the Shawnee Prophet He continued the doctrine of the Delaware Prophet among the Munsee Delaware

Munsey, Frank Andrew (mŭn'sē), 1854–1925, American publisher and author, b Mercer, Maine In 1882 he quit a telegraph operator's job in Maine to begin a career as publisher in New York He started the *Golden Argosy* (1882) as a juvenile magazine, for which he wrote serials himself, changed it to the *Argosy* for adults, and supplanted this with *Munsey's Magazine* (1889), the first 10-cent periodical When one of his magazines failed, he scrapped it and started another, Munsey thus disposed of *Godey's Magazine*, *All-Story Magazine*, and many others Turning to newspapers, he bought the New York *Star* in 1891, renamed it the *Continent*, and made it a tabloid, probably New York's first, but it failed Later, using the wealth he made from his magazines, from a chain of grocery stores, and from the financial operations of his trust company, he bought several newspapers, hoping to found a chain of them However, he lost a great deal on the Boston *Journal* and the New York *Daily News* The Washington *Times* and the Baltimore *Evening News* were among his successful papers In 1916 he began buying papers to consolidate, for which he was sometimes called the executioner of newspapers He merged the New York *Press* in the *Sun*, and in 1920 the unsuccessful *Sun* in the New York *Herald* In 1924 he sold the *Herald* to the New York *Tribune*, having meanwhile renamed the *Evening Sun* the *Sun* and absorbed in it (1923) the *Globe and Commercial Advertiser*. His last purchase was that of the New York *Mail*, which he merged in his *Evening Telegram* in 1924. See biography by George Britt, *Forty Years, Forty Millions* (1935)

Munsey Park, village (pop 1,456), on NW Long Island, SE N Y., near Manhasset, inc. 1930

Münster, Sebastian (sābäs'tyän mün'stur), 1489–1552, German scholar and geographer He was a Franciscan monk, but after the Reformation became a Protestant and taught at Heidelberg and at Basel, where he lived after 1536 A noted theologian and Hebraist, he edited the first Hebrew Bible produced (1534–35) by a German His chief work is the *Cosmographia universalis* (1544), a descriptive geography standard for more than a century and translated into several languages

Munster (mŭn'stur), province (9,317 sq mi ; pop 917,306), Ireland, largest of the four provinces and occupying the southwest third of the island It includes the counties of CLARE, CORK, KERRY, LIMERICK, TIPPERARY, and WATERFORD One of the ancient kingdoms of Ireland, its control passed, after the Anglo-Norman invasion of Ireland, to the great families of the Fitzgeralds (earls of Desmond) and the Butlers (earls of Ormond)

Münster (mün'stur), city (1939 pop 141,059, 1946 pop 86,366, 1949 estimated pop 104,000), capital of the former Westphalia prov of Prussia, NW Germany, a port on the Dortmund-Ems Canal. It produces machinery, hardware, and various manufactured goods and has a grain and lumber trade Münster was founded (c 800) as an episcopal see, its bishops ruled a large part of Westphalia as princes of the Holy Roman Empire from the 12th cent until 1803, when the bishopric was secularized Münster was an important member of the Hanseatic League, in 1533–35 it was the scene of the Anabaptist experimental government under JOHN OF LEIDEN In 1648 the Treaty of Münster was signed here (see WESTPHALIA, PEACE OF) The Congress of Vienna awarded (1815) Munster to Prussia Until its virtual destruction in the Second World War, Münster was famous for its medieval character Among the heavily damaged buildings were the cathedral (12th-13th cent), the Lambertikirche (14th-15th cent), the Liebfrauenkirche (14th cent), and several other churches, as well as the university (founded 1773), the Gothic city hall (12th-13th cent), the former episcopal palace (17th cent), and the Westphalian museum (the contents of which were saved) Most of the Gothic and baroque private residences were also burned down

Munster, residential town (pop 1,751), NW Ind , near Highland Garden produce is shipped from here

Münsterberg, Hugo (mün'stürbûrg, mĭn'-), 1863–1916, American psychologist, b Danzig, Ph D Univ of Leipzig, 1885, M D Univ of Heidelberg, 1887 At the instigation of William James he came from Germany to Harvard as professor of psychology (1892–1916), becoming director of the psychological laboratory in 1905 He wrote many books on psychology and on American life and problems See biography by M A A Münsterberg (1922)

Muntenia, Rumania see WALACHIA

Munthe, Axel (ak'sul mün'tu), 1857–1949, Swedish physician and writer His fame rests almost entirely upon one book, written in English, *The Story of San Michele* (1929), which became a world-wide best seller He wrote also in English *Memories and Vagaries* (1898) and several books of travel letters He practiced in Paris as a psychiatrist, but for many years before the Second World War he lived on the island of Capri In 1943 he returned to Sweden, where he was the guest of the royal family

Münzer, Thomas (tō'mäs mün'tsur) c 1489–1525, German Anabaptist, a popular leader of the Reformation Münzer left his home and his position as a magistrate to join Luther at Wittenberg in 1519, and he was a member of the delegation at the disputation with Johann M von Eck at Leipzig in the same year His position soon diverged from Luther, as he became increasingly monoclastic in theology and radical in political and social beliefs Münzer claimed divine illumination for his doctrines, and while pastor (1520–23) at Zwickau, he helped disturb affairs at Wittenberg with radical doctrine during the time that Luther was in retirement at the WARTBURG Münzer was ousted from Zwickau, Allstedt (in Thuringia), and Mulhouse, everywhere he went he aroused the dissatisfied peasantry and the workingmen of the town He proclaimed that God's will was the overthrow of the social structure and the establishment of a simple, godly society, with community of property At Mulhouse he had worked with Heinrich Pfeiffer When the PEASANTS' WAR broke out the two men succeeded in returning and taking over the town council of Mulhouse They set up a communistic theocracy With the defeat of the peasant party, Münzer was one of the leaders who was beheaded

Muonio, river see TORNE

Muppim (mŭ'pĭm), variant of SHUPHAM

Mur (mo͝or), Hung and Serbo-Croatian *Mura* (mo͝o'rə), river of Austria, Hungary, and Yugoslavia. Rising in the Hohe Tauern, it flows 300 mi east and south to join the Drave (the Drau) near the Yugoslav-Hungarian border. It is navigable below Graz.

Murad I (mo͝oräd', myo͝or'räd), 1326?–1389, Ottoman sultan (1362?–1389), son and successor of Orkhan He widened the Turkish foothold on European soil, conquering Macedonia and making Adrianople his residence In 1373 he forced the Byzantine emperor JOHN V to pay tribute Murad was killed in the battle which marked his greatest triumph, at KOSSOVO, where Serbia fell to Turkish rule. A cruel and inexorable monarch, Murad had his eldest son blinded in 1374 to punish him for attempted rebellion His son Bajazet I succeeded

Murad II, 1403–51, Ottoman sultan (1421–51), son and successor of Mohammed I. He was opposed at his accession by a pretender who rapidly gained control over most of the Ottoman possessions in Europe After defeating his rival, Murad unsuccessfully laid siege (1422) to Constantinople In 1430 he seized Salonica from the Venetians and invaded Greece In the north Murad met the determined resistance of John HUNYADI Basically of peaceful disposition, Murad sought to retire from public life on several occasions, but was each time recalled by the pressure of events In 1444 he won the great victory of Varna against the crusading host led by King LADISLAUS III of Poland and Hungary His court was very cultured, and he was a patron of poetry and learning. His son Mohammed II succeeded him

Murad III, 1546–95, Ottoman sultan (1574–95), son and successor of Selim II He was dominated by his harem, and though his generals were successful against Persia, his reign marked the beginning of the decay of Turkish rule His son Mohammed III succeeded him

Murad IV, 1612?–1640, Ottoman sultan (1623–40), nephew and successor of MUSTAFA I The last of the warrior-sultans, he recovered (1638) Baghdad which Shah Abbas I of Persia had seized On his victory he sent the order to murder his brother BAJAZET Murad IV was of prodigious strength and terrible severity Cyril LUCARIS was another of his victims Murad was succeeded by his brother Ibrahim (1640–48) and Ibrahim's son Mohammed IV (1648–87).

Murad V, 1840–1904, Ottoman sultan (1876), son of Abdu-l-Mejid He came to the throne when his uncle, ABDU-L-AZIZ, was deposed, but he was soon declared insane and was succeeded by his brother, Abdu-l-Hamid II His brief reign was dominated by MIDHAT PASHA

Murad, river see EUPHRATES

mural painting, essentially a form of architectural decoration The term is commonly applied to the decoration of ceilings and architectural members as well as to walls The earliest murals of historic times were probably those of Egypt, fine Egyptian tomb paintings dating back to 1900 B C have been discovered These works were done in *fresco secco* and owe their preservation to complete protection from light and moisture Many of them depict objects which the deceased wished to enjoy in an afterlife. Everything is represented in its most characteristic or informative aspect with superimposition in place of perspective This convention, together with the total absence of light and shade in Egyptian painting, lends itself to a flat decorative treatment in which the art excels Egyptian architecture, like that of Greece and Rome, was decorated inside and out Nothing remains of Greek mural painting, which probably began as a highly geometric style and saw a long development with illusionistic phases Examples of Roman painting from Pompeii often show an architectural framework for figures or landscape Frequently a single figure is used to decorate the center of a panel More skill is shown in the drawing and foreshortening of the figure and in decorative elements than in illusionism Perspective is attempted but never related consistently to a single point of view The *Nozze Aldobrandini*, excavated in Rome and now in the Vatican, is a fine example of Roman mural painting in which a monumental figure composition is achieved In Rome mosaic vied with painting as decoration and was bequeathed as a highly developed art to the Byzantines, who used it in their magnificent religious mural decorations, still to be seen in Constantinople, Ravenna, Rome, and Venice This formalized, austere, symbolic art has survived almost to our times in the Russian icon In Italy, however, a great art of fresco painting supplanted Byzantine decoration in the 13th cent and laid the foundation for the whole subsequent development of Western art For over 400 years, from Giotto to Tiepolo, an art of mural painting, largely in fresco, was practiced by the Italian masters In France the art tended to be more purely decorative until the 18th cent, when Fragonard and Boucher produced delicate and charming boudoir painting Among the great French mural painters of the 19th cent are Delacroix, Ingres, and Puvis de Chavannes Chavannes executed a large mural in oils for the Boston Public Library, where John S Sargent and Edwin A Abbey are also represented Prior to 1890 little mural painting was done in the United States except for the fine religious paintings of John La Farge After that date the conservative painters Blashfield, Kenyon Cox, N C. Wyeth, and Vedder gained a popularity which was later shared with Arthur B. Davies, T H. Benton, and Boardman Robinson. In the 1920s the Mexican fresco painters Rivera and Orozco stimulated a new interest in the art by their vigorous composition and controversial themes In 1934 the U S government established a permanent Section of Painting and Sculpture for the decoration of public build-

ings. This provided the greatest stimulus for mural painting and attracted many of the best talents in the country, among them George Biddle, John Steuart Curry, H V Poor, Paul Sample, and Maurice Sterne Because of its potentialities as a great public art and also, perhaps, because of the new emphasis on formal values as opposed to extreme individualism in art, mural painting has experienced a great revival in 20th-century America

Murano (mōōrä'nō), town (pop 6,368), Venetia, NE Italy, on several small islands in the lagoon of Venice It was the center of the Venetian glass industry as early as the 13th cent Revived by Antonio SALVIATI, the industry is again flourishing today Murano, with its old houses, canals, and bridges, has the same quaint charm as Venice There are a Venetian-Byzantine church (7th-12th cent) and a museum of ancient and modern Venetian glass

Murasaki Shikibu (mürä'sa"kē shkē'bōō), b c 978, Japanese novelist, lady of the court at the height of the Heian period (795–1185) She is celebrated as the author of the romantic novel *Genji-Monogatari* [tale of Genji], one of the first great works to be written in Japanese and not in Chinese as the fashion had hitherto been There is an excellent translation, *Tale of Genji* (one-volume ed , 1935), by Arthur Waley

Murat, Achille (äshēl' mürä'), 1801–47, crown prince of Naples (1808–15) and American author, b Paris, eldest son of Joachim Murat and Caroline Bonaparte After Joachim's defeat by the Austrians at Tolentino (1815), his family went into exile Achille came to America in 1823 and ultimately settled on the plantation he called "Lipona," near Tallahassee, Fla He married (1826) a great-grandniece of George Washington and became (1828) a U S citizen He practiced law, dabbled in politics, held several minor offices, and speculated in land Hoping to foster democracy in Europe and, incidentally, to recoup Bonapartist fortunes, Murat returned there several times but failed to obtain his ends His writings on the United States (he greatly admired its system of government) had some contemporary success in Europe Chief among them are *Esquisse morale et politique des Etats-Unis de l'Amérique du Nord* (1832, Eng tr , 1833, 1849) and *Exposition des principes du gouvernement républicain, tel qu'il a été perfectionné en Amérique* (1833) See A J Hanna, *A Prince in Their Midst* (1946)).

Murat, Joachim (zhōäshē'), 1767–1815, marshal of France, king of Naples (1808–15) He abandoned his theological studies to enter the army and fought in Egypt under Napoleon, whom he helped (1799) in the coup d'état of 18 Brumaire Having married (1800) Napoleon's sister Caroline BONAPARTE, he was made grand duke of Berg (1806) and in 1808 was chosen to succeed Joseph Bonaparte as king of Naples A brilliant and dashing cavalry leader, Murat played an important part in Napoleon's victories, in the Russian campaign (1812), and in the battle of Leipzig (1813) After Leipzig, however, he reached an agreement with Austria in order to save his own throne During the Hundred Days he deserted his new allies and again joined Napoleon Defeated by the Austrians at Tolentino, he fled to Corsica after Napoleon's fall In an attempt to regain Naples he was arrested and executed See R M Johnston, *The Napoleonic Empire in Southern Italy* (1904)

Muratori, Ludovico Antonio (lōōdōvē'kō äntō'nyō mōōrätō'rē), 1672–1750, Italian Roman Catholic priest, historian, and antiquarian One of the foremost scholars of his age, he was noted for his researches into the sources of Italian history and archaeology From 1700 he was archivist and ducal librarian at Modena He discovered the *Muratorian Canon*, a scrap of early Christian literature of A D c 190 containing the earliest known list of the New Testament books He edited the important collections *Rerum Italicarum scriptores* (1723–51) and *Antiquitates Italicae medii aevi* (1738–42)

Murchison, Sir Roderick Impey (mûr'kĭsun), 1792–1871, British geologist He served in the Napoleonic Wars, but after the peace turned his attention to science In the 1830s he undertook the investigation of the previously undifferentiated rock strata lying below the Old Red Sandstone, as a result of his researches he established the Silurian as a new geologic system and described it in *The Silurian System* (1838). With Adam Sedgwick he later established the Devonian system Murchison carried on an extended survey in Russia (1840–44), his last investigations were directed toward the geology of the Scottish Highlands In 1846 he was knighted He was appointed (1855) director general of the Geological Survey of Great Britain He endowed at the Univ of Edinburgh a chair of geology and mineralogy He revised and modified the material of his earlier work in *Silurica* (1854) and collaborated in the *Geology of Russia and the Ural Mountains* (1845) See biography by Sir Archibald Geikie (1875)

Murcia (mûr'shŭ, mōōr–, Span. mōōr'thyä), region (10,108 sq mi ; pop 1,094,173) and former Moorish kingdom, SE Spain, on the Mediterranean, comprising the present provinces of Albacete and Murcia Except for its coastal plain, it has a generally rugged terrain and is one of the hottest and driest regions of Europe However, its irrigation system (dating from Moorish times) and several fertile valleys (especially that of the Segura river) permit the growing of large crops of citrus and other fruits, vegetables, almonds, olives, and grapes Hemp and esparto and minerals (lead, silver, zinc) are exported Sericulture is a traditional occupation The region was settled by the Carthaginians, who founded here (3d cent B C) the port of Cartago Nova (modern CARTAGENA) It was taken (8th cent A D) by the Moors and emerged after the fall (11th cent) of the caliphate of Córdoba as an independent state Later occupied by the Almoravides and Almohades, it regained independence in the 13th cent The kingdom of Murcia then also included parts of the modern provinces of Alicante and Almería It became (1243) a vassal state of Castile, which in 1266 annexed it outright

Murcia, city (pop 60,113), capital of Murcia prov , SE Spain, on the Segura river It lies in one of the finest garden regions in Spain and has long been noted for its silk industry There also are flour mills, and food and other industries Lead, silver, sulphur, and iron are mined near by Possibly of Roman origin, Murcia rose to prominence under the Moors when it was for a time the capital of the independent kingdom of Murcia (see separate article) The Gothic cathedral (14th-15th cent), with a rococo façade and a fine tower, and the episcopal palace are landmarks Murcia is the see of a bishop and has a university (founded 1915)

murder, criminal HOMICIDE, usually distinguished from MANSLAUGHTER by the element of MALICE aforethought Malice aforethought essentially means that at some time (no matter how recent) before actually accomplishing the homicidal act the slayer adopted the deliberate cold-blooded intent to commit it Very often, however, malice aforethought is presumed from the circumstances rather than directly proved The most clear-cut case of this presumption of malice is when the killer by inadvertence slays some person other than his intended victim Murder may also be committed if the slayer intended to inflict serious bodily injury or if he behaved with such reckless disregard of the safety of others as to betray a "depraved heart" Likewise a killing incidentally committed in the course of a felony (e g , robbery or rape) is deemed murder, if the felony was accomplished by more than one person, all are equally guilty of the murder, not only the actual slayer A killing incident to a misdemeanor, however, is treated as manslaughter Many states prescribe various degrees of murder Murder in the first degree generally is a calculated act of slaying and receives the severest penalty, often CAPITAL PUNISHMENT In some states certain crimes which are defined as murder of a lower degree approximate more closely to the definition of manslaughter in common law In a slaying it is frequently difficult to determine whether malice aforethought was present, consequently the governor of a state (or other chief executive) not infrequently uses his power of commutation of sentence to avoid the death penalty, and in some states the appellate courts automatically review all convictions of murder

Murdoch, James Edward (mûr'dŏk"), 1811–93, American actor, b Philadelphia He made his debut in Philadelphia (1829) and subsequently appeared with success as Romeo and Hamlet and as Charles Surface in Sheridan's *School for Scandal*

Murdock, William, 1754–1839, Scottish engineer, inventor of coal-gas lighting He worked for the company of James Watt in Soho, London There he began, in 1792, experiments which resulted in 1803 in the use of coal-gas illumination in the foundry

Mures (mōō'rĕsh), Hung *Maros* (mō'rōsh), river, 550 mi long, rising in the Carpathians in Rumania and flowing generally W through Transylvania into Hungary, where it joins the Theiss at Szeged

Muret (mürä'), town (pop 2,632), Haute-Garonne dept , S France, SSW of Toulouse Here in 1213 Simon de Montfort, leader of the Albigensian Crusade, defeated the nobles of S France, led by Raymond VI of Toulouse and by Peter II of Aragon, who fell in the battle The battle marked the end of the independence of the nobles in S France

Murfree, Mary Noailles see CRADDOCK, CHARLES EGBERT

Murfreesboro (mûr'frēzbŭ"rō) **1** Town (pop 835), co seat of Pike co , SW Ark , near the Little Missouri river, in a farm area The country's only diamond mine, now closed, is near by **2** Town (pop 1,550), NE N C , NW of Albemarle Sound near the Va line, in a farming and lumbering area, founded c 1787 **3** City (pop 9,495), co seat of Rutherford co , central Tenn , on Stones river and SE of Nashville, inc 1817 It is the shipping, processing, and trade center of a dairy, grain, and timber area It was the capital of Tennessee from 1819 to 1825 Andrew Jackson and Thomas Hart Benton practiced law here It is the seat of Middle Tennessee State College The Civil War battle of Murfreesboro (or Stones River) was fought here Dec 31, 1862–Jan 2, 1863 With the retreat of Gen Braxton Bragg's Confederate army from Kentucky, Gen W S Rosecrans had concentrated his Union Army of the Cumberland at Nashville On Dec 26 Rosecrans advanced on Bragg, who confronted him just N of Murfreesboro Each planned to attack the other's right, but Bragg moved first and on Dec 31 nearly routed the Union forces After a day's lull, Rosecrans repulsed another attack and then forced Bragg to retreat to Tullahoma Stones River National Military Park (323 86 acres, est 1927) commemorates the battle

Murgab (mōōrgäb'), river rising in NE Afghanistan, in the northern slopes of the Paropamisus range, and flowing NW into Turkmenistan, through the Merv oasis, to lose itself in the Kara Kum after a course of 400 mi

Murger, Henry (ärē' mürzhĕr'), 1822–61, French poet and novelist His *Scènes de la vie de Bohème* [scenes from bohemian life] (serially, 1845–49, book form, 1851) provided the material for Puccini's opera *La Bohème* English translations of Murger's work appear under the titles *The Bohemians of the Latin Quarter* (1905) and *The Latin Quarter* (1930) See Arthur Moss and Evalyn Marvel, *The Legend of the Latin Quarter* (1946)

muriatic acid see HYDROCHLORIC ACID

Murillo, Bartolomé Estéban (myōōrē'lō, Span bartōlōmā' ĕstā'ban mōōrē'lyō), 1617?–1682, Spanish religious and portrait painter He was born in Seville, where most of his life was spent An orphan, he was early inured to hardship and independence and earned his living painting cheap religious pictures Having saved a little, he proceeded to Madrid in 1642, and there, thanks to Velásquez, who befriended him and taught him much, he was enabled to study in the royal galleries After three years he returned to Seville, where he painted for the Franciscan convent a series of 11 pictures of the history of the order These are now scattered, one being in the Louvre, another in Madrid They brought him instant fame, and for the remainder of his life he was the favorite painter of the wealthy and pious Andalusian capital His next pictures, including *St Leander, St Isidore, Vision of St Anthony* (all cathedral, Seville), and *Nativity of the Virgin* (Louvre), are characterized by a warmer color There followed a group of large pictures painted for the Church of Santa María la Blanca, including the *Immaculate Conception* (Louvre) and *Founding of Santa Maria Maggiore* (Madrid), which show progress in the use of subtle light and shade Murillo's work is sometimes classed in three styles, *frio, caluda,* and *vaporoso* These classifications of cold, warm, and misty do not, however, indicate periods in his development He appears to have painted at various times in all three manners In 1660 he was instrumental in founding the Seville Academy, of which he shared the presidency with the younger Francisco de Herrera From 1670 to 1682 Murillo painted many of his best works, among them eight masterpieces for the Church of St George of Charity Hospital, where the *Moses, Miracle of the Loaves and Fishes,* and *Charity of St John* remain (the others are now in Madrid, Leningrad, and England), and a series of 20 pictures for the Capuchin convent (now largely in the Seville Mus) In 1682, while painting the *Marriage of St Catherine* for the Capuchin church of Cádiz, he fell from a scaffold and subsequently died In addition to his religious subjects Murillo painted several fine portraits and a number of pictures of humble life, particularly of street urchins Murillo's forceful rendering of everyday subject matter made him perennially popular and beloved His religious pictures evoke very human sentiments of sweetness and humility, rather than ecstasy or severe virtue His work is uneven, sometimes descending to the commonplace, and is always naturalistic At his best none can deny his great gifts His most renowned achievements are his paintings of the *Assumption,* of which one is in the cathedral at Guadalajara, Mexico While he is best seen in Seville, fine examples of his work are in the Prado, the Louvre, the National Gallery, London, the Widener Collection, Philadelphia, and the Metropolitan and Cincinnati museums See studies by G C Williamson (1902), A F Calvert (1907), and A L Mayer (1912, in German)

Murmansk (mōōr'mŭnsk), city (1926 pop. 8,777; 1939 pop 117,054), capital of Murmansk oblast, N European RSFSR, on the NW Kola Peninsula, an ice-free port on the Kola Gulf of the Barents Sea The largest city within the Arctic Circle, it is a fishing and shipbuilding center, the northern terminus of the Murmansk RR (which connects it with Leningrad), and the site of a polar research station Fish, lumber, and apatite are exported Murmansk oblast, which has rich apatite and nickel mines, was enlarged after the Second World War by the incorporation of former Finnish territories notably Petsamo (Rus *Pechenga*) The port of Murmansk was founded in 1915, the Murmansk RR was completed in 1916. They were of strategic importance in both world wars for the supplies to Russia from the Western Allies In the civil war Murmansk was occupied (1918–20) by Allied intervention forces. It developed tremendously in the 1930s In the Second World War it was bombed by the Germans, who unsuccessfully sought to reach it

Murner, Thomas (tō'mäs mo͝or'nûr), 1475–1537, German satirist, an Alsatian and a Franciscan monk. He was the most scurrilous writer of his time and spared no one in his satire He attacked the clergy, even his own order, but when the German Reformation turned into more radical channels, Murner did not follow His most celebrated work is a violent attack on Luther, *Von dem grossen Lutherischen Narren· wie in Doktor Murner beschworen hat* [on the great Lutheran Fool how Dr Murner exorcised him], the Fool in this pamphlet is the Reformation

Murom (mo͝o'rŭm), city (pop 22,607), central European RSFSR, on the Oka river One of the oldest of Russian cities, it was founded in 864 and was a medieval trade center The Mongols destroyed it in 1232, and it remained nearly deserted until 1393, when it passed to the grand duchy of Moscow There are a cathedral and monasteries dating from the 16th cent Its modern industries include locomotive and machine-tool plants

Muroran (mo͝o'rō'rän), city (1940 pop 107,628, 1947 pop 96,722), SW Hokkaido, Japan, a port on Uchiura Bay A coal-loading port and an iron and steel center, it was heavily bombed in the Second World War

Murphy, Charles Francis, 1858-1924, American politician, b. New York city He was the owner of many saloons in New York city and took a keen interest in politics His services to Tammany brought him a job as dock commissioner After the retirement of Richard CROKER, Murphy displaced Lewis Nixon and became (1902) boss of Tammany Hall He held control until his death, continued to build his political machine, and brought about the election of three New York city mayors—George B McClellan, William Jay Gaynor, and John Francis Hylan. His influence extended to state and national politics

Murphy, Frank, 1893–1949, Associate Justice of the U S Supreme Court (1940–49), b Harbor Beach, Mich , grad Univ of Michigan (LL B , 1914) He began his public career as chief assistant U S attorney in the Eastern District of Michigan (1919–20), taught law at the Univ of Detroit (1922–27), and was judge of recorder's court (1923–30) Elected mayor of Detroit in 1930, he resigned to become governor general (1933–35) and later (1935–37) U.S high commissioner in the Philippine Islands He was elected governor of Michigan in 1936, and his settlement of the automobile strike (1937) in Flint, Mich , made him a national figure He was defeated for reelection in 1938 In Jan , 1939, Murphy, a New Deal Democrat, was appointed U S Attorney General and served until his appointment to the Supreme Court For a short time in 1942 he left the bench to serve as an army officer Justice Murphy's opinions, which were usually aligned with those of Hugo L BLACK, William O DOUGLAS, and Wiley RUTLEDGE, reflected his ardent liberalism

Murphy, John Benjamin, 1857–1916, American surgeon, b Appleton, Wis , M D Rush Medical College, 1879 He was professor of surgery at Rush (1905–8) and at Northwestern Univ (1901–5, 1908–16) Highly skilled both in surgery and in teaching, he contributed to the techniques of surgery of the blood vessels, of gastro-intestinal surgery, and of chest surgery (chiefly in promoting collapse of the lung in treating pulmonary tuberculosis) See study by Loyal DAVIS (1938)

Murphy, John Francis, 1853–1921, American landscape painter, b Oswego, N Y , self-taught He first exhibited at the National Academy of Design in 1876 and became a member in 1887 Among his works are *The Old Barn* (Metropolitan Mus), *October* (Corcoran Gall), *The Path to the Village* (National Gall of Art, Washington, D C), *Afternoon Lights on the Hills* (Carnegie Inst , Pittsburgh), and *The Hill-Top* (Art Inst , Chicago)

Murphy, Robert Cushman, 1887–, American naturalist, b New York city, grad. Brown, 1911, M A Columbia, 1918 Associated with the American Museum of Natural History from 1921, he became (1942) chairman of the department of birds and, in 1948, curator. He was elected president of the American Ornithological Union in 1948 Peru honored him (1949) for his pioneer ecological studies in their coastal waters which were credited with saving the guano industry The results of his many scientific expeditions are recorded in articles in various technical periodicals He is also the author of *Bird Islands of Peru* (1925), *Oceanic Birds of South America* (1936), and *Logbook for Grace* (1947)

Murphy, William Parry, 1892–, American physician, b. Stoughton, Wis , M.D Harvard, 1922 He taught at Harvard from 1923 and was associated with the Peter Bent Brigham Hospital in Boston from 1922 He made special studies on diabetes and diseases of the blood and particularly on the liver treatment for pernicious anemia. For his work on anemia he shared with G H. Whipple and G R Minot the 1934 Nobel Prize in Physiology and Medicine. He wrote *Anemia in Practice Pernicious Anemia* (1939)

Murphy, town (pop. 1,873), co seat of Cherokee co , extreme W N.C., in the Nantahala National Forest near the Ga. line; founded c 1830. Textiles and wood products are made here.

Murphysboro (mûr'fēsbŭ"ru), city (pop 8,976), co. seat of Jackson co , S Ill , on the Big Muddy River and N of Cairo; founded 1843, inc. 1867 It is a trade, distributing, and processing center for a dairy area with coal and silica deposits. The city has silica refineries and ironworks There is a memorial to John Alexander Logan, who was born here

Murray, Alexander Stuart, 1841–1904, British archaeologist He was assistant keeper (1867–86) and keeper (from 1886) of Greek and Roman antiquities at the British Museum From 1894 to 1896 he had charge of excavations in Cyprus. Included in his writings are *Manual of Mythology* (1873, rev ed , 1895), *Handbook of Greek Archaeology* (1892), *Terra-Cotta Sarcophagi* (1898), and *Excavations in Cyprus* (1900)

Murray, Lord George, 1694–1760, Scottish general He took part in the risings of the JACOBITES in 1715, 1719, and 1745 In the rising of '45 he was the most able commander in the victory of Prestonpans and in the retreat from the invasion of England He opposed the strategy which led to the defeat at Culloden Moor In 1746 he escaped to Holland See biography by Winifred Duke (1927)

Murray, George Gilbert Aimé (Gilbert Murray), 1866–, British classical scholar, b Sydney, Australia Murray was appointed in 1908 regius professor of Greek at Oxford. He wrote a number of books on English politics, but is best known as a Greek scholar and especially as a translator of Greek drama Among his works are a *History of Ancient Greek Literature* (1897), *The Rise of the Greek Epic* (1907), *Euripides and His Age* (1918), and *The Classical Tradition in Poetry* (1927)

Murray, James, 1722–94, British general, first civil governor of Canada, b Scotland He came to Canada as an army officer in 1757 and was prominent at the siege of Louisburg (1758) and in the crucial battle on the Plains of Abraham Murray was given command of Quebec and withstood the efforts of the French under Lévis He was made military governor of Quebec and after the Treaty of Paris (1763) became (1764) the first civil governor of Canada, then styled the province of Quebec His efforts to protect the French Canadians prepared the way for the Quebec Act (1774), and they earned him the enmity of many of the English Summoned (1766) to England to face charges, he was vindicated, but although he held the governorship until 1768, he did not return to Canada In 1774 he was appointed governor of Minorca He was forced to surrender (1782) the island after a long siege by Spanish and French troops and faced a court-martial (1783), but was acquitted and was promoted general the same year See biography by R H Mahon (1921), A C Murray, *The Five Sons of Bars Betty* (1936)

Murray, Sir James Augustus Henry, 1837–1915, English lexicographer In 1879 he assumed the editorship of the *New English Dictionary* (the *Oxford English Dictionary*), which was his life's work Murray was a guiding force in this compilation, a triumph of modern scholarship, and it owes largely to him its general plan and much of the work on details He was knighted in 1908 See M M Mathews, *A Survey of English Dictionaries* (1933)

Murray or **Moray, James Stuart, 1st earl of** (both mûr'rē), 1531?–1570, regent of Scotland (1567–70) A natural son of James V and a daughter of the earl of Mar, he was, therefore, half brother of MARY QUEEN OF SCOTS Early a Protestant sympathiser, he was already a lord of the congregation in 1558 and a leader of the opposition to the regent, MARY OF GUISE After the return of the young queen (1561), he was her adviser, always favoring friendship with England and advocating religious reform His complicity, though discreet, in the murder of David RIZZIO was known, and he was certainly aware that something was afoot before the murder of Lord DARNLEY, whom he regarded as an enemy both of Protestantism and of Elisabeth. He emerged, after the short triumph of the earl of BOTHWELL had ended and Mary was imprisoned (1567) at Lochleven, as the only feasible candidate for regent He made every effort to perpetuate Mary's incarceration and worked in the interests of the young King James VI, the English, and Protestantism He was assassinated by one of the Hamiltons. With John Knox, who wrote a panegyric on him, Murray was largely responsible for the success of the Scottish Reformation

Murray, John, 2d marquess and 1st duke of Atholl (ă'thûl), 1660–1724, Scottish noble; son of the 1st marquess of Atholl He supported William III against James II and held high government posts in Scotland. He successfully weathered a plot against him by James Douglas, duke of QUEENSBERRY, and opposed the Scottish JACOBITES as vigorously as he opposed the union of England and Scotland He supported the accession of George I and remained loyal to the government against the Scottish rebels in 1715, although three of his sons were Jacobites

Murray, John, 2d earl and 1st marquess of Atholl (ă'thûl), c.1635–1703, Scottish noble. He sided with Charles I in the civil war. After the Restoration he held high office in Scotland, until he urged moderation in the measures against Presbyterians (1678). He later regained the royal favor and fought vigorously against Archibald CAMPBELL, 9th earl of Argyll in 1685. In 1688 he was lukewarm to the accession of William III and allowed his troops to be used at Killiecrankie to the discomfiture of the supporters of the new king.

Murray, John, 1741–1815, founder of the Universalist denomination in America, b. England He was excommunicated by the Methodists after he had openly accepted Universalism as taught by James Relly Murray emigrated to America in 1770 where, after traveling as a Universalist preacher for four years in New Jersey, New York, and New England, he settled in Gloucester, Mass He continued his preaching there and in near-by centers In 1775 Washington announced Murray's appointment as chaplain to the Rhode Island troops. He served as pastor of the newly organized Independent Church of Christ (1779) at Gloucester until in 1793 he was called to the pastorate of the Universalist Society of Boston.

Murray, Sir John, 1841–1914, British oceanographer and marine naturalist, noted for his deep-sea observations, b Canada A naturalist with the CHALLENGER EXPEDITION (1872–76), from 1882 to 1895 he edited its reports and was co-author of a *Narrative of the Cruise* (1882–85) and of a *Report on Deep-Sea Deposits* (1890) He took an active part in bathymetric exploration of the waters in and around Scotland In 1910 he participated in an expedition to investigate the physiography of the N Atlantic Ocean and its marine life and published his observations in *The Depths of the Ocean* (with Johan Hjort, 1912) and *The Ocean* (1913) He was influential in causing Great Britain to annex (1889) Christmas Island (in the Indian Ocean) and in 1897 financed a scientific investigation of the island

Murray, Lindley, 1745–1826, American grammarian Born in Pennsylvania, he practiced law until the Revolution, during which he acquired a fortune and in 1784 went to live in England He was a recorded minister of the York Monthly Meeting of the Society of Friends He devoted his time to writing books on English grammar and religious essays. His most popular book was his *English Grammar* (1st ed , 1795), written for a Friends' school It was the first standard English grammar and was tremendously popular Over a million and a half copies of his works on English were sold within 40 years of their publication

Murray, Nicholas, 1803–61, Presbyterian clergyman, b Ireland He emigrated to America in 1818 From 1834 until his death he was pastor in Elizabeth, N J Wide attention was attracted to his letters to the Right Rev John Hughes, Roman Catholic bishop of New York, which appeared in the *New-York Observer* under the name "Kirwan" Nicholas Murray Butler was his grandson See S I Prime, *Memoirs of the Rev Nicholas Murray* (1862)

Murray, Philip, 1886–, American labor leader, b Blantyre, Scotland He came to America in 1902 and later worked in the Pennsylvania coal mines Because he was discharged for fighting with a foreman, 600 miners struck, formed a local of the United Mine Workers of America, and elected Murray local president A skillful negotiator, he rose to the vice presidency of the union by 1920 When the C I O was formed (see CONGRESS OF INDUSTRIAL ORGANIZATIONS), he became a C I.O vice president and headed (1936) its successful steel workers' organizing campaign He broke with John L Lewis whom he succeeded as C I O president (1940) Murray also became president of the new United Steel Workers of America For supporting President F. D. Roosevelt's foreign policy, he was ousted (1942) by Lewis from the U.M.W. vice presidency.

Murray or **Moray, Thomas Randolph, 1st earl of** (both mûr'rē), d 1332, Scottish nobleman, nephew of Robert I (Robert the Bruce) He supported his kinsman, Robert I, until 1306, when Edward I of England captured Randolph and forced him to swear fealty. Recaptured by Sir James Douglas in 1308, he soon became one of Robert I's strongest warriors. He was made earl of Murray in 1314 and in that same year took Edinburgh by a daring escalade and led a division at Bannockburn He accompanied Edward Bruce on his invasion of Ireland in 1315 After the end of the war with England he was a principal party in the negotiations which led to recognition of Robert I by Edward III of England. He was regent (1331–32) of Scotland for the young DAVID II.

Murray, William: see MANSFIELD, WILLIAM MURRAY, 1ST EARL OF.

Murray. 1 City (pop. 3,773), co. seat of Calloway co , SW Ky., SE of Paducah and near the Tenn line, in a tobacco and livestock area. Murray State Teachers College is here. 2 City (pop. 5,740), N central Utah, S of Salt Lake City, inc. 1902. In an irrigated farm area, the city also has a smelter for treating lead.

Murray, principal river of Australia, rising in New South Wales in the Australian Alps near Mt Kosciusko and flowing generally westerly to form

for 1,200 mi. the boundary with Victoria before crossing South Australia in a generally southwestward course to enter Encounter Bay through Lake Alexandrina. It receives its main tributary, the Darling, 400 mi above its mouth. The Darling-Murray watercourse is 2,310 mi Important primarily for irrigation, the Murray is the site of hydroelectric plants and reservoirs, including the HUME RESERVOIR, part of a river development scheme financed and shared by New South Wales, Victoria, and South Australia The Murray also receives the Murrumbidgee with its tributary, the Lachlan.

Murray Bay, Que see LA MALBAIE

Murray City, village (pop. 1,009), S central Ohio, SE of Lancaster

Mürren (mü'rün), resort, Bern canton, Switzerland, opposite the Jungfrau.

Murrieta, Joaquin (hwäkēn' mōōryā'tä), 1829?-1853, California bandit, b Mexico From 1849 to 1851 he mined in the California gold fields After he and members of his family had been mistreated by American miners and driven from their claim, he became the leader of a band of desperadoes For two years his robberies and murders terrorized California, until the legislature authorized Capt Harry Love, deputy sheriff of Los Angeles co , to organize a company of mounted rangers to exterminate Murrieta's band Surprized at his camp near Tulare Lake, Murrieta was shot, and most of his followers were killed or captured His head was preserved and exhibited for identification See W N Burns, *The Robin Hood of Eldorado* (1939)

Murrumbidgee (mŭrumbĭ'jē), river 1,050 mi long, rising in SE New South Wales, Australia, in the Monaro Range and flowing N and W to the Murray on the Victoria border It has Burrinjuck Dam and is important for irrigation It was explored by Charles Sturt

Murry, John Middleton, 1889–, English author and critic While a student at Oxford he founded, with Michael Sadleir, a short-lived literary magazine, *Rhythm,* which published the early stories of Katherine MANSFIELD, whom he later married Subsequently he wrote for and edited a number of literary periodicals, notably the *Adelphi* (1923–48), which he founded His critical writings include *Fydor Dostoevsky* (1916), *Keats and Shakespeare* (1925), and *William Blake* (1933), in addition to his valuable biography of Katherine Mansfield (1933) and his editions of her work and to his biography of his friend, D H Lawrence, *Son of Woman* (1931) His private, mystical religion is somewhat explained in *God* (1932), *The Necessity of Communism* (1935), and *Christocracy* (1942) See his autobiographical *Between Two Worlds* (1935)

Mursa see OSIJEK, Yugoslavia

Murten, Switzerland see MORAT

Murviedro, Spain see SAGUNTO

Murzuk or **Mourzouk** (both mōōr'zōōk), town (pop 2,129), Libya It is the chief settlement of Fezzan There is an old ruined fort (c 1310)

Mus or **Mush** (both mōōsh) town (pop 5,040), E Turkey, SSE of Erzerum It is an old city of Armenia

Musa Dag or **Musa Dagh** (both mōō'sä dä'), peak, 4,445 ft high, S Turkey, rising from the Mediterranean W of Antioch The heroic resistance here of the Armenians against the Turks in the First World War is the subject of Franz Werfel's novel *The Forty Days of Musa Dagh*

Musala (mōōsälä'), mountain, 9,596 ft high, SW Bulgaria It is the highest peak of Bulgaria and of the Rhodope range Its name also appears as Mus Allah

Muscat, Maskat, or **Masqat** (all mŭ'skăt, mŭ'skŭt), city (pop c 5,500), capital of Oman, SE Arabia, a port on the Gulf of Oman It is flanked by rugged mountains Musa'at, with one of the best harbors in E Arabia, was seized by the Portuguese Afonso de Albuquerque in 1508 and kept by Portugal until 1648 Persian princes held it until 1741, when it became the capital of the powerful sultanate of OMAN Today the city exports dates and mother-of-pearl

Muscatine (mŭskŭtēn'), city (pop 18,286), co seat of Muscatine co , SE Iowa, on the Mississippi (spanned by a toll bridge) below Davenport; settled 1833 as a trading post, surveyed 1836, inc 1839, reinc 1851 It was an early center of river traffic and of lumbering Mussels in the waters here provide shells for a noted pearl-button industry begun in 1891 Farm products are processed and shipped There is a junior college Near by are Muscatine Island, noted for its fine melons, a fish hatchery, at Fairport, and Wild Cat Den State Park

muscle, tissue of the body which has the power of contractility. There are three types—skeletal (striated) muscle, plain (unstriated) muscle, and cardiac (heart) muscle Skeletal muscles are attached to bones by tendons (strong fibrous bands) and are controlled by the will They produce voluntary movements of the body, constitute the red flesh of the body, and account for a great deal of the body weight. Excessive muscular contraction, without sufficient rest, causes fatigue Muscles may be developed by exercise and tend to atrophy from disuse Plain (unstriated) muscles are found in the walls of the alimentary canal and the blood vessels Both unstriated and cardiac muscles are controlled by the autonomic nervous system

Muscle Shoals, town (pop 1,113), NW Ala , on the Tennessee river opposite Florence; inc 1923 Here formerly the river descended in a series of rapids called Muscle Shoals (more than 35 mi long with a drop of more than 130 ft) They were unnavigable, and early in the 19th cent plans were made for a canal around them A canal built by Alabama in the 1830s silted up, however, and was abandoned A canal was successfully built by the army engineers in 1890 In the First World War a project for extracting nitrate was undertaken here, but the nitrate works built in 1916 remained unused until the area was bought (1933) by the TENNESSEE VALLEY AUTHORITY The building of Wilson Dam had already begun the submersion of all the upper shoals, including the old canal It and Wheeler Dam have obliterated the shoals TVA made Muscle Shoals the center of experimental development of phosphate and nitrate fertilizers and animal foods Various products (including synthetic rubber) are made in the chemical works, and the industrial development extends to Florence and other near-by towns

muscovite see MICA.

Muscovy see MOSCOW, GRAND DUCHY OF

Muscovy Company (mŭ'skŭvē), or **Russia Company,** first major English joint-stock trading company It began as an organization directed by Sebastian Cabot, which sent out an exploring expedition (1553), the mariners Richard CHANCELLOR and Stephen BOROUGH reached the White Sea and later opened negotiations with Ivan IV of Russia The company was chartered in 1555 under a long name, which was not much used It sent out trading and exploring expeditions to Russia and to Asia and sponsored Henry Hudson's unfortunate voyage in search of the Northwest Passage By 1615 the company's trading ventures had come to a virtual end, and its business was never successfully revived See A J Gerson and others, *Studies in the History of English Commerce in the Tudor Period* (1912)

Muses [Gr , whence also *music*], nine Greek goddesses, patrons of arts and sciences, daughters of ZEUS and MNEMOSYNE CALLIOPE was the Muse of epic poetry and eloquence, Euterpe (ūtûr'pē), of music or of lyric poetry, Erato (ĕr'ütō), of the poetry of love, Polyhymnia (pŏlĭhĭm'nēu) or Polymnia (pŏlĭm'nēu), of oratory and sacred poetry, Clio (klī'ō), of history, Melpomene (mĕlpŏm'nē), of tragedy, Thalia (thulī'u), of comedy, Terpsichore (tûrpsĭk'urē), of the choral song and dance, Urania, of astronomy APOLLO was their leader Their worship originated among the Thracians, from whose early home, PIERIA, the Muses were sometimes called the Pierides The Castalian spring and the fountains of AGANIPPE and Hippocrene were sacred to them

Museum of Fine Arts, Boston, chartered and incorporated (1870) after a decision (1869) by the Boston Athenaeum, Harvard Univ , and the Massachusetts Institute of Technology to pool their separate collections of art objects and house them in adequate public galleries The first building was opened in 1876, the present one, designed by Guy Lowell, in 1909, the museum is supported entirely by private contributions and endowments Most notable of its collections is that of Chinese and Japanese art, built around several donated groups supplemented by purchase The Egyptian wing, housing the Way Collection, as well as the results of special expeditions, is rivaled only by the collections at Cairo The collection of John Singer Sargent paintings is housed in the rotunda which also has a Sargent mural The painting galleries are notable for the many Millets, works by American artists, and examples of Spanish art

Museum of Modern Art, New York city, established and incorporated in 1929 It is privately supported The founders were Mrs John D Rockefeller, Lillie P Bliss, Mrs W Murray Crane, A Conger Goodyear, Frank Crownnshield, and Paul J Sachs, Goodyear served as its first president, and Alfred H Barr, Jr , was appointed director Operating at first in rented galleries, the museum specialized in loan shows of contemporary European and American art. A start toward the permanent collection was made with the Lillie P Bliss bequest, which included nine Cézannes and the Daumier *Washerwoman* A permanent building was erected by Philip L Goodwin in 1939 on ground donated by the Rockefellers The museum also has a reference library and a film library There are annual circulating exhibits and associated art classes for nonprofessionals. The museum publishes a monthly *Art Calendar* and a quarterly *Bulletin,* as well as books on individual arts and artists in connection with exhibitions

Museum of the American Indian, Heye Foundation, New York city, devoted solely to the collection, preservation, and presentation of the culture of the aborigines of the Western Hemisphere It was founded by Dr. George G Heye and was opened to the public in 1922 The museum issues bulletins and monographs and conducts extensive field work. There are over 500,000 objects displayed in the three floors of the building

museums of art. Leading European galleries include: *Great Britain*—BRITISH MUSEUM, VICTORIA AND ALBERT MUSEUM, NATIONAL GALLERY, TATE GALLERY, and Wallace Collection (see WALLACE, SIR RICHARD) (all London) and the Glasgow Corporation Art Galleries; *Austria*—Liechtenstein Gallery, Belvedere, Albertina, and the Czernin Collection (all Vienna), *Belgium*—the Royal Museum of Fine Arts and Old Museum (both Brussels) and the Museum of Fine Arts (Antwerp); *France*—LOUVRE, Luxembourg Palace, and Cluny, Carnavalet, and Estampes museums (all Paris), the Versailles Museum, and institutions of Nantes, Marseilles, and other cities; *Greece*—Acropolis Museum, National Museum of Antiquities, and the National Archaeological Museum (all Athens), *Italy*—UFFIZI, Pitti Palace, Academy art museum, and Bargello (all Florence), the VATICAN, Lateran, Farnese, and Borghese palaces (all Rome), Academy of Venice and Scuola di San Rocco (both Venice), Brera Palace (Milan), and National Museum (Naples), *Netherlands*—Rijks Museum (Amsterdam) and Mauritshuis (The Hague), *Portugal*—National Museum (Lisbon), *Russia*—Hermitage (Leningrad) and Museum of Western Art (Moscow), *Scandinavia*—Royal Academy of Arts and National Museum (both Copenhagen) and National Museum and Picture Gallery (both Stockholm), *Spain*—Prado, Escorial, and Armería (all Madrid) and the El Greco Museum (Toledo), *Switzerland*—Swiss National Museum (Zurich) Many of the German museums were destroyed or damaged in the Second World War, though most of the collections in Berlin and Munich museums were saved In the United States the chief museums are the Metropolitan Museum of Art, Museum of Modern Art, Frick Collection, Whitney Museum Hispanic Society gallery, and Brooklyn Museum (New York city), Museum of Fine Arts and Gardner Museum (Boston), Fogg Museum of Art (Cambridge, Mass), Worcester (Mass) Art Museum Yale Gallery of Fine Arts (New Haven, Conn), Pennsylvania Academy of the Fine Arts (Philadelphia), Walters Art Gallery (Baltimore), National Gallery of Art and Corcoran Gallery of Art (Washington, D C), Albright Art Gallery (Buffalo, N Y), Carnegie Institute (Pittsburgh), Cleveland Museum of Art, Art Institute of Chicago, Henry E Huntington Library and Art Gallery (San Marino, Calif), and museums in Newark (N J), Detroit, Cincinnati, Columbus (Ohio), Toledo (Ohio), Indianapolis, St Louis, Kansas City (Mo.), New Orleans, Dallas (Texas), Minneapolis, Milwaukee, San Francisco, and Los Angeles In Egypt the Cairo Museum excels in the ancient art of that country, while in Istanbul are the Turkish Museum of Antiquities and the New Museum, where may be seen the art of Babylon, Assyria, and Byzantium The Teheran Museum and the Government Collections, Teheran, hold the most important Persian art treasures The Calcutta Museum presents the art of India In the Imperial Museum (Tokyo), the Kyoto Museum, and the Nara Imperial Museum and in collections of Shoso-in, or Imperial Treasure House (Nara), all periods of Japanese art are well represented See L V Coleman, *The Museum in America* (3 vols , 1939)

museums of science. Many early museums of science, e g , the Ashmolean Museum (1683) at Oxford Univ , originated from gifts of private collections At first most exhibits consisted of classified and labeled geological or biological specimens Later exhibition techniques have emphasized the grouping of specimens to illustrate origins, associations, and interrelationships Exhibition devices include habitat groups, restorations, murals, dioramas, models, and key installations in feature exhibits. The illustration of abstract ideas in biology e g , evolution and heredity, was extended to physics and chemistry, long neglected in science museums A pioneer in showing the principles of mechanics, light, heat, and sound was the Buffalo Museum of Natural Science The modern science museum has a threefold function - exhibition of collections, sponsoring of research, and education Many museums provide catalogued reserve collections for students and undertake research and the publication of results, some participate in expeditions for research or for enlarging collections Provisions for adult education include guided tours, lectures, and classes, museums cooperate with schools by providing loan exhibitions, special exhibits and tours for children, and story hours Outstanding in developing educational functions are the AMERICAN MUSEUM OF NATURAL HISTORY and the CHICAGO NATURAL HISTORY MUSEUM Although most science museums cover the general field, there are many, including a number of university and college teaching museums, that specialize, notably in anthropology, one of these is the Heye Foundation, Museum of the American Indian, New York city The establishment of the Adler Planetarium, Chicago (1930), the Fels Planetarium (1933) of the Franklin Institute, and the Hayden Planetarium (1935) of the American Museum of Natural History have stimulated science

museums to deal with astronomy Pioneers in the field of applied science include, in Europe, the Conservatoire des Arts et Métiers, Paris (the first industrial museum, est 1799), the Science Museum, London; the Technical Museum, Vienna; and the Deutsches Museum, Munich In the United States are the New York Museum of Science and Industry, the Museum of Science and Industry, Chicago, and the Franklin Institute, Philadelphia. A recent development in American science museums is the local trailside museums, most of them in national parks, whose establishment was stimulated by the success of the Yosemite Museum (1921) Other notable specialized museums are the museums of oceanography at Monaco and at Berlin Most of the principal countries of the world have national science museums or strong science collections in general museums In England are the great natural history collection of the British Museum, housed in South Kensington, the Museum of the Royal College of Surgeons, London, with its Hunterian Collection (greatly damaged by German bombs), the Horniman Museum, London, and science museums in Hull, Liverpool, Manchester, and Bristol Other noted science museums in Europe include the Bergen Museum, Norway, the Royal Museum of Natural History, Stockholm, the National Museum, Copenhagen, the Rijks Museum, Leiden, noted for its departments of geology, mineralogy, and zoology, the University Museum, Amsterdam, the Natural History Museum, Vienna, the Natural History Museum, Paris, and the Museum of the Academy of Sciences, Leningrad Germany has many excellent science museums in her cities and universities, and many Italian universities are noted for their science collections Many museums in Europe were damaged or destroyed during the Second World War, the United Nations Educational, Scientific, and Cultural Organization is cooperating in the work of restoration The chief cities of Australia, New Zealand, Africa, and Latin America are known for outstanding collections in local natural history and ethnology Canada has notable collections, especially in Toronto, Ottawa, and Quebec. The U S National Museum is a bureau of the SMITHSONIAN INSTITUTION There are many municipal and state museums of science Among notable university and college museums are the Harvard University Museum, which includes the Peabody Museum of Archaeology and Ethnology, the Peabody Museum of Natural History, Yale; the Dyche Museum, Univ of Kansas, the Museum of Natural History and the Dudley Herbarium, Stanford Univ , the University Museums of the Univ of Michigan, embracing museums of anthropology, palaeontology, and zoology, the Walker Museum of Palaeontology, Univ of Chicago, and the museums of anthropology, paleontology, and vertebrate zoology of the Univ of California See L V Coleman, *The Museum in America* (3 vols , 1939)

Mush, Turkey see MUS

Mushi (mŭ'shĭ) [Heb , =withdrawing], founder of a Levitical family Ex 6 19, Num 3 20,33, 26 58, 1 Chron 6 19,47, 24 21,23, 24 26,30

mushroom, fungus having a stout stalk and a somewhat umbrella-shaped cap at the top with spore-bearing gills on its under surface The mushroom absorbs water and nutriment through the mycelium (a mass of branching white filaments) which penetrates the organic material on which the fungus grows. Sometimes the name toadstool is used for the inedible or poisonous mushrooms, but there is no scientific reason for using this term The only safe way of distinguishing between the edible and the poisonous forms is to learn to identify them Many poisonous mushrooms are of the genus *Amanita* One of the most highly poisonous species is *Amanita phalloides,* the deadly amanita or death angel, recognizable by the presence of a cup at the base of the stalk. The common edible meadow mushroom is *Agaricus campestris* In the United States it is the chief and almost the only one raised on a large scale for marketing The bulk of the crop in the United States is grown near Philadelphia where the industry was started in 1904, and mushrooms are also raised in the vicinity of Chicago, St Louis, New York, and other large cities In Europe 50 or more species are marketed France was for long the chief growing center of the world Some of the mushroom cellars there have miles of underground corridors The temperature and humidity must be maintained at a constant level for the growing of mushrooms Mushroom culture is usually begun by planting spawn, a mass of the mycelium growing in manure, since the fungi do not grow readily from the spores. Mushrooms contain some protein, vitamins, iron, and copper Their use as food dates back at least to early Roman times See W. S Thomas, *The Field Book of Common Mushrooms* (2d ed , 1936), C M. Christensen, *Common Edible Mushrooms* (1943), M M C Ravner, *Trees and Toadstools* (American ed , 1948).

Musi, Agostino di: see AGOSTINO VENEZIANO

music. Since music is perceived only through the ear it is necessarily a time art; such conceptions as "high" or "low" PITCH and "tone color" are only borrowed for convenience from the more describable realm of things perceived by the eye. The most basic element of music, then, is RHYTHM, which originates in motor impulses of the human body MELODY stems from the capacity of the human VOICE—undoubtedly the first MUSICAL INSTRUMENT—to produce TONE, and singing, like the rhythmic impulse, is a motor reaction of the human body Beyond these general considerations, there are only theories as to the primitive origins of music In cultures of some sophistication the "invention" of music is generally ascribed to some hero or deity HARMONY, although considered a basic element of music, is not present in ORIENTAL MUSIC and is a late development in Western music The tonal material of any culture may be formulated into a SCALE The history of Western music may be considered to be divisible into seven periods—antiquity, the Middle Ages, the Renaissance, the baroque era, the classical era, the romantic era, and the 20th cent GREEK MUSIC was the outstanding musical culture of Western antiquity Medieval music, beginning with PLAIN SONG, was largely dominated by the Christian Church, a significant medieval Christian culture was BYZANTINE MUSIC The most important bodies of medieval secular music are the song of TROUBADOUR and TROUVÈRE in France and of MINNESINGER and MEISTERSINGER in Germany About the 9th cent. the gradual development of POLYPHONY began, necessitating a precise, measured MUSICAL NOTATION The 13th cent , now known as the period of the *ars antiqua,* produced as its outstanding technical achievement the isorhythmic MOTET In the *ars nova* of the 14th and early 15th cent , notation reached a very advanced stage, polyphony reached an unprecedented complexity, and many new forms were created, notably the MADRIGAL Renaissance is a term without precise or literal meaning in music The date of its beginning depends on what aspect of the period is emphasized Freedom from the domination of the Church comes with the *ars nova,* while the clarity of style, balance, the development of principles of composition and artistic standards, and the use of imitation as a unifying principle—all characteristic of the music of the Renaissance—would date the period from somewhere in the 15th cent The Burgundian school of the early 15th cent , with Guillaume DUFAY as its leading exponent, was a reaction against the complexities of the *ars nova* It was superseded in the late 15th cent by the Flemish school, an international school responsible for the great flowering of polyphony in the 16th cent The outstanding Flemish composers were JOSQUIN DES PRÉS and Orlando di LASSO The movement of Flemish musicians to Italy gave rise to the Venetian school, founded by Adrian WILLAERT and including Andrea and Giovanni GABRIELI PALESTRINA, whose only possible rival as the greatest composer of the Renaissance was Lasso, established the Roman school of polyphonic church music which continued into the BAROQUE period, side by side with the *nuove musiche,* the monophonic art of the baroque An offshoot of the late baroque in France and Italy was the ROCOCO The death of J S Bach in 1750 is taken as the end of the baroque period, it was followed by CLASSICISM with its perfection of the forms of SONATA, SYMPHONY, CONCERTO, and *opera buffa* (see OPERA) MUSICAL ROMANTICISM prevailed from c 1820 throughout the 19th cent Beethoven represents both the culmination of classicism and the beginning of romanticism, and Schubert, while really a romantic, retains the formal perfection of classicism Toward the end of the 19th cent , IMPRESSIONISM arose as a reaction against romanticism, ultimately, however, it seemed actually a part of romanticism The real reaction began c 1890 and represented the most radical musical revolution since the *nuove musiche* of the baroque, indeed, the term "new music" has been applied to the sum of the many and divergent antiromantic trends of the 20th cent , which include ATONALITY and neoclassicism Neoclassicism became a significant movement in the 1920s, a great vogue for the music of J S Bach, followed by revived interest in all of the baroque and even earlier periods and their forms, resulted HINDEMITH and STRAVINSKY are its leading representatives JAZZ, which may be regarded as American folk music, has strongly influenced American and European composers alike See Sir George Grove, *Dictionary of Music and Musicians* (3d ed., 6 vols , 1927–28, supplement, 1940), P A Scholes, *The Oxford Companion to Music* (1938), *International Cyclopedia of Music and Musicians* (ed. by Oscar Thompson, 1939), Willi Apel, *Harvard Dictionary of Music* (1944), Willi Apel and A. T Davison, *Historical Anthology of Music* (1946), Karl Nef, *An Outline of the History of Music* (Eng tr., 1935); P. H Lang, *Music in Western Civilization* (1941), Alfred Einstein, *A Short History of Music* (Eng. tr., rev ed , 1947); D N Ferguson, *A History of Musical Thought* (rev ed , 1948)

musical comedy: see OPERETTA.

musical glasses: see HARMONICA **2.**

musical instruments are classified in various ways, but the system devised in 1914 by Curt Sachs and E. M. von Hornbostel has found recognition from both anthropologists and musicologists because it is applicable not only to modern Western instruments but to primitive and exotic instruments as well This system divides instruments into five main classes, idiophones, membranophones, aerophones, chordophones, and electrophones Most idiophones, which are instruments made of a sonorous material not needing any additional tension, and membranophones, whose sound is produced by the vibrations of a membrane stretched over a hollow resonator, are popularly grouped as PERCUSSION INSTRUMENTS, certain of them, however, such as the JEW'S-HARP and the glass harmonica (see HARMONICA **2**), which are idiophones, are not percussion instruments. Aerophones are of two types, free aerophones, which include those REED INSTRUMENTS which employ free reeds, and WIND INSTRUMENTS, which produce sound by means of an enclosed, vibrating column of air Chordophones are STRINGED INSTRUMENTS Electrophones, a development of the 20th cent., are of two types, those which simply add an electric amplifier to some existing instrument, e g , guitar or reed organ, and those whose sounds originate with electrical vibrations, e g , the Hammond electric organ See Curt Sachs, *The History of Musical Instruments* (1940), Karl Geiringer, *Musical Instruments* (1943)

musical notation, the visual symbols which make possible the reproduction of musical sound Little is known of the notation of ancient Greek music except that it was by means of letters Notation of Gregorian chant was by means of neumes, which were probably derived from grammatical accent marks Neumes were certainly in use by the 6th cent , although the earliest extant manuscripts containing them are fragmentary ones from the 8th cent. These neumes only indicated the grouping of sounds in a given melody, evidently to remind a singer of the general shape of a melody already learned by ear Heighted neumes, arranged above and below a line, made the intervals of a melody more discernible in 10th-century notation, and by the end of the 12th cent the STAFF perfected by Guido d'Arezzo was in use Guido placed letters on certain lines to indicate their pitch, and thereby the pitch of the remaining lines and spaces The letters evolved into the clef signs in use today—the G, or treble, clef, the F, or bass, clef, and the C clef, which was originally much used in vocal music and is now used mainly in scoring for certain instruments, such as the viola The rhythm implied in plain-song notation is still the subject of controversy Mensural notation became a necessity with the development of polyphony Certain neumes were selected to represent tones of long and short duration In his *Ars cantus mensurabilis* (c 1280) Franco of Cologne, to standardize mensural notation, codified a set of rhythmic modes based on the metrical feet of poetry In the 14th cent Philippe de Vitry, author of *Ars nova,* which expands the system of Franco, freed music from the rigid system of the rhythmic modes Notes (see NOTE) were divided into smaller fractions than halves A staff of five lines for vocal music was adopted in France, and six lines in Italy; plain song still employs a four-line staff Red ink and black ink were used to indicate whether a note was to be divided into two or three units, and a dot was employed whose function was similar to the bar line which today indicates the MEASURE Signs for chromatic alteration of tones—the sharp to raise the tone a half step and the flat to lower it a half step—appear frequently in 14th-century music They had assumed their present shapes by the end of the 17th cent In the 15th cent the shape of notes became round, as it is today, instead of the old square or diamond shape, and time signatures replaced coloration in indicating whether notes of long duration were made up of two or three units Today's time signature is a fraction indicating the number of beats in a measure and the note value which is to be the unit of beating Instrumental music employed staves of varying numbers of lines until the 16th cent , when the five-line staff became the standard and ledger lines were invented to indicate pitches outside the compass of the staff Expression signs and Italian words to indicate tempo and dynamics came into use in the 17th cent The key signature originated early, in the form of one flat used to indicate that the mode employed had been transposed Sharps were not generally used in signatures until the 17th cent With the adoption of EQUAL TEMPERAMENT and the major and minor modes, signatures each of which indicates a major key or its relative minor became conventional, assuming their present form by the time of Bach and Handel The solmization syllables (do, re, mi, etc) of GUIDO D'ARETZO were the basis of a system of notation introduced into England in 1841 by John Curwen (1816–80) and much used there for the teaching of sight singing English publishers usually print the tonic sol-fa notation above the staff notation in choral music For a system of notation of lute and keyboard music, see TABLATURE See also SCORE See C. F A Williams, *The Story of Notation* (1903); Gustave Reese, *Music in the Middle Ages* (1940); Willi Apel, *The Notation of Polyphonic Music, 900–1600* (2d ed , 1944).

music hall. As the early English theater had its origin in the courtyards of Elizabethan inns and taverns, so the English music hall developed from entertainments in these places. The Licensing Act of 1737 confined regular or legitimate plays to the two royal theaters—Drury Lane and Covent Garden—but various methods were employed to circumvent this regulation. Usually this was accomplished by selling tickets for the musical, acrobatic, or dancing portions of the performance and then giving gratis a regular play. The demands of the rising lower and middle classes for entertainment were answered by ballets, pantomime, instrumental music, and singing and later by comic skits and sketches provided by keepers of inns, taverns, baiting rings, and "tea gardens," all operating under the Music and Dancing Act passed in the reign of George II and allowing smoking, drinking, and eating during the performance. Occasionally the keepers of these places were prosecuted by a royal theater when they encroached on the latter's prerogative. A Theatre Act (1843) followed the abolition of the royal theater patents and established the lord chamberlain as censor and controller of legitimate plays, while the music halls were responsible to local magistrates. Thereafter the rise of the music hall as a separate place of variety entertainment was rapid, and it flourished in the last half of the 19th cent., producing such stars as Joseph GRIMALDI, Albert CHEVALIER, and Dan LENO. Like American vaudeville, the English music hall went into a decline with the coming of the radio and the moving picture. See Samuel McKechnie, *Popular Entertainments through the Ages* (1931), Harold Scott *The Early Doors* (1946).

musk, substance secreted by an abdominal gland of the MUSK DEER. It is one of the most valuable perfume fixatives. References to musk are said to be found in writings of the 10th and 11th cent. It is believed to have been introduced into Europe from the Orient, where it was supposedly discovered by Chinese mandarins. The animals are killed in order to obtain the musk, although it has been found that the material can be removed from captive animals without destroying them. Only the adult males yield the secretion, which, when fresh, is a reddish-brown material with a honeylike consistency. Very soon after the pouch is cut the secretion hardens, assumes a blackish-brown color, and when dry becomes granular. In commerce the musk pouches are called musk pods, and the dried secretion, musk grains. The musk grains comprise about 70 percent of the weight of the better pods and from about 40 to 60 percent of the poorer ones. The yield diminishes as the animal ages. Usually tinctures using 96 percent alcohol are made from the musk grains. The chief constituent which gives musk its characteristic odor is muscone, this was isolated by H. Walbaum (1906), and its chemical composition was determined by Leopold Ruzicka (1926). A number of synthetic forms of musk are now marketed. Animals, other than the musk deer, from which musk can be obtained include especially the American muskrat. The muskrat secretes a muskilke substance which has only a faint odor. However, chemists discovered that by subjecting the material to a process of oxidation the odor can be greatly increased and a product is obtained with a fixative value about equal to that of high-quality musk from the deer. Some plants yield oils which resemble musk. These include the seed of ambrette (*Hibiscus abelmoschus*) and the sumbul root (*Ferula sumbul*) of central Asia and Turkistan.

musk deer, small deer found at high altitudes in parts of Siberia, Tibet, the Himalayas, Korea, and Sakhalin. It is usually 20 to 24 in. high at the shoulder, with thick, coarse, generally brown hair, often spotted with brown or yellowish. The hind limbs are long and stout, the tail is rudimentary, and neither sex bears antlers. The male has tusklike upper canine teeth. Destruction of the animal for MUSK has depleted its numbers. About six varieties of the single genus and species (*Moschus moschiferus*) exist.

Muskegon (muskē'gun), city (pop 47,697), co seat of Muskegon co., S Mich., on the south shore of Muskegon Lake, settled c 1810, inc. as a village 1861, as a city 1869. Its situation aided an early fur trade and later (1837–c 1890) a thriving lumbering industry. It is a port of entry and an industrial and shipping center and port for a resort, farm, and fruitgrowing region. There are oil wells and refineries and manufactures which include piston rings, iron castings, and automobile parts. The city has an art gallery, several parks, and an old Indian burial ground.

Muskegon, river, 227 mi. long, rising in Houghton Lake, N Mich., and flowing SW to Lake Michigan. At its mouth the river widens into **Muskegon Lake,** c 2½ mi. wide and c 5½ mi. long, on the south shore of which stands the city of Muskegon.

Muskegon Heights, industrial city (pop 16,047), S Mich., south suburb of Muskegon, inc. as a village 1891, as a city 1903. Machinery is made.

muskellunge (mŭ'skŭlŭnj), carnivorous, fresh-water game fish of the pike family. It sometimes reaches a length of 8 ft. and weighs more than 60 lb. Usually the body is silvery with dark markings. It is found from the Great Lakes region to Canada and in the upper Mississippi valley. The Chautauqua muskellunge and the northern or unspotted muskellunge are related forms.

musket (mŭ'skĭt), the infantry firearm in use before the introduction of the RIFLE. It was the successor to the harquebus in the 16th cent. The early matchlock type was so heavy that a rest on which to support it was necessary. Subsequent improvements included wheel locks and flintlocks.

Muskhogean: see NATCHEZ-MUSKOGEAN.

Muskingum (mŭskĭng'gum), river, c 111 mi. long, formed in E Ohio at Coshocton by the union of the Walhonding and Tuscarawas rivers and flowing S through Zanesville, then SE to the Ohio at Marietta. Fourteen dams of the Muskingum Conservancy District in the Tuscarawas valley were built (1935–41) with Federal aid.

Muskingum College see NEW CONCORD, Ohio.

muskmelon see MELON.

Muskogean see NATCHEZ-MUSKOGEAN.

Muskogee (mŭskō'gē), city (pop 32,332), co. seat of Muskogee co., E Okla., near the junction of the Verdigris, Grand, and Arkansas rivers SE of Tulsa, settled 1872. In 1874 it was made a Federal Indian agency. The city-manager form of government was adopted in 1920. It is an important railroad and trading center, serving a rich farming region in which potatoes and cotton are the chief products; there is also oil in the area. Its industries include cotton and food processing, oil refining, and iron and brick manufacture. A U.S. veterans' hospital and memorial park and a state school for the blind are here. Also noteworthy is the large Federal Building. Near by is Bacone College.

Muskogian: see NATCHEZ-MUSKOGEAN.

Muskoka Lakes (mŭskō'kŭ), S Ont., E of Georgian Bay, including Lakes Muskoka, Joseph, and Rosseau. Lake of Bays is farther east. The Muskoka river drains Lake Muskoka, flowing W into Georgian Bay. The region has many summer resorts.

musk ox, hoofed, herbivorous mammal (*Ovibos moschatus*) of arctic America and Greenland. In Alaska it was exterminated about the middle of the 19th cent., but was later restored there on Nunivak island. The oxlike body, often 4 to 5 ft. high at the shoulder in the bull, is insulated by a woolly undercoat covered by long brown to black hair which conceals the short tail and the upper part of the short legs. The horns are broad and flattened and nearly meet across the forehead. They curve downward and then upward in a hook. When in danger the herds, usually 10 to 20 or more animals, form a circle facing the enemy with a phalanx of death-dealing horns. This makes them an easy prey to the rifle. When protection has sufficiently restored the musk oxen, it is expected that their palatable flesh and milk and their wool will aid the economy of the people of the Far North.

muskrat, North American aquatic rodent sometimes called musquash. The common muskrat (*Ondatra*) has dense gray underfur covered with shining guard hairs of black, brown, or rust. Including the long, scaly, flattened tail it is from 17 to 25 in. long. The hind feet are partially webbed. It lives in marshes, quiet streams, and ponds and eats vegetation and some animal food. Its home may be in a steep bank, where it constructs chambers above the water level entered through an underwater entrance and tunnel, or in a hut similar to a beaver's lodge. The fur is much used, chiefly for women's coats. When dyed black it is sold as Hudson seal-dyed muskrat. The dark muskrat flesh is marketed as marsh rabbit, marsh hare, and terrapin. The secretion of the musk glands is used in the perfume industry.

Muslim see MOSLEM.

muslin, an inclusive name for plain woven fine white cottons for domestic use. Originally the name referred to the gauzy cottons of ancient India, the muslins of Madras and Dacca were called running water and woven air, a turban 1 yd. wide and 20 yd. long could be drawn through a finger ring. Many of these ancient muslins were woven or embroidered with gold. Swiss muslin is a modern crisp, semitransparent fabric, either dyed or white, dotted, figured, plain, or tamboured. Certain sheetings are known as muslins. Bookbinders' muslin, a Scotch manufacture, is fine and crisp.

mussel, bivalve MOLLUSK of which there are many marine and fresh-water species. The sea mussel is common on the Atlantic coasts of North America and Europe. It is much used for food in European countries. It attaches itself to a rock by means of viscous threads secreted by the byssus gland. Fresh-water mussels found in the rivers of Europe and central North America are a source of the PEARL, and the mother-of-pearl lining of the shells is made into buttons.

Musselburgh (mŭ'sulbŭrŭ), burgh (pop. 17,007), Midlothian, Scotland, a suburb of Edinburgh, at the mouth of the Esk on the southern shore of the Firth of Forth. Fisherrow is an adjacent fishing village. The golf links and racecourse of Musselburgh are celebrated. A 16th-century tolbooth (prison), the market cross in front of it, the Roman bridge, Loretto School (on the site of a 16th-century shrine), Pinkie House (Jacobean), and a memorial to David Moir are features. The burgh's industries include papermaking.

Musselshell, river, 292 mi. long, rising in W central Montana in the Crazy Mts. and flowing generally east, then northeast to join the Missouri. Harlowton and Roundup are on the Musselshell.

Musset, Alfred de (Louis Charles Alfred de Musset) (alfrĕd' dŭ mŭsā'), 1810–57, French poet, dramatist, and fiction writer. His first work, the Byronic *Contes d'Espagne et d'Italie* (1829), exhibited genius. Four years later he went to Italy with George Sand, but his romantic infatuation resulted in disillusionment. Most of his poems appeared first in *Revue des Deux Mondes*, they included such famous pieces as the gloomy "Rollo" (1833) and the exquisite love lyrics "La Nuit de mai," "La Nuit d'août," "La Nuit d'octobre," and "La Nuit de décembre" (1835–36). As a dramatist he is represented by the *Fantasio* (1833) and by a series of comedies based on proverbs, including *Il ne faut jurer de rien* (1834) and *On ne badine pas avec l'amour* (1836), echoing his affair with George Sand. Attractive as are these plays to read, few have been successful on the stage. He wrote some brilliant *nouvelles*, but from 1840 he passed into increasing eclipse. His correspondence with George Sand appeared in 1904. His work was translated in *The Complete Writings of Alfred de Musset* (10 vols., 1905, rev. ed., 1907). See biographies by his brother, Paul de Musset (Eng. tr., 1877), and H. D. Sedgwick (1931).

Mussolini, Benito (mōō'sulē'nē, Ital. bānē'tō mōōssōlē'nē), 1883–1945, Italian dictator, founder of Fascism. His father, an ardent Socialist, was a blacksmith, his mother was a schoolteacher. After teaching for a short period, Mussolini went to Switzerland (1902) as a stonemason. He later edited a Socialist newspaper and was expelled from Switzerland because of his revolutionary agitation. In 1909 he became editor of a Socialist paper in Trent (then in Austria), but was soon expelled as an irredentist and revolutionist. Back in Italy, he continued his journalistic career, becoming the editor of the Socialist daily *Avanti*, in Milan. However, soon after the outbreak of the First World War he joined the pro-Allied interventionists, broke with the Socialist party, and founded his own daily, the *Popolo d'Italia*. He served in the army (1915–17) and was severely wounded. In the troubled post-war period (see ITALY), Mussolini organized his followers, mostly war veterans, in the *Fasci di combattimento*, which stood for aggressive nationalism and violently opposed the Communists and Socialists, these were the nucleus of the Fascist party (see FASCISM) and adopted as their uniform the black shirts of the followers of D'ANNUNZIO. Unemployment, strikes, and social unrest won adherents to Mussolini's program of restoring order, in May, 1921, he was elected to the parliament, and in November the Fascist party was officially organized. On Oct. 28, 1922 Mussolini took advantage of the increasing disorder and sent the Fascists, who were organized on a military pattern to execute their march on Rome. King VICTOR EMMANUEL III permitted the Fascists to enter the city and called on Mussolini, who had remained in Milan, to form a cabinet. By gradual measures the new premier transformed the government into a dictatorship. In 1924 the murder of the Socialist deputy MATTEOTTI threatened to upset the government, but Mussolini weathered the storm and emerged more powerful than before. Opposition was ground down ruthlessly by an efficient secret police and the Fascist militia. The press was regimented. Parliamentary government was suspended in 1928, and the state economy was reorganized along the lines of the Fascist corporative state. The long-standing conflict between Church and state was composed in the LATERAN TREATY (1929). Mussolini was called Duce [leader] by his followers, his official title was "head of the government," and he held, besides the premiership, as many portfolios as he saw fit. His ambition to restore the glory of the Augustan empire found expression in grandiloquent slogans and speeches, in the substitution of the "Roman salute" for the handshake, in the erection of monumental buildings of dubious taste—as well as in accomplishments of permanent value, such as the draining of the PONTINE MARSHES and the building of superhighways. However, the ancient greatness he sought to resurrect was largely a hollow showpiece. The encouragement he gave to the already high Italian birth rate, his imperialistic designs, and the warlike atmosphere in which Italian youth was reared created an explosive situation which Mussolini could not master. Mussolini, whose career and philosophy had influenced those of Adolf HITLER, was at first cool to the German dictator, whose designs on Austria he firmly opposed. However, when Mussolini became diplomatically isolated as a result of his attack (1935) on ETHIOPIA, a rapprochement with Germany became inevitable. In 1936 both Hitler and Mussolini intervened in the Spanish civil war by aiding Francisco FRANCO, the Rome-Berlin AXIS was born and was strengthened by a formal alliance (1939), which Mussolini's

son-in-law and foreign minister, Galeazzo CIANO, helped to create Early in 1938 Mussolini allowed Hitler to annex Austria, and later in the year his mediation brought about the MUNICH PACT; in April, 1939, he ordered the occupation of Albania By now Mussolini had definitely been reduced to the role of a satellite to Hitler, the course he had chosen ultimately led him to complete subservience. On German pressure, Mussolini inaugurated an anti-Semitic policy in Italy—a policy which found no popular response The Ethiopian and Spanish wars had diminished the Duce's popularity, and he did not at first enter the Second World War. In June, 1940, he entered the war as France was falling The failure of Italian arms in Greece and Africa and the imminent invasion by the Allies of the Italian mainland at last caused a rebellion within the Fascist party On July 25, 1943, the Fascist Grand Council refused to support his policy—dictated by Hitler during a previous meeting at Verona—and the king dismissed him and had him placed under arrest He was freed two months later by a daring German rescue party and became head of the Fascist puppet government set over N Italy by Hitler On the German collapse (April, 1945) he attempted to flee to Switzerland but was captured near Como, subjected to a summary court-martial, and shot with his mistress, Clara Petacci Their bodies, brought to Milan, were hanged in a public square and buried in an unmarked grave Mussolini wrote copiously Many of his political speeches and pamphlets have been translated into English His literary productions include *The Cardinal's Mistress* (Eng tr, 1928), *John Huss* (Eng tr, 1929), and the drama *Napoleon the Hundred Days* (in collaboration with Giovacchino Sforzano; Eng tr., 1932) *My Autobiography* (latest Eng. ed , 1939) is supplemented by *The Fall of Mussolini; His Own Story* (ed by MAX ASCOLI, Eng tr., 1948) See V. E de FIORI, *Mussolini* (1928), Alexander Robertson, *Mussolini and the New Italy* (1928); C H. Sherrill, *Bismarck and Mussolini* (1931); Gilbert Seldes, *Sawdust Caesar* (1935), Gaudens Megaro, *Mussolini in the Making* (1938), Giorgio Pini, *Official Life of Benito Mussolini* (1939)

Mussorgsky, Modest Petrovich. see MOUSSORGSKY

Mussulman: see MOSLEM.

Mustafa I (mustä'fü, mōō'stäfä"), 1591–1639', Ottoman sultan (1617–18, 1622–23), brother and successor of Ahmed I Set aside for incompetence, he was succeeded in 1618 by his nephew Osman II, who died in 1622 Mustafa returned to the throne only to be displaced by another nephew, Murad IV

Mustafa II, 1664–1703, Ottoman sultan (1695–1703), nephew and successor of Ahmed II His grand vizier, Hussein KUPRILI, exercised the actual rule The Turkish defeat (1697) at Zenta by Prince Eugene of Savoy forced Turkey to consent (1699) to the Treaty of KARLOWITZ Mustafa II was succeeded by his brother, Ahmed III

Mustafa III, 1717–74, Ottoman sultan (1757–74), son of Ahmed III He succeeded his cousin Osman III The chief event of his reign was the war of 1768–74 with Russia (see RUSSO-TURKISH WARS), which ended disastrously for Turkey in the Treaty of KUCHUK-KAINARJI His brother Abdu-l-Hamid I succeeded him.

Mustafa IV, 1778–1808, Ottoman sultan (1807–8), son of Abdu-l-Hamid I. He was raised to the throne by the reactionary Janizaries who had deposed his reforming uncle, Selim III When a Turkish army marched on the capital to restore Selim, Mustafa had him murdered, but the rebels killed Mustafa in turn and placed his brother, Mahmud II, on the throne During Mustafa's brief reign the Russo-Turkish War of 1806–12 continued without any decisive action.

Mustafa, or **Kara Mustafa** (kärä' mōō'stäfä", mŭstä'fŭ) [Turkish *kara* = black], d. 1683, Turkish grand vizier under Sultan Mohammed IV He succeeded his brother-in-law, Ahmed KUPRILI Ambitious and belligerent, he allied himself with the Hungarian rebels under THOKOLY against Emperor Leopold I and led the siege of VIENNA in 1683 His military incompetence facilitated the relief of Vienna by King John III of Poland, and the besieging army, including Mustafa, fled in a panic Mustafa suffered several routs during his retreat through Hungary and, having reached Belgrade, was ordered by the sultan to commit suicide

Mustafa Kemal: see ATATURK, KEMAL.

mustang (mŭ'stăng) [Span.], small semiwild horse of the W United States, Texas, and Mexico The HORSE was unknown to the American Indians when the Spanish explorers and conquerors came bringing their mounts, these Spanish horses were of the Arabian type From time to time horses escaped from the Spaniards. The region was suited to them, and they became the foundation stock of herds of wild horses called mustangs The Indians of Mexico and Texas learned to capture and use mustangs, and soon a "horse culture" spread to all the Indians of the Great Plains The hunting of the buffalo and other game at once became far more successful. With a food supply for the first time assured, the Plains Indians grew more numerous and powerful Mounted, they could travel farther and could carry more equipment with them. They were seldom seen without their horses. The mustang had revolutionized the lives of these Indians It is a small, swift, hardy horse, uniquely adapted to Great Plains conditions Cowboys, cavalrymen, and others learned to prefer it to other horses for use on the plains An untamed mustang is called a bronco (brŏng'kō) [Span., = wild] Some broncos refuse to be tamed. The Cayuse (kīyōōs') Indians of Washington and Oregon became famous breeders of mustangs, and the name cayuse was given to a mustang of this somewhat domesticated strain. Sometimes the names mustang, bronco, cayuse, and Indian pony are used without discrimination See Clark Wissler, *Man and Culture* (1923), W. P. Webb, *The Great Plains* (1931).

Mustapha. For persons thus named, see MUSTAFA.

mustard, name for several plants of the cabbage genus, known from remote times. Most important commercially are the black mustard (*Brassica nigra*), white mustard (*Brassica alba*), and Indian mustard (*Brassica juncea*) These are yellow-flowered annuals naturalized in the United States; the black mustard is often a weed, infesting grainfields, as is also the charlock or wild mustard (*Brassica arvensis*) The black and the white mustard resemble each other and are used more or less similarly. They are cultivated for the seeds, which are ground and used as a condiment, usually mixed to a paste with vinegar or oil, sometimes with spices or with an admixture of starch to reduce the pungency (The pungency of mustard does not develop until it is moistened.) These mustards are also grown as salad plants and for greens The white mustard is used in some localities as a forage crop for sheep and as a green manure Black mustard has several important medical uses It is a valuable counterirritant (either as a liniment or as a plaster), a stomach stimulant, and an emetic Its seeds are more pungent than the white and yield a yellowish, biting oil, mustard oil, also useful in medicine The New Testament imagery of the mustard seed as a symbol of creative faith is sometimes identified with the black mustard, which in Palestine grows to a height of 10 or 12 ft , with branches frequented by birds (Mat 13 31, 32, Luke 13 19)

mustard gas, substance used as a POISON GAS in the First World War, so named because of its "mustard" odor when impure and its blistering properties It is called also yperite, because of its first use by the Germans at Ypres, and yellow cross, because of the yellow crosses placed on the shells and containers in which it was confined Chemically, mustard gas is a light, colorless, oily liquid compound of carbon, hydrogen, chlorine, and sulphur which readily vaporizes For this property and its toxic effect it became important as a gas in warfare The liquid, sprayed from a bursting shell, forms an invisible vapor which attacks the mucous membranes of the respiratory tract and destroys lung tissue when inhaled in minute quantities, blisters the skin, and produces severe conjunctivitis It can be prepared by the action of ethylene (a carbon-hydrogen compound) upon sulphur monochloride (sulphur and chlorine)

Mutankiang (mōō'tän'kyäng'), Mandarin *Mu-tan-chiang*, city (pop. 179,217), capital of Sungkiang prov , China It is a railroad junction in a rich timber region, and manufactures wood pulp and paper

mutation (mūtā'shŭn), in biology, a change in a GENE resulting in the appearance in the offspring (of a plant or an animal) of a character which is not present in the parents but which is potentially transmissible to its offspring Sometimes the word *mutation* is more broadly used to include (in addition to changes in the constitution of the gene itself) variations resulting from recombinations of genes and from chromosome aberrations (e g , change in the number of chromosomes and loss or rearrangement of a part of a chromosome) A mutation may take place in either somatic (body) tissue or germinal (sex-cell) tissue. If it occurs in somatic tissue of an animal it is lost, if it appears in somatic plant tissue it can be transmitted by vegetative (or asexual) propagation of plants, e g , by grafting Hugo de Vries presented, in 1901, his belief that new characters may appear suddenly and that these characters are inheritable, he had observed a number of mutants or sports among evening primrose plants De Vries proposed mutation as a factor more influential in evolution than the slight, gradual changes emphasized by Darwin In recent years numerous studies have been made of gene mutations The fruit or vinegar fly, *Drosophila*, has proved especially useful in these investigations Among those who have contributed to the understanding of mutations are H. J Muller, T. H. Morgan, Miluslav Demerec, A E. Emerson, Theodosius Dobzhansky, and L J Stadtler Much remains to be learned about mutations, and therefore present knowledge may require revision. The cause of mutation is not known, but studies indicate that mutations occur more frequently in offspring of parents treated with X rays, radium, ultraviolet radiation, heat rays, and certain chemicals Most mutations tend to be harmful to the organism in its existing environment; sometimes, however, if the environment changes, the mutations prove useful in the new environment. H. J. Muller pioneered in the use of X rays in producing mutations and developed a method of recognising lethal mutations with no visible effects (produced in *Drosophila* by X-ray radiation) which aided genetic studies. The occurrence of a type of somatic mutation known as a bud mutation has sometimes been important to agriculture; e.g., the nectarine developed as a bud mutation of the peach, and the navel (or seedless) orange as a bud mutation of the seed orange These are propagated by inserting buds from the mutated branch into stock trees In humans certain abnormal characters believed to arise as mutations are transmitted, e g , hemophilia (transmitted as a sex-linked recessive trait) Mutation is believed to be a chief agent in evolution, since by such changes new species are believed to evolve and by inability to mutate in a changing environment some species become extinct.

mutation, in language, see UMLAUT

Muth-labben (mŭth-lă'bĕn), obscure word in the title of Ps 9.

mutiny (mū'tĭnē), concerted disobedient or seditious action by persons in military or naval service or by sailors on commercial vessels. Mutiny may vary from simple combined refusal to obey orders to active revolt or going over to the enemy In the armed forces it is one of the gravest crimes against military law Mutiny may be committed on a private vessel whether it is at sea or in port, hence, seamen bound by a ship's articles have no right to strike Two extensive naval mutinies occurred in Great Britain in 1797. The mutiny at SPITHEAD ended without violence or convictions In the mutiny at Nore and Sheerness, however, the mutineers bombarded loyal ships and the ringleader, Richard Parker, was hanged. Many of the abuses in the navy—bad food, brutal discipline, withholding pay—were remedied as a consequence of this disaffection Other well-known mutinies were that aboard the BOUNTY and the SEPOY REBELLION in India. Mutinies may occur with some frequency in the armed forces of nations on the point of suffering defeat, thus, in 1918 the German navy mutinied at Kiel and the Austrian navy at Cattaro (now Kotor). A mutiny may be the signal for a revolution, as the Russian mutinies in 1905 and 1917 at KRONSTADT. See Conrad Gill, *The Naval Mutinies of 1797* (1913), G E. Manwaring and Bonamy Dobrée, *The Floating Republic* (1938), Robert L Hadfield, *Mutiny at Sea* (1938).

Mutis, José Celestino (hōsă' thälĕstē'nō mōō'tēs), 1732–1808, Spanish naturalist and plant explorer He was one of Linnaeus' first disciples in Spain He went to South America and settled c 1760 in Bogotá He collected plants, especially in the Andes, and introduced several into general use. His study of quinine, on which he wrote *El arcano de la quina* (1793), facilitated the colonization of malaria ridden regions Most of his monumentally planned work, *Flora de Bogotá ó de Nueva Granada*, was left in manuscript, only the first volumes being published Some of his voluminous correspondence with Linnaeus has been published in *A Selection of the Correspondence of Linnaeus* (1821) Mutis was chiefly responsible for the creation of the Bogotá Observatory and gathered about him a group of scholars who made the university a renowned center of research See biography by A. F. Gredilla (1911, in Spanish)

Mutsuhito (mōō'tsōōhē'tō), 1852–1912, emperor of Japan (1867–1912) His reign name was MEIJI He ascended the throne when he was but 14, and the next year the forces of discontent in Japan triumphed The shogun fell, and the power that had been held by the shogunate was returned to the emperor. This was the MEIJI restoration, the chief event in the modern history of Japan, for it meant the downfall of Japanese feudalism and the forging of a new and modern state. The court was transferred from Kyoto to Tokyo. The four great clans surrendered their fiefs, and the land was nationalized The possibility that the change would be to a new type of feudalism was definitely ended when the rebellion of the great Satsuma clan was crushed in 1877 A new constitution was drafted on the basis of European constitutions and was formally adopted in 1889. Such statesmen as ITO and YAMAGATA prepared the way for the industrial growth of Japan The military tradition was revivified, and Japanese military greatness was firmly established by the First CHINO-JAPANESE WAR and the RUSSO-JAPANESE WAR. Japan emerged as a world power See G. B Sansom, *The Western World and Japan* (1950)

mutton, the flesh of sheep prepared as food. It is deep red with firm, white fat In Eastern and pastoral countries it is a staple meat, but in the West mutton and lamb comprise only about 5 percent of the total meat. In the United States the flesh of lambs six weeks to three months old is preferred The cuts are leg, loin (chops and roasts), rack (rib chops and French chops), chuck, breast, and flank The kidneys, heart, and sweetbreads are especially delicate.

Muttra (mŭ'trŭ) or **Mathura** (mä'thōōrä, mŭ'trŭ), town (pop. 80,832), W central United Provs., In-

dia, on the Jumna river. The region, which may have been inhabited since the 7th cent B C., is rich in archaeological remains. The Moslem rulers (16th–18th cent.) destroyed all Hindu structures in the city and built several mosques. The reputed birthplace of Krishna, Muttra is visited by many Hindu pilgrims.

Muybridge, Eadweard (ēd'wûrd mī'brĭj), 1830–1904, English photographer and student of animal locomotion. His name originally was Edward James Muggeridge. In 1872 he made some experiments in photographing moving objects for the U. S. government. Afterwards he was engaged by Leland Stanford to record, with a succession of cameras, the movements of a horse. He invented (1881) the zoopraxiscope, which projected animated pictures on a screen, a forerunner of the moving picture. He wrote *The Horse in Motion* (1878) and *Animal Locomotion* (1887, reprinted as *Animals in Motion*, 1899).

Muzaffar-ed-Din (mōōzăf'ûr-ĕd-dēn'), 1853–1907, shah of Persia (1896–1907), son of NASR-ED-DIN Shah. He borrowed money from Russia and failed to oppose the encroachments of Russia and England on Persian sovereignty. Much disaffection arose among the people. After a revolutionary outburst, he proclaimed (1906) the long-expected liberal constitution providing for a parliament. He was succeeded by Mohammed Ali.

Muziano, Girolamo (jĕrō'lämō mōōtsyä'nō), c 1528–1592, Italian painter, also known as Girolamo Bresciano. His great painting *The Resurrection of Lazarus* gained him the friendship of Michelangelo. Muziano was noted for his landscapes and painted many historical compositions for the churches and palaces of Rome, but he is best known as the founder of St Luke's Academy in Rome and for his notable contributions to the development of mosaics. He was superintendent of the works of the Vatican under Gregory XIII.

MVD. see SECRET POLICE.

Mwanza (mwän'zä), town (pop. c 4,000), NW Tanganyika, on Lake Victoria. It is the terminus of a railroad from Tabora. There is gold-mining.

Mycale (mī'kulē), mountain, W Asia Minor, opposite Samos island. In the temple of Poseidon here was the center of the Ionian League. On the beach the Greeks destroyed the Persian fleet (479 B.C.). This ended the Persian Wars for European Greece and began the rapid liberation of the Greeks of Asia Minor. Mycale is now called Mt. Samsun. It is also called Mt. Lydia.

Mycenae (mīsē'nē), ancient city of Greece, in Argolis. In historic times it had little importance and was usually dependent on Argos. Its significance is in its remote past as a center of Mycenaean civilization.

Mycenaean civilization (mĭsēnē'un), type of ancient AEGEAN CIVILIZATION known from the excavations at Mycenae. These were first undertaken by Heinrich Schliemann and others after 1876, and they helped to rewrite the early history of Greece. The locale was inhabited as early as 3000 B.C., and its first periods paralleled in chronology and culture the contemporary Minoan civilization. The inhabitants then were not Greeks, but when the period of the city's greatness began c 1600 B.C., the people were Achaeans, an early and distinct offshoot of the Greek family. Mycenae was a royal fortress-palace, the citadel, the palace, and the tombs (called beehive tombs from the shape) have been uncovered. In the walls is the often-pictured Lion Gate. Everything about these buildings is massive, thus the lintel over the door of the Treasury of Atreus (most famous of the tombs) weighs more than 130 tons. Since the finds at Mycenae similar discoveries have been made at Tiryns, Pylos, Orchomenus, Thebes, and Athens and other places in Greece. Trinkets, weapons, and pottery like that found at Achaean Mycenae are found at many spots in the E Mediterranean world. Though the Mycenaean Greeks had close relations with Crete (then in the Late Minoan period) and drew their artistic inspiration from there, Mycenaean culture has properties of its own. Thus the palaces were built about great halls (a type found much earlier in the second city of Troy), instead of around a patio, the Minoan style. Mycenaean men were bearded and wore armor in battle, unlike the Cretans, who kept their hair trimmed and used only shields for protection. Most significant of all, the Mycenaean Greeks were illiterate, though there are many examples of Cretan writing in the earlier Mycenaean remains. After c.1300 B.C. a new invasion of Greeks from the north began, and the Mycenaean civilization went into an accelerating decline, it was dead by 900 B.C. The invaders assimilated much, but the new Greek civilization was to arise from a new base. Nevertheless, there was a continuity in Greek tradition, seen in legend (e.g., the destruction of Thebes, c.1200 B.C., as recalled in the story of the Seven against Thebes) and in Homer. Whether or not the *Iliad* recounts an actual expedition of Achaeans against Troy—the Troy of Mycenaean times was destroyed by fire c.1200 B.C.—the evaluation of Homer has undergone a radical change since the discoveries of Mycenaean Greece. Now he is considered to give admirable glimpses of the culture of the ruling class of Greeks (Achaeans) of the 12th cent. B.C., a style of life materially much cruder than that of the Mycenaean heyday 300 years before. The *Iliad* and the *Odyssey* are then important, unique sources of information on a phase of Mycenaean civilization. See C. Tsountas and J. S. Manatt, *The Mycenean Age* (1897); Thomas D. Seymour, *Life in the Homeric Age* (1907); Gustave Glotz, *Aegean Civilization* (1925); A. R. Burn, *Minoans, Philistines, and Greeks* (1930); Sir William Ridgeway, *The Early Age of Greece* (1930–31).

Mycerinus: see MENKURE.

My Country, 'Tis of Thee: see AMERICA, hymn.

Myddleton or **Middleton, Sir Hugh** (both mĭ'dûltŭn), 1560?–1631, British contractor and engineer. He was a successful London goldsmith, merchant, and clothmaker. In 1603 he was elected to Parliament, where he served until 1628. He contracted to supplement the London water supply and in 1609 began work on the New River project, a canal to bring water from springs near Ware to London, a distance of some 38 mi. With the financial aid of James I, the work was completed in 1613. In 1620 he began to reclaim flooded lands on the Isle of Wight, a project that was revived and completed in 1882.

Myers, Frederic William Henry (mī'ûrz), 1843–1901, English essayist and poet. For a short time he was a classical lecturer at Cambridge. His publications include the poems *St. Paul* (1867) and *Essays, Classical and Modern* (1883). He is well known for his investigations of psychic phenomena in connection with the Society for Psychical Research, which he helped found in 1882, and for his *Human Personality and Its Survival of Bodily Death* (1903).

Myers, Gustavus, 1872–1942, American historian, b. Trenton, N.J. Myers worked on a number of newspapers and magazines in New York city, joined the Populist party and the Social Reform Club, and was a member (1907–12) of the Socialist party. Such books as *The History of Tammany Hall* (1901, rev. ed., 1917), *History of the Great American Fortunes* (3 vols., 1910, rev. ed., 1936), and *History of the Supreme Court of the United States* (1912) were detailed, realistic exposés through which he made his reputation in the muckraking era of American literature. His other works are *History of Canadian Wealth* (1914), *Ye Olden Blue Laws* (1921), *The History of American Idealism* (1925), *America Strikes Back* (1935), *The Ending of Hereditary American Fortunes* (1939), and *History of Bigotry in the United States* (1943).

Myers, Jerome, 1867–1940, American painter, b. Petersburg, Va. At 19 he went to New York, where he worked as a scene painter and studied at Cooper Union and the Art Students League. On his return from a visit to Paris in 1896, he began painting the Manhattan street scenes for which he is famous. *The End of the Street* (Art Inst., Chicago) is a characteristic oil. Myers is represented in principal galleries throughout the country. See his autobiography, *Artist in Manhattan* (1940).

Myerstown, borough (pop. 2,692), SE Pa., c 30 mi. E of Harrisburg, laid out 1768, inc. c 1910. Its manufactures include textiles, cigars, pretzels, and foundry products.

Myitkyina (myĭt'chĭna), town (pop. 7,328), N Burma, on the Irrawaddy river. It is on the Stilwell Road and is the terminus of a branch rail line from Mandalay. In the Second World War its capture (Aug., 1944) by Allied troops after a siege of 78 days marked an important stage in the liberation of Burma from the Japanese.

Mykonos (mē'kônŏs), Aegean island (33 sq. mi., pop. 4,464), off S Greece, N of Naxos, in the Cyclades. Largely rocky, it is important for its fisheries and is a popular tourist resort.

Mylae (mī'lē), ancient port, N Sicily, now MILAZZO. It was colonized by Messina. Here in 260 B.C. the Romans in a new-built fleet were led to victory over the Carthaginians by the consul C. Duilius in the First Punic War, it was Rome's first naval effort. Mylae was the scene (36 B.C.) of a naval victory of Agrippa over Sextus Pompeius, the pirate ruler of the W Mediterranean.

myopia: see NEARSIGHTEDNESS.

Myra (mī'ru), ancient city and seaport of Lycia, S Asia Minor. It was visited by Paul (Acts 27:5). There are ruins of ancient edifices hewn from the rock. It was the see of St. NICHOLAS.

Myrdal, Gunnar (gŭ'nar mûr'dăl), 1898–, Swedish economist, sociologist, and public official, b. Kopparberg co., Sweden, grad. Univ. of Stockholm law school, 1923. He practiced law in Sweden and traveled widely in England, France, Germany, and the United States. He was appointed lecturer (1927) and professor (1931) in the Univ. of Stockholm and also taught (1930–31) political economy in Switzerland. He served (1933–38) as adviser to the Swedish government on economic and social policy. He undertook a study (1938–42) for the Carnegie Corp. of America and, in collaboration with Richard M. E. Sterner and Rose Arnold, wrote *The American Dilemma* (1944)—a relatively objective and exhaustive commentary on the problem of the Negro minority in America. After his return to Sweden, he served as secretary of commerce (1945–47) and was appointed (1947) to the United Nations Economic Commission for Europe. He also wrote *The Cost of Living in Sweden*, 1830–1930 (1929), *Monetary Equilibrium* (1939), and several books on economic theory which were published in Sweden.

Myrmidons (mûr'mĭdunz, –dŏnz"), ancient Greek tribe of Thessaly who colonized the island of Aegina. Homer immortalized them as the warriors of Achilles. They were said to be descendants of ants [Gr. *myrmex*=ant], metamorphosed into men by Zeus to serve Aeacus.

myrobalan (mīrŏb'ulŭn, mĭ'–) or **cherry plum,** slender, sometimes thorny plum (*Prunus cerasifera*) with leaves and fruit smaller than those of the common species *P. domestica*, for which it is often used as an understock. There are varieties of ornamental value which have doubled flowers and variously colored foliage. Myrobalan is also the common name for the emblic and the tropical or Indian almond, two trees native to Asia.

Myron (mī'run), 5th cent. B.C., Greek sculptor. He is supposed to have been a pupil of Ageladas, but he worked largely in Athens. A worker in bronze, he was noted for his animals (of which no examples have survived) and for his athletes in action. His works are known through descriptions by ancient writers and two of them by copies, the DISCOBOLUS and *Athena and Marsyas*, of which there is a copy in Rome.

myrrh (mûr), small thorny tree (*Commiphora myrrha* or *Balsamodendron myrrha*), native to Ethiopia, Somaliland, and Arabia. The name is also used for the pale yellow liquid gum resin that oozes from the stem. This kind of myrrh, known also as herabol myrrh and bitter myrrh, is sometimes used in antiseptics, stimulants, tonics, and mouthwashes. It is distinguished from bisabol myrrh or sweet myrrh, obtained from another species, *C. erythraea*; sweet myrrh is used in some perfumes. On solidifying, myrrh forms small spherical or irregular lumps varying from brownish yellow to reddish yellow to dark red-brown; it has an aromatic odor, but the herabol myrrh is bitter in taste. Myrrh was anciently used in embalming and for incense. In biblical literature it is often associated with frankincense; these and gold comprised the three gifts of the Magi of the Gospels (Mat. 2:11). It is believed by some authorities that in some biblical passages the name myrrh has been used for a fragrant gum produced by several species of rockrose (*Cistus ladaniferus, C. villosus, C. creticus*, and *C. salvifolia*). The rockrose is an evergreen plant from 3 to 5 ft. tall with a large flower that resembles a single rose. Probably the biblical myrrh was often a mixture of several of the substances called myrrh. A European herb, sweet cicely, is sometimes called myrrh.

myrtle, plant of the genus *Myrtus*, most species of which are shrubs. The common myrtle (*Myrtus communis*) is native to the Mediterranean regions of Europe and Asia and is often grown elsewhere for ornament. It has small, shiny, aromatic leaves and white or pinkish flowers followed by blue-black berries. Wreaths of myrtle were awarded to victors in the ancient Olympic games. In America several plants of the sweet gale family are known as myrtles, e.g., the wax myrtle (*Myrica cerifera*) and Dutch myrtle (*M. gale*). The sand myrtle (*Leiophyllum*) is a low evergreen shrub of the heath family found on pine barrens and mountains from New Jersey to Florida. The blue-flowered PERIWINKLE and the yellow-flowered moneywort (*Lysimachia nummularia*) are incorrectly called myrtles.

Myrtle Beach, town (pop. 1,597), E S.C., on the coast SE of Conway, inc. 1938. It is a large and popular beach resort. A state park is here.

Myrtle Point, town (pop. 1,296), SW Oregon, on the Coquille and S of Coos Bay, near the coast, settled 1858, inc. 1903. It is a trade center for a farm, lumber, and dairy region.

Mysia (mĭ'shēu), ancient region, NW Asia Minor. It was between Lydia and the Troad, its coast facing Lesbos. Mysia was not a political unit and passed successively to Lydia, Persia, Macedon, Syria, Pergamum, and Rome. St. Paul passed through Mysia on his second missionary journey (Acts 16:7,8).

Mysore (mīsôr'), state (29,458 sq. mi.; pop. 7,329,140), S India, formerly a princely state. Mysore is a plateau varying in height from 2,000 to 3,000 ft. The western portion is hilly while the central and eastern portions are level. The rainfall, generally moderate, is supplemented by irrigation works which draw upon several rivers, including the Cauvery and the Penner. Rice, millet, sugar cane, and cotton are grown in the plains, and sheep are raised in the hill country. Mysore produces nearly all India's gold and much iron, manganese, and chrome. The state, unlike most of India, has many government-operated industries, steel and steel products and airplanes are among its manufactures. There is a good system of roads and railroads. The population of Mysore, more than 90 percent Hindu and almost entirely Kanarese-speaking, is among the most homogeneous in an area of this size in India. This has facilitated primary instruction, and Mysore's literacy rate is one of the

highest in the country. Higher education is provided by the Univ of Mysore (founded 1916) The Hindu princely family which ruled until 1947 came to power in the 17th cent. In the late 18th cent. the Moslem adventurers Hyder Ali and Tippoo Sahib controlled Mysore, but after the British in 1799 killed Tippoo in battle they restored the old dynasty. Mysore was under direct British administration from 1831 to 1888 Later, under its maharajas, its government was one of the most progressive of India The state joined the Union of India in 1947 **Mysore,** city (pop 150,540), the capital, is at an elevation of 2,525 ft Its clean streets and many parks make it a "garden city" The maharaja's throne, of ivory inlaid with gold and silver and carved with mythological figures, is considered to rival the Peacock Throne of Delhi Mysore's manufactures include silk cloth, fertilizers, and chemicals

mysteries, in Greek religion, term used for certain secret cults. The conventional religions of both Greeks and Romans were alike in being largely taken up with propitiation and prayers for the good of the city-state, the tribe, or the family and, only secondarily, of the person In historical times, in Greece and Rome both, the traditional rites had become formalistic and barren of any emotional interest so far as the individual was concerned In reaction to the distant Olympian deities, the individual Greek sought an emotional religion which would fulfill his desire for personal salvation and immortality. Whether the mysteries were of a foreign origin or whether they were quasi-subterranean survivals of indigenous religion, by the 5th cent B C they were part of the fabric of Hellenic life. Although the mysteries were highly secret, an outline of the four stages through which the initiate passed has come down to modern times—purification rites, usually by sea bathing and the sprinkling of pig's blood on one's person, the teaching of mystic knowledge by the hierophant, the sacred drama, which was the core of the mystery, the garlanding of the initiate to signify that he had achieved a mystical union with the deity Since the mystery deities, e g., Demeter, Persephone, and Dionysus, who were the chief characters in the sacred drama were fertility deities, many authorities believe that these cults were based on ancient agricultural FERTILITY RITES The two most important mystery cults in Greece were the ELEUSINIAN MYSTERIES and the ORPHIC MYSTERIES In Rome all the mysteries were importations They made only limited headway until the 1st cent A D , when they became increasingly popular The Phrygian cult of Cybele and Attis was the first to arrive in Rome (c 200 B C) It was forbidden by the state because of its orgiastic ritual The Isis cult came from Egypt a fertility cult but became (before the 3d cent A D) an ascetic religion glorifying continence and chastity See Lewis Farnell, *The Cults of the Greek States* (5 vols , 1896–1909), Franz Cumont, *Oriental Religions in Roman Paganism* (1911), Martin Nilsson, *History of Greek Religion* (Eng tr , 1925).

mystery play. see MIRACLE PLAY

mystery story. see DETECTIVE STORY.

Mystic. 1 Unincorporated village (pop 2,069) in Stonington town, SE Conn , on the east bank of the Mystic river It is a resort favored by artists Mystic was known for its clipper ships and as a whaling port There are small industries now Old Mystic lies to the north **2** Mining city (pop 1,884), SE Iowa, near the Mo line SW of Ottumwa, inc 1899

Mystic. 1 Short river, SE Conn , flowing past Old Mystic and Mystic villages into Long Island Sound E of the Thames **2** Short navigable river, E Mass , entering Boston Bay Medford was one of the important early settlements on its banks

mysticism (mĭs'tĭsĭzm) [Gr , =the practice of those who are initiated into the mysteries], the practice of putting oneself into, and remaining in, direct relation with the Deity or other unifying principle of life Mysticism is inseparably linked with religion Because of the nature of mysticism, first-hand objective studies of it are virtually impossible, and the student must confine himself to accounts of mystics, autobiographical and biographical The terms *mystic* and *mysticism* are much abused in English, being extended even to mean magic, occultism, or the esoteric The use of the term to describe certain phenomena of the religions of India is not quite accurate, these practices are rather extreme quietism A characteristic difference between the quietist and the mystic is that the latter, burning with a zeal for the good of others, feels that his prayers and his unity with God can accomplish great good for them, while the quietist knows no such conviction. There are certain common fallacies current about mysticism that mystics are not "practical" and that they are revolutionary, on the contrary, the greatest mystics have been usually both intensely active and submissive to authority of whatever sort. Nor is the "lonely thinker" necessarily, or even usually, a mystic. There is no accepted explanation of mysticism, and few psychologists have interested themselves in its practice William James attacked the nature of mysticism, but reached no satisfactory conclusion. There are two general tendencies in the speculation of mystics—to regard the transcendent God as outside the soul, which rises to its God by successive stages, or to regard the immanent God as dwelling within the soul and to be found by going deeper into one's own reality The idea of transcendence as held most firmly by mystics is the kernel of the ancient mystical system, NEOPLATONISM Their explanation of the connection between God and man by EMANATION is epoch-making in the philosophy of contemplation Classic among those who think of God as within the soul are the FRIENDS (Quakers) Many mystics use language which betrays no preference for the transcendence or immanence of God, accepting both as true Judaism, Christianity, and Islam have (until the rise of MODERNISM) held God to be both immanent and transcendent The language of mysticism is always difficult and usually symbolic This is readily seen in the works of William BLAKE The mystics of the Catholic tradition have made use of a terminology borrowed from ordinary human love. These analogies are at least as old as Christianity and seem inevitable The progress of the soul in its path to God is described ever differently, but its descriptions bear a constant resemblance A conventional analysis is as follows the soul undergoes a purification (the purgative way), which leads to a feeling of illumination and greater love of God (the illuminative way), after a period the soul may be said to enter into mystical union with God (the unitive way), which begins with the consciousness that God is present to the soul, the soul progresses through a time of quiet and an ecstatic state to a final perfect state of union with God (spiritual marriage) Late in this process there is an experience (the dark night of the soul) wherein the contemplative finds himself completely deserted by God, by hope, and, indeed, even by power to pray, it lasts sometimes for years The relation of the quietists and the Indian ascetics to mystics lies in that the quietistic person dwells permanently in a state of quiet characteristic of the earliest part of the mystical union Visions, voices, ecstasies, may accompany any or none of the states of contemplation before the final union It is because of these external and nonessential manifestations that the erroneous idea has arisen that all enthusiastic and nonintellectual religious movements are necessarily mystical The positive convictions of the mystic arise from the fact that they are based on what he must regard as objective reality directly perceived Among the principal contemplatives of Christianity from post-Apostolic times to the Reformation are CLEMENT OF ALEXANDRIA, ORIGEN, St AUGUSTINE, the false DIONYSIUS THE AREOPAGITE, CASSIAN, St GREGORY I, ERIGENA, St PETER DAMIAN, St ANSELM, St BERNARD OF CLAIRVAUX, St HILDEGARD OF BINGEN, JOACHIM OF FLORIS, RICHARD OF SAINT VICTOR, HUGH OF SAINT VICTOR, HADEWIJCH, St GERTRUDE, St FRANCIS, JACOPONE DA TODI, St BONAVENTURE, St THOMAS AQUINAS, Raimon LULL, DANTE, ECKHART, TAULER, SUSO, RUYSBROECK, GROOTE, THOMAS À KEMPIS, NICHOLAS OF CUSA, ROLLE OF HAMPOLE, Walter HILTON, JULIANA OF NORWICH, Margery KEMPE, St BRIDGET OF SWEDEN, St CATHERINE OF SIENA, GERSON, St BERNARDINE OF SIENA, and St JOAN OF ARC. The Catholic tradition was continued by St IGNATIUS OF LOYOLA, St THERESA of Ávila, St JOHN OF THE CROSS, St ROSE OF LIMA, St FRANCIS OF SALES, and St THERESA of Lisieux Certain orders gave their names to types of mysticism—CARMELITES, CARTHUSIANS, and CISTERCIANS Among great Protestant mystics are BOEHME and George FOX, founder of Quakerism, the Protestant mystical movement par excellence, in America, Quakerism produced WOOLMAN In the 17th and 18th cent much literature of the contemplative life was written by the METAPHYSICAL POETS and by Henry MORE, William LAW, and others Extremes in post-Reformation mysticism are seen in JANSENISM and in QUIETISM, and SWEDENBORG may be regarded as a Protestant mystic In Judaism the mystical tradition represented by the CABALA was continued notably in the modern HASIDIM For Moslem mysticism, see SUFISM and AL-GAZEL, FERID ED-DIN ATTAR, HAFIZ, JAMI, and SAADI See Evelyn Underhill, *Mysticism* (rev ed , 1930), Baron F von Hügel, *The Mystical Element of Religion* (2d ed , 1923), Albert Farges, *Mystical Phenomena* (1926), Auguste Poulain, *The Graces of Interior Prayer* (Eng tr., 1928), John W Graham, *The Divinity in Man* (1927); Rufus M Jones, *Studies in Mystical Religion* (1909), T H Hughes, *The Philosophical Basis of Mysticism* (1937), P de Jaegher, *An Anthology of Mysticism* (1935), Auguste Saudreau, *Divine Communications* (1935), William Fairweather, *Among the Mystics* (1937), W R Inge, *Christian Mysticism* (1899), Lucy Menzies, *Mirrors of the Holy* (1928, on 10 women mystics), Cuthbert Butler, *Western Mysticism* (1922), David Knowles, *The English Mystics* (1927), E Allison Peers, *Spanish Mysticism* (1924), J Abelson, *Jewish Mysticism* (1913), R A Nicholson, *Studies in Islamic Mysticism* (1921); S N. Dasgupta, *Hindu Mysticism* (1927).

Mytens, Daniel (dän'yĕl mī'tŭns), b. c.1590, d. between 1642 and 1648, Dutch portrait painter He went to London c.1618, becoming popular at the courts of James I and Charles I. He was gradually supplanted by Van Dyck and returned to The Hague in 1630 Mytens painted in the style of Rubens and Van Dyck, his paintings being notable for their simplicity of design, breadth of treatment, and admirable color. There are many full-length portraits by him, including Charles I with Henrietta Maria and child and a fine portrait of the dwarf, Jeffery Hudson, with a landscape background (Hampton Court Palace), Sir Randolph Crewe (National Portrait Gall , London), and another portrait of Charles I of England (Metropolitan Mus.).

myth (mĭth) [Gr], in its usual sense, traditional story which concerns supernatural events and gods It is to be distinguished from legends or sagas, which are about human doings, and fables or fairy tales, which are inventions to amuse or to teach Most myths, however, contain elements of a legendary and fabulous nature The association of myth with religious ceremony is very close, and many religions offer examples of the rite as the rehearsal of the events of a myth Thus some scholars hold that in ancient religions the myth took the place of dogma Myths not only have a religious purpose, but also an explanatory, or etiological, one, i e , the mythmaker tried to explain natural phenomena in terms of personifications Thus, in a wider sense, myth is a symbolical narrative or picture representing a cosmic process or, for the individual, a psychological state The study and interpretations of myths, or mythology, probably began in the 4th cent B C when Euhemerus explained myths as exaggerated adventures of historical individuals Thus mythological personages such as Zeus were considered to have been at one time men who after death had been glorified, then deified In the late 18th cent there was a great burst of interest in myths, directed mainly at discovering common origins Such men as Jean Sylvain Bailly were prominent. Modern investigation is commonly said to begin with Max MÜLLER, who believed that myths were linguistic corruptions, e g , the phrase "sunrise follows dawn" spoken in Greek could be interpreted as meaning Apollo pursues DAPHNE, the maiden of the dawn The allegorical interpretation of myths, stemming from the 18th-century study, says that at one time myths were invented by wise men to point out a truth, but after a time the myths were taken literally, e g , CRONUS, who devoured his own children, is identified with the Greek word for time, which may be said to destroy whatever it brings into existence The theological interpretation states that all myths are foreshadowings of facts of the Scripture or corruptions of them, e g , DEUCALION is only another name for Noah The German school believed that myths are the personifications of natural elements, e g , Apollo would be the personification of the sun and Artemis of the moon This theory presupposes that all people were at one time nature worshipers Recently, the Freudian school explained myths as a mechanism of wish fulfillment, and the Jungian school denoted them the expression of the unconscious dreams of a people Sir James Frazer, whose epoch-making book *The Golden Bough* is a standard work on mythology, believed that all myths were originally connected with the idea of fertility in nature, with the birth, death, and resurrection of vegetation as a constantly recurring motif Today most anthropologists do not believe in one general interpretation for all myths but rather in a specific explanation for the myths of a single people Myth has, of course, been constantly used for the enrichment of literature since the times of Aeschylus and has been prominently employed by some of the greatest of English poets (e g , Milton, Shelley, and Keats) In fairly recent times some of the leaders of literature, notably James Joyce, Franz Kafka, W B Yeats, and T S Eliot, have consciously constructed personal myths, using the old materials and newly created symbols Literary critics have therefore devoted much time recently to studying the significance of mythmaking and particular myths See FERTILITY RITES and FOLKLORE See Andrew Lang, *Myth, Ritual, and Religion* (new ed , 1899), Lewis Farnell, *The Value and Methods of Mythologic Study* (1919), Herbert Rose, *Handbook of Greek Mythology* (1928), E. B Hungerford, *Shores of Darkness* (1941), Edith Hamilton, *Mythology* (1942), Richard V Chase, *Quest for Myth* (1949)

Mytilene (mĭtĭlē'nē), city (pop 27,839), chief city on the island of LESBOS (also called Mytilene), Greece It is a port on the Aegean Sea opposite Asia Minor The name is sometimes spelled Mitilini or Mitylene

Mzab (ŭmzäb'), stony, barren valley, Algeria, in the N Sahara It was settled c 1000 by members of an austere Moslem sect The Mzabites dug wells, created date-palm oases, and built seven towns, united in a confederation Their aptitude for trade made the area a caravan junction France occupied the Mzab in 1853 and annexed it formally in 1882. Many Mzabite men spend several years in urban centers, amassing wealth as tradesmen.

N

N, 14th letter of the ALPHABET It is a usual symbol for a voiced alveolar (or dental) nasal, as is *not* The digraph *ng* represents a different sound, a voiced velar nasal, as in *sing* The Greek correspondent is nu (nū) In chemistry N is the symbol of the element NITROGEN

Na, chemical symbol of the element SODIUM.

Naam (nā'ăm) [Heb ,=pleasantness], son of Caleb. 1 Chron 4 15.

Naamah (nā'umù) [Heb ,=pleasant] **1** Daughter of Lamech Gen 4 22 **2** Mother of King Rehoboam 1 Kings 14 21 **3** Unidentified town, SW Palestine. Joshua 15 41

Naaman (nā'umŋ) [Heb ,=pleasant] **1** Syrian captain whom Elisha cured miraculously of leprosy. 2 Kings 5 **2** Benjamite. Gen 46 21, Num 26 40, 1 Chron 8 4.

Naamathite (nā'umùthīt), obscure epithet applied to Job's friend, Zophar Job 2 11

Naarah (nā'ăru, nāā'ru) [Heb ,=girl] wife of Ashur. 1 Chron 4 5,6.

Naarai (nā'ărā, nāurā'ī), one of David's warriors. 1 Chron 11 37 Paarai 2 Sam 23 35

Naaran (nā'urăn) or **Naarath** (–răth), unidentified town, central Palestine Joshua 16 7, 1 Chron 7 28

Naas (nās, nā'us), urban district (pop 3,774), Co. Kildare, Ireland, WSW of Dublin It was once the residence of the kings of Leinster and had a castle and several monastic establishments There are remains of a rath, a meeting place of delegates from the states of Leinster prov

Naashon (nā'ushŏn, nāā'shùn) or **Naasson** (nā'usŏn, nāā'sun), same as NAHSHON

Nabal (nā'bl) [Heb ,=fool], wealthy sheep owner who resisted David's attempt at extortion David's anger was appeased by the blandishments of ABIGAIL, Nabal's wife 1 Sam 25

Nablus (nublōōs'), town (pop c 17,000), central Palestine, N of Jerusalem Under Hadrian, who rebuilt the city on the site of the older Hebrew city SHECHEM, it was called Neapolis (from this the present name derives) The town is beautifully situated in a fertile valley between Mt Gerizim (Jebel et-Tor) and Mt Ebal Near by are the reputed sites of the tomb of Joseph and the well of Jacob Long the capital of Samaria, Nablus still has a small community of SAMARITANS The population is overwhelmingly Moslem, and the city, now in territory claimed by Jordan, is a center of Arab nationalism

Nabonidus (năbŏnī'dŭs), d 538? B C , last king of the Chaldaean dynasty of Babylonia He was not of Nebuchednezzar's family, and it is possible that he usurped the throne He was absorbed in antiquarian and religious speculations, and he seems to have built temples while the state was left undefended He came into conflict with the priests and was thoroughly unpopular with the people When the Persian threat of Cyrus the Great grew strong, Nabonidus allied himself with Croesus of Lydia and Amasis II of Egypt, but to no avail Probably the dissatisfaction of his people contributed to his downfall At any rate, the kingdom fell to Cyrus with no resistance in 538 B C (or 539 or possibly 540 B C) This account is based on cuneiform records The Bible calls the last king of Babylonia BELSHAZZAR

Naboth (nā'–), Jezreelite stoned to death because he would not let King Ahab have his vineyard Elijah's curse on the royal family for their treatment of Naboth forecast the downfall of the dynasty. 1 Kings 21, 2 Kings 9 21–37

Nabuchodonosor (nă"bŭkudŏ'nusŏr"), variant of NEBUCHADNEZZAR

Nabuco, Joaquim (zhwakēm' nubōō'ku), 1849–1910, Brazilian writer and statesman A man of action, he was a deputy in imperial days and was perhaps the strongest single force in bringing about the abolition of slavery He was a statesman and diplomat under the republic, spending some time in Great Britain In the United States he served as ambassador and also delivered many addresses at colleges He was a forceful figure in Brazilian letters, and his autobiography, *Minha formação* (1900), is a classic of its kind.

Nachon (nā'kŏn), later PEREZ-UZZA.

Nachor (nā'kôr), variant of NAHOR

Nachtigal, Gustav (gōō'stäf näkh'tĕgäl), 1834–85, German explorer in Africa He went (1869) on a mission for the king of Prussia to the sultan of Bornu He visited the central Sahara region and reached Khartoum in 1874 In 1884 he annexed Togoland and the Cameroons for Germany

Nacogdoches (nă"kudŏ'chĭs), city (pop 7,538), co. seat of Nacogdoches co , E Texas, NE of Houston A Spanish mission, Nuestra Señora de Guadalupe (Our Lady of Guadalupe), was founded here in 1716, but permanent settlement was not made until 1779. It was an eastern bastion of the Spanish colony against the French in Louisiana, and after the Louisiana Purchase it was twice (1812, 1819) seized by filibustering expeditions from the United States. The city aided the rebels in the Texas Revolution (1835–36) and grew in the period before the Civil War to be a market for cotton plantations Nacogdoches today, still with old houses as reminders of the past, is primarily a center of sawmills and small factories The chief resource is lumber from the surrounding pine woods. On the campus of Stephen F. Austin State Teachers College is a replica of a Spanish colonial presidio called the Old Stone Fort.

nacre see MOTHER-OF-PEARL.

Nadab (nā'dăb) **1** Aaron's eldest son, set apart for the priesthood The exact nature of the transgression ("offering strange fire") for which he and his brother Abihu died is not clear Ex 6 23, 24, 28, Lev 10, Num 3 1–4, 26 61, 1 Chron 6 3, 24 1–2 **2** Died c 909 B C , king of Israel (c 910 c 909 B C), son and successor of Jeroboam I He was assassinated by BAASHA in the siege of Gibbethon 1 Kings 15 25–31 **3** Descendant of Jerahmeel. 1 Chron 2 28 **4** Benjamite 1 Chron 8 30

Nadelman, Elie, 1882–1946, Polish-American sculptor, b Warsaw After his first one-man show (1909) at Paris, he became very popular with modern artists and is said to have influenced Picasso Before he settled (c 1917) in America he had exhibited in New York at the Armory Show of 1913 He later exhibited at Stieglitz's "291" gallery His works of wood or metal have a smooth realistic simplicity, often reminiscent of early American carving Later in his life he became comparatively unknown until interest in him was revived by the Museum of Modern Art's retrospective exhibition (1948) of a large amount of his work See studies by Lincoln Kirstein (1948)

Nader Shah see NADIR SHAH

Nadezhdinsk, RSFSR see SEROV

nadir (nā'dur) [Arabic,=opposite, i e , opposite the zenith], in astronomy, that point in the invisible part of the celestial sphere which is directly underfoot from the observer In other words, it is the point opposite the ZENITH A straight line in the direction of the plumb line and extended up to the zenith and down to the nadir would pass through the position of the observer Since the HORIZON is a great circle in the celestial sphere halfway between zenith and nadir, each of these points is 90° from any part of the horizon

Nadir Shah or **Nader Shah** (both nä'dĕr shä'), 1688–1747, shah of Iran (1736–47), sometimes considered the last of the great Asiatic conquerors He was a member of the Afshar tribe Taken prisoner by the Uzbeks while he was still a child, he managed to escape and entered the service of the governor of Khurasan There he earned a reputation for bravery A quarrel with the governor caused him to take reprisals Then he entered the service of Tahmasp, the son of Shah Sultan Husein (see HUSEIN), who was asserting his claims against the dominant Afghans and was holding court in Ashraf (Mazanderan) Nadir took the name Tahmasp Kuli [Tahmasp's slave] and proceeded to win a series of battles against the Afghans They were swept before him and had to retire with heavy losses to their native land Tahmasp was restored to the rule over Iran Nadir, however, was the powerful figure of the realm He warred against the Turks successfully, and when the shah turned victory to disaster by a conciliatory peace, Nadir in 1732 deposed him Tahmasp's little son Abbas was placed on the throne with Nadir as regent The conquests continued, and the western boundary was restored to what it had been before the Afghan invasions In 1736 Abbas died, and the Safavid line came to an end Nadir himself was made shah He attempted to weld Iran and the Ottoman lands by unifying the Shiites and Sunnites This led to much dissatisfaction in Shiite Iran, and the plan came to nothing Difficulties with the Mogul emperor in India grew worse, and Nadir led an invading force He was brilliantly successful, taking and sacking Delhi and Lahore and carrying off vast treasure, including the Koh-i-noor diamond and the Peacock Throne He also continued his conquests in other directions Bukhara was subdued, and the limits of Iran were extended to be the largest that they had been since the days of the Sassanidae War with the Turks occupied his attention from 1743 to 1746 His later years were, however, darkened by a turn toward tyranny, suspicion, and greed So much did he fear opposition that he had his own son blinded Though the dynasty he founded, the Afshar dynasty, was short-lived, Nadir is generally viewed as one of the greatest of all rulers of Persia

Naegele, Charles Frederick (nā'gulu), 1857–1944, American portrait painter, b Knoxville, Tenn Among his works are *Mother Love* (National Gall of Art, Washington, D C) and portraits of Peter Cooper, Gen. J D Bryant, C. L Tiffany, John W Gates, Gen. E. A McAlpin, Nellie Tayloe Ross, and Martha Berry

Naegeli or **Nägeli, Karl Wilhelm von** (both kärl' vĭl'hĕlm fŭn nā'gulē), 1817–91, Swiss botanist He was professor at the Univ of Munich from 1858 and is noted especially for his work on plant cytology and development He made studies of the process of division in pollen grains and in unicellular algae and determined the function of many plant parts, such as the antheridia and spermatozoids of ferns In his studies of cells he made a distinction between the nuclear material and a mucous layer of living matter (protoplasm) His numerous and influential writings include *Memoir on the Nuclei, Formation, and Growth of Vegetable Cells* (1844–46, Eng. tr , 1846) and, with Simon Schwendener, *The Microscope in Theory and Practice* (2 vols , 1865–67, Eng tr , 1892)

Naestved (nĕ'st'vĕdh), city (pop 15 104), Zealand, Denmark, SW of Copenhagen, a Baltic port It produces paper, glass, pottery, agricultural machinery, and canned meat It dates from the 12th cent , as do two of its churches.

Nafa, Ryukyu Islands see NAHA.

Näfels (nā'fŭls), village (pop 3,140), N Glarus canton, Switzerland Here in 1388 the Swiss defeated the Austrians. A Catholic village Näfels has a Capuchin monastery, a baroque church, and a museum with local antiquities

Nafud, see NEFUD.

Nagano (nagu'nō), city (1947 pop 94,993), capital of Nagano prefecture, central Honshu, Japan, on the Tenryu river This religious center is the site of Zenkoji, a 7th-century Buddhist temple Nagano prefecture, with a high mountain range to the west, has a large raw-silk industry, of which Matsumoto is a center

Nagaoka (nagu'ōkä), city (1947 pop 54,958), Niigata prefecture, central Honshu, Japan It is an industrial center, with oil refineries, chemical plants, and engineering works

Nagara Thom see ANGKOR THOM

Nagasaki (nagu'sä'kē), city (1940 pop 252,630, 1947 pop 198,642), capital of Nagasaki prefecture, W Kyushu, Japan, a port on Nagasaki Bay It has shipbuilding yards, collieries, and fisheries Nagasaki was early a Christian center Its port, the first in Japan to receive Western trade, was known to Portuguese and Spanish traders before it was opened (1560) to the Dutch Dutch traders were restricted (1641–1858) to DE-SHIMA, an island in the harbor and part of the city In 1854 the port was opened to the United States, and in 1858 to other Western countries In the Second World War the city was the target (Aug 9, 1945) of the second atomic bomb, which killed or wounded c 75,000 people and devastated over one third of the city The prefecture is mainly agricultural It includes Goto-retto Raw-silk production is widespread and coal is mined near Sasebo, a naval base Hirado is known for its fine porcelain ware

Nagel, Charles (nā'gul), 1849–1940, American lawyer and cabinet officer, b Colorado co , Texas, grad St Louis Law School (1872) He studied law at the Univ of Berlin in 1873 and later was a leader of German elements in the Middle West He was admitted to the bar in 1873, practiced in St Louis, lectured (1885–1909) at St Louis Law School, served (1881–83) in the Missouri legislature, and was president (1893–97) of the St Louis city council He was (1908–12) a member of the Republican National Committee and was (1909–13) Secretary of Commerce and Labor under President W H Taft He returned to law practice, and he was one of the first to oppose Hitlerism See his *Speeches and Writings* (1931) and his autobiography, *A Boy's Civil War Story* (1937)

Nägeli, Karl Wilhelm von see NAEGELI.

Nagge (nă'gē), in the Gospel genealogy Luke 3 25

Nagorno-Karabakh, Azerbaijan SSR see MOUNTAIN-KARABAKH

Nagoya (nä"gō'yu), city (1940 pop 1,328,084, 1947 pop 853,085), capital of Aichi prefecture, central Honshu, Japan, a port on Ise Bay A major transportation and industrial center, with engineering works, chemical plants, and textile mills, it also produces fine porcelain and cloisonné It is the seat of Nagoya Imperial Univ Of interest are a Shinto shrine (founded in the 2d cent), two famous Buddhist temples, and a castle built (1612) by Ieyasu The city was heavily bombed (1945) in the Second World War Aichi prefecture yields raw silk and farm products The city of Toyohashi in it has silk culture and agricultural experiment stations

Nagpur or **Nagpore** (both nag'pōōr), city (pop 301,957), capital of Madhya Pradesh, India Founded early in the 18th cent , it is now a leading commercial and industrial city and a rail and road center Cotton thread and cloth are manufactured

Nagybecskerek, Yugoslavia see ZRENJANIN

Nagykanizsa (nŏ'dyukŏn"zhŏ), city (pop 30,791), SW Hungary It is a market and manufacturing center It is sometimes called Kanizsa

Nagykoros, Hung *Nagykőrös* (nŏ'dyukû"rûsh), city (pop 29,899), central Hungary It is the center of a fruitgrowing region

Nagyszeben, Rumania see SIBIU.

Nagyszombat, Czechoslovakia see TRNAVA.

Nagyvarad, Rumania see ORADEA.

Naha (na'hä), city (1940 pop. 65,765), on Okinawa island, in the Ryukyu Islands. It is a port on the southwest coast and the chief manufacturing center, was until 1945 the capital of Okinawa prefecture, and in Aug., 1945, became headquarters of the U S military governor of the Ryukyus. Other forms of the name are Nafa and Nawa. See OKINAWA.

Nahalal, Nahallal (both nä'hŭlăl), or **Nahalol (-lŏl)**, [Heb., =pasture], unidentified city, N Palestine. Joshua 19 15, 21 35, Judges 1 30

Nahaliel (nähāl'ēĕl) [Heb., =valley of God], unidentified desert camping place. Num 21 19

Naham (nā'hăm) [Heb., =consolation], name in a genealogy. 1 Chron 4 19

Nahamani (nähä'mănī) [Heb., =compassionate], leader among the returned exiles. Neh 7.7

Nahant (nūhănt'), resort town (pop. 1,835), E Mass., on a rocky peninsula NE of Boston, settled 1630, set off from Lynn 1853. Fort Ruckman is in Nahant.

Naharai (nā'hărā'ī) **or Nahari** (nā'hărī) [Heb., =snorer], armor-bearer of Joab. 2 Sam 23 37; 1 Chron 11 39

Nahash (nā'-) [Heb., =serpent] **1** Ammonite king whose cruelty caused his destruction by Saul. 1 Sam 11; 12. His successor was HANUN. **2** Father of SHOBI, called Nahash of Rabbah, perhaps the same as **1**. **3** Father of ABIGAIL. **2**

Nahas Pasha (Mustafa Nahas Pasha) (nähäs' päshä'; mustä'fu, mōō'stäfä"), 1876–, Egyptian political leader. He rose rapidly to prominence in the WAFD party and on the death (1927) of Zaghlul Pasha succeeded to the party leadership. He was the chief negotiator of the Anglo-Egyptian treaty of 1936 which set Egypt free. Several times prime minister of Egypt (1928, 1930, 1936–37), he was called back in 1942 when a strong pro-Allied stand was taken by the king. He lost his office in 1944 but returned as prime minister in 1950, after his party's smashing victory. Twice (1937, 1945) he escaped assassination attempts.

Nahath (nā'hăth) [Heb., =going down]. **1** Duke of Edom. Gen 36 13, 17, 1 Chron 1 37. **2** Levite. 2 Chron 31 13. **3** Ancestor of Samuel. 1 Chron. 6 26. Toah 1 Chron 6 34. Tohu 1 Sam. 1.1.

Nahbi (nā'bī), one of the spies sent by Moses into Canaan. Num 13 14

Nahor (nā'hôr) **1** Abraham's grandfather. Gen 11 22-25. Nachor. Luke 3 34. **2** Abraham's brother. Gen 22 20–23. Nachor. Joshua 24 2.

Nahshon (nā'shŏn) [Heb., =enchanter], ancestor of David. Num 1 7, Ruth 4 18–20, 1 Chron 2 10. Naashon. Ex 6 23. Nuasson. Mat 1 4, Luke 3 32.

Nahuatlan (nä'wŏt"lun), group of languages of the Uto-Azteran linguistic stock. It includes the Nahuatl languages (Aztec and Nahuat) and also a number of other languages such as Pipil and Pochutla. A number of the Nahuatlan languages are extinct, e.g., Toltec, Chichimec and Nahuatlato.

Nahum (nā'ŭm) [Heb., =consoler], book of the Old Testament, seventh of the books of the Minor Prophets. It is a prophecy of doom against Nineveh, which fell in 612 B.C. One analysis of the book divides it into four poems, the first (an acrostic, 1.2–8) and second (1.9–2.1) on the awful power of God, the others (2.2–14 and 3) being splendid descriptions of the destruction of the city. The prophet is not otherwise known; he mentions the fall of Thebes (666 B.C.) in 3.8–10. For bibliography, see OLD TESTAMENT.

naiads (nā'ădz, nī'-) [Gr., =belonging to the flowing, i.e., of water], in Greek mythology, daughters of Zeus. They presided over fresh-water streams, lakes, and wells, and because water is essential for agricultural fertility, they were regarded as deities of fertility. The naiad was a sort of NYMPH.

Naidu, Sarojini (surō'jĭnē nī'dōō), 1879–1949, Indian poet and political leader; educated at King's College, London, and at Cambridge. She was elected (1914) a fellow of the Royal Society of Literature. Her salon at the Taj Mahal Hotel in Bombay was a center of intellectual society. She was active in the Indian National Congress, and in 1925 she became its first woman president. Participation in passive disobedience campaigns brought her several jail sentences. Mme Naidu's poetry, written in English, deals in a romantic vein with Indian themes and is collected in *The Sceptred Flute* (1928).

nail, in anatomy, a horny, transparent shield protecting the ends of the fingers and toes. It develops from the epidermis of the skin. The growing root is in a fold of the skin in the region of the base of the nail, the pale area near the base is called the lunula. The average time for growth from root to the free edge is four months. If the root is destroyed, no new nail grows. A FELON may result from infection starting in a hangnail. Pressure from improperly fitted shoes may cause the toenails to cut into the skin, at the sides, and infection often develops in the flesh around these ingrowing nails.

nail, in carpentry, elongated, slender, pointed piece of metal (sometimes of wood) used for holding together layers of wood or other materials or for suspending an object. Nails of iron were used in ancient times. The making of similar nails by hand was a cottage industry on American farms as late as the 19th cent. Nails are now commonly made of steel wire by machinery. The names of their sizes (e.g., eightpenny, tenpenny) originally indicated price, the number of pence charged for a hundred nails. The largest nails, those used for holding railroad rails in position, are called spikes; brads and tacks are varieties of small nails. The staple is a nail bent so that both ends may be driven into wood or another substance, both ends are pointed. See also PIN.

Nain (nā'ĭn), village of Galilee, Palestine, SE of Nazareth. Here Jesus raised a widow's son from the dead. Luke 7 11.

Nain (nīn), town (pop. 6,790), central Iran. In one of its several old mosques there is a very fine example of a wooden pulpit. Formerly noted for its woolen cloaks, the town now produces rugs.

Naioth (nā'yŏth) [Heb., =habitations], unlocated place (apparently N of Jerusalem) to which David fled. 1 Sam 19–20.

Nairn, county, Scotland. see NAIRNSHIRE.

Nairn (nârn), burgh (pop. 4,201), county town of Nairnshire, Scotland, at the mouth of the Nairn on Moray Firth. It is a fishing center and a resort with a good harbor.

Nairne, Carolina (Oliphant), Baroness (nârn), 1766–1845, Scottish poet. The well-known songs and ballads, which she wrote anonymously, include *The Land o' the Leal*, *The Laird o' Cockpen*, and the Jacobite songs *Charlie Is My Darling* and *Will Ye No Come Back Again*. Her poems were collected and published as *Lays from Strathearn* (1846). See Charles Rogers, *Life and Songs of the Baroness Nairne* (1886).

Nairnshire (nârn'shĭr, -shur) or **Nairn**, county (163 sq. mi., 1931 pop. 8,294, 1948 estimated pop. 9,203), N Scotland. The county town is Nairn. The land rises gradually from the level coast (along Moray Firth) to a height of 2,162 ft. at Carn Glas on the southern border. The Nairn and the Findhorn are the chief rivers. Most of the land is given over to cattle grazing. Among the antiquities of the county is Cawdor Castle, traditional scene of the murder of Duncan by Macbeth.

Nairobi (nīrō'bē), town (pop. 47,644), capital of Kenya, northwest of its port, Mombasa, founded 1899. It is healthfully situated at an altitude of 5,452 ft. Nairobi was rebuilt (c. 1920) on a modern town plan. It is a railroad junction connected with Mombasa on the coast and has an airport. Coffee and sisal are exported.

Naismith, James (nā'smĭth), 1861–1939, American athletic director, inventor (1891) of basketball, b. Ontario prov., grad. McGill Univ., 1887. While a director (1890–95) of physical education at the Y.M.C.A. College at Springfield, Mass., Naismith with the aid of Luther H. Gulick originated (1891) basketball as a gymnasium sport and created rules for the game. Under his direction basketball was originally played with two peach baskets and a soccer ball. He later (1898–1937) was director of physical education at the Univ. of Kansas. His books include *Basket Ball Rules* (1891) and *The Basis of Clean Living* (1918).

Naivasha (nīvä'shu), lake, 12 mi. long and 9 mi. wide, Kenya, in the Great Rift Valley, at an altitude of c. 6,300 ft. The lake is the haunt of hippopotamuses and flamingos.

Najaf, Iraq. see NEJAF.

Nájera (nä'härä), city (pop. 2,994), Logroño prov., N Spain, in New Castile. Founded in 1052, it was a medieval capital of Navarre. Here in 1376 PETER THE CRUEL and Edward the Black Prince defeated Henry of Trastamara (later HENRY II of Castile) and Du Guesclin.

Nakhichevan (nŭkhĕchĭvan'yŭ), city (pop. 10,296), capital of Nakhichevan ASSR, Azerbaijan SSR, near the Aras river. The ancient Naxuana, it has Greek and Roman remains and well-preserved medieval ruins. It was ruled by Armenians, Persians, Arabs, Mongols, and Turks, became a flourishing Armenian trade center in the 15th cent., and was ceded by Persia to Russia in the Treaty of Turkamanchai (1828). Its industries include food processing, wine making, and cotton ginning.

Nakhichevan Autonomous Soviet Socialist Republic, autonomous republic (2,100 sq. mi.; 1946 estimated pop. 130,000), Azerbaijan SSR, bordering on Iran in the south. It is separated from the rest of the Azerbaijan SSR by a strip of Soviet Armenia and from Iran by the Aras river. Nakhichevan is the capital. The lowlands are irrigated and produce cotton, tobacco, rice, and wheat. In the foothills wine is grown and silkworms are raised. The population consists mainly of Azerbaijani Turks (80 percent) and of Armenians (15 percent). The republic was founded in 1924.

Nakhon Ratchsima, Thailand. see KORAT.

Naksh-i-Rustam, Iran. see PERSEPOLIS.

Nakskov (näk'skou), city (pop. 15,506), Laaland island, Denmark, a Baltic port. There are sugar refineries, agricultural processing plants, and shipyards.

Nalchik (näl'chĭk), city (pop. 47,993), capital of Kabardian ASSR, RSFSR, on the northern slope of the greater Caucasus and on the small Nalchik river. A health and tourist resort, it also has considerable industries, notably machine plants (hydroelectric turbines) and agricultural and medical schools. It was founded in 1817 as a Russian stronghold. In the Second World War it was held (1942–43) by the Germans.

Namangan (nŭmŭn-gän'), city (pop. 77,351), capital of Namangan oblast, Uzbek SSR, in the FERGANA VALLEY. It is a textile center (cotton and silk). An earthquake caused grave damage in 1927.

Namaqualand (nŭmä'kwulănd), region (c. 150,000 sq. mi., pop. c.40,000), southwest coast of Africa. It is largely a desert. The Orange river divides it into Great Namaqualand in South-West Africa and Little Namaqualand in Cape Prov., Union of South Africa. A rich diamond field extending from the mouth of the Orange river to Port Nolloth was discovered in 1926. The Namaqua (c. 15,000) who inhabit Namaqualand are Hottentots.

name. Names are found in every language known, and they often pass from one language to another. Hence the occurrence of Indian place names in America and the occurrence among Anglo-American families of names of various linguistic origins (e.g., Roosevelt, Hoover, La Follette, LaGuardia). Single names of persons are presumably earlier in use than double ones, as in the Bible, where double names are mainly confined to those who have common forenames, e.g., Judas Barsabas and Mary Magdalen. English surnames developed in the late Middle Ages. They come from a variety of origins, e.g., patronymics (Adams, Jefferson, Jackson, Harrison), from places (Lincoln, Garfield, Cleveland), from trades (Tyler, Taylor), from personal traits (Stout, Black). The Irish *mac*, "son" (Mac, Mc, and M'), and *ua*, "grandson" (*O'* see O), were attached to family and tribe names, respectively, the latter were apparently not used in Scotland. The Welsh in translating their patronymic (*ap* "son of") settled on English forms in *-s*, hence Welsh names such as Davis (from David) and Jones (from John). French *de*, when written separately, like German *von* is deemed to mark a noble name. Spanish practice varies by country, one common usage gives a surname combining those of each parent, e.g., Serrano y Domínguez or Serrano Domínguez, for one whose father was a Serrano and his mother a Domínguez. In Russian the middle name consists of the father's forename with a patronymic suffix. In the Roman republic there were three names, the forename (*praenomen*), of which there were less than 20, the gens or tribe name (*nomen*), and finally the family name (*cognomen*), e.g., Caius Julius Caesar, or Caius of the Caesar family of the Julian gens. An additional name (*agnomen*) might be added, as a nickname or honor, e.g., Africanus for victory in Africa in the case of Scipio. In many cultures the name is of supernatural significance. Besides animistic commonplaces such as naming children after lucky men or wily animals, there are widespread taboo practices, such as not naming children after living relatives or changing the name on the death of a namesake, or avoiding the name of a family totem. In the Judeo-Christian tradition the name has great significance, especially the divine names, thus the Hebrews did not utter the name of God, and many Christians bow the head at the name of Jesus, especially Roman Catholics, who have a cultus of the Holy Name. In the Bible many names are divinely conferred, e.g., Abraham, Sarah, Israel, John the Baptist, and Jesus. Gen 17 5,15, 32 28, Luke 1.13, 2 21. Christians have traditionally baptized children with an appropriately Christian name, especially the name of a saint, henceforth the patron, an additional name is taken at confirmation. An echo of this was the Puritan penchant for Old Testament names. In English-American law the traditional rule allows anyone to use any name, so long as fraud or damage is not intended or perpetrated. The practice of changing names by court action is widespread as affording a clear record. There are many popular collections of names with derivations. Apart from a few specialized studies, none are authoritative.

Nameoki (nămēō'kī), village (pop. 2,701), SW Ill., near St. Louis, inc. 1917.

Namhoi (näm'hoi'), Mandarin *Nan-hai*, city (pop. 95,529), E Kwangtung prov., China, in the Canton delta. It was formerly called Fatshan. The manufactures include porcelain and silk.

Nampa (năm'pu), city (1940 pop. 12,149, 1948 special census pop. 15,922), SW Idaho, W of Boise, est. 1885, inc. 1890. The city is the commercial and processing center and shipping point for a rich agricultural and dairy region, now in the BOISE PROJECT. It is the seat of Northwest Nazarene College (coeducational) and the Idaho state school and colony for the feeble-minded.

Namsos (nam'sŏs), town (pop. 4,047), Nord-Trondelag co., W Norway, N of Trondheim, at the point where the Namsen river empties into the Namsen Fjord. It is a seaport and the trading center of the fertile Namdal valley. Lumbering and salmon canning are the chief industries. There are copper mines near by. It was occupied (April-May, 1940) by British forces in the Second World War.

Namur (nămōōr', nä-, Fr. nămür'), Flemish *Namen* (nä'mu), province (1,413 sq. mi.; pop. 351,183), S Belgium, bordering on France in the south. Namur, its capital, and Dinant are the

chief cities. A hilly region, it is drained by the Meuse and the Sambre and is traversed in the south by the Ardennes There are large marble, chalk, and building-stone quarries, several coal and iron mines, and glass and cutlery factories The population is mainly French-speaking (see WALLOONS) The province was formed by combining the former county of Namur with part of the former bishopric of Liége and part of Hainaut

Namur, Flemish *Namen,* city (pop 30,702), capital of Namur prov, S Belgium, at the confluence of the Meuse and Sambre rivers and at the junction of several important roads It is an episcopal see Its factories produce leather goods, flour, cutlery, and machinery Namur was the seat of a county from the 10th cent until it was sold (1421) to Philip the Good of Burgundy The county of Namur, now part of the province of the same name, later shared the history of the Austrian and Spanish Netherlands Owing to its strategic position Namur was frequently attacked In the War of the Grand Alliance it fell (1692) to the French and was retaken by the Dutch in 1695 The first Barrier Treaty (1709) gave the Netherlands the right to garrison Namur, a right confirmed by the second and third Barrier Treaties (1713, 1715) which supplemented the Peace of Utrecht Captured (1792) by the French Revolutionary forces, it was annexed to France until 1814 The old fortifications were razed (1862–65) and a new citadel and forts were constructed In the First World War, Namur was taken (1914) by the Germans and remained under their occupation until the armistice In the Second World War parts of the city suffered heavy damage

Namur, Marshall Islands see KWAJALEIN

Nan, mountain range, China see NANLING

Nanaimo (nunī'mō), city (pop 6,635), on Vancouver Island, SW British Columbia, on the Strait of Georgia and NNW of Victoria It is a port (shipping coal from near-by mines), the base of a herring-fishing fleet, and the trade center for a farm and lumbering region

Nana Sahib (nä'na sä'hĭb), b c 1821, leader of the Sepoy Rebellion, whose real name was Dandhu Panch The adopted son of the last peshwa (hereditary prime minister) of the Mahrattas, he vainly asked the British to grant him the peshwa's pension In the outbreak (1857) of the rebellion in Cawnpore his men massacred the English garrison and colony He escaped to Nepal, where he probably perished

Nanchang or **Nan-ch'ang** (both nän'chäng'), city (pop 260,651), capital of Kiangsi prov, China It is on the Kan river near the southern end of Poyang lake There is a rail line connecting it with the railroad from Canton to Peiping

Nancy (näN'sē, Fr näsē'), city (pop 108,131), capital of Meurthe-et-Moselle dept, NE France, on the Meurthe river and the Marne-Rhine Canal Situated at the edge of the huge Lorraine iron fields and surrounded by smaller industrial towns with iron mills and breweries, Nancy is the administrative, commercial, artistic, and educational center of Lorraine The city grew around a castle of the dukes of LORRAINE and became then capital in the 12th cent In 1477 Charles the Bold of Burgundy was defeated and killed at the gates of Nancy by the Swiss and the forces of René II of Lorraine The major part of the center of Nancy was built in the 18th cent during the liberal reign of STANISLAUS I, duke of Lorraine and ex-king of Poland It is a model of urban planning and a gem of 18th-century architecture Particularly noble and harmonious is the Place Stanislas, a square surrounded by public buildings and closed off by four magnificent wrought-iron screens At one end is a triumphal arch, flanked by the statues of Jacques Callot and of Héré (the architect who planned the square), both natives of Nancy The statue of King Stanislaus was erected in the center of the square in 1831 The oblong Place de la Carrière also is a perfect 18th-century ensemble Other outstanding buildings are the severe cathedral (1703–42), begun by J H. Mansart and completed by Germain Boffrand, and the old ducal palace (1502–44) Nancy has a rich fine arts museum, a historical museum, an academy of fine arts, a school of forestry, and a large university founded in 1854 and housed in a modernistic structure

Nanda Devi (nŭn'dŭ dā'vē), peak, c 25,650 ft high, N United Provs, India, in the Himalayas Hindus believe that Siva's wife, Nanda, lives here Nanda Devi was climbed (1936) by an Anglo-American expedition See Eric Shipton, *Nanda Devi* (1936)

Nanga Parbat (nŭng'gŭ pŭr'but), peak, c 26,620 ft high, Kashmir, India, in the Himalayas Here A F Mummery apparently perished in 1895 There have been several disastrous attempts to climb it See Fritz Bechtold, *Nanga Parbat Adventure* (Eng tr, 1935).

Naniwa, Japan see OSAKA

Nanking (nän'king'), Mandarin *Nan-ching* [southern capital], city (pop 1,030,572), in, but independent of, Kiangsu prov, China, on the Yangtse river. It has been long celebrated as a literary and political center Nanking was the capital of China from the 4th to the 6th cent and from 1368 to 1403. In 1842, at the end of the Opium War, there was signed here the Treaty of Nanking which opened China to foreign trade. During the Taiping Rebellion insurgents held the city from 1853 to 1864 It was captured by the revolutionists in 1911, and in 1912 it became the capital of China's first president, Sun Yat-sen When in 1927 the city fell to the revolutionary Nationalist army, the foreign residents fled to the protection of British and American warships on the Yangtse river Nanking became the regular Nationalist capital. In 1932 when the Japanese were threatening to attack the city, the government was temporarily removed to Loyang, and Nov 21, 1937, just before Nanking fell to the Japanese in their advance up the Yangtze valley, it was moved to Chungking Chinese forces reoccupied the city Sept 5, 1945, and the capitulation of the Japanese armies in China was signed there on Sept 9 A great wall, 26 mi long and 70 ft high, encloses, besides the crowded metropolitan area, villages and open fields The tomb of the first Ming emperor is approached by an avenue lined with colossal images of men and animals A memorial to China's war dead in the form of a modern steel-construction pagoda and the tomb of Sun Yat-sen are other notable buildings Nanking fell to the Chinese Communists in April, 1949

Nanling (nän'lĭng') or **Nan,** mountain range, S China, on the boundary of Kwangtung and Kwangsi provs The mountains reach 6,000 ft They lie in parallel ranges which hinder travel

Nansen, Fridtjof (frĭt'yôf nän'sun), 1861–1930, Norwegian arctic explorer, scientist, statesman, and humanitarian He made his first trip to the arctic on a sealer in 1882 and upon his return became curator of the natural history collection of the Bergen Museum In 1888, with a party of five, he made a memorable journey across Greenland on skis, described in his *First Crossing of Greenland* (1890) Conceiving a startling and much-derided plan for reaching the North Pole by drifting in the ice, he sailed to the arctic in 1893 in the *Fram,* especially designed to resist crushing by ice The *Fram* was anchored in the ice pack at lat 81° 59′ N, drifted northward to 85° 57′, and later (1896) returned safely to Norway, as Nansen had predicted, by way of Spitsbergen In the meantime, Nansen had left the ship in 1895 and with F H Johansen set forth to complete the journey to the pole by sledge They were, however, turned back by ice conditions at lat 86° 14′ N, the most northerly point to have been reached by man at that time When they were wintering (1895–96) on Franz Josef Land (now often called Fridtjof Nansen Land), Frederick G Jackson chanced upon them and sent them home in a ship of his expedition Nansen's arrival in Norway was followed dramatically eight days later by that of the *Fram,* under Otto Sverdrup Although neither he nor his ship had reached the North Pole, his expedition gave to the world much valuable new information about the Arctic Ocean and the arctic regions and made Nansen internationally famous *Farthest North,* his account of the brilliant exploit, appeared in translation in 1897, and the expedition's scientific material was published as *The Norwegian North Polar Expedition* (ed by Nansen, 6 vols, 1900–1906) The Nansen Fund for scientific research was established in his honor At the university in Christiania (now Oslo), he became professor of zoology (1897) and of oceanography (1908) Nansen's career as a statesman began in 1905, when he worked for the peaceful separation of Norway from Sweden, his efforts were rewarded by his appointment as Norway's first minister (1906–8) to Great Britain In 1901 he had become director of an international commission to study the sea, and he made (1910–14) several scientific journeys, mainly in the N Atlantic In the years after the First World War he added to his role of great explorer that of great humanitarian, becoming internationally renowned for his service to famine-stricken Russia as well as for his work in the repatriation of war prisoners Appointed (1921) as League of Nations high commissioner for refugees, Nansen received the 1922 Nobel Peace Prize, and the League honored him by creating (1931) the Nansen International Office for Refugees, which won the 1938 Nobel Peace Prize As a memorial to his father, Odd Nansen founded (1937) the Nansen Help to supplement the work of the Nansen International Office The diversity of Fridtjof Nansen's interests is shown in his writings, which include in addition to those already mentioned *Eskimo Life* (1893), *Closing-Nets for Vertical Hauls and for Vertical Towing* (1915), *Russia & Peace* (1923), and *Armenia and the Near East* (1928) See biographies by Jon Sorensen (1932) and Anna Gertrude Hall (1940)

Nan Shan: see KUNLUN

Nantasket Beach (nănta'skĭt), resort village (pop. 1,092) in Hull town, E Mass., NE of Hingham

Nantes (nänts, Fr nät), city (pop 187,259), capital of Loire-Inférieure dept, W France, on the Loire It is an important industrial and shipping center with its ocean port at SAINT-NAZAIRE Of pre-Roman origin and an early episcopal see, Nantes was ravaged by the Norsemen (9th cent) and in the 10th cent. fell to the dukes of Brittany In the French Revolution, Nantes was nearly stormed by the royalist troops of the VENDÉE and was the scene of massacres (see NOYADES) by the revolutionists (1793) A center of resistance to German occupation during the Second World War, Nantes suffered through the Allied bombing of its vital rail yards and factories and the ruthless German reprisals against the civilian population It was liberated by U S troops in Aug, 1944 Notable monuments include a 10th-century castle on the Loire and a 15th-century cathedral containing tombs of dukes of Brittany

Nantes, Edict of, 1598 To restore internal peace to France, which had been torn by the Wars of Religion, King Henry IV promulgated at Nantes an edict which was to define the rights of the French Protestants (see HUGUENOTS) These included full liberty of conscience and private worship, liberty of public worship wherever it had previously been granted and its extension to numerous other localities and to estates of Protestant nobles, full civil rights, royal subsidies for Protestant schools, special courts, composed of Catholic and Protestant judges, to judge cases involving Protestants, retention of the organization of the Protestant church in France, and Protestant control of some 200 cities then held by the Huguenots, including such strongholds as La ROCHELLE, with the king contributing to the maintenance of their garrisons and fortifications The last condition, originally devised for an eight-year period but subsequently renewed, was to serve as guarantee to the Huguenots that the other rights would be respected, however, it gave French Protestantism a virtual state within a state and was incompatible with the centralizing policies of Richelieu, Mazarin, and Louis XIV The fall (1628) of La Rochelle to Richelieu's army marked the end of Huguenot political privileges In 1666 LOUIS XIV embarked on a policy of persecuting the Protestants and by a series of edicts reduced the Edict of Nantes to a scrap of paper Finally, in 1685, he declared that the majority of Protestants had been converted to Catholicism and that the edict of 1598, having thus become superfluous, was revoked No French Protestant was allowed to leave the country, those who openly remained Protestants were promised the right of private worship and freedom from molestation, but the promise was not kept Thousands fled abroad to escape the system of DRAGONNADES, and several provinces were virtually depopulated The revocation of the Edict of Nantes greatly weakened French economy, and its ruthless application increased the detestation in which England and the Protestant German states held the French king Its object—to make France a Catholic state —was fulfilled on paper only, for many secretly remained faithful to Protestantism, while the prestige of the Catholic Church suffered from Louis's barbarity

Nanteuil, Robert (rōbĕr' nätû'yu), 1623?–1678, French draughtsman and engraver His crayon portraits early gained him popularity Louis XIV made him draughtsman to the royal cabinet He is best known for his splendid portrait engravings, of which he made over 300 His work is original and excels in the subtlety of its values and the vivacity and precision of its characterization Among his finest works may be cited the portraits of Gilles Ménage, Jean Loret, the duc de la Meilleraye, and the duchesse de Nemours He made 11 portraits of Louis XIV and 14 of Mazarin

Nanticoke (năn'tĭkōk), city (pop 24,387), NE Pa, on the Susquehanna below Wilkes-Barre, inc as a borough 1874, as a city 1926 It produces rayon and nylon yarn and cigars and is important as an anthracite center

Nantucket (năntû'kĭt), island, 14 mi long and 3½ mi wide, lying c 27 mi S of Cape Cod, Mass., from which it is separated by Nantucket Sound Muskeget Channel separates it from Martha's Vineyard on the west Nantucket and the small adjacent islands comprise both Nantucket town (pop 3,401) and Nantucket co of Massachusetts Visited by Gosnold in 1602, it was settled after 1659 It was one of the chief whaling towns until the decline of the industry (c 1850), later it developed as a summer resort and artists' colony There is a whaling museum in an old sperm-candle factory A windmill (1746) is preserved The village of Nantucket, with its fine harbor and many old houses, is the trade center of the island, Siasconset lies E on the Atlantic The first U S lightship station (1856) is off Nantucket See W F Macy, *Story of Old Nantucket* (enl ed, 1928), W O Stevens *Nantucket* (1936)

Nantwich (nănt'wĭch, -ĭch), urban district (1931 pop 7,133, 1943 estimated pop 8 453), Cheshire, England, on the Weaver and SW of Crewe Its brine baths were opened in 1883, Nantwich was formerly very important in salt production, having more than 300 works The grammar school dates from 1611, and the church from the 13th and 15th cent The town's industries include tanning and the manufacture of shoes and clothing

Nanty Glo (năn'tē glō'), borough (pop 6,217), SE Pa, NE of Johnstown. Coal is mined here and farming is carried on in the area.

Nantyglo and Blaina (năn'tĕglō', blī'nū), urban district (pop 13,189), Monmouthshire, England It is in a coal-mining and ironworking region

Nanuet (năn'ŭĕt'), unincorporated village (pop. 2,057), SE N Y , W of Nyack It is the seat of the International Shrine of St Anthony

Nanumea (năn'ōōmā'ă), atoll, area 2 sq mi , S Pacific, northernmost of the Ellice Islands In the Second World War it was occupied in 1943 by U.S. marines The island was formerly called St Augustine Island.

Naomi (nā'ō'mē, –mī, nā'ō–) [Heb ,=pleasant], in the Bible, Ruth's mother-in-law Ruth 1 19,20

naos (nā'ŏs) [Gr ,=ship], inner portion of a Greek temple, enclosed within walls and generally surrounded by colonnaded porticoes In it stood the statue of the deity to whom the temple was consecrated Sometimes there were additional compartments for treasuries, but the long narrow naos itself was generally the only chamber It was the prototype for the CELLA of the Roman temple

Napa (nă'pŭ), city (1940 pop 7,740, 1944 special census pop 12, 987), co seat of Napa co , W Calif , on the Napa river and NE of San Francisco, settled 1840, inc 1872 It is in a fruit, dairy, and poultry area Products include wine, clothing, leather, and dairy products Fruit is canned and dried

Napanee (nă'pănē", nă"pănē'), town (pop 3,405), S Ont , on the Napanee river and W of Kingston, in a lumber and dairy-farming region

Napata (nūpā'tu, nupā'tu), ancient city, Egypt, just below the Fourth Cataract, where the Nile flows southwest From about the 8th cent B C , Napata was the capital of NUBIA Many great buildings like those of Thebes were built here by TIRHAKA (XXV dynasty) The capital of Nubia was later (perhaps 4th cent B C.) moved to Meroë, far up the river

Naperville (nā'pŭrvĭl), city (pop 5,272), NE Ill , E of Aurora, in a farm area; settled 1831–32, inc. 1857 It manufactures furniture and other products North Central College (Evangelical, coeducational, 1861) and an Evangelical seminary are here

Naphish (nā'fĭsh), son of Ishmael Gen. 25 15; 1 Chron 1 31 Nephish 1 Chron 5 19

Naphtali (năf'tulī) [Heb ,=wrestling], son of Jacob and Bilhah and progenitor of one of the 12 tribes Its allotment lay NW of the Sea of Galilee In its early days the tribe was warlike and its hero was BARAK It was part of the kingdom of Israel and shared its fate Gen 30 7, 46 24, 49 21 Nephthalim Mat 4 13,15, Rev 7 6

naphtha (năp'thu, năf'–), term usually restricted to a colorless, volatile, inflammable liquid mixture of hydrocarbons (chiefly octane and heptane) It is obtained as one of the more volatile fractions in the fractional distillation of PETROLEUM (when it is known as petroleum naphtha), in the fractional distillation of coal tar (coal-tar naphtha), and in a similar distillation of wood (wood naphtha) It is used widely as a solvent for various organic substances, such as fats and rubber, and in the making of varnish Because of its dissolving property it is important as a cleaning fluid, it is incorporated also in certain laundry soaps It sometimes serves as a fuel and an illuminant Originally the term indicated a colorless inflammable liquid obtained from the ground in Persia Later it came to be applied to a number of other natural liquid substances having similar properties

naphthalene (năf'thulēn, năp'–, năfthulēn', năp–), colorless, crystalline solid with a pungent, mothball odor, melting at 80°C , boiling at 218°C , and subliming upon heating It is a coal-tar derivative, insoluble in water, somewhat soluble in alcohol, soluble in benzene, and very soluble in ether, chloroform, and carbon disulphide Its molecule consists of 10 atoms of carbon and 8 of hydrogen arranged in two hexagonal BENZENE rings set side by side so that two of the carbon atoms form part of both rings, the hydrogen atoms are attached each to an outside carbon atom Derivatives of naphthalene are used in the preparation of dyes and as insecticides and organic solvents

naphthol (năf'thōl, –thōl, –thôl, năp'–), name used for either of two crystalline compounds having the same chemical formula but differing in the arrangement of the atoms of carbon, hydrogen, and oxygen making up their molecules (see ISOMERISM) They are distinguished as alpha- and beta-naphthol Both are derivatives (hydroxyl) of naphthalene, being prepared by the action of sulphuric acid on that substance Among the ways in which they differ is the form of their crystals—alpha-naphthol crystallizes in prisms and beta-naphthol in plates Both naphthols exhibit antiseptic properties They are soluble in alcohol and ether and slightly so in hot water. They are used in the preparation of certain azo dyes. Solutions of the two are used in analysis to indicate the presence of ferric (see IRON) compounds in solution. Alpha-naphthol turns such a solution violet, beta-naphthol turns it green.

Naphtuhim (năf'tūhĭm), descendant of Noah. Gen. 10 13, 1 Chron. 1 11

Napier, Sir Charles James (nā'pēr, nūpēr'), 1782–1853, British general, brother of Sir William F. P. Napier. Like his brother he served in the Peninsular War. Later in India he was chiefly responsible for the conquest of Sind (1841–43). See works about him by his brother.

Napier, John, 1550–1617, Scottish mathematician. He invented the logarithm and wrote *Mirifici logarithmorum canonis descriptio* (1614), containing the first logarithmic table and the first use of the word *logarithm* In 1617 his *Rabdologiae* appeared. This work contains various methods for the abbreviation of arithmetical calculations, including Napier's rods or bones and a kind of chessboardlike abacus worked by moving counters The principle of Napier's rods was based on the multiples of numbers In 1619, after Napier's death, his *Mirifici logarithmorum canonis constructio*, which gave the method of construction of his logarithms, was published by his son Robert and edited by Henry Briggs Napier introduced the decimal point in writing numbers

Napier, Robert Cornelis, 1st Baron Napier of Magdala, 1810–90, British general In the engineering service in India, he served in the wars against the Sikhs (1845–49) and in the relief of Lucknow (1857) He undertook an expedition to Ethiopia in 1868, capturing Magdala and compelling the release of British captives He later acted as commander in chief in India (1870–76) and as governor of Gibraltar See biography by his son, H. D Napier (1927), and his letters (ed by his son, 1936)

Napier, Sir William Francis Patrick, 1785–1860, British general and historian, brother of Sir Charles James Napier He served in the Peninsular War and wrote a famous and still authoritative *History of the War in the Peninsula* (6 vols , 1828–40)

Napier (nā'pēr), borough (pop 17,243, metropolitan pop 20,297), on E North Island, New Zealand, on Hawke Bay It is the seat of an Anglican cathedral The center of a rich grazing district, it exports meat and leather and has woolen mills and breweries Port Ahuriri is its harbor

Naples (nā'pulz), Ital *Napoli* (na'pōlē), city (pop 739,349, with suburbs 865,913), capital of Campania and of Naples prov , S Italy It is the second largest seaport of Italy and has machine, locomotive, leather, and food manufactures Built at the base and on the slopes of a ridge of hills rising from the Bay of Naples (an inlet of the Tyrrhenian Sea), Naples occupies one of the most beautiful sites of Europe The bay, extending from Cape Miseno in the north to the Sorrento peninsula in the south, is dominated by Mt Vesuvius and dotted with towns and villas Near its entrance are the islands of Capri, Ischia, and Procida Famous for its songs, festivals, and gaiety, Naples is a crowded and noisy city Most of its worst slums have been replaced by new buildings, the old Santa Lucia quarter is still the most characteristic An ancient Greek colony, Naples was mentioned as Parthenope, Palaepolis, and Neapolis It was conquered (4th cent B C) by the Romans, who favored it because of its Greek culture, its scenic beauty, and its baths Vergil, who often stayed here, is buried near by In the 6th cent A D Naples passed under Byzantine rule, in the 8th cent it emerged as an independent duchy Its autonomous development was checked by the Normans, in 1139 ROGER II added the duchy to his kingdom of Sicily Emperor Frederick II embellished the city and founded its university (1224) The execution (1268) of CONRADIN left Charles of Anjou (CHARLES I) undisputed master of the kingdom Charles transferred his capital from Palermo to Naples After the Sicilian Vespers (1282) Sicily proper passed to the house of Aragon, and the Italian peninsula S of the Papal States became known as the kingdom of Naples (see separate article) Naples was its capital until it fell to Garibaldi and was annexed to the kingdom of Sardinia (1860) In the Second World War the city suffered tremendous damage The industrial suburbs were heavily bombed by the Allies, but the worst destruction was wrought by the retreating Germans in 1943 The harbor section was demolished, entire blocks disappeared, and part of the rich archives and libraries were burned Among the innumerable churches (most of them restored in baroque style in the 17th and 18th cent), those of Santa Chiara, containing the tombs of the Angevin kings, and of Monteoliveto, rich in Renaissance sculpture, suffered most damage, the Cathedral of St Januarius, patron of the city, was also harmed In a chapel of the cathedral are two vials containing the saint's blood, which is said to liquefy miraculously twice a year Naples has several medieval castles (Castel dell' Ovo, Castel Nuovo, Castel Sant' Elmo). The imposing royal palace (17th and 19th cent) was damaged and despoiled A cultural and artistic center, Naples is particularly famous for its national museum (containing, among others, the Farnese collection and most of the objects excavated at Pompeii and Herculaneum) and for the San Carlo Opera, opened in 1737 As a musical center Naples reached its greatest brilliance in the 17th and 18th cent , Alessandro and Domenico Scarlatti, Porpora, Pergolesi, Paisiello, and Cimarosa were among the representatives of the Neapolitan style. Naples has a conservatory and several art academies. The aquarium also enjoys world fame.

Naples. 1 Town (pop 1,253), SW Fla., a resort on the Gulf coast S of Fort Myers, inc 1927. **2** Village (pop 1,152), W central N Y., in the Finger Lakes region, SW of Canandaigua, inc 1894. Wine and grape juice are made

Naples, kingdom of, former state, occupying the Italian peninsula south of the former Papal States It comprised roughly the present regions of CAMPANIA, ABRUZZI E MOLISE, BASILICATA APULIA, and CALABRIA Naples was the capital In the 11th and 12th cent the Normans under ROBERT GUISCARD and his successors conquered S Italy from the Byzantines The popes, however, claimed suzerainty over S Italy and were to play an important part in the history of Naples In 1139 ROGER II was invested by Innocent II with the kingdom of SICILY, of which the Norman fiefs in S Italy were a part FREDERICK II, CONRAD IV, MANFRED, and CONRADIN of Hohenstaufen succeeded the Norman dynasty Under them S Italy flowered, but in 1266 CHARLES I (Charles of Anjou), founder of the ANGEVIN dynasty, was invested with the crown He lost Sicily in 1282, but retained his territories on the mainland, which came to be known as the kingdom of Naples Refusing to give up their claim to Sicily, Charles and his successors warred with the house of Aragon, which held the island, until in 1372 Queen JOANNA I of Naples formally renounced her claim During her reign began the struggle for succession between Charles of Durazzo (later CHARLES III of Naples) and Louis of Anjou (LOUIS I of Naples) The struggle was continued by their heirs Charles's descendants, LANCELOT and JOANNA II, successfully defended their thrones despite papal support of their French rivals, but Joanna successively adopted as her heir ALFONSO V of Aragon and LOUIS III and RENÉ of Anjou, and the dynastic struggle was prolonged Alfonso defeated René in 1442 and was invested with Naples by the pope His successor in Naples, FERDINAND I (Ferrante), suppressed (1485) a conspiracy of the powerful feudal lords Meanwhile the Angevin claim to Naples had passed to the French crown with the death (1486) of René's nephew, Charles of Maine CHARLES VIII of France pressed the claim and in 1495 briefly seized Naples, thus starting the ITALIAN WARS Louis XII of France, jointly with Spain, dethroned Frederick, the last Aragonese king of Naples, in 1501, but fell out with his allies, who defeated him The treaties of Blois (1504 5) gave Naples and Sicily to Spain, which for two centuries ruled the two kingdoms through viceroys —one at Palermo, one at Naples Gonzalo FERNÁNDEZ DE CÓRDOBA was the first viceroy of Naples Under Spain, S Italy became one of the most backward and exploited areas in Europe Heavy taxation (from which the nobility and clergy were exempt) filled the Spanish treasury, agriculture suffered from the accumulation of huge estates by Italian and Spanish nobles (who, moreover, quarreled with each other) and by the church, famines were almost chronic, disease, superstition, and ignorance flourished The effects of these conditions are still felt The popular revolt led by MASANIELLO was crushed (1647) In the War of the Spanish Succession the kingdom was occupied (1707) by Austria, which kept it in the Peace of Utrecht (1713, see UTRECHT, PEACE OF) In connection with the War of the POLISH SUCCESSION, however, Don Carlos of Bourbon (later CHARLES III of Spain) reconquered Naples and Sicily The Treaty of Vienna (1738) confirmed the conquest, and the two kingdoms became subsidiary to the Spanish crown, ruled in personal union by a cadet branch of the Spanish line of BOURBON Naples now had its own dynasty, but conditions improved little In 1799 Ferdinand IV and his queen, MARIE CAROLINE, were expelled by the French. The PARTHENOPEAN REPUBLIC was set up, but the Bourbons returned the same year with the help of English arms under Lord NELSON Reprisals were severe, Sir John ACTON, the queen's lover, once more was supreme In 1806 the French again drove out the royal couple, who held only Sicily Joseph BONAPARTE, made king of Naples, was replaced in 1808 by Joachim MURAT Murat's beneficent reforms were revoked after his fall and execution (1815) by Ferdinand, who was restored to the throne In 1816 Ferdinand merged Sicily and Naples and styled himself FERDINAND I, king of the Two Sicilies For the remaining history of Naples, annexed to Sardinia in 1860, see TWO SICILIES, KINGDOM OF THE See Benedetto Croce *Storia del regno di Napoli* (1925)

Napo (nă'pō), river, more than 550 mi. long, rising in N Ecuador near Cotopaxi volcano and flowing SE into Peru, where it joins the Amazon Navigable for c.400 mi , it was first explored (1540) by ORELLANA and later (1638) by TEIXEIRA.

Napoleon I, 1769–1821, emperor of the French. Born Aug. 15 at Ajaccio, Corsica, the son of Carlo and Letizia BONAPARTE (or Buonaparte), young Napoleon was sent (1779) to French military schools at Brienne and Paris, where his small stature won him the nickname "the Little Corporal." He received his commission in the artillery in 1785. At the outbreak of the French Revolution he

took part in the Corsican uprising against PAOLI—an adventure which ended for the Bonapartes in 1793, when Paoli forced them to leave the island for France Bonaparte first attracted notice by his distinguished part in dislodging the British from Toulon (1793); he was promoted brigadier general and sent to the Italian front After a short imprisonment in the Thermidorian reaction (1794) he was released but remained out of favor A political event was to reopen his career overnight In Oct, 1795, the Convention was assailed by a Parisian mob (see VENDÉMIAIRE), and BARRAS, sharking the unpleasant duty of dealing with the situation, delegated his command to Bonaparte, his protégé, who dispersed the mob with what he called "a whiff of grapeshot"—a whiff which killed about 100 insurgents Napoleon's name was made After drawing up a plan for an Italian campaign, he was, again with Barras's help, made commander in chief of the Army of Italy He left for Italy in March, 1796, after marrying Josephine de Beauharnais (see JOSEPHINE) Assuming command of a starving and ragged army, he succeeded within a short time in transforming it into a first-class fighting force The brilliant success of his Italian campaign was based on three factors his supply system which he made virtually independent of the pinch-penny Directory by allowing the troops to live off the land, his reliance on speed and massed surprise attacks by small but compact units, against the larger but broken-up Austrian forces, and his magic influence over the morale of his soldiers, which enabled him to push them to incredible feats of endurance In MAY, 1796, Sardinia signed a separate peace After his victory at Lodi (May 10), Bonaparte entered Milan (May 14), laid siege to Mantua (July, 1796), and made a brief dash southward, obtaining favorable armistices from the king of Naples and the pope After the great victories of Arcole (Nov, 1796) and Rivoli (Jan, 1797) and the fall of Mantua (Feb, 1797), Bonaparte began to cross the Alps toward Vienna However, the slow advance of the northern French armies in Germany and the danger of being cut off in the rear caused him to arrange—without instructions from Paris—the truce of Leoben (April, 1797), later complemented by the Treaty of CAMPO FORMIO Now the idol of half of Europe Bonaparte returned to France and drew up a plan to crush the British empire by striking at EGYPT and, ultimately, at India The plan was supported by TALLEYRAND and by the directors, who were eager to rid themselves of the ambitious young general Bonaparte sailed with his fleet in May, 1798, and, shortly after landing, won a brilliant victory over the Mamelukes in the battle of the Pyramids (July, 1798) His successes, however, were made useless from the start by the utter destruction of the French fleet by Lord NELSON at Abouku (Aug 1–2) Turkey declared war on France An expedition to Syria was repelled at ACRE and was abandoned (May, 1799) when the plague broke out in the French army Meanwhile, matters were going from bad to worse in Europe The French were expelled from Italy by the forces of the Second Coalition (see FRENCH REVOLUTIONARY WARS), and at home the Directory faced bankruptcy Unannounced, Napoleon returned to France, leaving General KLÉBER in charge of a hopeless situation in Egypt Hailed as the "man of the hour," he fitted perfectly into a conspiracy already hatched by SIEYÈS, one of the directors *The Consulate* The Directory was overthrown by the coup d'état of 18 BRUMAIRE (Nov 9, 1799), and the CONSULATE was set up, with Bonaparte as First Consul The autocratic constitution of the year VIII was accepted by plebiscite Taking energetic measures, Bonaparte stabilized the French currency, established the Bank of France, and turned the tide of financial disaster Peace with the Church came with the CONCORDAT OF 1801, and legal reforms paved the way for the CODE NAPOLÉON In 1800, Napoleon turned against the foreign foe, crossed the St. Bernard, and defeated the Austrians at Marengo (June 14) With the Treaty of Lunéville (1801) with Austria and the Treaty of Amiens (1802) with England, the Second Coalition was ended, and France had become paramount on the Continent Napoleon's ambition did not rest In Aug, 1802, a plebiscite approved his becoming consul for life, a modified constitution, that of the year X, came into force In the same year he incorporated Piedmont into France and once more interfered in the affairs of the HELVETIC REPUBLIC England, on the other hand, failed to restore Malta to the Knights Hospitallers, as the Treaty of Amiens had stipulated Tension between the two countries increased, and in May, 1803, England again declared war on France Napoleon elaborately planned to invade England, but the invasion fleet which he assembled in Boulogne (1803–5) was repeatedly wrecked by storms, and a major part of the French fleet was engaged in the disastrous LECLERC expedition to Haiti, he abandoned the project

The Empire While warfare languished, Napoleon took advantage of the plot of Georges CADOUDAL against his life, seized and executed the duc d'ENGHIEN, and had himself proclaimed emperor of the French by a subservient senate and tribunate (May, 1804) Confirmation by plebiscite was a foregone conclusion, and on Dec 2, in the Cathedral of Notre Dame, Napoleon took the crown from the hands of Pope PIUS VII and set it on his own head An imperial court and a nobility were created The constitution of the year XII retained the features of the previous two constitutions, but its liberal provisions were gradually restricted. When Napoleon, in 1805, proclaimed himself king of Italy and annexed Genoa to France, a Third Coalition was formed against him by Great Britain, Austria, Russia, and Sweden Napoleon crushed the Austrians at Ulm, occupied Vienna, and won (Dec 2, 1805) his most brilliant victory over the combined Russians and Austrians at AUSTERLITZ Austria, with the harsh Treaty of Pressburg (Dec 26), was forced out of the coalition Prussia, which entered the coalition late in 1806, was thoroughly defeated at Jena (Oct 14), and Napoleon entered Berlin in triumph British sea power, however, had grown stronger than ever through Nelson's victory at TRAFALGAR (1805), and Napoleon resolved to defeat Britain by economic warfare His CONTINENTAL SYSTEM was answered by the British ORDERS IN COUNCIL On land, warfare with Russia continued The virtual defeat at EYLAU (Feb 8, 1807) was made good by Napoleon at Friedland (June 14), and Russia submitted By the Peace of Tilsit (July, 1807), FREDERICK WILLIAM III of Prussia lost half of his territories and became a vassal to France, Russia recognized the Grand Duchy of WARSAW, created from Prussian territory Sweden was defeated in 1808 with the help of Russia With only England left in the field, Napoleon was now master of the Continent The whole map of Europe was rearranged The states of Germany had been altered by the CONFEDERATION OF THE RHINE, Napoleon's allies, the electors of Bavaria, Württemberg, and Saxony, were made kings, the Holy Roman Empire was dissolved (1806), the kingdoms of Holland and Westphalia were created (1806 and 1807), with Napoleon's brothers Louis and Jérôme BONAPARTE occupying the thrones Napoleon's stepson, Eugène de BEAUHARNAIS, was made viceroy of Italy (1805), and a third brother, Joseph BONAPARTE, became king of Naples (1806) In 1808, Napoleon made Joseph king of Spain, and replaced him in Naples with his brother-in-law, Marshal Joachim MURAT Another Napoleonic marshal, Bernadotte, became heir to the Swedish throne in 1810 (see CHARLES XIV) An attempt (1809) by Austria to reopen war against France was crushed at Wagram (July 6, 1809), and resulted in the cession of Illyria to France by the Treaty of Schonbrunn The Papal States were declared annexed to France (1809), and when PIUS VII replied with an excommunication, he was imprisoned and forced to sign an additional concordat Perhaps the crowning glory was attained when, after securing an annulment of his marriage with Josephine, who was unable to bear him a child, he was married in March, 1810, to MARIE LOUISE, the daughter of Emperor Francis II A son was born to them (the "king of Rome," later known as the duke of Reichstadt or NAPOLEON II), and it seemed that Napoleon had founded a permanent, solid empire, when it suddenly collapsed under its own weight

Decline and Fall England had never submitted, and the Continental System proved difficult to enforce Napoleon's first signs of weakness appeared in the PENINSULAR WAR (1808–14) The victory of 1809 over Austria had been costly, and the victory of Archduke CHARLES at Aspern (May, 1809), showed that the emperor was not invincible Everywhere forces were gathering to cast off the Napoleonic yoke Napoleon's decision to invade Russia marked the turning point of his career His alliance with Tsar ALEXANDER I, dating from the Congress of ERFURT (1808), was tenuous When the tsar rejected the Continental System, which was ruinous to Russia's economy, Napoleon gathered the largest army Europe had ever seen The *Grande Armée*, some 500,000 strong, including troops of all the vassal and allied states, entered Russia in June, 1812 The Russian troops, under KUTUZOV and BARCLAY DE TOLLY, fell back, systematically devastating the land After the indecisive battle of Borodino (Sept 7), with about 80,000 casualties, Napoleon entered Moscow (Sept 14), where only a few thousand civilians had stayed behind On Sept 15, fires broke out all over Moscow, they ceased only on Sept 19, leaving the city utterly destroyed With his troops decimated, his prospective winter quarters burned down, his supply line overextended, and the Russian countryside and grain stores empty, Napoleon, after sending an unsuccessful plea to the tsar for peace, began his fateful retreat on Oct 19 Stalked by hunger, the *Grande Armée*, now only a fifth of its original strength, reached the Beresina late in November After the passage of that river, secured at a terrible sacrifice, the retreat became a rout On Dec 3 Napoleon left his army and hastened to Paris to prepare French defenses Of his allies, Prussia was the first to desert, a Prussian truce with the tsar (Dec 30) was followed by an alliance in Feb, 1813 England and Sweden joined the coalition, followed (Aug., 1813) by Austria, and the "War of Liberation" began At the Battle of the Nations at LEIPZIG (Oct 16–19), Napoleon was forced to retreat, despite his brilliant defense against a vastly superior enemy The allies now closed in on Paris, which fell to them on March 31, 1814 Napoleon abdicated (April 12) and was exiled to Elba, which the allies gave him as a sovereign principality His victors were still deliberating at the Congress of Vienna, when Napoleon, with a handful of followers, landed near Cannes (March 1, 1815) In the course of a triumphant march northward he once more rallied France behind him LOUIS XVIII fled, and Napoleon entered Paris (March 20), beginning his ephemeral rule of the Hundred Days Attempting to reconstruct the empire, he liberalized the Constitution, but his efforts were cut short when warfare began again Napoleon was utterly crushed in the WATERLOO CAMPAIGN (June 12–18) He again abdicated and surrendered himself to a British warship, the *Bellerophon*, in the hope of finding asylum in England Instead, he was shipped as a prisoner of war to the lonely island of SAINT HELENA, where he spent his remaining years quarreling with the British governor, Sir Hudson LOWE, talking with his ever-dwindling group of faithful followers, and dictating his memoirs After long suffering from cancer, he died May 5, 1821 The Bourbon monarchs were restored in France, but Bonaparte was not forgotten The Napoleonic legend, the picture of a liberal conqueror carrying the eagles and standards of the French legions and the motto of the French Revolution to the peoples of the world, was a potent factor in French history and helped make Napoleon's nephew emperor as Napoleon III No less great was Napoleon's impact on European literature in the romantic era Estimates of Napoleon's place in history differ widely A certain parallelism between his career and that of Adolf Hitler has greatly harmed Napoleon's repute in recent years He was beyond doubt one of the greatest conquerors in history He also promoted the growth of liberalism, introduced an admirable code of laws, and improved the economic condition of his people Though he made use of such ruthless police chiefs as FOUCHÉ and SAVARY to suppress all opposition, he often was surprisingly generous to his enemies Such men as Goethe admired him throughout their lives, and Beethoven had made him his hero until Napoleon showed ambitions for the crown Napoleon was deeply interested in science, which he encouraged unstintingly, in the arts, he displayed a dubious taste for pseudo classicism and pompousness, but his era produced the EMPIRE STYLE and saw the beginnings of the transformation of Paris into a modern city Besides the duke of Reichstadt, Napoleon had at least one son, Count Alexander WALEWSKI Napoleon's remains were ordered returned to France by Louis Philippe in 1840 and are now entombed under the dome of the Invalides in Paris More or less apocryphal sayings and anecdotes illustrating Napoleon's character, manners, and private life are as innumerable as the books written about him A standard biography is that by August Fournier See also the writings of Louis Madelin, J H ROSE, Frédéric MASSON, Albert VANDAL, Eugene Tarlé, and Octave Aubry, and the bibliographies in their works, Napoleon's own memoirs, dictated to LAS CASES and others, and his correspondence Among the countless contemporary memoirs, those of P P de SÉGUR and A A L de CAULAINCOURT are especially noteworthy

Napoleon II, 1811–32, son of Napoleon I and MARIE LOUISE, known as the king of Rome (1811–14), as the prince of Parma (1814–18), and after that as the duke of Reichstadt Napoleon's abdication in 1814 was in favor of his son, so that the king of Rome was known as Napoleon II, though he never ruled His life after 1815 was that of a virtual prisoner in Vienna, where he died of tuberculosis In 1940 his remains were transferred, as a "gift" to France from Adolf Hitler, from Vienna to the dome of the Invalides in Paris, where he now rests beside his father The pitiful life of the "Eaglet" is the subject of Rostand's drama *L'Aiglon* See Octave Aubry, *The King of Rome* (Eng tr, 1932)

Napoleon III (Louis Napoleon Bonaparte), 1808–73, emperor of the French (1852–70), son of Louis BONAPARTE, king of Holland The nephew of Napoleon I, he spent his youth with his mother, Hortense de BEAUHARNAIS, in Switzerland and Germany, studied artillery under General Dufour, and became a captain in the Swiss army Animated by a mixture of liberalism and Bonapartism, he indulged (1830–31) in revolutionary activities in Italy In 1836 he attempted, with a group of Bonapartists, a ludicrous military coup at Strasbourg Louis Philippe's government exiled him, putting him aboard a ship bound for New York He returned to Switzerland The French request (1838) for his expulsion from Switzerland was refused by the Swiss diet and nearly led to war, but Louis Napoleon finally left voluntarily for England A new attempt (1840) to stir up an army insurrection was made at Boulogne-sur-Mer He

was tried and sentenced to life imprisonment Detained in the fortress of Ham, Somme dept., he wrote letters, pamphlets, and books, among them his mildly socialistic *Extinction du pauperisme* He made his escape in 1846 and went to England After the FEBRUARY REVOLUTION of 1848 he returned to France He rapidly gathered a following, was elected to the national assembly, and in Dec , 1848, defeated Louis Eugène CAVAIGNAC in the presidential elections by an overwhelming majority His surprising success was largely due to the excellent propaganda of his chief followers and to the unpopularity of Cavaignac with the working classes As president of the Second Republic, Louis Napoleon carefully prepared his eventual seizure of dictatorial powers, while pretending to defend French democracy against the legislative assembly The Catholic opposition was strong at first, but he conciliated it by allowing (1849) a French army to restore Pope Pius IX to Rome and by assenting (1850) to the education bill presented by Frédéric de Falloux, which greatly favored the Church Late in 1849 his administration took a decidedly dictatorial turn Increasingly severe measures against radicalism prepared the coup d'état of Dec 2 1851, largely engineered by Louis Napoleon's half brother, the duc de MORNY The legislative assembly was dissolved and its meeting place occupied by the army, universal suffrage was restored, and a plebiscite, authorizing the revision of the constitution, was announced An attempted workers' uprising was repressed with a brutality which anticipated the methods of more modern dictators The plebiscite, partly thanks to Morny's intimidating measures, overwhelmingly favored constitutional revision The new constitution (Jan , 1852) gave the president dictatorial powers and created a council of state, a senate, and a legislative assembly subservient to the president Subsequent decrees barred republicans from the ballot and throttled the press Finally, in Nov , 1852, a plebiscite confirmed the dictator's new title, emperor of the French For eight years Napoleon continued to exercise dictatorial rule which, however, was tempered by considerable material progress His foreign ventures were successful at first The CRIMEAN WAR (1854–56) and the Congress of Paris (see PARIS, CONGRESS OF) brought little material advantage to France but restored its leading position on the Continent Napoleon now turned toward Italy, the unification of which he advocated Meeting CAVOUR at Plombières, he secretly agreed on a joint campaign of France and Sardinia against Austria and on a general redraft of the Italian map, this involved the incorporation of Lombardy, Venetia, and Emilia-Romagna with the kingdom of Sardinia and the compensation of France by Savoy and Nice War broke out in 1859 (see RISORGIMENTO) However, after the costly victory of the French and Sardinians at SOLFERINO, Napoleon suddenly deserted his Italian ally and, to the indignation of the Italians made a separate peace with Austria at VILLAFRANCA DI VERONA This act was partly motivated by the opposition of the clerical party in France to a policy threatening the PAPAL STATES, which Napoleon now took under his protection Having lost much of his popularity, the emperor inaugurated a more liberal domestic policy, widening the powers of the legislative assembly and lifting many restrictions on civil liberties During the "Liberal Empire" (1867–70) such opposition leaders as Jules FAVRE, Émile OLLIVIER, and Adolphe THIERS were the outstanding figures A commercial treaty (1860) with Great Britain opened France to free trade and improved Franco-British relations Imperialistic expansion was pushed by the French-British expedition (1857–60) against China, the acquisition of COCHIN CHINA, and the construction of the SUEZ CANAL Less fortunate was Napoleon's intervention (1861–67) in the affairs of MEXICO, the French troops finally withdrew upon the demand of the United States, leaving Emperor MAXIMILIAN to his fate Napoleon remained neutral in the AUSTRO-PRUSSIAN WAR of 1866, mistakenly counting on an Austrian victory The sudden rise of Prussia under the leadership of BISMARCK caused Napoleon to reorganize the French army The confidence he displayed in French military strength was, as it turned out, misplaced Napoleon's aggressive attitude regarding the candidature of a Hohenzollern prince to the Spanish throne gave Bismarck the opportunity to goad him into war (see EMS DISPATCH) The FRANCO-PRUSSIAN WAR (1870–71) brought ruin to the Second Empire, Napoleon himself took the field, leaving his empress, EUGÉNIE, as regent He early devolved his command to BAZAINE He was caught in the disaster of Sedan (Sept 1, 1870), captured by the Prussians, and declared deposed (Sept 4) by a bloodless revolution in Paris Released after the armistice (1871), he went into exile in England He bore his defeat with remarkable dignity His only son, the prince imperial (see under BONAPARTE, family), fell in British service Napoleon III was an enigmatic and complex figure puzzling to historians His policy was contradictory, swaying from ruthless self-aggrandizement and rank imperialism to idealistic schemes and generosity. However, he was mostly unsuccessful in both tendencies his position in favor of national self-determination helped to bring about German unity which proved his undoing, his neglect of the same principle in the Mexican venture brought him no advantage The superficial brilliance of his reign left one permanent result—the planning of modern PARIS The official intellectual life of the Second Empire was arid and academic, while the true cultural leaders of the period, among whom Victor HUGO was outstanding, opposed his regime Modern French poetry and art began during the Second Empire with IMPRESSIONISM and the early SYMBOLISTS Alexandre DUMAS the younger and Jacques OFFENBACH were representative of the mundane aspects of Parisian society See Alexis de Tocqueville, *Recollections* (complete Eng tr , 1949), Pierre de la Gorce, *Histoire du second empire* (7 vols , 1894–1905), Émile Ollivier, *L'Empire libéral* (17 vols , 1895-1915), Philip Guedalla, *The Second Empire* (1922), F A Simpson, *The Rise of Louis Napoleon* (new ed , 1925) and *Louis Napoleon and the Recovery of France* (1923), Robert Sencourt, *Napoleon III* (1933), Alfred Neumann, *Another Caesar* (1935) and *The Gaudy Empire* (1937), Octave Aubry, *The Second Empire* (Eng tr , 1940), Albert Guérard, *Napoleon III* (1943)

Napoleon, village (pop 4,825), co seat of Henry co , NW Ohio, on the Maumee river and SW of Toledo, platted 1832 Its manufactures include farm machinery and food products

Napoleonic Wars, 1803–15, the wars waged by or against NAPOLEON I, they followed the FRENCH REVOLUTIONARY WARS (1792–1802)

Napoleonville, town (pop 1,301), parish seat of Assumption parish, SE La , S of Baton Rouge, founded c 1818, inc 1878 It has a fine old church and several ante-bellum houses

Nappanee (năp'ănē, năpănē'), city (pop 3,028), N Ind , SE of South Bend, platted 1874, inc 1926 It is in an area growing mint and onions, and furniture is manufactured

Nara (nä'rä), city (1940 pop 57,273, 1947 pop 82,399), capital of Nara prefecture, S Honshu, Japan First permanent capital (710–84) of Japan, this ancient cultural and religious center has many Buddhist temples and Shinto shrines The noted temple, Todai-ji, has an 8th-century bronze image of Buddha The Imperial Museum, housing art treasures of the Nara period (700-800), and the park are celebrated Near by is Horyu-ji, built in the 7th cent , the oldest Buddhist temple in Japan, with the grave of Jimmu, the first emperor Most of the population of the prefecture lives in the vicinity of Nara

Narbada or **Nerbudda** (both nŭrbōō'dŭ), river, c 750 mi long, rising in Madhya Pradesh, India, and flowing W to the Arabian Sea It forms part of the boundary of Madhya Pradesh and Madhya Bharat and crosses Bombay state The Narbada, turbulent and confined between steep banks, is useless for navigation and irrigation A pilgrimage on foot from its mouth to the source and back is highly esteemed by Hindus

Narberth (när'bûrth), borough (pop 5,217), SE Pa , near Philadelphia, settled 1860, inc 1895

Narbonne (närbôn'), city (pop 26,301), Aude dept , S France, in Languedoc, near the Mediterranean coast As Narbo Martius, it was the first Roman colony established (118 B C) in Transalpine GAUL and became the capital of Narbonensis Taken by the Arabs in A D 719 and by the Franks in 759, it became the seat of the viscounts of Narbonne, vassals of the counts of Toulouse Its port, later silted up, brought great wealth to the city, which long had its own government and its magistrates, the consuls Narbonne was an important center of the Jews in the Middle Ages Their expulsion (late 13th cent) and the Black Death (1510), which is said to have taken 30,000 lives, were severe blows to the city's prosperity An archiepiscopal see since the 3d or 4th cent , Narbonne has a splendid cathedral and an archiepiscopal palace (now the town hall) dating from the 13th cent

narcissism (närsĭ'sĭzĭm), Freudian term, drawn from the Greek myth of Narcissus, indicating an exclusive self-absorption A normal stage in the development of children, it is called secondary narcissism when occurring after puberty , it indicates that the libido or sexual energy of the individual is directed exclusively towards himself and that, therefore, he is incapable of emotional relationships with others

Narcissus (närsĭ'sŭs), in Greek myth, beautiful youth who refused all offers of love, including that of ECHO On seeing himself in a pool he fell in love with his image and, pining away, died for love of himself

Narcissus, Roman whose household was partly Christian Rom 16 11

Narcissus, d A D 54, secretary of the Roman Emperor Claudius I A freedman, he had great influence In 43 he had a command in the expedition to Britain He revealed to Claudius the intrigue of MESSALINA and expedited her death (A D 48) The woman he chose, however, for Claudius' next wife was passed over in favor of AGRIPPINA II, who was hostile to him. She drove Narcissus to commit suicide at Claudius' death. Narcissus amassed a fortune equal to many millions of dollars

narcissus, name for several species of the genus *Narcissus*, which includes also the daffodil and jonquil These names are often used interchangeably, but strictly the daffodil is *Narcissus pseudo-narcissus*, yellow, with a long trumpet-shaped central corona, the jonquil is *Narcissus jonquilla*, fragrant, usually yellow, with a short, soft corona and with very narrow, nearly round leaves; the poet's narcissus is *Narcissus poeticus*, fragrant, white, with a short, stiff corona having a red rim, and the polyanthus narcissus is *Narcissus tazetta* with a short, soft corona, leaves flat and about three fourths of an inch broad—it includes the varieties paper-white narcissus and Chinese sacred lily All of these are hardy with the exception of the polyanthus narcissus, which in the North is cultivated for forcing indoors—often in water All species are Old World bulbous plants. See also ROSE OF SHARON

narcosis (närkō'sĭs), state of stupor induced by drugs The use of narcotics as a therapeutic aid in psychiatry is believed to have a history dating back to the use of opium for mental disorders by the early Egyptians Prolonged narcosis was employed at the beginning of the 20th cent , its chief value being the reduction of excitement and tension in the psychotic patient J S Horsley introduced (1936) the term *narcoanalysis* for the use of narcotics to induce a trancelike state in which the patient talks freely and intensive psychotherapy may be applied It was used with considerable success in treatment of acute combat neuroses during the Second World War

narcotics (närkŏ'tĭks), substances which affect man and other animals in such a way as to produce a stupor that eventually becomes profound coma and may result in death Narcotics are used in medicine to relieve pain (anodynes) or to produce sleep (hypnotics) The various anesthetics may be termed narcotic, but the term is generally reserved for certain drugs, although the distinction is artificial The chief narcotics are OPIUM and opium preparations (COCAINE, MORPHINE, and heroin, CODEINE, and cannabis indica) Opium contains chiefly morphine and some related alkaloids In medicine the narcotic drugs are most useful, but their use by individuals has led to an enormous world-wide illicit traffic, fought by the various nations for many years In the United States the Bureau of Narcotics was created (1930) in the Treasury Dept In May, 1931, a conference for the limitation of the manufacture of narcotic drugs and their distribution was held in Geneva, most nations being represented The various nations agreed to manufacture only sufficient narcotics for medical requirements, and such drugs were to be transported only by licensed persons A commission on narcotic drugs was established (1946) by the General Assembly of the United Nations See also DRUG ADDICTION

Narew (nä'rĕf), Rus *Narev* (nä'rĕf), river of E Europe, rising 45 mi NE of Brest (Byelorussian SSR) and flowing 245 mi W to the Vistula near Warsaw (Poland) The Narew is connected with the Pripet, the Niemen, and the Pregel rivers, it is navigable for about half its course Its chief tributary is the Western Bug

Narezhny, Vasily Trofimovich (vŭsĕ'lyĭ trŭfē'mŭvĭch nŭrĕzh'nĭ), 1780–1825, Russian novelist In his use of the Ukraine as background for his novels and in his realistic manner he was the direct forerunner of Gogol He is best known for the long novel *The Russian Gil Blas* (1814)

narghile. see PIPE, TOBACCO

Nariño, Antonio (äntō'nyō närĕ'nyō), 1765–1823, Colombian revolutionist, b Bogotá A liberal intellectual, Nariño was one of the first to foment revolution against Spain in South America For secretly translating and distributing copies of *The Declaration of the Rights of Man* he was condemned to prison (1795), but escaped to France and England, returning (1797) to New Granada to continue secret agitation Arrested, he was released, imprisoned again, and, after an escape, confined at Cartagena He was freed by the revolutionists and, returning to Bogotá, became (Sept , 1811) president of Cundinamarca, one of the independent states formed after the dissolution of the viceroyalty of New Granada Advocating strong central government as the only way of preserving independence, Nariño was opposed by the military juntas of other states, which desired simply a loose federation He was involved in civil wars with the federalists until he was granted dictatorial powers and succeeded in uniting the patriot forces to repel a royalist invasion He drove the Spanish from Popayán, but was defeated (May, 1814) at Pasto He surrendered himself but not his army and was later imprisoned for four years in Cádiz He was released by Spanish revolutionists in 1820 and returned to aid Simón BOLÍVAR, who made him vice president of the republic of Greater Colombia (1821), but he resigned two months later. Often vilified for his stubborn adherence to his own opinions, Nariño was not recognized until many years later as one of the greatest and most self-sacrificing

of the early advocates of independence. He was a propagandist rather than a statesman

Narke, Swed. *Närke* (nĕr'kŭ), historic province of central Sweden. It is now administratively part of Orebro co

Naroda (nä'rŭdŭ), peak, 6,184 ft high, RSFSR, the highest peak of the Urals, in the northern section of the range Until its discovery in the 1930s Telpos-Iz was thought to be the highest point

Narragansett (nărugŭn'sĭt), town (pop. 1,560), S R.I , along the west shore of Narragansett Bay, N from Point Judith, settled in the mid-17th cent , set off from South Kingstown 1888, inc 1901 The resort village **Narragansett Pier** grew up near a pier built in the 18th cent to accommodate trade and travel The 1938 hurricane did great damage

Narragansett Bay, arm of the Atlantic, 30 mi long and from 3 to 12 mi wide, deeply indenting Rhode Island state Its many inlets provided harbors that were advantageous to colonial trade and later to resort development At the head is Providence Newport and Portsmouth are on Rhode Island, at the entrance Other islands are Conanicut and Prudence The 1938 hurricane swept up the bay, carrying destruction along the shores

Narragansett Indians, tribe of North American Indians of the Algonquian linguistic stock In the early 17th cent they occupied most of Rhode Island, from Narragansett Bay on the east to the Pawcatuck river on the west The Narragansett escaped the great pestilence of 1617 which swept through S New England, and the remnants of tribes who had suffered joined them for protection Thus the Narragansett became a powerful tribe In 1636 Canonicus, the Narragansett chief, sold Roger Williams the land on which he settled Williams gained great influence over the Narragansett, inducing them to become the allies of the Massachusetts colonists in the Pequot War (1637) The Narragansett in 1674 numbered some 5,000 The next year witnessed the outbreak of King Philip's War (see Philip), which destroyed the Indian power in S New England The Narragansett shared the common fate Their fort near the site of Kingston, R I , was attacked (1675) by a colonial force under Josiah Winslow, and in that engagement, known as the Swamp Fight, the Narragansett under Canonchet lost almost a thousand men The survivors migrated to the north and to the west, but a number of them received permission to return and settle among the Niantic Indians on a tract near Charlestown, R I , the combined group taking the Narragansett name Their numbers steadily declined, and by 1832 there were 80 left A few Narragansett, after the Swamp Fight, had joined the Mahican and the Abnaki The Narragansett were of the Eastern Woodlands culture, farming corn and living in wigwams See H M Chapin, *Sachems of the Narragansetts* (1931)

Narragansett Pier, R I see Narragansett

Narrows, town (pop 1,489), SW Va , on the New River and in the Alleghenies near the W.Va line, inc 1904

Narrows, the see New York Bay.

Narses (nar'sēz), c 478–c 573, Roman official and general, one of the eunuchs of the palace He assisted in the suppression of the Nika riot (532) by bribing the Blues of the Circus to return to their allegiance to Justinian I In 538 he was sent to Italy to cooperate with Belisarius, their dissensions delayed the campaign, and he was recalled After the recall of Belisarius, he returned to Italy and completed the conquest, defeating (552) Totila He defeated (554) an army of Franks and Alemanni at Capua He was subsequently appointed exarch of Italy, but his administration was unpopular, and he was recalled

narthex (nar'thĕks), entrance feature peculiar to early Christian and Byzantine churches, though also found in some Romanesque churches, especially in France and Italy Usually extending across the entire west front of the building, it was a vestibule for the penitents and catechumens who were not admitted to the church proper The narthex was either enclosed within the building and often separated from the nave by a more screen of columns or consisted of an exterior colonnaded or arcaded portico In the latter case it was sometimes merely a continuation of the atrium, as in a number of Italian basilical churches, including the original basilica (4th cent) of St Peter's Church, Rome The inner narthex was particularly characteristic of the monastic churches, where admission was restricted In churches having both types of narthex, as in Hagia Sophia, Constantinople (originally a Christian church), the outer one is termed exonarthex The 12th-century narthex of St Mark's, Venice, is a deep, vaulted vestibule, shut off from the church interior and adorned with superb mosaics With the growth of unrestricted entry into the churches, the narthex served no further ritual purpose after the 13th cent. The deeply recessed portals of Gothic cathedrals are derivatives of the narthex

Naruszewicz, Adam Stanislaw, Polish *Adam Stanislaw Naruszewicz* (ä'dăm stanĕs'wäf nărōōshĕ'vĕch), 1733–96, Polish historian. A Jesuit, he became, after the suppression of his order, bishop of Smolensk (1788) and of Lutsk (1790). At the court of Stanislaus II he held a position equivalent to that of poet laureate. Naruszewicz organized extensive historical research in the archives and wrote a seven-volume history (1780–86) of the Polish nation

Narva (när'vŭ), city (pop 23,512), NE Estonia, on the Narva river and on the Russian border It has large cotton and linen manufactures, machinery plants, and sawmills Founded by the Danes in 1223, Narva passed to the Livonian Knights in 1346 and was a member of the Hanseatic League After the dissolution (1561) of the Livonian Order, Narva was first seized by the Russians, then taken (1581) by the Swedes, it continued to be contested by the two nations As early as in 1492 Ivan III built the fortress Ivangorod on the right bank of the Narva, facing the Hermann fortress of the knights In 1700 Charles XII of Sweden, with inferior forces, resoundingly defeated Peter I of Russia at Narva in the first great battle of the Northern War Peter, however, captured the city in 1704, and it remained in Russian hands until 1919 In 1945 all Estonian territory E of the Narva, including Ivangorod castle, was ceded to the RSFSR The city is dominated by the two old fortresses and it has retained a 14th-century Eastern Orthodox cathedral (originally Roman Catholic), and a 17th-century town hall and exchange building

Narva, river, 47 mi long, NE Europe, forming the border between Estonia and RSFSR It rises in Lake Peipus and flows NNE past Narva into the Gulf of Finland The falls at Narva supply power for the textile industry of that city

Narváez, Pánfilo de (pan'fēlō dā närvä'ĕth), c 1470–1528, Spanish conquistador After service in Jamaica, he aided Diego de Velázquez in conquering Cuba and was sent (1520) to Mexico by Velázquez to force Cortés into submission Narváez's force was defeated, and he was captured and imprisoned Released in 1521, he returned to Spain, and Charles V commissioned him *adelantado* to conquer and settle Florida With five vessels and 600 men he sailed from Sanlúcar in June 1527, and, after desertions and storms had cost the expedition much in time and men, he reached Florida (probably near Tampa Bay) in April, 1528 Narváez sent his ships on towards Mexico and then led 300 men inland to Apalachee (near the present Tallahassee) in a futile search for gold Disappointed and much harassed by Indians, the Spanish turned back to the coast There they built several crude vessels in which they set out for Mexico, but all except Cabeza de Vaca and three companions were lost off the coast of Texas or after landing among hostile Indians See E G Bourne, *Spain in America, 1450–1580* (1904), W Lowery, *Spanish Settlements within the Present Limits of the United States 1513–1561* (1901), Gonzalo Fernández Oviedo y Valdez "The Expedition of Pánfilo de Narváez," ed by Herbert Davenport in *Southwestern Historical Quarterly,* Vols XXVII–XXVIII (1923–25)

Narváez, Ramón María (rämōn' märē'ä närvä'ĕth), 1800–1868, Spanish soldier and statesman He distinguished himself in the fighting against the Carlists (1833–39) When Espartero rose to power, Narváez joined (1840) the partisans of Maria Christina in exile He returned in 1843 to take part in Espartero's overthrow and was created (1845) duque de Valencia The leader of the moderates, Narváez held the premiership often after 1844 His reactionary policy suppressed revolutionary movements, but it also prepared the uprising which soon after his death caused the downfall of Queen Isabella II

Narvik (närvĭk), town (pop 10,281), Nordland co , NW Norway, a port on Ofoten Fjord opposite the Lofoten Islands Called Victoriahavn until 1898, it was founded (1887) as the Atlantic port for the Kiruna iron mines in Sweden Its harbor is ice free In the Second World War, Narvik fell to the Germans when they invaded Norway on April 9 1940 To prevent the Germans from using Narvik as a shipping base for Kiruna ore, an Allied expeditionary force recaptured the port (May 28, 1940) after heavy fighting, but had to abandon it on June 9

Narym (nŭrĭm'), region, RSFSR, in Siberia, N of Tomsk It is drained by the Ob The village of Narym is its center The region was one of the places of exile for political exiles, including Stalin, under the tsarist regime, and, according to some reports, it has also been used for political prisoners

Naryn (nŭrĭn'), river, 470 mi long, Kirghiz SSR and Uzbek SSR It rises in several branches in the Tien Shan mountain system and flows generally W through the Fergana Valley, where it joins with the Kara Darya to form the Syr Darya Its lower course is used for irrigating a cotton-growing area The city of Naryn (pop 4,552), Kirghiz SSR, on the upper course of the river, at an altitude of 6,610 ft , is the center of a wheat-growing and sheep-grazing district

Nasby, Petroleum V , pseud of **David Ross Locke,** 1833–88, American journalist and satirist, b Vestal, N Y. He was editor of the Findlay, Ohio, *Jeffersonian* when he first became prominent by publishing in it (1861) the Nasby letters. The writer, the Rev. Petroleum Vesuvius Nasby, was ostensibly an ignorant, violently prejudiced proslavery sympathizer, and the letters, which caught the fancy of readers from Lincoln down, were of great aid to the Union cause in the Civil War When Locke became editor and part owner of the Toledo *Blade,* he transferred the series to that paper , he used the letters as satiric propaganda for other causes, including the favorite one of his later life, prohibition See Cyril Clemens, *Petroleum Vesuvius Nasby* (1936)

Naseby (nāz'bē), village, Northamptonshire, England, SW of Market Harborough Near here, on June 14, 1645, the parliamentarians under Fairfax and Cromwell defeated the royalists under Charles I and Prince Rupert in a decisive battle An obelisk commemorates the battle

Nash, John, 1752–1835, English architect, pupil of Sir Robert Taylor He began to work in London c 1792 His capacities were greatest in town planning, and he is chiefly known for his boldly planned development of the Marylebone region of London His scheme, as put into execution in 1812, comprehended Regent St , with its Quadrant, and Regent's Park, with its terraces and surrounding streets of formally designed town houses Nash also designed Haymarket theater and remodeled Buckingham Palace He imitated the neoclassic Regency style and was responsible for an extensive use of stucco for the façades of city buildings See biography by J N Summerson (1935)

Nash, Ogden, 1902–, American humorous poet, b Rye, N Y , studied at Harvard The versifying in his satirical or nonsense verse is original and often absurd His collections include *Hard Lines* (1931), *I'm a Stranger Here Myself* (1938), *The Face Is Familiar* (1940), *Many Long Years Ago* (1945), *Selected Verse* (1946), and *Versus* (1949)

Nash, Paul, 1889–1946, English painter and wood engraver, studied at the Slade School of Art, London Wounded in the First World War, he later returned to the front as official artist, an office he filled also in the Second World War Examples of his war paintings and drawings are in the Imperial War Museum, London Nash is well known for his landscapes, often in water color These are usually subdued in color, poetic, and abstract His wood engravings for the book of Genesis show his skill in that technique

Nash, Richard, 1674–1762, Englishman of fashion, known as Beau Nash As master of ceremonies at Bath he was the able and recognized leader of society He maintained his luxurious mode of living by gambling until gaming was forbidden in 1745 He was later pensioned by the town See Lewis Melville, *Bath under Beau Nash* (1907), Edith Sitwell, *Bath* (1947)

Nashe or **Nash, Thomas** (both năsh), 1567–1601, English satirist, studied at Cambridge He went to London before 1589 to live by his pen His *Anatomie of Absurditie* (1589) was full of ephuistic moral reflections and satiric studies of manners Hatred of Puritanism led Nashe into the Martin Marprelate controversy, in which some of the pamphlets signed "Pasquil" are attributed to him *Pierce Pendilesse His Supplication to the Divell* (1592) was a bitter satire on contemporary society in which he also answered an attack on him by Richard Harvey A scurrilous pamphlet battle between him and Gabriel Harvey resulted and was complicated by Nashe's defense of his dead friend Robert Greene *Christ's Teares over Jerusalem* (1593) first continued an attempt to end the quarrel, but a second edition continued it, and *Have with You to Saffron-Walden* (1596) was a merciless blast of ridicule at Harvey Nashe's best work was *The Unfortunate Traveler or The Life of Jack Wilton* (1594)—a forerunner of the type of novel written by Defoe and of later historical fiction—and *Nashe's Lenten Stuff* (1599) a burlesque panegyric of the herring industry For his part in the lost play *The Isle of Dogs* (1597) he was sentenced to prison, but seems to have evaded serving His one extant play is *Summer's Last Will and Testament* (1600), *Dido Queen of Carthage* was published in 1594 as by Marlowe and Nashe See his works (ed by R B McKerrow 5 vols , 1904–10), E G Harman, *Gabriel Harvey and Thomas Nashe* (1923)

Nashoba (năshō'bŭ) former community, SW Tenn , on the Wolf river near Memphis It was founded by Frances Wright and others as a place in which Negro slaves, purchased especially for the purpose, might be educated for freedom Influenced by the example of Robert Owen's cooperative colony at New Harmony, Ind , Miss Wright bought the land in 1825 She and the other trustees were impractical administrators, however, and the venture was unsuccessful from the beginning The difficulties of pioneering were increased by the prevalence of swamp fever and by poor management during her frequent absences The community was denounced as a center of free love and miscegenation and by 1829 was practically deserted by its white members The following year the slaves were transported to Haiti

Nashua (nă'shōōă) **1** Town (pop 1,439), NE Iowa, near the confluence of the Cedar and Little Cedar rivers SE of Charles City, inc. 1857 At Bradford, a village near by, is the Little Brown Church in the

Vale, familiarized in the song by W. S. Pitts. **2** City (pop 32,927), a co seat of Hillsboro co , S N H , at the confluence of the Nashua with the Merrimack near the Mass. line, settled c 1655, inc 1673 as Dunstable, reinc 1746, renamed 1836, chartered as a city 1853 Having good water power, Nashua developed as a textile-mill town in the first half of the 19th cent Some of the Nashua Company houses still stand, but fire destroyed large sections of the city in 1930 Nashua's manufactures include textiles, shoes, and wood and paper products A threatened closing in 1948 of the largest textile mill resulted in sale of the mill to a group of citizens who arranged partial operation of the mill immediately with eventual utilization of the rest of the plant in other ways The city has a municipal airport

Nashville. 1 City (pop 2,782), co seat of Howard co , SW Ark , in a rich diversified farm area It is noted as a peach-shipping center **2** City (pop 2,449), co seat of Berrien co , S Ga , N of Valdosta, in a tobacco and farm area, inc 1892 **3** City (pop 2,418), co seat of Washington co , S Ill , ESE of St Louis, in a farm and coal area, inc 1853 **4** Town (pop 493), co seat of Brown co , S central Ind , E of Bloomington In an area of beautiful scenery, it attracts many tourists **5** Village (pop 1,279), S Mich , on a tributary of the Grand and SW of Lansing, platted 1865, inc 1869 Tables are made here **6** Town (pop 1,171), co seat of Nash co (formed 1777), E central N C , ENE of Raleigh, in a tobacco, cotton, and diversified farm area **7** City (pop 167,402), state capital, and co seat of Davidson co , central Tenn , on the Cumberland river, in a fertile farm region Founded in 1780 by James Robertson (who is buried here), it was incorporated as a city in 1806 and was made permanent capital of the state in 1843 The northern terminus of the NATCHEZ TRACE, the city developed early as a cotton center and river port and later as a railroad center After the fall on Feb 16, 1862, of Fort Donelson (see DONELSON, FORT), Nashville was abandoned to Union troops under D C BUELL and became an important Union base for the rest of the Civil War The Union general G H THOMAS won a decisive victory over J B Hood here, Dec 15–16, 1864 The city today is a port of entry and an important shipping, industrial, and educational center Among its manufactures are food and tobacco products, shoes, rayon, and cellophane, and it has printing and publishing houses and railroad shops In Nashville are VANDERBILT UNIVERSITY, FISK UNIVERSITY, MEHARRY MEDICAL COLLEGE, George Peabody College for Teachers (coeducational, began as Davidson Academy, 1785, became Cumberland College, 1806, then Univ of Nashville, 1826, funds from George Peabody, 1875), Scarritt College for Christian Workers, Trevecca Nazarene College, Tennessee Agricultural and Industrial State College (Negro, coeducational), Andrew Jackson Univ , David Lipscomb College, Ward-Belmont School (for women), and a state school for the blind Madison College (coeducational, 1904) is near by Among the points of interest are the capitol (designed by William Strickland), with the tomb of James K Polk, the war memorial building, with museums, and several old churches and fine ante-bellum houses Near by is the HERMITAGE, home of Andrew Jackson

Nashwauk (năsh'wôk), village (pop 2,228), NE Minn , SW of Hibbing and on the Mesabi iron range

Nasik (nā'sĭk), town (pop 52,386), NE Bombay state, India It is holy as the site of events in the lives of the Hindu god Rama and Sita, his wife Near by are ancient Jain and Buddhist caves

Nasiriya (năsĭrē'ə), town, SE Iraq, on the Euphrates river The British captured it from Turkey on July 25, 1915, in the Mesopotamian campaign of the First World War The town is also called An Naasiriya

Nasmyth, Alexander (nā'smĭth), 1758-1840, Scottish landscape and portrait painter His *Stirling Castle* (National Gall , London) is a good example of his simple, picturesque Scottish scenes His portrait of Robert Burns is in the National Gallery of Edinburgh He was also an architect and a landscape architect His son and pupil, **Patrick Nasmyth**, 1787–1831, also known as Peter Nasmyth, was a celebrated landscapist His *Woody Landscape* is in the New York Public Library and *At Penshurst, Kent* is in the Metropolitan Museum

Nasmyth, James, 1808–90, Scottish machinist, engineer, and inventor (1839) of the steam hammer, the forerunner of the modern pile driver, son of Alexander Nasmyth His foundry at Bridgewater, near Manchester, England, was noted for the excellence of its products, many of which he invented, such as a nut-shaping machine and a hydraulic punch His recreation was astronomy With James Campbell he wrote *The Moon Considered as a Planet, a World, and a Satellite* (1874) His autobiography was edited in 1883 by Samuel Smiles

Nasmyth, Patrick see NASMYTH, ALEXANDER.

Nasoraeans. see MANDAEANS

Nasr-ed-Din (nă'sur-ĕd-dēn'), 1831?–1896, shah of Iran (1848–96). He and his able vizier, Amir Kabir (or Emir Kabir), were responsible for shaking Iran from a long period of inertia. He traveled much in Europe and brought back many European ideas He also undertook government reorganization with administrative division of duties and the creation of government departments Nasr-ed-Din Shah had ambitions to reclaim some of the old Persian territories to the east and made an effort to wrest Herat from Afghanistan, but British intervention put an end to his hopes and forced Iran to recognize the claim of Afghanistan Nasr-ed-Din Shah granted numerous concessions to the British, including the Reuter concession in 1872 and the Imperial Bank of Persia in 1889 His reign saw the rise of BABISM He was assassinated by one of his subjects and was succeeded by Muzaffar-ed-Din

Nass (năs), river of W British Columbia, rising in the Coast Mts and flowing 195 mi southward to Portland Inlet of the Pacific It is navigable for 25 mi and has valuable fisheries

Nassau (nă'sô, Ger nä'sou), former duchy, W Germany, N and E of the Main and Rhine rivers It is now comprised in HESSE Wiesbaden is the chief city It is a fertile agricultural and forested district and is famous for its Rhine wines, notably those of the Rüdesheim and Johannisberg regions Besides Wiesbaden, there are many mineral spas, notably Bad Homburg, Bad Schwalbach, and Schlangenbad in the beautiful TAUNUS hills and Bad Ems on the Lahn river The region takes its name from the small town of Nassau, on the Lahn E of Ems, where the original castle of the house of Nassau was built in the early 12th cent by a count of Laurenburg His descendants took the title counts of Nassau In 1255 the dynasty split into two main lines The ruling line was called the Walramian line for Count Walram II, his younger brother, Otto, founded the Ottonian line In 1806 Nassau, which had received some territorial additions, joined the Confederation of the Rhine and was raised to a duchy In 1816 the territories belonging to the various branches of the Walramian line were united by Duke William His successor, Adolf, sided against Prussia in the Austro-Prussian War (1866) and as a result lost his duchy to Prussia Nassau was then united with former Electoral Hesse to form the Prussian province of Hesse-Nassau, which after 1945 was incorporated in the American-occupied state of Hesse Duke Adolf of Nassau, however, succeeded in 1890 to the grand duchy of Luxembourg, where his descendants continue to rule The Ottonian line of Nassau acquired (15th cent) the lordship of Breda and settled in the Netherlands It came into European prominence in the 16th cent with WILLIAM THE SILENT, who inherited the principality of ORANGE in S France and became stadholder of the Netherlands His sons, MAURICE OF NASSAU and FREDERICK HENRY, succeeded him as princes of Orange and as stadholders, these titles then passed to Frederick Henry's son, WILLIAM II of Orange, and to William's son WILLIAM III, who also became king of England William III died (1702) without direct heirs, and the principality of Orange (which had become purely titular) passed to John William Friso, of the collateral branch of Nassau-Dietz His son, Prince William IV, became (1747) hereditary stadholder of the Netherlands, and from him all subsequent rulers of the NETHERLANDS (except Louis Bonaparte) are descended in direct line The Dutch line of the Nassau family is known as the house of Orange

Nassau (nă'sô), city (pop c 20,000), capital of the BAHAMA ISLANDS, a port on New Providence It has an improved and beautiful harbor and is the commercial and social center of the colony Its warm, healthful climate has made it a winter resort for Americans Formerly called Charles Towne, it was named Nassau in 1695 In the early 18th cent it was a rendezvous for pirates, among them Blackbeard Three forts, Nassau (1697), Charlotte (1787 94), and Fincastle (1793) were built to ward off numerous Spanish invasions American revolutionists in 1776 captured and held it a short time

Nassau, Fort 1 Built (1614) by the Dutch explorer Hendrick Christiaensen on Castle Island, in the Hudson river, south of the present Albany, N Y The fort served as a trading post for the Dutch until 1617, when it was destroyed by an overflow of the Hudson river, and a new fort, Fort Orange, was built on the west bank of the river on the site of Albany **2** Built (1623) by the Dutch under Capt Cornelius Jacobsen Mey on the east bank of the Delaware river, near the present Gloucester City, N J The Dutch soon abandoned the fort, but after the Swedish colonization in this area, the Dutch reoccupied it and for a time united with the Swedes against the English Fear of Swedish competition in the fur trade, however, caused Gov Peter Stuyvesant to take over (1655) the Swedish forts on the Delaware basin After the Swedes evacuated Fort Elfsborg, the Dutch destroyed Fort Nassau

Nast, Thomas, 1840–1902, American caricaturist, illustrator, and painter, b Landau, Germany He was brought to the United States in 1846 He began his career as a draughtsman for *Frank Leslie's Illustrated Newspaper* and *Harper's Weekly* He was sent to England by the *New York Illustrated News*, served (1860) as artist correspondent in Garibaldi's campaign, contributing sketches to English, French, and American papers, and attracted wide attention with his cartoons of the Civil War, published in *Harper's Weekly* He is best known for his clever and forceful political and personal cartoons, which were instrumental in breaking the corrupt Tweed Ring in New York city It was Nast who created the tiger, the elephant, and the donkey as political symbols of Tammany Hall, the Republican party, and the Democratic party Nast was also an illustrator of note and a painter in oil His *Head of Christ* is in the Metropolitan Museum, and *The Departure of the Seventh Regiment* in the Seventh Regiment Armory, New York He died at Guayaquil, Ecuador, where he was American consul general See biography by A B Paine (1904)

nasturtium (nŭstûr'shĭəm), any plant of the genus *Tropaeolum*, tropical American herbs cultivated for the spurred flowers mostly in shades of yellow or red and attractive to hummingbirds The common species (*Tropaeolum majus* and *minus*), climbing or dwarf, are not completely hardy in this country and blossom best in poor soil, fully double flowers are a recent introduction The leaves are usually rounded, in the climbing plants the leafstalks serving as tendrils Luminosity has been observed in the plants In some places the seeds are pickled and used like capers, and the pungent flowers and leaves are added to salads, whence the name Indian cress The tubers of *Tropaeolum tuberosum* are edible *Tropaeolum peregrinum* is the canary-bird flower *Nasturtium* is sometimes a botanical name for the water cresses

Natal (nətăl'), province (35,284 sq mi , pop 2,197,-879), E Union of South Africa, on the Indian Ocean The capital is Pietermaritzburg Natal is bordered on the north by Mozambique The tropical climate favors the production of plantation crops, especially sugar and tobacco, along the level coast Much coal is produced in the high inland region The British settlement of Durban in 1824 was one of the earliest made here by Europeans The Boers on their TREK reached Natal in 1837 They defeated the Zulu and founded the Natalian republic The British annexed it in 1843 and in 1856 made Natal a crown colony, to which Zululand was added in 1897 In 1910 the colony became an original province of the Union The population includes 236,697 Europeans See A T Bryant, *Olden Times in Zululand and Natal* (1929), A F Hattersley *Portrait of a Colony* (1940)

Natal (nutal'), city (pop 51,479), capital of Rio Grande do Norte state, NE Brazil, a port just above the mouth of the Potengi river Its great importance lies in the fact that it is far out on the northeastern bulge of Brazil and therefore is less than 2,000 mi from towns in Africa It was much developed as an airport with U S help in the Second World War Its traffic continued heavy The port is also of importance, handling coastwise shipping Natal is also a rail terminus Near by the Portuguese erected (c 1597) a fort to forestall French settlement, and Natal was founded in 1599 It was held by the Dutch from 1633 to 1654 There are a few colonial buildings, but the town, with its aeronautical installations, is largely modern

Natanya, Israel see NATHANIA

Natashkwan (nă"tăshkwŏn', nutash'kwun), river rising in S Labrador and flowing 200 mi S across E Quebec to the Gulf of St Lawrence It is noted for trout and salmon fishing

Natchez (nă'chĭz), city (pop 15,296), co seat of Adams co , SW Miss , on bluffs above the Mississippi The trade, shipping, and processing center for a cotton and livestock area, it also makes rubber goods It was founded in 1716 when Bienville established Fort Rosalie here, but Natchez Indians annihilated the garrison in 1729 The area passed to England (1763), to Spain (1779), and to the United States (1798) Natchez was capital of the Territory of Mississippi from 1798 to 1802 It was incorporated in 1803 The NATCHEZ TRACE and the city's strategic situation on the Mississippi caused a prosperous development of the area, Natchez became an important river port before the Civil War It was taken by Federal forces in 1863 Many of the city's fine colonial and ante-bellum houses (some dating from the 18th cent) are visited annually during a festival period in March and April See T B Marshall and G C Evans, *They Found It in Natchez* (1940), H T. Kane, *Natchez on the Mississippi* (1947)

Natchez Indians, tribe of North American Indians of the Natchez-Muskogean linguistic stock In the 17th cent they lived in SW Mississippi near the present city of Natchez They then numbered some 6,000 The Natchez were typical of the Southeast culture area—a sedentary, agricultural people, who had an elaborate form of sun worship Their chief, ruler of a strict class society, held absolute sway over the lives and property of his subjects The Natchez were first visited by the French in 1682, and in 1716 and 1722 there was warfare between them and the French. In 1729 the Natchez, angered at French encroachments, massacred the French at Fort Rosalie The French, aided by the Choctaw, retaliated by attacking the Natchez vil-

lages and scattering the inhabitants One small group settled near their former home, and a second crossed the Mississippi into E Louisiana; there they were attacked (1731) by the French, who killed or captured many of them Some 450 Natchez captives were sold into slavery A third, the most numerous, group joined the Chickasaw This group numbered some 700 in 1735 Other Natchez Indians settled with the Cherokee and the Creek A few survivors existed in Oklahoma until very recent times See John Swanton, *Indian Tribes of the Lower Mississippi Valley* (1911)

Natchez-Muskogean (mŭskō'gēun), linguistic family of North America It included languages of the Natchez, Alibamu, Choctaw, Chickasaw, Creek, and Seminole and probably also Yamasee and Apalachee The name is also written Natchez-Muskhogean and Natchez-Muskogian. See LANGUAGE (table) and HOKAN

Natchez Trace, road, from Natchez, Miss , to Nashville, Tenn , of great commercial and military importance from the 1780s to the 1830s It grew from a series of Indian trails used increasingly in the 18th cent by the French, English, and Spanish successively At first traveled only northward from Natchez to Nashville, since the American frontiersman could float his goods down to New Orleans by flatboat, it came to be used in both directions with U S expansion into the Old Southwest It was made a post road in 1800 and improved by the army Andrew Jackson marched over the Trace to New Orleans in the War of 1812 and later used it in his Indian campaigns With the coming of steamboat transportation, it passed into decline The Natchez Trace Parkway (13,648 87 acres, est 1934) memorializes and generally follows the old Natchez Trace When completed (construction, begun in 1937, was interrupted by the Second World War), it will be c 450 mi long

Natchitoches (năk'ĭtŏsh), city (pop 6,812), parish seat of Natchitoches parish, NW La , near the Red River SE of Shreveport The oldest city in Louisiana, it was founded in 1715 as a French military and trading post, it was incorporated in 1819 and reincorporated in 1872 The city's industry is centered on the production, processing, and shipping of cotton Many old houses remain, and the state teachers college and a U S fish hatchery are here

Nathan (nā'thun) [Heb ,=given] **1** Prophet in the time of David and Solomon With his parable of the ewe lamb he denounced David for his abduction of Bathsheba Later his advice saved the kingdom for Solomon It is recorded that he wrote the lives of David and Solomon *2 Sam 7, 12, 1 Kings 1, 1 Chron 29 29, 2 Chron 9 29* **2** Son of David *1 Chron 3 5, 14 4, Luke 3 31* **3** Father of one of David's guard *2 Sam 23 36* **4** Brother of one of David's men *1 Chron 11 38* **5** Descendant of Jerahmeel *1 Chron 2 36* **6** Companion of Ezra *Ezra 8 16* **7** One who had a foreign wife *Ezra 10 39*

Nathan, George Jean, 1882–, American editor and critic, b Fort Wayne, Ind , grad Cornell, 1904, and studied at the Univ of Bologna, Italy His career as a dramatic critic was marked by his long association with H L Mencken on the magazine *Smart Set* (1914–23) and on the *American Mercury*, which they founded in 1924 Nathan remained contributing editor until 1930 He also was one of the founders and an editor (1932–35) of the *American Spectator* His rigorous criticisms of the American stage are collected in *Mr George Jean Nathan Presents* (1917), *Materia Critica* (1924), *The Testament of a Critic* (1931), *Since Ibsen* (1933), *The Entertainment of a Nation* (1942), and other volumes His *Autobiography of an Attitude* (1925) reveals his critical doctrine See Constance Frick, *The Dramatic Criticism of George Jean Nathan* (1943)

Nathanael (nuthă'năĕl) [Gr from Heb ,=gift of God], disciple mentioned only in St John's Gospel and very plausibly identified with BARTHOLOMEW. John *1 45–51, 21 2 n*

Nathania (năth'nya), town (pop c 9,000), Israel, on the Mediterranean Sea and c 20 mi N of Tel Aviv, founded 1929 It is a center for the farm settlements of the region and a seaside resort There are small industries, notably diamond cutting The name is also spelled Natanya and Nathanya

Nathan-melech (nā'thăn-mē'lĕk) [Heb ,=gift of the king], chamberlain of Josiah *2 Kings 23 11*

Natick (nā'tĭk), town (pop. 13,851), E Mass , W of Boston, inc 1781 Founded (1651) as a "praying Indian" village by John ELIOT, it soon became a white settlement Among Natick's several industries, shoemaking became most important After a 14-week strike in 1858–59, shoe workers gained a wage increase

Nation, Carry, 1846–1911, American temperance agitator, b Garrard co , Ky. Her family (her maiden name was Moore) moved a great deal, finally settling at Belton, Mo , where she married (1867) William Gloyd, a physician. When they were living at Holden, Mo , he turned out to be a hopeless drunkard and died shortly. She taught school for a time at Holden In 1877 she married David Nation, a minister and lawyer They moved from place to place It was in Medicine Lodge, Kansas, that she became convinced of her divine appointment to destroy the saloon In 1900 she supplemented public prayers and denunciations by personal destruction of property in saloons, commencing with smashing bottles and beer kegs Later that year she adopted the hatchet as her weapon in these exploits—hatchetations, she called them In 1901 her husband divorced her, and she devoted the rest of her life to the cause, lecturing on temperance all over the United States and in Europe Shortly before her death, a school for young prohibitionists was organized at Eureka Springs, Ark , but she died before it could commence operation Her own apologia was offered in *The Use and Need of the Life of Carry Nation* (1904) See biography by Herbert Asbury (1929)

National Academy of Design, society composed of American painters, sculptors, and engravers, with its headquarters in New York city The academy was established in 1825, incorporated in 1828 Prominent among its founders were S F B Morse (its president for 20 years), Asher B Durand, and Daniel Huntington It holds two exhibitions a year and offers prizes for outstanding work in different fields In 1906 the Society of American Artists merged with the National Academy and the membership was expanded from 100 to 175, it was later increased to 204 with 162 associates In 1942 as a result of a gift by Archer M Huntington, the academy moved to permanent headquarters on upper Fifth Ave The academy operates a school in which tuition is free

National Archives, established in 1934 by act of the U S Congress Though displeasure concerning the keeping of national records was voiced in Congress as early as 1810, the United States until very recently entrusted the records to the various agencies that had accumulated them This resulted in much loss, confusion, deterioration, and destruction of documents It was not until 1926 that Congress provided for the construction of a national archives building, where Federal government records could be stored, assembled, and preserved The congressional act of 1934 organized the National Archives to be administered by the archivist of the United States Aided and advised by the National Archives Council, the archivist was charged with accepting and preserving government records The building to house them was completed in 1935 See Wilson Bulle, *Guide to the Material in the National Archives* (1941)

national assembly, name given to a number of past and present constituent or legislative bodies Under the French constitution of 1946 (see FRANCE) the lower house of parliament is called the national assembly, usually, however, national assemblies were provisional rather than permanent legislative bodies. In times of crisis, when the old order of things has dissolved through revolution, war, or simply decay, it is found necessary that a new order be worked out by the people as a whole, as being the collective sovereign of the land Such was the case in the French Revolution of 1789, when members of the STATES-GENERAL proclaimed themselves a national assembly and thus virtually defied the authority of the king The FEDERAL CONSTITUTIONAL CONVENTION of 1787 and the FRANKFURT PARLIAMENT of 1848–49 were national assemblies In the Franco-Prussian War of 1870–71, after the downfall of Napoleon III, France again had a national assembly, and under the Third Republic the name national assembly applied to joint sessions of the senate and the chamber of deputies when they met at Versailles to elect a president or to consider a constitutional amendment National assemblies framed the republican Weimar constitution of Germany in 1919 and the Bonn constitution for Western Germany in 1948–49 For a list of some of the chief legislative bodies of the world, see LEGISLATURE See also PARLIAMENT

national bank, in the United States, a bank of a class authorized by Congress in acts of 1863 and 1864 These acts were intended to provide a way of marketing the large bond issues made necessary by the Civil War and to give circulation to a paper currency more trustworthy than the notes of state banks had proved to be The act of 1864 authorized the forming of private banking corporations which should invest a large part of their capital in bonds of the United States and which might then issue their notes as currency to the amount of 90 percent of the face value of these bonds, the amount not to exceed 90 percent of their market value Subsequent acts modified the act of 1864 in various details, and the plan was changed fundamentally by the Federal Reserve Act of Dec 23, 1913, which provided for the gradual substitution of Federal reserve notes and Federal reserve bank notes for national bank notes This act required all national banks to become members of the FEDERAL RESERVE SYSTEM For bibliography, see BANKING

National City, city (1940 pop 10,344, 1945 special census pop. 17,654), S Calif., on San Diego Bay SW of San Diego, inc 1887 It is a residential and industrial city in a fruit and truck-farm area.

national debt. see DEBT, PUBLIC.

national forests have been set aside in 42 states of the United States and in Alaska and Puerto Rico Vast areas in the mountainous sections of the Western states are so preserved, and there are large national forests in the White Mts , Green Mts , Alleghenies, and other eastern ranges The total area of national forests is over 220,000,000 acres In addition, the Federal government owns about 4,500,000 acres of forest lands in its national parks and monuments and over 8,000,000 in Indian reservations In 1891 the President was authorized to set aside national forest reserves, these areas were administered by the General Land Office of the Dept of the Interior until 1905, when they were transferred to the Forest Service of the Dept of Agriculture The Forest Service had existed since 1881 as a division and later as a bureau of the Dept of Agriculture The Forest Service carries on research work in all aspects of forestry—forest fires, tree diseases and pests, lumber products, land drainage and correct harvesting See also FOREST See publications of the Forest Service, U S Dept of Agriculture, and the American Tree Association, Washington, D C

National Gallery, London, one of the permanent national art collections of Great Britain Its building in Trafalgar Square is in Greek style, designed and erected (1832–38) by William Wilkins The nucleus of this collection was formed in 1824 with 38 pictures from J J Angerstein's collection The gallery is rich in Italian paintings of the 15th and 16th cent and has fine collections of Flemish and Dutch masters The collections were moved to a remote, bomb-proof cave in the Second World War The National Portrait Gallery adjoins the building The National Gallery of British Art, more usually the TATE GALLERY, was controlled by the National Gallery until 1917

National Gallery of Art, Washington, D C , a bureau of the Smithsonian Institution, established by act of Congress, March 24, 1937 Funds for construction of the building and his own collection of paintings were given by Andrew W Mellon The building, of marble, was designed by John Russell Pope, it was opened in March, 1941 Other gifts to the gallery include Samuel H Kress's collection of Italian masterpieces (1939) and the Joseph E Widener Collection (1942) The paintings number over 800 The collection is especially rich in Italian and French painting The government turned over to the gallery the Index of American Design, consisting of about 20,000 drawings and water colors in decorative and folk art made by WPA artists David E Finley was appointed first director of the gallery

National Guard, in French history, body of militia created in 1789 at the suggestion of the comte de Mirabeau and commanded by Lafayette It was originally intended to advance the cause of the French Revolution against the royalists, but in the course of events and reorganization it became reactionary In 1795 it was dissolved The name was also given to a group of militia instituted in 1805 by Napoleon and to the new group established in 1830 This national guard was active in the Revolution of 1848 In 1870 the Parisian national guard, which after service in the Franco-Prussian War had been left with its arms and refused to surrender them, played a large part in the story of the Commune of Paris in 1871

National Guard, in U S history In the United States, the Federal Constitution, in Article 1, Section 8, provides that Congress shall have the power to call forth "the Militia to execute the Laws of the Union, suppress insurrections and repel invasions " Congress was entrusted with organizing, arming, and disciplining the MILITIA, but the appointment of officers and the authority of training the militia was reserved to the states Further provisions were made in the Second Amendment In 1792 Congress passed an act establishing uniform state militias, but its clauses proved ineffective in times of war It was not until 1903 that Congress altered this situation by passing the Dick Bill, which set up the National Guard and a reserve militia The terms of service were adequately prescribed, and five years later an amendment to the bill authorized the service of the guards outside the boundaries of the United States and abrogated the nine-month limit on service Although it was put under the jurisdiction of the states in times of peace and could be used by governors to quell local disturbances, the equipment and personnel of the National Guard were standardized to conform to the U S army In the First World War the National Guard was as always with militia in wartime—absorbed into the armed forces An act in 1920 provided for further peacetime integration within the framework of the regular army As prescribed in Article 2, Section 2, of the Constitution, the President becomes commander in chief of the National Guard when called into actual service of the United States in time of emergency It is administered by the National Guard Bureau of the National Military Establishment and is divided into several corps areas which overlap state boundaries Enlistment is voluntary, compensation, paid by the Federal government, is given for periods of drill and field training. After the Second World War, the facilities of the National Guard were vastly increased

and in July, 1946, the National Guard forces numbered over 080,000.

National Industrial Recovery Act: see NATIONAL RECOVERY ADMINISTRATION

nationalism, political or social philosophy in which the good of the nation is paramount The word is used loosely and almost always in a derogatory sense to carry the implication of excessive zeal for the national welfare and advancement Its exponents usually employ other terms Because of the somewhat unstable use of the words *nation* and *nationality* on which the meaning of nationalism is based, the vagueness of the word *nationalism* makes careful definition impossible In general it may apply to either type of NATIONALITY A nation, in the political sense, may be nationalistic, and a nationality, meaning any group of people who have, or think they have, a common culture, may be nationalistic When a state is dominated by a group that has nationalistic ideas, strong efforts are made by the government to instill patriotic ideals into the people, and an effort is usually made to compel any alien group (such as the Poles in imperial Russia) to surrender its identity—language and culture - and accept that of the ruling group Nationalism is profoundly interested in the education of children since it is deemed important to perpetuate and glorify the traditions of the people and of the nation Since fervent love of the nation implies fear of a rival people, a strong nationalism naturally leans to defensive and even to offensive measures and to continuous hostility toward some other nation or nations Such state nationalism is also frequently linked with IMPERIALISM, as shown obviously in Fascist Italy and National Socialist Germany Those and the other fascist powers showed, too, the value of nationalistic propaganda in giving individual citizens a feeling of status, of belonging to a great and glorifying whole Nationalism in a "suppressed nationality"—an ethnic or cultural group in a state dominated by another group—is almost always revolutionary in tone, either by implication or by direct action One of the highest political ideals of the 19th cent was the liberation of peoples then subject to a power foreign to them, notably the Irish and the Poles Ethnocentrism—the blind belief in the superiority of one's own culture and fear of rival cultures—can be discovered in the most primitive of tribes This feeling is the basis of nationalism, and doctrines of similar import played a part in the history of most of the successful ancient states Much stronger, however, was the tendency toward the creation of universal states that bound together diverse peoples The Roman Empire was the sterling example of this trend With its dissolution and the creation of innumerable small states, the creation of universality did not die The universal Church, the use of a common language of learning, and the existence of the Holy Roman Empire all gave an air of common enterprise to all the peoples of Western Europe, this was strengthened by the local economy of FEUDALISM and the MANORIAL SYSTEM, which encouraged devotion to the small group rather than to a whole people Nationalism as such could not precede the rise of nations in the later Middle Ages, it actually did not come until long after the development of absolute monarchies had led to the breakdown of universal connections. The REFORMATION and the religious wars it brought in its wake set nation against nation Yet as long as absolute monarchy had the support of the governed, loyalty to the sovereign rather than to the nation was the dominant theme With the development of commerce and colonization, the economic doctrine of MERCANTILISM grew up, this had many of the elements of economic nationalism The growth of the middle classes and their desire for political power had a disquieting effect in politics The development of democratic political theory was closely connected with the emergence of nationalism Nationalism appeared with ROMANTICISM in literature Herder was an advocate of nationalism in Germany, where politically national sentiment was completely lost in the localism in the host of inconsequential independent states He saw in the energetic development of the national sentiment no danger to other nationalities, each could serve the world best, he thought, by the full development of its individual attributes Jeremy Bentham in England also advocated nationalism in his liberal utilitarian scheme Thus in the beginning nationalism walked hand in hand with democracy and liberalism It first emerged into politics in the French Revolution The revolutionists glorified their nation as well as the principles of liberty, equality, and fraternity They desired to spread their doctrines abroad by force of arms if necessary It was in opposition to NAPOLEON that nationalism first appeared as a vital force in European politics The Napoleonic conquests awakened the national spirit of Spain, in the Peninsular War; they finally awakened a nationalistic spirit in Prussia, they stirred up German Austria In the era of reaction under Metternich strong efforts were made to put down nationalistic strivings But the Latin American republics insisted upon imitating the United States, and the Balkans were shaken, especially by the Greek War of Independence. The revolutions of 1830 were, to a large extent, nationalistic, and the year 1848 saw Hungary, Italy, Germany, and all the Continent overrun with nationalistic fervor. Nationalism was a major force in 19th-century politics Germany and Italy sought and obtained unity through revolution and bloodshed, and Bismarck's plans led to three wars The last of them, the Franco-Prussian War, led to a new nationalistic problem by the taking of Alsace-Lorraine, for IRREDENTISM is close to nationalism Even the Crimean War had nationalistic aspects Hungary, Bohemia, Ireland, Poland, all saw strong nationalist movements Also the other type of nationalism appeared in the attempts to "Russify" Poland and to "Germanize" the Czechs in Austria, as well in colonization and in irredentist movements Liberal elements had been discarded slowly, and now, from glorifying the traditions of the past, nationalism had turned toward reaction to that past Nationalist conflicts had much to do with bringing on the First World War, and Woodrow Wilson's Fourteen Points guaranteed the self-determination of peoples Boundaries were resettled and new states were created at the Paris Peace Conference The years after the war saw a resurgence of nationalism New irredentist problems sprang up Nationalistic economic movements (high tariffs, the "Buy British" campaign, and the like) appeared Fascism, which sprang up and took control in Italy, Germany, and Japan, was the culmination of nationalism The fascist dictatorships took full advantage of nationalist sentiments to divide their opponents and to unify their own groups At the same time there seemed to be before and during the Second World War a recrudescence of nationalism in Russia The nations of the Far East and of Africa, in seeking to cast off the imperial bonds on them, also expressed nationalism of an extreme sort Though the ideal of the United Nations—like that of the League of Nations—was an end to nationalism, nationalistic feelings were still strong in 1950 See Carlton J H Hayes, *Essays in Nationalism* (1926) and *The Historical Evolution of Modern Nationalism* (1931, new ed., 1948), H A Gibbons, *Nationalism and Internationalism* (1930), W C Langsam, *The Napoleonic Wars and German Nationalism in Austria* (1930), Hans Kohn, *Nationalism in the Soviet Union* (1933) and *The Idea of Nationalism* (1948), F O Hertz, *Nationality in History and Politics* (1944)

nationality, in political theory, term designating the persons who make up a nation, in the sense of a group united by various strong ties Among the possible ties are a belief in membership in the same general community and common customs, culture, tradition, history, language, and literature While no one of these factors is essential, some must be present for cohesion to be strong enough to justify the term *nationality* Used in this sense, a nationality or nation is not always coextensive with a political state There are many examples of nations divided between several states and of states composed of several nations and parts of nations Thus, not all Albanians live in Albania, and, on the other hand, Great Britain includes persons of English, Scottish, and Welsh background, and Switzerland has citizens whose native languages are German, French, and Italian In political theory the belief that a state should be identical with a nation is often called the "principle of nationalities" This view is a typical expression of NATIONALISM, it was advanced partly as a means of solving the problem of the national MINORITY Nationality in its specific legal sense is a very different concept, it is attachment to a state by a tie of allegiance Nationals in this meaning are fundamentally distinguished from ALIENS, and in most, but not all, countries are identical with CITIZENS Nationality gives the state the right to impose certain duties, especially military service Some states will punish their nationals for crimes wherever committed, the United States, however, punishes only those crimes, except treason, which are committed within American territorial jurisdiction Nearly all modern states tax the income and other assets of their nationals regardless of whether they reside abroad. The national owes duties to his government but is also entitled to diplomatic protection when in a foreign country Such protection includes the assistance of consular officials when the national is accused of crime and the offering of refuge in emergencies In international relations only the individual's nationality is considered and no heed is paid to the question whether he enjoys full citizenship In many instances certain persons, particularly those who have undergone NATURALIZATION, will be regarded as a national by two states at once The problems of dual nationality arising thereby have been a frequent cause of international diplomatic disputes

National Labor Relations Board (NLRB), set up under the National Labor Relations Act of 1935 (also known as the Wagner Act), which affirmed labor's right to organize and bargain collectively. The quasi-judicial board of five members (appointed for five-year terms) is assisted by 22 regional directors. This board determines proper bargaining units, conducts elections for union representation, and investigates charges of unfair labor practices by the employer These consist of interference, coercion, or restraint in labor's self-organizational rights; domination over or interference with the formation of labor unions, encouraging or discouraging membership in a union, and refusal to bargain collectively with the duly chosen representatives of his employees. The Wagner Act was validated by the Supreme Court in 1937, but criticism persisted, mainly because of union rivalry and because of the inability of the employers to initiate complaints Recommendations by a House committee to curtail NLRB powers were not adopted, although after 1940 the board followed more conservative policies The NLRB functioned during the Second World War, but labor relations were mainly handled by the National War Labor Board (WLB), created by executive order in Jan., 1942, and continued until Dec., 1945 A 12-man body, with the public, management, and labor equally represented, the WLB soon shifted from arbitration to formulating policies, notably the "maintenance of union membership" principle and the "Little Steel Formula" of July, 1942 (strongly opposed by labor), which permitted general wage increases of no more than 15 percent over Jan., 1941, levels The WLB gained statutory authority through the Wage Stabilization Act (Oct., 1942), requiring board approval for most wage raises, and the War Labor Disputes Act (June, 1943) With the passage of the Taft-Hartley Act in June, 1947, the NLRB was converted into a purely judicial body, with the prosecution of unfair labor practices transferred to a general counsel The board's membership was increased from three to five, while its action upon any petition was conditioned on the filing of non-Communist affidavits and complete financial data by the union chiefs The NLRB's field of investigation was also extended to cover the following practices as unfair to employers refusal to bargain collectively, coercing employers in the selection of their bargaining agency, persuading employers to discriminate against certain employees (unless in accordance with the law), and conducting secondary boycotts or jurisdictional strikes

National Military Establishment see DEFENSE, UNITED STATES DEPARTMENT OF

National Museum of the United States. see SMITHSONIAN INSTITUTION

National Park, borough (pop 1,977), SW N J, on the Delaware below Camden, inc 1902. In a park here is the site of a battle (commonly called the battle of Red Bank) fought in defense of Fort Mercer against a British attack in 1777

national parks and monuments The National Park Service, a bureau of the U S, Dept of the Interior, was established in 1916 to correlate the administration of the national parks and monuments then under the charge of the department Stephen T Mather was its first director In 1933 its trusteeship was extended to include certain areas hitherto under the jurisdiction of other government departments, by 1949 it was administering "for the benefit and enjoyment of the people" some 174 areas of scenic, historic, or scientific interest In addition to those listed in the national parks and monuments table, the National Park Service has charge of certain national cemeteries, national parkways, and national capital parks and also has specified responsibilities toward certain national recreational areas and national historic sites not owned by the Federal government It has four regional headquarters—in Richmond, Va., Omaha, Nebr., Santa Fe, N Mex., and San Francisco, Calif Instructed by act of Congress to "conserve the natural and historic objects in such manner as will leave them unimpaired for the enjoyment of future generations," the National Park Service has great and varied responsibilities, directing a wide program of construction and of educational and protective work. Its duties include seeking to prevent forest fires and stream pollution and the safeguarding of plant and animal life (such as the herds of elk, caribou, deer, bear, mountain sheep, bison, and other animals in the national parks). National parks may be established only by Congress, the President has authority to designate national monuments. Future projects include two national historical parks, one at CUMBERLAND GAP, the other in Philadelphia (to preserve some of the old structures), and a national memorial in Florida (to commemorate the explorations of De Soto). A list of national parks, national historical parks, national monuments, national military parks, national memorial parks, national battlefield parks, national battlefield sites, national memorials, and national historic sites is given in the table on pages 1362–65, separate articles on the more important of these are there indicated by an asterisk. See publications of the National Park Service, U S Dept of the Interior, Washington, D C.; Devereux Butcher, *Exploring Our National Parks and Monuments* (new ed., 1949)

National Recovery Administration, U S administrative bureau established under the National Industrial Recovery Act of 1933. In response to Presi-

dent F D. Roosevelt's congressional message of May 17, 1933, Congress passed the National Industrial Recovery Act, an emergency measure designed to encourage national industrial recovery and to help combat widespread unemployment The act declared that codes of fair competition—for the protection of consumers, competitors, and employers—were to be drafted for the various industries of the country and were to be subject to public hearings The administration was empowered to make voluntary agreements dealing with hours of work, rates of pay, and the fixing of prices and to license business enterprises which were operating contrary to purposes of the act Employees were given the right to organize and bargain collectively and could not be required, as a condition of employment, to join or refrain from joining a labor organization The National Recovery Administration (the NRA) —by a separate executive order—was put into operation soon after the final approval of the NIRA President Roosevelt appointed (June, 1933) Hugh S JOHNSON as administrator for industrial recovery, and four boards were created to assist him Until March, 1934, the NRA was engaged chiefly in the drawing up of industrial codes, a blanket code for all industries was adopted, and well over 500 codes of fair practice were adopted for the various industries Patriotic appeals were made to the public, and firms were asked to display the Blue Eagle, an emblem signifying NRA participation In May, 1935, in the case of the Schechter Poultry Corp vs United States the U S Supreme Court voided the compulsory code system on the grounds that the NRA had improperly delegated legislative powers to the executive and that the provisions of the poultry code did not constitute a regulation of interstate commerce The NRA was extended in skeletonized form until Jan 1, 1936 Many labor provisions of the NRA were reenacted in later legislation (e g , WAGES AND HOURS ACT and NATIONAL LABOR RELATIONS ACT) See L S Lyon and others, *The National Recovery Administration* (1933), C L Dearing and others, *The ABC of the NRA* (1934), Hugh S Johnson, *Blue Eagle from Egg to Earth* (1935), C A Pearce, *NRA Trade Practice Programs* (1939)

National Republican party, in U S history, a short-lived political organization opposed to Andrew JACKSON Jackson, defeated for President in 1824 when Henry CLAY threw his support to John Quincy ADAMS, won an overwhelming victory in 1828 The wealthier classes and all others who feared Jackson's radical ideas soon organized themselves as the National Republicans They upheld the tariff and the United States Bank and, following the lead of the Anti-Masonic party, held a national nominating convention at Baltimore in Dec , 1831 Their candidate, Clay, was badly defeated by Jackson in 1832 By 1836 the party had united with other anti-Jackson groups to form the WHIG PARTY

National Road At the time of its construction, the National Road was the most ambitious road-building project ever undertaken in the United States It finally extended from Cumberland, Md , to St Louis, and it became, from the time of its opening, the great highway of Western migration Agitation for a road to the West began c 1800 Congress approved the route and appointed a committee to plan details in 1806, contracts were let in 1811, but the War of 1812 intervened and construction did not begin until 1815 The first section (called the Cumberland Road) was built of crushed stone Opened in 1818, it ran from Cumberland to Wheeling, following in part the Indian trail (Nemacolin's Path) over which George Washington and Christopher Gist had traveled and Gen Edward Braddock's wagon train had gone Largely through the efforts of Henry Clay it was continued (1825-33) westward through Ohio, using part of the road built by Ebenezer Zane By this time the older part of the road was badly in need of repair Control of the road was therefore turned over to the states through which it passed, where tolls for maintenance were collected It was carried on to Vandalia, Ill , and finally to St Louis The old route is followed closely in the National Road of today (U S Highway 40) At points on the road copies of a statue called the *Madonna of the Trail* have been erected to honor the pioneer women who went west over the National Road See Philip D. Jordan, *The National Road* (1948)

National Socialism, political and social ideology of the National Socialist German Workers' party (Ger *Nationalsozialistische Deutsche Arbeiterpartei;* abbreviated as NSDAP) in GERMANY after the First World War It became the program of the totalitarian dictatorship (1933-45) of Adolf HITLER The term *Nazi* (nät'sē, nät'sē) was a derisive abbreviation of National Socialist The nucleus of the party was the small German Workers' party, founded in 1918, which Hitler joined after moving to Munich Its chief theoretician then was Gottfried Feder, who advocated certain socialist reforms, such as state ownership of land and nationalization of banks, along with a strongly nationalist and antiparliamentarian program His was but one of the many extreme nationalist and militarist groups that sprang up in Germany in the midst of defeat, revolution, and unemployment Its earliest members were chiefly discontented war veterans (such as Hitler, Rudolf HESS, and Hermann GOERING), frustrated intellectuals (such as Alfred ROSENBERG, P J GOEBBELS, and, again, Hitler), and assorted riffraff (typically represented by Julius STREICHER) By demagogic appeals to latent emotions—ANTI-SEMITISM, fear of Communism, and resentment against the Treaty of Versailles—the party soon gained considerable following The bulk of the party throughout its phenomenal growth was the lower middle class, which had lost its savings in the war and the inflation and faced the prospect of being wiped out altogether in the economic crisis that began in 1929 Though it called itself a workers' party, it had relatively few members among the working class, and these were for the most part unemployed workers The NSDAP, reorganized in 1920 with Hitler at its head, gained the support of such war heroes as LUDENDORFF and of several industrialists who saw in Hitler an instrument for undermining the Social Democratic regime in Germany The fiasco of the Munich "beer-hall putsch" (for details, see HITLER, ADOLF) in 1923 only temporarily disrupted the party, which made tremendous gains after the depression began Hitler, during his brief detention after the 1923 putsch, wrote the bible of National Socialism—*Mein Kampf* An irrational amalgam of half-digested philosophical, scientific, social, political, and economic ideas, *Mein Kampf* in fact superseded the program of Gottfried Feder, who became a mere mouthpiece whenever Hitler sought to win the more rational segment of his audience The socialist features of the program virtually disappeared and were replaced by what was called the National Socialist *Weltanschauung,* with some important borrowings from Italian FASCISM As an ideology, National Socialism can be reduced to two basic principles—the principle of racial inequality and the leader (Ger *Führer*) principle In Nazi racial doctrine each race has its characteristics that can be scientifically determined, on this basis peoples can be classified into superior and inferior races The highest racial type is the Nordic or Germanic type of the "Aryan" race, Negroes and Jews occupy the bottom rungs of the racial ladder Intermarriage of a superior with an inferior racial type contributes to the deterioration of the superior race Jews, according to the doctrine, are the greatest threat to Aryan racial purity Their influence was represented as a consistently malignant and destructive force Marxism international finance, and Freemasonry were all Jewish devices to dominate the world The international Jewry was responsible for the humiliation of Germany, and German Jewry was responsible for the German defeat in 1918 (According to National Socialist propaganda, Germany had won the war militarily, only to be betrayed by sinister elements within) It was up to the German people to awake to the danger, to overthrow the Jewish money oligarchy and to restore Germany to greatness in an empire (the "Third Reich") to last for a thousand years Both in Germany and abroad, the Hitler movement was sympathetically viewed by many non-Nazis because it regarded Soviet Russia as the major enemy of Aryan civilization and because a National Socialist Germany would form a bulwark against Communism Alfred Rosenberg, the major Nazi "philosopher," denounced Christianity as a Jewish creation, but Hitler hedged on that delicate point Toward the end of the regime, however, a blueprint for the eradication of the Christian churches was under consideration The leader principle was intimately linked with the race principle The "master race" was born to leadership of the inferior peoples A nation of rulers, warriors, and thinkers, the master race was destined to govern the inferior races and to live on their labor It was to be ruled itself by a hierarchy of leaders, who possessed the racial characteristics in the highest degree and who were headed by the infallible supreme *Führer* In its program of action National Socialism was not entirely based on racial theory Its success depended less on the truth of its ideological premises than on their propaganda appeal (In fact, serious modern science has totally rejected the concepts of racial inequality and racial purity) National Socialists were hostile to democratic equalitarianism not only because it conflicted with their racial doctrine, but also because it appeared to them as an invention to bolster the weak and the mediocre and to inhibit the strong and the dynamic Moreover, they regarded democracy as an inefficient tool for national aggrandizement In *Mein Kampf,* Hitler outlined his program with cynical frankness and detail The first step—to seize power in Germany—was to be accomplished by a "legal revolution," i e , by using parliamentary methods to end parliamentarianism The next step was the creation of a totalitarian state, entirely controlled by Hitler through his party Next, taking advantage of the weakness of the "decadent" Western democracies, Germany was to break one by one the clauses of the Treaty of Versailles, United and once more in possession of a strong war machine, Germany then could—either by intimidation or actual aggression—reunite all German-speaking peoples in its fold (see PAN-GERMANISM) and embark on its venture for world hegemony In his plans for expansion—which he followed fairly consistently—Hitler leaned heavily on GEOPOLITICS, the science invented by Karl HAUSHOFER In terms of geopolitics, Germany as a young and dynamic nation was entitled to more "living space" than the Treaty of Versailles had allotted it The party organization itself was an essential feature of National Socialism From Communism, Hitler borrowed the cell system and hierarchic party discipline From Fascism, he took the idea of a uniformed party militia or private army The mass of the militia was the brown-shirted SA (abbreviation of *Sturmabteilung,* or storm troops) The elite, originally Hitler's bodyguard, was the SS (abbreviated form of *Schutzstaffel,* or security echelon), which adopted a black uniform and the death's head insignia. The party had its own salute (the raised arm and the words *Heil Hitler!*), its symbol (the swastika), and its anthem (the *Horst Wessel Lied,* celebrating the murder, allegedly by Communists, of an SA man named Horst Wessel actually a procurer killed in a brawl) The ceremonial, mass meetings, and military trappings proved effective propaganda means and were symptomatic of Nazi mentality The militia was outlawed by Chancellor Brüning, but Chancellor Franz von PAPEN lifted the prohibition in 1932, when the Nazi party became the largest single German party Thousands of brown shirts suddenly appeared in the streets and acts of violence multiplied When Papen fell short of a parliamentary working majority, the Reichstag was dissolved and a new election ordered At that time Hitler obtained much-needed financial aid at a secret conference with a group of Rhenish industrialists and bankers His language to the masses and his promises to his capitalist paymasters differed widely Seeing the last shreds of their socialistic program abandoned, members of the left wing of his party, led by the brothers Gregor and Otto Strasser, resorted to open rebellion against Hitler's leadership Hitler succeeded in crushing them In Jan , 1933, after the resignation of Chancellor Kurt von SCHLEICHER, Hitler was appointed chancellor by President HINDENBURG, who was advised by a powerful reactionary cabal The REICHSTAG fire, shortly before new elections were held in March, 1933, furnished Hitler with a pretext for expelling the Communist deputies, a few weeks later, the Reichstag voted dictatorial powers for Hitler The "legal revolution" was completed The NSDAP was made the sole legal party, and in June, 1934, Hitler made his hold over his own party complete by the famous "Blood Purge," in which the remnants of the left wing were liquidated Ernst Rohm, leader of the SA and one of the oldest party members, was among those killed The hopes of Hitler's capitalist and monarchist backers were disappointed when Hitler, whom they had regarded as their tool, proved their master However, although the state took control of the entire national economy, the owners of private enterprise continued to reap benefits On the other hand, labor unions were abolished and replaced by an all-inclusive National Socialist labor organization, headed by Robert Ley—in fact, labor lost all its rights and was regimented even in its recreational activities by the "Strength through Joy" movement Not only labor, but also youth, schools, and the press were "coordinated" (Ger *gleichgeschaltet*) under party control The introduction of compulsory labor service for young men after leaving school was a preliminary step to the revival of compulsory military training (1936) The sovereign rights of the German states having been abolished in 1934, Germany was divided into party districts (Ger *Gaue*), the gauleiter [district leaders] for all practical purposes superseded state governments Even Germans abroad were placed under the jurisdiction of a gauleiter Justice was reorganized and people's courts were organized to deal with political offenses Anti-Semitic legislation (the Nuremberg Laws) forbade intermarriage with Jews, deprived Jews of civic rights, and barred Jews from the liberal professions A concordat (1933) with the Vatican was honored mainly in the breach, and Catholic opposition was severely persecuted A "German Christian Church" was set up by Hitler with the purpose of gaining control over the Protestant churches and Pastor Martin NIEMOELLER, who led the Protestant opposition, was arrested In 1936 a four Year Plan, directed by Goering, was instituted to rearm Germany The attempt to establish autarchy (economic self-sufficiency), a major plank in the National Socialist economic program, resulted in severe currency restrictions and in the production of *ersatz* (substitute) articles for consumer goods However, unemployment disappeared, large public projects (such as strategic highways and huge stadia) were completed, and an industrial boom began The undeniable economic recovery and the success of Hitler's foreign policy (see GERMANY) gave the National Socialist state the overwhelming support of

the Germans Leftist opposition had been eradicated from the outset by the Gestapo (see SECRET POLICE and CONCENTRATION CAMP) In 1936 Heinrich HIMMLER, leader of the SS, also took over the secret police His methods were responsible for the extermination of millions of Jews, Poles, Russians, and others during the Second WORLD WAR The war was a direct result of National Socialist aggression Its end in 1945 brought the collapse of the Nazi regime. The collective insanity that had seized the larger part of the German people manifested itself during the peak of Nazi domination in organized atrocities as well as in such eccentric experiments as human stock breeding to perfect the Nordic type With defeat in prospect, opposition inside Germany gained strength, and during the last months of their lives Hitler and Himmler kept their power only by using the very terroristic measures in Germany they had applied in conquered countries In 1945 the Allied occupation authorities in Germany and Austria outlawed all Nazi organizations and tried the surviving Nazi leaders for WAR CRIMES German "denazification courts," under Allied supervision, were set up to weed out former Nazis from public life, but their efforts were often halfhearted More or less secretly, Nazism lingered on It had also found many adherents and sympathizers outside Germany In AUSTRIA, the National Socialist party was powerful, but it was kept in check until 1938, when German pressure resulted in the inclusion of its leader, SEYSS-INQUART, in the Austrian government and brought the subsequent annexation of Austria by Germany In Czechoslovakia, the Nazis formed the Sudetendeutsche Partei (see SUDETES), whose agitation was a prelude to the MUNICH PACT In Norway, the followers of QUISLING betrayed their country to the Germans The party of Jacques DORIOT in France, the Rexists in Belgium, the IRON GUARD in Rumania, the Hungarian National Socialists, and the German-American *Bund* in the United States were all affiliated to some extent with the Nazi movement Many parallels have been drawn between Nazism and Stalinist Communism, yet, although the two systems share certain features common to any kind of TOTALITARIANISM, they are at opposite poles in their ideologies and their stated aims Many have been forerunners of National Socialism in GOBINEAU, H S. CHAMBERLAIN, Richard Wagner, NIETZSCHE, and others The dead cannot answer, but a simple examination of the writings of these men should prove that the use made of them by Nazi ideologists was a distortion of their ideas (particularly in the cases of Wagner and Nietzsche) See Gottfried Feder, *Hitler's Official Programme and Its Fundamental Ideas* (1934), Konrad Heiden, *A History of National Socialism* (1934), F L Schuman, *The Nazi Dictatorship* (1936), Henri Lichtenberger, *The Third Reich* (1937), Hermann Rauschning, *The Revolution of Nihilism* (1939), *The Voice of Destruction* (1940), and *The Conservative Revolution* (1941), W M McGovern, *From Luther to Hitler* (1941), Franz Neumann, *Behemoth the Structure and Practice of National Socialism* (1942), E A Tennenbaum, *National Socialism vs International Capitalism* (1942), Otto Nathan and Milton Fried, *The Nazi Economic System* (1943)

National Trust, British association to preserve for the nation places of natural beauty or buildings of architectural or historic interest in the British Isles, founded 1894, chartered 1895 By act of Parliament (1907) the Trust was empowered to acquire land inalienably and to be exempt from duties on property given or willed In 1934 the Trust received special powers to protect by covenant privately owned property The owner retains such property and its income, but may neither build on it nor alter its use without permission The Trust owns over 115,000 acres and protects by covenant over 40,000 acres See J DIXON-SCOTT, *England under Trust* (1937), James Lees-Milne, ed , *The National Trust* (1945)

National University, at Manila, founded 1900 as the Colegio Filipino. It was reorganized (1905) as the Colegio Mercantil and again (1916) as the National Academy, it was incorporated under its present name in 1921 The first nonsectarian university in the Philippines, it has colleges of liberal arts, commerce, dentistry, education, engineering, law, and pharmacy The university was closed during the Japanese occupation in the Second World War, but reopened in July, 1945

National Youth Administration, established in 1935 by the U S Congress. At first within the Works Progress Administration, it was transferred in 1939 to the Federal Security Agency and was placed in 1942 under the War Manpower Commission until that organ was abolished (1948). Aubrey W Williams was its director, and Josephine A Rocke was chairman of the executive committee Created in a period of widespread unemployment, the NYA at first engaged in getting part-time work for unemployed youths As unemployment decreased and war approached, emphasis was gradually shifted to training youths for war work until, early in 1942, all NYA activities not contributing to the war effort were dropped The agency was increasingly

National Parks

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Acadia	S Maine	1919	28,309 68	Mountain and coast scenery. See MOUNT DESERT ISLAND
*Big Bend	W Texas	1944	691,978 95	Canyons and desert plain
Bryce Canyon	SW Utah	1928	36,010 38	Box canyon with fantastic and beautifully colored walls
*Carlsbad Caverns	SE N Mex	1930	45,526 59	Great limestone caverns
*Crater Lake	SW Oregon	1902	160,290 33	Very blue lake in crater
Everglades	S Florida	1947	341,969 00	Saw-grass prairies and mangrove forests See EVERGLADES
General Grant				See KINGS CANYON NATIONAL PARK
*Glacier	NW Mont	1910	997,695 04	Rocky Mt region of glaciers, forests, and lakes
*Grand Canyon	NW Ariz	1919	645,295 91	Tremendous gorge of the Colorado river, remarkable for formations and coloring
*Grand Teton	NW Wyo	1929	94,892 92	Most scenic portion of the Teton Range
Great Smoky Mountains	W N C , E Tenn	1930	461,003 79	Wild, beautiful area See GREAT SMOKY MOUNTAINS
*Hawaii	T H	1916	173,404 60	Volcanic region, with two active volcanoes
*Hot Springs	SW central Ark	1921	1,019 13	Mineral hot springs
Isle Royale	N Mich	1940	133,838 51	Forested island, the largest in Lake Superior, with moose herd
*Kings Canyon	E Calif	1940	452,824 82	Beautiful Kings river canyons, sequoias
*Lassen Volcanic	N Calif	1916	103,429 28	Mt Lassen, only active volcano in United States proper
*Mammoth Cave	S Ky.	1936	50,695 73	Underground passages with beautiful limestone formations
Mesa Verde	SW Colo	1906	51,017 87	Well-preserved prehistoric cliff dwellings See CLIFF DWELLERS
*Mount McKinley	central Alaska	1917	1,939,319 04	Highest peak in North America, 20,300 ft high, glaciers
*Mount Rainier	SW central Wash	1899	241,524 77	Some 26 active glaciers
Olympic	NW Wash	1938	846,765 66	Rain forests and glaciers See OLYMPIC MOUNTAINS
Platt	S Okla	1906	911 97	Sulphur and other cold mineral springs
*Rocky Mountain	N central Colo	1915	252,788 28	Many snow-capped peaks over 10,000 ft high
*Sequoia	central Calif	1890	385,100 13	Groves of giant sequoias, Mt Whitney, Kern river canyon
*Shenandoah	N Va	1935	193,472 98	Forested mountains of the Blue Ridge, Skyline Drive
Wind Cave	SW S Dak	1903	26,576 15	Limestone caverns in the Black Hills
*Yellowstone	Wyo , Mont , Idaho	1872	2,213,206 55	Geysers, Yellowstone canyon, falls, great wildlife sanctuary
*Yosemite	central Calif	1890	756,440 62	Beautiful mountain region with Yosemite Valley
*Zion	SW Utah	1919	94,241 06	Multicolored gorge in desert and canyon region

National Historical Parks

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Abraham Lincoln	central Ky near Hodgenville	1939	116 50	Traditional birthplace cabin on site of Lincoln's birthplace
Chalmette	SE La	1939	33 25	Part of scene of battle of New Orleans in War of 1812
*Colonial	SE Va	1936	7,129 00	Historic Yorktown, Jamestown, Williamsburg, and Cape Henry
Morristown	N N J	1933	958 37	Washington's headquarters See MORRISTOWN
Saratoga	E N Y.	1948	2,087 59	Scene of American victory over British in American Revolution See SARATOGA CAMPAIGN

National Monuments

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Ackia Battleground	NE Miss	1938	49 15	See TUPELO
Andrew Johnson	NE Tenn in Greenville	1942	17 08	President Johnson's home, tailor shop, and grave
Appomattox Court House	central Va	1940	968 25	Scene of Lee's surrender to Grant. See APPOMATTOX
Arches	E Utah near Moab	1929	33,929 94	Giant arches formed by erosion
Aztec Ruins	NW N Mex near Farmington	1923	27 14	Ruins of 12th-century Indian town
Badlands	SW S Dak	1939	122,972 46	See BADLANDS
Bandelier	N N Mex near Santa Fe	1916	27,048 89	Ruins of prehistoric Indian homes.
Big Hole Battlefield	SW Mont	1910	200 00	Scene of attack by U S soldiers on Chief JOSEPH
Black Canyon of the Gunnison	SW Colo near Montrose	1933	13,176 02	Deep, narrow canyon of the Gunnison river.

*See separate article for additional information For example, for Big Bend, see BIG BEND NATIONAL PARK, for Death Valley, see DEATH VALLEY NATIONAL MONUMENT.

National Monuments (Continued)

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Cabrillo	S Calif on San Diego Bay	1913	0 50	Memorial to Juan Rodrígues Cabrillo
Canyon de Chelly	NE Ariz	1931	83,840 00	Red sandstone canyons with many cliff dwellings
Capitol Reef	S Utah	1937	33,068 74	20-mile-long sandstone cliff
Capulin Mountain	NE N Mex E of Raton	1916	680 42	Huge cinder cone of recently extinct volcano
Casa Grande	S Ariz E of Casa Grande	1918	472 50	Casa Grande [big house] in ruins of prehistoric villages
Castillo de San Marcos	NE Fla	1924	18 51	Old masonry fort See SAINT AUGUSTINE
Castle Pinckney	SE S C	1924	3 50	Part of the early defenses of Charleston harbor See CASTLE PINCKNEY
Cedar Breaks	SW Utah near Cedar City	1933	6,172 20	Amphitheater (2,000 ft deep) formed by erosion
Chaco Canyon	NW N Mex S of Farmington	1907	18,039 39	Important Indian ruins.
Channel Islands	Off S Calif	1938	26,819 26 (land and water area)	Including Santa Barbara and Anacapa islands, fossils, sea lions
Chiricahua	SE Ariz	1924	10,529 80	Curious rock formations—pillars, balanced rocks, fantastic figures
Colorado	W Colo near Grand Junction	1911	18,120 55	Huge monoliths, curious products of erosion
Craters of the Moon	S Idaho	1924	47,210 67	Volcanic cones, craters, fissure lava flows
Custer Battlefield	S Mont near Hardin	1946	765 34	Site of Custer massacre See LITTLE BIGHORN, river
*Death Valley	SE Calif , S Nev	1933	1,850,565 20	Lowest land area in North America with distinctive desert vegetation
Devil Postpile	central Calif , SE of Yosemite	1911	798 46	Basaltic columns, some 60 ft high
Devils Tower	NE Wyo	1906	1,193 91	Volcanic rock tower, rising c 1,280 ft from Belle Fourche river bed
Dinosaur	NE Utah, NW Colo , near Vernal, Utah	1915	190,798 49	Rich fossil quarries in fine condition, area of great scientific interest
El Morro	W N Mex	1906	240 00	Sandstone monolith, with inscriptions of Spanish explorers and early American emigrants
Father Millet Cross	W N Y near Niagara Falls	1925	0 01	Memorial cross to Father Pierre Millet, who erected cross on this site in 1688
Fort Frederica	Off SE Ga	1915	74 53	Ruins of fort built by James Oglethorpe See SEA ISLANDS
*Fort Jefferson	Off S Fla	1935	86 82	Building of this fort began in 1846
*Fort Laramie	E Wyo SE of Casper	1938	214 41	Buildings of old fort on the Oregon Trail
Fort McHenry	N Md	1939	47 64	Birthplace of the *Star-spangled Banner* See MCHENRY, FORT
Fort Marion				See SAINT AUGUSTINE
Fort Matanzas	NE Fla	1924	227 76	Spanish fort See SAINT AUGUSTINE
Fort Pulaski	SE Ga	1924	5,427 39	Fort on Cockspur Island See PULASKI, FORT
Fort Sumter	SE S C at Charleston	1948	2 40	Scene of engagement which opened the Civil War See SUMTER, FORT
Fossil Cycad	SW S Dak near Hot Springs	1922	320 00	Area in Black Hills containing fossilized plants
George Washington Birthplace	E Va near Fredericksburg	1930	393 68	Estate and reconstructed mansion See WAKEFIELD
Gila Cliff Dwellings	SW N Mex near Silver City	1907	160 00	Well-preserved cliff dwellings in 150-foot cliff
*Glacier Bay	SE Alaska	1925	2,297,597 73	Tidewater glaciers
Grand Canyon	NW Ariz	1932	196,051 00	Part of Grand Canyon including Toroweap Point
Gran Quivira	Central N Mex near Mountamair	1909	450 94	Ruins of Spanish mission and Indian pueblos
Great Sand Dunes	S Colo SW of Alamosa	1932	35,908 19	Large, high sand dunes in Sangre de Cristo Mts
Holy Cross	W central Colo	1929	1,392 00	Snow-filled crevasses, forming a cross
Homestead	SE Nebr near Beatrice	1939	162 73	Site of first farm claimed under Homestead Act of 1862
Hovenweep	SE Utah, SW Colo near Blanding, Utah	1923	299 34	Four groups of prehistoric pueblos and cliff dwellings
Jackson Hole	NW Wyo	1943	173,064 62	In the Teton Range See JACKSON HOLE
Jewel Cave	SW S Dak near Hot Springs	1908	1,274 56	Limestone caves, chambers connected by narrow galleries, in Black Hills
Joshua Tree	SE Calif near Indio	1936	687,031 60	Stand of the rare Joshua trees, a species of yucca
*Katmai	S Alaska	1918	2,697,590 00	Volcanic area, with the Valley of Ten Thousand Smokes

*See separate article for additional information For example, for Big Bend, see BIG BEND NATIONAL PARK, for Death Valley, see DEATH VALLEY NATIONAL MONUMENT

criticized for outgrowing its need, for competing with established educational institutions, and for hoarding of machinery and manpower. Its activities ceased on Jan 1, 1944.

Natron, Lake (nā'trun), 35 mi long and 15 mi. wide, E Africa, on the Tanganyika-Uganda border. It contains salt and soda deposits

Nattier, Jean Marc (zhā' märk' nätyā'), 1685-1766, French painter, son of the painter Marc Nattier His early works include historical and mythological subjects as well as portraits of Peter the Great and Catherine I of Russia After 1718 he rose to top rank as a fashionable portraitist and became official painter to the court of Louis XV and a favorite of the marquise de Pompadour He usually rendered his sitters in the guise of mythological characters and sought generalized effects of graceful elegance at the expense of characterization He is extensively represented in European museums Typical of his works is the portrait *Princesse de Condé as Diana* (Metropolitan Mus)

Natural Bridge, village, western Va , SW of Lexington, at the entrance to the Jefferson National Forest Not far is the famous Natural Bridge over Cedar Creek. The bridge is a limestone arch 215 ft high and has a span of 90 ft , it was once owned by Thomas Jefferson and is still privately owned

Natural Bridges National Monument see NATIONAL PARKS AND MONUMENTS (table)

natural gas, natural mixture of gases found issuing from the ground or obtained from specially driven wells Because of its inflammability and high calorific value, it is extensively used as an illuminant and a fuel It is produced and utilized in greatest quantity in the United States, in smaller amounts in Canada, Mexico, and parts of Europe and Asia Although commonly associated with the production of petroleum, it appears also at a distance from such fields in sand, sandstone, and limestone deposits The largest producers of the gas are Texas, Oklahoma, California, Louisiana, and West Virginia, but it occurs in quantity also in Arkansas, Colorado, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, Montana, New York, Ohio, Pennsylvania, South Dakota, Tennessee, Utah, and Wyoming The composition of natural gas varies in different localities Its chief component, methane, makes up usually from 80 to 95 percent, the balance being composed of varying amounts of other HYDROCARBON compounds, carbon dioxide, nitrogen, hydrogen, carbon monoxide, helium, and sometimes other gases, such as hydrogen sulphide The HELIUM content of the Texas wells is relatively high Some gasoline is obtained from the natural gas associated with petroleum In one process for gasoline extraction the natural gas is passed through oil and the gasoline is absorbed In another process the natural gas is first compressed and then allowed to expand, when a part of it liquefies and the gasoline is thus separated Natural gas was known to the ancients, but was considered by them to be a supernatural manifestation because, noticed only when ignited, it appeared as a mysterious fire bursting from fissures in the ground One of the earliest attempts to harness it for economic use occurred in the early part of the 19th cent in Fredonia, N Y Toward the latter part of the century large industrial cities began to make use of natural gas, and pipe lines were constructed to conduct the gas to these centers Now many pipe lines exist, some over 1,000 mi long, and the gas is used both in industry and for heating and lighting dwellings

Natural History, American Museum of see AMERICAN MUSEUM OF NATURAL HISTORY.

naturalization, official act by which one is made a national of a country other than his native one In some countries naturalized persons do not always become CITIZENS but may merely acquire a new NATIONALITY There is no such limitation in the United States, because the Fourteenth Amendment to the Constitution declares that "all persons born or naturalized in the United States" and subject to U S jurisdiction are citizens Article 1, Section 8, of the Constitution gives Congress the power to enact uniform naturalization laws These laws always provide for EXPATRIATION, i e , the renunciation of previous national allegiance Under the first American statute (1790) all unindentured white males who had lived in the United States for two years might become citizens The period of residence was lengthened to five years in 1795 and, in the stress of antiforeign feeling then prevalent, to 14 years in 1798 In 1802 it was reduced to five years, still the usual term The governing statute in the United States is the Nationality Act of 1940, it is administered by the Bureau of Immigration and Naturalization of the Dept of Justice (until 1940 the bureau belonged to the Dept of Labor) Only Negroes, white persons, native inhabitants of North and South America, Filipinos, Chinese (after 1943), and Asiatic Indians may be naturalized, all other Orientals are excluded (see IMMIGRATION). After two years' continuous lawful residence in the United States the prospectively eligible person may file a declaration of intention to become a citizen Two years later (but not before a total of five years of residence) a petition for naturalization may be submitted The

petitioner must meet several requirements, including the ability to read and to speak English, he must swear to support the Constitution and be of good moral character The actual conferring of citizenship is in most cases the action of a Federal court. Since 1922 alien women do not become U S citizens by marrying a citizen or by the naturalization of their husbands. Children under 18, however, become citizens automatically on the naturalization of the head of the family, usually the father The process of naturalization in some circumstances is shortened for members of the U S armed forces and for the wives of American citizens In addition to individual acts of naturalization, whole populations may be naturalized Examples are the conferring of U S citizenship on the citizens of Texas, Alaska, Hawaii, Puerto Rico, and the Virgin Islands

natural resources, conservation of see CONSERVATION OF NATURAL RESOURCES

natural rights, theory which maintains that man is born with certain inalienable and inherent rights which cannot be denied Although the existing concept of natural rights was formulated in the 17th and 18th cent, both the Greeks and the Romans held some ideas of natural rights as evidenced in the *jus gentium* of the Romans In the Middle Ages human rights were identified with the law of God because of the dominance of religion It was not until the decline of feudalism and the period of the Enlightenment that the doctrine began to be formulated The emphasis on natural rights as against divine rights did not indicate a break between divinity and nature The term "divine rights" was associated with clerical monopoly and the divine right of kings, therefore it was replaced by an expression which avoided connotations of royal and clerical prerogatives Liberty was thought of as the release of the individual from government oppression To achieve such a release it was necessary to assume that men were by nature sufficiently rational and good to govern themselves The essential freedoms that men sought were those that had been most commonly denied—opinion, economic enterprise, and self-government To achieve these freedoms men desired the rights of speech, worship, and public meeting An important addition to this list was made by John Locke when he proposed the rights of private ownership of property Rousseau, the leading propagandist of the doctrine of natural rights, supplemented the doctrine with the concept of SOCIAL CONTRACT The doctrine of natural rights was used as both cause and justification for the revolutionary movements on the Continent and in the United States in the 18th cent In the United States the writings of Thomas Jefferson and Benjamin Franklin and the pamphleteering of Samuel Adams promoted the growth of the doctrine of natural rights The chief codifications of the doctrine are the English Bill of Rights (1689), the bills of rights in American state constitutions, the French *Declaration of the Rights of Man and the Citizen* (1789), and the first 10 amendments to the Constitution of the United States (the so-called Bill of Rights, 1791) In more recent times the rise of National Socialism has threatened the theory of natural rights Nazi Germany was founded on the doctrine of the superior race, which refutes the basic position of natural rights In countries where the doctrine of natural rights is an accepted principle, two major difficulties with the doctrine have been reconciling the enumerated rights, e g , the antithesis between liberty and equality, and the violation of rights by legislative enactments, e g , voting restrictions See B F Wright, *American Interpretations of Natural Law* (1931), C L Becker, *The Heavenly City of the Eighteenth-Century Philosophers* (1932), Benedetto Croce and others, *Freedom Its Meaning* (ed by R N Anshen, 1940), Irwin Edman and H W Schneider, *Fountainheads of Freedom* (1941)

natural selection. see SELECTION

Nau, Jacques Jean David (shak' zhā' dāvēd' nō'), c 1630–1671, French pirate in the West Indies, b Sables d'Olonne, France He is also called François L'Olonnois He went to the West Indies in 1650 Expelled in 1653 from the Spanish colony of Santo Domingo for buccaneering activities, he found refuge on Tortuga, fitted out a vessel, and began plundering Spanish possessions His cruelty toward prisoners was bestial, and he was feared over the Spanish Main In a fight with the Spanish in Campeche all his men were killed, but Nau, disguising himself, watched the celebration of his death and then escaped in a canoe with a few French fugitive slaves Capturing a Spanish boat in a surprise attack off Cuba, he continued plundering, sacking Maracaibo in 1667 Wrecked by a storm in the Gulf of Darien, Nau was killed by the Indians.

Naucratis (nô'krutĭs), city of ancient Egypt, on the Canopic branch of the Nile 45 mi SE of Alexandria Before the rise of Alexandria and shifting of the Nile caused its decline, Greek "lords of the sea" made it under Amasis II the chief commercial city of Egypt The site has been excavated, revealing coins, inscribed pottery, and ruins of Greek temples

Naugatuck (nô'gutŭk), borough (pop 15,388), SW Conn , on both sides of the Naugatuck river below

National Monuments (Continued)

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Lava Beds	N Calif NE of Mt Shasta	1925	46,027 56	Examples of volcanic activity, scene of Modoc Indian war
Lehman Caves	E Nev near Ely	1922	640 00	Gray and white limestone caves, stalactites
Lewis and Clark Cavern				See MORRISON CAVE STATE PARK.
Meriwether Lewis	central Tenn near Hohenwald	1925	300 00	Grave of the leader of the Lewis and Clark expedition
Montezuma Castle	central Ariz S of Flagstaff	1906	783 09	Well-preserved cliff dwellings
Mound City Group	S central Ohio near Chillicothe	1923	57 00	Prehistoric Indian mounds
Muir Woods	W Calif near Mill Valley	1908	424 56	Grove of redwoods
Natural Bridges	SE Utah near Blanding	1908	2,649 70	Three sandstone bridges, one 222 ft high, with 261-foot span
Navajo	NE Ariz	1909	360 00	Ruins of several large cliff dwellings
Ocmulgee	central Ga near Macon	1936	683 48	Remains of mounds and prehistoric towns
*Old Kasaan	SE Alaska	1916	38 00	Site of abandoned Haida Indian village
Oregon Caves	SW Oregon S of Grants Pass	1909	480 00	Limestone caverns of beauty and variety
Organ Pipe Cactus	S Ariz W of Tucson	1937	328,161 73	Organ pipe cactus and other desert growth unique to the region
Perry's Victory Memorial	N Ohio NW of Sandusky	1936	14 25	Site of Oliver H Perry's victory in War of 1812 at Put in Bay
Petrified Forest	E Ariz E of Holbrook	1906	85,303 63	Petrified logs from Triassic period, part of the Painted Desert
Pinnacles	S Calif S of Hollister	1908	12,817 77	Rock spires 500–1,200 ft high, caves
Pipe Spring	NW Ariz near the Grand Canyon	1923	40 00	Spring first visited by Mormons, old fort; in Kaibab Indian Reservation
Pipestone	SW Minn near Pipestone	1937	115 60	Quarry here was source for Indian peace pipes
Rainbow Bridge	S Utah	1910	160 00	Pink sandstone arch, 309 ft high
Saguaro	SE Ariz near Tucson	1933	53,669 24	Saguaro, other cacti, and varied desert growth
Scotts Bluff	W Nebr near Scottsbluff	1919	2,196 44	Landmark on the Oregon Trail
Shoshone Cavern	NW Wyo near Cody	1909	212 37	Big cave with encrustations of crystals
*Sitka	SE Alaska near Sitka	1910	57 00	Site of an Indian defeat by the Russian settlers
Statue of Liberty	SE N Y	1924	10 38	See LIBERTY, STATUE OF
Sunset Crater	N Ariz near Flagstaff	1930	3,040 00	Red, yellow, and orange volcanic crater; ice caves, lava flows
Timpanogos Cave	N central Utah near Salt Lake City	1922	250 00	Limestone cavern on Mt Timpanogos
Tonto	S central Ariz near Roosevelt Dam	1907	1,120 00	Two well-preserved cliff dwellings at junction of Tonto Creek and Salt river
Tumacacori	S Ariz N of Nogales	1908	10 00	Mission founded by Eusebio F KINO, rebuilt by Franciscans
Tuzigoot	central Ariz near Clarksdale	1939	42 67	Excavated Indian ruins
Verendrye	NW N Dak	1917	253 04	Commemorates Vérendrye's explorations
Walnut Canyon	N Ariz near Flagstaff	1915	1,641 62	Cliff dwellings
Wheeler	SW Colo	1908	300 00	Pinnacles and gorges, carved by volcanic action and erosion
White Sands	S central N Mex near Alamogordo	1933	140,247 04	Wind-drifted gypsum sands, dunes 10–60 ft high
Whitman	SE Wash near Walla Walla	1940	45 84	Site of mission of Marcus WHITMAN
Wupatki	N Ariz N of Flagstaff	1924	34,853 03	Several prehistoric pueblos
Yucca House	SW Colo near Cortez	1919	9 60	Remains of prehistoric Indian village
Zion	SW Utah	1937	33 920 75	Examples of geologic phenomena, Hurricane Fault and colorful Kolob Canyon

National Military Parks

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Chickamauga and Chattanooga	NW Ga , E Tenn	1890	8,127 16	See CHATTANOOGA
Fort Donelson	N Tenn	1928	102 54	See DONELSON, FORT
Fredericksburg and Spotsylvania County Battlefields Memorial	N Va	1927	2,420 71	See FREDERICKSBURG, Va
Gettysburg	S Pa	1895	2,534 11	See GETTYSBURG, Pa

*See separate article for additional information For example, for Big Bend, see BIG BEND NATIONAL PARK, for Death Valley, see DEATH VALLEY NATIONAL MONUMENT

National Military Parks (Continued)

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Guilford Courthouse	central N C near Greensboro	1917	148 83	See GUILFORD COURTHOUSE, BATTLE OF
Kings Mountain	N S C	1931	4,012 00	See KINGS MOUNTAIN
Moores Creek	SE N C near Wilmington	1926	30 00	Battlefield in the American Revolution
Petersburg	SE Va	1926	1 324 62	See PETERSBURG Va
Shiloh	S Tenn	1894	3,729 26	See SAVANNAH, Tenn
Stones River	central Tenn	1927	323 86	See MURFREESBORO, Tenn
Vicksburg	W Miss	1899	1,323 56	See VICKSBURG, Miss

National Memorial Park

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Theodore Roosevelt	SW N Dak	1947	58,341 26	Part of Roosevelt's Elkhorn ranch, Badlands along Little Missouri river

National Battlefield Parks

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Kennesaw Mountain	NW Ga near Marietta	1947	3,094 21	See ATLANTA CAMPAIGN
Richmond	E Va	1944	684 44	See RICHMOND, Va

National Battlefield Sites

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Antietam	NW Md	1890	183 33	See ANTIETAM CAMPAIGN
Brices Cross Roads	NE Miss	1929	1 00	See BALDWYN, Miss
Cowpens	NW S C	1929	1 00	See COWPENS, S C
Fort Necessity	SW Pa	1931	2 00	See NECESSITY, FORT
Tupelo	NE Miss	1929	1 00	See TUPELO, Miss
White Plains	SE N Y	1926	00	Memorials mark position of Washington's army in battle of White Plains

National Memorials

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
House Where Lincoln Died	Washington, D C	1896	0 05	House refurnished in period of 1860s
Kill Devil Hill	NE N C	1927	314 40	Site of first air flight of Wright brothers See KITTY HAWK
*Lee Mansion	N Va	1925	2 71	Antebellum home of Robert E Lee
*Lincoln Memorial	Washington, D C	1911	0 61	Classical structure with heroic statue of Lincoln
Lincoln Museum	Washington, D C.	1866	0 18	Museum in building which housed Ford's Theatre where Lincoln was shot
*Mount Rushmore	SW S Dak	1929	1,668 27	Carvings of Washington, Jefferson Lincoln, and Theodore Roosevelt on Mt Rushmore
New Echota Marker	NW Ga near Calhoun	1930	0 92	Site of Cherokee capital
*Thomas Jefferson Memorial	Washington, D C	1934	1 20	Classical structure with Jefferson statue
*Washington Monument	Washington, D C	1848	0 37	Shaft, over 555 ft high

National Historic Sites

NAME	LOCATION	DATE EST	AREA (acres)	SPECIAL CHARACTERISTICS
Adams Mansion	E Mass at Quincy	1946	4 05	Home of John Adams, John Quincy Adams, and other members of the family
Atlanta Campaign	NW Ga	1944	20 96	See ATLANTA CAMPAIGN
Federal Hall Memorial	SE N Y in New York city	1939	0 49	Site of the first seat of the Federal government, where Subtreasury Building now stands
Fort Raleigh	Off NE N C	1941	16 45	Place of first attempted settlement by English See ROANOKE ISLAND
Hampton	N Md near Baltimore	1948	43 30	Georgian mansion of late 18th cent
Home of Franklin D Roosevelt	E N Y at Hyde Park	1944	33 23	Birthplace and home of President Roosevelt
*Hopewell Village	SE Pa near Birdsboro	1938	848 06	Iron-making village of 18th and early 19th cent
Jefferson National Expansion Memorial	E Mo	1935	82 58	Commemorating westward exploration and settlement See SAINT LOUIS, Mo
Manassas National Battlefield Park	NE Va	1940	1,604 57	Civil War See BULL RUN
Old Philadelphia Custom House	SE Pa	1939	0 79	Designed by Latrobe, structure housed second Bank of the United States, later the Philadelphia Custom House
Salem Maritime	NE Mass	1938	8 61	Wharf and old buildings important in seafaring days in Salem
San Juan	Puerto Rico	1949	c 40 00	Oldest fortifications within limits of U S. territory, begun by Spanish in the 16th cent
Vanderbilt Mansion	E N Y at Hyde Park	1940	211 65	Formerly the palatial home of a grandson of Cornelius Vanderbilt

*See separate article for additional information For example, for Big Bend, see BIG BEND NATIONAL PARK, for Death Valley, see DEATH VALLEY NATIONAL MONUMENT.

Waterbury; settled 1702, inc 1893, coextensive with Naugatuck town, inc 1844 Iron and rubber products are made, Charles Goodyear had established a rubber plant here in 1843 School, library, and other buildings were designed by McKim, Mead, and White.

Naugatuck, river rising in NW Connecticut and flowing S to the Housatonic at Derby Many manufacturing centers are along its banks.

Nauheim, Germany see BAD NAUHEIM

Naum (nä'ŭm), name in the gospel genealogy Luke 3 25

Naumann, Friedrich (frē'drĭkh nou'man), 1860–1919, German politician A Lutheran pastor, he renounced (1894) the ministry to enter politics He was a founder (1896) and the first president of an association which, though called the National Socialist party, had nothing in common with Hitler's party As a member of the Reichstag (1907–12, 1913–18), he favored liberal legislation Naumann founded and edited the political weekly, the *Hilfe* He was the author of *Mittel-Europa* (1915, Eng tr , *Central Europe*, 1916), perhaps the most significant work of the Pan-German movement

Naumburg (noum'bo͝ork), city (pop 41,379), in the former Saxony prov of Prussia, E central Germany, on the Saale, between Weimar and Halle It is the center of a wine-producing region Dating from the 11th cent , it has retained parts of its medieval walls and a beautiful cathedral (13th-14th cent) with some of the finest sculptures of the German Gothic period

Naupaktos (nôpăk'tŭs), Latin *Naupactus*, town (pop 5,494), W central Greece, a port on the Gulf of Corinth Captured (456 B C) by the Athenians, Naupaktos was an important Athenian naval base in the Peloponnesian War It declined but again rose to commercial importance in the Byzantine Empire Known also as Lepanto in medieval and modern times, it came under Venetian rule in 1407 and under the Turks in 1499 A major naval victory of the Holy League over the Turks took place off Naupaktos in 1571 (see LEPANTO, BATTLE OF) From 1687 to 1699 the port was again held by Venice It fell to the Greek insurgents in 1828

Nauplia (nô'plē-u), Gr *Nauplion* or *Navplion* (both naf'plē-ŏn), town (pop 7,960), S Greece It is a port and commercial center on the east coast of the Peloponnesus It was held by Venice from 1388 to 1540 and again from 1866 to 1715 It was the first capital of independent Greece from 1830 to 1834, when it was superseded by Athens

Nauru (nä-o͞o'ro͞o), atoll (8 sq mi , pop 2,855), central Pacific, 1,300 mi NE of Australia It was discovered in 1798 by the British and annexed in 1888 by Germany Occupied in the First World War by Australian forces, it was placed (1920) under mandate and later (1947) under United Nations trusteeship held jointly by Great Britain, Australia, and New Zealand Throughout the Second World War the island was occupied by the Japanese It is important for its large and rich phosphate deposits, which form the bulk of the central plateau The island was formerly called Pleasant Island

nausea (nô'shu, nô'sē-u), a qualmish sensation felt in the region of the stomach, accompanied by general weakness and increased flow of saliva and usually followed by VOMITING Where nausea is caused by fright, vomiting may be prevented by lying down If often precedes fainting and may serve as a timely warning to lie down Some types of nausea are relieved by vomiting, especially where irritant food in the stomach is the cause

Naushon (nôshŏn'), island, 7 mi long, off SE Massachusetts, largest of the Elizabeth Islands Buzzards Bay washes its northwest shore In the Second World War it was turned over to the army for maneuvers

Nausicaä (nôsĭ'kā-ē), in the *Odyssey*, princess of Phaeacia She was the beautiful daughter of Alcinoüs and Arete When she found Odysseus shipwrecked near her home, she conducted him to her father's court Here she helped her father entertain him

nautch (nôch), dance performed in India by nautch girls, low-caste girls who dance at the temples It is characterized by slow, fluid undulatory movements, erotic posturing of the body, and little use of the feet

Nautical Almanac, annual publication by the British Admiralty issued four years in advance of the dates covered and containing information specially prepared for use by astronomers and navigators It contains ephemerides of the principal heavenly bodies, including the times of the sun's meridian adapted to the Greenwich meridian, tables and calculations of the tides, data on eclipses, and many other calculations and tables The first edition of the *Nautical Almanac* was published in 1767 It is a book of precise information of constant use to the astronomer, and by its aid the navigator is able to find his way across the seas, since from it he can obtain the position of the sun, the moon and the planets at a given latitude and longitude at any day or hour of the year In the United States the Bureau of Navigation publishes a similar

book, the *American Ephemeris and Nautical Almanac*, in three parts—the ephemeris for the Greenwich meridian, the ephemeris for the meridian at Washington, and predictions of phenomena with information for their observance. It was first published in 1855 The *American Nautical Almanac*, compiled for the special use of navigators, is composed of portions of the *American Ephemeris and Nautical Almanac* and is adapted to the Greenwich meridian Germany, France, and Spain publish similar almanacs

nautilus (nô'tĭlŭs), name used to refer to two cephalopods of the mollusk phylum The genus *Nautilus* is represented by the pearly or chambered nautilus found in the S Pacific and known to many through Oliver Wendell Holmes's poem "The Chambered Nautilus " The spiral shell secreted by the mantle consists of a series of chambers Each outgrown chamber is walled off by a septum, and the animal's body is enclosed in the largest and newest chamber A tubular elongation of the body extends through the septa to the apex of the shell The paper nautilus or argonaut is found in most warm waters It is related to the octopus and is not a true nautilus A delicate shell-like structure used to hold the eggs is secreted by the skin of one pair of arms in the female only The male is much smaller than the female

Nauvoo (nôvōō'), city (pop 1,088), W Ill , on heights overlooking a bend in the Mississippi and N of Keokuk, Iowa, settled shortly after 1830 as Commerce, occupied and renamed 1839 by the MORMONS under Joseph SMITH, inc 1841 The city reached its most prosperous and populous state under the Mormons, with about 20,000 inhabitants After Smith and his brother were killed by a mob in Carthage jail in 1844, the group left Illinois for Utah (1846) A colony of French communists (the Icarians) under Étienne CABET occupied the city in 1849, but the settlement broke up in 1856 because of internal disagreements Smith's house, part of an old hotel, and other old buildings are still standing The city is a farm trade center, with grape and dairy products

Navaho Indians or **Navajo Indians** (both nä'vuhō), tribe of North American Indians of the Athapascan linguistic stock At some time in the distant past a band of Navaho migrated from the north to the Southwest area Here they assimilated other groups—notably Pueblo, Shoshone, and Yuma—a fact which may account for the wide variety of physical features among them Thus the Navaho are a composite group with over 50 separate clans In the 17th cent they occupied the region between the San Juan and Little Colorado rivers in NE Arizona but they ranged far outside that territory The Navaho were a predatory tribe who (often in alliance with their relatives, the Apache) constantly raided the PUEBLO INDIANS, and after Spanish settlement of New Mexico, the Mexicans When the Americans occupied (c 1846) New Mexico, the Navaho pillaged them They even killed the first American Indian agent sent to them Punitive expeditions against the Navaho were only temporarily successful until Kit Carson, by destroying the Navaho's sheep subdued them in 1863–64 A majority of the tribe was imprisoned for four years at Fort Sumner in New Mexico In 1868 they were released from prison and given a reservation of some 16,000,000 acres in NE Arizona, NW New Mexico, and SE Utah and a new supply of sheep The Navaho then numbered some 9,000 Since that date they have remained a peaceful and industrious people and have been steadily increasing in number Today there are some 61,000 of them The Navaho were a nomadic tribe of the Southwest area In winter they lived in earth-covered lodges and in summer in brush shelters They farmed (corn and beans), hunted (deer, elk, and antelope), and gathered wild vegetable products After sheep were introduced (early 17th cent) by the Spanish, sheep raising superseded hunting and farming Thus the Navaho became a pastoral people They have adopted many peaceful arts—from the Mexicans metalworking, from the Pueblo Indians weaving With crude tools they make expert turquoise and silver finger rings, and with primitive looms they weave brightly colored blankets which are famous for their beauty Navaho religion is elaborate and complex, with many deities, songs, prayers, and chants and numerous colorful ceremonies, such as the squaw dance and the night chant. Their vast mythology includes a creation myth which states that Esdzanadkhi (probably Mother Earth) created man In recent years the Navaho have become victims of soil erosion caused by the flocks, which have overgrazed the fields The U S government has tried to reduce the size of the flocks but to no avail A policy of placing some Navaho in private and public industry has been suggested For a fictional account of Navaho life, see Oliver La Farge, *Laughing Boy* (1929) See Dane Coolidge and M B Coolidge, *The Navajo Indians* (1930), Clyde Kluckhohn and Dorothea Leighton, *The Navaho* (1947)

Navajo National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Naval Academy, United States: see UNITED STATES NAVAL ACADEMY.

naval architecture, the science of designing a SHIP. A naval architect must consider especially the following factors floatability, the ability of the ship to remain afloat while meeting the requirements of the vessel's service under normal and abnormal weather and water conditions, or after being damaged by collision or grounding, strength, for the vessel must be structurally sound to meet the class of trade she is intended for, stability, the capability of the vessel to return to an upright position, after being inclined by wind, sea, or conditions of loading, speed, which is affected by the outline of the hull and the type of engines, boilers, and propellers, steering, the design of the rudder and the hull structure to effect efficient turning, rolling and pitching motions and their effect on the structure, living conditions, including adequate ventilation and natural lighting, and the arrangement of the structure and equipment to facilitate handling of cargoes The design of WARSHIPS involves many problems not met with in merchant-ship design Heavy concentrated loads in the form of gun turrets, the protective armor, and other factors make warship design a field in itself The three principal plans made for the construction of a ship are the sheer plan, a profile of the ship, showing the outline of the intersection of a series of vertical longitudinal planes with the shell of the ship and including the location of the transverse bulkheads, decks, and main structures, the body plan, a view showing sections made by vertical transverse planes, and the half-breadth plan, indicating the outline of a series of horizontal longitudinal planes In addition, there are, of course, innumerable general and detail drawings made, which include all the internal and external equipment

naval conferences, series of international assemblies, meeting for consideration of the rules of naval warfare, the limitation of armaments, and related topics. The *London Naval Conference* (1908–9), composed of delegates of 10 naval powers convened at the invitation of the British government to reach an agreement on the establishment of an International Prize Court, resulted in the Declaration of London (see LONDON, DECLARATION OF), which, though unratified, greatly influenced international law Desire to limit armaments and to promote better relations among the Pacific naval powers led President Warren G Harding to call the *Washington Conference* (1921–22), which was attended by Great Britain, Japan, Italy, France, the United States, China, the Netherlands, Portugal, and Belgium Several treaties resulted The Five-Power Treaty limited tonnage of aircraft carriers and capital ships (war vessels with tonnage in excess of 10,000 tons displacement or carrying a gun of more than 8-inch caliber) through quota allotments and through provision for scrapping ships already built or planned Great Britain and the United States were each entitled to 525,000 tons of capital ships, Japan was to have 315,000 tons, while France and Italy were each limited to 175,000 tons The respective ratio thus established was 5 5 3 1 67 1 67 The treaty limited aircraft carriers to 135,000 tons each for Great Britain and the United States, 81,000 tons for Japan, and 60,000 tons each for Italy and France No agreement could be reached concerning other types of ships, for the other powers refused to accede to the abolition of submarines, as urged by Great Britain, and the British, in turn, refused to agree to a limitation of destroyers Another five-power treaty provided that rules of warfare applying to surface ships should also govern submarines, and the same pact prohibited the use of poisonous gases In the Four-Power Pact, France, Japan, Great Britain, and the United States agreed "to respect their rights in relation to their insular possessions and insular dominions in the region of the Pacific Ocean " Prompt and frank exchange of communications was enjoined concerning action to be taken in the event that a nonsignatory power threatened aggression Though not a guarantee of the status quo, these agreements made possible the lapse of the Anglo-Japanese alliance, which was much criticized in the British dominions and the United States These treaties were to remain in force until Dec 31, 1936, unless terminated by a signatory upon two-years notice One of the most important of the conference treaties was that in which Great Britain, Japan, and the United States agreed to maintain the status quo as it regarded naval bases and fortifications in the W Pacific Two Nine-Power Treaties guaranteed the independence and territorial integrity of China and granted that country greater control over its tariff Other treaties signed were those between the United States and Japan, regarding cable rights on the island of Yap, and between Japan and China, providing for the return of Shantung to China Because naval competition was again manifesting itself in the construction of war vessels not limited by the Washington Conference, President Calvin Coolidge issued an invitation to the other naval powers to discuss the limitation of cruisers, destroyers, and submarines This *Geneva Conference* (1927) was a virtual failure, for France and Italy declined to accept the invitation, and Great Britain and the United States reached a deadlock on the cruiser problem While Britain was anxious to limit heavy cruisers, which were preferred by the United States, the British were unwilling to agree to the limitation of light cruisers The *London Conference* (1930) was an attempt to settle the problem of relative cruiser strengths The chief obstacles to its success were the French refusal to agree to parity with Italy and the French demand for political guarantees, to compensate for a smaller navy, which neither the United States nor Great Britain was ready to give As a result of this conflict, both Italy and France refused to sign the third and essential part of the treaty This section established tonnages on heavy cruisers, small cruisers, destroyers, and submarines for Japan, Great Britain, and the United States Japan won a 10 10 7 ratio in small cruisers and destroyers, while a 5 5 3 ratio was maintained in large cruisers, each nation was allowed a tonnage of 52,700 in submarines A so-called "escalator clause" gave each of the three powers the right to increase its tonnage if naval building of a nonsignatory nation threatened its security, provided the other signatories were notified and thus were entitled to proportionally increase their own fleets The rest of the treaty concerned all the naval powers By the first part the further construction of capital ships was deferred, the second part limited the displacement of submarines, the third part reiterated the principle that undersea craft must conform to the same rules of war as apply to surface vessels, and the last part provided that the treaty was to remain in force until Dec , 1936 (with the exception of the fourth part, the duration of which was indefinite) The same section stipulated the calling of another naval conference in 1935 However, the notice of Japan in 1934 of the intention to terminate the Washington Conference treaty resulted in another *London Conference* (1935), to which the United States, the British Empire, Japan, France, and Italy were invited Japan soon withdrew when Japanese demands for parity with Great Britain and the United States were rejected The remaining powers drew up an agreement providing for the annual exchange of full information about naval building plans and decided on a limitation of 8,000 tons for light surface craft (cruisers and destroyers) and 35,000 tons for capital ships Because of League of Nations sanctions, Italy refused to sign, but the remaining countries signed on March 25, 1936 Germany and the USSR accepted the general scheme of limitations in bilateral treaties with Great Britain in 1937 The refusal of Japan to reveal details of the building program, reported to be in excess of 35,000 tons, led the United States, Great Britain, and France to raise the limit on capital ships to 45,000 tons in 1938 With the outbreak of war in 1939 the treaties were completely abandoned See C P Howland, ed , *Survey of American Foreign Relations* for 1928, 1930, and 1931 (pub by the Council of Foreign Relations), F L Schuman, *International Politics* (1933, 4th ed , 1948), S F Bemis, 4 *Diplomatic History of the United States* (1936, 3d ed , 1950)

naval science see STRATEGY AND TACTICS

naval stores, trade term for the products obtained from the pine tree Old stumps and fallen branches as well as newly cut trees yield the products It originally included the masts and cordage of ships, but is now applied only to such materials as rosin, TAR, pitch, spirits of turpentine, and pine oil Most of the naval stores used in the world are produced in North and South Carolina, Florida, Georgia, Alabama, and Mississippi Naval stores are now used largely in the manufacture of soap, paint, varnish, shoe polish, lubricants, linoleum, and roofing material

Navan (nă'vun) or **An Uaimh,** urban district (pop 4,103), Co Meath, Ireland It is a manufacturing town at the confluence of the Boyne and Blackwater There are remains of the old town walls

Navarino, battle of (navärē'nō), 1827, naval battle resulting from the intervention of the European powers in the Greek War of Independence England, France, and Russia had demanded an armistice in the Greek-Turkish fighting This was refused by the Porte, and the three European powers sent their fleets to stop Egyptian reinforcements from landing in Greece In Sept , 1827, a large Egyptian fleet, with troop transports, commanded by Ibrahim Pasha, landed at PYLOS, then called Navarino, but the allied fleet commander, Admiral Sir Edward Codrington, persuaded Ibrahim to await further instructions from his father, Mohammed Ali of Egypt When the Greeks continued operations, Ibrahim disregarded the agreement, thereupon the allied ships entered the harbor of Pylos and made short shrift of the Egyptian fleet, which was bottled up and defenseless Its destruction helped to bring about the withdrawal (1828) of Mohammed Ali from the war in Greece

Navarre (nuvär'), Span. *Navarra* (nävä'rä), province (4,024 sq. mi., pop. 369,618), N Spain, border-

ing on France, between the W Pyrenees and the Ebro river. PAMPLONA is the capital Navarre and the BASQUE PROVINCES form together the region Vascongadas y Navarra The higher mountain slopes have extensive pastures, used for cattle raising, but most of the country is poor and sparsely populated The creation of hydroelectric plants is beginning to permit some industrial development In the Ebro valley there are vineyards The population of Navarre is largely of Basque stock, and the early history of the region is the history of the BASQUES The pass of RONCESVALLES, which leads from France to Navarre, gave the region great strategic importance throughout the ages The Basques defended themselves successfully against the Moorish invaders as well as against the Franks, the domination of Charlemagne, who conquered Navarre in 778, was short-lived In 824 the Basque chieftain Iñigo Arista was chosen king of Pamplona, which was expanded under his successors and became known as the kingdom of Navarre It reached its zenith under SANCHO III (1000–1035), who married the heiress of Castile and ruled over nearly all Christian Spain On his death the Spanish kingdoms were again divided among his sons García (reigned 1035–54) inherited Navarre On the death (1076) of his son, Sancho IV, Navarre was united with Aragon under the Aragonese line, but in 1134 it again became separate under García's descendants The kingdom at that time comprised the present province of Navarre, the Basque Prov (which it later lost to Castile), and, N of the Pyrenees, the district called Lower Navarre, now in France In 1234, on the death of Sancho VII, it passed to Sancho's nephew, Count THIBAUT IV of Champagne The crown remained with the house of Champagne until 1305, when on the death of Joan, queen of Navarre and countess of Champagne, it passed to her husband, King Philip IV of France (Philip I of Navarre) Louis X, Philip V, and Charles IV, the four last direct Capetian kings of France, were kings of Navarre as, respectively, Louis I, Philip II, and Charles I The Salic law did not apply to Navarre, which on Charles's death (1328) passed to his niece, Joan II She married Count Philip of Évreux Their son, CHARLES II or Charles the Bad, played an important part in the Hundred Years War and in the French civil troubles of the time The marriage of Blanche, heiress of Navarre, to JOHN II of Aragon made John master of Navarre in 1425 CHARLES OF VIANA, their son, succeeded (1442) on his mother's death, but was involved in civil war with his father, who outlived him John died in 1479 and his daughter, Leonora, who had married Count Gaston of Foix, succeeded to Navarre, she died in the same year and her son, Francis Phoebus of Foix, inherited the kingdom His sister and successor, Catherine, married Jean d'Albret, thus bringing the crown into the house of ALBRET, through which it passed to the Bourbon kings of France, beginning with Henry IV (king of Navarre as Henry III from 1572, king of France from 1589) The kings of France until Louis XVI carried also the title kings of Navarre In fact, however, Ferdinand V of Aragon occupied (1512) most of Navarre and annexed (1515) it (except Lower Navarre) to the Spanish crown Thus the kings of Spain until 1833 also carried the title kings of Navarre In 1833 Navarre sided with the Carlists and recognized Don Carlos as Charles III of Navarre, but in 1839 Isabella II was recognized as queen In the Middle Ages the prerogatives of the Navarrese kings were strongly limited by the Cortes Lower Navarre (the part retained by France) was united with Béarn into a French province, with its parlement at Pau It kept many of its privileges until the French Revolution, when it became part of Basses-Pyrénées dept

Navarre, rural village (pop 1,703), NE Ohio, on the Tuscarawas river and SW of Canton Sewer pipe is made here Near by are Fort Laurens State Park, on the site of a Revolutionary fort, and the Beach City and Bolivar flood-control dams

Navarrete, Juan Fernández (hwän' fĕrnän'dāth nävärrā'tā), 1526–79, Spanish religious painter, called El Mudo [the mute] He studied in a monastery and later in Italy, perhaps with Titian In 1568 he became court painter to Philip II, for whom he enriched the Escorial with eight fine altarpieces, among them *Nativity, Abraham and the Three Angels* (Escorial), and *Baptism* (now in the Prado) Through Navarrete, Venetian influence reached Spain

Navarrete, Martín Fernández de (märtēn' fĕrnän' dāth dā), 1765–1844, Spanish historian and hydrographer, b. La Rioja prov, Spain He entered (1780) the Spanish navy and later served against France (1793) and England (1794) He was in the navy department from 1796 and established its hydrographic office He was (1803–7) chief clerk and then became (1807) accountant of the tribunal of the admiralty After Napoleon took Spain, Navarrete refused office and retired (1809) Later he became (1823) director of the hydrographic office and in 1834 was named a member of the marine division of the Royal Council of the Indies In 1824 he became director of the Royal Academy of History. He is famous for his collection (1825–37) of the narratives of Spanish voyages of discovery of the late 15th and 16th cent He also wrote a biography of Cervantes (1819) and a maritime dictionary (1831)

Navarro, Madame de. see ANDERSON, MARY A.

Navarro, Tomás (tōmäs' nävä'rō), 1884–, Spanish philologist In 1909 he entered the National Archives and Library Service, becoming (1936) director of the National Library of Madrid Professor (1931–36) of phonetics at the Univ of Madrid, he became notable as an authority on the Spanish language His *Manual de la pronunciación española* (1918) is standard In 1940 he became professor of Spanish philology at Columbia

Navas de Tolosa (nä'väs dā tōlō'sä), city (pop 7,120), Jaén prov, S Spain, in Andalusia Here in 1212 ALFONSO VIII of Castile decisively defeated the Moors and obtained a hold upon Andalusia

Navasota (nă'vusō'tu), city (pop 6 138) E central Texas, near the confluence of the Navasota with the Brazos and NW of Houston The place was known to the Spanish, but the town grew about a stagecoach stop and was laid out in 1858 It is a shipping center for a diverse farming and lumbering region and has small industries A statue of La Salle commemorates the tradition that he was killed near Navasota

nave (nāv), in general, all that part of a church which extends from the atrium to the altar and is intended exclusively for the laity In strictly architectural sense, however, the term indicates only the central aisle, excluding side aisles The floor plan of a wide central portion with narrower aisles on either side existed in the typical HYPOSTYLE hall of Egyptian temples and later in the Roman civic basilicas From the latter it passed into the churches of the early Middle Ages and gradually to Gothic cathedrals The nave, in developed Gothic, became the main body of the structure, its vaulted roof borne high above the aisles on a slender masonry skeleton, transmitting its thrusts downward and outward through great piers and flying buttresses Internally the piers, rising the full height of the nave walls to carry the ribs of the four-part vault or SEXPARTITE VAULT, divided these walls into a series of bays in which three features, ground floor arcade, TRIFORIUM, and CLERESTORY, were evident, one above another Thus, the clerestory lighting, high above the aisle roofs, still related the Gothic nave to its original Egyptian and Roman prototypes The French Gothic cathedral (begun 1220) at Amiens contains a nave 140 ft high England's highest nave, at Westminster Abbey, is only 101 ft, and most English naves are much lower Monumental Renaissance churches, such as Saint Peter's Church and Saint Paul's Cathedral, have naves covered with classic barrel vaults and domes

navigable water, in the broadest sense, a stream or body of water which can be used for commercial transportation When, as in the early common law, the term is restricted to waters affected by tides it denotes only the open sea and tidal rivers In most of the American states the definition tends to be all-embracing and even includes streams which can be used only for logging and for small pleasure boats Each state determines what private use may be made of wholly intrastate navigable waters (see WATER RIGHT), but the Federal government alone has authority over navigable interstate and international waters In general, if the water is of restricted navigability, the right of public use is strictly confined to transporting goods and use of the water for irrigation, power, and the like is limited to the abutting owners

navigation In ancient times, navigation must have been by the guidance of the sun and stars and landmarks along the coast In classical times the Phoenicians were probably the most daring navigators They built large ships and traveled out of sight of land by day and by night They probably circumnavigated Africa The vikings often carried birds which were used to find land when no coast was visible A bird would be released and its flight watched, since the bird on rising to a higher altitude might sight land and naturally would fly towards it In England, Queen Elizabeth did much to establish navigation laws, giving additional powers to Trinity House, a guild which had been created in 1514 for the piloting of ships and the regulation of British navigation During this period hydrography was given much attention, and harbors and the outlets of rivers were surveyed and buoyed A tremendous advance in navigation had taken place with the introduction of the compass early in the 14th cent Early in the 15th cent there was progress by the Portuguese under the leadership of Prince Henry the Navigator, who built an observatory and formulated tables of the declinations of the sun, collected a great amount of nautical information, which he placed in practical form, made charts, and carried out expeditions which led to numerous discoveries With the development of shipbuilding and the increase in knowledge of astronomy, there was increased use of instruments The cross-staff was used early in the 15th cent. It consisted of two pieces of wood, the cross at right angles to, and sliding on, the staff. At each end of the 26-inch cross a small hole was bored, and at the end of the staff a sight was fixed To measure the altitude of a heavenly body the instrument was sighted in that direction and the cross was moved forward or back until the heavenly body appeared through the upper hole and the horizon through the lower The altitude could then be read on a scale marked on the staff. Another device used for finding latitude was the ASTROLABE Both were far from accurate The navigating equipment carried by Columbus probably was simply a compass, a cross-staff, and a table of the sun's declination Vasco da Gama on his first voyage around the Cape of Good Hope in 1497 used the astrolabe Mercator's work in improving charts at the end of the 16th cent, the works of Martín Cortes during the same period, the determining of the earth's circumference, and the introduction of logarithms at the beginning of the 17th cent by Napier were all factors that did much to advance the intricate science of navigation However, up to the beginning of the 18th cent, while the quadrant was used to find latitude and the LOG line and half-minute glass employed to tell the distance traveled, the problem of finding the longitude had not been satisfactorily solved before the invention of the chronometer The appearance of the NAUTICAL ALMANAC in 1767 was a great step forward in navigation, and the 19th cent saw the development of books on navigation that far surpassed any earlier instructions, such as the standard book by Nathaniel Bowditch The system of DEAD RECKONING (i.e., figuring the position from a landmark and the distance traveled) was refined, and the use of buoys and making of careful charts made navigation easier, while the fixing of positions by SEXTANT and astronomical charts was greatly improved The next great revolution in navigation, however, waited until well into the 20th cent when radio signals came into wide use The development of RADAR (including Loran) in the Second World War caused fundamental changes in navigational practice although their effects have not as yet been seen in the full Air navigation, the science of determining the geographical position of an aircraft and of maintaining its desired course relative to the earth's surface, is similar in principle to sea navigation It uses the same general methods, employed singly or in combination These include celestial navigation, accomplished by carefully timed sextant observations of celestial bodies, dead reckoning, by the use of knowledge of distances and directions traveled from an observed point of known location, piloting, by continuous observation of visible landmarks, radar navigation, by observation of a radarscope or other radar device, and radio navigation, by observation of radio bearings to broadcasting stations of known position

Navigation Acts, in British colonial history, name given to certain parliamentary acts more properly called the British Acts of Trade The acts were an outgrowth of MERCANTILISM, and they were a natural consequence of previous legislation restricting trade in the interest of the state The rise of the Dutch carrying trade, which threatened to drive English navigators from the seas, was the immediate cause for the Navigation Acts in the interregnum The Act of 1651 dealt comprehensively with British commercial policy, forbidding the importation of plantation commodities of Asia, Africa, and America except in ships owned, commanded, and for the most part manned by Englishmen As to European goods, they could be brought into England, Ireland, Berwick-upon-Tweed, and English possessions only in ships belonging to Englishmen or ships belonging to people of the country whence the cargo came, the country where the cargo was produced, or the country of the port of first shipment With the RESTORATION this act lost its validity, but it was substantially reenacted in the First Navigation Act of 1660 (confirmed by regular Parliament, 1661), which had as its aims the barring of foreigners from the English trade, the encouragement of English navigation, and the regulation of plantation trade to insure a balance of trade favorable to England The First Act further listed "enumerated" articles produced in the English colonies, these were to be supplied only to England and included such things as sugar, tobacco, cotton, indigo, ginger, and dyewoods Enumeration was partly to give England a secure monopoly of commodities she could not produce and partly to add to the revenue by taxing them when reexported from England This First Act was expanded and altered by the succeeding Navigation Acts of 1662, 1663, 1670, and 1673 In 1663 an important principle was formally added to the system, the policy of the staple, this required that all foreign goods shipped to the American plantations be shipped from English ports The system largely restricted the shipping to the English and compelled the importation of all goods into the colonies to be from England only and the exportation of many commodities to England alone There was considerable complaint from the colonies, especially the West Indies, and there was wholesale evasion, but all in all matters

seemed to progress without too much trouble. The Act to Prevent Frauds and Abuses, of 1696, is the last of the important Navigation Acts, all of them remained in force and were executed with more or less vigor The enumeration of articles was shifted to suit convenience. The Molasses Act of 1733 aroused some resentment, but for the most part smuggling was the cure for any colonial dissatisfaction Patriotic historians of the United States have decried the Navigation Acts as unjust and tyrannous and have argued that opposition to them was a major cause of the American Revolution There seems to be some question about this Thus, although the Act of 1696 granted customs officers the right of forcible entry, writs of assistance do not seem to have been used in the colonies until after 1750, and then they were used sparingly The vigorous attempt to prevent smuggling in the American colonies after 1765 awakened keen resentment The legislation had a much more unfavorable effect, however, upon the citizens of Ireland, Scotland (before the Act of Union of 1707), and the Channel Islands, who were cut out of the plantation trade and were in fact deprived of their shipping rights The system fell into decline after the American Revolution, especially with the decline of mercantilism The acts were finally repealed in 1849 See G L Beer, *Origins of the British Colonial System* (1908) and *The Old Colonial System* (1912), H L Osgood, *American Colonies in the Seventeenth Century* (new ed , 1930) and *American Colonies in the Eighteenth Century* (1924), *Cambridge History of the British Empire*, Vol I (1929), L A Harper, *The English Navigation Laws* (1939)

Navigators' Islands see SAMOA

Naville, Édouard Henri (ādwar' ārē' nāvēl'), 1844–1926, Swiss Egyptologist After 1891 he was professor of Egyptology at the Univ of Geneva He conducted excavations in Egypt from 1883 to 1912 For several years he was president of the International Red Cross In 1874, for the London Congress of Orientalists, he undertook the editing of the Egyptian Book of the Dead, a task involving 10 years of research Included among his works are *Store-City of Pithom and the Route of the Exodus* (1885), *Goshen and the Festival Hall of Osorkon II* (1887), and *The Old Egyptian Faith* (1909)

Naviti Levu, Fiji see VITI LEVU

navy. Originally including all ships of a nation, for war or commerce, the term *navy* now designates only such vessels as are built and maintained specifically for war and for certain other duties pertaining to national protection Navies were maintained by all the early Eastern nations bordering on the Mediterranean The Greeks and the Romans, the Italian republics, and France had navies of a similar nature In the north the famous viking ships were organized into small but efficient fleets It was to meet their attacks that King Alfred, in the 9th cent , was the first to realize that a navy was essential to England With the navy he formed, he was able to meet his enemies on the open seas and to attack them in their ports Henry VIII organized a navy and established dockyards, and Elizabeth's reign saw great naval development France's navy originated with Louis IX in the mid-13th cent Spain, after the disaster of the ARMADA, rebuilt the Spanish navy In Russia, Peter I established a navy Germany, Italy, and Japan developed strong navies in the 19th cent A congressional vote of $100,000 in 1775 was the beginning of the U S navy in the American Revolution It did not, however, attain any considerable size until after war with France was threatened In 1798 the Dept of the Navy was established In 1809 the UNITED STATES NAVAL OBSERVATORY came into being, and in 1845, through the efforts of George BANCROFT, the UNITED STATES NAVAL ACADEMY was opened The ships constituting navies have evolved from the early GALLEY pulled by oars and the sailing ship to steam-driven vessels Of the sailing ships, outstanding types were the line-of-battle ship and the FRIGATE The line-of-battle ships were the most heavily armed, often carrying as many as 100 guns or more and were designed to bear the brunt of the battle, while the frigates were more lightly armed, were built for speed, and were employed to harass the enemy, destroy its commerce, and protect the commerce of their own country. Following these came iron and steel ships, carrying a smaller number of guns of larger caliber and protected by armor (see MONITOR) The ships of the modern navy include the various types of WARSHIP—AIRCRAFT CARRIER, CRUISER, DESTROYER, GUNBOAT, and SUBMARINE The modern navy requires many land institutions and training establishments as well as navy yards and naval bases across the world The scope of naval activity was well shown by the U S navy in the Second World War, when armies had to be transported to various parts of the world and active fighting had to be pursued in the various theaters, but most notably in the Pacific See STRATEGY AND TACTICS, SEA POWER, NAVAL CONFERENCES *Brassey's Naval Annual* and *Jane's Fighting Ships* are standard current records of the world's navies

Navy, United States Department of the, established in 1798 by act of Congress The conduct of naval affairs was entrusted to the Dept. of War after 1789, but upon the recommendation of President John Adams, Congress created a separate executive department headed by the Secretary of the Navy The exigencies of the War of 1812 pointed up the need for competent assistance to the Secretary of the Navy To this end the Board of Navy Commissioners was established (1815), but the board was later (1842) abolished in favor of five specialized bureaus In the Civil War these divisions were reorganized (1862) into eight bureaus, these administrative bureaus, thereafter, were readjusted to the changing needs of the U S navy The office of judge advocate general was established in 1865, the first Assistant Secretary of the Navy took office in 1890, and the office of chief of naval operations was established in 1915 To promote naval aviation, the Bureau of Aeronautics was created (1925) After directing the activities during the Second World War of the largest navy in U S history, the Dept. of the Navy was incorporated (1947) in the National Military Establishment and in 1949 became a division of the U S Dept of National Defense

Navy Island, in the Niagara river, just above Niagara Falls, belonging to Canada It is famous as the scene of the last stand made by William Lyon MACKENZIE and some of his fellow rebels in the Upper Canadian rebellion of 1837

Nawa, Ryukyu Islands see NAHA.

Nawiliwili Harbor (näwē'lēwē'lē), on SE Kauai, T H , principal port of the island, near Lihue

Naxos (näk'sŏs, Gr nak'sŏs), island (170 sq mi ; pop 20,132), off S Greece, in the Aegean, the largest and most important of the CYCLADES It exports almonds, citrus fruit, figs, olive oil, wheat, and a noted white wine The main town, Naxos (pop 2,455), is on the northwest shore In legend Naxos is famous as the place where Theseus abandoned ARIADNE Naxos was in ancient times a center of the worship of Dionysus Colonized by the Ionians and sacked (490 B C) by the Persians, Naxos later joined the Delian Confederation, but became a tributary to Athens c 450 B C

Nazuana see NAKHICHEVAN, city

Nayarit (nīyärēt'), state (10,547 sq. mi , 1946 estimated pop 257,801), W Mexico, on the Pacific For the most part wild and rugged, Nayarit is broken by western spurs of the Sierra Madre Occidental In the northeastern section are broad tropical plains watered by the Santiago, a continuation of the LERMA river The volcanic soil, heavy rains, and variation in altitude produce a variety of products of tropical and temperate agriculture—sugar cane, cotton, coffee, tobacco, and grains Cattle are raised, forest and mineral wealth on the mainland and on LAS TRES MARIAS islands are almost unexploited Though not finally conquered until the early 17th cent , the region was known to the Spanish early in the 16th cent , and one of its towns, Compostela, S of TEPIC, the present capital, was the first capital of NUEVA GALICIA Shortly afterwards Nayarit became a dependency of Guadalajara and, with independence, part of Jalisco Continued turbulence in the 19th cent led to its separation as a territory in 1884 Youngest of the Mexican states, it was not admitted to the union until 1917

Nayler, James, 1617?–1660, English Quaker leader He served for about eight years in the parliamentary army In 1651 he became a Quaker and a disciple of George Fox, but gradually gathered a band of followers about himself In 1656 he rode into Bristol, his followers crying "Holy, holy, holy, Lord God of Israel " Nayler's explanation that his disciples were worshiping the "Christ within him" rather than himself did not prevent a parliamentary trial (1656) He was sentenced to be pilloried, whipped, branded, and imprisoned Nayler was author of a number of well-written religious pamphlets, both devotional and controversial His collected works were published in 1716 See biographies by M R Brailsford (1927) and Emilia Fogelklou (1931)

Nazarene (nă'zurēn), term used of early Christians It alludes to Nazareth Acts 24 5

Nazarenes (nă'zurēnz), group of German artists of the early 19th cent who worked in Rome and attempted to revive Christian art They took as their inspiration the work of early Italian painters and worked from imagination, not from nature They were at one time called Pre-Raphaelites, but there is little similarity between their work and that of the later English group They founded (c 1812) the Brotherhood of San Isidoro in a deserted Franciscan monastery of that name, there they lived in almost monastic simplicity, devoting the mornings to household tasks and the afternoons to painting Outstanding members were J F Overbeck, Philipp Veit, Peter von Cornelius, Schnorr von Carolsfeld, and Schadow-Godenhaus Many of them collaborated on the well-known frescoes in the Casa Bartholdy and Villa Massimi Although much of their work was uninspired, the Nazarenes exercised a considerable influence in Germany, whither most of them returned.

Nazareth (nă'zurĭth), town (pop over 20,000), N Israel, in the Lower Galilee highland. As the home of Jesus Christ it is a great place of pilgrimage, and there are many churches and shrines, including a church built on the traditional site of the Annunciation The inhabitants are mainly Christian.

Nazareth, borough (pop 5,721), E Pa , near the Delaware NW of Easton, settled c.1740 by Moravians, inc. 1863. Clothing and Portland cement are made here. Whitefield House, built in 1740, is an example of Moravian architecture

Nazareth College see KALAMAZOO, Mich , LOUISVILLE, Ky , ROCHESTER, N Y

Nazas (nä'sus), river rising in Durango, N Mexico, and flowing generally southeast and east to end near TORREÓN Sometimes called the American Nile because of yearly silt deposits, it inundates a vast desert basin and, with its control dams, provides water for irrigating the LAGUNA DISTRICT

Nazca (nä'ska), ancient civilization of the Nazca (Rio Grande) and Ica river valleys on the desert coast of S Peru Flourishing independently but contemporaneously with Classic TIAHUANACO, Nazca was after A D 900 apparently under Tiahuanaco influence until the Inca conquered the region in the 15th cent Little is known of the people, but they seem to have been a loosely organized group of farmers Although archaeological remains characterized by huge shell mounds exist, no villages or buildings can be positively identified as Nazcan Examples of the skilled ceramic and textile arts are, however, found in burial pits Highly polished, expertly designed, and with polychrome painting, the pottery is unlike that of other Peruvian cultures Textiles show a multitude of weaving techniques and skill in dyeing with several shades of the same color, both coastal cotton and highland alpaca wool were used See P A Means, *Ancient Civilizations of the Andes* (1931)

Naze, the, hook-shaped headland, Essex, England, S of Harwich and NE of London

Naze, the, NORWAY see LINDESNES

Nazi see NATIONAL SOCIALISM

Nazianzen see GREGORY NAZIANZEN, SAINT.

Nazimova, Alla (nuzĭ'muvu), 1879 1945, Russian-American actress She turned from music to the drama, studied with Stanislavsky, and appeared at the Moscow Art Theatre and in stock companies in Germany and London In 1905 she came to New York and played Russian roles in her native tongue In 1906 she made her English-speaking debut in Ibsen's *Hedda Gabler* and later increased her reputation as an Ibsen interpreter with leading roles in *Ghosts*, *A Doll's House*, *The Master Builder*, and *The Wild Duck* An actress of beauty and sensitivity, she gave memorable performances in 1928 as Mme Ranevsky in Chekhov's *Cherry Orchard* and in 1931–32 as Christine in O'Neill's *Mourning Becomes Electra* She also acted in moving pictures

Nazis and **Nazism** see NATIONAL SOCIALISM

Nb, chemical symbol of the element NIOBIUM

Nd, chemical symbol of the element NEODYMIUM

Ne, chemical symbol of the element NEON

Neagh, Lough (lŏkh nā'), lake, 18 mi long and 11 mi wide, maximum depth 102 ft , central Northern Ireland, in Counties Armagh, Tyrone, Londonderry, Antrim, and Down It is the largest fresh-water body in the British Isles Fed by the Upper Bann, Blackwater, and other streams and drained to the north by the Lower Bann, it is noted for pollan, trout, and eel fisheries There are few islands, Ram's Island has ruins of a round tower According to a legend, quoted by Giraldus Cambrensis and cited in Thomas Moore's "Let Erin Remember the Days of Old" (*Irish Melodies*), the lake occupies the site of a town, the buildings of which may sometimes be seen through the water

Neagle, John, 1796–1865, American portrait painter, b Boston He was reared in Philadelphia, where he was apprentice to a coach painter After travel in the West, he settled in Philadelphia and married the stepdaughter of Thomas Sully He made a name for himself by his famous portrait *Pat Lyon at the Forge* (Pa Acad of the Fine Arts) in 1826 Other works are in the museums of Cleveland, Minneapolis, New Orleans, and New York Neagle became director of the Pennsylvania Academy of the Fine Arts in 1830

Neah (nē'u), unidentified place, N Palestine *Joshua* 19 13

Neal, David Dalhoff (nēl), 1838-1915, American historical and portrait painter, b Lowell, Mass , studied in Paris and Munich He painted for many years in Munich, and in sentiment and style his works belong with the Munich school Among his paintings are *Oliver Cromwell Visits John Milton* (public library, Cleveland) and portraits of Mark Hopkins (Williams College), Teackle Wallis (Athenaeum Club, Baltimore), Adolph Sutro, and D. O Mills

Neale, John Mason (nēl), 1818–66, English clergyman, historian, and hymn writer, grad Trinity College, Cambridge, 1840 An enthusiastic supporter of the High Church movement, he never attained any important position in the church and was even under the inhibition of his bishop from 1846 to 1863 From 1846 until his death he was warden of Sackville College, East Grinstead, Sussex, a charitable institution for the aged, there he wrote voluminously—history, theology, travel

books, poems, hymns, and books for children. A nursing sisterhood which he had founded elsewhere was moved to East Grinstead in 1856 and continued there as St Margaret's Sisterhood Neale knew 20 languages and is best known for his numerous translations of Greek and Latin hymns In 1859 appeared his translation of a sizable part of Bernard of Cluny's *De contemptu mundi*, from which several of Neale's best-known hymns are taken His daughter, Mary Sackville Lawson, edited his *Collected Hymns, Sequences, and Carols* (1914) and a selection of his letters (pub 1910). See biography by Eleanor A Towle (1906)

Neander, Johann August Wilhelm (yō'hän ou'gōost vil'hĕlm nāan'dur), 1789–1850, German theologian and church historian Of Jewish parentage, he renounced Judaism and became a Lutheran (1806), changing his name from David Mendel to Neander In 1813 he became professor of church history at the Univ of Berlin He wrote many books, of which the best known is *Allgemeine Geschichte der christlichen Religion und Kirche* (11 vols, 1825–52, Eng tr, *General History of the Christian Religion and Church*, 9 vols, 1847–55) This has gone through many editions

Neanderthal (nēān'dŭrtăl", Ger nāān'durtāl"), small valley, W Germany, E of Düsseldorf Here in 1856 skeletal remains of the so-called Neanderthal man were discovered (see MAN, PRIMITIVE)

Neapolis (nēă'pulĭs) [Gr, =new city], name of many cities in ancient Greek and Roman times The most important is the modern NAPLES, Italy

Nearchus (nēăr'kus), fl 324 B C, Macedonian general, friend of ALEXANDER THE GREAT In 325 B C, Alexander, about to quit India, had a fleet built in the Indus to transport part of the army home Nearchus was put in command They sailed up the unknown Persian coast and rejoined (324 B C) Alexander at Susa Nearchus' own account of this navigation, together with his account of India, is included in Arrian's *Indica*

Neariah (nē"urī'u) [Heb, =servant of God] **1** One of David's line 1 Chron 3 22,23 **2** Son of Ishi, a Simeonite captain 1 Chron 4 42

Nearing, Scott, 1883–, American economist and sociologist, b Morris Run, Pa, grad Univ of Pennsylvania (B S, 1905, Ph D, 1909) He taught economics at the Univ of Pennsylvania, Swarthmore College, and the Univ of Toledo from 1906 to 1917 and lectured at the Rand School of Social Science, New York city, after 1916 In 1919 he was defeated as the Socialist candidate for Congress from New York Among his many books are *Social Adjustment* (1911), *Income* (1915), *Poverty and Riches* (1921), *The American Empire* (1921), *Dollar Diplomacy* (with Joseph Freeman, 1925), *Twilight of Empire* (1930), *Democracy Is Not Enough* (1945), and *Tragedy of Empire* (1945)

Near Islands see ALEUTIAN ISLANDS

nearsightedness or **myopia** (mīō'pēu), defect of sight in which objects at a distance appear blurred This condition is commonly the result of abnormal length of the eyeball from front to back or of the distortion of the lens of the eye from fatigue through excessive use of the muscles which control its degree of convexity The light rays passing through the lens are brought to a focus in front of the retina instead of upon it, as is necessary for clear vision Glasses having concave lenses are used to remedy the condition, and rest, when the cause is fatigue, is important to limit its progress

Neath (nēth), municipal borough (1931 pop 33,340, 1947 estimated pop 31,860), Glamorganshire, Wales, on the Neath and ENE of Swansea The ruins of Neath Abbey, founded in 1130, include the walls and parts of the chapel, chapter house, abbot's house, and refectory The gate and tower remain of a castle burned in 1231 Since the development of the coal and iron industry of Glamorganshire, Neath has become an industrial town, producing tin plate, iron, steel, and copper

neat's-foot oil, light yellow and practically odorless oil, obtained by boiling the shin bone and feet of cattle, for which neat is an old term Today the feet of horses and sheep are often substituted It is used as a lubricant for delicate machinery and in leather dressing

Nebai (nĕ'bāī, nēbā'ī), signer of the covenant Neh 10 19

Nebaioth (nēbā'yŏth), Arabian tribe living probably SE of Palestine Isa 60 7

Nebajoth (nēbā'jŏth), son of Ishmael Gen 25 13, 28 9, 36 3

Neballat (nēbă'lăt), unidentified Benjamite town, W central Palestine, reoccupied after the return from captivity Neh 11 34

Nebat (nē'băt) [Heb, =aspect], father of King Jeroboam I. 1 Kings 11 26

Nebo (nē'bō). **1** Town of Moab, near Mt Pisgah (Mt Nebo) and S of Heshbon Num 32 3,38, 33 47, 1 Chron 5 8, Isa 15 2, Jer. 48 1,22. **2** City of Judah of postexilic times Ezra 2 29, 10.43, Neh. 7 33

Nebo, Mount: see PISGAH

Nebraska (nŭbră'skŭ), state (76,653 sq mi., 1940 pop 1,315,834, 1949 estimated pop 1,285,000), central United States, in the Great Plains region, admitted 1867 as the 37th state. LINCOLN is the capital, and OMAHA is the largest city. The state is roughly rectangular, except where the Missouri river makes an irregular boundary in the northeast and the east and the state of Colorado cuts out a squared corner in the southwest Elsewhere Nebraska is bounded by Wyoming on the west, by South Dakota on the north, by Iowa and Missouri on the east, and by Kansas on the south. The land rises more or less gradually from 840 ft in the east to 5,300 ft in the west Across it from west to east the great but shallow Platte river, formed in W Nebraska by the junction of the North Platte and the South Platte, runs to join the Missouri The Platte and the Missouri with their tributaries give Nebraska its all-important watercourses, essential to farming in an agrarian state The river valleys also offer routes westward, used from the time of the Indian and the fur trader Today the transcontinental railroads and highways use the valleys, and the traveler, following the gentle slope, sees Nebraska only as level prairies where the grasslands blend into the sky Elsewhere the topography is more varied with great scenic beauties other than the severe patterns of cloud and sunshine and the color of blossoms half hidden in the grass From the Missouri westward over about half the state stretch undulating farm lands, where the fertile silt is underlaid by deep loess soil Here in the years just after the Civil War the first farming pioneers came to spend brief but miserable years in sod houses in a timberless land before the richness of the soil yielded them wealth Here still the population is concentrated, living mostly from production of grains for the market or for feeding hogs and dairy cattle Here are the two great cities, Omaha and Lincoln, and many of the larger towns The industries are for the most part dependent on the agricultural production —processing of grains and sugar beets and animal products To the west and northwest the sand hills of Nebraska fan out, their wind-eroded contours now more or less stabilized by grass coverage Cattle graze on the slopes and tablelands, protected in the severe winters by the sand bluffs and the valleys The climate is severely continental, as it is in the rest of Nebraska, but averages for the state are almost meaningless, with great variations from place to place A low of 40°F below zero in the winter is not unusual, and the short, intense summers may easily reach 110°F above Rainfall is almost twice as heavy in the east as in the west Yet in the west along the river valleys the mixture of silt and sand is watered enough to yield abundantly even under semiarid conditions Hundreds of fresh and alkali lakes attract sportsmen and campers Irrigation along the Platte and its tributaries has promoted extension of the sugar-beet crop, while on the southwest plateaus wheat farming flourishes In the far west the land rises to the foothills of the Rockies and shows spectacular bedrock foundations The whole state is dependent on agricultural pursuits The only minerals are construction materials To promote agriculture the Univ of Nebraska maintains nine experimental agricultural stations A program of soil conservation has been developed with a shelter belt running across the state from north to south to check the effect of wind erosion, and dry-land-farming techniques have also been pushed The land has been somewhat given to farming since prehistoric times, though the Indians of the plains—notably the PAWNEE INDIANS—devoted themselves more to hunting the buffalo (then abundant), the pronghorn, and lesser animals Coronado and his men probably came through Nebraska in 1541, the first white men to visit the region, and the Spanish thus established a shadowy claim The French also came and in the 18th cent engaged in some fur trading, but real development began after the area passed to the United States in the LOUISIANA PURCHASE (1803) The Lewis and Clark expedition and the explorations of Zebulon M PIKE and later of Stephen H LONG made the country known, but more immediately valuable were the activities of the fur traders The first post was probably founded by Manuel LISA in 1807, and BELLEVUE, the first permanent settlement in Nebraska, grew up about a trading post Steamboating on the Missouri gave busy commerce to the river ports of Omaha City and Brownville Military posts, notably Fort Atkinson (1819–27), were founded to protect the commerce against the Indians The natural highway of the Platte valley, known to the earliest of the fur traders was in the 1840s and 1850s deeply rutted by the wagons of the pioneers going west over the OREGON TRAIL and also over the California Trail and the Mormon Trail The settlers along the way in Nebraska made money out of supplying the migrants with fresh mounts and pack animals as well as food There were few settlements Nebraska was involved like Kansas in the fierce struggle concerning slavery in the territories after the passage of the KANSAS-NEBRASKA BILL (1854) That established two territories, but the heat and the blood of the struggle were concentrated in Kansas Nebraska, at first stretching from lat 40° N to the Canadian border, was firmly Northern and Republican in sympathy in the Civil War As settlers were coming in, the territory was reduced in size Congress passed an enabling act in 1864, but the original provision in the state constitution limiting the franchise to white men delayed statehood until 1867 In that year the Union Pacific RR was built across the state, and the land boom, already vigorous, became a rush Farmers settled on the free land under the Homestead Act of 1862, and E Nebraska took on a settled look The population rose from 30,000 in 1860 to 122,000 in 1870 The Pawnee had been subdued in 1859, and by 1860 the war with the Sioux and other disturbances were over and danger from the Indians had disappeared The coming of the railroads had built up cow towns, such as Ogalalla and Schuyler, as shipping points on overland cattle trails Ranches in Nebraska also prospered, and it was no accident that Buffalo Bill's Wild West Shows, commemorating the raucous days of cowboy, cattleman, and Indian scout, opened in Nebraska in 1882 The farmers had long since been staking out homestead claims across the sand hills to the high plains The ranchers, trying to preserve the open range, ruthlessly opposed them, but the persistent farmers won, many conservationists believe that much land was plowed under that should have been left with grass cover to prevent the later dust storms Nature was never kind to the people of Nebraska Ranching was especially hard hit by the ruinous cold of the winter of 1880–81, and farmers were plagued by insect hordes from 1856 to 1875, by prairie fires, and by the recurrent droughts of the '90s Many had joined the GRANGER MOVEMENT in the lean '70s In the dry '90s the beleaguered farmers, faced with ruin and angry at the practices of the railroads and the financiers, formed marketing and stock cooperatives and in large numbers voiced their discontent by joining the POPULIST PARTY Better conditions in the early 1900s caused Populism to decline, and the prosperous days were marked by progressive legislation, the building of highways, and conservation measures The flush of prosperity, largely caused by the demand for foodstuffs in the First World War, was almost feverish Overexpansion of credits and overconfidence made the depression of the following years in the '20s and '30s all the more stringent Many farmers were left destitute, and many were enabled to survive only by the moratorium on farm debts in 1932 Federal aid was tendered to them in the desperate years of drought in the '30s until better weather and the huge food demands of the Second World War helped to renew prosperity in Nebraska Serious efforts are being continued to make the best use of the water supply (notably in such Federal plans as the Missouri river basin project and the dams and water-diversion schemes involving the Platte system) and to conserve the soil The energy of the people of Nebraska in meeting the problems of nature merely continues the spirit of the first sod-house settlers and such immigrants as the Swiss Jules Sandoz, who made the sand hills bloom with fruit trees, and the German Henry A Koenig, who introduced cultivation of the sugar beet to the Western plateaus The interest in the old social and athletic centers of the German Turnverein and the Czech Sokol have perhaps yielded to enthusiasm for football and other American sports, the Univ of Nebraska football team, the Cornhuskers, to some degree illustrates the blending of various peoples in Nebraska The self-reliant independence of the Populists and William Jennings BRYAN was continued by George W NORRIS, who championed conservation of resources and the cause of the common man It was Norris who was largely responsible when Nebraska (which had in 1897 showed a pioneering legislative spirit by adopting the initiative and the referendum) took a radical step in creating a nonpartisan unicameral legislature Today the Nebraskan seems to be just as cursed by the weather and just as wedded to his own ideas of democracy as his grandfather was in pioneering days See J Sterling Morton and Albert Watkins, *An Illustrated History of Nebraska* (rev ed, 3 vols, 1918), Addison E Sheldon, *New Standard History of Nebraska* (1928–29) and *Nebraska Civil Government* (2d ed, 1936) J E Weaver and W J Himmel, *The Environment of the Prairie* (1931), George E Condra *Geography, Agriculture and Industries of Nebraska* (1934), Mari Sandoz, *Old Jules* (1935) Federal Writers' Project, *Nebraska a Guide to the Cornhusker State* (1939), E A Whitcomb, *This Is Nebraska* (1941), Everett N Dick *The Sod-House Frontier* (1937)

Nebraska, University of, mainly at Lincoln, land-grant and state supported, coeducational, chartered 1869, opened 1871 It has colleges of agriculture (with its own campus), arts and sciences, business administration, dentistry, engineering (with an experiment station), law, medicine (at Omaha) and pharmacy, a teachers college, schools of fine arts, music, journalism, and social work, a junior division, and a high school There is a large library The state museum, the Nebraska Conservation and Survey Division, and a modern art collection are here. Archaeological research is carried on

Nebraska City, city (pop. 7,339), co. seat of Otoe co., SE Nebr., on the Missouri and E of Lincoln, founded 1854, inc 1855, consolidated 1857 with two contiguous settlements It is the commercial center of a livestock area and has processing plants It was the home of J S Morton, originator of Arbor Day, whose estate has been made a state park A state school for the blind is here

Nebraska Wesleyan University see LINCOLN

Nebuchadnezzar (nĕ″bŭkudnĕ′zûr, nĕ″bû–), d 562 B C, king of Babylonia (c 605–562 B C), son and successor of Nabopolassar Many scholars prefer the form Nebuchadrezzar for his name, and it also appears as Nebuchodonosor In his father's reign he was sent to oppose the Egyptians, who were occupying W Syria and Palestine At Carchemish he met and defeated Pharaoh NECHO in 605 B C and thus definitely ended the Egyptian threat His annals are lost, and little is actually known of his reign The Bible records that JEHOIAKIM of Judah rebelled against him, and in 597 B C, Nebuchadnezzar quelled the revolt, taking Jerusalem after a siege He carried away the young king, Jehoiachin, and many nobles to Babylon and set Zedekiah on the throne A new rebellion occurred, and after a long siege Jerusalem fell It was left in ruins in 586 B C, and the king and many nobles were taken off to be imprisoned or settled in Babylonia Nebuchadnezzar was a great builder, and the later Babylonian Empire reached its zenith under him Babylon was then the greatest city of the ancient world It was, however, shortly to lose that glory and to fall under conquest when Nabonidus was king Nebuchadnezzar features greatly in the book of Daniel, which tells of his going mad and eating grass See also Jeremiah and 2 Kings 24

nebula (nĕ′byŏolu) [Latin, =mist], in astronomy any one of the many masses of matter, cloudlike in appearance, usually softly luminous but sometimes dark, which occur in different parts of the sky It has comparatively recently been concluded that not all nebulae are in our own Galaxy, the Milky Way system, although they are numerous all through it Some are discovered to be in other galaxies outside our own, and these are called extragalactic nebulae Nebulae have been observed from the time of Sir Isaac Newton, but the exact knowledge about them could be obtained before the spectroscope and photographic processes were used for their study Some astronomers believed that they might be swarms of stars, but Sir William Herschel concluded that they were of a continuous fluid matter William Huggins by examining the spectra of nebulae (1864) confirmed this conclusion, since the spectra of some of the nebulae are made up of bright lines which are characteristic of radiating gases Many nebulae of different types have been examined since Few can be seen by the naked eye The most conspicuous and best known is the Great Orion nebula, in the sword of that constellation The so-called Great Nebula in ANDROMEDA has been found to be a separate Galaxy, a whole universe in itself Within our galaxy are found planetary nebulae, bright diffuse nebulae, and dark diffuse nebulae Planetary nebulae consist of a central star surrounded by a shell of gaseous material and are not related to planets Through the telescope they appear as small disks with well-defined boundaries Many evidences of rotation have been noted It has not yet been possible to determine with any exactness their distances It is estimated that their diameters measure thousands of times the distance from our earth to the sun These nebulae do not vary greatly in appearance On the other hand, bright diffuse nebulae present remarkable variety Some are like clouds closely associated with stars, as in the case of the Pleiades and Orion Some sweep like long veils irregularly across vast stretches, some are like a thin haze enveloping great areas An explanation of the luminosity of the diffuse nebulae has long been sought It is now believed that they derive their luminosity partly from reflection of starlight and partly from radiation excited in the nebulae by the radiation of extremely hot stars Dark diffuse nebulae are believed to be masses of opaque matter cutting off the light of the stars beyond them Sometimes parts of bright nebulae are shut off by them They explain the patches of blackness in the Milky Way, earlier supposed to be holes or huge unoccupied spaces among the stars The extragalactic nebulae are aggregations (most of them spiral in form) of stars similar to our Galaxy and, like it, including within their boundaries giant stars, star clusters, novae, dark nebulae, bright diffuse nebulae, and other objects These extragalactic nebulae appear to be receding rapidly from the earth, observations of this phenomenon give support to the theory of the expanding universe See Edwin Hubble, *The Realm of the Nebulae* (1936)

nebular hypothesis, an attempt to explain the regularity of arrangement and motion exhibited by the planetary system It originated in the 18th cent and was propounded by Swedenborg and Kant before Laplace gave it scientific form It was long accepted by astronomers, but is no longer tenable The theory assumes that in its first state in the far remote past our solar system was a vast mass of rarefied matter—a nebula—slowly rotating and enormously hot Gradually cooling because of the loss of heat by radiation, the mass contracted little by little, and as the volume grew less, the rotation was more and more rapid Laplace assumed that in time there would come a stage when the centrifugal force at the equator, driving away from the center, must equal the pull of gravity, the attraction toward the center of the mass Then a ring of gaseous matter would become separated from the outer rim Equilibrium would be restored for the time by the detaching of the ring Again contraction would bring about the balance of the two opposing forces, and again a ring would be left outside the further contracting central mass The process would be repeated several times, until the diminished nebula at the center would be surrounded by a series of rings, all revolving, the smaller the more rapidly Out of the material of each ring would in some way be formed a single great ball of gases, which by shrinking would eventually become a planet The mass at the center of the whole system after condensation would form the sun Modern studies in mechanics have pointed out objections to this hypothesis, these are chiefly that rings of material thrown off as postulated in this hypothesis would tend to form swarms of small bodies and not to condense into planets and that the angular momentum (momentum of rotation) of the planets is too great in proportion to that of the sun to make the theory plausible

Nebushasban (nĕ″bŭshăz′băn) [Heb., =Nebo save me], official under Nebuchadnezzar Jer 39 13

Nebuzaradan (nĕ″bûzâ′rûdăn) [Heb., =Nebo has given children], trusted official of Nebuchadnezzar 2 Kings 25 8–20, Jer 39 11, 40 1, 52 30

Necessity, Fort, entrenched camp built in July, 1754, by George Washington and his Virginia militia at Great Meadows (near the present Uniontown, Pa.) He retired here when he learned that the English fort at the forks of the Ohio (the site of Pittsburgh) had been captured (and renamed Fort Duquesne) by the French In late May, 1754, a French patrol had been defeated and its leader, Joseph Coulon, sieur de Jumonville, killed in a surprise attack led by Washington near Great Meadows A large French reprisal force led by Coulon's brother, the sieur de Villiers, attacked Fort Necessity and forced Washington to surrender on July 4 He secured easy terms from the French and departed for Virginia with all his surviving men and their baggage These two skirmishes marked the opening of the last of the French and Indian Wars Near Fort Necessity National Battlefield Site (2 acres, est 1931) is the grave of Gen Edward Braddock See D S Freeman, *George Washington*, Vol I (1948)

Nechako (nĭchă′kō), river of central British Columbia, rising in Tetachuck and Ootsa lakes and flowing c 250 mi NE and E to the Fraser river at Prince George

Necho (nĕ′kō), fl 670 B C, lord of Sais, Egypt He was confirmed in his holding after the Assyrian conquest in 670, he was later taken to Nineveh in chains for plotting to revolt, but was pardoned and restored He probably fell opposing (663) the Nubian reconquest under Tanutamon His son PSAMTIK founded the XXVI dynasty Psamtik's son, the Pharaoh **Necho,** 609–593 B C, took advantage of the confusion which followed the fall of Nineveh (612) to invade Palestine and Syria, which he took without difficulty King Josiah of Judah tried to stop him with a little force at Megiddo and was overwhelmed The empire lasted some years, then Nebuchadnezzar came west Necho met him at Carchemish on the Euphrates, was thoroughly beaten (605), and fled to Egypt, where he thenceforth remained He made an attempt to reexcavate the canal from the Nile to the Red Sea and also sent out some Phoenicians on a three-year expedition in which they were said to have circumnavigated Africa The name also appears as Neco See 2 Kings 23 29,33, 2 Chron 35 20–23, 36 1–4, Jer 46 2

Neckar (nĕ′kar), river, 228 mi long, rising in Württemberg, SW Germany, in the Black Forest It flows NE past Rottweil, Rothenburg, and Tubingen, then turns and continues NNW past Esslingen, Stuttgart, and Heilbronn, then turns westward and crosses N Baden, past Heidelberg, to join the Rhine at Mannheim The Neckar is celebrated for its scenic charm, its hilly banks are covered with fine vineyards, orchards, and woods It is navigable from Stuttgart, a canal to the Danube at Ulm is projected

Necker, Jacques (zhak′ nĕkĕr′), 1732–1804, French financier and statesman, b Geneva, Switzerland In 1747 he went to Paris, and, entering the banking business, he rose rapidly to importance and established a bank of his own He became a director of the French East India Company and also served as diplomatic representative of Geneva in Paris As a writer, Necker opposed the then fashionable PHYSIOCRATS and free traders, his eulogy on Colbert was crowned (1773) by the French Academy, and his *Essai sur la législation et le commerce des grains* (1775) criticized the policy of TURGOT In 1776 Necker, who had previously aided the government with loans, was made director of the treasury, in 1777 he was given the title director general of finances. By borrowing and by measures of reform and retrenchment he sought to set in order the finances of France and gain the confidence of the people The salon of his wife, Suzanne NECKER, exerted considerable influence. Necker, however, fell into disfavor at court In 1781 he published his *Compte rendu*, setting before the people the country's financial situation, resigned, and retired to "Coppet," his Swiss estate There he wrote the *Traité de l'administration des finances de la France* (1784) He returned to Paris in 1787, but was soon exiled from the city for having engaged in public controversy with CALONNE In 1788 Louis XVI recalled him as director general of finances and minister of state The populace acclaimed him, and he won their further approval by recommending that the States-General be summoned When his enemies at court again secured his dismissal in 1789, the populace stormed the Bastille (July 14) and he was once more recalled His final resignation came in 1790 His last years were spent in "Coppet" His daughter, Mme de STAËL, wrote *La Vie privée de M Necker* (1804), and his grandson edited a collected edition of his writings (1820–21)

Necker, Suzanne (Curchod) (sŭzăn′ kûrshō′), 1739–94, French writer on literary and moral subjects, wife of Jacques Necker and mother of Mme de Staël Her salon, frequented by celebrated Frenchmen and foreign visitors, was a famous meeting place A hospital which she founded c 1776 is still in existence Her writings include *Des inhumations précipitées* (1790), *Reflexions sur le divorce* (1794), and miscellaneous collections published as *Mélanges* in 1798 and 1801

Neco: see NECHO

nectar see AMBROSIA

nectarine (nĕk′tŭrĭn), smooth-skinned variety of peach (*Prunus persica nectarina*), with clingstone or freestone kernel and red, white, or yellow fleshed fruit The tree is very much like the peach tree and occasionally produces peaches (as the peach tree occasionally bears nectarines) The nectarine is a classical example of bud variation It has been known for at least 2,000 years The fruit is cultivated more extensively in Europe than in North America, though it is grown to some extent in California In commercial orchards it is grafted on stocks of almond In the 16th cent it was called the nut of Persia

Nedabiah (nĕ″dŭbī′ŭ), one of David's line 1 Chron 3 18

Needham (nē′dŭm), residential town (pop 12,445), E Mass, WSW of Boston, settled 1680, set off from Dedham 1711 Clothing is made here

needle, implement of metal or other material used to carry the thread in sewing and in various forms of needlework and manufacturing The earliest needles were merely awls or punches Stone, bone, ivory, and thorns, with or without an eye, were used by primitive peoples The midrib of the palm is used in Africa, with the thread tied on Much of the embroidery of antiquity must have required fine needles, China is supposed first to have used those of steel, and the Moors are credited with carrying them to the West The needlemaking trade was established in Nuremberg in the 14th cent and in England in Elizabeth's reign In 1656 the first needlemakers' guild was chartered Manufacturing by machinery developed gradually In 1785 the first steel rod was mechanically prepared, in 1826 eyes were drilled by stamping, and by 1870 the manufacture was mostly mechanical Different kinds of steel are used for different needles, as chromium and stainless steel for surgical and hypodermic uses Over 250 kinds of needles are made, such as the pearl needles of India, bead needles for fine beadwork, and others for carpets, shoes, upholstery, sailmaking, KNITTING, and every type of SEWING MACHINE England is noted for the manufacture of fine hand-sewing needles, the United States for machine needles

needlepoint see EMBROIDERY and LACE

Needles, city (pop 3,624), SE Calif., on the Colorado near Hoover Dam, founded 1883, inc 1913 It is a railroad division point in a farming area and a trade center for the Mojave Indians

Needles, the, western extremity of the Isle of Wight, England, with several spirelike rocks

needlework, work done with a needle, either plain sewing, mending, or ornamental work such as EMBROIDERY, quilting, smocking, drawn work, hemstitching, fagoting, some kinds of lacemaking (see LACE), patchwork, and appliqué KNITTING, crocheting (see CROCHET WORK), netting, and tatting are also classified as needlework, being done with specialized needles or, as in netting and tatting, with shuttles Many of the processes used are ancient, and some have several uses, as the darning stitch employed in mending, embroidery, and lacemaking Quilting has been done for warmth and ornament in China and N India for generations, and patchwork or appliqué, consisting of a cut or pieced design of one fabric applied to the surface of another, was used in ancient Egypt, Ceylon, and Burma See Gertrude Whiting, *Tools and Toys of Stitchery* (1928); I R. Duncan, *Complete Book of Needlecraft* (1949).

Neenah (nē'nŭ), city (pop 10,645), E Wis, on Lake Winnebago adjacent to MENASHA; settled 1835, inc 1873 Paper and dairy products are made

Neepawa (nē'puwŏ), town (pop 2,468), SW Man, on the Whitemud river and NE of Brandon, in a grain and stock-raising region Neepawa has woodworking and marble-processing plants

Neer, Aert van der (ärt' vän dĕr nār'), 1603–77, Dutch landscape painter. Most of his life was passed in Amsterdam He excelled in painting unusual light effects, such as moonlight scenes, sunsets, and conflagrations His winter scenes, often with skaters, are also famous He is well represented in many European galleries The Metropolitan Museum has his *Sunset, The Farmer,* and *Landscape* His son and pupil, **Eglon Hendrik van der Neer** (ĕg'lŏn hĕn'drĭk), c 1635–1703, Dutch genre, landscape, and portrait painter, practiced in Rotterdam and Brussels and in Düsseldorf, where he was court painter to the elector palatine He excelled in painting luxurious interiors, hunting scenes, and mythological or biblical subjects in Dutch settings His *Esther and Ahasuerus* (Uffizi) and *Lady Tuning Her Lute* are characteristic

Neerwinden (nārvĭn'dun), village (pop 911), Liége prov, Belgium, SE of Louvain Here in the War of the Grand Alliance the French under Marshal Luxembourg defeated (1693) William III of England In the French Revolutionary Wars, Neerwinden was the scene of a French defeat (1793), which resulted in the defection of DUMOURIEZ

Nees von Esenbeck, Christian Gottfried (krĭs'tyän gŏt'frēt nās' fŭn ā'zunbĕk), 1776–1858, German botanist He specialized in the study of fungi, liverworts, and grasses He was the author of several books on botany, entomology, and philosophy and of many scientific papers

Nefud (nĕfōōd') or **Nafud** (nafōōd'), name applied to two deserts of red sand in the Nejd, Saudi Arabia The An Nefud is in the north The Nefud Dahi adjoins the Rub al Khali, the great desert of S Arabia

negative, in photography, name for the photographic film or plate after it has been developed and fixed It is so named because the light and dark areas of the image are reversed, i e, the parts of the object photographed which are brightest are darkest on the negative, and the darkest are brightest In preparing a negative, two steps are involved, developing and fixing The first step is accomplished by means of a DEVELOPER, the film after development, however, being still sensitive to light For this reason, developing is performed in a 'dark room," and chemical treatment is required which will stop further reduction of the silver salts This is accomplished in fixing the negative By dipping the developed film into a solution of sodium thiosulphate ("hypo") the unreduced silver salt is changed into a soluble salt which is then washed off Metallic silver and gelatine which remain form the image of the so-called negative Production of the finished picture (the positive) from the negative is known as printing The negative is placed between a light source and the sensitive paper upon which the positive is to be printed The light striking the negative is transmitted to the sensitive paper in proportion as the parts of the negative are light or dark After a certain period of exposure, the sensitive paper is treated chemically (see PHOTOGRAPHY) and the "print" or positive is washed and dried

Negaunee (nĭgô'nē), city (pop 6,813), W Upper Peninsula, N Mich, on the Marquette iron range near Ishpeming, in a resort area, settled 1846, inc as a village 1862, as a city 1873 Iron ore was discovered in this region in 1844

Negev (nĕ'gĕv) or **Negeb** (nĕ'gĕb), [Heb, =dry], region (c 3,000 sq mi), the southern triangle of Israel, extending S to the Gulf of Aqaba and adjoining the Sinai peninsula of Egypt The name was formerly applied to a larger area including part of SW Jordan The Negev is a highland with less than 2 in of rain a year Beersheba is its only town, and normally most of the inhabitants are Bedouin herders In ancient times, however, there were several prosperous cities along the principal wadis (watercourses) It comprises more than one third of the territory of Israel, and long-range plans have been made to open it up to agriculture and settlement It is believed that water from the JORDAN river can be used to irrigate the north and that dry farming is possible elsewhere The Negev was the scene of much fighting between Egyptian and Israeli forces after the partition (May, 1948) of Palestine

Neginah (nĕ'gĭnä) [Heb, =stringed instrument], plural **Neginoth** (nĕg'ĭnŏth), direction for the accompaniment of a psalm. Pss 4, 6, 54, 55, 61, 67, 76.

negligence, in law, breach of an obligation to act with care. Such obligation may arise out of contract, as in the duty of a common carrier to exercise a high degree of care in preserving from injury goods or persons being transported The law also supposes that persons in the ordinary course of conduct must take pains to avoid inflicting injuries on others or on themselves. In all noncontractual situations the standard applied to determine the existence of negligence is the presumptive behavior of the "reasonable, prudent man." Injury which results despite that degree of care or from circumstances beyond control (see ACCIDENT and ACT OF GOD) is not compensable It is usually the function of the jury to determine whether the injurious act was negligent, on the other hand, in cases where due care must have been absent (e g, when an automobile collapses on first being driven) the judge may apply the doctrine of *res ipsa loquitur* [Latin, =the thing speaks for itself] and rule that there was negligence as a matter of law Ordinarily if the plaintiff was guilty of contributory negligence, he may not recover damages, a typical case is that of a pedestrian who crosses a street without looking out for motorists and is hit by a vehicle In the case supposed, if the motorist nevertheless sees the pedestrian and negligently fails to stop (i e, if he has a "last clear chance" to avoid injury), he is nevertheless liable Certain restrictions have been imposed on the right to recover damages for injury due to negligence Thus, damages ordinarily are not allowed for the consequences of nervous sufferings (except miscarriage) unless the plaintiff experienced some physical impact also At common law the right to recover for negligence belonged to the injured party only, if he died before completion of his lawsuit or as a result of his injuries, his heirs might not recover Today all jurisdictions have statutes which permit the heirs to bring suit both for the wrongful death and for the injuries to the decedent Negligence claims are the chief source of current civil litigation, the bulk of cases arises from vehicular traffic Besides its civil aspects, negligence may also be criminal if it results in MANSLAUGHTER or if it is a serious breach of a public duty (e g, carelessness by the engineer of a railroad train)

Negoiul (nĕgoi'ōōl) or **Negoi** (nĕgoi'), peak, 8,346 ft high, Rumania, NW of Campulung It is the highest peak of the Transylvanian Alps, a section of the Carpathians

negotiable instrument, bill of exchange, check, promissory note, or other written contract that may be transferred by delivery or by endorsement and delivery so as to give the new holder of the contract the right to enforce fulfillment in his own name Negotiable instruments made payable to bearer are transferred by delivery, those made payable to order are transferred by endorsement and delivery

Negri, Ada (ä'da nā'grē), 1870–1945, Italian poet and prose writer Her first poems, *Fatalità* (1892, Eng tr, *Fate and Other Poems,* 1898), voiced bitter protest against the state of the poor Its lyric promise was recognized, and the young poet was promoted from teaching in an elementary school to a professorship in a normal school In 1896 she married a wealthy industrialist, but the marriage ended in 1910 Her joy in motherhood was poured out in the volume of verse *Maternità* (1904) Her passionate and beautiful love lyrics reach their climax in *Il libro di Mara* (1919) In 1924 was published *I canti dell' isola,* singing the beauty of Capri In her last years Negri found religion the only refuge from the frustrations and disillusions of life, and her last volumes of poetry—*Vespertina* (1931) and *Il dono* (1936)—express resignation and serenity Her prose includes *Le solitarie* (1917), short stories, and the autobiographical novel *Stella mattutina* (1921, Eng tr, *Morning Star,* 1930) She became the first woman member of the Italian Academy in 1940

Negrillo see PYGMY.

Negri Sembilan (nä'grē sĕmbē'lun), state (2,560 sq mi, pop 267,281), SW Malaya, on the Straits of Malacca The capital is Seremban Clockwise from northwest to south, the state borders on Selangor, Pahang, Johore, and Malacca The chief industry is tin mining, rubber, rice, and betel nuts are grown More than half the people are non-Malays (Chinese and Indians) The separate political existence of this state began in the 18th cent After a considerable immigration of Minangkabaus from Sumatra, the Negri Sembilan [nine states] broke away from the kingdom of Riouw and Johore to form a loose confederation Each state was then practically independent The British established their influence by making treaties with the separate states (1874–80) and by re-forming them into a closer federation (1895), which became one of the Federated Malay States and in 1948 passed into the federation of Malaya

Negrito see PYGMY

Negro, member of any of several groups of peoples, characterized physically by a black or dark brown skin, wooly hair, broad flat nose, prominent eyes with yellowish cornea, thick lips, and prognathous jaw Most Africans are Negroes, but the term is more properly applied to tribes of central and W Africa, e g, the SWAHILI, BANTU, and ZULU Negroid peoples include the Negrillo and Negrito (see PYGMY) In general the Negroes in Africa are semisettled and practice a crude form of agriculture and simple handicrafts such as weaving narrow strips of cloth from grass and making pottery and also bracelets of brass and of ivory. Their religion is generally a form of ANIMISM, though in coastal regions, Mohammedanism has won many converts and Christianity some adherents Fetishism and witchcraft are widespread and have given rise to voodoo The women generally carry on the agriculture and menial labor However, many African Negroes have lived in a far more advanced stage of material culture from ancient times Negroes were one of the many peoples who invaded Egypt, and they influenced and were influenced by the civilization which developed there In the period c 1700–1580 B C, Egyptians and Nubians mingled freely, and black men came to hold important positions in Egyptian government Much later, beginning c 741 B C, the Nubians initiated a campaign of conquest which held Egypt in subjugation for about a century In the northern and western sections of Africa an indigenous Negro culture flourished for centuries before the Arab invasions in the 7th cent A D Ghana, originally a confederacy of settlements from the Senegal to the upper Niger, doubtless had a history extending back into the pre-Christian era, although evidence of its existence dates only from the 4th cent A D This state, which apparently had a high degree of political organization, expanded greatly Agriculture and, to a lesser extent, trade occupied the people With the coming of the Arabs, Ghana prospered, but in the 11th cent, religious wars, in which fanatical Mohammedans triumphed, and droughts so weakened Ghana that it fell to conquerors in the 12th and 13th cent A second Negro kingdom, Melle, flourished especially from the 13th to the 15th cent At its height it included most of what is now French West Africa A third kingdom, Songhay, began early in the 8th cent at Gao, near the bend of the Niger It came to be dominated by Melle until the 15th cent, when it conquered that kingdom, only to fall itself to Spanish Moors in the 16th cent Lesser Negro states rose and declined periodically in Africa, always north of the equator Little is known about the Negro tribes south of that line Slavery was a recognized institution among the Africans, but it was not until the 15th cent that Europeans began taking Negro slaves out of Africa By 1460 hundreds of slaves were being carried annually to Portugal, and by the 17th cent the slave trade had become a profitable European enterprise (see SLAVERY) Negro slaves accompanied the early Spanish and Portuguese explorers of the New World, and there have been Negroes in the Americas since at least 1501 The Europeans turned to Negroes for their labor supply The year 1517, when the Spanish were permitted to import 12 Negroes each, is said to mark the formal opening of the Negro slave trade to the New World, and by 1540 it has been estimated that 10,000 Negroes were being imported annually to the West Indies The first Negroes in what is now the United States came to Virginia in 1619 At first their status was similar to that of white indentured servants A few Negroes even owned plantations with their own servants, including in at least one case, white servants However, the English, in need of a labor supply, turned to the inexhaustible supply of Negroes available first in the West Indies and then directly in W Africa itself With the success of tobacco planting assured, Negro slavery was sanctioned by law in Virginia in 1661 and in Maryland in 1663 The institution was the foundation of the economy in all the Southern colonies, including Georgia, where it had originally been forbidden The Northern colonies also had Negro slaves, in lesser numbers, but only in the Hudson valley and Pennsylvania were they used extensively in agriculture In Pennsylvania, home of the Quakers, they received their best treatment, but, even so, disapproval of the institution was widespread among the Quakers and Germans there Although the Massachusetts "Body of Liberties" of 1641 banned bond slavery in the colony, the Puritans played a large role in fostering the institution in America through their activities in the slave trade Boston, Newport, and other New England ports profited from the "triangular trade" in molasses, rum, and Negroes, and many slaves were kept in New England All the colonies had codes or individual laws regulating the activities of Negroes These were mildest in New England and most severe in the South, where the growth of the Negro population, from continued forced immigration and from natural increase, had alarmed the whites Under the Virginia code, for instance, which was well established by the end of the 17th cent, no slave was allowed to leave the plantation without the written permission of his master Slaves found guilty of murder or rape were hanged Robbery and lesser offenses were punished by whipping, maiming, or branding Southern fears of slave insurrections were well grounded, for, contrary to popular impression, many Negroes were not disposed to accept their bondage docilely As early as 1663 Virginia Negroes conspired to rebel Not until after the French and Indian Wars was there any considerable sentiment against slavery in America Then not a few among the colonists seemed to become aware of the inconsistency which saw them as oppressed by the British yet themselves

oppressing Negroes The fact that one of the men killed in the Boston Massacre, Crispus Attucks, was a runaway slave, doubtless pricked many a conscience, and in Massachusetts, at least, it became habit to denounce England and slavery in the same breath Thomas Jefferson's "vehement philippic against Negro slavery" was deleted from the Declaration of Independence Nevertheless, approximately 5 000 Negroes fought for the patriot cause and their own freedom in the American Revolution Others fled slavery to find personal liberty fighting for the British Most of the Negroes in the Continental army and navy came from the North, although only Georgia and South Carolina among the new Southern states refused to permit the recruiting of Negroes, a plan which George Washington came to accept completely The vast majority of Negro soldiers served alongside their white comrades, not in segregated fighting groups After the war antislavery and manumission societies became widespread and slavery was more or less gradually abolished in the Northern states The provision in the Ordinance of 1787 barring slavery and involuntary servitude in the Northwest Territory marked a peak in post-war antislavery sentiment A conservative reaction then set in, and slavery was protected by the Constitution of the United States, under which three fifths of a state's slaves were counted towards its portion of the representation in Congress (Article 1, Section 2) The Constitution also recognized the public obligation to return fugitive slaves (Article 4, Section 2), but prohibited the slave trade after 1808 (Article 2, Section 9) Despite these constitutional guarantees, slavery slowly declined and might well have died a lingering death in the South had not the invention of the cotton gin (1793) radically changed the economic scene The cotton gin spurred large-scale production of cotton, which required the labor of increasing numbers of slaves as new lands were quickly opened up westward to the Mississippi It is with the cotton plantation that Negro slavery in the United States is especially associated By 1830 there were more than 2,000,000 slaves At the bottom on a typically large cotton plantation were the field hands, men, women, and older children, who performed the backbreaking productive work of the plantation from sunrise to sunset and at harvest time often after dark They were either supervised by the planter himself or by his overseer, who, lacking any personal interest in the Negroes, was apt to be responsible for much of the cruelty that existed under the system Only a few plantations rewarded conscientious work, and hence the Negroes did not extend themselves unless they were forced Somewhat better off than the field slaves were those who performed the semiskilled manual tasks incident to the upkeep of a plantation —carpenters, blacksmiths, and the like Such workmen were often hired out by their owners at a profit Best off in the slave social order were the house servants, better clothed and fed and with much less onerous duties than the field hands, whom they tended to view with contempt Only the larger plantations had house servants, and their number came to be an indication of a planter's wealth This group, from a natural disinclination to see its progeny become field hands tended to increase itself beyond the actual need for its services Unfettered by inhibitions, the slave children and white children played together about the plantation, even in the "big house" and the cabins, but this idyl ended for the slaves when they came of working age For mature slaves life was generally barren, although in the Christmas season and the summer layoff they could either work for themselves or seek rest and recreation No work was performed on Sunday, and religious activity among the Negroes was not opposed so long as it was not accompanied by incitement to freedom Early in the 18th cent there were some slave congregations on the larger plantations and in the towns In the 1830s, however, Negro preachers were outlawed in most states, and the slaves were more and more required to attend the churches of their masters Religious instruction for the Negroes laid emphasis on obedience and subserviency, and the Southern churches of all sects (except the Quakers) became strong defenders of the "peculiar institution" Despite universal laws against teaching Negroes, many of the slaves did receive some education, and there were even a few schools for Negroes A poet such as the colonial Boston girl Phillis WHEATLEY was a rare curiosity, however The economic interests of the slaveowner, it has been said, were often inimical to a stable family life for his slaves Slave unions were not usually blessed with religious ceremony Too often after a "marriage," when children came, the family was broken up as its members were sold apart from each other. This was doubtless the most vicious of the many unpleasant features of the institution That miscegnation (involving white males and Negro females almost exclusively) was widespread is well attested by the varied complexions of the mulattoes, quadroons, and other mixtures which came to abound The attractive quadroons of New Orleans, where it was the custom of the rich young bloods to set up establishments, often luxurious, for their concubines, were a class apart. Kind masters were not lacking under slavery, and it was not uncommon for them to free their slaves by a last will and testament Many free Negroes, however, either bought their own freedom or had it bought by other free Negroes, usually someone in the family On the other hand, there were free Negroes who owned slaves themselves For the most part the free Negroes in the South lived in the larger towns, where they were generally mechanics and artisans, hated and feared by the poor whites as economic competitors Their situation was often less enviable than that of highly favored house servants, for they were severely restricted in their movements and in other ways Yet they dearly cherished their freedom Others could always dream of escape to the North, and thousands did escape, aided by the UNDERGROUND RAILROAD The possibility of a general slave insurrection was a perpetual nightmare to Southerners, but none ever occurred, not even in the course of the Civil War when most able-bodied Southern white men were at the fighting fronts Most famous of Negro rebels were Denmark Vesey, a freeman of Charleston, S C, whose elaborate plot (1822) was made known to the whites before it went into effect, and Nat TURNER, a Virginia slave, leader of the Southampton Insurrection (1831), which was quickly put down Turner's revolt killed what small organized sentiment had existed in the South for manumission, but by that time antislavery sentiment in the North began to reach crusading proportions and never slackened thereafter (see ABOLITIONISTS) Most prominent among Negro abolitionists was Frederick DOUGLASS Josiah HENSON, Sojourner TRUTH, and Harriet TUBMAN also performed valuable services for their race Slavery, particularly the question of its extension into the new Federal territories, had been a serious national political issue ever since the adoption of the MISSOURI COMPROMISE in 1820 and with the COMPROMISE OF 1850, which featured stricter FUGITIVE SLAVE LAWS, and the KANSAS-NEBRASKA BILL (1854), it became the dominant theme in politics (see also DRED SCOTT CASE) A new party, the Republican, was organized to oppose the further extension of the institution When its candidate, Abraham Lincoln was elected President in 1860, the Southern states seceded from the Union and the sections were soon in arms against each other More than 186,000 Negroes fought in the Union ranks in the Civil War, 93 000 of them coming from the Confederate states They fought in segregated units and were mostly led by white officers, with some Negro noncommissioned officers Lincoln's EMANCIPATION PROCLAMATION, while having no effect on Negroes of the border slave states, technically freed the slaves in the Confederacy There, in the great Union invasion of 1864–65, they habitually flocked in huge numbers to the Northern armies where, styled "contrabands," they posed a serious problem Many of them were set to work in tasks auxiliary to the movements of the conquering host Negroes suffered severely in the New York city DRAFT RIOTS of 1863 With the Union triumph in April, 1865, came the "day of jubilee" for almost 4,000,000 slaves Their general lack of education and the complexity of the modern world made the problem of their adjustment to freedom a difficult one The Federal government established the FREEDMEN'S BUREAU to help them, and the Republican party organized the Union League Clubs to corral their newly won and powerful vote In the heyday of the radical Republican RECONSTRUCTION program for the South, the Negro enjoyed great political power, but the excesses of Republican rule brought an equally unpleasant reaction in such organizations as the KU KLUX KLAN, by which Southerners set out to maintain "white supremacy." The nation finally became weary of the Southern problem, and when, after the disputed presidential election of 1876, Federal troops were withdrawn from the South, the Republicans lost their prop The "black legislatures" of Reconstruction, as they were often called, despite their corruption did enact much sound social legislation, especially concerning public education Economically, freedom left the Negro not much, if any, better off than he had been under slavery The share-cropping system, which replaced the ante-bellum plantation, held him, as well as the poor white, in another kind of bondage His dream of "40 acres and a mule" proved illusory A crowning disappointment came in the 1880s and 1890s, when the Southern states, beginning with Mississippi, adopted new state constitutions which, in providing for the poll tax and education requirements for voting, effectively disfranchised the Negro despite the Fifteenth Amendment to the Constitution These constitutions marked the final triumph of "white supremacy." Meanwhile the pattern of segregation had been firmly established when Tennessee enacted laws prohibiting the intermarriage of the races (1870) and adopted (1875) the first "Jim Crow" law. The rest of the South rapidly followed suit, and the new state constitutions firmly established the color line. Negroes and whites were separated (and still are) on trains, in railroad stations, and on wharves, and towards the end of the 19th cent Negroes were barred from white hotels, barber shops, restaurants, and theaters Even justice was difficult to obtain, and when mob feeling was high, LYNCHING too often resulted. The policy of segregation in the schools of the South became expensive, one which the region could ill afford, and its effect was noticed in the generally low level of Southern education Despite all these handicaps and considering the short span of his free status, the Negro, under such leaders as Booker T WASHINGTON of TUSKEGEE INSTITUTE, made great strides forward Other Negro institutions of higher education had already been founded Washington wisely emphasized vocational and technical training for his people and insisted that their future was still in the South But he was not disposed to protest disfranchisement and the abrogation of civil rights and was therefore roundly attacked by other Negro leaders, notably William E B Du Bois Many Negroes migrated to Northern cities, where they found work chiefly in domestic service and as laborers There their status was, in general, considerably improved In the South there was also a movement from rural areas toward the city In their new homes, they organized their own churches, having long since embraced evangelical Christianity with all the emotional fervor of the race The churches became the center of social activities, which were further extended through numerous lodges and orders The benefit and burial societies also became popular organizations Although labor unions generally did not welcome Negro membership, the migration citward was peaceful except where Negroes were introduced as strikebreakers, in such cases riots often occurred In the First World War, when the supply of European laborers was cut off, the lack was supplied by importing large numbers of Negroes into the North Many entered the semiskilled occupations, particularly the building and allied trades, and other branches of industry New York, Philadelphia, Chicago, St Louis, Detroit, and other urban centers received large Negro populations closely crowded into fairly well-defined districts Accommodations were poor and costly in comparison with similar quarters rented to whites Sanitary conditions were bad, and Negro mortality ran high above the average for the rest of the population Many Northern whites resented this mass intrusion and the competition consequent upon it in industry and in housing Race rioting broke out in several places, one of the worst occurring in East St Louis, Ill, in 1917, there was another in Chicago in 1919 In spite of these sporadic outbreaks, the Negro was definitely established in the urban and industrial centers, particularly of the N Atlantic and North central states And in spite of the frequently wretched physical conditions under which he lived, he had the vote, even in some cases to the extent of controlling the election, while public schools, conveyances, and to some degree places of recreation and amusement were open to him The scope of his activities in industry, business, the trades, and the professions was constantly widened To this progress the National Association for the Advancement of Colored People, organized in 1910, contributed much For his part the Negro made, as he continues to do, definite cultural contributions to American life, in literature, the arts, scholarship, science, the drama, and especially in NEGRO MUSIC Until the 1930s most Negroes were Republican in politics, but when Franklin D Roosevelt's New Deal brought them increased social and economic benefits they soon became one of the most important elements in the Democratic coalition In the First World War, 367,000 Negroes were called to the armed forces through selective service, while another 20,000 were already in the regular army and the National Guard, and roughly 1,000,000 Negro men and women served in the Second World War In that conflict the migration from the South to the boom cities of the North was repeated as the rigid anti-Negro policy in industry was broken When industrial production skyrocketed even before the United States entered the war, Negro leaders threatened a march on Washington unless job discrimination were ended This was forestalled when, on June 25, 1941, President Roosevelt issued Executive Order 8802, which prohibited "discrimination in the employment of workers in defense industries or government because of race, creed, color, or national origin" A Committee on Fair Employment Practices, composed of representatives of the public, management, and labor, was set up to receive and investigate complaints, and although it had no punitive powers, its very existence improved the employment status of Negroes. The armed forces, however, continued their policy of segregation; as a result William H Hastie, Negro civilian aide to the Secretary of War, resigned in Jan., 1943. Negroes serving their country abroad were much better received than their comrades

stationed in the United States. However, there were a few compensations The army had its first Negro general, Benjamin O Davis, whose son, B O. Davis, Jr , commanded a highly praised Negro fighter group in the air force With the end of the war, the "Negro problem," or "an American dilemma," as Gunnar Myrdal calls it, was still very much with the nation Negroes were estimated to number 13,000,000 and thus roughly 10 percent of Americans were "second-class citizens" The battle for civil rights went on, though no Scottsboro Case cropped up again The U S Supreme Court required several Southern states to either admit Negroes to state professional schools or establish equal facilities for the race And the achievements of Ralph J Bunche in diplomacy and Jackie Robinson in becoming the first Negro ballplayer in the major leagues were heartening to their people Even the armed forces went quietly about letting down the color bar in certain units Such gains, small as they are, mean much towards making Negroes first-class citizens at last The literature on the Negro, mostly by Negroes, is enormous For titles published before 1928, see M N Work, *A Bibliography of the Negro in Africa and America* (1928) For the Negro outside the United States, see Maurice Delafosse, *The Negroes of Africa History and Culture* (Eng tr , 1931), Geoffrey Gorer, *Africa Dances a Book about West African Negroes* (1935), J J Sweeney, ed , *African Negro Art* (1935), Donald Pierson, *Negroes in Brazil* (1942), Eric Williams, *The Negro in the Caribbean* (1942), Gilberto Freyre, *The Masters and the Slaves a Study of Brazilian Civilization* (Eng tr , 1946), H A Wieschhoff, *Anthropological Bibliography of Negro Africa* (1948), Walter Fitzgerald, *Africa* (6th rev ed , 1949) Outstanding among the general studies on the Negro in the United States are B G Brawley, *A Short History of the American Negro* (4th rev ed , 1939), E R Embree, *Brown Americans* (1943), Gunnar Myrdal and others, *An American Dilemma the Negro Problem and Modern Democracy* (2 vols , 1944, condensed in one volume by Arnold Rose as *The Negro in America*, 1948), *Encyclopedia of the Negro* (preparatory volume, 1945), J H Franklin, *From Slavery to Freedom* (1947), C G Woodson, *The Negro in Our History* (9th ed , further revised and enlarged, 1947), Ron Ottley, *Black Odyssey* (1948), E F Frazier, *The Negro in the United States* (1949), the *Negro Year Book* (annual) M R Eppse, *A Guide to the Study of the Negro in American History* (3d printing revised and enlarged, 1943) is useful Important special studies of the American Negro are M J Herskovits, *The Anthropometry of the American Negro* (1930), C G Woodson, *The Rural Negro* (1930), Vernon Loggins, *The Negro Author* (1931), S D Spero and A L Harris *The Black Worker* (1931), B G Brawley, ed , *Early Negro American Writers* (1935), W E B Du Bois, *Black Reconstruction* (1935) and *Black Folk—Then and Now* (1939), Otto Klineberg, *Negro Intelligence and Selective Migration* (1935) and *Characteristics of the American Negro* (1944), H A Wyndham, *The Atlantic and Slavery* (1935) and *The Atlantic and Emancipation* (1937), Alain Locke, *Negro Art, Past and Present* (1936) and *The Negro in Art* (1940), B G Gallagher, *American Caste and the Negro College* (1938), E F Frazier, *The Negro Family in the United States* (1939, abridged ed , 1948), E B Henderson, *The Negro in Sports* (1939), C S Mangum, Jr , *The Legal Status of the Negro* (1940), S D Smith, *The Negro in Congress, 1870-1901* (1940), Richard Wright, *12 Million Black Voices* (1941), L J Greene *The Negro in Colonial New England, 1620 1776* (1942), Herbert Aptheker, *American Negro Slave Revolts* (1943), R M E Sterner and others, *The Negro's Share* (1943), R W Logan, ed , *What the Negro Wants* (1944), H R Northrup, *Organized Labor and the Negro* (1944), S C Watkins, ed , *Anthology of American Negro Literature* (1944), S J Schoenfeld, *The Negro in the Armed Forces* (1945), Walter White, *A Rising Wind* (1945), J R Ismael, ed , *The Negro in the American Theatre* (1947), C S Johnson and others, *Into the Main Stream a Survey of Best Practices in Race Relations in the South* (1947), M R Davie, *Negroes in American Society* (1949), Langston Hughes, ed , *Poetry of the Negro* (1949)

Negro, Río (nā'grō nä'grō), river formed in N central Argentina by the junction of the Neuquén and the Limay and flowing E across Río Negro prov (N Patagonia) to the Atlantic The river is used for irrigation and is partly navigable

Negro, Rio, river of N Brazil, one of the chief tributaries of the Amazon and a primary commercial channel It originates as the Guainía in Colombia and receives the Içana and the Branco (its main tributary) The Río Negro is connected with the Orinoco by the Casiquiare, a natural canal Pedro Teixeira discovered (1637–38) the Negro

Negro, Río, river of Uruguay, rising in S Brazil and flowing SW to the Uruguay near its mouth on Río de la Plata estuary

Negro minstrel, white entertainer in Negro make-up Thomas Dartmouth Rice, a white comedian who gave the first solo performance in blackface (c 1828) and introduced the song-and-dance act *Jim Crow*, is called the "father of American minstrelsy" The first public performance of a minstrel show by white men was presented early in 1843 by the Virginia Minstrels (formed in 1842), headed by Daniel Decatur Emmett Christy's Minstrels (for whom Stephen Collins Foster wrote some of his most popular songs) appeared in 1846, headed by Edwin P Christy Bryant's, Dockstader's, Thatcher, Primrose, and West's, and Neil O'Brien's were among the great minstrel companies that followed the pattern set by Christy The minstrel show had three parts In the first part the company, in blackface and gaudy costumes, paraded to chairs placed in a semicircle on the stage The interlocutor then cracked jokes with the end men, and, for a finale, the company passed in review in the "walk around" In the second part a vaudeville or olio was offered in front of the curtain The third or afterpart presented a burlesque on a play or an opera The minstrel show reached its peak from 1850 to 1870, but passed with the coming of vaudeville, moving pictures, and radio entertainment See Dailey Paskman and Sigmund Spaeth, *"Gentlemen, Be Seated!"* (1928), Carl Wittke, *Tambo and Bones* (1930), Alain Locke, *The Negro and His Music* (1936)

Negro music see African music, blues, jazz, ragtime, spiritual

Negropont, Greece see Euboea and Chalcis

Negros (nā'grōs), island (4,905 sq mi , pop 1,218,710), one of the Visayan Islands, in the Philippine Islands It is between Panay and Cebu The island is mountainous, particularly on the east coast, and lacks good harbors Sugar cane, rice, hemp, corn, and tobacco are grown Important centers are Bacolod on the west coast and Dumaguete on the southeast coast where Silliman Univ (1901) is situated Negritos inhabit the interior

Nehavend (nā"hävĕnd'), town, W Iran, S of Hamadan It is the center of a complex of agricultural villages, which have in all a population of c 65,000 Nehavend was the scene of a decisive victory of the Arabs over the Persians in 641 or 642 The name also appears as Nehawand

Nehelamite (nēhĕl'umīt), obscure epithet of the false prophet Shemaiah Jer 29 24–31

Nehemiah (nē"umī'u) [Heb ,=consoled by God] **1** Central figure of the book of Nehemiah see Ezra **2** One who returned from the Exile Ezra 2 2, Neh 7 7 **3** Worker on the wall Neh 3 16

Nehemiah, book of the Bible see Ezra

Nehiloth (nē'hĭlōth), in the title of Ps 5, musical direction of unknown meaning

Nehru, Jawaharlal (juwuhŭrlal' nĕ'rōō), 1889–, Indian statesman, b Allahabad, educated at Harrow and Cambridge, son of Motilal Nehru He was admitted to the bar in 1912 and practiced law in India for several years After the massacre at Amritsar (1911) he devoted himself to the struggle for India's freedom His compelling oratory and his charming personality contributed to making him a leader of the Indian National Congress, and in 1929 (the first of four times) he was elected its president Most of the period from 1930 to 1936 he spent in jail for conducting civil disobedience campaigns About 1939 disharmony developed between him and Gandhi, the major figure in the Congress Nehru, who had been influenced by a study of Marxism, opposed Gandhi's ideal of an agrarian society and advocated a program calling for the industrialization and socialization of India During the Second World War, however, the two were united in their opposition to aiding Great Britain unless India were immediately freed, and Nehru was jailed from Oct , 1942 to June, 1945 After his release, he participated in the negotiations which led to India's freedom, and in 1946 he was made vice president of the interim Indian government After the formation of Pakistan (Aug , 1947), he became the prime minister and the minister of foreign affairs of India At least temporarily he abandoned his socialist position, perhaps so that the Congress might be united in the difficult early years of independence In foreign affairs, however, he continued vigorously to oppose imperialism, particularly as displayed by the Netherlands in Indonesia On a visit to the United States in Oct , 1949, he called for world peace but stated that India would not adopt a pacifist position if attacked, some interpreted this statement as abandonment of Gandhi's principles Nehru wrote voluminously, especially while in prison (*Glimpses of World History* (1936) comprises letters to his young daughter *The Discovery of India* (1946) also deals with history See his autobiography, *Toward Freedom* (American ed , 1941)

Nehru, Motilal (mō'tĭlāl), 1861–1931, Indian political leader, b Kashmir, educated at Muir College, Allahabad, father of Jawaharlal Nehru A successful attorney, he joined the Indian nationalist movement at his son's urging. Nehru was twice president of the Indian National Congress and was several times jailed for participating in civil-disobedience campaigns.

Nehum (nē'hum), alternative name of Rehum **2**

Nehushta (nēhŭsh'tu) [Heb ,=brass], wife of King Jehoiakim 2 Kings 24 8.

Nehushtan (nēhŭsh'tăn) [Heb ,=brazen], brazen serpent made by Moses It came to be worshiped by the Israelites, and Hezekiah destroyed it Num 21 9, 2 Kings 18.4

Neidhart von Reuental (nīt'härt fŭn roi'untāl), c 1180–c 1245, Bavarian court poet He introduced a new note in the songs of the minnesingers—bright, humorous lyrics of village and peasant life

Neiel (nē'yul, nē'ul), unidentified landmark, N Palestine Joshua 19 27

Neihardt, John Gneisenau (nī'hart), 1881–, American poet, b Sharpsburg, Ill , grad Nebraska Normal College, 1897 He lived (1901–7) among the Omaha Indians at their reservation near Bancroft, Nebr , and wrote lyrics and stories about them His epic cycle of the Indians and frontiersmen is in five book-length poems—*The Song of Hugh Glass* (1915) properly the second volume, *The Song of Three Friends* (1919), first in the story, *The Song of the Indian Wars* (1925), *The Song of the Messiah* (1935), and *The Song of Jed Smith* (1941) His prose includes *The Splendid Wayfaring* (1920), a history of Jedediah Smith, *Poetic Values* (1925), *Indian Tales and Others* (1926), and *Black Elk Speaks* (1932), the autobiography of an Indian medicine man as told to Neihardt See also his *Collected Poems* (1926) for his shorter narratives and lyrics

Neillsville (nēl'zvĭl), city (pop 2,562) co seat of Clark co , central Wis , SE of Eau Claire and on the Black River, settled 1844, inc 1882 The Winnebago Indian Mission School is here

Neilson, Adelaide (nēl'sun), 1848 80, English actress, whose real name was Elizabeth Ann Brown She made her debut as Juliet in 1865 and added Rosalind, Beatrice, Imogen, and other Shakspearian characters to her repertoire She acted with great success in England and from 1872 to 1879 in the United States

Neilson, William Allan (nēl'sun), 1869–1946, American educator, b Scotland, M A Univ of Edinburgh, 1891, Ph D Harvard, 1898 He taught English in Scotland and Canada and at Bryn Mawr and Columbia and served (1906–17) as professor of English at Harvard From 1917 until his retirement in 1939 he was president of Smith College He was author of a number of critical works, editor of the Cambridge and Tudor editions of Shakspere (1906, 1911), and editor in chief of the second edition (1934) of *Webster's New International Dictionary*

Neipperg, Adam Adalbert, Graf von (ä'däm ä'dälbĕrt graf' fŭn nī'pĕrk), 1775–1829, Austrian general and diplomat He fought in the Napoleonic Wars and, as ambassador to Sweden (1811–13), helped to turn Bernadotte against France He represented Empress Marie Louise, Napoleon's consort, at the Congress of Vienna (1814–15) and accompanied her to the duchy of Parma, where he served as her chief minister In 1821, on Napoleon's death, he married her morganatically

Neisse (nī'su) two rivers of Silesia The **Glatzer Neisse** (gla'tsur, Pol *Nysa Kłodzka* (nĕ'sä kwôts'ka), 120 mi long, rises in the Sudetes and winds NE past Glatz to join the Oder It is entirely in territory administered (since 1945) by Poland Farther west is the **Lausitzer Neisse** (lou'zĭ"tsur) or **Lusatian Neisse** (lōōsā'shun), Czech *Lužická Nisa* (lōō'zhĭtska nī'sa), Pol *Nysa Łużycka* (nĕ'sa wōōzhĭts'ka), also known as Gorlitzer Neisse It is 140 mi long and rises in N Bohemia, Czechoslovakia flowing generally north, it crosses the Sudetes and flows past Görlitz, through Lusatia, into the Oder It forms, from the Czech frontier to its mouth, the border between Russian-occupied Germany and the German territories placed (1945) under Polish administration

Neith, see Egyptian religion

Nejd (nĕjd), former emirate, N central Arabia Riad is the chief city The Nejd is a vast plateau from 2,500 ft to 5,000 ft high There is a chain of oases in the eastern section, elsewhere the inhabitants are nomadic Bedouins The Nejd, from the beginning the center of the Wahabi movement, was gradually conquered from Turkey by the Wahabi leader, Ibn Saud From this base he completed his conquest of the Hejaz and El Hasa In 1932 the Nejd became part of his newly constituted domain, Saudi Arabia

Nejef (nĕ'jĕf) or **Najaf** (nä'jaf), town, Iraq, on the banks of shallow Nejef lake The town is also called Meshed Ali, after the tomb (enclosed in a mosque) which supposedly contains the remains of Ali, son-in-law of Mohammed the Prophet The town is a great pilgrimage center for Shiite Moslems

Nekeb see Adami

Nekhtnebf I (nĕkt"nĕ'buf), Gr *Nectanebos I* (nĕktă'nŭbus), king of ancient Egypt (379–361 B C), founder of the XXIX dynasty By the gallant defense of the delta fortresses and then of Memphis until the rise of the Nile, he saved his country from the Persian invasion of Pharnabazus in 374 B.C This defeat of the Persians touched off a general revolt of the satraps of W Asia, which occupied Persia for the rest of his reign His splendid tem-

ples at Bubastis, Memphis, Abydos, Karnak, and Edfu are worthy to rank with those of the Saïte renaissance (663–525 B C) His son, Tachos, while invading Syria, was overthrown by **Nekhtnebf II** (reigned 359–343), son of the Egyptian viceroy This Nekhtnebf was likewise a great builder, as an all-granite temple at Horbeit, a kiosk at Philae, bas-reliefs at Karnak, and statues at Abydos and Bubastis testify Persia had now recovered its strength and bent all its efforts to reconquer Egypt Thanks to Greek aid Nekhtnebf beat off the first attack in 351, but in 343, hopelessly outnumbered, he was defeated and fled

Nekoda (nĕkō'dù), name of two families returned from exile Ezra 2 48,60, Neh 7 50,62

Nekoosa (nĭkōō'sù), city (pop 2,212), central Wis , on the Wisconsin and SW of Wausau, settled 1892, inc as a city 1926 It has paper mills

Nekrasov, Nikolai Alekseyevich (nyĭkûl' ůlyĭksyà'-lyĭvĭch nyĭkrà'suf), 1821–77, Russian poet, editor, and publisher The driving force of his life was to improve conditions in Russia, especially the lot of the peasant This is seen in his work as owner and editor of the progressive literary journal *Contemporary* (1846–66), in his short folk lyrics, in his longer narrative poems, of which a good example is the realistic fantasy of peasant life, *The Red-nosed Frost* (1863, Eng tr , 1887), in the tragic poem *Russian Women* (1867), and in the satirical portrait of Russia as it was under serfdom, *Who Is Happy in Russia?* (1873) Many of Nekrasov's poems are available in English See Leo Wiener, *Anthology of Russian Literature* (1902).

nekton see MARINE BIOLOGY

Neligh (nē'lĭ), city (pop 1,796), co seat of Antelope co , NE Nebr , on the Elkhorn river, inc 1873.

Nelson, Aven, 1859–, American botanist and educator, b Keokuk, Iowa, M A Harvard, 1892 He was connected with the Univ of Wyoming as professor (1887–1940) and as president (1917–22) His writings include *Trees of Wyoming* (1899), *Key to Rocky Mountain Flora* (1902), *Spring Flora of the Intermountain States* (1912), and numerous contributions to botanical magazines

Nelson, Byron (John Byron Nelson, Jr), 1912–, American golfer, b Fort Worth, Texas In 1926 he began playing golf as a caddy, and while later working at odd jobs, he entered professional tournament play A member (1937–40) of the victorious U S Ryder Cup team, Nelson also won the U S National Open title (1939) and the Professional Golfers Association championship (1940) He set a record by winning $35,000 in eight professional tournaments in 1944. He wrote *Winning Golf* (1946)

Nelson, Donald Marr, 1888–, American businessman and administrator, chairman of the U S War Production Board (1942–44), b Hannibal, Mo , grad Univ of Missouri, 1911 He was executive vice president of Sears, Roebuck and Company when called (1940) into government service on economic boards for converting industry to defense and war purposes After leaving the WPB, he was sent as personal representative of President F D. Roosevelt to China (1944–45), he then was (1945–47) president of the Society of Independent Motion Picture Producers He is the author of *Arsenal of Democracy* (1946)

Nelson, Horatio Nelson, Viscount, 1758–1805, English naval hero, b Norfolk, son of a clergyman He entered the navy in 1770 After a long period of arduous training, he became a captain at the age of 20 and saw service in the West Indies, in the Baltic waters, and in Canada During these years he became friendly with Prince William Henry (later William IV), who acted as best man when Nelson married (1787) a widow, Frances Nisbet, in the West Indies. That same year he returned to England and remained inactive and somewhat in disfavor at the admiralty until the outbreak of the FRENCH REVOLUTIONARY WARS (1793), when he was given command of the English ship *Agamemnon* Nelson served in the Mediterranean, fighting at Toulon and helping to capture Corsica At Calvi he lost the sight of one eye Under Sir John Jervis he was largely responsible, acting without orders, for the victory over the Spanish off Cape St. Vincent (1797) He was made a rear admiral by seniority and created a knight of the Bath In the unsuccessful English attempt (1797) to capture Santa Cruz de Tenerife, Nelson lost his right arm, and he was returned to England. Upon his return to service, he was sent on detached duty to find the French fleet After a long pursuit the French fleet was by brilliant seamanship destroyed at ABOUKIR (1798), ending the dream that NAPOLEON I had cherished of conquest in the East Nelson was showered with rewards and honors, but received only the comparatively modest title of Baron Nelson of the Nile. He was placed in command of a squadron assisting the kingdom of the Two Sicilies. Here he fell in love with Emma, Lady HAMILTON, the wife of the British ambassador, who became his mistress. After the French took possession of Naples (1799), Nelson blockaded the city, terminated an armistice which Cardinal Ruffo had made with the Neapolitan rebels, and executed the Neapolitan admiral, Francesco CARACCIOLO, for desertion to the French. For these acts he was later severely criticized, but he was created duke of Bronte in Sicily When the British commander in chief in the Mediterranean, Lord Keith (George Keith Elphinstone), ordered him to Minorca, Nelson refused to obey on the grounds that his presence in Naples was politically necessary, but it was suspected that he did not wish to leave Lady Hamilton In 1800 he returned to England with the Hamiltons and soon separated (1801) from his wife The same year, Lady Hamilton bore him a daughter, Horatia He was second in command against the armed neutrality in the Baltic and defeated the Danes at Copenhagen (1801), ignoring Sir Hyde Parker's order (which he knew to be optional) to cease action by putting his telescope to his blind eye and saying that he could not see the signal He was made a viscount, returned to England, and was given command of the Channel fleet to repel an expected French invasion During the interlude of peace (1802–3), he lived in the country with the Hamiltons Upon the outbreak of war (1803), Nelson was given command of the fleet in the Mediterranean and blockaded the French fleet at Toulon for 22 months Upon their escape and flight to the West Indies, Nelson pursued the French across the Atlantic and back but never overtook them In 1805 he destroyed the combined French and Spanish fleets off Cape TRAFALGAR, but was killed in the action It was before this battle that he gave the famous signal, "England expects that every man will do his duty " His body was returned to London, given a state funeral, and buried in St Paul's Cathedral He is commemorated by the celebrated Nelson Column in Trafalgar Square, London See biographies by Robert Southey (1813, ed by G A R Callender, 1922), A T Mahan (1897), C S Forester (1929), Carola Oman (1946), and W M James (1949)

Nelson, John Maurice, 1870–, American chemist and educator, b West Point, Nebr , grad Univ of Nebraska (B S , 1901), Ph D Columbia, 1907 A teacher from 1902, he joined the Columbia faculty in 1908, becoming assistant professor of organic chemistry (1915), professor (1920), and emeritus professor (1948) He developed with K G Falk the electronic theory of valence originally advanced by J J Thomson, He is a recognized authority on the isolation and purification of naturally occurring enzymes, his research in this field has been concerned especially with invertase and tyrosinase

Nelson, Knute (knōōt'), 1843 1923, U S Senator (1895–1923), b Norway He was brought to America at the age of six, grew up on a Wisconsin farm, and served in the Union army He was admitted (1867) to the bar, practiced law in Minnesota, and entered Republican politics After service (1875–78) in the Minnesota state senate, he was (1883–89) U S Congressman and then (1893) became governor of Minnesota He resigned the governorship to serve in the U S Senate, where, dissenting from orthodox Republicanism, he favored a modified tariff, supported antitrust and income-tax legislation, backed U S membership in the League of Nations, and helped create the Dept of Commerce and Labor See biography by M W Odland (1926)

Nelson, Robert, 1794–1873, Canadian rebel, b Montreal, brother of Wolfred Nelson Like his brother, he was a surgeon in the War of 1812, and with him he entered the legislative assembly of Lower Canada in 1827 as a supporter of Papineau Although Robert Nelson took no active part in the rebellion of 1837, after its collapse he organized in the United States a band of adventurers, he invaded Canada in 1838, proclaiming the country a republic and himself president of the provisional government The invasion was quickly put down, and Nelson fled back to Vermont In the last years of his life he was a surgeon in New York city

Nelson, Thomas, 1738–89, American Revolutionary general, signer of the Declaration of Independence, b Yorktown, Va , grad Trinity College, Cambridge, England, 1761 He was a delegate to the Continental Congress (1775–77), commander (1777–81) of the Virginia militia in the Revolution, and governor of the state in 1781 He lost his fortune aiding the patriot cause and died impoverished

Nelson, William Rockhill, 1841–1915, American journalist, b Fort Wayne, Ind Because he was unruly, his father, hoping to discipline him, sent him to Notre Dame for two years He practiced law, speculated unsuccessfully in cotton, and then engaged in the contracting business in Fort Wayne Interesting himself in Democratic politics, he bought a local paper and, becoming devoted to journalism, later (1880) launched the Kansas City *Evening Star* Under Nelson's supervision the *Star*, independent politically, increased its circulation rapidly while adhering to high journalistic standards. It inspired community spirit in Kansas City, crusaded for many civic reforms, and gained national attention See I F. Johnson, *William Rockhill Nelson and the Kansas City Star* (1935).

Nelson, Wolfred, 1792–1863, Canadian rebel, b. Montreal He served as a surgeon in the War of 1812. In 1827 he entered the legislative assembly as a supporter of Papineau. For the leading part which he played in the rebellion of 1837, Nelson was banished (1838) to Bermuda, but with the amnesty of 1843 he returned to Montreal, resumed his medical practice, and in 1844 was again elected to the legislative assembly

Nelson, city (pop 5,912), SE British Columbia, on the Kootenay, at the end of the west arm of Kootenay Lake and N of Spokane, Wash. It is a railroad divisional point, with shops, and is the trade center of an extensive mining district

Nelson, municipal borough (1931 pop 38,304, 1947 estimated pop 33,420), Lancashire, England, N of Manchester It has cotton and rayon factories and electrical engineering works

Nelson, city (pop. 13,030, metropolitan pop 16,577), on South Island, New Zealand, on the north coast at the head of Tasman Bay The Cawthron Institute for scientific research is here There are fruit canneries, confectioneries, and sawmills

Nelson, river of N Manitoba, flowing 390 mi northeast from the north end of Lake Winnipeg to Hudson Bay at Port Nelson Its mouth was discovered (1612) by Sir Thomas Button The river was long a thoroughfare of fur traders, and the trade was long dominated by the Hudson's Bay Company post, YORK FACTORY

Nelsonville, city (pop 5,368), SE Ohio, SE of Lancaster, in a coal, clay, and farm area, laid out 1818 as Englishtown, renamed 1824 Brick and tile are manufactured here

Nemacolin's Path (nĕ'mukō"lĭnz), Indian trail between the Potomac and Monongahela rivers, going from the site of the present Cumberland, Md , to the mouth of Redstone Creek (where Brownsville, Pa , now stands) It was blazed and cleared in 1749 or 1750 by the Delaware chief, Nemacolin, and the Maryland frontiersman, Thomas Cresap (krē'săp) The path was of great military importance, as the route of George Washington's first Western expedition and of Gen Edward Braddock's expedition in the French and Indian War It was known as Braddock's Road until the Cumberland Road or NATIONAL ROAD was built on the same route

Neman, river see NIEMEN

Nemcova, Bozena, Czech *Božena Němcová* (bô'zhĕnà nĕm'kôvà), 1820–62, Czech novelist and storyteller Her best-known novel is *Babicka* (1855, Eng tr , *The Grandmother*, 1891), a faithful and charming portrait of Czech village life in the mid-19th cent Of her many other stories and novels, *Mountain Village* (1856), *The Disobedient Kuba and Other Tales* (Eng tr , 1921), and *The Shepherd and the Dragon Fairy Tales* (Eng tr , 1930) have been translated

Nemea (nē'mēu, nĭmē'u), city of ancient Greece, in N Argolis At the temple of Zeus were held the Nemean games, one of the four Panhellenic festivals (from 573 B C), they were held in the second and fourth years of each Olympiad Of Pindar's odes 11 celebrate Nemean victories The temple and palaestra have been excavated

Nemean lion (nĭmē'un, nē'mēun), beast of Nemea invulnerable to weapons To kill it was the first of Hercules' 12 labors He did so by strangling it with his bare hands

Nemesis (nĕm'ĭsĭs), Greek personification of law and order as avenging itself on the violator Possibly at first an abstraction, it became personalized as a fatal goddess or a spirit of vengeance

Nemesius (nĭmē'shēus), fl c 350, Christian philosopher, bishop of Emesa, Syria He wrote *The Nature of Man*, an essay in anthropology, holding the superiority of the soul and the indestructibility of matter It is remarkable for its knowledge of the nervous system

Nemi, Lake (nā'mē), Latin *Nemorensis lacus*, small picturesque crater lake, Latium, central Italy, in the Alban Hills Here are the sacred wood and the ruins of the celebrated temple of DIANA Whoever killed the priest of the temple was recognized as his successor this cruel custom was discussed by Sir James Fraser in his *Golden Bough* In 1930 31 two pleasure ships of the Roman emperor, Caligula, lying at the bottom for almost 2,000 years, were raised from the lake after its level had been lowered about 70 ft No valuables were found, but objects interesting from the artistic and technical point of view were recovered The ships were burned by the retreating Germans in 1944

Nemours, Gaston de Foix, duc de: see FOIX, GASTON DE

Nemours, Louis Charles Philippe Raphaël d'Orléans, duc de (lwē' shärl' fēlēp' rāfāĕl' dôrlāā' dük' du numōōr'), 1814–96, French prince, second son of King Louis Philippe In 1831 he was offered the throne of Belgium, which Louis Philippe made him decline in order to avoid antagonizing Great Britain. He fought in Algeria, and after the February Revolution of 1848 he lived in England. Returning to France in 1871, he helped to bring about the rapprochement between the legitimist pretender, the comte de Chambord, and the Orleanist pretender, his nephew Louis Philippe Albert d'Orléans

Nemours (nümōōr'), town (pop. 5,336), Seine-et-Marne dept , N France, SE of Paris. It was the capital of a duchy, the title to which was borne by a branch of the house of Armagnac (until 1505), by Gaston de Foix (1507–12), by a branch of the house of Savoy (1528–1657), and by several members of

the Bourbon-Orléans line. Here in 1585 Henry III of France revoked concessions earlier made to the Protestants The Dupont family originated here

Nemuel (nēmū'ĭl) **1** Descendant of Reuben. Num. 26 9 **2** See JEMUEL

Nemunas, river· see NIEMEN.

Nen· see NENE

Nenagh (nĕ'nu, nĕ'năkh), urban district (pop 4,517), Co Tipperary, Ireland, near the Nenagh river and NE of Limerick It is an agricultural market with varied manufactures It has the round keep of a 12th-century castle

Nene (nēn, nĕn) or **Nen** (nĕn), river of Northamptonshire, Cambridgeshire, and Lincolnshire, England It rises just SSE of Daventry and flows 90 mi NE past Northampton, Oundle, Peterborough, and Wisbech to the Wash It has been made navigable to Peterborough

Nenets National Okrug (nyĕ'nyĭts), administrative division (67,300 sq mi , 1946 estimated pop 30,000), NE European RSFSR Comprised in Archangel oblast, it extends along the tundra coast of the Barents Sea and the Kara Sea The capital is at Naryan-Mar, a sawmilling and lumber-exporting center on the mouth of the Pechora river Reindeer raising, fishing, and seal hunting are the main occupations of the population, which consists chiefly of Nentsy—formerly and still generally known as SAMOYEDS The okrug was formed in 1929

Nennius (nĕ'nĭus), fl 796, Welsh writer, to whom is ascribed the *Historia Britonum*, a compilation treating the early history of Britain and the Teutonic invasions There are several manuscripts of it in Latin and in Irish It is considered by some writers to have been compiled by Nennius from various works, but most students think the history was a revision by Nennius of an older work It is chiefly important for the study of early British legends, especially the ARTHURIAN LEGEND There are several translations, notably one by A W Wade-Evans (1938) of a Latin text

Neocaesarea (nē″ōsĕzurē″u), ancient city of Pontus, NE Asia Minor, on the Lycus river Under the names Cabeira and Diospolis it was a royal capital of Pontus The Romans refounded (A D 64) and renamed it, and it was a provincial capital The Turkish name is Niksar

neoclassicism (nē″ōklă'sĭsĭzm) The literary period of the RESTORATION and the 18th cent in ENGLISH LITERATURE is often called the Age of Neoclassicism or the Age of Reason, because of the stress on classical learning and the ancient "rules" of literature, the emphasis on reason and common sense, and the negation of enthusiasm and uncontrolled imagination For neoclassicism in architecture, see CLASSIC REVIVAL

Neodesha (nēō″dushă'), city (pop 3,376), SE Kansas, on the Verdigris and N of Independence, laid out 1869, inc 1871 With refineries, it is in a region producing oil and natural gas Near by is an Indian mound, said to be the site of an early Indian village

neodymium (nē″ōd'ĭmĕum), rare metallic element (symbol=Nd, for physical constants, see ELEMENT, table), one of the RARE EARTHS Its discovery (1885) is accredited to Welsbach, who separated an earth called didymia into the two parts, neodymia (containing neodymium) and praseodymia (containing praseodymium) It occurs combined with other metals of the rare earths, as in monazite, and forms a few compounds with other elements (e g , with oxygen, an oxide, and with chlorine, a chloride) It is used in making some yellowish-green glassware and in goggles for glass blowers

Neoga (nēō'gu), city (pop 1,062), E Ill , SE of Decatur, in a farm area, inc 1930

Neolithic period (nēŭl'thĭk, nēō–) or **New Stone Age** is characterized by the development of new sources of food supply The already perfected stoneworking techniques of the preceding PALEOLITHIC PERIOD were somewhat modified by increased use of grinding and polishing, chiefly, the peoples of this age had only to put old stone tools to new use A transitional Mesolithic period is sometimes postulated to fill the gap between the last glacial retreat and the rise of agriculture and animal domestication Characteristic Mesolithic cultures are the Tardenoisian of the arid lands of North Africa and Spain, the Azilian of Western Europe, which emphasized fishing activities, and the Maglemosian of N and Central Europe, essentially a forest hunting culture Trade contacts spread among the rapidly increasing Neolithic peoples Pottery making, carpentry, and weaving emerged No single point of origin is known for agriculture, but species of wheat including emmer (*Triticum dvococcum*), barley, and millet were grains in early use No new important species have been added to the animals first domesticated under Neolithic culture Where simple hoe cultivation combined with an animal-using economy, as in the Nile valley, the peasant village was created and became the base for all future civilizations The Neolithic is not a single chronologic phase, but a way of life without, or preliminary to, the use of metals and the development of urbanization Among the many Neolithic sites that have been excavated are those at Fayum and many other places in Egypt, at Anau, at Samarra, and in E central Europe (the Danubian culture) and Western Europe (the culture of the Swiss lake dwellers)

Neon, town (pop 1,187), E Ky , in the Cumberlands, E of Hazard and near the Va line, in a coal area

neon, rare gaseous element (symbol=Ne, for physical constants, see ELEMENT, table), colorless, odorless, and tasteless Chemically inert, it forms no compounds, it is grouped with helium argon, krypton, xenon, and radon in the periodic table It is present in the atmosphere in extremely minute quantities and is produced for commercial purposes as a by-product in the preparation of liquid air Being a conductor of electricity, the gas has found wide use in electric advertising signs It produces a bright reddish-orange glow when confined in a glass tube through which an electric current passes The light given off penetrates fog, and the gas is therefore utilized in airplane beacons Neon lamps are used in moving-picture sound apparatus and neon tubes are used in television The element was discovered by Sir William Ramsay and M W Travers in 1898

Neoplatonism (nē″ōplā'tunĭzm), last, in time, of the great pagan philosophies It derives its name and its basic distinctions from Plato, but it is entirely independent of Platonism proper Neoplatonism is the most elaborate and consistent philosophy dealing basically with the phenomena and speculation of MYSTICISM It is unique among the great mystical systems in being fundamentally philosophical (not religious) and among them and the other great pagan philosophies in having no ethic It represented in the first centuries of the Christian era the declining effort of Greco-Roman thought, and it enshrined, albeit imperfectly, all that was still vital in the brilliant Platonic tradition The term is sometimes too closely attached to the activities of the schools of Alexandria or is even made to cover the intellectual movement originating in that center, but Neoplatonism cannot properly be so localized Its true founder was PLOTINUS(3d cent) For a number of years there had been a tendency to reach back beyond the doctrines of Stoics and Epicureans and revive the views of Plato At the very beginning of the Christian era, Philo had striven to harmonize Plato's conception of mind as the cause of all things with Hebrew religious thought Other commentators and adapters of Plato's writings followed It was the work of Plotinus to put into systematic form an idealistic philosophy He opposed the arguments of materialism that had been prevalent In Plato's teaching the soul, which has itself a permanent existence, is the place of ideas Plotinus presented the real existence of the soul in contrast rather than in relation, to the existence of bodily things The soul cannot be really explained in terms of the body, but terms of the soul may be used to make clear truths concerning the body The One who is the great Cause and Principle on which the existence of the visible world depends is above and beyond all thought and being From this One or Unity emanates the divine Mind or pure intelligence, from which in turn emanates the world soul Next in the scale come particular souls and material things subject to change The soul is related upward to ideas and downward to matter The crux of the Neoplatonic system lies in its doctrine that there is an utterly transcendent One from whom all may be said to come by the process of EMANATION, the individual human soul being thus indivisibly connected with the One PORPHYRY, Plotinus' disciple, biographer, and editor, and IAMBLICHUS were chiefly responsible for disseminating through the world the system of Plotinus as they held it The chief late exponents of Neoplatonism were PROCLUS at Athens and HYPATIA at Alexandria Earlier Christian theologians showing Neoplatonic ideas were CLEMENT OF ALEXANDRIA and ORIGEN Damascius was Proclus' chief follower at Athens, and the pagan revival of Emperor JULIAN was Neoplatonic In spite of the tacit connections of Neoplatonism with much in Catholic theology, it fell under the ban (529) of JUSTINIAN on pagan schools, and it did not survive The permanent influence of Neoplatonism is largely exercised through two figures, the anonymous author of the works ascribed to St DIONYSIUS THE AREOPAGITE and John Scotus ERIGENA The high authority assigned to the Pseudo-Dionysius in the Middle Ages greatly increased the force of this influence in Western Europe Among the medieval philosophers who drew much of their system of mystical theology from the Pseudo-Dionysius, HUGH OF SAINT VICTOR and RICHARD OF SAINT VICTOR were the chief There is little doubt that St AUGUSTINE shows Neoplatonic connections, and through him Neoplatonic thought has been said to have become part and parcel of Christian theology The nature of Christian speculation concerning mysticism is such, however, that it is difficult if not impossible to assume that what resembles Neoplatonism in tendency is pagan in origin, for the idea of the soul rising to meet its God through successive grades of approach is an obvious, easy explanation of the mystical experience See W R Inge, *Christian Mysticism* (1899), *The Philosophy of Plotinus* (1918), and *The Platonic Tradition* (1926), F W Bussell, *Neoplatonism and Christianity* (1911), Thomas Wittaker, *The Neo-Platonists* (1928), Evelyn Underhill, *Mysticism* (rev ed , 1930), R B Tollington, *Alexandrine Teaching on the Universe* (1932)

Neoptolemus (nē″ŏptŏ'lĭmus), [Gr ,=new in war], in Greek mythology, son of Achilles and Deidamia. In the Trojan War he proved himself brave but cruel He killed Priam at the altar of Zeus and threw Astyanax, son of Hector, from the wall of Troy After the war, Andromache and Helenus were his slaves He married Hermione, daughter of Menelaus and Helen He was sometimes called Pyrrhus

Neo-Pythagoreanism (nē'ō-pĭthă″gurē'unĭzm), philosophico-religious movement of the 2d and 1st cent B C , centering at Alexandria The chief figure was Apollonius of Tyana It threatened for a while to overshadow Neoplatonism Neo-Pythagoreanism attempted to revive what the Alexandrians thought were the doctrines of PYTHAGORAS a certain objective reality of numbers, transmigration of souls, and the oneness of all in God The sterility of Roman religion opened the way for the influx of Oriental cults, thus preparing the ground for a revival of Pythagorean mysticism with its sacrifices and miracles The fundamental weakness of the system seems to have lain in the fact that it presented no unified metaphysics for the thoughtful man, to whom alone it would appeal because of its archaizing tendency and its emphasis on such rarefied ideas as the Pythagorean numbers Unlike Neoplatonism, Neo-Pythagoreanism had no exponents worthy of great or universal respect See Kurt von Fritz, *Pythagorean Politics in Southern Italy* (1940)

Neosho (nēō'shō), city (pop 5,318), co seat of Newton co , SW Mo , SSE of Joplin, in the Ozark farm and resort area, settled c 1840, inc 1855 Milk condensing is the chief industry A U S fish hatchery is near by In the Civil War a pro-Confederate convention met here (1862) and passed an ordinance of secession which, however, was ineffective, as Missouri was kept in the Union

Neosho, river, c 460 mi long, rising in E central Kansas, flowing SE into Oklahoma (where it is generally known as the Grand River), then south to join the Arkansas near Muskogee GRAND RIVER DAM is SE of Vinita, and Fort Gibson Dam is NNE of FORT GIBSON

NEP see NEW ECONOMIC POLICY

Nepal (nupôl'), kingdom (c 54,000 sq mi , pop c 6,282,000), central Asia Katmandu is the capital It is bordered by India on the west, south, and east and by Tibet on the north Topographically Nepal comprises three bands which extend east and west The south is a comparatively low region of swamp and jungle where timber is cut central Nepal is occupied by moderately high mountains, and in the north is the main section of the Himalayas, including Mt Everest, the highest peak in the world The Valley of Nepal, with an area of c 250 sq mi , is in the east, this is the only densely populated area and has the cities of Katmandu, Bhatgaon, and Patan It is 4,700 ft high and is surrounded by mountains which rise to 9,000 ft Here the characteristic crops of Nepal, rice, wheat, and fruit, grow abundantly Nepal's two short railroads, which connect with lines in India, do not reach the valley, which is served by a suspended rope cable The extreme difficulty of communication restricts industry to handicrafts foreign trade is limited to India and Tibet The population is divided into many tribes which speak Tibeto-Burman languages Except that Buddhism was early introduced, little is known of Nepal's history before the late 15th cent The country was frequently divided and in the 18th cent fell to the Gurkhas, who established Hinduism as the official religion and laid down substantially the present boundaries At about this time developed the present administrative system with a titular king and a hereditary prime minister who actually wields power Nepal first entered into treaty relations with Great Britain in 1792 Acceptance of British direction after a border war (1811–16) led to the belief that the country was not independent Its full sovereignty was expressly affirmed, however, by a treaty with Great Britain in 1923 Nepal supplied many troops for the British army in both world wars In 1949 the USSR prevented Nepal from obtaining membership in the United Nations, See Ikbal Ali Shah, *Nepal the Home of the Gods* (1938), Hassoldt Davis, *Land of the Eye* (1940)

Nepheg (nē'fĕg) [Heb ,=sprout] **1** Descendant of Kohath Ex 6 21 **2** Son of David. 2 Sam 5 15, 1 Chron 3 7, 14 6

Nephele· see ATHAMAS and PHRIXUS.

Nephi (nē'fī), city (pop 2,835), co seat of Juab co , central Utah, SSW of Provo, settled 1851 by Mormons Dry farming is practiced, especially in wheat growing, and a Federal agricultural station is near by Gypsum is mined and made into plaster

Nephilim (nĕfĭl'ĭm), Hebrew word of no known meaning retained in RV It is translated "giants" in AV Gen 6 4, Num 13 33

Nephish (nē'fĭsh), variant of NAPHISH.

Nephishesim (nĕfĭ'shēĭsm), family returned from exile Neh 7 52 Nephusim Ezra 2 50

nephrite, see JADE

Naphthalim (năf'thulĭm), variant of NAPHTALI.

Nephtoah (nĕftō'ă) [Heb ,=opening], unidentified town, near Jerusalem Joshua 15 9, 18 15.

Nephusim (nĕfū'sĭm), variant of NEPHISHESIM

Nepomuk, John of, see JOHN OF NEPOMUK, SAINT

Nepos, Cornelius (nē'pŏs), c 100 B C –c 25 B C, Roman historian He was an intimate of Pomponius Atticus, Cicero, and Catullus His only extant work is a collection of biographies, mostly from a lost larger work, *De viris illustribus* The general method was to compare the lives of great Romans and Greek leaders together with other foreigners Nepos wrote in a popular manner in clear and simple Latin his work was hasty and inaccurate, but significant in the history of biography writing

Nepos, Julius, d 480, Roman emperor of the West (474–75) A Dalmatian official, he was appointed emperor by Leo I of the Eastern Empire, but was deposed by ORESTES

Neptune, in Roman religion, ancient god of water The Romans dedicated green arbors to him on the Neptunalia (July 23) to obtain water in this hot and dry time Neptune was probably an indigenous god of fertility, but in later times he was identified with the Greek POSEIDON, god of the sea

Neptune, township (pop 10,207), E N J, near Asbury Park, inc 1879

Neptune, in astronomy, the eighth of the major planets in the order of distance from the sun, around which it revolves in a period of about 164 8 years Its mean distance from the sun is c 2,793,400,000 mi Because of its remoteness, it cannot be seen with the naked eye Its discovery resulted from an investigation of apparent irregularities in the behavior of URANUS J C Adams of Cambridge, England, and U J J Leverrier of Paris working independently computed the hypothetical position of a planet which must be influencing Uranus In 1846 J G Galle of Berlin found Neptune in the position indicated by Adams and Leverrier The mean diameter of Neptune is c 31,000 mi and its period of rotation about 15 8 hr The inclination of the plane of the orbit to the plane of the ecliptic is 1°46' No other planet but Venus shows less eccentricity of orbit, that of Neptune is only 0 00855 The mass of Neptune is about 17 times that of the earth A month after the detection of the planet itself, Lassell discovered a satellite, Triton, which revolves in the retrograde direction (east to west) in a period of 5 days 21 hr A second satellite was discovered (1949) by G P Kuiper Neptune is probably enveloped in an atmosphere containing chiefly hydrogen and methane in addition to some unknown gases

Neptune Beach, resort town (pop 1,363), NE Fla, on the Atlantic E of Jacksonville, inc 1931

Neptune City, borough (pop 2,392), E N J, near the Atlantic ESE of Freehold, inc 1881

Ner (nûr) [Heb ,=lamp], father of Abner 1 Sam 14 51

Nerbudda, India see NARBADA

Nerchinsk (nyĕr'chĭnsk), city (1937 estimated pop 15,300), RSFSR, in SE Siberia It is on the Trans-Siberian RR Nerchinsk was formerly a place of exile The Nerchinsk mountain range, which extends from the Mongolian frontier 125 mi NE to the Argun river, rises to 4,300 ft and has silver, lead, and zinc mines A Russo-Chinese border treaty was signed at Nerchinsk in 1689

nereids (nē'rēĭdz), in Greek mythology, daughters of Nereus and Doris They were nymphs who presided over the sea, protecting sailors in distress The nereids lived in Nereus' palace in the depths of the Mediterranean Amphitrite, Galatea, and Thetis were nereids

Nereus (nē'rōōs, nē'rūs), in Greek mythology, god of the sea He was the son of Pontus and Gaea, the husband of Doris, and the father of 50 sea nymphs —the nereids He was conceived of as a kindly old man who had the power of prophecy and the ability to change his shape

Nereus (nē'rūs), Roman Christian Rom 16 15

Nergal (nûr'găl, -gul) [Babylonian,=hero], Assyrian-Babylonian deity, a god of war, pestilence, and the chase He was worshiped in Samaria by Cushite captives 2 Kings 17 30

Nergal-sharezer (shurĕ'sur) [Babylonian,=Nergal protect the king], one of the Babylonians who rescued Jeremiah from prison He bore the title Rab-mag He had the same name, and could be the same person, as the Babylonian king Neriglissar (reign, 559–555 B C) Jer 39 3,13.

Neri (nē'rī), name in Luke's genealogy Luke 3 27

Neri, Filippo de' see PHILIP NERI, SAINT

Neriah (nĕrī'ă) [Heb ,=lamp of God], father of Baruch Jer 32 12, Baruch 1 1

Nernst, Walther (văl'tur nĕrnst'), 1864–1941, German physicist and chemist, a founder of modern physical chemistry After doing outstanding research on osmotic pressure and ionization, he turned to thermodynamics, establishing in 1906 a new tenet (often called the third law of thermodynamics) dealing with the behavior of matter at temperatures approaching absolute zero For his work in thermodynamics he won the 1920 Nobel Prize in Chemistry He later specialized in electroacoustics and astrophysics Nernst invented (1898) an electric metallic-filament lamp, a link between the carbon lamp and the incandescent lamp His works include *Theoretical Chemistry from the Standpoint of Avogadro's Rule and Thermodynamics* (1893, 5th Eng ed, 1923) and *The New Heat Theorem* (1918, Eng tr, 1926)

Nero (Nero Claudius Caesar) (nēr'ō), A D 37–A.D. 68, Roman emperor (A D 54–A D 68) He was originally named Lucius Domitius Ahenobarbus and was the son of Cn Domitius Ahenobarbus (consul in A D 32) and of AGRIPPINA II, who was the great-granddaughter of Augustus Agrippina married CLAUDIUS I (who was her uncle) and persuaded him to adopt her son and to make him the guardian of Claudius' son BRITANNICUS, Nero was given Claudius' daughter Octavia as his wife On Claudius' death Nero was easily made emperor His chief advisers were SENECA and the head of the Praetorian guard, Burrus, as long as they were in power, the government was fairly good In A D 55 Agrippina saw the bonds of her domination of Nero loosening and intrigued in favor of Britannicus Nero poisoned the boy POPPAEA SABINA, the wife of his friend OTHO, soon became his mistress, and rumor blamed her for the worst of Nero's behavior In A D 59 he murdered his mother and in A D. 62 his wife Burrus died in 62, and Seneca retired, leaving Nero and the administration in the hands of a group of scoundrels Rome was half burned in a fire (A D 64), intended (said rumor) to serve as a background for a recitation by Nero on the fall of Troy Nero accused the Christians of starting the fire and began the first Roman persecution, according to Christian tradition this included among its victims St Peter and St Paul Nero rebuilt the city magnificently, laying out broad, regular streets and erecting a splendid palace By now he was hated, and in A D 65 there was a plot to make C Calpurnius Piso emperor The detection of this began a string of violent deaths, e g, of Seneca, Lucan Poppaea (now Nero's wife), and Thrasea Paetus Nero had ambitions to be a poet and artist, and he was an enthusiastic admirer of Greek culture, in A D 67 he went to visit Greece To meet his presence the games were all rescheduled, Nero competed in them all victoriously Even there he was not too busy to have important officers murdered In A D 68 a general in Gaul, C Julius Vindex, revolted unsuccessfully, then GALBA and Otho revolted too The Praetorian guard joined this sedition, and Nero killed himself Among his last words were, 'What an artist the world is losing in me!' His memory was publicly execrated Nero was the last emperor of the family of Julius Caesar For Christians he became the type of the anti-Christian tyrannical monster See B W Henderson, *The Life and Principate of the Emperor Nero* (1903)

Nero, Caius Claudius, fl 216–201 B C, Roman general in the Second Punic War He was the victor over the forces of HASDRUBAL in the battle of the Metaurus (207 B C)

Neruda, Jan (yän' nĕ'rōōdă), 1834–91, Czech essayist and poet He was born in Prague, and his most popular book is a collection of tales based on his childhood experiences in the Mala Strana section of that city (*Stories from Mala Strana*, 1878) As a poet he has been compared to Heine because of the clarity and simplicity of his style and his lyric quality His finest poetry is contained in the volumes *Ballads and Romances* and *Plain Themes* (both 1883) He wrote a number of dramas, of which *Francesca da Rimini* (1860), a tragedy, is the best known See Paul Selver, *A Century of Czech and Slovak Poetry* (1946)

Neruda, Pablo (pä'blō nārōō'dhä), 1904–, Chilean poet, whose real name is Neftalí Ricardo Reyes After 1927 he was in consular service in the Far East, in Argentina, and in Mexico A surrealist poet, he revitalized everyday expressions and employed bold metaphors in free verse His sensuous poems are filled with grief and despair An innovator in both literary and social thought, he has exerted wide influence in Hispanic America His best collections are *Crepusculario* [twilight book] (1919), *Veinte poemas de amor y una cancion desesperada* [20 poems of love and one song of despair] (1924) *Residencia en la tierra, 1925–1931* [residence on earth] (1933) and *España en el corazón* [Spain in my heart] (1937)

Nerva (Marcus Cocceius Nerva) (nûr'vă), A.D c 30–A D 98, Roman emperor (A D 96–A D 98) He had an honorable career as a law officer at Rome and a blameless reputation At the death of DOMITIAN he was chosen emperor by the senate in a strong reaction toward constitutionalism and senatorial influence and away from hereditary succession and absolutism Nerva was mild and unassuming, he made economies, reformed the land laws in favor of the poor, revised taxation, and tolerated the Christians. He was unable, however, to manage the Praetorian guard, who killed some of the murderers of their idol, Domitian. The elderly Nerva, seeing a strong hand was needed, adopted TRAJAN and turned over the government to him He died soon afterward See B. W. Henderson, *Five Roman Emperors* (1927).

Nerval, Gérard de (shărär' dù nĕrvăl'), 1808–55, French writer, one of the younger romantics. His real name was Gérard Labrunie He wrote translations from German, including *Faust* (1828); fantastic short stories, notably in *Les Filles du feu* (1854, partial Eng. tr., *Daughters of Fire*, 1922); travel sketches, as in *Voyage en Orient* (1851), and poems His *Aurélia* (1854, Eng tr, *Aurelia*, 1932), a sort of fantastic spiritual autobiography, mirrors the tortured moments of lucidity in a life that ended in madness and suicide

nerve see NERVOUS SYSTEM

Nervii (nûr'vēĭ), ancient people of Belgica, GAUL They were warlike and prohibited importations which might tend to soften the character of their people They tried to raise a general revolt against the Romans and were crushed by Julius Caesar (57 B C)

Nervo, Amado (ämä'dhō nĕr'vō), 1870–1919, Mexican poet Known as the "monk of poetry," he studied for the priesthood but abandoned a clerical career for writing An intimate friend of Rubén DARIO, he also wrote in the modernist manner, his poetry is known for its qualities of simplicity and music His early writings showed pantheistic influences, but in his later years they were touched by Buddhist quietude Most of his verses deal with his inward world, where he sought peace from the torments without Some of his volumes express this in their titles—*Serenidad* (1914), *Elevación* (1916), *Plenitud* (1918) He spent a number of years in diplomatic service and died when he was Mexican minister to Uruguay See E T Wellman, *Amado Nervo, Mexico's Religious Poet* (1937)

nervous system, body system which includes all the nerves and nerve tissue of the animal body and is concerned with the coordination and control of other body systems and organs In the human (and some other higher vertebrates) it consists of a highly developed central nervous system (the BRAIN and SPINAL CORD), the peripheral nervous system (i e, the nerve fibers connecting the receptors, or sense organs, with the effectors, or muscles and glands), and the autonomic nervous system The unit of structure in the nervous system is the neuron or nerve cell The neuron varies in size and form but typically consists of a nucleated cell body having one or more branching processes known as dendrons or dendrites and a single process (usually longer and less branched) called an axon The axon, often termed a nerve fiber, is surrounded by a coating known as the myelin sheath or medullary sheath A number of fibers bound together with connective tissue form a nerve Fibers that carry an impulse from a receptor to the spinal cord or to the brain are designated as sensory, or afferent, fibers, those that transmit an impulse to an effector are called motor, or efferent, fibers In some nerves all the fibers are of one type, and in others, known as mixed nerves, both kinds are present In the human body there are 12 pairs of cranial nerves, some are sensory (the olfactory, optic, and auditory nerves), some are motor (e g, the oculomotor which controls muscles of the eye), and others are mixed (e g, the facial nerve, which sends motor fibers to the muscles of the face and neck and sensory fibers to part of the tongue and middle ear) The 31 pairs of spinal nerves emerge from both sides of the spinal cord along its entire length Spinal nerves are all mixed nerves The autonomic nervous system consists of nerves and ganglia (groups of nerve cells) which regulate the action of the smooth or visceral muscle tissue (e g, in the walls of the digestive organs and blood vessels), the heart muscle, and the secretory action of glands The parasympathetic, or craniosacral, nervous system is the portion of the autonomic system which includes nerve fibers arising from the midbrain and the medulla oblongata and from the sacral region of the spinal cord The sympathetic system or thoracolumbar system includes preganglionic fibers originating in the thoracic and lumbar regions of the spinal cord, a chain of sympathetic ganglia on either side of the vertebral column from the base of the skull to the coccyx, and three great plexuses (composed of ganglia and fibers) known as the cardiac plexus, the celiac plexus (or solar plexus), and the hypogastric plexus Most organs are innervated by both the sympathetic and the parasympathetic systems, the two systems function antagonistically, e g, stimulation by the parasympathetic system causes dilation of certain blood vessels, while the sympathetic causes contraction of the same blood vessels All the fibers of the autonomic system are efferent fibers, and they obtain their impulses from within the body, in the gray matter of the nervous tissue. The functions of organs innervated by the autonomic system are, in general, not under the control of the will though the emotions influence them. Although the vegetative functions of the internal organs are thus largely controlled involuntarily, with impulses traveling through efferent fibers only, other activities of the body are generally the result of a stimulus which acts upon a receptor (or sensory surface) and causes an impulse to travel over sensory fibers to the spinal

cord or to the brain and thence over motor fibers to the effector One or more neurons called central, connecting, or internuncial neurons are found between the afferent and efferent neurons Such a pathway from a receptor to an effector is known as a reflex arc The afferent impulses are transferred to the efferent fibers in the gray matter of the brain and spinal cord where the endings of one neuron lie close to the dendrons of another neuron This point of very close approach between two neurons is called a synapse, and it is there that an impulse passes from neuron to neuron Reflex action is the muscular or glandular action that results from stimulation of a sensory nerve Such actions are not under voluntary control Certain reflex actions that occur repeatedly have their connections between afferent and efferent fibers in areas sometimes known as reflex centers Such a center is the respiratory center of the medulla oblongata (of the brain), in it the afferent fibers from many parts of the body, e g , the lungs, aorta, and skin, convey impulses to many interconnected efferent neurons which in turn send impulses to the diaphragm, the intercostal muscles, and other muscles involved in maintaining the breathing process Actions other than simple reflexes are the concern of the higher brain centers, and the pathways involved are of varying complexity depending upon the nature of the activity Conditioned reflexes are acquired reflexes learned through association of a particular stimulus with a certain result Pavlov performed experiments in which he developed conditioned reflexes in dogs by causing them to associate the sound of a bell with receiving food, after this pattern had been repeated frequently, the dogs responded to the bell by salivating even when food was not presented to them Such a response is a conditioned reflex The acquiring of conditioned reflexes is a basis of habit formation, learning, and education

Nescopeck (nĕs'kŭpĕk), borough (pop 1,805), E Pa , on the Susquehanna and SW of Wilkes-Barre, settled 1786, inc 1896 Peter Frederick Rothermel was born here

Nesfield, William Eden, 1835–88, British architect He was of the group, including R N Shaw and P S Webb, which rescued English domestic architecture from its Victorian mediocrity and led it back to its former traditions of good design and honest craftsmanship Nesfield built numerous houses, turning to the humble English cottage and farmhouse architecture of the past for his inspiration The two lodges which he designed, one at Regent's Park (1864) and the other at Kew Gardens (1866), strongly affected English contemporaries His *Architectural Sketches from France and Italy* (1862) was influential

Nesiotes see CRITIUS AND NESIOTES

Ness, Loch (lŏkh), lake, Inverness-shire, Scotland, along the Great Glen and forming part of the Caledonian Canal It is c 24 mi long and a mile in average breadth Very deep and remarkably ice-free, it is fed by the Oich and other streams and drained by the Ness to Moray Firth Mountains rising to 2,284 ft overhang the loch In 1933 and later, newspapers published accounts of a "monster," 40 to 50 ft long, which was said to be seen in the loch

Ness City, city (pop 1,355), co seat of Ness co , W central Kansas, in a wheat area, founded 1878, inc. 1886 Oil fields were developed in the 1930s

Nesselrode, Karl Robert, Count (nĕs'ulrōd, Rus nyĕslrô'dyĭ), 1780–1862, Russian statesman of German descent, b Lisbon He played an important role at the Congress of Vienna (1815) and in 1816 became foreign minister Guiding Russian policy for the next 40 years, Nesselrode favored the Holy Alliance, intervened (1849) in Hungary, where Russian troops put down the anti-Austrian revolution, and was partially responsible for the Crimean War (1853–56) His autobiography was published in 1866

Nessus (nĕ'sŭs), in Greek mythology, centaur, son of Ixion and Nephele He used to carry travelers across the river Evenus, but one day while carrying Deianira he tried to make off with her Hercules shot him with a poisoned arrow The dying centaur persuaded Deianira to save his bloody robe, telling her to give it to Hercules, her husband, when the hero's love waned Later, Deianira gave the poisonous robe to Hercules and thus caused his death

nest, structure or refuge in which an animal lays its eggs or gives birth to its young and in which the young pass their period of helplessness Birds are the chief nest builders, but nests are also made by many insects, by some fish and reptiles, and by squirrels, mice, and some other mammals Among birds the male selects the territory in which the female usually chooses the site and does most of the construction of the nest The preferred site is one which is accessible to the feeding grounds and which offers some protection from the elements and concealment from enemies. In some species the male assists the female in incubating the eggs. The megapodes or mound birds of Australia leave their eggs after laying them in a mound of decaying vegetation, the heat of which enables the embryo to develop. Birds of the altricial type, in which the young are hatched in a helpless condition, usually build nests which are more elaborate and placed higher above the ground than those of the precocial birds, which are able to run about and feed soon after hatching Many sea birds, shore birds, and game birds make no real nest but lay their eggs directly on a rocky ledge or on the ground or in a shallow depression scooped out of the sand or earth Elaborate domed nests are built on the ground by the meadow lark and the ovenbird Herons, mourning doves, and cuckoos make loose platform nests of sticks in trees or shrubs Eagles' nests, made in the tops of trees or on cliffs, are often enlarged each year and reach 5 to 12 ft in diameter The woodpeckers, the nuthatches, some owls, and the hornbills utilize holes in trees The male hornbill seals the female in the nesting cavity, leaving a small aperture through which he feeds her while she sits on the eggs The kingfisher and the bank swallow dig out nesting holes in sandy banks Intricately woven arboreal nests are made by the American orioles or hangnests and by the Old World weaver birds The oriole's nest is a deep, pendent bag The Baltimore oriole constructs it of vegetable fibers, often with yarn or string added, while the orchard oriole uses grasses In the SW United States the cactus wren makes a down-lined nest of woven grasses among the thorns of the cholla cactus Mud or salivary secretions cement the nests of some birds Robins, cliff and barn swallows, and phoebes are among those that use mud The nest of an Oriental swift is made entirely of salivary secretion and is used in making bird's-nest soup

Nestor (nĕ'stûr), in Greek mythology, wise king of Pylos He was the husband of Eurydice and the father of Antilochus Nestor took part in the expedition of the Argonauts and the Calydonian hunt and when he was very old in the Trojan War Here, because of his great age and experience, his advice was constantly sought Nestor was noted for his prolixity After his return to Pylos he was visited by Telemachus in search of information about Odysseus

Nestor (nĕ'stur), d 1115, Russian chronicler A monk in a monastery of Kiev, he wrote biographies of two saints and of the prior of his monastery Until recently the authorship of the *Russian Primary Chronicle*, known also as *The Tale of Bygone Years* and as the *Chronicle of Nestor*, was attributed to him It is now believed that he was the author of one of its sources See *Russian Primary Chronicle* (tr by S H Cross, 1930)

Nestorian Church, Christian community of Iraq, Persia, and Malabar, India It represents the ancient church of Persia and is sometimes called the Assyrian (or East Syrian) Church It numbers fewer than 100,000, including emigrants to the United States It has much in common with other Eastern rites The liturgy (said in Syriac) is probably of the Antiochene family of liturgies, the rite is called Chaldean or East Syrian The churches are not much ornamented, but the Nestorians offer great honors to the Cross A unique feature of their worship is their "holy leaven," continuously used for the altar bread, they believe it is derived from dough used at the Last Supper The theology of the church is not precise, but there are traits of ancient Nestorianism— they venerate Nestorius as a saint, they deny the Virgin the title Mother of God while otherwise honoring her highly, and they reject the ecumenical councils after the second The ancient Persian church was the only one to espouse the cause of Nestorius, as a result it lost communion with the rest of Christendom The official head calls himself patriarch of the East, the office is hereditary, from uncle to nephew The church has relations with some Jacobites and some Anglicans Among the Nestorians and outnumbering them lives a community in communion with the pope and called usually Chaldean Catholics They have rite and practices in common with the Nestorians, but have had a separate church organization since the 16th cent The largest group using this rite is that of the Malabar Chaldean Catholics, who ultimately derive their Christianity from Nestorian missions in India The great period of expansion of the Nestorian Church was from the 7th to the 10th cent There were missions to China and India A famous monument in Sian, China, was put up by Chinese Nestorians (781) The missions were destroyed and the church reduced by persecutions by the Chinese, the Hindus, and the Moslems In the 19th and early 20th cent there were terrible massacres of Nestorians and Chaldeans by Kurds and Turks. See Donald Attwater, *The Christian Churches of the East* (1947, 1948); H. C. Luke, *Mosul and Its Minorities* (1925)

Nestorianism. In 428 Emperor Theodosius II named an abbot of Antioch, Nestorius (d 451?), as patriarch of Constantinople In that year Nestorius, who had been a pupil of THEODORE OF MOPSUESTIA, outraged the Catholic world by opposing the use of the title Mother of God for the Virgin on the grounds that, while the Father begot Jesus as God, Mary bore him as a man. This view was contradicted by Cyril, patriarch of Alexandria, and both sides appealed to Pope Celestine I. The Council of Ephesus (see EPHESUS, COUNCIL OF) was convened in 431 to settle the matter This council (reinforced by the Council of Chalcedon in 451) clarified orthodox Catholic doctrine, pronouncing that Jesus Christ, true God and true man, has two natures, at once perfectly distinct and inseparably joined in one person and partaking of the one divine substance Nestorius, deposed after the Council of Ephesus, was sent to Antioch, to Arabia, and finally to Egypt He wrote in *The Book of Heraclides* an account of the controversy The patriarch of Antioch and his bishops, accusing Cyril of sharp practice, stayed out of communion with Alexandria until a compromise was reached in 433, but in spite of discussion of the subject in 553 at the Council of Constantinople (see CONSTANTINOPLE, COUNCIL OF), Nestorianism was practically dead in the empire after 451 The doctrines that continued in the Nestorian Church had diminishing connections with those of Nestorius The teachings of EUTYCHES and MONOPHYSITISM grew partially in reaction to Nestorianism

Nestos, river see MESTA

Nestroy, Johann Nepomuk (yō'hän nā'pōmōōk nĕs'troi), 1801 02, Austrian dramatist and actor He made his debut in 1821 and later proved himself a brilliant writer of farces and satires Among his works were *Lumpacivagabundus* (1833) and a parody of *Tannhäuser* (1852)

net, mesh fabric, known from prehistoric times Nets have been made of many materials, including sinews, strips of hide, silk, vegetable and synthetic fibers, and metallic threads Their earliest use was probably for snaring animals and for fishing Fishing nets include the stationary net, an early type, the drift net, an oblong vertical net, buoyed on its upper edge, the seine, whose ends are brought together to enclose the fish, and the bag-shaped trawl net, dragged along sea bottom Hair nets include the gold or silver, wire or cord cauls worn in ancient Egypt, Greece, and Rome, reticulated caps and cauls popular in Europe especially in the 14th cent , chenille or ribbon snoods of the 19th cent , and the "invisible" net of human hair Net fabrics include veilings, tulle, and maline, as well as heavier dress nets, curtain nets, and *filet*, a foundation for lace Nettings are used also for safety nets, for hammocks, and for hoisting loads

Netcong (nĕt'kŏng), borough (pop 2,157), NW N J , near Lake Musconetcong, inc 1894 It has railroad repair shops, it grew as a residence for iron miners and ironworkers and as a resort A transoceanic radiotelephone station is here

Nethaneel (nĭthă'nēûl, nĕ'thunēl) [Heb ,=gift of God] **1** Prince of Issachar Num 1 8 **2** Brother of David 1 Chron 2 14 **3** Priest 1 Chron 15 24 **4** Levite 1 Chron 24 6 **5** Porter of the Temple 1 Chron 26 4 **6** Prince under Jehoshaphat 2 Chron 17 7 **7** Levite 2 Chron 35 9 **8** One who had married a foreign wife Ezra 10 22 **9** Priest Neh 12 21 **10** Trumpeter Neh 12 36

Nethaniah (nĕ"thŭnī'u) [Heb ,=God has given]. **1** Father of ISHMAEL **6** **2** Temple choir leader 1 Chron 25 2,12 **3** One who accompanied the teachers of the Law 2 Chron 17 8 **4** Father of Jehudi Jer 36 14

Netherlands (nĕ'dhurlŭndz), Dutch *Nederland* (nā'durlant) or *Nederlanden* (-lăndun), kingdom (12,868 sq mi , with water surface, including the Ijsselmeer, 15,765 sq. mi , pop. 9,542,393), NW Europe, bounded by the North Sea in the north and west by Belgium in the south, and by Germany in the east It is popularly known also as Holland AMSTERDAM is the constitutional capital, The HAGUE is the royal residence and the seat of the government The coastal provinces of the Netherlands are ZEELAND and SOUTH HOLLAND, at the estuaries of the SCHELDT, MEUSE, WAAL, and RHINE rivers, NORTH HOLLAND, UTRECHT, GELDERLAND OVERIJSSEL, and FRIESLAND, on the west, south, and east of the IJSSELMEER (known as the ZUIDER ZEE before it was dammed up), and GRONINGEN, on the Ems estuary and bordering on Germany Much of the fertile land consists of polders, below sea level, won from the sea in centuries of toil There are numerous islands, notably WALCHEREN, NORTH BEVELAND and SOUTH BEVELAND, and the WEST FRISIAN ISLANDS The country is crossed by drainage canals and the main rivers are canalized and interconnected by artificial waterways, which are linked with the river and canal systems of Belgium and Germany It may truly be said that the maritime provinces of the Netherlands are largely the creation of man Dairying and cattle raising are very important sources of wealth ALKMAAR and EDAM are internationally famous as cheese markets Truck gardening, fishing, and flower raising (particularly at HAARLEM) are equally important The canals, drawbridges, windmills, and local costumes of Holland are famous all over the world. The maritime provinces have the most famous cities of the Netherlands— Amsterdam and ROTTERDAM (the chief ports) and The Hague, Haarlem, LEIDEN, DELFT, UTRECHT, DORDRECHT, SCHIEDAM, and FLUSHING. The inland provinces, with generally poorer soil, are NORTH BRABANT, with the historic city of BREDA and the industrial centers of 's' HERTOGENBOSCH,

EINDHOVEN, and TILBURG, LIMBURG, with important coal mines and the industrial and commercial centers of MAASTRICHT and HEERLEN, and DRENTHE, largely a stock-raising and dairying region In S Gelderland are the industrial centers of ARNHEM and NIJMEGEN Besides coal, the Netherlands has no important resources, though it relies on imports of rubber, oil, and tin from INDONESIA (the former Dutch colonies of the East Indies, since 1949 a sovereign confederation under the Dutch crown) Textiles, machinery, electrical equipment, processed foods, and chemicals are among the chief industrial products Amsterdam is a world center of the diamond industry and trade, it is also one of the chief international financial centers Dutch interests control a large part of the world's petroleum and tin production, and the Dutch merchant marine ranks fourth after the United States, Great Britain, and Norway The Dutch colonies (see WEST INDIES, DUTCH, and GUIANA, DUTCH) play an important part in the economy of the metropolis The government of the Netherlands is a constitutional monarchy The constitution was promulgated in 1814 and was revised frequently The executive power rests with the crown and the cabinet, the legislative power is vested in the two chambers of the States-General The members of the upper chamber are elected by the 11 provincial estates, which have important powers in their respective provinces The lower chamber is elected by direct universal suffrage The royal succession is settled on the house of Orange (see NASSAU) The royal house belongs to the Dutch Reformed Church There is complete freedom of worship, and each religious community receives state subsidies The Catholics, who nearly equal the Protestants in number, are most numerous in the southern provinces The archbishop of Utrecht is the Catholic primate of the Netherlands The four university cities are Leiden, Utrecht, Groningen, and Amsterdam One of the LOW COUNTRIES, the Netherlands had no unified history before the 16th cent The region left of the Rhine formed part of the Roman province of Lower Germany and was inhabited by the BATAVI, on the right bank were the Frisians Nearly the entire area was taken by the Franks between the 5th and the 8th cent, and with the breakup of the Carolingian empire it passed (9th cent) to the east Frankish (i e, German) kingdom and thus to the Holy Roman Empire The counts of HOLLAND emerged as the most powerful medieval lords of the region, next to their southern neighbors, the dukes of Brabant In the 15th cent Holland, Zeeland, Gelderland, and Brabant passed to the dukes of BURGUNDY, who thus controlled virtually all the Low Countries Though the Dutch towns and ports were slower in their economic development than the great commercial and industrial centers of Flanders and Brabant, they began to rival them in the 14th cent They nearly all belonged to the Hanseatic League, and they enjoyed vast autonomous privileges In 1477 MARY OF BURGUNDY by the Great Privilege restored all the liberties of which her predecessors had deprived the provincial estates of the Low Countries Her marriage with the Archduke Maximilian (later Emperor MAXIMILIAN I) brought the Low Countries to the house of Hapsburg Emperor Charles V made them over (1555) to his son PHILIP II of Spain By that time the northern provinces (i e, the present Netherlands) had reached great economic prosperity. Philip's attempt, through Cardinal GRANVELLE, then through the duke of ALBA, to introduce the Spanish Inquisition and to reduce the Low Countries to the status of a Spanish province met determined opposition among all classes of the population, Catholics and Protestants alike This was only increased by Alba's barbarous and terroristic measures The struggle for the independence of the Low Countries took place mainly in Flanders and Brabant, while the northern provinces, under the leadership of WILLIAM THE SILENT, prince of Orange, early succeeded in expelling the Spanish garrisons. The Low Countries united in their struggle against Spain in the Pacification of GHENT (1576) Alessandro FARNESE, who in 1578 succeeded John of Austria as Spanish governor, eventually reconquered the southern provinces, which remained in Spanish possession (see NETHERLANDS, AUSTRIAN AND SPANISH) The seven northern provinces—Holland, Zeeland, Utrecht, Gelderland, Overyssel, Friesland, and Groningen—drew together in 1579 in the Union of Utrecht and declared (1581) their independence The struggle continued. *William the Silent, assassinated in 1584*, was succeeded as stadholder (chief of state) by his son, MAURICE OF NASSAU, who was at first guided by OLDENBARNEVELDT. An English expedition under Robert Dudley, earl of LEICESTER, to aid the Dutch against Farnese, was ineffectual, but subsequently Maurice won important successes, and in 1609 he concluded a 12-year truce with SPINOLA, the Spanish commander Fighting was resumed in the Thirty Years War, at the end of which the independence of the United Provinces—as the independent Netherlands was called—was recognized in the Peace of Westphalia (1648) Spain also ceded North Brabant, with Breda, and part of Limburg, with Maastricht While still struggling for their independence and while involved in the religious struggle between Calvinists and REMONSTRANTS, the Dutch laid the foundation of their commercial and colonial empire The Dutch EAST INDIA COMPANY was founded in 1602, the Dutch WEST INDIA COMPANY in 1621. The decline of Antwerp under Spanish rule and the right (awarded to the Dutch in the Peace of Westphalia) to control the Scheldt estuary gave supremacy to the Dutch ports, particularly Amsterdam Dutch merchants traded in every continent (they even enjoyed exclusive privileges in Japan), and Dutch vessels captured the major share of the world's carrying trade The United Provs opened their doors to religious refugees, notably to Portuguese and Spanish Jews, and to French Huguenots, these contributed vastly to the immense prosperity of 17th-century Holland With material wealth came a cultural golden age In the day of Rembrandt, DUTCH ART reached its peak, the Univ of LEIDEN won world fame, Descartes lived in Holland, and Spinoza was a native of Amsterdam Prince FREDERICK HENRY, who had succeeded his brother Maurice in 1625 as stadholder, was in turn succeeded by his son, Prince WILLIAM II, in 1647 His death in 1650 was the signal for the opponents of the hereditary privileges of the house of Orange to reassert the rights of the provinces and the States-General Jan de WITT, the political leader of the estates of Holland (the most powerful of the seven provinces), was chosen (1652) grand pensionary of Holland and directed the fate of the Dutch republic for the following 20 years To prevent Prince WILLIAM III of Orange (son of William II) from regaining the authority of his father, De Witt by the Eternal Edict (1667) abolished the office of stadholder in Holland and secured the virtual exclusion of the house of Orange from state affairs De Witt's administration was largely taken up by the DUTCH WARS with England (1652–54, 1664–67), arising out of the first of the English NAVIGATION ACTS (1651) and the Dutch-English commercial rivalry The Treaty of Breda (1667) was advantageous to the Netherlands, which reached the peak of its political power when, by forming the TRIPLE ALLIANCE with Sweden and England, it forced Louis XIV of France to halt the War of Devolution against Spain Louis XIV took his revenge by starting (1672) the third of the Dutch Wars, in which the French overran the Netherlands In defense, the Dutch opened their dikes and flooded the country De Witt sought to negotiate peace but was assassinated (1672) by members of the Orange faction, which restored the stadholderate to William III (after 1689 also king of England) The war devastated the provinces, but in the Treaty of Nijmegen (1678–79) the Dutch obtained important concessions from France, while their ally Spain paid the bill The Netherlands again fought Louis XIV in the War of the GRAND ALLIANCE and in the War of the SPANISH SUCCESSION On the death (1702) of William III the stadholderate was again suspended and the States-General resumed control of the government, but in 1747 the republican party lost out and William IV of Orange became hereditary stadholder Dutch power declined steadily after 1715 and was overshadowed by England The Netherlands sided against England in the American Revolution and as a result lost several colonies at the Treaty of Paris of 1783 (see PARIS, TREATY OF) In 1794–95, in the French Revolutionary Wars, the French overran the country William V fled abroad, and the BATAVIAN REPUBLIC was set up (1795) under French protection Louis BONAPARTE was made king of Holland in 1806 by his brother, Napoleon I, but was deposed in 1810, his kingdom was annexed to France At the Congress of Vienna (1814–15) the former United Provs and the former Austrian Netherlands were united as a kingdom under King WILLIAM I, son of William V of Orange In 1830, however, the former Austrian provinces (i e, Belgium), rebelled against Dutch rule and declared their independence A final agreement between Belgium and the Netherlands was reached only in 1839 (see LONDON CONFERENCE) William I was forced to abdicate in 1840 and was succeeded by WILLIAM II, under whom Jan THORBECKE introduced important reforms in 1848 Under WILLIAM III (1849–90) the Netherlands passed through a period of commercial expansion and internal development He was succeeded by Queen WILHELMINA, who continued her predecessor's work and kept her country neutral in the First World War In the Second World War, however, Germany invaded (May, 1940) the Netherlands without warning, quickly crushed Dutch resistance, and wantonly destroyed Rotterdam The queen and her government fled abroad, and Dutch forces continued to fight alongside the Allies. Indonesia was lost to Japan early in 1942 after brief but heavy fighting Meanwhile the German occupation authorities, headed by Arthur Seyss-Inquart, established a reign of terror Underground resistance led to mass executions and deportations. Of the 112,000 Dutch Jews 104,000 were deported to Poland and exterminated In Sept, 1944, the Dutch population rose against the Germans in the premature hope that the Allied air-borne landings at Arnhem and Eindhoven would liberate the country However, only Zeeland, North Brabant, and Limburg were liberated, and in the rest of the country the Germans meted out terrible reprisals Starvation set in The German collapse in May, 1945, was followed by the immediate return of the queen and the cabinet and by relatively speedy recovery One of the original United Nations, the Netherlands joined (1947) in a close economic and political alliance with Belgium and Luxembourg, the three countries became known jointly as the Benelux group, which in 1948 joined with England and France in the Five-Power Pact The five nations acted jointly in the European Recovery Program and in the North Atlantic Treaty A major postwar problem was the revolt of INDONESIA, which Dutch arms were unable to suppress Queen Wilhelmina abdicated (1948) in favor of her daughter, JULIANA, who continued to rule with a coalition cabinet dominated by the Catholic and Labor parties For a general account of the modern Netherlands and its people, see A J Barnouw, *The Dutch* (1940) A standard history is P J Blok, *History of the People of the Netherlands* (Eng tr, 5 vols, 1898–1912) The volumes by J L Motley, *Rise of the Dutch Republic* (3 vols, 1856) and *History of the United Netherlands* (4 vols, 1861–68), are brilliant but scarcely impartial See also George Edmundson, *Anglo-Dutch Rivalry during the First Half of the Seventeenth Century* (1911) and *History of Holland* (1922), H W Van Loon, *The Fall of the Dutch Republic* (1913) and *The Rise of the Dutch Kingdom* (1919), A J Barnouw, *Holland under Queen Wilhelmina* (1922), Pieter Geyl, *The Revolt of the Netherlands* (1932), B H M Vlekke, *Evolution of the Dutch Nation* (1945), Bart Landheer, *The Netherlands in a Changing World* (1947), Sacheverell Sitwell, *The Netherlands* (1948)

Netherlands, Austrian and Spanish, that part of the Low Countries which, from 1482 until 1794, was in possession of the house of Hapsburg It corresponds, roughly, to modern Belgium The Low Countries passed from the house of Burgundy to that of Hapsburg through the marriage (1477) of MARY OF BURGUNDY (d 1482) with Archduke Maximilian (later Emperor Maximilian I), their son Philip (later PHILIP I of Castile) inherited FLANDERS, BRABANT, ARTOIS, HAINAUT, LUXEMBOURG, LIMBURG, HOLLAND, and ZEELAND, which constituted the possessions still left to the house of Burgundy His son, Emperor Charles V, added UTRECHT, GELDERLAND, OVERIJSSEL, FRIESLAND, and DRENTHE, and in 1547 declared the entire Netherlands hereditary Hapsburg possessions In 1555 he abdicated the Netherlands in favor of his son, PHILIP II of Spain. The provinces of the Netherlands retained their individual institutions and provincial estates, which limited the powers of the Spanish governors who resided at Brussels The harsh regime of the duke of ALBA, who after replacing (1567) Margaret of Parma as governor suspended constitutional procedure, provoked the opposition of the Dutch and Flemish nobles and people, led by WILLIAM THE SILENT of Orange, MARNIX, OLDENBARNEVELDT, and others In 1576 they drew together in the Pacification of GHENT Despite the ruthless campaigns of Alba and his successors—REQUESENS, JOHN OF AUSTRIA, and the more diplomatic Alessandro FARNESE—Spain recovered only the southern provinces (i e, modern Belgium) while the seven United Provs of the NETHERLANDS gained independence The bloody struggle ruined the prosperous Flemish cities, particularly ANTWERP Protestantism was extirpated in the Spanish Netherlands, and Belgium remains to this day Catholic The unfortunate provinces were to provide a battleground in every major European war from the 17th cent to the present, but their industry and commercial enterprise each time made a prompt recovery possible Spain lost North Brabant and part of Limburg to the United Provs at the Peace of Westphalia (1648), Artois and parts of Hainaut and of Luxembourg to France at the Peace of the Pyrenees (1659), parts of Flanders (including Dunkirk and Lille) and of Hainaut to France in the Treaties of Aix-la-Chapelle (1668) and Nijmegen (1678–79); and its remaining possessions in the Low Countries to the Austrian branch of the Hapsburgs at the Peace of Utrecht (1714) The bishopric of LIÈGE, an ecclesiastic principality, was not a part of the Hapsburg possessions but was under Spanish and (after 1714) Austrian influence and shared the history of the neighboring provinces After 1781 Emperor Joseph II, in his zeal for reform, ordered changes in the traditional administrative and judicial procedures which aroused the opposition of the conservative and Catholic leaders. Joseph partially withdrew his reforms in 1787, but failed to conciliate the opposition and to win the support of the liberals. Finally, late in 1789, the States-General of the Austrian Netherlands declared Joseph deposed and proclaimed the republic of the United States of Belgium Joseph's successor, Leopold II, succeeded in conciliating the States-General, which in 1790 elected his son Charles as hereditary grand duke The Austrian recovery of Belgium was short-lived, for by 1794 the FRENCH

REVOLUTIONARY WARS had brought the whole area under French control, and in 1797 it was formally ceded to France in the Treaty of Campo Formio For the history of the area after its incorporation (1815) with the kingdom of the Netherlands, see BELGIUM and LUXEMBOURG

Netherlands East Indies see INDONESIA

Netherlands New Guinea or **Dutch New Guinea**, territory (159,375 sq mi , pop 345,087) comprising the western half of New Guinea and offshore islands The capital is Hollandia The Dutch first visited the west coast of the island in 1606 In 1828 they claimed possession of the coast west of the 141st meridian, and in 1848 of the north coast W of Humboldt Bay The Dutch claim to the western half of the island was recognized by Great Britain and Germany in 1885 Until Dec , 1949, the territory was part of the Netherlands East Indies (now the United States of Indonesia) At the Dutch-Indonesian conference of 1949 the settlement of the political status of the area was postponed for a year The Indonesian name for the area is Irian

Netherlands West Indies see CURAÇAO

Nethersole, Dame Olga (nĕ'dhursōl), 1870–, English actress, b London From 1887 she acted in England and in 1899 won fame in the United States as an emotional actress in *Camille*, Clyde Fitch's *Sapho*, and Pinero's *Second Mrs Tanqueray* She was made Dame of the British Empire in 1936

Nethinim (nĕ'thĭnĭm) [Heb , =dedicated], alien captives of the Jews who performed the humblest tasks of the temple Their lot improved until in postexilic times they became the equals of other temple officials Joshua 9 3–27, Ezra 2 43,58,70, 7 7,24, 8 17,20, Neh 10 28

Néthou, Pic de see ANETO, PICO DE

Netley, village, Hampshire, England, SE of Southampton Ruins of the Cistercian abbey built c 1240 include parts of the cruciform church and the abbot's and chapter houses The Royal Victoria Hospital (built after the Crimean War) is one of the chief military hospitals in England

Netophah (nĕtō'fu), unidentified town, apparently near Bethlehem Ezra 2 22, Neh 7 26

Netscher, Kaspar (kus'pär nĕ'chur), 1639–84, Dutch portrait and genre painter, b Heidelberg He early moved to Holland, where he studied with Ter Borch His meticulous little portraits and conversation pieces won him a high reputation, and he was a favorite portrait painter of William of Orange Fine examples of his work are in the National Gallery, London, and the Louvre, the Rijks Museum has 16 portraits The Metropolitan Museum contains *The Card Party* and two portraits, and the Museum of Fine Arts, Boston, his *Boy Blowing Bubbles*

nettle, any species of the genus *Urtica*, annual or perennial plants, commonly weedy and with inconspicuous flowers and small stinging hairs These hairs, when touched to the skin, emit small amounts of FORMIC ACID and produce a rash Nettles have been used in the Old World as fiber for cordage, nets, cloth, and paper and as a potherb for greens or broth Indians of the New World have utilized the fiber Medicinally the plants have been used both internally as a medicament and externally as a stimulative in a process known as urtication The Roman nettle was reputedly introduced into Britain by Roman soldiers for a somewhat similar purpose—to scour their flesh for warmth against the cold RAMIE, of the nettle family, was once included in the genus *Urtica* Various other plants, often having the stinging property of the true nettle, are called nettle, e g , the false nettle, HORSE NETTLE, and nettle tree (see HACKBERRY)

nettle rash see URTICARIA

Nettuno (nĕt-tōō'nō), resort, Latium, central Italy, on the Tyrrhenian Sea With ANZIO, 2 mi to the northeast, it was the site of the Allied landing (Jan. 22, 1944) in the Second World War

Neuber, Karoline (Friederike Karoline Neuber) (kurōlē'nu noi'bur, frēdurē'ku), 1697–1760, German actress-manager, whose family name was Weissenborn After years as a strolling player, she assumed management (1727) of a disbanded company with her husband, Johann Neuber, and began one of the most notable careers in the history of the theater She obtained the aid of Johann Christoph GOTTSCHED and through his translations presented many of the dramas of Racine, Corneille, and Molière for the first time in Germany She trained her players, filled them with ambition, and disciplined their private lives She was stage director and leading actress, her repertoire outside the French classics including farces, musical sketches, and pastoral plays, many of which she wrote or adapted For more than 10 years she continued to raise the standards of the stage in Leipzig and throughout Germany In 1748 she played the leading role in Lessing's first drama, *Der junge Gelehrte* See Rosamond Gilder, *Enter the Actress* (1931)

Neuchâtel (nûshätĕl'), Ger *Neuenburg* (noi'ùnbōōrk), canton (309 sq mi , pop 117,900), Switzerland, in the Jura mts Its chief products are cattle, cheese, cotton goods, and—notably in Le LOCLE and La CHAUX-DE-FONDS—watches and cutlery There are rich asphalt deposits A part of Burgundy by the 11th cent , Neuchâtel was later governed by counts under the Holy Roman Empire The county, declared independent in 1648, had passed to the house of Orléans-Longueville in 1504, and, upon the extinction of that family, chose King Frederick I of Prussia as its prince (1707) It remained an autonomous principality, though in 1815 it became a canton of the Swiss Confederation, with which it had been allied since the 15th cent In 1848 a revolution abolished the monarchy, and in 1857, after some complications, the king of Prussia renounced his claim to the canton The population is mainly French-speaking and Protestant The capital, **Neuchâtel** (pop 23,799), produces machinery, chocolate, and tobacco It has a cathedral, an ancient castle, and a university The town is on the **Lake of Neuchâtel**, 24 mi long and 4 to 5 mi wide, which is surrounded by valuable vineyards and picturesque settlements There are many remains of lake dwellings

Neufahrwasser see DANZIG

Neu Hannover, Bismarck Archipelago see LAVONGAI

Neuhof, Theodor, Baron von (tā'ōdōr bärōn' fŭn noi'hōf), 1686–1756, German adventurer, b Metz, France He was known as Theodore I, king of Corsica from 1736 to 1743 After serving in the French and the Swedish armies he was chargé d'affaires at Florence (1732) under Emperor Charles VI There some Corsican patriots in exile, believing he could be of use to their cause, asked him to become king The proclamation was made after he landed on the island in 1736 He was at first successful against the Genoese He several times went to the Continent to obtain help His last effort to hold Corsica was in 1743, when the French and Genoese forced him to leave After wandering about, he went to London in 1749 Imprisoned for debt, he was freed through the influence of Horace Walpole King Theodore figures grotesquely in Voltaire's *Candide* See Valerie Pirie, *His Majesty of Corsica* (1939)

Neuilly, Treaty of (nûyĕ'), 1919, peace treaty concluded between the Allies and Bulgaria after the First World War It was signed at Neuilly-sur-Seine, France Bulgaria ceded part of W Thrace to Greece and several border areas to Yugoslavia, S Dobruja was confirmed in Rumanian possession

Neuilly-sur-Seine (-sür-sĕn'), city (pop 58,658), Seine dept , N France, a residential suburb of Paris near the Bois de Boulogne

Neu Lauenburg, Bismarck Archipelago see DUKE OF YORK ISLANDS

Neumann, Alfred (älfrät noi'man), 1895–, German novelist and dramatist His story *Der Patriot* (1925, Eng tr , *The Patriot*, 1928) was dramatized as *Such Men Are Dangerous* (produced in London, 1928) A brilliant historical novel, *Der Teufel* (1926, Eng tr , *The Devil*, 1928), won him the Kleist Prize This was followed by *Rebellen* (1927, Eng tr , *The Rebels*, 1929), *Guerra* (1928, Eng tr , 1930), *Der Held* (1930, Eng tr , *The Hero*, 1931), on the murder of Rathenau, and *Kaiserreich* (1936, Eng tr , *Gaudy Empire*, 1937) Neumann fled Nazi Germany and took refuge in the United States

neume, in music see MUSICAL NOTATION

Neu Mecklenburg, Bismarck Archipelago see NEW IRELAND

Neumünster (noi'mün'stûr), city (pop 66,185), Schleswig-Holstein, N Germany, SSW of Kiel It is a rail center and has large textile, leather, machinery, and paper manufactures It suffered damage in the Second World War

Neunkirchen (noin'kĭr'khŭn), town (pop 10,056), Lower Austria, 10 mi SW of Wiener Neustadt It has ironworks and textile mills

Neunkirchen, city (pop 37,250), Saar Territory, NE of Saarbrücken It is a coal-mining center and has iron and steel works and coke ovens

Neu Pommern, Bismarck Archipelago see NEW BRITAIN

neuralgia (nōōrăl'ju, nyōō–), paroxysmal attack of pain distributed along the course of a peripheral sensory nerve or its branches Neuralgia is not a disease but is often symptomatic of a constitutional disturbance It is rare in children and usually occurs past middle life Hysterical neuralgia occurs in neurotic individuals Trigeminal neuralgia (*tic douloureux*), occurring mainly in adults and more commonly in women, is an extremely painful involvement of the fifth cranial nerve which is sometimes relieved only by surgical interference Varieties of neuralgia are distinguished according either to the part affected or to the cause, e g , facial, occipital, intercostal, and syphilitic neuralgia

neurasthenia (nyōō"rŭsthē'nēu), psychiatric term for a neurosis characterized by general lassitude, irritability, lack of concentration, worry, and hypochondria Used by Freud to describe a fundamental functional mental disorder, the term was incorrectly applied as a description of almost any neurosis and has been largely abandoned

Neurath, Constantin, Baron von (kôn'stäntēn bärōn' fŭn noi'rät"), 1873–, German statesman After holding numerous diplomatic posts, he was (1932–38) foreign minister under Papen, Schleicher, and Hitler Dismissed in favor of RIBBENTROP, Neurath was appointed (1939) "protector" of Bohemia and Moravia, but he was considered too lenient in his treatment of the Czechs and was replaced by Reinhard Heydrich in 1941 After the Second World War, Neurath was indicted at the Nuremberg war-crimes trial and was sentenced (1946) to imprisonment for 15 years

neuritis (nōōrī'tĭs, nyōō–), degenerative change in the nerve fibers resulting from a deficiency in vitamins B_1 and B_2 particularly and also of vitamins A, C, and D "Peripheral neuritis," formerly thought to result from an inflammatory process, responds clinically to vitamin therapy The term *neuropathy* has been suggested as a substitute for the term *neuritis* Symptoms of neuritis include pain, tenderness along the nerve, impairment of sensation (e g , touch, temperature, pain, and vibration), and impairment of muscular action Local causes of neuritis include wounds, fractures, and pressure from crutches, bandages, tumors, or a cervical rib Multiple neuritis, in which similar nerves on both sides of the body are affected, is caused by the toxic action of alcohol, lead, arsenic, and certain other substances

neurosis (nyōōrō'sĭs), functional mental disorder The symptoms are the result of a compromise between gratification of libidinal (see LIBIDO) impulses and defense against these impulses It is differentiated from PSYCHOSIS in that it involves no appreciable loss of reality sense, primary mood disturbance, or consistent deterioration in intellectual functions It was largely owing to FREUD, who originated the term *psychoneurosis* to indicate a neurosis of mental origin, that attention was turned from the brain and nervous system to that of the emotional life of the individual as the genesis of a neurosis Freud, who believed almost without qualification that the causal factors in neurosis could be found roughly in the first six years of life, when the personality or ego is weak and afraid of censure, attributed neurosis to the frustration of infantile sexual drives, such as eating and toilet habits and the parent-child relationship (see OEDIPUS COMPLEX) These infantile conflicts, remaining unsolved, appear in adulthood under conditions of stress as neurotic symptoms (see PSYCHOANALYSIS) Although many Freudian concepts have received general acceptance, there is a variation of emphasis among the different schools of psychiatry Ernst Kretschmer and W H Sheldon place greatest weight upon constitutional factors as the cause of neurosis, while others attribute the genesis to organic reasons Among psychoanalysts who have deviated from Freudians, such as Alfred ADLER, C G JUNG, Karen HORNEY, and H S SULLIVAN, each attributes a different factor as the cause of neurosis Whatever the basic cause, neurosis has a crippling effect upon the individual, expressing itself in such symptoms as tenseness, persistent fatigue, feelings of emotional unrelatedness, construction of intellectual faculties, and somatic disorders (see PSYCHOSOMATIC MEDICINE) Normal, neurotic, and psychotic are no longer regarded as distinct and clearly differentiated entities, but rather are believed to differ on a quantitative basis The complex and competitive urban society, as compared with the more static, less intellectually vital, rural community, is believed to offer a more fertile field for the growth of emotional conflicts Further complications in the concept of neurosis have been introduced by social anthropologists, such as Ruth Benedict and Margaret Mead, who have demonstrated that behavioral patterns considered neurotic in one culture are considered normal in another While the problem of neurosis is still being clarified and developed, psychoanalysis, as a means of prevention, has focused attention on the crucial period of childhood See Karen Horney, *The Neurotic Personality of Our Time* (1937), Abram Kardiner, *The Individual and His Society* (1939), O S English and G H J Pearson, *Emotional Problems of Living* (1945), Otto Fenichel, *Psychoanalytic Theory of Neurosis* (1945), Sigmund Freud, *Outline of Psychoanalysis* (1949)

Neu-Sandec, Poland see NOWY SĄCZ

Neusatz, Yugoslavia see NOVI SAD

Neuse (nūs), river rising in N North Carolina in the piedmont near the Va line and flowing southeast c 300 mi across the coastal plains to Pamlico Sound

Neusiedler Lake, Ger *Neusiedlersee* (noi'zēdlurzā'), Hung *Fertő tó* (fĕr'tŭ tō'), E Austria and W Hungary, SE of Vienna About 20 mi long, it varies in area and depth (average 5 ft) with the seasons A heavy growth of reeds supplies the Austrian cellulose industry There are remains of lake dwellings The region (part of BURGENLAND) produces wine

Neuss (nois), city (pop 54,961), in the former Rhine Prov of Prussia, NW Germany It is a rail junction and a port on the Erft Canal, near the left bank of the Rhine opposite Düsseldorf Food stuffs, metal goods, and other manufactured articles are produced here Built on the site of a Roman camp, Neuss was chartered in the 12th cent It belonged to the archbishopric of Cologne until the French Revolution In 1474–75 Charles the Bold of Burgundy, supporting the archbishop in a quarrel with the chapter of Neuss, besieged the city long and unsuccessfully Neuss suffered damage in the Second World War.

Neustadt an der Haardt (noi'shtät ăn dĕr härt'), town (pop 23,946), capital (since 1945) of the Rhenish Palatinate It is a center of the wine trade of the region and has various manufactures

Neustrelitz (noi"shtrā'lĭts), town (pop 24,692), Mecklenburg, N Germany, c 60 mi NNW of Berlin. It was founded (1733) as capital of Mecklenburg-Strelitz after the earlier ducal residence at near-by Strelitz had burned down (1712) Half the town was destroyed in the Second World War

Neustria (nûs'trēu), western portion of the kingdom of the FRANKS in the 6th, 7th, and 8th cent, during the rule of the MEROVINGIANS It comprised the Seine and Loire country and the region to the north, its principal town was Soissons The realm took its origin from the partition (511) of the lands of CLOVIS I among his sons CLOTAIRE I, king of Neustria, temporarily united his lands with the neighboring kingdom of AUSTRASIA (558–61) Constant dynastic rivalries culminated in the long and bitter war between Queen FREDEGUNDE of Neustria and Queen BRUNHILDA of Austrasia, their struggle ended when CLOTAIRE II united all Frankish lands and put Brunhilda to death (613) Divided once more, the two realms were again united for a brief period under Clotaire's son DAGOBERT I After Dagobert the kings sank to insignificance, while the mayors of the palace rose in power PEPIN OF HÉRISTAL, mayor of the palace of the king of Austrasia, defeated his Neustrian rival and united (687) Austrasia and Neustria His descendants, the CAROLINGIANS, continued to rule the two realms, first as mayors and after 752 as kings The name Neustria ceased to have any geographic significance early in the 10th cent See F Funck-Brentano, *Earliest Times* (Vol I of *National History of France*)

Neutra, Czechoslovakia see NITRA

neutrality, in international law, status of a nation which refrains from participation in a war between other states and maintains an impartial attitude toward the belligerents At the opening of hostilities a nonbelligerent state generally issues a proclamation of neutrality, which not only explains its international position but also serves as a warning to its own nationals, whom it declines to protect if they are penalized by a belligerent *for committing* an unneutral act After the proclamation is issued it is the duty of the neutral power to observe strict impartiality in its relations with the warring nations There must be no discrimination or preference The duty of the belligerent, on the other hand, is to respect neutral territory and neutral territorial waters Neutrality is perpetual when it is imposed upon a nation by treaty obligations Though its sovereignty is thus limited, the state becomes inviolable Switzerland, neutralized by the Congress of Vienna (1815), is an example of a perpetually neutral state When a nation, by armed intervention, demands the respect of its neutral rights by the belligerents, its policy is one of armed neutrality Temporary neutrality flows from the unlimited sovereignty of the state, which allows it freely to decide its position in time of war and voluntarily to abstain from participation The terms *benevolent* and *hostile*, when applied to neutrality, imply the sympathy or the antagonism of a neutral for one of the belligerents In medieval times, neutrality as a concept was impossible, for feudal obligations prevented states from exercising the sovereignty which this doctrine necessitates However, the powerful states which later evolved were free to follow a policy of noninterference in the wars of neighboring nations Maritime warfare gave great impetus to the development of neutrality laws Belligerents wished to destroy the enemy's commerce, and nonbelligerents demanded freedom to trade impartially The belligerent could not interefere too drastically with the neutral's trade, for fear that the noncombatant would become allied with the enemy, and in time compromises were effected Neutral states might trade, but under certain conditions and with certain exceptions Neutral duties and rights, first recognized by the 14th-century *Consolato del mare* [tribunal of the sea], were codified or incorporated in treaties and thus became part of international law While the Hanseatic League and the maritime cities of the Mediterranean had been able to demand respect for neutral rights, it was not until much later that the duties of neutrals were stressed George Washington in his neutrality proclamation (1793) not only insisted upon respect for American neutrality but also promised the fulfillment of its accompanying duties The Declaration of Paris (1856) liberalized the laws of neutrality, the Declaration of London (1909) clarified certain principles, and at the Second Hague Conference (1907) neutral obligations and rights, as now practiced, were defined in two conventions The general neutrality convention, after declaring neutral territory inviolable, laid down regulations for neutral states and listed acts which should not be regarded as favoring one of the belligerents The convention on neutrality in naval war, which was fuller, elaborated upon the duties of neutrals but did not incorporate rules for CONTRABAND and BLOCKADE In the First and Second World Wars, violations of neutrality by both sides were frequent, and attempts were made to justify the action by assertions that changed methods of warfare warranted changes in the observance of international law When the League of Nations was established, it was generally recognized that member states could not be neutral in any dispute where the League called upon them to intervene The United States, which was not a member, asserted its intention to remain aloof from all wars and adopted (1935) the Neutrality Act The United Nations, unlike the League, includes all the major world powers Their obligations under the charter to restore and maintain the peace seem to preclude neutrality, and states, such as Switzerland, which are committed to neutrality cannot become members On the other hand, the United Nations, just as the League, seems obliged to protect neutrals from attack See D C Brewer, *Rights and Duties of Neutrals* (1916), Philip C Jessup, Francis Deak, and others, *Neutrality Its History, Economics, and Law* (4 vols, 1935–36), Edwin Borchard and W P Lage, *Neutrality for the United States* (1937)

Neutrality Act, passed by the U S Congress and signed by President F D Roosevelt in Aug, 1935 It was designed to keep the United States out of a possible European war by banning shipment of war materials to belligerents at the discretion of the President The act was amended (Feb, 1936) to prohibit the granting of loans to belligerents, and later (Jan, 1937) neutrality was extended to cover civil wars A new act in May, 1937, continued the 1935 act and in Nov, 1939, this act was revised in favor of supplying warring nations on the "cash-and-carry" principle U S vessels were excluded from combat zones—a provision lifted by amendment in Nov, 1941, after the LEND-LEASE policy was long established The act was thus practically out of operation even before American neutrality ended with Pearl Harbor In Feb, 1942, Congress modified the act to supply credit to the Allies

neutralization, chemical process which involves the mixing and reaction of an acid solution and a base solution It is commonly applied to the reaction between an active ACID and an active BASE which results in the formation of a SALT and water Such a reaction is based fundamentally on the coming together of the hydrogen (H) ION of the acid and the hydroxyl (OH) ion of the base to form water (HOH), which ionizes practically not at all If, for example, to an acid solution (e g, hydrochloric acid) colored red by LITMUS a solution of an active base (such as sodium hydroxide) is added drop by drop, eventually the solution becomes colorless This condition would indicate that hydrogen and hydroxyl ions have come together to form the nonionizing substance water, which, when pure, is neutral to litmus (i e, does not change its color) In addition, a salt is formed which can be obtained by evaporation of the liquid remaining after the neutralization is completed, this salt is found to be made up of the metallic element or radical of the base (in the case of sodium hydroxide, it is sodium) and of the element or radical (other than hydrogen) of the acid (in the case of hydrochloric acid, this is chlorine) Sodium chloride, common salt, is thus formed from this acid and base The heat produced in the reaction is known as the heat of neutralization, and in the case of a strong acid being neutralized by a strong base, it is proportional to the number of equivalent weights of water formed, being about 13,700 calories for each formula weight or gram-molecular weight (18 g) of water Neutralization is commonly necessary in the chemical laboratory and is an important procedure in determining the concentration of acids in solution For example, the concentration of an acid can be determined by mixing it drop by drop with a solution of a known concentration of a base (colored with litmus) and measuring the volume of the base needed to neutralize a given volume of the acid The reaction is employed in various industrial processes Certain oils containing acid (sulphuric acid is used in the preparation of some lubricating oils) are neutralized by the use of sodium carbonate Excess acid remaining in the preparation of certain explosives is removed by neutralization In many simple operations, neutralization is involved, for example, household ammonia (a basic solution) relieves the pain of some insect bites by neutralizing the formic acid present

Neutral Nation, group of North American Indian tribes of the Iroquoian linguistic stock In the early 17th cent they occupied the territory along the northern shore of Lake Erie They then numbered some 12,000 Their culture was substantially that of the Eastern Woodlands area Father Joseph Daillon visited them in 1626 and reported that their manners and customs were very similar to those of the Huron Indians The French gave the Neutral Nation its name because of its neutrality in the Iroquois-Huron wars. This neutrality, however, was short-lived, for when the remnants of the Huron joined (1649) them, the Iroquois Confederacy practically wiped out the Neutral Nation. A few survivors were adopted by the Seneca Indians

neutron (nōō'trŏn, nū'–), nuclear particle of matter of extremely minute size and without charge (in this respect differing from the positive proton and the negative electron) The neutron was discovered in 1932 by James Chadwick of the Cavendish Laboratory of Cambridge Some investigators believe that the particle consists of a proton and an electron held together. The neutron passes directly through some materials, and this property caused much difficulty in controlling and directing it in experiments Neutrons are obtained by bombarding beryllium with deuterons or with alpha particles Bombardment of some elements with neutrons produces nuclear changes, fission of uranium atoms and the release of ATOMIC ENERGY were accomplished by the use of neutrons

Neva (nā'vŭ, Rus. nyĭvä'), river, 46 mi long, RSFSR, connecting Lake Ladoga with the Gulf of Finland, an inlet of the Baltic Sea In its delta is the site of Leningrad. The Neva is connected by canal systems with the Volga river and with the White Sea It is navigable except in winter

Nevada (nuvä'du, nŭva'du), state (109,802 sq. mi, 1940 pop 110,247; 1949 estimated pop 174,000), W United States, in the Rocky Mt region, admitted 1864 as the 36th state CARSON CITY is the capital, RENO is the largest city, and LAS VEGAS is also of importance It is bounded on the west by California, on the north by Oregon and Idaho, on the east by Utah, and on the southeast by Arizona (with the COLORADO river marking most of the border) Since Nevada runs almost to a sharp point, there is only a fragmentary border with Arizona on the south Most of the state is within the GREAT BASIN The rivers in the southeast belong to the Colorado system and those in the extreme north drain to the Snake, but typically the Nevada rivers, chief among them the HUMBOLDT, go nowhere, ending instead in desolate alkali sinks —except where the water is diverted for irrigation before the river can reach its natural end The alkali sinks and great arid stretches clothed with sagebrush and creosote bush are typical of Nevada, as are the mountain chains, which run generally north and south and segment the state On the California border are the lofty and well-named Sierra Nevada [snowy range] The days in this dry country are generally clear with a pure clarity of height, for the mean elevation of Nevada is c 5,500 ft The temperature varies not only with the season but also with the altitude, in the north and west the winters reach extreme cold, and in parts of the south the summers reach ovenlike heat Many of the high plateau areas are excellent for grazing, and the raising of cattle and sheep is one of the state's main industries Given the prevailing dryness and the steep slopes, agriculture is naturally not highly developed It is partially devoted to growing hay and alfalfa as winter food for the cattle and sheep Nearly all foodstuffs are imported The population has been sparse since the time when the Paiute Indians and other tribes obtained a meager living from the land and the animals The fortune of Nevada has been not in its land but in the almost incredible wealth below the surface of the land—silver, gold, copper, zinc, lead, mercury, antimony, manganese, arsenic, and tungsten The Spanish in the Southwest, though they were hungry for gold, did not discover that underground wealth In 1776 Father Silvestre Vélez de Escalante came near the present Nevada in his northward voyage, and his report on the forbidding aspect of the steep and dry "unknown land" was enough to discourage exploration A half century later the fur traders thrusting into the Rockies for beaver pelts made the mountain region known Jedediah S SMITH thrust across the southern part of Nevada on his venturesome way to California The next year when he returned across central Nevada to the Great Salt Lake, Peter Skene OGDEN, a Hudson's Bay Company man trading out of the Oregon country, entered the present NE Nevada In 1828 Ogden discovered the Humboldt Joseph Walker in 1833–34 went along the Humboldt and across the Sierra Nevada to California Many other wagon trains later were to cross Nevada to the promised land of gold especially in and after the rush of '49, but the difficulties of the voyage can be seen in the calamitous experiences of the DONNER PARTY Travelers going to California over the Old Spanish Trail also crossed S Nevada, and Las Vegas appeared as a station on the route With Kit CARSON, John C FRÉMONT had explored much of Nevada between 1843 and 1845, and his reports gave to the United States the first full information on the future state His account was probably of some value to Brigham YOUNG when he was shepherding the stout Mormons west to build a new home in the mountains and valleys of the Great Basin Nevada was an adjunct of the new Mormon commonwealth in present Utah, and when the Federal government set up Utah Territory in 1850, almost all of Nevada was included except the southern tip, which was then in New Mexico. When trouble between the U.S. government and the Mormons led to the army campaign against the Mormons in 1857, Brigham Young called back most of the few Mormon settlers to Salt Lake City The non-Mormons who came to Nevada were averse to being in a Mormon-dominated territory; many non-

Mormons did come after gold was found in 1859 A rush from California began; it was to be multiplied manyfold as the news of the rich silver strike of the COMSTOCK LODE was spread abroad Most of the newcomers preferred to consider themselves as still being within California, and the political question added a little to the upheaval Miners coming helter-skelter raised camps that grew overnight into such booming and raucous towns as VIRGINIA CITY Partly to bring order to the lawless, wide-open mining towns, Congress made Nevada into a territory in 1861 as fortune hunters and the venturesome and curious poured in Mark Twain, who was one of the newcomers, has left a vivid picture of these raw Nevada days in *Roughing It* The territory, which was enlarged by moving its eastern boundary one degree of longitude in 1862, was rushed to statehood in 1864, with young Carson City as the capital President Lincoln signed the proclamation, though the territory did not actually have enough population for statehood, more votes were necessary to pass the Thirteenth Amendment, and Nebraska had failed to qualify In 1866 Nevada acquired its present bounds, when the southern tip was added and more eastern land was gained from Utah Connection with the East, which had been spectacularly but briefly created by the pony express, was firmly established by completion of the transcontinental railroad in 1869 The Silver State continued to be dominated by its precious ores Its fate was affected by new strikes, such as the "big bonanza" that enriched the silver kings, J W MACKAY, J G FAIR, W S O'BRIEN and J C FLOOD, the discovery (1900) of the silver deposits at Tonopah and of gold at Goldfield, and the finding of copper at Ely Resting on so small a base, the economy has been seriously shaken by mining depressions and by changes in the value of the minerals Naturally the political leaders of Nevada (which has two Senators and only one Representative) were vociferous in favor of the free coinage of silver From the '70s to the '90s the people of Nevada were strong supporters of the "cheap money" advocates and were thus linked with the discontented farmers of the Middle West in favoring the BLAND-ALLISON ACT and the SHERMAN SILVER PURCHASE ACT (though both were considered insufficient) They enthusiastically endorsed the silver program of William Jennings Bryan and the Democrats in 1896, and even after that resounding defeat they continued to plead for government purchase and coinage of silver down to the present time Nevada is however, the Sagebrush State as well as the Silver State, and large ranches have helped to stabilize the insecure basis of the mining wealth In the 20th cent , too, resorts have been developed, notably at Reno (the "divorce capital of the world") and Las Vegas, and the revenues from the resorts and from tourists who enjoy the high, clear air of the mountains are perhaps a more constant contribution to the support of the state than the riches to be gained from such large demands for metal as those caused by the Second World War See E G Lillard, *Desert Calling* (1896, new ed , 1942), E H Mack, *Nevada* (1936) and, with B M Sawyer, *Our State Nevada* (1940), Federal Writers' Project, *Nevada* (1940), Dale Morgan, *The Humboldt* (1943), Oscar Lewis, *The Silver Kings* (1947)

Nevada (nuvă'du) **1** City (pop 3,353), co seat of Story co , central Iowa, E of Ames, founded c 1853, inc 1869 The city ships poultry **2** City (pop 8,181), co seat of Vernon co , SW Mo , E of Fort Scott, Kansas, founded 1855 It is a shipping center for a farm, oil, asphalt, and coal area Cottey College (junior, for women) is here. A state mental hospital is near

Nevada, University of (nuvă'du, nuvä'du), at Reno, land-grant and state supported, coeducational, chartered 1873, opened 1874 at Elko, moved 1886 It has colleges of agriculture, arts and science, and engineering (with the Mackay School of Mines) and a school of education State and U S bureaus of mines (rare and precious metals research) and a desert geology library are here

Nevada City (nuvä'du), city (pop, 2,445), co seat of Nevada co , N central Calif , NE of Sacramento, in a gold-mining, orchard, and resort area of the Sacramento valley; laid out 1849, inc 1851 Several landmarks of the 1860s and '70s survive

Nevers (nəvĕr'), city (pop 32,246), capital of Nièvre dept , central France, on the Loire and Nièvre rivers It is today a commercial center with large pottery and china manufactures and was long the capital of the duchy and province of NIVERNAIS Among its important buildings are the ducal palace (15th–16th cent), now the courthouse, the Church of St Etienne (11th cent), a gem of Romanesque architecture; and the cathedral (13th–16th cent), damaged in the Second World War. The Convent of St Gildard has the remains of St Bernadette, who lived here from 1860 to 1879

Neville, Charles: see WESTMORLAND, CHARLES NEVILLE, 6TH EARL OF

Neville, Ralph: see WESTMORLAND, RALPH NEVILLE, 1ST EARL OF.

Neville, Richard: see WARWICK, RICHARD NEVILLE, EARL OF.

Nevin, Ethelbert Woodbridge (nĕ'vĭn), 1862–1901, American pianist and composer, b Edgeworth, Pa , studied in Boston and in Germany He made his debut as a pianist in Pittsburgh in 1886, but devoted most of his time to composition of songs and piano pieces, unpretentious and sentimental One song, *My Rosary* (1898), found immense popularity Other popular works are *Narcissus*, from the piano cycle *Water Scenes* (1891), and settings of Eugene Field's "Little Boy Blue" and "Wynken, Blynken, and Nod " See biography by J T Howard (1935)

Nevin, John Williamson, 1803–86, American theologian and educator, b near Strasburg, Pa , grad Union College, 1821, and Princeton Theological Seminary, 1826 He was professor of biblical literature (1830–40) in Western Theological Seminary at Allegheny (now part of Pittsburgh), and from 1840 he taught theology at the German Reformed Church Seminary, Mercersburg, Pa He served (1841–53) as acting president of Marshall College, which in 1853 became part of Franklin and Marshall College, here he was president from 1866 to 1876 His writings and teachings set forth his opinions on various disputed theological matters and gave rise to what was called the Mercersburg theology Among his works are *The Anxious Bench* (1843), *The Mystical Presence* (1846), and *Anti-Christ; or, The Spirit of Sect and Schism* (1848)

Nevins, Allan, 1890–, American historian, b Camp Point, Ill , grad Univ of Illinois (B A , 1912, M A , 1913) After a career as a journalist, he was professor of American history at Cornell Univ (1927–28) and an associate in history at Columbia (1928–31) He became a full professor at Columbia in 1931 In 1940–41 he served as Harmsworth professor of American history at Oxford One of the most prolific and versatile of recent American historians, Nevins is noted for the brilliance of his literary style He won the Pulitzer Prize for biography twice, for *Grover Cleveland* (1932) and for *Hamilton Fish* (1936) Other works include *The Evening Post* (1922), *The Emergence of Modern America, 1865–1878* ("History of American Life" series, Vol VIII, 1927), *Henry White* (1930), *Abram S Hewitt, with Some Account of Peter Cooper* (1935), *The Gateway to History* (1938), *Frémont the Pathmarker of the West* (1939), *John D Rockefeller* (1940), and *A Short History of the United States* (with Henry Steele Commager, 1945) In *The Emergence of Lincoln* (2 vols ; 1950), Nevins completed his notable study of the years (1847–61) before the Civil War, begun with *Ordeal of the Union* (2 vols , 1947) He has also edited *The Diary of Philip Hone* (1927), *The Diary of John Quincy Adams, 1794–1845* (1928), *Polk the Diary of a President, 1845–1849* (1929), *Letters of Grover Cleveland, 1850–1908* (1933), *The Heritage of America* (with H S Commager, 1939, rev and enl ed , 1949), and *America through British Eyes* (1948, rev and enl ed of *American Social History as Recorded by British Travellers*, 1923)

Nevis, British West Indies see SAINT KITTS.

Nevis, Ben, Scotland see BEN NEVIS

New, Harry Stewart, 1858–1937, U S Postmaster General (1923–29), b Indianapolis He studied at Butler Univ , and after 1878 he was connected with the Indianapolis *Journal* He was an Indiana state senator (1896–1900), was chairman (1907–8) of the Republican National Committee, and served (1917–23) in the U S Senate While Postmaster General under Warren G Harding and Calvin Coolidge, New built up the air-mail service and extended it to South America

New Albany (ôl'bunē) **1** City (pop 25,414), co seat of Floyd co , SE Ind , on the Ohio opposite Louisville, Ky , settled c 1800, inc 1813 Screened sand and gravel used in preparation of concrete are obtained here The home of William Vaughn Moody is in the city **2** City (pop 3,602), co seat of Union co , N Miss , NW of Tupelo and on the Tallahatchie, in a farm and dairy area, settled c 1840

New Alesund see SPITSBERGEN

New Amsterdam, early name of NEW YORK city It was a Dutch colony (1625–64) at the mouth of the Hudson on Manhattan island and was the capital of NEW NETHERLAND

New Archangel, Alaska see SITKA.

Newark, Ont see NIAGARA-ON-THE-LAKE

Newark (nū'ûrk), municipal borough (1931 pop. 18,060, 1943 estimated pop 21,000), Nottinghamshire, England, on a short branch of the Trent and NE of Nottingham The site was occupied in ancient British and Roman times There are ruins of a castle, partly built in the 12th cent by Bishop Alexander, where King John died in 1216 It was besieged three times in the civil war The Church of St Mary Magdalene is partly 13th cent , the Beaumont Market Cross is 15th cent , and the grammar school dates from 1529 The town has varied manufactures—metal goods, boilers, and farm machinery. Gypsum and limestone are found in the vicinity.

Newark. 1 (nōō'ûrk", nū'–) Town (pop. 4,502), NW Del , SW of Marshallton, settled before 1700, inc 1852 The Univ. of Delaware (see DELAWARE, UNIVERSITY OF) is here Vulcanized fiber is manufactured here, and a food-packing plant is near by **2** (nōō'ûrk, nū'–, nōōrk) City (pop 429,760), co. seat of Essex co , NE N J , largest city in the state, important industrial and commercial center on the Passaic river and Newark Bay W of lower Manhattan, inc 1836 Settled from Connecticut in 1666 by Robert Treat and others, it grew slowly until after the Revolution (there were skirmishes here) Tanning and shoemaking became important, the jewelry industry began in 1801, and insurance in 1810 Hundreds of manufactures were added in the 19th cent , particularly after rail and water transportation improved, and Newark became the metropolis of a wide area Celluloid was first made here (1872, by J W Hyatt), Seth Boyden carried on much of his work here Chemicals and electrical equipment are made and meat is packed The city is a port of entry The Plume House (c 1710) is probably the oldest house in Newark Other points of interest include Trinity Cathedral (1810), with the spire of the church built in 1743) in Military Park, the Sacred Heart Cathedral (begun 1898), the First Presbyterian Church (1791), the Newark Public Library, one of the finest in the country, founded in 1888 and developed mainly by John Cotton DANA, who founded the Newark Museum (1909, building designed by Jarvis Hunt and given by Louis Bamberger in 1926), and the county courthouse (1906, designed by Cass Gilbert) Gutzon Borglum's statue of Lincoln is in front of the courthouse, and his large group *Wars of America* (1926) is in Military Park There is a fine municipal park system Newark was the birthplace of Aaron Burr, whose father later was president of the College of New Jersey (see PRINCETON UNIVERSITY) A playground, memorial to Stephen Crane, is on the site of the author's birthplace Other noted residents of Newark have included Mary Mapes Dodge, Marion Harland, and E C Stedman The Newark Colleges of RUTGERS UNIVERSITY, Newark Academy for boys (opened 1774), and a state teachers college are here Newark College of Engineering (state and city supported, mainly for men) was opened in 1919 as a development of Newark Technical School The Newark airport was the leading Eastern terminal from 1929 until the opening of LaGuardia Field in 1939, in 1940 the large new municipal hangar was leased for an airplane factory Port Newark was developed as an army base in the First World War Port Newark and the airport are administered by the Port of New York Authority **3** (nōō'ûrk, nū'–) Village (pop 9,646) W central N Y , on the Barge Canal and SE of Rochester, in a farm area, inc 1839 Among its manufactures are paper and paper products Its nurseries are famous A state school for mental defectives is here **4** (nōō'ûrk, nū'–) City (pop 31,487), co seat of Licking co , central Ohio, on the Licking and ENE of Columbus, platted 1801. It is a railroad, industrial, and trade center with manufactures including glass, stoves, aluminum processing, and rubber products It is noted for the number and size of its Indian mounds—Octagon Mound (50 acres), Circle Mound (20 acres), and a circular mound enclosing a huge eagle effigy (see MOUND BUILDERS)

New Athens (ā'thunz), village (pop 1,355), SW Ill , on the Kaskaskia and SE of St Louis, in a farm and coal area, inc 1869

Newaygo (nēwā'gō), village (pop 1,282), S Mich , on the Muskegon and N of Grand Rapids, in a farm and lake region, settled 1836, inc 1867 Indian mounds abound in the vicinity Near by is Ashland College, a folk school

New Baden (bā'dun), village (pop 1,176), SW Ill , E of St Louis, in a farm and coal area, inc 1867

New Baltimore, resort city (pop 1,434), SE Mich , on Lake St Clair and NE of Detroit, in a farm area, inc as a village 1867, as a city 1931

Newbattle Abbey, estate near Dalkeith, Midlothian, Scotland The present building is chiefly of the 18th–19th cent , but parts of the old abbey, built by David I in 1140, remain In 1937 the 11th marquess of Lothian donated it to Scottish universities as a college for adult education

New Bedford, city (pop 110,341), a co seat of Bristol co , SE Mass , with a good harbor at the mouth of the Acushnet on Buzzards Bay, settled 1640, set off from Dartmouth 1787, inc as a city 1847 In the Revolution the British nearly destroyed the village, a haven for privateers The first New Bedford whaler was fitted out in 1755, and New Bedford became the world's greatest whaling port As whaling waned, cotton manufacturing grew New Bedford Textile Institute is here Fishing continues of some importance, and tools, electrical equipment, and aircraft parts are produced The city is a port of entry The Jonathan Bourne whaling museum is noted, the Seamen's Bethel (1832) was a scene in Melville's *Moby Dick*

Newberg, city (pop 2,960), NW Oregon, in the Willamette valley SW of Portland, founded by Quakers, named in 1869, inc 1893. It is the trade center of a fruit- and nut-growing area and has flour and pulp mills and sawmills Pacific College is here

New Bern, city (pop. 11,815), co. seat of Craven co , E N C , a port and trading center at the junction of the Neuse and Trent rivers Settled in 1710 by Swiss under Baron Christopher de Graffenried and

John LAWSON, it was an early colonial capital and in 1774 was the seat of the first provincial convention Notable among the old buildings is Tryon Palace (1767–70), the capitol and governor's mansion, badly burned in 1798, plans to restore it have been approved In the Civil War the city was captured (March, 1862) by Union forces under Gen. A E Burnside

Newbern, town (pop 1,740), W Tenn , near Dyersburg NNE of Memphis It is a shipping center in a farm area

Newberry, John Strong, 1822–92, American geologist and paleontologist, b Windsor, Conn , grad Western Reserve, 1846, M D Cleveland Medical College, 1848 He joined expeditions (1855–61) to the West Coast and the Colorado river region and served on the U S Sanitary Commission throughout the Civil War From 1866 he was professor of geology and paleontology at Columbia Univ He also served as state geologist of Ohio (1869–74) and as paleontologist for the U S Geological Survey His special work was on fossil fishes and fossil plants, his writings, chiefly in connection with the surveys, include *Paleozoic Fishes of North America* (1889) and *Later Extinct Floras* (1898). See memoir by C A White (1909)

Newberry, Oliver, 1789–1860, American merchant and shipbuilder, b East Windsor (in the section now South Windsor), Conn , brother of Walter L Newberry He served in the War of 1812 At its close he opened a general store in Buffalo He moved (1826) to Detroit, where he opened a new store, became an American Fur Company agent, and began to build vessels to handle a growing commission business His fleet grew steadily, in 1833 he built the *Michigan*, then the largest Great Lakes steamship, in 1835 he set up a regular service between Detroit and Chicago His interests in Detroit were exceptionally widespread

Newberry, Truman Handy, 1864–1945, American naval officer and cabinet official, b Detroit, grad Yale, 1885 He engaged in various financial enterprises and led in the organization of the Packard Motor Car Company, of which he was president after 1903 A founder and active member of the Michigan state naval brigade, he served as lieutenant on the U S S *Yosemite* in the Spanish-American War He later was Assistant Secretary (1905–8) and Secretary (1908-9) of the navy, and in the First World War he was assistant to the commandant of the Third Naval Dist Truman H Newberry was elected Republican Senator from Michigan in 1918 and resigned his seat in 1922 after he was convicted in Michigan courts of corruption in obtaining the nomination The case was dismissed by the Supreme Court, and he was exonerated (1922) by a Senate committee

Newberry, Walter Loomis, 1804–68, American merchant and banker, b East Windsor (in the section now South Windsor), Conn ; brother of Oliver Newberry Failing his physical examination after appointment to West Point, he entered (1822) the shipping business with his brother in Buffalo and in 1826 accompanied his brother to Detroit, where they established a prosperous dry-goods business In 1833 he moved to the newly established town of Chicago, where he previously had made extensive investments in real estate He engaged in the commission business, prospered, and later entered banking and also became president of the Galena and Chicago Union RR He was active in civic affairs, founded the Young Men's Library Association, and made numerous philanthropic gifts His will provided for the founding and endowment of the **Newberry Library** in Chicago, a free reference library which has specialized in the fields of history, literature, music, and philology and has gained an international reputation It has a fine collection of Americana

Newberry, 1 Village (pop 2,732), co seat of Luce co , E Upper Peninsula, N Mich , between Sault Ste Marie and Munising, in a fertile farm area, settled 1882, inc 1886 Lumber and chemicals are made. A state hospital for the insane is here. 2 Town (pop 7,510), co seat of Newberry co , N central S C., NW of Columbia, in a farming and dairying region Cotton goods are made Newberry College (Lutheran, coeducational, 1856) is here

Newberry Library: see NEWBERRY, WALTER LOOMIS.

Newbery, John, 1713–67, English author, publisher, and bookseller He is noted as the first to publish books designed to amuse children It is not known how many of the children's books he published were actually written by him, but *A Little Pretty Pocket Book* (1744) and *The History of Little Goody Two-Shoes* (1765) may have been In 1922 the Newbery medal was established by Frederic Melcher to be awarded the most distinguished children's book of the year written by an American

New Bethlehem, borough (pop 1,622), W Pa., c 53 mi NE of Pittsburgh, settled 1785, laid out 1840, inc. 1853. It is a trading center for farmers

Newbolt, Sir Henry John, 1862–1938, English poet, critic, and historian, educated at Oxford He became a barrister but abandoned law for literature in 1898 His first publication was a novel, *Taken from the Enemy* (1892). He wrote other novels, but his poems of the sea are better remembered; collections of them include *Admirals All* (1897), *The Sailing of the Long Ships* (1902), and *Drake's Drum and Other Songs of the Sea* (1914)—all very hearty and imperialistic He edited the *Monthly Review* during its four years of publication (1900–1904) The centennial history, *The Year of Trafalgar* (1905), made him known as a naval historian He was official naval historian from 1923, and his *Naval Operations* (of the First World War) appeared in five volumes at intervals from 1920 to 1931 See his autobiographical *My World as in My Time* (1932)

New Boston 1 Village (pop 6,024), S Ohio, on the Ohio and near Portsmouth, in a steel-producing area, founded 1891. 2 Town (pop 1,111), E Texas, W of Texarkana, near the northeast corner of the state, inc 1910. In a pine-woods farming area settled in the 1820s when pioneers crossed the Red River by the Pecan Point ferry, New Boston was itself founded later but keeps a pioneer air

New Braunfels (broun'fuls), city (pop 6,976), co. seat of Comal co , S central Texas, on the Guadalupe and NE of San Antonio, inc 1847 Here the Comal river rises in Comal Springs and flows 4 mi to the Guadalupe, its green-bordered beauty and the surrounding parks add to the attraction the city has for visitors Settled by Germans in 1845, the city still has a German neatness, though the population is now mixed and includes many Mexicans New Braunfels is also a thriving industrial city with a big power plant and manufacturing of clothing, hosiery, lime, rock wool, and cedar oil. Landa Park is near by

New Bremen (brē'mŭn), village (pop 1,484), W Ohio, NNW of Dayton, settled 1832, inc 1833

New Brighton, industrial borough (pop 9,030), W Pa , on the Beaver river and NW of Pittsburgh, settled c 1801, inc 1838 It has factories which make metal products and pottery The Merrick museum and library (founded 1865) is here

New Britain, industrial city (pop 68,685), central Conn , SW of Hartford, settled 1686–90, inc 1870, coextensive with New Britain town, inc 1850 Its tin shops and brassworks were started here in the 18th cent , and New Britain became famous as the Hardware City, tools and machinery are also produced The first state teachers college in Connecticut was established here in 1850 There is an art museum

New Britain, volcanic island (14,600 sq. mi , pop c 80,000), SW Pacific, largest of the BISMARCK ARCHIPELAGO and part of the Territory of New Guinea There are active volcanoes and hot springs on the mountainous island The products are copper, gold, and some iron and coal In the Second World War, Rabaul, former capital of the Territory of New Guinea, was the key Japanese naval base (1942–44). The island was formerly called Neu Pommern, later New Pomerania

New Brunswick (brŭnz'wĭk), province (27,473 sq mi , with water surface 27,985 sq mi , 1941 pop 457,401, 1948 estimated pop 503,000), E Canada Fredericton is the capital, other important cities are St John and Moncton One of the Maritime Provs , New Brunswick is bounded on the north by Chaleur Bay and Quebec prov , on the east by the Gulf of St Lawrence, Northumberland Strait, and Nova Scotia, on the south by the Bay of Fundy, and on the west by Maine Its irregular coast line of almost 600 mi provides excellent facilities for fishing and shipping enterprises A gently rolling countryside, marked by some mountainous ridges in the north and the southeast, is crossed by miles of navigable rivers—the first means of transportation and still the major arteries of travel The largest river, the St John, crosses the province from northwest to southeast, and the Miramichi river, which flows northeasterly for 135 mi , drains the central lowlands Most of the roads wind along the river banks and through the broad, fertile valleys which form the heart of the farmlands Dairying thrives on fine pasturage, and the major crops are hay, clover, oats, potatoes, berries, and fruit A careful conservation program maintains a supply of second-growth hardwoods and softwoods and has made lumbering an important industry, with which is associated the bulk of manufacturing in the making of pulpwood and paper products, the mills at Dalhousie on the north coast are among the largest in the world One of the best schools of forestry on the continent is part of the Univ of New Brunswick at Fredericton. New Brunswick's fisheries are among the most valuable in Canada, with a variety of fresh-water and saltwater fish (cod, salmon, herring, and sardines) as well as oysters Some fish and agricultural products are processed in canneries and freezing establishments, and butter and cheese are also made Industry is generally run by hydroelectric power, and fuel resources include much untapped water power, coal, gas, and oil. Trade flows in and out of the ports of St John and Moncton, facilitated by railroad connections throughout the province, eastward to Nova Scotia and westward to Quebec Open all year, St. John is particularly important when the St. Lawrence ports are icebound. In recent years New Brunswick has derived a considerable income from an increasing number of sportsmen, vacationists, and tourists Easy accessibility from the United States has made Woodstock the gateway to the sylvan and pastoral beauty of the province Fine fishing streams and an abundance of fur-bearing animals, including deer and black bear, invite anglers and hunters Special tourist attractions include the Grand Falls on the upper reaches of the St. John, the spectacular Fundy tides which create the bore at Moncton, and the Reversing Falls at St John Permanent summer residences have centered around Passamaquoddy Bay, at resorts like St Andrews-on-the-Sea and the islands of Grand Manan and Campobello (made famous as a vacation home of F D Roosevelt) One of New Brunswick's most delightful features has been the charm of an isolated culture The first white man who is said to have sailed along its coast was the perhaps mythical Portuguese navigator, Estevão Gomes (1525), although there is evidence of Basque fishermen at an earlier date Jacques Cartier landed at Point Escuminac in 1534 and skirted the shores of Miramichi Bay The first white settlement was made in 1604 at the mouth of the St Croix river by the sieur de Monts and Champlain, it was moved to Port Royal (now Annapolis Royal) in 1605 During this early period of exploration and conquest, while France and England made conflicting territorial claims, the present provinces of Nova Scotia and New Brunswick were considered one region—called ACADIA by the French and Nova Scotia by the British Early in the 17th cent the Acadian Charles de la Tour built a fort at the mouth of the St John river, which the British captured in 1654 By the Treaty of Breda (1667) France was awarded the territory, but the terms were reversed by the Peace of Utrecht (1713–14), and England gained control of Acadia or Nova Scotia Doubting the loyalty of the Acadians, the British expelled them, although some found safety in the interior. New Brunswick became a separate colony in 1784, after British colonizers who settled in 1762 were joined by large numbers of British Loyalists who fled from New England in the American Revolution Settlement proceeded slowly, each wave of European immigration bringing a few new colonists As the straight white pines were cut to serve as masts for the ships of the British mercantile fleet, the land was cleared for agricultural development By the middle of the 19th cent lumbering and farming were extending into the interior, and St John was a busy port and shipbuilding town Dissatisfaction with the arbitrary rule of the provincial governor resulted in the achievement of responsible government in 1849 In 1867, under the British North America Act, federation with the other provinces into the dominion of Canada was somewhat reluctantly accepted At present the population is about equally distributed in farm, non-farm rural, and urban areas, and although manufacturing has become the chief source of income, more people are engaged in the basic industries Any extensive industrialization promises to bring quite radical changes in the social and economic life of the province See J C Webster, *A Historical Guide to New Brunswick* (1928), L O Thomas, *The Province of New Brunswick* (1940), L M B Maxwell, *Outline of the History of Central New Brunswick to the Time of Confederation* (1937), L J Thomas and R W Barton, *In New Brunswick We'll Find It* (1939), E C Wright, *Miramichi* (1944)

New Brunswick, city (pop 33,180), co seat of Middlesex co , E N J , on the Raritan at the terminus of the old Delaware and Raritan Canal and between Newark and Trenton, settled 1681, inc 1730 RUTGERS UNIVERSITY and the affiliated New Jersey College for Women and New Jersey State College of Agriculture are here The village grew as a commercial center, collecting and shipping especially grain British troops were quartered here before and in the Revolution, and Washington, retreating from New York, stopped here in 1776 In the 19th cent rubber and chemicals and then textiles became important, Johnson & Johnson opened a medical and surgical supply factory in 1886. Thomas Hill was born in New Brunswick Joyce Kilmer's birthplace and several pre-Revolutionary houses, including one that sheltered Thomas Paine, are preserved Near by is Camp Kilmer, an important troop center in the Second World War and afterward.

New Brunswick, University of, at Fredericton, provincially supported, coeducational, chartered and opened 1800 as the College of New Brunswick, called King's College by royal charter 1828, reorganized and renamed 1859 Sir Howard Douglas was the first chancellor of King's College The university has faculties of applied science, arts and science, and law (at St. John, N B).

New Buffalo, village (pop. 1,190), extreme SW Mich., on Lake Michigan, in a fruit and farm area; inc. 1836 It is the center of a summer-camp region Indian mounds are found in the vicinity.

Newburg, city (pop. 1,056), S central Mo., SSE of Jefferson City near Rolla, platted 1883. It is a railroad division point, with shops, in a farm and recreation area in the Ozarks.

Newburgh (nū'bûru), burgh (pop 2,152), Fifeshire, Scotland, near the Firth of Tay It has a fishing industry Remains of the 12th-century abbey of Lindores and of the Macduff Cross are near

Newburgh (nōō'burg, nū'-) **1** Town (pop 1,374), SW Ind., on the Ohio near Evansville, settled 1817 Coal is mined here **2** City (pop 31,883), SE N Y, on the west bank of the Hudson opposite Beacon, settled 1709 by Palatines, resettled 1752 by English and Scotch, inc 1865 The streets run steeply to the river Washington made his headquarters at Hasbrouck House here (now a state museum) from April, 1782, to Aug, 1784 It was in Newburgh that the Continental army was disbanded The city was once an important whaling town, and its harbor is still used for shipping Fabrics and rugs are its chief manufactures George Inness was born here, and Cadwallader Colden's estate was near by

Newburgh Heights, village (pop 3,830), NE Ohio, near Cleveland

Newburn, urban district (pop 19,542), Northumberland, England, on the Tyne and WNW of Newcastle It is a coal-mining and industrial center

Newbury, municipal borough (1931 pop 13,340, 1943 estimated pop 14,710), Berkshire, England, on the Kennet river and on the Kennet-Avon canal In a farming region, it has trade in wool, malt, and farm products Aircraft is manufactured The town was formerly noted for cloth manufacture, and the 16th-century cloth hall now contains a museum Battles were fought at Newbury in 1643 and 1644

Newbury. 1 Town (pop 1,599), NE Mass, near the mouth of the Merrimack, settled and inc 1635 There are many old buildings **2** Town (pop 1,723), E Vt, E of Barre, on the Connecticut, settled 1762 on the site of an Abnaki Indian village, chartered 1763 It includes the industrial village Wells River This region, to which the Connecticut was navigable, was known as the Coos, or Cohassee, Intervals and was the eastern terminus of the road built in 1776, at Washington's order, across Vermont to Canada A Revolutionary fort was here

Newburyport, city (pop 13,916), a co seat of Essex co, NE Mass, on the Merrimack just above its mouth, settled 1635, set off from Newbury 1764, inc as a city 1851 Shipping, whaling, and shipbuilding, important through the clipper-ship era, were replaced by manufacturing Shoes, silverware, and electrical supplies are the chief products The city's old buildings include a garrison house Fire in 1811 destroyed much of the village William Lloyd Garrison was born in Newburyport See Caleb Cushing, *History of Newburyport* (1826)

New Caledonia, Fr *Nouvelle Caledonie,* volcanic island (8,548 sq mi, pop c 48,000), S Pacific, 750 mi E of Australia The island is on the California–New Zealand air route, and there is regular steamship service to Sydney, Australia The resources are extensive Nickel, chrome, cobalt, iron, and manganese are mined, gold and silver have also been found Coffee is the chief agricultural product The natives are a blend of Melanesian and Polynesian Indentured Javanese and Tonkinese laborers work the mines and plantations The island was discovered in 1774 by Capt James Cook It was claimed in 1853 by France and used (1864–94) as a penal colony The colony of New Caledonia (9,401 sq mi; pop c 60,000) includes the dependencies of the Loyalty Islands, the Isle of Pines, Walpole Island, and Huon, Chesterfield, and Belep islands Nouméa, the capital and chief port of the colony, is on New Caledonia In the Second World War the colony was Free French It was occupied in 1942 by U S forces to prevent Japanese invasion

New Canaan (kā'nun), residential town (pop 6,221), SW Conn, NE of Stamford, settled c 1700, inc 1801

New Carlisle, village (pop 1,237), SW Ohio, W of Springfield

New Castle, Spain see CASTILE

Newcastle, Thomas Pelham-Holles, duke of, 1693–1768, English politician For his support of George I and his help against the Jacobites in 1715, he was created duke of Newcastle-on-Tyne, and to his inheritance and marriage he owed wealth and connections with Robert Walpole and Lord Townshend Walpole made him secretary for the southern department (1724), but as the prime minister's popularity waned Newcastle turned against him Despite Newcastle's ineffective and irresolute conduct of foreign affairs, mingled with political intrigue, he retained office until 1754 and succeeded his brother, Henry Pelham, as prime minister (1754–56) His weak policy in the Seven Years War forced his resignation He was nominal head of the Pitt-Newcastle administration formed in 1757, but was forced out, after George III's accession, by the king's favorite, Lord Bute (1762) As lord privy seal under the marquess of Rockingham (1765–66) he favored repeal of the Stamp Act See Basil Wilhams, *Carteret and Newcastle* (1943)

Newcastle, William Cavendish, duke of, 1592–1676, English soldier and politician A nobleman of great wealth, he became a privy councilor and the governor of the prince of Wales in 1638 and supplied financial and military aid to the royalist cause in the Puritan Revolution, raising, maintaining, and leading troops in the northern counties He was successful in a number of engagements with Thomas Fairfax, but part of his force was defeated at Winceby by Cromwell in 1643, and after his defeat with Prince Rupert at Marston Moor in 1644 he retired to the Continent He returned to England with Charles II at the Restoration, having expended nearly £1,000,000 in the royalist cause His estates were restored, and he was created duke of Newcastle in 1665 He engaged little in politics thereafter Newcastle wrote several plays and books on horsemanship and was a lifelong patron of artists, among others Ben Jonson (who wrote two masques for the entertainment of Charles I at Newcastle's Welbeck estate in 1633) and, later, John Dryden His second wife, **Margaret (Lucas) Cavendish, duchess of Newcastle,** 1623–1674, achieved contemporary notice as a writer of poems, plays, essays, and her memoirs, *Nature's Pictures* (1656) Her biography of her husband (1667) was edited by C H Firth (1906) See H T E Perry, *The First Duchess of Newcastle and Her Husband as Figures in Literary History* (1918)

Newcastle, city (pop 127,188), New South Wales, Australia, NNE of Sydney, on the south shore of Port Hunter (see HUNTER, PORT) It is the second port in size of New South Wales and is the center of the largest coal-mining area of Australia Founded in 1797, it is now a thriving industrial city with steel mills, state-owned shipyards, and floating docks Its principal exports are coal, wheat, and wool There is an Anglican cathedral

Newcastle, town (pop 3,781), NE N B, on the Miramichi and NNW of Moncton It is a port of entry and has much coastal shipping trade in lumber and iron, with shipyards and pulp mills

New Castle 1 City (pop 4,414), NE Del, on the Delaware river and S of Wilmington, inc 1875 Peter Stuyvesant built (1651) Fort Casimir near here Successively it was held by the Swedes, the Dutch, and the English, who changed the name of the settlement from New Amstel to New Castle William Penn formally took possession (1682) of it and the Three Lower Counties-on-the-Delaware, and from 1704 to 1777 New Castle was their capital A rayon plant is here, and aircraft plants are near by Robert Montgomery Bird was born here See Federal Writers' Project, *New Castle on the Delaware, 1651–1936* (1937), Anthony Higgins, *New Castle, Delaware, 1651–1939* (1939) **2** City (pop 16,620), co seat of Henry co, E Ind, on the Blue River and S of Muncie, founded c 1820, laid out 1836 It is a trading and distributing center for an agricultural area, and its manufactures include machinery, automobiles, and metal products There is a monument to Wilbur Wright, who was born near here The city is the seat of a state colony for epileptics Prehistoric remains have been discovered in this area **3** Town (pop 542), SE N H, on an island in Portsmouth Harbor, inc 1693 Here are the ruins of Fort Constitution (previously Castle William and Marv), seized by the colonists in 1774 **4** City (pop 47,638), co seat of Lawrence co, W Pa, on the Shenango river and c 50 mi NNW of Pittsburgh, settled 1798, laid out 1802, inc as a borough 1825, as a city c 1869 The area yields coal, limestone, clay, and natural gas Its manufactures include steel, chemical, and foundry products Cascade Park is a summer amusement center near by The site was an Indian trading post

Newcastle 1 Town (pop 994), S Maine, connected with Damariscotta by a bridge over the Damariscotta river Wood products and machine parts are made here **2** City (pop 1,044), N Texas, SSW of Wichita Falls, settled 1908, inc 1913 Coal mining, which once flourished, sank to insignificance after oil fields were developed in the general region Near present Newcastle was the frontier army post, Fort Belknap **3** City (pop 1,962), co seat of Weston co, NE Wyo, near the S Dak line and SW of the Black Hills, founded 1889 In a livestock and dairy area, it also ships lumber, oil, and bentonite Near by is a scenic region of caves, canyons, lakes, and streams

Newcastle Harbour, Australia see HUNTER, PORT

Newcastle-on-Tyne or Newcastle-upon-Tyne, county borough (1931 pop 283,156, 1947 estimated pop 293,570) and city, co seat of Northumberland, England, on the north bank of the Tyne 5 mi from the sea It is on the site of the Roman military station Pons Aelii, on Hadrian's Wall Later the site was occupied by the Angles and until the Conquest was called Monkchester or Monk Chester because of the number of monastic settlements In 1080 Robert of Normandy built a fortified castle from which the town took its name The castle was several times besieged and repaired, the oldest parts now standing date from 1177 The town walls, of which traces and towers remain, are attributed to Edward I The Cathedral of St Nicholas dates partly from the 14th cent, the Royal Free Grammar School was founded in 1525 There are several hospitals and orphans' homes—Trinity Almshouse dates from 1492 The College of Medicine and Armstrong College of Science here are affiliated with the Univ of Durham Newcastle's coal-shipping industry began in the 13th cent. and is still of great importance The city is also one of the chief shipbuilding centers of England. In the late 1920s the Tyneside areas suffered from the depression in the coal and shipping industries, and severe unemployment resulted There is a monument to George Stephenson and his brother Robert, who built one of the bridges over the Tyne The High Level Bridge, built in 1928, has a 531-foot arch Newcastle and the surrounding district were frequently bombed in 1940–41 See F J. C Hearnshaw, *Newcastle-upon-Tyne* (1924)

Newcastle-under-Lyme, municipal borough (1931 pop 23,246, 1947 estimated pop 69,450), Staffordshire, England, on the Lyme and in the Potteries area W of Stoke-on-Trent It has coal mines, potteries, and other industries The youngest son of Henry III, Edmund, earl of Lancaster, built a castle here The 13th-century parish church was rebuilt in 1876 by Sir George Gilbert Scott The borough has included Wolstanton United since 1932

New Church see NEW JERUSALEM, CHURCH OF THE

Newchwang, China see YINGKOW

New City, unincorporated village (pop 992), co seat of Rockland co, SE N Y, NW of Nyack

New College see OXFORD UNIVERSITY

Newcomb, Simon, 1835–1909, American astronomer, b Nova Scotia, grad Lawrence Scientific School, Harvard, 1858 Living in the United States from 1853, he taught in Maryland and in 1857 was appointed a computer on the *American Nautical Almanac* In 1861 he became professor of mathematics in the U S navy, the 26-inch equatorial telescope, constructed under his supervision, was given into his charge when completed in 1873 He was director (1877–97) of the *American Nautical Almanac,* professor of mathematics and astronomy (1884–94) at Johns Hopkins, and for several years editor of the *American Journal of Mathematics* He participated in several eclipse expeditions and in 1882 went to the Cape of Good Hope to observe the transit of Venus In 1897 he was retired from the navy His mathematical skill was notable, and his results and conclusions were distinguished for accuracy as well as originality The record of many of his researches was published in the *Astronomical Papers of the American Ephemeris,* a series which he established in 1879 His investigations and computations of the orbits of Uranus and Neptune and, afterward, of the four inner planets, covering a score of years, resulted in his tables of the planetary system, which were almost universally adopted by the observatories of the world. Newcomb urged the use of a common system of constants and fundamental stars by astronomers of all nations A subject to which he devoted many years of study was the theory of the moon's motion From the formulas he established it was possible to construct accurate lunar tables His writings include a valuable early paper, *On the Secular Variations and Mutual Relations of the Orbits of the Asteroids* (1860), *On the Motion of Hyperion* (1891), and books on astronomy, economics, labor problems, and mathematics See his *Reminiscences* (1903)

Newcomb College see TULANE UNIVERSITY

Newcomen, Thomas (nūkŭ'mun), 1663–1729, English inventor He invented an early atmospheric steam engine similar to that patented in 1698 by Thomas Savery He later entered into partnership with Savery and developed an improved steam engine which was used successfully to pump water

Newcomerstown (nōō'kŭmurztoun), village (pop 4,504), E central Ohio, E of Coshocton, on the Ohio and Erie Canal and the Tuscarawas river, settled 1815 on the site of the Delaware Indians' capital, inc 1838 Cast-iron pipe and tools are made here

New Concord, village (pop 1 067), E central Ohio, E of Zanesville, founded c 1827 Muskingum College (Presbyterian, coeducational, 1836) is here

New Cumberland 1 Borough (pop 4,525), S Pa, on the Susquehanna and near Harrisburg, laid out c 1810, inc 1831 It produces textiles, hosiery, and tobacco goods **2** Town (pop 2 098), co seat of Hancock co, W Va, in the industrial Northern Panhandle, on the Ohio and N of Weirton, platted 1839 Tomlinson Run State Park is near by

New Deal, expression—first used by Franklin D ROOSEVELT in accepting the Democratic party nomination for President in 1932—commonly adopted to describe the reform legislation enacted by the Roosevelt administration beginning in 1933 Immediately after President Roosevelt's inauguration, the U S Congress in special session enacted (1933) laws designed to combat the economic depression which had begun in 1929 and to institute long-range social and economic reforms The measures of the special session instituted many emergency organizations, notably the NATIONAL RECOVERY ADMINISTRATION, the AGRICULTURAL ADJUSTMENT ADMINISTRATION, the CIVILIAN CONSERVATION CORPS, and the PUBLIC WORKS ADMINISTRATION Congress also instituted farm relief, tightened regulations of banking and finance, and founded some long-term organizations such as the TENNESSEE VALLEY AUTHORITY. Later Democratic

Congresses devoted themselves to expanding and modifying these laws In 1934 Congress founded the SECURITIES AND EXCHANGE COMMISSION and the Federal Communications Commission and passed currency acts, the Reciprocal Tariff Act, and the National Housing Act The Social Security Act (see SOCIAL SECURITY) and the WAGES AND HOURS ACT were passed in 1935—the year the NATIONAL YOUTH ADMINISTRATION and the WORK PROJECTS ADMINISTRATION were set up Beginning in 1934 the Supreme Court handed down many decisions which were adverse to the New Deal program, and after the invalidation of the NRA (1935) and of the AAA (1936), President F. D. Roosevelt unsuccessfully sought to reorganize the Supreme Court. Other laws were substituted for these unconstitutional acts Important defense measures were being enacted as war clouds gathered over Europe The New Deal, which had especially received the endorsement of the agrarian, the liberal, and the labor groups, met with increasing criticism The speed of reform slackened after 1937, and there was growing Republican opposition to the huge public spending, high taxes, and centralization of power in the executive branch of government, within the Democratic party itself there was strong disapproval from the "old guard" and from members of the Brain Trust. The emphasis of government shifted to foreign affairs. There was little retreat from reform, however, after the end of the Second World War, most of the New Deal legislation was still intact See F. R Fairchild, *A Description of the "New Deal"* (1935), A M. Schlesinger, Jr , *The New Deal in Action, 1933–1939* (1940), Basil Rauch, *History of the New Deal, 1933–1938* (1944)

New Eagle, borough (pop 1,936), SW Pa , on the Monongahela and S of Pittsburgh, inc 1912

New Echota Marker National Memorial. see NATIONAL PARKS AND MONUMENTS (table)

New Economic Policy (NEP), economic reconstruction program of Soviet Russia, officially announced by Lenin in 1921 The principal features of the program were the abandonment of grain requisitioning and the restoration of the principle of free trade in grain, the inauguration of an agricultural tax in lieu of the wartime grain assessments, the return of the smaller business enterprises and factories to private owners, restoration of the wage system, special concessions to foreign capitalists for working special areas, and the organization of industry into "trusts" free to operate in the market at their own discretion but controlled by the supreme economic council of the state in the fixing of prices and the appointment of directorate boards, accountable to the government for about half of the profits, but otherwise operating as separate legal entities The NEP represented a return to a limited capitalist system It was intended as a temporary measure, made necessary by the need of conciliating anti-Communist elements in the task of reconstructing war-torn Russia, as such it was successful In 1928 the NEP was replaced by a program of rigorous economic planning and collectivization—the first Five Year Plan

Newell, Frederick Haynes (nōō'ŭl, nū'-), 1862–1932, American civil engineer, b Bradford, Pa., grad Massachusetts Institute of Technology, 1885 He was assistant hydraulic engineer (1888–90) and hydrographer (1890–1902) of the U S Geological Survey After the passage of the Reclamation Act (1902) he was made chief engineer of the Reclamation Service and was its director from 1907 to 1914, in his administration 25 irrigation projects in 18 states were undertaken From 1915 to 1919 he was professor of civil engineering in the Univ of Illinois In 1919 he became president of Research Service, Inc., consulting engineers He served on several government commissions and wrote a number of books, especially on irrigation

Newell, Peter, 1862-1924, American illustrator and author, b near Bushnell, Ill , studied at the Art Students League He began his career by drawing portraits in crayon and became well known especially for his illustrations in current periodicals and for his children's books for which he supplied both text and illustrations His publications include *Topsys and Turvys* (1893), *Peter Newell's Pictures and Rhymes* (1899), *The Hole Book* (1908), *The Slant Book* (1910), and *The Rocket Book* (1912) He illustrated Lewis Carroll's *Alice in Wonderland* and *Through the Looking-Glass*, Mark Twain's *Innocents Abroad*, and John Kendrick Bangs's *House-Boat on the Styx* and *Mr. Munchausen*

New England, name applied to the region comprising six states of the NE United States—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. The region was so named by Capt John Smith because of its resemblance to the English coast (another source has it that Prince Charles, afterwards Charles I, inserted the name on Smith's map of the country) Geographically it is partly cut off from the rest of the nation by the Appalachian Mts. on the west. From the Green Mts. and the White Mts and the Berkshire Hills, the land slopes gradually toward the Atlantic Ocean and Long Island Sound, and there are many beautiful mountain and shore resorts. Many short, swift rivers furnish a large amount of water power. The Connecticut is the only long river. The generally rather barren soil helped to encourage the development of commerce and fisheries along the deeply indented coast line It was a great shipbuilding center until the end of the era of wooden ships. During the colonial period it carried on a more extensive foreign commerce than the other colonies and was, therefore, more affected by the passage of the English Navigation Acts. It was the chief center of the events leading up to the American Revolution, particularly after 1765, and was the scene of the opening engagements of the Revolution The return of peace necessitated the reorganization of commerce, with the result that connections were made with the American Northwest and China So great was the opposition to the Embargo Act of 1807 and the War of 1812 that New England threatened secession After the war the growth of manufactures (especially cotton textiles) was rapid, and the region has become highly industrialized A large part of the great migration to the Northwest originated here Agriculture dwindled with the growth of the West. Prior to the Civil War, the section furnished leaders for most of the social and humanitarian movements, and it has long been a leading literary and educational center of the country The geographic and early political conditions developed a New England type of British stock, generally referred to as Yankee, according to tradition, he has a genius for self-government, thrift, generosity to a cause considered worthy, and general resourcefulness Numerically, the Yankees have been almost outstripped, especially in S New England, by the huge immigration from Europe, beginning before the Civil War with the Irish The region had trouble surviving the economic depression of the 1930s but with the help of the New Deal and its own traditional resourcefulness made an impressive comeback. A tropical hurricane and tidal wave swept New England (Sept 21, 1938) with a loss of more than 600 lives and enormous property damage Ensuing floods left many homeless, especially in Connecticut and Rhode Island Strenuous reconstruction efforts, accomplished largely with Federal help, succeeded in cleaning up most of the debris by the fall of 1939. Confiscation of land by the Federal government for flood-control purposes met with resistance by the New England states Vermont led the fight (Jan , 1939) over the alleged violation of states' rights A compromise allowed the states to pass legislation enabling the Federal government to go ahead under the terms of the Flood Control Act The New England governors voiced disapproval of the new date for Thanksgiving Day in 1939 set by President Franklin D Roosevelt, and New Englanders adhered to the traditional last Thursday of the month The Second World War occasioned an immense boom in industry, which did not completely slack off in the post-war period See W B Weeden, *Economic and Social History of New England, 1620-1789* (1890), C M Andrews, *The Fathers of New England* ("Chronicles of America" series, Vol VI, 1919); J T Adams, *The Founding of New England* (1921), *Revolutionary New England, 1691–1776* (1923), and *New England in the Republic, 1776–1850* (1926), D C Brewer, *The Conquest of New England by the Immigrant* (1926), H. W Lawrence, *The Not-Quite Puritans* (1928), C F Ware, *The Early New England Cotton Manufacture* (1931), H F Wilson, *The Hill Country of Northern New England Its Social and Economic History, 1790–1930* (1936), Van Wyck Brooks, *The Flowering of New England, 1815–1865* (1936, new and rev ed , 1937) and *New England Indian Summer, 1865–1915* (1940), Lawrence Dane, *New England Comes Back* (1940), J B. Mussey, *Old New England* (1940)

New England Confederation, union for "mutual safety and welfare" formed in 1643 by representatives of the colonies of Massachusetts Bay, Plymouth, Connecticut, and New Haven. They met in Boston and adopted a written constitution binding them as "The United Colonies of New England" in a league, chiefly for the purpose of defense, the internal affairs of each colony were to be left to its own management. Questions of war and peace and other matters of mutual concern were to be determined by a body of eight commissioners, two from each of the colonies It required six of the commissioners to form a working majority Meetings of the board were to be held at least once a year The burden of expense for war was to be levied against the four colonies in proportion to the male population of each between the ages of 16 and 60 The first experiment in federation in America, the league was based upon compromise; its chief weaknesses lay in the inability of the commissioners to do much more than advise and in the petty rivalries among the colonies. Massachusetts, having by far the largest population, had to furnish more in fighting men and in taxes than did any other colony and felt aggrieved at not having more power in the confederation In 1653 Massachusetts flatly refused to undertake the war against the Dutch that the confederation planned. Maine and the Narragansett Bay settlements (Rhode Island) sought admission to the union, but were refused on political and religious grounds After 1664, shortly before New Haven was annexed to Connecticut, the regulations were changed and meetings of the commissioners were to be held once in three years, but the confederation gradually declined It revived in 1675–76 to undertake its most important task, completely breaking the power of the Indians of S New England in King Philip's War (see PHILIP) With the revocation of the Massachusetts charter in 1684, the confederation was dissolved See H L Osgood, *The American Colonies in the Seventeenth Century* (3 vols , 1904–7)

New England Conservatory of Music, at Boston, founded 1867 It has a noted opera department and a large music library The main auditorium, Jordan Hall, is used also for professional recitals

New England Primer, famous American schoolbook, first published before 1690 Its compiler was Benjamin Harris, an English printer who emigrated to Boston It was reprinted many times, with changes in text and even in title Though the copies sold in the 18th cent are estimated to have been as many as 2,000,000, the book is now rare In the English colonies in America, it was usually from this book that children learned to read See P L Ford, *The New England Primer* (1897)

New Forest, ancient royal hunting ground, Hampshire, England, bounded by the Avon, the Solent, and Southampton Water It was named in 1079 and afforested under the forest laws of William I The deer were removed in 1851, and since 1877 the area, some 92,400 acres, has been administered as a national park The woods are mostly oak and beech, there are extensive tracts of bog and heath, and about a fourth of the land is cultivated Pigs, cattle, and ponies are raised. Lyndhurst and Ringwood are in the New Forest

Newfoundland (nū"fŭndlănd', nū'fŭndlănd"), island and province, with LABRADOR as a dependency (excluding Labrador, 42,734 sq mi , 1945 pop 316,300), E Canada St John's is the capital and by far the largest city Newfoundland lies in the mouth of the Gulf of St. Lawrence, its shores washed on the north, east, and south by the Atlantic Ocean and separated on the northwest from Labrador by the Strait of Belle Isle Steep, rocky cliffs, which rise from deep on the ocean floor, edge a thousand inlets The high plateau of the interior, which reaches its greatest elevation of over 2,000 ft in the northwest, is scattered with lakes and marshes An abundance of fur-bearing animals, waterfowl, and fish thrive in the inland wilderness, while caribou feed on the tundras of the subarctic northern wastelands Over much of the area are stands of spruce and pine, although where fires have devastated the forests the second growth is poor During the 20th cent pulpwood and paper factories have been built, and much of the newsprint for England ships out of the port of Botwood Hydroelectric power is abundant and useful for manufacturing and mining Newfoundland is rich in minerals (copper, gypsum, iron, and zinc), and plans are under way to extend mining operations Agriculture is limited by unfavorable soil and climatic conditions, and much food must be imported Fishing dominates the economy, although to a somewhat lesser degree than it did at the beginning of the 20th cent Much of the fishing is done at the GRAND BANKS, probably the best cod-fishing region in the world, extending some 300 mi NE and SW of Cape Race Between May and October great fishing fleets move northward into the waters off the Labrador coast The most important catch is cod, which is dried and salted for world markets and also used for cod-liver oil. Salmon and herring are abundant, and seals are hunted on ice fields in spring and used for skins and oil The climate is generally moist and cool, its severity tempered by the adjacent waters Persistent fog, caused by the mingling of warm air from the Gulf Stream with the cold air of the Labrador Current, continuously envelops the Grand Banks but does not penetrate far inland The island's population is concentrated on the Avalon Peninsula at the southeastern corner, with some 60,000 residents in metropolitan St. John's The remainder live in over 1,300 communities scattered along the 6,000 mi of coast line Most of the people are native-born of Irish or British extraction Newfoundland is Britain's senior colony, based on John Cabot's discovery of a "new-founde-land" in 1497 and on Sir Humphrey Gilbert's formal claims in 1583 Using the island as a station, fishing boats from many European countries began to make yearly visits. France contested the British claims, but a settlement was made at the Peace of Utrecht (1713–14), when sovereignty was given to England, and France retained, until 1904, special fishing rights. Newfoundland achieved additional territory when it was awarded jurisdiction over the coast of Labrador in 1763, thereby aiding the summer fishing in northern waters. Settlement was not encouraged and proceeded slowly, although immigration increased in the early 1800s when the market for fish was good and later in the 1840s with an influx of Irish settlers fleeing the potato famine. Handicapped by many difficulties—poor communication

and transportation facilities, lack of trained civil servants, and marginal economy—Newfoundland's government has been charged with being generally inefficient and frequently corrupt Representative government was established in 1832, and responsible government was set up in 1855 Although the British North America Act provided for the admission of Newfoundland as part of Canada, the islanders rejected the right in 1869, and when the question was reopened in the '90s Newfoundland's precarious financial position made entry impossible Some degree of prosperity was achieved in the early 1900s with an improvement of the fishing market and a development of lumbering and mineral enterprises By a decision of the British privy council in 1927 Newfoundland was awarded 110,000 sq mi of Labrador as a dependency In the First World War, Newfoundland made considerable contributions both in man power and in money When the war was over the island undertook extensive internal improvements and by the time the world markets collapsed in the '30s had fixed debt charges equaling one half its diminishing revenue Unable to cope with its problems, the government invited the United Kingdom to send out a commission to study the situation, and from this study emerged the celebrated Amulree Report Following the recommendations of the report, responsible government was suspended in 1934 and a commission was appointed to administer all affairs of the island The ensuing years brought great hardships and much dissension, but gradually the economy was reestablished on a firmer basis Meanwhile Newfoundland's strategic position in relation to America and Europe had been recognized—first when the port of Trinity became the western terminal of the transatlantic cable in 1866 and again in 1929 when the first transatlantic air-mail service was inaugurated in St John's With the coming of the Second World War, Newfoundland's position became increasingly important The sea and land airport at Gander was begun by Canada in 1936, and in 1941 the agreement was signed whereby Newfoundland became one of the bases leased by the United States from Great Britain and one of the most heavily defended areas in the world The Atlantic Charter was signed in Newfoundland waters in 1941 With economic independence, a convention was called (1946) to consider alternative forms of future government, and in 1948 the people voted by a small margin for confederation with Canada While many of Newfoundland's services have been improved and the economy has been broadened, the province remains dependent upon export demands for the products of its basic industries See J R Smallwood, ed, *The Book of Newfoundland* (2 vols, 1937), R H Tait, *Newfoundland* (1939), T G Taylor, *Newfoundland* (1946), R A MacKay, ed, *Newfoundland Economic, Diplomatic, and Strategic Studies* (1946), Sir Gordon Macdonald, *Newfoundland at the Crossroads* (1949)

Newfoundland dog (nō͞ofound'lund, nū-), one of the largest dogs, about 27 in high and usually weighing over 100 lb It was introduced to European notice from Newfoundland about the middle of the 18th cent, but its origin is a matter of conjecture, it may be a descendant of the Great Pyrenees dog or of large hounds taken in early times to Newfoundland There it was used for hauling sledges The breed has nearly died out in Newfoundland, but is fostered in Great Britain and the United States The Newfoundland is particularly noted for its aquatic skill, and many instances are known of the saving by Newfoundlands of persons who were drowning The dog has a very dense coat, usually black, although it sometimes has white markings on the chest and feet It is good tempered and very intelligent

New France see CANADA

New Franklin, city (pop 1,144), central Mo, near the Missouri NW of Jefferson City, in a farm area, laid out 1928

New Freedom, borough (pop 1,137), SE Pa, near the Md boundary SSE of Harrisburg, inc 1879

New Galicia see NUEVA GALICIA

Newgate (nū'gĭt), former London prison, originally in the gatehouse of the principal west gate of London Dating from the 12th cent and burned by Wat Tyler's followers in 1381, it was rebuilt in the 15th cent with funds bequeathed by Sir Richard Whittington. The great fire of 1666 damaged it, and the Gordon rioters partially burned it again in 1780 Newgate was the scene of efforts by both John Howard and Elizabeth Fry to improve prison conditions From 1868, executions were held within the prison rather than outside, where they had been attracting huge crowds of sensation-seekers The prison was not used after 1877, and in 1902 it was torn down

New Georgia, island group, S Pacific, in the SOLOMON ISLANDS It is NW of Guadalcanal The largest island, also called New Georgia, is 50 mi long. In the Second World War the island was occupied in 1942 by the Japanese; the air base at Munda was taken in 1943 by U.S forces The islands of the group include Kolombangara, Vangunu, Rendova, and Gizo.

New Glarus (glä'rŭs), village (pop. 1,068), S Wis, SW of Madison; founded 1845 by Swiss, inc. 1901. The village, largely inhabited by Swiss descendants, is a cheese center

New Glasgow, town (pop. 9,210), N N S., on East River and NE of Halifax. In a coal region, it is an industrial town, manufacturing steel products, boilers, bricks, and tiles There are foundries, machine shops, and clay works

New Gloucester (glŏ'stur), town (pop 2,334), SW Maine, S of Auburn, settled c 1743 from Gloucester, Mass, inc 1774 It became the seat of a Shaker community c 1793

New Goa, Portuguese India see GOA.

New Granada (grŭnä'dù), former Spanish colony, N South America It included at its greatest extent modern Colombia, Ecuador, Panama, and Venezuela Between 1499 and 1510 a host of conquerors explored the Caribbean coast of Panama and South America—VESPUCCI, OJEDA, COBA, BASTIDAS, BALBOA, COLUMBUS, NICUESA, and ENCISO After 1514 Pedro ARIAS DE ÁVILA was successful in assuring permanent colonization of the isthmus, at SANTA MARTA (1525) and CARTAGENA (1533) Spanish control of the Colombian coast was firmly established, and in the next few years the northern hinterland was explored Between 1530 and 1546 German adventurers, notably Nikolaus FEDERMANN, penetrated the Venezuelan and Colombian llanos By far the greatest of the conquerors was Gonzalo JIMÉNEZ DE QUESADA, who in 1536 ascended the MAGDALENA, climbed the mighty Andean cordillera, where he subdued the powerful CHIBCHA, and by 1538 had founded Santa Fe, later known as BOGOTÁ Reminded by the upland plains of his native Granada, he named the region El Nuevo Reino de Granada [the new realm of Granada] During the next 10 years the conquest was virtually completed The New Laws, designed to stop the rapacities of the conquerors against the Indians and their own internecine lawlessness, were published in 1542 Enforcement met with insistent protests to Spain, causing annulment of some provisions and establishment (1549) of an *audencia* at Bogotá Within its jurisdiction were the provinces of New Granada, Tunja, Santa Marta, Cartagena, Popayán, and Venezuela To further stabilize colonial government, New Granada was created a presidency (an administrative and political division headed by a governor) in 1564, and the *audencia* was relegated to its proper judicial functions Loosely attached to the viceroyalty of Peru, the presidency came to include Panama, Venezuela, and Colombia except the province of Popayán in the southwest Disputes with—and the great distance from—Lima led to the creation (1717) of the viceroyalty of New Granada comprising Colombia, Ecuador, Panama, and Venezuela Reduced to a presidency in 1723, it was recreated a viceroyalty in 1739 Later the captaincy general of Venezuela and the presidency of Quito were detached, creating a political division that was to survive the revolution against Spain and the efforts of Simón Bolívar to establish a greater COLOMBIA Foreshadowing independence was the abortive revolt of the COMUNEROS (1780-81) See Sir Clements Markham, *The Conquest of New Granada* (1912), R B Cunninghame Graham, *The Conquest of New Granada* (1922), J M Henao and Gerardo Arrubla, *History of Colombia* (Eng tr, 1938)

New Guinea (gĭ'nē) or **Papua** (pä'pŭù, pä'pōōä), island (c 304,200 sq mi, pop c 1,500,000), except for Greenland the largest in the world, separated from N Australia by Torres Strait and the Arafura Sea It comprises three political sections, Netherlands New Guinea (west), the Territory of Papua (southeast), formerly British New Guinea, and the Territory of New Guinea (northeast) The island is c 1,500 mi long and 400 mi wide at the center Largely tropical jungle, it has vast mountain ranges with peaks from 10,000 to more than 16 000 ft high, Mt Carstensz in the west central area is the highest. The lower courses of the large rivers (Fly, Sepik, Mamberamo, and Purari) are generally swampy, with a few grassy plains The inhabitants are Melanesians, Negritos, and Papuans, some of whom (in the unexplored interior) still practice head-hunting and cannibalism Indigenous plants include sago, sugar cane, coconuts, rubber, nutmeg, and tobacco, there are mangrove and sandalwood forests Generally similar to that of Australia, the fauna consists largely of marsupials and monotremes, and among the reptiles are venomous snakes The island is known for its many unique species of butterflies and birds of paradise The principal product is copra, there is limited production of rubber, coffee, sisal hemp, and kapok Gold is mined in the eastern area, with the principal gold field in the Morobe dist of the Territory of New Guinea, and some oil is produced in the western area, which is virtually unexploited There are pearl-shell and tortoise fisheries along the coast Probably first sighted by the Portuguese Antonio d'Abreu in 1511, the island was visited a few years later by Spanish as well as Portuguese explorers, who were followed in the next two centuries by the Dutch, English, and Germans In the Second World War a Japanese invasion (1942) in the north was followed by gallant defense by a few Allied planes and men based at Port Moresby and the failure of a Japanese push overland in the autumn of 1942 Soon afterward began the Allied offensive Air bombing and protection by air and sea made possible a series of landings at scattered strong points (with much use of aerial transport), and by July 30, 1944, all New Guinea was recaptured See Caroline Mytinger, *New Guinea Headhunt* (1946)

New Guinea, Territory of (93,000 sq mi, pop c 725,000), SW Pacific It includes the northeastern part of the island of New Guinea, the BISMARK ARCHIPELAGO, and the northernmost Solomon Islands of Buka and BOUGAINVILLE Port Moresby (the capital of the Territory of Papua) became in the Second World War the acting capital of the Territory of New Guinea and in 1946 was officially made temporary capital in place of Rabaul The territory was formerly German New Guinea (1884-1914), in which Northeast New Guinea constituted a separate unit called Kaiser-Wilhelmsland and was governed along with the Bismarck Archipelago and the North Solomons Occupied in 1914 by Australian forces, the territory was mandated in 1920 to Australia, which received United Nations trusteeship over it in 1947 See also NEW GUINEA

Newgulf, unincorporated town, S Texas, SW of Houston and near Wharton, founded 1928 It is a center of sulphur mining with some oil wells.

New Hamburg, village (pop 1,402), S Ont, on the Nith river and WSW of Kitchener Felt shoes, leather goods, and furniture are made here

New Hampshire, state (area 9,304 sq miles, 1940 pop 491,524, 1949 estimated pop 544,000), NE United States, in the New England group, one of the Thirteen Colonies It is bounded on the north by the Canadian province of Quebec, on the east by Maine and the Atlantic Ocean, on the south by Massachusetts, and on the west by the Connecticut river, which separates it from Vermont CONCORD is the capital, MANCHESTER the largest city The continental ice sheet once covered the entire state and, in receding, scraped the mountains, peneplained the intervening upland areas, and rerouted the water courses into precipitous streams and beautiful lakes Across the north central part of the state the residual WHITE MOUNTAINS of the Appalachian chain form ranges abruptly broken by notches cut into their rocky walls Between Carter-Moriah Range and the PRESIDENTIAL RANGE in the east the Ellis river drops 80 ft through Pinkham Notch West of the Presidential Range (which includes Mt WASHINGTON, highest peak in New England at 6,288 ft), the cascaded courses of the Ammonoosuc and Saco rivers divide it from the FRANCONIA MOUNTAINS at CRAWFORD NOTCH To the southwest Franconia Notch overlooks the famous Old Man of the Mountain, beneath which the Pemigewasset tumbles on its way to join the MERRIMACK The northernmost gap, Dixville, is surrounded by rocky pinnacles which look down upon a fir-covered and wild country abounding in lakes and streams South of the mountains the lake and upland area is frequently interrupted by isolated peaks called "monadnocks" from the original MONADNOCK in SW New Hampshire Practically every part of the state is within sight of, and identifies itself with, some high peak WINNIPESAUKEE is the largest lake in the state, its 44,000 acres of silvery water dotted with 274 inhabitable islands, its wooded shores scalloped with sheltered coves and rocky points The land surface declines seaward and westward to the broad valley of the Connecticut river The upper Connecticut valley, known as Coos country, is pleasantly pastoral—its lush meadows and lilac-framed farmhouses rimmed with pleasant hills DARTMOUTH COLLEGE, located here at Hanover, is the state's leading institution of higher learning and has long been an important cultural center Industry is concentrated in the intervales of the lower Connecticut and Merrimack, the largest towns being Manchester NASHUA, Concord, and KEENE Along the Atlantic shore 18 mi, of curving beaches and rocky promontories, much of it under state ownership, offer attractive vacation and recreation areas Within sight of the coast lie the rugged ISLES OF SHOALS, some of which are owned by New Hampshire These islands were fishing colonies before the mainland was settled, but today they are largely used as summer residences. The estuary of the Piscataqua river, called the Salmon Falls river above DOVER, stretches its fringed edges inland from the coast On its banks is situated PORTSMOUTH, New Hampshire's only port—its tree-lined, flagstoned streets flanked by colonial houses reminiscent of the days when Portsmouth ships sailed the world Along the coast the ocean tempers the climate, but inland temperature extremes are great Occasional high winds and violent storms roar through the narrow valleys and bounce against the rocky walls Annual precipitation is about 40 inches, with snowfall mounting to eight feet in the mountain regions The state's resources and topography have determined a development that is primarily urban and industrial. Abundant water power has been

harnessed for industrial production concentrating on textiles, leather goods, and wood products New Hampshire contributes the raw materials for its extensive and diverse wood manufacturing, most important of which is pulpwood and paper The virgin forests of spruce, fir, and hardwoods which once covered the entire state have been logged, but second growth now extends over two thirds of the land Of this area the State Forestry and Recreational Commission controls more than 41,000 acres, the United States Forest Service 663,084 acres, the largest reserve being the White Mountain National Forest Enormous tracts of woodlots are part of the farmlands which cover one third of the state's area and contribute a valuable source of income as well as being used for pasturage Other major farming enterprises are dairying, poultry raising, and the potato and apple crops Intensive agricultural production is made difficult by unfavorable topography and large regions of unfertile and stony soil Economically more important than agriculture, and second only to industry, is the all-year vacation and recreation trade Modern transportation has enabled large numbers of visitors to enjoy the pleasures of beaches, mountains, and lakes On winter week ends snow trains are packed with skiers headed for the lodges and camps located on many of the mountain slopes To encourage this new industry highways have been improved and extended to provide access to almost all parts of the state Since New Hampshire has long been known as the Granite State, it is strange that the mineral production of building stone, clay, sand and gravel, feldspar and mica is such a minor factor in its economy However, granite exists in large deposits and, although not extensively quarried at present, has been used in the construction of such important buildings as the Congressional Library in Washington and the state capitol at Concord The first accounts of the territory were based on the expeditions of Martin Pring (1603) and Capt John Smith (1614) In 1620 the Council for New England, formerly the Plymouth Company, received a royal grant of land between lat 40° N and lat 48° N, with power to trade, colonize, and lease or sell rights One of the Council's leaders, Sir Ferdinand GORGES, formed a partnership with Capt John MASON (1586–1635) and obtained rights between the Merrimack and Kennebec rivers in 1622 By a division in 1629 Mason took the area between the Piscataqua and the Merrimack, naming it New Hampshire in honor of his English home The Gorges-Mason partnership was dissolved in 1634, and in 1635, when the Council for New England relinquished its charter, Mason secured confirmation of his grant He died later in the same year and his claims became grounds for suits brought by his heirs Meanwhile the first settlement had been made at Odiorne's Point in 1623, when David Thomson set up a fishing and trading post The Thomson site was soon abandoned and the first permanent colony was established by Edward Hilton at Dover some time before 1628 Through the activities of a colonizing agent of Gorges and Mason, a sizable group of Anglican farmers and fishermen founded Portsmouth in 1630 In 1638 the Reverened John WHEELWRIGHT, brother-in-law of Anne Hutchinson and exile from Massachusetts for his antinomian views, founded EXETER, and in the same year a Puritan group settled at Hampton In less than 15 years of limited settlement three conflicting religious positions were represented in four towns at a time when theological doctrine was of great importance Through claims based on its charter which set its northern boundary at the headwaters of the Merrimack, Massachusetts annexed S New Hampshire in 1641–43 The Mason heirs disputed this move, but with little success until in 1679 they succeeded in having New Hampshire proclaimed a royal colony, with appointees of the crown in authority in 1682–85, 1686–89, and from 1692 until the American Revolution Massachusetts continued to press land claims until commissions set up the eastern boundary in 1739, the southern boundary in 1741 In 1741 Benning WENTWORTH, a native of New Hampshire and former member of the provincial council, was made the first governor of New Hampshire alone Wentworth and his friends purchased the Mason rights in 1746 (see MASONIAN PROPRIETORS) laying claim to lands east of the Hudson and thereby provoking a protracted controversy with New York (see NEW HAMPSHIRE GRANTS) Although a royal order in 1764 established the Connecticut river as the western boundary of New Hampshire, the dispute flared up again during the American Revolution and was only settled when Vermont became a state The French and Indian Wars, which had prevented colonization of the inland areas, pointed up the need for mutual defense and New Hampshire sent delegates to the colonial conference of 1754 By this time, however, the hostile Indians had been quite thoroughly defeated and a land rush began into the interior Lumber camps were set up and sawmills built along the streams The king's deputies blazed the tall white pines with arrows to mark them as masting for the royal navy. The Scotch-Irish settlers had already initiated the textile industry by growing flax and weaving linen By the time of the Revolution the 80,000 inhabitants of the province had tired of British rule and were eager for independence A Committee of Safety was organized, and it is claimed that the Sons of Liberty in Portsmouth erected the first Liberty Pole in the entire colonies Early in 1775 the patriots attacked Fort Constitution in Newcastle and sent the captured ammunition by oxcart to Cambridge The New Hampshire Revolutionary Congress was formed and declared for independence Dissatisfied with the provincial congress, the members consulted the Continental Congress and were advised to call a meeting and decide upon a form of government Out of this meeting on Jan 5, 1776, emerged the state, with a constitutional framework, a bicameral legislature and a council In the American Revolution Generals John STARK and John SULLIVAN of the Continental army were New Hampshire men After the war economic depression coupled with the costs of establishing a central government moved the people to open protest against the state legislature and the courts Continental forces under General Sullivan put down the insurrection without bloodshed (1786) Largely through the efforts of John LANGDON, New Hampshire became the ninth and last necessary state to ratify (1788) the new Constitution of the United States The Federalists dominated political activity until 1816, and the gradual change of control to the Democrats at that time resulted in the famous DARTMOUTH COLLEGE CASE (1819), in which Daniel WEBSTER, New Hampshire's famous native son, acted as eloquent counsel for the Federalist trustees of Dartmouth In the same year New Hampshire abolished state support of the Congregational Church through the Toleration Act New Hampshire's northern boundary was fixed in 1842 when the Webster-Ashburton Treaty set the international line between Canada and the United States The Democrats remained in control of political office until 1846, when the party members were divided over the slavery question U S Congressman John P HALE, in a campaign known as the "Hale Storm of 1845," attempted to secure the support of his constituents in his refusal to support the annexation of Texas on the grounds that it was a proslavery action The inability of the Democratic party to take a united antislavery stand brought about its decline By the time Franklin PIERCE, New Hampshire's only President of the United States (1853–57), signed the KANSAS-NEBRASKA BILL in 1854, antislavery sentiment was strong enough to alienate many of Pierce's friends and former supporters After the Civil War the newly formed Republican party came into power and since that time has generally carried both national and state elections The growth of industrial cities has strengthened the Democratic party so that many elections are closely contested Perhaps the most novel feature of New Hampshire politics is its legislature When it is in session Concord houses the second largest representative governmental body in the world—443 men and women In 1941 the Constitutional Convention, which meets regularly every seven years, proposed to limit the members of the house to 400 but the voters rejected the amendment During the 19th cent the state's economy emerged as primarily industrial, and population growth was steady although never spectacular The production of woolen and cotton goods and the manufacturing of shoes led all other enterprises The forests were rapidly and ruthlessly exploited as valuable tracts were given to schools, railroads, and churches or sold to cover road and public building costs In 1870 a crusade to save the woods began, and in 1911 a bill was passed to protect big rivers by creating forest reserves at their headwaters Since that time numerous conservation measures have been enacted and large tracts of woodlands have been placed under state and national ownership In 1937 measures to place control of lake waters in the hands of the Water Resources Board were upheld by the state supreme court These same measures permit the installation of state hydroelectric projects The world depression of the 1930s severely dislocated the state's economy, especially in towns concentrating on one industry Since that time an effort has been made to broaden economic activities Competitive textiles remain a great threat to the important woolen and cotton industries Although as yet of minor economic importance, the New Hampshire League of Arts and Crafts, started in 1931, is an interesting experiment designed to revive native crafts and has been subsidized by the state The League provides instruction and leadership, and opens shops for the sale of many products of needlework, woodcarving, weaving, and pottery making. Such a plan seems to blend well with the best of native New England traits, providing for the preservation of fine old skills, the expression of individuality through creative activity, and the recognition of Yankee practicality by making this craftwork profitable See F B Sanborn, *New Hampshire* (1907); W H Fry, *New Hampshire as a Royal Province* (1908); E S Stackpole, *History of New Hampshire* (5 vols, 1917), L S Morrison, *The Government of New Hampshire* (1922; rev. and enl. ed, 1943), New Hampshire Forestry and Recreation Commission, *Forest Industries of New Hampshire* (1936); Richard Upton, *Revolutionary New Hampshire* (1936), Cornelius Weygandt, *New Hampshire Neighbors* (1937) and *The Heart of New Hampshire* (1944), E S Bowles, *Let Me Show You New Hampshire* (1938), Federal Writers' Project, *New Hampshire, a Guide to the Granite State* (1938) and *Hands That Built New Hampshire* (1940), M N Rawson, *New Hampshire Borns a Town* (1942), K W Jennison, *New Hampshire* (1944), Ernest Poole, *The Great White Hills of New Hampshire* (1946)

New Hampshire, University of, at Durham, land-grant and state supported, coeducational, chartered 1866 Opened in 1868 as the state college of agriculture and mechanic arts at DARTMOUTH COLLEGE, it was reorganized in 1891, moved in 1893, and became a university in 1923 It has colleges of agriculture, liberal arts, and technology A government research bureau, a marine laboratory, and a biological institute are here

New Hampshire Grants, early name for the region that is now Vermont, given because most of the early settlers came in under land grants from Benning Wentworth, colonial governor of New Hampshire Though the charter for New York given to the duke of York (later King James II) in 1664 set the eastern boundary of that province at the Connecticut river, there was promptly trouble The colony of Connecticut in 1683 managed to get the southern part of the New York boundary set instead at a line 20 mi E of the Hudson river Massachusetts was in 1749 in the process of forcing this line north as the Massachusetts-New York border, though this settlement was not approved by the crown until 1757 Governor Wentworth, assuming that these changes would mean that the line could be carried even farther north, proceeded without authority to issue a grant for the settlement of Bennington in 1749, and in the next few years he issued many more for the region, incidentally making a fortune for himself from them New York protested the infringement, but the last of the French and Indian Wars intervened, and it was not until after 1760 (when Wentworth had resumed making grants) that the matter was taken up by the British authorities In 1763 a decision was rendered unequivocally in favor of New York To enforce the decision was another matter The speculators who had the grants and settlers who came in under them opposed the New York claims The GREEN MOUNTAIN BOYS were organized, and resistance was led by Ethan ALLEN It mounted to violence, and it was this struggle that determined the early history of VERMONT

New Hampton, city (pop 2,933), co seat of Chickasaw co, NE Iowa, E of Charles City, inc 1873

New Hanover, Bismarck Archipelago see LAVONGAI

New Harmony, town (pop 1,390), SW Ind, on the Wabash and NNW of Mt Vernon, founded 1815 Oil, sand, and gravel are obtained here It was settled by the HARMONY SOCIETY under George Rapp In 1825 the Harmonists sold their holdings to Robert OWEN, he established here a communistic colony which gained prominence as a cultural and scientific center and to which were attracted William Maclure, Thomas Say, Frances Wright, and others Dissension arose in the community, and in 1828 it ceased to exist as a distinct enterprise Many old Rappite buildings remain See G B Lockwood, *The New Harmony Movement* (1905)

New Hartford. **1** Resort town (pop 1,836), NW Conn, SE of Winsted, settled 1733, inc 1738 Metal products are made here Part of the town was badly flooded in 1936, when Greenwood Dam broke **2** Village (pop 1,914), central N Y, near Utica, settled c 1787, inc 1870

Newhaven, urban district (pop 6,789), Sussex East, England, at the mouth of the Ouse It is a fortified seaport

New Haven. **1** City (pop 160,605), a co seat of New Haven co, S Conn, where the Quinnipiac and other small rivers enter Long Island Sound, inc 1784 It was founded in 1637–38 by Puritans led by Theophilus Eaton and John Davenport and was the chief town of a colony which later included several other towns—Milford, Guilford, Stamford, Branford, and Southold (on Long Island) Its government was a strict theocracy, religion was a test for citizenship, and life was regulated by strict rules (see BLUE LAWS) In 1664 the colony was reluctantly united with CONNECTICUT. It was joint capital with Hartford from 1701 to 1875 In the late 18th and the early 19th cent New Haven was a considerable port, especially for sealing vessels, and it is still a port of entry New Haven was raided by a British and Tory force in the American Revolution, and the port was blockaded in the War of 1812 Manufacturing grew, and though the once famous New Haven coaches and carriages have disappeared, firearms, clocks, locks and other hardware, toys, and electrical equipment are made, and the city has railroad shops It is also an educational center, and the industrial tone is mitigated by YALE UNIVERSITY, its allied institutions (e.g.,

New Haven Hospital and the Institute of Human Relations), and other schools, such as Albertus Magnus College (Catholic, for women, 1925) and a state teachers college The city centers upon a large green, on which stand three churches built between 1812 and 1816—Center Church (First Church of Christ, Congregational), Trinity Church (Episcopal), and United Church (Congregational) —all noted for their grace Landmarks in the city are two sandstone cliffs—West Rock, with the Judges' Cave (in which two regicides hid), and East Rock 2 Residential town (pop 1,872), NE Ind , on the Maumee and near Fort Wayne It is a trading center for farmers 3 City (pop 1,002), E Mo , on the Missouri and W of St Louis, in a farm area, laid out 1856

New Hebrides (hĕ'brĭdēz), Fr *Nouvelles Hébrides*, island group (c 5,700 sq mi , pop 44,750), S Pacific, 1,100 mi E of Australia It is a 400-mile chain of volcanic islands, of which the most important are ESPIRITU SANTO (the largest), EFATE, Malekula, and Tanna There are minor coral islands The group is mountainous, the highest peak (6,195 ft) being on Espiritu Santo The group is in the malarial area The natives are Melanesians, and there are Tonkinese laborers Copra, coffee, cocoa, and mother-of-pearl are produced The islands were discovered in 1606 by Queiros They were placed in 1887 under an Anglo-French naval commission, which was replaced in 1906 by an Anglo-French condominium, with the capital at Villa on Efate In the Second World War the group supported the Free French See Tom Harrisson, *Savage Civilization* (1937)

New Holland, borough (pop 2,153), SE Pa , ENE of Lancaster, settled 1728, inc 1895

New Holstein (hōl'stēn), city (pop 1,502), E Wis , NE of Fond du Lac, settled 1849, inc as a city 1926 Farm machinery is made

New Hope, residential borough (pop 1,053), SE Pa , on the Delaware and NW of Trenton, N J , settled c 1712, inc 1837 It is an artists' colony, and the neighborhood has many interesting old stone farmhouses

New Hyde Park, residential village (pop 4,691), on NW Long Island, SE N Y , near Mineola, inc 1927 Hosiery is made here

New Iberia (ībē'rĭə), city (pop 13,747), parish seat of Iberia parish, S La , on Bayou Teche, probably settled 1779 by Spanish, inc 1839 as Iberia, renamed 1868 Processing of the products from the rich surrounding area—chiefly sugar, rice, vegetables, and sea food—constitutes its chief industry Near by are oil fields and Avery Island A magnificent plantation house and St Peter's College are in the city

Newington, industrial town (pop 5,449), central Conn , near Hartford, settled in the last quarter of the 17th cent , inc 1871 It has a home for crippled children, a state tuberculosis sanatorium, and a veterans' hospital

New Ireland, volcanic island (3,340 sq mi , pop c 19,000), SW Pacific, in the BISMARCK ARCHIPELAGO and part of the Territory of New Guinea It is largely mountainous, rising to 4,000 ft Kavieng is the chief town and port, coconuts are the chief export The island was formerly called Neu Mecklenburg, later New Mecklenburg

New Jersey, state (7,522 sq mi., with water surface, 8,204 sq mi , 1940 pop 4,160,165, 1949 estimated pop 4,873,000), E United States, one of the Middle Atlantic States and one of the Thirteen Colonies The capital is TRENTON Surrounded by water on all sides except the northern boundary (50 mi long) with New York state, New Jersey is bounded on the east by the Hudson river, New York Bay, and the Atlantic Ocean, on the south and west by Delaware Bay and the Delaware river (which separate it from Delaware and Pennsylvania) The northern third of the state lies within the Appalachian Highland region Ridges running northeast and southwest shelter valleys abounding with pleasant streams and glacial lakes Beyond the crest of each wooded slope appear long-established farmlands given over to dairying and field crops Across the northwest corner run the Kittatinny Mts with the highest elevations of the state They stretch from the New York border to the spectacular DELAWARE WATER GAP South of the Highlands lie the Triassic lowlands or piedmont plains, a belt paralleling U S Route 1 from NEWARK to Trenton, it encompasses every major city of the state except CAMDEN and ATLANTIC CITY The monotony of the lowlands is broken by ancient trap-rock ridges which extend to the Palisades of the Hudson, and many pleasant commuter towns are located along the wooded slopes Acres of tidal marshes E of Newark and HACKENSACK have been partially filled, and industrial plants have been built upon them Drainage is provided by the state's major rivers, the PASSAIC, the RARITAN, and the HACKENSACK The busy lowlands give way in the south to the coastal plains, which cover more than half the state The coast, except in the south, is highly developed as a resort area. Sandbars prevent good harborage but offer 115 mi. of excellent inland waterways and a superior combination of bay and ocean facilities. Fishing, continually jeopardized by indiscriminate disposal of sewage and industrial waste, supplements the resort trade In the southern inland region the wasteland of scrub pine ravaged by fire and reckless lumbering, is used for cranberry and blueberry culture to provide a meager living for isolated communities North of the pine belt the clay and marl soil is extremely fertile, and the moderate temperatures permit a productive season for the asparagus and cranberry crops Urban centers are Atlantic City, a de luxe beach-land and amusement center, and Camden, outpost of Philadelphia and largest Jersey port on the Delaware The focus of industry of the state is Newark, which claims more different types of manufacturing than any city in the nation New Jersey is one of the leading manufacturing states Surprisingly, since it has few minerals except deposits of zinc, marl, clay, and construction stone, it leads the nation in smelting and refining copper It also produces rubber goods and textiles (notably at PATERSON and PASSAIC) as well as silk goods, rayon, and chemicals An almost fantastic transportation system, concentrated in the industrial lowlands, funnels the state products and a tremendous interstate traffic to the seaboard ports of Newark, HOBOKEN, JERSEY CITY, and BAYONNE and to the New York area With eight great trunk lines, New Jersey has more railroad tracks per square mile than any other state Highways, including the majestic Pulaski Skyway across the Newark (or Jersey) Meadows, provide wide, straight roads to all major points The Delaware is spanned by 10 toll and 15 free bridges, and traffic into New York is provided by numerous ferries and railway tunnels and the facilities of the Port of New York Authority the George Washington Bridge, the Lincoln and Holland vehicular tunnels, and three bridges to Staten Island Airports are operated by many cities, and Newark airport ranks as one of the busiest in the world Important water navigation centers around the seaports on the Hudson river and New York Bay, with a minor traffic of seagoing vessels on the Delaware proceeding as far north as Trenton From the time when the dogwood and rhododendron begin to bloom until the maples turn yellow and red, traffic piles up across the state as city visitors seek the varied pleasures of ocean, inland lakes, and state forests and parks The diversity of economic life provided by varied industry, agriculture, and resort attractions is rivaled by the diversity of population Social differences run from migrant worker to gentleman farmer, slum dweller to owner of a palatial residence Proximity to Ellis Island and the varied labor market have combined to attract large numbers of immigrants The directories of many communities include not only foreign-born and first-generation Americans but also names which appear in the records of New Jersey's early history The English made no settlement here until after both Dutch and Swedish communities had been established Dutch claims to the Hudson and Delaware valleys were based on the voyages of Henry Hudson, who sailed into Newark Bay in 1609, and the explorations of the lower Delaware by Cornelis Jacobsen May in 1614 Under the auspices of the Dutch West India Company patroonships were offered for settlement, and small colonies were located on the present sites of Hoboken, Jersey City, and Gloucester City Swedes and Finns of NEW SWEDEN, who predominated in the Delaware valley after 1638, were annexed by the NEW NETHERLAND colony in 1655 In 1664 Richard NICOLLS, deputy governor for James, duke of York (later James II), seized New Netherland, and James granted proprietorship of lands between the Hudson and the Delaware to Lord John BERKELEY and Sir George CARTERET Nicolls, unaware of the transaction, permitted New England religious dissenters to buy Indian land in the Elizabethtown and Monmouth purchases Carteret and Berkeley encouraged settlement by providing a liberal charter, free land grants, and provisions for an appointed council and an elected assembly New Jersey remained under proprietary rule until it was returned to the crown in 1702 During that period New Jersey's history was marked by a confusion of disputed land titles, dubious business transactions, and frequent changes of authority Out of this confusion certain trends emerged which have had significance in development of the area The original grants to Berkeley and Carteret divided the region, and the split became defined with the Quintipartite Deed of 1674, which separated the two Jerseys by a line from Little Egg Harbor to just north of the Delaware Water Gap. Subsequent cultural and economic developments have preserved the tie between N New Jersey and New York, and S New Jersey and Philadelphia The other trend was a popular flouting of constituted authority, expressed in protest against such proprietary demands as quitrents, in frequent refusals to submit to the dictates of royal governors, and later in the emasculated executive power provided in the New Jersey constitution of 1844 East Jersey was held by Carteret until his death in 1680, his cousin Philip CARTERET serving as governor Difficulties arose in 1670 when the Nicolls patentees refused to pay quitrents, noted, and set up a rump assembly. These chaotic conditions obtained until after the Dutch conquest of New Jersey and New York in 1673 When the colonies were returned to England under terms of the Treaty of Westminster, all titles were invalidated Proprietorship was returned to Carteret, but the Elizabethtown and Monmouth purchases were not regranted In 1682 William PENN and 11 other Quakers purchased West Jersey from Carteret's widow Within the year ownership was extended to 12 other proprietors, and from that time the land was subdivided by sale, Scottish proprietors playing a major part in development A board of proprietors was set up to assist in governmental affairs, and Perth Amboy became the capital In West Jersey the Berkeley interests were sold in 1674 to John FENWICK, acting as agent for Edward Byllynge—for which service he received one tenth interest Both men being in financial straits, the land was held in trust for creditors by Penn and two other Quakers In 1677 two Quaker companies purchased the Fenwick rights, except for a small tract of land on which Fenwick founded Salem A democratic constitution was framed, and the first assembly met at the capital, Burlington, in 1681 The Byllynge title was bought by Dr Daniel Coxe in 1687 and sold to the West Jersey Society in 1692 In both Jerseys confusion resulting from the unwieldy number of landowners and widespread resentment against authority caused the proprietors to surrender voluntarily their governmental powers to the crown in 1702, although they retained their land rights New Jersey's independence from New York was recognized, but authority was vested in the governor of New York until 1738 when Lewis MORRIS was appointed governor of New Jersey alone Until Trenton became the capital in 1790, the legislature met in alternate years at Perth Amboy and Burlington Under the royal governors the same problems persisted—land titles were in dispute and opposition to the proprietors culminated in riots of the 1740s The assembly advantageously used its control of the public revenue to withhold the governor's salary until a desired privilege or a particular legislative enactment was granted East Jersey took on the somber color of Calvinism implanted by Scottish and New England settlers while in West Jersey the Quakers soon developed a landed aristocracy with strong political and economic influence Anti-British sentiment gradually spread from its stronghold in East Jersey throughout the colony and took shape in Committees of Correspondence The strength of the Tory party is attested by its contribution of six Loyalist battalions The patriot cause was, however, generally accepted, and in June, 1776, the provincial congress adopted a constitution and declared New Jersey a state Because of its strategic importance, New Jersey was of major concern in the American Revolution The memorable Christmas attack on the Hessians at Trenton in 1776, followed by victory for the Continental forces at Princeton, restored the confidence of the patriots and gained increased cooperation Washington wintered at Morristown in 1777 and again in 1778–79 There were numerous smaller battles, and one other important battle was fought in New Jersey, that of Monmouth in June, 1778 At the Federal Constitutional Convention in 1787, the delegates from New Jersey sponsored the cause of the smaller states and carried the plan for equal representation in the Senate New Jersey was in Dec , 1787, the third state to ratify the Constitution By this time its population had grown from an estimated 15 000 in 1700 to approximately 184,000 Agriculture had been supplemented by considerable mining and processing of copper and iron and by the production of lumber, leather, and glass During the next 50 years an enormous expansion brought with it the transition from a landed aristocracy to an industrial democracy The important textile industry, powered by the falls of the Passaic, was initiated at Paterson Potteries, shoe factories, and brickworks were built Highways were improved, the Morris Canal and the Delaware and Raritan Canals were chartered, and the Camden and Amboy RR completed a line from New York to Philadelphia with monopoly privileges Although two important colleges had been established in the 18th cent (Princeton, as the College of New Jersey in 1746, Rutgers, as Queen's College in 1766), free public education had not been established The beginning of what has become a superior educational system was forwarded by some state fiscal support in 1828, although a complete system of free public schools was not set up until 1871 Institutions of higher learning have gradually increased to include such institutions as the New Jersey College for Women, Seton Hall Univ , Upsala College, the Stevens Institute for Technology, and a comprehensive system of state teachers colleges Prior to the Civil War an era of reform resulted in the framing of a new constitution (1884) in which property qualifications for suffrage were abolished, provisions were made for the popular election of the governor and assemblymen, and a balance of power and responsibility was established among the executive, legis-

lative, and judicial departments. In spite of some pro-Southern sentiment, New Jersey recruited its quota of regiments and gave valuable financial aid to the Union in the Civil War The war demands proved lucrative for commerce and industry, and the expanding labor market attracted large numbers from various groups of immigrants By 1865 the pattern of the state's development was molded Population and industrial growth showed a steady and rapid increase Large economic interests grasped control of political power, with sporadic but unsustained public movements for reform The Camden and Perth Amboy RR was transferred by lease to the Pennsylvania RR in 1871, although its monopolistic power was lessened by legislation opening the state to all rail lines and by the assessment and taxation of railroad properties After the 1870s easy incorporation laws and low corporation tax rates attracted new trusts to incorporate through "dummy" offices in the state There was much liberal sentiment against the power of "big business" A general reform movement sponsored by Woodrow WILSON when he was governor (1910–12) resulted in such legislation as the direct primary, a corrupt practices act, and the "Seven Sisters" acts for the regulation of trusts Later these laws for control of corporations were repealed The state voted predominantly Democratic from the Civil War until 1896 Since that time it has frequently voted Republican in national elections, and in state politics it has often had its powers divided between Democratic governors and Republican legislatures The well-oiled machine of Frank HAGUE, centered in Jersey City, wielded great influence in the Democratic party from 1913 to 1949, when it was defeated by insurgents within its ranks During the Second World War industry soared to new production heights and the state became a mass distribution point for men and materials In the 1940s the state took further steps to adapt the structure of government to meet modern needs After frequent attempts to amend the antiquated constitution of 1844, the determined efforts of Gov Charles Edison in 1942 and the sustained work of such civic groups as the New Jersey League of Women Voters succeeded in having a new constitution framed and accepted in 1947 The liberal Bill of Rights was preserved and extended, governmental departments were streamlined, the cumbersome court system was simplified, the executive power was strengthened, and labor's right to organize and bargain collectively was recognized Legislation has been passed to protect civil liberties, to equalize school finances, and to encourage municipal government reform In 1950 pending bills, enthusiastically supported by many civic groups, included provision for reorganization of the health and public welfare agencies and the revision of a tax structure, which rested at that time almost entirely on property taxes Diverted by involvement in the metropolitan areas of New York city and Philadelphia, New Jersey has frequently been exposed to ridicule as the bedroom or commuter state or viewed merely as a highway or vacationland Awakened public interest gives promise in 1950 of extending beyond mere institutional reform and reassertion of the state's strength as a cultural, social, and economic unit See Edwin P Tanner, *The Province of New Jersey, 1664–1738* (1908); Edgar Jacob Fisher, *New Jersey as a Royal Province, 1738 to 1776* (1911), Irving S Kull, ed, *New Jersey a History* (5 vols, 1930), Walter R Fee, *The Transition from Aristocracy to Democracy in New Jersey 1789–1829* (1933), Federal Writers' Project, *New Jersey* (1939), Wheaton J Lane, *From Indian Trail to Iron Horse* (1939), Harry Emerson Wildes, *The Delaware* (1940), Leonard Lundin, *Cockpit of the Revolution* (1940), Donald L Kemmerer, *Path to Freedom* (1940), Harry Emerson Wildes, *Twin Rivers the Raritan and the Passaic* (1943)

New Jersey College for Women. see RUTGERS UNIVERSITY

New Jerusalem, Church of the, or **New Church,** religious body instituted by the followers of Emanuel SWEDENBORG Knowledge of his teachings was extended in England largely through the efforts of two clergymen, Thomas Hartley and John Clowes, and through the zeal of Robert Hindmarsh, a printer, the son of a Methodist minister The first public services of an organized congregation were held (1788) in London In 1789 a general conference met In America the teachings of Swedenborg were first introduced (1784) by James Glen, member of a London society. In 1792 a New Church society was formed in Baltimore, in 1817 a general convention of the New Jerusalem in the United States of America was organized In polity it is a modified episcopacy, with each society enjoying great freedom in administering its own affairs. A general convention is held annually In 1890 a number of members broke their connection with the general convention to form a separate organization, which in 1897 took the name the General Church of the New Jerusalem. This body regarded Swedenborg's theological writings as "the very Word of the Lord revealed at his second coming" Swedenborg taught that the Scripture, properly understood, reveals the great law of correspondence—that every natural object is the expression of a spiritual cause There is one God in him is a Divine Trinity, not of persons but of essence The Father is the Divine Essence of Love, the Son is the Divine Wisdom or Divine Word, and the Holy Spirit is the Divine Proceeding, by which life, love, and truth are made available to man When Jesus assumed humanity and lived on earth, he met and overcame the temptations of evil When he had laid down in death every part of him that was not in accord with His divinity, he took upon himself a new spiritual humanity So, when man will by faith work with him in love and obedience, man shall have salvation, subduing the enemies of the soul See theological works of Swedenborg, Robert Hindmarsh, *Rise and Progress of the New Jerusalem Church* (1861), M B Block, *The New Church in the New World* (1932)

New Kensington, city (pop 24,055), SW Pa, on the Allegheny river and NNE of Pittsburgh, laid out 1891 on the site of colonial Fort Crawford, inc as a borough 1892, as a city 1933 Shale is quarried, along the river is the plant of the Aluminum Company of America (ALCOA)

Newkirk, oil city (pop 2,283), co. seat of Kay co, N Okla, in the wheatlands, settled c 1893 A vocational school for Indians is near by

New Lanark, Scotland see LANARK

Newlands, Francis Griffith, 1848–1917, American legislator, b Natchez, Miss, studied at Yale and at George Washington Univ He went in 1870 to San Francisco, where he practiced law until 1888, when he removed to Nevada He became well known for interest in irrigation and reclamation and for his advocacy of free silver He was (1893–1903) Congressman from Nevada, then served (1903–17) as Senator He wrote the Reclamation Act of 1902 and the Newlands Act of 1913 concerning mediation and conciliation in labor controversies His work was important in the Interstate Trade Commission Act of 1914 and in preparing the way for the Transportation Act of 1920 See M F Hudson, ed, *Francis G Newlands His Work* (1914), A B Darling, ed, *Public Papers of Francis G Newlands* (2 vols, 1932)

Newlands project, irrigation and power development, W Nev, called before 1919 the Truckee-Carson project Established in 1903–8, it now includes two dams on the Carson, the Carson River (completed 1905) and the Lahontan (completed 1915), and two dams on the Truckee, the Derby (completed 1905) and the Lake Tahoe (completed 1913) Fallon is the chief city of the project

New Laws see LAS CASAS, BARTOLOMÉ DE

New Lexington, village (pop 4,049), co seat of Perry co, S central Ohio, SW of Zanesville, in a coal, sand, and oil area, laid out 1817 Roofing tile and rock wool are its chief products

New Lisbon, city (pop 1,215), central Wis, E of La Crosse, inc. 1889 Camp Douglas and a military reservation are near by

New Liskeard (lĭs'kärd), town (pop 3,019), E Ont, at the north end of Lake Timiskaming and N of North Bay It has pulp and lumber mills and is a trade center for the surrounding mining area

New London. 1 City (pop 30,456), a co seat of New London co, SE Conn, on the Thames, which here forms a good harbor, laid out 1646 by John Winthrop, who built a mill here (1650), called Pequot until 1658, chartered 1784. Weathering the Revolution (when it was a privateers' rendezvous), a partial burning by Benedict Arnold in 1781, and a British blockade in the War of 1812, New London flourished as a shipping, shipbuilding, and whaling and sealing port, reaching the height of its maritime prosperity in the 19th cent The last whaler returned to port in 1909, and the harbor is now used mainly by the U S navy as a submarine base, by the U S coast guard, whose academy was established here in 1932, and by yachtsmen The city is a port of entry Annual Yale-Harvard boat races are held on the Thames The city has a whaling museum, an art museum (1931), and many old buildings Bishop Samuel Seabury, Sarah Knight, and Richard Mansfield are buried here Old Fort Trumbull (built in 1849 *on the site* of the Revolutionary fort, of which only the powder house remains) is occupied by the coast guard The New London Lighthouse (1760) was rebuilt in 1801 CONNECTICUT COLLEGE for women is at New London **2** Town (pop 1,340), SE Iowa, NW of Burlington, founded as Dover, inc 1860 **3** Farm trading city (pop 1,005), co seat of Ralls co, NE Mo, on the Salt river and near Hannibal, founded 1819. **4** Town (pop 1,039), S N H, in hilly country (alt 1,326 ft) near Sunapee and other lakes, NW of Concord, settled 1775, inc 1779 It is the seat of Colby Junior College for girls There is a summer theater (1933) The Tracy Memorial is a library and community house. **5** Village (pop. 1,656), N Ohio, SW of Cleveland, settled 1816 It is a farm trade center and shipping point Uniforms and tile brick are manufactured here **6** City (pop 4,825), central Wis., on the Wolf and NW of Appleton, founded 1853, inc. 1877 Wood and dairy products are made The Carr Museum has natural history exhibits and historical material.

Newlyn, village (pop. 3,544), Cornwall, England, S of Penzance It is a seaport, resort, and fishing center (pilchard, mackerel, lobster) A well-known artists' colony here has given name to an open-air school of painting. St Peter's Church contains modern murals

New Madrid (măd'drĭd), city (pop 2,450), co seat of New Madrid co, SE Mo, on the Mississippi SW of Cairo, Ill It is a cotton center in a farm area and a port It was laid out in 1789 by George MORGAN on land granted by the Spanish In the Civil War, Federal troops captured it from the Confederates before taking ISLAND No 10 (1862)

Newman, Ernest, 1868–, English music critic He began his musical career in 1903 as an instructor at Midland Institute, Birmingham, joining the staff of the Manchester *Guardian* in 1905, the Birmingham *Daily Post* in 1906, the London *Observer* in 1919, and *The Times* of London in 1920 Outstanding among his writings is his *Life of Richard Wagner* (4 vols, 1933–46) He is the translator of Schweitzer's *J S Bach* and Romain Rolland's *Beethoven the Creator* and is the author of numerous important books about music

Newman, Francis William, 1805–97, English scholar, brother of Cardinal Newman In 1830 he withdrew from a fellowship at Balliol, Oxford, because he could not assent to Anglican orthodoxy He taught Latin at Manchester New College (1840–46), a Unitarian foundation, and at University College, London (1846–69) His principal work, *Phases of Faith* (1850), reveals his diametric opposition to his brother, for he was an absolute rationalist See I G Sieveking, *Memoir and Letters of Francis W Newman* (1909)

Newman, John Henry, 1801–90, English churchman, cardinal of the Roman Church, one of the founders of the OXFORD MOVEMENT, b London He studied at Trinity College, Oxford, and held a fellowship at Oriel College, where he became tutor (1826) after his ordination in the Church of England (1824) He was made vicar of St Mary's, Oxford, in 1827 and was (1831–32) select preacher to the university He had been, since the age of 15, of a deeply religious nature, and in 1832 he resigned his tutorship after a dispute over the religious duties of a tutor and went on a Mediterranean tour with Hurrell Froude While he was on this trip he wrote *Lead, Kindly Light* and other hymns of the *Lyra Apostolica* His difficulties were given expression and opportunity for solution after his return to England, when KEBLE preached the celebrated sermon *National Apostasy*, Newman threw himself into the discussion in the summer of 1833 and in September began the *Tracts for the Times* These joined with his sermons in St Mary's in giving constant guidance and inspiration to the OXFORD MOVEMENT About 1840 Newman was losing his faith in the position he had taken, and an article by WISEMAN led him to reconsider the Roman Catholic claims In 1841 his Anglican career came to a crisis when *Tract 90*, demonstrating that the Thirty-nine Articles were consistent with Catholicism, brought a great outcry from Anglicans everywhere and a ban on the *Tracts* from the bishop of Oxford Newman now went into retirement at Littlemore (a chapelry attached to St Mary's), where he remained for more than a year, living with a group of men in a sort of monastic seclusion He gave up his living in Sept, 1843, and in 1845 was received into the Roman Catholic Church The chief literary products of Newman's retirement consisted of the *Essay on Miracles* and the *Essay on the Development of Christian Doctrine*, both of them serving not only to show the state of the author's mind but to acquaint the English-speaking world with two important principles of Roman Catholicism In 1846 he went to Rome, where he received ordination and a doctorate of divinity He entered the Oratorians and came back to England (1847) filled with the idea of extending the Church in England by means of the Oratory After living at various places he settled at Edgbaston (on the outskirts of Birmingham), there, in the Oratory he founded, he remained the rest of his life Newman's life was marked by several unpleasant public events, the first of these being a libel suit against him by an ex-friar Newman lost the suit, but was later exonerated, and a great fund was publicly raised to defray the expense and the fine he had incurred In 1854 the bishops of Ireland tried to found a Catholic university at Dublin and made Newman its head; the project was ill planned and abortive, so Newman found himself involved in difficulties at once Newman's theories appearing in his *Idea of a University Defined* (1873) were chiefly developed about this time, his "idea" was that education should be moral training rather than instruction, and a token of this was his proposal for a Catholic hall at Oxford to provide Catholics with the advantages of Catholicism and university training together. This (1858) was opposed by Henry Edward MANNING and the English hierarchy, much to Newman's disappointment Newman's reputation in England was greatly enhanced soon after this by one of the most celebrated incidents of his career, the controversy with Charles KINGSLEY. This began in 1864 when Kingsley re-

marked in a review that the Catholic clergy was not interested in the truth for its own sake After several exchanges Newman published the *Apologia pro Vita Sua* (beginning 1864), a masterpiece of religious autobiography, undoubtedly its author's greatest work. A few years later an ambitious work of another kind appeared, the *Grammar of Assent* (1870), designing to set forth a sort of logic of religious belief At this time Newman was involved in an annoying incident that gained more notice than its importance warranted, Newman, who opposed the enunciation at the time of the infallibility dogma, was quoted as denouncing those (including Cardinal Manning) who advocated its definition. He was misunderstood in England and his enemies (Catholic and non-Catholic) spread in Rome rumors that he opposed the dogma itself The cloud under which Newman existed so far as the papacy was concerned was not lifted until after the death of Pius IX, whose successor, Leo XIII, created him cardinal (1879) at the general demand of English Catholicism About the same time (1878) Trinity College (Oxford) gave him an honorary fellowship Cardinal Newman spent his declining years at Edgbaston, loved and admired by all England Newman ranks as one of the masters of English prose, his style is simple, lucid, clear, and unusually convincing His poems never gained great reputation, except for *The Dream of Gerontius* (1866) His novels (religious), *Loss and Gain* (1848) and *Callista* (1850), are not read Newman's misunderstanding with Manning lasted over 30 years, they were temperamentally poles apart, for Newman had no interest in social reform, Manning no taste for theological controversy It was formerly assumed that Newman and Manning led rival parties in English Catholicism, it is much nearer the truth to say that their difficulty was a private quarrel Newman's works were published in his lifetime, for the collected editions the author wrote refutations of his own Anglican writings, especially of those dealing with Anglicanism as a *via media* Newman's immediate influence was greatest c 1840, and many Anglicans entered the Roman Catholic Church at his inspiration His essays retain their vitality and popularity New editions of a number of his works have appeared since 1947, edited by C F Harrold, who also edited *A Newman Treasury* (1943) Other selections appear in W S Lilly, ed , *A Newman Anthology* (1949), and Henry Tristram, ed , *Living Thoughts of Cardinal Newman* (1949) The definitive biography is that by W P Ward (1927) See also biographies by S L May (1930), G G Atkins (1931), and Robert Sencourt (1948), Eleanor Ruggles, *Journey into Faith* (1949), Maisie Ward, *Young Mr Newman* (1948)

Newman. 1 City (pop 1,214), central Calif , W of Merced, in a dairying area of the San Joaquin Valley, laid out 1887, inc 1908 2 City (pop 1,103), E Ill , SW of Danville, founded 1857, inc 1895 It has farm-product processing plants

Newman Grove, city (pop 1,036), NE Nebr , in a prairie region SW of Norfolk

Newmarket, town (pop 4,026), S Ont , on the Holland river and N of Toronto Its industries include tanning, furniture making, and processing of dairy products

Newmarket, urban district (1931 pop 9,752, 1943 estimated pop 7,330), Suffolk West, England, NE of Cambridge It has been a racing center since early in the 17th cent The courses on Newmarket Heath are c 4 mi long and are crossed by an ancient earthwork known as the Devil's Dyke There are eight principal races, which include the Two Thousand Guineas, the Cambridgeshire, and the Cesarewitch

New Market, town (pop 629), N Va , in the Shenandoah Valley NE of Staunton, inc 1796 In a Civil War battle here (May 15, 1864), Gen J C Breckinridge defeated Gen Franz Sigel A gallant charge by Virginia Military Institute cadets figured in the Confederate victory Near by are limestone caverns

Newmarket, town (pop. 2,640), SE N H , on Great Bay W of Portsmouth, inc 1727 Its textile-milling village is at falls of the Lamprey

New Martinsville, town (pop 3,491), co. seat of Wetzel co , NW W Va , on the Ohio and SW of Moundsville, in a rich oil region, platted 1838.

New Mecklenburg, Bismarck Archipelago see NEW IRELAND.

New Mexico, state (121,511 sq. mi ; 1940 pop 531,818, 1949 estimated pop 589,000), SW United States, in the Rocky Mt region of the Southwest, admitted 1912 as the 47th state The capital is SANTA FE, the largest city ALBUQUERQUE. The state is bounded on the north by Colorado, on the east by Oklahoma and Texas, on the south by Texas and Mexico, and on the west by Arizona At its northwest corner, four states (Arizona, Utah, Colorado, and New Mexico) meet— the only such point in the United States New Mexico is roughly bisected by the RIO GRANDE and has an approximate mean altitude of 5,700 ft ; it has a spacious sweep of grazing lands for sheep and cattle, broken mesas, wide deserts, heavily forested mountain wilderness, and high, bare peaks. Water is a rare and precious thing in the semiarid region There are only two notable rivers besides the Rio Grande —the PECOS and the SAN JUAN They are used for some irrigation, but extensive farming is supported only by such uses of the Rio Grande as at the Elephant Butte Dam and in the CARLSBAD project There are also regions that support dry farming Fruits, vegetables, grains, alfalfa, and cotton are grown More picturesque are the harvests of pifion nuts, pinto beans, and chili—crops characteristic of New Mexico The mountain ranges, rising to their greatest height in the SANGRE DE CRISTO MOUNTAINS, are in broken groups, running north to south through central New Mexico and flanking the Rio Grande In the southwest is the tumbled Gila Wilderness Millions of acres of the wild and beautiful country of New Mexico are under Federal control as national forests, Indian reservations, and national monuments (e g , CARLSBAD CAVERNS NATIONAL PARK and White Sands National Monument) The mountains and plateaus have yielded mineral wealth in zinc, copper, molybdenum (one of the largest of U S molybdenum mines), gold, iron, lead, and manganese Silver and turquoise have been much used in Indian jewelry since long before the time of the white man In SE New Mexico petroleum and natural gas have been found to furnish a modern note Potash is mined from one of the world's largest deposits, but huge coal reserves, mostly near GALLUP, are nearly untouched because they are far from any manufacturing center Use of the minerals and of the land goes back to the still unknown time of the early Indian cultures in the Southwest which long preceded the flourishing sedentary civilization of the PUEBLO INDIANS the Spanish found along the Rio Grande and its tributaries Many of the Indian pueblos exist today much as they were in the 15th cent and constitute one of the three bases of the unique and colorful New Mexican pattern, which is Indian, Spanish American, and Anglo-American Word of the pueblos reached the Spanish through CABEZA DE VACA, who had apparently wandered across S New Mexico in 1536, they were enthusiastically identified by Fray MARCOS DE NIZA as the Seven Cities of Cibola, a full-scale expedition (1540–42) went north under the leadership of Francisco Vásquez de CORONADO The treatment of the Indians by Coronado and his men led to the long-standing hostility between the Indians and the Spanish and made Spanish conquest of the land a long and difficult business An attempt by missionaries to convert the natives in 1581 led to the death of the friars who headed it Antonio de ESPEJO, sent out on an expedition (1582–83) to find the friars, explored much of the country His report of precious minerals and grazing lands led to the founding of the first regular colony at SAN JUAN by Juan de OÑATE in 1598 Almost immediately he was faced with a serious revolt at Acoma and had to suppress it In 1609 Pedro de Peralta was made governor of the "Kingdom and Provinces of New Mexico", he had his capital at Santa Fe The little colony with the high-sounding name did not prosper greatly, though some of the missions flourished and haciendas were founded Forced labor caused further Indian trouble The fierce Apache rose in 1676, and in 1680 came the great Pueblo revolt The Indians fell upon the Spanish and wiped out their settlements, and the survivors were driven entirely out of New Mexico, not to return until the stern campaign of Diego de VARGAS reestablished Spanish control in 1692 In the 18th cent , development of ranching and of some farming and mining was more thorough, and the foundations were laid for the Spanish culture in New Mexico that still persists About half the population today is of mixed Spanish descent (many of them, however, fairly recent immigrants from Mexico), until recently Spanish was an accepted official language, and in many isolated communities Spanish is still the dominant tongue The progress of the colony depended somewhat on the governors, some of whom were able The first approach of the Anglo-Americans was marked by the Louisiana Purchase in 1803, and the Spanish officials tried earnestly to prevent American penetration Yet by 1822, after central control of New Mexico had been weakened by the Mexican revolt against Spain, the SANTA FE TRAIL was being traveled by the wagon trains of American traders In 1841 after Texas was established as a republic, a group of Texans embarked on an expedition to exert Texas claims to part of New Mexico, they were captured and treated with justifiable severity by the Mexican governor. Their treatment may perhaps have had some slight effect in bringing on the Mexican War. That war marked the coming of the Anglo-American culture to New Mexico Stephen W. KEARNY entered (1846) Santa Fe without opposition, and two years later the Treaty of Guadalupe Hidalgo gave New Mexico to the United States The territory, which included Arizona and other territories, was enlarged by the GADSDEN PURCHASE A bid for statehood with an antislavery constitution was halted by the Compromise of 1850, and New Mexico was more or less neglected In the Civil War, New Mexico was at first occupied by Confederate troops from Texas but was taken over by Union forces early in 1862 After the war and the withdrawal of the troops, the land was relatively unprotected and was scourged by Apache and Navaho raids Indian troubles were to continue sporadically in New Mexico and Arizona (made a separate territory in 1863) until the Apache chief GERONIMO surrendered in 1886, and there were local troubles after that time Already the ranchers had taken over much of the grasslands The coming of the Santa Fe RR in 1878 encouraged the great cattle boom of the '80s New Mexico saw typical cow towns, feuds among cattlemen and between cattlemen and the authorities (notably the Lincoln County War), the activities of such outlaws as BILLY THE KID, and wealthy comfort appearing on the well-established ranches The cattlemen were unable to keep out the sheepherders and were overwhelmed by the homesteaders and squatters, who fenced in and plowed up the "sea of grass" Land claims gave rise to bitter quarrels among the homesteaders, the ranchers, and the old Spanish families claiming under the original grants Ranching survived, however, despite overgrazing and reduction of lands It and mining and the limited but scientifically controlled irrigated and dry farming have continued important in the period of Anglo-American domination The clear, dry air and the startling and grandiose scenery have in the 20th cent made New Mexico a place of winter or all-year residence for those seeking health or a place of retirement Many writers and artists have made their homes in communities such as Taos and Santa Fe Thousands of tourists come yearly, too, to see not only the spectacular beauties of the land but also the Indian relics (of serious interest to archaeologists), the Indian pueblos, and the contrasts that sharply individualize New Mexico – the half-Spanish villages sleeping in the sun, the brisk business of auto courts, the solemn rites of the PENITENTES and the age-old Indian ceremonies, all to be seen not too far from Los ALAMOS, noted for the tryout in the Second World War of that newest of marvels, the atomic bomb Of the several institutions of higher learning which have contributed to the knowledge about, and the advance of, things New Mexican, the most noted is the Univ of New Mexico See E L Hewett, *Ancient Life in the American Southwest* (1930), R E Twitchell, *Leading Facts of New Mexico History* (2 vols , 1911–12), L B Bloom and T C Donnelly, *New Mexico History and Civics* (1933), *New Mexico's Own Chronicle* (ed by M G Fulton and Paul Horgan, 1937), Harvey Fergusson, *Rio Grande* (1933), Federal Writers' Project, *New Mexico a Guide to the Colorful State* (1940)

New Mexico, University of, mainly at Albuquerque, state supported, coeducational, chartered 1889, opened 1892 It includes colleges of arts and sciences, business administration, education, engineering, fine arts, law and pharmacy and a two-year general college The state public health laboratory, an anthropology museum, a school of inter-American affairs, and a university press are here There are summer field sessions in anthropology (Chaco Canyon and Jemez), art (Taos), and Indian art (Santa Fe) See Dorothy Hughes, *Pueblo on the Mesa* (1939)

New Mexico College of Agriculture and Mechanic Arts, at State College, near Las Cruces, with land-grant support, coeducational, chartered and opened 1889 It has schools of agriculture, arts and sciences, and engineering

New Miami (mī'mē), village (pop 1,443), SW Ohio, near the Ind line NW of Cincinnati; inc 1928

New Milford. 1 Town (pop 5,559), a co seat of Litchfield co , W Conn , hilly, crossed by the Housatonic, settled 1707, inc 1712 Electrical equipment and textiles are produced Canterbury School for boys is here The town hall is on the site of Roger Sherman's shop 2 Borough (pop 3,125), NE N J , N of Hackensack, inc 1922

Newnan, city (pop 7,182), co seat of Coweta co , W Ga , SW of Atlanta, in a farm and livestock area; inc 1828 It has cotton and lumber mills

New Netherland, territory included in an indefinite commercial grant by the government of Holland to the Dutch West India Company in 1621 Colonists were settled along the Hudson river region The principal settlement in the tract after 1625 was known as New Amsterdam (later New York city) at the lower end of Manhattan island, which was purchased from the Indians in 1624 Colonization proceeded slowly, hampered by Indian troubles, poor administration, and rivalry with settlers from New England In 1664 the territory was taken by the English, who divided it into two colonies known as New York and New Jersey. See NEW YORK, state See E L Raesly, *Portrait of New Netherland* (1945)

Newnham College (nū'num), affiliated with Cambridge Univ , for women, organized as a residence hall 1873, opened as a college 1875 Anne Jemima Clough was the first principal In 1881 some of the examinations and other privileges of the university were open to women, degrees were not conferred until 1921

New Orleans (ôr'lēănz), city (pop 494,537), parish seat of Orleans parish, SE La , on the Mississippi c.107 mi by water from the river's mouth It was built within a great bend of the river (and is therefore called the Crescent City) on subtropical lowlands, now protected by levees, and near Lake Pontchartrain The river is crossed here by the large Huey P Long Bridge (completed 1935) New Orleans is the largest city of the South and a major U S port of entry Coffee, sugar, and bananas are among the cargoes that come to its wharves, lumber, petroleum products, and machinery are among those that leave them Coastwise traffic is heavy (partially through the Intracoastal Waterway), and New Orleans handles much rail and air transport Among the diversified industrial products are twine, sugar, furniture, construction materials, and processed foodstuffs Most of the larger industries are of recent growth, but soon after the sieur de Bienville had the city platted in 1718 it took on prominence as a port, and in 1722 it became the capital of the French colony The transfer of LOUISIANA to Spain by the secret Treaty of Fontainebleau (1762) was confirmed by the Treaty of Paris (1763) New Orleans—deeply involved in the struggle for control of the Mississippi—passed back into French hands only briefly before going to the United States with the Louisiana Purchase (1803) Nevertheless the tone of the city's life was dominated by Creole culture until late in the 19th cent , and the French influence has by no means vanished even today Particularly after Andrew Jackson by his victory over the British at New Orleans (Jan 8, 1815) had written a postscript to the War of 1812, the westward movement in the United States carried the queen city of the Mississippi to almost fabulous heights as a port and a market for cotton and slaves New Orleans then was stamped with its lasting reputation for glamour and gay living, elegance and wickedness Then as now Negroes were a large element in the population, and they contributed to the exotic flavor in the American city The quadroon balls—sumptuous affairs attended by rich whites and their quadroon mistresses—disappeared with the Civil War, but unfamiliar Negro folkways and stories of voodoo magic persist The golden era ended when in the Civil War the city fell (1862) to Admiral David G FARRAGUT and suffered under the occupation by Union troops under Benjamin F BUTLER New Orleans recovered from the Reconstruction passed through the end of the river-steamboat era, and settled down to being the sober city of today Its past, however, is perhaps stronger than the warm, damp climate in attracting visitors and artists and writers The picturesque French quarter (Vieux Carré) of the old city north of broad Canal St attracts sight-seers In the heart of the quarter is Jackson Square (the former Place d'Armes), fronting upon it are the Cabildo (formerly the government building, now a museum) and St Louis Cathedral Several world-famous restaurants, specializing in shrimp, oysters, and fish from near-by waters, uphold the New Orleans tradition of good living, and the annual Mardi Gras is perhaps the best-known festival in the United States Parks, museums (including the Isaac Delgado Museum of Art), and all sorts of provisions for the comfort and entertainment of visitors support the charm of the place. The unusual life and history of the city has produced a whole literature of New Orleans, including the works of George W Cable, Lafcadio Hearn, Grace Elizabeth King, Charles Gayarré, and Alcée Fortier New Orleans is also a center of higher learning, with TULANE UNIVERSITY and LOYOLA UNIVERSITY and, for Negroes, DILLARD UNIVERSITY and Xavier Univ (Catholic; coeducational, 1915) See Lyle Saxon, *Fabulous New Orleans* (1928, new ed , 1947), Federal Writers' Project, *New Orleans City Guide* (1938), E S Basso, ed , *The World from Jackson Square a New Orleans Reader* (1948), Harnett T Kane, *Queen New Orleans, City by the River* (1949), Robert Tallant, *The Romantic New Orleanians* (1950)

New Oxford, borough (pop 1,194), S Pa , NE of Gettysburg, laid out 1792, inc 1874 Its products include shoes, clothing, and brick Fruit is grown in this area

New Paltz (nōō' pôlts, nū'), resort village (pop 1,492), SE N Y , on the Wallkill and SW of Kingston, in a farm area, settled 1677 by Huguenots, inc 1887 It is the seat of a state teachers college Several Huguenot houses remain

New Philadelphia. **1** City (pop 12,328), co seat of Tuscarawas co , E central Ohio, on the Tuscarawas river and S of Canton, in a coal and clay area, founded 1804, inc 1833 Enamelware, clay products, and steel are made here Near by is Schoenbrunn Memorial State Park **2** Borough (pop. 2,453), E Pa , near Pottsville, inc 1808. Anthracite mining is done here

New Plymouth, borough (pop 18,558; metropolitan pop 20,642), on W North Island, New Zealand, at the base of Mt. Egmont NNW of Wellington There are dairy plants and an iron foundry, near by is an oil field

New Pomerania, Bismarck Archipelago: see NEW BRITAIN

Newport, Christopher, 1565?–1617, English mariner, commander of early voyages to Virginia He served in Drake's Cádiz expedition (1587), commanded a privateering expedition to the West Indies (1592), and returned to England with the Spanish vessel *Madre de Dios*, the richest prize ever taken by the Elizabethan privateers He was employed by the London Company to command their expeditions to Virginia On the first voyage he sailed from England with Capt John Smith and other colonists on Dec 20, 1606, and arrived near the site of Jamestown on May 13, 1607 He returned to England on July 29 and sailed again for the colony Oct 8, with the "first supply" of emigrants and provisions, reaching Jamestown on Jan 2, 1608, to find the colonists greatly reduced and in dissension He brought the "second supply" from England (Aug , 1608–Jan , 1609) and explored the country beyond the falls of the James river On his fourth voyage from England (1609), Newport was wrecked on the Bermudas with Sir Thomas Gates and Sir George Somers and did not reach Virginia until May, 1610 In 1611 he made his last voyage to the colony, bringing out Sir Thomas Dale In his later years Newport made three voyages for the East India Company, dying at Bantam, in present Indonesia, on the last See William Strachey, *The Historie of Travaile into Virginia Britannia* (1849), Edward Arber and A G Bradley, ed , *Travels and Works of Captain John Smith* (1910)

Newport. **1** Municipal borough (1931 pop 11,322, 1943 estimated pop 19,970), capital of the Isle of Wight, England, near the center of the isle and on the Medina river It occupies a very old site, possibly of a Roman station Its grammar school was built in 1612 A prison and barracks are near the town **2** County borough (1931 pop 89,203, 1947 estimated pop 102,090), Monmouthshire, England, on the Usk 4 mi above its junction with the Severn Newport has extensive docks and is one of the chief coal and iron exporting points in Great Britain It makes aircraft and has manufactures of tin plate, iron, steel, copper, and other metal goods In 1839 it was the scene of Chartist riots The Church of St Woolos, partly Norman, was made the procathedral of Monmouth diocese in 1921 It stands on Stow Hill, above the town **3** Urban district (pop 3,437), Shropshire, England, E of Shrewsbury

Newport **1** City (pop 4,321), co seat of Jackson co , NE Ark , on the White River near its junction with the Black, settled c 1873 A railroad and trade center, it is noted for pecans and button blanks, which are made from mussel shells found in the vicinity **2** City (pop 30,631), co seat of Campbell co , N Ky , on the Ohio opposite Cincinnati and on the east bank of the Licking opposite Covington, laid out 1791, inc as a village 1795, as a city 1835 Clifton was annexed in 1935 Newport is a residential and industrial city, with metal manufactures Near by is FORT THOMAS **3** Town (pop 2,052), S central Maine, settled 1808, inc 1814 Its center is a commercial village and fishing resort on Sebasticook Lake W of Bangor **4** Town (pop 5,304), co seat of Sullivan co , SW N H , on the Sugar and E of Claremont, inc 1761 Sarah Josepha Hale was born here Shoes and woolen goods are manufactured **5** City (pop 2,019), W Oregon, a port of entry on Yaquina Bay, W of Corvallis, settled c 1855, inc 1891 It is a resort, with excellent fishing **6** Borough (pop 1,897), S Pa , on the Juniata and NW of Harrisburg, settled 1789, laid out 1814, inc 1840 It produces leather goods, mechanics' tools, and limestone **7** City (pop 30,532), co seat of Newport co , on SW Rhode Island, SE R I William CODDINGTON and others came here in 1639 Newport and Portsmouth, united in 1640, entered a permanent federation with Providence and Warwick in 1654 Shipbuilding, dating from 1646, and foreign commerce, especially the "triangular trade" in rum, Negro slaves, and molasses, brought prosperity to the village The Revolution temporarily ruined Newport's economic position the British occupied the town, 1776–79, most of the citizens moved away, and many buildings were destroyed Survivors are Trinity Church (1726, Episcopal), the Sabbatarian Church (1729), the Touro Synagogue (oldest in the country, built in 1763 from Peter Harrison's designs, and since 1946 a national historic site), the Redwood Library (founded 1747, also designed by Harrison), the brick market house or city hall (1760, also Harrison's work), and the old colony house or statehouse (1739, designed by Richard Munday) The Old Stone Mill, in Touro Park, is believed by some to have been a gristmill owned by Benedict Arnold, 17th-century colonial governor, by others to be a Norse relic Newport harbored refugees of various groups Friends and Jews first arrived in the 1650s, and the Seventh-Day Baptists organized a church here in 1671 Jewish merchants contributed greatly to Newport's pre-Revolutionary prosperity Newport was chartered as a city in 1784, but from 1787 to 1853 was returned to town status Until 1900 it was joint capital with Providence In the 19th cent the city developed as a fashionable resort of the very wealthy Polo, tennis, boating, and other meets are held here It is a port of entry. Government works in the vicinity include Fort Adams (closed as a U.S army defense bastion in 1950), a torpedo station, the naval training station and naval war college fostered by Stephen B Luce, a naval radio station, a naval hospital, and a coast guard station The historic ship *Constellation* is used for training purposes Newport suffered severely in the 1938 hurricane **8** Town (pop. 3,575), co seat of Cocke co., E Tenn , on the Pigeon river and E of Knoxville, in a farm and timber area Near by are the John Sevier Preserve and Great Smoky Mountains National Park **9** City (pop 4,902), co seat of Orleans co , N Vt , resort, trade center, and port of entry on Lake Memphremagog, settled 1793, chartered 1803, inc 1917 To the west lies Newport town (pop 1,064), which includes the village Newport Center The city has long been important as a gateway between Canada and the United States **10** Lumber town (pop 1,174), co seat of Pend Oreille co , NE Wash , on the Clark Fork at the Idaho border, settled c 1885, inc 1903

Newport Beach, resort city (1940 pop 4,438, 1948 special census pop 10,994), S Calif , SE of Long Beach and on landlocked Newport Bay, inc 1906

Newport News, city (pop 37,067), SE Va , one of the ports of HAMPTON ROADS, with a large harbor at the mouth of the James, settled 1611 and 1621 by Irish colonists, inc 1896 The importance of the city dates from 1880, when it was selected as the terminus of the Chesapeake & Ohio Railway In 1886 its great shipbuilding industry was begun Today it has one of the largest dry docks and one of the largest shipbuilding plants in the world and is a busy import and export center It is the seat of the state school for colored deaf and blind children The town has a World War museum, and near by is the Mariners Museum (1930)

New Prague (prāg), city (pop 1,645), SE Minn , SSW of Minneapolis, in a diversified farm region, settled by Bohemians, inc as a village 1877, as a city 1891

New Providence, borough (pop 2,374), NE N J , WSW of Newark, settled c 1720, called Turkey till 1778, inc. 1899 It is a center of horticulture.

New Providence see BAHAMA ISLANDS

Newquay (nū'kē), urban district (1941 pop 5,959, 1943 estimated pop 8,500), Cornwall, England It is a seaport and resort and exports kaolin and stone

New Red sandstone, name for the thick red layer of the TRIASSIC formation in Great Britain It does not have the threefold division of the Triassic in Germany It is many thousands of feet thick and is composed chiefly of red sandstones, clays, and conglomerate, the red color and the occurrence of workable quantities of salt and gypsum suggest markedly arid conditions at the time of deposition

New Richmond. **1** Village (pop 1,767), SW Ohio, on the Ohio river and SE of Cincinnati, founded 1816 Woolen yarns are made here Point Pleasant, to the south, is the birthplace of Ulysses S Grant **2** City (pop 2,388), W Wis , NE of St Paul, Minn , inc 1885

New River, rising in W North Carolina and flowing NE and N through SW Virginia into West Virginia, where at Gauley Bridge it joins the Gauley river to form the Kanawha The Bluestone Dam (2,062 ft long and 165 ft high), for flood control, built between 1940 and 1948, is near Hinton, W Va

New Roads, town (pop 2 255), parish seat of Pointe Coupee parish, S central La , near the Mississippi above Baton Rouge, on the shore of an oxbow lake. It is a cotton and fishing town

New Rochelle (rōshĕl'), city (pop 58,408), SE N Y , in Westchester co , on Long Island Sound and E of Mt Vernon, settled 1688 by Huguenots, inc as a village 1858, as a city 1899 Plumbing and heating supplies and surgical dressings are made here The harbor is a center of yachting and fishing The house where Thomas Paine lived is used by the Huguenot and Historical Association of New Rochelle, and a memorial (1925) to Paine contains a number of his effects The College of New Rochelle (Catholic, for women, 1904) is here

New Rockford, city (pop 2,017), co seat of Eddy co , E central N Dak , on the James river and NNW of Jamestown, in a dairy and poultry region, inc 1912

New Rocky Comfort, town (pop 1,007), SW Ark , S of De Queen Its post office is Foreman.

New Romney, Kent, England see ROMNEY

New Ross, urban district (pop 4,898), Co Wexford, Ireland, on the Barrow below the junction of the Nore, in a farming region Traditionally the town was founded by Strongbow's daughter, it was once fortified The suburb Rosborcon was the seat of a 13th-century abbey

Newry, urban district (pop. 12,746), mostly in Co Down, but extending into Co Armagh, Northern Ireland, on the Newry river and SW of Belfast It has canal connection with Carlingford Lough, the Bann river, and Lough Neagh It is a seaport with linen mills and tobacco processing and varied manufactures In the 12th cent. Maurice MacLoughlin, king of Ireland, founded an abbey here, around which the town grew; the abbey became in 1543 a collegiate church of secular priests and was later dissolved. The town's castle was taken by

Edward Bruce in the 14th cent The duke of Berwick burned part of Newry in his retreat before the forces of Schomberg Newry is the seat of the Roman Catholic bishop of Dromore

news agency, local, national, international, or technical agency which gathers and distributes news As early as the 1820s a news agency, the Association of Morning Newspapers, was organized in New York city for the purpose of gathering incoming news from Europe Other local news agencies sprang up, and by 1856 the General News Association—which included in its membership many important New York city papers—was organized Out of this agency the New York Associated Press, a cooperative news agency for the New York papers which sold copy to daily publications throughout the country, was established in the 1870s, and a rival organization, the United Press, was founded in 1882 Ten years later these organizations merged their interests, but the same year the Associated Press of Illinois was founded After the Associated Press of Illinois secured exclusive contracts for news exchange with the three major news agencies of Europe—Agence Havas of Paris (dating from 1835), the Reuter Telegram Company of London (dating from 1851 and known simply as Reuters), and the Continental Telegraphen Compagnie of Berlin (dating from the late 1830s and commonly called the Wolff Agency)—the United Press went under in 1897 In 1900 the Associated Press, desiring the right to restrict its membership, reincorporated in New York state In 1906 William Randolph Hearst founded the International News Service In 1907 the United Press Associations, almost universally called United Press though there was no connection with the earlier organization, became the news agency for the Scripps-Howard newspapers and sold its news to other papers These major American news agencies, the AP, the UP, and the INS, enlarged their facilities and their scope of operations throughout the years, but then treatment of news has tended toward uniformity For the gathering of news the agencies have depended on exchange agreements and on their own reporters, while the transmission of news to member publishers is done primarily by way of teletype While the news agencies in the United States are in no way linked with the government, most of the European news agencies are either controlled or subsidized by their governments In the USSR the central news agency, Tass, is an organ of the Communist party See Kent Cooper, *Barriers Down* (1942).

New Salem, former town, Menard co, central Ill, NW of Springfield and on the Sangamon river Lincoln's home was here from 1831 to 1837 The site is now a state park, the buildings which were here in Lincoln's day have been restored so that the town appears as it did then It was settled in 1828 and shortly thereafter had a population of about 100, but decline was rapid after 1839 as near-by Petersburg grew Among the old places restored are the Rutledge Tavern, Denton Offut's store, and the Lincoln-Berry store A small museum houses pioneer relics See T P Reep, *Lincoln at New Salem* (2d ed, 1927)

New Sarum, Wiltshire, England see SALISBURY

New School for Social Research, in New York city, nonsectarian, coeducational, chartered and opened 1919 for adult education The founders included Charles A Beard, John Dewey, James Harvey Robinson, and Thorstein Veblen The school has a graduate faculty of political and social science formerly known as the University in Exile, an institute of world affairs, schools of philosophy and liberal arts and politics, the Center of Near East Civilization, and a dramatic workshop Alvin S. Johnson was director from 1923 to 1945

New Sharon (shā'run, shăr'-), town (pop 1,214), SE Iowa, N of Oskaloosa, settled by Quakers

New Shoreham, RI see BLOCK ISLAND

New Siberian Islands, Rus *Novo-Sibirskiye Ostrova* (nô"vu sēbēr'skēu ŭstruva'), archipelago, area 11,000 sq mi, between the Laptev and East Siberian seas of the Arctic Ocean, belonging to the Yakut Autonomous SSR, RSFSR The central group of islands, also called the New Siberian Islands or Anjou Islands, has an area of 8,200 sq mi and includes Kotelny Island, Faddei Island, Novaya Sibir Island, and other smaller islands The sparsely settled New Siberian Islands, perpetually almost covered with ice and snow and with only a scanty tundra, were discovered (1773) by Lyakhov, a Russian merchant The archipelago is also considered to include the Lyakhov Islands, separated from the Anjou group by Sannikov Strait, as well as the De Long Islands Mammoth fossils have been found on the islands, which were often visited by Siberian fur and ivory hunters

New Smyrna Beach (smûr'nu), city (pop 4,402), NE Fla, S of Daytona Beach, at the southern end of Halifax River (a lagoon) It is a coast resort and fishing, shrimping, citrus-fruit-packing, and railroad center On the site of an Indian village called Caparaca, a Spanish Franciscan mission was established here in 1696, the ruins are extant In 1767 Andrew Turnbull, a Scottish doctor, recolonized the place with some 1,500 Minorcans, Greeks, and Italians, indigo was grown and shipped to England The colony was abandoned in 1776 and was not resettled until c 1803 There are ruins of an old fort of unknown origin and an Indian turtle mound made of shells

New South Wales, state (309,433 sq mi, pop 2,985,464), SE Australia It was in 1901 federated into the commonwealth Sydney is the capital The Pacific is on the east, Tasman Sea on the southeast, Victoria on the south, South Australia on the west, and Queensland on the north The area was first visited in 1770 by Capt James Cook, who proclaimed British sovereignty over the east coast of Australia Sydney, the first Australian settlement, founded in 1788 as a penal colony, became the capital of the original British colony which included Tasmania, South Australia, Victoria, Queensland, the Northern Territory, and New Zealand These territories were separated (1825–63) from New South Wales The Australian Capital Territory (site of Canberra, the federal capital) was ceded in 1911 to the commonwealth, the territory in the Jervis Bay area also being ceded in 1915 Being in the temperate zone, New South Wales has a generally favorable climate During part of the year there is snow on Mt Kosciusko (highest peak of Australia) in the Australian Alps The Murray, which forms the greater part of the southern border, and its principal tributaries (the Darling the Murrumbidgee with the tributary Lachlan) are important for extensive irrigation projects Since 1797, when the Merino sheep was introduced, wool has become an increasingly valuable export Wheat and dairy products are also important, and millions of tons of coal are mined annually The rich mineral resources include gold, iron, copper, silver, lead, and zinc There are a few opal mines in the west central area Tropical fruits and sugar cane are grown in the northeast Besides Sydney, the principal centers are Newcastle on Port Hunter, Lismore, Wollongong, and Broken Hill (chief center of silver-lead mining)

New Spain, Spanish viceroyalty in North America, created in 1535 under Antonio de MENDOZA From it the republic of Mexico is politically descended The territory to which the term was applied in colonial times varied greatly It first was used by Grijalva to designate the Yucatan peninsula (1518), Cortés applied it to his early conquest, and at one time it included generically practically all the Spanish possessions in North America Although New Spain early embraced Central America, this area soon came to be called the kingdom of Guatemala, and in 1549 a boundary was established between Guatemala and New Spain which made Guatemala practically independent The northern boundaries were very indefinite Not until 1670 did Spain recognize any counterclaims in North America In that year the Savannah river was made the boundary between the English colony of Georgia and Spanish Florida Florida and Louisiana (which was ceded to Spain by France in 1762 and remained Spanish until just before the LOUISIANA PURCHASE) were governed by the captaincy general of Havana and were not properly part of New Spain, although they were subject, as was Guatemala, to the viceroy of New Spain in matters of general policy and defense In Texas the boundary line varied with the efforts to extend Spanish influence eastward, and in New Mexico the area included Taos Although the Pacific coast was not occupied north of the peninsula of Lower California until the middle of the 18th cent, some of the coast had been explored much earlier Spanish retrogression began with the loss of Nootka (1790) and continued with the losses of Texas (1836) and Arizona, New Mexico, California, Colorado, Nevada, Utah, and part of Wyoming (1848–53) For the history of New Spain from 1535 to 1821, see MEXICO

newspaper, publication issued periodically, usually daily or weekly, to convey news It now frequently advocates opinions, often contains advertisements, and prints matters of public interest The earliest recorded effort to inform the public of current events was the Roman *Acta diurna*, instituted by Julius Caesar and posted daily in public places China's oldest newspaper, in Peking (Peiping), began in the 8th cent In the 15th cent, manuscript newssheets were issued in several German cities In 1556 the Venetian government posted the *Notizie scritte*, for which readers paid a small fee (*gazetta*) It became so popular that it was finally printed Early English journalism consisted chiefly in newsletters written by professional letter writers, of whom Thomas Archer and Nathaniel Butter were best known The first English publication that resembled the modern newspaper was Butter's *Weekly Newes*, begun in 1622, because of difficulties with the censor it ceased in 1641 The London *Gazette*, founded (1665) in Oxford, is still published as a court journal The first daily paper in England was the *Daily Courant* (1702) In the 18th cent many journals of opinion of high literary caliber were published—the *Review* (1704–13) of Daniel DEFOE, the *Examiner*, which Jonathan SWIFT edited (1710–11), and the *Tatler* (1709–11) and the *Spectator* (1711–12) of Joseph ADDISON and Richard STEELE John WILKES waged a successful battle for greater freedom for newspapers, and in the 19th cent English newspapers began to reach the masses (see COBBETT, WILLIAM, and HUNT, LEIGH) Of several present-day London papers which began in the 18th cent *The Times* is internationally known It was founded (1785) by John Walter, renamed (1788) *The Times*, and published many years by his descendants John T Delane edited *The Times* from 1841 to 1877 Other London newspapers are the *Daily Express*, the *Daily Graphic*, the *Daily Herald*, the *Daily Mirror*, the *Daily Telegraph and Morning Post*, the *Daily Worker*, the *News Chronicle*, and the *Star* Of English provincial newspapers the most famous is the Manchester *Guardian*, founded in 1821, internationally known as a journal of honesty and independence, it has included on its staff such men as C P Scott, C E Montague, George Saintsbury, and Laurence Housman The Yorkshire *Post* and the Glasgow *Herald* are also influential On the Continent, one of the earliest newspapers to be printed, *Aviso Relation oder Zeitung*, appeared in Germany in 1609 The *Nieuwe Tydingen* was published in Antwerp in 1616 The first French newspaper was the *Gazette*, later the *Gazette de France*, founded in 1631 French newspapers of today include the *Aube*, the *Aurore-France libre*, *Combat*, the *Figaro*, *France-Soir*, the *Humanité*, *Paris-Presse*, and the *Populaire* Prominent newspapers of contemporary Germany are the *Tagesspiegel* of Berlin, the *Welt* of Hamburg, *Rheinische Merkur* of Coblenz, and the *Frankfurter Rundschau* Other well-known European newspapers include the *Irish Independent* (Dublin), the *Popolo* (Rome), the *Osservatore Romano* (Vatican), and *Neue zuercher Zeitung* (Zurich) In the USSR, *Pravda* is the daily newspaper of the Russian Communist party American newspapers have had a shorter history than those of many European countries, but with more political freedom they developed far more quickly A single number of a newssheet, *Publick Occurrences*, was issued in Boston in 1690, but it was suppressed by royal authority In 1704 appeared John Campbell's Boston *News-Letter*, which endured until 1776 The next newspaper was the Boston *Gazette*, followed by an opposition paper, the *New England Courant* (1721), founded by James Franklin His brother, Benjamin Franklin, founded (1728) the *Pennsylvania Gazette* Other colonial papers were the *American Weekly Mercury*, Philadelphia, the New York *Gazette*, the New York *Weekly Journal*, and the *Maryland Gazette* The first American daily paper, the *Pennsylvania Packet and Daily Advertiser*, appeared in Philadelphia on Sept 21, 1784 In the *Independent Journal* of New York the famous Federalist essays first appeared Two opposing political organs were Alexander Hamilton's *Gazette of the United States*, edited by John Fenno, and Thomas Jefferson's *National Gazette*, edited by Philip FRENEAU The first New York daily newspaper was the *Minerva*, in 1793, with Noah Webster as its first editor, it later became the *Globe and Commercial Advertiser* and lasted into the 20th cent The New York *Evening Post* was established in 1801 and is the oldest American newspaper having a continuous daily publication, William Cullen BRYANT was long its editor The most famous organ of the abolitionists was William Lloyd Garrison's *Liberator* The Boston *Evening Transcript* was published daily for over a century from 1830 to 1941 Other American newspapers which have had long histories are the Springfield (Mass) *Republican* (1824) and the Boston *Herald* (1846) The New York *Sun* (1833) achieved national fame under Charles A DANA, the New York *Herald*, started (1835) by James Gordon BENNETT and continued by his son, was famous for its foreign news A Paris edition of the *Herald* was later established Horace GREELEY, perhaps the best-known figure in American journalism, was proprietor and editor of the New York *Tribune* from its founding in 1841 until 1872 The *Tribune*, a Whig and later a Republican organ, was very influential in the Civil War period The New York *Times* was founded (1851) by Henry J Raymond, and under the supervision of Adolph S OCHS it achieved world-wide coverage and audience, which it maintains in 1950 From 1883 to 1931 one of the most influential New York newspapers was the New York *World*, which attained importance after its purchase by Joseph PULITZER Other important American newspapers include the Providence *Journal*, the Baltimore *Sun*, the Washington *Post*, the Brooklyn *Eagle*, the Cleveland *Plain Dealer*, the St Louis *Post-Dispatch*, the Chicago *Tribune*, the Chicago *Sun-Times*, the Des Moines *Register*, the Kansas City *Star*, the Atlanta *Constitution*, the Los Angeles *Times*, the San Francisco *Chronicle*, the *Christian Science Monitor*, the Dallas *News*, the Philadelphia *Inquirer*, the Philadelphia *Bulletin*, the Richmond *News Leader*, the Denver *Post*, the New Orleans *Times-Picayune*, and the Louisville *Courier-Journal* There are many foreign-language papers, published mostly in urban areas of America, e g, the *Jewish Daily Forward*

in New York city and the *Deutsche Zeitung* in Milwaukee. A few trades publish newspapers (e g., *Variety*), and there are others devoted only to finance, such as the *Wall Street Journal*. Most of the larger universities issue newspapers for their students In recent years labor-union newspapers have increased in number Canadian newspapers include the Montreal *Gazette*, the Winnipeg *Free Press*, and the Toronto *Star* In the 20th cent there have been many newspaper consolidations in both England and America In England large newspaper chains were built up by Lord Northcliffe and Lord Beaverbrook One of the largest chains in the United States is the Scripps-Howard syndicate, which bought up papers in all parts of the country and by a consolidation brought into being (1950) the New York *World-Telegram and the Sun* Another vast chain is that controlled by William Randolph HEARST Frank A MUNSEY also made many consolidations Although the illustrated daily paper has been popular for many years in England, in the United States the smaller-sized tabloid paper, consisting largely of illustrations, is a fairly recent development While the great city newspapers are read all over the country, small towns and rural districts usually have local papers which may be daily or weekly and which are usually made up largely of syndicated matter with about one page of local news and editorials of local interest These local papers are frequently organs of a political party and often wield great influence The typical American newspaper has its most important foreign and domestic news on the front page, with that of first importance on the right-hand column The editorials are usually on one of the middle pages, followed by sports news and classified advertising Other features of the modern paper are obituary notices, dramatic criticism, book reviews, a woman's page, and often some of the features of the PERIODICAL Peculiar to the American newspaper is the comment on current events of the newspaper COLUMNIST The news collecting, writing, editing, printing, distribution, and financial management are a gigantic, elaborately organized industry The invention of the telegraph enormously facilitated the rapid gathering of news, and the great news agencies, such as the Reuters agency in England, the Havas agency in France, and the Associated Press in the United States, sell their services to newspapers or distribute news among their associate members (see NEWS AGENCY) The improvements in typesetting (e g , the LINOTYPE) and in PRINTING, especially the web press, have made possible the publication of huge editions at great speed Modern newspapers are supported mainly by their advertising, since they are sold for only a small fraction of the cost of production To what extent the editorial policy of a paper is affected by the interests of its advertisers has been a subject of frequent discussion Ethics of JOURNALISM in America supposedly preclude the coloring of the news columns, either by the political bias of the proprietor or by the interests of the advertisers The influence of newspapers on public thinking, while very important, has probably been lessened by such other agencies of mass communication as the radio and the moving picture For discussion of newspaper censorship, see PRESS, FREEDOM OF THE See W G Bleyer, *Main Currents in the History of American Journalism* (1927); A M Lee, *The Daily Newspaper in America* (1937), H B Hough, *Country Editor* (1940); F L Mott, *American Journalism* (1942), Ignaz Rothenberg, *The Newspaper* (1946), Francis Williams, *Press, Parliament and People* (1946), R E Wolseley and L R Campbell, *Exploring Journalism* (2d ed , 1949)

newsreel see MOVING PICTURES

Newstead Abbey (nū'stĭd, -stēd), Nottinghamshire, England, on the border of Sherwood Forest, founded in 1170 by Henry II in atonement for the murder of Thomas à Becket It was secularized and granted to Sir John Byron by Henry VIII The poet Byron succeeded to the estate in 1798, after his final departure from England (1816), he sold the property. His rooms are preserved as he left them

New Stone Age: see NEOLITHIC PERIOD

New Straitsville, village (pop 1,473), S central Ohio, S of New Lexington, in an extensive coal area, founded 1870 by a mining company, inc 1871 A mine fire, burning since 1884, was stopped from spreading when the Federal government built (1936–39) barrier tunnels.

New Style dates. see CALENDAR

New Sweden, Swedish colony (1638–55), on the Delaware river, including parts of present Pennsylvania, New Jersey, and Delaware. With the support of Axel Oxenstierna, Admiral Klas Fleming (who was a Finn), and Peter Minuit, the New Sweden Company was organized in Sweden in 1637 Two ships, the *Kalmar Nyckel* and the *Fogel Grip*, commanded by Minuit, reached the Delaware river in March, 1638 Minuit immediately bought land from the Indians and founded Fort Cristina (or Christina), where Wilmington now stands In 1643 TINICUM ISLAND was made the capital About half the colonists were Finns, since Finland was then part of Sweden Later governors of New Sweden were Johan Bjornsson PRINTZ (1643–53) and Johan Rising (1654–55). Peter STUYVESANT with Dutch soldiers more numerous than the population of New Sweden (c 300) took the little colony (1655) Swedish log houses—possibly the first in what became the American pattern—were built until the 18th cent , while several Swedish churches remain See Amandus Johnson, *The Swedish Settlements on the Delaware, 1638–1664* (1911); J H Wuorinen, *The Finns on the Delaware, 1638–1655* (1938)

newt, name of certain tailed amphibian animals smaller than the closely related salamander. The common spotted newt, called also pond newt and red eft, so often seen in woods especially after rain is found over the eastern half of the United States and in parts of the West and Canada During its two or three years on land it is a slender brick or orange-red creature, 1 to 2 in long, with a row of black-ringed vermilion spots along each side of the upper part Underneath it is paler and spotted with black In winter it hibernates under the leaves When mature it lives in the water but must rise to the surface for air During this stage it is about 3½ in long, olive green above and spotted as in the land stage and yellow underneath The eggs are laid in spring, singly, and are attached to water plants The gill-breathing greenish-brown larvae remain in the water for several months before emerging as the red, lung-breathing, terrestrial creatures

New Territories see HONG KONG

New Testament, the distinctively Christian portion of the BIBLE, consisting of 27 books of varying length dating from the earliest Christian period The works are, in the conventional order four biographies of Jesus called Gospels (see GOSPEL), namely, MATTHEW, MARK, LUKE, and JOHN, a history of apostolic missionary activity, the ACTS OF THE APOSTLES, 21 letters of apostolic times, called epistles, named for their addressee or, in the case of the last seven, for their author, ROMANS, 1 and 2 CORINTHIANS, GALATIANS, EPHESIANS, PHILIPPIANS, COLOSSIANS, 1 and 2 THESSALONIANS, 1 and 2 TIMOTHY, TITUS, PHILEMON, HEBREWS, JAMES, 1 and 2 PETER, 1, 2, and 3 JOHN, and JUDE, and finally a prophecy, the REVELATION or Apocalypse The books were not written in the same time or place, and each presents its peculiar problem of date, composition, and, in some cases, authorship The 27 books of the New Testament represent a portion only of PATRISTIC LITERATURE, and there are other gospels, epistles, narratives, and prophecies, especially among the PSEUDEPIGRAPHA The selection by the Church of these books as being alone of divine inspiration took place slowly for some books, but by the latter half of the 4th cent there was universal agreement among Christians on the present list There had never been doubt about most of the books, but seven (Hebrews, James, 2 Peter, 2 and 3 John, Jude, Revelation) were subject to discussion for a century or two Other books considered canonical by many but finally rejected were the epistles of St IGNATIUS and St CLEMENT and the Shepherd of HERMAS These books are genuine, but not accepted as inspired—canonicity is regarded in Christendom as a guarantee of divine inspiration, not as an authentication of a particular human authorship In the Reformation there was questioning of the New Testament canon, notably by Luther, who would reject especially James, because of its disagreement with the Lutheran tenet of justification by faith alone All major Christian churches use the same New Testament See E F Scott, *The Literature of the New Testament* (1932), Kirsopp Lake and Silva Lake, *An Introduction to the New Testament* (1937), Henry Schumacher, *Social Message of the New Testament* (1937)

New Thought, popular philosophical movement with religious implications which affirms "the creative power of constructive thinking." It grew out of the healing practices of P P Quimby and the "mental science" of W F Evans, a Swedenborgian minister From being primarily interested in the healing of disease, it developed into an intensely individualistic and optimistic philosophy of life and conduct The name New Thought was adopted in the 1890s to indicate this broader interest Annual national conventions were held from 1894, and in 1914 was formed the International New Thought Alliance, with branches in England, Australia, and elsewhere Composed of many smaller groups, such as Divine Science, UNITY (until 1922), Home of Truth, and others, the alliance is held together by one central teaching, namely that man is spirit or mind and that through the constructive use of his mind he can attain freedom, power, health, prosperity, and all good, through his thought he can mold his body as well as the circumstances of his life. This teaching was widely popularized by writers like Ella Wheeler Wilcox and O S Marden. Individual New Thought leaders, possessing complete freedom of speculation, have drawn heavily upon the writings of Ralph Waldo Emerson and have added ideas from the Vedanta philosophy and from every variety of idealistic, spiritualistic, pantheistic, cabalistic, and theosophical thought, as well as from Christianity, with frequent overtones of the mystical, occult, and miraculous, including such ancient beliefs as reincarnation and such modern theories as extrasensory perception Unlike CHRISTIAN SCIENCE, New Thought does not deny the existence of matter, matter is simply the expression of mind. Since man's mind is identical with divine mind or spirit, man partakes of the omniscience and omnipotence of God or the "Supreme One," who pervades the universe as life, intelligence, and energy and reaches his highest expression in man, to whom he reveals man's divinity It is only necessary for man to "recognize" or become conscious of the truth that God dwells within him and to obey the voice of this "Indwelling Presence" to obtain everything that his heart desires By prayer he can lift his conscious mind to come in touch with universal mind Followers of New Thought meet in numerous local "centers" or churches for instruction, prayer, and meditation See R W Trine, *In Tune with the Infinite* (1897), Thomas Troward, *Edinburgh Lectures on Mental Science* (1909), H W Dresser, *A History of the New Thought Movement* (1919), Emmet Fox, *The Sermon on the Mount* (1934)

Newton, Alfred, 1829–1907, English ornithologist and animal geographer, b Geneva He was the first (1866) to occupy the chair of zoology and comparative anatomy at Cambridge The Royal Society, London, later awarded him the Royal Medal He wrote *Zoology of Ancient Europe* (1862), *Ootheca Wolleyana* (1864), *Zoology* (1874), and *Dictionary of Birds* (1893–96) and compiled a list of the birds of Jamaica

Newton, Sir Charles Thomas, 1816–94, English archaeologist An assistant (1840–52) in the antiquities department of the British Museum, he entered (1852) the consular service with the object of exploring the coasts and islands of Asia Minor He made important discoveries at Cnidus and Didyma, near Miletus, and at Budrum he identified the site of Halicarnassus and recovered (1856–57) the fragments of the famous mausoleum He described his results in *A History of Discoveries at Halicarnassus* (with R P Pullan, 1862–63) and in *Travels and Discoveries in the Levant* (1865) As keeper (1861–85) of Greek and Roman antiquities at the British Museum, he secured noted collections of gems and sculptures He was Yates professor of classical archaeology (1880–87) at University College, London, and was knighted in 1887 He wrote *Essays on Art and Archaeology* (1880)

Newton, Gilbert Stuart, 1794–1835, English genre and portrait painter, b Halifax, N S , studied in Boston under his uncle, Gilbert Stuart, and later at the Royal Academy schools London He was greatly influenced by the 17th-century Dutch masters He was elected to the Royal Academy of Arts in 1832 His last two years were spent in a mental hospital Good examples of his art are *Yorick and the Grisette* and *The Window* (National Gall , London), *Portia and Bassanio* (Victoria and Albert Mus), *Deserted* (Metropolitan Mus), *The Dull Lecture* (N Y Public Library), *The Lute Players* (N Y Historical Society), and portraits of Washington Irving, Thomas Moore, and Walter Scott

Newton, Hubert Anson, 1830–96, American mathematician and astronomer, b Sherburne, N Y , grad Yale, 1850 He was professor of mathematics at Yale from 1855 His principal field in study and teaching was higher mathematics, but he is better known for his collection of statistics on comets and meteors and for his investigations of their laws and relations He was associate editor of the *American Journal of Science*. He was made an associate of the Royal Astronomical Society of London and foreign member of the Royal Philosophical Society of Edinburgh

Newton, Sir Isaac, 1642–1727, English physicist and philosopher He studied at Cambridge and was professor there from 1669 to 1701 Recognized as one of the greatest of scientists whose work profoundly influenced 18th-century thought, he made notable contributions to physics and to mathematics (especially calculus) In his experiments on light he was able to break up white light into the colors of the spectrum by means of a prism and to recombine the colors into white light. His interpretation of the nature of light combined elements of both the corpuscular theory and the wave theory. Newton was also the inventor of a reflecting telescope He is probably best known for his formulation of the law of GRAVITATION and of the laws of MOTION He represented his university in Parliament, held other official positions, and was president of the Royal Society from 1703. He is buried in Westminster Abbey For Newton's rings, see INTERFERENCE His chief writings are the *Philosophiae naturalis principia mathematica* (1687) and *Opticks* (1704) See memoir by Sir David Brewster (1855); biographies by C. D Broad (1927), Selig Brodetsky (1928), L. T. More (1934), and J. W. N. Sullivan (1938).

Newton, John, 1725–1807, English clergyman and hymn writer. Until 1755 his life was spent chiefly at sea. Then until 1760 he was surveyor of tides at

Liverpool, using his leisure for the study of Greek, Hebrew, and theology. After being ordained he became curate of Olney, Buckinghamshire, in 1764. When William COWPER made his home in the parish, friendship and literary sympathy between the two men resulted in their publishing jointly the *Olney Hymns* (1779 and later eds.). Among the best known of Newton's hymns are *How Sweet the Name of Jesus Sounds* and *Glorious Things of Thee Are Spoken*. From 1779 he was rector of St. Mary Woolnoth, London.

Newton, John, 1823–95, American brigadier general and engineer, b. Norfolk, Va., grad. West Point, 1842. He served with distinction in the Civil War and later was in charge of improving the navigability of the East River. After serving as commissioner of public works for New York city (1887–88), he became president of the Panama RR. in 1888.

Newton. **1** City (pop. 2,347), co. seat of Jasper co., SE Ill., on the Embarras river and SE of Mattoon, in a farm area, settled 1828, inc. 1831. Its manufactures include brooms, handles, boxes, and baskets. **2** City (pop. 10,462), co. seat of Jasper co., central Iowa, ENE of Des Moines, settled 1846, inc. 1857. The washing-machine industry here is important. **3** City (pop. 11,048), co. seat of Harvey co., S. central Kansas, N. of Wichita, in a wheat area, founded 1871, inc. 1872. It boomed as a cattle town (1871–73) when it was the railhead for the Chisholm Trail, it is an important railroad division point. In the early 1870s German Mennonites from Russia brought seed for what became the first hard winter (Turkey red) wheat in Kansas. Bethel College (Mennonite, coeducational, 1887) is north of the town. **4** City (pop. 69,873), E. Mass., on the Charles and W. of Boston, settled before 1640, inc. as a town 1688, as a city 1873. It comprises a large number of beautiful residential villages and several industrial villages. Radio supplies and textile and paper products are made. Horace Mann, Nathaniel Hawthorne, Mary Baker Eddy, and Samuel Francis Smith lived here. Andover Newton Theological School is at Newton Centre. **5** Town (pop. 1,800), E. central Miss., W. of Meridian, in a farm area. Clarke Memorial College (junior) is here. Near by are a U.S. school for Indians and a district junior college. **6** Town (pop. 5,533), co. seat of Sussex co., NW N.J., settled c.1760, inc. 1864. It is a dairy center. The Little Flower Monastery (Benedictine) is near here. **7** Town (pop. 5,407), co. seat of Catawba co., W. central N.C., NW of Charlotte, settled in the mid-18th cent. Its manufactures include textiles and lumber products.

Newton, Mount. see SPITSBERGEN.

Newton Abbot, urban district (1931 pop. 15,010; 1943 estimated pop. 14,640), Devonshire, England, at the junction of the Lemon with the Teign estuary. It is the market town of a farm area and has tanneries. Charles I stayed at Ford House, a Tudor mansion, and William III was proclaimed king there.

Newton Falls, village (pop. 3,120), NE Ohio, on the Mahoning and NW of Youngstown. It has steel mills.

Newton in Makerfield, urban district (1931 pop. 20,152, 1943 estimated pop. 20,560), Lancashire, England, W. of Manchester. It includes Newton-le-Willows and Earlestown and has locomotive works, paper mills, glassworks, and plants which make explosives.

New Toronto (tərŏn'tō), town (pop. 9,504), S. Ont., on Lake Ontario. It is an industrial and residential suburb W. of Toronto. Tires are made here.

Newtown. **1** Town (pop. 4,023), SW Conn., hilly, bordered on the northeast by the Housatonic, settled c.1708, inc. 1711. Its products include plastic moldings. **2** Village (pop. 1,146), SW Ohio, a suburb of Cincinnati. **3** Borough (pop. 2,009), SE Pa., NE of Philadelphia, settled 1684, laid out 1733, inc. 1838. Washington wrote a victory message to Congress here on Dec. 27, 1776.

Newtown and Llanllwchaiarn (lăn-thlōōk'ärn), urban district (pop. 5,154), Montgomeryshire, Wales, on the Severn. Newtown is a livestock and wool market, with tanneries. It is the birthplace of Robert Owen.

Newtownards (nūtŭn-ärdz'), urban district (pop. 10,546), Co. Down, Northern Ireland, near the head of Strangford Lough and E. of Belfast. Walter de Burgh founded a Dominican monastery here in 1244. The ruins of the abbey of Movilla, founded by St. Finian, are near by.

New Ulm (ŭlm), city (pop. 8,743), co. seat of Brown co., S. Minn., on the Minnesota and NW of Mankato, founded 1854 by Germans, inc. as a village 1857, as a city 1876. It is a manufacturing and farm trade center. It harbored many refugees, defended by C. E. FLANDRAU, in the Sioux outbreak of 1862. Cottonwood State Park is near.

Newville, borough (pop. 1,758), S. Pa., SW of Carlisle, laid out 1794, inc. 1817. Clothing and canned goods are produced here.

New Waterford, town (pop. 9,302), on NE Cape Breton Island, N.S., NE of Sydney. It is chiefly a mining center.

New Westminster, city (pop. 21,967), SW British Columbia, on the Fraser and just ESE of Vancouver; founded 1859 as Queensborough. It was the capital of British Columbia until Victoria was made capital after the union of British Columbia and Vancouver Island. It is a year-round port, with an excellent harbor which is the base of the Fraser river fishing fleet and a shipping point for grain, lumber, minerals, and canned goods. Among the city's industries are salmon, fruit, and vegetable canneries, foundries, oil refineries; paper, lumber, and flour mills, and meat-packing plants. Columbia and St. Louis colleges are here, as are Anglican and Roman Catholic cathedrals.

New Wilmington, borough (pop. 1,018), W. Pa., N. of New Castle, inc. 1863. It is the seat of Westminster College (United Presbyterian, coeducational, 1852).

New Windsor, Berkshire, England. see WINDSOR.

New Year's Day, observed generally as a festival. In the Gregorian calendar it is the first of January. In the Christian Church the Feast of the Circumcision occurs on that date. The Jewish New Year is the first day of Tishri, which corresponds roughly to September. The Chinese New Year (between Jan. 10 and Feb. 19 of the Gregorian calendar) is the most important festival of the year. In the Western world New Year's Eve is celebrated in merriment and, theoretically at least, in the meeting of old friends.

New York, state (47,576 sq. mi.; 1940 pop. 13,479,142, 1949 estimated pop. 14,392,000), E United States, one of the Middle Atlantic states and one of the Thirteen Colonies. ALBANY is the capital, New York city is the metropolis. It is irregular in shape and is bounded on the north by the Canadian provinces of Quebec and Ontario, the Saint Lawrence river and Lake Ontario marking the Ontario border. In the northwest the Niagara river with the magnificently scenic Niagara Falls marks the border with Ontario on the narrow strip between Lake Ontario and Lake Erie. Lake Erie itself and a tiny portion of Pennsylvania make the rest of the western border. Pennsylvania and New Jersey are to the south except where the state thrusts to the Atlantic at New York city and Long Island. To the east New York borders on Connecticut, Massachusetts, and Vermont. Lake Champlain, stretching past the Canadian border into Canada, is part of the boundary with Vermont. It is also the chief northern feature of the great valley that dominates all E New York, with the Hudson river and its tributary from the west, the Mohawk. Lake Champlain, neighboring Lake George, and the Hudson are all noted for beauty and have many resorts. To the west are the wild and rugged ADIRONDACK MOUNTAINS with their northern woods and such sports and health centers as Lake Placid and Saranac Lake. The rest of the northeastern section is hilly, sloping gradually to the valleys of the St. Lawrence and Lake Ontario. The Mohawk marks the "water-level" route to the Great Lakes and the West. Most of the southern part of the state is on the Allegheny Plateau, which rises in the southeast to the CATSKILL MOUNTAINS. The western extension of the state to Lakes Ontario and Erie is hilly land, cupping many smaller lakes, notably Lake Oneida and the celebrated FINGER LAKES. This region, too, has its resorts as well as its large industrial cities, notably BUFFALO on Lake Erie, ROCHESTER, and smaller JAMESTOWN, while farther to the east lie SYRACUSE and BINGHAMTON. The western section is drained by the Allegheny and rivers of the Susquehanna and Delaware systems. The lower Mohawk and the Hudson also have notable industrial cities, SCHENECTADY, Albany, and New York are prominent, but most of the river towns have smaller factories and handle manufactured goods as well as the products of the rich soil. Except in the mountain regions, the areas between the cities are rich agriculturally. The Great Lakes region has apple orchards and vineyards, and other areas yield diverse crops, especially grains, truck, hay, and potatoes (grown in great quantity on E. Long Island). The farmers of New York constitute an important element of the population of the state, making the backbone of conservative "upstate" as opposed to metropolitan New York city and, to a lesser degree, the other industrial cities. The state has some mineral resources (natural gas, oil, lead, zinc, salt, limestone, gypsum, and cement) but most of the great industries depend on importation of raw materials. With the intensive manufacturing development goes the development of transport; there is a complex system of highways (which never seem sufficient to the weekend traveler) and railroads. The rivers also carry much freight, though their importance has sunk somewhat, and the canal system of the Barge Canal is still of great value, though it is not of the prime importance that it boasted in the days of the Erie Canal. Industrial products show the whole range of modern manufacture, mostly in finished goods, from heavy machines to notions, with many specialties such as wearing apparel, textiles, paper, electrical equipment (notably Schenectady), and optical instruments and cameras (Rochester). The state was first approached from two directions, westward from the sea and southward from Canada. Giovanni da VERRAZANO is said to have visited the great harbor of New York Bay, but little is known of his claims. Much later, in 1609, Samuel de CHAMPLAIN went down the lake now bearing his name and Henry HUDSON in the service of the Dutch went up the Hudson nearly to Albany. The French from Canada continued to penetrate the north and west of the state, and valiant missionaries such as St. Isaac JOGUES and the other JESUIT MARTYRS OF NORTH AMERICA tried to win the Indians to Christianity in the 17th cent. But the French, who had allied themselves with the Huron Indians, met the uncompromising hostility of the IROQUOIS CONFEDERACY which dominated all W. New York, the Canadians, therefore, remained only a threat through the colonial period to the settlements that spread up the Hudson. The Dutch early claimed the Hudson region, and the DUTCH WEST INDIA COMPANY (chartered in 1621, organized in 1624) planted their colony of NEW NETHERLAND, with its chief settlements on Manhattan (purchased according to legend for trinkets worth 24 dollars) and Albany. To forward slow colonization the Dutch established the PATROON system in 1629, and thus first set up the landholding aristocracy that was to be the hallmark of colonial New York. The little colony throve none too well under its governors, who included Peter MINUIT, Wouter VAN TWILLER, and Willem KIEFT. Minuit, in some disgust, went over to Swedish service, and the colony of NEW SWEDEN was viewed by the Dutch as an intrusion. The last and most able of the Dutch administrators, Peter STUYVESANT, captured New Sweden and made it Dutch in 1655. Stuyvesant also reorganized the insecure little colony of New Amsterdam, making himself very unpopular by his high-handed ways as he did so. He was unable to meet the threat of the English, who had been penetrating Long Island and the southeastern part of New York ever since Lion GARDINER came in 1639. The English, claiming the whole region on the basis of the explorations of John CABOT, made good their claim in the Second Dutch War. In 1664 an English fleet sailed into the harbor of New Amsterdam (now New York city) and forced Stuyvesant to capitulate. New Netherland then became the colony of New York, which was granted by King Charles II to his brother, the duke of York (later James II). Except for brief recapture (1673–74) by the Dutch, it was to remain English to the American Revolution. Richard NICOLLS was the first English administrator, and transition from Dutch rule was made peacefully, with the Dutch settlers sharing in the limited self-government that was established under the Duke's Laws. After the parlous early days of the colony the popular governor Thomas DONGAN in his administration (1683–88) established New York on a firm basis and also set about establishing the alliance of the English with the Iroquois, which was to play so important a part in New York history. The attempt to combine New York and New Jersey with New England under the rule of Sir Edmund ANDROS in 1686 was a failure, and that imperious governor managed to turn almost all the colonists against him. Soon afterward the rebellious Jacob LEISLER was successful in gaining brief control of the government and putting the popular, antiaristocratic party in power (1689–90). He was put down and executed, but the rift widened between the great landholders (of whom Frederick PHILIPSE and Stephen VAN CORTLANDT were typical) and the small farmers and the mechanics, who had the increasingly powerful merchant group as their ally. The threat of the French was continuous, and New York was involved in the FRENCH AND INDIAN WARS. The friendship of Sir William JOHNSON with the Iroquois gave the British much help in the warfare and also opened a large part of central New York to settlement. The newcomers were mostly from the British Isles, though a number of Germans settled about Newburgh, most of them later moving on to Pennsylvania. Raids and counterraids of the wars and sporadic Indian massacres, however, hindered growth, and much of W. New York was still wilderness in the early 19th cent. The colonial assembly showed itself increasingly aware of its own powers exercised by control of the purse, and the trial of John Peter ZENGER established freedom of the press. The little colony, with its busy shipping, spreading farms, and small fishing fleets, was beginning to find a unity of its own, divorced from that of England. The first college was founded in New York in 1754—King's College (now COLUMBIA UNIVERSITY), and colonial society was firmly based. Self-assertiveness grew when the war with the French ended, and there was considerable objection to the restrictive commercial laws, the Navigation Acts were flouted by smuggling, which was not too much frowned upon by the merchants. When the Stamp Act was passed, New York was a leader in the opposition and the STAMP ACT CONGRESS met in New York. Against the Tory policies of Cadwallader COLDEN there was considerable complaint, and unrest grew. When trouble flared into the American Revolution, Yorkers were divided. Many, especially among the great landholders, were Loyalists. To draw a strict parallel between the social classes and the patriotic senti-

ments of the people would be misleading, for the situation was confused The first major military action in New York state was the capture of TICONDEROGA by Ethan Allen and his Green Mountain Boys and Benedict Arnold CROWN POINT was also taken In 1776, however, George Washington was unable to hold lower New York against the British under William Howe and lost the battle of Long Island (see LONG ISLAND, BATTLE OF) and the succeeding actions at Harlem Heights and White Plains The British invested New York city and held it to the war's end The state had, however, declared independence and operated with Kingston as its capital, George Clinton as its first governor, and John Jay as its first chief justice New York, was in 1777 the key in the over-all British campaign plan, which was directed toward taking the entire state and thus cutting New England from the South This failed finally in the battles near the present resort of Saratoga Springs (see SARATOGA CAMPAIGN), considered generally as the decisive action of the war The British alliance with the Iroquois was now, however, turned against the patriots Sir William JOHNSON, John BUTLER and his Rangers, and the Indians kept the frontier in turmoil The most striking incident was the wanton massacre in Cherry Valley (1778), but John SULLIVAN and James CLINTON led a successful punitive expedition in 1779 and quieted W New York For the rest of the war there was more or less of a stalemate with the British in New York city, the patriots holding most of the rest of the state, and Westchester co disputed ground The attempt of Benedict Arnold to betray West Point to the British was a failure After the war speculation in western lands (some newly acquired by quieting Massachusetts claims) and development rose to dizzying heights The HOLLAND LAND COMPANY, for example, took over the vast holdings of Robert MORRIS The eastern boundary was finally settled after long wrangles and violence by admission of VERMONT as a state in 1790 The influence of Alexander HAMILTON was paramount in bringing New York to accept the new Constitution of the United States, though other leaders, mostly from the landed aristocracy (such as John JAY and Gouverneur MORRIS) were also powerful New York city was briefly (1789–91) the capital of the new nation and was also the state capital, holding that position until 1797, when Albany became the capital Political dissension between the Federalists and the Jeffersonians was particularly keen in New York state, and Aaron BURR had much to do with swinging the state to Jefferson George Clinton and his nephew, De Witt CLINTON, were prominent in public affairs, and the old landed families, such as the DE LANCEY family and the LIVINGSTON family, retained much of their old power, while commerce (somewhat slowed by the Embargo Act of 1807) and industry, especially textile milling, were beginning to mark the turn away from the old order It was on the Hudson that Robert Fulton demonstrated his steamboat In the War of 1812 W New York saw action in 1813–14, with the British capture and American recapture of Fort NIAGARA and particularly with the brilliant naval victory of Thomas MACDONOUGH over the British at Plattsburg (Lake Champlain) The state continued its development, and that development was hastened and multiplied by the building of the Erie Canal, which made New York the chief route for westward-going immigrants and for produce coming in from the West Cities along the canal blossomed into importance—Buffalo, Utica, Syracuse, Schenectady, and Rome Albany gained, and New York city became the financial center of the country A new constitution had been drawn up in 1821, with broadened suffrage, and slavery was abolished in 1827 The trend to democracy and industrialization continued Politics were largely controlled from the '20s to the '40s by the ALBANY REGENCY, with Martin VAN BUREN as its chief figure, though that control was challenged by Thurlow WEED, W H SEWARD, and the ANTI-MASONIC PARTY The rise of the slavery issue broke the Democratic party, already hard hit by the Panic of 1837, which caused the ousting of William L MARCY Prominent among the early abolitionists were the Tappan brothers, Arthur and Lewis Seward, who succeeded Marcy as governor, was a strong antislavery man The frontier had been developing to a large extent with immigrants from New England, and in Seward's administration antirent rebellions were directed against the last of the manorial system Into New York city and to some extent out of it into the rest of the state came the great wave of immigrants, notably Irish and German. The new state constitution of 1846 broadened the suffrage further. New York sent another man to the presidency in Millard FILLMORE, and the immense political significance of New York was recognized The split of the Democrats over the slavery issue into the BARNBURNERS and the HUNKERS helped to pave the way for New York's swing to the Republicans and Abraham Lincoln in the fateful election of 1860 Despite the draft riots in New York city and the activities of Peace Democrats, New York state was almost solidly for the Union and contributed much to the Union cause in the Civil War The war made New York rich Industries producing wearing apparel, metalware, and liquor as well as plants processing sugar, meat, and other foods were well developed. Already some intellectual leadership had been attained, and wealth tended to increase the number of libraries and to center periodical and book publication more and more in New York city The newspapers had considerable national influence, notably the *Tribune* under the guidance of Horace Greeley Railroad building, well begun in the 1830s had made rapid strides, and Cornelius VANDERBILT consolidated the NEW YORK CENTRAL RAILROAD system Wall St in New York city was undisputed financial center of the nation The Empire State was justifying its nickname Political corruption was rampant in the rich state, and the activities of the Tweed Ring headed by William Marcy TWEED brought the Democrats into some disrepute, and Samuel J TILDEN won a national reputation for prosecuting it The Democrats in New York city, however, soon recovered from the blow, and the city organization Tammany Hall soon had its sway again The Republican party also had its bosses, notably Roscoe CONKLING and Thomas Collier PLATT, and the split between Democratic New York city and Republican upstate widened Chester A ARTHUR and Grover CLEVELAND went from New York to the White House The impouring of immigrants from Ireland, Italy, and the countries of Eastern Europe brought workers for the old industries which were expanding and for new ones, including the electrical and chemical, which were being built Labor conditions grew worse, but were soon challenged by the growth of unions, who fought against the sweatshops (particularly notorious in New York city) Labor legislation and social insurance plans were inaugurated and gradually advanced The violent critics of conditions, called the muckrakers, were particularly vociferous in New York in late 19th and early 20th cent It was from this fury of reform that Theodore ROOSEVELT came to the presidency, where he carried out some of the reforms on a national level A political clean-up campaign also brought Charles Evans HUGHES forward The Democrats came back to state power in 1912, and thereafter New York seesawed from one party to the other The reform programs continued to gain ground, however, and after the First World War—in which the state contributed 10 percent of the nation's fighting forces the administration of Alfred E SMITH (1918 28) saw reorganization of the state budget, institution of the state income tax in 1919 and many social welfare and labor laws These were continued under the governorship of Franklin D ROOSEVELT and Herbert H LEHMAN and were expanded to a full-scale program In 1942 the election of Thomas E DEWEY brought the Republican party back to power Social legislation was further extended and such reforms as the law against racial discrimination were adopted Dewey had the immense task of coordinating state activities with national efforts in the Second World War, which strained the great resources of the state to the utmost In 1948 the state legislature approved the creation of a state university (see NEW YORK, STATE UNIVERSITY OF) Among the other many colleges of the state are Alfred Univ, Bard College, Brooklyn College, Canisius College, the College of the City of New York, Colgate Univ, the College of the Senecas, Columbia Univ, Cooper Union, Cornell Univ, Fordham Univ, Hamilton College, Hunter College, Long Island Univ, the New York State College for Teachers, New York Univ, Niagara Univ, Rensselaer Polytechnic Institute, St John's Univ, Syracuse Univ, Union College, the Univ of Buffalo, the Univ of Rochester, Vassar College, and Wells College See J R Brodhead, *History of the State of New York* (2 vols, 1871–74), D S Alexander, *A Political History of the State of New York* (3 vols, 1906–9), A C Flick, ed, *History of the State of New York* (10 vols, 1933–37), Edward Hungerford, *Pathway of Empire* (1935), Carl Carmer, *Listen for a Lonesome Drum* (1936), Dixon Ryan Fox, *Yankees and Yonkers* (1940), E L Raesly, *Portrait of New Netherland* (1945), Federal Writers' Project, *New York a Guide to the Empire State* (revised printing, 1946), Warren Moscow, *Politics in New York State* (1948), B M Wanger and E. B Oagley, *Exploring New York State* (1948)

New York, city (area with water surface 365 sq mi, 1940 pop 7,454,995, 1948 estimated pop 8,067,000), SE N Y, largest city in the United States, on NEW YORK BAY and at the mouth of the HUDSON river here called the North River It comprises five boroughs, each coextensive with a county MANHATTAN (New York co), the heart of the city, an island, the BRONX (Bronx co), on the mainland, NE of Manhattan and separated from it by the HARLEM RIVER, QUEENS (Queens co), on W Long Island, E of Manhattan and bordering the EAST RIVER, BROOKLYN (Kings co), on SW Long Island, on the East River adjoining Queens and on New York Bay, and Richmond (Richmond co), on STATEN ISLAND, SW of Manhattan and separated from it by Upper New York Bay. The metropolitan area (1947 pop 12,684,411) includes parts of SE New York and NE New Jersey, although possessing many industries, the area is also residential, the home of thousands of Manhattan workers. The history of the five boroughs began with settlements by the Dutch, although the region had earlier known the presence of explorers and traders (see NEW YORK, state) In 1625 a settlement was made on the southern tip of Manhattan, and in 1626 Peter MINUIT of the DUTCH WEST INDIA COMPANY bought the island from the Indians for trinkets worth $24 He built up the settlement as New Amsterdam, capital of the colony Under the Dutch, schools were opened and the Dutch Reformed Church was established In 1664 the English, engaged in a war with Holland (see DUTCH WARS) and dating claim to the region from the explorations of John Cabot in the 15th cent, seized the colony for the duke of York, for whom it was then named Peter STUYVESANT was supplanted by Richard NICOLLS The Dutch returned to power in New York in 1673–74 A liberal charter granted in 1686 under Thomas DONGAN was in effect for many years, but transition to English rule was not accomplished without dissension New York was in 1689–91 the scene of a rebellion, led by Jacob LEISLER, one of the causes of which was autocratic British government in the colonies Nevertheless, New York grew, its expanding commerce drew settlers from many nations It hailed its first newspaper, the New York *Gazette*, in 1725, 10 years later the trial of John Peter ZENGER, editor of the New York *Weekly Journal*, helped to establish the principle of a free press Race riots, in which over a hundred Negroes were tortured or killed, horrified responsible citizens in 1741 New York was active in the colonial opposition to British measures after the trouble in 1765 over the STAMP ACT, and as the clouds of revolt gathered, the New York Sons of Liberty forced (1775) the British soldiers and Governor Tryon from the city Though many New Yorkers were Loyalists, Continental forces commanded by Washington defended (1776) the city After the patriot defeat in the battle of Long Island (see LONG ISLAND, BATTLE OF), Washington gave up New York, and the British occupied the city until 1781 The old provincial capital remained the state capital until 1797 and was briefly (1789–90) the first U S capital under the Constitution, and President Washington was inaugurated at Federal Hall, where the Subtreasury Building now stands New development was marked by such events as the beginning of the stock exchange and the foundation of the Bank of New York under Alexander HAMILTON in the city which was the largest in the United States by 1790 with over 33,000 inhabitants and had grown to 60,515 in 1800 The opening of the Erie Canal in 1825 was of tremendous importance to New York, ushering in another era of commercial expansion The New York and Harlem RR was built in 1832 The fire of 1835, one of a series of disastrous conflagrations, destroyed most of the old Dutch town but it brought about new building laws and the construction of the Croton water system By 1840 New York had become the shipbuilding center and leading port of the nation During the Civil War the sympathies of New Yorkers largely lay with the Union, the DRAFT RIOTS of 1863 were demonstrations against the provision which permitted moneyed conscripts to buy exemption Extensive immigration before the Civil War had created such congested areas as the notorious Five Points of the lower East Side After 1865, with the acceleration of industrial development, another tide of settlers from abroad began to roll in, to reach its crest in the late 19th and early 20th cent Europeans settled in distinct ethnic neighborhoods which, although lending variety and color to the city's pattern, were crowded slums TAMMANY and the Tweed Ring (see TWEED, WILLIAM MARCY) dominated the political life, exposure came in 1871 In 1898 New York took one of the most significant steps in its history it adopted a new charter, which transformed it into a metropolis of five boroughs, with a hugely increased population Pressing problems of transportation and building space faced the enlarged city The Flatiron Building (1902) foreshadowed the skyscrapers of later years that give Manhattan its famous skyline, the first subway (1904) was the forerunner of the present far-flung system of rapid transit New York in the 20th cent has been served by such mayors as Seth Low, William J Gaynor, John Purroy Mitchel, John F. Hylan, James J Walker (whose resignation was brought about by the Seabury investigation), Fiorello LaGuardia, and William O'Dwyer The need for regional planning resulted in the zoning legislation of 1916 and the formation of such bodies as the PORT OF NEW YORK AUTHORITY (1921), the Regional Plan Association (1929), the Municipal Housing Authority (1934), and the City Planning Commission (1938). New housing for low-income residents is changing the aspect of areas in each of the boroughs New bridges, tunnels, and highways have been added to the interborough and interstate transportation systems. The city's many bridges

include the George Washington, Henry Hudson, Triborough, Bronx-Whitestone, and Brooklyn bridges The Holland and Lincoln tunnels under the Hudson and the Queens-Midtown Tunnel under the East River carry vehicular traffic, a tunnel between Brooklyn and the Battery was started in 1940 Municipal airfields are LaGUARDIA FIELD and NEW YORK INTERNATIONAL AIRPORT Islands in the East River include Welfare Island (with municipal welfare institutions), Rikers Island (site of the city penitentiary, 1935), Randalls Island (with a stadium and other recreational facilities), and Wards Island (with a large sewage-disposal plant) In New York Bay are BEDLOE'S ISLAND, with the Statue of Liberty (see LIBERTY, STATUE OF), ELLIS ISLAND, and GOVERNORS ISLAND The NEW YORK WORLD'S FAIR was held in 1939 and 1940 In 1946 a site in Manhattan (overlooking the East River) was selected for the permanent headquarters of the United Nations Financial center and largest port of the world, with a magnificent harbor and a water front of over 500 mi, New York is a leading center of manufacture and commerce, among its principal industries are clothing, textiles, printing and publishing, machine-shop and metal products, and foods With its vast array of cultural and educational resources, famous shops and restaurants, places of entertainment, its striking architecture, colorful nationality neighborhoods, and rich historic background, New York is almost unparalleled The College of the City of New York, comprised of four colleges, is part of the public education system, there are many private colleges, universities, and special schools (See also MANHATTAN) The NEW YORK PUBLIC LIBRARY is the largest of the hundreds of libraries and special book collections Of the city's numerous museums and scientific collections, the METROPOLITAN MUSEUM OF ART, the AMERICAN MUSEUM OF NATURAL HISTORY (with the Hayden Planetarium), and the BROOKLYN INSTITUTE OF ARTS AND SCIENCES are among the best known (See also BRONX, THE, BROOKLYN, QUEENS) Among the numerous landmarks are Fraunces Tavern (built 1719), where Washington took farewell of his officers after the Revolution, and the Gracie Mansion (built 1760), now the official residence of the mayor See Mrs Schuyler Van Rensselaer, *History of the City of New York in the Seventeenth Century* (1909), A E Peterson and G W Edwards, *New York as an Eighteenth Century Municipality* (1917), I N Phelps Stokes, *The Iconography of Manhattan Island* (6 vols, 1915–28), S I Pomerantz, *New York an American City, 1783–1803* (1938), Federal Writers' Project, *New York City Guide* (1939), Allan Nevins and J A Krout, eds, *The Greater City New York, 1898–1918* (1948), Cleveland Rodgers and R B Rankin, *New York the World's Capital City* (1948), E B White, *Here Is New York* (1949)

New York, College of the City of, a system organized in 1929, including BROOKLYN COLLEGE, CITY COLLEGE, HUNTER COLLEGE, and QUEENS COLLEGE

New York, State University of. In accordance with recommendations made by a state committee, headed by Owen D Young, the New York legislature approved (1948) the foundation of a state university made up of units in different parts of the state, but administered by a single board of 15 trustees In 1949 Alvin Christian Eurich was appointed president, 72 scholarships in medicine and 28 in dentistry were voted, and the two medical units of the university (Long Island College of Medicine, at Brooklyn, and the College of Medicine of Syracuse Univ) had been selected By 1950 the university had taken form it had taken over the 11 teachers colleges of the state, two four-year liberal arts colleges (Champlain College at Plattsburg and Triple Cities College at Endicott), two two-year community colleges (at Middletown and at Jamestown), as well as a number of technical institutes and seven four-year professional schools, including the colleges of agriculture, home economics, labor relations, and veterinary science at Cornell Univ, the college of ceramics at Alfred Univ, the college of forestry at Syracuse Univ, and the maritime academy at Fort Schuyler in the Bronx

New York, University of the State of, unique organization which now oversees all educational activities in the state, chartered in 1784 Its board of regents (1894), of which the state commissioner of education is president, head the state education department and act as a legislative body to determine policy, but they are subordinate to the legislature The regents grant educational charters, professional and vocational licenses, and honorary degrees

New York Bay, arm of the Atlantic, enclosed by the shores of NE New Jersey, Staten Island, Manhattan island, and Brooklyn (on the western tip of Long Island) and opening on the southeast to the Atlantic between Sandy Hook, N J, and Rockaway Point, N Y. It is divided into Upper Bay and Lower Bay, which are connected by the Narrows, a strait c.2 mi. long and 1 mi wide, separating Staten Island from Brooklyn. The Upper Bay, c 6 mi in diameter, is joined to Newark Bay (to the west) by KILL VAN KULL and to Long Island Sound by the East River It has extensive port facilities on the New Jersey, Manhattan, and Brooklyn shores (see PORT OF NEW YORK AUTHORITY), its islands include ELLIS ISLAND, GOVERNORS ISLAND, and BEDLOE'S ISLAND (site of the Statue of Liberty) The larger Lower Bay, including Raritan Bay at the west and Gravesend Bay at the northeast, is joined to Newark Bay by Arthur Kill Ambrose Channel, Federally maintained, crosses Sandy Hook bar at the bay's entrance and extends north to the piers of New York harbor, it is called Anchorage Channel in the Upper Bay, where it is 2,000 ft wide Buttermilk Channel, between Governors Island and Brooklyn, leads into the East River U S Forts Hamilton and Wadsworth overlook the Narrows, Fort Jay is on Governors Island

New York Central Railroad In 1853 many small railroads of New York state -e g, the Mohawk and Hudson RR, on which the first locomotive of the state, the *DeWitt Clinton* was run (1831) were consolidated into the New York Central Railroad Company in order to connect Albany with Buffalo Cornelius VANDERBILT became (1867) president of this railroad and through a series of mergers he formed the New York Central and Hudson River Railroad Company, which connected New York with Buffalo by rail Vanderbilt continued to expand his railroad empire through financial maneuvers, and in the 20th cent, New York Central trains reached Chicago, Cleveland, Indianapolis, and St Louis After the Lake Shore and Michigan Southern RR and many smaller railroads had been bought (1914), the railroad was renamed the New York Central Railroad Company It had trunk lines in six states Other large railroads were added later, and by 1930 the New York Central was one of the leading railroads connecting the cities of the Eastern seaboard with those of the Midwest See Edward Hungerford, *Men and Iron* (1938)

New York International Airport, municipal airport, 4,900 acres, in S Queens borough of New York city, at Idlewild on Jamaica Bay, opened 1948 It is administered by the Port of New York Authority and has accommodations for seaplanes and landplanes

New York Mills, village (pop 3,628), central N Y, near Utica, inc 1922

New York, New Haven, and Hartford Railroad, incorporated (1872) as a consolidation of the New York and New Haven RR (opened in 1849) with the Hartford and New Haven RR (completed in 1839) When J P Morgan gained control of this railroad system, Charles S Mellen became (1903) president of the New York, New Haven, and Hartford Railroad Company and vastly expanded the railroad's holdings Not only was the trackage extended throughout New England, but the New Haven came to own intercity electric railroads, steamship lines, and various public utilities The New York, New Haven, and Hartford was confronted with financial catastrophe in 1913, and the methods by which Mellen had expanded the railroad were made open to public question in 1914 by the Interstate Commerce Commission The New Haven struggled along and went bankrupt in 1934, but later under new management recovered and prospered after 1940 See H L Staples and A T Mason, *The Fall of a Railroad Empire* (1947)

New York Philharmonic-Symphony Orchestra. The New York Philharmonic Society was formed and gave its first concert in 1842 Its first president was Ureli Corelli Hill, a violinist who also was one of the leaders of the orchestra The first permanent conductor, Carl Bergman, was appointed in 1865 Other important conductors were Leopold Damrosch (1877–78), Theodore Thomas (1880–91), Anton Seidl (1891–98), Walter Damrosch (1902–3), Gustav Mahler (1909–11) and Joseph Stransky (1911–23) In 1921, at the suggestion of Willem Mengelberg, its conductor, the National Symphony Orchestra was absorbed by the Philharmonic, and Mengelberg was one of the conductors of the latter until 1930 In 1878 Leopold Damrosch had founded the New York Symphony Orchestra, which he conducted until his death in 1885 He was succeeded by his son Walter Damrosch In 1928 the New York Symphony and the New York Philharmonic merged, becoming the New York Philharmonic-Symphony Orchestra, of which Walter Damrosch was one of the conductors for one season Arturo Toscanini had become a conductor of the Philharmonic in 1926 and remained to conduct the Philharmonic-Symphony until 1936 Following him were John Barbirolli (1937–42) and Artur Rodzinski (1943–47) Dimitri Mitropoulos and Leopold Stokowski shared the conductorship for the season 1949–50, Mitropoulos becoming permanent conductor in 1950 Most of the world's distinguished conductors have at one time or another been guest conductors of the New York Philharmonic or the Philharmonic-Symphony. See John Erskine, *The Philharmonic-Symphony Society of New York Its First Hundred Years* (1943)

New York Public Library, free library supported by private endowments and gifts and by New York city, chartered in 1895. A bequest (1848) of John Jacob Astor left $400,000 for a reference library, which was chartered in 1849, constructed on Lafayette Place, and opened to the public in 1854 J G COGSWELL, superintendent (1848–61), compiled the first catalogue The Lenox Library (chartered 1870, opened 1876) on Fifth Ave at 70th St was the gift of James Lenox, a noted book collector, it, too, was strictly a reference library The will of S J Tilden established (1886) the Tilden Trust (chartered 1887) for the maintenance of a free reading room After extended litigation, the sum of $200,000 was made available in 1892 An act consolidating the Astor and Lenox libraries and the Tilden Trust was passed in 1895 J S BILLINGS was appointed first director of the library In 1897 New York city agreed to build and equip a central building on the site of the Croton Reservoir on Fifth Ave at 42d St and to provide for its maintenance and repair The building, designed by Thomas Hastings and J M Carrère, was completed in 1911 A circulation department was formed by the absorption (1901) of the 11 branches of the New York Free Circulating Library founded (1878) by teachers of a Grace Church sewing class and chartered in 1880 In 1901 Andrew Carnegie gave more than $5,000,000 for buildings for circulation branches, provided the city would give the land and guarantee maintenance From this fund 39 Carnegie branches have been built The circulating department also absorbed several independently endowed circulating libraries including the Harlem Library, the Washington Heights Library, the Aguilar Free Library (Jewish, four branches), and the Cathedral Library (Roman Catholic, five branches) The department now has 65 branches in the boroughs of Manhattan, the Bronx, and Richmond, Queens and Brooklyn have independent systems The central building houses the reference collection of over 3,250,000 volumes, the executive offices for both reference and circulation departments, an art gallery, a library for the blind, and circulation branches for adults and for children The library has especially fine collections on Americana, art, economics, folklore, music, Negro history and literature, New York city, and Semitic languages It was the recipient of the Berg, Howe, and Young collections of English and American literature (1939–41) and of the George Arents collection on tobacco (1944) See history by H M Lydenberg (1923)

New York School of Social Work, founded 1898 by the Charity Organization Society, New York city, since 1940 a part of Columbia Univ (though maintaining a separate corporate existence) It began as a six-week summer course, became in 1904 the New York School of Philanthropy with a one-year program (lengthened to two years in 1912), and changed its name in 1918 Since 1939 it has been administered by the Community Service Society of New York It is a post-graduate professional school giving an M S degree In 1949 the school was given a rent-free lease on the Andrew Carnegie house and grounds on upper Fifth Ave

New York State Barge Canal, 525 mi long, traversing New York state and connecting the Great Lakes with the Hudson river and Lake Champlain The canal, a modification and improvement of the old ERIE CANAL, was authorized (1903) by public vote, was begun in 1905, and was completed in 1918 Its main sections are the Erie Canal, extending from Troy to Tonawanda, the Champlain Canal, joining the Erie Canal at Waterford and extending (via the Hudson as far as Fort Edward) to Whitehall on Lake Champlain, the Oswego Canal, connecting the Erie Canal with Oswego on Lake Ontario, and the Cayuga and Seneca Canal, joining the Erie Canal with Cayuga and Seneca lakes The 12-foot-deep Barge Canal, with 310-foot electrically operated locks and accommodating 2,000-ton vessels, cost the state over $175,000,000 to build, it is toll free Its total cargo traffic for 1947 was nearly 4,000,000 tons

New York State College of Forestry, see SYRACUSE UNIVERSITY

New York University, in New York city, private, nonsectarian, mainly coeducational, chartered 1831, opened 1832 as the Univ of the City of New York, renamed 1896 It expanded much under the administration of Henry M MACCRACKEN It now has colleges of dentistry, engineering (with a Guggenheim school of aeronautics), liberal arts and science (Washington Square and University Heights), and medicine, schools of commerce, accounts, and finance (with journalism), education, law, nursing, and retailing, graduate courses including business administration, public service, and a fine arts institute The evening and graduate classes are large The medical college absorbed in 1898 the Bellevue Hospital Medical College Land was purchased in 1946 for an enlarged medical center There are psychological clinics, a modern art museum, service and research bureaus, and a university press The HALL OF FAME is on the University Heights campus in the Bronx See T. F. Jones, ed, *New York University* (1933).

New York World's Fair, 1939–40, opened at Flushing Meadows, Long Island, on April 30, 1939, and closed Oct 31, reopened on May 25, 1940, and closed on Oct. 27 The 1,216-acre site, reclaimed from a tidal swamp, was dedicated to "The World

of Tomorrow" and was dominated by the theme center the 700-foot Trylon and the Perisphere, 200 ft in diameter The site of the fair became Flushing Meadow Park, here the United Nations General Assembly set up temporary headquarters in 1946.

New Zealand (nē'lănd) British dominion (103,416 sq mi, pop 1,702,298) S Pacific, 1,200 mi SE of Australia The capital is WELLINGTON New Zealand comprises NORTH ISLAND and SOUTH ISLAND (the two principal islands), STEWART ISLAND, and the CHATHAM ISLANDS North Island is known for its active volcanic mountains and its hot springs On South Island, the massive Southern Alps, containing Mt Cook (highest peak of New Zealand), extend almost the entire length of the island, and in the southwest are many beautiful fjords. The largest river (the Waikato) and the largest lake (Taupo) are both on North Island New Zealand has varied and abundant flora and fauna The native flora include kauri pine, giant tree ferns, rata trees (*Metrosideros robusta*), and, on South Island, edelweiss and other alpine flora The largest areas of virgin forest are in the south and north extremities of South Island Among the native fauna are the kiwi, the albatross, native parrots, the tuatara (survivor of the prehistoric order of reptiles, *Rhynchocephalia*), and poisonous spiders, there are no land snakes Large oyster beds are found in Foveaux Strait between Stewart Island and South Island Extensive areas of New Zealand have been set aside as national parks, the most impressive being Tongariro, Tasman, and Fiordland parks Over 90 percent of the MAORIS, Polynesian natives of New Zealand, live on North Island, largely in the hot-springs district The principal cities are AUCKLAND (the largest), Wellington, CHRISTCHURCH, DUNEDIN, and INVERCARGILL The Univ of New Zealand with headquarters at Wellington comprises four university colleges at the major cities Auckland is the principal port of the dominion, the principal exports are dairy products, meat, and wool Other important products include wheat, fruits, and kauri gum Some coal and gold are mined, there are small deposits of mercury, manganese ore, wolfram, sulphur, asbestos, tin, platinum, and phosphates The dominion is divided into nine provincial districts, Auckland, Hawke's Bay, Taranaki, Wellington, Nelson, Westland, Marlborough, Canterbury, and Otago These districts, which represent the old provinces (abolished in 1875), are used for census purposes Small outlying islands belonging to New Zealand are Auckland Islands, Campbell Island, Antipodes, Three Kings Islands, Bounty Islands, Snares Island, and Solander Island Dependencies are the Kermadec Islands, Cook Islands, Tokelau, Niue, and Ross Dependency Western Samoa is under New Zealand trusteeship, Nauru is under control held jointly by New Zealand, Great Britain, and Australia New Zealand was discovered in 1642 by the Dutch navigator, A J Tasman It was visited in 1769 by Capt James Cook, and the first missionary arrived in 1814 In 1840 the colony became a dependency of New South Wales, but in the following year it was made a separate British colony In 1907 its status was elevated to that of dominion The period between 1854 and 1864 was a bloody one, with a series of unsuccessful attempts to subdue the hostile Maori natives By the Treaty of Waitangi (1840) the Maoris were guaranteed full possession of their land in exchange for permission to admit British settlers Social welfare laws have been notable New Zealand was the first to adopt (1898) noncontributory old-age pensions and to establish (1907) a national infant welfare system The Social Security Act of 1938 provided greater old-age benefits, widows' pensions, family-benefit payments, care of orphans, minimum-wage levels, a 40-hour week, and unemployment and health insurance The most startling innovation was the program for socialized medicine (1941) In the Second World War, New Zealand declared war on Germany in Sept 1939, and on Japan in Dec, 1941 The administration is vested in a governor general (representing the British sovereign) and a Parliament, consisting of the House of Representatives and the Legislative Council See J B Condliffe, *New Zealand in the Making* (1930), *Cambridge History of the British Empire*, Vol VII, Part II (1933), J B Condliffe and W T G Airey, *Short History of New Zealand* (1935); J C Beaglehole, *New Zealand* (1936) and *The Discovery of New Zealand* (1939), Horace Belshaw, ed, *New Zealand* (1947)

New Zealand literature. The home of the newest colonial branch of English literature, New Zealand has produced only a few writers known outside her own islands among them are Katherine MANSFIELD, short-story writer, Hector Bolitho, biographer; Eileen Duggan, Catholic poet, Kenneth Sisam, scholar; "G B Lancaster," (born in Tasmania), historical novelist; and Ngaio Marsh, writer of detective fiction. From such 19th-century writers as Alfred DOMETT and Samuel BUTLER to present-day students of Maori culture and of New Zealand government, authors from outside New Zealand have found fascinating subject matter there See E H McCormick, *Letters and Art in New Zealand* (1940), G H Scholefield, *Dictionary of New Zealand Biography* (1940), short histories of New Zealand literature by Alan Mulgan (1943) and J C Reid (1946)

Nexo, Martin Andersen. see ANDERSEN NEXO.

Ney, Elisabeth or **Elisabet** (nī), 1833–1907, German-American sculptor, b Münster, Germany After studying sculpture at Munich and Berlin, she traveled widely and executed busts of King George V of Hanover, Garibaldi, and Bismarck In 1863 she married Edmund Duncan Montgomery, and seven years later she left for America In 1873 Montgomery purchased the plantation "Liendo" near Hempstead, Texas, where his wife lived for two decades She removed (1892) to Austin, Texas, and there made statues of Stephen F Austin, Samuel Houston, and other prominent Texans See biography by J I Fortune and Jean Burton (1943), Vernon Loggins, *Two Romantics and Their Ideal Life* (1946)

Ney, Michel (mēshĕl' nā'), 1769–1815, marshal of France Called "the bravest of the brave" by Napoleon I, Ney, a cooper's son from Saarlouis, rapidly rose to glory in the French Revolution His greatest feat was his defense of the rear in the retreat from Moscow in 1812 Created duke of Elchingen and prince of the Moskowa by Napoleon, Ney was raised to the peerage (1814) by Louis XVIII, whom he supported after Napoleon's abdication On Napoleon's return from Elba, Ney promised the king that he would bring Napoleon to Paris in a cage, but instead he joined forces with Napoleon and commanded the Old Guard at Waterloo He was condemned for treason by the house of peers and shot, despite the duke of Wellington's intervention See Henri Welschinger, *Le Maréchal Ney* (1893) A theory that Ney escaped execution and lived in North Carolina till 1846 is set forth in LeGette Blythe, *Marshal Ney a Dual Life* (1937)

Nezhin (nyĕ'zhĭn), city (pop 37,990), N Ukraine An agricultural trading center known since the 11th cent, it was also a cultural center of the Ukraine in the 18th cent

Neziah (nēzī'ə), family of Nethinim returned from exile Ezra 2 54, Neh 7 56

Nezib (nĕ'zĭb) [Heb, =garrison], city, SW Palestine, c 10 mi NW of Hebron Joshua 15 43

Nez Percé Indians (nā' pûrsā', nĕz' pûrs') [Fr, =pierced nose], tribe of North American Indians, also called the Sahaptin, of the Shahaptin linguistic stock The Nez Percé were given this name by the French presumably because the Indians wore nose pendants, but this custom does not seem to have been widespread among them They were a typical tribe of the Plateau area, they fished for salmon and gathered camas, cowish, and other roots After the introduction (c 1700) of the horse they adopted many Plains area traits, including buffalo hunts In 1805, when visited by Lewis and Clark, they occupied a large region in W Idaho, NE Oregon, and SE Washington They then numbered some 6,000 The Nez Percé ceded (1855) a large part of their territory to the United States The gold rushes in the '60s and '70s, however, caused trouble with the whites, and a treaty of cession was fraudulently extracted from part of the tribe This led to the uprising under Chief JOSEPH in 1877 There are a few Nez Percé on the Colville reservation in Washington but the majority are on a reservation in Idaho Today they number some 1,500 See Kate McBeth, *The Nez Percés since Lewis and Clark* (1908)

Ngami, Lake (ung-gä'mē, ung-ä'mē), N Bechuanaland When discovered by David Livingstone in 1849, it was an inland sea, but since that time it has shrunk to being a reedy marsh, which receives the Okavango from the west

Ni, chemical symbol of the element NICKEL.

niacin see VITAMINS

Niagara, Ont see NIAGARA-ON-THE-LAKE

Niagara (nīă'grə, -gərə), village (pop 2,266), NE Wis, at falls of the Menominee and NE of Rhinelander, in 1914 Paper products are made

Niagara, river, c 34 mi long, issuing from Lake Erie between Buffalo, N Y, and Fort Erie, Ont. It flows north, forming the international line, around Grand Island (American) and over NIAGARA FALLS between the two cities of Niagara Falls to Lake Ontario The upper section is navigable for c 20 mi to a series of rapids above the great falls, in its last 7 mi the river is again navigable, from Lewiston, N Y, to Lake Ontario. The New York State Barge Canal enters the river at Tonawanda, N Y, the Welland Canal, on the Ontario side, is a lake-freighter route around the falls Many bridges cross the Niagara river, notably Peace Bridge (1927), bridges linking Grand Island with both shores (1935), and Rainbow Bridge (1941) below the falls.

Niagara, Fort, post on the east side of the Niagara river. The spot was a strategic one for the fur trade, and the French came here early. In 1679 La Salle erected a blockhouse on the river, and in 1687 another log fort was built. A stone fort was erected in 1726–26 and was rebuilt in 1756. This was captured (1759) in the last of the French and Indian Wars by a British force under Sir William Johnson. It was a British stronghold in the American Revolution and was surrendered to the United States only in 1796 after Jay's Treaty In the War of 1812 it was again taken by the British and was held until 1815. The fort remained a military post until 1946

Niagara Falls, city (pop 20,589), S Ont, on the Niagara river opposite Niagara Falls, N Y, at the west end of the railroad and highway bridges which cross the gorge below the falls It was formerly called Clifton It is a port of entry and an important industrial city, the home of Canadian factories for many well-known U S firms, electric power is supplied by the falls Between the city and the falls and along the gorge is beautiful Queen Victoria Park

Niagara Falls, city (pop 78,029), W N Y, on the Niagara at the falls and NW of Buffalo, settled after 1800, inc as a city 1892, when it united with Suspension Bridge village Power from the falls is widely distributed in the state, and at the city it supplies many plants Aircraft, metal goods, chemicals, abrasives, cereals, and paper are produced The New York State Niagara Reservation (1885) comprises Goat Island and other islands in the river and Prospect Park and other areas along the river Niagara Falls Museum, moved here from the Canadian city, is one of the oldest in the country and has numerous exhibits The city is a port of entry, several bridges cross the river to Canada Catering to tourists is one of the city's oldest occupations Near by is Niagara Univ (Catholic, partly coeducational, 1856)

Niagara Falls, in the Niagara river, W N Y and S Ont, one of the most famous spectacles in North America and an important source of hydroelectric power The falls are on the international line, between the cities Niagara Falls, N Y, and Niagara Falls, Ont Goat Island splits the cataract into the American Falls (c 165 ft high and c 1,000 ft wide) and the Canadian, or Horseshoe, Falls (c 155 ft high and c 2,500 ft wide) Behind the American Falls is a natural chamber made by action of the water and known as the Cave of the Winds A narrow gorge, with the spectacular Whirlpool Rapids, has been formed below the falls by the gradual recession (now lessening) of the crest Here is Rainbow Bridge (1941) between the United States and Canada, replacing the span destroyed by ice in 1938 The two governments control the appearance of the surrounding area, much of which has been included in parks since 1885, colored lights illuminate the falls at night International agreements control the diversion of water for power, weirs divert part of the flow above the deeper Canadian Falls to supplement the shallower American Falls The earliest written description of the falls is that of Louis HENNEPIN (in *Nouvelle Découverte*, 1697), who was with the expedition of La Salle in 1678 Historical and natural history relating to the region is in the Niagara Falls Museum in the city of Niagara Falls, N Y

Niagara-on-the-Lake or **Niagara**, town (pop 1,541), S Ont, on Lake Ontario at the mouth of the Niagara and E of St Catharines It was settled (1780) by Loyalists, and in 1792 SIMCOE established here the capital of Upper Canada, renaming the town Newark The legislature met here until 1796 Fort George, built to defend the settlement, was taken in 1813 by the Americans, but retaken in the same year The town is usually called Niagara-on-the-Lake to distinguish it from the Canadian and U S cities of Niagara Falls

Niamey (nyämā'), town, capital of Niger, French West Africa, a small port on the Niger river Peanuts, hides, and skins are exported

Nias (nē'äs), volcanic island (1,569 sq mi, pop 187,190), Indonesia, in the Indian Ocean off W Sumatra. It is subject to violent earthquakes Native handicraft is highly developed

Nibelungen, Niebelungen (both. nē'bəlŏng"ən), or **Nibelungs**, in Germanic myth and literature, an evil family possessing a magic hoard of gold. The hoard is accursed The **Nibelungenlied** (-lēt") [Ger, =song of the Nibelungen] is a long Middle High German epic composed by an Austrian or south German poet c 1160 It enshrines many pagan legends and traditions, but it is quite patently the work of a Christian courtly civilization Many scholars believe that it represents, in its present form, a redaction of earlier poetic materials. Its action takes place at Worms, capital of Burgundy, and at Etzel's court The warrior SIEGFRIED, having obtained the Nibelung hoard, marries KRIEMHILD and procures for her brother, King Gunther, the Icelandic Brunhild Brunhild contrives Siegfried's death at the hands of Hagen, who takes the treasure and buries it in the Rhine The rest of the poem is a grim account of how Kriemhild avenged her husband's murder She marries Etzel (Attila the Hun) and has a child by him Lulled into security, her brother's court accepts her invitation and visits her. The poem ends in a general slaughter and holocaust, leaving only Etzel and a few others alive. The Nibelungenlied is full of stylistic flaws, but its delineations of character are admirable, especially in the persons of Kriemhild, Siegfried, and Hagen. There are

many English translations, e g., by A. G. Foster-Barham (1887) and by Alice Horton (1898). **Der Ring des Nibelungen** (dĕr rĭng dĕs nē'bŭlŏng"ŭn) [Ger.,=the ring of the Nibelung] is an operatic tetralogy by Richard Wagner, comprising the four operas *Das Rheingold*, *Die Walküre*, *Siegfried*, and *Die Götterdämmerung*. The last two were produced in Bayreuth, in 1876, when the entire cycle had its première. The legends of which Wagner made use are largely taken from Icelandic literature, especially from the VOLSUNGASAGA, but the composer has also introduced elements from the *Nibelungenlied*. See S. H. Hamer, *The Story of the Ring* (1933), Gertrude Henderson, *The Ring of the Nibelung* (new ed., 1939).

Nibhaz (nĭb'hăz), deity worshiped in Samaria by the captive Avites. 2 Kings 17 31.

Nibshan (nĭb'shăn), unidentified desert place, S Palestine. Joshua 15 62.

Nicaea (nĭsē'ŭ), city of Bithynia, N Asia Minor, built by Antigonus I on the site of an older city and renamed Nicaea by Lysimachus for his wife. It flourished under the Romans and was the scene of the ecumenical council called by Constantine, in A.D. 325, a council held in 787 sanctioned the devotional use of images. The city, captured by the Turks in 1078 and by the Crusaders in 1097, passed finally to the Turks in 1330. It is sometimes called Nice (nī'sē, nēs).

Nicaea, empire of, 1204–61. The Fourth Crusade resulted (1204) in the breakup of the Byzantine Empire and the establishment of a Latin Empire (see CONSTANTINOPLE, LATIN EMPIRE OF) by the Crusaders. The Crusaders' sway did not, however, extend over the whole Byzantine Empire, where several Greek successor states, among them the empire of Nicaea, sprang up (see also EPIRUS, DESPOTAT OF, and TREBIZOND, EMPIRE OF). The empire of Nicaea was founded by THEODORE I (Theodore Lascaris) in NW Asia Minor, with Nicaea as its capital. It was destined to play the decisive part in the reunion of the Byzantine Empire. Theodore I and his successors of the LASCARIS family expanded their domains, defeated their neighbors to the south, the Seljuk Turks, and in alliance with IVAN II of Bulgaria weakened their chief rivals, the despots of Epirus, and successfully warred against the Latins. MICHAEL VIII (Michael Palaeologus), who usurped the throne of Nicaea in 1259, captured Constantinople from the Latins and restored the Byzantine Empire (1261).

Nicaea, First Council of, 325, the first ecumenical council, convened by Constantine the Great to solve the problems raised by ARIANISM. It has been said that 318 attended, but a more likely number is 225, including every Eastern bishop of importance, four Western bishops (among them HOSIUS of Córdoba, president of the council), and two papal legates. The chief figures at the council were ARIUS and his opponent, ATHANASIUS. The council adopted as a test of faith a formula based on a simple baptismal creed presented by Eusebius of Caesarea, this was not, however, the misnamed Nicene Creed (see CREED). The formula included the word *homoousion* [consubstantial], used concerning the Son and the Father. The word, suggested by Hosius, became the touchstone of orthodoxy and the bugbear of Arianism, for it established the divinity and the equality of the Son in the Trinity. The creed was accepted by all the bishops except two, who were banished along with Arius to Illyricum. The council ruled on other questions as well, attempting to standardize the date of Easter, undertaking to reform the clergy, and granting patriarchal authority to the bishop of Alexandria. The First Council of Nicaea was significant as the model and the original of ecumenical councils. The test it adopted provided a universal statement of faith in place of the earlier and varying baptismal formulas. In calling the council, however, Constantine had foreshadowed the caesaropapism of later emperors, he was more concerned with civil order than with religious truth.

Nicaea, Second Council of, 787, the seventh ecumenical council, convened by Empress IRENE. Against ICONOCLASM, the council declared that images ought to be venerated (not worshiped) and ordered them restored in churches. Practically the only Western delegates were the papal legates, but popes have confirmed the conciliar canons. See E. J. Martin, *A History of the Iconoclastic Controversy* (1930).

Nicanor (nĭkā'nôr) [Gr.,=conqueror], one of the seven deacons. Acts 6.5.

Nicaragua (nĭkurā'gwŭ) [Span.,=water of Nicarao], republic (57,145 sq. mi., 1946 estimated pop. 1,121,904), Central America. The capital is MANAGUA. The country is bounded on the north and northwest by Honduras, on the east by the Caribbean, on the south by Costa Rica, and on the southwest by the Pacific. There are three main geographic areas. The northwestern highlands produce cattle and gold (which sometimes surpasses coffee as a source of revenue). On the Caribbean the MOSQUITO COAST, populated chiefly by Jamaican Negroes and the remnants of the Mosquito Indians, once produced valuable hardwoods and bananas, exported through BLUEFIELDS, but the forests have been partially denuded and banana production has been seriously curtailed by leaf blight. It is in the third region, a narrow volcanic belt extending southwest from the border of Honduras to Costa Rica and squeezed between the Pacific and the lakes—Lake Managua and Lake Nicaragua—that the productive wealth and the population (almost entirely mestizo) are concentrated. From CORINTO are shipped most agricultural exports—coffee, cotton, and sugar. The fertile soil produces subsistence foodstuffs. Nicaragua's foreign commerce is in value one of the smallest in Latin America, partially because of geographical drawbacks, but primarily because of the country's turbulent political history. The nation has been torn by civil strife and has been subject to foreign intervention. About one third of the population lives in urban centers, leaving the hinterland undeveloped. The country probably takes its name from Nicarao, an Indian cacique defeated in 1522 by Gil GONZÁLEZ DE ÁVILA. In 1524 Francisco FERNANDEZ DE CÓRDOBA founded LEÓN and GRANADA. León became the political and intellectual capital, Granada the stronghold of the aristocracy. After gaining independence from Spain (1821), Nicaragua was briefly part of the empire of Agustín de Iturbide and then (1823–38) a member of the CENTRAL AMERICAN FEDERATION. After the dissolution of the federation came a brief interim of Liberal government, which ended in 1844. The Liberals and the Conservatives, León and Granada, were locked in conflict, and the founding (1855) of Managua as a compromise capital did not end the trouble. British influence had been established on the east coast in the 17th cent., and in 1848 British seizure of SAN JUAN DEL NORTE opened a period of conflict over the control of the Mosquito Coast and the BAY ISLANDS. The United States was interested in a transisthmian canal, and that interest was heightened by the discovery of gold in California. In 1851 Cornelius VANDERBILT opened a transisthmian route for the gold seekers. The CLAYTON-BULWER TREATY (1850) settled some of the issues between Great Britain and the United States. Nicaragua remained, however, in a state of internal warfare that reached a peak with the temporary triumph (1855–57) of the filibuster, William WALKER. After his defeat there was a long period of quiescence under Conservative control until the Liberal leader, José Santos ZELAYA, became president in 1894. He instituted a vigorous dictatorship, set about reforms, and took over the Mosquito Coast. The United States was hostile to him and helped to keep him from suppressing a revolt and to bring about his resignation in 1909. A harsh struggle brought confusion. In 1910 a group of U.S. bankers (the Dawson mission) drew up a plan to stabilize Nicaraguan finances, but the plan was not adopted. In 1912, at the request of the provisional president, Adolfo Díaz, U.S. marines were landed. The Bryan-Chamorro Treaty, giving the United States an option on a route for the NICARAGUA CANAL, was ratified in 1916, but the fight of the Liberals against U.S. influence continued in almost constant guerrilla warfare. American occupation was ended in 1925 but resumed in 1926. Henry L. Stimson succeeded in getting most factions to adhere (1927) to an agreement concerning the elections, and some measure of order was restored, though Augusto César SANDINO continued the guerrilla warfare. The U.S. marines were withdrawn in 1933. Three years later Anastasio SOMOZA, heading an army junta, emerged as the new strong man in Nicaragua and later consolidated his power as president. Elections were held in 1947, but after less than a month in office the new president, Leonidas Argüello, was ousted by Somoza. The regime aroused much criticism among liberal groups in other Latin American countries. The prolonged political strife slowed down modernization of Nicaragua, but the western section is supplied with railroads and roads. The INTER-AMERICAN HIGHWAY has opened part of the northwestern highlands. For the most part the central and eastern sections are still poorly supplied with communications. See W. O. Scroggs, *Filibusters and Financiers* (1916), D. G. Munro, *Five Republics of Central America* (1918), I. J. Cox, *Nicaragua and the United States, 1909–1927* (World Peace Foundation Pamphlets, 1927), H. N. Denny, *Dollars for Bullets* (1929), Ralph Hancock, *The Rainbow Republics* (1947).

Nicaragua, Lake, area 3,089 sq. mi., SW Nicaragua, the largest between the Great Lakes and Peru. Once a part of the ocean, it was formed when the land rose. Marine life (e.g., sharks and tuna) seems to have adapted itself gradually to fresh water. There are several small volcanoes (some active) rising above the surface along the western shore. Commerce is considerable. The lake, 110 ft. above sea level and 12 to 84 ft. deep, forms a vital part of the proposed NICARAGUA CANAL.

Nicaragua Canal, proposed waterway between the Atlantic and the Pacific. It would be 172.8 mi. long and would generally follow the SAN JUAN river, then go through Lake Nicaragua near the southern shore and across the narrow isthmus of RIVAS. First proposed by Henry Clay in 1826, the route was an important factor in negotiation of the CLAYTON-BULWER TREATY (1850). In later times the route has been considered as an adjunct to the PANAMA CANAL, it would shorten the water distance between New York and San Francisco by nearly 500 mi. Under the Bryan-Chamorro Treaty (1916), the United States paid Nicaragua $3,000,000 for an option in perpetuity and free of taxation, including 99-year leases to the CORN ISLANDS and a site for a naval base on the Gulf of FONSECA. Costa Rica protested that Costa Rican rights to the San Juan river had been infringed, and Salvador maintained that the naval base affected both Salvador and Honduras. Both protests were upheld by the Central American Court of Justice, which had been created by the Washington Conference of 1907 under the auspices of the United States and Mexico. The court rulings were ignored by Nicaragua and the United States. The action, bitterly criticized by Latin Americans and others as an example of American imperialism, led to the dissolution of the court.

Niccoli, Niccolò de' (nĕk-kôlō' dā nĕk'kōlē), 1363–1437, Italian humanist of Florence. He was a scholar, learned in classical literature, and a collator of ancient manuscripts. Many of them he copied. One of the most distinguished of the group of scholars attached to Cosimo de' Medici, Niccolò made a center at his own house for the world of literature and art in Florence. Concerning literary matters his word was authority among them. His collection of Greek and Latin manuscripts was the beginning of the Laurentian Library of Florence.

Niccolini, Giovanni Battista (jōvän'nē bät-tē'stä nĕk-kôlē'nē), 1782–1861, Italian dramatic poet. His dramas, mainly historical, include *Antonio Foscarini* (1827) and *Arnaldo da Brescia* (1843). Niccolini also wrote lyric verse and translated (1838) Shelley's *Cenci*.

Niccolino, Messer see ABBATE, NICCOLÒ DELL'.

Niccolò d'Arezzo see NICCOLÒ DI PIERO LAMBERTI.

Niccolò di Piero Lamberti (nĕk-kôlō' dē pyā'rō lämbĕr'tē), d. 1451, Italian sculptor and architect of the early Renaissance, sometimes called Niccolò d'Arezzo (därät'tsō). He worked mostly in Florence on decorations for the cathedral and for the church of Or San Michele and was one of the first to break away from medieval traditions and seek greater freedom in his art.

Nice (nēs), Ital. *Nizza* (nēt'tsä), city (pop. 181,984), Alpes-Maritimes dept., SE France. The most famous resort on the French RIVIERA, the city depends mainly on the tourist trade, numerous festivals are held here, and the Mardi Gras of Nice marks the height of the season. Perfumery is an important industry. Probably a Greek colony (Nicaea) established in the 5th cent. B.C., Nice became an episcopal see in the 3d cent. A.D. It was ceded to France by Sardinia in 1796, restored to Sardinia in 1814, and again ceded to France after a plebiscite in 1860.

Nicene Creed see CREED.

Nicephorus, Saint (nĭsĕ'fûrŭs), 758?–829?, patriarch of Constantinople (806–15), Byzantine historian and theologian. He attended the Second Council of Nicaea as lay representative of the emperor. His appointment by Emperor Nicephorus I to the patriarchate while he was still a layman aroused the wrath of the monastic party under St. Theodore of Studium, but the quarrel was patched up. St. Nicephorus opposed ICONOCLASM and secured a pledge of orthodoxy from Emperor MICHAEL I. LEO V, however, insisted that the patriarch modify his views, and Nicephorus, when he refused, was deposed and exiled. In exile he wrote a brief narrative of Byzantine history from 602 to 769 and several tracts against iconoclasm. Feast: March 13.

Nicephorus I, d. 811, Byzantine emperor (802–11). He was minister of finance under Empress IRENE, whom he deposed and whose succession he assumed. He improved the state of the treasury and vigorously asserted the imperial authority over the Church. His appointment of St. Nicephorus to the patriarchate of Constantinople and his assumption of supreme authority in ecclesiastic matters precipitated a conflict with THEODORE OF STUDIUM, whom he exiled in 809. Nicephorus was killed while fighting against the Bulgars and was succeeded by his son-in-law, Michael I.

Nicephorus II (Nicephorus Phocas) (fō'kŭs), c. 913–969, Byzantine emperor (963–69). He was a successful general under Constantine VII and Romanus II. On Romanus' death (963) he married the emperor's widow, Theophano, and usurped the throne. Clerical opposition to his marriage caused him to pass severe laws against the monasteries. These and the heavy taxes he imposed to support his military ventures against the Arabs and the Bulgars caused widespread discontent. His downfall, however, was the result of a palace intrigue between Theophano and her new lover, John Tzimisces, who murdered him in a slow and elaborate manner. Tzimisces assumed the succession as JOHN I.

Nicholas, Saint, 4th cent., bishop of Myra, Asia Minor. His relics were stolen in the Middle Ages and taken to Bari, Italy. He is patron of boys, young men, and sailors, of Greece and Sicily, and of many other places and persons. He is very

popular in the Eastern churches St Nicholas was the popular subject of many legends, and the three balls used as a symbol of the pawnbroker were originally associated with him There is a famous painting by Bicci de Lorenzo in the Metropolitan Museum. He is called St Nicholas of Myra, St Nicholas of Bari, or St Nicholas the Wonder-Worker In the Netherlands and elsewhere his feast (Dec 6) is a children's holiday, appropriate for gifts The English in New York accepted from the Dutch the now unrecognizable saint, calling him Santa Claus They moved him to the English gift holiday, Christmas The career and qualities attributed to Santa Claus are all recently acquired

Nicholas I, Saint (Nicholas the Great), c 825–867, pope (858–67), a Roman, successor of Benedict III and predecessor of Adrian II He was a vigorous and politically active pope who arbitrated both temporal and religious disputes His decisions often set important precedents, as when the pope upheld the right of the bishop of Soissons to appeal to Rome against his superior, HINCMAR Much of his pontificate was concerned with preventing the proposed divorce of LOTHAIR of Lotharingia, who wished to remarry Even when Emperor Louis II occupied Rome, the pope refused to yield In the end he forced Lothair to reinstate his wife Nicholas challenged the right of PHOTIUS to occupy the see of Constantinople and attempted to have St IGNATIUS OF CONSTANTINOPLE restored to it St Nicholas worked with Boris I to introduce Roman ecclesiastical jurisdiction in Bulgaria, which had recently been converted by the Byzantines A letter from the pope to Boris is extant Feast Nov 13

Nicholas II, d 1061, pope (1059–61), a Burgundian named Gerard, successor of Stephen X and predecessor of Alexander II He was bishop of Florence when he was elected There was an antipope, Benedict X, elected just before Nicholas, but he had little following Nicholas was one of the reforming party of Hildebrand (later GREGORY VII) and in his pontificate vigorously suppressed simony and clerical concubinage all over Europe A synod under Hildebrand's guidance met at the Lateran (1059) and regulated for the future the election of the pope The new law was decisive in eliminating local and imperial influence from the election

Nicholas III, d 1280, pope (1277–80), a Roman named Giovanni Gaetano Orsini, successor of JOHN XXI and predecessor of MARTIN IV As a cardinal he made a great reputation in diplomacy, and he was a close confidant of popes for 30 years He was elected after a six-month delay Nicholas's principal efforts were directed to rendering the Holy See free of civil interference, he was most successful in obtaining renunciation by Rudolf I (Rudolf of Hapsburg) of all control over the Romagna By passing laws preventing non-Romans from obtaining privileges in Rome he quietly frustrated the ambitions of Charles I, king of Naples, to dominate central Italy He was the first pope in a century to live regularly in Rome, and he has been called the founder of the Vatican Dante denounced him in the *Inferno* for nepotism

Nicholas V, antipope (1328–30) see RAINALDUCCI, PIETRO

Nicholas V, 1397–1455, pope (1447–55), an Italian (b probably Sarzana, Liguria) named Tommaso Parentucelli, successor of Eugene IV and predecessor of Calixtus III He was brought to Rome by his friend the celebrated Niccolò d'Albergati, bishop of Bologna After Niccolò's death (1443) Tommaso stayed at the papal court Eugene IV depended much on him and made him a cardinal (1446) Nicholas was renowned for learning and piety A conciliatory policy gained the Concordat of Vienna (1448) with FREDERICK III, this undid much of the work of the Council of Basel (see BASEL, COUNCIL OF), and after it the council submitted to the pope (1449) Nicholas gave the repentant antipope, Felix V (Amadeus VIII), the red hat In 1450 a splendid jubilee marked the schism's end The pope's reforming zeal led him to send NICHOLAS OF CUSA to Germany (1450) Nicholas V established the papacy as a patron of the humanities and was a founder of the Vatican Library Lorenzo Valla benefited from his generosity Nicholas's days were clouded by a plot of Stefano Porcaro against him (1453) and by the fall of Constantinople

Nicholas I, 1796–1855, emperor and tsar of Russia (1825–55), third son of Paul I His brother and predecessor, Alexander I, died childless (1825), next in succession was Paul's second son, Constantine, who had, however, secretly renounced (1823) the throne after marrying a Polish lady The secrecy of the act resulted in confusion at Alexander's death, thus facilitating the outbreak (1825) of the DECEMBRIST CONSPIRACY, which was ruthlessly crushed Nicholas, the very image of the autocrat and the champion of reaction, always strove to serve his country's best interests as he saw them, but his methods were dictatorial and paternalistic and—in the case of his attempts to solve the problem of the serfs—hopelessly inadequate He mercilessly suppressed the uprising (1830–31) in POLAND and abrogated the Polish constitution and Polish autonomy, with the motto "orthodoxy, autocracy, and national unity," he subjected the press, the universities, and the administration to the supervision of his dreaded secret police, he concluded a new HOLY ALLIANCE with Austria and Prussia in 1833, and in 1849 his troops helped Austria put down the revolutionists in Hungary Though successful in his war (1828–29) against Turkey (see RUSSO-TURKISH WARS), Nicholas invited catastrophe when he deliberately entered the CRIMEAN WAR (1853–56) Dying before its disastrous conclusion, he was succeeded by his son, Alexander II It was in the reign of Nicholas I that Russian economic and political progress fell seriously out of step with the rest of Europe, and conditions were created that made the subsequent revolutions of 1905 and 1917 almost inevitable It certainly was under his rule that the Russian revolutionary movement acquired its cohesion and its characteristics From the cultural point of view, a national tradition of literature and music came into existence with PUSHKIN, LERMONTOV, GOGOL, and GLINKA

Nicholas II, 1868–1918, last emperor and tsar of Russia (1894–1917), son of Alexander III and MARIE FEODOROVNA His education was directed successively by an English tutor, by General Danilovich, and by Konstantin POBYEDONOSTZEV While on a tour of the Orient in 1890–91 he barely escaped assassination in Japan In 1894 he married Princess Alix of Hesse (see ALEXANDRA FEODOROVNA) His attitude in foreign affairs was pacific, and he is credited with the initiation (1899) of the first of the HAGUE CONFERENCES As for internal policy, Nicholas declared soon after his accession that he wished to preserve the foundations of autocracy as firmly and consistently as his father had But the revolutionary movement and the liberal opposition were on the increase Terrorists, in a series of assassinations, killed high officials (including the minister of the interior, PLEHVE) and even an uncle of the tsar, while the Marxist Social Democratic party organized the workers The humiliating outcome of the RUSSO-JAPANESE WAR (1904–5) resulted in the peasant revolts, industrial strikes, and violent outbreaks known as the Revolution of 1905 In Jan, 1905, a crowd of workers who had come to petition the tsar peacefully were fired upon before the Winter Palace, the government's action on that "Bloody Sunday" proved fateful After the general strike of Oct, 1905, Count WITTE, the new prime minister, induced Nicholas to sign a manifesto promising representative government and the basic civil liberties An elective DUMA and an upper chamber were set up, but neither the extreme revolutionists nor the tsar were seriously disposed to uphold the parliament Nicholas soon curtailed the Duma and dismissed Witte in 1906, replacing him with P A STOLYPIN The outbreak in 1914 of the First World War briefly swept aside internal conflict, but Nicholas and his ministers ignored the opportunities now available for ordering the internal affairs of state In 1915 Nicholas took the command of the army from Grand Duke Nicholas and left the empress in virtual control at home This act led to a constant stream of resignations from his ministers, their posts were filled by the creatures of the empress, who was completely dominated by RASPUTIN After Rasputin's murder (1916) Nicholas ceased in effect to reign Discontent at home spread, the army was tired of war, the food situation deteriorated, the government tottered, and in March, 1917, Nicholas was forced to abdicate (see RUSSIAN REVOLUTION) He was held first in the Tsarskoye Selo palace, then near Tobolsk The advance, in July, 1918, of counter-revolutionary forces caused the soviet of Ekaterinburg (now Sverdlovsk) to fear that Nicholas might be liberated, after a secret meeting a death sentence was passed on the tsar and his family, who were shot in a cellar at Ekaterinburg on the night of July 16 Their bodies were burned The succession was later claimed by his cousin, Grand Duke Cyril (see ROMANOV) The last emperor's vague mysticism, limited intelligence, and submission to sinister influences made him particularly unfit to cope with the events that led to his tragic end See *The Letters of the Tsar to the Tsaritsa* (1929) and *The Secret Letters of the Last Tsar* (1938), Sir John Hanbury-Williams, *The Emperor Nicholas II* (1922); Michael Florinsky, *The End of the Russian Empire* (1931), Sir Bernard Pares, *My Russian Memoirs* (1931), Paul Bulygin, *The Murder of the Romanoffs* (1935)

Nicholas I, 1841–1921, prince (1860–1910) and king (1910–18) of Montenegro He succeeded his uncle Danilo II In 1862, after a series of frontier incidents, war broke out between Montenegro and the Ottoman Empire. Despite the heroic resistance of the Montenegrins, Nicholas was obliged to conclude an unfavorable peace. Nicholas reorganized his army and in 1876 allied himself with Serbia, intervened in favor of the rebels in Bosnia and Hercegovina, and declared war on Turkey, in 1877 Russia entered the war against Turkey. Nicholas waged a successful campaign The Treaty of SAN STEFANO (1878) trebled the size of Montenegro, but the final boundaries adopted at the Congress of Berlin reduced the Montenegrin gains somewhat. Montenegro was recognized as fully independent, and in 1910 Nicholas proclaimed himself king He sided with Serbia in the First World War, but sought a separate peace with the Central Powers after his troops had been routed. He resisted the proposed union of Montenegro with Serbia and as a result was deposed (1918) by a national assembly, which proclaimed the union King Nikita, as he was nicknamed, succeeded in marrying off his five handsome daughters into the most prominent houses of Europe Zorka married Peter I of Serbia, Helena married Victor Emmanuel III of Italy; Anastasia married Grand Duke Nicholas of Russia, Militza married Grand Duke Peter (Grand Duke Nicholas's brother), Anna married into the Battenberg family He also wrote poetry and drama

Nicholas (Nikolai Nikolaevich) (nĭk'kulī' nĭ'kulī'-ŭvĭch), 1856–1929, Russian grand duke, first cousin of Emperor Alexander III and grandson of Nicholas I He distinguished himself in the Russo-Turkish War of 1877–78 and was commander in chief of the Russian armies at the outbreak of the First World War In 1915 Emperor Nicholas II, who was influenced against the grand duke by the tsarina and by Rasputin, relieved him of his post and took over the command himself Grand Duke Nicholas was made commander in the Caucasus, where he won successes against the Turks until the February Revolution of 1917 deprived him of his command He left Russia in 1919 and settled in Paris

Nicholas II Land, RSFSR see SEVERNAYA ZEMLYA

Nicholas of Cusa (kū'zu), 1401?–1464, German churchman and humanist, cardinal of the Roman Church He was educated in law at Padua At the Council of Basel he supported Eugene IV firmly In 1448 Nicholas V gave him the red hat He became bishop of Brixen (Bressanone) in 1450 and wrought many reforms He encountered great opposition from Archduke Sigismund of Austria About this time he was made papal legate and traveled (1451–52) all over the empire, preaching, reforming monasteries, and building good relations for the Holy See This great effort was successful as a start, but it was never followed up Nicholas was a Renaissance man His voluminous writings advanced a notion of replacing reason with mystical intuition as the basic way to knowledge, like some other writers on mysticism, Nicholas seems at times to verge on pantheism He held that the world is round and that the stars are other worlds He found some lost plays of Plautus He was one of the first to work on the exposure of the False Decretals

Nicholasville, city (pop 3,192), co seat of Jessamine co, central Ky, just SSW of Lexington near the Kentucky river, in a fertile bluegrass farm region, settled 1798

Nicholls, Francis Redding Tillou (nĭk'lz), 1834–1912, governor of Louisiana, b Donaldsonville, La, grad West Point, 1855 He resigned from the army and practiced law At the outbreak of the Civil War he helped organize a company of Confederate volunteers and through active service rose to the rank of major general Returning to law after the war, he was nominated for governor in 1876 by the Democrats in a desperate effort to end the carpetbag rule in Louisiana He was thus involved in the disputed state and presidential election returns of 1876 and shared in negotiations that placed him in the governorship and swung the electoral votes to Rutherford B HAYES A conservative, Nicholls served with ability, then retired to private life, only to become candidate for governor again as the foe of the notorious Louisiana Lottery The destruction of the lottery was the chief event of his second administration (1888–92) He was a state supreme court justice (1892–1911)

Nichols, Edward Leamington, 1854–1937, American physicist, b Leamington, England, of American parents, grad Cornell (BS, 1875) He was (1887–1919) professor of physics at Cornell and was known for his researches in light, especially in luminescence He founded and edited (1893–1912) the *Physical Review* and wrote with others a number of books

Nichols, Jeanette Paddock, 1890–, American historian, b Rochelle, Ill, grad Knox College, 1913, and Columbia (MA, 1919, PhD, 1923) She was an instructor in history in the extension division of Columbia (1919–21) and acting professor at Wesleyan College, Macon, Ga (1922–23) In 1920 she married Roy Franklin Nichols A contributor to various scholarly journals, she has written several books with her husband, as well as *Alaska a History of Its Administration, Exploitation, and Industrial Development* (1924) and *Twentieth Century United States* (1943) She edited, with J G Randall, *Democracy in the Middle West, 1840–1940* (1941)

Nichols, Roy Franklin, 1896–, American historian, b Newark, NJ, grad Rutgers (B.A., 1918; MA., 1919), Ph D. Columbia, 1923 He was an instructor in history at Columbia from 1922 to 1925 and later became assistant professor (1925) and full professor (1930) of history at the Univ. of Pennsylvania. He served as president of the Pennsylvania Historical Association (1936–39) and was visiting professor in American history at Cambridge Univ.,

England (1948–49). Among his books are *The Democratic Machine, 1850–1854* (1923); *Franklin Pierce, Young Hickory of the Granite Hills* (1931); and, with his wife, Jeanette Paddock Nichols, *The Growth of American Democracy* (1939) and *The Republic of the United States, a History* (1942). He received the Pulitzer Prize in history for *The Disruption of American Democracy* (1948)

Nicholson, Francis (nĭ'kŭlsŭn), 1655–1728, British colonial administrator Lieutenant governor under Sir Edmund Andros, he fled (1689) to England from the revolt in New York led by Jacob LEISLER He returned to America as lieutenant governor of Virginia and was later governor of Maryland (1694–98) and governor of Virginia (1698–1705) *A Modest Answer to a Malicious Libel* (1704) is a defense of his conduct in quarrels in Virginia In 1709 Nicholson led the abortive expedition against Port Royal (now Annapolis Royal, N S) and the next year successfully occupied the town, recording his experiences in the *Journal of an Expedition for the Reduction of Port Royal* (1711) He was named governor of Nova Scotia but his term of office soon ended on the death of Queen Anne in 1713 He was royal governor of South Carolina (1720–25)

Nicholson, James, c 1736–1804, American naval officer, b Chestertown, Md , brother of Samuel Nicholson In the American Revolution, Nicholson, appointed (1776) a captain in the Continental navy, was senior officer after the dismissal of Esek Hopkins in 1778 While awaiting the *Virginia*, his first command, Nicholson and his crew fought at the battle of Trenton (Dec , 1776) In attempting to elude the British blockade of Chesapeake Bay, the *Virginia* ran aground and was captured (1778), though Nicholson escaped His next ship, the *Trumbull*, held the *Watt* to a draw in 1780, but in 1781 was captured by superior British forces Nicholson later lived in New York city, where he was active in Republican (Jeffersonian) politics He was the father-in-law of Albert Gallatin

Nicholson, James William Augustus, 1821–87, American naval officer, b Dedham, Mass The grandson of Samuel Nicholson, he was appointed a midshipman in 1838 As an officer of the *Pocahontas*, he took part in the attempt to relieve Fort Sumter (1861), and in the Civil War he commanded ships in the successful assaults on Port Royal, S C , Jacksonville and other Florida coastal cities, and Mobile Bay He was retired in 1883 with the rank of rear admiral

Nicholson, Meredith, 1866–1947, American author and diplomat, b Crawfordsville, Ind He wrote more than 30 novels, of which the most popular were *The Main Chance* (1903), *The House of a Thousand Candles* (1905), *The Port of Missing Men* (1907), *The Lords of High Decision* (1909), and *Broken Barriers* (1922) *The Hoosiers* (1900), a study of Indiana authors, and *A Hoosier Chronicle* (1912), a semi-autobiographical novel, are among his other writings He served as U S minister to Paraguay (1933–34), to Venezuela (1935–38), and to Nicaragua (1938–41)

Nicholson, Samuel, 1743–1811, American naval officer, b Maryland The brother of James Nicholson, he also served in the Continental navy in the American Revolution, taking many prizes He was commissioned (1794) captain in the new U S navy superintended the construction of the *Constitution*, and on her completion in 1798 (at the time of American-French difficulties) cruised the Atlantic in search of French ships At his death he was senior officer of the navy

Nicholson, Seth Barnes, 1891–, American astronomer, b Springfield, Ill He specialized in solar astronomy and the radiation of stars Since 1915 his work has been carried on at the Mt Wilson Observatory, near Pasadena He is the discoverer of the 9th, 10th, and 11th satellites of Jupiter, and with Edison Pettit and others he made particularly successful measurements of planetary radiation from Mars

Nicholson, Sir William, 1872–1949, English wood engraver and painter He used his wood-engraving technique, consisting of flat blocks with very little shading, to great effect on posters, on many of which he collaborated with James Pryde, their pseudonymic signatures of "W & J Beggerstaff" on these led to their being called the Beggerstaff Brothers As an illustrator Nicholson was responsible for the books *An Alphabet*, *Almanac of Twelve Sports* with Rudyard Kipling, and *London Types* with W E Henley (all 1898) and *A Book of Blokes* (1930), among others His woodcut portraits, verging sometimes on caricature, cover a large segment of London society and include Queen Victoria, his portraits in oils are also widely praised, two of them hanging in the Tate Gallery. He was knighted in 1936 See study by Marguerite Steen (1943).

Nicholson, borough (pop 1,012), NE Pa., NW of Scranton, inc. 1875 Dairying is done here.

Nicias (nĭ'shēăs) d 413 B C Athenian statesman, a man of immense wealth After Pericles' death he came forward as the opponent of Cleon. As an oligarch he worked hard to compose the PELOPONNESIAN WAR, and in 421 B.C he arranged the Peace of Nicias. The increasing popularity of ALCIBIADES made a natural enemy of Nicias, who was respectable and pious, and unimaginative as well When the expedition to Syracuse was proposed, Nicias said it would cost much more than any previous estimate, his purpose was to discourage the people Instead, Athens took his estimate and made him commander with Alcibiades and Lamachus. When Alcibiades had to leave the expedition in Nicias' care, he sealed its fate Nicias vacillated for two years in his policies in the siege of Syracuse When the Spartan Gylippus arrived, and only retreat from Syracuse was feasible, Nicias saw an eclipse of the moon and refused to allow a retreat The Athenian fleet and expedition were shortly overwhelmed by the Syracusans, and Nicias was captured in a hasty retreat on land He was executed He is a famous example of the timid, cautious, superstitious man

nickel, lustrous, silvery-white metallic element (symbol = Ni, for physical constants, see ELEMENT, table), malleable, ductile, hard, taking a high polish, and having magnetic properties In its magnetic properties and in its chemical activity it resembles iron and cobalt It forms two groups of compounds, nickelous (the more commonly used), in which nickel has a valence of 2, and nickelic, in which it has a valence of 3 It combines individually with oxygen, chlorine, and sulphur, and with sulphur and oxygen together, carbon and oxygen, hydrogen and oxygen, and carbon and nitrogen Among its important commercial compounds are the carbonate and the sulphate, which are used in baths for nickel plating The metal itself, however, is much used in the preparation of alloys, such as MONEL METAL, GERMAN SILVER (called also nickel silver), and nickel bronze The chief attributes of nickel alloys are strength, ductility, and resistance to corrosion and heat Alloyed with copper, the metal is used extensively for coins Added to aluminum it increases hardness, and added to iron (often with chromium) it produces a cast iron of great strength Nickel steel and nickel-chromium steel are two important STEEL alloys The metal is also used as a catalyst, as in the hydrogenation of oils Nickel occurs in a number of minerals, its chief ores being PENTLANDITE, GARNIERITE, and PYRRHOTITE (magnetic pyrites) The metal is present in meteorites Nickel is extracted from its ores with difficulty, the sulphide ore (pentlandite) is first roasted, smelted in the blast furnace, and treated in a Bessemer converter The metal is separated from copper by electrolysis and from copper and cobalt by the Mond process Discovery of the element (1751) is credited to Cronstedt, who obtained it from the mineral niccolite

Nickerson, city (pop 1,052), central Kansas, on the Arkansas and near Hutchinson, inc 1879

Niclaes, Hendrik see FAMILISTS

Nicobar Islands (nĭkōbär'), archipelago (635 sq mi , pop 12,452), India, in the Bay of Bengal The climate is tropical, there is lumbering, and coconuts are cultivated The native population is Mongoloid The islands are joined with the Andaman Islands to the north in a centrally administered state, with the capital at Port Blair

Nicodemus (nĭ"kudē'mŭs) [Gr ,=conqueror of the people], member of the Sanhedrin interested in Jesus He helped St Joseph of Arimathea to bury Him John 3 1–21, 7 50,51, 19 39–42 Among the PSEUDEPIGRAPHA is a Gospel of Nicodemus

Nicolai, Otto (ō'tō nēkōlī'ē, nē'kōlī), 1810–49, German composer As conductor of the Philharmonic Concerts, Vienna, which he had founded in 1842, he did much to improve the type of concert program offered in his day His masterpiece was his comic opera *The Merry Wives of Windsor* (Berlin, 1849), which admirably used elements of the Italian *opera buffa*

Nicola Pisano see PISANO, NICOLA

Nicolas (nĭ'kōlŭs) [Gr ,=conqueror of the people], one of the seven deacons He was a proselyte from Antioch Acts 6 5

Nicolay, John George (nĭ'kulā), 1832–1901, biographer of Lincoln, b Rhenish Palatinate In 1848 he was brought to America, and his family settled in Pike co , Ill He worked on the Pittsfield, Ill , *Free Press* and was its editor from 1854 to 1856 In 1860 he and his close friend, John Hay, became private secretaries to Abraham Lincoln and continued as such during his presidency Nicolay and Hay brought out in 1890 their *Abraham Lincoln a History* (10 vols), which had been planned since 1861. It is the authorized biography, and though biased by hero worship and some over-respect for conventions, it is a basic historical work for study of the period Hay and Nicolay also edited Lincoln's complete works See biography by his daughter, Helen Nicolay (1949)

Nicole, Pierre (pyĕr' nēkōl'), 1625–95, French Jansenist writer. He studied and taught at Port-Royal, where one of his pupils was Racine He worked with Pascal on the *Provinciales* His chief writings in his mission of popularizing JANSENISM were two series of epistolary essays, *Les Visionnaires* and *Lettres sur l'hérésie imaginaire* In 1679 he fled to Belgium, but returned to France in 1683 Subsequently he led in the attack on quietism

Nicolet, Jean (zhäN' nēkōlā'), 1598?–1642, French explorer in the Old Northwest He came to New France with Samuel de CHAMPLAIN in 1618 In 1634, under the direction of Champlain, he took a notable voyage west in search of the Northwest Passage, exploring Lake Michigan, Green Bay, and the Fox river. He was drowned on a trip to Trois Rivières

Nicolet (nēkōlā'), town (pop 3,751), S Que , on the Nicolet river near its mouth on the St Lawrence and WSW of Trois Rivières It has textile and hosiery mills and a furniture factory A Roman Catholic cathedral and seminary are here

Nicoll, James Craig (nĭ'kul), 1847–1918, American marine painter and etcher, b New York city His pictures, mainly scenes along the Atlantic coast from the Gulf of St Lawrence to Florida, received numerous awards He was admitted to the National Academy of Design in 1885 Good examples of his art are *Squally Weather* (Metropolitan Mus), *On the Rocks near Portland*, *Stormy Day at Block Island*, and *Twilight*, and the water colors *Off Portland Harbor*, *Moonlight—Cape Ann*, and *Fog and Sunshine on Campobello Island*

Nicolle, Charles Jules Henri (shärl' zhül' ärē' nēkôl'), 1866–1936, French physician and microbiologist He worked with P P E Roux in Paris and was director of the Pasteur Institute in Tunis from 1903 and professor at the Collège de France, Paris, from 1932 He worked on various diseases, including whooping cough, measles, trachoma, and influenza, and demonstrated (1909) the transmission of typhus by the body louse For his work on typhus he received the 1928 Nobel Prize in Physiology and Medicine

Nicollet, Joseph Nicolas (zhôzĕf' nēkôlä' nēkôlā'), 1786–1843, French mathematician and astronomer, explorer in America, b Cluses, Savoy Nicollet was something of a mathematical prodigy, and he made a name for himself by his mathematical calculations and astronomical observations He was professor at the Collège Louis-le-Grand before his unfortunate financial adventures led him to emigrate to America in 1832 He settled in New Orleans, but he visited in St Louis and became interested in Western exploration In 1836–37 he headed an expedition in search of the source of the Mississippi He was invited to Washington and in 1838–39 was sent out on a government surveying expedition up the Missouri J C Frémont accompanied him on this journey He spent much time in preparing a map of the region of the upper Mississippi and its tributaries and wrote a report, which was published in 1843 He also wrote works on mathematics, astronomy, and life insurance actuarial computation His name is frequently, but erroneously, given as Jean Nicolas Nicollet

Nicolls, Richard, 1624–72, first English governor of New York, b Bedfordshire, England He served in the English civil war as a royalist and followed the Stuarts into exile, where he entered the service of the duke of York (later King James II) In 1664 Charles II laid claim to the Dutch colony in America and gave it to the duke of York, who appointed Nicolls governor He and his followers took New Amsterdam from the Dutch with little difficulty, in spite of Peter STUYVESANT Nicolls ruled the new colony of New York well, despite his arbitrary powers, balancing the interests of the English and Dutch settlers and effecting a gradual transition to English institutions He issued the legal code known as the Duke's Laws in 1665 After his resignation (1668) he returned to England and was killed at the naval battle of Southwold Bay in the Third Dutch War

Nicol prism (nĭ'kul), optical device invented by William Nicol of Edinburgh (1828) It consists essentially of a crystal of calcite, or ICELAND SPAR, which is cut at an angle into two equal pieces and joined together again with Canada balsam An ordinary beam of light entering the crystal undergoes double refraction, i e , is split into two parts, each of which is affected in a different way One of these parts, the so-called ordinary ray, undergoes total reflection at the Canada-balsam joint and is turned off from its course to pass out at one side of the crystal The other ray, the extraordinary ray, passes on through the crystal By means of this device, a beam of light can be polarized (see POLARIZATION OF LIGHT) or a beam of polarized light can be subjected to analysis The principle involved has been applied to the microscope in the illumination of the field

Nicolson, Harold (nĭ'kulsŭn), 1886–, English biographer and historian, b Teheran, Iran, educated at Oxford He entered the foreign office in 1909, was a member of the British delegation to the Paris Peace Conference in 1919, and represented his government in various parts of the world until he resigned in 1929 He was elected to Parliament in 1935 Among the subjects of his skillful and sympathetic biographies are Paul Verlaine (1921), Tennyson (1923), Byron (1924), Swinburne (1926), Curzon (1934), and Dwight Morrow (1935) *Peacemaking, 1919* (1933) records his impressions of the peace conference Other works are *Diplomacy* (1939), *The Congress of Vienna* (1946), and *The English Sense of Humour* (1947). In 1913 he married Victoria Sackville-West.

Nicomedia (nĭkōmē'dēă), ancient city, NW Asia Minor, near the Bosphorus. It was refounded (264 B.C.) by Nicomedes I of Bithynia for his capital, replacing ANCYRA. It flourished for centuries. The Goths sacked the city in A.D. 258. Diocletian chose it for the eastern imperial capital, but it was soon superseded by Byzantium (Constantinople). The modern city here is IZMIT.

Nicopolis (nĭkŏ'pŭlĭs, nī-) (Gr., =city of victory), ancient city, NW Greece, in Epirus. It was founded by Octavian (later Augustus) to celebrate the victory (31 B.C.) at Actium, which is near by. The city largely eclipsed Ambracia. It is mentioned by St. Paul (Titus 3:12). The ruins at Nicopolis, including a well-preserved theater, are near the modern Prevesa.

Nicosia (nĭkusē'u), Gr. *Lefkosia* (lĕfkōsē'ä), city (pop. 34,485), capital of Cyprus, in the central plain of the island. It is also known by its Turkish name, Lefkosha. Nicosia is an agricultural trade center and has brandy, cigarette, leather, and other manufactures. The residence of the LUSIGNAN kings of Cyprus from 1192, it became a Venetian possession in 1489 and fell to the Turks in 1571. The tombs of the Lusignans are in the former Church of St. Sophia (13th cent.), now a mosque. There also are remnants of the Venetian fortifications. In the Second World War the city suffered several air raids. The name is also spelled Nikosia.

nicotiana (nĭkō"shēā'nù) [see NICOTINE], any plant of the genus *Nicotiana*. There are about 50 species, most of them native to tropical America, although a few North and South American species and one Australian species are known. Many species are now cultivated in all parts of the world for their highly fragrant, trumpet-shaped flowers. The flowers are white, yellow, greenish, violet, or purple, and they usually open at night. The plants are chiefly herbaceous annuals and perennials, a few are shrubs. Commercial TOBACCO is obtained chiefly from the leaves of *Nicotiana tabacum*, originally a tropical species but now cultivated in many subtropical and temperate regions. It grows to a height of from 3 to about 6 ft and has large oval leaves (sometimes more than a foot long) and clusters of pink flowers that open by day. A smaller hardier species (*N. rustica*) with yellowish flowers was cultivated and smoked by the Indians of the E United States before the arrival of the white man. It was introduced into Europe (c 1558), it is now grown in parts of Europe and Asia largely for local use both for smoking and for making insecticides.

nicotine (nĭ'kŭtēn", nĭ"kutēn') [for Jean Nicot, who introduced tobacco into France], colorless, oily liquid alkaloid having a pungent odor and a biting taste. It turns brown on exposure to air, boils at 247°C., and is readily soluble in water, alcohol, and most organic solvents. It occurs in the leaves of the tobacco plant in combination with citric and malic acids. It is widely used in solution as an insecticide, forming the basis for many commercial preparations. Nicotine is extremely poisonous to man, a very small dose (less than a drop) proving fatal within a few minutes. There is evidence that some nicotine is present in tobacco smoke, although much of it is converted into harmless products. See also PYRIDINE.

nicotinic acid: see VITAMINS.

Nicoya, Gulf of (nēkō'yä), Pacific inlet, Central America, between the Nicoya Peninsula and the northwest mainland of Costa Rica. The catch from the fine fishing in the gulf is canned at PUNTARENAS. The village of Nicoya on the peninsula was probably the first Spanish settlement (c 1530) in Costa Rica.

Nictheroy, Brasil see NITERÓI.

Nicuesa, Diego de (dyä'gō dā nēkwā'sä), d. 1511?, Spanish explorer. Appointed governor of Panama and Central America (1508), he sailed from Santo Domingo in 1509 and aided OJEDA at Cartagena before reaching his own territories, where he and his men suffered great hardship. An attempt to assert his authority over a group of men who had been brought by ENCISO into Nicuesa's territory also failed. Nicuesa is said to have perished in a shipwreck on his way back to Santo Domingo.

Nidaros, Norway: see TRONDHEIM.

Nidwalden, Switzerland see UNTERWALDEN.

Niebelungen: see NIBELUNGEN.

Niebuhr, Barthold Georg (bär'tōlt gä'ôrk nē'bōr), 1776–1831, German historian, b. Copenhagen, son of Karsten Niebuhr. He served first in the Danish and, after 1806, in the Prussian civil service, took part in the foundation of the Univ. of Berlin, and was (1816–23) Prussian ambassador to the Holy See. From 1823 to his death he taught at the Univ. of Bonn. Niebuhr's chief work was his history of Rome (3 vols., 1811–32, Eng. tr., 3 vols., 1828–42), which may be said to have inaugurated the modern scientific historical method. Niebuhr aimed at relating individual events to the political and social institutions of ancient Rome, and he sought to recreate the past in terms understandable to the modern reader. An admirer of the Roman republic, he favored agrarianism as the basis of a well-balanced state. He regarded Prussia as a modern parallel of the Roman state and advocated Prussian leadership in the unification of Germany. His liberalism was antirevolutionary and sympathetic to reforms instituted from above. Many of his lectures were translated as *Collected Lectures* (8 vols., 1852–53).

Niebuhr, Karsten (kär'stŭn), 1733–1815, German traveler in Arabia. He was sole survivor of a party of five (of whom the best known was Peter Forskal, a Swedish naturalist) sent by Frederick V of Denmark to explore Arabia (1761–63). From Mocha, Niebuhr sailed for India, returning to Europe by way of the Persian Gulf and the Tigris, Palestine, Syria, and Constantinople (1767). He wrote several accounts of his travels.

Niebuhr, Reinhold (rīn'hōld nē'bōr), 1892–, American theologian, b. Wright City, Mo.; grad. Elmhurst College (Ill.), 1910, and Eden Theological Seminary, 1913, M.A. Yale Divinity School, 1915. From 1915 to 1928 he served as pastor of the Bethel Evangelical Church, Detroit. Many of his parishioners were automobile workers, with whom he sided in their struggle for better working conditions. In 1928 he began teaching at Union Theological Seminary, becoming professor of applied Christianity in 1930. A liberal in politics, in theology he has abjured the liberal Protestant's belief in the essential goodness of man. In various of his writings—notably *Beyond Tragedy* (1938) and *The Nature and Destiny of Man* (Vol. I, 1941, Vol. II, 1943)—he has set forth in brilliant writing his tenet that man, beset by sin, must rely solely on the goodness of God. Later works are *Discerning the Signs of the Times* (1946) and *Faith and History* (1949). See biography by D. R. Davies (1945).

Niehaus, Charles Henry (nē'hous), 1855–1935, American sculptor, b. Cincinnati, studied there and in Munich. He became a member of the National Academy of Design in 1906. His works are in many American cities, among them are a statue of President Garfield, Cincinnati, memorials to Dr. Hahnemann and John Paul Jones, Washington, D.C., Francis Scott Key monument, Baltimore, and an equestrian statue of General Forrest, Memphis, Tenn.

Niel, Adolphe (adôlf' nyĕl'), 1802–69, marshal of France. He served with the corps of engineers in the Algerian campaigns, in the French intervention against the Roman republic (1849), in the Crimean War, and in the Italian war of 1859. Becoming minister of war in 1867 he started a program of far-seeing military reforms which his death interrupted. The pale yellow Marshal Niel rose was named in his honor.

niello (nēĕl'lō) [Ital. from Latin *nigellus*=blackish], black metallic alloy of sulphur, copper, silver, and usually lead, used as an inlay on engraved metal. The metal surface is brushed with a borax solution as a flux, dusted with powdered niello, then heated. After cooling, the surface is scraped and shows a black pattern in the incised lines. Pulling a paper proof of the design in order to make corrections before inlaying is said to have been the start of printing from an engraved plate. The Egyptians are credited with originating niello decoration, which was practiced in classical times, spread throughout Europe during the Middle Ages, came into high repute in the 15th cent. with the work of the Florentine goldsmith Finiguerra, and is still widely used in Russia and India. Roman niello is preserved in the British Museum, pieces by St. Bernward are in the cathedral at Hildesheim, and a pyx by Finiguerra is in Florence.

Niembsch von Strehlenau, Nikolaus see LENAU, NIKOLAUS.

Niemcewicz, Julian Ursyn (yōōl'yan ōōr'sĭn nyĕmtsĕ'vĭch), 1757–1841, Polish writer and patriot. A member of the Polish diet, he served under Kosciusko in the insurrection of 1794 and with him was imprisoned in St. Petersburg. With him he later went to the United States. Niemcewicz returned to Poland in 1807 and became the secretary of the senate and an educator. He went on a mission to London in the insurrection of 1831 and he died, an exile, in Paris. He wrote historical and political plays (tragedies and comedies), satires, and several novels. As a poet he is noted for his epics, ballads, and eulogies.

Niemen (nē'mun), Ger. *Memel* (mā'mûl), Lithuanian *Nemunas* (nyĕ'mōonäs), Pol. *Nsemen* (nyĕ'mĕn), Rus. *Neman* (nyĕ'mŭn), river, 552 mi. long, E Europe. It rises in Belorussia SSW of Minsk and flows generally W through S Lithuania and along the border of Lithuania and former East Prussia (now Kaliningrad oblast, RSFSR) into the KURISCHES HAFF, an inlet of the Baltic Sea. Its mouth forms a small delta. Grodno, Kaunas, and Tilsit (now Sovetsk) are the main cities along its course. Navigable from c.60 mi. above Grodno, it carries chiefly timber and wood products. Until the Second World War a large section of the upper Niemen ran through Polish territory.

Niemeyer, John Henry (nē'mīur), 1839–1932, American painter and art teacher, b. Germany. He came to the United States in 1843 and later studied in France at the École des Beaux-Arts. His mediums were oil, water color, and crayons, and he won distinction as a portraitist and landscape painter. During his long career as professor of drawing (1871–1908) at the Yale school of fine arts and as professor emeritus, Niemeyer exercised a great influence upon the development of American art, among his pupils being Frederic Remington and Bela Lyon Pratt. He was also a lecturer in art at Smith College.

Niemoeller or **Niemöller, Martin** (both, mär'tēn nē'mûlur), 1892–, German Protestant churchman. He studied theology after distinguishing himself as a submarine commander in the First World War. Though at first a supporter of National Socialism, Niemoeller (then a pastor at Berlin-Dahlem) preached courageously against the neopagan tendences of the Hitler regime after it had come into power in 1933. He attacked Hitler's creation of a "German Christian Church" and became the leader of the German pastors' emergency league. Briefly arrested in 1937, he was imprisoned again from 1938 until his liberation (1945) by the Allies. Niemoeller's stand against Nazism was caused chiefly by the government's interference in church affairs, for politically Niemoeller always insisted on his complete loyalty as a German patriot. After his release Niemoeller became (1947) church president (the equivalent of bishop) of the Protestant churches of Hesse and Rhineland-Palatinate, with his seat at Wiesbaden, and founded a cooperative council of all German Protestant churches, of which he became president. After the war he lectured in the United States. Among his writings are his autobiography, *From U-Boat to Pulpit* (1934).

Niepce, Joseph Nicéphore (zhōzĕf' nēsāfôr' nyĕps'), 1765–1833, French chemist, who originated a process of PHOTOGRAPHY. From 1826 he worked with DAGUERRE, who perfected the process after the death of Niepce. A nephew, **Claude Félix Abel Niepce de Saint-Victor** (klōd' fālĕks' abĕl', du sē-vēktôr'), 1805–70, also a chemist, was the first to use albumen in photography and also produced photographic engravings on steel.

Nietzsche, Friedrich Wilhelm (frē'drĭkh vĭl'hĕlm nē'chu), 1844–1900, German philosopher, son of a minister. His father died when Nietzsche was young, and his mother, treating him as a delicate child, raised him with a piety from which, in later life, he intellectually revolted. Educated at Bonn and Leipzig, he was appointed professor of philology at Basel in 1869. He had an unimportant and, to him, disappointing military experience in 1867 and 1870–71. Schopenhauer's philosophy and the friendship of Richard Wagner were of great importance in his early development, but Nietzsche later turned away from both, as he did from his other interests and friends. Nervous disturbances and eye trouble forced him to leave his post at Basel (1879), and thereafter he moved from place to place hoping to improve his health. Frequently in great pain, he nevertheless worked steadily through this period until 1889, when he became hopelessly insane. Nietzsche's work has a poetical grandeur and an intensity that reflect the sensitivity of his mind and his devotion to music. It exhibits also a progressively passionate intemperateness and sense of mission which anticipate his later breakdown. Among his works, all available in English translation, the first important one is *The Birth of Tragedy* (1872, Eng. tr., 1910). His greatest work, *Thus Spake Zarathustra* (Parts I–III, 1883–84, Part IV first printed publicly, 1891, Eng. tr., 1909, 1930), is essentially a poem proclaiming the gospel of the *Übermensch* [superman]. Zarathustra is the Persian ZOROASTER. The book presents the author's doctrine in a symbolic expression which is sometimes obscure. Condemning the traditional morality (especially the Christian ethic) as the code of slavish masses, in which nobility is put down and weakness idealized, Nietzsche preached the superiority of the aristocrat, the morality of masters, in which a life by the might of its own superiority will survive. The will of man must make the superman, who would be above good and evil and would eradicate decadent democracy. The influence of Nietzsche on various aspects of German thought was strong. He also wrote *Human, All Too Human* (1878, Eng. tr., 1909–11), *Joyful Wisdom* (1882, Eng. tr., 1910), and *Beyond Good and Evil* (1886, Eng. tr., 1907). See *The Nietzsche-Wagner Correspondence* (Eng. tr., 1921), biographies by his sister, E. Förster-Nietzsche (Eng. tr., *The Young Nietzsche*, 1912, *The Lonely Nietzsche*, 1915), Gerald Abraham (1933), Crane Brinton (1941), and H. A. Reyburn and others (1948), A. H. J. Knight, *Some Aspects of the Life and Work of Nietzsche* (1933).

Nieuport, Flemish *Nieuwpoort* (both nē'ōōpôrt), town (pop. 4,943), West Flanders prov., N Belgium, a fishing port on the North Sea. There are large oyster beds. It was rebuilt after its partial destruction in the First World War.

Nieuwland, Julius Arthur (nū'lŭnd), 1878–1936, American chemist and botanist, b. Belgium. He was brought to the United States at the age of three and was graduated from the Univ. of Notre Dame in 1899. In 1903 he was ordained a priest. He was professor of botany at the Univ. of Notre Dame (1904–18), dean of the College of Science (1918–22), and professor of organic chemistry from 1918. He is known for his study of the reactions of acetylene which were the basis for the development of Lewisite gas and Duprene, a synthetic rubber.

Nièvre (nyĕ'vrŭ), department (2,659 sq mi.; pop. 248, 559), central France, named after a small tributary of the Loire. It occupies the old province of NIVERNAIS. Nevers is the capital

Niflheim (nĕ'fŭlhīm″), in Norse myth, the lowest region and farthest north, perhaps the same as Hel. It is cold and dreary, inhabited by frost giants, who will go forth at Ragnarok

Nigel (nī'jul), town (pop 30,660), Transvaal prov., Union of South Africa. It is connected by rail with Durban. The population has grown remarkably in recent times because of increased gold mining in the locality

Niger (nī'jŭr), in the Bible. see SIMEON 4.

Niger (nē'zhĕr'), overseas territory (c 457,100 sq mi.; pop. c 1,873,000), French West Africa. The capital is Niamey. It is bordered on the north by Algeria and on the south by Nigeria. Niger is crossed by the Niger river. The south is well wooded and suitable for ranching, while the north is largely desolate. There are roads to Nigeria. Hides and skins are exported

Niger, river, c 2,600 mi. long, rising in NE Sierra Leone. On its initial northeasterly course it flows through French Guinea and French Sudan. After passing Timbuktu, it turns southeast and crosses French Niger and Nigeria to empty into the Gulf of Guinea. The Benue, the chief tributary, enters the Niger at Lokaja in Nigeria. On the Niger's marshy delta (c 14,000 sq mi.) is Port Harcourt. The Niger is one of the longest rivers of Africa, but it is not economically of great use. The central section is navigable for part of the year. Irrigation works making use of its water are contemplated. Two of the early explorers, Mungo Park and Hugh Clapperton, lost their lives on the Niger. Richard L. Lander and his brother also explored the river

Nigeria (nījēr'ēu), British colony and protectorate (372,599 sq. mi.; pop. 19,928,171), W Africa, on the Gulf of Guinea. The capital is Lagos. Nigeria includes British Cameroons. It is bordered on the north and west by French West Africa and on the east by French Cameroons and French Equatorial Africa. The country is named for the Niger river, which crosses it. Nigeria has a desert in the north, savannas in the central highlands, rain forests in the south, and swamps and forests along the coast (c 500 mi. long). Linguistically Nigeria falls into a northern and a southern section. Of the many native groups, the most numerous are in the north the Hausa (3,604,016), the Fulani (2,025,189), and the Kanuri (930, 917) and in the south the Yoruba (3,166,154) and the Ibo (3,172,789). A fairly extensive rail system and a road net connect the principal towns and cities of the interior, including Kano and Bauchi, with the ports of Lagos and Port Harcourt. Tin is mined in the north and coal in the south. Exports of cotton, peanuts, hides, and skins from the north and cacao and palm products from the south have supplanted the centuries-old trade in slaves. The annexation in 1861 of Lagos, a notorious slave depot, as a crown colony marked the beginning of British administration. By 1901, after Frederick J. D. Lugard conquered the slave-raiding chiefs of the north, all the present territory of Nigeria came under British control. In 1906 the country was divided into Northern Nigeria and Southern Nigeria. The two administrations were amalgamated in 1914 to constitute the colony and protectorate of Nigeria. Nigeria is ruled by an appointed governor with the aid of an executive and a legislative council. The legislative council, with appointed and elected members, has a native majority. See Wilfrid Hambly, *Culture Areas of Nigeria* (1935), A. C. Burns, *History of Nigeria* (1936)

night blindness see BLINDNESS

night-blooming cereus (sēr'ēus), name for several species of the CACTUS family, characteristically blooming at night and formerly included in the genus *Cereus*. All are usually climbing or sprawling plants with flat or angled stems and massive but delicate blossoms, commonly white and sometimes fragrant. The flowers unfold rapidly and typically last but a single night. Some of the cacti most commonly called night-blooming cereus are *Hylocereus undatus* (an old hedgeo of which is a landmark in Hawaii), *Selenicereus grandiflorus* (used as a heart tonic), and *Nyctocereus serpentinus*

nighthawk or **bull bat,** North American bird of the goatsucker family. The eastern nighthawk, more often seen than the related WHIPPOORWILL, has plumage of mottled brown, gray, and black, with white wing, throat, and (in the male) tail bands. It may lay its eggs on flat surfaces of hillsides, rocks, or fields or on gravel-covered city roofs. It catches insects in its wide, bristled mouth while pursuing its erratic, graceful flight. At times it plunges from high in the air, arresting its descent and producing a booming sound by suddenly spreading its wings. It is especially active in early evening and before daybreak

Nightingale, Florence, 1820–1910, English hospital administrator, b. Florence, Italy. She was influential in modernizing training for nursing. In 1844 she began to visit hospitals and to interest herself in training for nurses. She spent a brief period in 1850 with the Sisters of St. Vincent de Paul in Alexandria, and in 1851 she studied at the institute for Protestant deaconesses in Kaiserswerth, Germany. Her genius for administration was displayed when, in 1854, she organized a hospital unit of 38 nurses for the Crimean War and established a new type of war hospital at Scutari and Balaklava. She enforced discipline, introduced sanitary reforms, and, against opposition, secured necessary supplies. With the testimonial fund given her for her war services she founded (1860) the Nightingale School and Home for training nurses, St. Thomas's Hospital, London. Although her health was broken and she undertook no other projects of organization, Miss Nightingale's counsel was sought on matters of sanitation and nursing throughout her life. She was known as the "Lady of the Lamp." Florence Nightingale was the first woman to receive (1907) the British Order of Merit, the Crimean Monument, Waterloo Place, London, was erected in her honor in 1915, and in 1934 the Florence Nightingale International Foundation was inaugurated at London to sponsor postgraduate courses in nursing. She is the subject of Longfellow's poem "Santa Filomena." Her writings include *Notes on Hospital Administration* (1857), *Notes on Hospitals* (1859), *Notes on Nursing* (1860), and *Notes on Nursing for the Laboring Classes* (1861). See biographies by M. R. S. Anderson (1929), Irene Cooper Willis (1931), and Margaret Goldsmith (1937)

nightingale, migratory bird of the thrush family, celebrated by many poets for its powers of song. The common nightingale of England and Western Europe is about 6½ in. long and reddish brown above, with under parts of grayish white. It winters in Africa and reaches England about the middle of April. Its song is usually heard only during the breeding season. The nest is a loose structure of leaves and grass on or near the ground. A somewhat larger species is found in Eastern Europe. The bulbul, a songbird which appears in Persian literature, is thought to be a nightingale

nightshade, name for plants of the large and widely distributed genus *Solanum*, chiefly noted for their poisonous qualities. The genus, however, also includes the food plants potato and eggplant. Other species of nightshade include BELLADONNA or deadly nightshade, a BITTERSWEET or woody nightshade, the Jerusalem cherry, a house plant popular for its orange berries, the HORSE NETTLE, and the black nightshade (*Solanum nigrum*), also called deadly nightshade, a weed with black berries. Nightshades usually have star-shaped flowers and showy berries. The enchanter's nightshade belongs to the genus *Circaea*

nihilism (nī'ulĭzm), a name first applied by Turgenev in his novel *Fathers and Sons* (1861) to a theory held by many Russian revolutionists at that time and afterward until the downfall of the tsarist government (1917). Nihilism stressed the need to destroy existing economic and social institutions, whatever was to be the nature of the better order for which the destruction was to prepare. Nihilists were not without constructive programs, but agreement on these was not essential to the immediate objective, destruction. Direct action, such as assassination and arson, was characteristic. Such acts were not necessarily directed by any central authority. Small groups and even individuals were encouraged to plan and execute terroristic acts independently. The assassination of Tsar Alexander II was one result of such terrorist activities. The constructive programs published by nihilists include the establishing of a parliamentary government, the programs are on the whole moderate in comparison with the revolutionary measures of 1917. Nihilism was too diffuse and negative to persist as a movement and gradually gave way to other philosophies of revolt, it remained, however, an element in later Russian thought. See S. Stepniak, *The Career of a Nihilist* (1889), Vera Figner, *Memoirs of a Revolutionist* (1927)

Niigata (nē'gätä), city (1940) pop. 150,903, 1947 pop. 204,477), capital of Niigata prefecture, N Honshu, Japan, on the Sea of Japan at the mouth of the Shinano river. It is an industrial center and the main port (opened in 1868 to foreign trade) for the west coast of Honshu, with exports of oil, machinery, and textiles. The prefecture yields petroleum, gold, silver, raw silk, and farm products

Niihau (nē'hou), island (72 sq. mi.; pop. 182), one of the Hawaiian Islands. It is SW of Kauai and privately owned. Rocky in the east and mostly arid lowland, the island is suitable only for cattle grazing. Niihau mats, made from rushes, are famous

Niitakayama: see MORRISON, MOUNT

Nijinsky, Vaslav (vŭslăf' nyĭzhĕn'skē), 1890–1950, Russian ballet dancer, b. Warsaw, Poland, studied at the Russian Imperial Ballet School. He had tremendous success at his debut (1907) with the imperial ballet in the Marinsky Theater, St. Petersburg. He traveled to Paris (1909) and, as *premier danseur* in Diaghilev's Russian Ballet, was the first to dance *Les Sylphides*, *Petrouchka*, *The Afternoon of a Faun*, *Scheherasade*, and *The Spectre of the Rose*. Nijinsky is among the greatest dancers of all time, but his career was cut short when he became insane. See his diary (1936), ed. and tr. by his wife, Romola Nijinsky, who also wrote a rather inaccurate biography (1933), Anatole Bourman and D. Lyman, *The Tragedy of Nijinsky* (1936), *Nijinsky* (ed. by P. D. Magriel, 1946)

Nijmegen (nī'mā″khun), municipality (pop. 105,921), Gelderland prov., E Netherlands, on the Waal and near the German border, SSW of Arnhem. A railroad junction and inland shipping center, it also has important manufactures. It has a Catholic university (founded 1923). Dating from Carolingian times, Nijmegen was chartered in 1184 and became a free imperial city and a member of the Hanseatic League. It subscribed (1579) to the Union of Utrecht. The Treaty of Nijmegen was signed here in 1678–79 (see DUTCH WARS). In the Second World War, Allied air-borne troops wrested (Sept. 1944) Nijmegen from the Germans but failed in rescuing the troops caught at Arnhem. Among the ancient buildings of the city are a 13th-century church (the Groote Kerk), the city hall (16th cent.), the weighhouse (17th cent.), and remains of a palace built by Charlemagne and rebuilt by Frederick I in 1165. Nijmegen was formerly also spelled Nimeguen, Nymegen, and Nymwegen and is known in French as Nimègue and in German as Nimwegen

Nikaria see ICARIA

Nike (nī'kē), in Greek mythology, daughter of Pallas and Styx. She presided over all contests, especially war, and as such was the goddess of victory, she was identified with the Roman goddess Victoria. Nike was usually conceived of as an attribute of Zeus and Athena (sometimes she was identified with Athena). In art, Nike is usually winged and bears a wreath or a palm branch. In the Athena Parthenos, a statue by Phidias, Athena held a figure of Nike. A Nike by Paeonius, discovered at Olympia, is in the museum there. The *Victory* (or *Nike*) *of Samothrace* (Louvre), although badly mutilated, is one of the finest extant Greek sculptures

Nikisch, Arthur (ar'tōōr nē'kĭsh), 1855–1922, Hungarian conductor and violinist, grad. Vienna Conservatory, 1874. He played in Wagner's orchestra at Bayreuth and with the Vienna court orchestra. In 1879 he became conductor of the Leipzig Opera, remaining until 1889, when he became conductor of the Boston Symphony Orchestra. He conducted (1893–95) the Budapest Opera and was afterward conductor of the Leipzig Gewandhaus and the Berlin Philharmonic until his death

Nikko (nōk'kō), town, Tochigi prefecture, central Honshu, Japan, in Nikko National Park. It is a tourist resort and religious center, famous for its ornate temples and shrines, dating from the Yedo period and notable for rich coloring. One of them houses the tomb of Ieyasu. The park is noted for its mountain scenery, waterfalls, and cryptomeria forests

Nikolayev (nyĭkul'uf), city (pop. 167,108), capital of Nikolayev oblast, SW Ukraine, on the Southern Bug near its junction with the Ingul river. It is a major Black Sea port, exporting grain, sugar, and iron and manganese ores, and it has large shipyards and flour mills. The city was founded in 1784 near the site of the ancient Greek colony of OLBIA. In the Second World War it was held (1941–43) by the Germans

Nikolayevsk or **Nikolayevsk-on-Amur,** Rus. *Nikolayevsk-na-Amure* (nyĭkulŭ'ufsk-na-ămōōr'), city (1948 pop. over 50,000), capital of Lower Amur oblast, Khabarovsk Territory, RSFSR, in Far Eastern Siberia. It is a port on the Amur, 25 mi. above its mouth, and the center of a fishing, goldmining, and fur-hunting area. There are iron deposits near by. Founded in 1852, it was the leading Russian city of the Far East until the rise of Khabarovsk after 1880. It suffered greatly (1920) in the Russian civil war

Nikolsburg (nē'kōlsbōōrk), Czech *Mikulov* (mĭ'kōōlŏf), town (pop. 5,220), Moravia, Czechoslovakia, near the Austrian border. Here in 1621 Gabriel BETHLEN signed a disadvantageous treaty with Emperor Ferdinand II. The Franco-Austrian armistice concluded here (1805) after the battle of Austerlitz was followed by the Treaty of PRESSBURG. Another armistice signed here ended the AUSTRO-PRUSSIAN WAR (1866)

Nikolsk-Ussurisk, RSFSR. see VOROSHILOV

Nikon (nē'kŏn), 1605–81, Russian churchman, patriarch of the Russian Orthodox Church (1652–66). Widely known as a reformer, he accepted the patriarchate on condition that he would be obeyed in everything. He undertook at once a reform of church discipline and ritual with a view to purging the Russian rites of accretions and eccentricities. His reforms, particularly his introduction of a new prayer book (1654), created a schism in the church and inspired the formation of a major opposition sect, the Raskolniki (or Old Believers), who have retained the older usages banned by Nikon. Heterodox sects such as the DUKHOBORS formed and attached themselves to the Raskolniki to avoid persecution. By 1658 Nikon had aroused sufficiently powerful opposition to bring about his banishment, and in 1666 he was deposed and degraded. He was a figure unique in Russian church

history, for he opposed any interference by the state in church affairs and considered the two institutions to be distinct and separate His reforms were maintained after his disgrace

Nikopol (nēkô'pôl), town (pop 5,022), N Bulgaria, on the Danube opposite Rumania It was founded (A D 629) as Nicopolis Here in 1396 the Ottoman Turks under Bajazet I defeated an army of crusaders led by King Sigismund of Hungary (later Emperor SIGISMUND) Among the Christian leaders captured were John the Fearless of Burgundy and Marshal Boucicaut The Turkish victory, won largely because the discipline of the Janizaries was superior to disorderly Western chivalry, removed the last serious obstacle to the Turkish advance, however, Bajazet's defeat (1402) by Tamerlane gave Christian Europe a respite

Nikopol (nyĭkô'pul), city (1926 pop 14,214, 1939 pop 57,841), S central Ukraine, on the Dnieper It is the center of a major manganese-mining district and has a large metallurgical industry.

Nikosia, Cyprus see NICOSIA

Niksic, Serbo-Croatian *Nikšic* (nēk'shĭch), town (pop 6,686), Montenegro, Yugoslavia, NW of Titograd An ancient Montenegrin stronghold, it has ruins of fortresses built for defense against the Turks There are a Roman bridge and a cathedral, the gift of Nicholas II of Russia

Niland (nī'lund), village (pop c 2,000), SE Calif , at the northern end of IMPERIAL VALLEY

Nile, great river of Africa One of the longest rivers in the world, it flows c 4,050 mi from its ultimate headstream, the KAGERA, to the Mediterranean Sea, and it drains c 1,100,000 sq mi The Nile proper, originating at Khartoum (in the Anglo-Egyptian Sudan) in the junction of the BLUE NILE and the WHITE NILE, is c 1,500 mi long Except for the ATBARA, it receives no tributaries below Khartoum In the Anglo-Egyptian Sudan the course of the Nile, viewed from north to south, may be described as a gigantic S curve In Egypt it flows almost due north but often inclines slightly to the west Below Cairo the river enters its delta, which it crosses chiefly through the Damietta and Rosetta channels, there are five other channels, mainly used for irrigation Between Khartoum and Aswan, Egypt, where the First Cataract (the most northerly) is located, the Nile descends from 1,230 ft to 279 ft The descent, always gradual except at the six groups of cataracts, is especially gentle below Aswan The cataracts make the river unnavigable above Aswan except for short stretches and prevent a through waterway from Albert Nyanza N to the Mediterranean The most striking phenomenon of the Nile is the annual autumn overflow of the river from its wide shallow bed in Egypt The mystification of the ancient geographers as to the source of such abundant water during a season when rivers normally were low was cleared up in the 18th and 19th cent by explorers, including James Bruce, John Speke, and Henry Stanley They disclosed that the Blue Nile (which furnishes most of the water for the autumn floods) drains the highlands of NW Ethiopia and that the White Nile drains the E Belgian Congo and W Uganda by drawing on Edward Nyanza, Albert Nyanza and Victoria Nyanza As in ancient times, Egypt would be entirely a desert save for the Nile The pressure of a growing population, however, makes it essential to grow crops throughout the year on the limited arable land and forbids reliance on the annual floods alone Water is kept available throughout the year and flooding is controlled by a system of dams completed in the 1930s and including among major installations the ASWAN DAM and works at ASYUT and SENNAR See Amelia Edwards, *A Thousand Miles up the Nile* (1899), Emil Ludwig, *The Nile* (1937)

Nile, battle of the see ABOUKIR

Niles, Hezekiah, 1777–1839, American journalist, b Jefferis's Ford, Chester co , Pa A printer, a writer, and a publisher, he was the chief editor (1805–11) of the Baltimore *Evening Post* In 1811 he founded *Niles' Weekly Register* (later called *Niles' National Register*), one of the most influential journals of his day, now an important historical source He was more or less independent in politics but was an economic nationalist, advocating the protective tariff, gradual abolition of slavery, and the recharter of the Second Bank of the United States He became an active opponent of Andrew Jackson Niles wrote a historical work, *Principles and Acts of the Revolution* (1822), and essays See R G Stone, *Hezekiah Niles as an Economist* (1933)

Niles. 1 Village (pop 2,168), NE Ill , near Chicago, inc 1899 **2** City (pop 11,328), SW Mich , on the St Joseph and N of South Bend, Ind , in a farm and fruit area, inc as a village 1838, as a city 1859. It was the site of a Jesuit mission (1690) and of Fort St. Joseph, built by the French (1697) The fort fell to the British (1761), to the Indians (Pontiac's Rebellion, 1763), and to the Spanish and Indians (1780, 1781), it was later abandoned. Permanent settlement began in 1827, and as a station on the stagecoach route between Detroit and Chicago, Niles grew as a commercial and industrial center. Its manufactures include refrigeration equipment, metal fixtures, wire products, and dress patterns. Ring Lardner was born here **3** City (pop 16,273), NE Ohio, on the Mahoning and near Warren, settled 1806 It is an iron and steel industrial center, and chemicals, electric lights, metal products, and railroad equipment are made There is a memorial to William McKinley, who was born here

Niles Center, Ill see SKOKIE

Nilgiri Hills see GHATS

Nilsson, Christine (nĭl'sŏn), 1843–1921, Swedish operatic soprano Her debut (1864) was made in Paris She made a tour (1870–72) of the United States, after which she sang regularly at Drury Lane until 1877 In 1883 she sang at the opening of the Metropolitan Opera House

nimbus (nĭm'bus), in art, the luminous disk or circle or other indication of light around the head of a sacred personage It was used in Buddhist and other Oriental art and by the early Greeks and Romans to designate gods and heroes and appeared in Christian art in the 5th cent Although usually a circle or disk, the nimbus has various forms—triangular for God the Father, a circle with a cross for Christ, a square for a living person, a disk or circle for a saint, with sometimes a band of small stars for the Virgin Mary The square form was symbolic of the material world, the circle symbolized spiritual perfection and eternal blessedness, and the triangle represented eternity and the Trinity The nimbus is usually of gold and may have a clearly defined outline or the light may be diffused, radiating from the head in lines that melt into the picture The term *aureole* may denote a crown or radiance around the head or it may be an oval used as a background for the whole body When nimbus and aureole are combined for one figure, the illumination is called a glory Halo is a nontechnical term to denote either a disk back of the head or a circle surrounding it

nimbus, in meteorology see CLOUD

Nimeguen or **Nimègue,** Netherlands [see NIJMEGEN

Nîmes (nēm), city (pop 75,398), capital of Gard dept , S France, in Languedoc It manufactures silk and trades in wines and spirits As Nemausus it was an important city of Provincia Narbonensis (see GAUL) The magnificent Roman arena, seating up to 24,000 spectators, is still in use The Maison Carrée [square house], a Roman TEMPLE (1st or 2d cent A D), one of the finest examples of Roman architecture, is perfectly preserved and houses a museum of Roman antiquities Other Roman relics include the temple of Diana (2d cent A D), a great watchtower, and, a few miles distant, the PONT DU GARD

Nimitz, Chester William (nĭ'mĭts), 1885–, American admiral, b Fredericksburg, Texas, grad Annapolis 1905 In the First World War he was chief of staff to the commander of the submarine force of the Atlantic Fleet He was chief of the Bureau of Navigation when, after the attack on Pearl Harbor he succeeded (1941) Husband E Kimmel as commander of the Pacific Fleet He headed the naval fighting forces in the Pacific throughout the Second World War In Dec , 1944, he was made admiral of the fleet ("five-star admiral") and a year later succeeded Ernest J King as chief of naval operations After he retired (Dec , 1947) from the navy, he was chosen (March, 1949) to head the United Nations commission for India and Pakistan

Nimrah see BETH-NIMRAH

Nimrim, stream, perhaps the Wadi Nimeirah, a southeastern feeder of the Dead Sea Isa 15 6, Jer 48 34

Nimrod, descendant of Cush who is recorded as a mighty hunter Gen 10 8, 1 Chron 1 10

Nimshi (nĭm'shī), grandfather of Jehu 1 Kings 19 16, 2 Kings 9 2,14,20, 2 Chron 22 7

Nimwegen, Netherlands see NIJMEGEN

ninebark, any plant of the genus *Physocarpus* (or *Opulaster*), North American (one Asiatic) deciduous, spring-blooming shrubs, with thin bark which peels in several layers They have clusters of small white or pinkish flowers, often similar to those of the closely related bridal wreath spiraea, followed by small inflated seed pods Ninebarks are hardy and are easily cultivated as ornamental shrubs

Nine-Power Treaty. see NAVAL CONFERENCES

Ninety Six, town (pop 1,453), W S C , near Greenwood, founded 1855 Near by are the site of a Revolutionary fort and a state park.

Nineveh (nĭ'nuvŭ), ancient city, capital of the Assyrian Empire, on the Tigris river opposite the site of modern Mosul, Iraq The old capital Assur was replaced by Calah, which seems to have been replaced by Nineveh Nineveh was thereafter generally the capital, though Sargon built Dur Sharrukin as his capital Nineveh reached its full glory under SENNACHERIB and ASSUR-BANI-PAL It continued to be the leader of the ancient world until it fell in 612 B C to the attack of Cyaxares and Nabopolassar, and the Assyrian Empire came to an end Excavations, begun in the middle of the 19th cent , have revealed a city more than 3 mi. long Buildings and inscriptions give much material on the history of Assyria The library of Assurbani-pal was at Nineveh The city is mentioned often in the Bible. The book of Nahum tells of its fall. Gen. 10.11; Zeph. 2.13; Mat. 12.41; Luke 11.30

Ninghsia or **Ning-hsia** (nĭng'shyä'), province (90,075 sq mi., pop 737,536), NW China, bounded on the north by the Mongolian People's Republic The capital is Yingchwan. Ninghsia is part of Inner Mongolia. Desert and grazing land make up most of the province. Only in the southwest section, through which the Yellow River flows, is agriculture possible, there wheat, kaoliang, and beans are raised Wool, furs, hides, and rugs are exported The few towns are merely stations on the camel caravan routes which are Ninghsia's chief avenues of trade The Chinese population is confined to the south The rest of the province, inhabited by Mongols, was detached (1949) by the Chinese Communists and made part of the Inner Mongolian Autonomous Region

Ninghsien or **Ning-hsien** (nĭng'shyĕn'), city (pop. 210,377), Chekiang prov , China, on the Whangpoo river A Portuguese trading settlement was established here in the 16th cent In the Opium War (1841) British forces occupied the city The Treaty of Nanking (1842) which ended hostilities, made Ninghsien a TREATY PORT It is the eastern terminus of a railroad to Hangchow Fishing is a major industry The city was formerly named Ningpo

Ningpo, China see NINGHSIEN

Ninian, Saint (nĭ'nēun), d 432?, British missionary to the Picts of Galloway, the Apostle of Scotland. See study by W D Simpson (1940)

Ninon de Lenclos see LENCLOS, NINON DE

Niobe (nī'ōbē), in Greek legend, queen of Thebes, wife of AMPHION and daughter of TANTALUS. She boasted of her children (accounts vary, giving her 12, 14, and 20), saying that LETO had only two APOLLO and ARTEMIS, angry at this insult to their mother, killed all Niobe's children, and she was turned into a stone image of perpetual weeping

niobium (nīō'bēum), steel-gray, lustrous metallic element (symbol=Nb, for physical constants, see ELEMENT, table) Like tantalum, it is malleable and ductile and can be welded It also resembles tantalum in reacting readily at high temperatures with oxygen, carbon, the halogens, nitrogen, sulphur, and other nonmetals It is used in vacuum tubes, in the preparation of stainless steel, and (in the form of the carbide) in making cutting tools In 1801 Charles Hatchett discovered the element (although he did not isolate it) in an ore known as columbite C W Blomstrand, in 1864, isolated the element from the chloride Both columbium (symbol=Cb) and niobium were long used as names for the element in different countries, in 1949 the International Union of Chemistry adopted the name niobium in preference to columbium

Niobrara (nīōbrâ'ru), river, 430 mi long, rising in E Wyoming and flowing across N Nebraska to the Missouri on the northeast border The Bureau of Reclamation's Mirage Flats project uses water from the Niobrara impounded by Box Butte Dam (est 1946), SW of Rushville

Niort (nyôr), town (pop 29,068), capital of Deux-Sèvres dept , W France, in Poitou It has glove manufacturing Of the old fortress (12th–13th cent) two huge towers remain, there also are several fine Renaissance buildings Niort was a Huguenot stronghold in the 16th and 17th cent Mme de Maintenon was born in jail here

Nipawin (nĭ'puwĭn"), town (pop 2,211), E central Sask , on the Saskatchewan river and E of Prince Albert There are flour mills and dairying

Nipigon, Lake (nĭ'pĭgŏn), 66 mi long and 46 mi wide, central Ont , NE of Port Arthur It has many islands It drains S into Lake Superior by the 40-mile Nipigon river.

Nipissing, Lake (nĭ'pĭsĭng), S Ont , between the Ottawa river and Georgian Bay It extends west from the city of North Bay and is drained WSW by the French river 50 mi to Georgian Bay

Nippon (nĭ'pŏn, nĭpŏn'), a name for Japan, derived from Dai Nippon This may be said to mean Great Japan and is derived from the Chinese ideographs for Land of the Rising Sun

Nippur (nĭpōōr'), ancient city of Babylonia, a northern Sumerian settlement on the Euphrates It was the seat of the important cult of the god En-lil, flourishing above all others in Sumerian times Excavations of the temple area have yielded a large library (of clay tablets) of the greatest historical interest, along with relics of the much later Persian and Parthian periods

Niriz (nērēz'), salt lake, S Iran, in the mountains E of Shiraz The town of Niriz (pop 19,439) was once on its shores, but now is to the southeast because of shrinkage of the lake. The town is on the road from Kerman to Shiraz The lake is also called Bakhtegan

Nirvana: see BUDDHISM.

Nis or **Nish,** Serbo-Croatian *Niš* (all nēsh), city (pop 50,692), S Serbia, Yugoslavia, on the Nishava river near its confluence with the Southern Morava It is an important railroad center and has iron and tobacco industries The Roman Naissus, it was the site of a victory (A.D. 269) of Claudius II over the Ostrogoths and was the birthplace of Constantine I (Constantine the Great). In the Middle

Ages the city passed back and forth between the Bulgarian and Serbian empires The Turks, who captured it c 1386, were defeated here in 1443 by John Hunyadi, but soon obtained a permanent hold over all Serbia Nis was several times held, for brief periods, by Christian forces, but it permanently passed to Serbia only in 1878 The city retains a medieval fortress which dominates the S Morava valley The Tower of Skulls (Serbo-Croatian *Cele Kula*) was built to commemorate the Serbs massacred in the uprising of 1809.

Nisa, town, Silesia see NEISSE

Nish, Yugoslavia see NIS

Nishapur (nēshāpōr'), city (pop 24,270), NE Iran, SW of Meshed Valuable turquoise mines are near by It was the usual medieval capital (until 1161) of Khurasan and in the 11th cent was briefly capital of Persia Jenghiz Khan took the town and massacred much of the population Omar Khayyam was born here, archaeologists made important finds of glazed pottery near his tomb

Nishinomiya (nē"shēnō'mēä), city (1940 pop 103,774, 1947 pop 108,893), Hyogo prefecture, S Honshu, Japan, on Osaka Bay It is a sake-producing center Kobe Women's College is here

Nisibin (nĭs'ĭbēn), town, NE Syria, on the Mosul-to-Alep route It has ruins of the ancient Nisibis, the residence of early Armenian kings It passed in turn to the Romans, Parthians, and Persians, in 1839 the Egyptians here defeated the Turks

Nisqually Indians (nĭz'kwălē), tribe of North American Indians of the Salishan linguistic stock In the early 19th cent they lived on the Nisqually river in Washington Their culture was essentially that of the Pacific Northwest Coast area, they fished for salmon, they lived in large wooden houses, and they were expert at wood carving In 1854 they signed the Medicine Creek Treaty, which set aside a reservation for them in W central Washington The Nisqualli, however, were not satisfied, and they took part in the Indian uprisings of 1858 They have largely abandoned the reservation and are today farmers There are 60 left on the reservation See M W Smith, *The Puyallup-Nisqually* (1940)

Nisroch (nĭs'rŏk), Assyrian god in whose temple Sennacherib was worshiping when he was assassinated 2 Kings 19 37, Isa 37 38.

niter, see SALTPETER

Niterói (nētərōē'), city (pop 124,507), capital of Rio de Janeiro state, SE Brazil, on Guanabara Bay opposite Rio de Janeiro It is primarily a residential suburb of the national capital, though it has some industries, has some shipping by rail and by sea, and has several institutions of higher learning Formerly the name was spelled Nictheroy

niton see RADON

Nitra (nyĭ'trä), Ger *Neutra* (noi'trä), Hung *Nyitra* (nyĭ'trŏ), city (pop 19,712), Slovakia, Czechoslovakia, NE of Bratislava and on the Nitra river, an affluent of the Danube It is an agricultural market center and has beet-sugar refineries and breweries Dating from Roman times, Nitra is traditionally the site of the oldest church in Slovakia and is an episcopal see

nitrate (nī'trāt), either a salt or an ester of NITRIC ACID A nitrate is a compound containing the nitrate group (see RADICAL) of atoms, which consists of one atom of nitrogen and three of oxygen Nearly all the nitrates of the metals are soluble in water, and for this reason they are widely used when a soluble salt of a metal is required Some important nitrates are potassium nitrate (SALTPETER) and sodium nitrate (Chile saltpeter), silver nitrate, known commonly as lunar caustic, NITROGLYCERIN, nitrocellulose, a nitrate of CELLULOSE, NITROBENZENE, and ammonium nitrate (composed of the ammonium and nitrate radicals), which is used in the preparation of nitrous oxide and explosives Calcium nitrate is used in fertilizers, as are many other nitrates Barium nitrate and strontium nitrate are used to make colored fireworks and colored lights for signals, a nitrate of bismuth is used in medicine In chemical analysis, the test for the nitrate radical involves the addition, first, of a solution of ferrous sulphate to the unknown substance and then of concentrated sulphuric acid The appearance of a characteristic brown ring at the surface of contact between the acid and the mixture (of ferrous sulphate and the unknown) indicates the presence of the nitrate radical The presence of nitrates in the soil is of great importance in agriculture, since from these soluble compounds plants obtain the NITROGEN necessary for growth The NITROGEN-FIXING BACTERIA are important in keeping the soil supplied with these compounds

nitric acid (nĭ'trĭk), highly corrosive, colorless liquid which gives off choking fumes in air, boils at 86°C, and becomes a white crystalline substance at —42°C. These properties apply to pure (100 percent) nitric acid Miscible with water in all proportions, the aqueous solutions of commerce commonly range in concentration up to that of 68 percent nitric acid, which is known as "concentrated" nitric acid This solution boils at 120°C, while other concentrations weigh less and have lower boiling points. The acid is a good conductor of electricity, ionizes readily, is a strong oxidizing agent, and reacts with metals, oxides, and hydroxides to form its salts, the nitrates Besides its use in the preparation of nitrates, it is employed in the making of explosives, of some dyes, and of several organic compounds such as pyroxylin It is prepared in several ways, chiefly by the treatment of a nitrate (commonly sodium nitrate, Chile saltpeter) with sulphuric acid and by the oxidation of ammonia (OSTWALD PROCESS) The acid was known to the alchemists as aqua fortis because of its corrosive action Fuming nitric acid is a highly concentrated solution of the acid, having a reddish-brown color owing to the presence of an oxide of nitrogen which forms the "fumes" A mixture of one part of nitric acid with three parts of hydrochloric acid is known as aqua regia, a yellow liquid which dissolves gold and platinum

nitrifying bacteria see NITROGEN-FIXING BACTERIA

Nitro (nī'trō), town (pop 2,983), W W Va, in the Kanawha and NW of Charleston, inc 1932 It was born a boom town in the First World War, growing up around a government explosives plant, which was later abandoned Several plants now produce pencils, chemicals, and rayon

nitrobenzene (nī"trōbĕn"zēn', -bĭn'zēn"), poisonous, pale yellow, oily liquid with a characteristic odor, boiling at 211°C and solidifying at about 6°C It is prepared by treating benzene with nitric acid (in the presence of sulphuric acid, which removes the water formed) It is insoluble in water, but mixes readily with many organic liquids It is used in the preparation of some soaps and perfumes and in the manufacture of aniline

nitrocellulose see CELLULOSE and GUNCOTTON

nitrogen (nī'trujun), gaseous element (symbol=N, for physical constants, see ELEMENT, table), colorless, odorless, and tasteless At its boiling point it changes to a colorless liquid, and at its melting point to a white, crystalline solid The gas does not burn, does not support combustion, and is only slightly soluble in water It is relatively inactive chemically, not uniting readily with other elements, and in compounds exhibits a tendency to leave the combination and revert to the free state It combines with some of the more active metals, such as calcium, magnesium, and sodium to form nitrides With oxygen it forms several oxides e g nitric oxide, a gas used in the preparation of nitrogen dioxide, which is used in manufacturing sulphuric acid (in the chamber process), nitrous oxide, (called commonly laughing gas), nitrogen trioxide, and nitrogen pentoxide Nitrogen is a constituent of ammonia, of nitric acid, of many explosives, e g, dynamite, guncotton, nitroglycerin, smokeless powders, and T N T (trinitrotoluene), of the important group of organic compounds called proteins, and of the many nitrates The element composes about four fifths of the atmosphere It is present in all living matter, being a constituent of protoplasm, and its compounds are, consequently, necessary for the continuance of life A FERTILIZER is used to supply plants with these compounds when they are lacking in the soil Nitrogen is present in the protein of foods and is an important consideration in human diet The element itself is used to some extent in filling electric-light bulbs (because of its inertness), in thermometers, and in certain industrial processes, as in the HABER PROCESS, when it is obtained from liquid air The chief importance of the element lies in its compounds Nitrogen was discovered by Daniel Rutherford in 1772, was shown by Scheele to be present in the atmosphere, and was first identified as an element by Lavoisier The **nitrogen cycle** describes the continuous course of nitrogen in nature as it is utilized by plants and animals in nutrition Nitrogen, in the form of compounds, is stored up by plants These plants are used by animals as food The nitrogen compounds are broken down within the body of the animal in its nutrition, and the nitrogen enters into other compounds Energy is liberated The waste matter of the animals has a high nitrogen content, and it passes into the soil or the sea Certain bacteria (see NITROGEN-FIXING BACTERIA) transform these new nitrogenous compounds into forms which can be utilized by the plants These last compounds are then taken up by the plants, transformed into those compounds which are to serve once again as food for animals, and the cycle is complete The expression **nitrogen fixation** refers to the extraction of the element from the atmosphere and its combination with other elements to form compounds This is accomplished commercially in various ways—in the arc process for the preparation of nitric acid, the cyanamide process for the preparation of calcium cyanamide, which is formed when calcium carbide and nitrogen react at extremely high temperatures (about 1100° C) and which is used in the production of ammonia, and the Haber process, in which ammonia is synthesized by the direct combination of nitrogen and hydrogen

nitrogen-fixing bacteria and nitrifying bacteria (nī'trufī"ĭng), bacteria which convert nitrogen into forms usable by the higher plants Nitrogen is an essential element in the formation of all protoplasm, nitrogen compounds in the soil are constantly being depleted by plants, and the restoration of such compounds is therefore of vital importance Nitrogen-fixing bacteria include both those that live free in the soil and those that live enclosed in nodules or tubercles on the roots of certain plants known as legumes Both groups are able to convert atmospheric nitrogen into protein compounds that can be utilized by plants for growth How the bacteria accomplish this is not fully understood Among the free-living forms are *Clostridium pasterianum*, discovered (c 1893) by Serge Winogradsky, and species of *Azotobacter*, discovered (c 1901) by M W Beijerinck When such bacteria die, the compounds formed by them are returned to the soil Bacteria that live on the roots of legumes are of the genus *Rhizobium* Beijerinck (c 1888) was the first to isolate *Rhizobium leguminosarum* (also known as *Bacterium*, or *Bacillus, radicicola*), although the presence of such bacteria in root nodules was recognized by earlier workers Legumes on which various species form nodules include alfalfa, peas, beans, clover, soybeans, and lupine The bacteria enter the roots chiefly through root hairs and then work their way to the inner tissues An enlargement of the tissue, known as a nodule or tubercle, forms as a result Many bacteria are contained within each nodule, and these live in a symbiotic (mutually beneficial) relationship with the green plant The bacteria obtain their carbohydrates from the green plant, and the green plant obtains nitrogen from the bacteria When the crops are harvested, the roots can be left in the soil to decay, thus returning organic nitrogen to the soil Rotation of a leguminous crop with a non-leguminous crop is a common practice for maintaining the nitrogen content of the soil Seeds are sometimes inoculated with nitrogen-fixing bacteria before sowing The bacteria are present naturally in some soils, and they can live free in the soil but thrive better in the nodules They are able to use also ammonia and other sources of nitrogen, and if such supplies of nitrogen are adequate they do not fix atmospheric nitrogen The nitrifying bacteria are those which convert certain nitrogen compounds, the product of decay of organic material in the soil, into forms usable by the higher plants The process consists chiefly of the oxidation of the ammonia of ammonium salts to nitrites by the action of bacteria of the genus *Nitrosomonas* and of the further oxidation, by *Nitrobacter*, of the nitrites to nitrates

nitroglycerin (nī"trōglĭ'sərĭn), highly explosive, heavy, colorless, oily liquid Chemically, it is a compound of carbon, hydrogen, oxygen, and nitrogen, being an ester of glycerin (glycerol) and nitric acid, and is more correctly called glyceryl trinitrate It is insoluble in water but easily soluble in ether and sparingly so in alcohol It is an unstable compound, decomposing with great, explosive violence upon slight jarring, percussion, or heating and forming carbon dioxide, water, and free nitrogen, with the liberation of a great amount of energy Because of its sensitivity to very slight shock, it is either mixed with absorbent materials to form DYNAMITE or with gelatin in nitrogelatin or blasting gelatin In both of these forms it is employed extensively as an explosive It is used also in the manufacture of smokeless POWDER In medicine it is used in the treatment of some forms of heart disease Nitroglycerin was discovered (c 1846) by Ascanio Sobrero and was first produced on a commercial scale by Alfred NOBEL

nitrous oxide see LAUGHING GAS

Nitti, Francesco Saverio (franchā'skō savā'rēō nēt'tē), 1868-, Italian statesman and economist A professor of economics at the Univ of Naples, he entered parliament in 1904 and was minister of agriculture under Giolitti (1911–14) and of finance under Orlando (1917–19) In 1919 he became premier, but serious internal difficulties and sharp criticism of his foreign policy caused his resignation in 1920 Nitti lived in exile during the Fascist period He returned after the Second World War and became, with Croce and Orlando, a leader of the National Democratic Union party

Nivelles (nēvĕl'), Flemish *Nijpel* (nī'pĭl), city (pop 11,865), Brabant prov, Belgium, S of Brussels and near Waterloo It is a steel-manufacturing center There are a convent dating from the 7th cent and a Romanesque church dating from the 11th cent and rebuilt in the 18th cent

Nivernais (nēvĕrnā'), region and former province, central France It roughly coincides with Nièvre dept Drained by the Loire and the Yonne, it is a hilly plateau, rising to the hills of MORVAN in the east Stock raising and pottery making are the principal industries Nevers is the only large town A county after the 10th cent, it passed (1384) through inheritance to Philip the Bold of Burgundy, was raised to a duchy in 1539, and later passed through a complicated succession, to the house of GONZAGA In 1659 Cardinal Mazarin bought the title, which remained with his family even after Louis XIV incorporated (1669) the duchy into the royal domain.

Nivôse see FRENCH REVOLUTIONARY CALENDAR

nix or **nixie,** in Germanic myth, water sprite The nixes could assume various shapes, sometimes as humans, sometimes as horses, most frequently as

half human and half fish Properly the females are nixies, the males nixes, but in English this distinction was not preserved They could do favors for humans, particularly in teaching them bewitching music, but for the most part they were treacherous and malignant, belonging to the dark band of fairies. The Lorelei and the Rhine maidens were nixies

Nixon, city (pop 1,835), S central Texas, ESE of San Antonio, in a poultry-raising area.

Niza, Marcos de: see MARCOS DE NIZA.

Nizam see HYDERABAD

Nizhni Novgorod, RSFSR see GORKI

Nizhni Tagil (nyēzh'nyĭ tĭgēl'), city (1926 pop 38,849; 1939 pop 159,864, 1946 estimated pop 250,000), RSFSR, in the central Urals A leading metallurgical center, it has industries based on near-by magnetite and iron deposits Manganese, copper, and gold are also mined in the vicinity.

Nizza, France see NICE

Njemen, river see NIEMEN.

NKVD see SECRET POLICE

No (nō), biblical name for Thebes, Egypt. Jer. 46 25, Ezek 30 14–16, Nahum 3 8.

no. see JAPANESE DRAMA

No, Lake: see NILE

Noadiah (nōădī'ə) [Heb ,=God meets]. **1** Levite. Ezra 8 33 **2** Prophetess Neg 6 14

Noah (nō'ə) [Heb ,=rest] or **Noe** (nō'ē), in the Bible, the builder of the ARK He alone of men was deemed by God to be worth saving, and it was at divine direction that he built the ship that saved human and animal life from the DELUGE After the flood God established a covenant with Noah Noah's sons, Shem, Ham, and Japheth, are eponymous ancestors of races as mankind is divided in the Bible Gen 6–10, 1 Chron 1 4, Ecclus 44 17–18, Ezek. 14 14,20, Mat 24 37, Luke 3 36, 17 26, Heb. 11 7 The name appears also among the daughters of ZELOPHEHAD

Noah, Mordecai Manuel (môr'dĭkī), 1785–1851, American journalist and politician, b Philadelphia. He devoted himself to journalism in Charleston, S C, and gave ardent support to the War of 1812 As special agent to Algiers, he helped secure (1813–15) release of the American prisoners held by Algerian pirates He returned to the United States, held public offices in New York city, founded and edited many newspapers, and wrote plays Becoming acutely conscious of the problems of the Jewish people, Noah attempted to buy Grand Island in the Niagara river as a city of refuge for the Jews of the world See biography by Isaac Goldberg (1937)

Noailles, Adrien Maurice, duc de (ädrēē' mōrēs' dük' dŭ nōī'yŭ), 1678–1766, marshal of France He distinguished himself in the War of the Polish Succession and the War of the Austrian Succession and exercised considerable influence on the development of French foreign policy

Noailles, Anna Élisabeth de Brancovan, comtesse de (ănä' ālēzäbĕt' du brăkôvä' kōtĕs' du nōī'yŭ), 1876–1933, French poet, of a noble Rumanian family. Her *Innocentes, ou, La Sagesse des femmes* was awarded a prize in literature in 1921 by the French Academy, from which, as a woman, she was excluded She was renowned for the brilliant political gatherings at her home Her turbulent lyrics of love and nature, many of which appeared in the *Revue des Deux Mondes*, were gathered in *Le Cœur innombrable* [the unnumbered heart] (1901), *L'Ombre des jours* [the shadow of days] (1902), and *Poèmes d'enfance* [poems of childhood] (1928) She wrote also a collection of short stories, *La Nouvelle Espérance* [the new hope] (1903), a novel, *Le Visage émerveillé* [the astonished face] (1904), and an autobiography, *Le Livre de ma vie* (1932)

Noailles, Louis Marie Antoine, vicomte de (lwē' mārē' ätwän' vēkôt' du nōī'yu), 1756–1804, French general and statesman, son of Adrien Maurice de Noailles He fought with Lafayette at Yorktown As a member of the States-General he proposed (Aug 4, 1789) that all titles and feudal privileges should be abolished When the French Revolution became too radical for him, he fled to the United States, where he became successful in business He later accepted a command under the younger Rochambeau in Santo *Domingo* and was mortally wounded in a naval battle (1804)

Nob [Heb ,=height], religious center just N of Jerusalem Saul had its inhabitants massacred. 1 Sam. 21 1–9, 22 6–23, Neh 11 32, Isa 10 32

Nobah (nō'bu) [Heb ,=barking] **1** Hebrew warrior who conquered Kenath Num 32 42 **2** Unidentified desert place, E of Palestine, associated with Gideon Judges 8 11

Nobbe, Friedrich (frē'drĭkh nō'bŭ), 1830–1922, German plant physiologist, who originated the scientific testing of seeds in 1869 He founded, at Tharandt, Saxony, an experiment station (1869) for the study of plant physiology and wrote several books on seeds

Nobel, Alfred Bernhard (ăl'frĕd bĕrn'härd nōbĕl'), 1833–96, Swedish chemist and inventor. Privately educated in St Petersburg, Russia, he traveled about Europe and came to the United States as a youth He returned to St Petersburg in 1852 to assist his father in the development of torpedoes and mines In 1863 he patented a mixture of nitroglycerine and gunpowder developed by his father, his brothers, and himself Manufacture of the explosive was begun in the family's small works in Helenebo1g, near Stockholm, in the same year. An explosion in the factory killed his younger brother and four others in 1864 Several accidental explosions of nitroglycerine in transit, with high loss of life, led him to further experimentation with the substance In 1866 he perfected a combination of nitroglycerine and kieselguhr, a diatomaceous earth, to which he gave the name dynamite. On his death in San Remo, Italy, Nobel left a fund from the interest of which annual prizes were to be awarded for the best work in the fields of physics, chemistry, physiology and medicine, and literature and towards the promotion of international peace The Nobel Prizes are given irrespective of nationality, the judges are, by the terms of his will, the Swedish Academy of Science, the Caroline Medico-Surgical Institute, the Swedish academy, and five members elected by the Norwegian Storting The awards are made in Stockholm on Dec 10, the anniversary of Nobel's death, and were bestowed for the first time in 1901 A prize is sometimes shared, six times the Nobel Peace Prize has been given to an organization Marie Curie is one of several women prize winners and the sole recipient of awards in two sections Five institutes with special book collections and facilities for research were also provided for, one corresponding to each prize section See H E Pauli, *Alfred Nobel* (1942), Michael Evlanoff, *Nobel-Prize Donor* (1944) For list of recipients of awards, see NOBEL PRIZES (table) on facing page

Nobile, Umberto (ōombĕr'tō nō'bēlā), 1885–, Italian aeronautical engineer and arctic explorer He designed the *Norge* and piloted that dirigible in the Amundsen-Ellsworth flight over the North Pole in 1926 He later quarreled with AMUNDSEN over the question of credit for the achievement In command of the *Italia*, sister ship of the *Norge*, Nobile flew over the pole in 1928, on the return trip his ship crashed NE of Spitsbergen and eight lost their lives Nobile was rescued by a Swedish aviator, Einar Lundborg, and the other survivors were rescued by the Russian icebreaker *Krassin* Severely censured for his conduct of the expedition, he resigned his commission as general in the air corps but later (1945) was cleared of the charges and reinstated. From 1931 to 1936 he was technical adviser for airship construction in the USSR, later he came to the United States and for several years headed the aeronautical engineering department of the Lewis College of Science and Technology, Lockport, Ill After the fall of Mussolini, Nobile returned to Italy He wrote *With the "Italia" to the North Pole* (1930) See Einar Lundborg, *The Arctic Rescue* (1929)

Noble, Gladwyn Kingsley, 1894–1940, American biologist, b Yonkers, N Y, grad Harvard, 1917 He was associated with the American Museum of Natural History from 1919, becoming curator of herpetology in 1924 and curator of experimental biology in 1928 Under his supervision, the Hall of Living Reptiles (1927) and the Hall of Animal Behavior (1939) were opened at the museum He participated in several expeditions and wrote on reptiles and amphibia

Noble, John Willock, 1831–1912, American statesman, b Lancaster, Ohio, grad Yale, 1851 He practiced law in St Louis in 1855, removing to Keokuk, Iowa, the next year He served in the Union army in the Civil War and was brevetted brigadier general in 1865 He returned to St Louis, served (1867–70) as U S district attorney, and successfully attacked whisky and tobacco interests He became a nationally prominent lawyer As Secretary of the Interior (1889–93) under President Benjamin Harrison he aided in systematizing pension payments, in conserving forests, and in the organization of Oklahoma Territory.

Noblesville, city (pop 5,575), co seat of Hamilton co, central Ind, NNE of Indianapolis, settled 1823, inc as a town 1851, as a city 1887 It produces furniture and rubber goods and breeds draft horses.

Nobre, Antonio (äntô'nyō nô'bru), 1867–1900, Portuguese poet. He studied at the Univ of Coimbra and in Paris He wrote a memorable volume of original, melancholy poems, which show a sort of tragic and highly lyric delirium This was published under the title *Só* [alone] (1892) He died of tuberculosis. A second volume of poems, *Despedidas* [farewells] appeared in 1902

Nobunaga, Oda (ōdä'nōbōōnä'gä), 1534–82, Japanese military commander The son of a feudal lord who had greatly increased his holdings in the intense feudal warfare of the 16th cent., Nobunaga built on these holdings and made himself master of three provinces near modern Nagoya The emperor secretly appealed to him for help, and Nobunaga was able to become (1568) virtual dictator of central Japan Though he restored the ousted shogun, he held the real power and, with the help of his able lieutenants, Hideyoshi and Ieyasu, greatly extended it By blood, fire, and trickery he subdued the Buddhist monasteries and put down rivals among the feudal barons. He dreamed of reuniting all Japan, but before that end could be accomplished, he was murdered by one of his discontented generals. He laid the basis for the unification later accomplished by his former lieutenants

Nocona (nōkō'nŭ), city (pop 2,605), N Texas, ESE of Wichita Falls A saddlery shop serving cowboys in the old days has grown to a large leather industry. There are oil fields near by.

nocturne (nŏk'tûrn) [Fr ,=night piece], in music, a romantic instrumental piece, free in form and usually reflective or languid in character. John Field wrote the first nocturnes, influencing Chopin in the writing of his 19 nocturnes for piano

Nod, Land of, in the Bible, the refuge of Cain somewhere E of Eden. Gen 4.16

Nodab (nō'-) [Heb.,=nobility], name of a tribe at war with the Jews 1 Chron 5 19

Nodier, Charles (shärl' nôdyā'), 1780–1844, French poet From 1824 he was librarian of the Bibliothèque de l'Arsenal in Paris His salon was the nucleus of the beginning romantic movement and was frequented by such men as Hugo, Sainte-Beuve, and Dumas père His best works are the imaginative tales *Trilby, ou, Le Lutin d'Argaïl* (1822) and *La Fée aux miettes* (1832)

no drama see JAPANESE DRAMA

nodule see NITROGEN-FIXING BACTERIA.

Noe (nō'ē), variant of NOAH

Noé, Amédée, comte de see CHAM.

noel (nōĕl') [Fr ,=Christmas], Christmas CAROL, especially one of French origin Certain organ compositions of 17th-century French composers are called noels, being variations on popular Christmas hymns

Nogah (nō'gu) [Heb ,=dawn], son of David 1 Chron 3 7, 14 6.

Nogales (nōgä'lĭs), town (pop. 13,866), Sonora, NW Mexico, on the Ariz border Contiguous to Nogales, Ariz, the town is the northern terminus of Mexico's west coast railroad and derives its importance chiefly from international trade The climate is hot and dry

Nogales (nōgä'lĭs), city (pop 5,135), co. seat of Santa Cruz co, S Ariz, on the Mexican boundary, practically one city with Nogales, Sonora, Mexico; founded 1880, inc 1893 Though in a rich mining and ranching area, it is important chiefly as a port of entry In the region to the north Father Kino founded two missions, Guevavi (1692, only traces remain) and Tumacacori (1696, now a national monument), and in the next century the Spanish established Tubac, a pioneer white settlement in Arizona The American army in border troubles exchanged gunfire with Mexican revolutionists under Francisco Villa (1916) and with a Mexican army under General Calles (1918)

Nogi, Maresuke, Count (märĕs'kā nō'gē), 1849–1912, Japanese general He fought in the First Chino-Japanese War In the Russo-Japanese War he commanded the force that took Port Arthur after a siege and later fought at Mukden He and his wife committed suicide on the death of Mutsuhito.

Noginsk (nŭgēnsk'), city (1926 pop 38,494, 1939 pop 81,024), RSFSR, on the Klyazma river and c 30 mi E of Moscow It is a major textile-milling center, processing cotton, silk, and wool. Its name was Bogorodsk until c 1930

Noguchi, Hideyo (hēdā'ō nōgō'chē), 1876–1928, Japanese bacteriologist, grad Tokyo Medical College, 1897 He came to the United States c 1900 to work with Simon Flexner at the Univ of Pennsylvania and in 1904 joined the Rockefeller Institute staff His special researches were on snake venoms, vaccines against smallpox and yellow fever, and the laboratory diagnosis of syphilis. Oroya fever, and trachoma He died of yellow fever in Accra, Africa, while working on that disease See biography by Gustav Eckstein (1931)

Noguchi, Isamu (nōgō'chē), 1904–, American sculptor, b Los Angeles, son of Yone Noguchi and Leonie Gilmour Noguchi He studied under Gutzon Borglum and at the East Side Art School, New York In 1927 and 1928 he received Guggenheim fellowships permitting him to study in Paris under Brancusi He is best known for his beautifully stylized portraits in bronze and terra cotta and is represented in museums in Buffalo, New York city, and Honolulu

Noguchi, Yone (Yonejiro Noguchi) (yō'nā nō'gōōchē, yō''nājĭrō'), 1875–1947, Japanese poet and critic of Japanese art and poetry A graduate of Keio Univ in Tokyo, he spent some time in the United States and England, lecturing for a year at Oxford He later taught English literature at Keio Univ. Noguchi, writing in English as well as in Japanese, helped to stimulate Western interest in many Japanese artists. His *Selected Poems*, written in English, appeared in 1921.

Nohah (nō'hä) [Heb ,=rest], son of Benjamin 1 Chron. 8.2

noh drama: see JAPANESE DRAMA.

Nokomis (nōkō'mĭs), city (pop. 2,562), central Ill., SSE of Springfield, inc. 1867.

Nola (nō'lä), town (pop. 10,733), Campania, S Italy. It is an agricultural center. Of ancient origin, it was a flourishing Roman colony, influenced by the

NOBEL PRIZES

Year	Peace	Chemistry	Physics	Physiology and Medicine	Literature
1901	J H. Dunant Frédéric Passy	J H. van't Hoff	W C. Roentgen	E. A von Behring	R F A Sully-Prudhomme
1902	Élie Ducommun C A Gobat	Emil Fischer	H A Lorentz Pieter Zeeman	Sir Ronald Ross	Theodor Mommsen
1903	Sir William R Cremer	S A. Arrhenius	A H Becquerel Pierre Curie Marie S Curie	N R Finsen	Bjornstjerne Bjornson
1904	Institute of International Law	Sir William Ramsey	J W S Rayleigh	Ivan P Pavlov	Frédéric Mistral José Echegaray
1905	Baroness Bertha von Suttner	Adolf von Baeyer	Philipp Lenard	Robert Koch	Henryk Sienkiewicz
1906	Theodore Roosevelt	Henri Moissan	Sir Joseph Thomson	Camillo Golgi S Ramón y Cajal	Giosuè Carducci
1907	E T Moneta Louis Renault	Eduard Buchner	A A Michelson	C L A Laveran	Rudyard Kipling
1908	K P Arnoldson Fredrik Bajer	Sir Ernest Rutherford	Gabriel Lippman	Paul Ehrlich Élie Metchnikoff	R C Eucken
1909	Auguste Beernaert P H B Estournelles de Constant	Wilhelm Ostwald	Guglielmo Marconi C F Braun	Emil T Kocher	Selma Lagerlof
1910	International Peace Bureau	Otto Wallach	J D van der Waals	Albrecht Kossel	P J L Heyse
1911	T M C Asser A H Fried	Marie S Curie	Wilhelm Wien	Allvar Gullstrand	Maurice Maeterlinck
1912	Elihu Root	Victor Grignard Paul Sabatier	N G Dalen	Alexis Carrel	Gerhart Hauptmann
1913	Henri La Fontaine	Alfred Werner	Heike Kamerlingh Onnes	C R Richet	Sir Rabindranath Tagore
1914		T W Richards	Max von Laue	Robert Barany	
1915		Richard Willstatter	Sir William H Bragg Sir William L Bragg		Romain Rolland
1916					Verner von Heidenstam
1917	International Red Cross		C G Barkla		K A Gjellerup Henrik Pontoppidan
1918		Fritz Haber	Max Planck		
1919	Woodrow Wilson		Johannes Stark	Jules Bordet	C I G Spitteler
1920	Léon Bourgeois	Walther Nernst	C E Guillaume	August Krogh	Knut Hamsun
1921	Hjalmar Branting C L Lange	Frederick Soddy	Albert Einstein		Anatole France
1922	Fridtjof Nansen	F W Aston	N H D Bohr	A V Hill Otto Meyerhof	Jacinto Benavente y Martinez
1923		Fritz Pregl	Robert A Millikan	Sir Frederick G Banting J J R Macleod	W B Yeats
1924			K M G Siegbahn	Willem Einthoven	L S Reymont
1925	Sir Joseph Austen Chamberlain Charles G Dawes	Richard Zsigmondy	James Franck Gustav Hertz		G B Shaw
1926	Aristide Briand Gustav Stresemann	Theodor Svedberg	J B Perrin	Johannes Fibiger	Grazia Deledda
1927	F E Buisson Ludwig Quidde	Heinrich Wieland	A H Compton C T R Wilson	Julius Wagner-Jauregg	Henri Bergson
1928		Adolf Windaus	Sir Owen W Richardson	C J H Nicolle	Sigrid Undset
1929	Frank B Kellogg	Sir Arthur Harden Hans von Euler-Chelpin	L V Broglie	Christian Eijkman Sir Frederick G Hopkins	Thomas Mann
1930	Nathan Soderblom	Hans Fischer	Sir Chandrasekhara V Raman	Karl Landsteiner	Sinclair Lewis
1931	Jane Addams Nicholas Murray Butler	Carl Bosch Friedrich Bergius		Otto H Warburg	E A Karlfeldt
1932		Irving Langmuir	Werner Heisenberg	E D Adrian Sir Charles Sherrington	John Galsworthy
1933	Sir Norman Angell		P A M Dirac Erwin Schrodinger	Thomas H Morgan	I A Bunin
1934	Arthur Henderson	Harold C Urey		G H Whipple G R Minot W P Murphy	Luigi Pirandello
1935	Carl von Ossietzky	Frédéric Joliot-Curie Irène Joliot-Curie	Sir James Chadwick	Hans Spemann	
1936	Carlos Saavedra Lamas	P J W Debye	C D Anderson V F Hess	Sir Henry H Dale Otto Loewi	Eugene O'Neill
1937	E A R Cecil, Viscount	Sir Walter N Haworth Paul Karrer	C J Davisson Sir George P Thomson	Albert von Szent-Gyorgyi	Roger Martin du Gard
1938	Nansen International Office for Refugees		Enrico Fermi		Pearl S Buck
1939		Adolf Butenandt Leopold Ruzicka	E O Lawrence	Gerhard Domagk	F E Sillanpaa
1940					
1941					
1942					
1943		Georg von Hevesy	Otto Stern	E A Doisy Henrik Dam	
1944	International Red Cross	Otto Hahn	I I Rabi	Joseph Erlanger H S Gasser	J V Jensen
1945	Cordell Hull	A I Virtanen	Wolfgang Pauli	Sir Alexander Fleming E B Chain Sir Howard W Florey	Gabriela Mistral
1946	J R Mott Emily G Balch	J B Sumner J H Northrop W. M Stanley	P W Bridgman	H J Muller	Hermann Hesse
1947	American Friends Service Committee and Friends Service Council	Sir Robert Robinson	Sir Edward V. Appleton	C F Cori Gerty T Cori B A Houssay	Andre Gide
1948		Arne Tiselius	P. M. S Blackett	Paul H Mueller	T S Eliot
1949	John Boyd Orr, Baron	W. F. Giauque	Hideki Yukawa	W R Hess Egas Moniz	

Greek culture of Naples Augustus died here in A.D 14 Excavations yielded fine Hellenistic vases and numerous coins

Nolde, Emil (ā'mēl nōl'dù), 1867–, German expressionist painter After teaching (1892–98) at a crafts school in St Gall, Switzerland, he devoted himself exclusively to his art His work is in oil and water color, he has also executed many drawings and experimented in sculpture Outstanding as a colorist, Nolde finds his subject matter in both nature (seascapes and flower gardens) and the supernatural (demonic heads, mystic appearances, and religious events) His works are for the most part in private collections, though various German museums also bought his canvases

Nolichucky (nō"lĭch ŭ'kē, nō"lĭchŭ'kĭ), river, c 150 mi. long, rising in W North Carolina in the Blue Ridge and flowing NW and W to the French Broad W of Greeneville, Tenn The first settlement on the river was made in 1772 John Sevier, first governor of Tennessee, was nicknamed Nolichucky Jack, David Crockett was born at Limestone on the Nolichucky

Nollekens, Joseph (nŏl'ĭkənz), 1737–1823, British sculptor, b London, of Dutch descent He studied in Rome and in 1770 returned to London, where he became the most fashionable portrait sculptor of his day Among his famous busts are those of Sterne, George III, the younger Pitt, Charles James Fox, and Benjamin West Numerous statues and groups in marble include *Cupid and Psyche*, *Venus Anointing Herself*, and *Bacchus*

nomad (nō'măd"), one of a group of people without fixed habitation Wandering herdsmen living in tents still occupy large sections of Asia, and the hunting tribes of the Far North, including the Eskimo, are still the masters of much of the arctic and subarctic regions, while large parts of Africa are peopled with nomadic groups Thus the nomadic way of life still prevails in much of the modern world Besides the herdsmen and the hunters and fishers, there are nomadic groups that move about in search of wild plants as food in season (such as the kamas bulb formerly sought by the Indians of the Pacific Northwest and the wild rice gathered in the Great Lakes region) The peoples who move seasonally but have permanent homes for part of the year (again such as the Indians of the Pacific Northwest, who went to the rivers for the salmon season) are seminomadic, and there have been seminomadic peoples of various types throughout history The nomadic groups are generally organized in tribal units and generally the adult males are closely knit into war bands, constantly ready to overwhelm rival nomadic groups or to swoop down in raids on settled peoples The incursions of nomads into settled civilizations marked the early history of ancient Egypt and Babylonia and reached their height with the great Mongol invasions of W Asia and Europe in the 13th, 14th and early 15th cent , notably under Jenghiz Khan and Tamerlane Formerly efforts were made to generalize about nomads and find a common denominator among such diverse cultures as those of the North American Indian hunter, the Bedouin of Africa, and the roving gypsies, but these have largely been abandoned in favor of studying each culture as a unit Even the often-repeated statement that nomadism represents a transition from the Neolithic hunter to the sedentary farmer is not accepted as valid There are instances of peoples who have abandoned farming and have become nomads, e g , some of the "village" Indians of the Great Plains who abandoned beans in favor of buffalo meat after the horse had been introduced

Nome (nōm), city (pop 1,559), W Alaska, on Norton Sound on the southern side of Seward Peninsula It was founded in 1899, when gold was discovered here on the beach, at a place known as Anvil City By the following summer some 30,000 prospectors had arrived in search of gold, but many died or left because of the hardships Dredging has replaced older methods of mining The city is the commercial and supply center for NW Alaska, with an airport and steamer connection to Seattle (May to Nov) It is a center of Eskimo handicrafts (ivory bracelets and penknives), and recently fur farming and fishing have been developed Nome is the scene of an annual fair and the All-Alaska Championship Dog Race Cape Nome lies to the southeast

nominalism (nŏ'mənəlĭzm), in philosophy, a theory of the relation between universals and particulars Nominalism gained its name in the Middle Ages, when it was contrasted with REALISM The problem arises because in order to perceive a particular object as a particular thing, say a table, we must have a prior notion of table Then does this prior notion have independent existence? Nominalism says that it does not, that it is just a name for a group Nominalism is appropriate to materialist and empirical philosophy and hence has been popular in modern thought

nominative (nŏ'mənətĭv) [Latin,=for naming], in Latin grammar, CASE usually used when the noun refers to an actor The term is used in the grammar of languages with Latinlike features, but the case may have different functions English *he* is said to be nominative

Nomura, Kichisaburo (kēchēsäbōōrō' nō'mōō"rä), 1877–, Japanese admiral and diplomat After graduation from the naval academy in 1908, he served in the navy and was naval attaché in Washington in the First World War In 1932 he was in command of the fighting at Shanghai He lost an eye when injured by a bomb thrown by a Korean patriot Nomura was appointed (1940) ambassador to the United States He and a special envoy, Kurusu, were carrying on negotiations in Washington when Japan attacked Pearl Harbor on Dec 7, 1941

Non, in the Bible, variant of NUN

nonconformists, those who refuse to conform to the requirements (in doctrine or discipline) of an established church The term is applied especially to Protestant dissenters from the Church of England Nonconformity in England appeared not long after the Reformation The Puritans would not conform in some matters but did not at first intend to secede from the Church of England Exile, as an escape from persecution, helped to widen the separation In the civil war and the Commonwealth, the separatists, or INDEPENDENTS, gained a stronger foothold The Act of Uniformity (1662), following the Restoration, made a distinct split unavoidable, since it required Episcopal ordination for all ministers As a result, nearly 2,000 clergymen left the Established Church In the usually accepted sense, nonconformity dates from that time The term *dissenter* similarly came into use, particularly after the Toleration Act (1689), in which reference was made to the "Protestant Dissenters" Presbyterians, Congregationalists, Baptists, Quakers, Unitarians, and Methodists are among the nonconforming denominations in England In recent usage, churches independent of the established or state church in both England and Scotland often are called "Free Churches" See Champlin Burrage, *The Early English Dissenters* (1912)

Nonimportation Act see EMBARGO ACT OF 1807

nonintercourse, in international law, refusal of a state to engage in diplomatic or commercial relations with another state It is a hostile act of retaliation for some wrong and is intended to effect redress Since nations normally have diplomatic and commercial intercourse, nonintercourse may in some circumstances be a threat of war

Nonintercourse Act see EMBARGO ACT OF 1807

Nonius, Petrus see NUÑES, PEDRO

nonjurors (nŏnjōō'tûrz) [from Latin,=not swearing] When William III came to the throne in 1688, a number of English and Scottish clergymen refused to break their allegiance to James II and to take the oath to the new king In England there were more than 400 of these nonjurors, and in 1690 five bishops were deprived of their sees In Scotland most of the Episcopalian clergymen were nonjurors because their church was disestablished in favor of the Presbyterian in 1689 The nonjurors upheld the doctrine of the divine right of kings and therefore were JACOBITES, but at the same time they believed in nonresistance to the established authority James II in exile appointed bishops, one being George Hickes, later bishops were Thomas Hearne and Jeremy COLLIER, and the nonjuring episcopal succession was kept up until 1805 The Scottish nonjurors submitted to the English king in 1788 at the death of the Young Pretender Probably their most famous theologian was William LAW, whose controversy with Bishop Hoadly precipitated the proroguing of convocation See ENGLAND, CHURCH OF

nonmetal, chemical ELEMENT possessing certain properties by which it is distinguished from a METAL In general, this distinction is drawn on the basis that a nonmetal appears as a negative ION or in a negative RADICAL and that its oxide yields an acid The class includes argon, boron, bromine, carbon, chlorine, fluorine, helium, hydrogen, iodine, krypton, neon, nitrogen, oxygen, phosphorus, silicon, sulphur, and xenon Arsenic, antimony, selenium, and tellurium exhibit both nonmetallic and metallic properties Unlike the metals, which are all solids (with the exception of mercury) under ordinary conditions of temperature and pressure, the nonmetals appear in all three states Argon, chlorine, fluorine, helium, hydrogen, krypton, neon, nitrogen, oxygen, and xenon are normally gases Bromine is a liquid Boron, carbon, iodine, phosphorus, silicon, and sulphur are solids Certain of them, e g , boron, carbon, iodine, silicon, and sulphur, form crystals, as do the metals The nonmetals lack the luster of the metals In hardness they vary considerably Carbon in its allotropic form, the diamond, is the hardest element known As a class the nonmetals are poor conductors of heat and electricity Sulphur, for example, is extremely poor With the exception of carbon, sulphur, nitrogen, and the inert gases—argon, helium, krypton, neon, and xenon—the nonmetals do not occur uncombined in nature, but exist in numerous relatively abundant compounds, among which are the oxides, halides (binary halogen compounds), sulphides, carbonates, nitrates, phosphates, silicates, and sulphates With a few exceptions, the nonmetallic elements are important chiefly for their compounds

Nonni (nŏn'nē'), Mandarin *No-min*, river, c 650 mi long, rising in Heilungkiang prov , China, in the Great Khingan range and flowing S through Heilungkiang and Nunkiang provs to join the Sungari river It is an important trade artery.

Nonnus (nŏ'nŭs), fl c 400?, Greek poet, b Panopolis, Egypt His extant epic, *Dionysiaca* (in 48 books), a collection of legends about Dionysus, has innovations in meter which predict the later accentual versification A Christian later in life, he versified the Gospel of St John

Nonpartisan League, organization of business farmers formed by Arthur C Townley in North Dakota in 1915 The organization subsequently expanded into Wisconsin and states W of the Mississippi river from Washington to Texas It set out to improve farm business conditions by legislation Though not a political party, it did endorse and even nominate candidates The league encountered strong and even violent opposition, but it had permanent effects on legislation in some of the states

Noot, Jan van der (vän' vän dĕr nōt'), b 1539 or 1540, d 1595?, Flemish poet, b Brabant, of noble family He was the author of sonnets, odes, and other pieces in imitation of Petrarch and, especially, of Ronsard

Nootka Indians (nōōt'kŭ), tribe of North American Indians who form one branch of the Wakashan linguistic stock, the other branch being the Kwakiutl The Nootka proper are a small group on the west coast of Vancouver Island, but the name is usually given to the Aht Confederacy, which includes more than 20 tribes At the coming of the white man Nootka culture was fundamentally that of the Pacific Northwest Coast area, they fished for salmon and lived in long wooden houses The so-called Nootka hats of woven fiber are common among other tribes of this area Today the Nootka together with the Kwakiutl number some 3 500 See Pliny Goddard, *Indians of the Northwest Coast* (1934)

Nootka Sound, natural harbor on the west coast of Vancouver Island, British Columbia, lying between it and Nootka Island and having several inlets The sound was visited by Juan Pérez (1774), by Capt James Cook (1778), and by John Meares (1788), who built a fort here Its seizure by the Spanish in 1789 was the subject of a controversy between Spain and England settled (1790) by the Nootka Convention, which opened the N Pacific coast to British settlement

Noph (nōf), biblical name of Memphis, Egypt Isa 19 13, Jer 2 16, 44 1, 46 14,19, Ezek 30 13 16

Nophah (nō'fu), unidentified place, apparently NE of the Dead Sea Num 21 30.

Noranda (nŭrăn'dŭ), town (pop 4,576), W Que , on Osisko Lake and NNE of North Bay, Ont It is the center for a region of gold, copper, and zinc mining and has a large smelter

Nora Springs, town (pop 1,198), N Iowa, between Charles City and Mason City and on the Shell Rock River, inc 1875

Norborne (nôr'bôrn), city (pop 1,239), W Mo , near the Missouri, ENE of Kansas City, laid out 1868 It is a shipping point for grain and livestock

Nord (nôr), department (2,229 sq mi , pop 1,917,452), N France, bordering on the North Sea and on Belgium Occupying French FLANDERS and HAINAUT, it is both a traditional battleground and a vital industrial region Its rich coal mines supply the huge industrial agglomeration around LILLE (the departmental capital), ROUBAIX, and Tourcoing DUNKIRK, the chief port, has large fisheries The department also has very fertile agricultural districts

Nordau, Max Simon (mäks' zē'môn nôr'dou), 1849–1923, German author, b Budapest, Hungary He practiced medicine for a time in Budapest Of the Jewish race, he was an ardent Zionist He wrote novels and several controversial works but is remembered for *Degeneration* (1892, Eng tr , 1895), in which, under the influence of Lombroso, he strove to establish a relation between genius and degeneracy See biography by Anna and Maxa Nordau (Eng tr , 1943)

Nordenskjöld, Nils Adolf Erik, Baron, Swed *Nordenskjöld* (nĭls' ä'dôlf ä'rĭk nōōr'dunshûld), 1832–1901, Swedish geologist and arctic explorer, first to navigate the Northeast Passage, b Finland He served as geologist on several expeditions to Spitsbergen under Otto Torrell, on one of which he found plant fossils of the Tertiary period From 1864 he commanded a series of expeditions in the course of which he mapped Spitsbergen, reached (1868) lat 81° 42' N (the highest then attained), made a journey (1870) on the inland ice of Greenland, and at Spitsbergen (1872–73) gathered extensive zoological and botanical collections Becoming interested in discovering the Northeast Passage as a possible route of trade, he reached Novaya Zemlya, crossed the Kara Sea, and ascended (1875) the Yenisei river, which he explored again in 1876. After these reconnoitering trips, he set out in the *Vega* in 1878, rounded Cape Chelyuskin, but was frozen in west of the entrance to

Bering Strait In 1879 he passed East Cape and sailed into Bering Sea (northward extension of the Pacific) He completed the trip to China and returned to Sweden in 1880 First to navigate the Northeast Passage, Nordenskjold was created baron that year In 1883 he penetrated for some 75 mi the great ice barrier E of Greenland and in 1890 paid his sixth visit to Spitsbergen Among his translated works is *The Voyage of the Vega* (1881) His *Facsimile-Atlas* (1889) and *Periplus* (1897) are especially interesting for their collections of early maps, charts, and geographical documents See *The Arctic Voyages of Adolf Erik Nordenskold* (ed by Alexander Leslie, 1879).

Nordenskjold, Nils Erland Herbert, Baron, Swed *Nordenskjöld* (ĕr'länd hĕr'burt), 1877–1932, Swedish ethnologist, son of Baron Nils Adolf Erik Nordenskjold He became director of the Goteborg Museum in 1913 He made many extended expeditions into South America and wrote numerous ethnographical studies of the inhabitants Several of these have been translated into English and published as *Comparative Ethnographical Studies* (10 vols , 1919–38)

Nordenskjold, Nils Otto Gustaf (ō'tōō gŭs'täv), Swed *Nordenskjöld*, 1869–1928, Swedish explorer and geologist He participated in journeys to Tierra del Fuego (1895–97), Alaska (1898), Greenland (1900, 1909), and the Andes (1904–5, 1920–21) and led an expedition (1901–3) to Antarctica His party was landed on Graham Land, the expedition's ship, the *Antarctica*, sank in an attempt to take them off, but they were rescued (1903) by an Argentine vessel Nordenskjold wrote an account of the expedition, *Antarctica* (1904, Eng tr , 1905) He was a nephew of Baron Nils Adolf Erik Nordenskjold

Nordenskjold Sea · see LAPTEV SEA

Norderney (nôrdurnī'), island (9 sq mi , pop 6,452), off N Germany, in the North Sea, one of the East Frisian Islands It is a very popular bathing resort

Nord Fjord (nôr' fyôr", nōōr' fyōōr"), inlet, c 50 mi long, Sogn og Fjordane co , W Norway It is the third largest fjord of Norway To the south, between Nord Fjord and Sogne Fjord, extends the JOSTEDALSBREEN The Nord Fjord has several branches, celebrated for their majestic scenery

Nordhausen (nôrt'hou"zun), city (pop 32,848), Thuringia, central Germany, at the southern foot of the Harz It is a manufacturing center producing cotton and linen textiles, machinery, and glass There are potash mines in the vicinity A free imperial city from 1253 to 1803, it passed to Prussia at the Congress of Vienna (1815), but was transferred after 1945 to Thuringia It was heavily damaged in the Second World War

Nordhoff, Charles (nôrd'hŏf), 1830–1901, American journalist and author, b Westphalia In 1835 he emigrated with his family to Cincinnati His service (1844–47) in the navy, and later on whaling and fishing ships, provided literary material for his books *Nine Years a Sailor* (1857) and *Stories of the Island World* (1857) He wrote for the New York *Evening Post* (1858–71), part of the time as editor, and was Washington correspondent (1874–90) of the New York *Herald* A leading political commentator of his day, he also wrote important books, among which are *Communistic Societies in the United States* (1875) and *The Cotton States in the Spring and Summer of 1875* (1876) His grandson, Charles Nordhoff (1887–1947), was co-author with J N Hall of *Mutiny on the Bounty* (1932) and other works, he edited some of the elder Nordhoff's nautical writings in the volume *In Yankee Windjammers* (1940)

Nordica, Lillian (nôr'dĭku), 1859–1914, stage name of Lillian Norton, American operatic soprano, b Farmington, Maine She studied in Milan, where she made her operatic debut in 1879 She sang in St Petersburg, Paris, and London and in 1883 made her debut at the Academy of Music, New York, and in 1891 at the Metropolitan Opera House Although most famous for Wagnerian roles—added to her repertoire in 1894, when she sang at Bayreuth—she was equally capable in such florid roles as that of Marguerite in *Faust*

Nordic race see RACE

Nordkyn, Cape (nôr'kün, nōōr'–), or **Kinnarodden** (chĭ'narō"dun), northernmost point of the European mainland, N Norway, E of North Cape, at lat 71° 8′ N

Nordland (nôr'lăn, nōōr'–), county (14,797 sq mi , pop 215,972), NW Norway It includes the Lofoten Islands Bodo, the county seat, and Narvik are the chief towns The fjords, deep wooded valleys, and mountains of Nordland are famous for their scenic grandeur Nearly half the population engages in fishing There are important copper deposits at SULITELMA, iron and zinc are also mined

Nördlingen (nûrt'lĭngŭn), town (pop 12,069), Swabia, W Bavaria, SSW of Ansbach It produces textiles, precision instruments, and shoes, and it has printing plants and breweries Founded in the 9th cent , it became (1217) a free imperial city Nördlingen retains its city walls (14th–15th cent), its 14th-century city hall, and a late Gothic church

Here in the Thirty Years War an imperial army under Gallas defeated (1634) the troops of Bernhard of Saxe-Weimar, the imperialist victory was a major cause for the entrance of France into the war in 1635 In 1645 Nördlingen was the scene of a victory of the French under Condé

Nord-Trondelag, Nor *Nord-Trøndelag* (nôr'-trûn'-dulăg, nōōr'–), county (8,657 sq mi , pop 105,679), W Norway, N of Trondheim Fjord Namsos is the chief town, Steinkjer is the county seat The county is an agricultural region and has an important lumbering industry

Nore (nôr), river of Ireland, 70 mi long, rising in N Co Tipperary and flowing a short distance NE into Co Laoighis, then SSE through Co Kilkenny to the Barrow river N of New Ross The Nore valley is noted for its scenic beauty

Nore, the, sandbank in the Thames estuary, SE England, between Shoeburyness and Sheerness At the east end is Nore Lightship The name is also applied to part of the Thames estuary, a famous anchorage A mutiny in the British fleet here in 1797 resulted in the hanging of its leader, Richard Parker, but served to expose the brutality of commanders and other evils in the navy

Norfolk, Bernard Marmaduke Fitzalan-Howard, 16TH **duke of** see HOWARD, family

Norfolk, Hugh Bigod, 1st **earl of** (hū' bĭ'gŏd, nôr'fuk), d 1177, English nobleman For his support of STEPHEN on the death of Henry I (1135), he was created earl Subsequently abandoning Stephen, he cast his lot with Henry II (1153), only to rebel against him unsuccessfully (1173) His lands were seized, his castle was burned, and a heavy fine was imposed Norfolk was one of the most powerful nobles of England

Norfolk, John Howard, 1st **duke of,** 1430–85, English nobleman The grandson of Thomas Mowbray, the banished duke of Norfolk, he entered Parliament as a member for Norfolk Edward IV made him sheriff of Norfolk and Suffolk and entrusted him with diplomatic missions as well A faithful adherent of the house of York in the Wars of the Roses, he supported Richard, duke of Gloucester (later Richard III), after the death of Edward IV In 1483 Richard made him the 1st duke of Norfolk of the HOWARD family and earl marshal of England Norfolk was killed at the battle of Bosworth

Norfolk, Thomas Howard, 2d **duke of,** 1443–1524, English nobleman He fought with his father, the 1st duke, at the battle of Bosworth (1485), but was captured, attainted, and placed in the Tower He was released (1489) by Henry VII and restored to the earldom of Surrey, which he had received in 1483 He was entrusted by Henry VII with the care of the northern borders and was recognized as the leading general in England, being in command of the army that defeated (1513) the Scots at Flodden In 1501 he was made lord treasurer and arranged the marriage of James IV of Scotland to Henry VII's daughter Margaret He became duke of Norfolk in 1514, attained an influential place in the privy council in the reign of Henry VIII, served (1520) as guardian of the country on Henry's absence, but gradually was forced to submit to Thomas Wolsey's rise to power In 1521, acting as lord high steward, he was compelled to sentence his friend Edward Stafford, duke of Buckingham, to death

Norfolk, Thomas Howard, 3d **duke of,** 1473–1554, English nobleman and soldier, a member of the distinguished HOWARD family He married (1495) a daughter of Edward IV and thus became brother-in-law to Henry VII He fought with his father, the 2d duke, at Flodden (1513) in the forces of HENRY VIII After his first wife's death he married Elizabeth, daughter of the duke of Buckingham He served (1520–21) as lord lieutenant of Ireland, succeeded his father as lord high treasurer in 1522 and as duke of Norfolk in 1524 The king employed him in keeping down rebellion, especially on the Scottish border Norfolk bitterly opposed Cardinal Wolsey, he supported Henry's divorce from Katharine of Aragon and his marriage to Norfolk's niece Anne Boleyn Later he presided at the trial and execution of Anne He was an enemy of Thomas Cromwell Norfolk became president of the council in 1529 Although Norfolk conducted the campaign against the Pilgrimage of Grace (1536), he remained Catholic After the execution of another of his nieces, Catherine HOWARD, Henry's fifth queen, in 1542, his influence waned and he was forced back into the position of a mere military commander In 1546 he and his son Henry Howard, earl of Surrey, were charged with treason Surrey was executed, but Norfolk was saved by the death of Henry He was released (1553) on the accession of Mary I and restored to his dukedom He led the forces against the rebellion of Thomas Wyatt, the younger

Norfolk, Thomas Howard, 4th **duke of,** 1536–72, English nobleman, a member of the distinguished HOWARD family Son of Henry Howard, earl of Surrey, Norfolk succeeded his grandfather, the 3d duke, in 1554 He was favored by Queen Elizabeth, although he was jealous of the larger measure of confidence she placed in Robert Dudley, earl of Leicester Norfolk was thrice married before he became a candidate for the hand of MARY QUEEN OF SCOTS Elizabeth's suspicions of his ambition were aroused, and Norfolk was imprisoned briefly (1569–70) On his release he was drawn into the plot of Ridolfi, agent of Philip II of Spain, who was planning a Spanish invasion and the dethronement of Elizabeth The plot was discovered, Norfolk was imprisoned in the Tower (1571), tried, and beheaded

Norfolk, Thomas Mowbray, 1st **duke of,** c 1366–1399, English statesman He was created earl of Nottingham in 1383, and in 1385 he was made earl marshal of England for life In 1387 Nottingham, with Thomas of Woodstock, duke of GLOUCESTER, as well as the earl of Arundel and others (the Lords Appellants), drove out the king's favorites and virtually ruled the kingdom until RICHARD II regained control in 1389 Nottingham, however, retained Richard's favor, served him in Scotland, and accompanied the king to Ireland (1394) In 1397 he turned against Gloucester and Arundel, his former associates, when they were brought to trial by Richard Nottingham was probably responsible at the king's orders for the death of Gloucester For his cooperation with Richard's tyranny he was made (1397) duke of Norfolk He feared, however, that the king might turn on him and confided in the duke of Hereford (later HENRY IV) A dispute arose between Norfolk and Hereford and trial by combat was proposed, but the king interfered and banished both from the country, Norfolk for life The final scene in Norfolk's life in England forms the basis of the first act of Shakspere's *Richard II*

Norfolk (nôr'fuk), maritime county (2,053 sq mi , 1931 pop 504,940, 1948 estimated pop 517,670), E England The county town is Norwich The region is one of flat, fertile farmlands, with a long, low coast bordering on the North Sea and the Wash The principal rivers are the Ouse, the Bure, the Yare, the Waveney, and the Nene A series of connected shallow lakes, known as the BROADS, occupies the eastern portion of the county Norfolk produces excellent cereal and root crops and supports extensive breeding of cattle and poultry, fishing is also important There are numerous vestiges of habitation dating from prehistoric times After the Anglo-Saxon invasion of England, Norfolk became a part of the kingdom of East Anglia, the home of the "north folk" of that region, whence its name It was organized as a shire after the Norman Conquest See Arthur Mee, *Norfolk* (1940).

Norfolk. 1 (nôr'fŏk", -fuk) Resort town (pop 1,333), NW Conn , in the Litchfield Hills, settled 1755, inc 1758 Electrical products are made In 1899 began the annual Litchfield co choral concerts here William Henry Welch was born in Norfolk **2** (nôr'fŭk, -fŏk") Town (pop 2,294), E Mass , SW of Boston, inc 1870 Norfolk Prison Colony (1927) is here **3** (nôr'fuk, -fŏk") City (pop 10,490), NE Nebr , on the Elkhorn river and NW of Omaha, settled 1866, inc 1881 It is a railroad and trade center for a rich farming region producing corn, grain, and livestock A state hospital for the insane is near by **4** (nôr'fuk) City (pop 144,332), SE Va , on the Elizabeth river and the south side of HAMPTON ROADS, founded 1682, inc as a borough 1736, as a city 1845 It is a port of entry with one of the best natural harbors in the world Its numerous manufactures include fertilizers, cotton and silk goods, farm implements, lumber products, building materials, farm and sea-food products, and ships With a 50-mile water front and an extensive maritime trade, it ships quantities of sea food, coal, tobacco, cotton, and vegetables U S naval installations at Norfolk are extensive It is the headquarters of the Atlantic Fleet, with a huge operating base, supply center, and naval air station The Norfolk Navy Yard is at PORTSMOUTH The town was burned by the British in 1776 and had its commerce ruined by the embargo of 1807 Near many beaches and places rich in historical interest, Norfolk is a center for year-round resort activities St Paul's Church (1739, only building to survive the burning of 1776), Fort Norfolk (1794), and the Museum of Arts and Sciences are among its buildings, also here are a marine hospital and a junior college See T J Wertenbaker, *Norfolk Historic Southern Port* (1931), W H T Squires, *Through the Years in Norfolk* (1936)

Norfolk Island (nôr'fuk), island (13 sq mi , pop 1,231), S Pacific, c 950 mi ENE of Sydney It is a territory of Australia It was discovered by Capt James Cook in 1774 and was twice a prison island (1788–1813, 1826–55) In 1856 some of the descendants of the *Bounty* mutineers were moved here from Pitcairn Island Norfolk Island became a dependency of New South Wales in 1896 and was transferred in 1914 to the commonwealth government The island, a resort, has luxuriant vegetation and is known for its pine trees Passion-fruit pulp and citrus fruit are the principal exports Livestock is raised and there is some whaling

Noricum (nō'rĭkum), province of the Roman Empire It corresponded roughly to modern Austria S of the Danube and W of Vienna, i e , the later Upper Austria, Lower Austria, Styria, Carinthia, Salzburg, and the Tyrol It was bordered on the

west by Rhaetia, on the east by Pannonia Noricum was conquered in the Roman thrust into Germany which began in 16 B C Thoroughly established by the death of Augustus (A.D. 14), it prospered as a frontier colony for centuries, then declined and was abandoned to the Germans in the late 6th cent

Normal, town (pop 6,983), central Ill , adjacent to BLOOMINGTON; inc 1865 Illinois State Normal Univ and a home for soldiers' and sailors' children are here.

normal school: see TEACHING

Norman, Montagu Collet, 1st **Baron Norman of St Clere,** 1871–1950, English financier He was governor of the Bank of England from 1920 to 1944, a tenure of office which broke all tradition. He was raised to the peerage in 1944 See biography by John Hargrave (1942)

Norman, city (pop 11,429), co seat of Cleveland co , central Okla , SE of Oklahoma City, settled 1889, inc 1891 It is the seat of the Univ of Oklahoma (see OKLAHOMA, UNIVERSITY OF) and a state mental hospital

Norman architecture, name applied to the buildings erected by the Normans in all lands which fell under their dominion It is used not only in England and N France, but also in S Italy (Apulia) and in Sicily, though northern and southern works differ greatly The Norman buildings in England and France were Romanesque, chiefly based upon the ROMANESQUE ARCHITECTURE of Lombardy in Italy Norman Romanesque would be its most accurate title Churches, abbeys, and castles, its principal works, showed massive proportions, sparsely adorned masonry, and a universal use of the round arch The development of the style was confined chiefly to the period from 1066 to 1154, a period of tremendous building activity Starting in Normandy, the style was quickly introduced into England, superseding the Saxon Prior to the Conquest, Norman craftsmen under Edward the Confessor had already commenced construction of his abbey at Westminster, of which the dormitory and refectory are the earliest extant Norman work in England In England and Normandy there was a closely parallel development The great French works include the ruined abbey of Jumièges, near Rouen, the beginnings of the great fortified abbey of Mont-Saint-Michel, the two abbeys at Caen which were founded by William the Conqueror, and the Basilica of St Sernin at Toulouse, all belonging to the late 11th cent The greatest activity, however, was that of England, where, after 1070, the Normans built hundreds of parish churches and commenced most of the great cathedrals All underwent later restorations, the small St John's Chapel in the Tower of London, built (c 1087) by William the Conqueror is one of the best preserved specimens Durham (commenced 1093) ranks generally as the finest of the cathedrals, with massive circular piers in its nave and with the earliest nave vaulting (c 1130) in England Others are Winchester (1079), Ely (1083–1109), and Peterborough (c.1140) In both England and Normandy church plans were cruciform Over the crossing of nave and transepts was a prominent square tower, one of the most effective Norman features. Blind arcades, sometimes with interlacing arches, were the common adornment for walls With axes as the only tools, the early sculptural ornament was restricted to simplest geometrical types Moldings carved with beakhead, zigzag or chevron or with alternating lozenges are especially identified with the style Increased skill and the adoption of the chisel resulted in grotesque sculptured animal forms and in the sculptured reliefs of the tympanums over doorways In Sicily no works under the Norman kings were completed prior to 1130, and the large cathedrals at Cefalù, Palermo, and Monreale were commenced after this date In Palermo remain numerous rich works of the Arabo-Norman style, in which the chief role of the Normans was that of supervision, while the actual workmanship and most of the design were by the native Saracens In a composite style are mingled the domes and pointed arches of the Saracens, the wood roofs and the geometric ornament of the Normans, and the exquisite interior mosaic decorations of Byzantine-Greek artisans These elaborate and richly colored Sicilian works, Oriental in general suggestion, evidence little kinship with the austere grandeur of the English and French Norman style See E A Browne, *Norman Architecture* (1907)

Norman Conquest, the conquest of England by the Normans after the defeat of King HAROLD by William, duke of Normandy (1066) (For the immediate changes brought about by the Norman Conquest, see WILLIAM I) The conquest brought about broad social, political, and administrative changes in England There was a growth and widening of English intercourse with Europe in politics and in trade which sped the rise of England as a major European power. Administration tended to become centralized in the hands of the king, who became not only head of the state but also chief lord, from whom all lands were held under the new system of political feudalism This led to the reduction of widespread factional strife and increased security of life and property There was a rebirth of spiritual zeal and learning in the English church, coupled with the steady and powerful growth of ecclesiastical jurisdiction, which continued strong until the conflict between Church and state in the 12th cent English institutions and laws, though in no way abolished, were powerfully affected and gradually changed by Norman spirit and methods To the judicial system based on old English charters and practices the Normans seem to have added the jury system The collection of gelds, the necessity for quartering French soldiers with the English lords, and other considerations led to the compilation of William's DOMESDAY BOOK There was a complete rearrangement of the social pattern in that the foreign (largely Norman) nobles replaced or intermarried with the English aristocracy and in time became themselves English, but in the process they left an indelible mark on all phases of English life The introduction of the French language, which superseded English as the language of polite literature, the court, and society, relegated the English tongue to the lower classes, although Normans soon learned to speak English and public documents continued to be written in both Latin and English for 150 years after the Conquest The cause of learning was greatly enhanced by the coming of such scholars as LANFRANC and ANSELM Literature written in English was practically buried under the fashionable Anglo-French (see MIDDLE ENGLISH LITERATURE), when English speech finally emerged as the predominant language of England again, it had, through its close association with French, lost nearly all of its inflections and had borrowed vast numbers of French words and phrases (see ENGLISH LANGUAGE) NORMAN ARCHITECTURE was introduced into England New methods of warfare (e g , the use of horsemen and archers) were introduced The building of Norman castles led to the development of siege warfare and the decline of the open battle, which did not gain prominence again for centuries See H W C Davis, *England under the Normans and Angevins* (1905), G B Adams, *The History of England, 1066–1216* (1905), F M Stenton, *William the Conqueror* (1908) and *Anglo-Saxon England* (1943), F W Maitland, *Domesday Book and Beyond* (1921)

Normandin (nôrmädĕ'), town (pop 1,029), S Que , N of Lake St John and NW of Chicoutimi, in a region of lumbering and making of butter and cheese

Normandy (nôr'mündē), Fr *Normandie* (nôrmädē'), region and former province, N France, bordering on the English Channel It is now administratively divided into five departments—four east to west along the coast, Seine-Inférieure, Eure, Calvados, and Manche, and one inland, Orne It is a very rich agricultural region, especially in CALVADOS, butter, cheese, meat, and cider are the typical products Fishing is an important industry, and shipping is centered at such ports as Le Havre and Cherbourg ROUEN, the historical capital, has been, since Roman times, a great commercial center There also are numerous seaside resorts, notably Dieppe, Deauville, and Trouville Conquered by Julius Caesar, the region became part of the province of Lugdunensis (see GAUL), was Christianized in the 3d cent , and was conquered by the Franks in the 5th cent Repeatedly devastated (9th cents) by the heathen NORSEMEN, it finally was ceded (911) to a Viking chief, ROLLO, first duke of Normandy, by Charles III (Charles the Simple) of France The Norsemen (or Normans), after whom the duchy was named, shortly accepted Christianity Rollo's successors acquired additional territory in a series of wars against their neighbors In 1066 Duke William II, son of ROBERT I, invaded England, where he became king as WILLIAM I The succession in Normandy, contested among William's sons (ROBERT II of Normandy and WILLIAM II and HENRY I of England), passed to England after the battle of Tinchebrai (1106). In 1144 GEOFFREY of Anjou conquered Normandy, his son, Henry Plantagenet (later HENRY II of England), was invested (1151) with the duchy by King STEPHEN of England It was thus that branches of the ANGEVIN dynasty came to rule England, vast territories in France, and SICILY and S Italy, where the Normans had begun to establish colonies in the 11th cent Seized by PHILIP II of France in 1204, Normandy was again devastated (by all parties concerned) during the Hundred Years War. The Treaty of Bretigny (1360) confirmed Normandy as a French possession, but HENRY V of England invaded and conquered it once more With the exception of the larger CHANNEL ISLANDS, it was permanently restored to France in 1450, and in 1499 Louis XII established a provincial PARLEMENT for Normandy at Rouen. Louis XIV suppressed in 1654 the provincial estates of Normandy. In 1790 the province was abolished, but its inhabitants still adhere to distinctive traditions, costumes, and characteristic traits (notably the stubbornness in which they take pride). The region was the scene of heavy fighting in the Second World War, in the Normandy campaign. See NORMAN ARCHITECTURE. See Camille Mauclair, *Normandy* (1927); D. C. Douglas, *The Rise of Normandy* (1947); H. -W. Brodrick, *Normandy* (1947)

Normandy campaign, June–Aug., 1944, of the Second World War. The Allied invasion of the European continent through Normandy began at 7 30 A M , June 6, 1944 The plan, known under the code name "Operation Overlord," had been carefully prepared since 1943, and the supreme command over its execution was entrusted to Gen Dwight D. Eisenhower. Strategic bombings of Germany and France, designed to destroy the German air force and communications, were intensified in April, 1944, and in May tactical bombing of N France was begun Just after midnight, on June 6, one British and two U S air-borne divisions were landed behind the German fortifications They were followed after daybreak by the seaborne troops of the U S 1st Army, under Omar N Bradley, and the British 2d Army, under Bernard L Montgomery, who was in command of all the Allied land forces during that operation Some 4,000 troop transports, 800 warships, and innumerable small craft, under Admiral Sir Bertram H Ramsay, formed a continuous bridge across the Channel More than 11,000 airplanes, under the command of Air Chief Marshal Sir Trafford Leigh-Mallory, formed a protective umbrella While naval guns and Allied bombers pounded the beach fortifications, the men swarmed ashore The U S forces established two beachheads on the Cotentin peninsula—"Utah Beach," W of the Vire river, and "Omaha Beach," E of the Vire, where the fiercest resistance was encountered After a four-day battle, the American forces joined at Carentan British troops, who had landed on three beaches near Bayeux (captured on June 7), were stopped before Caen On June 12 the fusion of the three Allied beachheads was complete The German commander, Field Marshal Gerd von Rundstedt, now found that Allied air strength prevented use of his reserves Bradley's forces cut off Cherbourg, reaching the west coast of the Cotentin peninsula at Carteret on June 18 Cherbourg surrendered on June 27 The Americans then swung south After very difficult fighting in the easily defendable "hedgerow" country, they captured (July 18) the vital communications center of Saint-Lô, thus cutting off the German force under Erwin Rommel The U S 3d Army under Gen George S Patton was now thrown into the battle and broke through the German left flank at Avranches Patton raced into Brittany and S to the Loire, then swung east to outflank Paris A German attempt to cut the U S forces in two at Avranches was foiled (Aug 7–11) The British, reinforced by the Canadian 1st Army, had taken Caen on July 19, but were again halted by a massive German tank concentration. They resumed their offensive in August and captured Falaise on Aug 16 Between them and the American forces driving N from Argentan the major part of the German 7th Army was caught in a pocket and wiped out by Aug 23 As an epilogue to the battle of Normandy, the British and Canadian armies captured (Sept 1–30) the Channel ports between Dieppe and Ostend

Norman Isles. see CHANNEL ISLANDS

Normans. After conquering Normandy in the 10th cent , the NORSEMEN accepted Christianity and the customs and language of France and became known as Normans Though they soon lost all connection with their original Scandinavian homeland, they lost none of their craving for further adventure, expansion, and enrichment In 1066 the NORMAN CONQUEST of England made the duke of Normandy king of England as WILLIAM I (William the Conqueror) The Norman nobility displaced the Anglo-Saxon nobility of ENGLAND, and for centuries an increasingly modified Norman French was the language of the English ruling class Early in the 11th cent bands of Norman adventurers appeared in S Italy, where at first they aided the local nobles in their rebellion against Byzantine rule These were followed by a steady stream of land-hungry nobles, who under the pretext of expelling the Greeks proceeded to take over the land Most remarkable among these adventures were the numerous sons of Tancred de Hauteville One of these, William Iron Arm, became lord of APULIA in 1043; he was succeeded by his brother Drogo and by another brother, Humphrey, who after defeating Pope Leo IX in 1053 was invested by the pope with all the lands the Normans had acquired, or were to acquire, from the Byzantines and the Arabs His brother and successor, ROBERT GUISCARD, completed the Norman conquest of S Italy, another brother, ROGER I, conquered Sicily, and in 1130 Roger's son, ROGER II, set up the kingdom of SICILY, which comprised the Norman possessions in S Italy The Normans in Sicily and S Italy soon absorbed Italian speech and customs. Their ambitious plans against the Byzantine Empire were a factor in bringing about the Crusades, in which they at first played a very important part. Wherever the Normans went, NORMAN ARCHITECTURE has left its traces. See Edmund Curtis, *Roger of Sicily and the Normans in Lower Italy* (1912), C H Haskins, *The Normans in European History* (1915) and *Norman Institutions* (1918).

Norns, in Germanic mythology, the FATES, who spun and wove the web of life, like the Fates of Greek mythology The Norns were usually three in number—Urth (the past), Verthandi (the present), and Skuld (the future). Sometimes Urth (in Anglo-Saxon, Wyrd) was mentioned alone as a goddess of death.

Norrbotten, Swed *Norrbottens län* (nôr'bôtûns lĕn'), county (40,750 sq mi, pop 229 568), N Sweden, bordering on the Gulf of Bothnia, Finland, and Norway Northernmost and largest county of Sweden, it comprises the historic province of Norrbotten and the larger part of the province of Lappland More than half of the county is north of the Arctic Circle Among the inhabitants are c 4,400 Lapps (partly nomadic) and c 40,000 Finns There are cattle, sheep, and reindeer herds, hay is the main crop Norrbotten has some of the richest iron deposits in Europe Ore is mined chiefly at KIRUNA and Gällivare and is shipped from LULEÅ and from Narvik, Norway Rich in lakes and rivers (see TORNE and LULE), Norrbotten also contains the highest peak in Sweden, the KEBNEKAISE

Norridgewock (nŏ'rĭjwŏk), town (pop 1,511), central Maine, on the Kennebec above Skowhegan, inc 1788 Jesuit missionaries visited the Abnaki living here in the 17th cent, Sébastien RALÉS was in charge of the mission for about 30 years, until his death in 1724 at the hands of the English

Norris, Charles Gilman see NORRIS, FRANK

Norris, Edwin, 1795–1872, English philologist He wrote a number of articles on little-known languages of Asia and Africa His most important work was his uncompleted *Assyrian Dictionary* (3 vols, 1868–72), which is a landmark in the history of cuneiform lexicography

Norris, Frank (Benjamin Franklin Norris), 1870–1902, American novelist, b Chicago, educated in Paris, at the Univ of California, and at Harvard The Zolaesque realism of his novel *McTeague* (1899) shocked many readers, but it and his powerful trilogy, *The Epic of Wheat*, secured his place in American literature The first two volumes, *The Octopus* (1901) and *The Pit* (1903), were widely read, the third, *The Wolf*, was uncompleted at Norris's death See study by Ernest Marchand (1942) A brother, **Charles Gilman Norris,** 1881–1945, b Chicago, grad Univ of California, 1903, was also a novelist of note He is the author of a number of analytical novels of American life, including *Salt* (1917), *Brass* (1921), *Bread* (1923), *Seed* (1930), and *Flint* (1944) See *Noon* (1925), the autobiography of his wife, Kathleen Norris

Norris, George William, 1861–1944, American legislator, b Sandusky co, Ohio After study at Baldwin Univ and at the North Indiana Normal and Business Institute, Norris was admitted (1883) to the bar He moved (1885) to Furnas co, Nebr, practiced law, was (1895–1902) judge of the district court, and served (1903–13) in the U S House of Representatives A fearless, liberal Republican, Norris secured (1910), through an alliance of the insurgent Republicans and the Democrats, the passage of his bill which reformed the House rules and wrested absolute control from the speaker of the House, Joseph G CANNON Elected (1912) to the U S Senate, he opposed Woodrow Wilson's foreign policy, voted against U S participation in the First World War, and denounced the Treaty of Versailles He was at constant odds with the Coolidge administration, backed (1928) Alfred E Smith for President, and was in accord with President F D Roosevelt's domestic and foreign policies Norris was read out of the Republican party and became (1936) an independent Devoting himself to administrative reform, he was author (1932) of the Twentieth Amendment to the Constitution, which abolished the "lame duck" session of Congress and changed the date of the presidential inauguration and of the Nebraska constitutional amendment that established (1934) a unicameral legislature He fathered the bills which created (1933) the Tennessee Valley Authority, fought for other Federal power projects, and constantly pushed farm-relief measures After serving 30 years in the Senate, he was defeated for reelection in 1942 His *Fighting Liberal* (1945) is autobiographical See biography by Alfred Lief (1939)

Norris, John, 1657–1711, English clergyman and Platonist philosopher He was associated with the CAMBRIDGE PLATONISTS As the most prominent follower of Malebranche he wrote, in exposition of that philosopher's system, *An Essay towards the Theory of the Ideal or Intelligible World* (1701–4) Previously he had been one of the earliest critics of Locke's *Essay on Human Understanding* Among his works are *A Collection of Miscellanies* (1687) and *An Account of Reason and Faith* (1697)

Norris, Kathleen, 1880–, American novelist, b San Francisco, wife of Charles G Norris Her first success, *Mother* (1911), was followed by a long list of highly popular romantic novels *Certain People of Importance* (1922) is her most ambitious serious work Other books include *The Callahans and the Murphys* (1924), *The Venables* (1941), and, in nonfiction, the autobiographical *Noon* (1925) and *My San Francisco* (1932).

Norris City, village (pop 1,295), SE Ill, near the Wabash NE of Harrisburg; inc. 1901. It is a trade center in a farm area

Norristown, borough (pop. 38,181), co. seat of Montgomery co, SE Pa, on hills above the Schuylkill c 16 mi. NW of Philadelphia, settled 1784, inc 1812. Its manufactures include textile machinery, hardware, and agricultural implements. It ships dairy products and farm produce A state hospital for the insane is here Mineral deposits accounted for the town's early growth It is the most populous independent borough in the United States

Norrköping, Swed *Norrköping* (nôr'chö"pĭng), city (pop 78,255), Ostergotland co, SE Sweden, a Baltic port The chief textile center of Sweden, it also has paper and lumber mills and shipyards and has a large trade Norrköping was burned (1719) by the Russians in the Northern War, but it has retained its castle and several other old buildings

Norrland see SWEDEN

Norse language, language of Norway or of Iceland at any period Old Norse is the language of the sagas Norse is a branch of the Germanic subfamily of Indo-European languages See LANGUAGE (table)

Norse literature see OLD NORSE LITERATURE

Norsemen, Northmen, or **Normans,** name given on the European continent to the Scandinavian VIKINGS who raided the coasts of Europe in the 9th and 10th cent There was no essential difference between the Norsemen and the other vikings, who were generally called Danes in ENGLAND and Varangians in Russia Among the causes of the sudden appearance of the Norsemen on the coasts of NW Germany, the Low Countries, France, and Spain appear to have been a rapid increase of population in Scandinavia and the attempt of King HAROLD I of Norway to subjugate the independent nobles of his land The impact of the Norse invasions was particularly lasting in N France The invaders, who started their raids c 843, sailed up the French rivers, particularly the Seine, and repeatedly attacked, looted, and burned such cities as Rouen and Paris Their rapacity and destructiveness threatened to plunge France once more into the state of barbarism from which it had barely emerged The Norsemen gradually established settlements, generally at the river mouths, they thus constantly threatened to renew their inland raids along the rivers and ruined French commerce and navigation In 911 the Norman leader ROLLO was invested by King CHARLES III (Charles the Simple) with the duchy of NORMANDY, originally the territory around Rouen Rollo's successors considerably expanded their territory and were vassals of the French kings in name only The Norsemen soon became Christianized, adopted French law and the French language, and continued in history under the name of NORMANS The name of Normandy itself and several Norman place names (such as Harfleur, Barfleur, and Honfleur, in which the ending *-fleur* is derived from *fjord*) are the only survivals of the Norse period See C H Haskins, *The Normans in European History* (1915)

Norse religion. see GERMANIC RELIGION

North, Christopher, pseud of **John Wilson,** 1785–1854, Scottish author His first efforts were poetry (*The Isle of Palms*, 1812, and *The City of the Plague*, 1816), but with the loss of his fortune in 1815 he was forced to regard literature as a profession Among the first contributors to *Blackwood's Magazine*, he and J G Lockhart quickly became its chief critical writers Wilson's Tory sympathies won him the chair of moral philosophy (1820–51) at the Univ of Edinburgh He was a prolific writer, contributing in 1834 over 50 articles to *Blackwood's* His best-known work is in the *Noctes Ambrosianae*, a series of 71 articles, 41 of which were reprinted as Wilson's own, while Lockhart and James Hogg have credit for the majority of the others The *Noctes*, purporting to be records of festive evenings in Ambrose's Tavern, are a potpourri of criticism, politics, verse, and character sketches, humorous and rollicking See his works (ed by J F Ferrier, 12 vols, 1855–58), memoir by his daughter, Mary Gordon (1863)

North, Sir Dudley, 1641–91, British merchant and economist In 1662 in Constantinople, he became treasurer of the Turkey Company Returning to England a wealthy man, he was commissioner of the customs and of the treasury under Charles II and James II He was one of the earliest proponents of free trade in his pamphlets, *Discourses upon Trade* (1691, ed by J H Hollander, 1935)

North, Frederick, 2d **earl of Guilford** and 8th **Baron North,** 1732–92, English statesman, best known as Lord North. He entered Parliament in 1754, and by the time of his admission (1766) to the privy council he had become a Tory and a supporter of George III's principles of government He became in 1767 chancellor of the exchequer and leader of the House of Commons, where his support of the Townshend Acts hastened war with the American colonies. As prime minister (1770–82) he was the tool of George III and was directly responsible for the exasperating Boston Port Bill (see INTOLERABLE ACTS) After the outbreak of the American Revolution, the king refused to accept his resignation, and he continued to carry on George III's policies, although they were against his better judgment However, he did resign his post (1782) after news of the surrender of Cornwallis at Yorktown In 1783 he formed a coalition with his former opponent, the Whig Charles James Fox, but George III secured its collapse by the defeat of Fox's East India bill For the remainder of his career North supported the opposition against Pitt, but he was forced to retire from active life when his sight failed See W B Pemberton, *Lord North* (1939)

North, Sir Thomas, 1535?–1601?, English translator, studied (1557) at Lincoln's Inn but early turned to literature His translation of Plutarch, entitled *Lives of the Noble Grecians and Romans*, dedicated to Queen Elizabeth, appeared in 1579 and provided a source for several of Shakspere's plays, among them *Julius Caesar*, *Coriolanus*, and *Antony and Cleopatra* Subsequent editions, with added lives, appeared in 1595 and 1603 North also made a translation, *The Dial of Princes* (1557), from Guevara's *Libro llamado Relox de principes*, and *Moral Philosophy* (1570) is from the Oriental fables of Antonio Francesco Doni North's ornate but vivid style was a major influence in the development of the prose of the English Renaissance See Lady Frances Bushby, *Three Men of the Tudor Time* (1911)

North Adams, city (pop 22,213), NW Mass, in the Berkshires, on the Hoosic river near the western terminus of the Hoosac Tunnel and of the Mohawk Trail, settled c 1737, set off from Adams 1878, inc as a city 1895 A commercial and industrial center, it produces electrical supplies, textiles, and paper A state teachers college is here In 1936 a landslide destroyed several buildings Mt Greylock is southwest

North Africa, campaigns in. Italy's entrance into the Second World War (June 10, 1940) made North Africa an active theater in which the immediate prize was control of the Suez Canal and the ultimate prize control of the Mediterranean Sea Fighting did not begin in North Africa itself until after the swift Italian conquest of British Somaliland in Aug, 1940 The great desert war in the north started in September and, except in its final phases, was waged along the coasts of Libya and Egypt The almost uniformly level terrain offered few advantageous defensive positions, and the fighting seesawed between tenuously held battle lines Tanks and aircraft played dominant roles, and success or failure hinged always on the speed with which first one side and then the other built up armored and air strength The first of three Axis drives into Egypt was launched (Sept 12–13, 1940) from Libya by Marshal Rodolfo Graziani's Italian forces, by Sept 17 the Italians held Sidi Barani (c 60 mi within Egypt), where the attack stalled before Mersa Matruh On Dec 9, 1940, Gen Archibald P Wavell launched a surprise attack with numerically inferior but well-coordinated forces and in a swift campaign chased Graziani c 500 mi along the coast of Cyrenaica to El Agheila (Feb 8, 1941), the Italian army was all but destroyed The Germans, however, quickly reinforced the Italians with the Afrika Korps under Gen (later Marshal) Erwin Rommel Late in March, 1941, Rommel began an assault which drove the British (whose numbers had been cut by the sending of troops to Greece) out of Libya, the Germans held Sollum and Halfaya Pass in Egypt near the border, but Tobruk in Libya, bypassed by the Germans, was strongly held by Australians Gen Claude Auchinleck replaced Wavell, with the newly formed British 8th Army he attacked on the night of Nov 17–18, 1941, and pushed Rommel back to El Agheila (Jan, 1942) A limited counterattack forced the British to abandon the important port of Bengasi, Auchinleck set up his defense line some 100 mi within Libya at El Gazala, N of Bir Hacheim Rommel launched his attack on May 26, 1942 At Knightsbridge (June 13), the British lost some 230 of 300 tanks. Auchinleck was thrown back c 250 mi into Egypt, where he dug in along a 35-mile line from El Alamein on the coast to the Qattara Depression (an impassable badland), only some 70 mi from Alexandria Tobruk this time had fallen swiftly on June 21 There followed a frenzied race to build up strength Gen Sir Harold Alexander replaced Auchinleck, and Gen (later Marshal) Bernard L Montgomery took command Rommel's attempts to break the British defenses failed Allied reinforcements (especially tanks and planes from the United States) moved into Egypt, and on Oct. 23, 1942, the British launched a great attack (for an account of the fighting, see ALAMEIN) The battle, one of the decisive contests of the war, resulted in a British victory Rommel hastily disengaged his forces and began one of the longest sustained retreats in history. British efforts to catch him and engage his forces in Libya failed Tripoli was taken on Jan 23, 1943 Rommel retreated into Tunisia, where he set up his defenses along the Mareth Line, a former French bastion which had been somewhat dismantled after the fall of France.

Meanwhile, in a great Allied amphibious invasion of North Africa, American, British, and French troops attacked (night of Nov 7–8, 1942) at Algiers, Oran, and Casablanca, thus investing the territory to the west of Rommel Under the supreme command of Gen Dwight D Eisenhower, Allied forces pushed quickly toward Tunisia The Germans reacted swiftly, however, and by sea and air poured troops into N Tunisia The Germans were now compressed between the British 8th Army on the east, Eisenhower's forces on the west, and Free French forces on the south, while Allied planes and ships took a heavy toll in the Mediterranean Bitter fighting followed in the Tunisian hills In the north the Allies ran up against stout German defenses before Mateur near Bizerta (Dec , 1942) German attacks in central Tunisia pushed west through Faid Pass (Feb 14, 1943) and Kasserine Pass (a week later), from which they were dislodged after heavy fighting In the south the British, joined by flanking French forces, forced Rommel from the Mareth Line in March, the British moved up the Tunisian coast, taking Gabès (late March), Sfax, and Sousse (April) Allied air attacks increased in intensity along the whole front Before Mateur fighting raged around Hill 609, the height which commanded the battlefield The hill was finally taken by U S troops early in May, on May 7, 1943, the Americans took Bizerta and the British took Tunis The Axis forces in North Africa capitulated on May 12 In E Africa the fighting had earlier resulted in complete Allied victory British and Italian Somaliland had been conquered by Feb , 1941, Eritrea by April, and Ethiopia by Nov , 1942

Northallerton, urban district (pop 4,786), capital of the North Riding of Yorkshire, England, NNW of York, at a natural gateway through hills Now a trade center, it once was a Roman station and in the 14th cent had important monastic establishments, of which there are few remains There is a cruciform church (12th–13th cent) The Battle of the Standard, between English and Scots, was fought 3 mi from the town in 1138

North America, northern continent of the Western Hemisphere Including MEXICO, the UNITED STATES, CANADA, ALASKA, and GREENLAND and excluding Central America (which, however, is generally considered part of the continent) and the West Indies, it has an area of c 9,000,000 sq mi and an estimated population of 185,000,000 Roughly triangular in shape, with the narrowest part toward the south, it is bounded by the Arctic Ocean on the north, by the Atlantic Ocean and the Gulf of Mexico on the east, by Central America (or by South America when Central America is considered part of the continent) on the south, and the Pacific Ocean on the west The highest point is Mt McKinley in Alaska, and the lowest is Death Valley in California In the eastern part of the northern half are the LAURENTIAN MOUNTAINS, the ADIRONDACK MOUNTAINS, and the northern part of the APPALACHIAN MOUNTAINS, which, extending southward, leave a wide coastal plain in the SE United States, which merges into the great Gulf coastal plain On the western coast the COAST RANGES in many places rise abruptly from the sea The mountainous region here is considerably more extensive than that of the east, whole ranges are twice as high, and individual peaks more than three times as high, as the highest points in the east This western region includes the Coast Ranges and the ROCKY MOUNTAINS with the GREAT BASIN between them, the widest part of the western mountainous area occurs in Wyoming and Colorado The central part of the continent is a vast plain, varying in width up to c 1,500 mi and drained by numerous river systems, chief of which are the great MISSISSIPPI and MISSOURI (to the Gulf of MEXICO), the RED RIVER, SASKATCHEWAN, and NELSON system (to Hudson Bay), and the MACKENZIE system (to the Arctic Ocean) The GREAT LAKES–SAINT LAWRENCE system drains E to the Atlantic Other great rivers of North America are the YUKON, COLUMBIA, COLORADO, and RIO GRANDE. The temperature of North America reaches great extremes, it is influenced on the east by the Labrador Current and the GULF STREAM Rainfall is abundant along parts of the coast and deficient in certain parts of the interior The mountainous east and west contain large heavily forested areas, in the north are the BARREN GROUNDS, the central part was originally covered largely with rich grasses and is now the main agricultural region; and in the southwest are large desert areas The soil is generally fertile, nearly every kind of plant can be raised, and some of the world's largest wheat, cotton, and grazing areas are in North America The mineral resources are extensive and varied The population found here when the region was discovered by the Europeans consisted of scattered groups known as American INDIANS, believed to have migrated from Asia The present population consists chiefly of the descendants of Europeans, together with Negroes, Asiatics, and remnants of Indian tribes See J R Smith and M O Phillips, *North America* (1940).

Northampton, Henry Howard, earl of (nôrthămp'tŭn), 1540–1614, English courtier, son of the poet, Henry Howard, earl of Surrey He was distinguished for great learning and for lack of principle in his public life His court career under Elizabeth was marked by a charge of intrigue with Mary Queen of Scots, imprisonment (1583–85) for a pamphlet against astrology, his attachment to Robert Devereux, earl of Essex, at the height of that nobleman's ascendancy, as well as to Essex's enemy, William Cecil, Lord Burghley James I made Howard a privy councilor (1603), earl of Northampton (1604), and lord privy seal (1608). He supported the actions of his grandniece, Frances Howard, who was tried for the murder of Sir Thomas OVERBURY

Northampton, county borough (1931 pop 92,341, 1947 estimated pop 105,600), co seat of Northamptonshire, England, on the Nene and NNW of London There are Roman and ancient British remains in the vicinity Northampton was an important settlement of the Angles and of the Danes, and its castle was the scene of parliaments from the 12th to the 14th cent and of many sieges The Church of St Giles has a Norman door, All Saints' has a 14th-century tower, St Peter's has a Norman interior, and there is a Roman Catholic cathedral St Sepulchre's is one of the four round churches in England St John's Hospital was founded in 1138 One of the few remaining Eleanor Crosses (see ELEANOR OF CASTILE) is at Hardingstone, S of Northampton In 1460 Henry VI was defeated in Northampton In 1675 much of the town was destroyed by fire Shoemaking has long been the chief industry, there are also manufactures of textiles, machinery, paint, and other products

Northampton (nôrth"hămp'tun, nôr"thămp'tun) **1** City (pop 24,794), co seat of Hampshire co , W Mass , on the Connecticut, inc as a town 1656, as a city 1883 Hosiery, brushes, and cutlery are produced Best known as the seat of SMITH COLLEGE, it has also Clarke School for the Deaf and a state hospital for the insane Jonathan Edwards was pastor here Calvin Coolidge lived here and was once mayor of the city The Northampton Association of Education and Industry, a communistic settlement, was here, 1842–46 **2** Industrial borough (pop 9,622), E Pa , on the Lehigh river and near Allentown, settled c 1753, inc 1901 It manufactures Portland cement and building blocks

Northamptonshire (nôrthămp'tunshĭr) or **North Hants** (hănts), inland county (914 sq mi , 1931 pop 309,474, 1948 estimated pop 352,200), central England The county town is Northampton The Soke of PETERBOROUGH, a separate administrative county, is in the northeast, in an area of reclaimed fenland, part of the Bedford Level It is undulating agricultural country, devoted largely to pasturage of sheep and cattle The county has long been a center of boot and shoe manufacture The Roman roads, Ermine Street and Watling Street, crossed the county In Anglo-Saxon times it was part of the kingdom of Mercia and was probably organized as a shire in Danish times See Arthur Mee, *Northamptonshire* (1945)

North Andover (an'dōvur), textile town (pop 7,524), NE Mass , on the Merrimack, settled c 1644, set off from Andover 1855

North Apollo, borough (pop 1,568), W Pa , on the Kiskiminetas and E of Pittsburgh, inc 1930

North Arlington, borough (pop 9,904), NE N J., NE of Newark, inc 1896

North Atlanta, city (pop 1,365), NW Ga , a suburb of Atlanta

North Atlantic Drift, warm ocean current in the northern part of the Atlantic Ocean which exerts considerable influence upon the climate of Western and N Europe Its tempering effect is felt especially in the British Isles and Norway, but its impact reaches as far as the north coast of Russia and the arctic islands of Novaya Zemlya The North Atlantic Drift is a continuation of the GULF STREAM, the merging point being at lat 40° N and long 60° W

North Atlantic Treaty, defensive alliance signed on April 4, 1949, at Washington, D C , by the United States, Canada, Great Britain, France, the Netherlands, Belgium, Luxembourg, Italy, Norway, Denmark, Iceland, and Portugal Reaffirming their adherence to the Charter of the United Nations, the signatories pledged to "unite their efforts for collective defense and for the preservation of peace and security" and to consider an armed attack on any of them an attack against all The treaty was to be renewed in 10 years Chief among the other clauses was that providing for the establishment of a council of the 12 member nations The treaty was ratified despite the violent opposition of Communists and left-wing Socialists in certain countries—especially France and Italy—who denounced it as a provocative act directed against the USSR Even outside the leftist parties, the treaty was viewed with apprehension by some who feared it would lead to an armaments race and thus to war. Its promoters—chief among them U S Secretary of State Acheson—maintained, on the contrary, that a show of common strength was the sole road to peace. The council of the North Atlantic Treaty members subsequently established a joint military defense committee and mapped a common strategy in case of war. The burden of the expenditure required for the rearming of Western Europe was assumed by the United States

North Attleboro (ă'tulbûru), industrial town (pop. 10,359), SE Mass , near the R I line, settled 1669, set off from Attleboro 1887 Jewelry has been made here since the 18th cent The Woodcock tavern dates from 1670

North Augusta, residential town (pop 2,629), SW S C , on the Savannah, inc 1906 It is opposite Augusta, Ga , with which it is connected by bridge.

North Australia see NORTHERN TERRITORY

North Baltimore (bôl'tumôr), village (pop 2,616), NW Ohio, SSW of Toledo, settled 1834 It has varied manufactures

North Battleford, city (pop 5,717), W Sask , on the North Saskatchewan river at the mouth of the Battle, NW of Saskatoon and opposite Battleford It is a distributing center for W Saskatchewan, with grain elevators, cold-storage plants, and tanneries

North Bay, city (pop 15,599), S Ont , on Lake Nipissing and N of Toronto It is the transportation and commercial center of lumbering and mining districts, the southern terminus of the provincially owned Ontario Northland RR, and an outfitting point for hunting and fishing parties

North Bellevernon (bĕlvûr'nŭn), borough (pop 3,022), Westmoreland co , SW Pa , SE of Pittsburgh, inc 1876

North Bend. 1 City (pop 1,003), E Nebr , on the Platte and WNW of Omaha, settled 1856 **2** City (pop 4,262), SW Oregon, on Coos Bay, settled 1853, inc 1903 It has lumber mills and fisheries

North Bergen, residential suburban township (pop 39,714), NE N J , NE of Jersey City, inc 1861 Ink, radio parts, and automobile batteries are made

North Berwick (bĕr'ĭk), burgh (pop 3,473), East Lothian, Scotland, on the Firth of Forth and ENE of Edinburgh It has ruins of a 12th-century priory for Cistercian nuns, to the east are ruins of Tantallon Castle, and in the firth is Bass Rock The burgh is a seaside resort with a noted golf course

North Berwick (bûr'wĭk), town (pop 1,455), SW Maine, settled c 1630, set off from Berwick 1831

North Borneo or **British North Borneo,** British colony (29,387 sq mi , 1947 estimated pop 380,000), NE BORNEO Until 1946 a protectorate, the colony has its capital at Jesselton, the old capital, Sandakan, was virtually destroyed during the Second World War The area comprised by the colony is much like the rest of the island, it contains Mt Kinabalu, the island's highest peak Rubber, timber, tobacco, coal and fish are the principal products and exports

Northboro, rural town (pop 2,382), E central Mass , ENE of Worcester, settled c 1672, set off from Westboro 1766

North Brabant (brubănt'), Dutch *Noordbrabant* (nôrt"brabant') province (1,920 sq. mi , pop 1,168,505), S Netherlands, bordering on Belgian Brabant in the south The capital is 's Hertogenbosch, among other cities are Tilburg, Eindhoven, and Breda A level country, the province has fertile soil near the Meuse (Maas), which is its northern boundary, but is mostly heathland elsewhere The chief industrial products are wool, cotton, and linen textiles and electrical appliances (notably at Eindhoven) The history of the province was that of Brabant (see BRABANT, DUCHY OF) until the 16th cent As a result of the Spanish reconquest of the larger part of the duchy during the Dutch struggle for independence, Brabant was divided at the Peace of Westphalia (1648) between the Spanish (later Austrian) Netherlands and the United Provs of the Netherlands North Brabant, the part acquired by the Dutch, was administered in common by the United Provs until 1795 and subsequently became a province of the kingdom of the Netherlands

North Braddock, industrial borough (pop 15,679), SW Pa , ESE of Pittsburgh, inc 1897 It is a steel-manufacturing center

North Branford, town (pop 1,438), S Conn , ENE of New Haven, settled c 1680, inc 1831

Northbridge, town (pop 10,242), S Mass , on the Blackstone and SE of Worcester, settled 1704, set off from Uxbridge 1772 It includes the textile-producing Whitinsville village

Northbrook, village (pop 1,265), NE Ill , near Chicago, inc 1923

North Brookfield, town (pop 3,304), central Mass , W of Worcester, settled 1664, set off from Brookfield 1812 Asbestos and rubber products are made

North Caldwell (kôld'wûl), borough (pop 1,572), NE N J , SW of Paterson, inc 1898

North Canaan (kă'nŭn), town (pop. 2,304), NW Conn It includes the villages of CANAAN and East Canaan

North Canadian, river rising in NE New Mexico and flowing E into the Oklahoma Panhandle and SE through Oklahoma City, to join the Canadian river near its junction with the Arkansas in E Oklahoma Federal dams and reservoirs on the river and its tributary, Wolf Creek, are part of the Arkansas river basin project for flood control and other purposes.

North Canton, village (pop 2,988), NE Ohio, NW of Canton Vacuum cleaners are made here

North Cape, N Norway, near but not at the north end of Mageroy island, in Finnmark co , c 60 mi NE of Hammerfest It rises c 1,000 ft sheer from the sea Although Mageroy is separated by a narrow channel from the mainland, North Cape, at lat 71° 10′ N is the northernmost important point of the European continent The northernmost point actually situated on the mainland is Cape NORDKYN The North Cape is a traditional stop for tourist steamers

North Carolina, state (52,712 sq mi , including 3,570 sq mi of water surface, 1940 pop 3,571,623, 1949 estimated pop 3,864,000), SE United States, one of the Thirteen Colonies RALEIGH is the capital The state is bounded on the north by Virginia, on the east by the Atlantic, on the south by South Carolina and Georgia, and on the west by Tennessee Serving as a buffer against the Atlantic is a long chain of islands, with constantly shifting sand dunes, from which project three famous capes —HATTERAS, LOOKOUT, and FEAR Between the islands and the shore line stretch the sounds — ALBEMARLE SOUND and PAMLICO SOUND are the largest—which receive CHOWAN, ROANOKE, TAR, and NEUSE rivers and CAPE FEAR RIVER (WILMINGTON, the chief port, is at the head of its broad estuary) The mainland bordering the sounds is low, flat tidewater country, often swampy, even beyond the DISMAL SWAMP In the upper coastal plain the land rises gradually from the tidewater level, reaching 500 ft at its western limit, the fall line Here begins the piedmont, rolling hill country with many swift streams such as the BROAD RIVER, the Catawba (or WATEREE), and the Yadkin (or PEE DEE) The hydroelectric power they generate has made this a great industrial area, and the piedmont supports most of the state's population and has the four largest cities — CHARLOTTE, WINSTON-SALEM, DURHAM, and GREENSBORO At the western edge of the piedmont the land rises abruptly in the BLUE RIDGE, then dips down to the broad Carolina highlands plateau, and rises again in the GREAT SMOKY MOUNTAINS ASHEVILLE is the metropolis of this mountain region, with Mt MITCHELL (6,684 ft) the highest peak in the E United States The FRENCH BROAD RIVER, the WATAUGA, and other rivers rising W of the Blue Ridge flow into the Mississippi system, almost all via the Tennessee North Carolina, in the warm temperate zone, has a mild, generally uniform climate, and the rainfall is abundant and well distributed. Tobacco and cotton are the chief money crops In North Carolina 40 percent of the nation's tobacco, mostly the bright-leaf variety, is grown (in the coastal plain) and manufactured (in the piedmont) into cigarettes, half the total production in the United States Peanuts, corn, wheat and other grains, sweet potatoes, Irish potatoes, truck, fruit, livestock, and dairy products rank next in value Plentiful forests supply thriving furniture and lumber industries, and North Carolina has long been a leading textile-producing state (cotton, knit, rayon, and silk goods) There are valuable coastal fisheries and a wide variety of minerals, granite, feldspar, kaolin, and mica being commercially important Verrazano (1524) and possibly some Spanish navigators earlier had explored the coast before the unsuccessful colonizing attempts of Sir Walter RALEGH in the 1580s (see ROANOKE ISLAND) The first lasting settlements were made around Albemarle Sound as early as 1653 by colonials from Virginia Meanwhile, Charles I granted (1629) to Sir Robert Heath the territory S of Virginia between the 36th and 31st parallels, named Carolina in the king's honor Heath did not exploit his grant, which was declared void in 1663 Charles II made over the territory to eight of his favorites, who became the "true and absolute Lords Proprietors" of Carolina In 1664 Sir William Berkeley, governor of Virginia and one of the proprietors, appointed a governor for the province of Albemarle, known after 1691 as North Carolina. Deputies, appointed from Charleston, S C , served from 1691 to 1712, after which North Carolina had a separate governor The people were expected to adhere to the Fundamental Constitutions (abolished 1693) as in South Carolina, but proprietary rule, despite several episodes of rebellion, did not lie heavy on the colony, which long remained poor and sparsely settled By 1700 there were only some 4,000 people, predominantly of English stock, along Albemarle Sound. There they raised, with the help of indentured servants and Negro and Indian slaves, tobacco, corn, and livestock, mostly on small farms The production of naval stores was the chief industry Communication by land was almost impossible, except with Virginia, and even then swamps and forests made it difficult, and only vessels of light draft could negotiate the narrow and shallow passages through the island barriers. There was, however, some trade not only with Virginia but also with New England and Bermuda, and the colony had three towns, BATH, EDENTON, and NEW BERN by 1711, when the destructive war with the Tuscarora Indians broke out. The Tuscarora were defeated, and in 1714 the remnants of the tribe moved north to join the Iroquois Confederacy A long, bitter boundary dispute with Virginia was partially settled in 1728 when a joint commission ran the line 240 mi inland One of the Virginia commissioners, William BYRD, a cultured but prejudiced gentleman, remarked in his *History of the Dividing Line* that North Carolinians were quarrelsome and lazy Although Anglicanism was made the state religion in 1715, visiting clergymen also deplored the irreligious, unrestrained character of the people, always ready to oppose proprietary demands, few as they were When the British government also became dissatisfied with the work of the proprietors, North Carolina was made (1729) a royal colony Thereafter progress was more rapid. The Indians were gradually pushed back over the Appalachians as the piedmont was increasingly occupied Germans and Scotch-Irish came from Pennsylvania, and Highland Scots, particularly after their defeat at Culloden in 1745, settled in the Cape Fear valley These varied racial elements, in addition to smaller groups of Swiss, French, and Welsh who migrated earlier in the century, gradually amalgamated There has been little foreign immigration since colonial days, and North Carolina's white population is largely homogeneous To resist government oppression, backcountry farmers organized (1768) the REGULATOR MOVEMENT, suppressed by militia under Gov William TRYON in 1771 After the outbreak of the American Revolution, royal authority collapsed, a provisional government was set up, the disputed MECKLENBURG DECLARATION OF INDEPENDENCE was allegedly promulgated (May, 1775), and the fourth provincial congress, meeting at Halifax, instructed (April 12, 1776) the colony's delegates to the Continental Congress to support complete independence from Britain Most Loyalists, including the Highland Scots, fled North Carolina after their defeat (Feb 27, 1776) at the battle of Moore's Creek Bridge, near Wilmington The British, however, were not relieved of their delusion about Tory strength in the state until their failure in the CAROLINA CAMPAIGN (1780-81) The designation Tar Heels for North Carolinians was originally attributed to Cornwallis's soldiers retreating in this campaign—they supposedly forded a stream into which tar had been poured and emerged with the substance sticking to their heels Settlements established beyond the mountains before the Revolution (see WATAUGA ASSOCIATION and TRANSYLVANIA COMPANY) were increased after the war In 1784 the legislature ceded North Carolina's Western lands to the United States, leading the transmontane people to organize a new, short-lived government (see FRANKLIN, STATE OF) The cession, soon repealed, was reenacted in 1789-90, and the territory became (1796) the state of Tennessee North Carolina opposed a strong central government and did not ratify the Constitution until Nov , 1789, months after the new U S government had begun to function The state was slowly won to Jeffersonian policies, largely through the influence of Nathaniel MACON, but made little progress under the undemocratic constitution framed in 1776, which largely served the interests of the politically dominant tidewater planter aristocracy In 1835, however, W North Carolina, now the most populous section, finally succeeded in having called a constitutional convention, which abolished the property and religious qualifications for voting and holding office (except for Jews) and provided for the popular election of governors In 1845 also began the final forced removal of most of the Cherokee, but to check the steady, voluntary migration of whites, internal improvements, especially the building of railroads and plank roads, were effected Most North Carolinians never held Negro slaves, and considerable anti-slavery sentiment existed until the 1830s, when cotton culture became more profitable and the organized agitation of Northern abolitionists began Not until President Lincoln's call for troops after the firing on Fort Sumter did the state secede and join (May, 1861) the Confederacy Tar Heels boast that they had more privates and fewer generals in the Confederate army than any other Southern state The coast was ideal for blockade-running, and the last important Confederate port to fall (Jan , 1865) was Wilmington (see FISHER, FORT) Gov Zebulon B VANCE zealously defended the state's rights against what he considered encroachments by the Confederate government After engagements at Averasboro and Bentonville in March, 1865, Gen J E Johnston surrendered his Confederate forces to Gen W T SHERMAN, and in May, President Johnson applied his plan of RECONSTRUCTION to the state The radical Republicans in Congress, however, adopted their own scheme in 1867, and the Carolinas, organized as the second military district, were again occupied by Federal troops The Reconstruction constitution of 1868 abolished slavery, removed all religious tests for holding office, and provided for the popular election of all state and county officials In 1871 the legislature, with conservatives again in control, impeached and convicted Gov William H. Holden Reconstruction government, however, was not so bad as elsewhere in the South, and the period saw the beginnings of a tremendous rise in industry in the piedmont Increased use of tobacco in the Civil War stimulated the growth of tobacco manufacturing, first centered at Durham, and the introduction of the cigarette-making machine in the early 1880s was an immense boon to the industry, creating "tobacco barons" such as James B DUKE and R J Reynolds Agriculture, however, was long in a critical condition The ante-bellum plantation system was replaced by farm tenancy, which, in several forms, is still the dominant system of holding land (in 1945 only about one half of the farms were owned by the men who worked them) Much farm property was destroyed, credit was lacking, and transportation had broken down The nation-wide agrarian revolt reached North Carolina in the GRANGER MOVEMENT (1873), the Farmers' Alliance (1887), and the POPULIST PARTY, which united with the Republicans to carry the state elections in 1894 and 1896 However, the Fusionists were blamed for the rise of Negro control in many tidewater towns and counties, and in the election of 1898, when the Red Shirts, like the Ku Klux Klan of Reconstruction days, were active, the Democrats regained the control they have never since lost The turn of the century marked the beginning of a new progressive era, somehow typified by the successful airplane experiments of the Wright brothers at KITTY HAWK The crusade for public education for both races led by Gov Charles B AYCOCK, elected in 1900, achieved wide results, and new interest was created in developing the state's agricultural and industrial resources But one old pattern was strengthened when a suffrage amendment, the "grandfather clause" assuring white supremacy, was added (1901) to the constitution of 1868, already unrecognizable after 30 previous amendments (1875-76) resulting from the experiences of Reconstruction For Carolina governors there was an even longer time between drinks after state-wide prohibition was adopted in 1908, and North Carolina pioneered in bringing about the national prohibition amendment, never approving its repeal Since the First World War, the state government has increasingly followed a policy of consolidation and centralization, taking over the public school system and the supervision of county finance and roads A huge highway development program was begun in 1921 Expenditures for higher education were greatly increased, and the three major state educational institutions were merged into a greater Univ of North Carolina From the university, the most important single influence in the state, has emanated most of the recent advanced economic and social measures Tar Heels no longer take a defensive pride in calling their state "a vale of humility between two mountains of conceit" and now boast so loudly and often that North Carolina is probably the most advertised as well as the most progressive state in the South It has been fortunate in intelligent, far-seeing leaders such as Josephus DANIELS, Frank P GRAHAM (U S Senator, 1949–50), and Jonathan DANIELS, and its leading literary figure, Thomas WOLFE, won universal regard Of the many and large military installations which covered the state in the Second World War, Fort Bragg, near Fayetteville, is best known DUKE UNIVERSITY, Davidson College, and Wake Forest College are the leading private institutions of higher education See J S Bassett, *The Constitutional Beginnings of North Carolina, 1663-1729* (1894), S A Ashe, *History of North Carolina* (2 vols , 1908–25), J G deR Hamilton, *Reconstruction in North Carolina* (1914), R D Connor, *North Carolina Rebuilding an Ancient Commonwealth, 1584–1925* (2 vols , 1929), J C Sitterson, *The Secession Movement in North Carolina* (1939), Federal Writers' Project, *North Carolina a Guide to the Old North State* (1939), Archibald Henderson, *The Old North State and the New* (2 vols , 1941), S H Hobbs, Jr , and M N Bond, *North Carolina Today* (1947), H T Lefler, ed , *North Carolina History Told by Contemporaries* (2d ed , revised and enlarged, 1948)

North Carolina, Agricultural and Technical College of, at Greensboro, Negro, land-grant and state supported, coeducational, chartered 1891, opened 1893 It has a college of education and sciences and schools of agriculture and mechanic arts

North Carolina, University of, at Chapel Hill, state supported, partly coeducational, chartered 1789, the first state university to open as such (1795) The Consolidated Univ of North Carolina includes the State College of Agriculture and Engineering at Raleigh and the Woman's College at Greensboro At Chapel Hill are a college of arts and sciences (with music) and a two-year general college, schools of commerce, law, library science, medicine (two years), pharmacy, and public health, and divisions of public welfare and social work The Institute for Research in Social Science emphasizes regional study and trains personnel for research The university has a planetarium, an art gallery, one of the earliest folk theaters, a folklore council, and a university press See Archibald Henderson, *The Campus of the First State University* (1949)

North Carolina, Woman's College of the University of, at Greensboro, state supported, chartered 1891,

opened 1892 as the State Normal and Industrial School It became a college in 1897 and was called the North Carolina College for Women from 1918 to 1932. It has a liberal arts college and a music school.

North Carolina State College of Agriculture and Engineering, at Raleigh, state supported, coeducational, founded 1887, opened 1889, consolidated with the Univ of North Carolina 1931 It includes schools of agriculture and forestry, architecture, engineering, science and business, and textiles and a division of teacher training

North Catasauqua (kătŭsô'kwŭ), borough (pop 2,530), E Pa , on the Lehigh river and near Allentown, inc 1908

North Central College· see NAPERVILLE, Ill

North Channel, strait between Northern Ireland and Scotland, connecting the Irish Sea with the Atlantic It is c.13 mi across at its narrowest

North Charleroi (shărlŭroi', shar'lŭroi), mining borough (pop 2,674), SW Pa , on the Monongahela and S of Pittsburgh, inc 1894

North Chicago, industrial city (pop 8,465), NE Ill , N of Chicago on Lake Michigan, contiguous to Waukegan, inc 1909 It manufactures metal products and refines rare metals A sit-down strike (1937) at a steel plant here led to legal proceedings, in which the U S Supreme Court ruled (1939) sit-down strikes illegal Near the city is the large Great Lakes Naval Training Station and a veterans' hospital

North Chillicothe (chĭlĭkŏ'thē), village (pop 1,216), central Ill , near the Illinois river N of Peoria, inc 1890

Northcliffe, Alfred Charles William Harmsworth, Viscount, 1865–1922, British journalist, b Ireland In 1887 he formed a general publishing company and in 1888 founded a weekly, *Answers to Correspondents* Northcliffe persuaded his brother Harold (later Viscount Rothermere) to take over financial affairs, and in five years his magazine was selling more than 1,000,000 copies a week. Other publications were slowly acquired to form the world's largest periodical combine, the Amalgamated Press. The London *Evening News* joined in 1894, and the *Daily Mail*, with its concise forward-looking policies which were to revolutionize journalism, was begun in 1896 A duplicate edition was issued in Manchester during the Boer War, and in 1905 a continental edition was established in Paris, forcing other papers to follow suit Northcliffe founded (1903) the *Daily Mirror* and in 1908 gained control of the dying *Times*, putting it back on its feet with changes in make-up and editorial policy, *The Times* was sold to Lord Astor after Northcliffe's death His newspaper campaigns during the First World War, particularly those concerning faulty munitions, national conscription, and food rationing, were determining factors in England's conduct of the war, and his support of Lloyd George in 1916 was instrumental in bringing the downfall of the Asquith government Towards the end of his life, however, he overestimated his influence on the course of the British Empire He was made a viscount in 1917 See biographies by Max Pemberton (1922), R M Wilson (1927), and H H Fyfe (1930), memoir by J A Hammerton (1932)

North College Hill, residential city (pop 5,231), SW Ohio, near Cincinnati, inc 1916 The Clovernook Home for the Blind is here; its Braille printing shop publishes magazines of wide circulation

North Collins, village (pop 1,182), W N Y , S of Buffalo, settled c 1810, inc 1911

Northcote, James (nôrth'kŭt), 1746–1831, English historical and portrait painter He worked as assistant to Reynolds and studied at the Royal Academy From 1777 to 1780 he studied in Italy and on his return painted a series of pictures for the Shakespeare Gallery (built by John Boydell), including the well-known *Murder of the Princes in the Tower* Northcote was the author of several books, including *Memoirs of Sir Joshua Reynolds* (1813, enl ed , 1818) and *Conversations* (1830)

North Dakota, state (70,665 sq mi , 1940 pop 641,935, 1949 estimated pop 605,000) N central United States, admitted 1889 as the 39th state BISMARCK, on the eastern bank of the Missouri river, is the capital North Dakota is bounded on the north by the Canadian provinces of Saskatchewan and Manitoba, on the east by the Red River, which separates it from Minnesota, on the south by South Dakota, and on the west by Montana In the geographical center of North America, North Dakota is exposed to the extremes and vagaries of a continental climate Almost constant winds whip up winter blizzards and scorch the earth during brief, intense summers Semiarid conditions prevail in the western half of the state, but in the east an average annual rainfall of 22 in., much of it in the growing months of spring and summer, permits the rich soil to yield abundantly From east to west North Dakota is a rural state, its towns busy supplying the needs of its many farms and its industries devoted to the processing of agricultural products. The eastern half of the state is in the central lowlands, a belt of black earth covered in spring by the soft green of quickly sprouting grain and later into the bronze of flowering wheat or the blue of the flax. Along the banks of the Red River a wedge of land, some 40 mi. wide at the Canadian border and tapering to 10 mi in the south, is the floor of the former glacier Lake Agassiz Treeless, except along the riversides, and without rocks, this flat land was transformed into the bonanza wheat fields of the '70s and '80s with farms ranging in size from 3,000 to 65,000 acres Today the average farm is nearly 400 acres, its major wheat crop varied with cash crops of flax, seed potatoes, and sugar beets To the west of the valley a series of escarpments rises some 300 ft to meet the drift prairies, where rolling hills, scattered lakes, and occasional moraines form a pleasant and fertile countryside. The productivity of the soil places North Dakota second only to Kansas in total wheat production, with first place in spring and durum wheat, in flax, and in rye In the west a combination of difficult topography and scant rainfall precludes intensive cultivation except in the river valleys An area some 50 mi E from the Missouri river is a farm and grazing belt, divided from the drift prairies by the Missouri escarpment An irregular plateau rolls W from the Missouri, covered with short prairie grasses and cut by deep coulees Where wind and rain have eroded the hillsides they have molded weird formations of sand and clay, glowing in yellows, reds, browns, and grays Along the Little Missouri this section is called the Badlands and here, where Theodore Roosevelt visited, the state has established the Roosevelt Regional State Parks for scenic and recreational purposes Across the plateaus the cattle graze on the native grasses and find shelter in the many ravines Large ranges are an economic necessity, and during the heavy snows only the radio relieves the isolation of this prairie life A greater development of the mineral resources of this area may change its character, for underlying the western counties is a vast supply of lignite, some of it layered so close to the surface that strip mining is possible This fuel is valuable for both industrial and home use and is particularly important since North Dakota is short of other fuels In close proximity to the lignite beds are fine deposits of clay, with such a variety of types that they serve both as construction and pottery materials, with production centered around the town of DICKINSON Most of the other industry—primarily the processing of grain, meats, and dairy products—is concentrated in the only four cities of over 10,000 population—FARGO, Bismarck, GRAND FORKS, and MINOT Two transcontinental railroads, the Great Northern and the Northern Pacific, serve as the main transport arteries to the north, east, and west, and highway and airport construction is facilitating the difficult problem of travel and marketing The Missouri and the Red River, once the major transport lanes, are more important now as potential irrigation sources Some dam construction, irrigation, and reforestation projects have been completed and the drought years of the '30s brought a realization of the need for a more comprehensive program of conservation Probably there is no more live issue in the state today than the proposed Missouri Valley Authority (see MISSOURI RIVER BASIN PROJECT) These modern problems have evolved during a very brief history, for it is scarcely more than a century since the first white men began to cultivate any area in North Dakota The first farmers of whom we have definite knowledge were the Mandan Indians, whom the French explorer, Pierre de la Vérendrye, found tilling the land on the banks of the Missouri in 1738 Other agricultural tribes were the Arikara and the Hidatsa Vérendrye's two sons revisited the area in 1742, still searching for a river flowing westward Succeeding explorations were concerned with the fur trade With the Louisiana Purchase of 1803 the northwestern half of North Dakota became part of the United States, the southeastern half being acquired from Great Britain in 1818 when the international line with Canada was fixed at the 49th parallel By the time Lewis and Clark wintered with the Mandan in 1804–5 the NORTH WEST COMPANY and the HUDSON'S BAY COMPANY had trading posts in the Red River valley. These ventures introduced an industry which dominated the region for more than half a century. Within that era the buffalo disappeared from the plains and the beaver from the rivers The American Fur Company, from its post at Fort Union in 1828 gradually gained monopolistic control over the trade of the region Supply and transport were greatly aided when a paddlewheel steamer, the *Yellowstone*, inaugurated steamboat travel on the turbulent upper Missouri in 1832 Quickly the pole and the cordelle gave way to power and the voyageur was joined by the equally colorful, skilled river pilot Additional transportation was provided by the supply caravans of Red River carts, which screeched westward across the Minnesota prairies and returned to the Mississippi loaded with valuable pelts. The first attempt at agricultural colonization was made at Pembina in 1819 by a group of settlers under the auspices of the earl of Selkirk (see RED RIVER SETTLEMENT). After Great Britain relinquished the area, the first permanent farming community was not established until 1851 when a group settled at Pembina. This was the only farm settlement in the state when Dakota Territory was organized in 1861 to include the present states of North Dakota, South Dakota, Montana, and Wyoming Every town clamored to become a county seat, and the vitality of political life was little handicapped by an insignificant population Even when free land was opened in 1863 and the Northern Pacific RR was chartered in 1864 the combination of preoccupation with the Civil War and the eruption of Indian discontent into open warfare prevented any appreciable settlement Gen. Alfred H Sully joined Gen Henry H SIBLEY of Minnesota in retributive campaigns against the Sioux in 1863–66 Some ten years later in 1876, after gold was discovered on Indian land in the Black Hills, the unwillingness of the whites to respect treaty agreements led to further war with the Indians Ultimately the Sioux under Chief Sitting Bull fled to Canada, where they surrendered voluntarily, deprived of horses and arms they were returned to reservations in the United States In place of the Indians came the European immigrants, Scandinavians, Germans, and Russians They formed the work crews who laid the tracks as the railroads moved westward to the coast They worked on the Eastern-financed bonanza wheat fields of the central lowlands or staked claims and built sod homes on the western prairies. They became farmers and citizens and—the Scandinavians in particular—influenced the economy by instituting the cooperative organizations which had been so successful in their homelands Politics was the arena for the struggle between the agrarian groups and corporate interests Alexander McKenzie, political boss, came to represent the dual power of politics and big business Against this pressure the Farmers' Alliance struggled and in the '90s combined with the Democrats and Populists to carry the election Later, when the success of the La Follette Progressives in Wisconsin encouraged the growth of the Republican Progressive movement in North Dakota, a fusion with the Democrats elected "Honest John" Burke as governor for three terms (1906–14). Much of the agrarian discontent was focused on the practices of grain marketing as carried out by the large grain interests Although many small cooperative grain elevators had been established they were ineffective in correcting abuses and the farmers pressed for a state-owned grain elevator When this movement failed in the legislature of 1915 the Nonpartisan League, engineered largely by Arthur C Townley, was organized on a platform which included state ownership of terminal elevators and flour mills, state inspection of grain and grain dockage, exemption of farm improvements from taxation, and state insurance of crops The organization, operating to a great extent within the Republican party, was successful in securing the establishment of an industrial commission in 1919 to manage all state-owned enterprises, the first of which was the North Dakota Mill and Elevator Association, now operating at Grand Forks This was quickly followed in 1920 by the Bank of North Dakota, set up in Bismarck to control public funds Dissension arose within the ranks, and the Independent Voters Association splintered off to represent the conservative Republican position The industrial commission was accused of maladministration, and the provision of recall was exercised three times William Langer, who had been active with both the Nonpartisan and Independent Voters Association groups, was convicted on a Federal charge of conspiracy while serving as governor in 1934 Langer again became governor in 1936, running as an individual candidate and not on the ticket of either party. Although the majority of the voters are Republican, the occasional alignment of a faction with other parties makes elections exciting and uncertain League-sponsored enterprises, with the exception of the Home Builders' Association, which was disbanded, continue to be effective Several factors operated to decrease the power of the Nonpartisan League With the drought and depression years of the '30s the New Deal program brought federal relief in areas which were the particular concern of the Nonpartisan League. Moreover the extreme isolation—fostered by geographical position, distrust of Eastern interests, and Old World ties—is at odds with the present-day agitation in other parts of the United States for international cooperation. A scanty population in many areas hampers education Facilities for advanced education, however, include two liberal arts colleges, the Univ. of North Dakota at Grand Forks and Jamestown College, the North Dakota Agricultural College at Fargo, five teachers colleges and normal schools; and two junior colleges. See George Francis Will and H J Spinden, *The Mandans* (1906); William Marks Wemett, *The Story of the Flickertail State* (1923), Paul Robert Fossum, *The Agrarian Movement in North Dakota* (1925); Herbert C. Fish and R. M Black, *A Brief History of North Dakota* (1925);

William Marks Wemett, *Geography of North Dakota* (1929), Univ of North Dakota, *Geology and Natural Resources of North Dakota* (1930); Edna LaMoore Waldo, *Dakota an Informal Study of Territorial Days* (2d ed , 1936); Federal Writers' Project, *North Dakota, a Guide to the Northern Prairie State* (1938); H. E. Briggs, *Frontiers of the Northwest* (1940)

North Dakota, University of, at Grand Forks, state supported, coeducational, chartered 1883, opened 1884 It includes colleges of engineering (school of mines) and science, literature, and arts and schools of commerce, education, law, and medicine (two years) Wesley College (Methodist) at Grand Forks is affiliated A state geological survey, a mining experiment station, a lignite research laboratory, and a U S Weather Bureau meteorological station are here

North Dakota Agricultural College, at Fargo, state and land-grant supported, coeducational, chartered and opened 1890 It has schools of agriculture, applied arts and sciences, chemical technology, engineering, home economics, and pharmacy, an education division, and a community center laboratory.

North Downs, England· see DOWNS, THE, chalk hills

North East, borough (pop 3,704), NW Pa , on Lake Erie NE of Erie, settled c 1800, inc 1834 It is the center of the state's grape industry The Welch Grape Juice Company has a plant here

Northeast, trading and banking town (pop 1,328), NE Md , at the head of Chesapeake Bay and near Elkton, in a hay and grain area A state park is near by

Northeast Boundary Dispute, controversy between the United States and Great Britain concerning the Maine-New Brunswick boundary The treaty of 1783 had described the northeastern boundary of the United States as a line drawn due north from the source of the St Croix river to the highlands which divided the Atlantic and St Lawrence tributaries and along those highlands to the northwesternmost head of the Connecticut river Disputes over that definition lasted almost 60 years The identity of the St Croix was decided (1798) by a commission created by Jay's Treaty (1794). Exploration showed that no mountain range existed between the Atlantic and St Lawrence systems, and since the watershed was unacceptable to the disputants, the question was submitted to arbitration, in accordance with the Treaty of Ghent (1814) The king of the Netherlands, as arbitrator, designated the St John river as the boundary (1831), but this decision was not accepted by the United States In 1839 the dispute led to the so-called AROOSTOOK WAR, a conflict between inhabitants of New Brunswick and Maine, which threatened to produce strained relations between the United States and Great Britain The long-standing controversy was ended with the Webster-Ashburton Treaty (1842), which delimited the boundary, practically according to the line proposed by the king of the Netherlands, with with the United States receiving the larger and more valuable portion of the disputed area

Northeast Harbor, Maine see MOUNT DESERT ISLAND

North East Land, Nor *Nordost Landet* (nôr"ôst' la'nu, nôôr'-), island, area c 6,500 sq mi , in the Spitsbergen group, NE of West Spitsbergen It is covered by a dome of ice more than 1,600 ft high Discovered (1613) by Thomas Marmaduke and explored (1873) by Nordenskjold, it was completely charted in 1935–36 by a British expedition led by A R Glen

Northeast Passage In the era of discovery that began in the 15th cent efforts were made to find some new passage to Cathay and India Of these attempts most were devoted to seeking a NORTHWEST PASSAGE Less important was the attempt to go through the cold seas N of Europe and Asia from the North Sea to the Pacific this was the Northeast Passage. English, Russian, and Dutch navigators did, however, seek to sail along the north coast of Russia and far into arctic seas William Barentz made notable attempts to locate the passage in the 16th cent , as did Henry Hudson in the 17th cent The decline of Dutch shipping after the 17th cent left the exploration mainly to Russia; among the men sent out was Vitus Bering, who made his way to Alaska The Northeast Passage was not, however, traversed by any until N A. E NORDENSKJOLD of Sweden accomplished the feat in 1878–79 He rounded Cape Chelyuskin in 1878 and passed through Bering Strait in 1879 Several other explorers have repeated this exploit, among them Roald AMUNDSEN in 1918–20 In recent years the passage has become a regular shipping route for Siberian ports A fleet of Soviet icebreakers, aided by airplane reconnaissance and by radio weather stations, keeps the route navigable from June to September.

Northern Dvina, RSFSR· see DVINA.

Northern Ireland, administrative unit (5,238 sq. mi ; 1948 estimated pop. 1,350,783) of the United Kingdom, established by the Government of Ireland Act of 1920. The capital is Belfast. Northern Ireland comprises the six counties of Armagh, Down, Antrim, Londonderry, Tyrone, and Fermanagh with the county boroughs of Belfast and Londonderry (see IRELAND) The republic of Ireland refuses to recognize the division as valid Northern Ireland is represented in the British Parliament by 12 members and possesses a large degree of self-government through its own Senate and House of Commons at Belfast Northern Ireland is frequently called ULSTER, in reference to the northernmost of the ancient Irish provinces It began a relatively distinctive history of its own in the early 17th cent when, after the defeat of the rebellious Irish and the flight of the Irish earls (1607), much of the land was confiscated by the British crown and "planted" with Scotch and English settlers Ulster took on an industrial and Protestant character as compared with the rest of the island, but there was no essential alienation between the two parts until the late 19th cent when William Gladstone proposed his first Home Rule Bill (1886) for Ireland Though the northern Irish had their own grievances against the English and many migrated abroad, the largely Protestant population feared domination by the southern and Catholic majority, which they thought HOME RULE would bring, and Ulster was bound more closely by economic ties to Britain than to the rest of Ireland The successive proposals for Home Rule widened the rift between the two parts of the country, so that by the outbreak of the First World War civil war was an immediate danger in Ireland The bill of 1920 set up separate parliaments for the two parts of Ireland The Irish Free State and later the republic of Ireland refused to recognize the provisions of the act The pro-British Unionist party has remained strong in Northern Ireland, winning 37 of the 52 seats in the House of Commons in the election of 1949 The Catholic minority has, however, been steadily growing in Northern Ireland and threatens the Protestant hegemony The land is mountainous, and there are few natural resources Farming is the largest single industry The area is famous for its fine linens Heavier industry is concentrated largely in and around Belfast (pop c 438,000), one of the chief ports of the British Isles. In the Second World War many warships and merchant vessels were constructed in the Belfast shipyards, and Northern Ireland contributed to the manufacture of tanks, guns, ammunition, and aircraft (1,500 heavy bombers) for the war effort, as well as affording a strategic military base Conscription was never applied to Northern Ireland, but many Irish volunteered for military service See Aodh de Blácam, *The Black North* (1943), Hugh Shearman, *Northern Ireland* (1946)

Northern Land, RSFSR see SEVERNAYA ZEMLYA

northern lights see AURORA BOREALIS

Northern Pacific Railway, American railway system, extending from Duluth and St Paul, Minn , to Seattle, Wash , and Portland, Oregon The railroad operates several branch systems—including one from Mantoba, Minn , to Winnipeg, Man , and another from Seattle, Wash , to Sumas, Wash —and controls nearly 6,900 mi of trackage The Northern Pacific Railway Company was chartered by special act of Congress in 1864, and construction was begun in 1870 Jay COOKE at first managed the enterprise, but after the Panic of 1873 the railroad company went into bankruptcy Under the leadership of Henry VILLARD, the Northern Pacific was opened in 1883 from Ashland, Wis , to Portland, Oregon In 1901 there was a spectacular financial contest between the interests of E H HARRIMAN and those of James Hill and J P Morgan for the control of the Northern Pacific The Hill-Morgan group secured control, but an agreement between the two groups resulted in the organization of the Northern Securities Company, a giant holding company which controlled the Northern Pacific, the Great Northern, and the Chicago, Burlington, and Quincy When this trust was dissolved (1904) as a violation of the Sherman Anti-Trust Act, the Hill-Morgan interests came into control of the Northern Pacific Its numerous traffic connections give the Northern Pacific Railway access to Lake Superior, the Gulf of Mexico, and the Pacific Ocean Of the land granted by the U S. government for the construction of the Northern Pacific, over 2,500,000 undistributed acres in eight states were still held by the company in 1948

Northern Rhodesia (rôdē'shū), British protectorate (290,323 sq mi ; pop 1,678,718), E Africa The capital is Lusaka It is bordered on the east by Nyasaland, on the north by the Luapula river (which separates it from the Belgian Congo) and by Tanganyika, on the west by Angola, and on the south by the Zambesi river (which forms its boundary with Southern Rhodesia) and by South-West Africa Northern Rhodesia lies on an extensive plateau from 3,000 to 5,000 ft high The northern section is a savanna area with large copper deposits. The bush areas of the south alternate with grasslands, where there is farming and ranching. Tobacco, cotton, and grain are grown Implements of copper and hardwoods are manufactured, and copper is exported A north-south railroad connects Northern Rhodesia with Elizabethville, in the Katanga region of the Belgian Congo, and with Salisbury, the capital of Southern Rhodesia Knowledge of the early history of Northern Rhodesia is scant Long ravaged by the slave traders, it was especially harassed by Portuguese slavers in the 18th and early 19th cent David Livingstone first came on his missionary journeys in 1851, he traveled through Barotseland (in the southwest) and discovered (1855) Victoria Falls. In 1891 Great Britain made Barotseland a protectorate British control over the eastern section was established when troops under Sir Harry Johnston defeated (1891–94) Arab slave traders Thus section was administered as part of RHODESIA under the British South Africa Company The boundaries of Northern Rhodesia were established in 1911, but administration by the company continued until 1924, when Great Britain took over rule directly Today Northern Rhodesia is ruled by an appointed governor with the aid of an executive and a legislative council The legislative council has a majority of appointed and elected European members and two appointed African members The population includes 27,123 Europeans

Northern Territories, British protectorate (c 30,000 sq mi , pop 1,077,138), Gold Coast, W Africa, comprising several native states The capital is Tamale There is farming, and cattle are raised

Northern Territory (523,620 sq mi , pop 10,866), N Australia The Timor and Arafura seas are on the north, Queensland is east, South Australia is south and Western Australia west From 1825 Northern Territory formed part of New South Wales, and from 1863 to 1911 part of South Australia Transferred to the commonwealth in 1911, it was divided in 1926 into North Australia (with the capital at Darwin) and Central Australia (with the capital at Alice Springs), but the two were reunited in 1931 The territorial administrator has his headquarters at Darwin The interior was first explored by Leichhardt (1844–45), and the first transcontinental journey was made by John McDouall Stuart in 1861–62 An attempt in 1824 to establish a military post on Melville Island was abandoned in 1828 The climate of the territory is tropical, with a monsoon season A large part of the generally sparse population is composed of aborigines, who occupy 15 reservations with a total area of 67,244 sq mi , of these Arnhem Land is the largest The economic development is extremely slight Gold is worked to a very small extent, and there is limited stockbreeding Peanuts, pearl shell, and *bêche-de-mer* (trepang) are products See C P Conigrave, *North Australia* (2d ed , 1941)

Northern War, 1700–1721, general European conflict, fought in N and E Europe at the same time that the War of the Spanish Succession was fought in the west and the south It arose chiefly from the desire of the neighbors of Sweden to break Swedish supremacy in the Baltic area and from the conflicting ambitions of PETER I of Russia and CHARLES XII of Sweden Many other interests were, however, involved Although there was no direct link between the Northern War and the War of the Spanish Succession, Sweden generally received the diplomatic support of France, and Russia that of England The outbreak of the war was preceded by the alliance (1699) of Peter I, FREDERICK IV of Denmark, and AUGUSTUS II of Poland (who was also elector of Saxony) against Charles XII, whose youth and inexperience they hoped would make him an easy victim The war began with the invasion of Swedish Livonia by the Poles and of ducal Schleswig (which had rebelled against Danish rule with Swedish support) by the Danes The bold and unexpected landing of Charles XII in Zealand threatened Copenhagen and forced Denmark out of the war (1700) Charles now turned his attention to the east, late in 1700 he routed a much superior Russian force at Narva and relieved Riga, which the Poles were besieging Invading Poland, Charles took Warsaw and Cracow (1702), secured the election of STANISLAUS I as king of Poland (1704), followed Augustus into Saxony, and forced him to break his alliance with Russia and to recognize Stanislaus as king by the Treaty of Altranstadt (1706). While Charles was victorious in Poland, however, Peter I occupied Ingermanland and part of Livonia Resuming (1707) his campaign against Russia, Charles invaded the Ukraine, where MAZEPPA had promised to foment an anti-Russian uprising Mazeppa's project failed, and the Swedes, cut off from reinforcements and in need of a stronghold, laid siege to the fortress of Poltava Here a superior Russian army utterly defeated the Swedes, and Charles with a handful of men retired to Bessarabia, on Turkish territory His intrigues at Constantinople induced the sultan to declare war on Russia (1710). Peter I, allied with Prince Constantine BRANCOVAN of Walachia and Prince Demetrius Cantemir of Moldavia, invaded these two vassal principalities of Turkey and entered Jassy, but he soon found himself outnumbered and consented (1711) to the disadvantageous Treaty of the Pruth (see RUSSO-TURKISH WARS) While Charles was stubbornly refusing to leave Turkey, Augustus II took advantage of his

plight; he invaded (1709) Poland and expelled Stanislaus I, while Peter I completed the conquest of Swedish Livonia, Ingermanland, and Karelia Frederick IV of Denmark also resumed the war, seized ducal Schleswig, and conquered the Swedish duchies of Bremen and Verden in Germany, which he sold to Hanover on condition that Hanover join in the war on Sweden Swedish Pomerania was taken by the Poles, and Prussia, fishing in troubled waters, seized Stettin In 1714 Charles XII returned to Sweden Undaunted by the coalition of Russia, Denmark, Poland, Saxony, Hanover, and Prussia, he began military operations in Norway (then ruled by Denmark), where he was fatally shot in 1718 His successor, Ulrica Leonora, and her husband, Frederick I of Sweden, began peace negotiations Peace was made with all enemies but Russia in the treaties of Stockholm and Frederiksborg (1719-20) Augustus II of Poland restored all his conquests, Hanover retained the duchies of Bremen and Verden, but paid a large indemnity, Prussia received Stettin and part of W Pomerania, the rest reverting to Sweden, Denmark restored its conquests for a payment, but Sweden permitted the union of ducal Schleswig with royal Schleswig under the Danish crown and renounced Swedish exemption from customs duties in the Sound By the Treaty of Nystad with Russia (1721) Sweden ceded Livonia (including Estonia), part of Karelia, and Ingermanland, but retained Finland The lasting results of the Northern War were the waning of Swedish power, the establishment of Russia as a major power of Europe, with its "window" on the Baltic Sea, and the decay of Poland

Northfield 1 Town (pop 1,975), N Mass, on the Connecticut river, inc 1723 It was settled in 1672, destroyed by Indians twice, and resettled in 1714 It is one of the most beautiful towns in New England as to setting and architecture Dwight L Moody was born here, after his return in 1875 he founded Northfield Seminary (now Northfield School) for girls and Mt Hermon School for boys and initiated the summer religious conferences The first youth hostel in America was opened in Northfield in 1934 See H C Parsons, *A Puritan Outpost* (1937) 2 City (pop 4,533), SE Minn, on the Cannon river and S of St Paul, founded 1850 It is the seat of CARLETON COLLEGE and SAINT OLAF COLLEGE and is a farm trade and manufacturing center On Sept 7, 1876, Jesse and Frank James and their bandit gang attempted a bank robbery here which was frustrated and led to the breakup of the gang after several members were captured 3 Town (pop 1,543), S central N H, across the Winnipesaukee from TILTON 4 City (pop 2,848), SE N J, near Atlantic City, inc 1905 5 Town (pop 3,601), central Vt, SW of Montpelier, chartered 1781, settled 1785, organized 1794 It includes Northfield village (pop 2,129), geographical center of the state NORWICH UNIVERSITY is in Northfield

North Fond du Lac (fŏn' du lăk", fŏ' lăk"), village (pop 2,083), E Wis, on Lake Winnebago near Fond du Lac, inc 1903 There are railroad shops

North German Confederation, alliance of 22 German states N of the Main river, under the hegemony of Prussia It replaced the GERMAN CONFEDERATION, destroyed by the Austro-Prussian War (1866) The South German states, notably Bavaria, Baden, Württemberg, and the grand duchy of Hesse, though excluded from the confederation, were nevertheless loosely bound to it through their membership in the ZOLLVEREIN Prepared in broad outline by BISMARCK, the constitution of the confederation, when adopted by the members, provided for a federal council (Bundesrat), composed of deputies from the states, and a Reichstag, elected by direct suffrage Prussia exercised predominant influence in both bodies Executive power was vested in the president—the king of Prussia—who appointed the federal chancellor (as it turned out, Bismarck) In 1871 this constitution was adopted, with some changes, by the German Empire

North Girard, borough (pop 1,108), extreme NW Pa, on Lake Erie SW of Erie, inc 1926 Gardening and farming tools are made here

North Haledon (hāl'dŭn), borough (pop 2,761), NE N J, N of Paterson; inc 1901

North Hants, England see NORTHAMPTONSHIRE

North Haven, industrial town (pop 5,326), S Conn, settled c 1650, set off from New Haven 1786 Several old buildings survive.

North Holland, Dutch *Noordholland* (nōrt"hŏ'lănt), province (1,081 sq mi; pop 1,759,498), NW Netherlands, a peninsula between the North Sea in the west and north and the IJsselmeer in the east. The province includes several of the West Frisian Islands Haarlem is the capital, other cities are Amsterdam, Alkmaar, Edam, Ijmuiden, Helder, Hilversum, Velden, and Zaandam A lowland drained by numerous small rivers and canals and protected by dikes, North Holland with its drawbridges, windmills, and tulip fields corresponds exactly to the popular image of the Netherlands Agriculture, cattle raising, flower growing, cheese production, and fishing are the chief sources of its wealth, together with the world-wide trade of its ports For its history, see HOLLAND.

North Irwin, borough (pop 1,153), Westmoreland co, SW Pa, SE of Pittsburgh, inc. 1894

North Island (44,281 sq mi, pop 1,146,292), New Zealand The smaller but more populous of the two principal islands of the dominion, it has Wellington, the capital Auckland is also an important city Separated from South Island by Cook Strait, North Island is irregularly shaped with a long peninsula projecting northwest There are volcanic mountains, the highest being Ruapehu (9,175 ft) and Mt Egmont (8,260 ft.) The north central area is known for its numerous hot springs and geysers The Waikato, largest river of New Zealand, drains Lake Taupo, the largest lake

North Judson, town (pop 1,408), Starke co, NW Ind, near the Kankakee river SW of South Bend

North Kansas City, industrial town (pop 2,688), NW Mo, on the Missouri and near Kansas City, founded 1912. It is owned by a real-estate company

North Kingstown (kĭng'stŭn, kĭngs'town"), town (pop 4,604), S R I, bordered on the north by the Potowomut river and on the east by Narragansett Bay, settled 1641, inc 1674 as Kingstown, divided into North Kingstown and South Kingstown 1723 North Kingstown includes old WICKFORD village, Saunderstown, Allenton, and QUONSET POINT The town is the birthplace of Gilbert Stuart

North Little Rock, city (1940 pop 21,137, 1948 special census pop 39,552), central Ark, on the Arkansas river opposite LITTLE ROCK, settled c 1856, inc 1903 Levy was annexed to the city in 1946 North Little Rock has railroad shops and industrial plants Near by are a veterans' hospital and a U S army camp

North Manchester, town (pop 3,170), NE Ind, WSW of Fort Wayne Manchester College (Church of the Brethren, coeducational, 1889) is here

North Mankato (măn-kā'tō), city (pop 3,517), S Minn, on the Minnesota river opposite Mankato, inc 1922

Northmen see NORSEMEN

North Miami (mī'mē), town (pop 1,973), SE Fla, near Miami, inc 1926 as Miami Shores, renamed 1931

North Minch, Scotland see MINCH

North Muskegon (muskē'gun), city (pop 1,694), S Mich, on Muskegon Lake across from Muskegon, inc as a village 1881), as a city 1891

North Olmsted (ōm'stĕd), village (pop 3,487), NE Ohio, western suburb of Cleveland

North Ossetia, RSFSR see OSSETIA

North Pelham (pĕ'lŭm), suburban village (pop 5,052), SE N Y, in Westchester co, near Mt Vernon, settled 1851, inc 1896

North Plainfield, residential borough (pop. 10,586), NE N J, settled 1736, inc 1885

North Platte (plăt), city (pop 12,429), co seat of Lincoln co, central Nebr, near the confluence of the North Platte and South Platte rivers, laid out 1866 with the coming of the railroad, inc 1871 It is a Great Plains shipping point—mainly for grain and cattle—and is on transcontinental railroad and air lines The area is irrigated Scout's Rest Ranch near by was the home of Buffalo Bill

North Platte, river rising in the mountains of N Colorado and flowing 680 mi in a great bend through Wyoming and across W Nebraska, to join the South Platte and form the Platte The river has 27 major reservoirs, among the dams are Kingsley Dam (see OGALLALA) and those of the Kendrick project (see CASPER) and of the North Platte project

North Platte project, developed in the North Platte valley in W Nebraska and E Wyoming by the U S Bureau of Reclamation It comprises some 237,000 acres and also supplies some 175,000 privately developed acres A principal feature is Guernsey Reservoir This, created by Guernsey Dam (est 1927, 105 ft high) in the North Platte c 120 mi SE of Casper, is fed by Pathfinder Reservoir—made by Pathfinder Dam (est 1909, 214 ft high), 47 mi SW of Casper—and by three small reservoirs near Scottsbluff Glendo Reservoir (planned to desilt Guernsey Reservoir), Whalen Diversion Dam, and the Guernsey Dam and Lingle power plants are on the project Sugar beets, alfalfa, and barley are chief crops, and sheep, cattle, hogs, and poultry are raised Cities that serve the project are Bridgeport, Bayard, Minatare, Scottsbluff, Mitchell, and Gering (all Nebr) and Torrington (Wyo)

North Pole, northern end of the earth's axis, lat 90° and long 0° It is distinguished from the north magnetic pole The North Pole was reached (1909) by R E PEARY See also ARCTIC REGIONS

Northport. 1 City (pop 3,187), W central Ala, on the Black Warrior opposite Tuscaloosa 2 Resort village (pop 3,093), on the north shore of Long Island, SE N Y, settled c 1683, inc. 1894 It is included in Huntington town Oyster and clam fisheries are here.

North Providence, textile town (pop. 12,156), NE R I, set off from Providence and inc 1765 The administrative center is Centerdale.

North Reading (rĕ'dĭng), town (pop. 2,886), NE Mass, N of Boston, settled 1651, set off from Reading 1853

North Rhine-Westphalia (-wĕstfā'lyù), Ger. *Nordrhein-Westfalen* (nōrt'rĭn"-vĕst"fä'lùn), German state (13,157 sq mi; pop 11,797,092), set up in Jan, 1947, in the British zone of occupation in NW Germany It consists of the former Prussian province of WESTPHALIA, of the northern part of the former Prussian RHINE PROVINCE (including Aachen, Cologne, and Düsseldorf), and of the former state of LIPPE Düsseldorf is the capital The state comprises the RUHR district It possesses no historic unity In 1949 North Rhine-Westphalia joined the West German federal republic.

North Riding. see YORKSHIRE, England

North River, rising in S Quebec N of Montreal and flowing 75 mi S and SW past St Jérôme and Lachute to the Lake of the Two Mountains.

North River, China see PEI

North River see HUDSON, river.

North Riverside, village (pop 1,036), NE Ill, a suburb of Chicago, inc 1923

North Ronaldsay (rŏ'nuldsā), island, off N Scotland, most northerly of the Orkney Islands

Northrop, Cyrus, 1834–1922, American educator, b Ridgefield, Conn, grad Yale (B A, 1857, LL B, 1859) He was professor of rhetoric and English literature at Yale (1863–84), serving also as port collector of New Haven (1869–81) When he became (1884) president of the Univ. of Minnesota, it had about 400 students, he left it (1911) a leading state university See his *Addresses, Educational and Patriotic* (1910), memoir by O W. Firkins (1925)

Northrop, John Howard, 1891–, American biochemist, b Yonkers, N Y, grad Columbia (B S, 1912, Ph D, 1915) From 1916 he has been associated with the Rockefeller Institute for Medical Research He lectured at Columbia (1938), at Johns Hopkins (1937, 1940), and at the Univ of California (1939) In 1949 he became visiting research professor at the Univ of California Northrop was the first to isolate the enzymes pepsin and trypsin in a pure crystalline form His other contributions include important studies of the chemical nature and action of bacteriophage, of other proteins, and of the fermentation process For his work on enzymes and viruses he shared the 1946 Nobel Prize in Chemistry with W M Stanley and J B Sumner He is the author of *Crystalline Enzymes* (1939, 2d ed, with Moses Kunitz and R M Herriott, 1948)

North Royalton, residential village (pop 2,559), NE Ohio, near Cleveland, inc 1927

North Sacramento (săk'rumĕn'tō), city (pop 3,053), central Calif, across the American river from Sacramento, inc 1924

North Saint Paul, village (pop 3,135), E Minn, northeast suburb of St Paul It is a lake resort with some manufacturing

North Saskatchewan see SASKATCHEWAN, river.

North Schleswig, Denmark see SCHLESWIG

North Scituate, R I see SCITUATE

North Sea, part of the Atlantic NW of Central Europe It washes the shores of Scotland, England, Norway, Denmark, Germany, the Netherlands, Belgium, and the northern shores of France In the south it narrows to the Strait of Dover It is c 600 mi. long and 400 mi broad at its widest It is deepest along the coast of Norway and contains several shallows, the largest of which is the Dogger Bank, midway between England and Denmark The cod and herring fisheries of the North Sea are of great value The sea was formerly often called the German Ocean

North Shields, England see TYNEMOUTH

North Smithfield, textile town (pop 4,196), N R I, settled in the 17th cent, inc 1871 It includes Slatersville and Forestdale villages. Several old inns are preserved

North Star see POLESTAR

North Stonington (stō'nĭngtun), rural town (pop 1,236), SE Conn, at the R I line, settled before 1700, inc 1807.

North Sydney, town (pop 6,836), on NE Cape Breton Island, N S, on Sydney Harbour and NW of Sydney It is the coal-shipping port for near-by Sydney Mines and a winter base for the Cape Breton fisheries It is also the terminal for mail ships to Port aux Basques, N F

North Syracuse (sĭ'rukŭs, sĕ'-), village (pop 2,083), central N Y, a suburb of Syracuse; inc. 1925 Plating works and a nursery are here

North Tarrytown (tă'rĭ-toun), residential village (pop 8,804), SE N Y, in Westchester co, on the east bank of the Hudson near Tarrytown, inc 1875 Electrical products are made here Castle Philipse (see PHILIPSE MANOR) has collections relating to Washington Irving and to John D Rockefeller, Sr The Sleepy Hollow church in the village was built (c 1697) by Frederick PHILIPSE John André was captured, and Benedict Arnold's treachery revealed here Large Rockefeller estates are at Pocantico Hills near by.

North Tonawanda (tŏnuwŏn'dù), industrial and commercial city (pop. 20,254), W N.Y, N of Buffalo and on the Niagara at the terminus of the Barge Canal, settled 1808, inc as a village 1865, as a city 1897. It manufactures hardware, office furniture, and musical instruments.

North Troy, Vt., see TROY.

Northumberland, Algernon Percy, 10th **earl of** (nôrthŭm'bûrlŭnd), 1602–68, English statesman. He entered the House of Lords (1627) as Baron Percy and succeeded his father as earl in 1632. Charles I in 1638 made him lord high admiral of England and in 1640 gave him command of the expedition against Scotland. Disgusted at the poor support given him and disagreeing with the king's policy, he gradually swung round to the popular party. His support gave Parliament an important advantage, for it thus gained control of most of the fleet. Northumberland, respected for his integrity and moderation, twice engaged in unsuccessful negotiations with Charles on behalf of Parliament, opposed the king's trial, and was given custody of Charles's younger children. He took no active part in affairs under the Commonwealth or after the Restoration, although he held office after 1660.

Northumberland, Henry Percy, 1st **earl of,** 1342–1408, English nobleman. He served in the army in France, became warden of the Scottish Marches, and, with John of Gaunt, spoke for the cause of John WYCLIF. Created earl of Northumberland by RICHARD II in 1377, he and his son Henry PERCY (Hotspur) defended the Scottish border. Both he and his son were banished in 1398 for objecting to Richard's government, and he was largely instrumental the next year in securing the crown for Henry of Lancaster (HENRY IV). With his brother, Thomas Percy, earl of Worcester, and Hotspur he revolted against the king in 1403 but submitted after the death of his son the same year. By 1405, however, he was plotting again with OWEN GLENDOWER and, after fleeing to Scotland and France, invaded (1408) England from the north with the expectation of recruiting followers. Northumberland was slain and his forces were defeated at Bramham Moor. See Gerald Brenan, *A History of the House of Percy* (1902).

Northumberland, Henry Percy, 4th **earl of,** 1446–89, English nobleman. The earldom was forfeited and Percy was imprisoned in 1461 by Edward IV after his father, the 3d earl, had been killed at Towton in the Lancastrian army. Percy was released in 1469, restored to the earldom, and served the Yorkist monarch. Although Northumberland accepted lands and offices from Richard III, he withheld his men in the battle at Bosworth (1485) and submitted to the earl of Richmond, who was crowned Henry VII. Northumberland was killed by Yorkshire rebels.

Northumberland, Hugh Percy, 2d **duke of,** 1742–1817, English general. He fought under Ferdinand of Brunswick in the Seven Years War and, although he disapproved of the war in America, served there (1774–77) as a lieutenant general. He covered the bloody retreat from Concord to Charlestown after the battle of Lexington and took part in the attack on Fort Washington. Recalled, at his own request, following disputes with General William Howe, he was made a general in 1793.

Northumberland, John Dudley, duke of, c 1502–1553, English statesman. The son of Edmund Dudley, minister of Henry VII, John was restored to his inheritance in 1512 after the attainder and execution of his father in 1509. Rising by means of his military ability, he became Viscount Lisle, warden of the Scottish Marches (1542) and lord high admiral (1543). Named as one of the executors of Henry VIII's will, he helped Edward Seymour (later duke of SOMERSET), become protector of the young EDWARD VI, while he himself was created earl of Warwick and chamberlain. Cooperative and politic, he dissembled his plans for power while he improved his relations with Parliament and distinguished himself in the field. By never actually committing himself and by playing on both Catholic and Protestant sympathies, he finally formed a coalition against Somerset, deposing him in 1549 and having him executed in 1551. Of little religious conviction himself, he then posed as a firm Protestant to increase his power over Edward VI and ruthlessly advanced the Reformation for political ends. In a desperate plan to perpetuate his power, he convinced the dying Edward that Mary should be excluded from the succession as a Catholic and browbeat the council into proclaiming Lady Jane Grey, his daughter-in-law, as queen when the monarch died. Unpopular with the people, he was deserted by his army when he faced Queen Mary, was condemned for high treason, and was executed.

Northumberland, Thomas Percy, 7th **earl of,** 1528–72, English nobleman. He gained favor with Queen Mary for his Roman Catholic convictions and was created earl in 1557, his father Thomas, the 5th earl, having been attainted in 1537. He was entrusted with the protection of the Scottish borders but lost position after the accession of the Protestant Queen Elizabeth. In conjunction with the earl of Westmoreland he plotted (1569) with Spanish emissaries to restore the Roman Catholic religion to England and to release Mary Queen of Scots. They gathered an army but it was defeated (1569). Northumberland was captured by the Scots, ransomed (1572) to the English, and beheaded.

Northumberland (nôrthŭm'bûrlŭnd), border county (2,019 sq. mi.; 1931 pop. 756,782; 1948 estimated pop. 791,500), N England. The county town and chief city is Newcastle-on-Tyne. Northernmost of the English counties, it is separated from Scotland by the Cheviot Hills and the Tweed river, and borders on the North Sea. The terrain is level along the rugged coast line and hilly in the interior, where high moorlands alternate with fertile valleys. Rivers include the Tyne, the Derwent, the Tweed, the Till, the Aln, and the Coquet. Oats, barley, and turnips are cultivated, and considerable numbers of sheep are pastured. There are valuable coal deposits in the southeast. The population is sparse except in the area around Newcastle, a major coal-shipping port and shipbuilding and industrial center. The Ottadeni, a Celtic tribe, occupied the area in Roman times when the great Wall of Hadrian was built. In the 6th cent. the Angles established themselves here. The district became the kingdom of Bernicia, which was later incorporated in Northumbria. It suffered much during the border wars with Scotland. See Cuthbert Headlam, *The Three Northern Counties* (1939).

Northumberland (nôrthŭm'bûrlŭnd). **1** Town (pop. 2,740), NW N.H., on the Connecticut above Lancaster, settled 1767, inc. 1779. It includes the paper-milling villages Northumberland and Groveton. Fort Wentworth, built in 1755 by Capt. Robert Rogers for defense against the Indians, was again used in the Revolution. **2** Industrial borough (pop. 4,469), E. Pa., on the Susquehanna and N. of Sunbury, settled 1772, laid out c. 1775, inc. 1828. Its manufactures include metal products, textiles, and canned goods. Joseph Priestley lived here from 1794 until his death in 1804.

Northumbria, kingdom of (nôrthŭm'brēu), one of the Anglo-Saxon heptarchy, England. It was originally composed of two kingdoms, Bernicia (including E Scotland, Berwick, Roxburgh, E Northumberland, and Durham) and Deira (including the North and East Ridings of Yorkshire), both settled by invading Angles c. 500. Sparse records tell of a King Ida of Bernicia and a King Aella of Deira in the middle of the 6th cent. AETHELFRITH of Bernicia (593–617) united the kingdoms. He was displaced by EDWIN of Deira (617–33), who accepted Roman Christianity (627) and established Northumbrian supremacy in England. He was killed, however, by PENDA of Mercia and the Celts and, after a year of anarchy, was succeeded by OSWALD of Bernicia (634–42), who introduced Irish Christianity through St. AIDAN, founder of LINDISFARNE. Under Oswy (642–71) and Ecgfrith (671–85) Northumbria's power gradually declined as that of MERCIA increased. Oswy, however, established the Roman over the Irish Church at the Synod of Whitby (664). The 8th and the early 9th cent. saw almost constant political discord but also the golden age of the Church, arts, scholarship, and literature. The invading Danes with their smashing victory at York in 867 soon wrecked all culture. They occupied S Northumbria, and the Angles were able to keep only a small kingdom stretching from the Tees N to the Firth of Forth until they acknowledged EDWARD THE ELDER of Wessex as overking in 920. The conquering CANUTE and his successors installed Danish earls, of whom SIWARD (d. 1055) was the last and most powerful. The Northumbrians expelled his successor, TOSTIG, in 1065 and at first refused to support HAROLD, but finally helped him to resist William the Conqueror (WILLIAM I) until 1071.

North Utica (ū'tĭkŭ), village (pop. 1,019), N Ill., near the Illinois river NE of La Salle, inc. 1869.

Northvale, borough (pop. 1,159), extreme NE N.J., near the N.Y. line, inc. 1916.

North Vancouver (vănkōō'vur), city (pop. 8,914), SW British Columbia, on Burrard Inlet of the Strait of Georgia, opposite Vancouver, with which it is connected by bridge and ferry. It is a port and fishing base, with a dry dock. Shipbuilding, lumbering, woodworking, manufacturing, and quarrying are its chief industries.

North Vernon, city (pop. 3,112), SE Ind., SE of Columbus; platted 1854. A railroad and farm trading center, it manufactures automobile parts and household appliances. Limestone is quarried here. Muscatatuck State Park is near by.

Northville. 1 Village (pop. 3,032), SE Mich., NW of Detroit, inc. 1867. A U.S. fish hatchery and two tuberculosis sanatoriums are here. Automobile parts, furniture, and furnaces are made. **2** Village (pop. 1,111), E central N.Y., on the Sacandaga Reservoir and NE of Gloversville, in a resort area, inc. 1873.

North Wales, borough (pop. 2,450), SE Pa., N of Philadelphia, settled 1850, inc. 1869. Surface clay is used here in manufacturing of pottery.

Northwest Boundary Dispute: see OREGON and SAN JUAN BOUNDARY DISPUTE.

North West Company. After the conquest of Canada by the British, which was consummated by the Treaty of Paris in 1763, the French traders from Montreal and the *coureurs de bois* were gradually more or less supplanted in the fur trade by Scotsmen, who adapted themselves readily to the frontier conditions. Many of these new traders allied themselves to the Frenchmen already in the country, and vigorous partnerships sprang up. The Montreal men continued to contest the trade of the North with the HUDSON'S BAY COMPANY, and they extended trade to the West rapidly and efficiently. There were, however, too many conflicting interests in the fields, and the competition not only took all profit out of the trade but also led to actual bloodshed. The Montreal merchants who supplied the traders and the traders themselves sought to do away with some of the evils by combination. In 1779 a sort of company was formed; this was later renewed, then abandoned. A new effort was made when a number of Montreal merchants made an agreement in the winter of 1783–84 that created a company called the North West Company. There was some dissension, and the firm of Gregory and McLeod put up strong opposition. It was not until 1787 that a truly stable combination was reached and the company known as the North West Company came into existence. The stockholders were the trading companies of Montreal (which had many interests besides the fur trade and retained their separate existence) and the "wintering partners," the men who did all the actual trading for fur with the Indians. The traders were, for the most part, active and aggressive, and they made much more headway than the Hudson's Bay Company men. The Northwesters, as they were called, broke new territory for the trade in the West and did not hesitate to try to take the trade even in the vicinity of Hudson Bay. The older company was stirred into some action and there was an increasingly sharp rivalry, but this was not serious until after the Hudson's Bay Company passed under the dominance of Lord Selkirk. The younger company, meanwhile, was split by dissension, brought on chiefly by the hostility between two important figures in the company, Simon McTavish and Sir Alexander MACKENZIE. Mackenzie was the chief figure in a rival company created c. 1798 and usually called the XY Company. This opposition disappeared after the death of McTavish in 1804, Mackenzie's men were reunited to the Northwesters. To the North West Company is due some of the glory of Mackenzie's earlier voyages to the Arctic (1789) and Pacific (1792–93) oceans. The geographer David THOMPSON was in the company's employ when he did most of his valuable work, and other important explorers, such as Alexander HENRY, the younger, were Northwesters. The company pushed its business into the territory of the United States and met little opposition except from J. J. ASTOR. The Southwest Company was practically, though not actually, a combination of Astor and North West Company interests, this was disrupted by the War of 1812. On the Pacific Northwest Coast, which was largely explored by Northwesters, Astor was also a rival, but the American post, ASTORIA, was purchased by the North West Company under a sort of duress. After 1810 the rivalry between the North West Company and Hudson's Bay Company grew in intensity and became a problem for the British government. Its highest point was reached in the quarrel over the RED RIVER SETTLEMENT. Conditions became intolerable, and the final solution was the union of the two companies in 1821. The name of the older company was kept and there was no longer a North West Company. In the united company, however, the personnel was predominantly of the Northwestern stamp and the spirit of the company was that of the vigorous North West Company. See G. C. Davidson, *The North West Company* (1918), H. A. Innis, *The Fur Trade in Canada* (1930), W. S. Wallace, ed., *Documents Relating to the North West Company* (1934).

Northwestern Provinces, India: see UNITED PROVINCES.

Northwestern University, at Evanston and Chicago, coeducational, chartered 1851, opened 1855 by Methodists. In 1873 it absorbed Evanston College for Ladies (chartered 1869, opened 1871), headed by Frances Willard, with which Northwestern Female College (opened 1855, chartered 1857) had merged. The liberal arts college, the schools of speech, education, and music, parts of the schools of commerce and journalism, the main library, Dearborn Observatory, and the technological institute (opened 1939, with a new building completed 1942) are on the Evanston lakeside campus. The schools of law, medicine, and dentistry and parts of the schools of commerce and journalism are in Chicago. A long-range project for extensive development of the Chicago campus was announced in 1946.

North-West Frontier Province (14,263 sq. mi., pop. 3,038,067), W Pakistan. Peshawar is the capital. The province, which borders on India in the northeast, is about equally divided between rugged mountains and valleys. Irrigation projects—some dependent upon the Indus river, which forms part of the eastern border—supplement the inadequate rainfall. Wheat is the chief crop, barley, millet, sugar cane, fruit, oil seeds, and cotton are also important. Industry amounts to little more than processing of food crops. Coal is mined in small quantities, and there is limestone quarrying. The transportation routes (including several rail lines) extend mostly east and west. Historically the area

has been more closely connected with Iran than with India, and most of the populace speaks Pushtu, an Iranian language. There are many archaeological remains of Greco-Buddhist culture (6th-3d cent B.C.). By the 10th cent, conquerors from Afghanistan had made Islam the dominant religion. Great Britain captured the country from the Sikhs in 1849, and in 1901 the present province was constituted. The mountainous area (24,986 sq. mi; pop. 2,337,599) which lies between the province and Afghanistan is under the provincial administration. It is inhabited by Moslem tribes, many of which long resisted outside authority. Military forces are still maintained to repress disorders and to keep open the routes to Afghanistan, including the Khyber Pass

Northwest Mounted Police: see ROYAL CANADIAN MOUNTED POLICE

Northwest Passage. When the explorers after Columbus demonstrated that the American continental wall was a true barrier to the passage to the East, there still remained a hope that some natural passage would be found that would lead directly through the barrier. At the same time men had the idea of reaching Cathay and India by sailing directly over the top of the earth or by sailing through a passage to the north of Europe and Asia, the NORTHEAST PASSAGE. Most important of the routes in men's minds was, however, the Northwest Passage, which would lead through the barrier to the South Sea. For centuries men searched for it, even after it had been abundantly proved that no commercial value would be attached to the completion of the difficult task. It was not until the early 20th cent. that Roald AMUNDSEN accomplished the feat (1903-6) attempted by so many men. The search for the Northwest Passage was not in vain even though no commercial transitway had been found, for it was the great spur to exploration in the North. In the 16th cent men were interested in finding the passage. Jacques CARTIER, Sir Martin FROBISHER, John DAVIS, even Sir Francis DRAKE—every explorer had a great desire to find and to prove the passage. Early in the 17th cent. Henry HUDSON sailed north and discovered Hudson Bay in seeking a short route to the East. After Hudson came William BAFFIN, who discovered (1612-22) Baffin Bay, through which the passage was finally discovered. Hudson Bay held out the most promise at first. English statesmen and merchants were anxious to have the passage found, and they encouraged exploration. Luke Fox and Thomas James made (1631-32) voyages into Hudson Bay. One of the avowed objects of the HUDSON'S BAY COMPANY was to find the Northwest Passage, but the men of the company did little with that end in view, some exploration was made, but the first real contribution by a Hudson's Bay man to the search was not made until a century after the chartering of the company. Arthur DOBBS in the middle of the 18th cent. criticized the company harshly on that score, and he was the chief figure in the scheme to send out two ships in search of the passage in 1742. The expedition of the *California* went out a few years later. Samuel HEARNE of the Hudson's Bay Company finally went overland as far as the Coppermine river in 1772, and he demonstrated conclusively that there was no short passage to the western sea. At this same time the British jurist, Daines Barrington, took an interest in the search for the passage and succeeded in having an expedition sent out under C. J. Phipps in 1773. The British government had offered prizes for achievements in northern exploration, and Capt. James COOK was inspired to make the first attempt at navigating the passage from the west. He died before he could accomplish anything. The British, Spanish, and Americans pushed explorations on the Pacific coast, however, and the explorations of the Russians about Kamchatka and Alaska, together with the voyages of Alexander MACKENZIE, had now shown the contours of the continental barrier. Wars with France interrupted the search for the Northwest Passage, and when it was resumed after the wars, the explorations were made in the interests of science, not commerce. The desire to extend man's knowledge was the chief motive in arctic exploration after the expeditions of John Ross and David Buchan were sent out in 1818. Sir John BARROW, of the admiralty, and William SCORESBY were interested in the explorations and did much to encourage them. Ross's later voyages, those of Sir William Edward PARRY, of F. W. Beechy, of Sir George Back, of Thomas Simpson, and of Sir John FRANKLIN pushed forward the knowledge of arctic regions and of the Northwest Passage. The last tragic expedition of Franklin had indirectly more effect than any other voyage because of the many expeditions sent out to discover his fate. In his expedition of 1850-54 Robert J. Le M. McClure on the *Investigator* penetrated the passage along the north of the continent from the west and by a land expedition reached Viscount Melville Sound, which had been reached by Parry from the east. The actual existence of the Northwest Passage had been proved. It was many years before the transit of the passage was made by Amundsen, but already the long search was over. See Nellis M. Crouse, *In Quest of the Western Ocean* (1928) and *The Search for the Northwest Passage* (1934); L. J. Burpee, *The Search for the Western Sea* (rev ed., 1936), G. J. Tranter, *Plowing the Arctic* (1944).

Northwest Territories, region (1,304,903 sq. mi; 1941 pop. 12,028, 1948 estimated pop. 16,000), NW Canada. The Northwest Territories lie W of Hudson Bay, north of lat. 60° N, and E of Yukon. In 1918 the area was divided into three provisional districts—Keewatin, W of Hudson Bay; Mackenzie, E of Yukon, and Franklin in the northern section, consisting of the Arctic Archipelago (which includes the islands of Baffin, Victoria, Melville, Ellesmere, and Banks) and Boothia and Melville peninsulas. The islands in Hudson Strait, Hudson Bay, and James Bay are part of the Territories. The BARREN GROUNDS, consisting of alpine and arctic tundras, with a cover of mosses, lichen, and flowering plants, extend over much of the northern and eastern regions. Here the nomadic Eskimo and Indian inhabitants derive their small incomes from fur trapping and obtain many necessities from fish, seals, reindeer, and caribou. Most of the development of the Territories has taken place in Mackenzie dist., an area well-covered with softwoods and rich in minerals. In this district are two of the largest lakes in the world, Great Slave and Great Bear, which connect with the Arctic Ocean through the Mackenzie river. Horticulture is impossible, except for limited cultivation S of the Mackenzie river region. The abundant fishing and pulpwood resources have not been used commercially, but the annual revenue from furs constitutes more than 6 percent of the total production of the dominion. While the extensive mineral wealth has never been accurately assessed and much remains unexploited, oil wells and a refinery operate at Fort Norman on the Mackenzie, gold is produced at Yellowknife on Great Slave Lake and on the Snare river, copper is extracted on the Coppermine river and in Keewatin near Hudson Bay; and the famous pitchblende-silver mines on Great Bear Lake have become the world's largest producer of radium-bearing pitchblende. Because pitchblende also contains uranium, world attention has been focused on the area and promises to result in increased exploration. Development is difficult, long winters closing in the rivers for all but two months of the year, except for the all-weather highway from Alberta to Great Slave Lake, all commerce, supply, and travel are air-borne. Government, enforced by the Royal Canadian Mounted Police, is administered by a commissioner and council. Missions, partly subsidized by the Canadian government, offer some health and educational facilities. During the early days of American exploration, all the region W of the St. Lawrence basin was called the Northwest Territory. Sir Martin Frobisher in 1576 was the first in a long line of courageous explorers to touch some part of the area, but it was left to Henry Hudson to discover the gateway to the Northwest in 1610. The Hudson's Bay Company sent out trader explorers for several decades through the northern sea lanes and coast, and in 1771 Samuel Hearne descended the Coppermine river. In 1789 Alexander MACKENZIE, exploring for the North West Company, journeyed to the mouth of the Mackenzie river. For some time further exploration and development was confined to the southern region, out of which Manitoba was formed in 1870 and Alberta and Saskatchewan in 1905. Among the famous scientific expeditions to arctic areas, those of Sir John FRANKLIN, in the first half of the 19th cent., rank high for their contribution of geographical data. The days of exploration are not over. With its geographical importance enhanced by transpolar navigation and its radioactive minerals of strategic value, the challenge of the Northwest frontier will not long remain unanswered. See Vilhjalmur Stefansson, *The Northward Course of Empire* (1921), Edgar Laytha, *North Again for Gold* (1939), Richard Finnie, *Turn to the North* (1940) and *Canada Moves North* (rev ed., 1948); Harold Griffin, *Alaska and the Canadian Northwest* (1944), C. C. Lingard, *Territorial Government in Canada* (1946); G. A. Dawson, ed., *The New Northwest* (1947); Gladdis J. Tranter, *Link to the North* (1947); R. A. Davies, *Great Mackenzie* (1947).

Northwest Territory, first national territory of the United States, comprising the geographical region generally known as the Old Northwest. This was the area about the Great Lakes and between the Ohio and the Mississippi, including the present states of Ohio, Indiana, Illinois, Michigan, Wisconsin, and part of Minnesota. The region gained considerable importance in international affairs. The whole Lakes region was accessible from Quebec and Lower Canada, and early in the 17th cent. men from New France were beginning to penetrate the rich fur country of the Northwest; it is generally thought that Jean Nicolet was the first to explore the upper lakes (1634). He was followed by explorers and traders—Radisson and Groseilliers, Duluth, La Salle, Jolliet, Perrot, Cadillac—as well as by dauntless missionaries such as Dablon and Marquette. The Lakes region fell under the control of the few widely scattered Lakes posts, and connections were built up to link the Northwest with another French region, Louisiana. Kaskaskia, Vincennes, Prairie du Chien, even Green Bay, had fairly close relationships with St. Louis and with New Orleans. The two chief posts of the Old Northwest were Detroit and Mackinac (Michilimackinac), but French influence spread among the Indian tribes east to the Iroquois country. The Northwest now was becoming an object of interest, not only to the British in Canada, but also to the British colonists on the seaboard. These interests conflicted sharply: just when the French were seeking to strengthen their hold in the Northwest by building forts, the British colonists were organizing the OHIO COMPANY. The upshot was the unfortunate expedition led by Washington that ended in the loss of Fort Necessity and in the outbreak of the last of the FRENCH AND INDIAN WARS. Those wars definitely closed with the Treaty of Paris (1763), by which the British obtained Canada and the Old Northwest. Immediately after the British conquest the Northwest was disturbed by the Indian uprising under PONTIAC. Later, the natives were somewhat mollified, and they became allies of the British. The mysterious machinations of Robert ROGERS rather endangered the British hold in the Old Northwest. In the American Revolution the region was the scene of one of the most daring exploits of the war and one of the most valuable—the expedition of George Rogers CLARK (1778-79). The Old Northwest was declared to be within U.S. boundaries by the Treaty of Paris that ended the Revolution (1783). The territory thus acquired was one of the most pressing problems that troubled the Congress in the Articles of Confederation. Various states had conflicting claims in the Northwest, especially Virginia, New York, Massachusetts, and Connecticut, they jealously strove to make their claims good. The final solution was the cession of all the lands to the U.S. government, which was thus greatly strengthened. New York made its cession in 1781, Virginia in 1784, Massachusetts in 1785, Connecticut in 1786. There were two reserves kept—the Virginia Military Dist. and the Connecticut Western Reserve in Ohio. The central government was faced with the question of government of the territory. Jefferson submitted an ordinance for organizing the territory, but no solution was accepted until the ORDINANCE OF 1787 was passed. This set up the machinery for the organization of territories and the admission of states that later became customary. One of its most interesting provisions was the prohibition of slavery. Arthur ST CLAIR was chosen governor. The OHIO COMPANY OF ASSOCIATES was the most active force in early colonization. It was followed by later companies that brought settlers into the territory. The British traders remained powerful and opposed American influence, and the Indians were hostile. A series of Indian campaigns was undertaken; they finally reached a climax when Anthony WAYNE won a victory at Fallen Timbers (1794). His victory was made solid by the Greenville Treaty of 1795. JAY'S TREATY and subsequent negotiations smoothed out some of the British-American difficulties. The Northwest posts were transferred to Americans in 1796. British influence was still paramount among the Indians and continued to be so. Settlers poured into the southern part of the Territory. A legislature was organized. In 1800 the western portion was split off as Indiana Territory, and by 1802 the eastern portion was thickly enough settled to seek admission as a state. It was admitted as Ohio. This broke up the Territory, but the region continued to be of distinct international interest even while other territories were being formed, Michigan in 1805, Illinois in 1809, and Wisconsin in 1836. The British traders were dissatisfied and wanted the Northwest set aside as Indian land. Unrest among the Indians led to the effort by TECUMSEH and his brother to gain a permanent foothold for the natives. Some Western Americans were anxious not only to secure real possession of the Northwest but also to extend it to Canada. The quarrel over the Northwest was one of the potent factors in bringing on the WAR OF 1812. The war and the Treaty of Ghent (see GHENT, TREATY OF) that closed the war brought the problem of the Northwest to a close. In spite of the protests and outcries of the British merchants of the Northwest, the British government irrevocably settled it upon the United States. Older histories of the Northwest are Jacob Burnet, *Notes on the Early Settlement of the North-western Territory* (1847), and B. A. Hinsdale, *The Old Northwest* (1899). See also L. P. Kellogg, ed., *The French Régime in Wisconsin and the Northwest* (1925); M. M. Quaife, *Chicago and the Old Northwest, 1673-1835* (1913); W. E. Stevens, *The Northwest Fur Trade, 1763-1800* (1928); B. W. Bond, Jr., *The Civilization of the Old Northwest* (1934); Walter Havighurst, *Land of Promise* (1946).

Northwich (nôrth'wich), urban district (1931 pop. 18,732, 1943 estimated pop. 20,827), Cheshire, England, on the Weaver and NE of Chester. It

was the site of a Roman station The library and salt museum are noteworthy. The town has long been the center of England's salt industry Brine pumping caused parts of Northwich to sink.

North Wildwood, city (pop 1,921), SE N J , a resort on the Atlantic NE of Cape May; inc. 1917

North Wilkesboro (wĭlks'bŭrŭ), town (pop 4,478), W central N C., on the Yadkin and W of Winston-Salem; founded 1890, inc. 1891. It has furniture and textile factories, foundries, and other industries and a large poultry market.

Northwood. 1 Town (pop 1,724), co seat of Worth co., N Iowa, on the Shell Rock River near the Minn. line, N of Mason City, settled 1853, inc 1875. 2 City (pop. 1,063), E N Dak , SW of Grand Forks, in a farm area; inc. 1892

North York, borough (pop. 2,416), SE Pa., near York

Norton, Caroline Elizabeth Sarah (Sheridan), 1808–77, English author; granddaughter of Richard Brinsley Sheridan Her husband's suit for divorce because of her alleged relations with Lord Melbourne was a *cause célèbre* Although he lost the suit, he was allowed to keep their children and to collect her earnings Her indignant writings, especially *English Laws for Women in the Nineteenth Century* (1854) and a *Letter to the Queen* (1855), gave impetus to the improvement of the status of married women in England Her other works include *A Voice from the Factories* (1836), a poem on child labor, and *Lost and Saved* (1863), a novel Her misfortunes as well as her beauty and wit gave her more renown than did her writings She was Meredith's model for *Diana of the Crossways* A short time before her death she married Sir William Stirling-Maxwell See biography by J. G. Perkins (1907).

Norton, Charles Eliot, 1827–1908, American scholar and teacher, b Cambridge, Mass , grad Harvard, 1846 From 1864 to 1868, with James Russell Lowell, he edited the *North American Review*, later he was a founder of the *Nation* As professor of the history of art at Harvard (1875–98) and as man of letters he had a stimulating influence on his time He made a prose translation of Dante and edited the poems of John Donne as well as the letters of Carlyle, Emerson, Lowell, and Ruskin See his letters ed by his daughter, Sara Norton, and M A De Wolfe Howe, 1913)

Norton, Joshua Abraham, 1818–80, colorful eccentric of San Francisco, known as "Emperor" Norton, b London He went (1820) with his parents to Capetown, South Africa, and news of the California gold rush brought him to San Francisco in 1849 He became a merchant and went bankrupt after trying to corner the local rice market After the disaster his mind gave way "Norton I, Emperor of the United States and Protector of Mexico," as he styled himself, dressed and acted extravagantly, issued his own paper money and grandiose proclamations, and for 20 years was an object of local humorous attention See biography by A S Lane (1939)

Norton, Thomas Herbert, 1851–1941, American chemist, b Rushford, N Y , grad Hamilton College (B A , 1873) He was an authority on synthetic resins and a pioneer in the American dyestuffs industry. He worked with Hillebrand on cerium, managed (1878–83) a chemical works in Paris, served as U S consul in Turkey and in Germany, and from 1930 was research chemist for the American Cyanamid Company

Norton. 1 City (pop 2,762), co seat of Norton co , NW Kansas, near the Nebr line, in an agricultural area, founded 1872, inc 1885 The state tuberculosis sanatorium is near by 2 Town (pop 3,107), SE Mass , NW of Taunton, settled 1669, set off from Taunton 1711 WHEATON COLLEGE is here 3 Town (pop 4,006), extreme SW Va , in the Cumberland Plateau, in a large coal field, inc 1894

Norton Sound, inlet of the Bering Sea, on the west coast of Alaska, S of Seward Peninsula It is c 150 mi. long Nome is on the north shore, and the Yukon river empties into the sea on the southern side. It was explored by Capt. James Cook in 1778.

Norumbega (nôrŭmbĕ'gŭ), name vaguely used, especially on maps of the 16th and 17th cent., to indicate a region or a city on the east coast of North America. Fabulous tales were told of the city, but its location and its identity are uncertain Probably the word is an Indian version of the old form of Norway. In the late 19th cent Professor E. N. Horsford revived interest in the matter by identifying the city with the site of Norse settlements in America, claiming to have discovered its position on the Charles river near Boston No conclusive results have been reached on the matter, and it is generally considered that Norumbega is purely mythical.

Norwalk (nôr'wôk"). 1 City (pop. 39,849), SW Conn., on Long Island Sound at the mouth of the Norwalk river; settled 1649, inc. 1893, coextensive with Norwalk town, inc 1651. In 1913 the industrial South Norwalk (a railroad junction) was included in Norwalk city with Norwalk, East Norwalk, Winnipauk, Rowayton, Silvermine (an artists' colony), and other places. The city includes numerous small islands in the harbor. Textiles, hats, rubber, and other products are manufactured Norwalk has a well-known amateur symphony orchestra. 2 City (pop. 8,211), co. seat of Huron co., N Ohio, SSE of Sandusky, founded 1816. The city's industries include the manufacture of wood products and rubber goods, and there are canneries and an interstate trucking company. The Firelands Museum is here, and many classic revival houses

Norway, Nor. *Norge* (nôr'gŭ), kingdom (119,211 sq mi , with water surface 125,147 sq. mi ; pop 3,157,257), N Europe, occupying the western part of the Scandinavian peninsula Oslo is the capital Extending from the SKAGERRAK c 1,100 mi NE to NORTH CAPE on the Arctic Ocean (c 300 mi N of the Arctic Circle), Norway forms a narrow mountainous strip along the North Sea and the Atlantic Ocean, which is here also called the Norwegian Sea. It has a long land frontier with Sweden and in the north borders on Finland and the USSR The coast line, c 1,700 mi long, is fringed with islands (notably LOFOTEN ISLANDS AND VESTERALEN) and is deeply indented by numerous fjords SOGNE FJORD, HARDANGER FJORD, NORD FJORD, and Oslo Fjord are among the largest and best known From the coast the land rises, generally precipitously, to high plateaus such as the DOVREFJELL and the Hardanga Vidda The Galdhopiggen, in the JOTUNHEIM range, is the highest point (8,098 ft), west of it lies the JOSTEDALSBREEN, the largest glacier field in Europe. The mountains and plateaus are intersected by fertile valleys, such as the GUDBRANDSDAL, and by rapid rivers, which furnish hydroelectric power and are used for logging The GLOMMA, in the south, is the most important river Because of the North Atlantic Drift, Norway has a mild and humid climate Almost three quarters of the land is unproductive, and less than 4 percent is under cultivation The vast mountain pastures are used for cattle and sheep raising and, in the north, for reindeer raising About one quarter of Norway is forested, timber is the chief natural resource and is the base of one of the main industries The chief industry is fishing (notably of cod, herring, and mackerel) Fresh, canned, and salted fish are exported to the entire world The Norwegian merchant fleet ranks third after those of the United States and Great Britain and carries a large part of the world's trade, there also is an important whaling fleet Next to the pulp and paper manufactures and canning, the electrochemical and electrometallurgical industries are the most important Mineral resources include pyrites and iron ore and some copper, zinc, and lead Most of the population is concentrated along the southern coast and valleys Here are the chief cities—OSLO, BERGEN, STAVANGER, and DRAMMEN Farther north along the coast is TRONDHEIM, and in the extreme north are NARVIK, TROMSO, and HAMMERFEST The unique beauty of the Norwegian fjords and the midnight sun of the far north attract many foreign and native tourists The majority of Norwegians are of Scandinavian stock, but in the northern county of FINNMARK, LAPPS and Finns predominate The literary language of Norway long was Danish, from which Rigsmaal, one of the two official idioms of Norway, is derived (see NORWEGIAN LANGUAGE and NORWEGIAN LITERATURE) Landsmaal, which is also in official use, is very similar Frequent spelling reforms account for the variation in Norwegian place names Norway is a constitutional monarchy, the legislative power is vested in the parliament or STORTING Administratively, the country is divided into 18 counties (Nor *fylker*) and the Oslo and Bergen districts The outlying possessions of Norway are SPITSBERGEN and JAN MAYEN in the Arctic Ocean and Bouvet and Peter I islands in the S Atlantic; Norway has claims in ANTARCTICA The Evangelical (Lutheran) Church is the state church, but the small non-Protestant communities (of which the Roman Catholic is the largest) enjoy freedom of worship. The king nominates the seven bishops and other clergy of the Evangelical Church. The educational level is very high, and there are two universities (at Oslo and Bergen) The history of Norway before the age of the VIKINGS is obscure and indistinct from the rest of Scandinavia In the 9th cent. the country was still split among the numerous petty kings of the *fylker* HAROLD I, of the Yngling or Sciffing dynasty (which claimed descent from one of the old Norse gods), set out on a career of conquest, defeated the petty kings, and conquered the Shetlands and the Orkneys, but failed to establish permanent unity. During his reign the raids of the NORSEMEN on the coasts of Europe reached their peak and led to the creation of the Norse duchy of Normandy Harold's campaigns drove many nobles and their followers to settle in ICELAND and to swell the numbers of the Norsemen in France Before he died (c 933) the country was divided among his sons, but one of them, HAAKON I, defeated (c 935) his brothers and temporarily reunited the kingdom. Christianity gained a foothold under OLAF I and was established by OLAF II (1015–28) Olaf II was driven out of Norway by King CANUTE of England and Denmark; however, his son, MAGNUS I, was restored (1035) to the Norwegian throne. Both Magnus and his successor, HAROLD III, played vital parts in the complex events then taking place in England and Denmark After Harold's death Norway underwent a period of decline and of civil war, precipitated by conflicting claims to the throne Among the most notable events of 12th-century Norwegian history were the mission of Nicholas Breakspear (later Pope ADRIAN IV), who organized the Norwegian hierarchy, and the rule of SVERRE, who created a new nobility, grounded on commerce, and with the help of the popular party—the Birkebeiner—consolidated the power of the crown His grandson, HAAKON IV, was put on the throne by the Birkebeiner in 1217; under him and under MAGNUS VI (1263–80) medieval Norway reached its greatest flower and enjoyed a period of peace, culture, and prosperity. Iceland and Greenland passed under the Norwegian crown The separate development of Norway was halted by the accession (1319) of MAGNUS VII, who was king of Sweden as well He was unpopular in Norway, which he was compelled to surrender (1343) to his son, Haakon VI, husband of MARGARET of Denmark Margaret subsequently united the rule of Norway, Sweden, and Denmark in her hands and in 1397 had the KALMAR UNION drawn up Although the union was strictly a personal one, Norway virtually ceased to exist as a separate kingdom and was ruled by Danish governors for the following four centuries Its power had greatly declined even before Margaret's accession, and its trade had been taken over by the HANSEATIC LEAGUE, which had its chief northern office at BERGEN Its political history became essentially that of DENMARK In 1814 Denmark, which had sided with France in the Napoleonic Wars, was obliged to consent to the Treaty of Kiel, by which it ceded Norway to the Swedish crown in exchange for W Pomerania The Norwegians, however, whose national consciousness was growing, attempted to set up a separate kingdom under Prince Christian (later King Christian VIII of Denmark). A Swedish army obliged Norway to accept a Swedish king, but the act of union of 1815 recognised Norway as an independent kingdom, in personal union with Sweden, with its own constitution and parliament The Norwegian constitution of 1814, framed at Eidsvold, is still in force, with several modifications Despite some Swedish concessions to the growing nationalism of Norway, Swedish-Norwegian relations were generally strained throughout the 19th cent Johan SVERDRUP, the Liberal leader, obtained the abolition of the royal veto power, but other problems remained. An important issue was the Norwegian demand in the late 19th cent for a separate consular service and a separate flag. This demand, though justified by the spectacular growth of Norwegian shipping and commercial interests, was refused by King OSCAR II Finally, in 1905, the Storting declared the dissolution of the union and the deposition of Oscar II. Sweden acquiesced peacefully, and the second son of Frederick VIII of Denmark was chosen king of Norway as HAAKON VII Two important features in Norwegian history of the late 19th and early 20th cent were the large-scale emigration to the United States and the great effort at arctic and antarctic exploration by such notable men as Fridtjof Nansen and Roald Amundsen. In the First World War, Norway remained neutral. The industrial development of Norway contributed to the rise of the Labor party, which has predominated in Norwegian politics since 1927 Norway sought neutrality in the Second World War, but on April 8–9, 1940, German troops invaded Norway without warning and quickly gained control of Oslo and other strategic points Norway resisted and was aided by a highly inadequate Franco-British expeditionary force By April 14 nearly the whole country was in German hands Narvik, recaptured by the Allies late in May, had to be abandoned again in early June. King Haakon and his cabinet set up a government in exile in London, and the Norwegian merchant fleet became of vital assistance to the Allied cause throughout the war Despite the attempts of the traitor QUISLING to promote collaboration with the Germans, the people of Norway defied the occupation forces. Martial law was introduced in 1941, and increasingly terroristic measures were adopted against the resistance movement In Oct , 1944, Russian troops entered N Norway, which was devastated by the retreating Germans However, the Russians were soon halted, and the German troops remained in Norway until the war ended in May, 1945. Although half of the Norwegian fleet was sunk during the war, Norway quickly recovered its commercial position Important socialising measures were enacted by the Labor government Norway is one of the original United Nations, and its foreign minister, Trygve Lie, became the first United Nations secretary general In its foreign policy Norway sought friendly relations both with the Western powers and with the USSR It joined in the European Recovery Program and in the North Atlantic Treaty. See Knut Gjerset, *History of the Norwegian People* (new ed., 1932), Karl Fischer,

ed., *Norway Today* (2d ed , 1934); Halvdan Koht and Sigmund Skard, *The Voice of Norway* (1944), Karen Larsen, *A History of Norway* (1948)

Norway. 1 Town (pop 3,649), SW Maine, NW of Auburn, on Lake Pennesseewassee, settled 1786, inc 1797 It is known for its manufacture of wooden articles, moccasins, shoes, and winter sports equipment and as a summer resort Hannibal Hamlin, Artemus Ward, and C A Stephens lived here **2** City (pop. 3,728), W Upper Peninsula, N Mich , near Iron Mountain; settled c 1879, inc. 1891. It is in an iron-mining, lumbering, and farming region. A fish hatchery is near by.

Norwegian elkhound · see ELKHOUND

Norwegian language, either of two slightly different North Germanic standard languages One, called Dano-Norwegian or Rigsmaal, is the Oslo dialect of standard Danish, which was official until the 20th cent The other, called Landsmaal, is a standardization of Norwegian dialects, introduced by Ivar AASEN and popularized mainly as a result of patriotism See LANGUAGE (table)

Norwegian literature, in its earliest period, is Icelandic or OLD NORSE LITERATURE In 1380, on the union of Norway with Denmark, Danish became the official and literary language of the country (see DANISH LITERATURE) The Norwegian Society (Norske Selskab), founded at Copenhagen in 1772, provided the first great stimulus toward a national literature Henrik Arnold Wergeland and his contemporary and rival, J S C Welhaven, of the early 19th cent , were the first great names in modern Norwegian literature, P. C Asbjornsen and J E Moe, noted for their collection of folk tales, flourished in the same period In 1848 Ivar Aasen gave fresh stimulus to national letters by producing a dictionary and grammar and establishing Landsmaal as the Norwegian language as distinct from the Danish Rigsmaal The four great names of the 19th cent are Ibsen, whose realistic plays were of profound influence on the modern theater, Bjornson, whose plays and novels were derived from the sagas and from peasant life, J L I Lie, and A L. Kielland The novelist A E Garborg and the dramatist G E R Heiberg were followed by a group of novelists of international reputation, Knut Hamsun, Johan Bojer, and Sigrid Undset, and by the poets N G Vogt, Olaf Bull, Herman Wildenvey, Arnulf Overland, and J N B Grieg Regional writers such as Olav Duun, a master of Landsmaal, Hans Aanrud, Peter Egge, and Johan Falkberget, have immortalized their home provinces or areas See Theodore Jorgenson, *History of Norwegian Literature* (1933), Alrik Gustafson, *Six Scandinavian Novelists* (1940), *Scandinavian Plays of the Twentieth Century* (1st and 2d series, 1944).

Norwegian Sea, name occasionally applied to the part of the Atlantic NW of Norway between the Greenland Sea and the North Sea

Norwell, town (pop 1,871), SE Mass , on the North River, settled 1634, set off from Scituate 1888

Norwich (nŏr'wĭch, nŏ'rĭch), village (pop 1,268), S Ont , SE of Woodstock. It is in a lumbering and dairy region.

Norwich (nŏ'rĭj, -rĭch), county borough (1931 pop 126,236, 1947 estimated pop , 116,770) and city, co seat of Norfolk, England, on the Wensum just above its confluence with the Yare In the 11th cent it ranked with London, York, and Bristol in ecclesiastical and commercial importance It has vestiges of walls, gatehouses, and a tower built in 1294–1342 There are 36 old churches besides the great cathedral founded in 1096 by Bishop Losinga In 1894 a museum was established in the Norman keep of the old castle, which stands on a mound Beneath it is a cattle market. Besides the churches, there are many old buildings, including St Giles's Hospital (13th cent), Strangers Hall (15th cent , now a museum of folklore), Sucking House (14th cent.), Lazar House (Norman, now a library), St Andrew's Hall (formerly a church of the Black Friars), and the guildhall. The grammar school is on the site of a mortuary chapel founded in 1316 Castor, or Castor-by-Norwich, S of Norwich, is probably the site of a Romano-British town Norwich was sacked by the Danes in the 11th cent , was scourged by the Black Death in 1348 and in the 17th cent , and was involved in the Rebellion of 1381 and the uprising under Robert Kett in 1549 Besides being a grain market and a manufacturing town (textiles, chocolate, shoes, and machinery), Norwich is the cultural center of the county, triennial music festivals have been held since 1824 and it was famous in the 18th and 19th cent for the work of the Norwich Society of Artists (among them John Crome and John Sell Cotman). The city was severely bombed in 1942

Norwich. 1 (nŏr'wĭch, nŏ'rĭch) City (pop. 23,652) in Norwich town (pop 34,140), SE Conn., a co seat of New London co , on hilly ground, where the Yantic and Shetucket form the Thames, settled 1659–60 on land purchased from Indians, inc 1784. An industrial center, it has varied manufactures, including thermos bottles, textiles, airplane parts, and silverware Slater Memorial and its annex, Converse Art Gallery, with an art school, are in the city, near by is a state tuberculosis sanatorium Thomas Danforth began making pewter here in 1730. Benedict Arnold was born here **2** (nŏr'wĭch) City (pop. 8,694), co. seat of Chenango co., S central N Y , on the Chenango river and NE of Binghamton, settled 1788, inc 1915. Pharmaceuticals and dairy goods are made Gail Borden was born here **3** (nŏr'wĭch) Town (pop 1,418), E Vt., on the Connecticut opposite Hanover, N H , settled before 1775 NORWICH UNIVERSITY was here until 1866.

Norwich University (nŏr'wĭch), at Northfield, Vt.; a state military college, but privately controlled, for men, founded 1819, opened 1820 as a military academy at Norwich, Vt It moved in 1825 to Middletown, Conn , in 1829 it reopened in Norwich It was chartered in 1834 as Norwich University and moved to Northfield in 1866 It has a state industrial research bureau

Norwood. 1 Town (pop 15,383), E Mass , SW of Boston, settled 1678, set off from Dedham and Walpole 1872 Its industries include printing and tanning **2** Borough (pop 1,512), extreme NE N J , near the N Y line, inc 1905 **3** Village (pop 1,905), N N Y , SW of Massena, inc 1871 **4** Textile-mill town (pop 1,515), central N C , E of Charlotte, settled c 1800, inc 1882 **5** City (pop 34,010), SW Ohio, residential suburb of Cincinnati, settled as Sharpsburg in the early 19th cent , renamed and inc as a village 1888, as a city 1903 It has an automobile assembly plant, and its various manufactures include office furniture and motors and generators **6** Borough (pop 3,921), Delaware co , SE Pa , near Philadelphia, inc 1893

nose, special organ of the sense of smell. It consists of the external and the internal nose The external nose, composed of bone and cartilage, is a prominent organ in the middle of the face The air is inspired through the nostrils (external nares) of the external nose The internal nose is a hollow structure above the roof of the mouth It is divided into two cavities (nasal fossae) by a septum composed of bone and cartilage Air is filtered through small hairs at the opening of the nostrils and is warmed and moistened as it passes through the nasal fossae before reaching the throat

nosebleed. BLEEDING from the NOSE occurs as a result of injuries, ulcers, heart disease, purpura, hemophilia, scurvy, the onset of typhoid, and various other conditions that produce congestion Plugging the nostril with cotton, holding the head forward towards the chest, and applying ice to the nose usually stop bleeding

Noske, Gustav (gōōs'täf nōs'kŭ), 1868–1946, German politician, a Social Democrat He was in charge of the armed forces after the republican revolution of Nov , 1918, and was minister of defense in 1919–20 In these capacities he ruthlessly suppressed radical uprisings throughout Germany (notably the insurrection of the Communist SPARTACUS PARTY, in which Karl Liebknecht and Rosa Luxemburg were murdered by the soldiers who arrested them) He reorganized the German army Noske became governor of Hanover in 1920, but was dismissed (1933) by the National Socialists, who otherwise left him unmolested until 1944, when he was arrested on suspicion of having shared in the attempt on Hitler's life He was released in 1945 by Russian troops Noske's authoritarian and not exactly Social Democratic methods got the Weimar Republic off to a dubious start

Nostradamus (nŏs"trudā'mŭs), 1503–66, French astrologer and physician, whose real name was Michel de Nostredame He is reputed to have effected remarkable cures during outbreaks of the plague in S France, especially at Lyons and Aix His rhymed prophecies under the title *Centuries* (1555) aroused great interest and gained him the favor of the French court

notation. see ARITHMETIC and MUSICAL NOTATION.

note, in business see PROMISSORY NOTE

note, in MUSICAL NOTATION, a symbol placed on or between the lines of a staff to indicate the pitch and the relative duration of the tone to be produced by voice or instrument. The largest note value in common use in this country is the whole note, an outlined note Its value is halved by the addition of the stem, and a solid note with a stem is the quarter note, the most usual metric unit in modern notation The eighth note resembles the quarter note, with the addition of a flag at the end of the stem, with each flag added, the value of the note is again halved European music printing makes use of the breve, whose value is twice that of the whole note For each note value, there is a rest of corresponding value, rests are named in the same way as notes, e g , whole rest, half rest. In the 16th cent each type of note indicated a certain absolute time value; music of that period did not know the infinite variations of tempo used today.

Notec, Pol. *Noteć* (nō'tĕch), Ger. *Netze* (nĕ'tsŭ), river of central Europe, rising 45 mi S of Torun (Poland) and flowing 273 mi. W into the Warta near Landsberg (Brandenburg). It is connected with the Vistula by the Bydgosscs Canal

Notium (nō'shēum), ancient port, W Asia Minor. Here in the Peloponnesian War (407 or 406 B C) an Athenian fleet against orders disastrously engaged the new-built ships of the Spartan Lysander. At Athens the incident was unjustly used to disgrace ALCIBIADES, the only able general.

Notker Balbulus (nōt'kur bäl'bydōlŭs), c.840–912, German monk and scholar, abbot of St. Gall (from 890) He composed liturgical poetry and music. Notker's life of Charlemagne preserves much of the matter of the Charlemagne legend. At St Gall under Notker patristic studies were encouraged and the library was enriched.

Notker Labeo (lā'bēō), c 950–1022, German monk, teacher at St. Gall. He translated into admirable Old High German Boethius' *Consolation of Philosophy*, Capella's *Marriage of Mercury and Philology*, Pope Gregory I's *Morals*, and Aristotle's *Categories* Notker was one of the important founders of German literature

Notodden (nō'tōd"dŭn), town (pop 6,062), N Telemark co , S Norway Incorporated in 1913, it has a nitrogen-fixation plant, a hydroelectric station, and iron foundries It exports saltpeter. Near by, at Hitterdal, is the largest Norwegian *stavkirke* (13th cent).

Notre Dame, University of (nō"tur dām', nō"trū), at Notre Dame, Ind , N of South Bend, Catholic (Holy Cross Fathers), mainly for men, chartered and opened 1844 It has colleges of arts and letters, commerce, engineering (with architecture), law, and science Moreau Seminary is affiliated There are natural history and art museums Knute ROCKNE was a famous football coach. See history by A J Hope (1943)

Notre Dame College. see SOUTH EUCLID, Ohio

Notre Dame de Paris (nō'tru dam' du parē') [Fr ,= Our Lady of Paris], cathedral church of Paris and the noblest achievement of early Gothic architecture in France It stands upon the Île de la Cité, a small island in the Seine, where originally stood a Roman temple About 375 a Christian church was built on the site, later replaced by two churches Both were in ruins by the 12th cent , when Maurice de Sully demolished them in order to erect a vast cathedral suitable to the needs of the city The cornerstone was laid in 1163 by Pope Alexander III Twenty years later the high altar was consecrated, and the building was finished c 1230 The twin towers, however, are still incomplete, without the spires originally intended for them In the French Revolution rioters converted the cathedral into a "Temple of Reason" and destroyed the sculptures of the west façade In 1845 restorations were skillfully begun by VIOLLET-LE-DUC In Notre Dame the Gothic forms come into full control with few traces of Romanesque design The plan consists of a wide central nave rising 110 ft high and flanked by double aisles, with a transept of slight projection from the main body The aisles continue around the east end, which, with the projecting chapels, forms a chevet, while flying buttresses brace the external walls of both choir and side aisles Three sculptured portals are deeply recessed in the majestic west front Above them a row of sculptures in niches extends across the façade, and over this, in the center, is the huge traceried wheel window Victor Hugo's novel *Notre Dame de Paris* has the church as its background See R G Anderson, *The City and the Cathedral* (1948)

Notre-Dame-de-Portneuf, Que see PORTNEUF

Notre Dame Mountains (nō'tru dām'), continuation of the Green Mts of Vermont, SE and E Que , c 3,500 ft high They extend NE to the St Lawrence below Quebec, thence E into the Gaspé Peninsula, where they are in turn continued by the SHICKSHOCK MOUNTAINS

Notre Dame of Maryland, College of see BALTIMORE

Nott, Eliphalet (ĭl'ĭfult nŏt'), 1773–1866, American educator, clergyman, and inventor, b. Ashford, Conn , M A. Rhode Island College (now Brown Univ), 1795. He interested himself in the reform of the Albany public school system and in 1804 became president of Union College, a post he held for 62 years. He published a number of pamphlets on slavery, temperance, and education and contributed to science by his experiments with heat He was granted over 30 patents and was the inventor of the first anthracite coal base-burner stove. See Cornelius Van Santvoord and Tayler Lewis, *Memoirs of Elisphalet Nott* (1876), G P Schmidt, *The Old Time College President* (1930).

Nottaway (nŏ'tŭwā), river of W Quebec, rising in Mattagami Lake and flowing c 400 mi. NW to S James Bay It is noted for sturgeon.

Nottingham, Charles Howard, 1st **earl of** (nŏ'tĭng-um), 1536–1624, lord high admiral of England, 2d Baron Howard of Effingham. A member of one of the branches of the great HOWARD family, he rendered distinguished service to Queen Elizabeth—military, naval, and civil His most important service was in command of the British forces against the Spanish Armada (1588).

Nottingham, Daniel Finch, 2d **earl of,** 1647–1730, English statesman, son of the 1st earl He entered Parliament in 1679 and became a privy councilor in 1680 A staunch Tory, he disapproved James II's pro-Catholic policies, even while remaining loyal to him as king. As secretary of state (1689–93) under William III, he secured some modification of the oath of allegiance, but failed to obtain civil rights for dissenters (who had favored William III). He held the same post (1702–4) under Queen

Anne. He broke with the Tory leaders (1706), and in 1711 he made a bargain with the Whigs to oppose Tory proposals for peace in the War of the Spanish Succession, in return for support of the bill against occasional conformity, directed against all dissenters President of the council on the accession of George I (1714), he retired in 1716, because he opposed the severe treatment of some of the Jacobite rebels of 1715 In 1729 he received the earldom of Winchilsea, which title then became united with that of Nottingham

Nottingham, Heneage Finch, 1st **earl of** (hĕ'nĭj), 1621–82, lord chancellor of England (1675–82) Finch was educated at Westminster, Oxford, and the Inner Temple, took no part in the politics of the civil war, but entered Parliament and was made solicitor general, both in 1660 He became attorney general in 1670, lord mayor of London in 1673, and lord chancellor in 1675 He was created earl of Nottingham (1681) In an age of corruption he added to his name of able lawyer that of a statesman of integrity By lawyers he is remembered for his just and systematic administration of equity

Nottingham, Thomas Mowbray, earl of see NORFOLK, THOMAS MOWBRAY, 1ST DUKE OF

Nottingham, county, England. see NOTTINGHAMSHIRE

Nottingham (nŏ'tĭng-ûm), county borough (1931 pop 268,801, 1947 estimated pop 296,350) and city, co seat of Nottinghamshire, England, on the Trent and NW of London Its history dates from the 9th cent , when it was an important borough of the Danes In the 12th cent much of it was destroyed by fire Three parliaments were held here between 1330 and 1337, and the town was the scene in 1642 of the raising of the standard of Charles I, which marked the beginning of the civil war The present castle, on a rock overlooking the Trent, was restored by the city in 1878 and now has an art museum The earlier castle on the same site was once the prison of David II of Scotland and the headquarters of Richard III before the battle of Bosworth It was dismantled by Cromwell, rebuilt in 1674, and burned in Reform Bill riots of 1831 Other features of Nottingham are the city hall at the east end of the large market place, the Roman Catholic cathedral (designed by A W N Pugin), the municipal art school, the grammar school (founded 1513, now a high school), University College, Bulwell Forest (public park), and the arboretum There are racecourses on the outskirts of the city The manufacture of lace, hosiery, and cotton and silk goods was early established, the textile industry profited by the work of Hargreaves and Arkwright here Lacemaking is no longer a leading industry, but the city has varied manufactures According to tradition Robin Hood was born in Nottingham

Nottinghamshire (nŏ'tĭng-umshĭr) or **Nottingham,** inland county (844 sq mi , 1931 pop 712,731, 1948 estimated pop 815,200), central England The county town is Nottingham The land is low-lying and fertile, partially reclaimed fenland, an area of upland moors devoted to pasturage, in the south, is known as the Wolds The principal river is the Trent Sherwood Forest, with its legends of Robin Hood, now an area much reduced from its former size, includes the Dukeries, a district noted for its splendid estates Cereal crops are grown and dairying is extensive The Nottinghamshire coal fields, with Nottingham, Mansfield, and Worksop the chief mining centers, extend along the western border Textiles, bicycles, and motors are manufactured The county was a part of the Saxon kingdom of Mercia, and the shire was organized with substantially its present borders by the beginning of the 11th cent. It was here that Charles I unfurled his banner and marked the beginning of the civil war (in the Puritan Revolution) Scrooby, the home of William Brewster, was the cradle of the Pilgrim Fathers See *Victoria History of the County of Nottingham* (2 vols , 1906–10)

Notus (nō'tus), in Greek mythology, son of Astraeus and Eos He was the personification of the south wind, bringer of fog and sickness The Romans called him Auster

Noue, François de la: see LA NOUE, FRANÇOIS DE

Nouméa (nōōmā'ä), Fr nōōmā'), port town (1936 pop. 11,108), on New Caledonia, capital of the French colony of New Caledonia It is a Pan American Airways base on the California–New Zealand route; there is steamship service to Sydney, Australia Nickel, chrome, and copra are exported. The island's chief nickel-smelting plant and the Collège La Pérouse are here In the Second World War, Nouméa was the site of a U S air base The town was once a French penal colony and was formerly called Port de France Nouméa is sometimes spelled Numea.

noun, in English, PART OF SPEECH typically referring to the actor. There are a number of distinctive formal criteria; thus a noun may be recognized by inflection(-'s and -s) or by derivation (e.g., *-ness* and *-tion*) Probably most languages have a major form class composed of words referring to persons, animals, and objects; but the Latin type of inflection, with its CASE system, is unusual outside a few families of languages.

Nouveau Salaberry (nōōvō' sä'lŭbĕ''rē), village (pop. 1,043), on an island in the St Lawrence, S Que , opposite Valleyfield, of which it is a suburb.

Nouvelle Calédonie see NEW CALEDONIA.

nova: see VARIABLE STAR.

Novalis (nōvä'lĭs), pseud of **Georg Friedrich Philipp von Hardenberg** (gā'ôrk frē'drĭkh fŭn här'dənbĕrk), 1772–1801, German poet He studied philosophy under Schiller, Schlegel, and Fichte, being especially influenced by Fichte, he later studied geology and became assessor of salt mines Novalis was one of the great German romanticists, his chief work was the novel *Heinrich von Ofterdingen*, unfinished at the time of his early death from tuberculosis but the representative novel of early romanticism His grief at the death of his love, Sophie von Kühn, in 1797, found expression in a volume of beautiful lyrics, deeply religious in tone, the *Hymnen an die Nacht* [hymns to the night] (1800, Eng trs , 1889, 1948), and in the hymns translated as *Devotional Songs* (1802?) A collection, *Hymns and Thoughts on Religion* (tr by W Hastie), appeared in 1888 *Christendom or Europe* (1826; Eng tr., 1844) is an exposition of his Catholicism

Nova Lisboa, Angola see HUAMBO

Novara (nōvä'rä), city (pop 52,269), capital of Novara prov , Piedmont, N Italy It is an agricultural and industrial center The 16th-century Church of San Gaudenzio has a characteristic dome and a fine campanile Several battles were fought near Novara In the most important (March, 1849) the Austrians under Radetzky defeated the Piedmontese, thus ending the war of 1848–49 (see RISORGIMENTO) Novara was also the scene of the defeat of the French by the Swiss in 1513 (see ITALIAN WARS) Today it is an agricultural and industrial center

Nova Scotia (nō'vu skō'shù) [Latin,=new Scotland], province (21,068 sq mi , 1941 pop 577,962, 1948 estimated pop 635,000), E Canada One of the Maritime Provs , it includes a peninsula 374 mi long and the adjacent Cape Breton Island The capital is the port of Halifax, other important cities include Sydney, Glace Bay, Dartmouth, Truro, New Glasgow, and Yarmouth On the north the province is bounded by the Northumberland Strait, on the east and south by the Atlantic Ocean, and on the west by New Brunswick, from which it is largely separated by the Bay of Fundy Tempered by surrounding waters, the climate is moderate and the rainfall abundant On the east coast rough winds sweep bare the jagged promontories and send combers dashing against the granite rims of numerous bays and coves Small fishing villages, bright with white houses and gaily painted boats, nestle against the rocky hillsides Off the beautiful south shore is Sable Island, called the graveyard of the Atlantic before its treacherously shifting dunes were stabilized by tree plantings On the west coast huge Fundy tides, rising to heights of 40 ft , wash white beaches and pleasant meadows From Yarmouth there are direct steamship connections to Boston, and Digby, with regular shipping schedules to St John's, is an important railroad, lumbering, and agricultural center Fishing fleets operate on the great continental shelf, which edges the coast, or move out to the Grand Banks Fishing is also the leading industry of the wooded north shores which edge the warm Northumberland Strait Inland the old mountains are worn into rolling hills, frequently broken by lakes and streams Back from the western shore dairying thrives on the meadowlands, and in spring valleys such as Annapolis and Cornwallis blossom fragrant and pink with apple blossoms The bay lowlands, reclaimed by dikes in the 17th cent , are very productive For many years timber has been cut and floated down the rivers to port, but enough forests remain to feed a valuable pulp and paper industry. The fisheries, in Canada second only to those of British Columbia, make great annual catches of cod, haddock, lobsters, herring, and mackerel to contribute to a growing number of canning and freezing establishments Coal, of which Nova Scotia produces one third of Canada's total supply, is mined at Sydney, Pictou, and Inverness in seams far out under the ocean floor The great steel mills at Sydney use the local coal and import iron from Newfoundland In addition to its all-year port facilities, Halifax is a railroad terminus and a center of shipbuilding and sugar refining A fine system of railroads and highways interlaces the province, providing an additional lure to tourists attracted by the charms of the rural and coastal countryside. Frequently visited historical spots include the Shrine of Evangeline at Grand Pré and the town of Annapolis Royal, site of the first permanent Canadian settlement Sportsmen find a variety of activities—all types of fishing, abundant game, and some of the best sailing on the continent This is probably the land that Leif Ericson is supposed to have named (c 1000) Vinland Centuries passed before John Cabot landed (1497) on the tip of Cape Breton Island, but soon European fishermen made regular stops during their yearly expeditions. The beginnings of New France, called ACADIA in the region of Nova Scotia and New Brunswick, were made when the settlement established in 1604 was moved to Port Royal (now Annapolis Royal) in 1605 For the next century France and England contested bitterly for colonial rights. In 1621 the earl of Stirling obtained a patent from James I for the whole peninsula, named Nova Scotia By the Treaty of Breda (1667) the area was given to France, but under the Peace of Utrecht (1713–14), the area was restored to England, although Cape Breton Island was retained by the French. Hostilities continued during the French and Indian Wars, one incident being the expulsion of the Acadians—a tragedy immortalized by Longfellow's *Evangeline* With the close of the wars in 1763, Prince Edward and Cape Breton islands were annexed, but in 1769 Prince Edward Island became a separate colony. With the influx of United Empire Loyalists, c 1784, additional settlement was made, and in 1784 New Brunswick and Cape Breton became separate colonies, Cape Breton rejoined Nova Scotia in 1820 Sydney was established by Loyalists in 1788 and Halifax, set up by England in 1749 as a military and naval base, grew rapidly as a port and shipbuilding center After the Jacobite risings, thousands of Scotch emigrants settled on the north coast and later Hanoverian fisherfolk established homes in Lunenburg co Under the leadership of Joseph Howe, Nova Scotia became the first colony to achieve (1848) responsible government, when it persuaded the governor to bow to the wishes of the elected assembly When confederation of the Canadian provinces was proposed in 1867, Nova Scotia after hesitation acceded It is still held by many that the province was gravely handicapped by its inability to make its own terms for trade with the United States and by the advantage conferred by high tariffs on the competing industries of central Canada As a smaller and less wealthy province, Nova Scotia is still struggling for more recognition in the federation During its long settlement, Nova Scotia has pioneered in Canadian history with the first newspaper, the first printing press, and the first university (King's College, Windsor) It pioneered again in the late 1920s when St Francis Xavier univ sponsored cooperatives for the impoverished fisherfolk at Antigonish These successful self-help projects will serve as models of cooperative planning for other similar communities See J B Brebner, *New England's Outpost* (1927) and *The Neutral Yankees of Nova Scotia* (1937), T Morris Longstreth, *To Nova Scotia* (1935), Gordon Brinley, *Away to Cape Breton* (1936), Clara Dennis, *Down in Nova Scotia* (1937) and *More about Nova Scotia* (1940), Bertram B Fowler, *The Lord Helps Those* (1938), Dorothy Duncan, *Bluenose a Portrait of Nova Scotia* (1942); *Nova Scotia Report of the Royal Commission on Provincial Development and Rehabilitation* (2 vols , 1944), W C Barrett, *Down East* (1945)

Novatian (nōvā'shun), fl 250, Roman priest, antipope (from 251), and theologian He opposed the election of St Cornelius as pope and set himself up instead He gained followers all over the empire because of his espousal of the old doctrine of MONTANISM that the fallen from grace were out of the Church forever At the instance of St Cyprian of Carthage, himself quite strict on readmission to the Church, virtually the whole Church recognized Cornelius and repudiated Novatian and his followers, who maintained their own hierarchy for two or three centuries After 325 their distinction was almost solely historical in significance, for the sect was merged with DONATISM Novatian's chief work, *On the Trinity*, which was written as a refutation of the Gnostics, the Theodotians, and the Sabellians, was later regarded as a good orthodox expression of ante-Nicene doctrine, except for the last chapter, which anticipated Arianism

Novaya Sibir Island (nô'vĭû sĭbĭr'), 75 mi long and 35 mi wide, easternmost island of the Anjou group of the NEW SIBERIAN ISLANDS

Novaya Zemlya (nô'vĭû zĭmlyä') [Rus ,=new land], archipelago (c 35,000 sq mi., 1939 estimated pop. 400), N European RSFSR, in the Arctic Ocean between the Barents Sea in the west and the Kara Sea in the east It consists of two large islands (separated by a narrow strait) and many small islands The northern section of the archipelago is always covered with ice The central mountains, rising to 3,500 ft , are a continuation of the Urals. The southern section consists of tundra lowlands. There are government observation stations on the western coast The permanent inhabitants are Nentsy (formerly called Samoyedes), subsisting on fishing and hunting (seals, other fur-bearing animals, and birds' eggs and down) There are mineral deposits (copper, lead, zinc, pyrite, asphaltite) Known since the 16th cent , the islands were explored in the 19th cent Their name sometimes appears as Nova Zembla

Nova Zembla, RSFSR: see NOVAYA ZEMLYA

novel, a story of some length which is told in prose. The word was first used in English in the 16th cent when the Italian *novella* (e g , Boccaccio's *Decameron*) became popular in England The modern novel, however, dates only from the 18th cent , with the works of Daniel Defoe and Samuel Richardson The romance is differentiated from the

novel by its remoteness from the scenes of ordinary life, whether contemporary or historical, and by its emphasis on the fantastic, the marvelous, or the improbable But since the novel enjoys great freedom in both technique and subject matter, no exact definition has ever been agreed upon Prose fiction can be found in the Arabian *Thousand and One Nights*, in Xenophon's *Cyropaedia*, in *The Golden Ass* by Apuleius, in *Daphnis and Chloë*, in the *Satyricon* of Petronius, and in the legends of Alexander the Great by the Pseudo-Callisthenes These legends and romances dealing with Alexander, together with those on the Trojan War, were extremely popular in the Middle Ages Also popular then were the late Greek romance *Apollonius of Tyre*, which was translated into Anglo-Saxon in the 11th cent , and the ARTHURIAN LEGEND which gradually evolved into Malory's long prose romance *Morte d'Arthur* (printed in 1485) The invention of printing was important in the development of the narrative, it brought about an increase in reading and encouraged the tendency to turn the long verse narratives into prose and to elaborate the short prose tale In the 16th cent prose fiction can be found in Rabelais's *Gargantua and Pantagruel*, Cervantes's *Don Quixote*, Philip Sidney's *Arcadia*, and John Lyly's *Euphues* and in the works of Thomas Nash The narrative fiction of France in the 17th cent. included *L'Astrée* of Honoré d'Urfé, the *Princesse de Clèves* of Mme de la Fayette, and the works of Mlle de Scudéry In England the beginnings of the novel can be seen in the character sketches popular in the early 17th cent , the most famous of which was Sir Roger de Coverley, created by Addison and Steele in the *Spectator* papers (1711–12) Aphra Behn's *Oroonoko* (1688) has often been considered an early novel The great prose works in England which preceded the novel, however, were John Bunyan's *Pilgrim's Progress* (1678) and Jonathan Swift's *Gulliver's Travels* (1726) Historians of the novel are divided as to whether or not *Robinson Crusoe* (1719) and *Moll Flanders* (1722) by Daniel Defoe should be classified as novels, but it is generally agreed that *Pamela, or, Virtue Rewarded* (1740), by Samuel Richardson, is a modern novel Here, in the form of letters, is a single narrative in which the thoughts and actions of people are faithfully presented *Pamela*, a passionate but conventional love story, enjoyed great popularity not only in England but also on the Continent Partly as a burlesque of Richardson, Henry Fielding wrote *Joseph Andrews* in 1742, and in 1749 the more famous *Tom Jones* In these novels the letter form is abandoned, and there is a wide variety in characters, incidents, and scenes. Fielding's novels were followed by the works of Tobias Smollett and Oliver Goldsmith The GOTHIC ROMANCE, of which Horace Walpole and Ann Radcliffe were the chief exponents, became popular at the end of the century In France the best-known novels of the 18th cent were Rousseau's *Nouvelle Héloïse*, Bernardin de Saint-Pierre's *Paul et Virginie*, and *Corinne* by Mme de Staël The most famous novels in Germany were Goethe's *Sorrows of Young Werther* and *Wilhelm Meister* Gradually the novel came to rival poetry and the essay in popularity, and by the 19th cent it became the most important literary form The subject matter of the novel was greatly extended—history in Walter Scott, contemporary manners in Jane Austen, political questions in William Godwin and Benjamin Disraeli, romance in Charlotte and Emily Brontë, and, at the end of the century, adventure in the novels of Robert Louis Stevenson and Rudyard Kipling Almost all these subjects can be found in the novels of Thackeray, Dickens, and George Eliot, who are among the most famous English novelists Later in the century the more realistic novels of George Meredith and Thomas Hardy appeared In France the great 19th-century novelists include Stendhal, Balzac, and Flaubert. The historical-adventure novels of Dumas and Hugo have always been popular In Russia the 19th cent. produced the great novels of Gogol, Turgenev, Dostoyevsky, and Leo Tolstoy The first American novel is generally considered to be William Hill Brown's *Power of Sympathy* (1789), James Fenimore Cooper's adventure tales preceded the greater *Scarlet Letter* (1850) by Nathaniel Hawthorne and *Moby-Dick* (1851) by Herman Melville In the last two decades of the century, Mark Twain, William Dean Howells, and Henry James were the dominant figures in fiction In the late 19th cent. and the 20th cent the tendency of the novel to take over both the subject matter and the techniques of other literary forms continued A large number of novels described social and economic conditions in detail and showed how these conditions determined the fate of the characters. The earliest novels of this school were written by Émile Zola in France at the end of the 19th cent , Arnold Bennett in England, and Frank Norris and Theodore Dreiser in America Some used the novel as a vehicle for the discussion of contemporary problems, such as H G Wells, Aldous Huxley, and, more recently in France, Jean Paul Sartre. Upton Sinclair and Jack London wrote novels that were frankly political tracts Most of Edith Wharton's were faithful pictures of upper-class life in New York city. The DIME NOVEL and the mystery story or DETECTIVE STORY, often with no pretense to literary merit, became popular forms of entertainment and relaxation. At the same time, however, some writers tried to achieve in the novel some of the subtlety and depth which were traditionally associated with poetry. The most important of these authors was James Joyce In *Ulysses* (1922) and in *Finnegans Wake* (1939) he not only introduced new narrative methods but modified the language itself The attempt to render the stream of consciousness of the characters can be seen in Virginia Woolf in England and Marcel Proust in France as well as in James Joyce Despite these techniques, which have influenced many writers, the novel still remains a unified narrative which presents characters and incidents from real life Among famous 20th-century European novelists who are known in translation are Selma Lagerlöf, Knut Hamsun, Kafka, Werfel, Jakob Wassermann, Thomas Mann, Rolland, Gide, and Malraux In England and America, aside from those already mentioned, the best known include Somerset Maugham, D H Lawrence, Scott Fitzgerald, Sinclair Lewis, Thomas Wolfe, Hemingway, Willa Cather, Dos Passos, and William Faulkner A notable tendency in their works is the attempt to present the actions and thoughts of the characters directly, without any interpretation or moralizing on the part of the author See also the articles on various national literatures See E A Baker, *The History of the English Novel* (10 vols , 1924–39); W A Drake, *Contemporary European Writers* (1928), Joseph Beach, *The Twentieth Century Novel* (1932), Edward Wagenknecht, *The Cavalcade of the English Novel* (1943)

Novelle (nōvĕ'lu), German term used to describe a short novel The *Novelle* restricts itself to a single event and shows the effect of this event on a character or group Well-known writers of this literary form include Goethe, Heinrich von Kleist, Gottfried Keller, and Thomas Mann. See Edwin Bennet, *A History of the German Novelle* (1934)

Novels see CORPUS JURIS CIVILIS.

November see MONTH

novena (nōvē'nu) [Lat.nam.=a group of nine], in the Roman Catholic Church, primarily a series of public or private prayers extending over nine consecutive days, especially nine days preceding a feast (inclusive) More rarely, a novena extends over any nine days, as nine consecutive Mondays or nine first Fridays of the month By extension, especially in America, the term is used for a regular series of prayers, e g , a "perpetual novena" occurring every Friday Novenas are made especially in honor of the saints to ask their intercession for certain benefits They are frequent in honor of the Virgin Mary (under her various aspects, e g , Our Lady of Sorrows), of St Joseph, of St Anne, of St Anthony, and of other saints whose cults are popular, and they are said for the repose of the souls in purgatory Widespread public novenas are those of Pentecost (beginning the Saturday after Ascension), of the Assumption (Aug 7–15), of the Immaculate Conception (Nov 30–Dec 8), and the "novena of grace," in honor of St Francis Xavier (March 3–11) Public novenas must be approved by the church authorities The practice of novenas is very ancient in the Western Church, and the idea was probably borrowed from Roman paganism

Novgorod (nôv'gŭrŏt), city (pop 32,764), capital of Novgorod oblast, W European RSFSR, on the navigable Volkhov river near the point where it leaves Lake Ilmen It is one of the oldest Russian cities and was a major commercial and cultural center of medieval Europe Here RURIK is said to have founded the Russian state in 862 Novgorod was dependent on Kiev until the 12th cent., when it became the capital of an independent republic—Sovereign Great Novgorod Supreme authority was vested in a popular assembly, the *veche*, which elected—and often exiled—the dukes These held supreme military and judicial powers, but no legislative or administrative functions, which were vested in elected magistrates The basis of the power of the republic was its economic prosperity Situated on the great trade route to the Volga valley, it became, with London, Bruges, and Bergen, one of the four chief trade centers of the HANSEATIC LEAGUE, which established a foreign office there (St Peter's Yard). Furs, hides, wax, honey, flax, and tar were the chief export articles Cloth and metals were imported from Europe and corn from central Russia Transit trade with the Orient reached a great volume The enterprising merchants of Novgorod extended the power of the republic over the entire north of Russia, levied tribute even beyond the Urals, and founded many colonies The citizens of Novgorod repulsed the attacks of the Teutonic Knights and Livonian Knights and of the Swedes and escaped the Mongol invasion. At its height, in the 14th cent., its population rose to c.400,000. Its colorful splendor during that period, its hundreds of churches, its great shops and arsenals, its huge fairs, have furnished rich themes for later Russian art and folklore. In 1478 Novgorod fell to Ivan III of Moscow. Its local liberties were totally abolished by Ivan IV, who laid the city waste in 1570 to punish it for suspected treachery The economic importance of Novgorod decreased, particularly after the rise of St. Petersburg. The magnificent architectural monuments of Novgorod earned it the name the "museum city" until the Second World War, when it was held by the Germans (1941–44) and suffered great damage. Chief among the losses was the 12th-century kremlin, on the left river bank, containing the Cathedral of St. Sophia (founded 1045) and a monument (1862) commemorating the 1,000th anniversary of the founding of Russia. On the left bank, the former commercial center, are—or were—numerous medieval churches and a museum of old Russian art.

Novibazar, Yugoslavia: see NOVI PAZAR.

Novikov, Nikolai Ivanovich (nyĭkulyĭ' ēvŭ'nuvĭch nô'vēkôf), 1744–1818, Russian editor and publisher. In 1769, with the *Drone*, he started the vogue of the satirical magazine modeled on Addison's *Spectator* The project was a success but in 1774 was halted by Catherine II, who had at first encouraged such journals. Novikov next turned to publishing books designed to spread enlightenment at a modest price and again was stopped by imperial order He was imprisoned and held until the accession of Paul I in 1796 but even then did not return to active literary life. Besides satire, Novikov wrote short stories, of which the best is "The Novgorod Girls' Wedding Eve"

Novi Ligure (nô'vē lē'gōorā), town (pop. 17,251), Piedmont, NW Italy, N of Genoa It is a railroad and manufacturing center Here in 1799 the Austrian and Russian forces under Suvarov defeated the French under Joubert, who was killed

Novi Pazar (nô'vē pä'zär), town (pop 12,196), W Serbia, Yugoslavia Under Turkish rule it was an important garrison town and a provincial capital The sanjak [district] of Novibazar (an older spelling) was occupied by Austrian forces from 1879 to 1908, but remained under Turkish civil administration until 1913, when it passed to Serbia as a result of the Balkan Wars The town retains much of its Turkish architecture

Novi Sad (nô'vē sät'), Ger *Neusatz* (noi'zäts), Hung *Újvidék* (ōō'yēvēdāk''), city (pop 77,127), N Serbia, Yugoslavia, on the Danube opposite Petrovaradin The capital of Vojvodina, it is a grain-trading center and has flour mills, canneries, and a silk industry Founded in the 17th cent , it rapidly developed as a commercial center, became an Orthodox episcopal see, and was made (1748) a royal free city of Hungary In the 18th and early 19th cent Novi Sad was the center of the Serbian literary revival It was ceded by Hungary to Yugoslavia in the Treaty of Trianon (1920), but was occupied by Hungarian troops in the Second World War

Novocherkassk (nô"vuchĭrkäsk'), city (pop 81,286), S European RSFSR, on the Aksai river near its confluence with the Don, c 20 mi NE of Rostov It manufactures locomotives, machinery, and explosives and has lumber mills, distilleries, and meat-packing plants Founded in 1805 as the headquarters of the Don Cossacks, it is the site of the former hetman's palace There are several technical and pedagogical institutes During the Russian civil war (1917–20), Novocherkassk was held by German and by counterrevolutionary troops In the Second World War it was occupied by the Germans in 1942–43

Novonikolayevsk, RSFSR: see NOVOSIBIRSK

Novorossiisk or **Novorossiisk** (both nô"vurŭsēsk'), city (pop 95,280), W Krasnodar Territory, S European RSFSR, a major Black Sea port. It exports grain and has petroleum refineries, cement plants, shipyards, and machinery plants. The city stands on the site of a Genoese colony (13th–14th cent) and of a former Turkish fortress, which was captured (1809) by the Russians. The present city was founded in 1838. In the Russian civil war Novorossiisk was held (1918–20) by Denikin, in the Second World War it was occupied (1942–43) by the Germans

Novosibirsk (nŭvusēbērsk'), city (1926 pop 120,128; 1939 pop 405,589; 1946 estimated pop 750,000), capital of Novosibirsk oblast, RSFSR, in S central Siberia, on the upper Ob river and on the Trans-Siberian RR. Founded in 1893 as Novonikolayevsk (it received its new name in 1925), it grew with extraordinary speed into the largest city, industrial center, and river and rail transportation point of Asiatic Russia Its growth is partly due to the proximity of the KUZNETSK BASIN. It produces heavy machinery, steel, and cotton textiles A cultural center, it has technical, agricultural, medical, and scientific institutes, an opera house, theaters, and a regional museum. The region forming Novosibirsk oblast (which includes the BARABA STEPPE) is predominantly agricultural.

Novy Chardzhui, Turkmen SSR: see CHARDZHOU.

Novy Margelan, Uzbek SSR see FERGANA.

Novy Urgench, Uzbek SSR: see URGENCH.

Nowata (nōwā'tŭ), city (pop. 3,904), co. seat of Nowata co., NE Okla., NE of Tulsa, in an oil-producing area; settled 1888, inc. 1895. The area also produces timber and farm products.

Nowawes (nōvä'vĕs) [Czech, =new village], former town (1933 pop. 29,229), Brandenburg, E Germany, on the Havel and near Berlin. Founded by Frederick II as a textile center for Protestant Bohemian weavers, it was joined (1938) with Neubabelsberg, center of the German moving-picture industry, and was incorporated (c 1940) with Potsdam.

Nowy Port, Poland: see DANZIG.

Nowy Sacz, Pol. *Nowy Sącz* (nô'vĭ sôch'), Ger. *Neu-Sandec* (noi'-zän'dĕts), city (pop. 23,049), S Poland, SE of Cracow. It was founded in 1294 and was included (1772–1919) in Austrian Poland. Chiefly a trade center, the city has also an electrical industry; there are deposits of lignite and petroleum in the vicinity.

noyades (nwäyädz'), method of execution originated in 1793 by CARRIER at Nantes in the Reign of Terror in order to exterminate the "brigands of the VENDÉE." The guillotine proved too slow, and so wholesale drownings or *noyades* were instituted. The victims were bound and put on boats, and the boats were sunk in the river Loire. Altogether, there were seven of these organized *noyades* with an estimated loss of life from 2,800 to 4,600.

Noyes, Alfred, 1880–, English poet, b. Staffordshire, educated at Oxford. From 1914 to 1923 he was professor of English literature at Princeton and has frequently visited the United States. His poetical works include *The Flower of Old Japan* (1903), *The Forest of Wild Thyme* (1905), *Drake* (1908), an epic, *Tales of the Mermaid Tavern* (1912), *The Torch Bearers* (1922–30), a trilogy on science, and *Shadows on the Down* (1941). Well-known individual poems are "Forty Singing Seamen," "The Barrel-Organ," and "The Highwayman." *Orchard's Bay* (1939) is a collection of poems and essays. He has also written novels, criticism (*Aspects of Modern Poetry*, 1924), poetic plays, and biography (*Voltaire*, 1938). *The Unknown God* (1934) is an account of his conversion to Roman Catholicism. Noyes is a literary conservative; he adheres to traditional forms and eschews poetic experiment. See study by W. C. Jerrold (1930).

Noyes, Arthur Amos, 1866–1936, American chemist and educator, b. Newburyport, Mass., grad. Massachusetts Institute of Technology (B.S., 1886). He served at his alma mater from 1887 to 1919 (as organizer and director of the chemical research laboratory from 1903 and as acting president, 1907–9). From 1915 he was associated with Throop Polytechnic Institute (later California Institute of Technology), where he organized and served as director of the chemical laboratory. He is known for his work on qualitative analysis and for his researches in the ionic theory. His works include *Qualitative Chemical Analysis of Inorganic Substances* (1895, 10th ed., 1942) and *Qualitative Analysis for the Rare Elements* (with W. C. Bray, 1927).

Noyes, John Humphrey, 1811–86, American reformer, founder of the ONEIDA COMMUNITY, b. Brattleboro, Vt., grad. Dartmouth, and studied theology at Yale. He lost his license to preach because of his "perfectionist" doctrine. This, taking its name from Mat. 5:48, was based on the belief that man's innate sinlessness could be regained through communion with Christ. At Putney, Vt., he formed (1839) a society of Bible communists, later called Perfectionists, their practice of complex marriage (begun 1846) so aroused the neighborhood that Noyes was forced to flee. In 1848 he established another community at Oneida, N.Y. (with a later branch at Wallingford, Conn.), where he developed his religious and social experiments in communal living. By 1879 internal dissension had arisen and outside hostility became so strong that Noyes went to Canada, where he spent the rest of his life. His writings include *The Berean* (1847) and many pamphlets. See George W. Noyes, comp., *Religious Experiences of John Humphrey Noyes* (1923) and *John Humphrey Noyes the Putney Community* (1931), R. A. Parker, *A Yankee Saint* (1935), Pierrepont B. Noyes, *My Father's House* (1937).

Noyes, William Albert, 1857–1941, American chemist, b. near Independence, Iowa, grad. Iowa College, now Grinnell (B.A., 1879), Ph.D. Johns Hopkins, 1882. He was professor at Rose Polytechnic Institute, Terre Haute, Ind. (1886–1903), served the Bureau of Standards (1903–7), and was head of the chemistry department and director of the chemical laboratory at the Univ. of Illinois (1907–26). His many works include *Elements of Qualitative Analysis* (1887), *College Textbook of Chemistry* (1919), and *Building for Peace* (1923). His son, **William Albert Noyes, Jr.**, 1898–, b. Terre Haute, Ind., grad. Grinnell College (B.A., 1919), is noted for his work in electrochemistry and photochemistry. With his father he wrote *Modern Alchemy* (1932).

Noyon (nwäyô'), city (pop. 5,900), Oise dept., N France, in Picardy. Here Charlemagne was crowned king of the Franks in 768. The town was devastated in both world wars, but the Cathedral of Notre Dame (12th–13th cent.) has survived. The house in which John Calvin was born is restored and now a museum. A treaty was signed here between France and Spain in 1516 (see ITALIAN WARS).

Nubia (nū'bēə), ancient country, NE Africa. At its height it extended from the First Cataract of the Nile (near Aswan, Egypt) to Khartoum, in the Anglo-Egyptian Sudan. It came early under the influence of the Pharaohs, whose power sometimes reached S to Argo (near Dongola). Egypt itself was ruled briefly by conquering Nubians, who established the XXV dynasty. Some time after their expulsion (7th cent. B.C.) from Egypt by the Assyrians, the Nubian capital was moved from Napata to Meroë. Napata was destroyed (c 23 B.C.) by the Romans. Meroë fell to Ethiopians c 350 and was abandoned. Under the Roman Emperor Diocletian a Negro tribe, the Nobatae, were settled in Nubia. They mixed with the indigenous stock and formed a powerful kingdom with its capital at Dongola. The kingdom was converted to Christianity in the 6th cent. Joined with the Christian kingdom of Ethiopia, it long resisted Moslem encroachment, but in 1366 it finally collapsed. Nubia then broke up into many petty states. MOHAMMED ALI of Egypt conquered it (1820–22), and in the late 19th cent. much of the area was held by supporters of the MAHDI. See Sir Ernest Budge, *History of Ethiopia, Nubia, and Abyssinia* (1928).

Nueva Galicia (nwä'vä gälē'syä), Spanish colonial administrative region, W Mexico, comprising roughly the present states of Jalisco and Nayarit with S Sinaloa. Conquered (1529–31) by Nuno de GUZMÁN and later governed by Francisco Vásquez de Coronado, the territory was the scene of the MIXTÓN WAR in 1541. In 1548 it was given an *audiencia* at Guadalajara. Nominally subject to the viceroy of New Spain, it was essentially a separate administration controlled from Spain, and it came to be known after the creation (1563) of a presidential office of its own as the presidency of Nueva Galicia. Its independent character, however, declined as in the colonial era authority was more and more centralized in Mexico city.

Nueva Rosita (rōsē'tä), city (pop. 25,551), Coahuila, N Mexico, in semiarid country, Nueva Rosita, connected by rail with Saltillo, Monterrey, and Piedras Negras, developed as a prominent industrial city of N Mexico in the 1930s. There is a new and large zinc smelter.

Nueva San Salvador: see SANTA TECLA.

Nuevitas (nwävē'tas), city (pop. 12,029), E Cuba, a port on the north coast. With two subsidiary ports, Pastelillo and Puerto Tarafa, Nuevitas exports a major part of the Cuban sugar crop. It is the terminus of two railroads and a highway. Its large bay was discovered by Columbus in 1492. Nuevitas was subject to frequent raids by buccaneers, notably one by Sir Henry MORGAN in 1668.

Nuevo Laredo (nwä'vō lärä'dhō), city (pop. 28,872), Tamaulipas, NE Mexico, across the Rio Grande from Laredo, Texas. Connected with the United States by automobile and railroad bridges, Nuevo Laredo is the northern terminus of the INTER-AMERICAN HIGHWAY and the chief point of entry for American tourists driving to Mexico. It is situated on a flat alluvial plain in an agricultural and stock-raising region and is distributing center for this area as well as a center of international trade. Founded (1755) by Tomás Sánches on land granted by José de ESCANDÓN (Nuevo Laredo was part of Laredo, Texas, until the treaty ending the Mexican War in 1848), the city figured in the revolution of 1910 and was burned in 1914.

Nuevo León (nwä'vō lāōn'), state (25,136 sq. mi., 1946 estimated pop. 678,723), NE Mexico. Except for a small strip of land obtained from Coahuila to the west, Nuevo León is separated from the Rio Grande by the panhandle of Tamaulipas. The southern and western parts of the state are traversed by the Sierra Madre Oriental, but some of the extreme western portions lie within the vast, semiarid basin lands of N Mexico, which are cultivable under irrigation. Mining in the mountainous parts provides much of Nuevo León's business in the refining of ores and has helped make MONTERREY, the capital, a booming industrial city. Much of the north is arid cactus country, but to the east, where the plains sweep down toward the lowlands of Tamaulipas and are crossed by several large rivers, the land is suitable to agriculture. Grains, sugar cane, cotton, and maguey are grown. The province of Nuevo León, including much of what is now E Coahuila, was granted (1579) to Luis de Carabajal, who engaged in slave catching. After independence, Nuevo León, much reduced in size, became (1824) a state. It was occupied by U.S. forces in the Mexican War.

Nuffield, William Richard Morris, 1st Viscount (nŭ'fĕld), 1877–, British automobile manufacturer and philanthropist. Beginning his career as the proprietor of a bicycle shop, he entered upon the manufacture of motorcycles and, in 1912, of automobiles. The Morris cars became quickly one of the biggest mass-production industries in Great Britain, and Morris became known as the "British Ford." During the Second World War, Morris, who was created Viscount Nuffield in 1938, engaged in the manufacture of aircraft. He has made philanthropic bequests of some $100,000,000, a large part of which went to Oxford Univ.

Nugssuak Peninsula (nōōg'sōōäk), on W Greenland, N of Disko Island. It has coal deposits and petrified flora.

nuisance, in law, an act which, without legal justification, interferes with safety, comfort, or the use of property. A private nuisance (e.g., erecting a wall which shuts off a neighbor's light) is one which affects one or a few persons, while a public nuisance (e.g., conducting a disorderly house) affects many persons. In some cases the victim of a private nuisance may abate it (e.g., tear down the wall). Damages are available to a party who suffers from a private nuisance or who is especially injured by a public nuisance, and courts will issue injunctions against continuing nuisances. Since public nuisances are injurious to the community, they may be prosecuted as crimes. Nuisance is a flexible legal category. Thus, while a slaughterhouse is lawful in a manufacturing district, it may be a nuisance in a residential quarter. Activities, such as operating blast furnaces, which were once deemed nuisances, are now recognized as indispensable and lawful.

Nukahiva, Marquesas Islands: see NUKU HIVA.

Nukha (nōō'khä, nōō'khä'), city (1932 estimated pop. 37,000), N Azerbaijan SSR, on the southern slope of the Greater Caucasus. It is a major center of silk production in a district that grows rice and fruit. Until its conquest (1806) by Russia, Nukha was the capital of a khanate under Iranian suzerainty.

Nukualofa (nōō'kwälō'fä), town (pop. 7,000), capital and chief port of TONGA, on the north coast of Tongatabu. The palace of Queen Salote and the House of Parliament are here.

Nuku Hiva (nōō'kōō hē'vä), **Nukuhiva**, or **Nukahiva** (nōō'käh-), volcanic island (46 sq. mi., pop. 737), S Pacific, largest of the MARQUESAS ISLANDS. It is N of Hiva Oa. It has a circumference of c 70 mi., there are eight harbors, the best of which is Taiohae Bay on the south coast. The chief exports are copra and fruits. The village of Taiohae was the former capital of the Marquesas Islands.

Nukus (nōōkōōs'), city (1935 estimated pop. 5,000), capital of Karakalpak ASSR, Uzbek SSR, on the Amu Darya river. A new city, it replaced Turtkul as capital in 1939. Cotton is processed.

nullification, in U.S. history, a doctrine expounded by the advocates of extreme STATES' RIGHTS. It held that states have the right to declare null and void and to set aside in practice any law of the Federal government which violates their voluntary compact embodied in the U.S. Constitution. The KENTUCKY AND VIRGINIA RESOLUTIONS declared (1799) nullification to be the rightful remedy by the states for all unauthorized acts done under the pretext of the Constitution. A closely reasoned reinforcement to the doctrine of nullification was set forth—in response to the tariff of 1828, which favored Northern interests at the expense of the South—by John C. CALHOUN in his South Carolina Exposition (1828). The strong pro-Union stand of President Andrew Jackson brought forth further remonstrances from Southern leaders. After the tariff act of 1832 Calhoun's determination to put the doctrine of nullification into practice caused the South Carolina legislature to pass (1832) the sweeping ordinance of nullification. This ordinance declared the tariff laws null and void, and a series of enactments in South Carolina put the state in a position to resist by force any attempt of the Federal government to carry the tariff act into operation. President Jackson in reply dramatically issued a strong proclamation against the nullifiers, and a FORCE BILL was introduced into the U.S. Senate to give the President authority to use armed forces if necessary to execute the laws. Jackson, however, felt that the South had a real grievance and, behind his show of force, encouraged friends of compromise, led by Henry Clay, to prepare an act which the South would accept. This compromise tariff was rushed through Congress, and after its passage (1833) the South Carolina state convention reassembled and formally rescinded the ordinance nullifying the tariff acts. To preserve their prerogative they adopted a new ordinance nullifying the force bill. But the issue was not pressed further until the election of Abraham Lincoln, when the doctrine of SECESSION was brought to the foreground. See C. S. Boucher, *The Nullification Controversy* (1916).

nullity of marriage. Unlawful marriages may be either void or voidable. A bigamous or incestuous marriage, for example, is void, and there is no necessity for bringing a suit to obtain a decree declaring it void. Such a decree is necessary to annul voidable marriages. Grounds, generally specified by statute, include fraud or duress preventing legal consent to the marriage and sexual impotence of one spouse which existed at the time the marriage was contracted and which was unknown to the other spouse. The results of nullity of marriage are different from those of DIVORCE. A decree of nullity declares, in effect, that the parties never were married, and at one time it absolved them from all obligations to one another. Today,

however, statutes in some states have mitigated the results of annulment, e g , by making children of the void marriage legitimate and by permitting alimony

Numantia (nōōmăn'shū, nū-), ancient settlement, Spain, near the Duero river and N of Soria Numantia heroically resisted repeated attempts of the Romans to capture it from the time of Cato's campaign (195 B C) until Scipio Aemilianus took it in 133 B C after an eight-month blockade, thus completing the conquest of Spain Modern archaeologists have uncovered the remains of Roman camps and evidences of settlement dating back to the Bronze Age

Numa Pompilius (nū'-, -pĭl'-), legendary king of Rome, successor to ROMULUS With the nymph EGERIA he reigned long and well To him was ascribed the origin of Roman ceremonial law and religious rites The sacred books ascribed to him and prescribing these rites were doubtless forgeries

number, in arithmetic, indicates either the count (or sum) of objects in a group or the position in an ordered list of objects The term refers also to the symbol which represents the count or the position of the objects The numbers used to count the objects in a group are called cardinal numbers, those used to indicate position in an ordered list, ordinal numbers The system of cardinal numbers, which consists of the natural numbers (1 e , positive whole numbers) only, has been extended from time to time to include new types of numbers as the concept of quantity became more complicated Negative numbers and ZERO were added, forming with the natural numbers a group referred to as the integers To the group of integers were added fractions, and the enlarged group was called the rational numbers Then irrational numbers such as $\sqrt{2}$ and $\sqrt[3]{4}$, which could not be written as any simple fraction, were added to form a group known as the real number system Another important addition to the concept of number is the imaginary or complex numbers (1 e , numbers involving $\sqrt{-1}$) which set a precedent for many further extensions of the number system by modern mathematicians The DECIMAL SYSTEM is merely an easy way of writing the values or approximate values of the numbers in the real number system in terms of our decimal notation Although some simple fractions such as ½ have no exact decimal equivalent (1 e , the decimal is a nonterminating decimal, such as .333), these fractions written as decimals will always, after some number of digits, repeat the sequence of digits (e g , $^3/_7$= .285714285714) so that the entire sequence, although unending, is known On the other hand, irrational numbers such as $\sqrt{2}$ are in decimal notation equivalent to an unending and nonrepeating sequence of digits ($\sqrt{2}$=1 4142) and must therefore be laboriously computed to the number of places desired Throughout the ages men have attributed certain characteristics to certain numbers, e g , the association of 13 with bad luck The use of numbers as having metaphysical properties has given rise to numerology, which bears the same relation to arithmetic, the science of numbers, that astrology bears to astronomy See also NUMERAL See Tobias Dantzig, *Number, the Language of Science* (2d ed , 1933)

number, in grammar, class (see GENDER) referring to distinctions of number Thus in English, nouns are said to be singular or plural depending on which form may be used after the numerals *one* or *two* (or before *is* or *are*) Some languages divide nouns into three numbers, for example, ancient Greek, Taos, and Arabic have singular, dual, and plural. Some languages have a number distinction termed *individual* vs *collective*. In Latin grammar the crossing of two kinds of gender in nouns, namely, gender proper and number, produces sixfold inflection of cases of the adjective

Numbers, book of the Old Testament, fourth of the five books of the Law (the Pentateuch or Torah) ascribed by tradition to Moses It continues the narrative of Exodus in the journey of the Jews from Egypt to the Promised Land—Leviticus is parenthetical in the account It begins at Sinai and ends in Moab on the eve of the entry into Palestine The geographical detail of the journey (10–21) is bare, and only the main lines can be discerned The book contains incidental legislation Its events include two censuses (1, 26), whence the title, the sending of spies to reconnoiter the Promised Land (10, 13), the emergence of Joshua and Caleb as leaders (14), the rebellion of Korah, Dathan, and Abiram (16), the curse of Balaam turned into a blessing (22–24), and the apostasy at Shittim punished by Phinehas (25) For critical views of the composition of Numbers and books on it, see OLD TESTAMENT

numbers, theory of, branch of mathematics concerned with higher arithmetic in which the properties of integers only are studied. A prime number is one which has no factors (see MULTIPLICATION) other than itself and 1 The first few prime numbers are 2, 3, 5, 7, 11, 13, 17, and 19 Of the many observations made regarding primes, some are trivial, e g , the fact that 2 is the only even prime, some are more involved, e.g., Euclid's proof that there is an infinite number of primes, and some are conjectures which mathematicians have not yet been able to prove or disprove, e g , that the number of pairs of consecutive primes (i e., pairs such as 3 and 5, 5 and 7, 11 and 13) is infinite One of the most important theorems of the number theory is the statement that every composite integer can be expressed as the product of primes and only one combination of primes (disregarding their order). Divisibility, another topic in the theory of numbers, is closely connected with the concept of prime numbers Another important part of number theory, known as the theory of congruences, consists of a generalization of the idea of classification of numbers into odd and even Another branch deals with the possibility of expressing each number as the sum of a certain number of squares, or of cubes, or other figures Historically the origins of number theory are lost in those of numerology, but it is at least certain that the Greeks obtained some important theorems in the subject, and much modern work has been done See L E Dickson, *Modern Elementary Theory of Numbers* (1939).

Numea, New Caledonia see NOUMÉA

numeral, symbol denoting number The decimal system is believed to have originated in counting on the fingers, using the two hands as the most convenient abacus Arabic numerals are 1, 2, 3, 4 Roman numerals are I, II, III, IV .. Both the Arabic and the Roman symbols are believed to be related to this abacus, I or I being one finger, 2 or II being two fingers, and 3 or III being three fingers The word *digit* is from the Latin *digitus*, meaning "finger " Some of the symbols are less easily explained, but V seems to be the open hand, and X seems to be two open hands The Roman system has no symbol for zero, in the Arabic system, zero is much more recent than the other symbols The Maya, who were skilled in mathematics, had a symbol for zero The symbols called Arabic were learned from Arabs by Europeans, but they apparently originated in India Languages show traces of reckoning by scores, the toes as well as the fingers having sometimes been included in the abacus The numeral symbols are ideograms Their meaning is clear, whatever the reader's language

Numidia (nūmĭ'dēə), ancient country, NW Africa, very roughly the modern ALGERIA It was part of the Carthaginian empire until Masinissa, ruler of E Numidia, took sides with Rome (c 206 B C) in the PUNIC WARS The peace of 201 B C began Numidia's most flourishing period, culturally and politically Masinissa's successor was Micipsa (148–118 B C), one of whose heirs, JUGURTHA, brought on a fatal war with Rome In the civil war, King Juba I sided with Pompey, and Numidia lost all independence Juba II was favored by the Romans, as a subject prince, the country flourished now for centuries It was invaded by the Vandals in the 5th cent and the Arabs in the 8th The main urban centers of ancient Numidia were Cirta (Constantine) and Hippo Regius (Bône)

numismatics (nū"mĭzmă'tĭks, nū"mĭs-), the study of coins and medals as works of art and as sources of information The COIN and the MEDAL preserve old forms of writing, portraits of eminent persons, and religious and national symbols and assist in the study of early customs, in ascertaining dates, and in clarifying trade relations Numismatists value coins and medals according to their rarity and condition, many extend their studies to include substitutes, e g , tokens and counters See F W Burgess, *Chats on Old Coins* (1913), standard catalogues of U S and European coins ed by Wayte Raymond.

Nun, father of Joshua Joshua 1 1 Non 1 Chron. 7 27

nun see MONASTICISM

Nun'Álvares Pereira: see PEREIRA, NUN'ÁLVARES.

Nunc dimittis (nŭngk dĭmĭ'tĭs) [Latin,=now thou dismissest], prayer of Simeon Luke 2 29–32 It begins, "Lord, now lettest thou thy servant to depart in peace, according to thy word " It is an evening hymn, sung in the Roman complin and the evening prayer of Anglican churches

nuncio, apostolic (nŭn'shēō), resident LEGATE of the Holy See at the capital of a temporal government There are nuncios in many countries In some the nuncio is by courtesy made the "dean" of the diplomatic corps For its ministers of the second class the Holy See uses the title apostolic internuncio.

Nunda (nŭn'dŭ), village (pop 1,077), W N Y , NW of Hornell, inc 1839. It has varied manufactures.

Nuneaton (nŭnē'tun), municipal borough (1931 pop. 46,291, 1947 estimated pop 53,240), Warwickshire, England, NNE of Coventry. There are remains of the 12th-century nunnery which gave Nuneaton its name. George Eliot was born here and used the town in several of her novels There are coal mines in the vicinity, and the borough manufactures cotton, silk, rayon, and woolen textiles, iron goods, and hats.

Nunes, Pedro (pā'drō nōō'nĭsh), Latin *Petrus Nonius* (pē'trus nō'nēus), 1492–1577, Portuguese mathematician, geographer, and writer on navigation and geometry. He was the first to demonstrate an instrument for measuring angles and was the reputed inventor of the rhumb line. He became royal cosmographer in 1529. From 1544 to 1562 he was professor of mathematics at Coimbra. Two of his works are *De Crepusculis* (1542) and *De arte atque ratione navigandi* (1546).

Núñez, Rafael (rāfāĕl' nōō'nyās), 1825–94, president of Colombia (1880–82, 1884–94) Elected as a liberal, Núñez accomplished the settlement of boundary disputes with Costa Rica and Venezuela during his first term He was reelected, put down a rebellion of the liberals (1885), and became steadily more conservative in outlook He advocated political centralism, and a new constitution (1886) created the republic of Colombia, a strong national authority in place of the former federation.

Núñez Cabeza de Vaca, Alvar: see CABEZA DE VACA, ÁLVAR NÚÑEZ

Núñez de Arce, Gaspar (gāspär' nōō'nyāth dā är'thā), 1834–1903, Spanish poet, b Valladolid. He was a popular patriotic poet, and his *Gritos del combate* [battle cries] (1875) is considered his best volume of poems He wrote plays too, of which the most famous is the historical drama *El haz de leña* [the bundle of fagots] (1872)

Núñez Vela, Blasco (blä'skō nōō'nyās vā'lä), d 1546, first viceroy of Peru (1544–46) Sent by Charles V to replace VACA DE CASTRO and to enforce the New Laws of Bartolomé de LAS CASAS, he quarreled with the newly appointed judges and aroused tremendous opposition by his hasty and injudicious actions The murder of an outstanding citizen, which was either ordered or actually committed by him, caused the *audiencia* of Lima to arrest him and put him aboard a ship for Spain He persuaded his guard to land at Tumbes, and then reasserted his authority Defeated by Gonzalo PIZARRO, he was slain by order of the brother of the man he had murdered

Nunivak (nōō'nĭvăk), island, 56 mi. long , off W Alaska, in the Bering Sea Treeless and fogbound, it has a small population Reindeer have been recently introduced, as has the musk ox. The island was discovered in 1821

Nünkiang (nōōn'kyäng', nün'-), Mandarin *Nunchiang*, province (25,885 sq mi , pop 3,308,906), NE China, bordered on the south by the Sungari river The capital is Tsitsihar Nünkiang, a part of Manchuria, was created in 1945 out of the southern section of the former province of Heilungkiang The Nonni river, a major tributary of the Sungari, crosses Nünkiang The soil in the valleys of these rivers is among the most fertile in Manchuria Soybeans and cereals are produced in exportable surplus There is a little grazing. The province is served by the Chinese Eastern RR and by a rail line connecting with the ports of the Manchurian coast

Nura see ULREICH, NURA (WOODSON)

Nureddin (nōō'rĕdēn'), 1118–74, ruler of Syria He was the son of the conqueror Zengi or Zangi, and he succeeded to power in 1145 He defeated the Seljuk Turks in Asia Minor and fought on somewhat better than equal terms with Baldwin III of Jerusalem His lieutenant Shirkuh barely forestalled the forces of Baldwin's successor, Amalric I, in occupying Egypt Nureddin built hospitals and caravansaries and was notable for his rule of temperance and justice Aroused by the independent actions of SALADIN, Shirkuh's successor, he was about to invade Egypt at the time of his death

Nuremberg (nyōō'rumbûrg), Ger *Nürnberg* (nurn'bĕrk"), city (1939 pop 423, 383, 1946 pop. 312,-338), Middle Franconia, N Bavaria, on the Pegnitz. It has a rich historical and cultural past and is an important industrial center and communications point Its industries produce heavy machinery, precision instruments, chemicals, and textiles There are large breweries. Homemade toys and gingerbread have long been traditional export articles Nuremberg has a state college for economics and sociology, an academy of fine arts, and a polytechnic institute Before 1945, about half the German production of airplane, submarine, and tank engines came from Nuremberg, as a result, the city was heavily bombed in the Second World War and was largely destroyed First mentioned in 1050, Nuremberg became a free imperial city in 1219 and thus was independent of the burgraviate of Nuremberg, which comprised a large part of Franconia and which came (1192) under the HOHENZOLLERN dynasty Nuremberg soon became, with Augsburg, one of the two great trade centers on the route from Italy to N Europe In the 15th and 16th cent it experienced a cultural flowering which made it the center of the German Renaissance Among the artists who were born or lived here, Albrecht Dürer was the greatest, others, such as Adam KRAFT, Veit STOSS, Peter VISCHER, and Michael WOLGEMUT, adorned the city with their works. Here the Italian Renaissance and the German Gothic tradition met and fused Nuremberg was also an early center for printing, science, and mechanical invention. Here KOBERGER set up his printing press and REGIOMONTANUS his observatory, and here the first pocket watches, known as Nuremberg eggs, were made c.1500. The cultural consciousness of the prosperous artisan class found expression in the contests of the meistersingers, among whom Hans SACHS was the most prominent The meistersingers were typical of the bourgeois

character of the cultural life in general. In 1532 the religious Peace of Nuremberg, by which the Lutherans gained important concessions, was concluded here. Nuremberg early accepted the Reformation In the Thirty Years War, GUSTAVUS II of Sweden was besieged here (1632) by Wallenstein. The city declined after the war and recovered its importance only in the 19th cent as an industrial center The first German railroad, from Nuremberg to Fürth, was opened in 1835 After Hitler came to power in 1933 Nuremberg was made a national shrine by the National Socialists, who held their annual party congresses here. The home of Julius STREICHER, the city became the capital of anti-Semitic propaganda At the party congress of 1935 the so-called Nuremberg Laws were promulgated, they deprived the German Jews of civic rights, forbade intermarriage between Jews and non-Jews, and deprived persons of partly Jewish descent of certain rights Fittingly enough, Nuremberg was chosen after the Second World War as the seat of the international tribunal for WAR CRIMES There is little left of the Nuremberg such as tourists knew it before the war Among the buildings that were damaged but not completely destroyed are the churches of St Sebald (13th-14th cent), St Lorenz (13th-14th cent), and St Jacob (14th cent), the castle of the Hohenzollern burgraves, the city hall (14th cent), and the house of Dürer The Germanic museum founded in 1852 was damaged, but its contents were saved The former aspect of the city, virtually unchanged since the Renaissance, has been destroyed

Nurmi, Paavo (pä'vō nōōr'mē), 1897–, Finnish track star Between 1920 and 1932 he set 20 world running records and six Olympic track titles—the 10,000-meter run and the cross-country event at Antwerp in 1920, the 1,500-meter and 5,000-meter and cross-country runs at Paris in 1924, and the 10,000-meter run at Amsterdam in 1928 He was disqualified as a professional in 1932 just before the Olympic games at Los Angeles and later became wealthy as a contractor and sports-goods merchant In 1940 Nurmi, with Taisto Maki, gave track exhibitions in New York city to help raise money for the Finnish Relief Fund

Nürnberg, Bavaria see NUREMBERG

nursery, in horticulture, an establishment for the production of plants or any area where plants are grown and propagated In North America the use of the term *nursery* is sometimes restricted to an establishment where strong, woody plants are grown In a tree nursery, where trees are raised for afforestation work, young trees are pruned for proper development before they are placed in permanent positions Soil for nursery purposes should be heavy and loamy, with a good percentage of clay beneath, the land should be as nearly level as possible Grafting and budding are among the various methods employed in plant propagation, especially for fruit trees The bulb nurseries of Holland were long the most famous in the world for flowers and ornamental plants Some of the leading nursery states in the United States are New York, California, and Texas

nursery rhymes, used in the nursery and in games of childhood The best-known examples are in English, the majority dating from the 17th cent A popular type of rhyme is used in "counting-out" games, e g , "Eeme, meenie, minie, mo " Most famous of nursery rhymes is the MOTHER GOOSE collection

nursery school, educational institution for children from two to four years of age It is distinguishable from a day nursery by the motives of its patrons and by its primary educational objective—to promote the social adjustment of the children The first nursery schools were opened in London in 1907 Pioneers in nursery school work in the United States were the State Univ of Iowa, Teachers College, Columbia Univ , and Smith and Vassar In 1930 the White House Conference on Child Health and Protection recognized the contributions of the nursery school to child development Few public school systems include nursery education, the facilities offered being chiefly commercial, philanthropic, or cooperative The Federal government sponsored nursery schools as a relief measure in the 1930s and to release women for employment during the Second World War See J C Foster and M L Mattson, *Nursery School Education* (1939)

nursing. The occupation of caring for the sick and helpless has existed from the beginning of recorded history When evil spirits were believed to cause illness, the sick were generally cared for in temples of worship, both men and women undertaking the nursing duties Nursing by women outside of their own homes was begun in the early Christian period, and the first groups of women who concerned themselves primarily with nursing were the deaconesses There was almost no education or training for this work until the 17th cent , when St Vincent de Paul encouraged such studies. A real hospital training school for nurses was not established until 1836 at Kaiserswerth, Germany. Here Florence NIGHTINGALE had her training in nursing She later established at St Thomas's Hospital in London the first school designed primarily to train nurses rather than to provide nursing service for the hospital Schools patterned after the Nightingale school were founded in 1873 in New York, New Haven, and Boston By the beginning of the 20th cent not only had many schools of nursing been established, but legislation regulating the practice of nursing had also been initiated in most states, public health and industrial nursing were developing rapidly, and university and college courses for graduate nurses had been begun As a result of studies made after the First World War, endowed university schools of nursing were opened and many inadequate schools were closed The great stress placed on the Second World War and the continuing demand for nursing services after the war frequently focused public attention on the education, salaries, and working conditions of nurses Since many nursing schools are not associated with universities and because their students are still learning nursing primarily by doing the work of the hospital, all nursing education is not yet on a truly professional level As the preventive aspects of medicine and public health have assumed greater importance, the need for nurses to study more than just the skilled techniques of caring for the sick has become increasingly apparent An understanding of methods of teaching and of basic principles of social work and a knowledge of the health needs of individuals of all ages are now generally considered important parts of nursing education See L L Dock and I M Stewart, *A Short History of Nursing* (4th ed , 1938), A H Grant, *Nursing a Community Health Service* (1942), Agnes Gelinas, *Nursing and Nursing Education* (1946), M E Chayer, *Nursing in Modern Society* (1947), L. K Wolf, *Nursing* (1947)

Nut see EGYPTIAN RELIGION

nut, in botany, a dry one-seeded fruit which does not open at maturity Commonly the word is used for any seed or fruit having an edible kernel surrounded by a hard or brittle covering Among the true nuts are the acorn, chestnut, filbert, and hazelnut, those which are not botanically true nuts are the ALMOND, BRAZIL NUT, CASHEW, COCONUT, LITCHI, PEANUT, PECAN, PISTACHIO, and WALNUT Nuts provide a valuable contribution to the diet, they are eaten fresh or roasted (salted and unsalted), preserved in syrup, ground to form nut butters, and combined with other foods in desserts, salads, and other mixed dishes Most nuts have a high content of oil, that of the Brazil, cashew, HICKORY, pecan, and walnut is especially high, averaging over 50 percent in most of them Those highest in protein content are the peanut and pine nut (having generally about 30 percent protein) and the almond, pistachio, and beechnut (averaging about 20 percent) Among the few with a high carbohydrate content are the chestnut and the water chestnut Nuts are relatively good sources of minerals and of vitamins They have for centuries formed an important dietary item in many parts of the world for man as well as for animals Although they were long harvested from wild trees, many nuts are now under cultivation In the United States the pecan has been of increasing economic importance since the late 19th cent and is widely cultivated in the warmer parts of the country Also cultivated in the United States are the almond, pistachio, and walnut See R T Morris, *Nut Growing* (1921), J R Smith, *Tree Crops* (1929), C D Bush, *Nut Grower's Handbook* (1941), F N Howes, *Nuts Their Production and Everyday Uses* (1948)

nutgall. see GALL

nuthatch (nŭt'hăch), name applied to a number of Old and New World species of small birds related to the titmouse and the creeper The name refers to its habit of wedging nuts into crevices in trees and pecking them open in order to eat the kernel With head up or down, nuthatches crawl over trees, hunting the insects and spiders which form about half of their diet Unlike the creepers, the nuthatches have straight bills and soft, short tail feathers. No nuthatches are real singers

Nutley, residential town (pop 21,954), NE N J , N of Newark, inc as a township 1874, as a town 1902 H C Bunner lived here The Kingsland Mansion dates partly from 1702

nutmeg, evergreen tree (*Myristica fragrans*) native to the Moluccas but now cultivated elsewhere in the tropics for the seed, a valuable spice also called nutmeg The nutmeg tree thrives best near the sea and in a rich, moist soil It grows to about 60 ft in height and has dark leaves and small, inconspicuous flowers, the male and female usually borne on separate trees. When ripe the fruit splits in half, showing the crimson aril, a fibrous, branched seed covering sold as mace, an aromatic spice The nutmeg proper is further protected by a thin, hard inner shell To prepare the spice for market the ripened husk is removed, the mace stripped off and dried, and the seed dried and stripped of the shell. The seed is sold whole or ground Inferior seeds and maces yield oil and nutmeg butter, both used in toilet preparations and in medicine. Nutmeg was one of the spices carefully held in monopoly by the Dutch in the Moluccas Other trees of the genus are also called nutmeg Connecticut is called the Nutmeg State in reference to the wooden nutmegs reputedly made there

nutria (nōō'trēu, nū'–) or **coypu** (koi'pōō), large aquatic rodent of South America, introduced in the S United States It has large, reddish incisor teeth, partially webbed hind feet, and a long, naked tail Its fur, resembling beaver but not as thick or durable, is important economically.

nutrition (nūtrĭ'shun), term generally used to include the various processes concerned with the securing, digestion, and utilization of food substances Plants which contain the green pigment chlorophyll can synthesize their own food from inorganic substances in the process called photosynthesis, a few one-celled forms with some characteristics of animal cells also contain chlorophyll and carry on photosynthesis This kind of nutrition is sometimes known as holophytic nutrition Characteristic of some plants and animals is parasitic nutrition (see PARASITE). Plants that absorb dissolved organic matter are called saprophytes, and animals that obtain food thus are said to employ saprozoic nutrition The more usual type of nutrition among animals involves the ingestion of plant and animal food, this is sometimes known as holozoic nutrition Human nutrition is a subject of vital importance to the individual as well as to communities and nations In recent years scientific research in nutrition has made great strides Although many problems remain to be solved, much has been learned about the role of the nutrients in providing for the growth, repair, and energy requirements of the body The importance of the daily DIET in helping to maintain the health of the body is recognized, methods of cookery have been adapted to retaining the nutritive value of foods Discovery of the significance of VITAMINS in preventing deficiency diseases and in contributing to optimum health are especially significant Good nutrition demands not only that the food intake be well chosen to include the essential vitamins, proteins, fats, carbohydrates, and minerals, but also that the calorie value of the food be considered in relation to the energy output A food intake of too high calorie value results in overweight and sometimes in obesity, which, like underweight, is an indication of faulty nutrition. The ratio of height to weight, although often commonly used as a criterion, is a far from adequate indication of whether the body of a child or an adult is well nourished Of great significance in determining the nutritional status are the condition of the skin, eyes, hair, subcutaneous fat, muscles, skeletal structures (including the bones, joints, and teeth), and the posture Development and maintenance of the characteristics indicative of good nutrition depend not only upon a well-balanced diet but also on the normal functioning of the digestive, circulatory, excretory, and other body systems The importance of good nutrition in contributing to good mental health has been increasingly emphasized in recent years There is a close relationship between good nutrition and ability to work and to enjoy life See H C Sherman and C S Lanford, *Essentials of Nutrition* (2d ed , 1943), H C Sherman, *The Science of Nutrition* (1943), *The Chemistry of Foods and Nutrition* (7th ed , 1946), and *The Nutritional Improvement of Life* (1950), E V. McCollum and J E Becker, *Food, Nutrition, and Health* (6th ed , 1947), M S Chaney and Margaret Ahlborn, *Nutrition* (4th ed , 1949)

Nuttall, George Henry Falkiner (nŭ'tôl), 1862–1937, American-British bacteriologist, b San Francisco, M D Univ of California, 1884, Ph D Univ of Göttingen, 1890 He was a member (1891–94) of the Johns Hopkins medical faculty In 1899 he became associated with Cambridge Univ , where he served as professor of biology (1906–31) He made important contributions to the knowledge of causative agents of infectious diseases and of hygienic measures related to such diseases He organized the Molteno Institute for Research in Parasitology at Cambridge and directed it from 1921 Nuttall established (1901) the *Journal of Hygiene* and was its editor until 1937, he also edited *Parasitology*, which he founded in 1908 His writings include *Blood Immunity and Blood Relations* (1904), he was editor of *The Bacteriology of Diphtheria* (1908)

Nuttall, Thomas, 1786–1859, American naturalist, b England He was a pioneer in American paleontology and was curator (1822–32) of the Harvard botanical garden He accompanied several scientific expeditions to the Mississippi and Missouri valleys and the Pacific coast and published his findings in *The Genera of North American Plants* (1818) and *A Manual of the Ornithology of the United States and of Canada* (1832) In 1842 he returned to England He wrote also *A Journal of Travels into the Arkansa Territory, during the year 1819* (1821), which was issued with the title slightly changed in 1905 as Vol XIII of *Early Western Travels, 1748–1846*.

Nutter Fort, industrial town (pop 1,803), N W.Va., near Clarksburg, settled 1770, inc 1924. It produces pottery and glassware

Nutting, Mary Adelaide, 1858–1948, American teacher of nursing, b Canada, grad Johns Hopkins School of Nursing, 1891. She was principal of the nursing school at Johns Hopkins from 1894

to 1907. From 1907 to 1925 she was successively professor of institutional administration and professor of nursing and health at Teachers College, Columbia University. In 1920 the Adelaide Nutting Historical Collection was established at Teachers College. In 1925 she became professor emeritus. She wrote *History of Nursing* (with L. L. Dock, 4 vols., 1907–12) and *Sound Economic Basis for Schools of Nursing* (1926).

Nuuanu Pali (nōō-ä'nōō pä'lē), cliff and mountain pass, c.1,200 ft. high, Koolau Range, on Oahu, T.H., 7 mi. N of Honolulu. The pass shortens the route from Honolulu across the island.

nux vomica (nŭks' vŏ'mĭkə), poisonous seeds of the tree *Strychnos nux-vomica*, found in India and N Australia. The drug nux vomica obtained from the dried seeds contains STRYCHNINE, and brucine (like strychnine a colorless, crystalline alkaloid) and, in addition, the glucoside loganin and sugar, acid, and oil. Generally the drug is used as a tincture, it has a powerful peristaltic action on the intestines.

Nuzi (nōō'zē), site near Kirkuk, N Iraq. Hundreds of clay tablets unearthed here bear inscriptions said to have been made by the HORITES (or Horites) of the Bible.

Nyack (nī'ăk), residential village (pop. 5,206), SE N.Y., on the west bank of the Hudson opposite Tarrytown; settled 1684 by Dutch, inc. 1833. The Hudson widens here to form Tappan Zee, crossed to Tarrytown by a ferry until 1941. The Hook Mt. section of Palisades Interstate Park is just north of here. Several artists and writers live in the village, and it is the seat of the Missionary Training Institute. Sewing machines, organs, and leather goods are made.

nyanza (nĭăn'zə, nē-) [Bantu, =lake], term applied to lakes of Africa. They are entered under the proper names, e.g., ALBERT NYANZA.

Nyasa, Lake (nĭă'sə, nē-), 360 mi. long and from 10 to 50 mi. wide, E Africa, between Nyasaland on the west and Tanganyika on the east. It is the southernmost of the great lakes of Africa. It was discovered (c.1616) by Portuguese explorers and rediscovered (1859) by David Livingstone. The Shiré river rises in Lake Nyasa.

Nyasaland (nĭă'sələnd", nē-), British protectorate (37,374 sq. mi.; pop. 2,049,695), E Africa. Zomba is the capital. It is bordered on the east by Lake Nyasa, on the north by Tanganyika, on the west by Northern Rhodesia, and on the south by Mozambique. Lying in the Great Rift Valley, it has precipitous uplands rising to 10,000 ft. The north is arid but abounds in game. The more fertile southern region supports a dense population. Tea, cotton, and tobacco are the chief crops and exports. Communications are by boat on Lake Nyasa, by road and by the railroad through Blantyre to Beira in Mozambique. Nyasaland was visited by Portuguese explorers in the 17th and 18th cent. and was rediscovered in 1859 by David Livingstone. He was followed by other Scots, who founded a mission named in his honor. British troops subdued (1887–97) Arab slavers here and defeated (1889) a Portuguese attempt to annex the southern uplands to Mozambique. Nyasaland was made a protectorate in 1891. It is ruled by an appointed governor and an executive and a legislative council.

Nyborg (nü'bôr), town (pop. 9,559), Fyn island, Denmark, on the Great Belt. It has shipyards and textile and other manufactures. A ferry connects it with Korsor on Zealand. Nyborg was an important medieval fort and trade center.

Nye, Edgar Wilson (nī), known as **Bill Nye**, 1850–96, American humorist, b. Shirley Mills, Maine. He lived in Wisconsin from 1852 to 1876, when he went to Wyoming. Here he was admitted to the bar and became a judge. He founded and edited (1881–84) the Laramie *Boomerang* and contributed the humorous comments and yarns collected in *Bill Nye and Boomerang* (1881) and *Forty Years and Other Lies* (1882). Later he was highly popular in the East, where he wrote for the New York *World* and gave lyceum recitals, some of them with James Whitcomb Riley. Among his later books are *Bill Nye's History of the United States* (1894) and a play, *The Cadi* (1891). See *Bill Nye His Own Life Story* (comp. by his son, F. W. Nye, 1926).

Nye, Gerald Prentice, 1892–, U.S. Senator (1925–44), b. Hortonville, Wis. After he settled (1919) in North Dakota he devoted himself to country journalism. He was appointed to fill an unexpired term in the U.S. Senate, where he remained until he was defeated for reelection in 1944. He headed many investigating committees, was an outspoken isolationist, and fathered the NEUTRALITY ACT.

Nyregyhaza, Hung. *Nyíregyháza* (nyē'rĕjhä"zô), city (pop. 59,156), NE Hungary. It is the industrial and commercial center of a region producing fruit and wine. The museum contains gold relics of Avar times.

Nyitra, Czechoslovakia: see NITRA.

Nykobing, Dan. *Nykøbing* (nü'kû"bĭng), name of several places in Denmark, formerly spelled Nykjobing. 1 City (pop. 16,097), Falster island. It is a Baltic port on the Guldborg Sound, which is here bridged to Laaland island. It has sugar refineries, shipyards, a fishing fleet, and various manufactures, and it is a Lutheran episcopal see. The city grew around a 12th-century castle, of which ruins remain. There is a Gothic church, originally (until 1532) a Franciscan monastery. 2 Town (pop. 8,825), N Jutland, on Mors island and on the Lim Fjord. There are textile and tobacco manufactures and oyster fisheries. 3 Town (pop. 4,409), N Zealand. It is a seaport and has meat and dairy plants and breweries.

Nykoping, Swed. *Nyköping* (nü'chû"pĭng), Baltic seaport (pop. 16,255), co. seat of Sodermanland co., SE Sweden. It has furniture, textile, and lumber manufactures. Nykoping played an important part in early Swedish history. There are ruins of its 13th-century castle, the 17th-century town hall has been preserved, although the city burned down in 1665 and was set afire by the Russians in 1719.

nylon, synthetic material derivable from coal, air, and water and capable of being formed into a filament. It is characterized by strength, elasticity, resistance to abrasion and chemicals, and low moisture absorbency and can be permanently set by heat. After 10 years of research E. I. du Pont de Nemours & Company introduced nylon in 1938 as monofilaments for bristles and in 1940 as multifilament yarn for hosiery. Nylon is now manufactured also in the form of sheets, coatings, and molded plastics and used in a variety of products, including fabrics, surgical sutures, thread, insulating wire coverings, mosquito netting and screening, gears and bearings, rope, and tire cords. In the Second World War the importance of nylon was evidenced by its use in parachutes, in glider tow ropes, and other essential equipment. Nylon is the generic name for long chain polymeric amides with recurring amide groups and is made by controlled polymerization of dibasic acids, diamines, and amino acids. The thousands of possible nylon polymers give a vast field for developing new types. See J. V. Sherman and S. L. Sherman, *The New Fibers* (1946).

Nymegen, Netherlands: see NIJMEGEN.

nymph (nĭmf), in Greek religion, female divinity associated with some natural object. The nymphs were the divinities most like human beings, and there were many stories of men married to nymphs, e.g., PELEUS and THETIS. Some famous nymphs were ARETHUSA, CALYPSO, DAPHNE, and ECHO. The ancients grouped the nymphs according to the natural objects they were connected with: Oceanids, in the ocean, daughters of OCEANUS; Nereids, in the Mediterranean, daughters of NEREUS; Naiads, nymphs of lakes, brooks, and springs; Oreads, mountain nymphs; and Dryads and Hamadryads, tree nymphs.

Nymphas (nĭm'fəs) [Gr., =spouse], Christian of Colosse. Col 4:15.

Nymphenburg (nüm'fənbôrk), suburb of Munich, Bavaria. It is celebrated for its magnificent château and park (begun 1664), which belonged to the dukes (later kings) of BAVARIA. A famous china manufacture was founded here in 1761. By the Treaty of Nymphenburg (1741) Spain promised Charles Albert of Bavaria (see CHARLES VII, emperor) its support in his attempt to secure the imperial election.

Nymwegen, Netherlands: see NIJMEGEN.

Nyssa (nĭ'sə), name of several ancient cities devoted to the worship of Dionysus. The best known of them is a town of Cappadocia, Asia Minor, near the Halys (now the Kizil Irmak), residence of Gregory of Nyssa.

Nyssa (nĭ'sə), town (pop. 1,855), E Oregon, on the Snake near the mouth of the Owyhee and NW of Boise, Idaho, inc. 1903. The town is on the OWYHEE river project and also is a market for this, the project at VALE, and the BOISE PROJECT. It has a beet-sugar refinery.

Nystad, Finland: see UUSIKAUPUNKI.

Nystad, Treaty of: see NORTHERN WAR.

O

O, 15th letter of the ALPHABET. It is a usual symbol for a mid, back, rounded vowel, rather like the first part of oi. Such a vowel was represented by omicron (ŏm'ĭkrŏn) [Gr., =little *o*], its formal and positional correspondent in the Greek alphabet. English ō is a diphthong of ŏ and w. In chemistry O is the symbol of the element OXYGEN. In surnames O' is derived from the Irish patronymic system, e.g., O'Neill originally meant "grandson of Niall," probably referring to Niall Glundubh, high king of Ireland, 915–19 (see NAME).

Oahu (ōä'hōō), island (589 sq. mi., pop. 257,664), third largest of the HAWAIIAN ISLANDS and commercially the most important. Oahu is between Molokai and Kauai and is separated from them by Kaiwi and Kauai channels, respectively. HONOLULU, the territorial capital, is on Oahu. There are two mountain ranges, the WAIANAE RANGE and the KOOLAU RANGE. The island has no active volcanoes, but it has many extinct craters, among them Diamond Head, Koko Head, and Punchbowl. Manoa Valley is the site of the Univ. of Hawaii, Punahou Academy, and the Mid-Pacific Institute. Oahu is a vital defense area with SCHOFIELD BARRACKS, the PEARL HARBOR naval base, and HICKAM FIELD. Besides WAIKIKI there are many other fine bathing beaches, some of which have coral gardens. Large pineapple and sugar plantations fill the rural area of the island; their products are the chief exports.

oak, any tree or shrub of the genus *Quercus*, of which there are about 300 species, including deciduous and evergreen kinds, native throughout the North Temperate Zone and into the tropics. They are cultivated for ornament and prized for their durable, hard, tough wood, which is especially valuable for construction purposes, particularly flooring, and for furniture and tool handles. The bark of some species is employed in medicine and tanning, that of the CORK OAK supplies the cork of commerce. The oaks fall into two groups, the black or red and the white. The black or red oaks (e.g., the scarlet, black or yellow, pin, Spanish, water, laurel, willow, and shingle oaks) have leaves or leaf lobes which are usually bristle-tipped and acorns which mature in two years. The white oaks (e.g., the white, bur, post, chestnut, basket, holly or holm, cork, and live oaks) have leaves or leaf lobes not bristle-tipped, mostly rounded, and acorns which mature in one year. The white oak is one of the most common of American oaks and the most important because of its wood. Indians have used acorns as food for centuries, in the Southwest they were a staple part of the diet. After special preparation the meats were made into a breadstuff. Acorns have also been used for food in Europe, the Mediterranean region, and Mexico. Acorn mast has long been used for fattening hogs. The round nutlike oak galls caused by the sting of certain insects are utilized commercially (see GALL). A symbol of strength, the oak has been greatly revered both for historical and for mythological associations. It was the favorite of Jove and Thor and especially sacred to the druids. The CHARTER OAK is one of the most famous of American oaks. Poison oak, Jerusalem oak, and other so-called oaks are not related.

Oak Bluffs, resort town (pop. 1,584), on NE Martha's Vineyard, SE Mass., settled 1642, set off from Edgartown 1880. It has a summer theater.

Oak Creek, coal-mining town (pop. 1,769, alt. c.7,400 ft.), NW Colo., near the Yampa river, inc. 1907.

Oakdale. **1** City (1940 pop. 2,592; 1946 special census pop. 3,457), central Calif., on a plateau above the Stanislaus river and SE of Stockton; inc. 1906. It is in an irrigated farming and dairying area of the San Joaquin Valley. **2** City (pop. 3,933), SW La., near the Calcasieu river SW of Alexandria, laid out 1886. It is in a lumbering and diversified farm area. **3** Borough (pop. 1,766), Allegheny co., SW Pa., near Pittsburgh, inc. 1872. Oil is obtained here.

Oakes (ōks), city (pop. 1,665), SE N.Dak., on the James river near the S Dak. line, platted 1886, inc. 1888. It is a shipping point for a dairy area.

Oakfield. **1** Town (pop. 1,059), NE Maine, W of Houlton, inc. 1897. **2** Village (pop. 1,876), W N.Y., NE of Buffalo, settled 1850, inc. 1858. It has a large gypsum plant.

Oak Grove, cotton town (pop. 1,654), parish seat of West Carroll parish, extreme NE La., near the Mississippi, inc. as a village 1908, as a town 1928.

Oakham (ō'kum), urban district (1931 pop. 3,191, 1943 estimated pop. 4,007), county town of Rutland, England. The Norman banquet hall of the old castle, now used for county offices, contains numerous horseshoes left in accordance with a custom requiring passing peers to leave a horseshoe or pay a fine. Oakham School, founded in 1584, is a public school for boys.

Oak Harbor, village (pop. 1,925), N Ohio, on the Portage river and SE of Toledo. It has varied manufactures.

Oak Hill. **1** Village (pop. 1,619), S Ohio, NE of Portsmouth. Firebrick is made here. **2** City (pop. 3,213), S W.Va., SE of Charleston, in a mining and stock-raising section, settled 1820.

Oak Island, S N.S., in Mahone Bay, a reputed hiding place of treasure buried by William KIDD. Many fruitless attempts have been made to locate the treasure. See Clara Dennis, *More about Nova Scotia* (1937).

Oakland. **1** City (1940 pop. 302,163; 1945 special census pop. 400,935), co. seat of Alameda co., W

Calif., on the east side of San Francisco Bay; founded 1850, inc. as a town 1852, as a city 1854. A port and an industrial center, the city has oil refineries, shipyards, railroad shops, and lumber mills. Its various products include processed fruits, automobiles, glass, beer, wine, chemicals, and building materials The San Francisco–Oakland Bay Bridge was opened in 1936, and several tunnels connect Oakland with other near-by cities Water is brought in by a 150-mile aqueduct from the Mokelumne river The city has fine parks, museums, an art gallery, and Chabot Observatory Mills College, the College of the Holy Names, and the California College of Arts and Crafts are here St. Mary's College (Catholic; for men, 1863) is near by **2** City (pop 1,131), E Ill , ESE of Decatur in a farm and livestock area, inc 1855 **3** Town (pop. 1,317), SW Iowa, on the West Nishnabotna river and E of Council Bluffs, inc 1882 **4** Town (pop. 2,730), SW Maine, just W of Waterville, inc. 1873 Lumber and woolen goods are made **5** Town (pop 1,587), co seat of Garrett co , NW Md , SW of Cumberland, in a mining and maple-sugar region, settled 1790. It is the trading center for the surrounding farms and summer resorts Backbone Mountain is near by **6** City (pop 1,380), E Nebr , near the Missouri NNW of Omaha, settled 1863, inc 1881 It is a trade and shipping center for a corn and livestock area

Oakland City, residential town (pop 3,068), SW Ind , NNE of Evansville Oakland City College is here

Oak Lawn, residential village (pop 3,483), NE Ill , near Chicago, inc 1909

Oakley, Annie, 1860–1926, American theatrical performer, b Darke co , Ohio Her real name was Phoebe Anne Oakley Mozee, and her husband's name was Frank E Butler *From childhood on she* was a "dead shot" with a rifle As a star (1885–1902) of Buffalo Bill's Wild West Show she performed remarkable feats of marksmanship and could perforate playing cards with bullets from a long distance, complimentary tickets came to be known as "Annie Oakleys" because their characteristic punchmarks in that period looked like bullet holes

Oakley, Violet, 1874–, American mural painter and designer of stained glass, b New York city, studied with Cecilia Beaux and Howard Pyle and in Paris Her work is notable for its illustrative quality, composition, and harmonious coloring Among her works are stained glass windows and mural decorations (Church of All Angels, New York), several series of murals, including *The Opening of the Book of Law* (state capitol, Harrisburg, Pa), *The Constitutional Convention* (courthouse, Cleveland), and *A Vision of the Apocalypse* (Vassar College)

Oakley, city (pop 1,138), NW Kansas, inc 1887 It is a rail center in a wheat and livestock area

Oaklyn, residential borough (pop 3,869), SW N J , near Camden, settled 1682 by Friends, laid out c 1890, inc 1905

Oakmont, residential borough (pop 6,260), SW Pa , on the Allegheny river and NE of Pittsburgh, inc 1889 It has a paper mill At a well-known golf links here national tournaments have been held

Oak Park. 1 Residential village (pop 66,015), NE Ill , adjoining Chicago, settled 1833, inc 1901 Oak Park is one of the largest communities to have a village form of government Its manufactures include food and metal products It has a number of churches and denominational schools Many of its houses were designed by Frank Lloyd Wright, who lived here **2** City (pop 1,169), SE Mich , northwest suburb of Detroit, inc as a village 1927, as a city, 1945

Oak Ridge, area (59,000 acres, 1944 pop c 75,000, 1948 pop c 30,000), E Tenn , on Black Oak Ridge and the Clinch river and near Clinton It was called the Clinton Engineer Works when in 1942 it was chosen as the site for work of the "Manhattan District," which developed the materials of the atomic bomb The many workers lived here, but the existence and purpose of the community were kept secret from most of the country until July, 1945 The project was under the control of the U.S Corps of Engineers until Dec 31, 1946, when it was transferred to the control of the Atomic Energy Commission The former Clinton National Laboratory for research in nuclear physics and further applications of atomic energy became in 1948 the Oak Ridge National Laboratory The plants in Oak Ridge make radioactive isotopes for medical and industrial uses and the product known as U-235 which may be used in atomic bombs In 1948 was organized the Oak Ridge Institute of Nuclear Studies composed of 14 member universities

Oakville, town (pop. 4,115), S Ont , on Lake Ontario and SW of Toronto It is a port, with boat-building, woodworking, and manufactures of aluminum products and paint.

Oakwood. 1 City (pop 7,652) SW Ohio, near Dayton **2** Town (pop. 1,086), E central Texas, on the Trinity and SW of Palestine, in a lumbering region; inc. 1908.

oasis (ōā'sĭs, ō'ə̆sĭs), fertile area in the desert. Oases are to be found where there is enough moisture to permit the growth of vegetation The water may come up to the surface in springs, or it may be collected and retained in mountain hollows In the Sahara there are mountains of sufficient height to cause occasional precipitation, which is the reason for many oases in that region The creation of oases by artificial irrigation in desert areas has been successfully performed, especially in the southern part of Israel (Negev) Oases vary considerably in size They range from a pond with a group of date palms to oasis cities with extended agricultural cultivation Such places, especially to be found in North Africa, are important centers of the caravan trade

Oates, Titus (ōts), 1649–1705, English conspirator. His life before 1678, full of scandal and intrigue, is unimportant In 1678 he and Israel Tonge, preying upon the violent anti-Catholic fears of the time, invented the story of the Popish Plot, a Jesuit-guided plan to assassinate Charles II and hasten the succession of James, duke of York (James II), a Catholic The account was completely fabricated, and Oates, examined by the privy council, would perhaps have been immediately exposed had not letters from Edward Coleman, secretary to the duchess of York, to the French Jesuit, François La Chaise, been discovered as a result of his accusations The unexplained death of Sir Edmund Berry Godfrey, the judge to whom Tonge and Oates first told their story, was with no evidence laid to the Catholics, and three were hanged for it. During the frenzy which ensued, many Catholics were persecuted and killed, both legally and by mob violence Oates enjoyed temporary eminence and even accused Queen Caroline of plotting to poison the king, although the charge was exposed as a hoax In 1685 Oates was convicted of perjury, severely flogged, and imprisoned Under William III he was released and pensioned See F C Turner, *James II* (1948)

oath. From the earliest days of man's history, calling upon the gods of a community to witness the truth of a statement or the solemnity of a promise has been commonly practiced The force of the oath depended on the belief that supernatural powers would punish falsehood spoken under oath or violation of the promise The oath thus had wide legal and quasi-legal use It was the basis of the medieval process of compurgation It is much used in legal proceedings today, thus a jury is "sworn in," and a witness takes an oath before testifying In modern times the force of the oath is strengthened by punishment for perjury Some difficulties have arisen in the cases of atheists and of persons with religious scruples against oath taking (e g , Quakers), but statutes have now generally modified the forms to give the force of an oath to the making of an affirmation in due form The main classes of oaths are the assertory oath, which is a statement concerning past or present facts, and the promissory oath, which refers to future conduct (such as that taken by an alien upon naturalization or that of a high government official on assuming office)

oats, grasses of the genus *Avena*, most of which are annuals The early history of oats in agriculture is even more obscure than that of most of the staple farm crops They endure cold better than heat, and they seem to have been grown in the north of Europe before they were known to the civilizations about the Mediterranean They are not mentioned in the Bible In the north of Europe they were grown widely in the Bronze Age, the time when horses were first used as draft animals They are famous as a grain for horses, a spirited horse is said to "feel his oats " As a grain for men they have stronger competition, though oatmeal is a popular breakfast cereal In the British Isles and in America oats are a leading grain crop The commonly cultivated species is *Avena sativa* Oats fit into crop rotations well, and they supply grain for the farmer's horses The yield per acre commonly has a lower money value than that of other staple crops See T B Hutcheson and T K Wolfe, *The Production of Field Crops* (3d ed , 1948)

Oaxaca (wähä'kä), state (36,375 sq mi , 1946 estimated pop 1,327,476), S Mexico, on the Pacific Ocean and its inlet, the Gulf of Tehuantepec It is officially called Oaxaca de Juárez in honor of its native son, Benito Juárez The state is almost entirely dominated by the southern range of the Sierra Madre del Sur and its lateral spurs, there are deep, tortuous valleys in the southern part and broad, open, semiarid valleys and plateaus in the north Except on the west (on the Guerrero border) and the north (on the Puebla border), the periphery of the state, from Veracruz in the northeast to the Isthmus of Tehuantepec in the east and to the Pacific littoral in the south, is tropical Rainfall is heaviest along this fringe In general, the climate of the interior is warm to cool and healthful Fertile valleys make agriculture the principal industry, sugar cane, coffee, cacao, tobacco, cotton, corn, wheat, rubber, indigo, and tropical and semi-tropical fruits and vegetables are grown Stock raising is important Mineral deposits, reportedly extensive, are unexploited. Manufactures include textiles of cotton, wool, and pita fiber, serapes, pottery, leather goods, cigarettes, and sugar and mescal, rum, and beer The most thoroughly Indian of the states, with its population predominantly Mixtec and Zapotec, Oaxaca has two famous archaeological sites at Mitla and Monte Albán The capital, **Oaxaca** (pop 29,306), also officially Oaxaca de Juárez, is in a long, broad valley encircled by low mountains It is a charming provincial city with gardens and many fine examples of colonial church architecture It is subject to severe earthquakes The chief city of S Mexico, it is connected with the federal capital by rail and the Inter-American Highway Oaxaca is noted for hand-wrought gold and silver filigree, pottery, and serapes (perhaps the finest in Mexico) According to Aztec tradition, Oaxaca was founded (1486) as Huasyacac during the brief ascendancy of the Aztec over the Mixtec and the Zapotec In 1522 the Spanish conquered it, renaming it Antequera in 1524 It was also known as Segura de la Frontera before the Indian name was restored Prominent in the revolution against Spain, Oaxaca also joined in the War of the Reform and in resistance to the French intervention The city was the birthplace of Porfirio Díaz

Ob (ŏp), river, 2,113 mi long, RSFSR, in W Siberia One of the largest rivers of the world, it is formed by the junction of the Biya and Katun rivers, SW of Bisk, in the Altai region and flows generally NW past Barnaul and Novosibirsk through the swampy forests in the Tomsk and Narym regions; it then turns east and is joined by the Irtysh near Khanty-Mansisk There the Ob turns north, dividing into many arms, and after passing Salekhard enters Ob Bay, an estuary (c 500 mi long and 35 to 50 mi wide) which empties into the Kara Sea Ob Bay has fresh water The width of the Ob varies from ½ mi at Barnaul to 12 mi in its lower course The chief tributaries are the Tom, Chulym, and Ket on the right and the Irtysh on the left. Though frozen for six months of the year, the Ob is an important trade route It is linked with the Yenisei by a canal joining the Ket with the Kas, a tributary of the Yenisei Built in 1882–91 for small craft, the canal has fallen into disuse

Obadiah (ō"bədī'ə) [Heb ,=servant of God] **1** Prophet, author of the book of Obadiah **2** Ahab's major-domo 1 Kings 8 3-16 **3** Descendant of David 1 Chron 3 21 **4** Issacharite 1 Chron 7.3. **5** Benjamite 1 Chron 8 38 **6** One of David's mighty men 1 Chron 12 9 **7** Prince under Jehoshaphat 2 Chron 17 7 **8** Repairer of the Temple 2 Chron 34 12 **9, 10, 11** Israelites who returned from the Exile Ezra 8 9, Neh 10 5, 12 25 **12** Father of Ishmaiah **13** Same as Abda **2**

Obadiah or **Abdias** (ăbdī'ə̆s), book of the Old Testament, fourth and shortest of the books of the Minor Prophets The prophet is otherwise unknown and has been dated from the 8th to the 6th cent B C , verses 1-9 seem to be quoted in Jer 49 The prophecy calls down doom on Edom, who had gloated over the misfortune of Israel, and says that Israel will triumph in the judgment For bibliography, see Old Testament.

Obaidallah : see Fatimite

Obal (ō'bəl), son of Joktan Gen ¶10 28 Ebal· 1 Chron 1 22

Oban (ō'bən), burgh (pop 5,759), Argyllshire, Scotland, on the Firth of Lorne Oban, a port and seaside resort, is the scene of the annual Argyllshire Highland Gathering, in September, and its harbor is a headquarters for boats to the neighboring islands There are Catholic and Protestant cathedrals In the grounds of Dunolly Castle is a great rock called the Dog Stone, to which Fingal is supposed to have fastened his dog Bran Oban figures in Scott's *Lord of the Isles*

obbligato (ŏblēgä'tō, ōblē-) [Ital ,=obliged], in music, originally a term by which a composer indicated that a certain part was indispensable to the music Obbligato was thus the opposite direction to ad libitum, which indicated that the part so marked was unessential and might be omitted Misunderstanding of the term *obbligato*, however, resulted in a reversal of its meaning, when a violin part, for example, is added to a song it is called a violin obbligato, whereas it is actually a superfluous ornament, unnecessary to the music, and ad libitum would be a more precise direction

Obdorsk, RSFSR see Salekhard

Obed (ō'bĭd) [Heb ,=servant] **1** David's grandfather Ruth 4 21,22, 1 Chron 2 12, Mat 1 5; Luke 3 32 **2** One of David's mighty men 1 Chron 11 47 **3** Jerahmeelite 1 Chron 2 37,38 **4** Father of Azariah **18** **5** Gatekeeper at the Temple. 1 Chron 26 7

Obed-edom (-ē'dŏm) [Heb ,=servant of Edom], Levite in whose house the Ark of the Covenant rested 2 Sam 6 10, 1 Chron 13.13, 15 18,21,24, 16 5,38, 26 4,8,15, 2 Chron 25 24

Obeid, El (ĕl ōbād'), town (pop 65,800), central Anglo-Egyptian Sudan An Egyptian army was annihilated here in 1883 in the revolt of the Mahdists El Obeid is the terminus of a railroad to Khartoum and a center for caravans There is trade in oil seeds

obelisk (ō'bəlĭsk), slender four-sided tapering monument, usually hewn of a single great piece of stone,

terminating in a pointed or pyramidal top Among the ancient Egyptians these monoliths were commonly of red granite from Syene and were dedicated to the sun god They were placed in pairs before the temples, one on either side of the portal The greatest number erected in any one place were in Heliopolis, but eventually almost every temple entrance was flanked by a pair of them Down each of the four faces, in most cases, ran a line of deeply incised hieroglyphs and representations, setting forth the names and titles of the Pharaoh The cap, or pyramidion, was sometimes sheathed with copper or other metal Great numbers of obelisks were made in the XVIII and XIX dynasties, and some date from times as early as the IV dynasty (c 2900–c 2750 B C) Those of colossal size were first raised in the XII dynasty Of obelisks still standing in Egypt, one remains at Heliopolis and two at Karnak, one the time of Thutmose I and one of Queen Hatshepsut which is estimated to be 97½ ft high Many of the historic shafts have been carried from Egypt, notably one of the reign of Ramses II from Luxor, now in the Place de la Concorde in Paris, and CLEOPATRA'S NEEDLES in London and New York Others are in Rome and Florence In the United States two familiar structures of obelisk form (though not monoliths) are the Washington and the Bunker Hill monuments

Oberalp (ō'buralp"), pass, 6,716 ft high, between Grisons and Uri cantons, Switzerland The small lake Oberalpsee (ō"buralp"zā') is near by, and the Alpine peak Oberalpstock (ō"buralp'shtōk), 10,925 ft high is northeast of the pass

Oberammergau (ō"bura'murgou), village (pop 5,101), Upper Bavaria, in the Bavarian Alps near Garmisch-Partenkirchen It is famous for the PASSION PLAY performed here by the peasants every 10 years, originally in fulfillment of a vow made during a plague in 1633 It attracts foreign tourists, who constitute the major source of revenue for the village There are a rococo church and many hotels

Obergurgl, Austria see OTZTAL ALPS

Oberhausen (ō'burhou"zun), city (pop 174,117), in the former Rhine Prov of Prussia, NW Germany It is an industrial center of the RUHR district and adjoins Duisburg, Mülheim, and Essen

Oberholtzer, Ellis Paxson (ō'burhōlt"sur), 1868–1936, American historian, b Chester co, Pa, grad Univ of Pennsylvania (B A, 1889, Ph D, 1893) He studied abroad at several universities and for a number of years worked on various Philadelphia newspapers His doctoral thesis, *The Referendum in America* (1893), became widely known He edited the *Manufacturer* (1896–1900) and the "American Crisis Biographies," and from 1915 to 1921 he was secretary of the Pennsylvania State Board of Motion Picture Censors Besides such books on Philadelphia history as *The Literary History of Philadelphia* (1906) and *Philadelphia a History of the City and Its People* (4 vols, 1912), he wrote *Robert Morris, Patriot and Financier* (1902), *Jay Cooke, Financier of the Civil War* (2 vols, 1907), *A History of the United States since the Civil War* (5 vols, 1917–37), and *The Morals of the Movie* (1922)

Oberland, Bernese see BERN

Oberlin, Jean Frédéric (ō'bürlĭn, Fr zhã' frādārēk' ōbĕrlē'), 1740–1826, Alsatian Lutheran clergyman He was appointed in 1767 to a pastorate in Bande-la-Roche, Bas-Rhin dept, France He notably improved the district by introducing cotton manufacture, new agricultural methods, and good roads and founded a savings bank and a model orphan asylum Oberlin College, Ohio, was named for him See biography by Marshall Dawson (1934)

Oberlin (ō'burlĭn) **1** City (pop 1,878), co seat of Decatur co, NW Kansas, near the Nebr line, in a hilly farming area, laid out 1878, inc 1885 In the cemetery is a monument to the settlers killed (1878) in a Cheyenne raid, the last Indian massacre in Kansas " **2** Village (pop 4,305), N Ohio, S of Lorain **Oberlin College** (nonsectarian, coeducational) opened in 1833, was chartered in 1834 by two missionaries as an institute using the manual labor system, and was renamed in 1850 It includes a college of arts and sciences, a pioneer music conservatory, and a graduate theology school It has a large library, an observatory, and an art museum A pioneer in coeducation, Oberlin has given degrees to women since 1837 Lucy Stone and Antoinette Blackwell graduated here It was a strong abolitionist center and one of the first colleges to admit Negroes Alumni and students have sponsored Oberlin-in-China New England Congregationalists predominated on the early faculties, and **Oberlin theology** was a modified form of Calvinism which included the doctrine of free will (see FINNEY, CHARLES G)

Oberon (ō'burŏn), in literature of Western Europe, a FAIRY king, husband of Titania He appears in the Middle French *Huon de Bordeaux*, whence, probably he was drawn by Chaucer, Spenser, and Shakspere (*A Midsummer Night's Dream*) Ben Jonson wrote a masque called *Oberon* C M Wieland's *Oberon* is the basis of C M von Weber's opera *Oberon*

obesity (ōbē'sĭtē, ōbē'), excessive accumulation of fat in the body Even a small amount of excess food eaten daily over a long period results in fat laid down beneath the skin, in the peritoneal folds of the abdomen, and within the tissues of organs DIABETES shows a relation to obesity Certain obese persons have a low rate of METABOLISM and show disturbances of the thyroid gland, the pituitary gland, or other ductless glands However, the greater number of obese persons have a normal rate of metabolism They should be treated by a suitable DIET which keeps the body in a satisfactory state of NUTRITION, but results in utilization of stored fat

Obil (ō'bĭl) [Heb =camel driver], keeper of David's camels He was an Ishmaelite 1 Chron 27 30

Obion (ōbī'un), town (pop 1,151), W Tenn, on the Obion, in a fertile farm area Reelfoot Lake lies to the northwest

oblast (ō'blast, ŏ'–, Rus ŏ'blŭstyu) [Rus =region], administrative division in the USSR Oblasts where the majority of the population are of a nationality different from that of the constituent republic in which they are included generally enjoy autonomous status The limits of oblasts are usually based on economic and ethnical considerations, as a result, oblasts vary considerably in size

Oblong, village (pop 1,547), SE Ill, near the Wabash SE of Decatur, in an oil, gas, and farm region, inc 1883

oboe (ō'bō, ō'boi) [Ital, from Fr *hautbois*] or **hautboy** (ō'boi, hō'–), wood wind instrument of conical bore, its mouthpiece having a double reed The instruments having these general characteristics may be referred to as the oboe family, which includes the English horn, the bassoon, and the contrabassoon The oboe was developed in the late 17th cent, particularly in France, out of the various less expressive double-reed instruments known as shawms From the baroque period to the present, the oboe has been favored as a highly expressive orchestral instrument Handel composed extensively for it as a solo instrument, but it has been only occasionally used in solos and chamber music until recent times, when the existence of several oboe virtuosos has drawn attention to its possibilities for such uses The natural scale of the oboe is D, but it is not scored for as a transposing instrument The **oboe d'amore** (damō'rā) [Ital, =oboe of love], a transposing instrument, was also much used in the baroque era It was often given a part in the cantatas of Bach, as was the now obsolete **oboe da caccia** (da kat'chē) [hunting oboe], the predecessor of the English horn

Oboth (ō'bŏth), unidentified desert encampment, E of the Dead Sea Num 21 10, 33 43

Obregón, Álvaro (al'varō ōbrāgōn'), 1880–1928, Mexican general and president (1920–24) A planter in Sonora, he supported Francisco I MADERO in the revolution against Porfirio DÍAZ In 1913 Obregón joined Venustiano CARRANZA in the overthrow of Victoriano HUERTA and later commanded against the opponents of Carranza, especially Francisco VILLA Obregón was for a time minister of war, but when Carranza attempted to perpetuate his own power, he led a successful revolution (1920) After the provisional administration of Adolfo de la HUERTA, Obregón became president The revolution in his administration advanced out of a welter of confusion and blood into a recognizable, though not well-formulated, system of agrarian and labor reforms The quarrel between the government and American oil interests continued A significant achievement of the Obregón regime was the educational program advanced by José VASCONCELOS Obregón's government was gravely challenged when Adolfo de la Huerta, disappointed in his presidential aspirations, led an unsuccessful revolt (1923–24) CALLES succeeded to the presidency In 1928 Obregón was again chosen president, but before taking office he was assassinated He wrote *Ocho mil kilómetros en campaña* (1917), recollections of his campaigns

Obrenovich (ōbrē'nuvĭch), Serbian dynasty Its founder, Milosh Obrenovich (see MILOSH), was the first modern Serbian ruler His murder (1817) of Karageorge started the long feud between the Obrenovich and the KARAGEORGEVICH families Milosh's son MICHAEL, prince of Serbia, was assassinated (1868) by the Karageorgevich faction His successor, Prince MILAN, was proclaimed king of Serbia in 1882 ALEXANDER, king of Serbia (Milan's son), was the last ruling member of the dynasty, on his assassination (1903) the Karageorgevich dynasty again came into power

O'Brien, Fitz-James, 1828?–1862, Irish-American author and journalist, b Ireland He settled in New York in 1852 He is remembered for two of his short stories, 'The Diamond Lens" and "The Wondersmith," and a play, *A Gentleman from Ireland* (1854) He served in the Civil War and died of wounds See his *Collected Stories* (ed with an introduction by Edward J O'Brien, 1925)

O'Brien, Lucius Richard, 1832–99, Canadian landscape painter He worked in an architect's office and later became an engineer He is noted for his water-color landscapes, especially of Rocky Mt scenery, which are represented in Windsor Castle, Osborne House, Isle of Wight; and the Ottawa Gallery. A founder of the Royal Canadian Academy of Arts, he was its first president (1880–90).

O'Brien, William, 1852–1928, Irish journalist and political leader His newspaper, *United Ireland* (founded 1880), championed the Irish agrarian cause He was prosecuted nine times for political offenses, while in prison he wrote his famous *No Rent Manifesto* He served in Parliament (1883–95, 1900–1918), was influential in reuniting the Parnell factions in the 1890s, initiated the United Irish League (1898), and helped shape the Wyndham Land Act of 1903, which began a real solution of the IRISH LAND QUESTION In his latter years he advocated a conciliatory policy toward Britain He wrote *Recollections* (1905), *Evening Memories* (1920), and *The Irish Revolution* (1923), his letters were edited by his wife as *Golden Memories* (1929)

O'Brien, William Shoney, c 1826–1878, American silver magnate, b Dublin, Ireland He was brought as a child to the United States and worked in a New York grocery store before going to California in the gold rush of 1849 He ran a saloon in partnership with James Clair Flood, and the two of them through speculation in silver stocks built fortunes and joined John William Mackay and James Graham Fair in exploiting silver mines in Nevada See Oscar Lewis, *The Silver Kings* (1947)

O'Brien, William Smith, 1803–64, Irish revolutionary Educated at Cambridge, he entered the British Parliament from Ireland in 1828 as a supporter of Robert PEEL and worked for Catholic Emancipation, Irish poor relief, and state support of the Irish Catholic clergy O'Brien's political career moved steadily to the left At first he opposed the agitation of Daniel O'CONNELL to repeal the union of Great Britain and Ireland, believing the British Parliament would grant some relief to Ireland, but by 1843 he had joined the Repeal Association and rapidly became O'Connell's second in the Irish nationalist struggle O'Brien's group, called Young Ireland, quickly became convinced that only direct action would free Ireland, and in 1846, with John MITCHEL, Thomas Francis MEAGHER, and Charles Gavan DUFFY, O'Brien seceded from O'Connell's association to form the Irish Confederation The aggravation of the famine and Mitchel's arrest and conviction in 1848 determined them to rise against the government The revolt was abortive, and the only engagement was an attempt to attack a police detachment in Co Tipperary O'Brien was arrested and transported to Australia He was given a full pardon in 1856 Thereafter he returned to Ireland and traveled extensively on the Continent and in America, but was no longer politically active See Denis Gwynn, *Young Ireland and 1848* (1949)

observatory, building or institution for the observation and recording of astronomical, meteorological, magnetic, or seismological phenomena In popular usage the term is usually applied to astronomical observatories, which are the oldest type and the most numerous Although in ancient Babylonia and Egypt heavenly bodies were observed from temples and towers, no record exists of any observatory earlier than the one founded c 300 B C by Ptolemy Soter (Ptolemy I) at Alexandria In the 9th and 10th cent the Mohammedans established observatories at Baghdad and Damascus, and in the 15th cent Ulugh-Beg, a grandson of Tamerlane, erected an observatory at Samarkand The first notable observatory in Europe was established in 1472 at Nuremberg by Regiomontanus Tycho Brahe constructed (1584) a remarkably well-equipped observatory, Stjarneborg, on the grounds of his castle, Uranienborg, on the island of Ven Early instruments used in observatories included devices for measuring angles and for telling time and also aids to calculations and observation, such as the astrolabe The invention (1609) of the telescope and its application (1610) by Galileo to astronomical observation marked a new epoch in astronomical research and stimulated the establishment of observatories by educational institutions (Univ of Leiden, 1637), by individuals (e g, Hevelius, c 1641), and by rulers (Christian IV of Denmark, at Copenhagen, 1637, completed 1657 and directed by Longomontanus) National observatories were founded in Paris (1667–71) and at Greenwich, England (Royal Observatory, 1675) Memorable among later private observatories were those of Sir William Herschel and of the 3d earl of Rosse With the great cost and diversification of telescopes and auxiliary equipment and the increasing body of astronomical knowledge, observatories tend to limit their field of research Recognition of the importance of atmospheric conditions for optimum observation has resulted in careful selection of sites (i e, those offering dry, clear, steady atmosphere, a suitable elevation, and sufficient distance from city lights) for the construction of new observatories and for the establishment of branches of older institutions South Africa and parts of California and of desert regions in the W United States are considered especially good There are more than 300 active astronomical observatories including national observatories, college and university observatories, and independent

institutions in all parts of the world The Federal government maintains the UNITED STATES NAVAL OBSERVATORY, Washington, D.C. Harvard Observatory (founded 1839), has buildings at Cambridge and at Oak Ridge, Mass., and stations at Climax, Colo , and at Bloemfontein, South Africa Yale Univ has an observatory at New Haven, Conn , and a southern station at Johannesburg, South Africa The Univ of Michigan has an observatory at Ann Arbor and participates in supporting the McMath-Hulbert Observatory, near Pontiac, Mich , and the Lamont-Hussey Observatory (27-inch refractor) at Bloemfontein, South Africa Observatories in the United States which have important refracting telescopes include Yerkes Observatory (40 in), Univ of Chicago, at Williams Bay, Wis , Lick Observatory (36 in), Univ of California, on Mt Hamilton, Allegheny Observatory (30 in), Univ of Pittsburgh, Leander McCormick Observatory (26 in), Univ of Virginia, and Lowell Observatory (24 in), Flagstaff, Ariz Observatories noted for their reflecting telescopes include Mt Palomar Observatory (200 in), California Institute of Technology, near Pasadena, Mt Wilson Observatory (100 in), Carnegie Institute, at Mt Wilson, Calif , McDonald Observatory (82 in), Univ of Texas, at Mt Locke, Texas, Perkins Observatory (69 in), Ohio Wesleyan and Ohio State universities, at Delaware, Ohio Among other noted observatories in the United States are Flower Observatory, Univ of Pennsylvania, at Upper Darby, Pa , Goodsell Observatory, Carleton College, Northfield, Minn , Steward Observatory, Univ of Arizona, Tucson, Warner and Swasey Observatory, Case Institute of Technology, Cleveland, and Washburn Observatory, Univ of Wisconsin, Madison, Wis Outstanding Canadian observatories are David Dunlap Observatory (74-inch reflector), Univ of Toronto, Dominion Astrophysical Observatory (73-inch reflector), Victoria, British Columbia In Great Britain are the Royal Observatory formerly at Greenwich, the Royal Observatory at Edinburgh, Dunsink Observatory at Dublin, the University Observatory and Radcliffe Observatory (now inactive) at Oxford Univ , and the Cambridge University Observatory France has the Paris Observatory with a solar physical branch at Meudon, near Versailles, and observatories in several cities including Marseilles, Toulouse, Lyons, Nice, and Algiers (in Africa) Noted observatories in Germany were also erected, including the Urania, Treptow, and Babelsberg observatories, all in Berlin, the Borgeldorf Observatory near Hamburg, the astrophysical observatory at Potsdam, Konigstuhl Observatory, Heidelberg, and several noted university observatories, e g , Bonn and Leipzig Italy has a number of observatories including two in Rome and those at Milan, Padua, Palermo, and Arcetri (near Florence) The Pulkovo Observatory, near Leningrad, was made famous by F G W Struve in the early 19th cent In South Africa are branches of the Yale and Harvard observatories, the Royal Observatory, Capetown, Union Observatory, Johannesburg, and National Observatory, Bloemfontein See also TELESCOPE See A F Collins, *The Greatest Eye in the World* (1942), G E Pendray, *Men, Mirrors, and Stars* (1935, rev ed, 1946)

obsidian (ŏbsĭd'ĭən), a volcanic GLASS, homogeneous in texture and having a low water content, with a vitreous luster and a conchoidal fracture The color is commonly black, but may be some shade of red or brown, and cut sections sometimes appear to be green Thin sections are usually translucent Like other volcanic glasses, obsidian is a LAVA which has cooled too quickly for the contained minerals to crystallize In chemical composition it is rich in silica and similar to granite It is favored by primitive peoples for knives, arrowheads, spearheads, and other weapons and tools

obstetrics (ŏbstĕ'trĭks), branch of medicine dealing with pregnancy and labor The care of women during labor was originally in the hands of women (see MIDWIFERY) In the 16th cent , obstetrics began to be undertaken by physicians William HUNTER and William Smellie were leading obstetricians in 18th-century England The progress of surgery and pathology helped to improve obstetrics The use of forceps was introduced probably by Peter Chamberlen (the elder) in the 17th cent General anesthesia during labor was first used by Sir James Simpson in 1847 Fatalities caused by PUERPERAL FEVER have been reduced since the work of SEMMELWEIS and the use of aseptic methods based on the antisepsis of LISTER Modern obstetrics stresses especially the importance of prenatal care including both the physiological and the psychological aspects See also BIRTH and PREGNANCY

Obwalden, Switzerland see UNTERWALDEN

Ocala (ōkā'lə), city (pop 8,986), co seat of Marion co , N central Fla , W of Lake George Ocala is a trade and shipping center for a truck, fruit, phosphate, and limestone area The town, near the site of an Indian village visited by De Soto in 1539, grew around Fort King, established to protect (1827-43) the area from the Seminole Indians. SILVER SPRINGS is near by.

ocarina (ŏkŭrē'nŭ), musical wind instrument, egg-shaped and usually made of terra cotta It was invented in the late 19th cent in Italy and is popular with amateurs It is occasionally called a "sweet potato" because of its shape

O'Carolan or **Carolan, Turlough,** 1670–1738, Irish bardic poet. Blind from youth, he wandered about the countryside playing the harp and singing his own songs in the houses of the great families Thomas Moore adapted a number of O'Carolan's some 200 songs, and many others have been handed down traditionally among the Irish peasantry At its best his verse is as good as any in modern Irish.

O'Casey, Sean (shôn' ōkā'sē), 1884–, Irish dramatist, b Dublin His first play, *The Shadow of a Gunman* (1923), was produced with great success at the Abbey Theatre, and with *Juno and the Paycock* (1924) and *The Plough and the Stars* (1926) he became its leading dramatist *The Silver Tassie* (rejected by the Abbey Theatre in 1928, but played with success in London and New York) was followed by *Within the Gates* (1934), *The Star Turns Red* (1940), *Purple Dust* (1940), *Red Roses for Me* (1942), *Oak Leaves and Lavender* (1947), and *Cock-a-Doodle Dandy* (1949) *Collected Plays* appeared in 1949 A Protestant, O'Casey grew up in the slums of Dublin and was active in the rebellions for Irish independence His experiences have been realistically recorded in his plays and in four autobiographical volumes, *I Knock at the Door* (1939), *Pictures in the Hallway* (1942), *Drums under the Windows* (1945), and *Inishfallen, Fare Thee Well* (1949) Outstanding for their stylistic excellence, these books are an absorbing chronicle of modern Ireland

Occam, William of see WILLIAM OF OCCAM

occasionalism, metaphysical doctrine first formulated by Geulincx It was meant to resolve the problem of interaction between soul and body posed by the doctrines of Descartes This theory, which MALEBRANCHE expanded, denied any interaction of mind and matter and postulated that the laws of God operate from occasion to occasion to produce the appearance of coordinated activity.

Occidental College see LOS ANGELES, Calif

Occleve, Thomas see HOCCLEVE, THOMAS

Occom or **Occum, Samson** (both ŏ'kum), 1723–92, American Indian clergyman, b near Norwich, Conn He became Eleazer Wheelock's first pupil, and in 1749 he went to Long Island to serve the Montauk Indians as pastor and schoolmaster Occom was ordained in 1759 and later (1766) he went to England to help raise the funds used to establish Dartmouth College

occultism (ŭkŭl'tĭzm, ŏ'kŭltĭzm), belief in supernatural sciences or powers, such as MAGIC, ASTROLOGY, ALCHEMY, THEOSOPHY, and SPIRITISM, either for the purpose of enlarging man's powers, protecting him from evil forces, or predicting the future All the so-called natural sciences were in a sense occult in their beginnings, most early scientists were esteemed magicians, or sorcerers, because of the mystery attending their investigations In the modern world occultism has centered in small groups seeking to perpetuate secret knowledge and rites alleged to be derived from the ancients Such groups have exerted much influence because of their appeal to many writers and artists

occupational diseases, illnesses contracted through conditions of work Pliny the Elder, in the 1st cent , listed knife grinders' phthisis (tuberculosis) and lead and mercury poisoning as "diseases of slaves " To these afflictions, which have survived the passing centuries, the Industrial Revolution in the early 19th cent added scores of others To the deaths, crippling, and debilitation caused by accidents, poor ventilation, and excessively long workdays were added the casualties from specific work situations Painters contracted lead poisoning from breathing the fumes of paints using "white lead," as did the factory workers where the lead paint was processed Phosphorus poisoning afflicted matchmakers Benzol, sulphuric acid, formaldehyde, arsenic, and zinc are other chemicals responsible for occupational diseases Even more frequently, it is their derivatives that are responsible for previously unexplained ailments affecting people working with them The "mad as a hatter" expression is said to have had its origin in the symptoms of mental deterioration exhibited by hatmakers suffering from mercurial poisoning, until recently a concomitant of felt-hat manufacturing A great many varieties of dermatitis or skin diseases result from chemicals used in industry Breathing of air laden with foreign substances causes several varieties of pneumoconiosis or lung condition The most widely known variety is silicosis, from the breathing of silica dust In 17th-century England it was known as "grinder's rot " Stonemasons, granite workers, and miners are stricken with it. CAISSON DISEASE sometimes occurs among those working under abnormal air pressures X rays, radium, and the release of atomic energy cause burns and other injuries, often with fatal results Many of those engaged in applying luminous paints to watch dials suffered radium poisoning before the cause was discovered Hardly a year goes by without the discovery by medical science of additional occupational sources of illness Carbon disulphide as used in the manufacture of rayon in U S plants was found to be poisoning workers, manganese caused poisoning of the miners of Chile EXTRAHAZARDOUS OCCUPATIONS are also responsible for some of the diseases, but their designation as such generally involves recognition of, and maximum protection against, the dangers Legislation to prevent or limit the occurrence of occupational diseases dates from such laws as the Factory Act of 1802 in England In the United States WORKMEN'S COMPENSATION acts in the various states take care, through a system of insurance, of persons suffering from occupational diseases

occupational therapy. This form of treatment was used by the ancient Greeks and Egyptians, especially in the case of mental disorders It became known by this name in the First World War when some system of occupation was used in treating disabled soldiers In 1917 the National Association of Occupational Therapists was organized in the United States The treatment includes any form of activity devised to aid recovery from disease and adjustment to living Social service organizations in hospitals supply means of amusement for bed patients and workshops for convalescents It is an essential part of the treatment of mental disorders and of such physical ills as paralysis See also REHABILITATION

ocean, connected mass of water which covers about 71 percent of the earth's surface It covers about 61 percent of the surface of the Northern Hemisphere and about 81 percent of the Southern Hemisphere. Although many geographers arbitrarily delimit ocean waters into three masses—the PACIFIC OCEAN, the ATLANTIC OCEAN, and the INDIAN OCEAN (the southern parts of all three comprise a circumpolar sea known as the Antarctic Ocean)—and consider the ARCTIC OCEAN as an arm of the Atlantic, popular usage recognizes the Arctic and Antarctic as distinct oceans The high specific heat of water makes the ocean a reservoir of heat that is distributed by the circulation of ocean water or is stored as water vapor that is carried by winds to be released in other areas The daily and seasonal range of temperature is far less than on land, whether considered locally or globally, air temperatures over the sea vary little from that of the water, which rarely rises to over 80°F or falls more than two or three degrees below the freezing point of fresh water The temperature decreases with the depth, and bottom waters in all latitudes approach 32°F Ocean waters are in continual motion owing to the TIDE, OCEAN CURRENTS, surface waves, and tidal waves Ocean currents are movements that transport masses of water, while in wave movements particles of water oscillate with little change in position except when the crest of a breaking wave carries water forward The generation of surface waves is not fully explained, but waves are generally believed to be formed by friction between wind and water Their velocity, form, length, and height are related to the velocity, constancy, and duration of winds and to the size of the area of water over which these have blown, to the relative densities of air and water, and to the surface tension of water The average depth of the sea is c 12,500 ft The pressure increases by one atmosphere (15 lb per square foot) for 33 ft of depth and attains about 1,000 atmospheres at the greatest depths The uneven sea floor is divided into basins by ridges and other elevations, large land masses are bordered by continental shelves and slopes (see CONTINENT) The greatest known depth (35,400 ft) is in the Pacific Ocean off Mindanao The density of sea water is greater at low temperatures and increases in direct proportion to the concentration of dissolved salts The average salinity in the oceans is about 3 percent, it is higher in areas of rapid evaporation and lower at points receiving fresh water from rivers or from melting ice Sea water is believed to contain in solution all the chemical elements, although only about 50 have so far been found in it, the most common are chlorine, sodium, sulphur, and magnesium Since the relative proportions are constant, the quantity of any common element in a given sample can be used as a measure of any other or of the total salinity The distribution of marine plants and animals is affected by variations of temperature, salinity, pressure, and light (see MARINE BIOLOGY) See also OCEANOGRAPHY See H A Marmer, *The Sea* (1930), H. U Sverdrup and others, *The Oceans* (1942), R. E. Coker, *This Great and Wide Sea* (1947), and F. C Lane, *The Mysterious Sea* (1947)

Ocean City 1 Resort town (pop 1,052), SE Md , on the Atlantic Ocean, settled 1875 It is a game-fishing port, famous for white marlin 2 City (pop 4,672), SE N J , a resort on the Atlantic SW of Atlantic City, laid out 1879, inc 1897

ocean currents, progressive movements of ocean waters They may be classified, according to their origin, as currents related to density of the sea, wind currents, and tidal currents (see TIDE). Density currents are the chief agents in circulating the waters of the oceans and include the large-scale surface currents. Density of sea water is inversely

proportional to its temperature and increases with salinity. The waters warmed by the sun in hot latitudes expand. The higher sea level causes a surface flow toward the poles, but trade winds force the masses of water to move westward in currents north and south of the heat equator. The earth's rotation deflects the currents clockwise in the Northern Hemisphere, counterclockwise in the Southern, and the waters resume their poleward flow along the western shores of the Atlantic and Pacific oceans. The best defined of these currents are the GULF STREAM and the JAPAN CURRENT. The currents gradually become colder and their higher salinity, caused by evaporation in hot latitudes, makes them denser than adjacent waters of equal temperature and sets up a vertical downward flow and a consequent upwelling of displaced water. The masses of poleward-flowing water result in compensating surface currents of water of low salinity (due in part to melting ice) that flow from subpolar to temperate regions, notably the Labrador Current. The pressure from the added mass of equatorial waters causes also an equatorward drift of bottom waters that completes the circulatory cycle by welling up in equatorial zones to replace the warm water which was carried poleward. The wind not only affects the rate and direction of density currents, but causes wind currents. The wind, through friction on the sea's surface, brings about a surface drift, each moving layer of water exerts stress on the next underlying layer. The velocity and rate of ocean currents vary with daily and seasonal changes of wind, notably in the Indian Ocean with its monsoon wind. Currents are classed, according to intensity, as streams (well defined, relatively fast, 2 to 4 mi per hour), drifts (slow), or creeps (barely perceptible). An example of a stream is the Gulf Stream; of a drift, the NORTH ATLANTIC DRIFT, of a creep, the general movement of bottom waters from the poles toward the equator. The course and velocity of currents are determined by current meters or indirectly by the observation of floating bodies such as icebergs or drift bottles, from the determination of temperatures and salinity, or by the difference between a ship's position as determined by astronomical observations and by dead reckoning. The flow of ocean currents effects a transfer of heat over the globe that modifies the climate of lands receiving sea winds and influences the distribution of marine organisms.

Ocean Grove, resort (pop 2,862), E N J., on the Atlantic adjoining Asbury Park, founded 1869 by a Philadelphia minister, William B. Osborne. It is owned and controlled by the Ocean Grove Camp Meeting Association (Methodist). Its auditorium (1893) seats 9,000. A tent city houses many at the summer camp meetings and courses.

Oceania (ōshēā'nēu, -ā'nēu) or **Oceanica** (ōshēā'nĭkū), collective name for the islands of the Pacific, sometimes including Australasia and Malaysia. Oceania is, however, generally considered as synonymous with South Sea Islands and is divided ethnographically into MELANESIA, MICRONESIA, and POLYNESIA.

Oceanids (ōsē'ənĭdz), in Greek mythology, 3,000 daughters of Oceanus and Tethys. They were sea nymphs. Calypso, Metis, and Styx were Oceanids.

Ocean Island, formerly **Banaba** (bănā'bu), phosphate island (2.2 sq. mi.; pop. 2,060), central Pacific, SW of Tarawa. It was formerly administrative headquarters of the British colony of the GILBERT AND ELLICE ISLANDS. It was discovered in 1804 by the British and annexed in 1915. In the Second World War the island fell in 1942 to the Japanese, who occupied it for the war's duration.

Ocean Island, T. H., see KURE ISLAND.

oceanography (ō"shənŏ'grufē), study of the sea. It integrates the marine applications of geography, geology, physics, chemistry, and biology and entails cooperation with astronomers and meteorologists. Although some authorities restrict the term to the study of topography and sediments of ocean basins and shores and the characteristics and dynamics of ocean waters, most of them include MARINE BIOLOGY. Pioneers in the marine sciences include Edward FORBES and M. F. MAURY. Oceanography as a comprehensive study dates from the CHALLENGER EXPEDITION (1872–76) directed by C. W. THOMSON (later knighted), and the term *oceanography* became current through the reports of the expedition, edited by John MURRAY (later knighted), who became a leader in the advancement of the science. Murray organized the cruise of the *Michael Sars* (1910), which contributed to the knowledge of the N Atlantic Ocean and was directed by an outstanding Norwegian oceanographer, Johan HJORT. The success of the *Challenger* expedition and the importance of a knowledge of the sea to shipping, fisheries, the laying of telegraph cables, and in climatological studies led many nations to establish oceanographical departments and to send out expeditions. Outstanding cruises include those of the German *Deutschland* (1911–12) and *Meteor* (1925–39) in the Atlantic, S Pacific, and Antarctic oceans; the Danish *Dana* in all the oceans (1921–22) and in a circumnavigation of the globe (1928–29); the British *Discovery* and *Discovery II* (1925–39) in the Atlantic, Arctic, and Indian oceans; the Norwegian *Fram* under the direction of Fridtjof NANSEN, the Dutch *Snellius* (1929–30) in the Indian Ocean and the East Indies; and the American *Albatross* between 1882 and 1924, which was directed for a time by Alexander AGASSIZ. Universities and private individuals, as well as governments, have established institutions for the study of the ocean, there exist today about 250 institutions. One of the earliest is the marine biological station at Naples (founded 1872), which stimulated the founding of many other seaside stations, some of which, e.g., the Scripps Institution of Oceanography at La Jolla, Calif., have enlarged their activities to include all fields of oceanographic research. Notable institutions include the Oceanographic Museum at Monaco (1910), the biological station of the Univ. of Oslo, the Geophysical Institute at Bergen, and the Oceanographic Institution (1930) at Woods Hole, Mass. Oceanographic equipment and methods have been greatly improved in recent years. Sonic depth finders by which soundings can be made by vessels at full speed have superseded soundings with lead and line which required several hours. Consecutive soundings have shown that the ocean floor is far more rugged than had formerly been supposed. Improved methods of obtaining long cores of bottom deposits have advanced the science of marine geology. Modern diving equipment has permitted descents to the bottom of the sea, submarine cameras and color film have been helpful in determining the nature of marine organisms. Many ocean phenomena, including currents and waves, are still not completely explained. See W. A. Herdman, *Founders of Oceanography* (1923), H. B. Bigelow, *Oceanography* (1931); T. W. Vaughan and others, *International Aspects of Oceanography* (1937).

Oceanport, borough (pop. 3,159), E N J., between Red Bank and Long Branch, inc. 1920.

Oceanside, city (1940 pop. 4,651, 1945 special census pop. 10,698), S Calif., at the mouth of the San Luis Rey R. N of San Diego, inc. 1888. Oceanside-Carlsbad Junior College (coeducational) is here. San Luis Rey MISSION (founded 1798) is near by.

Ocean Springs, resort town (pop. 1,881), SE Miss., on Biloxi Bay. There is a bridge to BILOXI. Ocean Springs is on the site of Old Biloxi, the first white settlement in the lower Mississippi valley, made by the French under IBERVILLE in 1699. A marine research laboratory (1948) is here.

Oceanus (ōsē'ənus), in Greek mythology. **1** Circular stream flowing around the edge of the earth. The sun and moon rise from and descend into this stream, it is the source of all rivers. **2** Personification of the stream. He was the Titan son of Uranus and Gaea, the husband of Tethys, and the father of the river-gods and the sea nymphs (or Oceanids). He was conceived of as a powerful but kindly old man. Some legends say that Dione was also the daughter of Oceanus and Tethys.

ocelot (ō'sulut, -lŏt, ō'–), New World cat ranging from S Texas to parts of South America. The fur ranges from tawny to gray with a variable pattern of black spots, streaks, and rings. It resembles a house cat but may reach a length of about 4 ft., including the tail of approximately 1½ ft. It hunts prey in trees and on the ground.

Ochakov (ŭcha'kŭf), city (1939 pop. over 10,000), SW Ukraine, a port on the Black Sea, SW of Nikolayev. The fall (1788) of this former Turkish fortress to the Russians was a decisive victory for Catherine II in the Russo-Turkish War of 1787–92. In the Crimean War, Ochakov was occupied (1855) by the allies.

ocher (ō'kur), mixture of varying proportions of hydrated iron oxide and clay, used as a pigment. It occurs naturally as yellow ocher, yellow or yellow-brown in color, the iron ore being limonite, when heated it is converted to red ocher, the limonite becoming hematite. Ocher grades into sienna, a yellow-brown pigment containing a higher percentage of iron ore than ocher, as well as some manganese dioxide. Sienna grades into umber, which is darker brown and contains a higher percentage of manganese dioxide. Burnt sienna is brown or bright red, burnt umber is a darker brown than umber. Ocher is produced in the United States, in France (French ocher being of a very high grade), and in some other parts of Europe. Italy is a leading producer of sienna and umber, and Cyprus of umber.

Ochil Hills (ō'khĭl), range, c.25 mi. long, in Perth, Clackmannan, Kinross, and Fife counties, Scotland, extending from Stirling to the Firth of Tay. The hills are of volcanic origin, with valuable mineral deposits, and culminate in Ben Cleuch (2,363 ft.) and King's Seat (2,111 ft.).

Ochino, Bernardino (bĭrnärdē'nō ōkē'nō), 1487–1564, Italian religious reformer. Ochino was a Capuchin friar, a most popular preacher, and vicar general of his order in 1538 and 1541. Influenced by VALDÉS and his circle in Naples, Ochino turned to belief in justification by faith alone, gave up his belief in monastic vows, and adopted an independent Protestantism. In 1542 he fled from the Roman Inquisition to Zurich, where he was well received by Calvin. His apostasy caused such a sensation in Italy that even the Capuchins were denounced as hypocrites and breeders of heresy. After two years in Zurich he went to England, where he was highly respected until the accession of Mary I, when he returned to Geneva. There he rejected such Calvinistic doctrines as predestination. Expelled from the Swiss cantons in 1563 by the Calvinists, he spent his last year in Germany and Poland.

Ochrida or **Okhrida** (both: ō'krĭdū), Serbo-Croatian *Ohrid* (ō'khrĭd), town (pop. 11,419), Macedonia, SW Yugoslavia, on a rock above Lake Ochrida. An ancient center, it lies on or near the site of the Greek colony of Lychnidos. Under Roman rule it became an important trading town and an early episcopal see, and in the 9th cent. A.D. it became part of the first Bulgarian empire. In the 10th cent. Ochrida replaced Preslav as the seat of the Bulgarian patriarchate and flourished as the political and cultural capital of Bulgaria. After its reconquest (11th cent.) by the Byzantines the patriarchate was abolished, but Ochrida remained a metropolitan see. With several interruptions, the principality of Walachia was dependent in ecclesiastical matters on the see of Ochrida until the 15th cent., and the principality of Moldavia was dependent until the 17th cent. The metropolitan rank was later transferred to the bishops of Skoplje. Having fallen to Serbia in 1334, Ochrida fell soon afterward to the Turks. It was briefly reconquered (15th cent.) by Scanderbeg. Ochrida passed to Serbia in 1913 as a result of the Balkan Wars. Among its many ancient churches and other historic mementos are the cathedrals of St. Sophia (founded 9th cent.) and of St. Clement (1299), two 14th-century churches, and the walls and towers of the former Turkish citadel. **Lake Ochrida,** area 134 sq. mi., forms part of the Yugoslav-Albanian border. It is connected with Lake Prespa by underground channels. On its shores stand several monasteries, notably that of St. Naum (10th cent.). The lake is rich in fish.

Ochs, Adolph S. (ōks), 1858–1935, American newspaper publisher, b. Cincinnati. Starting as a newsboy in Knoxville, Tenn., he became a printer's apprentice, compositor, and, in 1878, publisher of the Chattanooga *Times*. He acquired the New York *Times* in 1896 and brought it to a position of eminence. He also controlled the Philadelphia *Times* and the Philadelphia *Public Ledger*, which he merged and in 1913 sold to Cyrus H. K. Curtis. The New York *Times* under his management was politically Democratic, but independent of the party machine. See G. W. Johnson, *An Honorable Titan* (1946).

Ocilla (ōsĭl'lu), city (pop. 2,124), co. seat of Irwin co., S central Ga., NW of Waycross, inc. 1897. It is a coastal-plains farm trade center.

Ockham, William of see WILLIAM OF OCCAM.

O'Clery, Michael (ōklĕr'ē), 1575–1643, Irish chronicler and antiquarian. A monk in the Franciscan convent at Louvain, he was a collector, compiler, and editor of medieval Irish chronicles and preserved much valuable historical material. *The Annals of the Four Masters* (ed. and tr. by John O'Donovan, 7 vols., 1851, 2d ed., 1854) was a history of Ireland written 1632–36 by O'Clery and three others, from old chronicles. *The Martyrology of Donegal* (1636, tr. by John O'Donovan, 1864) is a valuable reference for medieval saints.

Ocmulgee (ōkmŭl'gē), river formed in NW Georgia by the confluence of the Yellow and South rivers SE of Atlanta. It flows c.255 mi. south-southeast to join the Oconee below Lumber City and form the Altamaha.

Ocmulgee National Monument: see NATIONAL PARKS AND MONUMENTS (table).

O Come, All Ye Faithful: see ADESTE FIDELES.

Oconee (ōkō'nē), river rising in N Georgia, NE of Atlanta, and flowing 282 mi. SSE to the Ocmulgee, with which it forms (near Hazlehurst) the Altamaha. Athens and Milledgeville are on the Oconee.

O'Connell, Daniel, 1775–1847, Irish political leader. He is known as the Liberator. Admitted to the Irish bar in 1798, O'Connell built up a lucrative law practice. Gradually he became involved in the Irish fight for emancipation of Roman Catholics, his abilities as a speaker, organizer, and leader soon advanced him to the uncontested command of the movement. He was constantly active in the various organizations created to effect CATHOLIC EMANCIPATION and in 1823 founded the Catholic Association, a formidable and powerful agitation society, which despite English restrictive measures became a great national movement. The pressure on Parliament was brought to a head by O'Connell's election in 1828 to a seat in the Commons, despite his inability as a Catholic to take the oaths by which Parliament excluded Catholics from sitting. In 1829 the government was obliged to pass the Catholic Emancipation Act. In Parliament, O'Connell supported the Whigs and the reform cause. He supported repeal of the union of Great Britain and Ireland, forming a new agitation society to replace each one suppressed by the government. O'Connell was indefatigable in his efforts to gain relief for the

grave troubles arising from the IRISH LAND QUESTION; he bitterly opposed the acts for subduing the Irish unrest and labored for the reform of the existing government of Ireland and for the abolition of compulsory support of the Church of Ireland. In 1841 O'Connell became the first Catholic lord mayor of Dublin since the time of James II In 1843 he was indicted for creating disaffection, he was declared guilty and imprisoned, but was released shortly by the House of Lords (1844). His health was beginning to fail, and the secession of the Young Ireland group from his Repeal Association added to his cares His authority and control declined Ordered to seek a change for his health, he set out for Italy, where he died O'Connell's eminence as a leader and creator of national feeling and unity greatly affected the history of Ireland, and his influence throughout Europe on the growth of Catholic democratic feeling was considerable. See W J Fitzpatrick, *Correspondence of Daniel O'Connell* (1888), Robert Dunlop, *Daniel O'Connell and the Revival of National Life in Ireland* (1900), W H Lecky, *Leaders of Public Opinion in Ireland*, Vol II (1903), biographies by Sean O'Faolain (1938) and Denis Gwynn (1947).

O'Connell, William Henry, 1859–1944, American churchman, cardinal of the Roman Church, b. Lowell, Mass He was ordained in 1884 He was head of the North American College in Rome (1895–1901), then returned to the United States to be bishop of Portland, Maine The pope sent him on a diplomatic mission to Japan in 1905 He was made coadjutor to the archbishop of Boston in 1906 and succeeded to the see in 1907 He received the red hat in 1911 His administration was very energetic, especially in building for charity and education Cardinal O'Connell composed hymns and musical pieces His publications include sermons and addresses and his autobiography (1934)

O'Connor, Feargus (fur'gŭs), 1794–1855, Irish Chartist Elected to the Parliament of 1832 as a supporter of Daniel O'Connell, he soon quarreled with O'Connell and was forced out of Parliament in 1835, but devoted himself to radicalism In 1837 he founded a paper, the *Northern Star*, which achieved wide circulation O'Connor played a major role in the Chartist convention of 1839, and his influence upon CHARTISM was to move it toward use of physical force In 1846 he began an Irish land-redistribution scheme He reentered Parliament in 1847 and sponsored a monster Chartist petition The bankruptcy of the land company and disclosure that the petition signatures were falsified unsettled O'Connor's mind, in 1852 he was declared insane

O'Connor, Rory or **Roderick,** 1116?–1198, last high king of Ireland He became king of Connaught in 1156 and seized the high kingship in 1166 His greatness was brief, however, for his quarrel with DERMOT MCMURROUGH, who brought the Normans to Ireland, led to ROIY's submission as vassal to Henry II of England by the Treaty of Windsor (1175) O'Connor remained king of Connaught and nominal high king, but his power declined and he retired to a monastery before his death

O'Connor, Thomas Power, 1848–1929, Irish journalist and nationalist, known as Tay Pay [t e, T P] O'Connor He went (1870) to London and worked on the *Daily Telegraph* and in the London office of the New York *Herald* and in 1879 won notice for his hostile biography of Disraeli In Parliament after 1880, he represented Galway until 1885, then Liverpool to the end of his life His help to the cause of Irish Home Rule was mainly through supporting C S Parnell and through his writing and his fund-raising tours in the United States (1881–82, 1918) In Parliament he was not a leader, and on the fall of Parnell (1891) O'Connor abandoned him as did many other Irish members O'Connor founded many newspapers in London, including the *Star*, the *Sun*, the *Weekly Sun*, and *T P's Weekly* His personal contributions were in essays, columns, and articles He also wrote *Gladstone's House of Commons* (1885), *The Parnell Movement* (1886), and other volumes See biography by H H Fyfe, (1934)

Oconomowoc (ŏkŏn'ŭməwŏk"), city (pop 4,562), SE WIS, W of Milwaukee; inc 1875 It is a resort in a lake and mineral-spring area and processes foodstuffs A mental hospital is near

O'Conor, Charles, 1804–84, American lawyer, b New York city He was admitted to the bar in 1824, and he was counsel in several famous lawsuits. A Democrat, he sympathized with the South in the Civil War and was counsel for Jefferson DAVIS during his imprisonment after the Civil War. O'Conor hoped for political office, but in spite of frequent nominations (including, in 1872, the nomination for President by the "Bourbon" democrats, a small dissident group) he was never elected. He helped to expose the Tweed Ring in New York city, and he wrote a bitter account of the struggle, *Peculation Triumphant* (1875). He was counsel for Samuel TILDEN before the Electoral Commission in the disputed election of 1876.

Oconto (ŏkŏn'tō), city (pop 5,362), co. seat of Oconto co., NE WIS., on the west shore of Green Bay and at the mouth of the Oconto; inc 1869. An early lumber center, it still makes lumber products The first church built for Christian Science worship (1886) is here

Oconto Falls, city (pop 1,888), NE WIS , on the Oconto river, in a dairy region; inc. 1919

Ocran (ŏk'răn) [Heb ,=troubled], father of a chief Asherite Num 1 13, 2 27, 7 72,77, 10 26

octave (ŏk'tĭv) [Latin,=eighth], in music, the INTERVAL between the first and eighth tones of the diatonic scale. The upper note of an octave has a frequency of vibration twice that of the lower, and in modern Western notation the two have the same letter name. The octave is the first overtone (see HARMONIC), and the range of the male voice is roughly an octave below that of the female, men and women supposedly singing "in unison" actually sing in octaves

Octavia (ŏktā'vēŭ). **1** d 11 B C., sister of the Roman emperor AUGUSTUS and wife of Marc ANTONY, her second husband (40 B C) She was distinguished for beauty and virtue, and for some years helped in maintaining peace between her brother and husband Antony fell in love with CLEOPATRA, and after his war with Augustus began, he sent Octavia a bill of divorce. After his death, she reared his children by Fulvia (his first wife) and Cleopatra as well as her own **2** A D 42–A D 62, daughter of the emperor Claudius I and MESSALINA and wife of NERO, whom she married in 53 Nero deserted her for Poppaea and divorced her She was falsely accused of adultery, banished to the island of Pandateria, and put to death She is the subject of *Octavia*, a unique contemporary tragedy

Octavian and **Octavius:** see AUGUSTUS.

October: see MONTH.

octopus (ŏk'tŭpŭs) [Gr ,=eight-footed], a cephalopod mollusk, also called devilfish, with a pouch-shaped body and eight arms with two rows of suction disks on each. There is no shell An ink sac, which darkens the water in case of danger, is usually present Aquatic animals, especially crabs, form the diet of the octopus A poisonous salivary secretion paralyzes the prey before it is torn apart by the arms and sharp jaws Octopuses are found in most temperate and tropical waters, often in rocky crevices They can creep over hard surfaces by means of the arms and can travel through water by moving the arms and by taking in water and ejecting it forcibly through the funnel or siphon as the muscular mantle contracts In size they vary from a few inches to the giant octopus of the Pacific Ocean which may reach a diameter of about 30 ft Some species are used for food

Oda Nobunaga see NOBUNAGA, ODA

Odda, Norway see HARDANGER FJORD.

ode, originally, in Greek, a poem sung to musical accompaniment The simpler form of this type of poetry, as exemplified by the odes of Sappho, Alcaeus, Anacreon, and other Aeolian poets, was adapted to the single voice The choral ode of early Greek poetry, sung by a group, became a formal, stately poem, usually dealing with a subject of public interest As developed before and by Pindar the choral type of ode was divided (according to the movement of the Greek chorus) into strophe, antistrophe, and epode Unlike those of Pindar, whose odes are elaborate in form, intense, and passionate, the odes of the Latin poets Horace and Catullus are personal, simple, and controlled Both types have influenced the ode in European literature In the Renaissance, the ode was revived in the 16th cent in Italy by Gabriello Chabrera and in France most successfully by Pierre de Ronsard Ronsard followed Pindar in the odes on public events and Horace in the more personal odes The odes of Horace also influenced the English 17th-century poets, especially Ben Jonson, Robert Herrick, and Andrew Marvell In the same century Milton's ode "On the Morning of Christ's Nativity" (1629) shows the influence of the Pindaric form Abraham Cowley and John Dryden in the 17th cent wrote poems for public occasions in which they tried to imitate Pindar Odes were written by the romantic poets, including Hugo, Lamartine, Leopardi, Wordsworth ("Ode Intimations of Immortality"), Shelley, and Keats The odes of these poets and of later poets, such as Algernon Swinburne and Gerard Manley Hopkins, tend to be much more free in form and subject matter than the classical ode See George Shuster, *The English Ode from Milton to Keats* (1940)

Odebolt (ō'dŭbōlt"), town (pop 1,350), W central Iowa, ESE of Sioux City, inc 1877. The principal product of the area is popcorn

Oded (ō'dĕd) **1** Father of the prophet Azariah 2 Chron 15.1. **2** Prophet who interceded for captive Judahites 2 Chron 28 9.

odeion: see ODEUM

Odem (ō'dŭm), city (pop 1,147), S Texas, NW of Corpus Christi; inc as a city 1929

Odenathus, Septimius (sĕptĭl'mēŭs ŏdĭnā'thus), d 267, king of Palmyra His family (the Septimii) had dominated PALMYRA for many years, and Odenathus by his policy of cooperation with Rome raised his state to its zenith. As a Roman general he warred against Shapur I of Persia after the defeat of VALERIAN. He won (260) a resounding victory over Shapur for Emperor Gallienus and drove the Persians back until he threatened Ctesiphon. He also put down an insurrection against Gallienus in Emesa Odenathus made of Palmyra a compact, well-run state, autonomous within the Roman Empire and including Syria, NW Mesopotamia, and W Armenia He and his eldest son were murdered, and soon after his death, his second wife, the beautiful and ambitious ZENOBIA (who may have connived in his death) brought Palmyra to ruin

Odenburg, Hungary see SOPRON.

Odense (ō'dhunsŭ), city (pop 92,436), N Fyn island, Denmark It is a seaport, a Lutheran episcopal see, and an important commercial, industrial, and administrative center There are iron foundries, shipyards, machinery, rubber, tobacco, textile, sugar, and glass factories and meat and fish canneries Dating from the 10th cent, Odense has retained a 12th-century church and its 14th-century Gothic cathedral. Hans Christian Andersen was born here

Odenwald (ō'dunvält), hilly, forested region, N Baden, W Germany, bordering on the Neckar, the Main, and the Rhine Its highest point (2,054 ft.) is the Katzenbuckel Fruit and grapes are grown on the western slope, and there are porphyry quarries

odeon see ODEUM

Oder (ō'dûr), Czech and Pol *Odra* (ō'drä), river, 562 mi. long, central Europe It rises NE of Olmütz, Czechoslovakia, and flows generally N through Silesia, Brandenburg, and Pomerania, past Ratibor, Oppeln, Breslau, Frankfurt an der Oder, and Küstrin, into the Baltic Sea at Stettin From its junction with the Lausitzer Neisse, above Frankfurt, it forms the border between Russian-occupied Germany and the German territories placed (1945) under Polish administration. Its upper course, from the Czech border to the Neusse, is in Polish-administered Silesia Navigable from Ratibor, the Oder is an important waterway of Central and Eastern Europe, connecting the industrial area of Silesia with the Baltic It is linked by canals with the Spree and the Elbe rivers, its chief tributary, the WARTA, provides a link with the Vistula Between the First World War and the Second World War the Oder was internationalized for part of its course

Odessa (ōdĕ'sŭ, Rus ŭdyĕ'sŭ), city (1939 pop 604,223), capital of Odessa oblast, SW Ukraine, on the Black Sea It is one of the chief ports of the USSR and an industrial center, with machinery plants, petroleum refineries, flour mills, sugar refineries, and chemical plants Grain, lumber, and sugar are the chief exports Odessa has a university, polytechnic and medical schools, a marine academy, an opera house, a conservatory of music, and numerous trade schools The city, descending in terraces from a hill to the sea, is laid out in a handsome, regular pattern After the Treaty of Jassy (1792), by which Turkey ceded the region to Russia, Odessa was built as a port and naval base It occupied the site of an ancient Greek colony (Odessos or Ordyssos) and of the later Turco-Tatar village Khadzhi-Bei The city grew rapidly as the chief Russian grain-exporting center Severe pogroms followed the mutiny (1905) on the battleship *Potemkin* at Odessa, and many of the Jews (then about 35 percent of the population) emigrated After the October Revolution of 1917, Odessa was successively occupied by the Central Powers, the French, the Ukrainians, the Reds, and the Whites, until in 1920 the Red Army took it from General Denikin It suffered greatly in the famine of 1921–22 In the Second World War, Odessa fell (Oct , 1941) to German and Rumanian troops after a heroic defense of two months It was under Rumanian administration until its liberation (1943) by the Red Army Many buildings were damaged or destroyed, 280,000 civilians, mostly Jews, are said to have been massacred or deported during the Axis occupation

Odessa (ōdĕ'sŭ) **1** City (pop 1,881), W Mo , ESE of Kansas City, in a farm area, platted 1878 **2** City (1940 pop 9,573, 1947 estimated pop 30,000), co seat of Ector co , W Texas, WNW of San Angelo, founded 1881, inc 1927 Exploitation of great oil deposits to the south have changed Odessa in two decades from a small town in ranching country to one of the big oil centers of the United States, with a carbon-black plant, refineries, plants making oil-field supplies, and like industries The airport between Midland and Odessa handles much transcontinental traffic Odessa has a junior college Near the city is a large meteor crater The region is underlaid with potash deposits

Odets, Clifford (ōdĕts'), 1906–, American dramatist, b Philadelphia An actor after 1923, he joined the Group Theatre in 1930 Several of his plays, collected as *Six Plays* (1939), were produced by the Group Theatre Of these *Waiting for Lefty* (1935) and *Awake and Sing* (1935) are outstanding *Golden Boy* (1937), also sympathetic to the left-wing point of view, is ranked close to them Later plays include *Night Music* (1940), *Clash by Night* (1941), and *The Big Knife* (1949)

odeum (ōdē'ŭm), **odeon,** or **odeion** (both ōdē'ŏn), a form of theater in ancient Greece and Rome, smaller than the great dramatic theaters and provided

with a roof. The odeum was devoted primarily to public musical performances. The earliest important odeum, at any rate the one which established the form, was completed at Athens in 445 B C by Pericles for the musical contests at the Panathenaic games His odeum was a circular building cut out of a rocky hillside, with a conical roof and pillars of wood within A most magnificent odeum was built by Herodes Atticus at the southwestern corner of the Acropolis at Athens, and its ruined walls are still visible west of the theater of Dionysus This structure seated c 8,000 persons and had a ceiling of carved cedar beams One of the few permanent theater buildings in Rome was the odeum built by Domitian (A D 51–A D 96) Other odea were built in Asia Minor In modern times the term *odeum*, or its French equivalent *odéon*, is sometimes used as a name for a theater or music hall The Odéon in Paris is a celebrated theater opposite the Luxembourg Gardens See A E Haigh, *The Attic Theatre* (1907), R C Flickinger, *The Greek Theater* (1918), A W Pickard-Cambridge, *The Theatre of Dionysus in Athens* (1940)

Odin, Norse god see WODEN

Odin (ō'dĭn), village (pop 1,849), S Ill , E of St Louis, in a coal and farm area, inc 1865

Odo, count of Paris, French king see EUDES

Odoacer (ŏdōā'sur) or **Odovacar** (ŏdōvā'kur), c 435–493, chieftain of the Heruli (see GERMANS) He and his troops were mercenaries in the Roman service, but in 476 the Heruli revolted and proclaimed Odoacer their king Odoacer defeated the Roman general ORESTES at Piacenza, took Ravenna (the West Roman capital), and deposed ROMULUS AUGUSTULUS, last Roman emperor of the West until the coronation (800) of Charlemagne The date 476 is conventionally accepted as the end of the West Roman Empire, in fact, however, Odoacer's action made little difference in the status of Western Rome, which had been prey to the barbarian soldiery for many years, the rulers had been mere puppets Emperor ZENO of the East, who considered himself heir to the West Roman Empire, reluctantly recognized Odoacer's *de facto* authority over Italy and granted him the title of patrician The Roman administration of Italy continued to function under Odoacer's rule In 488 Zeno sent THEODORIC THE GREAT, king of the Ostrogoths, into Italy to expel Odoacer Several times defeated, Odoacer in 493 consented to a treaty by which he was to share his authority with Theodoric. Invited to a banquet by Theodoric, Odoacer and his son and chief officers were treacherously assassinated, thus Theodoric made himself master of Italy

O'Donnell, Leopoldo (lāōpōl'dō ōdhō'nĕl), 1809–67, Spanish general and statesman, member of a branch of the Irish O'Donnells of Tyrconnel He fought successfully for MARIA CHRISTINA against the Carlists and went with her to France when ESPARTERO seized (1840) power in Spain He failed in a coup (1841) against Espartero at Pamplona, but returned (1843) to Spain after Espartero's fall He was governor of Cuba from 1844 to 1848, in 1854 he reached an agreement with Espartero, and they overthrew the government of Maria Christina He served as war minister (1854–56) under Espartero and was several times premier (1856–57, 1858–63, 1865–66) as leader of the Liberal Union party, which he had founded He followed a more or less moderate policy and restored (1856) the constitution of 1845 While premier, he took command in the successful Spanish campaign (1859–60) in Morocco and after the capture of Tetuán was given the title duque de Tetuán In 1866 his government was overthrown by Ramón Narváez and Juan Prim

O'Donnell, city (pop 1,187), NW Texas, S of Lubbock on the Llano Estacado, settled 1916, inc 1923. A chemical plant near by uses native sodium sulphate and magnesium sulphate

O'Donojú, Juan (hwan' ōdhōnōhōō'), d 1821, Spanish colonial administrator He distinguished himself in the army and became captain general of Andalusia Sent out (1821) as captain general and acting viceroy of New Spain, he found all Mexico, except a few towns, in the control of the revolutionists under ITURBIDE He signed the Treaty of Córdoba, conceding most of the revolutionary demands and became a member of the board of regents in Mexico He died before the treaty was disavowed by Spain

O'Donovan Rossa see ROSSA, O'DONOVAN

Odo of Cluny, Saint (ō'dō, klōō'nē), 879?–942, French monk, second abbot of Cluny He reformed his own abbey and the monastic life of France His work made Cluny great. See CLUNIAC ORDER.

Odovacar: see ODOACER

Odra: see ODER.

Odum, Howard Washington (ō'dum), 1884–, American sociologist, b Bethlehem (near Winder), Ga, grad. Emory College (now Emory Univ), 1904, M.A Univ of Mississippi, 1906, Ph.D. Clark Univ., 1909, and Ph D. Columbia, 1910. In 1920 he became Kenan professor of sociology at the Univ of North Carolina and was director of its school of public welfare (1920–32) and of its Institute for Research in Social Science (1924–44). A member of the North Carolina state planning board after 1935, he also served on many other state and regional committees Most important of his many writings are *Social and Mental Traits of the Negro* (1910), *The Negro and His Songs* (1925) and *Negro Workaday Songs* (1926), both with G. B Johnson, *Man's Quest for Social Guidance* (1927), *Southern Regions of the United States* (1936), one of the most complete and influential studies of its kind, *American Regionalism* (with H E Moore, 1938), *Race and Rumors of Race* (1943), *Understanding Society* (1947), and *The Way of the South* (1947) His three novels—*Rainbow round My Shoulder* (1928), *Wings on My Feet* (1929), and *Cold Blue Moon* (1931)—constitute a trilogy on the life of a wandering Negro

O'Dwyer, Joseph, 1841–98, American physician, b Cleveland, M D College of Physicians and Surgeons, 1866 He was long associated with the New York Foundling Hospital His great service was in perfecting intubation of the larynx in croup and diphtheria See J J Walsh, *Makers of Modern Medicine* (1907)

O'Dwyer, William (ōdwī'ur), 1890–, American public official, mayor of New York city (1945–), b Ireland Educated in Ireland and Spain, he immigrated to New York city (1910), was naturalized in 1916, and worked at many jobs while studying law at night Admitted (1923) to the bar, he served (1932–39) as city magistrate and county court judge He became district attorney (1939) and gained wide attention by his prosecution of a Brooklyn gang known as Murder, Inc He was an unsuccessful candidate for mayor (1941) In the army during the Second World War, he rose from major to brigadier general, represented the United States on the Allied Control Commission for Italy, and directed the War Refugee Board After he succeeded Fiorello H LAGUARDIA as mayor, he gave New York city its first billion-dollar budget, and he helped persuade the United Nations to make the city its home He was reelected in 1949

Odysseus (ōdĭs'ŭs, ōdĭ'sēŭs), Latin *Ulysses* (ūlĭ'sēz), in Greek mythology, king of Ithaca He was the grandson of Autolycus, the son of Laertes (in later accounts of Sisyphus), the husband of Penelope, and the father of Telemachus A Greek leader in the Trojan War, he was famed (as in the *Iliad*) for his cunning strategy and his wise counsel When Troy fell he wandered for 10 years before returning to his home in Ithaca The story of his wanderings, in which he met Polyphemus Cyclops, Aeolus, Circe, Calypso, Nausicaä, Scylla, Charybdis, the Sirens, the Laestrygones, and the lotus-eaters, is told in the ODYSSEY

Odyssey (ŏ'dĭsē) [from Odysseus], Homeric Greek epic in 24 books It falls into several parts, ingeniously connected In the first Telemachus, Odysseus' son, visits several friends seeking advice on his father's absence and on the troubles of his mother, Penelope, with the suitors, Menelaus informs him that his father is with Calypso, a nymph (Books I-IV) The poet then tells of Odysseus' leaving Calypso and of his arrival at Phaeacia, where he is entertained and where he relates the story of his wanderings (Books V–XII) The dramatic action begins with the return of Odysseus and Telemachus to Ithaca, they plan vengeance on the suitors (Books XIII–XXI) and kill them (Book XXII) Odysseus makes himself known to his wife and again rules his country (Books XXIII–XXIV) There are many translations of the *Odyssey*, exceptional are those by G H Palmer and T E Shaw

Oecolampadius, Johannes (jōhä'nēz ē"kulämpā'dēŭs), 1482–1531, German reformer, associate of ZWINGLI in the Reformation in Switzerland He was in 1516 a preacher at Basel, where he worked with Erasmus on his *New Testament* In 1520 he preached in Augsburg, then for a time was in a convent at Altmunster. Luther's teachings won his interest, and in 1522 he acted as chaplain among reformers under Franz von Sickingen at Ebernburg, returning soon to Basel to devote himself to the work of the Reformation He agreed with the views of Zwingli on the nature of the Eucharist, defending this position against Luther in the Colloquy of Marburg, 1529, while Zwingli disputed the question with Melanchthon See biographies by J J Herzog (1843) and K R Hagenbach (1859), also Williston Walker, *The Reformation* (1900)

Oedipus (ē'dĭpus, ē'–), in Greek mythology, hero who killed his father and married his mother Laius, king of Thebes and his queen, Jocasta, had a son, Oedipus, of whom it was foretold that he would murder his father The baby was exposed on Mt Cithaeron, but he was brought by a shepherd to the king of Corinth. When Oedipus was grown he learned from an oracle that he would kill his father and marry his mother, so he fled Corinth, thinking his foster parents were his real parents. At a crossroad he met Laius, quarreled with him, killed him, and then proceeded to Thebes. There he gained the widowed queen's hand by answering the riddle of the Sphinx. The prophecy was thus fulfilled After many years Oedipus learned the truth from the seer Tiresias and the shepherd, and in an agony of horror and revulsion he blinded himself Jocasta committed suicide. Creon, Jocasta's brother, became king Oedipus wandered for many years, finally dying in peace at Colonus Even after his death his unwitting sin cursed Thebes and his children, Antigone, Ismene, Polynices, and Eteocles (see SEVEN AGAINST THEBES) Sophocles' famous treatment of this legend is told in three extant tragedies (*Oedipus Rex*, *Antigone*, and *Oedipus at Colonus*) One of Igor Stravinsky's major works, written in collaboration with Jean Cocteau, is an opera-oratorio, *Oedipus Rex*, the text of which is based on Sophocles' tragedy. The painting *Oedipus and the Sphinx* by Jean Ingres is in the Louvre

Oedipus complex (ē'dĭpŭs), Freudian term, drawn from the myth, indicating a psychological condition reaching its height usually between the ages of four and five, in which the male exhibits an intense love for the mother and a corresponding hatred for the father The reverse situation, occurring with female children, is sometimes referred to as the Electra complex Freudians hold that if this complex is not worked out in childhood or by PSYCHOANALYSIS the individual's adult relationships will be determined by his feelings in the original situation See Patrick Mullahy, *Oedipus Myth and Complex* (1948).

Oehlenschläger, Adam Gottlob (ä'dăm gôt'lôb ûl'unshlägur), 1779–1850, Danish poet and dramatist He turned to the sagas and to Scandinavian history for many of his themes and is considered the national poet of Denmark His literary career began with the publication of the poem *Golden Horns* (1802) His works include lyrics, epics, and a series of historical dramas, the most famous of which, *Hakon Jarl* (1807), was written while he was in Germany Among his later works are the dramas *Axel and Valborg* (1809) and *Queen Margaret* (1833) In 1829 he was crowned Scandinavian poet laureate in the cathedral at Lund

Oelwein (ōl'wĭn), city (pop 7,801), NE Iowa, NE of Waterloo, inc. 1888 It is a rail, trade, and industrial center for a farm and livestock area

Oeneus (ē'nēŭs), in Greek mythology, king of Calydon, husband of Althaea, father of TYDEUS, DEIANIRA, and MELEAGER ARTEMIS, neglected in a sacrifice, terrorized his kingdom with a wild boar, which was killed in the CALYDONIAN HUNT

Oenone (ēnō'nē), in Greek mythology, nymph whom Paris loved before he met Helen Oenone was very skilled at healing, and when Paris was wounded in the Trojan War, he asked her to heal him, but she refused Later, when she heard that he was dead, Oenone killed herself

Oenothera: see EVENING PRIMROSE

Oersted, Hans Christian, Dan *Ørsted* (hāns' krĭs'tyän ûr'stĭdh), 1777–1851, Danish physicist and chemist He was professor at Copenhagen from 1806 His discovery (1819) that a magnetic needle is deflected at right angles to a conductor carrying an electric current established a relationship between magnetism and electricity and initiated the study of electromagnetism He was the first to isolate aluminum (1825)

Oesel, Estonia see SAARE

Oeta, Mount (ē'tu), Gr *Oite* (ē'tē), range, central Greece, SW of Lamia Stretching for c 15 mi and rising to 7,063 ft , it terminates in the east at Thermopylae In legend Hercules died here on a pyre after being poisoned by Nessus' robe.

O'Fallon, city (pop 2,407), SW Ill , E of St Louis, in a coal area, inc 1865. Scott Field, military air station, is near by

O'Faoláin, Seán (shôn' ōfā'lun), 1900–, Irish writer and teacher He received M A degrees from the National Univ of Ireland and Harvard Univ and was subsequently a fellow (1928–29) at Harvard before lecturing (1929) in English at Boston College Among his nonfiction works are the biographies of DeValera (1933) and of Daniel O'Connell, *King of the Beggars* (1938) Of his own country he has written the travel book *An Irish Journey* (1940), the historical *Story of Ireland* (1943), and the character study *The Irish* (1948), his travels abroad furnished material for *Summer in Italy* (1950) In fiction his short stories, collected in *Midsummer Night Madness* (1932), *A Purse of Coppers* (1937), and *The Man Who Invented Sin* (1948), have found wide acclaim, of his novels, best known are *A Nest of Simple Folk* (1933) and *Come Back to Erin* (1940) He also wrote the play *She Had to Do Something* (1938).

Ofen, Hungary see BUDAPEST

Ofen (ō'fŭn), pass, 7,070 ft high, Grisons canton, Switzerland, linking the Italian Tyrol with the Engadine Valley.

Offa (ŏ'fu), d 796, king of Mercia (757–96). Ambitious to extend his rule, he gradually asserted his overlordship in Kent and then Sussex, and by 774 his charters styled him *rex Anglorum* [king of the English]. He restricted Cynewulf, king of Wessex, to the area S of the Thames and in 794 had Ethelbert, king of the East Angles, beheaded, and thereafter ruled his kingdom. In time the rulers of Wessex and Northumbria became his sons-in-law In 786 the pope sent two legates to him, and by 788 Offa had set up an archbishopric of Mercia, putting the political power of the church in alliance with his own. His code of laws, now lost, was highly re-

garded by **King** Alfred, and the coinage in Kent which he regularized and expanded was continued until the reign of Henry III substantially without change Venturing into foreign relations, he quarreled with Charlemagne over a proposed marriage of their children, but in 796 signed with him the earliest recorded English commercial treaty At some time between 784 and 796 was built the earthwork between Wales and Mercia known as **Offa's Dyke** The Offa referred to in *Beowulf* and other Anglo-Saxon heroic poetry was not the king of Mercia, but a king of the Angles on the Continent, probably at the end of the 4th cent

Offaly (ŏ'fulē), formerly **King's**, county (771 sq. mi , pop 53,686), central Ireland, in Leinster. The county town is Tullamore A part of the central plain of Ireland, the county is for the most part flat, and a large portion is covered by the Bog of Allen The Slieve Bloom mts , on the southern border, rise to 1,700 ft The Shannon, the chief river, forms much of the western border Agriculture (grain crops, potatoes, and turnips) is the chief occupation, cattle, pigs, and poultry are bred in considerable quantity. With adjacent areas, the region formed the kingdom of Offaly in ancient Ireland It was organized as King's County in 1556, the name was changed after the establishment of the Irish Free State At Clonmacnoise are the ruins of one of the greatest religious centers of early Ireland

Offa's Dyke, ancient entrenchment of England and Wales, from the Dee estuary to near the mouth of the Wye river It was built in the 8th cent by Offa, king of Mercia, as a barrier against the Welsh and lies mainly along the England-Wales boundary Watt's Dyke, a similar work, roughly parallels Offa's at a distance of c 2 mi Parts of the dikes are well preserved

Offenbach, Jacques Levy (ŏ'funbŏk, ŏ'–, Fr zhak' lāvē' ôfĕnbäk'), 1819–80, French composer, b Cologne, son of a Jewish cantor He was the creator of the French operetta and composer of more than 100, the most successful of which was *Orphée aux enfers* (1858) Others, with librettos by Henri Meilhac and Ludovic Halévy, include *La Belle Hélène* (1864), *La Vie parisienne* (1866), *Barbe-bleue* (1866), and *La Grande Duchesse de Gérolstein* (1867) They were witty, fresh, and cleverly orchestrated works and were immensely popular during the Second Empire, which they satirized Offenbach's one serious opera, *Les Contes d'Hoffmann* (*Tales of Hoffmann*, 1881), was his masterpiece See biography by Siegfried Kracauer, *Orpheus in Paris* (Eng tr , 1938), Sacheverell Sitwell, *La Vie Parisienne* (1938)

Offenbach (ŏ'funbäkh), city (pop 60,528, with suburbs 75,479), Hesse, W Germany, on the Main just E of Frankfurt A manufacturing center, it has large leather, machinery, and chemical industries First mentioned in the 10th cent , it later became a petty principality under the Isenburg family It passed to Hesse-Darmstadt in 1815 In the Second World War it suffered considerable damage

offertory [Latin, =offering], in the Roman Mass and in derived liturgical forms, the formal presentation of bread and wine on the altar and their preparation It takes place after the Gospel and the creed and before the preface A short psalm verse from Scriptures is appointed to be said or sung at the beginning, it varies from day to day This is called the offertory verse From ancient times it has been customary to collect the alms of the worshipers about the time of the offertory, hence the term has been transferred to the collection taken up in nonliturgical services in Protestant churches and to the music played or sung during the collection The choice of this selection is usually left to the musicians of the church, and in many Protestant churches the offertory is the choir's principal musical selection in the service

Office of Price Administration (OPA), established in April, 1941, by executive order as the Office of Price Administration and Civilian Supply and renamed (Aug , 1941) the Office of Price Administration In Jan , 1942, the U S Congress gave the OPA broad authority to fix maximum prices and power to enforce them because consumer purchasing power was rapidly rising at the same time that supplies were dwindling in the Second World War The OPA issued (April, 1942) a general maximum-price regulation which made prices charged in March, 1942, the ceiling prices for most commodities Ceilings were also imposed on residential rents These regulations were gradually modified and extended by OPA administrators—notably Leon **Henderson** (1941–42), Prentiss H Brown (1943), and Chester B **Bowles** (1943–46)—until almost 90 percent of the retail food prices were "frozen " Prices continued to rise, but after President F. D Roosevelt issued (May, 1943) a "hold-the-line" order, new drives to secure compliance resulted, and the OPA succeeded in keeping consumer prices relatively stable during the remaining war years. Besides controlling prices, the OPA was empowered to ration scarce consumer goods in wartime. Tires, automobiles, sugar, gasoline, fuel oil, coffee, meats, and processed foods were ultimately rationed. At the end of the war rationing was abandoned, and price controls were gradually abolished, while rent ceilings were kept By Dec , 1946, the remaining responsibilities of the OPA had been consolidated with those of other war agencies into the Office of Temporary Controls—from which the rent-control functions were later (May, 1947) transferred to the Office of the Housing Expediter

Office of Strategic Services (OSS), secret agency of the United States created in 1942 for the purpose of obtaining information about enemy nations and of sabotaging their war potential and morale Headed by William H Donovan, the OSS comprised personnel from all the branches of the armed forces as well as civilians Although the "cloak and dagger" section gained the most publicity after the war, some of the most valuable work was done by the research and analysis section Sabotage missions behind enemy lines were particularly effective when carried out in conjunction with the underground in Nazi-dominated countries In 1945 President Truman transferred the research and analysis branch of the OSS to the Dept of State and the rest to the War Dept See Corey Ford and Alastair MacBain, *Cloak and Dagger the Secret Story of the OSS* (1946), Stewart Alsop and Tom Bradon, *Sub Rosa the OSS and American Espionage* (1946)

Office of War Information (OWI), created in 1942 to consolidate U S government information services The OWI absorbed the functions of the Office of Facts and Figures, the Office of Government Reports, the division of information of the Office for Emergency Management, and the foreign information service of the Coordinator of Information (reorganized as the Office of Strategic Services) Elmer Davis was named director Besides coordinating the release of news for domestic use, the office established an overseas branch, under Robert E Sherwood, which launched a huge information and propaganda campaign in the Second World War through the various media of mass communications Congressional opposition to the domestic operations of the OWI resulted in increasingly curtailed funds, and by 1944 the OWI operated mostly in the foreign field, contributing to the foreign understanding of America and to the undermining of enemy morale The agency was abolished in 1945, and its foreign functions were transferred to the Dept of State See Wallace Carroll, *Persuade or Perish* (1948)

offset: see PRINTING

O'Flaherty, Liam (lē'um ōflă'hurtē), 1896–, Irish novelist, b Aran Islands, Co Galway He ran away to serve on the Western Front in the First World War and later traveled widely His novels have an almost naturalistic realism, and *The Informer* (1925), successfully filmed, and a few others are adventure stories primarily Always compassionately interested in the common man, he wrote psychological novels of troubled individuals in *The Black Soul* (1924), *Mr Gilhooley* (1926), and *The Assassin* (1928) *Famine* (1937) and *Land* (1946) are novels of 19th-century Ireland He has also written notable short stories, as well as autobiographical works, *Two Years* (1930) and *Shame the Devil* (1934)

Ofu (ō'fōō), island (pop 500), Manua dist., American Samoa, c 60 mi from Tutuila It is a small islet rising to an elevation of 1,585 ft and has thick vegetation

Og (ŏg), giant king of Bashan conquered by the Israelites. Deut. 3 1–13.

Ogaden (ōga'dän), region, SW Ethiopia, bordering British Somaliland and Italian Somaliland It is an arid region inhabited by pastoral nomads A clash (Dec 5, 1934) between Italian and Ethiopian troops at the watering hole of Walwal was a major factor in precipitating the war between Italy and Ethiopia (1935–36)

Ogallala (ōgulă'lu), city (pop 3,159), co seat of Keith co , W central Nebr , on the South Platte river and W of North Platte city, laid out 1875, inc 1930 It was a cow town after 1867 Kingsley Dam (162 ft high and 10,700 ft long, earthen) in the North Platte river is near here and was completed in 1941

Ogasawara-gunto: see Bonin Islands

Ogbomosho (ŏbō'mōshō, ŏgbōmō'shō), town (pop. 86,744), SW Nigeria It is a seat of an American Baptist mission, which operates a normal school here Cotton cloth is woven

Ogden, Peter Skene (ŏg'dun), 1794–1854, Canadian fur trader in the Pacific Northwest, b Quebec, son of a man who was a Loyalist in the American Revolution In 1811 he entered the North West Company, and in 1818 he first went to the Columbia river country After the merger (1821) of the North West Company with the Hudson's Bay, he went on leave for a year (1822–23), then served the Hudson's Bay Company in the Columbia river region as a lieutenant of Dr. John McLoughlin From Fort Spokane, Ogden led the Snake river fur brigades in expeditions that made known much of the country of Idaho, Nevada, Utah, and California. He saw Mt Shasta in 1826 and explored the Humboldt in 1828, visiting the west and north shores of Great Salt Lake before returning to the west From 1835 to 1844 he headed the trade in the New Caledonia area (Canadian Pacific coast), then returned to Oregon and conducted himself admirably in the days of intense British-American rivalry and hostility In 1846 he succeeded McLoughlin as chief factor at Fort Vancouver (now Vancouver, Wash).

Ogden. **1** Town (pop 1,513), central Iowa, W of Boone, inc. 1878 **2** [for Peter Skene Ogden] City (pop 43,688), co seat of Weber co , N Utah, at the junction of the Ogden and Weber rivers and N of Salt Lake City Miles Goodyear had a trading post here before 1847, and the Mormons bought it prior to founding the city Ogden is today one of the most important railroad junctions in the West and the center of a region irrigated from both rivers and producing fruit, berries, grain, and other farm produce Ogden is the seat of Weber College (junior), the state industrial school, the state school for the deaf and the blind, and a Latter-Day Saints tabernacle There is an army airfield outside the town Mt Ogden (9,592 ft) is near by

Ogden, river rising in N Utah in the Wasatch Range and flowing south to join the Weber at Ogden The combined stream enters Great Salt Lake. It has been used for irrigation for nearly a century Pineview Dam, completed by the Bureau of Reclamation in 1937, is at the head of Ogden Canyon

Ogdensburg. **1** Borough (pop 1,165), NW N J , S of Franklin, inc 1914 **2** City (pop 16,346), N N Y , a port of entry on the St Lawrence at the mouth of the Oswegatchie and NE of Watertown, settled 1749, inc as a city 1868. It carries on extensive shipping in grain and lumber and makes paper and dairy products Its art gallery houses works of Frederic Remington, who lived here

Ogé, Vincent (vĕsäⁿ' ōzhā'), c 1750–1791, Haitian revolutionist and national hero A free mulatto, well educated and comparatively wealthy, he was sent to plead before the National Assembly at the outbreak of the French Revolution for the concession of civil rights to free mulattoes and for the emancipation of slaves in Haiti Failing in his mission, he returned to Haiti in 1790 and, when the French governor refused to remove restrictions, headed an insurrection Defeated, Ogé was tried, convicted of treason, and broken on the wheel

Ogeechee (ōgē'chē), river rising in NE Georgia, E of Atlanta, and flowing c 250 mi SE to the Atlantic S of Savannah

ogham (ŏ'gum, ō'um), ancient alphabet of the British Isles, especially Ireland. It was used in the first centuries of the Christian era and is found on gravestone inscriptions The language is the local Celtic Probably the system, which was cumbersome and invented by someone who knew Latin, was used with some idea of secrecy The letters consisted of from one to five strokes carved to the edge of the stone in one of four different ways The key is given in Irish manuscripts

Ogier the Dane (ō'jēur, ōzhyā'), in the **chansons de geste**, a paladin who rebelled against Charlemagne Morgan le Fay carried him away to Avalon, whence he returned, after 200 years, to save France Although as Holger, or Olger, Danske he has become a popular Danish hero, his historical prototype may have been a Frank. William Morris uses his story in *The Earthly Paradise*

Oglala Sioux see Sioux Indians.

Oglesby, Richard James (ō'gulsbē), 1824–99, Union general in the Civil War and Illinois political leader, b Oldham co , Ky He moved to Decatur, Ill , where he became a lawyer Oglesby fought in the Mexican War and went to California in the gold rush, but in 1851 he resumed his practice in Decatur In the Civil War he rose to be a major general of volunteers He fought under Grant at Belmont and Fort Donelson and was severely wounded at Corinth (1862) Resigning his commission in 1864, he was elected governor of Illinois Oglesby was governor (1865–69, 1873), U S Senator (1873–79), and again governor (1885–89) Oglesby, Ill , was named for him

Oglesby, industrial city (pop 3,938), N Ill , on the Illinois river at the mouth of the Vermilion and near La Salle, inc. 1902 It is in a limestone and coal area and produces cement

Oglethorpe, James Edward (ō'gulthôrp), 1696–1785, English general and philanthropist, founder of Georgia, b London, of a staunch Jacobite family Educated at Eton and Oxford, he held an army commission from 1713 to 1715 and in 1717 served as aide-de-camp to Prince Eugene of Savoy in his campaign against the Turks In 1722 he was elected to the House of Commons, where he held a seat for 32 years There, as chairman of a parliamentary committee investigating penal conditions, Oglethorpe became interested in the plight of the debtor classes The need for a buffer colony between South Carolina and the Spanish in Florida admirably fitted his proposal to establish an asylum for them. With 19 associates he was granted (June, 1732) a charter, to expire in 21 years, making them trustees of the colony of Georgia Early in 1733 Oglethorpe, leading 116 carefully selected colonists, reached Charleston, S C , and on Feb 12, 1733, he founded Savannah After establishing friendly relations with the Yamacraw, a branch of the Creek

Indians, who ceded their land for settlement, he set about perfecting the colony's defense against the Spanish, building forts and instituting a system of military training England declared war on Spain in 1739, and in 1740 Oglethorpe led an unsuccessful expedition against St Augustine However, near Fort Frederica on St. Simons Island, where he lived for most of his stay in Georgia, Oglethorpe defeated the Spanish in the battle of Bloody Marsh (June 9, 1742), thereby assuring Georgia's survival. A second unsuccessful assault on St Augustine (1743) and the displeasure of some of the colonists with his rigid management led to his recall to England The charges brought against him were dismissed, but he never returned to Georgia In the Jacobite troubles of 1745, accused of failing to overtake the refugees when sent in pursuit, he was court-martialed but acquitted Oglethorpe, promoted general in 1765, declined (1775) the command of the British army in America because he was not to have power of concession and conciliation. In his later years he was an intimate of the literary circle gathered around Samuel Johnson See *Letters from General Oglethorpe*, collected by the Georgia Historical Society (1873), biographies by Henry Bruce (1890), L F. Church (1932), and A A Ettinger (1936)

Oglethorpe, city (pop 1,048), co. seat of Macon co , W central Ga., SSW of Macon, in a farm area; inc 1849.

Oglethorpe University: see ATLANTA, Ga.

Ogmore and Garw (ŏg'mōr, gä'rōō), urban district (1931 pop 26,981; 1947 estimated pop 23,150), Glamorganshire, Wales, on the coast near Neath

Ogoki (ōgō'kē), river of central Ontario, rising in the lake region NW of Lake Nipigon and flowing 300 mi NE to the Albany river A dam at Waboose Rapids forms a reservoir 30 mi long which drains to the south, via Lake Nipigon and into Lake Superior

OGPU: see SECRET POLICE

O'Grady, Standish, 1846–1928, Irish author and historian A leader in the Celtic renaissance, he followed his *History of Ireland* (1878–80) with English versions of the heroic legends of Ireland The best are probably the volumes about Cuchulain (1892–1917; reprinted 1920)

O'Grady, Standish Hayes, 1832–1915, Irish scholar His great work was the *Silva Gadelica* (1892), a collection of old Irish tales He also translated heroic stories from the Gaelic and started a catalogue of the Irish manuscripts in the British Museum, thus laying a foundation for the later scholars of the Celtic renaissance

Ogunquit (ōgŭn'kwĭt), village (pop 615) in Wells town, SW Maine, on the coast, inc 1913 It is a summer resort and artists' colony, and there is a summer playhouse

Ogyges (ŏ'jĭjēz), in Greek mythology, ancient king of Boeotia It was in his reign that a vast and destructive deluge occurred, the Ogygian flood The legend is particularly associated with Thebes, which was also called after him Ogygia The adjective **Ogygian** (ŏjĭ'jĭən), derived from his name, means ancient

Ogygia (ōjĭ'jēə), in the *Odyssey*, isle of CALYPSO, somewhere in the west

Ohad (ō'hăd), one of the sons of Simeon. Gen. 46 10, Ex 6 15

Ohel (ō'hĕl) [Heb , =tent], one of Zerubbabel's sons. 1 Chron 3 20

O'Higgins, Ambrosio (ōhĭ'gĭnz, Span ämbrō'syō ōē'gēns), 1720?–1801, Spanish colonial administrator, b Ballinary, Co Sligo, Ireland He was educated at Cádiz and went to South America when a youth After an adventurous career he so distinguished himself in campaigns against the Araucanian Indians that he was appointed (1789) governor of Chile He was later made marquis of Osorno and served capably as viceroy of Peru (1796–1801) Bernardo O'Higgins was his son

O'Higgins, Bernardo (bĕrnär'dhō), 1776–1842, Chilean revolutionist and dictator, b Chillán, natural son of Ambrosio O'Higgins He took part in the uprising of MARTÍNEZ DE ROSAS and was *chosen in 1813 to replace José* Miguel CARRERA as revolutionary leader After the loss of RANCAGUA, O'Higgins fled to Mendoza, Argentina (then part of Chile), where he joined SAN MARTÍN In 1817 he returned with San Martín's victorious army and became supreme director of Chile, proclaiming Chilean independence at Talca on Feb 12, 1818 His financial, political, and social reforms aroused considerable opposition, and in 1823 he was deposed and exiled to Peru, where he remained until his death

Ohio, state (41,288 sq mi , 1940 pop. 6,907,612; 1949 estimated pop. 7,989,000), N United States, in the Great Lakes region of the Middle West, admitted 1803 as the 17th state (a free state) COLUMBUS is the capital, CLEVELAND is the largest city, and CINCINNATI and TOLEDO are also big. The Ohio river, from which the state takes its name, separates it in the southeast from West Virginia and in the south from Kentucky. Another natural avenue of commerce, Lake Erie, lies across the north, to the east is Pennsylvania and to the west is Indiana From the dunes along the lake to the gorge-cut plateau along the river, Ohio is generally fairly level, with some pleasant rolling country and in the southeast rugged little hills leading to the mountains of West Virginia. Once, in the time of the Indians, who inhabited Ohio even before the days of the MOUND BUILDERS, there were many square miles of virgin forest blanketing the plains south of the lake, but today there are only vestiges of the trees that helped to build the many cities The industrialized state has no wilderness but continues to draw from the earth coal and clay, stone for building, salt, natural gas, and oil. The land, which was scarcely scratched for the Indian cornfields, supports richly bearing farms, especially where the soil was improved ages ago by glacier-ground limestone. Though more than 90 percent of the working population is engaged in industry and perhaps 90 percent of the state's income is derived from commerce and manufacturing, Ohio still ranks eighth among the states in value of farm products, with its fruit orchards, grain fields, truck farms, dairies, and livestock Railroads and highways crisscross the state, bearing a tremendous traffic of raw materials and manufactures The Lake Erie ports—Toledo, Cleveland, and SANDUSKY—handle much ore, coal, oil, and finished materials The great quantities of iron and copper shipped from the farther Great Lakes shores have since the Civil War supplied some of the essentials to build the modern industrial society that prevails today Not only the ports but also other cities get their wealth from trade and manufacturing, with an emphasis on heavy industry YOUNGSTOWN and other places in the Mahoning river valley are lighted with the glare and darkened by the smoke of steel mills In central and W Ohio many sorts of machinery are made SPRINGFIELD, DAYTON, and Columbus have their own specialties In E Ohio and to some extent in the south, clays are made into a variety of products John D ROCKEFELLER and the Standard Oil Company helped to make oil refining a major industry in Cleveland, Toledo, and LIMA AKRON is known the world around for its rubber products Cincinnati, which built its fortune from the enormous traffic of the Ohio river in the early 19th cent , maintains it with commerce and diversified industry The development of farms, mills, shipping, and factories over a century attracted immigrants, and Ohio, which still shows traces of settlement by New Englanders in the late 18th and early 19th cent , has many national groups It shows little resemblance to the farming lands of that time, just as pioneer Ohio showed little resemblance to the pre-pioneer wilderness days Not long before the white man appeared, the Iroquois Confederacy had wiped out the Erie Indians in E Ohio, and there was a confused situation when the French came to the lake and the great river in the 17th cent The Miami Indians, the Shawnee, and the Iroquois tribes were prominent, and there were Ottawa Indians and other tribes in the northwest when the French and the British vied with each other for the rich fur trade of the Ohio valley The river was a magnet, and in the 18th cent there was a struggle to control it and the area its upper reaches drained (present W Pennsylvania, S Ohio, N Kentucky, and W West Virginia) The claiming of the land for France by Céleron de Blainville in 1749 and the activities of the OHIO COMPANY (with the explorations of Christopher GIST) paved the way for the outbreak of the last of the FRENCH AND INDIAN WARS The defeat of the French gave the land to the British, but there were still conflicting claims of Connecticut, Pennsylvania, New York, and Virginia The British government, after the flare-up of PONTIAC'S REBELLION sent an expedition under Henry BOUQUET to subdue the Indians, then set about placating them, and in 1774 adopted the QUEBEC ACT, intended to keep the territory as a dependency of Canada restricted to the Indians and the fur traders. The colonists interested in Western lands were thus balked, and the act helped to breed the discontent that led to the American Revolution In that war the present Ohio figured somewhat in the campaigns of George Rogers CLARK, and it passed to the new United States with the Treaty of Paris of 1783. The claims of the various states to Western lands still left the development of Ohio in a confused state until the quarrels were settled by the relinquishment of almost all claims (see WESTERN RESERVE) and the organization of the Old Northwest by the ORDINANCE OF 1787 Ohio was the first region developed under the provisions of that ordinance, with the activities of the OHIO COMPANY OF ASSOCIATES actively promoted by Rufus PUTNAM and Manasseh CUTLER. MARIETTA was founded in 1788 In the years that followed various land companies were formed, and there were booms, failures, and settlements. The settlers kept coming from the east down the Ohio on flatboats and barges and overland by wagon, their numbers varying with conditions but steadily swelling the population. The Indians, led for some time by the redoubtable Little Turtle, *resisted white advance* and were successful against campaigns led by Joseph HARMAR and Arthur ST CLAIR; Anthony WAYNE, however, thoroughly defeated them at Fallen Timbers (1794). Ohio was made a territory in 1799. General St. Clair, as the first governor, ruled in an arbitrary fashion that made Ohioans for many years afterward distrustful of giving even minimum authority to the executive. The Jeffersonian (Republican) party, preparing the way for statehood, called in 1802 a convention that drafted a constitution Congress passed an enabling act and set March 1, 1803, as the date for the beginning of state government. CHILLICOTHE was the first capital; Columbus became the permanent capital in 1816. The War of 1812, with the disgraceful loss of the West by the Americans and the redemption of that disgrace by O H. PERRY in his victory at the battle of Lake Erie and W. H. Harrison in his victory in the battle of the Thames, interrupted temporarily the development of Ohio, which sped forward again in later years, aided by the building of the Erie Canal and of many canals in Ohio. The firm society of small farms was supported by trade down the Ohio and the Mississippi to St Louis and New Orleans Ohio in 1837 won the territorial struggle with Michigan usually called the Toledo War Railroads succeeded canals gradually, and as Ohio was laced with rail lines, the way was prepared for industrial development after the Civil War. In that war most of the people of Ohio were sympathetic with the Union The Underground Railroad was active in the years before the war, there were prominent opponents of slavery such as Joshua R. GIDDINGS, Salmon P CHASE, and Edwin M STANTON, and Ohio contributed many soldiers to the Union army. Nevertheless, the Peace Democrats and the Knights of the Golden Circle were powerful. Clement L VALLANDIGHAM drew many votes in the gubernatorial election of 1863, and the COPPERHEADS were active until the end of the war Partly because of the peace sentiment John Hunt MORGAN pushed his famous raid deep into Ohio, but the state remained in Union hands Ohio had already been expanding on the basis of the Loan Law, adopted in the time of the Panic of 1837 to encourage railroad and industrial development The educational provisions of the Ordinance of 1787 had also been continued, and Ohio developed culturally as well as economically Early institutions such as Ohio Univ , Miami Univ , Western Reserve, Oberlin, and Antioch foreshadowed the tremendous multiplication of colleges that makes the state today a leader in higher education This trend was intensified by the industrial development after the Civil War, when the shipment of ore from Lake Superior and the development of the petroleum industry turned the state from farming to industry The center of influence at the same time shifted from the Ohio river to Lake Erie Immigrants began to swell the population, and huge fortunes were made. Ohio became very important politically U. S Grant was a native son, and the state contributed several later Presidents—Rutherford B Hayes, James D Garfield, William McKinley, W H Taft, and Warren G Harding Big business and politics became entwined as in the relations of Marcus A HANNA and McKinley City bosses such as George B Cox also bore out this pattern. The state as a whole was long steadily Republican, but political power was dubious, particularly after the rise of the labor movement Reform activities were forwarded by the decision of the Ohio supreme court which declared the Standard Oil Company guilty of violating the antitrust law in 1892 Liberal amendments to the state constitution were made in 1912 and later accepted Industrial Ohio was particularly sensitive to the depression that began in 1929 and struck both farm and factory In later years the state was wracked by strikes such as the sit-down strikes in Akron in 1935–36 and the so-called Little Steel strike in 1937 The Second World War brought great prosperity to the industrial communities, but labor strife was later resumed, as in the steel strikes of 1949 Yet, despite the problems facing a highly industrialized state, the fundamental situation of Ohio—with great resources of coal, oil, natural gas, clay, and salt—is sound as a basis of development. Floods in the many rivers flowing to the Ohio have offered a challenge The Ohio conservancy act of 1914 led to the control of the GREAT MIAMI river after a serious flood in 1912, and measures were taken to prevent and control floods on the Ohio itself; the flood of 1937 helped to forward interest in the flood-control project in the Muskingum valley. This project was a characteristic part of the forward-looking state program, linked with Federal activities Electricity and machinery have been brought to the farms, and rural education has been improved greatly, while every effort has been made to advance social and cultural activities. Cleveland and Cincinnati have developed notable music centers, and all Ohio has sought to demonstrate how an industrial society can supply a rich and varied life for all its citizens. See E. O. Randall and D. J. Ryan, *History of Ohio* (1912); C. H. Ambler, *History of Transportation in the Ohio Valley* (1932); E. H. Roseboom and F. H. Weisenburger, *History of Ohio* (1934); D. H. Crouse, *Ohio Gateway* (1938); H. H. Hatcher, *Buckeye Country* (1940;

rev ed., 1947) and *Western Reserve* (1949); Federal Writers' Project, *Ohio Guide* (1940); G. E. Wittke, *History of the State of Ohio* (6 vols, 1941–44); H. L. Roger and O. E. Fink, *Buckeye Tales* (1946); E. H. Roseboom and L. Roseboom, *Towboat River* (1948); C. C. Huntington, *Living in Ohio* (1948)

Ohio, river, 981 mi. long, formed by the confluence of the Allegheny and Monongahela rivers at Pittsburgh, Pa. Chief eastern tributary of the Mississippi river, the Ohio flows NW out of Pennsylvania, then goes southwestward forming the boundary between Ohio and West Virginia, then westward between Ohio and Kentucky until it reaches the Ohio-Indiana boundary, where it turns to the southwest, continuing in that general direction between Indiana and Illinois on the north and Kentucky on the south, until it empties into the Mississippi near Cairo, Ill. It drains an area of concentrated population and productive industries. The river rises nearly every spring and frequently causes floods. Those of 1913, 1936, and 1937 were particularly destructive. Acts of Congress have stimulated the construction by the U. S. Corps of Engineers of a system of dams, levees, walls, and reservoirs and of numerous local protection projects which considerably reduce the potential danger from floods for most of the region. These projects often provide collateral benefits such as improved sanitation and navigation and the production of hydroelectric power. In 1939 eight states ratified an antipollution plan. The Ohio's principal tributaries from the north are the Muskingum, the Scioto, the Great Miami, and the Wabash; from the south, the Kanawha, the Big Sandy, the Licking, the Kentucky, the Green, the Cumberland, and the Tennessee. Among the important cities on the river are Pittsburgh, Pa., Steubenville, Marietta, Gallipolis, Ironton, Portsmouth, and Cincinnati, Ohio, Madison, Jeffersonville, New Albany, Evansville, and Mt. Vernon, Ind., Cairo, Ill., Wheeling, Parkersburg, and Huntington, W. Va., and Ashland, Maysville, Covington, Louisville, Owensboro, and Paducah, Ky. The river, leading west through the heart of the continent, was from Indian days recognized as an artery of commerce. The French from Canada arrived early, but their spread of settlement was thin, and the river was used by them only as a means of getting to the Mississippi and of trading with the Indians until the middle of the 18th cent. Then the forks of the Ohio (where Pittsburgh now stands) attracted the interest of both French and British. Virginia planters formed the Ohio Company just as the French were preparing to move into the territory, and the outcome was the beginning of the last of the French and Indian Wars. Young George Washington had his first bitter experience of warfare when he was sent out in 1754 to forestall the French and was overpowered. Fort Duquesne, then built at the forks of the river, was one of the prizes of the war. The expedition of Gen. Edward Braddock failed to take it, but that of Gen. John Forbes succeeded in 1758, and French Fort Duquesne became British Fort Pitt. Shortly, however, the Quebec Act prevented any great development of the Ohio region, and it was only after the American Revolution that the Ohio Company of Associates and other land companies, as well as the settlers in Kentucky, were able to utilize the river for bringing out many settlers. Even then pioneers came in small groups until after the War of 1812. Then the river was crowded with flatboats, keelboats, barges, and rafts taking westward the families that in a short period had peopled the S Middle West. Commerce on the river was also expanding, as the produce of the Western farms was brought back east up the river or taken south to the Mississippi and New Orleans. The Erie Canal reduced somewhat the value of the Ohio in the late 1820s, but steamboat service quickened with its rapid carriage of farm products, coal, and (increasingly) manufactured products from the towns of Ohio and Indiana. The river was improved for navigation in 1827 and afterward, and traffic was brisk. It began to decline in competition with the railroads in the 1850s and shrank rapidly after the Civil War, but even today the Ohio carries the burden of many barges, and traffic is enough to warrant recent improvements for navigation. Recently constructed locks and dams provide a dependable channel for the main stream and its major tributaries and thousands of tons of freight are transported on the river yearly. See A. B. Hulbert, *The Ohio River* (1906), C. B. Firestone, *Sycamore Shores* (1936), L. D. Baldwin, *The Keelboat Age on Western Waters* (1941); R. E. Banta, *The Ohio* (1949).

Ohio Company, organization formed (1748) to extend the settlements of Virginia westward. The members were mostly Virginia planters interested in land speculation and the fur trade. A royal charter of 1749 granted the members 500,000 acres around the forks of the Ohio, and in 1750 the company employed Christopher Gist to explore the Ohio valley. The first organized group to develop the region W of the Alleghenies, the company embarked on vigorous British colonial activity, and the French viewed the moves as a challenge to their claim to this region. The immediate rivalry helped bring on the final French and Indian War. Later the Ohio Company merged its interests with another land company, but the American Revolution obstructed its plans. See K. P. Bailey, *The Ohio Company of Virginia and the Westward Movement, 1748–1792* (1939).

Ohio Company of Associates, organization for the purchase and settlement of lands on the Ohio river, founded at Boston, Mass., in 1786. Its organizers were a group of New England men, most of them Revolutionary veterans. The desire of the company to protect its interests helped to hasten the passage by Congress of the Northwest Ordinance of 1787. One of the directors, Dr. Manasseh Cutler, was sent to New York, where Congress was sitting, and during the summer and fall of 1787 he carried on negotiations in furtherance of the project. A contract, signed on Oct. 27, gave the company the right to purchase 1,500,000 acres at the confluence of the Ohio and Muskingum rivers for a payment of $1,000,000 in government currency, then worth about eight cents to the dollar. Cutler, in order to conclude the matter, shrewdly suggested the appointment of Gen. Arthur St. Clair, then president of Congress, as governor of the Northwest Territory. A second contract was also signed, giving Cutler and Winthrop Sargent, for themselves and others, the right to purchase land on the Ohio and Scioto rivers. One half of the land included in this arrangement was conveyed to Col. William Duer, Secretary of the Treasury Board, and his associates. The contract with the Ohio Company provided that one section in every township was to be devoted to the maintenance of public schools, another was to be set apart for religious uses, and two entire townships were to be reserved for a university. Settlement of the company's grant was started in April 1788, by Gen. Rufus Putnam, a director, who laid out Marietta.

Ohio Northern University. see Ada, Ohio

Ohio State University, at Columbus, land-grant supported, coeducational, chartered 1870, opened 1873 as Ohio Agricultural and Mechanical College, renamed 1878. It includes colleges of agriculture, arts and sciences, commerce and administration, dentistry, education, engineering (with architecture), law, medicine, pharmacy, and veterinary medicine and schools of fine and applied arts, home economics, journalism, music, nursing, optometry, and social administration. There are business, educational, and surgical research bureaus, engineering, forestry, and wildlife experiment stations, an industrial research foundation, plant, animal, and government institutes, a biology and fisheries laboratory, medical and other clinics, and the Ohio Biological Survey. The university has a large library, the state museum, and a radio station. A large telescope is owned jointly with Ohio Wesleyan Univ. Graduate work, research, and public service are important.

Ohio University, at Athens, state controlled, coeducational, chartered 1804, opened 1809, the oldest college in the Old Northwest. It has colleges of applied science, arts and sciences, commerce, education, and fine arts.

Ohio Wesleyan University (wēs'lēun), at Delaware, coeducational, chartered 1842, opened 1844 by Methodists. In 1877 it absorbed Ohio Wesleyan Female College (chartered and opened 1853). The medical school at Western Reserve Univ. was a department here from 1896 to 1910. Perkins Observatory, with a large telescope, is owned jointly with Ohio State Univ. See history by H. C. Hubbart (1943).

Ohm, Georg Simon (gā'ôrk zē'mōn ōm'), 1787–1854, German physicist. He was professor at Munich from 1852. His study of the electric current led to his formulation of a law now known universally as Ohm's law. The unit of electrical resistance, the ohm, was so named in his honor. He also made studies in acoustics and of interference in crystals. His writings include *The Galvanic Current Investigated Mathematically* (1827, Eng. tr., 1891).

ohm [for G. S. Ohm], unit of electrical resistance. The international ohm (the practical unit) is defined as the resistance offered to the flow of an unwavering electric current by a column of mercury at 0°C., 106.3 cm. long, constant in cross section, and having a mass of 14.4521 g.

Ohm's law [for G. S. Ohm] states essentially that the electromotive force (in volts) of an electric current flowing along a conductor is equal numerically to the product of the current strength (in amperes) and the resistance of the conductor (in ohms). As a simple equation, it is V(volts) = A(amperes) x R (resistance in ohms), or E (electromotive force or volts) = I (current) x R (resistance). See P. W. Bridgman, *Failure of Ohm's Law in Gold and Silver at High Current Densities* (1922), H. O. Cooper, *Ohm's Law and Temperature-Resistance Charts* (1932).

Ohrid, Yugoslavia see Ochrida.

Ohthere (ōthēr'ə), fl. 880, Norse explorer. His account of his voyage around the North Cape, along Lapland, and into the White Sea was incorporated by Alfred the Great in the introduction to his Anglo-Saxon translation of Orosius' universal history and was requoted by Hakluyt in his *Principal Navigations*. Another voyage of Ohthere southward along the Norwegian coast and to Denmark furnished additional information on the geography of N Europe.

Oich, Loch (lŏkh ōkh'), lake, Inverness-shire, Scotland. It is part of the Caledonian Canal.

oil cake. see linseed cake.

Oil City, city (pop. 20,379), NW Pa., on the Allegheny and c. 75 mi. NNE of Pittsburgh, laid out c. 1860, inc. as a borough 1862, as a city 1871, reinc. 1881. It is a center of the oil industry and engages in refining and distribution and in production of oil-well equipment. Edwin L. Drake, driller of the first oil well in the United States, struck oil (1859) near Titusville, 15 mi. north of the city, and started the growth of Oil City.

oilcloth, originally, cloth treated with oil or other substances so as to be waterproof and used for fishermen's and sailors' wear, for coach robes and covers, and later as a floor covering, called floorcloth. Subsequently it was made of heavy canvas, jute, or burlap, sized with glue, and coated with a thick oil paint, several coats being used and successively rubbed down with pumice stone. It was machine printed, dried in a drying room, varnished, and rolled. Linoleum has superseded oilcloth as a floor covering. A variety of oilcloth fabrics is now produced for wall, table, and shelf coverings, for raincoats, and for many small wares.

oil engine see internal-combustion engine.

oil of vitriol. see sulphuric acid.

oils, term commonly used to indicate a variety of greasy, fluid substances which are, in general, viscous liquids at ordinary temperatures, lighter than water, insoluble in it but soluble in alcohol and ether, and inflammable. These substances, however, differ so much among themselves in chemical composition that, in chemistry, their classification in one group is not practical and is employed only in a general way in accordance with popular usage. Petroleum probably originated in organic matter of past geologic time, because many have regarded it as inorganic, petroleum and its oily derivatives were early classed as mineral oils. They are widely used as fuels, illuminants, and lubricants. Distinguished from these in that they are obtained from animals and plants and are mixtures of carbon-hydrogen-oxygen compounds are the **fatty oils** or **fixed oils.** There is fundamentally no difference between fatty oils and fats (see fats and oils). Such oils are used extensively as lubricants and in the making of soap. Depending upon their ability to absorb oxygen when exposed to the atmosphere and form a thin, skinlike layer over substances upon which they are spread, the fixed, or fatty, oils are classed as drying or nondrying oils. The drying oils, e.g., linseed, hempseed, and poppy-seed oil, are used in making paints and varnishes. On the other hand, such vegetable oils as olive, rapeseed, and castor oil and such animal oils as lard oil and neat's-foot oil do not possess this property and fall into the nondrying group. Another large and varied group of oils is recognized, the **essential oils** or **volatile oils,** which occur in plants but differ from the fixed, or fatty, oils in that they are volatile. In general, they give to the plant in which they are found its characteristic odor, flavor, or other properties (including medicinal) peculiar to it. They occur in various parts of the plant body, in the seeds, flowers, bark or leaves, and are also concentrated in certain special cells or groups of cells (glands). Because of their properties, they are widely used in perfumes, flavoring, and medicines. Their chemical composition differs a great many, for example, are principally terpenes, compounds of carbon and hydrogen. Others contain aldehydes, ketones, or phenols. Oxygen, sulphur, and nitrogen are present in compounds in others. In general, they are complex mixtures. They are obtained from the plant in various ways, depending upon the nature of the part in which they occur—by compression, by distillation with steam, by dissolving the oils out (extraction) or absorbing them, and by pressure and maceration. Included in the essential oils are those of anise, attar of roses, caraway, cardamom, cinnamon, clove, copaiba, cubeb, dill, eucalyptus, hyssop, lavender, lemon, mustard, patchouli, pennyroyal, peppermint, rosemary, rue, sandalwood, sassafras, spearmint, tarragon, thyme (see also thymol), turpentine, and wintergreen. Oils are also obtained from asafetida, bergamot, camphor, coriander, fennel, garlic, ginger, hop, jasmine, juniper, myrtle, parsley, pimento, tansy, tea, and wormwood.

oilstone. see hone and whetstone.

Oilton, oil city (pop. 1,225), N central Okla., on the Cimarron river and SW of Tulsa; founded c.1915.

Oirat Autonomous Oblast or **Oirot Autonomous Oblast,** RSFSR: see Mountain-Altai.

Oise (wāz), department (2,273 sq. mi., pop. 396,724), N France, N of Paris, occupying parts of Ile-de-France and of Picardy and drained by the Oise river. It is a fertile agricultural area. Beauvais is the department capital.

Oise, river, 186 mi. long, rising in the Ardennes mts., just inside Belgium. It flows through N France,

SW past Compiègne to join the Seine NW of Paris shortly below Pontoise.

Oisin: see OSSIAN.

Oita (ō'ētä), city (1947 pop 86,570), capital of Oita prefecture, NE Kyushu, Japan, a port on Beppu Bay It is a railroad and manufacturing center. Mountainous Oita prefecture rises to Mt Kuju (5,850 ft), highest peak of Kyushu There are gold, silver, and tin mines

Ojai (ō'hī), mountain resort (pop 1,622), S Calif, NW of Los Angeles, in a fertile valley; inc 1921.

Ojeda, Alonso de (älōn'sō dā ōhā'dhä), c.1466–1515?, Spanish conquistador He joined Columbus on his second voyage and in 1499—at first accompanied by VESPUCCI—explored the northeastern coast of South America In 1508 he was made governor of territories of N South America Near present Cartagena he was defeated by the Indians and virtually rescued by NICUESA Again he had trouble with the Indians and, leaving his men under command of Francisco PIZARRO, sought aid in Hispaniola. He reached Cuba, but his actions after arrival are obscure His men abandoned the colony and were picked up not far from Cartagena by ENCISO

Ojibwa Indians (ōjĭb'wă",-wū) or **Chippewa Indians** (chĭp'pŭwă",-wū), group of North American Indian tribes of the Algonquian linguistic stock In the mid-17th cent, when visited by Father Jean Alloues, they occupied the shores of Lake Superior They were constantly at war with the Sioux and the Fox over possession of the rich fields of wild rice in this region. When the Ojibwa received (c 1690) firearms from the French, they drove the Fox from N Wisconsin They then turned against the Sioux, compelling the Sioux to cross the Mississippi The Ojibwa continued their march westward across Minnesota and North Dakota until they reached the Turtle Mts in N central North Dakota, where they established their westernmost band This band became the Plains Ojibwa In 1736 the Ojibwa obtained their first foothold E of Lake Superior, and after a series of engagements with the Iroquois, they obtained the peninsula between Lake Huron and Lake Erie Thus by the mid-18th cent the Ojibwa controlled a large area, from the eastern shore of Lake Huron in the east to the Turtle Mts in the west The Ojibwa, one of the largest tribes N of Mexico, then numbered some 25,000 They took the part of the French in the French and Indian Wars and of the British in the War of 1812 The Ojibwa had been involved in the wars of the Old Northwest After the War of 1812 they made a treaty with the United States, and since that time they have remained peaceful They live on reservations in Michigan, Wisconsin, Minnesota, and North Dakota, where, all told, they number some 33,000 The Ojibwa, except for the Plains Ojibwa, had an Eastern Woodlands area culture They were a fairly sedentary people who depended for food on fishing, hunting (deer), farming (corn and squash), and gathering of wild rice They obtained and used maple sugar and smoked bark "tobacco," kinnikinnick The characteristic dwelling was the wigwam The Ojibwa had a unique form of picture writing which was intimately connected with the religious and magico-medical rites of the Midewin society. The name also occurs as Ojibway and Chippeway, but they are not to be confused with the CHIPEWYAN INDIANS See Alex Hrdlicka, *Anthropology of the Chippewa* (1916), Ruth Landes, *Ojibway Sociology* (1937)

Oka, village (estimated pop 1,000), S Que, on the north shore of the Lake of the Two Mountains (a widening of the Ottawa) and WSW of Montreal It is noted as the site of a Trappist monastery and farm (est 1881), where Oka cheese is made An agricultural institute here is affiliated with the Univ of Montreal

Oka (ŏkä'), river, 950 mi. long, central European RSFSR, the chief right affluent of the Volga It rises S of Orel and flows N past Orel and Kaluga, then E past Kolomna and Ryazan, then NE past Murom, and joins the Volga at Gorki (formerly Nizhni Novgorod) It is navigable for large vessels (grain and lumber transports) below Kolomna, 550 mi above its mouth, and traverses densely populated agricultural and industrial areas Among its tributaries are the Moskva, Klyazma, and Moksha.

Oka, river, 500 mi long, RSFSR, in S central Siberia. It rises in the Sayan Mts. and flows north to join the Angara at Bratsk.

Okada, Keisuke, Marquis (kā'sōōkā ōkä'da), 1867?–, Japanese statesman. An admiral, he was (1927–29, 1932–33) minister of the navy before serving (1934–36) as premier In Jan., 1936, the election went against the ultranationalists and militarists, and on Feb. 26 young soldiers in a "barrack" uprising killed the finance minister and other officials. Okada escaped, but had to resign, and the incident ultimately strengthened the power of the army.

Okanagan Lake (ōkŭnă'gŭn), 69 mi. long and from 2 to 4 mi. wide, S British Columbia It is drained S by the Okanagan river to Osoyoos Lake, which in turn is drained by the Okanogan river of Washington.

Okanogan (ōkŭnă'gŭn), commercial town (pop. 1,735), co seat of Okanogan co., N central Wash. on the Okanogan river, settled 1886 It is 20 mi from old Fort Okanogan, near which the first Americans came to settle in the Washington Territory Okanogan is the headquarters of the Chelan National Forest

Okanogan, river of N Washington, rising in Osoyoos Lake, at the Canadian border, and flowing south c 100 mi to the Columbia Osoyoos Lake is fed by the Okanagan river of British Columbia.

Okanogan Indians or **Okinagan Indians** (both: ōkŭnă'gŭn), group of North American Indian tribes of the Salishan linguistic stock In the early 19th cent they lived on the west side of the Okanogan river in Washington and northward into British Columbia In winter the Okanogan lived in semisubterranean earth lodges and in summer in mat or bark lodges They fished, hunted, and gathered roots and berries The Okanogan did not make war on the whites although their land claims were never adjusted Today they live in British Columbia and, with the Colville (a related tribe), on the Colville reservation in Washington. See Leslie Spier, ed, *The Sinkaietk or Southern Okanogan of Washington* (1938).

Okavango (ōkŭvăng'gō) or **Kubango** (kōōbăng'gō), Port *Cubango*, river, c 1,000 mi long, rising in N central Angola and flowing SE to Lake Ngami in N Bechuanaland protectorate

Okayama (ōkä'yämu), city (1947 pop 140,631), capital of Okayama prefecture, SW Honshu, Japan, on an inlet of the Inland Sea A railroad and industrial center, it is known for its feudal castle, its 18th-century park, and its medical university Okayama prefecture is a major production area for floor mats, made from rushes

Okeechobee (ō"kēchō'bē), city (pop 1,658), co seat of Okeechobee co., S central Fla., on the north shore of Lake Okeechobee It is a shipping center for vegetables, poultry, fish, and frogs

Okeechobee, Lake, large shallow lake, S central Fla., N of the EVERGLADES, second largest freshwater lake wholly within the United States It is c 35 mi long, 30 mi wide, and 15 ft at its deepest and covers c 750 sq mi In reclaiming the Everglades and adjacent lands many canals (also used for transportation) were built, the most important are those of the Okeechobee Waterway The mass-production agricultural methods of the large food corporations which cultivate the drained lands bordering the lake produce bumper crops in winter vegetables (beans, celery, cabbage, tomatoes) and sugar cane West of the lake is a thriving cattle country After the disastrous hurricane of 1926, levees were built along parts of the lake's shore to protect the country from flood waters Okeechobee is a favorite fishing resort and also has commercial fisheries See A J Hanna and K A Hanna, *Lake Okeechobee* (1948)

O'Keeffe, Georgia (ōkēf'), 1887–, American painter, b Sun Prairie, Wis, studied at the Art Institute of Chicago and the Art Students League, New York She was a commercial artist in Chicago from 1908 to 1909 and after studying at Teachers College, Columbia Univ, taught art in the public schools at Amarillo, Texas, and in the West Texas State Normal College In 1916 Alfred Stieglitz exhibited her work at his Fifth Ave gallery, and in 1918 she gave up teaching, went to New York, and devoted herself to painting Her enlarged and conventionalized flower studies in brilliant color won her an enthusiastic audience She has also painted landscapes and abstractions but is best known as a highly original and daring flower painter, her flowers are often shown with bones and skulls against a background of New Mexican mountains Famous among such paintings is *Ram's Head, White Hollyhocks, Hills* In 1924 Georgia O'Keeffe married Alfred Stieglitz She worked largely in New York and New Mexico She is represented in the Tate Gallery, London, the Metropolitan Museum, and the museums of Brooklyn, Cleveland, Detroit, Springfield, Mass, and Washington, D C

O'Keeffe, John, 1747–1833, English actor and playwright, b Dublin Best remembered today as the author of the song *I Am a Friar of Orders Grey*, O'Keeffe was a well-known actor until 1797, when blindness forced him from the stage. He wrote many plays and comic operas, and his comedy *Wild Oats* (1791) enjoyed a long run in London

Okeene (ōkēn'), town (pop. 1,079), NW central Okla., SW of Enid and near the Cimarron river.

Okefenokee Swamp (ō"kŭfunōk', -nō'kē), c 40 mi long and averaging 20 mi in width, mainly in SE Georgia, partly in N Florida It forms the bulk of the Okefenokee Wildlife Refuge of 479,450 acres, designated in 1937 by presidential proclamation The swamp abounds in varied wildlife and is drained by the Suwanee and St. Marys rivers. Early attempts to exploit the rich timber resources of the swamp proved too costly to be practicable.

Okemah (ōkē'mŭ), city (pop. 3,811), co. seat of Okfuskee co., E central Okla., near the North Canadian river SW of Tulsa, in an oil and agricultural region, settled 1902. The state training school for Negro boys is here.

Okhotsk, Sea of (ōkŏtsk'), Rus *Okhotskoye More* (ōkhôts'kŭyŭ môr'yŭ), northwest arm of the Pacific ocean, W of the Kamchatka peninsula and the Kurile Islands It is connected with the Sea of Japan on the southwest by Tatar and La Pérouse straits and with the Pacific Ocean on the southeast by passages through the Kurile Islands. It is visited by heavy fogs and in its northern portion is icebound during much of the year. Fishing and crabbing are carried on off W Kamchatka peninsula Among the ports are Nagayevo, the port of the mining town Magadan and the town of Okhotsk.

Okhrida, Yugoslavia: see OCHRIDA.

Okinawa (ō"kēnä'wä), island (467 sq mi.; 1940 pop 435,681), SW Pacific, largest (60 mi long and 9 mi wide) of the Okinawa Islands in the Ryukyu Islands chain Volcanic in origin, it is mountainous and densely covered with vegetation Products are sugar cane, sweet potatoes, charcoal, and dried fish Manufacturing—of Panama hats, textiles, and pottery—centers at the chief city and port, NAHA On the west coast are Kadena and Yontan airfields. Okinawa was the scene of the last great U S amphibious campaign in the Second World War U S army and marine forces landed on April 1, 1945, attacked Japanese fortified lines on April 10, and fought one of the bloodiest campaigns of the war, while the navy offshore suffered heavy damage in resisting attacks by suicide planes (see KAMIKAZE) The Japanese garrison, having lost 103,000 of the 120,000 men, ended organized resistance on June 21, 1945 U S casualties were 48,000, one fourth listed as dead Ie-jima, just off the west coast, was the scene of part of the campaign, Ernie Pyle was killed here Okinawa, until 1945 seat of the Okinawa prefecture (which included all the Southern Ryukyu Islands), was placed in Aug., 1945, under a U S military governor

Oklahoma (ōklŭhō'mŭ), state (69,283 sq mi, 1940 pop 2,336,434, 1949 estimated pop 2,302,000), SW United States, admitted 1907 as the 46th state OKLAHOMA CITY is the capital, and the only other large city is TULSA The state is bounded on the north by Kansas and on the east by Missouri and Arkansas, the Red River marks the border with Texas across the south, except where in the west the Texas Panhandle thrusts north and reduces Oklahoma to a thin panhandle reaching W to New Mexico and in its extreme part bounded on the north by Colorado The high, short-grass plains of W Oklahoma are part of the GREAT PLAINS and, like the rest of that area, are frozen by north winds in the winter and baked by soaring heat in summer There are wide grazing lands and broad wheat fields The plains are broken here and there, notably by Black Mesa in the Panhandle and by the Wichita Mts in the southwest, but the general slope is downward to the east, and central and E Oklahoma is mostly prairie, rising in the northeast to the Ozark Mts and in the southeast to the Ouachita Mts The rivers that trend from west to east across the state—the Arkansas and its tributaries, the Cimarron and the Canadian (with the North Canadian) in the north, the Red River with the Washita and other tributaries in the south—are much more prominent in the east, where there are many small farms, once to a good extent given over to cotton but now yielding wheat, other grains, and diversified products. There are also prosperous dairy farms and large cattle ranches About McAlester there are coal mines, from the northeast come zinc and lead, and from W Oklahoma some gypsum But the mineral deposits that have given the state its wealth are the oil fields After the first well was drilled in 1888, the business grew by fits and starts to enormous proportions, and Oklahoma City and Tulsa are among the great oil centers of the world. To the outsider, indeed, two of the most striking aspects of Oklahoma are oil and the Indian heritage The region had seen the rise of several Indian cultures—some of a high material level—before the first white men visited the land in 1541 Coronado and his men almost certainly crossed Oklahoma in their search for Quivira, and Hernando De Soto may have visited E Oklahoma Later Juan de Oñate passed through W Oklahoma, and some other Spanish explorers and traders and French traders from Louisiana visited the east, but there was no development. The Indians roamed over the land, tribes of the Plains cultures—Osage, Kiowa, Comanche, and Apache—in the west, and the Wichita and other more sedentary tribes farther east. It is asserted that the first white trading post was established at Salina by the Chouteau family of St Louis even before the territory was transferred to the United States by the LOUISIANA PURCHASE in 1803, but the land remained in the control of the sparse and nomadic Indian population. For the most part only traders, official explorers (notably Stephen H. Long), and scientific and curious travelers (among them Washington Irving and George Catlin) came into the present state. In 1819 the U.S. government invited the Cherokee Indians of Georgia and Tennessee to move into the area, and a few had come to settle before intense white pressure, with the approval of President Andrew Jackson, forced

them and the others of the Five Civilized Tribes (the Choctaw, the Chickasaw, the Creek, and the Seminole) to abandon their old homes and to take up residence in what was to become the INDIAN TERRITORY They settled on the hills and little prairies of the eastern section and built separate organized states and prosperous communities The Cherokee, particularly, had a highly Europeanized culture with a written language, invented by their great leader SEQUOYAH, and highly developed institutions Some of them were slaveholders and ran their agriculture on the traditional Southern plantation pattern; others were small farmers The Five Civilized Tribes clashed briefly with the Plains Indians, particularly the Osage, but they were for a time free from white interference, and they were able to establish a civilization that strongly affected the whole history of the region The troubles of the whites did not, however, long escape them, and the Civil War was a major disaster Though no battle of the actual war was fought in present Oklahoma, there were innumerable little civil wars The Southern tradition led all the tribes to ally themselves with the Confederacy, but Unionist disaffection was strong in all, and individual violence was so prevalent that many fled, leaving their farms to desolation When the fighting was over, restoration was strenuously undertaken, but change was upon the Five Civilized Tribes As punishment for taking the Confederate side, they lost all the western part of the territory, and the Federal government began assigning lands there to tribes that had been driven from their lands and shunted about elsewhere, such as the Delaware and the Shawnee, as well as to wild Plains tribes, who caused much trouble before they were subdued and firmly settled on reservations Worse, the land had become desirable to the whites Immediately after the Civil War came the long drives of cattle from Texas to the railroad in Kansas, and the old cattle trails led across Oklahoma, the best known of them perhaps the Chisholm Trail The cattle were fattened on the virgin ranges of Oklahoma, and cattlemen began to look at the grasslands with speculative and covetous eyes The first railroad actually to cross Oklahoma came in 1870 72, and it was not possible to keep white settlers out They came despite laws and treaties and covenants, and by the '80s there was a strong clamor of which Ranches were developed, too, nominally owned by Indians, but actually controlled by white cattlemen and their cowboys, the region took on a tinge of the Old West of the cattle frontier, which it has never wholly lost In the '80s, too, land-hungry frontier farmers, the "boomers," agitated to be given the "unassigned" lands in the western section—the lands not given to any Indian tribe The agitation succeeded, and after the ownership had been cleared with the Creek and the Seminole, a large strip was opened for settlement with much fanfare on April 22, 1889 Prospective settlers lined up on the Kansas border and at high noon were allowed to cross on a "run" to compete in finding and claiming the best lands Those who illegally entered ahead of the set time were the "sooners" Later other strips of territory were opened and settlers poured in from the Middle West and the South The western section became the Oklahoma Territory in 1890, complete with the Panhandle, the tiny band of territory which had been taken from Texas by the Compromise of 1850 and had become a no-man's land, where settlers had come in, undisturbed Oklahoma Territory was enlarged and developed, and the "twin territories" stood side by side, but not for long In 1893 the DAWES COMMISSION was appointed, and though the Indians resisted, the policy of dividing the tribal lands in individual holdings was finally enforced in 1906 The open lands of the Indian Territory were thus made available to white men The Civilized Tribes made the best of a poor bargain and joined in the creation of a state, which was admitted in 1907 with a constitution replete with agrarian radicalism Already, however, the oil boom had reached major proportions, and the young state was on the verge of industrial development At the same time more and more acres were being sown with wheat, the cattle-land holdings shrank but were still enormous Oklahoma soon had created the free and easy Western society that was to characterize it as a state Its virtues were well represented in the man who was perhaps the most widely loved of all Oklahomans, Will ROGERS. His mocking attitude toward politics, mingled with serious concern for the welfare of the people, reflects an attitude typical of Oklahoma. Political life has been turbulent and streaked with displays of broad humor. In the troubled days of the 1930s the most prominent of the politicians, Governor William H Murray (Alfalfa Bill Murray), presented his programs of social reform with a strong tinge of the theatrical Oklahoma had then fallen upon evil days, produced largely by recurrent drought that burned the wheat in the fields Overplanting and overgrazing aided the weather in making NW Oklahoma a part of the publicized Dust Bowl. Farm tenancy had risen in the '20s, and the farms tended more and more, in the east as well as the west, to be held by large owners and consolidated in large and economical blocks A good many tenant farmers were compelled to leave their dust-stricken farms and go west as migrant laborers (the Okies) With the return of the sparse rains, however, and increasing care in preserving and utilizing water and soil resources, much of the Dust Bowl was again greened over with wheat, and demands for food in the Second World War and later brought back some wealth Large programs conserving the water of the rivers and supplying irrigation have been undertaken with Federal help, many of them have been brought to completion, as in Lake Texoma on the Red River and the large dam and reservoir on the Grand River (see articles on the Oklahoma rivers for more information on the projects) Modern farming methods have also been pushed, and Oklahoma has continued to rely upon oil, war-developed industries, wheat, diversified farm products, and cattle and sheep The mixture of the Southern tradition with the Western has been shown in the question of discrimination against the Negro In the early years of the state the U S Supreme Court nullified a "grandfather clause" intended to prevent the Negroes from voting, and recently the Supreme Court has compelled the acceptance of Negro students in the state institutions of higher learning The two most important of those institutions are the University of Oklahoma and Oklahoma Agricultural and Mechanical College See J B Thoburn and M H Wright, *Oklahoma a History of the State and Its People* (4 vols, 1929), Guy Webb, *The Great Plains* (1931), Brookings Institution, *Organization and Administration of Oklahoma* (1935), Paul Sears, *Deserts on the March* (1935), Angie Debo, *And Still the Waters Run* (1940), Federal Writers' Project, *Oklahoma· a Guide to the Sooner State* (1941), Grant Foreman, *A History of Oklahoma* (1942), E E Dale and M L Wardell, *History of Oklahoma* (1948), Angie Debo, *Oklahoma, Foot-Loose and Fancy-Free* (1949)

Oklahoma, University of, mainly at Norman, state supported, coeducational, chartered 1890, opened 1892 It has colleges of arts and sciences (with schools of applied biology, citizenship and public affairs, geology, home economics, journalism, letters, library science, physical education, and social work), business administration, education, engineering (with schools of architecture and petroleum engineering), and fine arts (with schools of art, drama, and music), University College, and schools of law, medicine (at Oklahoma City), and pharmacy There are science and art collections, state biological and geological surveys, research and community development institutes, a radio station, and a university press See history by Roy Gittinger (1942)

Oklahoma Agricultural and Mechanical College, at Stillwater, land-grant and state supported, coeducational, chartered 1890, opened 1891 It has schools of agriculture, arts and sciences (with music), education, home economics, and veterinary medicine and divisions of commerce and engineering (with schools of architecture and applied art and technical training)

Oklahoma City, city (pop 204,424), state capital, and co seat of Oklahoma co, central Okla, on the North Canadian river Settled in a day, after the area was opened to homesteaders in 1889, the city was incorporated in 1890 and made state capital in 1910 Its wealth is based largely on the thousands of oil wells in the area, which push up to the grounds of the capitol and the governor's mansion It is also an important trade and industrial center, with large meat-packing plants and manufactures of iron and steel, furniture, clothing, cotton oil, flour, electrical equipment, and pottery During the Second World War it became an important air base The city has many parks and several fine buildings, including the impressive civic center (1937), the capitol, and the state historical society building Oklahoma City Univ (coeducational) and the medical school of the Univ of Oklahoma are here

Oklahoma Colored Agricultural and Normal University see LANGSTON UNIVERSITY

Oklawaha (ōklwô'hô), river, c 120 mi long, rising in the large lake system of central Florida It flows north, receiving the waters of SILVER SPRINGS, then turns east, emptying into the St Johns S of Palatka

Okmulgee (ōk"mŭl'gē), city (pop 16,051), co seat of Okmulgee co, E central Okla, SE of Tulsa It was settled c 1899 on the site of the Creek capital (1868–1907) In 1907 the discovery of oil created a boom, which declined after 1930 The city is an important trade center, and its industries include cotton and food processing, oil refining, and glass manufacture A commission government was adopted in 1912 Near by are an old Creek council house, Lake Okmulgee, and laboratories for the study of hog cholera

Okolona (ōkulō'nu), city (pop 2,117), a co seat of Chickasaw co, NE Miss, NNW of Columbus, in a dairy, livestock, and farm area, founded 1848 The town was burned in the Civil War, there is a Confederate cemetery A U S game preserve is near by

okra or gumbo, African plant (*Hibiscus*, or *Abelmoschus, esculentus*), cultivated in the S United States and other warm regions It has tapering, angular, mucilaginous pods used as a vegetable or pickle but especially as a thickening for gumbo soups and stews. The fiber has been utilized, and the seeds have served as a coffee substitute

okrug (ô'krôog, Rus ô'krôōk) [Rus, =area], administrative division in the RSFSR National okrugs are the lowest type of the autonomous units in the Soviet "ladder of nationalities"

Okubo, Toshimichi (tô"shēmē'chē ô'kōōbō), 1832?–1878, Japanese statesman A figure of the MEIJI restoration, he held ministerial posts and was influential in introducing Western ideas to Japan He is said to have persuaded his lord, the daimyo of Satsuma, to return his fief to the emperor and thus forced the restoration He was the most powerful figure in the new government Okubo also featured in putting down the party favoring war with Korea After the Satsuma rebellion, in which he took the government side, he was assassinated, presumably by fellow clansmen of the Satsuma clan

Okuma, Shigenobu, Marquis (shēgā'nōbōō ô'kōōmä), 1838–1922, Japanese statesman A samurai of Hizen, he was drawn toward liberalism by his readings in English and Dutch When he was finance minister in 1876, he had the annual money paid to the former feudal aristocracy changed to payments in lump sums, with great saving for the state In 1881 the protests of a group he led against fraudulent sale of government property in Hokkaido caused the emperor to promise a constitution Okuma, promptly ousted from the government, founded a reform party called the Kaishinto (a forerunner of the Minseito) and agitated for parliamentary government He also favored the building up of Japanese industrial strength, working with the Mitsubishi interests (see ZAIBATSU), and tried also to increase Japanese prestige in the world of imperialism As foreign minister (1888–89) he negotiated to revise treaties in Japan's interests, the bomb of a terrorist who despised Okuma's gradualism cost the minister a leg His first premiership (1898) was abortive, but in his second (1914–16) Japan went into the First World War on the Allied side, seized Kiaochow, and presented China with the TWENTY-ONE DEMANDS

Olaa (ōlä'ä), also called **Keaau** (kä'u-ou'), town (pop 2,509), on E Hawaii, T H, 7 mi. SSE of Hilo It has a large sugar plantation

Olaf I (Olaf Tryggvason) (ô'läf trŭg'vusōn), c 963–1000, king of Norway (995–1000), great-grandson of Harold I His early life of exile and slavery is surrounded with a mist of romance, and little is definitely known of it He aided his father-in-law, the duke of Poland, in war and took part in harrying the English coast He may have been present at the famous battle of Maldon He later was converted to Christianity and made peace (c 994) with the English In 995 he went to Norway, overthrew Haakon, and became king He undertook the conversion of Norway to Christianity by force as well as by persuasion He met some opposition, but it was not until he became involved in war with Sweden and Denmark that he was defeated and died at the naval battle of Svolder

Olaf II (Saint Olaf), c 995–1030, king of Norway (1015–28) He is called also Olaf the Stout or Olaf the Fat He spent part of his early life in England and helped Æthelred against the Danes He was converted to Christianity, and when he returned to Norway (1015) he was fired with the desire to Christianize the country—for Olaf I had failed to accomplish that end He established himself by defeating Earl Sweyn and then set about a dual task —to unify the country politically and to establish the new religion Christianity triumphed, but in his political moves he antagonized all the nobles by his policy of employing lesser men as royal officials and increasing the power of those officials His court was filled with men of fairly humble birth, and the Icelandic influence was strong When CANUTE of England and Denmark asserted his right to the overlordship of Norway, many of the nobles forsook Olaf for the Dane Olaf attacked Denmark, but the expedition ended in a fruitless naval battle In 1028 Olaf defeated one of the leading nobles, but the murder of the vanquished man by one of Olaf's men led to a powerful insurrection Olaf fled to Russia, and Canute became king with Earl Haakon as viceroy After Haakon was drowned at sea, Olaf made an attempt to regain his kingdom in 1030, only to fail miserably and lose his life in the battle of Stiklestad Some years after his death, his unpopularity gave way to great admiration for the man who had introduced Christianity and sought to introduce order He was soon generally considered as the patron saint of Norway Harold III was his half brother, Magnus I his son Feast July 29

Olaf, 1903–, crown prince of Norway, son of King HAAKON VII and Queen Maud In 1929 he married Princess Martha of Sweden Following the German invasion of Norway, Olaf took an active part in the struggle for liberation, as a soldier and as a representative of Norwegian interests in foreign countries He assumed supreme command of Norwegian forces in 1944 and returned to Norway in 1945.

Olaf Guthfrithson (gūth'frĭth"sun), d 941, Norse king of Dublin His father, Guthfrith, king of Dublin and of York, had been driven out of England by Athelstan in 927 In 934 Olaf became king and leader of all the Irish vikings He led his allies Constantine of Scotland and Owen of Strathclyde against Athelstan in England in 937 and was severely defeated. The battle is celebrated in an Anglo-Saxon poem, "The Battle of Brunanburh" Olaf returned to Ireland, but after Athelstan's death in 940 he once more invaded York A treaty between Olaf and King Edmund, son of Athelstan, gave Olaf control over the Mercian DANELAW Olaf died in 941, and his cousin and successor, **Olaf Sihtricson** (sĭ'trĭk"sŭn), often called **Olaf Cuaran** (kwū'ran), was unable to prevent King Edmund from freeing the Danelaw of Norse rule in 942. He returned to rule in Ireland, where he was in 980 defeated at the battle of Tara. He died a penitent at the monastery of Iona.

Oland, Swed *Öland* (ö'länd), island, area 520 sq mi , c 58 mi long and up to 10 mi wide, off SE Sweden, in the Baltic, separated from the mainland by the Kalmar Sound A historical province of Sweden, it is administratively part of Kalmar county The chief town is Borgholm, there are many summer resorts. Besides farming and cattle raising, the cement works, quarries, sugar refineries, and the production of alum are important Oland has monuments dating from the Stone Age, it has been a historic battleground in the wars between Denmark and the kingdoms of the north.

Olathe (ōlā'thē), city (pop 3,979), co seat of Johnson co., E Kansas, SW of Kansas City, founded 1857, inc. 1858 It is a trading center on the old Santa Fe Trail and near the Oregon Trail. A state school for the deaf is here

Olbers, Heinrich Wilhelm Matthias (hĭn'rĭkh vĭl'hĕlm maté'as ōl'bûrs), 1758–1840, German physician and astronomer He originated (1779) the first satisfactory method for calculating the orbits of comets, but despite the fame it brought him, he remained an amateur astronomer and became a physician Continuing his research on comets, he discovered several He was the first to detect the comet of 1815 (Olbers's comet, period 72 7 years) He discovered two planetoids, Pallas (1802) and Vesta (1807). Considering their orbits and those of the other planetoids then known, he concluded that they are fragments of a disrupted planet that had formerly revolved around the sun

Olbia (ōl'bēu), Greek colony of Miletus, founded c 645 B C. near the present city of NIKOLAYEV, Ukraine It exported wheat from the rich black-earth district of the SW Ukraine By the 1st cent A D it had declined to little significance because of constant barbarian raids

Olcott, Chauncey (ōl'kut, ōl'kŏt), 1860–1932, American actor and singer, b Buffalo, N Y He made his debut in New York in 1886 From 1893 he developed an original type of drama in which ballads, written by himself, played a major part Among these songs were *My Wild Irish Rose* (1898) and *The Isle of Dreams* (1913)

old age. There is no general agreement as to the exact time of life in humans when old age begins. It is recognized that certain changes in the tissues and functions of the body, often collectively designated as a process of "aging," occur at varying chronological ages. Among such changes are a decrease in the moisture content and fat cells of the skin, generally resulting in a tendency of the skin to wrinkle, a deterioration of muscle, and an increasing fragility of the bones The scientific study of old age is generally called gerontology, and within recent years a special branch of medicine called geriatrics has become increasingly important It is concerned with the diseases and other medical problems of older people The accomplishments of medicine through the centuries—especially those discoveries that have helped to conquer many diseases, to promote public health measures, and to improve nutrition and general living standards—have so lengthened the average duration of life that the percentage of older people in the total population has greatly increased. Thus there is a more widespread need for both medical and social agencies concerned with the welfare of the older portion of the population In the medical field the diseases encountered in older people are the same as those of youth, but generally the symptoms that develop and the treatment required are somewhat different. Also, in old age there is an increase in conditions generally known as degenerative diseases, these are associated with aging of tissues of the circulatory system, the kidneys, and other parts of the body. The prevalence of tuberculosis, cancer, pneumonia, and other diseases also varies among different age groups Heredity is recognized as an important factor in longevity. With the hope of increasing the useful span of life much research in biochemistry and other fields of science has been directed toward studies that shed light on the causes of the aging process. It is recognized that nutrition bears important relations to longevity. The work of Henry C Sherman has emphasized the significance of diets high in vitamin A, riboflavin, calcium, and phosphorus in lengthening the period of the prime of life. Work on hormones and enzymes has contributed to a better understanding of the complex functions of the body Results of experiments in which tissues are kept alive in nutrient solutions may eventually help to determine what contributes to aging. Medicine has been concerned also with the psychological problems attendant upon old age Some of these are partially the outcome of economic and social problems arising from the lengthened span of years after retirement from business and professional activities. Attempts to solve some of the economic problems are evidenced by the increased participation by both organizations and individuals in PENSION plans and by the expansion of SOCIAL SECURITY See Barclay Newman, *Must We Grow Old?* (1941), *Problems of Ageing* (ed by E V. Cowdry, 2d ed , 1942), *New Goals for Old Age* (ed by George Lawton, 1943), Martin Gumpert, *You Are Younger than You Think* (1944) George Lawton, *Aging Successfully* (1946); E J Stieglitz, *The Second Forty Years* (1946), R. S Cavan and others, *Personal Adjustment in Old Age* (1949), C W Lieb, *Outwitting Your Years* (1949), *Living through the Older Years* (ed by Clark Tibbitts, 1949)

old-age pension. see PENSION and SOCIAL SECURITY

Oldbury, urban district (1931 pop 35,926, 1947 estimated pop 53,250), Worcestershire, England, WNW of Birmingham It is noted for the manufacture of glass, particularly large lenses for lighthouses There are also steel and aluminum mills, railroad-car works and chemical factories, and in the vicinity are iron and coal mines and limestone quarries.

Old Castile, Spain see CASTILE

Oldcastle, Sir John, d 1417, English leader of the LOLLARDS and martyr He is known as "the good Lord Cobham" (he married the heiress of Lord Cobham in 1408) Under the rule of Henry IV he performed valuable military service, especially in Wales, where he became a friend of the prince of Wales (later Henry V) His devotion to the teachings of WYCLIF brought upon Oldcastle in 1413 condemnation for heresy He escaped from the Tower, eluded capture, and was active in Lollard conspiracies against the king until 1417, when he was taken, condemned, and hanged and burned For the connection between Oldcastle and Shakspere's Falstaff, see FALSTAFF

Old Catholics, Christian church, established by German clergy and laymen who separated themselves from the Roman Catholic Church by rejecting the decrees of the Vatican Council (1870), especially the dogma of the infallibility of the pope The Old Catholic movement began publicly with a meeting of professors at Nuremberg in 1870 under the leadership of J J I DÖLLINGER By 1874 a new church had been established with a bishop consecrated by a Dutch Jansenist bishop It rejected communion with the pope and many Roman Catholic doctrines and practices The Roman ritual was retained (in German), priests were allowed to marry, and confession was made optional Old Catholic immigrants to the United States have been in close touch with other groups recently broken from the Roman Catholic Church, such as the Independent Polish Catholics

Old Dominion, name for the state of VIRGINIA, probably derived from the phrase (found in old documents) "the colony and dominion of Virginia"

Oldenbarneveldt, Johan van (yō'hän' vän ōl"dunbar'nuvĕlt), 1547–1619, Dutch statesman He aided WILLIAM THE SILENT in the struggle for Dutch independence from Spain and opposed the dictatorial policies of Robert Dudley, earl of LEICESTER, whom the States-General had chosen governor general in 1586 After Leicester's departure (1587) he helped to concentrate military power in the hands of MAURICE OF NASSAU Made permanent advocate of Holland in 1586, Oldenbarneveldt controlled the civil affairs of the United Provs (in which Holland was prominent) He represented the patrician manufacturing and commercial oligarchies that ruled Amsterdam, Rotterdam, and Dordrecht, and during his administration Dutch commerce expanded spectacularly, and the Dutch East India Company was founded He negotiated (1609) a 12-year truce with Spain, despite the objections of Maurice of Nassau, and thus secured virtual recognition of Dutch independence As leader of the party favoring control of state affairs by the States-General, Oldenbarneveldt was increasingly opposed by the party of the nobles and the house of Orange This conflict was aggravated by the religious struggle between the REMONSTRANTS and the strict Calvinists, in which Oldenbarneveldt and Maurice of Nassau found themselves in opposing camps In 1618 William, determined to crush the Remonstrants, convoked the Synod of Dort, which condemned their doctrine Oldenbarneveldt was arrested and, after a highly irregular trial for treason, sentenced to death. His execution was a judicial murder brought about by his personal enemies; not a shred of incriminating evidence has ever been found against Oldenbarneveldt, one of the ablest and most patriotic statesmen the Dutch ever had.

Oldenburg (ōl'dunbôrk), former state, NW Germany, since 1946 a district (2,085 sq. mi., pop 745,182) of Lower Saxony, in the British zone of occupation. The city of Oldenburg is the capital The state of Oldenburg consisted of three widely separated divisions. The largest of these now forms the district of Oldenburg, stretching S from the North Sea, W of the Weser. The two other divisions, both very small, were Birkenfeld, an enclave in the former Rhine Prov. of Prussia, W of the Rhine, now part of French-occupied Rhineland-Palatinate, and the district (but not the city) of Lübeck, now incorporated with Schleswig-Holstein. Oldenburg proper is a lowland with fertile marshy land Farming and cattle and horse breeding are the chief occupations. Peat is extracted in the vast moors of the region. The history of Oldenburg is mainly of dynastic significance Originally a part of Saxony, the county of Oldenburg came into prominence in the 12th cent In 1448 Count Christian became king of Denmark as Christian I, while his younger brother, Gerard, and his successors continued to rule Oldenburg On the extinction of the German line Oldenburg passed (1667) to Christian V of Denmark (direct descendant of Christian I) In 1773 Christian VII exchanged Oldenburg for ducal HOLSTEIN with Grand Duke (later Emperor) Paul I of Russia, heir of the Danish cadet line of Holstein-Gottorp Paul made Oldenburg over to his maternal great uncle, Frederick Augustus of Holstein-Gottorp, bishop of LÜBECK, who assumed the ducal title His nephew and successor, Peter I of Oldenburg, lost his duchy to Napoleon I, but recovered Oldenburg and the bishopric of Lübeck in 1813 and subsequently acquired Birkenfeld and obtained the title grand duke A member of the German Confederation from 1815, Oldenburg sided (1866) with Prussia in the Austro-Prussian War and joined (1871) the German Empire. The last grand duke abdicated in 1918, and Oldenburg joined the Weimar Republic In 1937 the Birkenfeld and Lübeck districts were transferred to Prussia

Oldenburg, city (pop 107,473), capital of the former state of Oldenburg, N Germany, ENE of Bremen It is a rail and water transshipment point and a grain, cattle, and horse market There also are varied manufactures First mentioned in the 12th cent , it was chartered in 1345 The former ducal residence (11th cent) now is a museum

Old English see TYPE, ENGLISH LANGUAGE, ANGLO-SAXON LITERATURE

old English sheep dog. see SHEEP DOG.

Older, Fremont, 1856–1935, American journalist, b. Appleton, Wis At the age of 16 he went to San Francisco, worked as printer and reporter, was (1895–1918) managing editor of the San Francisco *Bulletin*, and became (1918) editor of the *Call* In 1929 the papers merged under his editorship A powerful opponent of corruption, he succeeded (1909) in having Mayor Abe Ruef convicted of graft He fought for the freeing of Thomas J. Mooney and Warren K Billings See his autobiography, *My Own Story* (1926), biography by Evelyn Wells (1936)

Oldfield, Anne, 1683–1730, English actress. Engaged by John Rich at Drury Lane in 1692, she was unnoticed until, in 1704, her brilliant portrayal of Lady Modish in Colley Cibber's *Careless Husband* won her great acclaim She appeared in both tragedy and comedy and played leading roles in Addison's *Cato*, Cibber's *Caesar in Egypt*, and Thomson's *Sophonisba* She was buried in Westminster Abbey

Old Forge, anthracite-mining borough (pop 11,892), NE Pa , SW of Scranton and on the Lackawanna, inc. 1895

Oldham, John (ōl'dŭm), c 1600–1636, colonist in New England, b England A roving trader, he emigrated to Plymouth in 1623 and later was concerned in the establishment of various New England colonies, notably the unsuccessful settlement on Cape Ann (1626), the Massachusetts Bay colony, and Wethersfield, Conn , where he established a trading post His murder by the Pequot Indians on Block Island was one of the events leading to the Pequot War.

Oldham, county borough (pop. 140,309), Lancashire, England, NE of Manchester. It is the chief center of cotton spinning in Lancashire and has numerous mills, foundries, and engineering works. There is coal in the vicinity. The town hall, the art galleries, the museum, and Alexandra Park are noteworthy Crompton is a manufacturing suburb

Old Hickory, unincorporated town (pop. 5,993), central Tenn , just NNE of Nashville, named Jacksonville until 1923 In 1918 it was the site of a huge U S. powder plant. E. I du Pont de Nemours & Company bought the plant and the village in 1924 and now maintains factories where rayon, cellophane, and chemicals are made.

Old Hundred: see DOXOLOGY

Old Ironsides· see CONSTITUTION, ship.

Old Kasaan National Monument (kŭsän'), 38 acres, on Prince of Wales Island, SE Alaska, est. 1916. It contains the ruins of an abandoned Haida Indian village, including totem poles and grave houses.

Old Lyme (līm), residential town (pop. 1,702), SE Conn , at the mouth of the Connecticut; settled c 1665 by Matthew Griswold, inc. 1855. It com-

prises part of the original town of Lyme and includes the old village of Lyme, near the Connecticut. The fine old houses in Lyme have attracted painters; the Congregational Church (1817, burned in 1909, but carefully restored) has been portrayed by Childe Hassam. The town has an art gallery. See M. H James, *The Educational History of Old Lyme, Connecticut, 1635–1935* (1939).

Oldman, river of S Alberta, rising in the Rocky Mts and flowing generally E past Lethbridge to unite with the Bow river W of Medicine Hat and form the South Saskatchewan It receives the Belly river and several minor tributaries.

Old Man of the Mountain. see ASSASSIN.

Old Man of the Mountain: see FRANCONIA MOUNTAINS.

old-man's-beard, name for several plants, among them CLEMATIS.

old masters, term applied to celebrated painters down to the 18th cent, but especially to those of the Renaissance (see also LITTLE MASTERS). Michelangelo, Raphael, El Greco, Velázquez, Rubens, Rembrandt, Dürer, and Nicolas Poussin are among the outstanding old masters

Oldmixon, John (ōld'mĭksŭn), 1673–1742, English writer A prolific historian, he did his best work in *The British Empire in America* (1708), his later histories and memoirs are rendered valueless by bias He is better remembered as the target of a virulent attack by Pope in *The Dunciad.*

Old Norse literature, the literature of the Northmen, centered entirely about Iceland There is scarcely any medieval literature from Norway, Sweden, or Denmark The first and greatest period of Old Norse literature began soon after the conversion of Iceland to Christianity (c 1000) and lasted about 150 years The largest bulk of this literature is in the SAGA form, the sagas, although their form is borrowed from Ireland, may be considered to contain the most characteristic and most interesting of Norse writing, they are certainly by far the most readable in translation The Norse lyric poetry probably really took its rise not in Iceland but in the British Isles (among viking invaders) The language of the poetry of the Elder EDDA is more archaic, foreign influence is more marked, and the poet's ingenuity is less striking than in the Icelandic poetry. But it already shows the traits that made Icelandic scaldic poetry what it was The most significant feature of scaldic verse was its ingenuity in form and phrase Metrical rules were meticulously preserved, and the words were polished to the extent of preciosity The incessant use of the kenning (a substituted phrase, e g "ship-road" for "sea") brought falsity, and the poetry finally defeated itself The scalds became a people apart, for only they could understand their verses, and the emphasis on the form before the word ruined the Icelandic lyric in the later Middle Ages As the scaldic poetry declined, a new rhymed type of verse developed somewhat analogous to the rhymed material of Middle English literature and having much the same subject matter - translation and paraphrase of foreign romances These rhymed works have been generally neglected by philologists The historical work of Icelandic writers was especially noteworthy in the Golden Age (11th and 12th cent) Very eminent was Ari Thorgilsson, whose three works are invaluable *Konungabok*, an account of the kings of Norway until 1067, *Landnamabok*, a description of the discovery and settlement of Iceland, and *Islendingabok*, the author's abridgment of a lost, much longer account of Iceland's history and polity More celebrated than Ari, but perhaps not justly, is SNORRI STURLUSON. One of the chief claims Icelandic literature has to fame is that it developed a conscious, clear, prose style earlier than any other modern European literature except Gaelic This style appears mostly in the later saga (e g , the *Sturlungasaga* and the *Islendingasaga*), which made an effort (counter to the contemporary poetry) to be consonant with the interests and language of the people See ICELANDIC LITERATURE.

Old Northwest: see NORTHWEST TERRITORY

Old Orchard Beach, town (pop 2,557), SW Maine, on the coast SSW of Portland, inc 1883 A popular resort, it has a long beach and amusement equipment There was a trading post near here before 1630. Resort development began in the early 19th cent A disastrous fire occurred in 1907

Old Point Comfort, popular bathing and fishing resort, SE Va., on Chesapeake Bay at the entrance to Hampton Roads. U S Fort Monroe (see MONROE, FORT) is here

Old Pretender: see STUART, JAMES FRANCIS EDWARD

Old Red Sandstone, series of red and brown sandstones and shales deposited in Wales and Scotland and in England near the Welsh and Scottish borders in the DEVONIAN PERIOD of geologic time. The Old Red Sandstone, in contrast to the typical Devonian, is largely a continental formation, laid down in fresh water and on land as a result of the erosion of the highlands of the SILURIAN PERIOD. It is very thick in Scotland and contains a large assemblage of fossils, particularly of the Devonian fishes, in a remarkable state of preservation. The Old Red Sandstone was correlated with the marine Devonian by Murchison and Adam Sedgwick Popular interest in the formation and its fossils was created largely by the work of Hugh MILLER

Olds, town (pop 1,521), S Alta , N of Calgary, in a stock, dairy, and wheat-farming region. It has grain elevators and is the seat of a provincial agricultural school

Old Sarum (sâr'ŭm), site of an ancient city, Wiltshire, England, N of New Sarum or SALISBURY Excavations in the mound on which the settlement stood have revealed remains of an ancient British entrenched camp, a succeeding Roman station Sorbiodunum, and a still later Saxon town The seat of the bishopric, moved here from Sherborne in 1075, was transferred to New Sarum in 1220, and Old Sarum's great cathedral was torn down, parts of it being used in the construction of the cathedral at New Sarum At Old Sarum the Use of Sarum, a ritual adopted in S England, was compiled Old Sarum was important until strife between the men of the castle and garrison and the men of the religious institution caused the removal of the see to the new site and the decay of the old city, shortage of water and exposure to winds are given as other causes The "rotten borough" of Old Sarum continued to be represented in Parliament until the Reform Bill of 1832 was passed See Great Britain, Dept of Ancient Monuments and Historical Buildings, *Old Sarum* (1922)

Old Saybrook, resort town (pop 1,985), S Conn , on the Connecticut and Long Island Sound, settled 1635 as SAYBROOK colony, inc 1854 as Old Saybrook It has varied manufactures

Old Slavonic literature, earliest Slavic literature, originating in the 9th cent The first writings were almost entirely of a religious nature and were important in the development of the Serbian, Bulgarian, and Russian branches of the Orthodox Eastern Church The language (now dead) is also called Church Slavonic Though there was early Slavonic literature in the West, especially in Moravia, Bohemia, Poland, and Croatia, the Latin rite for the most part gained preeminence there, and the great bulk of the literature came from Bulgaria and Serbia and later from Russia St Cyril and St Methodius translated the Bible from Greek into Slavonic, using an alphabet which proved too unwieldy and was superseded by the Cyrillic alphabet In Bulgaria there were some original writings, notably the works of Evtimy, patriarch of Bulgaria in the 14th cent , and some earlier chronicles, but the bulk of the writing was in translation of religious and a few secular works (e g , a life of Alexander the Great) In Serbia, Old Slavonic literature reached its height in the time of Stephen Dushan In Russia, Old Slavonic was long the literary language, and the period of Kievan supremacy was marked with much literary production Russian literature is generally said to begin with the 12th-century *Lay of the Hosts of Igor* (see RUSSIAN LITERATURE)

Old Sodbury, village, Gloucestershire, England, in the Cotswold Hills William Tyndale was tutor in 1521 to the family of Sir John Walsh at Little Sodbury manor house It was here that Tyndale translated the *Enchiridion* of Erasmus and began translating the New Testament

Old Stone Age see PALEOLITHIC PERIOD.

Old Style dates: see CALENDAR

Old Testament [see NEW TESTAMENT], the older portion of the Bible, being of Jewish authorship It consists of a varying number of books, given in varying order The traditional Jewish reckoning is as follows (1) the TORAH or Law, the five books of the Pentateuch, i e , Genesis, Exodus, Leviticus, Numbers, and Deuteronomy, (2) the Prophets, a less sacred group of books, Joshua, Judges, 1 and 2 Samuel, 1 and 2 Kings, Isaiah, Jeremiah, Ezekiel, the Twelve (or Minor) Prophets – being counted as eight books in all, (3) the Writings (Hagiographa), a heterogeneous group to which belonged some works almost secular in tone, (a) Psalms, Proverbs, and Job, (b) the Rolls, consisting of Song of Solomon, Ruth, Lamentations, Ecclesiastes, and Esther, (c) Daniel, Ezra and Nehemiah together, and Chronicles. Christians have regarded the Old Testament in a different light They consider the books equally inspired, hence make no gradation of rank or sacredness The canon of the Jews as it stands was adopted A D c 100, the traditional order and the extant Hebrew texts all go back to one Hebrew source of the first centuries of the Christian era, to the MASORA, the provenance of the Masoretic version is unknown The Old Testament long used in the Christian Church was derived not from the Masoretic but from an entirely different text The SEPTUAGINT, a Hellenistic Jewish translation into Greek about the 3d cent B C , became the Old Testament of Christianity, and later translations were made from it or patterned after it. The canon of the Septuagint was entirely different from that of the Masorah The Latin Bible found its official form in the VULGATE, the work of St. Jerome, this largely agreed with the list of books of the Septuagint, and the list and order of the Vulgate was the canon accepted by the Western Church; this is also called the Western canon. At the Reformation the English Protestants withdrew recognition of the canonicity of those portions of the Old Testament which appeared in the Western canon but not in the Masoretic canon, attributing to them (the deuterocanonical books) a position suggested by St Jerome but not accepted widely in his time, namely, that they were suitable for instruction but not to be considered as necessarily inspired To set them clearly apart from the works considered inspired, the AV (Authorized Version, see BIBLE) translators put them together in an appendix to the Old Testament which they entitled APOCRYPHA Thus the Reformed canon became exactly like the Masoretic, with a difference of order—AV retained the Western order The difference between the Western and the Reformed canon is seen by comparing the AV with the Douay version (representing the Western canon) The following are the books of the Old Testament (AV), the names in parenthesis being the usual name in the Douay when it differs from that in AV, those in italics being the books appearing in Douay and not in AV Genesis, Exodus, Leviticus, Numbers, Deuteronomy, Joshua (Josue), Judges, Ruth, 1 and 2 Samuel (1 and 2 Kings), 1 and 2 Kings (3 and 4 Kings), 1 and 2 Chronicles (1 and 2 Paralipomenon), Ezra (1 Esdras), Nehemiah (2 Esdras), *Tobias*, *Judith*, Esther, Job, Psalms, Proverbs, Ecclesiastes, Song of Solomon (Canticle of Canticles), *Wisdom*, *Ecclesiasticus*, Isaiah (Isaias), Jeremiah (Jeremias), Lamentations, *Baruch*, Ezekiel (Ezechiel), Daniel, Hosea (Osee), Joel, Amos, Obadiah (Abdias), Jonah (Jonas), Micah (Micheas), Nahum, Habakkuk (Habacuc), Zephaniah (Sophonias), Haggai (Aggeus), Zechariah (Zacharias), Malachi (Malachias), *1* and *2 Machabees* No documents have been so studied as the biblical ones, and each presents many problems Chronology and authorship give similar difficulties in different books So far as historical dating is concerned, many systems have been devised, a famous one was that of Archbishop Ussher, who dated Creation at 4004 B C —his dates have often been given marginally in Bibles Before the 1st millennium B C there is little likelihood of any outside sources giving checking dates, but from about the time of David it is possible to devise a chronology with some checks from non-biblical sources Of the various chronological systems none is sure, none is accepted by more than a few historians The authorship of the books of the Old Testament is known from tradition and internal evidence The books from Genesis to Nehemiah (except Ruth) present similar problems and are usually grouped together in examining the authorship The higher criticism of the mid-19th cent assaulted the traditions about the Bible, its text and its very credibility Of no books was this truer than of the so-called "historical" books. With the turn of the century there was begun a gradual recession from the extreme stand, because the archaeological finds tended to support rather than to impugn the veracity of the narratives The peculiar position the Bible has occupied has made unprejudiced biblical scholars rare and has prevented it from receiving the kind of dispassionate attention given to such a book as the *Odyssey* The following expresses to some extent the opinion of a less extreme criticism In the 9th cent B C a writer (called by the critics J or the Yahwist) of the kingdom of Judah wrote a history of the world and of the Hebrews down to the time of David, and in the next century a historian of the northern kingdom of Israel (called E or the Elohist) also composed a history These were combined by a Judean some time after the fall of the northern kingdom and are to be found inextricably associated in Genesis, Exodus, Numbers, Joshua, Judges, 1 and 2 Samuel According to the critics, this combined JE narrative is the bulk of the earlier Old Testament, and it is unreliable in that it consists in the rewriting or rearranging of old traditions rather than in anything which the authors had at first hand To Deuteronomy, critics assign a late 7th-century (B C) authorship, considering the "finding of the Law" a pious fable Deuteronomy they consider was written for a specific purpose—to provide a written law for the people Leviticus was, according to some higher critics, composed soon after 570 B C by a man (called H) in close sympathy with the aspirations of Ezekiel The book of Deuteronomy is not the only book which represents the group which sponsored the reforms, for most of 1 and 2 Kings is said to have been composed by persons of the same point of view These "Deuteronomists," according to this point of view, used old sources and pointed their moral constantly One of the principal sources of the first six books, in the higher criticism, is called P or Priestly Code This, the product of the legalistic atmosphere of the first postexilic period, is seen in parts of all the first six books, but most notably in Numbers P, with D (Deuteronomy), JE, and H, then, make up the first and oldest portion of the Bible. The books of Chronicles and of Ezra and Nehemiah are, according to the critics, not history at all, but a long moral account of the Jews, showing the rewards for goodness and the retribution for evil. The author of these four books, called the Chronicler, is put in the late 4th cent

B C The lateness of date of composition is, generally, the chief matter of difference between the higher critics and other biblical critics See C A. Briggs, *General Introduction to the Study of Holy Scripture* (1899), S. R Driver, *An Introduction to the Literature of the Old Testament* (revised and enlarged, 1900), H T Fowler, *A History of the Literature of Ancient Israel from the Earliest Times to 135 B C* (1912); C P Grannan, *A General Introduction to the Bible* (4 vols , 1921), J A Bewer, *The Literature of the Old Testament* (rev ed , 1933), W F Albright, *From the Stone Age to Christianity* (1940), John McFadyen, *Introduction to the Old Testament* (new ed , 1947), G F Moore and L H Brockington, *Literature of the Old Testament* (2d ed , 1948), T H Robinson, *Introduction to the Old Testament* (1948)

Old Town, city (pop 7,688), S central Maine, on the Penobscot 13 mi above Bangor, settled 1774, inc as a town 1840, as a city 1891 Maine's first railroad connected Old Town with Bangor (1836) A small island N of Old Town village is a reservation for Penobscot Indians Old Town has long been known for the canoes to which it gives its name, pulp, paper, and other lumber products and woolen goods are also manufactured

Old Westbury, residential village (pop 1,017), on W Long Island, SE N Y , near Mineola, inc 1924

Olean (ō'lēăn"), city (pop 21,506), W N Y , SE of Buffalo and on the Allegheny near the Pa line, settled 1804, inc as a city 1893 It is an oil storage center, and its products include carbon black, tanks, and metal goods

oleander (ōlēăn'dûr), any plant of the genus *Nerium*, Old World evergreen shrubs The common oleander or rosebay (*Nerium oleander*) is widely cultivated in warm regions as a shrub or hedge and elsewhere as a tub plant Oleander has narrow leaves and clusters of beautiful flowers ranging from white and pink to purple and red The plant contains a poison similar to digitalis There is a sweet-scented species The yellow oleander belongs to the related genus *Thevetia*

olefine series see ETHYLENE SERIES

Oleg (ō'lĭg, Rus, ôlĕk'), d 912, Varangian ruler of Russia (879–912), son and successor of Rurik He is a semilegendary figure Said to have been born in Norway, he led the Varangians to Kiev, which he took in 882 and made his capital, instead of Novgorod He united the eastern Russians, freeing them from Khazar rule, and in 907 undertook a campaign against Constantinople. A treaty with the Byzantines promised him commercial advantages and tribute His son Igor succeeded him

olein. see FATS AND OILS

Olekma (ûlyĕk'mä), river, 995 mi long, RSFSR, in E Siberia, a tributary of the Lena It rises in the Yablonovy range and flows N through a gold-mining area

Olenek (ûlyĭnyôk'), river, 1,345 mi long, rising in central Siberia, RSFSR It winds E and N through the NW Yakut SSR into the Laptev Sea It is navigable for c 500 mi and abounds in fish.

oleomargarine see MARGARINE

Oléron (ōlārôⁿ'), island (68 sq mi , pop 12,820), W France, in the Bay of Biscay, off Charente-Maritime dept , of which it is part Le Château-d'Oléron and Saint-Pierre-d'Oléron are the chief localities Oyster gathering is the main occupation The Law of Oléron (see MARITIME LAW), promulgated by Louis IX, was named after the island.

Olga, Saint, d 969?, duchess of Kiev After the death of her husband, Igor, she was regent (945–57) for her son Sviatoslav She became a Christian and was baptized at Constantinople c 957 Her grandson, Vladimir I, was the first Christian ruler of Kiev, but even before his conversion Olga had gained great following for Christianity in Russia. Feast July 11

oligarchy (ō'lĭgär"kē), government by a few members of the community Although all governments tend to be oligarchical in that power is concentrated in relatively few hands, an actual oligarchy exists only when consent to this concentration by the people is lacking and the free choice of an alternative government is eliminated Oligarchies are formed when wealth or military or priestly powers are highly concentrated among a small number of the community, thus promoting a monopoly of political power Aristotle emphasized the element of wealth in the oligarchies of the Greek city-states All ancient political units were oligarchical in that slaves constituted a majority of the population In the 19th cent Brougham differentiated between legal oligarchy, where the right to govern was granted by law to certain individuals or families, as in the Italian city-states at certain periods, and natural oligarchy, where respect and prestige give a relatively few members of the community the right to rule, as in England during much of her history

Oligocene epoch (ō'lĭgōsēn") [Gr , =rather recent, literally, a bit recent], third epoch of the Cenozoic period of geologic time More of North America was dry land during the Oligocene than in the preceding Eocene epoch The Gulf Coast was flooded, but the Atlantic coast was emergent N of South Carolina, the principal formation of the Gulf district was the Vicksburg limestone. The Pacific coast, like the more northern Atlantic coast, was largely elevated, erosion led to the deposition of the Oligocene portion of the Seepe formation of conglomerate, sandstone, and shale which contains red beds like those of the Permian period Over large areas of W Nebraska and NE Colorado and parts of Wyoming and the Dakotas, great erosion of the Rockies was responsible for the White River clays and sands, which are widely exposed in the Badlands of these states Late in the Oligocene the John Day deposits of volcanic ash, notable for their included fossils, were formed in Oregon In S Europe, the formations are somewhat similar to those of the Eocene, a sandstone and shale formation, the Flysch, was laid down in regions adjacent to mountain systems In the middle Oligocene a sea extended over N Europe from as far east as the Urals and was connected with the greater Mediterranean through the present Rhine valley There are extensive deposits of Oligocene lignite in Germany, indicating swamp conditions either before or during the flood, and the Alsatian potash, salt, and gypsum are Oligocene During the Oligocene there was considerable volcanic activity in Central Europe, Scotland, Iceland, and Iceland The life of the Oligocene was marked in Europe and North America by the practical disappearance of the archaic mammals of the Paleocene True carnivores —ancestral dogs, cats, and saber-tooth cats—made their appearance, as well as beavers, mice, rabbits, and squirrels, a more developed type of horse, giant hogs, and camels were other new arrivals. The titanotheres attained huge size, then disappeared, running aquatic, and true rhinoceroses developed In Africa appeared the earliest elephant and a primitive anthropoid ape The climate of the Oligocene was perhaps cooler and drier than that of the Eocene

Oliphant, Laurence (ō'lĭfŭt), 1829–88, British author, b Capetown He was secretary to Lord Elgin, traveled widely, and became a disciple of Thomas Lake Harris in a religious community at Brocton, N Y His writings include several travel books, notably *A Journey to Katmandu* (1852), two novels, *Piccadilly* (1866) and *Altiora Peto* (1883), an autobiography, *Episodes in a Life of Adventure* (1887), and *Scientific Religion* (1888) He and his first wife, Alice Le Strange, became interested in establishing a colony of Jews in Palestine Settling in Haifa, they wrote a curious book, *Sympneumata Evolutionary Forces Now Active in Man* (1885), inspired by Harris After her death he married (1888) Rosamund Dale Owen, granddaughter of Robert Owen See her *My Perilous Life in Palestine* (1928), biography by his cousin, Margaret Oliphant (1891), H W Schneider and George Lawton, *A Prophet and a Pilgrim* (1942)

Oliphant, Margaret Oliphant (Wilson), 1828–97, British novelist and biographer, b Scotland Her many popular novels included the series called "Chronicles of Carlingford" (1863–76), of which *Salem Chapel* and *Miss Marjoribanks* were the best She was a lifelong contributor to *Blackwood's Magazine* and a translator, she wrote guidebooks, semihistorical works, such as *The Makers of Modern Rome* (1895), and biographies of Sheridan (1883), Laurence Oliphant (1891), and others See her *Days of My Life* (1868) and autobiography (1899).

Olisipo see LISBON, Portugal

Oliva, Peace of (ōlē'vu, -vä), 1660, treaty signed at Oliva (now a suburb of Danzig) by Poland and Sweden John II of Poland renounced the claim of his line to the Swedish crown, which his father, Sigismund III, had in effect forfeited in 1599 Poland furthermore confirmed Sweden in possession of N Livonia Frederick William, elector of Brandenburg, was recognized in full sovereignty over East Prussia, but in turn confirmed West Prussia as Polish

Olivares, Gaspar de Guzmán, conde de (gäspär' dā gōōthmän' kōn'dā dā ōlēvä'räs), 1587–1645, Spanish statesman He was appointed chief minister on the accession (1621) of Philip IV, over whom he had early gained influence Honest and hard-working, he fought corruption at the court and prosecuted the unscrupulous ministers of Philip III, but his internal and foreign policy were unfortunate Under him Spain continued the fight in the Netherlands and became involved in the Thirty Years War and in wars in Italy Olivares's centralizing policy within Spain led to risings in the Basque Provs and in Catalonia and to the secession (1640) of Portugal Forced to obtain funds for his campaigns, he resorted to oppressive measures His unpopularity led to his fall in 1643 Olivares was a patron of the arts and literature and encouraged the painters Rubens, Velázquez, and Murillo and the writers Lope de Vega and Quevedo y Villegas

olive, small evergreen tree (*Olea europaea*) of the warm regions of the Old World and its fruit (a drupe), which is eaten pickled green or ripe and which is the source of OLIVE OIL The tree is from 20 to 40 ft in height with lanceolate leaves and inconspicuous yellowish-white fragrant blossoms When ripe the fruit is usually purplish black and rich in oil The olive has been cultivated since prehistoric times in Asia Minor, and its cultivation spread very early to all Mediterranean countries Although it was grown in California from c 1769 by Franciscan missionaries, the olive was of no commercial importance there until c 1890 The mission olive of today, one of the best varieties for pickling and for oil, was developed from trees grown at the mission in San Diego probably from Mexican seed Other important varieties are the manzanilla and the queen olive Green olives are picked when full grown but unripe In preparing both green and ripe olives for eating they are treated with lye to soften them and to remove their unpalatable taste and then are pickled in brine, sterilized, and packed In stuffed olives the seed is removed and replaced usually by Spanish paprika (pimiento), nuts, or anchovies The olive was the gift of Athena to mankind, according to Greek mythology, and because of this gift, Athens was named in her honor The olive branch has been the symbol of peace from before Christian times, because the oil can be used to heal human ills and also to calm troubled waters The first vegetation seen by Noah after the Deluge was the branch of olive brought back by the dove. The dove and the olive branch have also been used in art as a symbol of peace

Olive Hill, town (pop 1,491), E Ky , WSW of Ashland It processes the clay, sand, and gravel found in the area Carter and Cascade limestone caves and several natural bridges are near

Oliveira Martins, Joaquim (zhwäkēm' ôlĕvā'ru martēnsh'), 1845–94, Portuguese historian. Left an orphan at an early age, he had to go to work and was largely self-educated After beginning with a feeble historical novel, *Phebus Moniz* (1867), he turned to history and biography and achieved considerable success, particularly with his history of Portugal (1879), his account of modern Portugal (1881), and his history of the Roman republic (1885) He wrote biographies of the sons of John I (1891), of Nun'Álvares Pereira (1893), and of John II (*O principe perfeito*, 1896) His work was not scholarly or even accurate in the stricter sense, but his ability to paint romantic and evocative pictures of the past was remarkable

olive oil, clear, bland, yellowish oil expressed from the OLIVE The whole fruit, consisting of about 80 percent pulpy mass enclosing a hard central pit, contains oil, but the best edible quality is taken from the pulp The yield of oil varies with the climate, cultivation, and variety of olive For the finest or virgin oil, the fruit is gathered by hand before it is fully ripened, peeled, and subjected to gentle pressure without heat Ripe fruit yields more oil of a less perfect flavor A second pressure yields first and second grades of commercial edible oil, then the pulp may be mixed with water to produce technical oils, used in industrial processes Finally a solvent may be used to obtain the lowest grade In extracting the edible grades, the oil is removed as quickly as possible from the crushed pulp, which ferments easily, great cleanliness is required, as the oil readily taints or becomes rancid For the dyeing industry, however, an oil is obtained by fermentation of the pulp An edible grade, made from ripe, decaying, or imperfect fruit or from the crushed pits is inferior in flavor and keeping qualities Modern machine manipulation removes pits and crushes by hydraulic pressure Edible oil may vary in color from clear white to a golden yellow or yellowish green The oil is separated from the juice by settling and is washed, filtered, and aged For use in cold climates it is now often clarified by removing the stearin, or solid part of the fat It has been extensively adulterated by the addition of oils such as cottonseed, sesame, and others, but laws in the United States require that it be labeled salad oil if it contains foreign ingredients Olive oil contains a large proportion of easily digested fats The principal fat in the diet of countries where it has long been cultivated, olive oil is often used in place of cream and butter and as a salad oil and cooking fat It is employed medicinally as a laxative, an antidote for caustic poisons, and an ingredient of liniment and salves In industry its inferior grades are used in dyeing and in the making of soda or potash soap used in textile manufacturing For many years it has been used in making the finest Castile soap. The chief oil-exporting countries are Spain, Italy, Greece, Tunisia, Portugal, Syria, Algeria, and France Lucca (Italy), Marseilles (France), and Seville (Spain) are noted refining centers The oil mentioned about 200 times in the Old Testament is olive oil Olive oil was used in the ancient world in the preparation of food, as an anointing oil for both ritual and cosmetic purposes, and for lighting

Oliver, Andrew, 1706–74, lieutenant governor of colonial Massachusetts (1771–73), b. Boston, grad Harvard, 1724 Oliver was elected to the provincial council in 1746 and later served (1765–71) as secretary of the province His acceptance of the post of stamp officer after the passage of the Stamp Act led to violent demonstrations against him, which forced him to resign the office. He became lieutenant governor in 1771, but popular indignation against him broke out again in 1773 as the result

of the discovery of private letters he and Gov Thomas HUTCHINSON had written to England criticizing the colonists and recommending coercive measures

Oliver or Olivier, Isaac (ŏl'ĭvẽur), 1556?–1617, English miniature painter, of French extraction, a worthy follower of Hilliard as miniature painter to Elizabeth's court His work is to be seen in the British and the Victoria and Albert museums, London, and in the Cleveland Museum His son and pupil, **Peter Oliver,** c 1594–1648?, was also a famous miniaturist He painted numerous water-color copies of old masters, most of which are now in Windsor Castle His works are largely in English private collections and in the collection of the queen of Holland

Oliver, James, 1823–1908, American inventor and manufacturer of chilled plows, b Scotland In 1835 he came to America with his parents He became an iron molder and was successful in devising a process of chill hardening iron castings of plows, making cast-iron moldboards and shares far more durable and efficient They scoured—were self-polishing—even in the sticky prairie soil Oliver became owner of a factory at South Bend, Ind , in 1857 He was granted a patent for his chill-hardening process in 1869

Olives, Mount of, or **Olivet** (ŏ'lĭvĕt), ridge, E of Jerusalem, mentioned in the Old Testament as the scene of David's flight from the city and in the New Testament as a frequent resort of Jesus Bethany and Bethphage lie near its foot, and the garden of Gethsemane is on the western slope 2 Sam 15 30, Mat 21 1, Acts 1 12

Olivet (ŏ'lĭvĕt), village (pop 604), S Mich , SW of Lansing Olivet College (coeducational, 1844) is here

Olivia (ŏlĭ'vēa), village (pop 1,788), co seat of Renville co , SW Minn , E of Granite Falls, in a farm area, platted 1878, inc 1881

Olivier, Isaac see OLIVER, ISAAC

Olivier, Sir Laurence Kerr (ŏlĭ'vēur), 1907–, English actor and director on the stage and in moving pictures He made his debut in 1922 as Katherina in *The Taming of the Shrew* at the Shakspeare Festival, Stratford-on-Avon, and acted Shakspearian and other roles in the Birmingham Repertory Company (1925–28) He began his moving-picture career in 1930 and became known for his acting ability in such films as *Wuthering Heights*, *Rebecca*, and *Pride and Prejudice* In 1944 he was appointed one of the directors of the Old Vic Theatre Company, where his performances in *Oedipus*, *Uncle Vanya*, and *The Critic* won great acclaim in England and in the United States (1946) He produced, directed, and acted in excellent moving-picture versions of *Henry V* (1946) and *Hamlet* (1948) He was knighted in 1947

Olivier, Sydney Olivier, 1st Baron, 1859–1943, British colonial administrator Olivier was interested throughout his life in socialism and was one of the first members of the Fabian Society, contributing to the famous *Fabian Essays* (1889) He was colonial secretary in Jamaica from 1899 to 1904 and later governor of the island (1907–13) He was secretary of state for India during Ramsay MacDonald's brief Labour government in 1924 A number of his works deal with colonial questions, among them *White Capital and Coloured Labour* (1906, rev ed , 1927) and *The Anatomy of African Misery* (1927) See his letters and selected writings (ed , with a memoir, by Margaret Olivier, 1948)

Ollivant, Alfred, 1874–1927, English novelist, grad Royal Military Academy at Woolwich, 1893 He wrote the classic dog story *Bob, Son of Battle* (1898), published in England as *Owd Bob* Other works include *The Gentleman* (1908), *The Royal Road* (1912), *Boy Woodburn* (1917), and *Tomorrow* (1927)

Ollivier, Émile (āmēl' ôlēvyā'), 1825–1913, French statesman, a leading figure in the "Liberal Empire" of Napoleon III He was a brilliant lawyer and had gained a wide reputation before he was elected to the *corps législatif* in 1857 He and Jules FAVRE were the chief figures of the liberal opposition which sought by constitutional means to fight for liberal reforms After 1863 Ollivier cooperated with the duc de Morny in gaining liberal concessions from Napoleon, and, as the emperor conceded more and more, Ollivier gradually drew away from his republican colleagues and became the leader of a new liberal group that stood for cooperation with the government. Napoleon III was reluctant to put the ministry into Ollivier's hands, but he was compelled by circumstances to capitulate in Dec , 1869, and Ollivier organized the ministry of Jan 2, 1870 The ministry was unfortunate, trouble over the Hohenzollern succession in Spain burst forth suddenly into hostilities between France and Germany in the FRANCO-PRUSSIAN WAR. Ollivier was replaced by Palikao as premier (Aug., 1870), and he went to Italy. He returned to France after three years and spent most of his later years writing historical and political articles, many of them in defense of his ministry. His most important work is the collection called *L'Empire libéral* (17 vols , 1895–1917).

Olmec (ŏl'mĕk), term applied to the culture of the Indian peoples long settled in the tropical lowlands of Veracrus and Tabasco. The Olmecan period is tentatively dated as c 500 B C.–A D 1150 The earliest evidences at La Venta (Tabasco) and Tres Zapotes (Veracruz) show a highly developed agricultural civilization The bar and dot system of recording time was in use, and, if the earliest date (31 B C) is correctly deciphered, Olmec use antedates the earliest definitely known date (A D 320) of the Maya, who are credited with having originated the system Olmec seems to have influenced the cultures of the ZAPOTEC, the MIXTEC, and the TOLTEC

Olmedo, José Joaquín (hōsā' hwäkēn' ōlmā'dhō), 1780?–1847, Ecuadorian poet, one of the three outstanding poets (along with Bello and Heredia) of the revolutionary period in Spanish America His poems—largely occasional writings—revealed his classical background, best known is *La victoria de Junín canto a Bolívar* He described American nature, favored intellectual independence of European influence, and showed an interest in the Indians As representative of Guayaquil in the cortes of Cádiz, he spoke (1810) for the Indians, and he is regarded as a precursor of the *indianista* movement In 1830 he was elected first vice president of Ecuador

Olmos Park (ŏl'mus), city (pop 1,822), S central Texas, near San Antonio, inc 1939

Olmsted, Denison, 1791–1859, American scientist, b near East Hartford, Conn , grad Yale, 1813 He was professor of geology at the Univ of North Carolina (1817–25) and there prepared a geological survey of the state (1824–25) From 1825 he was at Yale, as professor of mathematics and natural science and, from 1836, as professor of natural philosophy and astronomy He advanced a theory to explain the formation of hailstones, conducted observations of the aurora borealis, and with Elias Loomis observed Halley's comet in 1835

Olmsted, Frederick Law, 1822–1903, American landscape architect and writer, b Hartford, Conn He first attained fame for accounts of his travels in the South in the early 1850s, in which he painted vivid pictures of slaveholding society—*A Journey in the Seaboard Slave States* (1856), *A Journey through Texas* (1857), *A Journey in the Back Country* (1860), and *Journeys and Explorations in the Cotton Kingdom* (1861) His *Walks and Talks of an American Farmer in England* had already appeared in 1852 When Central Park in New York was projected, he and Calvert Vaux prepared the plan which was accepted Olmsted superintended the execution of the plan The well-planned park was a new departure, which was developed by Olmsted in other cities, e g , Prospect Park, Brooklyn, N Y , South Park, Chicago, Mt Royal Park, Montreal, and park systems in Buffalo and Boston Perhaps his most spectacular achievement was the laying out of the grounds (afterward Jackson Park) in Chicago for the World's Columbian Exposition in 1893 He also took an interest in the creation of state and national parks and in city planning See *Frederick Law Olmsted, Landscape Architect* (ed by F L Olmsted, Jr , and Theodora Kimball, Vol I, 1922, Vol II, 1928), Broadus Mitchell, *Frederick Law Olmsted, a Critic of the Old South* (1924) His son, **Frederick Law Olmsted,** 1870–, b Staten Island, N Y , grad Harvard, 1894, is also a landscape architect and city planner He studied with his father and began practice in 1895 He taught (1901–14) Harvard's first course in landscape architecture As a city planner he has been on many committees and government boards, he was chairman (1910–19) of the executive committee of the National Conference on City Planning In 1901 he was influential in the plan for beautifying Washington, D C

Olmütz (ŏl'mŭts), Czech *Olomouc* (ŏ'lômōts), city (pop 58,617), Moravia, Czechoslovakia, on the Morava river It is an agricultural and commercial center and an archiepiscopal see An ancient town, Olmütz was once the leading city of Moravia Here in 1242 Wenceslaus II of Bohemia defeated the Mongol invaders In 1642 the Swedes under Torstensson sacked the town, and in 1758 Frederick II of Prussia besieged it unsuccessfully. Olmütz was the scene (1850) of a treaty between Austria and Prussia, by which the German Union under the presidency of Prussia was dissolved and the GERMAN CONFEDERATION, headed by Austria, restored Prussia smarted under the "humiliation of Olmütz" until 1866, when it defeated Austria in the Austro-Prussian War Among the notable buildings of Olmütz are the Cathedral of St Wenceslaus (begun 12th cent), the city hall (rebuilt 14th cent), and two Gothic churches In the former fortress Lafayette was held imprisoned for five years

Olney, Jesse (ŏl'nē), 1798–1872, American geographer His *Practical System of Modern Geography* (1828), a standard work for decades, revolutionized the teaching of geography, for Olney's method was to familiarise the student with his own environment and then progress to a study of the more distant parts of the earth He taught in New York and Connecticut, served in the Connecticut legislature for 10 terms, was elected state comptroller in 1867, and wrote other textbooks and a volume of poetry.

Olney, Richard, 1835–1917, American statesman, b Oxford, Mass , grad Brown, 1856, and Harvard Law School, 1858 He was a successful Boston lawyer and had served in the state legislature before President Cleveland appointed him to the cabinet As Attorney General (1893–95), he obtained an injunction against the strikers in the PULLMAN strike of 1894, under it Eugene V DEBS was held in contempt of court Olney also persuaded Cleveland to send in troops to prevent interference with the mails, though Gov. John P ALTGELD declared troops unnecessary In 1895 Olney succeeded Walter Q Gresham as Secretary of State He played a vigorous part in the negotiations with the British over the VENEZUELA BOUNDARY DISPUTE In the course of them he stated flatly that the United States is "practically sovereign on this continent, and its fiat is law upon the subjects to which it confines its interposition" This principle was later supported by Theodore Roosevelt as a corollary of the MONROE DOCTRINE and was long important in American foreign policy See biography by Henry James (1923)

Olney (ŏl'nē, ō'nē), village, Buckinghamshire, England, on the Ouse and WNW of Bedford A museum has been established in the house where the poet Cowper (who with John Newton wrote the *Olney Hymns*) lived from 1767 to 1786

Olney (ŏl'nē) **1** City (pop 7,831), co seat of Richland co , SE Ill , inc 1841 An industrial, trade, and shipping center of a farm and timber area, it manufactures shoes, flour, butter, and handles There is a Univ of Chicago bird sanctuary here **2** City (pop 3,497), N Texas, SSW of Wichita Falls, settled 1891, inc 1909 The region has oil fields, cattle ranches, and farms

Olomouc, Czechoslovakia see OLMÜTZ

Olonos, Mount, Greece see ERIMANTHOS

Olosega (ōlōsā'gu), island (pop 509), Manua dist , American SAMOA, c 60 mi from Tutuila It is mountainous and fertile, rising to an elevation of 2,095 ft

Olson, Floyd Bjornstjerne, 1891–1936, governor of Minnesota (1931–36), b Minneapolis Before he studied law at the Univ of Minnesota and at the Northwestern College of Law in Minneapolis, he was an itinerant laborer, and for a time he belonged to the IWW Admitted (1915) to the bar, he practiced in Minneapolis, and as county attorney (1920–30) of Hennepin co he brought about the investigation of graft in the Minneapolis city council Elected governor three times on the Farmer-Labor ticket, Olson led in the repeal of the Minnesota newspaper "gag" laws, brought about the passage of unemployment and farm-relief legislation, and openly sided with labor in a series of strikes that occurred after 1934

Olsztyn, East Prussia see ALLENSTEIN

Olten (ŏl'tun), town (pop 15,287), Solothurn canton, Switzerland, on the Aar river It is an important railway junction, has railway shops, and has also aluminumware, shoe, chemical, and printing industries

Oltenia, Rumania see WALACHIA.

Olustee (ŏlŭ'stē), village, N Fla , on Ocean Pond E of Lake City, W of Jacksonville. It is a naval-stores shipping center and the seat of an experiment station and a station of the U S Bureau of Agricultural and Industrial Chemistry It was the scene of the most important battle (also called the battle of Ocean Pond) fought in Florida in the Civil War, Feb 20, 1864 Confederates under Gen Joseph Finegan decisively defeated Federals led by Gen Truman Seymour, thus saving the supplies of interior Florida for the Confederacy

Olympas (ŏlĭm'pus), Christian at Rome Rom 16 15

Olympia (ŏlĭm'pēa), city (pop 13,254), state capital, and co seat of Thurston co , W Wash , at the southern tip of Puget Sound and within sight of the Olympic Mts Founded in 1850, it was in 1853 made capital of the newly created Washington Territory It is a port of entry, does considerable shipping, and manufactures lumber, mineral, and food products Noteworthy are the fine old capitol building (1893) and the lavish new capitol group (1911–35) St Martin's College (Catholic, for men) is here Near by is an Indian reservation

Olympia, small plain of Elis, ancient Greece, near the Alpheus river From the earliest times it was important as a center of worship of Zeus and as the scene of the OLYMPIC GAMES. The great temple of Zeus, revealed by excavation, was especially celebrated for the ivory, gold-adorned statue of Zeus by Phidias—one of the SEVEN WONDERS OF THE WORLD Excavation has also revealed several other temples within the sacred enclosure (called the Altis) as well as the treasuries (of various Greek states) and the gymnasium See E N. Gardiner, *Olympia Its History and Remains* (1925)

Olympiad, unit of a chronological ERA of ancient Greece, a four-year period, each one beginning with the OLYMPIC GAMES Timaeus of Sicily (352–256 B C) was the first to utilize, as a check on chronology, the list of victors kept in the gymnasium at Olympia The first Olympiad was reckoned to have begun 776 B C

Olympian, in GREEK RELIGION, one of the 12 important gods, who lived on Mt Olympus Zeus, the

father, ruled over Hera, his sister and wife, Athena, Hebe, Artemis, and Aphrodite, his daughters; Hermes, Ares, Apollo, and Hephaestus, his sons, Hestia, his older sister, and Poseidon, his brother Other deities sometimes included in the group are Demeter, Dionysus, and Hercules. They lived in quarrelsome splendor Their food was ambrosia, their drink nectar. The great sanctuary of these gods was Olympia, in Elis, where the Olympic games were held in their honor See Arthur Cook, *Zeus a Study in Ancient Religion* (3 vols, 1914–40)

Olympias, d 316 B C, wife of PHILIP II of Macedon and mother of ALEXANDER THE GREAT She did not get on well with Philip, who had other wives, and it has been said that she had a part in his murder She reputedly had great influence in molding her son and giving him an interest in religion and in art Her violent ambitions plunged her into quarrels with Antipater, and when, after Alexander's death, she tried to forestall CASSANDER in Macedonia, he defeated and killed her

Olympic games, principal athletic meeting of ancient Greece, held in the summer once every four years at Olympia in honor of Olympian Zeus. The Olympic games were, according to tradition, instituted in 776 B.C, when the first OLYMPIAD began They were discontinued by Emperor Theodosius I of Rome at the end of the 4th cent A D The Olympic games were the greatest festival in the Greek world from the 6th cent B C and were at their height in the 5th and 4th cent However, they became more and more professionalized until in the Roman period they provoked much censure from philosophers and physicians Among the Greeks, the games were nationalistic in spirit and states were said to have been prouder of Olympic victories than of winning battles. Women, foreigners, slaves, and dishonored persons were forbidden to compete. Contestants were required to train faithfully for 10 months before the games, had to remain 30 days under the eyes of the people of Elis, who had charge of the regulation of the games, and had to take an oath that they had faithfully observed training before participating in the events At first, Olympic games were confined to running, Coroebus was the official winner of the foot race in 776 B C Over a period of time many new events were added—the long run in 720 B C, when the loin cloth was abandoned and athletes began appearing naked, the PENTATHLON in 708 B.C., boxing in 688 B C, chariot racing in 680 B C, the pancratium, involving boxing and wrestling, in 648 B C, contests for boys in 632 B C, and the foot race with armor in 520 B C Greek women, not only forbidden to participate in but also to watch the Olympic games, held games of their own, called Heraea, said to have been founded by Hippodameia. These were also held every four years but had fewer events Known to have been conducted as early as the 6th cent B C, the Heraea games were discontinued about the time the Romans conquered Greece The winners of the Olympics (and of the Heraea) were crowned with chaplets of wild olive, but in their home city-states the male champions were awarded many valuable gifts and privileges A list of Olympic winners from 776 B.C. to A.D 217 was drawn up by Julius Africanus and was preserved by Eusebius The glory of the Olympic games was heightened by the introductory procession, the call of the trumpet, religious festivities, and banquets The poetry of PINDAR celebrates the athletic triumphs at Olympia Pausanias also wrote on the Olympics The modern revival of the Olympic games is due in a large measure to the efforts of Pierre, baron de Coubertin, of France They were first held, appropriately enough, in Athens in 1896, but that meeting and the ones that followed at Paris (1900) and at St. Louis (1904) were hampered by lack of sufficient organization and the absence of world-wide representation The fact that the meeting at St Louis attracted few but American competitors led to a special meeting in 1906 at Athens under Greek auspices. The first successful meeting was held at London in 1908. Successive Olympic games were held at Stockholm (1912), Antwerp (1920), Paris (1924), Amsterdam (1928), Los Angeles (1932), Berlin (1936), and London (1948) The First World War prevented the Olympic meeting of 1916, and the Second World War brought about the cancellation of the 1940 and 1944 meetings The number of entrants, of competing nations, and of athletic events has gradually increased To the traditional TRACK AND FIELD ATHLETICS, which includes the DECATHLON and pentathlon, were added a host of games and sports—cycling, swimming, shooting, fencing, rowing, polo, basketball, canoeing, handball, equestrian sports, rugby football, soccer, yachting, weight lifting, boxing, and wrestling Olympic events for women made their first appearance in 1912 and since then have become increasingly important At Chamonix, France, in 1924 winter sports, including skating, ice hockey, bobsledding, and skiing, were included as Olympic events. Successive winter-sports Olympic meets were held at St Moritz, Switzerland (1928), Lake Placid, N Y. (1932), Garmisch-Partenkirchen, Germany (1936), and again at St Moritz (1948). Olympic events are officially won only by individuals The newspaper method of national-team scoring—giving three points for first place, two for second place, and one for third place and adding up these tallies by national teams—is strictly unofficial On this basis, the United States "won" all the Olympic meets except that of 1936, which was "won" by Germany. The games are controlled and general policies are set up by an international Olympic committee, to which each participating nation sends at least one delegate Individual nations have their own Olympic committees to control and regulate Olympic trial meets to select contestants and to supervise the activities of their national Olympic organizations. See F. A M Webster, *The Evolution of the Olympic Games* (1925), E. N. Gardiner, *Olympia* (1925), R. D Binfield, *The Story of the Olympic Games* (1948), John Kieran and Arthur Daley, *The Story of the Olympic Games, 776 B C –1948 A D* (1948)

Olympic Mountains, part of the Coast Ranges, NW Wash., S of the Juan de Fuca Strait and W of Puget Sound, from 3,000 to 8,000 ft in elevation. Mt Olympus (8,150 ft) was included in Mt Olympus National Monument (est 1909), which was extended and set aside in 1938 as the **Olympic National Park** (846,765.66 acres) This is a beautiful wild area, abounding in wildlife, especially elk, and in virgin forest. There are several glaciers. It is said to be the rainest area in the country.

Olympus (ōlĭm'pŭs), mountain range, N Greece, on the border of Thessaly and Macedonia, near the Aegean coast It is c 25 mi long and rises to 9,570 ft, its summit being the highest point in Greece In Greek religion the summit, shut from the sight of men on earth by clouds, was the home of the OLYMPIAN gods Later the name Olympus was given to the remote heavenly palace of the gods Mt. Olympus has always been of strategic importance In the Second World War it was a stronghold of the Greek guerrillas.

Olympus, Mount see CYPRUS, OLYMPIC MOUNTAINS, OLYMPUS (Greece).

Olynthus (ōlĭn'thŭs), ancient city on the peninsula of Chalcidice, Greece, NE of Potidaea A league of Chalcidic cities grew up in the late 5th cent B C, and Olynthus, as the head of this Chalcidian League, vigorously opposed the threats of Athens and Sparta Athens captured the city briefly, and in 379 Sparta defeated Olynthus and dissolved the league, which was, however, re-formed after the fall of Sparta Olynthus at first was allied with Philip II of Macedon against Athens, then, fearing Philip's power, sought Athenian aid Philip attacked, and Demosthenes in his Olynthiac orations eloquently urged his fellow Athenians to aid the threatened city, but Philip triumphed nevertheless In anger he razed the city in 348 B C Recent excavation of the ruins have revealed much of Greek life in the 5th and 4th cent B C

Olyphant (ō'lĭfunt), industrial borough (pop 9,252), NE Pa, on the Lackawanna and NE of Scranton, settled 1858, inc 1877. Iron foundries, mines, and a silk mill are here

Om (ōm), in Hinduism and Buddhism, a mystic syllable. Its original Sanskrit form may have comprised three letters which in English would be *a-u-m*, and the syllable denotes a trinity. In Hinduism it commonly represents the divine triad of Brahma, Vishnu, and Siva, i e, God as creator, as preserver, and as destroyer In Buddhism it may represent the eternal, the temporal, and the principle which mediates between them Often it has the effect of Amen The best-known use is in the Buddhist ejaculation *Om mani padme hum* [Yes, the jewel (i e, Buddha) is in the lotus, amen!]

Omagh (ō'mā), urban district (pop 5,741), co seat of Co Tyrone, Northern Ireland It is a farm market, processing dairy products There are ruins of a castle besieged in 1509 and again in 1641. Omagh was the site of an abbey in the 8th cent.

Omagua (ōmä'gwa, ōmu'wa), legendary land of treasure It is comparable to EL DORADO and was sought by the Spanish conquistadors

Omaha (ō'muhä, hô), city (pop 223,844), co seat of Douglas co, E Nebr, largest city in the state, extending along the west bank of the Missouri opposite Council Bluffs, Iowa, and c 500 mi. W of Chicago. The site was passed by early pioneers (including Lewis and Clark, 1804) and was a fur-trading point in the 1820s With the opening of the Nebraska Territory to settlement in 1854 the city was founded, it was incorporated in 1857. It grew as a supply point for westward migration, river traffic was augmented (1865) by the coming of the Union Pacific The city was territorial capital from 1855 to 1867. In the heart of the country's great farming region, it is a port of entry and an important transportation and shipping center, terminal of railroads (10 trunk systems), highway lines (including the Lincoln Highway), river traffic, and transcontinental airlines (there is a municipal airport) There are huge stockyards, grain elevators, mills, meat-packing plants, and a large lead smelter A world's fair, the Trans-Mississippi Exposition, was held here in 1898 The city has fine park and school systems and is the seat of CREIGHTON UNIVERSITY, the college of medicine of the Univ. of Nebraska, the Municipal Univ. of Omaha (coeducational, 1908), Duchesne College (for women), the state school for the deaf, preparatory and denominational schools, and the Joslyn Memorial (1931) with art collections and a concert hall. Fort Omaha (built 1863) and Fort Crook, near by, are army posts Boys Town is southwest See Alfred R Sorenson, *The Story of Omaha* (3d ed., 1923).

Omaha Indians, tribe of North American Indians of the Siouan linguistic stock. They, with the Ponca, probably migrated from the Ohio valley to the confluence of the Missouri and the Mississippi rivers and thence to Iowa At the mouth of the Niobrara river in Nebraska they seem to have separated from the Ponca. The Omaha moved farther up the Missouri river but after an outbreak (1802) of smallpox, which considerably reduced their population, they moved to NE Nebraska. The Omaha intermittently warred against the Sioux. In 1854 the Omaha ceded all their lands W of the Missouri to the United States and moved to Dakota co Nebr The Omaha sold part of their reservation to the United States for the use of the Winnebago in 1865. An act of 1882 granted them the right to own land individually Since 1802, when they numbered some 300, they have increased to 1,800 The Omaha were a typical tribe of the Plains area living in earth lodges in the winter and tepees in the summer. See Alice Fletcher, *A Study of Omaha Indian Music* (1893), Alice Fletcher and Francis La Flesche, *The Omaha Tribe* (1907), R. F. Fortune, *Omaha Secret Societies* (1932)

O'Mahony, John (ōmä'hunē), 1816–77, Irish patriot He attended Trinity College, Dublin, became a proficient Irish scholar, and made an excellent translation (1857) of Geoffrey Keating's Gaelic history of Ireland into English. O'Mahony was a follower of Daniel O'Connell, but turned to the Young Ireland organization of William Smith O'BRIEN After the unsuccessful Irish rebellion of 1848 he fled to France and thence to America, where he was a founder and organizer of the FENIAN MOVEMENT

Omak (ō'măk), town (pop. 2,918), N central Wash, on the Okanogan river, settled 1907, inc 1911

O'Malley, Frank Ward, 1875–1932, American newspaperman, b Pittston, Pa As reporter (1906–19) on the New York *Sun* he was recognized as accurate and brilliant, especially noted for his stories of humor and pathos Among his books is *The Swiss Family O'Malley* (1928).

Oman, Sir Charles William Chadwick (ō'mun) 1860–1946, British historian, b India A student at Oxford under William Stubbs, Oman was himself made professor of modern history there in 1905 As a historian he is the equal of Stubbs and of J R Green in readability He was a foremost military historian, his most notable works are *A History of the Art of War in the Middle Ages* (1898, 2d ed, 1924), its companion study, *A History of the Art of War in the Sixteenth Century* (1937), and his exhaustive *History of the Peninsular War* (7 vols, 1902–30) *His History of Greece* (1888) and *History of England before the Norman Conquest* (1910, 8th ed, 1937) are standard works, but almost entirely concerned with political and military history Among his other works are *The Dark Ages* (1901), *Seven Roman Statesmen* (1902), *A Short History of England* (1898, new ed, 1920), *Studies in the Napoleonic Wars* (1929), *Things I Have Seen* (1933), *The Sixteenth Century* (1936), *On the Writing of History* (1939), and *Victorian Oxford* (1941). He was (1919–35) a member of Parliament for Oxford Univ and was knighted in 1920 The historical novelist, Carola Oman, is his daughter

Oman (ōmän', ō'măn), sultanate (c 82,000 sq mi, pop c 550,000), SE Arabia It is officially Muscat and Oman, and the capital is MUSCAT Oman stretches for nearly 1,000 mi along the Gulf of Oman and the Arabian Sea. For the most part it comprises a narrow coastal plain, backed by hill ranges and an interior plateau In the extreme north dates are raised, and in the southwest there is an abundance of sugar cane and cattle, elsewhere the country is barren Much of the coast of Oman was controlled by Portugal from 1508 to 1650, when the Turks seized possession They were driven out in 1741 by Ahmed ibn Said of Yemen, who founded the present royal line In the early 19th cent. Oman was the most powerful state of Arabia, controlling Zanzibar and much of the coast of Persia and Baluchistan. Zanzibar was lost in 1856, and today the only possession outside Arabia is the town of Gwadar on the Baluchistan coast Oman is in close treaty relations with Great Britain. It is not connected politically with adjoining TRUCIAL OMAN.

Omar (ō'–), duke of Edom. Gen. 36.11,15.

Omar (ō'mŭr, ō'mär), c 581–644, 2d caliph (see CALIPHATE). At first hostile to Islam, he was converted by 618 and was adviser to Mohammed. He was responsible for the choice of ABU BAKR as 1st caliph in 632, and he himself succeeded Abu Bakr without opposition in 634. In his reign Islam became an imperial power. The Moslem generals pushed conquests far and wide—Khalid in Syria, Amri in Egypt, Saad and Numan in the Persian Empire. Omar also laid the administrative base of

the empire, creating the office of kadi and establishing fixed taxes. He reopened the canals of Mesopotamia and the waterway from the Nile to the Red Sea. He was assassinated by a foreign slave. He had appointed a group to select his successor, and the choice fell on Othman

Omar Khayyam (kīăm′), fl. 11th cent., Persian poet and mathematician, b. Nishapur. He was called Khayyam [tentmaker] probably because of his father's occupation. The details of his life are mostly conjectural, but he was very well educated and achieved fame as the outstanding mathematician of his time. He was one of a group that undertook to reform the calendar, and their work led to the adoption of a new era, the so-called Jalalian or Seljuk era, beginning March 15, 1079. Omar was responsible for a number of other astronomical and mathematical studies, including an algebra. His fame as a scientist has been greatly eclipsed by the popularity of his *Rubáiyát*, epigrammatic verse quatrains, first noticed in the Occident c.1700 but generally unknown until sometime after an English paraphrased translation of them was first published by Edward FITZGERALD in 1859. Since that date a number of other literal or paraphrased translations have been made in English and in other languages. FitzGerald omitted many of the quatrains (which were independent and unconnected) and rearranged them into the semblance of a connected poem; it is, however, impossible to establish definitely that many of the numerous quatrains attributed to Omar are really his work. The verses have been offered in literally hundreds of editions, and many of the lines are entirely familiar to all educated English-speaking persons

Omayyad (ōmā′yăd), Arabian dynasty of caliphs. The powerful Omayyad clan was at the very first hostile to Islam, but a member of the family, OTHMAN, became a son-in-law of the Prophet and was the 3d caliph. After his murder ALI became caliph, and he was succeeded by his son HASAN. The Omayyad leader, MUAWIYA, was, however, disaffected. As governor of Syria, he opposed Ali, and in 658 he spread his power to Egypt. Hasan was forced to resign, and Muawiya was recognized in the older Moslem provinces. He made the caliphate hereditary and created the Omayyad dynasty (though the principle was not firmly maintained). The accession of the Omayyads brought about the great schism between the SUNNITES and the SHIITES. There were 14 Omayyad caliphs before 750: **1** Muawiya, caliph 661–80, **2** Yazid, caliph 680–83, **3** Muawiya II, caliph 683, **4** Marwan I, caliph 683–85, **5** Abdu-l-Malik, caliph 685–705, **6** Walid I, caliph 705–15, **7** Suleiman, caliph 715–17, **8** Omar II, caliph 717–20, **9** Yazid II, caliph 720–24, **10** Hisham, caliph 724–43, **11** Walid II, caliph 743, **12** Yazid III, caliph 743–44, **13** Ibrahim, caliph 744, **14** Marwan II, caliph 744–50. The Omayyad capital was usually Damascus, and they gave that city its splendor until 750, when Marwan II, though a hard fighter, was defeated and killed by Abbasids (see ABBASID), who then perpetrated a general massacre of the Omayyad family. One member escaped to Spain, where he established himself over the MOORS as ABDU-R-RAHMAN I, emir of Córdoba, in 756. This emirate, changed to a caliphate by Abdu-r-Rahman III in the 10th cent., survived until 1031. It came to include most of Moslem Spain. The rulers were Hisham I (reigned 788–96), Hakim I (reigned 796–822), Abdu-r-Rahman II (reigned 822–59), Mohammed (reigned 859–86), Mundhir (reigned 886–88), Abdullah (ruled 888–912), Abdu-r-Rahman III (reigned 912–61, caliph 929–61), Hakim II (caliph 961–76). The early emirs pushed into S France, then sought to oppose the invasion of Charlemagne. They were troubled by raids of the Norsemen along the coast and by numerous revolts and finally by the reconquests of the Christian kings, but they budded a brilliant civilization that reached its apex under Abdu-r-Rahman III, when art, literature, and science flourished. The great Arabic library was collected largely by his successor, Hakim II. Local dissensions were by that time tearing the state apart, but the able general Al MANSUR in the late 10th cent. carried Omayyad power across almost all of Spain, sacking Santiago and Barcelona. The last Omayyad rulers (Hisham II and Hisham III) were, however, inconsiderable, and the Almoravids had little difficulty in taking over Spain. For bibliography, see CALIPHATE, MOORS, SPAIN

Ombos (ŏm′bŏs), ancient city, S Egypt, on the Nile. It was strategically important for its commanding position on a hill. Under the Ptolemies it attained great importance, and there was built a mighty temple complex dedicated to the crocodile-headed god Suchos and the falcon-headed Haroeris

Omdurman (ŏmdŭrmän′), city (pop. 117,650), central Anglo-Egyptian Sudan, on the White Nile opposite Khartoum. It was founded in 1884 as a military camp of the Mahdists. Near here Lord Kitchener's Anglo-Egyptian forces decisively defeated the Mahdists in 1898. Omdurman has a native market with trade in cotton, grain, and handicrafts. A bridge connects it with Khartoum

O'Meara, Barry Edward (ōmā′rŭ), 1786–1836, Irish physician. He attended Napoleon I on St. Helena and became involved in a feud with Napoleon's custodian, Sir Hudson Lowe, whom he charged with a plot to kill Napoleon. O'Meara was forced to return to England. See his *Napoleon in Exile* (1822), R. C. Seaton, *Napoleon's Captivity* (1903)

Omei or **O-mei** (ō′mā′), peak, c.9,950 ft. high, W Szechwan prov., China, near Loshan. With large Buddhist images and many temples and monasteries, it is one of the sacred peaks of China

omen, sign or augury believed to foreshadow the future. Omens were of many different kinds and included the results of most forms of DIVINATION. The usual omen was, however, a natural phenomenon such as a comet or a flight of birds. Among the Greeks and particularly among the Romans the interpretation of omens was a major part of religious life. Belief in omens survives in superstitions concerning unlucky days, lucky numbers, chance encounters, warning dreams, and fortune-telling games

omnibus. see BUS

Omphale (ŏm′fălē), in Greek mythology, queen of Lydia. Hercules was sent to her court by the Delphic oracle, to work for her for three years to expiate the murder of his son Iphitus. Omphale made him into an effeminate creature, who dressed in woman's clothes and worked with her maids spinning wool. Omphale wore his lion's skin and carried his club. Hercules later became her lover

Omri (ŏm′rī). **1** Died c.874 B.C., king of Israel (c.885–c.874 B.C.). He was a general in the army of Elah, and on the king's death at the hands of ZIMRI **1**, Omri proclaimed himself king. Soon after this Zimri killed himself. Omri worsted Tibni, a pretender, and moved his capital from Tirzah to Samaria, thenceforth the chief city of Israel. Omri is mentioned on the Moabite stone and on Assyrian inscriptions, which call Israel "the land of Omri." Omri was in close touch with the Syrian petty kingdoms, and his son Ahab's marriage with Jezebel was a result of this relation. **1** Kings 16:16–28, 20:34. **2** Benjamite. **3** Chron. 7:8. **3** Judahite. **1** Chron. 9:4. **4** Issacharite. **1** Chron. 27:18

Omro (ŏm′rō), city (pop. 1,401), central Wis., on the Fox and W of Oshkosh, settled 1845, inc. as a village 1857, as a city 1944

Omsk (ŏmsk), city (1939 pop. 280,716, 1946 estimated pop. 450,000), capital of Omsk oblast, RSFSR, in W Siberia, on the Irtysh river at its confluence with the Om river. It is also on the Trans-Siberian RR. It was the largest city of Asiatic Russia until the rise of Novosibirsk, and it remains a major transportation point and industrial center. Its industries produce machinery, locomotives, rolling stock, automobiles and automobile tires, processed foods, and lumber. There are several technical and medical institutes. The city developed around a fortress built in 1716, was chartered in 1804, and in 1824 succeeded Tobolsk as administrative center of W Siberia. During the civil war that followed the Russian Revolution of 1917, Kolchak made Omsk his capital (1918–19). The city was primarily the center of a wholly agricultural region until its industrialization began under the Soviet regime

Omuta (ō′mōōtä), city (1947 pop. 166,438), Fukuoka prefecture, W Kyushu, Japan, a port on the Amakusa Sea. It is an industrial city and a coal-exporting center. Large coal deposits are in the vicinity. The name also appears as Omuda

On (ŏn). **1** Reubenite conspirator in Korah's revolt. Num. 16:1,2. **2** The Egyptian HELIOPOLIS

Onalaska (ŏnŭlă′skŭ), city (pop. 1,742), W Wis., a suburb of La Crosse, in a dairy area, settled 1854, inc. 1887

Onam (ō′nŭm) [Heb., =strong]. **1** Horite. Gen. 36:23, 1 Chron. 1:40. **2** Judahite. 1 Chron. 2:26,28

Onan (ō′nən) [Heb., =strong], Judah's son whose evasion of his obligation to his brother's widow caused his death. Gen. 38.

Onancock (ŏnăn′kŏk), town (pop. 1,283), E Va., on the Eastern Shore peninsula near Chesapeake Bay and on Onancock Creek, founded 1680. It has oil-storage tanks

Onarga (ŏnär′gu), village (pop. 1,413), E Ill., SSW of Kankakee, in a farm area, inc. 1867

Oñate, Juan de (hwän′ dā ōnyä′tā), d. c.1624?, Spanish explorer in the Southwest, possibly b. New Spain. The expedition of Antonio de Espejo had awakened interest in the northern territories, and in 1595 Oñate entered into a contract with the viceroy to conquer and settle New Mexico. Political changes hampered his actions, but in 1598 he led an expedition north. Oñate took possession of New Mexico for the Spanish king and established a settlement at San Juan. He was promptly faced by an Indian revolt at Acoma, which he put down severely. In 1601 Oñate, in search of Quivira, led an expedition across present Oklahoma to the plains around Wichita, Kansas, then returned empty-handed to New Mexico, where discontent was rife among the colonists. Anxious to find a route to the South Sea, he led an expedition westward, reached the Colorado river, and went down it to the Gulf of California before turning back to his colony. He sought to resign as governor in 1606 but had to remain until he was relieved by a new governor, Pedro de Peralta. The officials of New Spain were disappointed that he had found no ready wealth, and Oñate was tried on charges of misconduct in office. Convicted in 1614, he later sought a pardon, which was granted before 1624. One of his lieutenants, Gaspar de Villagrá, celebrated Oñate's deeds in *Historia de la Nueva México*, but his real achievements in founding and exploring a broad new realm did not receive the deserved recognition. See G. P. Hammond, *Don Juan de Oñate and the Founding of New Mexico* (1927), Paul Horgan, *The Habit of Empire* (1938)

Onawa (ō′nuwŭ), city (pop. 3,438), co. seat of Monona co., W Iowa, near the Missouri SE of Sioux City, platted 1857, inc. 1858. It is a trade center of a wheat and livestock area. Lewis and Clark State Park is near by

Onaway (o′nuwā), resort city (pop. 1,449), N Mich., SE of Cheboygan, settled c.1880, inc. as a village 1899, as a city 1903. Near-by lakes provide fine fishing. A state park is north

Oncken, Hermann (hĕr′män ŏng′kŭn), 1869–1946, German historian, an authority on political and diplomatic history. He taught at the universities of Heidelberg, Munich, Chicago, and (1928–35) Berlin. His retirement seems to have been motivated by his opposition to the National Socialist regime. Among his chief works are *Napoleon III and the Rhine* (1926, Eng. tr., 1928), *Das Deutsche Reiche und die Vorgeschichte des Weltkrieges* [Germany and the events preceding the World War] (2 vols., 1933), and *Nation und Geschichte* [nation and history] (1935). He wrote excellent biographies, notably of Ferdinand Lassalle (1904) and of Rudolf von Bennigsen (2 vols., 1910). Oncken also wrote extensively on contemporary politics and edited diplomatic documents covering the years 1858–71.

Oncken, Wilhelm (vĭl′hĕlm), 1838–1905, German historian. He taught at the Univ. of Giessen after 1866. A typical product of the liberal nationalism of the 19th cent., Oncken regarded history as a means toward national political education. Greek history was his special field in his earlier years, but he later concerned himself mainly with the history of the Prussian state and of German unification. He exerted immense influence on the German popular view of history by editing a cooperative history, the *Allgemeine Geschichte in Einzeldarstellungen* [general history in its special phases] (45 vols., 1879–93), which became a standard household article of the educated German family. Comprised in the collection were Oncken's own *Das Zeitalter Friedrichs des Grossen* [the age of Frederick the Great], *Das Zeitalter der Revolution, des Kaiserreiches, und der Befreiungskriege* [the age of the revolution, the empire, and the wars of liberation], and *Das Zeitalter des Kaisers Wilhelm* [the age of Emperor William]

Onega, Lake, Finnish *Äänisen* (ä′nĭsĕn), Rus. *Onezhskoye Ozero* (ŭnyĕsh′skŭyu ŏz′yrŭ), lake, area c.3,800 sq. mi., S Karelo-Finnish SSR and NW European RSFSR, between Lake Ladoga and the White Sea. The second largest lake in Europe (Ladoga is the largest), it is 140 mi. long and 50 mi. wide and has a maximum depth of 407 ft. The shores are low and sandy in the south, rocky and indented in the north. The lake receives the Vytegra river in the south and drains through the Svir (in the southwest) into Lake Ladoga. At Povenets, on the northernmost part of the lake, the Baltic–White Sea Canal has its southern terminus. Petrozavodsk is the chief city and port on Lake Onega, which is frozen from November to May. Parallel to the southern shore of the lake runs the **Onega Canal**, 45 mi. long, which joins the Svir and Vytegra rivers and forms part of the MARIINSK SYSTEM; stormy conditions on the lake prevent the possibility of its being used as part of that inland waterway by barges and small vessels.

Oneida (ōnī′dŭ). **1** City (pop. 10,291), central N.Y., E of Syracuse and SE of Oneida Lake, inc. 1901. Several local industries, notably silverware, were introduced by the **Oneida Community**, a religious society of Perfectionists, established here (1848) by John Humphrey NOYES. Members held all property in common and practiced complex marriage (eugenic mating), and communal care of children. In 1881 the community was reorganized as a stock company and most of the social experiments were abandoned. **2** City (pop. 1,252), N Tenn., NW of Knoxville and near the Ky. line, in a farm, timber, and coal area, settled 1868, inc. 1914

Oneida Indians: see IROQUOIS CONFEDERACY.

Oneida Lake, 20 mi. long and 1 to 5 mi. wide, central N.Y., NE of Syracuse. The Barge Canal links the eastern end with the Mohawk river and also uses the Oneida river, which flows from the western end to join the Seneca and form the Oswego. The lake is also used for recreation.

O'Neill, Eliza (ōnēl'), 1791–1872, Irish actress She first appeared at Dublin as Juliet and in 1814, at Covent Garden, achieved great success in the same role opposite Charles Kemble Her forte was tragedy, and she was acclaimed as Desdemona and as Belvidera in Otway's *Venice Preserved* At the height of her career she married William Becher (later a baronet) and retired from the stage

O'Neill, Eugene (Eugene Gladstone O'Neill), 1888–, leading American dramatist, b New York city, studied at Princeton (1906–7) and with George Pierce Baker at Harvard (1913–14), son of James O'Neill The diversified background of his plays is the result of his life on water fronts, traveling with his father's theatrical troupe, and working as an able seaman, a prospector, and a newspaperman In 1916, when he became associated with the Provincetown Players, they produced *Bound East for Cardiff* and *Thirst*, the first of a number of his one-act and longer plays which they were to present in the next few years His first long play, *Beyond the Horizon* '1919), won the 1920 Pulitzer Prize for drama, a prize which he was to win twice again, in 1922 for *Anna Christie* (1921) and in 1928 for *Strange Interlude* (1927) The latter, a drama in nine acts, reintroduced the use of asides and constituted a psychological history of its chief characters, while *The Great God Brown* (1926) depended upon the use of masks to symbolize the facets of personality *Mourning Becomes Electra* (1931), a trilogy, interprets in terms of American life Aeschylus' theme of fate overhanging a household Other notable plays include *The Emperor Jones* (1920), *The Hairy Ape* (1922), *Desire under the Elms* (1924), *Marco Millions* (1928), *Lazarus Laughed* (1928), *Dynamo* (1929), and *Days without End* (1934) With the exception of *Ah, Wilderness!* (1933), an extremely popular comedy and a marked departure from his usual style, O'Neill's plays show him preoccupied with the theme of tragedy Profoundly influenced by mythology, symbolism, and Freudian theory, he has demonstrated that tragedy, in the classical sense, can be exemplified in the life and mind of modern man *The Iceman Cometh* (1946) reduces the concept of tragedy to the level of commonplace, where each man is trapped by his own illusions about himself, yet stripped of them is unable to survive While his techniques in handling an idea have varied widely, his concern is basically philosophic He was awarded the 1936 Nobel Prize in Literature See biographies by S K Winther (1934) and B H Clark (rev ed , 1947)

O'Neill, Hugh. see TYRONE, HUGH O'NEILL, 2D EARL OF

O'Neill, James, 1847–1920, American actor, b Ireland He was brought to the United States in 1850 and in 1867 made his debut at the National Theater, Cincinnati, in *A Celebrated Case* He gained fame for his portrayal of Edmond Dantès in a dramatization of *The Count of Monte Cristo*, in which he appeared from 1883 onwards He was popular in other heroic and romantic parts Eugene O'Neill is his son

O'Neill, Margaret (Peggy O'Neill), c 1796–1879 wife of John Henry EATON, U S Secretary of War under President Andrew Jackson She was the daughter of a Washington tavern keeper and married John Timberlake, a purser in the U S navy After his death, she became (1829) the wife of Eaton, who soon afterwards entered the President's cabinet The wives of the other secretaries refused to accord her social recognition, because of the alleged intimacy between Major Eaton and Peggy O'Neill before their marriage and because of her humble birth President Jackson, a close friend of Eaton, tried in vain to insure Peggy Eaton a place in society The attempt almost disrupted the cabinet and worsened the relations between the President and the Vice President, John C CALHOUN, whose wife was a social leader As a result, Jackson transferred his favor to Martin VAN BUREN, who was friendly toward Mrs Eaton She was well received at the court of Spain, to which her husband was appointed minister in 1836, and was a social favorite in London and Paris Her maiden name is also recorded by historians as O'Neale and O'Neil. See Queena Pollack, *Peggy Eaton* (1931)

O'Neill, Owen Roe (ō'ĭn rō'), 1590?–1649, Irish rebel. Nephew of Hugh O'Neill, earl of Tyrone, he left Ireland after the "flight of the earls" in 1607 and spent 30 years in the Spanish army, serving notably at the defense of Arras (1640) He returned to Ireland in 1642, superseded his kinsman, Sir Phelim O'Neill, in the leadership of the O'Neill clan, and for the next seven years led the Catholic faction in the intermittently successful rebellion against English authority O'Neill died before the arrival of Oliver Cromwell in Ireland and the collapse of Irish resistance.

O'Neill, Shane, c 1530–1567, Irish chieftain He succeeded to the leadership of the powerful O'Neill clan on the death (1559) of his father, Conn Shane had carried on a bitter feud with his father after Conn had accepted Henry VIII's nomination of Conn's illegitimate son, Matthew, as baron of Dungannon and heir to the O'Neill prestige Shane's agents murdered Matthew in 1558 On his succession Shane refused to come to terms with Queen Elisabeth, who cited the rival O'Donnells against him, but in 1562 Shane went to London and, submitting, was acknowledged as chieftain of Tyrone Upon his return to Ireland, however, he plunged anew into tribal warfare, which the English were unable to suppress In 1564 he claimed to be serving Elisabeth in his successful campaign against the MacDonnells, Scottish immigrants on the coast of Antrim O'Neill continued his raids and depredations until he was defeated by the O'Donnells at Letterkenny, he fled and sought refuge with his former enemies, the MacDonnells, who murdered him See E. Boyd Barrett, *The Great O'Neill* (1939)

O'Neill, city (pop 2,532), co seat of Holt co , N Nebr , on the Elkhorn and NW of Omaha An Irish settlement was made here in 1874 It is a shipping point for a farming area and an important hay-baling center and has a buttermaking plant

Oneonta. 1 (ōnēōn'tŭ, ō–) Town (pop 2,376), co seat of Blount co , N central Ala , NE of Birmingham, in a mountainous region **2** (ōnēōn'tù) City (pop 11,731), E central N Y , on the Susquehanna and NE of Binghamton, in a farm area of the Catskills, settled c 1780, inc as a village 1848, as a city 1909 It has railroad shops and flour mills and makes gloves and dresses A state teachers college and Hartwick College (coeducational), are here, as is a state tuberculosis hospital Gilbert Lake State Park is near by

Onesimus (ōnĭ'sĭmŭs) [Gr , =profitable], runaway slave about whom Paul wrote the epistle to PHILEMON See also Col 4 9

Onesiphorus (ŏ"nēsĭ'fŭrŭs) [Gr , =bringer of profit], man whom Paul praised highly for hospitality and kindness 2 Tim 1 16–18

onion, bulbous biennial plant (*Allium cepa*) of the lily family Its strong characteristic odor is caused by a volatile oil, which is removed by cooking The plant has been long in cultivation, it is mentioned in old Egyptian writings and in the Pentateuch It is native to W Asia, but has been largely grown in India, China, and Japan Both bulbs and leaves are used as seasoning, the bulbs are a common table vegetable The plant is propagated in several ways (1) from "sets," the little bulbs which form on some varieties in place of seeds, (2) from seeds, and (3) from the division of the parent bulb, as in the case of the potato onion, or multiplier onion This has two or more cones or hearts, each of which is capable of producing new compound bulbs. The top of tree onion may have bulblets or flowers or both at the top of the stem The onion adapts itself to almost any climate, but requires, for successful development, a fairly rich, moist soil and careful protection from weeds The greatly increased modern demand has led to its cultivation on a scientific and enlarged scale In the S United States, it is grown as a winter crop, in the North' it is set out as early in the spring as the ground is workable Three commonly grown varieties differ in flavor The red are strongest, the yellow intermediate, and the white mildest Pearl onions are a very small white variety used for pickling The Spanish and Bermuda onions are large and delicately flavored Modern study places a high value on the onion Some Latin writers speak of "onion eaters" as synonymous with barbarians

Onkelos (ŏng'kulŏs), reputed author (c 100–130) of the *Targum Onkelos*, the standard Aramaic translation of the Pentateuch according to the Talmud It became almost as authoritative a text as the Pentateuch itself It is possible, however, that this Targum is the product of the combined efforts of the scholars of Akiba's school at Jabne and that no person by the name of Onkelos existed. The name is an Aramaic paraphrase of the name Aquila

Onnes, Heike Kamerlingh. see KAMERLINGH ONNES, HEIKE

Ono (ō'nō), town, W central Palestine 1 Chron. 8 12, Ezra 2 33, Neh 7 37

onomatopoeia (ŏn"umătŭpē'ŭ) [Gr , =word-making], in language, the representation of a sound by an imitation thereof, e g , the cat *mews* Of those who speculate on the origin of language, some assume an onomatopoetic basis for all speech Rhetorical effort to suggest the meaning of a passage by its very sound is called onomatopoeia, e g (*Faerie Queene*, 1 1 41).

> And more, to lulle him in his slumber soft,
> A trickling streame from high rocke tumbling downe
> And ever-drizzling raine upon the loft,
> Mixt with a murmuring winde, much like the sowne
> Of swarming Bees, did cast him in a swowne
> No other noyse, nor peoples troublous cryes,
> As still are wont t'annoy the wallèd towne,
> Might there be heard, but careless Quiet lyes
> Wrapt in eternal silence farre from enimyes

Onomichi (ōnō'mēchē), city (1947 pop 59,891), Hiroshima prefecture, SW Honshu, Japan, on the Inland Sea. It is the site of Senko-ji, an ancient Buddhist temple

Onondaga Indians: see IROQUOIS CONFEDERACY.

Onondaga Lake (ŏnundâ'gŭ, –dô'gŭ), salt lake, 5 mi long and 1 mi wide, central N.Y., extending NW from Syracuse. It was bought from the Onondaga Indians by the state in 1795 for its salt resources The Salt Museum on the lake shore near Liverpool contains relics of the early salt industry A reconstructed French fort (1656) is near by

Ontario (ŏntâ'rēō), province (363,282 sq mi , with water surface 412,582 sq mi., 1941 pop 3,787,655, 1948 estimated pop. 4,297,000), central Canada. TORONTO, the second largest city in Canada, is the capital, other important cities are OTTAWA (the capital of Canada), HAMILTON, WINDSOR, and LONDON Ontario is bounded on the north by Hudson Bay, on the east by Quebec prov and James Bay, on the south by the Great Lakes, and on the west by Manitoba The province may be divided into three geographical districts—the vast area S and W of James and Hudson bays, the region W of Ottawa, N of Lake Huron, and E of Lake Superior, and Old Ontario, the peninsula SW of Ottawa, hemmed in by the St Lawrence river and Lakes Ontario, Erie, and Huron NW Ontario is part of the Laurentian Plateau, a region of ancient, mineral-rich rock covered with forests and broken by a labyrinth of rivers and lakes Through these waterways, where trapping remains a major industry, *voyageurs* penetrated the wilderness to take out a treasure of luxury furs Rich gold deposits have been exploited, iron is mined, and trees are cut for lumber and pulpwood A rigorous climate discourages settlement, although the arable clay belt S of James Bay is being developed for general farming Products of much of the area are shipped out of the busy, twin Lake Superior ports of FORT WILLIAM and PORT ARTHUR, which also serve as transport centers for the Prairie Provs Farther east the lakeland and forest region attracts great numbers of vacationists and sportsmen Abundant mineral wealth has been tapped N of Sudbury to yield gold, silver, copper, and the world's greatest supply of nickel Platinum is mined N of Lake Huron, and iron on the eastern shores of Lake Superior. In radical contrast to the almost primeval north country, Old Ontario is a district of well-established towns, busy with the affairs of commerce and industry Nine tenths of Ontario's population is centered here and here are the five great cities A moderate climate, abundant rainfall, and an enviable geographical position encourage a fine balance of agriculture and industry Orchards and tobacco plantations line the lake shores, and dairy and livestock herds thrive on inland pastures Industry is highly developed, producing iron and steel, automobiles, farm machinery, processed foods, and electrical supplies From the Great Lakes ports goods are exported to all parts of the world Of the power used, 97 percent is hydroelectric, and the publicly owned provincial hydroelectric commission, largest public utility in Canada, supplies cheap light and power To serve heavy transport needs, a fine system of highways and rail lines covers the southern peninsula, and two transcontinental railroads cross N and NW Ontario Canals connect the Great Lakes to provide passage up the St Lawrence into the Atlantic Ocean, and eight international bridges provide easy entry by motor to and from the United States Ontario's rich and diverse economy has placed it first in population and in gross and net value of production, it leads the provinces in manufacturing, agriculture, minerals, and furs The development of Ontario has taken place since 1763, when England gained control of Canada Long before that time Champlain had reached (1615) the eastern shores of Lake Huron, and French missionaries and explorers established posts and garrisons at strategic points In 1774 the area became part of Quebec prov , but with the influx in 1784 of United Empire Loyalists seeking refuge from the American Revolution, a wish for independent government developed When division was made in 1791, the land W of the Ottawa river was called Upper Canada Settlement was deterred by the War of 1812, and hostility toward the United States was heightened by the burning of the capital of York (now Toronto) After the war, English, Scottish, and Irish settlers increased the population to 350,000 by 1837 Some of the more radical settlers, led by William Lyon MACKENZIE, came into conflict with the old, aristocratic Family Compact group The mediating efforts of Robert Baldwin, advocate of responsible government, were of no avail, and the rebellion of 1837 ensued. The insurgents were soon repulsed, but a new form of government was tried in 1841 when the two Canadas were united, and Upper Canada became Canada West Conflict between French and English helped to make this system unworkable A solution was ultimately found in the confederation of 1867 (see CANADA), when Ontario became one of the provinces of the new dominion. With transcontinental railroad construction in the 1880s, settlement increased and industrial and commercial enterprises flourished. Mineral discoveries began in the Laurentian Plateau c.1900, and important new gold strikes were made in the 1930s In 1912 the province was enlarged by part of the Keewatin dist of the Northwest Territories. Production has risen steadily, reaching a new high in 1948 despite bad summer fires in the north and spring floods in

the south Politics in Ontario have fluctuated between the Liberal and Conservative parties, with occasional displays of strength from farm groups In general Old Ontario is a stronghold of conservatism and intense loyalty to the empire In the Second World War the dynamic Liberal Premier M F. Hepburn differed seriously with the war policies of Prime Minister William Lyon Mackenzie King Hepburn resigned in 1942, the following year the Liberal party in Ontario lost control to the Progressive Conservatives, with gains by the Co-operative Commonwealth Federation Because of its population and economic importance, Ontario's politics are an important factor in Canadian government Among the institutions of higher education are the Univ of Toronto, the Univ of Ottawa, McMaster Univ, Queen's Univ, and the Univ of Western Ontario See J E Middleton and Fred Landon, *The Province of Ontario a History, 1615–1927* (5 vols, 1927–28), E C Guillet, *Early Life in Upper Canada* (1933), A B Garvin, *This Is Canada* (1937, rev ed, 1946), Fred Landon, *Western Ontario and the American Frontier* (1941), G L Nute, *Voyageur's Highway* (1941), O T G Williamson, *Northland of Ontario* (1946)

Ontario. 1 City (1940 pop 14,197; 1946 special census pop 19,638), S Calif, E of Los Angeles, founded 1882, inc 1891 The city's products include packed fruits, olives, and wine Chaffey Junior College (coeducational) is here **2** City (pop 3,551), E Oregon, on the Malheur at its junction with the Snake, inc 1914 A railroad and highway focus, it is a farm shipping center in the Owyhee reclamation project Ontario is the gateway to the Oregon cattle country

Ontario, Lake, 193 mi long and 53 mi. at its greatest width, smallest and most easterly of the Great Lakes Lying 245 73 ft above sea level, it has a maximum depth of 778 ft and an area of 7,540 sq mi It lies between Ontario prov and New York state Lake Ontario is fed chiefly by the Niagara river, other tributaries are the Genesee, Oswego, and Black rivers in New York and the Trent river in Canada The lake empties at its northeast end into the St Lawrence river Much of the region near its shores is given over to agriculture The chief Canadian ports are Hamilton, Toronto, Cobourg, and Kingston On the south shore of the lake are Rochester and Oswego, N Y Lake Ontario is connected with Lake Erie by the Welland Ship Canal, with Georgian Bay of Lake Huron by the Trent river canal system, with Ottawa by the Rideau Canal from Kingston, and with the Hudson river by the New York State Barge Canal The lake was first seen by Étienne Brulé in 1615, that same year Samuel de Champlain visited it See Arthur Pound, *Lake Ontario* (1945)

ontology (ŏntŏ'lŭjē) [Gr, =discussion of being], branch of metaphysics which studies and theorizes on the ultimate nature of being The ontological argument for the existence of God has been advanced for centuries It originated with St. Anselm, who maintained that perfection, to be conceived, must exist Perfection is God, and since without existence God would be short of perfection, God must exist Descartes argued that if a finite mind can conceive the infinite, then God must exist to produce such an idea Spinoza accepted this reasoning, and Leibniz advanced the argument by stating that since there is no proof refuting the concept then the existence of God must be accepted as truth Hume and Kant rejected this argument by raising a distinction between thought and reality To Hegel, who regarded thought and reality as one, the argument was valid In general, the ontological position of a school of philosophy may be appraised in terms of materialism, idealism, or realism. Materialism holds that all being is ultimately matter, idealism maintains that mind and spirit are all-important, and realism asserts that no monistic formulation explains the ultimate nature of being

Ontonagon (ŏntŭnŏ'gŭn, -nă'gŭn), village (pop. 2,290), co seat of Ontonagon co, W Upper Peninsula, N Mich, on Lake Superior at the mouth of the Ontonagon river; inc 1885 Its chief products are lumber and paper The Ontonagon Boulder, a huge mass of copper found near the river, is now in the Smithsonian Institution.

onyx (ŏ'nĭks), variety of cryptocrystalline QUARTZ, differing from AGATE only in that the bands of which it is composed are parallel and regular Its appearance is most striking when the bands are of sharply contrasting colors, black and white specimens are much used for cameos. Onyx was used in Roman times for vases and cups SARDONYX contains onyx and carnelian or sard. The terms onyx marble, Mexican onyx, and Oriental alabaster are applied to travertine

oolite (ō'ulīt, ŏ'ō-), a LIMESTONE composed of small concretions of calcium carbonate, containing a nucleus and clearly defined concentric shells Oolitic limestone is characteristic of the middle and upper Jurassic of the British Isles, which was formerly termed the Oolite on this account

Oolitic (ōōlĭ'tĭk, ōlĭ'tĭk), town (pop. 1,186), SW Ind., near the East Fork of the White River NW of Bedford. It has limestone quarries.

Oost, Jacob van (yä'kŏp vän ōst'), the elder, 1601?–1671, Flemish portrait and religious painter, b. Bruges There, with the exception of several years in Rome, he spent most of his life A follower of Rubens, he was a vigorous and realistic painter There are various pictures by Van Oost in the churches of Bruges, *Resurrection* and *Descent from the Cross* are in the cathedral His works are also in most of the principal galleries The Metropolitan Museum has his *Portrait of a Man* His son and pupil, **Jacob van Oost,** the younger, c 1639–1713, settled in Lille, where he continued his father's tradition. Much of his work remains in the churches and museums of that city

Ootacamund (ōō'tukumŭnd'), town (pop 29,850), W Madras state, India In the Nilgiri Hills at an altitude of c 7,000 ft, it is a hot-weather resort

OPA: see OFFICE OF PRICE ADMINISTRATION

opal (ō'pul), gem characterized primarily by the remarkable play of changing colors (opalescence) which it displays The phenomenon of opalescence is the result of the interference of light waves at the surfaces of the layers of material of slightly different density of which the stone is built up The opal is not a crystalline body, but an amorphous mass of hydrous silica, which, in solidifying from a jellylike state, was penetrated by cracks, these later became filled with material differing in water content from the original material and hence of different density Opal has a vitreous luster and ranges from transparent to opaque The black opal is a dark gray or blue, but displays vivid flashes of color in changing lights, white opal is a lighter variety, harlequin opal displays areas of definite contrasting colors Colors of opal include yellow, red, green, blue, gray, and brown The fire opal is an orange-red variety Opals formerly came chiefly from Cervenica, near Kosice in Czechoslovakia Later Australia (e g, White Cliffs and Lightning Ridge, New South Wales, and Queensland) became the chief source Opals have also been found in Honduras and Nevada Fire opals formerly came from Zimapán and other parts of Mexico Other opals obtained in Mexico include the Mexican water opal

Opava, Czechoslovakia see TROPPAU

Opelika (ōpulī'ku), city (pop 8,487), co seat of Lee co, E Ala, ENE of Montgomery near the Chattahoochee, in a farm area, settled 1836, inc 1854 It has textile plants

Opelousas (ŏpulōō'sŭs), city (pop 8,980), parish seat of St Landry parish, S central La, W of Baton Rouge One of the oldest towns in the state, it was founded in 1765, incorporated in 1821, and made temporary state capital during the Civil War It is a busy shipping center for a rich cotton, rice, sugar, and farm area, but preserves some of the early French and Spanish flavor in its old buildings

Open Door, maintenance in a certain territory of equal commercial and industrial rights for the nationals of all countries As a specific policy, it was first advanced by the United States, but it was rooted in the typical MOST-FAVORED-NATION CLAUSE of the treaties concluded with China after the OPIUM WAR (1839–42) Although the Open Door is generally associated with China, it also received recognition at the Berlin Conference of 1885, which declared that no power could levy preferential duties in the Congo basin The United States had become a Far Eastern power through the acquisition of the Philippine Islands, and when the partition of China by the European powers and Japan seemed imminent, the American government strove to preserve equal industrial and commercial privileges. Secretary of State John Hay sent (1899) notes to the major powers, asking them to declare formally that they would uphold Chinese territorial and administrative integrity and would not interfere with vested rights or the free use of the treaty ports within their spheres of influence in China The unanimous acceptance of Hay's proposal made the Open Door an international policy After the BOXER REBELLION, Hay dispatched (1900) a similar circular note Two years later, the U S government protested that Russian encroachment in MANCHURIA was a violation of the Open Door When Japanese replaced Russian influence in S Manchuria after the Russo-Japanese War (1904–5) the Japanese and American governments pledged to maintain a policy of equality in Manchuria In finance, American efforts to preserve the Open Door led to the formation (1909) of an international banking consortium through which all Chinese railroad loans would be made. The United States withdrew in 1913, asserting that the consortium violated Chinese administrative integrity, but after the First World War, when Japan became more aggressive, the American government sponsored another consortium with which China refused to deal. A flagrant violation of the Open Door policy occurred in 1915, when Japan presented to China the TWENTY-ONE DEMANDS This incident led (1917) to another exchange of notes between the United States and Japan in which there were renewed assurances that the Open Door would be respected, but the United States recognized Japan's special interest in China. The Open Door principle had been further injured by a series of secret treaties (1917) between Japan and the Allies, which promised to Japan the German possessions in China. The increasing disregard of the Open Door was a main reason for the convocation of the Washington Conference (1921–22) As a result of the conference, the Nine-Power Treaty, guaranteeing the integrity and independence of China and reaffirming the Open Door principle, was signed by the United States, Great Britain, Japan, France, Italy, the Netherlands, Portugal, China, and Belgium With the Japanese seizure of Manchuria (1931) and the creation of Manchukuo, the Open Door received its greatest reverse After the Second World War, China's position as a completely sovereign state was recognized No nation, therefore, had the right or capacity to carve out spheres of influence or to attempt to exclude other states from trade, and the Open Door policy ceased to exist See G Z Wood, *The Genesis of the Open Door Policy in China* (1921), M J Bau, *The Open Door Doctrine in Relation to China* (1923), W W Willoughby, *Foreign Rights and Interests in China* (1927).

open-hearth process see STEEL

open shop see CLOSED SHOP AND OPEN SHOP

Opéra (ôpărä'), chief opera house of Paris, on the Place de l'Opéra, one of the main crossroads on the right bank of the Seine Designed by J L C GARNIER, it was built between 1863 and 1875 One of the largest and most sumptuous theaters in the world, it has less seating capacity than many lesser houses, because its huge stage and foyers and its famous grand staircase take up much of the room The Paris Opéra has been copied, on a lesser scale, by many opera houses throughout the world The home of grand opera in the 19th cent, it has retained its musical reputation as one of the world's foremost houses Its corps de ballet is particularly famous On the façade of the Opéra is the masterwork of the sculptor J B Carpeaux, *The Dance*

opera (ŏ'pru, ō'puru), drama set to music Although its antecedents date from the lyric theater of the ancient Greeks, true opera was a creation of the BAROQUE in Italy Late 16th-century Italian drama and its music were both highly developed, but the music was still essentially incidental The pastoral drama, as written by Tasso and Guarini, was ready to lend itself to musical setting, and opera only awaited the necessary musical development which came at the hands of the *camerata*, a group which came into being before 1580 at the home of a wealthy amateur in Florence and included the composers Vincenzo Galilei, Emilio del Cavaliere, Jacopo Peri, and Giulio Caccini They thought, in their principles of monodic musical declamation, to emulate the ancient Greeks, and the earliest operas took their plots from mythology Peri's *Dafne* (1597) is the first opera on record The first real master of opera, however, was the Mantuan MONTEVERDI Filippo Vitali's *Aretusa* (1620), a pastoral, was the first secular operatic work performed in Rome In 1632 in the Barberini Palace an opera theater was opened giving Stefano Landi's *Sant' Alessio,* and Roman opera was established In this work RECITATIVE and ARIA are distinct, the aria shows a clear sense of form and tonality, and the modern opera orchestra, with its emphasis on the violins and the *basso continuo,* emerges Giulio Rospighosi, later Pope Clement IX, the creator (in other works) of comic opera as a distinct style, was the librettist The first public opera house in the world was opened in Venice in 1637 Here were given the last two operas of Monteverdi and the works of his pupil Cavalli With the next generation of Venetian composers, headed by Marcantonio Cesti, an international style developed, and local schools disappeared The recitative diminished in musical interest at the expense of the aria, the chorus gave way to the virtuoso soloist, and the Renaissance interest in antiquities gave way to a trend toward comedy and parody Alessandro Stradella, a forerunner of the 18th-century Neapolitan school, represented this school Paris had seen Italian opera as early as 1657 The official existence of French opera began in 1669 with the establishment of the Académie royale de Musique, taken over by LULLY in 1673 after the bankruptcy of its founders Italian opera, the pastoral, French classical tragedy, and the *ballet de cour* (see BALLET) were the antecedents of French opera The operas of Rameau followed in the tradition established by Lully, but were less successful, coming in a period of decline and lacking the excellent librettist that Lully had had in Quinault The first English opera was D'Avenant's *Siege of Rhodes,* an isolated phenomenon The MASQUE was the true antecedent of English opera, and John Blow's masque *Venus and Adonis* (probably 1685) was actually an opera. The one great English opera of the period was *Dido and Aeneas,* by Henry Purcell, after whose death England succumbed completely to Italian opera In Germany, Italian opera was imported as a courtly show The moral or religious school play, in Latin or German, had instrumental dances, solo odes, and choral pieces, the number and importance of which were increased in the 17th cent., and its influence was seen in the earliest German opera Hamburg from 1678 to 1728 had a public opera

house, the first in Europe outside Venice Its outstanding composer was Reinhard Keiser (1674–1739), who influenced Handel *Pimpinone* (1725) by G P Telemann anticipated the Italian *opera buffa* of Pergolesi, but after the 1730s all German operatic activity ceased for lack of popular support, and imports from Italy again held sway Only France escaped the 18th-century domination of the Neapolitan school The librettists Apostolo Zeno and Pietro Metastasio set out to purge the opera of irrelevant comic episodes, bombast, and the elaborate mechanical contrivances which had become popular in the late 17th cent and created the dramatically unified, three-act *opera seria*, with subject matter from legend or classical history Alessandro Scarlatti represents the transition to the new style, although he never succumbed to the excesses of the composers who followed him, e g , Porpora, Hasse, and Graun The aria became the all-important element, nearly always an *aria da capo* and conforming to any of several well-defined types. The art of singing reached an unprecedented degree of virtuosity; the *castrato* (see EUNUCH), who had appeared first in Monteverdi's *Orfeo* (1607), was in his heyday, and the singer dominated the stage Few operas of this period survive The score was only a skeleton of what the singers actually performed, for they embellished their parts with elaborate improvised ornamentation Many operas after the initial performance became *pasticci*, and no two performances were ever alike The greatest operas of the early 18th cent , however, were those of HANDEL, whose early operas, produced in Germany, show influences of Agostino Steffani, an Italian active in Munich and Hanover in the late 17th cent , and of Keiser, while his later operas, produced in England, belong in many respects to the Neapolitan tradition. Among later 18th-century Neapolitan composers were Johann Christian Bach and Jommelli In Jommelli's works, the reforms of C W von GLUCK are foreshadowed. In the late 18th cent comic opera assumed great importance. The Italian *opera buffa* had as predecessors the COMMEDIA DELL' ARTE and the INTERMEZZO and was characterized by two-act form, lively humor, well-developed characterization, and ensemble finales. Pergolesi, Galuppi, Piccinni, Paisiello, and Cimarosa were among the composers *Opera buffa* had no spoken dialogue, in contrast to French *opéra comique*, English BALLAD OPERA, and the German Singspiel In fact, the term *opéra comique* came to be used in the 19th cent for any opera with spoken dialogue, although in its beginnings in the early 18th cent it was comic opera. J J. Rousseau, Gluck, Philidor, and Grétry were the principal composers The first Singspiel (1752) was a German version of *The Beggar's Opera*, made by C. F Weisse, whose later Singspiels, set to music by J. A Hiller, were influenced by the *opéra comique*. Their excellent songs partly account for their immense popularity In Vienna in 1778 there was opened a national Singspiel, where *Die Entführung aus dem Serail* of MOZART, a landmark in German opera, was given His *Zauberflöte*, while resting on the foundations of the Singspiel, was the point of departure for German romantic opera— for Beethoven's *Fidelio* and Weber's *Freischütz* The Viennese Singspiel showed the influence of *opera buffa*, in which style Mozart's greatest operas were written. Dittersdorf was the outstanding Singspiel composer, some elements of the Viennese Singspiel remain in the comic operas of G. A Lortzing (1801–51), some of whose works were in certain respects predecessors of Wagner's With the culmination of German romantic opera in WAGNER, German opera for the first time assumed a dominant position. Among trends in German opera after Wagner are the fairy-tale opera (Humperdinck), realism (Eugen d'Albert), and neoclassicism (Busoni). The outstanding operatic composer, however, was Richard Strauss, whose greatest operas represent a continuation of Wagner's technique. After the French Revolution spectacular and melodramatic operas, such as those of Cherubini and Lesueur, became popular in France, and there also developed a special type known as the rescue opera. One of these by J. N. Bouilly, set to music in 1798 and 1804, eventually provided the basis for Beethoven's *Fidelio* Italian opera of the early 19th cent. is represented by the noisy and exciting but trivial works of Rossini and Donizetti and the delicate and refined works of Bellini. It was a period when the gallery and the pit rather than the boxes set the standard. Paris had become the center of operatic activity, and the performance there of Auber's *La Muette de Portici* and *Masaniello* in 1828, Rossini's *William Tell* in 1829, Meyerbeer's *Robert le Diable* in 1831, and Halevy's *La Juive* in 1835 established the type known as grand opera, of which Meyerbeer's works, with librettos by Eugène Scribe, were the outstanding examples. Historical subjects with pointed reference to contemporary issues, religious elements, and violent passion were their characteristics, and their overwhelming success resulted from the real collaboration of management, librettist, composer, and designer and their sure gauge of the public's taste and capacities The influence of French grand opera was enormous, reaching even to the early works of Wagner and Verdi Berlioz's masterpiece, *Les Troyens*, while owing nothing to Meyerbeer, may also be considered grand opera. The *opéra comique* in the middle of the 19th cent. took two directions, leading on the one hand toward the OPERETTA and on the other toward a more serious, lyrical opera, of which Ambroise Thomas, Gounod, Bizet, Delibes, and Massenet were the chief composers Gounod's *Faust* and Bizet's *Carmen* actually had spoken dialogue in their original versions, but this qualification for works given at the Théâtre de l'Opéra-Comique was ultimately dropped The operas of D'Indy and Chausson show the influence of Wagner, while Charpentier's *Louise* is the sole representative of naturalism Perhaps the most complete realization of the ideals which had marked French opera from its beginning was Debussy's *Pelléas et Mélisande* In late 19th-century Italy, VERDI was the solitary figure during his period of activity and after the death of Wagner completely dominated the operatic scene After him the verism of Mascagni and Leoncavallo, the rich, exotic romanticism of Puccini and Montemezzi, and the comic opera of Wolf-Ferrari represented the significant trends Russian opera, beginning only in the 19th cent , presents the nonnational romanticism of Tchaikovsky, the nationalist operas of Glinka, Dargomijsky, Borodin, Mussorgsky, and Rimsky-Korsakov, and the Soviet operas of Prokofiev and Shostakovich Other national schools are represented by Smetana and Janacek in Czechoslovakia and Ethel Smyth, Holst, Vaughan Williams, and Benjamin Britten in England Significant trends in opera after the First World War are represented by the popular, timely, often satirical operas of Ernst Krenek, Kurt Weill, and Paul Hindemith, the neoclassical operas of Busoni, Stravinsky, Honegger, Milhaud, Hindemith (in his larger works), Malipiero, and Casella, and the atonal operas of Schönberg, Alban Berg, and Egon Wellesz American opera has been almost entirely imitative of European styles until the mid-20th cent., when Gershwin's *Porgy and Bess*, Marc Blitzstein's *The Cradle Will Rock*, and the operas of Menotti represent significant developments in true American opera See O G Sonneck, *Early Opera in America* (1915), R A. Streatfeild, *The Opera* (rev ed , 1925), Paul Bekker, *The Changing Opera* (Eng tr , 1935), Wallace Brockway and Herbert Weinstock, *The Opera* (1941), Alfred Loewenberg, *Annals of Opera, 1597–1940* (1943), D J. Grout, *A Short History of Opera* (1947), W J Crosten, *French Grand Opera* (1947), E J Dent, *Opera* (rev ed , 1949)

operetta (ŏpŭrĕ'tu), type of theatrical presentation with a light, frivolous, sentimental story, often employing parody and satire and containing both spoken dialogue and much light, pleasant music In the *opéras comiques* of Boieldieu, Auber, and Adolphe Adam, there was a growing tendency toward greater frivolity and sophistication, preparing the way for Offenbach, who during the Second Empire created the operetta The distinction between the operetta and the lighter examples of *opéra comique* which immediately preceded it is hard to draw, in general the *opéra comique* makes some appeal to the sentiments, while the French operetta attempts only to amuse The Viennese operetta, dating from c 1870, had not the excellent librettists that the French enjoyed, the operettas of Johann Strauss the younger suffered from this defect Those of Suppé owe much of their virtue to Offenbach's influence Less distinguished are the products of the early 20th cent., represented by the works of Franz Lehar and Oscar Straus. The immortal operettas of W S Gilbert and Sir Arthur Sullivan were to London of the 1880s what Offenbach's works had been to Paris 20 years earlier The first names of note in American operetta are Victor Herbert and Reginald de Koven. After the First World War the term *operetta* gradually gave way to *musical comedy*, the usual designation for the works of Rudolf Friml, Jerome Kern, Sigmund Romberg, Irving Berlin, George Gershwin, Richard Rodgers, and Cole Porter. See J. W. McSpadden, *Light Opera and Musical Comedy* (1936).

Ophel (ō'fŭl) [Heb ,=hill], hill in ancient Jerusalem. It was the dwelling place of Levites. 2 Chron 27.3, 33.14; Neh 11 21.

ophicleide (ŏf'tklīd) [Gr ,=serpent with keys], brass wind musical instrument of relatively wide conical bore, invented in 1817 by Jean Hilaire Asté of Paris. It had eight or nine keys at first, and later 11. Of full resonant tone, it was a kind of key BUGLE, later largely displaced in the orchestra by the bass tuba. Mendelssohn scored for it in his overture to *A Midsummer Night's Dream*.

Ophion (ōfī'un), in Greek mythology, Titan who, according to an obscure tradition, with his wife Eurynome ruled the world before the reign of Cronus.

Ophir (ō'fur), seaport or region, frequently mentioned in the Old Testament, from which the ships of Solomon brought fine gold in great quantity Sandalwood, precious stones, ivory, apes, and peacocks were also part of the triennial cargo. The location of Ophir is unknown; but it has been identified with India, Ceylon, the Malay Peninsula, Africa, and Arabia. Gen. 10 29; 1 Kings 9.28; 10.11; 22.48, 1 Chron. 1.23, 29.4; 2 Chron. 8.18; 9 10, Job 22 24, 28.16, Ps. 45 9, Isa. 13.12.

Ophites (ō'fīts) [Gr.,=believers in the serpent], group of Gnostic sects notorious for immorality and extreme cultism, usually centering about the worship of the serpent. All that is known of Ophitism has been gleaned from St. Irenaeus, Origen, and other writers opposed to GNOSTICISM. The Ophites carried to extremes the teaching of MARCION that an essential hostility exists between the God of the Old Testament and the God of the New. The Ophites concluded that the Old Testament villains were actually heroes and revered Cain, the Sodomites, and the Egyptians Especially to be worshiped was the serpent, as the creature in Eden that tried to give Adam and Eve the knowledge withheld from them by Jehovah Much of the serpent worship and the occult ritual was probably derived from primitive paganism The Ophites admitted a Savior, but rejected Jesus One Ophitic hymn, the *Hymn of the Naassenes*, survives. See Ernesto Buonaiuti, *Gnostic Fragments* (1924).

Ophni (ŏf'nī), unlocated town, E central Palestine, allotted to Benjamin. Joshua 18 24

Ophrah (ŏf'rŭ) [Heb.,=she-fawn] **1** Judahite. 1 Chron 4 14 **2** Unidentified Benjamite town, central Palestine Joshua 18 23, 1 Sam 13 17 **3** Home town of Gideon, not identified Judges 6.11,24; 8 27,32, 9 5.

Opie, Amelia Alderson, 1769–1853, English author, wife of John Opie, the painter, whom she married in 1798. Her novels, among which were *Father and Daughter* (1801), *Adeline Mowbray* (1804), and *Temper* (1812), were realistic for her period. Some of her poetry was translated into Dutch After she joined (1825) the Society of Friends she ceased to write See biography by M E Macgregor (1933), Jacobine Menzies-Wilson and Helen Lloyd, *Amelia: the Tale of a Plain Friend* (1937)

Opie, John, 1761–1807, English portrait and historical painter Under the patronage of John Wolcot (Peter Pindar) he settled in London (1780), where he was known as the Cornish Wonder and enjoyed a brief popularity as a fashionable portrait painter in the Reynolds tradition When his vogue waned, he turned to historical painting He became a professor at the Royal Academy of Arts in 1805. His *Murder of Rizzio* (Guildhall, London) and his portraits of William Siddons and Mary Wollstonecraft Godwin (National Gall , London) are well known He is also represented in the National Portrait Gallery, London, and in the Metropolitan Museum He wrote the biography of Reynolds in the 1798 edition of Pilkington's *Dictionary of Painters*, and his academy lectures were published shortly after his death

Opimius, Lucius (lōō'shus ōp'ĭmŭs), 2d cent. B.C , Roman statesman As consul in 121 B.C , he was a leader in the reaction against the reforms of Caius Gracchus and was largely responsible for the death of that leader and more than 3,000 citizens He was acquitted of the charge of putting Roman citizens to death without trial He was, however, convicted (110 B C) of accepting bribes from JUGURTHA

Opitz, Martin (mär'tēn ō'pĭts), 1597–1639, German poet, critic, and metrical reformer. He studied at Heidelberg for a short time, when the plague drove him back to his native Silesia He went to Vienna and won the patronage of Emperor Ferdinand II, who ennobled him as Opitz von Boberfeld. Opitz had a series of patrons, for one of whom he wrote against the Reformation in *Lob des Krieges-Gottes* [praise for God's war] Later he wrote in favor of Protestantism in *Trost Gedichte zu Widerwertigkeit des Krieges* [comforting poems in the unpleasantness of war] (1633). He lived in Danzig under the patronage of Ladislaus IV of Poland and died there of plague. His own poetry was not great, but his translations and his writings on poetry, especially the *Buch von der deutschen Poeterey* [book on German poetry] (1624), had a wide influence

opium (ō'pēum), reddish to yellow-brown solid substance with a characteristic odor and a bitter taste, being the dried juice extracted from the unripe capsules of the opium poppy (*Papaver somniferum*). It contains a number of alkaloids of which the most important are MORPHINE, CODEINE, and papaverine Other substances such as meconic acid, other organic acids, resinous matter, and gum constitute the greater part of the dried exudation. A tincture of opium is called laudanum. Opium was known to medicine from early times, taken to India by the Moslems, it spread to China. Addiction, developed through smoking or consuming the drug, leads to mental and physical deterioration. Its widespread use in China, Japan, India, and some other parts of Asia has long been a serious problem Legislation has from time to time curbed the illegal sale of opium, but has failed to deal successfully with the opium traffic.

Opium War, 1839–42, struggle between Great Britain and China. Great Britain, seeking to end the restrictions imposed by China on foreign trade, found a pretext for action when in 1839 China prohibited the importing of opium. Opium belonging

to British merchants was destroyed at Canton, and the British responded by attacking several coastal cities. China, unable to resist modern arms, was easily defeated. The Treaty of Nanking (1842) provided that the ports of Canton, Amoy, Foochow, Ninghsien, and Shanghai should be open to British trade and residence; Hong Kong was ceded. Within a few years other Western powers received commercial and residential privileges and the foreign "occupation" of China began. See Maurice Collis, *Foreign Mud* (1947)

Opland (ôp'län"), county (9,775 sq. mi., pop 154,734), central Norway Lillehammer, the county seat, and Gjovik are the chief towns. Opland, entirely inland, is traversed from northwest to southeast by the GUDBRANDSDAL The northern section is very mountainous and contains the JOTUNHEIM and the DOVREFJELL Agriculture and lumbering are the chief occupations.

Opole, Upper Silesia see OPPELN.

Oporto (ûpôr'tô, ô-), Port. *Pôrto* (pôr'tô), city (pop 262,309), NW Portugal, near the mouth of the Douro river in Douro Litoral prov It is the second city of Portugal (Lisbon is the largest) and an important Atlantic port with a harbor at Leixões because vessels of great draught cannot enter the river. Its most famous export is port wine, to which the city gives its name, but it also handles cork, fruits, onions, and various other items in large quantity. Cotton, silk, and wool textiles are milled, clothing and leather goods are made, and there are minor manufactures A very old settlement, Oporto is said to have been founded (c 138 B C) by the conqueror of Lusitania, Junius Decimus Brutus As Cale and later Portus Cale, it was an important port In the early days of the Christian reconquest, Alfonso I of the Asturias first took Oporto from the Moors, and the region was depopulated in the succeeding centuries of war HENRY OF BURGUNDY secured the title duke of Portucalense in the 11th cent, and thus Oporto gave its name to the state which became a kingdom It was for some time the chief city (but not the capital) of little Portugal The bishops of Oporto had complete possession of the town despite the attempts of the kings to get it until after the Cortes of Leiria (1254) The shipment of wine grew in the 17th cent and was increased after the Methuen Treaty of 1703 The creation by Pombal of a wine monopoly brought the "tipplers' revolt" (1757), which was put down with great severity After the French conquest of Portugal, Oporto was the first city to revolt (1808) in the Peninsular War It was retaken by the French but liberated (1809) by Wellington In 1832, in the Miguelist Wars, Dom Pedro I of Brazil here long withstood a siege by his brother, Dom Miguel. Oporto was later a leader in republican thought, and in 1891 an abortive republican government was set up here

opossum (pō'sŭm, upō'sum), MARSUPIAL of South America and the United States, the only marsupial found outside of Australia The Virginia opossum of the United States resembles a large rat in general appearance, having a white face, long, disordered grayish fur, in which white-tipped and black-tipped hairs mingle, and a nearly naked prehensile tail It is nocturnal and largely arboreal, it eats fruits and other vegetable matter but seems to prefer animal food, eating small mammals, reptiles, frogs, birds, eggs, and insects It is also destructive to domestic poultry and corn and is hunted in the South as a pest, as well as for food and sport Its habit of feigning death—"playing 'possum"—is well known The Virginia opossum is equipped with the typical marsupial abdominal pouch, though this is lacking in some of the South American species.

Opp, city (pop 3,178), S Ala., near the Fla line, in a pine and farm area, inc. 1902

Oppeln (ô'pŭln) or **Opole** (ôpô'lĕ), city (1939 pop 52,977, 1946 pop, 27,666), Upper Silesia, on the Oder It was transferred in 1945 to Polish administration. Long an important trade center, Oppeln was the seat (1163–1532) of the dukes of Oppeln, of the PIAST dynasty. The duchy passed (1532) to the house of Austria and (1742) to Prussia The churches of St Adalbert and of the Holy Cross date, respectively, from the 10th and the 14th cent

Oppenheimer, J. Robert (ô'pŭnhī"mûr), 1904–, American physicist, b New York city, grad Harvard (B A., 1925), Ph D. Univ of Göttingen, 1927 He taught at the Univ of California and the California Institute of Technology from 1929 (as professor from 1933) until his appointment in 1947 as director of the Institute for Advanced Study at Princeton, N.J. As director of the atomic-energy research project at Los Alamos, N. Mex , from 1942 to 1945, he made important contributions to the development of atomic energy for military purposes. After the atomic bomb was used against Japan, Oppenheimer became one of the foremost proponents of civilian and international control of atomic energy; he was appointed chairman of the general advisory committee of the U S. Atomic Energy Commission and consultant to the American delegate to the United Nations Atomic Energy Committee.

Opper, Frederick Burr, 1857–1937, American cartoonist and illustrator, b. Madison, Ohio. He began as a contributor to comic papers and was associated with Frank Leslie's publications for three years, with *Puck* for 18 years, and with the New York *Journal* His work is characterized by extreme simplicity, vigor, and humor He illustrated the works of Mark Twain, Bill Nye, Eugene Field, and Finley P Dunne and wrote and illustrated *Happy Hooligan* (1902), *Our Antediluvian Ancestors* (1902), *Alphonse and Gaston* (1902), and *John Bull* (1903)

Oppian (ô'pēŭn), fl 2d cent , Greek poet, author of a didactic poem (in five books of hexameters) on fishing called *Halieutica*. Its style is careful but artificial Two other poems, formerly attributed to Oppian, are believed to be by other hands—*Cynegetica* (on hunting), perhaps by another poet named Oppian, and *Ixeutica* (on bird-catching).

opportunity school. see ILLITERACY

Ops (ŏps), in Roman religion, goddess of fertility. She was the wife of Saturn and the mother of Jupiter As the goddess of sowing and reaping she was called Consiva and was associated with Consus, the harvest god She had special festivals in December and August, but she was also honored in the Saturnalia Later, she was identified with the Greek Rhea

optative. see MOOD

Optic, Oliver: see ADAMS, WILLIAM TAYLOR

optics, branch of physics dealing with the study of LIGHT Physical optics is concerned with the nature and properties of light, physiological optics with the part light plays in VISION, and geometrical optics with the geometry involved in the REFLECTION and REFRACTION of light as encountered in the study of the MIRROR and the LENS

optimism (ŏp'tumĭzm) [Latin *optimus*=best], belief that the universe as it exists is the best possible world and that life in it is worth while The arguments for optimism are often based upon religious or theological foundations If God is all-wise and all-good, then the world which he created must likewise be good This is essentially the argument of St Thomas Aquinas and his followers who used the judgment, "This is the best of all possible worlds" In the Renaissance, Giordano Bruno voiced a feeling of world-joy, a "universalistic optimism" Leibniz was a thoroughgoing optimist, convinced of the wisdom and goodness of God At the beginning of the 18th cent Shaftesbury found in the beauty and harmony of the universe reason for enthusiasm of thought and living The optimism of Rousseau was founded on his belief that man was God-descended The term *meliorist* indicates the middle path between optimism and its opposite pessimism The meliorist views the world as not perfect, but believes that improvement is possible and that action should be directed to that end William James and Henri Bergson are examples of this position Pessimism holds that evil is a dominant and necessary characteristic of the world Schopenhauer maintained that all reality is fundamentally evil and that "optimism is a bitter mockery of men's woes" In *Candide* Voltaire espoused pessimism in reaction to the unbounded optimism of Leibniz In the eyes of some the Oriental religions show the extreme of pessimism in the concept of Nirvana

optometry, science of detecting and correcting, usually by means of lenses, certain nonpathological ocular defects In a limited sense, it is concerned with prescribing spectacles for clearer vision The term has been extended to include comfort of vision as well The word *optometry* came into use in 1903, with the organization of the American Optometric Association This period also was the turning point of the profession Up to the 1900s there were no regulations for this work, people bought spectacles from traveling opticians who toured the country selling their wares With the passage of optometry laws this method of selling glasses was prohibited, Minnesota enacted the first such law in 1901, and the other states followed shortly thereafter Definite educational requirements resulted from these laws, training is given in a number of private professional schools and in some universities Before obtaining a license to practice, state board examinations must be passed Among important recent developments are the production of contact lenses (see SPECTACLES) and of telescopic spectacles (a tremendous aid to the near-blind) Orthoptics has received considerable attention in recent years, the aims of orthoptics include the improvement of the coordination of eye muscles and the straightening of crossed eyes

Opuntian Locris. see LOCRIS.

opus (ô'pŭs) [Latin, =work], in music, a term used in cataloguing a composer's works, designating either a single composition or a group published together or for some other reason considered a unit When composers assign opus numbers to their works as they are completed, the numbers are of greater value than when they are assigned by the publisher to indicate order of publication. Sometimes a composition, e g., Beethoven's Sonata in C, Opus 2, No 3, like most of his instrumental works, has no other means of identification Beethoven was the first composer whose use of opus numbers was consistent enough to be of value.

oracle (ô'rŭkŭl, ŏ'-), in Greek religion, a response given by a god to a human question The word is used commonly to refer to the institution itself It was customary for the Greeks to ask advice of an oracle on many occasions Oracles differ from omens in that by the oracle the god actually spoke to the worshiper, but the omen was simply a natural phenomenon foretelling the way events would fall Omens and oracles are probably of common origin Oracles were fixed in a locality, and each represented a god, e g , Zeus at DODONA, Amon (identified with Zeus) at SIWA, and Apollo at DELPHI and CUMAE There were also oracles of heroes (e.g., Asclepius, Hercules, and Amphiaraus) The dead were also invoked The great oracles had priests or priestesses attached who interpreted the utterances Some of these oracles were uttered by persons entranced, some by the rustling of leaves, and some oracles came in dreams to persons lying on the ground. Even in the height of the popularity of oracles (6th and 5th cent B C.) it was tacitly understood by Greeks that the priests interpreted oracles according to their interests But their interests were never toward political power, and they retained great respect always The Delphic oracle, by far the most influential, was chiefly interested in preserving piety and in extending Greek colonies Herodotus is very fond of giving oracular utterances A very famous example is the Delphic oracle telling CROESUS that if he began war he would destroy a great country. He went to war and destroyed his own

Oradea (ôrä'dyä) or **Oradea-Mare** (-mä'rĕ), Ger *Grosswardein* (grōs"vardĭn'), Hung *Nagyvárad* (nŏj'vä"rŏd), city (pop 82,282), W Rumania, in Crisana-Maramures, on the Rapid Koros river and near the Hungarian border The commercial center of a grape-growing area, it also has various manufactures Oradea has been an episcopal see since the 11th cent It was ceded by Hungary to Rumania after the First World War, but the population is about half Magyar Most of the architecture of the city is baroque, dating from the reign of Maria Theresa

Oradell (ô'rudĕl), borough (pop 2,802), NE N J , N of Hackensack, settled by Dutch before the Revolution, inc 1894

Oraefajokull, Icelandic *Örœfajökull* (ô'rĭvāyŏ" kĭtŭl), mountain, 6,950 ft high, Iceland, rising from the VATNAJOKULL ice field near the southeast coast, highest mountain of Iceland. It is an ice-covered, three-peaked volcano which has had four recorded eruptions, eight glaciers descend its slopes

Oraibi (ôrī'bē), North American Indian pueblo, c 100 mi N of Winslow, Ariz , on the western or "third mesa" It was built A D c 1150, and it was discovered by Pedro de Tovar, a lieutenant of Coronado, in 1540 The mission of San Francisco was established (1629) here, but it was destroyed in the Pueblo revolt of 1680 Oraibi was long the most important pueblo of the HOPI INDIANS, but because of economic disturbances and internal dissension (many of the more conservative Indians left Oraibi to form the pueblo of Hotavila), it is little more than a ruin See Walter Hough, *The Hopi Indians* (1915)

Oran (ôrän', ôrän', Fr ôrä'), city (pop 244,594), N Algeria, a port on the Mediterranean Sea It was founded in the 10th cent by Moorish Andalusian traders It was held by Spain (1509-1708, 1732–91), by the Turks (1708–32), and by Spain again (until 1791) France occupied the city in 1831 There is an old quarter with a casbah and an 18th-century mosque The new quarter is reminiscent of French towns The rise of Oran dates from the late 19th cent, when the port facilities (here and in adjacent Mers-el-Kebir) were expanded and rail communications were opened Wine, alcohol, wheat, meat, and wool are exported Oran and Mers-el-Kebir together are the chief French naval base in North Africa In the naval engagement off Oran in the Second World War (July 3, 1940) most of the French fleet at anchor was destroyed by British warships after an ultimatum was rejected Early in Nov , 1942, Oran fell to the forces landed under the command of Gen Dwight D Eisenhower

Oran (ô'run), city (pop 1,106), SE Mo , near the Mississippi WNW of Cairo, Ill , platted 1869

Orange (ô'rĭnj, ô'rĭzh'), city (pop 8,145), Vaucluse dept., SE France, N of Avignon It has important Roman remains, notably a triumphal arch and an amphitheater which is still in use In the 11th cent it became the capital of a county, later the principality of Orange, which passed (1544), through inheritance, to WILLIAM THE SILENT, of the house of NASSAU Among William's descendants were William III of England and the ruling family of the NETHERLANDS Orange was conquered (1672) by Louis XIV, the Treaty of Ryswick (1697) and the Peace of Utrecht (1713) confirmed it in French possession, though the title remained with the Dutch princes of Orange

Orange (ô'rĭnj) **1** City (pop 7,901), S Calif , SE of Los Angeles; founded 1868, inc 1888 It has plants to pack and process citrus fruits **2** Farming town (pop 2,009), SW Conn , on the Housatonic; set off from Milford 1822 Printing is the chief industry **3** Town (pop. 5,611), N Mass., on Millers river and

E of Greenfield, settled c.1746, inc 1810 Metal and other products are made here **4** Industrial city (pop 35,717), NE N J , western suburb of Newark and New York, settled c 1675, set off from Newark 1806, inc as a city 1872 Calculating machines are made here Orange and the surrounding municipalities of East Orange, West Orange, South Orange, and Maplewood are known as a single suburban community called "The Oranges" **5** City (pop 7,472), co seat of Orange co , SE Texas, on the Sabine and E of Beaumont, founded 1836, inc 1858 In the wet, lush country of the Gulf Coast, Orange is connected with the Gulf by deepwater channel, is a port of entry, and ships oil, lumber, fruit, and rice from the surrounding country It has processing plants and factories, including paper mills and a plant producing nylon salt (basic material for nylon products) Active shipyards increased the population to an estimated 17,000 in the Second World War **6** Town (pop 1,980), central Va , NE of Charlottesville, in the piedmont, settled c 1810, inc 1856 In a farm area, it has some manufactures The courthouse of Orange co is here MONTPELIER is near by

orange, citrus fruit, the most important fresh fruit of international commerce It is one of the oldest cultivated fruits, probably native to the Malay Archipelago and tropical Asia, and was cultivated in China many centuries before reaching Europe The first orange to reach Europe was the sour orange, which was introduced by the Crusaders, culture of the sweet orange did not start until the middle of the 15th cent. Columbus brought the orange to the New World, and it is known that trees were well established in Florida by 1600 and were growing in California about 175 years later The orange now grows in the warm parts of all continents An orange tree begins to bear when it is three years old, but good productivity may not be reached until the seventh or eighth year, after which it bears almost continuously Flowers and fruits in all stages of development are on the tree throughout the year, although a large portion of the fruits ripen at one time Propagation is by budding on two-year or three-year seedling stock (usually sour orange, rough lemon, or trifoliate orange) The orange is attacked by many insects and fungus diseases and is quite sensitive to frost If the fruits are picked when still "green" (though fully mature), they must undergo a bleaching or degreening process to bring out the orange or yellow color in their rinds Some oranges are artificially colored before marketing Among the commercially important species of orange are the sweet or common orange (*Citrus sinensis*), which furnishes most of the varieties for commercial growing, including the Washington navel, Valencia, Hamlin, Pineapple, and Parson Brown, the sour or Seville orange (*C aurantium*), which is grown in the United States chiefly as understock on which to bud sweet orange varieties, although in Europe its fruit is much used in marmalade, the king orange (*C nobilis* or *C reticulata*), which includes the "kid glove" or loose-rind group of mandarin oranges and tangerines, and the Satsuma varieties known for their hardiness, especially when budded on trifoliate stock The orange hybrids include the citrange, the result of crossing the trifoliate orange and a sweet orange variety, and the tangelo, obtained from crossing a tangerine and a grapefruit The raw fruit of orange and its juice are an important source of vitamins The fruit and rind are also much used in MARMALADE, preserves, flavoring, and confections Some varieties yield perfume The flower is a favorite for bridal decoration and is the state flower of Florida The yellow wood, which is hard and close-grained, is manufactured into small articles California, Florida, and Texas are the chief growing centers For history and methods of cultivation, see H J. Webber and L D Batchelor, eds , *The Citrus Industry*, Vol I (1943), H H Hume, *Cultivation of Citrus Fruits* (1926, reissued 1937), state agricultural experiment station bulletins

Orangeburg, city (pop 10,521), co seat of Orangeburg co , central S C , SSE of Columbia and on the North Fork of the Edisto river, settled c 1735 It is the trade and processing center of a productive farm (especially cotton) and timber area SOUTH CAROLINA STATE AGRICULTURAL AND MECHANICAL COLLEGE and Claflin College (Negro, coeducational, 1869) are here The city is the site of the county fairgrounds Near by are U S and county fish hatcheries

Orange City, town (pop 1,920), co seat of Sioux co , NW Iowa, NNE of Sioux City; founded 1869 by Dutch settlers, inc 1884 It holds an annual Tulip Day A junior college is here

Orange Free State, province (49,647 sq mi ; pop 876,634), E central Union of South Africa The capital is Bloemfontein The Orange River marks the southern boundary, and the Vaal the northern boundary The Orange Free State is mainly a plateau (average elevation c 4,000 ft) with a healthful climate. It raises wool and maize Coal, gold, and diamonds are important mineral resources The area was settled from 1835 to 1848 by the Boers. Sir Harry Smith annexed it to Cape Colony (a British possession) in 1848. Recovered by the Boers in 1854, it was constituted the Orange Free State republic, which Great Britain made a colony after the South African War. It became self-governing in 1907 and joined the Union of South Africa in 1910 The population includes 202,077 Europeans

Orangemen, members of the Loyal Orange Institution, an Irish society founded and largely flourishing in the province of Ulster It was established (1795) to maintain in Ireland the Protestant ascendancy in the face of the rising agitation for Catholic Emancipation Its name is taken from the family of King William III of England, who defeated King James II at the BOYNE in 1690 July 12 (as anniversary of this victory) and Nov 5 (the day of William's first landing in England, 1688) are the principal holidays of the order, and to celebrate them the members wear orange-colored flowers and orange sashes and join in parades Branches of the society have been formed in other English-speaking countries

Orange Mountains · see WATCHUNG MOUNTAINS

Orange River, c 1,300 mi long, rising in N Basutoland, Union of South Africa It flows southwest along the boundary of the Orange Free State and Cape Prov and then west in a meandering course through Cape Prov and along the boundary of South-West Africa and Cape Prov to empty into the Atlantic Ocean Shoals, falls, and a sandbar at the mouth prevent much navigation The Vaal river is its chief tributary

Orangeville, town (pop 2,718), S Ont , on Credit river and WNW of Toronto, in a farm area It has flour and knitting mills

orangutan (ōrăng'ōōtăn) or **orangoutang** (-tăng), anthropoid ape native to the swampy coastal forests of Borneo and Sumatra It usually travels through the trees swinging in flying leaps from branch to branch On the ground it walks on all fours and with difficulty The bowed legs are shorter and weaker than the arms, and the heel bone is lacking The hair is shaggy and reddish Adult males are usually about 5 ft in height and weigh about 250 lb Arboreal platform nests are made for sleeping In certain males cheek expansions develop and a huge, pendulous throat sac forms The orangutan is intelligent and usually proves tractable and tractable in captivity

Oranienbaum, RSFSR see LOMONOSOV

Oranienburg (ōrä'nyunbōōrk), town (pop 18,633), Brandenburg, N Germany, on the Havel and NNW of Berlin It manufactures chemicals and metal goods It was the site of one of the earliest concentration camps set up (1933) by the National Socialist regime

oratorio (ōrutō'rēō), musical composition employing chorus, orchestra, and soloists and usually, but not necessarily, a setting of a sacred libretto, but without stage action or scenery The immediate forerunner of oratorio, Emilio del Cavalieri's sacred opera *La rappresentazione di anima e di corpo*, applied the techniques of the newly created opera to the *sacra rappresentazione*, the Italian mystery play It was given in 1600 in one of the oratories of St PHILIP NERI Soon afterward the *oratorio volgare*, which employed a *testo*, or narrator, to advance the action of the story and which was in Italian, developed By c 1640 the term *oratorio* had come to stand for the work itself rather than the place in which it was given, and 10 years later the Latin oratorio, given only in the Oratorio San Marcello, Rome, was given definitive form in the works of Carissimi, whose influence is discerned in the oratorios of Heinrich Schütz and of Handel After Carissimi the only outstanding Italian oratorios are the approximately 150 by Alessandro Scarlatti In Germany settings of the Passion assumed greater importance than the true oratorio, but the oratorios of Heinrich Schütz are significant Bach's Christmas Oratorio is actually a set of six cantatas Handel inaugurated the English oratorio, and his *Messiah*, despite its being unique among his works, became the prototype of oratorio and the model for many later composers Haydn's two great oratorios show somewhat the influence of Handel Mendelssohn's *Elyah* and *St Paul* exerted great influence, particularly in England, where the oratorio enjoyed great vogue throughout the 19th cent , and a long succession of mediocre works was followed by the more notable ones of Elgar, C V Stanford, and Walford Davies Liszt, Franck, Berlioz, and Pierné all wrote romantic oratorios of some note In the 20th cent Honegger's *King David* (1921) and Stravinsky's opera-oratorio *Oedipus Rex* (1927), both recalling the baroque oratorio in the use of a narrator, and William Walton's *Belshazzar's Feast* (1931) are noteworthy

oratory (ō'rutō"rē, ō'ru-), the art of swaying an audience by eloquent speech In ancient Greece and Rome oratory was included under the term RHETORIC, which meant the art of composing as well as delivering a speech First used in the law courts in 5th-century Athens, oratory soon became important in both public and private life and was taught by the Sophists The Ten Attic Orators (listed by Alexandrian critics) were Antiphon, Andocides, Lysias, Isocrates, Isaeus, Aeschines, Demosthenes, Lycurgus, Hyperides, and Dinarchus In Rome the great orators included Cato the Elder, the Gracchi, Marc Antony, and the most famous, Cicero. The theory of rhetoric was discussed by Aristotle and Quintilian, and the subject, with definite rules and models, was of great importance in education during the Middle Ages and the Renaissance St Paul was the great orator among the apostles, and Ambrose, Augustine, and Chrysostom among the Church Fathers During the Middle Ages and the Renaissance, oratory was generally confined to the Church. With the development of parliaments in the 18th cent , great political orators appeared—Charles Fox, Edmund Burke, Henry Grattan, and Daniel O'Connell in England and Ireland, Patrick Henry and James Otis in America, and Danton and Mirabeau in the French Revolution In the 19th cent famous orators include Disraeli and John Bright in England, Lamartine in France, Ferdinand Lassalle in Germany, Louis Kossuth in Hungary, and Joseph Mazzini in Italy The most famous American oration was the Gettysburg Address by Lincoln, but other outstanding American orators in the 19th cent were Henry Clay, John Calhoun, Daniel Webster, Wendell Phillips, Stephen Douglas, Henry Ward Beecher, and Robert Ingersoll In the 20th cent famous orators include Lenin and Trotsky of Russia, Emmeline Pankhurst and Winston L S Churchill in England, and Rosa Luxemburg and Adolph Hitler in Germany William Jennings Bryan was a great orator of the early 20th cent in America Others include the Socialist Eugene Debs, the woman-suffrage leader Susan B Anthony, and Senators Robert La Follette and William Borah In recent years, especially with the advent of the radio, oratory has become less grandiloquent and more conversational, as in the famous "fireside chats" of President Roosevelt The term *oratory* itself has fallen into disuse, giving way to *public speaking*

Oratory, Congregation of the, in the Roman Catholic Church, association of secular priests organized into independent communities according to the rule written by St PHILIP NERI The purpose of the Oratory is to raise the religious standards of the locale To do this they employ three means—prayer, especially the solemn performance of the liturgy, the sacraments, especially the confessional, and preaching, every oratory having daily sermons Confessions are heard at all times The best-known oratory of the English-speaking world is probably that of J H NEWMAN, who introduced it to England as the means best adapted to the needs of the Church there Oratorians have been renowned as preachers and as confessors

orbit, in astronomy, the path in space described by a heavenly body in the course of its revolution around some other such body, which forms a center of attraction for it Planets and comets move in orbits around the sun A satellite of a planet travels around it in an orbit controlled by the attractive force of the planet From earliest times careful study was given to the motions of celestial bodies, but until the 17th cent astronomers assumed that the orbits in which they move were circular Then Johannes Kepler stated three laws summing up what all previous observations had proved as to the movements of the planets the orbit of each planet is an ellipse with the sun at one of its foci, as the planet moves in its orbit, the imaginary line from it to the center of the sun sweeps over equal areas in equal intervals of time, the squares of the revolution periods of any two of the planets stand in the same ratio as the cubes of their mean distances from the sun The planet's mean distance from the sun is half the major axis of the ellipse described by its orbit The point in the orbit nearest to the sun is called perihelion, the point farthest from the sun, aphelion In order to determine the exact position reached by a planet at any time, certain numerical quantities, or elements of a planetary orbit, must be given By two of the elements—half the major axis and the eccentricity—the size and shape of the orbit can be defined By three others—the inclination of the plane of the planet's orbit to that of the ecliptic, the longitude of the ascending node and the longitude of the perihelion from the ascending node—the position of the orbit in its plane can be defined In addition, one other element—the date on which a planet passes some such determinate part of its orbit as perihelion—must be known before it is possible to compute the position of the planet for any interval of time The eccentricity is found by dividing the distance from the sun to the center of the orbit by half the major axis The inclination is the angle between the planes of the earth's orbit and the planet's orbit The planet's orbit cuts the plane of the earth's orbit (the ecliptic) at two points called the nodes The longitude of the ascending node is measured by the angle which the line connecting the two nodes forms with the vernal EQUINOX in the direction of the earth's motion The longitude of the perihelion is measured by the angle from the ascending node to the perihelion point If the planets were acted upon by no other attractive force than that of the sun, their orbits would be true ellipses; but they influence one an-

other's motions, causing slight deviations, known as perturbations. Without taking account of these small irregularities, Kepler's laws can be used to calculate a planet's position, given the elements described above. To determine precisely the orbit of a planet, the perturbations and other deviations have to be computed and allowed for. Methods used by NEWTON, LAPLACE, and GAUSS for computing the orbit of a planet or a comet from three observations of its apparent position are the basis of all methods adopted later. The orbits of comets are far less certain than those of planets, but about three fourths of those that have been computed give strong evidence of being parabolas or very nearly parabolic. When the orbit of a new comet is to be computed, it is assumed to be a parabola. The satellites of planets, when they are distant not more than 10 or 12 times the diameter of their planet, travel in orbits that are circular, lying in planes which nearly coincide with that of the planet's equator. When, like our moon, they are more remote, their orbits exhibit considerable inclination and eccentricity. The orbits of binary stars are of great interest to modern astronomers. In the actual orbit of each such pair of stars, one star is in the focus of the ellipse which the other describes.

Orcades see ORKNEY

Orcagna (ôrkä'nyä) or **Arcagnolo** (ärkä'nyôlō), c 1308–1368, Florentine painter, sculptor, architect, goldsmith, and worker in mosaic, whose real name was Andrea di Cione. He was one of the greatest artists of his day. He learned the goldsmith's art from his father, Cione, studied sculpture with Andrea Pisano, and became a member of the Florentine painters' guild in 1343. His chief paintings are in the Church of Santa Maria Novella, Florence, they include the frescoes (now destroyed) for the choir, painted in collaboration with his brother, Nardo, and the superb altarpiece in the Strozzi Chapel, *Christ in Glory between SS Thomas Aquinas and Peter*, his greatest, and only signed, painting. His *Coronation of the Virgin* is in the National Gallery, London, and *The Virgin and St Bernard* is in the Florence Academy. Orcagna was a close follower of Giotto. Appointed (1358) head architect of the cathedral at Orvieto, Orcagna designed a splendid mosaic for the façade (Victoria and Albert Mus.). His sculptural masterpiece (1357) is the marble tabernacle at Or San Michele, Florence, which with its mosaics, bas-reliefs, and statuary forms one of the outstanding examples of Gothic art in Italy. The large relief, *The Death and Assumption of the Virgin*, at the back of the tabernacle, is one of his greatest works.

orchard. A cultivated group of fruit trees is commonly called an orchard, except that a group of citrus trees is usually a grove. The orchard of ancient times was a pleasure garden of formal design, often adorned with fountains and statuary. In commercial orchards, machinery is now used for cultivating, spraying, picking, and packing. Clean cultivation of the ground may be practiced, or cover crops may be grown, or the two practices may alternate. In young orchards it is usually possible to grow vegetables and berry fruits in the rows between the trees, thus helping maintenance costs until the trees begin to bear. See H. B. Knapp and E. C. Auchter, *Growing Tree and Small Fruits* (2d ed., 1941).

orchard grass, widely distributed perennial grass (*Dactylis glomerata*), sometimes called cocksfoot. It has pale green florets clustered into bunches. It is cultivated as a pasture grass and is capable of enduring shade. A variegated-leaved kind is cultivated in gardens.

Orchard Park, residential village (pop. 1,304), W. N. Y., SE of Buffalo, inc. 1921. Caskets and crates are made here.

Orchardson, Sir William Quiller, 1835-1910, Scottish genre, historical, and portrait painter. In 1863 he settled in London, where he long enjoyed a modest reputation. With the exhibition of his *Napoleon on Board the Bellerophon* (Tate Gall., London) in 1881 he became famous. Also well known are his portraits of Voltaire, Master Baby, Sir Walter Gilbey, Viscount Peel, and H. B. Ferguson. Orchardson's work is distinguished by lightness of touch and restraint. He was knighted in 1907.

orchestra and orchestration. In the late Renaissance, as composers began to develop an instrumental style as distinct from vocal style, the orchestra began its long, slow period of development. Not until the second half of the 18th cent., however, when orchestral music had developed sufficiently to be valued for its own sake and was freeing itself from subservience to vocal music, did the art of orchestration or instrumentation, which is the purposeful combination of instruments and distribution of parts, emerge. In the Middle Ages and Renaissance an instrument might be substituted for a missing part in vocal music, or it might even double some of the voice parts. The selection of the instrument to be used depended on what instruments were available and what their range. When instruments played in ensemble it was in homogeneous groupings of the members of one family of instruments, rather than the blend of different sonorities of the orchestra. Giovanni Gabrieli, in his *Sacrae symphoniae*, was the first to indicate parts for particular instruments. The baroque period, then, was the beginning of orchestral development, and throughout the baroque the center of the orchestra was a keyboard instrument or other chordal instrument, e.g., the lute, which played the *basso continuo* (see FIGURED BASS). Artistic need, economic and social conditions, and the development of the instruments themselves are interworking factors influencing the make-up of the orchestra. The first of the modern instruments to be fully developed was the VIOLIN and its family, which began in the early baroque to assume its dominance of the orchestra, gradually displacing the VIOL family. In the operas of Monteverdi there is the first use of violin tremolo and pizzicato as orchestral effects, but these did not become standard techniques of orchestration for some time—an example of the slowness of development caused by lack of communication among musicians. In the works of Henry Purcell and Alessandro Scarlatti the strings became standardized as a four-part choir, instead of the three or five parts which had been usual. The choice of wind instruments was still haphazard and *tutti*, passages in which all the instruments played together, were still rare. Scores in the 17th cent. did not even always include parts for all the instruments. The ability of the players to improvise a part from the figured bass given them or to play in unison with some of the voices was relied upon. The OBOE and BASSOON had, in fact, assumed their place by the end of the 17th cent., while the FLUTE was regarded as a solo instrument, substituting occasionally for the oboe and not a regular member of the orchestra until the late 18th cent. The small orchestras of princely households and the somewhat larger ones of churches and theaters represented the extent of orchestral development in the 17th cent. In the 18th cent. the orchestra of Frederick the Great at the Berlin opera house had as many as 60 of the finest players of the time, while Handel had an orchestra of about 30, eight of whom played oboes and bassoons, for the performance of his operas and oratorios in London, and Bach produced his cantatas and oratorios with no more than 18 players, many of them amateurs. In Bach's instrumentation he used strings, the oboe, the flute, the TRUMPET, and the FRENCH HORN, but the writing was contrapuntal and the distinction in the parts was according to the range, not the timbre, of the instruments. In the late 18th cent., as the SYMPHONY came into being, interest in purely orchestral music began to grow. Besides the famous orchestra at Mannheim, consisting of 40 or 50 players, there were concert orchestras in both Paris and London, and in 1781 the Leipzig Gewandhaus, Germany's first important concert hall, was opened. Numerous Italian and German cities had opera houses, each with an orchestra, and by 1790 the Paris Opéra had an orchestra of 70 players. The transition from contrapuntal to harmonic writing brought about the change which led to the growth of modern orchestration. Gluck was the most important figure in the transition, and with Mozart and Haydn the new style was fully established. The writing for wind instruments had become more independent, and they were not employed continuously throughout a movement, as they had been in Bach's and Handel's scores, but were used in shorter stretches, with regard for contrast of timbre. The CLARINET appeared, most notably in the scores of Mozart, the flute became a regular member of the orchestra with the displacing of the RECORDER by the transverse flute and the appearance of the PICCOLO, and the keyboard instrument, often still present, was no longer needed to fill in the harmony. The 19th cent. saw the completion of the modern symphony orchestra with the great mechanical improvements in the brass instruments. The OPHICLEIDE (later replaced by the TUBA) and the TROMBONE, long valued for church and ceremonial use, were added, and the trumpet, newly equipped with valves, reassumed the position of importance which it had lost in the late 18th cent. The number of string players was increased to balance the larger wind sections, and the PERCUSSION INSTRUMENTS became more numerous, there remained only to augment further certain families of instruments, e.g., to add the ENGLISH HORN to the oboes and bassoons. Berlioz's *Grand Traité d'instrumentation et d'orchestration* (1844, Eng. tr., 1948) was the first treatise of its kind, and his ideas on the subject were ultimately to have much influence. With Wagner came the rise of the modern art of CONDUCTING and the beginning of the orchestra of monstrous proportions, carried to extremes by Richard Strauss and Mahler. Wagner even invented a group of instruments—the so-called "Wagner tubas"—for the performance of his works. Ultimately, however, this trend gave way to the acceptance of the more or less standard symphony orchestra, having from 75 to 90 players, which various composers, e.g., Debussy and Stravinsky, have been able to use in quite distinctive fashion. Stravinsky's *Sacre du printemps*, however, called for an even larger group of instruments than had Mahler's *Symphony of the Thousand*, but the general 20th-century tendency is toward economy of means. Some important orchestras may be mentioned. The Leipzig Gewandhaus-Konzerte, not called by that name until later, began in 1743, the Philharmonic Society, London, was established in 1813, the Société des Concerts du Conservatoire, Paris, gave its first concert in 1828, the Wiener Philharmoniker Konzerte, Vienna, began in 1842, the Berlin Philharmonisches Orchester was established in 1882, and by the early years of the 20th cent. most of the larger American cities had orchestras, notable among them the New York Philharmonic-Symphony Orchestra, the Boston Symphony Orchestra, the Philadelphia Orchestra, and the Minneapolis Symphony Orchestra. See Adam Carse, *The History of Orchestration* (1925), *The Orchestra in the XVIIIth Century* (1940), *The Orchestra from Beethoven to Berlioz* (1948), and *The Orchestra* (1949), C. S. Terry, *Bach's Orchestra* (1932), Paul Bekker, *The Story of the Orchestra* (1936), Reginald Nettel, *The Orchestra in England* (1946).

orchid (ôr'kĭd), flowering plant of the orchid family—one of the largest groups of flowering plants, containing about 15,000 species. They are found in moist climates in many parts of the world as far north as Greenland, but are most abundant and varied in the tropics, whence come the gorgeously flowered florists' and greenhouse orchids. Among the 140 species native to North America N. of Mexico are the LADY'S-SLIPPER, ladies'-tresses, habenaria, and orchis. The flowers in many species are curiously shaped and beautifully colored. The tropical species are very slow-growing. The pollen of the flowers is not a powder as in most plants, but forms small sticky balls. The orchids hybridize freely, and many beautiful varieties have been produced by amateur and professional gardeners. They are divided into two groups, those which grow in the air and terrestrial plants. Vanilla comes from a tropical North American orchid. There is an American Orchid Society. See C. H. Curtis, *Orchids for Everyone* (1910), E. A. White, *American Orchid Culture* (3d ed., 1942).

orchil see ARCHIL

Orchomenus (ôrkŏ'mĭnus), ancient city of Boeotia, central Greece, W. of Lake Copaïs. It was an important center of the Mycenaean civilization (after 1600 B.C.), perhaps as a Cretan outpost. In later times the city was eclipsed by Thebes. Excavations have been extensive. Near Orchomenus, Sulla won (85 B.C.) a significant victory over Archelaus, general of Mithridates VI. There was another Orchomenus in Arcadia, NW of Mantinea.

Orcus see HELL

Ord, Edward Otho Cresap, 1818-83, Union general in the Civil War, b. Cumberland, Md., grad. West Point, 1839. He commanded a brigade in Virginia (1861-62), was promoted major general of volunteers, and fought at Iuka and Corinth, Miss. (1862). In the last stage of the Vicksburg campaign (1863), Ord led the 13th Corps. Returning to the Virginia theater in 1864, he served briefly as commander in the Shenandoah Valley, and in the final operations against Lee he led successively the 8th Corps, the 18th Corps, and the Army of the James. Ord commanded various departments after the war.

Ord, city (pop. 2,240), co. seat of Valley co., central Nebr., on the North Loup and NNW of Grand Island, surveyed 1874.

ordeal, ancient legal custom connected closely with divination. By an ordeal appeal was made to divine authority to decide the guilt or innocence of one accused of a crime or to choose between disputants. This custom was widespread and was known to primitive peoples as well as to those of fairly advanced material culture. Until recent times the ordeal was practiced in many parts of Asia and Africa. In the early Middle Ages it was widely used in settlement of legal questions in Western Europe, especially in the Germanic countries. In England it was a regular form of trial and persisted until trial by JURY became common. There were numerous forms of the ordeal, varying with the locality and with the nature of the crime. The ordeal by fire—walking through fire or putting the hand into a flame—was common, and related to it were other fiery ordeals, such as walking on hot plowshares and plunging the hand into melted metal or hot water. Usually it was believed that if the accused was innocent God would spare him. Commonly there was a lapse of several days after the ordeal before the injuries were inspected, then some one considered competent as a judge decided from the severity of the injuries as to innocence or guilt. A form of ordeal that has received much attention from antiquarians was that applied to determine whether or not an accused woman was a witch. The woman was bound and cast into water which had been blessed. If the water rejected her—i.e., if she floated—she was considered guilty. If the water received her, she was considered innocent and was drawn out and freed. A common form of ordeal in contentions between two parties was the submission to some trial of chance, e.g., casting lots. Allied to this in spirit was the DUEL, which supposedly worked on the principle that God would favor the cause of the righteous in the battle. The

trial by battle or by combat (sometimes called a judicial duel or wager of battle) was a recognized form of procedure in the Middle Ages It was introduced from France to England after the Norman Conquest In this trial, one of the contending parties issued a wager of battle Both parties on oath declared their assertions truthful; a duel was fought, and the victor was awarded the decision In case one of the parties to the suit was a woman, a child, or a feeble man, he or she could be represented by a champion, i e., a knight who was a relative or who had agreed to fight The use of champions was greatly extended as time went on, and a class of professional champions arose The tendency also was to restrict the trial by battle to criminal rather than civil cases The Roman Catholic Church from early times frowned on the ordeal despite its apparently religious aspect, and in 1215 it categorically forbade the clergy to take part in such ceremonies The trial by battle lasted longer

order, holy see MINISTRY, ORDERS, HOLY, SACRAMENT

Ordericus Vitalis (ôrdĕ'rĭkŭs vītā'lĭs), 1075–c.1143, Norman chronicler, b England He was sent when 10 years old to Saint-Évroul in Normandy and there, as a monk, spent most of his life He began his *Historia ecclesiastica* as a history of his monastery but broadened it into a universal history in 13 books, ending in 1143 It is particularly valuable for a study of the Normans in England, France, and Italy and for the history of his times

Order of American Knights: see KNIGHTS OF THE GOLDEN CIRCLE

orders, holy, in Christianity, the traditional Catholic system of the clergy, the spiritual leaders of the Church (For various Protestant clerical systems, see MINISTRY) In the Roman Catholic and Eastern churches the conferring of holy orders is a sacrament, called order There are three orders—bishop, priest, and deacon The ceremony of installation is called ordination or, in the case of bishops, consecration The orders have double functions, liturgical and administrative The bishop can confer all sacraments, the deacon normally is only an assistant The central sacraments of the Eucharist and penance are especially the work of the priest, Administratively the older churches are all episcopal, i e , the bishop is the typical ruler The people are organized into parishes, each headed by a priest, a number of parishes make up a diocese, which is the bishop's territory The bishop's city is his see Deacons have no administrative role In the Roman Catholic Church the bishops are ruled by the pope, because he is the bishop of Rome (see PAPACY) An archbishop is the bishop of an important center, he usually has a province or collection of dioceses assigned him, but he has no strong authority over the bishops A PATRIARCH is an archbishop who has a number of provinces The term *clergy* is usually restricted to men in holy orders, but not all clergymen are in the administrative system, many are members of religious orders (see MONASTICISM). They are then said to be regular, while clergy not in religious orders are secular Not all parish clergy are secular, but typically they are The secular clergy conceived as an organization is the hierarchy As to CELIBACY of clergy, it is the rule in the Western Church and also in the Eastern churches for all but parish clergy. The polity of the three holy orders is the modern result of the growth of Christianity, but in the Reformation and since many Protestants have claimed to remove accretions and return to apostolic forms of the 1st cent Anglicans and Lutherans are the major Protestant groups maintaining the episcopal system The terms *bishop* and *deacon* occur in the New Testament, e g , 1 Tim 3 and Acts 6 By the time of St IGNATIUS OF ANTIOCH there were three orders, the priest being one of a corps of assistants to the bishop, the deacons were administrative assistants, especially for funds By the 6th cent the cities of the empire each had a bishop, with the city and surrounding country divided into parishes, each with its priest The deacon was now a liturgical assistant to the priest This in principle is the permanent form Ancient subordinate functions are preserved in the names of the minor orders, they are, in the Western Church, doorkeeper, lector, exorcist, and acolyte The subdeacon is regarded in the Western Church as in the major orders

orders in council, in British government **1** An order given by the sovereign on the advice of all or some of the members of his privy council, without the prior consent of Parliament Orders in council, first so named in the 18th cent , are actually recommended to the crown by ministers answerable to Parliament and are thus independent of parliamentary authority only in theory. They are most commonly used in emergencies A notable use of orders in council occurred after 1806 as a result of Napoleon's CONTINENTAL SYSTEM, a series of these orders laid embargoes on Prussian ships in British ports, proclaimed a blockade of the north coast of Europe, forbade neutrals to trade between the ports of France and her allies, and ordered various other similar steps. In the First World War food was declared a contraband of war by order in council. **2** Administrative orders, issued on the authority of a parliamentary act, especially to carry out the provisions of the act Like the "executive order" in the United States, the order in council occupies a middle ground between administrative routine and policy forming and has been criticized as an attempt to circumvent the legislative branch of the government

orders of architecture. In classic styles of architecture the various columnar types fall, in general, into the five so-called "classic orders" which are named Doric, Ionic, Corinthian, Tuscan, and Composite Each order comprises the column with its base, shaft, and CAPITAL and the supported part or entablature, consisting of architrave, frieze, and cornice Each order has its own distinctive character, both as to relative proportions and as to the detail of its different parts. The entablature height is generally about one quarter that of the column, a pedestal, when used, is about one third the height of the column For the DORIC ORDER, the IONIC ORDER, and the CORINTHIAN ORDER, originally developed by the Greeks, the Roman writer Vitruvius attempted to formulate the proportionings of their parts In the 16th cent , Italian architectural writers, notably Vignola and Palladio, crystallized the ancient Greek originals and the Roman versions and additions (Tuscan and Composite) into the five definitely formulated orders, with minute rules of proportion In actual construction the Greeks and Romans had, however, adhered to no set rules In modern times moderately flexible proportions have been adopted Upon the basis of the classic orders, the designers of the Renaissance and of subsequent periods have created numberless variations In Greece the Doric was the earliest order to develop, and it was used for the PARTHENON and for most of the temple masterpieces The Corinthian was little used, its development being chiefly due to the Romans, who employed it more than any other order and who introduced brackets or modillions in its cornice The Roman orders made greater use of ornament than the Greek, and their column proportions were more slender Among Italian Renaissance innovations was the use of colossal or giant orders, in which columns or pilasters extended in height through two stories, as in the façade of St Peter's Church at Rome In countries other than Italy the orders, as they appeared in the earliest period of the Renaissance, were characterized by a naïve incorrectness After the general Renaissance freedom in the use of the orders, a strict adherence to the proportions of the original Greek and Roman models became the rule during the CLASSIC REVIVAL See D S Robertson, *Handbook of Greek and Roman Architecture* (1929)

Ordinance of 1787, adopted by the Congress of Confederation for the government of the Western territories ceded to the United States by the states It created the Northwest Territory and is frequently called the Northwest Ordinance It was based on the ordinance proposed by Jefferson in 1784 for dividing the region into numerous states. The debate concerning the OLD NORTHWEST in 1784 was fruitless, and the question lapsed The application of the OHIO COMPANY OF ASSOCIATES to purchase land in the region hurried the Congress on to action The able leaders of the company, Rufus PUTNAM and Manasseh CUTLER, were influential in the drafting of the ordinance, which was passed July 13, 1787 It set up a government in the region N of the Ohio river A territorial governor, a secretary, and three judges were to be appointed by Congress, which would retain control until the population reached 5,000 voting citizens, when an elected legislature would be set up and the territory would obtain a nonvoting representative in the U S House of Representatives When any portion of the territory should have a population of 60,000 or more, it might apply for admission to the Union as a state according to conditions laid down in the ordinance, there were to be not less than three or more than five states created out of the region (five were ultimately created) Among the other conditions and provisions of the ordinance, the most important were that no man born in the Northwest Territory should be a slave and that no law should ever be passed there that would impair the obligation of contract. The ordinance was the most significant achievement of Congress in the time of the Articles of Confederation It set the form by which subsequent Western territories were created and later admitted into the Union as states It marked the beginning of great Western expansion, and it also increased Federal powers

ordination: see MINISTRY and ORDERS, HOLY

ordnance (ôrd'nuns), ARTILLERY weapons and appliances used in war by army and navy, as distinguished from small arms The word is sometimes used incorrectly to include small arms and other equipment Under the organization (1947) of the National Military Establishment, separate ordnance departments were set up for the U.S army and the U S navy The Bureau of Ordnance of the U.S. navy procures and maintains not only munitions and armor, but also anchors, moorings, and appliances. The Ordnance Dept. of the U.S. army, headed by the chief of ordnance, is charged with the supervision of munitions and vehicles for land combat. The deputy chief of staff for matériel is given similar responsibilities for the ordnance of the U S AIR FORCE

Ordos (ôr'dŏs), Mandarin *Ehr-de-ssu,* desert region, Suiyuan prov., China It lies S and E of the Yellow River. There is a small population of pastoral nomads.

Ordovician period (ôrdōvĭ'shŭn) [from the Ordovices, ancient tribe of N Wales, a type section], second period of the PALEOZOIC ERA of geologic time It was similar to the preceding CAMBRIAN PERIOD, with shallow seas spread for most of the time over the British Isles, Scandinavia, the Baltic region, the Mediterranean region, a large part of Siberia, and much of North America The Ordovician rocks are chiefly sedimentary Because of the restricted area and low elevation of the solid land, which set limits to erosion, marine sediments make up a larger part of the Ordovician system than of the Cambrian, limestone is characteristic, shale and sandstone less conspicuous The Ordovician of North America can best be studied in New York state In the Early or Lower Ordovician epoch, also called the Canadian epoch, the waters spread over the Appalachian area and deposited the Beekmantown limestone, then withdrew generally, to return and deposit the Chazy limestone of the lower Middle Ordovician, also known as the Champlainian epoch In the interval between Beekmantown time and Chazy time, large areas, chiefly outside of New York, were apparently covered with windblown sand which became the St. Peter sandstone In the Middle Ordovician the sea spread over North America to a greater extent than in any other period and laid down the Trenton limestone, which in its eastern section is overlaid or intercalated with the Utica mud shale In the east, increased erosion of the land subsequently led to the deposition of other shales, which became more and more sandy toward the end of the period The Upper Ordovician or Cincinnatian of the west saw the formation of different series of shales, one of them, the Richmond, laid down by a second great Ordovician flood The close of the Ordovician was marked by more general earth disturbances than the close of the Cambrian, the Taconic Mts of New York being thrust up Among the important economic resources of the Ordovician strata are oil, natural gas, the lead and zinc of Wisconsin, Iowa, and Illinois, the "Portland cement rock" of Pennsylvania and New Jersey, Vermont marble, and the calcium phosphate of the Tennessee limestone The Ordovician seas were rich in animal life The most characteristic invertebrates were the minute graptolites, other numerous forms being brachiopods, bryozoans, and trilobites Some cystoids and crinoids appeared, there were a few corals and many fierce cephalopods Especially noteworthy was the appearance of a few primitive fishlike vertebrates

Ordu (ôrdōō'), anc *Cotyora,* town (pop 10,346), N Turkey. It is a Black Sea port W of Trebizond

Ordway, town (pop 1,150), co seat of Crowley co , SE Colo , near the Arkansas river E of Pueblo, in a farm area, inc 1900

Ordzhonikidze, RSFSR see DZAUDZHIKAU.

ore, mineral mass with a high enough content of any given metal for the metal to be extracted profitably for commercial use It consists of metalliferous mineral enclosed in a matrix of minerals without economic importance (gangue minerals) Ores are usually found concentrated in deposits having fixed boundaries or showing at least a definite gradation of metal content from the ore to the country rock, i e , the rock surrounding the ore Ore deposits are classified according to origin as primary and secondary. Primary deposits are formed by the precipitation of minerals held in liquid or gaseous form in molten magmas Types include those formed simultaneously with, and those formed subsequent to, the enclosing rock, such as contact-metamorphic deposits (see METAMORPHISM), deposits in intrusive pegmatite dikes, and deposits formed by the filling of fissures in the parent rock Fissure deposits are called veins and lodes, although a lode is properly a complex of veins, the two terms are used almost interchangeably A vein is usually a tabular mass, possessed of definite boundaries and cutting across the bedding planes of the country rock Fissure deposits usually owe their origin to the rising of superheated minerals in gaseous or liquid form from molten magmas, the minerals on losing heat being precipitated in veins Sometimes the gases are precipitated in open cracks, at other times they dissolve and replace the minerals of a previously existing vein (replacement veins). Vein deposits may be at very great or at very slight depths, the character of both the metals and the gangue minerals varying with the depth of the deposits The chief ores are sulphides and oxides, deep-seated ores are in general sulphides, while ores which approach the surface become oxidized Secondary ore deposits are formed from primary deposits chiefly by weathering, which results in the formation of new minerals by the leaching out of certain constituents and in the secondary enrichment of underlying ores. The erosion of weathered

ore outcrops results in the formation of placers—ore-bearing stream and lake gravels and beach sands—and alluvial deposits. For the exploitation of ore deposits, see MINING, for the separation of the metals from the gangue minerals, see METALLURGY; for chief ores, see the specific metal

oreads (ôr'ēădz") [Gr., =belonging to mountains], in Greek mythology, mountain nymphs Oreads lived in caves and on mountaintops They were close to Artemis, the huntress, with whom they played and danced.

Oreb (ôr'ĕb) [Heb, =raven], Midianite chief defeated by Gideon. Judges 7 25, 8 3; Ps 83 11; Isa 10 26

Orebro, Swed *Örebro* (ûrubrōō'), city (pop 59,919), central Sweden, on Hjalmaren lake Known since the 11th cent, Orebro was the meeting place of a score of national diets, notably of that in 1810, when Bernadotte was elected king of Sweden as Charles XIV It has a 13th-century church and a 13th-century castle (now a museum) After the fire of 1854, the town was rebuilt and modernized The manufacture of shoes is its main industry Orebro is the county seat of **Orebro,** Swed *Örebro län* (lĕn) (3,559 sq mi; pop 235,989), county, which is formed of two historical provinces, Narke and the western part of Vastmanland The county has important iron, zinc, and copper mines and iron and steel manufactures.

Oregon, state (96,981 sq mi, 1940 pop 1,189,684, 1949 estimated pop 1,736,000), NW United States, in the Pacific Northwest, admitted 1859 as the 33d state (a free state) Oregon is bounded on the north by Washington (from which it is largely separated by the rushing waters of the Columbia river), on the east by Idaho (with the Snake river forming the boundary in the northern half), on the south by Nevada and California, and on the west by the Pacific Ocean SALEM, in the heart of the fertile Willamette valley, is the capital The name Oregon was not used by Spanish and English seamen of the 16th cent. who skirted the Pacific coast in search of the NORTHWEST PASSAGE, but later the name took on magic meaning when it was identified with the hypothetical westward-flowing river that would bring quick access to the riches of the Orient During the period of American westward expansion Oregon represented the end of the trail to the settlers who came "the Plains over, the Isthmus across, or the Horn around" Oregon rewarded the daring travelers with a variety of physical features and an abundance of natural resources—great forested mountain slopes and treeless deserts, rushing rivers and barren playas, lush valleys and extensive wastelands The major determinant of the climatic differences is the Cascade Range, a rugged chain running north to south c 100 mi inland Rain falls over the western third of the state as the eastward-moving air masses, warmed by the Japan Current and heavy with moisture from the Pacific, rise and meet the cooler mountain temperatures Dry air and continental climate untempered by ocean currents prevail over the eastern two thirds of the state On the west the shore line (c 300 mi) is bordered by narrow coastal plains of sandy beaches, luxuriant pastures, and occasional jutting promontories Inland some 25 mi the eroded Coastal Range rises to heights of 4,000 ft to serve as the western wall of the Willamette valley Here, where the navigable Willamette river flows through miles of rolling farmlands into the Columbia river, is the agricultural, commercial, and industrial center of the state PORTLAND, whose metropolitan district contains one third of the state's population, straddles the Willamette near its junction with the Columbia Salem and EUGENE lie southward in the valley, serving an area of diversified farming The snow-capped peaks of the Cascades overlook the valley on the east, with beautiful Mt Hood rising to the highest elevation of 11,245 ft Mighty stands of timber, many of them protected as national forests, cover the slopes, and in the south Crater Lake National Park and the Klamath Lake region are places of unusual natural beauty Eastward the slopes of the Cascades level into the plateaus drained in the north by the Deschutes and John Day rivers Lumber camps flourish in the foothills, while large herds of cattle and sheep graze on the plateaus, and dry farming, predominantly in wheat, is practiced in some areas, more of the dry land is being reclaimed by irrigation projects To the south a variegated pattern of marshland and mountain merges in the east into an enormous wasteland There little vegetation grows on the parched land, and the absence of potable water makes habitation difficult. North of this area rise the pine-covered Blue Mts and Wallowa Mts Wheat farms are situated on the river bottoms, but the principal industries are lumbering and gold mining. In some places the mountains extend to the Snake river to form precipitous gorges. Other parts of the region where the Snake cuts through the plateau are more level and through irrigation have been made productive. River resources, with their potential future development, are one of Oregon's greatest assets The ample supply of fish (particularly salmon) in the Columbia and in the ocean was an important food source to the Indians, and fishing is today a great commercial enterprise. River navigation began with the canoe and was continued by the sailboat and the steamer, long serving as the major means of transportation Today the construction of the Bonneville Dam enables large vessels to travel far inland, and though river traffic is not so vital as formerly, the Columbia river cities have developed as transport centers for a vast hinterland to the east. From the turbines of the Bonneville Dam hydroelectric power flows out to surrounding cities and farms These facilities have stimulated industry to round out a diversified economic program Agriculture still employs the largest number of workers, producing wheat and grains in the dry east and choice vegetables and fruits in the warm, moist valley of the Willamette Because mineral resources are extensive, mining gives promise of future development, and at present considerable amounts of gold, quicksilver, silver, copper, and building and construction materials are produced Lumbering, and the industry dependent upon it, is still a powerful factor in economic life Oregon produces more lumber than any other state, and the wealth of standing timber seems to assure a continuing supply However, none of these resources was the stimulus to the development of old Oregon in the late 18th cent It was the wealth of furs—sea otter and beaver—that lured the adventurous and the enterprising to extend the fur trade to the Pacific coast Previously interest in the region had centered around search for the Northwest Passage. Spanish seamen—Bartolomé Ferrelo (1543), Sebastián Vizcaíno (1602), Juan Pérez (1774), and Bruno Heceta (1775)—had skirted the coast to lay claim to the territory The English may have first arrived in the person of Sir Francis DRAKE when in 1579 he sailed along the Pacific coast and possibly reached Oregon Two centuries later in 1778 Capt James COOK, with his eyes on the award of £20,000 for the discovery of the Northwest Passage, charted some of the coast line By this time the Russians were pushing southward from posts in Alaska, and the British fur companies were exploring the West Americans, confident in their newly declared freedom, also turned their eyes westward The coast was soon active with many vessels of several nations engaged in trade with the coastal Indians and taking a rich harvest in furs. British captains, among them John Meares and George Vancouver, made the coast known, but it was an American, Robert GRAY, who in 1792 first sailed up the great river of the West, naming it Columbia after his ship and establishing a U S claim to the great area that it drained The Canadian traders of the North West Company were approaching the Columbia river country when the LEWIS AND CLARK EXPEDITION came across the continent and arrived at the lower Columbia in 1805 The Northwester David THOMPSON was already making his way to the lower river itself when John Jacob Astor undertook his ambitious scheme of a fur-trading post on the Pacific and brought about the founding of ASTORIA in 1811 In the troubles of the War of 1812 the post was sold to the North West Company in 1813, and British interests seemed supreme, though in 1818 a treaty provided for joint rights for the United States and Great Britain in Oregon (i e, the whole Columbia river country) for 10 years, and this agreement was later extended The North West Company was merged with the Hudson's Bay Company in 1821, and soon the Hudson's Bay men dominated the region under the patriarchal guidance of Dr John MCLOUGHLIN at Fort Vancouver He favored settlement of retired company men in the fertile valleys, but made little headway with the plan The approach of the Americans was heralded by the arrival of Jedediah S SMITH, while other mountain men were rivaling the Hudson's Bay men on the southeastern edge of the region U S interest in the Columbia river was growing Hall J KELLEY founded the American Society for Encouraging the Settlement of the Oregon Territory in 1829, and one of his disciples, Nathaniel J WYETH, attempted to set up a Columbia river post These visitors were received kindly by McLoughlin, as were the missionaries, who began to come in some numbers after the first visit of Marcus WHITMAN in 1835 Whitman and his colleagues went into the present Washington and Idaho, but Jason LEE and others came to the Willamette valley itself They were the harbingers of a great rush of farmers westward over the OREGON TRAIL There was soon trouble between the settlers and the British, and feelings rose The Americans under such leaders as Jesse Applegate set out to form their own government, and though little stock is now put in the story of how Marcus Whitman "saved" Oregon by his transcontinental journey, certainly Americans were fired to demands for the ousting of the British from the whole of the Columbia river country up to lat 54° 40′ N One of the slogans of the 1844 elections was "Fifty-four forty or fight," and indeed war with Britain momentarily threatened, but diplomacy prevailed. In 1846 the boundary was set at the line of lat. 49° N. Soon afterward the region was thrown into a turmoil by the massacre of Marcus Whitman and other whites at the hands of the Indians, and it was partly as a measure of protection that Oregon Territory was created in 1848 embracing the area W of the Rockies from the 42d to the 49th parallel. The area was reduced with the establishment of Washington Territory in 1853, and Oregon became a state in 1859 after having rejected a move to permit slavery The California gold rush caused a temporary exodus of settlers and ultimately increased trade as demand for goods spread throughout the area, and the Oregon gold strike of 1861 spread some permanent settlement to the eastern hills and valleys Cattle were brought in to graze on the tall grass which covered the semi-arid plateaus Soon cattle barons, the most prominent being Henry Miller, acquired huge herds and dominated the industry until the late 19th cent, when sheepmen and homesteaders succeeded in reducing the cattle range Oregon took little part in the Civil War, but in the '60s and '70s was plagued by Indian uprisings By 1880 these Indian troubles were over, and the next few decades brought increasing settlement and internal improvements Institutions of higher learning, until now private or denominational, were supplemented by the opening of the state university at Eugene in 1876 Under the manipulation of Henry VILLARD, transcontinental rail lines were completed to the coast and down the Willamette valley into California Manufacturing was stimulated by lumbering, which in the '90s quickly developed into a leading industry. Almost overnight logging camps and sawmills were built in the western foothills The huge stands of Douglas fir and cedar brought fortunes to the lumbering kings, and the threat to natural resources led ultimately to the creation of national forests By the time of the Lewis and Clark Centennial Exposition at Portland in 1905, less than 50 years after statehood was declared, the frontier era had passed Most of the feuding on the eastern plateaus was over, and cattle and sheep grazed peacefully on fenced-in ranges The mythical logger Paul Bunyan had come across the Shining Mountains to find a permanent setting for his legends in the evergreen and hardwood forests of the Pacific Northwest In spring the Willamette valley blossomed pink and white with fruit blossoms, and the river cities were busy with commercial and industrial enterprises. The temper of the people had exhibited itself in complex ways The prevailing political trend has steadily been conservative, both among the agricultural groups and the large business interests, and the Republican party has been strong, though the dissidents from conservatism have shown surprising strength in many instances Oregon, for instance, first instituted initiative, referendum, and recall Several issues have divided conservative and liberal thought sharply One has been the question of minorities The constitution of 1857 banned free Negroes from entering Oregon In the '80s the influx of Chinese threatened the labor market and brought violent anti-Chinese sentiment In the 20th cent a good deal of opposition to the Japanese caused some difficulties, and in the Second World War some American Japanese felt the weight of discrimination harshly This feeling against minorities is, however, by no means universal, and large groups oppose it sturdily. Of recent years one of the most disputed issues has been the exploitation of the resources of the Columbia river through the Columbia Valley Authority, which has been much opposed as a scheme of regimentation and subjection of private interests to an all-powerful government The merits of the utilities program for using the power developed at the Columbia river dams have been hotly debated That the power and irrigation schemes are having a profound effect not only in Oregon but in the entire Pacific Northwest cannot be denied Many acres have been opened to irrigated farming, and the tremendous industrial expansion of the Second World War was to a large extent dependent on the Bonneville power The inherent possibilities of the program still remain to be unfolded The old standard history of Oregon was that written for Hubert Howe Bancroft by Frances Fuller Victor (1886–88) See Graham J Mitchell, *Minerals of Oregon* (1916), Joseph Schafer, *History of the Pacific Northwest* (1917), Constance L Skinner, *Adventurers of Oregon* (1920), G W Fuller, *A History of the Pacific Northwest* (1931), C H Carey, *A General History of Oregon Prior to 1861* (1935–36), M C Jacobs, *Winning Oregon* (1938), Federal Writers' Project, *Oregon End of the Trail* (1940), Nancy Wilson Ross, *Farthest Reach* (1941), Roderick Peattie, ed, *The Cascades* (1949)

Oregon. **1** City (pop 2,825), co seat of Ogle co, N Ill, on the Rock River below Rockford, inc 1843 Near by on a bluff overlooking the river is the Eagle's Nest Art Colony, founded (1898) by Lorado Taft and others Taft executed the soldiers' monument in the city and the great Black Hawk statue on the edge of the bluff The public library includes an art gallery. White Pines Forest State Park is near by. **2** Village (pop 1,005), S Wis., S of Madison, settled 1842, inc 1883

Oregon, river. see COLUMBIA, river

Oregon, University of, mainly at Eugene, state supported, coeducational, chartered 1872, opened

1876 It has a college of liberal arts, schools of architecture and allied arts, business administration, education, journalism, law, music, and physical education, and a lower division There are bureaus of educational, business, and municipal research and of legislation, an art museum, with an important Oriental collection, museums of natural history and anthropology (state), and collections of rare books and manuscripts The medical and dental schools are at Portland

Oregon Caves National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Oregon City, city (pop 6,124), co seat of Clackamas co , NW Oregon, at the falls of the Willamette and S of Portland John McLoughlin founded a sawmill here and had the city platted (1842), but lost his claims to American immigrants, who made it the leading city in early Oregon It was incorporated in 1849, was until late 1851 the territorial capital, and had the first newspaper (the *Oregon Spectator*, 1846) W of the Missouri Later it became a notable industrial city with pulp and paper mills, woolen mills, and other plants Edwin Markham was born here

Oregon grape, evergreen shrub (*Mahonia aquifolia*) of NW North America, cultivated elsewhere, it is the floral emblem of Oregon It has compound leaves with hollylike leaflets, small, bright yellow flowers, and showy clusters of edible blue berries, resembling small grapes and useful for jelly and a beverage Indians obtained a yellow dye from the wood and a tonic tea from the root bark Formerly considered a barberry, the shrub is sometimes called holly-leaved barberry. Related plants are often called Oregon grape

Oregon pine. see DOUGLAS FIR

Oregon State College, at Corvallis, land-grant and state supported, coeducational, chartered 1858 as Corvallis College It has been the state agricultural college since 1868 and entirely state owned since 1885 It has schools of agriculture, education, engineering and industrial arts, forestry, home economics, pharmacy, and science and a division of business and industry There are forest and farm lands and a radio station

Oregon Trail, overland emigrant trail in the United States from the Missouri river to the Columbia river country (all of which was then called Oregon) The pioneers by WAGON TRAIN did not, however, follow any single narrow route, and the conception of the Oregon Trail as a double band of wagon tracks across the continent is misleading In open country the different trains might spread out over a large area, only to converge again for river crossings, mountain passes, and other natural constrictions In time many cutoffs and alternate routes also developed They started out from various places on the Missouri, though Independence and Westport (now in Kansas City) were favorite starting points, and St Joseph had some popularity Those starting from Independence followed the same route as the SANTA FE TRAIL for some 40 mi , then turned NW to the Platte and generally followed that river to the junction of the North Platte and the South Platte Crossing the South Platte, the main trail followed the North Platte to Fort Laramie (see FORT LARAMIE NATIONAL MONUMENT), then to the present CASPER, Wyo , and through the mountains by the broad, level South Pass to the basin of the Colorado river The travelers then went SW to Fort Bridger (see FORT BRIDGER STATE PARK), from which the Mormon Trail continued SW to the Great Salt Lake, while the Oregon Trail went northwest to Fort Hall (see HALL, FORT), on the Snake river It then went along the Snake river The California Trail branched off to the southwest, but the Oregon Trail continued to Fort Boise (see BOISE, FORT) From that point the travelers had to make the hard climb over the Blue Mts Once the mountains were crossed, paths diverged somewhat, though many, if not most, went to Fort Walla Walla before proceeding down the south bank of the Columbia to the Willamette valley, where the early settlement centered The "end" of the trail shifted as settlement spread Frequently, refounded Astoria is called the end, at a later date the trail reached Tumwater, Wash , and a branch of it went up to Olympia and the Puget Sound country Lewis and Clark did not follow the trail, but the expedition going to ASTORIA in 1811–12 followed the western portion, and Philip A Rollins has demonstrated that the eastward-returning Astorians under Robert Stuart went through South Pass and followed a major portion of the trail. It is a moot question whether knowledge of South Pass disappeared and was recovered by Jedediah SMITH and Thomas FITZPATRICK in 1824 There is no evidence that they knew the Stuart route. In any case the mountainmen were chiefly responsible for making the route known to later voyagers, and Fitzpatrick, James Bridger, and Joseph Meek were all known as guides Capt. B L E. de BONNEVILLE first took wagons over South Pass in 1832 The first genuine emigrant train was that led by John Bidwell in 1841, which however, did not go to Oregon but turned off on what was to be the California Trail The first train of emigrants to reach Oregon was that led by Elijah White in 1842. In 1843 occurred the "great emigration" of more than 900 persons and more than 1,000 head of stock; Jesse APPLEGATE was the leader Four trains made the journey in 1844, and by 1845 the emigrants reached a total of over 3,000 The trail continued in use for many years The classic by Francis Parkman, *The Oregon Trail*, actually concerns only the eastern part of the trail See also OVERLAND TRAIL See W. J Ghent, *The Road to Oregon* (1929), P A Rollins, ed , *The Discovery of the Oregon Trail* (1935), Archer B Hulbert and Dorothy Hulbert, ed , *The Oregon Crusade* (1935), Federal Writers' Project, *The Oregon Trail* (1939), Jay Monaghan, *The Overland Trail* (1947)

Orekhova-Zuyevo (ŭryĕ'khuvŭ-zōō'yĭvŭ), city (pop 99,379), RSFSR, on the Klyazma river and c 50 mi E of Moscow It is a major textile center with cotton mills and weaving and dyeing plants

Orel (ôrĕl', Rus ŭryôl'), city (pop 110,567), capital of Orel oblast, central European RSFSR, on the Oka river It is the center of a fertile agricultural district, an important railroad junction, and an industrial center It was (1919) the northernmost point reached by Denikin in the Russian civil war In the Second World War it was the center of heavy fighting and was held (1941–43) by the Germans

Orellana, Francisco de (franthĕ'skō dā ôrĕlyä'nä), d c 1546, Spanish explorer of the Amazon river He took part in the conquest of Peru and was a lieutenant of Gonzalo Pizarro on the expedition that started into the interior of South America in 1538 At the Napo river his detachment was separated from the rest of the expedition, and he went down the Amazon, arriving at its mouth in Aug , 1541 His tales of female warriors (possibly a mistaken impression of long-haired men warriors) gave the river its name He died in a subsequent attempt to explore the river from its mouth An account of the first voyage by a priest who accompanied it, Gaspar de Carvajal, was edited by José Toribio Medina and translated by Bertram T. Lee as *The Discovery of the Amazon* (1934)

Orem (ô'rŭm), town (pop 2,914), N central Utah, just N of Provo in the valley of Utah Lake, inc 1925 In the irrigated section now served by the Provo river project, it has truck gardening and a large cannery

Ore Mountains · see ERZGEBIRGE

Oren (ô'rĕn), descendant of Judah. 1 Chron. 2 25.

Orenburg, RSFSR see CHKALOV

Orense (ôrän'sä), city (pop 17,866), capital of Orense prov , NW Spain, in Galicia, on the Miño river It is the center of an agricultural region with extensive vineyards A Roman settlement, it reached its greatest importance as the capital of the kings of the Suevi (5th–6th cent) It has a fine 13th-century bridge and a Gothic cathedral, frequently restored There are hot sulphur springs

Orestes (ôrĕs'tēz), in Greek mythology, prince of Mycenae He was the only son of Clytemnestra and Agamemnon and was the brother of Electra, Iphigenia, and Chrysothemis When Orestes was a child his father was murdered by Clytemnestra and her lover Aegisthus In fear of vengeance they sent the boy to a distant land When Orestes grew up, however, he returned and, with the help of Electra, avenged the murder by killing his mother and her lover After this matricide, he was persecuted by the Erinyes until he reached Athens, where he was tried and acquitted by the Areopagus To win full purification from his crime, he brought a sacred image of Artemis from Tauris At Tauris he also found his sister Iphigenia, who had been a priestess of Artemis there Orestes was accompanied in all his adventures by his friend Pylades According to some legends Orestes married Hermione, daughter of Menelaus and Helen This story of vengeance and expiation was used by Aeschylus, Sophocles, and Euripides

Orestes, d 476, Roman general He deposed (475) the West Roman emperor, Julius Nepos, and raised his own young son, ROMULUS AUGUSTULUS, to the throne The next year Orestes was defeated and slain by ODOACER at Piacenza, and his son was deposed

Orestia · see ADRIANOPLE, Turkey

Oresund (ôrusŭnd') or **the Sound,** Scandinavian *Öresund* and *Øresund*, sound between Sweden and Denmark, connecting the Kattegat with the Baltic sea, to which it is the deepest channel It is c 60 mi long and between Halsingborg and Helsingor only 2½ mi wide Copenhagen and Malmo are on the Oresund

Orfa, Turkey see URFA

Orfila, Mathieu Joseph Bonaventure (mätyô' zhôzĕf' bônävätür' ôrfēlä'), 1787–1853, French chemist and physician, b Minorca He became professor (1819) and dean (1831) of the faculty of medicine, Paris He was noted for his work on toxicology and on legal medicine. His books include *A General System of Toxicology* (1813–15, Eng. tr., 1817)

Orford, Robert Walpole, 1st earl of: see WALPOLE, ROBERT, 1ST EARL OF ÖRFORD.

Orford, rural town (pop 701), W N.H., on the Connecticut above Hanover, inc. 1761, settled c.1765. Its fine old houses include the Wheeler House (c.1820), said to have been designed by Bulfinch.

organ, musical wind instrument in which sound is produced by one or more sets of pipes, each pipe producing only one pitch, and in which a mechanically produced wind supply is substituted for human blowing Ktesibios of Alexandria, in the 3d cent B C , invented the *hydraulos*, in which water pressure was used to stabilize the wind supply The pipes were arranged in rows upon the wind chest and the air was permitted to enter any pipe at will by means of wooden sliders The *hydraulos* was the prevailing organ for several centuries and reappeared at intervals throughout the Middle Ages Because of its relatively powerful sound, it was the favorite instrument at the Roman games in the time of Nero Thus the early Christians looked upon the organ as a pagan instrument Evidence of the first purely pneumatic organ is found on an obelisk erected at Byzantium before A D 393 Byzantium became the center of organ building in the Middle Ages, and in 757 Constantine Copronymus (Constantine V) presented a Byzantine organ to Pepin the Short This is the earliest positive evidence of the appearance of the organ in Western Europe, when it was first used in connection with Christian worship is not known By the 10th cent , however, organ building had made considerable progress in Germany and England The organ built c 950 in Winchester Cathedral had 400 pipes and 26 bellows and required two players The keyboard was a creation of the 13th cent , making possible the performance of more complex music The organ built in 1381 in the cathedral at Halberstadt had three manual keyboards and a pedal keyboard, and the earliest extant music written specifically for organ, dating from the early 14th cent , gives evidence that by that time the manuals of the organ had full chromatic scales, at least in the middle registers Also, 14th-century representations show the keyboard with the present-day arrangement of black and white keys Pedals, however, did not become universal until the late 19th cent , Italy and England having lagged far behind in this respect Organs in the Middle Ages already had several ranks of pipes, i e , each key caused a number of pipes to sound simultaneously These were all diapasons, or principals, the pipes of timbre characteristic only of the organ, and the various pipes controlled by one key were tuned to the fundamental and several harmonics of a given tone There was no way of sounding only one rank of pipes at a time—i e there were no stops Solo stops, with timbres imitative of other instruments, were added in the late 15th and early 16th cent , the first being a flute stop Reed pipes, with their distinctive and penetrating tone, were introduced at this time It was the Flemish and German builders who developed the organ of distinctive and contrasting timbres, and the peak in organ building was reached in the German organ of the baroque, as described by Michael Praetorius in his *Syntagma musicum* The greatest organ builder, perhaps of all time, was Gottfried Silbermann (1683–1753) of Dresden His organs were of a light, transparent tone, ideal for the performance of the great polyphonic music of the baroque After this period the art of organ building degenerated, and the organ lost its place in the center of musical life. The 19th-century desire for a highly expressive organ led to the obscuring of diapason tone by the large number of stops imitative of orchestral tone and to the common employment of the swell and the crescendo pedal The swell involves enclosing one or more divisions of the organ in a wooden box on one side of which are shutters opened or closed by means of a swell pedal, the crescendo pedal, when gradually opened or closed, adds or takes off stops one by one The early 20th cent saw the electrifying of the mechanical parts of the organ, making possible the culmination of the trend toward monstrous size and overwhelming power In the early 20th cent , however, Albert Schweitzer was instrumental in the preservation and restoration of many fine old organs, and there appeared a movement back to the ideals of Silbermann In the United States, Walter Holtkamp, beginning in 1932, and G. Donald Harrison, beginning in 1935, became the leading figures in this movement Harrison in 1937 completed a true Praetorius organ in the Germanic Museum of Harvard Univ and in addition has designed many organs suitable for the performance of music of all periods. See E J Hopkins and E F Rimbault, *The Organ· Its History and Construction* (1895), E M Skinner, *The Modern Organ* (1917), W H Barnes, *The Contemporary American Organ* (4th ed , 1948)

Organization of American States, international organ created April 30, 1948, at Bogotá, Colombia, by agreement of the 21 American republics It is a regional agency within the United Nations, intended to promote peace, justice, and solidarity and to defend the sovereignty and territorial integrity of the signatory nations.

Organ Pipe Cactus National Monument: see NATIONAL PARKS AND MONUMENTS (table).

Orgetorix (ôrjĕ'tŭrĭks), d. 60? B.C., Helvetian aristocrat, who had dreams of conquering Gaul. The first part of the plan was to be the migration of the Helvetii across Gaul. His plan discovered, he

was tried, but acquitted. He suddenly died soon after. The Helvetii, however, undertook the migration, which embroiled them with Julius CAESAR and began the GALLIC WARS.

Oribe, Manuel (mänwĕl' ôrĕ'bā), d. 1857, president of Uruguay (1834–38) After serving with ARTIGAS, he became one of the Thirty-three Immortals who raised the standard of independence under Juan LAVALLEJA He succeeded Fructuoso RIVERA as president and became friendly with the Argentine dictator, Juan Manuel de ROSAS In 1838 Rivera revolted against, and ousted, Oribe With the help of Lavalleja and Rosas, the exiled Oribe began the long civil war that nearly destroyed Uruguay It was marked especially by the long siege of Montevideo A combined force of Brazilians, rebellious Argentines under URQUIZA, and the besieged (the Colorados) finally defeated Oribe's party (the Blancos)

oriel (ôr'rĕul), projecting or bay window in an upper story, supported on brackets, corbels, or an engaged column It is usually polygonal or curved in plan, sometimes rectangular, and often rises through two or more stories It is most characteristic of the late medieval and early Renaissance period in England, where it was a favorite feature in civic and domestic buildings, but it is also found in France and Germany during the same period It occurs frequently over entrance portals, especially in collegiate structures The term is often loosely but incorrectly applied to any bay window.

Oriel College see OXFORD UNIVERSITY

Oriental music. The oldest musical culture of the Orient is CHINESE MUSIC, the principal source of JAPANESE MUSIC The music of Siam is similar to JAVANESE MUSIC, from which BALINESE MUSIC is derived Also closely related are HINDU MUSIC and ARABIAN MUSIC

orientation, in architecture, the disposition of the parts of a building with reference to the points of the compass, specifically in relation to the east-west axis From remote antiquity the traditional belief in the efficacy of religious ceremonials performed at dawn towards the rising sun has influenced the orientation of temples and other sacred structures In Mesopotamia and Egypt, in Mayan Central America, even at Stonehenge in England, entrances and other important architectural features were designed to point toward the east, the temples of Greece and Rome often, though not invariably, faced the rising sun In medieval Europe and consequently in modern Europe and the Americas it became customary to have the congregation and the priest at the altar facing east So strong was this custom that 'west front" came to be a generic term for the façade of a church Some churches were so built that a central line of the axis of the church pointed exactly to the rising sun on the day of the saint for whom the church is named Such orientation was, however, by no means, universal St Peter's at Rome, continuing an earlier tradition, faces in the opposite direction In Jewish synagogues the holy ark or sanctuary must be placed at the eastern end of the building, a similar tradition in Mohammedan mosques so disposes the mihrab, or prayer niche, that the worshiper always faces the holy city of Mecca Important secular buildings in the west often face toward the cardinal points of the compass, and the gridiron pattern of a city's streets is frequently so laid out Practical considerations also govern orientations The artist's studio in northern latitudes is always placed, where possible, to receive the even north light, greenhouses, schools, and hospitals are commonly orientated to get the maximum amount of sunlight In residential architecture, not only sunlight, but prevailing winds and attractive views are factors in orientation

Origen (ôr'rĭjĭn), 185?–254?, Christian philosopher and scholar, His full name was Origines Adamantius He was born in Egypt, probably in Alexandria When he was quite young, his father was martyred At the age of 18, Origen became head of the catechetical school of Alexandria, where he had studied under Clement of Alexandria In the 28 years of his labors in Alexandria, Origen became famed for his teaching (for which he accepted no money) and wrote prodigiously He was personally sternly ascetic Because he castrated himself (out of zeal for purity), he was not ordained a priest, but was permitted to preach while on journeys to Rome, Caesarea, and Jerusalem His interpretation of the Scriptures in preaching and lecturing won him wide acclaim Later (c 230) the bishops of Jerusalem and Caesarea ordained him, but Demetrius, his bishop, ordered him deposed and banished from Alexandria Origen set up a new school in Caesarea (231), which became even more illustrious than the one in Alexandria Among his students was St Gregory Thaumaturgus In the persecution of Decius (c 250) Origen was imprisoned, tortured, and pilloried, this experience probably caused his death some time after his release Learned in Greek philosophy, he was a most erudite and profound biblical scholar as well According to St Jerome he wrote 800 works Extant are letters, apologies, and exegesis. His critical edition of the Bible, the *Hexapla*, is famous in the history of textual criticism; this was a parallel edition of six Hebrew and Greek versions None of these remains in its original form Origen's system of theology is given in his *De principiis* [on first principles], known through a Latin version of Rufinus The chief of his apologies is *Contra Celsum* [against Celsus] Origen attempted to synthesize the fundamental principles of Greek philosophy, particularly those of NEOPLATONISM and STOICISM, with the Christianity of creed and Scripture, so as to prove the Christian view of the universe to be compatible with Greek thought His teaching had a strong ethical quality which carried much influence His threefold plan of interpreting Scripture (literal, ethical, and allegorical) influenced subsequent exegetical works In spite of Origen's fame as an apologist for Christianity, there was question as to his orthodoxy His somewhat recondite blending of pagan philosophy with Christian theology led to his condemnation by Justinian in the Monophysite controversy There is good reason to believe that he was often the victim of misquotation and unfair interpretation See G W Butterworth, tr, *Origen on First Principles* (1936), R B Tollinton, tr, *Selections from the Commentaries and Homilies of Origen* (1929), René Cadiou, *Origen His Life at Alexandria* (Eng tr, 1944)

original sin, in Christian theology, the SIN of ADAM, by which all mankind fell from divine GRACE In effect it is the fundamentally evil nature of man which requires redemption to save it The waters of BAPTISM are said to wash away original sin and to restore man to his innocent state, but even after baptism original sin leaves a tendency to sin

Orillia (ôrĭl'lēu), town (pop 9,798), S Ont, on Lake Couchiching and N of Toronto Its industries include boatbuilding, woodworking, and flour milling, and it is a summer resort A monument to Champlain, erected in 1925, commemorates his explorations Stephen Leacock lived here

Orinoco (ôrunō'kō), river rising in the GUIANA HIGHLANDS and flowing NW to Colombia, then N to the APURE and E to the Atlantic Most of its course is in Venezuela One of the longest of South American rivers, it has a huge flow of water and a length variously estimated at from 1,200 to 1,700 mi Divided into upper and lower courses by the Ature and Maipures cataracts (40 mi apart but linked by a motor road) it is navigable for most of its length and is joined to the Amazon system by the natural channel of the CASIQUIARE and the RIO NEGRO It flows through tropical rain forest and vast savannas called LLANOS Chief port on it is CIUDAD BOLÍVAR Columbus probably discovered its mouth in 1498, and Lope de AGUIRRE seems to have traveled most of its length in 1560 Centuries later Alexander von HUMBOLDT explored the upper reaches, but it was not until 1944 that an aerial expedition located its source in the inaccessible highlands

oriole (ôr'rōl), name applied to various perching birds of the Old and New Worlds The European orioles are allied to the crows while the American orioles, called hangnests, belong to the blackbird and meadow lark family The golden oriole of Europe is a beautiful orange-yellow bird with black wings and tail, which ranges from England to Siberia and winters in Africa The related mango bird inhabits India, and allied species are found in Africa and Australia The Baltimore oriole is the best known of the American orioles In the male the head, throat, shoulders, wings, and tail are black, and the rest of the plumage is orange Its NEST, a deep, woven bag, is suspended from a high branch of a tree During the mating season a clear, whistled song is produced by both sexes, the male's being longer and louder than that of the female Orioles feed chiefly on insects In the orchard oriole a reddish brown replaces the brilliant orange of the Baltimore oriole Related birds are the black-headed, the hooded, Bullock's, and Lichtenstein's orioles

Orion (ôrī'ŭn), in Greek mythology, gigantic Boeotian hunter He fell in love with Merope, and after her father had delayed their marriage, Orion, when drunken, violated her Her father blinded Orion, but his eyes were healed by the rays of the sun Later he lived with Artemis, who, in some legends, was said to have killed him accidentally In other legends his death is caused by a scorpion In any case, he became a constellation, as centered, as in life, with a sword, a club, and a lion's skin

Orion, in astronomy, a conspicuous and easily recognizable constellation near the equator From ancient times it has been mentioned in the literature of many peoples It is represented pictorially as the figure of a warrior Four of the seven most prominent stars form a huge quadrangle, the other three bright stars lie in a diagonal line in about the center, and these form Orion's belt from which hangs a sword A giant star BETELGEUSE, or Alpha Orionis, forms one corner of the quadrangle, and diagonally opposite it is Rigel, or Beta Orionis, a blue-white star of first magnitude Associated with the middle star in Orion's belt is a great diffuse nebula faintly visible with the naked eye

Oriskany (ôrĭ'skŭnē), village (pop 1,115), central N Y, near Utica and on Oriskany Creek near its confluence with the Mohawk, inc. 1914 An obelisk here marks the site of an engagement (Aug 6, 1777) in the SARATOGA CAMPAIGN

Orissa (ôrĭ'su, ō-), state (59,869 sq mi; pop 13,767,988), E India, on the Bay of Bengal Bhuvaneswar is the capital The relatively unindented coast line (c 200 mi long) is without good ports, and the state depends upon agriculture for its livelihood The narrow, level coastal strip, including the delta of the Mahanadi river, is exceedingly fertile Rainfall is heavy and regular, and two crops of rice (by far the most important food) are grown annually The dense population of this region is Oriya-speaking The interior of Orissa, inhabited largely by Munda-speaking aborigines, is rough, from hilly to mountainous In the north are deposits of iron, manganese, coal, and mica Insufficient rail lines and poor roads hinder the economic development of the state Orissa has no unified history The area came under British control piecemeal early in the 19th cent The coastal section, which was made (1912) part of Bihar and Orissa prov, became in 1936 a separate province In 1948 and 1949 the provincial area was almost doubled and the population was increased by a third with the addition of 24 former princely states Orissa was made a state in 1950

Orizaba (ôrēsä'bä), city (pop 47,910), Veracruz, E Mexico In a fertile valley surrounded by wooded hills, Orizaba has a mild and healthful climate, it is a popular resort The surrounding region yields coffee, tobacco, sugar cane, corn, and some cotton Abundant rainfall and consequent development of water power have made the city an important manufacturing center of cigars, cigarettes, beer, sugar, rum, and especially cotton and wool textiles In 1862 Benito JUÁREZ, attempting to ward off foreign intervention, called a conference of foreign representatives at Orizaba He was unsuccessful The French used the town as a base for their invasion of Mexico

Orizaba, peak, 18,700 ft high, E Mexico, on the Vera Cruz–Puebla border It is the highest in Mexico and second only to Mt McKinley in North America This snow-capped volcano, called Citlaltépetl in Aztec times, is inactive, the last eruption occurred in 1687 The peak was first climbed in 1848

Orkhan (ôrkhän'), d 1362?, Ottoman ruler, son and successor of OSMAN I He defeated the Byzantine emperor Andronicus III and conquered large parts of Asia Minor, including Nicaea and Izmit In 1345 the Ottomans first crossed into Europe to aid Emperor JOHN VI (John Cantacuzene), and Orkhan married John's daughter Theodora Orkhan twice more crossed the Dardanelles, assisting John against Stephen Dushan of Serbia Thus the Turks gained a foothold on European soil Orkhan left a well-organized state to his son and successor, Murad I

Orkhon (ôr'kŏn, ôrkhŏn'), river, c 300 mi long, rising in the Khangai mts, NW Mongolian People's Republic It flows northeast to join the Selenga river just south of the boundary with the USSR The **Orkhon Inscriptions,** dating from the 8th cent, were found near the river's lower course c 40 mi north of the Uigur city of Karakorum They comprise minor Chinese texts and the oldest known material in a Turkic language Vilhelm Thomsen deciphered the Turkic inscriptions

Orkney, county (376 sq mi, 1931 pop 22,077, 1948 estimated pop 22,070), NE Scotland, consisting of the **Orkney Islands** or **Orkneys,** anc *Orcades,* an archipelago c 50 mi long, separated from the north coast of Caithness by Pentland Firth The group consists of 90 islands, fewer than a third of which (including four lighthouse stations) are inhabited The largest islands are Pomona (or Mainland), South Ronaldsay, Westray, Sanday, and Stronsay The county town, Kirkwall, is on Pomona Hoy is the only island which rises to any considerable height The rest are generally low, rocky, and treeless, with an occasional cultivated area The natives, who have much Scandinavian blood, are mostly fishermen and tenant farmers There are prehistoric remains of standing stones, mounds, and monuments The Norseman Harold I (Harold Fairhair) added the Orkneys to the Scandinavian domain in 875, and they remained nominal dependencies of Norway until 1468, when Christian I of Norway and Denmark pledged them as security for the dowry of his daughter, Margaret, who married James III of Scotland The pledge was never redeemed, and the Orkneys remained the property of Scotland At the naval base of Scapa Flow part of the German fleet was scuttled by its crew in 1919 The base was attacked by German raiders in the Second World War See C S Olcott, *The Orkneys and Shetland* (1930)

Orland. **1** Town (pop 1,366), N Calif, NNW of Sacramento, founded 1881, inc 1919 In the Sacramento valley, it is the center of an irrigation project opened in 1910 and controlled by the U S Bureau of Reclamation since 1915 Three dams (completed in 1910, 1915, and 1928) supply water from Stony Creek, a tributary of the Sacramento **2** Town (pop 1,015), S Maine, S of Bangor, settled 1764, inc. 1800

Orlando: see ROLAND.

Orlando, Vittorio Emanuele (vēt-tō'rēō āmänwā'lā ôrlän'dō), 1860–, Italian statesman and jurist. He held several cabinet posts from 1903 to 1917 and was premier from 1917 to 1919. As one of the "Big Four" (Clemenceau, Lloyd George, Orlando, and Woodrow Wilson) at the Paris Peace Conference in 1919, he demanded the fulfillment of the Secret Treaty of London of 1915, by which the Allies had promised Italy ample territorial compensation in Dalmatia for its entry into the First World War Meeting stubborn opposition from Woodrow WILSON and failing to secure British or French support, he dramatically left the conference (April, 1919), but returned in May. Even then no solution satisfactory to Italy was found, Orlando resigned and was succeeded as premier by Francesco NITTI Opposing Fascism, Orlando gave up (1925) his seat in parliament and devoted himself to teaching and writing. After the fall of Mussolini in 1943, he became, with Benedetto Croce and Nitti, a leader of the conservative National Democratic Union and a member of the national assembly of the Italian republic

Orlando (ôrlän'dō), city (1940 pop. 36,736, 1949 special census pop 50,939), co seat of Orange co, central Fla., SE of Lake Apopka Orlando is the trade and shipping center for a region yielding citrus fruits, vegetables, lumber, naval stores, and dairy products The city was settled near Fort Gatlin (1837–48), a post in the Seminole War, and was named Jernigan (1850) for an early settler It was incorporated in 1875 Recent rapid growth has made it the largest inland city in Florida

Orléanais (ôrlāänā'), region and former province, N central France, on both sides of the middle Loire. ORLÉANS (at its center), CHARTRES, and BLOIS are the chief cities The region includes Loiret, Loir-et-Cher, and parts of Eure-et-Loir and Yonne depts BEAUCE in the north, Little Beauce in the west, and Gâtinais in the east are rich agricultural districts, the large and ancient forest of Orléans (northeast of the city) occupies the center, the fertile Loire valley yields fruits, vegetables, and grapes and is dotted by many fine châteaux, notably Blois and CHAMBORD To the south of the Loire bend is the swampy Sologne, which has been considerably improved by drainage in recent years The nucleus of the Orléanais has been part of the royal domain since the days of the first kings of France, and its history is that of Orléans

Orléans (ôrlāä'), family name of two branches of the French royal line The house of Valois-Orléans, founded by Louis, duc d'ORLÉANS, whose assassination (1407) caused the civil war between ARMAGNACS AND BURGUNDIANS, ascended the French throne (1498) in the person of LOUIS XII, who died without male issue Gaston, brother of Louis XIII, was made duke of Orléans, but died without a male heir The present house of Bourbon-Orléans was founded by **Philippe I, duc d'Orléans** (fēlēp'), 1640–1701, a brother of Louis XIV A notorious libertine, he was excluded from participation in state affairs, though he fought in the Dutch War and won the victory of Cassel (1677) He married (1661) HENRIETTA OF ENGLAND and, after her death, ELIZABETH CHARLOTTE OF BAVARIA (1671) His son, **Philippe II, duc d'Orléans**, 1674–1723, regent of France during the minority of Louis XV, distinguished himself in the War of the Great Alliance and that of the Spanish Succession, but became known for his cynicism and immorality The will of Louis XIV which made him president of the regency council severely restricted his authority, but he had the will annulled and governed dictatorially He was responsible for the rise of John LAW and the ruinous MISSISSIPPI SCHEME, concluded the QUADRUPLE ALLIANCE of 1718, and made war on Spain (1719–20) His chief minister was Cardinal DUBOIS Social life during his regency reached an apex of licentiousness The ambitions of the regent and his descendants ultimately brought the house of Orléans into open opposition to the ruling house The regent's great-grandson, Louis Philippe Joseph, duc d'Orléans, called Philippe Égalité (see separate article), supported the French Revolution His adherents, the Orleanists, who sought a compromise between the monarchical and the revolutionary principles, came into power through the Revolution of 1830 and put Philippe Égalité's son LOUIS PHILIPPE on the French throne Representative of the capitalist upper bourgeoisie, the Orleanists limited their definition of revolutionary liberty to freedom for the middle class After the fall of Louis Philippe (1848), they continued to support the claims of his descendants, the Orleanist pretenders, who returned from exile after the fall of Napoleon III (1871) Their prospects, though high under the presidency of Marshal MacMahon, dwindled steadily, especially after the Third Republic exiled all pretenders in 1886 Louis Philippe's eldest son, **Ferdinand Philippe Louis Charles Henri, duc d'Orléans** (fērdēnā', lwē' shārl' ārē'), 1810–42, took part in the French expedition to Belgium (1831–32) and in the Algerian wars (1835–40). His unfinished *Campagnes de l'armée d'Afrique, 1835–39*, was published in 1870. He died in a carriage accident. His eldest son, **Louis Philippe Albert d'Orléans, comte de Paris** (lēlbĕr', kōt' dù pārē'), 1838–94, went to America after his candidacy for the throne had failed in 1848 He fought in the Civil War under General McClellan. Back in France in 1871, he was Orleanist pretender, but relinquished his rights to the legitimist pretender, Henri de CHAMBORD (1873) After Chambord's death (1883), he became head of the entire house of Bourbon. He was the author of *Workingmen's Associations in England* (1869; Eng tr., 1869) and a *History of the Civil War in America* (1874–90, Eng tr., 4 vols., 1875–88), a standard work of military history He died in England. His brother, **Robert Philippe Louis Eugène Ferdinand d'Orléans, duc de Chartres** (rōbĕr', lēnĕn' fērdēnā', dük' dù shär'trù), 1840–1910, fought with him in the Civil War. In the Franco-Prussian War he served in the French army under the name Robert le Fort After 1871 he fought in the Algerian wars, but he went into exile in 1886 Owing to his brother's renunciation of his claims, the duke of Chartres was regarded by many Orleanists as pretender from 1873 to 1883 **Louis Philippe Robert, duc d'Orléans**, 1869–1926, succeeded his father, Louis Philippe Albert, comte de Paris, as pretender in 1894 Born and educated in England, he served in the Indian army (1888–89) He left accounts of his wide travels and explorations He died childless **Jean d'Orléans, duc de Guise** (zhä', gēz' or gwēz'), 1874–1940, son of the duke of Chartres, was pretender after 1926 He lived in exile, as did his son, **Henri Robert Ferdinand d'Orléans, comte de Paris**, 1908–, who succeeded to his father's claim.

Orléans, Charles, duc d' (shärl' dük' dôr'lä'), 1391–1465, French prince and poet, nephew of King Charles VI After the assassination of his father, Louis d'ORLÉANS, he became (1407) titular head of the Armagnacs (see ARMAGNACS AND BURGUNDIANS) He was captured by the English at Agincourt (1415) and remained in captivity in England until 1440, when he was ransomed by PHILIP THE GOOD of Burgundy In retirement at Blois, he devoted the rest of his life to writing verse and to the society of literary men Among his poems, which are remarkable for their polish and charm, are the rondeau beginning, "Le temps a laissié son manteau" and the ballad beginning, "Je meurs de seuf auprès de la fontaune," both still popular There are translations by Andrew Lang, W E Henley, and Ezra Pound Charles's son was Louis XII

Orléans, Gaston, duc d' (gästôⁿ'), 1608–60, son of Henry IV and Marie de' Medici, younger brother of Louis XIII He took part in many of the conspiracies against Richelieu and several times fled from France, he won pardon by deserting and betraying his associates, as he did with the younger Henri de MONTMORENCY and CINQ MARS. After the death of the king he became lieutenant general of France and successfully campaigned against the Spanish He was exiled (1652) to Blois for his leading part in the FRONDE Gaston was the father of Mlle de MONTPENSIER

Orléans, Henrietta Anne, duchesse d' see HENRIETTA OF ENGLAND

Orléans, Henri Philippe Marie, prince d' (ārē' fēlēp' märē' prēs'), 1867–1901, French explorer and author, b England, son of Robert, duke of Chartres After a journey (1889) from Siberia to Siam, by way of Tibet, and a visit (1892) to SE Africa, he left (1895) Hanoi, to complete the earlier work of M J F Garnier on the Mekong river in Indo-China He traveled as far as the Brahmaputra, established the fact that the Salween originates in Tibet, and discovered also the source of the Irrawaddy His accounts of his travels include *Around Tonkin and Siam* (1894, Eng tr , 1894) and *From Tonkin to India* (1897, Eng tr , 1898)

Orléans, Louis, duc d' (lwē), 1372–1407, brother of CHARLES VI of France, whose chief counselor he was from 1388 to 1392 After 1392 he became involved in a long struggle with his uncle, PHILIP THE BOLD of Burgundy, and with Philip's successor, JOHN THE FEARLESS Unpopular because of his extravagance, he was treacherously murdered by John's order in 1407. His death precipitated the civil war between ARMAGNACS AND BURGUNDIANS

Orléans, Louis Philippe Joseph, duc d' (lwē' fēlēp' zhôzĕf'), known as **Philippe Égalité** (āgälētā'), 1747–93, French revolutionist, great-grandson of Philippe II d'Orléans (see ORLÉANS, family), great-great-grandson of Louis XIV He was duke of Montpensier (1747–52) and duke of Chartres (1752–85) before inheriting (1785) the title duke of Orléans In 1771 he was exiled from Paris for opposing MAUPEOU In the next years he became a leader of the discontented faction, and at the first Assembly of Notables (1787) he argued that the power of voting taxes inhered solely in the States-General As a deputy of the nobility to the States-General, he favored voting by head and led the migration of a group of nobles to join the Third Estate (June 25, 1789) His unpopularity with the bourgeois and the privileged classes and his championship of the depressed made his Palais-Royal a gathering place for the radicals and the destitute of all sorts, it also brought upon him such blame for the disturbances in Paris that he thought it well to accept a mission to England (Oct., 1789). He probably could have had the crown when Louis XVI fled to Varennes, but he did not turn from his espousal of the cause of the lower classes. Louis Philippe helped the JACOBINS into power by acting as their banker; with their help, and after exchanging his title for the name Citizen Égalité, he was elected to the National Convention (Sept., 1792) Although he voted for the execution of Louis XVI, he was soon afterward forsaken by the Jacobins, who used the charge of "Orleanism" against his bitter enemies, the Girondists. Arrested (April 7, 1793) on the charge of aspiring to the crown and of having plotted with DUMOURIEZ, he was guillotined on Nov 6, 1793 The charges against him, except his dissolute morals, have never been convincingly proved His son was King LOUIS PHILIPPE

Orléans (ôrlēänz, Fr ôrlāä'), city (pop 64,755), capital of Loiret dept, N central France It has clothing and metal manufactures The old city, on the right bank of the Loire, is surrounded by sprawling modern suburbs It was burned by Julius Caesar and rebuilt by Aurelian, after whom it is named Taken by Clovis I (5th cent), it became the capital of the Frankish kingdom of Orléans under Clodomer, son of Clovis The kingdom existed but briefly except in name (see FRANKS) It was united (7th cent) with Neustria The city soon became, after Paris, the principal residence of the French kings. Orléans, with the surrounding province, the ORLÉANAIS, constituted part of the small nucleus of the royal domain, and it was several times given in apanage as a duchy to the eldest brother of a king of France and to his descendants (see ORLÉANS, family) The siege (1428–29) of Orléans by the English threatened to bring all of France under English rule, and its lifting by JOAN OF ARC turned the tide of the Hundred Years War In the Wars of Religion (16th cent) and the period of the Fronde (17th cent), Orléans again witnessed important events. It was the Huguenot headquarters and was besieged (1563) by the Catholics under François de Guise, who was assassinated under its walls In 1652 it was seized for the Fronde by Mlle de Montpensier In 1940, when the Germans were advancing across France, Orléans was ravaged by fires which wiped out entire districts, additional damage was inflicted in 1944 The Cathedral of Sainte-Croix, rebuilt (17th–19th cent) after its destruction by the Huguenots in 1568, was heavily damaged, the Place du Martroi, with the statue of Joan of Arc, and the Joan of Arc museum were destroyed, numerous Renaissance buildings, however, remained intact, including the town hall, where Francis II, husband of Mary Queen of Scots, died in 1560 The feast of Joan of Arc is celebrated at Orléans with particular splendor early in May

Orleans (ôrlĕnz') **1** Town (pop 1,428), S Ind, near Lost River and S of Bedford, settled 1815 Dairying is done here **2** Resort town (pop 1,451), SE Mass, on Cape Cod, settled 1693, set off from Eastham 1797. **3** Village (pop 1,332) in Barton town, N Vt, S of Newport, settled c 1821. It has furniture and woodworking industries

Orléans, Île d' (ēl' dôrlāä'), or **Orléans Island** (ôrlāä', ôr'lēunz), 20 mi long and 5 mi wide (pop 4,293), S Que, in the St Lawrence NE of Quebec It is connected with the mainland by a highway bridge opened in 1935 Settled (1651) by the French, it was the site of one of Wolfe's camps in his attack on Quebec in 1759 Fruit, vegetables, cheese, and poultry are products

Orley, Bernard van (bĕr'närt vän ôr'lī), or **Barend van Orley** (bä'rənt), c 1491–1542, Flemish painter Little is known of his early life and training, but in 1515 he was settled in Brussels, where he became court painter to Margaret of Austria, regent of the Netherlands, and to her successor, Mary of Hungary His first important work was an altarpiece (c 1512) representing scenes from the lives of St Thomas and St. Matthias Among other works are *Holy Family* (Louvre), a triptych, *The Tribulations of Job* (Brussels), *The Flight into Egypt* (Liverpool Royal Inst), *Crucifixion* (Rotterdam), *The Last Judgment* (Antwerp); and *Virgin and Child with Angels* (Metropolitan Mus) Van Orley also executed designs for stained glass and tapestries, an example of the latter being the *Hunts of Maximilian* (Louvre)

Orlov, Aleksey Grigoryevich, Count (ûlyĭksyā' grĭgôr'yuvĭch, ûrlôf'), 1737–1808, Russian nobleman, brother of Grigori G Orlov. He played an important role in the conspiracy to put Catherine II on the throne It is alleged that he was the actual murderer of PETER III. He distinguished himself in the Russo-Turkish and Napoleonic wars.

Orlov, Grigori Grigoryevich, Count (grĭgô'rē), 1734–83, Russian nobleman One of the first lovers of Catherine II, he was the leader of the conspiracy which put her on the throne. Although the empress was deeply in love with him and owed her power to him more than to any other man, his position as a favorite at Catherine's court did not give him any decisive voice in state affairs He was later supplanted by other favorites, notably Potemkin. Catherine gave him high military posts but did not act on his scheme for emancipation of the serf

Ormandy, Eugene (ôr'mändē), 1899–, American conductor, b Budapest. At the age of five he entered the Budapest Conservatory, where he studied the violin. Graduating in 1914, he then became a member of the faculty. He had appeared as a prodigy since the age of seven In 1921 he came to the United States for a concert tour, which did not materialise He took a job as a violinist in the orchestra of the Capitol Theatre, New York, and later became its conductor After a successful guest appearance with the Philadelphia Orchestra, substituting for Toscanini, who was ill, he was appointed conductor of the Minneapolis Symphony Orchestra in 1931 In 1936 he became conductor of the Philadelphia Orchestra. He became a U S citizen in 1927

Ormazd see ZOROASTRIANISM

Ormerod, Eleanor Anne (ôr'mûrŏd), 1828–1901, English economic entomologist She formed a collection of insect pests for the Royal Horticultural Society and published pamphlets as a result of her observations She became consulting entomologist of the Royal Agricultural Society and lecturer for the Royal Agricultural College Among the insects that were the objects of her research were the hop aphis, Hessian fly, ox warble, and botfly Her works include *Manual of Injurious Insects with Methods of Prevention* (1881), *Handbook of Insects Injurious to Orchard and Bush Fruits* (1898) and *Flies Injurious to Stock* (1900) See her autobiography (1904)

Ormoc (ôrmôk'), town (pop 7,446), on Leyte, Philippine Islands, on the west coast Its chief export is rice During the Second World War, Ormoc was the principal Japanese supply port on the island, captured by U S forces in Dec , 1944

ormolu (ôr'mulōō) [Fr ,=ground gold], finish used on metal to imitate gold It is employed chiefly for furniture mountings The term originally applied to a coating of ground gold and was extended to alloys of copper and zinc Ormolu mountings were characteristic of 18th-century furniture and attained their highest artistic and technical development in France, especially in the work of Charles Cressent, Pierre Gouthière, and Jacques Caffieri Ormolu was produced on a large scale in England, with Matthew Boulton the chief manufacturer Workmanship deteriorated in the 19th cent

Ormond (ôr'mund) [Irish,=east Munster], ancient division of Munster in the south of Ireland, including the present Co. Tipperary It was granted by the English king to the Butlers, who became later the earls of Ormond or Ormonde

Ormond, city (pop 1,914), NE Fla , just N of Daytona Beach and on Halifax River (a lagoon), founded c 1875 as a resort, inc as a city 1929 Across the lagoon is Ormond Beach, with part of the famous Daytona Beach motor speedway "The Casements," former winter home of John D Rockefeller, is at Ormond Beach

Ormonde, James Butler, 12th **earl and** 1st **duke of,** 1610–88, Irish statesman, most powerful royalist influence in Ireland during the PURITAN REVOLUTION A ward of the crown after the death (1619) of his father, Viscount Thurles, he was brought up a Protestant and in 1629 married the daughter of the earl of Desmond Butler succeeded his grandfather (1632) and went to IRELAND (1633), where he gained the favor of Wentworth (see STRAFFORD) In command of the army after Wentworth returned to England, Ormonde was loyal when Wentworth was attacked by Parliament As lieutenant general, he fought the Irish rebels in 1641 and, although greatly hampered by the Irish lords justices, defeated the enemy at Killsalghen and Kilrush He was made a marquess (1642), defeated the rebels (1643), and, under orders from the king, concluded the treaty of "cessation," placing most of Ireland in the hands of the Confederate Catholics Ormonde now dispatched forces to the king in England and was appointed lord lieutenant of Ireland (1643) He skilfully maintained himself against both Catholic rebels and Protestant adherents of the English Parliament In 1647 he made terms with Parliament in order to restore peace in Ireland, but gave up his office He joined the queen and Prince Charles in Paris (1648) but returned to Ireland (1649) and proclaimed CHARLES II Leaving the island again at the insistence of Charles, he commissioned CLANRICARDE his deputy (1650) Cromwell's success again forced Ormonde to return to Paris, where he represented Charles in negotiations preceding the Restoration After 1660 he was given numerous offices and titles, including privy councilor, lord high steward of England, earl of Brecknock (English), and duke of Ormonde (Irish; also English in 1682) His estates were restored Again lord lieutenant, he worked to promote Irish trade and to effect the complicated business of restoration. He was unpopular with the Restoration court, especially with the 2d duke of BUCKINGHAM, who was charged with instigating an unsuccessful attack on his life Ormonde was removed as lord lieutenant (1669) but was restored to office in 1677. Because his anti-Catholic measures at the time of the TITUS OATES plot were mild, he was attacked by the 1st earl of SHAFTESBURY. He was removed from the lord lieutenancy in 1684 as a result of intrigue, remaining in office just long enough to proclaim JAMES II. Thereafter he emerged from retirement only to oppose James's attempt to dispense with the anti-Catholic laws In an age of complex loyalties, Ormonde directed his great talents to the support of the Stuarts, except when opposition to Parliament seemed hopeless. He survived his son, the earl of OSSORY, and was succeeded by his grandson See biographies by Thomas Carte (new ed , 1851) and Lady Burghclere (1912).

Ormonde, James Butler, 2d **duke of,** 1665–1745, Irish soldier and statesman He was the son of Thomas Butler, earl of Ossory He served in the army in Ireland against the duke of Monmouth, succeeded his grandfather as duke of Ormonde (1688), supported the cause of William of Orange (William III), and served him at the battle of the Boyne Early in the War of the Spanish Succession he commanded land forces in the expedition against Cádiz in 1702 Later, as lord lieutenant of Ireland (1703–6, 1710–13) and as Marlborough's successor (1711) in command of the forces, he was one of the most powerful men in the kingdom In following Bolingbroke's commands in his conduct of the war on the Continent he became involved in the plot to prevent the accession of George I, and in 1715 he was impeached Fleeing to France, he was attainted, took part in the rising of the Jacobites in 1715, and spent the rest of his life in exile, chiefly in Spain and Italy

Ormonde, James Butler, 5th **earl of,** 1420–61, Irish nobleman He was knighted in his youth by Henry VI of England, became earl of Wiltshire in 1449, and succeeded to the earldom of Ormonde in 1453 A staunch Lancastrian in the Wars of the Roses, he was made deputy (1451) and then viceroy (1453) of Ireland and lord high treasurer of England (1455) He fought for Henry at St Albans and Wakefield, was defeated by Edward, duke of York (later Edward IV), at Mortimer's Cross, and after being captured at Towton was probably beheaded

Ormonde, Thomas Butler, 10th **earl of,** 1532–1614, Irish nobleman He was brought up in England and was the first of his family to embrace Protestantism He succeeded to the earldom of Ormonde in 1546, and in 1554 he went to Ireland, where he tried to mediate between the Irish and their English rulers He supported the movement against the Irish chieftain, Shane O'NEILL, and became involved in a bitter quarrel with the earl of Desmond, the representative of the traditional enemies of the Ormondes After an extended struggle Ormonde's cause was upheld at Elisabeth's court, and Desmond was imprisoned Ormonde became a favorite of the queen and returned to Ireland (1569) only because his presence there was essential to peace and order Desmond was released in 1572, returned to Ireland, and continued his risings against Ormonde and English rule Thereupon Ormonde was made military governor of Munster and led the fight on the Desmond faction, finally capturing and slaying the rebellious earl (1583) In 1588 Ormonde helped to capture the survivors of the Spanish Armada on the coast of Ireland, and in 1597 he was made lieutenant governor of Ireland and supported the English troops against Hugh O'Neill

Ormskirk, urban district (1931 pop 17,118; 1943 estimated pop 18,400), Lancashire, England, NE of Liverpool The church, with an embattled tower, contains a vault of the earls of Derby Silk and cotton textiles and metal goods are made in Ormskirk Near by is Rufford Old Hall, a 15th-century mansion, presented to the nation in 1936.

Ormulum see ORRMULUM.

Ormuz, Iran see HORMUZ

Ormuzd see ZOROASTRIANISM

ornament, in architecture, decorative detail enhancing structures Structural ornament, an integral part of the framework, includes the shaping and placement of the BUTTRESS, CORNICE, MOLDING, CEILING, and ROOF and the CAPITAL and other elements of the column, as well as the use of building materials of contrasting color or texture. Applied ornament embraces the adornment of structural members with statuary, carving, molding, paint, inlay, mosaic, and facings Representational ornament depicts natural forms, nonrepresentational includes geometric, conventionalized, and fanciful designs Symbolic ornament is highly developed in primitive and Oriental decoration, and allegorical embellishment is a characteristic of Gothic architecture Decorations of ancient Egyptian structures primarily involved brightly colored surfaces, placement of statuary, and use of papyrus, lotus, and spiral motifs The Greeks were noted for structural ornament; they employed statuary (much of it painted) and popularized dentils and such motifs as the egg and dart, water leaf, anthemion, and acanthus. Roman decoration is a sumptuous composite based in part on an adaptation of Greek motifs and evidencing skillful use of veneers and polychrome marble Byzantine ornament is marked by the use of gilding, mosaics, veneers, patterned bricks, the basket capital, flat, sharply carved designs, and motifs of birds and of Christ's monogram Gothic architecture is characterised by the use of structural adornment including grouped columns and grained vaults, of naturalistic or fanciful statuary and carvings on crockets, corbels, capitals, and gargoyles, and of traceried windows, stained glass was a special decorative feature. The Renaissance brought a vigorous adaptation of classic forms—sculptures, often heroic in size (upon frieze, doorway, panel, and pilaster), motifs of garlands of fruit or flowers, masks, curved shields and cartouches, and strap interlacing Post-Renaissance ornament alternated between classic influences and unrestrained styles such as the rococo Modern architects tend to abandon the eclecticism of the 19th cent Ornament may be omitted or concentrated in telling masses, murals, statuary, living plants, and the use of contrasting materials are often an integral part of the structure In the Orient decorations are colorful with gilding and lacquer, carving and statuary are elaborate Moslem ornament emphasizes geometric or fanciful patterns, latticework, and stalactite details such as pendentives See also articles on the architecture of individual countries and periods, e g , EGYPTIAN ARCHITECTURE and RENAISSANCE ARCHITECTURE

See A D F Hamlin, *A History of Ornament* (2 vols , 1916–23), Talbot Hamlin, *Architecture* (1947)

ornament, in music notes added to a melodic line for the purpose of embellishment or decoration Ornamentation was practiced as early as the Middle Ages by the singers of plain song, and the practice seems to have reached its height in the baroque era, with the rise of accompanied monody Treatises were written and attempts made to standardize practices Symbols were adopted as a kind of shorthand for the notation of some ornaments, others were written out in complete notation, and still others were left to the discretion of the solo performer—often the composer himself Since the baroque era composers have attempted to indicate their intentions regarding ornaments in precise notation In the 20th cent the tendency has been toward a minimum of ornamentation, the same period has seen extensive research to make possible the performance of baroque music in the manner of the baroque era

Ornan (ôr'năn), same as ARAUNAH

Orne (ôrn), department (2,372 sq mi ; pop 273,181), N France, in the hilly inland section of Normandy. It includes part of the PERCHE region ALENÇON is the capital The small Orne river empties into the English Channel at Caen

ornithopter (ôr'nĭthŏp"tur, ôrnĭthŏp'tur) [Gr ,=bird's wing] or **orthopter** (ôrthŏp'tur), heavier-than-air type of aircraft, deriving its support and propulsion from flapping wings, imitating the flight of birds No machine of this type has been successfully devised

Orofino (ôrōfē'nō), city (pop. 1,602), co seat of Clearwater co , N Idaho, on the Clearwater and E of Lewiston, founded 1898, inc 1906. The name was taken from a short-lived mining camp established c 25 mi away in the gold rush of 1861 It is a lumber town in an area of white-pine forests

Orono (ôrunō), town (pop 3,702), S Maine, on the Penobscot 8 mi above Bangor, settled c 1775 as Stillwater, inc 1806 as Orono Until 1840 it included Old Town Wood products and pulp are made The state university is here (see MAINE, UNIVERSITY OF)

Oronsay (ôrunsā, ôrunsā), small island, off W Scotland, in Argyllshire, one of the Inner Hebrides It is just S of COLONSAY There are a sculptured cross and remains of a priory

Orontes (ôrŏn'tēs), river, c 250 mi long, formed in the valley of El Bika (Coele-Syria) in Lebanon It flows generally N through Syria past Homs and Hama, finally turning SW into Turkey for a short course past Antioch to the Mediterranean It is celebrated principally because of the antiquity of the settlements about it and because of the remarkable and huge water wheels of Homs and Hama

Oropus (ôrō'pus), ancient town of Greece, on the border of Attica and Boeotia It was the subject of strife between Athenians and Boeotians from the 5th cent B C The oracle of Amphiaraus was there Excavation has disclosed a temple, a colonnade, and a theater, dating from the 3d cent B C.

Orosháza, Hung. *Oroshdza* (ôrōsh-hä'zô), town (pop 27,062), SE Hungary. It is an agricultural trading center.

Orosius, Paulus (ôrō'shēus), c 385–420, Iberian priest, theologian, and historian, b Tarragona, Spain, or Braga, Portugal He went to see St Augustine (c 413) and wrote, at request, a summary of the errors of Priscillian and of Origen. Augustine then sent him to Palestine to warn St Jerome of the menace of Pelagianism Unable to return to Spain, which was overrun by the Vandals, Orosius remained in Africa, where he completed the *Seven Books of History against the Pagans* (Eng tr by I W Raymond, 1936), which had been undertaken to continue the vein of Augustine's *City of God* The work became a kind of textbook of universal history for the Middle Ages, it treats world history as a concrete proof of the apocalyptic visions of the Bible. King Alfred translated it into English

Oroville (ôrōvĭl) **1** City (pop 4,421), co seat of Butte co., N Calif , N of Sacramento and on the Feather river. Settled in 1849, it boomed as a gold camp and river town but is now the center of an

olive-growing and orchard region of the Sacramento valley The city was incorporated in 1857 Feather River Canyon and Feather Falls are near by **2** Town (pop 1,206), N Wash , a port of entry on the Okanogan river near Canada, inc 1908

Oroya, La (lä ôrō'yä), city (pop 14,494), S central Peru. A highland city, it is chiefly a rail and highway junction between Lima on the coast and the mining and agricultural centers of the mountains Copper ore is smelted here

Orozco, José Clemente (hōsā' klāmān'tā ôrō'skō), 1883–1949, Mexican mural and genre painter and lithographer, grad Mexican National Agricultural School He became an architectural draughtsman and in 1909 turned to painting With Rivera he led the Mexican renaissance His work is stark in its simplicity and deals chiefly and compassionately with social themes, especially with man versus the machine From 1917 to 1919 and from 1927 to 1932 Orozco was in the United States Much of his work is true fresco painting, executed directly on the wet plaster Such is his mural painting in the New School for Social Research, New York His work in the United States includes also *Prometheus* (Frary Hall, Pomona College, Calif) and *Epic of Culture in the New World* (Baker Library, Dartmouth College) There are several fine mural paintings in Mexico, such as those at Guadalajara in the university, the governor's palace, and the orphanage chapel See *José Clemente Orozco* (reproductions of 200 of his paintings, 1932)

Orpah (ôr'pu), sister-in-law of Ruth Ruth 1 4,14

Orpen, Sir William, 1878–1931, British portrait and genre painter, b Ireland He is best known for his scenes from Irish life, his paintings and sketches of life at the front in the First World War, and his portraits Most of the delegates to the Paris Peace Conference sat for him He was a consummate draughtsman, and his paintings are full of vitality and richly colored Many of his war pictures are now in the Imperial War Museum, London Among his works are *The Irish Wedding, In the Wicklow Mountains, Sowing the Seed, The Jockey, Mother and Child,* and *The Unknown British Soldier in France* Other notable works include a portrait of Percy Wyndham and *Myself and Venus* (both Carnegie Inst , Pittsburgh) and *Leading the Life in the West* (Metropolitan Mus) Orpen was president of the National Portrait Society and of the International Society of Sculptors, Painters, and Engravers In 1918 he was knighted and in 1919 became a member of the Royal Academy of Art He wrote *Onlooker in France* (1921) and *Stories of Old Ireland and Myself* (1924)

orphan: see CHILDREN, DEPENDENT, ADOPTION; FOUNDLING HOSPITAL, GUARDIAN AND WARD.

Orpheus (ôr'fēus, ôr'fūs), in Greek mythology, celebrated Thracian bard He was the son of the Muse Calliope by Apollo or, according to another legend, by Oeagrus. The music of his lyre was so beautiful that it charmed the wild beasts, the trees, and the rocks After his return from the Argonaut expedition, he married the nymph Eurydice (yōōrī'dĭsē) She met her death by a snake bite while fleeing the advances of Aristaeus, and Orpheus, disconsolate, went to Hades in search of her The gods of the underworld, charmed by his music, restored his wife to him, but forbade him to look at her until he reached the earth He disobeyed, and Eurydice vanished When Orpheus returned to Thrace his grief led him to scorn all women, a band of Bacchae killed him in revenge Orpheus is considered as the founder of Orphism (see ORPHIC MYSTERIES) The myth of Orpheus, the "inventor of music," and Eurydice has perhaps been used more often than any other subject as an operatic libretto Giulio Caccini's *Eurydice* is the earliest opera of which the music is extant

Orphic Mysteries (ôr'fĭk), secret religious rites in worship of Dionysus The rites were based on the myth of Dionysus Zagreus, which said that Zagreus, son of Zeus and Persephone, was devoured by the Titans at the instigation of the jealous Hera Athena saved his heart and gave it to Zeus, who destroyed the Titans with lightning. From their ashes sprang the race of men, who were now part evil (Titan) and part divine (Zagreus) Zeus swallowed Zagreus' heart and out of it was born the new Dionysus Zagreus Thus the initiate, besides performing the usual tasks of the MYSTERIES, had to eat the raw flesh of an animal (*omophagi*) considered to be the reincarnation of Dionysus Zagreus In this way he achieved a mystical union with the god. EROS, as a god of fertility, was sometimes associated with Dionysus Poems purported to have been written by Orpheus in the 6th cent B C were the basis of the Greek mystery religion

Orphism. Orphism, propagated by wandering priests and pilgrims, explained the good and evil in men by the myth of Dionysus Zagreus It taught the transmigration of souls and the importance of a pure moral and ritual life for immortality. Ritual purity included abstinence from animal food, the avoidance of contact with death or birth, and the wearing of white garments In the next world, reward awaited the righteous, punishment the unrighteous See W. C Guthrie, *Orpheus and Greek Religion* (1935).

orpine: see SEDUM.

Orpington, residential suburb, Kent, England, SE of London Some of Ruskin's works were printed here The town gives its name to Orpington chickens

Orr, James Lawrence, 1822–73, American politician, b Pendleton District (now Anderson co), S C , studied law at the Univ of Virginia He served in the South Carolina legislature (1844–48) and in the U S House of Representatives (1849–59), where he was (1857–59) speaker An anti-Douglas Democrat, Orr became a champion of secession when Lincoln was elected President in 1860 After brief military service, he was elected (Dec , 1861) to the Confederate senate, where he sat throughout the Civil War He was elected governor of South Carolina in 1866 Orr, at first a supporter of President Johnson's Reconstruction plan, became a radical Republican In Dec , 1872, President Grant appointed him minister to Russia, where he died

Orr, John Boyd Orr, 1st Baron, 1880–, British nutritionist and agricultural scientist, b. Scotland, grad Univ of Glasgow He was awarded the 1949 Nobel Peace Prize He served as professor of agriculture at the Univ of Aberdeen (1942–45) and government consultant on nutrition and health and was director general (1946–47) of the United Nations Food and Agriculture Organization He has made notable contributions to the science of nutrition and to the solution of world food problems and has worked toward the establishment of a world government. Knighted in 1935, he was created baron in 1949

Orrefors (ôrufôrs',-fōsh'), village, Kronoberg co , SE Sweden It is famous for the manufacture of fine glassware The near-by village of Kosta is also a center of glassmaking Simon Gate and Edward Hald have made outstanding contributions to the art of engraved glassware, and their work is represented in numerous collections

Orrery, Charles Boyle, 4th **earl of** (ô'rurē), 1676–1731, English nobleman, grandson of Roger Boyle, 1st earl of Orrery He succeeded his brother as earl in 1703 In the controversy with Sir William Temple and Richard Bentley over modern and antique scholarship, Boyle edited (1695) the letters of Phalaris The whole trivial controversy was satirized—and made famous—by Jonathan Swift in his *Battle of the Books* Orrery rose to the rank of major general (1709) in the War of the Spanish Succession, but did not play an important part He later assisted in the negotiation of the Peace of Utrecht

Orrery, Roger Boyle, 1st **earl of,** 1621–79, Irish statesman and writer, who attempted to preserve peace in Ireland by lending his support to whichever regime was most capable of ruling Son of Richard BOYLE, the "great earl" of Cork, he was created Baron Broghill in 1627, studied at Trinity College, Dublin, traveled abroad, and served against the Irish rebels in 1641 Although a royalist, Broghill submitted to Parliament after 1647 He later attempted, in England, to serve the royalists, but, with remarkable shrewdness, Cromwell won him to the Puritan cause, to this he remained faithful until its collapse under Richard Cromwell During this time he helped restore order in Ireland, received large grants of land, and served in the Parliament of 1654 and the Parliament of 1656 and also as lord president of the council in Scotland When the restoration of Charles II seemed inevitable, he crossed to Ireland and, with Sir Charles Coote, secured it for the king He was made earl of Orrery (1660) and a lord justice and served in the Parliament of 1661 and as lord president of Munster until 1668 A friend and patron of the writers of his age, Orrery also wrote rhymed-verse tragedies, among them *Henry the Fifth, Mustapha,* and *The Black Prince,* a romance, *Parthenissa* (1651–69), and a military treatise He is, however, probably best known for his political career See preface by William Smith Clark II to his edition (1937) of Orrery's dramatic works

Orrington (ô'rĭngtun), town (pop 1,517), S Maine, on the Penobscot 8 mi below Bangor, in an orchard area; settled 1770, inc 1788.

orrisroot see IRIS

Orrmulum or **Ormulum** (ôr'mŭlm), Middle English collection of homilies on the Gospels, in verse, comprising about 10,000 lines in all, written by Orrm (or Orrmin), an Augustinian canon of Lincolnshire The manuscript, in the author's own handwriting, is of about the year 1200, and the orthography is of great importance for the study of Middle English phonology.

Orrum, Eilley see BOWERS, EILLEY ORRUM.

Orrville, village (pop 4,484), NE Ohio, NE of Wooster, in a farm area, settled c 1850, inc 1864 Wood-preserving chemicals, castings, and hardware are made here

Ors, Eugenio d' (āōōhā'nyō ôrs'), 1882–, Spanish writer, b Barcelona His style is characterized by precision and interest in form His *glosas* (commentaries), shorter than essays, of which he wrote many, are both in his native Catalan and in Spanish His main interest is in aesthetic problems, and he wrote much on art—*Poussin y el Greco* (1922), *El arte de Goya* (1928), *Cezanne* (1924), *Picasso* (1930). He wrote a novel in Catalan, *La ben plantada* (1912)

Orsay, Alfred Guillaume Gabriel, count d' (älfrĕd' gēyōm' gäbrĕĕl', dôrsā'), 1801–52, French dandy Son of a Bonapartist general, he went to England, where he met the earl and countess of BLESSINGTON, with whose family he was associated for the rest of his life D'Orsay married Lord Blessington's daughter, Harriet, but the union was unsuccessful After Blessington's death D'Orsay and Lady Blessington became the center of a fashionable artistic and literary circle in London. To their dinners at Gore House, Kensington, came the most famous men of the time. D'Orsay was long *arbiter elegantiarum* of English society and was considered an accomplished artist and sculptor In 1849, to escape his creditors, he fled to Paris, where he died See biography by W Teignmouth Shore (1911)

Orsha (ôr'shŭ), city (pop 22,011), NE Belorussia, on the Dnieper It is a rail center and manufacturing city, having textiles, clothing, and processed food among its products. There is a castle dating from the 11th cent

Orsini (ôrsē'nē), powerful Roman family which included Popes CELESTINE III, NICHOLAS III, and Benedict XIII and numerous other churchmen, soldiers, and statesmen Its origins are legendary The eponymous ancestor was one Ursus, but the founder of the family's greatness was Matteo Rosso Orsini (13th cent), who held fiefs in Latium, was a Roman senator, and inaugurated the family policy of devotion to the papal and Guelph causes The long rivalry between the Orsini and the Ghibelline COLONNA family lasted until the early 16th cent and often plunged Rome into anarchy The family divided into several branches and still has representatives Its members were made princes of the Holy Roman Empire in the 17th cent Two prominent members were Lorenzo Orsini (d 1536), who defended (1527) Rome and the Castel Sant' Angelo against the troops of Emperor Charles V, and the princesse des URSINS

Orsini, Felice (fälē'chā), 1819–58, Italian patriot and conspirator A follower of Mazzini, he early became an active revolutionist in the Papal States and in Tuscany He was jailed (1854–56) by the Austrians but escaped from the fortress of Mantua In 1857 he fell out with Mazzini, and in 1858 he made an attempt on the life of Napoleon III, whom he held responsible for the failure of the Italian revolutions of 1848–49 Though ably defended by Jules Favre, he was executed His act, designed to arouse world interest in the Italian cause, influenced Napoleon's decision to intervene in favor of Italian unification

Orsk (ôrsk), city (1926 pop 13,581, 1939 pop 65,799, 1946 estimated pop 100,000), E European RSFSR, on the Ural river It is the center of an important industrial district, with manufactures of machinery and metallurgical plants (nickel and aluminum works) Oil is piped to Orsk from the Emba field (550 mi away) and refined here The city was founded in the 18th cent as a frontier outpost, but its industrial growth is very recent

Ortegal, Cape (ôrtägäl'), NW Spain, in Galicia, extending into the Atlantic It is usually considered the southwestern limit of the Bay of Biscay

Ortega y Gasset, José (hōsā' ôrtā'gä ē gäsĕt'), 1883–, Spanish essayist and philosopher, b Madrid, Ph D Univ of Madrid, 1904 He studied in several German universities, and his early work especially shows the influence of German neo-Kantian thought In 1910 he became professor of metaphysics at the Univ of Madrid In spite of his intellectual aloofness, he was an extremely popular lecturer and writer His essays were first collected in *Meditaciones del Quijote* (1914), comparing Germanic and Mediterranean cultures It is the thesis of Ortega's philosophy that unless the masses are directed by an intellectual minority, chaos will result. Many of the essays in *El espectador* [the spectator] (8 vols , 1916–34) had appeared first in the *Revista de Occidente*, the review he founded (1921) and directed *El tema de nuestro tiempo* (1923), an attempt to systematize his philosophy, was translated (1931) as *The Modern Theme* It was, however, with *La rebelión de las masas* (1930, Eng tr , *The Revolt of the Masses*, 1932) that Ortega became internationally known His earlier *España invertebrada* (1922, Eng tr , *Invertebrate Spain*, 1937) was widely reviewed Ortega supported the republic, but at the outbreak (1936) of the civil war he fled to France and thence to Argentina In 1943 he became a lecturer at the Univ of Lisbon and in 1949 returned to Spain Other collections of essays which have appeared in English are *Toward a Philosophy of History* (1941), *The Mission of the University* (1944), and *Concord and Liberty* (1946) His name is sometimes written José Ortega Gasset

Ortelius, Abraham (ôrtē'lyŭs), 1527–98, Flemish geographer, of German origin. Next to his contemporary Mercator, he is the greatest of the 16th-century Flemish school of geography. He traveled with Mercator in 1560 and was inspired by him to begin his chief work, *Theatrum orbis terrarum* (1570). The first edition of this atlas contained 53

maps, in part compiled from maps of 87 cartographers Ortelius was made geographer to Philip II of Spain in 1575 He produced a number of other geographic works, one of the best known of which is the *Theaurus geographicus* (1587)

Orthez (ôrtĕs'), town (pop 4,609), Basses-Pyrénées dept, SW France, in BÉARN Among picturesque buildings are the house of Jeanne d'Albret and remains of the castle of Gaston Phoebus, count of FOIX Here Wellington defeated the French under Marshal Soult in 1814

Orthodox Eastern Church, community of Christian churches which had their origin in E Europe and SW Asia They agree doctrinally in accepting as ecumenical the first seven councils (see COUNCIL, ECUMENICAL) and in rejecting the headship in the Church of the bishop of Rome (the pope) This repudiation of the papal claims is the single point of faith and morals dividing all Orthodox from all Roman Catholics Many persons whose practices are very like those of the Orthodox recognize the headship of the pope, these are called Catholics to distinguish them from the Orthodox This use of the terms *Catholic* (obeying the pope) and *Orthodox* (belonging to one of the Orthodox churches) is not technical, for both groups call themselves both Catholic and Orthodox (see CATHOLIC CHURCH) The word *Orthodox* became a favorite at the time of the overthrow of iconoclasm in Constantinople Orthodox acceptance of the seven councils entails exclusion from their communion, on grounds of heresy, of the Nestorian, Jacobite, Coptic, and Armenian churches, it also involves holding a sacramental doctrine of grace *ex opere operato* (see GRACE) and of veneration of the Virgin Mary, two points separating the Orthodox from Protestants The term *Greek Church* for the Orthodox is ambiguous, it is best to confine *Greek* to the patriarchate of Constantinople, to the Church of Greece, and to the Byzantine rite The Byzantine rite is the normal form of Orthodox worship The LITURGY is not usually celebrated daily as in the West, and it is always sung Raised bread is used in the sacrifice, and communion is given to laymen in both kinds, with a spoon Infants receive communion and confirmation The other sacraments also are like those of the Latin rite, except in details, e g , confirmation is conferred by priests, unction is for the sick (not just the dying), and confession is much less frequent The churches are generally square with a solid sanctuary screen covered with icons (*iconostasis*) (for the style, see BYZANTINE ARCHITECTURE) The parish priests are married, monks and bishops are not This has created deep cleavage between higher and lower clergy, as bishops are apt to come from the monasteries, not from the parishes The Orthodox comprise a number of autocephalous churches The old mode of government was the patriarchate (see PATRIARCH), but now for the most part each of the churches is governed by a holy synod, a board of bishops and laymen, often appointed by the government, where the head of the church is called patriarch, he is often only the moderator of the synod The number of Orthodox churches recognizing each other as such is indefinite because of the fluid state of the relations of Orthodox bishops in countries to which communicants have emigrated The four ancient patriarchates enjoy highest prestige The patriarchate of Constantinople, having the primacy of honor after Rome, was set up when the Eastern capital was established, it included Asia Minor and the Balkan Peninsula From the time of JUSTINIAN the emperor controlled the patriarch absolutely The patriarch was freer under the Turks, who gave him civil rights over Christians, his quarter in Constantinople, the Phanar, became the Greek center of the Ottoman Empire First the Russians, then the Greeks and the Balkan countries set up autonomous churches, always opposed by the patriarch, especially in the case of Bulgaria In republican Turkey the patriarch rules a remnant only, some Orthodox in the United States recognize his jurisdiction The Orthodox patriarchates of Alexandria and Antioch are minority churches (for the corresponding separated churches, see COPT and JACOBITE CHURCH) The patriarchate of Jerusalem is limited to Palestinian Greeks The patriarch represents Orthodox interests in the shrines There are many churches apart from those directly under the patriarchs A unique, ancient church is that of Mt Sinai, made up of the monastery of St Catherine and its subject houses The archbishop is also abbot There are seven national churches, each the traditional patriotic church of the people The Church of Cyprus has been autonomous since the Council of Ephesus The Church of Georgia is also ancient In the 19th cent it was absorbed by the Russian church, but in 1917 resumed its autonomy The ruler is called catholicus The Russian Orthodox Church, for centuries the greatest in numbers of Orthodox churches, was headed first by the metropolitan of Kiev, under Constantinople The see was moved to MOSCOW, and in 1589 a new patriarchate was set up, under the tsar The language of the ritual is Old Slavonic In 1721 Peter the Great (Peter I) abolished the patriarchate and established a synod, which he controlled through its lay procurator In 1917 the patriarchate was revived, just before the Bolshevik Revolution began the ruin of the church organization In the disturbances many priests and bishops were killed and exiled, and there seems to have been a strong government attempt to found a schismatic church In the Second World War the government consented (1943) to the election of a patriarch (the first since 1925) The new patriarch, Sergius Starogrodsky, died in 1944 and was succeeded by Alexis Simansky Statements emanating from the church emphasized loyalty to the regime and echoed its policy, e g , in vilifying the West in the late 1940s As the USSR annexed lands after 1939, the local Orthodox churches disappeared, the same was true of Catholic churches of the Eastern rites, and thus it was announced that the Byzantine-rite Catholics of the Ukraine and Ruthenia had united with the Russian Orthodox The Church of Greece dates from the Greek War of Independence It is the state church and legally much favored The Serbian patriarch (at Belgrade) heads the Church of Yugoslavia, which is almost wholly made up of Serbs The fate of this church since 1945 is unknown The Church of Bulgaria was severed from communion by the ancient patriarchates in the 19th cent , but the Russian church recognized it Its ruler is an exarch The Rumanian Orthodox Church has a patriarch at Bucharest, it was probably the most carefully organized of Orthodox churches After 1945 the government announced that the Roman Catholic dioceses of the Rumanian rite had been annexed by the Orthodox church The effect of this and the other measures of the government is not known Other Orthodox churches are minority denominations of recent creation The Albanian Orthodox Church is ill organized and poor The Orthodox churches of Finland and of Poland, founded after the First World War, lost most of their members when the eastern sections of the countries were repossessed by the USSR in the Second World War The Japanese Orthodox church became autonomous under government pressure (1939), it had its origin in a Russian mission founded in 1860 There are a number of autonomous Orthodox groups with origin in emigration Thus in the United States there have been separate hierarchies of Greeks, Russians, and others, sometimes in communion with each other There have been many efforts to establish a single American Orthodox church The relations between the Orthodox and the West have been full of misunderstandings, which became grave as political and cultural ties loosened after the 5th cent There were breaks between Constantinople and Rome in the 9th cent (see PHOTIUS) and in 1054 (see LEO IX, SAINT), but the worst obstacle to reconciliation was the conduct of the Crusades, especially the Fourth Crusade, since the whole of Western Christendom, most of all the pope, was inevitably blamed In 1274 there was an attempt at reunion (Second Council of Lyons), and in 1439 another (see FERRARA-FLORENCE, COUNCIL OF), the second was repudiated (1472) by Constantinople In the Middle Ages the points at issue, besides the papal authority, were matters of worship and discipline, not of belief, the addition of a phrase (*filioque*) to the CREED has proved not to involve doctrine at all There have been fractional reunions, notably the Union of Brest-Litovsk (1595) of Ukrainians, who retained their hierarchy and rites Agreement of the Orthodox with Protestants had an ardent apostle in Patriarch Cyril LUCARIS (17th cent) In the 19th cent began the cultivation of cordial relations between Anglicans and Orthodox, and official exchanges between them have become frequent See B J Kidd, *The Churches of Eastern Christendom* (1927), Michael Constantinides, *The Orthodox Church* (1934), S N Bulgakov, *The Orthodox Church* (1935), Donald Attwater, *The Christian Churches of the East* (1946, 1947), George Every, *The Byzantine Patriarchate, 451–1204* (1947)

orthopedics (ôrthupē'dĭks), that branch of surgery concerned with the correction of deformities These may be the result of factors present before birth or of disease or injury after birth Some of these disorders are congenital dislocation of the hips, paralyses from birth injuries or infantile paralysis, curvatures of the spine, clubfoot, flatfoot, and infectious processes of the bones and joints, such as tuberculosis of the spinal column. Measures used in treatment are those of manipulation, appliances, exercise suitable for individual cases, and surgery.

orthopter see ORNITHOPTER

Ortigão, Ramalho (José Duarte Ramalho Ortigão) (rŭma'lyō ôrtēgā'ō), 1836–1915, Portuguese writer He is particularly known for a series of papers *As farpas* [darts], begun with Eça de Queiroz and satirizing Portuguese people, places, and events (including trivial scandals) with deliberate malice, gay-hearted wit, a high purpose of reform, and excellent style He also wrote two travel books, *A Hollanda* (1883) and the Anglophobe *John Bull* (1887)

Ortigueira (ôrtēgā'rā), fishing village (pop. 1,479), La Coruña prov , NW Spain, in Galicia, on the Bay of Biscay near Cape Ortegal.

Orting, town (pop. 1,211), W Wash., SE of Tacoma, inc 1889 The state soldiers' home is here

Ortiz Rubio, Pascual (päskwäl' ôrtēs' rōō'byō), 1877–, Mexican president (1930–32) He was elected to succeed PORTES GIL for the unexpired term of ÁLVARO OBREGÓN Supported by Plutarco E CALLES, Ortiz Rubio's administration was marked by a decided swing toward conservatism. He resigned and was succeeded by Abelardo Luján RODRÍGUEZ

Ortles (ôrt'lĕs), Ger *Ortler* (ôrt'lur), Alpine group, Trentino-Alto Adige (S Tyrol), N Italy Ortles peak, 12,789 ft high, is the highest in the Alps E of Switzerland

Orton, Arthur, 1834–98, English impostor, the chief figure in two famous trials The son of a butcher in Wapping, he went to sea (1849) In 1866 he returned from a small butcher business in Australia to convince the gullible Henriette, Lady Tichborne, that he was her son, Roger, supposedly lost at sea off Rio de Janeiro in 1854 His ejection action against Henry, Baronet Tichborne (1871–72), was followed by his own perjury trial (1873–74) Convicted and given a 14-year sentence, he was released in 1884, later confessed his imposture, and still later retracted his confession

Orton, Edward, 1829–99, American geologist and educator, b Deposit, N Y , grad Hamilton College, 1848 He entered the ministry, but his interest in science led him to teaching He taught science at Antioch and was president of the college from 1872 to 1873, and from 1869 he was affiliated with the Ohio geological survey Orton was president (1873–81) and professor (1873–99) of the newly founded Ohio Agricultural and Mechanical College, which became Ohio State Univ He made important contributions to the economic geology of the state in his studies of natural gas and petroleum

Ortona (ôrtō'nä) town (pop 9,215), Chieti prov , Abruzzi e Molise, S central Italy Now a fishing port on the Adriatic, it was a major port from the 11th cent until 1447, when its fleet and arsenal were destroyed by the Venetians In the Second World War it was severely damaged The 12th-century cathedral (rebuilt 18th cent) was restored after the war, the 15th-century castle suffered heavy damage

Ortonville, city (pop 2,469), co seat of Big Stone co , W Minn , at the S Dak line where Big Stone Lake has its outlet, settled 1872 It is a resort and a farm trade center, with granite quarries

Ortygia see SYRACUSE

Oruro (ôrōō'rō), city (pop 45,355), W Bolivia Oruro was established in 1595 to exploit rich silver deposits near by, but was not officially founded until c 1604 When silver production declined in the 19th cent , it became almost a ghost town, for it is high (12,100 ft) and the dry, cold plateau is too barren to afford anything but the most meager kind of human existence Fuel is scanty, agriculture nonexistent With a new rise in the production of silver and exploitation of wolfram, copper, and especially tin (from the fabulous Patiño mines at Uncía), Oruro has become the third largest city in Bolivia It is also the nation's rail hub, from which lines run N to La Paz, E to Cochabamba, S to Argentina, and W to Chile

Orvieto (ôrvyā'tō), town (pop 8,883), Umbria, central Italy, in the Apennines It is on a rocky hill, probably on the site of the Etruscan town VOLSINII, later rebuilt as Urbs Vetus A free commune by the 11th cent , it was later at the mercy of its own and of foreign tyrants, until it passed to the popes in 1450 Near by are the remains of an extensive Etruscan necropolis There are notable Romanesque, Gothic, and Renaissance buildings, but the fame of the city is mainly due to its beautiful cathedral, begun in 1290 to commemorate the miracle of BOLSENA and completed in the 16th cent Its white and black marble façade is decorated with sculptures and mosaics, the Cappella Nuova has frescoes by Fra Angelico and, mostly, by Luca Signorelli, whose powerful scenes inspired Michelangelo

Orwell, George, 1903–50, English satirist, whose real name was Eric Blair, b India Educated at Eton, he served with the Burmese police (1922–27) His early works, *Down and Out in Paris and London* (1933) and *Burmese Days* (1934), were autobiographical In 1936 Orwell fought with the Republicans in the Spanish civil war, and wrote of the war in *Homage to Catalonia* (1939) Far to the left politically, Orwell hated authoritarianism, and his fears for the destruction of individual liberty are expressed in the amusing satire *Animal Farm* (1946) and the bitter *Nineteen Eighty-Four* (1949)

Orwigsburg (ôr'wĭgzbûrg), industrial borough (pop 2,182), E Pa , near Pottsville, settled 1747, laid out 1796 inc 1813. It produces cotton and rayon goods and shoes

Os, chemical symbol of the element OSMIUM

Osage (ōsāj', ō'sāj), city (pop 3,196), co. seat of Mitchell co , NE Iowa, near the Minn line, NE of Mason City, in a farm area, settled 1853, inc. 1871

Osage, river, c 250 mi. long, formed in W Missouri by the Marais des Cygnes and the Little Osage and winding generally NE to the Missouri river be-

low Jefferson City Its waters, impounded by the BAGNELL DAM, form the Lake of the Ozarks (see OZARKS, LAKE OF THE).

Osage City (ōsāj′ sĭ′tĭ), city (pop 2,079), E central Kansas, SSW of Topeka; settled 1865, inc 1872. It is near the old Santa Fe Trail and is the trade center for a coal and farm area.

Osage Indians (ō′sāj, ōsāj′), tribe of North American Indians of the Siouan linguistic stock In prehistoric times they lived with the Kansa, the Ponca, the Omaha, and the Quapaw in the Ohio valley, but by 1673 they had migrated to the vicinity of the Osage river in Missouri. Here the Osage were encountered by Jacques Marquette They were a warlike people who in the early 18th cent. frequently allied themselves with the French and waged constant warfare on the surrounding tribes, such as the Illinois. In 1802, according to Lewis and Clark, three bands constituted the Osage tribe—the Great Osage, on the Osage river, the Little Osage, farther up the same river, and the Arkansas band, on the Vermilion river, a tributary of the Arkansas They then numbered some 5,500. By a series of treaties the Osage ceded to the United States their extensive territory in Missouri, Arkansas, and Oklahoma, and they moved to a reservation in N central Oklahoma They now number some 4,500. The discovery of oil on their reservation land, plus their landholdings, have combined to make the Osage the "wealthiest Indian tribe in America" The Osage had a typical Plains area culture One distinctive trait, however, was the tribal division between the Wazhashe, or meat eaters, and the Tsishu, or vegetarians See Francis La Flesche, *War Ceremony and Peace Ceremony of the Osage Indians* (1939).

Osage orange or **bowwood,** deciduous tree (*Maclura pomiferma*) of the S central United States but hardy and cultivated elsewhere, commonly as a hedge because of its impenetrable spiny branches It was first found in the country of the Osage Indians and was a favorite bow wood, it has been more recently utilized for fence posts, railway ties, and articles requiring a strong but flexible and durable wood Both wood and roots are orange colored, the roots yielding a yellow dye Male and female flowers are on separate trees, the female followed by orangelike but inedible greenish warty fruits with a milky juice Silkworms have been fed on the leaves

Osaka (ō′säkä), city (1940 pop 3,252,340; 1947 pop 1,559,310), capital of Osaka prefecture, S Honshu, Japan, a port on Osaka Bay It is the second largest city of Japan and its principal industrial and commercial center, the focal point of a chain of industrial cities on the shores of the bay Among its many products are steel, chemicals, and textiles The city is also a major transportation center It is noted for a Buddhist temple (founded in the 6th cent), its universities and theaters (particularly for its puppet theater), and its beautiful parks and gardens As Naniwa, it was the capital of Japan in the 4th cent Its importance as a commercial center dates from the 16th cent , when it was the seat of Hideyoshi, his ruined castle is a landmark. The city was heavily bombed (1945) in the Second World War The urban prefecture of Osaka is rugged in the interior and flat and fertile on the coast Sakai is among its industrial centers.

Osakis (ōsā′kĭs), village (pop 1,483), W Minn., a resort on Osakis Lake E of Alexandria

O Salutaris Hostia (sälˈo͞otä′rĭs, säˈlōōth′rĭs) [Latin,=O saving victim], hymn to the Host, one of the two hymns regularly sung at the exposition in Benediction of the Blessed Sacrament in the Roman Church. The other hymn is *Tantum ergo O Salutaris* is really the last two stanzas of a Corpus Christi hymn, *Verbum supernum prodiens*, probably written by St Thomas Aquinas.

Osawatomie (ō″səwŏ′təmē, ō″sə–), city (pop 4,145), E Kansas, SE of Ottawa and on the Marais des Cygnes; founded 1855 It is a farm trade center with railway workshops The town, once a station on the Underground Railroad, has a memorial park which preserves the cabin where John Brown lived in 1856 A marble shaft commemorates the battle in which some of Brown's men were killed There is a state hospital for the insane

Osborn, Henry Fairfield, 1857–1935, American paleontologist and geologist, b. Fairfield, Conn , grad Princeton, 1877 He went on expeditions to Wyoming and Colorado (1877–78), studied abroad, and returned to Princeton (1881), where he was professor of comparative anatomy (1883-90) He was professor of biology (1891–96) and of zoology (1896–1910) at Columbia Univ , where he was also dean of the faculty of pure science (1892–95) and research professor after 1910. From 1891 he was associated with the American Museum of Natural History as curator of vertebrate paleontology (1891–1910), as assistant to the president (1899–1901), as vice president (1901–8), as president (1908–33), and as honorary life president after 1933 He joined the U S Geological Survey as vertebrate paleontologist in 1900 and became senior geologist in 1924. A major contribution was the development of his department of the museum from its nucleus in the collection of E. D. Cope. His work as teacher and administrator and his studies of living and fossil mammals were also of high value His writings include *From the Greeks to Darwin* (1894), *The Age of Mammals* (1910), *Men of the Old Stone Age* (1915), *The Origin and Evolution of Life* (1917), *Impressions of Great Naturalists* (1924), *Man Rises to Parnassus* (1927), *Creative Education* (1927), *Cope, Master Naturalist* (1931), and *Fifty-two Years of Research, Observation, and Publication, 1877–1929* (1930).

Osborn, Herbert, 1856–, American entomologist, b Lafayette, Walworth co , Wis , grad Iowa State College (B S , 1879) He was affiliated with Iowa State College until 1898, and from 1898 to 1933 he taught at Ohio State Univ. From 1912 he was director of the Ohio Biological Survey He specialized in economic entomology and insect ecology and wrote in these fields.

Osborn, village (pop 1,705), SW Ohio, NE of Dayton, in a farm area

Osborne, Dorothy, later **Lady Temple** (ōs′burn), 1627–95, English letter writer The daughter of a royalist, exiled in Cromwell's time, she became engaged to Sir William Temple against the wishes of her family Her letters to Temple, both through their long engagement and after their marriage in 1655, show her as a woman of wit, learning, and strong character and are an excellent picture of the period. They were first published in 1888, a new edition appeared in 1928 See also Lord David Cecil, *Two Quiet Lives Dorothy Osborne, Thomas Gray* (1948)

Osborne, Thomas Burr, 1859–1929, American chemist, b New Haven, Conn , grad Yale, 1881. From 1886 he was with the Connecticut Agricultural Experiment Station An authority on nutrition, especially proteins, he wrote *Proteins of the Wheat Kernel* (1907) and *The Vegetable Proteins* (1909)

Osborne, Thomas Mott, 1859–1926, American prison reformer, b Auburn, N Y , grad Harvard, 1884 He founded a newspaper in Auburn and was active in civic and political affairs As chairman (1913) of the state commission on prison reform, he became a voluntary prisoner in the Auburn penitentiary in order to learn conditions at first hand *Within Prison Walls* (1914) records his experiences. At Sing Sing Prison, where he was warden (1914–15), he instituted a system of self-government for the inmates The program aroused political hostility, and he resigned after a trial for misconduct although he was acquitted From 1917 to 1920 he was commandant of the U S naval prison at Portsmouth, N H He maintained that prisons should educate rather than punish His views are expressed in *Society and Prisons* (1914) and *Prisons and Common Sense* (1924)

Osborne, city (pop 1,876), co. seat of Osborne co , N central Kansas, on the South Fork of the Solomon and NW of Salina, founded 1871, inc 1879 It is a shipping point for a farm area

Osborne House, a favorite residence of Queen Victoria, near East Cowes, Isle of Wight The queen died here in 1901 Edward VII presented the house to the nation for a home for convalescent officers

Osbourne, Lloyd (ŏz′burn), 1868–1947, American author, b San Francisco, studied engineering at the Univ of Edinburgh He went to Samoa with R L Stevenson, his stepfather, and collaborated with him in the writing of *The Wrong Box* (1889), *The Wrecker* (1892), and *Ebb Tide* (1894) He himself wrote several novels and stories

Oscan, language of the Italic subfamily of the Indo-European languages See LANGUAGE (table).

Oscar I, 1799–1859, king of Sweden and Norway (1844–59), son and successor of Charles XIV His reign was one of social and economic advance Oscar was succeeded by his elder son, Charles XV.

Oscar II, 1829–1907, king of Sweden (1872–1907) and of Norway (1872–1905), younger son of Oscar I He succeeded his brother, Charles XV He refused to concede to NORWAY its own consular representation, thus increasing the tension between Norway and the crown In 1905 Norway completely severed its union with Sweden, and Oscar relinquished the Norwegian throne During the later part of his reign Swedish industry made great progress Oscar was a man of culture and an able musician and writer His best-known work is a life of Charles XII His son Gustavus V succeeded him

Osceola (ŏsēō′lu, ō–), c 1800–1838, leader of the SEMINOLE INDIANS He was also called Powell, the surname of his supposed white father In the early 1830s Osceola was living close to Fort King, near the site of Ocala, Fla Although not a chief, he rose to a position of prominence among the Seminole and led the young warriors who denounced the treaties of 1832 and 1833, which provided for the removal of the Indians to the West. In Dec , 1835, Osceola's warriors killed Wiley Thompson, an Indian agent U S troops under Gen. T. S Jesup drove his band southward into the Everglades, but Osceola, skillfully using guerrilla tactics, resisted capture Fighting ceased early in 1837, only to break out again in June In October, Osceola, with several chiefs, came into St. Augustine under a flag of truce He was seized and imprisoned and died shortly afterward at Fort Moultrie, S.C. See Grant Foreman, *Indian Removal* (1932).

Osceola. **1** (ŏsēō′lu) City (pop. 3,226), a co. seat of Mississippi co., NE Ark., in a rich cotton area. **2** (ŏsēō′lu, ō–) City (pop. 3,281), co. seat of Clarke co., S Iowa, S of Des Moines, settled 1850, inc 1859 Dairying is done here **3** (ŏsēō′lu) City (pop. 1,190), co seat of St Clair co., W Mo , on the Osage river and SSE of Kansas City. It is a resort center in a farm and coal region. **4** (ŏsēō′lu) City (pop 1,039), co seat of Polk co., E Nebr., NW of Lincoln, founded c 1872

Osceola Mills (ŏsēō′lu) or **Osceola,** borough (pop 2,076), central Pa., NNE of Altoona, laid out c.1857, inc 1864

oscillator (ŏ′sĭlātûr), in electronics, a circuit which produces an alternating voltage of audio frequency or of radio frequency It is the initial stage of all radio transmitters since it generates the vital carrier wave It consists of a circuit usually connected to the grid of an amplifier tube with some means of feeding back energy from plate to grid Voltage of the required frequency developed across the tank circuit is amplified by the tube and a portion of the output returned to the grid circuit, causing the process to repeat itself. In reception, too, the radio-frequency oscillator finds application in the SUPERHETERODYNE and superregenerative circuits as well as in the heterodyne method for the reception of unmodulated code transmissions Audio oscillators are used to modulate radio-frequency carriers, in test equipment, and in electronic musical instruments Quartz crystals inserted in the circuit aid in maintaining stability of frequency by means of their piezoelectric effect

Osee (ōsē′), variant of HOSEA.

Osel, Estonia. see SAARE

Osgood, Herbert Levi (ŏz′go͝od), 1855–1918, American historian, b Canton, Maine, grad. Amherst (B A , 1877, M A , 1880), Ph D Columbia, 1889 He studied also at Yale and the Univ of Berlin and taught at Worcester Academy (1877–79) and Brooklyn High School (1883–89) From 1890 to 1896 he was adjunct professor and, after 1896, professor of history at Columbia A recognized authority on American colonial history, he wrote *The American Colonies in the Seventeenth Century* (3 vols , 1904–7) and *The American Colonies in the Eighteenth Century* (4 vols , 1924), which treat especially of the origin and development of English-American political institutions He also wrote *Socialism and Anarchism* (1889). He edited *Minutes of the Common Council of the City of New York, 1675–1776* (8 vols , 1905) and contributed to the *Political Science Quarterly*, of which he was an editor (1891–1918), and the *American Historical Review* See biography by his son-in-law, Dixon Ryan Fox (1924)

Osgood, town (pop 1,198), SE Ind , SE of Greensburg It is a farm trading center and has stone quarries

Osh (ŏsh), city (pop 33,315), capital of Osh oblast, Kirghiz SSR, in the FERGANA VALLEY A major silk-production center for more than a thousand years, it is one of the oldest towns of central Asia and consists of the old Oriental city and a modern Russian section The Tash-Suleiman [Solomon's throne], an odd-shaped rock, was once a place of pilgrimage

O'Shaughnessy, Arthur William Edgar (ōshô′nəsē), 1844–81, English poet and naturalist He was a member of the zoological department of the British Museum. His poetry shows somewhat the influence of D G. Rossetti in the four volumes *Epic of Women* (1870), *Lays of France* (1872), *Music and Moonlight* (1874), and *Songs of a Worker* (1881), one ode, beginning, "We are the music-makers," is his best-known poem

Oshawa (ŏ′shəwə), city (pop 26,813), S Ont , on the north shore of Lake Ontario and ENE of Toronto. Its industries include automobile plants, foundries, woolen mills, and plants manufacturing steel products, glass, and pottery An old portage path to Lake Scugog left Lake Ontario here

Oshea (ōshē′ə), variant of JOSHUA

O-shima (ō′shēmə), island, 9 mi long and 5 mi wide, largest and most northerly of the Izu-shichito group, near the entrance to Tokyo Bay, Japan It is the site of volcanic Mt Mihara (2,477 ft) It was sometimes called Vries Island for the Dutch navigator who visited it in the 17th cent

Oshkosh (ŏsh′kŏsh″), city (pop 39,089), co seat of Winnebago co , E Wis , on the west shore of Lake Winnebago, where the Upper Fox enters, settled 1836, inc 1846 Father Allouez visited the site in 1670, French explorers traveled here in the 18th cent., and a French fur-trading post was set up in the early 19th cent. Oshkosh grew as a lumber town. It is now a resort center and has numerous manufactures—woodwork, metal goods, overalls, and automobile parts among them. A state teachers college is here, and the city's museum is noteworthy

Osiander, Andreas (ändrā′əs ōzēän′dûr), 1498–1552, German reformer. His original name was Hosemann or Heiligmann. Ordained a priest in 1520, Osiander joined the cause of the Reformation in 1522 He supported Martin Luther vigorously, participating in the Marburg Conference (1529), the Diet of Augsburg (1530), and the signing of the

Schmalkaldic Articles (1537). Frequently during controversies the coarseness and violence of his language aroused personal enmity. In 1548 Osiander's refusal to agree to the Augsburg Interim made it necessary for him to leave Nuremberg, and he joined the theological faculty at the new Univ of Königsberg. Osiander's mystical interpretation of the Lutheran doctrine of justification by faith led to a disagreement with his colleagues that subsequently involved the whole German Evangelical Church

osier see WILLOW.

Osijek (ô'sēyĕk), Ger. *Esseg* (ĕ'sĕk), Hung *Eszék* (ĕ'sāk), city (pop 50,398), NE Croatia, Yugoslavia, a port on the Drava river. It is the largest city of Slavonia and a trade and transportation center, and it has various manufactures. The Roman Mursa, Osijek became an early episcopal see. Here in A.D. 351 Emperor Constantine II defeated Magnentius.

Osipenko (ŏsĭ'pyĭn-kŭ), city (pop 51,664), S Ukraine, a port on the Sea of Azov. It exports grain and imports petroleum. Until 1939 its name was Berdyansk.

Osiris (ōsī'rĭs), in Egyptian religion, god of the underworld. He became identified with all the forces which made for fertility, e.g., the sun and the Nile. Osiris brought to the people knowledge of agriculture and civilization. In a famous myth, he was the son of Keb (the Earth) and Nut (the Sky), and he was slain and torn apart by his evil brother, Set (the Night). Thereupon, Isis, sister and wife of Osiris, sought and found his scattered body. She buried the fragments, making each burial spot a sacred place. Abydos, where Osiris had a temple, was the most revered. Horus, son of Osiris and Isis, avenged the death of his father, who, restored by Thoth, became judge and ruler in the underworld. Osiris was the creative force which gave life to seeds, and as such he is linked to the doctrine of immortality which was so potent an influence in Egyptian life. The group of Osiris, Isis, and Horus long held a prominent place in Egyptian religion, and later this trinity was worshiped in Greece and in Rome. Osiris became identified with many other gods, e.g., the Greek Dionysus. As commonly represented, the god was swathed in mummy wrappings and wore the crown of Upper Egypt, a dome shaped hat with a papyrus tuft. See E. W. Budge, *Osiris and the Egyptian Resurrection* (1911).

Oskaloosa (ŏskulōō'sŭ), city (pop 11,024), co. seat of Mahaska co., SE Iowa, ESE of Des Moines, settled 1843 by Quakers, inc. 1853. It is the trade and processing center of a livestock, farm, and coal area and produces wool, poultry, grain, truck, and dairy products. The city has a music-publishing house and is the birthplace of many musicians and composers, including Thurlow Lieurance. Oskaloosa is the seat of William Penn College (1873) and is annually the scene of a Quakers' meeting and of a regional fair. A statue (by Sherry Fry) of the Indian chief Mahaska is here.

Osler, Sir William (ō'slur), 1849–1919, Canadian physician, M.D. McGill Univ., 1872. Renowned as physician, teacher, and medical historian, he was professor at McGill (1875–84), the Univ. of Pennsylvania (1884–89), Johns Hopkins (1889–1904), and Oxford (from 1905). In 1911 he was knighted. His many medical observations include those on blood platelets and on abnormally high, red-blood-cell count in polycythemia. He wrote *The Principles and Practice of Medicine* (1892, 16th ed., 1947) and *A Concise History of Medicine* (1919). See biographies by Harvey Cushing (1925) and E. G. Reid (1931).

Oslo (ŏs'lō, ŏz'lō, Nor. ôōs'lôō), capital of Norway, a city coterminous with Oslo co. (175 sq. mi.; pop. 417,238), SE Norway, at the head of the Oslo Fjord, a large inlet of the Skagerrak. Oslo is the largest city of Norway, its chief commercial, industrial, and intellectual center, the seat of a university (founded 1811), a Lutheran episcopal see, and the seat of the Nobel Institute. Oslo harbor, a busy port, is kept ice free throughout the year. Founded (1050) by Harold III, Oslo came (14th cent.) under the dominance of the Hanseatic League and flourished as a port. Christian IV of Denmark and Norway rebuilt the city after a destructive fire (1624) and renamed it Christiania (or Kristiania), in 1925 the name Oslo again became official. The neighboring commune of Aker (pop. 131,016) was incorporated into Oslo county in 1948. In the Second World War, Oslo fell (April 9, 1940) to the German invaders despite the strong fortifications in the Oslo Fjord. Its easy capture was generally credited to "fifth columnists." It was liberated only when Germany surrendered in May, 1945. Though the city suffered no war damage, the occupation brought great hardship. Oslo is a modern city in design and construction, and its government has striven to foster contemporary art in a number of impressive public projects. Among them are the sculptures of VIGELAND in the famous Frogner Park and the new city hall, inaugurated in 1950, when the 900th anniversary of the founding of Oslo was celebrated. Planned residential sections, in modern architectural design, have made Oslo a slumless city. The chief public buildings of Oslo include the royal palace, the Storting (parliament), the exchange, the national theater, and several fine museums. There are ruins of the Cathedral of St. Hallvard, the first cathedral of Oslo. Among the surviving ancient buildings are the Akerskirke (a 12th-century restored church) and the Akershus fortress (13th cent.). The Folk Museum has reconstructions of old Norwegian timber houses in a natural setting. The forest-clad hills environing the city are favorite excursion points, as are several islands in the Oslo Fjord. Drobak, further south on the fjord, is a winter port and a summer resort.

Osman, caliph see OTHMAN.

Osman I (ŏs'mun, ŏsmän') or **Othman I** (ŏth'mun, ŏthmän'), 1259–1326, leader of the Ottoman TURKS and founder of the Ottoman dynasty (see OTTOMAN EMPIRE). The son of the semilegendary Ertoghrul, he held lands in Asia Minor as vassal of the Seljuk Turks, whom he assisted against the Byzantines. On the collapse of the Seljuk empire he declared his independence. Illness in his later life compelled Osman to delegate the military command to his son and successor, ORKHAN, who took Bursa in 1326. The Osmanli or Ottoman Turks derive their name from Osman.

Osman Nuri Pasha (ŏsmän' nōō'rē päshä'), 1837–1900, Turkish general. He fought in the Crimean War and in Lebanon, Crete, and Arabia and was made *mushir* [marshal] for his successes (1876) in Serbia. In the Russo-Turkish War of 1877–79 he gallantly defended Plevna in Bulgaria against repeated assaults of the Russian army, which finally forced him to surrender. He was war minister (1880–85).

Osmeña, Sergio (sĕr'hō ŏsmä'nyä), 1878–, Filipino statesman, b. Cebu island. He served as provincial governor of Cebu and as first speaker of the Philippine assembly. In 1935 he was elected vice president, and in March, 1942, he fled with President Quezon as the islands fell completely to the Japanese. After Quezon's death in 1944 he was president of the government in exile, returning to the Philippines with U.S. invasion forces in Oct., 1945. In the 1946 presidential election he was defeated by Manuel Roxas.

osmium (ŏs'mēum), blue-white to gray metallic element (symbol=Os, for physical constants, see ELEMENT, table). It has the highest specific gravity of the elements, is difficult to fuse, is not affected by ordinary acids, and is insoluble in aqua regia. It is a member of the group of PLATINUM metals and is found alloyed with other members of the group in platinum ores. With oxygen it forms several oxides, one of which, osmium tetroxide, is sometimes incorrectly called osmic acid, with chlorine it forms chlorides, and with fluorine, fluorides. With iridium, it forms an alloy, osmiridium, used in making fountain pen points. The element was discovered in 1803 by Smithson Tennant.

osmosis (ŏzmō'sĭs, ŏs–), selective passage of fluids through semipermeable substances or membranes. For example, if alcohol is separated from water by a rubber membrane, the alcohol will pass through (diffuse) into the water but the water cannot get through easily to the alcohol. Osmosis is of utmost importance to life in both plants and animals. It makes possible the absorption of water by the roots of plants. The protoplasm of certain epidermal cells of the root acts as a semipermeable membrane permitting passage of water molecules into the cell. Certain salts in solution will also pass in, but outward passage of the dissolved sugar molecules or other fluid material within the cell is ordinarily barred. It is by the process of osmosis that dissolved food materials pass through the walls of the digestive tract of humans and other animals and are absorbed into the blood stream. This process of absorption is essential to the distribution and utilization of nutrients. There are many special cases and conditions involved in osmosis and explanations of the physicochemical processes vary. The tendency is for the less dense substance to pass through the membrane toward the more dense material. Water molecules generally move from where they are more abundant into the substance in which they were originally less numerous. Osmotic pressure develops as a result of differences in concentration of the substances on the opposite sides of the membrane. The osmotic process of interchange will continue until an equilibrium is reached between the concentrations of the two fluids. This equilibrium depends upon the equalizing of the osmotic pressure. It is established that osmotic pressure resembles gas pressure in that it increases with heat.

Osnabrück (ŏs'nübrŏk, Ger. ôs'näbrük'), city (pop 88,663), Hanover, NW Germany, on the Hase river, linked by canal with the Ems-Weser Canal. It is an inland port and an industrial center, with iron and steel mills, machinery plants, and textile and paper manufactures. An ancient Saxon settlement, it was made (8th cent.) an episcopal see by Charlemagne. It was a member of the Hanseatic League, and it accepted the Reformation in 1543. The cathedral, however, remained Catholic, and under the Peace of Westphalia (see WESTPHALIA, PEACE OF)—one of its treaties was signed here in 1648—the see was occupied alternately by Catholic and Lutheran bishops. The bishopric of Osnabrück was secularized in 1803 and the city passed to Hanover at the Congress of Vienna (1815). The Catholic diocese was restored in 1858. Osnabrück suffered much destruction in the Second World War. It has kept its cathedral (consecrated c.785, burned down 1254, rebuilt in late Romanesque style with Gothic additions). The Gothic Church of St. Mary and the Gothic city hall, where the Treaty of Osnabrück was signed, were heavily damaged.

Osnappar see ASSUR-BANI-PAL.

Osorno (ôsôr'nō), city (pop 25,075), S central Chile, in the heart of the lake district. Founded in 1558, Osorno was later destroyed by the Araucanian Indians. It was reestablished in 1776 by order of Ambrosio O'Higgins. An influx of immigrants in the latter half of the 19th cent. has given the city a Germanic atmosphere, it is modern in construction and progressive. In beautiful, forested country, Osorno is chiefly an agricultural distributing center.

osprey (ŏs'prē), bird of prey found in most parts of the world. The American osprey or fish hawk may nest inland, but it is usually seen near large bodies of fresh or salt water. Its white under parts and long, angular wings (with a spread of 5 to 6 ft.) distinguish it from the eagle and from other hawks. It plunges from a height above the water to capture fish and, grasping its prey with sharp talons, flies to a favorite perch to devour it.

Osroene (ŏsrōē'nē), ancient principality of NW Mesopotamia, in present SE Turkey and NE Syria. EDESSA was its capital. It was one of the semi-Hellenistic states that replaced the Seleucid empire (2d cent. B.C.). It came under Roman rule late in the 2d cent. A.D.

Ossa (ŏ'sŭ, Gr. ŏ'sä), mountain, 6,490 ft. high, NE Thessaly, N Greece. The ALOADAE were the giants who tried to pile Pelion on Ossa.

Ossendowski, Ferdynand Antoni (fĕrdĭ'nänt äntô'nē ôsĕndôf'skē), 1876–1944, Polish writer, traveler, and scientist, studied at St. Petersburg and Paris. He taught chemistry at Tomsk, Omsk, and Warsaw and served in the tsarist government until 1917 and after that with Admiral Kolchak. His escape from the Bolsheviats through Mongolia he recounted in *Beasts, Men, and Gods* (1922, Eng. tr., 1922). Although he is best known for his travel books, he also wrote biographies, plays, novels, and scientific works.

Osseo (ŏ'sēō), city (pop 1,105), W central Wis., on the Buffalo and SE of Eau Claire, in a dairy area, settled 1857, inc. as a village 1893, as a city 1941.

Ossetia (ŏsē'shŭ, Rus. ŭsyĕ'tēŭ), region, RSFSR and Georgian SSR, in the central Greater Caucasus. On the northern slope is the North Ossetian Autonomous Soviet Socialist Republic (3,550 sq. mi.; 1946 estimated pop. 450,000), RSFSR, with Dzhaudzhikau (formerly Vladikavkas) its capital, it extends to the north beyond the Terek river. On the southern slope is the South Ossetian Autonomous Oblast (1,500 sq. mi.; 1946 estimated pop. 116,000), Georgian SSR, with Stalinir its capital, it extends southward not quite to the Kura river. Both sections of the region are agricultural in the valleys, producing fruit, wine, grain, and cotton. Lumbering and livestock raising are important in the mountains. North Ossetia has lead, silver, and zinc mines at Sadon, the minerals are processed at Dzhaudzhikau. The Ossetians, who form the majority of the population, are an ancient people speaking an Iranian language. They are mainly Moslems (Sunnites) in the north and Christians (Eastern Orthodox) in the south, where Georgian culture prevails. Northern Ossetia was partly occupied (1942–43) by the Germans in the Second World War.

Ossetian Military Road, c. 120 mi. long, across the Greater Caucasus, linking Kutais (Georgian SSR) with Alagir (RSFSR). It crosses the Caucasian crest as a trail through the pass at MAMISON.

Ossian (ŏsh'ŭn) or **Oisin** (ŭshēn'), legendary Gaelic poet, supposedly the son of Finn mac Cumhail, hero of a cycle of tales and poems which placed his deeds of valor in the 3d cent. A.D. These traditional tales were preserved in Ireland and in the Scottish Highlands, with Ossian as the bard who sang of the exploits of Finn and his Fenian cohorts. A later cycle of Ossianic poetry centered around Cuchulain, another traditional hero. With the passage of time various cycles became confused. Ossian is generally represented as a Homeric figure, an old, blind man who had outlived both his father and his son. The name is remembered by most people in connection with the work of James MACPHERSON and the celebrated Ossianic controversy. See *Ancient Irish Tales* (ed. by T. P. Cross and C. H. Slover, 1936).

Ossietzky, Carl von (fün ôsyŏt'skē), 1898–1938, German pacifist. He was coeditor of the antimilitaristic weekly *Weltbühne* and a leader of the peace movement in Germany after the First World War. Ossietzky was imprisoned (1931–32) for articles appearing in the *Weltbühne*, and after Hitler's rise to power in 1933, he was sent to a concentration camp. Suffering from tuberculosis, he was removed (1936) to a hospital, shortly before the announcement that the 1935 Nobel Peace Prize

had been awarded to him The German government protested the award, barring all Germans in future from acceptance of a Nobel Prize

Ossining (ŏ'sūnĭng), residential and industrial village (pop 15, 996), SE N Y , in Westchester co , on the east bank of the Hudson and near Tarrytown, settled c 1750, inc. 1813 as Sing Sing, renamed 1901 Wire and drugs are made here. Sing Sing state prison (built 1825–28) was long known for its extreme discipline, under Thomas Mott OSBORNE and Lewis Edward LAWES notable reforms were introduced St. John's School for boys is also in Ossining

Ossipee (ŏ'sĭpē), rural and resort town (pop 1,498), co seat of Carroll co , E N H , E of Lake Winnipesaukee, inc 1785 The name, from Indian inhabitants, is applied also to a lake, a river, and mountains West Ossipee, where Whittier spent many summers, has a furniture factory

Ossoli, Marchesa see FULLER, MARGARET

Ossory, Thomas Butler, earl of (ŏ'surē), 1634–80, British statesman and soldier, b Ireland, son of James Butler, 1st duke of ORMONDE Inactive in the civil wars of the Puritan Revolution, he became a member of Parliament in both England and Ireland after the Restoration and was created earl of Ossory in 1662 In 1665 he was made lieutenant general in Ireland and often acted as deputy lord lieutenant there for his father He distinguished himself in naval engagements (1665, 1672) against the Dutch He carried (1674) to the prince of Orange (later William III) the offer of marriage with Princess Mary and in 1678, after Charles II's alliance with William, commanded British troops in Holland

Ossory, ancient kingdom of Ireland, the borders of which are now largely traced by the Roman Catholic episcopal see of Ossory, including Co Kilkenny and parts of Co Offaly and Co Laoighise Ossory was within the lands of the Butler family, hence the name Ossory(as well as Ormonde) for the Butler earldoms

Ostade, Adriaen van (ä'drēän vän ô'städu), 1610–85, Dutch genre painter, b Haarlem, studied with Frans Hals Most of his life was spent in Haarlem, where he became dean of the painters' guild in 1662 He is famous for his small paintings of everyday scenes of peasant and village life—the village barber and doctor, the itinerant musician, tavern scenes with peasants drinking, smoking, and gambling, the village school, and simple domestic interiors All these he portrayed with great vivacity and brilliant characterization His early paintings are cool in tone, but later, under the influence of Rembrandt, he enriched his color and dramatized his light effects Van Ostade is represented in important collections throughout Europe Among his many famous works are *Peasants in an Inn* (The Hague), *The Drinker* (Louvre), *The Smoker* (Antwerp), and *The Old Fiddler* (Metropolitan Mus) Fine examples are in the New York Historical Society, the Art Institute of Chicago, the National Gallery of Art, Washington, D C , and the Pennsylvania Museum of Art, Philadelphia See study by Louis Godefroy (1930, in French) His brother and pupil, **Isaac van Ostade,** 1621–49, was also an admirable painter His early work, such as *Laughing Boor* (Rijks Mus), was in close imitation of his brother, but he soon developed an interest in landscape His rustic scenes with peasants or travelers and especially his winter landscapes are very fine He painted a large number of canvases in his very short life and is represented in many important galleries His *Winter in Holland* (Metropolitan Mus) is characteristic See Adolf Rosenberg, *Adriaen und Isack van Ostade* (1900)

Ostend (ŏstĕnd'), Flemish *Oostende* (ōstĕn'du), Fr *Ostende* (ôstäd'), city (pop 48,519), West Flanders prov , N Belgium, a port and resort on the North Sea It is a major Belgian port, has a large fishing fleet, and is connected by canals with Bruges and Ghent and by steamer with Dover, England Fortified (1583) by William the Silent, it played a glorious role in the Dutch struggle for independence Its garrison resisted a Spanish siege from 1601 to 1604 and surrendered to Spinola only after having cost the Spanish at least 40,000 lives and after Ostend had been reduced to ruins During the First World War, Ostend served as a German submarine base In a daring sea raid (April, 1918), the British partially sealed the harbors of Ostend and Zeebrugge by sinking vessels at their entrance Ostend was again used by the Germans in the Second World War and suffered some damage

Ostend Manifesto, document drawn up in Oct , 1854, at Ostend, Belgium, by James BUCHANAN, American minister to Great Britain, John Y. MASON, minister to France, and Pierre SOULÉ, minister to Spain William L MARCY, Secretary of State under President Franklin Pierce, gave Soulé confidential instructions to try to buy Cuba from Spain, but Soulé's many blunders (he issued an unwarranted ultimatum to the Spanish government on the BLACK WARRIOR affair) led to a conference of the leading U S diplomats in Europe, all proslavery Democrats. The resulting manifesto outlined the value of Cuba to the United States and implied that if Spain refused to sell, the United States might consider taking the island by force Widely denounced both at home and abroad, the manifesto was immediately repudiated by Marcy for the U S. government It remains one of the most curious documents in international relations

Ostenso, Martha (ŏ'stĕnsō), 1900–, American novelist, b. Norway, studied at Manitoba and Columbia universities *Wild Geese* (1925), first of several novels and considered her best work, concerns Scandinavian farmers in Minnesota and Manitoba

osteopathy (ŏstēŏ'pəthē) [Gr , = bone treating], practice of therapy principally through manipulation The principles of this school of healing, founded by A T Still in 1874, are that the normal body produces forces necessary to fight disease and that most ailments are due to "structural derangement" of the body Frequent slight strains are held to be capable of causing misalignment of bones and various other conditions of the muscle tissue and cartilage all of which are termed "lesions " The first school of osteopathy was founded at Kirksville, Mo , in 1892 Certain other colleges in the United States are accredited by the American Osteopathic Association to give the required four-year course of training Although they are privileged to prescribe drugs and practice surgery in most of the United States, osteopathic doctors prefer to treat by manipulation See E R Booth, *History of Osteopathy and Twentieth-Century Medical Practice* (1924)

Ostergotland, Swed *Östergötlands län* (ö'stəryöt"-länts lĕn'), county (4,266 sq mi , pop 332,946), SE Sweden, east of Vattern lake It is roughly coextensive with the historical province of Ostergotland LINKOPING is the county seat, among other cities are NORRKOPING, MOTALA, and VADSTENA Agriculture, livestock raising, lumbering, iron and zinc mining, and textile and paper making are important

Osterhout Winthrop John Vanleuven (ŏ'stərhout), 1871–1939, American botanist, plant physiologist, and educator, b Brooklyn, N Y , grad Brown Univ (B A , 1893) He was on the staff of the Rockefeller Institute for Medical Research from 1925 He wrote *Experiments with Plants* (1905), *Agriculture for Schools of the Pacific Slope* (with E W Hilgard, 1909), *The Nature of Life* (1924), *Some Fundamental Problems of Cellular Physiology* (1927), bulletins on plant nutrition, and articles in scientific journals He was joint editor of the *Journal of General Physiology* from 1919

Osterman, Andrei Ivanovich, Count (ŏ'stərmän, Rus ŭndrā' ēva'nuvĭch ŭstyĭrman'), 1686–1747, Russian statesman, b Germany His original name was Heinrich Johann Friedrich Ostermann He entered the service of Peter I and zealously aided all his reforms, introducing a great many valuable reforms of his own For his services in the Northern War he was made a baron During the reign of Catherine I he was practically the sole arbiter of foreign affairs He was a member of the regency during the minority of Peter II Empress Anna trusted him implicitly because he had abstained from joining the conspiracy to abrogate her autocratic powers As her minister of foreign affairs he brought to a successful close the War of the Polish Succession and the Russo-Turkish War of 1736–39 During the regency of Anna Leopoldovna he was virtually the ruler of Russia Elizabeth, however, believing he had conspired to keep her from the throne, sentenced him to death, but sent a reprieve to the scaffold and banished him to Siberia instead See R N Bain, *The Pupils of Peter the Great* (1897)

Ostersund, Swed *Östersund* (ûstərsŭnd'), city (pop 19,683), W central Sweden, on Storsjon lake It is the county seat and only city of JAMTLAND co It has machinery and furniture factories and is noted for its handicrafts.

Ostfold, Nor *Østfold* (ûst'fôl"), county (1,614 sq mi , pop 178,449), SE Norway, between the Oslo Fjord in the west and the Swedish border in the east Moss is the county seat Sarpsborg, Halden, and Fredrikstad are the chief centers, their industries (mainly making lumber products) receive power from the GLOMMA river

Ostia (ŏ'stēu), ancient city, Italy, at the mouth of the Tiber It was founded (4th cent B C) as a protection for Rome, then developed (from 1st cent B C) as its port, rivaling Puteoli Augustus, Claudius I, Trajan, and Hadrian expanded the city and harbor From the 3d cent the city began to decline The ruins, much studied, rival those of Pompeii in showing the make-up of an ancient Italian city

ostracism (ŏ'strusĭzm), ancient Athenian method of exiling a person It was introduced after the fall of the family of PISISTRATUS If the assembly decided a person was endangering the public welfare or liberty, it set a day for voting When the polling took place, each voter put into an urn a potsherd (*ostracon*) marked with the name of one he wished ostracized The man named on the most *ostraca* was exiled, unless less than 6,000 votes were cast The exile lasted normally 10 years with no confiscation ARISTIDES and CIMON were recalled before 10 years were up. The last ostracism was probably that of Hyperbolus (416 B C.), a demagogue of low origin. Other cities used ostracism also In 1932 *ostraca* with the names of Aristides and Themistocles scratched on them were found in the American zone of the excavation of the agora of Athens

Ostrava, Czechoslovakia: see MORAVSKA OSTRAVA

ostrich (ŏ'strĭch, ô'–, ŏ'strĭj), large flightless bird chiefly of Africa but found in parts of SW Asia, allied to the rhea, the emu, and the extinct moa It is the largest of living birds, some males reach a height of 8 ft and a weight of 200 to 300 lb The ostrich runs at great speed with its wings spread The inner of the two toes on each foot is much the larger and bears most of the bird's weight It kicks when angered and can inflict serious injury In both sexes the head, neck, and thighs are bare or scantily feathered The male is glossy black with beautiful long white plumes on the wings and tail The female is a dull grayish brown Usually the polygamous male has from two to six females in his flock The cock scoops out a hollow for the eggs, which weigh nearly 3 lb each One of the females incubates the eggs during the day, and the cock takes over the task at night, when his plumage makes him inconspicuous After the middle of the 19th cent , when the demand for plumes was great, ostrich farms were established, first in South Africa and later in North America, Australia, and Europe The First World War cut off the markets, fashions changed, and the industry collapsed The South American rhea and the Australian emu are incorrectly called ostriches

Ostrogoths (ŏ'strugŏths"), or **East Goths,** division of the Goths, one of the most important groups of the GERMANS According to an unproved tradition, the ancestors of the Goths were the Gotar of S SWEDEN Whatever their origin, they were settled by the 3d cent A D in the region N of the Black Sea Early in the 4th cent they split into two divisions The VISIGOTHS or West Goths moved west under the pressure of the advance of the HUNS, while the Ostrogoths were subjected by the Huns and served in their army. On the death (453) of Attila, the Ostrogoths settled in Pannonia (roughly, modern Hungary), which they received as allies of the East Roman Empire The Ostrogoths, long ruled by petty chieftains, chose one of these as sole king, he became known to the world as THEODORIC THE GREAT To rid himself of his turbulent ally, the East Roman emperor, ZENO, commissioned Theodoric to reconquer Italy from ODOACER The Ostrogoths entered Italy in 488, defeated and slew (493) Odoacer, and set up the Ostrogothic kingdom of ITALY Theodoric's grandson Athalaric succeeded him (526) under the regency of AMALASUNTHA, who placed herself under the protection of the Byzantine (i e , East Roman) emperor JUSTINIAN I Her murder (535) served as pretext for Justinian to send an army under BELISARIUS to reconquer Italy He crushed the Ostrogothic kingdom, but on his recall (541) the Ostrogoths rebelled under the leadership of TOTILA In 552 the Byzantine general NARSES defeated Totila, who fell in battle The Ostrogoths lost their identity with their kingship, and the hegemony over Italy passed to Byzantium and, shortly afterward, to the Lombards Under the Ostrogothic kings, Roman law and institutions were largely maintained, however, the Ostrogoths were resented as aliens by the Italians, from whom they differed not only in cultural background but also in religion, for they were Arians See Thomas Hodgkin, *Italy and Her Invaders*, Vols I–III (2d ed , 1892–96)

Ostroleka, Pol *Ostrołęka* (ôstrôwĕ'ka), Rus *Ostrolenka*, industrial town (pop 9,279), Poland, on the Narew 62 mi NE of Warsaw It was the scene (1831) of a Russian victory over the Polish insurgents

Ostrovsky, Aleksandr Nikolayevich (ŭlyĭksän'dur nyĭkulā'uvĭch ŭstrôf'skē), 1823–86, Russian dramatist At first a government clerk, he was dismissed from service because of his first play, *The Bankrupt* (1847, later reworked as *It's a Family Affair*, 1850), which was widely read but banned from the stage In 1853 he turned seriously to writing and produced more than 50 plays, most of which deal with the merchant or petty-official class His masterpiece is *The Storm* (1880), a tragedy revolving around a nagging mother which is the basis of Janacek's opera *Katia Kabanova* Very popular is *Poverty Is No Crime* (1854), often played by university groups. Ostrovsky also wrote historical verse dramas, as *The Voyvod* (1865), based on legends of the Volga brigand Stenka Razin, a folk drama *The Snow Maiden* (1873), later used by Rimsky-Korsakov as the libretto of an opera, and a play dealing with the theater, *The Forest* (1871) All the important plays of Ostrovsky are available in English

Ostrovsky, Nikolai Alekseyevich (nyĭkulī' ŭlyĭksyā'-ĭvĭch), 1904–37, Russian novelist. He wrote one of the most popular novels to appear since the revolution, *How the Steel Was Tempered* (1936, Eng tr , *The Making of a Hero*, 1937), an autobiographical tale of the civil wars around 1918 He died prematurely, leaving an unfinished work, of which one volume, *Born of the Storm* (1937, Eng tr., 1939), was published on the day of the author's funeral.

Ostwald, Wilhelm (vĭl'hĕlm ôst'vält), 1853–1932, German physical chemist and natural philosopher, b Riga, Latvia He was professor of chemistry and director of the chemical laboratory (1886–1906) at the Univ of Leipzig He received the 1909 Nobel Prize in Chemistry for his work on catalysis and his investigations into the fundamental principles governing equilibrium and rates of reaction He originated the Ostwald process for manufacturing nitric acid and did outstanding research on color His numerous and widely influential works appeared in many editions These include *Outlines of General Chemistry* (1889, 3d Eng ed , 1912), *The Principles of Inorganic Chemistry* (1900, 4th Eng ed , 1914), *Natural Philosophy* (1902, Eng tr , 1910), and *Colour Science* (1923, Eng tr 1931).

Ostwald process, method for the preparation of nitric acid by the oxidation of ammonia, invented by Wilhelm Ostwald Ammonia mixed with air is heated and led over a catalyst (platinum) It reacts with the oxygen to form nitric oxide, which is then oxidized to nitrogen dioxide, this in turn reacts with water to form nitric acid

Ostyak (ŏs'tēăk"), one of the languages of the Finno-Ugric family See LANGUAGE (table)

Osuna, Pedro Téllez Girón, duque de (pā'dhrō tĕ'lăth hĕrōn' dō'kā dā ŏsōō'nä), 1574–1624, Spanish soldier and administrator He joined the Spanish army in the Netherlands in 1602 and for his remarkable services there was named by Philip III viceroy of Sicily (1611–16) and of Naples (1616–20) Acting with great independence, he led several expeditions against the Turks and the Barbary pirates He strongly opposed Venice for its covert anti-Spanish policy, and in 1617 he led his fleet up the Adriatic to defeat the Venetians at Gravosa Venice vainly protested this act of aggression In 1618 the Venetians accused Osuna of having conspired with Bedmar, the Spanish ambassador at Venice, in a plot to overthrow the Venetian republic and to seize the city Osuna was recalled in 1620 and was charged with seeking to make himself independent ruler of Naples He was jailed in 1621 and died in prison

Osuna (ŏsōō'nä), town (pop 19,552), Seville prov , S Spain in Andalusia It is an agricultural center. It flourished under the Romans, fell to the Moors, and was recovered in 1239 From the 17th cent the dukes of Osuna were prominent The university, founded in 1549 and suppressed in 1820, was a cultural center of Andalusia There is a fine 16th-century collegiate church

Oswald, Saint, d 642?, king of NORTHUMBRIA After his father, Æthelfrith, was killed c 617, he and his brother Oswy became Christians at Iona When King EDWIN was killed by PENDA, Oswald soon (633) slew Penda's ally Cadwallon (or Caedwalla) and made himself king of Northumbria Sending to Iona for a bishop, he received St AIDAN and a band of monks, to whom he gave Lindisfarne for a monastery It became the center for the reconversion of Northumbria to Christianity Oswald also made himself overlord of Wessex, but apparently not of Mercia When Penda killed him at Maserfield (642?), Oswald was succeeded in Bernicia by Oswy and in Deira by one Oswine As one martyred by a pagan king, he was soon venerated, and miracles were attributed to his relics Feast Aug 5

Oswald, Saint, d 992, English churchman of Danish descent He was bishop of Worcester (after 961) and archbishop of York (after 972) He was sent to Fleury, France by St DUNSTAN to become a monk and study the Cluniac reform Oswald returned an ardent reformer He founded many monasteries, the most eminent being Ramsey Feast Feb 28

Oswegatchie (ŏs"wĕgă'chē), river, c 150 mi long, rising in N New York in the Adirondacks and flowing irregularly NW, NE, and again NW to the St Lawrence at Ogdensburg

Oswego (ŏswē'gō) **1** City (pop 1,953), co seat of Labette co , SE Kansas, near the Neosho, in a farming and stock-raising area, founded 1865, inc 1870 A trading post was established here in the 1840s **2** City (pop 22,062), a co seat of Oswego co , N N Y , on Lake Ontario at the mouth of the Oswego and NW of Syracuse; inc as a village 1828, as a city 1848 A trading post, established here after the English founded Oswego (1722), became a vital outlet for the Albany fur trade The strategic location caused early fortification of Oswego, followed (1755) by the building of present Fort Ontario, which was much contested in the colonial wars It was held by the French (1756–59) until it was retaken by Sir William JOHNSON for the English The city is an important lake port, a port of entry, and the northern terminus of the Barge Canal, handling coal, lumber, and freight Among its varied products are rayon, matches, and boilers Oswego has a state teachers college The scene of James Fenimore Cooper's novel *The Pathfinder* is laid in the Oswego river valley. **3** Residential city (pop 1,726), NW Oregon, just S of Portland, on a narrow lake; founded c.1850, inc 1909 Marylhurst College is near Oswego.

Oswego, river formed in central New York by the confluence of the Oneida and Seneca rivers NNW of Syracuse and flowing c 25 mi NW to Lake Ontario at Oswego It is a part of the state's barge transportation system

Oswego tea or **bee balm,** aromatic perennial plant (*Monarda didyma*), used by Indians and colonists for tea It is a typical MINT with square stem and opposite leaves, growing wild or planted for its fragrance and showy blossoms The individual tubular flowers are clustered in a ragged terminal head, usually scarlet, but with cultivated varieties in other colors Oswego tea is long blooming, easy to cultivate, and striking when grown in masses It yields an oil that has been used as a fixative in perfumes The flower is visited by hummingbirds Oswego tea (sometimes called bergamot) and the BERGAMOT mint belong to the same genus

Oswestry (ŏz'wĕstrē, –wus–), municipal borough (1921 pop 9,654, 1943 estimated pop 12,300), Shropshire, England, in a farming region It has ruins of a Norman castle, a grammar school founded in the 15th cent , and the Church of St Oswald (partly Early English) The town is named for St Oswald, Northumbrian king killed here in a battle against King Penda of Mercia Old Oswestry, to the north, was the site of an ancient British fort

Oswiecim, Pol *Oświęcim* (ôshfyĕ'chĕm), Ger. *Auschwitz* (oush'vĭts), town (pop 6,708), S Poland, E of Cracow It is chiefly a trade center, with coal deposits in the vicinity During the Second World War the Germans organized here a CONCENTRATION CAMP system, this included the extermination camp at Brzezinka (Ger *Birkenau*) , where c 4,000,000 inmates, mostly Jews, were annihilated, mainly by gas, but also by phenol injections, shooting, hanging, malnutrition, and disease Poland led the list of the many nations represented among the prisoners

Oswy or **Oswiu** (both ŏz'wē), d 671, king of Northumbria He succeeded his brother OSWALD as king of Bernicia, and when he killed PENDA at the battle of Winwæd, he made himself not only ruler of all Northumbria but of all England as well for three years, until Wulfhere, Penda's son, reconquered Mercia Oswy continued the conversion of England to Celtic Christianity, sending missionaries to Mercia and Essex To resolve the differences between the Celtic and Roman usages of the church in England, the king called the Synod of Whitby (see WHITBY, SYNOD OF) and conformed to the decision there

Otaru (ōt'ärōō), city (1947 pop 164,934), SW Hokkaido, Japan, on Ishikari Bay It is the main coal-exporting port of the island and a center of herring fisheries

Otfried or **Otfrid** (both ôt'frēt), fl 868, German monk and poet He wrote a long metrical version of the Gospels in the vernacular, the first German work by a writer whose name is known to us and the first in which rhyme is used He was more theologian than poet, but his work has passages of charm

Othman (ŏth'mun, ōth'man) or **Osman** (ŏz'mun), c 574–655, 3d caliph (644–56), son-in-law of Mohammed He belonged to the great Omayyad family and was selected as caliph after the murder of Omar Moslem conquests were continued and extended to Bactria and Cyprus He, however, replaced the officers appointed by Abu Bakr and Omar with members of his own family Revolts in Egypt and Mesopotamia were very serious His highhanded methods aroused deep resentment, and in 656 a band of malcontents reached Medina and murdered Othman Ali succeeded to the caliphate

Othman I see OSMAN I

Othni (ŏth'nī), son of Shemaiah 1 Chron 26 7

Othniel (ŏth'nēĕl) [Heb ,=lion of the lord], first judge of Israel after the death of Joshua For capturing a city he was given as wife Caleb's daughter Achsah Joshua 15 17, Judges 3 9–11, 1 Chron 13

Otho. For German rulers thus named, see OTTO

Otho, Marcus Salvius (ō'thō), A D 32–A D 69, Roman emperor (Jan - April, A D 69) He was a friend of NERO, and his wife, Poppaea Sabina, became Nero's mistress, Otho was repaid with the province of Lusitania (A D 58) In A D 68 he joined the revolt of GALBA, but on Galba's success Otho killed him and made himself emperor Meanwhile VITELLIUS had been proclaimed emperor at Cologne and was on the way to Rome Otho was defeated in N Italy and killed himself See B W Henderson, *Civil War and Rebellion in the Roman Empire, 68–70 A D* (1908)

Otis, Bass, 1784–1861, American portrait painter and mezzotint engraver, b Bridgewater, Mass He probably produced the first lithograph in America, a portrait of the Rev Abner Kneeland in a volume of his lectures (1818) Otis practiced portrait painting in New York city and Philadelphia, reproducing some of his works in mezzotint Among his best-known likenesses are those of Thomas Jefferson, Stephen Girard, and James Madison His only known genre composition, *Interior of a Smithy,* is in the Pennsylvania Academy of the Fine Arts, Philadelphia

Otis, Elisha Graves, 1811–61, American inventor, b Halifax, Vt From his invention (1854) of a device to prevent the fall of hoisting machinery, he developed the first passenger elevator (1857) The invention of the elevator permitted the building of skyscrapers and was thus of great architectural importance Otis's manufacturing company became a great industrial enterprise

Otis, Harrison Gray, 1765–1848, American statesman, b Boston, grad Harvard, 1783 He was admitted (1786) to the bar, practiced law in Boston, and was elected (1795) to the Massachusetts legislature Otis, a staunch Federalist, served (1797–1801) in Congress and was a member of the state legislature from 1802 to 1817 In 1814 he was a leader of the Hartford Convention, and by defending that meeting later he lost his chance of becoming a national figure Otis was a U S Senator (1817–22) and mayor of Boston (1829–31) He published *Letters Developing the Character and Views of the Hartford Convention* (1820) and *Otis' Letters in Defence of the Hartford Convention* (1824) See S E Morison, *The Life and Letters of Harrison Gray Otis, Federalist, 1765–1848* (1913)

Otis, Harrison Gray, 1837–1917, American journalist, b Marietta, Ohio In his earlier years he was a printer in the Middle West He was a member of the Republican national convention which nominated (1860) Lincoln for President and served ably in the Civil War Later he was employed by the Government Printing Office (1867–70) and the U S. Patent Office (1871–75) After he moved to California, he acquired (1886) control of the Los Angeles *Times* and directed a bitter journalistic attack on organized labor The dynamiting (1910) of the *Times* building was one of the most dramatic incidents in the history of American labor

Otis, James, 1725–83, American colonial orator and patriot, b Barnstable co , Mass , grad Harvard, 1743 A lawyer first in Plymouth and then in Boston, he won great distinction and served (1756–61) as advocate general He resigned to oppose the issuing of writs of assistance by the superior court of Massachusetts and argued eloquently before the court that the writs violated the natural rights of the colonials as Englishmen and that any act of Parliament violating those rights was void John Adams later declared that with that speech, "the child Independence was born" Otis lost the case but became the leader of the radical wing of the colonial opposition to British measures He was elected (1761) to the colonial assembly, was made head (1764) of the Massachusetts committee of correspondence, and was vigorous in his opposition to the Stamp Act (1765) He proposed the inter-colonial meeting which became the Stamp Act Congress, and his ideas were used in the protests drafted by that body He was much hated by the conservatives The governor Sir Francis Bernard, in 1767 vetoed election of Otis as speaker of the assembly Otis spoke out warmly against the Townshend Acts, directly threatening that British measures were driving the colonies to revolt A commissioner of customs, infuriated at statements Otis made in a newspaper, set upon him (1769) and injured him so severely that Otis's public life was at an end His principles were, however, upheld by Samuel Adams, Paul Revere, Josiah Quincy, and others See biographies by William Tudor (1823) and Francis Bowen (1847), C F. Mullett, ed , *Some Political Writings of James Otis* (1929)

Oto Indians (ō'tō), tribe of North American Indians, also called the Otto, of the Siouan linguistic stock At one time, with the Iowa and the Missouri, they formed part of the Winnebago nation, N of the Great Lakes The Oto with the Missouri left the nation, but after a quarrel the Oto separated from the Missouri and settled in S Minnesota Constantly beset by overpowering enemies, they were driven south and joined the Pawnee near the mouth of the Platte river In 1880–82 the tribe migrated to Oklahoma The Oto had a Plains area type of culture They used a variety of musical instruments Today they live, with the Missouri, on a reservation in N central Oklahoma, where they number some 900 See William Whitman, *The Oto* (1937)

Otomí (ōtōmē'), linguistic stock of American Indians of W central Mexico The groups extend as far east as San Luis Potosí, centering in the valley of Toluca

Otranto (ōträn'tō, Ital ō'trantō), town (pop 2,507), Apulia, S Italy, on the Strait of Otranto, which connects the Adriatic with the Ionian Sea between Italy and Albania Once an important seaport, Otranto was devastated in 1480 by the Turks, it is now of little significance Here are a cathedral, with a fine floor mosaic, and ruins of an imposing castle, the setting of Horace Walpole's Gothic novel, *The Castle of Otranto*

Otsego (ŏtsē'gō), city (pop 3,428), SW Mich , on the Kalamazoo river and NW of Kalamazoo, settled 1832, inc as a village 1865, as a city 1918 Rapids near by furnish power for the paper mills here Indian mounds are in the vicinity

Otsego Lake, 8 mi long, E central N Y., SE of Utica, in a resort area A branch of the Susquehanna issues from its southern end, at Cooperstown The lake is the Glimmerglass of James Fenimore Cooper's tales.

Otsu (ō'tsōō), city (1947 pop 81,426), capital of Shiga prefecture, S Honshu, Japan It is a port for excursion steamers on Lake Biwa Today a tourist and manufacturing center, it was an imperial seat in the 2d and the 7th cent It is the site of Miidera, a 7th-century Buddhist temple Shiga prefecture is mainly agricultural

ottava rima: see PENTAMETER

Ottawa (ŏ'tùwù), city (pop 154,951), capital of Canada, SE Ont, on the Ottawa at the mouth of the Rideau and WSW of Montreal HULL, Que, just across the Ottawa river, at the mouth of the Gatineau, is connected by bridge with Ottawa and forms part of the metropolitan area, the hills and Gatineau valley beyond it afford easily accessible sites for summer cottages and recreation facilities for residents of Ottawa Founded in 1827 by Col John By, an engineer in charge of constructing the Rideau Canal, Ottawa was first called Bytown, the name being changed in 1854 In 1858 it became the seat of government, and in 1867 capital of the dominion The government buildings, housing the dominion Parliament, the ministerial offices, and the Supreme Court, built in 1859–65, were burned in 1916, but rebuilt Other notable buildings are Rideau Hall, the residence of the governor general, Anglican and Roman Catholic cathedrals, the National Victoria Museum, the Library of Parliament, the National Art Gallery, the dominion observatory, the mint, and the Carnegie Library The Rideau Canal separates the city into upper and lower towns, and along the banks of the canal and the rivers are many landscaped drives and much of Ottawa's 1,500 acres of parks Chaudière Falls of the Ottawa river furnish hydroelectric power for the city's industries, which include paper milling, watchmaking, and woodworking The Univ of Ottawa (bilingual, Catholic, pontifical, for men and women, est 1848) is here, as are the Ashbury and La Salle schools for boys, Ottawa Ladies' College, and the dominion experimental farm The population is about equally divided into speakers of French and of English See A H D Ross, *Ottawa Past and Present* (1927), Blodwen Davies, *The Charm of Ottawa* (1932), T M Longstreth, *Quebec, Montreal, and Ottawa* (1933), Lucien Brault, *Ottawa, Old and New* (1946)

Ottawa, I City (pop 16,005), co seat of La Salle co, N Ill, on the Illinois at the confluence with the Fox, laid out 1830, settled after the Black Hawk War (1832), inc as a village 1837, as a city 1853 In a region yielding clay and sand, it makes glass, clay products, and farm machinery The city was the scene of the first Lincoln-Douglas debate (1858) Near by are Starved Rock State Park and Buffalo Rock State Park **2** City (pop 10,193), co seat of Franklin co, E Kansas, SE of Topeka and on the Marais des Cygnes, inc 1866 The Ottawa Indians moved here (1832) after ceding their Ohio lands to the United States In 1837 Jotham Meeker established a Baptist mission The Indians removed to Oklahoma in 1867 The city is a distributing, rail, and manufacturing center in an agricultural area and is the seat of Ottawa Univ, (Baptist, coeducational, 1865) **3** Village (pop 2,342), co seat of Putnam co, NW Ohio, on the Blanchard river and N of Lima, founded 1833 as Tawa Town Beet sugar and canned foods are produced

Ottawa, river, 696 mi long, largest tributary of the St Lawrence It rises in W Quebec in the Laurentian Plateau NE of North Bay and flows W, then SE past Mattawa, Chalk River, Pembroke, and Ottawa, Ont, and Hull, Que, to the St Lawrence just above Montreal For much of its length it forms the boundary between Ontario and Quebec Its lower course has several expansions—known as Allumette, Chats, and Deschênes lakes and Lake of the Two Mountains—and rapids, including Chaudière Falls, which furnish hydroelectric power. Among its chief tributaries are the Mattawa, Petawawa, Coulonge, Madawaska, Mississippi, Rideau, Gatineau, Lièvre and Rouge rivers It is connected with Lake Ontario by the RIDEAU CANAL system The valley of the Ottawa was explored (1613–15) by Champlain and the river, known as the Grand River, became an important highway for fur traders and missionaries See S R Broadfoot, *Holdaying in Canada on the Ottawa River* (1941)

Ottawa, University of. see OTTAWA, Ont

Ottawa Hills, village (pop 1,979), NW Ohio, near Toledo, settled 1916, inc 1924

Ottawa Indians, tribe of North American Indians of the Algonquian linguistic stock. According to tradition the Ottawa, the Ojibwa, and the Potawatami were originally one family dwelling N of the Great Lakes, after the separation the Ottawa settled on the Manitoulin island in Lake Huron and along the shores of Georgian Bay Thus in 1615, when noted by Samuel de Champlain, they lived near the mouth of French river on Georgian Bay. The Ottawa claimed the Ottawa river region and controlled trade with the French on that river. They allied themselves with the French and the Huron Their alliance with the Huron, however, made them the enemies of the Iroquois, who forced them to flee to the islands off Green Bay After a few years a part moved on to Keweenaw Bay in Lake Superior, while another section joined the Huron and went to the Mississippi near Lake Pepin From there the Sioux drove them northward to Chequamegon Bay in N Wisconsin Promised protection by the French, the Ottawa returned (1670) to Manitoulin island, where the mission of St Simon was established among them. Next they joined the Huron at Mackinac in Michigan, and soon after they dispersed over a wide area. The Ottawa were active in the Indian wars of the Old Northwest; PONTIAC was an Ottawa Indian Part of the Ottawa are settled on Walpole Island in Lake St Clair, part are on Manitoulin island, and some are in NE Kansas and in Oklahoma, but the majority have settled in the lower peninsula of Michigan The Ottawa were of the Eastern Woodlands cultural area. They had a well-developed creation myth which stated that they were descended from three families, the Michabou or Great Hare, the Namepich or Carp, and the Bear's Paw. See A S Blackbird, *History of the Ottawa and Chippewa Indians of Michigan* (1897)

otter (ŏ'tûr), aquatic carnivorous mammal of the weasel family, found on all continents except Australia The slender body of the otter of North America is about 3½ to 4½ ft long (smaller in the female) including the long, heavy tail. The head is flattened, the legs are short, and the hind feet are webbed An agile swimmer, it fishes in streams and lakes, along the banks of which it makes its burrow It also eats small mammals and birds Its valuable, thick, brown fur consists of a soft undercoat with overlying glossy guard hairs The **sea otter,** found in and near kelp beds of the N Pacific, is a larger, heavier animal of the same family which habitually swims on its back In this position it carries its cub and eats its meals of abalone, crab, and sea urchin Relentless hunting of the defenseless animal for its fur of rare beauty nearly exterminated it. It is now protected in Alaskan waters

Otter, Peaks of, two peaks, western Va, in the Blue Ridge W of Lynchburg The one, Flat Top, is 4,004 ft high, the other, Sharp Top, 3,875 ft

Otterbein, Philip William (ŏ'turbīn), 1726–1813, German-American clergyman, a founder of the United Brethren in Christ After pastoral work in Germany, he came (1752) to America as a missionary of the German Reformed Church In association with Martin BOEHM, whom he met c 1768, he carried on successful evangelistic work, mainly in the German settlements of Pennsylvania and Maryland His influence was widespread, especially after he became pastor of an independent congregation in Baltimore known as the Evangelical Reformed Church He was in sympathetic fellowship with ministers of other communions, notably Bishop Francis Asbury, at whose consecration he assisted While remaining always a member of the German Reformed Church, Otterbein played a leading role with Martin Boehm and a small group of lay preachers in laying the foundations in 1789 of a denomination to be known as the United Brethren in Christ, of which he and Boehm were elected bishops in 1800 Otterbein College is named for him

Otterbein College. see WESTERVILLE, Ohio

Otterburn, village, Northumberland, England. It was the scene in 1388 of a victory of the Scots over the English, sometimes called the battle of Chevy Chase from the ballad

otter sheep · see ANCON SHEEP.

Ottery Saint Mary (ŏt'urē), urban district (1931 pop 3,713, 1943 estimated pop 4,005), Devonshire, England, E of Exeter It is the Clavering of Thackeray's *Pendennis* and the birthplace of Samuel Taylor Coleridge The 13th-century church is a small copy of Exeter Cathedral

Otto I or **Otto the Great,** 912–73, emperor (962–73) and German king (936–73), son and successor of Henry I of Germany He is regarded as the founder of the HOLY ROMAN EMPIRE Three important departures from his father's policy were his alliance with the Church, his intention of extending his actual rule over all Germany (rather than limit it to his duchy of Saxony), and his interference in the affairs of ITALY The early rebellions (838, 839), led by Duke EBERHARD of Franconia, were crushed in the battles of Birthen and Andernach (839) LOUIS IV of France had assisted the rebels, and Otto campaigned against him (940) with HUGH THE GREAT, but in 942 Otto and Louis reached an agreement and Otto helped Louis to defeat Hugh in 950 In 951 Otto invaded Italy, taking advantage of an appeal from ADELAIDE, who was about to be forced into a marriage with the son of BERENGAR II Otto forced Berengar to become his vassal, assumed the title king of the Lombards, married Adelaide, and returned to Germany. A second rebellion (953), headed by the archbishop of Mainz, CONRAD THE RED of Lotharingia, and Otto's son Ludolf of Swabia, ended when it became necessary to form a united front against the Magyars, who were decisively defeated in the Lechfeld (955). LOTHARINGIA was divided in two; Lower Lorraine (the present Low Countries) was administered by Otto's brother and chief adviser, St. BRUNO (St. Bruno the Great), archbishop of Cologne. Meanwhile in Italy, Berengar II resumed his aggressions Pope JOHN XII appealed to Otto, who entered Rome and was crowned emperor by the pope early in 962 Thus uniting Germany and Italy, Otto created the Holy Roman Empire. When Otto declared that the emperor's confirmation was required for the pope's election and that the pope owed fealty to the emperor for his temporal power, John found Otto's aid too costly; while Otto was campaigning against Berengar, the pope secretly negotiated with Otto's enemies. Otto hastened back to Rome (963) and had John XII deposed and a creature of his own elected pope by a synod over which he personally presided The Romans, seeing all independence lost, rose in 964 and restored John, but John died the same year and Otto restored his own client. Another Roman rebellion (965) Otto drowned in blood (966). Otto's campaign (966–72) to gain control over S Italy was unsuccessful, but a minor diplomatic triumph was scored when (972) Emperor John I of Byzantium gave a Greek princess in marriage to Otto's son and successor, Otto II During Otto's reign the German towns expanded and began to gain prosperity by their trade with the growing Italian market

Otto II, 955–83, emperor (980–83) and German king (973–83), son and successor of Otto I After crushing a revolt in Bavaria, Otto defeated the Danes (974) and the Bohemians (977) In 976 he deposed the duke of Bavaria and reduced the duchy by the creation of independent margraviates in the Nordgau and the East March (AUSTRIA) and a new duchy in Carinthia In 978 he invaded France in retaliation for Lothair of France's invasion of Lorraine, the inconclusive war ended in 980 Campaigning in Italy (980–82), Otto was, after some initial success, disastrously defeated by the Arabs in Calabria In 983 he held a diet of German and Italian nobles at Verona, where he procured the election of his son Otto III as German king He died in the course of an attack on Venice Regarding Germany and Italy as a united realm, Otto II felt his position as emperor more keenly than his role as German king His failures in Italy greatly weakened the imperial prestige

Otto III, 980–1002, emperor (996–1002) and German king (983–1002), son of Otto II and the Byzantine princess Theophano On Otto's accession the duke of Bavaria attempted to obtain the regency and then the crown, but the plot was frustrated and the power was exercised by Theophano till her death in 991 and by Otto's grandmother Adelaide until his majority Otto established his cousin Bruno in the vacant papacy as Gregory V (996) and restored him (998) after his expulsion by a Roman revolt After Gregory's death (999) he installed his tutor Gerbert of Aurillac as pope (see SYLVESTER II) Possessed of brilliant talents and remarkably well educated, Otto III was alternately swayed by his extreme piety, which sent him on pilgrimages and into periods of asceticism and filled him with enthusiasm for church reform, and by ideas of his high position as the scion of both the Western and the Eastern imperial houses After 998 he lived mostly in Rome, where he built himself a palace on the Aventine, dressed in Roman costume, and introduced Byzantine titles and ceremonials into his court He was popular neither in Germany nor in Italy In 1001 he was blockaded in his palace by the Roman mob, after a pathetic appeal, he was allowed to retire to Paterno, where he died Being without direct heir, he was succeeded by the duke of Bavaria, who became emperor as Henry II Otto's reign showed clearly the dangers of the union of the Germans and the Italians under a single ruler

Otto IV, 1182?–1218, emperor (1209–15) and German king, second son of HENRY THE LION, duke of Saxony He was ankling (1198–1208) to the Hohenstaufen PHILIP OF SWABIA The murder of Philip (June, 1208), though not Otto's work, revived his cause His consent to submit to a new election (Nov, 1208), without standing on the validity of his first, smoothed his path By the diploma of Speyer (March, 1209), Otto confirmed his earlier acknowledgment of the papacy's rights to the Papal States and promised aid in upholding papal suzerainty over Sicily He also conceded the freedom of episcopal elections and the unrestricted right of appeal to the pope However, no sooner was he crowned emperor (Oct, 1209) at Rome than he broke all his promises by adopting the Hohenstaufen policy of dominance over Italy He seized (1210) the lands left to the Church by MATILDA of Tuscany, then invaded Apulia and prepared to attack Sicily Pope INNOCENT III promptly excommunicated him, while the German nobles revolted and elected the Hohenstaufen, Frederick of Sicily (later Emperor FREDERICK II), as king In the ensuing war Otto was supported by the nobles of the Lower Rhine and of the northeast, as well as by his uncle, King JOHN of England, but he was defeated (1214) at BOUVINES by Philip II of France. He was deposed in 1215, but still had supporters in Saxony and returned to spend the rest of his life there.

Otto I, 1848–1916, king of Bavaria (1886–1913). Although incurably insane after 1872, he succeeded his brother Louis II under the regency of his uncle Luitpold (1886–1912) and of Luitpold's son Louis (1912–13). In 1913 Otto was deposed by parliament, and the regent became king as Louis III

Otto I, 1815–67, first king of the Hellenes (1832–62) The second son of King Louis I of Bavaria, he was chosen (1832) by a conference of European powers at London to rule newly independent GREECE He ascended the throne under a highly unpopular regency of Bavarians A military coup (1843) forced a constitution on the king. His authority was further weakened when Greece sought to attack Turkey in 1854 after the outbreak of the Crimean WAR, France and Britain as a result occupied the port of Piraeus The king's attempts to discard the constitution led to another military revolt, engineered largely by Constantine Canaris, and to his deposition In 1863 the Greeks chose a Danish prince to become their king as George I.

Otto, 1912–, Austrian archduke and pretender to the Austro-Hungarian throne, son of Emperor CHARLES I and of Empress ZITA He studied at Louvain, Belgium, and received (1935) the degree of doctor of political science After the outbreak of the Second World War he came to the United States, where he made an unsuccessful attempt to rally an Austrian legion against Germany. He returned to Europe in 1944

Otto, Nikolaus August (nē'kōlous ou'gŏost ō't ō), 1832–91, German engineer. He was conventor (1867) of an internal-combustion engine, and he devised (1876) the four-stroke Otto cycle which was widely adopted for automobile, airplane, and other motors

Ottocar I (ŏt'ukär) **or Premysl Ottocar I** (pürshĕm'-ishul ŏt'ŏkär), d 1230, duke (1197–98) and first king (1198–1230) of Bohemia. The royal title was conferred on him by Philip of Swabia and confirmed (1212) by Emperor Frederick II By securing (1216) Frederick's and the nobles' consent to the succession of his son (later King Wenceslaus I), Ottocar practically made the throne hereditary In 1221 he surrendered disciplinary rights over the clergy to the bishop of Prague, retaining control over the secular affairs of the church

Ottocar II or Premysl Ottocar II, d 1278, king of Bohemia (1253–78), son and successor of Wenceslaus I He won the duchy of Austria (1251) by election, marriage, and conquest and became involved in a long war over Styria with BELA IV of Hungary, after defeating Bela (1260), he added Styria to his possessions and, having procured the annulment of his first marriage, married a Hungarian princess In 1269 he acquired, through tricky diplomacy, Carinthia, Carniola, and Istria Thus Ottocar's domains reached to the Adriatic Sea and included most of the later Hapsburg crownlands Ottocar, though prudently refraining from seeking the imperial crown for himself, now sought to become the arbiter of the Holy Roman Empire The election (1273) of RUDOLF I of Hapsburg as German king proved Ottocar's undoing Ottocar, who contested the election of his enemy, was declared deprived of his dominions by the Diet of Regensburg (1274) and was placed by Rudolf under the ban of the empire (1275) In 1276 he yielded to a powerful German-Hungarian coalition headed by Rudolf and surrendered all but Bohemia and Moravia, with which he was reinvested by Rudolf However, Ottocar's revived ambitions and Rudolf's interference in Bohemian affairs provoked a new war On the MARCHFELD, scene of his earlier great victory over Bela IV, Ottocar was defeated and killed in a fierce battle against Germans and Hungarians Ottocar was succeeded by his son, WENCESLAUS II With the exception of George of Podebrad, Ottocar was the greatest of the native kings of Bohemia He greatly encouraged the growth and independence of the towns, thereby earning the reproach of favoring the Germans (most numerous in the towns) over the Czechs, and he sought to reduce the power of the great nobles An astute diplomat, he was also a courageous warrior. He helped to conquer East Prussia from the pagan Prussians and founded the city of Königsberg (now Kaliningrad)

Otto Indians: see OTO INDIANS.

Ottoman Empire (ŏ't ŭmun), vast state conquered in the 14th to 16th cent by the Ottoman or Osmanli TURKS (the last of the Turkish peoples to invade the Near East) and ruled until its dissolution in 1918 by the descendants of OSMAN I It was the greatest of the Moslem states. Modern TURKEY formed only part of the empire, but the terms *Turkey* and *Ottoman Empire* were often used interchangeably. The Ottoman state emerged in parts of Asia Minor after the breakdown of the empire of the Seljuk Turks The early phase of Ottoman expansion took place under Osman I, ORKHAN, MURAD I, and BAJAZET I at the expense of the Byzantine Empire, Bulgaria, and Serbia BURSA fell in 1326, ADRIANOPLE in 1365 The great Turkish victories of KOSSOVO (1389) and NIKOPOL (1397) placed large parts of the Balkan Peninsula under Turkish rule, and awakened Europe to the Ottoman danger. Constantinople was saved in 1402 by the unexpected appearance of Tamerlane, who defeated and captured Bajazet. The Turks, however, soon rallied Their empire, reunited by MOHAMMED I, expanded victoriously under Mohammed's successors MURAD II and MOHAMMED II The victory (1444) at Varna over a crusading army led by Ladislaus III of Poland was followed in 1453 by the capture of CONSTANTINOPLE Within a century the Ottomans had changed from a nomadic horde to the heirs of the most ancient empire of Europe. Their success was due partly to the weakness and disunity of their adversaries, partly to their excellent and far superior military organization. Their army comprised numerous Christians—not only captives, who were organized as the corps of JANIZARIES, but also volunteers Turkish expansion reached its peak in the 16th cent. under SELIM I and SULEIMAN I (Suleiman the Magnificent) The Hungarian defeat (1526) at MOHACS prepared the way for the capture (1541) of Buda and the absorption of the major part of HUNGARY by the Ottoman Empire, TRANSYLVANIA became a tributary principality, as did WALACHIA and MOLDAVIA The Asiatic borders of the empire were pushed deep into Persia and Arabia. Selim I defeated the Mamelukes of EGYPT and SYRIA, took Cairo in 1517, and assumed the succession to the CALIPHATE. ALGIERS was taken in 1518, and Mediterranean commerce was threatened by corsairs, such as BARBAROSSA, who sailed under Turkish auspices. Most of the Venetian and other Latin possessions in GREECE also fell to the sultans During the reign of Suleiman I began (1535) the traditional friendship between France and Turkey, directed against Austria and Spain Suleiman reorganized the Turkish judicial system, and his reign saw the flowering of Turkish literature, art, and architecture The Ottoman state was founded on two basic institutions—the army and religion Military and administrative functions were vested in the military class, while the class of the *ulemas* (the clergy) exercised the functions of judges and teachers In both classes advancement was, theoretically, based on merit However, the military and civil virtues of the ruling class were to disappear in the progressive decay that followed Suleiman's death The first serious blow to Turkey was the naval defeat of LEPANTO (1571), inflicted on the fleet of SELIM II by the Spanish and Venetians under John of Austria However, MURAD IV in the 17th cent temporarily restored Turkish military prestige by his victory (1638) over Persia CRETE was conquered from Venice, and in 1683 a huge Turkish army under Grand Vizier Kara MUSTAFA surrounded Vienna The relief of Vienna by JOHN III of Poland and the subsequent campaigns of CHARLES V of Lorraine, LOUIS OF BADEN, and EUGENE OF SAVOY ended with the Treaty of Karlowitz (1699), which cost Turkey Hungary and other territories, and from which the disintegration of the Ottoman Empire may be dated Economically, socially, and militarily Turkey remained a medieval state, unaffected by the progress of the rest of Europe Turkish domination over the northern part of Africa (except Tripoli and Egypt) was never well defined or effective, and the eastern border was inconstant, shifting according to frequent wars with Persia Of the vassal princes, only the khans of CRIMEA were generally loyal The sultans themselves had sunk into indolence and effeminacy Until the death (1617) of Ahmed I, the succession to the throne was habitually contested by all the sons of the deceased sultan, and it was the patriotic duty of the victor to kill his rivals in order to restore order This practice, though barbarous, was less harmful than the new law of succession, by which the eldest male member of the family was the heir-designate As a result of the law, the imperial princes were kept out of harm's way in luxurious semi-imprisonment until their turn came, by which time they often were hopeless alcoholics or lunatics The actual rule was usually exercised by the grand VIZIERS, many of whom were very able men (notably those of the KUPRILI family) However, palace intrigues tended to disrupt the administration and frequently led to the dismissal of the grand vizier, habitually expressed by the sending of a bowstring, with which the minister was supposed to dispatch himself to a calmer world The sultans themselves often were the creatures of the Janizaries The court of Constantinople (known as the Seraglio and the Sublime Porte) thus showed a not too happy mixture of Byzantine and Asiatic influences The most impressive aspect of Ottoman rule was the all-pervading corruption and bribery that had been raised to a system of administration The pashas and hospodars who administered the provinces and vassal states purchased their posts at exorbitant prices. They recovered their fortunes by extorting still larger sums from their subjects The peasantry—particularly the Christian *rayas* in the Balkans—was thus reduced to abject misery Besides the exaction of taxes and tributes, the Ottoman government took little interest in its provinces A good feature in later Turkish administration was the religious toleration generally extended to all non-Moslems. This, however, did not prevent occasional massacres and discriminatory fiscal practices. In Constantinople the Greeks and Armenians held a privileged status and were very influential in commerce and politics Some of the highest administrative offices were held by Greek families (see PHANARIOTS) The despotic system of government was mitigated only by the observance of Moslem law. The breakup of the state gained impetus with the RUSSO-TURKISH WARS in the 18th cent The treaties of Kuchuk-Kainarji (1784), Jassy (1792), and Bucharest (1812) cost Turkey the northern and northeastern coasts of the Black Sea. Egypt was only temporarily lost to Napoleon's army, but the Greek War of Independence and its sequels, the Russo-Turkish War of 1828–29 (see ADRIANOPLE, TREATY OF), and the war with MOHAMMED ALI of Egypt resulted in the loss of Greece and Egypt, the protectorate of Russia over Moldavia and Walachia, and the semi-independence of Serbia Drastic reforms were introduced in the late 18th and early 19th cent by SELIM III and MAHMUD II, but they came too late to heal the Sick Man of Europe, as Turkey came to be called The disintegration of the Ottoman Empire was regarded by the Western European statesmen as a threat to the general peace and became a major problem in European relations (see EASTERN QUESTION) The European powers had a large economic stake in the Turkish Empire owing to the system of capitulations (privileges accorded to foreign diplomats and traders) Originally (from 1535 to 1740) only France enjoyed preference, but subsequently treaties of capitulation were extended to other powers, and by the 19th cent Turkey had virtually surrendered its economic independence It was unable to control its own customs tariffs, and the resulting influx of foreign manufactured goods greatly harmed the native industries, which were still carried on by artisans Equally disastrous were the influx of foreign capital and the huge loans obtained by the Turkish government from abroad, which brought Turkey under total financial dependency The Ottoman Bank, founded in 1856, was the state bank, but it was in the hands of English and French capital Public works and industrial exploitation were furthered by foreign capital, but the profits went, naturally, abroad The Ottoman public debt reached staggering heights Although Turkey was theoretically among the victors in the CRIMEAN WAR, it emerged from the war economically exhausted The Congress of Paris (1856) admitted Turkey into the Concert of Europe, but this event marked the confirmation of the empire's dependency rather than of its rights as a European power The rebellion (1875) of BOSNIA AND HERCEGOVINA precipitated the Russo-Turkish War of 1877–78, in which Turkey was defeated despite its surprisingly vigorous stand The Treaty of SAN STEFANO (1878) was disastrous, but Austrian and British diplomatic intervention (see BERLIN, CONGRESS OF) mitigated its terms in favor of Turkey Nevertheless, Rumania (i e , Walachia and Moldavia), Serbia, and Montenegro were declared fully independent and Bosnia and Hercegovina passed under Austrian administration Bulgaria, made a virtually independent principality, annexed (1885) Eastern RUMELIA with impunity Sultan ABDU-L-MEJID, who in 1856 promulgated an important body of civil reforms, was followed (1861) by ABDU-L-AZIZ, whose reign witnessed the rise of the liberal party Its leader, MIDHAT PASHA succeeded in deposing (1876) Abdu-l-Aziz ABDU-L-HAMID II acceded (1876) after the brief reign of Murad V A liberal constitution was framed by Midhat, and the first Turkish parliament opened in 1877, but the sultan soon dismissed it and began a rule of personal despotism The Armenian massacres (see ARMENIA) of the late 19th cent alienated world public opinion from Turkey Abdu-l-Hamid was victorious in the Greco-Turkish war of 1897, but CRETE, which had been the issue, was lost to Turkey In the meantime the Young Turk movement, a reformist and strongly nationalist group, grew steadily and gained many adherents in the army In 1908 the rebellious Young Turks forced the restoration of the constitution of 1876, and in 1909 the parliament deposed the sultan and put MOHAMMED V on the throne Taking advantage of the Young Turk revolution, Bulgaria proclaimed its full independence and Austria-Hungary annexed Bosnia and Hercegovina in 1908, while disorders broke out in Albania and Arabia The Sick Man of Europe was at his last gasp A war with Italy (1911–12) resulted in the loss of Libya, and in the two successive BALKAN WARS (1912–13) Turkey lost nearly its entire territory in Europe to Bulgaria, Serbia, Greece, and newly independent Albania The terroristic nationalism of the Young Turks, whose leader ENVER PASHA gained virtual dictatorial power by a coup d'état in 1913, was scarcely of a nature to appease the remaining minorities in the empire The outbreak of the First World War found Turkey solidly lined up with the Central Powers. Ever since the revolution of 1908–9 Germany had obtained increasing influence over Ottoman affairs. The BAGHDAD RAILWAY was built by German interests, and the Turkish armed forces were reorganized and trained by German officers. It was Russia which first declared war on

Turkey in Nov , 1914. The United States merely severed (1917) relations with Turkey, but was not at war with the country Turkish troops were successful against the Allies in the GALLIPOLI CAMPAIGN (1915), while fighting in the Caucasus and in Mesopotamia was long indecisive In 1917, however, the British occupied Baghdad and Jerusalem Arabia rose against Turkish rule, and in 1918 Turkish resistance collapsed both in Asia and Europe. An armistice was concluded in October, and the Ottoman Empire came to an end The Treaty of Sèvres (see SÈVRES, TREATY OF) confirmed its dissolution With the victory of the Turkish nationalists, who had refused to accept the peace terms and who overthrew the sultan in 1922, the history of modern Turkey began See E S. Creasy, *History of the Ottoman Turks* (new ed , 1906), G J S L Eversley, *The Turkish Empire* (2d ed , 1923) See also bibliography under TURKEY

Otto of Freising (frī'zing), d 1158, German chronicler, bishop of Freising, half brother of Emperor Conrad III and uncle of Frederick I He wrote a world history to 1146, usually called *The Two Cities*, modeled on St Augustine's *City of God* Otto develops a philosophy of history For this reason and because of his extensive information, the chronicle is one of the most notable of medieval histories He also began a biography of Frederick I but wrote only two books, two more were added by one Rahewin. See C. C Mierow, tr , *The Two Cities* (1928)

Otto the Great see OTTO I, emperor

Ottumwa (ŏtŭm'wu, ō–), city (pop 31,570), co seat of Wapello co , SE Iowa, on both banks of the Des Moines river SE of Des Moines, settled 1843, inc 1851 An important commercial and industrial center in a farm and coal-mining area, it produces packed meat, dairy products, and farm machinery There is a monument to the Indian chief Wapello, whose grave is near by Ottumwa Heights College (junior, for women) is here

Otus. see ALOADAE

Otway, Thomas, 1652–85, English dramatist, educated at Winchester and at Oxford He left Oxford (1672) to act in London, but failed in his first part Turning author, he produced the heroic tragedies *Alcibiades* (1675), which succeeded chiefly because of good acting, and *Don Carlos* (1676) Two adaptations from the French followed, *Titus and Berenice* (1677) and *The Cheats of Scapin* (1677) *Friendship in Fashion* (1678), a comedy of the lascivious Restoration type, was then held to be very diverting Otway, frustrated in his passion for the actress Mrs Barry, mistress of Lord Rochester, joined the army on the Continent in 1678 He returned in 1679 to write his blank-verse tragedy *The Orphan* (1680), which with *Venice Preserved* (1682) probably reached the highest point of pathetic tragedy in Restoration drama Another coarse comedy, *The Soldier's Fortune* (1681), was continued in *The Atheist* (1684) Because of his disorderly personal life he died in great want His genius lay in his ability to portray the heights of passion and love and the depths of misery and despair, though his lines are occasionally marred by rant See his complete works (ed by J C Ghosh, 1932)

Ötztal Alps (ŭts'tal), mountain group, Tyrol, W Austria, S of the Inn The Wildspitze (12,379 ft) is the highest peak in the Tyrol The village of Obergurgl (alt 6,320 ft) is the starting point for mountain climbing and a skiing resort

Ouachita (wŏ'shĭtô"), river rising in W Arkansas in the Ouachita Mts and flowing southeasterly into NE Louisiana There it becomes part of the Red RIVER system The Ouachita is partially navigable and has several important cities on its banks, including Hot Springs, Ark , and Monroe, La Lakes Hamilton and Catherine, near Hot Springs, were created by the Carpenter (1931) and Remmel (1924) dams on the Ouachita as part of a Federal project for flood control

Ouachita College see ARKADELPHIA, Ark

Ouachita Mountains, range S of the Arkansas river, extending from central Arkansas into SE Oklahoma and attaining a height of 2,800 ft in Mt Magazine Several of the more beautiful parts of the region have been set aside as public parks or forest reservations

Ouagadougou or **Wagadugu** (both wagudōō'gōō), town (pop 14,012), capital of Upper Volta, French West Africa Cotton cloth is woven and peanuts are exported

Ouargla, Algeria see WARGLA

Ouchy (ōōshē'), port of Lausanne, Vaud canton, Switzerland, on the Lake of Geneva. It was a residence of Shelley and Byron and is now a resort

Oud, Jacobus Johannes Pieter (yäkō'bus yōha'nus pē'tur out'), 1890–, Dutch architect He was influential in the growth of modern architecture Contacts with abstract painting led him to conceive of buildings composed in terms of pure planes With several cubist painters in 1917 he established a review, *De Stijl* In 1918 Oud became official architect of Rotterdam and devoted himself to the production of extensive housing groups He soon developed his style and technical methods, using reinforced concrete for the severely simple forms involved and bringing them to full integration in the dwellings (built 1921–22) of the Oud-Mathenesse workingmen's colony Oud is also known for the row of model houses at the Stuttgart exposition of 1927 and for the workmen's dwellings at the Hook of Holland (1926)

Oude Maas, river see MEUSE.

Oudenarde (ōō'dənard, ou'–), Flemish *Oudenaarde* (ou"dənär'də), Fr *Audenarde* (ōdənärd'), town (pop 6,525), East Flanders prov , NW Belgium, on the Scheldt (Escaut) river SSW of Ghent Here in 1708 the allies under Marlborough and Eugene of Savoy defeated the French under Vendôme in the War of the Spanish Succession

Oudh, province, India see UNITED PROVINCES.

Oudh, town, India see AJODHYA

Oudiné, Eugène André (ûzhĕn' ädrā' ōōdēnā'), 1810–87, French medallist and sculptor He made numerous portrait busts, statues, and reliefs, but his highest achievement was in the field of medallic art and the designing of coins

Oudinot, Nicolas Charles (nēkôlä' shärl' ōōdēnō'), 1767–1847, marshal of France A veteran of the French Revolutionary campaigns, he was created duke of Reggio by Napoleon He commanded the national guard during the Hundred Days, participated in the Spanish expedition of 1823, and was raised to the peerage under the Bourbons

Oudjda, French Morocco see OUJDA

Oudry, Jean Baptiste (zhä' batēst' ōōdrē'), 1686–1755, French animal painter, pupil of Largillière He became court painter to Louis XV and recorded in his paintings and tapestry designs the hunts of that monarch He was also director of the Beauvais and the Gobelin tapestry works He is well known for his illustrations of La Fontaine's *Fables* His work is to be seen in galleries throughout France The Metropolitan Museum has *Ducks* and *Dogs Guarding Dead Game*

Ouessant, France see USHANT

Ouezzane, Morocco see WAZZAN.

Ougrée (ōōgrā'), commune (pop 17,869), Liége prov , E Belgium An industrial suburb of Liége, it has blast furnaces.

Ouida (wē'dä), pseud of **Louise de la Ramée** (du lä rŭmā'), 1839–1908, English novelist. She was a prolific writer of romantic tales, in florid prose, of which the best are *Under Two Flags* (1867), *Moths* (1880), and *In Maremma* (1882) Her stories for children include *Two Little Wooden Shoes* (1874), *Bimbi* (1882), and the noted *Dog of Flanders* (1872).

ouija board see PLANCHETTE

Oujda or **Oudjda** (both ōōjdä'), city (pop 88,658), NE French Morocco, founded c 994 Near the frontier, it frequently changed hands It was temporarily occupied by the French in 1844, 1859, and 1907 Oujda is the market of an agricultural area, and it is a commercial center linking Algeria and Morocco

Oulu (ô'lōō), Swed *Uleåborg* (ū'lāôbôr"yu), city (pop 30,315), NW Finland It is a Baltic seaport on the Gulf of Bothnia and at the mouth of the Oulu river, a logging waterway It has important lumber yards and shipyards, cellulose mills, sawmills, and leather works; lumber, tar, and fish are exported Oulu is also a dairy center and tourist resort The city grew around a castle founded in 1375 by the Swedes as an outpost against the Russians, was incorporated in 1605, and flourished in the 18th cent It was almost entirely destroyed by fire in 1822 and was partly destroyed by an allied fleet during the Crimean War

Oumansky, Constantine Aleksandrovich (kŭnstŭntyēn' ûlyĭksan'drŭvĭch ōōmän'skē), 1902–45, Russian diplomat He was Soviet ambassador to the United States (1939–41) and to Mexico (1941–45). In Mexico he exerted himself successfully in restoring relations between Russia and several Latin American nations. He was killed in an airplane crash

Oundle (oun'dul), urban district (pop 2,001), Northamptonshire, England, on the Nene It has old houses and inns, wide streets, and a fine medieval church Oundle School was founded in 1544 by Sir William Laxton, lord mayor of London.

Our American Cousin, play see TAYLOR, TOM

Ouray (ōōrā', yōōrā'), city (pop 951, alt c 7,800 ft), co seat of Ouray co , SW Colo , settled 1875, inc. 1884 Hot springs make it a health resort Mining, stock raising, and farming are carried on in the area.

Ourcq (ōōrk), river, 50 mi long, Aisne and Seine-et-Marne depts , N France, a tributary of the Marne It traverses the CHÂTEAU-THIERRY battlefield of the First World War, where American troops distinguished themselves in 1918 Earlier in the war, the French halted (1914) the German advance at the Ourcq in the first battle of the Marne

Our Father. see LORD'S PRAYER

Ourique (ôrēk'), town (pop 1,413), SE Portugal, in Alentejo, S of Beja It owes its fame to the tradition that Alfonso I of Portugal won his great victory over the Moors here in 1139. Actually it is now universally admitted that the battle of Ourique was not fought here but at some undetermined place, probably near Santarém. Nevertheless the alleged battlefield is still a tourist sight.

Ouro Prêto (ô'rōō prā'tōō) [Port., = black gold], city (pop 8,928), in Minas Gerais state, E Brasil, in the mountains SE of Belo Horizonte Founded in the gold rush about the end of the 17th cent , it was in the 18th cent. a prosperous mining town and one of the chief centers of Brasil, the home of the Minas literary group and the chief seat of the abortive move for independence (the *Inconfidência mineira*) led by TIRADENTES. It sank as the mines lost importance but remained the capital of Minas until 1897, when Belo Horizonte became the capital Since 1933 the city has been a national museum, preserving the 18th-century atmosphere of narrow, twisting, cobbled streets, the old mint, old houses, and the old churches, particularly the Church of São Francisco, decorated with the magnificent carvings of Aleijadinho

Ourthe (ōōrt), river, c 100 mi long, Belgium It rises in Luxembourg prov and winds NW through the Ardennes to join the Meuse at Liége

Ouse (ōōz), rivers in England **1** Also called **Great Ouse,** in the counties of Northampton, Buckingham, Bedford, Huntingdon, Cambridge, and Norfolk It rises near Banbury, and flows 156 mi E, NE, and finally N past Buckingham, Olney, Bedford, St Neots, Huntingdon, and Ely to the Wash near King's Lynn It is navigable for two thirds of its course **2** Sussex, rising near Horsham and flowing 30 mi E and S past Lewes to the English Channel at Newhaven **3** Yorkshire, formed by the confluence of the Ure and Swale rivers NW of York and flowing 45 mi SE past York to join the Trent E of Goole and form the Humber It is navigable below York The Nidd, Wharfe, Derwent, Aire, and Don rivers are tributaries

Outardes (ōōtärd'), river of E central Quebec, rising in the Otish Mts and flowing 300 mi S through Pletipi Lake, with many waterfalls, to the St Lawrence SW of Baie Comeau

outboard motor see MOTORBOAT

Outer Barrier, series of sandy barrier islands, extending for c 75 mi along the south shore of Long Island, SE N Y , from Rockaway Beach at the west to the east end of Shinnecock Bay and separating Great South Bay, Moriches Bay, and Shinnecock Bay from the Atlantic East Rockaway, Jones, Fire Island, Moriches, and Shinnecock inlets pierce the barrier, forming the narrow, sandy islands which are the sites of Atlantic Beach, Long Beach, Jones Beach State Park and other recreational areas Fire Island, and Westhampton Beach

Outer Hebrides, Scotland see HEBRIDES

Outer Mongolia see MONGOLIA

outlaw. In Anglo-Saxon times certain offenses put a man outside the protection of law His property was forfeit and his slayer did no wrong He would have to make his home in the wilderness and live by hunting and robbery After the Norman Conquest, the law of outlawry changed until finally all laws on the subject were repealed or became obsolete, and no person was deprived of legal protection Outlaw came to mean one who persisted in crime, usually adventurous robbery Robin Hood is an outlaw famous in English balladry In America outlaws such as Jesse James often won popular admiration

Outremont (ōōtrumō'), city (pop 30,751), on Montreal island, S Que , a suburb of Montreal

ovary (ō'vurē), sexual gland of the female in which the ova (female reproductive cells) are formed In the human and other higher animals there are two such glands, one on each side of the uterus, supported by a fold of peritoneum known as the broad ligament The ovary, a ductless gland, secretes ovarian hormones which control MENSTRUATION and which, in association with the pituitary gland secretions, control the development of the mammary glands Immature eggs (ova) are present in the ovary at birth At puberty successive eggs mature, and in the human being one is released from the ovary about every 28 days When the ovum is fertilized by the sperm it develops into an individual like the parent In flowering plants that part of the pistil containing the ovules is called the ovary

ovenbird, name applied in North America to a bird of the wood warbler family It is about the size of an English sparrow, olive brown above, white below, with a spotted breast and sides and a black-bordered orange crown Its nest of grass, leaves, and hair is roofed over and resembles a Dutch oven More terrestrial than other warblers, it walks daintily through the forest, hunting for insects It flicks its tail up and down when it pauses in its progress An ecstatic flight song, which compares favorably with that of the European skylark, is less familiar than its cries of "tea-cher" repeated in crescendo with accent on either the first or the second syllable In South America the name ovenbird refers to several species of thrushlike birds which build rounded nests of mud.

Overbeck, Johann Friedrich (yō'hän frē'drĭkh ō'vurbĕk), 1789–1869, German religious painter His opposition to the pseudo-classicism of the Vienna Academy led to his expulsion, whereupon he went to Rome and, with Peter von Cornelius, Veit, Schadow-Godenhaus, and others, formed the group known as the NAZARENES. His first real successes were his frescoes for the Casa Bartholdy

(representing scenes from the life of Joseph) and for Villa Massimo (scenes from Tasso's *Jerusalem Delivered*) Among his most notable paintings are *Christ's Entry into Jerusalem*, *Christ's Agony in the Garden*, and *Triumph of Religion in the Arts* A sincere Christian, Overbeck sought to make his art serve religion His influence was due rather to the purity of his doctrine than to his work, which is often lacking in pictorial appeal and in color He worked strictly from imagination

Overbury, Sir Thomas, 1581–1613, English author and courtier He enjoyed the status of friend and adviser to Robert Carr, an Oxford acquaintance Overbury came into favor with James I when Carr was created Viscount Rochester (1611) and earl of Somerset (1613) Overbury and Carr quarreled violently when Overbury disapproved of Carr's marriage with Frances Howard, divorced wife of the earl of Essex Overbury's hostility was so marked that the Howards brought pressure to bear, and the king had Overbury imprisoned in the Tower, where he was poisoned Carr and Frances Howard were convicted, but their lives were spared by the king Overbury's best-known poem, *A Wife* (1614), outlined his conception of the ideal wife He was the leading writer of "characters," brief informal essays describing a type or an individual Overbury added the element of wit to the classical Theophrastan character form See Sir E A Parry, *The Overbury Mystery* (1925), W J Paylor, *The Overburian Characters* (1936)

overhead, in accounting, the sum of such expenses of a business as cannot be charged against any specific part of the business Taxes, interest, and rent are examples of overhead charges

Overijssel (ō'vurĭ'sul), province (1,300 sq mi , pop 633,558), NE Netherlands, between the IJsselmeer in the west and Germany in the east Zwolle is the capital, other cities include Almelo, Deventer, and Enschede Drained by the IJssel river and by several canals, the province is generally sandy and level and supports extensive stock raising and dairying Textile milling and machine manufacture are the main industries The lordship of Overijssel belonged in the Middle Ages to the bishops of Utrecht, but was sold (1527) to Emperor Charles V It joined (1579) in the Union of Utrecht and became one of the United Provs of the Netherlands Another spelling is Overyssel

Overland, residential city (pop 2,934), E Mo , near St Louis, inc 1939

Overland Trail, name given to several trails of westward migration in the United States It is sometimes used to mean all the trails westward from the Missouri to the Pacific and sometimes for the central trails only Particularly, the term has been applied to a southern alternate route of the OREGON TRAIL It branched from the parent trail at the junction of the North Platte and the South Platte and followed the South Platte to present Julesburg, where it left the river and went to Fort Laramie, rejoining the parent trail The term is also particularly applied to a route to California which went W from Fort Bridger to the Great Salt Lake (thus duplicating in part the Mormon Trail), then on to Sutter's Fort in California, it was much used by California-bound immigrants Jay Monaghan, *The Overland Trail* (1947), is primarily about the Oregon Trail

Overton, town (pop 2,313), E Texas, WSW of Shreveport, La , and near Henderson, Texas, in the East Texas oil field

overture, instrumental musical composition written as an introduction to an opera, play, ballet, or oratorio The earliest Italian opera overtures were simply pieces of symphonic music and were called *sinfonie* Lully standardized the French overture, with an opening section in pompous chordal style and dotted rhythms followed by a fugal section This type of overture was much imitated, an example being the overture to Handel's *Messiah*, and even became part of the instrumental suite of the late baroque German composers In some of the 17th-century Neapolitan operas, to some extent in Rameau's operas, and most notably in Gluck's the overture began to foreshadow what was to come in the opera In many 19th-century operas the overture is simply a potpourri of the opera's tunes The concert overture, a composition in one movement which may be in any of a variety of styles, arose in the 19th cent , those of Brahms, Mendelssohn, and Beethoven are outstanding

Overyssel, Netherlands see OVERIJSSEL

Ovid (Publius Ovidius Naso) (ŏ'vĭd), 43 B C –A D 18, Latin poet, b Sulmo (Sulmona), in the Apennines, NE of Rome He studied for the law, but early became one of the literary circle at Rome His poems and songs were popular, and he was known to Augustus In A D 8, for no clearly known reason he was suddenly exiled to Tomi, a Black Sea outpost, S of the Danube He died at Tomi The poems of Ovid fall into three groups, erotic poems, mythological poems, and poems of exile All his poems but the *Metamorphoses* and a fragment (*Halieutica*) are in elegiacs, which he brought to highest perfection. The love poems include *Epistulae heroidum* [letters from heroines], supposed to have been written by ancient heroines to their absent husbands or lovers, *Amores* [loves], 49 short poems, chiefly celebrating the charms of the poet's mistress Corinna, probably fictitious, *Ars amatoria* [art of love], didactic, in three books, with complete instructions on how to make love, two books written for men, one for women, *Remedia amoris* [love cures], further instructions, this time telling how to free oneself from a lover In the second category are *Fasti*, six books on the days of the year from January to June, giving the myths, legends, ritualistic details, and notable events called to mind on each day, and the *Metamorphoses* This his most important work, in hexameters, a collection of myths, sets forth the changes of form which various persons and things had undergone from the change of the world out of chaos to the transformation of Julius Caesar into a star Notwithstanding the diversity and amount of the matter, the parts and transitions are so well harmonized that the reader is carried along with interest unabated The principal poems of exile are *Tristia* [sorrows], five books of short poems, depicting the poet's wretchedness in his first five years of exile and his pleas for mercy, and the *Epistulae ex Ponto* [letters from the Black Sea], in four books, addressed to various persons in Rome, belonging to the poet's decline in his last years Ovid's ideal of poetry was the ministry of pleasure, there is in his verse a lack of seriousness which contrasts with the tone of Vergil and Horace Ovid possessed a luxuriant imagination and great facility of language, his verse is simple and flowing He has always been a favorite poet, and his works have been frequently translated See E K Rand, *Ovid and His Influence* (1925), Herman Frankel, *Ovid* (1945)

Ovid (ō'vĭd), village (pop 1,248), S Mich , on the Maple river and NE of Lansing, platted 1857, inc 1869 The vicinity is rich in Indian earthworks and village sites

Oviedo (ōvyā'dhō), city (pop 51,410), capital of Oviedo prov and of Asturias, N Spain, on a hill slope near the great mining district of the Cantabrian Mts Oviedo is one of the most important industrial centers of Spain, ordnance, firearms, gunpowder, textiles, and many other products are manufactured in its suburbs Founded c 760, Oviedo flourished in the 9th cent as the capital of the Asturian kings, but lost much of its importance after the capital was transferred to Leon early in the 10th cent The cathedral, begun in 1388, contains the tombs of the Asturian kings and has a high square tower Adjoining it is the Cámara Santa (9th and 11th cent), which housed the cathedral's store of sacred relics and treasures, famous over all Spain The Univ of Oviedo was founded in 1604 The city suffered severely in the revolt of the Asturian miners in 1934 and in a siege in the early days of the civil war Near by at Naranco are two 9th-century churches

Oviedo (ōvē'dō), town (pop 1,356), central Fla , E of Lake Apopka, inc 1925

Ovoca see AVOCA, river

ovolo see MOLDING

ovum, in biology, a specialized sexual CELL called the egg cell or simply egg It is the female sexual cell, or female gamete, as distinguished from the male sexual cell (SPERM), or male gamete In the higher animals it differs from the sperm cell in that it is larger (because of the great amount of food material stored in it), nonmotile, and smoothly spherical or oval without any processes (such as the flagellum or lashlike process of the sperm) protruding from its surface Like the sperm, however, it has a single nucleus containing one or more small dense bodies called nucleoli and the darkly staining material (chromatin) that forms the bodies (chromosomes) concerned in heredity The mammalian ovum was discovered by K E von Baer Ova are produced in the reproductive organs (ovaries) of the female, being formed from cells of the reproductive tissue (called primordial germ cells) in a complicated process called oogenesis Before fertilization, the ovum, like the sperm, undergoes a series of divisions (this stage in development is known as maturation) by which the number of chromosomes in the mature ovum is reduced to one half the number normally in the cells of the individual This reduction division is known as meiosis (see MITOSIS) In the course of the process an ovum gives rise to three polar bodies (small nonfunctional cells) into which chromosomes pass at each division, and only one functional ovum is formed The union of mature sperm and egg is known as FERTILIZATION and results in a single cell, which, because the sperm and egg each have but one half the normal number of chromosomes, has a full number of chromosomes The cell resulting from the union is known as the fertilized ovum or egg It undergoes a series of divisions, the process being known as cleavage, which results finally in a hollow mass of cells called the blastula which has a wall one cell thick. From the blastula, by the invagination (i e , the bending inward) of a part of its wall, a cuplike body with a wall two cells thick develops, which is called the gastrula and from which the new individual finally develops In all animals reproducing by fertilization, the production and maturation of the ovum, its fertilization, and subsequent development to the gastrula stage are essentially the same In plants which reproduce by fertilization, two kinds of sexual cells are produced as in animals In the mosses and ferns, for example, egg cells are formed in special organs called archegonia, and like the ova of animals have but one half the normal number of chromosomes In the reproductive process they undergo a union with the sperm, which is commonly flagellated and motile like that of animals In the flowering plants the ovary in which the egg cells are formed is situated in the flower at the base of the pistil After fertilization by a sperm produced by a pollen grain, the fertilized egg develops into the embryo of the seed Although the term *ovum* is restricted to the single sexual cell as described, the term *egg* is commonly used to indicate a more complex structure, as a bird's egg, which is only in part produced in the ovary of the bird The yolk of such an egg is in reality a single ovum, or female sexual cell, swollen by the large amount of nutrient material stored within its outer membranes The rest of the egg (the "white" or albumen, the shell, and its membrane) is not cellular and is secreted around the ovum as it passes down the oviduct The ovum undergoes maturation and is fertilized before the albumen, membranes, and shell are secreted If the ovum has been fertilized, cleavage has already begun by the time the egg is laid The development of a new individual from an unfertilized ovum is called PARTHENOGENESIS

Owain Gwynedd (ō'wān gwĭ'nĕdh), d 1170, prince of North Wales, ruled 1137–70 His period saw a resurgence of Welsh national spirit By 1152 the Welsh princes, taking advantage of Stephen's troubled rule, had reoccupied much territory earlier wrested from them, but Henry II, invading North Wales in 1157, joined Rhys ap Gruffydd of South Wales in a successful revolt, and Wales was left in comparative peace until after Owain's death

Owasco Lake (ōwă'skō), c 11 mi long, W central N Y , one of the FINGER LAKES Auburn is at its outlet

Owatonna (ōwutō'nŭ), city (pop 8,694), co seat of Steele co , SE Minn , S of St Paul, settled in the early 1850s It is an industrial and trade center for a dairy, farm, and market-garden region with mineral springs A state school for dependent children was opened here in 1886 In 1933 the city was selected by a group from the Carnegie Foundation and the state university for an experiment in community art education There is a school for boys here

Owego (ōwē'gō), village (pop 5,068), co seat of Tioga co , S N Y , on the Susquehanna and between Binghamton and Elmira, settled 1787, inc 1827 Shoes and furniture are made Thomas C Platt was born here

Owen, David Dale (ō'ĭn), 1807–60, American geologist, b Scotland, studied at the Univ of London, grad Ohio Medical School, 1836 In 1827 he had come to the United States and settled in New Harmony Ind , where his father, Robert Owen, had started a socialistic community In 1837 he was appointed state geologist of Indiana, two years later he surveyed parts of Wisconsin and Iowa and then was U S geologist (1847–52) Further geological studies were made by him as state geologist for Kentucky from 1854 to 1859 and for Arkansas from 1857 to 1859

Owen, John, 1616–83, English Puritan divine and theologian In 1637 he left Queen's College, Oxford, because of Archbishop William Laud's statutes and turned to Presbyterianism In 1646 he shifted to Independency or Congregationalism In the civil war Owen supported the parliamentary cause He so impressed Oliver Cromwell by his speech before Parliament the day after the execution of Charles I that Cromwell took him as chaplain to Ireland and Scotland and had him appointed (1651) dean of Christ Church, Oxford, and vice chancellor (1652) of the university He was ejected (1660) from Christ Church but later found favor with Charles II In 1673 Owen became pastor of an Independent congregation in London A man of piety and learning and a defender of nonconformity, he was called to the pastorate of First Church, Boston, Mass , and to the presidency of Harvard, but he refused Owen's writings include devotional literature and treatises against Arminianism and Socinianism His works were edited by Thomas Russell (with a biography by William Orme, 28 vols , 1826) and by W H Goold (with a biography by Andrew Thomson, 24 vols , 1850–55) See James Moffatt, *The Golden Book of John Owen* (1904), Reginald Kirby, *Threefold Bond* (1936)

Owen, Sir Richard, 1804-92, English zoologist and comparative anatomist He studied medicine in Edinburgh and in 1827 joined the staff of the Hunterian museum of the Royal College of Surgeons, where he was conservator and also first Hunterian professor of comparative anatomy and physiology (1836–56) As superintendent of natural history for the British Museum (1856–83), he organized the Natural History Museum at South Kensington Owen's contributions to science were many and important. His chief writings were

Memoir on the Pearly Nautilus (1832), *Catalogue of the Physiological Series of Comparative Anatomy* (1833–40), *Trichina spiralis* (1835), *Odontography* (1840–45), works on the comparative anatomy and physiology of the invertebrates (1843) and the vertebrates (1866–68), and studies in paleontology

Owen, Robert, 1771–1858, British social reformer and socialist, pioneer in the cooperative movement The son of a saddler, he had little education, but was an omnivorous reader At the age of 10 he was working, having learned the textile business thoroughly, he rose rapidly, becoming by 1794 a successful cotton manufacturer in Manchester In 1800 he moved to New Lanark, Scotland, where he had bought, with others, the mills of David Dale (whose daughter he married) Here he reconstructed the community into a model industrial town with good housing and sanitation, nonprofit-making stores, schools, and, for the time, excellent working conditions Withal, mill profits were increased New Lanark became famous in England and abroad, and Owen tried to spread his ideas The Factory Act of 1819, though emasculated by the House of Commons, was instigated by him He also proposed the formation of a number of cooperative agricultural-industrial communities, experimenting in England and America, where he established (1825) the ill-fated community of NEW HARMONY, Ind Failing to gain the support of the government, partly because of his avowed agnosticism, Owen turned to the masses He promoted the National Equitable Labour Exchange, based on exchange of goods for equal values of labor, rather than money, and other cooperative societies for mutual trading For a time, before its suppression by the government, Owen gave his aid to the trade-union movement, advocating the uniting of unions with cooperative societies His central idea was that men's characters are molded by their environments and can be changed for the better in a society based on cooperation Even in his old age, despite the fact that he had depleted his fortune in his experiments, Owen continued to expound his social, moral, and economic beliefs Late in life he was converted to spiritualism Chief among his extensive writings are *A New View of Society, or, Essays on the Formation of Character* (3 vols, 1813–14), *Report to the County of Lanark* (1821), and his autobiography (1857–58) Several biographies of him have been written, including those by Frank Podmore (1906) and G D. H. Cole (2d ed , 1930)

Owen, Robert Dale, 1801–77, American social reformer, b Scotland, son of Robert Owen He studied at his father's New Lanark school and in Switzerland In 1825 he went to NEW HARMONY, Ind There he met Frances WRIGHT, with whom he established (1829) in New York the *Free Enquirer*, a paper opposing organized religion and urging wide social changes In this and in his *Moral Philosophy* (1830) Owen advocated birth control publicly for the first time in America He later became active in Indiana and U S politics As a member of Congress (1843–47) he was instrumental in the founding of the Smithsonian Institution When the Indiana constitution was revised in 1850, Owen secured an extension of property rights for married women and state provision for public schools He served (1853–58) as minister to Naples, where he became a spiritualist After his return to the United States he strongly advocated the emancipation of slaves and helped investigate the condition of the freedmen His writings include *An Outline of the System of Education at New Lanark* (1824), *Hints on Public Architecture* (1849), *The Wrong of Slavery* (1864), *The Debatable Land between This World and the Next* (1872), a novel, a play, and numerous pamphlets See the autobiography of his early years, *Threading My Way* (1874), biographies by R W Leopold (1940) and Eleanor Pancoast and A E Lincoln (1940)

Owen, Ruth Bryan, 1885-, American public official, b. Jacksonville, Ill , daughter of William Jennings BRYAN She studied (1901–3) at the Univ of Nebraska, and, interested in politics from childhood on, she was her father's secretary in his presidential campaign in 1908. She married (1910) Reginald Owen, a British engineer After Owen's death in 1927 she served (1929–33) in the U S Congress and was appointed (1933) minister to Denmark, the first woman minister of the United States She married Boerge Rohde of the Danish army, and she resigned as minister in 1936 She wrote *Denmark Caravan* (1936), *Look Forward, Warrior* (1942), and *Caribbean Caravel* (1949)

Owen, city (pop 1,083), central Wis , W of Wausau and on the North Fork of the Poplar, settled c. 1890, inc as a village 1904, as a city 1925

Owen Glendower (glĕn'dou"ur, glĕndou'ur), 1359?–1416?, Welsh leader A scion of the princes of Powys, he was also claimant through his mother to the lands of the Lord Rhys (RHYS AP GRUFFYDD). After years as a law student and a soldier in England, he returned to Wales, where he was one of the most powerful lords In 1400 he led a revolt against English rule The immediate occasion was a quarrel with Lord Grey of Ruthin, a typical border baron who hated "Welch doggs," but deeper causes of the national upheaval which followed lay in Welsh antagonism toward their Anglo-Norman overlords, Welsh resentment of unjust English laws and administration, and widespread economic discontent Owen, proclaimed (Sept 16, 1400) prince of Wales by his followers, was an elusive and daring guerrilla fighter, who showed his skill most notably in 1404 when he captured the key castles of Aberystwyth and Harlech He kept the revolt against HENRY IV burning, and the Percys—Sir Henry Percy (Hotspur), his father, Henry Percy, earl of Northumberland, and Thomas Percy, earl of Worcester—and Sir Edmund Mortimer (uncle of the 5th earl of March) allied themselves with him. In fact, Sir Edmund soon married Owen's daughter. Owen grew as a statesman, was recognized by Scotland and by Charles VI of France, and organized a Welsh government which included a representative parliament The failure of the Percys at the battle of Shrewsbury (1403), in which Owen did not take part, coupled with the failure of an expedition from France on his behalf (1405), weakened him, and the recapture by the English of Aberystwyth (1408) and Harlech (1409) left him powerless He disappeared into the mountains and refused to take advantage of the general amnesty issued by Henry V The revolt left Welsh society in ruins, but Owen's creative visions and plans for his people helped to mold unity of feeling in modern Wales He appears (with mythical attributes) in Shakspere's *Henry IV, Part I*

Owens, Jesse, 1915–, American Negro track star, b Alabama He is also called John Cleveland Owens, although his original name is said to be simply J. C Owens After his family moved to Cleveland he excelled at track and field events in high school He won the broad-jump titles at the outdoor (1933–34) and indoor (1934–35) meets of the National Amateur Athletic Union, and while on the track team of Ohio State Univ , Owens broke (1935–36) several world records at broad jumping, hurdle racing, and flat racing At the 1936 Olympic games at Berlin, Jesse Owens, on the U S team, astounded the world and upset Hitler's "Aryan" theories by equaling the world mark (10 3 sec) in the 100-meter race, by breaking world records in the 200-meter race (20 7 sec) and in the broad jump (26 ft. 5$^{3}/_{4}$ in), and by winning also (along with Ralph Metcalfe), the 400-meter relay race Later the same year Owens was barred by the A A U because he failed to go on a scheduled trip to Sweden with a team of American track stars He later participated in professional exhibitions, led a dance band, worked at odd jobs, and ran a sporting-goods firm in Detroit

Owens, river of E California rising in the Sierra Nevada SE of Yosemite National Park and flowing c 120 mi south-southeast, nominally to enter Owens Lake (now nearly dry), near Mt Whitney At a point c 43 mi above Owens Lake, an aqueduct diverts the river's water to Los Angeles, such as is not diverted flows on to Owens Lake, there to disappear by evaporation Bishop is in the Owens river valley

Owensboro, city (pop 30,245), co seat of Daviess co , W Ky , on the Ohio and SW of Louisville, settled c 1800, inc 1866 It is an important oil center and tobacco market and a shipping point for coal and farm products Its varied manufactures include radio tubes, electric-light bulbs, foodstuffs, and whisky Mt St Joseph Junior College (for women) is near

Owen Sound, city (pop 14,002), S Ont , on Owen Sound (an arm of Georgian Bay of Lake Huron) and NW of Toronto, founded 1840 It is a port and railroad terminal In a farming region, it has large grain elevators A hydroelectric plant is near by

Owen Stanley Range, on SE New Guinea, containing Mt Victoria (13,240 ft), highest peak of the Territory of Papua The region is largely jungle In the Second World War the Japanese attempted in 1942 to reach Port Moresby, the Allied stronghold, through the mountain pass at Kokoda, but the drive was checked by Allied forces

Owensville. 1 Town (pop 1,188), SW Ind , NNW of Evansville, settled 1817, inc 1881 The area yields oil 2 City (pop 1,439), E central Mo , ESE of Jefferson City, in a region producing clay, flint, and diaspore, inc 1900

Owenton, town (pop 1,190), co seat of Owen co., N Ky , N of Frankfort, in a farm area.

OWI See OFFICE OF WAR INFORMATION.

owl, chiefly nocturnal bird of prey, found in most parts of the world and related to the nighthawk and whippoorwill Superficially only they resemble hawks Owls have large, strong feet, hooked bills, and long, sharp claws Their eyes, which are directed forward and surrounded by a disklike arrangement of feathers, are adapted for seeing in partial darkness Although they can see in daylight, the majority sleep by day in caves, hollow trees, or other secluded places. So soft and fluffy is the plumage that their flight is almost noiseless The order of owls is divided into two families the barn owls, which can be identified by their heart-shaped faces, comprise one, and all the remaining species the other Owls destroy rodents and insect pests Less than 6 in long is the elf owl of the southwest cactus country, while the eagle owls of Europe and Asia and the horned owl reach 2 ft or more in length. The burrowing owl of North and South America lives in deserted burrows of prairie dogs or other animals or digs its own home The familiar screech owl has a piercing, wailing cry. Common to the Old and New Worlds are the arctic snowy owl, the barn owl, and the short-eared and the long-eared owls. In England the tawny owl is common The owl often symbolizes wisdom.

Owl and the Nightingale, The, Middle English poem written probably by a certain Nicholas de Guildford of Dorsetshire about the beginning of the 13th cent It is in 2,000 lines of octosyllabic couplets, describing a debate between the owl and the nightingale as to their respective merits The argument probably represents in allegory the contest between the older didactic poetry (owl) and the newer secular love poetry (nightingale), apparently favored by the poet himself Conversational diction, humor, and dramatic touches make this poem one of the best of the period.

Owosso (ōwō'sō), city (pop. 14,424), S Mich , on the Shiawassee and NE of Lansing, settled c 1835, inc 1859 Machinery, stoves, caskets, and canned goods are made A log cabin built in 1836 is now a historical museum Thomas E Dewey was born at Owosso An Indian effigy mound and several Indian garden beds are here

Owyhee (ōwī'hē, ōwī'hē), river rising in several branches in SW Idaho, N Nevada, and SE Oregon and flowing NE across SE Oregon to the Snake near Nyssa In 1863 gold and silver were discovered in the region, and for a short time there were many mining camps The Owyhee reclamation project, established in 1928 by the Bureau of Reclamation, improves some 102,500 acres W of the Snake river, 82,000 acres in Oregon near the mouth of the Owyhee, and 30,500 acres in SW Idaho, adjacent to Homedale Owyhee Dam (constructed 1928–32), c 21 mi SW of Nyssa, is 417 ft high and 833 ft long and forms a reservoir 52 mi long The project is contiguous with the BOISE PROJECT and the project at VALE and is closely associated with them Owyhee is a form of the name Hawaii, two Hawaiians, employees of fur traders, were murdered here

oxalic acid (ŏksă'lĭk), strong, organic acid, a colorless, crystalline solid with a sour taste, melting at 190°C It is soluble in both hot and cold water and in alcohol It forms many salts (oxalates), of which those of potassium and calcium are most common The acid is present by itself or in its salts in many plants, as oxalis, sorrel, and rhubarb, but rarely in quantities great enough to be injurious It is used for bleaching cork, leather, straw, and wood, in printing cloth, and to remove stains (as ink) from cloth It is prepared in various ways, e g , commonly, by the treatment of starch with nitric acid, by the reaction of alkalies and nitric acid, and by treating cellulose with alkalies and sulphuric acid The acid and its soluble salts are poisonous (for antidote, see POISONING, table)

oxalis (ŏk'sălĭs) or **wood sorrel,** any species of the genus *Oxalis* (sometimes separated into three genera, *Oxalis*, *Ionoxalis*, and *Xanthoxalis*) Most of the cultivated kinds are tropical herbs used as window plants Commonly the leaves are clover-like, and the dainty flowers white, pink, purple, or yellow Both leaves and flowers usually respond to darkness with "sleep" movements A number of species grow wild in North America, including the white wood sorrel (*Oxalis acetosella*), widely distributed in the North Temperate Zone and one of the plants identified as the SHAMROCK This—and to a lesser extent other species—has long been used for salads and greens because of the pleasantly acid taste, these species contain OXALIC ACID The tubers of some South American kinds have been used for food

oxbow lake, stagnant lake formed in the abandoned river bed when a river cuts through the neck of one of the meanders or loops characteristic of the course of rivers of slow current Without outlet and usually without inlet, the oxbow lake often becomes a marsh or swamp and finally, through evaporation and the growth of vegetation, disappears

Oxenstierna, Count Axel Gustaffson (ŏk'sunstûr"nu, Swed ak'sul gŭ'stafsôn ōōk'sunshĕr"na), 1583–1654, Swedish statesman, a leading figure in the THIRTY YEARS WAR during the reigns of GUSTAVUS II and CHRISTINA. He studied at the universities of Rostock, Jena, and Wittenberg and entered the service of the state. He proved his ability as a diplomat and in 1612 was made chancellor His administrative ability complemented the military prowess of the king Gustavus's reign was one of almost continuous foreign campaigns, and the actual administration of the state was in the hands of the chancellor. He also organized the conquered territories, skillfully managed financial affairs, and aided Gustavus's wars by his diplomatic victories In 1629 he arranged a favorable truce with Poland, freeing the army for the campaign in Germany. Habitually cautious, he opposed Sweden's entry into the Thirty Years War, but acceded to the king's wishes and devoted his

energies to keeping supplies and troops at the command of the king. After the death (1632) of Gustavus II at Lützen, the diet granted Oxenstierna full control of Swedish affairs in Germany, and he directed the warfare. At a congress at Heilbronn (1633), he managed to weld the German Protestant princes into some semblance of unity. The defeat at Nördlingen (1634) forced Oxenstierna to solicit direct assistance from France. After long negotiations with Cardinal Richelieu he secured enlarged subsidies and the open entry of France into the conflict (Treaty of Wismar, 1636). As the dominant member of the council of regency in Christina's minority and virtually ruler of Sweden (1632–44), he followed a cautious foreign policy and distinguished himself by his great program of reforms. These covered a wide range of commercial, administrative, and social improvements. He was the author of the constitution of 1634, which centralized administration. He planned and directed the war with Denmark (1643–45) and brought it to a successful conclusion in the Peace of Bromsebro, by which Sweden gained several Danish provinces. Clashes between Oxenstierna and the young queen led to the decline of his power. He himself took no part in the negotiations of the Peace of Westphalia (1648), but his son was one of the plenipotentiaries. Oxenstierna opposed the abdication of Christina in 1654, but in the short remainder of his life served Charles X well in attempts to rehabilitate Sweden financially.

oxeye, name for several plants, such as the oxeye DAISY and BLACK-EYED SUSAN, but particularly for two genera *Heliopsis*, opposite leaved and native to North America, and *Buphthalmum*, alternate leaved and Eurasian but cultivated elsewhere. Both are yellow composite-flowered perennials. *Heliopsis*, similar to the wild sunflower, is cultivated mostly in a double variety.

Oxford, Edward de Vere, 17th **earl of,** 1550–1604, English poet, b Castle Heddingham, Essex, educated at Queen's and St John's colleges, Cambridge. He traveled in Italy, acted in and produced plays, and was one of the court circle of writers. See his poems (ed by J T Looney, 1921), biography by B M Ward (1928). On his theory that he wrote Shakspere's plays, see studies by Percy Allen, G H Rendall, and J T Looney.

Oxford, Robert Harley, 1st **earl of** see HARLEY.

Oxford, county, England see OXFORDSHIRE.

Oxford, town (pop 1,297), N N S , on the Philip river and NW of Truro. It is a woolen mill center.

Oxford, Latin *Oxonia*, city (1931 pop 80,539, 1947 estimated pop 104,950), co seat of Oxfordshire, England, WNW of London at the junction of the Cherwell with the Thames or Isis river. In the 8th cent Oxford was the site of a shrine of St Frideswide. It developed as a trading town and later (10th cent) as a frontier fort, in the 10th and 11th cent it was raided by the Danes. In the 12th cent it was the site of a castle, a royal palace, and an abbey, and OXFORD UNIVERSITY had its origin. The town grew as a trading, educational, and religious center—it had foundations of several orders, including the Dominicans and the Gray Friars. During the civil wars Oxford was the royalist capital, it was besieged but not injured by the parliamentarians. Although its modern importance is chiefly as the seat of the great university, the manufacture of automobiles has developed rapidly in the suburb Cowley and Iffley. Among famous historic buildings (apart from the colleges) are the Radcliffe Camera (1737), Radcliffe Observatory (1772), and Sheldonian Theatre (designed by Wren), the churches of St Mary the Virgin (13th cent) and St Michael (11th cent), and several old inns. The chapel of Christ Church college (12th cent) is also the cathedral church of the city. See Sir J A R Marriott, *Oxford Its Place in National History* (1933).

Oxford. **1** Industrial town (pop 1,393), NE Ala , just S of Anniston, in a farm area, settled 1855. **2** Rural town (pop 1,375), SW Conn , SE of Southbury, settled c 1680, inc 1798. **3** City (pop 1,020), S Kansas, on the Arkansas below Wichita, in a farm area, founded c 1871, inc 1879. **4** Town (pop 1,316), SW Maine, on Thompson Lake W of Auburn, settled 1794, inc 1829. **5** Town (pop 4,623), S Mass , SSW of Worcester, settled 1687 by French Protestants, inc 1693. Wooden boxes and woolen goods are produced. **6** Village (pop 2,144), S Mich , N of Pontiac, in a farm and lake area, settled 1836, inc 1876. **7** City (pop. 3,433), co seat of Lafayette co., N central Miss , SE of Memphis, Tenn , settled 1835, inc. 1837. Important in the development of the town has been the Univ of Mississippi (see MISSISSIPPI, UNIVERSITY OF). Oxford is the home of William Faulkner. **8** Village (pop 1,141), S Nebr., on the Republican and SW of Kearney, inc. 1879. **9** Village (pop 1,713), S central N.Y., on the Chenango and NE of Binghamton, settled 1788, inc 1808. The New York State Woman's Relief Corps Home is here. **10** Industrial town (pop. 3,991), co seat of Granville co., N N.C., N of Raleigh, in a lumber, cotton, and tobacco area; settled 1760, laid out 1811, inc. 1816. Negro and white orphanages are here. **11** Village (pop. 2,756), SW Ohio, near the Ind. line NW of Hamilton; laid out 1810, inc 1830. It is a college town, seat of MIAMI UNIVERSITY and Western College (for women, 1853). There are many old houses. **12** Borough (pop 2,723), SE Pa., SW of Philadelphia near the Md line, inc 1833. Dairying is done here. It is a tourist center. LINCOLN UNIVERSITY is near by.

Oxford, Provisions of. see PROVISIONS OF OXFORD.

Oxford and Asquith, Herbert Henry Asquith, 1st **earl of,** 1852–1928, British statesman. Of a middle-class family, Asquith attended Oxford, became a barrister in London (1876), and in 1886 was elected to Parliament, where he held a place for most of the remainder of his life. He attracted attention as counsel for the Irish nationalists before the Parnell Commission of 1889 and was secretary of state for the home department (1892–95) in Gladstone's last ministry. After the defeat of the Liberals in 1895 Asquith supported the imperialist Lord Rosebery group and became a strong advocate of free trade. In the Liberal cabinet formed in 1905 Asquith was chancellor of the exchequer (1905–8) under Henry Campbell-Bannerman, in 1908 Asquith became prime minister, serving for eight years during some of the most dramatic triumphs of the Liberal party. The social-reform program of his government led to a bitter and successful conflict with the House of Lords. The social-insurance program was instituted and the power of the Lords broken. The ministry was endangered by its renewed attempts to establish Irish HOME RULE. The bill of 1912 and its subsequent modifications had brought on the danger of imminent civil war in Ireland when the outbreak of the First World War postponed that lesser threat. The war, however, brought about Asquith's downfall. In 1915 he admitted opposition members into his cabinet, but the following year he was forced to resign the leadership of the coalition to David LLOYD GEORGE. In 1925 Asquith was created earl of Oxford and Asquith, and in 1926 he resigned his leadership of the shattered Liberal party. His career is recorded in his *Fifty Years of British Parliament* (1926), *Occasional Addresses, 1893–1916* (1918), *Speeches* (1927), and *Memories and Reflections* (1928). See biography by J A Spender and Cyril Asquith (1932). His second wife, **Margot (Tennant) Asquith, countess of Oxford and Asquith,** 1864–1945, whom he married in 1894, held a high reputation in London society for her wit. Her frank autobiography (1920–22) created a minor sensation. She wrote a novel and several volumes of personal reminiscence, including *Places and Persons* (1925), *More Memories* (1933), and *Off the Record* (1944).

Oxford Group see BUCHMAN, FRANK N D.

Oxford movement, name designating a religious movement, known at first as the Tractarian movement, which had its beginning at Oxford in 1833 and which affected the development of the Church of England from that time. It was an effort to overcome dangers that were threatening the Church as a result of political changes and reforms and general tendencies of thought in Europe during the 18th and early 19th cent. This attempt to stir into new life the Established Church arose among a group of spiritual leaders in Oriel College, Oxford. Prominent among them were J H NEWMAN, John KEBLE, R H Froude, and Charles Marriott. Keble, whose *Christian Year* had appeared in 1827, in July of 1833 preached at the university a sermon *On the National Apostasy*, which Newman held to be the actual opening of the movement. A few days later a meeting was held at Hadleigh, Suffolk, in the rectory house of H J Rose, "the Cambridge originator of the Oxford movement," where a resolve was made to uphold "the apostolic succession and the integrity of the Prayer-Book." Neither Keble nor Newman could attend this conference. Newman, who felt that extensive popularizing was more effective than organization, launched immediately a series of pamphlets, *Tracts for the Times*, of which he wrote many. Keble and E B PUSEY were able associates in preparing them. To the tracts was added *The Library of the Fathers of the Holy Catholic Church*, translations from patristic writings, to encourage a return to the beliefs and customs of the first Christian centuries. The Tractarians preached Anglicanism as a *via media* between Roman Catholicism and evangelicalism. Newman became the acknowledged leader in answering critics and advocating High Anglican institutions. When the Tractarians attacked R D Hampden, a follower of Richard Whately, the liberals, led by Dr. Arnold, opposed them openly. After 1834 Pusey was an influential factor in the movement, adding force and dignity to the controversial manner and emphasizing the observance of ritual. Opponents dubbed the movement "Puseyism." Some of his tracts had wide-reaching effects. Newman's *Tract 90*, on the Thirty-nine Articles, was counted "perilous to the peace of the Church" and brought the series to an end (1841). The movement lost valuable supporters, including Newman, in the secession to the Church of Rome, which began in 1842 and was checked by a sermon preached by Pusey. His leadership resulted in firmer organization and more scientific development of the system, which, step by step, advanced beyond its academic starting point, eventually being extended into Scotland and Wales and beyond the seas. Mission work very early was undertaken in London and other great towns to put a more living interest into religion and set higher standards of worship. Advocates among the clergy made changes, renovating and beautifying their churches, intoning services, insisting upon the wearing of vestments in the chancel, facing East while saying prayers, seeking to restore dignity and warmth to the worship, which had been languishing. Some of the prominent leaders of the movement enriched the Church's hymnody by composing beautiful and significant words, others contributing fine tunes. New importance was given to hymn singing. Every effort to revive ceremonial customs, every innovation, aroused a storm of excitement and opposition, amounting at times to rioting. This violence culminated in 1860 at St George's-in-the-East, London. Because attention was centered upon the forms of expression in the churches, especially between 1857 and 1871, the followers of the Oxford movement became known as "ritualists." Anglo-Catholicism was another name by which the movement was called, as its supporters were earnest and persistent in their effort to secure in the Established Church recognition of Catholic liturgy and doctrine. When sacramental confession was revived in some parishes, public agitation rose high (1873–77). Although the Prayer Book rubric was the basis of the revived customs, they were in a number of instances, between 1850 and 1890, made the subjects of lawsuits. In 1874 the Public Worship Regulation Act was passed by Parliament, avowedly to "put down Ritualism." The struggle on the part of churchmen was really in resistance to the exercise of secular authority in spiritual affairs. No High Churchman could recognize the mandates of a purely parliamentary court, such as the judicial committee of the privy council, which, although it lacked spiritual authority, was the supreme court of ecclesiastical appeal. The last imprisonment for refusal to admit its authority was made in 1887, after which such resistance was respected as reasonable. After the Prayer Book controversy of 1928 when the House of Commons refused to allow the new book, resistance to state authority became even more widespread. Among the means for renewing deep and personal devotion to the teachings of the Bible, Keble, Newman, and especially Pusey had sought to develop religious community life. Sisterhoods were founded, the first in 1844. They became centers of charitable and social work of importance. Communities for men were fewer and expanded less rapidly. In later years the followers of the movement have placed increasing emphasis on the responsibility of Christians in the life of society and have given much attention to social problems. In 1889 the Christian Social Union was established, and it soon won general approbation and support. Numerous religious societies and guilds have come into being also. The celebration in 1933 of the 100th anniversary of the movement was directed by a committee representing the whole Church of England. See R. W Church, *The Oxford Movement* (1891), H L Stewart, *A Century of Anglo-Catholicism* (1929), S L Ollard, *A Short History of the Oxford Movement* (1932), C P S Clarke, *The Oxford Movement and After* (1932), C B Mortlock, *The People's Book of the Oxford Movement* (1933), Geoffrey Faber, *Oxford Apostles* (1934).

Oxfordshire or **Oxford,** inland county (748 sq mi , 1931 pop 209,784, 1948 estimated pop 265,400), S central England. The county town is Oxford, seat of the famous university and an automobile-manufacturing center. The terrain is generally flat except for a branch of the Chiltern Hills in the southeast. The county is drained by the Thames (or Isis as it is sometimes locally called) and its affluents, the Windrush, the Evenlode, the Cherwell, and the Thame. The chief occupation is farming (wheat, barley, and oats). The region was crossed by two Roman roads, which are, in places, still in use. In the Middle Ages it became a part of the Anglo-Saxon kingdom of Mercia. The history of the county is largely that of the city of Oxford, which during the civil war was a stronghold of royalist resistance. At Woodstock, rich in historical associations, is Blenheim Palace, seat of the dukes of Marlborough. The abbreviation of the Latin name is Oxon. See *Victoria History of Oxfordshire* (2 vols , 1907–39).

Oxford University, at Oxford, England, one of the two ancient universities of England. Like Cambridge, it had its beginnings in the early 12th cent in the groups of young scholars who gathered around the learned monks and teachers of the town. Although University College and Balliol had been founded earlier, the present system of residential colleges (see CAMBRIDGE UNIVERSITY), began with Merton College (1264). The university was a primary center of learning throughout the Middle Ages, such scholars as Roger Bacon, Duns Scotus, Wyclif, and Bishop Grosseteste were associated with it. Consisting of a corporation of scholars and masters, having its own statutes, property, buildings, and customs, the medieval college maintained

almost complete autonomy within the university, as it does today The colleges, with their dates of founding, are University (1249), Balliol (1263), Merton (1264), St Edmund Hall (1269), Exeter (1314), Oriel (1326), Queen's (1340), New (1379), Lincoln (1427), All Souls (1437), Magdalen (1458, pronounced mŏd'lĭn), Brasenose (1509; pronounced brāz'nōz), Corpus Christi (1516), Christ Church (1546), Trinity (1554), St John's (1555), Jesus (1571), Wadham (1610, charter received 1612), Pembroke (1624), Worcester (1714), Keble (1871), and Hertford (1874), the women's colleges are Lady Margaret Hall (1878), Somerville (1879), St Hugh's (1886), and St Hilda's (1893) The university has faculties of theology, law, medicine, litterae humaniores, modern history, English language and literature, medieval and modern European languages and literature, Oriental languages, physical sciences (including mathematics), biological sciences, and social studies Oxford has led especially in the classics, in theology, and in political science The Oxford Union is the world's most famous debating club The Ashmolean Museum (founded by Elias ASHMOLE) and the BODLEIAN LIBRARY are notable features of the university Like Cambridge, Oxford has its own two representatives in Parliament Instruction in both universities is by lectures and the tutorial system, i e , each student writes each week a paper on a prescribed subject and discusses it with his tutor A large sum was left for scholarships by Cecil John RHODES The Oxford Univ Press, established in 1585, has a branch in the United States See C E Mallet, *History of the University of Oxford* (3 vols , 1924–27), Sir J A R Marriott, *Oxford Its Place in National History* (1933), Keith Briant, *Oxford Limited* (1937), Christopher Hobhouse, *Oxford* (1939), *Universities Yearbook Oxford of Today* (1922), by L A Crosby and Frank Aydelotte, was written for prospective Rhodes scholars

oxidation (ŏk"sudā'shun) **and reduction.** Originally the term *oxidation* was used in chemistry to indicate a chemical reaction in which oxygen and some other substance combine to form another substance, and *reduction* was used to indicate the removal of oxygen from a substance, i e , a reaction opposite in effect to oxidation Iron, for example, when it rusts combines with oxygen to form iron oxide and therefore undergoes oxidation Hydrogen burns in oxygen to form water, a compound of hydrogen and oxygen, carbon monoxide, a compound of carbon and one atom of oxygen, burns to form carbon dioxide, a compound of carbon and two atoms of oxygen Both reactions are examples of oxidation, and, because of the rapidity with which they take place, these are further distinguished as COMBUSTION When copper oxide, a compound of copper and oxygen, is treated with hydrogen, the oxygen is removed by the hydrogen which combines with it to form water, and the copper is left free In this reaction, although the copper oxide is reduced, the hydrogen at the same time is oxidized In chemistry today, however, the terms *oxidation* and *reduction* have been extended to include a number of chemical reactions, in many of which oxygen is not involved at all This extension of the terms is made possible by their redefinition on the basis of the electron theory (See ELECTRON, ATOM, VALENCE) The atoms of some elements are said to "lend" electrons to other atoms in entering into chemical combination with them, while others are said to "borrow" electrons When, for example, an atom of copper combines with an atom of oxygen to form copper oxide, the copper lends two electrons to the oxygen Since oxygen is a borrower, the combination of another element with it involves a loss of electrons by that other element On the other hand, when oxygen is removed from combination with another element, the electrons are restored to that element and the removal of oxygen involves, therefore, a gain of electrons On this basis, i e , the losing or gaining back of electrons by an element, oxidation and reduction are defined, and the processes are not therefore confined to reactions in which oxygen is taken on or given off For example, one oxidation reaction in which oxygen is not concerned is that in which ferrous chloride (a compound of one atom of iron with two atoms of chlorine) obtains another chlorine atom to become ferric chloride (a compound of one atom of iron with three of chlorine) In the first compound the iron atom is lending two electrons, one to each of the two chlorine atoms, and in the second compound three electrons, since there is an increase to three in the number of chlorine atoms present The reaction is, therefore, termed oxidation because the iron loses, or is called upon to lend, more electrons in the second compound (formed in the reaction) than in the first The iron is said to have increased its positive valence. On the other hand, ferric chloride (which has three chlorine atoms) is reduced to ferrous chloride (in which the valence of iron is 2, i e , the iron holds only two chlorine atoms) when one of the chlorine atoms is removed. Substances which have the power to oxidize other substances (i e , cause an atom to lose electrons) are known as oxidising agents. Some common compounds exhibiting this property are hydrogen peroxide; sulphuric, nitric, and hypochlorous acid, and a number of salts, such as nitrates Some elemental oxidising substances are ozone, oxygen, chlorine, and sulphur A number of substances, such as carbon, hydrogen, and carbon monoxide, which have the power to reduce other substances (i e , cause an atom to take on electrons), are known as reducing agents Whenever oxidation of a substance occurs, it is accompanied by the simultaneous reduction of another substance

oxide (ŏk'sīd), compound of oxygen and some other elemental substance Oxygen combines directly with a great many other elements A number of these binary compounds (i e , compounds consisting of two elements only) occur abundantly and widely distributed in nature Sand and quartz are compounds of silicon and oxygen Carbon dioxide (carbon and oxygen) is given off in the respiration of animals and plants and is used by green plants in starchmaking, or photosynthesis Other important oxides of the nonmetals are those of sulphur, nitrogen, and phosphorus The oxides of certain metals are important as ores Iron is obtained from ferric oxide Bauxite, a hydrated aluminum oxide, is the important source of that metal The oxide of tin is its principal ore, and zincite (an oxide of zinc) serves as one of the chief sources of the metal. Litharge (lead oxide) is important in the manufacture of many paints and varnishes Red lead is another important oxide of lead. The oxides are named commonly monoxide (or simply oxide), dioxide, trioxide, etc , according to the number of oxygen atoms present in a molecule For example, in a molecule of carbon monoxide there is one oxygen atom, in carbon dioxide, two, in sulphur trioxide, three, in phosphorus pentoxide, five Certain oxides, as sodium peroxide, are so named because of the abnormal amount of oxygen present A number of elements, e g , arsenic, carbon, manganese, nitrogen, phosphorus, and sulphur, combine with oxygen to form more than one oxide The oxides are commonly classified as acidic or basic oxides or anhydrides Sulphur trioxide is the acid anhydride of sulphuric acid, for it reacts with water to form that acid Phosphorus pentoxide reacts vigorously with water to form phosphoric acid A solution of carbon dioxide exhibits acid properties (turns blue litmus red), for when the gas is passed into water some of it reacts to form carbonic acid Oxides of metals that react with water form hydroxides which are alkalies For example, lime (calcium oxide) reacts with water, yielding slaked lime (calcium hydroxide) Some oxides of metals are basic in that they neutralize acids to form a salt and water, although they do not react with water Others react with both acids and bases and are known as amphoteric oxides, and still others are neutral Some elements, e g , the inert gases (helium, argon, neon, krypton, and xenon), do not form oxides The halogens and the inactive metals do not combine directly with oxygen but oxides can be formed by indirect methods

Oxnam, Garfield Bromley, 1891–, American Methodist bishop, b Sonora, Calif , studied at the Univ of Southern California, Boston Univ , Harvard, and the Massachusetts Institute of Technology and in Japan, China, India, and England After teaching at the Univ of Southern California (1919–23) and at Boston Univ (1927–28), he was president of DePauw Univ (1928–36) In 1936 he was elected bishop of his denomination Resident bishop of the Omaha area (1936–39) and of the Boston area (1939–44), he was assigned to the New York area in 1944 He is a president of the World Council of Churches A liberal on social problems, he has written *Facing the Future Unafraid* (1944), *Preaching in a Revolutionary Age* (1944), and *Labor and Tomorrow's World* (1945)

Oxnard (ŏk'snărd), city (1940 pop 8,519; 1945 special census pop 18,979), S Calif , near the coast and WNW of Los Angeles, founded 1898, inc 1903 It refines sugar, packs fruits and vegetables (especially beans), and manufactures farm implements.

Oxona see OXFORD, Oxfordshire, England.

Oxus see AMU DARYA

oxyacetylene flame (ŏk"sēusĕt'ulēn) Acetylene burns with a hot, luminous flame It combines with the oxygen of the atmosphere to form carbon dioxide and water, with the liberation of an enormous quantity of heat A device known as the **oxyacetylene torch,** so designed that oxygen can be supplied to an acetylene flame in the amount needed to bring about complete combustion of the gas, is used for cutting steel and in the welding of iron and various other metals In the complete combustion of acetylene, a temperature as high as 3500°C can be obtained

oxygen, colorless, odorless, tasteless gaseous element (symbol=O, for physical constants, see ELEMENT, table) Oxygen is heavier than air, is only slightly soluble in water, is a poor conductor of heat and electricity, and supports combustion but does not burn When the gas is cooled below −118 8°C (its critical temperature), under a pressure of 49 7 atmospheres (its critical pressure), it becomes a pale blue liquid which exhibits magnetic properties At a temperature of −183 6°C. and under standard pressure (one atmosphere or about 15 lb. per square inch) this liquid has a density of 1 132 g per c c. By still further cooling, the liquid changes to a solid which retains the color of the liquid and the magnetic property The density of the solid at −252 5°C and under standard pressure (one atmosphere) is 1 426 g per c c Chemically, oxygen is an extremely active and important substance The common reaction in which it unites with another substance is called oxidation (see OXIDATION AND REDUCTION) The burning of substances in air is rapid oxidation or COMBUSTION The RESPIRATION of animals and plants is also a form of oxidation, and in their nutrition this reaction is essential for the liberation of the energy stored in such food materials as carbohydrates and fats The rusting of iron and the corrosion of many metals results from the action of the oxygen of the air Oxygen forms a great many compounds It unites directly with a number of other elements to form the OXIDE of the element It is a constituent of many acids and of hydroxides, carbohydrates, proteins, fats and oils, alcohols, wood, and numerous other compounds such as the carbonates, chlorates, nitrates and nitrites, phosphates and phosphites, and sulphates and sulphites Oxygen is the most abundant of the elements It is widely distributed in its many compounds Water, for example, is about 89 percent oxygen by weight The oxides occur abundantly in nature The atmosphere is approximately one fifth free oxygen by volume The element is present in all living things, being a constituent of the fundamental living substance, protoplasm. Oxygen is prepared commercially from liquid air It can also be obtained by the electrolysis of water and by the heating of certain of its compounds, such as barium peroxide, potassium chlorate, and the red oxide of mercury The OXYACETYLENE TORCH is an important industrial application Oxygen is utilized in medicine in the treatment of respiratory diseases and is carried in submarines for human respiration and in airplanes flying to high altitudes OZONE, the molecule of which is made up of three oxygen atoms, is an allotropic form of the element More than a hundred years before the isolation of oxygen by Priestley (1774), the existence and properties of the gas had been discussed by John Mayow Prior to Priestley's announcement, Scheele had succeeded in preparing oxygen from a number of substances, but publication of his findings was delayed until after that of Priestley's As a result, Priestley and Scheele are credited with the discovery of the element independently. The fact that the gas is a component of the atmosphere was finally and definitely established by Lavoisier a few years later In 1929 announcement of the discovery of **heavy oxygen,** i e , of two isotopes of oxygen of mass 17 and 18 respectively, was made by W F Giauque and H L Johnston of Ohio State Univ

oxyhydrogen flame. see BLOWPIPE

Oxyrhyncus (ŏk"sĭrĭng'kus), excavation site, Upper Egypt, W of the Nile and near the Fayum Some of the largest finds of papyri have been made here first in 1896–97 and 1906–7, they are partly Ptolemaic in date, but mostly Roman and Byzantine The town is known only from the papyri which tells of a Greek colony first and a Christian monastic center later

Oyama, Iwao, Prince (ēwä'ō ō'yama), 1842–1916, Japanese field marshal A Satsuma clansman, he was trained as a military officer in Europe and returned to become a distinguished commander In the First Chino-Japanese War he captured Port Arthur and Weihaiwei, and in the Russo-Japanese War he was commander in Manchuria As war minister in several cabinets and as chief of staff, he upheld the autocratic power of the clans against democratic encroachments

oyster, edible mollusk found in beds in coastal waters of most temperate regions The shell consists of two unequal valves with a rough outer surface One muscle controls the closing of the shell, and the foot is rudimentary In some species the sexes are separate and in others they are united in one individual Of the 5 to 50 or more million eggs laid annually by each female few survive to maturity The eggs of some forms are laid and fertilized in the water Others retain the eggs within the shell The minute larva swims about before attaching itself to a rough surface under water In the United States, oysters are harvested on both Pacific and Atlantic coasts, on the Atlantic especially in the regions of Delaware and Chesapeake bays and in the waters around Long Island During the two to six year period of growth they are usually transplanted several times To protect the oysters during the breeding season they are harvested preferably between September and April The oyster from which the PEARL is obtained is not of the same family as the common edible oyster of America See J H. Orton, *Oyster Biology and Oyster Culture* (1937).

Oyster Bay, town (pop. 42,594), on W Long Island, SE N.Y., on Long Island Sound W of Huntington, settled 1653 It includes Oyster Bay, Bayville, and other resort and residential villages, mostly on the north shore. The oyster industry is important. A shipyard was built between Oyster Bay village and

Bayville in 1941 A park and a bird sanctuary are memorials to Theodore Roosevelt, who lived at "Sagamore Hill," near Oyster Bay, and is buried near by

oyster plant, name for several plants, among them the GOATSBEARD

Ozaki, Yukio (yōō'kyō ōzä'kē), 1859–, Japanese statesman, the outstanding liberal of modern Japan. In 1881 he helped form the Kaishinto (Reform party) and in 1887 had to leave Tokyo because of his attacks on the conservative government. He was elected to every diet after that institution began functioning, joined the new Seiyukai party in 1900, but later affiliated with the Kenseikai He served under Okuma As mayor of Tokyo he was responsible for the gift of the cherry trees that adorn Washington, D C He fought for universal manhood suffrage and other progressive causes After 1931 he was almost alone in lifting his voice loudly to oppose Japanese militarist policy in China and Manchuria After the militarist policy had come to disaster in the Second World War, he urged reconstruction of Japan on a democratic basis In April, 1950, he visited the United States

Ozanam, Antoine Frédéric (ätwän' frādārēk' ōzänäm'), 1813–53, French Catholic scholar He studied philosophy and law. In 1841 he first achieved notice by a pamphlet against the Saint-Simonians After going to Paris in 1832 to study, he was associated with Chateaubriand, Lacordaire, Ampère, and other leaders of Catholic thought In 1833 he was one of the men who formed a charitable organization that became the world-wide St Vincent de Paul Society He gained his doctorate in law (1836) and then in letters (1838), taught in Lyons, later lectured at the College Stanislas in Paris, and was professor of foreign literature at the Sorbonne after 1841 He is generally considered one of the chief leaders of his time in social Catholic thought, working in the direction that led to Leo XIII's teachings He had great influence in Germany and Italy. His works cover a great range of material, mostly on medieval literature, thought, and history, a notable work deals with the history of the Franks, emphasizing the role of the Church in transmitting Roman civilization to the barbarian cultures of the West. See studies by Kathleen O'Meara (2d ed , 1878), Louis Baunard (1925), and F E Hack (1926)

Ozark (ō'zärk) **1** City (pop 3,601), co seat of Dale co , SE Ala , near the Choctawhatchee, in a diversified farm area **2** City (pop 1,402), a co seat of Franklin co , NW Ark , in the Ozarks and on the Arkansas river, here bridged, settled 1836 Near by are the Ozark National Forest and a U S game refuge

Ozark Mountains, actually a dissected plateau, c 50,000 sq mi , chiefly in Missouri, but partly in Arkansas, Oklahoma, and Kansas, lying between the Arkansas and Missouri rivers Averaging c 2,000 ft in altitude, the plateau slopes gradually into the plains, the BOSTON MOUNTAINS are the highest and most rugged section The Ozarks are rich in lead and zinc, and there are good fruit-growing areas The beautiful scenery of stream, hill, and forest and the mineral springs have made the Ozarks a resort region

Ozarks, College of the see CLARKSVILLE, Ark

Ozarks, Lake of the, large artificial lake, central Mo , SW of Jefferson City Created by the impounding of the Osage river waters by BAGNELL DAM, it is c 110 mi long, of an irregular longitudinal shape The lake offers numerous recreational facilities

Ozd, Hung *Ózd* (ōzd), town (pop 21,277), NE Hungary, WNW of Miskolc, in a lignite-mining area It has large steel and pig-iron plants

Ozem (ō'zĕm) **1** Brother of David 1 Chron 2 15 **2** Descendant of Hezron 1 Chron 2 25

Ozias (-zī'-) [Gr =Heb UZZIAH] **1** Same as UZZIAH **1 2** Ruler of Bethulia at the time of Judith Judith 6–10, 13–16

Ozni (-nī), same as EZBON 1

ozocerite (ōzō'kûrīt, -surīt, ō"zōsēr'īt) or **ozokerite** (ōzō'kûrīt) [Gr ,=wax smelling], waxy solid substance varying in color from white or colorless (when pure) to yellow, brown, or black and sometimes greenish, melting at a temperature below the boiling point of water, and varying in density between 0 85 and 0 95 g per c c Chemically, it is a mixture of hydrocarbons, being classed as a crude paraffin and called, consequently, mineral wax Ozocerite occurs in various parts of the world in rock deposits It is obtained by crushing the material containing it, followed by treatment with hot water, when the ozocerite is melted When refined it appears on the market as ceresin, a colorless waxy solid, which is employed as a substitute for beeswax and also as an adulterant Ozocerite is used in the manufacture of candles and of various composite hard-rubber substitutes, for making polishes, and in electrotyping

Ozolaean Locris see LOCRIS

ozone (ō'zōn), allotropic form of oxygen, its molecule consisting of three atoms of oxygen It is an unstable, pale, bluish gas with a characteristic fresh, penetrating odor, liquefying at −112°C and solidifying at −251 4°C It is more active than oxygen, one and one-half times heavier, more soluble in water, and a more active oxidizing agent, acting directly on mercury and silver to form oxides and affecting many organic compounds It is produced in a number of chemical reactions Ozone is used commercially as a bleaching agent for vegetable dyes, oils, ivory, and other organic compounds and in the purification of water and air The gas is formed when a silent electrical discharge passes through oxygen As a result it is present in minute quantities in the atmosphere owing to the occurrence of electric storms It is sometimes noticeable in the vicinity of electrical machinery and strong ultraviolet lights, being recognized by its odor This odor was first noticed in 1785 by Van Marum and later (1840) by Schonbein, who identified the gas as a new substance and called it ozone

P

P, 16th letter of the ALPHABET, representing the voiceless bilabial stop It corresponds to Greek pi (pĭ), but in form it looks like Greek rho For the technical use of P in higher criticism, see OLD TESTAMENT In chemistry P is the symbol of the element PHOSPHORUS

Pa, chemical symbol of the element PROTACTINIUM

Paarai (pā'ărā, pāurā'ī), same as NAARAI

Paardeberg (pär'dubûrg, -bĕrkh), village, Orange Free State, Union of South Africa Here in Feb , 1900, the Boer forces under Piet Cronje were captured by British troops in the South African War. Cronje was forced to surrender

Paarl (pärl), town (pop 27,271), SW Cape Prov , Union of South Africa, on the Great Berge river It was founded in 1690 by French Huguenot settlers It is on a railroad to near-by Cape Town Textiles are manufactured The population includes 11,184 Europeans

Paasikivi, Juho Kusti (vōō'hō kōōs'tē pa'sīkī"vē), 1870–, Finnish statesman, president of Finland (1946–) He was a member of the Finnish parliament from 1907 and minister of finance in 1908–9 After Finland had proclaimed its full independence from Russia, Paasikivi was briefly premier (1918), and in 1920 he negotiated the peace treaty with the USSR at Dorpat In the subsequent years he devoted himself mainly to his banking firm He took part in the unsuccessful negotiations that preceded the Finnish-Russian War of 1939–40 and headed the Finnish peace delegation to the USSR in 1940 Despite his conservative background, he apparently won favor with the Soviet government, particularly with Stalin, and he opposed the Finnish declaration of war on Russia in 1941 Again he headed the Finnish delegation when an armistice was negotiated in 1944, and in 1946 he was elected president of Finland after Mannerheim's resignation He was reelected in 1950 by a coalition of anti-Communist parties

Pabianice (päbyänē'tsĕ), industrial city (pop. 37,140), central Poland, just SW of Lodz It produces mainly textiles.

Pablos, Juan (hwän' pa'blōs), d 1561?, printer in New Spain He printed in Mexico city the first book known to have been printed in the Western Hemisphere It was a religious manual, *Breve y más compendiosa doctrina christiana en lengua mexicana y castellana,* which appeared in 1539, a full century before the first book printed within the present boundaries of the United States, the *Bay Psalm Book.* Pablos was an Italian, a native of Brescia in Lombardy, and came to Mexico in 1539 as the agent of Juan Cromberger, a printer of Seville Pablos continued to print books with the Cromberger mark after Cromberger's death (1540), but in 1548 he began to print in his own name and continued to do so until 1560. See also MARTÍN, ESTEBAN.

Paca, William (pā'ku, păk'u), 1740–99, American Revolutionary patriot, signer of the Declaration of Independence, b near Abingdon, Md , grad College of Philadelphia (now the Univ of Pennsylvania), 1759, and studied law in England He returned to Maryland and served (1774–79) in the Continental Congress Paca was governor of Maryland from 1782 to 1785 and was also a judge of state courts and of a U S district court

Pace, Frank, Jr (pās), 1912–, American public official, U S Secretary of the Army (1950–), b Little Rock, Ark , grad Princeton, 1933, LL D Harvard, 1936 He was admitted (1936) to the bar and practiced law in Arkansas, where he became assistant district attorney (1936) and attorney (1938) for the state revenue department He later served as assistant to the U S Attorney General (1946) and to the U S Postmaster General (1946–48) Pace was attached (1948–50) to the Bureau of the Budget before he succeeded (April, 1950) Gordon Gray as Secretary of the Army

Pachacamac (pa"chakamäk'), ruins of a walled Indian city, Peru, 25 mi SE of Lima Built before the time of the Inca in one of the irrigable valleys of the coastal desert, Pachacamac is noted for the polychrome frescoes that once adorned its adobe walls Its cultural and chronological affiliation with other ancient coastal cities has not been exactly determined It was an Inca shrine

Pacheco, Francisco (frāntshē'skō pachā'kō), c 1564–1654, Spanish portrait and religious painter Although fine examples of his work are in the galleries of Madrid and Seville, he is best known as the instructor and father-in-law of Velázquez and as the author of *Arte de la pintura* (1649), which contains interesting data on his great contemporaries

Pacher, Michael (mīkh'ĕl pa'khûr), c 1435–1498, German religious painter and wood-carver, a native of the Tyrol His few known works are chiefly altarpieces composed on a monumental scale and distinguished for their beauty of workmanship His masterpiece is the great altarpiece in the village church of Sankt Wolfgang, Austria, executed c 1480 and consisting of a beautifully carved centerpiece in late Gothic style with four wings, painted with scenes from the lives of Christ and St Wolfgang

Pachmann, Vladimir de (vlŭdyē'mĭr du pakh'män), 1848–1933, Russian pianist, studied with his father, a violinist, and at the Vienna Conservatory He first played in the United States in 1891 An eccentric performer, he was particularly gifted in the playing of Chopin's smaller piano pieces

Pachomius, Saint (pŭkō'mēŭs), d 346?, Egyptian ascetic He became a Christian and an anchorite in his youth and later founded a community of men near Dendera, Egypt. When he died, there were several thousand in his nine monasteries, living under a rule of great severity. St. Pachomius was the first to set up a group living a common life with a rule, this, the cenoby, was a new and definitive departure in MONASTICISM

Pachuca (pächōō'kä), city (pop 53,345), capital of Hidalgo, central Mexico Pachuca, founded in 1534 on the site of the ancient Toltec city, Tlahuilpán, at the head of a wide ravine surrounded by the foothills of the Sierra Madre Oriental, is one of the oldest and most famous mining towns of Mexico Here in 1557 Bartolomé de Medina discovered the patio process of ore reduction The region is extremely rich in ore deposits, especially silver, which had been mined in Aztec days Several large companies operate in the vicinity The cobbled streets climb up and down, narrow and twisting, and the houses are squeezed together A notable building is La Casa, erected in 1670 as a storehouse to hold the royal tribute

Pacific, city (pop 1,687), E Mo , on the Meramec and WSW of St Louis, laid out 1852 The area produces silica, sand, and gravel A state arboretum is near by

Pacific, College of the see STOCKTON, Calif

Pacific, War of the, 1879–84, war between Chile and the allied nations, Peru and Bolivia, also called the Chile-Peruvian War The trouble began when President Hilarión DAZA of Bolivia rescinded (Feb , 1879) the contract which had given a Chilean company the right to exploit nitrate deposits in Bolivia's Atacama prov In reprisal Chile took the port of ANTOFAGASTA, and two weeks later the existing war was formally acknowledged Peru, bound since 1873 by a defensive alliance to Bolivia, declined to promise to maintain neutrality, and Chile declared war on Peru At the end of 1879 Chile had not only won the Bolivian province of Atacama and the Peruvian province of Tarapacá, but by capture of the Peruvian ironclad *Huascar* had gained control of the sea Although the presidents of Peru and Bolivia, Manuel Prado and Hilarión Daza respectively, were replaced by other leaders, no change occurred in the fortunes of war, by coordinated sea and land attacks the Chilean conquest continued During 1880 Chilean forces took Tacna and Arica and, after an invasion by sea and the victories of Chorrillos and Miraflores (Jan , 1881), made a triumphal entry into Lima Although the Peruvian leader Andrés A CÁCERES gallantly fought a guerrilla campaign, Peru and Bolivia were thoroughly vanquished The Treaty of Ancón (Oct , 1883) restored peace between Peru and Chile, a truce at Valparaiso (April, 1884) was signed between Bolivia and Chile, but a definitive treaty was not agreed upon until 1904 Chile acquired Bolivia's only coastal territory, the province of Atacama, now called Antofagasta Peru also had to cede Tarapacá to Chile and surrendered control of the provinces of Tacna and Arica, their disposition to be decided by plebiscite after 10

years This provision led to the TACNA-ARICA CONTROVERSY

Pacific Grove, residential and resort city (1940 pop 6,249, 1945 special census pop 8,708), S Calif , on Monterey Bay, founded 1874, inc 1889. Stanford Univ. has the Hopkins Marine Laboratory here

Pacific Islands, Trust Territory of the (685 sq mi , pop 50,978), consisting of the CAROLINE ISLANDS, the MARSHALL ISLANDS, and the MARIANAS ISLANDS, held by the United States under United Nations trusteeship Before the First World War, they belonged to Germany Occupied in 1914 by the Japanese, the islands were mandated to Japan in 1922 During the Second World War, they were occupied in 1944 by U S forces and governed by the naval government in Guam In 1947 the United Nations approved U S trusteeship of the islands

Pacific Ocean, largest ocean, estimated area c 70,000,000 sq mi , named by Magellan (1520) and called also, in the southern part, the South Sea It extends from the arctic to the antarctic regions (merging with the Atlantic and Indian oceans to form the Antarctic Ocean) and is connected with the Arctic Ocean by Bering Strait, the Atlantic Ocean by the Panama Canal, and the Indian Ocean by passages in the Malay Archipelago Its maximum length is c 7,000 mi , its greatest width, c 11,000 mi , between Panama and the Asiatic coast of the China Sea The principal arms are (in the north) the Bering Sea and (in the west) the Sea of Okhotsk, the Sea of Japan, and the Inland, Yellow, China, Coral, and Tasman seas In most parts the east coast rises abruptly from a deep sea floor to mountain heights on land and is margined by a narrow band of shallow water The west coast is deeply indented and fringed with islands along the continental shelf, heights arise farther inland than on the east coast Although few large rivers drain into the Pacific, it receives the Columbia in North America Its numerous islands, some of them still uncharted and uninhabited, are concentrated in the south and west They include, in the north, the Pribilov, Commander, and Aleutian islands, in the west, the Kurile Islands, Sakhalin, Japan, the Ryukyu Islands, Formosa, Hainan, and the islands comprising Oceania, and, in the east, the Galápagos and the Juan Fernández islands Few islands lie in the path of the international date line The deepest ocean, the Pacific has an average depth of c 14,000 ft , the greatest known ocean depth (35,400 ft) occurs off Mindanao Huge whirls approximately north and south of the equator are formed by the chief Pacific currents These are the equatorial currents (North and South), the East Australian Current, the West Wind Drift, and the Humboldt, or Peru, Current in the south, and the Japan Current, flowing along the coast of Asia to the Sea of Okhotsk, where it meets the Oya Shio and then turns eastward to form part of the North Pacific Drift, most of which is deflected to the south as the California Current The Pacific islands of the south and west were populated by Asiatic migrants who crossed long distances of open sea in primitive boats European travelers including Marco Polo had reported an ocean off Asia, and in the late 15th cent trading ships had sailed around Africa to the western rim of the Pacific, but recognition of the Pacific as distinct from the Atlantic dates from Balboa's discovery of its eastern shore (1513) Magellan's crossing to the Philippines (1520–21) initiated a series of explorations, including those of Drake, Tasman, Dampier, Cook, Bering, and Vancouver, which by the end of the 18th cent had disclosed the coast line and the major islands In the 16th cent supremacy in the Pacific area was shared by Spain and Portugal The English and Dutch established a foothold in the 17th cent , France and Russia in the 18th, and Germany, Japan, and the United States in the 19th Sealers and whalers sailed the Pacific from the late 18th cent., and Yankee clippers entered Pacific trade in the early 19th cent The desire to exploit Pacific commerce was a factor in the westward expansion of the United States, which by the 20th cent had extended its interest by the purchase of Alaska, trade agreements with Japan, and the acquisition of the Hawaiian Islands, the Philippines, and Guam. After the Second World War the United States acquired trusteeship of many former Japanese islands The strategic importance of the area has become paramount since the development of the airplane. Scheduled crossings by air date from 1935 See F. R Dulles, *America in the Pacific* (2d ed , 1938), Felix Riesenberg, *The Pacific Ocean* (1940), E G Mears, *Pacific Ocean Handbook* (1944), Fairfield Osborn, ed , *The Pacific World* (1944)

Pacific scandal, 1873, a major event in Canadian political history. Charges were made that the Conservative administration of Sir John A Macdonald had accepted campaign funds from Sir Hugh Allan in return for a promise to award his syndicate the contract to build the Canadian Pacific Railway The government was forced to resign, and the Conservative party was badly defeated in the ensuing elections Lord Strathcona's stand on the Pacific scandal was in part responsible for the downfall of Macdonald's administration.

Pacific Union College: see SAINT HELENA, Calif.

Pacific University: see FOREST GROVE, Oregon.

pacifism, advocacy of suppression of war by individual or collective obstruction of militarism. Although complete, enduring peace is the goal of all pacifism, the methods of achieving it differ Some groups oppose international war but advocate revolution for suppressed nationalities; others are willing to countenance defensive but not offensive war; still others oppose all war, but believe in preserving a police force, relatively few believe in no coercive and disciplinary force at all. The line is sometimes drawn between the advocates of absolute peace (the pacifists) and those who seek to prevent war by international cooperation (the internationalists) One of the strongest motives in the promotion of peace has been religion, the objection to war being, in general, based on the consideration that the willful taking of human life is evil The quietistic Eastern religions, especially Buddhism, decry war and advocate nonresistance, and there has been a strong pacifistic element in Christianity The Sermon on the Mount contains an exhortation to peace Generally the Church continued to oppose war as such, and in the Middle Ages the Truce of God was the outcome of ecclesiastical attempts to halt warfare Some later sects —especially the Quakers, Moravians, and Dukhobors— have elevated nonresistance to a doctrinal position Another motive in creating pacifist feeling has been humanitarianism, the movement was fed by the romanticism of the early 19th cent , and the humanitarian outrage at the destruction caused by war has continued to swell the ranks of the pacifists Economic motives also have played a part in pacifist arguments, the pacifists contend that the economic waste of war is incredibly large and is avoidable Radical Marxists, from the obligation of their theories, oppose "imperialist wars" and interpret all wars fought by capitalist countries as "imperialist" and contrary to the interests of the working class They believe that such wars are a stage in the decline of capitalism and that they will end with the success of the workingman's revolution, which will bring enduring peace There are various other motives which may lead a man to pacifism or to the stand of a "conscientious objector" in opposing war Internationalism and pacifism are closely connected, and pacifists usually advocate international agreements to insure peace Pacifism is also closely connected with the movements for international ARBITRATION and disarmament Modern pacifism is usually said to have begun with the founding in 1815 of the New York Peace Society by David L DODGE, who was the author of *War Inconsistent with the Religion of Jesus Christ* (1812) In 1815 also the Massachusetts Peace Society was formed, with Noah WORCESTER as its chief figure The strong religious air of these bodies made them very similar to Quaker peace societies which sprang up about the same time The Quakers had a very strong influence on all early American pacifism In 1816 the British Society for the Promotion of Permanent and Universal Peace was founded Other countries followed the lead that had been set, France and Switzerland seeing the birth of societies not long afterward In 1828 William LADD, one of the greatest of early pacifists, welded the many local societies that had been established in the United States into the American Peace Society. More radical pacifists came to the fore, and the peace movement in America became connected with other causes in the hands of such men as Elihu BURRITT and William Lloyd GARRISON, who later abandoned his pacifism and advocated war to end slavery The first international peace congress met in London in 1843, and from that time onward the congress was the accepted means of organizing internationally The occurrence of wars naturally did much to injure the peace movement Both the Mexican War and the Crimean War checked development temporarily, and the Civil War completely destroyed for the moment the peace movement in America The so-called peace organizations in the North during the Civil War were not pacifist societies but political groups generally unsympathetic with the Union cause (see COPPERHEADS) After the Civil War, the movement reappeared in new forms, influenced strongly by the Marxian internationalists In France appeared Frédéric PASSY and in England Sir William R CREMER, and their efforts led to the foundation of the Inter-Parliamentary Union in 1892 Elsewhere other leaders appeared, among them men such as Ernesto T MONETA and Alfred H. FRIED The International Peace Bureau was founded at Bern in 1892. The award of the Nobel Peace Prize (see NOBEL, ALFRED BERNHARD) did much to encourage pacifist thought Even the Franco-Prussian and Spanish-American wars did not check the spread of peace agitation. But the peace societies, the international organizations, and the Hague Conferences, all were powerless to check the rush of events to the First World War, which broke out in 1914, and the percentage of conscientious objectors was not large After the war, however, the peace movement reappeared with greater vigor than before, and in spite of increased nationalism in various countries of the world, a great and concerted effort toward peace was shown not only in the PEACE CONGRESSES but also in such agitation as the declaration and pledge of the Students' Union at Oxford and the student strikes to indicate anti-war sentiment in the United States During the 1920s and early 1930s pacifism enjoyed its strongest period, the doctrine of nonresistance as applied in India by Mohandas K GANDHI gained attention and respect for the movement The hopes placed in the League of Nations, however, failed to materialise and some pacifists placed their trust in isolationism and appeasement as events led to the Second World War. This time the number of conscientious objectors in America and Great Britain was larger than previously With the conclusion of the war, broken international contacts were again restored, a world pacifist conference projected for Jan , 1949, in India, was postponed because of the assassination of Gandhi At its meeting in 1948, the World Council of Churches was unable to reach a united agreement in regard to pacifism and the church The presence of figures of prominence in the literary and artistic worlds as ardent pacifists has had an effect in spreading the aims of the movement The writings of Baroness von SUTTNER and of Ludwig QUIDDE demonstrate how pacifism may be espoused in fictional writing Among other notable names in pacifism, apart from such statesmen as Aristide Briand, William Jennings Bryan, Frank Kellogg, and Ramsay MacDonald, are Leo Tolstoy, Jane Addams, Élie Ducommun, Guglielmo Ferrero, Albert Gobat, Alfred H Love, David Starr Jordan, Sir Norman Angell, Nicholas Murray Butler, G Lowes Dickinson, and Mary Emma Woolley Among the many agencies and associations that have been organized for the advancement of world peace, aside from those already mentioned, are the Carnegie Endowment for International Peace, the World Peace Foundation, the Women's International League for Peace and Freedom, the National Council for Prevention of War, and the National Peace Council (London) See Sir Norman Angell, *The Great Illusion* (1910, new ed , 1933), G G Coulton, *The Main Illusions of Pacifism* (1916), F S Marvin, *The Evolution of World Peace* (1921), Sidney Spencer, *Pacifism in Theory and Practice* (1926), Devere Allen, *Pacifism in the Modern World* (1929) and *The Fight for Peace* (1930), M E Curti, *The American Peace Crusade, 1815–1860* (1929) and *Peace or War the American Struggle, 1636–1936* (1936), A C F Beales, *The History of Peace* (1931), W F Galpin, *Pioneering for Peace* (1933), Guglielmo Ferrero, *Peace and War* (1933), L P Richards, *Realistic Pacifism* (1935), G F Hershberger, *War, Peace, and Nonresistance* (1944)

Packard, Alpheus Spring, 1839–1905, American entomologist, b Brunswick, Maine, grad Bowdoin, 1861 He became curator (1867) and later director of the Peabody Academy of Science, Salem, Mass From 1878 he was professor of zoology and geology at Brown Univ A founder and for 20 years chief editor of the *American Naturalist*, he is known especially for his work in economic entomology and in the classification of insects Besides books on these subjects he wrote on general zoology and on geology and is also the author of *Lamarck, the Founder of Evolution* (1901)

Packer, Asa, 1805–79, American industrialist, b Groton, Conn He acquired coal lands in Pennsylvania, constructed canal locks on the Lehigh Canal, and became wealthy operating coal-carrying boats along the canal A county judge for several years, Packer was also a Democratic member of Congress (1853–57) He promoted the Lehigh Valley RR and donated (1866) money and land for the building of Lehigh Univ.

packing industry: see MEAT PACKING

pack train. On the U S. frontier, as in most countries in the pioneer stage of development, the pack horse was used to transport goods In places where road building is difficult, as in the mountains, the pack horse naturally continued to exist much later than in more accessible regions The Allegheny frontier saw the use of pack trains in fur-trading expeditions, then in military expeditions, and finally in settlement After the Revolution, the business was highly organized, some large companies had hundreds of animals, some settlements sent back annual or semiannual pack trains to the coast cities under the care of men chosen from the community Most of the trains were fewer than 30 horses, traveling in single file behind the "bell horse " Pack-train transportation flourished again in the middle of the 19th cent with the development of the trading and mineral frontier in the Rocky Mts Trains of 200 or 300 horses were not uncommon. Whole mining towns were supplied by packers with all furnishings from mining machinery to billiard tables. Among these packers appeared the tales of the mythical superpacker, Bull-o'-the-Woods, and his bell mare Mary, who was fed on mountain lion milk. The pack trains were replaced in the United States by WAGON TRAINS, but in undeveloped and mountainous parts of the world where roads are few, pack trains are still used

Pactolus (păktō'lŭs), small river of ancient Lydia, W central Asia Minor (now Turkey), joining the Hermus (modern Gediz) after passing Sardis. It was famous for the gold washed from its sands, a source of wealth to the kings of Lydia.

Padan-aram (pā'dŭn-ā'răm) [Assyrian, =field of Aram], that part of ARAM which lay in the Euphrates valley, i.e., the region of the great river bend E of Alep. Gen 28 2,5,7, 31 18, 33 18, 35 9, 26, 46,15. Padan· Gen. 48.7 Aram-naharaim in title of Ps 60

Padang (pädäng'), town (pop 52,054), on W Sumatra, republic of Indonesia, on the Indian Ocean at the mouth of the small Padang river An important port, it has a large trade in coffee, copra, rubber, spices, and tobacco, which are shipped principally from its outport, Emmahaven, 4 mi south of the town Padang is the principal outlet for the important Umbilin coal fields

paddlefish, scaleless, fresh-water fish of the Mississippi valley Because of its long, paddle-shaped snout it is often called duckbill Sometimes it exceeds 6 ft in length and weighs over 150 lb Its skeleton is chiefly cartilaginous Small crustaceans are its chief food The small greenish-black eggs are sometimes mixed with those of the sturgeon for caviar. The only other species is a fresh-water Chinese form.

paddle wheel, series of paddles or flat boards inserted radially around a wheel so that when the wheel is turned, the paddles operate like continuous rowing It was known as early as the days of ancient Egypt when it was operated by man power or by oxen, but it became important only when steam power was applied to move it John Fitch built (1786) a steamboat with a paddle wheel on each side and later (1788) made one with one large paddle wheel at the stern Robert Fulton's *Clermont* in 1807 had two paddle wheels each 15 ft in diameter All steamships in very early days were moved by paddle wheels, but the invention of the screw propeller in 1838 ultimately meant the end of the paddle wheel, though sternwheelers and sidewheelers (including the famous sternwheelers on the Mississippi) persisted for a century more on rivers and other inland waters

Paden City (pā'dun), town (pop 2,215), NW W Va., on the Ohio and NE of Parkersburg, settled 1790 Bottles are manufactured here

Paderborn (pä'dĕrbôrn'), city (1939 pop 42,490, 1946 pop 29,033), Westphalia, NW Germany, SSE of Bielefeld It is an important agricultural trade center and has some manufactures Created an episcopal see (c 800), the city later belonged to the Hanseatic League The bishops ruled a large district as princes of the Holy Roman Empire until the bishopric was secularized in 1803 The Catholic diocese of Paderborn was raised to an archdiocese in 1930 There is a theological academy which held university status from 1614 to 1819 Paderborn was nearly entirely destroyed in the Second World War The partly Romanesque, partly Gothic cathedral, the baroque Jesuit church, and the late Renaissance city hall were gutted

Paderewski, Ignace Jan (pädûrĕf'skē, -rĕf'skē, Pol pädĕrĕf'skē), 1860–1941, Polish pianist and statesman, studied at the Warsaw Conservatory and later under Leschetizky Having established his reputation in Europe, he came to the United States in 1891, making repeated appearances here throughout his career Repeatedly discouraged by his early teachers, he was enabled by an enormous capacity for work and an unusual introspective gift to become a great pianist whose world-wide popularity exceeded that of any performer since Liszt An ardent patriot, he worked in behalf of Poland during the First World War, represented her at the peace table in Versailles, and was for 10 months in 1919 premier of a coalition ministry, not resuming his concert work until 1922 In 1940 he was premier of the Polish parliament in exile In Jan., 1941, he died shortly after returning to the United States In addition to his famous Minuet in G for piano, he composed two symphonies, a piano concerto, and the opera *Manon* (Dresden, 1901) In 1936 he appeared in an English moving picture, *Moonlight Sonata* He established (1900) the Paderewski Fund—a sum of $10,000 (later augmented by Henry Higgmson) to forward musical composition in the United States See *The Paderewski Memoirs* (his autobiography to 1914, as told to Mary Lawton, 1938), C J M Phillips, *Paderewski* (1934), Aniela Strakacz, *Paderewski as I Knew Him* (1949)

Padilla, Ezequiel (äsäkyĕl' padhē'yä), 1890–, Mexican statesman, foreign minister (1940–45) He was a leader in the conferences of American foreign ministers in the Second World War and a forceful proponent of inter-American solidarity He was criticized by some for favoring the United States in his policies. Candidate for the presidency in 1945, he was defeated by Miguel Alemán

Padilla, Juan de (hwän' dā pädhē'lyä), c 1490–1521, Spanish revolutionary leader in the war of the *comunidades* [municipalities] against Emperor CHARLES V. The discontent caused in Castile by Charles's conduct led to a rising in Toledo under Padilla's leadership (1520). Soon other cities rose and together formed a provisional government under the Santa Junta, but the movement soon degenerated into class warfare The hesitations of the junta encouraged desertions to the royal cause, and Padilla, the military leader, lacked the necessary political qualities Padilla's army was defeated at Villalar (April, 1521), he himself was captured, summarily tried, and executed

Padon [Heb., =deliverance], ancestor of a family returned from exile Ezra 2 44, Neh 7 47.

Padua (pā'dū), Ital *Padova* (pä'dōva), city (pop 90,325), capital of Padua prov., Venetia, NE Italy It is cut by canals connecting it with the Brenta, Adige, and Po rivers and has characteristic arcaded streets An important agricultural, commercial, and communications center, it also has many modern industries In Roman times Padua, then Patavium, was the richest Italian city after Rome Destroyed by the Lombards (601), it recovered quickly Except for a 20-year period during which it was ruled by EZZELINO DA ROMANO, Padua was from the 12th to the 14th cent a free commune of great political and economic importance It subdued neighboring cities and became an artistic center, where GIOTTO painted his masterpiece, the frescoes in the Capella degli Scrovegni The university at Padua, the oldest school in Italy after that of Bologna, was founded in 1222 by teachers and students who had fled from Bologna The six-domed basilica of St Anthony, which contains the tomb of St Anthony of Padua, was also built in the 13th cent Under the rule of the munificent Carrara family (1318–1405) and under the domination of Venice (1405–1797), Padua continued to flourish for a long time MANTEGNA, a native Paduan, produced much work here, his frescoes in the 13th-century Eremitani church were restored after the church was gravely damaged by Allied bombing in 1944. DONATELLO cast the equestrian statue of Gattamelatta, a Venetian general, and 12 bronze reliefs for the basilica The university, now housed in the palace called Il Bo, established the first anatomy hall in Europe in 1594, Galileo taught here from 1592 till 1610

Paducah. **1** (pŭdū'ku, -dō'kŭ) City (pop 33,765), co. seat of McCracken co., SW Ky., on the Ohio at the mouth of the Tennessee, inc as town 1831, as a city 1856 A bridge crosses the Ohio to Illinois Paducah was settled as Pekin in 1821 in the Jackson Purchase area and was laid out and renamed by William Clark in 1827 A rail and air center and river port, the city is an important dark-tobacco market and a trade and shipping point for a wide area yielding fruit and other farm products, livestock, coal, fluor spar, and lumber Paducah is also an industrial city, with railroad shops, shipyards, dry docks, foundries, shoe factories, hosiery mills, and other plants In the Civil War it was taken by Grant (1861) and held throughout the war by Union forces In 1864 it was the objective of a raid by Forrest A junior college is here Irvin S Cobb was born and lived here **2** (pudō'ku) Town (pop 2,677), co. seat of Cottle co., NW Texas, S of Childress, in a livestock and cotton area, settled 1885, inc 1910

Padus see Po, river

Paean (pē'ŭn), in Greek mythology, divine physician of the Olympian gods Later, Paean apparently became an epithet for Apollo, the healer The paean, hymn of praise to Apollo, was also applied to other gods and heroes It was sung as a prayer for safety or deliverance at battles and other important occasions In Hellenistic times, paeans were addressed to successful individuals According to Homer the peony plant, which is medicinal, was named for Paean, the physician

Paelgni (pĕlg'nī), ancient people of central Italy, related to other Oscan-speaking groups, e.g., the Samnites, whom they joined in unsuccessful resistance to Roman hegemony (c 200 B C)

Paeonius (pēō'nēus), fl. 5th cent B C, Greek sculptor of Mende in Thrace An inscription on the triangular base of the statue of Nike (Victory) at Olympia states that Paeonius made it This figure is so much farther advanced in style and execution than the pediment sculptures for the temple of Zeus, Olympia, that modern authorities doubt the statement of Pausanias attributing those of the eastern end of the pediment to this sculptor The *Nike* was dedicated by the Messenians and Naupactians, probably to commemorate the siege of Sphacteria, 424 B C

Paes, Sidonio: see PAIS, SIDONIO

Paestum (pē'stum), ancient city of Lucania, S Italy It was a colony of Sybaris (c 600 B C) and was first named Posidonia It flourished with the rest of MAGNA GRAECIA through the 6th cent B C The Romans took the city in 273 B C, their name for it was Paestum The ruins, near the present Pesto, include well-preserved Doric temples

Paetus. see THRASEA PAETUS

Páez, José Antonio (hōsā' antō'nyō pā'ās), 1790–1873, Venezuelan revolutionist, president, and *caudillo* He led (1810–19) a band of *llaneros* [plainsmen] in guerrilla warfare against the Spanish, aided Simon BOLÍVAR at the battle of Carabobo (1821), and drove (1823) the Spanish from their last Venezuelan stronghold at Puerto Cabello He led the separatist movement that disrupted Bolívar's Colombian republic and was the first president of Venezuela (1831–35) A conservative oligarch and exponent of personalism, he served again (1839–43), dominating the nation until 1847 Páez commanded unsuccessful revolutions in 1848 and 1849 against José T MONAGAS his own choice for president and was exiled (1850–58) He returned and in 1861 became supreme dictator Two years later he again went into exile He died in New York See biography by R B Cunninghame Graham (1929)

Páez, Pedro (pā'dhrō pa'āth), 1564–1622, Spanish Jesuit missionary He preached in Goa, India, was enslaved for seven years in Sana, Yemen, and in 1603 arrived in Ethiopia He rapidly learned Amharic and converted the royal family from Coptic Christianity to the Roman Catholic religion Later Jesuit missionaries were less tactful and respectful of Ethiopian customs than he had been They were expelled in 1632 by demand of the Coptic clergy, and the Roman Catholic faith was proscribed

Pag (päg), Ital *Pago* (pa'gō), island, area 114 sq mi., off the Dalmatian coast in the Adriatic, belonging to Croatia, Yugoslavia It is noted for the fine embroidery and lace produced here, and it has vineyards, a fishing industry, and bauxite deposits The chief village is Pag, a resort on the eastern coast, with a palace and a cathedral from Venetian times

Pagan (pugan'), ruined city, central Burma, on the Irrawaddy river It was the seat of a dynasty that ruled over most of Burma from the 11th to the 13th cent and beautified Pagan with thousands of Buddhist shrines, largely constructed in brick. At the approach of the invading Mongols in 1287, many of the buildings were pulled down to provide materials for fortifications, and the city was deserted The surviving temples are massive and imposing structures, built with a knowledge of the true arch and showing strong Indian influence

Paganini, Niccolo (nēkōlō' päganē'nē), 1782–1840, Italian violinist, whose virtuosity became a legend He extended the compass of the violin by his use of harmonics, and he was able to play pizzicato and bow passages simultaneously In Genoa, his birthplace, he made his debut as an infant prodigy. He retired to a villa in Tuscany in 1801, learned the guitar, and did not resume his concerts until 1805, when the princess of Lucca made him her court violinist After leaving (1813) her court, his success in Milan carried his fame beyond Italy He became the idol of Vienna (1828), and appearances in Paris and the British Isles (1831) gained him a fortune His retirement in 1835 was followed by the loss of his voice and, later, by death from cancer of the larynx Among the few of his compositions published during his lifetime are the 24 caprices for solo violin, transcribed for piano by Schumann and Liszt Brahms and Rachmaninov wrote variations on one of them His Concerto in D and *Moto perpetuo* are among numerous posthumous works.

Pagasaean Gulf, Greece see VOLOS

Page, Leigh, 1884–, American physicist, b South Orange, N J, Ph B Yale, 1904 He was affiliated with the physics department at Yale from 1909 (as professor of mathematical physics from 1922) Known especially for his work in electrodynamics, he wrote *Introduction to Electrodynamics* (1922), *Introduction to Theoretical Physics* (1928), and, with N I Adams, *Electrodynamics* (1940)

Page, Thomas Nelson, 1853–1922, American novelist and diplomat, b Hanover co., Va The success of his romantic stories of the Old South, collected in *In Ole Virginia* (1887), *The Burial of the Guns* (1894), and other volumes, caused him to give up his Richmond law practice in 1893 and move to Washington, D C, to write His other works include novels—among them *Red Rock* (1898) and *The Old Gentleman with the Black Stock* (1897)—and *Italy and the World War* (1920), the record of his years as ambassador to Italy (1913–19) See Roscwell Page, *Thomas Nelson Page a Memoir of a Virginia Gentleman* (1923)

Page, Walter Hines, 1855–1918, American journalist and diplomat, b Wake co., N C After study at Randolph-Macon College (1872–76) and at Johns Hopkins Univ (1876–78), he became (1880) a reporter on the St Joseph (Mo.) *Gazette* and wrote a series of articles on the problems of the South In 1883 he secured control of the Raleigh (N C) *State Chronicle* and crusaded for reforms in Southern agriculture, education, and industry He was editor of the *Forum* (1890–95) and then (1896–99) of the *Atlantic Monthly* After he became (1899) a partner in the publishing firm of Doubleday, Page and Company, he founded (1900) the magazine *World's Work*, which he edited until he was appointed (1913) U S ambassador to Great Britain by President Woodrow Wilson He did much to better Anglo-American relations, but his outspokenly sympathetic attitude toward the Allied cause in the First World War brought a rift between him and Wilson—who for some time strove to maintain strict American neutrality. See **B. J Hendrick, *The Life and Letters of Walter H Page*** (1925) and ***The Training of an American*** (1928).

Page, William, 1811–85, American historical and portrait painter, b Albany, N Y, studied with S F. B. Morse and at the National Academy of Design Among his best-known works are *Farragut's Triumphal Entry into Mobile Bay* (presented to Grand Duke Alexis of Russia, 1871), *Holy Family* (Boston Athenaeum), *Ruth and Naomi* (N Y Historical Society), *The Young Merchants* (Pa Acad of the Fine Arts), a portrait of John Quincy Adams, and a portrait of Governor Marcy of New York (city hall, New York) He became a member of the National Academy in 1836 and was its president from 1871 to 1873

pageant, semidramatic spectacle, usually held out of doors, celebrating a special occasion or an event in the history of a locality, and generally presented by local talent In medieval times the pageant was a scene or division of a drama The modern form has come into very general use in England and America since the production, in 1905, of L N. Parker's Sherborne pageant in England The Coventry pageant depicting the story of Lady Godiva has been given since 1678 Pageants on the tercentenary of Shakspere's death were held in 1916 at Stratford-on-Avon and in New York, where Percy Mackaye's *Caliban* was given Other notable American pageants were the Hudson celebration at New York in 1909, H B Alexander's Lincoln, Nebr, pageant in 1915, and Mackaye's national pageant for the Washington bicentenary in 1931 Pageants include also processional spectacles such as the Mardi Gras in New Orleans and annual local fruit and flower festivals

Paget, Sir James (pă'jĭt), 1814–99, British surgeon and pathologist He taught and practiced at St Bartholomew's Hospital, London, and catalogued the museums of St Bartholomew's and of the Royal College of Surgeons He was a skilled diagnostician and an authority on diseases of the bones and joints and other pathological conditions His works include *Lectures on Tumours* (1851) and *Lectures on Surgical Pathology* (1853)

Pagiel (pā'gĭĕl, pāgī'ul) [Heb ,=God allots], Asherite chief Num 1 13, 2 27,7 72,77, 10 26

Pago, Yugoslavia see PAG

pagoda (pugō'du), name given in the East to the buildings of tower form which are generally part of a temple or monastery group and serve as shrines Those of India are chiefly pyramidal structures of masonry, tapering to an apex and elaborately adorned with carving and sculptures In China the pagoda, derived from India, is one of the most characteristic architectural types and in general is devoted to sacred usage Usually octagonal in plan, they are built in superimposed stories, sometimes as many as 15, decreasing in size toward the top, with a resulting tapered outline, from each story projects an upward-curving tiled roof The commonest material used is brick, often faced with slabs of glazed and colored tile A few date back to the T'ang dynasty (A D 618–906) In Japan the pagodas were introduced from China with Buddhism They are usually square in plan and five stories high, each story having its projecting roof Generally made of wood, they exhibit superb carpentry craftsmanship The Yakushi-ji tower near Nara, of the 7th cent, is a noted example

Pagopago (pang'ōpang'ō, pang'gōpang'gō), village (pop 934), on the southeastern coast of TUTUILA, American SAMOA, ceded (1872) to the United States as a naval and coaling station It has a landlocked harbor and is the only port of call in American Samoa There are a powerful wireless station and a naval hospital The name also appears as Pangopango

Pagosa Springs (pugō'su), town (pop 1,591, alt 7,077 ft), co seat of Archuleta co, SW Colo, on the San Juan river, platted 1880, inc 1891 It has hot mineral springs Chimney Rock ruins, ancient cliff dwellings, are 18 mi to the west

Pahang (puhăng', puhäng'), state (13,970 sq mi, pop 237,681), central Malaya Largest of the Malay states, Pahang has a long coast line on the South China Sea The capital is Kuala Lipis Clockwise from south to north, it is bordered by Johore, Negri Sembilan, Selangor, Perak, Kelantan, and Trengganu Kuala Lipis is on the Pahang river, longest (c 200 mi) of Malaya's rivers Products include tin, rubber, and rice About half the people are Malays, there is a large Chinese minority Before the 16th cent, Pahang was the vassal state of the various powers that in turn dominated the Malay Peninsula After the fall of Malacca (1511), it formed part of the kingdom of Riouw and Johore until its own rulers established themselves as independent sovereigns Pahang accepted British protection in 1888 and in 1895 became one of the Federated Malay States In 1948 it passed into the federation of Malaya

Pahari (puhä'rē), dialects of the Indic group of the Indo-Iranian subfamily of the Indo-European languages See LANGUAGE (table)

Pahath-moab (pā'hăth-mō'ăb) [Heb ,=governor of Moab], chief house of Judah Ezra 2 6, 8 4, 10 30, Neh 3 11, 7 11, 10 14

Pahlavi language (pä'lŭvē") or **Pehlevi language** (pā'lŭvē"), one of the Middle Iranian languages used in the Middle Ages. It belonged to the Iranian group of the Indo-Iranian subfamily of the Indo-European languages See LANGUAGE (table).

Pahlevi, see REZA SHAH PAHLEVI and MOHAMMED REZA SHAH PAHLEVI

Pahlevi (pälŭvē'), city (pop 37,511), N Iran, the chief Caspian port of the country, NE of Resht. It superseded an older port, Enzeli, near by

Pahokee (puhō'kē), town (pop 4,766), S Fla, on the southeast shore of Lake Okeechobee, inc 1922 It is the shipping point for a productive fruit and vegetable area Near by is the West Palm Beach Canal from the lake to the Atlantic coast.

Pai (pā'ī), variant of PAU

Paignton (pān'tŭn), urban district (1931 pop 18,414, 1943 estimated pop 22,000), Devonshire, England, on Tor Bay SW of Torquay It is a resort It has the 14th-century Bible Tower, part of the former palace of the bishops of Exeter, Miles Coverdale lived here

Päijänne (pä'ĭyăn'nā), lake, area, 563 sq mi, S central Finland, one of the largest of the Finnish lake plateau About 80 mi long, it consists of several long rocky basins, and is dotted with numerous islands The Kymijoki drains it into the Gulf of Finland Lake steamers and lumber rafts utilize the waterway Kotka and Lahti are at the southern end of the lake

pain, sensation arising usually from excessive stimulation of nerve endings (receptors) The stimulus is carried by nerve fibers to centers of consciousness in the brain Pain may be felt at the site of stimulation or in other parts supplied by nerves in the same sensory path, e g, in angina pectoris the pain may extend to the left arm Pain arising from a tumor or injury along the course of a nerve may seem to arise at the site of the nerve ending although the stimulus did not originate there Pain has protective value in serving as a danger signal and in facilitating diagnosis It is treated by relieving the cause but may be allayed by sedatives or soporifics, e g, barbiturates, bromides, and chloral hydrate, by narcotics, e g, opium and morphine, by analgesics, e g, salicylates and acetanilid, by anesthetics, by severing a nerve in the pain pathway, and by prefrontal leucotomy (or lobotomy), a severing of certain nerve connections in the brain Subjective pain, known also as hysterical pain and as psychic pain, originates in the sensory centers of the brain without stimulation from the nerves

Paine, Albert Bigelow (pān), 1861–1937, American biographer and writer of juvenile stories, b New Bedford, Mass He was a department editor (1899–1909) of *St Nicholas* magazine and wrote many books for children, as well as biographies of Thomas Nast (1904) and others and novels, including *The Great White Way* (1901) He became the friend and literary executor of Mark Twain and wrote the authorized biography of him (3 vols, 1912) He also edited Mark Twain's letters (1917), autobiography (1924), and notebook (1935)

Paine, John Knowles, 1839–1906, American composer, organist, and educator, b Portland, Maine, studied in Berlin In 1862 he began to teach music at Harvard, and held (from 1875) the first chair of music in an American university His compositions, romantic and programmatic in style, were received enthusiastically in his day, and he won fame abroad, both as organist and composer His opera *Azara* (1901), for which he was also the librettist, was given only a concert performance, and few of his orchestral works are heard today His fame rests on his pioneer work in music education and the fact that he was in his time the best that America had produced Many of his pupils are among the prominent composers of the generation that succeeded him

Paine, Robert Treat, 1731–1814, American Revolutionary patriot, signer of the Declaration of Independence, b Boston, Mass, grad Harvard, 1749 He served as a chaplain in the French and Indian War but later gave up the ministry for law In 1770 he prosecuted the British troops indicted for murder in the BOSTON MASSACRE Paine was a member of the Continental Congress (1774–78) and in 1775 was sent (with John Langdon and Robert R Livingston) on an unsuccessful mission to win Canada to the patriot cause After the Revolution he held several major public posts in Massachusetts

Paine, Thomas, 1737–1809, American political theorist and writer, b Thetford, Norfolk, England He was the son of a small farmer and corset maker, who was a Quaker Thomas Paine became an excise officer He was twice dismissed from the service and was chosen as agent by the excisemen to agitate for higher salaries (1772) He also had other employment before coming to America in 1774 with letters of introduction from Benjamin Franklin He edited Aitken's *Pennsylvania Magazine* from 1775 to 1777 and was soon deeply interested in the outbreak of trouble between colonies and mother country In Jan, 1776, appeared his *Common Sense*, which had a tremendous effect in helping to bring about the Declaration of Independence Paine, now famous, wrote the first of his series of pamphlets called *The American Crisis*, or simply *The Crisis*, when the fortunes of the patriots were disheartening in 1776; they continued to appear throughout the Revolution, with excellent moral effect He was prominent in the war, principally as a pamphleteer His impetuous frankness brought him into difficulties, but his aid was invaluable He went (1781) to France as aid in the mission of John Laurens In 1787 he went to London, one of his motives was to exhibit the model of an iron bridge he had planned for the Schuylkill river While there he wrote *The Rights of Man* (2 parts, 1791, 1792), directed against the detractors of the French Revolution, especially Edmund Burke Paine's attack on English institutions led to his prosecution and his flight to Paris (1792) There, as a member of the Convention, he took a significant part in French affairs and was profoundly affected by French thought He was hostile to the Jacobins and was imprisoned (1793) It was some time before American influence secured his release His attack on the Bible and defense of deism in *The Age of Reason* (2 parts, 1794, 1795) made him unpopular, not only with Christian religious groups, but also with the large body of the public who were entirely unacquainted with his books He also alienated Washington's friends by his venomous *Letter to Washington* (1796) After his return to the United States in 1802, he was practically ostracized See his writings (ed by P S Foner, 1945) and representative selections (ed by H H Clark, 1944), biography by M D Conway (1892)

Paine College see AUGUSTA, Ga

Painesville, city (pop 12,235), co seat of Lake co, NE Ohio, on the Grand River and NE of Cleveland, in a farm area, laid out c 1805 Chemicals and rayon are made here The city is the seat of Lake Erie College (for women, 1856)

Painlevé, Paul (pōl' pălüvā'), 1863–1933, French statesman and mathematician A mathematical prodigy when a child, he entered on a career devoted to science He was a professor at the Sorbonne and the École polytechnique when the Dreyfus Affair aroused his interest in politics He entered on his political career as a leftist deputy (1910) In the First World War he held several cabinet posts and was briefly premier late in 1917 After the war Painlevé remained in political obscurity until 1924, when he and Herriot triumphed as leaders of the "left cartel" He was premier once more in 1925 and was minister of war (1925–29) and minister of aviation (1930–31, 1932–33) Painlevé's career as a politician has unduly overshadowed his importance as a mathematician and scientist In mathematics he ranked among the best minds of his time, his contribution was particularly important in the field of differential equations He published numerous writings on mathematics, astronomy, mechanics, philosophy, and politics

Paint, borough (pop 1,700), SW Pa, near Johnstown, inc 1900

paint, mixture of a PIGMENT and a binding medium, usually thinned with a solvent to form a liquid vehicle. The term includes LACQUER, Portland cement paint, printing ink, calcimine, and whitewash Paint is used to decorate or protect surfaces and is generally applied in thin coats which dry (by evaporation or by oxidation of the vehicle) to an adhesive film Industrial finishes are usually applied by spraying or immersion and are often hardened by baking Pigments, finely ground, impart color (including black and white) and affect the consistency, crack resistance, and flow characteristics of paint They may be manipulated to produce glossy, satin, or flat finishes Oil paints are pigments dispersed in a DRYING OIL One of the oldest oil vehicles, and still the commonest, is LINSEED OIL, castor, tung, and other vegetable oils and fish oil are also employed The oils are diluted with a thinner, usually turpentine, metallic salts are added to increase the rate of drying For water paints, the vehicle is a mixture of water with a binder such as glue or casein Enamel paints contain varnish and usually dry to a hard, glossy finish Industrial lacquers (widely used on automobiles and furniture) are valued for rapid drying to a hard finish The vehicle is commonly pyroxylin in an organic solvent Luminous paint contains a phosphorescent substance, generally a metallic sulphide

painted cup see INDIAN PAINTBRUSH

painted daisy see PYRETHRUM

Painted Desert, badlands on the east bank of the Little Colorado, N Ariz, stretching from the Grand Canyon south to the Petrified Forest The vivid colors are mostly reds and yellows

Painted Post, village (pop 2,337) S N Y, NW of Corning, settled before 1790, inc 1893 Heavy machinery is made Near by the Tioga and the Cohocton join to form the Chemung

Painter, William, 1540?–1504, English translator His *Palace of Pleasure* (1566–67), a collection of translations from Boccaccio, the *Heptameron*, and many other sources, was drawn upon by Shakspere and other Elizabethan dramatists

painter's colic: see LEAD POISONING

painting, the direct application of pigment to a surface to produce by tones of color or of light and dark some decorative arrangement or the representation of natural forms or objects of the imagina-

tion The materials of the surface, or ground; the pigments employed; the binder, or medium, in which the color is mixed, and the diluent with which it is extended—all help to determine the effects produced in such common techniques as fresco, water color, oil, distemper, tempera, and encaustic. In addition to these techniques, painting properly embraces many others ordinarily associated with drawing, a term which is often used to refer to the linear aspects of the same art But if painting and drawing are not clearly distinguishable from each other, both are to be distinguished from the print in which the design is not produced directly but is transferred from another surface to that which it decorates While the print may be one of many identical works, the painting or drawing is always unique Painting has been freely combined with many other arts, including sculpture and architecture as, for example, in ancient Greece or in medieval Europe, where most buildings and sculpture were painted Most of this perishable decoration has been lost, but other works from ancient Egypt have preserved their coloring and give us an insight into the importance such an art can assume Painting always has played a prominent role in human culture but not always an independent one In medieval Europe the art was primarily subservient and only with the Renaissance achieved complete independence, although at least as early as the 13th cent the introduction of the closed design in mural painting made it possible to regard the individual panel, or subject, as a single and unified whole Above all, in the murals of the great Giotto, painting had freed itself from Byzantine tradition and had become the vehicle for the expression of new and living ideas and sentiments On the other hand, even at the height of the Renaissance a large number of the works were decorations of walls and altarpieces which were necessarily conceived in terms of their part in a larger decorative whole and their appeal for a large public The greatest masterpieces of Raphael and Michelangelo and of the Florentine masters generally are public works of this character The same period, however, saw the rise of the self-sufficient easel painting and the first use of oil on canvas, which facilitated the transportation of large works previously considered as inseparable from a specific site Simultaneously are found the beginnings of genre and other secular themes and the elaboration of the portrait All these tendencies are often associated with Venice, and Titian has sometimes been called the father of modern painting The great baroque masters carried the conception of the painting as microcosm to its extreme development, subordinating color and pattern, as such, to a ruling idea in which representation of lighting effects and space played a dramatic part Since their day the general tendency of Western painting has been largely in the direction of greater intimacy It is noteworthy, for example, that many of the masterpieces of the 19th cent , and particularly of impressionism, are small easel paintings suitable for the private home The same period saw the rise of the large public gallery with passing and permanent exhibitions, an institution greatly expanded in the 20th cent Today the reawakened interest in mural painting and the contributions of painting to such arts as the moving picture have led some to believe that a return to a greater emphasis on the public functions of the art is taking place Such a view can find support in the notable influence of contemporary abstract painting in the fields of industrial and architectural design But the art also continues to enjoy constant popularity in the home and gallery Western painting has had a long and glorious history as an independent art From Giotto to Picasso it has never ceased to produce great exponents who have expressed not merely the taste but the aspirations, space concepts, and philosophy of their respective periods. In this respect it is perhaps rivaled only by that of China As an adjunct to monumental architecture it has probably been surpassed by that of other and older cultures See Ralph Mayer, *Artist's Handbook of Materials and Techniques* (1940)

Paintsville, city (pop 2,324), co seat of Johnson co , E Ky , on Paint Creek and S of Ashland, in a coal and oil area The city has oil refineries An old trading post, Paint Lick Station, was here.

Pais, Sidonio (sēdô'nyō pīsh'), 1872–1918, Portuguese dictator After service in the army he was a professor of mathematics at Coimbra and a leader in the establishment of the republic in 1910 He had cabinet posts and was minister to Berlin before in Dec , 1917, he won supreme power by a coup d'état He was elected president but exercised dictatorial powers that foreshadowed the Carmona and Salazar regime He was assassinated in Dec , 1918 The name was formerly spelled Paes

Paisley (pāz'lē), burgh (pop 86,445), Renfrewshire, Scotland, WSW of Glasgow and on the White Cart 3 mi above its influx to the Clyde Here, c 1163, was founded a Cluniac priory which became an abbey in 1219 The English set fire to it in 1307 The present building, mostly 15th cent , contains the tomb and effigy of Marjory, the daughter of Robert the Bruce John Wilson ("Christopher North" of *Blackwood's Magazine*) and Alexander Wilson lived in Paisley The famous Paisley SHAWL is no longer made. Great factories now produce cotton thread, textiles (woolen and silk), soap, boilers, and chemicals, and tanning and textile bleaching and printing are carried on. The White Cart was made navigable late in the 18th cent

Paiute Indians (pī ōōt'), tribes of North American Indians, who speak Uto-Aztecan languages There is some doubt as to which tribes are correctly called Paiute; some scholars say that only the Southern Paiute are correctly so called, the northern groups being the Pavoseto Indians The name Paiute, however, is commonly given to a large number of Indians who occupy SW Utah, NW Arizona, SE California, and SW Nevada, exclusive of the Chemehuevi Indians of Nevada The Northern Paiute are more warlike than their southern relatives, they fought the miners and the settlers of the '60s, and a considerable part of them joined the Bannock in the war of 1878 They, with the Shoshone and the Bannock, are often called the Snake Indians The Southern Paiute are often called the Digger Indians because they subsisted upon root digging In general, the Paiute of the Great Basin area eked out a meager existence by hunting, fishing, and digging for roots At times they ate grasshoppers They lived in small round huts (wickiups) which were covered with tule rushes It was among the Paiute that the ghost dance religion, which was to be of much significance on the frontier in the '90s, first appeared (c 1870) The Indian messiah, Wovoka, was a Paiute The name is also spelled Piute See J H Steward, *Ethnography of the Owens Valley Paiute* (1933), O C Stewart, *Northern Paiute Bands* (1939)

Pajou, Augustin (ôgüstĕ' pazhōō'), 1730–1809, French sculptor He won the Prix de Rome at 18 and early embarked upon a long career of royal commissions He is noted for his decorations of the Opéra at Versailles and for his additions to Goujon's *Fountain of the Innocents* (Paris) In 1760 he was admitted to the Académie royale de Peinture et de Sculpture for his statue of Pluto (Louvre) His best work, however, is generally considered to be his portrait busts, among which are those of Pascal, Descartes, Buffon, and Mme du Barry He is well represented in the Louvre

Pakenham, Sir Edward Michael (pāk'kunum), 1778–1815, British general He gave distinguished service in the Peninsular War, but is chiefly remembered as the leader of the British forces in the battle of New Orleans, last engagement of the War of 1812, fought on Jan 8, 1815, after peace had been signed at Ghent Andrew JACKSON led the American troops who won a decisive victory over the British Pakenham was killed

Pakistan (pä'kĭstän", pŭkĭstan'), country (360,780 sq mi , pop 80,260,000) E Asia Karachi is the capital Pakistan is divided into two tracts, which are separated by territory of India West Pakistan, which is on the Arabian Sea, is bordered by Iran and Afghanistan on the west and by India on the east It comprises BALUCHISTAN, West Punjab (see PUNJAB), and SIND provs and NORTH-WEST FRONTIER PROVINCE, and the native states BAHAWALPUR and KHAIRPUR East Pakistan, coextensive with East Bengal prov (see BENGAL), is on the Bay of Bengal, it is bordered by India on the west and north and by India and Burma on the east Pakistan also claims KASHMIR The country is a republic and a dominion of the British Commonwealth of Nations It was formed in 1947 out of the areas of India which were predominantly Moslem in population Chiefly responsible for forming Pakistan were Mahomed Ali JINNAH (the first governor general) and the MOSLEM LEAGUE, which he headed. For a discussion of the geography, history, and economy of the areas which constitute Pakistan, see INDIA and articles on the provinces

palace, strictly, the residence of a sovereign or prince, by extension the residence of an important dignitary of Church or state, as an archbishop's palace or a viceroy's palace The term is also used, loosely, for an extensive and sumptuous dwelling, whatever the owner's rank The French equivalent *palais* is often applied to public buildings, as Palais de Justice, the Italian term *palazzo* to any large private mansion in town or country, as well as to public buildings and royal residences

Palacios (pälä'shŏs), town (pop 2,288), S Texas, on Matagorda Bay and SW of Houston, settled 1903, inc 1909 It is a small port with fishing, shrimping, and oystering, and the surrounding country produces cattle and rice A military camp here was active in the Second World War

Palacio Valdés, Armando (ärmän'dō pala'thyō valdās'), 1853–1938, Spanish novelist and critic He studied law at the Univ of Madrid, but turned to writing as a career His publications began with the critical works *Los oradores del Ateneo* [the orators of the Athenaeum] (1878), *Los novelistas españoles* [the Spanish novelists] (1878), and *Nuevo viaje al Parnaso* [new roads to Parnassus] (1879) and another written with Leopoldo Alas, *La literatura en 1881* (1882) He owes his fame to his realistic novels, characterized by a genuinely optimistic outlook on life Some of the best known are *El señorito Octavio* (1881), *Marta y María* (1883; Eng tr , *The Marquis of Peñalta*, 1886), *José* (1885, Eng tr , 1901), *El cuarto poder* (1888, Eng. tr., *The Fourth Estate*, 1901), *La Hermana San Sulpicio* (1889, Eng tr , *Sister St Sulpice*, 1890), and *La alegría del capitán Ribot* (1899, Eng tr , *The Joy of Captain Ribot*, 1900), besides the series in which Dr Angélico appears, *Años de juventud del doctor Angélico* and *La hija de Natalia* (1924) An English collection of short stories appeared in 1935

Palacky, Frantisek, Czech *František Palacký* (frän'tyishĕk pa'lätskē), 1798–1876, Czech national leader and historian, b Moravia One of the leaders in the cultural and national revival of the Czechs, he was elected (1848) to the constituent assembly in Vienna and in the same year presided over the first Pan-Slav Congress (see PAN-SLAVISM) at Prague He later served as a representative both in the Austrian parliament and in the Bohemian diet Strongly influenced by Kant and J J Rousseau, Palacky saw the mission of the Czech nation as a bearer of the democratic ideal Far from wishing the dissolution of the Austro-Hungarian Monarchy, he advocated its reorganization into a federation of free and equal nationalities, pointing the way to a general European solution His paraphrase of Voltaire—"If the Austrian empire did not exist, it would have to be invented"—remains famous A liberal in the best sense of the word, Palacky advocated national liberation through enlightenment and education rather than by revolutionary methods His chief historical work, *Geschichte Böhmens* [history of Bohemia] (in German, 5 vols , 1836–67, in Czech, 5 vols , 1848–67), exerted tremendous influence in giving a direction to Czech national consciousness and thus partially vindicated his method Its scholarliness is marred by Palacky's nationalist and Protestant bias

Palaemon (pulē'mŏn), Greek sea-god, protector of ships, in whose honor the ISTHMIAN GAMES were celebrated Once a mortal (Melicertes), he became a sea-god when he and his mother, INO, leaped into the sea to escape the murderous frenzy of his father, ATHAMAS Palaemon was identified with the Roman god Portumus

palaeo-, for words beginning thus see also PALEO-

Palaeologus (pālēŏ'lugus), Greek dynasty which ruled the Byzantine Empire from its restoration in 1261 to its final conquest by the Turks in 1453 The first emperor was MICHAEL VIII, restorer of the empire He was succeeded by ANDRONICUS II (reigned 1282–1328) and ANDRONICUS III (reigned 1328–41) JOHN V acceded in 1341, but was kept from the throne till 1355 by John VI (John Cantacuzene) and from 1376 till 1379 by his son, Andronicus IV At his death (1391) MANUEL II succeeded He had to share his rule with JOHN VII after 1399 His sons JOHN VIII (reigned 1425–48) and CONSTANTINE XI (reigned 1448–53) succeeded him Constantine XI was killed when the Turks stormed Constantinople Branches of the Palaeologus family survived in various European countries One branch ruled the Italian marquisate of Montferrat from the 14th cent until its extinction in 1536 Many of the Palaeologi distinguished themselves through their humaneness and erudition They fostered a revival of Hellenism which helped the Greek people to retain its identity through the long centuries of Turkish rule that followed As statesmen they had to contend against the pressure of the Turks and against the reluctance of Western Europe to come to the aid of the Orthodox Greeks

Palafox, José de (hōsā' dā pälafōkh'), 1776?–1847, Spanish general in the PENINSULAR WAR, celebrated for his heroic defense of Saragossa He organized resistance against the French invaders in 1808 and was elected captain general of Aragon Holding Saragossa with an improvised garrison of citizens and peasants, he refused to surrender to the French who had breached the city walls and held out behind street barricades from June to Aug , 1808, when the French withdrew In Dec , 1808, the French under Lannes again besieged the city Palafox surrendered only in Feb , 1809, after three weeks of street fighting had resulted in the death of some 50,000 Spaniards He was held a prisoner in France, at Vincennes, until 1813 Palafox commanded the royal guards during the uprisings of 1820–23 against Ferdinand VII, but he lost his post because of his stand in favor of the constitution He later commanded the loyal troops against the Carlists and was created duke of Saragossa in 1834

Palafox y Mendoza, Juan de (hwän' dā pälafōkh' ē mändō'tha), 1600–1659, Spanish churchman and colonial administrator He occupied posts at the court before leaving Spain and arrived in Mexico in 1640 as bishop of Puebla and visitor general of New Spain He involved himself in a struggle with the regular clergy over their privileges and exemptions When the viceroy, suspected of Portuguese sympathies and accused of misgovernment, was removed from office, Bishop Palafox became (1642) viceroy ad interim He refused the archiepiscopal honors offered him, but administered the archdiocese of Mexico. For a short time all the impor-

tant offices of New Spain were centered in him He ruled vigorously and corrected financial abuses Palafox is, however, best remembered for his quarrel with the Jesuits, which began in 1647 The dispute grew acrimonious and reached such lengths that Palafox excommunicated all those who attended Jesuit churches He had to flee Puebla in fear of his life and in 1649 went to Spain, where he received the see of Osma in 1653 His quarrel with the Jesuits was formally closed, but was much discussed by opponents of the order later

Palaihnihan Indians see PIT RIVER INDIANS.

Palai (pä'-) [Heb ,=judge], worker on the wall of Jerusalem Neh 3 25

Palamas, Kostes (kŏstēs' pulamäs'), 1859–1943, Greek poet, studied at the Univ of Athens He served the university as secretary for many years Except for his early work, he wrote in demotic or vernacular Greek and translated into this idiom the New Testament and the works of various European writers Among his volumes of poetry are *Songs of My Fatherland* (1886), *Hymn to Athena* (1889), *The Twelve Speeches of the Gypsy* (1907), *The Flute of the King* (1910), and a lyric drama, *Trisevgene* (1903, Eng tr , *Royal Blossom*, 1923) Part of his *Life Unshakeable* (1904) was published in English as *Life Immovable* (Part I, 1919) and *A Hundred Voices and Other Poems* (Part II, incomplete, 1921)

Palamedes (pălumē'dēz), in Greek mythology, crafty Greek hero in the Trojan War He excited the hatred of Agamemnon and Diomed because he wanted peace and that of Odysseus because he saw through Odysseus' feigned madness Odysseus planted forged evidence of treachery in Palamedes' tent and had him killed for it The invention of scales, measures, dice, the discus, the alphabet, and lighthouses was credited to Palamedes

palate (pă'lĭt), the roof of the mouth It consists of a bony portion (hard palate) and a soft muscular portion (the soft palate) which terminates in the uvula The palate separates the oral cavity from the nasal cavity Failure of the parts of the palate to unite during development results in a condition known as cleft palate, which interferes with eating and speech Cleft palate is best reduced by surgery in infancy, in some cases, mechanical dental appliances known as obturators, are of assistance in correcting the defect

Palatinate (pălă'tĭnĭt"), Ger *Pfalz* (pfälts), two regions of Germany They are related historically, but not geographically The Rhenish or Lower Palatinate (Ger *Rheinpfalz* or *Niederpfalz*), often called simply the Palatinate, extends from the left bank of the Rhine and borders in the south on France and in the west on the Saar Territory It belonged to Bavaria until 1945, but became (1946) a district (2,111 sq mi , pop 958,503) of the newly created state of RHINELAND-PALATINATE, under French occupation Neustadt an der Hardt is the capital, Ludwigshafen, Kaiserslautern, Pirmasens, and Speyer are the chief cities It is a rich agricultural region, famed for its wines The Upper Palatinate (Ger *Oberpfalz*) is a province (3,724 sq mi , pop 888,522) of NE Bavaria, separated in the east from Czechoslovakia by the Bohemian Forest REGENSBURG is the capital Agriculture and cattle raising are the chief occupations The name of the two regions came from the office known as count palatine, a title used in the Roman, Byzantine, and Holy Roman empires and elsewhere, notably in England, Hungary, and Poland The rights of office varied, but in general it may be said that the palatine had superior judicial functions and enjoyed privileges superior to those of other nobles Emperor Frederick I bestowed (1156) the title count palatine on his brother Conrad, who was in possession of territories on both sides of the Rhine More extensive than the present Rhenish Palatinate, these territories included the northern part of modern Baden, but not the bishopric of Speyer and other enclaves in the palatine lands W of the Rhine When Conrad's line died out, the Palatinate passed (1214) to the Bavarian WITTELSBACH dynasty The Wittelsbachs also enlarged their holdings along the Bohemian border, which were constituted as the Upper Palatinate From the 14th cent until 1777 the Wittelsbach holdings were split between the two main lines of the family the senior line held the two palatinates, the junior line held Bavaria The electoral vote (see ELECTORS) alternated at first between the two lines, but was settled (1356) by the Golden Bull on the counts palatine, henceforth known as electors palatine Their territories were called the Electoral Palatinate (Ger *Kurpfalz*) Elector RUPERT became emperor in 1400 After his death the Palatinate line divided into several collateral branches, which held territories of their own The direct line was succeeded (1559) by the counts palatine of Simmern, who in turn were succeeded by the dukes palatine of Neuburg (1685) and the counts palatine of Sulzbach (1742) The Rhenish Palatinate flourished in the 15th and 16th cent , and its capital, HEIDELBERG, was a center of the German Renaissance and Reformation. The election (1619) of Elector Frederick V (see FREDERICK THE WINTER KING) as king of Bohemia precipitated the Thirty Years War, in which the Palatinate was ravaged both by the imperial forces under Tilly and by the Protestant army under Mansfeld A border country, the Rhenish Palatinate was to suffer several more devastations in the wars of the 17th and 18th cent The Upper Palatinate and the electoral vote were taken from Frederick and transferred to Bavaria, but at the Peace of Westphalia (1648) a new vote was created for Frederick's successor, Charles Louis The Palatinate-Neuburg line acquired (1666) the contested duchies of Jülich and Berg but, after its accession (1685) to the Electoral Palatinate, became involved in the War of the Grand Alliance with Louis XIV, who ordered the devastation (1688–89) of the Rhenish Palatinate In 1720 the capital was transferred to MANNHEIM The failure (1777) of the Bavarian line united all Wittelsbach lands except the duchy of ZWEIBRÜCKEN under Elector Charles Theodore. After the War of the BAVARIAN SUCCESSION (1777–79) the succession to Bavaria, the Palatinate, and Jülich and Berg was settled on the Palatinate-Birkenfeld line, which held Zweibrücken However, when Duke Maximilian of Zweibrücken acceded (1799), the palatine lands W of the Rhine had been conquered by France in the French Revolutionary Wars In 1803 Maximilian ceded the palatine lands E of the Rhine to Baden, Hesse, and Nassau, but in 1806 he became king of a much-enlarged Bavaria, and at the Congress of Vienna (1815) he recovered part of the Rhenish Palatinate W of the Rhine, including Speyer and other enclaves Several districts, however, were awarded to Prussia and Oldenburg The Upper Palatinate was increased by the addition of Regensburg, which replaced Amberg as capital Both the Rhenish and the Upper Palatinate became integral parts of Bavaria

Palatine (pă'lătīn), village (pop 2,222), NE Ill , NNW of Chicago, in a farm area, inc 1869

Palatine, hill see *Rome before Augustus* and *Roman Empire* under ROME

Palatka (pŭlăt'kŭ), city (pop 7,140), co seat of Putnam co , NE Fla , on the St Johns and S of Jacksonville. It is a commercial center and river port handling lumber, truck, and fruit Founded as a trading post in 1821, it was the site of a military post in the Seminole War and developed as an important river port and resort in the second half of the 19th cent The city is noted for its azalea gardens

Palau (pälou'), island group (188 sq mi ; pop 5,900), W Pacific, in the W Caroline Islands It is c 550 mi E of the Philippines The group includes four volcanic islands (Babelthuap, Koror, Arakabesan, and Malakal), four coral islands (Urukthapel, Angaur, Aurapushekaru, and Peleliu), Kayangel atoll, and numerous islets Phosphate and bauxite are produced In the Second World War, Palau was the major Japanese naval base in the W Carolines and the only important stronghold in the group to be taken (1944) by U S forces Palau is sometimes spelled Pelew

Palawan (pälä'wän), island (4,550 sq mi ; pop 43,813), Philippine Islands, N of Borneo and between the Sulu and South China seas There is an underground river flowing to the sea on the west coast, its source has not been determined The island is inhabited by Moros It is primarily agricultural, and rice, corn, tobacco, and copra are produced A U S naval air base is here On the east coast is Puerto Princesa, the capital of Palawan prov (5,693 sq mi , pop 93,673), comprising Palawan and the near-by island groups of Calamian and Cuyo

Pale, in Irish history, that district of indefinite and varying limits around Dublin in which English rule was dominant and the authority of the Irish Parliament was exercised before the complete subjugation of Ireland to English rule The term was first used in the 14th cent to designate what had previously been called English land Outlying districts were styled the marches, or border lands In the time of Henry VIII the Pale extended N from Dublin to Dundalk and c 20 mi. inland from the coast It disappeared in the ensuing years as the English control of the whole of Ireland was made effective Another English Pale centered around Calais in France until 1558, and still another in Scotland in the middle of the 16th cent In Russia the Pale designated those regions in which Jews were allowed to live The Jewish Pale was established at the first partition of Poland Many of the restrictions of the system were in force until the Revolution of 1917

Palembang (pälĕmbäng'), city (pop 108,145), capital of the state of South Sumatra, Indonesia, on SE Sumatra, largest city on the island A port on the Musi river, it is the trade center for an area producing oil and rubber There are machine shops and shipyards Palembang in the 8th cent was the capital of a powerful Hindu-Indonesian kingdom

Palencia (pälän'thēä), city (pop, 30,127), capital of Palencia prov., NW Spain, in Leon It is an agricultural trade center noted for the woolen blankets made here Palencia was recovered from the Moors in the 10th cent and was in the 12th and 13th cent a favorite residence of the kings of Leon. The first university in Spain was founded here (1212 or 1214), but was removed to Salamanca in 1238 There is a notable Gothic cathedral (14th–16th cent) containing a fine collection of old Flemish tapestries.

Palenque (pälĕng'kā), ancient city of the MAYA in Chiapas, S Mexico, in the Usumacinta valley. Its architectural elegance, adapted to tropical and topographical conditions, was a high point in the art of the Old Empire. Stucco sculpturing and low-relief paneling reached their highest expression at Palenque Nearly life-size figures were modeled and carved in flowing lines and were lavishly painted Entablatures sloping inward and roofs slanting back to give a mansard effect show the range of architectural ideas among the Maya

Paleocene epoch see EOCENE EPOCH

paleography (pālēŏg'rufē) [Gr.,=early writing], term sometimes meaning all study and interpretation of old ways of recording language In a narrower sense, it excludes epigraphy (the study of inscriptions) and includes only the writing that is done on such materials as wax, papyrus, parchment, and paper The letters of inscriptions favor straight lines and sharp angles Letters made with a stylus, brush, reed, or pen favor curved lines and tend to become cursive, a letter, a word, or several words being made without lifting the writing implement In Western Europe and in regions that have adopted Western European ways of writing, letters of all kinds—capital and lower case, roman, italic, black letter, and script—are derived from the capital letters of Roman inscriptions From these "square" capitals developed less severe capitals called "rustic" and also letters called "uncial," with more curves than capitals have The uncial M, for example, substitutes curves for the two angles at the top, as the lower-case letter does Capitals and uncials are called majuscules and are distinguished from minuscules, the lower-case letters The lower-case letters established themselves definitely in Alcuin's school at Tours in the time of Charlemagne Letters of the kind preferred in that school are known as Carolingian, or Caroline, minuscules. Efforts to make letters ornate led to the development of black letter, no longer in common use except for the German language Letters of this ornate kind, with many angles and with heavy shading, are sometimes called *gothic*—a term that is unfortunately ambiguous, since it is used by printers for very simple letters, without serifs In type, italic letters were introduced by Aldus Manutius, they are said to have been suggested by the handwriting of Petrarch Local, temporary, and individual variations in letter forms are countless As the Spencerian script of the 19th cent enables us to give an approximate date for a document written in it, one skilled in handwriting can often assign a place and a date to a document of earlier times It is possible sometimes even to identify the writer of a document and to distinguish forgeries from authentic documents. Specialists devote themselves also to the many forms of writing not derived from Roman capitals, as Greek, Arabic, and Chinese See also ALPHABET, WRITING, INSCRIPTION, HIEROGLYPHIC

paleolith (pă'lēulĭth) [Gr ,=early stone], any implement of flint, quartzite, or other hard stone, shaped by chipping, found in gravel beds of river valleys and in caves of N France and parts of England, in Belgium, Greece, Italy, Spain, Portugal, and other regions They are unpolished and are the simplest form of instruments for such purposes as cutting, scraping, and boring Some served as axes, others as spearheads Their existence in association with remains of animals now extinct or no longer indigenous to the localities where they are found is an indication of extreme antiquity, and they are classed as belonging to the Paleolithic period

Paleolithic period (pă"lēulĭ'thĭk, -lō-, pā"-) or **Old Stone Age,** the earliest recognized period of human development and the longest phase of mankind's history. It is approximately coextensive with the Pleistocene geologic period, beginning probably 1,000,000 years ago and continuing until the end of the last glaciation, about 20,000 years ago. Definite evidence of human activity in the earlier Pliocene epoch is lacking, but traces of purposeful activity in the earliest Paleolithic indicate that systems of speech and social living were at least rudimentarily developed Hunting characterizes the entire period In the lower phase, the lack of permanent habitations and the nature of the known implements suggest a weak and defensive people Each technological step brought more successful adaptation, and by upper Paleolithic times there apparently were no animals not successfully hunted and few climates too rigorous for survival Earliest centers of culture cannot be established, but despite the preponderance of European data, that area appears to be peripheral to the development and spread of mankind Because prehistoric study was first concentrated in France and Scandinavia, there have arisen detailed classifications of tools and industries identified by local names of places in those countries which fail to convey the extended spatial and time relations of these cultures. More is known of the imple-

ments than of the men who made them. From random utilization of materials at hand, man perfected his pounding, chopping, and scraping tools, once the skill to provide them with cutting edges was acquired, his advance was relatively rapid Three general types of stone industry are characteristic of the Paleolithic The core tools, best exemplified by the *coup de poing* or hand axe, were shaped on a central rock mass Flake implements were fashioned from the struck-off fragments The upper Paleolithic blade industries, associated with modern man, show a refined and skillful combination of techniques providing knife-like and hafted tools In general, flake industries were distributed north of the Eurasian mountains and may indicate a special adaptation of forest hunting peoples The core or hand-axe cultures appear to be confined to the mild phases of the Pleistocene The Abbevillian or Chellean core industries evolved in the middle Paleolithic into the Acheulian, a strikingly conservative phase which lasted over 300,000 years, persisting in Europe until the last glaciation Contemporaneous with the Abbevillian and mid-Acheulian in Europe, the Clactonian flake industry gave rise in its final stage to the Levalloisian technique This method of striking flakes along the line of fracture, from a core prepared to provide an improved cutting edge, was the major step of the middle Paleolithic Also conservative, the Levalloisian industries survived in Europe nearly 200,000 years and in South Africa to modern times The beginnings of extensive hunting are indicated here Here, too, is the first conclusive evidence of belief systems centering on magic and the supernatural and of ritual burial The appearance of the Aurignacian blade industries in the upper Paleolithic coincides with the remarkable spread of *Homo sapiens* Tools were profuse Sewn clothing was worn Ceremonials were much elaborated, and the upper Paleolithic marked the spread of a variety of cultures, invariably associated with Neanderthal man, through central and SW Asia, North Africa, and Europe These cultures, identified as Mousterian, are primarily flake industries but derive certain retouching skills from core techniques This was the period of rock shelter and cave dwelling, and sculpture and painting had their beginnings Climatic fluctuations were the probable cause of great migrations The relatively brief appearance of the Solutrean culture, characterized by fine lance points and blades, was apparently an invasion from Iran into NW Europe and Spain It was replaced by the Magdalenian, the final major phase of the Paleolithic Its blade industries were derived from the Gravettian or upper Aurignacian and lasted about 50 000 years Weapons were highly refined and varied, and cave art was perfected Along the southern edge of the ice sheet, boats and harpoons were developed Microliths, or tiny points, suitable for small game, are most characteristic of the grassy plains of Asia and Africa It is assumed that Combe-Capelle man is associated with the lower Aurignacian Grimaldic man is placed in the middle or upper Aurignacian, contemporary with the two Cro-Magnon races, who also continue through the Solutrean and Magdalenian, when Chancelade man lived By the close of the Paleolithic, agriculture and domestic animals, the principal characteristics of the NEOLITHIC PERIOD, were about to appear See also MAN, PRIMITIVE, and CAVE ART See H F Osborn, *Men of the Old Stone Age* (3d ed , 1919), M C Burkitt, *The Old Stone Age* (2d ed , 1949)

Paléologue, Maurice (mōrēs' pälāôlôg'), 1859–1944, French diplomat and writer He was (1914–17) ambassador at St Petersburg and played an important part in the negotiations preceding the outbreak of the First World War He was a strong advocate of Franco-Russian cooperation His *La Russie des tsars pendant la grande guerre* (3 vols , 1922, Eng tr , 1924–25) is a valuable source book From 1917 to 1920 he was chief secretary in the French foreign office A member of the French Academy from 1928, he wrote studies on Cavour, Alfred de Vigny, Vauvenargues, Empress Eugenie, Chinese art, and diplomacy in the age of romanticism

paleontology (pā"lēŭntŏ'lŭjē, pā"lŏn-) [Gr , =study of early beings], the science of the life of past geologic time as studied through the FOSSIL Although paleontology deals with early forms of life, it is usually treated as a part of geology, rather than biology, because the environment of the animals and plants with which it deals cannot be properly understood and reconstructed without knowledge of the age and structure of the rocks in which their remains are found. Paleontology is further united to geology because paleontological evidence is one of the most important types of evidence for the correlation of the ages of rock strata (see STRATIFICATION). Just as biology is commonly divided into BOTANY and ZOOLOGY, so paleontology is often divided into paleobotany (paleophytology) and paleozoology Paleontology as a science separate from geology dates from the 19th cent , especially from the work of CUVIER on fossils It received a great stimulus from the publication of the evolutionary hypothesis of DARWIN. See E W. Berry, *Paleontology* (1929); J H. Bradley, Jr., *Parade of the Living* (1930), A M Davies, *Introduction to Paleontology* (2d ed., 1947); H. H Swinnerton, *Outlines of Palaeontology* (3d ed., 1947)

Paleozoic era (pā"lēŭzō'ĭk) [Gr , =early life], third grand division of geologic time When shallow seas spread over the land after the long erosion interval which succeeded the Proterozoic era, the continents already had taken the form which they preserved during most of the era In North America two great troughs or geosynclines were the principal physical features One of them, the Appalachian geosyncline, ran from the Gulf of Mexico to Labrador, along the line of the present Appalachian Mts , the other, the Cordilleran geosyncline, followed the line of the present Cordilleran range from the Arctic Ocean to S California These geosynclines were submerged by successive floods and received the products of erosion from the neighboring lands, so that a large proportion of the American Paleozoic rocks lie within the areas which they formerly occupied Outside the geosynclines, the interior of the continent was frequently submerged by a great interior sea The consistently dry areas of the continent were the Atlantic coast, or Appalachia, the Pacific coast, or Cascadia, the Canadian Shield and several smaller regions The rhythm of the Paleozoic era was one of alternating submergences and emergences of the land The CAMBRIAN PERIOD, the ORDOVICIAN PERIOD, the SILURIAN PERIOD, and the DEVONIAN PERIOD passed without notable interruptions of this rhythm In the CARBONIFEROUS PERIOD, however, began a series of major disturbances which, continued in the PERMIAN PERIOD, brought the Paleozoic to a close In the Permian the Appalachian geosyncline passed out of existence The climate of the Paleozoic was in general mild, and there were apparently no gradations of temperature toward the poles The Paleozoic, according to the fossil record, was rich in forms of life At the beginning of the Cambrian there were many marine invertebrates A few primitive fish-like vertebrates appeared in the Ordovician, scorpions in the Silurian, amphibians in the Devonian, reptiles in the Carboniferous During the Permian the reptiles increased in number and in variety The plant life of the Paleozoic reached its climax in the Carboniferous and was much contracted in the Permian The Paleozoic was considerably shorter than the Proterozoic or Archeozoic, an average estimate for its length being 350,000,000 years

Palermo (pulûr'mō, Ital pälĕr'mō), Latin *Panormus*, city (pop 339,497, with suburbs 411,879), capital of Sicily and of Palermo prov , on NW Sicily, Italy It is the largest city and seaport of the island, exporting mainly citrus fruit and wine There are chemical, food, and other manufactures Palermo is splendidly situated at the edge of the Conca d'Oro, a plain covered with orange, lemon, and olive groves The city was founded between the 8th and 6th cent B C , probably by Phoenicians, it later became a Carthaginian military base and was conquered by the Romans in 254–253 B C It was under Byzantine rule from A D 535 to 831, when it fell to the Arabs, who held it until 1072 Palermo's prosperity dates from the Arabic domination and continued under the Normans, who made it the capital of the kingdom of SICILY Under Roger II and later under Emperor Frederick II it reached its greatest artistic, cultural, and commercial flower The Angevin dynasty transferred the capital to Naples, their misrule led to the SICILIAN VESPERS (1282) Palermo is rich in works of art, Byzantine, Arabic, and Norman influences are blended in many buildings In the royal palace is the Palatine chapel with Byzantine mosaics The cathedral (1185) has six tombs of kings and emperors There are Norman-Sicilian, Renaissance, and baroque churches and several palaces, notably the Charamonte and the Sclafani In the royal park are two Norman-Arabian villas Palermo also has a national museum, a university, and a national library Much damage was done by aerial bombings in the Second World War

Palermo stone, diorite stone engraved probably in the 28th cent B C with the earliest extant annals It is a list of the kings of ancient Egypt before and after Menes, with regnal years and notations of events Part of it is in Palermo, Italy, part in Cairo, Egypt

Palés Matos, Luis (lwĕs' pälĕs' mä'tōs), 1898–, Puerto Rican poet He is primarily noted for his Negro poetry, which by use of African words, dance rhythms, and colorful suggestion evokes the speech, the pleasures, the life, and the loves of the Negro of the West Indies Many of his poems are collected in *Tuntún de pasa y grifería* (1937).

Palestine (pă'lĭstĭn) [ultimately from Philistine], country on the eastern shore of the Mediterranean between Syria and Egypt This article chiefly discusses the physical geography and the history before the end of the Second World War; for the economy and later history, see ISRAEL In the Bible, Palestine is called Canaan before the invasion of Joshua, the usual Hebrew name is Erets Israel [land of Israel]. Palestine is the Holy Land, of Jews as having been promised them by God, of Christians because it was the home of Christ, and of Moslems as heirs of Jews and Christians Its boundaries, never long constant, always include at least the land between the Mediterranean and the Jordan river. So taken, the country is c 140 mi long and from c 30 to c 70 mi wide Outside these bounds are such biblical lands as EDOM, GILEAD, MOAB, and HAURAN. The mandate of Palestine included also the NEGEV, a 100-mile-long southern projection reaching to the Gulf of Aqaba Palestine on the whole has a dry, hot climate From east to west the country comprises three zones the depression—the northernmost extension of the Great Rift Valley—in which lie the JORDAN, the DEAD SEA, and the Araba, a ridge rising steeply from this cleft, and a coastal plain a dozen miles wide In N Palestine the ridge is interrupted by the Vale of ESDRAELON and the connecting valley of Beisan The highland area to the north is called GALILEE; its chief centers are SAFED and NAZARETH, near which rises Mt TABOR To the south of the Vale of Esdraelon the broad ridge stretches unbroken to the Negev First there are the hills of SAMARIA, with northward prongs (to the east Gilboa and to the west Mt CARMEL), fronting on Haifa Bay The center of Samaria is NABLUS, which lies between Mt EBAL and Mt GERIZIM, other towns are En-gannim (Jenin) to the north and Tulkarm to the west The mountains of JUDAEA are west of the mouth of the Jordan Here are JERUSALEM, BETHLEHEM, and HEBRON Well to the south, in the Negev, lies BEERSHEBA The coastal plain of Palestine has water, but since great sand dunes block drainage, this was formerly a zone of swamps, desolate and unused, the land, now reclaimed, is fertile and productive The towns of the littoral are ACRE, HAIFA (the chief port and manufacturing center of Palestine), old CAESAREA PALESTINAE, Nathania, JAFFA, and TEL-AVIV Near Tel-Aviv are Petah Tiqvah, LYDDA, RAMLE, and Rehoboth To the south is old GAZA The plain is diversely named, it is the Valley of Zebulun S of Acre, Sharon S of Mt Carmel, and the Shephelah in the extreme south Agriculture in the Jordan valley centers around the lakes, including the BAHR EL-HULEH and the Sea of GALILEE, and in the Beisan area The chief town is TIBERIAS, and there is an important hydroelectric plant just S of the Sea of Galilee Farther south the valley is too narrow for much use, unless for water power, and there is only one city, JERICHO, E of Jerusalem The Dead Sea, into which the Jordan empties, is reputedly the lowest spot on the earth's surface—its surface is 1,300 ft below sea level Before the Jewish colonization of Palestine in the 20th cent the rural people were Arab peasants (fellahin) In cities there were important groups of Christians (at Nazareth, Bethlehem, and Jerusalem) and of Jews (at Safed, Tiberias, Jerusalem, Jericho, and Hebron) Otherwise the population was Moslem Arab The Holy Land has a special character as a place of pilgrimage Shrines cluster most numerously about Jerusalem, Bethlehem, Nazareth, and Hebron, they are commonly shared by several religions The earliest-known inhabitants of Palestine were Neanderthallike and used Mousterian tools By the 4th cent B C there were troglodytic herders and farmers Lying on the coastal route between Egypt and Mesopotamia, Palestine was usually a province of some empire Its detailed history begins with the Hebrews (see JEWS), who profited from the decline of the New Empire in Egypt to set up their own state, possibly driving out the Canaanites By 1000 B C the Hebrew kingdom was well established at Jerusalem, King DAVID, enjoying greater success than his predecessor SAUL, had reduced the Philistines (see PHILISTIA), a seafaring people who had colonized the Shephelah After the expansive reign of SOLOMON, the kingdom fell into two states, Israel, with the capital at Samaria, and Judah, under the house of David, with the capital at Jerusalem. But empires were once more expanding from Mesopotamia, and the kingdoms were destroyed, Israel by ASSYRIA (c 722 B C.) and Judah by BABYLONIA (586 B C) Soon there was a revival under Persian sponsorship at Jerusalem, where ZERUBBABEL, EZRA, and NEHEMIAH reestablished an autonomous community, perhaps the foundation of the modern Jewish people The 4th cent B C saw a westward reorientation of the Near East when Alexander the Great of Macedonia conquered Palestine Eventually, efforts by the rulers to impose Hellenism brought a Jewish revolt under the MACCABEES, who set up a new Jewish state in 141 B C This ruled Palestine for 70 years but finally yielded to Rome Palestine of the time of Christ had puppet kings in the Herods (see HEROD), who never succeeded in reconciling Jews and Romans To suppress the revolt which broke out in A D. 66 the Romans destroyed the Temple (A D 70) and expelled the Jews from Judaea Another revolt in A D. 132 was brutally suppressed Now Tiberias and Caesarea Palestinae became Jewish centers, the main Roman cities were Jaffa and Nablus. With Constantine I, Palestine became a center of Christian pilgrimage The country flourished under Justinian, and agricultural development was encouraged, even in the Negev.

Like its neighbors, Palestine came under the Moslem invader, in 640 the caliph Omar was master The centuries of Moslem domination were generally a period of decline The cultivated valleys became swamps, the formerly beautiful hill slopes were given over to Bedouin grazers, and the highlands were deforested In the 9th cent., when Palestine passed to Egypt, the Fatimite rulers provoked the CRUSADES by destroying the Church of the Holy Sepulcher and molesting pilgrims The Crusaders had no long tenure in Palestine, the Latin Kingdom of Jerusalem lasted less than 100 years after its establishment in 1099 The chief European memorials are the Norman fortresses that mark the countryside The next rulers of Palestine were the Mamelukes, most Moslem monuments date from their reign In 1516 they were beaten by the Ottoman Turks At first the Turks favored Palestine, particularly Jerusalem, but generally their rule was one of decay Jewish colonization from Europe began c 1870, but it was not until the early 20th cent that the impulse of ZIONISM had a marked effect In 1920 the British, who had conquered the area in the First World War, acquired Palestine and Trans-Jordan (now JORDAN) as mandates of the League of Nations By the terms of the mandate and of the British Balfour Declaration (1917) Palestine was marked as the place for the establishment of a Jewish national home, but with due regard for the rights of non-Jewish Palestinians The British exercised control through a high commissioner and an executive council The Jews were officially represented by the Jewish Agency (including most segments of Zionist opinion) A Moslem supreme council regulated Islamic religious affairs, while in time an unofficial Arab high committee developed to carry on anti-Zionist activities The first years of the mandate saw much progress, but soon disorders developed In 1928 there was a Jewish-Arab clash over the Wailing Wall in Jerusalem, and in 1929 there were attacks by Arabs on the Jews at Safed, Hebron, and elsewhere Now there developed a three-way controversy among Jews, Arabs, and the British The Arabs in the '30s were led by Husseini, the mufti of Jerusalem, an implacable enemy of Zionism The main issues at first were Jewish immigration and land purchases, these the Arabs wished to halt and the British proposed limiting, but took no early steps Jewish immigration increased greatly after Hitler came to power in Germany in 1933 There were continual Arab attacks on Jewish agricultural settlements as well as several Arab general strikes In 1936 the British proposed a division of the country territorially between Jews and Arabs Such partition was discussed for the next years, usually with provision for a neutral area of holy places, especially of Jerusalem and near-by Bethlehem The Arab leaders rejected all partition plans, while the World Zionist Congress was willing to consider them In 1939, when there were c 400,000 Jews, c 900,000 Moslems and c 100,000 Christians (mostly Arab) in Palestine, the British issued a state paper (usually called the White Paper of 1939) announcing their intention to create a single independent state predominantly Arab in population The White Paper also provided for limiting Jewish immigration to 1,500 persons a month and for cutting it off entirely in 1944, when the Jewish population would reach 500,000 Zionists both in and out of Palestine were further enraged when, in 1940, the British severely limited the areas in Palestine where Jews might acquire land However, after the outbreak of the Second World War in Sept., 1939, there was considerable diminution in political tensions and all parties hoped to encourage British favor by hearty cooperation in the war effort Palestine, strategically located in the British Middle East defense position, became a great military base (the campaign against Syria was launched from here) and supplied goods to the armed forces The Zionist cause was somewhat hurt in 1944, when Jewish terrorists in Cairo assassinated Lord Moyne, the British resident minister in the Middle East However, the feats of the Jewish Legion in North Africa and Italy helped counteract much antipathy Nevertheless both Jews and Arabs were preparing for the inevitable post-war conflict, out of which the state of ISRAEL would be forged See Guy Le Strange, *Palestine under the Moslems* (1890), George Adam Smith, *The Historical Geography of the Holy Land* (1930), H C Luke and E Keith-Roach, ed, *The Handbook of Palestine and Trans-Jordan* (1934), W C Lowdermilk, *Palestine Land of Promise* (1944), Esco Foundation for Palestine, *Palestine a Study of Jewish, Arab, and British Policies* (1947)

Palestine **1** (pă'lŭstĭn) Village (pop 1,626), E Ill, on the Wabash and NW of Vincennes, Ind, in a farm area, settled 1811, laid out 1816, inc 1855 **2** (pă'lŭstēn) City (pop 12,144), co seat of Anderson co, E Texas, N of Houston, settled 1846, inc 1871 The spreading city, one of the key cities of East Texas, keeps the marks of its past It is a market for the truck, turkeys, and other produce of the rolling red hills as well as a railroad junction point with railroad shops and the center of a rich oil area

Palestrina, Giovanni Pierluigi da (jōvän'nē pyĕrlōō'ē pā'lāstrē'nä) c 1525–1594, Italian composer, b. Palestrina, whence his name. In 1544 he was appointed choirmaster at the cathedral in his native town In 1550 the bishop of Palestrina became Pope Julius III and appointed (1551) Palestrina master of the boys in the Julian Chapel Palestrina's first book of Masses appeared in 1554, dedicated to the pope, who rewarded him with appointment to the Sistine Chapel Choir in 1555, Pope Paul IV dismissed him in the same year Palestrina was for a short time choirmaster of the Cathedral of St. John Lateran In 1571 he returned to the Vatican to assume the leadership of the Julian Chapel Choir Palestrina, called "the first Catholic Church musician," composed unaccompanied polyphonic church music for the most part He is best known for his great *Missa Papae Marcelli* and for his settings of the Song of Songs (1584), which are of intense religious feeling See biographies by Z K Pyne (1922) and Henry Coates (1938), Knud Jeppeson, *The Style of Palestrina and the Dissonance* (1927)

Palestrina (pälästrē'nä), town (pop 6,517), Latium, central Italy It is on the site of Praeneste, an ancient Latin city Its Roman remains include a temple of Fortuna, celebrated for its oracles

Paley, William, 1743–1805, English theologian Ordained in 1767, he lectured on moral philosophy at Christ's College, Cambridge, where he was fellow and tutor (1766–76) Made a prebendary of the cathedral church of Carlisle in 1780, he became archdeacon of the diocese in 1782 and chancellor in 1785 In that year he published *Principles of Moral and Political Philosophy*, which has been called the best statement of the utilitarianism of the 18th cent He wrote *Horae Paulinae* (1790), in proof that the New Testament is not "a cunningly devised fable," and *A View of the Evidences of Christianity* (1794), for which he is celebrated *Natural Theology, or, Evidences of the Existence and Attributes of the Deity* (1802) achieved great popularity In 1825 a complete edition of his writings was published by his son, the Rev Edmund Paley

Palfrey, John Gorham (pôl'frē), 1796–1881, American historian, politician, and scholar, b Boston After graduation from Harvard (1815), he became a Unitarian minister and later was (1831–39) professor of sacred literature at Harvard He was an ardent abolitionist and after service as a Whig in the House of Representatives (1847–49), he joined the Free-Soil party He contributed to periodicals and from 1835 to 1843 owned and edited the *North American Review* He wrote in vast quantity and on all sorts of subjects Perhaps he is best remembered for his *History of New England* (4 vols, 1858–75, additional volume, 1890), a thorough work based on good research in sources and including some material on social history, though the main burden is political history with a patriotic bias

Palghat (palgôt'), town (pop 55,160), SW Madras state, India It is in the Palghat Gap, the major opening through the Western Ghats, and is on a railroad connecting the east and west coasts of India Palghat was of great strategic importance in the British wars with Hyder Ali It trades in timber, grains, tobacco, and vegetable oils

Palgrave, Sir Francis (pôl'grāv, pôl'-), 1788–1861, English historian Educated privately, he was called to the bar in 1827 In 1823 he had embraced Christianity, married, and taken his wife's mother's surname in place of his father's surname, Cohen His antiquarian interests led him to edit with scrupulous accuracy and publish a number of historical records, such as the *Rotuli Curiae Regis* (2 vols, 1835), and to stress their importance as materials for historical writing He was knighted in 1832, and he was from 1838 the official head of the Public Record Office He wrote in the medieval field, emphasizing legal history and the continuity of the Roman tradition in English development One of his best works was his *History of Normandy and England* (4 vols, 1851–64) His son R H I Palgrave edited his father's *Collected Historical Works* (10 vols, 1919–22)

Palgrave, Francis Turner, 1824–97, English poet and anthologist, oldest son of Sir Francis Palgrave Educated at Oxford, he was an official in the government education department until he became (1885) professor of poetry at Oxford He is remembered as the editor of a famous anthology of poetry, *The Golden Treasury of the Best Songs and Lyrical Poems in the English Language* (1861) In its compilation he probably benefited from the advice of his friend Tennyson His revision and his other anthologies were also popular Of his own verse, *The Visions of England* (1881) and a few hymns are the best See biography by G F Palgrave (1899)

Palgrave, Sir Robert Harry Inglis, 1827–1919, English banker and economist, son of Sir Francis Palgrave He edited (1877–83) the *Economist*, wrote *Local Taxation in Great Britain and Ireland* (1871) and *The Bank Rate and the Money Market* (1903), and served on the government commission on the depression of trade and industry (1885), but is best known as editor of *The Dictionary of Political Economy* (3 vols, 1894–99, appendix, 1908, rev. ed. by Henry Higgs, 1923–26).

Pali (pä'lē), dead language of the Indic group of the Indo-Iranian subfamily of the Indo-European languages. See LANGUAGE (table) and PALI LITERATURE.

Palichao (pälē chou') or **Palikao** (pälēkou'), village, Hopeh prov, China, near Peiping. Here, in 1860, a British and French force which had recently occupied Tientsin defeated a Chinese army and invested Peiping. China agreed to all Western demands, including the payment of indemnities and the acceptance of foreign diplomats at the imperial court in Peiping The occupying forces were then withdrawn

Palikao, Charles Guillaume Cousin-Montauban, comte de (sharl' gēyōm' kōōzĕ'-môtôbä' kôt' du pälēkou'), 1796–1878, French general He commanded (1860) the French forces in China, his title was given him after his victory at Palichao near Peking After the outbreak of the Franco-Prussian War he replaced (Aug., 1870) Ollivier as premier under the regency of Empress Eugenie, while Napoleon III left for the front The emperor's capture at Sedan resulted in the overthrow of the Second Empire by a bloodless revolution in Paris, and Palikao fled to England with the empress

Palikao, China see PALICHAO.

Pali literature (pä'lē), sacred literature of BUDDHISM Pali, the language in which it is written, is a dialect of Sanskrit, it was presumably the native language of the BUDDHA The Buddhistic literature, originally oral, began to be put into written form in 483 B C, just after the death of Buddha, and the final canon was completed in 250 B C under Asoka The canon is called the *Tripitaka* [threefold basket] The first part, the *Vinayapitaka* [basket of discipline], contains the monastic rules of the order of Buddhist monks, it was kept secret from all who were not monks The *Suttapitaka* [basket of teaching] is divided into five *Nikayas* [collections] The first four are the main authority for the doctrines of early Buddhism The fifth is a miscellany containing speeches and dialogues of Buddha and of his first disciples, poetry, lives of the saints, and edifying anecdotes Buddha's famous disciple, Ananda, figures in some of the dialogues The fifth *Nikaya* also includes jatakas, fables of former births of the Buddha in various animal guises The final section, the *Abhidhammapitaka* [basket of metaphysics], contains nothing new, it is an analytical, logical, and methodological elaboration of the previous *Pitakas* Pali eventually died out in India, but the literature was transferred (2d cent B C) to Ceylon, where it has been studied and commented on in Pali up to the present day Later Pali was brought to Burma and Siam, there it is still to some degree the language of literature and religion See Moriz Winternitz, *A History of Indian Literature* (1927–33), Caroline Rhys Davids, *Buddhist Psychology* (1924) and *Sakya, or, Buddhistic Origins* (1931), Wilhelm Geiger, *Pali Literature and Language* (1943)

palimpsest see MANUSCRIPT

palindrome see ANAGRAM.

Palisades, bluffs along the west bank of the Hudson, NE N J and SE N Y, extending from the region N of Jersey City, N J, to the vicinity of Piermont, N Y, with a general altitude of from 350 ft to 550 ft The Palisades, rising vertically from close to the water's edge, are the margin of a sill (an intrusion of molten material which hardened to form a great sheet) of diabase Slow cooling developed the columnar structure, uplift and faulting occurred, it is believed, at the close of the Triassic period, and centuries of erosion exposed the cliffs A large part of the most scenic section, lying N of Fort Lee, N J., is embraced in the **Palisades Interstate Park** (more than 47,070 acres in area) The park, lying along the west bank of the river, includes a chain of hilly, wooded recreational areas between Fort Lee, N J, and Newburgh, N Y There are scenic roads, trails for hikers, campgrounds, and facilities for winter and summer sports Notable are the sections about BEAR MOUNTAIN and STORM KING

Palisades Park, borough (pop 8,141), NE N J., adjoining Fort Lee, inc 1899

Palissy, Bernard (bĕrnar' pälēsē'), c 1510–c 1589, French potter For 16 years he worked in vain to imitate white-glazed pottery (probably Chinese), even burning his furniture to fire his kilns He succeeded in producing a widely imitated pottery, Palissy ware, admired for smooth glazes in richly colored enamels He was appointed (c 1562) royal potter to Catherine de' Medici and created platters, ewers, and other ornamented pottery for the French court He is noted for pieces reproducing scriptural and mythological subjects in low relief and for his rustic pieces decorated with sharply modeled forms copied from nature—notably reptiles, insects, and plants He gave (c 1575–1584) public lectures on natural history A writer of outstanding ability on a diversity of topics, including religion, chemistry, mineralogy, philosophy, and agriculture, he published two collections of discourses (several times reedited as his complete works)—*Recepte véritable* (1563) and *Discours admirables* (1580), the latter includes the story of his struggle to create his ware Many of his views on nature have been confirmed by scientists. In 1588 he was sent to the Bastille (as a Huguenot), where he died.

Palk Strait (pôk, pôlk), between Ceylon and India. The strait, c 35 mi wide at its narrowest point, is turbulent and is little used by ships.

pall: see PALLIUM.

Palladio, Andrea (ändrā'ä päl-lä'dēō), 1518–80, Italian architect of the Renaissance He studied in his birthplace, Vicenza, and later in Rome he studied the remains of Roman architecture. The measured drawings he made of these were published, with compositions of his own and a description of practical systems of design and proportioning, in his famous work *I quattro libri dell' architectura* (1570, Eng tr, *The Four Books of Architecture*, 1713), reissued many times His buildings, chiefly town palaces, were executed mostly in Vicenza and its vicinity and generally were in humble materials, brick and stucco, in contrast with their formal classicism of design His characteristic façade displayed superimposed pilasters or columns or often a colossal order two stories in height and supported by a rusticated ground story In the basilica at Vicenza, his greatest work (begun 1549 and unfinished at his death), which was a rebuilding of the medieval town hall, appeared arches supported on minor columns and framed between larger engaged columns Each of these arch-and-column compositions formed what is termed a "Palladian motive" and was much imitated In the unusual Teatro Olimpico (1580) he incorporated a permanent scenic background, built in architectural perspective Near Vicenza, Palladio built the Villa Capra, generally known as the Rotonda, a square structure with a portico on each façade, utilized subsequently, in the 18th cent, by William Kent, Colin Campbell, and others as inspiration for country-house designs At Venice he built only churches, notably San Giorgio Maggiore and the Church of the Redentore In the 17th cent Inigo JONES imported into England Palladio's classic and grandiose type of design, thereby deeply influencing the course of English architecture, subsequently Sir Christopher Wren, Sir William Chambers, and other architects of the Georgian period created a great body of works termed Palladian, being based upon Palladio's compositions

Palladium (pulā'dēum) [Gr, =belonging to Pallas], in Greek and Roman religion, ancient sacred image of Pallas Athena It was the guardian of the safety of a city The Palladium of Troy, said to have fallen from heaven, is especially famous The city could not be taken while the statue remained safe Odysseus and Diomed stole the Palladium, and Troy fell Diomed supposedly brought the image to Greece, but the Romans said that the one Diomed stole was only a copy and that the original statue was brought by Aeneas to Rome, where it was placed in the temple of Vesta

palladium (pulā'dēum), rare, silver-white, lustrous metallic element (symbol=Pd, for physical constants, see ELEMENT, table), strongly resistant to corrosion in the air and to the action of acids, with the exception of nitric acid, at ordinary temperatures It is, however, affected by hot acids and dissolves in aqua regia It is a member of the platinum group of metals, resembling platinum and occurring in the ores of this metal along with other elements of the group Like platinum, it forms two groups of compounds, exhibiting its two valences It forms several oxides A remarkable property of palladium is its great ability to absorb hydrogen, one volume of it when finely divided occluding as many as 900 volumes of the gas The metal is used for plating and is alloyed with platinum or with gold in making scientific instruments and various kinds of jewelry and, either alone or alloyed, is sometimes used as a substitute for platinum The element was discovered by William Wollaston in 1803

Palladius, Saint (pulā'dēus), d 431, first bishop of Ireland Probably of Gallo-Roman origin, Palladius was sent to proselytize among the Irish by Pope Celestine I He arrived in Leinster in 431 with a company of 12 men and established three churches there Palladius was received with suspicion, and his mission was only partly successful He left Ireland the same year and died shortly afterwards in Scotland The details of his life are obscure and have been confused with events in the life of St PATRICK, who succeeded him in his work in Ireland

pallah see IMPALA

Pallas (pă'lăs), in Greek mythology **1** Name given to Athena **2** Giant who was killed by Athena **3** Titan, son of Creus and Eurybia, husband of Styx, and father of Nike

Pallas, Peter Simon (pă'tur zē'mŏn pă'läs), 1741–1811, German naturalist and explorer He became professor at the Academy of Sciences, St Petersburg (1768) In 1769 he was a member of an expedition to observe the transit of Venus, and until 1774 he explored the upper Amur, the Caspian Sea, and the Ural and Altai mts, collecting valuable specimens in natural history His account of the journey (pub 1771–76) was translated into English (2d ed., 1812) He wrote also on natural history and on Bering's discoveries

Pallavicino, Pietro Sforza (pyä'trō sfôr'tsä päl"lävēchē'nō), 1607–67, Italian Jesuit church historian, cardinal of the Roman Church. He wrote a history of the Council of Trent (1656–57) to refute the attack by Paolo Sarpi, but his silences and his failure to touch on the spirit of the Catholic Reform made it a poor reply He also wrote on literary style His collected letters were published in 1669

pallium (păl'ēum) or **pall** (pôl), vestment proper to the pope, who confers it on archbishops in token of their union with, and obedience to, him It is a band of cloth worn around the neck, having a pendant of the same width (2 in) hanging down in front and back There are six black crosses on the pallium It is woven of wool from two lambs presented to the pope on the day of St Agnes The pallium is as old as the 4th cent It is occasionally conferred on bishops

Pall Mall (pĕl' mĕl', păl' măl'), street in W London It was originally an avenue constructed by Charles II for the purpose of playing the game pall-mall St James's Palace and Marlborough House and a number of clubs are in Pall Mall

Pallu (păl'ū) [Heb, =distinguished], son of Reuben Ex 6 14, Num 26 5,8, 1 Chron 5 3 Phallu Gen 46 9 See PELETH **1**

palm, member of a family of plants, the Palmaceae, of which there are about 1,200 species, native mostly to the tropics but with some representatives in warm temperate climates Most palms have a tall, woody, unbranched stem with a crown of compound leaves Some are short and bushy, and a few species are woody vines The COCONUT, the DATE, and the SAGO palms provide food for native populations and are important commercially Carnauba wax, used in making polishing wax, candles, phonograph records, soap, and other products, is obtained from the leaves of a Brazilian palm (*Copernicia cerifera*) A similar wax is obtained from the trunk of another palm, the wax palm (*Ceroxylon andicola*) of the Andes Palm sugar is obtained from the juice of a number of species, e g, the African wine palm (*Raphia inifera*), the wild date (*Phoenix sylvestris*), and the wine palm or toddy palm of India (*Caryota urens*) The royal palm (*Oreodoxa regia*), of which the Florida form is often known as *Roystonea floridana* (or *R regia*), reaches a height of 100 ft or more, its straight trunk as topped with plumelike leaves It is cultivated in many tropical regions Other palms include the CABBAGE PALM and the PALMETTO The largest known nut, which may reach a weight of more than 40 lb, is produced by a palm, *Lodoicea maldivica*, often called the Seychelles nut palm Among the names which have been applied to this bulbed nut are sea coconut and double coconut

Palm oil is the yellowish-orange to brownish-red fat pressed from the fibrous flesh of the fruit of an African palm (*Elaeis guineensis*) It is used chiefly in making soaps and candles and when mixed with other oily substances is used for greasing metals and machines Palm-kernel oil is a white oil obtained from the endosperm It has a pleasant odor and flavor and is used in margarine and also in soaps and candles The palm-kernel cake which remains after the oil has been removed by hydraulic presses or by solvents provides food for cattle

Palma, Jacopo (yä'kōpō päl'ma), c 1480–1528, Venetian painter, called Palma Vecchio He formed his style under the influence of Giovanni Bellini, Titian, and Giorgione and ranks as one of the foremost masters of his school His pictures are notable for their brilliant coloring and lighting and for their idyllic landscape backgrounds He is also known for his female portraits, of which there is a splendid series in the Liechtenstein Gallery, Vienna He left over 40 unfinished works, which were completed by his numerous pupils Among the most important of Palma Vecchio's works are many of his favorite subject, *Sacra Conversazione* (the Holy Family with saints and donors), examples of which are in Naples, Venice, and Vienna, an altarpiece, with a figure of St Barbara (Church of Santa Maria Formosa, Venice), *The Virgin Enthroned* (Church of San Stefano, Vicenza), *Christ and the Adulteress* and *St Peter Enthroned* (Venice Acad), *Adoration of the Shepherds* (Louvre), portraits in the National Gallery, London, and *St Peter Presenting a Worshiper to the Infant Christ* (Palazzo Colonna, Rome) His grandnephew **Jacopo Palma**, 1544–1628, Venetian painter, called Palma Giovane, formed his style by studying the works of Titian, Tintoretto, and the great masters of Rome He was a facile technician and an excellent colorist Examples of his art are *The Last Judgment* and *The Savior Adored by Two Doges* (ducal palace, Venice), *St Catharine Rescued from the Wheel* (Church of the Frari, Venice), and *Madonna with Saints* (Naples)

Palma, Ricardo (rēkär'dhō päl'mä), 1833–1919, Peruvian poet and prose writer He was early embroiled in politics and suffered exile before he was 20 His literary career began with romantic poetry in such volumes as *Poesías* (1855), *Armonías livro de un desterrado* [harmonies book of an exile] (1865), and *Pasionarias* (1870). He also wrote literary criticism and historical works—notably a book on the Inquisition in Lima (1863)—and served as director of the national library, restoring the collections scattered by the War of the Pacific His chief contribution was, however, the long series of volumes called *Tradiciones peruanas*, made up of witty and lovingly imaginative sketches and stories about the colonial days of Peru

Palma, Tomás Estrada: see ESTRADA PALMA, TOMÁS

Palma or Palma de Mallorca (pal'ma dā mälyôr'kä), seaport (pop 97,009), capital of MAJORCA island and of Baleares prov, Spain, on the Bay of Palma The region roundabout is fertile, and Palma is the chief port and commercial center of the BALEARIC ISLANDS The imposing Gothic cathedral, founded after the capture (1229) of Palma by James I of Aragon, was finished only in the 17th cent Near by are the Castillo della Almudaina, with remains of the ancient Moorish castle, and the 15th-century Lonja (exchange) There are several ancient churches, notably that of San Francisco (13th cent), and fine private homes The former royal castle of Bellver, c 2 mi W of Palma, is a good example of 14th-century military architecture Because of its mild climate and beautiful scenery, Palma has long been a favorite resort, Chopin and George Sand were among its visitors (1838) During the Spanish civil war of 1936–39 Palma was an important naval and air base of the Insurgents

Palmas, Las (las pal'mas), city (pop 97,856), capital of Las Palmas prov, Spain, on Grand Canary Chief port of the Canary Islands, it is a coaling station and a popular resort There is a 15th-century cathedral

Palm Beach, town (pop 3,747), SE Fla, on a narrow island between the Atlantic and Lake Worth (a lagoon) The area, settled mainly after 1871, was named Palm Beach in 1887. With the arrival of Henry M Flagler in 1893, it rapidly developed into a wealthy and exclusive winter resort The town has many beautiful estates and a fine arts center. Bridges span the lagoon to West Palm Beach

Palmer, Alexander Mitchell (pä'mûr), 1872–1936, American political leader, b Moosehead, Pa, grad. Swarthmore, 1891 Admitted (1893) to the bar, he built up a large law practice, became a leader in the state Democratic party, and served (1909–15) in Congress In 1912 A Mitchell Palmer helped swing the Democratic convention to nominate Woodrow Wilson for President, and he was appointed judge (1913) of the U S Court of Claims and then (1917) alien property custodian As U S Attorney General (1919–21) he became conspicuous for his ardent prosecution of men and women who were suspected of disloyalty to the United States

Palmer, Alice Freeman, 1855–1902, American educator, b Broome co, N Y, grad Univ of Michigan, 1876 In 1879 she became head of the history department at Wellesley College, later serving as president (1881–87) and as trustee (from 1888) In 1887 she married George Herbert Palmer A member of the Massachusetts state board of education after 1889, she was also dean of women at the Univ of Chicago (1892–95), a director of the World's Columbian Exposition, and twice president of the Association of Collegiate Alumnae (American Association of University Women) See *An Academic Courtship Letters of Alice Freeman Palmer and George Herbert Palmer, 1886–1887* (1940), biography by G H Palmer (1908)

Palmer, Daniel David, 1845–1913, American founder of CHIROPRACTIC, b Canada He practiced and taught chiropractic, chiefly in Davenport, Iowa His work was carried on and extended by his son, Bartlett Joseph Palmer (1881–)

Palmer, Erastus Dow, 1817–1904, American sculptor, b Pompey, N Y, self-taught A carpenter in his youth, he spent his leisure cutting cameos He progressed to carving bas-reliefs and then figures in the round He established himself in a studio in Albany, N Y, and there he worked for the rest of his life, engaging apprentice workmen in the Italian fashion His first full-length figure, *The Indian Girl*, and his most famous sculpture, *The White Captive*, are in the Metropolitan Museum He was successful in making portrait busts, including one of Washington Irving (N Y Historical Society), his statue of Robert Livingston (Statuary Hall, Washington, D C) is full length Palmer was one of the few sculptors of his time who did not study in Italy, he went abroad for a visit in 1873 Walter Launt Palmer was his son

Palmer, Frederick, 1873–, American writer and war correspondent, b Pleasantville, Pa, grad Allegheny College, 1893 Beginning with the Greco-Turkish War of 1896–97, he was a famous reporter of wars, especially the First World War He has written novels, biographies, and many books based on his experiences See his *With My Own Eyes a Personal Story of Battle Years* (1933)

Palmer, George Herbert, 1842–1933, American educator, philosopher, and author, b Boston, grad Harvard, 1864, and Andover Theological Seminary, 1870, studied (1867–69) in Europe He became tutor in Greek at Harvard in 1870, later he was assistant professor of philosophy (1873–83), professor of philosophy (1883–89), and professor of natural religion, moral philosophy, and civil polity (1889–1913). From 1913 he was professor emeritus and overseer (1913–19). His works on literature include *The Life and Works of George Herbert* (1905) and translations of the *Odyssey* and Sophocles' *An-*

tigone; and on philosophy, *The Field of Ethics* (1901) and *Altruism Its Nature and Varieties* (1919). He also wrote a biography (1908) of his second wife, Alice Freeman Palmer, and his own autobiography (1930), as well as a number of essays on education and other topics

Palmer, John McAuley, 1817–1900, American statesman, Union general in the Civil War, b Scott co, Ky He was admitted to the Illinois bar in 1839. A Democrat, Palmer, opposing the KANSAS-NEBRASKA BILL, left his party and became a Republican leader in Illinois In the Civil War he rose from colonel to major general of volunteers He fought at Murfreesboro and in the Chattanooga campaign (1863), led a corps in most of the Atlanta campaign (1864), and was commander of the Dept of Kentucky (1865–66) He succeeded R J Oglesby as Republican governor of Illinois (1869–73) After supporting the Liberal Republicans in 1872, Palmer rejoined the Democrats. He was U S Senator from Illinois (1891–97), and in 1896 he was the presidential candidate of the gold Democrats See his *Personal Recollections* (1901); G T Palmer, *A Conscientious Turncoat* (1941)

Palmer, Nathaniel Brown, 1799–1877, American sea captain, b Stonington, Conn While on a whaling voyage (1820–21) in the South Shetlands, he commanded the *Hero* on an exploring trip to the south and came back reporting that he had sighted land Hence the name Palmer Land for the peninsula later renamed Graham Land by the British and now known as PALMER PENINSULA, Graham Land, or Graham Coast Palmer was well known as a commander and designer of clipper ships. See biography by J. R Spears (1922).

Palmer, Ray, 1808–87, American Congregational clergyman and hymn writer, b Little Compton, R I, grad Yale, 1830 He held pastorates in Bath, Maine (1835–50), and Albany, N Y (1850–66), afterward serving as secretary of the American Congregational Union until his retirement in 1878. He is remembered chiefly for the hymn *My Faith Looks up to Thee* (1830), a world-wide favorite, for which Lowell Mason wrote the tune *Olivet*

Palmer, Samuel, 1805–81, English draughtsman, landscape painter, and etcher Under the influence of William Blake he early produced a series of remarkable drawings in sepia of moonlit landscapes. Palmer is also known for his Italian and English landscapes in water color, for his illustrations of Spenser, Milton, and his own translation of Vergil's *Eclogues;* and above all for his etchings *The Bellman, The Lonely Tower, The Sleeping Shepherd,* and *The Early Ploughman* are fine examples of etchings. He is represented in the National Gallery, London, and in the Victoria and Albert Museum

Palmer, Walter Launt, 1854–1932, American landscape painter, b Albany, N Y, studied with Frederick E Church and in Paris with Carolus-Duran; son of Erastus Dow Palmer Among his works are *The Silent Dawn* (Metropolitan Mus), *Sundown at Walpole, N H* (Albright Art Gall , Buffalo, N Y), *End of a Winter Day,* and *Oaks in Winter.* He became a member of the National Academy in 1897

Palmer, William Jackson, 1836–1907, American railroad builder, b Kent co , Del He was reared in Philadelphia and worked as a railroad engineer In the Civil War he organized the 15th Pennsylvania Cavalry, led it in many battles, and was brevetted general in the Union army. After he went (1865) to the West, he supervised surveys for the Union Pacific RR, directed construction of the Denver & Rio Grande RR, and advised in the building of Mexican railroads Palmer founded (1871) Colorado Springs, Colo , fostered Colorado College, and helped develop the state's industries. See John S Fisher, *A Builder of the West* (1939).

Palmer, village (1930 pop 150, estimated 1949 pop 1,500), S Alaska, NE of Anchorage On a rail spur and good highways, it is the agricultural market of Matanuska Valley and headquarters of the Matanuska Valley farmers' cooperative association

Palmer. 1 Industrial town (pop 9,149), S Mass , ENE of Springfield; settled 1716, inc 1775 Steel is produced **2** Town (pop 1,228), S Tenn , NW of Chattanooga near the Collins river, inc 1925

palmer · see PILGRIM.

Palmer Archipelago, group of islands, ANTARCTICA, off NW Palmer Peninsula and SW of the South Shetlands They include Liége, Brabant, Anvers, and Wiencke islands Discovered (1898) by Adrien de Gerlache, a Belgian explorer, the group of islands is sometimes called the Antarctic Archipelago

Palmer Peninsula, peninsula of ANTARCTICA From its base it extends c 800 mi. toward South America, its tip is 650 mi from Cape Horn and is the farthest point of the antarctic continent from the South Pole The Weddell Sea washes its west shore, and off its coasts lie numerous islands, including the South Shetlands, just off its north tip The whole peninsula is covered with shelf ice, and most of it is mountainous Named for Nathaniel B Palmer, by whom it was discovered (1820), it was first considered part of the antarctic continent and was later thought to be a group of islands, but subsequent exploration has proved its peninsularity It is also called Graham Land or Graham Coast (especially by the British, who claim it as a dependency of the Falkland Islands) and Trinity Peninsula. Argentina and Chile also claim the peninsula, which Chile calls O'Higgins Land

Palmerston, Henry John Temple, 3d Viscount, 1784–1865, English statesman. He succeeded his father as viscount in 1802 Entering Parliament in 1807 as a Tory, he served as war secretary (1809–28), fell out with his party because of his advocacy of parliamentary reform, and joined (1830) the Whig government of Earl Grey as foreign minister As such, his liberal policy abroad was largely responsible (1830–31) for the independence of Belgium, for the suppression of revolutions in Portugal and Spain (1832–34), and for the joint intervention with Russia, Austria, and Prussia which prevented France or Russia from securing control of Turkish affairs (1839–41) at the time of the revolt of MOHAMMED ALI of Egypt Palmerston was in opposition (1841–46) during Sir Robert Peel's administration, but returned to the foreign office under Lord John Russell. Palmerston often acted impulsively and without consultation; he offended foreign powers, his colleagues, and the queen by his friendliness to the revolutionaries of 1848, by his unofficial approval of the coup d'état of Louis Napoleon (see NAPOLEON III), and by other similar actions, and he was dismissed (1851) He became home secretary in 1852 and succeeded Lord Aberdeen as prime minister (1855–58) His vigorous prosecution of the CRIMEAN WAR increased his already great popularity, and he was prime minister again (1859–65) His attitude greatly facilitated the achievement of Italian independence and unity (1858–61), but he was unable to help Poland against Russia or Denmark against Prussia and Austria In the American Civil War he maintained neutrality, despite his sympathy for the South and despite the irritating TRENT AFFAIR He dealt effectively with the SEPOY REBELLION in India Palmerston favored factory acts and other reforms, but he kept the Liberals from dealing with parliamentary reform His diplomacy, reckless and domineering, usually advanced British prestige See biography by H. C F Bell (1936).

Palmerston, Australia see DARWIN.

Palmerston, town (pop 1,418), S Ont , NW of Kitchener. It has railroad shops, gristmilling, and dairying

Palmerston North, city (pop 25,277, metropolitan pop 27,294), on S North Island, New Zealand, NNE of Wellington Clothing and furniture are made There is an agricultural college

Palmerton, industrial borough (pop 7,475), E Pa , on the Lehigh river and near Mauch Chunk, settled 1737, inc 1912 Zinc and other metals are refined.

Palmetto (pălmĕ'tō) **1** City (pop 3,491), SW Fla , S of Tampa near the entrance to Tampa Bay, at the mouth of the Manatee It is a boating and fishing resort and packs and ships fruits and vegetables **2** Town (pop 1,029), NW Ga , SW of Atlanta, inc 1854

palmetto palm or **palmetto** (pălmĕ'tō) [Span , =little palm], popular name for palm trees of the genus *Sabal,* of which there are about 18 species in the United States, Mexico, and Central America Common in the S United States is the cabbage palmetto, *Sabal palmetto* It has an erect stem from 20 to 80 ft. in height, fan-shaped leaves, and a black drupe fruit The young head of leaves—the "cabbage"—is eaten. The wood is used for piles, and the leaves for thatch The palmetto is grown in greenhouses in the North for ornament. South Carolina, where the tree is indigenous, is sometimes called the Palmetto State The palmetto represents the native palms of the United States

Palmieri, Luigi (lwē'jē palmēā'rē), 1807–96, Italian meteorologist and physicist, known for his studies of Mt Vesuvius He was professor at the Univ of Naples from 1847 and director of the Vesuvius observatory from c 1850. He invented a seismograph, a rain gauge, and other meteorological instruments

Palmira (pälmē'rä), city (pop 21,235), W Colombia, just NE of CALI Founded c 1794, Palmira gave its name to the tobacco of the region.

palmistry, form of FORTUNETELLING based on a study of the hand and palm This type of divination was practiced throughout much of the ancient world (e g , Greece, China, and India), and it survives today as a form of amusement and as a serious study Significance concerning human destiny is read into all the characteristics of the hand—shape, size, hardness, softness, and dryness, as well as the number, depth, and length of the lines of the palm The main lines are the life line, which encircles the base of the thumb, the head line and the heart line (nearest the base of the fingers) which lie across the palm, and the fate line, which crosses these from the wrist to the second finger. See Henri Rem, *What Your Hand Reveals* (1928), books by Cheiro (pseud of Louis Hamon), especially *You and Your Hand* (1931)

palmitin (păl'mutĭn), name applied to any fat that is an ester of palmitic acid and glycerin but generally used to refer to the tripalmitate It is a white crystalline solid at ordinary temperatures, soluble in alcohol and ether but insoluble in water. It occurs abundantly in palm oil, lard, and tallow and also in olive oil, cottonseed oil, and butter—in fact, in most FATS AND OILS. When palmitin is heated with alkalies (a process called saponification), SOAP is produced.

palm oil: see PALM.

Palms, Isle of, resort island, SE S.C., just E of Charleston. It has a fine beach.

Palm Springs, city (1940 pop 3,434; 1946 special census pop 7,213), S Calif , E of Los Angeles and NW of the Salton Sea, founded 1876, inc 1938. It is a desert resort, near San Jacinto Peak.

Palm Sunday, in the Christian calendar, the Sunday before EASTER, sixth and last Sunday in LENT, and the first day of HOLY WEEK. It recalls the entry of Jesus into Jerusalem riding upon an ass, when the people shouted "Hosanna" and strewed palms in his way In the Western Church, ceremonies of the day are the blessing and distribution of palm leaves and the recitation of St Matthew's version of the Passion Many wear crosses made of the blessed palm

Palmyra (pălmī'rŭ), ancient city of central Syria An oasis N of the Syrian Desert, NW of Damascus, it was important in Syrian-Babylonian trade by the 1st cent B C. Tradition says it was founded by Solomon, and it appears in the Bible as Tadmor [city of palms] Palmyra became of true importance only after Roman control was established, probably in the reign of Tiberius Local tribes vied for control, which fell to the Septimii by the 3d cent A D The greatest of them, Septimius ODENATHUS, by taking arms for Emperor Gallienus and defeating Shapur I of Persia, built Palmyra into a strong autonomous state that practically embraced the Eastern Empire, with Syria, NW Mesopotamia, and W Armenia After his death his widow, ZENOBIA, briefly increased the territory by conquering Egypt and most of Asia Minor, making Palmyra one of the great cities of the empire But her ambition brought on (A.D 272) attack by Aurelian, who was victorious and partly destroyed the city Palmyra, in decline, was taken by the Arabs and sacked by Tamerlane and fell into ruins Even the ruins were forgotten until the 17th cent The great temple dedicated to Baal and other remains show the Oriental splendor of Palmyra at its prime

Palmyra. 1 City (pop 2,285), co seat of Marion co , NE Mo , on the North River near the Mississippi and NW of Hannibal, settled c 1819 Lumber products are manufactured here **2** Borough (pop 5,178), SW N J , on the Delaware (here crossed by a bridge, 1929) above Camden, inc 1923 **3** Village (pop 2,709), W central N Y , on the Barge Canal and SE of Rochester, inc 1819 Machine parts and paper boxes are made Joseph Smith lived in Palmyra and published the *Book of Mormon* here **4** Borough (pop 5,239), SE Pa , E of Harrisburg, settled 1749, inc 1913 Its manufactures include leather goods, textiles, and boxes Limestone quarrying is done here

Palmyra, atoll (pop 32) comprising 55 islets, central Pacific, one of the Line Islands It is c 1,105 mi SSW of Honolulu and is under the jurisdiction of the city and county of Honolulu An American discovery (1802), the island was annexed (1912), and a naval base was authorized (1939). The Federal government filed suit for the title to the island, which was vested in private owners In 1947 the Supreme Court ruled against the government

Palo Alto (pă'lō ăl'tō) **1** City (1940 pop 16,774, 1947 special census pop 22,789), W Calif , SSE of San Francisco near San Francisco Bay, founded 1891, inc as a town 1894, as a city 1909 A residential city, it is the seat of STANFORD UNIVERSITY **2** Borough (pop. 1,934), E Pa , on the Schuylkill and near Pottsville, laid out c 1844, inc 1854

Palo Alto (pă'lō ăl'tō), locality not far from Brownsville, Texas, where the first battle of the MEXICAN WAR was fought, May 8, 1846 American troops under Gen Zachary TAYLOR defeated a Mexican force led by Gen Mariano Arista, who retreated to RESACA DE LA PALMA

Palomar, Mount (pă'lōmär), peak, 6,126 ft. high, S Calif , NE of San Diego It is the site of Mt Palomar Observatory, operated jointly by the California Institute of Technology and the Carnegie Institution It has a 200-inch reflecting telescope

Palomar Observatory: see PALOMAR, MOUNT

Palomino de Castro y Velasco, Acisio Antonio (äthĕ'slō antō'nyō palōmē'nō dā kä'strō ē vä'läskō), 1653–1726, Spanish historical painter and writer on art, called the Spanish Vasari He painted frescoes and easel pictures in Valencia, Madrid, and Granada, but he is famous chiefly for his history of art, *El museo pictórico y escala óptica* (3 vols , 1715–24), which contains a wealth of biographical material regarding Spanish artists It was translated into English (1739) and also into French, and German.

Palos, Cape (pä'lōs), SE Spain, on the Mediterranean, c.17 mi. E of Cartagena, in Murcia.

Palos de la Frontera (pä'lōs dā lä frōntä'rä), seaport (pop. 1,856), Huelva prov., SW Spain, in Andalusia, on the Río Tinto near its mouth. From here Columbus sailed on his first voyage of discovery (1492), returning and reembarking in 1493 Cortés landed here in 1528 after his conquest of Mexico.

Palouse (pəlōōs', pă-), city (pop. 1,028), SE Wash., on the Palouse river near the Idaho border, in a farm area; settled 1876, inc. 1889

palpitation (păl"pĭtā'shŭn), a rapidly beating heart associated with the sensation of fluttering or thumping The unduly rapid action of the heart may be caused by disease or by functional disturbance. Excessive exertion on the part of an individual with a normal heart may result in palpitation, slight exertion in an individual with an abnormal heart may cause a similar sensation.

Palsgrave, John (pălz'grāv, pôlz'-), d 1554, English scholar, educated at Oxford and at the Univ of Paris. He was tutor of Henry VIII's daughter, Mary (Mary I), who used her influence in his behalf after he had taken holy orders His most important work was his *Lesclarcissement de la langue francoyse*, written to instruct the English in the rules of French grammar It has value today chiefly as a source of information about transitional stages of the English language of that period.

palsy. see PARALYSIS.

Palti (păl'tī) [Heb ,=God's deliverance], one of the 12 spies Num 13 9

Paltiel (păl'tĭul) [Heb ,=God's deliverance], prince of Issachar Num 34 26

Paltite (păl'tīt) see BETH-PALET

Paludan-Müller, Frederik (frĭ'dhŭrĭk pā'lōōdhăn-mū'lur), 1809–76, Danish poet Among his earlier works are *The Dancer* (1833) and *Cupid and Psyche* (1834) His masterpiece, a narrative poem, *Adam Homo* (Part I, 1841, Parts II, III, 1848) is partly autobiographical and deals with the duality of man's personality

Palus Maeotis see AZOV, SEA OF

Pamir (pumēr', pă-) or **Pamirs**, mountainous region, central Asia It is mainly in the Tadzhik SSR, but it also extends to parts of Afghanistan, Sinkiang prov, and Kashmir The highest peak is Mt Stalin (24,590 ft) in the north From the Pamir, called "the roof of the world," radiate several great mountain systems, in the east the Tien Shan, Kunlun, and Karakoram and in the west the Hindu Kush P G E Bonvalot crossed the Pamir in 1886, and there has been considerable later exploration See Anna Louise Strong, *Road to the Grey Pamir* (1931)

Pamlico Sound (păm'lĭkō), 80 mi long, E N C, separated from the Atlantic by a row of sand bars and low islands, the easternmost of which terminates in Cape Hatteras It receives the Pamlico (see TAR) and Neuse rivers

Pampa (păm'pu), city (pop 12,895), extreme N Texas, ENE of Amarillo This cow town on the Panhandle plains still ships cattle and wheat, but discovery of oil and gas has made it an industrial center with refineries, carbon-black plants, and other oil-based industries

pampas (păm'pŭz), wide, treeless grassy plains of S South America, particularly in Argentina, Uruguay, and Paraguay The **Pampa** (pam'pä) (c 250,000 sq mi) of central and N Argentina, embraces the provinces of Buenos Aires, Santa Fe, and Córdoba and the territory of La Pampa Gradually rising from east to west, it for the most part appears level Throughout the colonial period the Spanish used only a small part of the Pampa, economic activity was practically restricted to primitive stock raising for the exportation of hides and—to some extent—jerked beef A new economic era was initiated in the second half of the 19th cent A growing European market for agricultural products brought immigrant farmers (mostly Italian, Spanish, French, and German) to the Pampa, and they spread westward with the expansion of the railroads Unfriendly Indians were driven back, the GAUCHO, the pampean cowboy, yielded to the farmer, and the land was brought under the plow In the 20th cent wheat, corn, and flaxseed have exceeded animal products in value, but agriculture did not replace stock raising, which has continued as a major industry Dairying has become important since the First World War In the seaboard cities are the only considerable industries—meat packing (frozen meat and meat products are exported in large quantities), milling, and the preparation of dairy products The Pampa has made modern Argentina, it has given the country its wealth, industries, and character, and it has shaped the habits and the outlook of the people See Mark Jefferson, *Peopling the Argentine Pampa* (1926)

pampas grass, any species of the genus *Cortaderia*, tall South American grasses cultivated in warm climates for ornament The common pampas grass (*Cortaderia argentea* or *selloana*) is a perennial with a cluster of long narrow drooping leaf blades The male and female flowers are borne on separate plants, the ones which bear the female are the most ornamental, since they have large, silvery, plume-like panicles In California the plumes are sold for decorative purposes

Pampeluna, Spain see PAMPLONA.

pamphlet (păm'flĭt), unbound or paper-bound book of a few pages Its maximum size is sometimes set at 64 pages, sometimes at 80 pages, sometimes at 96 pages The pamphlet is popular as an instrument of religious or political controversy in times of stress. It is relatively inexpensive to the purchaser and to the author or the publisher, it can be more timely than a book bound in cloth or leather, and it gives authors and readers the maximum benefit of freedom of the press Pamphlets are commonly meant to be ephemeral, but some of them have proved to have permanent value and have been reprinted separately or in collections, as the *Harleian Miscellany* (1744–46)

Pamphylia (pămfĭl'ĭu), ancient region, S Asia Minor, on the coast between Lycia and Cilicia, in present S Turkey Its chief city was Perga Pamphylia was not a political entity, except in the provincial administration of Rome, to which it passed in the surrender of Antiochus III (199 B C)

Pamplona (pămplō'nä), city (pop 45,885), capital of Spanish Navarre, N Spain, at the foot of the W Pyrenees It is an important communications center and has iron and lead works and linen manufactures An ancient city of the Basques, it was repeatedly captured (5th–9th cent) by the Visigoths, the Franks, and the Moors, but none of the conquerors, not even Charlemagne who took it in 778 and razed its walls, exercised control for long In 824 the Basque kingdom of Pamplona, later known as the kingdom of Navarre, was founded Pamplona remained the capital of Navarre until 1512, when Ferdinand V united the major part of Navarre with Castile Philip II enlarged the citadel and made it a powerful stronghold Pamplona is still surrounded by old walls and fortifications, and it has retained its Gothic cathedral (14th–15th cent) In the Peninsular War, Pamplona was taken (1808) by the French and (1813) by the English An older spelling is Pampeluna

Pan (păn), in Greek religion, pastoral god of fertility He was worshiped principally in Arcadia, and it is said that he was the son of Hermes, another Arcadian god Pan was supposed to make the flocks fertile, if he did not, his image was flogged to stimulate him Since goat herds were characteristic of Arcadia, Pan was conceived of as being a merry, ugly man with horns, a beard, a tail, and goat's feet He loved to frighten unwary travelers (hence the word *panic*) All his myths deal with amorous affairs In a famous myth he pursued the nymph Syrinx, but before she was overtaken her sister nymphs changed her into a reed Thus Pan plays the reed, or syrinx, in memory of her Later, when Pan was worshiped in other parts of Greece and in Rome, he became associated with the Greek Dionysus and identified with the Roman Faunus, both gods of fertility

Pana (pă'nu), city (pop 5,966), S central Ill, SE of Springfield, inc 1857 It is a shipping center in a farm and coal area and has an important rose-growing industry

Panama (pă'numä", Span *Panamá* (pänämä'), republic (29,128 sq mi, including the PANAMA CANAL ZONE, pop 622,576), Latin America, occupying the Isthmus of Panama, which forms the connecting link between Central and South America The capital is Panama city; the other large city is COLÓN The country is bounded by the Caribbean on the north, by Colombia on the east, by the Pacific on the south, and by Costa Rica on the west Panama has an extreme length of c 385 mi and varies from c 32 to 113 mi in width The range of mountains in the west is rugged and of volcanic origin, though the lofty volcanic peaks (Chiriquí is 11,070 ft) are not active The middle of the country about the Panama Canal is lower, with hills varying from 200 to 1,500 ft in height, in the east they rise again in a low range extending to the Colombian border. The soil is of volcanic origin and fertile The slopes are tree covered, but the vast forest reserves are virtually untouched, especially on the Caribbean watershed where rainfall is heaviest On large tracts of upland savannas subsistence crops, sugar cane, and coffee are grown, and cattle graze The climate is generally tropical and wet, varying somewhat with the altitude Communications over the difficult terrain, except for the INTER-AMERICAN HIGHWAY between Panama city and DAVID and the transisthmian highway between the capital and COLÓN, are limited The Panama RR is devoted to a good extent to service in the Panama Canal Zone and is American owned, short lines in the west serve American banana plantations Bananas are the leading export crop, followed by abacá, cacao, rubber, and mahogany, there is some mining The population is divided into whites, mestizos, Indians (some leading tribal lives quite apart from the general culture), and Negroes, about two thirds are mestizos The population is less than that of any other independent Latin American country, and the rate of increase is slow Although the government distributes land to settlers, much of the population is not fixed, but moves from area to area, and many tend to drift toward the disproportionately large centers of Panama city and Colón These cities grew because of their strategic world position, rather than their direct relationship with the hinterland, their combined population comprises about one quarter of the total of the republic. Large land areas remain unoccupied The advantages of education have not been much pushed Roman Catholicism is the prevailing religion, and Spanish the official language Though the region has been long known to world civilization, it has for the most part been mostly a roadway. Rodrigo de Bastidas discovered the coast of Panama in 1501, and Columbus dropped anchor off the site of future PORTOBELO in 1502 Efforts at colonization in DARIEN were made by Diego de NICUESA and by Martín Fernández de ENCISO, but they failed Vasco Núñez de BALBOA early took control of the region, and in 1513 he made his momentous voyage across the isthmus to the Pacific, and the dominant factor in the history of Panama—the short distance from sea to sea—was made evident Under the governorship of Pedro ARIAS DE ÁVILA (who had Balboa executed) Panama city was founded in 1519 The way was opened for Francisco Pizarro to discover Peru, and Panama became the route by which the treasure from the Inca empire went to Spain Panama was subordinated to the viceroyalty of Peru and remained there until 1740, when it was transferred to New Granada Attempts at Scottish settlement in the DARIEN SCHEME of the late 17th cent failed wretchedly, and Panama continued as only a channel of commerce and a home of Indians The immense wealth carried through its harbors attracted raids of British buccaneers—Sir Francis Drake, William Parker, Sir Henry Morgan, and Edward Vernon—who swooped down on the gold ships and the treasures of PORTOBELO With the breakdown of the Spanish Empire through the revolutions against Spain, Panama lost much of its importance in the carrying trade It became a part of Greater Colombia and then of New Granada (the later Colombia) Its significance as the short route from Atlantic to Pacific was enhanced again when many U S settlers bound for Oregon and then for the gold fields of California crossed through Panama W H Aspinwall built (1848–55) the Panama RR, and the question of a canal across the isthmus became paramount The project ultimately led to the revolution in Panama and its establishment as a separate republic (see PANAMA CANAL). The new state, proclaimed in Nov, 1903, was under the aegis of the United States, and the canal and American control of it became the great determinant of Panama's history One immediate benefit was eradication of yellow fever Generally relations with the United States have been friendly, and Panama fought on the Allied side in the First World War and the Second World War Panama has taken an active part in Pan-Americanism and is a member of the United Nations It has also in recent years taken part in the attempts with Colombia, Ecuador, and Venezuela to further Greater Colombia economic, social, and cultural union The internal politics of the little republic, related to the canal and U S control, have been stormy, with frequent changes of administration The dominant figure in recent years has been Arnulfo Arias, who was a leader of the revolution of 1931 and in 1940 gained personal power He had a new constitution adopted in 1941 but was deposed in that year Late in 1949 he again came to power by a coup, and his government was recognized by the United States early in 1950 See Charles L G Anderson, *Old Panama and Castilla del Oro* (1911), Arthur Bullard, *Panama the Canal, the Country, and the People* (1914), Ralph Hancock, *The Rainbow Republics* (1947). See also bibliography under PANAMA CANAL

Panama, city (pop 111,893), central Panama, capital and largest city of Panama, on the Gulf of Panama, bounded on the west by the Panama Canal Zone Founded in 1519 by Pedro ARIAS DE ÁVILA, the city flourished in early colonial times as the Pacific port of transshipment of Andean riches to Spain After it was destroyed in 1671 by Sir Henry Morgan, it was moved (1673) 5 mi west to a rocky peninsula The city declined as the sources of gold disappeared but revived briefly during the California gold rush and the building (1848–55) of the Panama RR Construction of the Panama Canal brought assured prosperity, and American sanitary measures and disease control made Panama a clean and healthful tropical city Though facing the sea, Panama city is no longer a port, commerce is handled through BALBOA The city is connected by railroad and highway to COLÓN on the Caribbean, by the Inter-American Highway to DAVID, and to western hemispheric capitals by international air lines The Univ of Panama, founded here in 1935, is important because of its inter-American organization and curriculum

Panama Canal, waterway across the Isthmus of Panama, connecting the Atlantic and Pacific oceans, built by the United States (1904–14) on territory leased in perpetuity from the republic of Panama The canal, running S and SE from Limón Bay at COLÓN on the Atlantic to the Bay of Panama at BALBOA on the Pacific, is 40 27 mi long from shore to shore and 50 72 mi long between channel entrances Paradoxically, the Pacific terminus is 27 02 mi east of the Caribbean terminus. The minimum depth is 41 ft From Limón Bay a ship is raised by Gatun Locks (a set of three) to an elevation 85 ft. above sea level, traverses GATUN LAKE, then crosses the Continental Divide through Gaillard (formerly Culebra) Cut, and is lowered by

Pedro Miguel Lock to Miraflores Lake, and then by the Miraflores Locks (a set of two) to sea level Passage requires 7 to 8 hr The average tidal range on the Atlantic side is less than a foot, that on the Pacific side is 12 6 ft. Building an interoceanic canal was suggested early in Spanish colonial times The United States, interested since the late 18th cent in trading voyages to the coast of the Pacific Northwest, became much concerned with plans for a canal after settlers had begun to pour into Oregon and California Active negotiations led in 1846 to a treaty, by which New Granada (Colombia) granted rights to isthmian communication in return for a guarantee of the neutrality and sovereignty of New Granada After the United States had acquired California and the gold rush had begun, the isthmus gained more importance, and the Panama RR was built (1848–55) with U S capital At the same time, interest in the alternate route the NICARAGUA CANAL, was strong in both Great Britain and the United States Rivalry was ended by the CLAYTON-BULWER TREATY (1850), which guaranteed that neither power should have exclusive rights or threaten the neutrality of an interoceanic route This was in 1901 abrogated by a new British–U S agreement, the HAY-PAUNCEFOTE TREATY, which gave sole building rights to the United States Meanwhile a concession for building a canal in Panama granted in 1878 had been acquired by a French company under Ferdinand de LESSEPS Work was begun in 1881, but disease among the workers, construction troubles, and inadequate financing drove the company into bankruptcy in 1889 The government had smiled on the project, and many French citizens had invested in it There were now charges of corruption and a great scandal In 1894 French courts transferred the rights and assets to a new company, in this Philippe BUNAU-VARILLA was a leading figure The Nicaragua route was almost universally favored, though an American representative of the French company, William Nelson Cromwell, was by 1896 working vigorously for the Panama alternative When a U S commission appointed in 1899 recommended (1901) a canal through Nicaragua, the French company undertook to sell its Panama rights to the United States Bunau-Varilla devoted himself to the cause of the Panama route and gained the support of Mark Hanna and later of the new President, Theodore Roosevelt The commission reversed its recommendation, and Congress reversed itself to authorize purchase of the rights and construction of the Panama Canal The HAY-HERRAN TREATY, signed (Jan , 1903) with Colombia, would have given the United States an isthmian strip of land in return for an initial cash payment of $10,000,000 and an annuity of $250,000, but the Colombian senate refused to ratify An insurrection (Nov 3, 1903) in Panama involved Bunau-Varilla and other proponents of the canal as well as natives The United States invoked the treaty of 1846 with Colombia, and the presence of an American warship prevented Colombian troops from quelling the outbreak. The new republic was formally recognized three days later, and on Nov 17 the Hay-Bunau-Varilla Treaty was signed, granting to the United States, in return for the same terms offered Colombia, exclusive control of a canal zone in perpetuity, other sites necessary for defense, and sanitary control of Panama city and Colón Colombia's efforts to secure redress for the loss of Panama resulted in ratification of a treaty (1921) by which the United States paid Colombia $25,000,000 and Colombia recognized the independence of Panama A commission, later headed (1907) by Col G W GOETHALS, was organized and spent the first three years in development of construction facilities, surveys, and disease control The eradication of malaria and yellow fever was a notable achievement The actual construction of the canal took seven years. The canal was informally opened Aug 15, 1914, formally by presidential proclamation July 12, 1915 Total cost was $336,650,000, and about 240,000,000 cu yd. of earth were excavated In 1939 treaty amendments increased Panama's annuity to $430,000, retroactive to 1934 to offset dollar devaluation, provided for a transisthmian highway, and abrogated the U S guarantee of the neutrality and sovereignty of Panama Although in the same year Congress authorized construction of a third set of locks, the Second World War intervened, and subsequent controversy has centered on a sea-level route See Philippe Bunau-Varilla, *Panama the Creation, Destruction, and Resurrection* (1914), I. E Bennett, *History of the Panama Canal* (1915), G. W. Goethals, *The Panama Canal an Engineering Treatise* (1916), D C Miner, *The Fight for the Panama Route* (1940), M. P DuVal, Jr , *Cadiz to Cathay* (1940), N J Padelford, *The Panama Canal in Peace and War* (1942)

Panama Canal Zone, administrative area (552 8 sq mi) of the United States, extending 5 mi on either side of the Panama Canal, bounded by the Caribbean on the north, the Pacific on the south, and Panama on the east and the west The zone is administered by a governor appointed by the United States, but in periods of emergency the governor is subordinate to the commanding general in civil affairs Although it is a government-owned reservation, building sites and agricultural lands may be licensed by responsible companies and individuals CRISTOBAL, BALBOA (Atlantic and Pacific ports, respectively), and ANCON are the chief towns See G W Goethals, *Government of the Canal Zone* (1915), M E Dimock, *Government-operated Enterprises in the Panama Canal Zone* (1934)

Panama City, city (pop 11,610), co seat of Bay co , NW Fla , on St Andrews Bay and E of Pensacola, inc 1909 A Gulf coast resort and port of entry, it has industries centered around lumber, paper, citrus fruit, chemicals, and fish

Pan American Highway, projected system of roads, 15,714 mi long, to link the nations of the Western Hemisphere Suggested at the Fifth International Conference of American States (1923), the system was in 1950 more than 80 percent complete A few gaps remained in the section, called the INTER-AMERICAN HIGHWAY, between the United States and the Panama Canal, the route from the Panama Canal through South America is complete except for an unsurveyed stretch in E Panama and NW Colombia and a gap in S Ecuador Climatic zones along the highway vary from lush jungle to cold mountain passes nearly 15,000 ft high Under consideration is a ferry service from Key West to Cuba and the West Indies and from Cuba to the Yucatan peninsula

Pan-Americanism, movement toward commercial, social, economic, military, and political cooperation among the 21 republics of North, Central, and South America The struggle for independence after 1810 among the Latin-American nations evoked a sense of unity, especially in South America where under Simón BOLÍVAR in the north and José de SAN MARTÍN in the south there were cooperative efforts Briefly Francisco MORAZÁN headed a CENTRAL AMERICAN FEDERATION The United States was looked upon as a model, and recognition of the new republics was a part of U S foreign policy Henry Clay set forth the principles of Pan-Americanism in 1820 Soon afterward, however, the United States declared through the MONROE DOCTRINE a new policy with regard to the interference by European nations in affairs of the New World The policy, at first welcomed even though it established a sort of United States hegemony, later was regarded by the Latin American nations as a mask for imperialistic ambitions In the early 20th cent U S manipulation to secure the PANAMA CANAL and intervention in the affairs of Cuba, Haiti, the Dominican Republic, Nicaragua and Mexico all combined to create deep resentment in Latin America toward the United States Concurrently, national rivalries split the 20 southern republics Pan-Americanism had, however, been slowly gaining again It had all but disappeared when Bolívar's Pan-American conference at Panama proved abortive in 1826 In Latin America military nationalism and personalism came to the fore Venezuela and Ecuador withdrew (1830) from Greater Colombia, the Central American Federation collapsed (1838), a Peru-Bolivia confederation failed (1839) after Chilean intervention, Argentina and Brazil long fought over Uruguay and then all three combined in the War of the Triple Alliance (1865–70) to defeat Paraguay, and in the War of the Pacific (1879–83) Chile defeated Peru and Bolivia Pan-Americanism reappeared in U S policy when Secretary of State James G Blaine sent out invitations to a conference to be held in 1882 Because of the assassination of Garfield the invitations were countermanded, but they were renewed in 1888 At Washington the first (1889–90) of the Pan-American Conferences or Pan-American Congresses was held This and subsequent conferences became the most important expression of Pan-American cooperation and good feeling Treaties for arbitration of disputes and adjustment of tariffs were adopted at the first conference, and the American Republics Bureau, which became the PAN AMERICAN UNION, was established Subsequent meetings were held at Mexico City (1901–2), Rio de Janeiro (1906), Buenos Aires (1910), Santiago (1923), Havana (1928), Montevideo (1933), Lima (1938), and Bogotá (1948) In general, the questions discussed have been those introduced at the first conference While the concepts under consideration usually were slow to take concrete form, there was marked progress in codification of international law, acceptance of peace machinery, and creation of scientific and social agencies Troubles continued to flair, and the efforts of the A B C Powers did not result in any machinery to control peace A major war was fought (1932–35) between Bolivia and Paraguay over the CHACO Relations between the United States and Colombia grew better, however, after a new treaty with Colombia put to rest the problem of the PANAMA CANAL With the administration of Franklin D Roosevelt a policy of determined cordiality toward Latin America—the "Good Neighbor" policy—bore fruit As the Second World War approached, the nations of the Western Hemisphere drew closer together The Inter-American Conference for the Maintenance of Peace at Buenos Aires in 1936 was followed by the Lima Declaration (1938) at the eighth Pan-American Conference providing for consultation in case of outside threat Accordingly after the outbreak of the Second World War the Inter-American Neutrality Conference was held (1939) in Panama A conference of foreign ministers at Havana produced the Act of Havana (1940) declaring against changes of sovereignty in the New World Most of the Latin American nations (except, notably, Argentina) supported or actually joined the Allies after the Japanese attack on Pearl Harbor A significant step was taken at the Inter-American Conference on the Problems of War and Peace in Mexico city in 1945 The Act of Chapultepec adopted there by 20 republics called for joint action in repelling any aggression against an American state, the significant note was that this was to operate in cases of aggression by an American as well as a non-American state Its acceptance by Argentina (accompanied by a declaration of war on the Axis) meant the establishment of machinery to enforce international peace in the Western Hemisphere This was made actual by the Inter-American Conference for the Maintenance of Continental Peace and Security, which met in 1947 at Petrópolis, Brazil, near Rio de Janeiro, and is generally called the Rio Conference The machinery set up there by the Inter-American Treaty of Reciprocal Assistance (the Rio Treaty) proved effective later in the troubles between COSTA RICA and Nicaragua In other fields, too, cooperation has advanced as in commercial and financial matters (e g , the Inter-American Bank) As a consequence, and as the feeling of cooperation, friendliness, and interdependence has grown, at the Bogotá conference of 1948 the ORGANIZATION OF AMERICAN STATES was established to promote hemispheric unity Smaller but no less significant efforts of similar intent, are being made within the framework of the Organization by such groups as the Greater Colombia nations (Colombia, Ecuador, Panama, and Venezuela) See C H Haring, *South America Looks at the United States* (1928), S G Inman, *Problems in Pan-Americanism* (1921, rev ed , 1925) and *Latin America, Its Place in World Life* (1942), J L Lockey, *Pan-Americanism Its Beginnings* (1920), W S Robertson, *History of the Latin-American Nations* (1922, rev ed , 1932), J F Rippy, *Historical Evolution of Hispanic America* (1932), Hubert Herring, *Good Neighbors* (1941), P L Green, *Pan American Progress* (1942)

Pan American Union, international agency founded April 14, 1890, at the first of the modern Pan-American Conferences (see PAN-AMERICANISM) The name Pan American Union was adopted in 1910 Created to promote international cooperation, it offers technical and informational services to all the American republics, serves as the repository for international documents, and is responsible through subsidiary councils for the furtherance of economic, social, juridical, and cultural relations In 1948 it was made the general secretariat for the ORGANIZATION OF AMERICAN STATES The day of its founding, April 14, is Pan-American Day

Panamint Range (păn'ămĭnt), SE Calif , in Inyo co near the Nev line These rugged mountains, with altitudes ranging from c 6,000 to 11,000 ft (Telescope Peak is 11,045 ft high), form the western boundary of Death Valley Panamint Valley is west of the range

Panathenaea (păn"ăthĭnē'u) [Gr , =all-Athenian], in Greek religion, a festival of ATHENA Every year the women of Athens embroidered a beautiful and costly peplos for Athena, and the procession carrying this garment to the Acropolis was the climax of the festival

Panay (pänī'), island (4,446 sq mi , pop 1,291,548), one of the Visayan Islands, in the Philippine Islands It is NW of Negros Primarily agricultural, with products of rice, coconut, and citrus fruit, Panay is also known for horses, bred in the mountainous interior Copper and manganese are mined The chief town is Iloilo

pancake, thin flat cake, made of batter and baked on a griddle or fried in a pan It is probably the oldest form of bread The widespread primitive expedient of baking on hot stones or on a griddle has resulted in a variety of pancakes Old English batter was mixed with ale German and French pancakes, leavened by eggs and much beating, are baked very thin and served with jam or jelly Russian *blini*, thin, yeast-raised pancakes, are commonly served with caviar and sour cream In America pancakes are sometimes called battercakes, griddlecakes, or flapjacks and are usually leavened with baking powder or soda and are served with syrup A pioneer favorite, still surviving in some localities, is the buckwheat cake which in early days was often made with "emptins," i e , on the sour-dough principle of leavening by saving the remnant of one day's baking to start the next Curious old customs, many of them of obscure origin, are connected with the pancake It was customary among Roman Catholics to eat pancakes or flannel cakes on Shrove Tuesday, hence called Pancake Day

Pancevo, Serbo-Croatian *Pančevo* (pän'chĕvō), city (pop 30,816), Serbia, Yugoslavia, in the Vojvodina, on the Danube and ENE of Belgrade It has a glass industry. There is a fine old church con-

taining valuable paintings and other works of Serbian religious art

Panchatantra (pän″chŭtän′trŭ) [Sanskrit,=five threads], principal collection of beast fables in SANSKRIT LITERATURE, probably compiled before A D 500 BIDPAI is the supposed author The work, derived from Buddhistic sources, was originally intended as a manual for the instruction of sons of the royalty The fables are in prose, with interspersions of aphoristic verses The stories in the *Panchatantra* appear to have entered European literature through an Arabic version of the translation into Syriac of the Pahlavi translation from the original See the English translation by Arthur W. Ryder (1925)

Panchen Lama see LAMAISM

Pancoast, Joseph, 1805–82, American surgeon, b near Burlington, N J, M D Univ of Pennsylvania, 1828 He was professor (1838–74) at Jefferson Medical College and was known for his development of operative techniques for treating vaginal fistula (1847), for excision of the fifth cranial nerve, and for exstrophy of the bladder (1858)

pancreas (păn′krēŭs, păng′–), gland that produces both a digestive juice and an endocrine secretion, present in most vertebrates and lying between the stomach and the anterior part of the intestine In man it is an elongated organ extending across the abdominal cavity and composed chiefly of lobes that secrete an alkaline digestive fluid (pancreatic juice), this juice is carried into the alimentary canal by the pancreatic duct (canal of Wirsung) to the common bile duct through which it enters the duodenum of the small intestine The flow of pancreatic juice is stimulated by a hormone, secretin, formed in the duodenum The pancreatic juice contains several digestive enzymes, the chief of which are trypsin, amylase, and lipase Scattered in the pancreas are groups of cells, the islands of Langerhans, that produce the endocrine secretion, INSULIN, which regulates sugar metabolism in the body and the storage of glycogen in the liver

panda (păn′dŭ) The panda (*ailurus*), also known as the lesser panda and cat bear, resembles the raccoon but has a longer body and tail and a more rounded head The fur is rust to deep chestnut with black on the under parts, limbs, and ears, and there are dark eye patches on the white face It spends much of its time in trees It is found in the Himalayas, and a Chinese subspecies inhabits Yünnan, Szechwan, and N Burma The giant panda (*Aluropoda*) lives in bamboo forests of Szechwan and Kansu at altitudes between 6,000 and 14,000 ft Some authorities classify it as a member of the raccoon family, to which the lesser panda belongs, others place it in a separate family The bearlike body is chiefly white, the limbs are brownish black, with the dark color extending up over the shoulder The ears and a patch around each eye are black Adults weigh from 200 to 300 lb and are from 4½ to 5 ft long with a tail of about 5 in It feeds on bamboo shoots In captivity it is gentle, often playful, and sleeps a great deal The few that have been captured have been short-lived

Pandarus (păn′dŭrŭs), in Greek mythology, Trojan hero In the Trojan War (as recounted in the *Iliad*) he broke the truce by wounding Menelaus with an arrow Later Pandarus was killed by Diomed The word *pander* is derived from another Pandarus, the procurer in the story of Troilus and Cressida

Pandean pipes see PANPIPES

Pandects see CORPUS JURIS CIVILIS

Pandemos (păn″dē′mŏs) [Gr ,=all the people], name of Aphrodite as the goddess of carnal or earthly love

Pandharpur (pŭn′durpōōr), town (pop 33,329), E central Bombay state, India Many Hindu pilgrims attend the fairs held three times annually in connection with the temple of Vishnu

Pandit, Vijaya Lakshmi (vĭjĭ′u lŭk′shmē pŭn′dĭt), 1900–, Indian diplomat, b Allahabad, sister of Jawaharlal Nehru Following her brother's lead, she threw herself in the '20s ardently into the activities of the Indian National Congress and especially devoted herself to women's organizations Mme Pandit was three times imprisoned for participating in civil-disobedience movements She served twice (1937–39, 1946–47) as minister of health and of local self-government in the United Provs, the first woman in India to hold ministerial office From 1947 to 1949 she was the Indian ambassador to the USSR At meetings of the General Assembly of the United Nations in 1948 her eloquent attacks on the Union of South Africa for its alleged discrimination against Indian nationals excited much comment In 1949 she was made the Indian ambassador to the United States She has collected some of her addresses in *So I Became a Minister* (1939)

Pando, José Manuel (hōsā′ mänwĕl′ pän′dō), 1848?–1917, Bolivian statesman, president of Bolivia (1899–1904) He earned military fame in the War of the Pacific, and in 1898 he joined the revolutionary junta which overthrew the conservative regime in 1899. The result was a liberal government under Pando, with the capital at La Paz instead of Sucre In his administration financial reforms were accomplished, but trouble with Brazil over Acre resulted (1903) in the loss of that region, with the only solace the promise of the Madeira-Mamoré RR as an outlet for E Bolivia. The groundwork was laid for the settlement of the boundary with Chile, which took place in the administration of Ismael Montes

Pandora (păn″dō′rŭ) [Gr ,=all gifts], in Greek mythology, first woman on earth Zeus ordered Hephaestus to create her as vengeance upon man and his benefactor, Prometheus The gods endowed her with every charm, together with curiosity and deceit Zeus sent her as a wife to Epimetheus, Prometheus' simple brother, and gave her a box which he forbade her to open She opened the box and let out all the evils which have since attended man Only one thing, Hope, remained inside the box

Pandulf (păn′dŭlf″), Ital *Pandolfo*, d 1226, Italian churchman He was first sent to England in 1211 by Pope INNOCENT III on an unsuccessful mission to settle the dispute with King John In 1213 he again went to England, as papal legate to receive John's submission to the pope, and the next year he collected revenues in England After being superseded in 1214 for a short time, he returned to England, where he was elected (1215) bishop of Norwich He remained loyal to John throughout the Magna Carta negotiations and aided royal efforts to revoke the charter Pandulf was again superseded but returned to England in 1218 as papal legate and governed (1219–21) in the minority of Henry III until Stephen LANGTON, archbishop of Canterbury, secured his recall Pandulf's administration had been severe but efficient After resigning his legateship, he was consecrated bishop of Norwich in 1222 See F A Gasquet, *Henry the Third and the Church* (1905)

panel, in architecture, designates a framed compartment (often sunken, but sometimes flush or raised) of a wall, ceiling, wainscoting, door, or window It is usually formed of a thin board beveled to fit the grooves of its frame Such panels may be enhanced with molding, carving, inlaying, or painting, or may be pierced or of lattice work

Pangalos, Theodore (pang′gälôs), 1878–, Greek general and politician He was instrumental in the overthrow (1922) of King Constantine In 1925, by a coup d'état, he ousted Paul Kondouriotis, suspended the constitution, and assumed dictatorial powers He was overthrown in turn (1926) by George Kondylis, who recalled Kondouriotis Pangalos was imprisoned until 1928

Pange lingua (pŭn′jă ling′gwa) [Latin,=sing, O tongue], Corpus Christi hymn of the Roman Church, written by St Thomas Aquinas It is used on various occasions in honor of the Sacrament, the last two stanzas, called, as a separate hymn, *Tantum ergo* (tän′tōōm ûr′gō), are sung at Benediction of the Blessed Sacrament *Pange lingua* has six stanzas of six alternately rhymed trochaic lines, alternately of eight and seven syllables Its first line and its meter are taken from the 6th-century *Pange lingua* of Venantius Fortunatus

Pan-Germanism, German nationalist doctrine aiming at the union of all German speaking countries under German rule Pan-Germanists considered that not only the German groups in neighboring countries, such as Austria, Czechoslovakia, Poland, Switzerland, and Alsace, but even distant German-speaking groups such as Volga Germans, Baltic Germans, Transylvanian Germans and German-Americans were linked by a blood tie to their fatherland The doctrine originated in the late 19th cent as an instrument of German imperialistic expansion, and it became particularly vocal after the First World War had deprived Germany of some border territories and its colonies National Socialism appropriated Pan-Germanism, the annexation of Austria and of German-speaking parts of Czechoslovakia in 1938 and the German demands for Danzig and the Polish Corridor in 1939 helped to precipitate the Second World War, which almost made the Pan-German program a reality

Pangim, Portuguese India see GOA

Pangnirtung (păng″nurtŭng′), frontier station (1941 pop 65), on E Baffin Island, Northwest Territories, on the north side of Cumberland Sound, est 1921 It has a trading post, a radio and meteorological station, a post of the Royal Canadian Mounted Police, an Anglican mission, and a whale-blubber rendering plant. The medical center for Baffin Island and a hospital are here A Hudson's Bay Company fox farm is near

pangolin (păng-gō′lĭn), toothless mammal of Asia and Africa which feeds on insects and is thought to be remotely related to the South American anteater Heavy, horny scales cover the top of the head, the upper part and sides of the body, and the entire surface of the long, thick tail Hairs cover the under surface of the body, and a few are scattered among the scales.

Pangopango. see PAGOPAGO.

Panguitch (păn′gwĭch), city (pop 1,979; alt. 6,624 ft), co seat of Garfield co., SW Utah, where Panguitch Creek joins Assay Creek to form the Sevier river Settled by Mormons c.1865, it was briefly abandoned (1867–71), then became a center of grain farming and of ranching There is a fish hatchery

panhandle, in geography, a strip of land projecting from the main body of an area and shaped like the handle of a pan, such as the panhandles of West Virginia, Texas, and Alaska

panic, term often applied to the acute phase of a financial disturbance characterized by sudden fear and widespread loss of confidence in the soundness of financial institutions There is a general rush to convert assets into money, with runs on banks and a hasty sale of securities, thus involving brokerage houses and stock exchanges Numerous bank failures and bankruptcies result A panic often occurs at the end of a period of prosperity marked by industrial and commercial expansion and rising prices It thus coincides with the "crash" or economic CRISIS in which the upward trend of a business cycle reaches its breaking point and is then followed by a period of business stagnation and depression Among the more severe financial panics in American history were that of 1837 and the panic which occurred on "Black Friday," Sept 19, 1873 The stock-market crash in Oct, 1929, involving the whole range of industrial securities, initiated the prolonged depression of the 1930s Conditions of panic may, however, arise at any point in the business cycle and affect severely a limited portion of the economy Such was the panic that occurred in the early months of 1933 when, at the depth of depression, several hundred banks were forced to close their doors because of inability to liquidate large quantities of frozen assets

Pani Indians see PAWNEE INDIANS

Panipat (pä′nēpŭt″), town (pop 37,837), Punjab state, India, c 50 mi N of Delhi It lies on a plain that is part of the easiest route from Afghanistan to central India, and it has often been the scene of great battles Here, in 1526, Baber defeated the Delhi Sultanate and cleared the path for his later triumphs Panipat saw a victory of Akbar over Afghan forces (1556) and the triumph of an Afghan army over the Mahrattas (1761)

Panizzi, Sir Anthony (panēt′sē), 1797–1879, British librarian, b Italy A political exile, he settled in England (1823) and was naturalized (1832) He was professor of Italian (1828–35), at University College, London, and was associated with the British Museum library as assistant librarian (1831–37), keeper of printed books (1837–56), and chief librarian (1856–67) His 91 rules (1839) became the basis of the museum's catalogue He designed the reading room and galleries of the library, enforced the act requiring deposition at the museum of copies of books copyrighted in Great Britain, and was influential in obtaining for the museum the bequest of the Grenville library in 1846 He was knighted in 1869 See biographies by L A Fagan (1880) and Constance Brooks (1931)

Panj (pänj, pŭnj), Rus *Pyandzh* (pyanch), river, on the border of Afghanistan and the USSR It flows c 400 mi, generally west, and is a headstream of the Amu Darya (Oxus river) The name also appears as Panjab and Ab-i-Panj

Panjab, India see PUNJAB

Panjabi (pŭnja′bē), language of the Indic group of the Indo-Iranian subfamily of the Indo-European languages See LANGUAGE (table).

Panjnad, river, India see SUTLEJ

Pankhurst, Emmeline (Goulden) (pängk′hûrst; gōōl′dun), 1857–1928, English woman-suffragist, leader of the militant movement With her husband, Richard Marsden Pankhurst, she was active in agitation for woman suffrage and in Manchester local politics, serving as a poor-law guardian (1895–1905) and as a member of the Board of Education (1903–5) Convinced by her experiences that suffrage was vital to women's interests, she joined the Independent Labour party, when the party failed to make this a leading issue, she organized (1905) the Women's Social and Political Union, which for nine years waged a militant campaign for woman suffrage, inviting arrest and imprisonment for its methods, but securing a devoted following and much popular sympathy Mrs Pankhurst's genius for organization, her power of oratory, and her personal charm gave her great influence over her large following At the outbreak of the First World War, Mrs Pankhurst ceased her efforts for woman suffrage and devoted her talents to furthering the war effort, and in 1928 she stood for Parliament with the support of the Conservative party After her death a statue was erected to her memory in Westminster, and her portrait was hung in the National Portrait Gallery See *My Own Story* (1914), Ray Strachey, *Struggle* (1928), Sylvia Pankhurst, *The Suffragette Movement* (1931) and *The Life of Emmeline Pankhurst* (1936) Her oldest daughter, **Christabel Pankhurst,** 1880–, was educated for the bar, but was refused admittance because of her sex She shared her mother's activities in the suffrage movement, later becoming an evangelist In 1936 she was made a Dame Commander The youngest daughter, **Sylvia Pankhurst,** 1882–, also a militant suffragist before 1914, became ac-

tive in international and pacifist movements. She wrote *India and the Earthly Paradise* (1926) and *The Home Front* (1933).

Pannag (pä'năg), unidentified article in the trade between Palestine and Tyre Ezek 27 17

Pannonhalma (pô'nônhôl"mô), Benedictine abbey, NW Hungary, c 10 mi SE of Gyor Founded in 980, it is the center of the Benedictine order in Hungary and has a large and precious library

Pannonia (pănō'nēu), ancient Roman province, central Europe, S and W of the Danube, including parts of modern Austria, Hungary, and Yugoslavia Its natives were identified by the Romans with Illyrians Their final subjugation took place in A D 9 Later there were provinces of Upper Pannonia and Lower Pannonia Important centers were Carnuntum, Vindobona (Vienna), Aquincum (Budapest), and Sirmium Pannonia was abandoned by the Romans after 395

Panora (pănō'ru), town (pop 1,169), W central Iowa, on the Middle Raccoon river and W of Des Moines, inc 1872

Panormus (punôr'mŭs), ancient name of PALERMO, Italy Another Panormus was a port of Asia Minor, on the south shore of the Propontis (now the Sea of Marmara) It is the modern Turkish Bandirma, formerly also called Panderma

panpipes, Pandean pipes (păndē'un), or **syrinx** (sĭ'rĭngks), musical wind instrument, consisting of graduated tubes closed at one end and fastened together The player holds the instrument vertically and blows into the open end of the tube, each tube has its own pitch Of Chinese origin, the instrument was known to the Greeks (who connected its origin with the legend of the god Pan and the nymph Syrinx) and survives in some parts of Europe and South America

Pan-Slavism (păn"slä'vĭzm, -sla'vĭzm) In the mid-19th cent, when modern nationalism entered its apogee, Russia was the only independent Slavic state Poland was partitioned, the Czechs, Slovaks, Slovenes, and Croatians were under Austrian and Hungarian rule, the Serbs and Bulgarians were still dependent on the Ottoman Empire The Revolution of 1848, which spread throughout Austria and Hungary, promoted schemes for the liberation of all Slavic peoples from foreign rule In June, 1848, the first Pan-Slav (i e, all Slavic) congress met at Prague under the presidency of Frantisek PALACKY Most of the delegates were Czech. Soon after proclaiming the solidarity of all Slavs, the congress disbanded when Prague was retaken by the Austrian army None of the Slavic people obtained any advantages from the Revolution of 1848, but the Pan-Slav idea bore fruit It met wide support in Russia, which was to assume the role of protector of the Slavic peoples, although its own treatment of the Poles scarcely corresponded to the Pan-Slav ideal The Slavophils in Russia were for the most part a violently nationalist and reactionary group, powerful through its press, which stressed the mission of "Holy Russia" to protect all Slavs and the Orthodox Eastern faith. They played an important role in bringing about the Crimean War and the Russo-Turkish War of 1877–78, which resulted in the independence of Serbia and Montenegro and the autonomy of Bulgaria In these countries the Russian influence became paramount The Russian Pan-Slav policy, having dealt with the Ottoman Empire, now clashed with interests of Austria-Hungary Serbia became the leading advocate of Pan-Slavism in the Balkans The Austrian annexation (1908) of BOSNIA AND HERCEGOVINA dealt a severe blow to Serbian ambitions Austria-Hungary, on the other hand, saw its existence threatened by the Pan-Slav movement, and when, in 1914, a Serbian nationalist assassinated Archduke FRANZ FERDINAND, the Austro-Hungarian government resolved on a war which would crush Serbia This was the immediate cause of the First World War, in which Russia immediately backed up its Serbian ally Bulgaria, on the other hand, having suffered a setback in its ambitions in the BALKAN WARS of 1912–13, eventually joined the Central Powers Pan-Slavism had no part in the independence movement in Poland, where Russia was regarded as the principal oppressor Among the Czechs, however, it had a large following, and it was in Russia that the Czech Legion was formed to fight on the Allied side The end of the First World War brought independence to the Slav nations Soviet Russia disclaimed its role as a champion of Slavdom, but Russian nationalism and Pan-Slavism revived in the Second World War, and many of the Slavs in German-occupied countries looked to the Russians as their liberators In the post-war years, all the Slavic nations came into the Soviet orbit, but Yugoslavia soon broke away from it To ascribe the hegemony of the USSR in Poland, Czechoslovakia, and the Balkans to Pan-Slavism is, however, anachronistic and misleading Rumania, Hungary, and Albania, though non-Slavic nations, came as much under Russian influence as their Slavic neighbors.

pansy [from Fr. *pensée*=thought, pansy], popular garden plant (*Viola tricolor hortensis*), derived from a VIOLET and sometimes called heartsease. Pansies, mostly perennial but often grown as annuals and biennials, are thought to be among the garden flowers longest cultivated, A resemblance to a human face is often seen in the blossoms The modern pansy has been developed to produce large, frequently multicolored flowers—blossoming through the summer if kept picked so that seeds do not form The tufted pansy has been developed from a species native to Spain and the Pyrenees

Pantaleoni, Maffeo (mäf-fä'ō pantälāō'nē), 1857–1924, Italian economist and politician He was finance minister in the D'Annunzio government at Fiume (1919), one of the first senators named by Mussolini, and a delegate (1923) to the League of Nations In *Pure Economics* (1889, Eng tr, 1898), Pantaleoni made a distinguished contribution to the theory of marginal utility He also did notable work in statistics and finance

Pantaloon (păntulōōn"), stock character appearing in the Italian *commedia dell' arte* by 1551 A mean, garrulous, miserly old man, he wore pantaloons, soft slippers, and spectacles In English pantomime he is the butt of clowns' jests See Allardyce Nicoll, *Masks, Mimes, and Miracles* (1931)

Pantelleria (pan"tāl-lārē'a), volcanic island (30 sq mi, pop 9,806) in the Mediterranean, 68 mi SW of Sicily and 44 mi W of the African coast, belonging to Italy The highest point is 2,736 ft There are extinct craters and hot mineral springs A colony of the Phoenicians and Carthaginians, it passed to the Romans, Saracens, Normans, Turks, and Italians Because of its strategic position between Sicily and Tunisia, it was strongly fortified by Italy, the military and air base was bombed into surrender by the Allies in 1943 Sweet wine, raisins, and dried figs are produced and exported

pantheism (păn'thēĭzm) [Gr *pan*=all, *theos*=God], name used to denote any system of belief or speculation which includes the teaching "God is all, and all is God" Pantheism, in other words, identifies the universe with God or God with the universe The term *pantheist* is thought to have been employed first by John TOLAND in the 18th cent, but pantheistic views are of very great antiquity While all pantheism is monistic, it is expressed in different ways, according to what is meant by the one whole which gathers up in itself all that exists, or what is meant by God If the pantheist starts with the belief that the one great reality, eternal and infinite, is God, he sees everything finite and temporal as but some part of God There is nothing separate or distinct from God, for God is the universe If, on the other hand, the conception taken as the foundation of the system is that the great inclusive unity is the world itself, or the universe, God is swallowed up in that unity, which may be designated nature Some forms of pantheism have had their beginnings in religion, others have been based upon a scientific or a poetic point of view Noteworthy among the former is Brahmanism, of the ancient Hindu civilization, in which the only reality, the supreme unity, is Brahma (see HINDUISM) This conception is closely connected with the idea of EMANATION Pantheism had a place in the speculations of some Greek philosophers XENOPHANES taught that the one God could know no motion or change The conception of Parmenides left no room for development or ethical meaning The system of the Stoics gave a more definite expression to pantheistic doctrine, emphasizing the identity of God and the world There is pantheism in the teachings of the NEOPLATONISTS and of such Christian philosophers as ERIGENA The writings of Giordano Bruno of the 16th cent carried such weight as to influence the development of modern thought, especially through SPINOZA, in whose monistic system is found what is considered the most complete and precise expression of pantheism of all times In it God is the unlimited, all-inclusive substance, the first cause of the universe, with innumerable attributes, two of which, thinking and extension, are capable of being perceived Pantheism of a kind can be traced in the idealistic philosophy of Fichte and Schelling, Hegel and SCHLEIERMACHER Together with mysticism, it fills a large place in literature, particularly the poetry of nature, where Wordsworth and Coleridge lead the way

pantheon (păn'thēŏn", -thēun) [Gr, =of all gods], term applied originally to a temple to all the gods and now to a building dedicated to a nation's illustrious dead The **Pantheon** at Rome was built by Agrippa in 27 B C and rebuilt in the 2d cent by Hadrian. Remarkably well preserved, it is mainly of brick with a great hemispherical dome whose supporting walls are set in concrete In 609 it was converted into a Christian church consecrated to Santa Maria dei Martiri. The **Panthéon** (pātāō') in Paris was designed by J G Soufflot and was begun in 1764, the dome was completed (1781) after his death An earlier church on the site was dedicated to Ste Geneviève. The Panthéon was several times secularized and afterwords reconsecrated, becoming finally a mausoleum for illustrious Frenchmen.

panther, name applied to the **LEOPARD**, less correctly to the **PUMA** and other large cats.

Pantoja de la Cruz, Juan (hwän' păntō'hä dā lä krōōth'), 1551?–1608?, Spanish portrait painter, court painter to Philip II and Philip III; pupil and follower of Alonso Sánchez Coello The Prado contains beautiful examples of his severe portraiture and also a fine *Nativity*

pantomime (păn'tŭmīm) [Gr, =all in mimic], silent form of the drama in which the play is developed by movement, gesture, and facial expression It is known to have existed among the Chinese, Persians, Hebrews, and Egyptians and has been observed in many primitive cultures In ancient Rome, where it was often explained by songs or simple action, pantomime was popular with the plebeians The traditional characters of pantomime—HARLEQUIN, CLOWN, PANTALOON, SCARAMOUCHE, and COLUMBINE—take their origin in the COMMEDIA DELL' ARTE of the 16th cent English pantomime, originated by John RICH, was more pageant than pantomime, and in 1818, when J R Planché began his extravaganzas with "speaking openings," pantomime in England became a dramatic spectacle with songs and speeches. Joseph GRIMALDI and Dan LENO were great English pantomime stars In 19th-century France, where pantomime used mechanical scenery and transformation scenes, Jean Gaspard DEBURAU introduced the character of PIERROT With the exception of a few sketches in American vaudeville of the 1870s, pantomime never became popular in the United States In silent moving pictures, where pantomime and titles were depended upon, Charles CHAPLIN made his name as a great pantomime actor See M W Disher, *Clowns and Pantomimes* (1925), C W Beaumont, *The History of Harlequin* (1926), P L Duchartre, *The Italian Comedy* (Eng tr, 1928), Allardyce Nicoll, *Masks, Mimes, and Miracles* (1931), A E Wilson, *King Panto* (1935)

pantone. see PRINTING

Pánuco (pä'nōōkō), river rising in San Luis Potosí, N central Mexico, and flowing generally east to empty into the Gulf of Mexico near Tampico It is navigable for c 200 mi, and tributaries, including the Moctezuma, drain much of the central plateau and, by artificial means, the Valley of Mexico

Panza, Sancho see DON QUIXOTE DE LA MANCHA

Panzini, Alfredo (älfrā'dō päntsē'nē), 1863–1939, Italian novelist, historian, and lexicographer, pupil of Giosue Carducci He taught many years in secondary schools A genial, humorous man, he won personal as well as literary popularity His novels include *Libro dei morti* [book of the dead] (1893), *Santippe* (1914), *Lo cerco moglie* (1920, Eng tr, *Wanted—a Wife*, 1922), and *Il diavolo nella mia libreria* [the devil in my library] (1920) His modern dictionary, which included slang, went through many editions Among his historical works are two books on Cavour and *La vera istoria dei tre colori* [the true history of the three colors, i e, the flag] (1924) Some of his short stories are translated in F M Guercio, *Anthology of Contemporary Italian Prose* (1931)

Paola (pā'ōlu), city (pop 3,511), co seat of Miami co, E Kansas, SSW of Kansas City, laid out 1855, inc as a village 1855, as a city 1860 It is a rail center for a farm area

Paoli, Pasquale (paskwa'lā pa'ōlē), 1725–1807, Corsican patriot He shared (1739–55) the exile of his father, Giacinto Paoli, who had supported Baron NEUHOF ("King Theodore") against the Genoese In 1755 he was recalled by the Corsicans, who chose him president under a republican constitution His capital was at Corte He governed with wide powers, but respected the constitution Material prosperity, public order, and education were greatly furthered In 1768 Genoa, despairing of reducing the island to submission, sold Corsica to France Paoli fought brilliantly against the superior forces of the French, but in 1769 he was decisively defeated and fled to England, where his popularity was great James Boswell, who had corresponded with him and visited him in Corsica, introduced him into the circle of Samuel Johnson After the outbreak of the French Revolution, Louis XVI appointed (1791) Paoli governor of Corsica Paoli subscribed to the liberal revolutionary principles, but opposed the radical turn the French Revolution took and, especially, the centralizing policy of the revolutionary government Accused (1793) of counterrevolutionary activities and summoned to Paris, he proclaimed the independence of Corsica and solicited British aid With the help of Admiral Hood the French were defeated (1794) The pro-French party (including the Bonaparte family) was banished, and the Corsican national assembly (*consulta*) declared the island a British protectorate and chose an English governor Paoli, who favored independence and who had hoped to be appointed viceroy, saw his influence superseded by that of POZZO DI BORGO He was called to England in 1795 and remained there till his death After his departure the islanders rose against the British and in 1796 drove them out with French help. See James Boswell, *An Account of Corsica* (1768)

Paoli (pā'ō'lē), town (pop 2,218), co seat of Orange co, S Ind., S of Bedford, settled 1807, inc 1869 It is a farm trade center and has mineral springs.

Paolieri, Ferdinando (färdēnän'dō päōlyā'rē), 1878–1928, Italian novelist, belonging to the school of

D'Annunsio. He wrote several novels and volumes of short stories in which the life of Tuscany is vividly presented.

Paolo Veronese: see VERONESE, PAOLO

Paonia (pāō'nēu), town (pop 1,117), W Colo, ESE of Grand Junction, in an orchard and dairy area; inc 1902

Paoting or **Pao-ting** (bou'dĭng'), city and county (pop. 409,745), Hopeh prov, China The city is the capital of the province and is a port on the Fu river, a tributary of the Pei. It manufactures cotton cloth and medicines. The city was formerly called Tsingyuan

Papa, Hung *Pápa* (pä'pŏ), city (pop 23,735), NW Hungary Today an industrial center with textile manufactures, it has an 18th-century château built by Count Maurice Esterhazy Alexander Petofi and Maurice Jokai attended school here

papacy (pā'pusē), office of the pope, the head of the Roman Catholic Church He is pope by reason of being bishop of Rome As successor in the see of Rome (the Holy See) of St Peter, its first bishop, the pope claims to be the shepherd of all Christians and representative (vicar or viceregent) of Christ (for biblical references to the Petrine supremacy, see PETER, SAINT) It is further held that God will not permit the pope to make an error in a solemn official declaration concerning a matter of faith or morality (see INFALLIBILITY) The bishop of Rome is also patriarch of the West, and the great majority of his subjects are under his authority as patriarch as well as pope (see PATRIARCH) The distinction between these areas of authority is practical only in the case of some of the patriarchs of Oriental rite, who may, for example, appoint bishops with no need of papal confirmation For these and other features of the ecclesiastical constitution and for the teaching and geographical distribution of the Church, see ROMAN CATHOLIC CHURCH The pope lives generally in Rome, of which a tiny portion (the Vatican City) is politically independent and under his rule, he is thus head of a state and owes no political allegiance (For this territory, its churches, palaces, and collections, see VATICAN and ROME, for the central papal administration, see also CARDINAL) From the earliest times the bishop of Rome has claimed to be the representative of Christ, and Catholic historians hold that the peculiar position of the Holy See was recognized by all Christians until the process of caesaropapism (the emperor controlling the Church) in Constantinople developed in the East a definite antagonism to Rome, where the bishop was politically independent Non-Catholic historians vary greatly as to their interpretation of the history of the attitude of Christendom towards the papacy, they contend that when in the early sources Rome is said to be the chief see, because it is Peter's, the bishop is being accorded honor over other bishops, not authority The see of Rome became increasingly revered as missionaries sent directly from the city founded new churches throughout the West The Roman Church, which was being enriched by gifts of converts, supported struggling young churches everywhere (e g, in Arabia) and founded charitable foundations all over Italy Finally Rome ceased to be an important political capital, and the pope inherited the emperor's position as the symbol of civilization in the West He acquired also a new, fateful political status in the donation of Pepin the Short, the foundation of the PAPAL STATES From the very first the side the popes took in doctrinal disputes was always determined to be orthodox, and the hardihood with which they upheld their convictions enhanced the prestige of the Holy See, this was notably true in the struggles over ARIANISM, MONOPHYSITISM, and MONOTHELETISM The combination of serene assurance and intrepidity when under attack became established in this period (300–700) as a mark of great popes, e g, in SS Julius I, Innocent I, Leo I, Gregory I, and Martin I The Donation of Pepin and the new ecclesiastical establishment among the Germans (founded by St BONIFACE) are both evidences of the recognition by all the West until the Reformation that Christendom was one under the pope, though that recognition had little bearing on the theological problem of papal supremacy By crowning Charlemagne (800) Leo III sponsored the empire which, in the form of the HOLY ROMAN EMPIRE, was to be the chief antagonist of the papacy for centuries The 10th cent was the nadir of the papacy corruption ruled Rome, and the Holy See was bought and sold for money and power Reaction came in the 11th cent, made notable for the papacy by the Hildebrandine reform, initiated and carried through by Gregory VII. This is the first great instance of the reforms of the whole Church undertaken from time to time by the papacy Other efforts of the papacy were the CRUSADES, the missions to Prester John and to China, Persia, and the Moors, and attempts at a reunion between the East and West. Throughout the Middle Ages the popes were in a continual struggle with the temporal power. In the empire its characteristic form was the quarrel over INVESTITURE, in which Gregory VII played the greatest part. In the 12th cent Alexander III came forward as the protector of N Italy against Frederick I, and later Innocent III made himself virtual temporal arbiter of the West Between the papacy and England the favorite theme of contention was the relation between the clergy and the state, the pope standing as the defender of the clergy At the beginning of the 14th cent a new series of problems faced the papacy Boniface VIII found himself opposed by a king, Philip IV of France, who heeded no anathema and cared for no papal claim Temporary victory went to France, and from 1309 to 1378 the popes, all French, lived at Avignon (the "Babylonian captivity") The return to Rome, brought about partly by St CATHERINE OF SIENA, turned into calamity with the Great SCHISM In this disorder (1378–1417) there were two or even three rival popes, it ended in the Council of Constance (see CONSTANCE, COUNCIL OF) Since then, apart from the abortive revolt at the Council of Basel (see BASEL, COUNCIL OF), there has been no schism in the papacy The schism delayed the long-needed reform in the Church The pope had little real power outside Italy, and no 15th-century pope essayed a dynamic role of reform, which must begin by challenging the vested interests of bishops, cardinals, and princes The papal court itself reached a low point of spirituality in the 15th cent; there was wonderful cultivation of art, and Rome became a brilliant Renaissance capital, where pagan culture and morals were more esteemed than Christian virtue This corruption provided a strong stimulus for Luther and his colleagues in the REFORMATION These revolutionaries (like their predecessors, the WALDENSES, the LOLLARDS, and the HUSSITES) were, however, not mere reformers of clerical immorality They denounced the whole accepted view of God's relation to man as well, beginning an intellectual movement which still has broadening effects Within the Church, reformation began in earnest with the election (1534) of Paul III, first of a series of popes who carried out a reconstruction of church life (see REFORM, CATHOLIC, and TRENT, COUNCIL OF) The other major work of the 16th-century popes was the new development of foreign missions, which, as in ancient times, enhanced papal prestige In reform and in missions no one served better than the Jesuits (see JESUS, SOCIETY OF) The 16th cent saw also the stabilization of the Papal States as they would remain until the revolutionary period Unfortunately for the popes, one vital aspect of reform had been (of necessity) left untouched This was the position in the Church of the rulers of states largely Catholic The story was always the same One or one of these "Catholic princes," whether devout, like Philip II of Spain, or notoriously immoral, like many of them, was sure of his power, he determined to include the Church within it (e g, insisting on the deciding voice in selecting the clergy) The king of Spain even ran his own Inquisition It was accepted that these rulers should hold a veto in papal elections By the 18th cent every Catholic prince was at odds with the papacy Spain had the longest record of this sort, lasting into the 20th cent In France the triumphant Bourbons developed GALLICANISM as a theory to justify their ecclesiastical pretensions, Louis XIV was its chief proponent, but the revolutionists of 1790 used it (in the Civil Constitution of the Clergy, banned by Pius VI), and so did Napoleon as soon as he had signed the CONCORDAT OF 1801 Most extreme, and least enduring, were the schemes of Emperor Joseph II In the 18th cent the papacy seemed doomed, its weakness became a spectacle when Clement XIV was hounded into suppressing the Jesuits, the only group in the Church consistently loyal to the pope In the 19th cent the old absolutist states went down, and as they did the papacy imperceptibly gained Even the loss of the Papal States (1870) proved to be a blessing, though it took 60 years to solve the Roman Question, the problem of assuring the pope nonnational status in a nationally organized world (see LATERAN TREATY) The VATICAN COUNCIL enounced papal infallibility in 1870 Since then antipapal activity has vanished from within, and popes in dealing with hostile states have faced not "Catholic princes" but anti-Catholicism (e g, in Bismarck's KULTURKAMPF and in French, Portuguese, and Mexican anticlericalism) or overt opposition to all religion (in the 20th-century totalitarian states) The situation of the papacy in the 20th cent is in several ways different from what it has been before The old Catholic countries of Europe have dwindled in relative size in the Church until their numbers are a minority, elsewhere (as in Ireland and the United States) there is generally no old local vested Catholic interest, and the pope is the single unifying force in the Church Another new development is the personal popularity of the reigning pontiff, first noticeable when Pius VI and Pius VII were being publicly humiliated by the French Beginning with Leo XIII an unusually dynamic sequence of popes has fulfilled strongly the role of preacher and leader, reorienting Catholics in the modern world and urging them to profounder social and political responsibility; hence the "labor encyclicals" of Leo and Pius XI and the continuous encouragement of scientific endeavor. In the same activity they have encouraged laymen to take more part in religious affairs (Catholic Action) and to make themselves more holy (by frequent communion) The rise of the totalitarian states was the most striking problem of Pius XI, who denounced in them the old absolutism untempered even by lip service to the rule of law After the Second World War the governments in the Communist-dominated countries strove always to cut off the pope from the faithful and used for the purpose every sort of maneuver, propaganda, and violence It is known that in some of these countries (e g, Hungary and Czechoslovakia) many of the clergy and laymen showed an obdurate attachment to the Holy See, a stubbornness that was regarded in much of the world as the true cause of the persecutions of leaders like Archbishop Stepinac and Cardinal Mindszenty See COUNCIL, ECUMENICAL, and ORTHODOX EASTERN CHURCH Monumental histories of the papacy in limited periods have been written by Ludwig von Pastor (Catholic, Eng tr still incomplete in 1950), H K Mann, and Mandell Creighton (non-Catholic) See Carl C Eckhardt, *The Papacy and World Affairs* (1936), Josef Bernhart, *The Vatican as a World Power* (1939), John Farrow, *Pageant of the Popes* (1942), *Annuario pontificio* (annually issued in Italian since 1947) The following is a list of the popes The date of election is given rather than that of consecration Before St. Victor I dates may err by one year Official lists no longer number the popes in sequence St PETER, d 67?, St LINUS, 67?–76?, St CLETUS or Anacletus, 76?–88?, St CLEMENT I, 88?–97?, St Evaristus, 97?–105?, St Alexander I, 105?–115?, St Sixtus I, 115?–125?, St Telesphorus, 125?–136?, St Hyginus, 136?–140?, St Pius I, 140?–155?, St. Anicetus, 155?–166?, St Soter, 166?–175?, St. Eleutherius, 175?–189?; St Victor I, 189–99, St Zephyrinus, 199–217, St CALIXTUS I, 217–222 (antipope, St HIPPOLYTUS, 217–35), St Urban I, 222–30, St Pontian, 230–35, St Anterus, 235–36, St FABIAN, 236–50, St Cornelius, 251–53 (antipope, NOVATIAN, 251), St Lucius I, 253–54, St Stephen I, 254–57, St Sixtus II, 257–58, St Dionysius, 259–68, St Felix I, 269–74, St Eutychian, 275–83, St Caius, 283–96, St Marcellinus, 296–304, St Marcellus I, 308–9, St Eusebius, 309 or 310, St Miltiades or Melchiades, 311–14, St SYLVESTER I, 314–35, St Marcus, 336, St JULIUS I, 337–52, LIBERIUS, 352–66 (antipope, FELIX II, 355–65), St DAMASUS I, 366–84 (antipope, Ursinus, 366–67), St Siricius, 384–99, St Anastasius I, 399–401, St INNOCENT I, 401–17, St Zosimus, 417–18; St Boniface I, 418–22 (antipope, Eulalius, 418–19), St CELESTINE I, 422–32, St Sixtus III, 432–40, St LEO I, 440–61, St Hilary, 461–68, St Simplicius, 468–83, St Felix III (II), 483–92, St GELASIUS I, 492–96, Anastasius II, 496–98, St Symmachus, 498–514 (antipope, Lawrence, 498, 501–5), St Hormisdas, 514–23, St. John I, 523–26, St Felix IV (III), 526–30, Boniface II, 530–32 (pope or antipope, Dioscurus, 530), John II, 533–35, St AGAPETUS I, 535–36, St. SILVERIUS, 536–37, VIGILIUS, 537–55, Pelagius I, 556–61, John III, 561–74, Benedict I, 575–79, Pelagius II, 579–90, St GREGORY I, 590–604, Sabinianus, 604–6, Boniface III, 607, St Boniface IV, 608–15, St Deusdedit or Adeodatus I, 615–18; Boniface V, 619–25, HONORIUS I, 625–38, Severinus, 640, John IV, 640–42, Theodore I, 642–49, St MARTIN I, 649–55, St Eugene I, 654–57, St Vitalian, 657–72, Adeodatus II, 672–76, Donus, 676–78, St Agathon, 678–81, St Leo II, 682–83, St Benedict II, 684–85, John V, 685–86; Conon, 686–87 (antipopes Theodore, 687, Paschal, 687), St Sergius I, 687–701, John VI, 701–5, John VII, 705–7, Sisinnius, 708, Constantine, 708–15, St GREGORY II, 715–31, St Gregory III, 731–41, St ZACHARIAS, 741–52, Stephen II, 752 (never consecrated), Stephen III (II), 752–57, St Paul I, 757–67 (antipopes, Constantine, 767–69, Philip, 768), Stephen IV (III), 768–72; ADRIAN I, 772–95, St LEO III, 795–816, Stephen V (IV), 816–17; St Paschal I, 817–24, Eugene II, 824–27, Valentine, 827, Gregory IV, 827–44 (antipope, John, 844), Sergius II, 844–47, St LEO IV, 847–55, Benedict III, 855–58 (antipope, Anastasius, 855), St NICHOLAS I, 858–67, Adrian II, 867–72; JOHN VIII, 872–82, Marinus I, 882–84, St Adrian III, 884–85, Stephen V (VI), 885–91, FORMOSUS, 891–96; Boniface VI, 896, Stephen VII (VI), 896–97; Romanus, 897, Theodore II, 897, John IX, 898–900, Benedict IV, 900–903, Leo V, 903 (antipope, Christopher, 903–4), Sergius III, 904–11; Anastasius III, 911–13, Lando, 913–14, John X, 914–28, Leo VI, 928, Stephen VIII (VII), 928–31, John XI, 931–35, Leo VII, 936–39, Stephen IX (VIII), 939–42, Marinus II, 942–46, Agapetus II, 946–55, JOHN XII, 955–64; Leo VIII, 963–65, or Benedict V, 964–66 (one of these was an antipope), John XIII, 965–72, Benedict VI, 973–74 (antipope, Boniface VII, 974, 984–85); Benedict VII, 974–83, John XIV, 983–84, John XV, 985–96, Gregory V, 996–99 (antipope, John XVI, 997–98), SYLVESTER II, 999–1003, John XVII, 1003, John XVIII, 1004–9, Sergius IV, 1009–12; Benedict VIII, 1012–24 (antipope, Gregory, 1012); John XIX, 1024–32, Benedict IX, 1032–44, 1045, 1047–48 (popes or antipopes. Sylvester III, 1045, Greg-

ory VI, 1045–46, Clement II, 1046–47), Damasus II, 1048; St Leo IX, 1049–54, Victor II, 1055–57, Stephen X (IX), 1057–58 (antipope, Benedict X, 1058–59), Nicholas II, 1059–61, Alexander II, 1061–73 (antipope, Honorius II, 1061–72), St Gregory VII, 1073–85 (antipope, Clement III, 1080–1100 see Guibert of Ravenna), Victor III, 1086–87, Urban II, 1088–99, Paschal II, 1099–1118 (antipopes Theodoric, 1100, Albert, 1102, Sylvester IV, 1105–11), Gelasius II, 1118–19 (antipope, Gregory VIII, 1118–21), Calixtus II, 1119–24, Honorius II, 1124–30 (antipope, Celestine II, 1124), Innocent II, 1130–43 (antipopes Anacletus II, 1130–38, Victor IV, 1138), Celestine II, 1143–44, Lucius II, 1144–45; Eugene III, 1145–53, Anastasius IV, 1153–54; Adrian IV, 1154–59, Alexander III, 1159–81 (antipopes Victor IV, 1159–64, Paschal III, 1164–68, Calixtus III, 1168–78; Innocent III, 1179–80), Lucius III, 1181–85, Urban III, 1185–87, Gregory VIII, 1187, Clement III, 1187–91, Celestine III, 1191–98, Innocent III, 1198–1216, Honorius III, 1216–27; Gregory IX, 1227–41, Celestine IV, 1241, Innocent IV, 1243–54, Alexander IV, 1254–61, Urban IV, 1261–64, Clement IV, 1265–68, Gregory X, 1271–76, Innocent V, 1276, Adrian V, 1276, John XXI, 1276–77, Nicholas III, 1277–80, Martin IV, 1281–85, Honorius IV, 1285–87, Nicholas IV, 1288–92, St Celestine V, 1294, Boniface VIII, 1294–1303, Benedict XI, 1303–4, Clement V, 1305–14, John XXII, 1316–34 (antipope, Nicholas V, 1328–30 see Rainalducci, Pietro), Benedict XII, 1334–42, Clement VI, 1342–52, Innocent VI, 1352–62, Urban V, 1362–70, Gregory XI, 1370–78, Urban VI, 1378–89, Boniface IX, 1389–1404, Innocent VII, 1404–6, Gregory XII, 1406–15 (Avignon succession of antipopes Clement VII, 1378–94 see Robert of Geneva, Benedict XIII, 1394–1423 see Luna, Pedro de), Clement VIII, 1423–29, Benedict XIV, 1425–30, Pisan succession of antipopes. Alexander V, 1409–10, John XXIII, 1410–15 see Cossa, Baldassarre, see Schism, Great), Martin V, 1417–31, Eugene IV, 1431–47 (antipope, Felix V, 1439–49 see Amadeus VIII), Nicholas V, 1447–55, Calixtus III, 1455–58, Pius II, 1458–64, Paul II, 1464–71, Sixtus IV, 1471–84, Innocent VIII, 1484–92, Alexander VI, 1492–1503, Pius III, 1503, Julius II, 1503–13, Leo X, 1513–21, Adrian VI, 1522–23, Clement VII, 1523–34, Paul III, 1534–49, Julius III, 1550–55, Marcellus II, 1555, Paul IV, 1555–59, Pius IV, 1559–65, St Pius V, 1566–72, Gregory XIII, 1572–85, Sixtus V, 1585–90, Urban VII, 1590; Gregory XIV, 1590–91, Innocent IX, 1591, Clement VIII, 1592–1605, Leo XI 1605, Paul V, 1605–21, Gregory XV, 1621–23, Urban VIII, 1623–44, Innocent X, 1644–55, Alexander VII, 1655–67, Clement IX, 1667–69, Clement X, 1670–76, Innocent XI, 1676–89, Alexander VIII, 1689–91, Innocent XII, 1691–1700, Clement XI, 1700–1721, Innocent XIII, 1721–24, Benedict XIII, 1724–30, Clement XII, 1730–40, Benedict XIV, 1740–58, Clement XIII, 1758–69, Clement XIV, 1769–74, Pius VI, 1775–99, Pius VII, 1800–1823, Leo XII, 1823–29, Pius VIII, 1829–30, Gregory XVI, 1831–46, Pius IX, 1846–78; Leo XIII, 1878–1903, Pius X, 1903–14, Benedict XV, 1914–22, Pius XI, 1922–39, Pius XII, 1939–

Papago Indians (pä'pugō, pä-), tribe of North American Indians speaking a language closely related to that of their neighbors, the Pima Indians The Papago formerly occupied S Arizona and N Sonora, Mexico They are a semisedentary tribe who farm corn, beans, and cotton and gather wild vegetable products (e g , the beans of the mesquite and the fruit of the giant cactus) The Papago Indians suffered dreadful oppressions from their enemy, the Apache The Papago were early visited by Spanish missionaries By an executive act of 1874 the United States created a reservation for them in S Arizona There are some 6,500 Papago in the United States, and some 1,000 in Mexico See Ruth Underhill, *Social Organization of the Papago Indians* (1939) and *Papago Indian Religion* (1946)

papal election. The pope is chosen by the college of cardinals meeting in secret conclave not less than 15 or more than 18 days after the death of a pontiff The election is by secret ballot, and two thirds of the votes are required to elect By the election the new pope has full jurisdiction, no further formality is necessary The elected pope may decline, if so, the balloting continues The secrecy of the conclave is assured by shutting off the cardinals completely from the outside world, and expedition is encouraged by severe restrictions of the cardinals' diet after a few days Theoretically any adult male Catholic is eligible, but long-standing practice limits the candidates to cardinals, the last non-Italian elected was Adrian VI in 1522 In the vacancy of the Holy See the entire college of cardinals holds the papal jurisdiction, but its powers are extremely limited The popes were at first elected like other bishops, by the clergy and laity of the diocese, serious political interference was discouraged in 769 by exclusion of laymen from papal election. Later, in successive reform measures the election was limited to the cardinals (by Nicholas II in 1059), the two-thirds rule was established (by Alexander III in 1179), and the conclave was set up in its modern form (by Gregory X, in 1274).

Papal States, former independent territory under the temporal rule of the popes, also called the States of the Church and the Pontifical States It extended north to south across the Italian peninsula from the Adriatic Sea and the lower course of the Po to the Tyrrhenian Sea, thus including the present regions of Latium, Umbria, the Marches, and E Emilia-Romagna The nucleus of the states consisted of endowments given to the popes from the 4th cent in and around Rome, the Italian mainland, Sicily, Sardinia, and other lands, these came to be called the Patrimony of St Peter The popes gradually lost their more distant lands, but in the duchy of Rome papal power became stronger and increasingly independent of the Eastern emperors In 754 Pepin the Short gave to Pope Stephen III (who, like Pope Zacharias, recognized Pepin as rightful king of the Franks and who now needed his assistance against the Lombards) the exarchate of Ravenna and the Pentapolis Over these vast territories the popes were long unable to exercise effective sovereignty Charlemagne confirmed his father's donation in 774, moreover, to give the papal claim to temporal power greater antiquity, the so-called Donation of Constantine I (see Constantine, Donation of) was forged On its basis later popes also claimed suzerainty over Naples, Sicily and Sardinia In 1115 Countess Matilda of Tuscany, by leaving her territories to the Church, helped to precipitate a long struggle between popes and emperors In Rome itself the popes' temporal power, almost nonexistent in the 10th cent , remained greatly limited until the 14th cent by the interference of the emperors, by the power of the nobles, and by the ambitions of the commune of Rome, which pretended that its authority also extended over the Papal States In the 14th cent the emperors renounced their claims to the duchy of Spoleto, the Romagna, and the March of Ancona, however, the free communes and petty tyrannies that dominated these regions long resisted effective papal domination The Comtat Venaissin, a papal possession in S France until 1791 (though not a part of the Papal States), was acquired in 1274, in 1309 Avignon became the seat of the popes From 1309 to 1420, during the "Babylonian captivity" at Avignon and the Great Schism, the Papal States were in condition of chaos only temporarily relieved by the efforts of Cardinal Albornoz Actual control by the papacy of its states began with the 16th cent , when Cesare Borgia, son of Pope Alexander VI, conquered the petty states of the Romagna and the Marches, after his fall (1503) most of them passed directly under papal rule Pope Julius II consolidated papal power by abolishing local autonomies and by participating effectively in the Italian Wars The last principalities to lose their autonomy to the popes were Ferrara (1598) and Urbino (1631) Parma and Piacenza were alienated (1545) through the nepotism of Paul III After the Catholic Reform the spiritual power of the papacy grew while the political power waned Papal troops, mostly Swiss and other mercenaries, opposed almost no resistance to the French invaders under Bonaparte in 1796 Pius VI and his successor, Pius VII, saw their states curtailed, occupied, and twice abolished between 1796 and 1814 The Congress of Vienna (1815) fully restored the states to the papacy and placed them under Austrian protection Conspiracies and revolutions (1831, 1848–49) characterized the following decades Pius IX was liberal at his accession and granted his states a constitution, but the events of 1848 turned him against the revolutionists During the Risorgimento only French intervention at Rome prevented the total absorption of the Papal States After the Austrians left (1859) Bologna and the Romagna, both united (1860) with the kingdom of Sardinia, as did the Marches and Umbria Garibaldi invaded the remaining Papal States twice but was prevented from taking Rome—in 1862 by the intervention of Victor Emmanuel II of Italy, in 1867 by Napoleon III The fall of Napoleon made it safe for Victor Emmanuel to seize Rome in 1870 Pius IX, refusing to recognize the loss of temporal power, became a "prisoner" in the Vatican, and his successors followed his example In 1929 the Roman Question was at last solved by the Lateran Treaty, which gave the papacy full temporal power over Vatican City For bibliography, see papacy See Louis Duchesne, *Beginnings of the Temporal Sovereignty of the Popes, A.D 754–1073* (1898, Eng tr , 1908)

papaw tree or **pawpaw** (both' pô'pô). The common North American papaw (*Asimina triloba*) is native E of the Mississippi It is a small deciduous tree or shrub with large simple leaves and purple flowers The purplish-brown ripe fruit, shaped like a short, thick banana, has a custardlike edible pulp, it is sometimes sold locally and called also custard apple For the tropical American papaw, see papaya.

papaya (pûpl'u), soft-stemmed tree (*Carica papaya*) of tropical America resembling a palm with a crown of palmately lobed leaves It is cultivated for its melonlike yellow fruits eaten raw or cooked and, more recently, for the juice which has become a commercial item in the North The juice contains the enzyme papain, somewhat similar to pepsin and digestant in action. Papaya is also called melon tree and papaw

Papeete (pâpâ-ā'tā), town (pop 12,428), on Tahiti, S Pacific, capital of the French Establishments in Oceania and of Tahiti A port on the northwest coast, it ships copra, vanilla, phosphates, and mother-of-pearl

Papen, Franz von (fränts' fün pä'pün), 1879–, German politician In the First World War he was military attaché at the German embassy in Washington when the discovery of a misdad briefcase revealed his part in espionage and sabotage plots and led (1915) the U S government to request his recall He subsequently served with the Turkish army and, after the war, entered a political career in the Catholic Center party After succeeding (June, 1932) Brüning as chancellor, he acted independently of his party, which shortly expelled him His cabinet represented the interests of the ultraconservative Prussian *Junker* class In the critical year 1932 Papen did much to strengthen the National Socialist party, mainly by lifting the ban on its militia Unable to secure a working majority in the Reichstag, he resigned (Nov , 1932) after two successive elections had failed to end the deadlock Kurt von Schleicher succeeded him In Jan , 1933, Papen was the chief go-between of Hindenburg, Hugenberg, and Hitler and through his maneuvers behind the scenes was instrumental in bringing Hitler into power He served as vice chancellor in Hitler's cabinet, negotiated (1934) the German concordat with Pius XI, and was appointed (1934) German minister to Vienna Here once more he displayed his peculiar talents in helping the National Socialists to prepare the annexation (1938) of Austria to Germany In 1939 he was sent as ambassador to Turkey, where he remained until 1944 After the Second World War, Papen was tried by the Nuremberg war crimes tribunal for his share in instigating the war He was acquitted (1946) A subsequent sentence to eight years' hard labor, imposed by a German "denazification" court, was rescinded in 1949 by a court of review

paper is believed to have been invented in China c 105 by Ts'ai Lun and afterward perfected by the Chinese Papermaking spread to Japan c 610 and to Samarkand c 751, whence it was introduced by the Arabs into Egypt c 900 and by the Moors into Spain (at Játiva) c 1150 Mills were established in Italy c 1276, in France, c 1348, in Germany, 1390, and in England, 1495 Primitive bark paper had been made in Mexico and Central America in pre-Columbian times Paper was first produced in the American colonies in 1690 by William Rittenhouse at Germantown Hand processes, now seldom used in Europe and America, exemplify the fundamental processes of papermaking Vegetable fiber mixed with water is reduced to a pulp into which a vatman dips a porous mold, as he lifts out the mold holding the pulp, he shakes it to cross the fibers for strength The sheet formed in the mold is reversed upon an absorbent felt or cloth The water is pressed from a pile of alternating felts and paper, then the paper is separated, pressed again to the desired smoothness, and hung on racks to dry In Europe early dipping molds were made of strips of wire secured by widely spaced cross lines The horizontal strips marked the paper with so-called laid lines, the cross strips, with chain lines John Baskerville introduced c 1757 the use of wire mesh so finely woven as to leave scarcely discernible marks on the paper, which became known as wove paper The watermark, probably first used in Italy c 1282, is produced by a wire design attached on the mold A machine for making a continuous web of paper was invented by a French papermaker, Nicolas Robert, in 1798 and improved in England for commercial use by Henry and Sealy Fourdrinier In the modern Fourdrinier machine, which is sometimes several hundred feet long and operates at a rate of over a thousand feet per minute, the pulp suspended in water is poured on an endless belt of wire mesh edged with rubber deckle strips, then pressed by a revolving dandy roll to which are sometimes attached wire watermark designs or wires to produce laid lines in imitation of handmade papers The paper is carried between heated drying rolls by a strip of felt until it is firm enough to support its own weight, then it is led over another series of driers and wound on rollers Some paper used for tissue, roofing felt, and paperboard is made on a cylinder machine in which the pulp is lifted from a vat by a mesh mounted on a cylinder. Untreated paper is absorbent and unsuited to pen and ink It may be modified by mixing sizing or loading with the pulp; by coating with a substance such as casein, glue, or clay to impart a smooth, glossy finish suitable for half-tone illustrations, and by calendering (pressing between rollers) Paper was made from linen or cotton rags until the supply became inadequate and other materials such

as esparto grass, straw, and wood came into use. Most paper today is made from wood pulp. Mechanical pulp, prepared by grinding, yields cellulose fibers mixed with impurities that cause rapid oxidation of paper made from it Chemical pulp is almost pure cellulose and is prepared from wood chips boiled under pressure with chemicals The three chief types are soda, sulphite, and sulphate pulp Wood pulp is screened, washed, bleached, and beaten, then is blended to achieve the characteristics required by the proposed use Some 14,000 different products are made from paper One of the largest single uses is for newsprint, made from mechanical wood pulp blended with chemical pulp for strength and printing qualities See Dard Hunter, *Papermaking* (2d ed revised and enlarged 1947), R H Clapperton and William Henderson, *Modern Paper-Making* (3d ed , 1947)

Paphlagonia (păf"lugō'nēŭ), ancient country, N Asia Minor, between Bithynia and Pontus on the Black Sea coast It was mountainous, with the Halys its chief river It was not a political unit Along the coast was a string of Greek colonies, including Sinope Paphlagonia was famous for timber, horses, and mules The kings of Pontus annexed Paphlagonia and finally lost it to the Romans (63 B C).

Paphos (pā'fŏs), two ancient cities, SW Cyprus, on the coast Old Paphos was founded probably by the Phoenicians and was the center of the worship of Astarte or Aphrodite; ruins of the temple have been found New Paphos, now Baffo, lay 10 mi to the northwest, it became an important seaport and, in Roman times, the capital of the island In Acts 13, Paphos is the scene of the miraculous blinding of a sorcerer

Papias (pā'pēus), fl A D 130, a Father of the Church, said to have been bishop of Hierapolis and a friend of St Polycarp Eusebius of Caesarea and St Irenaeus quote fragments from Papias' *Oracles, or, Explanations of the Sayings of the Lord* These are valuable sources for the history of the Church.

papillon (pă'pulŏn), small dog, a toy spaniel It was long a favorite pet in the royal courts, especially in France and Spain Often it was pictured in tapestries and in paintings (e g , those of Watteau and Rubens) It is a slender, active, and hardy little dog The coat, usually white with dark markings or solid brown or tawny, is smooth and rather short, but longer on the legs, the tail bears long, plumy hair There are two varieties, one which carries the ears upright (suggesting the wings of a butterfly) and the other with dropped ears It is naturally good-tempered, affectionate, and courageous

Papin, Denis (dunĕ' papă'), 1647–1712?, French physicist and inventor He was an assistant of Christiaan Huygens and of Robert Boyle and professor of mathematics at the Univ of Marburg (1687 96) He invented (1679) a digester, a vessel in which the boiling point of water is raised by an increase in steam pressure, this device demonstrated the influence of atmospheric pressure on boiling points His other inventions include a safety valve (for the digester), a condensing pump, an air gun, and a paddle-wheel boat A pioneer in the development of the steam engine, he devised in 1690 a pump with a piston raised by steam

Papineau, Louis Joseph (lwē' zhozĕf' papēnō'), 1786–1871, French Canadian political leader and insurgent, b Montreal, educated at the Quebec seminary After serving as an officer in the War of 1812, he entered the legislative assembly of Lower Canada, of which he was speaker (1815–37). Eloquent and able, he soon came to be considered the leader of the French Canadian Reform party His hostility to the British government in Canada, whose measures he considered unfair to the French Canadians, mounted to great intensity and inflamed some of his followers, the *Patriotes*, to open rebellion in 1837, shortly afterwards, a rebellion, incited by William Lyon Mackenzie, broke out in Upper Canada Papineau took no active part in the uprising but fled to the United States, where he sought intervention by the government Failing in this effort, he went to France Though a special amnesty was granted, he did not return to Canada until c 1845 He reentered politics and again sat (1848–54) in the Canadian legislative assembly, but he did not regain his former influence See biography by A D De Celles (in "Makers of Canada" series, Vol, V, 1926)

Papineauville (pă'punōvĭl"), village (pop 1,023), S Que , on the Ottawa river and ENE of Ottawa, in a dairy-farming and lumbering region.

Papini, Giovanni (jōvän'nē papē'nē), 1881–, Italian philosopher and critic His unhappy childhood is described in *Un uomo finito* (1912, Eng tr , *The Failure*, 1924) He adopted idealistic pragmatism as his philosophical standpoint In 1903 he founded *Leonardo*, a philosophical journal. After a life of unbelief, he embraced Catholicism, and shortly afterward he wrote his *Storia di Cristo* (1921, Eng tr., *Life of Christ*, 1923), which was immensely successful Papini wrote fiction, verse, and numerous critical works in which he shows himself as a writer of great intellectual subtlety, fearlessly aggressive. His fiction has a philosophical basis Among his other works are *Il Cervello* (1913, Eng. tr., *Four and Twenty Minds*, 1922), a collection of studies of William James, Nietzsche, Tolstoy, and others, *Gog* (1931, Eng tr , 1934), a bitter satire on modern life; and *Dante Vivo* (1933, Eng tr , 1934)

Papinian (Aemilius Papinianus) (pupĭn'ēŭn), d 212, Roman jurist He was a close friend of Emperor Septimius SEVERUS, under whom he was *libellorum magister* [master of the rolls] and later Praetorian prefect, but Severus' son CARACALLA had Papinian put to death for reasons that are obscure Papinian was a jurist of great comprehension, perhaps the greatest figure in ROMAN LAW, and a stern moralist A constitution of Theodosius II and Valentinian (426) reflects the Roman attitude toward him five jurists (and the authors whom they quoted) were set up as the sole authorities to be cited —Paulus, Gaius, Ulpian, Modestinus, and Papinian If they were not unanimous the majority was to prevail, but, in case of otherwise equal division, the opinion of Papinian was to decide His chief works were *Quaestiones* (37 books), *Responsa* (19 books), *Definitiones* (2 books), and *De adulteris* (2 books) They are known through quotations in the Theodosian Code and in the Digest of the CORPUS JURIS CIVILIS

Pappenheim, Gottfried Heinrich, Graf zu (gōt'frēt hin'rĭkh graf tsōō pă'punhīm), 1594–1632, imperial field marshal in the THIRTY YEARS WAR He studied at Altdorf and Tübingen and traveled throughout Europe In 1614 he was converted to Catholicism An imperial counselor, he abandoned his civil position for a military career and served Sigismund III of Poland and Maximilian I of Bavaria Pappenheim distinguished himself at the White Mt (1620) before entering the imperial service in 1623 From 1623 to 1625 he fought with the Spanish cavalry in Lombardy In 1626 his cavalry crushed a peasants' revolt in Upper Austria On May 20, 1631, he led the assault on Magdeburg, and the subsequent sack is generally written to Pappenheim's discredit He was defeated with TILLY by Gustavus Adolphus at Breitenfeld (1631), but his cavalry was later effective in raids on small bands of Swedish troops Fighting under WALLENSTEIN, he was mortally wounded at Lützen

Pappus (pă'pus), fl c 300, Greek mathematician of Alexandria He recorded and enlarged on the results of his predecessors in his *Mathematical Collection* (8 books, date conjectural) The 6½ extant books, edited and translated into Latin by Commandinus (1588), stimulated a revival of geometry in the 17th cent , Descartes expounded several of his problems and theorems in geometry The collection was reedited by Friederick Hultsch (1876–78). See T L Heath, *A Manual of Greek Mathematics* (1931)

Paps of Jura (jŏō'ru), three peaks, on Jura, Inner Hebrides, Scotland, S of Loch Tarbert The highest (2,571 ft) is Beinn-an-Oir [Scottish Gaelic,= mount of gold]

Papua, see NEW GUINEA

Papua, Territory of (pă'pūu), area (90,540 sq mi ; pop c 533,000), belonging to Australia and including the southeastern part of NEW GUINEA, TROBRIAND ISLANDS, WOODLARK ISLAND, D'ENTRECASTEAUX ISLANDS, and the LOUISIADE ARCHIPELAGO The capital is PORT MORESBY, which is also the temporary capital of the TERRITORY of New Guinea The area was annexed in 1883 by Queensland, and in the following year became a British protectorate In 1888 it was annexed to Great Britain as British New Guinea, since 1906 it has been governed by Australia as the TERRITORY of Papua

papyrus (pupī'rus), a sedge (*Cyperus papyrus*), now almost extinct in Egypt but so universally used there in antiquity as to be the hieroglyphic symbol for Lower Egypt and a common motif in art The roots were used as fuel, the pith was eaten The stem was employed for sandals, boats, twine, boxes, mats, sails, and cloth and most notably as a writing material (used in Egypt until the introduction of paper there in the 8th cent and exported throughout the Mediterranean world) This writing material, which was also called papyrus, was formed into sheets by laying lengthwise slices of the sedge side by side in two layers at right angles and pressing them together with an adhesive probably composed of their own juices and Nile water The sheets were glued end to end and rolled on wooden rods to form manuscripts Many examples have been recovered, especially in Egypt, and have furnished valuable literary and historical matter in Greek and other languages The science of papyrology is concerned with the study of these documents

Pará (pŭrä'), state (469,778 sq mi , 1940 pop 944,644, 1949 estimated pop 1,114,339), N Brazil, lying in the lower Amazon basin, S of the Guianas Belém is the capital It is a hot, humid region, drained by numerous tributaries of the Amazon, including the Tapajós, the Xingu, and the Tocantins The area has not been extensively developed, and the chief means of transport is by river steamer The main products are rubber, Brazil nuts, tropical hardwoods, and medicinal plants, which are exported through Belém Pará was the scene of revolts and disorders from 1832 to 1837, when imperial troops finally restored peace.

Pará, river, c 200 mi long, E Brazil 'Actually it is the southeastern arm of the Amazon, divided from the rest of the river by Marajó island It is an estuary, receiving also the waters of the Tocantins. The great port of Belém is on the right bank

parable, in the Bible The term is used in the Gospels not only for short illustrative narratives, but for figurative statements as well Mat 13, Mark 3 23, Luke 21 24–33 Old Testament parables include the ewe lamb (2 Sam 12 1–4), the boiling pot (Ezek 24 3–5), and the thistle and the cedar (2 Kings 14 8–10) The parables of Jesus include the barren fig tree (Luke 13 6–9), the drawnet (Mat 13 47–50), the Good Samaritan (Luke 10 29–37), the great supper (Luke 14 15–24), the hidden treasure (Mat 13 44), the importunate friend (Luke 11 5–8), the laborers in the vineyard (Mat 20 1–16), the leaven (Mat 13 33, Luke 13 20,21), the lost piece of silver (Luke 15 8–10), the lost sheep (Mat 18 11 14), Luke 15 3–7), the marriage feast (Mat 22 1–14) the mustard seed (Mat 13 31,32 Mark 4 30–32, Luke 13 18,19), the pearl of great price (Mat 13 45,46), the Pharisee and the publican (Luke 18 9–14), the pounds (Luke 19 11 27), the prodigal son (Luke 15 11–32), the rich fool (Luke 12 16 21), the rich man (Dives) and Lazarus (Luke 16 19 31), the seed growing secretly (Mark 4 26 29) the sower (Mat 13 3–9, 18–23, Mark 4 3 9, 14–20, Luke 8 4–15), the talents (Mat 25 14–30), the tares (Mat 13 24–30, 36–43), the ten virgins (Mat 25 1 13), the two debtors (Luke 7 40–50), the two sons (Mat 21 28–32), the unjust judge (Luke 18 1–8), the unjust steward (Luke 16 1–8), the unmerciful servant (Mat 18 23-35), the wicked husbandmen (Mat 21 33–45, Mark 12 1–12, Luke 20 9–19)

parabola (pŭră'bulu), a plane curve such that the distances from any point on it to a fixed point (focus) and a fixed line (directrix) are equal It is also a CONIC SECTION cut by a plane parallel to one of the elements of the cone The axis of the parabola is the line through the focus perpendicular to the directrix The vertex is the point in which the axis intersects the curve The *latus rectum* is the chord through the focus perpendicular to the axis Examples of this curve are the path of a projectile and the shape of the cross section of a parallel beam reflector The curve of the cable of a suspension bridge very closely approximates a parabola

Paracelsus, Philippus Aureolus (fĭlĭ'pus ôrēō'lŭs părusĕl'sus), 1493?–1541, Swiss physician, alchemist, and chemist He traveled widely, acquiring knowledge of alchemy, chemistry, and metallurgy, and although his egotism earned the enmity of learned men of his day, he won great renown, practicing medicine and lecturing in many cities He died in Salzburg, where a monument was erected to him in 1752 Paracelsus had a great influence on his own and succeeding centuries His learning was colored by many of the fantastic philosophies of his time, but he opposed the humoral theory of disease and taught the use of specific remedies. He introduced new medicines—opium, mercury, sulphur, iron, and arsenic—and was the author of numerous medical and occult works The first English translation of his writings was *One Hundred and Fourteen Experiments and Cures* (1596) He is the hero of Robert Browning's *Paracelsus* His real name was Theophrastus Bombastus von Hohenheim See *Four Treatises of Theophrastus von Hohenheim* (ed by H E Sigerist, 1941), studies by A M Stoddart (1911) and J M Stillman (1920)

parachute (pă'rushōōt), umbrellalike device attached to a body falling through the air and designed to protect that body from the effects of the fall This it does by offering resistance to the air Jean Pierre Blanchard claimed the invention of the parachute in 1785, and the first successful parachute descent from a great height was made in 1797 by Jacques Garnerin, who dropped 3,000 ft, from a balloon The development of modern aircraft has led to many experiments in the aerodynamic problems of parachute design, with the result that the parachute of today is a highly efficient instrument Such a parachute must permit slow descent, must be of little weight and small area, must retain its shape in descent and not become unbalanced, and must be of good stability A parachute consists, in general of a flexible material which when extended takes the form of an umbrella and from which a series of cords converge downward to a harness strapped to the user The inflation of the parachute must be under the easy control of its user, who must delay the opening until he is well clear of the aircraft in order to avoid entanglement or fouling The harness must be easily detachable when the earth is reached, since otherwise the parachutist might be drowned or might be injured by dragging along the ground. The rate of descent for man-carrying parachutes is about 16 ft per second Cargo parachutes are similar in appearance but are opened by the weight of the cargo pulling a long rip cord attached to the aircraft It is required by law that all non-emergency parachute jumps be made from at least 2,000 ft. above the ground or water. See H. S. Zim, *Parachutes* (1942).

Paraclete (pă'rŭklēt) [Gr.,=advocate], title of the HOLY GHOST, often translated as "Comforter" or "Advocate" John 14 16,26; 15 26, 16 7, 1 John 2.1

Paradise see EDEN, GARDEN OF, and HEAVEN

paraffin or paraffine (both pă'rufĕn, -fīn), in commerce, a mineral **wax**, a colorless, odorless, tasteless, waxy substance. It is used in making candles, tapers, and paper matches, in the sizing and waterproofing of many materials, and for sealing jellies and preserves Being very inert chemically, it is unaffected by most acids and alkalies Soft paraffin wax melts at 38° to 52°C and boils at 350° to 390°C, while hard paraffin wax melts at 52° to 56°C and boils at 390° to 430°C Paraffin is obtained in the distillation of wood, coal, and oil shale, but its chief commercial source is the fractional distillation of crude PETROLEUM (see also YOUNG, JAMES) The paraffin crystallizes out when the oil which remains after the gasoline and kerosene fractions have been distilled off is cooled, Chemically, paraffin is a mixture of hydrocarbons, chiefly the heavier members of the METHANE SERIES

Paragould (pă"rugōld), city (pop 7,079), co seat of Greene co, NE Ark, near the St Francis river, inc 1882 It has railroad shops and plants processing wood, cotton, and food

Paraguaçu (pă"rugwăsōō'), river, 300 mi long, rising in the center of Bahia state, NE Brazil, and flowing E to Todos os Santos Bay of the Atlantic Ocean It was formerly spelled Paraguassú

Paraguay (pă'rŭgwā, Span parägwī'), republic (c 170,000 sq mi, pop c 1,000,000), SE South America The capital and commercial center is Asunción One of the two inland republics of the continent, Paraguay is enclosed by Bolivia (the other inland republic), Brazil, and Argentina The eastern part of the republic, in which most of the Paraguayans live, lies between the Paraguay river and the Paraná, which forms the eastern and then the southern boundary, joining the Paraguay The northeastern section is separated from Brazil by the Apa river (a tributary of the Paraguay) and two small mountain chains The Paraná, S of the IGUASSÚ river (a name well known because of the falls), separates Paraguay from Argentina, and on the west the Paraguay river is also a boundary with Argentina as far north as the Pilcomayo river The section of Paraguay W of the Paraguay river is part of the CHACO and is bounded on the north by Bolivia This region is not now productive, although it is thought that there may be deposits of petroleum. Cattle are raised, and QUEBRACHO is found in the forests The principal agricultural products in the eastern region are cotton (the most important export), tobacco, sugar cane, manioc (mandioca), rice, beans, corn, and citrus fruits Small industries engage in processing some of this produce Rum, molasses, and alcohol are manufactured Paraguayan orange forests furnish three quarters of the world's supply of oil of petitgrain, used in perfumes and flavorings MATE (Paraguay tea) is used domestically and also exported There are meat-packing plants, and livestock plays an important part in Paraguayan economy Protective duties are levied on imported cotton textiles, rayon, wheat, gasoline, sugar, and shoes Customs duties furnish about one half of the country's revenues All the important cities are in the east Besides Asunción, they are Villarrica (in the southeast), Concepción (on the Paraguay river above Asunción), and Encarnación (on the Paraná river) One of the country's most difficult problems is transportation Though it is being solved to some extent by aviation, Paraguay is still dependent on its rivers The population is largely made up of a homogeneous mixture of Spanish and GUARANÍ strains, and Guaraní is spoken all over Paraguay today, though Spanish is the official language The Guaraní had a high material culture before the coming of the white man, and the Jesuit missions (the REDUCTIONS, operating from the late 16th to the 18th cent.) made it possible for their culture to blend with the Spanish In later days European immigrants—German, Italian, and French, with some Irish and some Scots—have added new elements to the distinctive civilization of Paraguay, which has arts and handicrafts showing the varied strains Perhaps the most notable of modern music, for instance, is the *guaranía*, a form developed by José Asunción Flores from native melodies Some writers, such as the dramatist Julio Correa, write in Guaraní, and the well-known historians, Cecilio Báez, Juan O'Leary, and Natalicio González, have tried to show the growth of the country's individuality. Among the handicrafts that express the mixed culture, lacemaking is notable Outside this compact group, there are "wild" Indians (particularly in the Chaco) who have little part in the national life The established religion is the Roman Catholic, but other faiths are tolerated, and Mennonites have founded settlements in the Chaco which expanded with the coming of refugees from Germany before and during the Second World War The beginnings of the Paraguayan history as such came with the explorations of the Río de la Plata, which introduced the white man Juan Díaz de SOLÍS was the first to come, and Sebastian Cabot followed him (1527) to the Paraguay river. That river promised access to Peru, and, indeed, the semilegendary García is said to have reached Peru via Paraguay before the PIZARRO conquest One of the main reasons for the voyages of Juan de AYOLAS and Domingo Martínez de IRALA was to seek a way across the continent. A colony grew up, as Asunción, founded in 1536 or 1537, became the center of the La Plata region, the remnants of unsuccessful colonies were in 1538 gathered there It was the center from which the new Buenos Aires and many of the Argentine cities (e g, Santa Fe and Corrientes) were founded Irala dominated the colony until his death, not excepting the unhappy period when Álvar Núñez CABEZA DE VACA was governor until deposed (1544) At the end of the 16th cent. the next in the series of forceful rulers of Paraguay, Hernando ARIAS DE SAAVEDRA, called Hernandarias, established Paraguay as virtually independent, it was through his efforts that the administrations of present Argentina and Paraguay were separated, and later the hegemony of the viceroyalty of Peru was not easily imposed The Jesuit missions were founded in the days of Hernandarias (most of them in the trans-Paraná area, now in Argentina) Real independence was asserted when in 1721 José de Antequera led the COMUNEROS of Asunción in successful revolt and governed independently for some 10 years In 1776 the region was made part of the viceroyalty of the Río de la Plata, but was relatively undisturbed by the troubles of Buenos Aires when the revolt against Spain was going its complicated course Manuel Belgrano was unsuccessful in carrying the revolution into Paraguay in 1810, but the next year the colonial officials there were quietly overthrown In 1814 the first of the three great dictators who were to mold Paraguay came to power He was José Gaspar Rodríguez FRANCIA, the incorruptible, harsh, and autocratic dictator known as El Supremo, and he kept Paraguay in the palm of his hand until his death in 1840 He was succeeded by another dictator, Carlos Antonio LÓPEZ, who held absolute power from 1844 to 1862 His son, Francisco Solano LÓPEZ, succeeded him and sought to increase the power of the little country by vigorous measures The result was disaster, when the combined forces of Brazil Argentina, and Uruguay set upon small Paraguay (1865–70, see TRIPLE ALLIANCE, WAR OF THE) The Paraguayans fought heroically for their country and their ruler until the population was decimated and the country in ruins Recovery from the catastrophe was slow, and the desperate state of the economy was matched by political confusion, as warring *caudillos* established short-lived dictatorships Nevertheless, in the late 19th and early 20th cent conditions improved hopefully Trade increased as Paraguayan products found markets, immigration was encouraged, and farming and modest little industries prospered fitfully The unsettled boundary with Bolivia, however, turned from an irritation into a threat, and in 1932 Paraguay plunged into another major war—the CHACO WAR, which lasted until 1935 From it the little country emerged victorious but exhausted The rapid succession of governments afterward was broken by the years when Higinio MORÍNIGO was in power (1940–48) Paraguay took part with the Allies in the Second World War Signs of recovery from the Chaco War appeared in improvements in education, public health, and roads, but the oppressive militaristic dictatorship of Morínigo was challenged by numerous uprisings That in 1947 lasted many months, and in 1948 President-elect Natalicio González ousted Morínigo by a coup He was himself ousted in Jan, 1949, a third coup took place in Feb., 1949, and a fourth in Sept, 1949 See C A Washburn, *History of Paraguay* (1871, violently hostile to dictators), P H Box, *The Origins of the Paraguayan War* (1927), A E Elliott, *Paraguay Its Cultural Heritage, Social Conditions, and Educational Problems* (1931), H G Warren, *Paraguay an Informal History* (1949).

Paraguay, river, c 1,300 mi long, rising in Mato Grosso state, W Brazil, with headstreams in E Bolivia It flows generally southward and is the border between Brazil and Paraguay in a flood-plain region Below the entrance of the Apa from the east, it crosses the center of the republic of Paraguay, dividing the CHACO from agricultural E Paraguay Two large tributaries come in from the west, the Pilcomayo and the Bermejo Below the Pilcomayo, the Paraguay trends southwest as the western boundary of Paraguay with Argentina and joins the PARANÁ. The Paraguay is one of the most important streams of the Río de la Plata system. Its largest port is ASUNCIÓN.

Paraguay tea see MATE.

Parah (pā'ru) [Heb.,=heifer], Benjamite city Joshua 18 23. It has been tentatively located c 5 mi. NW of Jerusalem.

Paraíba or Parahiba (both pärue'bŭ), state (21,780 sq mi; 1940 pop. 1,422,282; 1949 estimated pop 1,716,960), NE Brazil Its capital is João Pessoa (formerly also called Parahiba), on the Atlantic Ocean. Paraíba is primarily an agricultural area (chiefly cotton), but it has suffered from periodic droughts. Several mineral deposits (copper and tin) are worked It was settled by the Portuguese in 1584.

Paraíba or Paraíba do Sul (dōō sōōl), river, c.600 mi. long, rising W of RIO DE JANEIRO, SE Brazil. It flows southwestward to a point NE of Sao Paulo, where it turns sharply and continues in a northeasterly direction to the Atlantic, which it reaches near Campos Its beautiful valley produces rice, sugar cane, and livestock

parakeet or parrakeet (pă'rŭkēt), name applied to various small parrots native to Australia, Polynesia, Asia, and Africa. The Carolina parakeet once abundant in the E and S United States is believed to be extinct A common cage bird is the shell parakeet or zebra parakeet, also known as the undulated grass parakeet and the budgereegah Bright green predominates in the plumage, the head is yellow, the wings are grayish green and the black markings on the wings are shaped like shells The blue and black tail is long and narrow. Some breeders call the bird a love bird but the true love birds are chiefly of African origin and differ from the parakeet in having rather short wide tails and short bodies The love birds build nests and parakeets do not

Paralipomenon see CHRONICLES.

parallel (pă'rulĕl"), of latitude, an imaginary line drawn around the earth joining all points equally distant from the equator By means of the parallels, LATITUDE is reckoned from the equator (lat 0°) northward along any meridian to the North Pole (lat 90° N) and southward to the South Pole (lat 90° S) On most globes and maps only a few of the many possible parallels are shown, usually in multiples of 5° Almost always, however, because of their special meaning, four fractional parallels are shown in addition. These are the Tropic of Cancer (lat 23½° N) and the Tropic of Capricorn (lat 23½° S)—marking the limits of that part of the globe where the sun's rays ever fall vertically—and the parallels of 66½° N and 66½° S, called respectively the Arctic Circle and the Antarctic Circle, at which the noon rays of the sun are tangent to the earth's surface on the shortest day of the year and at which the midnight rays are tangent on the longest day

paralysis or **palsy** (pôl'zĭ) Complete loss of motion or of sensation is termed paralysis, and a weakened power of motion is usually called paresis The lesion causing the loss may be located in the brain, spinal cord, or nerves or in the muscles themselves Accordingly there may be general paralysis, right or left side paralysis (hemiplegia), paralysis on both sides at one level (paraplegia), or paralysis in a small group of muscles The causes include injuries, such as fracture resulting in tearing of tissues, compression, or hemorrhage, tumor, abscess, infectious diseases such as diphtheria, poliomyelitis, and syphilis, and toxic substances, such as lead and alcohol *Paralysis agitans* or Parkinson's disease is a form of paralysis accompanied by a tremor It is also called shaking palsy Cerebral palsy is usually caused by a breakdown in brain motor tissue from an injury at birth Rehabilitation is possible through reeducating other parts of the brain to control activities normally governed by the injured section Some authorities believe that the incidence of cerebral palsy can be lowered through proper medical care during and after childbirth Partial or complete paralysis is often the result of multiple sclerosis, a disease of the brain and spinal column, which attacks a soft substance known as myelin that surrounds the nerve fibers Treatment consists mainly of reeducating muscles, preventing atrophy of muscles, and restoring coordination Paralysis also sometimes occurs in apoplexy.

Paramaribo (pă"rumă'rĭbō), city (pop 71,238), capital of Dutch GUIANA, a port on the Surinam river In 1650 it was made the capital of what was then the new English colony by Lord Willoughby of Parham It is an attractive, clean city, with canals which are reminiscent of the Netherlands Connected with the interior by a single railroad, Paramaribo exports the leading products of Dutch Guiana—rum, coffee, timber, and bauxite

Paramus (purä'mus), residential borough (pop 3,688), NE N J, NE of Paterson, settled 1666, inc 1922 It has an early Dutch church.

Paran (pā'răn), desert, probably S of Beersheba, where Ishmael settled, and also the first resting place of the Israelites after Sinai and the refuge of David when Samuel died Gen 21 21, Num 10 12, 13 3,26, 1 Sam. 25.1 El-paran Gen 14 6 See also Deut 1.1; 33.2, 1 Kings 11 18; Hab. 3.3.

Paraná (pärăna'), state (77, 717 sq. mi., 1940 pop 1,236,276, 1949 estimated pop. 1,492,416), S Brazil, between the Paraná river and the Atlantic Ocean. The capital is Curitiba. A fertile area with a fine climate, Paraná grows coffee, cotton, and fruit. Its population includes many Italians, Germans, and Slavs.

Paraná (pärăna'), city (1945 estimated pop. 79,654), capital of Entre Ríos prov., NE Argentina, a port on the Paraná river. It is the center of a grain and cattle district, there is an agricultural school near by. Founded in 1730, Paraná was the capital of the Argentine confederation from 1853 to 1861.

Paraná, river, c. 2,050 mi. long, formed in S Brazil by the junction of the Paranaíba and the Rio Grande. It flows south and west to its confluence with the Paraguay and then south and east through the northern section of Argentina to join the Uruguay at the head of the Río de la Plata. It is navigable by large river boats as far as Corrientes and by smaller craft to Posadas and the Iguassú, its other ports include Paraná, Santa Fe, and Rosario

Paranaíba (pä"rənäē'bə), river, c 500 mi long, rising in W Minas Gerais state, E central Brazil, and flowing generally westward to join the Rio Grande in forming the Paraná Diamonds are washed along its course The name formerly was spelled Paranahyba

paranoia (pă"rənoi'ə), type of PSYCHOSIS or mental disorder There is no evidence of organic damage or cause in the condition It is characterized by persistent, logically reasoned delusions, commonly a DELUSION of persecution or of grandeur In the former case, the paranoiac may do violence to the imaginary persecutor, in the latter, he may see himself as an exalted person with a mission of great importance to accomplish The paranoiac characteristically shows few signs of mental disintegration True paranoiacs are rare, those displaying paranoid reactions very often being predominantly schizophrenic (see SCHIZOPHRENIA) Psychiatrists generally believe that remission (i e , subsiding of the condition) in cases of paranoia have rarely, if ever, occurred

parapsychology see PSYCHICAL RESEARCH

Para rubber tree (pura', pä'ru), large tree, *Hevea brasiliensis*, of the spurge family, native to tropical South America The chief source of natural RUBBER, it is cultivated also in other tropical countries, especially in the Pacific region It yields the finest quality of rubber, which is obtained by coagulating with formic acid or with acetic acid the latex or milky juice of the inner bark The acid causes the rubber globules in the latex to cohere and float to the surface, where the lump rubber (coagulum) is collected, this is rolled into sheets or thinner strips (crepe rubber) and dried for shipment The Para rubber tree requires a climate with a temperature averaging around 80°F and an annual rainfall of about 80 in The tree grows from 60 to 100 ft in height and from about 8 to 10 ft in circumference When it is between five and seven years old the tree is first tapped for its latex The most common tap consists of a narrow cut or shaving into the inner bark running at an angle of 30° from the horizontal and forming from one third to one half of a spiral around the trunk The first tap is usually made at a height of about 3½ ft on the trunk, with a thin shaving taken off the bottom of the cut at each subsequent tapping The tree is tapped throughout the year (usually in the early morning when latex flow is greatest), on alternate days, or daily in alternate weeks or months, the quantity of the latex increases with the age of the tree The seeds of the Para rubber tree are planted in nurseries, and the seedlings later set out in orchards Seeds from trees of high productivity do not always grow into trees of equally high yield Since the bud of the tree seems to determine the quantity of latex that will be produced, buds from high-yield trees are often grafted on the seedlings Sometimes other trees yielding latex are called Para rubber trees

parasite (pă'rəsīt), plant or animal which at some stage of its existence obtains its nourishment from another living organism called the host Parasites include members of many plant and animal groups, and nearly all living things are at some time hosts to parasitic forms Many bacteria are parasitic on external and internal body surfaces, some of these invade the inner tissues and cause disease (e g , typhoid fever, tuberculosis, and some types of pneumonia) Protozoan parasites which attack man include *Amoeba* (or *Endamoeba*) *histolytica*, the cause of amoebic dysentery and liver abscess, and the several species of *Plasmodium* responsible for the three main types of malaria Parasitic worms include the FLUKE, the TAPEWORM, and the trichina (the cause of TRICHINOSIS) Crabs are parasitized by a degenerate form of the genus *Sacculina* which resembles a tumorous growth on the abdomen of the crab, only by a study of its embryology was it discovered that the parasite, too, is a crustacean animal Insects that live as external parasites on many of the higher animals include the FLEA and the LOUSE Fish are frequently attacked by parasitic fungi Parasitic plants cause great losses among food crops and trees (see BLISTER RUST, RUST, SMUT) Organisms which obtain their nourishment from organic matter but not from a living host are called saprophytes These include the mushroom and the Indian pipe An AIR PLANT or epiphyte, although it lives in association with another plant, is not a parasite

paratyphoid (pă"rətī'foid), infectious disease similar to TYPHOID and caused by several strains of a related bacterium (*Salmonella paratyphi* and *S. schottmuelleri*). It is usually a less serious disease Mild cases are sometimes mistaken for food poisoning. It is preventable by VACCINATION

Paray-le-Monial (pärā'-lə-mônyäl'), town (pop. 6,240), Saône-et-Loire dept , E central France, in Burgundy, N of Roanne Here in the 17th cent. St MARGARET MARY founded the cult of the Sacred Heart of Jesus With the growth of the cult in the 19th cent Paray-le-Monial became one of the major places of pilgrimage in France, second only to Lourdes The Romanesque Church of Notre Dame dates from the 12th cent

Parbar (pär'bär), part of the Temple at Jerusalem. 1 Chron 26 18

Parca (pär'kə), Roman goddess of childbirth Her name was pluralized (PARCAE) and applied to the FATES

parcel post. At the congress of the Universal Postal Union in Paris in 1878, an international parcel-post system was established The British parcel-post bill, passed in 1882, put into effect the next year domestic, colonial, and foreign services Various other countries established such systems, the United States entered into conventions with other governments to convey parcels sent into the country but delayed for many years instituting a domestic service David J Lewis advocated a parcel-post measure in 1911 while serving in the House of Representatives The bill was finally enacted in 1912, and service began in 1913, with eight zones At first the weight was limited to 11 lb , by 1919 it was raised to 70 lb The parcels can be insured for a fee of from five cents up Other fees provide for special handling and special delivery A water route for parcel post via coastwise steamers was started in 1917, and a fleet of motor trucks was put into operation in the East the next year Parcel-post delivery on rural routes was established in 1919, making it possible for farmers to ship eggs and other produce direct to the consumer Small live animals "which do not require food or water while in transit" are accepted In 1931 parcel-post regulations were changed so that 100 in was the limit for girth and length combined and 70 lb for weight Merchandise may be sent C O D even to foreign countries In 1933 the Morgan Parcel Post Station, New York city, with unique machinery to facilitate handling, was completed, it was the first government-owned building exclusively for parcel post Auctions are held quarterly every year for the sale of "dead" parcels

parchesi see BAGGAMMON

parchment, the untanned skins of animals, especially the sheep, calf, and goat, prepared for use as a writing material The name is a corruption of Pergamum, the city where the preparation of parchment suitable for use on both sides was achieved in the 2d cent B C Parchment, which is more durable than papyrus and susceptible of being folded into book form, very gradually superseded papyrus In Europe it gave way to paper for use in books only after the advent of printing The skins were soaked in water, treated with lime to loosen the hair, scraped, washed, stretched, and dried, then rubbed with chalk and pumice stone A fine grade prepared from the skin of the calf or kid became known as vellum, a name applied during the Middle Ages to any parchment used in manuscripts For important manuscripts vellum was often dyed purple Parchment is still used for certain documents and diplomas and for book bindings, lamp shades, and the heads of drums, tambourines, and banjos Vegetable parchment is paper treated to make it tough, translucent, and impervious to water

Pardeeville (pär'dēvĭl"), village (pop 1,001), central Wis , E of Portage and on the Fox, inc 1894

Pardo, Manuel (manwĕl' pär'dō), 1834–78, president of Peru (1872–76) After assisting José BALTA in establishing a constitutional government, Pardo succeeded him as president To recover from the monetary ruin brought on Peru by the Balta regime, he advocated financial and administrative reforms His term is chiefly noted for the signing (1873) of the treaty of alliance with Bolivia which led to war with Chile (see PACIFIC, WAR OF THE) in 1879 Later, because of his opposition to militarism, he was assassinated by a soldier He is remembered for his benevolence and humanitarianism and especially for his services during the yellow-fever epidemic of 1867

Pardo Bazán, Emilia, condesa de (āmē'lyä kōndä'sä dā pär'dhō bathän'), 1852–1921, Spanish novelist and critic She was the most brilliant woman writer of 19th-century Spain and received her title in recognition of her excellence Her biography of St Francis of Assisi appeared the same year as *La cuestión palpitante* (1883), a critical analysis and defense of Zola's naturalism Her realistic novels of her native Galicia include *El cisne de Vilamorta* (1885, Eng tr , *The Swan of Vilamorta*, 1891), *Los pazos de Ulloa* (1886) and its sequel, *La madre naturaleza* (1887), usually considered her best work, and *Morriña* (1889, Eng tr , *Morriña—Homesickness*, 1891) *Insolación* (1889) and *Un viaje de novios* (1881, Eng. tr , *A Wedding Trip*, 1891) are not laid in Galicia.

pardon, in law, exemption from punishment for crime granted by the grace of the executive of a government A general pardon to a class of persons guilty of the same offense (e g , insurrection) is an amnesty. A pardon (at least in the United States) absolutely terminates criminal liability (though the pardoned person is not exonerated from the civil liability which his action may have incurred) and in effect negates the commission of the crime. A pardon is thus to be distinguished from alleviation of punishment (such as commutation of sentence, reprieve, and parole), which involves recognition of criminal guilt The Constitution of the United States gives the President power to grant reprieves and pardons for all Federal crimes, but he may not release a person from the effects of impeachment In most of the states the governor has nearly the same power in respect to state crimes Usually, as in New York, the governor may not pardon those convicted of treason or criminal contempt of court In canon law pardon is ABSOLUTION (see also PENANCE), in the Middle Ages the word was used commonly to mean an INDULGENCE (hence pardoner, a dispenser of indulgences)

Pardubice (pär'dōōbĭtsĕ), Ger *Pardubitz* (pär'dōōbĭts), city (pop 31 420), N Bohemia, Czechoslovakia, on the Elbe It has an oil refinery and other industries There are many notable Gothic and Renaissance buildings Horse races are held here

Paré, Ambroise (äbrwaz' parā'), c 1510–1590, French army surgeon Known especially, for his advancement of more humane methods in medicine, he reintroduced the ligature in amputations, abandoned the boiling-oil treatment of wounds, promoted the use of artificial limbs, and introduced podalic version in childbirth His works on these and other subjects were printed in several languages See study by F R Packard (1921), bibliography of his works by Janet Doe (1937)

Paredes y Arrillaga, Mariano (märyä'nō parā'dhās ē ärēyä'gə), 1797–1849, Mexican general and president (1846), a monarchist and the leader of the ultraconservatives He helped to put SANTA ANNA into the presidency in 1841, but was soon opposing him In 1845 Paredes led a revolt against José Joaquín HERRERA, charging that Herrera was compromising the honor of Mexico by negotiating with the United States concerning Texas Paredes was successful, and the country was plunged into the Mexican War He was made president, but Mexico was in a state of anarchy, and the return of Santa Anna destroyed the hopes of Paredes, who went into exile After the war he led an unsuccessful revolution

paregoric (pă"rəgŏ'rĭk, -gō'rĭk), an anodyne, consisting of a camphorated tincture of opium It is a constituent of many cough mixtures

Pareja, Juan de (hwän' dā pärā'ha), c 1608–1670, Spanish religious and portrait painter, mulatto slave and assistant of Velázquez As it was illegal for a slave to paint, he was given his freedom, but he continued all his life to work for Velázquez and his family *The Calling of St Matthew* (Prado), one of his best works, shows much technical ability

Parent, Étienne (ātyĕn' pärā'), 1801–74, French Canadian journalist, b near Quebec, educated at the College of Nicolet and the Quebec seminary In his career as editor of the *Canadien*, he attained a commanding position in French Canadian journalism and inspired many French Canadian writers In the rebellion of 1837, Parent took no part, but he was briefly imprisoned for his attacks on the government Appointed (1847) undersecretary for Lower Canada, he later served (1867–73) as undersecretary of state in the dominion government

parent and child. The law attaches certain rights and duties to the relation of parent and child The parents are ordinarily obliged to support the child, and they usually have the right to his custody In earlier times the father's right was superior to that of the mother, but today, in the absence of special factors, most courts favor the mother in the belief that her care better serves the child's well-being When neither parent is fit to perform his duties, custody may be awarded to other persons or to institutions In case of divorce the court usually, but not necessarily, awards the custody of the child to the innocent party, custody may also be divided between the parents The mother of an illegitimate child has the right to his custody, but the father usually must contribute to the child's support Whoever has the lawful custody of a child has the right to correct or punish him if the means used are not excessive At common law parents had no right to support by a child, even though they were destitute and infirm. This rule has, however, been changed in many states by statute The parents are entitled to a minor child's services, and consequently to his earnings, if the child lives with them and is supported by them, and if their child is injured through negligence, they may bring suit for loss of his services Emancipation is the dissolution of the parent-child relation It may occur if the parents abandon the child, or at the parents' option (but usually not before 18 years), or when the child marries or attains majority The administration of the laws governing the parent-child relationship has been much affected in recent years by new doctrines in psychology Freudian theories hold that the relationship of an individual to his parents

in early years is a determining factor in the shaping of personality and attitudes (see OEDIPUS COMPLEX) See also GUARDIAN AND WARD, ADOPTION; LEGITIMATION

parent education, movement to help parents' understanding of the problems of child life at home and in the school Much parent education is carried on through the channels of adult education, both formally and informally The Child Study Association (founded 1888) and the National Congress of Parents and Teachers (founded 1897) are active in disseminating literature and promoting discussion groups Many schools have parent-teacher associations The United Parents Associations of New York City is an example of the unification of various groups into one coordinating agency See E C Lombard, *Parent Education Opportunities* (1935), M M Shirley, *Can Parents Educate One Another?* (1938), S M Gruenberg, *We, the Parents* (1939) and *The Use of the Radio in Parent Education* (1939), H E Hanford, *Parents Can Learn* (1940), bibliography by L R Stebbings and C S Hughes, *Child Training and Parent Education* (2d ed revised, 1939)

parenthesis see PUNCTUATION

Pares, Sir Bernard, 1867–1949, British author, authority on Russia Pares, who made some 20 trips to Russia, was attached to the Russian army in the First World War He supported the Kerensky regime after the Revolution of 1917 After that time he became a foremost interpreter of the USSR His books include *Russia and Reform* (1907), *History of Russia* (1926, rev eds, 1928, 1937, 1947), *My Russian Memoirs* (1931), and *Russia and the Peace* (1944) See his autobiography, *A Wandering Student* (1948)

Pareto, Vilfredo (vēlfrā'dō pärā'tō), 1848–1923, Italian economist and sociologist, b Paris, of an exiled family of marquises who returned to Italy in 1858 He studied mathematics and engineering in Turin and worked as an engineer for many years, meanwhile becoming increasingly interested in social and economic problems His economic writings won him (1893) a professorship of political economy at the Univ of Lausanne His notable contribution in applying mathematics to economic theory is found especially in *Cours d'économie politique* (1896–97) In his sociological studies he sought to differentiate the rational and nonrational factors in social action He used this concept as the basis for his theory of the cyclical development and fall of governing elite groups The theory was incorporated into the ideology of the Italian Fascists His chief work, *Trattato di sociologia generale* (1916), has been translated as *Mind and Society* (4 vols, 1935) See G C Homans and C P Curtis, Jr, *An Introduction to Pareto His Sociology* (1934), study by Franz Borkenau (1936)

Paria, Gulf of (pur'ya), between the mainland of Venezuela and the island of Trinidad Almost entirely enclosed by Trinidad on the east and south and the Venezuelan peninsula of Paria on the north, it connects with the Atlantic by two straits

pariah (pur'ı̇a, pä'rēu), a native of India of low CASTE and therefore, in ordinary usage, a term for the outcast The pariah does not belong to any of the four chief castes The pariah dog is a half-savage mongrel and scavenger found in many parts of India

Parian marble see PAROS

Paricutín (parēkōōtēn'), volcano, *c* 8,200 ft high, Michoacán, W central Mexico A remarkable example of a volcano in growth, Paricutin erupted from a field on Feb 20, 1943, and began its rise, which was in 1950 still continuing The name, derived from a Tarascan name, is sometimes given as Parícutin (parē'kōōtēn), but Paricutin has become the more accepted form

Parini, Giuseppe (jōōzĕp'pā parē'nē), 1729–99, Italian poet, a priest and a teacher When the French occupied Milan (1796), Parini was called upon to take public office, and he played his part with energy and judgment His verse is polished and sincere, and his odes (in definitive posthumous editions) had much influence Best known is *Il giorno* [the day], which appeared in several parts (1763–1801), a mock-didactic poem telling the young nobleman how to act all day It is remarkable for maintaining the elevated style throughout, by this means the satire is sharpened to the point of savagery Parini also wrote lyrics, a drama, critical essays, and dialogues

Paris or **Alexander,** in Greek legend, Trojan prince, son of PRIAM and HECUBA His parents, frightened by a prophecy that he would cause the destruction of Troy, sent him to be exposed on Mt Ida, but instead he was reared a shepherd and loved OENONE Athena, Hera, and Aphrodite chose him as judge in their dispute over the APPLE OF DISCORD, inscribed "for the fairest" Athena offered him victory in war, Hera royal power, and Aphrodite the most beautiful woman in the world Paris chose Aphrodite He traveled to Sparta, met HELEN, and eloped with her This caused the TROJAN WAR, in which Paris killed Achilles and was himself mortally wounded by Philoctetes

Paris, Gaston (gästō' pärēs'), 1839–1903, French Romance philologist, son of Pauln Paris He taught (1868–72) at the École des Hautes Études and after 1872 was a professor at the Collège de France, which he directed for a time. He continued the work of his father in studying medieval French literature and became one of the founders of modern Romance philology He edited the *Revue critique*, founded *Romania*, and wrote monographs and critical and historical works on literature He also edited numerous texts and sought with some success to popularize stories from the Old French.

Paris, Henri Robert Ferdinand d'Orléans, comte de: see ORLÉANS, family

Paris, Louis Philippe Albert d'Orléans, comte de: see ORLÉANS, family

Paris, Matthew see MATTHEW OF PARIS

Paris, Paulin (Alexis Paulin Paris) (pōlē' parēs', alĕksēs'), 1800–1881, French scholar, noted for his researches in medieval French literature His studies include *Les Manuscrits français de la Bibliothèque du Roi* (7 vols, 1836–48) and *Les Romans de la Table ronde* (5 vols, 1868–77)

Paris (pă'rı̇s), town (pop 4,637), S Ont, on the Grand River and W of Hamilton It has textile mills

Paris (pă'rı̇s, Fr parē'), city (pop 2,691,473), capital of France With its suburbs it virtually covers SEINE dept (pop 4,775,711) Situated on the Seine, in the center of the Paris basin (see ILE-DE-FRANCE), and only 90 mi from the English Channel, Paris is the commercial, industrial, and intellectual center of France Its river port handles more volume than any other French port Its major railroad stations (Gare de l'Est, du Nord, Saint-Lazare, Montparnasse, d'Orsay, d'Austerlitz, de Lyon), the two complete circuits surrounding the city, and its two chief airports (Le Bourget, Orly) make Paris the communications center of Western Europe Rapid internal communication is assured by a very ramified subway system (*métropolitain* or *métro*) Most of the heavier industries are concentrated in large suburbs, the city itself specializes in luxury products (fashions, perfumes, cosmetics, jewelry), in which it has long led the world and which are an essential part of the French economy Intellectually and artistically, Paris was the "city of light" long before the lavish illumination of its grand arteries and monuments gave the name a material meaning as well Divided into 20 *arrondissements* (boroughs), Paris is governed by a municipal council The Seine is the chief natural division The right (northern) bank (with the BOIS DE BOULOGNE, ARC DE TRIOMPHE, CHAMPS ÉLYSÉES, Place de la CONCORDE, OPÉRA, COMÉDIE FRANÇAISE, and the LOUVRE, the great boulevards, the celebrated Rue de la Paix, and Place Vendôme) is the center of fashions, commerce, business, and amusements It is dominated on the north by MONTMARTRE, highest point of Paris, topped by the Church of SACRÉ-CŒUR Toward the east are the MARAIS, a piece of 17th-century Paris, and the Place de la BASTILLE The left bank (with the SORBONNE, the FRENCH ACADEMY, the PANTHEON, the LUXEMBOURG PALACE and gardens, the Chamber of Deputies, the QUAI D'ORSAY, the Hôtel des INVALIDES, and MONTPARNASSE) is the intellectual, governmental, and military section The old Latin Quarter, for nearly a thousand years the preserve of university students and faculty, and the aristocratic Faubourg Saint-Germain are the most celebrated left-bank districts The EIFFEL TOWER, chief landmark of Paris, stands by the Seine on the CHAMPS DE MARS The historical nucleus of Paris is the Île de la Cité, a small boat-shaped island largely occupied by the huge Palais de Justice and the Cathedral of NOTRE DAME DE PARIS It is connected with the smaller Île Saint-Louis, occupied by elegant houses of the 17th and 18th cent Characteristic of Paris are the tree-lined *quais* along the Seine (famed, on the left bank, for their innumerable open-air bookstalls) and the vast tree-lined boulevards which from the 17th cent began to replace the city walls Much of Paris is planned on a grandiose scale unequaled elsewhere, much remains that is as picturesque as it is unsanitary, and much is drab and mediocre Yet the city possesses an indefinable unity of atmosphere that has fascinated writers, poets, and painters for centuries There are no better guides to Paris than Villon, Balzac, Hugo, Baudelaire, and Proust. After Caesar's conquest, the Gallic fishing hamlet on the Île de la Cité grew into a town (Lutetia Parisiorum), which spread to the left bank and acquired considerable importance under the late emperors The vast catacombs at Montparnasse and the baths (part of the CLUNY MUSEUM) remain from that period Legend says that St DENIS, first bishop of Paris, was martyred on Montmartre (named after the event), and that in the 5th cent. St GENEVIEVE, patron of Paris, through her prayers preserved the city from destruction by the Huns Clovis I and several other Merovingian kings had their capital in Paris, which under Charlemagne became a center of learning After devastating raids by the Norsemen, Paris was refortified and successfully defended (885–87) by Eudes and GOZLIN The Norse raids caused recurrent famines, and Paris resumed its growth only after HUGH CAPET, count of Paris, became (987) king of France. The Capetians firmly established Paris as the French capital Development begun (late 12th cent) by Louis VII, continued by Philip II and Louis IX, and completed (early 14th cent) by Philip IV brought Paris to its medieval flowering. SAINT-GERMAIN-DES-PRÉS, Notre Dame, SAINTE-CHAPELLE, and the first Louvre were built in that period, streets were paved and the city walls enlarged; the Parlement of Paris and the STATES-GENERAL were established, and the schools of the left bank were now merged in the Sorbonne, which ALBERTUS MAGNUS and St THOMAS AQUINAS made the fountainhead of theological learning The prosperous merchants and guilds obtained their own municipal government, headed by the provost of the merchants, whose counterpart, the provost of Paris, represented the king The members of the university (clerics) were under the autonomous ecclesiastic jurisdiction of the Sorbonne From its prosperity also dates the rebellious spirit of Paris. In 1358, under the leadership of Étienne MARCEL, Paris first assumed the role of an independent commune (see COMMUNE OF PARIS) and rebelled against the dauphin (later CHARLES V) The Hundred Years War brought civil strife (see ARMAGNACS AND BURGUNDIANS), English occupation, famine, and the Black Death Reconquered from the English in 1436 (six years after Joan of Arc was captured while attempting to take it), Paris recovered quickly, yet the picture given of Paris under Louis XI by François Villon still shows conditions as fairly primitive In the 16th cent the Renaissance made its appearance, Francis I and Marie de' Medici rebuilt the Louvre and built the TUILERIES, the Luxembourg, and the Hôtel de Ville In the Wars of Religion (1562–98) the Parisians, siding with the Catholics, perpetrated the massacre of SAINT BARTHOLOMEW'S DAY (1572), forced HENRY III to leave the city on the Day of Barricades (1588), and allowed HENRY IV to enter the city only after his conversion (1593) to Catholicism Under Louis XIII, RICHELIEU made Paris the intellectual as well as political hub of Europe The archiepiscopal see was established in 1622 During the FRONDE (1648–53) Paris once more defied the royal authority Louis XIV transferred his court to VERSAILLES, thus gaining safety from, but also losing contact with, the people Parisian industries profited from the lavishness of Versailles, the specialization in luxury goods dates from that time J H MANSART under Louis XIV and François MANSART, J G SOUFFLOT, and J A GABRIEL under Louis XV created some of the most majestic prospects of modern Paris The classical age of Molière and Racine, the Age of Enlightenment of Diderot and Alembert, the international salons of Mme du Deffand, Geoffrin, and Helvétius, the scientific work of Lavoisier and Buffon—everything pertaining to intellect, taste, and luxury was concentrated in Paris On the eve of the French Revolution, Parisian society was locked in mortal struggle at the opera, taking sides for Gluck or for Piccinni Yet the growing industries had resulted in the creation of new classes—the industrial bourgeoisie and the proletariat concentrated in such suburbs (*faubourgs*) as Saint-Antoine and Saint-Denis, when Louis XVI called the fateful States-General of 1789 to Versailles, these mobs, ignored till then, hauled the royal family to Paris, stormed the Bastille, and formed the revolutionary commune (see FRENCH REVOLUTION) Napoleon I, crowned emperor at Notre Dame in 1804, began replanning the city The two triumphal arches, the Vendôme Column, the arcaded Rue de Rivoli, and the enrichment of the museums with conquered art treasures were due to him Twice occupied by the allies (1814, 1815), Paris, after the Bourbon restoration, expanded rapidly In 1817 it had 714,000 inhabitants, in 1861 there were 1,696,000 The July Revolution (1830) and the FEBRUARY REVOLUTION of 1848 again were signals heard by all of Europe In letters, music, and painting Paris also led Balzac, Hugo, Chopin, Liszt, Berlioz, Wagner, Ingres, Delacroix, Daumier, are but random names among those associated with the Paris of the era of romanticism Most of modern Paris dates from Napoleon III The great avenues, boulevards, and parks were the work of HAUSSMANN This period of ostentatious prosperity was interrupted by the FRANCO-PRUSSIAN WAR, the bitter siege of Paris, and the Commune of Paris of 1871 and its reprisal Recovery came soon under the Third Republic, and modernization proceeded rapidly In the First World War, though shelled by long-range guns, Paris remained the unattained goal of the Germans After 1919 the last ring of fortifications was replaced by housing developments, among which the Cité Universitaire, residence for thousands of students, is outstanding It was occupied by the Germans on June 14, 1940 After the Allied invasion of Normandy, Paris was liberated by its own resistance forces, the German garrison surrendered on Aug 25, 1944, after French and American troops had entered the city Only outlying districts had suffered appreciable war damage, but the population continued to suffer from inadequate food and fuel supply and high prices Austerity and drabness, inevitable sequels of the war, did not affect,

however, the continued vitality of the traditional Parisian industries or its intellectual ferment. See Fedor Hoffbauer, *Paris à travers les âges* (2 vols, 1875–82), Fernand Bournon, *Paris* (1887); M S C Smith, *Twenty Centuries of Paris* (1913), Marcel Poëte, *Une vie de cité* (3 vols, 1924–27)

Paris (păr'ĭs) **1** City (pop 3,430), a co. seat of Logan co, W Ark, ESE of Fort Smith, in the Ouachita foothills, a coal-mining and farming region The Subiaco College and Abbey (Benedictine) are near by **2** City (pop 9,281), co seat of Edgar co, E Ill, ESE of Decatur near the Ind line, inc 1853 An industrial and rail center in a farm and coal area, it produces brooms, shoes, and metal products Lincoln practiced law here **3** City (pop 6,697), co seat of Bourbon co, N Ky, NE of Lexington and on the South Fork of the Licking, in the bluegrass region, founded 1789 It is a bluegrass-seed and livestock market and has tobacco storehouses An early distillery here (1790) was one of the first in the state, whisky from the region was called bourbon after the county Among many fine old buildings in the vicinity is "Mt Lebanon" (1786) **4** Town (pop 4,094), co seat (since 1805) of Oxford co, W Maine, NW of Auburn, settled 1779, inc 1793 It includes the villages South Paris and West Paris and the residential Paris Hill, birthplace of Hannibal Hamlin and site of a stone jail (1828) converted into a memorial library Feldspar works and wood-processing factories are in Paris **5** City (pop 1,473), co seat of Monroe co, NE Mo, on the Middle Fork of the Salt river and WSW of Hannibal, in a farm area, laid out 1831 **6** City (pop 6,395), co seat of Henry co, W Tenn, near the Ky line, in an area of farms, clay pits, and timber, laid out and inc 1823 It has railroad shops, cotton gins, and factories producing cosmetics and pottery **7** City (pop 18,678), co seat of Lamar co, E Texas, NE of Dallas and S of the Red River The name was changed from Pinhook to Paris in 1844, and the city, formerly important in cattle raising, now is the processing and industrial center for rich cotton and diversified farms of the blackland region After destruction by fires, notably in 1916, the city was rebuilt in planned style There is a junior college

Paris, Commune of see COMMUNE OF PARIS

Paris, Congress of, 1856, conference held by representatives of France, Great Britain, Turkey, Sardinia, Russia, Austria, and Prussia to negotiate the peace after the CRIMEAN WAR In the Treaty of Paris (March 30, 1856), Russia agreed to the neutralization of the Black Sea, which was to be opened to the merchant marines of all nations, but closed to war vessels The Danubian principalities (Moldavia and Walachia, after 1859 called RUMANIA) were recognized as quasi-independent states under continued Turkish suzerainty, to them Russia ceded the mouth of the Danube and part of Bessarabia The lower DANUBE was placed under an international commission The boundaries of Russia and Turkey in Asia were restored to their pre-war limits (to the detriment of Russia) The Ottoman Empire became a member of the European concert and its independence and integrity were guaranteed, the sultan in turn promised to improve the status of his Christian subjects Several principles of international law were adopted by the congress in the Declaration of Paris The provisions of the treaty were altered (1878) by the Treaty of San Stefano and the Congress of Berlin See C D Hazen, W R Thayer, and R H Lord, *Three Peace Congresses of the Nineteenth Century* (1917)

Paris, Declaration of, 1856, agreement concerning the rules of maritime warfare, issued at the Congress of Paris Conflicting methods used in dealing with property at sea had demonstrated the need for uniformity The respect paid to neutral rights in the Crimean War indicated that the leading powers would agree to decreasing the danger to shipping in time of war Four principles were enunciated by the declaration PRIVATEERING would no longer be considered legal, a neutral flag would protect the goods of an enemy, except for CONTRABAND of war, neutral goods, with the exception of contraband of war, would not be liable to capture when under the enemy's flag, a BLOCKADE would be binding only if it prevented access to the coast of the enemy The United States refused to accept the declaration, claiming that privateers were necessary if a nation did not have a strong navy In the Civil War and in the Spanish-American War, however, the United States accepted the declaration At the beginning of the First World War, prize courts recognized the declaration, but submarine warfare and extensive lists of contraband negated its principles See T C Bowles, *The Declaration of Paris of 1856* (1900); F F Piggott, *The Declaration of Paris, 1856* (1919)

Paris, Pact of see KELLOGG-BRIAND PACT

Paris, Treaty of, term applied to several important treaties, signed in or near PARIS, France. The Treaty of Paris of Feb 10, **1763,** was signed by Great Britain, France, and Spain, together with the Treaty of HUBERTUSBURG, it terminated the SEVEN YEARS WAR. France lost its possessions on the North American continent by ceding Canada and all its territories E of the Mississippi to Great Britain, and by ceding W Louisiana to its ally, Spain, in compensation for Florida, which Spain yielded to Great Britain France retained the islands of St Pierre and Miquelon and recovered Guadeloupe and Martinique in the West Indies from Great Britain, in exchange for which it ceded Grenada and the Grenadines to the English In East India, the French were permitted to return to their posts, but they were forbidden to maintain troops or build forts in Bengal, India thus virtually passed to Great Britain In Africa, France yielded Senegal to Great Britain Cuba and the Philippines were restored to Spain In Europe, the French and Spanish returned Minorca to Great Britain and France withdrew its troops from Germany From this treaty dated the colonial and maritime supremacy of Great Britain By the Treaty of Paris of Sept 3, **1783,** Great Britain formally acknowledged the independence of the United States, and the warring European powers, Britain against France and Spain, with the Dutch as armed neutrals, effected a large-scale peace settlement The preliminary Anglo-American articles (which went unchanged) were signed on Nov 30, 1782, after months of tortuous negotiations, in which the chief American plenipotentiaries, John Adams, Benjamin Franklin, and John Jay, acquitted themselves so well that their achievement has been labeled "the greatest triumph in the history of American diplomacy" France and Spain signed separate preliminary articles with Great Britain on Jan 20, 1783, and the Dutch and British signed theirs on Sept 2, 1783 These preliminary agreements (except the Anglo-Dutch one, which was not ratified by both powers until June, 1784) were signed as definitive treaties on Sept 3, 1783 The Anglo-American settlement fixed the boundaries of the United States In the northeast the line extended from the source of the St Croix river due north to the highlands which separated the rivers flowing to the Atlantic from those draining into the St Lawrence river, thence with the highlands to lat 45° N, and then along the 45th parallel to the St Lawrence From there the northern boundary followed a line midway through contiguous rivers and lakes (especially the Great Lakes) to the northwest corner of the Lake of the Woods, thence "due west" to the source of the Mississippi (which were not then known) The Mississippi, south to lat 31° N, was made the western boundary On the south the line followed the 31st parallel E to the Chattahoochee river and its junction with the Flint river, then took a straight line to the mouth of the St Marys river, and from there to the Atlantic The navigation of the Mississippi was to be open to the citizens of both nations Another section of the treaty granted Americans fishing rights off Newfoundland and the privilege of curing fish in the uninhabited parts of Labrador, Nova Scotia, and the Magdalen Islands, but not in Newfoundland A third part provided that creditors of either side would be unimpeded in the collection of lawful debts In a fourth section the American government promised to recommend to the several states that they repeal their confiscation laws, provide for restitution of confiscated property to British subjects, and take no further proceedings whatever against the Loyalists In the treaty with France, Britain relinquished the restrictions which had been imposed on the French naval port of Dunkirk, but aside from minor adjustments in the West Indies and Africa, the territorial dispositions made in the Treaty of Paris of 1763 were generally continued Spain, however, in its treaty with Britain, reacquired the Floridas in America and the island of Minorca in the Mediterranean, while the British retained Gibraltar The Treaty of Paris of May 30, **1814,** was concluded between France on the one hand and Great Britain, Russia, Austria, and Prussia on the other after the first abdication of Napoleon I France was confined to its boundaries of 1792 No indemnity was exacted, and England returned all the French colonies save Tobago, St Lucia, and Mauritius England also kept Malta A general conference was to be called for the territorial settlement in Europe (see VIENNA, CONGRESS OF) The leniency of the treaty to defeated France was chiefly due to the diplomatic skill of TALLEYRAND, who had engineered the restoration of Louis XVIII on the French throne After Napoleon's return, his defeat at Waterloo, and his second abdication, a new peace treaty was signed at Paris on Nov 20, **1815** This treaty was much sterner than the first. France was reduced to the boundary of 1790, was required to pay 700,000,000 francs in reparations, and was made to pay for the maintenance of an Allied army of occupation in NE France, which was to remain for a maximum of five years. All the provisions of the treaty of 1814 not expressly revoked were to remain binding, as was the Final Act of the Congress of Vienna. On the same day Great Britain, Russia, Austria, and Prussia renewed the QUADRUPLE ALLIANCE For the Treaty of Paris of **1856,** see PARIS, CONGRESS OF. For the Treaty of Paris of **1898,** see SPANISH-AMERICAN WAR. After the First World War several treaties were signed in 1919 and 1920 in or near Paris (see VERSAILLES, TREATY OF, SAINT-GERMAIN, TREATY OF, NEUILLY, TREATY OF, TRIANON, TREATY OF SEVRES, TREATY OF). Again, after the Second World War, peace treaties were signed in Paris in 1947, between the Allies and ITALY, RUMANIA, HUNGARY, BULGARIA, and FINLAND Each treaty is a separate document.

Paris, University of see SORBONNE

Paris green, compound containing arsenic and copper, brilliant green in color, and extremely poisonous (For antidote, see arsenic under POISONING, table) It was formerly used extensively as a pigment, in such materials as wallpapers Paris green is used as an insecticide and to kill plant fungi It should be used with great caution It is also known as Schweinfurt green

Paris Peace Conference, 1919 see VERSAILLES, TREATY OF

Park, Edwards Amasa (ă'musu), 1808–1900, American Congregational clergyman, b Providence, R I, grad Andover Theological Seminary, 1831 He was one of the last proponents of New England theology Park taught (1836–81) at Andover Theological Seminary and was editor in chief (1852–84) of the *Bibliotheca Sacra* See biography by F H Foster (1937)

Park, Marion Edwards, 1875–, American educator, b Andover, Mass, grad Bryn Mawr (B A, 1898, M A, 1918) She taught (1902–6) in the department of classics at Colorado College and was dean of Simmons College (1918–21) and later of Radcliffe (1921–22) In 1922 she was appointed president of Bryn Mawr, and she served in that capacity until her retirement in 1942 Her administration maintained and advanced the high academic standing of Bryn Mawr

Park, Mungo, 1771–1806, Scottish explorer in Africa He set out (1795) under the auspices of the African Association to explore the course of the Niger river Traveling NE from the Gambia river, he reached the Niger at Segu and proceeded 300 mi upstream to Bamako On his return to England he published *Travels in the Interior Districts of Africa* (1799) He was sent (1805) by the government to trace the Niger to its mouth, but at Bussa he and his party were attacked in their canoes by natives and Park was drowned See S L Gwynn, *Mungo Park and the Quest of the Niger* (1934)

Park, William Hallock, 1863–1939, American bacteriologist, b New York city, M D Columbia, 1886 He began a distinguished career in public health and preventive medicine by organizing (1894) a municipal laboratory—first of its kind—for the New York city health department In addition to directing (until 1936) the growing laboratory system, he became consultant bacteriologist to the New York state board of health (1914) and to the U S Quarantine Service (1921) He was professor of bacteriology and hygiene (1897–1937) at New York Univ His contributions include improvements in milk purification, the development of serum therapy for (and later toxoid active immunization against) diphtheria, and progress in poliomyelitis research With associates he wrote *Bacteriology in Medicine and Surgery* (1899, revised as *Pathogenic Microörganisms*, 11th ed, 1939) and *Who's Who among the Microbes* (1929) See biography by W W Oliver (1941)

park, a site maintained for public use The term includes large areas such as county, state, and national parks, landscaped strips along roads and boulevards (parkways), and municipal parks which may be city squares, larger neighborhood parks, or extensive areas (usually on the outskirts) Although since ancient times rulers have laid out pleasure grounds and hunting preserves, such areas were seldom open to the public The Greeks had public groves and athletic training areas Imperial Rome maintained small parks, commons, and the extensive Campus Martius During the Renaissance, European cities began to set aside public promenades and formal gardens, these often marked the lines of fortifications razed to enlarge the municipality During the 19th cent many royal gardens, hunting preserves, forests, and drill grounds became public parks Especially in the United States, cities were laid out before the need for parks was realized The city-planning movement of the late 19th cent stimulated communities to set up park systems The trend today is to emphasize recreational facilities The older parks in the United States include Boston Common, New York's CENTRAL PARK and Prospect Park (in the borough of Brooklyn), Fairmount Park, Philadelphia, and Druid Hill Park, Baltimore Other notable American parks are Rock Creek Park, Washington, D C, Jackson Park and Lincoln Park, Chicago, Belle Isle Park, Detroit, and Golden Gate Park, San Francisco Famous parks in France include the woodland of FONTAINEBLEAU and of the BOIS DE BOULOGNE and the formal gardens of VERSAILLES, HYDE PARK, Regent's Park, Kensington Gardens (see KENSINGTON), and KEW GARDENS are London parks See R C Morrison and M E Huff, *Let's Go to the Park* (1937)

Park City, city (pop 3,739, alt. c 7,000 ft), N central Utah, SE of Salt Lake City. The town grew as

a mining camp after gold, silver, and lead were discovered in 1869, flourished lustily in the late 19th cent, and is still a mining town

Park College, at Parkville, Mo, NW of Kansas City, coeducational, opened 1875, chartered 1879 by Presbyterians. Students operate the college industries.

Parker, Alton Brooks, 1852–1926, American jurist, U S presidential candidate (1904), b Cortland, N.Y., grad Albany Law School, 1873 He practiced law in Kingston, N Y, and was (1877–85) surrogate of Ulster co, N Y He became important in state Democratic politics and successfully managed (1885) the campaign of David B Hill for governor He served as justice of the New York supreme court (1885–89) and of the New York court of appeals (1889–92) before he became (1898) chief justice of the appellate division of the state supreme court As a jurist he became noted for his liberal decisions in labor cases He resigned office as chief justice after he received (1904) the Democratic party nomination for the U S presidency. Division within his own party on the currency issue (see Bryan, William Jennings) and the popularity of Theodore Roosevelt, however, helped make his defeat overwhelming He returned to law practice and defended the American Federation of Labor in the Danbury Hatters' Case and was counsel for the prosecution in the impeachment of Gov William Sulzer

Parker, Dorothy, 1893–, American short-story and verse writer, whose maiden name was Rothschild, b West End, N J She is best known for her humorous and sardonic light verse, which is collected in *Enough Rope* (1927), *Sunset Gun* (1928), *Death and Taxes* (1931), and *Not So Deep as a Well* (1936) Short stories of social satire appear in *Laments for the Living* (1930) and *Here Lies* (1939) Her *Collected Stories* appeared in 1942, and *Collected Poetry* in 1944 In 1949 she collaborated on a play, *The Coast of Illyria,* which was produced in Dallas

Parker, Francis Wayland, 1837–1902, American educator, b Bedford, N H He began teaching at 16 and served throughout the Civil War, retiring as colonel He later taught in Dayton, Ohio, studied German schools and the Herbartian system at first hand (1872), and from 1875 to 1880 served as superintendent of schools in Quincy, Mass There he originated the "Quincy movement," emphasizing such progressive educational principles as learning by doing, socialized activities, the teaching of science, and informal instruction He extended the practice of these principles as a supervisor (1880–83) of schools in Boston, as principal (1883–99) of the Cook County Normal School, Chicago, and as founder and principal (1899–1901) of the Chicago Institute, which became part of the school of education of the Univ of Chicago His valuable pioneer work led to improvements in curriculums and teacher training

Parker, George Howard, 1864–, American zoologist, b. Philadelphia, grad Harvard (B S, 1887) He taught at Harvard from 1888 to 1935 (as professor from 1906) and was director (1921–34) of the laboratory His research includes special work on the nervous system and on the sense organs He wrote *The Elementary Nervous System* (1919), *Smell, Taste, and Allied Senses* (1922), *What Evolution Is* (1925), *Color Changes of Animals* (1936), and the autobiographical work *The World Expands* (1946)

Parker, Sir Gilbert, 1862–1932, Canadian novelist, b Camden East, Ont After 1885 he traveled widely in the British Empire, moved to England in 1889, and was elected member of Parliament from Gravesend In 1902 he was made a knight, in 1915 a baronet, and in 1916 a privy councilor Many of his novels and collections of tales deal with the history of Canada, others with England and the empire Among his works are *Pierre and His People* (1892), *When Valmond Came to Pontiac* (1895), *The Seats of the Mighty* (1896), and *The Promised Land* (1928) He also wrote *World in the Crucible* (1915), a book on the First World War, and collaborated on *A History of Old Quebec* (1903) He was a poet of some skill in his humorous verses, some of which have been set to music, and in his love lyrics

Parker, Horatio William, 1863–1919, American composer, b Auburndale, Mass, pupil of Rheinberger in Munich He played the organ at various churches in New York and taught at St Paul's School in Garden City and at the National Conservatory, New York, until 1893, when he became organist of Trinity Church, Boston In 1894 he accepted the newly created chair of music at Yale Univ He organized and conducted the New Haven Symphony Orchestra, sponsored jointly by the city and the university His church music—anthems, services, hymns, and organ pieces—are among the best of their period German romanticism is the outstanding influence on his works, which include the oratorios *Hora novissima* (1893), a setting of part of Bernard of Cluny's *De contemptu mundi,* and *The Legend of St Christopher* (1898), to a text by his mother; the cantata *A.D. 1919* and the operas *Mona* (1911) and *Fairyland* (1915), all with texts by Brian Hooker, and male choruses, songs, and piano pieces. See biography by his daughter, Isabelle Parker Semler (1942).

Parker, Sir Hyde, 1739–1807, British admiral In the American Revolution he served under Samuel Hood and broke (1776) the strong defenses of the North River at New York city—an exploit for which he was knighted in 1779 He commanded later in Jamaica, the Mediterranean, and the North Sea in the French Revolutionary and Napoleonic Wars Horatio Nelson was Parker's second in command at the great victory of Copenhagen (1801), his failure to observe Parker's signal to cease fighting is one of the most famous incidents of naval history Nelson soon superseded Parker

Parker, Joseph, 1830–1902, English Congregational minister From 1853 to 1858 he was pastor at Banbury, then until 1869 of the Cavendish St Chapel, Manchester His reputation as an eloquent pulpit orator and his influence steadily grew In 1874 the great City Temple on Holborn Viaduct, London, was opened for his congregation Parker made five visits to America His chief work was *The People's Bible* (25 vols, 1885 95) His voluminous writings include *Ecce Deus* (1868) and the autobiographical *A Preacher's Life* (1899) See biography by William Adamson (1902)

Parker, Lottie Blair, 1858?–1937, American playwright, b Oswego, N.Y She was also an actress She is remembered for her melodrama *Way Down East,* first produced in New York in 1898 and played in small theaters for many years

Parker, Matthew, 1504–75, English prelate, archbishop of Canterbury At Cambridge he was influenced by the writings of Martin Luther and other reformers In 1535 he was appointed chaplain to Anne Boleyn, and in 1537 to Henry VIII In 1544 Parker became master of Corpus Christi College, Cambridge, to which he later left his fine collection of ancient manuscripts, and in 1545 was made vice chancellor of Cambridge Univ Under Edward VI he was presented with the deanery of Lincoln, but after the accession of Queen Mary, who deprived him of his preferments, he lived in obscurity until he was called (1559) by Queen Elizabeth to the see of Canterbury He courageously carried the primate's responsibilities in a time of change and peculiar difficulty, sustaining a distinctly Anglican position between extreme Protestantism and the Church of Rome In 1562 he revised the Thirty-nine Articles He supervised (1563–68) the preparation of the Bishops' Bible He published anonymously *De antiquitate Britannicae ecclesiae* (1572) and is also noted for his editions of the works of Matthew of Paris and other chroniclers See biographies by John Strype (new ed, 3 vols, 1821), W M Kennedy (1908), and E C Pearce (1925), W W Greg, *Books and Bookmen in the Correspondence of Archbishop Parker* (1935)

Parker, Sir Peter, 1721–1811, British admiral He fought in the American Revolution, especially in the unsuccessful attack on Charleston (1776) and at New York He became (1799) admiral of the fleet, but is chiefly remembered as a friend and patron of young Horatio Nelson He was made a baronet in 1782 and was succeeded in the title by his grandson, **Sir Peter Parker,** 1785–1814 A captain in the British navy, this Sir Peter served in the Napoleonic Wars and was killed in the United States in the War of 1812

Parker, Theodore, 1810–60, American theologian and social reformer, b Lexington, Mass He studied languages at home, taught school, and passed the examinations at Harvard without attending classes He graduated from Harvard Divinity School in 1836 and was pastor (1837–46) of the First Parish (Unitarian) Church, West Roxbury, Mass The liberalism which he presented in Boston in 1841 and amplified in his scholarly *Discourse of Matters Pertaining to Religion* (1842) was then so radical that the Boston Unitarian clergy withdrew from him, although he remained a member of their association He was one of the transcendentalists, contributed to the *Dial,* and edited (1847–50) the *Massachusetts Quarterly Review* In 1845 he became preacher of the Twenty-eighth Congregational Society of Boston, and in 1846 their pastor His congregation grew to 7,000 In addition he lectured at lyceums throughout the country and was a leader in antislavery and prison-reform activities In 1859 ill-health forced him to retire and travel, and he died in Florence After his death Parker's works were widely read, and his once radical views gained acceptance The best edition of his works is the Centenary (15 vols, 1907–13) See John Weiss, *The Life and Correspondence of Theodore Parker* (1864), biographies by O B Frothingham (1874) and H S Commager (1936)

Parker, Willard, 1800–1884, American surgeon, b Lyndeboro, N.H, M D. Harvard, 1830. From 1839 to 1870 he was professor at the College of Physicians and Surgeons, New York. A noted New York surgeon, he was first in the United States to operate for inflammation and rupture of the bladder and for abscessed appendix. The Willard Parker Hospital in New York was named for him

Parker, city (pop. 1,244), co seat of Turner co., SE S.Dak, SW of Sioux Falls, in a farm and dairy region; settled 1879.

Parker Dam, at the Ariz.-Calif. line, in the Colorado river, completed 1938 It is 320 ft high and 856 ft long. It impounds water for Los Angeles and other coastal municipalities, has a power plant, and supplies some water for irrigation.

Parkersburg, 1 Town (pop 1,260), N central Iowa, W of Waterloo; inc. 1874 Not far is Beaver Meadow State Park 2 City (pop 30,103), co seat of Wood co, NW W Va, SSW of Wheeling at the confluence of the Little Kanawha and the Ohio rivers, settled 1785, chartered 1820 It is an industrial and shipping center in an oil, gas, and coal region, producing oil-well equipment, shovels, lumber, glass, steel, rayon, vitrolite, porcelain, and shoes Near the city, in the Ohio, is historic Blennerhassett Island

Parkes, Sir Henry, 1815–96, Australian statesman He emigrated from England to Australia in 1839 and founded a newspaper, the *Empire* (1849–58), to advocate responsible government and to bring an end to transporting criminals to Australia He served (1854–61) in the legislative council and then in the assembly of New South Wales Returning (1863) from a two-year mission to England in the interests of immigration, he secured, as colonial secretary of New South Wales (1866–68), the passage of the first education act From 1872 to 1891 he dominated provincial politics in five prime ministerships Free trade, civil service reform, public works, and the federation of the Australian colonies were his constant concerns See biography by C E Lyne (1897).

Parkesburg, borough (pop 2,288), SE Pa, W of Philadelphia, inc 1872

Parkes process see SILVER

Park Falls, city (pop 3,252), N Wis, SE of Ashland and on the Flambeau, inc 1912 An early lumber center, it now makes paper

Park Hills, residential town (pop 1,615), N Ky, a suburb of Covington, inc 1927

Parkhurst, Charles Henry, 1842–1933, American clergyman and reformer, b Framingham, Mass, grad Amherst, 1866, and studied theology at Halle and Leipzig He was pastor of the Congregational church at Lenox, Mass (1874–80) and of the Madison Square Presbyterian Church, New York city (1880–1918) Becoming interested in municipal affairs and having been elected (1891) president of the Society for the Prevention of Crime, Parkhurst inaugurated a campaign against Tammany Hall, personally collecting evidences of corruption to substantiate his charges The campaign led to the appointment of the Lexow committee to investigate conditions and to the defeat of Tammany and the election of a reform mayor in 1894 Among Parkhurst's writings are *Our Fight with Tammany* (1895) and *My Forty Years in New York* (1923)

Parkin, city (pop 1,412), NE Ark, on the St Francis river, in a farm area Building machinery is made here

Parkman, Francis, 1823 93, American historian, b Boston, grad Harvard (B A, 1844, LL B, 1846) In 1843–44 he traveled in Europe for his health, and in 1846 he started his journey along the Oregon Trail for the dual purpose of health and study of the Indians He lived for a time with a band of Sioux and mixed freely with hunters, trappers, and other frontiersmen. On his return to Boston he collapsed physically and moved to Brattleboro, Vt There Parkman dictated to his cousin *The Oregon Trail,* published first in the *Knickerbocker Magazine* and in book form as *The California and Oregon Trail* (1849), the shorter title was resumed in later editions Despite his nervous trouble and his extreme weakness of sight, which compelled him to make notes with the aid of a special wire frame from books and manuscripts read to him, he labored on his *History of the Conspiracy of Pontiac* (1851) He grew worse for a time, and temporarily had to abandon his historical work To keep himself occupied he wrote a novel, *Vassall Morton* (1856), which was not very successful, he also took up the study of horticulture In this he became an expert, retaining his interest throughout his life, in 1866 *The Book of Roses* was published and from 1871 to 1872 he was professor of horticulture at Harvard Following a trip to Paris in 1858 to seek medical aid, there were several years in which he was unable to continue his researches His studies of the history of Canada and the early Northwest were eventually resumed, however, resulting in *Pioneers of France in the New World* (1865), *The Jesuits in North America in the Seventeenth Century* (1867), *The Discovery of the Great West* (1869, 11th and later eds, pub as *La Salle and the Discovery of the Great West,* 1879), *The Old Régime in Canada* (1874), *Count Frontenac and New France under Louis XIV* (1877), *Montcalm and Wolfe* (1884), and *A Half-Century of Conflict* (1892) Parkman served for a time as overseer of Harvard and later as a fellow of the Harvard Corp, (1875–88) He was a founder of the Archaeological Institute of America (1879) and was president of the Massachusetts Horticultural Society (1875–78). Despite the severe physical handicaps which beset him, Parkman had superior

literary gifts which, combined with his careful historical research, gained him wide contemporary prominence and established his name among the great historians of America His work showed both anti-Catholic and antidemocratic prejudices, but it usually managed to combine accuracy and vigor of expression. There are several editions of Parkman's complete works His journals have been edited by Mason Wade (1947). See biographies by C H Farnham (1900), H O Sedgwick (1904), and Mason Wade (1942)

Park Range, part of the Rocky Mts , central Colo and S Wyo , extending N from the Colorado river The southeastern part of the range is known as the Gore Range, the northwest extension in Wyoming as the Sierra Madre The highest peak of the Park Range is Mt Lincoln (14,284 ft), at the extreme south end of the Gore Range

Park Rapids, village (pop 2,643), co seat of Hubbard co , N central Minn , E of Detroit Lakes, founded 1880 It is a resort in a lumber and dairy region

Park Ridge 1 Residential city (pop 12,063), NE Ill , northwest suburb of Chicago, inc 1910 2 Borough (pop 2,519), NE N J , S of Pearl River, N Y , settled c 1770, inc 1894

Park River, city (pop 1,408), NE N Dak , on the Park river and NW of Grand Forks, inc 1896 It is a trade center for a farm area

Parkside, borough (pop 1,579), Delaware co , SE Pa , SW of Philadelphia

Parkston, city (pop 1,305), SE S Dak , S of Mitchell, founded 1886 It is a farm trade center for a German and Czech community

parlement (pär'lumunt, Fr pärlumä'), in French history, the chief judiciary body under the *ancien régime* In 1789 there were, besides the Parlement of Paris, provincial parlements with their seats at Aix-en-Provence, Arras, Besançon, Bordeaux, Colmar, Dijon, Douai, Grenoble, Metz, Nancy, Pau, Rennes, Rouen, and Toulouse The Parlement of Paris, however, had superior authority It grew out of the feudal Curia Regis and may be said to have had a separate existence since the reign of Louis IX (13th cent) It consisted of three separate chambers —the *grand-chambre*, the *chambre des requêtes*, and the *chambre des enquêtes*—and it gradually acquired a very complex and elaborate organization Its functions were originally purely judiciary, but it acquired considerable political power from the fact that royal edicts entered into force only after being registered by it and also from its right to make remonstrances The king, however, could force the Parlement of Paris to register any edict if he ordered it to do so in a "bed of justice," i e , a solemn meeting of the parlement at which the king attended in person Though the parlement often championed the rights of the people against arbitrary royal action, its own moves were sometimes dictated by the narrow interests of its members, a hereditary caste of magistrates, and by the desires of the great nobles Such was the case at the time of the FRONDE against Mazarin (17th cent) In the reign of Louis XV the parlements rebelled against continuance of wartime taxes after the end (1763) of the Seven Years War Louis, through his chancellor, René de MAUPEOU, unsuccessfully sought to crush their power The parlements were abolished (1771) and a new judicial system was substituted Although the new system did away with the sale of magistracies, simplified procedure, and represented a step forward, it failed because there were no trained magistrates to replace the old ones Public opinion generally favored the parlements, which were restored (1774) by Louis XVI In 1787–88 the Parlement of Paris and the provincial parlements successfully defied the fiscal reforms proposed by LOMÉNIE DE BRIENNE to save France from bankruptcy, their attitude led directly to the calling of the States-General of 1789, with which the French Revolution began

Parley, Peter see GOODRICH, SAMUEL GRISWOLD

Parliament, legislative assembly of Great Britain and the British Empire It has been, however, from the beginning of its history much more than a legislative body In the course of time it has come to represent the actual sovereign of Great Britian, while the king remains sovereign in name only Parliament consists, technically, of the king, the House of Commons, and the House of Lords, but the word in common usage refers to the members of the two houses or, more usually, to Commons alone The powers of the House of Lords have been negligible since 1911 The great power of the House of Commons lies, historically, in its control of the finances of government Membership in the House of Lords is hereditary (except for the Anglican bishops) for the peers of England, Ireland, and Scotland There are at present more than 800 eligible members of the House of Lords, but only a fraction of that number choose to sit in the House Commons is an elective body of 625 members, 506 for England, 36 for Wales and Monmouth, 71 for Scotland, and 12 for Northern Ireland The presiding officer is the speaker, who is elected from the party in power at the time and who customarily holds office until he decides to retire The two-party system is a feature of English parliamentary government The party elected to a majority position chooses the executive head of the government (the prime minister), and the minority party functions in Parliament as "His Majesty's loyal Opposition" When the government party is unable to get parliamentary support on major issues it is obliged to call a general election for a new Parliament Unlike the American system, there is no clear separation of legislative and executive branches of the government, the executive branch is, in effect, a committee of the legislature The British Parliament has had great influence as a model for legislative bodies in other democratic countries (see LEGISLATURE) In its slow evolution in Great Britain, Parliament drew upon many other institutions and customs, such as the inquest, the jury, popular election, and the clerical convocation There is no historical continuity between the Anglo-Saxon witenagemot and the modern British Parliament The first steps in the development of the modern institution do not become apparent until long after the Norman Conquest The passages in the Magna Carta once thought to refer to Parliament are no longer read in that light It was in the 13th cent , however, that the fundamental changes occurred which were to produce Parliament through a long, slow process of blind evolution working in many lines The Curia Regis, the king's feudal court to which he summoned the tenants in chief and the great barons both lay and clerical, was the kernel of one line of development, which, when completed, produced what is now the House of Lords The other main line of development was the convocation of representatives of other social elements of the state, usually to consult with the king about finances (not to "consent to taxation" in the modern sense) and, less importantly, to discuss other elements of administration, this group was ultimately to become the House of Commons The Curia Regis, more commonly called the king's council or the great council, was not primarily a legislative body but had judicial, executive, and merely quasi-legislative powers Parliament was in its early days the 'high court of Parliament," as it still nominally is The development of the heritable right of certain barons to be summoned to the king's council, which was originally composed at the king's will, gave rise to the peerage, but this development was not at all secure until the reign of Edward III (1327–77), and even then was far from inviolable The name House of Lords was not attached to the body until the time of Henry VIII Commons came, instead, from an irregular series of meetings at which representatives of the country were gathered into a central assembly—the much-disputed St Albans assembly of 1213, the assembly of 1227, the assembly for an aid in 1254 The word *parliamentum* (first known instance, 1239) came to be applied to the meeting of the permanent great council, which sometimes met at the same time as a central assembly, but there was no organic connection between them In 1258 the barons made a powerful bid for authority in their Mad Parliament at Oxford A new molding force came to play in the BARONS' WAR, when Simon de MONTFORT summoned representatives of the counties and the lesser clergy in an attempt to gain popular support His famous Parliament (1265) included two representative burgesses from each borough and apparently met with the great council at London All the elements of the Parliament were now assembled, but the organization into a true Parliament had not yet occurred Even the so-called Model Parliament (1295) summoned by Edward I was far from being a Parliament in the later sense of the word, and its significance was not recognized at the time It did, however, set a precedent for later development It contained a division of greater barons, lay and clerical, and another division of county representatives (knights), borough representatives, and lesser clergy There were as yet no "houses" Neither was there the definite division into three estates as in the continental assemblies (see STATES-GENERAL) Sometime later the lesser clergy retired to their own convocations and thus left only two estates in the developing Parliament Financial questions were important in the early 14th cent , but judicial questions probably dominated This amorphous body—a small permanent council (gradually withdrawn as the privy council), the large summoned council of peers, and the representative assembly, which met more and more regularly at the same time as the peers and was called in to consult with them on affairs of the realm—gradually took on a more definite shape The alarms of the reign of Edward II fostered development of a body that controlled public opinion, and in the reign of Edward III the formative institution began to take on its now familiar appearance One exceedingly important step was the transfer of the control of taxation from the king to Parliament, and soon definitely to Commons In 1340 Parliament was able to assert this control over Edward III, and in spite of later difficulties the right then established became permanent This circumstance gave Parliament the opportunity for asserting other rights. As the high court, it also passed upon novel cases and had thereby the power to determine new laws. Even more important, this court was empowered to receive and consider the complaints and petitions for redress of the nation and to submit these petitions, or others, to the king The power to withhold financial grants to the king enabled Parliament to force his acceptance of, and action on, these petitions Gradually the petition form was supplanted by the drafting of bills sent to the king and ultimately enacted by Commons, Lords, and king together Parliament also was able to assert its right to have a share in the control of the administration; in 1340, with the right to tax, came the right to audit A little later came the right (established by 1376), developed from its judicial authority, of Parliament to impeach officers of the king In the reigns of the Lancastrian kings, Parliament indeed seems to have had an almost complete control of administration In the 15th cent development was somewhat slowed Parliament's legislative functions continued to increase, however, and its judicial powers to decline Members of Parliament had grown self-conscious and even before Tudor times were insisting upon some parliamentary "privileges," notably freedom from arrest and molestation and freedom of speech With the growth of a strong kingship under the Yorkists and especially under the Tudors, Parliament became a mere instrument of the king, but it is significant that the monarch felt obliged to work through Parliament and not outside it The House of Lords with the chancellor and the House of Commons with its speaker now appeared in their modern form The Reformation in England greatly increased the powers of Parliament because it was through the nominal agency of Parliament that the Church of England was established With the accession of James I, Parliament was able to assert its theoretic claims in practice and voiced demands not merely to collateral power but to actual sovereignty This was the fundamental constitutional issue of the PURITAN REVOLUTION The Parliaments of the reigns of JAMES I and CHARLES I led the opposition to the king, and only financial necessity compelled the king to summon them In 1628 Parliament presented the PETITION OF RIGHT to Charles I, demanding that its sole authority to levy taxes be recognized Charles reluctantly accepted this dictum, but continued to oppose Parliament The Short Parliament, which lasted three weeks in 1640 and was prorogued by the king, was a prelude to the Long Parliament (1640–49), which headed the opposition to the king in the civil war Victory did not, however, bring Parliament the complete sovereignty for which it was striving Quarrels with the army led to Pride's Purge (see PRIDE, THOMAS), all members opposed to the army were expelled and the remaining Rump Parliament functioned only lamely until 1653 Then Oliver CROMWELL assumed complete control. The nominated Parliament in the Protectorate was a mere travesty Yet the revolution had really settled the issue The RESTORATION brought Parliament back into power, Charles II accepted it and set about managing it Hatred and distrust of James II led to the Glorious Revolution of 1688, which permanently affirmed parliamentary sovereignty Under Anne even the royal veto on legislation disappeared The appearance of parties (see WHIG and TORY) brought a new turn in parliamentary development. In the 18th cent Parliament established its complete control over the ministry and its appointment, though there was some resistance to this tendency even into the 19th cent , the attempt of GEORGE III to reestablish personal rule failed Another development was slower in coming Parliament actually represented only the propertied upper classes "Pocket" boroughs, in which representative election had become farcical, wholesale manipulation of elections, and control of legislation by the privileged were the accepted rule in the 18th cent , but new and powerful social classes were appearing with the Industrial Revolution Democratic doctrines gained ground A leading issue of politics in the 19th cent was the demand for the extension of the suffrage and the reform of Parliament The first step toward this was achieved in the great REFORM BILL OF 1832 The growth of CHARTISM and continued democratic agitation led to the REFORM BILL OF 1867, supplemented in 1884, and the eventual establishment of universal suffrage in 1918 The growth of Great Britain changed the complexion of Parliament somewhat throughout the centuries Henry VIII made Wales into shires and introduced 24 Welsh members to Commons The union of England and Scotland in 1707 added Scottish peers to the House of Lords and 45 members to Commons. In 1800 the Irish Parliament yielded place to representation by 100 members in the British Parliament The question of Irish representation or a separate Irish Parliament was one of the central questions in the long Irish struggle for HOME RULE. Today only Northern Ireland is consolidated with England, Scotland, and Wales in Parliament The class represented in the House of Lords began to

lose power in the later 19th cent and, through long conflict with Commons the House of Lords lost power too. Commons was able to intimidate Lords by the threat of having the crown create enough new peers to override any opposition in Lords, but the contest between the two houses over the financial bill of 1909 finally led Commons to a more drastic solution The Parliament Act of 1911 stripped the House of Lords of almost all its power. The rise of socialism in Great Britain since 1945 has not greatly affected the machinery of government, and Parliament continues to function in the pattern established over many centuries Parliament is housed in historic Westminster Palace, once a residence of the English kings In May, 1941, the House of Commons chamber was completely destroyed by German bombs The lower house sat in the House of Lords chamber while its own quarters were being restored See A L Lowell, *The Government of England* (1916–17), A B White, *The Making of the English Constitution, 449–1485* (2d ed, 1925), A F Pollard, *The Evolution of Parliament* (2d ed, 1926), G B Adams, *Constitutional History of England* (revised by Robert Schuyler, 1934), Ramsay Muir, *How Britain is Governed* (3d rev ed, 1935), W J Brown, *Everybody's Guide to Parliament* (1946), G F M Campion, *An Introduction to the Procedure of the House of Commons* (2d ed, 1947), W Ivor Jennings, *Parliament* (1948)

parliamentary law, rules under which deliberative bodies conduct their proceedings In English-speaking countries these are based on the practice of the English Parliament, chiefly in the House of Commons British parliamentary law is conventional, rather than statutory, including traditions and precedents as well as the Standing Orders of the House Thomas Jefferson when presiding over the U S Senate prepared a manual of parliamentary law based on the practice of the House of Commons, and this practice has generally been followed in the House of Representatives as well H M Roberts's *Rules of Order* (1876), drawn from the usages of all three bodies, is the usually accepted authority on parliamentary law Parliamentary law includes the rules necessary for the efficient and equitable conduct of business by an assembly In Britain the effective interpreter of parliamentary law is the speaker of the House of Commons, in the United States, it is the speaker of the House of Representatives and the president of the Senate, who are partisan figures, unlike their British counterparts See J J Auer, *Essentials of Parliamentary Procedure* (1942), J Q Tilson, *Manual of Parliamentary Procedure* (1949)

Parlow, Kathleen, 1890–, American violinist, b Canada She appeared in the United States and England as a child prodigy, studied (1906–7) with Leopold Auer in Russia, had a successful concert career, and later taught at Mills College

Parma (par'mu, Ital pär'mä), city (pop 65,126), capital of Parma prov, Emilia-Romagna, N central Italy, on the Aemilian Way It is an agricultural market and a silk-producing center A Roman colony after 183 B C, it was a free commune by the 12th cent, later passed under foreign rulers, and was added (16th cent) to the Papal States by Pope Julius II In 1545 Pope Paul III created the duchy of Parma and Piacenza, a substantial territory, and bestowed it upon his son, Pierluigi Farnese, whose descendants ruled it (with interruptions) till 1731 The duchy then fell, through the female line, to the Spanish Bourbons, the cadet line of Bourbon-Parma began in 1748 It was displaced in 1802, when Napoleon I annexed the duchy to France The Congress of Vienna awarded it to Marie Louise, who ruled it from 1816 to 1847, it was then restored to the Bourbons In 1860 the duchy was incorporated into the kingdom of Sardinia Parma is rich in works of Correggio, who painted frescoes for the Convent of St Paul and for the Romanesque cathedral The octagonal baptistery (13th cent) is one of the finest in Italy Among the buildings damaged in the Second World War is the Pilotta (the unfinished palace of the Farnese), which contains an art gallery, the interesting wooden Farnese Theater (built in 1618), and the Palatina Library Parma was a center of learning in the Middle Ages, its university dates its official existence from 1502 The region of Parma is noted for its hard Parmesan cheese

Parma. **1** Village (pop 1,085), SW Idaho, in the Boise river valley, near the Oregon line NW of Caldwell, inc 1904 The farming center is in the area of the Boise project **2** City (pop 1,187), SE Mo, SW of Cairo, Ill, in a cotton and farm area, inc 1906 **3** City (pop 16,365), NE Ohio, in the Cleveland metropolitan area, inc 1925

Parma Heights, village (pop 1,330), NE Ohio, in the Cleveland metropolitan area, settled 1818, inc 1912

Parmashta (pärmäsh'tü), one of Haman's sons Esther 9 9

Parmenas (pär'mĕnus), one of the seven deacons He is said to have died a martyr at Philippi Acts 6 5

Parmenides (pärmĕn'ĭdēz), b. c.514 B C, Greek philosopher of Elea, leading figure of the Eleatic school The theory of Xenophanes concerning the unity of all existence inspired the basic postulate of Parmenides—that being was the sole and eternal reality He held all change to be an illusion of the senses Sense perception reveals a world of plurality—of appearance and diverse opinions The true world, conceived by logic, is a unity, unchangeable and immovable A dialogue of Plato bears his name

Parmenion (pärmē'nēun), d 330 B C, Macedonian general He served under Philip II On Philip's death Parmenion was largely responsible for the adhesion of the part of the army in Asia to Alexander the Great. He and the young king were warm friends, and at Issus and Arbela, Parmenion commanded the left wing, while Alexander himself led the right When Alexander was pushing eastward in Persia, he left Parmenion to govern Media While the king was in Drangiana (330 B C), a plot was discovered which seemed to implicate Philotas, Parmenion's son Philotas, when tortured, named his father as an accomplice Parmenion was killed at the king's command

Parmesan cheese, (pär'mŭzun, pär'muzŏn″), very hard, sharp-flavored, Italian skim-milk cheese, generally used grated

Parmigiano (parmējä'nō) or **Parmigianino** (-jänē'nō), 1503–40, Italian painter and etcher of the Lombard school His real name was Francesco Mazzola, but he was called Parmigiano from his birthplace, Parma At first influenced by Correggio, he later visited Rome, where he was profoundly affected by Raphael's style His successful career in Rome was interrupted by the sack of the city in 1527, and he fled to Bologna, where he painted for the nuns of St Margaret his famous altarpiece, *Madonna and Child with St Margaret and Other Saints* (Bologna) In 1531 he returned to Parma, where his remaining years were spent in poverty and misfortune Among his important works are *Vision of St Jerome* (National Gall, London), *Madonna dal Collo Lungo* (Pitti Palace, Florence), *Cupid Making a Bow,* his best-known picture, often attributed to Correggio (Vienna), *Annunciation* (Ambrosian Library, Milan), the famous frescoes in San Giovanni Evangelista, Parma, painted before his Roman sojourn, and portraits in the museums of Naples, Madrid, and Vienna Parmigiano is credited with having introduced etching into Italy His few extant prints reveal a sketchy but vigorous and graceful style

Parnach (pär'năk), Zebulunite Num 34 25

Parnaíba (pärnaē'bu), river, c 750 mi long, rising in NE Brazil and forming the boundary between Maranhão and Piauí states It flows generally northward to the Atlantic near the town of Parnaíba (pop 22,176), which is the shipping center of the river valley Former spellings were Parnahiba and Parnahyba

Parnassians (pärnă'shŭnz), group of 19th-century French poets, so called from their journal the *Parnasse contemporain* Issued from 1866 to 1876, it included poems of Leconte de Lisle, Banville, Sully-Prudhomme, Verlaine, and J M de Heredia (1842–1905) The Parnassians, in reaction to the looser romantic forms, strove for exact and faultless workmanship, selecting exotic and classical subjects which they treated with rigidity of form and emotional detachment See symbolists

Parnassus (pärnă'sus), mountain, more than 8,000 ft high, SW Phocis, Greece It was sacred to Apollo, Dionysus, and the Muses The stalactite cave of the Corycian nymphs and the fountain of Castalia were on its slopes, the Pythian games were held higher up, and at the foot lay Delphi Parnassus was thus sacred to letters, learning, and art The modern name is Liakura or Liakoura

Parnell, Charles Stewart, 1846–91, Irish nationalist leader Frail, nervous, haughty, sensitive, and only a mediocre orator, he nevertheless possessed a fascination which enabled him to lead men with remarkable effectiveness A Protestant, an opportunist who was also a fierce lover of justice, he excelled in uniting different elements of Irish patriots—moderate land reformers and Home Rule advocates, friends of law and friends of violence—in a common cause Parnell was made sheriff of Wicklow in 1874 and became a follower of Isaac Butt Elected to Parliament in 1875, he determined soon on a policy of obstruction, impressing the House with the gravity of the Irish problem by filibusters that sometimes kept them in session all night In 1878 he received the support of the Fenians and joined in the agitation against the Irish land laws He also bid for the financial and moral support of Irish-Americans and was well equipped to appeal to them as the grandson of the American naval hero, Charles Stewart In 1879 he became president of the National Land League (see Irish Land Question) and in 1880 visited the United States The agitation produced a great increase in crime against landlords and a harsh bill to check it was passed (1881) over Parnell's opposition In 1881 Parnell started a paper, *United Ireland,* edited by William O'Brien, to support the Land League, he encouraged the boycott as a means of bringing pressure on landlords and land agents. Arrested for his activities and put in prison at Kilmainham, he issued from jail a no-rent manifesto, the popularity of which caused him to be referred to as the "uncrowned king of Ireland" He was released by the so-called Treaty of Kilmainham, by which the government agreed to settle the question of arrears in land for Parnell would help check violence against landlords The slaying (May 6, 1882) of two prominent English officials in Dublin—the famous Phoenix Park murders—shocked Parnell as much as it did the English, but the Irish leader opposed the coercive Crimes Act which followed and was therefore constantly charged with encouraging terrorism He supported the Irish National League, founded to replace the dissolved National Land League, and both Irish and American followers retained confidence in him In 1885 the Liberals' threat to renew the Crime Act of 1882 caused Parnell to throw the Irish vote to the Tories, and the Gladstone ministry fell The Irish question was now paramount in English politics for a decade, and the Irish vote a deciding factor up to the First World War The Home Rule issue split the Liberals (see Liberal party) and defeated the Gladstone government of 1886 At this point, Parnell swung back to the Liberals, forming a definite alliance In 1887 *The Times* printed a series of hostile articles on "Parnellism and Crime," ending with a facsimile letter, purporting to carry Parnell's signature and apologizing for his denunciation of the Phoenix Park murders A special commission found (1889) that this letter, and others, had been forged by one Richard Pigott, and although some of Parnell's activities were censured, he and his associates were exonerated In 1889 Parnell was named as co-respondent in the divorce suit of Capt William O'Shea against his wife, Katharine Adultery was proved and a divorce granted (1890), in 1891 Parnell married Mrs O'Shea The episode ruined his political influence, for the Catholic priests and English Liberals denounced him and the Irish group split into Parnellites and anti-Parnellites His efforts to reunite the party failed and broke his health But the importance of the Irish issue remained, and other leaders working on Parnell's beginnings effected a political combination which secured both a complete land reform (1903) and Home Rule (1914) See biographies by his wife, Katharine Parnell (1914), his brother, J H Parnell (1916), St John Ervine (1925), William O'Brien (1926), and Joan Haslip (1936), M M O'Hara, *Chief and Tribune, Parnell and Davitt* (1919), Henry Harrison, *Parnell Vindicated* (1931)

Parnell, Thomas, 1679–1718, British poet, b Dublin Educated at Trinity College, Dublin, he was archdeacon of Clogher from 1706 He was a friend of Pope and Swift, and his verse was praised by Johnson and Goldsmith His best-known poems, "The Hermit," "The Night-Piece on Death," and "Hymn to Contentment," with others are reprinted in *Minor Poets of the Eighteenth Century* (ed by H I'A Fausset, 1930)

Parnu (pär'nōō), Estonian *Pärnu* (pär'nōō), Ger *Pernau* (pär'nou), city (pop 20,334), SW Estonia, a port on the Gulf of Riga It exports timber and flax and is a sawmilling center It was founded c 1250 by the Livonian Knights and became a Hanseatic city After the dissolution (1561) of the Livonian Order it was contested by Sweden, Russia, and Poland Peter I of Russia took it from the Swedes in 1710, and its cession was confirmed by Sweden in 1721 The name also appears as Pyarnu

parochial school (purō'kēul) [parish school], elementary school supported by a local church In the United States such schools are maintained by a number of denominations, including Lutherans and Seventh-Day Adventists, but vastly the most numerous are those attached to Roman Catholic parishes These are organized by dioceses, each having its independent system with a superintendent (priest or layman) appointed by the bishop Some dioceses maintain high schools Most schools are taught by members of religious orders, who usually receive little more than subsistence Their orders and the Catholic universities maintain schools to train the teachers, many of the teachers are trained at non-Catholic institutions also The maintenance of parochial schools depends on the principle of the Church that, education being first of all moral training, it is the duty and right of the Church to supervise it Catholics are not required, but are strongly urged, to send their children to church schools The nonreligious curriculum of parochial schools parallels that of the public schools The states exercise little supervision over parochial schools, but many require all teachers, public and private, to have state certificates The school is usually the largest feature in the expenditure of a parish Contrary to the opinion of many non-Catholics, the parochial school system is an American creation and was established by a ruling of U S bishops, other countries have parochial schools, but few have systems so thoroughly developed The parochial schools account for the bulk of the attendance at private schools in the United States. They have been the subject of some social friction. A move in Oregon to compel attendance at the public schools and thus legislate the

parochial schools out of existence was declared unconstitutional (1925). Opponents of the schools consider them antidemocratic, and the supporters describe the attacks as dictated by anti-Catholic prejudice and fascistic desires to override a minority. The question of aid to the parochial schools from public tax funds has been hotly debated. Many arguments have been advanced on both sides, one of the side of the opponents is that money contributed by all should not be used to promote a particular creed, especially without strong state control, one of the side of the proponents of state aid is that the money of Catholic taxpayers is an important part of state funds and that the parochial schools educate many students who would otherwise be wholly the burden of the already overtaxed public schools and that therefore some part of the expense should be paid from public taxes

parody (păˊrudē), mocking imitation in verse or prose of a literary work One of the oldest parodies is the Greek *Battle of the Frogs and Mice*, which mocks heroic battles in Homer This method of parody, the use of an author's exalted style to deal with a trivial situation, can be found in all literatures at all periods Aristophanes was a master parodist, especially of Euripides In the Middle Ages the Goliards (see GOLIARDIC SONGS) used the rituals of the Church to sing the praises of Venus and Bacchus. In English literature parodies were written by Chaucer and John Skelton and by scores of writers in the 17th cent Almost all the famous writers, including Shakspere and Milton, have been parodied, and many, including Pope, Swift, Fielding, Byron, Thackeray, and Swinburne, have written parodies In the 19th cent *Blackwood's Magazine* contained numerous mock imitations of the romantic poets In more recent times Max Beerbohm in prose and John Squire in verse are well-known parodists In America, Bret Harte wrote numerous parodies, in the 20th cent Ogden Nash and S J Perelman consciously imitate and ridicule the styles of poets and prose writers, while Carolyn Wells and Louis Untermeyer have written more conventional parodies of single poems See George Kitchin, *Survey of Burlesque and Parody in English* (1931)

parole (purōlˊ), release from prison of a convict before the expiration of his term on condition that his activities be restricted and that he report regularly to an officer The convict remains under sentence until the end of his term, and the restrictions (as of residence, occupation, type of associates) and the supervision are intended to prevent a relapse into crime Any violation of parole may result in return to imprisonment The procedure of parole (often called probation) is regulated by statute in the jurisdictions of the United States It is less often administered directly by the executive than it is by a board or officer with the power to release a convict after he has served the minimum of an indeterminate sentence Parole is granted to one who has shown by his conduct in prison that he has probably reformed It is designed to save the expense of maintaining in prison persons who seem to offer no further risk and speedily to rehabilitate them In military law, a parole is the promise by a prisoner of war on being released from confinement that he will not attempt to escape nor will he take up arms in the current hostilities against the forces which captured him

paronychia see FELON

Paropamisus (păˌrupăˊmĭsus, -pumīˊsus), mountain range, N Afghanistan, stretching W from the Hindu Kush toward the Elburz mts in Iran Occasionally the name is extended to the Hindu Kush The Paropamisus itself gives rise to the Murgab and Hari Rud (Arius) rivers

Paros (păˊrŏs, Gr pàˊrôs), island (77 sq mi , pop 9,993), off SE Greece, in the Aegean Sea, one of the CYCLADES The land slopes from Mt Hagios Ilias, 2,500 ft high, to the coast, on the mountain are the quarries of the beautiful white Parian marble, used by sculptors as early as the 6th cent B C The Ionian colonists of Paros in turn sent out colonies to Thasos and the Sea of Marmara In the Persian Wars the Athenians accused Paros of dealing with the Persians Later the island was taken into the Athenian confederacy On Paros there have been found two marble fragments of a great inscription, called the Parian Chronicle It was set up after 263 B C , its terminal date The dating is Athenian, but the events are more general Of the extant fragments, the larger (covering 1581 B C -354 B C) is one of the Arundel Marbles, at Oxford, England, the smaller (356-299 B C) is in a museum on Paros

Parosh (pā'rŏsh) [Heb , =flea], ancestor of a Jewish family Ezra 2 3, 10.25, Neh 3 25, 7 8, 10 14. Pharosh Ezra 8 3

Parowan (pā'rûwăn", pā'-), city (pop 1,525, alt. 5,990 ft.), co. seat of Iron co , SW Utah, near the Parowan Mts Settled by Mormons in 1851 in the "iron mission" with CEDAR CITY, it was from the beginning a farm community There are many ranches in the area. It was nominally capital of Utah Territory from 1858 to 1859.

Parr, Catherine, 1512-48, queen consort, the sixth wife of Henry VIII of England She was the daughter of Sir Thomas Parr, an officeholder at the court. Catherine had been twice widowed before Henry made her his wife in 1543 She exerted a beneficent influence over the aging king, interceded in behalf of Henry's daughters, Mary and Elizabeth (whom she helped to educate), and served for a time as queen regent (1544) At one time Catherine barely escaped the fate of her queenly predecessors, but she lived to become queen dowager and to wield considerable power at the start of the reign of Henry's son, Edward VI She married (1547) Baron Seymour of Sudeley, but died in childbirth the next year

Parr, Samuel Wilson, 1857-1931, American chemist, b Granville, Ill , grad Univ of Illinois, 1884 He was professor of applied chemistry at the Univ of Illinois from 1891 to 1926 He devised calorimeters for determining the heat value of coal and of combustible gases and discovered illum (an alloy, chiefly nickel, chromium, and copper, used as a substitute for platinum) He wrote on the analysis of fuels, water, and lubricants and on the constitution and classification of coal

Parr, Thomas, 1483?-1635, English centenarian, known as Old Parr His birth date is unauthenticated, and the chief sources of information about him are a pamphlet by John Taylor (the Water Poet) entitled *The Olde, Olde, Very Olde Man* (1635) and an account by the physician William Harvey, who examined him after his death in London Thomas Howard, 2d earl of Arundel, had brought Parr from Parr's native Shropshire to present him to Charles I, and according to Harvey, the old man died from the effects of change of climate and diet He was buried in Westminster Abbey

parrakeet see PARAKEET

Parral see HIDALGO DEL PARRAL

Parramatta (pă"rumăˊtu), municipality (pop 20,825), New South Wales, Australia, a port near the head of Parramatta River and WNW of Sydney, in the metropolitan area It produces and exports woolen and leather goods

Parramatta River, 15 mi long, west arm of Port Jackson, E New South Wales, Australia Many suburbs of Sydney line its shores

Parran, Thomas (păˊrun), 1892-, American surgeon general, b St Leonard, Md , M D Georgetown Univ , 1915 After entering the U S Public Health Service in 1917, he served as chief of the division of venereal diseases (1926-30) and later as surgeon general (1936-48) He launched, in 1937, a nationwide campaign against venereal diseases In 1948 he became dean of the graduate school of public health at the Univ of Pittsburgh He is the author of *Shadow on the Land* (1937)

Parras (păˊrās), city (pop 15,555), Coahuila, N Mexico In a well-watered valley of a semiarid region, Parras has orchards and vineyards that make the city famous for wines and brandies There are also cotton and flour mills It was occupied (1846) by U S troops in the Mexican War, and the French were defeated here (1866) in the French intervention Parras was the home of Francisco I MADERO, Mexican revolutionist and president

Parrhasius (pŭrāˊshēŭs), fl c 400 B C , Greek painter He was born in Ephesus, but settled in Athens and is classed with the Attic painters One of the greatest painters of Greece, a contemporary and rival of Zeuxis, he is credited by ancient writers with having been the first painter to attain perfect symmetry and correct proportions in his figures and the first successfully to suggest contour by the employment of light and shade Among the most celebrated of his numerous works were an allegorical painting, *Demos*, personifying the Athenian democracy, and *Theseus*, which was preserved at the Capitol in Rome All his works have perished and are known only through descriptions by classical writers

Parrington, Vernon Louis, 1871-1929, American educator and literary critic, b Aurora, Ill , grad Harvard, 1893 Professor of English at the Univ of Washington after 1908, he is famous for his stimulating and thoughtful *Main Currents in American Thought* (3 vols , 1927-30, in one volume, 1939), the second volume of which was awarded a Pulitzer Prize in history

Parrish, Stephen, 1846-1938, American etcher and painter, b Philadelphia He painted landscapes but was noted as an etcher His New England scenes, such as the fine series *Cape Ann to Marblehead*, are widely known in America and abroad His son, **Maxfield Parrish,** 1870-, American painter, illustrator, and mural decorator, b Philadelphia, was a pupil of Howard Pyle He is known for his original and highly decorative posters, magazine covers, and book illustrations and for his mural decorations He has painted murals for the home of Mrs Harry Payne Whitney at Westbury, N Y , the building of the Curtis Publishing Company in Philadelphia, and elsewhere His glowing colors, especially the blues, are characteristic He illustrated *Mother Goose in Prose*, Washington Irving's "Knickerbocker" *History of New York*, Eugene Field's *Poems of Childhood*, *The Arabian Nights*, Mrs Wharton's *Italian Gardens*, Kenneth Grahame's *Golden Age* and *Dream Days*, and other volumes He was admitted to the National Academy of Design in 1906

Parris Island see SEA ISLANDS

parrot, name of certain members of a large order of birds which includes the PARAKEET, the COCKATOO, and the MACAW They occur chiefly in tropical and subtropical portions of both hemispheres, though the ranges of some extend into the temperate regions Parrots have four toes, two facing forward and two backward, which are adapted for climbing and perching and for holding food while they eat it, but not for walking The bill is strong and hooked and the upper mandible is hinged to the bones of the head Almost all parrots live on fruits and seeds Usually their voices are harsh Many species in captivity learn to speak by imitation In this ability the yellow-headed parrot found from South America N to Mexico, the Panama parrot, and the African gray parrot excel The thick-billed parrot ranges from Mexico into parts of the SW United States Its plumage is chiefly green with red on the head, shoulders, and thighs The partially insectivorous kea parrot of New Zealand acquired the habit of attacking sheep Parrots have long been popular as cage birds With good care they may live for 100 years Some small parrots are called love birds

parrot fever see PSITTACOSIS

Parrsboro, town (pop 1,971), N N S , a port on the north shore of Minas Basin of the Bay of Fundy. It serves an important mining and agricultural area between the basin and Chignecto

Parry, Sir William Edward (păˊrē), 1790-1855, British arctic explorer and rear admiral He entered the navy at 13 and made his first voyage to the arctic under Sir John Ross in 1818 in search of the Northwest Passage He was then put in command of an expedition (1819-20) to hunt for the passage. F W Beechey was a member of the party Parry sailed westward through Lancaster Sound and discovered and named Melville Island and others of the Parry Islands Two other unsuccessful attempts were made (1821-24, 1824-25) to find the Northwest Passage, in the course of which Hecla and Fury Strait was discovered and new information about the arctic regions was disclosed In 1827 Parry made an attempt to reach the North Pole by sledge from Spitsbergen, attaining lat 82° 45' N He published three journals describing his quest for the passage as well as a narrative of his attempt to reach the pole

Parry Islands, archipelago, off N Canada, in the Arctic Ocean, a part of Franklin dist , Northwest Territories The islands include MELVILLE ISLAND, Bathhurst Island, Devon Island, Prince Patrick Island, and numerous others The group was named for Sir William Edward PARRY, who discovered and named many of the individual islands in his expedition of 1819-20

Parry Sound, town (pop 5,765), S Ont., on Parry Sound (an inlet of Georgian Bay of Lake Huron) and NNW of Toronto It has railroad shops and lumber and woodworking plants and is in a region mining copper and feldspar It is also a summer resort.

Parsees see PARSIS

Parshandatha (purshănˊduthu), one of Haman's sons Esther 9 7

Parsifal (pärˊsĭfəl), figure of ARTHURIAN LEGEND, also known as Sir Percivale, who is in turn a later form of a hero of Celtic myth The name originally occurs as Pryderi, an alternative name of Gwry in the *Mabinogion* in *Pwyll Prince of Dyved* Since Gwry is the original of Gawain, it is not surprising that in the later Perceivale stories Gawain appears, fulfilling often the same role as the hero Another Welsh story, usually included with the *Mabinogion*, is *Peredur Son of Evrawc* This Peredur is another form of Pryderi, and parts of both their stories have survived in the later Percivale stories The great feature of the Percivale cycle is the Holy GRAIL, and the connection of this sacred talisman with the hero is not fortuitous but is to be found in Welsh sources CHRESTIEN DE TROYES is the author of the first great artistic treatment of the theme the hero who finds the Grail at the Fisher King's castle and heals the king Chrestien's poem is unfinished WOLFRAM VON ESCHENBACH's *Parzival* is one of the greatest medieval poems It is drawn largely from Chrestien, but it is manifestly superior In it the story is highly spiritualized and appears practically in the form used by Richard Wagner in his music drama *Parsifal* See R S. Loomis, *Celtic Myth and Arthurian Romance* (1927) and *Arthurian Tradition & Chrétien de Troyes* (1949)

Parsis or **Parsees** (both pärˈsēs, parsēzˈ), religious community of India, practicing ZOROASTRIANISM The Parsis (numbering 114,890) are concentrated in Bombay prov , especially in Bombay city Their ancestors migrated from Iran, apparently in the 8th cent They use the ancient Pahlavi scriptures and are faithful to much of the Zoroastrian dogma The Parsis deny the frequent assertion that they worship fire, rather they reverence fire (along with other aspects of nature) as manifestations of the divinity of Ahura Mazdah The Parsis dispose of their dead so as to avoid contaminating fire, earth, or water. The bodies are exposed naked in "towers

of silence" (buildings some 20 ft high with an enclosed courtyard) where vultures devour them The community is closely unified, and the schools established by the wealthier members have helped make the Parsis one of the best-educated groups of India The economic importance of the Parsis is out of proportion to their small number The cotton industry of Bombay and the steelworks of Jamshedpur are their principal enterprises See D F Karaka, *History of the Parsees* (1884)

parsley, Old World aromatic biennial or short-lived perennial herb (*Petroselinum hortense* or *sativum* or *Apium petroselinum*), cultivated since the days of the Romans for its foliage, used in cookery as a seasoning and garnish In ancient times parsley was used also for chaplets and as a funeral decoration. It contains the oil apiol The leaves are commonly finely cut and curled Hamburg parsley is a variety grown for its edible root

Parsnip, river, 150 mi. long, rising in central British Columbia in the Cariboo dist and flowing northwest to join the Finlay river at Finlay Forks and form the Peace river Discovered by Sir Alexander Mackenzie in 1793, it became, with the Peace, an important fur-trade route

parsnip, garden plant (*Pastinaca sativa*) of the carrot family, native to the Old World It has been cultivated since Roman times for its long, fleshy, edible root. Wine and beer have also been made from it The wild form has become naturalized in North America, often proving a bad pest Parsnip is a biennial but is cultivated as an annual The root can be left in the ground all winter without deterioration It is sometimes used as livestock feed

Parsons, Alfred William, 1847–1920, English landscape painter and illustrator His English scenes in water color are well known Many of his illustrations appeared in *Harper's Magazine* Together with Edwin A Abbey he illustrated *Old Songs, The Quiet Life,* Goldsmith's *She Stoops to Conquer,* and *Notes in Japan* (text also by Parsons)

Parsons, Sir Charles Algernon, 1854–1931, British engineer He invented the steam turbine which bears his name and which revolutionized marine travel His famous *Turbinia,* the first vessel to be propelled by turbines, was completed in 1897 Her amazing speed immediately claimed attention and led to the founding of the Parsons Marine Turbine Company Parsons also invented a device for improving phonographs, was a pioneer in aviation, and produced a nonskid device for automobile tires He was knighted in 1911.

Parsons, Robert · see PERSONS, ROBERT

Parsons, Theophilus, 1750–1813, American jurist, b. Byfield, Essex co , Mass , grad Harvard, 1769 He studied law and later became one of the leading lawyers in New England In 1778 he was an outstanding member of the ESSEX JUNTO in opposition to the state constitution framed by the legislature As a delegate to the state constitutional convention he helped to frame a new constitution He was a warm supporter of the Constitution of the United States in 1788 and helped to secure its ratification by Massachusetts He was chief justice of Massachusetts from 1806 until his death His son, **Theophilus Parsons,** 1797–1882, also a lawyer, was born in Newburyport and was graduated from Harvard (1815) He was a professor of law at Harvard and wrote many manuals on branches of the law He was converted to Swedenborgianism and wrote several religious works

Parsons, Thomas William, 1819–92, American poet, b. Boston He was especially noted for his translation (2 parts, 1843–65) of Dante's *Inferno* See his letters (ed by Zoltan Haraszti, 1940)

Parsons, William: see ROSSE, WILLIAM PARSONS, 3D EARL OF.

Parsons, William Barclay, 1859–1932, American civil engineer, b New York city, grad Columbia, 1879. In the Spanish-American War he served as an officer of engineers Immediately after the war he went to China, where he surveyed a railroad from Canton to Hankow In 1900 he returned to New York, built the first section of the Interborough subway, and as chief engineer of the Rapid Transit Commission designed and constructed New York city's East River tunnels He served as a member of the Isthmian Canal Commission (1904–5) and as chief engineer (1905–14) of the Cape Cod Canal In the First World War, Parsons commanded the 11th Engineers, the first American troops in France, and later was made brigadier general in the reserve corps. He was a member of the board of trustees of Columbia Univ. after 1897 and chairman after 1917 His writings include *An American Engineer in China* (1900), *The American Engineers in France* (1920), and *Robert Fulton and the Submarine* (1922).

Parsons, William Edward, 1872–1939, American architect and city planner, b Akron, Ohio, grad. Yale, 1895, and studied architecture at Yale and the École des Beaux-Arts In 1905 he became a government consultant in the Philippines, where he designed many public buildings and planned the restoration of the old city walls and moats as public parks As a partner in the firm of Bennett, Parsons, and Frost, Chicago, he designed civic improvements in many cities. In 1938 he became associate professor of architecture at Yale.

Parsons. 1 City (pop. 14,294), SE Kansas, W of Pittsburg, laid out 1870, inc 1871. It is a shipping point for grain, dairy products, and livestock There is a state hospital for epileptics 2 Town (pop 1,079), W Tenn , E of Jackson and near the Tennessee, in a farm area 3 City (pop 2,077), co seat of Tucker co , N W Va , NE of Elkins, inc 1893 It has tanneries and woolen mills. The battle of Corrick's Ford was fought here in 1861.

Parsons College . see FAIRFIELD, IOWA

parthenogenesis (pär"thənŏjĕn'əsĭs), in biology, a form of reproduction in which an egg (a female sexual cell) develops into a new individual without fertilization, i e , without union with a sperm cell. The process falls into the category of sexual reproduction—in spite of the fact that only one kind of cell is concerned—because the cell involved is an ovum in that it undergoes maturation as do other ova, in some cases it shows a reduction in chromosomes, and in some cases it may develop when either fertilized or unfertilized Parthenogenesis occurs frequently among the insects A typical example is seen in various species of APHID In the honey bee, fertilized eggs develop into workers and queens, while from unfertilized eggs are developed drones (males) This condition is found also among ants and wasps It was discovered (by Jacques Loeb, 1899) that an unfertilized egg of a sea urchin could be made to begin development by subjecting it to certain stimuli (as salt water of higher salt content than normal) The process is known as artificial parthenogenesis, and the eggs of a number of invertebrates (certain echinoderms, annelids, and mollusks) and of some vertebrates have been treated Mechanical methods used as stimuli include pricking the egg with a sharp needle, stroking the egg, and subjecting it to changes of temperature and pressure Chemical methods include the use of such substances as benzol, chloroform, ether, alcohol, and the solutions of various salts The development of eggs artificially stimulated frequently does not progress to any great extent, although frogs' eggs thus treated have developed into tadpoles which later became frogs and in 1039 the development of a rabbit from an unfertilized ovum was reported Parthenogenesis occurs in relatively few plants, being found in certain lower forms (algae and fungi) and rarely in seed plants (in certain members of the composite group)

Parthenon (pär'thənŏn) [Gr ,=the virgin's place], temple sacred to the goddess Athena, on the ACROPOLIS at Athens, and the culminating masterpiece of Greek architecture It was built under the rule of Pericles, between 447 B C and 432 B C The colossal gold and ivory statue of ATHENA PARTHENOS by Phidias was dedicated c 438 ICTINUS and CALLICRATES were the architects of the building, and PHIDIAS the supervisor of sculpture The temple is peripteral, with 8 Doric columns at each end and 17 on the flanks, it stands upon a stylobate three steps high The body of the building comprised a cella and behind it an inner chamber (the Parthenon proper) which gave the temple its name At front and rear, coming behind the outer colonnade, were two porticoes, the pronaos and opisthodome respectively Within the cella a Doric colonnade two tiers high supported the roof timbers and divided the space into a lofty central nave bounded by an aisle on three sides Toward the west end of this nave stood the *Athena Parthenos,* about 40 ft high The inner chamber, to the west, apparently served as treasury and was entered by a large western doorway The pediments terminating the roof at each end of the building were ornamented with sculptured groups of great perfection The upper part of the cella walls and the friezes above the porticoes formed a continuous band of sculpture around the building, representing the Panathenaic procession held every fourth year in homage to the goddess Of the 525 ft. of this sculptured Panathenaic frieze, 335 ft still exists, the western portion being still in its position, while the greater part of the remainder was removed by Lord Elgin and installed in the British Museum (see ELGIN MARBLES) In the 6th cent the Parthenon became a Christian church, an apse being added at the east end It next served as a mosque, and a minaret was added to it In 1687, in the Venetian attack on Athens, it was used as a powder magazine by the Turks and the entire center portion was destroyed by an explosion In the 18th cent a recognition of the beauty of the remains commenced, and in 1762 measured drawings by James Stuart and Nicholas Revett revealed this beauty to the world, giving strong impetus to the CLASSIC REVIVAL After the end (1830) of Turkish control, concentrated archaeological study of the Parthenon commenced The subtle optical refinements of the structure were discovered and published, notably by F C Penrose in *An Investigation of the Principles of Grecian Architecture* (2 vols , 1851–52). Numerous attempts have since been made to establish the mathematical or geometrical basis supposedly employed in producing the design's high perfection The work of actual reconstruction, utilising existing fragments, has continued up to the present.

Parthenopaeus (pär"thənōpē'əs), in Greek legend, one of the SEVEN AGAINST THEBES, sometimes called a son of ATALANTA.

Parthenopean Republic (pär"thənōpē'ən) [from Parthenope, an ancient name of Naples], democratic government set up in Naples in Jan., 1799, by the French army under CHAMPIONNET and by liberal Neapolitans after the flight of Ferdinand IV (later FERDINAND I of the Two Sicilies) In February, Cardinal Ruffo, at the head of royalist troops, landed in Calabria and made swift progress. French military reverses in N Italy prompted the evacuation by the French of Naples (May), and in June the republic fell Lord NELSON, whose role in the Bourbon victory was crucial, ignored Cardinal Ruffo's generous convention with the surrendering revolutionists and started the brutal reprisals which were continued by the Bourbons

Parthia (pär'thēə), in ancient times, a country of Asia, SE of the Caspian Sea In its narrowest limits, it consisted of a mountainous region intersected with fertile valleys, lying S of Hyrcania and corresponding roughly to the modern Persian province of Khurasan It was included in the Assyrian and Persian empires, the Macedonian empire of Alexander the Great, and the Syrian empire The Parthians, mentioned in Acts 2 9, were of Scythian stock and were famous horsemen and archers In 250 B C , led by Arsaces, they freed themselves from the rule of the Seleucidae and founded the Parthian empire. At its height, in the 1st cent B C , this empire extended from the Euphrates across Afghanistan to the Indus and from the Oxus to the Indian Ocean Defeating Crassus in 53 B C , the Parthians threatened Syria and Asia Minor, but they were turned back by Ventidius in 39–38 B C Then began the decline of the empire, which in A D 226 was conquered by Ardishir (Artaxerxes), the founder of the Persian dynasty of the Sassanidae The chief Parthian cities were Seleucia, Ctesiphon, and Hecatompylos, ("the city of a hundred gates" Such expressions as "a Parthian shot" were suggested by the Parthian ruse in which mounted men used their arrows effectively while in simulated flight

part of speech, in English grammar, one of about eight major classes of words, divided according to function The parts of speech are NOUN, VERB, ADJECTIVE, ADVERB, INTERJECTION, PREPOSITION, CONJUNCTION, and PRONOUN Some grammarians add articles and numerals A few forms are two parts of speech at once, e g , participles, which can be both verbs and adjectives The term "part of speech" is especially appropriate to the Indo-European languages, most of which resemble English grammatically The term for a major class of words determined by form is form class In English, though the parts of speech (which are by definition function, not form, classes) are not coextensive with the form classes, some form classes are peculiar to one part of speech, thus, the form class of words inflected with *-ing* and *-ed* is not identical with, but wholly included in, the function class of verbs Most languages have two or three form classes, but few have so many as the Indo-European languages Some English parts of speech are productive classes (i e , new members may be added), they are nouns, verbs, adjectives, adverbs, and interjections The rest are nonproductive See Edward Sapir, *Language* (1921), Leonard Bloomfield, *Language* (1933)

Parton, Arthur, 1842–1914, American landscape painter, b Hudson, N Y , studied at the Pennsylvania Academy of the Fine Arts He excelled in misty and evening effects, such as *Night in the Catskills* and *Evening Harlem River* (both Metropolitan, Mus) and *Misty Morning* (Brooklyn, N Y , Mus) His *Loch Lomond* is in the John Herron Art Institute, Indianapolis He became a member of the National Academy of Design in 1884

Parton, James, 1822–91, American biographer, b England He came to the United States in 1827 He taught school and in 1848 joined the staff of N P Willis's *Home Journal* in New York city He married Sara Payson Willis, also a writer, in 1856 His biographical writing began with the very successful *Life of Horace Greeley* (1855) and was followed by biographies of Aaron Burr (1857), Andrew Jackson (1859–60), John Jacob Astor (1865), and others He was an unprejudiced student and a vivid writer

Parton, Sara Payson Willis, pseud. **Fanny Fern,** 1811–72, American author, b. Portland, Maine Her once popular writings include *Fern Leaves from Fanny's Portfolio* (1853) and a novel, *Ruth Hall* (1855), which caricatures her brother, N P Willis. She was the wife of James Parton

Partridge, Sir Bernard, 1861–1945, English caricaturist, illustrator, and painter. He was principal cartoonist for *Punch* from 1891 until his death. He began his career by designing for stained glass, worked at church decoration, and painted in water colors, but he is best known for his book illustrations and cartoons.

Partridge, William Ordway, 1861–1930, American sculptor, author, and lecturer, b. Paris, studied in Florence, Rome, and Paris. He made portrait busts of Whittier (Boston Public Library), Tennyson,

and Longfellow and a statue of Shakspere (Lincoln Park, Chicago) Other works are Pocahontas (Jamestown, Va); Kauffmann Memorial and Nathan Hale (Washington, D C), Alexander Hamilton and an equestrian statue of General Grant (Brooklyn, N Y), Thomas Jefferson, Alexander Hamilton, bust of Van Amringe, and Schermerhorn Memorial (Columbia Univ), *Pietà* (St Patrick's Cathedral, New York), and *Peace* (Metropolitan Mus) He lectured on art and sociology Included in his writings are *Art for America* (1894), *Technique of Sculpture* (1895), and *The Angel of Clay*, a novel in verse (1900)

partridge, name used for various henlike birds The true partridges belong to the Old World; the common European or Hungarian species has been successfully introduced into parts of North America The name is used in New England for the ruffed GROUSE, in the West and South for the BOBWHITE Europeans often call the South American tinamou a partridge. The mountain partridge of the West is the mountain QUAIL

partridgeberry, small evergreen trailing plant (*Mitchella repens*) of North American woods The rounded leaves, white twin flowers, and scarlet berrylike fruits have made it popular, particularly for glass bowls at Christmas time It has been used as a tonic, diuretic, and astringent, the fruits, lasting all winter, are edible but tasteless Other names are squawberry and twinberry

party, political, organization of voters and officeholders or candidates for office acting in general agreement on the aims and policies of government and seeking to form or conduct an administration There were popular and aristocratic parties in ancient Greece and Rome, but modern parties date from the growth of concepts of popular government in 18th-century England, France, and America Under dictatorial regimes there is generally a single official party which forms an integral part of the state apparatus and usually suppresses all dissentient bodies Democratic states usually have two or more parties The existence of only two major parties, as in most English-speaking countries, presupposes general public agreement on constitutional questions and on the aims of government Multiple parties, found in Europe and elsewhere, may indicate the existence of conflicting social and economic panaceas or may represent racial or religious groupings among the population Coalition governments usually exist in nations where many parties flourish, and, while flexible and responsive to public opinion, these tend to be less powerful and durable than governments formed from one party See W E Binkley, *American Political Parties* (1943)

Paruah (pär'ŭa, pärū'a), father of one of Solomon's stewards 1 Kings 4 17

Parvaim, (pärvā'ĭm) unknown region whence came gold for the Temple 2 Chron 3 6

Parzifal, see PARSIFAL and ARTHURIAN LEGEND

Pasach (pā'săk), Asherite chief 1 Chron 7 33

Pasadena (pă'sădē'na) **1** Residential and resort city (pop 81,864), S Calif, NE of Los Angeles between the San Gabriel Mts and the San Rafael Hills, founded 1874, inc 1886, chartered 1901 It is the scene of the annual Tournament of Roses and of the East-West football game held (Jan 1) in the famous Rose Bowl (seating 85,000 spectators) The city is the seat of the CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena College (Nazarene, coeducational, 1901), a junior college (coeducational), a fine community playhouse, and the Busch Gardens, noted for rare flora Mt Wilson and Mt Lowe observatories are near by, as is the Huntington Library and Art Gallery (at San Marino) **2** Town (1940 pop 3,436, 1947 estimated pop 7,000), S Texas, SE of Houston, inc 1928 It is an industrial suburb with oil refineries and a paper mill

Pasargadae (pŭsär'gŭdē), capital of ancient Persia under Cyrus the Great Its ruins lie 54 mi by road NE of Persepolis and double that distance from modern Shiraz, on the hill-enclosed Murgab plain, on both sides of the Pulvar river The buildings of Cyrus include a stone platform overlooking the plain; a shaft bearing his likeness in low relief, and his tomb, a structure of white stone 18 ft. high, on a more massive base According to Greek historians, Alexander the Great found Cyrus's tomb already rifled and sealed its entrance, the tomb has long since been reopened The Moslems attribute the ruins to Solomon

Pascagoula (păskŭgōō'lŭ), city (pop 5,900), co seat of Jackson co, extreme SE Miss, a port of entry on Mississippi Sound at the mouth of the Pascagoula Resort, pecan-shipping, fishing, and boatbuilding center, it grew around the "Old Spanish Fort," built in 1718, and still extant Large quantities of lumber were shipped in the late 19th cent Pascagoula has U S. dry docks and also a U S coast guard base.

Pascal, Blaise (pă'skăl, păskăl', Fr. blĕz' paskal'), 1623–62, French scientist and religious philosopher Studying under the direction of his father, a civil servant, Pascal showed great precocity. In 1646 the family embraced Jansenism, and its effect was so great that Pascal's sister Jacqueline entered a convent in 1651, and Pascal himself sought retreat at Port-Royal in 1653, although he never entered the order. Pascal was a great mathematician in a time when mathematics was extensively studied, and it is possible that his contributions in this field outweigh the value of his philosophical writings He is credited with founding the modern theory of probabilities, inventing the mathematical triangle (*Pascal's triangle*), discovering the properties of the cycloid, and contributing to the advance of differential calculus. In physics his experiments increased knowledge of atmospheric pressure through barometric measurements and of the equilibrium of fluids (see PASCAL'S LAW) The extent of Pascal's interests and his originality of approach indicate the greatness of his genius When Antoine Arnauld, noted Jansenist, was attacked by the Jesuits, Pascal championed Arnauld in his *Lettres écrites à un provincial* (1656). These *Provincial Letters*, rendered into Latin, quickly traveled throughout Europe and still hold a leading place in the literature of polite irony Pascal's religious writings were published posthumously in 1670 as *Pensées de M Pascal sur la religion et sur quelques autres sujets*, but this edition is regarded as fragmentary and garbled In 1776 Condorcet edited the *Pensées*, but the edition by Prosper Faugère in 1844 is regarded as more competent An English translation, *Thoughts on Religion and Evidence of Christianity*, appeared in 1850 In the *Pensées* Pascal, convinced of the powerlessness of reason to solve man's difficulties or satisfy his hopes, exalts faith and mystic revelation, saying "the heart has reasons of which reason itself knows nothing" See biography by Morris Bishop (1936), Emile Caillet, *The Clue to Pascal* (1944)

Pascal's law [for Blaise Pascal] states that pressure applied to a confined fluid at any point is transmitted undiminished through the fluid in all directions and acts upon every part of the confining vessel at right angles to its interior surfaces and equally upon equal areas Practical applications of the law are seen in hydraulic machines

Paschal II (pă'skul) [Latin, of Easter], d 1118, pope (1099–1118), an Italian (b near Ravenna) named Raniero, successor of URBAN II and predecessor of GELASIUS II He was a Cluniac monk and, as a reformer, was made a cardinal by GREGORY VII He was a loyal supporter of Urban also His reign began well Philip I of France was reconciled with the Church (1104), St ANSELM was victor in his struggle in England, and the Crusaders were successful Emperor HENRY IV was deposed (1105), but his son HENRY V proved no less strongly antipapal in the quarrel over INVESTITURE Henry V invaded Italy in 1110, negotiations between emperor and pope failed, and the emperor captured Paschal, who was compelled to surrender the papal position on investitures Once freed, however, and encouraged by clerical protests, the pope reaffirmed the legislation against lay investiture in 1112 and 1116 The name is also spelled Pascal

Pasco (păs'kō), city (pop 3,913), co seat of Franklin co, SE Wash, near the confluence of the Columbia and Snake rivers, settled c 1880 It is a railroad junction and farm trading center

Pascoli, Giovanni (jōvan'nē pä'skōlē), 1855–1912, Italian poet He succeeded Giosuè Carducci as professor of literature at Bologna in 1905 He wrote lyric verse of an idyllic type, sometimes disfigured by the introduction of technical words, dialect, and other irregularities but abounding in exquisite detail He was called the son of Vergil, not because he wrote Latin poems after the *Georgics* and won the international prize for Latin verse at Amsterdam 14 times, but because he makes the peasant life of Italy as close to the life of flocks and bees as it was in the days of Vergil or Theocritus His verse also abounds in symbolistic effects Besides essays, his Latin verses and seven volumes of Italian poems were published from 1891 to 1913 Translations have not done him justice, but much of his work has appeared in English See his *Poems*, tr by Evaleen Stein (1923) and by A M Abbott (1927), and *Selected Poems* (ed by G S Purkis, 1938), G A Greene, tr, *Italian Lyrists of Today* (1893), R S Phelps, *Italian Silhouettes* (1924).

Pas-dammim, variant of EPHES-DAMMIM

Pas-de-Calais (pä-dŭ-kälā'), department (2,607 sq mi; pop 1,168,545), N France, on the Strait of DOVER (Fr *Pas de Calais*) It occupies ARTOIS and part of PICARDY Calais and Boulogne-sur-Mer are the chief ports, coal mining, fishing, and textile manufacturing are the chief industries Arras is the departmental capital

Paseah (pŭsē'ä) [Heb, =lame] **1** Name in an obscure genealogy. 1 Chron 4 12 **2** Family returned with Zerubbabel Ezra 2 49; Neh 3 6, 7 51. Phaseah Neh. 7.51.

Pashitch, Nikola (nē'kôlä pa'shĭch), Serbo-Croatian *Pašić*, 1846–1926, Serbian statesman He founded (1881) the Radical party, which he led for the rest of his life, and was premier in 1891–92 for the first of many times. Exiled (1899) by King Alexander, he returned to power after the accession (1903) of Peter I and virtually controlled SERBIA in the years preceding the First World War. Strongly pro-Russian and advocating the creation of a greater Serbia, he adopted a violently anti-Austrian policy after the annexation by Austria of BOSNIA AND HERCEGOVINA The Austrian government accused him (1914) of having possessed knowledge of the plot against Archduke FRANCIS FERDINAND, whose assassination precipitated the war He led Serbia through the war and in 1917 negotiated the union of Serbs, Croats, and Slovenes (see YUGOSLAVIA) He was an important figure at the Paris Peace Conference of 1919 and was premier of Yugoslavia for most of the time from 1920 until his death Favoring a centralized state, he met bitter opposition in Croatia Pashitch's chief importance was as a figure in the tortuous diplomatic history of the early 20th cent See S B Fay, *The Origins of the World War* (1928)

Pashur (pā'shur) **1** Official who mistreated Jeremiah Jer 20 3 **2** Messenger to Jeremiah from the king Jer 21 1, 38 1 He is probably the ancestor of a postexilic priestly family 1 Chron 9 11, Ezra 2 38, Neh 7 41, 11 12 **3** Father of a contemporary of Jeremiah Jer 38 1 **4** Priest Neh 10 3

Pasig (pä'sĭg), river of SW Luzon, Philippine Islands, rising in Laguna de Bay and flowing 14 mi NW through Manila to Manila Bay The Pasig is navigable and commercially important

Pasiphaë (pusĭ'fāē), in Greek legend, wife of MINOS and mother of ANDROGEUS, ARIADNE, and PHAEDRA Poseidon gave Minos a white bull for sacrifice, but Minos kept it for himself Poseidon, out of revenge, aroused in Pasiphaë a passion for the bull The child of this union was the MINOTAUR

Paskevich, Ivan Feodorovich (ēvan' fyō'durŭvĭch pŭskyā'vĭch), 1782–1856, Russian general He fought in the Napoleonic Wars, was created count of Erivan after conquering (1827) Persian Armenia, and became field marshal after his successful campaign against the Turks on the Caucasian front (1828–29) He captured Warsaw from the Polish insurrectionists in 1831, for which exploit he was made prince of Warsaw and viceroy of Poland, in 1849 he led the Russian troops which suppressed the Hungarian insurrectionists In the Crimean War he commanded the army of the Danube, which guarded the frontiers against Austria

Pasoeroean, Indonesia see PASURUAN

Paso Robles (pă'sō rō'bulz, pa'sō rō'blĕs), resort city (1940 pop 3,045, 1944 special census pop 6,364), S Calif, on the Salinas and N of San Luis Obispo, inc 1889 It has hot mineral springs San Miguel Arcángel Mission (founded 1797) is near by

pasqueflower (păsk) [O Fr pasque=Easter], bluish open-bell-shaped wild flower of the prairie regions of North America As a herald of spring and a symbol of old age (from the silvery heads of feathery seeds), the plant has been made the subject of Indian song and legend It is the floral emblem of South Dakota Patches of the flowers on their short, furry stems give an appearance of haze, for this reason the plant in the Great Plains region is called prairie smoke Other names for the American variety are gosling flower, sandflower, windflower, wild crocus, and ANEMONE The pasqueflower was so called in Europe because it was in bloom at the Easter season Botanically, the pasqueflower, a perennial, has been known both as *Anemone* and *Pulsatilla* It contains a poison and is an irritant when fresh, the crushed leaves were applied by Indians as a counterirritant in cases of rheumatism and neuralgia.

Pasquier, Étienne (ātyĕn' pakyā'), 1529–1615, French jurist and humanist After study under Cujas, Pasquier began his legal career in 1549 Always a confirmed Gallican, in 1564 he pleaded a famous case for the Univ of Paris against the Jesuits In 1585 he became advocate general of a division of the Parlement of Paris Pasquier's most notable book, *Recherches de la France*, a learned work on French history and literature, showed the tendency of the humanists to write in the vernacular rather than in Latin

Pasquier, Étienne Denis, duc de (ātyĕn' dunē' dük' du pakyā'), 1767–1862, French statesman A moderate, he held high judicial and cabinet posts under Louis XVI, Napoleon I, and Louis XVIII and became president of the chamber of peers under Louis Philippe A part of his memoirs has been translated by C E Roche (1893–94)

pass, usually a defile between mountains, affording passage from one slope to the other, and sometimes (as THERMOPYLAE) a passageway between other barriers. A pass, like an isthmus, may have great strategic and economic importance, the course of history of a nation has often been determined by its success or failure in defending its pass, and land trade routes must necessarily cross passes In the Alps, SAINT BERNARD, SIMPLON, and SAINT GOTHARD are important, in the Caucasus, DARIAL is traversed by a great military road, in Asia, KHYBER PASS into India and the passes of the HIMALAYAS, KARAKORUM, and other ranges are important

Passaic (pusā'ĭk), city (pop 61,394), NE N J, on the Passaic N of Newark, settled 1678 by Dutch traders as Acquackanonk, named Passaic 1854, inc 1873 It developed industrially in the late 19th cent and is known as a textile (especially wool) and metal-products center. In 1926 occurred a

famous strike in protest against a wage cut and involving the right of assembly

Passaic, river rising near Morristown, N J, and flowing with a winding course past many industrial towns c 80 mi to Newark Bay At Paterson is a fall of approximately 70 ft The river's power aided the growth of industry in NE New Jersey See H E Wildes, *Twin Rivers the Raritan and the Passaic* (1943)

Passamaquoddy Bay (păs″ŭmŭkwŏ′dē), inlet of the Bay of Fundy, between Maine and New Brunswick, at the mouth of the St Croix river Most of it (including Campobello island) is within Canada's border New Brunswick towns in the vicinity are St Andrews and St George, Maine towns are Eastport and Lubec (at the bay entrance) A large project (frequently called the Quoddy project) begun in 1935 with PWA funds to convert the heavy tides (18 ft average range) in the U S sector into hydroelectric power was suspended after Congress refused funds in 1936

Passarowitz, Treaty of (pŭsä′rōvĭts), 1718, peace treaty signed at POŽAREVAC (Ger *Passarowitz*), Yugoslavia, between, on the one hand, the Holy Roman Empire and Venice and on the other, the Ottoman Empire In the preceding war (1714–18) the Turks had been successful against the Venetians in Greece and Crete, but had been defeated in 1716 at Petrovaradin by Eugene of Savoy, who in 1717 also stormed Belgrade The treaty reflected the military situation Turkey lost the Banat of Temesvar, N Serbia (including Belgrade), and Lesser Walachia to Emperor Charles VI (Belgrade and Lesser Walachia were recovered again by Turkey at the Treaty of Belgrade in 1739) As for Venice, it lost all its possessions in the Peloponnesus and on Crete to Turkey

Passau (pä′sou), city (pop 34,626), Lower Bavaria, on the Danube at its confluence with the Inn and on the Austrian border It is a port and railroad center and has machinery and textile industries A Roman frontier outpost known as Castra Batava, Passau was made (8th cent) an episcopal see by St Boniface The bishops of Passau were temporal lords of a substantial territory until 1803, when the bishopric was secularized and given to Bavaria, the diocese was restored in 1817 The Treaty of Passau (1552) was negotiated here between Maurice of Saxony and King (later Emperor) Ferdinand I, who represented his brother, Emperor Charles V Ferdinand promised the release of Philip of Hesse and the other captive Protestant princes, while Maurice and his Protestant allies consented to submit the religious question to a diet, the result was the religious peace of 1555 (see Augsburg, Peace of) Among the landmarks of Passau are the cathedral (partly late Gothic, partly baroque), the late Gothic city hall, the baroque episcopal palace, and the Oberhaus fortress (13th–16th cent), there are many fine houses and fountains in the Bavarian baroque style

Passchendaele (pa′sundā″lu), town (pop 3,137), West Flanders prov, Belgium, near Ypres In the First World War it was carried by the British in 1917 after very heavy losses and was retaken by the Germans in 1918 A former spelling is Paschendaele

Pass Christian (păs″ krĭs″chĭăn′), city (pop 3,338), SE Miss, popular resort on Mississippi Sound between Gulfport and Bay St Louis, settled in the 18th cent There are many fine old mansions

passenger pigeon, beautiful wild pigeon of E North America, once one of the world's most abundant birds, now extinct, Historians of the early 17th cent described its profusion in the New World The last survivor of flocks which even in the late 19th cent were measured in square miles died in captivity in 1914 The birds were exterminated chiefly by the white man's slaughter of infinite numbers of them and by his destruction of their forest haunts Predominantly grayish blue above and reddish fawn below, they resembled in form and coloring the smaller mourning dove

passionflower, any plant of the related genera *Passiflora* and *Tacsonia*, mostly tropical American vines having pulpy fruits Some species are grown in greenhouses for the large unusual flowers of various colors, those seen by early Spanish settlers were interpreted as symbolic of the Crucifixion (whence the name), the 10 petals and sepals, fringed corona, five stamens, three styles, and coiling tendrils representing in order the 10 faithful apostles, crown of thorns, wounds, nails, and scourges The most common North American species (*Passiflora incarnata*), sometimes weedy in the South but often cultivated as far north as it is hardy, has purple and white flowers and edible egg-shaped fruits called maypops, it was once the state flower of Tennessee and was formerly used medicinally The large-fruited and the purple-fruited granadillas (*Passiflora quadrangularis* and *edulis*) are cultivated commercially in the tropics for beverages and sherbets.

Passion play, the genre of the miracle play which has survived from the Middle Ages into modern times Its subject is the suffering and death of Jesus. The first Passion plays were in Latin, but as early as the 13th cent. German verses were interpolated, and in the 15th cent. when the Passion plays had reached their highest development, they were entirely in German By the 16th cent. they had become degraded through contact with the carnival plays, and their production was forbidden by ecclesiastical authorities The Reformation too was inimical to their further development The chief survival among the Passion plays is the one performed at Oberammergau in the Bavarian Alps, It has been given every 10 years (with only three interruptions caused by war) since 1634, in fulfillment, it is said, of a vow that was made if the plague would leave the town The play enacts the passion of Christ from his triumphal entry into Jerusalem to the resurrection It consists of 18 acts, each act being prefaced by orchestral selections, choral anthems, and a scene from the Old Testament which prefigures the theme of the act Over 700 villagers participate The play takes a morning and an afternoon to perform In the United States several towns hold Passion plays The oldest of these is *Veronica's Veil*, which has been produced in Union City, N.J , annually since 1914 The most professional performances in the United States are given by the Black Hills Players Their leader, Josef Meier, emigrated to this country from Lünen, Germany, in 1932, bringing with him 10 fellow actors and a play which they claimed had been produced since 1242 In summer their performances are given in Spearfish, S D , in winter they tour U S cities For the Oberammergau Passion play, see M J Utting, *The Passion Play of Oberammergau* (1936), for the English text, see *The Passion Play of Oberammergau* (1934)

passive see VOICE

Passover, one of the most important and elaborate of the Jewish festivals the celebration of which begins on the evening of the 14th of Nisan (first month of the religious calendar, corresponding to March-April) and lasts seven days Numerous theories have been advanced in explanation of its original significance, which has become obscured by the association with the Exodus it acquired in later days In pre-Mosaic times it may have been a spring festival only, but in its present observance by orthodox Jews, who celebrate it in commemoration of their deliverance from the yoke of Egypt, that significance has been practically forgotten In the ceremonial evening meals (called Seders), which are served the first and second nights of the festival, with various special dishes symbolizing the hardships the Israelites went through during their bondage in Egypt, the narrative of the Exodus is recited, and praise is given for the deliverance Only unleavened bread (matzoth) may be eaten throughout the seven days of the festival, in memory of the fact that the Jews, hastening from Egypt, had no time to leaven their bread Tradition also requires that special sets of cooking utensils and dishes uncontaminated by use during the rest of the year, be used throughout the festival The Christian feast of Easter is calculated from the Pasch or Passover See T H Gaster, *Passover Its History and Traditions* (1949)

Passy, Frédéric (frādārēk′ pasē′), 1822–1912, French economist, winner (1901, with J H Dunant) of the first Nobel Peace Prize He studied law, but abandoned it for journalism and the study of economics and problems of peace In 1867 he founded the Ligue internationale et permanente de la Paix, later known as the Société française pour l'Arbitrage entre Nations, serving as its general secretary until 1889, when, in association with Sir William R Cremer, he founded the Inter-parliamentary Union of Arbitration He was a member of the chamber of deputies from 1874 to 1889 Among his best-known works are *La Guerre et la paix* (1867), *La Question de la paix* (1891), and *Historique du mouvement de la paix* (1905) The phonetician Paul Édouard Passy (1859–1940) was his son

pastel (păstĕl′), artists' medium of chalk and pigment, tempered with weak gum water and usually molded in the form of sticks, and also a work done in this medium Pastel was in use in Italy in the 15th cent and is doubtless far older In 18th-century France it was exploited by such masters as Maurice Quentin de la Tour and Vigée-Lebrun, and in the 19th cent by Degas, Manet, Toulouse-Lautrec, Whistler, and Cassatt Pastels are commonly exhibited with paintings and are often classified as such rather than as drawings The medium lends itself to a wide variety of techniques, depending somewhat upon the type of paper used as a ground

Pasternak, Boris Leonidovich (bŭrēs′ lyā″unyē′dŭvĭch pŭstyĭrnäk′), 1890–, Russian poet. At first he was under futurist influence, but his talent transcends classification. A volume of his collected verse was published in 1931 (*Above Barriers*) and another in 1932 (*Second Birth*) He wrote two long narrative poems, *Spektorsky* (1926) and *The Year 1905* (1927) and is known for his translations from foreign poetry. His translation of *Hamlet* appeared in 1941 See his *Collected Prose Works* (Eng. tr., 1945) and *Selected Poems* (Eng tr , 1947)

Pasteur, Louis (păstûr′, Fr. lwē′ păstûr′), 1822–95, French chemist. He taught at Dijon, Strasbourg, and Lille and in Paris at the École normale (1857–67) and the Sorbonne (1868–89). He became the first director of the Pasteur Institute. His early chemical studies of the tartrates in which he discovered (1848) molecular dissymmetry led to his work on fermentation Important outgrowths of these studies were his experiments with BACTERIA, which conclusively (1862) exploded the theory of spontaneous generation, and his work on wine, vinegar, and beer with the resultant development of the process of PASTEURIZATION Of great economic value also was his solution of the control of silkworm disease, his study of chicken cholera, and his technique of vaccination against ANTHRAX, which was successfully extended to HYDROPHOBIA in 1885 See biographies by René Vallery-Radot (1924) and Piers Compton (1932) The **Pasteur Institute,** opened in Paris in 1888, includes a dispensary for the treatment of hydrophobia and a teaching and research center on virulent and contagious diseases Outstanding discoveries have been made at the institute, its staff has included many notable scientists, among them P P E Roux and Élie Metchnikoff Pasteur Institutes have been established in Tunis and in Indo-China and other countries

pasteurization (păs″chōōrĭzā′shun, -rīzā′shun, pă″stu-), method of treating certain foods, especially milk, to make them free from disease-causing bacteria It does not seriously change the food value or taste Pasteurization is not a substitute for sanitary collection of milk, but even under careful supervision occasional disease germs may be present The method consists in heating the milk to about 145° F for 30 min which destroys the bacteria, the milk is then rapidly cooled The milk should be kept under refrigeration, since ordinary bacteria that are resistant are still present, and if the milk is not kept cold they multiply rapidly and change the milk so that it is unfit to drink

Pasto (pa′stō), city (pop 27,564), SW Colombia Founded in 1539, Pasto (alt c 8,500 ft) is a rail and highway commercial center A royalist city in the revolution against Spain, it changed hands several times Here Antonio Nariño was defeated (1814) by the Spanish Occupied for a short period in 1831 by Ecuadorian forces, Pasto was the scene of the treaty (1832) by which Colombia (then called New Granada) and Ecuador became separate states and Pasto with its adjacent territory was confirmed as Colombian The volcano called El Pasto is near by.

Paston Letters, collection of personal and business correspondence of the Paston family of Norfolk and others, covering the years 1422–1509, together with deeds, state papers, and other documents that had come into their possession The collection forms an indispensable source for the history, manners, morals, habits, customs, and moneys of the people of England at the close of the Middle Ages A portion of the letters was published by James Fenn, two volumes in 1787 and two in 1789, but the original manuscripts disappeared and doubt of their authenticity grew However, they were rediscovered after 1865, with additional material, and were reprinted in a definitive edition by James Gairdner (1904) A volume of selections is edited with an introduction by A D Greenwood (1920)

Pastor, Ludwig, Freiherr von (lōōt′vĭkh frī′hĕr fŭn pä′stôr), 1854–1928, German historian The author of the monumental and authoritative *History of the Popes from the Close of the Middle Ages* (Eng tr , 34 vols , 1891–1942) he combined a strictly Catholic point of view with the most painstaking scholarship and erudition He had access to the secret archives of the Vatican, and his history, largely based on hitherto unknown documents, supersedes all previous histories of the popes It has, however, been criticized for its Catholic bias. Pastor was Austrian minister to the Vatican from 1921

Pastor, Tony, c 1837–1908, American theater manager, b New York city. He appeared on the stage from childhood and was an experienced acrobat, dancer, and singer when he opened (1861) his first theater at 444 Broadway, New York He opened a second theater at 201 Bowery in 1865 and another at 585 Broadway in 1875 He established his long-known theater on 14th St in 1881 In these establishments Pastor introduced many performers who became famous and made vaudeville suitable for a mixed audience See Douglas Gilbert, *American Vaudeville* (1940)

pastoral (pă′sturul), literary work in which shepherd life is presented in a conventionalized manner In this convention the purity and simplicity of shepherd life is contrasted with the corruption and artificiality of the court and the city Many subjects, including love, death, religion, and politics, have been presented in a pastoral setting, and the pastoral can be found in poetry, drama, and fiction The earliest pastoral poetry of which there is record was written by the Greek poet Theocritus who lived in Alexandria in the 3d cent B C. It is in his idyls, which celebrate the beauty and simplicity of rustic life in Sicily, that the well-known pastoral characters, Daphnis, Lycidas, Corydon, and Amaryllis, are first encountered. Theocritus was followed by Bion and Moschus in the 2d cent. B.C. and by Vergil, whose *Bucolics* appeared in 37 B.C.,

In these polished and literary *Bucolics*, which were later called eclogues, Vergil describes an imaginary Arcadia in which the landscape and the characters are completely removed from actual life The pastoral scenes are allegorical; they celebrate the greatness of Rome, express thanks to the emperor, and prophesy a golden age In the 3d cent A D a Greek poet, probably Longus, wrote *Daphnis and Chloë*, a pastoral romance which also had much influence on European literature With the Renaissance there was a great revival of the pastoral eclogue Vergil's *Bucolics* were translated in the 15th cent in Italy, and pastoral eclogues were written by Dante, Petrarch, and Boccaccio. The most elaborate pastoral romance was the *Arcadia* by Jacopo Sannazaro, written partly in prose and partly in verse Politian's *Orfeo* (produced c 1471) is one of the earliest pastoral dramas In France the *pastourelle*—a short poem in dialogue in which a minstrel courts a shepherdess—appeared as early as the 14th cent and is exemplified in *Le Jeu de Robin et de Marion*, a play by Adam de la Halle Theocritus was translated by Pierre de Ronsard, who also wrote eclogues modeled on Vergil In 1607 the first part of a prose pastoral, *L'Astrée*, was published by Honoré d'Urfé Another famous prose pastoral was *Diana* by the Spanish writer Montemayor In English literature the pastoral can be found in the work of almost all the Renaissance poets Philip Sidney in his *Arcadia* (1590) places an epic story in a pastoral setting, in *The Shepheardes Calender* (1579) Edmund Spenser, like Vergil, uses the pastoral eclogue to discuss political and religious questions, and many of the love lyrics of Shakspere, Ben Jonson, and Michael Drayton are in a pastoral setting Christopher Marlowe's "The Passionate Shepherd to His Love" (1600) is the most famous of these lyrics In drama well-known examples of the pastoral are Shakspere's *As You Like It* and the shearers' feast in *A Winter's Tale* The most famous pastoral elegy in English is Milton's "Lycidas" (1637) Using the conventions of Theocritus, Moschus, and Vergil, Milton laments the death of his friend Edward King and discusses the question of immortality, his own career, and the corruption of the Church in terms of shepherds and their natural surroundings The pastoral conventions can also be seen in some of the poems by Andrew Marvell and in the pastorals by Alexander Pope In the 19th and 20th cent poets, novelists, and dramatists still use a pastoral setting to express simplicity and innocence in contrast to the artificiality of city life But like Wordsworth they generally do not use the pastoral conventions of Theocritus and Vergil Outstanding exceptions, however, are Shelley's *Adonais* (1821) and Matthew Arnold's *Thyrsis* (1866), both great pastoral elegies See William Greg, *Pastoral Poetry and Pastoral Drama* (1906), Gilbert Highet, *The Classical Tradition* (1949)

pastry, general name for articles of food made of paste or having paste as a necessary ingredient The name is also used for the paste itself The essential elements of paste or pastry are flour, liquid (usually milk or water, sometimes beaten egg), and shortening Pastry is classed according to the amount of shortening used and the method of blending it with the flour, as plain, flaky, and puff pastry The first two are used in making PIES and tarts, the third for patties and fancy concoctions generally Cooks agree that cold ingredients and a light touch are essential in the successful making of any pastry

pasture, land used for grazing livestock Land unsuited for cultivation, often hilly or stony land, may be used as pasture Tilled land and meadow may be pastured after the crops are removed Pastures which have been overgrazed and in which such soil-improving practices as liming, fertilizing, and seeding have been neglected soon become worthless Other factors to be considered in good pasture maintenance include the need for trees to provide some shade, a sufficient water supply, and the need for rotation of animals Sheep are best grazed on dry soils such as make up much of the Western RANGE lands A mixture of Kentucky bluegrass and white clover is famous for grazing, although each section of the country has mixtures best suited to its soil and climatic conditions See *A Pasture Handbook* (U S Dept of Agriculture, Miscellaneous Publication 194)

Pasuruan or **Pasoeroean** (both pä"sōōrōōän'), town (pop 36,973), East Java, Indonesia, a port on Madura Strait It exports sugar, rubber, coffee, and fish

Patagonia (pătugō'nēu), region primarily in S Argentina, S of the Río Colorado and E of the Andes, but including extreme SE Chile and N TIERRA DEL FUEGO. Patagonia, except for the far southern plains, the subandean region, and the Andes, is a vast semiarid grassy plateau, sloping gently toward the east and terminating in cliffs along the Atlantic Crossing from the Andes to the Atlantic are transverse valleys, some cradling rivers Although most of the water courses are intermittently dry, some rivers (Río Negro, the Chubut, the Santa Cruz, and the Gallegos) reach the sea the year round. The subandean region in the west contains numerous large lakes (Nahuel Huapí, Buenos Aires, Viedma, and Argentino) fed by Andean glaciers; it also has some deep, fertile valleys Subantarctic conditions prevail in the far south Sheep raising is the principal industry of Patagonia, but in the Andean region some cattle are raised and agriculture is practiced here and in irrigated oases along the Río Negro and the Chubut Oil production, particularly around COMODORO RIVADAVIA, has been of great importance Tourist resorts are being developed in the lake regions A rich field for the paleontologist, Patagonia has been visited by many scientific expeditions since the days of Charles Darwin. Of the original inhabitants, the Tehuelches (the "Patagonian giants") are the most important Among the native animals are the guanaco, the rhea, the puma and the deer Probably first visited (1501) by Vespucci, the Patagonian coast was explored (1520) by Magellan Settlements were attempted in the 16th and 17th cent, but the inhospitable country and natives discouraged colonization. It was not until after the campaign of J A ROCA against the Indians that Argentine ranchers began entering the territory in the late 19th cent Chileans had been coming in for some time, and despite efforts to exclude them during and after the Argentine-Chilean boundary dispute in the early 20th cent, many continued to immigrate Many Europeans, not a few from Great Britain, took up ranches Comprising more than a third of Argentine territory, Patagonia has less than one percent of the nation's population See W H Hudson, *Idle Days in Patagonia* (1893), Argentine Republic, Comisión de Estudios Hidrológicos, *Northern Patagonia* (Vol. I, 1914), *Reports of the Princeton University Expeditions to Patagonia, 1896–1899* (1901–32)

Pataliputra, India see PATNA

Patan (pä'tun), town (pop 29,830), NW Bombay state, India, founded c 750 Known in ancient times for its great wealth, it is today a drab place Pottery is manufactured, and there are many Jain temples

Patan, city (pop c 100,000), Nepal, in the Valley of Nepal, near Katmandu Founded c 650, it is the oldest of Nepal's three chief cities

Patani (pätänē'), town (pop 8,969), Thailand, on the east coast of the Malay Peninsula, near the mouth of the Gulf of Siam The surrounding territory produces most of the spices grown in Thailand, as well as rubber and coconuts Tin is mined and smelted The people are for the most part Malays Patani was a seat of the Sailendra power during the Sailendra domination of the Malay Peninsula and later was the center of a Malay state, which was drawn into the Thai orbit With Ayuthia, it was one of the first places in Siam opened to the Portuguese in the 16th cent, in the early 17th cent the Dutch and the English in turn established and abandoned factories here At first bound only by tenuous links of suzerainty to the courts of Ayuthia and Bangkok, against which it was several times in revolt, Patani was reduced by stages, culminating in the 19th cent, to the status of a province

Patapsco (pătăp'skō), river rising in N Maryland and flowing SE to Chesapeake Bay SE of Baltimore

Patara (pā'turu), ancient Mediterranean port of Lycia, S Asia Minor (Turkey) It was a Dorian colony St Paul visited Patara Acts 21 1

Patay (patā'), village (pop 1,313), Loiret dept, N central France, NW of Orléans Here Joan of Arc defeated the English in 1429

Patchogue (pă'chŏg",-chōg"), resort and fishing village (pop 7,181), on S Long Island, SE N Y, on Great South Bay and near Islip, inc 1893 A lace mill and a nursery are here

patchouli (păch'ōōlē, puchōō'lē), fragrant shrubby plant of India (*Pogostemon patchouly*), also the perfume obtained from it, distilled out as an essential oil and diluted

Patel, Vallabhbhai (vŭ'lubh putĕl'), 1876–, Indian statesman He was admitted to the bar in England and, returning to India, enjoyed a lucrative practice, chiefly as a criminal lawyer In 1915 he met Gandhi and within a short time became a staunch nationalist and a supporter of the Indian National Congress Patel, a determined and able director, was entrusted with organizing the details of the civil-disobedience campaigns of the '20s and '30s, several times he suffered imprisonment He was mayor of Ahmedabad (1924–28) and was elected (1931) president of the Indian National Congress After his release (May, 1945) from prison for refusing to support the British war effort, Patel was important in the negotiations which led (1947) to the partitioning of India In 1947 he was made deputy prime minister and minister of state affairs, he effected the difficult feat of integrating the many princely states into the Indian political structure, chiefly by unions of states and mergers with existing provinces

Patenier, Joachim de see PATINIR, JOACHIM DE

patent (pā'tŭt), in law, securing to the inventor of a useful product or process the right to exclude others from making his invention Patents developed out of the medieval institution of allowing monopolistic control over useful goods in order to make profitable (and thereby to encourage) their sale and distribution; the authority was contained in letters patent (meaning open, i e, public) The corrupt sale of such privileges and the consequent increase in the price of necessities led in England to the Statute of Monopolies (1623), which abolished all monopolies except that of an inventor in his invention The U S Constitution (Article 1, Section 8) authorizes Congress to enact patent legislation The U S Patent Office was created in 1836, and in 1870 comprehensive legislation substantially established the current American patent law In the United States any process or device may be patented if it is novel and useful and if plans and a working model are supplied In all countries patents are valid for a limited term only (17 years in the United States), this limit ordinarily secures a profit to the inventor for a reasonable period yet will not permanently deprive the public of the free use of the invention The American law was designed to encourage the maximum inventiveness Unlike many European countries where the rights to patents are limited to make innovations in industry easier, the United States imposes no tax on the maintenance of patents, nor does it require the patentee to permit the use of his invention on pain of losing his patent Although there have been many independent inventors in the United States (by 1950 a total of c 2,500,000 patents had been granted), today most important patents are the property of large corporations capable of exploiting them Injurious practices, such as withholding beneficial patents which might require reequipping plants, have developed Other practices, such as acquiring all patents in a given field and granting manufacturing licenses only to firms which promise to refrain from effective competition, have been successfully attacked by the Federal government under the antitrust laws Difficulties have also developed in the effective and equitable regulation of patents taken out by foreigners Full information about patents in the United States may be obtained from the U S Patent Office See W B. Bennett, *American Patent System* (1943)

Pater, Walter Horatio (pā'tur), 1839–94, English essayist and critic, educated at Canterbury and Queen's College, Oxford, elected (1864) a fellow at Brasenose Convinced of the moral importance of artistic perfection, Pater made his own style notable for precision and clarity His first work, *Studies in the History of the Renaissance* (1873), established his reputation There followed *Marius the Epicurean* (1885), by common consent his masterpiece, *Imaginary Portraits* (1887), *Appreciations* (1889), *Plato and Platonism* (1893), *The Child in the House* (1894), and two posthumous publications, *Greek Studies* (1895) and the unfinished historical romance *Gaston de Latour* (1896) See studies by A C Benson (1906), Arthur Symons (1932), H H. Young (1933), and R C Child (1940)

Paternò (pätĕrnō'), rural city (pop 28,533), E Sicily, Italy, at the foot of Mt Etna It is the center of a region of vineyards and orange and lemon groves

paternoster see LORD'S PRAYER

Paterson, William (pă'tursun), 1658–1719, British financier By the time of the Glorious Revolution of 1688 (which he supported) he had acquired considerable wealth and influence through foreign trade In 1691 he was the "chief projector" of the plan to establish the Bank of England, which finally came into being in 1694 Paterson served as a director (1694–95) In 1695 he proposed to the Scottish Parliament the famous but ill-fated DARIEN SCHEME Subsequently he devoted several years to carrying out that plan and accompanied the expedition of 1698 to Darien Paterson advised William III on economic, financial, and state affairs, and he strongly advocated the union of Scotland and England Paterson, an advocate of free trade, wrote much on trade and finance His writings were edited by Saxe Bannister (3 vols, 1859) See biography by Saxe Bannister (1858), J S Barbour, *William Paterson and the Darien Company* (1927)

Paterson, William, 1745–1806, American statesman, b Co Antrim, Ireland, grad College of New Jersey (now Princeton Univ), 1763 He practiced law and was attorney general (1776–83) of the young state of New Jersey, before he became a delegate to the FEDERAL CONSTITUTIONAL CONVENTION (1787) There he was prominent as a champion of the rights of the small states, he set forth the New Jersey or small-state plan (sometimes called the Paterson Plan) He later played a prominent part in state and national life as U S Senator (1789–90), governor of New Jersey (1791–93), and Associate Justice of the U S Supreme Court (1793–1806). See biographies by G S. Wood (1933) and C. A. Shriner (1940)

Paterson [for Gov William Paterson], city (pop. 139,656), co seat of Passaic co, NE N J, at the falls of the Passaic N of Newark It was founded in 1791 by Alexander Hamilton and others of the Society for Establishing Useful Manufactures, who had the help of L'Enfant in planning an industrial community here. The water power was used for cotton spinning in 1794. Paterson is one of the

country's greatest silk centers—an industry started in 1839 The first loom for silk piece goods was built by John Ryle in 1842 The making of machinery, notably that connected with aviation, is important The city, incorporated in 1851, is third in size in the state In 1902 it suffered a great fire and later a flood and a tornado The silk industry, characterised by hundreds of small "family" shops and generally bad labor conditions, saw many strikes, notably in 1912–13, 1933, and 1936 During the Second World War the city's workers were employed largely in metal and rubber industries and in making nylon and other textiles Paterson has a state teachers college (1855) and vocational schools Its museum has natural-history and Indian collections and contains the 14-foot submarine built by John P Holland in 1878 and tested in the Passaic river, from whose bed it was raised in 1927 The public-library building was designed by Henry Bacon

Pathé, Charles (pätĕ', Fr sharl' pätā'), 1873–, French photographer He was the first to present (c 1909) the newsreel as a regular attraction at a theater in Paris In 1910 he introduced the newsreel to the United States, thereafter the Pathé News Reel became an international product

pathology (puthŏ'luj̆, pā-), branch of medicine which deals with the structural and functional changes associated with disease The changes and reactions of the tissues in disease include degeneration, atrophy, hypertrophy, and inflammation In making modern diagnoses the examination of small pieces of living tissue (biopsy) is frequently employed, body fluids are tested for abnormal compositions denoting disturbed function, and X-ray photographs are used Experimental and comparative pathology are branches of the science The first real progress in pathology was made in the 19th cent

Pathros (päth'rŏs), biblical name of Upper Egypt It is mentioned as a place where Hebrews lived The inhabitants are Pathrusim Gen 10 14, Isa 11 11, Jer 44 1,15, Ezek 29 14, 30 14

Patiala and East Punjab States Union (pŭtēä'lu, pŭnjäb'), state (10,099 sq mi , pop c 3,790,000), NW India The capital is Patiala (pop 69,850) The state comprises a large central mass and several smaller detached areas It is predominantly level, and there is considerable agriculture dependent upon irrigation Grains and cotton are the chief crops The state was formed in 1948 by merging eight former princely states It is a center of Sikh population

patience, see SOLITAIRE

Patigian, Haig (hīg' pätĭgyan'), 1876–, American sculptor, b Armenia, son of teachers in a mission school He was largely self-taught Most of his monuments and decorations are in the Pacific coast states Among them are the McKinley monument, Arcata, Calif , statues of Lincoln and General Pershing and a bust of Helen Wills Moody, San Francisco, and the Blethen Memorial, Seattle, Wash. In 1929 he made a bust of President Hoover for the White House, and in 1931 his statue of Thomas Starr King was placed in Statuary Hall, Washington, D C

patina (pă'tunu), protective coating of carbonate of copper on articles of copper or bronze, formed after long exposure to moist atmospheres or burial in the earth Although commonly green, patina varies in color and consistency, it may be red, brown, black, blue, or gray, or it may be smooth, glossy, or crusty It may be imitated by a number of oxidation processes The term has been extended to include the film formed on metals, pottery, marble, and other materials by exposure and also to the mellow surface acquired by furniture with time and waxing.

Patinir, Patenier, or **Patiner, Joachim de** (all yō'äkhĭm du pätēnēr'), c 1485–1524, Flemish landscape and religious painter He probably studied with Gerard David in Bruges In 1515 he was a member of the painters' guild in Antwerp, where he spent the remainder of his life In 1521 his friend Dürer attended his second wedding and painted his portrait Patinir is famous as the first Flemish painter to subordinate figures to landscape His powerful scenes, painted with the limpid and meticulous clarity of his school, have a serene lyricism Among them are *The Flight into Egypt* (one version in Antwerp, another in the Prado), *Baptism* (Vienna), *Temptation of St Anthony*, with figures by Quentin Massys (Prado), *St John at Patmos* (National Gall , London), *Rest by the Way* (Minneapolis Inst of Arts) The Metropolitan Museum has a fine triptych See Sir Martin Conway, *The Van Eycks and Their Followers* (1921).

Patiño, Simón Iturí (sēmōn' ētōō'rē pätē'nyō), 1868–1947, Bolivian capitalist He owned rich tin mines in Bolivia and invested his enormous fortune, thought to have been among the world's largest, in other financial enterprises Patiño reputedly exerted considerable influence on his country's governmental policies, though he spent most of the latter half of his life abroad

Patkul, Johann Reinhold von (yō'han rīn'hōlt fŭn pät'kōōl), 1660–1707, Livonian nobleman He incurred the displeasure of Charles XI of Sweden by championing the rights of the provincial gentry and fled abroad to escape punishment. In 1698 he entered the service of Augustus II of Poland and Saxony He was instrumental in inspiring Augustus's scheme to reunite Livonia with Poland and in forming the anti-Swedish alliance of Poland, Denmark, and Russia which led to the NORTHERN WAR (1700) He held high commands in the subsequent campaign, but when Augustus II made peace with Sweden at Altranstädt (1706) he delivered Patkul to Charles XII, who had him broken on the wheel

Patmore, Coventry Kersey Dighton, 1823–96, English poet Patmore's first poetry, published in 1844, led to an assistant librarianship (1846–65) at the British Museum and later to an association (1850) with the Pre-Raphaelite journal the *Germ* His principal works are *The Angel in the House* (in four books, 1854, 1856, 1860, 1863), which exalts the sanctity of married love, and *The Unknown Eros* (1877), a series of odes reflecting the spiritual change effected by Patmore's conversion to Catholicism (1864) *Tamerton Church Tower* (1853) was reprinted with *Amelia* (1878) and included the "Essay on English Metrical Law " See his *Memoirs and Correspondence* (ed by Basil Champneys, 1900–1901), biography by Edmund Gosse (1905), Frederick Page, *Patmore: a Study in Poetry* (1933), Derek Patmore, *The Life and Times of Coventry Patmore* (1949)

Patmos (pat'mŏs, pāt'mus), island (13 sq mi , pop 2,428), off the coast of SW Asia Minor, in the Aegean Sea, one of the DODECANESE, belonging to Greece Here, according to Rev 1 9, the exiled St. John the Divine wrote the REVELATION

Patna (pŭt'nŭ, pŭt'nu), city (pop 175,706), capital of Bihar state, India, on the Ganges river As Pataliputra, it was the capital of the Maghada kingdom and later (c 320–231 B C) of the Maurya empire There is cotton spinning and weaving The Univ of Patna was opened in 1917

Patras (pŭträs', pă'trus), Gr *Patrai* (pă'trā), Latin *Patrae*, city (pop 79,570), Greece, in the N Peloponnesus It is a port near the head of the Gulf of Patras, which connects the Gulf of Corinth with the Ionian Sea One of the largest cities of Greece, Patras is a commercial and industrial center, exporting currants, olive oil, wine, and citrus fruit A member of the first ACHAEAN LEAGUE, the city sided with Athens in the Peloponnesian War and became (3d cent B C) a leading member of the Second Achaean League It sank into insignificance before the Roman conquest of Greece, but was revived as a Roman colony by Augustus and soon flourished as a port Included after 1204 in the Latin principality of Achaia, it was twice held by Venice (1408–13, 1417–19), later passed to the Turks, and was again held by Venice from 1687 to 1715. Patras was destroyed (1821) in the Greek War of Independence and was rebuilt on a rectangular pattern

patriarch (pā'trēärk) [Gr , =head of a family], in biblical tradition, one of the antediluvian progenitors of the race as given in Genesis (e g , Seth) or one of the ancestors of the Jews (e g , Abraham, Isaac, Jacob, and the sons of Jacob) The Testament of the Twelve Patriarchs is the name of one of the PSEUDEPIGRAPHA

patriarch, in Christian churches, title of certain exalted bishops, implying authority over a number of other bishops The original patriarchates were three the West, held by the bishop of Rome (the pope, see PAPACY), Alexandria, and Antioch To these were added Constantinople (4th–5th cent) and Jerusalem (451) To the West belonged everything W of the Balkans and Cyrene, and Constantinople ruled most of the Byzantine Empire Syria and Mesopotamia were under Antioch, Palestine was under Jerusalem, and Egypt belonged to Alexandria The triumph of Monophysitism in Egypt and Syria (5th–6th cent) created new churches Since then the three Orthodox patriarchs in Asia have had small, minority jurisdictions, they abandoned their local rites in favor of the Byzantine Besides the five ancient patriarchates there are a number of others In communion with the pope there are 14 four Latin-rite patriarchs (dating from the Crusades), Constantinople, Alexandria, Antioch, and Jerusalem, all purely titular except Jerusalem, whose patriarch is bishop of local Latin-rite Catholics, six who are heads of Oriental rites, having generally full patriarchal powers and not usually resident in their official sees, namely, Alexandria (Coptic rite), Antioch (three Syrian rite, Melchite, and Maronite), Babylon (Chaldean rite; see NESTORIAN CHURCH), and Cilicia (Armenian rite), finally, in the Western Church the title patriarch is conferred, purely as an honor, on four prelates, the archbishop of Goa (patriarch of the East Indies), the archbishop of Lisbon, the archbishop of Venice, and the patriarch of the West Indies (normally Spanish) In the Russian Orthodox Church the tsar set up (1589) a patriarch of Moscow, the title was abolished (1721) by Peter the Great and revived in 1917 (see ORTHODOX EASTERN CHURCH) The Orthodox archbishops of Belgrade and of Bucharest are called patriarchs. Besides all these there are a Coptic patriarch of Alexandria, a Jacobite patriarch of Antioch, a Nestorian patriarch, and four Armenian patriarchs (of Echmiadzin, Sis, Jerusalem, and Constantinople).

patriarchy (pā'trēär"kē), term, meaning "father right," used to designate certain features of a family or kinship group ruled by the father or eldest male, the patriarch In the patriarchal family, succession is in the male line; at the death of the patriarch his name, property, and authority descend to the sons Patriarchy was once regarded as a universal stage in social evolution, as was matriarchy. The patriarchal family is strongly developed among the nomads of Asia and in Africa, China, and Japan and in ancient times was firmly established in Palestine, Greece, and Rome In the Roman family the *patria potestas* or authority of the patriarch was developed to the highest point He was the only person recognized as an independent person in Roman law He possessed all religious rights as priest of the family ancestor cult and all economic rights as sole owner of the family property, real and personal. In his power of life and death over the members of the family, including slaves, he exercised the functions of a monarch Polygyny (having several wives) is common in the patriarchal family It is generally agreed that the patriarchal organization of economic and family life was an important factor in developing the state and the institution of private property

patrician (pŭtrĭsh'ŭ) [Latin, =of the fathers], any member of one of the original citizen families of ancient Rome. The patricians constituted the *populus Romanus* of the oldest times They were divided into three tribes, each consisting of 10 *curiae*, which made up the Comitia Curiata Besides these, originally there were only the *clientes* [clients], who had no legal rights and looked to the patricians as their protectors or *patroni* [patrons] The PLEBS, who sprang from the settlement of subjugated Latin tribes in Rome, lacked the rights of the patricians, who exclusively could hold public office, whether civil or religious From the establishment of the republic (6th cent. B C) the plebs struggled constantly for political equality until, by the 3d cent B C , the only offices reserved to the patricians were the civil office of *interrex*, and some priestly offices. The increasing number of plebeians in office together with patricians gave rise to the *nobiles*, an aristocracy of ruling families of both classes Caesar and Augustus promoted plebeians to the patrician class Later, *patrician* became a title of honor External marks of a patrician were a distinctive tunic and a shoe adorned with an ivory crescent The Julian gens (to which Caesar belonged) was perhaps the most illustrious of patrician families.

Patrick, Saint, c 385–461, Christian missionary, the Apostle of Ireland, b Bannavem Taberniae (an unknown place in Britain, possibly near the Severn or in Pembroke) He belonged to a Christian family of Roman citizenship He was captured when barely 16 by Irish marauders and enslaved For six years he worked as a herdsman on the slopes of Slemish (near Ballymena, Co Antrim) or of Croaghpatrick, or (most likely) of both Then, in response to a voice, he escaped and embarked for Gaul He spent some years wandering on the Continent and probably visited the Monastery of St Martin at Marmoutier He entered the monastery at Lérins and received the tonsure He returned c 413 to his native Britain and lived for some years with relatives During this time he had a vision which called him to return to Ireland and make it Christian Accordingly, he returned to Europe (c 419) to perfect himself as a missionary The next 12 years were spent in study at Auxerre In 431 St PALLADIUS, first missionary bishop sent to Ireland, died, Patrick was consecrated (432) in his place by St GERMANUS That winter Patrick landed near Saul and remained until spring, when he went to Tara and gained his first major converts He defied the pagan priests of Tara by kindling the Easter fire on Slane, a near-by hill This challenge to paganism created at first indignation, and subsequently respect, in the court of the high king Tara became Patrick's headquarters, and with a band of followers he converted successively Meath, Leitrim, Cavan, and W Ireland Further details of his missions are only generally known In 441 St Patrick traveled to Rome and received the pallium from Pope St Leo I. In 444 or 445 Patrick returned to Ireland and established his archiepiscopal see at Armagh, enshrining there the relics which Leo had given him St Patrick's mission was most successful, Ireland was almost entirely Christian by the time of his death. He understood and used the social structure of the country, converting the people tribe by tribe. Out of his hierarchy organized by tribal units developed the Celtic abbot-bishop system. At Patrick's instance, the traditional laws of Ireland were codified Patrick modified them to harmonize with Christian practice, and he mitigated the harsher ones, particularly those that dealt with slaves and with taxation of the poor. In 457 he retired to Saul, where he died He was buried in Downpatrick, which was a great European shrine until its destruction by the Eng-

Irish government in 1539. Also holy to him is Croaghpatrick. Patrick's connection with SAINT PATRICK'S PURGATORY in Lough Derg is undoubtedly only legendary. The prime source for Patrick's life is the *Confessions*, a moving apology for his life and work written during his last years Some years earlier he had written the *Epistle against Coroticus*, an appeal to the Christian subjects of Coroticus to repudiate their British, nominally Christian, ruler for his bloody raid on Ireland. St Patrick was probably the author of the *Lorica* (or *Breastplate*) *of St. Patrick*, also called *The Cry of the Deer* (in Irish, *Fáed Fíada*), a wonderful, mystic poem of faith, written in Irish and Latin St Patrick was one of the most successful missionaries in history His personality is said to have been unusually winning. The notion of introducing Christianity with a minimum of alteration of the existing culture was undoubtedly helpful in establishing Christianity firmly in Ireland Feast: March 17. See Whitley Stokes, ed. and tr., *The Tripartite Life of St Patrick, with other Documents Relating to that Saint* (1887), J B Bury, *The Life of Saint Patrick* (1905), Hugh De Blácam, *Saint Patrick* (1941)

Patrimony of Saint Peter: see PAPAL STATES.

Patripassians: see MONARCHIANISM

patristic literature, Christian writings of the first few centuries. They are chiefly in Greek and Latin; there is analogous writing in Syriac and in Armenian The Greek and Latin Fathers are outside the classical literary tradition, because Christianity wrought a revolution in their outlook The first period of patristic literature (2d cent.) includes the works of St Clement I, St Ignatius of Antioch, St Polycarp, and Papias, the writings ascribed to the Shepherd of HERMAS, the DIDACHE, and the first Christian PSEUDEPIGRAPHA The writers of the 3d cent., often called the ante-Nicene Fathers, are principally St Justin Martyr, Clement of Alexandria, St Irenaeus, Origen, Tertullian, and St Cyprian The last two of these are the earliest Fathers to write in Latin As the Church won over paganism, the interest shifted from apologetics to the new theological questions and to sermons and exegesis of Scripture The literary style shows more attention to traditional rhetoric and perhaps less religious fervor. In the 4th and the 5th cent there were a huge number of writers The chief writers in Greek were Eusebius of Caesarea, St Gregory Nazianzen, St Gregory of Nyssa, St Basil the Great, St John Chrysostom, St Cyril of Jerusalem, St Cyril of Alexandria, and St Athanasius. Among the Latin Fathers were St Hilary of Poitiers, St Ambrose, St Augustine, St Jerome (who set a standard for later Latin in the Vulgate), Cassian, Salvian, St Hilary of Arles, Caesarius of Arles, and St Gregory of Tours, the historian The list in the West is closed conventionally with St. Gregory I, but St Bernard of Clairvaux is often called the last of the Fathers The canon of Greek Fathers is closed with St John of Damascus There is a monumental collection of the Fathers (to Innocent III in the West and to the fall of Constantinople in the East) by MIGNE; the Greek texts are accompanied by Latin translations There are several collections of the Fathers in English, including new editions recently undertaken, and innumerable individual translations

Patrobas (păt'rŭbăs), Christian Rom 16 14

Patroclus (pŭtrō'klŭs), in Greek legend, especially in the *Iliad*, hero of the TROJAN WAR, the intimate friend of ACHILLES When Achilles was sulking in his tent, Patroclus borrowed his armor and fought bravely until HECTOR killed him Then Achilles returned to battle and killed Hector Patroclus' excursion is thus the crux of the epic

patron (pā'trŭn) [Latin,=like a father] In Roman law a manumitted slave (*libertus*) became the client of his manumissor, who was then called *patronus*. His duties were ethical and formal, i.e., certain products of his making he had to give his patron The patron had to defend his client legally, and he and his client could neither testify against each other nor sue each other. The client was an heir of the patron In the Roman Empire the relation fell into desuetude and the term patron was applied to persons like MAECENAS who supported artists and literary men and financed their publications Such patronage has continued In the Renaissance and later, patronage was very common and productive of much good Perhaps the most munificent patrons of modern times were found in 15th-century Italy, e.g., the MEDICI, the SFORZA, and many popes. FRANCIS I of France and his sister MARGARET OF NAVARRE were distinguished patrons of art and letters; two famous literary patrons in England were Sir Philip SIDNEY and Lord CHESTERFIELD. Christians since ancient times have honored saints and angels as tutelary guardians of persons, trades, places, and churches These are called patron saints, thus the patron saint of England is St George or Edward the Confessor; of Scotland, St. Andrew; of Wales, St David; of Ireland, St. Patrick; and of America (among Roman Catholics), Our Lady of the Immaculate Conception; of musicians, St. Cecilia; of physicians, SS Cosmas and Damian, and of children, St Nicholas.

Patrons of Husbandry: see GRANGER MOVEMENT.

patroon (pŭtrōōn') [Dutch,=patron or employer], in American history, the name given to a Dutch land owner in New Netherland who exerted manorial rights in colonial times To encourage emigration of Dutch farmers to America, the Dutch West India Company in 1629 granted large estates (16 mi. of land along navigable rivers or 8 on each shore and extending inland as far as it proved convenient) to members of the company who would establish settlements of 50 persons within four years These company members, called patroons, were granted many privileges which were feudal in nature—the right to hold land as a perpetual grant, the right to establish civil and criminal courts, and the right to appoint local officers Settlers were exempt from public taxes for a decade, but they were specifically required to pay the patroon in money, goods, or services Manufacturing was prohibited under heavy penalty, and commerce was restricted to a great extent Before long several estates were established along the Delaware, Connecticut, and Hudson rivers Indian raids, mismanagement, and lack of cooperation from the Dutch West India Company, however, helped to drive most of the patroons to failure A patroonship which did succeed was Rensselaerswyck, a large estate on the Hudson which remained in the hands of the Van Rensselaer family until the middle of the 19th cent In 1640 the charter was revised by the Dutch West India Company, the size of the land grants was halved, manufacturing was permitted, and all Dutch inhabitants in good standing could obtain estates After New Netherland came under English control in 1664, the patroon system continued and underwent few changes until 1775, when patroons became proprietors of estates Some characteristics of feudal tenure did remain, and this condition brought about increasing tension between landlord and tenant in New York state until the middle of the 19th cent., when the antirent rebellion brought about further important modifications See S G Nissenson, *Patroon's Domain* (1937)

Pattee, Fred Lewis (păt'ē'), 1863–, American author and critic, b Bristol, N H, educated at Dartmouth (B A, 1888) and at the Univ of Gottingen He was professor of American literature at Pennsylvania State College (1894–1928) and at Rollins College (1928–41) His books include *History of American Literature since 1870* (1915), *The Development of the American Short Story* (1923), and *The Feminine Fifties* (1940)

Patten, William, 1861–1932, American biologist, b. Watertown, Mass., grad Harvard (B S, 1883) He was professor of zoology at Dartmouth from 1893 and was known for his researches on the anatomy and embryology of invertebrates (especially of mollusks and arthropods), on fossil fishes, and on the evolution of vertebrates He wrote *The Evolution of Vertebrates and Their Kin* (1912) and *The Grand Strategy of Evolution* (1920)

Patten, town (pop 1,548), E central Maine, WSW of Houlton, settled 1828, inc 1841 It is in a hunting, fishing, and lumbering area

Patterson, family of American journalists **Robert Wilson Patterson,** 1850–1910, b Chicago, grad Williams, 1871, became (1871) a reporter on the Chicago *Times* and after 1873 was attached to the Chicago *Tribune* He married Elinor Medill, the daughter of Joseph MEDILL He worked his way up to become managing editor of the Chicago *Tribune*, and upon the death (1899) of his father-in-law, he became editor-in-chief of the newspaper His health began to fail in 1905 but he continued to head the *Tribune* until his death His son, **Joseph Medill Patterson,** 1879–1946, b Chicago, grad Yale, 1901, worked (1901–5) on the staff of the Chicago *Tribune*, was elected (1903) to the Illinois legislature, and served (1905–6) as commissioner of public works in Chicago His earlier socialistic views—recorded in the novels, plays, and articles that he wrote—gradually faded away after 1910, when he returned to the staff of the *Tribune*. By 1914, Patterson gained part control of the *Tribune*, which was managed by his cousins, Joseph Medill McCORMICK and Robert Rutherford McCORMICK, and he remained as its coeditor until 1925. He served in France in the First World War, and upon his return to the United States, he founded (1919) in New York city the *Daily News*—the first successful tabloid in the country By sensationalizing sex and crime and by extensive use of photography, Patterson gave his newspaper the top circulation in the United States In 1925 he relinquished his holdings in the Chicago *Tribune* and then continued to expand the operations of the *Daily News* syndicate He supported President F D Roosevelt until 1940, after which Patterson's isolationist viewpoint caused him to attack the Democratic administration His sister, **Eleanor Medill Patterson,** 1884–1948, b Chicago, also was a newspaper editor She inherited an interest in the Chicago *Tribune* and became attached to the New York *Daily News* She became (1930) editor of the Hearst syndicate's Washington *Herald*, which she leased, together with the Washington *Times*, in 1937 Two years later she purchased the two newspapers and merged them into the Washington *Times-Herald* "Cissy" Patterson became well known for her spectacular news presentation In 1904 she married Count Josef Gizycki of Poland, and after securing (1917) a divorce, she married (1925) Elmer Schlesinger, a Chicago lawyer. Under the name of Eleanor M Gizycka she wrote the books *Glass Houses* (1926) and *Fall Flight* (1928). See John Tebbel, *An American Dynasty* (1947)

Patterson, Elizabeth, 1785–1879, American wife of Jérôme Bonaparte, and celebrated beauty, b Baltimore On a visit to America, Jérôme Bonaparte met and married (1803) her Jérôme was a minor, and Napoleon refused to recognize the marriage When Jérôme returned (1805) to France, his wife was forbidden to land and went to England, where her son, Jerome Napoleon Bonaparte, was born Napoleon issued (1806) a state decree of annulment for his brother, and Elizabeth Patterson was given a large annual pension. See E L Dicker, *Life and Letters of Mme Bonaparte* (1879), C E M Macartney and J G Dorrance, *The Bonapartes in America* (1939)

Patterson, Robert Porter, 1891–, U S. Secretary of War (1945–47), b Glens Falls, N Y, grad Union College, 1912, and Harvard Law School, 1915. He was decorated for heroism in France in the First World War Herbert Hoover appointed (1930) him a U S district judge, and, though a Republican, he was elevated (1939) by President F D Roosevelt to the circuit bench He served as Assistant Secretary of War (July-Dec., 1940) and Undersecretary of War (1940–45) before succeeding Henry L Stimson as Secretary of War He designed the unification of the armed forces under the National Military Establishment (see DEFENSE, UNITED STATES DEPARTMENT OF)

Patterson, 1 City (pop 1,109), central Calif., S of Stockton, in a farm area, inc. 1919 2 Town (pop 1,800), S La., N of Atchafalaya Bay, in a sugar-cane region, settled in the late 18th cent., inc 1907.

Patti, Adelina (ădŭlē'nŭ pă'tē), 1843–1919, coloratura soprano, b Madrid, of Italian parents She was trained in New York, where she made her debut in 1859, thereafter singing with great acclaim in London, Paris, and Milan In 1881 she returned to the United States and eventually became the most popular and most highly paid singer of her day She was unsurpassed for purity of tone and ease of production and had a wide range, with an even quality throughout Her sisters, Carlotta, a soprano, and Amalia, a contralto, followed her to the operatic stage, her brother, Carlo, conducted opera in New Orleans, St. Louis, and New York See Herman Klein, *The Reign of Patti* (1920)

Pattison, Mark, 1813–84, English scholar and author, fellow (1839) and rector (1861) of Lincoln College, Oxford During his college years Pattison was much influenced by J H Newman and the Oxford movement, but his religious crisis produced not faith, but agnosticism He contributed to *Essays and Reviews* (1860), a highly controversial symposium on religious subjects, and wrote biographies of Isaac Casaubon (1875) and Milton (1879), as well as his own outspoken memoirs (1885).

Patton, George Smith, Jr., 1885–1945, American general, b San Gabriel, Calif., grad West Point, 1909 In the First World War he was wounded when commanding a tank brigade in France Subsequently he served in the cavalry and the tank corps In the Second World War he commanded (1942–43) the U S 2d Corps in North Africa and the 7th Army in Sicily Despite a brilliant record, a much-publicized incident (Patton slapped a soldier suffering from battle fatigue) cost him his command and delayed until Aug., 1944, promotion to the permanent rank of major general Early in 1944 he was given command of the 3d Army, which spearheaded the spectacular sweep of U S forces from Normandy through Brittany and N France, relieved Bastogne in Dec., 1944 (see BATTLE OF THE BULGE), crossed the Rhine (March, 1945), and raced across S Germany into Czechoslovakia As military governor of Bavaria, he was criticized for leniency to Nazis and was removed (Oct., 1945) to take charge of the U S 15th Army Patton died after he was injured in an automobile accident in Germany See his autobiography, *War as I Knew It* (1947)

Patton, borough (pop. 3,085), Cambria co., SE Pa., NW of Altoona

Pattonsburg, city (pop 1,017), NW Mo., on the Grand River and NE of Kansas City; first settled 1845

Patuca (pätōō'kä), river of E Honduras, flowing NE to the Caribbean The upper reaches are claimed by Nicaragua as its northeastern boundary with Honduras, instead of the San Juan

Pátzcuaro (pät'skwärō), lake, Michoacán, W Mexico Its indented shores and green islands and the curious native sailboats help make Lake Pátzcuaro popular as a resort The town of Pátzcuaro (pop 9,557) is primarily a Tarascan fishing settlement but also produces some of the finest lacquerware in Mexico

Patzinaks: see PECHENEGS.

Pau (pä'ō), unlocated capital city of an Edomite king Gen. 36.39. Pai 1 Chron. 1 50.

Pau (pō), city (pop 40,604), capital of Basses-Pyrénées dept, SW France, at the foot of the Pyrenees The scenery is renowned The old capital of BÉARN and the residence of the French kings of Navarre, Pau is now an important tourist center In its château Henry IV was born

Paul, Saint, d 67?, the apostle to the Gentiles, b Tarsus, Asia Minor He was a Jew His father was a Roman citizen, probably of some means, and Paul was a tentmaker by trade His Jewish name was Saul He was educated in Jerusalem, where he studied under Gamaliel and became a zealous nationalist, he was probably a Pharisee The chronology of St Paul's life is difficult, but there is general agreement (within a few years) on most details The hypothetical dates given here are according to one chronological "system" The sources for St. Paul's life are the Acts of the Apostles, of which he is the dominating figure, and the Pauline Epistles The value of the latter depends on the extent to which they are accepted as genuinely written by the apostle. Romans, 1 and 2 Corinthians, Galatians, Philippians, Colossians, 1 Thessalonians, and Philemon are undoubted, Ephesians and 2 Thessalonians are accepted by all but a few critics; 1 and 2 Timothy and Titus are said by some to be in their present form of late provenance, finally, Hebrews was probably not written by St Paul himself His first known contact with Christianity is his approving presence at the martyrdom of St Stephen Acts 8, 9 Soon after this he got a commission from the chief priest to go to Damascus to help suppress Christianity there (A D 35) As he approached Damascus he suddenly saw a blinding light and heard a Voice ask, "Why persecutest thou me?" Paul was temporarily blinded and was led into the city, where, at length, he took up his lodgings with the Christians. The experience converted him Acts 9 1–19, 22 3–21, 26 9–23, 1 Cor 9 1, 15 8, Gal 1 12–15, 1 Tim 1.13 Of his first years as a Christian, details are not certain, he visited Jerusalem probably twice (A D 37, 44) and dwelt at Tarsus and Antioch for some time Acts 11 From Jerusalem, Paul set out on his first missionary journey (Acts 13–14 27, A D 45–49), which was to make him the greatest missionary apostle On it he was accompanied by St Barnabas and for a time by St Mark In general the method was to go from city to city preaching in synagogues and in market places Churches were set up, and as soon as the little Christian groups seemed strong enough the apostle and his companions would move on On the first mission they went to Cyprus, thence across to Pamphylia From Perga they moved N to Antioch of Pisidia, then in a southerly turn east of the mountains via Iconium and Lystra to Derbe They now went back over their course to the Pamphylian coast and shipped from Attalia to Antioch About A D 50 there was a council of the apostles at Jerusalem to discuss whether Gentile Christians should be circumcised, i e, whether Christianity was to be a Jewish sect St Paul opposed the Judaistic group vigorously, and the council decided against them Acts 15, Gal 2. On the second mission (Acts 15 36–18 22, A D 50–53) he was accompanied by Silas They went north by land from Jerusalem to Galatia via Lystra Thence they moved W across Asia Minor to the Aegean at Troas On visits to Philippi and Salonica they founded two churches which were to become great After halting at Beroea in Thessaly they sailed to Athens, where Paul delivered his matchless address in the market Acts 17 15 From Athens he went to Corinth, where his daughter church was to call from him two of the greatest epistles In the course of a long stay there he wrote 1 and 2 Thessalonians (A D 52) Either about this time or somewhat later he also wrote his letter to the Galatians. At length Paul sailed to Caesarea of Palestine and visited Jerusalem again He spent some time in Antioch The third missionary journey of St Paul (Acts 18 23–21 26, A D 53–57) took him to Galatia, then Phrygia, and over to Ephesus His two-and-a-half-year stay in Ephesus was one of the most fruitful periods in his life, for in this time he wrote the letters to the Corinthians (A D c 56). By way of Macedonia he went to Corinth to help the Christians there, then back to Ephesus, thence to Jerusalem He wrote Romans probably from Corinth. This was his last visit to the Holy City (57–59), for soon after he had come he was arrested for provoking a riot After being held prisoner for two years and after hearings before the council, before Felix, before Festus, before Agrippa, and again before Festus, he appealed to Rome on his citizen's right So he was sent to Rome under guard Acts 21.27–28 31. On he way they were shipwrecked on Malta, but finally landed at Puteoli (Pozzuoli) He was imprisoned in Rome (60–62) and then apparently acquitted of all charges. The next years are historically almost blank. He went east again and perhaps to Spain, but his headquarters was now Rome In these years he wrote the rest of his epistles and may have had Hebrews written for him He was killed in a persecution under Nero, according to universal tradition he and St Peter suffered on the same day. St Paul has always been said to have been beheaded south of the city, near the Ostian Way His tomb and shrine are at the Roman basilica of St Paul's without the Walls. St Paul's figure dominates the apostolic age, and his epistles have left a tremendous impress on Christianity The first Christian theological writing is found in them, where it is characterized rather by spiritual fervor than by dispassionate analysis St Paul became a fountainhead of Christian doctrine at once, and countless interpretations have been given of his teachings Thus, Catholic theology leans on him at all times, and Luther derived from Romans his principle of justification by faith alone Similarly one school of critics regards Christianity as the work of Paul, Christ being only a symbol, while another regards Paul as the perverter of Jesus' teaching But no one denies to Paul his greatness in the Church, his power as a person or the reality of his animating love of God and man The feast of St Peter and St Paul, June 29, is one of the principal days of the calendar, the conversion of St Paul is commemorated Jan 25 In art St Paul is often depicted with a sword representing his martyrdom There are celebrated mosaics of St Peter and St Paul in Rome (St. Mary Major, St Sabina, and SS Cosmas and Damian) and in Monreale, Sicily See biographies by W L Knox (1932), A D Nock (1938), Cuthbert Lattey (1939), and Joseph Holzner (1944), Irwin Edman, *The Mind of Paul* (1936), H V Morton, *In the Steps of St Paul* (1936), W J McGarry, *Paul and the Crucified* (1940), Sholem Asch, *The Apostle* (1943), a novel

Paul II, 1417–71, pope (1464–71), a Venetian named Pietro Barbo, successor of Pius II and predecessor of Sixtus IV He was a nephew of Eugene IV. A Renaissance pope, he patronized printing, beautified and improved Rome, and collected antiquities Paul, like PIUS II, was involved in struggles with the Bohemian George of Podebrad and with Louis XI of France A plot against the pope's life by some of the group of POMPONIUS LAETUS was frustrated (1468)

Paul III, 1468–1549, pope (1534–49), a Roman named Alessandro Farnese, successor of CLEMENT VII and predecessor of JULIUS III He was created cardinal by ALEXANDER VI, and his influence increased steadily He was one of the most astute diplomats in the Church, directing his efforts chiefly in aid of the reforming party With his election a new era in the papacy opened, for the Catholic Reform (see REFORM, CATHOLIC) began Paul favored a new council to reconcile the Protestants and reform the Church After elaborate preparations, countless intrigues, and several false starts the Council of Trent (see TRENT, COUNCIL OF) convened (1545) At his accession Paul appointed a special commission, made up of the most ardent reformers, this commission was valuable to the council for the information it had on actual conditions in Rome Paul also patronized the newly founded Jesuits (see JESUS, SOCIETY OF), the great agents of the Catholic Reform The pope's interest in art was very great he founded the Farnese Palace, had Michelangelo decorate the Sistine Chapel, and rebuilt and repaved many streets in Rome Paul is often called the last pope of the Renaissance because of his nepotism and his artistic enthusiasm

Paul IV, 1476–1559, pope (1555–59), a Neapolitan named Gian Pietro Carafa, successor of Marcellus II and predecessor of PIUS IV He was a strict ascetic from youth, and he joined the order of St Cajetan—named later the Theatines, in honor of Carafa, who had been bishop of Chieti (Theate). Paul III made him one of the reform commission and soon after created him cardinal He was the chief organizer of the Inquisition set up by Paul III He was elected to succeed Marcellus II as the leading reformer His extreme views and actions alienated all the Catholic powers, even Mary Tudor, whose adjustments with Cardinal POLE of English affairs he reprimanded He formally declared Elizabeth illegitimate and unfit to be queen. Paul did much for the Catholic Reform (see REFORM, CATHOLIC) in purifying the clergy and in breaking for all time the reign in the papal court of worldliness and large-scale nepotism

Paul V, 1552–1621, pope (1605–21), a Roman named Camillo Borghese, successor of Leo XI and predecessor of Gregory XV He was created cardinal (1596) by Clement VIII and became famous for his knowledge of canon law On his election he set out at once to restore all the prerogatives the papacy had ever enjoyed He soon fell out with Venice, where clergymen were tried by civil courts and churches could not be built without government consent. In the dispute Paolo Sarpi led the Venetian side, and Cardinals Baronius and Bellarmine the cause of the Holy See In 1606 the pope put Venice under interdict, but the Venetian clergy refused to obey. The quarrel ended in 1607 with a Venetian victory Paul also had a disagreement with France over Gallicanism and with James I of England over oaths of allegiance He built the Villa Borghese at Rome and added to the Vatican Library. His chapel in the Church of Santa Maria Maggiore, Rome, is famous

Paul I, 1754–1801, emperor and tsar of Russia (1796–1801), son and successor of Catherine II. His mother disliked him intensely, claimed that her husband, Peter III, was not Paul's father, and sought on several occasions to change the succession to his disadvantage It is now generally believed, however, that Peter III was Paul's father. During Catherine's lifetime Paul opposed his mother's reforms, which increased the power of the nobles, and after his accession sought to improve the lot of the serfs. He joined (1799) the second coalition against revolutionary France, but after the defeat of Korsakov at Zürich and Suvarov's passage over the Alps he withdrew from the coalition in the same year (see FRENCH REVOLUTIONARY WARS) He reinstated his mother's policy of armed neutrality at sea and concluded the Northern Convention (1800) of Russia, Sweden, Denmark, and Prussia, directed against British rules on neutral shipping In the meantime it became increasingly apparent that the emperor was insane. No one was safe from his unpredictable fits of rage, and he showered favors and punishments with despotic whimsicality Terror at the court became intolerable, and a conspiracy was formed to force his abdication When Paul refused to give up the throne, the conspirators, crazed by fear, strangled him His son and successor, Alexander I, had knowledge of the conspiracy but was blameless in the murder.

Paul, 1901–, king of the Hellenes (1947–), brother and successor of George II He married (1938) Princess Frederika of Brunswick

Paul, Jean: see RICHTER, JOHANN PAUL FRIEDRICH

Paula, Saint, 347–404, patrician Roman matron When her husband died (379), she founded a religious community in Rome In 382 Paula placed herself under the spiritual direction of St JEROME and was thereafter closely associated with him Paula and her daughter made a journey to the East in 385 and met St Jerome in Bethlehem, where St. Paula built two monasteries One, for men, was under St Jerome, the other, for women, under St Paula Several of Jerome's biblical commentaries were undertaken at her request, and she aided his work Feast Jan 26

Paul-Boncour, Joseph (zhôzĕf' pôl-bôkōr'), 1873–, French statesman Originally a Socialist, he withdrew from the party in 1931 and remained independent of party ties He was permanent French delegate to the League of Nations (1932–36), was briefly premier (1932–33), and held several cabinet posts, notably the foreign ministry in 1933 and in 1938 He voted (1940) against the granting of full powers to Marshal Pétain He was a delegate to the conference at San Francisco to draw up a charter for the United Nations in 1945 Paul-Boncour has long advocated disarmament and the creation of an international police force as the sole effective means to preserve peace

Paulding, Hiram, 1797–1878, American naval officer, b Westchester co, N Y Appointed (1811) a midshipman, he distinguished himself in the War of 1812 as acting lieutenant on the *Tyconderoga* in the battle of Lake Champlain In 1823 he was graduated from the military academy in Vermont which later became Norwich Univ He saw wide and varied sea duty and was promoted captain in 1844 In 1857, as commander (1855–58) of the home squadron off Nicaragua, he arrested William Walker, the American filibuster, for this act he was relieved by President Buchanan. Although retired in Dec, 1861, with promotion to rear admiral in July, 1862, Paulding was active throughout the Civil War He approved the design of the *Monitor* and was influential in hastening its construction, and as commandant at the New York navy yard he aided in quelling the DRAFT RIOTS of 1863 After the war he was governor of the U S Naval Asylum at Philadelphia (1866–69) and port admiral at Boston (1869–70) His *Journal of a Cruise of the United States Schooner Dolphin* (1831) is an account of the pursuit of mutineers in the Pacific, *Bolivar in His Camp* (1834) describes a horseback trip of 1,500 mi in the Andes, when he carried dispatches from Admiral Isaac Hull to Gen Simon Bolívar. See biography by R P Meade (1910)

Paulding, James Kirke, 1779–1860, American author and public official, Secretary of the Navy under Van Buren, b near Millbrook, N Y He collaborated with Washington Irving and William Irving in producing the periodical *Salmagundi* In addition, he wrote a number of humorous satirical works, including *John Bull in America* (1825), some 70 tales and several novels, of which the most successful were *Koningsmarke* (1823) and *The Dutchman's Fireside* (1831), and a popular life of George Washington See biographies by his son, William Paulding (1867), and A L Herold (1926)

Paulding, village (pop 2,044), co. seat of Paulding co, NW Ohio, N of Van Wert, in a region producing sugar beets and oats.

Pauli, Wolfgang (vôlf'gäng pou'lē), 1900–, Austrian physicist He was awarded the 1945 Nobel Prize in Physics for his enunciation (1925) of the exclusion principle, according to which no two electrons in an atom may be in the same quantum state. He has made other important contributions in nuclear

physics and in allied fields Pauli taught (1923–28) at the Univ of Hamburg and became professor at the Federal Institute of Technology, Zurich, in 1928, he was visiting professor (1935–36, 1940–46) at the Institute for Advanced Study at Princeton. He wrote *Meson Theory of Nuclear Forces* (1947; 2d ed , 1948)

Paulicians (pôlĭ'shŭnz), Christian heretical sect The group presumably arose before the 3d cent A D and flourished in E Asia Minor, especially in Armenia, after c 650 Scholars dispute the origin of their religion, of which little is definitely known Their teachings seem to reflect the doctrines of Manichaeism, or of Marcion, or of Paul of Samosata, they called themselves Paulicians after either St Paul the Apostle or Paul of Samosata It is known that they were probably dualistic and that they rejected sacraments, images, the Cross, and much of the Bible Some consider them a survival of early Christianity They spread extensively in Armenia and were persecuted by the Byzantine emperors and the Orthodox Eastern Church With rare exceptions, the iconoclasts regarded them with favor In the 9th cent the Paulicians were a cohesive military and political power, they were defeated in battle by Basil I In the 8th and the 10th cent Paulicians were transferred to Thrace by the thousands to serve as a bulwark against the barbarians Remnants survive, in spite of numerous persecutions From 868, Paulicians proselytized in Bulgaria, where they combined with the BOGOMILS See Steven Runciman, *The Medieval Manichee* (1947)

Paulinus, Saint (pôlī'nŭs), d 644, Italian missionary, first archbishop of York (625–33) He was a Roman monk who went to England with the mission of St AUGUSTINE OF CANTERBURY in 601 For some years he worked in Kent, then went as archbishop to Northumbria Paulinus succeeded temporarily in converting Northumbria and Lindsey, he was forced to flee to Rochester when paganism returned with King Penda after King Edwin's death

Paulinus (pôlī'nŭs) or **Suetonius Paulinus** (Caius Suetonius Paulinus) (swētō'nēŭs), d after A D 69, Roman general Under Claudius I he was stationed (A D 42) in Mauretania, and he advanced inland as far as Mt Atlas In A D 59 he had the command in Britain While on a campaign to reduce the stronghold of Mona (Anglesey), in A D 61, he was recalled to S Britain by the rising of BOADICEA, who defeated Petilius Cerialis and the ninth legion and took Verulamium (St Albans) and Londinium (London) He suppressed the revolt After Nero's death he led the troops of OTHO against VITELLIUS, but the victorious Vitellius pardoned him (A D 69)

Paulist Fathers, American society of Roman Catholic priests, officially named the Society of Missionary Priests of St Paul the Apostle It was founded (1858) by Isaac HECKER, who had the idea of a group of priests who would work for the conversion of Americans in ways appropriate to the U S scene The community has remained very small, and, besides preaching, its activities are all specialized Thus the Paulists do printing, mainly of pamphlets, they have founded radio programs, and they have built an excellent choir Their monthly, the *Catholic World*, long edited by Father Hecker, was one of the earliest U S efforts by Roman Catholics at serious literary journalism The headquarters is in the Church of St Paul the Apostle, New York city See J M Gillis, *The Paulists* (1932)

Paul Knutson (nōōt'sŭn, kunōōt'sŭn), fl 1354–64, Norse leader, alleged to have explored America In 1354 King Magnus of Norway directed Paul Knutson, one of the leading men of Norway, to assemble and conduct an expedition to insure the continuance of Christianity in Greenland, reports having been received of the defection of settlers there The expedition is believed to have sailed from Norway in 1355, the date of its return, though not actually known, is usually set at 1363 or 1364 Nothing is known of the expedition, but those who believe Paul Knutson explored America consider that it was necessary for him to go to the Western Settlements (Vinland) to find the apostates This theory maintains that the KENSINGTON RUNE STONE was a product of his expedition and that he settled in Vinland and spent a number of years exploring the coast Scholars are not in accord as to the authenticity of the stone or of the speculated exploration See *Westward from Vinland* (1940) and *America, 1355–1364* (1946), by Hjalmar R Holand, chief exponent of the theory

Paulina (pôlī'nŭ), town (pop 1,230), NW Iowa, NE of Sioux City, inc 1883

Paullus, Aemilius (Lucius Aemilius Paullus Macedonicus) (ĕmĭl'ēŭs), c 229–160 B C , Roman general His father was the consul L Aemilius Paullus, who fell at Cannae (216 B C) The son was curule aedile (192 B C), praetor (191 B.C.), and consul (182 B C). In his consulship he conquered the Ingauni, a Ligurian people The Macedonian war of Rome and King Perseus had dragged on since 171 B C , when Paullus, in response to the general demand, accepted a second consulship (160 B C) to fight in Macedonia. He captured the king near Pydna and set up the country as a Roman dominion. He also sacked Epirus His name is sometimes spelled Paulus Plutarch wrote his life

Paul of Aegina (ējī'nŭ), 7th cent ?, Greek physician His only extant work is a medical history in seven books, it was translated into English, with a commentary by Francis Adams (3 vols., 1844–47). The sixth book, a treatise on surgery, influenced surgery in Europe and in Arabia

Paul of Samosata (sumō'sutu), fl 260–72, Syrian theologian, heretical patriarch of Antioch He was a friend and high official of ZENOBIA of Palmyra Paul enounced a dynamic MONARCHIANISM, denying the three Persons of the Trinity He taught that the Logos came to dwell in Jesus at baptism but that Jesus possessed no extraordinary nature above other men, while the Logos is merely an attribute of God Paul was repeatedly challenged and finally excommunicated (269), but he continued to function as bishop under Zenobia's protection until the Romans took Palmyra (272) His influence on Arius and Nestorius was considerable, but his supposed connection with the PAULICIANS is disputed

Paul of the Cross, Saint, 1694–1775, Italian religious, founder of the Passionists (Congregation of the Barefooted Clerks of the Most Holy Cross and Passion of Our Lord Jesus Christ) His original name was Paolo Francesco Danei He had visions calling him to found a new order, and for it he received papal permission in 1725 He was ordained in 1727 His order, intended to revive Christian life by emphasis on the Passion, is vigorous and widespread Feast April 28

Paulsboro, borough (pop 7,011), SW N J , near the Delaware below Camden, settled 1681, inc 1904 It was fortified in the Revolution It has oil refineries and chemical manufacturing

Paulsen, Friedrich (frē'drĭkh poul'sun), 1846–1908, German neo-Kantian philosopher and educator A professor at Berlin for many years, he is well known through his textbooks which have been translated into English and are widely used In general he accepted the philosophical position of Fechner His major works include *System of Ethics* (1889, Eng tr , 1899) and *Introduction to Philosophy* (1892, Eng tr , 1895) which clearly shows his affiliations with Fechner One of his educational works of great importance is known in English as *German Education, Past and Present* (1907) See his autobiography (tr and ed by Theodor Lorenz, 1938)

Pauls Valley, city (pop 5,104), co seat of Garvin co , S central Okla , on the Washita river and SE of Oklahoma City, settled c 1887 It is the center of a rich farm and orchard area producing peaches, alfalfa, cotton, broomcorn, sorghum, and pecans A state hospital for epileptics is near by

Paul the Deacon, c 725–799?, Lombard historian He received a good education, probably at Pavia, and he learned Latin well and some Greek He lived at Monte Cassino and at Charlemagne's court His first work was a continuation of the Roman history of Eutropius, taking the narrative down to Justinian He also wrote a history of the diocese of Metz, a source for the early family of Charlemagne Paul's chief work is a history of the Lombards, drawn from sources now lost, covering the last half of the 6th, the 7th, and the first half of the 8th cent It is one of the oldest histories of a Germanic nation by a German He also wrote homilies, poems, and a commentary on the Benedictine rule He is frequently called by his Latin name, Paulus Diaconus

Paulus (Julius Paulus) (pô'lŭs), fl c 200, Roman jurist He was extremely prolific, supposedly having written some 300 books His surviving work displays keen analysis of the opinions of other jurists and trenchant expression of his own views Paulus was held in great respect, almost one sixth of the Digest of the CORPUS JURIS CIVILIS consists of his work, and he was one of the five jurists whose opinions were made authoritative in 426 by a constitution of Theodosius II and Valentinian (see PAPINIAN)

Paulus, Aemilius. see PAULLUS, AEMILIUS

Paulus, Friedrich von (frē'drĭkh fŭn pou'lōōs), 1890?–, German field marshal He commanded the German 6th Army at STALINGRAD and was raised to marshal's rank several hours before his surrender (Jan , 1943) to the Russians In captivity he became the nominal head of the League of German Officers, directed against the Hitler regime in Germany, and for the Russian-sponsored Free German Committee he issued appeals to the Germans to surrender

Paulus Diaconus: see PAUL THE DEACON.

Paulus Hook, N J see JERSEY CITY

Paumotu. see TUAMOTU ISLANDS

Pauncefote of Preston, Julian Pauncefote, 1st Baron (pôns'fōōt), 1828–1902, British statesman and ambassador to the United States As secretary to the colonial secretary, Sir William Molesworth, and as attorney general of Hong Kong, he won a reputation which brought him (1874) the post of attorney general in the Leeward Islands and later other important offices, including the permanent undersecretaryship for foreign affairs in 1882 He served on the Suez Canal commission in 1885 As minister (ambassador after 1893) to Washington from 1889 until his death, Pauncefote dealt successfully with the problems concerning seal fishing in the Bering Sea, the Venezuela Boundary Dispute, and the Panama Canal question, which was readjusted by the HAY-PAUNCEFOTE TREATY of 1901 He preserved friendly relations between Great Britain and the United States during the Spanish-American War and in 1899, as senior British delegate to the First Hague Conference, was a leading figure in the formation of a permanent tribunal of arbitration See biography by R B Mowat (1929)

pauperism see POOR LAW

Pausanias (pôsā'nēŭs), d c 470 B C , Spartan general, nephew of King Leonidas He was the victorious commander at Plataea (479 B C) in the Persian Wars and followed up the battle with expeditions to Cyprus and Byzantium From Byzantium he was called home to face a very circumstantial charge of treating with Persia, he was acquitted (c 475 B C) The accusation was repeated several years later, and he was acquitted again, only to be accused (this time probably justly) of planning a coup at Sparta, in collaboration with the exiled Themistocles To escape arrest he took sanctuary in a temple and was starved to death. Themistocles, denounced to Athens by Sparta, was condemned *in absentia*, this was the occasion of Themistocles' finally leaving Greece for Persia

Pausanias, fl A D 174, traveler and geographer, probably b Lydia His *Description of Greece* is a valuable source on the topography, monuments, and legends of ancient Greece It was translated into English by J G Frazer (with a commentary, 6 vols , 1898, rev ed , 1913) and by W H S Jones (5 vols , 1918–35)

Pausias (pô'shēŭs), fl 1st half of 4th cent B C , Greek painter He was celebrated for his decorative paintings, particularly in encaustic, a method which he is said to have been the first to employ in the adornment of walls and ceilings Two of his most famous works were a portrait of Glycera, a flower girl of Sicyon, and *A Sacrifice* (preserved in the portico of Pompey's temple in Rome), containing an admirably foreshortened and modeled figure of a black bull Pliny said that he painted many miniatures of children and other small works

pavement, the wearing surface of a road, street, or sidewalk Parts of Babylon and Rome are believed to have been paved, and the streets of Pompeii were covered with lava blocks, ROMAN ROADS were noted for their durable stone paving Cobblestones were commonly used from late medieval times into the 19th cent Earth and gravel roads are often treated with tar or oils to prevent dust, true paving surfaces include concrete, penetration macadam and bituminous-mixed macadam, sheet asphalt, bituminous concrete, and brick, wood, or stone-block pavements Desirable qualities in pavements include durability, smoothness, quietness, ease of cleaning, and a nonslippery surface The subgrade must be cut and shaped to suit the thickness and form of paving and rolled to insure equal compression Formerly a foundation of sand-covered earth was considered adequate, today a concrete road slab is commonly used as a foundation for a sheet or block wearing surface The foundation, like the surface, must be crowned for rapid shedding of water or, in the case of walks, sloped toward the gutter Concrete foundations and surfaces must be provided with expansion joints The concrete is often reinforced with steel mesh or steel bars The first concrete pavement in the United States was laid in Bellefontaine, Ohio, in 1894, after 1900 the use of concrete increased enormously, mainly owing to the heavy demands of motor traffic A bituminous macadam pavement made by the penetration method consists of a macadam road on which is poured a bituminous material which penetrates at least 2 in and forms an impervious binder For a bituminous-mixed macadam pavement, a heated mixture of stones or crushed rock and bituminous binder is spread on a macadam surface and rolled into a compact mass A sheet asphalt pavement is built in three courses, a foundation course, a binder course, and a wearing course In a first-class road the foundation is of cement concrete The binder course, whose function is to prevent creepage of the upper course, is composed of broken stone and asphalt cement The wearing surface is a mixture of fine sand, filler, and asphalt cement Each course is applied hot and is then thoroughly rolled A bituminous concrete pavement consists of a mixture of graded stone and sand, filler, and a binder of asphalt cement In a brick pavement an inch-thick bedding of sand, cement mortar, or mastic is laid between bricks and foundation The bricks must be rolled and the joints filled with a cement grout or a bituminous filler For a monolithic brick pavement, the brick is laid directly on a freshly poured concrete base and rolled before the concrete has set Wood blocks were popular in the 19th cent, At first round or hexagonal blocks were laid closely together These were superseded by rectangular blocks, preferably of long-leaf yellow pine treated with a preservative and laid with the grain vertical, joints are closed with a hot bituminous filler Stone-block pavement, an ancient type, is adapted to locations subject to heavy wear. Both stone and

wood pavements tend to be slippery when wet. See T R Agg, *The Construction of Roads and Pavements* (5th ed., 1940). For ornamental pavements, see MOSAIC and TILE

Pavia (pävē'ä), city (pop 40,208), capital of Pavia prov, Lombardy, N Italy, on the Ticino near its confluence with the Po Called Ticinum by the Romans, it was later the capital of the Lombard and the Carolingian kings In the 12th cent Pavia became a free commune, loyal, however, to the emperor It was the last Lombard city to fall under the sway of the VISCONTI (1359), who built the castle and started the construction of the CERTOSA DI PAVIA. It suffered heavily during the Italian Wars, and near here in 1525 Emperor Charles V defeated and captured Francis I of France Successively under Spanish, French, and Austrian domination, it was liberated in 1859 The old and celebrated law school, founded in the 11th cent, became (1361) a university with several faculties, still one of the best in Italy The Church of San Michele (12th cent) is a good example of Lombard Romanesque architecture The medieval covered bridge on the Ticino was heavily damaged in an air raid in 1944

Pavlov, Ivan Petrovich (ēvän' pētrô'vĭch päv'lŭf), 1849–1936, Russian physiologist and experimental psychologist He was professor at the military medical academy and director of the physiology department at the Institute for Experimental Medicine, Leningrad, from 1890 He received the 1904 Nobel Prize in Physiology and Medicine for his work on the digestive glands He is known especially for his studies of conditioned reflexes In 1935 the government built a laboratory for him His chief work was *Conditioned Reflexes* (1926, Eng tr, 1927) See I P Frolov, *Pavlov and His School* (Eng tr, 1937), biography by B P Babkin (1949).

Pavlova, Anna Matveyevna (päv'lô'vu, Rus ən'nŭ mŭtvyā'ĭvnŭ päv'lŭvŭ), 1882–1931, Russian ballet dancer In 1892 she entered the Imperial Ballet School, St Petersburg, where her teachers included Christian Johannsen and Nicholas Legat She made her debut in 1899 at the Mariinsky Theater, but it was only after tours to Scandinavia (1906) and to Leipzig, Prague, and Vienna (1908) that she gained fame At Paris in 1910 she danced with Nijinsky in Diaghilev's Russian Ballet, and at the Metropolitan Opera House, New York, she made her American debut (1910) with Mordkin She played a leading role in the motion picture *The Dumb Girl of Portici* (1916) Pavlova excelled in *Giselle, Autumn Bacchanal, The Dragon Fly,* and especially *The Dying Swan,* composed for her by Michel FOKINE from the music of Saint-Saëns Her perfect classical technique and her ethereal quality brought her universal acclaim See biographies by Walford Hyden (1931), Victor Dandré (1932), and C W Beaumont (1932), André Oliviéroff, *The Flight of the Swan* (1932), *Pavlova* (ed by P D Magriel, 1947)

Pavlovsk (pəv'lôfsk), city (1939 pop over 10,000), RSFSR, near Leningrad, just SE of Pushkin (the former Tsarskoye Selo). It was formerly a summer residence of the St Petersburg nobility and has fine English gardens, villas, and mansions It was held (1941–44) by the Germans in the Second World War

Pawhuska (pôhŭ'skŭ), city (pop 5,443), co seat of Osage co, NE Okla, NW of Tulsa, in an agricultural and stock-raising area, settled 1872, inc 1906 It is the Osage Indian capital and the site of a tribal museum

Pawlet (pô'lĭt), rural town (pop 1,192), SW Vt, at the N Y line NW of Dorset Settled in the 1760s, it grew as a trading and milling center

Pawling, village (pop 1,446), E N Y, SE of Poughkeepsie, in hilly country, settled c 1740 by Quakers, inc 1893. Leather bags are made here The Trinity-Pawling School for boys is here

pawnbroker, one who makes loans on personal effects which are left as security The practice of pawnbroking is ancient, as is recognition of the danger it involves of oppressing the poor, who are given some protection in Ex 22 26,27 and Deut 24 6,12,13,17 In the Middle Ages, Christians generally would not lend at interest, and pawnbroking was left largely to Jews Lombards engaged in it extensively, however, and in London the financial center is still Lombard St The three gold balls that are the pawnbroker's sign are traced to the arms of the Medici Wrongs to the poor are prevented in some European nations by pawnshops under religious, charitable, or municipal auspices Such a pawnshop is known as *mons pietatis* or *mont-de-piété* In England and in American states pawnbroking is regulated by law In New York city the Provident Loan Society was organized in 1891 by the Charity Organization Society, it conducts a large pawnbroking business and charges interest at relatively low rates

Pawnee (pônē'). **1** Village (pop 1,000), central Ill, S of Springfield, in a farm area, inc 1891 **2** City (pop 2,742), co. seat of Pawnee co, N central Okla, near the Arkansas river and NW of Tulsa, founded c 1893 on the site of a trading post and Indian agency. The home and museum of Pawnee Bill (Gordon W. Lillie), one of the wild West heroes, is here

Pawnee City, city (pop 1,647), co. seat of Pawnee co, SE Nebr., near the Kansas line SE of Lincoln, inc 1858

Pawnee Indians or **Pani Indians** (both pôn'ē'), tribe of North American Indians of the Caddoan linguistic stock At one time the Pawnee lived in what is now Texas, but by 1541, when Coronado visited Quivira, they seem to have been settled in the valley of the Platte river in S Nebraska In the early 18th cent the Pawnee were divided into four bands—the Skidi or Wolf, the Grand, the Republican, and the Tapage (or Noisy) They then numbered some 10,000. By the time French traders settled (c 1750) among them, the Pawnee had extended their territory to the Republican river in N Kansas and the Niobrara river in N Nebraska In 1806 Facundo Malgares with Spanish soldiers visited the Pawnee just before they were visited by the expedition of Zebulon M Pike The Pawnee were a warlike tribe hostile to the Sioux and the Cheyenne but friendly towards the Oto They were fierce fighters, but they never warred against the United States, even when badly treated by the government The Pawnee even provided scouts for the U S army in the Indian wars and a "Pawnee battalion" to protect the Union Pacific RR from the depredations of other Indians The Pawnee entered into treaty relations with the Americans early in the 19th cent and from that time until 1876, when they moved to a reservation in Oklahoma, the Pawnee steadily lost their lands Pawnee population was reduced by wars with the Sioux and the Wichita and the smallpox and cholera epidemics of the 1840s—they now number some 1,100 In material culture the Pawnee resembled other "village" Indians of the Plains area but they had a genius for ritualism and mythology Their supreme god was Tirawa (the sun) who with Mother Earth conceived Morning Star Morning Star is an example of the rising and dying god of vegetation The Pawnee sacrificed a captive maiden to Morning Star This custom was one of the few examples of human sacrifice N of Mexico This practice, however, was ended by the great Pawnee chief Petalasharo (b c 1797) See George A Dorsey, *The Pawnee Mythology* (1906), Ralph Linton, *Sacrifice to the Morning Star by the Skidi Pawnee* (1922), Waldo R Wedel, *Introduction to Pawnee Archeology* (1936)

Paw Paw, village (pop 1,910), co seat of Van Buren co, SW Mich, on the Paw Paw river and SW of Kalamazoo, settled 1832, inc 1859 It is in a fruitgrowing and resort region and has an annual grape festival Indian earthworks are hereabout

pawpaw see PAPAW TREE

Pawtucket (pətŭ'kĭt), industrial city (pop 75,797), NE R I, on the Blackstone river at Pawtucket Falls The area was deeded to Roger Williams in 1638 The part east of the river was included in Massachusetts until 1862, when Pawtucket was organized as a Rhode Island town, the city was chartered in 1885 Samuel Slater built the first successful water-power cotton mill in the country here in 1790, the 1793 Slater mill is now a museum Textile manufacture remains the most important industry, electrical equipment is also produced The city has a new post-office and Federal building (1933) and a city hall (1936) Narragansett race track is in Pawtucket and East Providence There were serious strikes in the city in 1922 and 1934

Pax (päks), in Roman religion, goddess of Peace Vespasian erected a temple to her at Rome. Her attributes were similar to those of the Greek Irene, the olive branch and the horn of plenty

Paxo (pak'sō, päk'sō), **Paxos** (päksŏs', päk'sŭs), or **Paxoi** (päksē'), island (7 sq mi, pop 3,050), off W Greece, in the Ionian Sea, one of the IONIAN ISLANDS, S of Corfu It has important olive groves

Paxtang (päk'stăng"), borough (pop 1,707), SE Pa, near Harrisburg The uprising of the Paxtang (Paxton) Boys against the Indians took place here in 1763

Paxton, Sir Joseph, 1801–65, English architect and horticulturist After a successful career as gardener and estate manager, he erected in 1836 a great conservatory for the duke of Devonshire at Chatsworth, Derbyshire, which led to his commission to design a similar but larger glass and iron structure, known as the CRYSTAL PALACE, for the Great Exhibition of 1851 at London Paxton was knighted for this work

Paxton, city (pop 3,106), co seat of Ford co., E Ill, E of Bloomington, in a farm area, settled in the 1850s by Swedes, inc. 1865 Clothing and canning factories are here

Payette (pāĕt'), city (pop 3,322), co seat of Payette co., W Idaho, near the junction of the Payette and Snake rivers and near the Oregon line, settled 1883, inc 1901. It is a trade center for a farm, dairy, poultry, and fruitgrowing area The city serves the BOISE PROJECT and the project at VALE, Oregon.

Payette, river rising in several forks in the mountains of W Idaho and flowing south, southwest, and northwest to join the Snake near Payette. The water is used for the BOISE PROJECT.

Payne, John Howard (pān), 1791–1852, American actor and playwright, b New York city. He is best known for his song *Home, Sweet Home,* which he included in his opera *Clari, the Maid of Milan* (London, 1823). The air was adapted by Henry R Bishop from an Italian song Payne wrote a number of plays successful in England and the United States, in some of which he acted They were largely adaptations and translations, the most successful of which was *Brutus* (1818) After living abroad for many years, Payne returned to the United States in 1832 He was appointed (1842) American consul at Tunis, where he died. His home at East Hampton, L I., N Y, is preserved See biography by Gabriel Harrison (rev ed, 1885)

Payne, Peter, c 1380–1455, English Hussite. He espoused Wyclifite views while studying at Oxford and was forced to leave He went to Prague (c 1416) and became a member of the extreme party of Hussites At the Council of Basel he was (1433) one of their spokesmen, and one of the most unyielding. In the Hussite Wars that followed he joined the Taborites He left Prague in 1437, but was imprisoned in 1439 Ransomed, he is said to have been in Tabor when the fortress was captured

Payne, Sereno Elisha (surē'nō), 1843–1914, American legislator, b Hamilton, N Y, grad. Univ. of Rochester, 1864. He was admitted to the bar (1866), practiced at Auburn, N Y, and was active in Republican politics He served (1883–87, 1889–1914) in Congress and was long a member of the Committee on Ways and Means, becoming chairman in 1899 Payne, a staunch though not extreme protectionist, was active in fostering Republican tariff legislation He helped draft the McKinley Tariff Act (1890), the Dingley Act (1897), and the PAYNE-ALDRICH TARIFF ACT (1909)

Payne, village (pop 1,003), NW Ohio, near the Ind line NW of Van Wert

Payne-Aldrich Tariff Act, 1909, passed by the U S Congress There had been no change in tariff laws since the Dingley Act of 1897, the issue was ignored by President Theodore Roosevelt The Republican platform of 1908 pledged tariff revision, and to this end President W H Taft called (1909) Congress in special session The House promptly passed a tariff bill, sponsored by Sereno E PAYNE, which called for reduced rates, the Senate substituted a bill, fathered by Nelson W ALDRICH, which made fewer downward revisions After a sustained attack on the Aldrich Bill by a group of insurgent Republicans in the Senate, the more moderate provisions of the House bill were passed by compromise, and the act was immediately signed by Taft The Payne-Aldrich Tariff Act—which lowered 650 tariff schedules, raised 220, and left 1,150 unchanged—was less aggressively protectionist than the McKinley Tariff Act (1890) and the later Dingley Act and adopted the principle of maximum and minimum tariffs for compelling concessions from other countries

Paynesville, village (pop 1,317), central Minn, near Lake Koronis or Cedar Lake SW of St Cloud, inc 1887 Dairy products are made here In Aug, 1862, it was stockaded after attacks by the Sioux

Paysandú (pīsändōō'), city (1941 estimated pop 46,000), capital of Paysandú dept, W Uruguay, a port on the Uruguay river Founded in 1772, it is in a rich stock-raising and farming district and has meat-packing plants Soaps and shoes are also made The modern, attractive city is at the head of ocean navigation, it exports meat products

Payson, city (pop 3,591), N central Utah, near Utah Lake S of Provo, settled 1850 by Mormons, inc. 1865. Long irrigated, the lands here are included in the STRAWBERRY VALLEY PROJECT

Pazardzhik (päzärjĭk'), city (pop 30,430), central Bulgaria, on the Maritsa. It is an agricultural center

Pazmany, Peter, Hung *Pázmány* (päz'mänyô), 1570–1637, Hungarian churchman, cardinal of the Roman Church. Of a Calvinist family, he was converted to Catholicism in 1583, entered the Society of Jesus in 1587, and rose to become cardinal and prince primate of Hungary When he began his career, Hungary had largely accepted the Reformation Pazmany, without using coercion, succeeded in winning back to the Roman Church a major proportion of the Hungarian people To this end he founded seminaries, schools, and monasteries, notably that of Nagyszombat, transferred in the 18th cent. to BUDAPEST A powerful orator and an able diplomat, Pazmany also was the author of many literary works, both in Latin and in Hungarian He translated the *Imitation of Christ* (1604)

Paz Soldan, Mariano Felipe (märyä'nō fālē'pā päs' sōl'dän), 1821–86, Peruvian historian. He visited the United States, where he made a study of the prison system, and returned to Peru to advocate prison reform. The result was a model penitentiary in Lima, of which he was named director He was in 1860 appointed director of public works, and at different times he served as minister of foreign relations and of justice. During the War of the Pacific he was exiled in Buenos Aires. He wrote on geography, and his histories include *Historia de la Guerra del Pacífico* (1884) and *Historia del Perú independiente, 1822–1827* (1868–74).

Pazzi conspiracy (pät'tsē), 1478, plot against Lorenzo de' Medici (Lorenzo il Magnifico) and his brother Giuliano, designed to end the hegemony of the Medici family over the Florentine state It was instigated by Pope Sixtus IV, his nephew Girolamo Riario, Archbishop Salviati, and members of the Pazzi family, a wealthy Florentine family who rivaled the Medici. Actually, the Pazzi were tools in the conspiracy, which aimed not only at the death of the Medici, but at the elevation of Riario to power in Florence The details of the plot were worked out by Salviati and the Pazzi, while Riario and the pope remained in Rome On April 26, during High Mass at the cathedral, Giuliano de' Medici was stabbed to death, while Lorenzo escaped with a wound The enraged Florentines seized and killed the conspirators, and the Medici remained firmly entrenched in power

Pb [Latin=*plumbum*], chemical symbol of the element LEAD

Pd, chemical symbol of the element PALLADIUM

pea, hardy, annual, climbing leguminous plant (*Pisum sativum*), used for food by man at least since the time of the lake dwellers It is cultivated everywhere in home gardens and on a large scale commercially for canning The round seed, borne in a pod, is a highly nutritious food, having a large protein content The pod, too, of the varieties known as sugar peas can be eaten, and the whole plant is grown for forage, the vines of garden varieties are also used for feeding stock The garden peas are divided into two groups—those having smooth seeds, which are the hardier and earlier, and those with wrinkled seeds, generally having a better flavor They can be planted very early In New England many gardeners plant them on April 19, the anniversary of the battle of Lexington—hoping to have their first peas by the Fourth of July, when according to traditional use they accompany salmon on the menu Split peas are obtained from the field pea (*Pisum arvense*), grown also for forage and as a green manure The CHICK-PEA and the SWEET PEA belong to different genera

Peabody, Andrew Preston, 1811–93, American Unitarian clergyman and theologian, b Beverly, Mass After a pastorate of nearly 30 years in Portsmouth, N H , he was professor of Christian morals and college preacher at Harvard Univ from 1860 to 1881 From 1853 to 1863 he was editor of the *North American Review*

Peabody, Elizabeth Palmer, 1804–94, American educator, lecturer, and reformer, b Billerica, Mass The family moved (c 1809) to Salem, where the father began practicing dentistry Of the three Peabody sisters, the second, Mary, married Horace Mann, and the youngest, Sophia, married Nathaniel Hawthorne Elizabeth, after a period as governess in Hallowell, Maine, with her sister Mary established a school for girls in what is now Brookline Although she was an inspired teacher, she was a poor businesswoman, and her ventures were short-lived After giving up this school she wrote a series of history textbooks and became a successful lecturer on history She assisted Bronson Alcott in his Temple School and wrote up his educational theories in *Record of a School* (1835) Her path crossed those of most of the great New Englanders of her day—Emerson, William Ellery Channing, and many others The bookshop she opened in Boston in 1840 was a literary center Margaret Fuller held her conversation classes there, and Elizabeth soon found herself a publisher as well as a bookseller, the transcendental magazine, the *Dial*, pamphlets of the Anti-Slavery Society and several of Hawthorne's early works were published by her Of a projected periodical, *Aesthetic Papers*, only one number appeared, in 1849 After closing her bookshop she traveled about, lecturing and selling historical charts An ardent abolitionist, Elizabeth in 1859 went to Richmond to plead unsuccessfully with the governor of Virginia for the life of one of John Brown's aids at Harpers Ferry In 1861 she opened in Boston one of the first kindergartens in the country With her sister Mary she wrote *Moral Culture of Infancy and Kindergarten Guide* (1866) She studied Froebel's methods in Germany in 1867–68, and on her return she established a Froebel Union and opened the first kindergarten training school in the country From then on kindergarten training was the cause which took her traveling about the country After her death a settlement, Elizabeth Peabody House, was established as a memorial See L H Tharp, *The Peabody Sisters of Salem* (1950)

Peabody, Endicott, 1857–1944, American educator, b Salem, Mass , grad Cheltenham College, 1876, LL B Cambridge Univ , 1880 Ordained (1885) in the Protestant Episcopal Church, Peabody had founded in 1884 the Groton School, Groton, Mass , modeled on the English public schools He was its headmaster until he retired in 1940

Peabody, Francis Greenwood, 1847–1936, American Unitarian theologian, b Boston, grad. Harvard (B A , 1869, M A , 1872) and Yale (D D , 1887) He was pastor from 1874 to 1880 of the First Parish Church, Cambridge, Mass At Harvard he was professor of theology (1881–86) and professor of Christian morals (1886–1913). His numerous books include *Jesus and the Social Question* (1900), *The Approach to the Social Question* (1909), *The Social Teaching of Jesus Christ* (1924), and *The Privileges of Old Age* (1931)

Peabody, George, 1795–1869, American financier and philanthropist, b South Danvers (now Peabody), Mass At the age of 11 he was apprenticed to a grocer, and by 1814 he was managing a dry-goods firm in Georgetown, D C He became a partner in this firm, which moved to Baltimore, and he established branches in New York and in Philadelphia While on a business trip to London in 1835 he negotiated a large British loan which helped save the finances of the state of Maryland, but he refused a commission for his services Peabody settled (1837) permanently in London, there he set up a brokerage business which became increasingly prosperous He took Junius Spencer Morgan as a partner in 1854 He used his influence to better Anglo-American relations and financed the exhibition of American products at the Crystal Palace exhibition Prominent among Peabody's philanthropies were large funds given for tenement clearance in London and the Peabody Education Fund of more than $2,000,000 to promote education in the South (partly used for the George Peabody College for Teachers, in Nashville, Tenn) He also contributed to museums, universities, and libraries throughout the United States and endowed the archaeological museum of Harvard and the museum of physical sciences at Yale

Peabody, George Foster, 1853–1938, American banker and philanthropist, b Columbus, Ga Successful early in life as a banker and organizer of railroads and utility companies, he retired (1906) from business to devote himself to philanthropy and public service He became a trustee of many colleges and universities in the United States and fought for the furtherance of education for Negroes As chairman (1910–15) of the New York state reservation commission, he helped reclaim the mineral springs at Saratoga Peabody, the treasurer of the Democratic National Committee (1904–5), was an intimate friend of Woodrow Wilson, Alfred E Smith, and Franklin Roosevelt

Peabody, Josephine Preston, 1874–1922, American poet and dramatist, b New York city, studied at Radcliffe (1894–96) An instructor at Wellesley, she married (1906) Professor L S Marks of Harvard Her poems were popular in magazines and in book publication Encouraged by her teacher, William Vaughn Moody, she finished a play about Shakspere, *Fortune and Men's Eyes* (1900), and a blank-verse tragedy, *Marlowe* (1901) *The Piper* (1910) won the Stratford prize competition in 1910 and was produced in England and America Later plays include *The Wolf of Gubbio* (1913) See her diary and letters (ed by C H Baker, 1925), *Collected Plays* (1927), and *Collected Poems* (1927)

Peabody 1 City (pop 1,367), central Kansas, NNE of Wichita, in a farming and livestock area, platted 1871, inc 1878 2 City (pop 21,711), NE Mass , adjoining W Salem Its great tanning industry dates from early in the 18th cent There are old houses

Peace, river formed in N British Columbia by the confluence of the Finlay and Parsnip rivers at Finlay Forks It flows E into Alberta, past the village of Peace River, then generally N to Fort Vermilion and ENE to the Great Slave river near Lake Athabaska, 1,054 mi from the head of the Finlay river The Peace was probably discovered by Peter Pond in his explorations (1775–88) in the region and was explored (1792–93) by Sir Alexander Mackenzie It became an important route of the fur traders The valley is fertile, and since settlement began in the early 20th cent , coal, salt, gypsum, and oil have been found The Peace river bridge built in 1943 on the Alaska Highway crosses the river near Fort St John, in British Columbia

peace congresses. Although philosophical and religious PACIFISM is almost as old as war itself, organized efforts to outlaw war date from the middle of the 19th cent The term "peace congress" is applied to the meeting of diplomats to end specific wars by treaties acceptable to all combatants, as well as to the internationalists convened to prevent future wars International efforts toward peace have in general followed five lines international ARBITRATION, a league of nations or an international authority; the codification of international law by a tribunal, such as the WORLD COURT or the INTERNATIONAL COURT OF JUSTICE; sanctions or international coercion of the nation judged to be in the wrong, and disarmament The first international peace congress was held in London in 1843 Proposals were made for a congress of nations and for international arbitration, military education was denounced, propaganda against war was urged, and the control of the manufacture and sale of munitions was advocated The second congress, known as the first Universal Peace Congress, met in Brussels in 1848, Elihu BURRITT was its leading spirit This congress stressed a general reduction in armaments and a congress of nations. The second Universal Peace Congress, meeting in Paris in 1849, was the most important in the series It followed Richard Cobden's motion in Parliament that the British government enter into negotiations with foreign governments for a system of arbitration Victor Hugo proposed a United States of Europe The third Universal Peace Congress met in Frankfurt in 1850 Disarmament was the principal matter of discussion The fourth Universal Peace Congress was held in London at the time of the Crystal Palace exhibition in 1851 International peace agitation was interrupted for many years, first by the Crimean War, then by the American Civil War. In 1867 an attempt by Charles Lemonnier to convene a peace congress in Paris was frustrated by the French government A meeting was held in Geneva, however, and the International League of Peace and Liberty was formed After the Franco-Prussian War (1870–71), internationalists renewed their efforts At a peace congress in Brussels in 1873, David Dudley Field's *Proposals for an International Code* formed the basis of discussion The important Paris Congress of 1878 devoted itself chiefly to matters of organization In the years before the next general peace congress, an Anglo-American arbitration treaty was discussed, and in the Western Hemisphere steps were taken which resulted in 1889 in the first Pan-American Conference (see PAN-AMERICANISM) In 1888 the Inter-Parliamentary Union was founded, and in 1889 its first conference was held in Paris In the same year a new Universal Peace Congress was organized This was to meet either just before or after the Inter-Parliamentary Union and in the same city The meeting at the World's Columbian Exposition in Chicago in 1893 discussed a plan for an International Court of Arbitration, which was finally (1899, by the first of the HAGUE CONFERENCES) established at The Hague Between 1899 and 1914 this court settled 14 cases The Second Hague Conference (1907) was concerned, like the first, with arbitration and disarmament A third was planned for 1916, but was not held All international peace organization was disrupted by the First World War In 1915, however, a congress of women met at The Hague under the chairmanship of Jane Addams and formed an international women's peace organization The two international bodies—one legislative, the other judicial—that evolved from the peace proposals of the 19th cent and from the Versailles Treaty were the LEAGUE OF NATIONS at Geneva and the World Court at The Hague After 1919 the chief international peace congresses were the annual meetings of the International Federation of League of Nations Societies, with its central office in Brussels, the Universal Peace Congresses, and meetings of the Inter-Parliamentary Union There were also held NAVAL CONFERENCES, at Washington (1921–22) and London (1930), the DISARMAMENT CONFERENCE, and other diplomatic meetings representing several nations, which resulted in the KELLOGG-BRIAND PACT and the LOCARNO PACT All these efforts went for nought, as the Second World War testifies The horrors of that conflict and particularly the dreaded atomic bomb intensified world-wide movements for peace once the war was over, with much hope and determination that the new UNITED NATIONS would succeed where the defunct League of Nations had failed in maintaining peace Some of the older international organizations, including the Inter-Parliamentary Union (which held a meeting in 1949), were revived A new group, the World Federalists, was organized; it holds that only a world government can avert catastrophic war and establish peace The Cultural and Scientific Congress for World Peace, meeting in New York city in March, 1949, which denounced the United States as an instigator of war and lauded Soviet Russia as the defender of peace, was branded by the U S Dept of State as a Communist sounding board A similar group met as the Continental Congress for Peace in Mexico city in Sept , 1949, one month after the USSR held an All-Union Peace Conference, which established a permanent peace committee to direct Soviet citizens in combating Anglo-American plans for an "imperialist war" At a congress held in Stockholm in March, 1950, the Communists, or the Partisans for Peace, as they in this aspect style themselves, initiated a world-wide campaign to secure petitions for peace, i e , peace according to Russian formula

peace pipe see CALUMET

peach, fruit tree (*Prunus persica* or *Amygdalus persica*), having decorative pink blossoms and a juicy, fine-flavored stone fruit with white, yellow, or orange-reddish flesh It is one of the most important of fresh fruits in the temperate climates Darwin thought it had been developed from the common almond, probably in China, where it has been in cultivation since c 2000 B C It is widely cultivated in the United States (e g , in California, Georgia, Michigan, Arkansas, North and South Carolina, Washington, Pennsylvania, and Texas) and in parts of Canada As many as 500 varieties are grown commercially, and over four times that number are known The Elberta variety is cultivated extensively for commercial purposes Purple-leaved and double-flowering forms are cultivated for ornament The peach tree is attacked by various diseases and

insect pests, a cause of the decline in peach raising in some parts of the country where they were formerly grown in considerable quantity In China, where the flower is much used in decoration, it is considered a symbol of longevity The NECTARINE is a smooth-skinned peach

Peacham, Henry, 1576?–1643?, English author. *The Gentleman's Exercise* (1607), a treatise on art, was many times reprinted, *The Compleat Gentleman* (1622) is his best-known work

Peach Tree Creek, see ATLANTA CAMPAIGN.

Peacock, Reginald see PECOCK, REGINALD

Peacock, Thomas Love, 1785–1866, English novelist and poet He was practically self-educated In 1812 he met Shelley, became one of the poet's most intimate friends, and later was his executor Peacock's best writings were novels which combine satire and extravagant romance and reveal their author's genial, vigorous, witty, and eccentric personality His best-known novels, interspersed with gay songs of high lyric quality, are *Headlong Hall* (1816), *Melincourt* (1817), *Nightmare Abbey* (1818), of which Shelley is the hero, *Maid Marian* (1822), *The Misfortunes of Elphin* (1829), *Crotchet Castle* (1831), and *Gryll Grange* (1860) In 1819 he was employed by the East India Company and was its chief examiner, 1836–56 See biographical introduction to his works (ed by H F B Brett-Smith and C E Jones, 10 vols , 1924–34)

peacock, large bird of the pheasant family, native to E Asia Strictly speaking, the male is the peacock, the female the peahen There are two species, both found in deep forests—the common peacock of India and Ceylon and the Burmese or Javan peacock native to Indo-China The white peacock is thought to be a mutation of the Indian species The crested male of the common peacock, which is often kept in captivity, has a magnificent green and gold erectile train, a modification of the tail coverts, adorned with eyelike blue-green spots This magnificence it displays before the duller plumaged, trainless hen during courtship The peacock is mentioned in the Bible and was known to the Pharaohs of Egypt and to 14th-century Europe It was sacred in some countries and feasted upon in others, and during the Middle Ages was served adorned with plumage

Peacock Throne, see DELHI

Peak, the, tableland, Derbyshire, England, forming the southern extremity of the Pennine Chain It is c 30 mi long and 22 mi wide and culminates in Kinderscout (2,088 ft) Its caves include Peak Cavern and Speedwell The village of Castleton is on the Peak

Peaks of Otter see OTTER, PEAKS OF

Peale, Charles Willson (pēl), 1741–1827, American portrait painter, b Queen Annes co , Md Apprenticed to a saddler in Annapolis, he became at 20 his own master and taught himself various other trades—watchmaking, silversmithing, upholstery, and sign painting He traded a saddle for lessons in painting from John Hesselius Forced into bankruptcy, he fled to Boston, where he worked for a short time in Copley's studio He returned to Annapolis to paint portraits of its wealthy citizens, some of whom sent (1766) him to study with Benjamin West in London Among the portraits of his Annapolis period were those of Mr and Mrs James Arbuckle He returned to America in 1772 and established himself in Philadelphia in 1776 The earliest known portrait of Washington (1772, Washington and Lee Univ) was painted by Peale Of the many he painted of Washington, seven were from life Peale served as a captain of volunteers in the Revolution, painting when he could portraits of the military leaders His group *Washington, Lafayette, and Tench Tilghman* hangs in the chamber of the house of delegates, Annapolis Among his Washington portraits others are in the Brooklyn Museum, New York, the Metropolitan Museum, Princeton Univ , and the National Gallery of Art, Washington, D C After Copley's departure for England, Peale was the most popular portrait painter in the country In 1779 he was elected to the Pennsylvania legislature and in 1802 opened Peale's Museum, consisting of natural history objects and portraits, which were chiefly by himself and his son Rembrandt, the museum was housed in Independence Hall, Philadelphia He was instrumental in founding (1805) the Pennsylvania Academy of the Fine Arts and contributed to its exhibitions for 17 years At the age of 81 he painted *Christ Healing the Sick,* and two years later the full-length self-portrait in the Pennsylvania Academy Among his sitters were Mrs Washington, of whom he painted two miniatures, Benjamin Franklin, Generals Greene, Rochambeau, and Gates and Baron de Kalb, Baron Steuben, Henry Clay, Thomas Jefferson, Robert Morris, and John Hancock Independence Hall has several excellent examples, the New York Historical Society has Alexander Hamilton, Mrs John de Peyster, and a *Family Group,* showing Peale and members of his family, and the Metropolitan Museum has portraits of Samuel Mifflin and of Mrs Mifflin and her granddaughter See biography by C C Sellers (2 vols , 1947) His brother, **James Peale,** 1749–1831, b Chestertown, Md , painted portraits, particularly miniatures, and landscapes A portrait of Washington by him is in the New York Historical Society and another in Independence Hall Of Charles Willson Peale's 11 children, all named after famous artists, three became painters—**Raphaelle Peale,** 1774–1825, still-life painter, b Annapolis, Md , **Titian Peale,** 1799–1885, animal painter, b Philadelphia, and **Rembrandt Peale,** 1778–1860, portrait and historical painter, b Bucks co , Pa Rembrandt Peale practiced for several years in Charleston, S C , became a pupil of Benjamin West in London, and in 1807 and again in 1809 visited Paris, where he painted many eminent Frenchmen In 1810 he settled in Philadelphia, devoting himself chiefly to portraiture He was one of the original members of the National Academy of Design and succeeded (1825) John Trumbull as president of the American Academy of Fine Arts He was also a clever lithographer, a lecturer on natural history, and the author of several books Chief among his paintings are the likeness of George Washington, painted in 1823 and purchased by Congress in 1832 (now in the Capitol, Washington, D C), an equestrian portrait of Washington (Independence Hall, Philadelphia), portraits of Washington and Lafayette (both Metropolitan Mus), of Gilbert Stuart, Thomas Jefferson, and Mrs Madison (all N Y Historical Society), and of Jean Antoine Houdon (Pa Acad of the Fine Arts), *Roman Daughter* (Mus of Fine Arts, Boston), and the large *Court of Death* (Detroit Inst of Art)

peanut, low, annual leguminous plant (*Arachis hypogaea*) and its edible seeds, commonly two to a pod When the pod starts to form, it is pushed into the ground by the elongation of its stalk and matures underground The seeds—peanuts—are eaten fresh or roasted and are used in cookery and confectionery From them is extracted an oil used for food, as a substitute for olive oil, and for other purposes A considerable amount of the oil is imported from the Old World, although large crops are grown annually in the S United States The seeds are ground for peanut butter, an important article of commerce Butter substitutes and peanut-oil cakes for livestock feed are other products George Washington CARVER developed several hundred uses for the peanut The herbage is used for hay, and the whole crop as pasturage for swine Native to South America and cultivated there by pre-Columbian Indians, the peanut was brought to North America by way of Africa (in the slave-trade days), where it is said to have been introduced by early explorers In the United States it has been extensively cultivated only since the late 19th cent , but it is now an important Southern crop It is not grown commercially N of Washington, D C , though it can be grown as far north as New York as a garden plant, few seeds will ripen There are two types, known as bunch nuts and as vine or trailing nuts, from the way the plant grows Other names for the peanut are goober, earthnut, groundnut, and ground pea

Peapack-Gladstone, borough (pop 1,354), N N J , SW of Morristown, settled before 1776, inc 1912

pear, fruit tree of the genus *Pyrus* (closely related to the apple) and its fruit, for which it has been cultivated at least since the time of the lake dwellers About 1,000 varieties are known in the United States, but in Europe, where the climate is better suited to pear cultivation, as many as 5,000 varieties are known The most commonly grown in the United States have been the Bartlett, Kieffer, and Seckel, but newer varieties such as Anjou, Comice, and Bosc are now also grown All the cultivated varieties come from two species, the common European pear (*Pyrus communis*) and the Oriental pear (*P pyrifolia*) A pear of really good quality was not developed until the 19th cent , when a Belgian chemist, Jean Baptiste Van Mons, began to hybridize the fruit and produced some good new forms The pear is grown for canning and drying as well as for eating in the fresh state Though pears are grown in considerable quantities in the E and central United States, the Pacific coast leads in production The most serious disease is pear or fire blight Various insect pests also attack the tree Pear trees sometimes reach a great age See H B. Tukey, *The Pear and Its Culture* (1928)

pear, prickly see PRICKLY PEAR

Pearce, Charles Sprague (pērs), 1851–1914, American figure and historical painter, b Boston, studied under Léon Bonnat in Paris Most of his life was spent in France, and his works are essentially French in subject, spirit, and technique His earliest works were historical, but later his favorite subjects were taken from the peasant life of Picardy He also painted portraits Well-known examples of his art are *The Beheading of John the Baptist* (Art Inst , Chicago), *Return of the Flock* (Bohemian Club, San Francisco), *Across the Common* (Albright Art Gall , Buffalo, N Y), *Fantaisie* (Pa Acad of the Fine Arts), *Meditation* (Metropolitan Mus), *Toilers of the Sea,* and mural decorations in the north hall of the Library of Congress

Pea Ridge, chain of hills, NW Ark , where the Civil War battle of Pea Ridge (or Elkhorn Tavern) was fought March 6–8, 1862 Van Dorn, leading a large Confederate command, which included Sterling Price's retreating Missouri forces and Ben McCulloch's army, attacked the strongly entrenched Union army under S R Curtis The Confederate wings, becoming separated, were crushed on successive days Not until Price's raid (1864) did the Confederates again try to carry the war to Missouri in force

Pearisburg (pâ'rĭsbûrg), town (pop. 987), SW Va , W of Roanoke and on the New River, in the Alleghenies, settled 1782 when Capt George Pearis established a ferry here, inc 1914 The courthouse of Giles co is here Pearisburg is a trade and processing center with a large rayon plant, opened in 1939

Pearl, Raymond, 1879–1940, American biologist, b Farmington, N H , grad Dartmouth (B A , 1899), Ph D Univ of Michigan, 1902 He studied abroad under Karl Pearson and others and was head of the biological department of the Maine agricultural experiment station (1907–18) From 1918 he was associated with Johns Hopkins He is known for his statistical studies on population growth, of mortality, birth rates, and longevity, and of human fertility Besides editing *Human Biology* and *Quarterly Review of Biology,* he wrote many books, including *Introduction to Medical Biometry and Statistics* (1923), *The Biology of Population Growth* (1925), *Alcohol and Longevity* (1926), *To Begin With* (1927), and *The Natural History of Population* (1939)

Pearl, river, China see CANTON, river

Pearl, river rising in E central Mississippi and flowing 485 mi SW and S to Lake Borgne, an inlet of the Gulf of Mexico For 116 mi it forms the boundary between Mississippi and Louisiana

Pearl, The, one of four anonymous medieval alliterative poems, all in the same handwriting, contained in an illustrated manuscript of the 14th or early 15th cent preserved in the British Museum They were written c 1370 90 in the West Midland dialect of Middle English *The Pearl* has been explained as an elegy for the poet's little daughter, in an allegorical vision of singular beauty he sees her a maiden in paradise and becomes reconciled to her death The second poem, *Patience,* tells the story of Jonah, and the third, *Cleanness or Purity,* is a homily on purity and lawful love *Sir Gawayn and the Green Knight,* the fourth poem, relates adventures of Gawain, one of King Arthur's knights For synopses and bibliography, see J E Wells, *Manual of the Writings in Middle English* (1918 and supplements)

pearl, a secretion of the mantle of certain bivalve mollusks, used as a gem It is an organic product and not a mineral and is built up of alternate layers of conchiolin (a horny organic substance) and prisms of calcite or of aragonite (crystallized calcium carbonate), usually around a nucleus such as the body of a parasite or a grain of sand It is thus of the same material as the interior layers of the mollusk's shell, external and internal layers differ only in that the calcium carbonate is calcite in the external layers, aragonite in the internal Pearls may be round, pear shaped, button shaped, or irregular (baroque) and are valued in that order Pearls found attached to the inner surface of the shell are known as blister pearls The best pearls are usually white, sometimes with a creamy or pinkish tinge, but may be tinted with yellow, green, blue, brown, or black Black pearls, because of their rarity, are often highly valued The unique luster or orient of pearls depends upon the reflection and refraction of light from the translucent layers and is finer in proportion as the layers are thinner and more numerous The iridescence which some pearls display is caused by the overlapping of successive layers, which breaks up light falling on the surface Pearls are not cut or polished like other gems They are very soft and are injured by acids and heat, as organic products, they are subject to decay Commercially valuable pearls are obtained from the pearl oyster (especially the species *Margaritifera vulgaris* and *M margaritifera*) and from the pearl mussel (genus *Unio*) Important sources are the Persian Gulf, the coasts of India, China, Japan, Australia, the Sulu Archipelago various Pacific islands, Venezuela, and Central America, and the rivers of Europe and North America In ancient times the Red Sea was an important source Cultured pearls are commonly produced by making a small hole in the mantle of the pearl oyster and placing a little mother-of-pearl bead inside, the opening in the mantle is then sewed up The process is an expensive one Cultured pearls and natural pearls can be distinguished by various methods, e g , by X rays and, if a hole has been bored through the pearl, by devices such as the Zeiss pearl identifier and the endoscope.

Pearl Harbor, U S naval base, Hawaiian Islands, on the south coast of Oahu One of the key naval bases, it has installations and many anchorages around 10 sq mi of deep and protected water Fords Island has a naval air base, and there is another at near-by Barbers Point In this vital area there are also army, air force, and marine installations, notably the U S Air Force base, Hickam Field, and the U S Marine Corps air station, Ewa The United States first gained rights here in

1887 when the Hawaiian government granted permission for maintenance of a coaling and repair station After the annexation of Hawaii, Pearl Harbor was made (1900) a naval station Appropriations were made in 1908 for harbor improvements, and fortifications were later added, especially after the signing of the Berlin Pact (1940) by the Axis nations when war was in progress in Europe and Asia Pearl Harbor was an important Pacific base, but its name was unknown to most ordinary Americans before Dec 7, 1941 By the next day it was on the tongues of all While negotiations were still going on with Japanese representatives in Washington, early on the Sunday morning of Dec 7, Japanese carrier-based planes swept over Oahu and laid Pearl Harbor low Fighters, bombers, and torpedo planes sank or seriously damaged eight battleships and many other warships and craft They destroyed aircraft and damaged hangars at the near-by fields and also at other fields on the island The news of the attack rocked the United States, which was thus immediately thrown into the Second World War There were many charges of negligence on the part of those responsible for the defense of the base A special commission appointed by President F D Roosevelt and headed by Supreme Court Justice Owen J Roberts investigated and in a report on Jan 24, 1942, accused Gen Walter C Short and Admiral Husband E Kimmel of dereliction of duty Threats of court-martial were postponed, and finally the army and the navy after their own investigations announced (Dec 1944) that no valid grounds existed for court-martial A joint congressional committee was appointed in Sept, 1945, and in long hearings obtained much controversial and contradictory information A formal report to Congress was made on July 16, 1946 The majority of the committee found charges against President Roosevelt groundless, absolved Kimmel and Short of blame, praised the conduct of the cabinet generally, but censured the War Dept and the Dept of the Navy

pearl millet, tall annual grass (*Pennisetum glaucum*) native to the Eastern Hemisphere, where it has been cultivated since ancient times as an important food plant It has white grains in dense spikes somewhat resembling cattails In the S United States pearl millet is sometimes cultivated for forage Indian millet is another name for this plant and for durra, a variety of sorghum, sorghum is sometimes called pearl millet

Pearl River, unincorporated village (pop 3,416), SE N Y, near the N J line NW of New York city The Lederle Laboratories are here

Pear Ridge, town (pop 1,198), E Texas, near Beaumont, inc 1935

Pearsall (pĕr'sôl), city (pop 3,164), co seat of Frio co, SW Texas, SW of San Antonio, settled 1881, inc 1909 It is a processing center in a winter-garden area producing peanuts, watermelons, and other truck The area has oil fields and cattle ranches

Pearse, Patrick Henry (pĕrs), 1879–1916, Irish educator and patriot He was educated for the law, but early identified himself with the Gaelic movement in Ireland Pearse was active in the work of the Gaelic League and edited its journal, *An Claidheamh Soluis* He founded the influential bilingual St Enda's School near Dublin He joined the Irish Volunteers (1913) and commanded the Irish forces in the Easter Rebellion of 1916 Upon his surrender he was court-martialed in England and shot His stories, poems, and plays were collected in 1917, his political writings and speeches in 1922. See biography by Louis Leltoux (Eng tr by Desmond Ryan, 1932)

Pearson, Sir Cyril Arthur (pĕr'sun), 1866–1921, English publisher He founded and directed the periodicals *Pearson's Weekly*, *Pearson's Magazine*, *The Lady's Magazine*, and the London *Daily Express* (1900) He controlled a number of newspapers in various English cities and supported Joseph Chamberlain's tariff reform movement, but was forced (1910) to relinquish directing his newspaper interests because of failing eyesight He devoted himself thereafter to the cause of the blind and founded St Dunstan's for soldiers blinded in the First World War He is the author of *Victory over Blindness* (1919) See biography by Sidney Dark (1922)

Pearson, John, 1613–86, English prelate and scholar He was a royalist chaplain (1645) in the civil war, but during Cromwell's regime he lived quietly in London There he preached weekly (from 1654) at St Clement's a series of sermons which formed the substance of his *Exposition of the Creed* (1659) This celebrated work, with its valuable notes, reveals Pearson's patristic and general learning, it has long been a standard in English divinity and has passed through a number of editions After the Restoration, preferments came rapidly to Pearson He was made prebendary of Ely and archdeacon of Surrey and became master of Jesus College, Cambridge, in 1660, Margaret professor of divinity in 1661, master of Trinity College in 1662, and bishop of Chester in 1673 Among the scholars of his time, and especially in the field of systematic theology, he stands preeminent. His *Vindiciae epistolarum S Ignatii* (1672), defending the genuineness of the letters of St. Ignatius of Antioch, was later confirmed Pearson also edited *The Golden Remains of the Ever Memorable Mr John Hales* (1659)

Pearson, John Loughborough (lŏf'bŭrŭ), 1817–97, English architect He was architect of the Gothic cathedral (begun 1880) at Truro, the first Protestant cathedral to be built in England since the Reformation He is known also for his restorations of many cathedrals, of Westminster Hall, and of the north transept of Westminster Abbey He was a fellow of the Royal Institute of British Architects and a member of the Royal Academy He was buried in Westminster Abbey

Pearson, Karl, 1857–1936, English scientist He was Galton professor of eugenics at the Univ of London (1911–33) and director of the eugenics laboratory He is known for applying statistical methods to biological problems, a science which he called biometry He founded and edited *Biometrika* and was author of many works including *Chances of Death* (1897), *Grammar of Science* (1899, reprint, 1937), and a biography of Francis Galton (3 vols, 1914–30) See biography by E S Pearson (1938), bibliography by G M Morant and B L Welch (1939)

Pearson, city (pop 1,057), co seat of Atkinson co, S Ga, W of Waycross

Peary, Robert Edwin (pēr'ē), 1856–1920, American arctic explorer, discoverer of the North Pole, b Cresson, Pa, grad Bowdoin College, 1877 In 1881 he entered the U S navy as a civil engineer and for several years served in Nicaragua, where he was engaged in making surveys for the Nicaragua Canal He became interested in arctic exploration and made a trip to the interior of Greenland in 1886, later (1891–92), having secured a leave of absence from the navy, he led an expedition to Greenland for scientific study and exploration Important ethnological and meteorological observations were recorded, a long sledge journey to the northeast coast of Greenland was made, and Peary Land was explored New expeditions continued the work in 1893–95 and in two summer voyages (1896, 1897), from which Peary brought back to the United States his noted meteorites An account of his arctic experiences appeared in *Northward over the "Great Ice"* (1898) Granted another leave of absence from naval duty, he again led an expedition (1898–1902), this time to search for the North Pole He reached lat 84° 17′ N His *Nearest the Pole* (1907) recorded the events of his 1905–6 expedition when he attained lat 87° 6′ N, which was only c 174 mi from his objective With courage and will undaunted by disappointment and by harsh arctic experiences he set out (1908) for his last and successful quest for the North Pole From Ellesmere Island, Peary, accompanied by his Negro servant and four Eskimo, made a final dash for the pole, which he reached on April 6, 1909 He announced that he had achieved his goal, but on his return he learned of the prior claim of Dr Frederick A Cook, who had been ship's surgeon on Peary's expedition of 1891–92 A bitter controversy followed Although Cook fought to the end of his life, not without some support to substantiate his claim, Congress recognized Peary's achievement (which later scientific investigation has also verified) and tendered him its thanks in 1911, the year in which he was retired from the navy with the rank of rear admiral See his *North Pole* (1910), biography by W H Hobbs (1936), D B MacMillan, *How Peary Reached the Pole* (1934) Peary's wife, **Josephine Diebitsch Peary,** 1863–, accompanied him on several of his expeditions and published her experiences in *My Arctic Journal* (1893)

Peary Land, peninsula, N Greenland in the Arctic Ocean The area is mountainous, free of the inland icecap, and fertile It terminates in Cape Bridgman in the northeast and Cape Morris Jesup in the north, the most northerly point of land yet discovered in the arctic regions The peninsula is named for Robert E Peary, who explored it in his expedition of 1891–92 and again later

Peasants' Revolt see TYLER, WAT

Peasants' War, 1524–26, rising of the German peasants and of the poorer classes of the towns It was largely the result of a rapid deterioration in the condition of the peasants The Commercial Revolution by impoverishing the nobles in the late 15th cent had led them to extort more and more from the peasants, and the introduction of Roman law, with its interpretation of peasant status as strictly servile, was reducing all tenants to serfdom In 1493 the device of the peasant's shoe (whence Bundschuh, the name of the peasant league) was first adopted The war of 1524 began at Stühlingen, near the Swiss border, and within a year spread over W and S Germany The Twelve Articles of Memmingen (1525) listed among the peasants' demands liberty to choose their own pastors, relief from the lesser tithes, abolition of serfdom, the right to fish and to hunt, restoration of inclosed common lands, abolition of death duties, impartiality of the courts, and restriction of the demands of the landlords to their just feudal dues These articles were modified variously to suit local conditions. The revolt took on religious aspects after Zwingli gave it his blessing from Zürich In Thuringia it came under the sway of the fanatic Anabaptist, Thomas MÜNZER The revolt centered in Franconia and in Württemberg, where the peasants were led by discontented nobles such as Florian Geyer, Götz von BERLICHINGEN, and Ulrich I, dispossessed duke of WÜRTTEMBERG There the main attacks were directed against the bishop of WÜRZBURG, who had to take refuge in his castle, abandoning Franconia to the rebels The war was marked by some atrocities by the peasants (e g, the massacre of WEINSBERG), but even greater atrocities were committed by their enemies The revolt was crushed (1525) largely by the forces of the SWABIAN LEAGUE commanded by Georg von Truchsess An important cause of the utter defeat and demoralization of the peasants was the fierce stand taken against them by Martin LUTHER In Austria, where the revolt continued till 1526, the peasants won some concessions The outcome of the war prolonged serfdom in Germany till the French Revolution and stunted German democratic development See E B Bax, *The Peasants War in Germany, 1525–1526* (1899), Friedrich Engels, *The Peasant War in Germany* (Eng tr, 1926)

Pease, Francis Gladheim (pēz), 1881–1938, American astronomer and designer of instruments, b Cambridge, Mass, educated at Armour Institute of Technology (B S, 1901, Sc D, 1927) He was optician and observer at the Yerkes Observatory (1901–4), at Mt Wilson Observatory he served as instrument designer (1904–7, 1908–13) and as astronomer (from 1911) He is noted chiefly for his direct measurement of the diameters of stars by means of analysis of the light rays with the interferometer, the calibration of the speed of light, and the designing of the 100-inch telescope, as well as the mirror for the 200-inch telescope at Mt Palomar Observatory He made direct photographs and spectrograms of the moon, the planets, the nebulae, and star clusters

peat, carbonized, decayed vegetation, found in bogs in various parts of the Temperate Zone It is formed by the slow decay of successive layers of aquatic and semiaquatic plants, e g, sedges, reeds, rushes, and mosses Sphagnum moss is usually the chief constituent of the peat found in northern regions Two varieties of commercial peat are usually distinguished as peat moss and fuel peat The peat moss derived from sphagnum is used in agriculture for poultry and stable litters and as a soil conditioner and mulch It is used in industry in making artificial fertilizer, as an insulating material, and as a packing material for perishable products The fuel peat, when sold, is commonly pressed into briquettes which are more economical to transport Peat is the earliest stage of transition from compressed plant growth to the formation of COAL In the United States the government regards its relatively untapped peat resources as a valuable natural resource Russia, Canada, Sweden, and Finland have greater peat resources than the United States

peat moss see SPHAGNUM

Pec, Serbo-Croatian *Peć* (pĕch), town (pop 17,175), S Serbia, Yugoslavia Stephen Dushan in 1346 made Pec the seat of the Orthodox patriarchs of Serbia, who continued to reside here until the 18th cent The town is noted for its patriarchal cathedral (originally built in the 13th cent) and for the mosques and other buildings dating from the Turkish period It was damaged in the Second World War Under the Turks, Pec was known as Ipek

pecan (pĭkăn′, pĭkan′, pē-, pē'kăn), species of HICKORY (*Carya pecan* or *C illinoensis*), native from S Illinois through the Mississippi valley to central Texas and Mexico It is the most important North American nut-bearing tree, although the nuts became commercially valuable only after the Civil War Besides being table delicacies, the nuts are valued as flavoring for ice creams and confectionery Pecans vary greatly in the quality of the nut meats produced and in the thickness of the shell, the thinner-shelled or "paper-shelled" pecans being the more desirable Cultivated varieties of the nut usually are an improvement over the wild kinds but both are gathered and sold in large quantities The tree is the tallest of the hickories, but its wood is less valuable than that of other species

Pecatonica (pĕkutŏ'nĭkă), village (pop 1,302), N Ill, on the Pecatonica river and W of Rockford, inc 1869 It is a processing center in a farm area

peccary (pĕk'urē), piglike animal native to the Americas It fights viciously when in danger, inflicting severe wounds with its tusks Two species exist the collared peccary or javelina, its bristly, grizzled gray-black hair marked with a white neck band, survives in small numbers in parts of Arizona, New Mexico, and Texas and is more numerous southward to Patagonia, the white-lipped peccary is found from central Mexico to Paraguay Both sexes have a musk gland on the rump Peccaries eat a variety of plant and animal foods Their flesh is palatable

Pechenga (pyĕ'chĭn-gŭ), Finnish *Petsamo* (pĕt'-sămō), town (1948 pop over 2,000), N European

RSFSR, on an inlet of the Barents Sea and near the Norwegian border. There are important nickel mines near by. Pechenga was ceded by Russia to Finland in 1920. In the Second World War it was a supply base in the unsuccessful German drive on Murmansk. It was captured (1944) by Russian troops, and its cession to Russia was confirmed in the Finnish peace treaty of 1947.

Pechora (pyĭchô'rŭ), river, 1,110 mi. long, N European RSFSR. It rises in the N Urals and flows generally north through the forest and tundra regions of the Komi ASSR and the Nenets National Okrug into Pechora Bay (an inlet of the Barents Sea), forming a vast delta at Naryan-Mar. It is navigable for 470 mi. in summer and for 1,040 mi. in spring and autumn. The important Pechora coal basin extends eastward from the middle course of the river. The Pechora is important for its fisheries and as a channel for lumber transport.

Peck, Annie Smith, 1850–1935, American mountain climber, b. Providence, R.I., grad. Univ. of Michigan (B.A., 1878, M.A., 1881). She studied music in Germany (1884–85) and archaeology in Greece (1885–86) before she taught school in Rhode Island, Michigan, Ohio, and New Jersey. Later she was a professor at Purdue Univ. and at Smith College. She became interested in mountaineering, and in 1895—at the age of 45—she climbed the Matterhorn. Two years later she scaled Popocatepetl and Orizaba in Mexico, and after two unsuccessful attempts (1904, 1906), she reached (1908) the summit (22,205 ft.) of Huascarán in Peru. This was at the time the highest mountain climbed in the Western Hemisphere by an American, and the north peak of Huascaran was named Cumbre Ana Peck in her honor. She lectured extensively on Latin American affairs, and her writings include *A Search for the Apex of America* (1911) and *Commercial and Industrial South America* (1922).

Peck, Harry Thurston, 1856–1914, American educator, classical scholar, and critic, b. Stamford, Conn., grad. Columbia, 1881. From 1882 to 1910 he taught at Columbia. He was the first editor of the *Bookman*, wrote essays and books on literature, philology, and history, and edited several reference works, among them *Harper's Dictionary of Classical Literature and Antiquities* (1898), and, with others, *The New International Encyclopaedia* (1st ed.). A breach of promise suit in 1910 ended his career and led to his suicide in 1914.

Peckham, Rufus Wheeler (pĕ'kum), 1838–1909, American jurist, b. Albany, N.Y. Admitted to the bar (1859), he became a leading lawyer of Albany and was prominent in local Democratic politics. He was appointed (1883) by Gov. Grover Cleveland to the state supreme court bench, and after his election (1895) to the state court of appeals, Cleveland, then President, named (1895) Peckham Associate Justice of the U.S. Supreme Court.

Pecock or **Peacock, Reginald** (pē'kŏk), c. 1395–c. 1460, English bishop and writer. He was bishop of St. Asaph (1444) and of Chichester (1450). He was the author of the *Repressor of Over-much Weeting of the Clergy* (c. 1455), against the Lollards, and of other works. He was accused of heresy and had to make public abjuration and resign his bishopric. His writings are interesting to students of the English language.

Pecos (pā'kus), city (pop. 4,855), co. seat of Reeves co., W. Texas, on the Pecos. Founded in the 1880s as a cow town at a crossing of the river, it is now, with a railroad junction and a good highway, the market not only for ranches but also for an area reclaimed by water stored by the Red Bluff Dam up the Pecos.

Pecos, river rising in N. New Mexico near the Truchas peaks and flowing S. and SE. across New Mexico and Texas to the Rio Grande above Del Rio. It is dammed near Carlsbad, N. Mex., to serve the Carlsbad reclamation project and in Texas there is Red Bluff Dam and its small reservoir, long-standing interstate disputes about water use were settled in 1949 when a Federal bill provided for a compact between New Mexico and Texas. Near the village of Pecos, N. Mex., is Pecos State Monument, enclosing the ruins of Pecos pueblo, which was mighty in the times of Coronado but declined later and was abandoned in 1838. In the heyday of ranching in W. Texas, "west of the Pecos" was the term for the distinct wild and mountainous region of the western tip of the state.

Pecs, Hung. *Pécs* (pāch), Ger. *Funfkirchen* (funf'-kĭr'khŭn), city (pop. 73,000), SW Hungary, near the Yugoslav border. It lies in a coal-mining region and produces tobacco, leather goods, and vegetable oil. Dating from Roman times, Pecs became (1009) an episcopal see and (1367) the seat of the first Hungarian university. The city was under Turkish rule from 1543 to 1686. The 11th-century cathedral was rebuilt in the late 19th cent. Several former mosques are now churches.

pectin, any of a group of white, amorphous, complex carbohydrates which occur in ripe fruits and certain vegetables. Fruits rich in pectin are the peach, apple, currant, loganberry, and plum. Protopectin, present in unripe fruits, is converted to pectin as the fruit ripens. Pectin forms a colloidal solution in water and gels on cooling. When fruits are cooked with the correct amount of sugar and when the acidity is optimum and the amount of pectin present is sufficient, jams and jellies can be made. In overripe fruits the pectin becomes pectic acid, which does not form jelly with sugar solutions. Commercial preparations of pectin are available for jelly making. In medicine, pectin has been successfully used in treating diarrhea, as an agent to promote healing of wounds, and as a means of slowing down the rate at which penicillin, streptomycin, and other drugs are eliminated from the body, thus reducing the amount which must be administered.

Peculiar People, small Protestant sect founded in London in 1838 by John Banyard. They were also known as Plumstead peculiars. Putting their trust in prayer, they refused medical aid.

Pedahel (pĕ'dūhĕl, pēdā'hĕl) [Heb., =whom God delivers], Naphtalite chief. Num. 34:28.

Pedahzur (pĕdā'zur) [Heb., =the rock delivers], Manassite. Num. 1:10, 2:20, 7:54.

Pedaiah (pĕdā'yu, pē'dŭī'yŭ) [Heb., =whom God delivers]. **1** Manassite. 1 Chron. 27:20. **2** Grandfather of Jehoiakim. 2 Kings 23:36. **3** Father of Zerubbabel. 1 Chron. 3:18,19. **4** Repairer of the wall. Neh. 3:25. **5** Assistant of Ezra. Neh. 8:4. **6** Benjamite. Neh. 11:7. **7** One of Nehemiah's treasurers. Neh. 13:13. The last four may not all be separate persons.

peddler or **hawker,** itinerant vendor of small articles who carried his pack or drove a horse and cart from door to door in rural areas. While the importance of the peddler to the small community has declined considerably in the United States with the growth of the mail-order house, his role in certain sections of the European and Asiatic markets has not been too greatly affected by economic consolidation. See R. L. Wright, *Hawkers and Walkers in Early America* (1927).

pedestal, a block—square, polygonal, or round—serving as a support for a column or any other superimposed structure. It consists of three parts—a base, a dado or die, and a cap, cornice, or surbase. In classical design its proportions were governed by the superstructure. It was a prominent architectural feature of the Renaissance. A Renaissance example of the sculptural base is the statue of Colleoni by Verrocchio, a modern one is the 142-foot pedestal of the Statue of Liberty, New York harbor.

pediment, in architecture, the triangular gable end on a building of classic type or a similar form used decoratively. It consists of the tympanum, or triangular wall surface, enclosed below by the horizontal cornice and above by the raking cornice which follows the slope of the roof. In Greek architecture the pediment is an important feature over the columnar portico, forming often a setting for sculpture. In the Roman and Renaissance styles it was used also as a purely decorative motive, chiefly over doors and windows, the upper profile of the pediment was sometimes of segmental shape. In later Renaissance and baroque design the pediment often took on fantastic shapes, notably in the variants of the broken pediment, where the two sides of the raking cornice do not join and the central space is filled with ornamental devices. The scrolled broken pediment was a favorite in American colonial work, especially in doorways and overmantels.

Pedrarias see ARIAS DE ÁVILA, PEDRO.

Pedro I (Dom Pedro de Alcántara) (pā'drō), 1798–1834, first emperor of Brazil (1822–31), son of John VI of Portugal. Dom Pedro was only a small boy when the royal family had to flee before Napoleon's conquering French from Portugal to Brazil. He grew up in Rio de Janeiro, and when King John returned (1821) to Portugal, Dom Pedro remained as regent in Brazil. The situation of the colony which had been the center of empire during the royal residence was a touchy one, and attempts by the Portuguese to reduce Brazil again to subordinate status caused dissatisfaction. Heeding his Brazilian advisers, especially José BONIFÁCIO, Pedro took the extreme step of defiance. On Sept. 7, 1822, he issued the *grito de Ipiranga* or *Ypiranga*, which established Brazil as a separate empire. He was not, however, very popular with a large section of his Brazilian subjects, who detested the Portuguese courtiers who surrounded him and did not approve the emperor's own arbitrary measures. He abdicated in 1831 in favor of his son, Pedro II. Curiously, Pedro I, regarded somewhat as a reactionary in Brazil, was the champion of liberalism in Portugal. When John VI died in 1826, the succession to the throne was somewhat cloudy, but Dom Pedro was recognized as Peter IV. After some hesitation, he finally abdicated in favor of his daughter, MARIA II, on condition that she marry her uncle Dom MIGUEL and that Dom Miguel accept a constitutional charter for Portugal. Dom Miguel agreed but in 1828 seized the rule for himself and set up an absolute regime. The Portuguese liberals managed to establish themselves in the Azores. There Dom Pedro joined them, and in 1832 he and a small fleet went to Oporto. In the Miguelist Wars he withstood the siege of Oporto by Dom Miguel. An English sea force fighting for Dom Pedro and Maria II defeated the Miguelist fleet, and Maria was restored to the throne. See Sergio Correa da Costa, *Every Inch a King* (Eng. tr., 1949).

Pedro II (Dom Pedro II de Alcántara), 1825–91, emperor of Brazil (1831–89). He succeeded under a regency when his father, Pedro I, abdicated. Because of their dislike for the regency, the liberals managed to have him declared of age in 1840. His long reign was, after some rebellions at its start, a period of internal peace and material progress. Immigration, produce, and wealth steadily increased. Brazil aided Urquiza in the war against Rosas (1851–52), at the same time taking part in Uruguayan affairs in support of Venancio Flores. Later Brazil was joined with Argentina and Uruguay in the War of the Triple Alliance against Paraguay (1865–70). The genial emperor was personally extremely popular, but fortune betrayed him. In 1850 the slave trade was prohibited, in 1871 a law was passed providing for gradual emancipation, in 1888, when Pedro was in Europe, slavery was abolished altogether. This antagonized the rich planters, who had been the mainstay of the empire. Republican propaganda had long been rife. Pedro's daughter Isabel and her husband, the comte d'Eu, were unpopular. The government had alienated some of the clerical support. Discontent was widespread, and in 1889 a revolution overturned the empire. Pedro II, having received a grant of money from the revolutionary government, spent the remainder of his life in Europe. See M. W. Williams, *Dom Pedro the Magnanimous* (1938).

Pedro. For Spanish and Portuguese rulers thus named, see PETER.

Peebles, county, Scotland. see PEEBLESSHIRE.

Peebles (pē'bulz), burgh (pop. 5,853), county town of Peeblesshire, Scotland, on the Tweed and S. of Edinburgh. The tower of St. Andrew's Church dates from the 12th cent., and the ruins of Neidpath Castle are near. The burgh's chief industry is wool spinning and weaving.

Peebles, village (pop. 1,350), S. Ohio, NW of Portsmouth. Serpent Mound State Park is near by.

Peeblesshire (pē'bulz-shĭr), **Peebles,** or **Tweeddale,** county (347 sq. mi., 1931 pop. 15,051, 1948 estimated pop. 15,100), S. central Scotland. The county town is Peebles. It is mainly a hilly pastoral region, rising to a height of 2,754 ft. in Broad Law, in the south. The region is drained by the Tweed which rises in the county. Only a small portion of the land is arable. See J. W. Buchan, ed., *History of Peeblesshire* (3 vols., 1925–27).

Pee Dee, river rising in W. North Carolina in the Blue Ridge and flowing generally southeast c. 455 mi. to Winyah Bay, S.C. It is called the Yadkin above the mouth of the Uharie in central North Carolina.

Peekskill, city (pop. 17,311), SE N.Y., in Westchester co., on the east bank of the Hudson and N. of Ossining, in a farm and resort area, incorporated as a village 1816, as a city 1940. Gin, jewelry, and food products are made. The Peekskill Military Academy and a military camp are here, as is St. Mary's School for girls. Chauncey M. Depew was born at Peekskill.

Peel, Paul, 1860–92, Canadian landscape and genre painter, b. London, Ont., studied at the Pennsylvania Academy of the Fine Arts and in London and Paris. He worked principally in Paris, and his *How Butter Life Is* obtained honorable mention at the Salon of 1889 and *After the Bath* (Budapest) a gold medal in 1890. His paintings are distinguished for their delicate beauty of coloring and effective handling of light. *Two Friends* is in Buckingham Palace, London, and *Forging the Stream* is in the city hall, Toronto.

Peel, Sir Robert, 1788–1850, English statesman, educated at Oxford. He entered Parliament as a Tory in 1809 and served (1812–18) as chief secretary for Ireland, where he maintained order and the Protestant ascendancy in a difficult time and opposed CATHOLIC EMANCIPATION. As a private member he secured passage of his bill to resume cash payments and stabilize the currency. As home secretary (1822–27) he succeeded in revising and humanizing the criminal laws. Although he had refused to serve under George Canning because that prime minister favored Catholic Emancipation, he later saw the justice and political necessity for that move and, as home secretary under the duke of Wellington, secured the passage (1829) of the bill enabling Roman Catholics to sit in the House of Commons. In 1829 also he established the London police force, called after him Peelers or Bobbies. He recovered in part the Tory support which he had lost because of the Catholic question when he opposed parliamentary reform, and after the Reform Bill of 1832 was passed despite him, he rallied the party and was prime minister briefly (1834–35). While he was in opposition (1835–41) he gathered about him many able young men, including Benjamin Disraeli and W. E. Gladstone, to form a conservative party based on defense of constitution and Church but favorable to general reforms. The new party attitude appeared in his second ministry (1841–46), which brought an in-

come tax, a new system of banking control, an attempt at Irish land reform, and aid to the Irish Catholic Church, these were strange policies for Tories Of far greater importance were the virtual abandonment of customs duties and the repeal of the corn laws These laws were essentially Tory, and Peel had formerly defended them, but he became convinced by his study of the matter and the arguments of Richard Cobden that they must be changed His action lowered the price of bread, but split the party into the liberal followers of Gladstone and the conservatives under Disraeli Peel was a powerful orator and a persuasive character, much abused as an apostate during his life, but now recognized as a practical statesman of forward-looking views and of great courage. His memoirs were posthumously published (1856) His correspondence and private papers were edited by C S Parker (3 vols , 1891–99) and later by George Peel (1920). See biographies by Sir Lawrence Peel (1860) and G K Clark (1936), Tresham Lever, *The Life and Times of Sir Robert Peel* (1942)

Peel, seaport (pop 2,477), on the west coast of the Isle of Man, Great Britain, at the mouth of the Neb It is a resort and a fishing town Peel Castle, on St Patrick's Isle in the river, dates mainly from the 16th cent

Peele, George, 1558?–1597?, English dramatist and poet Despite the fact that his period of dramatic activity lasted only six years, he wrote *Edward I* (1593), *The Arraignment of Paris* (1594), *The Battle of Alcazar* (1594), *The Old Wives Tale* (1595), and *The Love of King David and Fair Bethsabe* (1599) One of the "university wits," Peele was at his best in some of the songs interspersed in his plays He lived a dissolute life, exhausted his property, and died in poverty

Peel Island, Bonin Islands see CHICHI-JIMA

Peet, Stephen Denison, 1831–1914, American archaeologist and clergyman, b Euclid, Ohio, grad Beloit College, 1851 He awakened interest in the scientific study of the American Indian and was founder (1878) and editor of the *American Antiquarian and Oriental Journal* Among his books are *The Mound Builders* (1892), *History of Explorations in the Mississippi Valley* (1896), *The Cliff Dwellers and Pueblos* (1899), and *Aboriginal Religion in America* (1905)

peewee see PEWEE

Pegasus (pĕ'gŭsŭs), in Greek legend, immortal winged horse, offspring of POSEIDON and MEDUSA He became the faithful companion of BELLEROPHON The spring Hippocrene, sacred to the MUSES, was made by a print of his hoof and gave the gift of song to all who drank of it From his connection with this spring came the modern use of Pegasus as a symbol of poetry

Pegasus, in astronomy, a northern constellation lying southwest of Andromeda, named for the mythological Pegasus It is easily identified in the heavens by the bright stars that form the "square of Pegasus" Three of the stars lie in Pegasus and since they are the three brightest of that constellation are known as Alpha, Beta, and Gamma Pegasi, the fourth star of the square is Alpha Andromedae, the brightest star in the constellation Andromeda

Pegram, George Braxton (pĕ'grŭm), 1876–, American physicist and educator, b. Randolph co , N C , grad. Trinity College (now Duke Univ), Durham, N C (B A , 1895), Ph D Columbia, 1903 He joined the faculty at Columbia (1900), was appointed professor (1918), and served as dean of the School of Mines, Engineering, and Chemistry (1918–30) and as dean of the Graduate Faculties (1936–49) In 1949 he became a vice president of the university Pegram demonstrated (1936) the transmutation of elements (sodium to magnesium) by the splitting of an atom with slow neutrons In 1939 he announced the successful splitting of the uranium atom by physicists at Columbia.

Pegu (pĕgōō'), city (pop 21,712), S Burma, on the Pegu river, a tributary of the Rangoon It is on the rail line from Rangoon to Mandalay and the main routes linking Tenasserim with Lower Burma Founded by the Talaings, it was a port until silting closed the river to seagoing vessels From the late 15th cent , it was the center of one of the three chief states of Burma, and in the 16th cent it was the capital of a united Burmese kingdom The capital was removed to Ava in 1635 In the 18th cent the Talaings rebelled against the Burmese and set up their capital at Pegu, it was destroyed by the Burmese in 1757, but was rebuilt as the center of a Burmese province In 1852 the city and province came under British rule

Péguy, Charles (shärl' pāgē'), 1873–1914, French poet and writer. He came of a poor working family and left the École normale supérieure to devote himself to the cause of socialism He was, however, individual in his views and broke with the party. In 1900 he founded the *Cahiers de la Quinzaine*, a periodical in which he published his own works as well as those of other young writers. Through his life he was a passionate worker for causes of justice, truth, and the good of the common man and the world His part in the Dreyfus Affair was notable, and his polemics against injustice were topical but fiery. He was deeply religious, and though formally he was usually at odds with the Roman Catholic Church, he is among the foremost modern Catholic writers He sought to infuse spirituality into every aspect of life and to do away with sordid aims Joan of Arc became for him the symbol of the spiritual in action, and one of the greatest of his poems, *Le Mystère de la charité de Jeanne d'Arc* (1910, Eng tr by Julian Green, *Mystery of the Charity of Joan of Arc*, 1950), expresses his ideal His original, repetitive chantlike verse has great power Others of his long works are *Le Porche du mystère de la deuxième vertu* (1911) and *Eve* (1913) He was killed at the battle front soon after the First World War began Translations of his works appear in *Basic Verities* (1944) and *Men and Saints* (1944), both including prose and poetry and both translated by Ann and Julian Green, Julian Green also translated some of Péguy's religious poetry in *God Speaks* (1945) See Daniel Sargent, *Four Independents* (1935), Daniel Halévy, *Péguy and the Cahiers de la Quinzaine* (Eng tr , 1947)

Peham see BEHAM

Pehlevi language see PAHLAVI LANGUAGE

Pei (pā, bā), river of Kwangtung prov , China, flowing south c 200 mi to join the Si at Samshui near Canton The river is called in Chinese Pei-kiang or Pei-chiang [both=north river]

Peian or **P'ei-an** (pā'ān'), city (pop 70,032), capital of Heilungkiang prov , NE China It is a railroad junction

Pei-kiang, river, China see PEI

Peiping or **Pei-p'ing** (pā'pĭng, bā'–), city (pop 1,672,438), Hopeh prov , capital of the People's Republic of China Since 723 B C several cities, bearing various names, have existed at this site The nucleus of the present city was Kublai Khan's capital, Cambuluc, which he had constructed in A D 1264 Under the name Peking [Chinese,= northern capital] the city was the capital of China from the 15th cent until 1928, when, the seat of government having been transferred to Nanking [Chinese *nan*=southern], the present name, Peiping [Chinese,=northern peace], was adopted Peiping in the main consists of two distinct areas, the Old City or Chinese City, which is surrounded by a comparatively low wall, and the Tartar City with massive walls 50 ft high Within the Tartar City, each with its own wall, are the Forbidden City (formerly the emperor's residence), the Imperial City (where his retinue was housed), and the Legation Quarter In Peiping are many of the greatest examples of architecture of the Ming and Ch'ing dynasties as well as remains from earlier times The Temple of Heaven, set in a large park, contains a massive altar of white marble before which the emperors prayed at the summer solstice In the temple of Confucius are guarded incised boulders which date from the Chou dynasty An ancient astronomical observatory, once used by Catholic missionaries, still functions The Forbidden City, now open to visitors, contains palaces and museums replete with art treasures Just outside Peiping, rivaling the beauties within, is the imperial summer palace (a recent structure) with its lovely parks At Choukoutien, near the city, were discovered several bones of *Sinanthropus pekingensis* (see MAN, PRIMITIVE) Peiping has often been the prize of contending armies, especially in the last century In 1860 Great Britain and France captured it after the battle of Palchiao and forced the Chinese government to concede the Legation Quarter for foreign settlements This cession was among the factors responsible for the Boxer Rebellion (1900), in which the foreign colony was besieged until relieved by a combined expeditionary force of American, Japanese, and European troops The outraged foreign powers exacted a treaty which provided for the permanent garrisoning of foreign troops in Peiping Repeatedly the city changed hands during the civil wars which followed the establishment of the Chinese republic in 1912 Japan occupied Peiping in 1937, in an incident that sped the pace of warfare (see CHINO-JAPANESE WAR, SECOND) The Japanese restored the name Peking and made the city the capital of a puppet state With the end of the Second World War and the abolition of the last foreign concession (1946) Peiping was entirely restored to Chinese sovereignty In 1949 it fell to the Communists, who late that year announced that it was the capital of the newly founded People's Republic of China Besides being the country's chief political center, the city stands foremost in Chinese cultural life Of its many educational institutions, the National Univ , the Peiping Union Medical College, and Yenching Univ are perhaps the best known Peiping is the northern terminus of the Peiping-Canton RR, the longest north-south line of China, and of railroads to Liaoning and Suiyuan provs. It is now eclipsed in commercial importance by the near-by city of Tientsin See Juliet Bredon, *Peking* (2d ed , 1931); William Lewisohn, *In Search of Old Peking* (1935)

Peipus, Lake (pī'pŭs), Estonian *Peipsi Järv* (pāp'sē yärv'), Rus. *Chudskoye Ozero* (chōōt'skŭyŭ ô'zyĭrŭ), lake, area c.1,400 sq mi., NE Europe, between Estonia (on the west) and the RSFSR (on the east) It is 48 mi long and 20 to 30 mi. wide Its southern section is known as Lake Pskov after the Russian city near its shore Lake Peipus has marshy and sandy shores It empties through the Narva river into the Gulf of Finland Fishing is the chief occupation of the largely Russian shore population. On the frozen strait between Lake Peipus and Lake Pskov, St Alexander Nevski defeated (1242) the Livonian Knights

Peirce, Benjamin, 1809–80, American mathematician and astronomer, b Salem, Mass , grad Harvard, 1829 From 1833 he was a professor at Harvard, he helped establish the Harvard Observatory and was an organizer of the Dudley Observatory, Albany, N Y He made a special study of Saturn's rings In the field of mechanics he made studies of the forms of elastic sacs containing fluids From 1867 to 1874 he was superintendent of the U S Coast Survey His fundamental contributions to mathematics were collected as *Linear Associative Algebra* (1870) and reprinted (1882) in the *American Journal of Mathematics* He wrote also *A System of Analytic Mechanics* (1855)

Peirce, Charles Sanders, 1839–1914, American philosopher, b Cambridge, Mass , grad. Harvard, 1859, son of Benjamin Peirce Except for occasional lectures he rejected the regimen of academic life and was in government service with the Geodetic Survey for many years. Regarding logic as the beginning of all philosophical study, Peirce felt that the meaning of an idea was to be found in an examination of the consequences to which the idea would lead This principle was published in 1878 in *Popular Science Monthly*, using the term PRAGMATISM, which was later used by William James with acknowledgment The influence of Peirce is clearly seen in the works of Josiah Royce and John Dewey Recognition of his importance has been delayed because of the scarcity of published works He left many fragmentary manuscripts, but the only book published during his lifetime was *Photometric Research* (1878) After his death his major essays were edited by M R Cohen in *Chance, Love, and Logic* (1923) See his collected papers (6 vols , 1931–35), Justus Buchler, *Charles Peirce's Empiricism* (1939), J K Feibleman, *Introduction to Peirce's Philosophy Interpreted as a System* (1946)

Peirce, Waldo, 1884–, American painter, b Bangor, Maine, studied at Julien's academy, Paris He painted for several years in Spain, where he was especially impressed by Goya After service in the First World War, Peirce remained in Europe, painting in France, Spain, Tunis, and Algiers until 1930, when he returned to settle in his native city Characteristic of his style is an exuberance of brushwork and a vivacity of color somewhat suggestive of the art of Renoir His work is widely exhibited and is represented in New York in the Metropolitan Museum, the Whitney Museum, and the Brooklyn Museum He has painted murals and has illustrated books, including *The Magic Bed Knob* (1943) and *The Children's Hour* (1944)

Peirce City or **Pierce City,** city (pop 1,208), SW Mo , ESE of Joplin, in a farm area, founded c.1870

Peisistratus. see PISISTRATUS

Peixoto, Floriano (flôrē'ä'nō pāshō'tō), 1842–95, Brazilian marshal and statesman He fought with distinction in the War of the Triple Alliance Since he was a member of the imperial cabinet but did not notify his government of the plans to overthrow the empire, his part in the establishment of the republic was somewhat equivocal Nevertheless he was chosen vice president under Deodoro de FONSECA When the president resigned in the face of a revolution, Floriano Peixoto succeeded to the presidency on Nov 23, 1891 A taciturn, strong-handed man, he put down a naval revolt led by Admiral Custodio José de Mello in 1893 and maintained himself in power until the election of 1894, when he was defeated Though he was distrusted and hated by most of the people, he nevertheless by his firmness consolidated the new republican government

Peixotto, Ernest Clifford (pāshō'tō), 1869–1940, American painter, illustrator, and author, b San Francisco, studied at Julien's academy, Paris He lived in Europe many years, and his painting of *The Woman of Rysword* received honorable mention at the Salon His mural paintings decorate the Seamen's Bank for Savings New York, the Bank of New York, and the library of Henry Everett near Cleveland (scenes from *Morte d'Arthur*) After 1897 he contributed drawings to *Scribner's Magazine* and other leading periodicals and illustrated numerous books, among them Henry Cabot Lodge's *Story of the Revolution* Theodore Roosevelt's *Life of Cromwell*, and Mrs Wharton's *Italian Backgrounds* He is author-illustrator of *By Italian Seas* (1906), *Through the French Provinces* (1910), *Romantic California* (1911), *Our Hispanic Southwest* (1916), *A Revolutionary Pilgrimage* (1917), *Through Spain and Portugal* (1922), and *A Bacchic Pilgrimage* (1932) He was official artist in the First World War, and his war drawings are in the National Museum of the Smithsonian Institution He was director (1919–26) of mural painting at the Beaux Arts Institute of Design, New York

Pekah (pē'kŭ) [Heb ,=opening], d c.730 B.C., king of Israel (c.736–c 730 B C). He was a general

under King Pekahiah and murdered him for the throne He went to war with Ahaz of Judah, but soon after lost the northern and eastern parts of his kingdom to Assyria His successor was Hoshea, 2 Kings 15 26–16 9

Pekahiah (pĕ″kŭhī′ŭ) [Heb ,=God opens His eyes], d c 736 B C , king of Israel (c 737–c 736 B C), son and successor of Menahem His reign was ended by his murder at the hands of his general Pekah 2 Kings 15.22–26

Pekalongan (pĕ″kälông′gän), town (pop 65,982), on N Java, Indonesia, on the Java Sea A textile center, it is also the principal port for central Java (an area included in the republic of Indonesia), it exports sugar, rubber, and tea A Dutch fort built in 1753 is here

Pekin (pē′kĭn), city (pop 19,407), co seat of Tazewell co , central Ill , on the Illinois river and S of Peoria, settled 1829, inc 1839 In a farm and coal area, it is a shipping and industrial center which produces grain and leather products Lincoln argued cases in the old courthouse here

Peking, China see PEIPING

Pekingese or **Pekinese**, a toy dog, related to both the spaniel and the pug It originated in China centuries ago and was not known in Europe until after 1860, when a few specimens were taken to England and bred The Pekingese has a broad skull, a black nose, and large, round, and protruding eyes, its coat is long, straight, and silky, and it may be brown, black, red, fawn, sable, brindle, white, or parti-colored It has a proud carriage of its head and tail and is both intelligent and amiable

Peking man see MAN, PRIMITIVE

Pekod (pē′kŏd), designation of a group of people, presumably Babylonian Jer 50 21

Pelagianism (pŭlā′jŭnĭzm), Christian heretical sect which rose in the 5th cent to challenge St Augustine's conceptions of PREDESTINATION and FREEDOM OF THE WILL The doctrine was advanced by the celebrated monk and theologian, Pelagius (c 355–c 425) He was probably born in Britain After studying Roman and Greek law and rhetoric and later theology in England and Rome, he preached in Africa, and Palestine, attracting able followers, such as Celestius and Julian of Eclanum It is said that he disliked theological controversy, even though he was a brilliant polemicist and the author of theological and biblical commentaries Pelagius thought that St AUGUSTINE was excessively pessimistic, blinded by his youthful Manichaeism to an appreciation of the gentle love and mercy of God Pelagius countered St Augustine with more optimistic theses He argued that the admonition of Christ, "Be ye perfect," implies that perfection must be possible to any individual who wholly desires it He maintained that the child is born innocent (as was Adam before the Fall), not in original sin, the subsequent lapse from innocence is due to the sin committed (which is a personal act of the will), not to inherent nature Consequently, human nature is not necessarily vile, sin is not transmitted, and the baptism of infants becomes meaningless Pelagius taught, too, that grace, infused into all creation by God, consists, in man, of the natural attributes which lead him to God, e g , reason, free will, and the understanding of the revealed gospel Pelagianism challenged the very function of the Church, claiming that the law as well as the gospel can lead one to heaven and that pagans had been able to enter heaven by virtue of their moral actions before the coming of Christ This last suggestion, probably derived from Stoicism, tended to make Christianity a rationalistic faith, with each moral act a separate entity without relation to the concept of Christian perfection, which commits the whole soul The Church fought Pelagianism from the time that Celestius was denied ordination in 411 In 415 Augustine warned St JEROME in Palestine that Pelagius was propagating a dangerous heresy there, and Jerome acted to prevent its spread in the East Pelagianism was finally condemned by East and West at the Council of Ephesus (431) But a compromise doctrine, Semi-Pelagianism, was popular in the 5th and 6th cent in France, Britain, and Ireland Semi-Pelagians accepted St Augustine's tenets on man's sinfulness and the Fall and (in modified form) his doctrine of irresistible grace, but they wholly rejected the doctrine of predestination At the instance of St CAESARIUS OF ARLES, Semi-Pelagianism was outlawed by the Council of Orange (529) At the end of the century, Pelagianism disappeared as an organized heresy, but, remaining as a tendency in Christian thought, it continued as a topic of Western theological controversy until the 17th cent Pelagius' *Expositions of Thirteen Epistles of St Paul* were edited by Alexander Souter (3 vols , 1922–31)

Pelaiah (pĕlī″ä′ŭ) [Heb ,=whom God distinguishes] **1** Descendant of David 1 Chron 3 24 **2** Expounder of the Law Neh 8 7, 10 10

Pelaliah (pĕl″ul′ŭ) [Heb ,=God judges], ancestor of Adaiah the priest Neh 11 12

Pelasgians (plăz′jĭănz), in ancient Greek literature, from Homer on, any aboriginal non-Greek inhabitants of Greece If they were a real people, nothing is known of them. The term may refer to the builders of the Mycenaean civilization

Pelatiah (pĕl″ŭtī′ŭ) [Heb ,=God delivers] **1** Zerubbabel's grandson 1 Chron 3.21. **2** Simeonite captain 1 Chron 4 42 **3** Signer of the covenant Neh 10 22

Pelayo (pälä′yō), d 737, first king of Asturias. He defeated the Moors at Covadonga some time between 718 and 725, thus beginning the Christian reconquest of Spain All accounts of him are largely legendary.

Pele (pā′lā), Hawaiian goddess of the volcano Her traditional home is Halemaumau, the fire pit of Kilauea crater on the island of Hawaii The Hawaiians lived in fear of the vengeful powers of Pele until 1824, when a native princess defied the goddess The princess ate sacred berries at the crater's rim without suffering dire results

Pelée (pulā′), volcano, 4,429 ft high, on N MARTINIQUE, French West Indies On May 8, 1902, the day of the eruption of SOUFRIÈRE on St Vincent, Pelée also erupted, engulfing SAINT-PIERRE and killing c 40,000 people in the city and adjacent area Because the chemical composition of the volcanic ash prevents plant life, the thick layer deposited over a wide expanse is almost complete wasteland Pelée also erupted in 1792 and 1851 See Angelo Heilprin, *Mont Pelée and the Tragedy of Martinique* (1903)

Peleg (pē′lĕg) [Heb ,=division], ancestor of David Gen 10 25, 11 16 Phalec Luke 3 35

Pelet (pē′lĕt) [Heb ,=deliverance] **1** Name in an obscure genealogy 1 Chron 2 47 **2** Benjamite leader with David 1 Chron 12 3

Peleth (pē′lĕth) [Heb ,=swiftness] **1** Reubenite, perhaps the same as PALLU Num 16 1 **2** Son of Jonathan 1 Chron 2 33

Pelethites see CHERETHITES AND PELETHITES

Peleus (pē′lūs, pē′lūŭs), in Greek mythology, king of the Myrmidons He was the son of Aeacus, the brother of Telamon, the husband of the nymph Thetis, and the father of Achilles Peleus took part in the Calydonian hunt and the expedition of the Argonauts After he returned from these adventures, he went to Iolcus, where he killed King ACASTUS When Peleus married Thetis, all the gods were invited except Eris In revenge she sent the golden apple of discord, which ultimately caused the dispute leading to the Trojan War

Pelew, Caroline Islands see PALAU

Pelham, Peter (pĕ′lum), American engraver and painter, c 1695–1751, b England, stepfather of John Singleton Copley After studying and practicing in England, Pelham settled (c 1728) in Boston Among his early engravings are portraits of Queen Anne, George I, and the bishop of London, copied from contemporary paintings In America he produced engravings of Cotton and Increase Mather, based on his own paintings, and painted miniatures He also conducted a school to teach dancing, arithmetic, writing, and other subjects

Pelham (pĕ′lum) **1** City (pop 2,579), SW Ga , S of Albany, settled 1870, inc 1881 It is a processing and market center for lumber, cotton, peanuts, and tobacco **2** Village (pop 1 918), SE N Y , in Westchester co , E of Mt Vernon, settled in the 17th cent , inc 1896 It is a suburb of New York city

Pelham Manor, village (pop 5,302), SE N Y , in Westchester co , on Long Island Sound, settled in the mid-17th cent , inc 1891 It is a residential suburb of New York city

Pelias (pē′lĭăs), in Greek mythology, a crafty king who stole the kingdom of Iolcus from his brother AESON and sent Aeson's son JASON in quest of the GOLDEN FLEECE Jason returned and claimed the kingdom The sorceress MEDEA, pretending that she would make Pelias young again, induced his daughters to kill him ACASTUS avenged him

pelican (pĕ′lĭkun), large, gregarious bird of warm regions, allied to the cormorants and gannets and having like them, fully webbed toes Pelicans are heavy-bodied, long-necked birds with very large bills, the upper mandible is hooked and the lower bears a deep expansible pouch in which fish are carried The young birds feed from the pouch and from the throat of the parent The great white pelican of North America is about 5 ft long and has a wingspread of about 8 to 10 ft Both sexes have white plumage with black primary wing feathers, and in both a horny plate forms temporarily on the bill in spring The pelican is now found chiefly in the W United States, sometimes on the seacoasts and at other times on fresh water It catches fish by scooping them into its pouch as it swims, but the brown pelican dives from the air for its prey The eastern brown pelican of the SE United States and tropical America and the California brown pelican are strictly ocean birds The spectacled pelican is found in Australia and New Guinea There are several Old World species.

Pelican Rapids, village (pop 1,560), W Minn , N of Fergus Falls and on the Pelican river, inc 1882 It is a trade and shipping center of a grain and livestock region In 1932 "Minnesota man," a human skeleton believed to be prehistoric, was found near here

Pelion (pē′lĭun), mountain 5,252 ft. high, N Greece, in E Thessaly, near the Aegean coast. In ancient legend, CHIRON lived on the mountain and the ALOADAE piled Pelion on Ossa.

Pella, city (pop. 3,638), S central Iowa, ESE of Des Moines; settled 1847 by Dutch, inc 1855. It is the trade, industrial, and shipping center for a farm region producing grain, truck, and livestock Central College is here An annual Dutch tulip festival is held

pellagra (pulă′gru, pŭlā′grŭ), disease resulting from a nutritional disorder caused by lack of the vitamin B complex in the diet A general diet which includes meat, eggs, and fresh milk supplies the vitamin There are many effects, including reddening of neck and backs of hands, red, sore tongue, gastrointestinal disturbances, including diarrhea, and nervous and mental changes It occurs throughout the world and has been prevalent in the S United States in persons whose food is restricted to pork and cornmeal over a long period It is prevented by proper diet, and cases not too far advanced respond to a diet containing niacin (formerly nicotinic acid), a constituent of the vitamin B complex

Pelleas, Sir (pĕl′ēăs), knight of King Arthur's court see ARTHURIAN LEGEND He is the hero of *Pelleas and Ettarre*, one of Alfred Tennyson's *Idylls of the King*, and of a play by Maurice Maeterlinck, *Pelléas and Mélisande*, given a musical setting by Claude Debussy

Pellegrini, Carlos (kär′lōs pĕyägrē′nē), 1846–1906, president of Argentina (1890–92) He became vice president in 1886 and succeeded to the presidency in Oct , 1890, when public opinion forced JUAREZ CELMAN to resign His administration began in the midst of political discontent and a financial crisis, but public order was maintained, and fiscal reforms were initiated, averting national bankruptcy Although complete economic recovery was not achieved, Pellegrini—aided by the railroad and the plow—did much to alleviate the situation In 1892 he was succeeded by Luis Sáenz Peña.

Pelletier, Pierre Joseph (pyĕr′ zhōzĕf′ pĕlutyā′), 1788–1842, French chemist He was codiscoverer with J B Caventou of quinine, strychnine, brucine, and other alkaloids

Pellico, Silvio (sēl′vyō pĕl′lēkō), 1789–1854, Italian dramatic poet He knew many literary people of his day, including Byron, Madame de Stael, and Schlegel His principal dramatic work is *Francesca da Rimini* (1815, Eng tr , 1856) Imprisoned by the Austrians as a Carbonarist, he wrote an account of his prison life, *Le mie prigioni* (1832, Eng tr , *My Prisons*, 1833) The book is excellent in style, full of emotion, and shows a fine gift of analysis His lyrics are mediocre

Pelly, river of S central Yukon, rising W of the Mackenzie Mts and flowing 330 mi generally west-northwest to join the Lewes at Fort Selkirk and form the Yukon The Pelly receives the Ross and Macmillan rivers It was discovered (1840) by Robert Campbell, of the Hudson's Bay Company

Pelonite (pē′lunīt), obscure epithet of two of David's mighty men Comparison with the parallel passages suggests that it stands for Gilonite (see GILOH) in 1 Chron 11 36 and for Paltite (see BETH-PALET) in 1 Chron 11 27, 27 10

Pelopidas (pĭlŏ′pĭdus), d 364 B C , Theban general When the Spartans seized the citadel of Thebes (382 B C), he fled to Athens and prepared the coup which recovered the city (379 B C) He fostered and commanded the Sacred Band, an elite corps which sparked the Theban victories, e g , at Tegyra (375 B C) and Leuctra (371 B C) Under Epaminondas he joined in the invasion (370–369 B C) of the Peloponnesus On an expedition into Macedonia (368 B C) he was captured by the Thessalian Alexander of Pherae, but Epaminondas rescued him Pelopidas went the next year to Persia as ambassador to Artaxerxes He was killed at the hour of victory in a battle with the Thessalians at Cynoscephalae Plutarch wrote his life

Peloponnesian League see SPARTA

Peloponnesian War (pĕl″upunē′zhun, -shŭn), 431–404 B C , decisive struggle in ancient Greece between Athens and Sparta It ruined Athens The rivalry between Athens and Sparta was of long standing, in spite of well-differentiated spheres of interest The Athenian empire was a maritime domain (see DELIAN LEAGUE) consisting of the Aegean, the shores of Chalcidice, Gallipoli, Byzantium, and many Black Sea colonies, for grain Athens was dependent on Thrace and the Black Sea Sparta had a land empire Its center was the Peloponnesus, but since Corinth and Thebes were Spartan allies, much of Greece was under its control Most Greek cities, aside from monolithic Sparta, had for years seen vigorous struggles between oligarchic and democratic parties, and Athens under Pericles (from 445 B C) had become a model of Greek democracy, with a regular foreign policy of intervention wherever possible to help local democrats, the Spartans favored oligarchies. As a result most cities, including Athens, had pro-Spartan minorities when the democrats had power and pro-Athenian minorities otherwise There was then nothing to resemble modern concepts of national loyalty or treason. The two empires were unstable at best, for Sparta and Athens were equally ruthless, governing their dependencies wholly for profit and with cold-blooded brutality, hence the

subject cities were always ready for revolt. A basic military fact was this: well-walled Athens could be beaten only by a fleet, and Sparta could be taken only by full-scale invasion. When Sparta did form a navy, much of the action naturally took place in the Bosporus and the Dardanelles, vital to the grain route. At the start, however, Athens had no land army and Sparta no navy, still, the great Delian treasury at Athens meant a real advantage, and throughout the war a consciousness of weakness led Sparta to repeated efforts for peace. The war began after sharp contests between Athens and Corinth over Corcyra (433) and Potidaea (432). The first important action was the initial invasion of Attica by a Spartan army (431), which became for years an annual event of the fighting season. Pericles brought the rural population within the walls, which included a passage to the harbor at Piraeus. The Athenian fleet began raids, reduced rebellious Potidaea (430 or 429), won victories off Naupactus (429), and suppressed a revolt in Lesbos (428). Meanwhile plague (perhaps bubonic) wiped out probably a quarter of the population of Athens (430–428), and Pericles died. His successor was CLEON. Sparta victoriously took the long-besieged Plataea, an Athenian ally, but suffered a real defeat when (425) Athens established a base under Sparta's nose at Pylos and captured Sphacteria island with an important Spartan contingent. Sparta suggested peace and was refused. The Spartan leader Brasidas now brilliantly surprised Athens with a campaign in NE Greece, taking (424) Athenian cities, including Olynthus and Amphipolis. Fighting went on over these even after an armistice (423) and ended in a decisive Spartan victory at Amphipolis, in which Brasidas and Cleon were both killed (422). The new Athenian leader, NICIAS, now arranged a peace (421), despite its terms, it actually froze the situation. At Athens the respite saw the rise of the brilliant demagog ALCIBIADES. He helped in a futile revolt of Spartan allies that ended at MANTINEA (418), he also led (416) the sack of neutral MELOS. In 416 an embassy from Segesta, Sicily, came to ask Athenian help against its enemy city, Selinus. As Selinus was an ally of powerful Syracuse, the debate at Athens was on the question whether Athens should attack Syracuse. The proponents, led by Alcibiades and dazzled by the prospect of an unexampled imperial acquisition, won. In this, the greatest expeditionary force a Greek city had ever assembled, Alcibiades and Nicias both had commands (415), but before the attack on Syracuse had begun, Alcibiades was recalled to Athens to face a charge of sacrilege. He fled to Sparta, at his advice the Spartans set up a permanent base at Decelea in Attica and sent a military expert, Gylippus, to Syracuse. The incompetent Nicias lost his chance to surprise Syracuse, had to have large reinforcements, and after two years was himself overwhelmed, his force was wiped out (413). For Athens the loss of men and matériel was irretrievable. All Greece knew this, and soon Persia was financing a Spartan fleet. Alcibiades sailed it across the Aegean, and there was a general revolt of Athenian dependencies (412). At Athens the oligarchs managed a futile coup (411), and Alcibiades, who had quit the Spartans, received an Athenian command (410). The Spartans had been hammering at the straits of the Hellespont and had been beaten off Abydos (411), now Alcibiades destroyed their fleet at Cyzicus (410). Sparta sought a truce, but in vain. Alcibiades won another victory or two for Athens. But the able new Spartan admiral, LYSANDER, built (407) a fleet with money from the Persian Cyrus the Younger and won an engagement off Notium. This was used by the enemies of Alcibiades to drive him from Athens for good (407 or 406). The Athenians won one more victory (ARGINUSAE, 406) and spoiled it by declining an offer of peace. The next year Lysander took a fleet to the Dardanelles and, profiting by the overconfidence of CONON, wiped out the Athenian navy (at AEGOSPOTAMOS, 405). Master of the seas, Lysander sailed to the Piraeus, there was an army of Spartan allies on the land side, and after eight months starving Athens surrendered (404 B.C.). Corinth and Thebes wished to destroy Athens, but the Spartans refused. Lysander installed an oligarchic government (the Thirty Tyrants). Athens was never again so important a political factor as before. For about 30 years Sparta was the real ruler of Greece. The primary source for the Peloponnesian War (to 411 B.C.) is THUCYDIDES, Xenophon's *Hellenica* is an inferior sequel. See also G. W. Henderson, *The Great War between Athens and Sparta* (1926), G. B. Grundy, *Thucydides and the History of His Age* (2d ed., 1948).

Peloponnesus (pĕl'ŭpŭnē'sŭs) or **Morea** (mōrē'ŭ), southernmost region of continental Greece. The name Morea was used from the Middle Ages until recently, when the classic Greek name was restored. The Peloponnesus is a peninsula extending c. 140 mi. from north to south and from east to west. It is linked with central Greece by a narrow land strip (see CORINTH, ISTHMUS OF), and it is washed by the Aegean Sea on the east and southeast, by the Ionian Sea on the southwest and west, and by the gulfs of Patras and Corinth on the north. Its deeply indented southern coast terminates in Cape MATAPAN. The country is largely mountainous, the Eurotas, the Alpheus, and the Peneus are the chief rivers. Predominantly agricultural and pastoral, the Peloponnesus produces currants, grapes, fruit, tobacco, and olives, but it lacks wheat crops and other grains. Sheep and goat raising, sericulture, and fishing are among the main sources of livelihood. There are deposits of pyrite, manganese, and lignite, but industries are little developed. The port cities of Patras, Corinth, Kalamata, and Nauplia are the chief modern centers of the Peloponnesus. The chief ancient divisions of the Peloponnesus were ELIS, ACHAEA, ARGOLIS, and the city-state of CORINTH in the north, ARCADIA in the center, and LACEDAEMONIA (comprising MESSENIA and LACONIA) in the south. SPARTA, Corinth, ARGOS, and MEGALOPOLIS were among its chief cities in ancient times. Except for the ACHAEANS in the northwest, the DORIANS predominated in the peninsula in historic times. At the time of the Peloponnesian War (5th cent. B.C.) the entire peninsula except Achaea and Argos was dominated by Sparta. Spartan hegemony, which after the defeat of Athens extended over all Greece, was broken in the 3d cent. by EPAMINONDAS of Thebes, who thus prepared the establishment of Macedonian supremacy over the Peloponnesus by Philip II of Macedon. The second ACHAEAN LEAGUE, unable to shake off the Macedonian yoke, was ended in 146 B.C. by the Roman conquest of the Peloponnesus. Under Roman and Byzantine rule the Peloponnesus was reduced to provincial status. When, in 1204, the leaders of the Fourth Crusade set up the Latin Empire of Constantinople (see CONSTANTINOPLE, LATIN EMPIRE OF), the French VILLEHARDOUIN family received the principality of Achaia or Achaea (i.e., the Peloponnesus) as fief, except for several ports, which passed to Venice. A French feudal state was created and went through a period of great prosperity and chivalrous culture under the Villehardouin princes. Their dynasty survived the fall (1261) of the Latin Empire to the Byzantines, but after the death (1278) of William of Villehardouin the principality passed first to the Angevin dynasty of Naples (by marriage), later to various nobles, and in 1383 to a body of Navarrese soldier-adventurers. Meanwhile the Byzantine Greeks were gradually recovering a good part of the peninsula, and in 1432 their control was complete. Their triumph, however, was short-lived, for by 1460 Sultan Mohammed II had conquered the peninsula and annexed it to the Ottoman Empire. In the Turko-Venetian Wars from the 15th cent. until the Treaty of Passarowitz (1718), Venice held parts of Morea at various times and the entire peninsula from 1687 to 1715. Many castles remain to show the unique mixture of French feudal culture and Hellenistic civilization that flourished in the Peloponnesus in the 13th cent. Under Turkish rule the region fell into a decline from which it has not recovered.

Pelops (pē'lŏps), in Greek myth, son of TANTALUS. He was served up by his father at dinner for the gods. Only DEMETER ate of him, but the shoulder she had eaten she replaced by an ivory one after Hermes reassembled Pelops and restored him to life. He won Hippodamia's hand when he defeated her father in a race, having bribed her father's charioteer to wreck the chariot. After winning he would not pay the charioteer's reward, but drowned him instead. Dying, the charioteer cursed Pelops and his seed, hence the misfortunes of Pelops' house, notably of ATREUS and THYESTES. The Peloponnesus was named for Pelops.

pelota (pəlō'tə), name for several Spanish ball games which originated in the Basque Provs., but more particularly a game which is commonly known as jai alai (hī' lī'). Jai alai is played on a court having two parallel walls and a connecting wall perpendicular to them. Jai-alai courts vary in dimensions, but a pass line, parallel to the front and back walls divides the court in half, and a fault line is always marked off halfway between the front wall and the pass line. The hard ball (made of rubber, covered with goat skin, and 2 in. in diameter) must be hit against the front wall with the *cesta*—a long, narrow, and curved wicker basket which is attached to the player's arm—and must bounce between the fault and pass lines on the service. The perpendicular side wall, usually marked off by equally spaced lines to aid the player's judgment, and the back wall are in play. The object is to hurl the ball out of the reach of the opponent so that after it bounces once it cannot be returned to the front wall. Jai alai is one of the fastest of all games. It is scored on the same general principles as handball, and in singles matches the winning score is usually 6 or 7 points, while in doubles matches it may be as high as 25. Wire netting is frequently fixed along the top of the court to protect spectators. Jai alai is very popular in Spain and in Latin America and is known by several names.

Pelotas (pəlō'təsh), city (pop. 61,985), S Rio Grande do Sul state, SE Brazil, a port on a lagoon 88W of Pôrto Alegre. It is a leading meat-packing center, with a large export trade. There are professional and technical schools and a Jesuit college. The city was founded in 1789.

Peltier, Leslie Copus (pĕltēr'), 1900–, American amateur astronomer, b. Delphos, Ohio. He is noted for his discoveries of comets, some of which bear his name, and of other astronomical bodies seen from his observatory with telescopes lent him by Princeton and Harvard universities. In 1933 he was the first to see the outburst of Nova Ophiuchi (first detected in the 17th cent.), and in 1936 he observed Nova Lacerta.

Pelusium (pĭlōō'shēŭm), ancient city of Egypt, on the easternmost branch of the Nile (long since silted up) and c. 20 mi. E of modern Port Said. Here supposedly Sennacherib's Assyrians were struck by a pestilence, and Cambyses' Persians overthrew Psamtik III (525 B.C.). It is reputedly the birthplace of Ptolemy the astronomer. The present ruins, wholly from the Roman period, consist of low mounds extending east-west. It is mentioned in the Bible under the name Sin. Ezek. 30:15,16.

Pelvoux (pĕlvōō'), Alpine group, in Dauphiné, SE France, culminating in the BARRE DES ÉCRINS.

Pemaquid (pē'mukwĭd), peninsula in Bristol town, S Maine, S of Damariscotta. Pemaquid Point has a lighthouse, and Pemaquid Beach has a reproduction of the tower of Fort William Henry (the fort built here by Sir William Phips in 1692).

Pemba (pĕm'bŭ), island (380 sq. mi., pop. c. 100,000), off E Africa, in the Indian Ocean. It was formerly a notorious slave market, and it now has a large trade in cloves. It is part of Zanzibar protectorate.

Pemberton, John Clifford, 1814–81, Confederate general, b. Philadelphia, grad. West Point, 1837. He served in the Seminole and Mexican wars and at various frontier posts. He resigned from the U.S. army in April, 1861, and in June became a Confederate brigadier general. Pemberton was made a lieutenant general in Oct., 1862, and was assigned to command the region about Vicksburg. In the VICKSBURG CAMPAIGN, Grant's tactics were successful against his defense. Pemberton surrendered on July 4, 1863. After his exchange, he resigned his lieutenant generalcy (May, 1864) and served as a colonel of ordnance for the rest of the war. See biography by J. C. Pemberton (1942).

Pemberville, village (pop. 1,636), NW Ohio, S of Toledo and on the Portage river, settled 1834, inc. 1876.

Pembina (pĕm'bēnu), city (pop. 703), extreme NE N. Dak., at the confluence of the Pembina and Red rivers, a port of entry near the Canadian boundary, inc. 1885. There was a trading post here in 1797, and settlers arrived as early as 1812, the first permanent settlement in the state was made here in 1819. Great buffalo hunts were organized from the post, but as the fur trade declined and settlers established farms in the Red River valley with the coming of the railroad, Pembina lost its early importance.

Pembroke, Aymer de Valence, earl of (pĕm'brōōk), d. 1324, English nobleman, nephew of Aymer of Valence, bishop of Winchester. He succeeded his father, William, as earl of Pembroke in 1296. Edward I made him (1306) guardian of Scotland, but he was unable to stop the advance of Robert the Bruce. Under Edward II he was one of the lords ordainers, who tried to limit the king's power, but was disgusted by the murder of Piers Gaveston, the king's favorite, by treacherous nobles. In vain he supported Edward II in the defeat of the English at Bannockburn (1314). By 1318 he had organized a moderate royalist group of barons which mediated successfully between king and barons until the advent (1321) of Hugh Despenser and his son as the king's favorites. He died suddenly on a diplomatic mission to France.

Pembroke, Mary Herbert, countess of, 1561–1621; sister of Sir Philip Sidney. His *Arcadia* was dedicated to her. She was a patron of a number of poets including Jonson, Spenser, and Daniel, and she herself wrote one volume of verse, *Antonius* (1592). William Browne's famous epitaph, "Underneath this sable hearse," was written for her.

Pembroke, Richard de Clare, 2d **earl of,** d. 1176, English nobleman, also known as Richard Strongbow. Having wasted his inheritance, he went (1170) to Ireland at the request of the hard-pressed DERMOT MCMURROUGH, king of Leinster, whose daughter Strongbow married. The earl subdued much of E Ireland, including Dublin, in victories over Rory O'CONNOR, king of Connaught. The wary Henry II, although he had given permission for the earl's expedition, visited him in 1171 to claim the rich coastal cities and to receive Strongbow's homage for the fief of the interior of Leinster. The whole was returned to the earl's government in 1174 after he had helped Henry II in Normandy (1173), but Strongbow survived only two years more of almost continuous fighting to retain his holdings against the hostile Irish. He was badly defeated (1174) at Thurles.

Pembroke, William Herbert, 3d **earl of,** 1580–1630, English patron of letters. Son of Mary, countess of

Pembroke, and nephew of Sir Philip Sidney, he was tutored by Samuel Daniel, settled (c 1598) in London, and succeeded his father, Henry, 2d earl of Pembroke (in the Herbert line), in 1601 An influential courtier at Elizabeth's court and at that of James I, he has been one of those suggested the "Mr W H" to whom the sonnets of Shakspere were dedicated (1609) by their publisher, and his mistress, Mary Fitton, is thought by some to be the Dark Lady of the sonnets In 1623 Shakspere's works in the First Folio edition were dedicated to him and his brother by name Pembroke furthered the exploration and colonization of America, served as lord chamberlain of the royal household (1615–25) and lord steward (1626–30) Pembroke College, Oxford, was named (1624) in his honor when he was chancellor of Oxford

Pembroke, William Marshal, 1st **earl of,** d 1219, English nobleman He was (1170–83) one of those in charge of Prince Henry, the heir apparent of Henry II, and he went on crusade for the prince In the family quarrels of 1188 he served Henry II Upon the accession (1189) of Richard I, Marshal married Isabella, daughter of Richard de Clare, earl of Pembroke and took her titles, thereby becoming 1st earl of Pembroke in the Marshal line He supported Prince John against William of Longchamps, but later aided (1193) King Richard against John He had a reputation for valor and for integrity Elected regent for young HENRY III by the barons in 1216, Marshal successfully waged war against the invading Louis (later Louis VIII) of France, and by a firm policy toward recalcitrant barons he secured a comparatively stable kingdom See Sidney Painter, *William Marshal* (1933)

Pembroke, county, Wales see PEMBROKESHIRE.

Pembroke (pĕm'brōk), town (pop 11,159), S Ont , WNW of Ottawa and on the Ottawa river where it widens to form Lake Allumette It is a lumbering and machine-making center and is the gateway to Algonquin Provincial Park

Pembroke (pĕm'brōk) **1** City (pop 1,039), E Ga , W of Savannah **2** Town (pop 1,029), SE Maine, NE of Machias, settled 1770, inc 1832 It packs sardines and blueberries **3** Town (pop 1,718), SE Mass , SE of Boston, settled 1650, set off from Duxbury 1712 **4** Town (pop 2 769), S N H SE of Concord, inc 1759 It includes the villages Pembroke, near the Merrimack, and Suncook, on the Suncook river, which enters the Merrimack here The town was granted in 1727 to veterans of Indian wars and their heirs

Pembroke (pĕm'brōōk), municipal borough (pop 12,009), county town of Pembrokeshire, Wales, on a creek flowing into the bay of Milford Haven Part of the 13th-century town walls remain The ruins of Pembroke Castle (11th cent) cover 4 acres A natural subterranean passage beneath the castle to the harbor is called the Wogan Henry VII was born in Pembroke

Pembroke College see BROWN UNIVERSITY, CAMBRIDGE UNIVERSITY, OXFORD UNIVERSITY

Pembrokeshire (pĕm'brōōk-shĭr)[or **Pembroke,** mar- itime county (614 sq mi , 1931 pop 87,206, 1948 estimated pop 86,108), SW Wales The county town is Pembroke The coast line is severe and greatly indented, as at St Bride's Bay and Milford Haven The terrain is a succession of rolling hills and fertile valleys The principal occupations are farming and cattle grazing There are deposits of coal, lead, zinc, and iron Pembrokeshire is rich in megalithic remains The region was harried by the Norsemen in the Middle Ages and conquered by the Normans in the 11th cent In the 12th cent the district was planted with Flemish settlers Modern Pembrokeshire is one of the most Anglicized of the Welsh counties, despite the remoteness of its location Chief towns are Pembroke, Newport, Tenby, and Haverfordwest The cathedral at SAINT DAVID'S is one of the major ecclesiastical monuments of Wales

pemmican (pĕ'mĭkun), a travel food of the North American Indian. Slices of lean venison or buffalo meat were sun dried, pounded to a paste, and packed with melted fat in rawhide bags Dried currants were sometimes included in the paste Pacific coast Indians used a similar fish compound An adaptation manufactured from beef, suet, and usually raisins and sugar is still a ration of exploring, hunting, and army expeditions Although the nutritive value and palatability are debated, the food is valued for its concentrated form and keeping qualities

pen, pointed writing implement employing ink or some similar material Reeds frayed at the end or slit (the calamus) were used in antiquity, similar pens, often of bamboo, are still employed in the Orient In ancient Greece and Rome much writing was done by scratching the wax coating of a tablet with a stylus or style, a pointed implement whose blunt end was used to make erasures by smoothing the wax Quills were introduced early in the Middle Ages. They were plucked from live birds (usually geese), the quills were treated by heat and shaped with a penknife, and they required frequent sharpening Although metal pens had been known to the Romans and a few had been made in Europe in the 18th cent., a cheap, efficient slip-in nib did not come into common use until after 1828, when Josiah Mason improved existing models and began large-scale production at Birmingham, England. The fountain pen, which feeds ink to the pen point from a reservoir, was first successfully produced on a commercial scale in the 1880s. The stylographic pen is a fountain pen with a pencillike point. The ball-point pen, introduced c 1944, is tipped with a ball bearing which rolls a gelatinous instant-drying ink onto the paper

Peñalara, Pico de (pē'kō dā pānyälä'ra), peak, c 7,900 ft high, central Spain, highest of the Sierra de GUADARRAMA

Penal Laws (pē'nul), term generally applied to the body of discriminatory and oppressive legislation directed against the Catholics of England and Ireland This series of laws—the first of them dating from the time of Henry VIII—was inspired as much by political fear and economic considerations as by religious hatred The Penal Laws against Catholics grew from those acts which established the royal supremacy in the Church of England (see ENGLAND, CHURCH OF) in the reigns of Henry VIII and Elizabeth Under Henry VIII and Edward VI civil disabilities were imposed on those who remained in communion with the Holy See and so denied the king's spiritual headship Elizabeth made it impossible for Catholics to hold civil offices and imposed severe penalties upon Catholics who persisted in recognizing papal authority Fines and prison sentences were prescribed for all who did not attend Anglican services, and the celebration of the Mass was forbidden under severe penalties In 1585 Jesuits and seminary priests were expelled from England under penalty of treason, and harboring or aiding priests was declared a felony Many Catholics were executed for treason (e g , Edmund CAMPION) The strictness with which these recusancy laws were administered varied The excommunication of Elizabeth (1570) by Pope PIUS V and the Catholic plots of MARY QUEEN OF SCOTS and PHILIP II of Spain roused the government and public opinion to an intensely anti-Catholic pitch Under James I the GUNPOWDER PLOT caused added severity, but the official attitude softened after 1618, as James sought to promote peace in Europe by friendly relations with Spain Charles I's wife, Henrietta Maria, was a Catholic, and her position made some open disregard of the restrictive laws easy The Puritan faction was infuriated and suspected the king of the intention to restore Catholicism In the PURITAN REVOLUTION the Catholics sided with the king, and Cromwell punished them, along with royalist Anglicans, by wide confiscations, although few were executed After the Restoration the attempts of Charles II to place Catholics in office were met with the Test Act (1673) requiring officeholders to take various oaths of loyalty and to receive the sacrament of the state Church Exclusion of Catholics from office now was identified with the policy of limiting the power of the crown and was the basic consideration in the formation of the Whig party, which was helped by the excitement growing out of the alleged Popish Plot manufactured by Titus OATES (1678) The anti-Catholic movement culminated in the Glorious Revolution of 1688 against the Catholic James II, and the Bill of Rights (1689) and the Act of SETTLEMENT (1701) excluded the Catholic branch of the house of Stuart from the throne The JACOBITES in their attempt to restore this branch kept the politico-religious issue of Catholicism alive until 1745 By this time the relatively small number of Catholics in Scotland and England made the anti-Catholic laws there a minor issue In 1715 the number had dropped to 30,000 in England and 40,000 in Scotland In Ireland, however, the population was predominantly Catholic On them the Penal Laws in the 18th cent were extremely oppressive Such laws had existed in Ireland, as in Scotland and England, from Elizabeth's time By 1695 nearly all the good land of Ireland had been taken over by Englishmen, as a result of "plantations" under James I, Cromwell, and William III (see IRISH LAND QUESTION) In that year the Protestant Irish Parliament made the Penal Laws harsher The object was to protect the English in the possession of their land by changing conditions of inheritance and sale of land and by excluding Catholics from public life, so that neither lawyers nor Parliament could alter the existing arrangements. Catholics could neither teach their children nor send them abroad, persons of property could not enter into mixed marriages, Catholic property was inherited equally among the sons unless one was a Protestant, in which case he received all, a Catholic could not inherit property if there was any Protestant heir, a Catholic could not possess arms or a horse worth more than £5, Catholics could not hold leases for more than 31 years and could not make a profit greater than a third of their rent. There might be only 1,100 priests in Ireland, and all were registered. No priest could be educated in Ireland, and Catholics could not vote (1727), hold public office, hold seats in the Irish Parliament (1692), or practice law Cases against Catholics were tried without juries, and bounties were given to informers against them. Under these restrictions many able Irishmen left the country, and regard for the law declined, with even Protestants assisting Catholic friends in evasion. In the latter half of the 18th cent there was a general mitigation of the treatment of Catholics in the British Isles, and the long process of CATHOLIC EMANCIPATION began See E A Gasquet, *A Short History of the Catholic Church in England* (1903), Brian Magee, *The English Recusants* (1938).

penance (pĕ'nuns), SACRAMENT of the Roman Catholic Church By it the penitent (the person receiving the sacrament) is absolved of his sins by his confessor (the person hearing the confession and conferring the sacrament) Every Catholic is required to confess all his mortal (serious) sins before receiving communion and at least once a year He need confess only the sins he has committed since baptism or since his last confession. To make the sacrament valid the confessor must be a priest or a bishop and the penitent must have true contrition for his sins and a firm purpose of amendment Sins inadvertently forgotten after a careful examination of conscience are included in the ABSOLUTION The confessor before giving absolution may admonish the sinner, and he inflicts a penance (a punishment for guilt, usually consisting of some prayers) The penitent is required to make restitution for injuries to others According to a canon of the Council of Trent, Jesus instituted this sacrament when he first appeared to the disciples after the resurrection John 20 19-23 In the Eastern churches confession is required before communion, but there has been no development of moral theology or of casuistry comparable to that of the West The priest acts in the sacrament only as an instrument of God, who forgives sins by the sacrament

Penang (punăng'), settlement (388 sq mi , pop 446,422), NW Malaya, on the Straits of Malacca It consists of Penang island (108 sq mi) and Province Wellesley (280 sq mi), a strip of territory on the Malay Peninsula adjacent to Penang island The island produces rubber, coconuts, and tin, Province Wellesley has tin-smelting works, but is largely agricultural Well over half the people in the settlement are Chinese, Indians are numerous, less than a third are Malays Occupation of Penang island for the British by Francis Light was permitted (1786) by the sultan of KEDAH, after an unsuccessful attempt to retake the island (1791), the sultan ceded Penang and Province Wellesley in return for an annual payment (1800) In 1826 the administration of Penang was combined with those of Singapore and Malacca (see STRAITS SETTLEMENTS) The early history of Penang under the British was one of rapid growth in size and commercial importance, it was soon overshadowed, however, by Singapore After the dissolution of the Straits Settlements, Penang became (1946) part of the union, later the federation (1948), of Malaya

Pen Argyl (pĕn' är'jĭl), borough (pop 4,059), E Pa , near the Delaware N of Easton, inc 1882 It has slate quarries and textile factories

Penarth (pĕnärth'), urban district (1931 pop 17,719, 1943 estimated pop 16,080), Glamorganshire, Wales Suburb of Cardiff and seaside resort, it also has cement works and docks (part of the port of Cardiff), from which great quantities of coal are shipped

penates see LARES AND PENATES

Penbrook, borough (pop 3,627), SE Pa , near Harrisburg

pencil. From prehistoric times lumps of colored earth or chalk were used as markers The Egyptians ruled lines with metallic lead, as did medieval monks The so-called lead pencil —a rod of graphite encased in wood—came into use in the 16th cent At the end of the 18th cent clay was combined with pulverized graphite and served as a binder and to secure different degrees of hardness —the more clay, the harder the pencil Today the mixture is forced through dies, cut to the required length, and kiln-fired The rods are laid in grooves of a thin board, a similar board is placed over them, and the wood is shaped into pencils of round or hexagonal cross section Pencils are also manufactured with cores of colored pigments mixed with clay and wax and of other materials

Penck, Albrecht (äl'brĕkht pĕngk'), 1858–1945, German geographer and geologist He was professor at the Univ of Vienna (1885-1906) and at the Univ of Berlin (1906–26) and was director (1906-22) of the institutes of oceanography and of geography, Berlin He is noted for his study of glaciation (especially in the Alps), for his pioneer classification of land forms, and for his work in the development of modern regional geography. He advocated before the International Geographical Congress a world map on a scale of 1 1,000,000 (see MAP) Outstanding among his many works is *Morphologie der Erdoberfläche* [morphology of the earth's surface] (1894, rev ed , 1928).

Penez, Georg (gā'ôrk pĕnts'), c.1500–1550, German painter and engraver of the Nuremberg school He probably studied with Dürer in Nuremberg. He was banished in 1525 but soon returned. In 1539 he visited Italy, where he is thought to have worked

with Raimondi. Of his paintings the best are portraits, such as those of Marshal Schirmer, Erhard Schwetzer and his wife, and *Young Man* (Vienna). His *Adoration of the Magi* and *St Jerome* are also well known As an engraver he ranks among the best of the German "Little Masters" Notable prints include *Six Triumphs of Petrarch;* portrait of John Frederick I, elector of Saxony, *Life of Christ,* 26 plates See W B Scott, *The Little Masters* (1879).

Penda, d 655, king of Mercia (632–55) His claim to descent from Woden through Offa of Angel (probably Angeln in Schleswig) is the only one to connect an English dynasty with its continental ancestors In 629 he fought the king of Wessex for lands along the Severn, but was still probably simply a noble of the Mercian royal house when he allied himself with Cadwalla or Cadwallon of Wales, defeated Edwin of Northumbria, and made himself king of Mercia A great fighting king, he was the central figure of English history for nearly a generation thereafter He defeated and slew (642?) Oswald of Northumbria and extended his power over Wessex (645) and East Anglia (650) His Greater Mercia included all the Midlands However, he still had an enemy in the new king of Northumbria, Oswy, and in a battle to destroy him the powerful Penda was himself killed Penda had remained heathen, but at the time of his son Peada's marriage had consented to that son's Christian baptism Eight of Penda's descendants ruled Mercia, beginning with his son Wulfhere

Pend d'Oreille Indians (pŏn″durā′) [Fr ,=earring], tribe of North American Indians of the Salishan linguistic stock This name is frequently given to the Kalispel Indians, but a few authorities separate the Kalispel from the "true" Pend d'Oreille The name is derived from their custom of wearing shell earrings In the early 19th cent the Kalispel or Pend d'Oreille occupied NW Montana, N Idaho, and NE Washington They then numbered some 1,600 Their culture was like that of the Spokan and other tribes of the Plateau area Today the Pend d'Oreille live on reservations in Montana and Washington In Washington they number some 100, in Montana they live with the Flathead The Pend d'Oreille are also known as the Earring People, the Ear Drops, and even the Hanging Ears

pendentive, in architecture, a constructive device permitting the placing of a circular dome over a square room or an elliptical dome over a rectangular room The pendentives, which are triangular segments of a sphere, serve to fill the four corners at the upper part of such a room They taper to points at the bottom and spread at the top to establish the continuous circular or elliptical base needed for the dome In masonry the pendentives thus receive the weight of the dome, concentrating it at the four corners where it can be received by the piers beneath Prior to the pendentive's development, the devices of corbeling or of squinches in the corners of a room were used The first attempts at pendentives were made by the Romans (3d cent A D), e g, the temple of Minerva Medica Greater perfection was shown in early Christian buildings in Ravenna, Italy, but full achievement of the form was reached only by the Byzantines in Hagia Sophia at Constantinople (6th cent) Pendentives appear in French and Italian Romanesque churches and are an invariable feature of the domes of the churches of the Renaissance

Pender, Harold, 1879–, American electrical engineer, b Tarboro, N C , grad Johns Hopkins (B A , 1898) He was dean of the school of electrical engineering at the Univ of Pennsylvania from 1923 In 1903 at the Sorbonne, Paris, he demonstrated the existence of a magnetic field around a moving electrically charged body His works include *Electricity and Magnetism for Engineers* (1918–19), *Direct Current Machinery* (1922), and, with S R Warren, *Electric Circuits and Fields* (1943) He was an editor of several editions of a handbook for electrical engineers.

Pender, village (pop 1,135), co seat of Thurston co , NE Nebr , near the Missouri NNW of Omaha, inc 1886

Pendergast, Thomas Joseph, 1873–1945, American political boss, b St Joseph, Mo After holding (1899–1910) minor political offices in Kansas City, Mo , he became the acknowledged Democratic leader in city and state In 1934 he supported the election of Harry S Truman to the U S Senate He was in 1939 convicted of income-tax evasions Released (1940) from Leavenworth, paroled on condition that he abstain from political activity for five years, he later faced sentence for criminal contempt of court, but the U.S Supreme Court reversed (1943) the decision against him under the statute of limitations See W B. Reddig, *Tom's Town* (1947), M M Milligan, *The Inside Story of the Pendergast Machine* (1948)

Pendleton, Edmund (pĕn′dəltun), 1721–1803, American Revolutionary patriot and Virginia jurist, b. Carolina co , Va. He began law practice in 1745 and in 1752 was elected to the Virginia house of burgesses, where, though a leading conservative, he became outstanding in the patriot cause. Pendleton was a member of the Virginia committee of correspondence, delegate to the First Continental Congress (1774), president of the Virginia committee of safety (1775), and president of the convention (1776) which adopted his resolution instructing Virginia delegates to the Continental Congress to propose independence from Britain After independence he was elected speaker of the new house of delegates With Thomas Jefferson and George Wythe he completed (1779) the revision of the state's laws and was president of the court of appeals (1779–89) and of the reorganized supreme court of appeals from 1789 till his death In 1788 he presided over the state convention which ratified the Federal Constitution and in his later years supported Jefferson's liberal policies See biography by R L Hilldrup (1939)

Pendleton, George Hunt, 1825–89, American political leader, b Cincinnati, Ohio, great-grandnephew of Edmund Pendleton Educated at Cincinnati College and abroad, he was admitted to the Ohio bar in 1847 and served (1854–56) in the state senate He was an anti-war Democrat in the House of Representatives (1857–65) and the vice presidential candidate on the unsuccessful Democratic ticket headed by Gen G B McClellan in the Civil War election of 1864 Pendleton advocated the so-called Ohio Idea—to pay in greenbacks those government bonds not specifying payment in specie (see GREENBACK), this stand doubtless cost him the Democratic presidential nomination in 1868 After his defeat by Rutherford B Hayes for the governorship of Ohio in 1869, he was president of the Kentucky Central RR until 1879, when he returned to Congress as U S Senator from Ohio He secured the adoption of legislation introducing competitive examinations in the CIVIL SERVICE For this and his support of other reform measures the Democratic party in Ohio denied him renomination, and in 1885 President Cleveland appointed him minister to Germany, which post he held till his death in Brussels, Belgium

Pendleton. 1 Residential town (pop 1,681) E central Ind , NE of Indianapolis, settled 1826 It is the seat of a state reformatory 2 City (pop 8,847), co seat of Umatilla co , NE Oregon, on the Umatilla river and SW of Walla Walla, Wash , founded 1869 on the old Oregon Trail, laid out 1870, inc 1880 It is a shipping center for a wheat-raising and sheep and cattle area, has flour and woolen mills, and manufactures saddles and harness Near by are Umatilla National Forest and the Umatilla Indian Reservation Indians from the reservation take part in the annual Pendleton Roundup in September An agricultural experiment station of Oregon State College and the Eastern Oregon State Hospital are here 3 Town (pop 1,278), NW S C , near the Seneca river, NW of Anderson, in a farm and livestock area, founded in the late 18th cent

Pend Oreille (pŏn″durā′), river, N Idaho, draining Pend Oreille Lake It flows W and NW into Washington and then into Canada, where it joins the Columbia near the International boundary It is also sometimes called part of the CLARK FORK

Pend Oreille Lake (pŏn″durā′), 65 mi long, N Idaho, largest lake in Idaho Fed by the Clark Fork and drained by the Pend Oreille river, the lake with its irregular shore line and the surrounding national forests is a place of beauty as well as a landmark in a farming, lumbering, and mining region

Pendragon, Uther, father of King Arthur see ARTHURIAN LEGEND

pendulum, a weight (bob) suspended from a fixed point so that it can vibrate in an arc determined by its momentum and the force of gravity The length of a pendulum is the distance from the point of suspension to the center of gravity of the bob Chance observation of a swinging church lamp led Galileo to find that a pendulum made every swing in the same time, a fact which he used in measuring time in his astronomical studies His experiments showed that the longer the pendulum, the longer is the time of its swing Christiaan Huygens determined the exact relation between the length of the pendulum and the time of vibration and in 1673 devised a practical means of making a pendulum control the speed with which a clock mechanism runs down after winding This impetus to clock-making resulted not only in the development of many types of clock, such as the "wag at the wall," the grandfather clock, and the banjo clock, but also in the application of pendulum control to other mechanisms Metal pendulums are lengthened by heat, to counteract the effect of temperature changes, compensation pendulums have been devised, many of them operating by the opposite expansion of different metals in compound (gridiron) rods Forces acting on the bob affect its swing Since gravity varies from place to place, the pendulum has been used to determine the shape and mass of the earth It measures the intensity of gravity In the seismograph (see SEISMOLOGY), a pendulum registers the direction of an earthquake In 1851 J. B L Foucault demonstrated the rotation of the earth by suspending in the Pantheon in Paris a 200-foot pendulum that traced its path in sand on the floor A pendulum made to swing in a circle, describing a cone, is called a conical pendulum. In the torsion pendulum the bob vibrates by twisting and untwisting, as in the balance wheel of a watch.

Penelope (punĕ′lupē), in Greek legend, queen of Ithaca She was the wife of Odysseus and the mother of Telemachus In the *Odyssey* she is pictured as a chaste and faithful wife When Odysseus was away, she was surrounded by suitors who tried to persuade her that he would never return She agreed to choose another husband when she finished weaving Laertes' shroud, but this was never done—for she unraveled by night what she wove by day At last her strategem was discovered, and the suitors were enraged She promised to marry the man who could bend the great bow of Odysseus None of the suitors could do this, but Odysseus, who had returned disguised as a beggar, bent the bow, then killed all the suitors

Penetanguishene (pĕn″ətăng″gwishēn, -gwishēn′), town (pop 4,521) S Ont , on Georgian Bay and NNW of Toronto Settled under the French regime, it still has a large French population It is a port with extensive lumber industries A provincial establishment for the criminal insane is here.

Peneus (pĭnē′us), river, 134 mi long, N Greece, in Thessaly It rises in the Pindus mts and flows generally E past Larissa and through the valley of TEMPE into the Aegean Sea It has also been known as the Salambria

Penfield, Edward, 1866–1925, American illustrator and painter, b Brooklyn, N Y , studied at the Art Students League of New York He was the originator in America of the colored poster, in which art he excelled From 1891 to 1901 he was art editor and illustrator for *Harper's Magazine* and *Harper's Weekly* His designs were forceful in their originality and humor He wrote *Holland Sketches* (1907) and *Spanish Sketches* (1911)

Penge (pĕnj), urban district (1931 pop 27,771, 1947 estimated pop 25,080), Kent, England, near Croydon It is a suburb of London

penguin (pĕng′gwĭn, pĕn′–), flightless swimming and diving bird with a white breast and gray or gray-blue back, found in the Southern Hemisphere from the antarctic region to the Galapagos Islands On land the birds usually walk upright, but some can travel faster over the ice and snow on their stomachs by using their wings and feet The wings are stiff, flattened, and unjointed When the bird swims, the wings are moved simultaneously by muscles attached to the enlarged shoulder blades The webbed feet are used only for stopping or steering in the water Small feathers cover the body, and when oiled they form a waterproof protection Most penguins feed on fish, but some eat mollusks and crustaceans Hordes of Cape or jackass penguins breed on Dassen Island, South Africa The blue penguin of Australia and New Zealand is the smallest penguin, and the emperor (3–4 ft) is the largest The emperor and the king penguins are antarctic birds which incubate their single egg on the top of the foot in a fold of skin

penicillin (pĕ″nĭsĭl′lĭn), antibiotic substance secreted by certain strains of the mold *Penicillium notatum* It was discovered by Sir Alexander FLEMING, and its antibacterial powers and nontoxicity to humans were established by 1941 through studies by Sir H W Florey, E B Chain, and others The value of the drug in the prophylactic and therapeutic treatment of war casualties was recognised, and production was begun in England and the United States The mold was originally grown in glass jars containing a nutrient fluid, the penicillin collecting on the surface This method proved too slow to meet the demands for the new drug Mold strains of greater productivity were developed, and in 1943 the fermentation (or submerged-culture) process was adopted Wood shavings impregnated with mold are placed in tall metal tanks and a nutrient fluid (usually corn-steep liquor) is introduced at the top The fluid filters down through the shavings, is collected at the bottom, and the penicillin is extracted from it When dried and purified, penicillin is a white crystalline powder The production and allocation of the drug were controlled by the War Production Board, which did not lift quota restrictions on civilian supplies until March, 1945 Penicillin has proved effective in treatment of streptococcal and staphylococcal infections resistant to the sulphonamides Gas gangrene, meningitis, pneumonia, gonorrhea, syphilis, and some forms of bacterial endocarditis are among the diseases which have been successfully treated with penicillin, several types of which, differing in all-over and specific antibiotic potency, are produced by the mold Though penicillin G has been synthesized in minute quantities, the precise molecular structure of penicillin is still unknown The introduction of penicillin spurred research and resulted in the discovery of other antibiotic substances

Peniel (pēnī′ŭl), variant of PENUEL 1.

Penikese Island: see ELIZABETH ISLANDS

Peninnah (pēnĭn′ə) [Heb.,=coral], wife of Elkanah. 1 Sam 1 2

Peninsular campaign, April–July, 1862, of the Civil War It was the attempt of the Union Army of the Potomac under Gen. G. B. McCLELLAN to capture

Richmond, Va , by way of the peninsula between the York and James rivers Early in April, 1862, McClellan had about 100,000 men at Fort Monroe Instead of trying to break through the Confederate line across the peninsula, he prepared to besiege Yorktown, the strongest point in the line Gen J E Johnston, the commanding Confederate, evacuated Yorktown (May 3) just as McClellan had completed his preparations An indecisive, though severely contested, rear-guard action was fought at Williamsburg (May 5) as the Confederates retired on Richmond The evacuation of Yorktown opened up the York river to the Union fleet, and on May 16 McClellan established his base at White House Landing (c 20 mi E of Richmond) on the Pamunkey river, which joins with the Matapony river to form the York Meanwhile, the Union advance into the interior forced the Confederates to abandon Norfolk (May 10), where they destroyed their formidable ironclad, the *Virginia* (see MONITOR AND MERRIMAC), thus opening up the James river Federal gunboats then controlled the James as far as Drewrys Bluff (9 mi S of Richmond), where Confederate batteries repulsed them on May 15 McClellan soon had his army straddled across the Chickahominy river near Richmond S P Heintzelman's 3d Corps and E D Keyes's 4th were on the S side, W B Franklin's 6th Corps, Fitz-John Porter's 5th, and E V Sumner's 2d, on the N Irvin McDowell's Army of the Rappahannock (formerly the 1st Corps), which had been left before Washington, was to march S from its position near Fredericksburg and unite with the right wing N of the Chickahominy McClellan would then move against the inferior forces of Johnston However, the brilliant campaign of T J (Stonewall) JACKSON in the Shenandoah Valley caused the diversion of McDowell's corps from the army threatening Richmond Late in May heavy rains swelled the Chickahominy so that communication between the two wings of McClellan's army became precarious On May 31 Johnston moved against the left wing (Keyes and Heintzelman), where the lines extended to Fair Oaks, a railroad station c 6 mi E of Richmond In the ensuing battle of Fair Oaks or Seven Pines (May 31–June 1, 1862), the Confederate attack, led by James Longstreet, was badly executed With the help of John Sedgwick's division of Sumner's corps, which managed to cross the river, the Union left wing held its ground Johnston, severely wounded on May 31, was succeeded on June 1 by Gen R E Lee, who withdrew the Army of Northern Virginia to Richmond Lee's subsequent offensive in the SEVEN DAYS BATTLES closed the campaign See K P Williams, *Lincoln Finds a General* (1949)

Peninsular War, 1808–14, fought by France against Great Britain, Portugal, and Spanish guerrillas in the Iberian Peninsula The conflict was precipitated when Portugal refused to comply with Napoleon's CONTINENTAL SYSTEM By a secret convention reached at Fontainebleau (Oct , 1807), Spain agreed to support France against Portugal, which was occupied by a French army under Andoche JUNOT (Nov , 1807), King JOHN VI and his family having fled to Brazil without resisting Napoleon now began a series of backhanded maneuvers to secure Spain for France French troops seized Pamplona and Barcelona (Feb , 1808), and on March 23 Marshal Joachim MURAT entered Madrid Meanwhile, a palace revolution (March 19) had deposed King CHARLES IV and his favorite, GODOY, and placed FERDINAND VII on the throne However, both Charles and Ferdinand were lured into French territory and forced to abdicate (May 5–6) An uprising in Madrid (May 2) was drowned in blood by Murat, and on June 15 Napoleon's brother Joseph BONAPARTE was proclaimed king of Spain The Spanish now rose in revolt throughout the country When the insurrectionists captured (July 23) a French force dispatched to seize Seville, King Joseph evacuated Madrid (Aug 1) and withdrew beyond the Ebro Another French force was repulsed by José de PALAFOX in his heroic defense of Saragossa (June–Aug) In Portugal, where revolt had also broken out, a British expeditionary force under Arthur Wellesley (later duke of WELLINGTON) landed in Aug , 1808, and defeated Junot at Vimeiro (Aug 21) Cut off from Joseph's army, Junot negotiated a convention at Cintra (Aug 30), surrendering Lisbon in return for repatriation of his troops by British ships With Sir John MOORE as commander in chief, the British now invaded Spain, thus beginning a long series of seesaw campaigns Napoleon hastened personally to Spain with more than 200,000 troops, stormed Madrid (Dec 3, 1808), had Marshal Lannes lay siege to Saragossa, and ordered Marshal Soult to pursue Moore, who had retreated into Galicia Soult was repulsed long enough at Coruña (Jan 16, 1809) to permit the British to embark Saragossa, which Palafox had held for two months at the cost of 50,000 lives, fell in Feb , 1809 In April, Wellesley arrived in Lisbon to take charge of the British and Portuguese forces there He drove the French out of Portugal, invaded Spain, and with the help of a Spanish army defeated the French under Joseph at Talavera (July 27–28) Driven back into Portugal by André MASSÉNA, whom he repulsed at Bussaco (Sept , 1810), he retired behind a strong fortified line centered at Torres Vedras Lacking supplies, Masséna again retreated into Spain (March–April, 1811), meanwhile Soult had marched N from Cádiz to join Masséna, but their junction was prevented by Wellington and William Carr BERESFORD at Fuentes de Oñoro and at Albuera (May, 1811) Early in 1812 Wellington attacked once more, and on July 22 he inflicted decisive defeat on the French under MARMONT at Salamanca He briefly occupied Madrid (Aug–Oct , 1812), but retreated to Ciudad Rodrigo when the French, who had had time to consolidate their armies, counterattacked from three directions Placed in command of all the allied forces in the peninsula, Wellington took the offensive in May, 1813, routed the French under Joseph Bonaparte and Marshal Jourdan at Vitoria (June 21), and pushed them back into France In October, Wellington invaded France He laid siege to Bayonne, heroically defended by Soult, and had reached Toulouse, when on April 12, 1814, news of Napoleon's abdication arrived, the Peninsular War was ended It had immeasurably raised Britain's military prestige and had contributed heavily to Napoleon's downfall The war marked the lowest point of decline and degradation for the Spanish Bourbon dynasty, but the spirit of the Spanish people asserted itself in fearless guerrilla warfare against the French oppressors In Latin America, the war served as detonator for the revolutions of the Spanish colonies, who were then beginning the struggle for independence The brutal impact of the war on the common people of Spain was the theme of a celebrated series of etchings by Francisco de GOYA There are histories of the Peninsular War by Robert Southey (3 vols , 1823–32), W F P Napier (1850), H R Clinton (3d ed , 1890), and C W C Oman (7 vols , 1902–30)

Penitentes (pĕnĭtĕn'tēz), secret lay order in the U S Southwest, particularly New Mexico, noted for flagellating rites in Holy Week It arose from the third order of the Franciscans and is sometimes called Los Hermanos Penitentes del Tercer Orden de Franciscanos Though condemned in 1889 by the Roman Catholic archbishop of Santa Fe, the Penitente customs still persist in many of the small villages of New Mexico The ceremony involves the carrying of heavy wooden crosses by penitents, who are beaten by heavy cord On Good Friday the rites culminate with a crucifixion The rites have been observed by very few outsiders See A C Henderson, *Brothers of Light* (1937).

penitential psalms see PSALMS

penitentiary see PRISON

Penitent Thief see GOOD THIEF.

penmanship see HANDWRITING

Penn, John, 1729–95, lieutenant governor of Pennsylvania, b London A grandson of William Penn, he was the last proprietary official of the colony He was under the domination of the Penn family in his two administrations (1763–71, 1773–76) In his time Pennsylvania was torn by a bitter struggle between those who favored proprietary government and those who sought to end it A troubled career was capped by the intense dislike of most of his colonial subjects caused by his loyalty to England in the American Revolution He lost power in 1776

Penn, John, 1740?–1788, American Revolutionary patriot, signer of the Declaration of Independence, b Caroline co , Va Penn, a lawyer, moved (1774) to North Carolina and was (1776–80) a delegate to the Continental Congress

Penn, Thomas, 1702–75, colonial proprietor of Pennsylvania, b Bristol, England, son of William Penn Coming to Philadelphia, he managed (1732–41) the proprietary rights he inherited with his two brothers and thereafter remained in charge of the colony's business in England His letters to his governors are of historical significance

Penn, Sir William, 1621–70, British admiral He served in the Irish fleet in the service of Parliament and in 1651 assisted in the pursuit of the fleet of Prince RUPERT in the Mediterranean He commanded part of the fleet in the first war against the Dutch (see DUTCH WARS) and in 1654 was made commander in chief of the fleet which set out for the West Indies and captured the island of Jamaica (1655) The cause of Penn's arrest on his return to England has never been definitely established It probably had nothing to do with Penn's secret negotiations with the exiled king, who, when restored to the throne, knighted Penn (1660) and made him a commissioner of the navy, in this latter capacity he was associated with Samuel Pepys, who speaks of Penn with vituperation in his famous diary. Penn served as second in command to the duke of York (later James II) in the action of the fleet in 1665 and retired to shore duty when the duke was relieved of command Penn was the father of William Penn, the founder of Pennsylvania See Granville Penn, *Memorials ... of Sir William Penn* (1833).

Penn, William, 1644–1718, English Quaker, founder of Pennsylvania, b. London, England; son of Sir William Penn At Oxford, Penn showed religious scruples and was expelled (1662), he was then sent by his father to the Continent to overcome his penchant for Quakerism Though he spent some time at the French court, he continued to study theology and to search for religious truth It was in Ireland, while holding an office under the lord lieutenant of Ireland, that he became a staunch member of the Society of Friends He was imprisoned (1668) for writing a tract (*The Sandy Foundation Shaken*) against the doctrine of the Trinity, but, undaunted, he wrote *No Cross, No Crown* and *Innocency with Her Open Eyes* in the Tower He preached in England, the Netherlands, and Germany and wrote numerous tracts Penn argued ably for freedom of conscience and sought to create a haven in America for the Friends Becoming one of the trustees of West Jersey, he helped draw up a liberal charter for the Quakers settling there, and with several others he acquired East Jersey (see NEW JERSEY) In payment of a debt owed his father, he obtained (1681) from King Charles II a charter for Pennsylvania (named by the king) for the establishment of his "holy experiment," a colony where religious and political freedom could flourish After acquiring (1682) the Three Lower Counties-on-the-Delaware (present Delaware) from the duke of York (later James II), Penn came to his province in 1682 and laid out the city of Philadelphia He framed for his colony a liberal government He also established the friendly relations with the Indians that were to distinguish the early history of Pennsylvania Returning to England (1684) he asserted his boundary claims against Charles CALVERT, 3d Lord Baltimore Penn's friendship with the deposed James II led to his being accused of treason, and the crown took and held (1692–94) his colony Penn continued writing religious and political tracts and preached extensively Difficulties in Pennsylvania caused his return there for a short time (1699–1701) The actions of his steward led to a new imprisonment, and his last years were fraught with grief over the difficulties of his colony and troubles concerning his son WilliamPenn A stroke of apoplexy in 1712 removed him from active life See biographies by S G Fisher (1900), Bonamy Dobrée (1932), C E Vulliamy (1934), and W I Hull (1937), Arthur Pound, *The Penns of Pennsylvania and England* (1932), E C O Beatty, *William Penn as Social Philosopher* (1939)

Penn, borough (pop 1,081), Westmoreland co , SW Pa , SE of Pittsburgh, laid out 1859, inc 1865

Pennacook Indians (pĕ'nukŏk), group of North American Indian tribes of Algonquian linguistic stock Although of the Eastern Woodlands culture area, they depended to a large extent on sea food In the early 17th cent they occupied NE Massachusetts, SW New Hampshire, and SW Maine They then numbered some 3,000, but by 1674 smallpox and wars had reduced them to some 1,250 Most of the Pennacook remained neutral in King Philip's war (1675), but when 200 of them were treacherously seized (1676), the remainder fled to Canada and to the West, the survivors of the western group settled with the Mahican. The Pennacook in Canada first settled near Quebec, but in 1700 this group moved to St Francis, where they joined the exiled Abnaki The two tribes became bitter enemies of the English

Pennamite Wars The first permanent settlement of Connecticut colonists in the WYOMING VALLEY in Pennsylvania (1769) brought rivalry between the Yankee and the Pennsylvania settlers The First Pennamite War (1769–71) did not solve the problem, nor did the brief skirmish between the rivals in 1775 After Pennsylvania's petition to the Continental Congress for settlement of the dispute, a decision was made in favor of Pennsylvania (1782), but it brought on the Second Pennamite War (1784) when the Connecticut settlers refused to leave After 1800, however, Connecticut yielded to Pennsylvania's claims

Pennell, Joseph (pĕ'nul), 1860–1926, American illustrator, etcher, lithographer, and author, b Philadelphia, studied at the Pennsylvania Academy of the Fine Arts Much of his time was spent in Europe, particularly in London, where he was greatly influenced by Whistler He is one of the foremost American graphic artists Among his outstanding book illustrations are those for several volumes on travel by his wife, Elizabeth Robins Pennell (1855–1936), W D Howell's *Tuscan Cities*, Washington Irving's *Alhambra*, and Henry James's *Little Tour in France* His subjects are chiefly landscapes and architectural views, and his art is distinguished for its simplicity, artistry, technical perfection, and illustrative quality He is represented by etchings, drawings, and lithographs in the Luxembourg Museum, Paris, the Uffizi; Gallery of Modern Art, Venice, Gallery of Modern Art, Rome, British Museum and the Guildhall, London, Royal Gallery, Brussels, Library of Congress, Washington, D C., Pennsylvania Academy of the Fine Arts, Carnegie Institute, Pittsburgh, Brooklyn Museum, Brooklyn, N Y ; and elsewhere He was a member (1909) of the National Academy of

Design and of numerous European societies and was a lecturer on illustration at the Slade School of Art, London, and the Royal College of Art, South Kensington. His publications include *An Italian Pilgrimage* (1886), *Our Sentimental Journey through France and Italy* (1888), *Pen Drawings and Pen Draughtsmen* (1889), *Modern Illustration* (1895), *Lithographs of New York* (1905), *Etchers and Etching* (1919), *Adventures of an Illustrator* (1925), and, with his wife, a biography of James McNeill Whistler (1908) See *The Life and Letters of Joseph Pennell* (2 vols , 1929) by his wife

Penner (pĕ'nûr), river, c 350 mi long, rising in NE Mysore state, E central India It flows N and E through Madras state to empty into the Bay of Bengal Of the ports at the mouth of the river Nellore is the chief

Pennine Chain (pĕ'nĭn), long hill range, sometimes called the "backbone of England," extending from the Cheviot Hills to the Peak in NW Derbyshire It appears in Cumberland, Northumberland, Durham, Lancashire, Yorkshire, Cheshire, Derbyshire, Staffordshire, and Nottinghamshire The range consists of a series of upland blocks, separated by transverse valleys (Tyne, Tees, and Aire) The scenery is notable Lakes are few, there are caverns, and several chasms are more than 300 ft in depth Cross Fell (2,930 ft) is the highest peak On the Continent the name Pennines is applied to the Pennine Alps (see ALPS)

Pennington, borough (pop. 1,492), W N J , N of Trenton, settled 1708, inc 1890 It is the seat of Pennington School for boys (1838)

Pennington Gap, town (pop 1,990), extreme SW Va , in the Cumberlands near the Ky line, in a truck area, inc 1891 or 1892

Pennsauken (pĕnsô'kĭn), township (pop 17,745), SW N J , near Camden, settled 1840, inc. 1892

Pennsboro, town (pop 1,738), NW W Va , E of Parkersburg, settled in the early 1800s It is an important market and shipping center for the surrounding farm, oil, and gas area

Pennsburg, borough (pop 1,548), Montgomery co , SE Pa , NW of Philadelphia, settled 1840, inc 1887

Penns Grove, residential borough (pop 6,488), SW N J , on the Delaware opposite Wilmington, settled 1675, inc 1894

Pennsville, unincorporated village (pop 1,864), SW N J , on the Delaware, opposite New Castle, Del , with which it is connected by ferry

Pennsylvania (pĕnsulvā'nĭ-u) [New Latin,=Penn's wood], state (45,333 sq mi , 1940 pop 9,900,180, 1949 estimated pop 10,633,000), NE United States, one of the Middle Atlantic states and one of the Thirteen Colonies It is bounded on the north by Lake Erie and New York, on the east by the winding Delaware river, which separates it from New York and New Jersey, on the south by Delaware, Maryland, and West Virginia, and on the west by West Virginia and Ohio HARRISBURG, midway between the metropolitan areas of PHILADELPHIA and PITTSBURGH, is the capital Except for coastal plains SE of Philadelphia and around Lake Erie, the state is a succession of mountains and rolling hills with narrow valleys Mountain ridges rise from the Delaware river into the piedmont, with the parallel ranges of the Blue Mts and Allegheny Mts occupying the central portion of the state Uplands of the plateau extend to the western border The great forests and lush vegetation which once covered the entire state were transformed during the Carboniferous period into tremendous deposits of anthracite coal in the east and extensive bituminous beds in the west Large areas of woodlands remain and, in some isolated sections, have retained an almost primitive wildness In general the vast resources of the state have been tapped and disciplined to yield an abundant harvest The valleys have become rural centers, the mountainsides have been slashed with quarries and mine shafts, and at strategic spots have grown great metropolitan centers In the east the state is drained by the Delaware and Susquehanna river systems, in the west by the Allegheny and Monongahela rivers, which join forces at Pittsburgh to form the Ohio river Passing transversely through the strata, these turbulent streams and rivers have cut spectacularly beautiful water gaps, natural passageways for roads and rail lines. Long known as the Keystone State because of its central position between the northern and southern colonies, Pennsylvania has increased the significance of its nickname far beyond the original meaning. The state has an abundance of coal and on that basis has built great steel mills (at first using Pennsylvania iron), and the importance of steel has made Pennsylvania a keystone of the national economy Powered by water, the iron industry was initiated in early colonial days In the 19th cent. with the Bessemer process and the utilization of coal came the rapid construction of mighty forges and furnaces to meet the world's demand for steel Other valuable minerals, such as petroleum, natural gas, lead, zinc, feldspar, and building materials, contribute to a vast manufacturing program. Additional important industries, such as textiles, lend diversity and strength. Pittsburgh and Philadelphia, situated at opposite ends of the state and dominating the commercial and industrial life of their regions, present startling contrasts in production and culture Other leading centers are Allentown, Bethlehem, Erie, Reading, Scranton, and Wilkes-Barre. Agriculture is concentrated in the fertile counties of the southeast, the principal crops being corn, wheat, oats, buckwheat, potatoes, and fruit One of the prize farmlands of the nation is the Great Valley, a straight, wide, limestone channel between Philadelphia and Lancaster, in which the Pennsylvania Dutch farmer has built a culture that is identified with the bountiful agrarian life Transportation facilities have kept pace with the state's rapid development The accessible and landlocked harbor of Philadelphia has been supplemented by the Great Lakes port of Erie and access to the South and Middle West by Pittsburgh and the Ohio river Over a fine system of highways and a complex network of railroads the products of farms, factories, and mines are taken to port cities to be sent out to the rest of the world Into the building of this rich and complex commonwealth has entered the work of many racial and economic groups, contributing not only the pleasures of diversity but also the pressures of conflicting interests Pennsylvania is too complicated a state to be disposed of in generalities, it is a miniature United States possessing a degree of self-sufficiency enjoyed by few nations of the world Its material achievements—if not its cultural and political trends—would be appreciated by William PENN, the man whose family name was given to the state and who played such an important part in the state's history Very little effective settlement took place before William Penn secured proprietary rights in 1681 to almost all of the area of what is now Pennsylvania In the early 1600s the English, Dutch, and Swedes disputed right to the region—exploration being confined to the Delaware river vicinity and the first activity that of fur trade with the Indians The original permanent settlement was made at Tinicum Island in 1643 by Johan Printz, governor of NEW SWEDEN, and was followed in the succeeding years by the neighboring colony of Uppland Swedish jurisdiction was shortlived, because the Dutch, operating from their stronghold in New Amsterdam, gained control of the mideastern region in 1655 In turn the Dutch submitted to the forces of Col Richard Nicolls, acting for the duke of York (later James II), and in 1664 the English took over the Delaware area The duke of York remained in control until 1681, when, in payment of a royal debt held by Penn's father, William Penn was granted the area and, in addition, leased the three Lower Counties (see DELAWARE) In his native country Penn had already suffered for liberal beliefs well in advance of the temper of the times A devout Quaker, Penn viewed his colony as a holy experiment, designed as an asylum for the persecuted under conditions of equality and freedom which approximated what has become known as the "American dream " In 1681 he sent William Markham as deputy to establish a government at Uppland and sent instructed commissioners to plot the City of Brotherly Love (Philadelphia), which was laid out at the forks of the Delaware and Schuylkill rivers Penn carefully constructed a Frame of Government which guaranteed to the colonists complete religious freedom and some degree of political responsibility In 1682 he arrived at Uppland (renamed CHESTER), and shortly thereafter the assembly adopted the Frame of Government At about this time Penn met with the chiefs of the Delaware tribes at Shakamaxon (now part of Philadelphia), and a famous treaty was signed which promoted long-lasting good will between the Indians and the white settlers Almost immediately Penn found the colonists desirous of more power than the liberal Frame of Government permitted Dissension in government persisted for many years, high-lighted by a jealousy between executive and legislative branches and intensified by Penn's prolonged absences from the province Three factions were formed—the dominant proprietary party, with James LOGAN at the head of its wealthy Quaker-controlled council and assembly, the anti-proprietary party under David LLOYD, and the non-Quaker church party, supported by Episcopalians who wanted to convert the province into a crown colony. During the emergence of these political groups, Penn had returned to England (1694) to defend his proprietary rights against the claims of Lord Baltimore After William and Mary ascended the throne (1689), Penn's friendship with the deposed James II opened him to accusations of treason, and in 1692 the province was taken away from him and placed under the administration of Benjamin Fletcher, governor of New York, with William Markham as deputy. In 1694 full proprietary rights were restored, and in 1699 Penn returned to his colony He remained until 1701, during which time he formulated a new constitution, the Charter of Privileges, which increased the power of the assembly and provided for the voluntary withdrawal of the Delaware counties (accomplished in 1703). After Penn's death in 1718 proprietary rights were held by his heirs By this time Pennsylvania had developed into a dynamic and growing colony, enriched by the continuous immigration of numerous different peoples The Quakers, English and Welsh, concentrated in Philadelphia and the eastern counties, where they acquired great commercial and financial power through foreign trade and achieved a political dominance which they held until the time of the American Revolution. Philadelphia had by then become the finest city in the nation, a leader in the arts and the professions. The Germans (Pennsylvania Dutch)—largely of the persecuted religious sects of Mennonites, Moravians, Lutherans, and Reformed—settled in the farming areas of SE Pennsylvania, where they retained their cohesion and to a considerable extent their language, customs, architecture, and superstitions After 1718 the Scotch-Irish began colonizing in the Cumberland Valley and gradually pushed the frontiers toward W Pennsylvania Their rugged independence and the peculiarities of their frontier problems made them rebellious against the established order Throughout the province agriculture was the chief occupation, although industry was spurred by abundant water power and resources in spite of the discouragement of the mercantile policy of the mother country In the west settlement was hindered by a growing unrest among the Indians Penn's heirs lacked both the good sense and the ethical values that prompted Penn's fair and considerate treatment Resentful of encroachment on their lands and of the land purchase made by the ALBANY CONGRESS (1754), the Indians allied themselves with the French, who were then fortifying positions in the Ohio valley (see FRENCH AND INDIAN WARS) The French and Indian invasion was successfully opposed, but the inept defenses provided by the Quaker-controlled assembly aroused the bitter resentment of the frontiersmen and helped make them ready for radical changes As the drive for American independence took shape, the Loyalist groups were strengthened by the pacifist stands of Quakers and noncombatant Germans This alliance was powerless in the face of a citizenry aroused by restrictive measures and imbued with the spirit of freedom Many important Pennsylvanians became leaders of the revolutionary movement—Benjamin FRANKLIN, Joseph REED, Thomas MIFFLIN, John DICKINSON, Robert MORRIS, and Haym SALOMON Committees of safety were formed, and gradually the provincial government was taken over by the group favoring the patriot cause Philadelphia became the scene of history-making events--the First and Second Continental Congresses (1774, 1775–81), the signing of the Declaration of Independence, and the framing of the Federal Constitution (1787) In 1776 a new liberal state government, the Commonwealth of Pennsylvania, was adopted It was in effect until 1790 The countryside was invaded by British troops, and notable engagements were fought in 1777 on the Brandywine and at Germantown Philadelphia was occupied by the British, while VALLEY FORGE witnessed the heroic endurance of Washington's troops in the winter of 1777–78 that has made that spot a shrine of patriotism. Difficulties were increased by the renewal of Indian depredations, the worst being the WYOMING VALLEY massacre of 1778 The state moved into the post-war period as a dynamic leader of the new nation, with Philadelphia as the national capital from 1790 to 1800 and a financial center through the organization of the BANK OF THE UNITED STATES in 1791 and the U S mint in 1792 Boundary disputes which had persisted during the colonial period were resolved with Maryland in 1784 by acceptance of the Mason-Dixon line, with New York in 1789, when the port of Erie was acquired, and with Connecticut after bitter dissension in 1800 (see PENNAMITE WARS) A new constitution which was adopted in 1790 reflected the dominance of the conservative group, improved the structure of government, and reiterated the principles of freedom and equality for all men—thereby reaffirming the act of 1780 which provided for the gradual abolition of slavery The economic dislocation of the post-war period, intensified by the burden of national taxes, was expressed in violence during the WHISKY REBELLION of 1794 and the Fries Rebellion of 1798 (see FRIES, JOHN) Economic conditions improved as immigration streamed westward, new industries were founded, and markets were opened through an intensive program of internal improvements The force of the westward movement was demonstrated by the removal of the state capital to Lancaster in 1799, then to Harrisburg in 1812, and the emergence of Pittsburgh and Erie as important gateways to the West The turnpike era, initiated by the incorporation of the Lancaster Turnpike in 1792, was followed by an extensive canal-building program in the 1820s and 1830s and, after the introduction of steam, by an era of railroad construction. Adequate provisions for free public education, championed by Gov George Wolf and Thaddeus STEVENS in the 1830s, was implemented by a legislative act of 1849 requiring compulsory attendance Much of the early education was denominational, and many schools remain church-affiliated Among the institutions of higher learning are the Univ of Pennsylvania, the Univ. of

Pittsburgh, Duquesne Univ, Lehigh Univ., and Temple Univ, the Carnegie Institute of Technology, and Bryn Mawr, Swarthmore, Franklin and Marshall, Pennsylvania State College, and Washington and Jefferson. Political life was dominated by factional strife. The Democratic party was generally dominant until the Civil War. Pennsylvania's only contribution to the presidency was the last President before the war, James BUCHANAN. With the growth of the antislavery movement, the new Republican party grew strong. Pennsylvania was the first state to have troops arrive in Washington for the war. Its position close to the South exposed it to invasion through the Cumberland Valley, particularly in the decisive GETTYSBURG CAMPAIGN of 1863. CHAMBERSBURG was burned in 1864. With the close of the war came the rapid emergence of the state as a mighty industrial commonwealth. Favored by high protective tariffs, the industries found favorable markets and a constant supply of immigrant labor. The first oil well was dug at Titusville before the Civil War, and the Rockefeller fortune was founded on petroleum, but it was steel that became the basic industry, using iron ore brought across the Great Lakes and the native Pennsylvania coal. Under the manipulation of such men as Andrew CARNEGIE, Henry FRICK, Charles SCHWAB, and J. Pierpont MORGAN numerous interests were merged into vast combines whose power entered in and extended beyond state and national influence into the area of world finance. In the face of this increasing concentration of power, labor struggled to achieve safer working conditions, higher wages, and shorter hours. The campaign brought bloodshed during the fight between mine owners and the radical MOLLY MAGUIRES and reached a climax in the HOMESTEAD strike in 1892. During the 1930s the Congress of Industrial Organizations successfully promoted unionization in many new areas and somewhat weakened the strength of the American Federation of Labor. The United Mine Workers acquired increasing strength in the coal fields. In political life after the Civil War a powerful and corrupt machine was built by Simon CAMERON and continued until the death of Boies PENROSE in 1921. Gifford PINCHOT, who was governor for two terms (1923–27, 1931–35), was a Progressive Republican and a vigorous "dry." He did much to repair government through a new administrative code, an improved budget system, and pioneer work in conservation. The election of 1934 made George H. Earle the first Democratic governor in many years. He secured the passage of numerous welfare measures and aroused considerable antagonism from mine owners and industrialists by his prolabor stands. Prolonged law suits followed charges of maladministration and graft laid to his administration. In 1938 the Republican party regained control of the state. Through political and economic organization some amalgam of various racial and social characteristics has taken place. Nevertheless the diversity of economic activity and the variety of physical features has made possible the retention of a high degree of individuality and, in some cases, almost regional cultures have developed. The startling contrasts between befogged mill and mine towns and the quiet charm of rural Lancaster and between the slums of Philadelphia and the suburban delights of the "Main Line" both intrigue and dismay the onlooker. The blessings of Penn's "good and fruitful land" have been unevenly distributed but seldom have the essential freedoms been threatened. Save for political variations from its first attribute, the motto of Pennsylvania, "Virtue, Liberty, and Independence," stands unchallenged. See Sydney George Fisher, *The Making of Pennsylvania* (5th ed., 1932), John Palmer Garber, *The Valley of the Delaware and Its Place in American History* (1934), Frederic Antes Godcharles, *Pennsylvania Political, Governmental, Military, and Civil* (5 vols., 1934), Cornelius Weygandt, *The Blue Hills* (1936), Federal Writers' Project, *Philadelphia a Guide to the Nation's Birthplace* (1937), S. J. Buck and E. H. Buck, *The Planting of Civilization in Western Pennsylvania* (1939), Federal Writers' Project, *Pennsylvania a Guide to the Keystone State* (1940), Henry Seidel Canby, *The Brandywine* (1941); Frederick Way, *The Allegheny* (1942), Cornelius Weygandt, *The Plenty of Pennsylvania* (1942), Maxwell Struthers Burt, *Philadelphia: Holy Experiment* (1945).

Pennsylvania, University of, in Philadelphia, nonsectarian, private, for men and women, planned 1740 as a charity school, opened 1751 as an academy (with Benjamin Franklin as chief founder). It was chartered in 1755 as the College and Academy of Philadelphia and reorganized in 1779 as the Univ. of the State of Pennsylvania. In 1789 the college was restored, but in 1791 the university absorbed it under the present name. A pioneer in secular education in the colonies, it had the first university medical and business schools in the United States (1765 and 1881, respectively). It now has colleges for men and women, schools of animal pathology, dentistry (with Evans Institute), education (including nursing), electrical engineering (Moore), fine arts (with architecture), finance and commerce (Wharton), law, medicine, and veterinary medicine; and Towne Scientific School. There are research institutes, a library with especially good collections in medieval history and Shakespeariana, a famous archaeology museum which controls extensive excavations, an observatory (Flower), botanical gardens, an arboretum, a chemistry museum, a psychological clinic, and a university press. The Pennsylvania School of Social Work is affiliated. An office of director of inter-American activities was created in 1946. See E. P. Cheyney, *History of the University of Pennsylvania, 1740–1940* (1940), C. M. Dowlin, ed., *The University of Pennsylvania Today* (1940).

Pennsylvania Academy of the Fine Arts, at Philadelphia, established in 1805 and incorporated in 1806. The academy grew out of a proposal, in 1791, by Charles Willson Peale for an art institution, this led to the founding of the Columbianum, which held (1794) the first art exhibition in the United States. The academy was formed to supersede it, sponsored by 71 public-spirited Philadelphia citizens, among them Peale, Charles Biddle, William Rush, and George Clymer. The present building was constructed in 1876 for the purpose of housing the academy's art collection, which includes the Temple Collection of modern American paintings, the Gibson Collection of 19th-century European paintings, and the John Frederick Lewis Collection of early American paintings. Connected with the academy also is the oldest American art school, which is active both in Philadelphia and in the year-round country school at Chester, Pa. The academy is supported by private endowment.

Pennsylvania Dutch, name popularly but erroneously applied to the Pennsylvania Germans, particularly those in the present counties of Northampton, Berks, Lancaster, Lehigh, Lebanon, York, and adjacent districts. The colony established by William Penn as a refuge for Quakers offered other groups the prospect of religious freedom. In 1683 the village of Germantown was established by a band of Mennonites led by Francis Daniel Pastorius, and in succeeding years other groups, such as the Dunkards and the Moravians, settled in Pennsylvania. However, the bulk of immigration occurred after 1710, when the Germans from the Palatinate first arrived. Many of this group had sought economic and religious freedom in England, from there a number were sent to the Hudson valley to engage in the production of naval stores, but with the failure of that project many Palatines moved to Pennsylvania. Enthusiastic reports brought other settlers from Germany, until by the time of the American Revolution the population of Pennsylvania, according to Benjamin Franklin, was one-third German. At first the large influx of German settlers antagonized the English but they were gradually accepted, and during the Revolution they provided valuable assistance. Most of the settlers turned to farming, at which they were extremely successful. For the most part they maintained their own language and customs, the family became the principal economic and social unit and the Church was next in importance. The aim of the various religious sects was to establish a Christian, democratic society, for many years they opposed public schooling, preferring to retain their own standards and manners, and they strongly resisted signs of progress and worldly living. Several of the sects are completely pacifistic, such as the Amish and the Mennonites. The Amish are particularly strict in the matter of dress, maintaining a simple, but distinctive garb, and also have a strong aversion to such modern contraptions as the automobile and the tractor. The Church of the Brethren, incorrectly but popularly known as the Dunkards or Dunkers from their manner of baptism, and the Schwenkfelders are two other sects. The Pennsylvania Dutch, or Pennsylvania German, language is a blend of several dialects, particularly Palatinate, with some admixture of High German and English. A substantial Pennsylvania German literature has made use of it. Recently more attention has been paid to the art and architecture produced by the Pennsylvania Dutch. Many written records were adorned with illuminated writing, and such common articles as pottery, furniture, needlework, and barns made use of decorative motifs, often of a highly artistic nature. Their buildings are usually of heavy stone and timber construction, with steep roofs and small, irregular windows. Despite the slighting remarks cast on the "dumb Dutch," a number of Pennsylvania Germans have reached positions of learning and influence. The Pennsylvania-German Society, organized in 1891, has published much material relative to the history and folklore of the Pennsylvania Dutch. See M. D. Learned, *The Pennsylvania German Dialect* (1889); L. O. Kuhns, *The German and Swiss Settlements of Colonial Pennsylvania* (1901; 3d ed., 1945); J. L. Rosenberger, *The Pennsylvania Germans* (1923); Cornelius Weygandt, *The Red Hills* (1929) and *The Dutch Country* (1939); J. W. Frey, *A Simple Grammar of Pennsylvania Dutch* (1942); Ralph Wood, ed., *The Pennsylvania Germans* (1942), E. F. Robacker, *Pennsylvania German Literature* (1943); Henry Kauffman, *Pennsylvania Dutch American Folk Art* (1946).

Pennsylvania Museum of Art: see PHILADELPHIA MUSEUM OF ART.

Pennsylvanian period: see CARBONIFEROUS PERIOD.

Pennsylvania Railroad. Incorporated (1846) by act of the Pennsylvania legislature, the Pennsylvania Railroad Company completed (1854) a single-track line between Philadelphia and Pittsburgh. The company then (1857) purchased many railroads—notably the Allegheny portage railroad with its inclined planes, which had been in operation since 1834—that were owned and operated by the state of Pennsylvania. The Pennsylvania RR took a prominent part in the movement of troops and munitions in the Civil War, and under the astute management of such presidents as John E. Thomas (1852–74), Thomas A. SCOTT (1874–80), George B. Roberts (1880–97), and Alexander J. CASSATT (1899–1906) the railroad rapidly extended operations between the Atlantic seaboard and the Mississippi river and between the Great Lakes and the Ohio river. In the 20th cent. the expansion continued while large expenditures were made for facilities. See G. H. Burgess and M. C. Kennedy, *Centennial History of the Pennsylvania Railroad Company, 1846–1946* (1949).

Pennsylvania State College, at State College, land-grant and state supported, coeducational, chartered 1855, opened 1859 as Farmers' High School, called Agricultural College of Pennsylvania 1862, renamed 1874. It includes schools of agriculture (with forestry), chemistry and physics, education, engineering (with architecture), home economics, liberal arts (with journalism), physical education and athletics, and mineral industries, as well as five junior branches throughout the state. It has a forest school at Mont Alto and an institute of animal nutrition. The Ellen H. Richards Institute was established in 1941 for research on textiles, nutrition, and housing. See history by W. F. Dunaway (1946).

Penn Yan (pĕn″ yăn′), village (pop. 5,308), co. seat of Yates co., W. central N.Y., in the Finger Lakes grape-growing region, on an arm of Keuka Lake, inc. 1833. It was settled by Pennsylvanians and New Englanders ("Yankees"), whence the name. The farm given Jemima WILKINSON by her disciples was near here. Penn Yan produces wines, fruit juices, fruit baskets, flour, and boats. Keuka College (Baptist, for women, 1888) is at near-by Keuka Park.

pennyroyal, name for two similar plants of the MINT family, usually distinguished as true or European pennyroyal (*Mentha pulegium*) and American or mock pennyroyal (*Hedeoma pulegoides*). Both have small bluish or purplish flowers in the leaf axils. The European pennyroyal is perennial and prostrate, the American, annual with numerous erect branches. Both contain a pungent oil said to be repellent to insects. The oil, obtained chiefly from the American pennyroyal, is used medicinally. Pennyroyal tea was an old domestic remedy. Other species of *Hedeoma* are sometimes called pennyroyal, but the false and bastard pennyroyals are different plants.

Penobscot (punŏb′skŏt), river, 350 mi. long, formed in N. and central Maine. Its headstreams are the outlets of many lakes, the South Branch draining Penobscot Lake near the Quebec boundary and uniting with the North Branch to form the West Branch. The East Branch, formed by the outlets of Matagamon, Seboeis, and other lakes, joins the West Branch near Medway. The united stream, its power used for pulp and paper mills, flows S. past Lincoln, Howland, Old Town, Bangor, Bucksport, and many other towns to Penobscot Bay. It is navigable to Bangor, the upper course, in an area noted for hunting and fishing, is a favorite canoe route. The chief freight on the river is lumber.

Penobscot Bay, triangular, islanded inlet of the Atlantic, 30 mi. long, S. Maine, with shores lined with summer resorts. The bay was entered by Martin Pring in 1603, Champlain, after leaving a colony on Mt. Desert Island in 1604, ascended the Penobscot river, probably to the site of Bangor. Trading posts and missions were established, and for many years possession of the area was disputed between the English and the French. The principal French post was at Castine, long known as Penobscot. See G. S. Wasson, *Sailing Days on the Penobscot* (new ed., 1949).

Penobscot Indians, North American Indian tribe of Algonquian linguistic stock. They were the most numerous tribe of the Abnaki Confederacy and resembled the other members culturally. In the early 17th cent. they inhabited the region around Penobscot Bay and the Penobscot river in Maine. A French mission was established among them in 1688 on the site of the present city of Bangor. The Penobscot were active in all the New England frontier wars, generally in support of the French, until 1749, when a peace treaty with the English put an end to their hostilities. The treaty created ill-feeling with other Abnaki tribes, who remained firm supporters of the French. The Penobscot numbered some 700 in 1750. The assistance of the Penobscot in the American Revolution gained for them a reservation at Old Town, Maine. Today there are some 500 living there. See Frank Speck, *Penobscot Man* (1940).

Penokee-Gogebic: see GOGEBIC.

Penrhyn (pĕn'rĭn) or **Tongareva** (tŏng"gŭrĕ'vŭ), atoll (4,000 acres; pop. 654), S Pacific, c.735 mi NNE of Rarotonga (one of the Cook Islands). Penrhyn is c.40 mi. in circumference. Discovered in 1788 by the British, in 1901 it was placed, along with the other MANIHIKI islands, under the New Zealand Cook Islands administration. Omoka village has a good harbor. The chief exports are copra and pearl shells.

Penrith (pĕn'rĭth), urban district (1931 pop 9,066, 1943 estimated pop 10,923), Cumberland, England, SE of Carlisle. It is in a farming region at the edge of the Lake District, for which it is a tourist center. There is a 14th-century ruined castle. The grammar school was founded in the 14th cent. and refounded in Elizabeth's reign. The churchyard has two ancient monuments, the "Giant's Grave" and the "Giant's Thumb."

Penrose, Boies (boiz' pĕn'rōz), 1860–1921, American political leader, b. Philadelphia, grad. Harvard, 1881. He read law, was admitted (1883) to the bar, and, as a member (1884–96) of the Pennsylvania legislature, collaborated with Edward P. Allison in writing *The City Government of Philadelphia* (1887). His talent for political organization was soon employed for the state Republican party machine, he became the henchman of Matthew S. QUAY, the state boss. He was elected (1896) to the U.S. Senate, and after Quay's death (1904) Penrose became the Republican leader of Pennsylvania. Penrose, immense in stature, a tremendous and zestful eater, was the subject of many stories. He served in the Senate until 1921 and there dominated the finance committee. He played a leading role in Republican national politics and, after the retirement of Nelson W. Aldrich, became Republican leader of the Senate. See biography by R. D. Bowden (1937).

Penry, John, 1559–93, British Puritan author, an instigator of the MARPRELATE CONTROVERSY, b. Wales, grad. Cambridge and Oxford. While at college he became an ardent Puritan. In 1587 his pamphlet assailing the spiritual destitution of the Welsh clergy was seized and burned, and he was briefly imprisoned. Puritans were aroused, and Penry and several associates were helped to set up a hidden printing press from which emerged (1588–89) seven pamphlets attacking alleged evils of the Church of England and its clergy. They appeared under the pseudonym Martin Marprelate, Penry was perhaps the chief author. When his associate John Udall was arrested (1590), Penry fled to Scotland, he returned secretly in 1592. He was arrested, tried on the doubtful charge of writing with intent to excite rebellion, and hanged. See his *Notebook* (ed. by Albert Peel, 1944), biography by William Pierce (1923).

Penryn (pĕnrĭn'), municipal borough (1931 pop. 3,414, 1943 estimated pop. 3,968), Cornwall, England, at the head of the Penryn estuary NW of Falmouth. It is famous for its polished granite, quarried in the neighborhood.

Pensacola (pĕnsăkō'lŭ), city (pop. 37,449), co. seat of Escambia co., extreme NW Fla., on Pensacola Bay, inc. 1822. A port of entry with one of the best natural harbors in the United States, it has industry and trade in lumber, naval stores, commercial fishing, and farm produce. The region was known to the Spanish in the early 16th cent., and the shore here was the site of a short-lived Spanish settlement (1559–61). In 1698 the Spanish under Andrés de Arriola founded a new colony, and Fort San Carlos was built on Santa Rosa Island, across the bay. Between 1719 and 1763 possession of the city shuttled between Spain and France. It passed to the British in 1763 but reverted to Spain in 1783, after being captured by Bernardo de GÁLVEZ in 1781. It was the capital of West Florida until 1822. Pensacola, though still Spanish, was a British base in the War of 1812 until captured (1814) by Andrew Jackson. He seized it again in 1818, and the United States took formal possession in 1821. In the Civil War, Pensacola was held alternately by Confederate and Union forces, although Fort Pickens (see PICKENS, FORT) remained in Federal possession throughout the war. The important U.S. naval aviation station here was established in 1914, much of the life of the city revolves about the base. Fort Barrancas is the only garrisoned fort protecting the harbor now, there are ruins of old Fort Barrancas and of Forts San Carlos (built in the 1780s on the site of Arriola's fort), Pickens, and McRae (built in the 1830s).

Pensacola Bay, inlet of the Gulf of Mexico, c.13 mi. long and averaging c 2½ mi. in width, NW Fla. The city of Pensacola is c 7 mi. from the entrance, which is less than a mile wide, being nearly closed by the peninsula and the island of Santa Rosa. The Escambia river enters at the north, through Escambia Bay; to the east is another extension, East Bay.

Pensacola Dam: see GRAND RIVER DAM.

Pensauken, N.J.: see PENNSAUKEN.

pension. The granting of pensions by sovereigns for service rendered or as a gratuity to a favorite, an artist, a political refugee, or the like was widely practiced from very early days in the history of both West and East. It was continued in France until the French Revolution and in England into the 19th cent. In the Roman Empire there was a well-established system to care for soldiers who were disabled or had grown old. The French government early in the 19th cent. and the British later (1834) made provisions for superannuated public servants. In the United States pensions have been given veterans of all wars since the Revolution. There was considerable abuse of the system after the Civil War. In the First and Second World Wars a system of insurance was established to which the service man contributed. Civil service pensions were a later development in the United States than in Western Europe. Old-age pensions were given by cities to certain groups of public employees—firemen, policemen, and later teachers (usually under a state law), with compulsory contributions from the employee. Pensions to federal employees were authorized in 1920. The idea of extending such protection to all citizens also appeared earlier in Europe (notably in Germany) than in the United States, where it was a 20th-century development (see SOCIAL SECURITY). Many corporations and groups (such as church organizations and colleges) had made provision for their own employees before the social security legislation was passed in 1935, and many have supplemented social security by more adequate provision. The usual method is through group INSURANCE to which the employee contributes half. This may be compulsory or voluntary. Many labor unions—notably the United Mine Workers—have included old-age pensions in their contracts with their employers. See A. D. Cloud, *Pensions in Modern Industry* (1930), H. S. Pritchett, *The Social Philosophy of Pensions* (1930).

pentameter (pĕntă'mutur) [Gr., =measure of five], in prosody, a line to be scanned in five feet (see VERSIFICATION). Iambic pentameter is the great English meter. Chaucer first used it in what was later called rhyme royal, seven iambic pentameters rhyming *ababbcc*, as Chaucer pronounced a final short *e*, his pentameters often end in an 11th unstressed syllable. In his *Canterbury Tales*, the pentameters are disposed in rhyming pairs which do not necessarily contain a complete thought. The pentameter couplet also was used by his imitators in Scotland, with the important difference that when the final *e* disappeared from speech the couplet was one of strict pentameters. Thus, as the heroic couplet, became important in the 17th and 18th cent., notably in the hands of Dryden and Pope. Example:

> True wit is Nature to advantage dress'd,
> What oft was thought, but ne'er so well express'd
> —*Essay on Criticism*

Blank verse, a succession of unrhymed iambic pentameters, is primarily an English form and has been used in the loftiest epic and dramatic verse from Shakspere and Milton to the present. Examples:

> And, like the baseless fabric of this vision,
> The cloud-capp'd towers, the gorgeous palaces,
> The solemn temples, the great globe itself,
> Yea, all which it inherit, shall dissolve
> And, like this insubstantial pageant faded,
> Leave not a rack behind. We are such stuff
> As dreams are made on, and our little life
> Is rounded with a sleep. —*The Tempest*, IV, i

and how he fell

> From Heav'n, they fabled, thrown by angry Jove
> Sheer o'er the Chrystal Battlements, from Morn
> To Noon he fell, from Noon to dewy Eve,
> A Summer's day, and with the setting Sun
> Dropt from the Zenith like a falling Star,
> On Lemnos th' Aegaean Ile
> —*Paradise Lost*, I, 740–46

Renaissance England borrowed several stanza forms from Italy. The ottava rima, eight iambic pentameters rhyming *ababbcbc*, was made famous by Ariosto and Tasso and later was used by Byron, but its principal English significance was that Spenser made his stanza by adding an ALEXANDRINE to the eight lines (see also ONOMATOPOEIA). The SONNET is one of the most familiar and successful uses of iambic pentameter in English poetry. Paradoxically this greatest of English lines is seldom used in the commonest English stanza, the quatrain, but that the iambic pentameter is unsuited to four-line verses is untenable if an example like the following is considered:

> The breezy call of incense-breathing morn,
> The swallow twitt'ring from the straw-built shed,
> The cock's shrill clarion or the echoing horn,
> No more shall rouse them from their lowly bed
> —Gray's *Elegy*

Pentapolis (pĕntă'pŭlĭs) [Gr., =five cities], collective name anciently applied to several groups of five cities. The chief cities of Cyrenaica on the northern coast of Africa (Apollonia, Arsinoë, Berenice, Cyrene, and Ptolemais) were thus called from the 4th cent. B.C. to the 7th cent. A.D. So were Rimini, Ancona, Fano, Pesaro, and Sinigallia on the Adriatic coast of Italy, where the term originated in the 5th cent. under Byzantine rule and continued to be used until the 11th cent. Other groups called Pentapolis were in Asia Minor and in Palestine.

Pentateuch (pĕn'tutūk) [Gr., =five books], the first five books of the OLD TESTAMENT.

pentathlon (pĕntăth'lun), composite athletic contest in ancient Greece comprising five separate events—leaping, foot racing, wrestling, throwing the discus, and casting the javelin. In the modern OLYMPIC GAMES, the pentathlon comprises throwing the discus, casting the javelin, a running broad jump, and a 200-meter and a 1,500-meter flat race.

Pentecost (pĕn'tĭkŏst) [Gr., =fiftieth], important Jewish and Christian feasts. The Jewish feast of Pentecost, in Hebrew *Shabuot* [weeks], is called in the Bible the Feast of Weeks, of Harvest, and of the Firstfruits. It is the Palestinian celebration of the closing of the grain harvest, which began formally in Passover. It falls on the 6th and 7th of the month of Sivan, the 6th being the 50th day from the second day of Passover. The number 50 arose from the length of the grain harvest, seven weeks. It was marked before the final dispersion by the sacrifice, in the Temple, of loaves made of the first fruits of the wheat harvest, the last grain to ripen. From ancient times Pentecost was known also as the anniversary of the giving of the Law, and this aspect has prevailed in modern Judaism, except in the ritual, which includes the reading of Ruth, a harvest story. In modern times pious customs of Pentecost are decoration of synagogues and homes with flowers, study of the Law all night before the feast, and confirmation of girls. See Ex. 23:16, 34:18–26; Lev. 23:15–22; Num. 28:26; Deut. 16:9–12, 2 Chron. 8:13. On the Pentecost after the resurrection of Jesus (i.e., 50 days from the Passover, in which He was crucified), the disciples, according to Acts 2, received from the Holy Ghost the power of speaking in diverse tongues, the gift was accompanied by tongues of fire and the sound of a rush of wind. The Christian feast of Pentecost is an annual commemoration of this event, and it has ever been solemnly observed by the Church as her birthday and the feast of the Holy Ghost. In Christian calendars Pentecost is the seventh Sunday after Easter and closes Easter time. In the Western Church there are special observances, e.g., a penitential vigil, and anciently neophytes were baptized at this time. From the white garments of these converts comes *Whitsunday*, an English name for Pentecost. The Monday after is in many places a holiday, as in England, where it is called Whitmonday, or Whitsun Monday. The great Latin hymns VENI CREATOR SPIRITUS (sung in the divine office) and *Veni Sancte Spiritus* (the sequence of Mass) were composed for Pentecost. The octave day of Pentecost is Trinity Sunday, the Roman calendar counts the Sundays from Pentecost to Advent according to their number after Pentecost.

Pentelicus (pĕntĕ'lĭkus) or **Pentelikon** (pĕntĕ'lĭkun, -kŏn), mountain, 3,637 ft. high, central Greece, NE of Athens. The fine white marble quarried here was largely used for the buildings of ancient Athens.

Penthesilea (pĕn"thĕsulē'u), in Greek mythology, queen of the Amazons. After Hector was killed in the Trojan War, Penthesilea joined the Trojans. Achilles killed her.

Pentheus (pĕn'thūs), in Greek religion, king of Thebes, son of Cadmus' daughter Agave. When DIONYSUS came to Thebes teaching his new religion, Pentheus imprisoned him. Agave, however, became a follower of the god. Pentheus spied upon the sacred rites of the BACCHAE of Thebes, and the maddened women, led by his mother, killed him.

penthouse, subsidiary structure built against the wall of a larger building and covered by a roof of one slope which pitches away from that wall. In more usual modern usage, however, the term is applied to a subsidiary structure above the main roof line of a building and usually set back from the exterior wall lines, containing water tanks, elevator machinery, or other services, or to a similar structure containing living quarters. In modern American cities the penthouse apartment, especially on a tall building with its opportunities for fresh air, sunlight, and an attractive outlook, is a desirable residence and has been often elaborately developed, notably in New York, with gardened terraces and a luxurious interior.

Pentland Firth (pĕnt'lund fûrth'), channel, 6¼ to 8 mi. wide and c 14 mi. long, separating the Orkneys from the mainland of Scotland. The tides and currents cause whirlpools dangerous to small boats.

Pentland Hills, range of uplands, 4 to 6 mi. wide, extending from Edinburgh c 16 mi. SW through Midlothian, Peeblesshire and Lanarkshire, Scotland. Carnethy rises to 1,890 ft., Scald Law to 1,898 ft. The Covenanters were defeated in 1666 in the battle of the Pentlands.

pentlandite (pĕnt'lundīt), yellowish-bronze, opaque mineral, a sulphide of iron and nickel. It is found in masses nearly always associated with another nickel-bearing ore, pyrrhotite. The largest deposit of this important ore of nickel is at Sudbury, Ont.

pentstemon. see BEARDTONGUE.

Penuel (pēnū'ĕl) [Heb., =face of God]. **1** Unidentified place, E of the Jordan, in Gilead, by the river Jabbok where Jacob wrestled with the angel. It was destroyed by Gideon and later rebuilt by Jeroboam. Gen. 32:31, Judges 8:8, 1 Kings 12:25.

Peniel Gen. 32 30 **2** Founder of Gedor. 1 Chron. 4 4 **3** Benjamite chief. 1 Chron 8 25

Penutian (pūnō'shun), linguistic family of California Indians. It includes five groups of languages —Miwok (formerly spoken N of San Francisco Bay and S of Lake Tahoe), Costanoan (extinct, S of San Francisco), Yokuts, Maidu, and Wintun (upper and lower Sacramento valley) Some other stocks have been suggested as related to Penutian These are Takelma, Coos, Siuslaw-Yakonan, Kalapuya, and Chinook, Tsimshian, Shahaptin, Waiilatpuan, and Lutuamian, and Mixe-Zoque and Huave in S Mexico

Penza (pyĕn'zä), city (pop 157,145), capital of Penza oblast, E central RSFSR, on the navigable Sura river It is the center of a large fertile black-earth district It has varied manufactures and plants for processing agricultural products Founded in the 17th cent as a fortress, it developed into a commercial and administrative center in the 18th cent

Penzance (pĕnzăns'), municipal borough (1931 pop. 11,331, 1943 estimated pop 19,964), Cornwall, England, at the head of Mounts Bay NE of Lands End It is a fishing center and a popular watering place with a good esplanade, two piers, and museums and libraries It is a port for the Scilly Islands and has flour mills It was sacked by the Spanish in 1595 and until the 18th cent was subject to raids by Mediterranean pirates Sir Humphry Davy was born here

peonage (pē'ŭnĭj), system of involuntary servitude based on the indebtedness of the laborer (the peon) to his creditor It was prevalent in Spanish America, especially in Mexico, Guatemala, Ecuador, and Peru The system arose because labor was needed to support the agricultural, industrial, mining, and public works activities of conqueror and settler in the New World With the Spanish Conquest of the West Indies, the ENCOMIENDA, establishing proprietary rights over the Indians, was instituted In 1542 the New Laws of LAS CASAS were promulgated, defining Indians as free subjects of the king and prohibiting forced labor Negro slave labor and wage labor were substituted Since the Indians had had no wage tradition and the amount paid was in any event pitifully small, the New Laws proved impractical under existing colonial conditions To find a way out, the system of the *repartimiento* [assessment] and the *mita* was adopted, it gave the state the right to force its citizens, upon payment of a wage, to perform work necessary for the state In practice, this meant that the Indian spent about one fourth of a year in public employment, but the remaining three fourths he was free to cultivate his own fields and provide for his own needs Abuses under the system were frequent and severe, particularly until its codification under the Ordinances of 1609, but the *repartimiento* was far less harsh and coercive than the slavery of debt peonage which followed independence from Spain in 1821 Forced labor under the *repartimiento* had not included plantation crops—sugar, cacao, cochineal, and indigo, their increasing value brought greater demand for labor control, and in the 19th cent the cultivation of coffee, tobacco, henequen, and other crops on a large scale required a continuous and cheap labor supply Through advances on wages, through requiring purchase of necessities from company-owned stores, and through loss of land which the Spanish government had set aside for his subsistence, the Indian found himself reduced to peonage, caught in a system from which he could not escape He could not change his employment until his debts were paid, and prices were so adjusted that he could not meet the obligations He became virtually a serf, but without the serf's customary rights In Mexico, a decree against peonage was issued in 1915, but the evil persisted Partly to alleviate it, Lázaro Cárdenas instituted the EJIDO in 1936 In that year, too, debt peonage was abolished in Guatemala In the United States after the Civil War peonage existed in several Southern states as it had in the Southwest after its acquisition from Mexico Not only Negroes and Mexicans but white farmers as well found themselves enmeshed, until state and national measures were taken

peony (pē'ŭnē), any plant of the genus *Paeonia*, mostly Eurasian species popular as garden and florists' flowers Herbaceous peonies—formerly and still sometimes called piney—are hardy perennial bushy plants that die back each year, they have handsome foliage and large, usually spring-blooming, single or double flowers, often fragrant and commonly ranging in shades from red to white Tree peonies have a somewhat woody, persistent base and are usually taller than the herbaceous, with more abundant and larger blossoms, they often are very long lived but are less common in cultivation Both kinds of peony have long been venerated in China and Japan The peony was formerly regarded as both ornamental and medicinal—the roots were used to prevent convulsions There is a species of peony that is native to the West Coast of North America. See Mrs Edward Harding, *The Book of the Peony* (1917), publications of the American Peony Society

People's Charter: see CHARTISM.

People's party: see POPULIST PARTY.

Peor (pē'ôr) [Heb.,=opening], mountain, E of Jordan, to which Balak took Balaam to deliver his curses Num 23 28 It was anciently said to be near Heshbon See BAAL-PEOR

Peoria (pēō'rēu), city (pop 105,087), co seat of Peoria co, central Ill, on the Illinois river where it widens into Lake Peoria. A port of entry, it is a trade, industrial, and shipping center in an extensive agricultural and coal area La Salle established Fort Creve Coeur in the region in 1680 The spot later (1691) became a trading post in the Illinois country During the Revolutionary War it was abandoned for a time Fort Clark was built here in 1813 and was the nucleus, after the War of 1812, of American settlement Peoria was incorporated as a town in 1835 and as a city in 1845 Among its many manufactures are agricultural machinery and implements, packed meat, liquors and other corn products, feeds, bricks and tiles, chemicals, and cotton goods It ships livestock and grain, mines coal, and is a wholesale market Lincoln delivered (1854) at the old courthouse a speech on slavery Bradley Univ (coeducational, 1896) is here Near by are Fort Creve Coeur State Park, Jubilee College State Park, and Metamora courthouse (1845, now a state memorial)

Peoria Heights, village (pop 4,376), central Ill, near Peoria, inc 1898

Peotone (pē'ŭtōn), village (pop 1,146), NE Ill, SE of Joliet, in a farm area, inc 1869

Pepi I (pā'pē), king of ancient Egypt (c 2595–c 2571 B C), of the VI dynasty He was responsible for the rise of the able official UNI His monuments are found throughout Egypt The reign of his son **Pepi II** (c 2567–c 2473)—variously given at 94, more than 90, and 100 years—is the longest recorded in history Thanks largely to the ability of the powerful southern lords at Elephantine, it was a successful one, in which victorious expeditions penetrated well into Nubia and a prosperous trade was carried on with Lebanon and with Punt

Pepin I (pĕ'pĭn), d 838, king of Aquitaine (817–38), son of Emperor LOUIS I. He joined in the risings of 830 and 833 against his father but in each case helped restore him shortly afterwards

Pepin, Lake (pĕ'pĭn, pĭ'–), a widening of the Mississippi, 21 mi long and 3 mi wide, SE Minn, between Wabasha and Red Wing

Pepin of Héristal (hĕr'ĭstŭl), d c 714, mayor of the palace of the Frankish kingdom of AUSTRASIA, grandson of Pepin of Landen and father of Charles Martel After defeating the nobles of Neustria at the battle of Tertry (687), Pepin made himself ruler of all the Frankish kingdoms, with the Merovingian dynasty retaining the nominal kingship He defeated the Frisians, the Alemanni, and the Bavarians and established a strong government, thus laying the foundation of the empire of his descendants, the Carolingian mayors and kings

Pepin of Landen, d 639?, mayor of the palace of the Frankish kingdom of AUSTRASIA With Arnulf, bishop of Metz, he aided King CLOTAIRE II of Neustria in overthrowing (613) Queen BRUNHILDA of Austrasia Pepin and Arnulf were chosen (c 622) by Clotaire to rule Austrasia in the name of the young DAGOBERT I After Dagobert succeeded his father (629), Pepin lost his influence and withdrew into Aquitaine By the marriage of Pepin's daughter with Arnulf's son, Pepin and Arnulf became the ancestors of the CAROLINGIANS

Pepin the Short, c 714–768, first Carolingian king of the FRANKS (751–68), son of Charles Martel and father of Charlemagne Succeeding his father as mayor of the palace (741), he ruled Neustria, Burgundy, and Provence, while his brother CARLOMAN received Austrasia In 743 the brothers chose Childeric III, a Merovingian, as nominal king of all the Franks With the help of St Boniface, they effected far-reaching reforms which halted the decay of the Frankish church After Carloman had retired to religious life (747) Pepin, with the consent of the pope, St Zacharias, forced Childeric into a monastery and had himself proclaimed king (751) In return for the pope's support, Pepin defended Rome against the Lombards (754, 756), from whom he wrested RAVENNA and other cities These he ceded to the pope, thus laying the foundation of the Papal States Pepin also extended his territories and reconquered AQUITAINE Pepin's wife was BERTHA OF THE BIG FOOT

Pepper, Claude Denson, 1900–, U S Senator (1936–), b Dudleyville, Ala, grad Univ of Alabama, 1921, LL B Harvard, 1924 He was admitted (1928) to the bar, practiced law in Florida, and held many state offices Elected to the Senate as a Democrat, Pepper proved himself an ardent supporter of social-reform measures and a strong advocate of international cooperation.

Pepper, George Wharton, 1867–, American jurist, b Philadelphia, grad Univ of Pennsylvania (B.A., 1887, LL B, 1889). Admitted (1889) to the bar, he practiced law in Philadelphia and was (1893–1910) professor of law at the Univ. of Pennsylvania. He lectured (1915) at Yale and was (1920–21) a member of the commission for revising the Pennsylvania constitution. Pepper was appointed in 1922 to the U S Senate to fill the vacancy caused by the death of Boies Penrose, and, elected on the Republican ticket later the same year, he served in the Senate until 1927 He wrote many books on law and was the author of *In the Senate* (1930) and *Family Quarrels* (1931) See his autobiography, *Philadelphia Lawyer* (1944).

Pepper, William, 1843–98, American physician, b. Philadelphia, M D Univ. of Pennsylvania, 1864 From 1868 he was associated with the medical department of the Univ of Pennsylvania (as provost, 1881–94). Under his administration the course was modernized, the university hospital was established, and new departments and laboratories of hygiene and clinical medicine were added See E P Cheyney, *History of the University of Pennsylvania* (1940), biography by F N Thorpe (1904)

pepper, name given to the pungent fruits of several plants used as condiments or in medicine The true or black pepper (*Piper nigrum*) is a native of the East Indies, whence it was introduced into other tropical countries, as the West Indies and parts of South America It is a perennial climbing or rambling shrub with a woody stem The pea-sized berries are bright red when ripe, and the plants yield two crops annually for about 12 years When the fruit begins to ripen, it is gathered, dried, and winnowed Black pepper is the ground product of the dried fruit Its pungency is owing to a derivative of PYRIDINE White pepper is made by using only ripe fruit, freed from skin and fleshy parts, it has a milder and less biting flavor Allied to black pepper are two kinds—one native to India, the other to Java—both known as long pepper, they are generally crudely prepared and used chiefly in pickling The red peppers of temperate regions, eaten as a table vegetable and used as a condiment or medicine, in either a green or ripe state, are various species of the genus *Capsicum*, known, according to variety, as pimento, Jamaica, or Guinea peppers or, in the United States, as sweet or bell peppers They are annual or biennial plants, bushy and woody stemmed, and they bear inconspicuous flowers and membranous seed pods They were in cultivation in South America prior to the time of Columbus, who is said to have carried home specimens Cayenne pepper is made from a variety perennial in tropical countries, very sharp and biting Paprika (the Hungarian name for red pepper) is prepared from less pungent varieties. The mild Spanish-type paprika is commonly used in the United States The "chili" pepper is much used in Mexican cooking and in a pepper sauce known in the United States by the trade name Tabasco sauce Another variety, with delicate leaves and cherrylike fruit, is grown as an ornamental plant In the earliest days of commerce, black pepper was a great luxury and a staple article of trade between India and Europe So high was its price that a few pounds made a royal gift, and the great demand was one of the causes of the search for a sea route to the East Pepper was known to Hippocrates for its medicinal properties It is a heart and kidney stimulant and is used as a powder or tincture, as a local irritant or liniment, or as a gargle for malignant sore throat

Pepperell (pĕ'pərul), town (pop 3,114), N Mass, near the N H line W of Lowell, settled 1720, set off from Groton 1753 Paper products are made here

peppergrass, any species of the genus *Lepidrum*, widely distributed herbs of the mustard family with a peppery taste They commonly have toothed leaves, clusters of small usually white flowers, and little flat, roundish pods that are often fed to tame birds, whence the name canary grass Most species are weedy, but one—the garden cress (*Lepidrum sativum*)—is sometimes cultivated as an annual salad plant Shepherd's-purse, often confused with peppergrass, has triangular pods

pepperidge. see BLACK GUM

peppermint, aromatic perennial mint (*Mentha piperita*), European, but widely naturalized in the United States, where it is also cultivated commercially for the oil Peppermint resembles spearmint (for differentiation, see MINT) but is the more important of the two It has purplish flowers and a creeping rootstock The leaves and tops are sometimes dried and utilized for flavoring and in medicine but are chiefly in demand for the oil, distilled out for use as a carminative and a stimulant, for its derivative MENTHOL (obtained also from other mints), and for flavoring purposes As a flavoring the oil, pleasantly pungent in odor and taste and suggesting a breath of cold air, is commonly used in chewing gum and candy and as a disguise for disagreeable drugs Because of its penetrative odor it is used in testing pipes for leaks Large-scale cultivation of peppermint is centered chiefly in Indiana and Michigan.

Pepperrell, Sir William, 1696–1759, American colonial military commander, b Kittery Point, Maine (then part of Massachusetts) A wealthy merchant, landowner, and businessman, he became a colonel in the colonial militia, was a delegate to the Massachusetts General Court, and was appointed chief justice in 1730—thereby being forced to study law. In 1745 he was given command of the land forces in one of the most important expedi-

tions of the FRENCH AND INDIAN WARS In cooperation with the British fleet under Sir Peter Warren he brilliantly captured the fortress of LOUISBURG from the French In recognition of this service, he was the first native American to be created baronet (1746) Sir William also commanded a regiment in the last of the French and Indian Wars, and, as president of the council, he briefly governed (1756–57), Massachusetts His journal of the Louisburg expedition was published by the American Antiquarian Society in its *Proceedings*, Vol XX (1911) See J F Sprague, *Three Men from Maine* (1924)

pepper tree, ornamental resinous evergreen tree (*Schinus molle*), native to Peru and cultivated in both hemispheres where the climate is mild It has graceful pinnate leaves and panicles of greenish flowers followed by rose-colored berrylike drupes about the size of peppercorns The fruits are sometimes ground and substituted for pepper or used to adulterate real pepper Pepper trees have been planted extensively in S California, but those in the vicinity of citrus groves have had to be destroyed because they are highly susceptible to black scale, a disease destructive to citrus fruit trees Peruvian mastic tree is another name for the tree

pepper vine · see AMPELOPSIS

pepperwood, name for several plants, among them the CALIFORNIA LAUREL

pepsin, an enzyme in gastric juice which, in the process of digestion, changes insoluble proteins of food into peptones It acts only in an acid medium, which in the body is supplied by hydrochloric acid secreted by the stomach Pepsin is sometimes used as a remedy for indigestion, being obtained as an extract from sheep, calf, or hog stomachs It is not always useful, since cases involving a lack of this secretion are not common, there being usually some other cause for the disorder Many plants secrete an enzyme which has an action similar to that of pepsin

Pepusch, John Christopher (pā'pōōsh), 1667–1752, German musician, who lived in London from 1700 until his death A composer, an organist, one of the founders (1710) of the Academy of Ancient Music, and long director of Lincoln's Inn Theatre, he is best known for having composed the overture and arranged the rest of the music for John Gay's ballad opera *The Beggar's Opera* (1728)

Pepys, Samuel (pēps), 1633–1703, English diarist and public official, b probably Brampton, grad Magdalene College, Cambridge (B A, 1653, M A, 1660) He married Elisabeth St Michel in 1655 and entered (1656) the service of a relative, Sir Edward Montagu (later earl of Sandwich), whose secretary he became in 1660 In the same year he started as a clerk in the navy office and diligently improved his position until by 1668 he was one of the most important naval officials and owned a considerable estate In 1672 he was made secretary to the admiralty He sat in the Parliament of 1679, but, having been friendly with the duke of York, was the object of an attack resulting from popular hysteria over the Popish Plot (see OATES, TITUS) Charged with betraying naval secrets to the French, he was imprisoned in the Tower in 1679 and vindicated and freed the next year In 1682 Pepys went to Tangier for the decommissioning of the naval station there In 1684 he was reappointed secretary to the admiralty and was made president of the ROYAL SOCIETY In the admiralty he successfully worked to restore the English fleet to its previous excellence The accession of William III forced Pepys into retirement, where he wrote his *Memoirs of the Royal Navy* (1690) Pepys left his valuable library, including his diary in cipher, to his nephew John Jackson and in turn to Magdalene College, Cambridge The diary was partially deciphered and in 1825 was first published, an almost complete text was edited by H B Wheatley (1893–99) It is an intimate record of the daily life and reflections of an ambitious, observing, and fun-loving young man, it extends from January 1, 1660, to May 31, 1669, when failing eyesight forced him to stop Like the record of his friend Evelyn, Pepys's diary gives a graphic picture of social life and conditions of the early Restoration period. See abridgment of the diary, *Everybody's Pepys* (ed by O F Morshead, 1926, reprint, 1947), biography by Arthur Bryant (3 vols, 1933–38)

Pequot Indians (pē'kwŏt), tribe of North American Indians of the Algonquian linguistic stock The Pequot were of the Eastern Woodlands cultural area Originally they were united with the Mohegan tribe, but when Uncas revolted, the Pequot moved southward to invade and drive off the Niantic Thus the Pequot, in the early 17th cent., came into possession of the northeast coast of Connecticut They then numbered some 3,000 The warlike Pequot, under their chief, Sassacus, had by 1630 extended their territory W to the Connecticut river. Numerous quarrels between the English who had settled in the Connecticut valley and the Pequot led to the Pequot War (1637) The precipitating cause was the murder of John Oldham, an English trader, by the Pequot The English under John Mason and John Underhill attacked the Pequot stronghold on the Pequot river and destroyed 500 Indians The remaining Pequot fled in small groups. One party went to Long Island, and a second fled into the interior A third, led by Sassacus, was intercepted near Fairfield, Conn, here almost the entire party was killed or captured. The captives became slaves to the colonists or were sold into the West Indies. A few Pequot, including Sassacus, who managed to escape the English were put to death by the Mohawk A remnant of the Pequot begged mercy of the English and were scattered among the S New England tribes, but their treatment there compelled the colonial government to settle them (1655) near the Mystic river in Connecticut Today a few Pequot remain in this area.

Pera, Turkey see ISTANBUL

Perea (pĕrē'ŭ), in Roman times, the region E of the Jordan, S of the Decapolis. It is the Gilead of the Old Testament

Perak (pā'ru, pā'rāk), state (7,856 sq mi, pop 944,725), NW Malaya, on the Straits of Malacca The capital is Taiping Clockwise from north to south, Perak is bordered by Penang, Kedah, Thailand, Kelantan, Pahang, and Selangor The state is drained by the Perak river (c 170 mi long) The Kinta Valley of Perak is an important tin-mining district The mines employ many Chinese workers, the Chinese constitute about half the population, Malays about a third Rice and rubber are grown Before the 16th cent, Perak was the vassal state of the powers that in turn dominated the Malay Peninsula After the fall of Malacca (1511), it was for a time dominated by the sultan of Acheh in Sumatra, in the 17th cent it was invaded by Bugis from Selangor Civil war, augmented by disorders among the Chinese tin miners, plunged Perak in the 19th cent into anarchy In 1874 Perak accepted a British protectorate, in 1895 it became one of the Federated Malay States Since 1948 it has been part of the federation of Malaya

Perazim (pĕ'ruzĭm) see BAAL-PERAZIM

Percé Rock (pĕrsā'), E Que, just off the tip of the Gaspé Peninsula, opposite the mainland village of Percé It is a massive rock (1,420 ft long and about 300 ft wide, 290 ft at the highest point), rising sheer from the Atlantic It takes its name from an opening 50 ft high through the rock near its outer end With near-by Bonaventure Island, it is a famous tourist attraction

Perceval, Spencer, 1762–1812, English statesman He had a profitable law practice before he entered the House of Commons as a Tory in 1796 Rising to be solicitor general (1801-2), attorney general (1802–7), and, under the duke of Portland, chancellor of the exchequer (1807-9), Spencer became prime minister in 1809 Though he opposed (1811) the regency of the prince of Wales (later George IV), he continued in office under the prince Without much political support he financed the Napoleonic Wars until he was assassinated by a bankrupt madman with a grievance against the government

perch, small fresh-water fish of Europe, Asia, and North America, the type of a large family of spiny-finned fishes It has a slender, graceful body and is beautifully colored, the maximum weight attained is about 5 lb, of small game fishes, it is one of the most desirable as food. The yellow perch is common in North America and is known by a variety of names, including red perch

Perche (pĕrsh), agricultural region, NW France, mostly in W Maine and S Normandy Its hills form a continuation of the hills of Normandy Alençon is the chief center Horse breeding is an important activity, and Perche has given its name to the Percheron (see HORSE)

Percier, Charles (shärl' pĕrsyā'), 1764–1838, French architect He won (1786) the Grand Prix de Rome, and in 1794 he became associated with P F L. Fontaine Napoleon appointed them as government architects, and this post lasted until his fall In the development of the Empire style under Napoleon's official sponsorship, Percier and Fontaine became its dictators and official interpreters, not only for Paris but also in Antwerp, Brussels, and Rome, where they designed many residences They worked (1802–12) upon the palaces of the Louvre and the Tuileries, designed the Arc de Triomphe du Carrousel, and did alterations and decorations for the imperial châteaux of Versailles, Malmaison, Compiègne, and Saint-Cloud As interior decorators they designed every detail of furniture, fabric, hardware, and wallpaper in conformity with Empire motives In general their work had finesse and elegance The partnership dissolved in 1814, and Percier thereafter conducted a student atelier With Fontaine he published books, some of which are still used for architectural study They include *Palais, maisons et autres édifices de Rome moderne* (1802), *Choix des plus célèbres maisons de plaisance de Rome et de ses environs* (1809–13), and *Recueil des décorations intérieures* (1812).

Percival, James Gates, 1795–1856, American poet and geologist, b Kensington, Conn, grad Yale (B A, 1815, M.D, 1820). A brilliant and learned man, he had brief careers as a physician, a teacher, an editor, and a linguist, but finally paranoia drove him to stay, voluntarily, at the state hospital in New Haven for several years He was state geologist of Connecticut (1835–42) and of Wisconsin (1854–56) During his lifetime he was best known as a romantic poet, whose *Poems* (1821), *The Dream of a Day* (1843), and other volumes were popular, but which are now forgotten

Percivale, Sir, knight of King Arthur's court · see ARTHURIAN LEGEND and PARSIFAL.

percussion instrument, in music, any instrument whose sound is produced by a blow from another like instrument or from a mallet or a stick Percussion instruments are scientifically classified as idiophones (those made of a substance, such as wood or metal, which vibrates when struck) and membranophones (those whose sound-producing agent is a stretched skin). Idiophones tuned to definite pitches include the BELL, the CELESTA, the GLOCKENSPIEL, and the XYLOPHONE Those of indeterminate pitch include the CASTANETS, the CYMBALS, the GONG, the TAMBOURINE, and the TRIANGLE All membranophones are various kinds of DRUM, only one of which, the KETTLEDRUM, is tuned to definite pitch

Percy. For members of the British family not listed under the family name, see NORTHUMBERLAND

Percy, George, 1580–1632, deputy governor of Virginia (1609–10, 1611), son of Sir Henry Percy, 8th earl of Northumberland He came to Virginia with the expedition of 1607 and was deputy governor after John Smith's return to England and, later, in the absence of Sir Thomas Gates In 1612 Percy himself returned to England He wrote *A True Relation of Virginia* (c 1622) in self-defense after another writer (presumably John Smith) had criticized Percy's leadership in the "starving time." He also wrote a *Discourse of the Plantation of . . . Virginia*

Percy, Sir Henry, 1366–1403, English nobleman, called Hotspur or Harry Hotspur Knighted (1377) by Edward III, Percy was early associated with his father, the 1st earl of NORTHUMBERLAND, in the suppression of the Scots in the north In 1388 he fought with his brother Ralph the famous battle of Otterburn, or Chevy Chase, against the Scots Hotspur was captured but later ransomed, and he returned to his post of warden of Carlisle and the West Marches He went to Calais in 1391 and served (c 1393–1395) as governor of Bordeaux, but by 1398 he was back on the Scottish border With his father he joined Henry of Lancaster, and after the latter's accession as HENRY IV, Hotspur was called upon to take command of the Welsh border Called again (1402) to the defense of the Scottish border, he with others won a notable victory over the Scots at Humbledon Hill, capturing the Scottish leader, Archibald, 4th earl of Douglas A bitter quarrel between Hotspur and Henry IV ensued when Percy refused to turn Douglas over to the king except in exchange for the ransom of Sir Edmund Mortimer, Hotspur's brother-in-law In 1403 the Percys planned with Thomas Percy, earl of Worcester, Owen Glendower, and Sir Edmund Mortimer to dethrone Henry and crown Edmund, earl of March, the nephew of Hotspur's wife Henry anticipated the move and in a battle near Shrewsbury (1403) the king was victorious and Hotspur was slain The character of Hotspur in Shakspere's *Henry IV* was derived mainly from Holinshed's *Chronicle*. See Gerald Brenan, *A History of the House of Percy* (1902)

Percy, Thomas, 1729–1811, English antiquary and churchman Educated at Oxford, in 1782 he became Protestant bishop of Dromore (Ireland) He achieved literary fame as the editor of the *Reliques of Ancient English Poetry* (3 vols, 1765), a collection of 176 English and Scottish ballads, 45 of them taken from a 17th-century manuscript Its publication marked the beginning of general interest in the earlier literary forms, and it exercised a great influence on the romantic poets See *The Correspondence of Thomas Percy and Richard Farmer* (ed. by Cleanth Brooks, 1946)

Perdiccas (purdĭ'kus), d 321 B C, Macedonian general under Philip II and Alexander the Great. After the death of Alexander (323 B C) he ruled as regent from Babylon He strove in vain to hold the empire together, but was opposed by others of the DIADOCHI He was defeated by Ptolemy I in Egypt and was killed in a mutiny of his troops

Perdido, Monte (mōn'tā pĕrdhē'dhō), Fr *Mont Perdu* (mō"pĕrdü'), peak, 10,994 ft high, NE Spain, near the French border It is one of the highest peaks of the Pyrenees

Perdu, Mont: see PERDIDO, MONTE.

Pereda, José María de (hōsā' mārē'ä dā pārā'dhä), 1833–1906, Spanish novelist His stories are laid chiefly in his native Santander An aristocrat by birth, he wrote sympathetically of the peasants but disliked the bourgeoisie His *Escenas montañesas* [mountain scenes] (1864), a collection of stories and episodes, and *El sabor de la tierruca* [the taste of the earth] (1881) show his love of nature *Sotileza* (1884) and *Peñas arriba* (1894) are among his best-known novels

Pereira, Nun'Álvares (nōōn"äl'vŭrĭsh pĕrā'rŭ), 1360–1431, Portuguese hero, called the Great Constable He was the friend, counselor, and general of John I, and it was largely to his efforts that John owed his victory at Aljubarrota (1385) and his

winning of the throne. Nun'Álvares was an astute statesman and an able strategist He was also noted for his devotion to religion and for his private virtue and charity He spent his last years as a monk in Lisbon. He was beatified by Pope Benedict XV in 1918. One of his daughters married a natural son of John I, and from that union came the house of Braganza

Pereira (pərā'rə), city (pop. 30,762), W central Colombia, SW of Manizales In a coffee-growing area of the upper Cauca valley, it is a rail and highway center and manufactures glass

Perekop, Isthmus of (pĕrĭkôp'), c 20 mi long and from 4 to 15 mi wide, USSR, connecting the Crimea, RSFSR, with the Ukrainian mainland It separates the Gulf of Perekop (an arm of the Black Sea) in the west from the Sivash Sea (an inlet of the Sea of Azov) in the east At the small village of Perekop, on the isthmus, there are ruins of Greek and Tatar fortifications which once controlled the only land route to the Crimea Here in 1920 the Red Army decisively defeated General Wrangel in the Russian civil war

Père-Lachaise see CEMETERY and LA CHAISE, FRANÇOIS D'AIX DE

perennial, any plant that lives for more than two years, as contrasted to the ANNUAL and the BIENNIAL Perennials are of two kinds, herbaceous (surviving the winter chiefly by underground STEMS) and woody (surviving the winter by roots, stems, and, sometimes, leaves) In horticultural usage, the term *perennial* refers to herbaceous perennials Bulbous plants, though mostly perennial in habit, are not usually classed as perennials Sometimes a perennial (e g , the castor-oil plant), when cultivated outside its native habitat, is treated as an annual because of its inability to endure the weather extremes Plants considered typical perennials include species of chrysanthemum, iris, peony, phlox, and pink Herbaceous perennials are usually most easily propagated by division of the underground stems, in fact, division every few years is often necessary for continued vigor, a few perennials, such as the lupine, are best undisturbed See A C Hottes, *A Little Book of Perennials* (1923), V H Ries, *How to Grow Perennial Flowers* (1936)

Peresh (pĕ'rĕsh) [Heb , =dung], son of Machir the Manasate 1 Chron 7 16

Pereslavl-Zalesski (pĕrĕ'slälf'vəl-zŭlyĕ'skē), city (pop 13,386), central European RSFSR, c 70 mi SW of Yaroslavl It has a kremlin with a cathedral dating from 1152 and a convent dating from 1392 and was the center of a principality which passed to Moscow in 1302 The city is on Lake Pleshcheyevo (19 sq mi), where Peter I built the first ships of the Russian navy Remains of the flotilla are in a near-by museum The city was formerly called Pereyaslavl-Zalesski, and the lake was also known as Lake Pereyaslavl

Peretz or **Perez, Isaac Loeb** (both: pĕ'rĕts, lōb'), 1851–1915, Jewish poet, novelist, and playwright, b. Zamosc, Poland His early work was written in Hebrew, which he abandoned for Yiddish All his work is imbued with the spirit of his people and an understanding of Jewish life His finest work is contained in his Hasidic sketches, highly imaginative and sympathetic, such as *Stories and Pictures* (1900–1901; Eng tr , 1906). Selections from his works were published (1947) in Yiddish and English See Maurice Samuel, *Prince of the Ghetto* (1948)

Pereyaslav-Khmelnitski (pĕrĕsläf'-khmĭlnyĭt'skē), city (pop 15,466), central Ukraine, SE of Kiev. Known since the 10th cent , it was the capital of a principality (11th-12th cent) of Kievan Russia. Its former name was Pereyaslavl, it was modified in 1944 in honor of Bohdan Chmielnicki, who in 1654 proclaimed the union of the Ukraine with Russia here

Pereyaslavl-Zalesski, RSFSR see PERESLAVL-ZALESSKI.

Perez (pĕ'rĕz), variant of PHARES

Pérez, Antonio (äntō'nyō pä'räth), b between 1534 and 1540, d 1611, Spanish politician From 1573 until 1579 he was the confidential adviser of King Philip II. Ambitious and unscrupulous, he became very powerful and was with the princess of ÉBOLI a center of court intrigues In 1578 Escobedo, secretary to John of Austria, was assassinated, and in 1579 Pérez was arrested, public opinion accusing him of having procured the murder The most likely version of the murder is that Pérez procured it on the king's order on the ground that Escobedo was fostering dangerous ambitions in John of Austria Another theory is that Escobedo was killed after detecting Pérez in an intrigue with the princess Philip's order to arrest Pérez may have been inspired by jealousy, for Philip is said to have loved the princess Pérez was prosecuted on various charges until in 1590 he fled to Saragossa, where he placed himself in the hands of the authorities of his native Aragon He then openly accused the king of having ordered Escobedo's murder The king contested the procedure, and the case became a struggle between Philip and the people of Aragon, who, jealous of their privileges, sided with Pérez and revolted, the rising was ruthlessly suppressed (1591). The Inquisition intervened, accusing Pérez of heresy and claiming jurisdiction Pérez finally fled (1591) to France and England.

Perez, Isaac Loeb: see PERETZ, ISAAC LOEB

Pérez, Juan (hwän' pä'räth), d. 1774, Spanish colonial naval officer, explorer on the coast of the Pacific Northwest. He commanded a vessel in the expedition to San Diego under general command of Gaspar de Portolá, and in 1774 he was in command of a fleet sent by Viceroy Bucareli to investigate Russian advances down the northern coast, to visit the coast to lat 60° N, and to take formal possession for Spain. He sailed from Monterey northward, but was prevented from landing by bad weather and turned back at lat 55° N He had traffic with the natives of Queen Charlotte Island, sighted Vancouver Island, and on Aug 8, 1774, discovered Nootka Sound, which he called the harbor of San Lorenzo He reached Monterey late in August and died at sea when bound for San Blas The diary of one of the chaplains, Juan Crespi, gives a fine narrative of the voyage

Pérez de Ayala, Ramón (rämōn' pä'räth dā äyä'lä), 1881–, Spanish poet, novelist, and essayist, b Asturias He was educated at a Jesuit college, which he satirizes in the novel *A M D G* (1910, *Ad majorem Dei gloriam*) From 1904 to 1916 three books of his poems were published, each of which has a special symbolism—*La paz del sendero* (1903), the earth, *El sendero innumerable* (1916), the sea, and *El sendero andante* (1921), the river. His first book of essays, *Las máscaras* [the masks], appeared in 1917 Among his novels, which are often interspersed with poems, are *Belarmino y Apolonio* (1921), three "poematic" novels in one volume, *Prometeo, Luz de domingo*, and *La caída de los Limones* (1916, Eng. tr , *Prometheus, The Fall of the House of Limón, Sunday Sunlight*, 1920), *La pata de la raposa* (1912, Eng tr , *The Fox's Paw*, 1924), the story of his courtship of an American wife, and *Tigre Juan* (1926, Eng tr , *Tiger John*, 1933) The republican government appointed Pérez de Ayala ambassador to London in 1931 His novels and essays are characterized by originality, philosophical insight, and mastery of the subtleties of Spanish

Pérez de Montalván, Juan (hwän' pä'räth dā möntälvän'), 1602–38, Spanish dramatic poet He was the close friend and biographer of Lope de Vega He wrote many successful plays, among them *Los amantes de Teruel* [the lovers of Teruel]

Pérez Galdós, Benito (bānē'tō pä'räth gäldōs'), 1843–1920, Spanish novelist and dramatist, b Canary Islands He went to Madrid at 20 and lived there most of his adult life He owes his fame chiefly to the *Episodios nacionales*, a series of 46 novels relating episodes in the history of Spain from 1805 (*Trafalgar*, 1873) until the end of the century, *Cánovas*, the last, was published in 1912 He wrote also many novels dealing with contemporary life and problems, such as *Doña Perfecta* (1876, Eng tr , 1880), dramatized in 1896, *Gloria* (1877, Eng tr , 1883), *Marianela* (1878, Eng tr , 1883), *La familia de León Roch* (1878, Eng tr , *Leon Roch*, 1886), *Fortunata y Jacinta* (4 vols , 1886–87), *Misericordia* (1897), and *Ángel Guerra* (1890–91) In 1897 he was elected to the Royal Academy, and in 1907 he became deputy of the republican party in Madrid After 1912 he was blind but continued to dictate his books until his death.

Perez-uzza or **Perez-uzzah** (both pĕ'rĕz-ŭz'ə) [Heb , =breach of Uzzah], threshing floor where Uzzah touched the ark and died It had previously been called Chidon or Nachon. 2 Sam 6 6–8, 1 Chron 13 9–11

perfect: see TENSE

Perfectionists see NOYES, JOHN HUMPHREY

perfume, aroma produced by burning INCENSE, by the essential oils of plants, and by synthetic aromatics It has been used from antiquity in the Far East, Egypt, Greece, and Rome, and its use was revived in Europe during the Crusades Since the early 19th cent , chemists have analyzed many essential oils and have produced thousands of synthetics, some imitating natural products and others yielding new scents Most perfumes today are blends of natural and synthetic scents and of fixatives which equalize vaporization of the blends and add pungency. These include the animal fixatives, AMBERGRIS, MUSK, CIVET, and castor (from the beaver), balsam and other resins, and synthetic substitutes Leading producers of perfume oils are the East Indies, Réunion island, and the South of France, especially Grasse, which is the center also of the natural perfume industry Bulgaria is noted for ATTAR OF ROSES, the Philippines for ilang-ilang, Sicily for orange and neroli oils, and England for lavender and mint The ingredients are usually combined with alcohol for liquid scents and with fatty bases for many cosmetics See Edward Sagarin, *The Science and Art of Perfumery* (1945); Y. R Naves and Gabriel Masuyer, *Natural Perfume Materials* (Eng tr , 1947).

Perga (pûr'gə), ancient city, Pamphylia, S Asia Minor (now S Turkey) It was of importance under the Romans. St. Paul came here on his first journey (Acts 14.24,25). The ruins of Perga include a theater and a stadium.

Pergamum (pûr'gəməm), ancient city, NW Asia Minor (Turkey), in the fertile valley of the Caicus. It became important c.300 B.C., after the breakup of the Macedonian empire, when a Greek family (the Attalids) established a brilliant center of Hellenistic civilization. Its chief glory was its sculptures, at two periods. The first Pergamene school celebrated the decisive victory of Attalus I (d. 197 B.C.) over the Galatians (c.230 B.C.); the *Dying Gaul* is an example of the realism of the art. The later period produced a frieze for a great altar of Zeus, glorifying especially the defeat of Antiochus III (190 B.C.). The cultured Pergamene rulers also built up a library second only to the Alexandrian, one of its specialties was the use of PARCHMENT, which takes its name from the city. Eventually the library was given by Antony to Cleopatra As a political unit the kingdom reached its chief importance under Attalus I, Eumenes II (d 160 or 159 B C), and Attalus II (d 138 B C) These kings followed a pro-Roman policy through fear of the imperialism of Philip V of Macedon and of Antiochus III The independence of Pergamum ended dramatically when Attalus III (d. 133 B.C.) bequeathed the kingdom to the Roman people It was reconstituted as the province of Asia. Under the Romans Ephesus rapidly eclipsed Pergamum as chief city Pergamum knew Christianity early, it was one of the Seven Churches of Asia (Rev. 1 11, 2 12) Various forms of the name are Pergamus, Pergamon, and Pergamos See E V. Hansen, *The Attalids of Pergamon* (1947).

Pergolesi, Giovanni Battista (jōvän'nē bät-tēs'tä pĕrgōlā'zē), 1710–36, Italian composer of the Neapolitan school He composed some sacred works and instrumental pieces, but his real bent was for the stage However, only one of his operas—*La serva padrona* (Naples, 1733), originally written as an intermezzo—was a real success, although his musician contemporaries esteemed his work highly *La serva padrona* became the model for the *opera buffa* Performed between the acts of an opera by Lully in Paris in 1752, it precipitated a controversy concerning Italian versus French opera and found an ardent champion in J J Rousseau Pergolesi's *Stabat Mater*, for treble voices, was completed just before his death.

Perham (pû'rəm), village (pop 1,534), W Minn , SE of Detroit Lakes It is a resort in a lake and farm area

Peri, Jacopo (yä'kōpō pä'rē), 1561–c 1633, Italian composer and singer *Dafne* (c 1597), the first opera on record, was jointly composed by Peri and Giulio Caccini Each composed a setting of *Euridice* (1600), the earliest opera whose music is extant, for the wedding of Marie de' Medici and Henry IV of France

peri (pĕr'ē), in Persian mythology, supernatural female being Peris are comparable to fairies and elves Peris are said by some Moslems to be descendants of the fallen angels

Periander (pĕ'rēăn"dər), d. 585 B.C , one of the SEVEN WISE MEN OF GREECE, tyrant of Corinth His rule raised his city to a high state of prosperity, and he had friendly relations with Mitylene He established colonies at Potidaea and probably at Apollonia, and he fought successfully against Epidaurus and Corcyra. There were many stories told of him and many maxims attributed to him

Peribonca (pĕrĭbŏng'kə), river rising in central Quebec in the Otish Mts and flowing 300 mi S through Peribonca Lake to Lake St John.

Pericles (pĕ'rĭklēz), c 495–429 B C , Athenian statesman He was of the ALCMAEONIDAE, his father, Xanthippus, had been Athenian admiral at Mycale (see PERSIAN WARS), and his mother was a niece of Cleisthenes The young man studied under notable masters, such as Zeno of Elea and Anaxagoras To the influence of the latter is attributed much of the composure and dignity which gave Pericles so great an advantage as orator and as leading citizen Appreciation of beauty and an ambition that Athens should be unrivaled in splendor made him a great patron of the arts He encouraged music and the drama, and under his direction Ictinus and Callicrates, Phidias, and others produced the monuments (e g , the Parthenon) that have made his city glorious Pericles' political leadership depended upon an alliance with the people His foremost opponent was CIMON, who was much abroad carrying on wars against the Persians Dominated by Pericles, democracy advanced through various steps until all officials of Athens were paid salaries by the state, and every office was open to most citizens Pericles' policy was always the aggrandizement of Athens, under Athenian hegemony he sought to found a Hellenic confederacy (448 B C.), but Sparta would have none of it Under Pericles the DELIAN LEAGUE reached its maximum efficiency as an instrument of Athenian despotic imperialism. Peace with Persia was made in 448 B.C., after Cimon's death In 445 B C a 30-year truce was arranged between Athens and Sparta The 14 years of peace that followed gave Pericles a period of power for the development of Athens as he desired. The PELOPONNESIAN WAR began in 431 B.C. This, which Pericles helped to bring on, was to undo Pericles' work and ruin Athens. When the war went against the city, Pericles' enemies attacked him. The cele-

brated funeral oration he made at the end of the first year of war (as told by Thucydides) was a strong appeal to the pride and patriotism of the citizens. The next year brought the plague and afterward the deposition of Pericles, who was tried and fined, then reinstated a little before his death. Alcibiades was a ward of Pericles. Aspasia was his mistress. Thucydides and Plutarch left accounts of his life and character. See W. W. Lloyd, *The Age of Pericles* (1875), E. A. Gardner, *Ancient Athens* (1902); J. B. Bury, *Ancient Greek Historians* (1909).

Perida (pĕrī'dȧ), family returned from exile. Neh. 7:57. Peruda. Ezra 2:55.

Périer, Casimir Pierre (käzēmēr' pyĕr' pĕryā'), 1777–1832, French statesman. He was a member of a wealthy bourgeois family, his father, Claude Périer, a textile manufacturer and financier of Grenoble, had been an important figure in the Bank of France, and several of his brothers were prominent. In 1801 Casimir Périer founded a bank at Paris with his brother Scipion. After the Bourbon restoration Casimir Périer, like many other bourgeois, became an opponent of reactionary tendencies in the government. He wrote pamphlets against the duc de Richelieu, entered the chamber of deputies in 1817, and bitterly opposed Villèle and Polignac. In the July Monarchy of Louis Philippe he was prominent and served as minister without portfolio (resigning when Laffitte became premier). When the Laffitte ministry fell, Casimir Périer headed the new ministry in 1831. His ministry was conservative, he put down risings in Grenoble and Lyons and set out to repress republican sentiment and maintain a constitutional monarchy. He refused to lend the least aid to the Polish revolution, but sent an army to Belgium, thus helping the insurgents there to win independence from Dutch rule. Casimir Périer's exertions in behalf of the stricken in the cholera epidemic of 1832 led to his own death. The family continued prominent, taking the name CASIMIR-PERIER.

Périgord (pārēgôr'), region and former county, SW France, drained by the Dordogne and Isle rivers. It is now included in Dordogne dept. and in part of Lot-et-Garonne dept. It consists of arid limestone plateaus (*causses*), cut by deep and fertile river valleys. The plateaus have extensive oak forests, at the roots of the oak trees truffles are found (see TRUFFLE), they constitute a major export article, as do the huge livers of the geese that are raised in the valleys. Périgueux and Bergerac are the chief towns. Near Madeleine and Moustier numerous cave dwellings have been found (see PALEOLITHIC PERIOD). The county of Périgord, originating in the 9th cent., was enfeoffed to AQUITAINE. It was definitively wrested from English rule c. 1370 and passed, as a fief of the French crown, to the house of Bourbon. After Henry of Navarre, who inherited it, became king of France in 1589, he incorporated Périgord into the royal domain as part of Guienne prov.

Périgueux (pārēgû'), city (pop. 37,287), capital of Dordogne dept., SW France, on the Isle river. It has ruins dating from Roman times. The Cathedral of St. Front, in Byzantine style, and the Basilica of St. Étienne date from the 12th cent. Périgueux is the historical capital of Périgord and is famous for the *pâtés* (especially of goose livers and truffles) which are exported.

Perim (pārēm', pĕr'ĭm), island (5 sq. mi., pop. 360), belonging to the British crown colony of Aden. It is the only important island in the Bab el Mandeb, the strait which connects the Arabian Sea and the Red Sea. In 1857 Perim was occupied by the British, who have fortified and garrisoned it.

Perino del Vaga (pārē'nô dĕl vä'gä) or **Pierino del Vaga** (pyārē'nô), 1500–1547, Italian painter, whose real name was Perino or Pierino Buonaccorsi. He worked chiefly in Rome and Genoa. He worked for Raphael in the loggia of the Vatican and painted the figures of the planets in the Appartamento Borgi. After the sack (1527) of Rome he fled to Genoa, where his chief paintings were the very fine historical and mythological frescoes of the Doria Palace (partially destroyed), including *War of the Gods and Giants*. Shortly after 1536 he returned to Rome, under the patronage of Pope Paul III, and worked on the decorations of the Sala della Segnatura in the Vatican and the Sala Regia.

period: see PUNCTUATION.

periodical, publication issued at regular intervals, usually distinguished from the NEWSPAPER in that it purports to express the points of view of its authors and editors in the articles instead of recounting current news and also by the frequency of its publication, which may be weekly, monthly, quarterly, and even annually, rather than daily. The folds of pages of the periodical are usually bound together inexpensively, whereas there is no binding of newspaper folds. The term *periodical* is applied to journals, literary reviews, and fiction magazines, but the term *magazine* is usually limited to those periodicals designed primarily for entertainment. The French *Journal des savants* (1665–1792, 1797–; before 1797 the spelling *sçavans* was used) is considered the first periodical. Its articles are both scientific and literary. Other important French periodicals, past and present, include the *Revue des Deux Mondes*, founded in 1829 but discontinued late in the Second World War; the *Mercure de France* (1672–1832), which after a long period of inactivity was again published in 1890 and is still published; the *Revue de Paris* (1894–), the *Revue politique et littéraire* (*Revue bleue*), which was begun in 1863 but suspended publication in 1939, and the contemporary *Revue scientifique* (*Revue rose*) published after 1863. In Switzerland the *Bibliothèque universelle et revue suisse* (1846–57, 1858–78, 1879–95, 1896–1924) was widely known, as was its successor the *Bibliothèque universelle et revue de Genève* (1924–30). Germany has had innumerable scientific and scholarly journals. The *Deutsche Rundschau* (1874–) has a long tradition of excellence in the field of literature, as did the *Preussische Jahrbücher* (1858–1933). The humorous *Fliegender Blätter*, started in 1845, and *Simplicissimus*, launched in 1896, also were famous, but they ceased publication in the Second World War. The Italian *Nuova antologia* (1866–) developed a wide foreign circulation. *De Gids* (1837–) is the best-known Dutch periodical. *Samtiden* (1890–) is a general Norwegian periodical, *Samtid och framtid* (1946–) is the best-known Swedish magazine. The first English periodical, *Mercurius Librarius* (1680), was styled after the *Journal des savants*. *Weekly Memorals for the Ingenious* was published for one year, 1682–83. The *Gentleman's Journal* (1691–94) contained news and original prose and poetry. The *History of the Works of the Learned* (1699–1712, 1737–43) consisted largely of descriptions of foreign books. The great 18th-century essayists reached their readers chiefly through the weekly review. Daniel Defoe's *Review*, for the most part political, ran from 1704 to 1713. Jonathan Swift edited the *Examiner* in 1710–11. Sir Richard Steele's *Tatler* (1709–11) was the predecessor of the *Spectator* (1711–12), for which Steele and Joseph Addison were jointly responsible. Of the 208 essays of the *Rambler* (1750–52) all but five were written by Samuel Johnson. Tobias Smollett and Dr. Johnson contributed to the Tory *Critical Review* (1756–1817). In the name *Gentleman's Magazine* (1731–1868) the word *magazine* is for the first time used in the sense of a periodical for entertainment. In 1802 the famous *Edinburgh Review* was launched by Francis Jeffrey, Henry Brougham, and Sidney Smith. Constable was its first publisher. It ran until 1929, among its famous contributors were Sir Walter Scott, Thomas Macaulay, Thomas Carlyle, Matthew Arnold, and William Hazlitt. In 1809 Scott left the Whig *Edinburgh Review* for the Tory *Quarterly Review*, started that year by John Murray, with William Gifford as its first editor. It is still published. It was the habit of literary reviews to make the criticism of a single book or a group of books the springboard for an essay on the subject. Other famous quarterlies begun in the early 19th cent. include the *Westminster Review* (1824–1914), an organ of Benthamite reform, and the *Dublin Review* (1836–), Roman Catholic, of which Wilfrid Ward was long editor. G. H. Lewes was the first editor of the *Fortnightly Review* (1865–), monthly after 1866. Other famous monthlies are the *Nineteenth Century and After* (1877–) and the *Contemporary Review* (1866–). The great 19th-century English novels usually appeared first in magazines. Charles Dickens edited *Household Words* (1850–59) and *All the Year Round* (1859–95), and many of his novels appeared in them. Charles Kingsley wrote for *Macmillan's*, which ran from 1859 to 1907. The *Cornhill Magazine* (1860–) was first edited by Thackeray and published his last two novels as well as some by Mrs. Gaskell and by Anthony Trollope. *Fraser's Magazine*, published by James Fraser, was started by William Maginn and Hugh Fraser in 1830. It published some of the best works of Thackeray and Carlyle. Longmans publishing house took over the magazine in 1863, and it ran until 1882. *Blackwood's Magazine* was founded in 1817; Thomas De Quincey was among its early contributors. The *English Review*, founded in 1908, was one of the best-known literary monthlies of the early 20th cent. It introduced the poetry of John Masefield. In 1937 it was incorporated into the *National Review* (1883–). The *National and English Review* was started in 1950. The more famous English literary and political weeklies of the 19th and 20th cent. include the *Examiner* (1808–81), started by Leigh Hunt and his brother John, the *Academy* (1869–1916, weekly after 1874), the *Athenaeum* (1828, the *Nation and Athenaeum*, 1921–31, merged in 1931 with the *New Statesman* under the title the *New Statesman and Nation*), of which Charles Wentworth Dilke was the outstanding editor, the *Spectator* (1825–); and the *Saturday Review* (1855–1938). The English humorous weekly *Punch* (1841–) is undoubtedly the most famous of its kind in the world. Noted contributors included Thackeray, Thomas Hood, and Douglas William Jerrold and the illustrators John Leech and Sir John Tenniel. In colonial America, periodical publication was at first hampered by indifference and by difficulties of distribution. Postage was practically prohibitive, since postmasters could frank what they sent out, they frequently became publishers. Early periodicals, usually short-lived, were Andrew Bradford's *American Magazine* (Philadelphia, 1741), Benjamin Franklin's *General Magazine and Historical Chronicle* (Philadelphia, 1741), and William Bradford's *American Magazine and Monthly Chronicle* (Philadelphia, 1757–58), edited by William Smith. Among those published in the early days of the republic were the *American Museum* (Philadelphia, 1787–92), edited by Mathew Carey, Noah Webster's *American Magazine* (New York, 1787–88), the *Columbian Magazine* (Philadelphia, 1786–92), the *Massachusetts Magazine* (Boston, 1789–96) of Isaiah Thomas, the *New-York Magazine* (1790–97) of Thomas and James Sword, and the *Port Folio* (Philadelphia, 1801–27), published by Joseph Dennie until 1808 and later edited (1812–14) by Nicholas Biddle. *Niles' Weekly Register* (1811–49), published from 1811 to 1836 by Hezekiah Niles, is valuable for its honest record of political events. The *Analectic Magazine* (1813–21) was at first edited (1813–15) by Washington Irving. The *New-York Mirror* (1823–57), founded by George Pope Morris and Samuel Woodworth, came to hold a high position for its literary reviews and for its superior typography and illustrations. Edgar Allan Poe contributed (1844–45) many critical essays to this periodical. *Graham's Magazine* (Philadelphia, 1826–58) was edited at different times by Poe (1841), Rufus W. Griswold (1842), and Bayard Taylor (1848). *Godey's Lady's Book* (Philadelphia, 1830–92, New York, 1892–98) was one of the most famous of the periodicals planned to interest women, its colored fashion plates are valued by collectors. Sara Josepha HALE was long its editor. Other magazines which were notable in the 19th cent. were the *Knickerbocker Magazine* (New York, 1833–65), the *Southern Literary Messenger* (Richmond, 1834–64), edited (1835–37) by Poe for a short time and publishing much of the work of William Gilmore Simms, the *Democratic Review* (Washington and New York, 1837–59), to which Nathaniel Hawthorne, William Cullen Bryant, and Walt Whitman contributed, and the *Dial* (Boston, 1840–44), the organ of the transcendentalists, edited by Margaret Fuller (1840–42) and by Ralph Waldo Emerson (1842–44). Another *Dial* (Chicago and later New York, 1880–1929) was famous for its literary criticism. American periodicals which have had long histories include the *North American Review* (Boston and later New York, 1815–1940), edited by James Russell Lowell (1864–72), Charles Eliot Norton (1864–68), and Henry Adams (1870–76), the *Living Age* (Boston, 1844, a weekly until 1927, then a monthly until it ceased publication, 1941), made up of articles reprinted or translated from European journals, the *Atlantic Monthly* (Boston, 1857–), which has had several outstanding editors, including William Dean Howells (1871–81), and *Harper's Magazine* (New York, 1850–), edited (1869–1919) by Henry Alden Mills. *Scribner's Monthly* (1870–81) was renamed the *Century Illustrated Magazine* (1881) and the *Century Monthly* (1925), which united (1929) with the *Forum* to form the *Forum and Century* (1930–40). J. G. Holland (1870–81) and R. W. Gilder (1881–1909) edited this series of periodicals for years. Another monthly periodical with the name *Scribner's Magazine* ran from 1887 to 1939. From 1866 to 1878 the *Galaxy* (New York) was a rival of the *Atlantic Monthly*. Well-known American weeklies are the *Nation* (New York, 1865–), edited first by Edwin L. Godkin and later by Oswald Garrison Villard from whom it was taken over by Freda Kirchwey, originally a conservative organ of opinion noted for its excellent book reviews and now a vehicle for liberal views, *Harper's Weekly* (New York, 1857–1916), for which George W. Curtis wrote famous editorials and Thomas Nast made cartoons; the *Saturday Evening Post* (Philadelphia, 1821–), now chiefly a fiction magazine, the *Independent* (New York and Boston, 1848–1928), at first Congregationalist under the editorship of Henry Ward Beecher (1861–63) and Theodore Tilton (1863–70), but later a nonsectarian, crusading publication, the *Outlook* (New York, 1893–1935), which under the direction of Lyman Abbott superseded the *Christian Union* (1870–93), and the *New Republic* (New York, 1914–), an organ of liberal and radical opinion. Both *America* (1909–) and the *Commonweal* (1924–) are well-known Roman Catholic weeklies. The *Churchman* (1845–) is a liberal Episcopal weekly. The *New Englander* (New Haven, 1843–92) became in 1892 the *Yale Review*, a literary quarterly still current. The *American Mercury* was founded in 1924 by H. L. Mencken and George Jean Nathan. The *Overland Monthly* (San Francisco, 1868–) had many distinguished contributors and was long associated with its first editor, Bret Harte (1868–70). Other important Western periodicals devoted to literature include *Poetry* (Chicago, 1912–), edited by Harriet Monroe until 1936, and *Midland* (Iowa City, 1915–33). The era of muckraking in the latter years of the 19th cent. and first decade of the 20th cent. brought into prominence *McClure's* (New York, 1893–1928); *Hampton's Magazine* (New York, 1898–1912); the *Cosmopolitan* (New York, 1886–1925), which was

bought by the Hearst syndicate and is still published; the *Arena* (Boston, 1889–1909); *Collier's* (New York, 1888–), and others The *Youth's Companion* (Boston, 1827–1929) and *St Nicholas* (New York, 1873–1940), long edited by Mary Mapes Dodge, were famous juvenile magazines The *Ladies' Home Journal* (Philadelphia, 1893–) contains topics of general interest to women *Esquire* (Chicago, 1933–) became widely read as a magazine for men, and the *New Yorker* (1925–) became noted for its sophisticated humor and for its literary quality The *Saturday Review of Literature* (New York, 1924) is one of the best-known literary periodicals A comparatively recent development has been the weekly magazine—e g , *Time* (New York, 1923–) and *Newsweek* (Dayton and New York, 1933–)—which is exclusively devoted to the condensed coverage and interpretation of news, earlier the *Literary Digest* (1890–1938) had condensed editorials and articles from newspapers and periodicals *Reader's Digest* (Pleasantville, N Y , 1922–) did much to popularize condensations of magazine articles and literature Specialized periodicals, which cover a great many fields of knowledge, endeavor, and beliefs, are widely published throughout the world Some of the oldest American scientific periodicals are the *American Journal of Science* (New Haven, 1818–), the *Franklin Journal* (Philadelphia, 1826–), and the *Scientific American* (New York, 1845–). Agricultural journals include the *American Agriculturalist* (1842–) and the *Rural New Yorker* (1851–) Among trade journals is the *Publishers' Weekly*, organ of book publishers For indexes to periodicals, see INDEX See G S Marr, *Periodical Essayists of the Eighteenth Century* (1924), Walter Graham, *English Literary Periodicals* (1930), F L. Mott, *A History of American Magazines, 1741–1885* (3 vols , 1930–38), J E Bakeless, *Magazine Making* (1931), M M H Thrall, *Rebellious Fraser's* (1934), M M Bevington, *The Saturday Review, 1855–1868* (1941), Winifred Gregory, ed , *Union List of Serials* (2d ed , 1943), C F Ulrich, *Ulrich's Periodical Directory* (5th ed , 1947), Playsted Wood, *Magazines in the United States* (1949), the annual N W Ayer & Son's Directory

periodic law, Prior to the work of Mendelejeff (1869), a number of chemists had been working toward a universal system for the classification of the chemical elements J W Dobereiner in 1829 arranged a number of the elements in groups of three, called triads, on the basis of their physical and chemical properties, observing that in each of these groups the element lying between the other two exhibited properties between those of the other two and had an ATOMIC WEIGHT which was almost exactly equal to the average (or mean) of their atomic weights For example, calcium, strontium, and barium fall naturally together in respect to their chemical activity and when arranged in order of increasing atomic weight strontium has an atomic weight (87 63) very nearly equal to the average of that of calcium (40 08) and barium (137 36) In the same way lithium (at wt =6 940), sodium (at wt =22 997), and potassium (at wt = 39 096) fall together, sodium being in between and having an atomic weight very nearly equal to the average of those of the other two elements J A R Newlands discovered (1863–65) that when the elements are listed according to increasing atomic weight, it is found that, beginning with the second, the 8th element following any given element is very similar in chemical properties, and the 16th element following it is also similar in properties Because of this counting by groups of eight, Newlands's law was known as the law of octaves About the same time A E B de Chancourtois arranged the elements in one continuous order also by atomic weights A few years later (1869) Mendelejeff brought forward his periodic system for the grouping of the elements, using, like Newlands and Chancourtois, an order of increasing atomic weight His periodic law states that the properties of the chemical elements are periodic functions of their atomic weight—i e , that there is a definite relationship which is seen in the periodic, or regular, occurrence of similar properties in certain elements when all are arranged according to increasing atomic weight Lothar Meyer, working independently of Mendelejeff, drew a similar conclusion, pointing out in this respect for the first time the relationship between the so-called atomic volumes of the various elements, the atomic volume of an element being the ratio of its atomic weight to its specific gravity At the time when Mendelejeff announced his periodic law, there were a number of elements still undiscovered As a result, his arrangement of the elements in tabular form (in vertical columns) showed a number of spaces into which no element then known would fit He concluded that these spaces indicated elements not yet discovered By means of his periodic system, he was able to predict with startling accuracy the atomic weights and general properties of these undiscovered elements (see GALLIUM, GERMANIUM, and SCANDIUM). In spite of this remarkable success, however, his periodic law has certain defects Not all the elements fall, when arranged in order of increasing atomic weight, into positions corresponding correctly to their chemical properties For example, the inert gas argon (at wt =39 944) follows potassium (at wt =39 096) with respect to atomic weight, but according to its chemical properties should precede the metal in order to fall into the same group as the other inert gases of similar properties In the same way, tellurium and iodine must be interchanged so that the latter can be placed in the same group as fluorine, chlorine, and bromine (see HALOGEN), which it closely resembles Cobalt (at wt =58 94) and nickel (at wt =58 69) are also interchanged so that the cobalt can be nearer in the arrangement to iron, which it resembles more closely than does nickel. The occurrence of these exceptions to Mendelejeff's law was corrected by the work of Moseley which led to the statement of a new periodic law that has no exceptions In this system, the elements are arranged according to their X-ray spectra (in order of decreasing wave length) and not according to their atomic weights The order in which they fall, however, is almost identical with that of increasing atomic weight In the new system, the elements are numbered according to the position they occupy, and this number is called the atomic number The atomic number indicates both the number of positive electrical charges on the nucleus and the number of electrons outside the nucleus It is the number and arrangement of these outer electrons that is believed to be chiefly responsible for determining the properties of the elements The new periodic law states, then, that the properties of elements are periodic functions of their atomic numbers The tabulation consists of nine vertical columns called groups and a number of horizontal columns called periods For example, the gases helium (atomic no =2), neon (atomic no =10), argon (atomic no =18), krypton (atomic no =36), and xenon (atomic no =54), which are all chemically inert, fall into the so-called zero group (the first vertical column) and all have a VALENCE of zero The property of chemical inertness is seen to be of periodic or regular occurrence on the basis of atomic numbers The position of hydrogen is in question, but it is commonly placed in group one (the second vertical column) along with lithium, sodium, potassium, copper, rubidium, silver, cesium, gold, and francium, which are arranged below it in that order (copper, silver, and gold, however, are classed together since they resemble each other more than they do the other metals of the group) Beryllium and magnesium are the first two elements of the second group, boron and aluminum, of the third group, carbon and silicon, of the fourth, nitrogen and phosphorus, of the fifth, oxygen and sulphur, of the sixth, fluorine and chlorine, of the seventh, iron, cobalt, and nickel are in the eighth The so-called first period (i e , the first horizontal column not counting that containing hydrogen alone) consists of the first element of each of the groups (or vertical columns) and includes, therefore, helium, lithium, beryllium, boron, carbon, nitrogen, oxygen, and fluorine The second period includes neon, sodium, magnesium, aluminum, silicon, phosphorus, sulphur, and chlorine The new periodic table is of great importance to the chemist By the use of the table it has been possible to predict the existence and properties of a number of elements not known at the time, among these being hafnium, masurium, and rhenium Furthermore, the table has served as a reliable check for disputed or uncertain data concerning various of the known elements

Peripatetics (pĕ″ruputĕ′tĭks) [from Gr ,=walking about, from Aristotle's manner in teaching], the followers of ARISTOTLE THEOPHRASTUS, friend of Aristotle and cofounder with him of the Peripatetic school of philosophy, succeeded him as its head and did much to bring it into favor Strato of Lampsacus was the next leader of the school Later Peripatetics were largely occupied in preparing paraphrases, commentaries, and interpretations of the teachings of Aristotle The first complete edition in ancient times was arranged by Andronicus of Rhodes (60 B C –50 B C) The devotees of the school defended the essential doctrines of the founder against the Stoics and others, but some turned into paths of their own in certain matters, particularly concerning the explanation of nature.

periscope (pĕ′rĭskōp) [Gr ,=view around], instrument to enable a person to see objects not in his direct line of vision or concealed by some intervening body Its essential parts are a tube, prisms, lenses, mirrors, and an eyepiece The image is received in one mirror and reflected through the tube with its lenses to a mirror visible to the person Periscopes used in submarines must be so arranged that they can be turned to permit a view of the entire horizon Such periscopes are of noncorrosive metal, have tubes up to 30 ft long and about 6 in in diameter (only a small section projects above the water), and may be withdrawn into the submarine There are many types of smaller land instruments

peritonitis (pĕ″rĭtŭnī′tĭs), inflammation of the peritoneum, the membranous tissue lining the abdominal cavity and surrounding many of the organs Though most commonly caused by perforation of the gastrointestinal tract (e g , by ulcer and tissue degeneration in typhoid fever) and by rupture of a distended appendix, it is also a hazard of abdominal surgery Sometimes it occurs from a primary infection, e.g , in pneumococcus infections, particularly among children, or in the course of tuberculosis of the bowel It may result from abortions or gonococcal infection of the Fallopian tubes Whatever the avenue of access, bacteria are generally the causative agents of peritonitis Surgery is needed when the condition does not respond to sulfa compounds, penicillin, or other drugs

periwinkle (pĕ′rĭwĭng″kŭl), small mollusk with a conical, spiral shell, found in most temperate and cold waters, often partially terrestrial and frequently seen on rocks and seaweed The edible European species is established on the Atlantic coast of North America

periwinkle, name for plants of the Old World genus *Vinca* The common periwinkle (*Vinca minor*), often called myrtle, is much cultivated—frequently naturalized—as a trailing ground cover for shady places It has dark evergreen leaves and, commonly, blue flowers A variegated-leaved variety of one species (*Vinca major*) is a popular window-box vine

Perizzite (pĕ′rĭzīt, pĕrĭz′–), aboriginal people of Palestine Nothing is known of them Gen 13 7, 15 20, 34 30, Ex 3 8, Joshua 9 1, 11 3, 17 15, Judges 1 4, 3 5, 1 Kings 9 20, Ezra 9 1

perjury (pûr′jûrē), the act of willfully and knowingly stating a falsehood under oath or under affirmation in judicial or administrative proceedings If the person accused of perjury had any probable cause for his belief that the statement he made was true, then he is not guilty of perjury In many jurisdictions perjury is a felony if the statement made related to a material matter, a misdemeanor if it related to an immaterial matter In U S Federal law, making a false statement is perjury only if it relates to a material matter and, therefore, the crime is always a felony See SUBORNATION OF PERJURY

Perkasie (pûr′kŭsē), borough (pop 4,121), SE Pa , NNW of Philadelphia Quarrying is done in this region

Perkin, Sir William Henry, 1838–1907, English chemist He discovered, in 1856, the first aniline dye (aniline purple, known as mauve and mauveine), founded a factory to make it, and thereby established the industry in England He was knighted in 1906

Perkins, Charles Callahan, 1823–86, American art critic and etcher, b Boston He was president of the Boston Art Club and one of the founders of the Museum of Fine Arts and by his writings and lectures materially influenced the development of art in America He was critical editor of Champlin's *Cyclopaedia of Painters and Paintings* and wrote *Tuscan Sculptors* (1864) and *Italian Sculptors* (1868), illustrated with etchings by himself, *Raphael and Michelangelo* (1878), *Sepulchral Monuments in Italy* (1883), and *Ghiberti and His School* (1885)

Perkins, Frances, 1882–, U S Secretary of Labor (1933–45), b Boston, grad Mt Holyoke College, 1902, M A Columbia, 1910 She was executive secretary of the New York Consumers' League (1910–12) and of the New York Committee on Safety (1912 17) and directed (1912–13) investigations for the New York state factory commission She became an authority on industrial hazards and hygiene and began lobbying in Albany for more comprehensive factory laws and for maximum-hour laws for women Gov Alfred E Smith appointed (1923) her to the New York State Industrial Board, and later (1926–29) she served as its chairman Gov Franklin D Roosevelt named her (1924) industrial commissioner of New York state to direct the enforcement of factory and labor laws As President, Roosevelt appointed her U S Secretary of Labor—the first U S woman cabinet member Despite the bitter criticisms of business, labor, and political leaders, she administered efficiently the vast new duties created by the New Deal After she resigned, she became (1946) a member of the U S Civil Service Commission In 1913 she married Paul C Wilson Besides books on labor problems, she also wrote *The Roosevelt I Knew* (1946).

Perkins, Lucy Fitch, 1865–1937, American author and illustrator, b Maples, Allen co , Ind She was married to Dwight Heald Perkins in 1891 Her books for children were popular, especially the "Twins" series, such as *The Dutch Twins* (1911), designed to promote international good will

Perkins Institution and Massachusetts School for the Blind, at Watertown, chartered 1829, opened 1832 in South Boston, as New England Asylum for the Blind, named Perkins Institution and Massachusetts Asylum 1839, given present name 1877, moved 1912 Samuel G HOWE was the first director. Among the school's pupils were Laura Bridgman and Anne Sullivan Macy, the tutor of Helen Keller.

Perkin Warbeck: see WARBECK, PERKIN.

Perlepe, Yugoslavia see PRILEP

Perley, Sir George Halsey, 1857–1938, Canadian statesman, b Lebanon, N.H., grad. Harvard.

1878. With his parents he went as a child to Ottawa, and later he entered the lumber business established there by his father. In 1904 he was elected to the Canadian House of Commons as a Conservative, serving there almost continuously until his death. In 1911 he was made minister without portfolio in the cabinet of Sir Robert Laird Borden; from 1914 to 1922 he was high commissioner for Canada in London. In the second brief government of Arthur Meighen (1926) Perley was secretary of state, and in Richard B. Bennett's administration (1930–35) he was minister without portfolio and, on occasion, acting prime minister. Out of the personal fortune which he accumulated from his business enterprises, Perley gave generously to philanthropic causes.

Perlis (pûr'lĭs), state (316 sq. mi., pop. 70,538), N Malaya, on the Straits of Malacca. It is bordered on the north and east by Thailand and on the southeast by Kedah, of which it formed a part till 1842. In 1909 suzerainty over Perlis was transferred from Siam to Great Britain. Before the establishment of the federation of Malaya (1948), Perlis was classed as one of the Unfederated Malay States. The rich alluvial plains of Perlis form one of Malaya's major rice-growing areas. Over three quarters of the people are Malays.

Perm, RSFSR: see MOLOTOV.

Permanent Court of Arbitration: see HAGUE TRIBUNAL.

Permanent Court of International Justice: see WORLD COURT.

Permian period (pûr'mēun) [from the Perm region, Russia], sixth and last period of the PALEOZOIC ERA of geologic time. The Permian period saw the climax of the changes in the earth's surface which had begun in the preceding CARBONIFEROUS PERIOD. At the close of the Carboniferous, large areas of E North America were dry land. In the Lower Permian, sandy shales, sandstones, and thin limestones, making up the Dunkard formation (formerly called the Upper Barren measures), were laid down in the remaining submerged areas of West Virginia, Pennsylvania, and Ohio, but the continued rising of the land soon put an end to deposition. The Dunkard is the last Paleozoic formation of the E United States. More extensive deposits were formed in the West. Parts of Texas, Oklahoma, Kansas, and Nebraska were covered by an arm of the sea or possibly by a salt lake or a series of salt lakes or lagoons, now represented by masses of salt or gypsum in layers separated and overlaid by red beds. There are important Permian salt mines at Hutchinson and Lyons in Kansas, and gypsum mines in Oklahoma, Texas, and Kansas. The longest marine submergence of the Lower Permian in North America was in W Texas and SE New Mexico, where there is a system of marine limestones and sandstones from 4,000 to more than 6,000 ft. thick. The Cordilleran region was also submerged, here marine structures are more common toward the west, and land sediments, especially red beds, toward the east. The red beds are generally considered to be indicative of increasingly arid conditions in Permian times. In the Upper Permian practically all of North America was above sea level, and the continent was larger than at present. In or at the close of the Upper Permian, the greatest earth disturbance of the Paleozoic era thrust up the Appalachian mts. The Lower Permian or Rothiegendes (red layers) of Europe was marked principally by erosion from the Paleozoic Alps of the Carboniferous into the low-lying land to the north, the formations are chiefly shale and sandstone, with some conglomerate and breccia. Red is a prominent color for the beds. The Upper Permian was a period of more extensive marine invasion, the Zechstein (mining stone) formation is predominantly limestone, though it includes rich deposits of copper, salt, gypsum, and potash. The Upper Permian beds of Germany were long the chief source of the world's potash. The Permian and late Carboniferous of the Southern Hemisphere were radically different from those of the Northern Hemisphere. Australia, India, South Africa, and South America passed through a series of glacial periods, as is shown by the presence of tillite and of conspicuous striations of the underlying rock formations. Paleozoic glaciation in North America is suggested by the Squantum tillite near Boston, Mass. This glaciation and the aridity of which the red beds seem to be the result are the two most strongly marked characteristics of the Permian period. The life of the Permian was in general transitional between that of the Paleozoic and that of the succeeding MESOZOIC ERA. Some marine animals became extinct, but there was at the same time an evolution to more modern types, a marked change in the insects, and a notable increase in numbers and varieties of reptiles. The aridity of the Northern Hemisphere led to the dwarfing and gradual extinction of some of the Carboniferous types. Lepidodendron and Sigillaria became rare, but ferns and conifers persisted. The "tongue fern," *Glossopteris*, which spread over the Southern Hemisphere and part of the Northern Hemisphere and which was apparently successful in resisting glacial conditions, was the most conspicuous development in the Permian flora. Its wide distribution led some geologists to argue the existence of a great southern continent, Gondwana Land, occupying the S Atlantic Ocean and continuous with South America and Africa. However, many now believe that the existence of land bridges between continents in the Southern Hemisphere is a more probable explanation.

Pernambuco (pĕr"numbōō'kō), state (37,458 sq. mi., 1940 pop. 2,688,240, 1949 estimated pop. 3,243,909), NE Brazil, extending inland from the Atlantic. Its capital is RECIFE, sometimes also called Pernambuco. The area is an important agricultural and stock-raising region, growing sugar cane, cotton, tobacco, and coffee; much of which is processed by local industries. The first European settlement (1530s) in the area was at Olinda. It was occupied by the Dutch in 1630–54. The state has had a turbulent history, being the scene of several revolts in the first half of the 19th cent.

Pernau, Estonia: see PÄRNU.

Perón, Juan Domingo (hwän' dōmēng'gō pārōn'), 1895–, president of Argentina (1946–). An army officer, he emerged into prominence after the overthrow of the government of Ramón Castillo in 1943 and was one of the "colonels' group" in the administrations of Arturo Rawson, Pedro Ramírez and Edelmiro Farrell, all of which were dominated by the military, nationalistic group. Under Farrell, Perón was secretary of labor and social welfare and later minister of war and vice president. He developed a large following that had as its core the ranks of the workingmen, whom he favored. A coup in 1945 threw him out of power momentarily, but he returned with prestige enhanced. The United States complained bitterly of the totalitarian leanings of the army group and especially of Perón. At the time of the elections in Feb., 1946, in which Perón was the leading candidate, the United States issued a publication documenting the charges against him, but the result was, if anything, the strengthening of Perón's position, for the booklet was used as a demonstration of U.S. desire to interfere in Argentine affairs. Perón was elected by a huge majority. He immediately set out to put into effect revolutionary measures generally collectively termed Peronismo. Strongly nationalistic, the program called for building up the national economy, therefore stringent economic measures were adopted with the purpose of holding down Argentina's imports and building an autarchic state. The stringency immediately affected all Argentine industry and wrought some hardships. Opposition was prevented from too serious attacks on Peronismo, and enemies of the state were dealt with in summary fashion. An attempt was made to broaden elementary education, but institutions of higher learning, like the press, were severely channeled. A new constitution, adopted in 1949 permitted reelection of the president, and in that year Perón was nominated for the election of 1952. Argentina influence spread into the neighboring countries and to the Pacific coast of South America. In spite of great economic troubles, the Perón dictatorship, supported by a combination including labor, reactionaries, the military, nationalists, and the clergy, continued to maintain full power and to push Peronismo. Perón's wife, the charming Eva Duarte de Perón (Evita Perón), who had been a moving-picture star, had a spectacular place in the government.

Péronne (pārōn'), town (pop. 3,669), Somme dept., N France, in Picardy, on the Somme river. Here in 1468 took place the "interview" between LOUIS XI of France and CHARLES THE BOLD of Burgundy. Rebuilt after virtual destruction in the First World War, Péronne was damaged again in the Second World War.

Pérouse, Jean François de Galaup, comte de la: see LA PÉROUSE.

Perov, Vasily Grigoryevich (vŭsē'lyĭ grĭgôr'yŭvĭch pyĭrôf'), 1833–82, Russian historical, genre, and portrait painter, leader of the realist school in Russia. His early work was satirical, but he is best known for his sympathetic treatment of scenes of peasant life. Perov shared the idealism of the intelligentsia in the 1860s and their disillusionment in the reactionary '70s and '80s. Among his best-known works are *An Village Funeral* and *The Arrival of the Governess*. His portraits include those of Turgenev and Dostoyevsky.

peroxide of hydrogen: see HYDROGEN PEROXIDE.

Perpendicular style, term given the final period of English Gothic architecture (late 14th–middle 16th cent.) because of the predominating vertical lines of its tracery and paneling. It is also called rectilinear for the prevailing angularity of the designs. The work produced after 1485 is sometimes classified as TUDOR STYLE. The use at the Gloucester cathedral, about the middle of the 14th cent., of numerous vertical panels of tracery for both windows and walls led to a rapid spread of the style. Its climax was reached in Henry VII's chapel, Westminster, where panelings cover both exterior and interior surfaces. At Winchester they cover the whole west front. In some cases church windows were of great size, making the west end practically a wall of glass with mullions running vertically for the entire height. Traceried fan vaulting was one of the distinctive creations of the style, and roofs of elaborately carved open-timber construction were numerous. A number of elaborate chapels were built in this period, especially at Oxford and Cambridge, and various study buildings, such as the divinity school at Oxford (completed 1480). It was a period of much manor-house construction.

Perpetua, Saint: see FELICITY AND PERPETUA, SAINTS.

Perpignan (pĕrpēnyä'), city (pop. 72,194), capital of Pyrénées-Orientales dept., S France, near the Spanish frontier and the Mediterranean. It is an important trade center, handling especially wine and fruits. Founded in the 11th or 12th cent., Perpignan was the capital of the Spanish kingdom of MAJORCA and, after 1642, of the French province of ROUSSILLON. Its architecture shows much Spanish influence. Among its notable buildings are the Loge (14th cent.), built to house the merchants' exchange, the Gothic Cathedral of St. Jean (14th–16th cent.), and the castle of the kings of Majorca (13th–15th cent.), which forms part of the old citadel dominating the city.

Perrault, Charles (sharl' pĕrō'), 1628–1703, French poet. He wrote a collection of eight fairy tales, *Histoires ou contes du temps passé* [stories or tales of olden times] (1697), which gave classic form to the stories of Bluebeard, Sleeping Beauty, Cinderella, Puss in Boots, Little Red Ridinghood, and Hop-o'-My-Thumb. In the frontispiece of the collection appears the expression "Contes de ma mère Loye" [tales of Mother Goose]. Perrault also published three tales in verse (1694). He was the center of a stormy literary quarrel, which he began (1687) by a comparison of ancient authors with contemporaries of his which was very unfavorable to the ancients. Boileau, the chief defender of the ancients, bandied insults with Perrault until 1694. This "quarrel of the ancients and the moderns" is considered a harbinger of the 18th-century Enlightenment. Perrault's tales have been translated into English many times.

Perrault, Claude (klōd), 1613–88, French architect, scientist, and physician. One of the most eminent French scholars of his time, he advanced the study of anatomy and made other scientific contributions. His greatest architectural achievement is the east façade of the Louvre, known as the Colonnade. The execution of his design, adopted in 1667 after others by Le Vau and by Bernini had been rejected, did much to establish the qualities of classical balance and order in French Renaissance architecture. Perrault also built portions of the south façade of the Louvre and the Paris Observatory (1667–72), which, with adaptations to modern scientific requirements, is still in use. Charles Perrault was his brother.

Perrers, Alice (pĕr'urz), d. 1400, mistress of EDWARD III of England. She entered the service of Philippa, Edward's queen, married William de Windsor, became Edward's mistress (possibly as early as 1366), and wielded great influence over him. Her interference in the promotion of lawsuits in the courts led to her banishment (1376) and to an act forbidding women to practice law. She returned in 1377 and later gained, despite another sentence of banishment, some favor and much wealth in the court of Richard II.

Perrin, Jean Baptiste (zhäⁿ' batēst' pĕrē'), 1870–1942, French physicist. From 1910 to 1940 he was professor at the Univ. of Paris. In 1941 he came to the United States, and he died in New York city. He specialized in the molecular phenomena of oscillation (see BROWNIAN MOVEMENT). For his work on the discontinuous structure of matter and for his discovery of the equilibrium of sedimentation (which permitted an accurate calculation of the size of atoms), he received the 1926 Nobel Prize in Physics. He is noted also for his work on X rays and cathode rays. His works include *Atoms* (1903, Eng. tr., 1923).

Perrine, Charles Dillon (purĭn'), 1867–, American astronomer, b. Steubenville, Ohio. From 1893 to 1909 he was on the staff of Lick Observatory (as astronomer from 1905) and from 1909 to 1936 was director of the Argentine National Observatory in South America. In 1901 he discovered the extraordinary motion in the nebulosity about the nova in Perseus and in 1905 became celebrated as the discoverer of the sixth and seventh satellites of Jupiter. He made special studies of comets and discovered several. Between 1900 and 1908 he accompanied four eclipse expeditions, he was in charge of the one sent from Lick Observatory to Sumatra in 1901.

Perris, city (pop. 1,011), S Calif., SSE of Riverside; platted 1885, inc. 1911.

Perrot, Georges (zhôrsh' pĕrō'), 1832–1914, French archaeologist. He was professor at the Sorbonne from 1875, director of the École normale supérieure, Paris, from 1888 to 1902, and permanent secretary of the Academy of Inscriptions. While a member of an archaeological expedition (1861) to Asia Minor, he reconstructed the text of a bilingual record of the reign of Augustus on the walls of a temple at Ancyra and published his results in

Exploration archéologique de la Galatie et de la Bithynie (1862–72) He edited and contributed to the *Revue archéologique*. His works include *Histoire de l'art dans l'antiquité* (with Charles Chipiez, 10 vols , 1882–1914).

Perrot, Nicolas (nĕkôlä'), 1644-c 1718, French explorer in Canada and the Old Northwest He came to New France as a child and, in service of the Jesuit missionaries, became acquainted with the Indians and Indian languages Later, as a fur trader about Green Bay, he acquired considerable influence over the Indians of Wisconsin and in 1670 was sent to the West by Frontenac to take formal possession for France In 1684, with Duluth, he helped bring the Western Indians into the French campaign against the Iroquois, and in 1690 he wanted Mackinac to prevent an Iroquois alliance Perrot was made (1685) commandant of the territory about Green Bay and opened trade with the Sioux as well as with other Indians and in 1689 formally claimed possession of the upper Mississippi region for New France Probably in 1690 he discovered the lead mines of SW Wisconsin. When all trading licenses were revoked, he returned to Lower Canada and was employed as Indian interpreter in 1701 He is best remembered for his *Mémoire sur les mœurs, coustumes et religion des sauvages de l'Amérique Septentrionale* (1864), the one memoir which survives out of his many writings

Perry, Bliss, 1860–, American educator, author, and editor, b Williamstown, Mass , educated at Williams (B.A , 1881) and at the universities of Berlin and Strasbourg He was professor of English at Williams (1886–93) and at Princeton (1893–1900), editor of the *Atlantic Monthly* (1899–1909), and professor of English literature at Harvard (1907–30) His works include biographies of Whitman (1906), Whittier (1907), and Richard Henry Dana (1933); *The American Spirit in Literature* (1918) and *A Study of Poetry* (1920), and several books of selections, among them *The Heart of Emerson's Journal* (1926) See his autobiography, *And Gladly Teach* (1935)

Perry, Frederick John, 1909–, English tennis player, b. Stockport, Cheshire, England He became interested in tennis at the age of 15 In 1933, 1934, and 1936 he won the U S singles championship and also took (1934–36) the British singles title He led the British team to four consecutive (1933–1936) Davis Cup victories He also won French, Australian, and Argentina championships along with other national tennis crowns In 1936 Perry turned professional and was the professional singles champion in 1938 and 1941 He retired from active play after injuring (1941) his arm in a match with Bobby Riggs He later became a U S citizen, served in the U S army in the Second World War, and coached tennis at Washington and Lee Univ. He wrote *On Tennis* (1937) See his autobiography, *My Story* (1934)

Perry, Matthew Calbraith, 1794–1858, American naval officer, b South Kingstown, R I He spent his boyhood in Newport Appointed a midshipman in 1809, he first served under his brother Oliver Hazard Perry on the *Revenge* and then was aide to Commodore John RODGERS on the *President*, which defeated H M S *Little Belt* before the War of 1812 had been formally declared Perry saw little action in that war after he was assigned to the *United States*, which the British bottled up at New London On his first command, the *Shark*, he conveyed (1821) U S agent Eli Ayers to Liberia In 1833 he was assigned to the New York (now Brooklyn) navy yard, where he pioneered in the application of steam power to warships, commanding (1837) the *Fulton*, first steam vessel in the U S navy, and encouraged all kinds of naval education Promoted captain in 1837, Perry was shortly granted the title of commodore He became (1841) commandant of the New York navy yard and led (1843–44) the African squadron in suppressing the slave trade In the Mexican War, after replacing David CONNER as commander of the entire Gulf Fleet early in 1847, he supported Gen Winfield Scott in taking Veracruz Perry was ordered (March, 1852) to command the East India squadron and charged with the delicate task of penetrating isolationist Japan Much careful preparation went into the expedition before Perry, after stopovers on the China coast and Okinawa and a side excursion to the Bonin Islands, anchored his four ships, including the powerful steam frigates *Mississippi* and *Susquehanna*, in lower Tokyo (then Yedo) Bay on July 8, 1853 The Japanese ordered him to go to Nagasaki, the only port open to foreigners, where the Dutch operated a limited trading concession under humiliating conditions, but Perry firmly declined On July 14 he presented his papers, including a letter from President Millard Fillmore to the emperor, requesting protection for shipwrecked American seamen (heretofore treated badly), the right to buy coal, and the opening of one or more ports to trade The expedition then retired to the China coast, returning, with an increased fleet, in Feb , 1854 Perry's show of pomp (at which he was expert) and power obviously impressed the insecure Tokugawa shogunate, and on March 31, 1854, near Yokohama was concluded a treaty which acceded to American requests, opening the ports of Shimoda (to which Townsend HARRIS came in 1856) and Hakodate to U.S. trade. For his successful expedition Perry was awarded $20,000 by Congress, which also paid for publication of the official *Narrative of the Expedition of an American Squadron to the China Seas and Japan* (3 vols., 1856), compiled under Perry's supervision See E M Barrows, *The Great Commodore* (1935); Arthur Walworth, *Black Ships off Japan* (1946)

Perry, Oliver Hazard, 1785–1819, American naval officer, b South Kingstown, R I , brother of Matthew Calbraith Perry. Appointed a midshipman in 1799, he served in the war with the Barbary States, was promoted lieutenant (1807), and from 1807 to 1809 was engaged in building gunboats In the War of 1812 he was commissioned to build, equip, and man a fleet at Erie, Pa On Sept 10, 1813, Perry's fleet left Put in Bay and met a slightly inferior British force In the battle of Lake Erie that followed, Perry's flagship, the *Lawrence*, was reduced to ruins, but he transferred his flag to the *Niagara* and shortly forced the British to surrender His report of the battle sent to Gen. William H Harrison—"We have met the enemy and they are ours"—has become famous The victory, which made Perry a national hero, gave the United States control of Lake Erie and helped pave the way for Harrison's victory in the battle of the Thames, in which Perry participated Following the war he served as a captain in the Mediterranean Later, on a special mission to Venezuela, he contracted yellow fever, died, and was buried in Trinidad His body was later reinterred at Newport, R I , where a monument was erected to him In 1913 a memorial was dedicated to Perry at Put in Bay See biography by C J Dutton (1935), C. O Paullin, ed , *The Battle of Lake Erie* (1918)

Perry, Ralph Barton, 1876–, American philosopher, b Poultney, Vt , grad Princeton (B A , 1896) and Harvard (M A , 1897, Ph D , 1899) He taught at Harvard from 1902, becoming professor of philosophy in 1913 and professor emeritus in 1946 He revised (1925) Alfred Weber's *History of Philosophy* Editor of the works of William James, he won the 1936 Pulitzer Prize in biography for *The Thought and Character of William James* (1935) His other writings include *Approach to Philosophy* (1905), *The New Realism* (1912), *General Theory of Value* (1926), and *One World in the Making* (1945)

Perry, 1 Town (pop 2,668), co seat of Taylor co , NW Fla , SE of Tallahassee and c 15 mi from the Gulf, in a fishing and hunting region It is an industrial center processing lumber **2** City (pop 1,542), co seat of Houston co , central Ga , S of Macon, in a farm and quarry area, settled c 1820 **3** City (pop 5,977), central Iowa, near the Raccoon river NW of Des Moines, settled in the 1860s, inc 1875 Rail, trade, and processing center in a farm area, it has railroad shops and meat-packing plants **4** Village (pop 4,468), W N Y , SW of Rochester, settled 1815, inc 1830 It makes dairy goods **5** City (pop 5,045), co seat of Noble co , N central Okla , NE of Oklahoma City, in a farming area, settled 1893, inc 1894

Perrysburg, village (pop 3,457), NW Ohio, on the Maumee river and S of Toledo, laid out 1816 A monument in a state park, near by, marks the site of Fort Meigs (see MEIGS, FORT)

Perry's Victory and International Peace Memorial National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Perryton, city (1940 pop 2,325, 1947 estimated pop 3,000), co seat of Ochiltree co , extreme N Texas, NE of Amarillo and near the Okla line, founded 1919, inc 1920 It is the shipping and manufacturing center of a wheat-growing area in the plains of the Panhandle

Perryville. **1** Town (pop 462), central Ky , W of Danville and SW of Lexington Near by is Perryville Battlefield State Park, site of a Civil War battle fought here Oct 8, 1862, between the Confederates under Braxton Bragg and the Union forces under D C Buell Though the battle was indecisive, it marked the end of Bragg's invasion of Kentucky, as he retreated from the state the next day. A national cemetery is in the vicinity **2** City (pop 3,907), co seat of Perry co , SE Mo , near the Mississippi NNW of Cape Girardeau, in a farm region, founded c 1821. Among its products are shoes and cigars

Perse, St.-J., see LÉGER, ALEXIS SAINT-LÉGER

Persephone (pərsĕ'fənē), Latin *Proserpine* (prŏ'sûrpĭn) or *Proserpina* (prōsûr'pĭnə), in Greek religion, goddess of fertility She was the daughter of Demeter and Zeus and the wife of Hades, or Pluto Hades, ruler of the underworld, stole her and married her, but Demeter induced the gods to let Persephone return to her for eight months each year Persephone was required to remain in the underworld for four months because Pluto had tricked her into eating a pomegrante there When Persephone left the earth, the flowers withered and the grain died, but when she returned, life blossomed anew She personified the birth and decay of vegetation. Under the name of Kore (kō'rē) she appeared with Demeter and Dionysus in the Eleusinian Mysteries. As queen of the underworld, sometimes confused with HECATE, Persephone was conceived of as a stern goddess with the pomegranate as an attribute, but as the daughter of Demeter she was a beautiful young maiden with the horn of plenty as an attribute The Romans identified her with Bona Dea and Libera, and she is comparable to Idun in Norse mythology.

Persepolis (pərsĕ'pəlĭs) [Gr ,=city of Persia], ancient city, ceremonial capital of the Persian empire under Darius and his successors. The administrative capitals were elsewhere—notably at Susa and Babylon Its ruins lie NE of Shiraz in a fertile plain of the Pulvar river, with strong natural mountain defenses Its great ruins, including columns 60 ft. high, the palaces of Darius I, Xerxes, and later kings, and the citadel (which contained the rich treasury looted by Alexander), stand on an immense platform constructed of limestone from the adjacent mountain A few miles distant are the rock-hewn tombs of Achaemenid kings, on a mountainside known as Naksh-i-Rustam, "picture of Rustam," after the incorrect native identification of the principal figure of the near-by rock sculptures—in reality Shapur I, shown triumphing over the Roman emperor, Valerian, here too is a 3,000-year-old inscription of Shutruk-Nakhkhunte Scattered over the plain, a short distance from the platform of Persepolis, are the ruins of Stakhr or Estakhr, the official capital of the Sassanians, whose administrative capital was Ctesiphon Excavations have disclosed, 2 mi away, a village of the Neolithic period, with mural decorations in red ocher, c 4000 B C The Iranian Room in the Oriental Institute of the Univ of Chicago contains many pieces from Persepolis, products of the research of 1931–41

Perseus (pûr'sūs, -sĭəs), in Greek mythology, hero, son of Zeus and DANAË and grandson of Acrisius When Perseus was a child, his grandfather, warned by an oracle that his grandson would kill him, put him and his mother in a chest and set it afloat. They drifted to Seriphus, where King Polydectes befriended them After a time Polydectes fell in love with Danae, but Perseus stood in his way He sent Perseus to fetch the head of Medusa, thinking that Perseus would die in the attempt The gods, however, loved Perseus Hermes gave him a curved sword and his winged sandals, Athena a murrorlike shield, and Hades a helmet which made Perseus invisible Thus accoutered, Perseus slew Medusa While fleeing the other Gorgons, Medusa's sisters, Perseus asked Atlas for help Atlas refused, and Perseus promptly turned him into a stone mountain by means of the Medusa head On his way home Perseus rescued Andromeda from a sea monster and married her He arrived home just in time to kill Polydectes, who had been making advances to Danaë Perseus gave the Medusa head to Athena and with his mother and wife went to Argos Here while competing in a discus contest, Perseus killed his grandfather Thus the prophecy was fulfilled Perseus was the father of Electryon, who was grandfather of Hercules The famous sculpture *Perseus* by Benvenuto Cellini stands in the museum at Florence

Perseus, c 212–166 B C , last king of Macedon (179–168 B C), son and successor of Philip V He became involved in Greek politics and excited the fears of Eumenes II of Pergamum, who went to Rome to provoke war against him by pointing to alignments of Perseus with anti-Roman factions in Greece. The resultant Third Macedonian War (171–168 B C) began with a Macedonian cavalry victory, then dragged on indecisively Finally L Aemilius PAULLUS took command and soundly defeated Perseus at Pydna (168 B C) Perseus graced Paullus' triumph and died in captivity

Perseus, in astronomy, a northern constellation lying in the Milky Way near Cassiopeia Algol is a visible VARIABLE STAR in Perseus, it is of the type known as an eclipsing variable A double star cluster in Perseus can be seen with a low-power telescope. A shower of meteors known as the Perseids radiates from a star in Perseus; these showers can be seen every year for several nights beginning Aug 10, after midnight In 1901 a brilliant nova was observed in the constellation.

Pershing, John Joseph (pûr'shĭng), 1860–1948, American general, commander in chief of the American Expeditionary Force in the First World War, b Linn co , Mo , grad Kirksville Normal School (Mo), 1880, and West Point, 1886 A cavalry officer, he rode in campaigns against Geronimo (1886) and against the Sioux (1890–91). He was an instructor in military tactics (1891–95) at the Univ of Nebraska, where he earned (1893) a law degree, and then (1897–98) taught at West Point After he fought (1898) in the Spanish-American War, Pershing achieved national notice when he served (1899–1903) in the Philippines, commanding in the campaign against the Moro He was (1905) an American military attaché in the Russo-Japanese War and was promoted (1906) brigadier general. Twice (1906, 1909) he returned to the Philippines to campaign against the Moro In 1913 he completely defeated them. His wife, Helen Francis Warren Pershing, and his three daughters died (1915) when fire destroyed their

home in San Francisco; only his son, Warren, survived. Pershing led the much-publicized but unsuccessful punitive expedition (1916) against Francisco Villa in Mexico. After the First World War had begun, Pershing was appointed (1917) to head the American Expeditionary Force in France. His talent for organization was largely responsible for the molding of hastily trained American troops into well-integrated combat units. His book, *My Experiences in the World War* (1931), recounts his war years. After the war he was promoted (1919) permanent general of the armies of the United States. He was chief of staff (1921–24) before retiring from the army in 1924. He headed (1925) the Tacna-Arica plebiscitic commission and later took part in numerous philanthropic campaigns. See biographies by Harold McCracken (1931) and Frederick Palmer (1948).

Persia pûr'shŭ-shu), old alternate name for the Asiatic country Iran. The article IRAN contains a description of the geography and economy of the modern country and a short account of its history since the Arab invasion of the 7th cent. The present article is a brief sketch of the history of the ancient Persian Empire, which also had its core in the present Iran. Just when the speakers of Iranian languages came into that part of Asia is unknown. Presumably they were originally a nomadic tribe who filtered down through the Caucasus to the Iranian plateau. They apparently subjugated peoples already there and mingled with them, but their dominance of particular areas is recorded in the place names Parsua and Parsumash. The Assyrian rulers were by the 9th cent. B.C. sending expeditions against them, and the recurrence of these campaigns is evidence of the strength of the early Persians. By the 6th cent. B.C. they were established in the present region of Fars and were benefiting from the decline of Elam. Fars (or Persia) was a recognizable district of the Assyrian Empire like the neighboring but greater Media. The Persian rulers, claiming descent from one Achaemenes (or Hakhamanesh), were associated with the Medes, who created a strong state in the 7th cent. Cyaxares of newly united Media was one of the kings who brought about the fall of Nineveh (606 B.C.) and broke the hegemony of the Assyrians. The Persian ruler of about the same time, Cambyses I, seems to have been tributary to Cyaxares. According to Herodotus he married the daughter of the Median ruler, and his son Cyrus was thus also grandson of Cyaxares, this account has been branded by some scholars as a pious attempt to falsify genealogy. At any rate after the Persians had aided the Medes in establishing the power of the Medes, they emerged in the person of this Cyrus, who was CYRUS THE GREAT, to take over the rule of Media from Astyages in the middle of the 6th cent. B.C. In an amazingly short time Cyrus had extended his conquests from Elam and Media west and north. He pushed into Asia Minor, where Croesus, the king of Lydia, vainly sought by an alliance with Nabonidus of Babylonia and Amasis II of Egypt to withstand the conqueror. Cyrus crushed the coalition, and by 546 B.C. the greatness of the Persian Empire was established. It was to endure long under his successors, the Achaemenidae. From the beginning the Persians built on the foundations of the earlier states. The organization of the Assyrians was taken over and improved, and Cyrus himself imported artists and artisans from Babylonia and Egypt to create his palace and tomb at Pasagardae. The dynamic new state was, however, troubled almost from the start by dynastic troubles. CAMBYSES, a son of Cyrus, did away with Smerdis, another son of Cyrus, in order to have unchallenged power, but when Cambyses was absent on a successful raid into Egypt, an imposter claiming to be Smerdis appeared, and there was civil war. A new claimant, Darius I, appeared after Cambyses committed suicide. He made his claims good, and after putting down disorders, he molded the administration of the empire into the centralized system that was remarkable for its efficiency. Satraps or governors were set up to rule firmly and arbitrarily over the various regions, but to keep check on the satraps, who were potential aspirants to central power, each was accompanied by a secretary and a military commander who were responsible to the Great King alone. This centralized system was supported by an intricate and excellent system of communication, for the Persians were the first important ancient people to use the horse efficiently for communication and transport. Darius also continued and broadened the policy of Cyrus of encouraging the local cultures within the empire, leaving them their gods and their customs so long as those did not conflict with the necessities of Persian administration. The religion of Persia itself was Zoroastrianism, and to the unifying effect of the broadly established faith part of the unity of Persia was to be attributed. Darius was also a patron of the arts, and magnificent palaces standing on high terraces beautified the capitals of Susa and Persepolis (see PERSIAN ART AND ARCHITECTURE). He was likewise a conqueror. Persian rule was pushed far eastward past the Arius (Hari Rud) river into modern Afghanistan and NW India. Egypt had already been attacked by Cambyses, and though it was to prove recalcitrant and rebellious, succeeding Persian kings were to maintain hegemony there. Darius pushed as far north as the Danube in his exploits, but the fighting against the Scythians was obscure and certainly unfruitful. Even more unfruitful for Persia was embroilment with the Greeks. The Persians in taking over Lydia had come into contact with the Greek colonies in Asia Minor (Ionia). There were Greeks (notably the exiled Athenian tyrant, Hippias) at the court of Darius, and the Persians immediately began to borrow from Greek art and thought, as they did from all advanced cultures to the enrichment of Persia. At the beginning of the 5th cent. B.C., however, the Ionian cities were involved in trouble with the Great King. Darius put down the rebellion, then organized an expedition to punish the city-states in Greece proper that had lent aid to the rebellious cities. This expedition commenced the PERSIAN WARS. Ultimately Darius' host was defeated at Marathon, and his son Xerxes I, who succeeded to the throne in 485 B.C., fared no better at Salamis. The Greeks had successfully defied the power of the Great King. The effects of the Greek victory were, however, confined to Greece itself and had no consequences in Persia. Nor did it exclude Persia from taking part in the affairs of the Greek world. Persian influence was strong, and Persian gold was poured out to aid one Greek city-state or another in the interminable struggle for power. It is noteworthy that when Themistocles, the victor of Salamis, was exiled from Athens, he took refuge at the court of Artaxerxes I, who had succeeded Xerxes I in 465 B.C. In the time of Artaxerxes the difficulties of maintaining so wide an empire had begun to appear. Some of the satraps showed ambitions to rule, and the Egyptians, helped by the Athenians, undertook a long rebellion. Violence against the Great King himself was a disturbing factor. Xerxes I had been murdered, and Xerxes II, son of Artaxerxes, was killed after a reign of 45 days by a half brother, who was in turn overthrown by another half brother, Darius II. In the reign of the second Darius the power of the satraps was shown in the careers of PHARNABAZUS and TISSAPHERNES, who interfered with some effect in the affairs of Greece. When Darius II died, the most celebrated of the dynastic troubles occurred in the rebellion of CYRUS THE YOUNGER against ARTAXERXES II, which came to an end with the death of Cyrus in the battle of Cunaxa (401 B.C.). The intrinsic importance of this can be easily exaggerated because it was recorded by Xenophon in one of the most famous narratives of all time. Yet it cannot be denied that there were signs of decay. Though Evagoras of Cyprus was brought to heel after the Peace of ANTALCIDAS (386 B.C.) was dictated to Greece by the Great King, Egypt had become independent again in 405 B.C. and the efforts of Artaxerxes II's armies to reassert control were fruitless. Artaxerxes III, after he had waded to the throne through blood, was more successful in Egypt, but his triumph was evanescent. He was himself killed by his counselor, the eunuch Bagoas. Darius III in turn murdered Bagoas and ruled with considerable splendor after 336, but only briefly. Suddenly the end came. ALEXANDER THE GREAT and his Macedonian army crossed the Hellespont in 334 and routed the Persians on the Granicus. The battle of Issus followed in 333, and in 331 the battle of Gaugamela brought an end to the Achaemenid empire. Darius, last of the Great Kings, fled east before the conqueror to the remote province of Bactria, where he was assassinated by his own cousin, Bessus. Alexander also came east and, defeating Bessus, had the whole empire in his grasp. On he went to India, and the greatest empire the world had yet seen was created. It lasted only for the brief days of his life, then was torn apart by the quarrels of his successors (the DIADOCHI). Persia fell for the most part to Seleucus I and his successors (the Seleucids), but their grasp on the vast territories was weak administratively, though they did introduce a fruitful Hellenistic culture, mingling Greek with Persian elements. Media Atropatene (Azerbaijan) was never really under Seleucid rule. The rulers of Bactria from the beginning were at least quasi-independent and in the middle of the 3d cent. revolted and established absolute independence. At the same time Parthia under the leadership of the Arsacidae (see ARSACES) cast off Seleucid rule and established a Parthian empire as a sort of successor to the old Persian empire. Though even under the greatest of the Parthians (Tiridates, Mithridates I, and Mithridates II) the realm did not have the old extent, it was formidable and was a rival to Rome. The Romans in almost continuous warfare failed to halt the Parthian drives to the west, which were often supported by local ambitious or frightened rulers under Rome. Only in the 2d cent. A.D. did the Parthians begin to wane. They were replaced (A.D. c 226) by a more vigorous dynasty, the SASSANIDAE or Sassanian kings, when ARDASHIR I (whose name is another form of the name Artaxerxes) ousted and killed the last Parthian ruler and builded a new empire out of the ruins of Parthian and Seleucid power. The Sassanidae were the true heirs of the Achaemenidae. Ardashir I, Shapur I, and Shapur II all were strong kings, doughty and successful opponents of the Romans. Ctesiphon became the center of a magnificent state that persisted while the Roman Empire was whittled away. The Byzantines were unable to match them. Khosru I in the 6th cent. invaded Syria, and under Khosru II (whose affairs were linked with those of the Byzantines) the Sassanian court was legendary in its splendor. Ctesiphon and Firusabad were magnificent cities, the administration of the empire was efficient, the productivity of the cities was remarkable, and the art in metalwork, in architecture, in sculpture, and in textiles was superb. Shortly after the death of Khosru II, however, the old Sassanian power was toppled. Invading Arabs succeeded in taking Ctesiphon in 641 or 642. Islam replaced Zoroastrianism, and the caliphate made Persia a part of a larger pattern, from which later was to emerge modern Iran. See Sir Percy Sykes, *History of Persia* (3d ed., 1930); Ernst E. Herlzfeld, *Archaeological History of Persia* (1935), G. G. Cameron, *History of Early Iran* (1936); A. T. Olmstead, *History of the Persian Empire* (1948, Achaemenid period only).

Persian art and architecture. Throughout Persian history incursions of migratory peoples, changes in the national boundaries, and periods of foreign domination have encouraged the development of a cosmopolitan art which utilizes imported art forms and translates them in terms of a distinctly Persian aesthetic. Discovery and classification of prehistoric art of the Iranian region is still proceeding. Pottery and cult figurines from Susa and Samarra, bronzes from Luristan, and great rock carvings in SW Persia are variously dated from the 4th through the 2d millennium B.C. While these ancient works show strong affinities with contemporary Mesopotamian art, they already embody characteristically Persian qualities in the feeling for decorative motifs and type of stylization. In the Achaemenidae period (c 550–330 B.C.) the peoples —Medes, Babylonians, Lydians, and Egyptians— conquered by Cyrus the Great and his immediate successors contributed to the formation of an artistic culture that centered on the glorification of the monarchs. The emergence of the Zoroastrian cult with its characteristic reverence for the principles of fire and air was reflected in the artistic symbolism which employed disk, halo, wing, and bird motifs and in the development of such distinctive architectural types as the fire altar and the rectangular freestanding stone mausoleum (e.g., the tomb of Cyrus the Great, Pasargadae). Foundations of the palace of Cyrus at Pasargadae, of Artaxerxes I at Susa, and above all extensive remains of the magnificent palace complex of Darius I and Xerxes I at Persepolis reveal plans which characteristically show great columned audience halls, in front of the halls were colonnaded porticoes, flanked by square towers and set on high terraces. The palaces were approached by double flights of steps converging at the top. Although there are marked analogies to Egyptian, Greek, and Assyrian architecture, the style as a whole and the feeling for space and scale is distinctive. The Persepolitan columns were slenderer and more closely fluted than those of Greece. The bases were high, often bell shaped. The capitals were composed of the fore parts of two bulls set back to back above volutes with rosette ornament. In the sculpture, of an ordered clarity and simplicity, heraldic stylization is subtly combined with effects of realism. Typical are the low stone reliefs of a procession of tribute bearers which adorn the great double staircase approaching the audience hall of Xerxes I (Persepolis) and the famous *Frieze of Archers* (Louvre, from the palace of Darius I at Susa), executed in molded and enameled brick, a technique of Babylonian-Assyrian origin. Outstanding among the minor arts is magnificent metalwork, especially gold and silver ornaments, decorated with both stylized and naturalistic animal forms and often embellished with cloisonné. Chalcedony stamp seals, engraved with ancient religious scenes and secular scenes, suggest the strong influence, if not the actual execution, of Greek craftsmen. For the five centuries after the conquest of the Achaemenidae by Alexander the Great the few remains of art reveal the strong impress of provincial Hellenism and the influence of Roman motifs. In the period of the Sassanidae (c 226–c 640) there was a revival of native aesthetic feeling. Remains of great palaces at Ctesiphon and Firusabad reveal enormous structures, massively constructed principally of rubble and brick with rich stucco decoration. The problems entailed in buttressing large-scale barrel vaults and in setting enormous circular domes over square rooms were solved by the development of the axial plan and the squinch, fundamental innovations which were of paramount importance in architectural history. In sculpture rock-cut reliefs on the cliffs and in ceremonial grottoes at Naksh-i-Rustam near Persepolis and elsewhere reveal individualiza-

tion of forms and realism in surface modeling Only negligible fragments of wall paintings survive, but enough to suggest the antiquity of the native tradition in this field Mani, the founder of Manichaeism, attained legendary fame as a painter and encouraged the art as an adjunct to his religion Similar in style to the sculpture is the *repoussé* work on silver and gold vessels Hunting scenes and heraldic animals were often represented on low bowls or dishes A favorite motif was the *simurgh*, a fabulous beast with the head of an animal and body of a bird with talons and an exotically plumed tail Similar designs were woven in magnificent silk textiles long preserved in Europe as wrappings for the relics of early Christian martyrs The Mohammedan Arabs who came into power in the 7th cent employed Persian architects, artists, and designers, whose work was in turn modified by contact with workmen from other Islamic regions Consequently there was a progressive merging of the Islamic and Persian cultures Unfortunately little remains of early Islamic art on Persian soil Chief remains from the first centuries after the Arab invasion are fine ceramics, including so-called Gabri ware decorated with animal and stylized human forms executed in relief Descriptions of ancient mosques in Persia (see MOSQUE) reveal that Achaemenid and Sassanian architecture exercised powerful influence The 11th and 12th cent witnessed a great florescence of Persian culture Contact with China is subtly reflected in the refinement of shapes and delicacy of design and finish of Rages pottery and in a new elegance in textile designs. Builders drew on all the resources of earlier architectural tradition to produce consummate masterpieces Faïence decoration, stone and stucco honeycomb ornament, and calligraphic friezes contributed to effects of unexampled richness and harmony The Great Mosque at Isfahan, largely built in this period, stands as one of the world's great architectural monuments Its superbly designed domes, its great entrance portal, its minaret, a tall cylindrical tower surmounted by a balcony from which the faithful are called to prayer, represent features that are standard in Islamic Persian architecture After the invasion (1220) of the Mongols under Jenghiz Khan, the Persian artistic tradition persisted and even profited through contact with the arts and artisans of China imported by the invaders In imitation of Chinese square seals Persian calligraphers devised a rectangular Kufic script that was to be continuously employed in architectural inscriptions until the 17th cent Chinese phoenix, lotus, and key and fret motifs became popular in ceramic and architectural decoration The earliest examples of book illumination, dating from the early 13th cent, variously suggest the influence of Byzantine, Syrian, and Chinese prototypes adapted to the Islamic taste for two-dimensional decorative effects A new style marked by the emergence of a distinctly Persian quality in the use of vibrant color and animation of line appeared slightly later The arts of book illumination, of mosaic faïence, and of tile marquetry continued to develop throughout the 14th cent under a succession of petty princes who were enthusiastic patrons of the arts The achievements of this period prepared the way for the great artistic florescence under the dynasty (c 1385–c.1500) established by Tamerlane At this time the classic or Timurid style of miniature painting took form For the most part these miniatures illustrate manuscripts of epics or romantic poems Purity and intensity of color are combined with flexibility and economy of line in a decorative pattern in which there is no attempt at realistic modeling or perspective illusion The most renowned painter was Behzad, who illuminated the *Bustan* of Saadi Architectural masterpieces of this period are the famous Blue Mosque at Tabriz and the shrine at Meshed, which employ the bulbous double dome set on a high drum and elaborate tile mosaic and enameled brick decoration that were to become typical features of subsequent Persian architecture With the re-establishment of a native Persian dynasty in 1502 there developed an era of prosperity with expanded production in all the arts A group of painters continued in the tradition of Behzad The earliest extant carpets date from this period and are unexampled in subtlety of design and quality of material. Great weaving establishments at Kerman, Shushtar, Herat, Hamadan, and Tabriz produced carpets for the wealthy and for export and continued in existence until modern times Floral motifs elaborated in an endless variety are typical of the designs which are commonly classified as being of the tree, hunting, or vase carpet type The architecture was remarkable for lavishness of scale and ornament Under Abbas I (1587–1628) a great building scheme was inaugurated at Isfahan At the beginning of the 16th cent single miniatures, at first mostly portraits to be individually mounted in albums, began to be painted This type of miniature became very popular in the 17th cent when Reza Abbasi attempted to break away from tradition and create a new style dependent on purely linear effects rather than on rich color. Under his followers this style lapsed into mannerism In the same period various European influences began to operate which, down to modern times, have tended to debase rather than invigorate the native art In architecture there were no significant developments The custom of covering domes with gilt copper arose late in the 17th cent, and charming effects resulted from the combination of gold and blue tiles In the 18th cent there was a revival of opulently carved stucco and multiple stalactite ornament, but the refinement of earlier design was gone See Basil Gray, *Persian Painting* (1930), E D Ross and others, *Persian Art* (1930), A U Pope, *An Introduction to Persian Art* (1931)

Persian Gulf, arm of the Arabian Sea, between Iran and Arabia It extends c 600 mi from the mouth of the Tigris-Euphrates river (its chief affluent) to the Strait of Ormuz, which connects it with the Gulf of Oman The chief ports are Bushire, Abadan, and Kuwait Bahrein is the largest island In the Second World War the Persian Gulf was part of the shipping route along which the United States dispatched lend-lease supplies to the USSR via the ports of Iran See Sir Arnold T. Wilson, *The Persian Gulf* (1928)

Persian language, Iranian language of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Persian literature. The oldest extant literature of the Persians is found in the ancient inscriptions, but these are of historical and not literary value Such is not true of the religious works later produced, particularly the scriptures of the *Avesta* and the later Pahlavi writing of the Sassanian period (see ZOROASTRIANISM) After the Sassanidae were overthrown by the invasion of the Arabs (7th cent A D), the new religion of Islam became the dominant theme and Arabic became the usual language for a time, so that many notable works in Arabic are of Persian authorship In the 9th cent, however, Persian emerged again as the literary language, now garnished with many Arabic words Though political disasters fell upon the land, literature flourished in the 10th cent and the ages that followed The national epic, the *Shah Namah*, was written by FIRDAUSI, and a century later the mathematician OMAR KHAYYAM wrote the verses that are, through Edward FitzGerald's adaptation, better known to the English-speaking world than any other Persian work FERID ED-DIN ATTAR (d c 1229) was converted to SUFISM and produced mystical poetry of the highest order, and there was a succession of other mystic poets Jalal ed-Din RUMI and SADI continued and expanded the mystic poetry of Sufism in the 13th cent, and the exquisite lyrics of the 14th-century HAFIZ are interpreted by Moslem scholars as religious allegories The form of this mystic poetry and its subtle symbols make it one of the greatest of all contributions to world literature Its influence in the whole Moslem world was almost incalculably great The prose literature—stories, fables, allegories, and philosophical and scientific works—also had tremendous influence Many of the stories that later had great popularity in the West are to be found in the earlier Persian collections After the 15th cent there was something of a decline in Persian literature The great mass of the writing from that time to the present day, when new forms of poetry and of the short story are flourishing, is almost entirely untranslated and virtually unknown in the West See E G Browne, *A Literary History of Persia* (4 vols., 1929)

Persian lynx see CARACAL

Persian Wars, 500 B C–449 B C, fought between Greek states and the Persian Empire Herodotus, who was born c 484 B C, is the great source of knowledge of their history At the beginning of the wars, the Persian empire of Darius I included all of W Asia as well as Egypt On the coast of Asia were a few Greek city-states, and these revolted (c 500 B C) against his despotic rule Athens and Eretria gave them some help but not enough, and they were subdued by the Persians (494 B C) Darius I determined to punish Athens and Eretria and to add Greece to his vast empire In 492 B C a Persian expedition commanded by Mardonius conquered Thrace and Macedon, but its fleet was crippled by a storm In 490 B C a second expedition, commanded by Artaphernes and Datis, set out It destroyed Eretria, then proceeded against Athens The army encamped 20 mi from the city, on the coast plain of Marathon Here it was attacked and decisively defeated (Sept 12) by the Athenian army of 10,000 men, with the help of 1,000 men from Plataea The Athenians were outnumbered, possibly six to one, but proved adequate because of their courage and the strategy of MILTIADES They had sought the help of Sparta, the Athenian courier Pheidippides covering the 150 mi from Athens to Sparta within two days The Spartans would not set out until the moon was full, they reached Marathon the day after the battle The Persian commander did not continue the war Darius at once began preparations for a third expedition, so powerful that the overwhelming of Greece would be certain He died (486) before his preparations were completed, but they were continued by Xerxes, his son and successor. The Athenians, led by THEMISTOCLES, prepared also. In 480 Xerxes reached Greece with a tremendous army and navy. The route of the land army lay through the narrow pass of THERMOPYLAE. The pass was defended by Leonidas, king of Sparta, with c 8,000 men, of whom only 300 were Spartans. This small army held back the Persians for three days, until a Persian detachment had been led through the mountains by a treacherous Greek to the rear of the Spartan position. When Leonidas learned that his army would be trapped in this way, he permitted those to leave him who did not wish to remain, the 300 Spartans with some 2,000 others remained to die fighting in the pass The Athenians put their trust in their navy and made little effort to defend their city, which was taken by the Persians Shortly afterwards the Persian fleet was crushed in the straits off Salamis by an inferior Greek force The Greek victory was aided by the strategy of Themistocles Xerxes returned to Persia, but left in Greece his general, Mardonius, supposedly with 300,000 men The defeat of this army in 479 B C. at Plataea by a Greek army under Pausanias, a Spartan, and a Greek naval victory at Mycale in Asia Minor ended all danger from Persian invasions of Europe The commander of the Athenian troops at Plataea was Aristides Through the remaining period of the Persian Wars the offensive was with the Greeks, who were not seeking conquest and merely strengthened their position

persimmon (pərsĭ'mŏn), any of several trees of the large genus *Diospyros* The common persimmon (*Diospyros virginiana*) is native to the eastern half of the United States except in the northernmost states The leaves, simple and lustrous, have been found to have a very high vitamin C content and to yield a palatable tea The fruits are orange or tan, variable in flavor, and highly astringent until thoroughly ripe They are not marketed because of their softness The heartwood of this species is popular for golf clubs and for shuttles and is heavy and hard The Japanese persimmon or kaki (*D. kaki*) has a much larger reddish fruit of less flavor It is cultivated in the South and in California and is the persimmon found in markets Persimmons are propagated by seed, budding, and grafting Ebony is of the genus *Diospyros*

Persis (pûr'sĭs) [Gr., = Persian woman], Christian at Rome. Rom 16 12

Persis, ancient region, SW Iran See FARS

Persius (Aulus Persius Flaccus) (pûr'shəs, ô'lus, flă'kus), A D 34–62, Roman satirical poet, b Etruria A member of a distinguished family, he went to Rome in boyhood, was educated there, and came under the influence of the Stoic philosopher L Annaeus Cornutus, to whom he became attached in lasting friendship Gentle and modest by nature, Persius was upright in thought and conduct His writings (only six short satires), influenced in manner by HORACE and LUCILIUS, preach Stoic moral doctrine He exposed to censure the corruption and folly of Roman contemporary life, contrasting it with the ideals of the Stoics and of earlier Rome

personal property see PROPERTY

personnel management see INDUSTRIAL MANAGEMENT

Persons or **Parsons, Robert** (both par'sŭnz), 1546–1610, English Jesuit missionary He left a fellowship at Balliol College, Oxford, and went to the Continent to be received (1575) into the Roman Catholic Church, then entered the Society of Jesus and was ordained (1578) Active in the English College at Rome, Persons probably suggested the Jesuit mission to England That mission (1580–81), which he undertook with Edmund CAMPION, was the most notable event in Persons's career When Campion was taken, Persons fled to the Continent, where he remained the rest of his life, trying to promote Catholicism in England by political schemes and by building up in France and Spain seminaries and monasteries for English Catholics The school he founded at Eu was later transferred to Saint-Omer and is now continued at Stonyhurst, England. Persons was rector of the English College from 1597 to 1610 Of his many works the best remembered is the devotional *Book of Resolution, or, The Christian Directory* (1582)

perspective, in art, may be described as any method employed to represent three-dimensional space on a flat surface or in relief sculpture The two principal methods are linear perspective, which establishes the relative dimensions of objects as seen in space, and aerial perspective, which makes use of variation in color, light and dark, and contour to express depth Although many periods in art showed some progressive diminution of objects seen in depth, linear perspective, in the modern sense, was probably first formulated in 15th-century Florence by the architects Brunelleschi and Alberti and the painter Uccello In this strictly geometric system everything in a picture is represented as seen from a single point of view. The various types of linear perspective—parallel, angular, and architect's—are all different applications of the same principle of projection While no strictly accurate reproduction of what is seen can be rendered in two dimensions, the relations obtained

in linear perspective closely approximate those of photography. It has exercised an immense influence on Western art Strict application of its geometric laws is rare in the fine arts today, but its influence is still very marked A related, and parallel, development is the art of foreshortening, which deals with the freehand drawing of objects as seen in depth While linear perspective can be learned and applied by any intelligent student, the subtleties of aerial perspective vary greatly with the individual artist and school In general, aerial perspective is based on the fact that contrasts of color and of light and dark appear greater, and contours more defined, in near objects than in far. It also takes note of the recessive character of cool colors and the prominence of warm colors

perspiration, see SWEAT

Perth, James Eric Drummond, 16th earl of (drŭ'mund, pûrth), 1876–, British statesman As first secretary general of the League of Nations (1919–33), he worked for the collective action of the members He was ambassador to Rome (1933-38) and served (1939–40) as chief adviser on foreign publicity with the ministry of information He became earl in 1937 Since 1946 he has been deputy leader of the Liberal party

Perth, county, Scotland see PERTHSHIRE

Perth, city (pop 98,924, metropolitan pop 272,586), capital of Western Australia, on the estuary of the Swan river 12 mi from its mouth Fremantle is the port for Perth The commercial and cultural center of the state, Perth was founded in 1829 The Univ of Western Australia is at near-by Crawley There are Anglican and Roman Catholic cathedrals, a museum, and an art gallery The chief products are clothing, furniture, sandalwood oil, and flour There is a state-owned munitions plant Several of the western suburbs are seaside resorts

Perth, town (pop 4,458), S Ont , SW of Ottawa It has varied industries, including woodworking

Perth, burgh (1931 pop 34,807, 1948 estimated pop 40,123), co seat of Perthshire, Scotland, on the west bank of the Tay and NW of Edinburgh It is beautifully situated, backed by Moncrieffe, Kinnoull, and other hills, and with parks along the Tay The suburb Bridgend lies across the river Perth, or St Johnstoun, was the capital of Scotland until the murder here of James I (1437), after which it was superseded by Edinburgh The fierce battle between two clans on the North Inch (a park) in 1396 is recounted in Scott's *Fair Maid of Perth* Other events in the long history of the burgh are the mysterious Gowrie Conspiracy in 1600 (see RUTHVEN, family) and the battle of Tippermuir in 1644 in which MONTROSE defeated the Covenanters John Knox delivered his famous sermon against idolatry in the Church of St John in 1559 Many parliaments and councils were held in Perth It was the site of four monasteries, but few traces remain, the Hospital of King James VI (1569), now a workmen's dwelling place, is on the site of the old Carthusian monastery The General Prison for Scotland was established in Perth in 1812 Perth's industries include the manufacture of carpets and of textile and farm machinery

Perth Amboy (ăm'boi), city (pop 41,242), NE N J , with a good harbor at the mouth of the Raritan on Arthur Kill, here crossed to Tottenville, Staten Island, by the Outerbridge Crossing (1928) Perth Amboy was settled in 1683 and incorporated in 1718 It was capital of East Jersey from 1686 until the union of East and West Jersey and thereafter, for a time, alternate capital with Burlington It grew after connections with the interior were established, particularly after it became the tidewater terminal of the Lehigh Valley RR in 1876 and began to ship coal It is a port of entry The smelting and refining of metals and the making of bricks, tile, pottery, and terra cotta (clay is available locally) are the leading industries The mansion of Gov William Franklin, used as a British military office in the Revolution, was later converted into a hotel Of interest also are St Peter's Church (1722, Episcopal), Parker Castle (1723), and Lawrence Kearny's home (now occupied by the local historical society) William Dunlap was born in Perth Amboy

Perthshire or **Perth**, inland county (2,493 sq mi , 1931 pop 120,793, 1948 estimated pop 130,539), central Scotland The county town is Perth It is largely a mountainous region, the heights of the Ochils, the Sidlaws, and the Grampians are within its borders ' Lochs Tay, Earn, Rannoch, Ericht, and Katrine are among the largest of its many lakes The Forth and the Tay, with their tributaries, are the principal rivers Wild forests and rolling moor cover much of the area, which is noted for its fine scenery Agriculture and grazing are the leading industries, Strathearn and the Corse of Gowrie being especially fertile districts Perthshire has played an important role in Scottish history Kings of Scotland were long crowned at Scone, site of a royal residence. The county was the scene of the battles of Dupplin Moor, Tippermuir, Killiecrankie, and Sheriffmuir

Pertinax (Publius Helvius Pertinax) (pûr'tĭnăks), 126–93, Roman emperor (193), b. Liguria. He reluctantly succeeded COMMODUS on the throne and, on attempting to curb license in the Praetorian guard, was slain by the soldiers after a reign of three months Didius Julianus succeeded him

Pertinax: see GÉRAUD, ANDRÉ

Pertz, Georg Heinrich (gā'ôrk hĭn'rĭkh pĕrts), 1795–1876, German historian, first editor of the *Monumenta Germaniae historica* Appointed through the influence of Stein in 1823, he remained in charge until 1874 He also wrote lengthy biographies of Stein and Gneisenau and an excellent work on the Merovingians.

Peru (purōō') Span *Perú* (pārōō'), republic (482,257 sq mi , including lakes and islands, pop. 7,023,111), W South America The capital is LIMA Stretching from the Pacific coast on the west across the great mountain masses of the Andes and down to the rain forest of the W Amazon basin on the east, Peru has a great variety of climate and topography The heavily forested slopes of the Andes in the montaña of the east go down to great Amazon plain This jungle country has great resources as yet scarcely tapped The UCAYALI flows through the forest to join the MARAÑÓN, which rises in the mountains not far from the Pacific coast and comes east as the parent stream of the Amazon All this eastern country is well watered, and the forests and savannas supposedly have potentially rich soil Some of it is being exploited, and IQUITOS is a center of farm trade as well as of some gathering of rubber and balata Rubber once caused a boom in the Amazon country from the 1880s to 1912, but except when world conditions create unusual demands it is now of minor importance Inaccessible from the west until a road was completed in the 1940s to link the Pacific with the Ucayali, the eastern section, though it comprises about half of Peru's territory has but a tiny fraction of the population There are Indian tribes living in isolation in the same meager and untouched existence that their ancestors had when the powerful Inca empire occupied central and W Peru before the white man came Efforts are being made to pierce further the barrier of mountain and forest The boundaries with Colombia and Ecuador in this great wilderness were long subject to bitter dispute, but are now presumably fixed, the argument over the Leticia area ending in 1934, that over the Putumayo area closing at least tentatively in 1944 What this whole region may yield is a matter for the future, but up in the higher country within the mountain valleys and the high altiplano there were ancient cultures, and there the great Inca empire had its core The Andes in Peru as in Bolivia are fanned out in eastern and western ranges The volcanoes of the western range are especially lofty, the cordillera rising to the towering HUASCARÁN The eastern cordillera is also rugged, though its peaks are not quite so impressive as those in the west In S Peru is the volcano El MISTI, celebrated in Peruvian legend Between the major cordilleras lie the upland basins of the altiplano (more than 10,000 ft above sea level) Though called a plateau, the altiplano is actually rough with diagonal mountain ranges crossing it It begins in central Peru and broadens southward into Bolivia High, cold, and generally barren, the region has spots where rainfall is sufficient and the land level and fertile enough to yield potatoes and grains Thus around cold Lake Titicaca, which Peru shares with Bolivia, there are cultivated fields The higher *puna* yields enough grazing for llamas, alpacas, and sheep The very lofty *paramo* is too bleak for much use In the deep mountain vallevs, which cut down to a warmer clime, all sorts of crops can be grown and the land has been cultivated for many centuries for the support of the Indian villages and towns The great centers of the central region are AREQUIPA and the old Inca city of CUZCO Quite apart from the immemorial pattern of the Indian farming and pastoral life is the great industry of the mines Gold and silver were extracted in the time of the Incas, and the mountains yielded a tremendous wealth to the Spanish conquerors, who forced the Indians to hard labor for obtaining the prize Silver and gold still are exported, but in modern times CERRO DE PASCO has been known for its copper Lead, zinc, and other metals are also produced and Peru is a leading exporter of bismuth In the highlands the labor is almost exclusively Indian, and in the rarefied atmosphere of the mountains they are capable of enormous physical exertion that quickly exhausts the foreigner From early days European visitors noted with astonishment the endurance of the Indians, who would tirelessly carry heavy packs over mountain trails, chewing the while on the native coca leaves (containing cocaine), which supposedly deadened fatigue Beyond the crests of the high western Andes lies the region most familiar to the foreigner, the long coastal desert stretching for 1,400 mi Here is the great port of CALLAO a few miles from the capital city of Lima The extreme aridity is caused by the northward-moving and cold Humboldt or Peru Current, which yields little moisture to the winds blowing to the coast. What moisture there is is carried high over the desert to be precipitated on the mountains Thus in the south the skies are often cloudy but there is little rain In the north there is even less Very occasionally (once in several decades) warm water will backwash southward in the sea bringing torrential and damaging rain, but such disasters are much rarer than the earthquakes that frequently shake parts of the mountain and coastal areas The rain precipitated on the mountains causes dense vegetation of the lower mountain slopes, but the coastal cities and farms must depend on irrigation from the short and sometimes intermittent streams that plunge down from the Andes Where the rivers form alluvial fans, irrigation produces Peru's two most important crops, cotton and sugar cane The districts about CHICLAYO and TRUJILLO account for much of the agricultural export Farther south around Pisco and Ica there are large vineyards Off the coast are small islands, notably the *Lobos* and Chincha islands, which yield a singular source of income, guano, which is formed by the droppings of sea birds, who haunt the islands to feed on the marine life, guano, rich in nitrate, is used as a fertilizer, but its importance has been greatly diminished by the manufacture of synthetic fertilizers More important is the mineral wealth of petroleum, which is found principally in the northwestern desert Petroleum and the minerals from the mountains are the basis for much of the industrial activity of Peru Ore reduction and oil refining are prominent. There are also cotton and woolen textile mills and various minor manufactures in the cities Transportation has been one of the major difficulties in the path of Peruvian development. The building of railroads from the coast to the sierra meant battling with desert and mountain The building of the first from the southern port of MOLLENDO (now being superseded by the new port of Matarani) to Arequipa was a task of heroic proportions This was accomplished (1868–71) by Henry Meiggs, who also undertook the even greater task of building the railroad W from Callao and Lima over a mountain pass to Oroya The difficulties and expense involved continued to keep the mileage of Peruvian railroads low The same sort of difficulty faces the builder of highways Nevertheless, highways have been put through, though not in an extensive net Air transport has helped to solve some of the problem, but terrain is still the determinant in Peruvian life The count of the entire Indian population cannot be exact, but it is generally assumed that pure Indians make up about half the population Of the remainder by far the larger part is mestizo, with a small number of Orientals (mostly Japanese) and Negroes and a somewhat larger number of European extraction (mostly Spanish, with some Germans and Italians). The prevailing religion is Roman Catholic Although primary education is free, the problems of terrain and of the mixed social order have tended to keep the rate of illiteracy high, strenuous efforts have been made by the ministry of education to reduce it—particularly since 1941 The national universities, particularly the Univ of San Marcos at Lima (one of the oldest of American institutions of higher education) offer many facilities and there are various technical schools Many of Peru's problems have been inherited from the Spanish Conquest, which might in a certain sense be said never to have finished It was one of the most astonishing and dramatic chapters in the history of the two Americas The empire of the Inca, which had superseded earlier Indian cultures (e g , the AYMARA), was a highly developed and highly organized Indian civilization Its greatness seemed undiminished in 1532 though actually there were fissions within it In that year Francisco PIZARRO with a small band of adventurers arrived on the coast of Peru They toiled up the Andes and entered Cajamarca, seized the Inca, ATAHUALPA, by treachery, imprisoned him, and finally executed him By boldness and by firearms (unknown to the natives of Peru) the downfall of a mighty state was brought about instantaneously Before another year was out the Inca capital had been captured and the conquest was virtually complete The Indians had been less subjugated than betrayed, but Spanish power was immediately firm, and the uprisings of Manco Capac and of the much later Tupac Amaru were unavailing. Pizarro and his brothers and companions (notably such men as BENALCÁZAR) having prevented the attempt of Pedro de ALVARADO to take present Ecuador, set out to exploit the land The Indian was made to work in the mines, on the lands held in ENCOMIENDA, and in the textile mills (*obrajes*) The Spanish quarreled over profit and loot Diego de ALMAGRO, who first took the conquest into Chile, engaged in actual civil warfare against the Pizarros, and internecine strife went on. The younger Diego de Almagro battled against the representative of the crown, VACA DE CASTRO The New Laws, which would have done away with the abuses of the encomienda system, caused Gonsalo Pizarro to revolt He defeated the first viceroy, Blasco NÚÑEZ VELA, and was in turn defeated by Pedro de la GASCA. He was executed, but the New Laws were never administered for the benefit of the Indians Order was firmly established after Francisco de TOLEDO arrived in 1569 He inaugurated measures to improve the lot of the Indians, im-

proved administration, and generally made of Peru a functioning government The foundation he laid kept the viceroyalty functioning well through the colonial period, despite occasional poor administrations The area of the viceroyalty was reduced by the creation of new organs of government (e g , the creation of the viceroyalty in the Río de la Plata country, now ARGENTINA), but it remained the most powerful of the Spanish bodies in the New World, except for New Spain The government was reformed (1784) with the establishment of intendancies, but little power or even voice was given to the creoles (those of Spanish descent born in the colony), much less to the oppressed Indians The general efficiency of the government perhaps explains why Peru was the last of the South American colonies to gain independence from Spain Patriots did conspire against the government and there was an abortive uprising at Cuzco in 1813, but real revolution waited until after José de SAN MARTÍN came to Peru and, on the evacuation of Lima by the viceroy, José de la SERNA, proclaimed (July 28, 1821) the independence of Peru That was not to be won by him, however, for the northern liberator, Simón BOLÍVAR, also came to Peru After a mysterious interview the self-abnegating San Martín withdrew, and the conquest of Peru was accomplished by Bolívar and his lieutenant Antonio José de SUCRE in the battles of JUNÍN and AYACUCHO in 1824 Peru and Bolivia were set up as governments by Bolívar, but in the tensions of the time no stability was obtained in either After the departure of Bolívar in 1826, Andrés SANTA CRUZ was chief executive in Peru, and after Sucre left Bolivia in 1828, Santa Cruz took power there He attempted to mold the two countries into a confederation, but his schemes were brought to dust by his defeat in the battle of Yungay (1839) Peru was torn by civil strife until Ramón CASTILLA emerged in 1845 as one in a succession of strong men who have ruled Peru. The power of the military was already strong in government and remained so Dictatorship and revolts came in succession, and most of the economic power was in the hands of an oligarchy The restless change of political life was reinforced by outside trouble Spain, seeking compensation for losses in the revolution, seized the Chincha Islands S of Callao in 1863, and an intermittent war of small naval engagements went on until U S mediation was successful in 1871. Chile, Bolivia, and Ecuador had all supported Peru Before the war's end José BALTA had become president and had begun the material expansion of Peru That was shortly to be hampered by new war The valuable nitrate deposits in the deserts of what was then coastal Bolivia (particularly ATACAMA) were being worked by Chileans Peru and Bolivia in 1873 joined in a secret defensive alliance Therefore when disagreement over the mining led to war between Chile and Bolivia, Peru tried to mediate but refused to declare neutrality, and Chile declared war in 1879 The fighting went disastrously against the allies (see PACIFIC, WAR OF THE), and Peru was compelled to yield up the province of Tarapacá altogether and to surrender the other south coastal provinces of Tacna and Arica to Chilean administration until a plebiscite should be held 10 years later The plebiscite was not held, and charges and countercharges developed into the TACNA-ARICA CONTROVERSY, which was not ended until 1929, when ARICA was awarded to Chile, Tacna to Peru Attempting to reconstruct Peru out of the ruins, President A A CÁCERES created a syndicate of foreign capitalists to manage the guano deposits and the railroads Thus foreign influence and holdings in Peru grew stronger The boom in wild rubber brought some returns to Peru and also showed in the PUTUMAYO investigation (made at the request of the Peruvian government) to what lengths mistreatment of the Indians could go The wretched financial situation was improved somewhat under the long rule of Augusto B LEGUÍA but his administration, praised for its modernization and economic expansion was also criticized by liberals as harshly dictatorial. After the First World War a new party emerged, the Alianza Popular Revolucionario Americana, known as APRA (its members are Apristas) and headed by Víctor Raúl HAYA DE LA TORRE Its program is radical reform (though expressly not Marxist) and particularly bettering the condition of the Indians. Although it was usually outlawed, it gained much strength after the downfall of Leguía in 1930. The violently reactionary parties also gained in strength, and the contest between the left and the right was bitter A middle-of-the-road path seemed to be found with the victory of the moderate reformist party under José Luis Bustamante Rivero in 1945 with the aid of the Apristas. Soon, however, the administration had split with APRA on the program, and the rightists were bitterly hostile. A revolution by the Apristas in 1948 was followed by a coup at Arequipa in November of that year. Manuel Odría was made president, backed by the army and the conservatives He was in May, 1950, preparing to run as candidate in forthcoming elections A classic narrative of the Spanish Conquest is that of W. H. PRESCOTT See C R. Markham, *History of Peru* (1892); P. A. Means, *Fall of the Inca Empire and the Spanish Rule in Peru; 1530–1780* (1932), Blair Niles, *Peruvian Pageant* (1937); M. B B. Kidder, *No Limits but the Sky* (1942), T. R. Ybarra, *Lands of the Andes* (1947)

Peru (pərōō′) 1 City (pop 8,983), N Ill , on the Illinois river adjacent to La Salle and NNE of Peoria, in a coal area, founded 1835, inc 1845 Its manufactures include clocks, screens and other metal products, wagons, and beverages; it has zinc smelters and a foundry The Illinois river bridge here dates from 1869 2 City (pop 12,432), co seat of Miami co , N Ind , on the Wabash and E of Logansport, laid out 1825 It is in a fertile agricultural area and produces electrical equipment The city has a historical museum with examples of pioneer handicraft A naval air base is here 3 Village (pop 1,024), SE Nebr , on the Missouri and SE of Lincoln, inc 1860 A state teachers college is here Indian mounds are near by

Peruda (pĕrōō′dù), variant of PERIDA

Perugia (pərōō′ju, Ital pārōō′jä), city (pop 31,839), capital of Perugia prov and of Umbria, central Italy. It is beautifully situated on a hill overlooking the Tiber valley and is a commercial and industrial center famous for its chocolate Perugia was inhabited by the Umbrians and (4th cent B C) the Etruscans before it fell to the Romans in the 3d cent B C It became (12th cent A D) a free commune, which soon gained hegemony over other Umbrian cities Although nominally under papal rule, it was in fact mostly at the mercy of cruel tyrants until in 1540 Pope Paul III conquered it To keep it subdued he built a powerful citadel designed by Antonio da San Gallo, which was dismantled in 1860 As the chief city of Umbria, Perugia was its artistic center The Umbrian school of painting (13th–16th cent) reached its greatest splendor with Perugino, Raphael's master, and with Pinturicchio Perugino's frescoes decorate the Cambio [exchange hall] The university at Perugia may be traced to the 13th cent , special courses for foreign students are now held here each year Near the city important Etruscan tombs were found The extant city walls are partly Etruscan, partly Roman, partly medieval The cathedral (14th–15th cent) has a fine white and red marble façade, near by is a marble fountain with sculptures by Nicola and Giovanni Pisano The pinnacled town hall (13th cent) houses the best Umbrian art collection The Church of Sant' Angelo (5th or 6th cent) and the Renaissance churches of San Bernardino and San Pietro deserve mention There are very-well-preserved medieval quarters

Perugino (pĕ″rōōjē′nō, Ital. pārōōjē′nō), c.1445–1523?, Umbrian painter, b near Perugia His real name was Pietro di Cristoforo Vannucci He studied under Fiorenzo di Lorenzo, assisted Piero della Francesca at Arezzo, and was a fellow pupil of Leonardo da Vinci and Lorenzo di Credi in Verrocchio's studio in Florence In 1475 he was commissioned to paint in the Palazzo Pubblico, Perugia, a series of frescoes (no longer extant), and in 1478 he executed the fresco *St Sebastian* in the Church of Cerqueto, near Perugia, one of his earliest known works In 1480 he was summoned to Rome by Pope Sixtus IV to paint in the Sistine Chapel of the Vatican. Of the four frescoes executed by Perugino only one remains, *Christ Giving the Keys to St Peter*, the others having been destroyed to make room for Michelangelo's *Last Judgment* From 1486 to 1491 Perugino worked chiefly in Florence, making occasional visits to Perugia and one to Rome, where he painted for Cardinal della Rovere the beautiful altarpiece now in the Villa Albani Other important works of the middle period are the *Madonna with Saints and Angels* (Louvre), *Madonna with Two Archangels* (National Gall , London), *The Crucifixion* (Uffizi), *Pietà* (Pitti Palace, Florence), *The Crucifixion*, fresco (Santa Maria Maddalena dei Pazzi, Florence), *Madonna Enthroned with Saints* (Vatican); and *The Crucifixion* (National Gall of Art, Washington, D C) His last period (c 1496–1523), centering mainly about Perugia, was one of great productivity He had many pupils and assistants, among them the youthful Raphael From 1496 to 1498 Perugino worked on the great altarpiece, *The Ascension*, for San Pietro of Perugia (five panels at Perugia; the rest in Lyons, Nantes, and Rouen museums, Vatican Gallery, and St Gervais, Paris). His most ambitious decorative work was the fresco series for the audience hall of the Cambio in Perugia, consisting of allegorical figures and two sacred subjects, *The Nativity* and *The Transfiguration* In 1500 he painted the altarpiece *Madonna and Saints* for the Certosa of Pavia. Only the figure of *God the Father* remains in the Certosa, *Virgin Adoring the Infant Christ, St. Raphael with Tobias*, and *The Archangel Michael* are in the National Gallery, London. Other important works of the last period are *The Marriage of Joseph and the Virgin Mary* (Caen), *The Adoring Madonna* (San Agostino, Perugia); *Triumph of Chastity* (Louvre), a panel painted for the study of Isabella d'Este at Mantua; *Virgin between St. Jerome and St. Francis* and *The Adoration of the Shepherds*, his last work, painted for the Church of Castello di Fontignano (both: National Gall , London); and *The Annunciation* (National Gall of Art, Washington, D C) In the Metropolitan Museum is a *Resurrection*, part of a predella, and *Adoration of the Infant Christ* is in the New York Historical Society. Perugino is, after Raphael, the greatest painter of the Umbrian school. He was one of the first Italians to master the oil medium and also materially advanced the science of perspective At first influenced by the Florentine school, he gradually developed an individual style noted for its delicacy and grace of line, Umbrian tenderness of color, and noble portraiture In his later years the artistic merit of much of his work declined See biographies by G C Williamson (1903) and Edward Hutton (1907)

Perugino, Il see BARTOLI, PIETRO SANTI

Peruvian bark see CINCHONA

Peruzzi, Baldassare (bäldäs-sä′rā pārōōt′tsē), 1481–1536, Italian architect He was one of the great architects of the zenith of the Italian Renaissance His early training was in painting, existing mural decorations show his fine talents in that field In 1508 he moved to Rome, where he built the Farnesina, collaborating with Raphael in adorning it with frescoes The Massimo Palace (c 1530) at Rome is his masterpiece For some years he assisted Bramante in the work for St Peter's and later was appointed superintendent, closely adhering in his plans to Bramante's designs The capture of Rome in 1527 prevented its execution In addition to many buildings in Rome, he designed numerous villas and palaces elsewhere in Italy

Pesaro (pāsä′rō), city (pop 24,163), capital of Pesaro e Urbino prov , the Marches, central Italy, a port on the Adriatic Sea It was a Roman colony and later one of the cities of the PENTAPOLIS The house of Malatesta gained power in the 13th cent , then the Sforza and the dukes of Urbino held it until (1631) it passed directly under the Holy See Pesaro has several churches, a ducal palace (14th–15th cent), and the richest collection in Italy of ceramics, manufactured here since the 15th cent It was Rossini's birthplace and is the seat of a conservatory of music Near here are the Rocca Gradara, a fort of the Malatesta, and the Villa Imperiale, decorated with 16th-century frescoes damaged in the Second World War

Pescadores (pĕskudô′rus, -rōs), Mandarin *P'êng-hu*, group of 25 small islands, area c 50 sq mi , between Formosa and the mainland of China China ceded them (1895) to Japan after the First Chino-Japanese War, and they were returned to China after the Second World War Much sugar cane is grown

Pescara, Ferdinando Francesco d'Avalos, marchese di (fārdēnän′dō frēnchā′skō davä′lōs markä′zā dē pāskä′rä), 1490?–1525, Spanish-Neapolitan general in the Italian Wars He served Emperor Charles V and was chiefly responsible for the brilliant Spanish victory over Francis I of France at Pavia (1525) A partisan of the dispossessed Sforza dukes of Milan tried to induce the general to join in promoting an Italian national party, but Pescara revealed the plot to the emperor

Pescara (pāskä′rä), city (pop 35,877), capital of Pescara prov , Abruzzi e Molise, S Italy, a fishing port on the Adriatic It suffered considerable damage in the Second World War D'Annunzio was born here

Pesellino, Il (ēl pāzēl-lē′nō), 1422–57, Italian painter of the Florentine school, whose real name was Francesco di Stefano He was a grandson and pupil of Giuliano Giuochi, called Pesello, and later assisted Fra Filippo Lippi Pesellino is famous for the decorative qualities of his work and for his splendid paintings of animals His exceedingly rare extant works are highly prized He excelled in the painting of *cassone* pictures (decorative panels for chests), such as the *Judgment Scene* and the *Story of Griselda* (Bergamo) and the *Triumphs of Petrarch* (Gardner Mus , Boston) *Scenes from the Story of the Argonauts*, two chest panels (Metropolitan Mus.), are attributed to the school of Pesellino. Other known works by the artist are *Madonna with Saints* and *Crucifixion* (Metropolitan Mus); *The Crucifixion with St Jerome and St Francis* and *Madonna and Child* (National Gall of Art, Washington, D C), *Madonna* (Chantilly), five fragments of the fine predella for Lippi's altarpiece in the Church of Santa Croce, Florence (three in Florence Acad and two in the Louvre), the altarpiece of the *Trinity*, begun by Pesellino for Santa Trinità at Pistoia and believed to have been completed at his death by Lippi (National Gall , London); *Annunciation* (Uffizi), and a miniature altarpiece, *Madonna and Six Saints*

Peshawar (pūsha′wūr, pūshô′ūr), city (pop. 173,420), capital of North-West Frontier Prov , Pakistan. It is 10 mi E of Khyber Pass, and it is a major depot for trade with Afghanistan. There is weaving of silk, cotton, and wool. The city, once a Greco-Buddhist center, has a large Buddhist stupa of the 2d cent. In the 19th cent. Peshawar was under Sikh control until its capture by the British in 1848.

Peshtigo (pĕsh′tēgō), city (pop 1,947), NE Wis., SW of Marinette and on the Peshtigo river, in a

dairy area; inc. 1903 The city has paper milling and boatbuilding Near by is a memorial of the 1871 fire which ravaged NE Wisconsin.

pessimism: see OPTIMISM

Pest, Hungary: see BUDAPEST.

Pestalozzi, Johann Heinrich (yō'hän hĭn'rĭkh pĕˢ-stälôt'sē), 1746–1827, Swiss educational reformer, b Zurich His theories laid the foundation of modern elementary education He studied theology at the Univ. of Zurich but was forced to abandon his career because of his political activity. From 1769 to 1798 he lived at his farm "Neuhof" near Zurich, where he conducted a school for poor children. From 1799 to 1804 he directed a school at Burgdorf, and from 1805 until his retirement to "Neuhof" in 1825 he was director of the experimental institute at Yverdon, which was established on Pestalozzian principles Pestalozzi's writings include *Abendstunde eines Einsiedlers* (1780, Eng tr, *The Hours of a Hermit*, in J A Green and F A Collie, *Educational Writings of Pestalozzi*, 1912), a collection of aphorisms, *Lienhardt und Gertrud* (4 parts, 1781–87, rev eds, 1790–92, 1819–20, Eng trs, *Leonard and Gertrude*, 1801, 1894), a novel of social reform through education, *Christoph und Else* (1782), a series of didactic conversations, *Wie Gertrud ihre Kinder lehrt* [how Gertrude teaches her children] (1801), 14 letters on education, *Buch der Mütter* [the mother's book] (1803), one of three "elementary books" on instructional methods, and the autobiographical *Schwanengesang* [swansong] (written 1811–13, pub 1826) Pestalozzi's theory of education is based on the importance of a pedagogical method which corresponds to the natural order of individual development and of concrete experiences This theory and Pestalozzi's methods of applying it have profoundly influenced both European and American education See W S Monroe, *History of the Pestalozzian Movement in the United States* (1907), J A Green, *Life and Work of Pestalozzi* (1912)

Pestszenterzsebet, Hung *Pestszenterzsébet* (pĕsht'-sĕntĕr"zhābĕt), city (pop 76,876), N central Hungary, just SE of Budapest It is an industrial center with petroleum refineries and iron and steel plants The name formerly was Erzsebetfalva

Pestszentlorinc, Hung *Pestszentlo"rinc* (pĕsht'-sĕntlō"rĭnts), city (pop 42,075), N central Hungary A southwestern suburb of Budapest, it has iron, steel, and machinery plants

Petah Tikva or **Petah Tiqva** (both pĕtä' tĭk'vä), town (pop c 25,000), central Israel, c 7 mi E of Tel-Aviv; founded 1878 It is the oldest modern settlement in Palestine and is a manufacturing center, producing textiles and processed foods

Pétain, Henri Philippe (ärē' fēlēp' pātăⁿ'), 1856–, marshal of France In the First World War he saved France by halting the Germans at VERDUN (1916) He became (1917) French commander in chief, but was passed over (1918) in favor of Foch when the Allies chose a joint supreme commander Made a marshal in 1918, Pétain later went to Morocco, where he brought the joint French and Spanish campaign against ABD-EL-KRIM to a successful conclusion (1926) In 1939 Pétain was appointed French ambassador to Spain after France had recognized the newly established regime of Francisco Franco, who had served under Pétain in Morocco In the Second World War, when France was on the brink of collapse, Premier Paul REYNAUD recalled (May, 1940) Pétain from Spain and made him vice premier in an attempt to restore French morale with the name of the hero of Verdun Pétain recommended (June, 1940) that France sue for an armistice, and on the night of June 16 Reynaud resigned and was succeeded by Pétain as premier The armistice, signed at Compiègne, went into effect on June 25, and half of France was occupied by the Germans On July 10, 1940, a rump meeting of the parliament suspended the constitution of the Third Republic, and Pétain took office as "chief of state" at Vichy, in unoccupied France The VICHY GOVERNMENT was fascistic and authoritarian Pétain sought to improve the lot of France and the French prisoners of war by collaborating "honorably" with Germany, but his popularity decreased as he yielded to ever-harsher German demands without obtaining much in return In April, 1942, Pierre LAVAL took power, and the marshal became a mere figurehead After the Allied invasion of France (June 6, 1944) Pétain was taken, allegedly over his protests, to Germany In April, 1945, he voluntarily returned to France to face treason charges. His trial (July–Aug, 1945), at which much contradictory evidence was presented, ended when he was convicted of intelligence with the enemy The court, whose impartiality was widely contested, sentenced him to death, "national indignity," and loss of property General de Gaulle commuted the death sentence to life imprisonment. Detained at first at a fortress in the Pyrenees, he was later transferred to the island of Yeu.

petal: see COROLLA.

Petaluma (pĕtŭlōō'mŭ), city (pop 8,034), W Calif., N of San Francisco and NW of San Pablo Bay; founded 1852, inc 1858. It is the center of a large poultry industry. Its manufactures include incubators and poultry foods.

Petavius, Dionysius (dīōnĭ'shēŭs pētä'vēŭs), Fr *Denys Pétau*, 1583–1652, French Jesuit theologian and philologist His editions of late Greek theological works are still important His chief work (incomplete), on Christian doctrine, was bold in imputing slight unorthodoxy to certain Fathers of the Church and a Jansenist tinge to St Augustine

Petchenegs (pĕchunĕgs') or **Patzinaks** (pätsĭnaks'), nomadic people of the Turkic family Originating in the Ural region, they invaded (A D c 880) the plains of the lower Danube, driving the MAGYARS before them They threatened Constantinople (934) and in 968 besieged Kiev and killed the Kievan duke Sviatoslav After once more besieging Constantinople (c 1075), they were virtually annihilated in 1091 by Emperor Alexius I and the CUMANS, a tribe closely related to the Petchenegs

Petén (pātān'), region (c 15,000 sq mi, pop 11,475), N Guatemala, politically a department Sometimes referred to as the panhandle of Guatemala, it is a humid expanse of dense, tropical, hardwood forests interrupted by savannas and crisscrossed by ranges of hills rising no more than 1,000 ft It is related geographically to Yucatan, E Chiapas, and British Honduras rather than to the rest of Guatemala The USUMACINTA system drains the western and major portion, though lesser rivers flow E into British Honduras There are large, permanent lakes, notably Lake Petén or Petén Itzá, and heavy rainfall (from 70 in a year in the north to 150 in a year in the south) brings floods and temporary lakes connecting the permanent ones The inaccessible region has been little developed and produces only chicle, lumber, and some rubber and cacao Most of the Indians live in the deep forests independently of the few whites Once Petén was the center of the Old Empire of the MAYA and had a dense population It is rich in archaeological ruins, notably TIKAL and Uaxactún Although the Spanish nominally conquered the area and Cortés passed through on his epic march to Honduras (1524–25), efforts at subjugation were only sporadic until the ITZA were driven in 1697 from their stronghold at Lake Petén

Peter, Saint [Gr *Petros*, Gr *petra*=rock, this is a translation of *Cephas*], d A D 67?, Prince of the Apostles, the disciple listed first in the Gospels His original name was Simon, but Jesus gave him the nickname Cephas (sē'fus) [Aramaic, =rock] He was a native of Bethsaida, and St Andrew was his brother, he was married Peter and Andrew were called by Jesus from their fishing to be disciples at the same time as the sons of Zebedee Mark 1 16–20,29–31, 3 14–16, Luke 5 1–11, John 1 40–44 He appears throughout the Gospels as leader and spokesman of the Twelve Apostles, and Jesus most often addressed him when speaking to them Mat 10 2, 14 28, 15 15, 17 24, 19 27, Luke 8 51, 12 41 Peter's honored position comes out most clearly in two high points of Jesus' ministry—when Peter confessed Jesus to be the Christ and was told "upon this rock I will build my Church" and when he, with James and John, was chosen to see the transfiguration Mat 16 13–20, 17 1 He was with Jesus at the Last Supper and accompanied him into Gethsemane When Judas came to betray Jesus, Peter drew his sword to defend him, but later in the same night Peter denied him John 13, Mat 26 26–35,57–75 After the resurrection occurred the scene by the lake when Jesus charged Peter to "feed my sheep" John 20 1–10, 21 The Acts of the Apostles deals largely with Peter in its first chapters and shows him as the leader of the Twelve in replacing Judas by Matthias and in the public declaration at Pentecost Acts 1 15–26, 2 14–40 Much attention is given to Peter's miracles and to his defense of Christianity Acts 3, 4, 5 1–11,29–32, 8 14–25, 9 32–43, 10, 11 1–18 Peter's deliverance from prison by an angel is a celebrated incident He was a leader at the council of Jerusalem called to discuss the integration of the non-Jews into the Christian organization, his hesitation to accept them freely was rebuked by St Paul Acts 15, Gal 2 A few facts of St Peter's life are known from 2d-century sources He left Antioch for Rome A.D c 55, there he died as head of the local church, a martyr under Nero A very ancient tradition makes him die the same day as St Paul, crucified with his head downward From earliest times the Vatican hill has been pointed out as the place of his martyrdom, St Peter's Church houses his tomb, replacing the church St. Constantine built over Peter's burial place The apostle's tomb is the principal shrine of Europe and draws as many pilgrims as the Holy Places at Jerusalem It was reported (but not confirmed by early 1950) that archaeologists had in 1947 discovered a crypt with coins from very early days and inscriptions that to some degree bear out the traditional belief that St Peter actually was interred at the spot There is a very ancient tradition, accepted by most critics, that the Gospel of Mark was largely done with St Peter's help and that it consists essentially of his memoirs. The epistles of Peter (see PETER, epistles) are regarded by many critics as falsely attributed From earliest times Christians looked for leadership to the successors of Peter, the bishop of Rome. Whether this primacy should be one of honor only (as held by the Orthodox East) or of actual rulership is one of the chief dividing questions of Christian history, and it sharply sets off the ROMAN CATHOLIC CHURCH, which consists of those who are in communion with the pope. Peter's successor at Rome, and therefore in obedience to him (see PAPACY). The biblical passages said to support these Petrine claims are Mat 16 13–20 and John 21 15–25 From the first comes the familiar symbolism of the keys to represent the papal power as well as the popular picture of St Peter as the doorkeeper of heaven. There are four feasts of St Peter in the West St Peter and St Paul, June 29, St Peter's Chains (anniversary of the dedication of the basilica of St Peter-in-Chains at Rome), called Lammas Day in England, Aug 1, St Peter's Chair at Rome (commemorating his bishopric at Rome), Jan 18, and St Peter's Chair at Antioch (commemorating his bishopric at Antioch), Feb 22 Good interpretations of the sources about St. Peter are found in histories of the Church and in biblical commentaries Among careful biographies are those by F J Foakes-Jackson (1927, critical Protestant) and W T Walsh (1948, Roman Catholic)

Peter I or Peter the Great, 1672–1725, emperor (1721–25) and tsar (1682–1725) of Russia, founder of the modern Russian state He was the youngest child of Tsar Alexis, by Alexis's second wife, Natalya Naryshkin From Alexis's first marriage (with Maria Miloslavsky), Feodor III, Sophia Alekseyevna, and the semi-imbecile Ivan were born On Feodor III's death (1682), a struggle broke out for the succession between the Naryshkin and Miloslavsky factions Helped by the citizens of Moscow, the Naryshkins at first succeeded in setting Ivan aside in favor of 10-year old Peter Shortly afterward, however, the Miloslavsky party incited the Moscow garrison (the streltsi) to rebellion In the bloody disorder that followed, one of Peter's chief supporters was cut to pieces even while seeking protection by clutching the child's person. This episode is held to have left a permanent scar on Peter's psychology and to have been the cause of the convulsive fits from which he suffered As a result of the rebellion Ivan was made, as IVAN V, joint tsar with Peter, under the regency of SOPHIA ALEKSEYEVNA A virtual exile, Peter spent most of his childhood in a suburb of Moscow, surrounded by playmates drawn from the roughest social elements His talent for leadership soon became apparent when he organized military games which became regular maneuvers in siege craft His Dutch and Swiss mentors, Franz Timmermann and François LEFORT, wakened his interest in building a navy and modernizing the army In 1689 the report that Sophia Alekseyevna was plotting against his life roused Peter from his military pastimes, aided by the loyal part of the streltsi, he overthrew the regent and assumed personal rule Ivan V, whose death in 1696 left Peter sole tsar, took no part in the government Peter continued his shipbuilding experiments, begun on a small scale on Lake Pereyaslavl (now Lake Pleshcheyevo), on the White Sea His realization that Russia required better maritime outlets in order to become a commercial and naval power directed his ambitions to the shores of the Baltic Sea, then dominated by Sweden, and of the Black Sea, controlled by Turkey Russian expansion in these two directions became the fixed object of his foreign policy His earliest venture was the conquest of Azov from the Turks A first expedition (1695) ended in disaster, his second attempt (1696) was better prepared and was successful Peter now embarked on a tour (1697–98) of Western Europe, traveling mostly incognito His attempt to gain allies against Turkey failed, but he put his time to good use by studying European industrial techniques, working even, for a time, as a ship's carpenter in Holland He was called back to Russia by the news of another military revolt, instigated by Sophia Alekseyevna Peter took drastic and sadistic vengeance on his luckless opponents At the same time he initiated his program of intensive reform by personally cutting off the beards of his principal nobles Beards were symbols of the medieval social state of Russia, which Peter was determined to end After concluding (1699) peace with Turkey, Peter, in alliance with Denmark and the combined Saxony-Poland, began the NORTHERN WAR (1700–1721) against CHARLES XII of Sweden Though disastrously defeated at first, he routed Charles at Poltava in 1709 and was in control of Karelia, Ingermanland, and Livonia by 1710 At the Treaty of Nystad (1721) he retained most of his conquests Peter's conquests in the south were less permanent Azov was restored to Turkey in 1711, Derbent, Baku, and the southern coast of the Caspian Sea, conquered in a war (1721–24) with Persia, were soon lost again Peter took advantage of his foreign wars to speed internal reform Symbolically, he shifted his capital from Moscow to St Petersburg (see LENINGRAD), newly founded in conquered territory on the Baltic shore He introduced universal taxation, he unified the currency; he released women from their servile status, he ordered the building of stone houses and

the creation of fire departments to stop the disastrous conflagrations of the largely wooden cities; he abolished the Byzantine court ritual, he simplified the alphabet, he reformed the calendar, he encouraged the rise of private industries and the expansion of trade; he built the first modern hospitals and medical schools in Russia; and he prescribed that Russians were to wear European dress instead of their Russian garments However, he did not confine himself to details he also established government control over monastic estates and abolished the patriarchate of Moscow, replacing it as supreme religious authority in Russia by a holy synod, headed by the tsar himself. Aiming at the complete subordination of society to the state, he also reorganized from the ground up the civil administration of Russia, created a new nobility of civil servants and military officers, and kept a watchful eye on the nobility of birth He did nothing, however, to restrict serfdom, which during his reign became more firmly entrenched as an institution than it had been before Peter's interest in imperial expansion led him to finance the first exploration voyage of Vitus BERING Although Peter sought to enforce all his reforms, whether large or small, with equal severity, he was unable to eradicate the traditional corruption of officials or to impose Western ways on the peasantry His reforms, often bordering on the whimsical and sometimes on the sacrilegious, met widespread opposition in all classes The conservatives among the clergy accused him of being Antichrist, and his own son, ALEXIS, joined the opposition Alexis was eventually tried for treason and died (1718) as a consequence of torture In 1721 Peter had himself proclaimed "emperor of all Russia " In 1722 he abolished the imperial succession by primogeniture, declaring the choice of a successor to be dependent on the sovereign's will, this decree (valid until the reign of Paul I) preceded the proclamation (1724) of his second wife as joint empress CATHERINE I, who was to succeed him as sole empress, was a Livonian peasant girl, whom Peter had made his mistress, then his wife (1711) after repudiating his first consort Her accession on Peter's death was largely engineered by Peter's chief lieutenant and favorite, A D MENSHIKOV Although many of Peter's innovations were too hasty and arbitrary to be successful, his reign revolutionized Russia in a measure comparable to the Bolshevik Revolution of 1917 Before his accession, Russia was, in relation to Europe, a remote Asiatic country After his death, it ranked among the major European powers Peter's personal traits ranged the whole gamut from bestial cruelty and vice to the most selfless devotion to duty At all times, he seems to have placed the greatness and prestige of Russia above everything else, his order to his troops at Poltava read, "Remember that you are fighting not for Peter, but for the state " Of bearlike constitution, gigantic stature, and herculean physical prowess, he would drink himself into stupors and indulged in all conceivable vices, but he was able to rouse himself at a moment's notice and was willing to undergo all the physical exertions and privations that he exacted from his subjects Unfortunately, not all his subjects had his constitution, and thousands died needlessly in such projects as the building of St Petersburg Peter himself eventually died of his excesses Having no regard whatever for the lives, liberties, and dignity of individuals, Peter believed in the necessity, for the welfare of the state as a whole, to carry through reforms as quickly as possible and by the most ruthless means, like many of his successors he had little faith in the ability of the Russian people to accomplish anything without prodding He was admired in the 18th cent as a forerunner of "enlightened despotism," and he is revered in Soviet Russia as a forerunner of Stalin Whatever he was, it remains a perhaps significant paradox that the man who introduced Western civilization into Russia was himself regarded by his contemporaries in Western Europe as the embodiment of Russian barbarism The first biographer of Peter the Great was Voltaire Later biographies include those by Eugene Schuyler (2 vols , 1884) and Kazimierz Waliszewski (2 vols , 1897) See also R N Bain, *The Pupils of Peter the Great* (1897)

Peter II, 1715–30, emperor and tsar of Russia (1727–30) A grandson of Peter I and the son of the tsarevich Alexis, he succeeded on the death of Catherine I He was too young to rule, but he willingly lent himself to a court intrigue which resulted in the fall of the all-powerful minister, A D Menshikov, and the return to power of the reactionary nobility, represented by the Galitzin and Dolgoruki families He died of smallpox on his wedding day His successor was Empress Anna

Peter III, 1728–62, emperor and tsar of Russia (1762), son of Charles Frederick, dispossessed duke of Holstein-Gottorp, and of Anna Petrovna, daughter of Peter the Great. He succeeded to the throne on the death of his aunt, Empress Elizabeth, and one of his first acts was to take Russia out of the Seven Years War and to conclude an alliance with Frederick II of Prussia, whom he passionately admired He thus saved Prussia from almost certain defeat and sacrificed all the advantages Russian arms had gained in the conflict. In 1744 Peter had married Sophia of Anhalt-Zerbst, who was to become Empress CATHERINE II Dissolute, mentally unbalanced, and in some respects retarded, he neglected his wife, who went her own way and soon had a series of lovers Catherine's assertion, however, that the later emperor, Paul I, was not her son by Peter is probably unfounded After he became emperor, Peter's general unfitness became increasingly obvious In the summer of 1762 a conspiracy, headed by Catherine's lover Grigori Orlov and his brother Aleksey, was set in motion Catherine was proclaimed sole ruler, and the imperial guards, led by Catherine in person (who had donned the guards' uniform), set out to Peterhof, where they forced Peter to sign his abdication A few days later he died in circumstances which remain mysterious It is generally believed that he was assassinated by a group of officers headed by Aleksey Orlov Peter's claim to ducal Schleswig-Holstein passed to his son Paul, in whose name Catherine ceded it to Denmark in exchange for Oldenburg in 1773 See biography by R N. Bain (1902)

Peter I, d 1104, king of Aragon and Navarre (1094–1104), son and successor of Sancho I He continued the fight against the Moors, won the battle of Alcoraz (1096) with the help of Alfonso VI of Castile, and took Huesca the same year His son Alfonso I succeeded him

Peter II, 1174–1213, king of Aragon (1196–1213) and count of Barcelona, son and successor of Alfonso II He had himself crowned at Rome by Pope Innocent III, whom he accepted as overlord over Aragon and Catalonia In 1212 he helped Alfonso VIII of Castile defeat the Moors at Navas de Tolosa Although a devout Catholic, Peter was obliged to assist Raymond VI of Toulouse against Simon de Montfort, leader of the Albigensian Crusade, when Simon refused Innocent III's command to do homage to Peter Peter was slain in the battle of Muret, which marked the end of Catalan influence in S France His son James I succeeded him

Peter III, 1239?–1285, king of Aragon and count of Barcelona (1276–85) and king of Sicily (1282–85), son and successor of James I He was compelled to grant wide privileges to the nobles In 1280 he established Aragonese influence on the northern shores of Africa From his marriage to Constance, daughter and heir of MANFRED of Sicily, were derived the claims of the house of Aragon to Sicily and S Italy After the insurrection of the SICILIAN VESPERS against CHARLES I of Anjou, Peter was offered the crown of Sicily and took possession of the island (1282) Pope Martin IV excommunicated him and declared him deprived of his states on the basis of Peter II's declaration of vassalage to the Holy See A crusade against Aragon was organized by the pope and the French, who invaded Catalonia but were repulsed by Peter and defeated at sea by ROGER OF LORIA Peter founded the first university in Aragon at Huesca He was succeeded in Aragon by his eldest son, Alfonso III, and in Sicily by his second son James (later James V of Aragon)

Peter IV (Peter the Ceremonious), 1319?–1387, king of Aragon and count of Barcelona (1336–87), son and successor of Alfonso IV He supported ALFONSO XI of Castile at the battle of Tarifa (1340), recovered (1343–44) the kingdom of Majorca, and engaged in an indecisive naval war with Genoa, which had encouraged disorders in Sardinia Though forced to confirm the privileges granted to the nobles by Alfonso III, Peter later defeated the troops of the nobles and withdrew their charter In 1381 he assumed suzerainty over the duchy of Athens His son John I succeeded him

Peter I, Port *Pedro o Severo*, 1320–67, king of Portugal (1357–67), son and successor of Alfonso IV He married Constance Manuel, a Castilian noblewoman, but fell violently in love with one of her ladies in waiting, Inés de CASTRO Their tragic love affair is the great romantic story of the Portuguese When Alfonso IV allowed her to be murdered (1355), the prince led a rebellion The warfare was ended by intervention of the archbishop of Braga, and the prince formally pardoned the murderers Nevertheless, when he became king he had two of them executed by having their hearts drawn out This act and his liking for bringing criminals to punishment earned him the name of Peter the Severe, Peter the Justiciar, and Peter the Cruel He asserted that he had married Inés but could not prove it He was succeeded by Ferdinand I

Peter II, 1648–1706, king of Portugal (1683–1706), younger son of John IV His brother ALFONSO VI was afflicted in both mind and body, and by a coup Peter had him abdicate and ruled the country as prince regent from 1767 to his brother's death The marriage of Marie Françoise to Alfonso was annulled, and she married Peter The reign was one of prosperity and peace until the last years Portugal drew close to England, and the two countries were bound together by treaty, notably by the Methuen Treaty of 1703 English pressure ultimately brought reluctant Portugal into the War of the Spanish Succession, and campaigns were going on when the king died. He was succeeded by John V.

Peter III, 1717–86, king of Portugal, younger son of Joseph He married his niece (MARIA I) and was joint ruler with her.

Peter I, 1844–1921, king of Serbia (1903–18) and king of the Serbs, Croats, and Slovenes (1918–21), son of Prince ALEXANDER of Serbia (Alexander Karageorgevich). He was brought up in exile in Geneva and Paris while the Obrenovich line ruled Serbia, and he fought in the French army in the Franco-Prussian War (1870–71) In 1876 he joined the Bosnian insurrection against the Turks The assassination (1903) of King ALEXANDER of Serbia brought Peter to the throne Peter proved an able and conscientious ruler and restored dignity to the court of Belgrade He reformed the constitution, the army, and the school system and fostered improved methods of agriculture The outstanding figure of his reign was Nikola PASHITCH, who directed Serbian policy in the BALKAN WARS (1912–13) and in the First World War Early in 1914 Peter, who was in ill-health, retired from active rule and his son, the later King Alexander of Yugoslavia, became regent Peter took part in the retreat (1915–16) of the Serbian troops through Albania to Corfu In 1918 he was chosen to rule the kingdom of the Serbs, Croats, and Slovenes (later known as Yugoslavia), while his son and successor remained regent

Peter II, 1923–, king of Yugoslavia (1934–45) He succeeded under the regency of his cousin, Prince Paul, when his father, King Alexander, was assassinated at Marseilles When Paul's government signed (March, 1941) an agreement with the Axis Powers, the army and people of YUGOSLAVIA overthrew the regent. Peter's personal rule began with the German invasion (April, 1941) of Yugoslavia His troops were soon defeated and Peter fled to England, where he headed a government in exile After the war the newly elected Yugoslav assembly abolished (Nov , 1945) the monarchy and proclaimed a republic headed by Marshal TITO Peter protested the action and remained in exile

Peter I (Pierre Mauclerc), d 1250, duke of Brittany (1213–37) The son of Robert II, count of Dreux, and a grandson of Louis VI of France, he married Constance, sister of Duke ARTHUR I and heiress of Brittany He earned the surname Mauclerc by his quarrels with the Breton clergy which brought his excommunication in 1217 Making peace with the Church soon afterward, he took part in the Albigensian Crusade Peter was a leader in several rebellions of the nobles against the regency of BLANCHE OF CASTILE Defeated, he ceded Brittany to his son, accompanied Louis IX as a simple knight on the Crusade to Egypt in 1248, and died on his return voyage He is also known as Peter of Dreux See Sidney Painter, *The Scourge of the Clergy* (1937)

Peter, Hugh see PETERS, HUGH

Peter, epistles of the New Testament, occupying the 21st and the 22d place in the usual order, called First and Second Peter They are classified among the Catholic (or General) Epistles Each opens with a statement of authorship by the apostle St Peter 1 Peter, the longer, is addressed from Rome to the Christians of Asia Minor It opens with the grounds for holy living which lie in the redemption (1 1–21), then passes to duties of Christians—unity with each other and with God (1 22–2 10), obedience to the state (2 11–17), obligations of slaves (2 18–25), of married persons (3 1–7), of all (3 8–12) This leads to a section of consolation and encouragement under persecution (3 13–4 19) The conclusion is also hortatory (5) This epistle contains many beautiful passages, often quoted The ascription to St Peter is questioned by many critics, who then date the letter near A D 100 It was accepted as canonical in the earliest times (see NEW TESTAMENT) This was not true of 2 Peter, written after the other, being put by many critics as late as A D 150, it was one of the last New Testament books to be admitted to the canon This epistle is an exhortation to virtue (1), followed by a passage (2) based on JUDE which warns against heresy that leads to immorality, the whole concludes with a reminder of the Second Coming (3)

Peter, Apocalypse of: see PSEUDEPIGRAPHA

Peterborough, Charles Mordaunt, 3d **earl of,** 1658–1735, English general and diplomat He assisted with arms the Glorious Revolution of 1688, and William III made him a privy councilor, first lord of the treasury, and earl of Monmouth In 1694 Mordaunt lost his honors and fell from favor for his support of a bill for triennial meetings of Parliament He was further injured by his connection with the Jacobite plot of Sir John Fenwick (1696) Mordaunt succeeded to the earldom of Peterborough in 1697, and at the accession of Queen Anne (1702) returned to favor and was made governor of Jamaica In the War of the Spanish Succession he was sent to Spain in 1705 in command of a fleet and a land force He led the successful assault on Barcelona and proclaimed as king Archduke Charles (later Emperor Charles VI). Peterborough's incompetence and intrigues would have permitted

early recapture of the city except for relief sent by Sir John Leake against his orders Peterborough was recalled to England, charged with incompetence, insubordination, and exceeding authority, and his actions became the subject of partisan controversy, with the Tories supporting and the Whigs attacking him Peterborough was vindicated when the Tories came to power (1710) and went on diplomatic missions, mostly unsuccessful At the accession of George I, who disliked him personally, he fell from favor and became friendly with the JACOBITES He continued to dabble in verse and to cultivate the friendship of great literary men, including Swift and Pope See G D Warburton, *Memoir of Charles Mordaunt* (1853), biography by William Stebbing (1890)

Peterborough, city (pop 25,350), S Ont , NE of Toronto It is at falls of the Otonabee river, which connects, through the Trent Canal, with Lakes Ontario and Huron Settled early in the 19th cent. as a lumber town, it has become a railroad and industrial center, manufacturing machinery, lumber products, sport goods, food products, paper, and clothing, it is the headquarters of the Canadian General Electric Company There are a normal school, a technical school, and two institutes. The Peterborough canoe is made here

Peterborough, municipal borough (1931 pop 43,551, 1948 estimated pop 52,900) and city, Northamptonshire, England, co seat of the administrative county of the Soke of Peterborough (53,464 acres, 1931 pop 51,839, 1948 estimated pop 62,092), the origin of which was in the soke (jurisdiction) of the abbey here The city, on the Nene at the edge of the fen country on the Huntingdon-Cambridge border, is a rail, engineering, and farm trade center, with manufactures of leather, machine tools, paper, and other products In the 1930s the river was deepened to make Peterborough accessible from the Wash The great Benedictine abbey was founded in 655 by Saxulf In 870 it was destroyed by the Danes, in the 10th cent it was restored, in the 11th plundered, and in 1116 burned The impressive cathedral, formerly the abbey church, has three great arches in the west front It was partly ruined by Cromwell's men in 1643 The bishop's palace and remains of the old abbey buildings and ancient gates are noteworthy The original name of the town was Medeshamstede Queen Katharine of Aragon and Mary Queen of Scots were buried here The suburb Old Fletton is noted for brickmaking

Peterborough, town (pop 2,470), S N H , on the Contoocook and between Keene and Nashua, granted 1738 to Samuel Hayward and others, settled by Scotch-Irish, inc 1760 Both a resort and a mill town, Peterborough has had textile mills since the early 19th cent. It is, however, best known for its artist colony, planned by Edward MACDOWELL and founded and sustained by the efforts of his widow Trees and buildings of the colony were damaged in the 1938 hurricane The first free tax-supported library in the United States opened here in 1833 The Unitarian church is said to have been designed by Bulfinch.

Peter CANISIUS, Saint (kunĭ'shĭŭs), 1521–97, Dutch Jesuit, Doctor of the Church, b Nijmegen He spent his life traveling throughout the empire strengthening wavering Catholics, preaching, and instructing He was one of the most vigorous of the Roman Catholic preachers in the regions affected by Lutheranism, above all in W and S Germany St Peter wrote much, his catechism was especially important and was one of the earliest popular expositions of the faith Part of his success may be attributed to his sweetness of disposition Feast: April 27.

Peter Claver, Saint (klā'vur), 1581–1654, Spanish Jesuit missionary, called the Apostle of the Negroes He was sent to what is now Colombia in 1610 and began at once his life work of ministering to the bodies and souls of the West African slaves, then being imported in numbers He worked indefatigably under the most loathsome conditions and was generally unappreciated by Spanish officialdom and even by his colleagues Feast Sept. 9 See Arnold Lunn, *A Saint in the Slave Trade Peter Claver* (1935).

Peter Damian, Saint (dā'mēăn), Ital *Pietro Damiani*, 1007?–1072, Italian reformer, Doctor of the Church, b Ravenna He became a monk at Fonte-Avellino (near Gubbio) and because of his rigor and asceticism was made prior He was strong in the reforming party of Hildebrand (later Gregory VII) and c 1050 wrote a terrible denunciation of the clergy, called *Gomorrhianus;* this created a sensation In 1057 Stephen X made him a cardinal against his will. Nicholas II sent him as legate to reform Milan, notorious for simony and clerical concubinage; the mission was successful In 1069 he was papal legate to stop the quarrel between Emperor Henry IV and the empress In the dispute with Berengar of Tours, St Peter deprecated the application of reason in theology Feast Feb. 23.

Peter des Roches (dā rōsh'), d 1238, English churchman and statesman, b. Poitou. In the service of Richard I of England he was made a chamberlain, and for serving John well he was made bishop of Winchester (1205) and given rich estates. In John's struggle with Pope Innocent III, Peter took the part of the king as far as he could without endangering his office He was one of the regents in John's absence in 1214, having been made justiciar the year before On the accession (1216) of Henry III he was made the young king's guardian, and after the death of the regent, William Marshal, earl of Pembroke, in 1219, he began a violent struggle for power with Hubert de Burgh Hubert de Burgh prevailed, and in 1227 Peter went on a crusade under Emperor Frederick II He returned to England in 1231, secured the fall of Hubert de Burgh, and helped his Poitevin friends to the highest government offices The revolt of the English barons which followed was a failure, but Peter lost power when Henry was forced by the archbishop of Canterbury to remove aliens from among his advisers In 1235 he left England and entered the service of the pope In 1236 he was back in England, and eventually he was reconciled with Hubert de Burgh

Peter Gonzalez, Saint (gŏnzä'lĭs), 1190–1246, Spanish Dominican priest He worked first among the Moors, then among the mariners of NW Spain As a patron of sailors he was confused with St Elmo, an older mariners' saint, a 4th-century martyr The name of St Elmo's fire recalls this patronage Peter Gonzalez has never been canonized

Peterhead (pētûrhĕd'), burgh (pop 12,545), Aberdeenshire, Scotland, on a peninsula NE of Aberdeen It is the easternmost burgh of Scotland, founded in 1593 by George Keith, 5th earl marischal It has a good harbor of refuge and is the site of a prison There is a statue of James Keith, who, with his brother George Keith, 10th and last earl marischal, was exiled from Scotland for permitting the secret landing of the Old Pretender at Peterhead in 1715 Chiefly a herring fishery center, Peterhead has fish canneries, distilleries, and woolen mills

Peterhof (pē'turhŏf, Rus pĕtyĭrgŏf') or **Petrodvorets** (pyĕ'trudyĭrĕts'), city (pop 11,504), RSFSR, on the Gulf of Finland, SW of Leningrad It was founded (1711) by Peter I and became the most lavish of the summer residences of the tsars The Château of Monplaisir was Peter's earliest residence The Great Palace was built in 1715 and enlarged in 1750 One of several smaller palaces is the Marly, built in 1714 All these are surrounded by vast parks which rivaled Versailles and were famous for their fountains and cascades Peterhof was occupied (1941–44) by the Germans in the Second World War Sacked and largely destroyed, it was restored after the war Its name was Russianized in 1944

Peterhouse College. see CAMBRIDGE UNIVERSITY

Peterkin, Julia (Mood), 1880–, American novelist, b Laurens co , S C , grad Converse College, 1896 She is noted for her sympathetic stories about the Gullah Negroes, whom she has known well on her plantation *Scarlet Sister Mary* (1928), her best-known novel, was awarded a Pulitzer Prize in 1929 and was successfully dramatized, her other novels include *Black April* (1927) and *Bright Skin* (1932) Some of her short stories are collected in *Green Thursday* (1924)

Peterkin Papers, The see HALE, LUCRETIA PEABODY

Peter Lombard, Latin *Petrus Lombardus,* c 1100–c 1160, Italian theologian He studied at Bologna, Rheims, and Paris, where he is said to have been a student of Abelard He acquired some fame as a teacher and was given high offices, serving for a time as archbishop of Paris His *Sentences,* one of the most celebrated of all theological works, is a systematization of theology, it consists largely of an arrangement of opinions of theologians which often conflict and are not always reconciled It was particularly important because its doctrine on sacraments (that a SACRAMENT is both a symbol and a means of grace and that seven fulfill the required conditions) was adopted as the official doctrine of the Roman Catholic Church at the Council of Trent (see TRENT, COUNCIL OF) All his teachings had much weight, particularly because the work was used as a theological text Many of the greatest scholastics wrote commentaries on it

Peterloo massacre, public disturbance in St Peter's field, Manchester, England, Aug 16, 1819, also called the Manchester massacre A crowd of some 60,000 men, women, and children were legally and peaceably gathered under the leadership of Henry Hunt to petition Parliament for the repeal of the corn laws and the reform of Parliament At the behest of the magistrates, yeomanry and cavalry charged and dispersed the crowd, wounding over 600 persons and killing a number of others The government's endorsement of the magistrates' action created widespread indignation which considerably aided the reform movement The name Peterloo, later given the incident, was suggested by the name Waterloo See F A. Bruton, *Three Accounts of Peterloo* (1921)

Petermann, August Heinrich (ou'gōst hĭn'rĭkh pā'tûrmän), 1822–78, German geographer, an authority on the geography of Africa and the arctic. He had (1847–54) a cartographical establishment in London and in 1854 became director of the Perthes Geographical Institution, Gotha. In 1855 he founded a monthly geographical journal, *Petermann's Mitteilungen*

Peter Martyr: see PETER OF VERONA, SAINT; ANGHIERA, PIETRO MARTIRE D', VERMIGLI, PIETRO MARTIRE.

Peter of Blois (blwä), c 1135–c 1203, French writer in England He was educated in the law, theology, and liberal arts He was in Sicily (1167–69) as tutor to William II of Sicily, but his influence caused great jealousy, and he fled He soon went to England, where he served Henry II and the archbishop of Canterbury in secretarial and diplomatic capacities He was twice envoy to the pope The widowed Eleanor of Aquitaine made him her secretary, and he was archdeacon of London He is chiefly remembered because of the quantities of his invaluable correspondence surviving

Peter of Dreux see PETER I, Duke of Brittany

Peter of Verona, Saint, 1206?–1252, Italian preacher, a Dominican He traveled all over Italy on tours of preaching and was especially known for his opposition to the Cathari He was murdered by some of this sect and was canonized the next year as a martyr He is called St Peter Martyr Feast April 29

Peters, Carl (kärl' pā'turs), 1856–1918, German explorer in Africa In 1884 he made treaties with East African chiefs which resulted in the establishment of German East Africa (Tanganyika Territory) A treaty made by him in 1890 with the king of Uganda was nullified because of a prior understanding between Germany and Great Britain defining spheres of interest In 1899 Peters discovered gold mines and traces of ancient settlements along the Zambezi His autobiography, *Lebenserinnerungen,* appeared in 1918

Peters, Charles Rollo (pē'turs), 1862–1928, American genre and landscape painter, b San Francisco, studied at the École des Beaux-Arts His best-known works are *Legend of Brittany* (Bohemian Club, San Francisco), *The Oregon, Camp by the Cross, After the Gringo Came, The River,* and numerous paintings of the old California missions

Peters, Christian Henry Frederick, 1813–90, American astronomer, b Schleswig He was assistant in observatories at Copenhagen and Göttingen, then went to Italy, where he was connected with the topographic bureau of Naples and worked on a survey of Mt Etna In 1854 he came to the United States, was engaged in the coast survey, and in 1858 became professor of astronomy and director of the Litchfield Observatory at Hamilton College In 1874 he headed a government expedition to New Zealand to observe a transit of Venus. He discovered about 48 asteroids and two comets His *Celestial Charts* were published in 1882–88

Peters or **Peter, Hugh,** 1598–1660, British Puritan divine, educated at Cambridge He became a priest of the Established Church, but his Puritan doctrines forced him to leave England for Holland c 1629 In 1635 he went to the Massachusetts Bay colony, became pastor of the church at Salem, and was active in the colony's ecclesiastical and political affairs He returned to England in 1641 as an agent for the colony, served as chaplain (1642–49) with various forces, including Oliver Cromwell's, in the Puritan Revolution; and was executed in the Restoration

Peters, Richard, 1744–1828, American jurist, b. Philadelphia, grad Philadelphia College, 1761 He served briefly in the Continental Congress (1782–83) and in the state legislature (1787–91) After 1792 he was a judge of the U S district court for Pennsylvania and handed down decisions in many admiralty cases He was much interested in the improvement of agriculture

Petersburg, town (pop 1,323), on Mitkof Island, in the Alexander Archipelago, SE Alaska, inc 1910 It was settled (1897) by Norwegian fishermen, and the population remains largely Scandinavian Fishing is the chief industry, with lumbering and fur farming next in importance The town owns its water system and a hydroelectric plant The Univ. of Alaska maintains an experimental fur farm here.

Petersburg. 1 City (pop 2,586), co seat of Menard co , central Ill , on the Sangamon and NNW of Springfield, in a farm and coal area, founded c 1836, inc 1841 The grave of Ann Rutledge is here Near by is NEW SALEM (now a state park) 2 Town (pop 3,075), co seat of Pike co , SW Ind , on the White River and SE of Vincennes; laid out 1817, inc 1924 It is a trading center for an agricultural area 3 City (pop 30,631), SE Va , on the Appomattox and S of Richmond Fort Henry was built here in 1646 on the site of an Indian village, a trading post was established, and in 1784 three villages—Petersburg, Blandford (both laid out 1748), and Pocahontas (1752)—were combined and incorporated as Petersburg town (incorporation as a city was in 1850) In the American Revolution the city was taken (1781) by the British under Benedict Arnold and William Phillips, from here Cornwallis began the campaign which ended at Yorktown In the Civil War, Petersburg, which guarded the southern approach to Richmond, became an important Union objective in 1864. Having failed to destroy Lee's army in the WILDERNESS CAMPAIGN, Grant slipped from his lines at Cold

Harbor, crossed the James (June 12–16), and moved on Petersburg. Union assaults failed to penetrate the city's defense, as Beauregard's small force, which repulsed the first attacks, was soon joined by most of Lee's army. On July 30, 1864, a large mine was exploded under a portion of the Confederate works Troops from Burnside's corps poured into "the Crater," but the Confederate forces rallied and drove them out with heavy losses Petersburg underwent a partial siege that lasted till April, 1865 Grant, fenting at Richmond on his right, gradually extended his left SW of Petersburg in order to cut off Lee's supplies from the Lower South Lee, forced to spread his smaller army thinly over many miles of entrenchments, contested Grant's move in many hard-fought actions But Sheridan's victory at FIVE FORKS on April 1, 1865, followed by a general assault on the Petersburg lines, finally broke Lee's resistance Petersburg fell, April 3, 1865 Richmond entered Union hands the same day Lee surrendered the remnants of his army at APPOMATTOX COURTHOUSE one week later Petersburg National Military Park (1,324 62 acres, est 1926) encloses much of the battlefield, many old earthworks and tunnels are preserved Today Petersburg is a port of entry and important shipping point It processes tobacco and peanuts and manufactures luggage and textiles The city is, however, best known for its past and has numerous buildings, monuments, and cemeteries of historical interest, including Blandford Cemetery, with 30,000 Confederate dead, Blandford Church (1735), the Golden Ball Tavern (c 1750), Center Hill Mansion (1825, now a U S museum), "Battersea" (18th cent), and the Wallace-Seward House (where Grant and Lincoln conferred after Lee's retreat, April, 1865) The city is the seat of Bishop Payne Divinity School and VIRGINIA STATE COLLEGE, both for Negroes 4 Town (pop 1,751), co seat of Grant co , W Va , in the Eastern Panhandle, on the South Branch of the Potomac river, in a farm area, settled c 1745 A tannery and a state trout hatchery are here An annual tri-county rodeo is held

Peter's pence [the Holy See is the see of Peter], in the Roman Catholic Church, the annual voluntary laymen's contribution to the support of the pope Formerly Peter's pence were a yearly tax of a penny levied by the Holy See on every household in England and elsewhere

Peter the Cruel, 1334–69, Spanish king of Castile and Leon (1350–69), son and successor of Alfonso XI His desertion of his wife, Blanche of Bourbon, for María Padilla and his favors to the Padilla family met the opposition of the nobles and led to a rebellion fomented by Peter's half brothers Peter ruthlessly repressed the rebels and had two of his half brothers murdered in 1358 From 1356 to 1361 he was at war with Peter IV of Aragon His eldest half brother, Henry of Trastamara, obtained the help of Aragon and of DU GUESCLIN, defeated Peter, who fled, and was crowned king as HENRY II at Burgos in 1366 Peter, however, allied himself with EDWARD THE BLACK PRINCE, with whose help he defeated Henry and Du Guesclin, defeated Peter at Montiel (1369), and slew him after the battle Despite his reputation for cruelty, Peter has many apologists, who see him as a defender of the rights of the commoners and the throne against the turbulent nobles Peter's daughter Constance married John of Gaunt, who contested Henry II's succession to Castile, another daughter, Isabella, married Edmund, duke of York

Peter the Great: see PETER I, emperor

Peter the Hermit, c 1050–1115, French preacher, b. Amiens In 1095 he was a very successful preacher of the First Crusade (see CRUSADES), and he led one of its bands In 1096 he reached Constantinople with his undisciplined followers, when they arrived in Asia Minor, Peter went back for help from the emperor, Alexius I In 1098 at Antioch he tried to run away, still he was trusted later with a mission to the Moslem ruler of Mosul He went home after the taking of Jerusalem and settled in a monastery in the diocese of Liége His place in the Crusade was greatly exaggerated, for he seems to have been only one of many preachers and leaders, albeit a very early one

Peterwardein, Yugoslavia, see PETROVARADIN

Pethahiah (pĕ"thūhī'u) [Heb.,=God has opened] 1 Priest of David. 1 Chron 24 16 **2** One who married a foreigner. Ezra 10.23 **3** Royal counselor Neh 11 24.

Pethor (pē'thôr), unlocated town of Mesopotamia, home of Balaam. Num. 22 5, Deut 23 4.

Pethuel (pĕthū'ul), father of Joel Joel 1 1

Pétion, Alexandre (ālĕksä'dru [pătyō'), 1770–1818, Haitian revolutionist After taking part in the expulsion of the English from Haiti (1798), he joined (1799) André RIGAUD against TOUSSAINT L'OUVERTURE and commanded the heroic but tragic defense of Jacmel, a city on the southern coast He was exiled, but returned with the French army under Leclerc in 1802 Rejoining the patriots because he feared reestablishment of slavery, Pétion, after the death of DESSALINES, engaged in a fierce but inconclusive struggle with CHRISTOPHE for control of Haiti. Chosen (1807) president of the republic in S Haiti for life, the mild, easy-going Pétion presided over a government that was liberal but tinctured with waste and corruption.

Pétion de Villeneuve, Jérôme (zhārōm' pătyō' dŭ vēlnûv'), 1753?–1794, French revolutionist. A leader of the Jacobins, Pétion sat in the Constituent Assembly, was elected mayor of Paris over the candidacy of Lafayette (Nov., 1791), and by his inaction aided the insurrection of June 20, 1792 Elected to the Convention, he went over to the GIRONDISTS He was proscribed (May, 1793) but escaped and died in mysterious circumstances while in hiding near Bordeaux

Petition of Right, 1628, sent by the English Parliament to Charles I Refusal by Parliament to finance the king's unpopular foreign policy had caused his government to impose illegal taxes (forced loans) and to quarter troops in subjects' houses as an economy measure Arbitrary arrest and imprisonment for opposing these policies had produced in Parliament a violent hostility to Charles and the duke of Buckingham The Petition of Right, based upon earlier statutes and charters, secured recognition of four principles no taxes may be levied without consent of Parliament, no subject may be imprisoned without cause shown (reaffirmation of the right of habeas corpus), no soldiers may be quartered upon the citizenry, martial law may not be used in time of peace In return for his acceptance (June, 1628), Charles was granted subsidies Although the petition is of immense importance as a safeguard of civil liberties, its spirit was immediately violated by Charles, who continued to collect tonnage and poundage duties without Parliament's authorization and to prosecute citizens in an arbitrary manner

Petit Nord Peninsula: see GREAT NORTHERN PENINSULA

Petitot, Jean (zhä' pŭtētō'), 1607–91, French painter in enamel, b Switzerland He was apprentice and later partner to a goldsmith, Pierre Bordier, whom he accompanied to France and later to England There Petitot entered the service of Charles I Upon the execution of Charles he returned to Paris and entered into a partnership of 35 years' duration with Jacques Bordier, a cousin of Pierre He enjoyed the favor of Louis XIV and painted portraits of many of the celebrities of the court On the revocation of the Edict of Nantes, Petitot was imprisoned as a Protestant, but escaped to Switzerland Petitot brought the art of portrait painting in enamel to great perfection, and his works are extremely valuable Examples are to be found in the collection at Chatsworth, England, and in the Louvre His son and worthy successor, **Jean Louis Petitot** (lwē), 1652–c 1730, was in the service of Charles II of England Specimens of his work are preserved in the Victoria and Albert Museum See G C Williamson, *The History of Portrait Miniature* (1904)

Petofi, Alexander (pĕ'tûfē, Hung *Petőfi Sándor* (shän'dôr), 1822–49, Hungarian poet and patriot, killed in the Hungarian revolutionary war He was the author of exquisite lyrics, of the national poem "Up, Magyar," and of several epics, including *Janos Vitez* (Eng tr , 1866) His poetry, deeply patriotic, served as inspiration to the patriots of the Hungarian revolution

Petoskey (pĕtō'skē, pu–), resort city (pop 6,019), co seat of Emmet co , N Mich., on Little Traverse Bay, in a farm and lake region, settled c 1860, inc as a village 1879, as a city 1895 Its abundant limestone is used for the production of Portland cement A winter carnival and a summer Indian pageant are held Magnus State Park is here

Petra (pē'tru), ancient rock city of Jordan, near the foot of Mt Hor, known to the Arabs as Wadi Musa for the stream which flows through it The capital of the Edomites and later of the Nabataeans and sometimes identified with the SELA of the Old Testament, it was for many centuries a wealthy and celebrated city with a vast caravan trade It declined with the rise of Palmyra Under the Romans it was included in the province of Arabia Petraea An early seat of Christianity, it was conquered by the Moslems in the 7th cent. and in the 12th cent was captured by the Crusaders who built a citadel here The approach to the city is through a narrow, winding defile, once paved, which follows the course of the Wadi Musa Limestone walls tower above the pass to a height of several hundred feet Suddenly it widens to disclose the pale rose façade of a rock-cut temple of the Roman period, the first of the famous ruins to greet the traveler. It was thus that John Lewis Burckhardt came upon the ruins in 1812 after the city had dropped from history for centuries. Beyond the columned temple the Wadi Musa enters an open plain, the site of the ancient city. The plain is surrounded by rocky hills in many places honeycombed with tombs and surmounted by temples All of the ruins, including a great theater, dwellings, and altars, are carved (not built) from rock stratified in a soft profusion of colors, in which rose, crimson, purple, and saffron mingle with black and white The famous line describing Petra as "A rose-red city half as old as time" is by John William Burgon.

Petrarch (pē'trärk) or Francesco Petrarca (frängchä'skō pāträr'kä), 1304–74, Italian poet and scholar. He was educated in France and Italy, where he studied for the law. Upon the death of his father (1326) he went to Avignon and took lesser orders He turned definitely to literature In 1327 he first saw Laura, who was to be the inspiration of his love poems He served Cardinal Colonna, traveled through Europe, was made a canon, and went to Rome. He retired to Vaucluse and began a history of Rome in Latin, which he abandoned for a Latin epic, *Africa*, celebrating the Punic Wars His Italian poems had become famous, and he was crowned (1341) with the laurel at Rome He returned to Italy on a diplomatic mission and then went to Avignon In 1348 Laura and his patron, Cardinal Colonna, both died of the plague He served the Visconti family, studied, hunted manuscripts, wrote the *Trionfi* [triumphs], and finally retired to Arquà, where he died Petrarch, as a figure in Italian literary history, is surpassed, if at all, by Dante alone He made Italy supreme in European literature, advanced the standing of letters, and was one of the first and greatest of all humanists His Latin works are the epic, *Africa, Metrical Epistles; On Contempt for the Worldly Life, On Solitude, Eclogues;* the *Letters*, invaluable as documents, and several other compositions In Italian he wrote the *Trionfi* and the *Canzoniere* [song book], which contains the lyrics for which he is best known. Most of them are poems inspired by Laura, the collection forms one of the most splendid bodies of amorous verse in literature As a sonnet writer, Petrarch is remarkable for exquisiteness and finish His odes, e g , *Italia mia*, are more vigorous Petrarch, with Dante and Boccaccio, is considered one of the three "fountains" of Italian literature He had, however, no such pride in the "vulgar tongue" as Dante had, and he judged his Latin (he was a master of Latin) more important than his Italian works Among the early English translators of the sonnets and songs were Chaucer, Spenser, Surrey, and Wyatt Joseph Auslander translated the sonnets in 1931 See biography by Henry Reeve (1912)

Petre, Sir Edward (pē'tûr), 1631–99, English Jesuit, confessor of James II of England He attended the Jesuit seminary of Saint-Omer He was imprisoned (1679–80) in connection with the Popish Plot and again (1680–83) because of his appointment as Roman Catholic rector of the London district He succeeded to the title on the death of his brother in 1679 At the accession of James II (1685) Petre became his confessor and was perhaps the most influential member of a secret council which included Robert Spencer, earl of Sunderland, Richard Talbot, and Henry Jermyn Pope Innocent XI refused James's request (1686) for Petre's preferment in the church, but in 1687 Petre was made a privy councilor Very unpopular with the people, he fled at the Glorious Revolution of 1688 He later was rector of the seminary of Saint-Omer

petrel (pē'trul) sea bird belonging, like the albatross and the shearwater, to the order of tube-nosed swimmers Some species pat the surface of the water with their feet, thus giving the appearance of walking on the water Petrels are tireless fliers and often follow ships for days At night they rest on the water, and many of them return to land only to breed. The petrels include the small stormy petrels or Mother Carey's chickens of the family Hydrobatidae and the petrels of the shearwater family, Procellariidae The diving petrels are auklike birds of the Southern Hemisphere

Petrie, Sir William Matthew Flinders (pē'trē), 1853–1942, English archaeologist, a noted Egyptologist He excavated ancient remains in Britain (1875–80), Egypt (1880–1921), and Palestine (1927–38) and was professor of Egyptology at University College, London (1892–1933) In 1894 he founded the Egyptian Research Account which became, in 1905, the British School of Archaeology in Egypt Outstanding among his discoveries are the sites of Greek settlements at Naucratis (1885) and Daphnae (1886), tombs of the first dynasty at Abydos (1899), the stele of Merneptah at Thebes (1896) inscribed with the earliest known Egyptian reference to Israel, and ruins of 10 cities at Tel-el-Hesy (S of Jerusalem) His numerous writings include many works on ancient Egypt, *Methods and Aims in Archaeology* (1904), and *Seventy Years in Archaeology* (1931) He edited *A History of Egypt* (rev. ed , 6 vols , 1923–27), of which he wrote the first three volumes. He was knighted in 1923

petrifaction: see FOSSIL.

Petrified Forest National Monument: see NATIONAL PARKS AND MONUMENTS (table).

Petrillo, James Caesar (pĕtrĭ'lō, pĭ–), 1892–, American labor leader, president of the American Federation of Musicians (1940–), b. Chicago. He left elementary school in the fourth grade and was employed at various jobs in Chicago He had learned to play a trumpet at the age of eight, and he organized his own bands. In 1915 he became president of the American Musicians' Union, an independent union of Chicago, but three years later he joined Local 10 of the American Federation of Musicians and in 1922 was elected the local's presi-

dent. He built Local 10 into a highly disciplined outfit, expanded its membership, and became a force in local politics As national president of the American Federation of Musicians, he called several strikes—often without the support of public opinion—against radio, television, and recording companies in order to strengthen the organization of his union and to combat increased use of technological devices which created less employment for musicians.

Petrodvoretsk, RSFSR. see PETERHOF.

Petrograd, RSFSR see LENINGRAD.

Petrokrepost, RSFSR see SCHLÜSSELBURG.

petrolatum (pĕtrūlā'tŭm), colorless to yellowish-white substance, a hydrocarbon obtained from petroleum. In its jellylike semisolid form (known as petroleum jelly and also by several trade names) it is used in preparing many medicinal ointments and for lubrication As a nearly colorless, highly refined liquid known as liquid petrolatum and mineral oil it is used as a lubricant and as a laxative

petroleum (pŭtrō'lēŭm), [Latin *petra*=rock, *oleum*=oil], name applied generally to an oily, inflammable liquid, sometimes almost colorless or black, but usually of a dark brown or greenish hue Petroleum also appears in gaseous form and as a near-solid substance (asphalt) and is rather widely found in the upper strata of the earth Petroleum has been known throughout historic time It is described by Herodotus and other ancient writers It was used in mortar, for coating walls and boat hulls, and as a fire weapon in defensive warfare Rarely it was burned in lamps North American Indians used it in magic and medicine and in making paints White pioneers bought it from the Indians for medicinal use and called it Seneca oil and Genesee oil In Europe it was scooped from the tops of streams or dipped from holes in the ground, and in the early 19th cent small quantities were made from shale In 1815 several streets in Prague were lighted with petroleum lamps The modern petroleum industry began in 1859, when E L Drake drilled a producing well on Oil Creek in Pennsylvania at a place that later became Titusville Many wells were drilled in the region Kerosene was the chief finished product, and kerosene lamps soon replaced whale-oil lamps and candles in general use Early court decisions determined ownership of petroleum under the common law of capture (i e , ownership was determined by where the oil came or was brought to the surface, not by the location of its subterranean source), and this led to a multiplicity of competing wells in the oil fields Production of crude oil in excess of demand and a severe drop in price resulted The refining industry, however, quickly assumed corporate form and came under the domination of John D ROCKEFELLER Little use other than as lamp fuel was made of petroleum until the development of the gasoline engine and its application to automobiles, trucks, tractors, and airplanes Today Western civilization is heavily dependent on petroleum for motive power, lubrication, fuel, dyes, drugs, and many synthetics Of the military supplies shipped from the United States during the Second World War 60 percent of the tonnage consisted of petroleum products The exploitation of the world's supplies of petroleum has been recklessly wasteful To forestall early exhaustion of the supply new methods of prospecting have been developed, using magnetometers, gravitometers, and seismographic studies of explosives to map subterranean strata formations New and more efficient methods of extraction are being used These include repressuring of wells by pumping in gas or salt water, extracting oil at the rate most favorable to maintaining pressure, increasing drainage by horizontal drillings from a vertical shaft, and the mining of oil-saturated sands The origin of petroleum is debated Some believe that it is produced by a decomposition of rocks, but the more generally held theory is that it is of organic origin, being derived from accumulations of plant and animal life of past ages, including especially microscopic forms, as well as mollusks, seaweeds, and peat Petroleum as it issues from the ground varies in appearance, viscosity, and chemical composition with the locality in which it occurs In general it is a complex mixture of hydrocarbons (compounds of hydrogen and carbon) together with varying percentages of other compounds which contain nitrogen, oxygen, and sulphur Certain petroleums, e g., that from Pennsylvania, are especially rich in hydrocarbons of the paraffin series, yield a solid, waxy substance upon distillation, and are called paraffin-base petroleums. Other petroleums yield a black, pitchy substance and are commonly classified as asphaltic-base petroleums Crude petroleum is refined by a process known as fractional distillation It is based upon the fact that the different components of petroleum have different boiling points and can, therefore, be separated from one another, within certain limits, by heating the crude oil to successively higher temperatures and collecting the portions that boil off within certain temperature ranges. Various kinds of special apparatus are used for the purpose. The portions of oil given off within certain temperature ranges are known as fractions, and they have specific qualities making them suitable for a number of uses. Gasoline, benzine, naphtha, and kerosene are important fractions. To meet the great demand for gasoline another process called cracking has been introduced, which consists essentially of the breaking down, or "cracking," of the heavier hydrocarbon molecules, by heat, pressure, and the use of catalysts, into the lighter ones that make up gasoline. The nature of the *fractions* with higher boiling points obtained in the distillation of the crude oil depends upon the nature of the petroleum treated From different crude oils are obtained lubricating oils, paraffin, fuel oil, petrolatum, and certain carefully refined so-called "mineral oils" used in medicine as laxatives Leading producers of petroleum are the United States (chiefly Texas, California, Louisiana, Oklahoma, and Kansas), the USSR, Venezuela, and Iran See Gustav Egloff, *Earth Oil* (1933), J J Crowther, *About Petroleum* (1938); J. J Floherty, *Flowing Gold the Romance of Oil* (1945), C M Wilson, *Oil across the World* (1946); R. F. Goldstein, *Petroleum Chemicals Industry* (1949), C C Rister, *Oil! Titan of the Southwest* (1949), Kermit Roosevelt, *Arabs, Oil, and History* (1949)

Petrolia, town (pop 2,801), S Ont , ESE of **Sarnia,** in an extensive oil field

petrology (pĕtrŏ'lŭjē), branch of geology specifically concerned with the origin, structure, properties, and interrelationships of rock It comprises petrography, the systematic description of rocks, and petrogenesis, the study of the origin of the various kinds of rock

Petronius (pĭtrō'nēŭs), d c 66, Roman satirist, known as Petronius Arbiter because of his now generally accepted identity with C Petronius, to whom Tacitus refers as *arbiter elegantiae* in the court of Nero According to the historian, that Petronius served first as proconsul, then as consul of Bithynia, although he is remembered chiefly as the indolent and profligate lover of luxury, so accomplished in elegance as to be made its arbiter, directing the emperor's entertainments When Tigellinus, a jealous rival for the favor of Nero, planned the downfall and caused the arrest of Petronius, the latter ended his own life, at Cumae, by opening his veins He made dying a leisurely procedure, attended by festivity among his associates To him is accredited the authorship of a satirical work, a romance with skillful delineation of characters, written in prose interspersed with verse, *Petronii arbitri satyricon* Parts of the 15th and 16th books have been preserved Among the surviving fragments the most complete and valuable bit is the *Cena Trimalchionis* (*Trimalchio's Dinner*), presenting a humorous episode of vulgar display on the part of a freedman whose great wealth is newly acquired These satires are unique in furnishing a vivid study of the life and manners of the time and in giving a sustained, connected example of the colloquial language The Latin style of Petronius is of the best of its period His existing writings have appeared in a variety of editions, some including the *Cena* only

Petropavlovsk (pyĕtrupäv'lŭfsk), city (pop 91,678), capital of North Kazakhstan oblast, N Kazakh SSR, on the Ishim river It is at the junction of the Trans-Kazakhstan RR with the Trans-Siberian RR Founded in 1752 as a Russian fortress, it was once a caravan trading center for silk, carpets, and skins It is now the market center of an agricultural area and has flour mills and a meat-packing plant The population is mainly Russian

Petropavlovsk or **Petropavlovsk-Kamchatski** (kŭmchät'skē), city (1939 pop over 20,000), capital of Kamchatka oblast, Khabarovsk Territory, RSFSR, on the southeast coast of the Kamchatka peninsula and on Avacha Bay of the Pacific Ocean It is a port and a naval base It is free of ice nine months of the year and has shipyards and a fish-canning industry There are monuments to La Pérouse and to Bering Bering founded the port in 1740 and named it for his ship, the *St Peter and St Paul*

Petrópolis (pŭtrō'pŭlĭsh), city (pop 46,361), Rio de Janeiro state, SE Brazil, picturesquely situated in hills just N of Rio de Janeiro It is a fashionable resort, with a healthful climate and beautiful wooded estates, flower gardens, and tree-lined avenues It was colonized by German immigrants in 1845 and soon afterward became the summer residence of Dom Pedro II, after whom the city is named. Among its many fine buildings are a Gothic cathedral, an academy of letters, and the old imperial palace It is near-by hotel the Inter-American Conference was held in 1947.

Petrov, Yevgeny Petrovich (yĭvgā'nyĭ pētrō'vĭch pētrŏf'), 1903–42, Russian writer His real name was Yevgeny Petrovich Katayev (kŭtī'ŭf), and he was the brother of Valentin Petrovich Katayev Petrov collaborated with Ilya Arnoldovich ILF on various satirical novels, including *The Little Golden Calf*. After Ilf's early death Petrov was a journalist and a war correspondent. He was killed in the Second World War.

Petrovaradin (pĕ"trōvärä'dēn), Ger. *Peterwardein* (pā"tûrvärdīn'), suburb of Novi Sad, Serbia, Yugoslavia, on the Danube. It is supposedly named for Peter the Hermit, who assembled here the host of the First Crusade in 1096 Here in 1716 Prince Eugene of Savoy defeated the Turks Petrovaradin retains its old castle

Petrovgrad, Yugoslavia see ZRENJANIN.

Petrozavodsk (pyĕ"truzŭvôtsk'), city (pop. 50,050), capital of the Karelo-Finnish SSR, a port on Lake Onega, NE of Leningrad and on the Murmansk RR It was founded in 1703 by Peter I as an ironworking center, though the iron deposits of the region were already being exploited in the Middle Ages by the people of Novgorod The city now produces machinery In the Second World War it was held (1941–44) by German and Finnish troops

Petrucci, Ottaviano dei (ôt"tävyä'nō dā'ĕ pätrōōt'chē), 1466–1539, Venetian printer He was the inventor of printing music by movable metal type His patent for the process was issued by the Venetian Republic in 1498

Petrunkevitch, Alexander (pĕtrŭnkĕ'vĭch), 1875–, American zoologist, b Russia, Ph D Univ of Freiburg, 1901 He lectured at Harvard (1904–5) and at the Univ of Indiana (1906) and from 1910 to 1944 was at Yale (as professor of zoology from 1917) He devised a method of staining blood cells for microscopic examination and worked on invertebrate morphology and on spiders, about which he wrote a number of books He also wrote, with others, *The Russian Revolution* (1918) and translated *Selected Poems of Pushkin* (1938).

Petsamo, RSFSR see PECHENGA

Pettit, Edison, 1890–, American astronomer, b **Peru,** Nebr , grad State Normal College, 1911, Ph.D Univ of Chicago, 1920. He was instructor in astronomy and physics at Washburn College (1914–17) and assistant astronomer at Yerkes Observatory (1918–20) In 1920 he became astronomer at Mt Wilson Observatory Giving particular study to the physics of the sun, he was a member of several solar eclipse expeditions and discovered the law of motion of solar prominences He also measured the radiation on the sun, the stars, and the planets, made a determination of the temperature of the moon, and investigated the transmission properties of glass and other optical materials He wrote *Forms and Motions of the Solar Prominences* (1925)

Petty, Sir William, 1623–87, English statistician and physician He was a founder of the Royal Society and was physician general to the army of Ireland in 1652 Petty's Down Survey of the Irish estates appropriated by Cromwell, begun in 1654 and carried out in 13 months, was the first attempt at scientific surveying on a large scale He won favor with Charles II, was knighted (1662), and became survey or general of Ireland In 1673 Petty's detailed map of Ireland was completed It is as a political economist that Sir William is remembered He disapproved of the ban on bullion export, favored an Irish-British union, and contended that labor determines price His important writings include *A Treatise on Taxes and Contributions* (1662) and *The Political Anatomy of Ireland* (1691).

pétunia, any plant of the genus *Petunia*, South American herbs of the same family as tobacco The common garden petunias, favorites also for window boxes, are all considered to be hybrids of white-flowered and violet-flowered species from Argentina The plants are of straggling habit, sticky to the touch, and produce an abundance of large, funnel-shaped, soft flowers which are often very fragrant at nightfall There are also double and fringed kinds Petunias are usually treated as tender annuals and are very easy to grow, but to have the colors come true, they are best grown from cuttings

Peulthai (pēŭl'thā, pēŭl'thāl) [Heb.,=wages of God], son of Obed-edom 1 Chron 26.5.

Peutinger, Konrad (kôn'rät poi'tĭng-ûr), 1465–1547, German humanist and antiquarian, b Augsburg Through his writings on Roman inscriptions he helped to introduce the Italian Renaissance spirit into Germany He is known chiefly as the owner of the *Tabula Peutingeriana*, or *Peutinger Table*, an ancient chart 21 ft long and 1 ft wide which shows a plan of the military roads of the Roman Empire radiating from Rome It is probably a 13th-century copy of a 3d-century original, found by Celtes, who bequeathed it to Peutinger

Pevensey (pĕv'ŭnsē), village, head of the Rape of Pevensey, Sussex East, England, on the English Channel It is the site of the Roman fort ANDERIDA and has remains of Roman walls and a Norman castle The town, near Hastings, was the landing place of William the Conqueror and was a "member" of the CINQUE PORTS It declined after the recession of the sea The church is partly Early English

Pewaukee (pûwô'kē), village (pop 1,352), SE **Wis.,** on Lake Pewaukee and W of Milwaukee, inc. 1876. It is a farm trade center and a resort

pewee or **peewee** (pē'wē), small American woodland bird of the flycatcher family, also called wood pewee It differs from the related phoebe in having whitish wing bars and a shorter tail which it does not wag It feeds on insects in the manner of the phoebe and has a plaintive song Related birds are the western and the large-billed wood pewees

pewter, any of a number of ductile, silver-white alloys consisting principally of tin. The properties

vary with the percentage of tin and the nature of the added materials, such as lead, which imparts a bluish tinge and increased malleability and tends to escape from the alloy in poisonous quantities if the percentage used is too large, antimony, which adds whiteness and hardness, and other metals including copper, bismuth, and zinc Pewter is shaped by casting, hammering, or lathe spinning on a mold and is usually simply ornamented with rims, moldings, or engraving, although some continental display ware, especially of the Renaissance period in France and Germany, shows intricate ornamentation Pewter was early used in the Far East, and Roman pieces are extant England was a pewter center from the Middle Ages, and pewter was the chief tableware there until it was superseded by china America imported much English pewter in colonial times and from c 1700 made large quantities The craft had virtually disappeared by 1850 but was revived in the 20th cent. in reproductions and in pieces of modern design The collection and study of pewter are increasingly popular, although relatively little old pewter has been preserved because of its small intrinsic value and of the ease with which it may be melted and re-used Pieces made of BRITANNIA METAL are similar in appearance to pewter See H H Cotterell, *Pewter down the Ages* (1932), B N. Osburn and G O Wilber, *Pewter, Spun, Wrought, and Cast* (1938)

peyote (pāō'tē), Aztec *peyotl*, a spineless cactus producing a drug used by Indians in N Mexico and the SW United States Like a turnip root in shape and growing mostly below ground, the peyote produces a top (popularly called mescal button, but unrelated to MESCAL) which is similar to a mushroom in appearance Cut from the plant, the tops are eaten or brewed in a concoction for drinking They are bitter and produce nausea followed by hallucinations of geometric figures against a kaleidoscope of colors There is no loss of consciousness and no urge toward violence, a feeling of well-being is created and rarely are there uncomfortable after effects There is no conclusive evidence that peyote is habit forming The drug has become the basis of a religious cult which spread from Mexico to the Indians of the W United States It met with violent opposition from missionary groups

Pezuela, Joaquín de la (hwäkēn' dā lä pāswā'lä), d 1830, Spanish general, viceroy of Peru (1816–21) He fought against the revolutionary armies and the growing sentiment for independence which supported them, until his vacillation in meeting the liberating army of San Martín caused his generals to force his resignation and to replace him with José de la SERNA Pezuela was later captain general of New Castile

Pfäfers, Switzerland see RAGAZ, BAD.

Pfalz, Germany see PALATINATE.

Pfeffer, Wilhelm (vil'hĕlm pfĕ'fur), 1845–1920, German plant physiologist He was professor of botany successively at the universities of Bonn, Basel, Tübingen, and Leipzig (from 1887) With Julius von Sachs he was a leader in systematizing the fundamentals of plant physiology. His experiments in osmotic pressure were fundamental to modern physical chemistry He was the author of a standard work, *Physiology of Plants* (1881, Eng tr, 1900–1906)

Pfister, Albrecht (äl'brĕkht pfi'stür), c 1420–c 1470, printer, of Bamberg, Bavaria He is believed to have been the first to print illustrated books (c.1460) and to have been the printer of the Latin Bible called Pfister's Bible or the Bamberg Bible, in double-column pages of 36 lines His type indicates that his work is related to that of Gutenberg. His illustrations are woodcuts

Pflüger, Eduard (ä'dōōärt pflu'gur), 1829–1910, German experimental physiologist He studied under J. P. Müller and Du Bois-Reymond at the Univ of Bonn, where he became professor (1859) and founded (1878) and directed the institute of physiology He contributed a monograph on electrotonus and many studies in cross-fertilization, metabolism, and respiration He showed that respiration actually occurs in the tissues themselves, not in the lungs or blood He devised instruments for his work and founded (1868) the famous *Archiv für die gesamte Physiologie*

Pforzheim (pfôrts'hĭm), city (1939 pop 79,011, 1946 pop. 46,752), N Baden, W Germany, SE of Karlsruhe, at the foot of the Black Forest It is a center of the German jewelry industry and also manufactures machinery and precision instruments. An ancient place, Pforzheim was an important medieval trade center It suffered in the Thirty Years War, was devastated (1689) by the French in the War of the Grand Alliance, and was more than three quarters destroyed in the Second World War. Its historic buildings, including two 13th-century churches, were heavily damaged. Johann von Reuchlin was born here

pH, symbol to indicate hydrogen-ion concentration see ION

Phaeacia (fēā'shə), in Greek mythology, island of Scheria (location unknown) It was inhabited by a seafaring people who were hospitable to sailors and fond of joyous, luxurious living. When Odysseus was shipwrecked on their coast, their king, Alcinoüs, and his daughter, Nausicaä, entertained him. Odysseus stayed with them for some time and told them his story Books VI-XIII of the *Odyssey* are called the Phaeacian episode.

Phaedo (fē'dō), fl 399 B C, Greek philosopher, b. Elis A disciple of Socrates, he is remembered because his name is attached to a dialogue of Plato

Phaedra (fē'drə), in Greek mythology, daughter of Minos and Pasiphaë. She married Theseus and then caused the death of her stepson, HIPPOLYTUS.

Phaedrus (fē'drus), fl 5th cent B C, Athenian philosopher He was an associate of Socrates, and Plato gave his name to one of the Platonic dialogues

Phaedrus, fl. early 1st cent. A.D, Macedonian freedman of Augustus He wrote, in Latin, five books of versified fables of AESOP The prose collections of fables which were used all over Western Europe in the Middle Ages were probably largely derived from Phaedrus

Phaer, Thomas (fār), 1510?–1560, English writer, one of the first to translate the *Aeneid* of Vergil into English His mediocre metrical translation covers only seven books

Phaëthon (fā'uthŭn, -tun) or **Phaëton** (fā'ŭtŭn), in Greek mythology, son of Helios and the nymph Clymene He once tried to drive his father's golden chariot, but he could not restrain the horses As the chariot plunged to earth it burned Mt Oeta and dried the Libyan Desert The world would have been destroyed if Zeus had not killed Phaëthon with a thunderbolt and hurled him into the Po river Helios is sometimes called Phaëthon.

phagocyte see WHITE CORPUSCLE

phalanstère or **phalanstery** see FOURIER, CHARLES.

phalanx, ancient Greek formation of infantry The soldiers were arrayed in rows (8 or 16), making a solid block that could sweep bristling through the more dispersed ranks of the enemy It was originally employed by the Spartans and was developed by Epaminondas of Thebes (d 362 B C) The phalanx reached its apex when Philip II and Alexander the Great used the great Macedonian phalanx (16 deep and armed with the *sarissa*, a spear 24 ft long) to conquer all Greece and the Orient The Romans in the 2d cent B C demonstrated the weaknesses of the phalanx (notably the lack of protection of the right because shields were carried on the left arms and the awkward slowness in maneuvering) by conquering the Macedonians at Pydna (168 B C) Thereafter the phalanx was obsolete

Phalaris (fā'lərĭs), c 570–c 554 B C, tyrant of Agrigentum, Sicily, notorious for his cruelties He burned alive his victims in a brazen bull (making his first experiment upon Perillus, its inventor), the cries representing the bellowing of the bull Richard BENTLEY proved the forgery of 148 Greek letters which represented him as a gentle ruler and a patron of the arts

Phalec (fā'lĕk), variant of PELEG

Phaleron (fulĕr'un) or **Phalerum** (-um), port of ancient Athens, Greece, on the Bay of Phaleron, an inlet of the Saronic Gulf of the Aegean Sea It was superseded (5th cent B C) by Piraeus

phallicism (fă'lĭsĭzm), worship of the reproductive powers of nature as symbolized by the male generative organ The aim of the worship was to increase the tribe, the flocks, the herds, and the crops (see FERTILITY RITES). Phallicism is an element in the religions of many peoples, e g, among the Hindus in the worship of Siva, among the Greeks especially in the worship of Dionysus, Priapus, Pan, and Hermes, among the Egyptians in the worship of Osiris, among the American Indians, such as the Mandan, who had a phallic buffalo dance, among the Japanese, who incorporate it into Shinto, and among the ancient Scandinavians in the worship of Frey. See Clifford Howard, *Sex Worship* (1902), Sanger Brown, *The Sex Worship and Symbolism of Primitive Races* (1916), G R Scott, *Phallic Worship* (1941)

Phallu (făl'ū), variant of PALLU

Phalti (făl'tī) or **Phaltiel** (făl'tĭul) [Heb ,=God's deliverance], husband of Michal, previously David's wife 1 Sam 25 44, 2 Sam 3 15,16

Phanar or **Fanar** (both fă'nur, funär'), Greek quarter of Constantinople (now ISTANBUL) Under the Ottoman Empire, Phanar was the residence of the privileged Greek families, called **Phanariots** (funā'rēuts) These came into prominence in the late 17th cent and held some of the most influential positions until 1821 The high clergy of the Greek Orthodox Church, the governors of Moldavia and Walachia, and the chief dragoman of the Porte (equivalent to minister of foreign affairs) were ordinarily chosen from among the Phanariots. These offices (except, in theory, the clerical dignities) were obtainable only by purchase, and the Phanariot officials did their best to recover their expenses by accepting bribes and extorting excessive taxes Their greed and arrogance earned them the hatred of the Christian subjects whose affairs they administered, including the other Greeks. The Phanariots' hold over Ottoman diplomacy was due in part to their knowledge of foreign languages, which the Moslems spurned to acquire. Many Phanariots joined the cause of Greek independence in the 1820s Being wealthier and far better educated than most of the other Greeks, they played an important part in Greek politics in the 19th cent.

Phanuel (fănū'ĕl, fān'ūĕl), father of Anna the prophetess, Luke 2 36.

Pharaoh (fā'rō, -rēo, fā'-) [Heb., from Egyptian, = the great house], title of the kings of ancient Egypt Of the Pharaohs in the Bible, Shishak is SHESHONK Tirhakah is TAHARKA, Neco or Necoh is NECHO, and Hophra is Apries (Jer 37 5–15; Ezek 29) Breasted has identified the Pharaoh of Hadad (1 Kings 11 18–20) and of Solomon (1 Kings 2 46; 3.1, 9 16, 11 1) as Sheshonk, he doubts that Rameses II was the Pharaoh who oppressed the Jews (Ex 1–14), and he does not attempt to name the Pharaohs of Abraham (Gen. 12.10–20) or of Joseph (Gen 39–47)

Pharez (fā'rĕz) or **Phares** (fā'rēz) [Heb ,=breach], ancestor of David. Gen 38 29, Mat 1 3. Perez 1 Chron 27 3

Pharisees (fā'rĭsēz), one of two great Jewish religious parties that arose within the synagogue The opponents were the SADDUCEES. The important activity of the Pharisees began after the family of the MACCABEES succeeded in delivering their people from Syrian oppression and when John Hyrcanus, who was high priest (135–105 B C), had established the secular principate The strong nationalists who had supported the liberators and had cherished the sacred religious beliefs and customs of their ancestors were the HASIDIM Their aim was to keep all that was Jewish set apart from all that was not Jewish and therefore would defile Those who were extreme in this attitude and effort came to be known as Pharisees Basing all upon the Law, without which there could be no authorization for religious customs, the Pharisees insisted upon the strictest observance of the ordinances and dues of the Jewish religion In addition to the Torah, the Written Law, the Pharisee laid great importance upon the traditional or Oral Law, which he as far as possible adjusted to the Written Law Thus upholding and advancing customs and practices which had grown out of popular usage, Pharisaism was democratic in its nature and influence and deeply affected the lives of the people Great emphasis was placed upon exegesis of the Scriptures, that they might be the familiar possession of the people All life was drawn more and more closely under the regulations of religious observance Precepts and rules were magnified as well as multiplied The extreme or professional Pharisees called forth severe criticism There are many examples of these criticisms in the Talmud, as well as in the New Testament, where the denunciations made by Jesus are recorded The active period of Pharisaism extended to A D c 135 It counted largely in the development of later orthodox Judaism See R Travers Herford, *Pharisaism Its Aim and Its Method* (1912), Louis Finkelstein, *The Pharisees the Sociological Background of Their Faith* (1938)

pharmacopoeia (fär"mukupē'u) [Gr ,=making of medicines], authoritative list of drugs, describing their properties, use, dosage, and tests of purity Most nations have their own pharmacopoeia which dispensers of drugs are generally required by law to follow Probably the first official work of this kind was published in Nuremberg in 1546 It was followed by one in London issued by the College of Physicians in 1618, one in Edinburgh in 1699, and one in Dublin in 1807 The lack of uniformity in these led to the publication in 1864 of the British Pharmacopoeia In the United States an early pharmacopoeia for army use appeared in Philadelphia in 1778 Others soon followed, and in 1820, as a result of a convention of medical societies in Washington, D C, the first national pharmacopoeia was issued By the terms of the Food and Drugs Act enacted in 1906 this pharmacopoeia became the legal standard for the country The Pharmacopoeia of the United States (13th revision, 1947) is periodically brought up to date by a committee of the U.S Pharmacopoeial Convention

pharmacy (fär'musē), term used for the practice of preparing medicines according to a physician's prescription and also for an establishment used for the purpose. Pharmacy dates from ancient times and was long the province of the physician Probably the first store in colonial America devoted to dispensing drugs was opened in Boston in 1648 However, not until the 18th cent was the practice of pharmacy separated from that of medicine The Philadelphia College of Pharmacy and Science, the first school of its kind in the New World, was founded in 1821. Ten years after the formation of the Pharmaceutical Society of Great Britain, the American Pharmaceutical Association met formally in New York city in 1851 The expansion of modern pharmacy has necessitated steadily advancing requirements in training pharmacists. In the United States, in 1932, the study was changed from a three-year to a four-year course. See C. H. LaWall, *Four Thousand Years of Pharmacy* (1927); H. M. Burlage, *Fundamental Principles and Processes of Pharmacy* (1944).

Pharnabazus (fär'nŭbă'zŭs), d after 374 B C. Persian governor He had an important satrapy in Asia Minor under Darius II and Artaxerxes II. He supported Artaxerxes in the rebellion of Cyrus the Younger (401 B C.) Pharnabazus and his fellow satrap, Tissaphernes, were responsible for the revival of Persian power in the Greek world by supporting now Sparta, now Athens in the Peloponnesian War and later. He collaborated with Conon in the restoration of the Athenian fleet (394 B.C.) He was in command of two unsuccessful Persian invasions of Egypt (385, 374 B C.)

Pharnaces II (fär'nusēz), d 47 B C, king of Pontus, son of MITHRIDATES VI In the Roman civil war he overran Colchis and central Asia Minor. Julius Caesar came from Egypt and defeated him at Zela—with such ease that he informed the senate with the words "Veni, vidi, vici" [I came, I saw, I conquered]. Pharnaces was killed soon after in a revolt

Pharos (fā'rŏs, fă'–), peninsula, belonging to Alexandria, Egypt Originally an island a short distance offshore, it was united to the mainland by a mole constructed by order of Alexander the Great. On Pharos stood the celebrated lighthouse completed (c 280 B C.) by Ptolemy II which was in ancient times usually included among the Seven Wonders of the World It was 100 ft. square and perhaps twice as high, and it gave its name to many other ancient lighthouses It was demolished by earthquake in the 14th cent

Pharosh (fā'rŏsh), variant of PAROSH

Pharpar (fär'pur), river of Damascus 2 Kings 5 12 Its identity with the Awaj, a river flowing easterly c 10 mi south of the city, is doubtful The other river of Damascus was the ABANA

Pharr (fär), city (pop 4,784), extreme S Texas, WNW of Brownsville, founded c 1909 In the irrigated region of the lower Rio Grande valley, it packs and cans fruit and vegetables

Pharsala (fär'sălu), ancient city, Thessaly, Greece Near here in 48 B C, Julius CAESAR routed POMPEY The battle, also called Pharsalus (farsā'lŭs) and Pharsalia, was a brilliant tactical accomplishment Lucan's *Pharsalia* is an epic of the civil war

Phaseah (fusē'ŭ), variant of PASEAH 2

Phaselis (fŭsē'lĭs), ancient seaport, Lycia, S Asia Minor (now S Turkey) It was a colony of Rhodes Later it was the seat of pirates

Phazania (fuzā'nēu), ancient region, Libya, N Africa It is the Fezzan today

pheasant (fĕ'zunt), Old World game bird, characterized by its wattled head and long tail, and by the brilliant plumage and the courtship displays of the male Both the English pheasant, introduced in early times from the shores of the Black Sea, and the more abundant hybrids of this bird and the Chinese ring-necked pheasant are referred to in England as the common pheasant The Japanese pheasant has also interbred with these birds The hybrid ring-necked pheasant is established as a common game bird in the E United States The plumage of the male is mostly reddish brown on the body and dark green with a purplish sheen on the head and neck The face is red and the neck is ringed with white The adults eat berries, seeds, young shoots, insects, and worms and like rather open country with trees, underbrush, and tall grasses Among the hardier imported pheasants are the golden, the silver, and the Lady Amherst, all of China The Reeves pheasant of China has central tail feathers which are sometimes more than 6 ft long In the Himalayas are found the highly iridescent Impeyan pheasant or common monal and the horned pheasants or tragopans The Manchurian pheasant is one of the eared pheasants, dull-colored birds of the forests of Tibet and China, some of which are found at 12,000 ft above sea level The ruffed GROUSE is sometimes incorrectly called pheasant in the United States

Phebe or **Phoebe** (both fē'bē) [Gr, fem. of Phoebus], deaconess at Cenchreae. Rom. 16.1.

Pheidias, see PHIDIAS

Pheidippides (fīdĭ'pĭdēz), **fl. 490 B C**, Athenian courier sent to Sparta to ask help when the Persians landed at Marathon Herodotus says he ran the 150 mi in two days

Phelps, Edward John, 1822–1900, American lawyer and diplomat, b Middlebury, Vt, grad Middlebury College, 1840 He attended (1841–42) Yale Law School, was admitted (1843) to the bar, and practiced law in Vermont and later in New York city. He was second comptroller of the U S Treasury (1851–53), U S. minister to Great Britain (1885–89), and senior counsel (1893) for the United States in the arbitration of the Bering Sea Fur-Seal Controversy with Great Britain He was a founder and president (1880) of the American Bar Association and taught law at Yale after 1881 His *Orations and Essays* appeared in 1901.

Phelps, Samuel, 1804–78, English actor and manager He appeared in the provinces for some years and in 1837 established his reputation by playing Shylock at the Haymarket, London. His repertoire included major and minor Shaksperian parts, and he excelled as Sir Pertinax Macsycophant in Macklin's *Man of the World*. He made a great contribution to the 19th-century theater when he joined in opening (1844) Sadler's Wells, London, he was its manager in 1860–61 Here, where melodrama had reigned, he and Thomas Greenwood staged Shakspere and other classics with fine taste and conception Sadler's Wells finally proved unprofitable, Phelps resumed acting at Drury Lane in 1862

Phelps, William Lyon, 1865–1943, American teacher and critic, b New Haven, Conn, educated at Yale and at Harvard He taught at Yale from 1892 and was professor of English literature there from 1901 to 1933 His enthusiasm for literature led him to write a great many books about it, to conduct a department, "As I Like It," in *Scribner's Magazine*, and to lecture widely His writings include *Essays on Russian Novelists* (1911), *Browning* (1915), *The Excitement of Teaching* (1931), and his *Autobiography with Letters* (1939)

Phelps, village (pop 1,499), W central N Y, in the Finger Lakes region, NW of Geneva, inc 1855 Its chief product is sauerkraut It has gravel and stone quarries

phenacetin (fună'sutĭn), drug derived from amidophenol and consisting of colorless crystals only slightly soluble in water It is widely used as an antipyretic and to relieve headache, neuralgia, and rheumatism

Phenice (fēnī'sē), in the Bible **1** Same as Phoenicia, the Syrian coast Acts 11 19. **2** Harbor, S Crete, probably the modern Lutro. It was also called Phoenix Acts 27 12

Phenicia, see PHOENICIA

Phenix City (fē'nĭks), city (1940 pop 15,351, 1948 special census pop 22,187), a co seat of Russell co, E Ala, on the Chattahoochee opposite Columbus, Ga, in a cotton area Textiles and brick are produced Near by is the site of U S Fort Mitchell (1811–37)

phenol see CARBOLIC ACID

phenolphthalein (fē"nôlthă'lĭn, fē"nôlfthă'lĭn), white crystalline substance melting at 261°C, soluble in alcohol, but only slightly so in water Chemically, it is a compound of carbon, hydrogen, and oxygen and is used widely in the laboratory as an indicator (i e, to indicate the presence of a hydroxide or an acid) because, when it is added to the solution of an alkali (a hydroxide), a red coloration results but when added to an acid solution there is no change in color The substance is obtained by heating phthalic anhydride with phenol (carbolic acid) and sulphuric acid It finds important use in medicine as a laxative

Pherecrates (furĕ'krutēz), fl c 437 B C, inventive and highly esteemed Greek poet of the Old Comedy. Fragments of his plays are extant

Phi Beta Kappa see FRATERNITY

Phichol (fī'kŏl), chief captain of Abimelech's army. Gen 21 22,32, 26 26

Phidias or **Pheidias** (both fī'dēus), c.500–c 432 B C, Greek sculptor, considered the greatest artist of ancient Greece. No original in existence can be attributed to him with certainty, and no copies that give adequate impression of his works have been found, but the estimates of ancient writers, their descriptions of his statues, and his influence on all later sculpture have secured his fame His greatest achievements were the ATHENA PARTHENOS at Athens and the *Zeus* in the temple at Olympia, both colossal figures of chryselephantine workmanship (draperies of beaten gold, flesh parts incrusted with ivory) The *Athena*, dedicated c 438 B C, was the chief treasure of Athens The *Zeus* was a benignant and majestic bearded figure seated upon a magnificently ornamented throne and wearing a mantle strewn with sculptured decorations These two great conceptions of deity established an ideal for representations of godhead that influenced religious art into Christian times Which of the two figures was made earlier is not determined The *Zeus* was counted one of the Seven Wonders of the World Works of the master's younger years include a colossal bronze Athena (called the *Promachos*) and the *Athena Lemnia* for the Acropolis, a chryselephantine Athena for Pellene; *Apollo Parnopius*, and *Aphrodite Urania* for Elis A torso of Athena in Paris is considered the nearest approach to the original handiwork of Phidias that has survived Tradition declared him to have been in charge of the sculptures for the Parthenon and other great works on the Acropolis, done for Pericles It is probable that they were executed from his designs by his pupils and assistants Part of the frieze is now in the British Museum (see ELGIN MARBLES)

Phigalia (fĭgā'lēŭ), ancient city, Greece, in SW Arcadia. It gives its name to the **Phigalian Marbles,** a frieze 100 ft long and 2 ft high, in high relief, representing battles between the Lapithae and the Centaurs and between the Amazons and the Greeks. The frieze, since 1814 in the British Museum, was incorporated in the great temple of Apollo Epicurius at Bassae, near Phigalia, the architect of which (c 430 B C) was probably Ictinus, who helped design the Parthenon The temple (well preserved) was described by Pausanias.

Philadelphia, name of several ancient cities One was in Lydia, W Asia Minor (now W Turkey) It was at the foot of Mt. Tmolus and near the location of modern ALASHEHIR It was founded by Attalus II Philadelphus of Pergamum Earthquakes damaged the city several times Here was one of the Seven Churches in Asia (Rev 3 7) AMMAN was also renamed Philadelphia

Philadelphia. **1** City (pop 3,711), co seat of Neshoba co, E central Miss, NW of Meridian, in a farm area It is the seat of the Choctaw Indian Agency (1918), which is the administration unit for most of the state's Indians **2** City (pop 1,931,334), SE Pa, on the Delaware c 100 mi upstream at the influx of the Schuylkill It is a key port and a great commercial center, in 1940 it was the third largest city in the United States The site was first occupied by Indians, and in the 17th cent there was a Swedish settlement In 1682 Philadelphia, the "City of Brotherly Love," was founded as a Quaker colony by William PENN—hence the nickname Quaker City Its commercial, industrial, and cultural growth was rapid Except for the British occupation (Oct, 1777–June, 1778) after the battle of Brandywine, it was the American capital (see CONTINENTAL CONGRESS) during the Revolution It was the capital of the new republic, 1790–1800, as well as the state capital (to 1799) Philadelphia is connected with the interior by the Pennsylvania, the Baltimore and Ohio, the Philadelphia and Reading, and other railroads It has an airport, an excellent harbor, and a network of highways The city was an important trading and manufacturing center before the Revolution and now ranks high for its textiles, metal products, and numerous other manufactures and for its printing and publishing industry A nucleus of American culture in colonial times (when among its prominent citizens was the scientist and statesman Benjamin Franklin), it is still the seat of many philosophical, artistic, dramatic, musical, and scientific societies, e g, the Pennsylvania Academy of the Fine Arts (1805), the American Philosophical Society, and the scientific Franklin Institute (1824) with its addition (1933), the Benjamin Franklin Memorial, an important unit of which is the Fels Planetarium Musical activities flourish in the city, which has an outstanding symphony orchestra During the summer popular programs are presented in the outdoor setting of Robin Hood Dell, a natural amphitheater in Fairmount Park This, the largest of the city's parks and one of the largest in the world, has numerous historic monuments and shrines Here are the art museum, the central branch of the public library, the Rodin Museum, the aquarium, and the zoological and botanical gardens (Horticultural Hall) In this park, too, are buildings of the 1876 Centennial Exposition, which was a factor in Philadelphia's modern development Among Philadelphia's numerous educational institutions are the Univ of Pennsylvania (see PENNSYLVANIA, UNIVERSITY OF), TEMPLE UNIVERSITY, DREXEL INSTITUTE OF TECHNOLOGY, Dropsie College for Hebrew and Cognate Learning, La Salle College, Chestnut Hill College, St Joseph's College, GIRARD COLLEGE, CURTIS INSTITUTE OF MUSIC, HAHNEMANN MEDICAL COLLEGE, Jefferson Medical College (for men, 1825), and colleges of optometry, osteopathy, pharmacy, and occupational therapy Important historic shrines of Philadelphia include INDEPENDENCE HALL, where the Declaration was signed and the LIBERTY BELL is kept, the neighboring Congress Hall, Carpenters' Hall, where the First Continental Congress met, the Betsy Ross House, where, according to one story, the first American flag was made, and Gloria Dei (Old Swedes') Church The city has a navy yard on League Island and a U S mint The large city hall is a conspicuous building surmounted by a statue of William Penn From the city hall, the city stretches for miles Chestnut Hill and GERMANTOWN bordering the Wissahickon valley are well-known residential sections The so-called "Main Line" of the Pennsylvania RR traverses a wealthy outlying district See Agnes Repplier, *Philadelphia the Place and the People* (1898), Christopher Morley, *Travels in Philadelphia* (1920), Federal Writers' Project, *Philadelphia a Guide to the Nation's Birthplace* (1937)

Philadelphia Museum of Art, established in 1875 and chartered in 1876 When the city of Philadelphia planned to erect a building to house the Centennial Exposition of 1876, provision was made to keep the building permanently occupied, the Pennsylvania Museum and School of Industrial Art was privately established for that purpose The name was changed in 1929 to the Pennsylvania Museum of Art, and the present name was adopted in 1938 Its present building, also city owned, was opened in 1928. The museum owns many fine collections, the outstanding one being the John G Johnson Collection of European old masters, bequeathed to the museum on the death of the owner in 1917, in the same field of art are the Wilstach, Elkins, and McFadden collections The Dale, Gallatin, and Stieglitz collections cover contemporary art, and the Crozier Collection embraces Persian and Chinese art Connected with the museum are also the School of Industrial Art (est 1877) and the Textile Institute (est. 1883), both of which have a four-year study plan.

Philadelphia Orchestra, founded in 1900 by Fritz Scheel, who was its conductor until 1907 He was followed by Karl Pohlig (1907–12) Under the leadership (1912–36) of Leopold Stokowski the orchestra made tremendous progress and won widespread fame Eugene Ormandy was appointed permanent conductor in 1936, but Stokowski continued to conduct for part of each season until 1941 The orchestra made transcontinental tours in 1936 and 1937.

Philae (fī'lē), island, SE Egypt, in the Nile river above the Aswan Dam It is now submerged except from July to October, when the sluices of the dam are open Of its temples, all dating from late Egyptian and classical times (600 B C –A D 600), the most famous was the temple to Isis, built by the early Ptolemies and not closed to pagan worship until the reign of Justinian

Philaret or **Filaret, Vasily Drozdov** (both vŭsē'lyĭ drŭzdôf' fēlŭrĕt'), 1782–1867, Russian prelate, author, and preacher He became archbishop of Tver and a member of the holy synod in 1819 and metropolitan of Moscow in 1826 He long urged the abolition of serfdom and is generally considered the author of the Edict of Emancipation promulgated by ALEXANDER II in 1861 Philaret also wrote a standard catechism of the Russian Orthodox Church.

philately (fĭlă'tŭlē), the collection and study of postage stamps and of materials relating to their history and use Collecting became a recognized hobby in the 1850s, the first printed catalogue was issued in 1861, the first album in 1862 Scientific study of the history of stamp issues and of details including watermarks, perforations, gum, and cancellations dates from the 1860s Collectors today usually concentrate on issues of definite areas (e g , the Scandinavian countries) or on such specialties as *air-mail* or commemorative stamps, stamps depicting subjects such as bridges, trades, or animals, or covers with special cachets or censors' markings The value of stamps depends on rarity and condition See annual catalogues issued by the Scott Publishing Company, E A Kehr, *The Romance of Stamp Collecting* (1947)

Philemon (fīlē'mŭn), 361–262 B C , Greek poet of the New Comedy He was in ancient times considered second only to MENANDER Only fragments of his plays survive

Philemon [Gr , =loving], epistle of the New Testament, the 18th book in the usual order It was written by St PAUL to a Colossian named Philemon under the same circumstances as those under which he wrote COLOSSIANS Onesimus, Philemon's fugitive slave, had fallen in with Paul, who sent him back to his master with this little personal note, adjuring the Christian master to forgive his slave, liable to crucifixion for escaping This is the shortest of the Pauline Epistles The addressee is not otherwise known

Philemon and Baucis (bō'sĭs), in Greek legend, husband and wife who survived a great flood Zeus and Hermes, visiting the earth as men, were refused food and shelter until Philemon and Baucis took them in The gods sent a flood which drowned all their unkind neighbors After a long life together Philemon and Baucis died at the same time and were turned into trees

Philetus (fĭlē'tŭs) [Gr , =lovely], Christian denounced by Paul 2 Tim 2 17.

Philidor (fĭ'lĭdôr, Fr fēlēdôr'), assumed name of the Danican family of French musicians The outstanding member of the family was **François André Danican Philidor** (frāswä' ädrā' dänēkä'), 1726–95, chess player and composer For many years he commanded the French stage with such operas as *Le Maréchal ferrant*, *Le Diable à quatre*, *Tom Jones*, and *Ernelinde* In addition to his accomplishments in music, he possessed a genius for chess He wrote *Analyse du jeu des échecs* (1749) and gave exhibitions of simultaneous blindfold play which were remarkable in his time

Philip, Saint (fĭ'lĭp) [Gr , =lover of horses], one of the Twelve Apostles, from Bethsaida in Galilee He is mentioned several times in the Gospels Mat 10 3, John 1 43–51, 6 5,7, 12,21,22, Acts 1 3 He is said to have been martyred at Hierapolis of Phrygia Feast (with St James the Less) May 1

Philip, Saint, one of the seven deacons chosen by the Twelve Apostles He is called also St Philip the Evangelist and St Philip the Deacon He evangelized Samaria and later converted the eunuch of Queen Candace of Ethiopia Acts 6 5, 8 25–40, 21 8–10 Feast June 6

Philip or **Philip the Arabian** (Marcus Julius Philippus), 204?–249, Roman emperor (244–249) He served under Gordian III against the Persians and instigated the assassination of the emperor He concluded a peace with Persia The secular games were celebrated by him with splendor to commemorate the millennium of Rome (248) DECIUS was sent to the Danube to quell an insurrection of the troops, who forced him to accept the purple and march upon Italy Philip met them near Verona and was slain Philip tolerated the Christians, but probably did not become one

Philip I, 1052–1108, king of France (1060–1108), son and successor of Henry I He enlarged, by arms and by diplomacy, his small royal domain. In order to prevent the union of England and Normandy under a single ruler, he consistently supported ROBERT II of Normandy (Robert Curthose) In spite of his efforts, the royal power remained weak Philip's practice of simony and his consequent opposition to the reforms of Gregory VII brought him into conflict with the Holy See. This conflict was intensified by Philip's scandalous private life Philip repudiated his first wife, Bertha, daughter of the count of Holland, and married, over the opposition of the Church, Betrada of Montfort, wife of Count Fulk of Anjou, while both Bertha and Fulk were still living. Philip was excommunicated by Urban II and Paschal II, but remained defiant until 1104 In his last years his son, Louis VI, ruled for him

Philip II or **Philip Augustus,** 1165–1223, king of France (1180–1223). He began to rule for his father, Louis VII, in 1179 During his reign, the royal domain was more than doubled in size, important administrative and judicial reforms were effected, and the royal power was consolidated at the expense of feudalism. Philip defeated a coalition of Flanders, Burgundy, and Champagne (1181–86), securing Amiens, Artois, and part of Vermandois from the count of Flanders (1185) He then attacked the English territories in France (1187, 1188) In 1189, after forming an alliance with King HENRY II's rebellious son Richard, he compelled Henry to cede several territories, in the same treaty he and Henry agreed to go on crusade In 1190, after Henry's death, Philip and RICHARD I of England left for the Holy Land (see CRUSADES) They soon quarreled, and after the capture of ACRE, Philip returned to France (1191) He formed an alliance against Richard with Emperor Henry VI but was compelled, after five years of warfare (1194–99) to surrender most of his annexations However, after JOHN acceded to the English throne, Philip espoused the cause of ARTHUR I of Brittany and made war upon John, forcing him (1204) to surrender Normandy, Brittany, Anjou, Maine, and Touraine He later also conquered Poitou In 1214, at Bouvines, Philip defeated the allied forces of John, Emperor OTTO IV, and the count of Flanders, France was now established as a leading European power In 1216–17 Philip sent his son Louis (later LOUIS VIII) to invade England, Louis's campaigns against the ALBIGENSES (1215, 1219) prepared the ground for the annexation of S France under Louis IX Philip's principal reforms were the substitution of an advisory council for the household offices held in hereditary fief under his predecessors and the creation of a royal court of justice with investigative powers Great social changes occurred, or were completed, during his reign Serfdom nearly disappeared, urban communities became prosperous and powerful, commerce was stimulated by the great fairs of Champagne, commoners gained in influence, and, though outwardly maintained, feudalism became outmoded The new wealth of the towns was reflected in many improvements and in the building of the great cathedrals, particularly in PARIS, where Philip had the streets paved, continued the construction of NOTRE DAME DE PARIS, and built the first LOUVRE See Achille Luchaire, *Social France at the Time of Philip Augustus* (Eng tr , 1912)

Philip III (Philip the Bold), 1245–85, king of France (1270–85), son of Louis IX He secured peaceable possession of Poitou, Auvergne, and Toulouse by a small cession to England (1279), married his son, later King Philip IV, to Jeanne of Navarre, thus bringing about the first union of Navarre and France, and began an expedition against Sancho IV of Castile He invaded Aragon in 1285 but was forced to retreat and died on the march A weak man, he was controlled first by a favorite and later by his family

Philip IV (Philip the Fair), 1268–1314, king of France (1285–1314), son and successor of Philip III He adopted a policy well calculated to strengthen the French monarchy and particularly to increase its revenues He early attempted to perpetuate for his own use the special taxation of the clergy temporarily tolerated by the Church to support the Albigensian and Aragonese crusades, Pope BONIFACE VIII declared his hostility to this measure by the bull *Clericis laicos* (1296) However, when Philip forbade the export of precious metals, thus depriving the pope of his revenues from France, Boniface capitulated (1297) The bitterness between Philip and Boniface was revived by the arrest (1301) of Bishop Bernard SAISSET For the first time in French history, Philip convoked the nobility, clergy, and commons in a STATES-GENERAL, to hear his justification of his course of action (1302–3), while the pope (1302) issued the bull *Unam sanctam* in assertion of his right to intervene In 1303 Boniface was seized at Anagni, though freed by the townspeople, he died shortly afterward After the brief pontificate of Benedict XI, Philip secured the election of his own candidate CLEMENT V, who in 1309 transferred the papal residence to Avignon, thus beginning the "Babylonian captivity" (see PAPACY). Important in Philip's subsequent relations with the Church was his persecution, under the cloak of religious reform, of the KNIGHTS TEMPLARS, a large part of whose wealth he diverted to the royal treasury Other wealthy groups persecuted by Philip were the Jews and the "Lombards" (or Italian bankers) Philip also debased the coinage. Between 1294 and 1296 Philip successfully overran Guienne, of which Edward I of England was duke, in 1297 Edward came to the defense of his territories and a truce was arranged, which in 1303 became a permanent peace, under which Philip surrendered Guienne After the withdrawal of Edward in 1297 Philip conquered Flanders, but the Flemings rose in rebellion and defeated him at the disastrous battle of Courtrai (1302) By subsequent treaties Philip was forced to reduce his demands upon the Flemings Beside the meeting of 1302–3 Philip summoned the States-General in 1308 and 1314. His son, Louis X, succeeded him

Philip V (Philip the Tall), c 1294–1322, king of France (1317–22), son of Philip IV He became regent on the death of his brother Louis X (1316) On the death of Louis's posthumous son, JOHN I, he declared that the SALIC LAW governed the royal succession in France and, in the absence of a direct male heir, proclaimed himself king (1317). Philip's reign was notable for his frequent consultations of the STATES-GENERAL, his administrative, judiciary, and military reforms, and his unsuccessful attempt to unify coinage, weights, and measures In 1321 the lepers and Jews were persecuted by fanatic bands who accused them of poluting the wells, the king had the bands suppressed, but confiscated the goods and money of the Jews His brother, Charles IV succeeded him

Philip VI, 1293–1350, king of France (1328–50), son of CHARLES OF VALOIS and grandson of Philip III He succeeded his cousin Charles IV, invoking the SALIC LAW to set aside both Charles's daughter and Charles's sister's son, EDWARD III of England However, he allowed the claim to the kingdom of Navarre of Jeanne, daughter of Louis X of France By the victory of Cassel (1328), he reinstated the count of Flanders, who had been deposed by his rebellious subjects After 1337 Philip's reign was dominated by the opening phases of the HUNDRED YEARS WAR After his defeat at Crécy (1346) and the English capture of Calais (1347), Philip signed a truce which lasted till after his death To meet the expenses of the war, Philip resorted to extraordinary sources of revenue, including the sale of privileges to provincial assemblies, a general salt tax, loans, and the debasement of the coinage Late in his reign France was ravaged by the PLAGUE (the Black Death) Philip increased the royal domain by the purchase of Montpellier and the Dauphiné His son, John II, succeeded him

Philip II, 382–336 B C , king of Macedon (359–336 B C), son of Amyntas II While a hostage in Thebes (367–364 B C), he gained much knowledge of Greece and its people He was appointed regent for Amyntas, young son of his brother Perdiccas III, but seized the throne for himself, ruthlessly suppressing foreign and Macedonian opposition Reorganizing his army and training it in the effective Theban phalanx formation, he entered upon an ambitious career of expansion by conquest and diplomacy In the first two years he moved eastward, taking over Amphipolis and the gold mines of Thrace, where he founded Philippi The coasts of NE Greece were an old Athenian preserve, and DEMOSTHENES at Athens became Philip's chief antagonist, delivering the first of the denunciatory *Philippics* in 351 B C. By 348 Philip had annexed the Chalcidice (including Olynthus) and was involved in a war over the Delphic oracle between Phocis and its neighbors In the settlement (346 B C) Philip became a member of the Delphic council, with a recognized position in Greece But Demosthenes continued to agitate, and when Philip moved to absorb the European side of the straits and the Dardanelles (340 B C), Athens and Thebes went to war with him Philip crushed them at Chaeronea (338 B C) He was now master of Greece and established a federal system of Greek states He was preparing an attack on Persia when he was killed His wife, OLYMPIAS, was accused of the murder. Philip's consolidation of his kingdom and his reduction of Greece to relative quiet were the essential background of the campaigns of his son, Alexander the Great Philip was the true founder of Alexander's army and trained some of his best generals, e g , Antigonus Cyclops, Antipater, Nearchus, Parmenion, and Perdiccas See D G Hogarth, *Philip and Alexander of Macedon* (1897)

Philip V, 238–179 B C , king of Macedon, son of Demetrius II He succeeded Antigonus III in 221 B C He won fame in a war in Greece in which he sided with the Achaean League against the Spartans and the Aetolians; in 217 B.C the war ended Philip tried to profit by Hannibal's invasion of Italy to take the Roman holdings in Illyria and made a treaty with Hannibal after Cannae (216 B.C.). This began the First Macedonian War (215–205 B C.), which ended in a draw Philip now set out to expand in the Aegean at the expense of Ptolemy V, and the frightened

states of Rhodes and Pergamum coaxed Rome into the Second Macedonian War (200 B C). This ended when Flamininus decisively defeated Philip at Cynoscephalae (197 B C) From then on Philip never opposed the Romans and was well paid for collaborating He devoted his main efforts to rebuilding his kingdom He was succeeded by his son Perseus See F. W Walbank, *Philip of Macedon* (1940)

Philip I (Philip the Handsome), 1478–1506, Spanish king of Castile (1506), archduke of Austria, titular duke of Burgundy, son of Emperor MAXIMILIAN I From his mother, MARY OF BURGUNDY, he inherited (1482) the Low Countries However, he was kept a virtual prisoner of the city of Ghent until 1493, when he became nominal governor of the Low Countries under his father's guardianship He married JOANNA, daughter of FERDINAND V and Isabella I, who in 1504 became queen of Castile under her father's regency Philip contested Ferdinand's rights and in 1506 became joint ruler of Castile with his wife His death in the same year acutely aggravated his widow's insanity Ferdinand again became joint ruler of Castile with Joanna, while Philip's dominions in the Low Countries passed to his son (later Emperor Charles V)

Philip II, 1527–98, king of Spain, Naples, and Sicily (1556–98) and, as Philip I, king of Portugal (1580–98) He ascended the throne on the abdication of his father, Emperor CHARLES V, who had previously made over to him the Low Countries, Franche-Comté, and the duchy of Milan After the death of his first wife, Mary of Portugal, he married (1554) Queen MARY I of England Shortly after Philip's arrival at London, England officially returned to the Roman Church Extremely unpopular with the English, Philip soon left again and took no pains to satisfy Mary's ardent hope for progeny Continuing his father's war on Henry II of France, he drew England into the conflict in 1557 In the same year Spain won the major victory of Saint-Quentin, but in 1558 England lost Calais to France After Mary's death (1558), Philip offered his hand to Queen ELIZABETH, but was refused The general peace (see CATEAU-CAMBRÉSIS, TREATY OF, 1559) made Spain the greatest power of continental Europe and left the greatest colonial power in the world To maintain and strengthen this hegemony and to secure the triumph of the Roman Church over heresy were the two immutable objects of Philip's subsequent policy The fanaticism, inflexibility, and cruel arrogance with which he undertook these objects were almost unrivaled in history Paradoxically, Philip began his career as the champion of Catholicism by making war (1556–57) on Pope Paul IV, whom he suspected of seeking to expel the Spanish from Italy It may be said that beginning with Philip's reign Spain evolved its individual and gloomy kind of Catholicism, orthodox but often at odds with the Holy See The Spanish INQUISITION reached the height of its power and excesses under Philip He succeeded in keeping Spain purely Catholic, his measures against the MORISCOS led to their revolt (1568–71), which was cruelly suppressed The victory (1571) of his half brother, JOHN OF AUSTRIA, over the Turks at the battle of LEPANTO was a major triumph of Christendom Elsewhere, however, his policies led to disaster His appointment (1567) of the duque de ALBA to replace his half sister, MARGARET OF PARMA, as governor of the mutinous Netherlands made his name anathema not only with Protestant Europe but with all those who valued sanity and humaneness The Netherlands (see NETHERLANDS and NETHERLANDS, AUSTRIAN AND SPANISH) rose in revolt under the leadership of WILLIAM THE SILENT, Alba's successors—REQUESENS, John of Austria, and Alessandro FARNESE—could salvage only the S Netherlands for Spain The sack of ANTWERP was characteristic of the manner in which the war was conducted In the meantime, Spain also interfered unsuccessfully in the war of the Catholic LEAGUE against Henry IV of France and undertook a fateful expedition against England, which supported the rebels in the Netherlands and which was challenging Spanish sea power The pretext for Philip's expedition was the last will of Mary Queen of Scots, who before her execution in 1587 disinherited her son James in favor of Philip as claimant to the English throne Philip was fitting out a fleet when, in 1587, Sir Francis Drake raided the port of Cádiz and intercepted a Spanish squadron at Cape St Vincent Philip, whose "beard had been singed," vowed vengeance and fitted out the Invincible ARMADA, which the English, aided by storms, utterly destroyed in 1588 England had replaced Spain as mistress of the seas The only major military success of Philip's later reign was the conquest of Portugal, to which he had a claim as son of Isabella of Portugal, daughter of Manuel I. When King Henry of Portugal died (1580) without issue, Alba overran the country and Philip was recognised as king by the Portuguese Cortes Philip's third wife, ELISABETH OF VALOIS, died in the same year (1568) as Philip's son from his first marriage, the unfortunate Don CARLOS. His fourth wife, Anne of Austria (d. 1580), daughter of Emperor Maximilian II, gave birth to Philip's successor, Philip III The main stage of Spanish colonial expansion was completed before Philip's accession, during his reign, however, the Spanish established colonies and garrisons in the present S United States and conquered the PHILIPPINE ISLANDS (named for the king) The debilitating effects of depopulation, of colonial overexpansion, and of the influx of gold began to make itself strongly felt in Philip's Spain American gold and the proceeds of an increasingly burdensome taxation were engulfed by Philip's foreign wars and interventions and had to be supplemented with loans Philip, however, worked hard to increase Spanish commerce and industries (particularly the textile industry), and his reign saw a short-lived economic prosperity Philip was not entirely the blood-thirsty tyrant portrayed by his contemporary enemies and by later writers The embodiment of the hard-working civil servant and bureaucrat, he sought to direct the destinies of a world empire from the seclusion of his cabinet, devoting infinite time and pains to the minutest administrative details, which he was unwilling to delegate In his workroom, surrounded by the grotesquely stiff Spanish court etiquette—largely his creation—he was divorced from contact with human reality His administration, involving overpowering paper work, was generally just, fair, and inhuman His morbid suspiciousness and authoritarianism made him tolerant of mediocrity and failure (as evidenced in his gracious treatment of MEDINA SIDONIA) and vindictive toward insubordination (as in the case of Antonio PÉREZ) His court at the ESCORIAL, which he built, was the gloomiest in Europe, yet in literature and the arts his reign saw the beginning of the Golden Age, which reached its flower under Philip III See biographies and studies by W H Prescott (3 vols , 1855–58), M A S Hume (1897), and J H Mariéjol (Eng tr , 1933), R B Merriman, *The Rise of the Spanish Empire*, Vol IV (1934)

Philip III, 1578–1621, king of Spain, Naples, and Sicily (1598–1621) and, as Philip II, king of Portugal (1598–1621), son and successor of Philip II His reign saw the increasing decay of Spain and its empire at the same time as the Golden Age of Spanish art and literature Dividing his time between bigoted devotion and the pursuit of pleasures, Philip left the actual government to his favorite, Francisco de LERMA Peace had been made with France by the Treaty of Vervins (1598) shortly before Philip III's accession Peace with England followed in 1604, and in 1609 a 12-year truce was made with the United Provinces of the Netherlands. In 1620, however, Spanish troops began to take part in the campaign against Frederick the Winter King, thus entering the Thirty Years War Philip's bigotry was a factor in the final expulsion (1609) of the Moriscos from Spain While agriculture and trade declined, the grandees gathered huge estates in their hands, and the Church prospered with some 9,000 monasteries Culturally, however, Spain was in the midst of a glorious period which gave the world Cervantes, Lope de Vega, El Greco, and Zurbarán Philip III was succeeded by his son, Philip IV His daughter was Anne of Austria, consort of Louis XIII of France

Philip IV, 1605–65, king of Spain, Naples, and Sicily (1621–65) and, as Philip III, king of Portugal (1621–40), son and successor of Philip III His father's chief minister, Francisco de LERMA, was overthrown at his accession and was replaced by the honest but unsuccessful OLIVARES, who held power until 1643 Spain continued to decline politically and economically War with the Netherlands was resumed in 1621 War with France, which broke out in 1632 over the VALTELLINA question, became a part of the Thirty Years War, it continued, however, after the Peace of Westphalia (1648), became complicated by Spanish intervention in the French FRONDE, and ended (1659) with the humiliation of Spain (see PYRENEES, PEACE OF THE) The war gave Portugal the opportunity to revolt (1640) and to choose John IV as king. Catalonia also rose and was long occupied by the French Spain was obliged to recognise the independence of the United Provinces of the Netherlands at the Peace of Westphalia and lost Roussillon and part of the Spanish Netherlands to France at the Peace of the Pyrenees His daughter, Marie Thérèse, was married to Louis XIV of France Thanks to the presence of Velázquez at his court, Philip was probably one of the most frequently portrayed monarchs in history He also was a patron of Rubens, Calderón de la Barca and Tirso de Molina continued the great tradition of Spanish drama during his reign He was succeeded by his son, Charles II

Philip V, 1683–1746, king of Spain (1700–1746), first Bourbon on the Spanish throne. A grandson of Louis XIV of France and a younger brother of Louis, duke of Burgundy, he was titular duke of Anjou before CHARLES II of Spain designated him as his successor. Louis XIV accepted the Spanish throne for his grandson and thus precipitated the War of the SPANISH SUCCESSION (1701–14), which reduced Spain to a power of the second rank. The peace treaties (see UTRECHT, PEACE OF) left Spain its colonial empire, but forced it to cede the Spanish Netherlands, Sardinia, Milan, and Naples to Austria and Sicily to Savoy Philip kept the Spanish throne but was obliged to introduce the Salic law of succession in order to preclude the possibility of a personal union with France For having sided with Philip's chief rival in the war, Archduke Charles (later Emperor Charles VI), Philip deprived Catalonia, Aragon, and Valencia of most of their autonomous privileges Of weak, indolent, and melancholy disposition, Philip was during his whole life dominated by women At first the princesse des URSINS, lady in waiting to Philip's first consort, María Luisa of Savoy, dominated his court and made French influence paramount In 1714 Philip married ELIZABETH FARNESE, who took complete possession of her husband's policy and who was in turn dominated by the chief minister, Cardinal ALBERONI The queen's and Alberoni's attempt at reconquering the former Spanish territories in Italy led to the formation of the QUADRUPLE ALLIANCE in 1718, to which Spain had to submit in 1720 The purely dynastic policy of Spain continued throughout Philip's reign and was successful so far as the house of BOURBON was concerned In the War of the POLISH SUCCESSION (1733–35) Naples and Sicily passed to Don Carlos (later Charles III of Spain), son of Philip and Elizabeth, in the War of the AUSTRIAN SUCCESSION (1740–48) Parma and Piacenza passed to Charles's younger brother Philip Spanish entry into the War of the Austrian Succession was preceded (1739) by the outbreak of the War of JENKINS'S EAR with Great Britain. During Philip's reign the first Franco-Spanish FAMILY COMPACT was concluded (1733) Philip was succeeded by Ferdinand VI, his son by María Luisa

Philip, half brother of Herod Antipas, called Philip Herod He was the first husband of Herodias, who divorced him to marry Herod Antipas See HEROD, dynasty

Philip, d A D 34, tetrarch of Ituraea, son of Herod the Great He was perhaps the ablest of the HEROD dynasty Luke 3 1

Philip (King Philip), d 1676, Indian leader in the most important Indian war of New England, chief of the Wampanoag Indians, son of MASSASOIT His Indian name was Metacom, Metacomet, or Pometacom Upon the death (1662) of his brother, Alexander (Wamsutta), whom the Indians suspected the English had murdered, Philip became sachem and maintained peace with the colonists for a number of years Hostility developed over the steady succession of land cessions forced on the Indians by their growing dependence on English goods Suspicious of Philip, the English in 1671 questioned and fined him and demanded that the Wampanoag surrender their arms In 1675 a Christian Indian, who had been acting as an informer to the English, was murdered, probably at Philip's instigation Three Wampanoags were accused of the murder and were executed Indian resistance was fired by this act, and **King Philip's War** began The Indians made sudden raids on the border settlements, towns were burned and many whites, men, women, and children, were slain Unable to draw the Indians into a major battle, the English resorted to similar methods of warfare in retaliation The first attacks were about Narragansett Bay, but eventually the rest of the New England colonies were involved The Wampanoag and the Nipmuck were the principal tribes leading the attack, but they were assisted by the Narragansett, especially after that tribe was attacked by the colonists A massacre near Deerfield in the autumn of 1675 was one of the best-known incidents of the war Philip's cause began to decline when he made a long journey west in an unsuccessful attempt to secure aid from the Mohawk In 1676 the Narragansett were completely defeated and their chief, Canonchet, was killed in April of that year, the Wampanoag and Nipmuck were gradually subdued Philip's wife and son were captured, and he was killed by an Indian in the service of Capt Benjamin Church after his hiding place at Mt Hope (Bristol, R I) was betrayed His body was drawn and quartered and his head exposed on a pole in Plymouth The war, which was extremely costly to the colonists in men and money, resulted in the practical extermination of tribal Indian life in S New England and the disappearance of the fur trade The New England Confederation now had the way completely clear for white settlement See G M. Bodge, *Soldiers in King Philip's War* (1891, 3d ed , 1906), G. W. Ellis and J. E. Morris, *King Philip's War* (1906), J. T. Adams, *The Founding of New England* (1921).

Philip Augustus: see PHILIP II, king of France.

Philiphaugh (fĭl'ĭp-hôkh), mansion and estate on the Yarrow, Selkirkshire, Scotland, W of Selkirk. Near here David Leslie and the Covenanters defeated Montrose in a battle in 1645

Philip Neri, Saint (nā'rē), 1515–95, Italian reformer, b Florence. His original name was Filippo Romolo de' Neri From boyhood he was religious, but he

always cultivated an air not of asceticism but of kindness, good humor, and urbanity. In 1533 he went to Rome, leaving his money at home In his first years at Rome he studied, then, c 1537, he sold his books and gave the money to the poor He was supported by a Florentine whose sons he tutored He now devoted his time to working among the people of Rome, visiting the sick, and frequenting crowded places to talk to people about the need of religion In 1548, with his confessor, he founded the Confraternity of the Most Holy Trinity to care for pilgrims and convalescents He preached (though still a layman) with great success at the exercises of the society In 1551 he was ordained He went to the Church of San Girolamo, where the priests conducted city missionary work St Philip's confessional was constantly frequented, and his informal meetings for men and boys wrought an access of religion in Rome So great was his personal effect on individuals of every class that he is called the Apostle of Rome He built an oratory over the church and conducted exercises with vernacular prayers and hymns for the people. Concerts of sacred music were also included, and from these the oratorio derives its name He accepted besides his place at San Girolamo the rectorship of the Florentine Church of San Giovanni and founded an oratory there His community of secular priests was canonically established in 1575, this was the beginning of the Congregation of the ORATORY In 1593 he resigned his position as superior of his community Besides the extraordinary revivification of the faith, he is credited with extension of vernacular services and of the exposition of the Sacrament Feast May 26 See Theodore Maynard, *Mystic in Motley* (1946)

Philip of Hesse (hĕ'sē, hĕ'sŭ, hĕs), 1504–67, landgrave of Hesse (1509–67), champion of the Reformation, called Philip the Magnanimous Declared of age in 1518, he soon displayed his warlike, crusading disposition in helping to suppress the Peasants' War (1525) He embraced Protestantism (1524) and, after vainly trying to reconcile Luther and Zwingli, signed the Augsburg Confession (see CREED) As a leader of the Protestant princes, Philip, in 1531, with the elector of Saxony and others, formed the SCHMALKALDIC LEAGUE to oppose Emperor Charles V He founded the first Protestant university (Marburg, 1527) and did much to advance Lutheranism, but the scandal following his bigamous marriage (1540), which had been reluctantly sanctioned by Luther and Melanchthon, led him to make peace with Charles in 1541 However, in 1546, after winning MAURICE of Saxony from Philip's camp, the emperor turned on the Schmalkaldic League and crushed it (1547) at Mühlberg Philip was imprisoned until 1552 and emerged a broken man In 1567 he divided his lands among his four sons (see HESSE)

Philip of Swabia (swā'bēu), c 1177–1208 German king (1198–1208) After the death (1197) of his brother, Emperor HENRY VI, he attempted to secure the succession of his infant nephew, the later Emperor FREDERICK II, but he finally consented, for the sake of the house of HOHENSTAUFEN, to his own election Shortly afterward a minority of the princes elected OTTO IV king Philip was supported by the majority of princes and by Philip II of France, while Otto could depend only on a few traditionally Guelphic nobles and on his uncle, RICHARD I of England Though successful at first, Philip's cause was weakened when Pope INNOCENT III declared (1201) for Otto and absolved Philip's vassals from their oath of fealty However, the year 1204 marked a turn in Philip's favor, with his capture (1206) of Cologne, the war was virtually ended Negotiations with the pope had resulted in a satisfactory settlement when Philip was murdered by a private enemy Otto IV was elected his successor Philip had married the Byzantine princess Irene, daughter of Emperor ISAAC II When Alexius III deposed (1195) and blinded Isaac, Isaac's son Alexius (later Emperor ALEXIUS IV) sought refuge and aid from his brother-in-law, Philip of Swabia. It has been widely held that Philip used this appeal as a pretext for persuading the leaders of the Fourth Crusade (see CRUSADES) to attack Constantinople and thus to embarrass Innocent III, on whom he wished to force a reconciliation There is, however, no direct evidence to support this view

Philippe Égalité: see ORLÉANS, LOUIS PHILIPPE JOSEPH, DUC D'

Philippeville (fēlēpvēl'), city (pop 40,647), NE Algeria, a port on the Mediterranean Sea It was founded by the French in 1838 on the site of a Carthaginian colony, Rusicada, later a flourishing port under the Romans. Philippeville is the port for Constantine. It handles chiefly agricultural products

Philippi (fĭl'pī), ancient city, E Macedonia. It was founded (358 or 357 B.C.) by Philip II of Macedon Near here was fought the decisive battle in which Octavian (Augustus) and Antony defeated (42 B C) Brutus and Cassius It was the scene of St Paul's first preaching in Europe; the epistle to the Philippians was addressed to the church here. Acts 16 12, 20 6, 1 Thess 2 2

Philippi (fĭl'pē, fĭ'lŭpē), city (pop, 1,955), co seat of Barbour co., N W Va., on the Tygart and S of Fairmont, settled c.1780 An early battle of the Civil War was fought here, June 3, 1861 Alderson-Broaddus College is here

Philippians (-lĭp'-), epistle of the New Testament, the 11th book in the usual order. It was written by St PAUL from captivity in Rome (A D c 60) to the Christians of Philippi (Macedonia) The letter thanks them and congratulates them on the wholesome state of the community It is more like an ordinary letter than any other epistle because of its careless arrangement and its pleasant, intimate air Some of the most eloquent of St Paul's lines are here, e.g., on his motives (1 21–26), on humility (2 1–11), on the Christian's joy and fear (2 12–18), on renunciation for Christ (3 7–16)

Philippics (fĭlĭ'pĭks) [Gr , = of Philip], a series of three denunciations of PHILIP II of Macedon by DEMOSTHENES The scathing polemics of CICERO against MARC ANTONY are also called Philippics

Philippine Islands (fĭ'lĭpēn), group of some 7,000 islands and rocks off SE Asia, in the Malay Archipelago, constituting the republic of the Philippines (proclaimed on July 4, 1946, total land area 114,830 sq mi , 1948 pop 19,234,182) QUEZON CITY, near the metropolis of MANILA, on LUZON, officially became the capital in 1948 Other important centers are Cebu, on CEBU, ZAMBOANGA and DAVAO on MINDANAO, Jolo, on Jolo in the SULU ARCHIPELAGO, and ILOILO, on PANAY The islands, extending 1,152 mi in the SW Pacific S to the Celebes Sea and 688 mi E from the Pacific to the China Sea, are comprised in three natural divisions—the northern, which includes Luzon and MINDORO, the central, occupied by the VISAYAN ISLANDS, and the southern, containing Mindanao and the Sulu Archipelago Politically, the republic is divided into 51 provinces The largest islands, in order of their size, are Luzon (40,420 sq mi), Mindanao, SAMAR, NEGROS, PALAWAN, PANAY, Mindoro, LEYTE, Cebu, BOHOL, and MASBATE (1,262 sq mi) For the most part the Philippines are of volcanic origin, being the higher portions of a partly submerged mountain mass However, some islands are overlaid with coral, and many of the small southern islands and rocks are wholly of coral formation All islands and rocks, irrespective of size, which project above sea level at high tide are included in the total land area, even though over 4,000 of them remain unnamed Only about 400 of the islands are permanently inhabited Most of the larger islands are traversed by mountain ranges, with Mt Apo (9,690 ft) on Mindanao the highest peak Extensive coastal plains, wide valleys, volcanoes, mineral springs, and hot springs further characterize the larger islands Of the many navigable rivers, CAGAYAN on Luzon is the largest, there are also large lakes on Luzon and Mindanao The Philippines are entirely within the tropical zone Manila, with a mean daily temperature of 79 5°F , is typical of the climate of the lowland areas throughout the group—warm, humid, and enervating The highlands, however, have a bracing climate, e g , BAGUIO, the summer capital, on Luzon, has a mean annual temperature of 64°F The seasons generally fall into two periods, that of the northeast monsoon, which brings rain to the eastern coasts of the islands, and that of the southwest monsoon, which marks the rainy season on the western coasts, some areas have as much as 250 in of rainfall a year Rainfall in the southern islands, however, is evenly distributed over the year, and this region is not in the typhoon belt, which embraces the rest of the islands With their tropical climate and naturally fertile soil, much of which is still uncultivated, the Philippines are predominantly agricultural Rice and corn (which cover the largest areas), abacá (Manila hemp), coconuts (from which are derived coconut oil and copra), sugar cane, and tobacco are the chief crops, and sugar, copra, abacá, and tobacco are the principal exports Rubber, quinine, kapok, and the lumbang nut (for tung oil) are raised on a small scale, but the production of all could be profitably increased Cotton, coffee, and citrus and other tropical fruits are also readily grown, but as yet have no significant markets. Fishing is a common occupation, and the Sulu archipelago is noted for its pearls and mother-of-pearl The raising of carabao (used in rice cultivation), cattle, pigs, and goats is important to the economy The islands have one of the world's great stands of commercial timber and abound in mineral resources (many of which are unexploited)—gold (which has been mined for centuries), iron, bituminous coal (of an inferior quality, however), chromite, and manganese Copper, silver, lead, platinum, sulphur, molybdenum, asbestos, and zinc are also found, but are not mined so extensively. Industrially the nation is still in its infancy, most of the factories are in Manila. With the exception of a small number of mountain and forest inhabitants of Negrito, Negroid, or undetermined blood, the people of the Philippines belong to the Malay group and are known as Filipinos The Filipinos, living mostly in the lowlands, constitute the only Christian nation in this part of the world. Roman Catholicism, a heritage from their Spanish conquerors, is professed by more than two thirds of the people, and there are an estimated 1,000,000 Aglipayans, members of the Philippine Independent Church, a nationalistic offshoot of Catholicism (see AGLIPAY, GREGORIO). Mohammedans, concentrated on Mindanao and the Sulu Archipelago (see MORO), pagans and persons not belonging to any organized religious group, and Protestants are the next most numerous The Christian Filipinos of all sects are divided into eight groups differing from each other in habitat, speech, and other cultural elements Largest of these groups are the Visayan, in the Visayan Islands, the TAGALOG, native to the eight provinces adjacent to Manila, and the Ilocano, of NW Luzon Indonesian and Mongoloid elements have been blended with the dominant Malay strain in almost every one of the eight groups Much has been made of the language barrier as an element of national disunity The Visayan, Tagalog, Ilocano, and other languages are, it is true, different from one another, a Visayan is unable to converse with a Tagalog unless he resorts to English or Spanish Yet, at the same time, these languages are so similar (they are all in the Malayo-Polynesian linguistic group) that any Filipino can easily learn the speech of groups other than his own The Philippine government's solution to the problem has been to adopt Tagalog as the basis of the new national language A considerable number of Filipinos speak English, and Spanish is still spoken by a much smaller number The first Malayans to reach the Philippines represented an early and crude epoch of Malayan culture, which has apparently survived to this day among certain groups such as the IGOROT Later came the invasions of Malayan tribes with more highly developed material cultures The first Europeans to visit (1521) the Philippines were those in the world-circling Spanish expedition led by the Portuguese Ferdinand MAGELLAN Other Spanish expeditions followed, including one from New Spain (Mexico) under López de Villalobos, who, in 1542, named the islands Las Felipinas for the infante Philip, later Philip II However, Spanish conquest of the Filipinos did not really begin until 1564, when another expedition from New Spain, commanded by Miguel LOPEZ DE LEGASPI, arrived He was a pacificator as well as a conqueror, and Spanish hegemony was soon established over many small independent communities which before had known no central rule This weak political and social organization was doubtless a strong factor in the comparatively easy conquest effected by a handful of courageous Spanish soldiers When the Spanish came, the political and social unit among the Filipinos was the barangay, a small community of from 30 to 100 families, which still survives in the islands as the barrio At the head of each barangay was a chief known as the *dato* The barangays were grouped together in tiny federations, sometimes headed by a single chief whose power occasionally extended over a whole small island More often, however, such a realm extended only a few miles, and all those outside it were at least foreigners and very often enemies Warfare was frequent, Magellan was killed supporting one Filipino chief against another There were three classes freemen, who did not pay tribute to the *datos* but served them in honorable ways, freedmen or liberated slaves, who owed the *datos* heavy debts of service which were passed on from generation to generation, and slaves (most numerous) Agriculture and fishing were the chief occupations Settlement was sparse, compared with today, and this too figured in Spain's success, in which missionaries—Augustinians, Franciscans, Jesuits, and Dominicans—according to the traditional Spanish colonizing pattern, played a role as vital as that of the soldiers. The Filipinos (except, of course, the Moros) were impressed by and took readily to Catholicism, while the friars in turn, impressed by this lively, intelligent people, were all the more zealous for their conversion The Filipino languages, especially Tagalog, with a syllabary supposedly showing the influence of Hindu culture (other groups also had syllabaries), particularly intrigued the more scholarly friars By 1571, when *López de Legaspi* established the Spanish city of Manila on the site of a Moro town he had conquered the year before, the Spanish foothold in the Philippines was secure, despite the opposition of the Portuguese, eager to maintain their monopoly on the trade of the Orient Manila repulsed the attack of the Chinese pirate Limahong in 1574. For centuries before the Spanish arrived the Chinese had traded with the Filipinos, but evidently none had settled permanently in the islands until after the conquest. Chinese trade and labor was of great importance in the early development of the Spanish colony, but the Chinese, never quite looked on with favor, came to be feared and hated because of their increasing numbers, and in 1603 the Spanish slew thousands of them (later, there were lesser massacres of the Chinese). The Spanish governor, made an actual viceroy in 1589, ruled with the advice of the powerful royal *audiencia*. There were frequent uprisings by the Filipinos, who resented the ENCOMIENDA

system. The Spanish, however, beyond grouping the barangays into pueblos or towns headed by the former *datos*, left the old social order of the Filipinos virtually untouched. The religious orders, which established schools and hospitals in addition to pursuing their missionary activities, were each made dominant in a particular area. By the end of the 16th cent. Manila had become a leading commercial center of the Far East, carrying on a flourishing trade with China, India, and the East Indies. The Philippines supplied some wealth (including gold) to Spain, and the richly laden galleons going their way between the islands and New Spain were the object of attack by English freebooters. There was also trouble from other quarters, and the period from 1600 to 1663 was marked by continual wars with the Dutch, laying the foundations of their rich empire in the East Indies, and with Moro pirates. After the English defeat of the Spanish Armada (1588), Spain went into a slow decline, and the period 1663–1762 in the Philippines has been called "a century of obscurity." The islands, becoming profitless to Spain, were little more than great missionary establishments, directed by the religious orders. In the great European wars of the 18th cent., the Philippines played a small part, and Manila was held from 1762 to 1764 by the British, who failed to make other gains in the islands. One of the most difficult problems the Spanish faced was the subjugation of the warlike Moros, who continued to harass the other Filipinos. Intermittent campaigns were conducted against them but without conclusive results until the middle of the 19th cent. As the power of the Spanish Empire waned, the orders (the Jesuits, expelled from the islands at the same time they were ousted from Spain and the other Spanish colonies in the late 18th cent., returned in the 19th cent.) took more and more of a guiding hand in the Philippines and acquired great amounts of property. It was opposition to the power of the clergy that in large measure brought about the rising sentiment for independence. This movement was led by José RIZAL and the "Young Filipinos." The Cuban crisis helped to precipitate revolt in the islands, which became particularly violent after the execution of Rizal (1896). Emilio AGUINALDO was the leader of the Filipino forces, and he achieved considerable success before a peace was patched up with Spain. This did not last long, for the insurgents accepted American aid when the SPANISH-AMERICAN WAR broke out. One of the most notable incidents of the war was the victory of Admiral George DEWEY in Manila Bay (1898). American forces under Gen. Wesley MERRITT invested Manila while Aguinaldo led a new insurrection. The expectation of the Filipinos was that they would be given immediate independence, and Aguinaldo established a republic. Instead, the treaty that closed the war transferred the Philippines from Spain to the United States. Aguinaldo, at this turn of events, led a revolution against the United States which flared high in 1899, but subsided to guerrilla warfare, and was practically ended when Gen. Frederick FUNSTON captured Aguinaldo in 1901. The islands were subdued, but the question of the independence of the Philippines remained a burning issue in the politics of the United States as well as in the islands. The various administrations in the United States made efforts to reach some solution satisfactory in both lands. The first of these was the Taft or Philippine Commission sent out in 1900. William Howard TAFT was made governor general, and he endeavored by a "Philippines for the Filipinos" policy to ingratiate American rule with the natives, who were given a share in the government. His Republican successors more or less followed his lead in the following years, pursuing a conservative course with most attention devoted, as in Cuba, to the development of material improvements. Education also saw great development with occupational instruction stressed. The result was increasing prosperity and a readjustment of economic life in the Philippines. Though comparatively little American capital was invested in island industries, American trade bulked larger and larger until the Philippines became almost entirely dependent upon the exportation of sugar, coconut oil, abacá, and other products to the United States, and the islands became an important market for American merchants. The establishment of free trade by the act of 1909—expanded in 1913—was the chief force in increasing this movement toward the economic dependence of the islands. The Democrats had, as a general rule, favored in their platforms a liberal policy in the Philippines leading to almost immediate independence, and the governor general appointed by President Woodrow Wilson, Francis Burton Harrison (1913–21), instituted a new regime. Its most important change was the rapid replacement of American officers of the government by Filipinos. Self-government was immediately increased, and the U. S. Congress set up a legislative body in the Philippines to consist of a senate and a house of representatives with almost all members elected by popular vote. A new Organic Act was created by the Jones Bill, which promised independence in general terms (proposals of independence in two or in four years were stricken from the bill). This act bestowed a much greater share of self-government and completely reorganized Philippine affairs. In Harrison's administration the government also launched many state-capitalistic schemes (the Philippine National Bank, the National Development Company, and the Manila RR.) and made efforts to reform and improve agriculture. The shortcomings of some of the departments, now under Filipino officials, led to severe criticism. When the Republicans regained power in the United States, Gen. Leonard WOOD was appointed governor. He felt that the self-government schemes were inefficient and to a large extent suspended Filipino activities in the administration, supplanting them with a semimilitary rule. Meanwhile new elements had greatly altered the Philippine problem. A large number of Americans had been led on economic grounds to oppose the U. S. tenure of the islands, labor leaders objected to the disturbing effect of the admission of Filipino labor into the United States without hindrance, the American growers of sugar and American investors in the Cuban sugar industry felt the pressure of competition from duty-free Philippine sugar, various other business groups also found themselves injured by the free trade with the Philippines. Filipino leaders, once clamoring for independence, had also realized the tremendous shock a separation from the United States would give economic life in the islands and sought for a compromise that would bring independence without ruin. Wilson had sent out a commission to the Philippines and the Wood-Forbes Commission had been sent out by President Warren G. Harding before Wood was made governor general. The reports of these commissions were of some weight in the alteration of government. The report of Col. Carmi A. Thompson sent out by President Calvin Coolidge (1926) recommended a delay in the granting of Philippine independence, and after Wood's death Governor General Henry L. STIMSON (1927–29) somewhat allayed the storms raised among the Filipinos by Wood's administration. In the administration of Dwight F. Davis (1929–32), however, the feeling in Congress veered sharply toward the granting of immediate independence, and the Hawes-Cutting Act (1932) provided for the complete independence of the islands in 1945 after 10 years of independence under the tutelage of the United States. President Herbert C. Hoover, perhaps influenced by the report of Secretary of War Patrick J. Hurley, who went to the islands in 1931, maintained that the bill left the United States with some responsibility but no power and vetoed it. It was passed over his veto (1933). It had been drawn up with the aid of a commission from the Philippines, but Manuel L. QUEZON, the leader of the dominant Nationalist party, opposed it, partially because of its threat of American tariffs against Philippine products but principally because of the provisions leaving naval bases in American hands. The Philippine legislature rejected the bill and new arrangements had to be made. Another Democrat, Franklin D. Roosevelt, had taken office in the United States and a new governor general, Frank MURPHY, in the Philippines before any satisfactory arrangement was made. Under the Tydings-McDuffie Independence Act (1934), the form of government of the Philippines was changed in 1935. A constitution, approved by President Roosevelt (March, 1935), was accepted by the Philippine people in a plebiscite (May). In Sept., 1935, Quezon was elected president, and, at the time of his inauguration (Nov. 15, 1935), the Commonwealth of the Philippines was formally established. The islands began a 10-year transition period of controlled autonomy, with the withdrawal of American sovereignty and the establishment of complete independence to take place on July 4, 1946. Murphy became the first American high commissioner, he was succeeded (1937) by Paul V. McNUTT, Francis B. SAYRE replaced McNutt in 1939. Filipinos expressed concern about the economy of an independent Philippines, and the U. S. Congress adopted (1939) legislation to cushion the anticipated economic blow. Amendments to the constitution, approved by a plebiscite (June, 1940) and by Roosevelt (Dec., 1940), permitted the president to succeed himself (formerly prohibited), changed the presidential term from six to four years, and made bicameral the unicameral assembly. Quezon was returned to office in elections of Nov., 1941. To develop defensive forces against possible aggression, Gen. Douglas MACARTHUR was brought to the islands as military adviser in 1935, and the following year he became field marshal of the Commonwealth army. The expansion of this army, as well as of the Philippine Dept. of the U. S. army, was accelerated as tension increased in the Far East. In July, 1941, the military forces of the Philippines were organized into the U. S. Army of the Far East, under the command of MacArthur. War came suddenly to the Philippines on Dec. 8 (Dec. 7, U. S. time), 1941, when Japan attacked without warning. On that day surprise air attacks on airfields near Manila destroyed most of the U. S. aircraft, leaving the Japanese bombers free to wreck Cavite naval base (Dec. 10). The Japanese landed at Aparri (Dec. 10), Vigan (Dec. 10), and Legaspi (Dec. 12). A landing attempt at Lingayen Gulf was repulsed (Dec. 13), but the Japanese returned in great force (Dec. 22) and, joined by the forces landed at Vigan, pushed down the central Luzon plain toward Manila. MacArthur's scattered defending forces (90,000 troops, four fifths of them Filipinos) were forced to withdraw. Manila was declared an open city (Dec. 26), but the Japanese disregarded the declaration and bombed the city mercilessly. Manila was occupied Jan. 2, 1942. MacArthur withdrew to BATAAN peninsula. Outnumbered, starving, and plagued with disease, the gallant Allied force stood off the enemy for months. MacArthur, ordered by President Roosevelt to go to Australia, left Bataan March 11, officials of the Philippine government (headed by President Quezon and Vice President Sergio OSMEÑA) also left and eventually came to the United States. Jonathan M. WAINWRIGHT remained in command. Bataan's exhausted 36,000-man garrison surrendered on April 9. Wainwright fought on from the island of CORREGIDOR until May 6, 1942, when he surrendered with 11,500 troops. In the meantime the Japanese had invested the other islands of the Philippines, and with the fall of Corregidor only guerrilla resistance remained. Under the Japanese, the surrendered fighters fared harshly. The survivors of Bataan were subjected to a brutal "death march" in which thousands perished. Soldiers and civilians alike were crowded into concentration camps under intolerable conditions and subjected, in many cases, to inhuman treatment. Japan's efforts to win native loyalty found expression in the establishment (Oct. 14, 1943) of the "Philippine Republic," with José P. Laurel, former supreme court justice, as president. The puppet government, however, gained little support from the people. Guerrilla resistance, organized and coordinated by U. S. army and Philippine officers, continued in the interior. The stage was set for the return of the Americans to the Philippines by conquests in the Pacific, culminating in the seizure (1944) of the Caroline Islands and the Marianas Islands. The Philippines, defended by some 500,000 Japanese troops, offered numerous invasion points. U. S. planes hammered Mindanao for months before the Americans surprised the Japanese by landing the U. S. 6th Army at Leyte, in the heart of the islands, on Oct. 20, 1944. With the invasion forces were the officers of the Philippine Commonwealth, headed by President Osmeña (who had succeeded Quezon on the latter's death, Aug. 1, 1944), the Philippine government was established at Tacloban, Leyte, on Oct. 23. The invasion of Leyte was a huge and masterful amphibious operation which gained a swift and secure beachhead. The Japanese, however, poured thousands of troops into Leyte, and the fighting was bitter. Success hinged on the ability of the U. S. navy to prevent heavy Japanese reinforcements and to protect the American supply lines. The decisive naval battle (called, variously, the battle of Leyte Gulf and the second battle of the Philippine Sea) took place Oct. 23–26, 1944. The battle resulted in a great U. S. victory. It was fought in three general areas: in Surigao Strait, off Samar, and off Cape Engaño. In the course of the four-day battle the Japanese navy was so badly depleted that never again was it capable of offering concerted opposition to the U. S. forces. On Dec. 15 Mindoro was invaded, and by the end of Dec., 1944, MacArthur announced that Leyte was won. Luzon was invaded at Lingayen Gulf by the U. S. 6th Army (Jan. 9, 1945), at Subic Bay by the U. S. 8th Army (Jan. 29), and at other points. U. S. forces pushed down the central Luzon plain. Manila was taken in February. The Japanese continued to fight for months in the mountains of Luzon and at Davao, Mindanao. On July 5, 1945, MacArthur announced that "all the Philippines are now liberated." The Japanese lost over 425,000 troops in dead alone in the Philippines. U. S. casualties included some 12,000 dead and over 42,000 wounded. Thousands of U. S. and Philippine prisoners were liberated, it was partly on their testimony that Japanese Generals Yamashita and Homma and other war criminals were later tried and convicted. MacArthur had turned over the civil government to Osmeña on Feb. 27, 1945. By September all military rule had ended. The Philippine congress met on June 9, 1945, for the first time since its election in 1941. In Sept., 1945, the Commonwealth ratified the United Nations Charter. The Philippine economy was completely dislocated because of the war, and unrest in the islands resulted in violence by restless guerrilla fighters in October. Fear of impending economic disaster should the islands be cut adrift from the United States as well as a vigorous struggle for political power in the Philippines fostered demands both that the liberation date be advanced and that it be postponed. Osmeña's leadership was challenged (Jan., 1946) when one wing (now the Liberal party) of the Nationalist party nominated for president Manuel ROXAS, who defeated Osmeña in April. On April 30, 1946, President Harry S. Tru-

man signed bills providing for free trade with the Philippines for eight years following independence, with graduated tariff increases for 20 years thereafter, and setting up a rehabilitation fund. Independence came as scheduled on July 4, 1946, when Truman issued a proclamation recognizing the independence of the Philippines, and the new republic was inaugurated with impressive ceremonies at Manila. Filipino ties with the United States were hardly severed, however. In a national plebiscite (March, 1947) Filipinos voted to grant the United States equal trading rights until 1974 in return for $620,000,000 in U S rehabilitation funds (the measure also pegged the Philippine peso at 2 to 1 U S. dollar until 1974). In that month also President Roxas and U S Ambassador McNutt signed a 99-year treaty guaranteeing the U S military and naval bases in the islands and a five-year military assistance pact. With their losses in the Second World War estimated at 1,000,000 dead and $6,000,000,000 in property destroyed, the Filipinos could well use U S assistance. The Hukbalahap guerrillas (Huks) of central Luzon became a constant source of trouble at the end of the war. President Roxas, charging that the Huks, led by Luis Taruc, were linked to the Communist party, outlawed them in March, 1948, but they continued their raids. In April, 1949, Aurora Quezon, widow of the Filipino leader, was one of 13 people killed in a Huk ambush. On Roxas's death in April, 1948, Vice President Elpidio QUIRINO became president, and in a bitterly contested election in Nov., 1949, he defeated José P. Laurel for a full four-year term. See E. H. Blair and J. A. Robertson, ed., *The Philippine Islands, 1493–1898* (55 vols., 1903–9, Vol. LIII, *Bibliography*), C. H. Cunningham, *The Audiencia in the Spanish Colonies as Illustrated by the Audiencia of Manila (1583–1800)* (1919), A. L. Kroeber, *People of the Philippines* (1919), D. P. Barrows, *History of the Philippines* (rev. ed., 1924), Moorfield Storey and M. P. Lichauco, *The Conquest of the Philippines by the United States, 1898–1925* (1926), G. L. Kirk, *Philippine Independence* (1936), W. L. Schurz, *The Manila Galleon* (1939), Camilo Osias, *The Filipino Way of Life* (1940), J. R. Hayden, *The Philippines, a Study in National Development* (1942), Catherine Porter, *Crisis in the Philippines* (1942), W. C. Forbes, *The Philippine Islands* (1945, revised and abridged from two-volume ed. of 1928), R. G. Hainsworth and R. T. Moyer, *Agricultural Geography of the Philippines* (1945), K. K. Kurihara, *Labor in the Philippine Economy* (1946), P. E. Abelarde, *American Tariff Policy toward the Philippines, 1898–1946* (1947); David Bernstein, *The Philippine Story* (1947); *Blue Book First Anniversary of the Republic of the Philippines* (1947).

Philippines, University of the, mainly at Manila, coeducational, state controlled, founded 1908. It includes at Manila colleges of education, engineering and business administration, law, liberal arts, medicine, pharmacy, and veterinary science, schools of dentistry, fine arts, and hygiene and public health, and a music conservatory. An agricultural college is at Laguna, junior colleges are at Vigan and Cebu.

Philippopolis: see PLOVDIV, Bulgaria.

Philippsburg (fĭ'lĭpsbōrk), Fr. *Philippsbourg*, town (pop. 3,567), N Baden, near the Rhine. It was an important German fortress, situated in the territory of the bishops of Speyer. In the Thirty Years War it was held by the Swedes and then by the French, but was taken (1634) by the imperials, the French under Condé recaptured it in 1644, and the Peace of Westphalia (1648) gave France the right to garrison the place. Lost (1675) in the Dutch Wars, the fortress was ceded by France in the Treaty of Nijmegen (1678–79), was retaken by the French in 1688, and was again ceded in the Treaty of Ryswyck (1697). Custine took it (1792) in the French Revolutionary Wars, and in 1800 Emperor Francis II yielded the fortress to the French, who razed it.

Philips, Ambrose, 1675?–1749, English author, educated at Cambridge. A set of his pastoral poems was published in the 1709 edition of Jacob Tonson's miscellany, which also included pastorals by Pope. This led to a famous quarrel between the two, occasioned by the veiled ridicule of Philips's pastorals in an article written by Pope for the *Guardian*. Philips became friendly with Swift, wrote *The Distrest Mother* (1712), a play taken from Racine, and started (1718) the *Freethinker*, a periodical imitating the *Spectator*. He went to Ireland (1724) as Archbishop Boulter's secretary, sat in the Irish Parliament, became (1733) a judge, and returned to London in 1748. Henry Carey gave him the nickname "Namby-Pamby" because of some of his juvenile poems. See his poems (ed. with introduction by M. G. Segar, 1937).

Philips, John, 1676–1709, English poet. One of the few men to use blank verse in the age of the couplet, he wrote an imitation of Milton, *The Splendid Shilling* (1705), which was highly praised by Addison. Philips's *Blenheim* (1709), written as a Tory reply to Addison's *Campaign* (1705), was a failure. His blank-verse *Cyder* (1708), describing the cultivation of apples and the pressing of cider, is modeled after Vergil's *Georgics*. Philips was one of the first poets to turn to nature for his subject matter, and *Cyder* is the best example of this tendency.

Philips, Katherine Fowler, 1632–64, English poet and letter writer. She was founder and "Matchless Orinda" of the Society of Friendship, a literary group whose members assumed romantic names. Her correspondence with Sir Charles Cotterell was published as *The Excellent Letters of Orinda to Poliarchus* (1705, augmented ed., 1729). See P. W. Souers, *Matchless Orinda* (1931).

Philipsburg. 1 City (pop. 1,304), co. seat of Granite co., W Mont., NW of Butte, settled 1866, inc. 1890. Silver and manganese are mined here. 2 Industrial borough (pop. 3,963), central Pa., in the Alleghenies SE of Clearfield, laid out 1797, inc. 1804. Metal products and bituminous coal are produced.

Philipse, Frederick (fĭ'lĭps), 1626–1702, merchant and landowner in colonial America, b. Holland. He went (1647) with his family to New Amsterdam, where he became wealthy as a merchant. He bought (1672) a large estate, Philipse Manor, and later erected a church and also Castle Philipse on the site of North Tarrytown, N.Y. His town house in New York city was confiscated by the New York state government in the American Revolution (see MORRIS, ROGER).

Philipse Manor or **Philipsburgh Manor,** colonial estate of Frederick Philipse, confirmed by a royal charter (1693), extending from the present North Tarrytown, N.Y., to the present Yonkers, with the Hudson on the west and the Bronx river on the east. At Yonkers, on the Nepperhan, Philipse built a mill and a manor hall (c. 1682), the permanent family seat. The manor passed into British and American hands during the Revolutionary War, soon after, a New York merchant bought it, in 1868 Yonkers purchased it, making it the village hall. The state now owns the surrounding ground and the manor hall, where historical collections are displayed. Frederick Philipse also built (c. 1683) a mill and a manor hall, Castle Philipse, the northern family seat, at North Tarrytown, on the Pocantico. It was ultimately united with the Yonkers manor hall under one administration until the Revolution, after which it went through several hands and numerous changes. In 1943, after restoration to its original appearance by the Historical Society of the Tarrytowns, it became a permanent museum and shrine of colonial Dutch life.

Philip the Arabian: see PHILIP, Roman emperor.

Philip the Bold: see PHILIP III, king of France.

Philip the Bold, 1342–1404, duke of Burgundy, a younger son of King JOHN II of France. He fought at Poitiers (1356) and shared his father's captivity in England, then was successively made duke of Touraine (1360) and duke of Burgundy with the rank of first peer of France (1363). In 1369 he married Margaret, heiress of Flanders. With his brothers, Philip was appointed by King Charles V as regent for Charles VI, soon after the young king's accession (1380) he became the virtual ruler of France. In 1382 he brought about an expedition against the Flemish rebels under Philip van ARTEVELDE, defeating them at Roosebeke, and in 1384 he inherited Flanders from his father-in-law. Philip retired to his duchy at the beginning of Charles VI's personal rule (1388), but he returned to prominence at the appearance of the king's madness (1392) and became the chief rival for power of the king's brother Louis d'ORLÉANS. Their rivalry was accentuated by their different policies toward England and toward the papacy. Philip's son, JOHN THE FEARLESS, inherited the quarrel.

Philip the Fair. see PHILIP IV, king of France.

Philip the Good, 1396–1467, duke of Burgundy (1419–67), son of John the Fearless. After his father was murdered he formed (1419), an alliance with Henry V of England. He was a party to the Treaty of Troyes (1420, see TROYES, TREATY OF) and aided Henry in establishing English rule in France. However, the discontent of his subjects, English interference in Hainaut, and the death of his English wife finally led him, in return for important concessions, to make peace with Charles VII of France in the Treaty of Arras (1435, see ARRAS, TREATY OF). Philip more than doubled his territory by acquiring—through marriage, treaty, conquest, and purchase—Hainaut, Holland, Zeeland, Friesland, Brabant, Limburg, Namur, Luxembourg, Liége, Cambrai, and numerous other cities. His power brought him into conflict with Charles VII. He attempted to win influence by ransoming Charles d'ORLÉANS, supported for a time the rebellious nobles in the PRAGUERIE, and gave asylum to the dauphin (later LOUIS XI) when Louis was in revolt against his father. In 1463 he was forced to return some of his lands to Louis XI. Philip was often involved in difficulties with his Flemish subjects, notably in the revolt of Ghent (1448–53). In 1453 he took a vow to go on crusade, but this project was never realized. Philip's court was the most splendid in the Western Europe of his time. He was succeeded by his son, CHARLES THE BOLD.

Philip the Handsome: see PHILIP I, Spanish king of Castile.

Philip the Tall: see PHILIP V, king of France.

Philistia (fĭlĭs'tyə), ancient region of SW Palestine, comprising a fertile plain extending to the Mediterranean and including a portion of S Canaan. The five chief cities, Gaza, Ashkelon, Ashdod, Ekron, and Gath, strategically located on the great commercial route from Egypt to Syria, formed a confederacy. The first three were on the coast, and of these Gaza retains importance in modern times. Ekron and Gath were inland. In the Bible the great Hebrew antagonists of the Philistines are SAMSON, SAUL, and DAVID. They were independent at the time of AMOS, and the Jews never really conquered them. Philistia was laid under tribute by Assyria, and the invasion of Palestine by SENNACHERIB was brought on by Hezekiah's imprisonment of the Assyrian faithful tributary, the king of Ekron. There is reason to believe that the Philistines originated in Crete. See A. R. Burn, *Minoans, Philistines, and Greeks* (1930).

Phillip, John, 1817–67, Scottish genre painter. He traveled in Spain and is best known for his paintings of Spanish life, such as *La Gloria* (National Gall., Edinburgh). His *Gossips at the Well* is in the Metropolitan Museum.

Phillips, Samuel, 1752–1802, American educator and statesman, b. North Andover, Mass., grad. Harvard, 1771. He was a member of the Massachusetts provincial congress (1775–80) and a delegate to the state constitutional convention (1779–80) and served in the state senate (1780–1801), except for one year. He is best known, however, as the founder of PHILLIPS ACADEMY at Andover (opened 1778), a leading preparatory school for boys. His uncle, John Phillips, the founder of PHILLIPS EXETER ACADEMY, provided financial backing. Shortly after his inauguration (1801) as lieutenant governor of Massachusetts he died. See C. M. Fuess, *An Old New England School* (1917).

Phillips, Stephen, 1868–1915, English poet and dramatist. His best-known works are the poetic dramas *Paolo and Francesca* (1900), *Herod* (1901), and *Ulysses* (1902).

Phillips, Ulrich Bonnell, 1877–1934, American historian, b. La Grange, Ga., grad. Univ. of Georgia (B.A., 1897, M.A., 1899), Ph.D. Columbia, 1902. After teaching history at the Univ. of Wisconsin (1902–8), he became professor of history and political science at Tulane Univ. (1908–11) and then professor of American history at the Univ. of Michigan (1911–29) and at Yale (1929–34). His doctoral dissertation, *Georgia and State Rights* (1902), received the Justin Winsor Prize from the American Historical Association. An authority on the ante-bellum South, he wrote *A History of Transportation in the Eastern Cotton Belt to 1860* (1908), *The Life of Robert Toombs* (1913), *American Negro Slavery* (1918), *Life and Labor in the Old South* (1929), and *The Course of the South to Secession* (posthumous, 1939). Phillips also edited *Plantation and Frontier Documents, 1649–1863* (2 vols., 1909) and *The Correspondence of Robert Toombs, Alexander H. Stephens, and Howell Cobb* (1913).

Phillips, Wendell, 1811–84, American reformer and orator, b. Boston, grad. Harvard (B.A., 1831, LL.B., 1834). Although he was admitted to the bar in 1834, Phillips, a "proper Bostonian" of first rank, had sufficient income to abandon his law practice and devote his life to fighting for causes inimical to the interests of his class. Revolted by the mobbing (1835) in Boston of William Lloyd GARRISON and prodded by his brilliant young wife, the former Ann Terry Greene, he entered full swing into the abolitionist crusade. His eloquent protest (1837) in Faneuil Hall on the assassination of the abolitionist editor Elijah P. LOVEJOY marked the beginning of his long and distinguished career as a lecturer. Phillips frequently contributed to the *Liberator* and, like its publisher, refused to identify his abolitionism with any political party. He also followed Garrison in other causes, notably woman's rights, but never advocated nonresistance. He was a delegate to the World Anti-Slavery Convention in London (1840), opposed the Mexican War and the annexation of Texas, came to advocate the dissolution of the Union, and aroused considerable hostility by his vehement denunciations of slaveholding. In the Civil War he attacked Lincoln for his moderate stand on emancipation of the slaves and opposed Lincoln's renomination. After the war he succeeded Garrison as president of the American Anti-Slavery Society, keeping it active until the adoption of the Fifteenth Amendment enfranchised Negroes. While most of the victorious crusaders for abolition were content to rest on their laurels, Phillips continued his agitation for social reform, speaking for many unpopular causes—prohibition, the abolition of capital punishment, currency reform (see GREENBACK), and the rights of labor. He was the unsuccessful candidate of the Labor and Prohibition parties for the governorship of Massachusetts in 1870. Phillips's advanced doctrines became indistinguishable from those of Marxian socialism, and he defended the Commune of Paris of 1871 and Russian nihilism. As an orator he was rated with Edward Everett and Daniel Webster; his style, however, was easy and colloquial. See his *Speeches, Lectures, and Letters* (1st series, 1863; 2d series, 1891); bi-

ographies by S. L Austin (1884), Lorenzo Sears (1909), C E. Russell (1914); Ralph Korngold, *Two Friends of Man* (1950).

Phillips. **1** Town (pop. 1,186), W central Maine, NW of Farmington, in a wooded hilly region; settled 1791, inc 1812. Diatomaceous earth is found here. **2** City (pop 1,915), co seat of Price co, N Wis, WNW of Rhinelander, in a river and dairy region, settled 1874, inc 1891.

Phillips Academy, at Andover, Mass, nonsectarian, for boys; opened 1778, chartered 1780 by Samuel PHILLIPS. It is often called Andover and Phillips Andover. It was the model for many later schools, and noted men studied here. Andover Theological Seminary (now part of Andover Newton Theological School at Newton Centre, Mass.) was affiliated from 1808 to 1908, its buildings then passed to the academy. Samuel Francis Smith wrote *America* while he was a student at the seminary. Evening classes for adults were started in 1935. See C. M. Fuess, *An Old New England School* (1917).

Phillipsburg **1** City (pop 2,109), co seat of Phillips co, N Kansas, platted 1872, inc 1880. It is a trade center in a corn-growing area. A rodeo is held annually in August. **2** Industrial town (pop 18,314) NW N J., on the Delaware opposite Easton, Pa., settled 1739, inc 1868. It grew with the iron and steel industry. Peter Cooper introduced the Bessemer steel process here, 1856. Cement, chemicals, and machinery are made in the town.

Phillips Exeter Academy (ĕk'sŭtûr), at Exeter, N H., nonsectarian, for boys, chartered 1781, opened 1783 by John Phillips (see PHILLIPS, SAMUEL). It has been an influential preparatory school, with noted graduates. Edward S. Harkness endowed it in 1931. Ralph A. Cram designed a number of buildings.

Phillips University, see ENID, Okla.

Phillpotts, Eden (fil'pŏts), 1862-, English novelist and dramatist. He left the insurance business for authorship, and his regional novels of Dartmoor have been likened to those of Thomas Hardy. His most famous are *The River* (1902) and *Widecombe Fair* (1913). His other works include poems, mystery novels (e.g., *The Grey Room*, 1921), and the plays *The Farmer's Wife* (1917) and *Yellow Sands* (written with his daughter, 1926). See Charles Meadowcroft, *The Place of Eden Phillpotts in English Peasant Drama* (1924).

Philmont, village (pop 1,679), E N Y., E of Hudson, inc 1892. It has a yarn mill and a county tuberculosis hospital.

Philo (fī'lō) or **Philo Judaeus** (jōōdē'ŭs) [Latin,=Philo the Jew], c 20 B C–A D. c 50, Alexandrian Jewish philosopher. His doctrines had an extraordinary influence on both Jewish and Christian religious writings. Philo was sent to Rome A D. c 40 to represent the Jews of Alexandria in seeking the restoration of privileges lost because they had refused to obey an imperial edict to worship Caligula. *De legatione ad Caium* is a report of his embassy. The works of Philo were partly listed by Eusebius. Only fragments of some are in existence, but much can be sifted out of the early Christian literature, where numerous and ample quotations from his writings are found. He conceived of the Mosaic law as the foundation of philosophy and believed the universe to have been produced by a Creator, living and personal. God, however, created the world indirectly through his potencies or attributes, which exist in the great region between his perfection and infinity and all that is imperfect and finite. All the mediate beings have unity in, and proceed from, the divine Logos, through which God directs all. In the creation of man the Logos had the cooperation of some of the lower mediate potencies. Thus man from the first had within him the possibility of sinning, but, though fallen, he still retains in his soul something of the image of God and through the Logos can receive revelations of God. Philo's doctrine of intermediary beings and the Logos has various parallels in Plato's Ideas and in certain of the New Testament writings. See his works (tr. by F. H. Colson and G. H. Whitaker, 10 vols., 1929–, Loeb Classical Library), E. R. Goodenough, *An Introduction to Philo Judaeus* (1940), H. A. Wolfson, *Philo* (1947).

Philoctetes (fĭlŏktē'tēz), in Greek mythology, king of the Malians of Mt. Oeta. He was the friend of Hercules (for whom he lit the fire on Mt. Oeta) and inherited his bow and poisoned arrows. On the way to the Trojan War, Philoctetes was bitten by a snake, and his companions left him on the desolate island of Lemnos. When an oracle declared that Troy would not be taken without the weapons of Hercules, Philoctetes was brought by Diomed and Odysseus to Troy, where he was healed of his wound by Machaon, son of the physician Asclepius. Philoctetes killed Paris. It is said that after the Trojan War he wandered to S Italy. Sophocles' drama *Philoctetes* is based on the legend.

Philologus (fĭlŏ'lōgŭs) [Gr.,=lover of words], Roman Christian. Rom. 16 15.

philology (fĭlŏ'lŭjē) [Gr.,=love of the word], study of texts, especially to establish correct ones. Classic examples of philology are the work of Richard Bentley and Friedrich August Wolf. In the 19th cent. the term was extended to include the comparative study of languages, which used new methods and had different goals from philology; this was called comparative philology. The word LINGUISTICS then came into general use for the scientific study of language (including comparative linguistics), and the term *philology* fell back into its old restricted use, it is especially used in Latin and Greek studies. See LANGUAGE.

Philomela (fĭlōmē'lŭ), in Greek myth, daughter of King Pandion of Attica and sister of Procne (prŏk'nē). Tereus (tē'rēŭs), a Thracian king, son of Ares, married Procne and had by her a son, Itys or Itylus. Tereus had Procne and married Philomela, whose tongue he cut out to silence her, she told her story in writing. The sisters avenged themselves by killing Itys and serving his flesh to his father. When Tereus set out to kill them, the gods changed all three into birds. Philomela became the nightingale.

Philopoemen (fĭlupē'mŭn), c 252 B C–183 B C., Greek statesman and general, b. Megalopolis. For years he fought as a mercenary in Crete. In 209 B C. he received command of the Achaean cavalry, with which he defeated the Aetolians and Eleans. He next became (208 B C.) commander of the ACHAEAN LEAGUE. He defeated Machanidas, tyrant of Sparta, at Mantinea. Nabis, successor of Machanidas, was driven out of Messene and defeated in Laconia (201–200 B C.) by Philopoemen. When Nabis was assassinated, the Spartans were induced to join the Achaean League (192 B C.), but revolted and were again conquered by Philopoemen (188 B C.). He was captured and poisoned by Messenian rebels. Philopoemen was glorified by his compatriot, Polybius, Plutarch wrote his life.

philosopher's stone see ALCHEMY.

philosophy [Gr.,=love of wisdom], study of the ultimate reality, causes, and principles underlying being and thinking. It has many aspects and different manifestations according to the problems involved and the method of approach and emphasis used by the individual philosopher. This search for truth began, in the Western world, when the Greeks first established (c 600 B C.) inquiry independent of theological creeds. Philosophy is distinguished from theology in that philosophy ignores dogma and deals with speculation rather than faith. Philosophy differs from science in that both the natural and the social sciences base their theories wholly on established fact, whereas philosophy covers the area of inquiry where no facts as such are available, originally, science as such did not exist and philosophy covered the entire field, but as facts became available and tentative certainties emerged, sciences broke away from metaphysical speculation to pursue their different aims. Thus physics was once in the realm of philosophy, and it is only lately that psychology was established as a science apart from philosophy. Philosophy is divided into divisions of speculation, dealing with different topics. Metaphysics, the major province of philosophy, concerns itself with inquiry into the nature of the physical world and the place of the individual in the universe, logic, subdivided into formal and material, probes the nature of knowledge, epistemology seeks to coordinate knowledge and the natural world, ethics is concerned with the morality of the individual and the group, and aesthetics deals with the fundamentals of artistic expression. On another level, divisions in philosophy are made according to the attitude taken by the philosopher toward his subject. Idealism (also called subjectivism) maintains that what is real is in the form of thought rather than material, materialism considers matter and its motions as the universal reality, influencing the abstract, dualism recognized two realities, such as mind and body, spirit and matter; and positivism, most allied to science, refuses to speculate beyond asserting that what is experience exists in itself and is the basis for any action. All these attitudes and divisions were already present in Greek philosophy, and later Western speculation has based itself on the earliest philosophies. Historically, philosophy falls into three large groups—Greek philosophy, which existed primarily as a social function, concerned with improving the city-state and the citizen, medieval philosophy, inseparable from early Christian theology, and, beginning in the Renaissance, modern philosophy, which leans often toward the natural sciences. The first Greek philosophers—the Milesian school consisting of Thales, Anaximenes, Anaximander, and Heraclitus—were concerned with finding the one natural element underlying all nature and being. They were followed by Parmenides, Leucippus, Anaxagoras, Empedocles, and Democritus, all engaged in the same inquiry and developing ever more complex solutions. Socrates was the first to inquire also into social problems, this speculation was carried on by his pupil Plato and Plato's pupil Aristotle at the Greek Academy. Roman philosophy was based mainly on the later schools of Greek philosophy, such as STOICISM, cynicism, or epicureanism. Only Plotinus, the Neoplatonist, connected the great Greek philosophies with emerging Christianity. Arabian thinkers, Avicenna and Averroës foremost among these, managed to preserve Greek philosophy, and especially Aristotelianism, during the period when these teachings had been forgotten in Europe. SCHOLASTICISM, the high achievement of medieval philosophy, was again based, however, on some Aristotelian principles. St. Thomas Aquinas was the foremost of the schoolmen, just as St. Augustine—several centuries his predecessor—was the foremost spokesman for the Church of pure belief. The Renaissance with its new physics and astronomy revolutionised philosophic thought. Francis Bacon introduced the modern scientific inductive method of reasoning. René Descartes is considered the founder of modern philosophy since he was the first to be profoundly affected by the new attitude. Dualism, in a form known as Cartesianism, was once again a feasibility as it had not been since the Greeks. In England empiricism prevailed in the work of Hobbes, Locke, and Hume, as well as with Berkeley, who was the outstanding idealist. Spinoza's pantheistic philosophy was chiefly an ethical one, based on Descartes and Hobbes. Leibniz, though affected by Spinoza, introduced 18th-century realism and inaugurated the German school of philosophy with its transcendental overtones realized in Kant and pronounced in Fichte, Hegel, and Schelling. The romantic movement had its 18th-century beginnings in the philosophy of Rousseau, its 19th-century adherents included the pessimists Schopenhauer and Nietzsche, as well as the American transcendentalists. Opposed to the romanticists was the dialectic materialism of Karl Marx. The evolutionary theories of Charles R. Darwin profoundly affected mid-19th-century thinking. Social—rather, ethical—philosophy culminated in England in the utilitarianism of John Stuart Mill and in France in the positivism of Auguste Comte. The transition to the 20th cent. came with the French Henri Bergson, whose metaphysics can be traced back to Heraclitus. The American William James was the founder of pragmatism, the most important movement of the early 20th cent. This movement was enlarged and elaborated by John Dewey. The first impetus toward it had been given by C. S. Peirce. Among idealists in America, the best known is Josiah Royce; studies in aesthetics were made by Santayana, Irwin Edman, and Susanne Langer. At the same time, in Germany, Husserl and Heidegger developed phenomenalism. Modern Italian philosophers are Giovanni Gentile and Benedetto Croce, in France, the conservative Jacques Maritain is best known. The newest modern movement, and most important, is that of logical analysis of science. This movement, which is closely allied to modern mathematics, was developed by Bertrand Russell and A. N. Whitehead in England. In Oriental thought it is difficult to make a distinction between philosophy and religion—see BUDDHISM, CONFUCIANISM, HINDUISM, JAINISM, SHINTO, TAOISM, VEDANTA. See W. P. Montague, *The Ways of Things* (1940), C. E. M. Joad, *Great Philosophers of the World* (1928), J. H. Randall, *Philosophy an Introduction* (1942), B. A. G. Fuller, *A History of Philosophy* (1945), Bertrand Russell, *A History of Western Philosophy* (1945), H. G. Townsend, *On the History of Philosophy* (1946).

Philostratus (flavius Philostratus), (fĭlŏ'strutus, fīlā'vēus), fl. c 217, Greek Sophist, called the Athenian. He wrote an excellent *Life of Apollonius of Tyana* (a philosopher) and *Lives of the Sophists*.

Philotas (fĭlō'tus), d. 330 B C., Macedonian general of Alexander the Great, son of PARMENION. He campaigned in Thrace and Illyria and commanded the elite corps of cavalry. Accused of being privy to a plot against Alexander, he was executed.

Philoxenus (fĭlŏk'sunus), c 436–380 B C., Greek dithyrambic poet, b. Cythera. In Syracuse, imprisoned by Dionysius (out of whose good graces he had fallen, perhaps because of an intrigue with Dionysius' mistress), he wrote his *Cyclops*, mocking the emperor. *Cyclops* (fragments of which remain) utilized a solo to the lyre—an innovation in the dithyramb.

Phinees (fĭ'nēus), variant of PHINEHAS.

Phinehas or **Phinees** (both fĭ'nēus) **1** Grandson of Aaron. His prompt punishment of two flagrant sinners made his name a symbol of holy, zealous indignation. Ex 6 25, Num 25, 31 6, Joshua 22 13, 24 33, Judges 20 28, 1 Chron 6 4,50, 9 20, Ezra 7 5, Ps 106 30, Ecclus 45 23, 1 Mac 2 26,54. **2** One of Eli's sacrilegious sons: see HOPHNI. **3** Father of a priest. Ezra 8 33.

Phippsburg, town (pop 1,020), SW Maine, at the mouth of the Kennebec S of Bath, inc. 1814. The town includes the resort Popham Beach at the end of a peninsula. Phippsburg was in 1607 the site of Fort St. George, a colony sent out by the Plymouth Company and led by George POPHAM. Destroyed by the Indians, it was resettled c 1737. Fort Popham, begun in 1861, was never completed.

Phips, Sir William, 1651–95, American colonial governor. Born in what is today Maine, he was a carpenter and shipbuilder in Boston and became interested in sunken treasure. His second hunt for treasure, which was financed by Christopher Monck, 2d duke of Albemarle, was astonishingly successful (1687). Phips recovered some £300,000 worth of Spanish gold. His fortune made, he became provost marshal general at Boston. He

supported Increase MATHER in the fight against Sir Edmund Andros for restoration of charter government in Massachusetts, which ended with the overthrow of Andros In King William's War (see FRENCH AND INDIAN WARS) Phips led (1690) the expedition that took Fort Royal (now Annapolis Royal) but failed to take Quebec, and he was also involved in the expedition against Montreal that failed He was made first royal governor of Massachusetts through the influence of Increase Mather and took office in 1692 In the great witchcraft mania, he appointed a commission to try those accused of witchcraft Many disputes won him enemies, and in 1694 he was called to London to answer charges, but he died before hearings began The name is also spelled Phipps The biography by Cotton Mather (ed by Carl Van Doren, 1929) is, naturally, biased See biographies by H O Thayer (1927) and Alice Lounsberry (1941), C H Karraker, *The Hispaniola Treasure* (1924)

Phiz, see BROWNE, HABLOT KNIGHT

Phlegethon (flĕ'guthŏn), river of fire in Hades

Phlegon (flē'gŏn) [Gr, =burning], Christian at Rome, Rom 16 14

Phlegraean Fields (flĭgrē'un), fertile volcanic region, Campania, S Italy, W of Naples It is rich in mythological associations In Roman times the cities of Cumae, Baiae, and Puteoli were fashionable watering places Some craters still emit sulphurous vapors and mineral waters

phloem, see BAST

phlogiston theory (flŏjĭ'stun, -stŏn) of combustion was advanced by J J Becher (in the late 17th cent) and extended and popularized by G E Stahl The theory stated that in all materials which burn there is present phlogiston, a substance without color, odor, taste, or weight, and that this phlogiston is given off in burning "Phlogisticated" substances are those which contain phlogiston and which, on being burned, are "dephlogisticated" The ash of a burned material was held to be the true material The theory received strong and wide support throughout a large part of the 18th cent until it was overthrown by the work of Lavoisier Priestley defended the theory throughout his lifetime Cavendish remained doubtful, but most other chemists of the period, including Berthollet and Kirwan, rejected it Lavoisier revealed the true nature of combustion

phlox (flŏks), any plant of the genus *Phlox*, annual and perennial herbs native to North America and Russian Asia, widely cultivated as garden flowers Garden phloxes are usually showy with terminal masses of flowers from white to shades of red and pink, delicately fragrant Annual garden phloxes are mostly derived from *Phlox drummondii*, a native of Texas from which a number of color forms have been developed with a long blooming season Most phloxes are perennial, they are often tall, but a few are low creeping plants, e g, the ground or moss pink (*Phlox subulata*), native to the E United States and a favorite evergreen for rock gardens, which it blankets with flowers in the early spring The wild sweet William (*Phlox divaricata*) is a common eastern wild phlox

Phocaea (fōsē'ù), ancient city, W Asia Minor, N of Smyrna. It was northernmost of the Greek Ionian cities. It grew into a maritime state, its chief colony was Massilia (Marseilles) In 540 B C, in a siege by the Persians, most of the inhabitants left, going mainly to Elea in Italy The city never recovered from the loss The location is now Foca

Phocion (fō'shŭn), c 402–318 B C, Athenian general He served successfully against the forces of Philip of Macedon—in Euboea (348 B C) and at Byzantium (339 B C), when he forced Philip to abandon his siege of that city In Athens, Phocion was a leader of the peace party and urged conciliation with the Macedonians, in this he was opposed by Demosthenes, whose surrender by the Athenians was demanded by Alexander Phocion urged compliance with the demand, but when the Athenians refused, he led a successful embassy of conciliation to Alexander In the turmoil following the death of Antipater (319 B C) Phocion intrigued with Cassander Later, when the Athenian democrats won, they forced him to drink hemlock, but repented after his death and raised a statue in his honor

Phocis (fō'sĭs), ancient state, central Greece It included Delphi, Mt Parnassus, and Elatea, Thermopylae was to the northwest, Boeotia was on the east, and the Gulf of Corinth was on the south After the Sacred War of c.596 B C. ("sacred" because it involved the oracle), Phocis lost control of Delphi to a council of states With Athenian help Phocis regained hold of the oracle in 457 B C Early in the next century Phocis passed under Theban control The Sacred War of 356–346 B C began with Phocis trying to reestablish itself and ended with the victory of Philip II of Macedon, who thereby became arbiter of Greece

Phocylides (fusĭ'lĭdēz), fl early 6th cent. B C, Greek gnomic poet, b Miletus His moral epigrams exist in fragments

Phoebe (fē'bē), in Greek mythology **1** Titaness, daughter of Gaea, wife of Coeus, mother of Leto and Asteria, and grandmother of Artemis. According to one story Phoebe succeeded her mother as patroness of the Delphian oracle. **2** Name given to Artemis as goddess of the moon.

Phoebe, in the Bible see PHEBE.

phoebe, small migratory bird of the flycatcher family, native to North America. The eastern phoebe or water pewee is brownish gray on the upper parts, with the head darker and slightly crested, and the under parts pale yellow and gray It perches on a branch, preferably near a stream, characteristically flicking its tail up and down and from side to side It flits from its perch to catch passing insects Wherever there is an overhead shelter, under bridges or against buildings, the phoebe will make its nest of mud and grass Bird lice often infest the nest Say's phoebe, the black phoebe, the San Jose phoebe, and the San Lucas phoebe are western birds

Phoebus: see APOLLO

Phoebus (fē'bus), residential and fishing town (pop 3,503), SE Va, on Hampton Roads ENE of Newport News, settled c 1840, inc. 1900.

Phoenicia (fĭnē'shŭ, fĭnĭ'shŭ), territory occupied by the peoples of Phoenician civilization Because the city-states of the Phoenicians were not continuous, the name is a vague one geographically and may be used to mean all those spots on the shores of the E Mediterranean where the Phoenicians established colonies More often it is used for the heart of the territory where the great Phoenician cities, notably Tyre and Sidon, stood The core of this region roughly was the coast of present-day Lebanon The region was included in the general heading of Syria in ancient times Phoenicia also appears as Phenice and Phenicia

Phoenician civilization. Some time at the dawn of history in the Middle East, a people speaking a Semitic language moved westward and occupied the coast of the E Mediterranean This may have been as early as 2000 B C Certainly by 1250 B C the people who have come to be known as Phoenicians were well established as the navigators and traders of the Mediterranean world, enjoying the commerce that had once been apparently in the hands of the Minoans of Crete The Phoenicians were organized in city-states The greatest of these were Tyre and Sidon Others were Tripoli, Aradus, and Byblos These were the home cities, but where the Phoenicians ranged across the Mediterranean they founded posts and colonies, which later became independent states Of these the most important were Carthage and Utica, and the connections with the parent city lasted long, Carthage seems to have paid a form of rent to the Phoenicians as late as the 6th cent B C The Phoenicians had a language and culture like those of other Semitic peoples in the general area and may be said to have been identical with the Canaanites of N Palestine except for the development of their seagoing culture They worshiped fertility gods and goddesses generally denominated by the terms *Baal* and *Baalat*, sacrifice of the first-born, both of humans and of animals, was practiced. Astarte and Adonis were also known The Phoenicians were more or less under the intermittent influence and control of the Egyptians, but with the weakening of Egyptian power in the 12th cent, Phoenician seamen came to dominate the Mediterranean They went out to the edges of the known world, trading briskly from the Iberian Peninsula to the Dardanelles They may have sailed as far as the British Isles and have obtained tin there, though there is some question as to this There is evidence that in Egyptian service they may have sailed down the western coast of Africa, and possibly their little ships even rounded Africa and reached the East Indies Their carrying trade was enormous, and their wares were varied They had a monopoly on the great cedars of Lebanon from their homeland, they manufactured glassware and metal articles, and they colored cloth the famous Tyrian purple with dye obtained from shellfish They were skilled architects. Phoenician artisans were imported by the Egyptians, and Hiram, king of Tyre, lent assistance to Solomon in building The greatest contribution of the Phoenicians to Western civilization was, however, the invention of an alphabet, an idea taken over by the Greeks, the use of symbols for sounds in place of clumsier cuneiform and hieroglyphic was a tremendous advance The great Phoenician cities were well defended and had natural advantages for defense The Phoenicians were, therefore, able to withstand most of the attacks of the Assyrian kings. To the tolerant empire of the Persians, however, they submitted in the 6th cent. B C, keeping their own autonomy but gradually being absorbed more and more in the Persian pattern. Phoenician sailors, architects, and craftsmen were all prominent in Persian service. They also served elsewhere, however, and Phoenician ships were in the Greek navy that defeated Xerxes I at Salamis. The individuality of the Phoenician cities was dwindling, and with the rise of Greek naval and maritime power, the importance of the Phoenicians disappeared They were, however, able in the 4th cent to offer serious resistance to Alexander the Great, who was able to take Tyre only after a long and hard siege (333–332 B.C.) After that time and into Roman days the cities remained important and had some autonomy, but Hellenistic culture had eliminated the last traces of Phoenician civilization See George Rawlinson, *History of Phoenicia* (1889); A. T. Olmstead, *History of Palestine and Syria* (1931)

Phoenix, John, see DERBY, GEORGE HORATIO.

Phoenix (fē'nĭks), Crete see PHENICE **2**.

Phoenix (fē'nĭks). **1** City (pop. 65,414), state capital, and co seat of Maricopa co, S central Ariz, on the Salt river, founded 1867, inc 1881 Though it has drawn somewhat on the mining and ranching of the surrounding desert and mountains, Phoenix was primarily dependent on irrigated agriculture before it succeeded (1889) Prescott as territorial capital and is today the center of the prodigally rich SALT RIVER VALLEY The sunny climate, though hot in summer, has made the city a winter resort and a health resort, with much tourist trade and with opulent winter residences, many in modified Spanish style Near by is Frank Lloyd Wright's "Taliesin West" Points of interest include the Arizona Museum, the Heard Museum, La Ciudad [the city], remains of an old Indian pueblo, a U S Indian school, and, outside the city, huge South Mountain Park, with an active gold mine An annual rodeo features Old West atmosphere **2** Village (pop 2,875), NE Ill, residential suburb of Harvey S of Chicago, inc 1900 **3** Village (pop 1,757), central N Y, on the Oswego river and the Barge Canal and NW of Syracuse, inc 1849 Paper and chairs are made

phoenix (fē'nĭks), fabulous bird of Egypt It was sacred to the Egyptian sun-god and was worshiped at Heliopolis According to legend, the phoenix lived in Arabia, when it reached the end of its life's span (500 years), it burned itself on a pyre From the ashes a new phoenix arose The phoenix as a symbol of death and resurrection has been a favorite metaphor in pagan and Christian literature

Phoenix Islands, group of eight coral islands (11 sq mi, pop. 984), central Pacific, 700 mi N of Samoa. The most important are CANTON ISLAND and Enderbury Island, which were placed (1939) under Anglo-American control The other islands were annexed (1947) to the GILBERT AND ELLICE ISLANDS colony, belonging to Great Britain The islands, formerly worked for guano, now produce copra The group was visited by an expedition in 1937 to study the solar eclipse Phoenix Island (3 sq mi) is the most fertile of the group, it was discovered in 1859 by American traders

Phoenixville (fē'nĭksvĭl), industrial borough (pop 12,282), SE Pa, on the Schuylkill and NW of Philadelphia, settled 1720, inc 1849 It produces pig iron and textiles Valley Forge is near here Phoenixville was the most western point in the state reached (1777) by the British during the Revolutionary War The Valley Forge General Hospital for veterans was built in 1942

phonetics (fōnĕ'tĭks, fu–) and **phonemics** (fōnē'mĭks, fū–), system of sounds of language, studied from two basic points of view Phonetics is the study of the sounds of language according to their production in the vocal organs (articulatory phonetics) or their effect on the ear (acoustic phonetics) All phonetics is interrelated because human articulatory and auditory mechanisms are uniform Systems of phonetic writing are aimed at transcribing accurately any sequence of speech sounds, the most famous is the International Phonetic Alphabet Each language uses a limited number of the possible sounds and the hearer-speaker is trained from childhood to classify them into groups of like sounds, rejecting as nonsignificant all sorts of features actually phonetically present So the English speaker does not know that he always makes a puff of air when he pronounces the *p* of *pin* and never makes the puff with the *p* of *spin*; for him they are the same sound Yet in some languages (as in India) just the presence or absence of that puff in both words would make the sounds different, and two words might differ in meaning because of the puff In English there is no phonemic difference between the two sounds, which belong to one group of like sounds, the phoneme *p*. In the other situation aspirated *p* (*p* with a puff) and unaspirated *p* are separate phonemes Phonemes include all significant differences of sound, including features of ACCENT, pitch, intonation, pauses, and the like The study of the phonemes and their arrangement is the phonemics of a language See GRAMMAR, LANGUAGE, WRITING See Leonard Bloomfield, *Language* (1933), Daniel Jones, *An Outline of English Phonetics* (1940), Bernard Bloch and G L Trager, *Outline of Linguistic Analysis* (1943), Martin Joos, *Acoustic Phonetics* (1948).

phonograph, device for reproducing sound waves which have been recorded in a spiral groove on a cylinder or disk As the record revolves, a needle traverses the grooves and transmits the vibrations to any of various types of mechanism by means of which a reproduction of the original sound eventually emerges from an amplifier. Sound waves had been recorded in the middle of the 19th cent, but Thomas A. Edison in 1877 built the first machine which would reproduce the recorded sound. His records were wax cylinders upon which a groove

of unvarying direction but varying depth was cut, a method later known as "hill-and-dale" recording In 1887 Emile Berliner invented the disk record (patented in 1896) with grooves of unvarying depth but varying direction His machine he called the gramophone, the name by which the phonograph is called in England, and his method became known as lateral recording Berliner also invented the matrix record, from which unlimited duplicate recordings could be pressed In these early recordings the sound was directed into a horn, which by means of a diaphragm transmitted the vibrations directly to the stylus that cut the groove. Only a limited frequency range and part of the overtones could be recorded, and orchestral recording, not attempted until c 1913, was very unsatisfactory Threatened with being made obsolete by the radio, the phonograph began to regain its place after 1925 with the development of electrical methods of recording and reproduction In 1948 several companies began to issue records made to revolve at slower speeds, thus lengthening the amount of material which could be recorded on a single disk Besides musical performances, the phonograph is used to reproduce sound effects for radio and the theater, transcriptions of radio broadcasts, "talking books" for the blind, and lessons for language study The dictaphone is a kind of phonograph for recording dictation and reproducing it for a typist The "juke box" is a coin-operated phonograph capable of playing by automatic selection about 20 records Its great popularity arose in the 1930s, but its history dates from the early part of the century with the coin-operated phonographs in the penny arcade See L H Hughbanks, *Talking War* (1945)

Phorcus (fôr'kus), in Greek mythology, god of the sea He was the son of Gaea and Pontus, the husband and brother of Ceto, and the father of the Gorgons, the Sirens, and Scylla

phosphate, salt of PHOSPHORIC ACID Deposits of phosphates occur throughout the world, especially in Europe (the British Isles and the Continent), Algeria, Central America, and the United States (Florida, Georgia, Idaho, South Carolina, Tennessee, Wyoming, and Utah) The most abundant and important phosphate is calcium phosphate, which makes up the larger part of so-called phosphate rock Although not itself suitable, because of its slight solubility, to be used by plants as a source of the phosphorus necessary for life, from it are prepared the enormous quantities of the soluble acid calcium phosphate used for making fertilizers When the calcium phosphate is treated with sulphuric acid, a mixture of the acid calcium phosphate and calcium sulphate results which is known as SUPERPHOSPHATE OF LIME in the fertilizer industry Trisodium phosphate is employed as a cleaner and for softening water Disodium phosphate is used to some extent in medicine This acid phosphate of sodium is used in preparing some baking powders Various other acid phosphates, e g , those of calcium, magnesium, and sodium, are sometimes present in the soda-fountain "phosphate" Sodium and magnesium are present with the ammonium radical in sodium ammonium phosphate (called microcosmic salt and used in chemical analysis) and magnesium ammonium phosphate Several reagents are used in testing for the presence of a phosphate in solution Silver nitrate gives a yellow precipitate when certain phosphates are present and a white precipitate for others Magnesium chloride and ammonium hydroxide give a white precipitate

phosphorescence (fŏsfurĕ'sŭns) or **luminescence** (lōōmĭnĕ'sŭns), in the general sense, the property of emitting light without perceptible heat Phosphorescent phenomena are believed to result from the motion of electrons, they are classified according to the method of producing this motion Kinds of phosphorescence include chemiluminescence, produced by certain chemical reactions, chiefly oxidations, at low temperatures, electroluminescence, produced by electric discharges, which may appear when silk or fur is stroked or when adhesive surfaces are separated, and triboluminescence, produced by rubbing or crushing crystals Luminescence may be caused also by the absorption of radiant energy by certain substances, it is known as FLUORESCENCE if the phenomenon ceases when radiation is discontinued If this type of luminescence continues after the radiation causing it has ceased, it is called phosphorescence (although this term is commonly synonymous with luminescence, it is restricted by physicists to this form of luminescence) Luminescence emitted by living organisms (bioluminescence) is believed to result in many cases from chemical reactions occurring in the organism. The phosphorescence observed in the sea is produced by living organisms, many of them microscopic, that collect at the surface Luminous fungi produce luminescence on the surface of rotting wood, and luminous bacteria may appear on decomposing flesh Glowworms, fireflies, and many deep-sea fish have organs that produce phosphorescence. See E. W. Harvey, *Living Light* (1940)

phosphoric acid (fŏsfŏ'rĭk, -fō'rĭk). Three different phosphoric acids are known, all of which are derived from phosphorus pentoxide by the addition of water They can be distinguished from one another on the basis of the number of water molecules needed. The prefixes meta-, pyro-, and ortho- are used to indicate this distinction, metaphosphoric acid is essentially the result of the addition of one molecule of water to one of phosphorus pentoxide, pyrophosphoric acid, of two molecules of water, and orthophosphoric acid, of three molecules of water All the acids are, however, phosphoric acids and their salts are all phosphates The salts are also distinguished by use of the same prefix as that of the specific acid from which they are derived Orthophosphoric acid is the ordinary phosphoric acid and is commonly called simply phosphoric acid Its molecule consists of three atoms of hydrogen and the phosphate radical (one phosphorus and four oxygen atoms, $-PO_4$) It appears both as a crystalline (rhombic) solid and as a thick liquid It has a specific gravity of 1.834, melts at 42 3°C , and is soluble in alcohol and extremely so in water It is prepared commercially from phosphate rock (calcium phosphate) by heating with sulphuric acid, but the pure acid is obtained by treating red phosphorus with nitric acid It is used in the laboratory and in medicine in the form of salts It forms three types of salts (primary, secondary, and tertiary salts)

Phosphorus see LUCIFER

phosphorus (fŏs'furus), nonmetallic chemical element (symbol=P, for physical constants, see ELEMENT, table) Phosphorus exhibits ALLOTROPY, appearing in three forms, the difference in the forms resulting apparently from differences in the molecular structure One form, white phosphorus, is an extremely poisonous (for antidote, see phosphorus under POISONING, table), yellow to white, waxy, solid substance melting at 44 1°C , boiling at 280°-C , and having a density of 1 83 g per c c at ordinary temperatures It is insoluble in water, but soluble in carbon disulphide When exposed to air it ignites spontaneously at 35°C , and for this reason it is kept under water It glows in the dark at low temperatures Because of its extremely poisonous nature and tendency to catch fire, white phosphorus must be handled with great care, an extremely small dose is fatal, and it can cause severe burns When heated out of contact with the air to over 250°C , it changes to another form of phosphorus which, because of its color, is called red phosphorus This allotropic form of the element appears as a dull, reddish-brown crystalline powder and is heavier than the white phosphorus, having a density of 2 2 g per c c It changes directly into a vapor Red phosphorus is insoluble in carbon disulphide and other solvents for white phosphorus It does not glow in the dark and, because it does not ignite at ordinary temperatures (it is less active than white phosphorus), need not be kept out of contact with the air It is not poisonous Another form of phosphorus, called black phosphorus because of its dark color, is known, it was prepared from white phosphorus by P W Bridgman through heating the white form under a pressure of 1,200 kg per square centimeter at a temperature of 200°C It has a density of 2 69 g per c c at ordinary temperatures There are a number of compounds of phosphorus With oxygen the element forms several oxides, the most important being the pentoxide, a white, powdery substance produced when either white or red phosphorus burns in air or oxygen A molecule of it consists of two phosphorus atoms and five oxygen atoms From this oxide is derived PHOSPHORIC ACID, the salts of which are the important PHOSPHATE compounds From another oxide, phosphorus trioxide, having a molecule of two atoms of phosphorus and three atoms of oxygen, is obtained phosphorous acid Phosphorus combines with the halogens to form compounds called halides With hydrogen it forms, among other compounds, a colorless, poisonous gas, phosphine It combines also with various other nonmetals and also with some metals Because of its chemical activity phosphorus does not occur free (i e, uncombined) in nature, but is found abundantly in certain compounds, e g , calcium phosphate There are large deposits of phosphate rock in various parts of the world Phosphorus is present in animals, especially in the bones, teeth, and nervous tissue, and in various parts of plants It is a constituent of the fundamental living substance, protoplasm, and is, therefore, necessary to life As a result, compounds containing it are essential in the food of living things It is supplied to plants in an available form in fertilizers The important industrial use of phosphorus is in the manufacture of matches The fact that phosphorus burns in air to form dense white clouds of the pentoxide is utilized in the laying down of smoke screens in warfare Phosphorus is employed in poisons for rodent pests In metallurgy it is used sometimes as a deoxidizing agent and also in certain alloys, such as phosphor bronze Phosphorus is prepared commercially in the electric furnace from phosphate rock, and it is also obtained from phosphates by the action of sulphuric acid The element was discovered in 1669 by Hennig Brandt (or Brand), an alchemist, who prepared it from urine, the only source known until 1775, when it was obtained by Scheele from bones

Photius (fō'shus), c 820–892?, Greek churchman and theologian, patriarch of Constantinople, b Constantinople He came of a noble Byzantine family Photius was one of the most learned men of his time, a professor in the university at Constantinople, and, under MICHAEL III, president of the imperial chancellery He was a leader of the orthodox who wished to treat indulgently the repentant iconoclasts, the head of the sterner orthodox was the patriarch, St IGNATIUS OF CONSTANTINOPLE In 858 Ignatius was forced from the patriarchate, and Photius, a layman, was chosen to fill his place He was rushed within a week through the orders necessary, a procedure uncanonical, but not without precedent In 861 the legates of Pope St NICHOLAS I approved the election of Photius, but the pope refused to recognize him In 867 Photius retaliated by calling a synod which challenged the rights of Rome in Bulgaria, questioned certain Latin practices, particularly the proposed inclusion of the *filioque* phrase in the CREED, and, finally, challenged the pope's right to judge the canonicity of the election of the patriarch Nicholas died without learning of this When BASIL I became Byzantine emperor (867), Photius stepped down and St Ignatius became patriarch again Two years later Photius was condemned (see CONSTANTINOPLE, FOURTH COUNCIL OF) Later, Photius was reconciled with Basil and Ignatius, and on the death of Ignatius he again became patriarch (877) Pope JOHN VIII recognized him as patriarch and sent legates to a synod, held in 879–80, which the ORTHODOX EASTERN CHURCH regards as an ecumenical council This synod affirmed that Photius had been legally elected, nullified those synods which had condemned Photius, ruled against laymen being elevated to the episcopacy, and agreed that Constantinople would relinquish authority in Bulgaria The acts of this council were apparently approved by John VIII ,but without any retraction of his predecessors' condemnations Photius continued as patriarch until the accession of LEO VI in 886, when he was forced to resign under imperial pressure, he died in exile Photius is a figure of controversy In later years the deep cleavage between East and West was reckoned from the schism of Photius This may be unfair, for Photius was not the obdurate rebel against papal claims that has been pictured in both East and West He is venerated as a saint by the Orthodox East Many of his letters, homilies, and dogmatic and polemical works are extant His *Myrobyblion* or *Bibliotheca* contains quotations from lost Greek writings See J H Freese, *The Library of Photius* (1920), Francis Dvornik, *The Photian Schism* (1948)

photoelectric cell or **phototube,** electron tube in which one of the two electrodes emits electrons as a result of irradiation by ordinary visible light or by ultraviolet or infrared rays Heinrich Hertz discovered the photoelectric or photoemissive effect, many other scientists contributed to the understanding of photoemission and its applications There are two main kinds of photoelectric cells—the vacuum type (those that are highly evacuated) and the gas type (those in which an inert gas, e g , argon, has been introduced) The form of the photoelectric cell varies according to the purpose for which it is designed A commonly used form consists of an enveloping glass tube within which is a cathode made of a half-cylindrical piece of metal (usually silver or silver-plated copper) coated with a photoemissive substance (often cesium or cesium oxide), the other electrode, the anode, is commonly a single upright wire Another type of photoelectric cell has a coating of a thin film of cesium or other photoemissive substance on the inside of the glass tube, a small portion of the glass being left uncoated in order to admit light, the anode in this case is usually a loop of wire (often nickel or copper), placed near the middle of the cell In addition to cesium, certain other substances can be used to emit electrons under the stimulus of light, these include sodium, potassium, lithium, and rubidium Only a slight current is produced in a photoelectric cell in response to the effect of light Therefore, when the photoelectric effect is utilized, a battery is connected with the tube so that the cathode (or electron emitter) is joined to the negative terminal and the anode is made positive by its connection with the positive terminal and therefore attracts the electrons Thus the photoelectric cell can be used in the capacity of a switch, causing an electric device to operate when light stimulates the flow of electrons comprising the current and turning it off when the light source is cut off This principle has applications in the "electric-eye" devices used as burglar alarms and door openers and for counting and sorting products In addition to their numerous other uses, photoelectric cells—termed phototubes in this sense—form an integral part of sound-reproducing and television apparatus

photoengraving, photomechanical process in the graphic arts, used principally for reproducing illustrations The subject is photographed, the image being recorded on a sensitized metal plate, which is then etched in an acid bath. In the case of line

cuts (drawings in solid blacks and whites without gradations of color), the photoengraving is done on zinc, and the result is called a zinc etching In the case of half-tone cuts, the work is done on copper. The half-tone effect is accomplished by photographing the subject through a wire screen, which breaks the light rays so that the metal plate is sensitized in a dotted pattern, the larger dots creating the darker areas, the smaller dots the high lights The finer the screen, the greater the precision of detail in the printed product Half tones made with a screen having 65 lines to the inch are considered coarse Those having 150 lines to the inch are considered fine

photogrammetry see AERIAL PHOTOGRAPHY

photography, science and art concerned with the forming and the fixing of an image on a film or a plate made sensitive to the effects of light The earliest known form of camera is the camera obscura (see CAMERA) or pinhole camera, the principles of which were set forth in unpublished manuscripts of Leonardo da Vinci Leonardo explained how a small hole, drilled in the wall of a room or a building, would cause the formation, on the wall facing the hole, of an inverted image of an illuminated object or scene outside of the room This description remained unknown for several centuries, and Giambattista della Porta, who probably did not know of Leonardo's discovery, is generally credited with the first clear presentation of the use of the camera obscura in his widely read *Magiae Naturalis*; Porta introduced a concave mirror for producing the image The device was often used by artists for tracing scenes In his time a room was generally adapted for use as a camera obscura, but portable forms were soon employed The history of the development of light-sensitive surfaces capable of producing and retaining an image begins with the discovery (1727) by Johann Heinrich Schulze, as a result of careful experiments with silver nitrate, that darkening of silver salts is caused by the effects of light and not by heat In 1757 Giacomo Battista Beccaria, known as Beccarius, discovered that silver chloride is sensitive to light Earlier experimenters knew something of the properties of silver salts, but their work was inconclusive. The experiments of Schulze were extended in the years following, and silver nitrate came to be used for producing designs on bone, marble, and white agate William Lewis, in a volume on the history of colors (London, 1763) described these uses Later Thomas, a son of Josiah Wedgwood, influenced by the work of Schulze and Lewis and probably by Joseph Priestley, began to experiment in photography, in a dissertation prepared with Sir Humphry Davy, which appeared in 1802, is a description of Wedgwood's method of reproducing, on a surface of white leather or white paper sensitized with silver nitrate or with silver chloride, paintings or silhouettes originally made on glass Davy contributed to photography by his production of silver iodide, later used by Daguerre and Niepce and also by Talbot, Davy also discovered (1802) a method of projecting images by photography Wedgwood and Davy did not pursue their work in the field far enough to discover a medium for fixing the images permanently on the silver-coated surface A solution to the problem lay, however, in an earlier discovery by Carl Wilhelm Scheele that ammonia liberates silver chloride from the photochloride darkened by light and that the ammonia precipitates the black metallic silver formed by the action of light In the following decades many chemists and physicists who investigated properties and behavior of chemical elements and compounds and of light made discoveries that contributed in some way to the development of photography Sir John Herschel discovered and described (1819) hyposulphites, but the possibility of the use of sodium hyposulphite as a fixative for silver chloride was not realized until Herschel pointed out its value when daguerreotypy became known in 1839 Joseph Nicephore Niepce is credited with making the first photograph by exposure of a light-sensitive surface within a camera, there is considerable evidence that this was accomplished in 1822 Niepce conducted photographic experiments over many years, in 1829 he began a collaboration with Louis J M Daguerre for the purpose of improving photographic methods After the death of Niepce in 1833 his son Isidore Niepce became Daguerre's partner In 1837 Daguerre discovered that an image formed on a silvered metal plate coated with a thin film of silver iodide could be developed in the presence of mercury vapor, it was agreed that the process be named for Daguerre, and the photographs came to be known as daguerreotypes Daguerre and Niepce were unable to sell shares to promote the use of the process and so, in 1839, through François Jean Arago, the invention was disclosed to the French Academy of Sciences, and in the same year the rights to the process were purchased by the French government and given to the world Cameras for making daguerreotypes were soon produced on a commercial scale The word *photography* became widely known after its use, in 1839, by Sir John Herschel, research indicates that its use by a German newspaper antedated Herschel's introduction of it by a few days, however In America, John W. Draper and Samuel F B Morse promoted the use of the daguerreotype, which achieved great popularity. At first the process, because of the long exposure required, was used only for landscapes and for architectural and other inanimate objects, but later it was applied to portrait making Draper is believed to have made the first portrait by daguerreotypy in 1839, using a long exposure (said to have been a half hour) The coloring of daguerreotypes was probably practiced as early as 1840 Later inventors developed more sensitive coatings and better lenses Tintypes also became popular in the 19th cent To William Henry Fox Talbot is credited the introduction of a practical method of photography in which a negative image was formed within the camera on a light-sensitive paper from which positive images or prints could be made Talbot later modified the process and applied the name calotype and afterward talbotype to it, he employed paper coated with silver iodide and developed in gallic acid, he applied for a patent on the process in 1841 Some of his early experiments are described in *The Pencil of Nature* (1844), which he illustrated with paper negatives made by the calotype process The introduction of the wet collodion process replaced earlier processes of photography Frederick Scott Archer is credited with making this process practicable (1851) Claims to credit for invention of the process were also made by Gustave Le Gray in France and Robert J Bingham in England Despite the difficulties of transporting darkroom facilities to the scene, many notable photographs were made by the wet collodion process during the 1850s and 1860s, these included alpine landscapes and war scenes An American photographer, Mathew B Brady, made thousands of photographs of Civil War scenes Others in the United States who made notable early photographs included T H O'Sullivan, Alexander Gardner, John K Hillers, Ferdinand Vandiveer Hayden, and William Henry Jackson Early action photographs were made by Eadweard Muybridge, Thomas Eakins, and Jules Étienne Marey During the second half of the 19th cent stereoscopic photography was popular, paired prints were observed through a stereoscope in order to obtain a three-dimensional effect Twin-lens cameras were developed for taking the pictures Their use has been revived in recent times By the 1850s photography had begun to develop into an art concerned with portraiture and with architectural and landscape photography In the late 1850s, in England, Henry Peach Robinson did much to promote photography through his writings as well as his many art photographs, his style, however, in much of his photographic work suggested artificiality and imitated paintings Oscar G Rejlander was a pioneer in taking portraits depicting facial expressions Peter Henry Emerson in England encouraged naturalism in photography Among those whose work represents the best in early photographic achievement are Alfred Stieglitz and Edward J Steichen Numerous others contributed to the growth of the photographic art, these include Charles Sheeler, Paul Strand, Edward Weston, and Clarence H White Jacob Riis made early photographs of slum areas, later Dorothea Lange and Margaret Bourke-White depicted the lot of itinerant agricultural workers Berenice Abbott became known especially for her recording of scenes in New York city and for her portraits Photographic exhibitions date from the time of the early ventures in the art, and these served as a stimulus to its development Photography assumed importance not only as an art but also as a medium for preserving a record of historical events, for illustration of books, periodicals, newspapers, and advertising matter, for documentary material to be used as propaganda and for other purposes, for teaching, e g , in medical education as well as education for certain manual skills, and for numerous other purposes For decorative purposes photomurals came into use, these are greatly enlarged photographs, often of landscapes, used as wall decoration Various photographic "tricks" are sometimes employed to create a desired effect, among them the making of composite pictures known as montages These can be produced either by projecting a number of negatives on one piece of paper or by pasting together a number of prints which are then rephotographed To achieve the desired effect the images are either blended together or allowed to remain as separate pictures related by means of the pattern or design With the development of many different styles of cameras and of many kinds of film, photographic equipment became adaptable to all kinds of situations Both the wet and dry collodion plates used in early work were impractical because of their fragility, because they had to be used while moist, and because the equipment that had to be transported was extremely heavy and bulky. In 1884 George Eastman introduced a roll film consisting of a paper covered with a gelatine silver-bromide emulsion; in 1888 a transparent nitrocellulose base replaced the paper. The daylight-loading roll-film camera came into use in 1891. Many kinds of film are now in use. The box camera, folding hand camera, and miniature cameras employ roll film; the film is wound on a spool, and for various cameras the size of the negative varies. The number of exposures ranges from 6 to 36. For cameras having a ground-glass plate on which the image is focused, film pack is used; film pack consists of a light-tight box in which separate pieces of cut film (commonly 12 pieces) are packed and each is drawn into the correct position for exposure by pulling, in turn, the numbered tabs projecting from the top Film for moving-picture cameras is made in widths of 8 mm, 9 mm, 16 mm, and 35 mm; the 35-millimeter width is used chiefly for theater film, and the other three sizes are used in amateur photography The sensitivity of the film depends upon the kind of coating or emulsion Modern films are made with varying degrees of sensitivity suitable for use under different lighting conditions and for various purposes The achievement of film capable of reproducing natural color was the goal of many experimenters Finally, in 1935, a color film was introduced which required that only one exposure be made (not several as some earlier films needed) and which could be used in an ordinary camera From this type of film, commonly made in the 35-millimeter size, enlarged color prints can be made The film itself after processing (it is first developed to make a negative and then converted to a positive) can also be used in projectors which cast the enlarged picture in color upon a screen Another type of color film became available (1942) in roll film of most ordinary camera sizes; in the developing process this film remains a negative which shows a reversal of color as well as of light and shade From this negative, color prints can be made Printing papers for black-and-white prints are made with emulsions of varying degrees of sensitivity and with ingredients that lend varying tones to the finished photograph Bromide papers with silver bromide as the principal light-sensitive substance are much used; these are known also as "fast" papers Chlorobromide papers are "slow" papers coated with an emulsion containing both the chloride and the bromide of silver The cost of a camera depends to a great extent upon the quality of the lens Modern lenses are corrected to prevent the appearance of many optical faults Anastigmatic lenses prevent astigmatism, i e , they render sharp images of both horizontal and vertical lines in the same plane The better lenses are also corrected to avoid chromatic aberration and spherical aberration (see ABERRATION) and other defects Special lenses have been introduced for certain kinds of work, these include the portrait lens, the telephoto lens and the high-speed lens capable of producing a clear image of rapidly moving bodies There are several systems for indicating the diaphragm opening (the size of which determines the amount of light permitted to pass through the lens), the commonest being generally known as the F number system The F number represents the ratio of the focal length to the effective diameter of the lens The F numbers are marked on the lens barrel, the usual series is 4, 5 6, 8, 11 3, 16, 22 6, 32, 45 2, and 64 The relative exposure with any two adjacent numbers is in the ratio of one to two, i e , under the same lighting conditions the larger number admits one half as much light and requires an exposure twice as long Methods of using cameras and of developing and printing and principles of composition are given in many books on photography See J M Eder, *History of Photography* (Eng tr of 1932 ed , 1945), C E K Mees, *Photography* (2d ed , reissue, 1945), P E Boucher, *Fundamentals of Photography* (2d ed , 1947), Eastman Kodak Company, *How to Make Good Pictures* (28th ed , 1948), Beaumont Newhall, *The History of Photography* (1949)

photogravure see PRINTING

photometry (fōtŏm'mətrē) [Gr , =measuring of light], branch of physics which deals with the measurement of the intensity of a source of light, such as an electric lamp The practical importance of photometry to man is realized when the amount of artificial light used and the great need for illumination most beneficial to the eyes are considered Instruments used for measuring the intensity of a given source of light are called photometers They make possible a comparison between an unknown intensity and a standard or known intensity They are based essentially upon a fact shown to be true by much experiment that illumination of a surface by a light source of constant intensity becomes less, by a definite amount, as the light source is moved away from that surface This fact is incorporated in the so-called law of inverse squares, which states in effect that, as a source of light is moved away from a surface which it illuminates, the illumination decreases in an amount inversely proportional to the square of the distance. For example, the illumination of a surface by a source of light 2 ft away is ¼ of the illumination at 1 ft. from the surface. Conversely, for two light sources, one at 1 ft and the other at 2 ft., to give the same illumination it would be necessary for the source at 2 ft. to have an intensity 4 times that of the source at 1 ft. In the commonly used Bunsen photometer (named for

R W. Bunsen) the intensity of a light source is determined by comparison with a known, or standard, intensity. The two light sources (one of known and the other of unknown intensity) are placed on opposite sides of the surface (a disk of paper) to be illuminated In the center of this surface is a translucent spot which appears equally bright from either side when the illumination is the same on both sides Since the illumination given by a light source decreases as the square of its distance from the illuminated surface, the intensity of the unknown light source can be easily determined when the relative distances at which the two sources produce equal illumination are known The Rumford photometer (named for Count Rumford) is sometimes called a shadow photometer because intensities of light sources are compared by the denseness of shadows which they can produce In the Lummer-Brodhun photometer, each side of an opaque screen is illuminated by one of the two sources, and a comparison is made possible by an ingenious arrangement of prisms From the use of a photometer, therefore, the statement of the intensity of a given source of light is essentially a statement of the number of times greater or less it is in intensity than a chosen standard The intensity of electric lights (i e , their power to illuminate) is commonly given as so many candle power, i e , so many times the intensity of the "international candle" which is maintained in the United States, England, and France In England a sperm candle of definite dimensions is considered as a standard, in France, a Carcel lamp burning colza oil, and in Germany, a Hefner lamp supplied with amyl acetate The French unit of intensity is called, consequently, the Carcel unit, the German, the Hefner unit The intensity of illumination, or the degree to which a surface is illuminated, is distinguished from the intensity of the light source and is given in foot-candles, i e , so many times the illumination given by a standard candle at 1 ft

photosphere (fō'tusfēr"), luminous, apparently opaque layer of gases between the dense interior gases of the sun and the more attenuated gases of the chromosphere Its incandescent gases, estimated to attain temperatures close to 6000°C , are so bright in comparison with gases in other layers that they are perceived as the apparent surface of the sun The mottled appearance of the photosphere is attributed to constantly shifting granules, several hundred miles in diameter, that probably result from differences in the density of gases of the solar surface Sunspots are believed to extend deep into the photosphere See also SUN

Photostat (fō'tustăt"), trade name of a photographic camera especially adapted to making copies (photostats) of drawings, manuscripts, and rare printed books The process is rapid and inexpensive and is much used in libraries

photosynthesis (fō"tōsĭn'thusĭs), process in which green plants utilize the energy of sunlight to manufacture carbohydrates from carbon dioxide and water. All animal and plant life ultimately depends upon it for food and oxygen All plant forms that contain the essential green pigment (see CHLOROPHYLL) are capable of carrying on photosynthesis, and the process takes place only in those parts of the plant where chlorophyll is present (Fungi and other plant forms lacking chlorophyll must secure their food nutrients from other organic material) It is known that in the presence of the chlorophyll and sunlight (or suitable artificial light) carbon dioxide and water obtained by the plant from its environment are combined to form carbohydrates, in the form of sugar and starch, and oxygen is released Some phases of the process are completed in darkness The exact chemical reactions involved are not fully understood The equation generally employed to represent the process is $6\ CO_2+6\ H_2O=C_6H_{12}O_6$ (glucose) $+6\ O_2$ Some scientists consider that the chlorophyll not only serves to absorb the light and make its energy usable but also that it may enter into the chemical changes For storage purposes some of the glucose produced is converted into starch, starch grains can be seen in various parts of the plant with the aid of the microscope Various intermediate products (e g , formaldehyde and formic acid) have been postulated as being formed prior to the production of glucose Recent studies with radioactive carbon indicate, however, that the intermediate products are chiefly amino acids, other organic acids, and neutral sugars Energy for photosynthesis is derived mainly from the red and blue-violet portions of the visible spectrum of light Therefore the presence of window glass between the plant and its light source does not interfere with the process In land plants the carbon dioxide utilized enters chiefly through the stomates, the water enters through the roots, and the process is carried on chiefly in the leaves. Oxygen is released into the atmosphere through the stomates. Plants, like animals, must use oxygen in the process of respiration in order to obtain energy; this process is therefore carried on by all plants, day and night, independently of photosynthesis From the carbohydrates the green plant can, with the aid of enzymes, produce fats and oils. With the addition of nitrogen and other essential elements obtained from the soil the plants can synthesize proteins. For the production of the fats, oils, and proteins the presence of chlorophyll and light are not necessary

phototube: see PHOTOELECTRIC CELL

Phraates (frā-ā'tēz), kings of Parthia of the dynasty of ARSACES

Phraates II, fl 130 B C , decisively defeated Antiochus VII of Syria (129 B C), annexing permanently E Mesopotamia to his kingdom

Phraates IV, d 2 B C , had an early success in driving Antony out of Parthia (36 B C.). After 31 B C he had to cope with a stubborn rebellion His son, who had joined in this (perhaps unwillingly), was handed over to Augustus as a hostage for Phraates, but was later taken back in an exchange of prisoners and battle standards. Phraates died in a palace intrigue

phrenology (frēnŏ'lujē), theory developed by Franz Joseph Gall It maintains that the mind consists of a group of separate, localized faculties, each seated in a particular organ or locality of the brain The development of each separate faculty may be judged by the shape of the skull Orson Fowler and Lorenzo Fowler were important in popularizing the theory in the United States

Phrixus (frĭk'sus), in Greek mythology, son of Nephele and ATHAMAS and father of ARGUS His stepmother, INO, plotted to kill him and his sister Helle, but Nephele saved the children, the ram with the GOLDEN FLEECE carried them over the sea Helle was drowned in the strait which bears her name, the Hellespont Phrixus reached the land of Colchis, where the ram was sacrificed and its fleece hung in a sacred grove

Phrygia (frĭ'jēu), ancient region, central Asia Minor (now central Turkey) The Phrygians, who settled here c 1200 B C , came from Europe and apparently spoke an Indo-European language Nothing is known of their history, from c 700 B C , Lydia dominated the area The Greeks told of Phrygian kings named GORDIUS and MIDAS, they knew Phrygia best as a source of slaves and as a center of the cult of CYBELE N Phrygia became Galatia with the invasion of the Gauls (3d cent B C) The kings of Pergamum ruled much of Phrygia, and when it passed to the Romans, most of it was assigned to the province of Asia. St Paul visited Phrygia (Acts 16 6, 18 23)

Phryne (frī'nē), 4th cent B C , Greek hetaera, b Thespiae, Boeotia She was said to have been the model for Praxiteles' Cnidian statue of Aphrodite She was charged with impiety and defended by Hyperides, one of her lovers, who secured her acquittal by exhibiting her in the nude

Phrynichus (frĭ'nĭkŭs), fl c 512–476 B C , Athenian tragedian, by some ancients considered the founder of tragedy The painful theme of his play *The Taking of Miletus* so moved the audience that Phrynichus was fined Fragments of his dramas survive

Phrynichus, fl 430 B C , Athenian comic poet None of his works (of the Old Comedy) survive

Phrynichus, fl 180, Greek grammarian, b Bithynia, He collated a lexicon of Attic words

Phuket (pōō'kĕt), island, area more than 200 sq mi , off the west coast of the Malay Peninsula, belonging to Thailand It has tin mines, which were formerly the most important tin producers in Siam, the other major product is rubber The chief town (pop 18,759) is also called Phuket Long in dispute between Burma and Siam, Phuket was incorporated into Siam only in the 19th cent The Malay name, Ujong Salang [Cape Salang], was corrupted by early European voyagers to Junkceylon

Phurah (fū'rŭ), servant of Gideon Judges 7 10,11

Phut (fŭt), son of Ham and eponym of an African people Gen 10 6, Ezek 27 10 Put Nahum 3 9 Put **2** is perhaps the same

Phuvah (fū'vu), son of Issachar, ancestor of the Puntes Gen 46 13 Pua Num 26 23 Puah 1 Chron 7 1

Phyfe, Duncan (fīf), c 1768–1854, American cabinetmaker, b Scotland He came to America c 1783, settling at Albany, N Y , where he was apprenticed to a cabinetmaker In the early 1790s he established a shop in New York for the production of furniture, after several moves he finally settled in Partition St (later changed to Fulton St) He first spelled his name Fife but c 1793 adopted the form Phyfe He practiced originally under his own name alone, later, in 1837, as Duncan Phyfe and Sons, and from 1840 until his retirement in 1847, as Duncan Phyfe & Son He made mainly chairs, sofas or settees, tables, and sideboards, using in great part solid mahogany but also some mahogany veneer, a little satinwood and maple, and in later years rosewood During his most productive period (until 1820) he was influenced by, and adapted the forms of, the Adam brothers, Hepplewhite, and Sheraton and characteristics of the French Directoire and Consulate styles. Later his designs followed the Empire style, becoming in his final period heavy, overornamented, and to a great degree characterless Phyfe employed in general the highest standards, applied under supervision to carefully selected woods. His first designs are characterized by excellent proportions, graceful curves often accentuated by parallel rows of reeding, simple ornament well placed and carved with precision, and decorative motifs such as the lyre, the acanthus or oak leaf, and the drapery swag Though much furniture termed Phyfe may not have been produced in his workshop, his designs were the nucleus of the Duncan Phyfe style

Phygellus (fĭjĕl'us), man at odds with Paul 2 Tim. 1 15

phylacteries (fĭlăk'tŭrēz) [Gr ,=safeguard], two small leather boxes worn during prayers by orthodox Jews after the age of 13 years and one day Each box contains strips of parchment inscribed with verses from the Scriptures Ex 13 1–10, 13 11–16; Deut 6 4-9, 11 13–21 One box is fastened to the forehead and the other to the left arm, they are intended to serve as a reminder of the constant presence of God and thus safeguard the wearer from committing a sin They are not worn on the Sabbath or holy days, since these days are in themselves a reminder of God

phylloxera (fĭlŏk'surŭ, fĭluksēr'u), small greenish insect, classed by some authorities with the aphids and considered by others to belong to a group closely related to the aphids Many phylloxeras produce galls on deciduous trees, e g , on the hickory, oak, and willow However, the best-known species is the grape phylloxera, *Phylloxera vitifoliae*, the most harmful vineyard pest in the W United States and in Europe It is believed to have been introduced into France c 1860 in rootstocks obtained from the United States, and its devastation of vineyards nearly caused the destruction of the wine industry there It soon spread through all the vine-growing countries of Europe and other parts of the world Grapes grown in the E United States, where the insect is native, have developed immunity to its attack Grafting the European vines on this resistant stock proved a useful measure in saving the European vineyards. The phylloxera produces both winged and wingless forms, and the life history is complex. Wingless forms attack the roots, and winged forms fly to the leaves, where they cause the formation of galls The resulting injury to the roots and foliage causes loss of vigor and often death of the vine

physical education and training Systems of GYMNASTICS were developed in several European countries—notably Germany, Sweden, and England—and introduced into the United States in the 19th cent These systems have been widely practiced as a means of increasing and maintaining physical fitness Out of this interest grew a movement to have compulsory physical training in the American public schools and to establish courses in physical education in the higher educational institutions In 1885 the American Association for the Advancement of Physical Education was organized Physical training in the schools of the United States now generally includes formal exercises (with and without apparatus), sports, and contests The playground became an important extension of the movement See E H Le Maistre, *Physical Education* (1946), F E Leonard, *Guide to the History of Physical Education* (3d ed , 1947), L E Means, *Physical Education Activities, Sports, and Games* (1947)

physical geography, see GEOGRAPHY

physical therapy (thĕ'rupē) or **physiotherapy** (fĭ"zēō–), branch of medicine and surgery which treats diseases and other conditions with the aid of physical agents It is often practiced under the supervision of a physician, after correct diagnosis has been made The methods used depend on the nature of the condition Radiation, light, heat, water, massage, exercise, activity, and rest are all utilized according to the need of the patient Whirlpool baths are valuable in the treatment of traumatic and chronic inflammatory conditions Massage can be extremely helpful in relieving the pain caused by arthritis and rheumatism, it is also employed in disorders of the nervous system, such as infantile paralysis, in minimizing atrophy. Exercise is an important phase of physical therapy, it is generally supplemented by occupational therapy A popular form of physical therapy is sunbathing See Richard Kovacs, *Manual of Physical Therapy* (3d ed , 1944), H F Wolf, *Practice of Physical Medicine* (1947)

Physick, Philip Syng, 1768–1837, American surgeon, b Philadelphia, M D Edinburgh, 1792 He was the first professor of surgery at the Univ of Pennsylvania (1805–19) and was long a surgeon at the Pennsylvania Hospital A pioneer in forwarding American surgery, he performed numerous lithotomies and operations for cataract and improved the methods of treating fractures

physics, the science which deals with matter and energy and the relationships between them It is essentially a science of measurement, since, in addition to its major objective, the rational explanation of natural phenomena, it seeks to define quantitatively the factors concerned in these phenomena It is not focused upon any specialized form of matter, as is biology upon that which has life or as is chemistry upon the make-up of the different kinds of matter and the changes from one kind to another Matter is anything which has weight and occupies space, and for a long time in the develop-

ment of the science it was of interest only for these two properties and the effects which forces acting upon it could produce It was clearly distinguished from energy For convenience, physics has long been divided into various branches—MECHANICS, HEAT, LIGHT, SOUND, MAGNETISM, and ELECTRICITY However, with the increased knowledge of the nature of matter obtained through the discoveries which have shown it to be fundamentally electrical, higher physics and chemistry have become very closely interrelated See P R Heyl, *New Frontiers of Physics* (1938), F L Darrow, *The New World of Physical Discovery* (1932), Albert Einstein and Leopold Infeld, *The Evolution of Physics* (1938), H B Lemon, *From Galileo to the Nuclear Age* (2d ed , 1946), N H Black, *Introductory Course in College Physics* (3d ed , 1948), C G Fraser, *Half-Hours with Great Scientists* (1948), Sir James Jeans, *The Growth of Physical Science* (1948), N H Black and H N Davis, *Elementary Practical Physics* (rev. ed , 1949)

physiocrats (fĭ'zēōkrăts"), school of French thinkers in the 18th cent who evolved the first complete system of economics They were also referred to simply as "the economists" or "the sect " The founder and leader of physiocracy was François QUESNAY His most ardent disciple, Victor de MIRABEAU, was the author of the physiocratic tax doctrine, Pierre Samuel DU PONT DE NEMOURS and Mercier de la Rivière elaborated on Quesnay's and Mirabeau's ideas Among the antecedents of physiocracy the single-tax schemes of VAUBAN and BOISGUILBERT and the free-trade ideas of Vincent de GOURNAY may be cited However, Quesnay's original contribution, and the basis of the doctrine, was the axiom that all wealth originated with the land and that agriculture alone could increase and multiply wealth Industry and commerce, according to the physiocrats, were basically sterile and could not add to the wealth created by the land They did not advocate that industry and commerce be neglected in favor of agriculture, but they tried to prove that no economy could be healthy unless agriculture were given the fullest opportunity Agricultural methods had to be scientifically improved, and—above all—fair prices had to be maintained for agricultural production, according to Quesnay's maxim, only abundance combined with high prices could create prosperity This could be obtained only if the "economic law," which the physiocrats envisaged as somewhat as immutable as the law of gravity, were allowed to act untrammeled Absolute freedom of trade was necessary to stabilize prices at a fair level, and laissez faire was to restore the economic process to its natural course, from which all further benefits would flow To tax anything but the land was futile because only the land produced wealth and because manufacturers and traders pass their tax burden on to the farmer, only taxation at the very source of wealth was reasonable and economical—an argument not without charm for industrialists. However, the experiments of TURGOT and of Emperor JOSEPH II, both somewhat influenced by the physiocrats, were failures—in part because of the unfavorable conditions in which they were carried out Although physiocracy, because of its dogmatism, has become dead doctrine, it profoundly influenced Adam SMITH (who even intended to dedicate his *Wealth of Nations* to Quesnay) and thus the entire classical school of economists Henry GEORGE virtually repeated the single-tax argument of Mirabeau Thomas Jefferson's agrarianism was probably influenced by Du Pont de Nemours The physiocrats made no contribution to purely political thought except the idea of "legal despotism," by which the king and his government were to enforce the economic laws of nature—a mere play on words Actually, the physiocrats differed among themselves in their political ideas Their fanaticism in economic doctrine was much ridiculed by their contemporaries, notably by Voltaire and by the Abbé Galiani Extracts from the writings of Quesnay, Du Pont de Nemours, Mercier de la Rivière, and other physiocrats have been published as *Les Physiocrates* (ed by Eugène Daire, 2 vols , 1846) See Henry Higgs, *The Physiocrats* (1897), Georges Weulersse, *Le Mouvement physiocratique en France* (2 vols , 1910), Charles Gide and Charles Rist, *A History of Economic Doctrines* (Eng tr , 1915), Max Beer, *An Inquiry into Physiocracy* (1940)

physiology (fĭzēŏ'lŭjē), study of the normal functioning of plants and animals during life and of the activities by which life is maintained and transmitted It is based fundamentally on the activities of protoplasm, especially the processes comprising metabolism, and was developed in part by the application of techniques of chemistry and physics It includes the study of vital activities in cells, tissues, and organs—of processes including contractility in muscle tissue, coordination through the nervous system, feeding, digestion, excretion, respiration, circulation, reproduction, and secretion Plant physiology includes also the study of photosynthesis and of transpiration. The study of human physiology was stimulated by the development of medicine and rests in part on experimental work on the higher vertebrates. Plant physiology, now a separate and specialized branch, arose from attempts to apply the findings of animal physiology to plants and in its turn contributed to the development of general physiology, especially in the study of cells Outstanding among the many scientists who advanced the study of physiology are Albrecht von HALLER, J P MÜLLER, Theodor SCHWANN, Emil Du BOIS-REYMOND, K F W LUDWIG, H L F von HELMHOLTZ, J E PURKINJE, François MAGENDIE, Claude BERNARD, and I P PAVLOV See W D Zoethout and W W Tuttle, *Textbook of Physiology* (9th ed , 1948), F R Winton and L E Bayliss, *Human Physiology* (3d ed , 1948), S J R Dunn, *Elementary Plant Physiology* (1949)

physiotherapy: see PHYSICAL THERAPY

pi, in mathematics, the ratio of the circumference of a circle to its diameter The symbol for pi is π. The ratio is the same for all circles and is approximately 3 1416 It is of great importance in mathematics not only in the measurement of the circle, but also in more advanced mathematics in connection with such topics as continued fractions, logarithms of imaginary numbers, and periodic functions Throughout the ages progressively more accurate values have been found for it, starting with the value 3 given in the Bible and the familiar Greek approximation $3\frac{1}{7}$, found by considering the circle as the limit of a series of regular polygons with an increasing number of sides inscribed in the circle In more recent times its value has been found correct to 707 decimal places by means of infinite series

Piacenza (pyächĕn'tsä), city (pop 49,527), capital of Piacenza prov , Emilia-Romagna, N central Italy, on the right bank of the Po Today an important agricultural center, it was a Roman stronghold against the Gauls and was later occupied by the Goths, the Lombards, and the Franks A free commune by the 12th cent , Piacenza joined the Lombard League In 1545 it formed, with PARMA and its territory, the duchy of Parma and Piacenza under the FARNESE family The city has several fine churches, among them the 13th-century cathedral with important frescoes, and the Renaissance Church of Santa Maria de Campagna The 13th-century town hall is one of the finest in Italy

Piankhi (pĭăng'kē, pēăng'kē), king of Nubia (c 741–c 715 B C) and conqueror of Egypt After taking Upper Egypt, he defeated (c 721 B C) Tefnakhte, lord of Sais, who had just completed the conquest of Lower Egypt. Piankhi was victorious at Memphis also and forced Tefnakhte to submit He shortly (c 718) returned to his Nubian capital, Napata, and erected there a granite stele on which he inscribed an unusually clear and interesting account of his campaign Immediately on his withdrawal the XXIII dynasty reasserted itself at Thebes and Tefnakhte reestablished his principality in the north Piankhi's rule in Egypt was too short to achieve much, though he did a slight amount of building at Thebes

piano or **pianoforte,** musical instrument whose sound is produced by vibrating strings struck by felt hammers which are controlled from a keyboard Its earliest predecessor was the DULCIMER The first piano was made in 1709 by Bartolomeo Cristofori, a Florentine maker of harpsichords, who called his instrument *gravicembalo col piano e forte* Upon this instrument the German organ builder Gottfried Silbermann based his *Hammerclavier*, which he showed to J S Bach, who, after some improvements had been made, praised the instrument but wrote nothing for it Its advantage over the harpsichord was that by varying the touch one could vary the volume of tone This expressive quality was shared by the clavichord, but the latter was a much more delicate instrument Mozart and Haydn were the first great composers to write for the piano Beethoven's sonatas and concertos are possibly the greatest works in the piano repertoire With the works of Chopin, Schumann, and Liszt the piano became the outstanding solo instrument Debussy used the special effects peculiar to the piano in a highly original way In the 20th cent some composers, notably Bartok, have abandoned the piano's expressiveness for its percussive qualities Until the 1870s the square piano, with strings parallel to the keys as in the clavichord, was the most popular domestic piano Its tone, however, was thin and harsh The upright piano as it is known today was developed in the early 19th cent and because of its compactness eventually became the principal domestic piano, in spite of its decided limitations In the late 19th cent a mechanism was developed which enabled the piano to be played mechanically A paper roll was passed over a cylinder containing apertures connected to tubes, which were in turn connected to the piano action. As often as a hole in the paper passed over an aperture a current of air passed through a tube and caused the corresponding hammer to strike the string. The performances of the finest pianists could be reproduced with some skill on the part of the operator, who controlled the dynamics These mechanical pianos, called by various trade names, were known commonly as player pianos See R E M Harding, *The Piano-Forte* (1933); Ernest Closson, *History of the Piano* (Eng tr , 1947); Ernest Hutcheson, *The Literature of the Piano* (1948).

Piast (pyäst), first dynasty of Polish dukes and kings. Duke MIESZKO I (962–92) began the unification of POLAND and introduced Christianity. His son, BOLESLAUS I, was crowned king in 1025. His successors were MIESZKO II (reigned 1025–34), CASIMIR I (reigned 1039–58), BOLESLAUS II (reigned 1058–79), Ladislaus Herman (reigned 1079–1102), and BOLESLAUS III (reigned 1102–38) Boleslaus III created four hereditary duchies for his four sons—SILESIA, MASOVIA, Great Poland (with Gniezno and Poznan), and SANDOMIERZ The royal throne at CRACOW and the rest of the Polish territory was to belong to the oldest member of the dynasty, thus passing in rotation to the different branches This law of succession caused the temporary disintegration of the kingdom However, CASIMIR II (who, probably a posthumous child, was left out of Boleslaus's will) united Masovia and Sandomierz under his power, was crowned at Cracow in 1177, and secured (1180) for his descendants the hereditary right to the kingship Dynastic struggles continued, nevertheless, until in 1320 LADISLAUS I restored the royal authority With his son, CASIMIR III, the Piast dynasty in Poland died out in 1370 and was succeeded by the JAGIELLO dynasty In 1335 Casimir III had recognized John of Luxemburg, king of Bohemia, as suzerain over the Piast domains in Silesia, which in the meantime had broken up into many principalities The Silesian Piasts, as vassals of Bohemia and mediate princes of the Holy Roman Empire, retained the ducal title and continued to hold the duchy of Oppeln until 1532 and the principalities of Brieg, Liegnitz, and Wohlau until their extinction in 1675

Piatigorsky, Gregor (pyätĭgôr'skē), 1903–, Ukrainian-American cellist, studied at the Moscow Conservatory In 1923 he became first cellist of the Berlin Philharmonic, leaving in 1928 to devote his time to solo work He came to the United States in 1929 He taught (1942–44) at the Curtis Institute, Philadelphia Concertos have been written for him by several composers, including Hindemith and Prokofiev He became a U S citizen in 1944

Piauí (pyouē'), state (96,261 sq mi , 1940 pop 817,601, 1949 estimated pop 986,907), NE Brazil, on the east bank of the Parnaíba river The capital is TERESINA Piauí has extensive livestock grazing and exports babassu nuts, oilseeds, cotton, tobacco, and rubber

Piave (pyä'vā), river, 137 mi long, rising in the Carnic Alps and flowing through Venetia, NE Italy, to the Adriatic Sea In the First World War, after their defeat at Caporetto (1917), the Italians withdrew to the Piave, despite fierce onslaughts by the Austrians, the line was held until in Oct , 1918, the Austrians were routed by a combined Allied attack

Piazzi, Giuseppe (jōōzĕp'pā pyät'tsē), 1746–1826, Italian astronomer, a Theatine priest from 1765 He became (1781) professor of mathematics at the Univ of Palermo, supervised the construction of a government observatory (opened 1791) at Palermo, and was its first director He also established a government observatory at Naples (1817) On Jan 1, 1801, he discovered the first asteroid to be seen by man, he named it Ceres It 1803 he published a catalogue of the fixed stars and in 1814 enlarged it to include 7,646 stars He wrote *Lezioni elementari di astronomia* (1817)

Pi-beseth (pĭbē'sĕth), biblical name of BUBASTIS

pibroch (pē'brōkh), Scottish music for the BAGPIPE, consisting of sets of variations on a theme called urlar The variations are often highly complex and were originally set down in a unique notation which employed syllables to indicate whole melodic patterns

Picard, Jean (zhä' pēkar'), 1620–82, French astronomer, noted for having made the first accurate measurement of a degree of the earth's meridian The figures he established were of great value to Newton in his calculation of the force of gravitation Picard, who had previously been the prior of Rillé, in Anjou, went to Paris to occupy the chair of astronomy in the Collège de France in 1655 He determined (1671) the latitude and longitude of Tycho Brahe's observatory at Ven in order to be able to use Brahe's observations of the positions of heavenly bodies To him is due in great part the establishment of the Paris Observatory and of the *Connaissance des temps*, the first five volumes (1679–83) of which he wrote

Picard, Louis Joseph Ernest (lwē' zhōzĕf' ĕrnĕst'), 1821–77, French statesman He was one of the liberal members of the *corps législatif* in the Second Empire (see OLLIVIER, ÉMILE, and FAVRE, JULES) After the downfall of the empire he was minister of finance in the government of national defense (1870). Later, as minister of the interior under THIERS, he was covered with abuse by the monarchists and the left wing He was ambassador at Brussels (1871–73).

Picardy (pĭ'kurdē), Fr *Picardie* (pēkärdē'), region and former province, N France, stretching E from the English Channel to the Belgian border S of the Sambre. It now includes parts of Pas-de-Calais, Aisne, and Oise depts. and all of Somme dept.

Largely agricultural, it has important textile industries in the towns Amiens (the historical capital), Abbeville, Calais, Boulogne-sur-Mer, and Saint-Quentin are the chief cities The name Picardy appeared only about the 13th cent and designated the numerous small feudal holdings (VERMANDOIS, Amiens, Boulogne, Ponthieu, and others) added to the crown by Philip II Ceded to Burgundy in the Treaty of Arras (1435), the possessions reverted to France in 1477 and were organized into a province under the jurisdiction of the Parlement of Paris. The northeastern part of Île-de-France (including Soissons, Beauvais, and Laon), though not included within the provincial boundaries, is also considered part of the region, and the word *Picard*, always vaguely used, also applies to the inhabitants of neighboring Artois Picardy was the scene of heavy fighting in both world wars

Picasso, Pablo (Pablo Ruiz y Picasso) (pä'blō pēkä'sō, rōōēth' ō), 1881–, Spanish painter, son of a drawing master in Málaga He studied in Barcelona and in Paris, where he established himself in 1900 and became associated with such innovators as Derain, Bracque, and Matisse and with the writers Gertrude Stein and Guillaume Apollinaire Most of his life has been spent in Paris and the South of France His early work is graphic and sometimes recalls Toulouse-Lautrec, but c 1910, together with Bracque, he invented CUBISM Since then, throughout many startling changes of manner, Picasso has been consistently concerned with the architectonics of painting Not content with subordinating or distorting the subject, he has practically suppressed it, producing an abstract art which has had interesting repercussions throughout the field of applied design He has said, "Through art we express our conception of what nature is not" He has long maintained his position as leader of the left wing in art He is represented in leading collections of contemporary painting Picasso has also produced numerous etchings, illustrations, and drawings Many of these are neoclassical in feeling and admirable in draughtsmanship He painted stage sets for the Diaghilev Russian Ballet, and his mural *Guernica* (reproduced with text by Juan Larrea, 1947) adorned the Spanish Pavilion at the Paris exposition of 1937 His portrait of Gertrude Stein is in the Metropolitan Museum See studies by Gertrude Stein (1938) and Alfred H Barr, Jr (1946)

Picayune (pĭkyo͞on'), city (pop 5,129), S Miss, near the Pearl river NE of New Orleans, settled 1885, inc 1906 It is the trade, processing, and shipping center for a tung-tree area

Piccadilly (pĭk"ədĭl'ē), famous street of W London Starting at Piccadilly Circus (London's center of traffic and of amusement), it runs to Green Park, bounded on the north by Mayfair It is a street of shops, hotels, and clubs The Albany was the residence at various times of W E Gladstone, the novelist Bulwer-Lytton, and George Canning A number of buildings, among them St James's Palace and the Royal Academy of Arts, were damaged in air raids in the Second World War

Piccard, Auguste (ōgust' pēkar'), 1884–, Belgian physicist He became professor of physics at the Polytechnic Institute of Brussels Univ in 1922 He is famous for his balloon ascents into the stratosphere, in May, 1931, he reached an altitude of 51,793 ft, and in Aug, 1932, he ascended to c 55,500 ft The special object of the flights has been to study cosmic rays Since 1938 he has worked to break the depth record attained in undersea dives in the bathysphere His twin brother, **Jean Piccard** (zhäN), 1884–, an American citizen from 1931, is a chemist and aeronautical engineer He did research work and taught at several American and foreign universities before becoming professor of aeronautical engineering at the Univ of Minnesota (1937) He also has made stratosphere balloon ascents

Piccinni or **Piccini, Niccolò** (both nēk-kōlō' pēchē'nē), 1728–1800, Italian composer of over 100 operas His early works were very successful in Italy, and *La buona figliuola* (Rome, 1760), an *opera buffa*, established his reputation throughout Europe In 1776 he went to Paris, where the opponents of GLUCK made him their unwilling champion When the Revolution began he returned to Italy, but shortly before his death he was made an inspector of the Paris Conservatoire

Piccirilli (pēt-chērē'lē), family of Italian-American marble cutters and sculptors Their workshop in the Bronx, New York, is known throughout the country The father, a sculptor, brought his family to the United States in 1888 Of his six sons the best known are Attilio and Furio **Attilio Piccirilli** (ät-tē'lyō), 1866–1945, b Italy, executed the sculptures on the *Maine* monument, Columbus Circle, New York, and the Firemen's Memorial, Riverside Drive, New York, other works are *Flower of the Alps*, *Fragelne* (Metropolitan Mus), and a sculptural glass panel for Rockefeller Center, New York See biography by J V Lombardo (1944). **Furio Piccirilli** (fōō'rēō), 1868–, b Italy, was represented at the Panama-Pacific Exposition, San Francisco, by four groups for the Court of the Seasons For the house of the provincial legislature, Winnipeg, Man., he carried out sculptural decorations including a fine statue of Pierre Gautier de la Varenne Of his other reliefs and statues, a *Seal* in black marble is in the Metropolitan Museum. He later returned to Italy

piccolo (pĭ'kulō) [Ital, =little], small FLUTE, pitched an octave higher than the standard flute It sounds an octave higher than the notes written for it Its tone is bright and shrill, it is used in the orchestra and is indispensable in the band

Piccolomini, Enea Silvio de' see PIUS II

Piccolomini, Octavio (ōktä'vyō pēk-kōlō'mēnē), 1599–1656, Italian general in the imperial army in the Thirty Years War (1618–48) He came of a distinguished Sienese family, was duke of Amalfi, and was made prince in Hagenau in the Holy Roman Empire After fighting in Bohemia, Hungary, the Netherlands, and Italy, he served under WALLENSTEIN (after 1627) and was a commander of Wallenstein's bodyguard. He was punished for extortion (1629), but was, nevertheless, among those who urged the recall of Wallenstein in 1630 He distinguished himself at the battle of Lützen (1632) Piccolomini supported the conspiracy against Wallenstein After the defeat at Breitenfeld (1642), Piccolomini served for the Spanish in the Netherlands, but returned to the imperial army in 1647 His last campaign was terminated by the war's end He was an imperial plenipotentiary in the negotiations for the execution of the Peace of Westphalia

Pic du Midi de Bigorre (pēk dü mēdē" du bēgôr'), peak, 9,439 ft high, S France, in the central Pyrenees, SE of Lourdes

Pic du Midi d'Ossau (dôsō'), peak, 9,466 ft high, S France, in the W Pyrenees near the Spanish border

Pichegru, Charles (sharl' pēshgrü'), 1761–1804, French general in the FRENCH REVOLUTIONARY WARS. Successful on the Rhine front (1793), he conquered the Netherlands (1794), entered Amsterdam in 1795, and captured the Dutch fleet, which had been frozen in the ice However, in the same year, he secretly entered into negotiations with the Austrians after being promised rich compensation if the French monarchy were restored Pichegru deliberately allowed the Austrians to retake Mannheim Recalled by the Directory, he was later arrested in the coup d'état of 18 Fructidor (1797), but he escaped to England and returned in 1803 to carry out a royalist conspiracy with Georges CADOUDAL Pichegru was arrested and died in prison, possibly by suicide

Picher (pī'chûr), city (pop 5,848), extreme NE Okla, near the Kansas border, in an area of zinc and lead mining

Pichincha (pēchēn'chä), volcano, 15,918 ft high, N Ecuador On its lower slopes, in the decisive battle of Pichincha on May 24, 1822, patriot forces under Antonio José de SUCRE routed the Spanish royalists Entering Quito the following day, they freed the territory that was to become Ecuador

Pickel, Konrad see CELTES

Pickens, Andrew, 1739–1817, American partisan leader in the American Revolution, b near Paxtang, Pa He moved (1752) to South Carolina and took part (1761) in frontier warfare against the Cherokee In the CAROLINA CAMPAIGN of the American Revolution, he, like Francis Marion and Thomas Sumter, formed an armed band to harass the British After Nathanael Greene took command, Pickens and his men cooperated with him Pickens was with Daniel Morgan in the victory at Cowpens, was a leader in the recapture of Augusta, Ga, and was one of the American commanders at Eutaw Springs (all three actions in 1781) After the war he again defeated the Cherokee Prominent in local politics, he was also a U S Congressman (1793–95)

Pickens, Francis Wilkinson, 1805–69, American politician, b Colleton District, S C, grandson of Gen Andrew Pickens He was educated at South Carolina College (now the Univ of South Carolina), became a lawyer, and served in the state house of representatives He was an ardent supporter of NULLIFICATION Pickens was a Democrat in Congress (1834–43) and was minister to Russia (1858–60) Under his administration as governor of South Carolina (1860–62), the state seceded and demanded the Federal forts in Charleston harbor (see SUMTER, FORT)

Pickens, town (pop 1,637), co seat of Pickens co, extreme NW S C, W of Greenville, settled 1868, inc 1908 Sewing machines are made here Near by is the site of Fort Prince George (1753), the center of conflict in the Cherokee War of 1760–62

Pickens, Fort, fortification on the west end of Santa Rosa Island at the entrance to Pensacola Bay, Fla, completed in 1834 When Florida passed an ordinance of secession on Jan 10, 1861, Lt Adam J Slemmer evacuated Fort Barrancas on the mainland and took his command to Fort Pickens, which he refused to surrender to Florida authorities The fort was soon reinforced, and in Oct, 1861, a Confederate attack was repulsed Fort Pickens remained in Union hands throughout the war

pickerel (pĭ'krul, pĭ'kûrûl), name for various small members of the pike family The eastern or common pickerel and the barred pickerel inhabit fresh waters of the E United States.

Pickering, Edward Charles (pĭ'kərĭng), 1846–1919, American astronomer and physicist, b. Boston, grad. Harvard (B S, 1865), brother of W. H Pickering He was professor of physics (1868–77) at the Massachusetts Institute of Technology and is credited with initiating general instruction in physics in a laboratory equipped with instruments and apparatus. The results of work in photographic photometry and spectroscopy done under his direction at the Harvard Observatory are recorded in more than a quarter of a million plates Pickering devised several instruments used in the measurements In addition to editing 70 volumes (1855–1919) of the *Annals of Harvard Observatory*, he wrote *Elements of Physical Manipulations* (1873–76)

Pickering, Timothy, 1745–1829, American Revolutionary general and statesman, b. Salem, Mass, grad Harvard, 1763 He was admitted to the bar (1768) and played an active part in pre-Revolutionary activities In 1774 and 1775 he was connected with the Massachusetts Committee of Correspondence and held other local offices Entering the Continental army as a colonel, he rose to become adjutant general and a member of the Board of War (1777) and quartermaster general (1780–85) In 1785 he moved to Pennsylvania and two years later was sent to the Wyoming Valley to organize the newly formed Luzerne co, becoming involved in the dispute over land claims between Connecticut settlers and Pennsylvania He was a member of the state constitutional convention (1789–90) and spent some time concluding treaties with various Indian tribes for the Federal government He was Postmaster General (1791–95), Secretary of War (1795) and then Secretary of State (1795–1800), but was dismissed when his anti-French attitude and political manipulations offended President John Adams Returning to Massachusetts, he became chief justice of the court of common pleas and was later a U S Senator (1803–11) and Representative (1813–17) A strong Federalist and an opponent of Adams, Pickering was a leading figure in the ESSEX JUNTO He wrote *Political Essays* (1812) See biography by his son, Octavius Pickering, and C W Upham (4 vols, 1867–73)

Pickering, William see WHITTINGHAM, CHARLES

Pickering, William Henry, 1858–1938, American astronomer, b Boston, grad Massachusetts Institute of Technology (B S, 1879), brother of E C Pickering He taught at the Massachusetts Institute of Technology (1880–87) and at Harvard Observatory Between 1878 and 1901 he led five solar eclipse expeditions and established several observatories and astronomical stations In 1900 he set up a station for Harvard at Mandeville, Jamaica, which he converted (1925) into a private observatory Pickering discovered (1899) the ninth satellite of Saturn, called Phoebe In 1919 he predicted the existence and the location of a ninth planet discovered later and named Pluto His observations of the moon, including the study of lunar craters, is of lasting importance He also accomplished important work in photographing the planets and measuring their brightness His later researches were devoted to Mars In addition to a number of papers in astronomical journals, his publications include *The Moon* (1903), *Lunar and Hawaiian Physical Features Compared* (1906), and *Mars* (1921)

Pickering, urban district (pop 3,668), North Riding of Yorkshire, England. It has ruins of a partly Norman castle in which Richard II was imprisoned

picketing, act of guarding a place of work (store, restaurant, factory, and others) affected by a strike in order to discourage its patronage, to make public the workers' grievances, and in some cases to prevent strikebreakers (scabs) from taking over the strikers' jobs Picketing may be by individuals or by groups (mass picketing) It has also been used by political movements (e g, suffragists) to influence legislation The use of pickets was for a long time held by the courts to be unlawful because of its intimidatory aspects and because it was considered harmful to the interest of the employer Recent court decisions have in many cases set limits upon the number of pickets allowed, placing a firm ban on mass picketing and also prohibiting the use of vile and obscene language and of threatening gestures by the pickets Some state laws have interdicted any picketing except when a majority of the pickets were employees of the firm involved and then only in issues directly relating to wages, hours, and working conditions

Pickett, George Edward (pĭ'kĭt), 1825–75, Confederate general, b Richmond, Va., grad West Point, 1846 He won two brevets in the Mexican War, distinguishing himself especially at Chapultepec Pickett served on the Texas frontier (1849–55) and in Washington Territory (1856–61) He figured prominently in the SAN JUAN BOUNDARY DISPUTE as commander of the small U S force that occupied the island in 1859. On Virginia's secession Pickett resigned from the army, and in Feb, 1862, he became a Confederate brigadier general He fought in the Peninsular campaign and was severely wounded at Gaines's Mill in the SEVEN DAYS BAT-

TLES On his return to the army in Sept., 1862, he was promoted major general and given a division in James Longstreet's corps He is best remembered for his part in the GETTYSBURG CAMPAIGN "Pickett's charge" on July 3, 1863, which resulted in the virtual annihilation of his division, was one of the most magnificent military efforts in the history of the United States Pickett later commanded in North Carolina, and in 1864 he was one of the defenders of Petersburg His defeat by Philip Sheridan in the battle of Five Forks (April 1, 1865) began the fall of Lee's army See A. C. Inman, ed., *The Heart of a Soldier* (1928, Pickett's letters to his wife); L. C. Pickett, *Pickett and His Men* (1899), D. S. Freeman, *Lee's Lieutenants* (3 vols , 1942–44)

Pickford, Mary, 1893–, American moving-picture actress and producer, whose real name is Gladys Smith, b. Toronto, Ont As a child she appeared with a Toronto stock company and later played in *The Warrens of Virginia* (1907) and *A Good Little Devil* (1913), both produced by Belasco in New York. In 1913 she began her moving-picture career with the Biograph Company, under D W Griffith She rose to fame in such films as *The Violin Maker of Cremona*, *The New York Hat*, *Poor Little Rich Girl*, *Tess of the Storm Country*, *Rebecca of Sunnybrook Farm*, *M'liss*, and *Daddy Long Legs* She became an American legend for her simple and sentimental roles and was known as "America's Sweetheart" In 1919 she was a cofounder of United Artists Company with D. W. Griffith, Douglas Fairbanks, and Charles Chaplin In 1920 she married as her second husband Douglas Fairbanks, whom she divorced in 1935; in 1937 she married Charles Rogers

pickle, general name for fruits or vegetables preserved in vinegar, usually with spices or sugar or both. A great variety of materials and combinations have been used in many lands Vegetables commonly pickled include the cucumber, tomato, onion, cauliflower, cabbage, beet, and sweet pepper Mixed pickles include piccalilli, chowchow, mustard pickles, and chutney Dill pickles are cucumbers flavored with dill Sweet pickles are made from various fruits or vegetables—e g , tomatoes, cucumbers, peaches, or plums—with sugar added Pickles have little food value and are used for their appetizing qualities Before the days of refrigerator cars they furnished a sort of winter substitute for salads. The ability to make pickles was formerly looked upon as an index of housewifely skill, but they are now largely manufactured commercially In the United States alone some 4,000,000 bu of cucumbers are pickled yearly in commercial salting stations They are commonly placed underripe in 10 percent brine, allowed to undergo a lactic acid fermentation, soaked in hot water to remove excess salt, then covered with vinegar and other ingredients. In a wider sense, a pickle is an acid or saline liquid, such as brine or saltpeter for meat, lime-water or water glass for eggs, brandy for fruit, or alcohol for laboratory specimens

Pickthall, Marjorie Lowry Christie (pĭk'thôl), 1883–1922, Canadian poet, b England. She was brought to Toronto in 1889 Her volumes of poetry include *The Drift of Pinions* (1914) and *The Woodcarrer's Wife and Other Poems* (1922) Her poetry is notable for the intensity and freshness with which she treats details of nature, her chief subject. She also wrote *Angel's Shoes* (1923), a collection of short stories, and two imaginative novels with Canadian settings, *Little Hearts* (1916) and *The Bridge* (1921) An edition of her complete poems appeared in 1937

picnic, The Picnic Society was formed in London early in the 19th cent. by a group of fashionable people for purposes of social entertainment of various types, including excursions and private theatricals. Each member was expected to provide a share of the entertainment and the refreshments, and this idea of mutual sharing or cooperation was fundamental to the original significance of the picnic. Later the word took on the additional meaning of an outdoor pleasure party The word as now used includes almost every type of informal or outdoor meal or festivity, such as CLAMBAKE, BARBECUE, fish fry. The custom of cooperative dining is ancient, as Greek men of letters are known to have held reunions where each guest contributed his quota of the food.

Pico (pē'kō) [Port., =peak], island, in the N Atlantic, one of the Azores. It takes its name from the mountain, called simply Pico or Pico Alto [high peak], which rises more than 7,000 ft.

Pico della Mirandola, Giovanni, Conte (jōvän'nē kōn'tā pē'kō dĕl'lä mērän'dōlä), 1463–94, Italian humanist, renowned for his vast learning and brilliance and for his piety, his good manners, and his handsome figure. He was suspected of heresy because of a series of theological questions published by him, but was later acquitted of the charge by Alexander VI. His library was one of the largest and most varied of his time. Pico appears as a principal figure in the *Cortegiano* of Baldassare Castiglione. He composed *Heptaplus*, a mystical account of creation, and an uncompleted work against astrology. There is a modern reprint of Sir Thomas More's *Life of John Picus, Earl of Mirandula*, which was a translation of the biography by Pico's nephew, Giovanni Francesco Pico della Mirandola. Walter Pater has dwelt upon him in writing on the Renaissance See Pearl Kibre, *The Library of Pico della Mirandola* (1936).

Pico Turquino: see TURQUINO.

Picquart, Georges (zhôrsh' pēkär'), 1854–1914, French general As chief of the intelligence section in 1895 he made the discovery that the *bordereau* on the evidence of which Captain Dreyfus had been convicted (see DREYFUS AFFAIR) had probably been forged by Ferdinand Walsin ESTERHAZY. Higher officials warned him not to disclose his discovery, he persisted and was sent (1897) to Tunis and was demoted. After the trial of ZOLA, Picquart was dismissed from the service, and in 1898 the minister of war caused him to be arrested for forgery The exoneration of Dreyfus in 1906 was also that of Picquart, who was promoted to general and entered Clemenceau's cabinet as war minister. Picquart's devotion to a personal sense of justice, even if it conflicted with the commands of his superiors, has few parallels in military history.

picquet: see PIQUET.

picric acid (pĭ'krĭk), explosive, pale yellow, bitter tasting crystalline solid, melting at about 120°C, imparting a yellow stain to organic material with which it comes in contact. It is slightly soluble in water and is soluble in alcohol, ether, and many other organic solvents. Chemically, it is a compound of carbon, hydrogen, oxygen, and nitrogen and is prepared by the action of sulphuric and nitric acids on phenol (carbolic acid), being known consequently as trinitrophenol The acid itself is stable, burns quietly by itself under ordinary circumstances, but reacts with metals to form salts (picrates) which are highly explosive However, picric acid explodes violently upon detonation and is the basic substance in the high explosives lyddite (British), melinite (French), and shimose (Japanese) In requiring a detonator it is similar to trinitrotoluene (TNT) Picric acid is used as a yellow dye and, in medicine, as an antiseptic

Picton, town (pop. 3,901), S Ont., on Adolphus Reach, an arm of Lake Ontario, and ESE of Trenton It is the chief town of the rich agricultural and dairying area of the peninsula of Prince Edward co

Pictor, Fabius: see FABIUS

Pictou (pĭk'tōō, pĭktōō'), town (pop 3,069), N N.S , on Pictou Harbour, an inlet of Northumberland Strait, and NE of Halifax It is a fishing port and the terminal of a ferry to Prince Edward Island It has shipbuilding and diversified industries and there are coal mines in the area Pictou was settled (1763) by a group of colonists from Philadelphia, under a land grant, and later received many settlers from the Scottish Highlands

Picts, ancient inhabitants of central and N Scotland and the northern counties of Ireland The Picts of Scotland may have come (possibly c 1000 B C.) from the Continent in pre-Celtic times, those in Ireland perhaps emigrated from Scotland in the 2d cent A D In the 4th cent the Scottish kingdom of Dalriada in Argyll—a rival to Pictavia—was settled from Irish Dalriada (Co. Antrim and Co Down) Early Latin writers refer to the Picts and Scots as the barbarians who assailed Hadrian's Wall in the 4th cent., but, according to Bede, St Ninian about that time converted the southern Picts to Christianity, as St Columba later converted the northern Picts. Rivalry between Pictavia and Dalriada continued until, in the 9th cent , Kenneth MacFergus united the thrones of the Picts and Scots. There is no undisputed interpretation of the language or the shadowy culture of the Picts. See H M Chadwick, *Early Scotland* (1949).

pidgin English or **pigeon English** [*pidgin*, supposedly from *business*], auxiliary language of Far Eastern ports, used principally for trading between Europeans and Chinese It has a generally English vocabulary with Malay, Chinese, and Portuguese elements The syntax is imitative of Chinese. The general term for such a nonnative, mainly commercial auxiliary language is LINGUA FRANCA. Other examples are the CHINOOK JARGON, SWAHILI, and a widely used variety of Malay

pie, meat, fish, fowl, fruit, or vegetables baked with a crust of PASTRY The pies of the Romans, especially at banquets in the days of the empire, were often elaborate concoctions, such as the showpieces in which were enclosed live birds. In England meat and fish pies had become common by the 14th cent., and fruit pies, often called tarts, in the 16th cent. The mince pie was a time-honored feature of the Christmas festivities and was called by the Puritans "superstitious pie" in protest against what seemed to them a pagan manner of celebrating a holy fast The mincemeat filling was a finely chopped, cooked mixture, including raisins, currants, apples, suet, sugar, spice, and often meat, brandy or cider, candied peel, and other ingredients A meat pie is often called a pasty, e.g., the Cornish pasty (liked by the miners of Cornwall) consisting usually of pork, mutton, onions, potatoes, and turnips The English settlers in America retained their taste for pie and adapted it to their new conditions, evolving the pumpkin and the cranberry pies Pie has remained a popular dessert in America.

piecework, work for which the laborer is paid on the basis of the amount of work done. The system is best adapted to standardized operations in which quantity is preferred to quality. Its advocates maintain that it pays the worker according to his ability. Its opponents argue that it tends to pay the best worker what he would receive on a time basis, while other workers receive less than they would by the hour and that it invites speeding of workers. In the United States the Jan., 1950, amendment to the WAGES AND HOURS ACT, setting a minimum wage of 75 cents per hour, with time and a half pay for hours over 40 per week, necessitates a record of hours worked and therefore lessens the utility of the piecework system.

Piedmont (pēd'mŏnt), Ital *Piemonte* (pyämôn'tā), region, NW Italy (9,817 sq. m ; pop 3,418,300). It is divided into the provinces of Turin, Alessandria, Asti, Cuneo, Novara, and Vercelli, all named after their chief cities TURIN is the capital Piedmont is bounded in the west and north, along the high Alpine crests, by France and Switzerland and in the northwest by the Val d'Aosta (until 1945 a part of Piedmont). To the south are the Apennines. The region includes the upper Po valley, rich mountain pastures sloping to well-cultivated hills, and a fertile plain. Grapes, cereals, rice, and chestnuts are the chief products Among its numerous industries are automobiles, textile, cement, and paper manufactures, metalworks, and hydroelectric plants. The region, which came to be known as Piedmont by the 13th cent., grew out of two western marches of the Lombard kingdom of Italy—Turin and IVREA. Created in the 10th cent , they passed by marriage (11th cent) to the SAVOY dynasty. In the 12th cent free communes were instituted in many cities, while others remained under feudal lords Besides the counts (later dukes) of Savoy, the marquises of SALUZZO and MONTFERRAT were powerful nobles, but by the 15th cent Savoy emerged as the chief power. The French often entered Piedmont through the strategic Mont Cenis and Mont Genèvre passes, either as allies or as enemies; they greatly influenced Piedmontese history and culture Piedmont was, moreover, a major battlefield in the Italian Wars (16th cent), the wars of Louis XIV, and the French Revolutionary Wars The dukes of Savoy, who in 1720 became kings of Sardinia, had acquired all of present Piedmont by 1748 From 1798 to 1814 Piedmont was annexed to France After its restoration to the kingdom of Sardinia it was the nucleus of Italian unification during the RISORGIMENTO

Piedmont. 1 City (pop 4,019), NE Ala , near the Ga line E of Gadsden, in a farm area It has cotton and lumber mills **2**, Residential city (pop. 9,866), W Calif., within the confines of Oakland, inc. 1907 3 City (pop. 1,177), SE Mo , WSW of Cape Girardeau, in a farm area Clearwater Dam in the Black River is SW of Piedmont. **4** Commercial city (pop. 2,677), W Va , in the agricultural Eastern Panhandle, on the North Branch of the Potomac and NW of Keyser, chartered 1856

piedmont, any foothill plateau, particularly the alluvial plateau extending from New York to Alabama E of the Appalachians and W of the Atlantic coastal plain. In Maryland, Virginia, and North Carolina it is E of the Blue Ridge The plateau is cut by numerous small rivers, whose fall line is along the eastern edge of the plateau

Pied Piper of Hamelin, legendary figure of HAMELN, Germany He rid the town of its rats and mice by charming them away with his flute playing When the citizens refused to pay the price agreed upon, he charmed away their children out of revenge Allegedly this occurred in 1284. Among those who immortalized this legend are Goethe, Robert Browning, and the brothers Grimm

Piedras Negras (pyā'dhräs nā'gräs) [Span , =black stones], ruined city of the Old Empire of the MAYA, NW Petén, Guatemala, in the Usumacinta valley. Reaching a peak of sculptural achievement (according to one dating system, between 731 and 795), Piedras Negras had some of the finest pre-Columbian stonework.

Piedras Negras, city (pop 15,663), Coahuila, N Mexico, on the Rio Grande opposite Eagle Pass, Texas Founded in 1849, the city grew as an international shipping point. There is a large steel blast furnace The surrounding valley is under cultivation, and coal is mined in the vicinity In 1888 Piedras Negras was renamed Ciudad Porfirio Díaz in honor of the dictator, but the old name was restored after his overthrow

Piegan Indians: see BLACKFOOT INDIANS.

Piekary Slaskie, Pol. *Piekary Śląskie* (pyĕskä'rĭ shlô'skyĕ), town (pop. 21,467), Silesia prov., SW Poland, N of Katowice. It is an industrial center.

pieplant: see RHUBARB.

pier, in engineering, term applied to a mass of masonry supporting a large structure, such as a bridge Structures which extend out from the shore and over the water, serving as a place to land passengers and merchandise from vessels, are also known as piers. Bridge piers are generally of masonry or concrete construction. When they are built on ground of poor bearing value, it is often necessary to drive piles to obtain a firm base. Piers built in

river beds are generally executed by the use of cofferdams or caissons. Piers are used in many harbors when there is ample width of stream, in New York harbor, for example, great economy of shore front is realized by building piers out at right angles to the shore. These piers are generally built on pile foundations. In architecture the term applies to the clustered Gothic pillar, to a wall between openings, and to a detached masonry mass serving as a gate post.

Pierce, Franklin, 1804–69, 14th President of the United States (1853–57), b Hillsboro, N.H., grad Bowdoin College, 1824. Admitted to the bar in 1827, he entered politics as a Jacksonian Democrat —like his father, Benjamin Pierce, who was twice elected governor of New Hampshire (1827, 1829) He served in the New Hampshire General Court (1829–33), being speaker in 1831 and 1832, and had an undistinguished career in the House of Representatives (1833–37) and the Senate (1837–42) On resigning from the Senate, partly because of his wife's ill-health, he achieved success as a lawyer in Concord, N.H., and continued to be important in state politics A strong nationalist, he vigorously supported and served in the Mexican War, becoming a brigadier general of volunteers. In 1852 the Democratic party was split into hostile factions led by Wilham L. MARCY, Stephen A DOUGLAS, James BUCHANAN, and Lewis CASS, none of whom could muster sufficient strength to secure the presidential nomination Pierce, personally charming and politically unobjectionable to Southerners since he favored the COMPROMISE OF 1850, was made the "dark horse" candidate by his friends, won the nomination, and went on to defeat the Whig candidate, Gen Winfield SCOTT, his commander in the Mexican War His desire to smooth over the slavery quarrel and unite all factions of the Democratic party was reflected in his cabinet, for which he chose outstanding sectional representatives such as Marcy, Jefferson DAVIS, and Caleb CUSHING A vigorous foreign policy was adopted, but it failed in most of its objectives The latent Southern desire to acquire Cuba was quickened after the BLACK WARRIOR affair, which was poorly handled by Pierre SOULÉ, bumbling minister to Spain and one of the authors of the unfortunate OSTEND MANIFESTO Troubled relations with England, where Buchanan was U S minister, were not improved by the U S naval bombardment of SAN JUAN DEL NORTE, British protectorate in Nicaragua, and the filibustering activities of Wilham WALKER further aggravated Central American affairs Moves to annex Hawaii, acquire a naval base in Santo Domingo, and purchase Alaska ended fruitlessly One achievement, the successful Japanese expedition of Commodore M C PERRY, had been initiated in Fillmore's administration On the domestic scene Pierce stood for development of the West (the GADSDEN PURCHASE was made), but plans for a transcontinental railroad fell through Conciliation of the South went too far, many Northerners thought, in the KANSAS-NEBRASKA BILL, which brought on the explosive sectional difficulties in "bleeding Kansas" Pierce, become unpopular, was passed over by the Democrats for renomination, and Buchanan succeeded him He never warmly supported coercion of the South and his opposition to the Civil War made him disliked more than ever in the North, where he died in obscurity. A well-meaning mediocrity, he probably fared no worse than would have another and more talented man in the difficult era of the 1850s. See biography by R F Nichols (1931)

Pierce, George Washington, 1872–, American physicist, b Webberville, Texas, grad Univ of Texas, 1893, Ph D Harvard, 1900 He taught at Harvard from 1902 and was chairman of the DIVISION OF PHYSICAL SCIENCES there from 1927 to 1940. He is known especially for his work on electricity and sound in connection with radio and wireless telegraphy He wrote *The Principles of Wireless Telegraphy* (1910) and *Electric Oscillations and Electric Waves* (1920)

Pierce, city (pop 1,249), co seat of Pierce co. NE Nebr., NNW of Norfolk; settled 1870.

Pierce City, Mo.: see PEIRCE CITY

Pieria (plēr'ēŭ), region of ancient Macedonia, W of the Gulf of Salonica. It included Mt. Olympus and Mt Pierus (pī'urŭs), an early seat of the worship of Orpheus and the Muses The spring here (the Pierian Spring) was supposed to bubble with the water of learning and the arts. The Muses were sometimes called the Pierides (plē'rĭdēz), a name given also to nine daughters of the legendary King Pierus of Macedonia. They contested with the Muses in song, were defeated, and were changed into magpies.

Pierino del Vaga: see PERINO DEL VAGA.

Piermont, residential village (pop. 1,876), SE N.Y., on the Hudson near the N.J. line, inc 1847. Corrugated paper containers are made here. The pier from which the village was named, built by the Erie RR, was used for the debarkation of troops in the Second World War.

Pierné, Henri Constant Gabriel (ärē' kōstä' gäbrēäl' pyĕrnā'), **1862–1937**, French organist, conductor, and composer; pupil of Massenet and César Franck. His cantata *Edith* won the Prix de Rome in 1882. He was organist at Ste Clotilde, 1890–96, succeeding Franck. At the death of COLONNE in 1910, he became chief conductor of the Colonne Concerts His best-known works are oratorios, *La Croisade des Enfants* (1902), *Les Enfants à Bethléem* (1907), and *Françoise d'Assise* (1912), ballets, *Cydalise et Le Chèvrepied* (1914), and incidental music for Rostand's *Princesse lointaine* and Loti's *Ramuntcho* He also wrote instrumental and orchestral music and songs.

Piero della Francesca (pyä'rō dĕl'lä frănchä'skä), c 1420–1492, Umbrian painter, known also as Piero de' Franceschi. His innovations in decorative design and perspective, his delineation of architectural backgrounds, and his mastery of light and atmosphere made him the important influence of his period on the art of central Italy. His notable works include the fresco series *Story of the True Cross* (Church of San Francesco, Arezzo), *Resurrection* (town hall, Sansepolcro); *Flagellation* (cathedral, Urbino), the portraits of Duke Federigo of Urbino and his wife, Battista Sforza (Uffizi), *Madonna* (Milan), *Nativity* and *Baptism of Christ* (National Gall., London), *Saint* (Frick Coll, New York), and *Hercules*, a fresco formerly in a palace in Sansepolcro (Gardner Mus, Boston) Piero was the author of two remarkable theoretical treatises *Libellus de V Corporibus regularibus* (MS in Vatican Library) and *De Prospectiva pingendi* (MS in Ambrosian Library, Milan), the second was published in 1899 See study by W G Waters (1901)

Piero di Cosimo (dē kō'zēmō), 1462–1521, Florentine painter, whose real name was Piero di Lorenzo. He adopted the name of his master, Cosimo Rosselli, whom he accompanied to Rome in 1482 and assisted in the decorating of the Sistine Chapel Piero is famed for his mythological and religious works, his pictures being noted particularly for their fine landscape backgrounds In his later years he was greatly influenced by Leonardo da Vinci Chief among his works, which are rare, are *Death of Procris* (National Gall, London), *Perseus and Andromeda* and *The Immaculate Conception* (Uffizi), *Coronation of the Virgin* (Louvre), *Allegory*, *The Visitation with Two Saints*, and *The Nativity with the Infant St John* (National Gall of Art, Washington, D C), two small panels, *Hunting Scene* and *Return from the Hunt*, and *Young St John the Baptist* (Metropolitan Mus), *Adoration of the Child* (Toledo Mus), *Vulcan and Aeolus* (National Art Gall of Canada, Ottawa) See biography by R Langton Douglas (1946)

Piérola, Nicolás de (nēkōlas' dä pyä'rōla), 1839–1913, president of Peru (1879–81, 1895–99) Minister of finance under José BALTA, he was accused of misappropriating funds and was exiled From Chile he invaded Peru and unsuccessfully attempted to stir up revolution Later he was allowed to return (1879) to take part in the war against Chile (see PACIFIC, WAR OF THE) When Mariano I PRADO abandoned Peru, Piérola took over the government, but continued failure in the war caused his own flight He did not succeed in an attempt to seize the government in 1885 After ousting Andreas A CÁCERES in 1894, he became president again and set about the reconstruction of devastated Peru by initiating fiscal, military, religious, and civil reforms

Pierpont, Francis Harrison (pēr'pŏnt), 1814–99, Civil War leader of the Union government in Virginia, "father of West Virginia," b near Morgantown, Va (now W Va), grad Allegheny College, 1839 When Virginia seceded, he became a leader of the disaffected Unionist forces in the western part of Virginia and was made head of the government set up by the Wheeling Convention of June, 1861. This government granted (1862) the approval, necessary under the Constitution, for the organization of the western counties into a new state, West Virginia, and after its admission (1863) to the Union, Pierpont moved his "restored government" of Virginia from Wheeling to Alexandria (he was never governor of West Virginia) At the end of the Civil War, Pierpont moved to Richmond and was supported by President Johnson, but was forced to retire as governor in 1868 after the radical Republicans took over Reconstruction He himself seems to have spelled his name Pierpoint. See biography by C H Ambler (1937)

Pierpont Morgan Library, originally the private library of J. Pierpont Morgan, in 1924 made a public institution by J. P Morgan as a memorial to his father. The management was vested in a board of trustees, and Belle da Costa Greene, who had been librarian for both the Morgans, was director until her retirement in 1948 The library occupies a white marble building at Madison Ave. and 36th St, New York city; an annex was built and donated to the library by J. P Morgan in 1928. The library is especially rich in illuminated manuscripts and in authors' manuscripts (including, among others, some of Dickens, of Scott, and of Balzac), it has hundreds of Bibles in all languages and has the only perfect copy of Malory's *Morte d'Arthur* printed by Caxton. The publications of the library include monographs, catalogues of collections or of exhibits, and reprints and facsimiles. Other services to the public are lectures and exhibitions. Except to exhibitions, admittance is only by card.

Pierre (pēr), city (pop 4,322), state capital (since 1889), and co seat of Hughes co, central S.Dak., on the east bank of the Missouri opposite Fort Pierre, founded 1880, inc 1883 The city boomed with the coming of the railroad (1880) and became the state's principal trading and distributing center for both the eastern farm and the western ranch areas It ships livestock and farm products and has railroad workshops. Besides the capitol, the city has Federal buildings, a memorial hall housing historical records and collections, a municipal park, an artificial lake, and an airport It is the seat of a U S Indian school.

Pierre de la Ramée: see RAMUS, PETRUS

Pierreville (pyĕrvēl'), village (pop 1,802), S Que., on the St Francis river near its mouth on the St. Lawrence and E of Sorel. Industry is concerned with lumbering and woodworking.

Pierrot (pē'urō) [Fr.,=little Peter], character in French pantomime A buffoon, he wore a loose white tunic with big buttons, balloon sleeves, and white pantaloons His face was painted white. Giuseppe Giaratone or Geratoni (fl. 1639–97), as usually credited with creating the character. Deburau introduced Pierrot in the early 19th cent. at the Théâtre des Funambules, and the character was revived at the end of the 19th cent. when pantomime reappeared

Piers Plowman (pērz' plou'mún). *The Vision concerning Piers Plowman* is a 14th-century allegorical English poem written in unrhymed alliterative verse, satirizing and attacking the clergy and exalting the simple life It recounts a series of dreams with subject matter similar to that of *Pilgrim's Progress* and with allegorical characters, including Lady Meed, Holy Church, Conscience, False, Dowel, Do-bet, Do-best, and Piers Plowman At first the incarnation of the virtuous laborer, Piers Plowman later becomes almost identical with the Christ. It contains a detailed and trustworthy picture of the life of the time There are 47 manuscripts of the poem extant, which fall into three groups the A-text (2,567 lines, 1362), the B-text, a revision of A (1,242 lines, 1376–77), and the C-text, a revision of B (7,357 lines between 1393 and 1399). The view of many scholars that the poem was the work of William LANGLAND, whose biography has been deduced from passages in the poem, has been disputed by other scholars, who suggest two, or even five authors See the monumental edition of the poem by W W Skeat (1886) and the modern versions by W W Skeat (1905), Donald Attwater (1930), and H W Wells (1935), J E Wells, *A Manual of the Writings in Middle English, 1050–1400* (1916, with later supplements, 8th sup, 1941).

Pietà (pēätä') [Ital.,=pity], in Christian art, the representation of the Virgin mourning over the dead Christ First depicted in the late 13th cent., the subject has been portrayed in the painting and sculpture of many of the greatest artists

Pietermaritzburg (pē"turmä'rĭtsbûrg), city (pop. 61,018), capital of Natal, Union of South Africa; founded by the Boers in 1838 It is on a railroad to Durban An educational center, it is the seat of the Univ of Natal Its population includes 26,890 Europeans The name is commonly shortened to Maritzburg

Pietersburg (pē'tûrsbûrg), town (pop 15,641), N Transvaal, Union of South Africa It was named in memory of Piet Joubert. Near by are gold, asbestos, and corundum mines The population includes 6,345 Europeans

Pietism (pī'utizĭm), a movement in the Lutheran Church, most influential between the latter part of the 17th cent and the middle of the 18th It was an effort to stir the church out of a settled attitude in which dogma and intellectual religion seemed to be supplanting Bible rules and religion of the heart. The first great leader was Philipp Jakob SPENER, who began (1670) to hold devotional meetings. His *Collegia Pietatis* were designed to bring Christians into helpful fellowship and increase Bible study Spener's book, *Pia desiderta* (1675), emphasized the need of earnest Bible study and the belief that the lay members of the church should have part in the spiritual control. Spener's belief that Christian belief should be shown in everyday living was interpreted by some as justification by works, an idea contrary to Martin Luther's views, and the Pietists met considerable opposition After Spener's death the work was carried on by August Hermann FRANCKE, but after his time Pietism declined. Its effect was strongest in N and central Germany but reached into Switzerland and other parts of Europe Through Count Zinzendorf the Moravian Church was touched by it The movement lacked organization to keep it in operation actively after the early leaders were gone In some places Pietists adopted a distinctive dress and strongly puritanical ways. Such entertainments as dancing, the theater, and public games were renounced Puritanism was not, however, implicit in the movement; the essential aim of the true Pietist was to place the spirit of Christian living above the letter of doctrine. See K S Pinson, *Pietism as a Factor in the Rise of German Nationalism* (1934).

pietra dura (pēā'trù dōō'rù, Ital. pyā'trā dōō'rā) [Ital , =hard stone], term used in Italy to denote a particular type of building material and also a semiprecious stone. As employed in English, however, it refers to a form of inlay in which hard, semiprecious stones, such as agate or cornelian, are cut to shapes, arranged in decorative patterns, and polished to an even plane to create a mosaiclike surface The method originated in the 16th cent , probably in Florence, where the best work is found

Pietro d'Abano · see ABANO, PIETRO D'

piezoelectric effect (pīē"zōĭlĕk'trĭk), phenomenon manifested in various crystals, especially those of quartz and Rochelle salt, whereby mechanical pressure exerted upon a crystal results in the production of an electrical charge along its surfaces The converse effect, the distortion of the crystal, can be achieved by the application of an electrical charge. Crystals are employed for their piezoelectric effect in the MICROPHONE and in the radio OSCILLATOR

pig: see SWINE

Pigalle, Jean Baptiste (zhā' bătēst' pēgăl'), 1714–85, French sculptor, son of a carpenter In his youth he suffered great privations and worked hard for the success he later achieved His *Mercury* (Louvre) gained him admission to the Académie royale de Peinture et de Sculpture in 1744 and is one of his most inspired works A model in terra cotta for this statue is in the Metropolitan Museum His *Love and Friendship* (Louvre), done for Mme de Pompadour, and his tombs of Maurice de Saxe (Strasbourg) and Marshal d'Harcourt (Notre Dame, Paris) are among his finest works

Pigeon, short river flowing E into Lake Superior and forming part of the boundary between NE Minnesota and W Ontario It was the terminus of the GRAND PORTAGE

pigeon, member of a large family of birds related to the plover and characterized by a compact body with well-groomed, usually softly colored plumage, short legs, and a horny-tipped bill with soft swellings at the base of the nostrils Pigeons are found in most temperate and tropical regions of the world The terms DOVE and pigeon are often used interchangeably The birds are hatched in an immature state and are fed on 'pigeon's milk' from the crops of both parents The common pigeon seen in city streets and parks the world over is descended from the rock dove, which is native to the coasts of Europe and is thought to be the ancestor of all the domesticated pigeons For centuries the favorites among the domesticated varieties developed by selective breeding have included the fantail, with its numerous erectile tail feathers, the Jacobin, with a hoodlike ruff of feathers surrounding the head, the tumbler, which turns backward somersaults as it flies, the pouter, with an enormous crop, and the quarrelsome carrier, with its rosettelike eye and nose wattles The homing pigeon has been used as a carrier of messages, especially in wartime It has sporting value as a racing bird The commonest extant American wild pigeon is the mourning dove, which is similar to the extinct PASSENGER PIGEON Other wild American pigeons are the band-tailed, the red-billed, and the white-crowned pigeons In Europe the turtledove, the rock pigeon or rock dove, the stock dove, and the ringdove or wood pigeon are common The gouras or crowned pigeons of New Guinea are the largest of the family The most colorful are the fruit pigeons of Australia and the Pacific islands The bleeding-heart pigeon is found in the Philippines Related birds, which have long been extinct, are the DODO and the solitaire See W M Levi, *The Pigeon* (1941)

pigeon English see PIDGIN ENGLISH

Piggott (pĭ'gŭt), city (pop 2,034), and co seat of Clay co , extreme NE Ark , in a farm and fruitgrowing region

pig iron: see IRON.

pigment, in paint, the powdered substance which, mixed in the liquid vehicle, imparts the color to the surface treated. The pigments used in paints are nearly all metallic compounds Most black pigments, however, are organic, e g , bone black (animal black or charcoal) and lampblack Some of the metallic substances occur naturally The brilliant and beautiful coloring of the rock and soil in some parts of the United States, especially in the Grand Canyon of the Colorado river, the Painted Desert of Arizona, and Bryce and Zion canyons of Utah, is largely produced by such compounds, chiefly oxides Yellow ocher, sienna, and umber are oxides of iron Litharge is a yellow oxide of lead Red lead is also an oxide of this metal Lead chromate or chrome yellow is an important yellow pigment White lead, or basic lead carbonate, is a pigment long in use The mixture of this pigment with zinc oxide is more durable Cadmium yellow is a sulphide of cadmium Ultramarine is an important blue pigment, as is also Prussian blue (ferric ferrocyanide) Green pigment is produced by mixing Prussian blue and chrome yellow. Vermilion (mercury sulphide) is red. LAKE is prepared artificially Pigments occur in plant and animal bodies The bright colors of plants, for example, are the result of the presence of such substances as chlorophyll (green) and xanthophyll (yellow), both of which are also found in some animals. Among others are carotene, the yellow of carrots, and certain other vegetable products and anthocyanin, which imparts blue, red, and purple to flowers Blood receives its color from the hemoglobin in the red corpuscles Coloration of the skin (PIGMENTATION) of man is caused by the presence of pigments

pigmentation, coloring matter which is found in certain plant and animal cells. The common pigment in plants is CHLOROPHYLL Pigmentation in certain animals sometimes serves as a protection and helps them to survive The chameleon, for example, is capable of adapting itself to the color of its environment and thus often escapes detection by its enemies In higher animals a black pigment called melanin is found in the dermis of the skin, in the hair, and in the retina of the eye The degree of melanin in the skin determines the dominant color, thus a dark skin has a greater proportion of this pigment than a light skin Melanoid, a diffuse form of melanin, was more recently reported to be present in both light and dark skins In addition to these, there are several other pigments that are found in the skin of all people Two are derived from the hemoglobin of the blood and are chiefly responsible for the pinkish flesh tones, these are oxyhemoglobin and oxygen-free hemoglobin Carotene, long known to be present in carrots, sweet potatoes, corn, and butter, is said to be found in humans in the skin of the eyelids, the palms of the hands, and the soles of the feet.

Pigmy see PYGMY

pignolia see PINE NUT

pignut hickory · see HICKORY

Pigou, Arthur Cecil (pĭ'gōō), 1877–, British political economist, grad King's College, Cambridge After lecturing at University College, London, and Cambridge Univ , he was (1908–43) professor of political economy at Cambridge He was a member of the committee on currency and foreign exchange (1918) and of the royal commission on income tax (1919) He is a leading exponent of the theory that economic waste due to unemployment, poor health, and poor housing is a responsibility of society, which should bear the costs Among his many works are *Wealth and Welfare* (1912), *The Economics of Welfare* (1920), *The Political Economy of War* (1921, new ed , 1941), *The Theory of Unemployment* (1933), *Socialism versus Capitalism* (1937), *Employment & Equilibrium* (1941), and *Income: an Introduction to Economics* (1946)

pigweed, name for several weedy plants, particularly the common pigweed or LAMB'S-QUARTERS, the rough pigweed or green AMARANTH, and the winged pigweed, a TUMBLEWEED

Pi-hahiroth (pī'-hăhī'rŭth), place, between Migdol and Baal-zephon, where the Israelites encamped Ex 14 2,9, Num 33 7

Pike, Albert, 1809–91, American lawyer, Confederate general, and Freemason, b Boston He settled (1832) in Arkansas, where he became a newspaper editor and a lawyer He was a captain in the Mexican War In the Civil War, Pike secured for the Confederacy the loyalty of the tribes in the Indian Territory Widely criticized for inept handling of his Indian brigade, especially at the battle of Pea Ridge (March, 1862), he resigned After the war he practiced law in Memphis and Washington His *Prose Sketches and Poems Written in the Western Country* (1834) resulted from a trip over the Santa Fe Trail Most important of his many writings on Freemasonry (he joined the order in 1850) is *Morals and Dogma of the Ancient and Accepted Scottish Rite of Freemasonry* (1871)

Pike, Zebulon Montgomery, 1779–1813, American explorer, an army officer, b Lamberton (now part of Trenton), N J He joined the army early, perhaps in 1793, and was commissioned second lieutenant in 1799 In 1805 he led an exploring party to search for the source of the Mississippi, though he mistakenly identified Red Cedar Lake (now Cass Lake) in Minnesota as the source, he was not far wrong After his return he was sent by his commander, James Wilkinson, on an expedition (1806–7) through the Southwest in the recently acquired Louisiana Territory Pike and his men went up the Arkansas to the site of Pueblo, Colo , and he explored much of the country, sighting the peak which is called after him Pikes Peak When he and a small party went to the Rio Grande, he was captured peaceably by the Spanish, taken to Santa Fe and then to Chihuahua, and finally released at the border of the Louisiana Territory The motive behind this official incursion into Spanish territory has never been satisfactorily cleared up Pike may have been a straying explorer, or he may have been secretly commissioned by the government to spy in the Spanish lands At the time he was accused of complicity in the plot of Aaron Burr and James Wilkinson to detach Western territory from the United States, and he was a defender of Wilkinson, he was, however, exonerated by the Secretary of War There is no doubt, however, concerning his valor, resourcefulness, or leadership in his exploration, nor is there doubt of the value of the narratives of his voyages—*An Account of the Expeditions to the Sources of the Mississippi and through the Western Parts of Louisiana* (ed. by Elliott Coues, 3 vols., 1895; partly reproduced in *Overland to the Pacific*, Vol I, ed. by A. B. Hulbert, 1932) He died at 34, killed in the War of 1812 when he was a brigadier general in command of troops assaulting York (now Toronto) See W. Eugene Hollon, *The Lost Pathfinder* (1949)

pike, fresh-water game fish of the Northern Hemisphere The body is elongated, the only dorsal fin is far back on the body, and the long jaws are armed with strong teeth. The common American pike, northern pike or great northern pike, which varies in length from 1 to 4 ft. and may reach a weight of 50 lb , is considered by many to be the same species as the pike (*Esox lucius*) of Europe and Asia See also MUSKELLUNGE and PICKEREL

pike, in U S history see TURNPIKE.

Pikes Peak, 14,110 ft high, central Colo , in the southern part of the Front Range of the Rocky Mts There are many higher peaks in the Rockies, but this is the best known and most conspicuous because of its location on the edge of the Great Plains At its eastern base are Colorado Springs and Manitou Springs, Denver lies to the north Its summit, generally snow covered, is reached by a cog railroad and a highway. The peak is named for Zebulon M PIKE, who discovered it in 1806

Pikeville, town (pop 4,185), co seat of Pike co , E Ky , in the Cumberlands and on the Levisa Fork It is in a coal and timber region. A coeducational junior college is here.

Pila, Pomerania see SCHNEIDEMÜHL

pilaster (pĭlă'stûr), in architecture, an upright supporting member, attached to and projecting slightly from the face of a wall and equipped with a base and capital like a column, and also a similar form used decoratively The pilaster in general follows the rules and proportions of the classic orders, it may be fluted or not, but usually has no entasis or taper It was used by the Romans, the Greek antae (projections of the wall at the corners only), although similar in function, differ in base and capital from the columns which stand between them In the Renaissance, particularly the later phases, the pilaster, used as a purely decorative device, was often paneled and ornamented

Pilate see PONTIUS PILATE

Pilatus (pĭlă'tus, Ger pēlä'tōōs), mountain, 6,995 ft high, Switzerland, S of Lucerne According to legend, the corpse of Pontius Pilate was thrown into a small lake on the mountain

Pilcomayo (pēlkōmī'yō), river rising in the Bolivian Andes E of Lake Poopó and flowing 700 mi SE across the CHACO to the Paraguay near Asunción In the Chaco it is the boundary between Argentina and Paraguay

Pildash, son of Nahor Gen 22 22

pile, post of timber, steel, or concrete used to support a structure Vertical piles or bearing piles, the most common form, are generally needed for the foundations of bridges, docks, piers, and buildings Slender tree trunks, roughly trimmed and about 10 in thick at the butt, are used in foundations for houses Spruce, pine, and hemlock are sturdy enough for soft soil, and elm, beech, oak, and hickory are more suitable for compact soil Wooden piles continuously under water will last a very long time, those under the campanile in St Mark's Square, Venice, dating from the 10th cent , were found to be in excellent condition when the building collapsed in 1902 Wooden piles are shaped for driving and sometimes have a pointed iron shoe set on the sharp end, with the butt end encircled by an iron band to prevent brooming under the blows of the pile driver They are spaced according to the nature of their task, generally 3 or 4 ft apart from center to center Concrete piles are in general of two types, the precast and the cast in place They have great strength and durability, are free from deterioration when wholly in the ground, and are immune from the attacks of the teredo and other borers Precast piles are made of concrete reinforced with steel bars looped one to the other and are tipped and topped with protective steel when driven into the ground. The steel is not needed when the piles are set by the force of jets of water, in this method an iron pipe is set in the center of the pile, and water under pressure is sent down to wash away the sand, silt, or soft earth which it is to displace Only in such subsurfaces can the water-jet system be employed Cast-in-place piles are variously made One method consists of driving a hollow steel sheet into the ground and filling it with concrete, after which the shell is withdrawn and the molded concrete is in place Sheet piling consists of wooden boards or interlocking steel plates and is used largely as a cofferdam to keep water from structural work Concrete sheet piling is also used. Pilings are driven into the ground by pile drivers using drop hammers, steam hammers, or compressed-air hammers

pile dwelling · see LAKE DWELLING.

Pileha (pī'lēhă), signer of the covenant Neh. 10.24

piles, in medicine · see HEMORRHOIDS.

pilgrim, one who travels to a shrine out of religious motives. Pilgrimages are a feature of many cultures, they imply a widespread common religious system. Examples in ancient Greece were Eleusis

and Delphi. Pilgrimages are well established in India (e g., to Benares, Puri, Allahabad, and the Ganges), in China (e g , to Mt Tai), and in Japan (e g , to Uji-yamada and Taisha). The Temple at Jerusalem was the center of an annual pilgrimage of Jews at Passover Every Moslem tries to make the pilgrimage to Mecca once in his life, this is the pilgrimage (Hajj) par excellence and has had a remarkable effect in unifying ISLAM A favorite Shiite shrine is KARBALA The Christian pilgrimage to the Holy Places of Jerusalem, Bethlehem, and Nazareth, already well established, received great impetus in the 4th cent from the finding of the True Cross by St Helena Protection of this pilgrimage has repeatedly been a political crux, as in the CRUSADES and in the 20th-century Palestine problem In Western Europe the principal shrine is Rome, sacred to St Peter and St Paul and the martyrs Since 1300 the popes have set aside holy years (see JUBILEE) for special pilgrimages to Rome Another historic shrine is SANTIAGO DE COMPOSTELA, NW Spain, one explanation of the origin of the CHANSON DE ROLAND connects it with songs sung to entertain the Compostela pilgrims The chief shrine of medieval England was the tomb of St Thomas à Becket at Canterbury—its pilgrimage was immortalized by Chaucer Other English pilgrimages were to Walsingham and Glastonbury Badges to show what pilgrimages one had made were a feature of medieval dress Thus, a palm badge symbolized the visit to the Holy Land, and its bearer was called a palmer In recent times the Christian Church which most fosters pilgrimages is the Roman Catholic, its shrines include Rome, the Holy Land, LORETO, Compostela, MONSERRAT, FÁTIMA, LOURDES, Ste Anne d'Auray (see AURAY), EINSIEDELN, CZESTOCHOWA, CROAGHPATRICK, SAINT PATRICK'S PURGATORY, SAINTE ANNE DE BEAUPRÉ (Quebec), and GUADALUPE HIDALGO (Mexico) See Sir R F Burton, *Personal Narrative of a Pilgrimage to El-Medina and Mecca* (1855), Jules Jusserand, *English Wayfaring Life of the Middle Ages* (1889), F L Gulford, *Travellers and Travelling in the Middle Ages* (1924)

Pilgrimage of Grace, 1536, rising of Roman Catholics in England It was a protest against the government's action in abolishing papal supremacy (1534) and confiscating the monastic properties below £200 (1535), the Catholics protested their loyalty to Henry VIII, citing as their "great grudge" the position and influence of Thomas CROMWELL, who was largely responsible for the state policy In Oct , 1536, there was a gathering of some thousands of men at Louth to protest the suppression of the monasteries, George Talbot, 4th earl of Shrewsbury, dispersed them by assuring them Parliament had sanctioned the action Almost before this was over there was a great rally in Yorkshire in favor of the papal supremacy and the monasteries The movement gathered strength, and in a week or two all England N of the Humber had joined the movement It was led by Robert Aske of Aughton, Yorkshire, the banner bore the device of the Five Wounds At York, Aske and some thousands of men reopened the monasteries and forced the royal officers to obey them They moved on to Doncaster, where the number of men was 40,000 at least They came from all walks of life, including such noblemen as Baron Darcy The earl of Shrewsbury and Thomas Howard, 3d duke of Norfolk, met them and promised from the king a general pardon and a Parliament to be held at York in a year The men dispersed now and went quietly home Aske was invited to London and received well by the king In Jan , 1537, Francis Bigod of Settrington, Yorkshire, led a rising at Beverly Although Aske and the other leaders of the Pilgrimage of Grace had tried to prevent this new disorder, they were arrested and tried in London They were executed in June, 1537, as was Bigod The northern counties were heavily garrisoned, and many people were killed on suspicion of disaffection In S England the sympathisers with the Pilgrimage of Grace were not very numerous, but in the west it caused great excitement and undoubtedly increased the religious disaffection which came to a head in the Cornish rising of 1549 The repression in N England after the Pilgrimage of Grace put an end to open opposition to the government religious policy

Pilgrims, in American history, the group of separatists and other individuals who were the founders of PLYMOUTH COLONY in Massachusetts The nucleus of the group came into being in the meetings of a group of Puritans at Scrooby, a village not far from York, N England Opposed to the episcopal jurisdiction and the rites and discipline of the Church of England, the group had formed as a separatist Congregationalist church by 1606, with John ROBINSON eventually becoming their minister. The congregation was composed mainly of neighboring farmers and artisans, men of little education or position, although William BREWSTER, one of their leaders, was a man of some importance in the town and had spent some time at Cambridge. Although not actively persecuted, the group was subjected to ecclesiastical investigation and, because of their rather ostentatious godliness, to the mockery, criticism, and disfavor of conformists in the vicinity. To avoid contamination from their neighbors and to escape the hated Church from which they had separated, the sect decided to move to Holland, where other groups had found religious liberty, despite the law which forbade emigration without royal permission After several false starts, two of which were frustrated by the law, small groups made their way to the Netherlands in 1607, and by the middle of 1608 most of them had reached Amsterdam They went from there to Leiden, where they established themselves as artisans and laborers Life in Holland was not easy, however, and the immigrants found the presence of radical religious groups there objectionable Dutch influence also seemed to be altering their British ways, and the prospect of war with Spain threatened For these reasons they considered moving to the New World In 1617 John CARVER and Robert Cushman went to London to make arrangements with the Virginia Company, cautiously negotiating to make pledges that would satisfy company, king, and bishops and still keep the religion of the dissenters pure In 1619 a charter was secured from the company in the name of one John Wincob, but it was never used The matter lapsed until early in 1620, when Thomas Weston, speaking for a group of London merchants, offered them support and the use of a charter already obtained from the Virginia Company A joint-stock company for seven years was arranged The congregation voted on the voyage, but only about half of the members decided to go A small vessel, the *Speedwell*, was obtained to carry the Pilgrims to England, where that vessel joined the MAYFLOWER for the trip to America Difficulties arose, however, over restrictive arrangements included by Weston in the agreement in order to guarantee more strongly the investment by the merchants, and the Pilgrims, unwilling to accept the revised agreement, sailed without reaching a settlement The *Speedwell* proved unseaworthy and returned to port, many of the passengers and much of her cargo were crowded on the *Mayflower*, which set out alone Though outnumbered by the English group that had been gathered for the trip, many of whom were not even separatists (they were thus called "Strangers"), the Leiden group (the "Saints") retained control and were the moving force behind the emigration In Dec , 1620, the *Mayflower* entered Plymouth harbor, where the settlers established dwellings The name Pilgrim Fathers is given to those members who made the first crossing on the *Mayflower* See William BRADFORD, *History of Plimmouth Plantations* (pub 1856), H M Dexter, *The England and Holland of the Pilgrims* (1905), R G Usher, *The Pilgrims and Their History* (1918), G F. Willison, *Saints and Strangers* (1945)

Pilgrims' Way, ancient road in England, from W Hampshire to Canterbury in Kent From the 12th to the 16th cent the Canterbury pilgrims followed this road to the shrine of Thomas à Becket The track mainly corresponds to the modern Dover road See Hilaire Belloc, *The Old Road* (1911)

Pilibhit (pēlēbēt'), town (pop 44,709), N central United Provs , India In the 18th cent it was a center of the Moslem Rohilla power There is a trade in farm produce

pillar, freestanding columnar supporting member, of irregular cross section It is a general term, little used as an exact architectural definition except as applied to an upright support in the medieval styles, consisting of an assemblage of juxtaposed shafts and moldings, unlike the column, it does not adhere to the rules of the orders In art and especially in religion (Gal 2 9) a pillar has always symbolized strength or support

Pillars of Hercules (hûr'kyōlēz), promontories at Gibraltar (anc. *Calpe*) in Europe and at Ceuta (anc *Abyla*) in Africa, at the east end of the Strait of Gibraltar They are also called the Gates of Hercules

Pillau (pĭ'lou), town (1939 pop 12,379), former East Prussia, an outer port of Königsberg, on the Frisches Haff It was included in 1945 in the Kaliningrad oblast of the RSFSR and was officially renamed Baltisk Pillau was developed (17th cent) as a fortified port under Frederick William the Great Elector

Pillnitz (pĭl'nĭts), village, Saxony, E Germany, on the Elbe near Dresden. There is a castle that was formerly a royal residence Here in Aug , 1791, Emperor Leopold II and King Frederick William II of Prussia met to discuss the problems arising out of the French Revolution and issued a declaration calling on the European powers to restore Louis XVI to his full authority as king of France To impress the French people with the seriousness of their purpose, the two monarchs agreed to mobilise their forces The declaration aroused the Girondist war party in France and helped to create the impression that the French royal couple were in league with an anti-French coalition It thus helped to bring on the French Revolutionary Wars and to undermine the royal authority in France

Pillow, Gideon Johnson, 1806–78, American general, b Williamson co , Tenn , grad Univ of Nashville, 1827. He was appointed brigadier general of Tennessee volunteers in the Mexican War by his former law partner, President James K Polk As commander of a wing of Winfield Scott's army he took part in the battles leading to the surrender of Mexico city (see especially CONTRERAS) and was made a major general (1847) A quarrel with Scott led to a court of inquiry which acquitted Pillow of insubordination When the Civil War broke out he became a Confederate brigadier general His conduct in escaping from Fort Donelson (see DONELSON, FORT) before the Confederate surrender caused the suspension of his command

Pillow, Fort, Civil War fortification on the Mississippi river, c 40 mi N of Memphis, built by G J. PILLOW in 1862 Evacuated by the Confederates after the fall of Island No 10, it was occupied by Union troops (June 6, 1862) N B FORREST stormed and captured it on April 12, 1864, and a large proportion of the garrison (about half of which was Negro) was killed Forrest, charged with ruthlessly killing the men, reported that the Union command did not surrender and that the soldiers were killed attempting to escape capture.

pillow lace see LACE

Pillsbury, Harry Nelson (pĭlz'bûrē, -bĕ"rē), 1872–1906, American chess player, b Somerville, Mass. He won first prize at Hastings, England, in 1895 against the best masters of his day In 1900 he attracted wide attention by his blindfold play of 20 games simultaneously See P W Sergeant and W H Watts, *Pillsbury's Chess Career* (1923)

Pillsbury, John Sargent, 1828–1901, American miller and governor of Minnesota (1876–82), b Sutton, N H He went west in 1855 and settled at St Anthony (now Minneapolis), Minn As a member of C A Pillsbury & Company and later of the Pillsbury-Washburn Company he was interested in flour milling He served several terms as state senator and was for 38 years a regent of the Univ. of Minnesota, to which he gave $150,000 for Pillsbury Science Hall

Pilnyak, Boris (burĕs' pēlnyăk'), pseud of **Boris Andreyevich Vogau** (ŭndrā'ŭvĭch vô'gou), 1894–, Russian novelist He was not known as a writer until after the revolution, which gave him material for *The Naked Year* (1922, Eng tr , 1928), the first major novel to depict this period Later novels—*Wolves and Machines* (1923), *Mother Damp Earth* (1925), and *Mahogany* (1927)—with their anti-urban note brought him into suspicion with orthodox Communist critics, a condition which his later novel *The Volga Falls to the Caspian Sea* (1930, Eng tr , 1931) did little to dispel, as it emphasized the cost in human life of a great dam In 1931 Pilnyak visited the United States, describing his experiences in an unflattering report *OK* (1932) Pilnyak never quite accepted the revolution, this is seen in *The Birth of a Man* (1935), less so in *The Ripening Fruits* (1938)

pilocarpine see JABORANDI under POISONING, table

Pilon, Germain (zhĕrmĕ' pēlô'), 1535–90, French sculptor He was court sculptor under the later Valois sovereigns He executed the kneeling bronze portraits and the reclining marble figures of Henry II and Catherine de' Medici on the king's mausoleum at Saint-Denis *Three Graces* supporting an urn which formerly held the heart of Henry II, portrait busts of Henry II and Henry III, and, his masterpiece, the kneeling figure in bronze of Chancellor René de Birague are all in the Louvre A marble head of Charles IX is in the Metropolitan Museum As controller of the mint under Charles IX he made fine medallions, medals, and coins

pilot, person responsible for the safe NAVIGATION of a vessel through a certain zone Laws governing the pilotage of ships and pilots have been enacted by all the maritime nations of the world and by the seaboard states of the United States The master or another officer may perform this duty provided he has passed the necessary examinations which entitle him to a pilotage certificate. The licensing of ship pilots is the responsibility of the U S. coast guard The airplane pilot, often with the assistance of a copilot, is in command of an airplane in flight. Before a pilot gains his license in the United States, he is required to have a prescribed amount of solo-flying experience, to pass a rigid physical examination, and to pass a flying test given by the U.S. Civil Aeronautics Board

Pilot Point, town (pop 1,122), N Texas, NNW of Dallas, in a farm area, settled 1835, inc 1906

Piloty, Karl von (karl' fŭn pēlô'tē), 1826–86, German historical painter, son of Ferdinand Piloty (1786–1844), a noted German lithographer Karl studied in Munich, Antwerp, and Paris and first won recognition for his genre paintings, such as *The Nurse* (1853) However, he soon turned to historical paintings, which were famous in his day for their realism and emphasis on color As a popular professor of the Munich Academy he exercised a great influence on many important German painters In 1874 he was made director of the academy Among his well-known works are *The Death of Caesar*, *Galileo in Prison*, *Godfrey of Bouillon with the Crusaders at the Holy Sepulchre*; *Triumph of Germanicus* (replica in the Metropolitan Mus), and *The Wise and Foolish Virgins* (Metropolitan Mus).

Pilsen (pĭl'sən, -zən, Ger. pĭl'zən), Czech *Plzeň* (pə̆l'zĕnyū), city (pop. 103,767), NW Bohemia, Czechoslovakia It is the center of a coal-mining region, but is famous for its beer, exported to the whole world, and for the huge Skoda works (now nationalized), which produce locomotives, automobiles, farm machinery, and armaments. Withstanding long sieges, Pilsen remained a center of Catholicism throughout the Hussite Wars. One of the earliest printing presses was established here c 1470 Though largely a modern city, Pilsen has a Gothic church (St Bartholomew's, 15th cent.) and a Renaissance town hall, both on the old town square

Pilsudski, Joseph (pĭlsōōd'skē), Pol *Józef Piłsudski* (yōō'zĕf pē"ōōsōōt'skē), 1867–1935, Polish general and statesman, b. near Vilna He was exiled (1887–92) to Siberia for an alleged attempt on the life of Emperor Alexander III On his return he joined the Polish Socialist party and began (1894) publication of the *Robotnik* [the worker], a secret party organ. Again imprisoned in 1900, he later abandoned socialism and struggled exclusively for the restoration of an independent Poland. To that end he organized various anti-Russian militant groups, notably, after the outbreak (1914) of the First World War, the Polish Legions, which he commanded under Austrian sponsorship When Pilsudski protested against the failure of the Central Powers to honor their promises to Poland, his legions were disbanded and Pilsudski was imprisoned at Magdeburg. Released in Nov., 1918, he returned to Warsaw, took over command of the Polish armies and proclaimed an independent Polish republic, of which he was the head Meanwhile a Polish national committee, which had favored cooperation with the Allies in the war, had established itself at Paris and won Allied recognition. Pilsudski was supported by leftist groups, the national committee was more conservative A compromise was reached in 1919 when Paderewski became premier while Pilsudski continued as chief of state. He used force to expand the eastern frontier of Poland, seeking the restoration of the 1772 borders. Though he did not completely reach his aim, the peace treaty with Russia (see RIGA, TREATY OF, 1921) incorporated millions of Ukrainians and White Russians into Poland In accordance with the Polish constitution of 1921, Pilsudski surrendered (1922) his powers and retired to private life. Irritated by the policy of the WITOS cabinet, he overthrew the government by a coup d'état in 1926 He refused the presidency, but as war minister he exercised a virtual dictatorship until his death He also was premier from 1926 to 1928 and in 1930 The constitution of 1935 made a hollow pretense of parliamentary democracy Pilsudski's regime was a military dictatorship with fascistic overtones, but it never was formalized as was the case in fascist countries His succession was assumed by the clique of "colonels," among them Rydz-Smigly See Pilsudski's memoirs (Eng tr., 1931); biographies by Rom Landau (1930), Grace Humphrey (1936), and W. F Reddaway (1939).

Piltai (pĭl'tā, pĭltā'ī) [Heb., = whom God delivers] member of a priestly family Neh. 12 17.

Piltdown man: see MAN, PRIMITIVE

Pima Indians (pē'mə), North American Indian tribe of S Arizona They speak the Piman language of the Uto-Aztecan linguistic family The Pima are also known as the Upper Pima to distinguish them from the Nevome or Lower Pima Their traditions place their origin in the Salt river valley and attribute to their ancestor Sivano the construction of the now ruined adobe building called Casa Grande or Sivanoki—but this is doubtful Many of the ruined pueblos in the Pima territory have been attributed to an ancient Pueblo tribe Tradition further states that increased population forced the Pima to spread over a larger territory, but invading hostile tribes (probably Apache) forced them to consolidate. Thus in 1697, when visited by Father Eusebio Kino, the Pima lived on the Gila river in S central Arizona. Although the Pima were warlike towards the Apache, they were friendly to the Spanish and, later, to the Americans The Pima villages were a stopping place for Americans who took the southern route to California The Pima are sedentary agriculturists of the Southwest area, by means of irrigation they farm corn, squash, beans, cotton, and wheat (introduced by the Spanish). They live in dome-shaped huts built of poles and covered with mud and brush. Marriage among the Pima is not binding. Women perform much of the labor including basketmaking; their baskets are noted for their beauty. The Pima were expert with the bow and arrow, and had war clubs and rawhide shields Pima religion, probably influenced by Spanish missionaries, is much less complicated and impressive than that of the Pueblo Indians. The Pima numbered some 2,500 in 1775, but their population was increased when the Maricopa joined them in the early 19th cent. Today the Pima living on reservations in S Arizona number some 5,500.

pimento (pĭmĕn'tō), tropical American tree (*Pimenta officinalis*) of the myrtle family, bearing small flowers which, when mature, become the ALLSPICE berries of commerce. In America the name is also applied to the large, sweet Spanish PEPPER (Span. *pimiento*), which is used as a vegetable and a garnish or as seasoning, as in pimento cheese and stuffed olives.

Pimería Alta (pēmärē'ä äl'tä), region in the U.S. Southwest and N Mexico, chiefly in SW Arizona and NW Sonora It was inhabited by the Pima Indians and was the scene of missionary labors of Father Eusebio Kino in the late 17th cent and early 18th cent

Pimlico (pĭm'lĭkō), district of W London, England, E of Chelsea. It has a residential region and an industrial and commercial region along the Thames.

pimpernel (pĭm'pûrnĕl), any species of the genus *Anagallis*, mostly Old World low herbs with bright, starlike flowers in the leaf axils. The common or scarlet pimpernel, called also poor-man's-weatherglass, has scarlet or sometimes white or blue flowers that are open only in the sunshine. It is a trailing Eurasian plant naturalized in North America and sometimes cultivated.

pimple, small pointed elevation of the skin, which may or may not contain pus. The formation of pimples is frequently associated with an infection or overactivity of the sweat glands and a blocking of the duct of such glands Chronic eruptions of pimples are often attributed to ACNE.

pin. One of the earliest artifacts of man, pins were at first made of thorns, bone, or wood and were used as clothing fasteners, hairpins, and meat skewers. These long, single-shaft pins were early imitated in metal and were often tipped with ornamental knobs The fibula, prototype of the safety pin and probably one of the earliest applications of the spring coil, was popular from early antiquity through medieval times It was the forerunner of the modern brooch through the hinged pin, developed by the Romans Bent-wire hairpins are believed to have originated in England in the 16th cent Adam Smith in his *Wealth of Nations* (1776) cites pinmaking as an early example of division of labor In the 14th and 15th cent in England the costliness and scarcity of plain pins caused Parliament to limit their sale to the first two days of January, for which women saved money all year—hence the term "pin money" See also NAIL

Pinar del Río (pēnär' dĕl rē'ō), city (pop 26,241), capital of Pinar del Río prov., W Cuba It is connected by rail and highway to Havana and is famous for the tobacco grown in the VUELTA ABAJO district

pinchbeck see BRASS

Pincher Creek, town (pop 1,148), SW Alta., on Pincher Creek and WSW of Lethbridge, in a ranching, lumbering, and coal-mining area.

pin cherry see CHERRY

Pinchot, Gifford (gĭ'fûrd pĭn'shō), 1865–1946, American forester and public official, b Simsbury, Conn., grad Yale, 1889. He went to Europe for further study of forestry and then (1892) undertook systematic work in forestry at the Vanderbilt estate in North Carolina He became (1896) a member of the National Forest Commission and served (1898–1910) as chief of the division of forestry in the U.S. Dept of the Interior He was dismissed (1910) by President W H Taft because of his public criticism of the Secretary of Interior, Richard A BALLINGER, for his administration of coal lands in Alaska Pinchot's dismissal helped widen the rift in the Republican party and the estrangement between President Taft and Theodore Roosevelt. In 1912 Pinchot joined Roosevelt in forming the PROGRESSIVE PARTY After he helped found the Yale School of Forestry, he was (1903–30) professor there while serving on numerous conservation commissions He was twice (1923–26, 1931–34) governor of Pennsylvania In his first term Pinchot directed the reorganization of the state government. He wrote many books on forestry and timber, his book *Breaking New Ground* (1947) sums up many years of his study of conservation

Pinckney: see also PINKNEY.

Pinckney, Charles, 1757–1824, American statesman, governor of South Carolina (1789–92, 1796–98, 1806–8), b Charleston, S.C.; cousin of C. C. and Thomas Pinckney. He fought in the American Revolution, and in the British capture of Charleston (1780) he was taken prisoner. A delegate to the Federal Constitutional Convention of 1787, he submitted a plan for the Constitution. Although its exact provisions are not known, his plan is known to have had considerable influence on the final draft of the Constitution In 1798 he became a U.S Senator, and in 1801 his services in forwarding Jefferson's presidential candidacy were rewarded by his appointment as minister to Spain. His principal assignment was to secure, with James Monroe's help, the cession of Florida to the United States. The attempt failed, and Pinckney returned home in 1805. From 1819 to 1821 he was a member of the House of Representatives, where he made a celebrated speech against the Missouri Compromise. See A. J Bethea, *The Contribution of Charles Pinckney to the Formation of the American Union* (1937).

Pinckney, Charles Cotesworth, 1746–1825, American statesman and diplomat, b. Charleston, S.C.; brother of Thomas Pinckney and cousin of Charles Pinckney. After attending Oxford and the military academy at Caen, France, he returned to Charleston, where in 1769 he began to practice law. Subsequent to serving (1775) in the provincial congress, he joined the Continental army in the American Revolution and was captured by the British at Charleston in 1780. Pinckney was a delegate to the Federal Constitutional Convention of 1787 and helped to secure South Carolina's ratification of the Constitution. In 1796 he was sent as minister to France but was not received by the French government The next year he joined Elbridge Gerry and John Marshall in the mission which led to the notorious XYZ AFFAIR Pinckney was unsuccessful Federalist candidate for the vice presidency in 1800 and for the presidency in 1804 and 1808.

Pinckney, Thomas, 1750–1828, American diplomat and statesman, b. Charleston, S.C., educated at Oxford and at the military academy in Caen, France, brother of C. C Pinckney and cousin of Charles Pinckney. In 1774 he began to practice law in Charleston At the outbreak of the American Revolution he joined the militia, he saw action in Florida, took part in the defense of Charleston (1780), and was wounded and captured at Camden in the Carolina campaign After the war he served as governor (1787–89) While minister to England (1792–96), he was sent as envoy extraordinary to Spain (1794–95) His treaty with Spain (1795) established commercial relations between the United States and Spain, provided for free navigation of the Mississippi by American citizens and Spanish subjects, and set the boundaries of Louisiana and E and W Florida. As a member of Congress (1797–1801) he upheld Federalist measures and took part in the impeachment procedure against William Blount In the War of 1812 Pinckney was a major general, distinguishing himself at Horseshoe Bend. See biography by C C Pinckney, S F. Bemis, *Pinckney's Treaty* (1926)

Pinckneyville, city (pop. 3,146), co. seat of Perry co., S Ill., near the Mississippi N of Cairo, in a farm and coal area, inc 1861

Pinconning (pĭnkŏ'nĭng), city (pop 1,027), N Mich., on the Pinconning river near Saginaw Bay and N of Bay City, settled c 1866, inc as a village 1877, as a city 1941 It is a farm trade center.

Pincus, Gregory (plng'kŭs), 1903–, American zoologist and physiologist, b Woodbine, N.J., grad Cornell (B S., 1924). He taught at Harvard (1930–38) and at Clark Univ (1938–45) and became research professor at Tufts College in 1946 He is known for his work in animal genetics and in parthenogenesis He transplanted to a female rabbit an ovum artificially stimulated with saline solution, the host mother gave birth to a normal female rabbit

pincushion flower see SCABIOSA.

Pindar (pĭn'dur), 518?–c 438 B C., Greek poet, generally regarded as the greatest Greek lyric poet He was a Boeotian of noble blood, and he lived principally at Thebes. He traveled widely and lived for some time at Athens and in Sicily at the court of Hiero at Syracuse and also at Acragas (Agrigento) His chief medium was the choral lyric, and he set the standard for the triumphal ode or epinicion. Of his complete works only 44 odes survive, these make one of the greatest collections of poems by a single author in Greek His fragments are exceptionally numerous and some of them very famous The epinicia celebrate victories in athletic games; there are 14 Olympian odes, 12 Pythian odes, 11 Nemean odes, and 4 Isthmian odes Each was written to be sung in a procession for the victor, usually on his return to his home city Pindar wrote on commissions, but he was quite independent of any meretriciousness, because of his lofty conception of his poet's vocation Pindar's style loses more in translation than that of any other Greek writer It has a high-flown diction and an intricate word order, dependent partly upon the complexity of his metrical requirements. The characteristic of each ode is its narrative myth, which is always connected with the winner, albeit somewhat distantly. The myth makes appropriate the elevated moral tone and the religious flavor characteristic of Pindar's poems. The edition by B L. Gildersleeve of *Olympian and Pythian Odes* (2d ed., 1892) and the editions by J. B. Bury of *Nemean Odes* (1890) and *Isthmian Odes* (1892) have copious notes and valuable supplementary material The name **Pindaric ode** (pĭndă'rĭk) is applied to a verse form used especially in England in the 17th and early 18th cent., based on an incorrect understanding of the metrical schemes used by Pindar The form, which originated in "Pindarique Odes" (1656) of Abraham COWLEY, was used by John DRYDEN, Alexander POPE, Jonathan SWIFT, and others but was ever characterized by looseness, irregularity, metrical license, and grandiose diction.

Pindar, Peter: see WOLCOT, JOHN.

Pindus (pĭn'dŭs), Gr. *Pindos*, mountain range, c.90 mi. long, NW and W central Greece, along the border of Thessaly and Epirus or, in political terms,

Greece and Albania. A continuation of the Dinaric Alps, it has several peaks more than 8,000 ft high and slopes down in the south. The range is rich in timber and in wildlife

pine, coniferous evergreen of the genus *Pinus*, of which there are about 80 species, all in the Northern Hemisphere Most pines are tall (although a few are shrubby) and somewhat pyramidal The needlelike leaves, enclosed at the base in a sheath, are produced singly (in some species of the W United States) or in clusters of two, three, four, or five. Because the leaf surface is so reduced and the stomates are placed deep, the loss of water by transpiration is low and the trees can survive in cold and in dry regions The needles are from about 1 in. to about 12 in long, and they remain on the branch for from 2 to 10 years Small, thin deciduous scales sometimes called primary leaves are found on the buds and young shoots The staminate and pistillate cones are borne on the same tree Pollination is effected by the wind, and maturation of the seeds takes from about six months to three and a half years after fertilisation The seeds of most species have a broad wing and can be carried by the wind. Pines are valuable as sources of timber and of turpentine and rosin and for ornament One of the most valuable of timber trees is the white pine (*Pinus strobus*) It is used especially for interior trim and cabinetwork. It once grew densely in North America from Newfoundland to Manitoba and over much of the E United States and westward to Minnesota Constant cutting and attacks of the white-pine blister rust have greatly depleted the stands, especially in the NE United States Other pines with similar straight-grained, soft wood containing little resin are called white pines, e g , the western white pine (*P monticola*), the lodgepole pine (*P contorta*), and the sugar pine (*P lambertsiana*) The wood of the hard, pitch, or yellow pines is more resinous, heavier, and harder than that of the white pines The southern yellow or longleaf pine (*P palustris*) is used for heavy construction work, and its highly resinous wood is a source of turpentine, rosin, and other naval stores It is also a source of pulpwood Other hard pines are the western yellow pine (*P ponderosa*), the red or Norway pine (*P resinosa*), the shortleaf pine (*P echinata*), and the loblolly pine (*P taeda*) In the forests of Europe the Scotch pine (*P sylvestris*) is one of the principal coniferous trees The kauri pine (*Agathis australis*) of New Zealand, a member of the pine family, though not a true pine, is a commercial source of timber and rosin The seeds of some pines are edible (see PINE NUT)

pineal gland (pĭ'nēŭl), small cone-shaped body on the roof of the brain Its tissue is glandular up to the age of about seven years, when the gland begins to retrogress and the tissue gradually becomes fibrous Precocious sexual development in males is believed to be related to malignancy of the pineal gland There is some evidence that extracts of the organ retard growth generally, but little is understood of its precise role in human physiology It is sometimes known also as the pineal body It is present in a rudimentary form in vertebrate forms from fish to mammals, in some of the fish and reptiles it is supported by a stalk, and because it somewhat resembles an eye is called the pineal eye It is probably the vestige of a functional sense organ of early, primitive vertebrates.

pineapple, herbaceous perennial (*Ananas sativa*), native to the tropics of Central and South America, and its spiny, juicy fruit of delicious flavor, for which it is cultivated throughout the tropics The sword-shaped, spiny leaves yield a strong, fine fiber—the most delicate and probably most costly of vegetable fibers—which is made into piña or pineapple cloth in the Philippines In the United States, pineapples were grown commercially in Florida, where they were first introduced c 1850, but because of a number of circumstances including disease, unfavorable temperatures, and the development of its culture elsewhere, the pineapple as a commercial crop is no longer important in that state Most of the imported fruit comes from Hawaii and the West Indies Large quantities of the flesh (both sliced and grated) and of the juice are canned. Pineapples are sometimes grown for ornament.

Pine Bluff, city (1940 pop 21,290; 1949 special census pop. 34,630), co. seat of Jefferson co , SE central Ark , on the Arkansas river and SE of Little Rock, settled 1819. It is a railroad center, with cotton and lumber industries and, since 1936, stockyards. Arkansas Agricultural, Mechanical, and Normal College (Negro; coeducational; chartered 1873) is here. Near by are a state recreational park for Negroes and a state prison farm.

Pine City, village (pop 1,718), co seat of Pine co., E Minn , on the Snake and N of St. Paul near the Wis. line, in a farm and dairy area; platted 1869, inc 1881

Pine Grove, borough (pop. 2,239), E Pa , between Harrisburg and Pottsville; settled 1771, laid out 1830, inc. 1832.

Pine Hill, borough (pop. 1,537), SW N J., SE of Camden; inc. 1929.

Pinehurst, winter resort, central N.C , SW of Raleigh, developed after 1895, chartered 1911 Its mild climate, native longleaf pine, and sports facilities, especially golf and riding, make it a popular recreation center

Pine Island, village (pop 1,040), SE Minn , NW of Rochester, settled 1854, inc 1878 With many Swiss settlers, it is a center of cheese making

Pinel, Philippe (fēlēp' pēnĕl'), 1745–1826, French physician, M D Univ of Toulouse, 1773 After moving to Paris in 1778, he was appointed (1793) director of the Bicêtre hospital and shortly thereafter of the Salpêtrière His *Traité médico-philosophique sur l'aliénation mentale* (2d ed., 1809), based on observations in both these hospitals, advocated humane treatment of the insane and a more empirical study of mental disease He furthered psychiatry through his reforms, his stress on the role of passions in mental disease, and his establishment of the custom of keeping well-documented psychiatric case histories for research

pine nut or **pińon** (pĭn'yun, pēn'yōn), edible seeds of various species of pine (*Pinus*) trees of W North America and Mexico and of the Old World Among the North American species which bear such edible seeds are the nut pines *Pinus edulis* and *P monophylla*, the Digger pine *P sabiniana*, and the Torrey pine, *P torreyana* The nuts have a thin red-brown shell and range in size from about $^3/_4$ in to about $1^1/_2$ in. Pine nuts were an important food for the early American Indians and are still harvested by some tribes both for food and for trading Pignolia nuts are the seeds of *P pinea* of S Europe, where they are much used for food Quantities are exported to be used salted and in confectionery In the trade the name pignolia is often applied to all pine nuts

Pinero, Sir Arthur Wing (pĭnēr'ō), 1855–1934, English dramatist, b London, of a Portuguese-Jewish family *Sweet Lavender* (1888), a highly popular sentimental comedy, was surpassed in success by *The Second Mrs Tanqueray* (1895) The production of this play, which raised shocked protest, marked a new period in modern stage history A number of problem plays followed, including *The Notorious Mrs Ebbsmith* (1895), *The Thunderbolt* (1908), and *Mid-Channel* (1909) A successful farce was *Trelawny of the Wells* (1898) Pinero was important for his anticipation of the trend towards realism in the theater He was knighted in 1909 See H H Fyfe, *Sir Arthur Pinero's Plays and Players* (1930), biography by W D Dunkel (1941)

Pinerolo (pēnārō'lō), Fr *Pignerol* (pē"nyurôl'), town (pop 15,363), Piedmont, NW Italy, SW of Turin and at the foot of the Cottian Alps It passed to the house of Savoy in 1243 and was a strong citadel It was repeatedly in French hands between 1536 and 1814 Nicolas Fouquet died in the citadel after 19 years of imprisonment, and the Man with the IRON MASK was held here from 1679 until his transfer to the Bastille

Pines, Isle of, Span *Isla de Pinos* (ēs'lā dā pē'nōs), island (1,182 sq mi , pop 9,812), off SW Cuba Pine forests cover much of the island, which is in general a plateau from 50 to 100 ft above the sea The southern third is salt marsh, but on the northern half are low ridges from which marble is quarried Much of the land is owned by U S citizens The chief products are tobacco, citrus fruits, pineapples, and winter vegetables With a mild, healthful climate, it is a popular tourist resort Discovered by Columbus in 1494, the island was long used as a penal settlement and was a rendezvous for buccaneers Surrendered by Spain after the Spanish-American War and omitted from the Platt Amendment, which defined Cuba's boundaries, it was claimed by American residents as well as Cubans until the U S Supreme Court declared (1907) that it did not belong to the United States A treaty confirmed (1925) the island as Cuban.

Pines, Isle of, or **Kunié** (kōōn'yā), island (58 sq mi , pop 600), S Pacific, 30 mi SE of NEW CALEDONIA, of which it is a dependency It was formerly a penal colony

Pineville. **1** Town (pop 3,882), co seat of Bell co., S Ky , in a bend of the Cumberland river near Cumberland Gap and N of Middlesboro It is a resort and tourist center in a coal and timber area The town was settled around a tollgate (1797–1830) on the old Wilderness Road at a gap in Pine Mt At near-by Pine Mountain State Park occurs the annual mountain-laurel festival **2** Town (pop 4,297), central La., on the Red River opposite ALEXANDRIA, settled in the early 18th cent , inc. 1878 Tombstone manufacture is its chief industry. Louisiana College, a state hospital, and a national cemetery are here; near by are Camp Beauregard (an army camp), a U S veterans' hospital, the state colony for the feeble-minded, and a state industrial school for girls. **3** Textile-mill town (pop 1,144), S N C , at the S C. line S of Charlotte James K Polk was born near by.

Ping-pong: see TABLE TENNIS.

pink or **dianthus** (dīăn'thŭs), any plant of the genus *Dianthus*, widely cultivated Old World herbs Several species of pinks are better known by their individual names, such as CARNATION and SWEET WILLIAM. Those that are best known as pinks include a large number of easily cultivated garden flowers, usually with fringed and spicily fragrant blossoms, either single or double and shading from white to red The grass pink (*Dianthus plumarius*) is an old-fashioned flower and the most common; the maiden pink (*Dianthus deltoides*) is a popular, densely tufted species Some kinds, called annual pinks, bloom the first year from seed. A number of other plants share the name of pink, e g , the ground pink, a PHLOX

Pinkerton, Allan, 1819–84, American detective, founder of the Pinkerton National Detective Agency, b Glasgow, Scotland A cooper by trade, he came to America in 1842 and opened in West Dundee, Ill , a cooper's shop, which became a station on the Underground Railroad. His discovery and capture of a band of counterfeiters led to his election (1846) as county sheriff and, in 1850, to an appointment as the first city detective on the Chicago police force He established in the same year a private detective agency which had considerable success in solving train and express-company robberies In 1861 he foiled a plot to assassinate Lincoln, on his way to Washington for his inauguration, and in the Civil War organized an espionage system behind the Confederate lines His agency secured (1869) evidence on which the organization of the MOLLY MAGUIRES was broken up After Pinkerton's death, the agency was continued by his sons, Robert A Pinkerton and William A Pinkerton, and was active in the Homestead strike of 1892 The agency has been chiefly identified with industrial disputes, and its methods, including the use of labor spies, have resulted in bitter condemnation by labor and in investigations by Congress of industrial espionage Pinkerton wrote of his own experiences in *Criminal Reminiscences and Detective Sketches* (1879), *The Spy of the Rebellion* (1883), and *Thirty Years a Detective* (1884). See R W Rowan, *The Pinkertons* (1931)

pinkeye, name for an acute contagious CONJUNCTIVITIS, or inflammation of the mucous membrane lining the eyelids and covering the eyeball. It is prevalent among horses and is fatal if not properly treated, it produces a mucopurulent (mucous and pus) discharge from the eyes and loss of appetite In humans it is also called Koch-Weeks conjunctivitis and is characterized by an angry redness of the membranous sheathing of the eye

Pinkie, battlefield E of Edinburgh, Scotland Here the English under Edward Seymour, duke of SOMERSET, defeated a larger Scottish force, Sept 10, 1547 Seymour's invasion of Scotland to enforce a marriage treaty between the boy Edward VI and little Princess Mary of Scotland so angered the Scots that Mary was sent to France to avoid the marriage

Pinkney see also PINCKNEY

Pinkney, Edward Coote, 1802–28, American poet, b London, son of William Pinkney The lyrics in his *Poems* (1825) establish him as a true, if minor, poet See collection of his prose and verse (with memoir by T O Mabbott and F L. Pleadwell, 1926)

Pinkney, William, 1764–1822, American statesman, b Annapolis, Md Admitted to the bar in 1786, he soon became prominent in state politics In 1796 he was sent to England as a commissioner under Jay's Treaty, remaining until 1804 Two years later he was sent with James Monroe on a special mission to England to deal with reparations and impressments Pinkney remained as minister to England (1807–11), but was unsuccessful in settling difficulties between the two countries He was U S Attorney General (1811–14) and fought in the War of 1812, being wounded at Bladensburg (1814) After serving as a U S. Congressman (1815–16), he was minister to Russia (1816–18), he also went on a special mission to Naples to adjust claims of American merchants against Naples After his return he practiced law, gaining a considerable reputation as a constitutional lawyer, and served in the U S Senate (1819–22) See biography by his nephew, William Pinkney (1853), H H. Hagan, *Eight Great American Lawyers* (1923).

pinkster flower. see AZALEA.

pinnacle (pĭ'nĭkŭl), minor architectural motive of vertical tapering shape, usually crowning a pier, buttress, or gable Though sometimes it appears in Renaissance design, as in the Certosa di Pavia, it is almost exclusively a medieval form, originating in the late Romanesque and becoming common in Gothic Topping the piers of the flying buttresses of side aisles and choirs, pinnacles weighted the pier and thus counteracted the thrust of the flying arch, while furnishing also effective vertical adornments At the summit of a square tower bearing an octagonal spire they filled the corner angles and created a graceful transition. With the advance of the Gothic, pinnacles appeared in all parts of the church In France they multiplied and assumed the widest variety of forms, adorned with gables, tracery, colonnettes, and canopied niches and culminating in a richly crocketed finial. In some flamboyant churches they rise in an actual forest from buttresses and chapel piers. In England they were far less important and remained

relatively simple. Pinnacles also adorned tombs, choir screens, pulpits, and furniture, as well as numberless objects of medieval art

Pinnacles National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Pinocchio · see COLLODI, CARLO

pinochle (pē'nŭ"kŭl), card game played by two, three, or four players, with a deck of 48 cards This deck is made up of two each of 9 through ace in all four suits. Auction pinochle, probably the most popular form of the game, is played by three persons at one time, although any number of persons may play in rotating units of three Each of the three players is dealt a hand of 15 cards, and three cards are dealt face down to the table Bidding generally starts at 250 or at 300 points and progresses in rotation and in multiples of 10 points The highest bidder takes the contract, picks up the three cards on the table, and in turn buries, or puts down, three cards from his hand But first he melds, i e , shows combinations of cards, which are scored as follows ace through 10 in one suit (flush) =150 points, an ace in each suit=100, a king in each suit=80, a queen in each suit=60, a jack in each suit=40, a jack of diamonds with a queen of spades=40 (pinochle, double pinochle=80, although some players count it as 300), king and queen (a "marriage") of the same suit=20 (40 if in trumps) In the trump suit 9s count 10 points Should the meld score closely approach, equal, and go over the bid score, the bidder wins, and if there is an insurmountable deficit the bidder loses If there is a redeemable deficit, the bidder must gather in his meld and play to wipe it out and thus win. He then names trumps and leads the first trick. The two non-bidders play against the bidder, and in play cards rank aces, 10 points, 10s, 10 points, kings, 5 points, queens, 5 points, jacks, no points, and 9s, no points There are other means of scoring cards in play The suit led must be followed, and the highest card takes the trick, and if two cards of the same rank are played, the first one down wins If a player has no cards in the suit that is led, he is obliged to throw trump—which has priority in rank over all other non-trump cards A trump that is led must be followed by higher-ranking trump If a player has no cards in the suit that is led and no trumps, it is his option to throw any card—which will have no rank at all Taking the last trick brings an award of 10 additional points In two-handed pinochle 12 cards are dealt to each player, a card is turned up which determines trump suit, and players may meld after each trick that is won Thus meld and play continue concurrently until the stock is used up—after which play is continued until the last 12 cards in the hand are exhausted—and the highest combination score of meld and tricks wins Four-hand, or partnership, pinochle may be played on an auction basis—in which case each member receives 12 cards and bids to meld and to name trump After melding, the bidder joins forces with his partner in play against the other set of partners Another form of partnership pinochle is played by opening the bottom card to determine trump All four players meld before the opening trick is led In all these forms of pinochle, an arbitrary point goal is often set, e g , 1,000 points, instead of just playing for game Pinochle probably originated in Europe in the 19th cent and later became a very popular game in the United States See Michael MacDougall, *On Pinochle* (1947), R L Frey, ed , *The New Complete Hoyle* (1947)

Pinon (pē'nōn), duke of Edom Gen 36 41, 1 Chron 1 52

piñon. see PINE NUT

Pinos, Isla de see PINES, ISLE OF

Pinsk (pĭnsk, Rus. pēnsk), city (1931 pop 31,913), capital of Pinsk oblast, W Belorussia, in the Pripet Marshes It is a port on the Pina river (part of the Dnieper-Bug waterway) and has varied manufactures Founded (1097) by Kievan Russia, it passed to Lithuania in the 14th cent and developed as a Polish city in the 16th cent It passed to Russia in the second partition of Poland (1793), reverted to Poland in 1921, and was ceded to the USSR in 1945 Until the Second World War the larger part of the inhabitants were Jews, they were virtually exterminated during the German occupation

Pinski, David (pĭn'skē), 1872–, Yiddish playwright and novelist, b. Russia He wrote stories and plays in Yiddish about the ghetto and assisted in editing a Yiddish periodical in Moscow After studying medicine in Berlin for two years, he came (1899) to the United States In New York he edited several labor and socialist papers He was one of the most successful playwrights of the Yiddish Theatre, and *The Treasure* was produced in English by the Theatre Guild in 1920 Among his works available in English are *Ten Plays* (Eng tr , 1920), *King David and His Wives* (Eng tr , 1923), a play, and *Arnold Levenberg* (1928), a novel

Pinto, Fernão Mendes (fĕrnŭ'ō mĕn'dĕsh pēn'tō), c 1514–1583, Portuguese traveler For some 20 years he traveled in Africa and Asia, visiting far places and undergoing great hardships, including years when he was kept in slavery His account, *Peregrinação* [wanderings] (1614), is one of the most colorful narratives of world travel literature. Its truthfulness has been much assailed, but it is now generally agreed that the story is basically true, though much exaggerated

Pinturicchio (pēntōrē'kyō) or **Pintoricchio** (pēntō–) [Ital ,=little painter], c 1454–1513, Umbrian painter, pupil of Fiorenzo di Lorenzo His real name was Bernardino di Betto He was famous for his highly decorative frescoes and panel pictures. He was influenced by Perugino, with whom he collaborated on the frescoes for the Sistine Chapel in the Vatican Pinturicchio worked chiefly in Perugia, Rome, and Siena Many of his best works have survived, among them the paintings of the life of St Bernardine in the Aracoeli, Rome, the frescoes in the Borgia apartments in the Vatican, including the noted *Dispute of St Catherine*, and the frescoes in the Church of Santa Maria Maggiore at Spello His masterpiece, the elaborate decorations in the cathedral library at Siena representing 10 scenes from the life of Pius II, are among the best preserved in Italy In the Metropolitan Museum are the 22 panels of mythological paintings from the ceiling of the reception room of the Palazzo del Magnifico in Siena The National Gallery of Art, Washington, D C , has *Madonna and Child, Portrait of a Youth*, and *Madonna Adoring the Child* See studies by E M Phillipps (1901) and Corrado Ricci (1902)

pinxter flower. see AZALEA

Pinza, Ezio (āts'yō pēn'tsä), 1895–, Italian-American basso, b Rome, studied at the Univ of Ravenna and the Bologna Conservatory He served (1915–18) in the Italian artillery After his operatic debut (1919) in Rome, he sang at La Scala in Milan In 1926 he was engaged by the Metropolitan Opera Company There, in revivals of Mozart's *Don Giovanni* (1929) and *The Marriage of Figaro* (1939) and in Moussorgsky's *Boris Godunov* (1939), he achieved outstanding success He also appeared on the musical-comedy stage in *South Pacific* (1949)

Pinzón, Martín Alonso (martēn' älōn'sō pēnthōn'), d 1493, Spanish navigator The commander of the *Pinta* on Columbus's first voyage to the New World in 1492, he was already an experienced seaman and an influential citizen of Palos de la Frontera The support given to Columbus by him and his brothers is not definitely known, but it was important to the eventual success of the expedition For reasons which are not clear, he abandoned Columbus in the Antilles for more than six weeks and upon rejoining him was rebuked for treasonable conduct On the return voyage his ship was separated from that of Columbus in a storm, but both reached Palos the same day, March 15, 1493 He died soon afterward His younger brother, **Francisco Martín Pinzón** (franthē'skō), fl 1492, was master of the *Pinta* Another brother, the youngest, **Vicente Yáñez Pinzón** (vēthān'tā yä'nyāth), fl 1492–1509, commanded the *Niña* on Columbus's expedition When the *Santa María* was wrecked on the coast of Hispaniola, Vicente Pinzón took his chief aboard, and Columbus finished the voyage in the *Niña* In 1495 Pinzón received letters patent for an expedition, but it is unknown whether he made a voyage immediately He commanded an expedition which sailed from Palos in Nov , 1499, reached the coast of Brazil (Jan , 1500), probably near its easternmost point, and discovered the mouth of the Amazon river In 1505 he was made governor of Puerto Rico, with permission to colonize the island He explored the coasts of Yucatan, Honduras, and Venezuela with Juan Díaz de Solís (1508–9) The Pinzón family was granted armorial bearings by royal order in 1519

Piombo, Sebastiano del: see SEBASTIANO DEL PIOMBO

Piotrkow Trybunalski, Pol *Piotrków Trybunalski* (pyô'turkôf trĭbôonal'skē), city (pop 40,141), central Poland, S of Lodz Founded in the 12th cent , it was the seat of several diets (15th–16th cent) and tribunals (16th–18th cent) Chiefly a trade center, the city also has a metal industry, there are quartzitic slates and glass sand in the vicinity

Piozzi, Madame see THRALE, HESTER LYNCH

pipal: see BO TREE

pipe, a structure, usually cylindrical, for the conduction of materials It is widely used to carry liquids or gases for such purposes as irrigation, water supply, heating and ventilation, refrigeration, and sewerage, as a structural material, and for conduits for electrical wiring Pipes may be made of metal, wood, fiber, clay, cement, concrete, glass, plastics, or stone Metal pipes, the most commonly used, are generally of iron, steel, copper, brass, lead, or block tin Lead pipes, used since ancient times, were at first made by bending a sheet of lead around a core and soldering or welding the edges together, after c 1800 molten lead was forced through a die Cast-iron pipes, commonly used for water and gas mains of large diameter, are made by pouring molten metal into a mold consisting of a core and a flask An early use of wrought-iron pipe was for gun barrels, these were made by bending strips of iron into a circular form and welding the edges together Most wrought pipe today is of steel and is either seamless or welded. Seamless pipes are made from cylindrical ingots forced or drawn at white heat over a long bar (mandrel) Welded pipe is made from a flat strip of metal (skelp) bent to a tubular shape, and lap- or butt-welded, usually by passing through welding rolls. For lap-welded seams the edges are beveled and overlapped, for butt-welded seams the skelp is bent so that the edges are in perfect contact For some pipes of large diameter overlapping edges are hammer-welded by power hammers The edges of copper or brass seamed pipe are soldered or brazed. Very thin metal pipes have interlocked edges Fiber pipes, used chiefly for conveying chemicals, are made by winding sheets of wood pulp over a core Fire-clay pipes, used extensively for drains, are either left porous or made impermeable with a salt glaze Large water pipes are commonly made of concrete reinforced with steel mesh or bars or of cement or asbestos cement. Wooden pipes were at first made by boring logs In the 19th cent an improved type made of staves bound together with wires or hoops became common See Sabin Crocker, *Piping Handbook* (4th ed , 1945) Common use is made of **pipe lines** for conveying water, petroleum, and natural gas from their source over long distances to a refinery or to a place of consumption Probably the first line for piping crude petroleum was one c 4 mi long laid (1865) near Titusville, in NW Pennsylvania, the first real trunk line was constructed (1879) to connect the oil fields of W Pennsylvania with refineries on the coast In Texas the first long pipe line for conveying natural gas, the forerunner of the many later ones, was constructed in 1910, connecting a field in Clay co with Fort Worth and later with Dallas During the Second World War the U S government financed the construction of the "Big Inch" pipe line (completed July, 1943) for carrying crude oil from Texas to refineries in Philadelphia, New Jersey, and New York and the "Little Big Inch" (completed in Dec , 1943) for conveying gasoline and other petroleum products from Texas to the New York area Oil from the fields of Iraq is carried by pipe line to Haifa See C M Wilson, *Oil across the World the American Saga of Pipelines* (1949)

pipe, tobacco. In pre-Columbian time pipes for smoking TOBACCO were used by many tribes of American Indians, and finely carved stone pipes are characteristic relics of the mound builders The smoking of the CALUMET or peace pipe was a ceremony that established a covenant between tribes Sir Walter Ralegh is believed to have popularized pipe smoking in England Through English influence especially, the custom traveled eastward around the world, even to Indians of W North America who had not learned it from eastern tribes of their own race The Oriental water pipe (the hookah or narghile) passes the smoke through water to cool and cleanse it Notable pipe materials include MEERSCHAUM, brier, calabash (a bottle gourd of tropical America), clay, and corncobs Clay pipes include the short dudeen of Ireland and the long churchwarden. Early clay pipes were small because tobacco was expensive, they have been called elfin pipes and have been wrongly attributed to times before tobacco was introduced in Europe The cob of the Indian corn is extensively used for pipe bowls in Europe as well as in America See Alfred Dunhill, *The Pipe Book* (1924)

pipe lines see PIPE

pipe rolls, ancient records of the crown revenue and expenditures of England, so called, probably, because of the pipelike form of the rolled parchments on which these records were kept The oldest pipe roll dates from the 31st year of the reign of Henry I (1131), and from 1156 they are almost completely intact The earliest of these records have been published and are an invaluable source for social history The pipe rolls were not completely abandoned for modern accounting methods until 1833

Pipe Spring National Monument see NATIONAL PARKS AND MONUMENTS (table)

Pipestone, city (pop 4,682), co seat of Pipestone co , SW Minn , near the S Dak line. It is the center of a farm and dairy region Near by are pipestone quarries used by Indians, seen by Catlin in 1836, and made part (1937) of Pipestone National Monument (115.6 acres) The Pipestone Indian Training School was founded here in 1893

pipestone, hard, dull red clay stone, used by Indians in making pipes Called calumets, the pipes were extensively used in ceremonials The Indians held pipestone sacred, and even in time of war the quarries were regarded as neutral ground Pipestone is also called catlinite, in honor of George CATLIN, who lived among the Indians It is found in Minnesota and the Dakotas, in Canada, and in scattered places elsewhere Pipestone and Pipestone co. in Minnesota and Pipestone river in Canada are named after the material.

pipe tree: see LILAC and MOCK ORANGE.

pipe vine: see DUTCHMAN'S-PIPE.

Pippi, Giulio · see GIULIO ROMANO.

Pippin. For Frankish rulers thus named, see PEPIN.

Piqua (pĭ'kwä), city (pop 16,049), W Ohio, on the Great Miami river and N of Dayton, settled 1797 as Washington, named Piqua 1816, inc as a town

1823, as a city 1850. Aircraft parts and motor vehicles are made here.

piquet (pēkā'), card game played by two persons with a deck of 32 cards—7 up to ace in each suit The name also appears as picquet Each player receives 12 cards, and eight cards are left on the table face down. The non-dealer (the minor) discards from one to five cards and picks up an equal number from the table The dealer (the major) is entitled to exchange the remaining number of cards. Trumps are not named After the draw from the table, the hands are compared and points are given for the greatest number of cards in each suit, for the highest index value—aces counting 11 and face cards 10—in suits of equal length, for the longest sequence in each suit, and for the highest set of three or four of a kind Points are also scored for having a hand without a face card (*carte blanche*) and for scoring 30 points before the opponent scores one point before the opening lead (*repique*) Play begins after the card combinations have been announced and scored, and tricks are won by a higher card of the suit lead Additional points are tallied for taking in tricks with a card of 10 or higher, for winning a majority of the tricks, and for taking the last trick A player suffers *pique* if the opponent scores 30 or more consecutive points after the opening lead Piquet au cent and Rubicon piquet are variations of the game The origin of piquet is not clear, but it is known to have been established by the 16th cent , to have been popular in France, Spain, and Italy, and to have spread to England under the name cent. See R L Frey, ed , *The New Complete Hoyle* (1947)

piracy, robbery committed on the high seas by force of arms, comparable to brigandage on land It is distinguished from PRIVATEERING in that the pirate holds no commission and receives the protection of no national flag, but, on the contrary, usually attacks vessels of all nations A pirate, therefore, is a highwayman of the sea Since piracy is a crime against mankind, not against any one nation, those practicing it may be tried in any competent court, regardless of nationality Except in battle, pirates may not be executed without trial To the forms of piracy defined by international law, a nation may add offenses committed on board its own vessels or in its own territorial waters Such crimes can be punished only by the nation which passes the law Since the line between privateering and piracy is often hard to draw, opportunity exists for varied determinations as to what acts constitute piracy, and any act of doubtful legality committed on the high seas may be characterized as piracy Thus the sinking of merchant vessels by the Germans in the First World War was characterized by some as piracy, but the validity of this theory is questionable as the act was done by authority of a national state However, at the Washington Conference of 1921 a treaty was concluded which declared that improper visit and search (see SEARCH, RIGHT OF) by a person in the service of any power would constitute piracy Piracy, a result of failure or laxity in patrolling sea routes, flourished in times of unrest, or when navies ordinarily protecting commerce were engaged in war Pirates found their most suitable base of operations in an archipelago which offered shelter together with proximity to trade routes Pirates preyed upon Phoenician and Greek commerce and were so active in the 1st cent B C that Rome itself was almost starved by their interception of the grain convoys Pompey swept piracy from the Mediterranean, but with the decline of the Roman empire it revived there and continued prevalent until modern times The vikings harassed commerce of the Baltic Sea and the English Channel, Moslem pirates infested the W Mediterranean, and even the Venetians, who ostensibly policed the E Mediterranean, preyed upon the maritime trade of rival cities The Barbary states got much of their revenue from piracy In the North, the Hanseatic League early succeeded in curbing piracy When new trade routes were opened in the Renaissance, the exportation of precious metals from the Spanish colonies, the rich trade with the East, and the development of the slave trade, made piracy especially lucrative At this period no great stigma was attached to piracy, because maritime law had not been systematized This fact, together with the increasing colonial rivalry of the powers, led states to countenance those pirates who promoted the national cause by attacking the commerce of rival nations With the tacit approval of provincial authorities, the Antilles became a pirates' rendezvous, and the English buccaneers of the SPANISH MAIN in the 17th and 18th cent , who despoiled the Spanish treasure armadas and pillaged Spanish-American coast settlements, returned to England to divide their spoils with the crown and to receive the royal pardon. The development of national navies caused the decline of piracy Beginning in 1803, the United States endeavored to crush the corsairs of Tripoli In 1815 and 1816 the United States, the Netherlands, and Great Britain wiped out the Barbary pirates, who had exacted tribute under the threat of capturing ships and imprisoning their crews. In 1816, Great Britain and the United States began operations against pirates in the West Indies particularly those on the Cuban coast, and in 1825 the United States sent David PORTER to complete the task The last existing strongholds of piracy were along the Straits of Malacca and the China seas, where, to the present time, sporadic cases of piracy occur, though the power of the pirates was broken after the Opium War In the long history of piracy, many famous characters appear Sir Francis DRAKE, Sir John HAWKINS, and John CAVENDISH were the most noted of the Elizabethan buccaneers, Edward MANSFIELD and Henry MORGAN followed in their wake Other well known pirates are Jacques NAU, Jean LAFFITE, and Edward Teach (BLACKBEARD) The case of Captain KIDD is doubtful The pirate is a frequent figure in literature, especially in books written for boys Perhaps the most famous fictional pirate is Long John Silver in R L Stevenson's *Treasure Island* Sir Walter Scott and James Fenimore Cooper each wrote a novel entitled *The Pirate*, Charles Kingsley wrote of buccaneers in *Westward Ho!*, and Sir William Gilbert ridiculed pirate stories in his *Pirates of Penzance* See G F Dow, *The Pirates of the New England Coast* (1923), Philip Gosse, *The Pirate's Who's Who* (1924) and *The History of Piracy* (1932), H A Ormerod, *Piracy in the Ancient World* (1924), Owen Rutter, *The Pirate Wind* (1930), C B Driscoll, *Pirates Ahoy!* (1941)

Piraeus (pīrē'us), Gr *Peiraieus* or *Piraieus* (both pērā'fēs'), city (pop 205,404), Attica, E central Greece, 5 mi SW of Athens and on the Saronic Gulf It is the port of Athens and the largest port of Greece Its construction was planned by Themistocles and executed (c 450 B C) by the architect Hippodamus of Miletus in the time of Pericles, who is also credited with the building of the Long Walls These two parallel walls, about 200 yd apart, connected Athens with Piraeus and enabled Athens to receive supplies from its port during the Peloponnesian War The port, itself strongly fortified, consisted of three harbors, one for corn vessels, one for merchant ships in general, and one for warships In 404 B C the Spartans destroyed the Long Walls to the accompaniment of flute music, but Conon rebuilt them in 393 The arsenal (built 347–323 B C) and fortifications were destroyed by Sulla in 86 B C , and few traces of the Long Walls remain Piraeus regained importance only after Greece recovered its independence in the 19th cent It was heavily bombed in the Second World War The modern port has shipyards, and the city is an important trading and manufacturing center

Piram (pī'rām), Amorite king defeated and killed by Joshua Joshua 10 3–27

Pirandello, Luigi (lwē'jē pērändĕl'lō), 1867–1936, Italian dramatist and novelist, b Sicily He won the 1934 Nobel Prize in Literature Educated in Rome and at the Univ of Bonn, he was professor (1897–1921) of Italian literature at the Normal College for Women in Rome His first writing was in poetry, but on the advice of Giovanni Verga he turned to short stories and novels Of the novels, *Il fu Mattia Pascal* (1904, Eng tr , *The Late Mattia Pascal*, 1923) achieved wide popularity after his reputation as playwright had been made by the immediate international success of his drama *Sei personaggi in cerca d'autore* (1921, Eng tr , *Six Characters in Search of an Author*, 1922) He was thereafter recognized as the outstanding figure in contemporary Italian literature Pirandello's output includes some 300 stories, six novels, and about 50 plays In the novels and plays he presents philosophical problems, often subtle, such as the value of actuality and the unity or diversity of the self, he has even dramatized aesthetic problems Perhaps his most prominent characteristics are intellectuality and wit He was one of the first Italian intellectuals to accept Fascism Among his works are three translated selections of short stories, *Horse in the Moon* (Eng tr , 1932), *Better Think Twice about It* (Eng tr , 1935), and *The Medals and Other Stories* (Eng tr , 1939) His translated novels include *L'esclusa* (1901, Eng tr , *The Outcast*, 1925), *I vecchi e i giovani* (1913, Eng tr , *The Old and the Young*, 1928), and *Si gira* (1915, Eng tr , *Shoot!* 1926) His translated plays include *Il piacere dell' onestà* (1917, Eng tr , *The Pleasure of Honesty*, 1923), *Così è, se vi pare* (1917, Eng tr , *Right You Are if You Think So*, 1922), *Enrico IV* (1922, Eng tr , *Henry IV*, 1922), and *Come tu mi vuoi* (1930, Eng tr , *As You Desire Me*, 1931), made into a moving picture starring Greta Garbo See W F Starkie, *Luigi Pirandello* (rev ed , 1937), Domenico Vittorini, *The Drama of Luigi Pirandello* (1935)

Piranesi, Giovanni Battista (jōvän'nē bät-tē'stä pē'ränā'zē), or **Giambattista Piranesi** (jäm"bät-tē'stä), 1720–78, Italian engraver and architect The greater part of his life was passed at Rome, where he made engravings of the buildings and monuments of the ancient and modern city His copperplates number over 1,000 (many of them of large size) and are executed in a bold, powerful manner His architectural designs are notable for their accuracy and grandeur. Among his finest plates are the 14 celebrated *Carceri* plates. See study by A. M. Hind (1922).

Pirate Coast: see TRUCIAL OMAN.

Pirathon (pī'rŭthŏn), unidentified place, central Palestine, the native town of one of David's captains and one of the judges, Abdon Judges 12 13,15; 2 Sam 23 30, 1 Chron 27 14

Pirenne, Henri (ärē' pērĕn'), 1862–1935, Belgian historian He was long a professor of medieval and Belgian history at the Univ of Ghent One of the leaders of Belgian passive resistance in the First World War, he was held (1916–18) as a hostage by the Germans In his *History of Belgium* (Eng tr , 7 vols , 1899–1932), he showed how traditional and economic forces had drawn Flemings and Walloons together through the course of history Another important work in Belgian history is *Belgian Democracy Its Early History* (Eng tr , 1915) He was an authority on the growth and persistence of cities, and in *Medieval Cities Their Origin and the Revival of Trade* (Eng tr , 1925) he revolutionized the accepted views He laid stress on Roman influences Other works are *Economic and Social History of Medieval Europe* (Eng tr , 1936) and *Mohammed and Charlemagne* (Eng tr , 1939)

Pirgos, Greece see PYRGOS

Pirmasens (pĭrmäzĕns'), city (1939 pop 50,401 1946 pop 37,859), Rhenish Palatinate, W Germany It is a leather-manufacturing center Here in 1793 the allies defeated the French in the French Revolutionary Wars

Pirna (pĭr'nä), city (pop 37,426), Saxony, E Germany, on the Elbe and SE of Dresden It has various manufactures, notably of rayon, paper, and glassware and enamelware There are sandstone quarries near by Pirna was first mentioned in 1233 It has a 16th-century church and city hall, and it is overlooked by the old Sonnenstein castle, now an insane asylum

Pisa (pē'zä), in ancient Greece, region around Olympia, center of an area called Pisatis. The inhabitants long contended with the Eleans for the presidency of the Olympic games until c 572 B C , when they were defeated by the Spartans and Eleans There may have been a city Pisa, but all traces have been lost

Pisa (pē'zä, Ital pē'sä), city (pop. 49,471), capital of Pisa prov , Tuscany, central Italy, on both banks of the Arno It is now 6 mi from the Tyrrhenian Sea, which once reached the city Probably a Greek colony, later certainly an Etruscan town, Pisa grew under Roman rule By the end of the 11th cent Pisa had developed into a powerful maritime republic, fighting the Arabs throughout the Mediterranean and rivaling Genoa and Venice With the acquisition of possessions and trading privileges in the Orient during the Crusades, Pisa's political and commercial power grew Rivalry with Genoa for the possession of Corsica and Sardinia caused long wars until Pisa's naval power was crushed by Genoa at the battle of Meloria (1284) As a Ghibelline center Pisa was also chronically at war with Florence throughout the 13th and 14th cent Ruled at times by tyrants, the city valiantly defended its autonomy until in 1406 it fell to Florence A school of sculpture founded by Nicola Pisano flourished in Pisa in the 13th and 14th cent It gave the city some of its great art treasures. The university at Pisa, dating from the 14th cent , enjoyed a great reputation, Galileo, who was born here, was a student and later a teacher here Before the Second World War, Pisa was a marvel of Romanesque and Gothic architecture, its oldest monuments were built in the characteristic Pisan style, a variation of the Romanesque The ancient houses that lined the Arno were heavily damaged, all but one of its bridges were blown up In the *camposanto* [cemetery] the fine tracery and frescoes by Gozzoli and other Tuscan artists of the 14th and 15th cent were virtually ruined. Besides the *camposanto* the celebrated square of Pisa contains the ancient cathedral, which has a fine marble façade and is rich in works of art, the baptistery, and the famous leaning tower (180 ft high and 14 ft out of the perpendicular) These were only slightly damaged Among the other ancient churches, only Santa Maria della Spina (14th cent) escaped heavy damage

Pisa, Council of, 1409, uncanonical council of the Roman Catholic Church It was summoned to end the Great SCHISM by members of the two colleges of cardinals of the rivals, Gregory XII (in Rome) and Benedict XIII (Pedro de LUNA, in Avignon) The plan was to depose both men claiming to be pope and elect a new one The council was brilliant, having wide international attendance It declared both popes to be heretical and schismatic and therefore not popes, the cardinals proceeded to elect Pietro Cardinal Philargki as Alexander V This move served to complicate the schism with a third claimant rather than to dissolve it This council first gave quasi-official expression to the conciliar theory, i e , that councils are supreme in the Church, a notion that became prominent again at Constance and at Basel (see CONSTANCE, COUNCIL OF, and BASEL, COUNCIL OF) The canonical illegality of the council rests on several features, e g , most of the cardinals involved owed their creation to popes whom they declared to be holding office illegally.

Pisan, Christine de (krēstēn' dŭ pēzäⁿ'), b. 1364, d. between 1429 and 1431, French poet, of Italian descent. She wrote a large number of verse romances, works in prose, and lyric poems Her lyric poems are especially esteemed She was a woman of remarkable character and virtue and one of the first since antiquity to earn her living and support her family by writing Her writings translated into English include *Le Livre des faus d'armes et de chevalerie*, first translated and printed by Caxton as *The Book of Fayttes of Armes and of Chivalry* (re-edition, 1932), and *Le Livre du duc des vrays amans* (Eng. tr., *The Book of the Duke of True Lovers*, 1908). See Alice Kemp Welch, *Of Six Medieval Women* (1913)

Pisanello (pēzänĕl'lō), c 1395–1455?, Italian medalist, painter, and draughtsman of the early Renaissance He was also called Vittore Pisano, but his real name was Antonio Pisano Little is known of his life and artistic training, but his art shows the influence of Gentile da Fabriano, whom he assisted in the ducal palace in Venice Pisanello enjoyed great celebrity as a painter of frescoes, portraits, birds, and animals and wielded an important influence on Venetian art He was employed by princes throughout Italy, for whom he painted portraits and decorations for palaces and modeled medals He painted frescoes in the Lateran, Rome, in the Sala del Gran Consiglio, Venice, in the Castello, Pavia, and in Florence and Verona All have perished except *The Annunciation* in the Church of San Fermo Maggiore at Verona and *St George Mounting His Horse* in the Pellegrini Chapel, Church of Sant' Anastasia, Verona Among Pisanello's noble patrons were the Este family, the duke of Ferrara, and Alfonso V of Aragon and Naples. His very rare paintings are highly prized His surviving easel paintings are *The Miraculous Stag Appearing to St Eustace* (National Gall, London), portrait of a princess of the Este family (Louvre), portrait of Lionello d'Este (Bergamo), and *Portrait of a Lady* (National Gall of Art, Washington, D C) It is as a medalist, however, that Pisanello is chiefly known today His medals are of the highest artistic merit and greatly valued as historic memorials of the Renaissance Among the best known are those of Leonello d'Este, Francesco Sforza, Alfonso V, and Sigismondo Malatesta (all British Mus) and Vittorino da Feltre The Louvre has a number of his admirable nature and animal drawings See his *Drawings* (selected by G F Hill, with an introduction, 1929)

Pisano, Andrea (andrā'ä pēzä'nō), c 1270–c 1348, Italian sculptor, also called Andrea da Pontedera He is considered the founder of the Florentine school of sculpture He is said to have received his early training under Giovanni PISANO and to have worked in Venice before going to Florence, where he made the first bronze doors for the baptistery (finished 1336) Of the 28 panels, 20 relate the life of John the Baptist and eight present the cardinal and theological virtues The groups and figures are finely composed in a style well suited to relief modeling Through Andrea, Italian sculpture came under the influence of the architect and painter, GIOTTO, whom he succeeded as head of the work on the cathedral and the campanile at Florence To Andrea are ascribed a number of the panels in relief on the campanile (Giotto's Tower), executed perhaps from designs by Giotto himself, although that is questioned Andrea spent his last year in Orvieto, directing work on the façade of the cathedral there

Pisano, Nicola (nēkō'lä), b c 1220, d between 1278 and 1287, Italian sculptor and architect, supposed to have come from Apulia The period of his greatest productivity was from 1260 to 1278 He was the founder of a new school of sculpture in Italy A skilled carver, he studied the sculptures on antique sarcophagi and also studied natural forms He was already famous as an architect when he made his first great work of sculpture, the marble pulpit for the baptistery in Pisa, completed in 1259 or 1260 It was hexagonal, with panels in high relief, and was supported on columns, three of which rested on carved lions From 1265 to 1269 he worked on a pulpit for the cathedral at Siena, on which he was assisted by his son Giovanni and other pupils This was octagonal and larger, with more decorations than the pulpit at Pisa He designed the great fountain for Perugia and probably made 24 statuettes for it The work was completed by Giovanni in 1278 Other sculptures of Nicola are on the cathedral at Lucca He was the first great Italian sculptor In his art the classic and Gothic elements are harmoniously combined See study by C H Crichton and E R Crichton (1938) His son, **Giovanni Pisano** (jōvän'nē), b c 1245, d after 1314, was also an architect and sculptor Besides assisting his father in work on the pulpit for the cathedral at Siena and on the fountain at Perugia, he independently executed a pulpit (1298–1301) for Sant' Andrea, Pistoia, his masterpiece, and a pulpit (1302–10) for the cathedral at Pisa. The last was destroyed by fire in 1595, but fragments are preserved He did some interesting Madonnas and in 1312 was commissioned to make the tomb of Margaret, wife of Emperor Henry VII. Fragments of it are still in Genoa. As architect, Giovanni was in charge of important works in Pisa and Siena The beautiful cloisters of the *camposanto*, Pisa, and the façade of the cathedral at Siena are masterpieces of his designing.

Pisano, Vittore, see PISANELLO.

Piscataqua (pĭskă'tŭkwŭ, -kwä), name of the Salmon Falls River from E of Dover, N H., to Portsmouth Harbor, forming part of the N.H.–Maine border. Navigable, it was important in colonial history

Pisces (pī'sēz) [Latin,=fishes], in astronomy, a zodiacal constellation lying directly south of Andromeda It is described as two fishes with one end of a long rope tied to the tail of each The brightest star (Alpha Piscium) is a close double. Although Pisces is the 12th sign of the zodiac, the vernal equinox which marks the beginning of the astronomical year is now located in this constellation Because of the precession of the equinoxes, the vernal equinox has moved westward from the constellation Aries (where it was located ages ago) into Pisces

Pisco (pē'skō), city (pop 14,609), SW Peru, on the Pacific Pisco serves as the port for ICA and other near-by oases on the desert coast, but it is celebrated chiefly as the home of the brandy to which it has given its name.

pisé de terre see RAMMED EARTH.

Pisek, Czech *Písek* (pē'sĕk), city (pop 16,858), S Bohemia, Czechoslovakia, on the Otava river. It has several Gothic and baroque buildings There are tobacco, paper, and fur industries

Pisemsky, Aleksey Feofilaktovich (ălyĭksyä' fä"ufĭlak'tuvĭch pē'syĭmskĭ), 1820–81, Russian novelist and playwright. A realistic writer in the tradition of Gogol, he is known for his novels of country life prior to the emancipation In these he displays sympathy toward the peasant Of his novels, *A Thousand Souls* (1858) is outstanding, and of his plays, *A Bitter Fate* (1860, Eng tr, 1953)

Pisgah (pĭz'gu), mountain ridge, Jordan, just E of the N Dead Sea and of the S Jordan valley Its summit was called Mt Nebo Num 21.20, 23 14, Deut 3 27 See also ASHDOTH-PISGAH

Pishpek, KIRGHIZ SSR see FRUNZE.

Pisidia (pĭsĭ'dēŭ, -dĭ-), ancient country of S Asia Minor, S of Phrygia and N of Cilicia and Pamphylia It was a mountainous country, traversed by the Taurus, in whose fastnesses its warlike tribes maintained their independence until the country became a Roman province

Pisistratus (pĭsĭs'trutus), c 605–527 B C, Greek statesman, tyrant of Athens His power was founded on the cohesion of the rural citizens, whom he consolidated with farseeing land laws His coup d'état (c 560 B C) was probably not unpopular His rivals, the ALCMAEONIDAE and the aristocracy, managed to exile him twice, but in his last years he established himself sufficiently to leave Athens in the hands of his sons, HIPPIAS and HIPPARCHUS His foreign policy was to make Athens as great as Sparta by gaining Ionian leadership He first won Salamis for Athens and established Attic hegemony in the Dardanelles He did much to enhance Athenian cultural prestige, thus he established the preeminence of the Panathenaea and beautified the city He had an official text of Homer written down, probably the first. His name also appears as Peisistratus

Piso (pī'sō), distinguished family of the ancient Roman gens Calpurnia One of the best-known members was **Lucius Calpurnius Piso Caesoninus** (sē"zōnī'nus), d after 43 B C, father-in-law of Julius Caesar Piso, as consul (58 B C), aided in the banishment of Cicero Macedonia was his proconsular province (57 B C, 56 B C), and Cicero attacked him in the senate for extortion, especially in the orations *De provinciis consularibus* and *In Pisonem* In 50 B C Piso was censor Although he accompanied Pompey in the outbreak of the civil war (49 B C) he later was friendly with Caesar **Caius Calpurnius Piso**, d A D 65, was a prominent patron of literature He led a conspiracy against Nero, but it was discovered, and Piso killed himself

Pison (pī'sun), river of Eden Gen 2 11

Pispah (pĭ'spu) [Heb.,=expansion], son of Jether. 1 Chron 7 38.

Pissarro, Camille (kämē'yu pēsärō'), 1830–1903, French impressionist painter, b St Thomas, Virgin Islands, son of a Frenchman and a creole mother He was educated in Paris but did not begin his art study there until 1855, when he came under the influence of Corot and the Barbizon school Later he allied himself with Monet, Sisley, Renoir, and others in the impressionist movement Most of his life was passed in financial straits, and his work became popular only c.1890 Pissarro is famous for his light effects achieved through the use of broken color. He painted chiefly scenes of everyday life in the streets of Paris, London, and Le Havre He is represented in leading collections of French impressionist painting in Europe and America His *Bather in the Woods* is in the Metropolitan Museum

pistachio (pĭstä'shō, pĭstä'shē), tree or shrub of the genus *Pistacia*. The species which yields the pistachio nut of commerce is *Pistacia vera*, native to Asia Minor, Syria, and Palestine It is now cultivated on a small scale in parts of the SW United States and in many of the warmer parts of Europe and Asia; the trade supply comes largely from Persia, Syria, Afghanistan, Italy, and Sicily The tree grows usually to about 20 or 30 ft. in height. Staminate and pistillate flowers are borne on separate trees; the fruit is botanically a dry drupe with a greenish seed known as the pistachio nut The nut is eaten salted and is used in making confections In Syria and some other countries it is more widely used and is traditional at weddings and on other occasions A flavoring oil is derived from the nuts. Related species include the TEREBINTH or turpentine tree, the Chinese pistachio, *P chinensis*, grown in Florida and California both for ornament and as grafting stock for *P vera*, and a small evergreen species (*P lentiscus*) of Mediterranean regions, a source of both mastic and oil much used in Arabia and Turkey

Pistoia (pēstō'yä), city (pop 29,532), capital of Pistoia prov, Tuscany, central Italy, at the foot of the Apennines and NW of Florence It is the center of a region producing grapes and fruit and has canneries and textile industries Catiline was killed in battle near here in 62 B C. The city rose to prominence as a free commune in the 12th and 13th cent and made important contributions to architecture and sculpture Hampered by wars and factional strife between the Blacks and the Whites (these factions were transferred from Pistoia to Florence), it fell under the hegemony of Florence in the 14th cent The city is rich in works of art, notably a fine marble cathedral, the churches of Sant' Andrea (with a Pisano pulpit) and San Paolo, a baptistery, the town hall, the Palazzo Pretorio; and the Ospedale del Ceppo, with a fine frieze by Giovanni della Robbia Pistols, first manufactured here in the 16th cent, take their name from Pistoia

pistol, small FIREARM, designed for use with one hand. It was first manufactured (c 1540) by Camillo Vettelli in Pistoia, Italy (which gives the pistol its name) The early weapons, such as the "dags" carried by English cavalrymen in the days of Henry VIII, had short barrels and heavy butts and were very clumsy Improvements were, however, made rapidly until the 19th cent The invention of the REVOLVER (c 1835) made the old type of pistol obsolete The revolver was in turn almost superseded in the 20th cent by the automatic pistol, which carries more ammunition, has greater power, and is more accurate The ammunition of a revolver is placed in a revolving drum, that of the automatic is in a clip inside the stock Weapons similar to automatic pistols but much larger were developed in the Second World War

Piston, Walter, 1894–, American composer, b Rockland, Maine, grad Harvard, 1924, and studied in Paris with Nadia Boulanger He joined the faculty of Harvard in 1926, becoming professor of music in 1944 As a composer he is a neoclassicist, using the traditional forms of absolute music with a sure technique and an intellectual, dissonant style His compositions, in which he avoids any programmatic suggestion, include three symphonies (1938, 1944, 1948), his *Suite for Orchestra* (1930), a concertino (1937) for piano and orchestra, a violin concerto (1940), a toccata (1948) for orchestra, and chamber music for various instrumental combinations He is the author of three textbooks—*Principles of Harmonic Analysis* (1933), *Harmony* (1941, rev ed., 1948), and *Counterpoint* (1947)

Pitcairn, John (pĭt'kărn), 1722–75, British royal marine officer in the American Revolution Major Pitcairn commanded the British troops at Lexington (see LEXINGTON AND CONCORD, BATTLES OF) on April 19, 1775, but whether he ordered his men to fire on the colonial militia or was forced to return their fire is a historical problem He was later killed in the battle of Bunker Hill Pitcairn Island is named for his son Robert Pitcairn (c 1747–c 1770), who as a midshipman under Philip Carteret first sighted it on July 2, 1767

Pitcairn, industrial borough (pop 6,310), SW Pa., ESE of Pittsburgh, laid out c 1890, inc 1891 It has coal mines, railroad repair shops, and a brickyard

Pitcairn Island, volcanic island (2 sq mi, pop 126), S Pacific, c 3,775 mi SE of Hawaii. It was discovered in 1767 by Philip Carteret, British admiral The natives are descendants of mutineers of the BOUNTY and the Tahitian women brought with them in 1790 In 1808 the colony was discovered by Americans, who found John Adams the only survivor of the crew Overpopulation caused the removal (1856) of the inhabitants to NORFOLK ISLAND, but many returned to Pitcairn, which is the smaller of the two colonies. In 1898 the island was placed under the Western Pacific High Commission at Suva, Fiji The Pitcairn Island dist includes Henderson, Ducie, and Oeno islands, annexed in 1902 These small uninhabited atolls have lagoons potentially valuable as seaplane bases. See H L. Shapiro, *The Heritage of the Bounty* (1936)

pitch, in music, the position of a tone in the musical scale, today designated by a letter name and determined by the frequency of vibration of the source

of the tone. Pitch is an attribute of every musical tone, and the first harmonic of any tone is perceived as its pitch. The first successful attempt to standardize pitch was made in 1858, when a commission of musicians and scientists appointed by the French government settled upon an A of 435 cycles per second, this standard was adopted by an international conference at Vienna in 1889 In the United States, however, the prevailing standard is an A of 440 cycles per second. Before the middle of the 19th cent, pitch varied according to time, place, and medium of musical performance, and the only generalization possible is that since the classical period the trend has been gradually upward, even in the 20th cent there have been orchestras and other groups which have tuned to an A higher than 440 The relative pitch of a tone is an expression of its pitch in relation to the pitch of some other tone taken as a standard, in contrast to ABSOLUTE PITCH.

pitch: see TAR AND PITCH.

pitchblende (pĭch'blĕnd"), dark, lustrous, amorphous mineral, a source of radium and uranium Largely natural uranium oxide, it has variable quantities of lead, calcium, iron, copper, and bismuth It is massive in form, frequently with a botryoidal or grape-cluster appearance, and has a variable but high specific gravity Pitchblende is greenish, brownish, or black in color, with a pitchy to submetallic luster. The uranium yield is from 50 to 80 percent Uraninite, a closely related ore richer in uranium, commonly crystallizes in the octahedral system It yields 65 to 80 percent uranium and has a specific gravity somewhat higher than that of pitchblende The color range is from deep black through brown to yellow Both varieties of the ore occur as primary constituents of quartz and with other metals They supply (in addition to uranium) radium, polonium, and plutonium Although the ores occur in small quantities throughout the world, the Great Lakes region of Canada, the Belgian Congo, and Czechoslovakia are major sources

Pitcher, Molly, c 1754–1832, American Revolutionary heroine, whose real name was Mary Ludwig Hays or Heis, b near Trenton, N J As the wife of John Hays or Heis, she carried water for her husband and other soldiers in the battle of Monmouth (1778) and earned her sobriquet The legend that she manned her husband's gun is apocryphal and possibly rose from confusion with Margaret CORBIN After Hays's death, she married George McCauley, and in 1822 she was pensioned by Pennsylvania See W S Stryker, *The Battle of Monmouth* (1927)

pitcher plant, any of several carnivorous or insectivorous plants, the leaves of which are adapted for trapping insects Each leaf forms a "pitcher," a somewhat trumpet-shaped enclosure, usually containing some liquid An insect which enters is prevented from retreating by deflexed bristles and ultimately is drowned in the fluid Certain pitcher plants are said to digest the insects, although this has been questioned by some scientists It has also been suggested that the plants absorb the nitrogenous material from the soil after the leaves and entrapped insects have dropped to the ground and decayed The best-known pitcher plants of North America belong to the genus *Sarracenia* The common pitcher plant or sidesaddle flower, *Sarracenia purpurea*, is found in bogs from Labrador to Florida and Iowa and has long-stalked flowers of purple, red, or, rarely, yellow This plant has been used medicinally by both Indian and white man Oriental pitcher plants of the genus *Nepenthes* are cultivated in greenhouses for the curious leaves in which the midrib is prolonged into a long tendril bearing at the end a pitcher The California pitcher plant (*Darlingtonia*, or *Chrysamphora, californica*) is native to the West Coast and resembles *Sarracenia* The Australian pitcher plant (*Cephalotus follicularis*) produces a low rosette of leaves some of which are slipper shaped Other insectivorous plants include the BLADDERWORT, VENUS'S-FLYTRAP, sundew, and butterwort

Pitch Lake see TRINIDAD AND TOBAGO

pitch pipe, in music, small pipe used to establish a certain PITCH and having either a constant note or a gauged slide In 1946 there was developed in the United States an electronic device for producing constant pitch, this device is now used frequently for orchestral tuning

Pite, William Alfred, 1860–, English architect He is best known for his important series of hospitals, notably King's College Hospital (Denmark Hill, London), and numerous churches and private houses He is a fellow of the Royal Institute of British Architects

pith or **medulla** (mĭdŭ'lə), core of the stem of both herbaceous and woody dicotyledonous plants. Pith is composed of relatively large cells loosely fitted together, and it is chiefly a region of food storage. As the stems grow older the pith usually dries out, and in some it disintegrates and the stems become hollow. In trees the pith becomes much reduced as the woody tissue grows In the Orient, rice paper has been made from the pith of shrubs, e.g., *Tetrapanax papyriferum* (or *Fatsia papyrifera*) and *Edgeworthia gardneri* The pith of certain rushes is used for wicks of candles Pith is used in biological work for holding the tissue when cutting sections of it by hand.

Pithecanthropus erectus: see MAN, PRIMITIVE.

Pithom (pī'thŏm), ancient store city of Egypt, built by the Israelites, 12 mi SW of Ismailia Ruins include statues of Ramses II and other kings up to the Ptolemies See Ex 1 11

Pithon (pī'thŏn), descendant of Saul 1 Chron 8 35, 9 41

Pitman, Sir Isaac, 1813–97, English phonographer. In *Stenographic Soundhand* (1837) he set forth a shorthand system based on phonetic rather than orthographic principles, this became one of the most-used systems in the world Through his own publishing house he published many manuals, journals, and books about shorthand See biography by Alfred Baker (1908) The Pitman system was introduced to the United States through Stephen P Andrews and Sir Isaac's brother, **Benn Pitman,** 1822–1910, who emigrated to the United States in 1852 and established at Cincinnati the Phonographic Institute to teach and publish works on shorthand He taught wood carving at the Cincinnati Art Academy, invented (1855) an electrochemical process of relief engraving, and wrote a biography of his brother (1902)

Pitman, borough (pop 5,507), SW N J , S of Camden near Glassboro, settled 1871 as a place for Methodist camp meetings, inc 1905

Pit River Indians, group of North American Indian tribes of the Shastan linguistic stock, also called the Palaihnihan In the 19th cent they occupied the Pit river region in NE California Pit river derived its name from the many game pitfalls which these Indians constructed along the river They lived in bark or brush dwellings or in semisubterranean houses resembling sweat houses Polygamy was practiced, and women held a low position Religious ceremonies were not prominent, but they had an elaborate creation myth Today there are some 400 living on reservations in California and in Oregon

Pitt, William (1708–78) see CHATHAM, WILLIAM PITT, 1st EARL OF

Pitt, William, 1759–1806, English statesman, second son of William Pitt, 1st earl of Chatham He entered Parliament in 1781 and in 1782 at the age of 23 became chancellor of the exchequer under the earl of Shelburne At the fall of the Portland cabinet, dominated by Charles James Fox and Lord North, Pitt was made (1783) prime minister by George III He met strong opposition in Parliament, where the king's interference was resented The long-postponed general election held in 1784 gave him a parliamentary majority over the Whigs and established the custom of "appealing to the country"—i e , holding a general election Pitt was a liberal Tory, and his policies included reduced expenditures, new taxes to cut the national debt, and commercial treaties with France, all in accordance with the theories of Adam Smith, and also parliamentary reform In colonial affairs he backed an important revision of Indian government through the East India Company and a bill (1791) establishing a Canadian government which gave a degree of freedom to French Canada His popularity increased steadily, and when the mental illness of the king became apparent, Pitt's control of government was supreme His liberal policies were, however, doomed by the French Revolutionary Wars and the Napoleonic Wars Pitt's first desires in 1789 were for peace and neutrality, and when France finally declared war on England (1793), he failed to foresee either the length or the seriousness of the struggle Fearing revolutionary activities in England, he instituted such repressive measures as the suspension (1794) of habeas corpus In the conduct of the war Pitt's financial support of England's allies brought a monetary crisis in England His three military coalitions against France (1793, 1798, 1805) were as unsuccessful on land as the British navy was victorious at sea Rebellion in Ireland hampered the war effort and convinced Pitt that the solution to the Irish problem lay in parliamentary union of Ireland with England, plus Catholic Emancipation so that Roman Catholics could hold office By wholesale bribery union was achieved (1800), but when the king refused CATHOLIC EMANCIPATION, Pitt resigned (1801) He was recalled as prime minister (1804) to repel an invasion by Napoleon which never materialized, but the news of the defeat of England and her allies at Austerlitz proved to be his death blow See biographies by Lord Rosebery (1892) and J H Rose (1923), D G Barnes, *George III and William Pitt, 1783–1806* (1939)

Pitt, Fort: see DUQUESNE, FORT, and PITTSBURGH

Pittacus (pĭ'tăkŭs), c 650–c 579 B C , Greek statesman, poet, and military leader He helped to overthrow the tyrant of Mytilene in Lesbos and became the lawgiver there, ruling for 10 years He prevented the nobles in exile (among them ALCAEUS) from returning and left the city established in republicanism Little is known of his elegiac poetry. He is listed as one of the SEVEN WISE MEN OF GREECE.

Pitt Island, Gilbert Islands see MAKIN.

Pittsburg (pĭts'bûrg). 1 Industrial city (pop 9,520 W Calif , at the junction of the Sacramento and th San Joaquin rivers and NE of Oakland; laid ou 1849, inc. 1903 Steel, canned fish and fruit chemicals, asbestos, and rubber goods are amon the city's varied products 2 City (pop 17,571 SE Kansas, near the Mo line, founded 1872 as mining town, inc 1880 It is a manufacturing an mining center near large coal deposits A stat teachers college is here Near by is a state qua hatchery 3 City (pop 2,916), co seat of Camp co E Texas, SW of Texarkana, settled 1854 It proc esses black-eyed peas and sweet potatoes and th pine from the surrounding woods Indian artifact and skeletons were excavated near by

Pittsburgh (pĭts'bûrg), city (pop. 671,659), co seat of Allegheny co , SW Pa , at the confluence of th Allegheny and Monongahela rivers which form th Ohio here It is a port of entry. The Indian tow of Shannopin, on the site of the present city, was i the last half of the 17th cent a fur-trading po with many Indian canoe routes and trails. Th land was contested by the French and the Englis Fort Duquesne (see DUQUESNE, FORT), built b the French in the middle of the 18th cent , later fe to the English and became Fort Pitt The villag surrounding the fort was settled in 1775; it wa incorporated as a borough in 1794 and became city in 1816 The modern "Steel City," or "Smok City," is at the junction of east-west transportatio arteries and has access to immense reserves of raw materials It draws on a large labor supply Th city has become a primary industrial center of th nation Iron and steel products are the foremos manufactures of Pittsburgh, but it is also know for glass, coke, canned goods, electrical supplie and aluminum and for its meat-packing industry The city, built on a dissected plateau, has a fin park system, of which Schenley is the principa unit Pittsburgh is the seat of the CARNEGIE IN STITUTE OF TECHNOLOGY, the Univ of Pittsburgh the Pennsylvania College for Women, Duquesn Univ (Catholic, coeducational; 1878), and an ex perimental station of the Bureau of Mines Th Carnegie Museum, the Music Hall, and the Car negie Library (a pioneer in methods, with a librar school and extensive collections) are well known The Pittsburgh Symphony Orchestra is noted. Th seminaries include Pittsburgh-Xenia, Reforme Presbyterian, and Western Theological Th blockhouse of the old fort (1764) is still here I March, 1936, the city suffered the most disastrou flood of its history when the Allegheny and th Monongahela rose 46 ft , inundating much of th business and industrial district, paralyzing the city and taking 45 lives There was a flood of lesse extent (34 ft) in Jan , 1937 See Leland D Bald win, *Pittsburgh the Story of a City* (1937).

Pittsburgh, University of, at Pittsburgh, nonsectar ian, private, coeducational, chartered and opene as an academy 1787, called Western Univ of Penn sylvania 1819–1908 It includes a college an schools of business administration, dentistry, edu cation, engineering, law, medicine, mines, nursing pharmacy, public health, and social work Ther are business and retail-training research bureaus a cyclotron, the pioneer Allegheny Observator (1859), a university press, and MELLON INSTITUT OF INDUSTRIAL RESEARCH Outstanding building are the Cathedral of Learning (a skyscraper), th chapel, and the Stephen Collins Foster Memoria

Pittsburg Landing: see SHILOH, BATTLE OF

Pittsfield. 1 City (pop 2,884), co seat of Pike co W Ill , between the Mississippi and the Illinois Ri of Quincy, in a farm area; laid out 1833, inc 1869 Shoes are made here 2 Town (pop 3,329), S Maine, between Skowhegan and Bangor, settle 1794, inc 1819 as Warsaw, name changed 1824 Maine Central Institute, a preparatory school, is i the town 3 City (pop 49,684), co seat of Berk shire co , W Mass , between mountain ranges, on branches of the Housatonic, settled 1752, inc as town 1761, as a city 1889 The metropolis of th Berkshires, the city produces electrical machinery and woolen goods, bank-note paper is made a near-by Dalton Oliver Wendell Holmes lived near Pittsfield, and "Arrowhead" was Herman Melville's home, 1850–63 4 Town (pop 2,183), SE N H , on the Suncook and NE of Concord, settled 1768, inc 1782 The industrial village of Pittsfield is included Textiles and shoes are manufactured

Pittsford. 1 Residential village (pop 1,544), W N.Y. near Rochester, inc 1827 A fish hatchery is here and condiments are made 2 Town (pop 2,093), W Vt , N of Rutland This area, about a ford where the Crown Point military road crossed Otter Creek was settled in 1769 Fort Mott was built here in 1777, and Fort Vengeance, a stronger fort near by was kept garrisoned from its completion in 1781 until the end of the Revolution Pittsford Mills near Furnace Brook, had an iron industry in the early 19th cent There are marble quarries. The town has the Caverly Preventorium for children, a state tuberculosis sanatorium, and a Federal trout hatchery.

Pittston. 1 Town (pop 1,114), S Maine, on the Kennebec and near Gardiner, settled c.1759, inc. 1779

2 Industrial city (pop. 17,828), NE Pa., on the Susquehanna midway between Scranton and Wilkes-Barre; settled 1770 by the Susquehanna Company of Connecticut, laid out 1772, inc as a borough 1853, as a city 1894 Anthracite is mined here. In 1942 a mine cave-in wrecked many homes

pituitary gland (pĭtū'ĭtĕr"ē), small round organ which is attached to the base of the brain and functions as an endocrine, or ductless, gland Hormones produced by one of its three parts, the anterior lobe, regulate growth, the development of sexual characteristics, lactation following pregnancy, and certain other functions The hormones of the posterior lobe affect chiefly blood pressure, kidney function, and the action of certain muscles Little is understood of the effect upon human physiology of the third part, the pars intermedia. Pituitary overactivity results in giantism and in acromegaly (abnormal growth, in an adult, of the face, hands, and feet) Underactivity causes dwarfism Extracts from the pituitary glands of animals used for food by man are employed to counteract hormone insufficiences and to intensify certain functions of the body at a critical period (e.g., to induce contraction of the uterine muscles after childbirth and to raise blood pressure following surgical shock).

Piura (pyōō'ra), city (pop 20,093), NW Peru Its full name, San Miguel de Piura, recalls the first Spanish settlement established in Peru Francisco Pizarro founded San Miguel on the coast in 1532, but the site was unhealthful and the settlement was moved shortly to present Piura From here in 1533 Sebastián de BENALCÁZAR set out on his conquest of Ecuador In the irrigated Piura valley on the Peruvian coastal desert, the city is the commercial center for cotton raised in the region and for cattle driven S from Ecuador

Pius II (pī'us), 1405–64, pope (1458–64), a Sienese (b. Corsignano, renamed after him Pienza) named Enea Silvio de' Piccolomini (often, in Latin, Aeneas Sylvius), successor of Calixtus III and predecessor of Paul II He attended the Council of BASEL (1432, see BASEL, COUNCIL OF) and joined its secretariat. Naturally he was a determined supporter of the conciliar theory and an opponent of Eugene IV, and in 1439 he was a leader at the court of Antipope Felix V (AMADEUS VIII of Savoy) Meanwhile he gained a European reputation as a humanist, and Emperor FREDERICK III made him court poet and in 1442 secretary to the chancery in Vienna In 1445 Piccolomini was converted from the disorderly life he had been leading and began a new career He went to Rome to submit to the pope and soon became a priest (1446) He was made bishop of Trieste (1447), bishop of Siena (1450), and a cardinal (1456) As pope he tried in vain to unite Christendom against the Turks In 1460 he condemned appeals from the Holy See to an ecumenical council. He was in a continual dispute with Louis XI of France who constantly attempted to control ecclesiastical affairs Pius continued the quarrel with the Bohemians led by GEORGE OF PODEBRAD Pius did not patronize art or literature His literary talents were excellent Of his works the most useful is his memoirs, the only autobiography of a pope

Pius IV, 1499–1565, pope (1559–65), a Milanese named Giovan Angelo de' Medici, successor of PAUL IV and predecessor of ST PIUS V. He was probably not related to the great Medici family His career in Rome began in 1527, and he held increasingly important offices under Clement VII, Paul III, and Julius III Paul III created him cardinal Cardinal Medici was one of the reform party, but he was no rigorist, hence he was out of favor with Paul IV He was elected partly because of his winning manners and his amiable disposition The great feature of his pontificate was the reconvening of the Council of Trent (see TRENT, COUNCIL OF) for its last and most important session (1562–63). By backing the council in everything Pius made himself one of the great popes of the Catholic REFORM He welcomed the final break with Protestantism which the council brought His good political relations with Spain were in contrast with Paul IV's anti-Hapsburg policy Pius's chief aid was his nephew, St. CHARLES BORROMEO

Pius V, Saint, 1504–72, pope (1566–72), an Italian (b near Alessandria) named Michele Ghislieri; successor of PIUS IV and predecessor of GREGORY XIII He was ordained in the Dominicans (1528) and became celebrated for his austerity Paul IV made him cardinal (1557) and inquisitor general, under his direction the Roman Inquisition reached a new degree of efficiency On his election he set about putting the decrees of the Council of Trent (see TRENT, COUNCIL OF) into effect, he thus occupies a key position in the Catholic REFORM, for his activity in these years just after the council insured the permanence of its work He governed the Papal States with severity. St. Pius was the first pope after the Reformation to put Catholicism on the political offensive Thus he declared Queen Elizabeth deposed (1570) and wrote Mary Queen of Scots to console her in captivity He united Venice and Spain with him against the Turks, an alliance which helped to bring the victory of Don Juan of Austria over the Turks at Lepanto. He has been much attacked as a persecutor of heresy, but he was certainly not privy to the massacre of St Bartholomew's Day in France He is the last pope to have been canonized Feast May 5

Pius VI, 1717–99, pope (1775–99), an Italian (b Cesena) named G Angelo Braschi, successor of CLEMENT XIV and predecessor of PIUS VII. He was created cardinal in 1775 Early in his reign he was faced with the attempts of Emperor JOSEPH II to "reform" the Church by suppressing monasteries, assuming rights of appointment of clergy, and making other changes In 1782 Pius visited Vienna to dissuade him from his course, but fruitlessly; the struggle continued Joseph was imitated in Spain and Italy, and in 1786 a synod at Pistoia adopted antipapal resolutions Joseph's attempts to make the state supreme in matters of conscience were not less extreme than the efforts in the FRENCH REVOLUTION to set up a state church by the Civil Constitution of the Clergy (1790) Pius hesitated long but eventually (April, 1791) condemned this new Gallican church and forbade the clergy to take the oaths The French annexed the papal property at Avignon and Venaissin The pope protested Louis XVI's execution and sided with the anti-French coalition, and Napoleon attacked the Papal States In 1797 a treaty at Tolentino ceded Avignon, Venaissin, Ferrara, Bologna, and the Romagna to the French, along with a huge indemnity and many treasures In 1798 a French general was murdered in Rome, and a republic was set up by the French The pope was taken to Siena, thence to Florence, soon, though he was ill and feeble, the French took him to Turin and to Grenoble, he died at Valence In 1802 his body was taken to Rome

Pius VII, 1740–1823, pope (1800–1823), an Italian (b Cesena) named Barnaba Chiaramonti, successor of PIUS VI and predecessor of LEO XII Pius VI created him cardinal in 1785 He conducted himself ably in the French invasion, showing sympathy for the social aims of the Revolution A protracted conclave in 1799–1800 ended with his election His secretary, Ercole Consalvi, was a guiding force throughout his pontificate An early event was the CONCORDAT OF 1801 with Napoleon, to reestablish the Church in France and set up a new hierarchy, much of it was vitiated by Napoleon's Organic Articles, which Pius would not accept In 1804 Napoleon made Pius come to Paris to consecrate him as emperor He found Pius intractable when out of the hands of the French, who eventually took Rome (1808) and the Papal States (1809) Pius excommunicated the assailants of the Holy See, and Napoleon had him taken prisoner and removed to Fontainebleau The pope was browbeaten into signing a new concordat, which he disavowed after the battle of Leipzig In 1814 he returned to Rome in triumph One of his first acts was to restore the Society of JESUS. The rest of Pius's pontificate was devoted to reestablishing the Church in Europe Consalvi regained the Papal States at Vienna and contracted a series of concordats At the same time Pius VI's and Pius VII's stolidity in the face of humiliation began a revival of personal popularity for the pope that has since characterized Catholicism Napoleon had treated Pius VII with sneering brutality, and the pope's treatment of the fallen emperor's family excited the admiration of Europe he gave them haven at Rome and he interceded with the British to lighten Napoleon's treatment He was on better terms with Great Britain than any pope since the Reformation, and he was keenly interested in the United States and the Church here His patronage of artists was munificent, his tomb was made by the Protestant Thorvaldsen

Pius IX, 1792–1878, pope (1846–78), an Italian (b Senigallia) named Giovanni M Mastai Ferretti, successor of GREGORY XVI and predecessor of LEO XIII He was cardinal and bishop of Imola when elected For two years he pursued a progressive policy in governing the Papal States and granted a constitution But in 1848 rioting drove him from Rome to Gaeta, and he returned (1850) to be supported in power only by the arms of Napoleon III The Italian nationalists were eager for Rome and the Papal States, and in 1860 Victor Emmanuel seized all but Rome and its neighborhood In 1870, on the collapse of Napoleon, the Italians entered Rome, and Pius returned to the Vatican, refusing to recognize the new kingdom and to accept the proffered indemnity The anomalous situation, called the Roman Question, was settled eventually by the LATERAN TREATY. Pius's dealings with other nations were not fortunate, and he did not conduct his side of the KULTURKAMPF with the finesse of his successor. In 1854 Pius declared the dogma of the Immaculate Conception of the Virgin to be an article of faith It had long been nearly universally held by Catholics In 1864 he issued the encyclical *Quanta cura*, accompanied by a list (*Syllabus*) of erroneous modernistic statements In 1869 he convoked the VATICAN COUNCIL, the principal work of which was the enunciation of papal infallibility. Pius IX's was the longest pontificate in history.

Pius X, 1835–1914, pope (1903–14), an Italian (b. near Treviso) named Giuseppe Sarto, successor of LEO XIII and predecessor of BENEDICT XV Before his election he was known for his interest in the secular clergy and in the poor Soon after his accession the severe regulations of church property, education, and customs in France brought a crisis, which Pius met with resolution (1904), the whole Catholic body in France followed his voice, giving up the church property (including churches, rectories, schools, and monasteries) rather than cooperate with the government Pius's decree of 1905 encouraging frequent communion has had great effect on Catholic life. In 1907 the decree *Lamentabili* and the encyclical *Pascendi* condemned religious modernism The whole Church felt his reorganizing spirit He set up a commission to recodify the canon law, he encouraged the use of plain song, he set up the new Roman breviary as the norm for the whole Church, he removed negligent bishops, he made the Roman congregations more efficient, he set up a commission to translate the Bible anew and another to study the interpretation of the Bible, and he regularized the position of the hierarchies in many countries Pius was on better terms with the Italian government than his predecessors He was of very holy life and was unusually interested in the common people, thus he heard their confessions even while he was pope The veneration begun in his lifetime continued after his death, and in the 1940s his beatification was being sought See biography by Katherine Burton (1950)

Pius XI, 1857–1939, pope (1922–39), an Italian (b Desio, near Milan) named Achille Ratti, successor of BENEDICT XV and predecessor of PIUS XII His father was a silk weaver He studied in Milan and the Gregorian Univ., Rome, and was ordained in 1879 His excellence in philosophy brought him to the attention of Leo XIII He taught in the Milan seminary, was appointed (1888) one of the college of doctors of the Ambrosian Library, Milan, and won a name for his studies in paleography In 1907 he was made chief librarian Called by Pius X to Rome, he was vice prefect of the Vatican Library In 1918 Benedict XV entrusted him with the difficult legateship in Poland There he put the Church on good terms with the new government and helped, as much as possible, the Catholics of Russia In 1919 he was made nuncio to Poland Two years later Benedict appointed him archbishop of Milan and created him cardinal Cardinal Ratti was elected pope eight months later (Feb 6, 1922) Pius's pontificate was marked by great diplomatic activity and by many important papers, often in the form of encyclicals In diplomatic affairs Pius was aided at first by Pietro Gasparri and after 1930 by Eugenio Pacelli (later Pius XII) Cardinal Gasparri's masterpiece was the LATERAN TREATY (1929) Soon after it the Fascists and the pope were in open disagreement over restriction of youth activities, this culminated in a strong papal letter (*Non abbiamo bisogno*, 1931), showing the impossibility of being at once a Fascist and a Catholic Relations between Mussolini and the Holy See were cool ever after To Cardinal Pacelli it fell to negotiate a concordat for all Germany (1933) The Hitler government never pretended to observe the treaty In 1937 after interference of every sort by the National Socialists in Catholic life the pope denounced the government and the Nationalist Socialist theory in a powerful encyclical, *Mit brennender Sorge* A few days later he issued a definitive analysis of communism from the Roman Catholic point of view in *On Atheistic Communism* Pius also denounced persecutions in Russia, Mexico, and Spain With England, the Netherlands, and France (where he condemned the royalist *Action française* movement in 1925) the pope was on unprecedentedly cordial terms He cried out continually against nationalism, racism, and totalitarianism and their menace to human dignity, hence the new feast of Christ the King, established to recall the rights of religion in the state and hence, too, his denunciation of anti-Semitism The pope, highly critical of laissez-faire capitalism, urged social reform especially in his stirring encyclical, *Quadragesimo anno* (1931), which renewed the plea made by Leo XIII 40 years before Pius appealed directly to the laity for greater participation in all things religious—this he called Catholic Action Many of his addresses and letters were really sermons to the whole church membership, as those on the secularization of life, on marriage and divorce, and on the destruction of family life In the missions he laid great stress on the necessity of integrating Christianity with native cultures without trying to make them European This is seen in the Pontifical Work of St Peter the Apostle for the Native Clergy, which he set up in 1929. To protect Catholics of Eastern rites from Latin influence he augmented the powers of their congregation and established a commission to study their canon law He also called on Western Catholics to increase and exhibit greater understanding of the Orthodox and other ancient churches of the East, notably in the encyclical *Rerum Orientalium* (1928). Pius took delight in new technological developments; he es-

tablished a broadcasting station at the Vatican, introduced improvements, and advanced the modernization of the Vatican Library. To signalize his interest in the progress of science he reconstituted the Pontifical Academy of the Sciences (1936), with a large international membership. Many of Pius's papers have been published See Philip Hughes, *Pope Pius the Eleventh* (1938).

Pius XII, 1876–, pope (1939–), an Italian (b. Rome) named Eugenio Pacelli, successor of Pius XI. At Rome he was educated, ordained priest (1899), and trained as a diplomat. He became undersecretary of state (1912) and, after receiving bishop's orders, nuncio to Bavaria (1917) He stayed on in Germany and concluded concordats with Bavaria and Prussia He was made cardinal in 1929 and papal secretary of state in 1930, succeeding his teacher, Cardinal Gasparri He negotiated the concordat for all Germany in 1933 He made two trips abroad while papal secretary, to South America (1934) and to the United States (Oct–Nov 1936). In the conclave after Pius XI's death he was elected on the third ballot (March 2, 1939, coronation, March 12), the first papal secretary to be elected in centuries and the first Roman pope since 1730 The new pope made peace his reiterated theme, and until the end of the Second World War his energies were consumed in trying to prevent the war, to limit it, and to alleviate its effect In these efforts he used every means of public utterance, from broadcasts to encyclicals He tried to keep Italy out of the war, and he was ever appealing to the belligerents to be humane As early as 1943 he warned (at a meeting of the Pontifical Academy of Sciences) against the use of atomic energy for destructive purposes Although he had called for a union of democratic nations having forceful authority as the hope of lasting peace, he maintained neutrality toward the United Nations, as Pius XI had toward the League of Nations Pius XII sponsored in the war a vigorous program for prisoners, and afterwards he interested himself in the destitute and the displaced He urged the opening of lands to the exiles and reproved (1946) early efforts by the British and the United States to repatriate unwilling citizens of the USSR Like Pius XI he spoke out against the tyranny of states over individuals and families, e g , in his first encyclical (*Summi pontificatus*, 1939) Of the attacks by Communist states on religion itself the pope spoke bitterly, and he denounced especially the persecution of Eastern-rite Catholics in Rumania, Ruthenia, and former E Poland, Russian attempts to annex the Ruthenians to the Orthodox Church were publicized in an encyclical (1946) commemorating the Ruthenian union with the pope (1546). He plainly called on Catholics, especially women, to take part in politics in Italy and defeat the Communists at the polls (June 1946), but his fear of atheistic Communism did not lead the pope into consenting (with Hitler in 1941 or with others, even Catholics, in post-war years) that war against its sponsors would be a "crusade" In the Palestine crisis (from 1946) he called for an international guardianship of the Holy Places. Like his predecessor he opposed laissez-faire capitalism and preached social reform, one encyclical (*Optatissima pax*, 1947) was a call to workmen and employers to cooperate for social justice, ending class hatred While hostilities lasted, the pope would create no cardinals, at last, on Feb 18, 1946, he created 32 new ones, bringing the number to 69 (of a possible 70) The cardinals then included men from 22 nations, some of which (e g China) had never been represented before For the first time since the late 15th cent the Italian cardinals did not have a majority, they now numbered 27. Pius issued his main directives in encyclical form, their subjects included the progress of U.S Catholicism (*Sertum laetitiae sanctae*, 1939), the doctrine of the mystical body of Christ, i e , the Church (*Mystici Corporis Christi*), biblical studies (*Divino afflante*), and the 14th centenary of St Benedict (1947) and the liturgy and practices surrounding it (*Mediator Dei*, 1947). He continued Pius XI's educational and missionary policies; thus, he erected four new pontifical universities in South America (at Lima, Medellín, Rio de Janeiro, and Santiago de Chile), and in China he organized (1946) a local territorial hierarchy The year 1950 was, as expected, designated a holy year Pius XII's secretary of state was Cardinal Luigi Maglione (d 1944), after his death the pope acted as his own secretary of state. A novel feature of the pontificate was the personal relationship between Pius and President Franklin D. Roosevelt, they met in 1936 and corresponded, and the President sent (1940) Myron C. Taylor as a personal representative to the pope (1940). See Charles H. Doyle, *The Life of Pope Pius XII* (1945), Reginald F. Walker, *Pius of Peace* (1946); Jan Olav Smith, *Angelic Shepherd* (Eng. tr., 1950).

Piute Indians: see PAIUTE INDIANS

Pi y Margall, Francisco (frănthĕ'skō pē' ē märgäl'), 1824–1901, Spanish statesman and author. A liberal journalist, he fled to France after the unsuccessful uprising of 1866 against R. M Narváez, duque de Valencia. After the revolution of 1868 he was elected (1869) to the Cortes. He briefly was president (1873) of the short-lived first Spanish republic, and he continued as deputy in the Cortes after the restoration of the monarchy He defended the principle of federalism against centralism, thus gaining wide popularity in Catalonia, and he favored autonomy for Cuba. His uprightness and intelligence won him the respect even of the hostile right Among his writings was a history of Spanish painting (1851), which was condemned by the Church

Pizarro, Francisco (pĭzä'rō, Span frănthĕ'skō pēthä'rō), c 1476–1541, Spanish conquistador, conqueror of Peru An illegitimate son of a Spanish gentleman, born in Trujillo, Spain, he was as a boy an illiterate swineherd Pizarro accompanied Ojeda to Colombia in 1510 and was with Balboa when he discovered the Pacific Hearing of the fabled wealth of the Inca, he formed (1524) a partnership with Diego de ALMAGRO and Fernando de Luque (a priest who secured funds) The first expedition reached the San Juan river, part of the present boundary between Ecuador and Colombia, and on the second (1526–28) Pizarro explored the swampy coast farther south while his pilot, Bartolomé RUIZ, crossed the equator and then returned to bring definite news of the southern realms Ruiz and Amalgro went back to Panama for supplies, Pizarro and a few followers remained behind and endured severe hardships When supplies finally came, he sailed south along the Peruvian coast before returning to Panama In 1528 his partners sent him to Spain to secure royal aid, which he did, gaining for himself the lion's share of future profits Pizarro managed to soothe the disgruntled Almagro Sailing south, he landed at Tumbes (1532) and ascended the Andes to Cajamarca, where the Inca, ATAHUALPA, awaited him Pizarro, professing friendship, enticed Atahualpa into the power of the Spanish, seized him, exacted a stupendous ransom, and then treacherously had him executed The conquest of Peru was virtually completed by capture of Cuzco, which was later defended against Inca forces led by Manco Capac Pizarro set about consolidating his conquest by founding new settlements, notably the present capital of Peru, Lima, and allotting land and Indians in encomienda to his followers An attempt by Pedro de ALVARADO to claim Quito was forestalled by Sebastián de BENALCÁZAR and Almagro Pizarro now made a pact with Almagro, whom he had cheated several times in the division of spoils, granting him the conquest of Chile, when Almagro returned empty-handed and tried to redress his wrongs by seizing Cuzco, Pizarro sent his half brother, Hernando Pizarro, to CUZCO Almagro was defeated and put to death In 1539 Francisco appointed his brother Gonzalo Pizarro governor of Quito His greed and ambition, extreme even in a conquistador, had, however, offset his resourcefulness, courage, and cunning By alienating the Almagro faction he paved the way for conspiracy A band of assassins surprised him at dinner, and although he fought desperately, he was overpowered and slain The account by W H Prescott, *History of the Conquest of Peru*, is classic An early account is Pedro Pizarro, *Relation of the Discovery and Conquest of the Kingdoms of Peru* (Eng ed , 1921) See biographies by F A Ober (1906) and Felix Shay (1932), Hoffman Birney, *Brothers of Doom* (1942)

Pizarro, Gonzalo (gônthä'lō), c 1506–1548, Spanish conquistador, brother of Francisco Pizarro A lieutenant of his brother in the conquest of Peru, he aided in the defense of Cuzco (1536–37) against the Inca MANCO CAPAC, reduced Charcas (present Bolivia), and fought against Diego de ALMAGRO (1537–38) Appointed (1539) governor of Quito, he in 1540 commanded a disastrous expedition down the Napo river to the Amazon From the extreme hardships, augmented by the disaffection of ORELLANA, he and his few remaining men staggered back two years later Gonzalo then learned of the assassination of Francisco and offered to help the crown's representative, VACA DE CASTRO, but was refused When the newly arrived viceroy, Blasco NÚÑEZ VELA, peremptorily enforced the New Laws, framed by Bartolomé de LAS CASAS and promulgated in 1542 to protect the Indians, popular indignation broke out, and Gonzalo was chosen to lead the revolt In 1546 he defeated Núñez When, however, the king's new representative, Pedro de la GASCA, arrived and offered pardon as well as repeal of the New Laws, Gonzalo's popular support evaporated Most of his army deserted just before the crucial battle Their commander surrendered and was beheaded.

Pizarro, Hernando (ĕrnän'dō), fl 1530–60, Spanish conquistador, half brother of Francisco Pizarro. He aided Francisco in the conquest of Peru. Much older than his half brothers, Francisco, Juan, and Gonzalo, and, unlike them, legitimate by birth and educated, Hernando accompanied Francisco from Spain in 1530. After the conquest he returned (1533) to advance the fortunes of the family at court at the expense of Diego de ALMAGRO, Francisco's partner. In 1536, back in Peru, he defended (1536–37) Cuzco against the Inca MANCO CAPAC. Hernando then fought against Diego de Almagro, was captured (1537), released, and returned (1538) to defeat and execute Almagro Because of his standing at court, he was sent (1539) to Spain to argue the cause of the Pizarros in the recent civil war, but gold and bribery were not enough. Hernando suffered mild imprisonment for 20 years. Released in 1560, he died some time later, according to one chronicler at the age of 100

Pizarro, Juan (hwän), d 1536, brother of Francisco Pizarro He aided Francisco in the conquest of Peru With his other brothers, Gonzalo and Hernando, he fought valiantly against the Inca MANCO CAPAC during the siege of CUSCO in 1536 He was killed leading an attack on the Indian fortress, SACSAHUAMAN

Pizzetti, Ildebrando (ēldäbrän'dō pēt-tsĕt'tē), 1880–, Italian composer, grad Parma Conservatory, 1901 In 1909 he joined the faculty of the Istituto Musicale, Florence, becoming director in 1919 He was director (1924–36) of the Conservatorio G Verdi, Milan, leaving to replace Respighi at the Conservatory of St Cecilia, Rome He is primarily an opera composer and is modern without attempting radical reforms Outstanding operas are *Fedra* (1915; libretto by D'Annunzio) and *Débora e Jaële* (1922) A composer also of choral works, he often employs polyphonic choruses in his operas

pizzicato (pēt"tsēkä'tō), in music, the technique of plucking the strings of an instrument that is usually bowed Directions for playing pizzicato are found in 17th-century music Left-hand pizzicato, making it possible to play bowed tones and pizzicato tones simultaneously or in alternation, was introduced by Paganini Pizzicato is used in solo music and by whole string sections in orchestral music

Place, Francis, 1771–1854, English radical reformer. For years a breeches maker and a tailor, he educated himself and made his shop a meeting center for radicals and reformers He was especially active in the trade-union movement, through his efforts the antiunion Combination Acts of 1799–1800 were repealed (1824) He was also an early leader of the Chartists (see CHARTISM), helping to draft the "People's Charter" His pamphlets on social questions include *Illustrations and Proofs of the Principle of Population* (1822), one of the earliest tracts on birth control See biography by Graham Wallas (4th ed , 1925)

placenta (plusĕn'tu) or **afterbirth**, thick, disk-shaped mass with a diameter of about 7 in , permeated by blood vessels and connected with the fetus by the UMBILICAL CORD Made up of tissue from both mother and embryo, it is an organ of exchange and permits mutual passage of blood components. Blood itself, however, does not mingle The placenta also functions as an endocrine gland, it is believed to produce estrogens, progesterone, and gonadotrophin Shortly after birth it is forced out by contraction of the uterus Severe hemorrhage may occur if the uterus does not contract properly or if the placenta does not emerge in its entirety. It is susceptible to infection with syphilis and malaria

Placentia (plusĕn'shu), city (pop 1,472), S Calif., SE of Los Angeles, inc 1926 Mineral springs near by make the city a health resort The area produces fruits and oil

Placentia Bay (plusĕn'shū), SE N F , with several minor bays and sheltered harbors, some of which are ice and fog free It has been a naval base since 1622, at first for France, then for Great Britain, and recently for the United States In the Second World War the United States established a naval and air base at Argentia, on the east shore just NNW of Placentia town (1945 pop 538).

placer mining: see MINING

Placerville (plās'survĭl), city (pop 3,064), co seat of Eldorado co , N central Calif , ENE of Sacramento; inc as a town 1854, as a city 1903 After gold was discovered at near-by Coloma in 1848, Placerville was large and prosperous Gold mining is still carried on in the region, together with fruit raising, limestone quarrying, and lumbering

Placid, Lake, NE N Y , in the Adirondacks It is 4 mi long and c 1 to 2 mi wide and lies at an altitude of 1,859 ft LAKE PLACID village touches its south end Whiteface Mt and Mt Marcy are near by.

Placidia, Roman empress: see GALLA PLACIDIA

plague (plāg), infectious disease carried by rat fleas that have become infected through biting diseased rats In the United States certain squirrels on the West Coast harbor the disease During a great epidemic in China the plague germ was discovered (1894) independently by Shibasaburo Kitasato and Alexandre Yersin It is a rod-shaped bacterium called *Pasteurella pestis* An epidemic disease, the plague is the cause of three types of infection In the bubonic type the germ enters a lymph gland, causing fever, swellings (*buboes*) of the glands in the groin or arm pit, and prostration In the pneumonic type the lungs are primarily infected; this type is very communicable, and the mortality rate is high In septicemic plague the blood is fatally infected. Septicemic and bubonic plague probably never spread directly from person to person. The disease can be eradicated by destroying infected rats; quarantine of ships from plague

areas is necessary. Another measure is to make dwellings, granaries, and other buildings ratproof. The last European outbreak occurred on the Volga in 1878–79, but there have been more recent epidemics in the Far East The most widespread and catastrophic epidemic of bubonic plague was that known as the Black Death (from the dark color of the body after death), it began in Constantinople in 1347 and devastated much of Europe It is estimated to have killed from one quarter to three quarters of the population The great plague of London in 1665, which spread throughout England, has been recorded in Daniel Defoe's vivid but fictitious *Journal of the Plague Year* (1722) The *Diary* of Samuel Pepys also contains a grim account of it In recent years new advances have been made in combating the plague Powerful insecticides such as DDT have been used to destroy the disease-carrying fleas. Sulfa drugs and streptomycin are useful in the treatment and control of the disease

plague, cattle. see RINDERPEST.

plagues of Egypt, in the Bible, the plagues and other troubles brought on Egypt by God through the hands of Moses, because Pharaoh would not let the people of Israel go out of Egypt The account, in Exodus, tells how Pharaoh relented each time until the plague was removed, then hardened his heart, in the end he let the children of Israel go, only to pursue them into the Red Sea. The plagues were 10 in number plague of blood by which the waters of Egypt were turned to blood, Ex 7 19–25, plague of frogs, 8 1–15, plague of lice, 8 16–19, plague of flies, 8 20–32, plague of murrain, by which all the cattle of Egypt and none of the Israelites' cattle were killed, 9 1–7, plague of boils, 9 8–12, plague of hail, 9 13–35, plague of locusts, 10 1–20, plague of darkness, by which for three days darkness covered Egypt, 10 21–29, plague of the first born, by which all the first born of Egypt were killed, 11, 12 1–36 The first Passover was observed the night of the 10th plague After it the Israelites left Egypt

plaice (plās), flatfish of the seas of N Europe, commercially important as a food fish Its olive-brown upper surface is spotted with red It usually weighs from 8 to 10 lbs

plaid (plăd), long shawl or blanketlike outer wrap of woolen cloth, usually patterned in checks or tartan figures Now distinctive of the Highland costume, it was formerly worn in all parts of Scotland and in N England by both men and women The early Celtic people excelled in dyeing and in Roman times wore gay, many-colored, checkered plaids, woven or sewed together in squares of different colors Through the Middle Ages and until the 18th cent the people of North Britain belted their plaids about them, the lower part forming the kilt, the upper part the cloak A shepherd's plaid is of black-and-white check A tartan plaid has crossbars of three or more colors combined in designs distinctive of the different Highland clans and serving a heraldic purpose In modern usage plaid may signify merely pattern, as a plaid gingham See Thomas Innes, *The Tartans of the Clans and Families of Scotland* (1938)

Plain, the, in French history, term designating the independent members of the National Convention during the FRENCH REVOLUTION The name was applied to them because, in contrast to the radical MOUNTAIN, they occupied the lower benches of the chamber Although numerically in the majority, the Plain was an ineffectual, leaderless mass and a pliable instrument in the hands of the Girondists and later of the Jacobins It came into its own on 9 Thermidor (July, 1794), when its vote helped to overthrow Robespierre, but after this effort it again lost its cohesion

plain, large area of level or nearly level land An elevated plain is called a PLATEAU or tableland, and a very low, wet plain is a SWAMP. Plains have different names in different climates and countries They include the TUNDRA, STEPPE, PRAIRIE, PAMPAS, SAVANNA, LLANOS, flood plains of rivers, coastal plains, loess plains, and plains (see DESERT), and lacustrine plains The erosive action of water, glaciation, the draining of a lake, deposition of sediment, and the uplift of a continental shelf or a part of the ocean's floor are some of the causes of the formation of plains. The extensive area comprising the western part of the Mississippi watershed, very gradually rising to the foothills of the Rockies, and having, largely, a steppe climate, is called the Great Plains region of the United States The coastal plains region of the United States along the Gulf Coast and the Atlantic seaboard is widest in the south and southeast.

plain chant. see PLAIN SONG.

Plain City, rural village (pop. 1,385), central Ohio, on Big Darby Creek and NW of Columbus, laid out 1818, named Plain City 1851.

Plain Dealing, town (pop 1,085), NW La , near the Red River and the Ark boundary; founded 1888 as a sawmill and cotton-ginning center

Plainfield. **1** Town (pop. 7,613), E Conn , E of Willimantic, settled c.1690, inc. 1699. Textiles and other products are made here. **2** Village (pop. 1,485), NE Ill , SW of Chicago, on the Du Page river, in a farm area, settled 1829, inc. 1869. **3** Town (pop 1,811), W central Ind , WSW of, and near, Indianapolis It has a state boys' school **4** City (pop 37,469), NE N J , near the Watchung Mts. SW of Newark; settled 1684 by Friends, inc. 1869 It manufactures trucks and printing machinery. The city has a Friends' meetinghouse (1788) and other 18th-century buildings, E C Stedman lived in the Martine house (1717), the local historical society occupies the Drake house (1746), known as Washington's Headquarters There is a fine view of the western side of metropolitan New York from Washington Rock near Plainfield.

Plains of Abraham: see ABRAHAM, PLAINS OF

plain song or plain chant, unison vocal music of the church, particularly of the Roman Catholic Church. The texts of plain song are the ordinary and the proper of the Mass, the Psalms, canticles, and certain verse hymns. In a broad sense the chant of the Orthodox Eastern Church, as well as that of the four main Western rites—Ambrosian, Roman, Mozarabic, and Gallican—is considered to be plain song, although the term is often used synonymously with Gregorian chant Plain song is as old as the Christian Church itself and was for many centuries the only church music Byzantine plain song, which was the basis for the music of the Eastern Church, had its roots in the music of the Near East, but there was mutual influence to some degree between Eastern and Western church music The various chants of the Western Church all seem to be derived from similar sources, principally Hebrew and Greek music, though how much they owe to each has not been determined Ambrosian chant is the plain song introduced by St AMBROSE into the cathedral of Milan, where it is still in use In form it less often adheres to a pattern than Gregorian chant, which is the norm throughout the Western Church Gregorian chant underwent much development in the early centuries of the Christian era, but its greatest period of development and codification was in the 7th cent , when Gregory I founded or reorganized the Schola Cantorum and may have compiled the Roman antiphonary Gregory's contribution to liturgical music seems certain, although its exact nature is not known In the Middle Ages, polyphony to a large extent supplanted plain song, and many abuses found their way into the Church in succeeding centuries In the 19th cent the Benedictine monks of Solesmes undertook many years of research to restore the Gregorian chant to its original form and to establish its proper rhythm They began to publish the results of their labors in 1889, and in his *Motu proprio* (1903) Pope Pius X restored the use of the chant, authorizing the Solesmes version The tonality of Gregorian chant derives from the eight church modes (see MODE), which are comparable to the eight *echoi*, four authentic and four plagal, of Byzantine chant Notation of Byzantine chant and of Gregorian chant evolved into systems of neumes (see MUSICAL NOTATION) which are still used in preference to modern mensural notation for plain song The rhythm of plain song always stems from the rhythm inherent in the text, whether prose or verse Most of the Gregorian melodies for the ordinary and the proper of the Mass and for the offices are to be found in an ecclesiastical manual, the *Liber usualis* See R R Terry, *The Music of the Roman Rite* (1931), Winfred Douglas, *Church Music in History and Practice* (1937), Gustave Reese, *Music in the Middle Ages* (1940), Marie Pierik, *The Song of the Church* (1947)

Plainview. **1** Village (pop. 1,500), SE Minn , NE of Rochester, in a farm region, platted 1857, inc 1875. **2** City (pop 1,411), NE Nebr , NNW of Norfolk, in a livestock area, inc 1880 **3** City (1940 pop 8,263, 1947 estimated pop 13,500), co seat of Hale co , NW Texas, S of Amarillo on the Llano Estacado, founded 1886, inc 1907 The level plain, irrigated by shallow wells, produces rich crops of wheat, alfalfa, other grains, cotton, potatoes, and truck Plainview ships and processes these, chickens and turkeys, and dairy products and has small industries Wayland College is here

Plainville. **1** Town (pop 6,935), central Conn., SW of Hartford, set off from Farmington 1869 Its metal products include ball bearings and tools Several 18th-century buildings survive. **2** City (pop 1,232), W central Kansas, near the Saline N of Hays, in a wheat area, settled 1877, inc 1888. **3** Town (pop 1,302), SE Mass , near the R I. line, settled 1661, set off from Wrentham 1905.

Plainwell, city (pop 2,424), SW Mich., on the Kalamazoo river and N of Kalamazoo; settled 1836, inc. as a village 1869, as a city 1934. Products include paper and canned goods. Onions are the chief crop of the area Indian mounds are hereabout.

Plaistow (plă'stō), town (pop. 1,414), SE N.H., set off from Haverhill, Mass., and inc. 1749.

planchette (plănchĕt', plăshĕt'), instrument used in spiritistic or AUTOMATIC WRITING. It consists of a triangular piece of wood mounted at the base on small wheels and with a pencil upright through a hole at the apex. When the tips of the fingers of one or two persons are placed on the planchette, it will trace words or messages on a sheet of paper. The ouija board is similar in purpose, this has no pencil, but a small board moves under the finger tips of some people to spell out words from an alphabet printed on a large board.

Planck, Max (mäks' plängk'), 1858–1947, German physicist. He was professor at the Univ. of Berlin (1889–1928) and president of the Kaiser Wilhelm Society for the Advancement of Science, Berlin (1930–35). His early researches were in thermodynamics, on the basis of which he evolved his revolutionary QUANTUM THEORY. For this he received the 1918 Nobel Prize in Physics. Many of his works have been translated into English, these include *Introduction to Theoretical Physics* (5 vols , 1932–33), *Philosophy of Physics* (1936), *Treatise on Thermodynamics* (3d Eng rev ed , 1945), and *Scientific Autobiography and Other Papers* (1949).

Plançon, Pol Henri (pôl' äNrē' plāsôN'), 1854–1914, French operatic bass. He made his debut in 1877 and in 1883 appeared at the Paris Opéra as Mephistopheles in Gounod's *Faust*, his most famous role. He sang (1891–1904) regularly at Covent Garden, London, and made his debut at the Metropolitan Opera House in 1893. A suave and polished singer, he was a leading bass of his time

plane, in geometry, a flat SURFACE of infinite extent but no thickness It is defined as a surface which contains all of any straight line which has two of its points on the surface An example of a plane, or more exactly of a bounded portion of a plane, is the surface forming one face or side of a cube Any three points determine a plane, a point and a line or two parallel lines determine a plane, but any two lines in space do not usually lie in the same plane

plane, a woodworker's tool related to the CHISEL In the plane the cutting blade is fixed in a block of wood or metal which is pushed or drawn over the surface to be cut down or smoothed Planes of different forms and lengths are used for different purposes, in general, the longer planes leave a flat surface which is made more smooth by the short "smoothing plane" Planes much like those now in use were employed in ancient and medieval times See Thomas Hibben, *The Carpenter's Tool Chest* (1933)

planet (plă'nĭt) [Gr , =wanderer], name given by the Greeks to each of those heavenly bodies which seem to move back and forth among the constellations of the stars The stars themselves never change position relatively to one another Another distinction is that the stars twinkle or sparkle, while the planets, except when low in the sky, near the horizon, shine with a steady light Their light is reflected sunlight, for they are not luminous They are opaque and spherical and revolve around the sun in nearly circular orbits, all in the same direction, contrary to that of the hands of a clock To the Greeks who accepted the explanation of PTOLEMY that the earth was the central heavenly body, the "planets" included the sun and the moon, as well as MERCURY, VENUS, MARS, JUPITER, and SATURN, which are plainly visible to the unaided eye These seven bodies were represented as swinging around the earth in epicycles. When the system of COPERNICUS gave the sun the central position, the earth was shown to be one of the planets of the great SOLAR SYSTEM and the moon simply a satellite circling around the earth The planetary family has been discovered since then to be much larger than was suspected before the telescope extended man's vision. In 1781 URANUS was first seen and in 1801 Ceres, the first of a host of minor planets (see ASTEROID), in 1846 NEPTUNE was discovered, and in 1930 a photographic plate revealed PLUTO The order of the planetary orbits outward from the sun is Mercury, Venus, the earth, Mars, the asteroids (or planetoids), Jupiter, Saturn, Uranus, Neptune, and Pluto The known asteroids number more than 1,500. Mercury and Venus are called inferior planets, because their orbits lie inside that of the earth With the earth and Mars, they make up a group of the smallest planets (the dimensions of Pluto are not yet determined). The superior planets are those with orbits outside that of the earth Jupiter is the giant, in volume more than a thousand times as great as the earth. Saturn is next in size Neptune and Uranus have dimensions far less than the two greatest and far greater than the four smallest of the planets. The density of each of the four largest planets is roughly about one quarter that of Mercury, Venus, and Mars and about one fifth that of the earth The distances separating these great planets from one another are far greater than those lying between any two of the inner group The orbits of Uranus and Neptune are over 1,000,000,000 mi apart, an interval wider than the distance between the sun and Saturn. Pluto is calculated to be c.3,670,000,000 mi. from the sun, which is about 100 times as great a distance as that from the sun to Mercury. The orbits of all the major planets except Mercury and Pluto lie in nearly the same plane and have slight eccentricities. The eccentricity of the orbit of Mercury is about .2; that of Pluto, .25; of Mars, .09. The orbits of the asteroids show great diversity in their eccentricities and their inclination to the plane of the ecliptic. Mercury and Venus, whose orbits are within that of the earth,

present dark sides to the earth part of the time and pass through phases similar to those of the MOON There is great difficulty in determining their rotation periods Of all the planets, Jupiter rotates most rapidly; and all the larger planets rotate in shorter periods than do the smaller ones With the exception of Mercury, Venus, and Pluto, the planets are known to be attended by one or more satellites The laws of planetary motion were formulated by Johannes Kepler See Mary Proctor, *The Romance of the Planets* (1929); G E. Frost, *Planets, Stars, and Atoms* (1946)

planetarium (plănĭtā'rĭum), name used both for a projecting device or a model that portrays the heavenly bodies and for a theatrelike chamber with a hemispherical ceiling upon which the celestial phenomena are reproduced by optical projection Several dozen planetaria are now in operation in various large cities of the world; one of the earliest was built in 1924 on a roof of the Carl Zeiss optical works in Jena. A multi-motored machine consisting of a thick axis terminating in globular structures makes rotational movements, enabling beams of light emitted from windows in the globes to travel in predetermined paths on the ceiling The juxtaposition of the lights and their movements reproduce a panorama of the sky as it might be seen under optimum conditions. The Hayden Planetarium (1935) in New York city employs more than 100 separate projectors to cast the fixed stars of the northern and southern skies, the nebulae, the sun, the moon, and the planets. Some of the projectors are used to reproduce the whole zodiac, the ecliptic and solar circles, as well as the Milky Way The Adler Planetarium (1930) in Chicago was the first in the United States In 1934 the Fels Planetarium was added to Franklin Institute in Philadelphia The Planetarium Theatre of Griffith Observatory in Los Angeles was opened in 1935, the Buhl Planetarium in Pittsburgh, in 1939 A more recent institution was established as the Morehead Planetarium (1949) in Chapel Hill, N C As many as 9,000 stars can be shown on their ceilings The widely used Zeiss apparatus is sometimes called a Ptolemaic planetarium, as distinct from the orrery (after Charles Boyle, earl of Orrery), which is in effect a Copernican model of the solar system A great variety of orreries exist, and these find considerable use as aids in the teaching of celestial mechanics An American, Frank Korkosz, invented and built in 1937 a 2,500-pound ball-shaped aluminum projector, capable of making precessional and equatorial revolutions It is installed at the Springfield Museum of Natural History in Massachusetts and gives an approximation of the Zeiss machine's effects Portable planetaria developed at Franklin Institute are in use throughout the nation

planetesimal hypothesis (plănŭtĕ'sĭmul), theory of the origin of the planets, developed by T C Chamberlin and F R Moulton after 1900, when the NEBULAR HYPOTHESIS was rejected With some modifications, it is accepted by a large group of scientists The theory assumes that in the extremely distant past our sun was passed by another star not too far from it to exert a strong attractive force upon the fluid mass which was the sun Huge tides were raised on the sun, one in the direction of the passing star and one in exactly the opposite direction Assuming that the sun was affected by the same eruptive forces then as now, the eruptions took place with greatest violence and frequency in the regions where the tidal bulges were As the star swung on its orbit, the tidal bulges on the sun and the attendant eruptions occurred toward the star and on the side away from the star, always in the line joining the star and the sun The materials ejected by the sun in its eruptions, affected by a cross-pull which was exerted by the moving star, were set to moving in elliptical orbits around the sun Thus, as long as the star was passing, masses of material of various sizes, some with greater, some with lesser velocity, were being ejected Those of least velocity dropped back Those of extremely high velocity shot out beyond the reach of the sun's gravitational attraction and were lost But those of the speeds between these extremes continued to revolve in elliptical paths around the sun, after the star had left the neighborhood. Smaller masses quickly cooled and became solid These revolving bodies are called planetesimals because they were like little planets As the orbits of some crossed, the larger nuclei swept in the smaller masses. This resulted in the formation of the planets Our planetoids (see ASTEROID) occupy a region in which no dominating nucleus existed to bring them together as a planet Our meteors can be accounted for as leftover planetesimals which never were caught up into larger masses The TIDAL THEORY is a modification of the planetesimal hypothesis See T C. Chamberlin, *The Origin of the Earth* (1916); F R Moulton, *Introduction to Astronomy* (rev. ed , 1916); H N. Russell, *The Solar System and Its Origin* (1935).

planetoid: see ASTEROID.

plane tree, any species of the genus *Platanus*, deciduous trees of temperate regions American plane trees are commonly called sycamore, but this is more correctly the name of a species of fig. Plane trees have a loose bark which scales off leaving patches of lighter colored inner bark and giving the tree a mottled appearance. The dry, seedlike fruits are densely packed into a hard brown ball—whence the name buttonwood—which usually remains on the tree until spring, when it separates into tufts of down and is scattered by the wind The common American plane tree (*Platanus occidentalis*) is native E of the Rockies and is one of the largest of North American deciduous trees The wood is hard and beautifully grained It is used for furniture, butchers' blocks, cigar boxes, and paneling The London plane (*Platanus acerifolia*, thought to be a hybrid) is now commonly cultivated in eastern cities where it is incorrectly called Oriental plane, a species seldom grown in America

plankton: see MARINE BIOLOGY

Plano (plā'nō) **1** City (pop 1,930), N Ill , SW of Aurora, settled 1835, inc 1865 It is a farm trade center. **2** City (pop 1,582), N Texas, NNE of Dallas on the blackland prairie, founded 1848, inc as a city 1930

plant, any organism of the vegetable kingdom, as opposed to one of the ANIMAL kingdom It may be microscopic in size and simple in structure, as are certain one-celled algae, or a many-celled complex structure such as a tree The plant kingdom plays an extremely important role in the balance of nature and the life of man Since only green plants can perform PHOTOSYNTHESIS, they are the ultimate source of all food and probably of most of the oxygen for all animals They are the most abundant form of life on earth They are sources of food, shelter, and clothing In order to attain full growth a plant requires light, water, oxygen, carbon dioxide, varying quantities of nitrogen, phosphorus, sulphur, magnesium, potassium, calcium, and iron, and small amounts of other elements The plant kingdom is commonly divided into four large groups or phyla, based chiefly on reproductive structure the spermatophytes or seed plants (conifers and flowering plants), the pteridophytes (ferns, club mosses, and horsetails), the bryophytes (mosses and liverworts), and the thallophytes, including all plants not differentiated into stem and leaves (algae, fungi, lichens, and bacteria) Each phylum is further divided into classes, orders, families, genera, and species In a given species there may also be different varieties Proponents of the theory of evolution have suggested that the simple algae gave rise to the bryophytes and the pteridophytes and ultimately to the more complex seed plants In the majority of plants the life cycle consists of two alternating generations, the gametophyte and the sporophyte The gametophyte, the conspicuous generation (the plant body) in the mosses, liverworts, and most algae, produces gamete cells (usually sperms and eggs) and these fuse in pairs The fusion cell (or fertilized egg) develops into a sporophyte, and this is the conspicuous generation in the ferns, conifers, and flowering plants Reproduction of the sporophyte is by means of spores, which germinate to form gametophytes The gametophyte generation is much reduced in the flowering plants A pollen grain represents the male gametophyte, and the ovule (which becomes the seed after the fusion of gametes) within the ovary contains the small female gametophyte In the ferns the gametophyte generation is an independent and free-living prothallus (see FERN), while in the liverworts and mosses it is the chief vegetative body and supports the sporophyte The plant body (i e , the sporophyte) of the higher plants is differentiated into organs which are specialized in structure and function A tree, for example, has a branching root system below ground and a branching shoot system above ground The shoots are composed of stems and leaves in addition to the reproductive organs of the flowers Running throughout the tree is a fibrous or woody conducting system The fruits of the higher plants—particularly the grains of wheat, rice, corn, and other grasses—have been a basic cultivated food of man since prehistoric time Plants are a source of innumerable other foods, of wood, textiles, drugs, oils, rubber, and many other things Organic matter from plants of past ages is found in coal and probably in petroleum. The scientific study of plants is called BOTANY; the study of their relation to their environment and of their distribution is plant ECOLOGY, the cultivation of plants for food and for decoration is HORTICULTURE

Plantagenet, English royal house see ANGEVIN

plantain (plăn'tĭn), name for plants of the genus *Plantago*, chiefly annual or perennial weeds now widely distributed The plantains are usually characterised by low clusters of ribbed leaves and narrow spikes of small whitish flowers The pollen is often a hay-fever irritant At one time common kinds were eaten as a potherb and valued medicinally—the leaves used externally as a poultice and the seeds internally for their mucilaginous quality. At the present time the seeds are used for bird food *Plantago psyllium*, called psyllium or fleawort, is an Old World plant the mucilaginous seeds of which are imported as psyllium seed and are used as a laxative A beverage is made of the seeds of the ispaghul (*Plantago ovata*) of India Most plantains growing in the United States are weed pests, occasionally utilized locally for forage For the tropical plantain, see BANANA

plantain lily. see DAY LILY

Plant City, city (pop 7,491), W central Fla , E of Tampa, inc 1885 Settled on the site of an Indian village, it developed with the arrival of the railroad in 1884 In an area producing vegetables, fruit, phosphates, and timber, it is a processing and shipping center, especially for strawberries

Plantin, Christophe (krēstôf' plăN'), 1514–89, printer In Antwerp his work, at first as a bookbinder, began in 1549 His production and publishing of books began in 1555, his establishment continued the work until 1867, and is now preserved as the notable Plantin-Moretus Museum Plantin was the leading printer of the second half of the 16th cent , and his books are admired for their accuracy and their typography His equipment included types designed by Garamond and Granjon The central detail in his mark is a pair of compasses.

plant louse see APHID

plants, domestication of see DOMESTICATION.

Planudes Maximus (plănū'dēz măk'sĭmŭs) or **Maximus Planudes,** c 1260–c 1330, Greek scholar, a very learned monk and one of the principal ornaments of Byzantine culture His edition of the GREEK ANTHOLOGY was long the standard His prose collection of Aesop's *Fables* is important

Plaquemine (plăk'kŭmĭn, plāk'mĭn), town (pop 5,049), parish seat of Iberville parish, SE La , near the Mississippi S of Baton Rouge, inc 1838 Government locks with a lift of 55 ft connect Bayou Plaquemine and the Intracoastal Waterway with the Mississippi In 1936 the Federal Delta Migratory Waterfowl Refuge was established near the town

Plassey (plă'sē), village, S West Bengal state, India Here, in 1757, Robert Clive's decisive defeat of the Nawab of Bengal prepared the way for British dominion over NE India and earned him the title Baron Clive of Plassey

plaster casting, as a sculpture process, is of three kinds One is accomplished in a waste mold, another in a piece mold (both plaster of Paris), and the third in a gelatin mold, all have the impression of the original clay or wax model executed by the sculptor The waste mold is chipped away (wasted) to free the hardened cast, which was poured in as liquid plaster The gelatin mold, being pliable, may with care be sprung from the cast and removed intact and used for replicas The piece mold also may be used again, being so divided as to be readily drawn away from the undercutting of the cast without damage to either Plaster casts are used not only for the creation of new sculptures, but also for the manifold replicas of famous marble or stone statues In another sense of the word, plaster casting refers to the surgical technique of encasing any part of the body in which bones are broken in a plaster-of-Paris cast, so that the bones may set smoothly without interference by motion, jarring, or physical shock

plastering The term commonly refers to the application of plaster to walls and ceilings, exterior plasterwork being of a different composition and generally known as STUCCO Plaster was used by the Egyptians (chiefly as a surface to receive color decorations) and by the Greeks The Romans used it extensively, and there remain, especially at Pompeii, many ceilings and walls, with beautiful relief ornamentation, of a hard, fine plaster such as has not been excelled up to the present Italian Renaissance artists imitated this type of Roman work, and relief ornament in plaster was employed in England for the rich ceilings and interiors of the reigns of Elizabeth and James I and later in those designed by Robert and James Adam In the United States many fine ornamented plaster ceilings were executed in the 18th cent Interior plastering is applied over a base which will furnish a proper grip—by means of interstices provided by wood lath or metal lath or by irregularities of surface such as in hollow tile To secure best results three successive coats of plaster are requisite in most types of work The first, or scratch, coat, composed of sand and lime mixed with abundant hair or fiber, must be thoroughly grounded into the lath and before it hardens is scratched to provide key or adhesion for the next coat The second, or brown, coat is composed of sand and lime, without hair, and is worked to a hard, compact texture, with its surface roughened to receive the final coat The third, or white finishing coat is composed of plaster of Paris, slaked lime, and white sand, mixed with water to form a paste consistency It is troweled on the wall to form a hard, smooth surface, the process requiring a skilled worker The total thickness of the three coats is about ¾ in Moldings, cornices, and relief ornament are cast separately and then mounted into place, though in former times ornamental details were modeled in their location, from the damp plaster

plaster of Paris: see GYPSUM.

plastics, name for various organic derivatives of resin, cellulose, and protein that are capable of being shaped by the application of heat or pressure or

both. Although the first important synthetic plastic, celluloid, was discovered (c 1869) by John W. Hyatt and manufactured by him in 1872, plastics did not come into modern industrial use until after production of bakelite by L H Baekeland c 1907. Celluloid, a mixture of cellulose-nitrate, camphor, and alcohol is thermoplastic, it has the property of softening again and again at high temperatures The bakelite product, made by polymerization, or the linking together of the chains of molecules (in this case phenol and formaldehyde), is thermosetting The chemical change which ensues when high temperature is applied makes the product an infusible and insoluble mass All plastics are either *thermosetting* or *thermoplastic*, and they are further grouped as phenolic, urea, cellulose, acrylic, polystyrene, and vinyl plastics, depending upon the substances from which they are derived Virtually any desired color or shape and many combinations of the properties of hardness, durability, elasticity, and heat, cold, and acid resistance can be obtained in a plastic Plastics are available in the form of bars, tubes, sheets, coils, and blocks, and these can be machined to specification However, plastic articles are commonly manufactured of plastic powders with which desired shapes are fashioned by compression, transfer, injection, and extrusion molding The phenolic and urea materials are generally put in mold cavities where the application of heat and pressure makes them first plastic, then hard or polymerized This method is known as compression molding The transfer method in which the compound is plasticized by outside heating and then poured into a mold to harden is used for designs of intricate shapes and great variations in wall thickness Injection-molding machinery dissolves the powder plastic in a heating chamber and by plunger actions forces it into cold molds, where the product sets Each operation takes place at rigidly controlled temperatures and intervals Extrusion molding employs a heating cylinder, pressure, and an extrusion die through which the molten plastic is sent and from which it emits in continuous form to be cut in lengths or coiled An endless variety of plastic products, many resulting from industrial developments concurrent with the Second World War, has become available Optical lenses, artificial eyes, and dentures of acrylic plastics, splints which X rays may pierce, nylons, machine gears, fabric coatings, wall surfacing, and plastic lamination have emerged within a decade Among the trade names by which many plastic products are known are Plexiglas, Lucite, Polaroid, Cellophane, Vinylite, and Koroseal From these and nearly 600 other varieties of plastics are fashioned safety glass, electrical equipment, ravon fabrics, tableware, radio housings, musical instruments, records, upholstery, automobile parts, and costume jewelry See Josephine Berry, *The Plastics Industry* (1947), Stephen Bass, *Plastics and You* (1947)

plastic surgery, specialized branch of surgery which deals with the repair of deformities, either congenital or acquired, and aims to improve the appearance and function of tissue defects The outer surfaces of the body are most commonly involved in such surgical repair, although deeper tissues may also be included The plastic surgeon may use tissues adjacent to the area of repair or transplanted tissue grafts from other parts of the body Simple defects, such as small scars, can usually be repaired in a relatively short period of time Extensive defects, such as those resulting from gunshot wounds or other severe trauma, may require repeated tissue grafts over many months and sometimes years

Plata, Río de la (rē'ō dā lä plä'tä), estuary, SE South America, formed by the Paraná and Uruguay rivers It is c 120 mi wide at its mouth on the Atlantic and decreases to c 20 mi near its head Focal point of one of the great river systems of the continent, it receives a tremendous volume of water Extensive sandbanks and shoals reduce the navigability, but dredged channels permit navigation by large vessels Its great ports are Buenos Aires and Montevideo. Discovered by Juan Díaz de Solís (1516), it was explored by Magellan in 1520 and by Sebastian Cabot from 1526 to 1529 The first settlement on its banks was made at Buenos Aires by Pedro de Mendoza (1536) A principal channel into the interior of SE South America, it is very important commercially In English it is sometimes called River Plate The viceroyalty of Río de la Plata, more or less corresponding to the present Argentina, was established in 1776

Plataea (plutē'u), ancient city, S Boeotia, Greece, on the slope of Mt Cithaeron Plataea had voluntarily passed from Theban to Athenian protection before the Persian Wars and stood by Athens at Marathon (490 B C) At Theban instigation Xerxes destroyed the city (480 B C), in the following year it was the scene of the decisive defeat of the Persians by the Greeks under Pausanias (with Aristides commanding the fleet) At the beginning of the Peloponnesian War, Thebes attacked the city, but, failing to take it, induced the Spartans to besiege it (429–427 B C). Plataea was captured and sacked. It was subsequently rebuilt.

plate, in radio, the element which forms the anode in a vacuum tube. Generally in small vacuum tubes the plates consist of small nickel tubes, circular in section for single filaments, oval in section where V or W filaments are used The metal is thin, and so the plate is cramped in the flat surfaces and often the edges are flanged. One, two, or more supports add to the rigidity In some cases, plates have been constructed of close-mesh nickel wire screen The plate is charged to some high positive voltage, from 150 volts in small triodes to 20,000 volts in oscillators and power tubes The plate voltage directly determines the quantity of power the tube can deal with In large oscillator tubes about 40 percent of the power delivered to the plate is lost, in the plate, as heat In the smallest tubes the outside surface of the plate is blackened to increase radiation, and in this way most of the heat is dissipated In the larger power tubes the glass must conduct much heat, and air cooling is necessary Above one kilowatt of power (nominal rating) the plate must be water-cooled Modern tubes delivering over one kilowatt are so built that the plate forms part of the outside of the tube It is usually in the form of a cylinder of copper sheet, a few inches long, and encloses the grid and filament The tube is fixed to the vacuum tube, which is of glass or quartz, by one of several specially developed methods of joining glass to metal In operation, the plate is completely immersed in a water jacket The electric power for the plate can be obtained from batteries (B batteries) or from an alternating-current source If taken from any alternating-current source, the current must be rectified and then filtered to remove any ripple effect If taken from a direct-current generator, the ever-present ripple or slight fluctuation of current must also be filtered out See also TUBE, VACUUM

Plate, River see Plata, Río de la

plateau (plă"tō'), an elevated portion of the earth's surface, larger in summit area than a MOUNTAIN, and bounded on at least one side by lower land The origin of plateaus is assumed to be the same as that of mountains, the earth movements involved being distributed more uniformly over a wider area Some plateaus, e g , the Deccan of India and the Columbia river plateau of the NW United States, are basaltic and were formed as the result of lava flows, others are the result of upward folding, and still others have been left elevated by the erosion of adjacent lands Plateaus, like all elevated regions, are subject to dissection by erosion and are continuously being peneplained Low plateaus are often agricultural regions, like the neighboring plains, while high plateaus are usually fit chiefly for stock grazing Many of the world's high plateaus are deserts Other notable plateaus are the Colorado plateau of the W United States, the Ecuadorian and Bolivian plateaus in South America, and the plateaus of Anatolia, Arabia, Iran, and Tibet

plate mark see HALLMARK

Platen, August von (ou'gōōst fŭn plä'tun), 1796–1835, German poet, whose full name was August, Graf von Platen-Hallermund An opponent of romanticism after his earliest work, he satirized the "fate tragedy" in his travesty *Die verhängnissvolle Gabel* [the fatal fork] (1826) He has been called a German Aristophanes His finest work, however, was his classically beautiful verse, such as the *Sonette aus Venedig* (1825, Eng tr , *Sonnets on Venice*, 1914), the odes, and the verse on the Polish insurrection of 1830 See Norman Macleod, *German Lyric Poetry* (1931)

plateresque (plătŭrĕsk') [Span , =silversmith], earliest phase of Spanish Renaissance architecture and decoration, in the early 16th cent The designation probably derives from the delicate and minute ornament suggestive of the craftsmanship of a silversmith (*platero*) This rich ornamentation was based upon the work of the Italian Renaissance mingled, however, with surviving Moorish and late Gothic design which resulted in an entirely distinctive manner In characteristic Spanish decorative spirit, structure received little emphasis, while doorways and other details displayed concentrated richness against a foil of bare wall space Columns of candelabrum form were among the favorite motives, as were pilasters enriched with arabesque reliefs and topped with free Corinthianesque capitals, columns with bracketed capitals, heraldic escutcheons, and fancifully twisted scrolls It was in the plateresque period that Spanish workers in wrought iron reached an unlimited technical skill, translating Renaissance motives into terms of metalwork to form the superb *rejas* of the churches (see REJERÍA) Among the great plateresque buildings are the town hall at Seville, the university at Alcalá de Henares, and the cathedral at Granada by Diego de Siloe From the latter half of the 16th cent a much more classic and restrained form of Renaissance design supplanted the plateresque

plating, the application of a plate or coat of metal to a metallic or other object for decoration, protection against corrosion, or increased wearing qualities The practice is of ancient origin; GILDING was developed early, the Romans soldered silver plates to articles of baser metals, and in the 5th cent. a process was described by which iron weapons were coated with copper by dipping in a copper solution In the 18th cent. the plating of copper or brass with silver by fusion was originated in England (see SHEFFIELD PLATE) GALVANIZING iron by dipping it in molten zinc also dates from the 18th cent Plating by dipping, fusion, and soldering methods has been largely superseded by the welding of plates and especially by electrolytic deposition (see ELECTROLYSIS) The term *electroplating* is commonly applied to the electrolytic depositions of decorative or protective coats, and *electroforming* to the formation of metallic objects by deposition of metal on temporary cores and to the coating of electrically negative casts or molds for the reproduction of printers' type, engravings, medals, or other objects (see ELECTROTYPE) Metals commonly applied to electroplating include chromium, nickel, cadmium, lead, tin, copper, silver, gold, and a few alloys, especially brass and alloys of tin Nickel was formerly widely employed to impart a shiny surface, but has been largely superseded by chromium, which is not only shiny and resistant to tarnish, but is exceptionally hard and durable Chromium, because of its cost and poor bonding with many metals, is usually applied over an undercoat of nickel plate It is used in thin coats for decorative purposes, e g , on automobile accessories, and usually in heavier coats for the finishing of tools The adherence of electroplate depends on the bonding qualities of the foundation and coating metals, it must be applied to surfaces free from dirt, grease, and chemical impurities See William Blum and G B Hogaboom, *Principles of Electroplating and Electroforming* (3d ed , 1949)

platinite: see Guillaume, Charles Édouard

platinum, grayish-white metallic element (symbol = Pt, for physical constants, see ELEMENT, table) It is malleable and ductile Chemically it is not active It is not attacked by ordinary reagents but is soluble in aqua regia (chloroplatinic acid being formed) It does not combine with oxygen even at higher temperatures With certain fused alkalies, however, it forms platinates Since it has two valences it forms two groups of compounds platinic and platinous Because of its resistance to corrosion, platinum is used (alloyed with other metals) for making laboratory utensils (e g crucibles), for electric wires and contact points, for standard weights (the standard kilogram weight in France is made of a platinum-iridium alloy), and for foil Since its coefficient of expansion is close to that of glass, it is valuable in apparatus in which a metal is fused in glass and which is to be subjected to strong heating Platinum is a strong catalytic agent, being so employed in the contact process for the manufacture of sulphuric acid and in a process (Ostwald) for the preparation of nitric acid, which involves the oxidation of ammonia The metal exhibits this catalytic property especially in several of its forms, e g , when appearing as a spongy mass (called then platinum sponge) prepared by igniting the ammonium salt of chloroplatinic acid, as a black powder (platinum black), and as platinized asbestos, obtained when asbestos dipped in chloroplatinic acid is heated The metal is used also in making jewelry (generally in alloy form), in dentistry, and in photography Most important of the alloys are those with iridium Because of the cost of platinum various substitutes for this metal are employed, e g , platinite (an alloy of nickel and iron discovered by C E. Guillaume) and white gold Platinum is found in nature chiefly alloyed with other metals, from which it is separated by complex chemical methods Russia has rich deposits of platinum, but in recent years the world's supply has come chiefly from Canada, South America (especially Colombia), the United States, and South Africa The other metals with which it is usually alloyed are known as the platinum metals They are iridium, osmium, palladium, rhodium, and ruthenium Discovery of the element is variously accredited It was probably known and used, although rarely, several centuries B C In the middle of the 18th cent some platinum from the New World reached England, and soon thereafter many leading chemists published reports on it A process discovered (1803 or 1804) by W H Wollaston for making the metal malleable made possible its commercial use for laboratory apparatus and other purposes

Plato (plā'tō), 427?–347? B C., Greek philosopher, son of noble parents After pursuing the liberal studies of his day, he became in 407 B C a pupil and friend of Socrates In 388 B C he lived for a time at the court of Dionysius the Elder, tyrant of Syracuse On his return to Athens, Plato founded a school in the grove of Academus, the Academy, where he taught mathematics and philosophy until his death His teaching was interrupted by two more visits to Syracuse (367 and 361 B C), which he made in the vain hope of realizing his political ideals in Sicily. All of Plato's known writings have come down to us The works attributed to him are 35 dialogues, 13 epistles, some definitions, and some selections in the Greek Anthology. The definitions, at least two of the epistles, and some of the dialogues are spurious, and the poems may be. Plato's

great work is in his dialogues, which are perfect of their kind. He was of a poetic turn, and his writing, in admirable prose, reveals a character of singular dignity, urbanity, humor, and aristocratic distinction The dialogues are divided roughly into groups according to the probable order in which they were written The earliest group, called Socratic, include *Apology*, the defense of Socrates, *Hippias Major* and *Hippias Minor*, *Charmides*, on virtue as self-knowledge, *Laches*, on virtue as valor, *Lysis*, on friendship; *Euthyphro*, on religion, *Crito*, expounding why Socrates was willing to die, *Protagoras*, on virtue as knowledge, *Ion*, on the origin of poetic ability, *Menexenus*, a satire on oratory In a second group, which reveals probably the development of Plato's views out of those of Socrates, may be set the following *Phaedrus*, on rhetoric, *Gorgias*, on absolute right and wrong, *Meno*, on the difficulty of acquiring knowledge, *Euthydemus*, on false logic, *Theaetetus*, one of the most splendid, on how to define knowledge, *Sophist*, *Politicus*, on whether democracy or autocracy is better, *Parmenides*, on the One and the Many, a refutation of the Eleatic philosophers, *Cratylus*, on the nature of names The last group of his dialogues may be said to include some of his greatest *Symposium*, on love, i e, the love of beauty (this includes the famous speech by Alcibiades), *Phaedo*, a very beautiful demonstration of immortality, *Philebus*, on the mean as the ethical ideal, *Republic*, the next longest and the most celebrated of his dialogues, a demonstration of justice by picturing an ideal state, *Timaeus*, *Critias*, *Laws*, the longest dialogue, his last, a summary of his practical teachings, *Epinomis*, a supplement to the *Laws* The following are universally considered spurious *Alcibiades I* and *II*, *Erastae*, *Hipparchus*, *Theages*, *Minos*, and *Clitophro* As to the order in composition, many put the *Symposium*, *Republic*, *Phaedrus*, and *Phaedo* at Plato's prime, long before his old age, when he wrote the *Laws* Plato himself made no formal division of his philosophy, but from ancient times his thought has been discussed under the headings of *dialectic*, *physics*, and *ethics* He used the term *dialectic* to describe all logical thinking For Plato the process of thinking is twofold the establishment of general ideas by induction and their classification by logical division This represents his philosophical inheritance from Socrates Plato, however, went beyond Socrates in preaching the objective reality of Ideas He argued for the independent reality of Ideas as the only guarantee of objective scientific knowledge, a position in which scholastic realism agreed with him Ideas are, he held, the Forms or Archetypes of all concrete things, their number is indefinite, their being is changeless and eternal, they are the ground of all temporal phenomena The supreme Idea is the Idea of the Good, whose function and place in the world of Ideas is analogous to that of the sun in the world of the senses The *Phaedrus* contains a discussion of mystical contemplation of the Idea Plato explained the physical world as possessing only relative reality, and that by participation in the reality of the Ideas The world of Ideas was seen by Plato as the source which gave life and significance to the world of the senses Ideas are, moreover, the Final Cause that makes all existence purposeful The most celebrated exposition of this is the "parable of the cave" in the *Republic* Plato's universe accommodates the changeless Being of Parmenides and the perpetual flux of Heraclitus Plato suggested the existence of a world soul and postulated a Demiurge or Creator as the fashioner of the physical universe The rational soul he held to be immortal because, like the Ideas, it is not made up of parts and is accordingly indestructible He taught also the preexistence of the soul and believed in a priori knowledge The *Meno*, in a well-known passage, teaches that knowledge is partly a matter of recollection of previous life Virtue, according to Plato, is the harmony or health of the soul, secured when the rational part rules the other parts The cardinal virtues are justice, temperance, courage, and wisdom, the last being the highest of all There is in Plato an ascetic strain, tending toward contempt of the world and praising the life of pure contemplation His *Republic*, the first Utopia, was a state based on justice, where each class in society happily performed the function for which it was suited Thus the philosopher ruled, the warrior fought, and the worker enjoyed the fruits of his labor Plato proposed communism for the two highest classes, not because equality was a good in itself, but in order to better insulate the men with power from the temptations and distractions of the temporal world In the *Symposium* and the *Phaedrus* he celebrates the philosophic love of ideal beauty in passages of matchless eloquence Plato's writings constitute one of the most influential bodies of work in the history of the race So subtle, searching, and wide-ranging is his thought that almost all the problems of subsequent philosophy are traceable in his dialogues, his work is likewise, because of its verbal charm and its vivid portrayal of contemporary life, a part of the world's literature. See Benjamin Jowett, *The Dialogues of Plato* (5 vols., 3d ed., 1920), A. E Taylor, *Plato: the Man and His Work* (1927); Raphael Demos, *The Philosophy of Plato* (1939), Alexandre Koyré, *Discovering Plato* (1945); John Wild, *Plato's Theory of Man* (1946); Ludwig Marcuse, *Plato and Dionysius* (1947)

Platt, Charles Adams, 1861–1933, American architect, landscape architect, painter, and etcher, b New York city He studied etching with Stephen Parrish and painting, in Paris, under Boulanger and Lefebvre He won distinction in both fields before travels in Italy turned his interests towards architecture and garden design Platt painted many landscapes of New Hampshire scenes His architectural designs are based upon Italian and Georgian traditions He was a fellow of the American Institute of Architects Platt's works include numerous important city and country residences, the latter complete with their gardens, the Freer Gallery of Art at Washington, D C (1918), an addition to the Corcoran Gallery, a building for the *Leader News* in Cleveland, buildings for the Univ of Illinois at Urbana, including its library, and a number of buildings (e g, chapel, library) for Phillips Academy, Andover, Mass He wrote *Italian Gardens* (1894) See monograph of his work with introduction by Royal Cortissoz (1913)

Platt, Orville Hitchcock, 1827–1905, U S Senator (1879–1905), b Litchfield co, Conn Admitted (1849) to the bar, he practiced law at Meriden, Conn He held many public offices in Connecticut before he served in the U S Senate Platt helped frame the high protective tariff measures of 1883, 1890, and 1897 He opposed "cheap money" schemes and all attempts to regulate big business An expansionist, he was important in the annexation of Hawaii and the occupation of the Philippines He also framed the **Platt Amendment**—a rider attached to the Army Appropriations Bill of 1901 It stipulated the conditions for American intervention in Cuban affairs The amendment, which practically made Cuba an American protectorate, was forced into the constitution of Cuba and was incorporated in a permanent treaty between the United States and Cuba, it set the terms under which the United States intervened in Cuban affairs in 1906, 1912, 1917, and 1920 Rising Cuban nationalism and widespread criticism led to its abrogation in 1934 See L A Coolidge, *An Old-fashioned Senator* (1910)

Platt, Thomas Collier, 1833-1910, American politician, b Owego, N Y He attended Yale (1849-50), became president of the Tioga County National Bank, and had considerable commercial interests by the time he served in the U S House of Representatives as a Republican (1873-77) In 1881 he became a U S Senator, but, following his mentor Roscoe CONKLING, in a quarrel with President James Garfield over patronage, resigned almost immediately, thereby winning the nickname "Me Too" Platt With Conkling he sought vindication in a new election, but both were defeated Platt remained prominent in New York politics, gaining new power and using methods that won him the name of the "easy boss" Again from 1897 to 1909 he was a U S Senator One of the most powerful of Republican politicians, he was largely responsible for the election (1898) of Theodore ROOSEVELT as governor of New York Although Roosevelt occasionally consulted with Platt, he was largely independent in political matters, and in 1900 Platt succeeded in shelving him (as he thought) into the vice presidency Afterward Platt's power declined See his autobiography (1910), H F Gosnell, *Boss Platt and His New York Machine* (1924)

Platt Amendment see PLATT, ORVILLE HITCHCOCK

Plattdeutsch, Low German, especially in Germany See LANGUAGE (table)

Platte (plăt), city (pop 1,017), SE S Dak, NW of Yankton, in a dairy and farm area, settled 1882

Platte, river formed in S central Nebraska by the junction of the NORTH PLATTE and the SOUTH PLATTE and flowing c 310 mi through S Nebraska to the Missouri near Plattsmouth

Plattensee, Hungary see BALATON

Plattesville (plăt'vĭl), city (pop 4,762), SW Wis, SW of Madison and on the Little Platte, founded 1827, inc 1876 It is a center of lead and zinc mining and dairying A state teachers college is here At near-by Old Belmont is Wisconsin's early territorial capitol (1836), now restored in a state park

Platt National Park see NATIONAL PARKS AND MONUMENTS (table)

Plattsburg. **1** City (pop 1,915), co seat of Clinton co, NW Mo, on the Little Platte and NE of Kansas City, in a farm region, founded c 1835 **2** City (pop 16,351), co seat of Clinton co, NE N Y, on Lake Champlain at the mouth of the Saranac, laid out 1784, inc 1902 Near here in the War of 1812, Thomas MACDONOUGH and Alexander MACOMB repulsed (Sept., 1814) a British sea and land invasion from Canada led by Sir George Prevost. Today, papermaking is the city's chief industry A state teachers college is here, and a Catholic summer school is near by The Plattsburg military training camps, established during the First World War to train army reserve officers, were closed in 1946 The barracks were converted into use for Champlain College, one of the state's emergency colleges for veterans, now part of the State Univ. of New York

Plattsmouth (plăts'mouth, -muth), city (pop 4,268), co seat of Cass co, SE Nebr, S of Omaha, at the junction of the Platte with the Missouri; founded 1854–55 It is a railroad and trade center Stone and clay deposits are near

platypus (plă'tupus) or **duckbill,** an egg-laying mammal of Australia, of the order Monotremata, the most primitive group of living mammals Its only near ally is the echidna The adult male is about 2 ft long, including the 5 or 6-inch tail The head, trunk, and tail are broad and flattened The thick, dark brown pelage consists of a coarse outer coat and woolly underfur The muzzle has the shape of a duck's bill and is covered with soft, leathery skin made sensitive by the presence of nerve endings The eyes are small, and there is no external ear The five-toed feet are webbed, the web of the forepaw extends beyond the tips of the claws but can be folded back, and that of the hind paw comes only to their base The male platypus has on its heel a spur, directed backwards and inwards, which is hollow and connects with a poison-secreting gland, this spur is probably used as a weapon The platypus is semiaquatic, feeding entirely on small, fresh-water animals Both sexes live in a simple burrow in a stream bank except during the breeding season, when the female makes a separate and more elaborate burrow containing a nesting chamber approached by a long tunnel One, two, or three eggs are laid at a time The female platypus lacks teats, and the young take the secretion of the abdominal mammary glands through many small openings in the skin The platypus, in spite of certain superficially birdlike characteristics, may more correctly be considered a link between mammals and reptiles See C L Barrett, *The Platypus* (1944)

Plauen (plou'un), city (pop 84,778), Saxony, E Germany, on the White Elster river and at the northwestern foot of the Erzgebirge. It has been a textile-manufacturing center since the 15th cent and also produces machinery, electrical appliances, and leather An ancient Slavic settlement, it became (1224) the seat of a branch of the Teutonic Knights, passed (1327) to Bohemia, and came to Saxony in 1577 Among the ancient buildings of the city are its castle (1224), the city hall (15th cent), and a 12th-century church

Plautus (Titus Maccius Plautus) (plô'tŭs), c 254-184 B C, Roman comic poet, b Umbria His plays adapted from those of Greek New Comedy, are popular and vigorous representations of middle- and lower-class life Written with a mastery of idiomatic spoken Latin and governed by a genius for situation and coarse humor, Plautus' comedies achieved a great reputation, today they make some of the most fascinating of classical reading Characteristic of his plays are the stock comic figures—the knavish, resourceful slave, the young lover and his mistress, the courtesan, the grouchy and often avaricious father the parasite, the braggart soldier His plots and characters have had great influence upon later literature, with adaptations and imitations by many writers, e g, Molière (*L'Avare*), Corneille (*L'Illusion comique*), Jonson (*The Case Is Altered*), Shakspere (*Comedy of Errors*) Of Plautus' plays, 21, more or less complete, survive *Amphitruo* (*Amphitryon*), *Asinaria*, *Aulularia*, *Bacchides*, *Captivi*, *Casina*, *Cistellaria*, *Curculio*, *Epidicus*, *Menaechmi*, *Miles gloriosus*, *Mercator*, *Mostellaria*, *Persa*, *Poenulus*, *Pseudolus*, *Rudens*, *Stichus*, *Trinummus*, *Truculentus*, and *Vidularia* (in fragments)

Playfair, Sir Nigel (nī'jul plā'fâr), 1874-1934, English actor-manager He acted in F R Benson's Shakespeare Company and with George Alexander and Beerbohm Tree From 1919 to 1932 he was manager of the Lyric Theatre, Hammersmith, where his productions included John Drinkwater's *Abraham Lincoln* (1919) and a very successful revival of Gay's *Beggar's Opera* in 1920

playground see RECREATION

playing cards There is evidence that playing cards were in use in the ancient world, but they were probably first known to Europeans in the 14th cent In the British Museum there is a 14th-century manuscript depicting a card game played by a king and two courtiers, the arrangement of the pips on the cards is similar to that of the present day Playing cards are referred to in the household expense accounts of Charles VI of France for 1392 In 1397 the provost of Paris issued an edict prohibiting the people from playing certain games on working days, and among these, cards are mentioned. The manufacture of playing cards in Germany dates from the beginning of the 15th cent, and in Italy they were made in 1425, but it was not until 1463 that they were made in England, and the earliest designs produced there were painted by hand There were usually four suits, in Germany these were called hearts, bells, leaves, and acorns, while in Italy they were known as swords, batons, cups, and money. The present-day variety of hearts, diamonds, clubs, and spades were adopted in France in the 16th cent In addition to these cards, called "numeral" cards, there were also

cards known as tarots, or *triomphes* (trumps), because when played in combination with numeral cards the tarots had a higher value A full pack consisted of 78 cards, 22 bearing emblematic designs and 56 others which were divided into four suits of 14 cards each Three of these were called coat cards (from which the present court card comes), so named because each card bore a coated figure—king, chevalier, and valet. The 10 other cards were numbered with pips from 1 to 10. The game played with these cards was called *tarocchi*. The modern deck consists of 52 cards, divided into four suits (spades and clubs, black, hearts and diamonds, red), in each suit there are king, queen, knave or jack, and 10 cards bearing pips from 1 (the ace, the highest card in most games) to 10 In gambling games, such as poker, an extra card called the "joker" is often used. Throughout the world cards have been manufactured from time to time to glorify contemporary leaders and heroes.

pleadings see PROCEDURE.

Pleasant Grove. **1** Town (pop. 1,066), N central Ala., a suburb of Birmingham; inc 1933 **2** City (pop 1,941), N central Utah, in the valley of Utah Lake near Provo, settled 1849 by Mormons, inc 1855 A processing center of an irrigated fruit and berry region, the town now receives water from the Provo river project.

Pleasant Hill, city (pop 2,118), W Mo., SE of Kansas City, in a farm area, laid out 1843

Pleasanton. **1** Town (1940 pop 1,278, 1944 special census pop 2,388), W Calif., E of San Francisco Bay, in a farming and dairying area, laid out 1867, inc 1894 **2** City (pop 1,227), E Kansas, near the Mo. line S of Kansas City, in a dairying and grain-raising area, laid out 1869, inc 1870 It was named for Gen Alfred PLEASONTON, who defeated a Confederate force here (1864). **3** City (pop 2,074), SW Texas, S of San Antonio, settled in the 1850s, inc 1928 The region has cattle ranches, some farms, and oil fields

Pleasant Ridge, city (pop 3,391), SE Mich., NW of Detroit, inc as a village 1921, as a city 1928.

Pleasantville. **1** Residential city (pop. 11,050), SE N.J., near Atlantic City, inc 1914 **2** Residential village (pop 4,454), SE N.Y., in Westchester co., N of White Plains, settled 1732, inc 1897. It has a large publishing house

Pleasonton, Alfred (plĕ'zŭntun), 1824–97, Union general in the Civil War, b Washington, D.C., grad West Point, 1844 He served in the Mexican War and in the Indian wars on the frontier In the Civil War, Pleasonton served with distinction in the PENINSULAR CAMPAIGN (1862) and was made brigadier general of volunteers He fought at Antietam and Fredericksburg, and his defense against Stonewall Jackson at Chancellorsville was invaluable He commanded all the Union cavalry in the Gettysburg campaign, giving a good account of himself at BRANDY STATION and other engagements Transferred to Missouri, Pleasonton defeated Gen Sterling PRICE at Westport and Marais des Cygnes (1864), ending the last Confederate threat in the West

plebeians. see PLEBS

plebiscite (plĕ'bĭsĭt) [Latin,= popular decree], vote of the people on a question submitted to them, as in a referendum In Roman times the term meant a law voted by the plebs Hence, to Montesquieu a plebiscite was a law made by plebeians, while Voltaire, familiar with the voting customs of the Swiss cantons, considered it to mean an assembly The modern employment of plebiscites stems from the influence of Rousseau's theory of indivisible sovereignty on political thought Plebiscites fall into three rough classes. Plebiscites which determine ordinary legislation are still taken in the assemblies of the Swiss cantons Constitutional plebiscites have been used in France, Australia, and the United States to ratify a prepared document or constitutional amendment Annexation plebiscites were held in the French Revolution, in the unification of Italy, and after the First World War to determine the wishes of a population as to their national allegiance This device has been prevalent in deciding the status of disputed or border territories, particularly those with large minorities Prominent recent examples were Schleswig and the Saar Territory The plebiscite has been frequently criticized as oversimple and subject both to official manipulation and to the merely passing considerations of the voters See Sarah Wambaugh, *Plebiscites since the World War* (1933)

plebs (plĕbz) or **plebeians** (plĭbē'ŭnz) [Latin *plebs* =people], part of the population of ancient Rome, in historical times always considered to be descended mainly from the Latins settled on Roman territory by the kings Tullus Hostilius and Ancus Martius. They lacked, at first, most of the PATRICIAN rights, but with the establishment of the tribune of the people in 491 B.C., they gradually removed their disabilities Marriage with the patricians was validated (445 B.C.), and plebeians were admitted to the quaestorship (409 B.C.), to the consulate (367 B.C.), to the dictatorship (365 B.C.), to the censorship (351 B.C.), and to the praetorship (338 B.C.), they finally obtained the important priestly offices of the pontificate and augurship in 300 B.C. The gulf between plebs and patricians was bridged, under the emperors, by the *nobiles*, a new aristocracy of office, and from this time the name plebs passed to the lower ranks of the people as contrasted with the nobler class

Plehve, Vyacheslav Konstantinovich (vyăchĕslăf' kŏnstăn'tyĭnuvĭch plyĕ'vyĭ), 1846–1904, Russian statesman As director of the police (1881–84), vice minister of the interior (1884–99), secretary of state for Finland (1899–1902), and minister of the interior (1902–4), he consistently pursued an ultrareactionary policy. He subjected minorities to forced Russification, secretly organized Jewish pogroms, and helped precipitate the Russo-Japanese War hoping it would divert public opinion from internal conditions and increase Russian prestige He was killed by a revolutionist's bomb

Pleiad (plī'ăd) [from Pleiades], a group of seven tragic poets of Alexandria who flourished under Ptolemy II Philadelphus, c 280 B.C. Of the works of the men usually given in lists of the Pleiad only LYCOPHRON survives, and his extant piece is not a tragedy A group of enthusiastic French poets took the name **Pléiade** (plāyăd') from the Alexandrian Pleiad, c 1553. The conventional seven of this group are RONSARD (the leader), Joachim DU BELLAY, BELLEAU, JODELLE, TYARD, BAÏF, and DAURAT The Pléiade had as its avowed purpose to encourage the writing of French as against Latin, to enrich the language, and to establish a modern literature equal to other literatures They cultivated the use of classical and Italian forms, especially of the sonnet. For translations of poems of the poets, see George Wyndham, *Ronsard and the Pléiade* (1906), John Payne, *Flowers of France the Renaissance Period* (1907)

Pleiades (plē'ŭdēz, plī'-), in Greek mythology, seven daughters of ATLAS and the nymph Pleione They were attendants of ARTEMIS Their names were MAIA, Electra, Merope (mĕ'rupē), Celaeno (sŭlē'nō), Taygeta (tăĭjē'tŭ), Sterope (stĕ'rupē) or Asterope (ăstĕ'-), and Alcyone (ălsī'ŭnē) They were changed into stars. The lost Pleiad was either ELECTRA or MEROPE

Pleiades (plē'ŭdēz, plī'-), in astronomy, a group of stars known as an open (as contrasted with a globular) cluster in the constellation Taurus. The cluster consists of probably several hundred stars and is said to be 325 or 350 light years distant from the earth. Six stars are easily visible to the naked eye Known as the Seven Sisters, this group was named by the Greeks for the seven daughters of Atlas and Pleione, the seventh Pleiad was, according to legend, lost or in hiding Visible with the telescope is a faint star associated with the other six, it is believed that in very early times this may have been much brighter and visible to the naked eye, thus accounting for the many early references to seven stars

Pleistocene epoch (plī'stusēn) [Gr.,=most recent], sixth epoch of the Cenozoic period of geologic time If the Paleocene is not considered as a separate epoch preceding the Eocene it is the fifth division of the Cenozoic. The name Quaternary was early applied to the period beginning with this epoch, and this name is still used although its validity is denied by many It is the most celebrated GLACIAL PERIOD of the earth's history At their maximum extent, the Pleistocene ice sheets covered all of Antarctica, large portions of Europe, North America, and South America, and small areas in Asia. In North America they stretched over Greenland and Canada and over the United States as far south as a line drawn westward through New Jersey and Pennsylvania and along the line of the Ohio and Missouri rivers to North Dakota, then through N Montana, Idaho, and Washington to the Pacific, in Europe, they covered Scandinavia, Finland, NW Russia, N Germany, and the British Isles. Glaciers distinct from the main sheets were formed in the Rockies and the Alps In South America, Patagonia and the S Andes lay under an extension of the antarctic sheet, while in Asia the Caucasus, the Himalayas, and other mountain regions were glaciated. The ice sheets of North America advanced from two main centers of accumulation or of radiation identified as the Keewatin, W and NW of Hudson Bay, and the Labrador, E of James Bay. The Cordilleran ice sheet covering much of the mountainous region of W Canada and the NW United States was not strictly a center of radiation. The ice sheets of Europe radiated from Scandinavia. The glaciation of the Pleistocene was not continuous but was interrupted by interglacial stages, during which the ice disappeared, according to the opinion of most geologists, and a comparatively mild climate prevailed In the Mississippi valley of North America the Nebraskan glacial stage was succeeded by the Aftonian interglacial stage; there followed the Kansan (glacial), Yarmouth (interglacial), Illinoian (glacial), Sangamon (interglacial), Iowan (glacial), Peorian (interglacial), and Wisconsin (glacial) stages—as named, five glacial and four interglacial stages. In all probability there were actually only four glacial stages, the Iowan and Peorian being included in the Wisconsin as one complex stage In the Alps, the other region in which Pleistocene glaciation has been extensively studied, four glacial stages are recognised and are known as Günz, Mindel, Riss, and Würm. The characteristic formation laid down in the glacial stages of the Pleistocene, as in all glacial periods, is the DRIFT. The interglacial stages were marked by the weathering of the till of the drift to form a sticky, heavy soil called the gumbotil and also by the deposition of PEAT and LOESS Peat is plentiful in the Aftonian, Yarmouth, and Sangamon of North America, while the Peorian is noted for loess. The Pleistocene glaciers made important alterations in the topography of the glaciated regions, leveling hilly sections to slightly rolling plains, both by erosion and by deposition of drift, eroding hollows which later became lakes, and forcing rivers to cut new channels by filling their former beds. Among the characteristic surface features formed in the Pleistocene are the DRUMLIN, KAME, ESKER, and MORAINE. The retreat of the ice after the Wisconsin glacial stage was followed by the formation, at the edge of the melting glaciers, of lakes, such as the extinct Lake AGASSIZ and the present GREAT LAKES. The further retreat of the ice led to the flooding by the Atlantic of the NE United States and SE Canada, which had been depressed below sea level by the weight of the ice The valley of the St Lawrence to Lake Ontario, the valley of the Ottawa river, and Lake Champlain were covered by a shallow sea connected with the Atlantic to the south by a strait over the site of the Hudson, but a rise of the land caused this area to assume its topography of historic times. In the areas of North America not covered by ice, the Pleistocene was marked chiefly by erosion, with only very slight marine transgressions over the coast On the Atlantic coast S of New Jersey the Columbia sand, gravel, and clay were laid down as a result of erosion, while in Florida the sea deposited limestone Heavy precipitation in the West was responsible for two great lakes—Lake Lahontan of Nevada and Lake Bonneville of Utah, which is now represented by Great Salt Lake During the Pleistocene there were volcanic activity and warping of the earth's surface on the Pacific coast The cutting of the Grand Canyon took place chiefly in Pleistocene time. The fact that the time elapsed since the retreat of the Wisconsin ice is generally conceded to be shorter than one or more of the interglacial stages of the Pleistocene makes it possible that the so-called Recent epoch, in which continental glaciers lie over Greenland and Antarctica, may be merely another such interglacial stage and that the glaciers may at some future time, return Among the characteristic Pleistocene mammals of North America were at least four species of elephants, including the mastodon and the mammoth, true horses, of the same genus as the domestic horse though not of the same species, and others such as sabertooth cats, large wolves, giant armadillos and ground sloths, bisons, camels, and wild pigs Among the arctic mammals that ranged far south in the glacial stages were the musk ox in North America and the woolly mammoth in Europe The Pleistocene saw the beginning of the trend toward the extinction of the mammals, which continued into historic times The Pleistocene also saw the rise of man Evidence indicates that Piltdown man (*Eoanthropus*) lived in the early Pleistocene and that the ape man of Java (*Pithecanthropus*) and Peking man (*Sinanthropus*) existed in about the middle Pleistocene Heidelberg man flourished in Europe probably in the first interglacial period (Günz-Mindel), Neanderthal man, in the third (Riss-Würm), and Cro-Magnon man appeared just after the climax of the Würm glaciation See also PALEOLITHIC PERIOD. See G. F. Wright, *The Ice Age in North America* (1920); R. A. Daly, *The Changing World of the Ice Age* (1934); R. F Flint, *Glacial Geology and the Pleistocene Epoch* (1947).

Plekhanov, Georgi Valentinovich (gĕôr'gē vŭlyĭntyĕ'nuvĭch plyĭkhă'nŭf), 1857–1918, Russian revolutionist and social philosopher, one of the chief exponents of MARXISM. At first a Populist, he turned to Marxist socialism after leaving (1882) Russia as a political refugee. He spent most of his exile in Geneva, Switzerland, until his return to Russia after the outbreak of the February Revolution of 1917. He was one of the chief founders of the League for the Emancipation of Labor, the nucleus of the Russian Social Democratic party, and in 1900 he began to publish, with V I. Lenin, the Socialist newspaper *Iskra* [spark]. In his writings Plekhanov took the view that conditions in Russia would not be ripe for socialism before capitalism and industrialization had sufficiently progressed. This opinion was the basis of Menshevik thought after the split (1903) of the Russian Social Democratic party into BOLSHEVISM AND MENSHEVISM. Although Plekhanov still supported Lenin at the fateful party congress of 1903, he soon afterward became a consistent opponent of Bolshevism At the same time he continued to oppose revisionist socialism. Plekhanov's most original contributions were in the field of aesthetics, where he sought to trace the relationship between art and economics. Among his translated works are *Socialism and Anarchism* (Eng. tr., 1895) and *Fundamental Problems of Marxism* (Eng. tr., 1929).

Plentywood, city (pop 1,574), co seat of Sheridan co, extreme NE Mont, on Big Muddy Creek, inc. 1912. It grew as a wheat-raising center

Pleshcheyevo, Lake, RSFSR. see PERESLAVL-ZALESSKI

plesiosaurus (plē"sēōsô'rŭs), member of a genus of predaceous marine reptiles which arose in the Triassic period of geologic time and continued into the Jurassic and Cretaceous They became extinct at the close of the Mesozoic era. Skeletons have been found in North America, Europe, and Australia The plesiosaurus had a small, short head, a long, snakelike neck, a broad, solid body, and a short tail Its four paddlelike legs were similar to those of a marine turtle In total length the plesiosaurs ranged from about 10 to 60 ft.

Plessisville (plĕ'sĭvĭl), village (pop. 3,522), S Que., on the Bécancour river and SW of Quebec, in a flax-growing region It has linen and hosiery mills and plants which make shoes and other leather products

Plethon, Georgius. see GEMISTUS, GEORGIUS

pleurisy (plo͝o'rĭsē), infected condition of the serous membranes, or pleurae The inflammation causes friction between the visceral pleura covering the lung and the parietal pleura adhering to the inner wall of the chest and thus produces pain Normally there is no friction because the two surfaces in close contact are smooth and are moistened by serum Sometimes in pleurisy the fluid is greatly increased and has to be removed surgically. Purulent matter which may collect in the cavity as a result of pneumonia or other causes produces a condition known as empyema

pleurisy root: see BUTTERFLY WEED

pleuropneumonia (plo͝o"rōnōmō'nyŭ), contagious disease of cattle caused by infection of the pleurae covering the lungs and of the lungs themselves Its cause is attributed to a virus. The characteristics of the disease are those of pleurisy in humans Stringent measures eliminated it from the United States and from Great Britain at the end of the 19th cent.

Plevna (plĕv'nŭ), Bulgarian *Pleven* (plĕ'vĕn), city (pop 39,997), N Bulgaria It is an agricultural center and manufactures textiles, foodstuffs, and machinery The city is famous for its defense by the Turks against the Russians in the Russo-Turkish War of 1877–78 The siege was planned by the Russian general Totleben It fell (1877) to the Russians after more than three months of fighting The fall of Plevna caused the Turks to demand an armistice early in 1878

Plimer, Andrew, c 1763–1837, English miniature painter He was an apprentice to Cosway, whom he succeeded as court miniaturist. His fine portraits are to be seen in the Victoria and Albert Museum and in the Metropolitan Museum His brother **Nathaniel Plimer,** c 1757–1822, was also an able miniaturist

Plimsoll, Samuel (plĭm'sŭl), 1824–98, English reformer, particularly interested in the welfare of sailors As a member of Parliament from Derby (1868–80), he secured legislation limiting the loading of ships, and this compulsory load line is therefore called Plimsoll's mark or the Plimsoll line He wrote *Our Seamen* (1872)

Plinlimmon or **Plynlimmon** (both plĭnlĭ'mŭn), mountain, 2,468 ft high, Wales, on the Montgomeryshire-Cardiganshire border W of Llanidloes It has three summits and is the source of the Wye, Severn, and other streams

Pliny the Elder (Caius Plinius Secundus) (plĭ'nē), A D. 23–A D 79, Roman naturalist, b Cisalpine Gaul. He was a friend and fellow soldier of Vespasian, and he dedicated his great work to Titus He died of asphyxiation in the neighborhood of Vesuvius, having gone to investigate the eruption His one remaining work is an encyclopedia of natural science (*Historia naturalis* or *Naturalis historia*). It is divided into 37 books and, after a preface, deals with the nature of the physical universe, geography, anthropology, zoology, botany, including the medicinal uses of plants, curatives derived from the animal world; and mineralogy, containing an account of the uses of pigments and a history of the fine arts. Pliny's industry was immense, and his knowledge of sources wonderful, but his natural science is all secondhand and quite useless as science. His nephew and ward, **Pliny the Younger** (Caius Plinius Caecilius Secundus), A.D 62?–A.D. c 113, was an orator and a statesman. He was quaestor (A.D. 89), tribune (A.D 91), and praetor (A.D. 93) and subsequently held treasury posts He was consul (100) and died in his proconsular province of Pontus-Bithynia His fame rests on his letters, written probably for publication. They are an excellent mirror of Roman life, composed in good taste and in good Latin. He wrote a biography of Pliny the Elder.

Pliocene epoch (plī'ŭsēn) [Gr., =more recent], fifth epoch of the Cenozoic period of geologic time. If the Paleocene is not considered as a separate epoch preceding the Eocene, the Pliocene is the fourth Cenozoic epoch. By the beginning of the Pliocene, the outlines of North America were almost the same as in recent time, and encroachments of the sea on the land were limited to a narrow strip along the coasts of the Carolinas, Georgia, Florida, and the Gulf states and an embayment, smaller than that of the preceding Miocene epoch, in California The Pliocene formations on the Atlantic coast are chiefly marine marls, on the Gulf they are nonmarine sediments resulting from erosion In California they contain much volcanic ash The Pliocene formations of the western interior are small and scattered In western interior North America and on the west coast, volcanic activity continued into the Pliocene from the Miocene The close of the Pliocene was marked in North America by the Cascadian revolution, in the course of which the Sierra Nevada were elevated and tilted to the west The Cascades, Rockies, Appalachians, and the Colorado plateau were uplifted, and there was activity in the mountains of Alaska and in the Great Basin ranges of Nevada and Utah In Europe the Pliocene sea covered small parts of the northwest of the continent and a large area around the present Mediterranean, a number of volcanoes were active, among them Vesuvius and Etna There was considerable mountain building, including the folding and thrusting of the Alps The climate of the Phocene was markedly cooler and drier than that of the Miocene and foreshadowed the glacial climates of the PLEISTOCENE EPOCH The life of the Phocene was notable for its modern appearance, the Phocene marked the climax, and perhaps the initial decline, of the supremacy of the mammals

Plock (plôtsk, plŏtsk), Pol *Płock* (pwôtsk), city (pop 28,508), central Poland, on the Vistula and NW of Warsaw. A medieval residence of the dukes of Masovia, it passed to Prussia in 1793 and to the Russian Empire in 1815 It reverted to Poland in 1921 Plock is chiefly a market center of an agricultural region and has metal, electrical, and food industries Its 12th-century cathedral, with tombs of Polish kings and dukes, was seriously damaged during the Second World War

Ploesti (plô̆ĕsht'), city (pop 95,632), S central Rumania, in Walachia, NNW of Bucharest It is the chief center of the Rumanian petroleum industry and of the important Ploesti oil region An earthquake (1940) and repeated Allied aerial bombardments (especially in 1943) inflicted heavy damage After the Second World War, Rumania nationalized the Ploesti oil industry, which until then had belonged largely to foreign capital The city is also a railroad junction and a manufacturing center for textiles and other goods

Plombières (plôbvĕr'), town (pop 1,452), Vosges dept, E France, in the Vosges mts It is a fashionable watering place with radioactive springs In a conference held here in 1858 by NAPOLEON III and CAVOUR, it was agreed that France would give the kingdom of Sardinia military aid against Austria to form a kingdom of N Italy reaching the Isonzo, while Savoy and Nice were to be ceded to France

Plotinus (plōtī'nŭs), c 205–270, Neoplatonist philosopher A native of Egypt, perhaps of Roman descent, he went to Alexandria in his 28th year to devote himself to philosophy For 10 years he was the earnest disciple of Ammonius Saccas To learn of the philosophies of India and Persia, Plotinus in 242 traveled in the Eastern expedition of Emperor Gordian III, but when Gordian was assassinated in Mesopotamia, Plotinus escaped to Antioch From 244 he lived in Rome, where his school attracted wide attention Many followed his advice and example, giving their riches to those in need and turning to contemplative thought However, he never taught or practiced extreme asceticism His pupil PORPHYRY, who wrote a biography of him, was responsible also for the preservation and arrangements of the teachings of Plotinus The theories of Plotinus were fundamentally those of Plato but included something of other Greek philosophies as well, all drawn together into an original system which rapidly won followers and in time had considerable influence on the thinkers of the Christian Church, although Plotinus himself opposed Christianity His development of the idea of EMANATION was fuller than that found in the teachings of the Stoics and of Philo. This cosmological conception is the chief point of NEOPLATONISM, which received its form from Plotinus All else, even his ethics, depends upon this view of the world Among the virtues set forth by Plotinus are political or social virtues, concerning man's relations to his fellow men, the higher purifying virtues, needed to help the soul become like God by removing from it as much as possible that which is of the senses, and the still higher deifying or enlightening virtues, through the exercise of which man may attain to the fulfillment of his true nature But unification with the highest, with God, is not possible through thought. It is attained only when the soul, in an ecstatic state, loses the restraint of the body and has for a time an immediate knowledge of God (see MYSTICISM) See *The Essence of Plotinus* (extracts from the six *Enneads*, and Porphyry's life of Plotinus, comp by G. H. Turnbull, 1934), W R Inge, *The Philosophy of Plotinus* (1928); Thomas Whittaker, *The Neoplatonists* (1928).

plough: see PLOW.

Plovdiv (plôv'dĭf), city (pop 125,440), central Bulgaria, on the Maritsa. A commercial center, it also manufactures machinery, textiles, leather goods chemicals, and tobacco The ancient Philippopolis, it was named for Philip II of Macedon, who established a military post here in 341 B C It became the capital of Thrace under Roman rule, was conquered (13th cent) from the Byzantines by the Bulgarians, and was the capital of Eastern RUMELIA in the 19th cent

plover (plŭ'vur), small shore bird of the Old and New Worlds, related to the gulls Plovers have plump bodies, short necks and tails, relatively long legs, long pointed wings, and a rather short pigeon-like bill enlarged at the tip Small marine animals form much of their food, but many feed on dry uplands, where they destroy grasshoppers and other harmful insects They are generally gregarious and migratory Nonstop flights of over 2,000 mi are often made by the eastern American golden plover, which migrates in autumn from its arctic and Canadian breeding grounds to Nova Scotia and then over the Atlantic Ocean to South America, and by the Pacific golden plover, which breeds in Alaska and Siberia and winters in the Hawaiian Islands Among the American plovers are the killdeer, the semipalmated, the black-bellied, and the piping plovers The ringed plover, the European golden plover, and the LAPWING are European forms.

plow or **plough** In the skillful farming of the Neolithic period, the soil was stirred by no implement but the spade and the hoe The American Indians used no plows until white men came The plow came into use in the Bronze Age Its beginnings are associated with the domestication of draft animals and the rise of cities It enables farmers to produce the surplus that feeds cities Like the first hoes, the first plow was no doubt a forked stick From the beam projected a short, pointed branch that served as a share and also a longer branch that served as the single handle characteristic of primitive plows Hesiod tells how the Greek farmer made such a plow of one piece of wood Chinese farmers still use a small plow drawn by a man, and no doubt a plow drawn by a man or men was known before oxen drew the plow The ox has drawn the plow through most of its history In America horses largely displaced oxen in the 19th cent, and in the 20th cent tractors have largely displaced horses The acre was originally the land that a yoke of oxen could plow in a day The point or share of the plow was made of iron or steel when the metals became available, and often the wooden moldboard was faced with sheet iron Ancient plows merely stirred the soil and did not turn the furrow slice The graceful and efficient shape of the moldboard of the modern turning plow is due especially to Jethro Wood, whose final patent was granted in 1819 John DEERE and Leonard ANDRUS were leaders in introducing the steel moldboard which would scour—i e, was self-cleaning—even in sticky soil James Oliver made an efficient moldboard of cast iron by chill hardening the casting The disk plow does its work by means of one or more revolving disks The plow often symbolizes agriculture, as in the great seals of New Jersey, Pennsylvania, Tennessee, and some other states See H P Smith, *Farm Machinery and Equipment* (3d ed, 1948), E H Faulkner, *Plowman's Folly* (1943), which urges the use of the harrow and green manure instead of plowing

Plücker, Julius (yo͞o'lyōos plü'kur), 1801–68, German mathematician and physicist He became professor of mathematics (1836) and of physics (1847) at the Univ of Bonn He is known for his work in analytical geometry, in magnetic properties, and in spectroscopy, in which he first suggested that the lines in the spectrum of an element were peculiar to that element He originated line geometry, which substitutes the straight line for the point as the unit in space

plum, name for a tree and its edible fruits, which are drupes, comprising many species of *Prunus* Some are useful in landscaping because of their ornamental flowers and colored foliage The plum is cultivated generally in the temperate zones, although there are suitable varieties for such regions as S Florida and the Gulf Coast, of its more than 100 species 30 are native to North America. It has been cultivated since prehistoric times, longer perhaps than any other fruit except the apple Alexander the Great is said to have introduced it into Greece from Syria or Persia, where the damson plum had long been grown The name damson is now applied to several varieties of *Prunus domestica*, the common garden plum of European or Asiatic origin, e g. *P domestica insititia* and others having small leaves and small, oval fruits usually borne in clusters The fruits are generally tart and are favored for preserves Plum trees that run wild usually revert to the damson type Over 2,000 varieties of the plum are known. In the United States the wild red plum (*P americana*) is found along streams and in thickets from New York to the Rocky Mts Its small, sweet fruit has a purple bloom This plum was utilized by the Indians, who ate it raw, cooked, and dried, when dried it was a staple article of diet Plum butter is made from it Another American variety is the beach plum or shore plum (*P. maritima*), a low-growing shrub

common along the eastern coast, especially on Cape Cod, where the gathering of fruit for jelly and preserves has become a commercial project Most of the cultivated plums in the United States are derived from European and Japanese varieties, although some good ones have come from native species and are valuable in that they thrive in the extreme north and south Among these are red, blue, and green or yellow plums, of the last, varieties of the greengage are best known The typical plum tree is low and wide-spreading and is one of the earliest fruit trees to bloom In Japan, where there are many famous plum gardens, the feathery blossoms are much used in decoration The plum is also of ornamental value in the United States, many of the varieties so used having red or purple foliage and double white, pink, or lilac flowers See also MYROBALAN and PRUNE See U P Hedrick, *Fruits for the Home Garden* (1944)

plumage, of birds see FEATHERS

plumb. The use of a cord weighted at one end to determine a true vertical line was known to mechanics in Egypt, Greece, Rome, and other ancient nations The plumb has not changed essentially, but the SPIRIT LEVEL has superseded it in some of its uses See Thomas Hibben, *The Carpenter's Tool Chest* (1933)

plumbago · see GRAPHITE

plumbing, the part of the water supply and the sewerage inside buildings. The use of piping for conveying water from a source of supply and for the disposal of wastes was introduced first by the Romans, but the practice was lost during the Middle Ages For centuries all refuse was thrown into open drains which ran through the center of the streets After sanitary systems were adopted, pipes were long made of lead, hence the name plumbing from the Latin word *plumbum* for lead Later iron or steel pipes were used for water supply and cast-iron pipes for sewage In modern buildings the piping for water supply is usually made of brass and is concealed inside partitions or walls Exposed piping under fixtures (e g , in basins) is usually made of nickel or chromium-plated brass In tall buildings where the water pressure cannot reach the upper floors, a storage tank is erected on the roof The water is pumped into it and then fed to the fixtures in the building The first storage tanks were made of wood and were exposed on the roofs, in modern houses they are fabricated of steel and are often enclosed in ornamental towers Waste and soil piping must be impervious to water and gas. Absence of corners, where filth may collect, is essential A water-sealed trap is installed between each fixture and the piping The traps are protected from gas pressure and siphoning To prevent siphon action venting is often used This consists of a second system of piping, made of galvanized iron, carried from fixtures to a point on top of the roof and connected with the water and sewage piping on the sewer side of the traps This system balances the air pressure on each side of the traps, stops siphoning action, and permits a free circulation of air through the piping and dissipation of any sewer air which may be present

plumbism. see LEAD POISONING

Plumptre, Edward Hayes (plŭmp'trē), 1821–91, English clergyman and classical scholar At King's College, London, he was chaplain (1847–68), professor of pastoral theology (1853–63), and professor of New Testament exegesis (1863–81) In 1863 he became a prebendary of St Paul's, London In 1881 he was made dean of Wells Plumptre was one of the revisers (1869–74) of the Old Testament His hymns include *Rejoice, Ye Pure in Heart* (1865) Among his publications are *Lazarus and Other Poems* (1864), *Master and Scholar* (1866), and *Things New and Old* (1884) He made standard translations of the plays of Sophocles (1865, rev ed , 1867) and Aeschylus (1868) and of Dante in *Commedia and Canzoniere* (1886–87)

Plunket, Oliver (plŭng'kĭt), 1629–81, Irish churchman and martyr, b Co Meath He was educated at Rome and named Roman Catholic archbishop of Armagh in 1669 He was on good terms with local Protestants and worked with much success After the Test Act (1673) he kept mainly in hiding In his fabrication of tales about the Popish Plot, Titus Oates accused him of planning a foreign invasion of Ireland He was taken to London, tried, convicted, and hanged, drawn, and quartered The proceedings were manifestly false from beginning to end Plunket was the last Roman Catholic to be executed at Tyburn on politico-religious grounds He was beatified in 1920 Feast July 11

Plunkett, Sir Horace Curzon (plŭng'kĭt), 1854–1932, Irish statesman and agricultural reformer Educated in England, Plunkett spent 10 years (1879–89) in Wyoming as a cattle rancher. He returned to Ireland and there became an ardent exponent of farming cooperatives He founded (1894) the Irish Agricultural Organization Society and as a member of Parliament (1892–1900) drafted legislation for Irish agricultural needs From 1900 to 1907 he served as vice president of the new department of agriculture for Ireland He was a prominent mediator in the Irish uprisings prior to and during the First World War, serving (1917–18) as chairman of the Irish convention founded to effect a peaceful settlement of the outbreaks He wrote *Ireland in the New Century* (1904), *The Rural Life Problem in the United States* (1910), and numerous pamphlets See R A Anderson, *With Horace Plunkett in Ireland* (1935), Margaret Digby, *Horace Plunkett, an Anglo-American Irishman* (1949)

pluralism, in philosophy, a theory which sees the universe controlled by many principles or composed of many ultimate substances It describes no particular system and may be embodied in such opposed philosophical concepts as materialism and idealism Since it has no distinct features its definitions are vague and debatable However, Empedocles, Leibniz, and William James are among the philosophers generally considered as pluralistic

Plutarch (plōō'tärk), A D 46?–A D c 120, Greek essayist and biographer, b Chaeronea, Boeotia He traveled in Egypt and in Italy, visited Rome (where he lectured on philosophy) and Athens, and finally returned to his native Boeotia, where he became a priest of the temple of Delphi His great work is *The Parallel Lives*, 46 biographies (surviving of a greater number) arranged in pairs (one Greek life with one comparable Roman) and four single biographies, some 19 short comparisons added to the lives are of doubtful authenticity Though there is evident pride in the culture and in the greatness of the men of his Greece, Plutarch is nevertheless fair and honest in his treatment of the Romans As a biographer Plutarch is almost peerless, his facts are not always accurate, but his biographical pictures are whole, real, profoundly incisive Since his purpose was to portray character and reveal its moral implications, his technique included the use of much anecdotal material, always germane to his purpose His dignity, narrative charm, and even his ever-present moral judgments have made Plutarch a much-loved and widely read writer The English translation by Sir Thomas NORTH had a profound effect upon English literature, it supplied, for example, the factual bases for Shakspere's *Coriolanus*, *Julius Caesar*, *Antony and Cleopatra*, and *Timon of Athens* Less known, but also of great charm and interest, are Plutarch's *Moralia*, dialogues and essays on ethical, literary, and historical subjects, some of the titles are *The Late Vengeance of the Deity*, *On Superstition*, *The Right Way of Hearing Poetry*, and *Advice to Married Couples* Plutarch's quotations (frequent and long) from the old dramatists are often our only record of such writings

Pluto (plōō'tō) [Gr , = rich], in Greek religion, god of the underworld He is also called Hades and, by the Romans, who derived him from Greece, Dis or Dis Pater He ruled Hades (see HELL), and his queen was PERSEPHONE

Pluto, in astronomy, a planet discovered (1930) by Clyde W Tombaugh, working on reckonings made (1914) by Percival Lowell from perturbations in the orbits of Neptune and Uranus Pluto is the ninth major planet, revolving around the sun once in about 248 years, in an orbit outside that of Neptune, at a mean distance of 3,670,000,000 mi from the sun It is of the 15th magnitude, it is not known whether it is dim because it is small or because its surface reflects poorly Although it has been generally considered to be smaller than the earth, some think that it may be larger Its orbit's eccentricity (0 25) is the greatest in the solar system, and when it is nearest the sun, it is nearer than Neptune As the inclination of its orbit to the ecliptic is very high (17°8'57"), its path and that of Neptune do not cross each other

plutonium (plōōtō'nēum), metallic element (symbol = Pu, for physical constants, see ELEMENT, table), having the property of RADIOACTIVITY In 1940 G T Seaborg and his co-workers at the Univ of California produced, in the cyclotron, an infinitesimal quantity of plutonium by fission of uranium Through tracer chemistry (studying invisible amounts of radioactive elements in their progress through chemical reactions by means of a Geiger counter) the properties of the substance were established before large-scale production ensued in 1944 Within massive atomic "piles" (combinations of uranium and a moderator), at Hanford, Wash , uranium of atomic weight 235 as a result of a process of fission emitted neutrons which were captured by uranium of atomic weight 238 to produce the unstable uranium (atomic weight 239) whose disintegration yields plutonium The process employs graphite as a moderator to slow down the neutrons sufficiently for them to be engaged by uranium of atomic weight 238. Once begun, the reaction in the pile proceeds automatically until the rods of uranium have become rods of uranium-plutonium mixture Dissolved in acid, the mixture is made to yield pure plutonium by chemical means. One of the three atomic bombs of the Second World War was made with plutonium

Pluviôse. see FRENCH REVOLUTIONARY CALENDAR

Plymouth (plĭ'muth), county borough (1931 pop 208,182; 1947 estimated pop 185,380) and city, Devonshire, England, on PLYMOUTH SOUND It is a seaport and naval base The Three Towns which Plymouth has comprised since 1914 are Plymouth to the east, Stonehouse (with barracks, a naval hospital, and the extensive Royal William Victualling Yard), and Devonport (with a naval engineering college, naval barracks, and military hospital) across Stonehouse Pool Plymouth carries on an important commercial trade in minerals (tin, copper, and lead), granite, marble, kaolin, and fish, distills gin, and manufactures paint and oleomargarine It is well situated on a promontory between inlets of the harbor—Sutton Pool and Mill Bay The ridge of the promontory is called the Hoe At its extremity are the old Royal Citadel (17th cent), the upper part of Smeaton's lighthouse brought from Eddystone, an Armada memorial, a statue of Sir Francis Drake, and a naval war memorial Beneath the Hoe are a promenade and a beach. Noteworthy also are the marine biological laboratories, the aquarium, the municipal museum and the Athenaeum, the Gothic guildhall, several 15th-, 16th-, and 17th-century churches, and the Roman Catholic cathedral Plymouth was held by the parliamentarians for four years in the civil war, when the rest of Devonshire and Cornwall were royalist The port was the rendezvous of the anti-Armada fleet From it Drake, Hawkins, Ralegh, and several later explorers set forth, it was the last port touched by the *Mayflower* before its American voyage The first English factory making porcelain like that of the Chinese was established here in 1768 by William Cookworthy A tablet commemorates the arrival in 1919 of the first transatlantic airplane In air raids of March, 1941, whole sections of the city were destroyed by high-explosive and incendiary bombs, there were many casualties, and eight churches, the royal naval hospital, and a number of historic landmarks were destroyed Robert Falcon Scott was born in Devonport See C W Bracken, *A History of Plymouth* (1931)

Plymouth 1 Town (pop 6,043), W Conn , N of Waterbury, settled 1728, inc 1795 Locks and other metal products are made here 2 City (pop 5,713), co seat of Marshall co , N Ind , S of South Bend, settled 1834, inc 1872 It is a shipping and trading center and produces automobile parts Lakes near here are popular as resorts The Potawatami Indians had a village on this site 3 Town (pop 13,100), co seat of Plymouth co , SE Mass , on Plymouth Bay SE of Boston Here was made the first permanent white settlement in New England (see PILGRIMS and PLYMOUTH COLONY) Most famous of its monuments is Plymouth Rock, since 1880 on its original site Legend has it that on this boulder the Pilgrims stepped when they disembarked from the *Mayflower* Along Leyden St , the first laid out by the Pilgrims, are old houses Pilgrim Hall contains many relics Near the site of the original village is the 80-foot granite *National Monument to the Forefathers* (1889) Modern Plymouth is much visited as a resort It is a port of entry and has a few industries, rope, twine, and worsteds are the chief products 4 Industrial city (pop 5,360), SE Mich , on a branch of the Rouge and W of Detroit, settled 1825, inc as a village 1867, as a city 1932 Its manufactures include air rifles and automobile parts A county school for the feeble-minded and a women's prison are near 5 Resort town (pop 2,533), central N H , on the Pemigewasset and S of Franconia Notch, inc 1763 Plymouth Teachers College was the first normal school established (1871) in the state The town's old buildings include the courthouse (now a library), where Daniel Webster pleaded his first case Hawthorne died in Plymouth 6 Town (pop 2,461), co seat of Washington co , NE N C , on the Roanoke river near the head of Albemarle Sound, founded in the late 18th cent , inc 1800 It is a canning and lumber-processing center in a truck and timber area In the Civil War, Lt W B Cushing destroyed (Oct , 1864) the Confederate ram *Albemarle* here 7 Village (pop 1,403), N Ohio, NW of Mansfield, settled 1815, inc 1838 Railroad equipment is made 8 Industrial borough (pop 15,507) NE Pa , on the Susquehanna and SW of Wilkes-Barre, inc 1866 Anthracite is mined here, and factories distill its by-products Plymouth was inundated by flood in 1940 9 Town (pop 432), S central Vt , in hills SE of Rutland Calvin Coolidge was born here, and the farmhouse where he took the oath of office is near by He is buried in the local cemetery A state forest near the village is named for him The town yielded iron and some gold in the 19th cent 10 Industrial city (pop 4,170), E Wis , between Sheboygan and Fond du Lac and on the Mullet, inc 1877. It is a cheese center and the seat of the Wisconsin Cheesemakers' Association and the Wisconsin Cheese Exchange

Plymouth Brethren, sect of Christian believers originating in the early 19th cent. in Ireland and spreading from there to the Continent, the British dominions, and the United States. The members are sometimes known as Darbyites, one of their notable leaders was John Nelson DARBY. They refer to themselves as Brethren, Christians, or Believers In a reaction against the formality of prescribed ritual, the requirements of ministerial ordination, and other established conditions in the churches of the times, groups of believers began to meet independently in Dublin and elsewhere for

spiritual communion. Associations were formed c.1828 in Dublin and c.1830 at Plymouth, England, whence the popular name Plymouth Brethren Congregations grew up under the guidance of different leaders. Since there was no general organization, no required form of worship, and no ordained ministry, the feeling of individual responsibility was strong. Followers of different leaders withdrew from time to time from the main body to form new congregations. This tendency to divide was carried over into the United States and Canada by the emigrants, who established new meetings of the Brethren there. In the United States there are eight separate divisions, some of the "exclusive" and some of the "open" type. The doctrines accepted in general are those held by evangelical Christians. The Scripture is considered the only true guide. No officers are chosen to preside over the congregations, the privileges and duties of the ministry depend upon the personal gift of the individual member. Baptism is required, the Lord's Supper, as a commemorative act of "breaking bread," is observed once a week. The Brethren expect the personal premillennial second coming of Christ. See W. B. Neatby, *A History of the Plymouth Brethren* (1901).

Plymouth Colony, settlement made by the PILGRIMS on the coast of Massachusetts in 1620. Previous attempts at colonization in America (1606, 1607–8) by the Plymouth Company, chartered in 1606 along with the LONDON COMPANY, were unsuccessful and resulted in the company's inactivation for a number of years. In 1620 the company, reorganized as the Council for New England, secured a new charter from the king, granting it all the territory from lat. 40° N. to 48° N. and from sea to sea. Also in 1620 the Pilgrims, having secured a patent granting them colonization privileges in the territory of the London Company, left Leiden and proceeded to Southampton, where the MAYFLOWER was fitting out for Virginia. The *Mayflower* sailed from Plymouth, England, and in Nov., 1620, sighted the coast of Cape Cod instead of Virginia. After five weeks spent in exploring the coast, the ship finally anchored in Plymouth harbor and the Pilgrims established a settlement there. As the patent from the London Company was invalid in New England, the Pilgrims drew up an agreement called the Mayflower Compact, which pledged allegiance to the king but established a somewhat democratic form of government. Patents were obtained from the Council for New England in 1621 and in 1630, but the Mayflower Compact remained the basis of the colony's government until union with Massachusetts Bay colony in 1691. During the first winter of the colony, about half of the settlers died from scurvy and exposure. A little corn was raised in 1621, but the arrival of more colonists necessitated half rations. John CARVER, the first governor, died in 1621, when William BRADFORD assumed the post and served, except for the five years he refused the position, until his death in 1657. A treaty made in 1621 with Massasoit, chief of the Wampanoag, resulted in 50 years of peace with that tribe. The Narragansett farther west were hostile, but Bradford took a firm stand and prevented trouble from that quarter. In 1623 Capt. Miles STANDISH marched against the Indians to the northwest, who were accused of plotting to exterminate the colonists settled at Weymouth by Thomas Weston. The Indians were gradually pushed back and deprived of their lands. A communistic system of labor, adopted for seven years, was abandoned in 1623 by Bradford because it was retarding agriculture, and land was parceled out to each family. A well-managed fur trade enabled the colony to liquidate its debt to the London merchants who had backed the venture. The colony, which developed into a quasi-theocracy, expanded slowly due to the infertility of the land and the lack of a staple money-making crop. After several years the colonists could no longer be restrained from settling on the more productive land to the north, and settlements such as Duxbury and Scituate, modeled on the civil and ecclesiastical style of Plymouth, were founded. In 1633 Plymouth established a fort on the Connecticut river above a Dutch post in order to intercept the Indian trade, but this was soon absorbed by the wave of Puritan settlers from Massachusetts Bay colony. In 1640 a boundary dispute with Massachusetts was settled by compromise. With the growth of additional towns, a representative system was introduced in 1638, using the town as a unit of government and establishing the General Court, along with the governor and his council, as the lawmaking body. In 1641 Bradford deeded to the freemen of the Plymouth Corp. the patent of 1630. By the time the colony joined the NEW ENGLAND CONFEDERATION in 1643, 10 towns had been established. The colony became part of the Dominion of New England under the governorship of Sir Edmund ANDROS. After the Glorious Revolution of 1688–89 in England, the territory which had been under Andros's authority was reorganized, and Massachusetts Bay, Plymouth, and Maine became the one royal colony of Massachusetts. See N. B. Shurtleff and David Pulsifer, ed., *Records of the Colony of New Plymouth in New England* (12 vols., 1855–61); J. G. Palfrey, *History of New England* (5 vols., 1858–90); L. G. Tyler, *England in America, 1580–1652* (1904); H. L. Osgood, *The American Colonies in the Seventeenth Century* (3 vols., 1904–7); Edward Channing, *A History of the United States*, Vols. I and II (1905–8); Arthur Lord, *Plymouth and the Pilgrims* (1920); J. T. Adams, *The Founding of New England* (1921); C. M. Andrews, *The Colonial Period of American History*, Vol. I (1934); G. F. Willison, *Saints and Strangers* (1945).

Plymouth Sound, deep inlet of the English Channel, between Devonshire and Cornwall, England. It is a famous roadstead and forms a bay c. 3 mi. broad, receiving the Tamar river through its estuary the Hamoaze and the Plym through its estuary the Cattewater. Breakwaters further protect the harbor, west and east. St. Nicholas's, or Drake's, is an islet off the Hoe of PLYMOUTH. The sound has been protected by forts for centuries.

Plympton Saint Mary (plĭmp'tŭn), rural district (pop. 26,790), Devonshire, England. It includes the two small adjacent towns of Plympton St. Mary and Plympton Maurice, or Earl's Plympton. There are a ruined Norman castle, two 15th-century churches, part of an ancient Augustinian priory, a guildhall founded in 1696, and a 17th-century grammar school, of which Sir Joshua Reynolds's father was master.

Plynlimmon, Wales: see PLINLIMMON.

plywood (plī'wo͝od), three or more plies of wood glued together under pressure with the grains at right angles. It is distinguished from laminated wood, which is made of veneers laid up in one direction. It is noted for strength, durability, lightness, rigidity, and resistance to splitting and warping. It can be molded into curved or irregular forms for use in truck, airplane, and boat bodies, luggage, furniture, and tubing, or it can be made into large panels suitable for structural use. Plywood was made in antiquity in Egypt and China. It was first patented in the United States in 1865. Since c. 1932 waterproof synthetic resins have been used for bonding the layers and sometimes as a coating, especially for plywood destined for exterior use. Honeycomb, metal, or fabric cores may be substituted for the usual wood core. See L. H. Meyer, *Plywood* (1947).

Plzn, Czechoslovakia: see PILSEN.

Pm, chemical symbol of the element PROMETHIUM.

pneumatic appliances and tools (no͞omă'tĭk, nū-). The advantages of COMPRESSED AIR as a means of power have led to its application to a great variety of tools and appliances. Pneumatic tools are of two general types, percussion tools and reciprocating-motor-driven tools. Percussion tools employ a piston striking a rapid succession of blows, in the reciprocating-motor-driven tools the spindle, in which the tool is held, is revolved by gearing actuated by a reciprocating piston. Pneumatic hammers are of the percussion type. In operation the air enters through the handle, where there is a valve controlled by a trigger. By an arrangement of internal valves a piston or plunger is operated. For rivet-driving, the pneumatic hammer is in universal use. Pneumatic rivet sets are used to hold the head of the rivet in place while the point is being hammered down. Pneumatic hammers are adaptable to many other uses, including metal chipping, joint caulking, and removing scale, paint, and rust. Rock drills, worked on the same principle as the pneumatic hammer, are used for road construction work and for boring holes for blasting operations in mining, shaft sinking, and quarrying. Among the reciprocating-motor-driven tools are pneumatic drills, grinders, buffers, wood borers, and hoists. The body of a drilling machine contains the mechanism, and from the bottom extends the revolving socket for holding the tool. On each side are handles by which the operator holds the machine, one handle being hollow and connected with the air line. Within the handle is a valve controlling the air supply. In the machine shop, pneumatic appliances are manifold. Air lifts are placed over lathes and other machines so that one man can handle large pieces of machinery with ease. Chucks for turret lathes, presses, riveting machines (portable and stationary), drilling and tapping machines of all types, saws, vises, and a great variety of other tools are actuated freely and efficiently by compressed air. In the forge shop forging hammers and drop hammers driven by air are widely used, while in boiler and structural shops large stationary pressing, bending, punching, and grinding machines all actuated pneumatically are employed. Machines for cleaning, called blow guns, are used to clean machinery and corners inaccessible with an ordinary brush. They have also superseded the bellows for blowing forges and heating devices. Where much painting is required, the air brush has supplanted the hand brush. The application of paint, varnish, enamel, whitewash, and other protective coatings by spraying with an air brush, besides being much more rapid, gives a smooth uniform coat and the material enters all cracks and crevices. Air brushes are of two general types, the high pressure and the low pressure. In the high-pressure type the paint is drawn from a container by the vacuum created by a blast of air passing the tube leading to the container and is carried forward and sprayed on the work. In the low-pressure type air is admitted into the container and the paint is forced out through a nozzle by the air pressure thus created. The air gun is a type of weapon in which compressed air is used as the propelling force for the bullet. When the trigger is pulled, a portion of the air is released in an enclosure behind the bullet, and the bullet is expelled from the barrel by the expansion of the air. See handbook of the Compressed Air Institute (1947).

pneumonia (no͞omō'nyu), inflammation of the lungs. Parts of one or both lungs are affected by either bacterial or virus infection. Symptoms of pneumonia are sudden chills accompanied by fever, pain on breathing, and coughing. The disease is often complicated by pleurisy, empyema, and other serious conditions. In primary or lobar pneumonia, the pneumococcus is the chief offender. In the early phase of the disease the patient is critically ill, but after a few days there is usually sudden change for the better. It is believed that the general improvement in the patient results from the development in the body of enough antibodies to conquer the disease. This turning point has often been called the "crisis." Secondary pneumonia or bronchopneumonia is very often a complication of some other disease, sometimes it develops after whooping cough and measles in children. Careful nursing during the course of the disease is an important factor in recovery. A relatively mild case of the disease, believed to be caused by a virus, is called atypical pneumonia. Susceptibility to colds, influenza, and other infections of the respiratory tract may lead to pneumonia, which occurs most commonly in winter and spring. The use of sulfa drugs and penicillin has reduced the mortality rate considerably.

Pnom Penh (nŏm'pĕn', punŏm'pĕn'), city (pop. 102,678), capital of Cambodia, on the right bank of the Tonle Sap river at its confluence with the Mekong. Situated 173 mi. from the sea, it has a port able to receive ships with a draught of 15 ft. and carries on trade in cattle, rice, and dried fish. Founded in the 14th cent., it was the Khmer capital in the 15th cent., after the abandonment of Angkor, and became the capital of Cambodia in 1867.

Po, Latin *Padus*, 405 mi. long, largest and longest river of Italy, forming the widest and most fertile valley of the country. Rising from Monte Viso in the Cottian Alps, it winds generally E. through Piedmont, then separates Lombardy and Venetia from Emilia, and empties in the Adriatic. Its delta pushes farther into the sea each year. The most important of its numerous tributaries, the Dora Baltea, the Ticino, the Adda, and the Mincio, all come from the Alps, those descending from the Apennines are much smaller. The river is navigable from Casale Turin, Piacenza, and Cremona are the largest cities along its banks.

Po, chemical symbol of the element POLONIUM.

Pobyedonostzev, Konstantin Petrovich (kŏnstuntyēn' pĕtrô'vĭch pŭbyĕdŭnôs'tsyĭf), 1827–1907, Russian statesman and jurist. As professor of civil law at Moscow (1860–65), he attracted the tsar's attention and was appointed tutor to the future Alexander III. From 1880 to 1905, as procurator of the holy synod, he founded parochial schools to unify religious belief, influenced Alexander to persecute nonconformists, and aimed to create a moral and learned clergy. He was the proponent of Russification of subject peoples and believed in suppression of liberal agitation. His influence declined under Nicholas II. In his *Reflections of a Russian Statesman* (Eng. tr., 1898), he developed his criticism of Western rationalism and liberalism, revealing a political philosophy resembling that of Edmund Burke and Joseph de Maistre. He wrote a three-volume work on Russian civil law.

Pocahontas (pōkəhŏn'təs), c. 1595–1617, daughter of the American Indian chief POWHATAN. Pocahontas, meaning "playful one" (her real name was said to be Matoaka), used to visit the English in Virginia at Jamestown. The authenticity of the famous story of how she saved the life of the captured Capt. John SMITH, just as he was about to have his head smashed at the direction of Powhatan, is still disputed among historians. In 1613 Pocahontas was captured by Capt. Samuel Argall, taken to Jamestown, and held as a hostage for English prisoners in the hands of her father. At Jamestown she was converted to Christianity and baptized as Rebecca. John ROLFE, a settler, fell in love with Pocahontas, and with the permission of the governor, Sir Thomas Dale, and Powhatan married her in April, 1614. The union brought peace with the Indians for eight years. With her husband and several other Indians, Pocahontas went to England in 1616. There she was received as a princess and presented to the king and queen. She started back to America in 1617 but was taken ill and died at Gravesend, where she was buried. Pocahontas bore one son, Thomas Rolfe, who was educated in England, came (1640) to Virginia, and gained considerable wealth. Many claim descent

from his daughter, Jane, who married Robert Bolling See J G. Fletcher, *John Smith—also Pocahontas* (1928)

Pocahontas. 1 City (pop 3,028), co seat of Randolph co , NE Ark., on the Black River, in a farm area. Shoes are made here 2 Town (pop 1,730), co. seat of Pocahontas co , NW Iowa, NW of Fort Dodge and on Lizard Creek; inc 1892 3 Coal-mining town (pop 2,623), SW Va , near the W Va line NW of Bluefield, W Va., in the Alleghenies, founded 1882, inc 1884. The only exhibition coal mine in the world is here

Pocatello (pōkutĕ'lō), city (pop. 18,133), co. seat of Bannock co , SE Idaho, on the Portneuf, a tributary of the Snake, inc as a village 1889, as a city 1902. Begun as a railroad junction in 1882, it was settled in 1887–88 and is now the second largest city in Idaho, a large shipping point for dairy and farm products of surrounding irrigated areas, and still a railroad center Fort Hall Indian Reservation with its irrigation project is to the north, old Fort Hall was on the Snake to the northwest Idaho State College is at Pocatello

Poccetti, Bernardino (bĕrnärdē'nō pōtchĕt'tē), c 1542–1612, Florentine landscape and figure painter, whose real name was Bernardino Barbatelli He was noted for his mural decorations and grotesques, painted chiefly for palaces and churches in Florence and other Tuscan cities

Pochereth (pŏ'kûrĕth), family returned from exile. Ezra 2 57, Neh 7 59.

Po Chü-i (bō' jōō-ē'), 772–846, Chinese poet He passed the final civil service examination at the very early age of 17, and he occupied several important posts, rising (841) to the presidency of the imperial board of war He wrote over 3,000 poems, mostly topical and quite short Some of his poetry deals with the grief he suffered on being separated from his friends by the periodic shifting of officials about the country Perhaps his most noted poem is *The Everlasting Wrong* (806), which recounts the sufferings of Emperor Ming Huan (685–762) on the murder of his concubine by rebels Po Chü-i continued to write despite partial paralysis and arthritis, and he had the satisfaction of enjoying great fame during his lifetime See Arthur Waley, *The Life and Times of Po Chü-i, 772–846* (1949).

pocket gopher. see GOPHER

Pococke, Edward (pō'kŏk), 1604–91, English Orientalist, grad Corpus Christi College, Oxford (B A , 1622; M A , 1626) Ordained a priest in 1629, he resided at Alep as a chaplain, where he collected manuscripts and pursued his studies He made a Latin translation of the work of Bar-Hebraeus, part appearing as *Specimen historiae Arabum* (1650) and a fuller version as *Historia compendiosa dynastarum* (1663) He also wrote commentaries on Hosea, Joel, Micah, and Malachi The name appears also as Pocock

Pocomoke City (pō'kumōk), town (pop 2,739), Eastern Shore, Md , on the Pocomoke river near the Va border, in a farm area, founded c 1700

Pocono Mountains (pō'kunō), range forming part of the Appalachian system, E Pa , NW of Stroudsburg in Monroe and Carbon counties, c.2,000 ft high Scenic beauty and the climate make the Pocono a resort area

pod or legume (lĕ'gūm, lĭgūm'), fruit of a member of the legume family The pod is the developed single, simple pistil having two valves within which the seeds are attached in a row along one suture When the seeds are mature, the pod splits along both edges and thus the seeds are released Pods are produced by some herbivorous plants (e.g , the bean and the pea) and by a few woody plants (e g , acacia, locust, and mimosa)

Podebrady, Czech *Poděbrady* (pō'dyĕbrădĭ), city (pop. 10,540), central Bohemia, Czechoslovakia, on the Elbe The castle, founded in the 12th cent , was the birthplace of GEORGE OF PODEBRAD The discovery of mineral springs here (1905) made Podebrady a spa for heart diseases

Podgorica, Yugoslavia. see TITOGRAD.

Podkarpatska Rus: see RUTHENIA.

Podmokly (pŏd'mōkl̆ĭ), Ger *Bodenbach* (bō'dunbukh), city (pop. 17,558), N Bohemia, Czechoslovakia, a port on the Elbe The export center of a coal-mining region, it has several industries, notably production of machinery.

Podolia (pōdō'lyu), region, W central Ukraine, between the Dniester and Southern Bug rivers. Mogilev-Podolski, Kamenets-Podolski, Vinnitsa, and Proskurov are the chief centers of the predominantly agricultural region Podolia was part of Kievan Russia from the 10th cent and after the 13th cent was ruled in succession by the Tatars, the Lithuanians, the Poles, the Turks, and again the Poles, until in 1793 it passed to Russia in the second partition of Poland Centuries of warfare among its various rulers kept the country in a backward state A large Jewish minority had settled here in the Middle Ages They were severely persecuted in the pogroms of the late 19th and early 20th cent and suffered still worse when the region was occupied (1941–43) by the Germans in the Second World War

Poe, Edgar Allan (pō), 1809–49, American author and critic, b. Boston, of actor parents When his widowed mother died in Richmond in 1812, John Allan, a Richmond merchant, took the boy, without adoption, and educated him in schools in England (1815–20) and in Richmond (1820–26) and for eight months at the Univ of Virginia Poe's brilliant scholastic record did not outweigh his gambling debts in Allan's mind, and Poe was forced to leave the university. After a quarrel with Allan, Poe went to Boston, where his first book, *Tamerlane and Other Poems* (1827), appeared anonymously He enlisted in the army in May, 1827, and served until April, 1829, when his somewhat reconciled foster father obtained his honorable discharge and an appointment for him in 1830 to West Point During the interval in 1829, Poe brought out *Al Aaraaf, Tamerlane, and Minor Poems.* When Allan remarried, Poe lost all hope of assistance from him and with it his own interest in army life He broke enough minor rules to be dismissed from West Point, published his *Poems* (New York, 1831), and went to Baltimore to live with his aunt, Mrs. Clemm, and her daughter Virginia Without a profession or financial resources except occasional sales of his short stories, Poe hoped to start a magazine of contemporary American writing In 1835 J. P. Kennedy helped him to become an editor of the *Southern Literary Messenger* in Richmond, in spite of able writing, he failed because of his drinking Even mild indulgence made him incapable of work In 1836 he married his child cousin, Virginia Clemm, and in 1837 they went to New York, where he published *The Narrative of Arthur Gordon Pym* (1838). From 1838 to 1844 he lived in Philadelphia, editing Burton's *Gentleman's Magazine* (1839–40) and *Graham's Magazine* (1841–42) His criticism in these magazines and in the *Messenger* was both just and caustic and made him respected and feared Some of his magazine stories were collected as *Tales of the Grotesque and Arabesque* (1840) At this time he began writing mystery stories "The Murders in the Rue Morgue," "The Purloined Letter," and others which rank at the top of their genre, in 1843 "The Gold Bug" brought a prize of $100 The Poes and Mrs Clemm in 1844 moved to New York, where Poe worked on the *Evening Mirror* and then was editor and later owner (on borrowed money) of the *Broadway Journal* In 1845 *The Raven and Other Poems* won him fame here and abroad as a poet In 1846 he moved to the Fordham cottage which is now a museum and there wrote "The Literati of New York City" for *Godey's Lady's Book* After Mrs Poe died in 1847, Poe fell in love successively with several women and was once engaged to marry the poet Sarah Helen WHITMAN of Providence (she was the subject of his second poem with the title "To Helen") In 1849, in Richmond, he planned to marry his boyhood sweetheart, the widowed Elmira Shelton On his way north to bring Mrs Clemm to the wedding, he was by some means started on a drinking debauch in Baltimore, there he died and is buried Poe's literary executor, R W GRISWOLD, overemphasized Poe's personal faults and distorted his letters However, Poe was recognized as a great writer of short stories and a critic and expositor of the art of writing Especially in France he has been admired and studied His poetry is full of haunting melancholy, fantastic imagery, and persistent melody and rhythm, its form is almost perfect in such poems as "To Helen," "Israfel," "The Raven," "The Bells," "The Sleepers," "The City in the Sea," "Ulalume," and "Annabel Lee " In his day his concern with beauty to the exclusion of an ethical message was not generally understood, later generations gave him a higher place than did his own See his complete poems and stories (ed by H E Quinn and E H O'Neill, 1947) and his letters (ed by J W Ostrom, 1948), Killis Campbell, *The Mind of Poe* (1933), biography by A. H. Quinn (1941)

poet laureate (lō'rĕĭt), title conferred in England by the king on a poet whose duty it is to write commemorative odes and verse It is an outgrowth of the medieval custom of having versifiers and minstrels in the king's retinue and the later royal patronage of poets, such as Chaucer and Spenser Ben Jonson seems to have had what amounted to the laureateship from Charles I in 1617, but the title of laureate, adopted from the Greek and Roman custom of crowning with a wreath of laurel, was first given to John Dryden in 1670 His successors have been Thomas Shadwell (1688–92), Nahum Tate (1692–1715), Nicholas Rowe (1715–18), Laurence Eusden (1718–30), Colley Cibber (1730–57), William Whitehead (1757–85), Thomas Warton (1785–90), Henry Pye (1790–1813), Robert Southey (1813–43), William Wordsworth (1843–50), Alfred, Lord Tennyson (1850–92), Alfred Austin (1892–1913), Robert Bridges (1913–30), and John Masefield (1930–) See E. K Broadus, *The Laureateship* (1921)

poetry (pō'utrē) For lyric poetry, see BALLAD, ELEGY, HYMN, LYRIC, ODE, PASTORAL, SONNET For narrative poetry, see CHANSONS DE GESTE, EPIC, IDYL, ROMANCE Dramatic poetry is incidentally treated in the articles DRAMA, MASK, and TRAGEDY See also articles on individual poets and on various national literatures For technical discussions of poetry, see FREE VERSE, RHYME; VERSIFICATION

Pogany, Willy (William Andrew Pogany) (pōgä'nē), 1882–, American artist, b. Hungary, studied in Budapest, Munich, and Paris He is well known as an illustrator (especially of children's books), a mural painter, a designer of stage sets, and an art director of moving pictures. Mural paintings by Pogany are in the Children's Theatre of the Heckscher Foundation, New York; Convention Hall, Atlantic City, N.J., and the building of the Niagara Falls (N.Y.) Power Company He has illustrated editions of Lewis Carroll's *Alice in Wonderland*, Swift's *Gulliver's Travels*, Omar Khayyam's *Rubaiyat*, Padraic Colum's *Children's Homer*, and collections of fairy tales.

Poggendorff, Johann Christian (yō'hän krĭs'tyän pō'gundôrf"), 1796–1877, German physicist and chemist He founded (1824) and edited the important *Annalen der Physik und Chemie* and edited the first two volumes (1863) of *Biographisch-literarisches Handwörterbuch*

Poggio Bracciolini, Gian Francesco (jän' fränchä'skō pōd'jō brät"chōlē'nē), 1380–1459, Italian humanist He was apostolic secretary and subsequently (1453–58) chancellor of Florence Many classical works, including Lucretius' *De natura rerum* and Quintilian's *Institutio oratorica*, were discovered by him He is now best known as author of the *Facetiae* (1474, Eng tr , 1928), a collection of tales sometimes obscene Poggio's satires are virulent and often indecent, his controversies with Lorenzo Valla and Francesco Filelfo were sensational

Pogodin, Nikolai Feodorovich (nyĭkùlī' fyô'dûrùvĭch pŭgô'dyĭn), 1900–, Russian dramatist Of a peasant family, he went to work at an early age, as a farm laborer, an ironworker, and a bookbinder His plays, of which about one a year were presented after 1930, draw on his experiences as a worker, and the scenes are laid in Soviet factories or on collective farms They are humorous and optimistic in tone Among the most popular are *Tempo* (1930, Eng tr , 1936), *After the Ball* (1934), *Aristocrats* (1935, Eng tr , 1937), *The Man with the Gun* (1937; Eng tr , 1938), *The Headwoman* (1944), of the siege of Stalingrad, and *The Creation of the World* (1945)

pogrom (pō'grum, pōgrŏm'), Russian word, originally meaning literally a riot It has come, however, to be applied to attacks on Jews in Russia or Russian-controlled countries Pogroms were few before 1881, but after the assassination of Alexander II, with the connivance of the government or at least without hindrance, there were many pogroms throughout S and SW Russia In many places soldiers and police looked on without interference. These pogroms occasioned the first Russian-Jewish emigration to the United States After 1882 there were no pogroms for 20 years, but in 1903 at Kishinev for three days at Easter there was an extremely violent pogrom Plehve, the minister of the interior, was particularly hostile to the Jews After the abortive revolution of 1905, pogroms increased in number and violence as the government attempted to direct the revolutionary anger of the masses toward the Jews After the Bolshevist Revolution there were pogroms in the Ukraine and White Russia in 1920–21 by anti-Bolshevist groups

Pohai or P'o-hai (pō'hī'), arm of the Yellow Sea, indenting the coast of N China Shantung, Hopeh, and Liaoning provs border it on the south, west, and north respectively It was formerly called the Gulf of Chihli

poi, slightly fermented, sticky food paste eaten in the Pacific islands with meat or fish or as a porridge It is made by grinding or pounding the roasted, peeled roots of the TARO

Poincaré, Jules Henri (zhül' ärē' pwĕkärā'), 1854–1912, French mathematician, physicist, and author He was from 1881 connected with the faculty of sciences at the Univ of Paris One of the greatest mathematicians of his age, Poincaré by research in the theory of functions, especially the automorphic, Fuchsian, and Abelian functions, enlarged the field of mathematical physics He did notable work also in differential equations and the astronomical theory of orbits His works include *Les Méthodes nouvelles de la mécanique céleste* (3 vols , 1892–99) and three works (1902, 1904, 1908) published in English as *The Foundations of Science* (1913, reprinted 1947)

Poincaré, Raymond (rämō'), 1860–1934, French statesman, president of France (1913–20), cousin of Jules Henri Poincaré. He held numerous cabinet posts from 1890 to 1906, when he turned to practicing law for five years He returned to public life in 1912, becoming premier and foreign minister In 1913 he was elected to succeed Fallières as president A conservative and a nationalist, he tightened the French alliances and assumed a definitely anti-German policy. He made an official visit to Russia in 1912 and another in July, 1914, during the crisis that followed the murder of Archduke Francis Ferdinand and precipitated the First World War. During his stay at St. Petersburg he undoubtedly induced—if such inducement was necessary—the Russian foreign minister Sazonov to take a firm stand and gave Russia full assurance of French aid in case of war. After the war Poincaré called for harsh punishment of Germany and for adequate

guarantees of French security Regarding the Treaty of Versailles as too lenient, he resigned in 1920. Paul Deschanel succeeded him as president Poincaré continued in the senate, to which he had been elected in 1903, and became a leader of the Bloc National, a conservative party coalition This brought him to the premiership as well as the ministry of foreign affairs in 1922 He at once embarked on a policy of making Germany pay by declaring reparations in default and occupying the RUHR in 1923 He remained inflexible in the face of German opposition until his overthrow by Herriot in 1924 Returning to power again in 1926 in the midst of a grave financial crisis, he pursued an extreme deflationary policy, balancing the budget and securing (1928) the stabilization of the franc at one fifth of its former value He retired from office in 1929, but continued to preach the need for security and to proclaim his opposition to treaty revision Poincaré remains a controversial figure Some see in him a prophetic mind who foresaw and sought to prevent the rebirth of German militarism, others consider him responsible, by his intransigent nationalism, for the conditions which drove millions of Germans into Hitler's arms Among Poincaré's writings are *How France Is Governed* (Eng tr, 1919) and his memoirs (Eng tr, 1926) See Sisley Huddleston, *Poincaré* (1924), Gordon Wright, *Poincaré and the French Presidency* (1942)

poinciana (poinsēā'nu, -ā'nû), tropical shrub or tree of the pulse family It has long, bipinnate leaves and bears racemes of showy orange or scarlet flowers The fruits are long, flat pods The royal poinciana, or peacock flower, native to Madagascar, is one of the most striking of tropical trees, it is popular in the West Indies, S Florida, S California, and Bermuda It is a rapid-growing deciduous tree, reaching 20 to 40 ft in height and bearing scarlet flowers

Poindexter, George (poin'dĕk"stur), 1779–1853, American political leader, b Louisa co, Va Admitted (1800) to the bar, he practiced in Richmond, Va, and removed to Mississippi, where he took part in the efforts to bring Aaron BURR to trial He served (1807–13) in the U S Congress and later was (1813–17) U S district judge He was influential in framing (1817) the Mississippi constitution and was chiefly responsible for the revised state law code (1824) Poindexter served again (1817–19) in Congress and was later (1819–21) governor of Mississippi As U S Senator (1830–35) he broke with President Andrew Jackson, with whom he had served in the War of 1812

Poindexter, Miles, 1868–1946, U S Senator, b Memphis, Tenn, grad Washington and Lee Univ, 1891, in law He settled in Washington state, practiced law, and was (1904–8) judge of the superior court He served (1909–11) in the House of Representatives, acting with the Republican insurgents As U S Senator (1911–23) he was a Progressive He voted for the Underwood Tariff, but later joined the "irreconcilables" in opposing the Treaty of Versailles and the League of Nations, and he sponsored antistrike legislation After he failed of reelection in 1922 he was (1923–28) minister to Peru and then returned to law practice He wrote *The Ayar-Incas* (1930)

Poinsett, Joel Roberts (poin'sĕt), 1779–1851, American statesman, b Charleston, S C He studied in England and at the Univ of Edinburgh, but abandoned both law and medicine because of ill-health He traveled for many years in Europe and in 1809 was sent to South America by President James Madison to investigate the conditions of the countries struggling for independence He was (1821–25) a member of the U S House of Representatives and, as minister (1825–29) to Mexico, sought to strengthen the bonds between the two republics A strong opponent of NULLIFICATION, he was Secretary of War (1837–41) under Martin Van Buren Poinsett then retired to his plantation near Georgetown, S C The flowering plant which he introduced into this country is called poinsettia See biography by J Fred Rippy (1935)

poinsettia (poinsĕt'ŭ, -sĕt'ēŭ) [for J R Poinsett], ornamental shrub (*Poinsettia,* or *Euphorbia, pulcherrima*) native to tropical America It has attractive foliage and small true flowers in the center of a rosette of usually bright red bracts which resemble petals The plant, related to the spurges, contains a milky juice, it is propagated by cuttings The poinsettia is a popular Christmas decoration Stored away dry after blooming, it may be revived in May for blooming the next Christmas by gradual watering in a 60° temperature The shrub often grows to a height of 10 ft Another species of the genus somewhat resembles poinsettia and grows wild in the United States, it is called Mexican fire plant and is cultivated in gardens as an annual

Point Barrow (bă'rō), northernmost point of Alaska, on the Arctic Ocean, at lat 71° 23' N and long 156° 30' W Discovered in 1826 by F. W. Beechey and named by him for Sir John BARROW, it has since been visited by many expeditions and has figured prominently in arctic aviation. Near by is a naval base (est. 1944), but navigation is open for only two or three months a year. To the southwest is the village of Barrow (pop 363), the trading center of N Alaska. It has a meteorological station, an airfield, a school, and a hospital Hunting and fishing are the main occupations of the Eskimo Farther south is a monument to Will Rogers and Wiley Post, who lost their lives here in an airplane crash in 1935

Pointe-à-Gatineau (pwĕtägätēnō'), town (pop 2,230), SW Que, on the Ottawa at the mouth of the Gatineau. It is a northeast suburb of Hull.

Pointe-à-Pitre (pwĕtäpē'trū), city (pop 41,323), Guadeloupe dept, French West Indies It is on Grande-Terre island at the southern entrance of the Rivière Salée, the narrow and shallow ocean channel which separates Guadeloupe proper from Grande-Terre Although the harbor is narrow and open to severe hurricanes, which sweep in from the southeast, and the capital is at BASSE-TERRE, Pointe-à-Pitre is the largest and most important city in the department It exports chiefly sugar, rum, and bananas

Pointe-au-Pic (pwētōpēk'), village (pop 1,083), S Que, on the north shore of the St Lawrence near La Malbaie It is a popular summer resort

Pointe aux Trembles (pwētōtrā'blu), residential town (pop 4,314), S Que, on the east shore of Montreal island, on the St Lawrence and NNE of Montreal

Pointe Claire (point klâr', Fr, pwĕt klĕr'), town (pop 4,536), S Que, on the south shore of Montreal island, on Lake St Louis and SW of Montreal, of which it is a residential suburb

pointed style see GOTHIC ARCHITECTURE

Point Edward, village (pop 1,363), S Ont, on the St Clair river at the foot of Lake Huron and just N of Sarnia It is connected by bridge with Michigan, at Port Huron

Pointe Noire (pwĕt'nwär'), town, S French Equatorial Africa, a port on the Atlantic Ocean It is the terminus of a railroad from Brazzaville Hard woods are exported

pointer, smooth-coated hunting dog Its origin is not definitely known, but it is believed to have been developed as a definite breed before the setters Although it was long thought that the pointers first used in England were obtained from Spain, it was later concluded that the dogs came to be used at about the same time in the British Isles and in Spain and near-by countries of Europe Its ancestors are believed to be the foxhound and greyhound and possibly the bloodhound It is believed that in the early 18th cent some crosses were made in England with the Spanish pointer, which had a strong pointing instinct although it was slower than the English, French, and German pointers When the dog comes upon game birds, it points them with its nose, remaining motionless until the bird attempts to fly It is also capable of scenting a bird and pointing while running The American or English pointer is liver and white, orange and white, or lemon and white The German short-haired pointer is liver-colored or liver and white It is useful as a pointer and retriever and as a trailing dog for night hunting

Point Grey, suburb of Vancouver, SW British Columbia It is the site of the Univ of British Columbia

Point Judith, promontory in Narragansett town, S R I A lighthouse and a U S coast guard station are maintained here The full violence of the 1938 hurricane struck Point Judith. The village of Point Judith is a resort

Point Marion, industrial borough (pop 2,068), SW Pa, on the Monongahela and SW of Uniontown, laid out 1842 Its industries produce glass, sand, and gravel

Point Pleasant. **1** Borough (pop 2,082), E N J, near the Atlantic S of Asbury Park, settled 1850, inc 1920 **2** City (pop 3,538), co seat of Mason co, W W Va, on the Ohio at the mouth of the Kanawha, settled around Fort Blair (built 1774) The city is supported by its shipyards In the battle of Point Pleasant (1774), a large force of Indians led by Cornstalk was defeated by Andrew Lewis and frontiersmen

Point Pleasant Beach, borough (pop 2,059), E N J, a resort on the Atlantic NE of Point Pleasant, inc. 1886.

Point Roberts, township (pop 310), NW Wash, on the Strait of Georgia, at the tip of a peninsula extending S from British Columbia and separated from the Washington mainland by Boundary Bay The point was probably visited by Spaniards in the 18th cent, and it was visited and named (1792) by Capt George Vancouver It is a summer resort and salmon-fishing center. Point Roberts can be reached by land from the United States only by going through British Columbia

Poiré, Emmanuel: see CARAN D'ACHE

poison, an agent which may produce chemically an injurious or deadly effect when introduced into an organism in sufficient quantity See separate articles on BITES AND STINGS; BOTULISM; CARBON MONOXIDE, FOOD POISONING; LEAD POISONING, POISON IVY, SNAKE BITE. For the symptoms and treatment of many poisons, see POISONING table on pages 1566–69. Many agents listed in the table are poisons only if introduced into the organism in certain ways or forms and in large quantity. A minute quantity of some, e g, of hydrocyanic acid, may be fatal, while a relatively large amount of certain others, e g, quinine, may have little injurious effect The injurious effects are usually greater under certain conditions, e g, if the poison is in solution, if it is in a concentrated form, if it is a vapor, if it has been administered intravenously or subcutaneously, if it has been swallowed when the stomach is empty, and if the individual is very young, very old, ill, or abnormally susceptible to a given poison The action of a poison may be local, systemic, or both Poisons may be classified according to type as corrosive, irritant, or systemic poisons Most corrosive poisons, such as mineral acids and lye, act as irritants when very dilute Treatment varies greatly When poisoning is suspected (pain, nausea, and fright are common symptoms), a doctor should be called immediately, since usually his knowledge and equipment (antidotes and stomach tube or pump) are necessary Emergency treatment should be given promptly (consult the POISONING table) If poison has been swallowed, several glasses of water should usually be given immediately to dilute the poison Except for corrosive poisons, the unabsorbed poison in the stomach should then be removed by causing vomiting by mechanical means or by giving an emetic (a tablespoonful of common salt in a glass of lukewarm water, four times, or a teaspoonful of dry mustard in a glass of warm water, ¼ glassful at a time alternated with a glass of warm water) In the case of corrosive poisons, vomiting may cause rupture of injured tissues, but emetics are sometimes given if the poison is only slightly corrosive or if taken in very dilute form If poison has had time to enter the intestinal tract, enemas and cathartics may assist in removing them, before these are used, however, it should be certain that poison has been swallowed, since the abdominal pain may be caused by appendicitis An antidote may be given to neutralize certain poisons (see the POISONING table), often between intervals of vomiting For corrosive or irritant poisons, a demulcent should be given to form a soothing coating over injured tissue, readily available demulcents include raw white of egg, milk, flour solution, and oatmeal gruel (not hot). Certain powders, notably medicinal charcoal, are sometimes useful for adsorbing toxic substances For gas poisoning, provide fresh air and employ artificial respiration (for description of the process, see ARTIFICIAL RESPIRATION article) External burns should be washed, then neutralized (for acid burn milk of magnesia or sodium bicarbonate, for alkali burn lemon or other citrus juice or vinegar) Severe poisoning is often followed by symptoms of SHOCK (see separate article) If pulse or breathing is weak, give a STIMULANT such as hot, black coffee, strong tea, or aromatic spirits of ammonia Keep the patient warm, and if necessary apply dry heat with heat pads, hot-water bottles, heated blankets, or bricks or flatirons wrapped in towels If breathing fails, use artificial respiration See W F Boos, *The Poison Trail* (1937), V J Brookes and H N. Alyea, *Poisons* (1946)

Poison Affair, scandal implicating a number of prominent persons at the court of Louis XIV It began with the trial of Marie Madeleine d'Aubray, marquise de Brinvilliers (c 1630–1676), who poisoned her father and at least one brother for interfering with her adulterous relations with Godin de Sainte-Croix, an army captain Her husband was saved from the same fate by his complacency. An investigation was made, and the marquise fled abroad, but in 1676 she was arrested at Liège The marquise was, despite her homicidal weakness, a devout Catholic, she wrote a general confession which was found by the police, but which was not used as evidence in her trial The affair greatly worked on the popular imagination, and unfounded rumors were circulated to the effect that she had tried out her poisons on hospital patients She was beheaded and then burned Mme de Sévigné, who witnessed the execution, wrote that "the following day people sought to recover her bones, believing she was a saint" The Brinvilliers trial attracted attention to other mysterious deaths, and several people were charged with selling poison (called "inheritance powders" at the time) to members of the highest society Most of these charges were unfounded Parisian society had, however, been seized by a fad for spiritualist séances, fortunetelling, and the use of love potions Some of the quack practitioners undoubtedly also sold poison, at any rate, after their arrest they furnished the police with lists of their clients, who often were guilty merely of having their palms read or of buying an aphrodisiac, and accused them of complicity in their crimes The most celebrated case was that of La Voisin, a midwife and fortuneteller whose real name was Catherine Deshayes Monvoisin and whose clientele included Mme de Montespan, Olympe Mancini (niece of Mazarin and mother of Prince Eugene of Savoy), her sister Marie Anne Mancini, Marshal Luxembourg (duke and peer of France and one of the military heroes of the time), and Racine Most spectacular were the charges against Luxembourg, who even was detained in a solitary cell at the Bastille for several weeks. No

Call a doctor *immediately* if poisoning is suspected Give first-aid treatment suggested in table below Watch for signs of SHOCK (see separate article). Keep patient warm and quiet Do *not* give liquids to an unconscious patient If breathing fails, give ARTIFICIAL RESPIRATION (for method, see separate article) See also separate article on POISON

POISON [Type of poison is in italic]	SUBSTANCES WHICH MAY CONTAIN THE POISON	SYMPTOMS	TREATMENT
acetanilid *Systemic*	Drugs to relieve headache neuralgia, fever, muscular pain	Cyanosis, nausea, pulse slow and weak, subnormal temperature, sluggishness, sometimes stupor and collapse	Give emetic, stimulant, keep patient warm and quiet
ACETIC ACID *Corrosive and systemic*	Solvents, stain removers, liquids used in acetate, printing, and other industries	Same as acids, mineral, in this table	Same as acids, mineral, in this table
acids, mineral HYDROCHLORIC ACID (muriatic acid) NITRIC ACID SULPHURIC ACID (oil of vitriol) *Corrosive*	Liquids for laboratory and (especially sulphuric acid) industrial uses, drugs, hydrochloric acid used for digestive disorders, nitric and sulphuric in cauterizers and caustics for warts and sores	Burns on lips and mouth, pain in throat and stomach, often vomiting and diarrhea, sometimes with blood, weak, rapid pulse, slow, shallow breathing, twitching, collapse	Do *not* give emetic or carbonates (chalk, whiting, or baking soda) if concentrated acid was taken, give antidote of milk of magnesia or limewater, much water, soothing drinks of eggs and milk, wash external burns with much water and soap then cover with baking soda paste or milk of magnesia, keep patient warm and quiet, give stimulant
ACONITE *Systemic*	Root of wolfsbane (monkshood), drugs for local relief of pain and for reducing the rate of heart beat	Tingling especially of mouth, lips, throat, salivation, often nausea, vomiting, diarrhea, dizziness, difficult breathing, slow, weak pulse, collapse	Emetic to be given *immediately* after swallowing of poison or not at all, give tannic acid, medicinal charcoal, patient should be down with head low and be kept warm and quiet, give aromatic spirits of ammonia
ALCOHOL see ethyl alcohol or wood alcohol (methyl alcohol) in this table			
ALKALI see lye in this table			
allonal see barbitals and barbiturates in this table			
AMMONIA *Corrosive*	Household cleaning fluid	Pain in mouth, throat, stomach, often swollen throat, vomiting, diarrhea, often bloody, skin cold and damp, breathing difficult, pulse weak	Do *not* give emetic, give dilute vinegar or citrus juice, follow with raw eggs, milk, cream, or olive oil, stimulant if necessary, keep patient warm and quiet
amytal see barbitals and barbiturates in this table			
ANTIMONY (compounds) *Corrosive*	Paints, explosives, drugs for parasitic diseases, expectorants, emetics, as tartar emetic	Metallic taste, vomiting, often bloody, spasms in arms and legs, breathing difficult, weak, rapid pulse, skin cold and damp	Give 20 grains tannic acid in warm water or strong tea, follow with emetic if needed, give much water, raw eggs, milk, keep patient warm and quiet
ARSENIC (compounds) *Systemic and corrosive*	Insecticides, rat poisons, drugs for syphilis and other protozoan diseases, skin disorders, pigments, compounds used in tanning and other industries	Symptoms usually delayed, pain in stomach, thirst, nausea, vomiting, diarrhea, pallor, cold, moist skin, weak pulse, shallow breathing, collapse	Give emetic, much water, antidote is hydrated oxide of iron and magnesia (magnesia alone is helpful), give saline cathartic, e.g., Epsom salts give castor oil, raw eggs, milk, stimulant, keep patient warm and quiet
ATROPINE *Systemic*	Many internal and external medicinals, especially anodynes, respiratory stimulants, eye drops	Dry, flushed skin, dilated pupils, thirst, rapid pulse, sometimes excitement or delirium, convulsions, stupor, coma	Give tannic acid or strong tea, medicinal charcoal, emetic, coffee or other stimulant, apply ice to head, heat to body, artificial respiration if necessary
barbitals and barbiturates *Systemic*	Drugs for relief of pain, anticonvulsants, sedatives	Confusion, drowsiness, coma, weak, rapid pulse, moist skin, low blood pressure	If patient is conscious, an emetic may be given stomach lavage, by physician is preferable, give black coffee, try to keep patient awake and warm
BARIUM (compounds) *Corrosive*	Rat poison, paints, matches	Abdominal pain, nausea, vomiting, diarrhea, salivation, paralysis of arms and legs, pallor	Give Epsom salts, avoid emetic if poisoning is severe, give raw egg whites, milk, or olive oil, stimulant if needed, keep patient warm
BELLADONNA *Systemic*	Deadly nightshade or banewort and other *Solanaceae* plants	Abdominal pain, nausea, vomiting, diarrhea, salivation, pallor, sometimes paralysis	See atropine in this table
BISMUTH *Systemic*	Drugs for indigestion, syphilis, skin disorders	Symptoms delayed, pallor, dark line on gums, flow of saliva, swollen gums, tongue, throat, often nausea and vomiting	If swallowed, give warm water, emetic, if poisoning from bismuth dressings, remove dressings, keep patient warm
BORAX (in large doses) *Systemic*	Antiseptics, cleansing preparations, gargles, skin lotions, eye washes	Nausea, diarrhea, abdominal pain	Give warm water, emetic, stimulant if needed
BOTULISM see separate article			
BROMIDES *Systemic and corrosive*	Sedatives, drugs for allaying vomiting, convulsions, hysteria	Sluggishness, apathy, mucous membranes irritated, acne may follow prolonged use, acute poisoning (rare) causes depression of respiration, stupor	For acute poisoning give emetic, give soothing drinks if mucous membranes affected, stimulants
CAFFEINE *Systemic*	Drugs, especially diuretics and stimulants, large quantities of coffee or tea	Restlessness, nervousness, pain over heart, heart palpitations, rapid pulse, later pallor, skin cold and damp, sometimes coma	After concentrated dose, give emetic, warm water, keep patient warm
calcium hydroxide see lye in this table			
CAMPHOR *Systemic*	Moth preventives, liniments, gargles, nasal sprays, respiratory and heart stimulants, insect repellents	Burning in throat and stomach, nausea, headache, dizziness, weak pulse, cold, moist skin, pallor, sometimes delirium, convulsions, collapse	Emetic, much warm water, Epsom salts, stimulant if needed keep patient warm and quiet
CANTHARIDIN *Systemic and irritant*	Drugs to cause irritation or blistering, hair tonics, aphrodisiacs	Burning in mouth and throat, vomiting, thirst, abdominal pain, bloody diarrhea, sometimes chills, delirium, collapse	Emetic, much water, raw eggs and milk, keep patient warm and quiet
CARBOLIC ACID (phenol) *Corrosive and systemic*	Antiseptics disinfectants, dyes	Burns on lips and mouth, pain in throat and stomach, sometimes vomiting, cold, damp skin, headache, dizziness, labored breathing, sometimes coma	Emetic, Epsom salts, much water, raw eggs and milk, stimulant, keep patient warm and quiet, do *not* give oils or fats, wash external burns with alcohol, then much water
CARBON MONOXIDE *Systemic*	Producer gas, water gas, illuminating gas, coal gas, automobile exhaust	Headache, dizziness, vomiting, weak pulse, difficult breathing, loss of consciousness, often bluish-red color of skin, lips, nails	Fresh air, artificial respiration, stimulants, keep patient warm and quiet, see also separate article on CARBON MONOXIDE
carbon tetrachloride *Systemic and irritant*	Cleaning fluids, solvents, hookworm remedies	Dizziness, excitement sometimes followed by convulsions and coma, subnormal temperature, then fever, feeble pulse, if swallowed, abdominal pain, vomiting, diarrhea	If inhaled give fresh air, artificial respiration if needed, if swallowed, do *not* give oils or alcohol, give Epsom salts, emetic, stimulant of black coffee, keep patient warm and quiet
CHLORAL (compounds) *Systemic and irritant*	Soporifics, sedatives, liniments	Drowsiness, then sleep, sometimes coma, nausea, pulse and breathing slow, pupils often contracted, low blood pressure and temperature	Do *not* give alcohol, if patient is conscious, give emetic and stimulants, keep patient lying down, apply external heat

Cross references are indicated by SMALL CAPITALS. The key to pronunciation faces page 1.

Call a doctor *immediately* if poisoning is suspected Give first-aid treatment suggested in table below. Watch for signs of SHOCK (see separate article) Keep patient warm and quiet Do *not* give liquids to an unconscious patient If breathing fails, give ARTIFICIAL RESPIRATION (for method, see separate article). See also separate article on POISON

POISON (Type of poison is in italic)	SUBSTANCES WHICH MAY CONTAIN THE POISON	SYMPTOMS	TREATMENT
CHLORINE *Corrosive and systemic*	Water purifiers, disinfectants, antiseptics; bleaches, cleaning fluids, deodorizers	Difficult breathing, weak pulse, pallor, if swallowed, burning in throat and stomach, nausea, vomiting	Have patient sniff ammonia or ethyl alcohol, give starch or flour solution, milk of magnesia, raw eggs and milk, emetic, keep patient warm, if chlorine inhaled also give fresh air
CHLOROFORM *Systemic*	Anesthetic, liniments, solvents, cough medicines, drugs to check vomiting, diarrhea	Slow, weak, irregular pulse and breathing, pallor, dilated pupils, if swallowed hot feeling in mouth and stomach	If inhaled, give fresh air, lower head, artificial respiration, keep patient warm, if swallowed, also give emetic and stimulants
COAL GAS see carbon monoxide in this table			
COCAINE *Systemic*	Local anesthetics, narcotics	Pupils dilated, restlessness, pallor, cold sweat, sometimes convulsions, rapid pulse and breathing becoming slow and weak, coma	If swallowed give tannic acid or strong tea, emetic, if breathing fails, give artificial respiration
CODEINE see opium in this table			
COPPER (salts) *Corrosive*	Fungicides, insecticides, pigments, astringents, dyes, tanning compounds, drugs for anemia	Nausea, vomiting of greenish matter, metallic taste, diarrhea with mucus and blood, burning pain in digestive tract, salivation, convulsions	Antidote is potassium ferrocyanide, give raw eggs and milk, emetic, much water, apply external heat
CORROSIVE SUBLIMATE (bichloride of mercury) *Corrosive*	Antiseptics, antisyphilitics, insecticides	Burning pain in throat, abdominal cramps, metallic taste, vomiting, diarrhea, weak, rapid pulse, pallor, cold sweat, sometimes convulsions, coma, collapse	Give medicinal charcoal, emetic, much warm water, raw egg whites, apply external heat, antidote is sodium formaldehyde sulfoxylate
creolin, CREOSOTE, and cresols *Corrosive and systemic*	Disinfectants, antiseptics, wood preservatives	See carbolic acid in this table	See carbolic acid in this table
CROTON OIL *Systemic and irritant*	Drastic purgatives, vesicants	Pallor, severe abdominal pain, violent purging, sometimes vomiting, collapse	Emetic, much water, raw eggs, milk, flour solutions, apply external heat
CYANIDE (salt of hydrocyanic acid) *Corrosive and systemic*	Insecticides, case-hardening, electroplating, blueprint materials, dyes	If severe, immediate collapse, smaller dose, dizziness, panting, convulsions, collapse with cold skin, dilated pupils, fixed eyeballs, often froth on mouth, odor of bitter almonds	Give 2 teaspoonfuls hydrogen peroxide in water, emetic, have patient inhale ammonia fumes, give artificial respiration if needed
digitalis *Systemic*	Heart supportants and stimulants, diuretics	Headache, vomiting, slow, weak, irregular pulse, faintness, pallor, body often cold	Give tannic acid or strong tea, emetic, patient must lie flat even after danger seems past, apply external heat, especially near heart, give stimulants
ERGOT *Systemic*	Abortifacients, drugs to induce labor, to produce contraction of the uterus, to check uterine bleeding	Slow, weak pulse, tingling skin, often vomiting, diarrhea, abdominal cramps, sometimes delirium, convulsions, coma	Give emetic, medicinal charcoal, black coffee, keep patient warm and recumbent
ETHER (ethyl ether) *Systemic and irritant*	Anesthetics, solvents for fats, oils, cough medicines, carminatives	Slow, gasping breathing, face blue, low blood pressure, pupils usually dilated	Apply external heat, artificial respiration, if needed, lower head, if swallowed, give emetic
ETHYL ALCOHOL (grain alcohol) *Systemic*	Alcoholic beverages, perfumes, lotions, denatured alcohol solvents	Often excitement followed by depression, nausea, vomiting, dizziness, see also separate article ALCOHOLISM	Give emetic, cold applications to head, black coffee, keep patient warm and quiet
fluorides *Systemic and corrosive*	Insecticides, wood preservatives, moth preventives	Abdominal cramps, burning, pallor, salivation, weak pulse, often vomiting, diarrhea, twitching, convulsions	Give much water followed by limewater, chalk or weak calcium chloride solution, milk, emetic
FOOD POISONING see separate article			
FORMALDEHYDE *Corrosive*	Antiseptics, disinfectants, preservatives for anatomical specimens	Burning pain in throat and stomach, reddening of eyes and mouth, vomiting, swollen throat, pallor, cold, moist skin	Give emetic, aromatic spirits of ammonia or inhalation of ammonia fumes, medicinal charcoal, soothing drinks, e g , raw eggs, milk, flour solution
GAS see carbon monoxide in this table			
GASOLINE *Systemic*	Automobile fuel, cleaning fluids, solvents for fats and oils	Headache, dizziness, red face, excitement, vomiting, disturbed vision	Emetic, black coffee or aromatic spirits of ammonia, do *not* give alcohol or camphor, remove gasoline-soaked clothing, apply external heat
HASHISH see marijuana in this table			
HEROIN (derivative of morphine) see opium in this table			
HYDROCHLORIC ACID see acids, mineral, in this table			
HYDROCYANIC ACID (prussic acid)	Fumigants	See cyanide in this table	See cyanide in this table
IODINE *Systemic and corrosive*	Antiseptics, goiter remedies, liquid used in photography	Metallic taste, burning pain in mouth, throat stomach, vomiting, diarrhea, salivation, pallor, weak, rapid pulse, mouth stained brown	Give antidote of starch or flour in water, emetic if effect of dose not too corrosive, stimulants, raw eggs and milk, apply external heat, for iodoform (a compound of iodine) give sodium bicarbonate, much water, emetic
JABORANDI (contains pilocarpine) *Systemic*	Drugs to promote perspiration and salivation, relieve itching, eye drops	Salivation, sweating, eyes water, vision blurred, pupils constricted, vomiting, diarrhea, choking	Give tannic acid or strong tea, emetic, apply external heat, physician may give atropine, an antidote
laudanum see opium in this table			
LEAD (compounds) *Corrosive*	Paints, pigments, gasoline, water from lead pipes, ointments, antiseptic lotions, sugar of lead	Abdominal pain, excitement, vision affected, bluish line on gums, vomit often white, diarrhea, often black matter passed, sometimes convulsions, paralysis, and coma	Antidote is Epsom salts or Glauber's salt, much water, emetic, soothing drinks, e g , raw eggs, milk, olive oil, stimulant, external heat, see also separate article on LEAD POISONING
LIME (quicklime) *Corrosive*	Disinfectants, insecticides, plaster, whitewash, bleaching powder	Pain in mouth, throat, stomach, often vomiting with blood and mucus	Lemon juice or diluted vinegar, then soothing drinks, e g , raw eggs, milk, olive oil, flour solutions, keep patient warm
LOBELIA	Drugs for control of tobacco habit	See nicotine in this table	See nicotine in this table
luminal see barbitals and barbiturates in this table			
LYE (caustic soda, caustic potash) *Corrosive*	Household cleansers, disinfectants, drain openers, materials used in soap, tanning, cellulose, petroleum-refining, and other industries	Severe pain in mouth, throat, stomach, vomiting and diarrhea, often bloody, pallor, weak, rapid pulse, cold, moist skin, collapse	Do *not* give emetic, give diluted vinegar and much citrus juice, soothing drinks, as cream, olive oil, raw eggs, milk, keep patient warm and quiet, stimulants, wash external burns with water, lemon juice or vinegar, again water
lysol (compound of cresol and soap) for symptoms and treatment, see carbolic acid in this table			

Call a doctor *immediately* if poisoning is suspected Give first-aid treatment suggested in table below. Watch for signs of SHOCK (see separate article). Keep patient warm and quiet Do *not* give liquids to an unconscious patient. If breathing fails, give ARTIFICIAL RESPIRATION (for method, see separate article) See also separate article on POISON

POISON [Type of poison is in italic]	SUBSTANCES WHICH MAY CONTAIN THE POISON	SYMPTOMS	TREATMENT
MARIJUANA (cannabis) *Systemic*	Narcotics, cigarettes known as *reefers*	Hallucinations, sense of prolongation of time, ideas disconnected, often exhilaration, sometimes moodiness	Give emetic, with much water, keep patient warm and quiet
MERCURY (compounds) *Corrosive and systemic*	Antiseptics, antisyphilitics, diuretics, calomel	See corrosive sublimate in this table	See corrosive sublimate in this table
METHYL ALCOHOL see wood alcohol in this table			
MORPHINE *Systemic*	Drugs to relieve pain, induce sleep, and quiet muscles	See opium in this table	See opium in this table, see also separate article on MORPHINE
muriatic acid (hydrochloric acid) see acids, mineral, in this table			
MUSHROOMS *Systemic*	See separate article on the MUSHROOM	Abdominal pain, vomiting, diarrhea, cold, moist skin, pallor, often jaundice, convulsions, coma	Give emetic, medicinal charcoal, stimulants, apply external heat, physician may give atropine or potassium permanganate, antidotes for certain mushrooms
nembutal see barbitals and barbiturates in this table			
NICOTINE *Systemic*	Insecticides, chewing and smoking tobacco, snuff	Salivation, abdominal pain, face livid, vomiting, diarrhea, dizziness, weakness, poisoning from smoking is rare and usually not serious	Give medicinal charcoal, emetic, stimulants, keep patient lying down and warm, artificial respiration, if needed
NITRIC ACID see acids, mineral, in this table			
NITROGLYCERIN *Systemic*	Explosives, drugs for heart disease, high blood pressure, asthma, muscle spasms	Headache, cold, moist skin, dizziness, pallor, weak pulse and breathing, coma, sometimes pain in stomach	Give emetic, stimulants, apply external heat, keep patient lying down, artificial respiration, if needed
NUX VOMICA see strychnine in this table			
OPIUM (contains morphine, codeine, and other alkaloids) *Systemic*	Narcotics, drugs to produce sleep, relieve pain, or quiet nerves and muscles, paregoric, heroin, laudanum, cough syrups	Pupils contracted, drowsiness may be followed by coma, slow, shallow breathing, muscular relaxation, insensitivity	Tannic acid (strong tea), potassium permanganate are antidotes, give emetic, black coffee, apply external heat, keep patient awake by shouting, flipping with wet towel, do *not* make patient walk, artificial respiration if breathing fails
OXALIC ACID *Corrosive and systemic*	Bleaches, ink eradicators, metal polishes	Pain in mouth, throat, stomach, vomit, usually bloody, rapid pulse, thirst, faintness, body cold	Do *not* give baking soda, carbonates, or alkalis, give much water, give milk of magnesia or chalk, emetic if effect of dose not too corrosive, give raw eggs and milk, keep patient warm and lying down
PARIS GREEN see arsenic in this table			
PHENACETIN (similar to acetanilid) see acetanilid in this table			
phenobarbital see barbitals and barbiturates in this table			
phenol see carbolic acid in this table			
PHOSPHORUS (white or yellow) *Corrosive and systemic*	Rat poison, match heads (very rare), fireworks	Symptoms may be immediate or delayed or may recur after 1 to 3 days, vomiting, diarrhea, garlic taste, abdominal pain	Antidote is copper sulphate, potassium permanganate, or hydrogen peroxide (2 teaspoonfuls in glass of water), do *not* give fats, oils, or milk, give emetic, saline cathartic, e.g., Epsom salts, egg whites, wash external burns with copper sulphate or baking soda solution and keep wet
pilocarpine see jaborandi in this table			
potassium cyanide see cyanide in this table			
potassium hydroxide see lye in this table			
prussic acid see cyanide in this table			
ptomaine see separate article on FOOD POISONING			
quicklime see lime in this table			
QUININE *Systemic and irritant*	Remedies for malaria, drugs to reduce fever or pain; tonics	Ringing in the ears, headache, disturbed vision, confusion, often abdominal pain, vomiting, diarrhea, delirium, impairment of hearing	Emetic, give lemon juice or dilute vinegar, keep patient warm and quiet
RESORCINOL *Systemic and irritant*	Dyes, antiseptics, ointments and lotions for skin disorders	Irritation of mucous membranes, pain in stomach, dizziness, salivation, perspiration, sometimes convulsions	See carbolic acid in this table
SALICYLIC ACID, salicylates *Systemic and irritant*	Aspirin, drugs to relieve fever and pain, rheumatism, dyes, antiseptics, food preservatives, oil of wintergreen	Headache, dizziness, ringing in the ears, difficulty in seeing and hearing, sweating, thirst, nausea, sometimes vomiting, diarrhea	Emetic, much warm water, keep patient warm and quiet, raw egg whites, milk
SANTONIN *Systemic*	Remedy for roundworm	Objects appear blue, then yellow to patient, headache, confusion, sometimes abdominal pain, diarrhea, convulsions, skin rash	Emetic, much warm water, cathartic, medicinal charcoal, keep patient warm
silver nitrate (lunar caustic) *Corrosive*	Drugs for ulcers, infections, cauterizers, astringents, antiseptics, inks, dyes, photographic materials	Pain in mouth, throat, stomach, lips whitish, then black, face livid, vomiting, weak pulse, sometimes convulsions, coma	Salt water (antidote) emetic, soothing liquids as raw eggs, milk, olive oil, stimulants, external heat
sleeping preparations see barbitals and barbiturates, bromides, chloral, morphine, opium, sulphonal in this table			
snake venom see separate article SNAKE BITE			
sodium fluoride see fluorides in this table			
sodium hydroxide see lye in this table			
STRYCHNINE *Systemic*	Poisons for animal pests, nux vomica, stimulants, tonics	Neck stiff, jaws locked, twitching, spasms, then convulsions	Do *not* give emetic as this may bring on convulsions, give strong tea; medicinal charcoal; little can be done except by physician who may give antidote of potassium permanganate and inject chloral or a barbiturate
sulphonal *Systemic*	Hypnotic drugs (now rare)	Drowsiness, then deep sleep and prolonged coma, chronic poisoning symptoms include confusion, ataxia, gastrointestinal upsets, pink urine	For acute poisoning give emetic, baking soda, stimulant, try to rouse patient, chronic cases to be treated by physician only
SULPHURIC ACID see acids, mineral, in this table			
TARTAR EMETIC see antimony in this table			
TOBACCO see nicotine in this table			
TURPENTINE *Systemic*	Paints, varnishes, counter-irritants, expectorants, insecticides	Pain in stomach, vomiting; diarrhea, colic, excitement, sometimes delirium, blood in urine, ataxia	Give emetic, Epsom salts, much water, soothing drinks, e.g., raw eggs, milk, olive oil; black coffee, keep patient warm and quiet

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POISON [Type of poison is in italic]	SUBSTANCES WHICH MAY CONTAIN THE POISON	SYMPTOMS	TREATMENT
VERATRINE *Systemic and irritant*	Insecticides (sabadilla), counterirritants (rare)	Vomiting, pulse weak, cold, moist skin, sometimes convulsions, paralysis	See aconite in this table
VERDIGRIS (copper acetate, sometimes formed in copper cooking utensils) see copper (salts) in this table			
vitriol, oil of (sulphuric acid) see acids, mineral, in this table			
white lead see lead (compounds) in this table, see also separate article on WHITE LEAD			
wood alcohol (METHYL ALCOHOL) *Systemic*	Paints, varnishes, solvents, formaldehyde, denatured alcohol, antifreeze	Excitement, then dizziness, vomiting, headache, sometimes delirium, blindness, coma	Give much warm water, emetic, apply external heat, strong coffee
ZINC (compounds) *Systemic and irritant*	Ointments, lotions, liniments, deodorants, antiseptics, astringents, disinfectants, dusting powders, wood preservatives	Metallic taste, pain in stomach, salivation, vomiting (sometimes bloody), diarrhea	Give medicinal charcoal, much water, egg whites, bicarbonate of soda

formal charges were made against any of these, and there is absolutely no evidence that they were seriously implicated, yet a permanent stain was left on their names La Voisin was burned as a poisoner and a sorceress in 1680 Indeed, charges of witchcraft and of intercourse with the devil were intermingled with concrete accusations As a result of the La Voisin trial a special court, the *chambre ardente* [burning court], was instituted to judge cases of poisoning and witchcraft, and the poison epidemic came to an end in France The Poison Affair was symptomatic of the witchcraft trials of the period throughout Europe and in New England, however, the judicial investigation was conducted generally with far more regularity and far less hysteria than elsewhere.

poison gas, name for various substances employed chiefly in warfare because of their poisonous or corrosive nature Some are gases at ordinary room temperature (e g , chlorine and phosgene), but more commonly the substances are used as liquids or solids that vaporize CHLORINE was first used by the Germans in the First World War The first gas attacks were successful because of the unpreparedness of the Allies However, the difficulties met with in directing such a gas as chlorine against the enemy—changing winds often drove it back upon those using it—and the rapid development of the gas mask led to the use of other poisonous substances which could be handled more effectively and resisted less easily Phosgene, a compound of carbon, oxygen, and chlorine which is easily liquefied, was used in shells in addition to the usual "cloud attack " Like chlorine it affects the lung tissue Two very poisonous, volatile liquids, MUSTARD GAS and lewisite, attack the skin Lewisite is a complex compound of carbon, hydrogen, chlorine, and arsenic which causes severe burns, absorption of the arsenic by the body may prove fatal Chlorpicrin, or chloropicrin, is a volatile, liquid compound of carbon, chlorine, nitrogen, and oxygen which causes vomiting It also irritates the eyes and seriously injures the lungs Certain other gases primarily affect the eyes and are classed as TEAR GAS Others cause violent sneezing and choking See also CHEMICAL WARFARE

poison ivy, native woody vine or trailing or erect shrub closely related to the poison sumac and Japanese lacquer tree The vine clings by means of many short roots Small flowers in greenish clusters are followed by berrylike fruits similar to those of mistletoe and often persisting through winter. The leaves are composed of three leaflets, the margins varying in different localities from entire to deeply lobed—each type sometimes considered a different species (the common one, *Toxicodendron radicans* or *Rhus toxicodendron,* is nearly entire). Plants having wavy-margined leaves, particularly the bushy kind, are often called poison oak—a name generally used for Western and Southern kinds. The poisonous principle, toxicodendrol, is present in practically all parts of the plant, the irritation, usually an itching sensation, redness, and blistering, may be started by direct contact or by indirect contact as from clothing, tools, or animals that have touched the plant or smoke from burning plants. Immunity is apparently not constant for any one individual. Preventive measures after exposure include immediate repeated gentle washings using several washcloths and an alkaline, nonoily soap Some relief may be obtained by applying a strong solution of cooking soda, but it is best to consult a physician. See *Poison Ivy and Poison Sumac and Their Eradication* (U.S. Dept. of Agriculture, Farmers' Bul. 1166).

poison oak: see POISON IVY.

poisonous plant, any plant possessing a property injurious to man or animal Plants may be poisonous to the touch (e.g , poison ivy, poison sumac), orally poisonous (e g , poison hemlock, deadly amanita), or mechanically poisonous (chiefly to grazing animals, e g., cocklebur, needle grass). Many poisonous plants are of great value medicinally, e g , digitalis, belladonna, and aconite A number of plants are poisonous in part and harmless otherwise (the leaf blades, not the stalks, of rhubarb are poisonous) or poisonous at one season and not at another (the very young poke shoot is sometimes cultivated as a green vegetable but the older plant is poisonous) Some plants contain properties which are poisonous only under certain conditions, such as those causing photosensitivity. White animals which feed on these plants (St - John's-wort and others) and are subsequently exposed to sunlight develop a serious skin disorder called photosensitization A poisonous property (selenium) of some soils, particularly in parts of the West, is absorbed by some of the growing plants, not always in themselves poisonous, and transmitted to animals and sometimes to man Since this poison is returned to the soil by the death of the plants and animals which have absorbed it, is again available to other plants and may even be absorbed by crop plants Locoweed is an example of a selenium-poisoned plant Poisoning has been said to occur indirectly from certain plants from which toxic honey has been produced Many of our ornamental plants are poisonous—larkspur, oleander, English ivy, and lily of the valley Poisoning by ingestion of plants in the case of human beings is usually a matter of mistaken identity, particularly with the mushrooms Poisonous plants are seldom eaten by animals unless the pasture is overgrazed Poisonous principles may be found throughout the plant kingdom from bacteria and fungi to ferns and flowering plants See W C Muenscher, *Poisonous Plants of the United States* (1939)

Poisson, Siméon Denis (sēmāō' dunŏ' pwäsôN'), 1781–1840, French mathematician and physicist. From 1802 he taught at the École polytechnique, Paris, and was also on the faculty of sciences at the Univ of Paris from 1809. Although he did important work in many fields, notably in definite integrals, his chief interest lay in the application of mathematics to physics, especially in electrostatics and magnetism He wrote more than 300 papers on mathematics, physics, and astronomy, and his *Traité de mécanique* (1811) was long a standard work

Poissy, Colloquy of (pwäsē'), 1561, conference of Roman Catholic prelates and Protestant ministers, initiated by Catherine de' Medici and Michel de L'Hôpital in the hope of bringing about a peaceful reunion of the two communions As a result of the opposition of both parties to compromise on essential points, the conference was unsuccessful Those present included Theodore Beza, Pietro Martire Vermigli, and Charles de Guise, Cardinal de Lorraine

Poitiers, Diane de: see DIANE DE POITIERS

Poitiers (poitĕrs', Fr. pwätyā), city (pop 41,279), capital of Vienne dept , W central France, and the ancient capital of Poitou Dating from pre-Roman times, Poitiers early became an episcopal see and was a stronghold of orthodoxy when St HILARY OF POITIERS (4th cent) was bishop here It was a residence of the Visigothic kings until its capture (507) by the Franks under Clovis I In 732 Charles Martel turned the Moslem tide by defeating the Saracens between Poitiers and Tours Sharing the history of POITOU, Poitiers was twice under English domination (1152 1204, 1360–69). Here in 1356 EDWARD THE BLACK PRINCE defeated and captured John II of France and his son, Philip the Bold of Burgundy Charles VII, who in 1428 had summoned to Poitiers the ecclesiastic commission which examined Joan of Arc, founded a university at Poitiers in 1432 In the Wars of Religion the city was unsuccessfully besieged (1568) by the Huguenots under Coligny, the Peace of Bergerac (1577) is also known as the Edict of Poitiers (see RELIGION, WARS OF). Architecturally, Poitiers is one of the most interesting cities of Europe. Its Roman amphitheater and baths, the baptistery of St. John (4th–12th cent), the churches of Ste Radegonde (9th–12th cent), St Hilary (11th cent., restored 19th cent), St Porchaire (12th cent.), and Notre-Dame-la-Grande (11th-12th cent.), the Cathedral of St Pierre (12th–14th cent), the courthouse (12th–15th cent , formerly a royal residence), and its numerous late medieval and Renaissance residences are all magnificent examples of 15 centuries of civilization Some damage was inflicted on the city in the Second World War

Poitou (poitōō', Fr. pwätōō'), region and former province, W France, stretching from the Atlantic coast eastward slightly beyond the Vienne river. It is now divided into three administrative departments, Vendée in the west, Deux-Sèvres in the center, and Vienne in the east The Vendée region, or Lower Poitou, extends beyond the departmental boundary of Vendée, it is mostly a pastoral hedgerow country (the *bocages*), with swamps in the west and the south, but a narrow strip, the Vendean plain, is an intensive wheat-growing region Upper Poitou is a rich agricultural region The chief Poitevin cities are POITIERS (the historic capital of Poitou), Châtellerault, and Niort The towns of Vendée—La Roche-sur-Yon, Les Sables-d'Olonne, and Luçon—are less important A part of the Roman province of Aquitaine, Poitou fell to the Visigoths (5th cent.) and to the Franks (507) The counts of Poitiers, who originated in the 9th cent., assumed the title duke of AQUITAINE in the 9th cent With Aquitaine, Poitou passed (1152) to England, but it was recovered by Philip II of France Louis IX gave (1241) Poitou in appanage to his brother ALPHONSE, upon whose death (1271) it reverted to the crown Although Henry III of England had renounced his claim to Poitou in 1259, it was conquered by Edward the Black Prince (1356) and ceded to England by the Treaty of BRÉTIGNY (1360) Du Guesclin won it back to France c 1370, and at the end of the Hundred Years War, Charles VII definitively incorporated it in the French crown lands

Pokanoket Indians: see WAMPANOAG INDIANS

poker, card game, believed to have been first played in the United States on the Mississippi river steamboats A traditional cutthroat gambling game in the 19th-century America, poker gained wide popularity as a social game in the 20th cent and now is internationally known. The two basic forms are draw poker and stud poker, in both of which a deck of 52 cards is used and sometimes a joker is added Five players are said to make the best game, although from 2 to 14 are able to play at once All suits are equal and the cards rank from ace as high down through the 2, or deuce—which often upon unanimous agreement is designated "wild," to count optionally for any other card In both draw and stud poker the player who holds the best combinations of cards of the game in his hands wins Combinations rank as follows, four aces, royal flush (10 upward through ace in one suit), straight flush (a five-card sequence in one suit), four of a kind (except aces), full house (three of a kind plus a pair), flush (five of one suit), straight (five-card sequence regardless of suit), three of a kind, two pairs, one pair, and, in case no player holds a combination, the highest card dealt ranks first. In draw poker five cards are dealt singly, face down and in rotation, to each player—who pays an ante before play begins Starting at the dealer's left the players each put up an "opener," or a small wager Each player equals the amount of the first opener unless he wishes to drop out of the game. The opener may be raised. In jack pots, perhaps the commonest variety of draw poker, the opening player must have at least a pair of jacks to open When the game is opened, each player may, regardless of his cards, stay in by checking or following an opening bet. A player may "stand pat" (hold his five original cards), but generally he "draws" from one to four cards (i e , discards from his hand and has new cards dealt to him). The betting begins with the player to the left of the dealer. He makes a bet or drops out. Proceeding in clockwise fashion,

each player must meet the bet to stay in the game; he may raise the bet A player wins if his bet is not met, in which case he does not show his hand, he also wins if, when the bet is called (i e , just matched), he shows the best hand In stud poker, sometimes called open poker, each player is dealt one card face down and one card face up Each player looks at the card he has "in the hole," but lets it remain face down The player with the highest card showing may open the betting or may drop out and in some games is required to open When the bet is made, the other players in turn meet this bet, raise it, or drop out Another card is then dealt to each of those still playing, and again the one holding the highest ranking open cards and combinations bets first Thus goes on until each player has four cards showing and one still face down When the final betting on these hands is finished, the face-down card is exposed, and the best hand wins The many variations of poker include high-low poker, seven-card stud poker, and "spit in the ocean " See R L Frey, ed , *The New Complete Hoyle* (1947), Oswald Jacoby, *On Poker* (rev ed , 1948)

pokeweed, tall, bushy perennial herb (*Phytolacca americana*) native to North America but cultivated and naturalized in Europe It has small white flowers in elongated clusters, followed by dark purple flattened berries A crimson juice, present in the berries, was once used in Europe for coloring wines, although considered poisonous Youngshoots of the plant are sometimes eaten like asparagus, but the roots are poisonous—used medicinally as an emetic and purgative It is also called poke, inkberry, and garget

Pokrovsk, RSFSR see ENGELS

Pola (pō'lä), Serbo-Croatian *Pula* (pōō'lä), city (pop 22,714), Croatia, Yugoslavia, an Adriatic seaport near the southern tip of Istria Pola stands near the site of the Roman city Pollentia Herculeana, later known as Pietas Julia It was a Venetian possession from 1148 until the Treaty of Campo Formio (1797), when it passed to Austria From 1806 to 1814 Pola was annexed to Italy by Napoleon I, but the Congress of Vienna restored it (1815) to Austria Under Austrian rule Pola became the chief naval base of the Hapsburg empire The Treaty of Saint-Germain (1919) gave it to Italy, and the Treaty of Paris of 1947 gave it to Yugoslavia Pola has many important and well-preserved ruins of the Roman period, notably a large amphitheater, the Porta Aurea (a triumphal arch of the 1st cent B C), and the temple of Augustus and Roma (1st cent A D)

Poland, Pol *Rzeczpospolita Polska* (zhĕch'pôspôlē'tä pôl'ska), republic (120,359 sq mi , pop 23,929,757, including the former German territories placed under Polish administration in 1945), E central Europe Warsaw is the capital Bounded by Germany in the west, the Baltic Sea in the north, the USSR in the east, and Czechoslovakia in the south, Poland is largely a lowland, gradually rising from the Baltic to the CARPATHIANS, on its southern border The highest point, the Rysy (8,210 ft) is in the TATRA MTS The main rivers (including the VISTULA, the WARTA, and the Western BUG) flow N into the Baltic and are important traffic lanes More than half of the land is arable, and there are extensive forests Natural resources include the large coal mines of SILESIA, oil in the Rzeszow area, salts at Wieliczka, and iron, zinc, lead, copper, tin, manganese, and uranium ores Industries center especially around KATOWICE in Silesia, around Sandomierz in central Poland, and around BRESLAU (Pol *Wroclaw*) in formerly German Silesia Other important or historic cities include LODZ, CRACOW, POZNAN, Lublin, Czestochowa, Kielce, Bydgoszcz, Chorzow, Gdynia, and Danzig (Pol *Gdańsk*) All Poland, including the administered territories, is divided into 16 administrative provinces As a result of the Second World War, of the 1945 boundary treaty with the USSR, and of the expulsion since 1945 of the German population from the administered territories, the population of Poland now possesses an ethnic and religious homogeneity that it lacked in the past Nearly the entire population is Polish-speaking and the vast majority of those affiliated with any creed are Roman Catholics Poland has 11 universities, notably those of Warsaw, Lodz, Poznan, Breslau, Cracow, Torun, and Lublin

Beginnings through the Age of Greatness Authentic Polish history began in the early 9th cent when the Polians [dwellers in the field] obtained hegemony over the other Slavic tribes that occupied the country Their principal dynasty (see PIAST) accepted Christianity in 966 Poznan was the earliest Polish capital and GNIEZNO the first episcopal see The Piasts expanded their domains in wars against the German emperors, Hungary, Bohemia, POMERANIA, Denmark, and Kiev, and in 1025 BOLESLAUS I took the title king At the death (1138) of BOLESLAUS III the kingdom broke up, it was restored with the coronation (1320) of LADISLAUS I During that period the TEUTONIC KNIGHTS gained a foothold in the then-pagan territory of N Poland Their power, though challenged in many wars, was broken by their defeat (1410) at TANNENBERG and by the subsequent two treaties of TORUN (1411, 1466), which made them vassals of the Polish kings. The main line of the Piast dynasty ended (1370) with CASIMIR III, and the crown passed successively to Casimir's nephew, LOUIS I of Hungary, and to Louis's daughter, JADWIGA Jadwiga married Ladislaus Jagiello, duke of Lithuania, who became king of Poland as LADISLAUS II The JAGIELLO dynasty ruled Poland and LITHUANIA from 1386 to 1572, a period generally considered the golden age of Poland Though drawn into incessant wars with Hungary, Moscow, Moldavia, the Tatars, and the Turks, the closely allied Polish and Lithuanian states successfully maintained an empire that reached from the Baltic to the Black Sea King LADISLAUS III (after 1440 also king of Hungary), though routed and killed by the Turks in the battle of Varna (1444), gave Poland the prestige of championing the Christian cause against the Moslem tide In 1569 Poland absorbed Lithuania by the Union of Lublin The arts and sciences flourished under Jagiello rule and culminated in the figure of Copernicus At the same time, however, the seeds of decay were sown, and the extinction of the Jagiello dynasty brought them to fruit By the 15th cent the gentry, or petty nobles, began to acquire great political influence, in 1505 they forced King Alexander to recognize the legislative power of the diet The diet comprised a senate and the Sejm, which consisted of the deputies of the gentry. The *liberum veto*, which allowed any deputy to dissolve the diet and even to annul its previous decisions, was applied with growing recklessness in the 17th and 18th cent The Polish kings had always been elective in theory, in practice the choice usually fell on the incumbent representative of the ruling dynasty After 1572, however, no dynasty maintained itself for long, and the theory that the entire nobility could take part in the royal elections, now applied in practice, frequently led to contested elections and civil wars Though it weakened the state, the constitution of the royal republic created a certain democratic equalitarianism among the upper classes The peasantry, however, had been reduced to serfdom, and its condition tended to worsen rather than improve There was considerable religious toleration in 16th-century Poland, and the progress of Protestantism was arrested without coercion by the Jesuits, who introduced the Catholic Reform in 1565 Relations between the Roman Catholic ruling class and the followers of the Greek Orthodox Church in Belorussia and the Ukraine (then parts of Lithuania) were less happy and helped to involve Poland in frequent wars with Russia Much of the reigns of STEPHEN BATHORY (1575–86) and of SIGISMUND III (1587–1632) were taken up with schemes to conquer Russia Like most of their successors, these two rulers were foreign princes, for the rivalry among the great Polish families prevented the establishment of a native dynasty The great figure of their reigns was the chancellor Jan ZAMOJSKI Sigismund III, a prince of the Swedish ruling house of Vasa, also became king of Sweden, after his deposition (1599) by his Swedish subjects he continued to push his claims, thus starting a long series of Polish-Swedish wars He was succeeded by his sons LADISLAUS IV (1632–48) and JOHN II (1648–68) John's reign came to be known in Polish history as the Deluge Discontent in the Ukraine flared up in the rebellion of the Cossacks under Bohdan CHMIELNICKI In 1655 CHARLES X of Sweden overran the country, while Tsar ALEXIS of Russia attacked from his side Only the miracle of CZESTOCHOWA saved Poland from annihilation The Peace of OLIVA (1660) cost Poland considerable territory, and by the Treaty of ANDRUSOV (1667) the E Ukraine passed to Russia With John II the Vasa dynasty ended JOHN III (John Sobieski), the savior of Vienna, temporarily restored Polish greatness, but with his death Poland virtually ceased to be an independent country

Division and Regeneration The fate of the nation was determined with increasing cynicism by its three powerful neighbors—Russia, Prussia, and Austria In 1697 the elector of Saxony was chosen king as AUGUSTUS II by a minority faction who were supported by Tsar Peter I Augustus allied himself against Charles XII of Sweden with Russia and Denmark In the ensuing NORTHERN WAR (1700–1721) he was forced (1700) to renounce the Polish crown in favor of STANISLAUS I (Stanislas Leszczynski), but in 1716 he returned to power The War of the POLISH SUCCESSION (1733–35), precipitated by Augustus II's death, resulted in the final abdication of Stanislaus I and the accession of AUGUSTUS III Though Augustus took part in the War of the Austrian Succession and the Seven Years War in his capacity as elector of Saxony, Poland itself remained neutral in these conflicts Poland had reached such a point of political decay that it seemed ready to fall into any conqueror's lap French influence was completely eliminated in the election of 1764, which placed STANISLAUS II (Stanislaus Poniatowski), a member of the powerful CZARTORYSKI family, on the Polish throne with the support of Catherine II of Russia and Frederick II of Prussia. Opposition to increasing Russian domination resulted in the formation (1768) of the Confederation of BAR, which was defeated by Russia despite Turkish help Fearing that all Poland might fall into Russian hands, Frederick II proposed a partition plan to Catherine II and to Maria Theresa of Austria Three successive partitions (1772, 1793, 1795, see POLAND, PARTITIONS OF) resulted in the disappearance of Poland from the European map In those years of national degradation, however, a new spirit began to make itself felt. It manifested itself in a thorough, though belated, constitutional reform (1791) for the then-still-independent part of Poland, and above all, in the heroic revolt (1794) led by KOSCIUSKO In 1807, by the Treaty of Tilsit, Napoleon I created a Polish buffer state, the grand duchy of Warsaw, under King Frederick Augustus I of Saxony Napoleon's defeat was fatal to Polish independence The Congress of Vienna (1814–15) set up a nominally independent kingdom, in personal union with Russia under the tsar The western provinces were awarded to Prussia, GALICIA was given to Austria, and Cracow was made a separate republic The Polish nationalist revival led in 1830 to a general insurrection in Russian Poland At first successful, the Polish army was defeated (1831) at Ostroleka, and the Russians reentered Warsaw The Polish constitution was suspended, and the kingdom became virtually an integral part of Russia Thousands of Poles emigrated abroad, notably to Paris, which became the center of Polish revolutionary activities An anti-Austrian insurrection (1846) in Galicia led to the Austrian annexation of Cracow New rebellions broke out in 1848 in Prussian and Austrian Poland, and in 1863 the Russians, after crushing a Polish revolt, inaugurated an intense program of Russification A similar policy of Germanization in Prussian Poland was linked with Bismarck's Kulturkampf (see LEDOCHOWSKI, COUNT MIECZISLAW) Only in Galicia could the Poles enjoy a considerable degree of autonomy

The Restoration The First World War (1914–18) gave Poland an opportunity to recover its independence The early efforts of the nationalists were directed against Russia Polish legions, led by PILSUDSKI, fought for two years alongside Germany and Austria Late in 1916 Germany and Austria proclaimed Poland an independent kingdom, but when Germany, which occupied the country, retained control over the government, Pilsudski resigned and was imprisoned The independence movement from then on was centered at Paris The armistice of Nov 11, 1918, made Poland an independent state The Treaty of Versailles (1919) gave Poland access to the Baltic Sea through the POLISH CORRIDOR and forced Germany to restore Prussian Poland DANZIG became a free city and parts of Silesia were awarded to Poland after plebiscites were held The Polish-Russian border proposed at the Paris Peace Conference (and later named after Lord Curzon) would have awarded to Russia large parts of the former eastern provinces of Poland, inhabited largely by Belorussians and Ukrainians However, Poland insisted on its 1772 borders, and war with Russia resulted (1920) In the Treaty of Riga (1921) Poland secured most of its claims Poland also entered on protracted disputes over VILNA with Lithuania and over TESCHEN with Czechoslovakia The fact that a third of the population of the reborn state was made up of Germans, Ukrainians, Belorussians, Jews, and Lithuanians—and the generally inequitable treatment given to these minorities—eventually contributed to a new catastrophe A republican constitution was adopted in 1921 Financial and agrarian reforms were undertaken and industrialization progressed, but the condition of the peasantry remained generally wretched while the land-owning aristocracy retained most of its wealth In 1926 democratic government was suspended by a military coup d'état that made Pilsudski virtual dictator After his death (1935) RYDZ-SMIGLY took over control Parliamentary forms were retained under a new constitution (1935), but parliament was reduced to a mere tool of the governing clique, called the colonels Foreign policy, at first based on alliances with France and Rumania, swung toward the AXIS Powers under the guidance of Col Josef Beck However, when in 1939 Chancellor Hitler of Germany demanded the return of Danzig, Poland, having previously secured guarantees against aggression from England and France, rejected the demand Negotiations of England and France with the USSR for a military agreement fell through, and Germany and the USSR arrived at a nonaggression pact in Aug , 1939 On Sept 1, 1939, Germany, refusing further negotiations with Poland and its allies, invaded Poland and thus precipitated the Second World War German columns advanced with spectacular speed On Sept 17 Soviet troops invaded Poland from the east Polish resistance was crushed within six weeks, and Poland was partitioned between Germany and the USSR A central section, called Government General, was annexed by neither power but was placed under German rule After the German attack (1941) on Russia all Poland passed under German occupation.

Through the Holocaust. The condition of Poland in the war years can be described as an inferno The German authorities proceeded methodically to exterminate a large part of the population by massacres and starvation and in extermination camps such as OSWIECIM and to reduce the rest to servitude The worst fate was reserved for the Jews, who numbered 3,113,900 before the war Jewish immigration into Poland—mostly from central Europe—had begun as early as the 9th cent Protected to some extent by the kings in the Middle Ages, the Polish Jews—mostly small tradespeople—later had to suffer many persecutions, first at the hands of the Cossacks and later of the Poles themselves The majority lived apart in ghettos, clung to rigid orthodoxy, and spoke Yiddish, a dialect based on German, rather than Polish Some discriminatory laws were passed against them in the pre-war regime The Germans, hunting them down like animals, exterminated all but some 100,000 Jews Of these, many sought to emigrate after the war because of local outbreaks of Polish anti-Semitism Despite German oppression, many Poles succeeded in organizing an underground resistance movement that gathered power as Germany suffered military reverses A Polish government in exile was established first in France, then in London Polish prisoners of war in the USSR were allowed to form a corps under Gen Wladyslaw Anders and fought with distinction with the Allies, particularly in Italy, other Polish units were organized in Great Britain and Canada The German announcement (1943) that a mass grave of some 10,000 Polish officers, allegedly executed by the Russians, had been discovered in the KATYN forest led to a break between the Polish government in exile and the Soviet Union The rift widened because of Russian demands for the "Curzon line" as the new Polish-Russian frontier When Russian troops entered Poland, a provisional Polish government was set up under Soviet auspices at LUBLIN In the summer of 1944 a Polish uprising at WARSAW failed The last German troops were expelled from Poland early in 1945 By an agreement at the YALTA CONFERENCE the government in exile was merged into a new united government by having MIKOLAJCZYK join the Lublin government, the new government was subsequently recognized by England and the United States The Polish-Soviet border was fixed by treaty slightly E of the "Curzon line," and 15 percent of German reparations payments to the USSR were allotted to Poland At the POTSDAM CONFERENCE (1945) the sections of Prussia E of the Oder and Neisse rivers, including Danzig and the southern part of EAST PRUSSIA (altogether c 39,000 sq mi), were placed under Polish administration, pending a general peace treaty with Germany, the expulsion of the German population from these territories was sanctioned Repatriation of some 3,000,000 Poles—displaced persons in Germany as well as former servicemen—created a difficult international problem, especially as many refused to return to their Communist-dominated homeland A unicameral parliament was established (1946) after popular referendum All large estates were broken up, and industries were partially nationalized Legal opposition was limited almost entirely to Mikolajczyk's Peasant party, but nationalists, rightists, and some other opponents operated as "underground forces " The government-controlled elections of 1947 gave the government bloc a huge majority, Mikolajczyk resigned and fled abroad The underground after lengthy fighting was dissolved when the government proclaimed a political amnesty The Communists and left-wing Socialists held sole power, and Poland became a "people's democracy" on the Soviet model Regardless of political differences, the Poles set about with astounding energy to rebuild their devastated country UNRRA help was of immense assistance in the first stage of reconstruction Polish foreign policy, paralleling domestic developments, soon became identical with that of the USSR, and relations with the United States were tense Though the government did not attempt a direct attack on the deep-rooted Catholicism of the Poles, it sought to gain control over the clergy Relations with the Vatican were severed in 1945, and the Vatican appointments of bishops for vacant sees were not recognized See R L Buell, *Poland Key to Europe* (1939), Oscar Halecki, *A History of Poland* (1943), B E Schmidt, *Poland* (1945), Zygmunt Wojciechowski, *Poland's Place in Europe* (1947)

Poland. 1 Town (pop 1,441), SW Maine, 10 mi W of Auburn, settled c 1768, inc 1795 It includes the resort Poland Spring, long known for its mineral water The Mansion House, Poland's first inn, dates from 1797. The Maine building of the Chicago world's fair (1893) was rebuilt here **2** Village (pop 1,240), NE Ohio, near the Pa line S of Youngstown, settled 1799

Poland, Partitions of. The basic causes leading to the three successive partitions (1772, 1793, 1795) that eliminated Poland from the map were the decay and the internal disunity of Poland and the emergence of its neighbors, Russia and Prussia, as leading European powers. The first partition was proposed when Frederick II of Prussia feared that Empress Catherine II was about to attach all Poland to the Russian Empire Maria Theresa of Austria, though opposing the scheme both on moral and political grounds, reluctantly partook in the spoils, which otherwise would have fallen entirely to Russia and Prussia King STANISLAUS II of Poland was unable to resist his three neighbors The partition of 1772 gave West Prussia to Prussia, Latgale and Belorussia E of the Dvina and Dnieper rivers to Russia, and Galicia to Austria When in 1791 the remainder of Poland showed signs of regeneration, particularly in the adoption of a new constitution, a Russian army invaded Poland (1792) Prussia invaded the country in turn, and in 1793 a second partition—this time without Austrian participation—was arrived at Only the central section of Poland was left independent, and that under Russian control The national uprising under KOSCIUSKO (1794) led to the final partition of 1795, in which all Poland was divided among Russia, Prussia, and Austria Russia, which also formally annexed COURLAND, got the major share of territory, but the capital, Warsaw, went to Prussia At the Congress of Vienna (1814–15) Poland remained partitioned, although the boundaries were radically changed in favor of Russia (For the provisions made at Vienna and for the Polish partition of 1939, see POLAND)

polar bear see BEAR

polar exploration see ARCTIC REGIONS and ANTARCTICA

polar front, in METEOROLOGY, the surface of separation between the cold polar easterly winds of the north and the warmer prevailing westerlies of lower latitudes Its position varies from about lat 60° N in summer to about lat 30° N in winter In addition to this seasonal migration, the position of the polar front varies day by day according to the relative activity of the opposing air masses on either side of it The extratropical CYCLONE (the common storm of the temperate latitudes) has its origin as a "wave" in the polar front

polarimeter: see POLARIZATION OF LIGHT

Polaris see POLESTAR

polariscope see POLARIZATION OF LIGHT

polarization of light When a ray of light enters a flat piece of ordinary glass with parallel sides, at an angle not too small, it undergoes REFRACTION away somewhat from the direction in which it was originally traveling, and it is bent again on leaving the glass at the other surface in such a way that its new path is parallel to its original one When, however, the ray enters the glass at right angles to its surface, it is not bent, but passes directly through the glass and remains unbent when it emerges Crystals of certain substances, such as calcite, or Iceland spar, possess the peculiar property of being able to separate an entering ray of light into two separate parts, permitting one part to pass directly through the crystal with ordinary refraction but bending the other part still farther away from the line (the line of propagation) along which the ray was originally traveling This phenomenon is known as double refraction That part of the original ray which undergoes ordinary refraction is called the ordinary ray, and the other part is called the extraordinary ray Each of the two parts which emerges is said to be polarized The explanation of this condition is based upon the assumption that light waves exhibit transverse VIBRATION, i e , vibrate at right angles to the direction in which they are traveling, and that a single ray of light consists of vibrations in all planes at right angles to this line of propagation Polarized light (i e , either of the two parts of the ray after emergence from the calcite) vibrates only in one plane This one-plane vibration, if it could be observed, would cause a ray of polarized light to appear different when viewed from the side rather than from above or below Polarized light is described, therefore, as two-sided, i e , as having (unlike ordinary light) a different appearance from different sides As an analogy, a string vibrating transversely would appear different when viewed from the side and when viewed from above or below The calcite crystal in acting as a polarizer splits the original ray into two distinct parts, each composed of vibrations in one plane and with the planes at right angles When a single ray of light polarized in one plane is desired, a specially prepared prism, called the NICOL PRISM, is employed A similar ray of light can be produced also by using a tourmaline crystal, which permits one ray to pass through but absorbs the ordinary ray Such a crystal will permit light to pass through it only if the vibration is in a certain plane, and it blocks the passage of light vibrating in other planes This is shown when light that has been passed through one crystal (and is, therefore, plane polarized) is directed to a second crystal which is arranged with its AXIS of crystallization at right angles to that of the first crystal The light is blocked because the position of the second crystal is such that its plane is opposed to that of the polarized light As the crystal is turned or rotated, however, light begins to pass through until finally, when its axis of crystallization is parallel to that of the first crystal, the light is unobstructed A number of substances can polarize light in other ways than in one plane, causing, for example, circular polarization or elliptical polarization Organic substances which affect polarized light when it is passed through their solution are called optically active In the case of certain acids and other solutions, the plane of polarized light is turned or rotated either to the right or left Their activity is usually indicated by the addition to their name of the prefix "dextro-" if the rotation is to the right or by "levo-" or "laevo-" if the rotation is to the left The instrument used to determine in which direction the rotation occurs is called a polariscope A very simple form consists essentially of two crystals of some polarizing substance such as tourmaline, between which is placed the solution to be tested Light is directed through the first crystal or polarizer and is plane polarized It passes on through the solution and its plane is turned or rotated, the direction and the degree of this rotation are indicated by the position in which the second crystal must be placed to permit passage of the light that has gone through the solution The polarimeter is a polariscope that measures the amount of rotation and when used for sugar solutions is commonly called a saccharimeter Many new and practical uses for polarized light are being discovered constantly in addition to those that have already made its discovery important to the scientist Its use is suggested, for example, to eliminate the glare of automobile headlights, to add the dimension of depth to moving pictures, and to filter sunlight for eye comfort

polar regions see ARCTIC REGIONS and ANTARCTICA

Polasek, Albin (pôl'shĕk), 1879–, American sculptor, b Czechoslovakia He came to the United States in 1901 From 1910 to 1913 he held the fellowship in the American Academy in Rome In 1916 he became head of the department of sculpture at the Art Institute of Chicago His work is to be seen in museums throughout the country—*Fantasy* and a bust of J Pierpont Morgan (Metropolitan Mus), bust of Francis D Millet (Pa Acad of the Fine Arts), *The Sower* and several fine busts (Art Inst , Chicago), *Aspiration* (Detroit Inst of Arts) Among his memorials are those to Gov Richard Yates, Springfield, Ill , Theodore Thomas, Chicago, and Woodrow Wilson, Prague Czechoslovakia Busts of F D Millet, Charles Grafly, Elihu Vedder, and C W Hawthorne are in the Hall of American Artists, New York Univ

Pol de Mont see MONT, POL DE

Poldhu (pôldū', pôl'dū), village, Cornwall, England on the coast NW of Lizard Point Marconi's first transatlantic transmission of radio signals from his station here to Newfoundland (1901) is commemorated by a monument

Pole (pōl), English noble family The first member of importance was **William de la Pole,** d 1366, first mayor of Hull and baron of the exchequer He lent money to the government His eldest son, **Michael de la Pole,** 1st **earl of Suffolk,** d 1389, fought in France in the Hundred Years War under Edward the Black Prince He became the trusted adviser of Richard II, who made him (1383) chancellor His enemies forced his dismissal and imprisonment, but he escaped and died in Paris His grandson, **William de la Pole,** 4th **earl and** 1st **duke of Suffolk,** 1396–1450, took an active part in the Hundred Years War and for a time held the chief command He arranged the marriage of Margaret of Anjou to Henry VI and under that king rose to great power in England His persistent efforts to gain peace with France enabled his enemies to accuse him of treason, especially after disastrous losses in Normandy His long and distinguished record, his eloquent appeal to Parliament, even the favor of the king could not save him When setting out for a five-year exile he was abducted from his ship and beheaded in a boat off Dover His letter of farewell to his little son is included in the Paston Letters. His wife was the granddaughter of Geoffrey Chaucer His son, **John de la Pole,** 2d **duke of Suffolk,** 1442 91, married Elizabeth, sister of Edward IV, and held offices under Edward IV He later supported Richard III, yet was favored by Henry VII Of his sons, the eldest, **John de la Pole, earl of Lincoln,** c 1464–1487, had a claim to the throne based on the declaration by Richard III He joined the revolt against Henry VII in favor of Lambert Simnel and was killed at the head of an army invading England The second son, **Edmund de la Pole, earl of Suffolk,** c 1472–1513, agreed with Henry VII to forego the ducal title in return for property which had been forfeited Later he declared his ambition for the throne and tried to get help on the Continent He was eventually delivered as a prisoner to Henry VII, was imprisoned for years, and finally executed by Henry VIII The fifth son, **Richard de la Pole,** d 1525, pretended to the throne He lived abroad after 1501 and died fighting at Pavia for Francis I He was the last of his line

Pole, Reginald, 1500–1558, English churchman, archbishop of Canterbury (1556–58), cardinal of the Roman Church He was a cousin of the Tudors, being the son of Sir Richard Pole and Margaret,

countess of Salisbury, daughter of George, duke of Clarence, brother of Kings Edward IV and Richard III. He studied at Magdalen College (Oxford), at Padua, and at Paris He did not take orders until late in life, but he was devout from the first, and he was in great difficulties when Henry VIII, his benefactor, broke with the pope He was glad in 1536 to accept Paul III's invitation to sit on the commission to reform the pontifical administration He was created cardinal the same year, though still a layman In 1538 he was active in trying to organize a league against Henry, who now was setting out to destroy the Pole family, but, unsuccessful, Cardinal Pole returned to Rome and received the legatine governorship of Viterbo He was one of the legates appointed to open the Council of Trent (1545) In 1553, on Edward VI's death, Julius III made him legate to England, and he and Mary set about restoring the Roman Catholic Church Unfortunately he fell afoul of Philip II first and of Pope PAUL IV later, and his difficulties were vastly multiplied He was always a mild man and would have nothing to do with the burning of heretics In 1556 he was consecrated archbishop of Canterbury. He worked indefatigably to reestablish the ecclesiastical authority He died the same day as Mary and is buried in St. Thomas's Chapel, Canterbury

Pole, Richard de la: see POLE, family.

Pole, William de la. see POLE, family

polecat (pōl'kăt'), mammal native to Europe and Asia, allied to the ferret, weasel, and marten The brown fur of the European polecat is sold under the name of fitch The scent gland under the tail emits a fetid-smelling secretion and is most active when the animal is alarmed The polecat is extremely destructive to poultry and small game Its nearest allies are the Old World ferret—presumably a domesticated polecat—and the black-footed ferret of North America The name polecat is incorrectly applied to the skunk

poles, magnetic. see MAGNETIC POLES and MAGNETISM

polestar, the conspicuous star nearest to the north celestial pole The star holding that position at present is Polaris, or Alpha of the constellation Ursa Minor, the star at the end of the tail of the Little Bear (another variant name is Little Dipper) It is easily located by following the line connecting Beta and Alpha of Ursa Major, known as the Pointers in the Big Dipper, to a position about five times the distance between Beta and Alpha The distance of Polaris from the true pole is now about 1° 9', and in less than 200 years the distance will have diminished to about ½° The star is estimated to be about 25,000,000 times as far from our solar system as the sun is from the earth Measurements show its light power to be about 47 times as great as the sun's About 2300 B C , Alpha Draconis was the nearest prominent star to the celestial pole, and in about 12,000 years Vega will hold that position The polestar, also called the North Star, is of very great service in navigation and furnishes a good starting point for the study of the northern skies

pole vaulting: see TRACK AND FIELD ATHLETICS

Polevoy, Nikolai Alekseyevich (nyĭkulĭ' ălyĭksyā'-lyĭch pŭlyĭvoĭ'), 1796–1846, Russian journalist, critic, novelist, dramatist, and historian With the Moscow *Telegraph*, which he founded in 1825, he laid the groundwork of serious journalism in Russia After the *Telegraph* was suppressed (1836), he edited the St Petersburg journal *Son of the Fatherland* and from 1841 the *Russian Herald* He was the author of colorful and patriotic historical dramas, e g , *The Grandfather of the Russian Fleet* (1838), and romances and novels, such as *The Curse at the Master's Grave* (1832) and *Abadonna* (1834) His principal historical work was a history of the Russian people through the reign of Feodor I (6 vols , 1829–33) Of his critical works, outstanding are those on Derzhavin, Zhukovsky, and Lermontov

police, public and private agents concerned with the enforcement of law, order, and public protection In modern cities their duties cover a wide range of activities, from criminal investigation and apprehension to crime prevention, traffic regulation, and maintenance of records In many countries they have also had a political function (see SECRET POLICE). The foundations of the present English metropolitan police system were laid in 1829 by Sir Robert PEEL In that year also SCOTLAND YARD was reorganized On the American frontier, before the government was well organized, vigilance committees (see VIGILANTES) functioned as volunteer police The TEXAS RANGERS and the ROYAL CANADIAN MOUNTED POLICE are examples of organizations that function especially in the open country The colonies maintained constables, and the office survives in the rural sheriff. Regular police forces in many states followed the establishment (1844) of the New York city organization Administration of the police system varies in different countries. In Europe, especially on the Continent, it tends to be centralized. In the United States there is complete decentralization; metropolitan police have the widest functions, state police are created chiefly for traffic control, and there is no regular Federal force outside the Federal Bureau of Investigation (FBI) for detection. See R B Fosdick, *European Police Systems* (1915); August Vollmer, *The Police and Modern Society* (1936); Bruce Smith, *Police Systems in the United States* (1940).

police court, in law, a court with jurisdiction limited to minor offenses, chiefly misdemeanors and breaches of municipal ordinances The trial is usually held before the judge sitting without a jury A police court may also examine persons accused of felony and commit them to jail pending indictment and trial or release them on reasonable bail Magistrate's court, justice's court and municipal court are other designations of the police court.

police dog: see SHEPHERD DOG

police power, in law, right of a government to make laws necessary for the health, morals, and welfare of the populace The term has greatest currency in the United States, where it has been defined by the Supreme Court as the power of the states to enact laws of that type even though they may contravene the literal terms of the Constitution The doctrine was first stated by Chief Justice John Marshall, who ruled that the power of Congress over interstate commerce (Article I, Section 8) could not prevent the states from controlling goods shipped from another state after they had been broken out of the original package Chief Justice Roger B TANEY added to the concept The police power became of great moment after the passage (1868) of the Fourteenth Amendment While the traditional subjects of police regulation—e g , NUISANCE and crimes—were not affected by the amendment, in other respects delicate adjustment was required of the court On the one hand, the states had to be restrained from taking liberty or property without due process of law, on the other hand, the states could not be made helpless in dealing with grave problems of an economic and social nature Gradually the court evolved from a strict interpretation of the Fourteenth Amendment to an attitude tolerant of economic regulation by the states By the late 1930s the practice of the court was to uphold almost all such laws as falling within the police power

Polignac, Jules Armand, prince de (zhul' ärmä' prĕs' du pōlēnyäk'), 1780–1847, French statesman Belonging to one of the oldest families of France, he emigrated during the Revolution Under Napoleon he was imprisoned (1804–14) for his part in the conspiracy of Georges CADOUDAL In 1815 Louis XVIII named him a peer of France He served as ambassador to England from 1823 to 1829 A champion and leader of the ultraroyalists in the reigns of LOUIS XVIII and CHARLES X, Polignac was strongly clerical, even refusing to take the oath to the charter on religious grounds He became minister of foreign affairs and premier in Aug , 1829, and by his reactionary measures precipitated the July Revolution in 1830 In March, 1830, a majority of the chamber of deputies demanded the dismissal of the Polignac ministry Instead, the chamber was dissolved, and when the new elections again resulted in a liberal majority, Polignac issued the July Ordinances, which dissolved the new chamber even before it met, established a new electoral law, and ended the freedom of the press (July 26, 1830) On July 27 the revolution broke out Polignac was arrested and condemned by the chamber of peers to life imprisonment Amnestied in 1836, he withdrew to England He wrote *Considérations politiques* (1832, Eng tr 1832), *Études historiques, politiques et morales* (1845), and *Réponse à mes adversaires* (1845)

Polignac, Melchior de (mĕlkyôr'), 1661–1742, French diplomat, churchman, and author, cardinal of the Roman Church As ambassador to Poland he directed (1697) the unsuccessful candidacy of François Louis de Conti for the Polish crown He was one of the negotiators of the Peace of Utrecht (1713–14) After being in disgrace during the regency of Philippe d'Orléans, he served as ambassador to the Holy See His *Anti-Lucretius* (1745, in Latin, Eng tr , 1757) is a philosophical poem attacking materialism from the Cartesian viewpoint

Polignac, Yolande Martine Gabrielle de Polastron, duchesse de (yôlăd' märtēn' gäbrĕĕl' du pôlästrôn' dŭshĕs'), c 1749–1793, favorite of Queen Marie Antoinette of France Her husband, Jules, comte de Polignac, was created duke and accumulated a huge fortune through her favor with the queen Fearing the hatred of the revolutionists, she emigrated in 1789 She died in Vienna She was the mother of the reactionary statesman, Jules Armand de POLIGNAC

Polillo (pōlē'lyō), island (233 sq mi , pop 6,716), Philippine Islands. Polillo Strait separates it from E Luzon. Coconuts are the chief product, and coal is mined

Poling, Daniel Alfred (pō'lĭng), 1884–, American clergyman, editor, and author, b Portland, Oregon, grad Dallas College (B A., 1904; M.A , 1906) and studied at Lafayette Seminary, Oregon, and at Ohio State Univ He was pastor (1923–30) of the Marble Collegiate Church, New York city, in 1930 he became pastor of the Baptist Temple, Philadelphia. He is editor of the *Christian Herald* and *Christian World Endeavor*. Some of his radio programs were published as *Radio Talks to Young People* (1926) and *Radio Talks* (1927). He edited *A Treasury of Best-loved Hymns* (1942) and *A Treasury of Great Sermons* (1944). His own writings include *Learn to Live* (1923), *Youth and Life* (1929), *Between Two Worlds* (1931), and *A Preacher Looks at War* (1943).

poliomyelitis (pō"lēōmī"ĕlī'tĭs) or **infantile paralysis,** inflammation of the gray matter of the spinal cord, caused by a virus. It is a communicable disease often occurring in epidemics among children especially in late summer and fall Symptoms occur suddenly and are often associated with fever, gastrointestinal disturbances, and a stiff and painful neck Sometimes motor nerve paralysis causes atrophy of groups of muscles and permanent deformity However, a majority of cases do not result in paralysis. In the early stages of the disease paralysed muscles can be protected and treated. Treatment by physical therapy is generally favored in preference to the older practice of immobilization Sudden chill and overfatigue increase the susceptibility to the disease. A cure is not available, but much research is concerned with the problem. It is prevalent chiefly among peoples living in societies with modern sanitation facilities. Epidemics are rare in China and the Middle East, where it occurs endemically In the United States the National Foundation for Infantile Paralysis raises funds and aids victims of the disease Many patients are cared for at the Georgia Warm Springs Foundation (see WARM SPRINGS)

Polish Corridor. The Treaty of Versailles (1919) gave to newly independent Poland a strip of territory, taken from Germany, which provided Poland with an outlet to the Baltic Sea Called the Polish Corridor, this strip contained the lower course of the Vistula (except the territory constituting the Free City of Danzig) and the towns of Torun, Grudziaz, and Bydgoszcz GDYNIA was developed as the chief Polish port The corridor separated East Prussia from the rest of Germany, but provision was made for free transit across the corridor for Germans Historically, Poland had some claim to the territory, which had formed part of the once Polish POMERANIA A large minority of the population, however, was German-speaking The arrangement caused chronic friction between Poland and Germany In March, 1939, Germany demanded the cession of Danzig and the creation of an extraterritorial German corridor across the Polish Corridor Poland rejected these demands and obtained a French and British guarantee against aggression In Aug , 1939, the Polish-German crisis reached an acute stage, which led (Sept. 1) to the German invasion of Poland and the Second World War Germany annexed the territory constituting the corridor, but lost it again when defeated in 1945

polishes, substances applied to surfaces to produce smoothness and gloss They include abrasives, e g , emery, steel wool, sandpaper, and pumice stone, as well as various chemical compounds for use on soft metals such as silver, copper, and brass. Diatomaceous, or infusorial, earth made up of the shells of diatoms is the basis of many polishes One of these, tripoli, is employed to make metallic surfaces smooth following treatment with coarser abrasives Where a high polish is desired, use is made of jeweler's rouge, which is calcined sulphate of iron Gems are polished with very fine abrasives such as diamond dust. Finished surfaces cannot be treated with abrasives since these will scratch and eventually remove the paint, enamel, varnish, or other material Luster is restored to finished woods by means of prepared mixtures containing linseed oil, turpentine, resins, and wax, sold as furniture polish Unfinished wood is rubbed with sandpaper of increasing fineness, then coated with varnish. Leather polishes consist of various wax varnishes and resin soaps They fill in irregularities of the surface by making a level film of wax which can be made smooth and lustrous by rubbing

Polish language, one of the Slavonic subfamily of Indo-European languages See LANGUAGE (table).

Polish literature. The early literature of Poland was written in Latin, the chief writers of that period include the historians Martin Gallus (12th cent.) and Jan Dlugosz (1415–80), the astronomer Copernicus (1473–1543), and the poet Klemens Janitius (1516–43) The first book printed in Poland was issued in 1474 at Cracow Among the first authors who wrote in Polish were the historian Martin Bielski (c 1495–1575); Mikolaj Rej (1505–69), called the "father of Polish literature", A F. Modrzewski (1503–72), Stanislaus Orzechowski (1513–66), and Jan Kochanowski (1530–84), the greatest Polish poet of the Renaissance. The 17th cent was a period of twilight in Polish literature, and it was not until the middle of the 18th cent that the period of classical recovery began Among the Polish writers of the time, influenced by the French Enlightenment, Ignacy Krasicki (1735–1801) was outstanding. Modern journalism was born, and light drama flourished under the playwrights Wojciech Boguslawski (1757–1829) and J. U Niemcewicz (1757–1841). The age of romanticism in Polish literature is best represented

by the poets Adam Mickiewicz (1798–1855), Julius Slowacki (1809–49), and Sigismund Krasinski (1812–59) Other writers of the period include the dramatist Alexander Fredro (1793-1876) and the novelist Michal Czajkowski (1808-86) The romantic poet Cyprjan Norwid (d 1885) indirectly introduced the positivist philosophy of the next period in Polish literature, the age of realism, which began in the middle of the 19th cent. Prose writing, which dominated the era, produced notably the novel Among the leading novelists of the time were J I Kraszewski (1812–87), Adolf Dygasinski (1839–1902), Eliza Orzeszkowa (1841–1910), Boleslaus Prus (1847–1912), and Henryk Sienkiewicz (1846–1916), whose trilogy of historical novels were internationally famous The following period, that of neo-romanticism, began at the close of the 19th cent Its outstanding figures were the poet Jan Kasprowicz (1860–1926), the poet and dramatist Stanislaus Wyspianski (1869–1907), the novelists and dramatists Stefan Zeromski (1864–1925), Stanislaus Przybyszewski (1868–1927), and Gabrielle Zapolska (1860–1921), and the novelist W S Reymont (1867–1925) Reestablished as an independent nation (1919), Poland inherited from the period of subjection the poet Leopold Staff (1878–), among the founders of its new literature were the poets Julian Tuwim (1894–), Jaroslaw Iwaszkiewicz (1894–), and Kazimierz Wierzynski (1894–) The contemporary Polish novelists include F A Ossendowski (1876–1944), Zofja Kossak-Szczucka (Sophia Kossak, 1890–), Zofja Nalkowska (1885–), Marja Kuncewiczowa (1897–), and Joseph Wittlin (1896–) One of the founders of contemporary Polish drama was Marja Jasnorzewska (1899–1945) See Roman Dmowski, *Periods of Polish Literary History* (1923) and *Modern Polish Literature* (1924), Julian Kyzyzanowski, *Polish Romantic Literature* (1930), and W J Rose, *Polish Literature* (1944)

Polish Succession, War of the, 1733–35 On the death (1733) of Augustus II of Poland, STANISLAUS I sought once more to ascend the Polish throne He was supported by his son-in-law, Louis XV of France The rival candidate for the throne was Augustus II's son, the elector of Saxony, supported by Emperor Charles VI and by Anna of Russia Stanislaus was elected by a majority of the Polish nobles, but a minority proclaimed the elector of Saxony king of Poland as AUGUSTUS III Stanislaus, being without troops, could not resist the Russian forces that intervened in his rival's behalf, after the fall (1734) of Danzig, he fled to France The war continued to be fought along the Rhine and in Italy, with Spain and Sardinia joining France against the emperor Spain sought to recover Naples and Sicily, which it had ceded to Austria at the Peace of Utrecht, and Sardinia sought to dislodge the Austrians from Lombardy The allies were successful in Italy, where Spanish troops seized Sicily and Naples The territories of the duke of Lorraine (Charles VI's son-in-law, later Emperor FRANCIS I) were in the meantime occupied by the French In 1735, at the preliminary Treaty of Vienna, peace was obtained through a general dynastic reshuffle Stanislaus I renounced Poland, though he retained the royal title, and was compensated with the duchies of Lorraine and Bar, which were to pass to the French crown at his death The dispossessed duke of Lorraine was promised the succession to the grand duchy of Tuscany after the death of its last Medici ruler (which occurred in 1737) Spain received Naples and Sicily and in exchange ceded to Austria its claims to the duchy of Parma Austria retained Lombardy, in addition, the emperor received from France a guarantee of the Pragmatic Sanction. Sardinia neither gained nor lost anything A final peace treaty was signed after lengthy negotiations in 1738

Politian (pŏll'shŭn), Ital *Poliziano* (pōlētsēä'nō), surname of **Angelo Ambrogini** (ăn'jĕlō ämbrōjē'nē), 1454–94, Italian poet and humanist At 16 he translated several books of Homer into Latin so well that he received the title *juvenis Homerus* [young Homer]. Under the patronage of Lorenzo de' Medici he was tutor to the young Medici, and he taught at the Univ of Florence A fine Latin and Greek scholar, he was also the leader, with his patron, in the cultivation of Italian Among his works is *Orfeo* (Eng trs by H M Ayres, 1929, and L E Lord, 1931), which is the earliest Italian play of any quality and is one of the finer lyric works of the Italian Renaissance His miscellaneous lyrics are hardly surpassed by Michelangelo, Ariosto, or Tasso *Stanze per la giostra*, a description of a tournament in which Giuliano de' Medici was victorious, is one of his most delightful pieces For translations, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

political science, the science of the nature and functions of the state and of government as the organization through which the state exercises its powers. Illustrious names in its early history include Plato, Aristotle, and Cicero. The highest of human organizations is the state, the purpose of which, to Aristotle, is to aid the good life. The state must not be too small; one household could not provide the desirable services It must not be too large; the citizen could not then be an informed and effective participant in the government Plato reached the conclusion that 5,040 households would be the ideal for a state; Aristotle thought this number obviously too large Modern political science studies the actual workings of existing governments and tries to determine the principles underlying efficient government It pays attention to the size of the state only in so far as this affects the processes of government Written and unwritten constitutions, the making and administration of laws, police and welfare activities of government, cabinet and presidential government, federal and centralized government, local, city, and national government, colonial government, elections and representation, political parties and public opinion, citizens and their rights, courts and judges, aliens and minorities, taxation and public finance, international relations—these form an important part of the subject matter of political science It also considers such subjects as the nature of SOVEREIGNTY, the origin and development of the state, its ends or purposes, theories of government such as individualism and collectivism, state SOCIALISM, syndicalism, ANARCHISM, COMMUNISM, FASCISM, the nature of international law, and international associations such as the United Nations See C E M Joad, *Introduction to Modern Political Theory* (1925), R G Gettell, *Political Science* (1933), George Catlin, *The Story of the Political Philosophers* (1939)

Poliziano · see POLITIAN

Polk, James Knox (pōk), 1795–1849, 11th President of the United States (1845–49) b Mecklenburg co, N C His family moved (1806) to the Duck river valley in Tennessee and there, after graduating from the Univ of North Carolina (1818) and studying law under Felix Grundy, he began (1820) to practice law at Columbia Polk served in the state legislature (1823–25), and in the House of Representatives (1825–39), where he was speaker for the years 1835–39, he was a leading Jacksonian Democrat In 1839, to save Tennessee for his party, he ran for and won the governorship, but was defeated for reelection by the Whig candidate in 1841 and 1843 Polk harbored vice presidential ambitions, but Jackson, convinced that Martin Van Buren had committed political suicide by announcing his opposition to the annexation of Texas, urged Polk to consider the presidency With the Van Buren and Calhoun factions deadlocked at the Democratic convention at Baltimore in 1844, George BANCROFT advanced Polk as a candidate behind whom both sections could unite, and the "dark horse" won the nomination Polk narrowly defeated Henry CLAY by carrying New York state, where the popular Democratic candidate for governor, Silas WRIGHT, strengthened him and the presidential candidacy of James G BIRNEY of the LIBERTY PARTY cut into Clay's vote Polk, to the surprise of many, was his own President, he even ignored Jackson's wishes on several matters Renouncing a second term for himself, he required the members of his cabinet, including James Buchanan, Robert J Walker, William L Marcy, and Bancroft, to devote all their energies to their offices, not to campaigning to succeed him He ably managed the MEXICAN WAR which followed the annexation of Texas The "four great measures" he announced for his administration were all achieved reduction of the tariff (the Walker Tariff was one of the lowest in U S history), reestablishment of the INDEPENDENT TREASURY SYSTEM, settlement of the dispute over OREGON (the Democratic campaign slogan, "Fifty-four forty or fight," was disregarded), and the acquisition of California More territory was added to the United States under Polk than under any other President except Jefferson The myth, inspired by the Whigs in 1844 ("Who is James K Polk?" they sarcastically asked) and perpetuated by later Republican historians, that he was a political nonentity raised to high office by accident has only recently been dispelled Actually, few Presidents have equaled his record of attaining specific, stated aims, few worked harder He labored so strenuously in fact that his health gave way and he died a few months after leaving office See M M Quaife, ed, *The Diary of James K Polk* (4 vols, 1910), abridged in one volume by Allan Nevins (1929), E I McCormac, *James K Polk* (1922), A M Schlesinger, Jr, *The Age of Jackson* (1945), M M Morrel, *"Young Hickory"* (1949)

Polk, Leonidas, 1806–64, Protestant Episcopal bishop and Confederate general, b Raleigh, N C, grad West Point, 1827 He left the army to study for the ministry and took orders (1830–31) Polk, missionary bishop of the Southwest (1838–41) and bishop of Louisiana (1841–61), was the principal founder of the Univ of the South, Sewanee, Tenn (1857) In the Civil War he became a major general (June, 1861) and was at first engaged in the defense of the Mississippi river He commanded a corps at Shiloh (April, 1862), was promoted lieutenant general shortly after fighting at Perryville (Oct), and commanded the Confederate right at Murfreesboro (Dec., 1862–Jan., 1863). In the CHATTANOOGA CAMPAIGN Bragg accused him of dilatoriness at Chickamauga (Sept) and had him relieved. Polk assumed command of the Army of Mississippi (Dec) and fought in the ATLANTA CAMPAIGN until he was killed (June, 1864) at Pine Mountain, Ga See biography by his son, W H Polk (1893)

Polk, Leonidas Lafayette, 1837–92, American agrarian leader, b Anson co, N C He studied agriculture at Davidson College, and after he married (1857) Sarah Geddy he managed a plantation in North Carolina He served with the Confederate army in the Civil War and then returned to farming He led in the North Carolina Granger movement after 1872 and helped bring about many state reforms, including the creation (1877) of the North Carolina department of agriculture and the founding (1887) of what today is the North Carolina State College of Agriculture and Engineering He became (1887) president of the National Farmers Alliance and played an important role in the formation (1891) of the Populist party

Polk, residential borough (pop 3,690), NW Pa, near Franklin, settled c 1798, laid out 1839, inc 1886 It is a resort center

polka (pō'ku, pōl'ku), a lively dance which originated in Bohemia c 1830 A turning-couple dance in quick 2-4 time, it had 10 figures, only five of which were performed in usual ballroom dancing Dvorak and Smetana composed many polkas

Pollaiuolo (pōl-lay-ōō-ō'lō), family of Florentine artists **Jacopo Pollaiuolo** (yä'kōpō) was a noted 15th-century goldsmith. His son and pupil **Antonio Pollaiuolo** (äntō'nyō), 1429?–1498, goldsmith, sculptor, painter, and engraver, became head of one of the foremost Florentine workshops, with many pupils and assistants He was a great draughtsman and is said to have been the first artist to study anatomy by dissection Many of Antonio's paintings were executed in collaboration with his brother Piero Although mannered and lacking in breadth, they display great vitality, excellent draughtsmanship, careful finish, and considerable anatomical knowledge and are full of action Among the most important are *Apollo and Daphne* and *The Martyrdom of St Sebastian*, which may have been a joint work (National Gall London), *Labors of Hercules* (Uffizi), *Holy Family* (Borghese Palace, Rome), *Tobias and the Angel* (Turin), and *Hercules and Nessus* (Jarves Coll, Yale) The fresco of *St Christopher and the Infant Christ* (Metropolitan Mus) is attributed by some critics to Piero and by others to the school of the Pollaiuolos The Uffizi also has Antonio's fine *Hercules Slaying Cacus*, a bronze group, *Ten Fighting Nudes*, one of his rare engravings, and *The Young Warrior*, a terra-cotta bust In 1484 he was summoned with his brother to Rome by Pope Innocent VIII and there executed the bronze tomb of Sixtus IV and the monument to Innocent VIII in St Peter's The National Gallery of Art, Washington, D C, has *Portrait of a Man* **Piero Pollaiuolo** (pyä'rō), 1443–96, a painter, was associated with his brother but also painted many independent works, such as the *Coronation of the Virgin* in the Church of Sant' Agostino at San Gimignano, *Prudence*, and a portrait of Galeazzo Sforza (Uffizi), and *Portrait of a Young Lady* (Gardner Mus, Boston). Their nephew, **Simone del Pollaiuolo** (sēmō'nā dāl), 1457–1508, Italian architect, worked chiefly in Florence after early training as a woodworker After a visit to Rome to study the remains of antiquity, he was nicknamed Il Cronaca because of the endless tales he told His chief monument is the noble Strozzi Palace, which he finished after the death of Benedetto da Majano, Cronaca is responsible for the beautiful cornice and interior courtyard. His minor works include the sacristy of San Spirito, which he erected after a model by Giuliano da Sangallo, the Great Hall of the Palazzo Vecchio (1495), the Church of San Salvatore al Monte (1504), and probably the Guadagni Palace See study by Maud Cruttwell (1907)

Pollard, Albert Frederick (pŏl'lûrd), 1869–1948, English historian, educated at Oxford He served (1893–1901) as one of the editors of the *Dictionary of National Biography* He was professor of constitutional history at the Univ of London from 1903 to 1931 and founder and director (1920–39) of the Institute of Historical Research Pollard was an authority on the Tudor period in English history, and his objective, scholarly works include *Thomas Cranmer and the English Reformation* (1904, 2d ed, 1926), six chapters in the *Cambridge Modern History*, *Henry VIII* (1902, new ed., 1905), a volume in William Hunt and R L Poole, ed, *A Political History of England, Factors in Modern History* (1907, 3d ed, 1932), *The Evolution of Parliament* (1920, 4th ed., 1938), *A Short History of the Great War* (1920); and *Wolsey* (1929)

polled Durham cattle (pōld' dŭ'rum) or **polled shorthorn cattle,** dual-purpose breed of cattle originated in the United States from the SHORTHORN They are much like the shorthorns, but are hornless Although these cattle are called polled Durham cattle, their original designation, the name polled shorthorn is now preferred.

pollen, grains containing the male element of flowering plants and borne, usually as a yellow powder, on slender filaments, the stamens, within the COROLLA of a FLOWER Pollen grains, microscopic in size, are invisible to the eye except in quantity, but they are so diversified in appearance that plants may be identified by their pollen alone, as is often done in determining the vegetation of a past period by boring into bogs The transfer of the pollen grain to the female part (pistil) of a flower is called POLLINATION After successful pollination the pollen grain germinates and produces a tube which grows down through the pistil of the flower, and, on reaching the base, fertilizes the OVUM or egg lying there The ovum then grows into the embryo of the SEED Some flowers are sterile to their own pollen, and in many flowers there are various devices seen for preventing self-pollination and insuring cross-pollination, e g , the different time of maturation for the stamens and pistil of any one flower Pollen contains stored food and is collected and used for food (as is nectar) by some insects, such as bees Showers of pollen are sometimes observed floating from trees, since more pollen is produced than is used Many people are allergic to certain kinds of pollen in quantity (see HAY FEVER), the most common offender being ragweed Through the agency of pollen, characters of the male parent plant are added to the potentialities of the offspring and find expression in succeeding generations Rudolph Jacob Camerarius (1665–1721) was the first to demonstrate the function of pollen by experiments Since then many new flowers, fruits, and vegetables have been produced and old varieties improved through selective pollination

pollination, the transfer of pollen from the stamen to the pistil of the same or another flower The most common agents of pollination are insects and wind but snails and hummingbirds also serve Self-pollination is usually avoided in flowers (see POLLEN) and adaptations insuring cross-pollination are common, an exception occurring in certain cleistogamous flowers (see VIOLET) which never open and are thus self-pollinated It is commonly believed that cross-pollination makes for stronger offspring There is often a close correlation between the flower and its chief pollinizing agent, seen in the adaptations between insect and flower, as in the snapdragon and the bumblebee and, as extreme examples, the YUCCA and the yucca moth and the caprifig (see FIG), which did not fruit when introduced into California until the fig wasp was imported There are also various intricate devices seen in many flowers for effectively dusting the insect with pollen In hybridizing experiments and selective breeding, hand pollination is usually accomplished with a small camel's-hair brush, and it is necessary that both stamens and pistils be used at maturity and be protected from undesired pollen Pollination, formerly thought to be fertilization, actually is a purely mechanical process preceding fertilization For wild flowers and their insect pollinators, see Neltje Blanchan, *Nature's Garden* (1905)

Pollio, Caius Asinius (kā'ŭs ăsĭ'nĭŭs pŏ'lēō, kĭ'ŭs), c 76 B C–A D c 5, Roman historian He was a partisan of Julius Caesar and of Marc Anthony, but his account (now lost) of the civil war was renowned for its impartiality and its scientific handling of evidence He was a friend of Vergil and also wrote poetry and drama

Pollock, Sir Frederick (pŏ'lŭk), 1845–1937, English jurist, b London He was educated at Eton and Cambridge and was admitted to the bar in 1871 He was (1887–1903) professor of jurisprudence at Oxford Pollock devoted himself to legal study and writing, after 1914, however, he was judge of the admiralty court of the Cinque Ports Some of his books, including *The Principles of Contract* (1876) and the *Law of Torts* (1887), have been frequently republished Pollock was editor (1885–1919) of the *Law Quarterly Review*, a major British legal periodical, and editor in chief (1895–1935) of the *Law Reports*, the chief medium for publishing decisions of the British courts He collaborated with F W Maitland on *The History of English Law* (1895), contributing the material on Anglo-Saxon law He wrote monographs on Spinoza (1880, 1935) and *Leading Cases Done into English* (1876), a parody of legal style His correspondence with O. W Holmes was published as *The Holmes-Pollock Letters* (1941) See Pollock's *For My Grandson* (1933)

Pollock, Oliver, 1737–1823, American merchant, b Ireland He arrived in America at the age of 23 and became a successful merchant After moving to New Orleans, Pollock speculated advantageously in land and in the slave trade and gained the confidence of the Spanish government He contributed generously to the cause of the colonies in the American Revolution, obtained supplies from the Spanish, and paid out from his personal funds to help finance George Rogers Clark's conquest of the Northwest After the war, the American government tardily and incompletely met its debts to him See biography by J A James (1939)

Polonarrua or **Polonnaruwa** (both pŏ"lŭnŭrōō'ŭ), ruined ancient city, on central Ceylon It became a royal residence in the late 3d cent and the capital of Ceylon in the mid-8th cent. Its most impressive ruins date from the 12th cent. They include palaces, temples (both Hindu and Buddhist), and three colossal figures of the Buddha carved out of single blocks of stone The name is also spelled Pollanarrua.

poll tax, in U S history, a tax levied by a state on its voters, usually ranging from $1 to $5 Though states, e g , Massachusetts and Indiana, levied poll taxes which did not have the effect of limiting suffrage, many states in the South imposed poll taxes that resulted in the disfranchising of otherwise eligible voters Thus, poll taxes enacted by Florida (1889), Mississippi (1890), Tennessee (1890), Arkansas (1892), South Carolina (1895), Louisiana (1898), North Carolina (1900), Alabama (1901), Virginia (1901), Texas (1902), and Georgia (1907) not only resulted in keeping many Negroes from the poll but also barred a great many poor whites Various movements were made to abrogate poll taxes, and they were abolished in North Carolina (1920), Louisiana (1934), Florida (1937), and Georgia (1945) After 1942 numerous efforts were made by members of Congress to pass legislation forbidding poll taxes as prerequisite for voting for Federal candidates, but maneuvers in the Senate continually prevented enactment The modern poll tax has little in common with the ancient capital tax sometimes called a poll tax

Pollux, Greek hero see CASTOR AND POLLUX

Pollux, Julius (pŏ'lŭks), fl 180, Egyptian Greek lexicographer, b Naucratis He compiled a Greek lexicon for his pupil, afterwards Emperor Commodus It is valuable for the information on Greek culture

Pollux, in astronomy see GEMINI.

Polo, Marco (mär'kō pō'lō), 1254?–1324?, Venetian traveler in China His father, Niccolò Polo, and his uncle, Maffeo Polo, had made (1260) a trading expedition to the Crimea A war blocked their return, and they journeyed eastward to reach Kublai Khan's eastern capital at Kaifeng in 1266 They returned to Venice in 1269, and in 1271 they left with Marco and two Catholic missionaries for Kublai's court The missionaries soon abandoned the party, which reached Cambaluc (Peiping) in 1275 Marco Polo became a favorite of the khan, who employed him on business in central and N China, SE Asia, and S India For three years he apparently ruled a Chinese city (Yangchow) After 17 years the travelers left (1292) Kublai's realm, acting as escort for a wife of the khan of Persia, and were back in Venice in 1295 Marco Polo promptly joined the Venetian forces fighting Genoa and was taken prisoner (1296) During his captivity he dictated an account of his travels, apparently in French, to a fellow prisoner The prologue of the work tells of Polo's life The remainder of the book describes the places which he visited and the customs and history of the Mongols Polo was wonder-struck at the splendors which he saw and of which he heard, in some instances he was credulous, but most of the book seems to be factual and it has been of great value to historians During the Renaissance it was the chief —almost the sole—Western source of information on the East, and until the late 19th cent there was no other European material on many parts of central Asia Of the annotated translations of his book the most useful is that by Sir Henry Yule, entitled *The Book of Ser Marco Polo* (3d ed , revised by Henri Cordier, 1903) See H H Hart, *Venetian Adventurer* (1942)

Polo, city (pop 2,071), NW Ill , NNW of Dixon, inc 1857 It is a farm trade center

polo (pō'lō), game played on horseback Outdoor polo is played by teams of four on a field 200 by 300 yd Safety zones surround the grassy or leveled playing field, and goal posts stand 10 ft high and 8 ft apart at either end of the field If the field is surrounded by a board wall, it measures 160 yd wide If it is unboarded, it is larger The outdoor ball, weighing from $4^1/_4$ to $4^3/_4$ oz and measuring not more than $3^1/_4$ in in diameter, is made of wood or willow root The indoor field, usually composed of a tanbark surface and surrounded by embankments, is not standardized in dimensions, and sometimes the 10-foot high, 8-foot wide goal posts are represented by stripes painted on the wall Teams of three men play the indoor game, and the ball, measuring $4^1/_4$ to $4^1/_2$ in in diameter and weighing 6 to $6^1/_2$ oz is made of rubber which is inflated Whereas an outdoor match is made up of eight periods (called chukkers) of $7^1/_2$ min each, the indoor match comprises four such periods Standard polo equipment includes a specially made brimmed helmet, long, flexible-stemmed mallet some 4 ft long, which meets the ball on the side of the mallet-head, and the usual equestrian equipment Play is directed toward hitting the ball through the opponents' goal Substitution of players is permitted only in case of injury Penalties—e g , automatic goals, free hits, and disqualification—are meted out by an umpire, also on horseback, for dangerous riding, carrying the ball, or illegal use of the mallet The umpire starts each period and begins play after each goal by throwing the ball in a marked-off center court between the two lines of opposing players. Polo ponies, small and agile horses, are of no special breed They are required to undergo a long and rigorous period of training in order to meet the bruising emergencies of the game This game is said to have had its origin in Persia, whence it extended into Turkey, India, and Tibet and, with some modifications, into China and Japan In the 19th cent it was revived in India, where it became popular with British army officers stationed there and spread to other countries It was introduced into England in 1869, and seven years later it was brought to America by James Gordon Bennett. After 1886 tournaments for the International Polo Challenge Cups were played from time to time between English and American teams Polo players are ranked from 10 down, depending upon how many goals they are expected to score in a regular game Thomas Hitchcock, Jr , is generally considered to have been the world's greatest polo player Other famous names, past and present, are Gerard Balding, George H Bostwick, Winston F C. Guest Stewart B Iglehart, Michael G Phipps, and Cecil Smith See E D Hiller, *Modern Polo* (6th ed , 1929), P G Kendall, *Polo Ponies* (1933), Sir Beauvoir De Lisle, *Tournament Polo* (1938), Paul Brown, *Polo* (1949)

polonaise (pō"lŭnāz', pŏ"–), Polish national dance, in moderate 3-4 time and of slow, stately movements It evolved from court processions and ceremonies of the late 16th cent and made its way into the compositions of Beethoven, Schubert, Liszt, and especially Chopin

polonium (pulō'nēum), element similar to radium (symbol=Po, for physical constants, see ELEMENT, table), having the property of RADIOACTIVITY It was discovered (1898) by Pierre and Marie Curie in pitchblende and was named for Poland, where Mme Curie was born Generally found with bismuth, polonium is easily isolated

Polonnaruwa: see POLLONARRUA

Polotsk (pô'lŭtsk), city (pop 25,820), capital of Polotsk oblast, NE Belorussia, on the Western Dvina Known since the 9th cent , it was the capital (10th–13th cent) of a principality and flourished as a trade center from the 14th to the 16th cent It is now a rail and river transportation point and has a lumber industry

Polovtsi see CUMANS

Polson (pōl'sŭn), city (pop 2,156), co seat of Lake co , NW Mont , at the south end of Flathead Lake, in the farm region of the Flathead valley, inc 1902

Poltava (pŭltä'vŭ), city (pop 130,305), capital of Poltava oblast, E central Ukraine It is the center of a rich agriculturalregion Near by is the battlefield where Peter I of Russia completely routed (1709) Charles XII of Sweden and the Cossack Mazeppa, who both fled to Turkey (see NORTHERN WAR) In the Second World War, Poltava was held (1941–43) by the Germans The city was the home of Gogol (many of whose stories are laid in the near-by village of Dikanka) and of Korolenko

poltergeist (pōl'turgīst) [Ger ,=noisy spirit], name applied to certain phenomena, such as rapping, knocking, unexplained movements of furniture breaking of crockery, and the like, long associated with supernatural forces, and common to spiritistic seances The Society for Psychical Research has proved much poltergeist activity to be fraudulent Some cases, however, remain without satisfactory natural solution

Polyaenus (pŏ"lē-ē'nŭs), fl c 153, Macedonian Greek writer His *Stratagems*, anecdotes on ruses of war, takes much from sources now lost

polyandry: see MARRIAGE

Polybius (pōlĭ'bēŭs), 203? B C–c 120 B C , Greek historian, b Megalopolis The son of Lycortas, a leader of the ACHAEAN LEAGUE, and an intimate friend of PHILOPOEMEN, he was influential in Greek politics Having advocated the neutral stand of the League in the war between Rome and Macedon, he was deported (167 B C) with a large number of Achaeans to Rome after the Roman victory over Macedon He obtained the protection of Aemilius Paullus and of the Scipios, and under their patronage he undertook several voyages, notably one to Achaea, where he sought to win favor for the Roman government It was under the Scipios' patronage also that Polybius undertook his universal history, one of the great historical works of all time Of the 40 books only the first five survive intact, of the rest there are generous fragments. It was Polybius' chief aim to trace for his contemporaries the causes of the sudden rise of Rome; his history covered the Mediterranean world from before 220 B C to 146 B C A historian of the school of Thucydides, Polybius spared no efforts in his research for detail, accuracy, and unbiased truth, although he could not avoid a measure of partiality His presentation is soberly analytical and devoid of rhetoric. Not content with setting forth the facts, Polybius stopped his narrative to insert general considerations on the purpose of history writing (which he considered, like Thucydides, a guide to political conduct), on the principles of the Roman state (a balance of the monarchic, aristocratic, and democratic institutions), and on other

general subjects. His style has been criticized for its lack of grace, for the superabundance of tedious details, and for its moralizing tone There are many translations

Polycarp, Saint (pŏ'lĭkärp), A.D c 70–A D 156?, Greek bishop of Smyrna, a Father of the Church. He was a disciple of St. John, who appointed him bishop Thus, he linked the apostles and such 2d-century Christian expositors as St IRENAEUS St Polycarp was a close friend of St IGNATIUS OF ANTIOCH As a very old man, Polycarp went to Rome to discuss the problem of dating Easter, he died a martyr there His one surviving work, the *Epistle to the Philippians*, has been the subject of recent controversy Some scholars have maintained that the letter is really two—one written c 115, enclosing St Ignatius' epistles, and the other written c 135 to warn the Philippians against the teachings of Marcion He was in his time the mainstay of Christianity in Asia Minor Feast Jan 26 See P N Harrison, *Polycarp's Two Epistles to the Philippians* (1936)

Polycletus (pŏlĭklē'tus) or **Polyclitus** (-klī'tus), two Greek sculptors of the school of Argos **Polycletus**, the elder, fl c 450–c 420 B C , was a contemporary of Phidias Born either in Sicyon or Argos, he became the head of the Argive school He worked principally in bronze and made a number of statues of athletes His most famous statue embodied his ideal of physical perfection, and this "Canon of Polycletus" became the standard of proportions for sculptors It is best known through a copy, the *Doryphorus* or *Spear-Bearer* (Naples) Other statues representing his athletic, muscular, square-headed type, preserved through copies, are the *Diadumenenus*, a man binding a fillet about his head, and an *Amazon* Another of his works praised by ancient writers was a gold and ivory Hera for a temple at Argos No recognized originals of Polycletus exist today, **Polycletus**, the younger, worked in the 4th cent, B C He also was a sculptor of athletes and made a statue of Zeus in marble

Polycrates (pŏlĭ'krŭtēz), d c 522 B C , tyrant of Samos By piratic raids and indiscriminate warfare he dominated the E Aegean, capturing the island of Rhenea and defeating the Lesbians, who had gone to the aid of Miletus His tyranny drove Pythagoras, the philosopher, from Samos He sent 40 ships manned by Samian malcontents to aid the Persian king, Cambyses, against the Egyptians (c 525 B C), but the crews revolted and persuaded the Spartans to make a fruitless war against Polycrates Oroetes, Persian satrap of Sardes, lured him to Magnesia and crucified him He did much to aid Samian industry and art

Polydeuces see CASTOR AND POLLUX

Polydorus (pŏlĭdô'rus), in Greek legend, Trojan prince, son of Priam and Hecuba See HECUBA

Polydorus, Greek sculptor see LAOCOON

Polyglot Bible (pŏ'lĭglŏt), Bible in which different versions, often in different languages, are given in parallel columns Origen's HEXAPLA was the most famous ancient example Modern Polyglot Bibles include the Complutensian Polyglot, which contained the first printed Greek New Testament (prepared at Alcalá, Spain, 1514–17, under Cardinal Jiménez), the Antwerp Polyglot (1572), the Paris Polyglot (1645), the London, or Walton's, Polyglot (1657), the most elaborate, containing besides the usual Hebrew and Greek, the Samaritan Pentateuch and Syriac, Ethiopic, Arabic, and Persian versions of the New Testament

Polyhymnia see MUSES

polymerization (pŏ"lĭmurĭzā'shŭn, pulĭ"–), the joining together of a number of molecules of the same kind to form a single larger MOLECULE Although the new molecule is heavier, it has the same percentage composition by weight as each of the original smaller molecules, i e , its weight is a multiple of the weight of the smaller molecules Two compounds having molecules so related are called polymers

Polymnia see MUSES

Polynesia (pŏlĭnē'zhu, –shu) [Gr ,=many islands], one of the three main divisions of the Pacific islands, in the central and S Pacific The larger islands are volcanic, the smaller are generally coral formations The principal groups are the Hawaiian Islands, Samoa, Tonga, and the islands of French Establishments in Oceania Ethnologically though not geographically, Polynesia embraces New Zealand The languages of the area are Malayo-Polynesian (see LANGUAGE, table)

Polynesian languages or **Malayo-Polynesian languages:** see LANGUAGE (table)

Polynices (–nī'sēz), in Greek legend, leader of the SEVEN AGAINST THEBES He sought to wrest from his brother ETEOCLES his rightful share in the kingdom left by their father, OEDIPUS They killed each other in single combat CREON, regent of Thebes, refused to bury Polynices, but ANTIGONE, daughter of Oedipus, risked her life to perform the funeral rites for her brother.

polyp (pŏ'lĭp), the elongated or hydroid form of various coelenterates (jellyfish and their relatives) Alternation of generations between the polyp and the jellyfish or medusa stage is common. The polyp is composed of two layers of cells, the ectoderm and the endoderm, with a layer of noncellular material between It is radially symmetrical and generally cylindrical and hollow Stinging cells are usually present and are often borne on tentacles surrounding the mouth, as in the small, freshwater hydra, one of the simplest polyps The coral animal and the sea anemone are polyp forms Many marine coelenterates, both attached and pelagic forms, are di-, tri-, or polymorphic, having certain polyps specialized for reproductive, nutritive, and other functions

Polyphemus (pŏlĭfē'mŭs), in Greek mythology, a CYCLOPS or one-eyed giant He was a shepherd, son of POSEIDON In the ODYSSEY, Polyphemus captured ODYSSEUS and his friends Odysseus blinded the giant, and the men escaped from the cave where they were imprisoned by hiding under sheep which were going out A later legend tells of his love for the nymph GALATEA, who scorned him She loved ACIS, whom Polyphemus killed

polyphony (pulĭ'funē, pŏ–), music whose texture is formed by the interweaving of several melodic lines Contrasting terms are *homophony*, wherein one part dominates while the others serve only a harmonic function, and monody, wherein there is but a single melodic line Out of the monody which is Gregorian chant grew organum, a species of music in which a melody is paralleled by another at the interval of a fourth or a fifth This practice, first described in the *Musica enchiriadis* (9th cent), developed into a freer form during the Middle Ages, leading to the great age of polyphony in the 16th cent In the music of Palestrina, Lassus, and their contemporaries, the harmonies all seem to be generated by the melodic lines With the gradual acceptance of major and minor tonalities, polyphonic music adopted a style more dependent on harmony—a type of polyphony consummated in the works of Bach Homophonic texture gained ascendancy in 19th-century music, but in our own day many composers have returned to the writing of music which recalls medieval and Renaissance polyphony See also COUNTERPOINT See Gustave Reese, *Music in the Middle Ages* (1940), Knud Jeppeson, *The Style of Palestrina and the Dissonance* (rev ed , 1946)

Polyxena (pŏlĭk'sĭnu), in Greek legend, Trojan princess, daughter of PRIAM, loved by ACHILLES When Paris killed Achilles, she was sacrificed on his grave

Pombal, Sebastião José de Carvalho e Melo, marquês de (sĕbustyä'ô zhōōzä' du kärva'lyô ē mĕ'lô märkäs' du pômbäl'), 1699–1782, Portuguese statesman After studying law at the Univ of Coimbra, he was designated ambassador to England (1739) and was then envoy to Austria He returned to Lisbon in 1749, was made secretary of state for foreign affairs and for war by King Joseph in 1750, and in that position ruled Portugal for 26 years Pombal was an exponent of absolutism, an anticlerical, and a zealous organizer The vast program he conceived was executed by a ruthless suppression of opposition, and thousands were imprisoned by his orders He curbed the power of the Inquisition by subordinating it to the king's authority, expelled the Jesuits from Portugal and its colonies, and redrafted the property laws to prevent the accumulation of great wealth by the Church Under his direction the educational and military systems were reorganized, agriculture and industry were encouraged, and he established monopolies The creation of a wine monopoly caused an uprising in Oporto, which was put down (1757) with severity An attempt by the nobles, who hated Pombal, to kill the king only increased Pombal's hold He took strong measures to build up Brazil with increased production of minerals, tobacco, and sugar He also sought to regulate Portuguese commerce and strengthen it, thus making the country less dependent upon the English. When Lisbon was destroyed by earthquake (1755), Pombal met the emergency and later planned a safer and more beautiful city and had it reconstructed accordingly Upon the death of King Joseph (1777), he was deprived of his power, and many of his measures were revoked. The new ruler, Maria I, exiled Pombal to his castle

pomegranate (pŭm'grăˈnĭt, pŏm'–), handsome, large, somewhat thorny deciduous shrub or small tree (*Punica granatum*) native to the Old World, where it has long been cultivated It bears rather shining leaves, showy red or orange-red flowers, and fruit the size of an apple, with a hard yellowish to purple rind Grenadine syrup, in which the juice of the acid fruit pulp is the chief ingredient, is used in wines, cocktails, carbonated drinks, preserves, and confectionery The rind and flowers are employed in medicine for their astringent properties, and the rind is also used, because of its tannin, in the staining of morocco leather The tree is very ornamental for about nine months in the year It is very long lived, a specimen in Paris is said to have fruited for over 200 years. Now grown as a market crop in America, the tree thrives and bears well in California and Arizona. It is hardy as far north as Washington Double-flowered and single-flowered forms are grown for ornament, as hedge plants, and as conservatory specimens Solomon sang of an "orchard of pomegranates" The pomegranate was a symbol of hope in Christian art and in classic, Jewish, and Christian tradition an emblem of fertility and eternity.

pomelo see GRAPEFRUIT

Pomerania (pŏmûrā'nēu), region of E central Europe, extending along the Baltic Sea from a line W of Stralsund, Germany, to the Vistula river in Poland From 1919 to 1939 Pomerania was divided among Germany, Poland, and the Free City of DANZIG The German part constituted the Prussian province of Pomerania (Ger *Pommern*, 14,830 sq mi , 1939 pop 2,393,844), with STETTIN as its capital The Polish part formed the province of Pomerelia (Ger *Pommerellen*, Pol *Pomorze*, c 7,700 sq mi , 1946 pop 1,406,453), with Bydgoszcz as its capital After the Second World War and the POTSDAM CONFERENCE of 1945, all formerly Prussian Pomerania W of the Oder (but excluding Stettin) was incorporated into the Russian-occupied German state of Mecklenburg, the remaining and larger part (including Stettin) was transferred to Polish administration and was incorporated by the Polish government with the provinces of Szczecin (see STETTIN), Gdansk (see DANZIG), and POZNAN A part of the North European plain, Pomerania is a primarily agricultural lowland, with generally poor, often sandy or marshy soil There are large forests and lakes Cereals, sugar beets, and potatoes are the main crops, cattle raising and fishing are important occupations Along the Baltic coast there are numerous seaside resorts The history of Pomerania is extremely complex By the 10th cent A D , when its recorded history began, Pomerania was inhabited by Slavic tribes It was conquered by Boleslaus I of Poland, but became an independent duchy early in the 11th cent Poland regained control in the 12th cent and introduced Christianity The country was split into two principalities, and in 1181 the duke of W Pomerania paid allegiance to Emperor Frederick I, thus becoming a prince of the Holy Roman Empire and severing his ties with Poland Pomerelia, as E Pomerania came to be known, became independent in 1227, was annexed to Poland in 1295, and was ceded in 1308 to the TEUTONIC KNIGHTS, who incorporated it with their domain in East Prussia The histories of Pomerania and Pomerelia after 1308 must be traced separately Pomerelia, including Danzig, was restored by the Teutonic Knights to Poland at the Treaty of Torun of 1466 Though frequently overrun in the wars of the following three centuries, it remained an integral part of Poland until the first Polish partition (1772), when it passed to Prussia and was constituted into the province of WEST PRUSSIA In 1919 part of West Prussia was given to Poland (see POLISH CORRIDOR), where it constituted Pomorze prov , Danzig became independent, and a small part of West Prussia, including Marienwerder, was incorporated with neighboring East Prussia After the outbreak (1939) of the Second World War, Danzig and Pomorze were reannexed to Germany, which lost them again in 1945 In the meantime Pomerania continued as a duchy of the Holy Roman Empire until the death (1637) of Bogislav XIV The dukes accepted the Reformation in the 16th cent In the Thirty Years War the imperial generalissimo Wallenstein undertook the occupation of Pomerania in 1628, with consent of Duke Bogislav, STRALSUND, however, resisted Its defense was aided by Denmark and helped to precipitate the intervention (1630) of GUSTAVUS II of Sweden The Peace of Westphalia (1648) gave Hither Pomerania—i e , the western part, with Stettin, Stralsund, and the island of Rugen—to Sweden, and Farther Pomerania—i e , the eastern part, with Stargard—to the electorate of Brandenburg (after 1701, the kingdom of Prussia) In the third of the Dutch Wars, Charles XI of Sweden lost most of Hither Pomerania to Elector Frederick William of Brandenburg, but thanks to French influence he recovered all but a strip E of the Oder at the Treaty of Saint-Germain (1679). In 1720, as a result of the NORTHERN WAR, Sweden lost about half of its part of Pomerania (including Stettin but not Stralsund) to Prussia For the rest of Swedish Pomerania, the kings of Sweden remained princes of the Holy Roman Empire until its dissolution in 1806 NAPOLEON I overran Swedish Pomerania in the War of the Third Coalition, but restored it on making peace with Sweden in 1809 In the Treaty of Kiel (1814) Sweden exchanged Pomerania with Denmark in return for Norway, but at the Congress of Vienna (1815) Denmark ceded its share of Pomerania to Prussia, receiving the duchy of Lauenburg in return Thus, from 1815 to 1919, all Pomerania and all Pomerelia were in Prussian hands Pomerania by then was already thoroughly Germanized Pomerelia was, like the rest of Prussian Poland, subjected to intense Germanization However, the majority of the population in what became in 1919 Pomorze prov. still was Polish-speaking Pomerelia, moreover, was predominantly Catholic, while Pomerania was Protestant. After the transfer in 1945 of the larger part of Pomerania to Polish administration, the German-speaking

population was largely expelled. Its fate was shared by the German population of S East Prussia, which contained that section of West Prussia that had remained German after 1919. The history of the principal cities of Pomerania and Pomerelia differs somewhat from the history of the territories in which they are located. The most important of these cities—Danzig, Stralsund, Stettin, Stargard, Torun, Chelmno, and Marienburg—were long flourishing members of the HANSEATIC LEAGUE By the 17th cent., however, they had lost the virtual independence they had enjoyed during the greatness of the League, and of the ports only Danzig and Stettin are still important

Pomeranian dog, toy breed generally agreed to have originated in Pomerania It is believed to include in its ancestry the large white spitz dog derived from sledge dogs of Iceland and Lapland, the Pomeranian was for a time known as the spitz dog Dogs of the Pomeranian breed are small and compact and give an impression of buoyancy and vitality Many colors are acceptable, e g , black, brown, red, cream, sable, blue, white, and parti-colors The fluffy undercoat is covered by a long, straight, glistening coat, especially abundant around the neck, shoulders, and chest The hair on the hind quarters should be long, and the tail should bend over the back with the long hair of the tail spreading over the dog's body The head is somewhat wedge shaped and rather foxlike, and the small ears are carried erect

Pomeranus: see BUGENHAGEN, JOHANN.

Pomerelia see POMERANIA

Pomeroy, 1 Village (pop 3,581), co. seat of Meigs co., SE Ohio, on the Ohio river and SW of Marietta, settled in the early 19th cent., inc 1840 The town has an iron foundry, and other products include chemicals and lumber 2 City (pop 1,723), co seat of Garfield co., SE Wash., NE of Walla Walla, in a grain and cattle area, settled 1863, inc 1886

Pomfret (pŏm'frĭt, pŭm'-), town (pop 1,710), NE Conn., settled before 1700, inc 1713 Pomfret School (1894) is a preparatory school for boys

Pommerellen see POMERANIA.

Pommern: see POMERANIA

Pomona (pumō'nŭ) [from Latin, = fruit], in Roman religion, protectress of fruit trees She had a close connection with other field divinities, and her cult was widespread in the countryside

Pomona (pōmō'nu), city (1940 pop 23,539, 1947 special census pop 31,329), in San Jose township, S Calif., E of Los Angeles, laid out 1875, inc 1887 It packs and ships citrus fruit and has some refining of oil and manufacture of metal and paper products, tiles, and brick It is the seat of the Los Angeles County Fair

Pomona (pumō'nu, pō-) or **Mainland,** island (c 189 sq. mi., pop 13,352), off N Scotland, largest of the Orkney Islands Kirkwall (the capital) and Stromness, the only burghs of the Orkneys, are on Pomona Kirkwall Bay and SCAPA FLOW deeply indent its shores, the coast line on the east and south is very irregular, that on the west precipitous The interior has hills, moors, several lakes containing trout, and fertile valleys Local customs in some districts reveal the Norse ancestry of many of the inhabitants There are numerous Pictish remains—mounds, underground dwellings, circles, and standing stones, some of which figure in Sir Walter Scott's *Pirate* Most famous are the MAESHOWE, between Stromness and Kirkwall, and the Standing Stones of STENNESS

Pomona College. see CLAREMONT COLLEGE

Pomorze, Poland see POMERANIA and WEST PRUSSIA

Pompadour, Jeanne Antoinette Poisson Le Normant d'Etioles, marquise de (pōm'pŭdōr, Fr zhän' ätwänĕt' pwäsôN' lu nôrmä' dätyôl' märkēz' du pōpadōr'), 1721–64, French beauty She became the mistress of Louis XV in 1745 and until her death was virtual ruler of France She was responsible for the appointment of Choiseul and other ministers and was instrumental in the French alliance with Austria which involved France in the Seven Years War Although her position at court was insecure because of her middle-class origin, she kept her influence over the king by her wit and capabilities She used her influence in favor of Voltaire and other writers of the *Encyclopédie* and employed many artists to decorate her residences Her enormous expenses made her unpopular See P de Nolhac, *Louis XV et Madame de Pompadour* (1902); H N Williams, *Madame de Pompadour* (1904), and Marcelle Tinayre, *Madame de Pompadour* (1924, Eng tr, 1926)

Pompano (pŏm'pŭnō), city (pop 4,427), SE Fla., on the Atlantic coast N of Fort Lauderdale, settled c 1900, inc. 1907. It is a trade center for a truck area

Pompeia (pŏmpē'yŭ), fl 61 B C, wife of Julius Caesar; daughter of Q Pompeius Rufus and granddaughter of Sulla. She married Caesar in 67 B C and was divorced in 61 B C, because of an intrigue with CLODIUS while celebrating the mysteries of Bona Dea.

Pompeii (pŏmpā', Ital. pōmpā'ē), ancient city, S Italy, a port near Naples and at the foot of Mt Vesuvius. Possibly an old Oscan settlement, it was a Samnite city for centuries before it passed under the Roman yoke at the time of L. Cornelius Sulla (1st cent B.C.). Pompeii was not only a flourishing port but a resort with many villas of the wealthy An earthquake in A D 63 did much damage, and an eruption of Vesuvius in A D. 79 buried the city (as well as Herculaneum and Stabiae) under cinders and ashes that preserved the ruins of the city with magnificent completeness—down to the fresh colors of the wall paintings The long-forgotten site of the city was rediscovered in 1748 and has been sporadically excavated ever since Many of the earlier finds are scattered among the museums of the world *The Last Days of Pompeii*, a novel by E G E L Bulwer-Lytton, is a highly colored account of the destruction of the city familiar to several generations of English readers See A W Van Buren, *A Companion to the Study of Pompeii and Herculaneum* (1933), R C Carrington, *Pompeii* (1936), H H Tanzer, *The Common People of Pompeii* (1939).

Pompeius, Sextus (sĕk'stŭs pŏmpā'us), d. 35 B C, Roman commander, one of the sons of Pompey the Great. He fought for his father at Pharsalia, then went to Egypt and, after the battle of Thapsus, to Spain, where he continued warring against Caesar's followers after the death of his elder brother in 45 B C A settlement was patched up in 44 B C, and in 43 B C. he was given command of the fleet Later outlawed, he seized Sicily and prevented grain ships from reaching Rome He supported Antony, but in 40 B C came to an agreement with Octavian (Augustus) Two years later trouble and the grain blockade were resumed Sextus Pompeius, aided by a storm, defeated Octavian in 38 B C, and again a storm helped him early in 36 B C Later he was crushed at Naulochus and fled to Asia Minor, where he was captured and killed

Pompeius Magnus see POMPEY

Pompey (Cneius Pompeius Magnus) (pŏm'pē), 106 B C–48 B C, Roman general, the rival of CAESAR. He was the son of Cn Pompeius Strabo (consul in 89 B C), a commander of equivocal reputation The young Pompey fought for SULLA in Picenum, in Sicily, and in Africa so successfully that Sulla allowed him to enter Rome in triumph and receive (81 B C) the title Magnus He helped drive LEPIDUS from Italy (77 B C.) and went to Spain (76 B C) to fight the remnants of the Marius party led by SERTORIUS After this he returned to Italy (72 B C) and broke up the last opposition in the slave revolt of SPARTACUS Although he was not legally eligible, he was elected consul in 70 B C, he supported laws restoring the powers of the tribunes and forcing the senate to share some of the magistracies with the knights Pompey's main career as a general began in 67 B C, when he was commissioned by the law proposed by Aulus Gabinius to destroy the pirates infesting the Mediterranean. From this success he went on to conquer MITHRIDATES VI and Tigranes, king of Armenia He next annexed Syria and Palestine and began the Roman organization of the East In 62 B C he returned to Rome, but found the senate jealous, ungrateful, and stingy. This arose from the influence of the METELLUS faction of senatorial extremists, who thus drove Pompey into alliance with their deadly enemy, Caesar The First Triumvirate was established in 60 B C, and Caesar, Crassus, and Pompey were rulers of Rome Pompey profited least from the combination He was never popular, and his residence in Rome, while Caesar was away, diminished his hold on the people At the same time the behavior of CLODIUS and Pompey's own inclinations made him more and more sympathetic with the senate The relations of Pompey and Caesar, however strained, were always amicable while Pompey's wife Julia, Caesar's daughter, lived, but after her death (54 B C) Pompey became Caesar's jealous enemy Finally, after the disorders of the gangs organized by Clodius and Milo, in 52 B C Pompey received the sole consulship as the leader of the senatorial party. He made Q Caecilius Metellus Pius Scipio his colleague Caesar broke with the senate and crossed (49 B C) the Rubicon, and the civil war began Pompey was defeated at Pharsala (48 B C) and fled to Egypt, where he was assassinated by one of his old centurions as he stepped ashore Though a good soldier, he was scarcely a great general, and as a statesman he showed himself weak and irresolute

Pomponazzi, Pietro (pyā'trō pŏmpōnät'tsē), 1462–1525, Italian philosopher He was a professor at Padua, Ferrara, and Bologna One of the first to question the dogmas of scholasticism, he attacked the interpretation of Aristotle as given by Thomas Aquinas In his *De immortalitate* (1516) he argued that the soul is mortal but that the values of the church may be preserved by viewing virtue as an end in itself His naturalist position is developed in *De incantationibus* (1520), in which he stressed the evolution of man and of nature He sought to evade charges of heresy by urging that what is true in philosophy may not be true in theology, and vice versa. His works were published at Basel in 1567.

Pomponius Laetus, Julius (pŏmpō'nēŭs lē'tŭs), 1425–98, Italian humanist, also called Giulio Pomponio Leto. He was a professor at the Gymnasium Romanum and founded a philosophical academy which was accused of paganism and republicanism after efforts to revive Greek and Roman life. He was imprisoned for an attempt to assassinate Pope Paul II in 1468 but was acquitted for lack of evidence. His collected works were published as *Opera Pomponii Laeti varia* (1521).

Pomponius Mela (mē'lŭ), fl A D. c 50, geographer, b Spain. His *De situ orbis*, a description of the Mediterranean region, was published in Latin in 1471 and translated into English by Arthur Golding as *The Cosmographer* (1585).

Pompton Lakes, borough (pop 3,189), N N J., NW of Paterson, settled 1682 by Dutch, inc 1895 Explosives are made here. There are several pre-Revolutionary houses

Pompton Plains, unincorporated village (pop 1,273), N N.J., S of Pompton Lakes

Ponape (pō'näpä), volcanic island (129 sq mi, pop 5,735), W Pacific, in the E Caroline Islands Ponape has deposits of bauxite, iron, and iron sulphate There are ruins of ancient stone walls and dikes The chief products are copra, dried bonito, and native handicraft In the Second World War the island was the site of a Japanese air base, but was not invaded by U S forces Ponape was formerly called Ascension Island

Ponca (pŏng'kŭ), city (pop 1,003), co. seat of Dixon co., extreme NE Nebr., on the Missouri and NW of Sioux City, Iowa, inc 1856 It is one of the oldest towns in the state Ponca State Park is near by.

Ponca City, city (pop 16,794), N Okla., near the Arkansas river, founded 1893, inc. 1902 It is a city of many parks, in a farming, stock-raising, and oil-producing area, and has a huge oil refinery, grain elevators, and food-processing plants An Indian reservation is near by

Ponca Indians, tribe of North American Indians of the Siouan linguistic stock, one of the five tribes of the Dhegiha group (see LANGUAGE, table) According to tradition the group lived in the Ohio valley, but migrated to the mouth of the Osage river Here the Ponca and the Omaha separated from the main group and went to SW Minnesota After game became scarce in this area, they moved NW to the Big Sioux river, where they built a fort War with the Sioux forced the Ponca to flee to the Black Hills, in South Dakota The Ponca subsequently rejoined their allies and moved to the mouth of the Niobrara river, in Nebraska The Ponca remained here, but the other tribes moved on Lewis and Clark met them in 1804 when the Ponca, recovering from a smallpox epidemic, only numbered some 200 Raids by the Sioux forced the Ponca to migrate to Oklahoma in 1877 A commission appointed (1880) by President Hayes studied the land claims of the tribe, as a result the major portion remained in Oklahoma, while a band numbering some 225 returned to their former home in Nebraska Today the Ponca living on a reservation in Oklahoma number some 900, and those in Nebraska 400 The Ponca were "village" Indians of the Plains area, they farmed corn and hunted buffalo See George Dorsey, *Ponca Sun Dance* (1905)

Ponce (pōn'sä), city (1940 pop 65,182, 1949 estimated pop 75,000), S Puerto Rico The second largest city of the island, it is a thriving port (the Playa de Ponce being the port section) and a center of agricultural trade for a rich region growing sugar cane, fruits, and coffee The industries depend largely on processing sugar (refining and rum distilling), but there are also textile mills and small factories (candy, hats, and needlework) The old fort (18th cent.), the cathedral, and spacious colonial houses give a quiet balance for the busy modernity of the business sections

Ponce de León, Juan (pōns' dŭ lē'ŏn, Span. hwän' pōn'thä dä lāōn'), c 1460–1521, Spanish explorer, discoverer of Florida, b San Servos, Leon. He served against the Moors of Granada and in 1493 accompanied Columbus on his second voyage to America From 1502 to 1504 he assisted in the conquest of Higuey (the eastern part of Hispaniola, now the Dominican Republic) and was made governor of that province After finding gold on Boriquén (Puerto Rico) in 1508, he conquered the island and, as governor (1509–12), made a fortune in gold, slaves, and land Hearing tales from the Carib Indians of a wonderfully rich island called Bimini, said to be N of Cuba, Ponce de León secured a commission (Feb, 1512) to discover, conquer, and colonise the place The legend that he was seeking a spring whose waters had the power of restoring youth has been discredited. From Puerto Rico on March 3, 1513, with three vessels, he sailed NE through the Bahamas, sighting the Florida peninsula late in March and landing near the site of St. Augustine early in April. Probably because the discovery occurred at the time of the Easter feast (*Pascua Florida*), Ponce de León named the land he claimed for Spain La Florida. He turned south, exploring the coast to Key West, and proceeded up the west coast as far as Cape Romano Then, retracing his route, he sailed to

Miami Bay via Cuba and from there returned to Puerto Rico, arriving Sept 21, 1513 After partly pacifying Puerto Rico, which had been in revolt, he sailed to Spain, where the king commissioned him (Sept, 1514) to conquer and colonize the "isle of Florida" In 1515 he led an expedition against the Caribs south of Puerto Rico and returned to Puerto Rico, where he resided until 1521 With two vessels, 200 men, 50 horses and other domestic animals, and farm implements, he sailed for Florida in 1521 Upon landing on the west coast, probably in the vicinity of Charlotte Harbor, his party was fiercely attacked by Indians, and he was severely wounded by an arrow The expedition sailed immediately for Cuba, where Ponce de León soon died See F A Ober, *Juan Ponce de León* (1908), Woodbury Lowery, *The Spanish Settlements within the Present Limits of the United States, 1513–1561* (1901)

Poncelet, Jean Victor (zhäⁿ' vēktôr' pôslā'), 1788–1867, French mathematician and army engineer, b Metz While a prisoner of war (1813–14) at Saratov following Napoleon's Russian campaign, he evolved the foundations of the modern form of projective geometry and incorporated his results in *Traité des propriétés projectives des figures* (1822, 2d ed, 2 vols, 1865–66) He established courses in applied mechanics and was professor at the school of mechanics at Metz (1825–35) and at the Faculty of Sciences, Paris (1838–48), as commandant of the École polytechnique, Paris (1848–50), he reorganized its mathematics curriculum He retired (1852) from the army with the rank of general

Poncha Pass (pŏn'chŭ), 9,010 ft high, central Colo, in the northern tip of the Sangre de Cristo Mts and near Salida One of the lowest mountain passes in Colorado, it was used by the Indians and the mountain men Now it is crossed by a highway

Ponchatoula (pŏnshutōō'lu), town (pop 4,001), SE La, E of Baton Rouge, settled c 1830, inc c 1860 It is a shipping point for strawberries and vegetables A resort beach is near

Ponchielli, Amilcare (ämēlka'rā pŏngkyĕl'lē), 1834–86, Italian composer of several operas which were immensely successful *La Gioconda* (Milan, 1876), with libretto by Boito after Hugo's *Angelo*, still holds the stage In 1881 he was appointed choirmaster at the cathedral in Bergamo

Pond, John, 1767–1836, English astronomer At Westbury, near Bristol, he made observations with an altazimuth circle, 2½ ft in diameter, and submitted them to the Royal Society His studies revealed that the mural quadrant at Greenwich had changed its form After he had been appointed astronomer royal in 1811, he undertook the re-equipment and improvement of the observatory at Greenwich He wrote a number of important papers, translated (1809) Laplace's *Système du monde*, published a star catalogue, and superintended the publication of the *Nautical Almanac* (1832–33) as well as eight volumes of *Greenwich Observations*

Pond, Peter, 1740–1807, American fur trader and explorer of the Old Northwest, b Milford, Conn He served in the last of the French and Indian Wars and in 1765 became a western trader First at Detroit, he later removed to Mackinac and made journeys (1773–75) to the upper Mississippi country and to Wisconsin He then went by way of Lake Superior N to the Saskatchewan In 1778 he went to the Athabaska district with stock pooled from several traders and established the first post in the region on the Athabaska river Accused of the murder of a rival trader in 1782, Pond was acquitted when tried He was included in the organization (1783–84) of the North West Company, but in 1788 withdrew in anger Pond is best known for his maps of the country covered in his voyages, which he presented to Congress, copies were sent to Great Britain and France and another map was prepared for Russia The accusations that Pond was guilty of violence, dishonesty, and lawlessness appear at least partially unjust His narratives appear in *Five Fur Traders of the Northwest* (ed. by C M Gates, 1933) See H A Innis, *Peter Pond, Fur Trader and Adventurer* (1930).

Pond Creek, city (pop 1,019), N Okla, N of Enid, in a wheat-growing area, settled c 1889 on the site of an old railroad terminus

Pondichéry (pōdēshārē') or **Pondicherry** (pŏndĭchĕ'rē, -shĕ'rē), French settlement (113 sq mi, pop 222,572), on the Bay of Bengal, adjacent to Madras state, India It is the largest of the settlements constituting French India The territorial limits were established in 1815. The capital of French India is the town Pondichéry (pop 53,101) It was founded in 1674 It was taken three times (1761, 1778, 1793) by Great Britain in the course of the struggle with France for the control of India Its once great trade declined after the 18th cent Today cotton cloth is woven and peanuts are exported.

Pond Inlet, trading post (1943 pop. 179), on N Baffin Island, Northwest Territories, opposite Bylot Island. A government radio station, a post of the Royal Canadian Mounted Police, and Anglican and Roman Catholic missions are here.

pond lily, spatterdock, or cow lily, names for aquatic plants of the WATER LILY family and of the genus *Nuphar* (or *Nymphozanthus* or *Nymphaea*), native to the North Temperate Zone Pond lilies are somewhat coarse in appearance, with yellow cup-shaped flowers and erect or floating leaves Seeds of a western American species (*polysepalum*) were prepared and eaten much like popcorn or were made into meal by the KLAMATH INDIANS

Pondoland · see TRANSKEIAN TERRITORIES

pond scum, accumulation of floating green filamentous algae on the surface of stagnant or slowly moving waters, such as ponds and reservoirs One of the commonest forms is *Spirogyra* Pond scums can be destroyed by adding small quantities of copper sulphate (blue vitriol or bluestone) to the water

pondweed, weedy aquatic herb of the genus *Potamogeton*, of which about 40 known species inhabit North American ponds and slow streams They have rather slender stems and small spikes of inconspicuous flowers appearing above the water, and many have two kinds of leaves—narrow grass-like submerged filaments and stouter floating leaves Some species are found only locally, others are widespread They are often found as weeds in aquatic gardens, and a few species are cultivated as aquatic plants

Poniatowski, Jozef Anton, Prince (yōō'zĕf än'tôn pônyätô'fskē), 1763–1813, Polish general, nephew of Stanislaus II He fought the Russians in the campaign (1792) preceding the second Polish partition and again in the insurrection (1794) of Kosciuszko He became minister of war of the grand duchy of Warsaw set up by Napoleon I and in 1809 led the Polish troops in Napoleon's campaign against Austria He again commanded a corps under Napoleon in the Russian campaign of 1812 He drowned himself after the battle of Leipsig, in which he had covered the withdrawal of the French troops

Poniatowski, Stanislaus Augustus. see STANISLAUS II

Ponoka (punō'kŭ), town (pop 1,468), central Alta, on the Battle river and S of Edmonton It is a hog-shipping center, in a ranch and lumbering area A provincial mental hospital is here

Pons, Jean Louis (zhäⁿ' lwē' pôs'), 1761–1831, French astronomer He was noted for his success in detecting comets He discovered 37, a record number, between 1801 and 1827 He became assistant director of the Marseilles Observatory in 1813 In 1819 he was put in charge of a new observatory near Lucca, Italy, and in 1825 he became director of the observatory at Florence

Pons, Lily (panz, Fr pôs), 1904–, French-American coloratura soprano Having first studied piano at the Paris Conservatoire, she made her operatic debut in Mulhouse in 1928 and first appeared with the Metropolitan Opera Company in 1930 For her the Metropolitan revived Delibes's *Lakmé*, Vincenzo Bellini's *La Sonnambula*, and Donizetti's *La Fille du regiment* She appeared in three moving pictures In 1938 she was married to the conductor André Kostelanetz, and in 1940 she became a U S citizen

Ponselle, Rosa (pônzĕl'), 1894–, American operatic soprano, b Meriden, Conn, of Italian parentage. Trained in the United States, she made her debut at the Metropolitan Opera House in 1918, singing opposite Caruso in Verdi's *La forza del destino* She was an outstanding member of that company until her retirement in 1937. Her sister, **Carmela Ponselle** (karmĕ'lu), 1892–, mezzo-soprano, b Schenectady, N Y, also sang for a few seasons with the Metropolitan Opera Company beginning with the season 1925–26

Ponsonby, Sir Henry Frederick (pŭn'sunbē), 1825–95, English administrator, private secretary to Queen Victoria After a military career that included service in the Crimean War, he became an equerry to the prince consort in 1857 and in 1870 private secretary to Victoria, a position that he held for 25 years In 1878 he was made keeper of the privy purse and in 1880 privy counselor His biography, compiled from his extensive correspondence and written by his son, Arthur Ponsonby, was published in 1942

Ponsonby, Vere Brabazon · see BESSBOROUGH, VERE BRABAZON PONSONBY, 9TH EARL OF

Ponta Delgada (pôn'tŭ dĕlga'du), city (pop 21,048), capital of Ponta Delgada dist, in the Azores, belonging to Portugal It is on São Miguel island and is the largest city of the islands and a port of some importance It is also a popular resort.

Pontano, Giovanni (jōvän'nē pōnta'nō), 1426–1503, Italian poet, historian, and statesman, who used also the Latin form Jovianus Pontanus He was protected by Alfonso of Aragon, who made him his chancellor of Naples (1447) and later his secretary Pontano personally surrendered Naples to the French invaders He was a noted humanist and discoverer of Donatus' commentary on Vergil. His verse, in Latin, is notable for grace, harmoniousness, and the naturalness of its sentiment, his history of Naples was a fine work

Pontchartrain, Lake (pôn'chŭrtrān), shallow lake, 41 mi long and 25 mi. wide, SE La, N of New Orleans. It is connected with Lake Maurepas, with the Mississippi, and with the Gulf of Mexico through Lake Borgne The narrow eastern part is crossed by a concrete bridge, 10 mi long with its approaches, from Slidell to the New Orleans side There are many small resorts on the shores

Pont du Gard (pôⁿ' dü gär'), Roman aqueduct built 19 B C across the Gard river near Remoulins, Gard dept, S France It supplied Nimes with water Consisting of three tiers of arches, it is c 900 ft long and c 160 ft high, of extremely solid construction, and admirable in its architectural proportions The lowest tier is now in use as a road bridge

Ponte, Giacomo da. see BASSANO, JACOPO.

Ponte, Giovanni da (jōvän'nē da pōn'tä), 1512–97, Italian architect He was appointed in 1558 chief architect of Venice He is remembered for his design of the celebrated Bridge of the Rialto (1589) and his restorations to the doge's palace after the fire of 1577

Ponte, Jacopo da · see BASSANO, JACOPO

Pontefract (pŏn'tĭfrăkt, pŭm'frĭt), municipal borough (1931 pop 19,057, 1943 estimated pop 21,560), West Riding of Yorkshire, England, SE of Leeds Pontefract grew around a great castle built in the 11th cent on the site of a Saxon fort It was the scene of the death of Richard II in 1400, was taken in the Pilgrimage of Grace in 1536, was besieged four times in the civil war, and was dismantled after being taken by John Lambert in 1649 Subterranean caverns and other vestiges of the castle remain West of the town is a racecourse

Pontevedra (pōntāvā'dhrä), city (pop 14,432), capital of Pontevedra prov, NW Spain, in Galicia It is a fishing port on a beautiful bay of the Atlantic Ocean and the center of an agricultural district Among its many ancient structures are the Gothic Church of Santa María, the picturesque ruins of a 13th-century convent, and a Roman bridge

Ponthierville (pōtyĕvēl'), town, NE Belgian Congo It is connected to Stanleyville by a railroad which rounds the Stanley Falls Palm-oil products are exported

Pontiac (pŏn'tēăk"), d 1769, Ottawa Indian chief He may have been the chief met by Robert ROGERS in 1760 when Rogers was on his way to take possession of the Western forts for the English Although the Indian uprising against the English colonists just after the FRENCH AND INDIAN WARS is known as Pontiac's Rebellion or Pontiac's Conspiracy, Pontiac was probably present only at the siege of Detroit How much the movement owed to his influence and organization is unknown He certainly planned the Detroit attack, and the whole campaign was motivated by his sentiments When the rebellion had failed and a treaty had been concluded in 1766, Pontiac is supposed to have gone to the Mississippi and to have been murdered by Illinois Indians at Cahokia, but this story is only a legend.

Pontiac 1 City (pop 9,585), co seat of Livingston co, NE central Ill, on the Vermilion river and NE of Bloomington, settled 1833, platted 1837, inc 1857 It is a trade, rail, and industrial center in a fertile farm area A branch of the state penitentiary is here **2** Industrial city (pop 66,626), co seat of Oakland co, SE Mich, on the Clinton river and NW of Detroit, founded 1818 by promoters from Detroit, inc as a village 1837, as a city 1861 The region has farms, lakes, and resorts Industries developed early and expanded after the railroad came Carriage making, important in the 1880s, gave way to the automobile industry There are many allied plants The Saginaw Trail of the Indians crossed here Not far away is a state mental hospital

Pontiac's Rebellion or **Pontiac's Conspiracy,** 1763–66, Indian uprising against the British just after the close of the French and Indian Wars, so called after one of its leaders, Pontiac The French attitude toward the Indians had always been more conciliatory than that of the English French Jesuit priests and French traders had maintained friendly and generous dealings with their Indian neighbors While the Treaty of Paris (1763) allotted the Ohio valley and adjacent regions to the Indians, the resentment of the Western tribes was aroused at the English assumption of ownership in the West In the early spring of 1763 a council was held near Detroit, on the banks of the Ecorse river, here the attack on Fort Detroit was planned Pontiac's scheme was to gain admission to the garrison, with some of his chiefs, by asking for a council with the commandant, but the Indians were to carry weapons and open a surprise attack Major Henry Gladwyn, the commandant, was warned of the plot and foiled it. However, Pontiac and his Ottawa, reinforced by Wyandot, Potawatami, and Ojibwa, stormed the fort on May 10 The garrison was relieved by reinforcements and supplies from Niagara in the summer, but Pontiac continued to besiege it until November, when, disappointed at finding he could expect no help from the French, he retired to the Maumee Fort Pitt in Pennsylvania had been warned by a messenger from Gladwyn and withstood attack until relieved by Col. Henry BOUQUET. Bouquet and his forces on their

way to Fort Pitt in Aug , 1763, had been victorious in a severe engagement at Bushy Run. Many other outposts, however, were destroyed with much slaughter, among them Sandusky, Michilimackinac (MACKINAC), and Presque Isle In an attempt by Capt James Dalzel to surprise Pontiac's camp, the battle of Bloody Run was fought on July 31, 1763, with great loss to the British The borders of Pennsylvania, Maryland, and Virginia were kept in a state of terror In the spring of 1764 an offensive campaign was planned by the English, and two armies were sent out, one into Ohio under Colonel Bouquet, and the other to the Great Lakes under Col John Bradstreet Bradstreet's attempts at treaties were condemned by Gen Thomas Gage, who had succeeded Sir Jeffrey Amherst as commander in chief, and he returned home with little achievement Bouquet, by his campaign in Pennsylvania, brought the Delaware and the Shawnee to sue for peace, and a treaty was concluded with them by Sir William JOHNSON After failing to win some of the tribes farther west and south to join him in rebellion, Pontiac finally completed in 1766 a treaty with Johnson and was pardoned by the English See Francis Parkman, *History of the Conspiracy of Pontiac* (1851, 10th rev ed , 1913), G M Wrong, *The Rise and Fall of New France* (2 vols , 1928), Calvin Goodrich, *The First Michigan Frontier* (1940), H H Peckham, *Pontiac and the Indian Uprising* (1947)

Pontianak (pŏntēä'nak), town (pop 45,196), on W Borneo, Indonesia, at the mouth of a small stream in the Kapuas delta near the west coast It exports timber, copra, and rubber

Ponticus, Aquila see AQUILA PONTICUS

pontifex maximus (pŏn'tĭfĕks măk'sĭmus) [Latin,= supreme pontiff], official head of Roman religion, president of the college of pontifices, who regulated the conduct of all religious affairs His powers were great in politics because of his influence on the auguries He also controlled the calendar, and it was as pontifex maximus that Julius Caesar revised the calendar He was elected by the people After the supremacy of Christianity, the popes took the title of pontifex maximus, and it was as successor of the Roman pontiff that they have revised the calendar (see GREGORY XIII)

Pontine Marshes (pŏn'tĭn, -tīn), low-lying region, S Latium, central Italy, between the Tyrrhenian Sea and the Apennine foothills In pre-Roman and early Roman times it was populated and fertile, but it was later abandoned because of the malaria in its unhealthful marshlands Trajan, Theodoric, and several popes started reclamation works, but a drainage system was completed only under Mussolini The large estates in the area were broken into lots and farmers from N Italy settled permanently The first rural town, Littoria (now LATINA), was inaugurated in 1932 Sabaudia, Pontinia, Aprilia, and Pomezia were inaugurated in the following years Wheat and cotton are now produced

Pontius Pilate (pŏn'shus pī'lut), fl A D 26, Roman procurator of Judaea (A D c 26–A D 36 or 37) He was removed at the complaint of Samaritans According to tradition he committed suicide His attempt to evade responsibility in the trial of Jesus was caused by his difficult responsibility for the peace of Palestine See Mat 27, John 18 28 19 42 The **Acts of Pilate**, one of the PSEUDEPIGRAPHA, are part of the Gospel of Nicodemus Many legends were told of him later, notably those connecting him with Mt PILATUS

pontoon (pŏn'tun, pŏntōōn'), flat-bottomed boat or other floating unit used for building bridges, raising sunken ships, and the like Barrels or casks, open boats, and completely enclosed watertight compartments of wood, metal, concrete, canvas, or rubber have been used in the construction of pontoon bridges The floating foundation units are joined and anchored in the stream, and a roadway laid across them While occasionally built for civilian emergency or temporary use, pontoon bridges are most frequently used in warfare, when the transportability of parts and speed of construction are essential to military operations The Persian king Darius I built pontoon bridges across the Bosporus and the Danube in his war against the Scythians, his son Xerxes I built the famous bridge of boats across the Hellespont when he began his war against Greece The U S army experimented with rubber pontoons from 1846 on, and in 1941 collapsible floats of rubber fabric were adopted, while steel treadways were used instead of planks for the roadway At the same time the navy introduced box pontoons of light welded steel for constructing bridges from ship to shore during landing operations These box pontoons could be assembled into bridges, docks, causeways, and, by adding a motor, into self-propelling barges Pontoons used for raising a sunken ship have the form of watertight cylinders They are filled with water, made fast to the vessel, then emptied by compressed air, thus giving the ship buoyancy The landing floats of a hydroplane are a form of pontoon. Pontoon lifeboats consist of a deck carried by a watertight structure

Pontoppidan, Henrik (hän'rĕk pŏntô'pĭdän), 1857–1943, Danish novelist He shared the 1917 Nobel Prize in Literature with his compatriot Gjellerup. He studied engineering, worked as a journalist, and traveled in Italy and Germany before the appearance of his first major work, *The Promised Land* (Eng tr , 1896), which was originally published as a trilogy—*Soil* (1891), *The Promised Land* (1892), *Judgment Day* (1895) *Lucky Peter* (1898–1904) describes Copenhagen life at the end of the century His final books, *The Kingdom of the Dead* (1912–16) and *Man's Heaven* (1927), bitterly upbraided the Danish people for their materialistic way of life.

Pontormo, Jacopo da (yä'kōpō da pŏntôr'mō), 1494–1557?, Florentine painter, whose real name was Jacopo Carucci or Carrucci His earlier and best efforts were highly praised by Raphael and Michelangelo, but he later imitated Durer and Michelangelo to the deterioration of his own style His works include *Visitation* (Sant' Annunziata, Florence), his earliest extant work, three small paintings depicting *Joseph and His Kindred in Egypt*, executed for the Villa Borgherini, Florence (one in the National Gall , London), his masterpiece, the decorative mythological fresco (Villa del Poggio a Caiano), *Descent from the Cross* (Church of Santa Felicita, Florence), and *The Holy Family* and two portraits (National Gall of Arts, Washington, D C) Pontormo was an excellent portraitist See study by F M Clapp (1916)

Pontotoc (pŏntŭtŏk'), city (pop 1,832), co seat of Pontotoc co , NE Miss , W of Tupelo, in a farm area, inc 1837

Pontresina (pŏntrāzē'nä), summer and winter resort (resident pop 757), Grisons canton, Switzerland, at the foot of the Bernina Alps

Pont Rouge (pō rōōzh'), village (pop 1,865), S Que , on the Jacques Cartier river near the St Lawrence and W of Quebec It is in a dairy area, and pigs and poultry are raised

Pontus (pŏn'tus), in Greek religion, sea-god, son of GAEA By her he was the father of Ceto, Nereus, Thaumus, Phorcus, and Eurybia

Pontus [Gr ,=sea], ancient country, NE Asia Minor, on the Black Sea coast On its inland side were Cappadocia and W Armenia It was not significantly penetrated by Persian or Hellenic civilization In the 4th cent B C , Pontus was taken over by a Persian family, profiting by the breakup of Alexander's empire, and by 281 B C the ruler (Mithridates II), was calling himself king A century later Pharnaces I was able to annex Sinope, and his successors made a profitable alliance with Rome Mithridates V (d 120 B C) gained Phrygia thereby The only great Pontic ruler was the next, MITHRIDATES VI, who conquered Asia Minor, had control of the Crimea, and threatened Rome in Greece But the Pontic "empire" had neither economic nor political stability, and Mithridates prospered only because Rome was preoccupied elsewhere Pompey defeated him (65 B C), and when PHARNACES II tried to take advantage of the Roman civil war, Julius Caesar easily removed the threat (at Zela, 47 B C) The Romans joined Pontus to the province of Galatia-Cappadocia The principal Pontic cities were Amasia, Neocaesarea, and Zela Pontus is mentioned three times in the New Testament (Acts 2 9, 18 2, 1 Peter 1 1).

Pontus Euxinus. see BLACK SEA

Pontypool (pŏntĕpōōl'), urban district (1931 pop 6,790, 1947 estimated pop 42,420), Monmouthshire, England, NW of Newport It is in a coalmining and ironworking region and has tin-plate manufacturing The iron industry was introduced in 1588 Pontypool absorbed Abersychan in 1935

Pontypridd (pŏntuprĕdh'), urban district (1931 pop 42,717, 1947 estimated pop 39,240), Glamorganshire, Wales, NW of Cardiff At the junction of the coal-producing valleys of the Rhondda and the Taff, it ships coal down the Taff to Cardiff There are chain works here The famous single-arched bridge over the Taff was built in 1755

pony see HORSE

pony express In 1860 and 1861 letters were carried regularly from St Joseph, Mo , the western end of a telegraph line, to Sacramento, Calif , by pony express The distance of nearly 2,000 mi , chiefly through wilderness infested by hostile Indians, could be covered in eight days Before the pony express, letters to and from California had been carried by ships, wagon trains, and stagecoaches and had required much more time for the journey. Communication by telegraph was hastened by the Civil War The service began in April, 1860 The first telegram through to California was transmitted Oct 24, 1861, and the pony express was then gradually discontinued. The record was brief but picturesque, and the pony express lives in legend as well as history Stations, where the rider changed ponies, were roughly 10 mi apart The manager of the pony express was Alexander Majors, of Kentucky See L R. Hafen, *The Overland Mail* (1926); Arthur Chapman, *The Pony Express* (1933).

poodle, small and medium-sized dog of superior intelligence. Although it has long been known in France and Germany, some believe that it may have originated in Spain from an early form of water spaniel Depending upon their size, poodles are classed as standard, miniature, or toy poodles The larger poodles are sometimes used as retrievers and watchdogs as well as pets. Poodles were long trained as performing dogs for circuses and theaters. The standard poodle measures 15 in. or more in shoulder height, its coat is a solid color, often black or silver, but also appears in white, blue, cream, apricot, and red The curly coat grows profusely and has a woolly undercoat If the coat grows too long and is not well brushed and oiled, it forms long twisted cords and the dog is called a corded poodle This growth of hair hampers the dog and is generally not favored Poodles' coats are usually clipped in several rather fantastic styles, a lionlike mane is left on the forequarts and cuffs on the legs In the Continental style the hind quarters are closely clipped and tufts remain on the hips and hocks, while in the English Saddle style a short clipped covering of hair is left in the hip region Miniature poodles are very similar to the standards except that they are considerably smaller, having a shoulder height less than 15 in Toy poodles are similar small dogs weighing, according to standard requirements, under 12 lb.

pool, game see BILLIARDS

Poole, Ernest (pōōl), 1880–1950, American writer, b Chicago, grad Princeton, 1902 He was a magazine correspondent in Russia, France, and Germany before and during the First World War His novels include *The Harbor* (1915), a story of the Brooklyn water front, *His Family* (1917), awarded a Pulitzer Prize, and *Blind* (1920) Among other works are *The Little Dark Moon and Other Russian Sketches* (1925), *Giants Gone* (1943), Chicago biographies, and *Great White Hills of New Hampshire* (1946) See his autobiography, *The Bridge* (1940)

Poole, Reginald Lane: see LANE POOLE, REGINALD.

Poole, Stanley Edward Lane—: see LANE-POOLE, STANLEY EDWARD

Poole, William Frederick, 1821–94, American librarian and bibliographer, b Essex co , Mass , grad Yale, 1849 He was librarian of the Boston Athenaeum (1856–69), of the public libraries of Cincinnati (1871–73) and Chicago (1874–87), and of the Newberry Library (1887–94) He assisted in organizing many libraries, including the Chicago Public Library, the Newberry Library, and the library of the U S Naval Academy. A founder of the American Library Association (1876), he was its president from 1885 to 1887 He compiled the first general index to periodicals in the United States, *Poole's Index to Periodical Literature* (1848), and edited two other editions (1853, 1882) Later editions were compiled cooperatively by librarians and edited by W J Fletcher, the last edition appeared in 1907 This index was replaced by the *Readers' Guide to Periodical Literature* In addition to his writings on library work, Poole wrote several monographs on American history, including *Cotton Mather and Salem Witchcraft* (1869) and *Anti-Slavery Opinions before 1800* (1873)

Poole, municipal borough (1931 pop 57,211, 1947 estimated pop 79,870), Dorsetshire, England It is on the north side of Poole Harbour, an inlet of the English Channel NE of the Isle of Purbeck The harbor is irregular in shape, c 7 mi long and 4 mi wide, with a narrow entrance within which is Brankesea or Brownsea island with an old castle Fishing, yachting, and shipping of clay and pottery are carried on from Poole It is a naval supply station and a seaplane base and has a considerable coastal trade

Poona (pōō'nu), city (pop 258,197), central Bombay state, India There are several palaces and temples of the 17th and 18th cent , when it was the Mahratta capital It has a pleasant climate (its elevation is c 1,850 ft) and serves as the provincial summer capital There is metalwork, jewelry making, and weaving

Poopó (pō"pō'), salt lake, area 965 sq mi , on the high plateau of E Bolivia It is more than 11,000 ft above sea level and only 10 ft deep Fed by the DESAGUADERO, it has no outlet except in time of flood, when it drains E to the Salar de Coipasa

Poor, Charles Lane, 1886–, American astronomer and educator, b Hackensack, N J , grad College of the City of New York, 1886, Ph D Johns Hopkins, 1892 From 1891 to 1899 he was associated with Johns Hopkins, and from 1903 he taught at Columbia, becoming professor emeritus in 1944 From 1901 to 1906 he edited the *Annals* of the New York Academy of Sciences His works include *Simplified Navigation* (1918), *Gravitation versus Relativity* (1922), *What Einstein Really Did* (1930), and *Men against the Rule* (1937)

Poor, Henry Varnum, 1888–, American painter, b Chapman, Kansas, son of a banker He studied art at Stanford Univ , the Slade School of Art, London, and Julien's, Paris On his return he taught for some years in California, during the First World War he served in the army For 10 years after the war he made ceramics at his home near Nyack, N Y The success of this industry enabled him to revisit France, and after 1928 he devoted himself to painting. His still lifes, portraits, and landscapes have freshness and sincerity and are simply and beautifully painted His color is subtle and his form expressive Poor is repre-

sented in many American galleries. His frescoes in the Post Office and Dept of Justice buildings, Washington, D C , are well known *Autumn Fruit* (Whitney Mus , New York) is a characteristic oil.

Poor Clares: see CLARE, SAINT.

Poore, Benjamin Perley, 1820–87, American journalist, b near Newburyport, Mass He ran away from an academy where he was preparing for West Point and learned printing at Worcester, Mass His father bought for him a Georgia newspaper which he edited (1838–41) He served in the U S legation in Brussels until 1848 and collected historical manuscripts in France for the state of Massachusetts. Back in the United States, he returned to newspaper editing, and after 1854 he was a Washington correspondent, known to his readers as "Perley" for some 30 years He wrote many biographies, including works on Zachary Taylor (1848), Napoleon Bonaparte (1851), and John Sherman (1880) See his autobiography, *Perley's Reminiscences of Sixty Years in the National Metropolis* (1886)

Poore, Henry Rankin, 1859–1940, American figure and animal painter and writer, b Newark, N J , studied at the Pennsylvania Academy of the Fine Arts and the Art Students League and in Paris He began as a landscape painter and later painted animals in effective settings and hunting scenes Among his pictures are *A Meet in Old Virginia* and *Old Burgundy* His writings include *Art Principles in Practice* (1929), *Modern Art* (1931), and *Art's Place in Education* (1937)

poor law, legislation relating to public assistance for the poor Early measures were usually designed to suppress vagrancy and begging In 1601 England passed the Elizabethan poor relief act, which recognized the state's obligation to the needy, it provided for compulsory local levies to be administered by the parish, and it emphasized work relief for the able-bodied Local reluctance to support the poor from other areas led to settlement laws limiting migration Institutional relief was provided by poorhouses, where the aged, sick, or insane were grouped together From c 1700 workhouses were established where inmates were expected to support themselves by work, even able-bodied men and their families were placed in them However, because of widespread unemployment and low wages, it became customary in the late 18th cent to give home relief Poor-law amendments of 1834 sought to establish uniform assistance by placing relief under national supervision, it curtailed home relief and modified the settlement laws A liberalized poor law was passed in 1927 In many European countries the churches retained control of poor relief until the 19th cent , when measures to provide public relief became common A system geared to individual needs was developed in Elberfeld, Germany, and became the pattern for many communities In the United States most states have retained poor-relief statutes based on the English poor law introduced by the colonists, there is little uniformity in the different states or even in communities within a state The 20th cent has brought recognition of an obligation for uniform relief on a national scale In the United States special categories of relief, notably to children, the blind, veterans, and Indians, have been placed under national supervision Palliative measures have been supplemented by preventive measures, such as unemployment compensation and old-age pensions See also SOCIAL SECURITY See Sidney Webb and Beatrice Webb, *English Poor Law History* (1927–29)

poor-man's-orchid, see BUTTERFLY FLOWER

Popayán (pōpīyän'), city (pop 18,292), SW Colombia Founded in 1536 by Sebastián de BENALCÁZAR, on a volcanic terrace 1,000 ft above the Cauca river, Popayán (alt 5,500 ft) became a rich, aristocratic center of colonial trade It changed sides several times during the revolution against Spain Later it lost its prestige and commercial preeminence Coffee is the chief product

popcorn, variety of Indian corn (*Zea mays everta*), characterized by small ears, small pointed or rounded kernels, usually white, and a larger proportion of hard food material stored about the germ Steam is formed when heat is applied, and the grain, enlarging six to eight times in bulk, explodes and exposes the pure white pulp The freshly popped corn, seasoned with salt and butter or made into balls with molasses taffy, is a wholesome delicacy, already well known in pioneer American communities

Pope, Alexander, 1688–1744, English poet, b London, son of a prosperous Roman Catholic linen draper About 1700 he moved with his parents to a home near Binfield and Windsor Forest For the next dozen years Pope devoted himself to independent study of literature, aided and encouraged by Wycherley, Congreve, Granville, and other friends whom he met at Binfield and in London, where he spent an increasing amount of time In 1709 he published in Jacob Tonson's miscellany a set of pastorals, which led to a quarrel with Ambrose PHILIPS, and in 1711 appeared anonymously his *Essay on Criticism*, a poem outlining the critical tastes and standards of his time Pope wrote for both the *Spectator* and the *Guardian* and was friendly with Addison and his group until the quarrel with Philips and probably others excluded him from that Whig company In 1714 Pope brought out a revised version of *The Rape of the Lock* (an earlier, two-canto version had appeared in 1712), a delicate and ingenious satire based on an incident in contemporary high society The poem *Windsor Forest* (1713), meanwhile, had revealed his Tory sympathies and brought him the friendship of Swift, who aided in getting subscriptions for Pope's translation of the *Iliad*, the first volume of which came out in 1715 Completed in 1720, the *Iliad*, although not an accurate rendition of Homer, was a tremendous literary and financial success In 1725–26 Pope, assisted by William Broome and Elijah Fenton, issued a translation of the *Odyssey* A collection of Pope's poetry, including the elegiac "Elegy to the Memory of an Unfortunate Lady" and "Eloisa to Abelard," was published in 1717 He moved in 1718 to his famous estate at Twickenham, and there edited Shakspere (1725) Pope's edition was censured by Lewis THEOBALD in *Shakespeare Restored* (1726), an exposé of Pope's errors In revenge, Pope chose Theobald as hero of *The Dunciad*, a scathing satire on dunces and literary hacks which originated in deliberations of the SCRIBLERUS CLUB The first version of 1728 was many times revised and appeared in its final form in 1743, with Colley Cibber instead of Theobald as hero Between 1732 and 1734 Pope composed *An Essay on Man*, a popular poetical summary of current philosophical speculation He also wrote a series of epistles in verse, entitled *Moral Essays* (1731–35), and several ethical satires (1733–38) The prologue to the satires, which included "imitations" of Horace and Donne, is the celebrated "Epistle to Dr Arbuthnot," a "bill of complaint" against the vulgarity and "dullness" of the times Pope's important poetry was written in the heroic couplet, and only Dryden rivals him in the use of it An early illness left Pope so crippled and deformed that he never recovered his health In the view of some critics this condition fostered spitefulness and treachery, but his ill nature has been overemphasized and is counterbalanced by his devotion to his family and his loyalty to his many friends, among whom were Arbuthnot, Gay, Parnell, Swift, and Lord Bolingbroke The edition of Pope's works by Whitwell Elwin and W J Courthope (10 vols , 1871–89) will be superseded by the Twickenham edition of the poems (1939–), John Butt, editor, and the prose works edited by Norman Ault (1936–) The biography by Samuel Johnson in *The Lives of the Poets* remains a classic See also George Sherburn, *The Early Career of Alexander Pope* (1934) and *The Best of Pope* (rev ed , 1945), R K Root, *The Poetical Career of Alexander Pope* (1938), critical studies by Austin Warren (1929) and Geoffrey Tillotson (1938)

Pope, John, 1822–92, Union general in the Civil War, b Louisville, Ky , grad West Point, 1842 He served with distinction at Monterrey and Buena Vista in the Mexican War and later did topographical engineering in the West In the Civil War, Pope, made a brigadier general of volunteers (May, 1861), served in Missouri under J C Frémont and then under H W Halleck He was promoted major general in March, 1862 As commander of the Army of the Mississippi, Pope captured New Madrid and ISLAND NO 10 and took part in Halleck's move on Corinth These successes brought him the command of the newly organized Army of Virginia (June, 1862) and a brigadier generalcy in the regular army He attributed his bad defeat at the second battle of BULL RUN to alleged disobedience on the part of Fitz-John PORTER Pope, removed from command, later campaigned against the Sioux Indians He commanded (1870–73) the Dept of the Missouri See J C Ropes, *The Army under Pope* (1881)

Pope, John Russell, 1874–1937, American architect, b New York city, studied at the College of the City of New York and the School of Mines, Columbia (Ph B , 1894) He won a fellowship (1895) to the American Academy in Rome His office, established in New York in 1900, consistently produced dignified architecture of classic inspiration and fine taste Pope's numerous designs include a long list of town and country residences His public works at Washington, D C , include the Scottish Rite Temple, the National Archives Building, Constitution Hall for the Daughters of the American Revolution, and the National Gallery of Art He designed also the Lincoln Memorial, Hodgenville, Ky , the Baltimore Museum of Art, and a war memorial at Montfaucon, France Designs by Pope were selected for two memorials to Theodore Roosevelt, one to be in Washington, D C , and another in New York

Pope, Sir William Jackson, 1870–1939, English chemist He was professor at Cambridge from 1908. His work in stereochemistry included studies on asymmetric atoms of nitrogen, sulphur, selenium, and tin In the First World War he worked on mustard gas He was knighted in 1919

pope. see ROMAN CATHOLIC CHURCH and PAPACY

Poperinge (pŏ'pŭrĭng, Flemish pō'pûrĭng"û, Fr pôpürĕg'), town (pop. 12,393), West Flanders prov., Belgium, W of Ypres It was virtually destroyed in the murderous fighting here during the First World War.

Popham, George (pŏ'pŭm), c 1550–1608, early American colonist, b Somerset co , England Little is known of his life before 1594 He is named in the patent granted to the Virginia Company in 1606 In consequence of the colonization project of his uncle, Sir John Popham, and Sir Ferdinando Gorges, George Popham, in the *Gift of God*, with Ralegh Gilbert in the *Mary and John*, set out in 1607 from Plymouth with settlers They explored the Maine coast and settled at the mouth of the Kennebec (then called the Sagadahoc) river on the present site of Phippsburg A fort was erected, called Fort St George, and Popham became president of the colony He died that winter, and the colony was abandoned in the following summer

Popham, Sir Home Riggs, 1762–1820, British admiral He served in the French Revolutionary and Napoleonic Wars and was naval commander at the capture of Cape Colony (1806) Under his orders, Río de la Plata was invaded and Buenos Aires captured and held six weeks (1806) Superseded in Jan , 1807, Popham was recalled to England and severely reprimanded by a court-martial for withdrawing from the Cape without orders He commanded the Jamaica station from 1817 to 1820

Popham Beach, Maine see PHIPPSBURG

Popish Plot see OATES, TITUS

Poplar (pŏp'lur), city (pop 1,442), NE Mont , on the Missouri river at the junction of the Poplar, inc 1916 It is the center of an irrigated area and has the agency of the Fort Peck Indian Reservation Chief GALL surrendered here

poplar (pŏp'lur), name for any species of the genus *Populus*, deciduous fast-growing trees easily propagated by cuttings and usually short lived Some of the numerous species are commonly known as ASPEN, cottonwood, and BALM OF GILEAD A common ornamental tree is the Lombardy poplar, which, like the silver poplar, has been introduced in America Several species of poplar, especially those characterized by a cottony seed covering, are called cottonwood The common cottonwood or whitewood (*P deltoides*) is called also Carolina poplar Cottonwoods were a welcome sight to pioneers pushing westward, for they marked the streams in the otherwise treeless Great Plains Poplar bark is used in tanning, and the light, soft wood is used chiefly as pulpwood and for woodenware The TULIP TREE is also called yellow poplar

Poplar Bluff, city (pop 11,163), co seat of Butler co , SE Mo , in the Ozark foothills, on the low bluffs of the Black River near the Ark line, founded 1850 It is a trade and shipping center in a farm and resort area and has railroad shops, lumber and flour mills, and shoe and wood-products industries Clark National Forest is near, Wappapello Dam in the St Francis river is northeast

Poplarville, town (pop 1,664), co seat of Pearl River co , S Miss , SSW of Hattiesburg, in an area yielding tung nuts, pecans, and farm produce, inc 1883 A district junior college and a state agricultural experiment station are here

Popocatepetl (pōpŭkä'tupĕtul, pōpō"kätä'putûl) [Aztec, =smoking mountain], volcano, 17,887 ft high, central Mexico, on the border between Puebla and Mexico state In height, it is second only to Orizaba among the peaks of Mexico and is near IXTACIHUATL The perpetually snow-capped cone is symmetrical, and the large crater has practically pure sulphur deposits only partially exploited The ascent, which is fairly easy, was probably first made in 1519 by one of Cortés's men Active during the first two centuries of Spanish colonial times, the volcano has been dormant since 1702 Occasionally it emits vast clouds of smoke

Popol Vuh (pōpōl' vōō') [Quiché, =collection of the council], sacred book of the QUICHÉ Indians The most important document of the cosmogony, religion, mythology, migratory traditions, and history of the Quiché, the original Popol Vuh was destroyed by Pedro de Alvarado, but it was rewritten in Spanish by a converted Quiché shortly after the Spanish Conquest The language and literary style, the philosophy, and the life it reveals show the Quiché had reached a high degree of learning A similar document, more historical in content and treating of the neighboring Cakchiquel, is the *Annals of the Cakchiquel* See the English version of the Popol Vuh by Delia Goetz and Sylvanus G Morley from the translation by Adrian Recinos (1950)

Poppaea Sabina (pŏpē'u subī'nŭ), d A D. 65, Roman empress consort, wife of NERO She was the mistress of Nero for years before he became (A D 62) her third husband She is usually said to have had a baleful influence, instigating Nero to have his mother (Agrippina), his former wife (Octavia), and the philosopher SENECA killed One story (probably false) has it that in a fit of anger Nero kicked her to death

poppy, any plant of the genus *Papaver*, annual, biennial, or perennial herbs mostly native to the Old World, cultivated in gardens for the short-lived, brilliantly and variously colored blossoms. Of the

many species, those best known are the corn, Iceland, Oriental, and opium poppies The corn poppy, commonly red, grows abundantly in Europe and Asia and has become naturalized in parts of North America The poppy of "Flanders Fields" is celebrated in a poem by John McCrae and is the Memorial Day emblem of World War veterans The Shirley poppy is a garden variety of the corn poppy. The Iceland poppy, from arctic regions, is sweet scented with a leafless flower stem A favorite perennial is the Oriental poppy, commonly red flowered OPIUM is obtained from the milky juice of the seed pod of the opium poppy, native to the Orient and Greece and with double garden forms called peony flowered and carnation flowered The opium poppy is also the chief source of poppy seed, called also maw seed, not narcotic and used on rolls as a flavoring and for birdseed Poppy oil, derived from the seeds, is used for culinary and illumination purposes and in oil paints and soaps A poppy blossom has long been the symbol of the dead and of sleep. Other plants, particularly of the same family, share the name poppy, e g, CALIFORNIA POPPY and celandine poppy

population. The population of the world, measured by the census in most Western countries and estimated for others, comprises c 2,000,000,000 people Of these, roughly over half are in Asia, a quarter in Europe, and an eighth in the Americas General population increase in all parts of the world was negligible until with the Industrial Revolution there was a great surge in the growth of the peoples of Europe, especially in the British Isles In this period the advancements in sanitation, technology, and the means of food distribution made possible a drop in mortality so significant that between 1650 and 1900 the population of Europe was nearly quadrupled (c 100,000,000 to c 400,000,000) in spite of considerable emigration. This phenomenal increase in numbers led MALTHUS to predict that the population would eventually outrun the food supply A similar period of growth occurred in the United States during the 19th cent , partly as a result of IMMIGRATION By the beginning of the 20th cent., however, it became apparent that the birth rate, which had never risen during the time of expansion, had begun to decline in many areas The trend was first evidenced in France, which, before the Second World War, had an almost stable population, it is estimated that before the year 2000 most of the Western countries will have reached the same level of growth This development is attributed to social and economic factors, chiefly the spread of BIRTH CONTROL and urbanization (which is accompanied by family limitation) In less industrialized countries of Europe, notably the USSR, and in Asia (excepting Japan) birth rates are increasing rapidly There has been speculation as to an "optimum population" (ideal ratio of people to available resources), but determination of such a number is virtually impossible in complex and changing societies Restrictive policies (other than the "natural" checks of war, famine, and disease) for limitation of number and for control of quality have been put into effect by many societies Infanticide was practiced in ancient Greece, India, and other countries, and this measure, together with abortion and abandonment of the aged and unfit, has been accepted by some primitive tribes MIGRATION, which may be temporarily effective for a given area, and immigration are subject to government control Differential birth rates (see VITAL STATISTICS) in the 20th cent have exercised on Westernized populations a selective effect which has been considered undesirable, and EUGENICS programs have been proposed though not generally accepted National policies to raise the birth rate are more feasible, the most notable today is that of Sweden See Frank Lorimer and Frederick Osburn, *Dynamics of Population* (1934), Alva Myrdal, *Family and Nation* (1941), W S Thompson, *Population Problems* (3d ed , 1942), Frank W Notestein and others, *The Future Population of Europe and the Soviet Union* (1944)

Populist party. During the Panic of 1873 in the United States, prices fell so low that farmers who had contracted debts when prices were high found that the money they had to repay was worth more than the money they had borrowed The price of agricultural products slumped into decline While farmers of the Middle West and the South were growing poorer, bankers and capitalists of the East were growing rich, while farmers were burning their crops because of the high cost of fuel and prohibitive transportation rates, mine owners and railroads were prospering Farmers felt that the management of currency was at fault The Resumption Act, which was to redeem paper money issued during the Civil War by the resumption of specie payment, led to the formation (1875) of the GREENBACK PARTY, which accomplished little Believing that bankers were hoarding gold and that the circulation of more money would help the situation, delegates from farm and labor organizations met in 1891 and formed the Populist party. They advocated government ownership of railways and the free coinage of silver. In 1873 the government had ceased coining silver dollars. In the meantime a great deal of silver had accumulated, and the Westerners believed that this could be coined in the ratio of 16 parts of silver to one part of gold However, silver had become so plentiful that the old ratio no longer represented sound money. A convention held at Omaha in 1892 adopted a platform calling for free coinage of silver, abolition of national banks, a subtreasury scheme or some similar system, a graduated income tax, plenty of paper money, government ownership of railroads, election of Senators by direct vote of the people, nonownership of land by foreigners, civil service reform, limitation of state and national income to strict expense level, a working day of eight hours, postal banks, pensions, revision of the law of contracts, and reform of immigration regulations James B. WEAVER was the Populist candidate for President that year and polled over 1,041,000 votes The Populist votes in the 1894 congressional elections increased to 1,471,000 as the party gained momentum In 1896, while the Republican party adhered to the "sound money" platform, the Populists kept intact their platform of 1892, the Democratic party, however, adopted the plank of free coinage of silver and nominated William Jennings BRYAN for President Though the Populists tried to retain their independence by repudiating the Democratic vice presidential candidate, the Democratic party, helped by the eloquence of Bryan, captured the bulk of the Populist votes in 1896 Nevertheless, William McKinley, the Republican presidential nominee, won the election by 600,000 votes The 1896 election undermined agrarian insurgency, and a period of rapidly rising farm prices brought about the dissolution of the Populist party. See F L McVey, *The Populist Movement* (1931).

Poratha (pō'ruthu), one of the 10 sons of Haman Esther 9 8

porcelain [Ital *porcellana*], hard, permanent kind of pottery having translucence It differs from earthenware and chinaware in the method of firing After the first firing, the body and glaze are fired together at a very high temperature in the glost fire Porcelain is produced from hard, soft, or artificial paste consisting variously of kaolin, feldspar, and bone phosphate of lime It probably originated in 14th-century China The oldest existing specimens are attributed to the 15th cent Chinese porcelains include those of many brilliant enamels (such as celadon, peachblow, oxblood, and Mohammedan blue) and the rice-grain decoration and hawthorn and lace patterns Canton ware is one of the best-known kinds Many of these porcelains were early introduced into Japan and copied with fair success despite less pure clay and less skillful artistry in the early work, but eventually Japanese potters rivaled their masters Potters in Italy and France began to reproduce Chinese porcelain in the late 15th cent , and the work spread over Europe, native hard-paste porcelain (Dresden china) was being produced at Meissen in 1715 Fine European porcelains include Venetian, Florentine, Sèvres, the Buen-Retiro of Madrid, Dresden, Copenhagen, Chelsea, Derby, Worcester, Bristol, Bow, and Lowestoft.

porch, usually a projecting, protective roofed entrance attached to buildings and having sides either open or partly or wholly enclosed It may be of one or more stories or the lower story of a tower The term is used also for a veranda, piazza, or sleeping balcony When it is enlarged and elaborated in design, it is called portico or colonnade It gained its chief prominence in ecclesiastical architecture of the 12th to 16th cent. Many fine examples exist in France, and in England there are still a few fine old church porches of wood The colonial domestic architecture of America produced fine examples It apparently was known in Egyptian architecture and in Pompeii, while in Greece it became the PROPYLAEA and STOA In Athens in the 4th cent B C there was a structure called the Painted Porch where Zeno of Citium spoke to his disciples It had frescoes of the battle of Marathon

Porcius Festus see FESTUS, PORCIUS

Porcupine, gold-mining district see TIMMINS, Ont

Porcupine (pôr'kyupĭn, -kyōō-), river, 525 mi long, a main tributary of the Yukon It rises in W Yukon territory in mountainous country N of Dawson and flows in a great arc NE then W across the Alaska boundary to enter the Yukon river at Fort Yukon, in NE Alaska It was discovered (1842) by John Bell, a chief trader for the Hudson's Bay Company.

porcupine (pôr'kyupĭn, -kyōō-), heavy, short-legged, slow-moving rodent, protected from head to the end of the tail by erectile quills The tapering outer end of each quill is covered with overlapping barbs Animals become impregnated with quills from the body or from the lashing tail when they attack the porcupine The quills are difficult to extract and cause painful swelling. Lost or molted quills are replaced Porcupines eat the inner bark and leaves of trees, succulent parts of herbaceous plants, and fruits They are fond of salt. The Old World porcupines are largely terrestrial and nocturnal. They are found in S Europe and in parts of Asia and Africa. Porcupines of the New World belong to another family. Their feet are adapted for climbing, and they are at least partially arboreal Two species inhabit North America. The Canadian porcupine (*Erethizon dorsatum*), which is dark brown or blackish and densely furred, is found in forests of E North America. The western species (*E. epixanthum*) has a brown undercoat, and the long guard hairs are yellowish at the tips. Among the South American forms is the tree porcupine (*Coendou*), which has a long prehensile tail. The porcupine is often incorrectly called hedgehog.

Porcupine Mountains, extreme W Upper Peninsula, N Mich , near the shore of Lake Superior, having the highest point (2,023 ft) in the state.

Pordenone, Giovanni Antonio de (jōvän'nē äntō'nyō dā pôrdānō'nā), c 1484–1539, Venetian painter His real name was Giovanni Antonio de Sacchis, and he was also known as Corticellis or Curticello, Regillo, and (erroneously) Licinio. He executed frescoes in the churches of Friuli and worked also in Treviso, Mantua, Cremona, and Genoa. In Venice his services were in great demand for the decorating of Venetian palaces Most of his Venetian frescoes have perished Among his extant works are frescoes in the cathedral at Cremona, *St Catherine Disputing with the Doctors at Alexandria* (Madonna di Campagna, Piacenza), and *The Glory of San Lorenzo Giustiniani*, one of Pordenone's greatest works (Academy, Venice), *An Apostle* (National Gall , London), *St Christopher* (National Gall of Art, Washington, D C)

porgy (pôr'gē), name for several fishes of the family Sparidae found in warm and tropical coastal seas of the Americas and Europe. The red porgy (*Pagrus*), a red fish with blue spots, occurs in the Mediterranean and in the warmer Atlantic waters of Europe and the Americas Species of the genus *Calamus*, e g , the saucer-eye and jolthead porgies, are good food fish Also called porgy is the scup or fair maid (*Stenotomus*) of the same family, an excellent food fish found commonly from Cape Cod to South Carolina

Pori (pō'rē), Swed *Björneborg* (byōr'nubōr"yū), city (pop 22,661), SW Finland, a Baltic port near the mouth of the Kokemenjoki Its ice-free harbor makes it an important shipping center There are manufactures of machinery, textiles, and lumber products Founded (1365) as Ulvila, Pori was moved nearer the sea in 1558

Porjus (pôr'yŭs), cataract, c 170 ft high, in the Stora Lule river, N Sweden, in Norrbotten co , S of Gallivare By a 100,000-horsepower underground hydroelectric plant, the power from the falls operates the iron mines at Kiruna and Gallivare, iron smelters, electrochemical plants, and the Lapland RR from Narvik to Lulea A large auxiliary dam insures a steady flow of water Next to Trollhattan it is the largest power plant in Sweden

pork, flesh of swine prepared as food, one of the principal commodities of the meat-packing industry It is sold either as fresh meat or as HAM, BACON, SAUSAGE, LARD, or a variety of other products The fresh pork and the choicest cured products are taken from good smooth carcasses weighing from 240 to 400 lb The fresh pork is sold either chilled or frozen. The skin and fat should be white, the flesh clear, pink, and fine grained The principal fresh cuts are hams, loins, spareribs, shoulders, butts, and feet The brains, snout, ears, jowls, tail, and tongue are used in a variety of ways

Porkkala (pôrk'kälä), peninsula, area c 150 sq mi , in the Gulf of Finland, near Helsinki According to the Treaty of Paris of 1947, Finland leased this area to the USSR for 50 years, for use as a naval base

Poros (pō'rus), anc *Calauria*, island (7 sq mi , pop 5,629), off S Greece, in the Aegean Sea just off the Argolis peninsula There are remains of the temple of Poseidon, where Demosthenes took poison and died in 322 B C The town of Poros, on the south shore, has a fortified naval station

Porphyry (pôr'fĭrē) (Gr , =purple, imperial; alluding to his original name *Malchas*, Syriac, =king), 233–c 304, Greek scholar and Neoplatonic philosopher. He studied rhetoric under Longinus and philosophy under PLOTINUS He later lectured in Rome on the philosophy of Plotinus and was the teacher of the Neoplatonist, Iamblichus He wrote lives of Pythagoras and of Plotinus and edited the *Enneads* of Plotinus He wrote also on rhetorical and literary themes His most influential work is the *Eisagoge*, an introduction to the logic of Aristotle, in which he reduced the 10 categories of Aristotle to the five predicables still recognized in logic—genus, species, difference, property, and accident

porphyry (pôr'fĭrē), igneous rock composed of large, conspicuous crystals (phenocrysts) and a groundmass or matrix in which the phenocrysts are embedded. Some authorities consider the expression "porphyritic rock" better usage than porphyry, since the name describes the texture of the rock—not its chemical, physical, or mineralogical composition or color. The texture is important in the determination of the circumstances under which the rock formed. The phenocrysts vary in size from specimen to specimen; the groundmass may

be either glassy or made up of coarse or fine granules or crystals. The varieties of porphyry are many, the specimens being named by the character of the phenocrysts in the groundmass. They are found in main classes of igneous rocks, e g , in granite, syenite, diorite, gabbro, and peridotite Porphyritic felsites and porphyritic basalts are widely distributed The porphyritic texture indicates two separate stages of solidification. In the first phase the phenocrysts form in the molten mass In the second phase the molten mass itself crystallizes into a solid It is commonly believed that the first stage occurs after the ejection of the molten lava Porphyritic texture is especially common in extrusions (e.g , in lava)

porpoise (pôr'pus), sea mammal (genus *Phocaena*) of the order Cetacea, allied to the WHALE It is found chiefly in the N Atlantic and the N Pacific About 4 to 6 ft long, it is black above and white below and, unlike the dolphin, its nose is blunt Traveling in schools, porpoises prey on fish, often pursuing them up rivers The fat of the porpoise yields a lubricating oil, and the flesh is sometimes eaten Much of the tanned skin sold as porpoise hide is obtained from the white whale or beluga

Porpora, Niccolò Antonio (nēk-kôlō' äntō'nyō pôr'-pōrä), b 1686, d 1766 or 1767, Italian composer and one of the greatest singing teachers His more than 50 operas are not very important, his best compositions being his cantatas for voice and harpsichord, it is for his vocal pedagogy that he is remembered Haydn was among his pupils, as were all the greatest singers of the 18th cent , including Farinelli

Porrentruy (pôrätrüē'), Ger *Pruntrut* (prōōn'trōōt), town (pop 6,121), Bernese Jura, Bern canton, Switzerland It has an old watch industry and also manufactures knit goods and shoes From 1528 to 1792 it was the residence of the prince-bishops of Basel, whose territories passed to Bern in 1815 Most of the people are French-speaking

Porres, Martin de (pō'räs), 1579–1639, South American man of religion, b Lima, Peru His father was a Spanish soldier, his mother a Negro of Panama He was apprenticed to a barber surgeon Later he became a Dominican tertiary and devoted himself wholly to the sick and the forlorn He built an orphanage and hospitals and lived an extraordinarily ascetic life Miracles were attributed to him in his lifetime He was beatified in 1836 Feast Nov 5

porridge, dish made of the meal or flour of wheat, oats, or other grain or of peas or beans, stirred into milk or water and cooked until thick The early porridge seems to have been a thick stew of vegetables or a combination of foods Nettle porridge, for example, was a dish of greens

Porsena, Lars see LARS PORSENA

Porsgrunn or **Porsgrund** (both pôrs'grōōn"), town (pop 9,003), Telemark co , S Norway, a port on an inlet of the Skagerrak It is noted for its fine porcelain manufacture, and it has iron mills, shipyards, and lumber mills

Porson, Richard, 1759–1808, English classical scholar, b Norfolk A poor boy, he showed such astonishing powers of memory that patrons sent him through Eton and Trinity College, Cambridge He created something of a sensation by supporting Edward Gibbon in declaring that John 1 7 was spurious He was appointed (1792) regius professor of Greek at Cambridge but lived in London, there editing several plays of Euripides He was a textual critic of the highest order and was remarkable for his perceptive grasp of metrical principles of Greek poetry His treatises and criticism were edited by Thomas Kidd (1815), and his correspondence by H R Luard (1851) See biography by M L Clarke (1937)

port, a harbor and its terminal facilities for the transfer of goods and passengers Many early cities as well as most of the great cities of today are ports, with access to hinterlands providing a large volume of commerce The importance of a port depends on its hinterland, on accessible transportation facilities, and on its terminal facilities, such as wharfs, storage space, and machinery Municipal, state, and national governments spend huge sums for the improvement and maintenance of ports for commercial and military uses See also FREE PORT See R S MacElwee, *Port Development* (2d ed , 1926) and *Ports and Terminal Facilities* (2d ed , 1926)

port [from Oporto], fortified wine made in Portugal from grapes grown in the Douro valley Various grapes are blended by the growers, and brandy is added to the must before fermentation is complete In the spring the casks are brought to the shippers' "lodges" in Oporto and Villa Nova, where the wines are blended and stored Vintage port is wine of an exceptional year, kept in cask for two or three years, then matured in bottle—much of it for 25 years Ruby port, generally a blend of wines of different vintages, is stored in wood and bottled before it loses its clear red color Tawny port remains longer in cask, losing some color and alcohol Crusted port is vintage or ruby port kept in bottle until it has thrown a crustlike sediment. So-called white port, made in the upper Douro region, is a sweet, amber-colored port matured in wood Port is frequently artificially colored with caramelized wine or berry juice See André L Simon, *Port* (1934)

Porta, Giacomo della (jä'kōmō dĕl'lä pôr'tä), c 1540–1602, Italian architect and sculptor After working with Vignola and Michelangelo, he completed certain works designed or begun by them, such as the cupola of St Peter's and the Farnese Palace, Rome His other works include the Villa Aldobrandini (damaged in the Second World War) in Frascati and some fountains in Rome

Porta, Giambattista della (jämbät-tä'stä), c 1541–1615, Italian physicist He performed many optical experiments and is usually credited with the invention of the camera obscura, described in his most noted work, *Magiae naturalis* (1558), which he revised and enlarged in 1589 His other works include *De humana physiognomonia* (1586), *Phytognomonica* (1588), and *De coelestia physiognomoniae* (1603) He also wrote many comedies

Porta, Guglielmo della (gōōlyĕl'mō), d 1577, Italian sculptor His early works are in Genoa In 1537 he went to Rome, where he was employed by Pope Paul III in restoring certain antique statues His principal work, the tomb of Paul III, shows the influence of Michelangelo

Port Adelaide, city (pop 33,404), South Australia, NW of Adelaide and on an inlet of Gulf St Vincent It is the principal port and wool-trading center of the state There is an iron smelter The chief exports are wheat, flour, and wool

Portadown (pôrtudoun'), urban district (pop 12,440), Co Armagh, Northern Ireland, on the Bann and WSW of Belfast It is a railroad and industrial center with linen mills and canneries and manufactures of lace, clothing, carpets, rope, and fish nets

Portage (pôr'tĭj). **1** Industrial borough (pop 4,123), SW Pa , between Altoona and Johnstown It is on the Allegheny watershed between a stream flowing E to the Susquehanna and one flowing W to the Allegheny and thus connecting with the Ohio **2** City (pop 7,016), co seat of Columbia co , central Wis , inc 1854 It is on the Wisconsin at the point where that river is close enough to the Fox to make canoe portage feasible In 1673 Louis Jolhet and Father Marquette were the first white men to use this important portage link of the water route from the Great Lakes to the Mississippi The path is now a ship canal, and the present town is a farm trade center with several industries The site of Fort Winnebago (1828) and the restored Indian Agency house (1832) are here Zona Gale and Frederick Jackson Turner were born in Portage

portage. In the American wilderness, a portage was a trail over which canoes and goods were carried from one waterway to another The portages were important to Indians, white explorers learned of them from the Indians, and pioneers used them In some instances, settlements were made at portages and later grew into cities Chicago is on the site of a portage by which canoes could be carried from the Great Lakes system of waterways to a waterway by which canoes could reach the Mississippi and its tributaries The Great Lakes were connected with tributaries of the Mississippi by a number of other portages, and many other waterways were similarly connected with one another

Portage Des Sioux (pôr'tĭj dĕ sōō'), town (pop. 254), E Mo , on the west bank of the Mississippi WNW of Alton, Ill , settled c 1799 around a Spanish fort At one end of a portage between the Mississippi and the Missouri, it was the scene in 1815 of treaty negotiations between U S commissioners and certain Indian tribes

Portage Lake, inlet of Keweenaw Bay, c 20 mi long and 2 mi wide, extreme N Mich , indenting the southeast shore of Keweenaw peninsula An old portage route connected it with Lake Superior, and now a short ship canal from the northwest end of Portage Lake to Lake Superior has created an important waterway across the peninsula

Portage la Prairie (pôr'tĭj la prā'rē), city (pop 7,620), S Man , near the Assiniboine river W of Winnipeg It is the commercial center of a wheat-growing region and has grain mills It is near the site of Fort La Reine, an important fur-trading post built (1738) by Vérendrye as a carrying point between the Assiniboine and Lake Manitoba Another post was established much later, was long run by the Hudson's Bay Company, and was moved (1870) to the site of the present city

Portageville (pôr'tĭjvĭl), city (pop 2,107), SE Mo , near the Mississippi SW of Cairo, Ill , in a cotton and farm area, inc 1903

portal, entrance to a city or to a bridge, church, or other building It is often enhanced with an elaborate decorative treatment, such as is seen in the portals of the Jain and other temples of India, Spanish Renaissance churches, the Gothic cathedrals of France and elsewhere, and Elizabethan and Jacobean structures in England Portals of the gateways of Rome and of medieval cities were formidable instead of ornamental, modern ones are sometimes merely arches. Commercial buildings are frequently designed with imposing portals of bronze or ironwork, perhaps with sculptural features above, as in Radio City, New York

Port Alberni (älbûr'nē), city (pop 4,584), on S central Vancouver Island, SW British Columbia, at the head of Alberni Canal (see ALBERNI) and NW of Victoria It is a port of entry, a fishing center, and an inland lumber-shipping port and has paper mills There are mines in the region

Portales, Diego (dyä'gō pôrtä'lās), 1793–1837, Chilean statesman Founder of constitutional order and the Conservative regime in Chile, he was general minister (1830–31) and minister of war and marine (1831–32, 1835–37) He was largely responsible for the constitution adopted in 1833 Refusing the presidency, but ruling in fact, he reorganized the army, the treasury, the internal administration, commerce, and industry His one aim was to bring order out of the bloody chaos that followed independence, but the parliamentarian became the autocrat, his strict measures caused discontent and he was killed in a mutiny of soldiers

Portales (pôrtä'lēs), city (pop 5,104), co seat of Roosevelt co , E N Mex , near the Texas line, founded 1898, inc 1909 It is the trade center of an irrigated truck-farm and grazing area Eastern New Mexico College is here

Port Alfred, town (pop 3,243), S Que , on Ha Ha Bay of the Saguenay river and SE of Chicoutimi It is a pulp and paper center and a resort

Portalis, Jean Étienne Marie (zhä' ātvĕn' marē' pôrtalēs'), 1746–1807, French statesman and lawyer He opposed the French Revolution, but was made a commissioner of government councilor of state, and director of ecclesiastic affairs by Napoleon Bonaparte Portalis had a share in making the Concordat of 1801 and in drawing up the Code Napoléon

Portalis, Joseph Marie (zhōzĕf'), 1778–1858, French statesman, son of Jean Étienne Marie Portalis He was minister of foreign affairs under Louis XVIII and vice president of the chamber of peers under Louis Philippe

Port Allegany (ăl"ugā'nē), borough (pop 2,356), NW Pa , on the Allegheny river and E of Smethport, settled c 1816, inc 1882 Its manufactures include bark extracts, glass, silk, and toys.

Port Allen, town (pop 1,898), parish seat of West Baton Rouge parish, SE La , on the Mississippi, laid out 1854, inc 1923 A ferry connects it with Baton Rouge, directly across the river

Port Angeles (ăn'julus), city (pop 9,409), co seat of Clallam co , NW Wash , on Juan de Fuca Strait opposite Victoria, British Columbia, settled in the 1860s It is a port of entry and a shipping, lumbering, paper-milling, dairying, and resort center A U S coast guard air base is here

Port Apra, Guam see APRA HARBOR

Port Arthur, city (pop 24,426), W Ont , on the northwest shore of Lake Superior, 200 mi NE of Duluth, Minn It is just north of its twin city, FORT WILLIAM, the two together are the westernmost Canadian Great Lakes port and have become an important shipping center, especially for wheat, wood products, and iron Port Arthur has grain elevators shipyards, a dry dock, and paper, pulp, and lumber mills It is a tourist center for a large hunting and fishing area

Port Arthur, Mandarin *Lüshun,* city (pop 142,184), SW Liaoning prov , China It is a naval base at the tip of Liaotung peninsula and a southern terminus of the South Manchurian RR The city was the administrative center of the Kwantung leased territory from 1898 to 1945, when it became the headquarters of the Port Arthur Naval Base District (see LIAONING)

Port Arthur, city (1940 pop 46,140, 1947 estimated pop 60,000), SE Texas, on Sabine Lake and SE of Beaumont The Sabine region had been early visited, settlements had been made, and livestock and rice were grown before Arthur E Stilwell decided (1895) to found here a railroad terminus on the Gulf John Warne GATES (Bet-a-Million Gates) also figured in the early growth of the city It boomed particularly after the discovery (1901) of oil at Spindletop near Beaumont A ship channel was begun in 1897, and Port Arthur on the Sabine-Neches Canal and the Intracoastal Waterway, is a port of entry and a giant oil port, with large refineries and industries dependent upon oil Points of interest are the pleasure pier on reclaimed land in Sabine Lake, Port Arthur College, a business school run on a nonprofit basis, and the tall bridge (completed 1938) over the Neches on the road to Orange

Port Augusta, town (pop 4,350), South Australia, a port at the head of Spencer Gulf It exports wool and wheat and is the south terminus of the Central Australian RR

Port-au-Prince (pôrt-ō-prĭns', Fr pôrtōprĕs'), city (pop 170,000), S Haiti, capital of the republic, at the head of the Gulf of Gonaïves It was founded in 1749 after the movement of French sugar planters southward from N Haiti to the fertile Cul de Sac, a structural depression E of Port-au-Prince, where through irrigation more intense cultivation can be practiced In 1770 it replaced CAP-HAÏTIEN as capital of the French colony Saint-Domingue Like an amphitheater, with business and commercial houses along the water front and residences on the hills above, the city has suffered frequently

from earthquakes (especially in 1842), fires, and turbulent civil warfare The average annual temperature is slightly over 80°F From its excellent harbor (the dockside depth is 30 ft) are shipped between 40 and 50 percent of Haiti's exports, chiefly coffee and sugar

Port aux Basques (pôrt' ō bäsk'), town (1945 pop. 879), SW N F , a port on Cabot Strait at the tip of the island It is connected by mail ships with North Sydney, N S , and by rail with St John's It is a center for cod and halibut fishing, with cold-storage plants and a government bait depot An ice-free port, in winter months it ships newsprint from the Corner Brook mills In 1945 it was incorporated with near-by CHANNEL as a single municipality

Port Blair, town, capital of the Andaman and Nicobar Islands, India It exports copra

Port Carbon, residential borough (pop 3,279), E Pa , near Pottsville, laid out 1828, inc 1852

Port Chester (pôrt' chĕs'tŭr), industrial and residential village (pop 23,073), SE N Y , in Westchester co , at the Conn line and on Long Island Sound, inc 1868 Electric razors, confectionery, and hardware are made

Port Clinton, village (pop 4,505), co seat of Ottawa co , N Ohio, on Lake Erie W of Sandusky and at the mouth of the Portage river, in a fruitgrowing and fishing region, founded c.1828 Automobile parts and gypsum products are made Near by is Camp Perry

Port Colborne (kōl'burn), town (pop 6,993), S Ont , on Lake Erie, at the south end of Welland Ship Canal and S of St Catharines It has a nickel refinery, flour mills, grain elevators, and iron smelters Power is supplied from Niagara Falls

Port Coquitlam (kōkwit'lum), city (pop 1,539), SW British Columbia, in the lower Fraser valley, on the Coquitlam and E of Vancouver It is a trade center for a truck-gardening and fruitgrowing region and has meat-packing plants

Port Credit, village (pop 2,160), S Ont , SW of Toronto, in a fruitgrowing and fishing region

portcullis (pôrtkŭ'lĭs), grating or framework of strong bars of wood or iron, sharp-pointed at their lower ends, sliding vertically in the grooved jambs of a fortified portal as a protection in case of assault Although first used in Roman times, the portcullis reached its highest development in the 12th cent as a characteristic feature of the defensive system of a castle or fortified town It could be dropped suddenly in a surprise attack Through its grating the defenders could keep up a fire of arrows and other missiles

Port Dalhousie (dăl"hōō'zē, -hōō'zē), village (pop 1,723), S Ont , on the south shore of Lake Ontario and E of Hamilton Once the northern terminus of the Welland Ship Canal, it is still an active port, with a coal dock, fruit canning, and rubber manufacturing

Port Darwin see DARWIN, Australia

Port-de-Paix (pôr-du-pā'), city (pop c 5,000), NW Haiti, a port opposite Tortuga island It exports sisal, coffee, and cacao

Port Deposit, town (pop 883), NE Md , on the Susquehanna near its entrance into Chesapeake Bay Founded in 1812, it was an important port in the 18th cent Granite quarrying is now the chief industry Jacob Tome founded here in 1889 an educational institute

Port Dickinson, village (pop 2,436), S N Y., on the Chenango and near Binghamton, inc 1876.

Port Dover, town (pop 1,968), S Ont , on Lake Erie and SW of Hamilton It is a shipping point for a farm and industrial area

Port Edwards, village (pop 1,192), central Wis , on the Wisconsin below Wisconsin Rapids, inc 1902 Paper is made

Port Elgin (ĕl'gĭn), village (pop 1,395), S Ont , on the east shore of Lake Huron and WSW of Owen Sound, in a fishing and dairying region There are tree nurseries here

Port Elizabeth, city (pop 133,064), S Cape Prov , Union of South Africa, on Algoa Bay, midway between Cape Town and Durban It was founded in 1820 by British settlers and developed rapidly after 1873, when a railroad to Kimberley was begun It exports diamonds, wool, mohair, and fruit The population includes 58,904 Europeans

Porteous, John (pôr'tēus), d 1736, British soldier, chief figure in the Porteous riot in Edinburgh, Sept 7, 1736 He was captain of the Edinburgh town guard at the execution of Andrew Wilson, a smuggler The guard unnecessarily fired into the crowd, which was sympathetic to Wilson, and eight or nine persons were killed Porteous was tried, convicted and sentenced to death, but reprieved An indignant mob took him from prison and hanged him, a crime for which no one was brought to justice despite the efforts of the government Incidents of the Porteous riot are used by Sir Walter Scott in *The Heart of Mullothian*

Porter, Anna Maria. see PORTER, JANE.

Porter, Cole, 1893–, American composer and lyricist, b Peru, Ind , grad Yale, 1913, and studied music at Harvard and with D'Indy at the Schola Cantorum His first musical-comedy score was *See America First* (1916), a failure, but most of those which followed were highly successful. They include *Hitchy Koo* (1919), *Greenwich Village Follies* (1924), *Fifty Million Frenchmen* (1929), *The Gay Divorce* (1932), containing *Night and Day*, his most famous song, *Anything Goes* (1934), containing *You're the Top*, often parodied, *Leave It to Me* (1938), containing *My Heart Belongs to Daddy*, *DuBarry Was a Lady* (1939), *Something for the Boys* (1943), and *Kiss Me, Kate* (1949) Among his approximately 400 songs, for which he writes the words himself, are many of enduring popularity, such as *Begin the Beguine* (from *Jubilee*, 1935), *What Is This Thing Called Love?* and *In the Still of the Night*.

Porter, David, 1780–1843, American naval officer, b Boston Appointed a midshipman in 1798, he served in the West Indies and in the war with Tripoli In 1803 his ship, the *Philadelphia*, was captured off the coast of Tripoli, and Porter was a prisoner until peace was declared in 1805 He achieved his greatest success as commander of the famous *Essex* in the War of 1812 In that year he captured several British ships carrying troops to Halifax and the British war vessel *Alert* Then, accompanied by young David FARRAGUT, he sailed the *Essex* around the Horn and cruised in the Pacific, warring on British whalers He took formal possession of the MARQUESAS ISLANDS in Nov , 1813, but this act was not recognized by the U S government In 1814 the *Essex* was blockaded by British ships in the harbor of Valparaiso Porter escaped to sea, but a squall disabled his ship, forcing him back to the coast He was attacked by two British warships and after a hard-fought battle was forced to surrender While in the West Indies in 1824 on an expedition for suppressing piracy, Porter forced the officials of the town of Foxardo (Fajardo), Puerto Rico, to apologize for jailing a searching party from his fleet, the men had entered the town on hunt for a bandit The government did not sanction Porter's act, and he was court-martialed and suspended for six months Porter resigned and in 1826 entered the Mexican navy as rear admiral Disgusted with the jealous intrigues of the Mexican officers, he resigned in 1829 Upon his return to the United States he was appointed chargé d'affaires at Constantinople and held this post till his death See biographies by his son, David Dixon Porter (1875), and A D Turnbull (1929)

Porter, David Dixon, 1813–91, American admiral, b Chester, Pa , son of David Porter He served under his father in the Mexican navy before he was appointed (1829) midshipman in the U S navy He held his first command, the *Spitfire*, in the Mexican War From 1850 to 1854, Porter, on leave, commanded passenger and mail ships In the Civil War he led the mortar flotilla of the fleet commanded by D G FARRAGUT in the successful assault on New Orleans (1862) and in 1863 contributed to U S Grant's success in the VICKSBURG CAMPAIGN For these services on the Mississippi he was made rear admiral He cooperated (1864) with Gen N P Banks in the Red River expedition and later was given command of the North Atlantic Blockading Squadron In the joint land-sea expedition against Fort FISHER (1864–65), the naval forces were under Porter's direction Next to Farragut, he was the outstanding Union naval commander As superintendent (1865–69) of the U S Naval Academy he proved himself an able organizer and administrator Porter was promoted vice admiral in 1866, in 1870, on Farragut's death, he became full admiral See biography by R S West, Jr (1937)

Porter, Fitz-John, 1822–1901, Union general in the Civil War, b Portsmouth, N H , grad West Point, 1845, nephew of David Porter He was twice brevetted for his service in the Mexican War and was an instructor at West Point (1849–55) In the Civil War, Porter, made a brigadier general of volunteers (May, 1861), distinguished himself in 1862 as a corps commander in the SEVEN DAYS BATTLES of McClellan's PENINSULAR CAMPAIGN Later that year John Pope alleged that Porter's disobedience lost the second battle of BULL RUN, and Porter was court-martialed He declared that it was impossible to carry out Pope's orders, but he was, nevertheless, cashiered A review of the case in 1879 vindicated Porter In 1886 he was reappointed colonel of infantry and retired See Otto Eisenschiml, *The Celebrated Case of Fitz-John Porter* (1950)

Porter, Horace, 1837–1921, American soldier and diplomat, b Huntingdon, Pa , grad West Point, 1860 In the Civil War he saw varied service, mostly as an ordnance officer, before becoming (1864) aide-de-camp to Gen U S Grant When Grant was Secretary of War (1867–68), Porter was Assistant Secretary, and during Grant's presidency he served as one of his military secretaries until 1872 He was ambassador to France (1897–1905), where, at his own personal expense, he recovered the Hague Conference of 1907, he amended the DRAGO DOCTRINE with his Porter Proposition, which provided that strong nations whose nationals had contract-debt claims against weaker nations should submit the claims to arbitration before trying to collect them by force He wrote *West Point Life* (1866; verse) and *Campaigning with Grant* (1897) See biography by his daughter, E P Mende, and H G Pearson (1927).

Porter, Jane, 1776–1850, Scottish novelist. Her most successful works were *Thaddeus of Warsaw* (1803) and *The Scottish Chiefs* (1810) Her sister, **Anna Maria Porter,** 1780–1832, wrote *The Hungarian Brothers* (1807) and other novels.

Porter, Katherine Anne, 1894–, American author, b Indian Creek, Texas She worked on several newspapers before publishing her first book of stories, *Flowering Judas* (1930) This work won her a Guggenheim fellowship and high praise from literary critics, who compared her to Virginia Woolf and Katherine Mansfield Subsequent works include *Hacienda* (1934), *Noon Wine* (1937), *Pale Horse, Pale Rider* (1939), and *The Leaning Tower* (1944). In 1949 she became writer in residence at Stanford Univ Her works are distinguished by the purity of her literary style, one of the finest of the 20th cent

Porter, Noah, 1811–92, American educator and philosopher, b Farmington, Conn , grad Yale, 1831 He entered the ministry in 1836 In 1846 he became professor of moral philosophy and metaphysics at Yale and from 1871 to 1886 was president of the university He edited (1864, 1890) revised editions of Noah Webster's dictionary and wrote a number of educational and philosophical works, including *The Human Intellect* (1868) and *The Elements of Moral Science* (1885). See biography by Timothy Dwight (1892)

Porter, William Sydney see HENRY, O.

Porter, town (pop 1,190), NW Ind , on Lake Michigan E of Gary Bricks are made here

porter. see BEER

Porterdale, town (pop 3,116), N central Ga , ESE of Atlanta It grew up around cordage and fabric mills established here in 1868

Porterville, city (pop 6,270), S central Calif , SE of Fresno, founded 1859 on an old Los Angeles–San Francisco stage route, inc 1902 It is principally a fruit-packing center and has the headquarters for Sequoia National Forest A junior college (coeducational) is here

Portes Gil, Emilio (ämā'lyō pôr'tās hēl'), 1891–, Mexican statesman, provisional president (Dec , 1928–Feb , 1930) He was chosen to fill the office left vacant by the assassination of Álvaro OBREGÓN Portes Gil continued the policies of CALLES but emphasized agrarian rather than labor reform He formed the National Revolutionary party, which consolidated the political power of Mexico Peace between Church and state was temporarily restored in 1929 He was succeeded by ORTIZ RUBIO

Port Gentil (pôr zhätē'), town, French Equatorial Africa, a port on the Atlantic Ocean Hardwoods are exported

Port Gibson, town (pop 2,748), co seat of Claiborne co , SW Miss , near the Mississippi S of Vicksburg, in a cotton area, founded in the late 18th cent A Civil War battle was fought here (see VICKSBURG CAMPAIGN) Near by is Alcorn Agricultural and Mechanical College (Negro, land grant, coeducational, 1871)

Port Glasgow, burgh (pop 19,581), Renfrewshire, Scotland, on the south shore of the Firth of Clyde and near Greenock It was founded in 1668 as a port for Glasgow, before that city had been made accessible to large ships, it became a burgh in 1775 For a time it held a leading place in Clyde traffic It has a large graving dock (one of the first of its kind in Scotland), shipbuilding plants, iron and brass foundries, engineering works, and other industries The ruins of 16th-century Newark Castle are near the burgh

Port Harcourt (här'kurt, -kôrt), town (pop 15,201), SE Nigeria, a port on the Niger river delta Founded c 1919, it is named in memory of Sir William Harcourt It is the terminus of a railroad from tin- and coal-mining fields There is trade in palm oil

Port Hawkesbury, town (pop 1,041), on S Cape Breton Island, N S , just north of the terminal of the train ferry across the Strait of Canso to Point Tupper It is a fishing port, with cold-storage plants

Port Henry, village (pop 1,935), NE N Y , on Lake Champlain N of Crown Point, inc 1869. Pig-iron foundries and iron mines are here

Port Hope, town (pop 5,055), S Ont , on Lake Ontario E of Toronto, settled 1778 It has a radium-refining plant and some manufacturing and processes food It is a summer resort Trinity College, a boys' school, is here

Port Hudson, village, SE La , on the east bank of the Mississippi, 20 mi N of Baton Rouge In the Civil War a high bluff here was strongly fortified by the Confederates in 1862 While Grant pressed his VICKSBURG CAMPAIGN, N P. BANKS moved against Port Hudson and opened siege in May, 1863 After hearing of Vicksburg's fall, the large Confederate garrison surrendered, July 8, 1863

Port Huron (hyōō'run), city (pop 32,759), co. seat of St Clair co , S Mich , at the confluence of the St Clair with the Black River and at the foot of Lake Huron It was incorporated as a village in 1849, as a city in 1857. A port of entry, it connects with Sarnia (tunnel) and Point Edward (bridge), Ont

Settlement at Port Huron began (1686) with the French fort, St Joseph. The town grew after the building (1826) of Fort Gratiot Turnpike (between Port Huron and Detroit), ushering in an era of lumbering. After this industry declined (in the 1880s), local deposits of salt, oil and gas were developed, and sawmilling, boatbuilding, and papermaking became important. Port Huron is a center of shipping by rail and water. It has railroad shops, and products include automobile parts, cement, paper, and metal goods. Thomas A. Edison lived here for many years. A museum in the county library here contains historical material and art works. The vicinity has many Indian mounds.

Portici (pôr'tēchē), town (pop. 26,049), Campania, S Italy, on the Bay of Naples and at the foot of Mt. Vesuvius. The royal palace (18th cent.) now houses an institute of agriculture.

portico (pôr'tĭkō), roofed space using columns or posts, generally included between two rows of columns or between a wall and a row of columns. Roman public squares used the first type for sheltered walks or passages. In Greek temples porticoes of the second type terminated the front and rear ends of the naos—called pronaos and opisthodome respectively—and were included in the colonnade surrounding the building. Roman temples, rarely peripteral (surrounded by columns), had a portico at the front end only, the main doorway being in the portico's rear wall. Such temples were called prostyle temples, while those having porticoes at both front and rear were termed amphiprostyle. The projection of Roman porticoes was generally three columns deep. In porticoes of recessed type the front colonnade is flanked by the extended side walls of the building, as in most Greek examples. Columnar porticoes were freely used in the classic styles of the 18th and early 19th cent. in Europe and in the United States, for both monumental and domestic buildings.

Portinari, Cândido (kän'dēdō pôrtēnä'rē), 1903–, Brazilian painter, son of Italian immigrants. He studied at the National School of Fine Arts in Rio de Janeiro. In 1928 a European fellowship enabled him to visit France, Italy, Spain, and England. Upon his return he broke with his earlier somewhat academic style to paint scenes of Brazilian life, characteristically soft brown in tonality with small figures schematically represented by flecks of color and play of light. In 1935 his painting *Coffee* (National Museum of Fine Arts, Rio de Janeiro) won honorable mention at the Carnegie International show, Pittsburgh. This work already revealed an interest in the expression of plastic form which became a dominant factor in his subsequent works. In 1938 he was commissioned to execute a series of frescoes in the ministry of education in Rio de Janeiro and to paint three panels for the Brazilian pavilion at the New York World's Fair. Portinari c.1940 turned to a more fluid and expressionistic phase exemplified in a series of frescoes in the Hispanic Foundation, Library of Congress, and in such paintings as the *Scarecrow* (Museum of Modern Art, New York), which suggest the influence of surrealism.

Port Isabel (ĭ'zubĕl), city (pop. 1,440), extreme S Texas, on the Gulf of Mexico near the mouth of the Rio Grande and ENE of Brownsville, inc. 1928. Formerly called Point Isabel, it was a supply base for Gen. Zachary Taylor in the Mexican War, was and still is a fishing resort, and has rich oil deposits near by. It is on the Intracoastal Waterway, and the channel to Brownsville goes through the pass of Brazos Santiago near Port Isabel.

Port Jackson, inlet, Australia: see JACKSON, PORT.

Port Jefferson, unincorporated village (pop. 2,196), on N Long Island, SE N.Y., on Long Island Sound opposite Bridgeport, Conn. It is a resort and residential community. Lace is made, and sand and gravel are produced.

Port Jervis (jûr'vĭs), resort city (pop. 9,749), SE N.Y., on the Delaware and near the point where New York, New Jersey, and Pennsylvania meet, settled before 1700, inc. 1907. Textiles, concrete blocks, and plated silverware are made. The city, named for J. B. Jervis, grew after the opening of the Delaware and Hudson Canal.

Port Kembla, Australia: see WOLLONGONG.

Portland, William Bentinck, 1st **earl of,** 1649–1709, Dutch statesman in England. He was William III's most trusted personal adviser. In 1677 he engaged in negotiating the marriage of William (then prince of Orange) and Mary, daughter of James, duke of York (later James II). With the Glorious Revolution (1688) he went to England with William, was made earl of Portland, and was given extensive estates and honors. Portland fought for William at the battle of the Boyne (1690) and at Landen (1693) and Namur (1695) in the War of the Grand Alliance. He negotiated the Peace of Ryswick with France (1697). For negotiating and signing the unpopular Partition Treaties (see SPANISH SUCCESSION, WAR OF THE), he was impeached, although the proceedings were soon dropped. See M. E. Grew, *William Bentinck and William III* (1924).

Portland, William Henry Cavendish Bentinck, 3d **duke of,** 1738–1809, English statesman; great-grandson of the 1st earl of Portland. He was lord lieutenant of Ireland (1782–83) and briefly prime minister (1783) in a coalition dominated by Charles James Fox and Lord North. The French Revolution shocked the British into passing severe laws against agitators, and Portland, as home secretary (1794–1801) under William Pitt, administered them with prudence, mercy, and wisdom. He promoted the union (1800) of Ireland with England and was again—and uneventfully—prime minister (1807–9).

Portland, urban district (pop. 12,019), Dorsetshire, England, S of Weymouth. It is on the Isle of Portland (4½ mi. long and 1½ mi. wide), a rocky peninsula which is connected to the mainland by the shingle Chesil Bank and which slopes to Portland Bill, an extremity with a lighthouse. Portland Race flows between the bill and a reef 3 mi. offshore called the Shambles. Breakwaters have been constructed to protect the harbor of Portland, which has long been fortified. Henry VIII built Portland Castle in 1520. The convict prison here was converted into a Borstal institution in 1921. The isle is composed of limestone, which for centuries has been quarried and used for building. It is the scene of some of Hardy's works.

Portland. **1** Town (pop. 4,321), central Conn., on the Connecticut, settled c.1690, inc. 1841. Sandstone is quarried here, there is a shipyard, and machinery and other products are manufactured. The brownstone quarries furnished material for New York's brownstone fronts. **2** City (pop. 6,362), co. seat of Jay co., E Ind., on the Salamonie and NE of Muncie, settled 1837. Its manufactures include automobile, bus, and truck parts. Elwood Haynes was born here. **3** City (pop. 73,043), co. seat of Cumberland co., SW Maine, largest city of the state, situated on a small peninsula and adjacent land, with a good harbor in Casco Bay. It is a port of entry, the commercial center of the state, and the rail, highway, and shipping center for a large region engaged in farming, lumber and paper milling, fishing, and resort activities. George Cleve or Cleeve settled here to trade in 1632. His post grew in importance, and the settlement called Falmouth developed, which, in spite of Indian raids in the 17th and early 18th cent., became a commercial center. It was all but destroyed by the British in 1775, after the citizens had been warned to leave, but was rebuilt. In 1786 Portland was set off from Falmouth town and incorporated as Portland town. It served as state capital from 1820 to 1831 and in 1832 was incorporated as a city. In 1923 the council-manager plan was adopted. Maine's first newspaper, the Falmouth *Gazette*, was issued here in 1785. In 1866 a great fire destroyed much of the city. Longfellow was born here, and Robert E. Peary lived here. The brick Longfellow home, built by Peleg Wadsworth in 1785–87, is a memorial. The Sweat Memorial Art Museum and the Portland Society of Natural History have interesting collections. In Eastern Cemetery are the graves of the commanders of the *Enterprise* and the *Boxer*, killed in 1813 off Monhegan. Among Portland's schools are St. Joseph's College (Catholic, for women), Westbrook Junior College for girls, state schools for the deaf and the blind, and an art school. In the Second World War, Portland was an important U.S. naval base and shipping point. **4** Industrial village (pop. 2,247), S Mich., at the confluence of the Grand and Looking Glass rivers NW of Lansing, settled 1833, inc. 1869. It is a farm shipping center and manufactures automobile parts, dog food, and flour. There are Indian mounds. **5** [named for Portland, Maine] City (pop. 305,394), co. seat of Multnomah co., NW Oregon, largest city in the state, at the junction of the Willamette with the Columbia, laid out 1845, inc. 1851. Growth was rapid after 1850, when the city served as a supply point for the California gold fields, and continued with the coming of the railroad (1884), the Alaska gold rush (1897–1900), and the Lewis and Clark Centennial Exposition (1905). It is an important fresh-water port (with shipyards) and port of entry. Ocean vessels unload varied cargoes and carry out the city's products—lumber, furniture, wheat, flour, canned and fresh fruits, packed meat, paper and paper pulp, chemicals, and wool. In May, 1948, floodwaters of the Columbia inundated low-lying areas of the city, causing much property damage and forcing temporary evacuation of several thousand residents. Important annual events are the rose festival and the Pacific International Livestock Exposition. Portland is the seat of the Univ. of Portland (Catholic, for men, 1901), REED COLLEGE, Lewis and Clark College, and the Univ. of Oregon medical and dental schools. Portland has a municipal airport, an art museum, and a symphony orchestra. The beautiful Columbia River Highway follows the river E of Portland. The *Oregon Journal*, once owned by C. S. JACKSON, has influenced the adoption of many political reform measures, is published here. **6** Town (pop. 1,212), N Tenn., NNE of Nashville and near the Ky. line. It is a strawberry-shipping point.

Portland cement, high-grade CEMENT patented in England by Joseph Aspdin in 1824. It was given its name because of its resemblance, when set, to a kind of rock found at Portland, England. It is essentially a powdery mixture (of aluminates and silicates of calcium with lime, gypsum, and other materials) which is produced when substances such as clay, shale, or slag are mixed, ground, and heated with limestone, chalk, or marl. In manufacturing, the raw mixture is first ground and then introduced into a rotary furnace where it is heated to a temperature of from 1,400°C. to 1,600°C. and partly fused to form clinker. When this is cool, gypsum is mixed with it and the whole mass is powdered. When water is added and the mass allowed to stand, it hardens. The action involved in this hardening or setting is not understood. Portland cement sets in water and is consequently much used in building bridges and in other construction involving underwater operations. Mixed with sand and gravel it forms concrete.

Portland vase, a funerary urn, known also as the Barberini vase. Probably of the 1st cent. B.C., it is said to have been found in an ancient tomb near Rome in the pontificate of Urban VIII (1623–44), it was placed in the library of the Barberini Palace at Rome. It is about 10 in. high and 22 in. in circumference and is made of a deep violet-blue glass overlaid with opaque white glass in which are cut, in cameo relief, a series of figures presumably depicting some mythological legend or Eleusinian mystery. The vase was sold by the Barberini family c.1782 to a Scottish antiquary, James Byres, from whom it was purchased by Sir William Hamilton, who sold it to the duchess of Portland. At the sale of her effects (1786) it was bought by the then duke of Portland, and in 1810 it was loaned to the British Museum. Here it was shattered in 1845 by a stone from a madman's hand. So skillfully was it reconstructed that little trace remains of the disaster. It was bought by the British Museum in 1945. The vase has been reproduced in pottery, glass, and plaster of Paris, the most famous replica was made in jasper ware by Josiah Wedgwood c.1789. See reprint (1845) of Wedgwood's *Account of the Barberini, Now Portland, Vase* (1788?).

Port Laoighise (lā'ĭsh) or **Maryborough,** town (pop. 3,166), co. seat of Co. Laoighis, Ireland, WSW of Dublin. It is a malting center, with woolen milling and the manufacture of farm implements.

Port Lavaca (luvă'kŭ), city (pop. 2,069), co. seat of Calhoun co., S Texas, on Lavaca Bay and SE of San Antonio, inc. as a city 1909. La Vaca, founded here in 1815, was succeeded by Lynnville, which was destroyed by the Comanche in 1840, and by the present city. A deepwater port of some prominence until late in the 19th cent., it declined but later revived when oil was discovered. It is a fishing port connected with the Intracoastal Waterway and has oil refining and a plant for quick-freezing of truck.

Port Louis, city (pop. 66,564), capital of Mauritius, a port on the Indian Ocean. It was founded in 1735 by La Bourdonnais. It is the terminus of a railroad and it exports sugar.

Port Lyautey (lēōtā', Fr. pôr lyōtā'), city (pop. 56,604), French Morocco, a port on the Sebou river, c.8 mi. from the Atlantic Ocean. It was rebuilt by the French under Lyautey to serve as a port for the fertile Sebou valley. It was formerly called Kenitra.

Port Macquarie (mukwä'rē), town (pop. 2,906), New South Wales, Australia, a port on the east coast NE of Newcastle. It exports dairy products.

Port Mahon, Spain: see MAHON, PORT.

Port Moody, city (pop. 1,512), SW British Columbia, at the west end of Burrard Inlet of the Strait of Georgia and E of Vancouver. It is in a lumbering and farm area and has an oil refinery.

Port Moresby (môrz'bē), town (pop. 1,300), on SE New Guinea, capital of the Territory of Papua, a port on landlocked Fairfax Harbor. Near by is the Astrolabe copper field. In the Second World War the chief Allied base on New Guinea was here. Port Moresby was also then the acting capital of the Territory of New Guinea and in 1946 was officially made the temporary capital instead of Rabaul.

Port Mulgrave, N.S.: see MULGRAVE.

Port Neches (nĕ'chĭz), city (1940 pop. 2,487, 1943 special census pop. 5,721), SE Texas, on the Neches below Beaumont, inc. 1927. On the deepwater Sabine-Neches Canal, it has oil refineries and a synthetic-rubber industry developed in the Second World War.

Port Nelson, village, N Man., at the mouth of the Nelson river and just W of York Factory. The site was first visited by Sir Thomas Button, who wintered there (1612–13) on an expedition in search of the Northwest Passage. Since 1670 it has been a post of the Hudson's Bay Company. Proposed as the terminal of the Hudson Bay RR., Port Nelson was abandoned (1927) in favor of Churchill.

Portneuf (pôrtnûf') or **Notre-Dame-de-Portneuf** (nôtrŭ-däm'-dù-), town (pop. 1,015), S Que., on the north shore of the St. Lawrence and SW of Quebec. It has lumber and paper mills.

Port Nolloth (nŏ'lŭth), town (pop. 1,470), NW Cape Prov, Union of South Africa, a port on the Atlantic Ocean. Copper is exported.

Porto, Portugal see OPORTO.

Pôrto Alegre (pôr'tō ŭlā'grŭ), city (pop 259,246), capital of Rio Grande do Sul state, SE Brazil, a port at the north end of the Lagoa dos Patos It has cold-storage warehouses and meat-processing plants and is an important shipping center for the agricultural and pastoral hinterland The chief exports are preserved meat, hides, wool, grain, and fruit Pôrto Alegre was founded (1742) by immigrants from the Azores, and since the 19th cent its development has been aided by numerous German and Italian settlers The modern city is well laid out with handsome business and government buildings It is the seat of two universities

Porto Bello, Panama see PORTOBELO

Portobello (pôr"tōbĕ'lō), seaside resort, Midlothian, Scotland, a suburb of Edinburgh It has marine gardens, a pier with an esplanade, beaches, and manufactures of pottery and glassware

Portobelo, Porto Bello (both pôr"tōbĕ'lō), or **Puerto Bello** (pwĕr"tō bĕ'yō), town (pop 573), Panama, a port on the Caribbean coast 50 mi E of Colón It is on an excellent harbor, visited by Columbus, and it was founded in 1597 A thriving colonial port, it was connected by a stone highway with Panama city; both ports were the points of transshipment for riches from the Spanish Pacific domains Believed impregnable—Sir Francis Drake, before he could capture it, died of fever and was secretly buried in the bay—Portobelo was, nevertheless, sacked by English buccaneers (William Parker in 1601, Sir Henry Morgan in 1668, and Edward Vernon in 1739). With the building of the Panama RR (1848–55) and finally the digging of the Panama Canal, Portobelo declined.

Portocarrero, Luis Manuel Fernández de (lwēs' mänwĕl' fĕrnän'dāth dā pôr'tōkärä'rō), 1635–1709, Spanish statesman, cardinal of the Roman Church (1669). He was councilor of state in 1677 and became archbishop of Toledo soon after The next year he was made viceroy of Sicily He was instrumental in persuading Charles II to name Louis XIV's grandson (later Philip V) as his successor—a move which led to the War of the Spanish Succession Later Portocarrero supported the Austrian party, but when an attempt to place a Hapsburg on the throne failed, he renewed his allegiance to Philip

Portoferraio (pôr'tōfĕr-rä'yō), town (pop 7,682), on Elba island, Italy A port, with important ironworks, it ships out most of the iron mined in the island. The place was strongly fortified by the Médici (16th–18th cent) While sovereign of Elba, Napoleon I resided (1814–15) here in a small villa.

Port of New York Authority, self-sustaining public corporation, est 1921 by the states of New York and New Jersey to administer the activities of the New York city port area which has a 771-mile water front lying in both states Under the Port Authority several projects have been undertaken, among them the construction of the George Washington Bridge and the Lincoln Tunnel and the refinancing of the Holland Tunnel The municipal airports of New York city and the Newark airport are administered by the agency.

Port of Spain, town (pop 92,793), on Trinidad, capital of Trinidad and Tobago On a fine harbor of the Gulf of Paria opposite Venezuela, Port of Spain exports agricultural produce Here are transferred from coastal and river steamers for overseas shipment the bauxite from British and Dutch Guiana and the iron ore from the lower Guiana region of Venezuela A railroad and highways connect it with other parts of the island The city has attractive government buildings, churches, residences, and botanical gardens

Portolá, Gaspar de (gäspär' dā pôrtōlä'), fl. 1734–84, Spanish explorer in the Far West After serving in Italy and Portugal, he was sent (1767) to America as governor of the Californias to expel the Jesuits and to save Franciscan missions In 1769 Portolá commanded an expedition sent out from Mexico to extend Spain's control up the Pacific coast The party, composed of two ships and two land parties, left Velicatá and met at San Diego Bay, from where Portolá continued with a small land party to Monterey Bay, which he failed to recognize as his destination After exploring the region, he returned to San Diego in 1770 Convinced by Capt Vicente Vila that Monterey was the correct spot, Portolá again marched north, reaching at last the bay described by the earlier explorers and the site for occupation of Upper California. Here he established the mission and presidio of San Carlos and, leaving an officer in charge, sailed for San Blas He became governor of Puebla in 1776 and in 1784 received expenses for his return to Spain. See H H Bancroft, *History of California* (1890), Francisco Palóu, *Life and Apostolic Labors of the Venerable Father Junípero Serra* (ed by G W. James, 1913), Z S. Eldredge, *The March of Portolá* (1909), I. B. Richman, *California under Spain and Mexico* (1911); H. E. Bolton, *Fray Juan Crespi* (1927), and his edition of Francisco Palóu's *Historical Memoirs of New California* (1926).

Porto Novo (pôr'tō nō'vō), town (pop 23,500), capital of Dahomey, a port on a lagoon off the Gulf of Guinea It is the terminus of a railroad to the interior Palm oil is exported.

Port Orchard, town (pop 1,566), co seat of Kitsap co, NW Wash, on an arm of Puget Sound opposite Bremerton and economically semidependent on it, settled 1854

Porto-Riche, Georges de (shôrsh' du pôrtō-rēsh'), 1849–1930, French dramatist of Jewish extraction His plays dealt with problems arising in love and marriage which he treated from a penetrating psychological point of view Representative are *Le Passé* [the past] (1897) and *Le Vieil Homme* [the old man] (1911)

Porto Rico see PUERTO RICO

Pôrto Velho (pôr'tō vā'lyō), city (pop 3,148), capital of Guaporé territory, W Brazil, on the upper Madeira river It is the northern terminus of the Madeira-Mamoré RR and a shipping center (by river steamer) for rubber and lumber.

Portpatrick, parish (pop 1,101), Wigtownshire, Scotland, SW of Stranraer and directly across the North Channel from Belfast Lough Being the nearest port to Ireland, for some time it had a promising trade, and construction of harbor improvements was begun in 1843, but storms and other difficulties caused the port to decline

Port Perry, village (pop 1,245), S Ont, on the south shore of Lake Scugog and NE of Toronto It is a distributing center for an agricultural, fishing, and summer resort region

Port Phillip Bay, large inlet of Bass Strait, 30 mi long and 25 mi wide, S Victoria, Australia Its north arm, Hobson's Bay, is the site of Port Melbourne and Williamstown, Geelong is on Corio Bay, its west arm

Port Pirie (pĭ'rē), city (pop 12,030), South Australia, a port at the base of Yorke Peninsula, on an inlet of Spencer Gulf and NNW of Adelaide Here are the smelting works for the silver-lead mines at Broken Hill Port Pirie exports silver and lead concentrates and wheat

Port Radium, Canada see ELDORADO MINES

portrait. The likeness of a person either in painting or sculpture has been a favorite art subject at all times There exists evidence that the Egyptians included in their tombs small portrait statuettes of the bodies enclosed there, many Greek and Roman sculptures are portraits, and there are descriptions in ancient literature of portrait paintings, sources attest to Chinese portraits as long ago as the 14th cent B C In the Western world portraits became common at the beginning of the Renaissance and were at their zenith in the 18th cent Paintings are far more prevalent than carvings in portraiture, the latter being used now almost exclusively for public statues There are full-length portraits, facial portraits, group portraits, and self-portraits In the 13th cent Giotto was the first to use friends as models for his biblical characters Later Renaissance painters included likenesses of their patrons or rulers in their group pictures Filippino Lippi, Ghirlandaio, Benozzo Gozzoli, and others included their own likenesses inconspicuously in groups Single portraits and self-portraits also were popular at this time Piero della Francesca's picture of Federigo da Montefeltro and Raphael's likeness of himself are outstanding Later artists, such as Titian, usually painted half-length portraits Giovanni Battista Moroni was the first painter to dedicate himself almost exclusively to portraiture, but except for the 18th-century period, such specialization has been rare among first-rate artists Rembrandt, El Greco, Velázquez, Van Dyck, Frans Hals, and Rubens all produced outstanding portraits, antedating them were Holbein, Dürer, and Lucas Cranach, the elder The English 18th-century group, Sir Joshua Reynolds, Gainsborough, Romney, Thomas Lawrence, and Raeburn, concentrated on portraying the aristocracy and celebrities of their day In the same century the Americans Copley, Benjamin West, Charles Willson Peale, and Gilbert Stuart learned from the English but gave individual talent to their portraits In the early 19th cent John Trumbull and Thomas Sully devoted themselves to portrait painting, sculptured portrait busts were popular, and such sculptors as Horatio Greenough, Thomas Crawford, and Hiram Powers made their fortunes Thomas Eakin, Frank Duveneck, and John Singer Sargent were the chief American portrait painters of the later 19th cent, they were followed by William M Chase and Robert Henri English contemporary portraitists include Augustus John and William Rothenstein Conspicuous among 20th-century portraits are Picasso's painting of Gertrude Stein, Eugene Speicher's portrait of Katharine Cornell, and the sculptured portrait busts by Jacob Epstein. Portraits have also been executed in engravings, etchings, relief plaques, medals, and drawings. See E. M Hurll, *Portraits and Portrait Painting* (1907); H E A. Furst, *Portrait Painting. Its Nature and Function* (1927); E. M Benson, *Problems of Portraiture* (1937); D. M. Campana, *Course of Instructions on Portrait . . . Painting* (4th ed., 1944).

Portree (pôrt-rē'), parish (pop. 2,007), only town on Skye, Inner Hebrides, Scotland. It is a resort.

Port Republic, village, NW Va., at the junction of the North and South rivers, which form the South Fork of the Shenandoah river. Near it was fought the last battle of the Shenandoah Valley campaign conducted by T J (Stonewall) JACKSON in the spring of 1862 While his lieutenant, R S. EWELL, was engaged with J. C Frémont at Cross Keys, 4 mi to the northwest, Jackson beat off a surprise attack on Port Republic by the cavalry of James Shields's van which had crossed the South River Leaving part of his force to guard the bridge over the North River, Jackson sent the rest to Ewell, who repulsed Frémont on June 8, 1862 The next day Jackson crossed the North and South rivers and attacked Gen. Erastus B Tyler of Shields's force. He planned to dispose of Tyler quickly and then return to finish off Frémont, who in the meanwhile was to be held off by two brigades However, Tyler's men were not defeated until after much hard fighting, and so the two brigades joined the main force, burning the bridge behind them With Frémont isolated and Tyler in retreat, Jackson successfully ended his campaign.

Port Royal, N S. see ANNAPOLIS ROYAL

Port-Royal (Fr pôr'-rwayäl'), former abbey of women, c.17 mi. W of Paris, founded in 1204 It was at first Benedictine, later Cistercian. In 1608 the abbess, Angélique Arnauld (see ARNAULD, family), undertook a reform with the counsel of St Francis of Sales The nuns became renowned for piety, and their help was sought all over France for the reform of conventual discipline In 1626 the abbey was moved to Paris because of the unhealthfulness of the climate, the old buildings were now called Port-Royal-des-Champs [in the country], the new foundation Port-Royal-de-Paris Under the influence of Jean Duvergier de Hauranne the abbey soon became the prime center of JANSENISM Port-Royal-des-Champs became a retreat for men, some of whom opened classes there for boys (1638) These, "the little schools," were successful from the start, and many celebrated Frenchmen were educated there The pedagogy was novel in emphasizing knowledge as a means rather than an end, in using "natural" methods, and in distrusting corporal punishment The textbooks became famous The religious tone of the teaching did much to create the Jansenist and antipapal tendencies of 18th-century Catholicism in France Port-Royal fared as Jansenism did, and persecution became severe toward the end of the 17th cent Port-Royal-des-Champs was suppressed by papal bull in 1704, and the buildings were razed in 1710 The nuns were expelled from Port-Royal-de-Paris.

Port Royal Island, c 13 mi long and 7 mi wide, S S C, at the head of Port Royal Sound, one of the SEA ISLANDS It is a truck-farming and resort area with a good harbor at Beaufort

Port Royal Sound, arm of the Atlantic, S S C, between St Helena Island and Parris Island on the north and Hilton Head Island on the south. It receives the Broad River The sound was named by Jean Ribaut, who founded (1562) a short-lived Huguenot settlement called Charlesfort on Parris Island. In the Civil War, Commander S F Du Pont reduced (1861) Forts Beauregard and Walker, guarding the sound, and the Union held the area for the rest of the war

Portrush (pôrtrŭsh'), urban district (pop 3,386), Co Antrim, Northern Ireland, on Ramore Head, a peninsula near the Giant's Causeway A salmon-fishing center and resort, it is the seaport for Coleraine

Port Said (sĭd, sād, saēd'), city and commune (pop. 178,432), NE Egypt, on the Mediterranean Sea at the entrance to the Suez Canal The city, on a narrow peninsula between Lake Mengaleh and the sea, was founded in 1859 by the builders of the Suez Canal, and it was named for Said Pasha, then khedive of Egypt It manufactures salt by the evaporation of sea water, and it is a coaling station for ships using the canal Cotton is exported.

Port Saint Joe, town (pop 2,393), NW Fla, a port of entry on St Joseph Bay SW of Tallahassee, settled c 1830, inc 1913 It is a resort and a fishing and lumbering center with large manufactures of fish oil, fertilizer, and paper. A monument (1922) commemorates Florida's first constitutional convention, held here in 1838

Portsea (pôrt'sē), island, c.4 mi long and 3 mi. wide, off Hampshire, England, between Portsmouth and Langston harbors It is separated from the mainland by a narrow channel PORTSMOUTH is on Portsea, a district of Portsmouth is called Portsea also

Portslade-by-Sea, urban district (1931 pop 9,527; 1943 estimated pop 12,070), Sussex East, England, near Brighton. It has docks and various manufactures and a race track. There are Saxon and Roman remains in the vicinity.

Portsmouth, Louise Renée de Kéroualle, duchess of (lwēz' rŭnā' dŭ kārōōal', pôrts'muth), 1649–1734, French mistress of Charles II of England. She exerted a powerful influence over the king in favor of France—and to her own advantage—from 1671 until his death in 1685. She was made duchess of Portsmouth in 1673 and was the mother by the

king of Charles Lennox, duke of Richmond, and of other children Hated by the English people, she lived mostly in France after 1685

Portsmouth (pôrts'muth), village (pop. 3,135), S Ont., on Lake Ontario and just W of Kingston The provincial penitentiary and a mental hospital are here.

Portsmouth, county borough (1931 pop 249,283; 1947 estimated pop. 216,030) and city, on PORTSEA island, Hampshire, England, at the entrance to Portsmouth Harbour, which is protected by a line of forts It is the chief naval base of Great Britain It includes Portsea (the chief naval station, with more than 300 acres of dockyards), Southsea (residential district and resort), Landport, and Portsmouth proper (the smallest section and the garrison town). The Cathedral of St. Thomas à Becket dates partly from the 12th cent ; in the chancel is a cenotaph of the duke of Buckingham, who was assassinated in 1628 in a house formerly known as the Inn of the Spotted Dog The house in which Charles Dickens was born has been converted into a museum, as has H M S *Victory*, Nelson's flagship at Trafalgar in 1805, now in dry dock Charles II and Catherine of Braganza were married at Portsmouth George Meredith and Walter Besant were born here In the Second World War the city and harbor were damaged in air raids (1940–41)

Portsmouth. 1 City (pop 14,821), SE N H , a port of entry with a good harbor at the mouth of the Piscataqua, made a city 1849 The site, in the grant of Gorges and Mason, had a colony and fishing base in 1623 The town exported lumber and fish and was called Strawberry Bank before its incorporation by Massachusetts as Portsmouth in 1653 It was provincial capital until the Revolution Shipbuilding began early Men-of-war and privateers were made in the Revolution and in the War of 1812 John Paul Jones's ship *Ranger* was built (1777) by Portsmouth shipwrights in Kittery, Maine The Portsmouth naval base (officially the U S Naval Base, Portsmouth, N H) located on islands (now joined together) was established in 1800 These islands, on the Maine side of the Piscataqua in the town of Kittery, were ceded to the Federal government The base, linked to Kittery by two bridges, is an important submarine-building and repair yard The Treaty of Portsmouth was signed at the base in 1905 The height of Portsmouth's commerce was in the 18th and early 19th cent Many of the fine old houses are preserved by historical societies, the oldest, the Richard Jackson House (1664), has been restored The Athenaeum (1803) has a library and historical relics The first newspaper in the state, the *New Hampshire Gazette*, was published here Among Portsmouth's residents were Sam Walter Foss, Daniel Webster, and Jeremiah Mason Thomas Bailey Aldrich, James T Fields, and Celia Thaxter were born here The Memorial Bridge (1923) and the Interstate Highway Bridge (1940) cross the Piscataqua to Kittery Portsmouth's manufactures include gypsum products **2** City (pop 40,466), co seat of Scioto co , S Ohio, on the Ohio river at the mouth of the Scioto and S of Columbus, laid out 1803, inc 1814 It is an industrial and railroad center Steel and iron products, coke and coke by-products, paper boxes, firebrick, and shoes are produced Near by are Shawnee State Forest and the Roosevelt Game Preserve **3** Town (pop 3,683), on N Rhode Island, SE R I , connected with Bristol by Mt Hope Bridge It includes also Prudence Island The Indians called this area Pocasset The second white settlement in the state, it was founded by William Coddington, John Clarke, Anne Hutchinson, and their associates in 1638 The first general assembly of the new colony met at Portsmouth in 1647 The village of Portsmouth became a fishing, shipping, and shipbuilding center Farming and coal mining were important in the 19th cent Recently there has been resort and residential development In the town the British general Richard Prescott was captured (1777) by a patriot officer, William Barton, and the battle of Rhode Island was fought (1778) The 1938 hurricane caused much damage. **4** City (pop 50,745), SE Va., on the Elizabeth river opposite Norfolk, laid out 1750 on the site of an Indian village, chartered as a city 1858 The courthouse of Norfolk co is here One of the ports of HAMPTON ROADS, Portsmouth is the seat of a U S naval shipyard, formerly known as the Gosport Navy Yard and since the Civil War as the Norfolk Navy Yard The city is an important railroad and steamship center and is the shipping point for large quantities of farm produce and oysters. It is also an industrial center with railroad repair shops and various manufactures Portsmouth was a landing base for the British in the Revolutionary War. In the Civil War the navy yard was burned and evacuated by the Federals (1861) and was occupied by Confederates, Portsmouth was retaken by Federal forces the next year Places of interest include Trinity Church (1762), the U S. naval hospital (1827–30), and many late-18th-century houses

Portsmouth, Treaty of, 1905, treaty marking the end of the Russo-Japanese War, signed at Portsmouth Naval Base. It was brought about through the good offices of Theodore ROOSEVELT, which were not, however, completely unbiased since he had sent Taft on a mission to Japan After long negotiations the treaty was signed Aug 25, 1905 There was no war indemnity, much to the disappointment of the Japanese public Japan did, however, get Russian evacuation of S Manchuria, the cession of the southern section of the Manchurian RR, with mining and other rights, "paramount political, military, and economic" interests in Korea; the Russian lease of the Liaotung peninsula, the southern half of the island of Sakhalin; and favorable provisions concerning the Manchurian RR. Although they secured much, the Japanese people were much disgruntled at having to pay the cost of the war, and serious riots occurred in Tokyo as a result The treaty met with some reverberations in the United States, where public opinion became aroused against the Japanese Japan turned its attention to Korea, which it eventually (1910) annexed. See Tyler Dennett, *Roosevelt and the Russo-Japanese War* (1925)

Port Stanley, village (pop 1,177), S Ont., on Lake Erie and S of London, with which it is connected by electric railway It is a fishing resort and the chief Canadian harbor on the lake

Port Sudan (sōōdän'), city (pop c 52,000), NE Anglo-Egyptian Sudan, a port on the Red Sea A modern harbor and a rail head to serve the rich cotton-growing valley of the Nile were built here in 1906 Cotton and grain are exported

Port Talbot (tôl'but), municipal borough (1931 pop 40,678, 1947 estimated pop 41,450), Glamorganshire, Wales Aberavon (äbur'ă'vun), making iron, steel, and tin plate, is part of the borough Port Talbot is an export point for the coal and mineral industries of the Avon valley

Port Tampa City, city (pop 1,124), W Fla , on Tampa Bay SSW of Tampa

Port Tobacco, unincorporated village, SW Md , on Port Tobacco Creek at the Potomac Until its harbor was silted up, it was an important port It was the county seat of Charles co from 1658 to 1895 Manor houses of the 18th cent are near by Jesuit missionaries visited the Indian village Potopaco in 1641 and in 1649 acquired land on which they still maintain a residence

Port Townsend, city (pop 4,683), co seat of Jefferson co , NW Wash., at the entrance to Puget Sound, settled 1851, inc 1860 It is a port of entry and has a fine harbor, overlooked by Fort Worden, a near-by park, and a paper mill

Portugal (pôr'chùgùl), corporative republic (35,404 sq mi , pop 7,722,152), W Europe, including continental Portugal (34,207, sq mi , pop 7,185,143) on the western side of the Iberian Peninsula and the MADEIRA ISLANDS and the AZORES The capital and largest city is LISBON Other notable cities in peninsula Portugal are OPORTO, COIMBRA, SETÚBAL, BRAGA, ÉVORA, and FARO; on Madeira is FUNCHAL, and in the Azores is PONTA DELGADA The Portuguese Empire is spread across the world, including, in Africa, ANGOLA, MOZAMBIQUE, the CAPE VERDE ISLANDS, PORTUGUESE GUINEA, and SÃO TOMÉ AND PRINCIPE, in Asia, PORTUGUESE INDIA (Goa) and MACAO, in Oceania, part of TIMOR Spain, which occupies most of the Iberian Peninsula, bounds continental Portugal on the east and the north, in the west and the south (where the country ends in Cape St Vincent), Portugal faces the Atlantic The mountain scenery, notably in the Serra da Estrêla, is very beautiful, and the forests of cork oaks, tended on mountain slopes, yield one of Portugal's distinctive products, but much of the land is useless for agriculture The little country is crossed by rivers rising in Spain and flowing to the Atlantic. The MINHO is the northern border with Spain The DOURO has Oporto and its ocean port LEIXÕES at its mouth Inland on the Mondego is COIMBRA The TAGUS, an important dividing line in Portugal, reaches the sea just past Lisbon The smaller Sado empties into the Bay of Setúbal, and the southward-flowing Guadiana for a large part of its course marks the eastern border with Spain The river valleys support agriculture, and in the Douro and Tagus valleys there are wide vineyards, wine, especially port, is one of the major export items of the country. Many of the lower hill slopes are covered with olive groves, and the flatter uplands as well as the plains near the coast are devoted to the growing of grains—wheat, maize, barley, rye, and, in the warmer regions, rice. Grain and the wide pasture lands are used to support stock growing Sheep and hogs are the chief animals grown, although some sections are noted for their horses and their cattle (including bulls grown for the bull ring). The mountains have a wealth of minerals that are largely not exploited Coal is mined for fuel to power the industries, and plans have been made to utilize some of the abundant hydroelectric power. Although the little country is in one climatic zone, which includes all the Mediterranean countries, the climate varies with the altitude; cool highlands are usually not far from warm plains and valleys. The traditional province of Trás-os-Montes in the extreme northeast has a more or less rigorous mountain climate, quite cold in winter, and is one of the least-developed regions Parts of the old Entre-Minho-e-Douro (always also called simply Minho and now officially so designated) are also rigorous, and the climate is credited with the traditional solid simplicity attributed to the Minho peasants Beira, between the Douro and the Tagus, has the highest mountains of the country, the Serra da Estrêla, once the haunt of the fierce Lusitanians and now dotted with summer and health resorts Estremadura has broad alluvial plains, but these too rise to cool and rocky uplands coming to the sea about the ports of Lisbon and Setúbal Along the coast is a celebrated resort region, reaching its climax in Cintra The southeastern and major portion of Alentejo has a continental climate, very hot in summer, quite cold in winter Though much of its soil is poor and thin, it has earned a name as the granary of Portugal. The southernmost of the old provinces and last to be conquered from the Moors, Algarve (conquest completed in 1249), is a world apart from the rest of Portugal and is more like the northern shores of Africa Mountains curve across the north of the region and curve down to Cape St Vincent, the southwest tip of Europe Here in the mild climate fruit trees thrive, and visitors come in February to see the acres of blossoming almond trees The fishing fleets of little Olhão, Portimão, and Vila Real are tourist attractions as well as a vital business, with their cargoes of sardine and tuna There are also fishing ports—notably Setúbal and Matozinhos—on the western shores of Portugal from Cape St Vincent north to the mouth of the Minho. Fish canning is one of the major industries of Portugal, which is not highly industrialized There are important textile mills, not only for cotton but also for wool and silk. Other produce of the land (fruits, cork, wood, and the like) is processed, and there are varied industries in all the larger cities The country is moderately well supplied with transport, having altogether more than 2,000 mi of railroads (some state owned) and a road net that is good, considering the difficulties of terrain Lisbon is one of the world's major airports One of the avowed objects of the corporative state, the *Novo Estado* [new state], under the constitution of 1933 is the advancement of industry, and vigorous efforts have been made to coordinate and advance the economy. The hold of the administration over the government is strong A corporative chamber, organized for representation and direction of industries and professions, operates alongside the national assembly, elected by direct suffrage The president, elected for seven years, is assisted by a privy council Though the government in 1950 was strongly unitary and dictatorial under Premier Antonio de Oliveira Salazar, the constitution did not provide for one-party government The corporative structure drew somewhat from the Italian state under Mussolini, but it is by no means imitative, and is more of a "businessman's government," intended primarily for efficiency (at the expense of democratic rights) The old provinces are now divided into 11—Algarve, Baixo Alentejo, Alto Alentejo, Estremadura, Ribatejo, Beira Litoral, Beira Baixa, Beira Alta, Douro Litoral, Minho, and Trás-os-Montes-e-Alto-Douro The republic, including the island groups, is divided into administrative districts named after their capital cities The Portuguese are remarkably homogeneous in speech and customs in view of their diverse history, and the national spirit is strong Most of the people profess the Roman Catholic religion, and that Church has held much power Though the *Novo Estado* includes as part of its program the extension of education, illiteracy is still high It is generally recognized that there is little direct filiation between Portugal of today and the early tribes in this region of the Iberian Peninsula, but there is a deeper relation that the Portuguese long thought of themselves as descendants of the Lusitanians, that belief is celebrated in the great Portuguese epic, *The Lusiads*, and Portuguese in elevated moments refer to themselves as *lusos* today The Lusitanians had the core of their territory between the Douro and the Tagus and were in Spain as well as modern Portugal, but their stronghold was in the Serra da Estrêla, and from their mountain fastness they swept down in raids on the rich plains Their place in history was won by their stout resistance to the Romans under VIRIATUS in the 2d cent. B C and under the Roman general Sertorius in the 1st cent B C. It took all the power of Rome to subdue them, though other tribes such as the Conii in Algarve submitted more readily. Julius Caesar and Augustus finally reduced the territory firmly to order, and most of Portugal, ultimately combined with part of Spain in the province of Lusitania, throve The towns of Olisipo (Lisbon) and Cale (Oporto) were of some note in the province, where Roman ways were adopted. The most important heritage of Rome was the Romance language, which persisted, ultimately to become Portuguese. The whole Iberian Peninsula was overrun by Germanic invaders; the Visigoths established their rule over most of it, but in present N Portugal the little-known Suebi established (c.411) a kingdom

that lasted until late in the 6th cent. It is believed (though not with surety) that at this time the name Portucale was fixed on the region about the mouth of the Douro because there was a land port (place of toll) at the old city of Cale The Visigoths absorbed the area, while the Byzantine Empire held the present Algarve in the 6th and 7th cent. After the disastrous defeat (711) of the Visigoths, the whole peninsula fell to the Moors except for little Asturias and the Basque country The Algarve throve under the Moors as under the Byzantines, and despite disorder and raids of the Norsemen on the ports, the more northerly region was also somewhat fruitful From the beginning of the long period of Christian conquest, Portugal was involved in it, because the kings of Asturias raided the Moors across Galicia and to the west It was out of the confusion of the reconquest—of campaigns, countercampaigns, alliances, and counteralliances—that Portugal was born Ferdinand I of Castile entered Beira and after earlier attacks finally secured possession of the fortress of Viseu and the city of Coimbra by 1064 Alfonso VI of Castile in his vigorous wars with the Moors asked for French aid One of the nobles who responded was HENRY OF BURGUNDY, who married an illegitimate daughter of Alfonso VI and was made (1095?) count of Coimbra, a title later exchanged for count of Portucalense Thus Portugal was born The struggle of Henry and later of his widow and her lover (or second husband) to gain power in Castile failed, and the very existence of the country was threatened, but Henry's young son, Alfonso Henriques, grew up to be an able leader He took power (1128) from his mother and fought ceaselessly against the Moors and the Castilians After a victory over the Moors in the battle of Ourique (not fought at modern Ourique but at some undetermined place) in 1139, he began to style himself king as ALFONSO I The year 1140 is generally taken as the beginning of Portuguese history Alfonso took Santarém in 1147, and in that same year, with the help of English, Flemish, and German crusaders, took Lisbon When he died in 1185 he left Portugal established as an independent state His successors were faced with the hard tasks of redeeming Alentejo and Algarve from the Moslems and repeopling the areas devastated by long wars Relations with the kingdoms of Spain were complicated by dynastic successions, for ambitious marriages were constantly made and the interrelationships of blood and dynastic claims brought recurrent feudal wars There were troubles with other Portuguese claimants and between the kings and the mighty nobles, and there was continual struggle between the crown and the Church over land and power Sancho I (reigned 1185–1211) carried the war against the Moors clear into the rich Algarve and took their capital of Silves, but he could not hold it Alfonso II (reigned 1211–23) undertook to repopulate districts already gained, Sancho II (reigned 1223–48) campaigned incessantly until he was, through the connivance of high churchmen, deposed and replaced by Alfonso III (reigned 1248–79) It was Sancho who had taken the border fortress of Elvas, which was to prove of value in the later wars, but it was Alfonso who finally took (1249) Algarve and thus consolidated Portugal The patient workers on the land continued to supply the basis for these great events in which they had little part, and Alfonso's son Diniz (reigned 1279–1325) set out to improve land conditions and is called the Farmer (*o Lavrador*) because he encouraged the nobles to turn to the land He also established a brilliant court that saw the beginnings of Portuguese literature, and he set up the university that was to be the Univ of Coimbra The reign of his son, Alfonso IV, is remembered chiefly because of the tragic romance of Inés de CASTRO; for her fate Peter I (reigned 1357–67) wrought a bloody vengeance in having two of her murderers executed The dynastic Iberian wars had continued despite the efforts of the wife of King Diniz, the noble St Elizabeth of Portugal Ferdinand I (reigned 1367–83) indulged in long Castilian wars, in which JOHN OF GAUNT of England lent him assistance Ferdinand's marriage with Leonor Teles had unfortunate consequences, especially after the heiress to the throne was married to a Castilian prince After the death of Ferdinand the Portuguese, notably the able Nun'Álvares Pereira, were unwilling to accept Castilian rule and by the battle of Aljubarrota (1385) established John I, the grand master of the Order of Aviz, firmly on the Portuguese throne Thus commenced a most glorious period of Portuguese history, a reign fittingly commemorated by the magnificent buildings of Batalha The towns—which had already advanced to being represented in the Cortes of Leiria (1254) under Alfonso III—flourished The little country between the mountains and the sea began to look to the commerce of the waters and beyond Of the illustrious sons of John I the most illustrious was Prince Henry the Navigator He began the "miracle" of Portugal, the process by which the small country became for a time the greatest empire of the West. Under his aegis Portuguese navigators went out along the coast of Africa The Madeira Islands and the Azores were colonized. The Portuguese brought back wealth from their voyages, not the least item being slaves, and a Negro strain was introduced Ceuta was taken gloriously in 1415 and set the pattern for later Portuguese ambitions in Africa These were to end in disaster finally, but only after the power of Portugal had grown under Duarte (reigned 1433–38) and Alfonso V (reigned 1438–81) The unlucky attempt of Alfonso to get the Castilian throne ended in defeat, but his son John II (reigned 1481–95) turned to empire instead Bartholomew Dias rounded (1488) the Cape of Good Hope, and the reign was the preparation for the glory of the reign of Manuel I (reigned 1495–1521) Vasco da Gama found the route to India, and the wealth of the Indies poured back to Portugal Pedro Alvares Cabral announced the discovery of Brazil The empire was flung across the world—Asia, Africa, and America Such captains as Francisco de Almeida and the celebrated Alfonso de Albuquerque helped to make Portugal the leading commercial nation, eclipsing the glories of Venice His reign and that of John III (reigned 1521–57) marked the climax, for already the depletion of man power, the neglect of agriculture, and the measures against the Jews were taking away the base from the empire The descent was even more rapid than the ascent, for while the reign of Sebastian (reigned 1557–78) saw the singing burst of Renaissance literature continue and had the appearance of prosperity, the force was spent Sebastian, religious, military, and more than a little mad, led his country to catastrophe in a rash attempt to gain fame in an African campaign His army was cut to bits, and the king himself was killed, though the lack of news on his death led to the vain hope that he would return Sebastianism became a sort of messianic faith with some in the troubles to come The house of AVIZ disappeared with the death of Henry, the cardinal-king, in 1580 Philip II of Spain, nephew of John III, made good his claims to the Portuguese throne (as Philip I) by force of arms The years of the long "Spanish captivity" began Portugal was neglected, commerce dwindled, and the Dutch, almost unhindered, took over the empire in the East and the most prosperous part of Brazil Financial ruin was deepened by the drain to pay for wars against the United Provs of the Netherlands and the Thirty Years War Finally in 1640 the Portuguese took advantage of the embroilment of Philip IV with France to revolt and throw off the Spanish yoke John of Braganza was made king as John IV. Spain, however, continued to threaten the smaller country, and Portugal, no longer one of the great powers of the world, bound itself as an ally to England in the treaty of 1654, supported by the marriage of Catherine of Braganza to Charles II of England Alfonso VI, weak in mind and body, was deposed and his brother Peter II (reigned 1669–99) was first regent and then king Before his death Portugal had signed the Treaty of Methuen (1703) and entered the War of the Spanish Succession, which sapped the resources of the country Absolutism reached its height under John V (reigned 1706–50) and under Joseph (reigned 1750–77), when the marquês de Pombal was the real ruler of the land He was vigorous in his mercantile policies, sought to make the colony of Brazil productive, and took strong measures to revitalize agriculture and commerce The wine trade with England was built up, and the dictator (who was widely detested) put down the Oporto "tippler's rebellion" harshly He also won a long contest with the Jesuits, expelling them from the land Lisbon was rebuilt after the violent earthquake of 1755 Nevertheless, Portuguese decline continued gently after the fall of Pombal in the reign of Maria I and her husband Peter III It was after the queen had become insane and her son (later John VI) was regent that trouble with the French led to a humiliating treaty (1801) and to the taking over of Portugal by Napoleon The royal family fled (1807) to Brazil, landing there in 1808 and establishing Rio de Janeiro as the center of the empire. Portugal was rent by the PENINSULAR WAR, memories of the patriotism and the hardships of those days were to haunt the country long Napoleon's downfall meant the restoration of Portuguese independence, but John VI (king after 1816) did not return until after a liberal revolution against the regency in 1820 He accepted a liberal constitution in 1822, and forces supporting him put down an absolutist movement under his son, Dom Miguel. Brazil, unwilling to accept a subordinate part, declared its independence under Pedro I (John's elder son) as emperor On John's death the succession was doubtful Ultimately Pedro, who was recognized as king, abdicated in favor of his daughter, Maria II (Maria da Gloria), on condition that the constitutional charter of 1826 be accepted and Dom Miguel marry Maria Miguel instead seized the throne, and Pedro, after having been forced to abdicate in Brazil, came (1832) to Portugal and led the liberals in the Miguelist Wars. Maria was restored to the throne, but her reign was one of political chaos, dictatorships, and coups. Matters did not improve in the brief rule of Peter V (under the regency of Maria's husband, Ferdinand II) or that of Louis I (reigned 1861–89) Republicanism was growing, and under Charles I (reigned 1889–1908) it reached new heights In 1890 the strong statement (called the Ultimatum in Portugal) from Great Britain forbidding plans of Portugal to expand the empire in Africa (Mozambique and Angola) caused intense anti-British feeling and hurt the waning popularity of Charles, who created unrest by trying to establish the dictatorship of João Franco. In 1908 the first regicide in Portuguese history occurred, when Charles and the heir apparent were assassinated Manuel II succeeded to the throne, but only briefly, for in 1910 a revolution forced his abdication. A republic was established, and the distinguished man of letters, Teófilo Braga, became president The change of rule did not cure the economic ills besetting the country Financial chaos was reflected in political chaos Anticlerical measures caused the hostility of the Roman Catholic Church Royalists and conservatives revolted The troubles continued through the First World War in which Portugal, though one of the Allies, took little part Insurrections of both right and left made conditions only worse In 1926 Gen (later Marshal) Oscar de Fragoso Carmona by a coup d'état took over the government In 1928 he was elected president, and he was thereafter reelected Antonio Oliveira de Salazar was brought to power chiefly because of his financial ability He was the guiding genius in establishing the corporative state He maintained his control. Though opposition candidates were permitted in 1945 (for the first time), such stringent methods of control were adopted that the opposition boycotted the election Some opposition was offered in the 1949 assembly elections, but only from small rightist groups In the Second World War, Portugal maintained a policy of strict neutrality, and the anti-Axis powers felt that close Portuguese friendship with the Spain of Francisco Franco made Portugal at first list slightly to the Axis side Lisbon developed tremendously as the great neutral communications center (particularly for air transport) and was, incidentally, also a spy center In 1943 naval and air bases were given to the Allies After the war Portugal's application for membership in the United Nations was refused An excellent short history of Portugal is H V Livermore, *A History of Portugal* (1947) Older short histories in English are H M Stephens, *Portugal* (4th ed , 1908), and Sir George Young, *Portugal Old and Young* (1917).

Portuguese East Africa see MOZAMBIQUE

Portuguese Guinea (gĭ'nē), colony, including the Bissagos Islands (13,948 sq mi , pop 351,089), W Africa, on the Atlantic Ocean. The capital is Bissau. The colony is bounded by Senegal on the west and French Guinea on the east There are savannas in the north, a rain forest in the south, and mangrove swamps on the coast (c 150 mi long) The chief products are rice, palm oil, and hides Portuguese Guinea was discovered by Europeans in the mid-15th cent It became a separate colony in 1879 It is ruled by an appointed governor

Portuguese India, the Portuguese possessions (1,575 sq mi , pop 624,177) on the Indian subcontinent. It comprises the colonies of DAMAN, DIU, and GOA.

Portuguese language, Romance language, of the Italic subfamily of Indo-European languages See LANGUAGE (table)

Portuguese literature. Writing in the Portuguese language fittingly first emerged in lyric poetry, the songs collected in *Cancioneiros* [song books] These were like the Provençal songs, but had the individual flavor and meter of Portuguese and Galician (a dialect then of Portuguese, not Spanish) The popularity of Galician for writing lyrics is shown in the Galician poems of Alfonso X of Castile, and it is said that Galician was used over the whole Iberian Peninsula in 13th-century lyrics King DINIZ of Portugal (grandson of Alfonso X) was apparently a prolific poet, and it was his father, Alfonso III, who followed the Provençal habit of encouraging song The great *Cancioneiros* are three—the *Cancioneiro de Ajuda*, the *Cancioneiro de Vaticana*, and the *Cancioneiro Colocci-Brancuti*; the first two named for the place of preservation, the third after the owners These collections were allowed to sink into complete obscurity, and recovery of them first began in the 19th cent. The scholarly work of Carolina Micaëlis de Vasconcelos on the *Cancioneiro de Ajuda* in the 20th cent. opened large new vistas into the past of Portuguese literature But of that literature after the early *Cancioneiros* there is no trace for over a century, when Garcia de Resende gathered the anthology called the *Cancioneiro geral* (1516) This is a collection of "court" poetry lacking the spirit and the freshness of the earlier poetry but having a charm and mannered beauty of its own The first of the chroniclers in Portuguese (rather than Latin) were also beginning the development of Portuguese prose (notable among them Fernão Lopes and Gomes Eanes de Azurara), while the *Leal conselheiro* [loyal counselor] of King Duarte is a notable prose work of much earlier date. When the great period of Portuguese

literature began with the Renaissance, which came slowly to conservative Portugal, poetry and the drama were the leaders. Gil Vicente was not only great as a Portuguese writer but as a Spanish writer also. He was one of the great dramatists and a lyric poet as well, eclipsing minor writers such as Antonio Ferreira, author of *Inês de Castro* The Italian forms were the molds for SÁ DE MIRANDA, the bucolic writer DIOGO BERNARDES, and Bernardim RIBEIRO, but Luís de CAMÕES, though he borrowed from many writers, was indebted to none He was the author not only of the best-known single work of Portuguese literature, the epic called *The Lusiads*, but also of lyric poems that would of themselves give him world stature. The Renaissance also saw the development of such full-flavored chronicles as those of João de BARROS and the unique travel narrative of the later Fernão Mendes Pinto After the fury had spent itself, there was a decline in poetry, and the importance of Camões was perhaps unfortunately responsible for a spate of third-rate epics and correct but lifeless classical poems The hand of classicism was heavy on Portugal even if it did produce the sonorous and rather elaborate prose of Antonio Vieira, who may be considered as a figure of Brazilian literature as well The fresh *Letters of a Portuguese Nun*, completely outside the classical mold, though written by the Portuguese Mariana Alcoforado were known in Portugal only in translation from the French The book had neither predecessor nor successor, while the parade of dreary classic works reached a climax in the simpering and totally artificial Arcadian "pastorals" and the monotonous but not sonorous classical sermons and works of learning Against this dead weight arose the French-inspired romantic movement, introduced to Portugal by ALMEIDA GARRETT Romanticism became the literary fashion not only among poets but among all prose writers extending to the historical works of Herculano de Carvalho Araujo as well as the somewhat lurid novels of Camilo CASTELO BRANCO As elsewhere in Europe, romanticism yielded to the falsities of ultraromanticism, then to the imposed purities of the symbolists The group of Coimbra dissidents, headed by Antero de QUENTAL and Teófilo BRAGA, invigorated their work with strong political convictions Quental is, however, remembered for the perfection of form in his sonnets, and Braga, who served as president of the republic created in 1910, is known today primarily for the color of his writings on literature and history and for his collections of Portuguese folklore The poet GUERRA JUNQUEIRO also belonged to the rebellious group, which yielded place to French-inspired realism The later João de Deus RAMOS was of no school Realism emerged with a major novelist, José Maria EÇA DE QUEIROZ, whose ironic, elegant, and deeply human works still marked the general pattern for Portuguese novelists in 1950 His friend Ramalho ORTIGÃO carried the satiric and purging force of realism to great lengths but had little effect on succeeding writers The impressionistic, profuse, and rather superficial biographies and histories of Joaquim OLIVEIRA MARTINS are still read The many schools of modern literature found adherents in Portugal in the 20th cent., with no single clear line of development discernible, while the able literary critic Fidelino de Figueiredo was pointing out the various strains of the past See also BRAZILIAN LITERATURE See Aubrey F. G. Bell, *Portuguese Literature* (1922)

Portuguese West Africa see ANGOLA

portulaca (pôr"tŭlăk'ŭ), **rose moss,** or **garden purslane,** small annual plant (*Portulaca grandiflora*) native to Brazil, cultivated for its showy flowers of various bright colors Succeeding in dry, sunny places, the plant produces numbers of successive blossoms, single or double, that open only in sunlight The leaves are linear and fleshy Other plants of the genus, which includes the common PURSLANE, are sometimes called portulaca

Portville, village (pop 1,018), W N Y, on the Allegheny near the Pa line, inc 1895 Dairy products and wood specialties are made

Port Vue (pôrt' vū'), borough (pop 3,601), Allegheny co, SW Pa, near Pittsburgh, inc 1892

Port Washington. **1** Unincorporated village (pop 10,509) on the north shore of Long Island, SE N Y, on Manhasset Bay It is a resort and residential suburb of New York city It has sand and gravel industries and clamming and lobster fishing Two coeducational private schools are here **2** City (pop 4,046), co seat of Ozaukee co, E Wis, on Lake Michigan N of Milwaukee, settled before 1835, inc 1882 It is a fishing and industrial center

Porvoo (pôr'vô), Swed *Borgå* (bôr'gô), city (pop 6,821), S Finland, E of Helsinki, at the mouth of the Porvoo river and on the Gulf of Finland It has plywood and cellulose mills and is a timber-exporting center Its Gothic cathedral, built in the 15th cent, is located in the old section, which has kept its narrow, winding streets, small, low houses, and picturesque shore cottages An important trade center since c 1300, Porvoo is also a cultural center and was the home of the Finnish national poet, Runeberg Here in 1809 the Finnish diet took the oath of allegiance to Alexander I of Russia.

Posada, José Guadalupe (hōsä' gwä"dhälōō'pā pōsä'dhä), 1852–1913, Mexican artist Of peasant stock, he became one of the greatest popular artists of the Americas and influenced the generation of Orozco and Rivera An imagery of violence was characteristic of him, and he used distortion, caricature, and vigorous lines and contrasts Working mainly in lithography, woodcuts and metalcuts, and relief etching, he produced thousands of prints which were sold cheaply to the masses, prints are often called Posadas after him He attacked the Porfirio Díaz dictatorship and was sympathetic to the workers and peasants who became revolutionaries in 1910 Posada also illustrated popular ballads and festivals and did a series of the dance of death and of crimes and executions

Posadas (pōsä'dhäs), city (estimated pop 38,516), NE Argentina, a port on the upper Paraná river It is a center of the mate industry, tobacco, grain, and fruit are also grown

Poseidon (pōsī'dŭn), in Greek religion, sea-god, protector of all waters He bore the TRIDENT, and when he shook it he caused storms and earthquakes The horse was his gift to man, but dolphins and bulls were also sacred to him He was the patron of the ISTHMIAN GAMES A brother of Zeus, he was the husband of Amphitrite and son of the Titans CRONUS and RHEA His children were Triton, Orion, Pegasus, Polyphemus, and other giants and monsters The Romans identified Poseidon with Neptune

Posen, Poland see POZNAN

Posen (pō'zun), village (pop 1,386), NE Ill, S of Chicago, settled 1893 by Polish immigrants

Posillipo (pōzēl'lēpō), picturesque suburb of Naples, S Italy, on the north shore of the Bay of Naples. There are remains of Roman villas

positive, in photography see NEGATIVE

positivism (pŏ'zĭtĭvĭzĭm), philosophical system of thought which denies any validity to speculation or metaphysics It maintains that knowledge is founded exclusively on experience and the positive sciences The term is applied specifically to the system of Auguste COMTE, who developed the coherent doctrine and named it, but it includes in general all views of like nature Positivistic tendencies appeared in Epicurus and other ancients, they influenced medieval thought and were certainly strong in the early exponents of the scientific method Hume gave the basic ideas of positivism status in modern philosophy, influencing the general trend of recent pragmatic and instrumentalist thinking

positron (pō'zĭtrŏn"), positive particle having the same mass and magnitude of charge as the electron It was discovered in 1932 by Carl D Anderson Positrons can be produced by the bombardment of beryllium, magnesium, or aluminum with alpha particles The positron is very short-lived

Post, Emily (Price), 1873–, American authority on etiquette b Baltimore She began her literary work as a novelist, basing many of her themes on the contrasting social ideas of Europe and America Her best-known book is *Etiquette* (1922), which has run through several editions and owes its popularity to its lively style and to the author's discrimination between essentials and nonessentials in social intercourse Mrs Post has broadcast on the radio since 1931 and has written since 1932 a syndicated column on good taste She has become an authority also on interior decoration *The Personality of a House*, published in 1930, has been several times revised

Post, George Browne, 1837–1913, American architect, b New York city, grad New York Univ, 1858, in civil engineering, and studied architecture with R M Hunt He was one of the leaders in a notable group which helped regenerate American architecture in the period from 1875 to 1890 A member of the National Commission of Fine Arts, he was a medalist and president (1896–99) of the American Institute of Architects He designed, among other buildings, the Produce Exchange, the Stock Exchange, the buildings of the College of the City of New York, and the *World* building, all in New York, and the Wisconsin state capitol

Post, Wiley, 1900–1935, American aviator, b Van Zandt co, Texas He was successively test pilot for a commercial company, private pilot, and airmail pilot before, in 1931, he won fame by flying with Harold Gatty around the northern part of the earth (15,474 mi) in 8 days, 15 hr, 51 min In 1933 Post made somewhat the same trip alone, traveling 15,596 mi in a few minutes less than 7 days, 19 hr, and flying nonstop from Brooklyn to Berlin He was killed in an airplane crash near Point Barrow, Alaska, while on a flight with Will Rogers

Post, Wright, 1766–1828, American surgeon, b North Hempstead, L I, N Y He studied privately in New York and London In 1792 he joined the medical faculty of Columbia College, and remained on the faculty after it was transferred (1814) to the College of Physicians and Surgeons, of which he was president from 1821 to 1826 He introduced many successful surgical techniques and gathered a valuable anatomical collection which he gave to Columbia.

Post, city (pop 2,046), co seat of Garza co, NW Texas, SE of Lubbock, inc 1916 Founded in 1907 to be a balanced industry-farming community, it has a cotton-textile mill and ships cattle

postage stamp, government stamp affixed to mail to indicate payment of postage The term includes stamps printed or embossed on post cards and envelopes as well as the more usual adhesive labels The use of adhesive postage stamps was advocated by Sir Rowland Hill, it was adopted in England in 1839 and established in 1840 Zurich (Switzerland) and Brazil issued stamps in 1843, and by 1850 the custom had spread throughout the world Although the postmasters of several cities had previously issued provisional stamps, the first U S official issue was in 1847 Stamps are usually printed from engraved steel plates or cylinders or by typographic or lithographic means Special stamps include air-mail and commemorative issues, special-delivery and postage-due stamps Although postage stamps are sometimes used for revenue purposes, most governments issue special fiscal stamps The popularity of PHILATELY has led some governments to make unnecessary issues. See M A Hallgren, *All about Stamps* (1940)

postal savings bank, government savings bank operated through local post offices First established in England in 1861, the institution has been adopted by most nations, including the United States (1910) In some countries additional functions include the operation of annuity and life insurance systems and the sale of government securities

postal service, term originally covering arrangements for the exchange of letters, but later used to include the transmission of packages, periodicals, and newspapers and for other services Early courier systems for government use were organized in the Persian Empire under Cyrus, in the Roman Empire, and in medieval Europe Private systems operated sporadically, but were gradually abandoned or incorporated into government services as these were opened for public use The English postal service, an outgrowth of royal courier routes, was established in 1657 Reforms proposed by Sir Rowland Hill were adopted by a postal act of 1839, which provided for universal penny postage prepaid by an adhesive POSTAGE STAMP or an official envelope The U S system was derived from the service established in the colonies by England Postage stamps were first used in the United States in 1847, other developments were the registering of mail (1855), city delivery (1863), money orders (1864, in response to a need for sending money to soldiers in the Civil War), and penny post cards (1873) Special-delivery service started in 1885, rural delivery in 1896, postal savings in 1911, and parcel post in 1913 A picturesque feature of the transmission of mail to the West Coast was the PONY EXPRESS of 1860–61 Mail service by railroad was instituted in 1862, and AIR MAIL in 1918 Postal service in the United States is under the direction of the POSTMASTER GENERAL The Universal Postal Union was established after the International Postal Convention of 1874, for which Heinrich von STEPHAN was largely responsible See George Walker, *Haste, Post, Haste!* (1939)

poster, placard designed to be posted in some public place for purposes of commercial announcement or propaganda Advertising makes wide use of posters, as do charitable or political organizations Remains of ancient civilizations such as Egypt, Babylonia, Greece, and Rome, furnish evidence that a form of poster was already in use Some of the Pompeian wall paintings are clearly in the nature of announcements, and there is reason to believe that the Greeks posted notices in the market place and the forum The invention of printing broadened the field The invention c 1796 of the lithographic process widened the technical possibilities of poster art In the 1870s the poster as we know it today originated, being clearly in the form of advertisement The elements of poster design are based on the idea that it must be visible at a distance and comprehended in one glance, so that lines are generally simple and colors few and bold Lettering is kept at a minimum The subjects selected for illustration are striking and of general appeal Posters were already being designed by known artists in the 17th and 18th cent In the 19th cent Daumier, for example, contributed poster designs, as subsequent artists—such as Manet, Picasso, Ben Shahn, and Norman Rockwell—have also done, although their field was not specifically that of poster design Other artists have made their name with poster design Jules Cheret, Alexandre Steinlen, and Henri de Toulouse-Lautrec in the 1870s set the modern style by their posters advertising entertainments and restaurants Other leading poster designers have been Fred Walker, Aubrey Beardsley, William Nicholson and James Pryde (collaborating under the name "the Beggarstaff Brothers"), Will Owen, and Dudley Hardy in England, Ludwig Hohlwein and Paul Scheurich in Germany; the Belgian Hendrik Cassiers, Lev Bakst in Russia, Toyokuni in Japan, carrying on an Eastern poster tradition, and Ramón Casas in Spain The American poster can be said to have originated with Matt Morgan's circus ad-

vertisements (c 1890) and was developed by Edward Penfield, Will H. Bradley, Maxfield Parrish, Howard Chandler Christie, James Montgomery Flagg, Charles Dana Gibson, and Harrison Fisher. Outstanding modern poster designers in the United States are E McKnight Kauffer, Paul Rand, Austin Cooper, and Pat Keely, in France, A M Cassandre, Jean Carlu, and Charles Loupot See C M. Price, *Posters· a Critical Study for the Development of Poster Design* (1931), E McKnight Kauffer, *The Art of the Poster* (1925), S R Jones, *Posters and Publicity* (1926), Austin Cooper, *Making a Poster* (1938), J I Biegeleisen, *Poster Design* (1945).

postimpressionism, term applied to the work of various French painters at the end of the 19th cent who, for differing reasons, were dissatisfied with the objective and improvisatory character of IMPRESSIONISM and attempted to apply some of its lessons to a more structurally organized, or more subjective, art Cézanne, Van Gogh, Gauguin, Seurat, Signac, and Renoir in his late manner are often termed postimpressionists Postimpressionism was followed by FAUVISM in 1905

post-mortem examination (pōst″-môr′tŭm) or **autopsy** (ô′tŏp″sē) [Latin *post mortem*=after death, *autopsy* from Gr ,=seeing by one's self], systematic examination of bodies for determining the cause of death or for study The pathologist often removes organs from the body and dissects them, in order to make microscopic studies of the tissue Chemical tests are frequently made of the contents of organs Post-mortems are generally made at the instance of the authorities in cases of unexplained and suspicious deaths or deaths unattended by a physician In other circumstances a doctor may have an autopsy performed to ascertain more precisely the reasons for death only if the family consents or if permission was granted by the person before death

Postojna (pô′stoinä), Ger *Adelsberg* (a′dŭlsbĕrk), Ital *Postumia* (pōstōō′myä), town (pop 3,651), Slovenia, Yugoslavia, in the KARST, c 30 mi SW of Ljubljana It is a summer resort and is famous for its stalactite caves (the largest in Europe) traversed by a subterranean river It belonged to Austria until 1919 and then to Italy until 1947

Poston, Charles Debrill (pō′stŭn), 1825–1902, American explorer and author, b Hardin co, Ky After practicing law in Tennessee, he moved to California in 1850 and from there led a party to explore the east coast of the Gulf of California for harbors and S Arizona for minerals A subsequent mining enterprise in Arizona was abandoned because of Apache wars An advocate of territorial organization for Arizona, he was appointed (1863) superintendent of Indian affairs and served (1864–65) as the first delegate to Congress from the new territory In 1868 he received a commission to study irrigation and immigration in Asia Later he served in the Southwest in various government posts In 1925 a monument was erected to his memory on Poston's Butte near Florence, Ariz. Among his writings are *The Sun Worshipers of Asia* (1877) and *Apache Land* (1878)

Postumia, Yugoslavia see POSTOJNA

Postumus (pŏs′tūmŭs), d 269?, Roman commander Governor of Gaul under Gallienus, he revolted (259) and established an independent empire there Though defeated (263) by Gallienus, he escaped and maintained his state until murdered by his own men His measures helped to shore up the tottering Roman civilization, thus in a sense saving the West

posture (pŏs′chur), position of the movable parts of the body in a variety of activities, e g , standing, walking, sitting, and lying Acceptable posture largely depends on the anatomical structure of the individual In a general sense, good posture is the alignment of segments of the body, and that which permits work to be done most easily and effectively. Any abnormal deviations may produce conditions such as drooping shoulders, depressed chest, and sagging stomach, all of which may eventually interfere with a normal functioning of various organs Posture training in childhood will produce an awareness of its importance Exercise suitable for each individual is helpful in maintaining the tone of muscles See W. R Morrison and L B Chenoweth, *Normal and Elementary Physical Diagnosis* (4th ed , 1947), publications of the U S Dept. of Labor

Postville, town (pop 1,194), NE Iowa, c 25 mi W of the Mississippi and NW of McGregor, in a fine grazing area, settled 1841, inc. 1873 Dairying is the chief industry

Potaro (pōtä′rō), river of British Guiana, rising E of Mt. Roraima and flowing E to the Essequibo In its course are the KAIETEUR FALLS

potash, name for certain potassium compounds, particularly for potassium carbonate, originally obtained from wood ashes or from the residue left in pots after plants (e g , kelp) had been burned in them When pure, it is a white, crystalline substance, melting at 891°C , but it commonly appears in commerce as a white, anhydrous powder. It is known also as pearl ash Potassium carbonate is very soluble in water and exhibits alkaline properties It is commonly prepared from potassium chloride It is used in making other potassium compounds and in the manufacture of certain kinds of hard glass and soap Potash is extremely valuable in some cases as a FERTILIZER Caustic potash is a common name for potassium hydroxide, a very strong alkali It closely resembles sodium hydroxide (called also caustic soda), which is used much more commonly because of its lower cost Potassium hydroxide is used in making soft soaps Chlorate of potash is used in making explosives, it is the chlorate of potassium

potassium (pŭtă′sēŭm), extremely active, silver-white, soft metallic element (symbol=K [for *Kalium*, used in Germany], for physical constants, see ELEMENT, table) It is so active and combines so vigorously with OXYGEN that it must be kept submerged in kerosene or some oil, out of contact with the air With water, it reacts with great violence to form potassium hydroxide It combines directly with chlorine, sulphur, and many other nonmetallic elements The metal has no commercial value, but its compounds are widely used These include the alum, the bromide, the carbonate or potash, the chlorate, the chromate, the cyanide, the hydroxide or caustic potash, and the nitrate or saltpeter Others are the acid fluoride, from which fluorine was first prepared, the chloride, used as a source of many potassium compounds and in fertilizers, the silicate, which can be used in making water glass, the sodium tartrate or Rochelle salt, and the acid tartrate, used in making baking powder Potassium permanganate, a compound of potassium, manganese, and oxygen, is a strong oxidizing agent, it is used in the preparation of chlorine, as a catalyst, as an indicator, and, in medicine, as an antiseptic, a disinfectant, and an antidote for certain poisons such as opium Tartar emetic is another important compound Potassium is not found uncombined in nature, but occurs widely dispersed in its compounds, as in carnallite, feldspar, mica, and the mineral sylvite, in mineral waters and salt deposits, and in plant and animal tissues The metal is obtained commonly by the electrolysis of potassium chloride It was discovered by Sir Humphry Davy in 1807

potato, perennial plant of the nightshade family and its swollen underground stem, a tuber, which is one of the most widely used staple foods in temperate climates The plant (*Solanum tuberosum*), closely related to the tomato, the eggplant, and the red pepper, is probably native to the Andes, where it was cultivated by the Inca In pre-Columbian times its culture spread widely among Indians It is difficult to trace the history of the potato, in part because the name was applied by early writers also to the sweet potato and to other plants The Spanish are believed to have introduced it into Spain from Peru in the 16th cent It was probably cultivated in Italy, Belgium, England, and France by c 1600 and reached even remote parts of Europe by the mid-18th cent Authorities are uncertain as to whether it reached the British Isles from Europe or was introduced from the Western Hemisphere by Elizabethan navigators There is evidence that the potato was shipped in 1621 to Virginia from the Bermudas, where it had probably been introduced from England c 1613 It was probably introduced into other American colonies directly from England Although the potential value of the potato as a staple crop was early recognized by authorities, general acceptance of it as a major food was very slow, as evidenced by A R J Turgot's introduction of the potato as a large-scale crop at Limoges, France, as late as the 1760s However, in Ireland it was widely accepted in the 17th cent and during the 18th cent became the major food (hence the potato is often called Irish potato to distinguish it from the sweet potato) Ireland became so dependent on the potato that the failure (resulting from blight) of the 1846 crop caused a famine resulting in widespread death, disease, and emigration Major producers today include Germany, Russia, and the United States (especially in Maine and Idaho) Great quantities are grown for stock feed and for the production of alcohol and of starch and dextrins used in the manufacture of adhesives, thickeners, and sizing Potatoes are composed of about 78 percent water, about 18 percent carbohydrates (chiefly starch and a little sugar), and about 2 percent protein They are a good source of iron and of vitamins, especially vitamin C The relatively rare incidence of scurvy among groups using potatoes as a major food has been attributed to vitamin C However, since this vitamin is water soluble, much of it may be destroyed by prolonged boiling of peeled potatoes The potato plant thrives best on loamy soil rich in humus and potash. A coarse-foliaged plant bearing clusters of white, bluish, or purplish flowers, it usually develops about five tubers with whitish or pale yellow flesh Although it sometimes produces globular yellow-green fruits enclosing several seeds, the plant is chiefly propagated by planting pieces of tubers bearing two or three "eyes" or buds The plant is sensitive to frost; it is subject to certain fungus and virus diseases and has several insect pests, chief of which is the Colorado potato beetle. See W. G. Burton, *The Potato* (1948); E. V. Hardenburg, *Potato Production* (1949).

potato bug: see COLORADO POTATO BEETLE.

Potawatami Indians (pŏ″tŭwŏ′tŭmē), tribe of North American Indians of the Algonquian linguistic stock. They are closely related to the Ojibwa and Ottawa; their traditions state that all three were originally one people. In the early 17th cent , when first encountered by the whites, the Potawatami lived near the mouth of Green Bay in Wisconsin By the end of the century, however, they had been driven (probably by the Sioux) S along Lake Michigan and were settled on both sides of the southern end of the lake After the Illinois were conquered (c.1765), they advanced into NE Illinois, S Michigan, and, later, NW Indiana The Potawatami then numbered some 2,000 They were friendly to the French and aided them against the English The Potawatami supported the rising under Pontiac, fought against the United States in the battles headed by Little Turtle, took part in the battle of Fallen Timbers, and signed the Treaty of Greenville (1795). They sided with the British in the War of 1812 With the advancing frontier, the Potawatami retreated westward to Iowa and Kansas, although a portion went to Walpole Island in Canada From the reservation in Kansas where they had gathered, a large group moved (1868) to Oklahoma, this group, which held lands in severalty, became known as Citizen Potawatami. Today living on reservations in Kansas, Michigan, Oklahoma, and Wisconsin, they number some 4,500, there are 3,000 on the Oklahoma reservation The Potawatami were of the Eastern Woodlands area They sometimes ate dog meat at a feast in honor of the sun The name of the tribe is also spelled Potawatomi, Pottawatami, and Pottawatomi. See Otho Winger, *Potawatomi Indians* (1938)

Potchefstroom (pŏ′chufstrŏm, -strōōm), town (pop 27,153), SW Transvaal, Union of South Africa The earliest town in the Transvaal, it was founded in 1838 It was the capital of the Transvaal until 1860, when it was moved to Pretoria Potchefstroom is on a railroad to Durban It has a college belonging to the Univ of South Africa

Poteau (pō′tō), city (pop 4,020), co seat of Le Flore co , E Okla , near the Ark line, the Ouachita Mts , and the Poteau river, in a farm and resort area, inc 1898 The area also produces lumber, cotton, and coal, and the city has a glass factory

Poteet (putēt′), city (pop 2,315), SW Texas, S of San Antonio, inc. 1925 It ships strawberries and vegetables, and the region produces oil

Potemkin, Grigori Aleksandrovich (pōtĕm′kĭn, Rus grĭgô′rē ŭlyĭksən′drōvĭch pŭtyôm′kĭn), 1739–91, Russian field marshal and favorite of CATHERINE II He studied at the Univ of Moscow and then entered the army His part in the conspiracy (1762) which made Catherine empress brought him to her notice Having distinguished himself in the first war with Turkey, he was created a count (1774) About the same time he became Catherine's lover Even after others had taken his place, he remained one of Catherine's chief advisers, particularly with regard to her foreign policy, and he retained great influence at her court Some believe that he was secretly married to the empress Catherine probably intended to break up the Ottoman Empire and to make Potemkin ruler over a vast part of its remnants, including Moldavia, Walachia, and Bessarabia, which were to be joined as the kingdom of Dacia Potemkin played an important part in the annexation (1783) of the Crimea, for which he was created a prince As governor of the new province, he organized Catherine's fabulous Crimean tour of 1787 The allegation that he had sham villages built along her route is, at best, an extreme exaggeration, for Potemkin was in fact a very able administrator, and new towns and cities did actually spring up with astonishing speed Personally, Potemkin was one of the most eccentric figures of an age which abounded in eccentrics See biography by George Soloveytchik (1947)

Potenza (pōtĕn′tsä), city (pop 18,872), capital of Potenza prov and of BASILICATA, S Italy, in the Apennines There are a cathedral, rebuilt in the 18th cent , and a museum of antiquities

Potgieter, Everhardus Johannes (ăvĭrhär′dŭs yōhä′nŭs pôt′gētur), 1808–75, Dutch critic and poet He was the first editor (1837–65) of the *Gids*, a literary monthly which became influential in Dutch letters Potgieter's great design was to awaken a Dutch literary revival, an example of his efforts thereto is the brilliant prose work *Het Rijksmuseum te Amsterdam* (1844), which set up for emulation the 17th-century Golden Age of Dutch literature *Florence* (1868) was a poetic masterpiece on medieval Italy Potgieter was a humanitarian and a liberal.

pothole, deep round hole in the earth's surface, formed by the erosive action of water in circular motion and of its contained rock debris Potholes are most commonly found at the bottoms of eddies in rivers and of whirlpools formed by cataracts, sometimes potholes in a river bed indicate the former site of a rapid or cataract. Potholes are also found in regions formerly glaciated where a whirling column of water was formed by a superglacial stream sinking a well-like hole (moulin) through the ice.

Poti (pô'tyĕ), city (pop 13,137), W Georgian SSR, in Mingrelia, a port on the Black Sea at the mouth of the Rion It exports manganese from Chiatura, corn, lumber, and wine The region around Poti is the swampy, unhealthful Colchis lowland.

Potidaea (pŏtĭdē'ə), ancient city, NE Greece, at the narrowest point of the Pallene peninsula, Chalcidice. It was a Corinthian colony (c 600 B C.) but joined the Delian League. It revolted against Athens with Corinthian help (432 B C), providing one of the incitements to the PELOPONNESIAN WAR Athens recaptured it (430 or 429 B C), but lost it with the empire Philip of Macedon took Potidaea (356 B C) and may have destroyed it in the ensuing war. Cassander rebuilt it and named it Cassandreia The modern Pinaka is near by

Potiphar (pŏ'tĭfär) [connected with POTI-PHERAH], chief official of Pharaoh who bought Joseph and gave him a high position in his house Later when his wife falsely accused Joseph he put Joseph into prison Gen 39

Poti-pherah (pŏtĭ'fərə, pŏ'tĭfē'rə) [Heb. from Egyptian, =belonging to the sun], priest of On and father of Joseph's wife Asenath Gen 41 45,50; 46 20.

potlatch (pŏt'lăch'), winter ceremony among the Indians of the Pacific Northwest Coast area The potlatch ceremony is characterized by the giving of gifts, usually copper plates and goat's hair blankets In a society based on the public disposal of wealth, the giver of gifts reaped an abundant harvest in the respect his neighbors showed him Since custom demands that an offered gift be accepted and that a larger gift be given in return, the potlatch was sometimes used to impoverish a disliked person The ceremony was accompanied with dancing, feasting, and boasting See Ruth Benedict, *Patterns of Culture* (1934)

pot liquor, liquid remaining in a kettle after meat has been cooked in it unthickened gravy The "pot-licker" of the S United States is commonly the liquid remaining after boiling hog's jowl and greens, but it may mean any liquid in which meat or (more usually) vegetables have been boiled It is served like a soup or stew and should be accompanied by the old-fashioned corn bread, pone

pot marigold *see* CALENDULA

Potomac (pətō'mək), river formed SE of Cumberland, Md , by the confluence of its North and South branches and flowing generally southeast 285 mi to Chesapeake Bay It forms part of the boundary between Maryland and West Virginia and then separates Virginia from both Maryland and the District of Columbia The river passes over the Great Falls above Washington, D C , at Washington is crossed by ARLINGTON MEMORIAL BRIDGE and others, and enters a tidal estuary below the city It is navigable for large ships to Washington, and formerly many smaller boats went to Cumberland, Md , via the CHESAPEAKE AND OHIO CANAL Its principal tributary is the Shenandoah, which it receives at Harpers Ferry, W Va The river is noted for both its beauty and its historical associations Mt Vernon is on the Virginia shore below Washington See F A Gutheim, *The Potomac* (1949)

Potosí (pōtōsē'), city (1948 estimated pop 47,000), S Bolivia Potosí was founded c 1545 at the foot of one of the world's richest ore mountains In the cold, bleak high Andes at an altitude of 13,780 ft , it is one of the highest cities in the world and has a rigorous, exacting climate There is no agriculture, scarcely any fuel During its first 50 years Potosí was the most fabulous source of silver the world had ever known, but because of isolation, living discomfort, and especially disasters such as the flood of 1626 when one of the water-power reservoirs broke, it could not compete with the mines of Peru and Mexico Its estimated population of 160,000 declined almost to nothing Recent technological advances and rail connections to La Paz and agricultural Sucre have, however, made possible exploitation of other ores besides silver—tin, wolfram, and copper—and a revival of commerce

Potosi (pətō'sī), city (pop 2,017), co. seat of Washington co , E Mo , 8W of St Louis, in a mineral, farm, and lumber area Lead was discovered at Potosi in the 1770s, and the mines were later developed by Moses Austin, who came here in 1797 Zinc, iron, and limestone deposits are also found, and Potosi is the center of a very large barite industry

Potsdam (pōts'dăm, Ger pôts'däm), city (pop 113,568), capital of Brandenburg, E Germany, on the Havel and WSW of Berlin It is primarily a residential city, pleasantly situated among the lakes and woods of the Havel region, but it also has important industries, notably textiles, locomotives, and precision instruments The suburb of Babelsberg is the center of the German moving-picture industry. The observatory of the Univ of Berlin and the astrophysical observatory (the Einstein Tower) are at Potsdam. Chartered in the 14th cent , Potsdam was insignificant until Elector Frederick William of Brandenburg made it a residence It experienced its greatest development under FREDERICK II of Prussia, who made Potsdam his chief residence and who built the palace and park of SANS SOUCI and the New Palace. The Town Palace was rebuilt (1745–51) during his reign. The royal family of Prussia (later also the imperial family of Germany) continued to favor Potsdam as a residence, and numerous palaces were added by them Ever since the reign (1713–40) of Frederick William I, Potsdam stood as the symbol of Prussian *militarism* Its immense parade grounds and the somewhat ponderous architecture of some of its palaces contribute to this impression, but the graceful palace and park of Sans Souci are notable exceptions. They evoke the memory of Frederick II the philosopher-king and of his cultured circle rather than that of his military achievements Both Frederick William I and Frederick II were buried in the Garrison Church (built 1731–35) until 1945, when their remains were moved to Marburg In the Second World War, Potsdam was severely damaged, but its main historic monuments suffered little harm The city became (1945) the headquarters of the Russian occupation forces in Germany and was the scene of the POTSDAM CONFERENCE

Potsdam, village (pop 4,821), N N Y , on the Raquette and E of Ogdensburg, in a dairy and farm region, inc 1831 Paper and cheese are made A state teachers college and Clarkson College of Technology (*for men*, 1896) are here

Potsdam Conference, important meeting (July 17–Aug 2, 1945) of the principal Allies in the Second World War (the United States, the USSR, and Great Britain) to supplement, clarify, and implement agreements previously reached at the YALTA CONFERENCE The meeting is also known as the Berlin Conference The chief representatives were President Harry S Truman, Premier Joseph V Stalin, Prime Minister Winston L S Churchill, and, after Churchill's defeat in the British elections, Prime Minister C R Attlee The foreign ministers of the three nations were also present The so-called Potsdam Agreement, signed by the three powers at the end of the meeting, transferred the chief authority in Germany to the American, Russian, British, and French military commanders in their respective zones of occupation (see GERMANY) and to a four-power Allied Control Council for matters regarding the whole of Germany In order to insure the complete disarmament and demilitarization of Germany and the elimination or control of all potential German war industries, the Allies undertook to abolish all German armed forces and all organizations of the National Socialist party, to abolish Nazi legislation, to punish all German war criminals (see WAR CRIMES), to remove all former Nazis from public or semipublic office, to control education in order to eliminate Nazi ideology and to foster democratic ideals, to restore local self-government throughout Germany, to allow and encourage all "democratic political parties", to introduce representative and elective principles of government into regional, provincial, and state administration, to establish no central German government "for the time being," but to establish certain German central administrative departments under Allied supervision, to prohibit German production of armaments, airplanes, and seagoing ships, to control the production of metals, chemicals, machinery, and other items directly necessary to a war economy, to remove industrial equipment not needed for permitted production, to decentralize German economy and to break up cartels, syndicates, trusts, and other monopolies, to emphasize the development of agriculture in reorganizing German economy, and to treat Germany as a single economic unit during the period of occupation The agreement on Germany contained numerous other technical details The Allies further agreed to transfer all former German territory E of the Oder and Neisse rivers to Polish and Russian administration, pending a final peace treaty The USSR thus obtained the northern part of East Prussia, including Königsberg; Poland obtained the rest of East Prussia, E Brandenburg, Upper and Lower Silesia, and most of Pomerania The German population in these territories and in Czechoslovakia were permitted to be transferred to Germany "in an orderly and humane manner", as a result millions of Germans were driven from their homes within a few months and were left to subsist on whatever charity they received in Germany A mode for REPARATIONS payments by Germany was outlined Recognition was withdrawn from the Polish government in exile, and the Polish coalition government, created after the Yalta Conference, was declared the sole authority in Poland A meeting of the Council of Foreign Ministers was scheduled at London to consider peace settlements During the Potsdam Conference Truman and Churchill drew up an ultimatum to Japan, offering that nation the choice between unconditional surrender and total destruction (The atom bomb, of which this so-called Potsdam Declaration contained a hint, was not actually mentioned) Rarely was any agreement honored so consistently in the breach as was the Potsdam Agreement The work of the Allied Control Council for Germany was at first blocked by France, which did not feel bound by an agreement to which it had not been a party The council thus had not even begun to function when the rift between the USSR and the Western democracies broke it up. The blame for the failure to put the agreement into operation has been placed chiefly on the United States by the USSR and on the USSR by the United States, England, and France The vague wording and tentative provisions of the agreement allowed a wide range of interpretation

Pott, Percivall, 1714–88, English surgeon at St Bartholomew's Hospital He wrote classic descriptions of the fracture of the ankle known by his name and of Pott's disease of the spine (a deformity caused by tuberculosis), as well as masterly treatises on hernia and other conditions

Pottawatami Indians or **Pottawatomi Indians:** see POTTAWATAMI INDIANS

Potter, Alonzo, 1800–1865, American Episcopal bishop, b near Poughkeepsie, N Y , grad Union College, Schenectady, N Y , 1818 Ordained a priest in 1824, he served as rector (1826–31) of St Paul's Church, Boston In 1831 he became professor of philosophy and political economy at Union College, he was its vice president from 1838 to 1845 As bishop of Pennsylvania (1845–65), he founded in Philadelphia an Episcopal hospital (1860) and a divinity school (1863) His notable Lowell Lectures, delivered in Boston, appeared posthumously as *Religious Philosophy* (1872) See biography by M A De Wolfe Howe (1871)

Potter, Edward Clark, 1857–1923, American sculptor of animals, b New London, Conn , studied at the School of the Museum of Fine Arts, Boston He became (1883) assistant to Daniel Chester French He was first known through the groups for the World's Columbian Exposition, Chicago, in 1893, made in collaboration with French Together they produced also such equestrian statuary as General Grant Fairmount Park, Philadelphia, Washington, in Paris and Chicago, and General Hooker, in Boston In striking contrast is Potter's little *Sleeping Faun* (Art Institute, Chicago, replica in the Metropolitan Mus) Other independent works are his statues of Robert Fulton (Library of Congress) and Gov Austin Blair (Lansing, Mich), statues of equestrian General Slocum (Gettysburg, Pa), Gen Phil Kearny (Washington, D C), and General Custer (Monroe, Mich), and the lions before the Public Library and animal groups in the Morgan Library, both in New York He became a member of the National Academy in 1906

Potter, Henry Codman, 1835–1908, American Episcopal bishop, b Schenectady, N Y , grad Protestant Episcopal Theological Seminary, Alexandria, Va , 1857, son of Alonzo Potter He was ordained priest in 1858 and served in churches in Troy, N Y , and Boston before he became rector (1868) of Grace Church, New York city In 1883 he was consecrated bishop coadjutor of New York, assisting his uncle, Bishop Horatio Potter, whom he succeeded in 1887 The first stages in the building of the Cathedral of St John the Divine, New York city, were initiated by Bishop Potter He was actively interested in social improvement and civic reform, among his writings are *The Citizen in Relation to the Industrial Situation* (1902) and *The Drink Problem in Modern Life* (1905) See H H Keyser, *Bishop Potter, the People's Friend* (1910)

Potter, Paul or **Paulus,** 1625–54, Dutch animal painter and etcher At 15 he painted his fine *Boar Hunt* In 1646 he was admitted to the painters' guild of Delft He settled in 1649 at The Hague, where he enjoyed the patronage of the nobility, including the prince of Nassau, for whom he painted the celebrated life-size *Young Bull* He moved to Amsterdam a year before his death In his brief life Potter painted over 175 pictures, considered the finest animal paintings of the Dutch school In faithful representation he has never been surpassed His works are to be seen in many important European collections Famous examples are *Bear Hunt* and *Shepherds with Their Flocks* (Rijks Mus), *Landscape with Cattle* (National Gall , London), and *Meadow with Oxen* (Louvre) His etchings of animals are characterized by the same simplicity and naturalism as his paintings

Potteries, the, district, c 9 mi long and 3 mi wide, Staffordshire, England, extending northwest-southeast in the upper Trent valley It includes Hanley, Burslem, Tunstall, Fenton, and Longton, which were joined to Stoke-upon-Trent in 1910 to form the borough, later the city, of STOKE-ON-TRENT. Newcastle-under-Lyme is also in the region The Potteries is very densely populated and has been a center of china and earthenware making since the 16th cent , Wedgwood, Spode, and Minton are among the famous men who worked here Most of the raw materials are now brought in from other districts, the clay largely from Cornwall and Dorsetshire This region is the "Five Towns" of Arnold Bennett's novels

potter's field : see ACELDAMA.

pottery embraces the baked-clay wares of the whole ceramics field This ranges from the coarse, dark, unglazed, crudely decorated earthenware through the use of glaze in faience and STONEWARE to the crowning achievement in chinaware (PORCELAIN) and LUSTERWARE with their whiteness, delicate translucence, and rich metallic iridescence. TERRA COTTA is a form of pottery The process for all these remains essentially the same: shaping the plastic

clay by building (piece by piece) or by throwing the clay upon a potter's wheel (used in Egypt prior to 4000 B C), which spins the ball, then the object, as the hands give it form; incising or modeling ornament when such decoration is desired, drying to leather hardness for turning upon a lathe or careful finishing by hand, then slowly drying completely; and finally firing in a kiln, which brings it to the biscuit state Contrasting colors of clay, used in slip ware and graffito decoration, are added to pottery before firing, while glaze is applied to biscuit ware and a second firing fuses it with the clay and brings out its color Pottery is one of the most enduring materials known to man It is, in most places, the oldest art, also the most widespread, as primitive peoples the world over have fashioned for their daily use pots and bowls of baked clay Prehistoric (sometimes Neolithic) remains of pottery, e g , in Scandinavia, England, France, Italy, and Greece and in North and South America, have proved of great importance archaeologically; and archaic and later examples are of value as historical and literary records, ancient Assyrian and Babylonian writings having been inscribed upon clay tablets and cylinders and perpetuated as pottery Prehistoric forms include cinerary urns, drinking and food vessels, bowls, and so-called incense cups and reveal incised decorations of zigzags and dots and occasionally pierced bands Early Egyptian examples of pottery from the tombs cover a variety of specimens, from coarse hand-built to fine wheel-turned ones, and their enamels and glazes are of a wide range of colors The greens and blues, especially the brilliant turquoise, are the most distinctive and characteristic Simple painted designs ornament chalice, cup, and bowl of this green blue, in which also many small figures were made There are various other types, and in the pottery of the Ptolemies a Greek influence appears In Assyria painted and glazed bricks were in common use Many of them show reliefs of figure and animal subjects Fragments of heroic subjects in the round disclose gorgeous colors. Assyrian vases, biscuit, glazed, or enameled, are modeled or painted Other archaic wares include Phoenician, Rhodian, and Etruscan. The Greek vases (800–300 B C), famous for symmetry of form and beauty of decoration, include red, black, and varicolored examples The last were for the tombs only, as the colors were non-vitreous and easily marred The red ware is decorated with black figures, or the ground is black-enameled and the figures show in red Water, oil, and wine jars were numerous. Of the Greco-Roman wares the Arretine or Samian, also a red ware, was molded after first being turned on the wheel to the size of the mold, which carried the decoration in intaglio Roman pottery (100 B C –A D 400), made throughout the empire, included the Arretine, black, and glazed types Painted pottery of the Neolithic period has been found in China It was the Early Han period (202 B C –A D c 9) that produced the incomparable porcelain which became the envy of Renaissance Europe, it included large tea jars and delicate scent and snuff bottles Korea and Japan acquired (about the 7th cent A D) the art of pottery from China and have created exceptionally fine wares, notably the Satsuma of Japan Of other Oriental potteries, Persian is the most significant for its beauty. The earliest type (7th cent) is known as Gabri, of red body, white slip coating, and yellow glaze, supposedly made by the pre-Mohammedan fire worshipers It continued to the 12th cent , which ushered in the classic period of Persian ceramics that extended to the 14th cent The products of this period reveal mat-finish enamels of blue, green, turquoise, purple, red, and white in graceful and harmonious designs The Persians also developed copper and silver lusterware and decoration Their work came under Chinese influence and often shows pure Chinese motifs Damascus ware and Rhodian pottery are among their products which included ewers, plates, lamps, and juglike pitchers The Rakka ware of Syria of the 10th to 11th cent has the characteristic blue-green Persian glaze, and Turkish pottery of the best period (16th–17th cent) shows Persian influence but is unmistakably Ottoman in its mood and its distinctive red color Fine examples of Hispano-Moorish pottery date from the 14th cent The Renaissance potteries of Europe were very active and achieved remarkable success Italian Gubbio, faïence, majolica, and graffito became celebrated wares, Spanish MAJOLICA was also widely known, and French tiles, Nevers and Rouen pottery, Sèvres and Limoges china, were of high merit Cologne and Dresden ware in Germany, delftware in Holland, and Scandinavian blue and white—all developed markets English potteries of note grew and flourished in Staffordshire, Lambeth (Doulton ware), Bow, Chelsea, Lowestoft, Worcester, and Derby, and wares such as Wedgwood, Minton, and Spode won just fame. Prehistoric pottery found in Peru and in Mexico and the SW United States evidences a high degree of skill in color, form, and decorative motifs. Baked-clay work by colonists in North America began in 1612 with the making of bricks and tiles in Virginia and Pennsylvania. In these states and among the Dutch settlers of New York potteries were soon established. The first whiteware was made in 1684. A stoneware factory was opened in New York in 1735, and c 1750 the Jugtown pottery of North Carolina was first produced. After the middle of the 18th cent terra-cotta works were operating in Massachusetts and Pennsylvania. Palatinate refugees produced slip-decorated and graffito earthenware, their product forming the foundation of Shenandoah pottery In Philadelphia fine china was made (1769) for the first time in America The potteries of Bennington, Vt , opened in 1798, were known especially for their jugs East Liverpool, Ohio, one of the foremost centers of the industry, dating from 1839, produced the first American Rockingham ware Another center, begun in 1852 at Trenton, N J , made fine Belleek or eggshell china In 1854 the New England pottery was started. The Centennial Exposition of 1876 in Philadelphia and the World's Columbian Exposition of 1893 in Chicago did much to awaken native consciousness of pottery as a form of art The Rookwood Pottery at Cincinnati, established in 1880, reached international celebrity. For artistic products molds have given way to handwork, and the character of native clays has led to new decorative effects (For the varying nature of the material, see CLAY) Beautiful results have been achieved in the Dedham pottery of Massachusetts, the Scarabronze ware of New Milford, Conn , the Teco pottery made in Chicago, the work done at Newcomb College, New Orleans, the Weller pottery, Zanesville, Ohio, and the Robineau products of Syracuse, N Y The school of pottery developed by Charles F Binns at Alfred Univ , Alfred, N Y , is widely known See E A Barber, *The Pottery and Porcelain of the United States* (3d ed , 1909), C F Binns, *The Potter's Craft* (1922), Rudolf Hainbach, *Pottery Decorating* (Eng tr , 1907), A B Searle, *Encyclopedia of the Ceramic Industries* (1929), E De F. Curtis, *Pottery Its Craftmanship and Its Appreciation* (1940), B H. Leach, *A Potter's Book* (1940)

Pottstown, industrial borough (pop 20,194), SE Pa , on the Schuylkill river and NW of Philadelphia , settled 1775, inc 1815 It manufactures metal and steel products and also has textile mills In 1716 the first ironworks in the state were established here by Thomas Rutter when he worked the mines at Manatawny Creek The Hill School for boys (est 1851) is in Pottstown

Pottsville, industrial city (pop 24,530), co seat of Schuylkill co , E Pa , on the Schuylkill and NW of Reading, settled c 1780, laid out 1816, inc as a borough 1828, as a city 1847 The city grew with the advent of extensive anthracite mining (1824–29), and anthracite is the key industry here It was a rallying place for the Molly Maguires, who were tried here in 1877 Schuylkill Undergraduate Center of Pennsylvania State College is in the city

Poughkeepsie (puklp'sē), city (pop 40,478), co seat of Dutchess co , E N Y , on the east bank of the Hudson, settled 1687 by Dutch, inc 1854 The Mid-Hudson Bridge crosses the river here Poughkeepsie is a trade center, and its varied manufactures include ball bearings, cream separators, and machines It is the seat of VASSAR COLLEGE and of the Oakwood School (coeducational) The Intercollegiate Rowing Association regatta, which was held annually in June on the river here since 1895, was transferred to the Ohio river at Marietta in 1950 The Van Kleeck Homestead (1702) and other historic buildings remain There is a state hospital for the insane In 1788 the Federal Constitution was ratified here Margaret Lewis Norrie and Ogden Mills memorial state parks are near by

Poulenc, Francis (frāsēs' pōōlāk'), 1899–, French composer and pianist, one of *Les Six* (see SATIE, ERIK) The freshness, refinement, and delicacy of his style is best adapted to small forms—piano pieces such as *Mouvements perpetuels* (1918) and songs Also outstanding are his *Rapsodie nègre* (1917), for voice and chamber orchestra, the ballet *Les Biches* (Paris, 1924), *Concert champêtre* (1929), for harpsichord and orchestra, *Litanies à la Vierge noire* (1938), for women's choir and organ, and a Mass (1939) for unaccompanied chorus His recitals with the baritone Pierre Bernac are celebrated

Poulsen, Elisabeth Bergstrand: see BERGSTRAND-POULSEN, ELISABETH

Poulsen, Valdemar (vāl'dumar poul'sun), 1869–1942, Danish electrical engineer He invented the telegraphone (an apparatus for recording telephone conversations electromagnetically) and the high-frequency Poulsen arc used in wireless telegraphy and radio

poultice (pōl'tĭs), soft paste, usually heated, spread between layers of cloth, and applied to the skin to produce a counterirritant, emollient, or antiseptic effect. It is especially useful for relieving pain or congestion of the chest or of deep tissues and for causing a boil or an abscess to mature. Poultice materials include flaxseed, a mixture of cottonseed meal, flaxseed meal, and bran; bread and milk; mustard and flour; kaolin, and certain herbs.

Poultney (pōlt'nē), town (pop. 2,781), W Vt., SW of Rutland; settled 1771. It is a center of slate quarrying. Many inhabitants are descendants of the original Welsh quarry workers Horace Greeley worked on a weekly paper in East Poultney Green Mountain Junior College (Methodist, for girls) developed from a 19-century academy

poultry, domestic birds raised for food (eggs or meat) The group comprises three main divisions: Gallinacea or comb bearers, e g , the chicken, TURKEY, GUINEA FOWL, and PHEASANT, differing from other birds in that the flesh on breast and wings is lighter than that of the rest of the body, Natatores or swimmers, e g., the DUCK and GOOSE, and Columbidae or doves, represented by the PIGEON. The peafowl and the swan are usually classed as poultry, although they are raised today almost wholly as ornamental birds Several poultry birds, including the chicken and the goose, were domesticated over 3,000 years ago The chief poultry bird is the chicken, which probably originated as a jungle fowl in SW Asia There are today well over 100 varieties, these include egg, meat, and dual-purpose breeds, and they are classed according to their place of origin. Popular breeds of the American class include Plymouth Rocks, Wyandottes, Rhode Island Reds, and New Hampshires—all dual-purpose birds Outstanding among European breeds raised in the United States is the Leghorn (Mediterranean class), believed to have been introduced from Italy c 1835. The Leghorn is useful chiefly as a producer of eggs and is a favorite in the day-old-chick trade because of the high percentage of fertile eggs Other popular birds of European origin, all of them dual-purpose breeds, are Orpingtons and Dorkings (both English class) and Faverolles (French class) Brahmas, Cochins, and Langshans are large birds of the Asiatic class, raised primarily for the production of meat The Light Brahma was probably the first poultry bird popularized in the United States, the breed was later greatly improved by American fanciers A few breeds of chickens are raised chiefly for their ornamental appearance or as pets These include the Polish varieties, the Game, formerly raised for fighting and still bred for this purpose where cockfighting is permitted, and the Bantam, noted for its small size and bred to imitate standard size breeds. Scientific breeding has improved the size, resistance to disease, quality of flesh, and productivity of poultry Commercial poultry raising is increasingly a large-scale enterprise A modern phase of the industry is the raising of chickens in highly mechanized indoor batteries where each bird is kept in a separate compartment and temperature, humidity, and diet are carefully controlled Baby chicks for starting flocks are usually purchased from commercial hatcheries where eggs are artificially hatched in an INCUBATOR Among diseases common in poultry are roup, colds, bronchitis, coccidiosis, chicken pox, and pullorum (white diarrhea) Many diseases can be prevented by selecting healthy breeding stock, by keeping chicks separate from adult stock, by keeping chicken houses clean, well ventilated, and at proper temperature, by good brooding practice, i e , care of chicks during the first weeks of life, and by providing an adequate diet Immunity to chicken pox may be established by vaccination of chicks See H A Roberts and C S Platt, *Commercial Poultry Raising* (rev ed , 1947), publications of the U S Dept of Agriculture

Pound, Arthur, 1884–, American author, b Pontiac, Mich , grad, Univ of Michigan, 1907 He did newspaper editing in the midwest and in New York city He was (1936–40) associate editor of the *Atlantic Monthly* and was later state historian of New York Among his many volumes of regional history are *Johnson of the Mohawks* (1930), *The Penns of Pennsylvania and England* (1932), *Detroit, Dynamic City* (1940), and *Lake Ontario* (1945)

Pound, Ezra Loomis, 1885–, American poet, b Hailey, Idaho, grad Hamilton College, 1905, M A Univ of Pennsylvania, 1906 In 1907 he left the United States to travel through Spain, Provence, and Italy, eventually settling in England There *Personae* (1909) and *Exultations* (1909) appeared, followed by *Canzons* (1911) and *Ripostes* (1912), brilliant displays of erudition and talent He led the poetic movement of the IMAGISTS and later abandoned it for vorticism Some of his most influential poetry is in his translations from the Chinese (based on Ernest Fenollosa's notes), in *Cathay* (1915) and other volumes, and in his work based on Latin sources, *Quia Pauper Amavi* (1919) and *Umbra* (1920) His *Cantos* (1925–48), still unfinished, represent the greatest body of his work and his attempt to weave such diversified threads as legend, Oriental poetry, troubadour ballads, and modern jargon into a pattern of significance As Pound's political theories evolved, his *Cantos* became more obscure A resident of Italy since 1924, he broadcast Fascist propaganda to the United States at the time of the Second World War and was indicted for treason When brought to the United States in 1945, he was adjudged insane and unfit for trial and was committed to a Federal hospital. *Pisan Cantos* (part of his *Cantos*), published separately in 1948, won the 1949 Bollingen Prize. A controversial figure in literature, Pound always showed astute critical judgment, and he

anticipated and directed many trends in modern literature. See study by A S. Amdur (1936).

Pound, Roscoe, 1870–, American jurist, b Lincoln, Nebr , grad Univ of Nebraska (B A , 1888, Ph D., 1897) He studied (1889–90) at Harvard Law School. Pound was (1910–17) professor of law at Harvard and dean (1916–36) of the law school His books on jurisprudence include *The Spirit of the Common Law* (1921), *Introduction to the Philosophy of Law* (1922), *Contemporary Juristic Theory* (1940), *Social Control through Law* (1942), and *The Task of Law* (1944) On botany he wrote *The Phytogeography of Nebraska* (with F E Clements, rev ed , 1900)

Pourbus (pōōr'bŭs, -bōōs), family of Flemish painters **Pieter Pourbus** (pē'tur), 1510–84, was a religious painter who worked in Bruges His *Last Judgment* is in the Bruges Museum His son, **Frans Pourbus** (frans), 1545–81, was a pupil and follower of Frans Floris In Ghent there is an altarpiece executed by him He is also known for his fine portraits His son, **Frans Pourbus,** c 1569–1622, was a favorite portrait painter in various courts including that of Marie de' Medici His portrait of her (Louvre) is one of his best-known works The Metropolitan Museum has his *Portrait of a Lady*

Pourri, Mont (mō pōōrē'), Alpine peak, 12,428 ft high, Savoie dept , E France, near the Italian border

Pourtalès, Louis François de (lwē' frāswā' du pōōrtalĕs'), 1823–80, American naturalist, b Switzerland He was a friend and pupil of Louis Agassiz, with whom he came to the United States in 1846 He served (1848–73) the U S. Coast Survey and did valuable work in deep-sea dredging An authority on marine zoology, he was custodian (from 1873) of the Museum of Comparative Zoology at Harvard, where he was associated with Alexander Agassiz

Poussin, Gaspard (gaspar' pōōsĕ'), 1613–75, French landscape painter, b Rome The son of a Frenchman named Dughet, he adopted the name of his brother-in-law, Nicolas Poussin, in whose studio he worked and whose influence is visible in his interpretations of the Italian countryside Gaspard is particularly noted for his storm effects He is best represented in the Colonna Palace and the Doria Palace, both in Rome, but his work is also to be seen in the Louvre, in the National Gallery, London, and in the Metropolitan Museum

Poussin, Nicolas (nēkôlä'), 1594–1665, French painter, b Normandy, of humble parents During his youth he suffered great hardships and was twice prevented by illness from realizing his desire to go to Italy In 1624 he went to Rome, where he remained 16 years and at length acquired an enviable reputation During this period he painted the *Triumphs of Flora* for Cardinal Barberini (his first patron) and a bacchanal for Richelieu (both Louvre) and his first series of the *Seven Sacraments* for Commander Cassiano del Pozo In 1640, summoned to Paris by Louis XIII, he was given quarters in the Louvre and worked for the king and for Richelieu His stay in Paris was embittered by the envy and intrigues of Vouet, the favorite court painter, and the exigencies of the court accorded ill with his calm and deliberate manner of working His last painting done in Paris was *Truth Which Time Reaves and Saves from Envy and Calumny* (Louvre) In 1643 he returned to Rome, where he spent the remainder of his life, enjoying an ever-increasing fame and painting a large number of celebrated pictures for a distinguished clientele Poussin was preeminently a classical painter Although he was a student and admirer of antiquity and of the Italian Renaissance, his art is highly individual and intrinsically French His influence, profound and lasting, has been acknowledged by French painters from his contemporary Claude Lorrain down to Cézanne His carefully organized and highly disciplined compositions have been compared with those of Corneille in the world of letters His figures, in their posture and juxtaposition, have a sculpturesque quality, and his compositions are unique for their serene intellectuality The large number of authenticated works includes *The Vision of St Paul, Woman Taken in Adultery, The Holy Family, Diogenes,* and *The Deluge* (all Louvre) He is well represented in most of the important galleries of Europe Five of his paintings are in the Metropolitan Museum, one in the New York Historical Society, and others in the museums of Cleveland, Detroit, and Kansas City, Mo

Powder, river rising in N Wyoming and flowing 486 3 mi generally NE into Montana to join the Yellowstone river near Terry See Struthers Burt, *Powder River Let 'er Buck* (1938)

powder, substance composed of finely granulated particles. In a special sense, the word is applied to powdered propellent explosives, e g , GUNPOWDER, and to powdered substances that produce a bright light when ignited. Until the 19th cent gunpowder was widely used in most types of firearms The invention of various smokeless powders led to the ultimate replacement of gunpowder as a propellant in rifles and guns Probably the first successful smokeless powder was made by Edward Schultze, a Prussian artillery captain, in 1864 After 1870 it was known as Schultze powder Its rate of burning was less than that of GUNCOTTON, because of the partial gelatinization of the powder by a mixture of ether and alcohol, however, it still burned too rapidly for use in rifles Schultze powder is used in shotguns, blank cartridges, and hand grenades and in igniting the dense, propellent powder used in artillery The main constituent of Schultze powder is nitrocellulose About 1885 a smokeless powder suitable for rifled guns appeared Invented by Paul Vieille, it was called *poudre* B and was made from nitrocotton and ether-alcohol Some years after, Alfred Nobel added to the growing list of smokeless powders a substance called Ballistite It is made from nitrocotton (with a low nitrogen content) gelatinized by nitroglycerine In Ballistite two of the most powerful explosives known at the time were united Another smokeless powder, cordite, was invented by Sir Frederick Augustus Abel and Sir James Dewar in 1889, it contained a highly nitrated guncotton and nitroglycerine which were blended by means of acetone Mineral jelly (vaseline) was added to act as a lubricant Indurite, invented by Charles E Monroe in 1891, is made from guncotton and is colloided with nitrobenzine, washing with methyl alcohol frees the lower nitrates from the guncotton See T C Davis, *The Chemistry of Powder and Explosives* (2 vols , 1941–43), John Read, *Explosives* (1942)

Powderly, Terence Vincent, 1849–1924, American labor leader, b Carbondale, Pa Apprenticed in a machine shop, he joined (1871) the Machinists and Blacksmiths National Union, becoming its president in 1872 He joined the Knights of Labor in 1874 and served as grand master workman from 1879 to 1893, when he resigned because of disagreement with the officers on policy He was elected mayor of Scranton, Pa , three times (1878, 1880, 1882) In 1894 he was admitted to the bar in Lackawanna co , Pa , and in 1901 was granted the right to practice before the U S Supreme Court He served (1897–1902) as U S commissioner general of immigration and was (1907–21) chief of the division of information in the U S Bureau of Immigration See his *Thirty Years of Labor, 1859 to 1889* (1889) and his autobiography, *The Path I Trod* (1940)

Powell, Frederick York (pō'ŭl), 1850–1904, English historian and scholar, educated at Oxford He was called to the bar in 1874 He became a lecturer and tutor and succeeded (1894) J A Froude as regius professor of modern history at Oxford His scholarly medieval studies, which, though superseded by later research, were models of method, include *Early England up to the Norman Conquest* (1876, 11th ed , 1895) With the Scandinavian scholar, Gudbrand Vigfusson, he edited and translated works from the Icelandic, including *An Icelandic Prose Reader* (1879), *Corpus Poeticum Boreale* (2 vols , 1883), and *Origines Islandicæ* (2 vols , 1905) He was also an authority on Japanese art See biography by Oliver Elton (1906)

Powell, John (pou'ŭl), 1882–, American pianist and composer, b Richmond, Va , grad Univ of Virginia, 1901 In Vienna he studied piano and composition and in 1907 made his debut as a pianist in Berlin He achieved a reputation as a pianist in appearances in Europe and the United States His compositions employ much material drawn from folk song His outstanding works are his *Rapsodie nègre* (1919), the Virginia country dances *Natchez on the Hill* (1932), a folk carol, *The Babe of Bethlehem* (1934), for mixed chorus, his Symphony in A (1937), a symphony on Virginian folk themes and in the folk modes (1945 Detroit, 1947), and concertos, songs, and chamber music See J T Howard, *Our American Music* (rev ed , 1946)

Powell, John Wesley, 1834–1902, American geologist and ethnologist, b Mt Morris (now part of New York city) The family moved to Illinois, where Powell joined the Natural History Society, making collections and serving as secretary of the society After the Civil War, in which he lost an arm at Shiloh, he was appointed professor of geology at the Illinois Wesleyan College, Bloomington He led geological expeditions into Colorado and Utah in 1867 and 1868 and in May, 1869, began, under the direction of the Smithsonian Institution, a geographical and geological survey of the Colorado river In the course of this expedition, his party passed by boat through the Grand Canyon, a hazardous feat, first described in his *Explorations of the Colorado River of the West* (1875) and later in his *Canyons of the Colorado* (1895) He was later engaged in geological and ethnological explorations in Arizona and Utah His efforts toward the reorganization of rival surveys in the West were a factor in bringing about the establishment (1879) of the U S. Geological Survey, of which he served as director from 1881 to 1894 In 1879 he became director of the Bureau of American Ethnology, and many of his contributions to ethnology appeared in its *Reports*.

Powell (pou'ŭl), town (pop 1,948), NW Wyo , near the Shoshone river, settled 1908, inc 1910 The principal town on the SHOSHONE PROJECT, it is a trade center for a farm and oil area Seed cleaning is the chief industry Fossil beds are near by

Power, Tyrone (Frederic Tyrone Power), 1869–1931, American actor, b England He was a member (1890–98), of Augustin Daly's company, and later became leading man for Mrs Fiske, Mrs Leslie Carter, and Julia Marlowe He was popular in heroic roles He belonged to a distinguished family of actors His grandfather, Tyrone Power (William Grattan Tyrone Power, 1797–1841), was a well-known Irish comedian, and his son, Tyrone Power (1914–) became a popular moving-picture star

power, energy made capable of doing work In mechanics this capacity is measured not by the amount of work done but by units of accomplishment correlated with time A commonly used unit of power is HORSEPOWER, so named by James Watt, a horse was considered able to do 550 foot-pounds of work each second, a foot-pound being the ability to lift a pound one foot In engineering, power is energy of all kinds taking the form of mechanical or electrical energy Wind power can turn windmills and propel sailboats The force of water, tumbling over a fall or flowing swiftly in a stream is a source of power The simple water wheel has given way to the modern TURBINE linked to electric generators, for the production of hydroelectric power In the United States several enormous hydroelectric plants are contributing substantially to the nation's power supply, among such plants are those at BOULDER DAM, GRAND COULEE DAM, and HOOVER DAM and in the CENTRAL VALLEY PROJECT The energy of fuel is transformed into mechanical energy when gasoline and oil are fed into an INTERNAL-COMBUSTION ENGINE and when coal fires a STEAM ENGINE or turbine These machines become the prime movers which actuate other machines to do useful work The transmission of power is performed by means of belt, rope, and chain drives, by a system of gears or shafts, or, in the case of steam and compressed air, by pipes, electrical currents pass through wires A potential source of useful power is atomic, or nuclear, power See Eric Hodgins and F A Magown, *Behemoth, the Story of Power* (1932), M M Samuels, *Power Unleashed : the Story of Electricity and Power* (1943), S C Rothmann, ed , *Constructive Uses of Atomic Energy* (1949)

power, in mathematics see ROOT

Powers, Hiram, 1805–73, American sculptor, b Woodstock, Vt Transplanted to Ohio, he practiced his hand in making wax models for a Cincinnati museum In 1835 he began his career as a sculptor, spending some time in Washington, D C , where he modeled several portrait busts, including one of President Jackson In 1837 he went to Florence and experienced the influence of classic art There he flourished to the end of his life His *Greek Slave* (1843) became the most popular statue of the period in Europe and America The second of several copies is in the Corcoran Gallery His statues of Franklin and Jefferson are in the Capitol, Washington, D C In the Metropolitan Museum are *Fisher Boy, California,* and a bust of Andrew Jackson A bust of Daniel Webster is in Chicago Powers gained wealth and fame from his portrait busts, but his renown did not long survive him

Powhatan (pou"ŭtăn'), d 1618, American Indian chief of the Powhatan tribe in Virginia, whose personal name was Wahunsonacock He greatly extended the dominion of the POWHATAN CONFEDERACY and after the marriage (1614) of his daughter POCAHONTAS to John Rolfe kept peace with the English

Powhatan Confederacy, group of North American Indian tribes, belonging to the Algonquian linguistic stock and extending along the coast and up the rivers of tidewater Virginia Wahunsonacock, or Powhatan, as the English called him, was the leader of the confederacy when Jamestown was settled in 1607 The Powhatan tribe is said to have been driven N to Virginia by the Spanish, and its chief, Powhatan's father, subjugated five other Virginia tribes With Powhatan's own conquests, the empire included, among some 30 tribes, the Pamunkey, Mattapony, Chickahominy, and others likewise commemorated in the names of the streams and rivers of E Virginia They were sedentary Indians, with some 200 settlements, many of them protected by palisades when the English arrived They cultivated maize, fished, and hunted Of his many capitals, Powhatan favored Werowocomoco, on the left bank of the York river, where Capt John Smith first met him in 1608. The English soon seized the best lands, and Powhatan quickly retaliated, so that no colonist was safe beyond the fort at Jamestown To appease him, he was given a crown, and a coronation ceremony was formally performed by Christopher Newport in 1609 However, he was not really pacified until the marriage (1614) of his daughter Pocahontas to John Rolfe. After Powhatan's death in 1618, Opechancanough, chief of the Pamunkey, became the chief power in the confederacy, and he organized the general attack (1622) in which some 350 settlers were killed English reprisals for the "great massacre" were equally bloody, and there was no further fighting on a large scale until 1644, when Opechancanough

led the last uprising, in which he was captured and murdered at Jamestown. In 1646 the confederacy yielded much of its territory, and beginning in 1665 its chiefs were appointed by the governor of Virginia. After the Iroquois, traditional enemies of the confederacy, agreed to cease their attacks in the Treaty of Albany (1722), the tribes scattered, mixed with Negroes and whites, and all semblance of the confederacy disappeared. See F. G. Speck, *Chapters on the Ethnology of the Powhatan Tribes of Virginia* (1928).

Powhatan Point (pouhă'tun), village (pop. 2,054), E Ohio, on the Ohio river below Wheeling, W. Va., in a coal area, settled 1819, inc. 1895.

Pownal (pou'nŭl), town (pop. 1,402), extreme SW Vt., James A. Garfield and Chester A. Arthur taught at Oak Grove Seminary. James Fisk was born here. Dutch squatters came to this area in the 1720s, but there was no permanent settlement until after 1760. Pownal was the scene of strife between holders of New York and New Hampshire grants to the same land.

Pownall, Thomas (pou'nŭl), 1722–1805, English statesman and colonial governor, b. Lincolnshire, England, grad. Cambridge Univ., 1743. In 1753 he went to New York as secretary to Sir Danvers Osborn, newly appointed governor. Following Osborn's suicide, shortly after arrival, Pownall aided the English attempt to expel the French from North America and entered into a study of colonial administration and defense. He was appointed (1757) governor of Massachusetts, where he vigorously prosecuted the last of the French and Indian Wars, but was transferred (1759) to the governorship of South Carolina. Upon return to England in 1760, however, he resigned that post before assuming office and became director of supply for the English forces in Germany (1761–63). He published in 1764 his famous work, *The Administration of the Colonies*, urging a stronger union of the colonies with the mother country. From 1767 to 1780 he was a member of Parliament, first as a Whig and then as a supporter of Lord North's administration after the outbreak of the American Revolution. He opposed Edmund Burke's bill for conciliation but, protesting the hopelessness of the English cause, introduced a peace bill in 1780. He spent the latter part of his life in travel and in writing, being the author of a number of pamphlets and treatises on scholarly as well as political subjects. An attempt was also made to identify him as the author of the Junius letters. See biography by C. A. W. Pownall (1908).

Powys, John Cowper (pō'ĭs), 1872–, English author and lecturer. His novels include *Wolf Solent* (1929), *A Glastonbury Romance* (1932), and *Owen Glendower* (1940). He has written poetry and lectured on literature. Among his essays and criticisms are *The Meaning of Culture* (1929), *A Philosophy of Solitude* (1933), and *The Enjoyment of Literature* (1938). See his autobiography (1934). His brother, **Theodore Francis Powys**, 1875–, is a novelist and short-story writer. His original, realistic novels are concerned with the Dorsetshire village where he lives; they include *Black Bryony* (1923) and *Mr Weston's Good Wine* (1927). His short stories are in *The Left Leg* (1923), *The House with the Echo* (1928), and other volumes. Another brother, **Llewelyn Powys**, 1884–1939, was a novelist and essayist. His novels include *Apples Be Ripe* (1930) and *Love and Death* (1939), some of his essays and sketches are in *Black Laughter* (1924), *Impassioned Clay* (1931), and *Earth Memories* (1938). See his autobiographical *Confessions of Two Brothers* (with J. C. Powys, 1916), *Skin for Skin* (1925), *The Verdict of Bridlegoose* (1926), and *Love and Death an Imaginary Autobiography* (1939).

Poyang or **P'o-yang** (pō'yäng'), lake, N Kiangsi prov., China. It is about 90 mi. long and 20 mi. wide. It is regularly fed by the Kan and other rivers of Kiangsi, and during the summer it receives the overflow of the Yangtze.

Poynings, Sir Edward, 1459–1521, English statesman. After taking part in an insurrection against Richard III, he fled to the Continent, where he joined the followers of the earl of Richmond, who in 1485 ascended the English throne as Henry VII. Poynings served in the wars on the Continent and served (1494–96) as lord deputy of Ireland. He put down the last supporters of the pretender Perkin Warbeck and set about subjugating Ireland completely. He summoned to Drogheda a Parliament which enacted statutes for the further Anglicization of the Irish government. After his return to England, he had military and diplomatic posts and was warden of the Cinque Ports. **Poynings's Law** is the name given to the Drogheda statutes which provided that the English privy council must give previous assent to the summoning of an Irish Parliament and to the introduction of any specific legislation in the Irish Parliament. Its effect was to render a free Irish Parliament impossible. The patriot Henry Grattan, procured its repeal (1782).

Poynter, Sir Edward John, 1836–1919, English painter and writer on art. He studied in Paris under Gleyre. As a decorative artist Poynter made designs for fresco, mosaic, tiles, and pottery. *Israel in Egypt* (Guildhall, London) and *Visit to Aesculapius* (Tate Gall., London) are among his well-known paintings. He was director (1894–1905) of the National Gallery, London, and edited the *Illustrated Catalogue* with reproductions of every picture in the gallery. Poynter was also the author of *Ten Lectures on Art* (1879). He became president of the Royal Academy in 1896 and was knighted the same year.

Pozarevac, Serbo-Croatian *Požarevac* (pōzhä'rĕvăts), Ger. *Passarowitz*, town (pop. 16,108), Serbia, Yugoslavia, SE of Belgrade. It is the center of a wine-producing region. For the treaty signed here in 1718, see Passarowitz, Treaty of.

Pozharski, Dmitri Mikhailovich, Prince (dĭmē'trē mĭkhī'lŭvĭch, pŭzhär'skē), 1578–1642, Russian hero. During the Time of Troubles (see Russia) he fought against the Polish invaders, and in 1611 he took command of a national militia formed on the initiative of the merchant Minin of Nizhni Novgorod. With his improvised army he marched on Moscow, drove out the Poles (1612), and ended the scheme of King Sigismund III of Poland to subjugate Russia. In the following year Michael Romanov was elected tsar, and order was restored. Pozharski held commands in later campaigns and was ambassador to Sweden.

Poznan (pōz'nän, pōz'–), Pol. *Poznań* (pōz'nanyu), Ger. *Posen* (pō'zun), city (pop. 267,978), W Poland, on the Warta river. Founded before the advent of Christianity to Poland, it became (10th cent.) the first Polish episcopal see and a nucleus of the Polish state. It remained in Poland until the second partition (1793), when it passed to Prussia. Poznan was included in the grand duchy of Warsaw in 1807, again passed to Prussia in 1815, and reverted to Poland in 1919. In the Second World War it was annexed to Germany, and thousands of Poles were expelled. One of the farthest targets of British-based aircraft, the city suffered heavy damage, its cathedral was substantially destroyed. The city is the see (created 1821) of the archbishop of Poznan and Gniezno and has a university (founded 1919). Since 1922 it has been the site of an annual international spring fair. Chiefly a trade center, it also has several industries. Poznan province (10,850 sq. mi., pop. 2,149,099) is a largely agricultural lowland. Cities are Poznan, Kalisz, Ostrow Wielkopolski, Gniezno, and Leszno. Sections of Brandenburg, Pomerania, and Lower Silesia, totaling 4,285 sq. mi. (pop. 273,014), have been under the administration of the province since 1945.

Pozsony, Czechoslovakia: see Bratislava.

Pozzo di Borgo, Carlo Andrea (kär'lō ändrā'a pôt'tsō dē bōr'gō), 1764–1842, Russian diplomat, b. Corsica. A partisan of Paoli in Corsica, he supported the British occupation of the island in 1794. His appointment as chief of the Corsican council of state was a disappointment to Paoli. After the French reconquest (1796), Pozzo di Borgo lived as a refugee in Italy, England, and Austria. He entered the Russian service in 1804. An irreconcilable enemy of Napoleon I (largely on account of the part played by the Bonaparte family in Corsican events), he was influential in promoting the Russo-Austrian alliance of 1805. The Treaty of Tilsit (1807) forced him out of Russian service, but after Napoleon's first abdication (1814) he was made Russian ambassador to France and a delegate to the Congress of Vienna. As ambassador he showed himself as sympathetic to the France of the Bourbons as he had been hostile to Napoleon. His pro-French attitude caused his transfer to London, again as Russian ambassador. He retired in 1839.

Pozzuoli (pôt-tswō'lē), Latin *Puteoli*, town (pop. 24,594), Campania, S Italy, on the Bay of Naples. It was founded by Greek colonists. Among the Roman remains (now partly under water) are an amphitheater and the so-called temple of Serapis (a market place). Near by is the Solfatara, a crater emitting sulphurous waters and thermal mud.

Pr, chemical symbol of the element praseodymium.

Pradier, James (prädyā'), 1792–1852, French sculptor, whose real name was Jean Jacques Pradier, b. Geneva. His statues are found in many cities of France. Among his best monumental works in Paris are the figures on the Fontaine Molière, the four Victories in the spandrels of the Arc de l'Étoile, the figures of Lille and Strasbourg in the Place de la Concorde, and figures about the tomb of Napoleon in the Invalides.

Pradilla, Francisco (fränthĕ'skō prädhē'lyä), 1847?–1921, Spanish historical and genre painter. He was director of the Madrid Museum of Modern Art and the Academy of San Fernando. He is best known for his large historical paintings, such as *Joanna the Mad* (Madrid Mus. of Modern Art).

Prado, Mariano Ignacio (märya'nō ēgnä'syō prä'dō), 1826–1901, president of Peru (1865–67, 1878–79). He aided Ramón Castilla in the revolution of 1854. Indignant at the treaty which compensated Spain for losses during the revolution—a treaty which he considered humiliating to Peru—Prado led a revolution. He became dictator and severed diplomatic relations with Spain. The war that followed was limited to small naval engagements, but before its conclusion Prado was deposed. Forced to leave the country, he returned and was reelected. The war with Chile (see Pacific, War of the) broke out in 1879. After some months of dismal failure and defeat, Prado left for Europe and did not return for many years.

Prado (prä'dō, Span. prä'dhō), national Spanish museum of painting and sculpture, Madrid, one of the finest in Europe. Situated on the Paseo del Prado, it was begun by Juan Villanueva under Charles III and finished under Ferdinand VII in 1830. It contains over 2,000 paintings of the highest order, many of them from the Spanish royal collections. The Spanish, Flemish, and Venetian schools are particularly well represented. It possesses outstanding masterpieces of Titian, Tintoretto, Veronese, Rubens, Van Dyke, Dürer, Brueghel, and Hieronymus Bosch. Velásquez, El Greco, Ribera, and Goya can nowhere be seen to such advantage. Subjected to aerial bombardment in the Spanish civil war (1936–39), the building suffered only slight damages and its priceless collection was safeguarded, the most valuable pictures being sent to Geneva.

Praed, Winthrop Mackworth (prād), 1802–39, English poet and essayist. A lawyer, member of Parliament, and accomplished political satirist, he is best remembered for his graceful light verse—"Letter of Advice," "Molly Mog,"—and his serious poems, such as "Arminius" and "Time's Song." See Derek Hudson, *A Poet in Parliament* (1939).

praefect: see prefect.

Praeneste: see Palestrina, Italy.

Praenestine Way: see Roman roads.

praetor or **pretor** (both prē'tŭr) [Latin, =one before], in ancient Rome, originally a title of a consul and later the title of a magistrate (from c. 366 B.C.). In 242 B.C. two praetors were appointed, the urban praetor (*praetor urbanus*), deciding cases to which citizens were parties, and the peregrine praetor (*praetor peregrinus*) for cases between foreigners. The urban praetor exercised the functions of the consuls in their absence and of the peregrine praetor when he was holding a military command. Additional praetors were appointed (227 B.C.) to administer Sicily and Sardinia, and two more (197 B.C.) to administer Spain. A principal duty of praetors was the production of the public games. Under the empire the functions of the praetor were gradually taken over by other magistrates.

Praetorians (prētô'rēănz), bodyguard of the ancient Roman emperors. They grew out of an early troop that served as bodyguard to the general commanding in Rome and were formally organized in the time of Augustus. The number of cohorts forming the guard varied, but in the days of the later empire it was 10. The Praetorians under a prefect—or in the early empire two or three prefects—attended the emperor wherever he went. They had special privileges and, in the period when the empire declined, almost unchallenged authority. They made and unmade emperors at will. Constantine I disbanded them in 312.

Praetorius, Michael (prētô'rēus), 1571–1621, German composer and musicographer, whose name originally was Schultheiss. He was a prolific composer, his *Musae Sionae* (9 vols., 1605–11) alone containing 1,244 choral works, but today he is celebrated chiefly for his *Syntagma musicum* (3 vols., 1615–19), which minutely describes the musical practices and the instruments of his day.

pragmatic sanction (prăgmă'tĭk), decision of state dealing with a matter of great importance to a community or a whole state and having the force of fundamental law. The term originated in Roman law and was used on the continent of Europe until modern times. The **Pragmatic Sanction of Bourges**, issued by Charles VII of France in 1438, sharply limited the papal authority over the Church in France and established the liberty of the Gallican Church (see Gallicanism). It was revoked in 1461 by Louis XI, who sought to improve relations with the Holy See, but relations between Church and state remained dubious until Francis I concluded the Concordat of 1516 (see concordat). There have been many other pragmatic sanctions, but the term, if unqualified, always refers to the famous **Pragmatic Sanction** of 1713, issued by Emperor Charles VI to alter the law of succession of the Hapsburg family. In the absence of a male heir, the succession to all Hapsburg dominions (but not to the imperial dignity, which was elective) was reserved to Charles's eldest daughter (the later Empress Maria Theresa). The principal aim of the law was to guarantee the continued integrity of the Hapsburg territories and to prevent a struggle for the succession. Charles labored throughout his reign to obtain the adherence to the Pragmatic Sanction of the European sovereigns and of the diets and estates of the various Hapsburg lands. France gave it its support in 1738, and at the time of Charles's death (1740) most other powers and all the diets and estates of the Hapsburg domains (including those of the Austrian Netherlands, Bohemia, and Hungary) had endorsed it, the diet of the Holy Roman Empire had guaranteed it in 1732. A notable exception was that of Elector Charles Albert of Bavaria (later Emperor Charles VII). The Pragmatic Sanction excluded from the succession the two daughters of the late emperor, Joseph

I, elder brother of Charles VI. One of these, Maria Josepha, had been married to Elector Frederick Augustus II of Saxony (Augustus III of Poland), who had ratified the Pragmatic Sanction in 1733 in exchange for Austrian support in his struggle for the Polish throne. The other, Maria Amelia, was married to the elector of Bavaria, who withdrew his guarantee shortly after giving it. When Maria Theresa acceded to the Hapsburg succession in 1740, she had to defend her right in a long and bitter struggle, the War of the AUSTRIAN SUCCESSION (1740–48), in spite of all guarantees her father had obtained. The Treaty of Aix-la-Chapelle of 1748 confirmed the Pragmatic Sanction.

pragmatism (prăg'mətĭzm), method of philosophy in which the truth of a proposition is measured by its correspondence with experimental results and by its practical outcome. Thought is considered as simply an instrument for supporting the life aims of the human organism and has no more metaphysical significance than the opposition of thumb and forefinger. Pragmatism stands opposed to doctrines which hold that truth can be reached through deductive reasoning from a priori grounds and insists on the need for inductive investigation and constant empirical verification of hypotheses. It normally holds that ideas, to be considered true, must be verifiable by an impartial observer. There is constant protest against speculation concerning questions which have no application and no verifiable answers. Pragmatism holds that truth is modified as discoveries are made. Truth evolves and is relative to the time and place and purpose of inquiry. In its ethical aspect pragmatism holds that knowledge which contributes to human values is real and that values inhere in the means as vitally as they do in the end itself. The principles of pragmatic theory are generally considered to have been first developed as formal doctrine by C. S. Peirce (1878). He was followed by William JAMES, who introduced the term (1898). James held that in vital matters of faith the criterion for acceptance was the will to believe, a theory reminiscent of the Kantian ethic. John DEWEY in his works developed the instrumentalist aspects of the doctrine. In England, F. C. S. Schiller formulated his theory of humanism (human values are the test of truth). On the Continent, Vaihinger, Bergson, and others took up the theory. See William James, *The Will to Believe* (1896), John Dewey, *Reconstruction in Philosophy* (1920) and *Experience and Nature* (1925), Philip P. Wiener, *Evolution and the Founders of Pragmatism* (1949).

Prague (prăg, präg), Czech *Praha* (prä'hä), Ger. *Prag* (präk), city (pop. 922,284), capital of Czechoslovakia and of Bohemia, in central Bohemia, on the Moldau (Czech *Vltava*) river. The largest city of Czechoslovakia, it is a major European commercial and cultural center and is rich in history. It is the see of a Roman Catholic archbishop, primate of Czechoslovakia, of an Orthodox Eastern archbishop, and of the archbishop of the Czechoslovak Church. Its university (see PRAGUE, UNIVERSITY OF) is one of the most famous in Europe. A focal communications point, Prague is also the largest industrial center of Czechoslovakia, producing heavy machinery, automobiles, rolling stock, leather goods (notably gloves), foodstuffs (smoked meats), and beer. Czech book publishing is largely concentrated here. The castle of Prague dates from the 9th cent., but the city began only in 1232, when a German settlement was established here by King Wenceslaus I. It grew rapidly in size and prosperity as the capital of Bohemia, and under Emperor CHARLES IV (14th cent.) became one of the most splendid cities of Europe. From the 14th to the early 17th cent. the emperors resided here as well as in Vienna. The rivalry between the Czech and the German elements in Prague was a major factor in the reform preached here by John HUSS, it was with the first Defenestration of Prague (1419, see WENCESLAUS, emperor) that the Hussite Wars began. The city sought a moderate course in the wars, but an army led by ZIZKA forced it in 1424 to accept Zizka's policy. In the late 16th and early 17th cent., under Emperor RUDOLPH II, Prague shone as a center of science where Tycho Brahe and Kepler worked. When in 1618 the Protestant Czech nobles felt the liberties of Bohemia threatened by Emperor Matthias, they vented their dissatisfaction by throwing two royal councilors—Martinic and Slavata—and the secretary of the royal council of Bohemia out of the windows of Hradcany Castle (May 23, 1618). By miracle, none of the victims of this second Defenestration of Prague were hurt, but the event opened the THIRTY YEARS WAR. The battle of the WHITE MOUNTAIN (1620), fought near Prague, resulted in the total subjugation of Bohemia to Austrian rule. Until 1860 German was the only official language in Prague. The Peace of Prague (1635) failed to end the Thirty Years War, in the last year of which (1648) a section of the city was occupied by the Swedes. In the War of the Austrian Succession, Prague was occupied (1742) by the French and again (1744) by the Prussians, and in the Seven Years War it was (1757) the scene of a major victory of Frederick II of Prussia. Frederick had the city bombarded for two weeks, but the Austrian victory at Kolin forced him to abandon the siege. Though it had lost much of its former importance, Prague in the 18th cent. remained a brilliant cultural center. The building activities of Maria Theresa and the great Bohemian nobles gave Prague a predominantly baroque and rococo character. The center of the Czech national revival in the 19th cent., Prague played an important part in the Revolution of 1848 until its bombardment and recapture by WINDISCHGRÄTZ. It became the capital of the newly created Czechoslovak republic in 1918. Occupied (1939–45) by the Germans, the city suffered great hardship and was damaged in the Second World War, but most of its historic buildings remain unharmed. The liberation of Prague was completed in May, 1945, by Russian troops after the Czech population had risen (May 5) against the Germans. Until the Second World War, Prague was characterized by the generally peaceful coexistence of a Czech and of a German and German-Jewish culture. It was the city of Rilke and Kafka as well as of Smetana, Dvorak, and Capek. Its literary, artistic, and musical life, which has a long and distinguished tradition, was very active between the two world wars. The old section of Prague, which occupies the center of the city, is an architectural treasure enhanced by the beauty of its situation on the hilly banks of the Moldau. W of the Moldau stands Hradcany (Czech *Hradčany*) Castle, dominating the entire city. The former royal residence and since 1918 the seat of the presidents of Czechoslovakia, it is an imposing and many-winged structure, dating mostly from the reign of Charles IV, with important additions made by Maria Theresa. Next to it stands the largely Gothic Cathedral of St. Vitus, first built in the 10th cent., rebuilt under Charles IV, and completed only in 1929. It contains the tombs of St. Wenceslaus, St. John of Nepomuk, and many kings and emperors. Contiguous to the castle is the elegant 18th-century archiepiscopal palace. The Hradcany quarter also contains a number of other fine churches and palaces, notably the baroque churches of Our Lady of Victory (with the miraculous statuette of the Infant Jesus of Holy Child of Prague), of St. Nicholas, and of Loretto, the magnificent Waldstein Palace, built for the generalissimo Wallenstein, and the Czernin Palace (now the foreign office). On the slope extending from the castle to the Moldau is the quaint Mala Strana [lesser town] quarter, the best-preserved part of old Prague. The Alchemists' or Golden Lane (Czech *Zlata ulička*), with its small picturesque houses, is particularly famous. Mala Strana is connected with the Old Town (Czech *Staré Město*), on the eastern bank of the Moldau, by the 14th-century Charles Bridge, the most beautiful of the 12 bridges of Prague. Two towers guard its ends, and above each of its pillars stands the statue of a saint. The Old Town contains the Carolinum (the oldest part of the university), the adjacent Stavovske Theater (where Mozart's *Don Giovanni* had its first performance), the vast Clementinum Library, the Gothic Old Town Hall (13th cent., burned in May, 1945), the Gothic Tyn Cathedral (14th cent., formerly the main Hussite church, with the tomb of Tycho Brahe), and the Powder Tower (15th cent., last of the city gates). In the adjacent former Jewish quarter is the Old Synagogue (13th cent.). To the east and southeast of the Old Town extends the New Town (Czech *Nové Město*), the business district, traversed by Wenceslaus Square, the main thoroughfare of Prague. Farther south, also on the east bank of the Moldau, lies the old Visehrad (Czech *Višehrad*), quarter, where according to legend stood the original castle of the Premyslide kings of Bohemia. Aside from the buildings mentioned above, Prague abounds in theaters, museums, libraries, and higher educational institutions. Many of the residential sections are planned along entirely modern lines.

Prague (prăg), city (pop. 1,422), central Okla., E of Oklahoma City, in an agricultural area, settled by Czechs and inc. 1902.

Prague, Peace of, 1635 see THIRTY YEARS WAR.

Prague, Treaty of, 1866 see AUSTRO-PRUSSIAN WAR.

Prague, University of, or **Charles University.** The oldest and one of the most important universities of Central Europe, the Univ. of Prague, Czechoslovakia, was founded in 1348 by Emperor Charles IV, for whom it is named. The faculty was organized in four "nations," the Czech, Saxon, Bavarian, and Polish. The struggle between the German and Czech nationalities in Bohemia was reflected in the Univ. of Prague when, in 1403, the Czech "nation," including John Huss, was outvoted by the three other "nations" in a controversy regarding Wyclif's doctrines. When in 1409 the three "foreign" nations opposed the request of Emperor WENCESLAUS to take a neutral attitude between the two rival popes in the Great Schism, Wenceslaus changed the statutes of the university. By the Decree of Kutna Hora he gave the Czech "nation" three votes and one vote to the other three "nations." Shortly after that Czech victory, Huss himself became rector of the university. As a result of the Decree of Kutna Hora the Germans left the university and founded the Univ. of Leipzig. In the Hussite Wars, Charles Univ. was a stronghold of the Utraquists, led by Master Jan Rokycana, who became archbishop of Prague after the signing of the Compactata. The Germanization of the university which began after the battle of the White Mt. (1620) reached its peak in 1774, when German was made the language of instruction. In 1882 the university was divided into two branches—Charles Univ., which was Czech, and Ferdinand Univ., which was German. After the creation of independent Czechoslovakia in 1918 this division was maintained, although the Czech university received the greater facilities. The Czech university was suppressed during the German occupation of Bohemia (1939–45), and the German university was abolished in 1945 when Czechoslovakia was restored. Charles Univ. is governed by a senate of 30 members, headed by the rector and including representatives of the student body.

Praguerie (prägurē'), 1440, revolt against Charles VII of France, so called by allusion to the recent Hussite uprising in Prague. It was led by several great feudal lords who resented the diminution of their influence over the royal government. They were joined by the dauphin, the future Louis XI, and received the support of Philip the Good of Burgundy. The revolt was quickly suppressed, the rebels being treated by the king with extraordinary leniency.

Praha, Czechoslovakia. see PRAGUE.

Praia see SÃO TIAGO.

Prairial see FRENCH REVOLUTIONARY CALENDAR.

prairie chicken, American game bird of the GROUSE family. The greater prairie chicken occurs in diminished numbers in parts of Canada and in the United States on the prairies W of Indiana. Its plumage of yellowish brown above and white below is marked with dark stripes and blotches. The orange neck sacs of the male are inflated during their spring courtship matches. In summer prairie chickens eat harmful insects. They travel in small flocks except in winter, when 100 or more may band together. Attwater's prairie chicken is found in Texas and Louisiana, and the lesser prairie chicken on the Great Plains.

prairie dog, rodent of the squirrel family, native to North America. Prairie dogs have plump bodies, 12 to 15 in. long including the tail. The short, rather coarse fur is brownish or buff above and whitish below. Black-tailed prairie dogs live on the dry plains from S Saskatchewan to N Mexico. White-tailed prairie dogs inhabit the Rocky Mt. region from S Montana to NE New Mexico and N Arizona. They can exist for long periods without drinking water. Vegetation forms the bulk of their diet and insects a small part of it. Because they eat forage, ranchers have exterminated them in many areas. Prairie dogs live in elaborate burrows grouped in colonies or "towns." Those which live on flat land make a crater-shaped mound at the entrance. This keeps the rain from inundating the burrow and serves as a lookout post from which the animal may sight enemies. Rattlesnakes and burrowing owls are sometimes seen in prairie dog towns but are not welcome.

Prairie du Chien (prä'rē du shēn'), city (pop. 4,622), co. seat of Crawford co., SW Wis., on the Mississippi just above the mouth of the Wisconsin and NW of Dubuque, Iowa, settled 1781, inc. 1872. The Fox-Wisconsin water route from the Great Lakes reached the Mississippi here, and at this point Nicolas Perrot in 1686 built Fort St. Nicolas. In the War of 1812 Fort Shelby was built (1814) by the Americans, captured by the British and renamed Fort McKay, and finally burned. In 1816 Fort Crawford was built, here Dr. William BEAUMONT carried on some of his experiments. The lucrative fur trade of the early 19th cent. fell into the hands of the American Fur Company, and Hercules Dousman was a prominent trader. Later a flourishing river port, Prairie du Chien is now a farm trade center with small industries. Points of interest include the Church of St. Gabriel (1839–40), designed by Father Mazzuchelli, Villa Louis, the restored home of Dousman in Dousman Park, and a museum on the site of Fort Crawford.

Prairie du Sac (prä'rē dŭ săk'), village (pop. 1,001), central Wis., on the Wisconsin adjoining Sauk City and NW of Madison, settled 1839, inc. 1885.

Prairie Grove, town (pop. 887), NW Ark., SW of Fayetteville. It is a trade center in a fruit-growing region. The Civil War battle fought here on Dec. 7, 1862, resulted in the retreat of the Confederates under Gen. T. C. Hindman, after he had failed to prevent the joining of Gen. J. G. Blunt's Union forces with those of Gen. F. J. Herron. The Federal hold on NW Arkansas was thereby strengthened.

Prairie Provinces: see MANITOBA, SASKATCHEWAN; ALBERTA.

prairies, the generally level, originally grass-covered and treeless plains of the United States, stretching from W. Ohio through Indiana, Illinois, and Iowa to the Great Plains region. The prairie belt also extends into N. Missouri, S. Michigan, Wisconsin,

and Minnesota, E North and South Dakota, and S Canada. The prairies correspond to the pampas of Argentina Because of the richness of the soil, the prairie area in the United States has become one of the most productive agricultural regions of the country

prairie schooner, a wagon covered with white canvas, made famous by its almost universal use in the migration across the Western prairies and plains, and so called in memory of the white-topped schooners of the sea A canvas-covered wagon had long been in general use for the carriage of freight in E America and had reached its highest development in the CONESTOGA WAGON Whereas the latter usually required a six horse team even on good roads, the prairie schooner was much lighter and rarely needed more than four horses, and sometimes only two, even on virgin prairie trails Oxen were frequently used instead of horses The average prairie schooner was but a farm wagon fitted with a top, drawn in at both ends, with only an oval opening to admit air and light to the interior, where women and children usually slept and rode In crossing the Great Plains groups of prairie schooners customarily traveled together for protection (see WAGON TRAIN)

prairie smoke, name for two plants, the PASQUEFLOWER and *Sieversa ciliata* (or *Geum ciliatum*), which in fruit resembles the pasqueflower

Prairie View Agricultural and Mechanical College of Texas, at Prairie View, near Hempstead, Negro, with land-grant support, coeducational, chartered and opened as a normal school 1876 In 1899 it was named Prairie View State Normal and Industrial College and was renamed in 1947 It has divisions of agriculture, arts and sciences, home economics, mechanic arts, and nursing education

prairie wolf. see COYOTE

Prajadhipok (prucha'tpôk), 1893–1941, king of Siam (1925–35) Despite his liberal tendencies, he ruled as an absolute monarch until 1932, when a coup d'état forced him to grant the constitution he had earlier promised Differences over the limits subsequently placed on the royal prerogative led to his abdication in 1935

Prakrit (prä'krĭt) [Sanskrit, =common], any of several languages of the Indic group of the Indo-Iranian subfamily of Indo-European languages. See LANGUAGE (table)

Prakrit literature. The great mass of literature written in Prakrit is devoted to JAINISM, but there is also much secular literature and artificial lyric poetry The sacred texts (*Siddhanta* or *Agama*) of the two main sects of the Jains employed three types of Prakrit The oldest sutras of the Svetambara sect are written in Ardha-Magadhi, while later books are in Maharastri The Svetambara canon, written in verse and prose, received its final form in A D 454 The sacred books of the Digambara sect are written in Savrasemi An important source of knowledge of Prakrit is the Sanskrit drama Kalidasa is included among those many dramatists, who, in order to obtain a realistic effect, had the common people speak in Prakrit See Moriz Winternitz, *A History of Indian Literature* (1927–33), Herbert H Gowen, *A History of Indian Literature* (1931)

Prantl, Karl (karl pran'tŭl), 1849–93, German botanist, professor at the Univ of Breslau He wrote *An Elementary Text-Book of Botany* (1874, Engtr, 5th ed, 1891) He collaborated with Adolf Engler on the first volumes of *Die natürlichen Pflanzenfamilien*, begun in 1887

Prasad, Rajendra (rujĕn'dru prŭsäd'), 1884–, first president of India (1950–), educated at the Univ of Allahabad He was admitted to the bar in 1911 and for a time practiced and taught law He abandoned his practice in 1920 to join Gandhi's movement Prasad was four times (1932, 1934, 1939, 1947) president of the Indian National Congress and was frequently imprisoned Together with most leaders of the Congress he was jailed from 1942 to 1945 for refusing to participate in the British war effort while India was still not free He was minister of food and agriculture in the interim Indian government of 1946 Prasad presided over the constituent assembly which drafted the constitution for the Union of India He wrote *India Divided* (1946)

praseodymium (prā"zēōdĭ'mēŭm, prā"sēō–), rare metallic element (symbol=Pr, for physical constants, see ELEMENT, table) It is classed as a metal of the rare earths It was discovered by K A von Welsbach in 1885 when he separated an earth called didymia into two substances, neodymia (containing neodymium) and praseodymia (containing praseodymium) Praseodymium is pale yellow in color Its salts, which are of a greenish hue, are used to impart color to glass

Prati, Giovanni (jōvän'nē prä'tē), 1815–84, Italian poet He was made prisoner in two wars and was banished by the Austrians in 1848 He was a friend of Charles Albert and became minister of public instruction His works include ardent patriotic verse and lyric poems of elegance and facility, as well as an epic in blank verse, *Edmenegarda* (1841) For translations, see Lorna de' Lucchi, *An Anthology of Italian Poems* (1924).

Pratinas (prā'tĭnŭs), fl c.496 B.C., Greek dithyrambic poet of Phlius, said to have introduced the satyr-play into Athens.

Prato (prä'tō) or **Prato in Toscana** (ēn tōskä'nä), city (pop 28,646), Tuscany, central Italy, 11 mi NW of Florence It has been a center of the woolen industry since the 13th cent, and in the 14th cent it became subject to Florence The cathedral has frescoes by Filippo LIPPI and works by Donatello, Giovanni Pisano, and Andrea della Robbia The Church of Santa Maria delle Carceri was built (1485–92) by Giuliano da Sangallo There are several other fine churches and palaces and a town hall and a fort both built in the 13th cent

Pratt, Bela Lyon, 1867–1917, American sculptor, b. Norwich, Conn, studied under J H Niemeyer at the Yale School of Fine Arts and with Augustus Saint-Gaudens For the World's Columbian Exposition, Chicago, 1893, and for the Pan-American Exposition, Buffalo, 1901, he furnished a number of figures and groups For the Library of Congress, he made a figure *Philosophy* and other decorative sculptures, including medallions of the *Four Seasons*, in Boston he made the figures *Science* and *Art* in front of the library, decorative panels for the opera house, and the General Stevenson statue for the statehouse Other works include *Peace Restraining War* (Butler Memorial, Lowell, Mass), the recumbent figure of Dr Coit and *Soldier of the Spanish War* (St Paul's School, Concord, N H), monument to Andersonville prisoners (Hartford, Conn), a statue of Nathan Hale (Yale Univ), soldiers' and sailors' monument (Malden, Mass), the bust of Phillips Brooks (Harvard Univ), a statue of Hawthorne (Salem, Mass), a statue of Alexander Hamilton (Chicago), and *Water Nymph* (Metropolitan Mus)

Pratt, Charles, 1st Earl Camden, 1714–94, English jurist, lord chancellor (1766–70) In 1762 as chief justice of the Court of Common Pleas he pronounced against the legality of the general warrant under which John Wilkes had been prosecuted In the House of Lords he denounced the government's policy toward the American colonies and opposed the taxes imposed on the colonists His attitude toward Wilkes and toward the American colonies resulted in his loss of the lord chancellorship He served as president of the council in the ministries of Rockingham and William Pitt from 1782 until his death In 1786 he was created Earl Camden

Pratt, Daniel, 1799–1873, American industrialist, b Temple, N H He moved to Georgia at the age of 20, and after he had become a partner in a cotton gin he moved (1833) to Alabama, where he founded Prattville, 12 mi NW of Montgomery Here he built up numerous industries, promoted business, and became one of the first important industrialists of Alabama Through his son-in-law, Henry F DE BARDELEBEN, he became interested in coal and iron industries of Birmingham As a representative in the Alabama legislature in the Civil War, he at first opposed secession but ardently supported the Confederacy See biography by S F H Tarrant (1904)

Pratt, Edwin John, 1883–, Canadian poet, b Western Bay, N F He has been for many years professor of English at the Univ of Toronto and editor of *Canadian Poetry Magazine* With the publication of *Titans* (1926) he broke away from the old romantic tradition of Canadian poetry, it contains imaginative narratives such as "The Cachalot," which employs his favorite setting, the sea Other popular works are *The Roosevelt and the Antinoe* (1930), *Verses of the Sea* (1930), and *The Titanic* (1935) His most ambitious poem, *Brébeuf and His Brethren* (1940), records the heroism of martyred Jesuit missionaries *Dunkirk* (1941) is considered one of the best poems of the Second World War See Stephen Vincent Benet's introduction to his *Collected Poems* (1944) and biography by H W Wells and C F Klinck (1947)

Pratt, Matthew, 1734–1805, American portrait painter, b Philadelphia After he was (1749–55) an apprentice to his uncle, a painter in Philadelphia, he practiced portrait painting and then (1764–66) studied under Benjamin West in London His most famous paintings are *The American School* (1765) and portraits of Benjamin Franklin (c 1760), Benjamin West (c 1765) and Cadwallader Colden (1772) See William Sawitzky, *Matthew Pratt, 1734–1805* (1942)

Pratt, Orson, 1811–81, Mormon apostle, b Hartford, N Y, brother of Parley Parker Pratt He entered (1830) the Mormon church and became (1835) an apostle An eloquent speaker, he was a successful missionary in England and elsewhere, in Utah, where he was one of the first immigrants (1847), he was long an influential member of the assembly. Pratt also taught at the Univ of Deseret (now the Univ. of Utah) He wrote books on mathematics as well as on the Mormon church

Pratt, Parley Parker, 1807–57, Mormon apostle, b. Otsego co, N Y., brother of Orson Pratt He joined (1830) the Mormon church and was made an apostle in 1835 In 1838 Pratt was thrown into prison in Missouri during the persecution of the Mormons there. On the first of his missionary visits to England, he founded (1840) the *Millennial Star* in Manchester. In Utah, to which he went in 1847, he aided in framing the constitution of the state of Deseret and devised a Mormon alphabet. See his autobiography (ed. by his son, 1874, 3d ed., 1938), biography by Reva Stanley (1937).

Pratt, Richard Henry, 1840–1924, American soldier and educator, b. Allegany co, N.Y. He worked at odd jobs until 1861, when he enlisted in the Union army After the Civil War he remained in the army and came into close contact with Indians while serving at various posts in the West He experimented successfully in educating Indians, and in 1879 he founded at Carlisle, Pa., a non-reservation school of higher education for Indians. He supervised the Carlisle Indian School—maintained by the U S government and housed in an army barracks—until 1904, when he retired as a brigadier general from the U S army as a result of disagreement with President Theodore Roosevelt In 1918 the Carlisle Indian School was closed. See E G Eastman, *The Red Man's Moses* (1935).

Pratt, Silas Gamaliel, 1846–1916, American musician, b Addison co, Vt., studied piano and composition in Chicago and Berlin He taught and gave concerts in Chicago from 1872 until 1875, when he returned to Germany, met Wagner and Liszt at Bayreuth, and gave concerts in Berlin. In 1885, after another period in Chicago, he gave concerts of his own works in London He taught in New York from 1888 until 1906, when he founded the Pratt Institute of Music and Art, Pittsburgh, of which he was director until his death He composed operas, orchestral works, piano pieces, and songs

Pratt, city (pop 6,591), co seat of Pratt co, S Kansas, W of Wichita, inc 1884 It is a shipping and trading point for a wheat and cattle area A state fish hatchery is east, on the Ninnescah, tributary of the Arkansas

Pratt Institute, at Brooklyn, N Y, nonsectarian, coeducational, chartered and opened 1887 It has schools of architecture, art, engineering, home economics, and library science It was founded and endowed by Charles Pratt for the practical training of young men and women Its library was the first general public library in Brooklyn, but now serves only the school

Prattville, city (pop 2,664), co seat of Autauga co, central Ala, NW of Montgomery, founded c 1835 by Daniel PRATT It has a large cotton-gin manufacturing plant

Pravdinsk, RSFSR see FRIEDLAND

prawn, crustacean closely allied to the shrimp and sometimes also called shrimp It is widely distributed in temperate and tropical regions in salt and fresh water Those found in most parts of America and Europe are from 1 to 6 in long Some tropical forms are as large as lobsters The appendages include 10 slender jointed legs, swimmerets, and long antennae Pincers in some are on the first two, in others on the first three, pairs of legs The carapace extends forward over the stalked eyes to form a rostrum or beak Many species are eaten

Praxiteles (präksĭ'tulēz), fl c 370–c 330 B C, most famous of the Attic sculptors His *Hermes with the Infant Dionysus*, found in the Heraeum, Olympia, in 1877, is the only example of an undisputed extant original by any of the greatest masters of antiquity From it the workmanship of the sculptor can be judged directly—the delicacy and perfection of the modeling, as well as the strength and grace of conception, characteristic of his figures His most renowned statues are lost entirely or known only through Roman imitations Out of some 50 works mentioned as his in ancient writings, the one chosen as finest of all was the *Aphrodite of Cnidus* There is a copy in the Vatican Of the *Eros of Thespiae*, only the fame remains Praxiteles made several statues of young satyrs, one of which, the *Satyr of the Capitol* (Rome), is celebrated in Hawthorne's *Marble Faun* Other copies of the sculptor's works are *Apollo Sauroctonus* (Vatican), *Apollino* (Florence), and *Silenus and Dionysus* (Louvre) All of these illustrate his choice of youthful gods and other beings in which joy of life finds expression Praxiteles' modeling of face and hair shows the touch of supreme skill In the treatment of the surface of the marble he was unsurpassed

Prayer, Book of Common: see BOOK OF COMMON PRAYER

praying Indians, name for North American Indians who accepted Christianity. Although many different groups are called by this name, e g, the Catholic Iroquois of St Regis, it is more commonly applied to those Indians of E Massachusetts who were organized into villages by John ELIOT In 1674 there were seven principal praying towns—Hassanamesit, Magunkaquog, Nashobah, Natick, Okommakamesit, Punkapog, and Wamesit Natick, founded in 1651, was the oldest praying town. In King Philip's War (1675) the praying Indians were practically destroyed by the other Indians, who viewed them as traitors, and the English, who thought they were secret allies of King Philip. From a population of 1,100 in 1674, they were reduced to 300 by 1680.

praying mantis see MANTIS

Preachers, Order of see DOMINICANS.

Preble, Edward (prē'bul), 1761–1807, American naval officer, b Falmouth (now Portland), Maine In the American Revolution he ran away from home to ship on a privateer, entered (1779) the Massachusetts state marine as a midshipman, and saw service aboard the *Protector*, which was captured in 1781 After his release he joined the *Winthrop* and when the Revolution was over was engaged in the merchant service In 1798 he was commissioned lieutenant in the U S navy and was promoted (1799) captain and given command of the *Essex*, which sailed to China and convoyed 14 merchant vessels to New York In 1803 Preble was transferred to the *Constitution* and set out in command of a squadron for the Mediterranean, where he took a leading part in the war against the Barbary States (see TRIPOLITAN WAR) After the *Philadelphia* of his squadron had been captured and held in the harbor of Tripoli, Preble blockaded that port and made a number of attacks, inflicting extensive damage, but failed to capture the strongly fortified town He was relieved of his command on the arrival of Commodore Samuel Barron Many of those who served under Preble, e g , David Porter and Stephen Decatur, rendered distinguished service in the War of 1812 See G W. Allen, *Our Navy and the Barbary Corsairs* (1905).

Pre-Cambrian. see ARCHEOZOIC ERA and PROTEROZOIC ERA

precentor (prēsĕn'tur) [Latin,=one who sings first], the director of the music of a cathedral or a monastic church and also a CANTOR

precession of the equinoxes (prēsĕ'shun), clockwise progression of the equinoctial points (the points at which the sun crosses the celestial equator) This motion, whereby the earth's axis describes a cone in somewhat the same fashion as does the axis of a spinning top, was first noted by Hipparchus, c 120 B C The completion of the cone figure requires about 25,800 years The name precession was given because each of the equinoctial points, after having arrived at the meridian of any place on a given day at the same time as a certain fixed star, will arrive progressively sooner than the star thereafter As the celestial equator shifts its position, the position of the ecliptic along which it moves remains fixed in relation to the stars However, there is a change in the location of the vernal equinox among the constellations along the zodiac At the time these constellations were named, the March equinox took place when the sun was in the direction towards Aries Precession has caused it to move westward in the direction of Pisces Sir Isaac Newton in 1687 first explained the phenomena, attributing it to the attraction of the sun and moon on the equatorial bulge of the earth The precession results in a continual increase in the longitudes of heavenly bodies, but their latitudes are unchanged See E A Fath, *The Elements of Astronomy* (rev ed , 1934), W T Skilling and R S Richardson, *Astronomy* (rev ed , 1947), W L. Kennon, *Astronomy* (1948)

precious stone see GEM

precipitation, in chemistry, commonly indicates a reaction in which an insoluble substance is formed when some specific reagent is added to a solution, the insoluble substance so formed seeming to be "thrown out" or "down" from the solution For example, when a solution of silver nitrate is added to a solution containing some soluble chloride, the chloride solution immediately becomes cloudy owing to the formation of silver chloride, which is insoluble and is said to be precipitated Certain substances (called colloids can be precipitated by the addition of a strong electrolyte This occurs in soapmaking when caustic soda (sodium hydroxide) is added to a fat The precipitation is believed to result from the neutralizing effect of ions having a charge opposite to that of the suspended particles The coagulating effects on negative colloids are greater with doubly charged ions (e g , those of calcium and magnesium) and with triply charged ions (e g , aluminum) than with singly charged ions (e g , those of sodium)

precipitation, in meteorology see HAIL, RAIN, SLEET, SNOW

predestination, Christian theological doctrine, resembling determinism in its attitude toward the question of free will The fundamental dilemma has been known to philosophers since long before Christianity whether man is sometimes free to make a choice and undertake responsibility for his actions, or whether his choice is always controlled and his apparent freedom to choose only an illusion Those who believe in freedom of choice or freedom of the will choose the first alternative, determinists choose the second There are all shades and gradations between the two Determinism was evident in the Greek mythological creation of the Fates and of Nemesis and in the Stoic concept of Providence, such pagan beliefs are often called fatalism Christian predestination is based on two assumptions—that God's plan is absolute and unchanging and that God elects or condemns men to salvation or damnation. Origen took an early predestinarian position, and PELAGIANISM by an extreme free-will stand opposed St Augustine (who did not, however, deny man's responsibility) The most systematic and complete development of the doctrine of predestination was made by John CALVIN His teaching on the subject, as expressed later and completely in the Westminster Confession and in the Westminster Larger Catechism, begins with the fall of man and his resultant total depravity God, out of His free grace, decides to save some men, and the act of choosing is called absolute election Those who are elect have in this life an inner assurance of salvation, which they display outwardly in righteous conduct, those whom God rejects are subject to predestined damnation Less extreme forms of predestination are found in many Christian theological systems, the teachings of Luther, for example, are predestinarian Roman Catholic teaching and practice has tended to be strongly against predestination, JANSENISM began as a predestinarian movement within the Church Islam is generally fatalistic See ADAM, ATONEMENT, GRACE, SIN See Loraine Boetnner, *Reformed Doctrine of Predestination* (1932), Réginald Garregou-Lagrange, *Predestination* (Eng tr , 1939)

Predis, Ambrogio de see DE PREDIS, AMBROGIO

Preemption Act, passed (1841) by the U S Congress in response to the demands of the Western states that squatters be allowed to preempt lands Pioneers often settled on public lands before they could be surveyed and auctioned by the U S government At first these claims were not recognized, but in the 1830s temporary preemption laws were passed by Congress The act of 1841 permitted settlers to locate a claim of 160 acres and after six months of residence to purchase it from the government for as low as $1 25 an acre After the passage (1862) of the HOMESTEAD ACT, the value of preemption for bona fide settlers declined, and the practice more and more became a tool for speculators Congress repealed the Preemption Act in 1891

prefect or **praefect** (both prē'fĕkt) [Latin,=set over], in ancient Rome, title of military and civil officers Under the empire some of these were very important The Praetorian prefects (first appointed 2 B C) numbered usually two, they commanded the powerful PRAETORIANS From the 2d cent they had important juridical functions, and important legists (e g , Papinian and Ulpian) held the post An ancient office was that of prefect of the city, at first a deputy for absent consuls, it fell out of use and was revived by Caesar Under the empire this became the summary court for the region within 100 mi of Rome The prefect of the watch had charge of the fire brigade set up by Augustus Augustus also established a prefect of the grain supply All these offices were lucrative and highly honorable There were other officers called prefects, as the Roman viceroy of Egypt and many officials of Italian cities

Pregl, Fritz (frĭts' prā'gul), 1869-1930, Austrian physiologist and chemist From 1913 he was professor at the Univ of Graz For his methods of quantitative organic microanalysis he received the 1923 Nobel Prize in Chemistry

pregnancy or **gestation** (jĕstā'shun), period between fertilization of the ovum and birth The duration of pregnancy in humans is about 280 days, equal to 9 calendar or 10 lunar months Symptoms of pregnancy include cessation of menstruation, early morning nausea (morning sickness), enlargement of the breasts, pigmentation of the nipples, and progressive enlargement of the abdomen Pregnancy may be determined before any of these symptoms become evident by the Aschem-Zondek test This is based on physiological changes which occur in female mice, rabbits, and frogs when they are injected with urine from a pregnant woman Toward the end of the fifth month the mother usually feels fetal movements, and sounds of the fetal heart may be heard Excessive vomiting is usually a sign of serious disturbance and may threaten the patient's life Disorders of pregnancy are abortion and toxemia (e g , eclampsia and kidney disease) Proper diet, including minerals and vitamins, is important in order that the mother may receive adequate nourishment and the fetus may not become too large Vitamins A, B, C, D, and E are essential Adequate calcium and phosphorus are necessary for successful lactation and to prevent the development of rickets in the child Proteins are required not only for the maternal organism but also for the fetus Carbohydrates are a source of energy, and they tend to lessen the nausea of pregnancy Excessive intake of fats should be avoided

prehistoric man: see MAN, PRIMITIVE

Preller, Friedrich (frē'drĭkh prĕ'lur), 1804–78, German painter and etcher, professor at the Weimar Academy. He is best known for his *Odyssey* landscapes, a series of 16 encaustic paintings Also notable are his Thuringian landscapes in tempera and Norwegian landscapes. His son and pupil **Friedrich Preller,** 1838–1901, was also a landscape and mural painter.

premier see PRIME MINISTER.

Premont (prēmŏnt'), town (pop. 1,080), S Texas, SW of Corpus Christi, in a farm area; settled c 1908, inc 1938

Premysl, Czech *Přemysl* (pshĕ'mĭsŭl), earliest dynasty of BOHEMIA Its semilegendary founder was the peasant Premysl, whom the Bohemian Princess (also called Queen) Libussa chose as husband at some time in the 8th cent Their successors united Bohemia into a single duchy and completed its Christianization Outstanding among the early Premyslide dukes were St WENCESLAUS ("Good King Wenceslaus"), Bretislav I (reigned 1037–55), who acquired Moravia and temporarily occupied Poland and Silesia, and Vratislav II (reigned 1061–92), who in 1085 received from Emperor Henry IV the nonhereditary title of king of Bohemia The royal title became permanent and hereditary only with OTTOCAR I in 1198 He was succeeded by WENCESLAUS I, OTTOCAR II, WENCESLAUS II (who was also king of Poland and Hungary), and WENCESLAUS III, with whom the dynasty died out in 1306 Wenceslaus III's sister married John of Luxemburg, who was elected king of Bohemia in 1310

prenatal care (prē"nā'tul), special medical attention given an expectant mother in the period before birth of the baby This care should be directed by an individual doctor or a maternity clinic After it has been established that PREGNANCY exists, urine and blood tests are made The results of these and the data obtained through a detailed physical examination of the woman determine the regimen she must follow Anemia and vitamin deficiencies may have to be counteracted through intake of certain foods and extracts to provide needed elements in larger amounts than are present in the customary pregnancy diet (usually rich in protein, calcium, and iron) A doctor studies the condition of the mother and the growth of the embryo at intervals, the intervals should be closer as the term of pregnancy approaches its end Medical opinion generally favors the leading of normal active lives throughout the gestation period by those in whom pregnancy is uncomplicated Avoidance of violent exertion and intense emotional experience reduces the possibility of miscarriage or premature birth See *Prenatal Care* (U S Children's Bureau, Publication No 4)

Prence or **Prince, Thomas,** 1600–1673, American colonial governor, b Gloucestershire, England His nonconformist family immigrated to Leiden in Thomas's youth In 1621 he went to Plymouth Colony, where he gained prominence and held various offices, including the governorship (1634–35, 1638, 1657–73) In 1637 he raised a body of troops to serve against the Pequot Indians Prence supervised (1641) the building of the first bark constructed in the colony and established (1650) the Cape Cod fisheries As governor (when William Bradford refused the office and after Bradford's death), he served with credit through a period of Indian wars and internal religious troubles, being noted for his successful effort to secure public revenues in support of the schools

Prendergast, Maurice Brazil, 1859–1924, American painter, b St John's, Newfoundland, educated in Boston In 1884 he worked his way to Europe on a cattle boat and studied in Paris at Julien's and at the Colarossi Academy In 1889 he assisted his brother Charles Prendergast (1868–1948) in carving picture frames in Winchester, Mass From the early 1890s he gravitated between New York and Europe, visiting various countries In New York he joined the independent group of artists called The EIGHT Always an impressionist, Prendergast evolved a manner closely resembling pointillism which gave to his landscapes and figure compositions a quality of gay tapestry He is represented in leading galleries throughout the United States His *Promenade, Gloucester* (Whitney Mus , New York) is characteristic

preparatory school see SCHOOL

preposition, in English, PART OF SPEECH, embracing certain words used before nouns and pronouns to connect them to the preceding material Prepositions are a class that is typical of the structure of Indo-European languages, but similar classes are found in some other languages

Preradovic, Petar, Croatian *Pradovic* (pĕ'tar prĕra'dŏvĭch), 1818–72, Croatian soldier, poet, and Slavophile His early works, including translations from the Czech poet Macha, were in German Later lyrics, written in Croatian and under the inspiration of Kollar's *Daughter of Slava*, were filled with Slavonic symbolism In his *Dream of Vila, or, Past and Future* (1851) the Slavic nymph plays a prophetic role

Pre-Raphaelites (prē"-rā'fēulīts"), brotherhood of English painters and poets formed in 1848 in protest against the low standards of British art The principal founders were D G ROSSETTI, W Holman HUNT, and John MILLAIS They found inspiration in the work of Italian painters prior to Raphael and tried to imitate their probity rather than their technique They were also influenced by Ford Madox BROWN, an older painter, and by a similar group of German painters, the Nazarenes, founded in Rome in 1810 The Pre-Raphaelites were defended by Ruskin and attracted numerous

followers, among whom were BURNE-JONES, G. F. WATTS, and William MORRIS, but the movement died out before the end of the century Originally the painting of the Pre-Raphaelites was characterized by extreme clarity, brilliant, glazed color, and meticulous detail See John Ruskin, *Pre-Raphaelitism* (1851), W H Hunt, *Pre-Raphaelitism and the Pre-Raphaelite Brotherhood* (2d ed , 1914), William Gaunt, *The Pre-Raphaelite Tragedy* (1942)

Prerov, Czech *Přerov* (pshĕ'rôf), Ger *Prerau* (prā'rou), city (pop 21,041), Moravia, Czechoslovakia, NE of Brno. It is a railroad center and has iron and machinery works and a large electrical plant The Zerotin (Czech *Zerotín*) Castle (16th cent) is now a museum

Presbyterianism, system of church organization based upon administration by a series of representative courts composed of clerical and lay presbyters It holds a middle ground between episcopacy and CONGREGATIONALISM, the other principal types of polity in Protestant Christian churches The one spiritual order of the church is composed of the presbyters (or elders), all of equal status, divided according to function into ministers and ruling elders The minister's duties are to preach, to teach, and to administer the sacraments The elders, elected by the congregation from among its numbers, are associated with the minister in the conduct of the church, deacons and trustees manage the temporal affairs The court of the congregation is the session, composed of the minister, who presides, and the ruling elders Appeal from the session may be made to the presbytery, which includes all the ministers and at least one elder from each of the congregations in a given area The presbytery holds jurisdiction over the ministers of the area, it ordains them and confirms their call to a church The synod, the next higher court, consists of ministers and elders from a stated number of presbyteries, it exercises supervisory authority over both presbyteries and congregations Finally, there is the general assembly, composed of a given number of ministers, elders, and delegates, with supervisory power over the interests of the whole denomination Its presiding officer, the moderator, is elected at its annual meeting and is the official head of the church Scotland is the only country where Presbyterianism is established by law (see SCOTLAND, CHURCH OF) Presbyterian churches are the direct heirs of CALVINISM in doctrine and polity They believe in the Bible as the sole rule of faith and conduct and in the sacraments of baptism and the Lord's Supper They are rigorously opposed to state interference in ecclesiastical affairs and believe in a thorough education of their ministry Presbyterianism which originated in the British Isles has for its standards of doctrine and liturgy the Westminster Confession of Faith and the Larger and Shorter Catechisms, composed by the Westminster Assembly convened (1643–49) by Parliament The Protestant churches first influenced by Calvin were those of Geneva and of the HUGUENOTS In the Netherlands the Protestant church was Presbyterian in government but not independent of the state until the middle of the 19th cent By the mid-16th cent Presbyterian sentiment was strong in England and Scotland The English Presbyterians were never numerous after Cromwell's time, in 1876 various branches among them united to form the Presbyterian Church of England From the Church of Scotland (Kirk of Scotland), founded in 1557 under the leadership of John KNOX, seceded a group led by Richard CAMERON, called at first the Cameronians or Covenanters After long persecution they at length achieved (1743) the status of Reformed Presbyterians, most of whom later joined (1876) the Free Church of Scotland The Associate Synod or Secession Church of Scotland was formed in 1733 by Ebenezer ERSKINE and his adherents after trouble over patronage DIVISION in the Associate Synod itself was caused by disagreement over a burgess oath "BURGHERS" and "Anti-Burghers" resulted, and out of these, by DIVISION in each party, grew "New Lights," who held modern ideas on limiting the duties of civil magistrates, and "Old Lights," the conservative minorities In 1820 they came together in the United Secession Church, which, in 1847 joined with the Relief Church to form the United Presbyterian Church The Relief Church had resulted from another secessionist movement in the Church of Scotland, aimed to relieve "Christians oppressed in their Christian privileges " Out of the Great Disruption of 1843 emerged the Free Church of Scotland, under the leadership of Dr Thomas CHALMERS In 1900 this Free Church and the United Presbyterians joined together as the United Free Church of Scotland, which rejoined (1929) the Church of Scotland, except for a few congregations Irish Presbyterianism began early in the 17th cent. It has always centered in Northern Ireland The Presbyterian Church of Ireland (organized finally in 1840) is the principal body The largest Protestant church of Wales, the CALVINISTIC METHODIST CHURCH, is a branch of Presbyterianism The Presbyterian Church of Canada (formed in 1870) joined in 1925 with the Methodist and Congregational churches to form the United Church of Canada Within most of the English colonies of North America, Presbyterians were found Francis Makemie, a Presbyterian missionary from Ireland to America (1683), started organization among them Through his efforts, the first presbytery in America was formed at Philadelphia in 1706, a synod was constituted in 1716 New England had its own synod from 1775 to 1782 In the 18th cent , American Presbyterians divided temporarily over the question of revivals and evangelism, the "Old Side" rejecting them, the "New Side" encouraging them Before the Revolution the Presbyterians established the College of New Jersey, now Princeton Univ The General Assembly of 1789 in Philadelphia represented a united Presbyterian Church A Plan of Union with the Congregational associations of New England which existed from 1792 until 1837 was disrupted when the "Old School" party of the Presbyterians, favoring separate denominational agencies for missionary and evangelistic work, prevailed The Presbyterian Board of Foreign Missions was then established The main body of Presbyterianism in North America today is the Presbyterian Church in the United States of America, descending from the Philadelphia presbytery of 1706 Next largest in membership is the Presbyterian Church in the United States, which originated shortly before the Civil War in a separation over the issue of slavery Sometimes called the "Southern" Presbyterian Church, it took its present name in 1865 The United Presbyterian Church of North America, with the third largest membership, was constituted (1858) by a union of most of the congregations of two much older branches, the Associate Presbyterian Church and the Associate Reformed Presbyterian Church In 1810 the CUMBERLAND PRESBYTERIAN CHURCH was established by secession of revivalist groups in Kentucky, many of its congregations were reunited in 1906 with the main body The Negro members of this church were legally set apart in 1869 as the Colored Cumberland Presbyterian Church The Associate Reformed Presbyterian Church (General Synod), formed in 1822, continued to maintain its own identity when the main body of that church merged in 1858 with the United Presbyterians Other branches of Presbyterianism in the United States include the Orthodox Presbyterian Church (arising when in 1936 a group of believers in fundamentalism followed the Rev J G MACHEN out of the main body), the Reformed Presbyterian Church of North America (Old School), and the Reformed Presbyterian Church of North America (General Synod) A cordial relationship exists among all these bodies and there is a constant tendency towards reunion The Alliance of the Reformed Churches throughout the World Holding the Presbyterian System (organized in 1876 and often called the Pan-Presbyterian Alliance) meets quadrennially See J N. Ogilvie, *The Presbyterian Churches of Christendom* (1925), James Moffatt, *The Presbyterian Churches* (1928), L A Loetscher, *A Brief History of the Presbyterians* (1938); W L Lingle, *Presbyterians Their History and Beliefs* (2d ed , 1944)

presbytery ((prĕz'bĭtĕ"rē, prĕs'-), in architecture, the space in the eastern end of a church reserved for the higher clergy It was also known in the early Christian Church as APSE, tribune, or exedra, and these terms as well as presbytery arise from its original semicircular form The priests of the early church sat in a half circle centered on the bishop's throne, and this primary arrangement is still preserved in the cathedral at Torcello near Venice In the English medieval cathedrals the presbytery usually occupies a large space between the high altar and the choir stalls The term is used in Presbyterian churches for the court composed of the ministers and representative elders (one from each congregation) of a district

preschool education: see KINDERGARTEN AND NURSERY SCHOOL

Prescot (prĕ'skŭt), manufacturing urban district (1931 pop 9,399, 1943 estimated pop 11,500), Lancashire, England, E of Liverpool Its watchmaking industry dates from the 18th cent., other products are electric cables.

Prescott, Samuel (prĕ'skŭt), 1751–c 1777, American patriot, b Concord, Mass On the night of April 18, 1775, he, Paul REVERE, and William DAWES set out to warn the countryside of the British advance toward Concord Revere was captured on the way, but Prescott or Dawes or both got through with the news Prescott was captured at Ticonderoga (1776) and died in prison

Prescott, William, 1726–95, American Revolutionary officer, b Groton, Mass He saw service in King George's War and the French and Indian War In the American Revolution, he fortified (1775) Breed's Hill for the patriots and was prominent in the subsequent battle of Bunker Hill Later he served around New York (1776) and in the Saratoga campaign (1777) See S. A Green, *Colonel William Prescott and Groton Soldiers in the Battle of Bunker Hill* (1909)

Prescott, William Hickling, 1796–1859, American historian, b Salem, Mass., grad. Harvard (B.A., 1814, M.A., 1817). He entered his father's law office, but was compelled by a serious eye injury to abandon law. He received medical attention on a European trip and finally, resolving to devote himself to historical writing, began a thorough preparation for the task. His first important historical work, *The History of the Reign of Ferdinand and Isabella* (1837), achieved an immediate success. He wrote critical and historical essays while engaged in writing a *History of the Conquest of Mexico* (1843), a subject relinquished to him by Washington Irving *The Conquest of Peru* (1847), his next major effort, enjoyed a success comparable to his earlier efforts, and though his sight was practically gone he started a monumental work, *The History of Philip II* (unfinished, Vols I and II, 1855, Vol. III, 1858). Though his work is now superseded in research, it lives as literature. Prescott is one of the greatest of American historians His strength lay not in philosophical insight or deep analysis but in the excellent style and presentation of material which made his facts and his narrative alive, colorful, and vivid His *Biographical and Critical Miscellanies* appeared in 1859, and his correspondence was edited by Roger Wolcott (1925) A volume of *Representative Selections* (ed by William Charvot and Michael Kraus) appeared in 1943

Prescott (prĕ'skŭt), town (pop 3,223), SE Ont , on the St Lawrence, 8 of Ottawa and opposite Ogdensburg, N Y Fort Wellington here, built in the War of 1812, is now a museum in a national park At near-by Windmill Point the British in 1814 repulsed the attack by a large force under James Wilkinson of the Lacolle mill (now a lighthouse) Prescott has silk mills, distilleries, grain elevators, and plants manufacturing wood products, hats, and tools

Prescott. 1 City (pop 6,018, alt 5,347 ft), co seat of Yavapai co , central Ariz , in the mountains NNW of Phoenix Gold was discovered in the county in 1863, and Prescott was built near the new location of Fort Whipple in 1864 It was twice territorial capital (1864–67, 1877–89) Today it is a center for mining (copper and other minerals) and ranching as well as a health and summer resort. There is an annual Frontier Days rodeo, and a group of whites perform annual "Smoki" Indian ceremonials and have a Smoki museum The Arizona Pioneers' Home is here Outside the city is Granite Dells, with eroded rocks Prescott was the boyhood home of Fiorello LaGuardia 2 City (pop 3,177), co seat of Nevada co , SW Ark , in a peach-growing area, settled 1873.

presentment: see INDICTMENT.

preserving see CANNING.

president, in modern republics, the chief executive and therefore the highest officer in a government The powers vary greatly from country to country In the United States, the President has been delegated substantial power by the Constitution, amplified by statutes In some other lands (e g , France) the office is largely honorific, while in still others the chief officer may retain the title president while exercising dictatorial authority (as sporadically occurs in many Latin American countries) In many lands there is no sharp division between the executive and the legislative functions, and the presidency may be only an adjunct to the legislature The Presidents of the United States after Washington's first term took office on the March 4 following the election until the Twentieth Amendment changed the date to Jan 20 After George Washington refused a third term as President, it became traditional for the President to serve only two terms at most There were movements to disregard this custom through the course of U S history, and it was finally broken by F. D Roosevelt in 1940. The President serves a four-year term and must be 35 years old See ELECTORAL COLLEGE For a list of U S Presidents, see UNITED STATES

Presidential Range, group of the White Mts , N N H , so called from the names of its peaks. Mt WASHINGTON (6,288 ft) is the highest in the state, other peaks include Mt Adams (5,798 ft), Mt Jefferson (5,715 ft), Mt Clay (5,532 ft), Mt. Monroe (5,385 ft), and Mt Madison (5,363 ft).

Presidio (prusl'dēō, -sē'dēō), unincorporated town (pop c 1,500), W Texas, a port of entry on the Rio Grande opposite Ojinaga, Mexico This region about the mouth of the Conchos (in Mexico) was well peopled by Indians, and Spanish missions were founded, one on Alamito Creek here in 1684 Today there are ranches and some irrigated farms

Prespa, Lake (prĕ'spä), area 112 sq mi , SW Yugoslavia, NW Greece, and E Albania, in Macedonia It is connected with Lake Ochrida by underground channels. The smaller Lake Mala Prespa or Mikri Prespa lies near by, in Greece and Albania.

Presque Isle (prĕskĭl') [Fr ,=peninsula], city (pop 7,939), NE Maine, trade and shipping center of the Aroostook valley, settled c.1820, inc as a town 1859, as a city 1939. It is the seat of a state normal school and a farm experiment station. In 1941 it became the site of an army air base. Potatoes are grown here.

press, freedom of the. Pervasive censorship was established by Church and state not long after the

introduction of the printing press into various European countries After the Reformation in England, CENSORSHIP there—in the form of granting monopolies to a limited number of printers—passed almost entirely into the hands of the English monarch, and the appearance of unauthorized publications brought about (1534) a royal proclamation providing for the licensing of all publications before they were printed In the Tudor and Stuart reigns statutes were passed making criticisms of the government a felony, but the licensing laws—strongly attacked by John Milton in his pamphlet *Areopagitica* (1644)—remained in force in England until 1695 In the 18th cent the printing of parliamentary debates was so restricted that to avoid suits for LIBEL publishers resorted to subterfuges, reporting debates as taking place in Lilliput (*Gentleman's Magazine*) or as those of Marc Antony and other classical orators The vindication of John WILKES, after he had been convicted (1763) of seditious libel for printing in his periodical, the *North Briton*, a criticism of the king's speech, did much to win public support for greater freedom of the press Prosecutions for publishing parliamentary debates stopped in the 1770s, and Charles James Fox's Libel Act of 1792 established that juries in cases of seditious libel should be judges of law as well as of the fact By 1855 the compulsory stamp duty on British newspapers was rescinded, and in 1868 truth became admissible as a defense in England in cases of libel. In America the licensing system was continued in the colonies for a generation after it was abandoned in England The case (1734) in which John Peter ZENGER was exonerated on charges of seditious libel advanced the struggle for a free press in the colonies The Stamp Act of 1765, which included stamp taxes on newspapers, antagonized several groups of colonists and did much to intensify the desire for an unlicensed press which would be free of discriminatory taxes Thus, the Virginia Bill of Rights (1776) declared "that the freedom of the press is one of the great bulwarks of liberty, and can never be restrained but by despotic governments." After the American Revolution several states provided for freedom of the press in their constitutions, and the First Amendment (1791) to the U S Constitution guaranteed that Congress should make no law abridging freedom of the press The First Amendment was later made binding on the states by judicial interpretation of the Fourteenth Amendment (1868) The first serious threat to this guarantee was found in the ALIEN AND SEDITION ACTS of 1798 Freedom of the press became a fixed national tradition in the United States long before the Civil War, but during the war regulations were imposed sporadically by civil and military authorities In the First World War the passage (1917) of the Espionage Acts and their strict enforcement went far toward limiting freedom of the press in this country, and government censorship was for the first time instituted on a wide level After 1919, however, the "clear and present danger" test—to determine whether the words will bring about the substantive evils that Congress has a right to prevent—was frequently used in Supreme Court cases, and in 1931 the Minnesota "gag laws" were ruled unconstitutional by the Supreme Court The court also ruled (1936) against the Louisiana license tax of 2 percent on all newspapers with circulations over 20,000 In 1940 Congress enacted the Alien Registration Act, the first Federal peacetime sedition law since 1798 During the Second World War the most comprehensive censorship in U S history was supervised (1941–45) by the U S Office of Censorship, but in no way did it approach that of the totalitarian nations In general, freedom of the press developed much more slowly in countries of the European continent and in Latin American countries Periods of nation-wide anxiety produced greater strictures Under a dictatorship, whether of the proletariat or of an oligarchy, the press is never free to print adverse comment against the government In Germany, Italy, and Japan the press was completely controlled by the dictators at the time of the Second World War. In the USSR also the press became an organ of the government In countries with free-enterprise systems, on the other hand, eclipse of freedom of the press may arise from consolidation and monopolization of the press by limited private interests See Commission on Freedom of the Press, *Peoples Speaking to Peoples* (1946), *A Free and Responsible Press* (1947), *Freedom of the Press* (1947), and *Government and Mass Communications* (1947); M L Ernst, *The First Freedom* (1946), Francis Williams, *Press, Parliament, and People* (1946)

Pressburg, Czechoslovakia see BRATISLAVA

Pressburg, Treaty of, 1805, peace treaty between Napoleon I and Emperor Francis II, signed at Pressburg (now Bratislava, Czechoslovakia) Defeated at Austerlitz, Austria ceded Venetia to Italy, recognized Napoleon as king of Italy, acknowledged the elevation of the electors of Bavaria and Württemberg to be kings, ceded Tyrol and Vorarlberg to Bavaria, and yielded the Hapsburg lands in Swabia to Württemberg and Baden. Austria was allowed to annex Salsburg.

pressure, in mechanics, that FORCE which acts upon a unit area of the surface of a body, as distinguished from the total force applied to the body For example, atmospheric pressure at sea level (standard pressure) under ordinary conditions is taken to be about 15 lb per square inch, i e , of the total force exerted on a body by the atmosphere, each unit of surface (here the square inch) is subjected to about 15 lb If, therefore, the body has an area of 10 sq in , the total force of atmospheric pressure on it would be about 150 lb Conversely, if the area of a surface is given together with the total force (or total pressure) upon it, the pressure can be calculated by dividing the total force by the number of units in the area, as in the example, 150 by 10 Pressure is commonly defined, therefore, as the force per unit area The instrument for measuring atmospheric pressure is a BAROMETER The term "pressure gauge" is commonly applied to the other instruments used for measuring pressure They are manufactured in a great variety of sizes and types and are employed for recording pressures exerted by substances other than air—water, oil, various gases—registering pressures as low as 2 lb per square inch or as high as 10 tons per square inch and over (as in hydraulic presses) Some pressure gauges are made to carry out special operations, such as the one used on a portable air compressor In this case, the gauge acts automatically to stop further operation when the pressure has reached a certain point and to start it up again when compression has fallen off to a certain limit In general, a gauge consists of a metal tube or diaphragm which becomes distorted when pressure is applied and, by an arrangement of multiplying levers and gears, causes an indicator to register the pressure upon a graduated dial The Bourdon gauge used to measure steam pressure and vacuum consists essentially of a hollow metal tube closed at one end and bent into a curve, generally elliptic in section The open end is connected to the boiler As the pressure inside the tube (from the boiler) increases, the tube tends to straighten out The closed end is attached to an indicating needle, which registers the extent to which the tube straightens out Pressures up to several million pounds per square inch have been produced in experiments to determine the effect of high pressure on various substances Rubber, for example, under high pressure becomes horny, losing its elasticity Even slight variations in pressure make observable changes in the BOILING POINT and the MELTING POINT of materials For this reason, a standard pressure of 14 7 lb per square inch, i e , the normal pressure of the atmosphere at sea level, is assumed in scientific observations unless a statement of some other specific pressure is made

Prestatyn (prĕstă'tĭn), urban district (1931 pop 4,512, 1943 estimated pop 7,250), Flintshire, Wales, E of Rhyl It is a summer resort Excavations disclosed that it was a center of manufacture of glass and pottery during the Roman occupation

Prester John (prĕ'stûr) [Mid Eng *prester* = priest], legendary Christian monarch of a vast, wealthy empire in Asia or in Africa The legend may have been based on stories of some Nestorian monarch in central Asia It first appeared in the latter part of the 12th cent and persisted for several centuries At first the ideal realm of this Christian king, who so valued humility that he signed his name only Prester John, was supposed to be in Asia but later it was more generally placed in Africa Letters supposed to have been written by him and about him were widely circulated in Western Europe Marco Polo identified him with a war lord who ruled over Tatar tribes and who was conquered by Jenghiz Khan The legend is sometimes supposed to have found its origin in vague rumors of the Christian kingdom of Ethiopia, which in ancient and medieval times was often confused with India For a fictionalized account of the legend, see John Buchan, *Prester John* (1910) See Elaine Sanceau, *Land of Prester John* (1944)

Prestes, Luis Carlos (lōō'ĭsh' kär'lōōsh prĕ'stĭsh), 1898–, Brazilian leader As an idealistic young army officer he marched 1,500 men through backwoods Brazil (1924–26) in protest against the government Exiled, Prestes joined the Communist party and visited Russia Returning to Brazil, he was imprisoned (1936–45) by Getulio VARGAS When released, Prestes was elected senator from São Paulo and Rio de Janeiro, but was ousted (1947) by anti-Communist legislation

Preston, John Smith, 1809–81, Confederate general, b near Abingdon, Va , educated at Hampden-Sydney College, the Univ. of Virginia, and Harvard Law School He practiced law at Abingdon and Columbia, S C , but made his fortune operating a Louisiana sugar plantation Preston, an excellent orator, was an ardent advocate of states' rights in the South Carolina senate (1848–56) and strongly supported secession In the Civil War he first served as an aide to Gen P G T Beauregard and later (1863–65) headed the bureau of conscription at Richmond, being promoted brigadier general in 1864 He went to England after the war and though he returned in 1868, he remained unreconstructed till the end See A. B. Moore, *Conscription and Conflict in the Confederacy* (1924).

Preston, town (pop. 6,704), S Ont , at the junction of the Speed and Grand rivers ESE of Kitchener There are flour and woolen mills and medicinal springs.

Preston, county borough (1931 pop 119,001; 1947 estimated pop 118,050), Lancashire, England, at the head of the Ribble estuary and NE of Liverpool The harbor has been improved and there are extensive docks The borough is a center of cotton manufacture and also produces leather goods, engines, machinery, and electric equipment A great guild-merchant festival has been held here every 20 years for more than three centuries Preston was the scene of a Cromwellian victory in 1648 and of the surrender of the rebels of 1715 (see JACOBITES) It has taken leading parts in political and social movements The Gothic town hall was completed in 1867, after designs of Sir George Gilbert Scott St Walburge's Church (Roman Catholic) has a lofty spire The Harris art galleries, museum, and library are noted Preston is the birthplace of Arkwright and of Francis Thompson

Preston 1 Town (pop 4 206), SE Conn , settled c 1650, inc 1687 It is the seat of Norwich State Hospital for mental defectives 2 City (pop 4,236), co seat of Franklin co , SE Idaho, on Worm Creek, a tributary of the Bear river, settled 1866 by Mormons, inc as a city 1913 It is the center of an irrigated farming district, with minor industries 3 Village (pop 1,447), co seat of Fillmore co , SE Minn , on the South Branch of the Root and SE of Rochester near the Iowa line, in a farm region The courthouse was built in 1864

Prestonpans (prĕs'tŭnpănz'), burgh (pop 2,426), East Lothian, Scotland, E of Edinburgh and on the Firth of Forth Formerly important in the salt industry, it now manufactures soap and is a resort In Sept , 1745, it was the scene of a famous rout of forces under Sir John Cope by the JACOBITES

Prestonsburg, town (pop 2,328), co seat of Floyd co , E Ky , on the Levisa Fork and S of Ashland, in a coal-mining area, settled 1791 Near by, on Jan. 10, 1862, was fought the Civil War battle of Middle Creek Col James A Garfield, leading the Federals, claimed the victory

Prestwich, Sir Joseph, 1812–96, English geologist He made special studies of stratigraphy and was an authority on water supply After investigations in the Somme valley, France, he advanced the theory that man was coexistent with other Pleistocene mammals From 1874 to 1888 he was professor of geology at Oxford Univ His work in classifying English Tertiary deposits was noteworthy. His chief work is *Geology* (1886–88)

Prestwich, urban district (1931 pop 23,881; 1943 estimated pop 32,860), Lancashire, England, just NW of Manchester It is a residential suburb and a cotton-manufacturing center

Prestwick, burgh (pop 8,538), Ayrshire, Scotland, N of Ayr A coast resort, it has noted golf links A large airport, built in the Second World War, is now a civil airport

Preti, Mattia see CALABRESE, IL

pretor see PRAETOR

Pretoria (prĭtō'rēə), city (pop 167,649), S central Transvaal, administrative capital of the Union of South Africa It was founded in 1855 and named in memory of Andries Pretorius In the South African War, Winston Churchill was imprisoned here, but he escaped in 1899 to Mozambique Pretoria is on a railroad to Durban It is the seat of the Univ of Pretoria, and there are ironworks and steelworks

Pretorius, Andries Wilhelmus Jacobus (prĭtō'rēŭs, Dutch ăn'drēs vĭlhĕl'mŭs yăkō'bŭs prätō'rēŭs), 1799–1853, Boer leader He left Cape Colony in 1835 for Natal, where he defeated (1838) a large force of Zulus In 1848 Pretorius headed a party of Boers who crossed the Drakensberg into the Transvaal and created the nucleus of the South African Republic (the Transvaal), which Great Britain recognized by the Sand River Convention of 1852 The city of Pretoria was named in his honor

Pretorius, Martinus Wessels (märtē'nŭs wĕ'sŭls) 1819?–1901, Boer statesman, son of Andries Pretorius In 1857 he was elected the first president of the South African Republic (the Transvaal), and in 1859, while holding this position, he became the president of the adjoining Orange Free State Republic He resigned the presidency of the Orange Free State in 1863 to concentrate on his duties in the Transvaal Problems connected with the gold rush and disagreement with the British over Bechuanaland forced him to resign in 1871 The annexation of the Transvaal by Great Britain in 1878 recalled Pretorius from retirement, and he served (1880–83) with Kruger and Joubert as a joint administrator

Preussisch Eylau see EYLAU.

Prevost, Sir George (prĕ'vō), 1767–1816, English general and governor in chief of Canada In the West Indies he saw active service (1794–96) at St Vincent He was in charge of St Lucia as military governor (1798) and civil governor (1801) Appointed governor (1802) of Dominica, he was created a baronet in 1805 for his defense of the island against attack by the French Later he was lieutenant governor of Nova Scotia As governor in chief (1811–15) of the Canadas, he was conspicuous

for his conciliation of the French Canadians, but as commander in chief of the British forces in Canada in the War of 1812, he was blamed for the retreat at Sackets Harbor (1813) and the defeat at Plattsburg (1814) Summoned to England in 1815 to appear before a court-martial, Prevost died before the trial could take place

Prévost, Marcel (märsĕl′ prāvō′), 1862–1941, French novelist His novels turn chiefly on feminine psychology, treating severely what the author regarded as the moral frailty of modern women, an early novel was *Les Demi-Vierges* (1894, Eng tr , *The Demi-Virgins*, 1895) His *Lettres à Françoise*, begun in 1902 and appearing at intervals, are discerning letters to a woman from her girlhood up A new, classical style appeared in *Sa Maîtresse et moi* (1925, Eng tr , *His Mistress and I*, 1927).

Prévost, Pierre (pyĕr′ prāvō′), 1751–1839, Swiss philosopher and physicist He was professor of philosophy (from 1784) and of physics (from 1810) at Geneva He formulated the theory of exchanges, i e , that radiation of energy is a reciprocal process involving an exchange of energy between bodies

Prévost d'Exiles, Antoine François (ätwan′ frāswä′ prāvō′ dăgzēl′), known as **Abbé Prévost** (abā′ prāvō′), 1697–1763, French novelist, journalist, and cleric After a dissolute youth he entered (1720) the Benedictine abbey of Saint-Maur He later had himself transferred to the abbey of Saint-Germain-des-Prés, in Paris, but in 1727 he grew weary of discipline and fled to England Even before leaving the order, he had begun to write the first of a long series of novels, *Mémoires et aventures d'un homme de qualité* (7 vols , 1728–32) He led an adventurous life in England, Holland, and Germany, but he later returned to France, was received back into the order, and was made head (1754) of a priory by the pope Only one of Prévost's innumerable writings is still read by the general public, but that one book is one of the masterpieces of world literature The *Histoire du chevalier des Grieux et de Manon Lescaut*, popularly known as *Manon Lescaut* (Vol VII of the *Mémoires*) is the simple and moving account of the passion of a likable but weak young man for a woman whose frivolity leads him to crime and her to death as a deportee in America It is equaled by few novels for the lucidity of its style and for its psychological insight into the world of half-morality Two well-known operas, *Manon*, by Massenet (1884), and *Manon Lescaut*, by Puccini (1893), are based on the novel Other works by Prévost include *Histoire de Monsieur Cleveland* (4 vols , 1731–32) and a literary journal, published at London and later at Paris, *Le Pour et le Contre*, which popularized English literature in France See Paul Hazard and others, *Études critiques sur Manon Lescaut* (1929)

Priam (prī′um), in Greek legend, Trojan king, son of Laomedon His wife was Hecuba, and he had many children, including Hector, Paris, Polydorus, Polyxena, Troilus, Cassandra, Creusa, Deiphobus, and Helenus He suffered many misfortunes during the Trojan War, and at last he was killed by Neoptolemus

Priapus (prīā′pus), in Greek religion, god of the countryside, associated with phallicism He was represented as extremely ugly His parents were Dionysus and Aphrodite Priapic rites were orgiastic, and he was often identified with gods of enthusiastic cults, e g , Orpheus and Dionysus

Pribilof Islands (prĭ′bĭlŏf″), group of four islands, off SW Alaska, in the Bering Sea, N of the Aleutian Islands They were visited and named in 1786 by Gerasim Pribilof, a Russian navigator The inhabitants are Aleuts and a few U S government representatives The larger islands, St Paul and St George, are famous as the breeding place of the seal Prior to 1911, competition and ruthless methods of sealing threatened extinction of this valuable animal At that time, the United States, Great Britain, Japan, and Russia entered into the North Pacific Sealing Convention, giving the United States the right to enforce the provisions of the convention (see Bering Sea Fur-Seal Controversy). Japan withdrew (1941) from the convention Under protection, the seal herd has greatly increased Blue and white foxes are native to the islands The Aleuts make a living by processing the seal and fox furs

Pribram, Czech *Příbram* (pshĭ′brăm), town (pop 9,062), central Bohemia, Czechoslovakia In its gold and silver mines, some of the shafts are more than 3,000 ft. deep

Price, Byron, 1891–, American journalist, director of censorship (1941–45), b Topeka, Ind , grad Wabash College, 1912 He left the United Press Association (1912) to join the Washington bureau of the Associated Press, of which he was later executive news editor (1937–41) As U S director of censorship in the Second World War, he supervised the coverage of war news He was sent (1945) to Germany to study the food situation, and in 1947 he became an administrator in the United Nations

Price, Richard, 1723–91, English theologian and political philosopher His philosophical importance rests on an ethical discussion, *Review of the Principal Questions and Difficulties in Morals* (1757), in which Price stresses the power of reason in making moral judgments, a position closely allied to that of Kant He achieved fame with his sponsorship of the American cause in a pamphlet called *Observations on the Nature of Civil Liberty, the Principles of Government, and the Justice and Policy of the War with America* (1776) He also defended the French Revolution and was subsequently criticized by Edmund Burke in his *Reflections on the Revolution in France* Price's writings on governmental finance were also well known In 1816 his works were published in 10 volumes

Price, Sterling, 1809–67, Confederate general, b Prince Edward co , Va After attending Hampden-Sydney College and reading for the bar, he moved to Missouri, where he practiced law and entered politics He served in Congress (1844–46), resigning to lead a Missouri regiment in the Mexican War Made military governor of New Mexico by Gen S W Kearny, he put down a rising of Indians and Mexicans Price was governor of Missouri (1853–57) and president of the state convention of March, 1861, which opposed secession His displeasure at the activities of the extreme Unionists led him to accept the command of the Missouri militia in May, 1861 At Wilson Creek (Aug , 1861) Ben McCulloch and he defeated the Union forces Price then took Lexington but was soon obliged to retreat into Arkansas before Gen S R Curtis After the Union victory at Pea Ridge (March 1862), where he fought under Van Dorn, Price accepted a Confederate commission His campaign around Iuka and Corinth, Miss (Oct , 1862) was unsuccessful He opposed Gen Frederick Steele in Arkansas (1863–64) Price's raid through Missouri (Sept.–Oct , 1864), after initial successes, was finally turned back at Westport and was the last Confederate threat in the Far West

Price or **Priceville,** village (pop 2 321), E Que , on the Metis river near its mouth on the St Lawrence and SW of Matane It has a large lumber mill and a hydroelectric station

Price, city (pop 5,214), co seat of Carbon co , E central Utah, on the Price river, a tributary of the Green The principal source of wealth is coal, but some lands are irrigated by the Scofield Reservoir above Helper An annual rodeo commemorates the days of outlaws at Robbers Roost near by Carbon College (junior) is in Price

price, amount of money for which a unit of goods or services may be exchanged Price is equivalent to market value and may or may not measure the intrinsic value of the goods or services to the buyer or seller Most economists hold that in the long run price in a competitive market will equal the cost of production This is called normal price In the short run, however, the market price will be determined by supply and demand without reference to cost The price of an individual piece of goods changes in time as well as in relation to the prices of other goods In general, prices are closely related to the amount of currency in circulation If money is plentiful compared with the supply of goods, prices are high and money is said to be "cheap", when the opposite condition prevails goods are cheap and money is "dear" The general price level may therefore be influenced by the action of government agencies (such as the Federal Reserve Board) which regulate the supply of currency or adjust the interest rate so as to stimulate or discourage borrowing and investment Because of the relation of the general price level to the business cycle, government action is usually designed to steer a middle course between the inflationary effects of a too plentiful currency and the deflationary effects of a glut of goods Stabilization of prices, if practicable, would insure that the dollar used in repaying a loan would have the same value as the dollar borrowed, an advantage to both creditors and debtors The price level is an average of prices calculated by index numbers based on the prices of a number of commodities which are important in the economy By comparing indexes at different dates, it is possible to ascertain the course that the economy is taking Historically, prices have tended upward for centuries, they are estimated to be 5 to 10 times as high as they were a thousand years ago For the history of prices, classic works are J E T Rogers, *A History of Agriculture and Prices in England* (7 vols , 1866–1902), and Thomas Tooke, *A History of Prices from 1793 to 1856* (6 vols , new ed , 1928) See also A W Marget, *The Theory of Prices* (1938), J A. Todd, *The Science of Prices* (1939), J S Bain, *Pricing, Distribution, and Employment* (1948).

Priceville, Que see Price.

Prichard (prĭ′churd), industrial city (pop 6,084), SW Ala , a northern suburb of Mobile, settled 1900, inc 1925

prickly ash, name for a deciduous shrub or small tree (*Zanthoxylum americanum*), native to the eastern half of the United States and adjacent Canada. It has prickly twigs, foliage similar to that of the ash, small greenish or whitish flower clusters, and red pods with shining black seeds A pungent aromatic principle in the bark has been used as a home remedy for various ailments including toothache It is often called toothache tree The prickly ash is occasionally called hercules club, a name for a closely related species which is used similarly and also called toothache tree

prickly heat, inflammation of the sweat glands of the skin caused by extreme heat and moisture. It is common in the tropics and elsewhere in summer Folds in the skin are usually affected A sudden redness with burning and itching and the appearance of small lumps or blisters occurs Cleansing and the use of drying powders to prevent moisture are useful

prickly pear, any of the jointed flat-stemmed species of cactus belonging to the genus *Opuntia*, with succulent joints resembling pads and usually spiny The colorful pear-shaped fruits may be dry or fleshy and are often edible though frequently spiny Prickly pears are cultivated as a hedge or food plant (as they were before Columbus's arrival) in their native Mexico and SW United States and as a pot plant farther north Introduced into the Old World, the plants spread rapidly and have become a serious pest in many places, particularly in Australia In some of the Mediterranean islands they are an important food—notably in Sicily After the dangerous spines have been removed or singed (sometimes by blow torch), the stems have been used for forage Burbank experimented with the production of spineless forms Common prickly pears include the Indian fig and the tuna, both particularly important in Mexico for their fruits, which are eaten raw or cooked and are used in making a syrup, a beverage, and other food products, the stems are cooked as a vegetable and the seeds sometimes ground into meal

Pride, Thomas, d 1658, English soldier A colonel in the parliamentary army in the civil war (see Puritan Revolution), he won notice and commanded a brigade in Scotland In 1648, acting on the orders of a joint army and parliamentary committee, he carried out **Pride's Purge,** excluding from Parliament over 100 members (mostly Presbyterians) on the ground that they were royalist sympathizers The remaining Rump Parliament, completely under army control, then arranged the trial of Charles I Pride, as a member of the court which condemned him, signed the king's death warrant

Priene (prīē′nē), ruined Ionian city of W Asia Minor, near the mouth of the Maeander It was the birthplace of Bias Rebuilt in the 4th cent B C , it was a carefully planned city, with a handsome temple of Athena Polias

priest see orders, holy

Priestley, John Boynton, 1894–, English author Having written much literary criticism, including *The English Novel* (1927), he wrote a popular picaresque novel *The Good Companions* (1929) *Angel Pavement* (1930) was more realistic, and of his later works only *Bright Day* (1946) was in his earlier vein His early plays, *Dangerous Corner* (1932) and *Laburnum Grove* (1933), criticized the middle class, and *They Came to a City* (1942) dramatized his hopes for the future of society Among his expressionist plays concerned with his theories about time were *Time and the Conways* (1937) and *I Have Been Here Before* (1938) His studies of the unconscious, *Johnson over Jordan* (1939) and *Music at Night* (produced 1938) were well-made plays, but not popular Other plays include *The Linden Tree* (1946) and *Jenny Villiers* (1947) Priestley has also written mystery stories and what he calls personal history plus social criticism—*English Journey* (1934), *Midnight on the Desert* (1937), and *Rain upon Godshill* (1939)

Priestley, Joseph, 1733–1804, English theologian and scientist He prepared for the Presbyterian ministry and served several churches in England as pastor, but gradually rejected orthodox Calvinism and adopted Unitarian views In his *History of Electricity* (1767), he explained the rings (known as Priestley's rings) formed by a discharge upon a metallic surface His *Essay on Government* (1768) suggested the idea of "the greatest happiness of the greatest number" to Jeremy Bentham In 1769 he founded the *Theological Repository* for critical discussion His chemical experiments led, in 1774, to the production of "dephlogisticated" air, the gas which Lavoisier named oxygen and made the base of experiments which were the foundation of modern chemistry Priestley himself failed to realize the importance of his discovery His *Examination of Scottish Philosophy* appeared in 1774, his *History of the Corruptions of Christianity*, published in 1782, was officially burned in 1785, *History of Early Opinions concerning Jesus Christ* appeared in 1786 In 1790 he wrote two volumes of a *General History of the Christian Church to the Fall of the Western Empire*, and four volumes of the later history of the Church appeared between 1802 and 1803 In the meantime he pursued his scientific and philosophical studies, opposed orthodox doctrines, the government's colonial policy, and slave trade, advocated the repeal of the Test Act and Corporation Act, and carried on a seven-year controversy (1783–90) with the Rev Samuel Horsley His sympathy with the aims of the French Revolution aroused popular prejudice against him, which led in 1791 to the wrecking of his house and the destruction of his library and scientific apparatus. Priestley emigrated to America in 1794 and resided at Northum-

berland, Pa., for the remainder of his life. He continued his chemical experimentation and engaged in a controversy on the phlogiston theory with leading American chemists His *Theological and Miscellaneous Works*, in 25 volumes, edited by J T Rutt, were published between 1817 and 1832 See biography by Anne Holt (1931), bibliography of his works by J. F Fulton and C H Peters (1937).

Priest River, village (pop 1,056), N Idaho It is near the confluence of Priest river (which flows from large Priest Lake to the north) and Pend Oreille river Settled in 1889, it was moved from its early site to avoid floods. The area has farming and lumbering

Prilep (prē'lĕp), city (pop 25,996), Macedonia, S Yugoslavia, S of Skoplje It was a residence of Stephen Dushan of Serbia and was the birthplace of the 14th-century Serbian hero Marko Kraljevich, parts of whose castle still stand There are several medieval churches and monasteries. Prilep was known as Perlepe under the Turks

Prim, Juan (hwän' prēm'), 1814–70, Spanish general and statesman A Catalan officer, he fought for Maria Christina and Isabella II against the Carlists and became one of the chief factional leaders in the fierce political rivalry of Isabella's reign ESPARTERO exiled him in 1841, but on Espartero's fall he returned (1843), held high offices, and was a leader in the Cortes For plotting against Gen Ramón M Narváez he was imprisoned and again exiled Later as governor general of Puerto Rico and as a commander (1859–60) in the warfare in Morocco he proved a capable general and a harsh administrator For his victory at Los Castillejos in Morocco he was made a grandee He commanded the Spanish contingent in the international force sent against Mexico in 1861–62, but withdrew his troops when he realized that the French had ambitions to conquer Mexico A political opponent of General O'Donnell, he was again exiled from Spain (1864–66) but returned to take a large part in the overthrow of Isabella Prim was a key figure in the choice of a new monarch When the offer of the throne to a Hohenzollern prince fell through (indirectly bringing on the Franco-Prussian War), he secured the choice for Amadeus, but before that prince could arrive in Spain, Prim was assassinated by his political enemies

primary, in the United States, a preliminary election in which the candidate of a party is nominated directly by the voters The establishment of the primary system resulted from the demand to eliminate the evils of nomination by party conventions, which were often open to machine manipulation and to venality The primary was first used in local elections—as early as 1868 in Crawford co , Pa — but it was not until 1903 that Gov Robert M La Follette had a direct-primary law for the nomination of state-wide candidates enacted by the Wisconsin legislature The movement spread so rapidly that by 1917 all but four states had enacted primary laws—which varied widely from state to state in scope and in details of administration In some states, notably in the "solid South" the primary is more important for state offices than the regular election Some states extend the primary principle to national party conventions by providing for direct election of state delegates to reflect the popular preference for presidential candidates Congressional power to regulate primaries for Federal candidates was upheld in 1941 by the U S Supreme Court See E M Sait, *American Politics and Elections* (1927), Benjamin Gassman and Samuel Hurst, *The A-B-C of the Direct Primary Law* (1930)

primate (prī'māt,–mĭt), animal belonging to the highest order of mammals, the Primates (prīmā'tēz) Included in the order are the APE, LEMUR, MONKEY, and man There is considerable disagreement among authorities concerning the subdivisions and relationships of the groups comprising the Primates

Primaticcio, Francesco (frän-hä'skō prēmätē't'chō), 1504–70, Italian painter, called Le Primatice by the French He was influenced by Giulio Romano, whom he assisted in the Palazzo del Tè in Mantua, and by Correggio In 1532 Francis I invited him to France to assist in the decoration of the château at Fontainebleau, and later he became director of public works Of his frescoes and stucco work at Fontainebleau only a few survive, the most important, a series of decorations from the *Odyssey* in the Gallery of Ulysses, having been destroyed He remained in the royal service under four successive monarchs, painting decorations for royal châteaux and other buildings, designing the tombs of Francis I and Henry II and other architectural works, collecting antiques and works of art, and painting in oil His graceful style and facile drawing did much to extend the influence of Italian art in France *The Continence of Scipio* (Louvre) and *Return of Ulysses* (Castle Howard, England) are two of his best-known paintings

Prime, Samuel Irenaeus (prīm), 1812–85, American Presbyterian clergyman and editor, b. Ballston Spa, N Y , grad. Williams College, 1829, and studied at Princeton Theological Seminary. After pastorates at Ballston Spa and Matteawan, N Y , he became assistant editor of the *New-York Observer* (1840–49) and editor (1851–85). In this religious periodical, which he helped to place among the best of its kind, his "Irenaeus" articles (later published in two series as *Irenaeus Letters*, 1882, 1885) were a noted feature From 1853 Prime conducted the "Editor's Drawer" in *Harper's Magazine* Among his many books are *The Power of Prayer* (1859) and *The Alhambra and the Kremlin* (1873).

prime minister or **premier** (prē'mĭsŭr, prumēr', prēm'yēr), the chief member of a responsible cabinet, as in the government of England The prime minister must have the support of the legislative body that his cabinet represents, failing which his resignation and that of his cabinet customarily follow An individual cabinet minister unable to support the prime minister is expected to resign office The prime minister in effect is leader of his party, he appoints the ministry, makes the policy of the government, dispenses the patronage of state and Church, and links crown, cabinet, and Parliament Though in England the king may still be said to be theoretically head of the cabinet, the prime minister was actually established in power by the withdrawal of the early Hanoverian kings from cabinet affairs, the body became an instrument of Parliament and raised the effective leader of the cabinet to the status of chief minister Robert Walpole was the first prime minister generally recognized as such It has become constitutional convention for the prime minister to be a member of the House of Commons France has both president and prime minister

Primghar, town (pop 1,081), co seat of O'Brien co , NW Iowa, settled by Germans

primitive man: see MAN, PRIMITIVE

Primitive Methodist Church, branch of METHODISM formed by a group seceding from the WESLEYAN METHODIST CHURCH in England under the leadership of Hugh Bourne and William Clowes, who had been expelled in 1810 for conducting camp meetings This denomination had a separate existence until 1932, when it was merged with the Wesleyan and the United Methodists An offshoot was introduced into the United States by immigrants c 1830 and has its own General Conference

Primo de Rivera, Miguel (mēgĕl' prē'mō dā rēvä'rä), 1870–1930, Spanish general and dictator After a rapid and brilliant military career in Cuba, the Philippines, and Morocco, he became governor of Cádiz (1915), then in turn captain general of Valencia, Madrid, and Catalonia From Catalonia he by a coup d'état in Sept , 1923, dissolved the Cortes and then established, with the full approval of KING Alfonso XIII, a military directory The constitution of 1876 and civil liberties were suspended The military dictatorship was replaced by a civil one (1925), but Primo de Rivera continued as the sole ruler and dictator of Spain He launched an ambitious program of public works, but his rule aroused the opposition of Socialists, Catalan separatists, and all liberals After an unsuccessful rising in 1929, the intellectuals, the working class, and part of the army united to force his resignation (Jan , 1930) He died in exile in Paris His son José Antonio, the founder of the fascist FALANGE, was executed (Nov , 1936) by the Loyalists after the outbreak of the Spanish civil war

primogeniture (prī"mōjĕn'ĭchur), in law, the rule of inheritance whereby land descends to the oldest son Under the feudal system of medieval Europe, primogeniture generally governed the inheritance of land held in military tenure (see KNIGHT) The effect of this rule was to keep the father's land for the support of that son best able to render the required military service When feudalism declined and the payment of a tax was substituted for military service, the need for primogeniture disappeared In England, consequently, there was enacted the Statute of Wills (1540) which permitted the oldest son to be entirely cut off from inheriting, and in the 17th cent military tenure was abolished, primogeniture is, nevertheless, still customary in England In the United States primogeniture never became widely established For other types of inheritance, see GAVELKIND and BOROUGH-ENGLISH

Primorski Krai, R8FSR see MARITIME TERRITORY

Primrose, William, 1904–, Scottish-American violist He studied violin (1919–25) at the Guildhall School of Music in London, where he made his debut in 1923 Next he studied with Eugène Ysaye, who encouraged him in his desire to play the viola He toured (1930–35) as violist of the London String Quartet and in 1937 was engaged as first violist of the NBC Symphony Orchestra then being formed In 1938 he formed his own quartet As a soloist he ranks as the world's outstanding violist, and several composers have written concertos for him

primrose, any plant of the genus *Primula*, mostly low herbaceous perennials of the North Temperate Zone, thriving best in cool situations In the United States, where some are native, primroses are usually cultivated as rock-garden (see ALPINE PLANTS), border, or pot plants Typical plants have a basal cluster of leaves and leafless flower stems topped with clustered flowers of various colors, largely spring blooming when outdoors A common yellow species (*Primula veris*) is called cowslip in England, *Primula obconica*, a pot plant, causes dermatitis in some individuals The EVENING PRIMROSE is not related to the true primroses The primrose has been favored in England, both in climate and in tradition, it is celebrated in poetry, e g , in Shakspere's "primrose path of dalliance" and Wordsworth's "a primrose by a river's brim a yellow primrose was to him " Benjamin Disraeli's preference for the primrose gave its name to the **Primrose League,** an English political organization of men and women of the Conservative party

Prince, Morton, 1854–1929, American physician, b Boston, M D Harvard, 1879 He specialized in neurology and abnormal psychology —as physician in Boston and as teacher at Tufts Medical School (1902–12) and at Harvard (1926–28) Founder (1906) and editor until his death of the *Journal of Abnormal Psychology*, he was a leading investigator of the pathology of mental disorders His most famous book is *The Dissociation of a Personality* (1906) See study by W S Taylor (1928)

Prince, Thomas, 1600–1673 see PRENCE, THOMAS

Prince, Thomas, 1687–1758, American clergyman, scholar, and historian, b Sandwich, Mass , grad Harvard, 1709 From 1709 to 1717 he was abroad, he studied in London and preached at a Congregationalist chapel in Suffolk Returning (1717) to Massachusetts, he became copastor (1718) of Old South Church, Boston, a charge which he held until his death He bequeathed to his church his large and excellent library, during the British occupation of Boston, some of the volumes were destroyed, but the many books and manuscripts that were preserved are now in the Boston Public Library Prince published a number of sermons, *A Vade Mecum for America a Companion for Traders and Travelers* (1732), and *Psalms, Hymns & Spiritual Songs the New England Psalm-Book Revised and Improved* (1758), but he is best remembered for his informative *Chronological History of New England* (Vol I, 1736, Vol II entitled *Annals of New England*, 1755) Designed by its author to cover the years from 1602 to 1730, the annals are carried only to Aug 5, 1633 An edition of the history published in 1852 has a memoir of Prince by S G Drake

Prince Albert, city (pop 14,532), central Sask , on the North Saskatchewan and NNE of Saskatoon, founded 1866 as a Presbyterian mission to the Cree Indians It is a commercial and distributing center for a fur-trapping, lumbering, and ranch area, with grain elevators, stockyards, and tanneries It is the gateway to Prince Albert National Park, to the northwest A provincial penitentiary is here, and the city is the seat of Anglican and Roman Catholic cathedrals and of St Albans Ladies' College and headquarters of the Royal Canadian Mounted Police for central and N Saskatchewan

Prince Albert National Park, 1,496 sq mi , central Sask , NW of Prince Albert, in a forested area, est 1927 The numerous streams and lakes, the largest among them the Waskesiu, Crean, and Kingsmere, afford excellent fishing and canoeing The park is a sanctuary for moose, elk, deer, caribou and bear Administration and tourist headquarters are at Waskesiu, on Lake Waskesiu

Prince Charles Foreland, see SPITSBERGEN

Prince Edward Island, island (2,184 sq mi , 1941 pop 95,047, 1948 estimated pop 93,000), off New Brunswick and Nova Scotia, comprising a province of E Canada The capital is CHARLOTTETOWN, the only other city is Summerside One of the Maritime Provs , Prince Edward Island is a crescent of land lying in the southern part of the Gulf of St Lawrence, separated on the south from Nova Scotia and New Brunswick by the Northumberland Strait The generally low, level land has a length of c 110 mi and a width that varies from 5 to 35 mi White sandy beaches line the deeply indented north shore, and much of this favorite resort spot is now Prince Edward Island National Park (est 1936) Low, red sandstone cliffs run the south shores, and here Charlottetown is located where three rivers converge at the tip of a deep bay. The tide reaches back into the headwaters of the island's short rivers With fertile soil and an affable climate, the island has become the Garden of the Gulf More than 50 percent of the income is derived from the production of staple foods and stock raising Since earliest settlement fishing has been an important industry, yielding an abundance of lobsters, oysters, smelts, herring, cod, and mackerel An interesting occupation was originated when islanders began the breeding of silver foxes in 1887, in which they held a monopoly until 1912 Since that time most of the breeding stock for all fox-fur farms is supplied by Prince Edward Island Manufacturing is largely limited to such food processing as the making of butter and cheese and the canning of pork and lobsters Life in rural Prince Edward Island is pleasant and prosperous, though seldom exciting Cartier wrote enthusiastically about the island after discovering it in 1534 Champlain described it as the Isle St John, and so it was known until 1798, when it was renamed for the father of Queen Victoria It was settled by Acadians, and although many of them were deported after the British gained control, some remained and their descendants still live on the island After being annexed in 1763 to Nova Scotia, Prince Edward

Island became a separate colony in 1769 and did not accept confederation with Canada until 1873 In 1767 the land was divided into lots or townships and assigned to Englishmen who held claims against the government This unfortunate system was changed under the Land Purchase Act of 1875, when proprietors were required to sell and the British government advanced money to tenants for purchase In 1803 Lord Selkirk's first colony of impoverished Scots settled here, and their descendants constitute approximately 40 percent of the present inhabitants Representative government was set up in 1851, and the first conference to consider federation was held in the old Colonial Building in Charlottetown, which has been the capital since 1765 The population reached a high of 109,078 in 1891 Since that time it has declined, but Prince Edward Island still remains the most densely populated province in Canada See W R Livingston, *Responsible Government in Prince Edward Island* (1931), Benjamin Bremner, *Island Scrap Book* (1932) and *Tales of Abegweit* (1936); H J Champion, *Over on the Island* (1939)

Prince George, city (pop 2,027), central British Columbia, on the Fraser at the mouth of the Nechako and c 350 mi N of Vancouver It is a railroad division point and a distributing center for a lumber, mining, stock-raising, and fur-trading area In 1807 Simon Fraser, of the North West Company, established here the fur-trading post of Fort George which was taken over (1821) by the Hudson's Bay Company Settlement began in 1910 with the building of a railroad via Fort George to Prince Rupert, and in 1915 the city was incorporated and the name changed See F E Runnals, *The History of Prince George* (1946)

Prince of Wales, Cape, westernmost point of North America, NW Alaska, on Bering Strait, opposite East Cape (Cape Dezhnev) in Siberia

Prince of Wales Island, area 2,231 sq mi , off SE Alaska The largest island of the Alexander Archipelago, it is 135 mi long and 45 mi wide It is thickly forested, and on its east coast is Old Kasaan National Monument

Prince of Wales Island, area 13,736 sq mi , off Boothia Peninsula, in the Arctic Ocean, belonging to Franklin dist of the Northwest Territories In 1948 the magnetic pole was located in the northern part of the island

Prince Rupert, city (pop 6,714), on Kaien Island, W British Columbia, on Chatham Sound near the mouth of the Skeena and S of the Alaska border A railroad and highway terminus and an ice-free port, it serves the mining, lumber, and agricultural areas of central and W British Columbia Grain and fish are shipped, fish is processed, and there is a dry dock The city was incorporated in 1910, but its growth dates from the arrival (1914) of the railroad During the Second World War the city was a major supply base for U S forces in Alaska It has steamship connections with Vancouver, Victoria, and Alaska

Princes Islands, Turkish *Adalar* (ädälär'), group of nine small islands, Turkey, in the Sea of Marmara, near Istanbul (Constantinople) They long were places of exile There are several old monasteries and churches

Princess Anne, town (pop 942), co seat of Somerset co , Eastern Shore, Md , SW of Salisbury, in an agricultural area, founded in the 17th cent It has many old buildings Maryland State College, formerly Princess Anne College (coeducational, for Negroes), opened in 1886 by Methodists, has been a part of the state university since 1935

Princeton. **1** City (pop 5,224), co seat of Bureau co , N Ill , near the Illinois river W of La Salle, in a nursery and farm area, laid out 1833, inc 1849 Its manufactures include vinegar, sealing wax, bricks, and tiles It was the home of Owen Lovejoy, abolitionist **2** City (pop 7,786), co seat of Gibson co , SW Ind , N of Evansville, settled c 1812, laid out 1814 It is a trading and railroad center with a large residential section Paint brushes are made here **3** City (pop 5,389), co seat of Caldwell co , W Ky , between the Cumberland and Tradewater rivers E of Paducah A railroad point, with railroad shops, the city ships tobacco, livestock, farm produce, hosiery, and fluor spar **4** Town (pop 1,009), SE Maine, in a lake area near the St Croix, settled 1815, inc 1832 **5** Village (pop 1,865), E Minn , on the Rum river and E of St Cloud, platted 1856, inc 1877 It is a shipping center for a dairy region **6** City (pop 1,584), co seat of Mercer co , N Mo , on the Weldon and NW of Kirksville near the Iowa line, in a farm area, settled c 1840, inc 1853 Calamity Jane was born here **7** Borough (pop 7,719), W N J , NE of Trenton, settled 1696 by Friends, called Stony Brook until 1724, inc 1813 It is the seat of PRINCETON UNIVERSITY, the INSTITUTE FOR ADVANCED STUDY, Princeton Theological Seminary (Presbyterian, for men, founded 1812), St Joseph's College (Catholic, for men, founded 1914), Westminster Choir College (founded 1926 by John Finley Williamson), and other cultural institutions Nassau Hall (of Princeton Univ) was occupied as barracks first by British and later by colonial troops Princeton was (Jan 3, 1777) the scene of a battle in the American Revolution when Washington defeated a large British force shortly after the battle of Trenton Gen Hugh MERCER was mortally wounded in the attack A monument with sculptures by MacMonnies commemorates the battle "Morven" (1701), home of Richard Stockton, was Cornwallis's headquarters The Continental Congress met in Nassau Hall, June–Nov , 1783 William Bainbridge's birthplace was converted into a public library Palmer Square, a civic center on Nassau St , has buildings designed in Colonial style by Thomas Stapleton. Paul Robeson was born in Princeton **8** City (pop. 7,420), co seat of Mercer co , S W Va , NE of Bluefield, in a farm area, settled 1826 It is a railroad center with shops **9** City (pop 1,247), central Wis , on the Fox and WNW of Fond du Lac, in a dairy area, settled 1830, inc as a village 1860, as a city 1920

Princeton University, at Princeton, N J , nonsectarian, for men, chartered 1746 and 1748 as the College of New Jersey, name changed 1896 The college opened in Elizabethtown (now Elizabeth) in 1747 (see DICKINSON, JONATHAN), was transferred the same year to Newark, and later (1756) to Princeton It was the fourth colonial college The founders were Presbyterians, and Presbyterians have always been represented on the board of trustees Besides liberal arts and sciences, it has schools of public and international affairs (1930), architecture (1919), and engineering (1873) A distinctive feature of its administration, and one which led a trend toward more individualized instruction in colleges, was the preceptorial system introduced by Woodrow Wilson when he was president Other distinguished presidents have been Jonathan Edwards, John Witherspoon, James McCosh, and John Grier Hibben A curriculum designed to integrate the different fields of learning has been adopted Notable buildings are Nassau Hall (1756, used as a barracks and hospital by both sides in the Revolution and as a meeting place of the Continental Congress, June–Nov , 1783), the chapel, the first U S residential hall for graduate students (1913), Cleveland Tower, Fine Hall, Frick Laboratory, and Harvey S Firestone Memorial Library (opened 1948) Most of the buildings are Gothic in style The university has museums of historic art, geology, and zoology, the Observatory of Instruction (1877) and the New Observatory (1934, replacing Halsted), financial, government, and urban research bureaus, and a university press (1905), which has its own printing plant The university shares the resources of the INSTITUTE FOR ADVANCED STUDY See T J Wertenbaker, *Princeton, 1746–1896* (1946)

Princetown, small town, Devonshire, England It is in the middle of Dartmoor and is the site of DARTMOOR PRISON

Prince William Sound, large, irregular, islanded inlet of the Gulf of Alaska, S Alaska The Chugach Mts lie to the north There are good harbors, and access to the interior is by highway and railroad Fishing is extensively carried on in the area, and there is some mining Valdez and Cordova are the largest towns on the sound

Princip, Gavrilo (gäv'rēlō prēn'tsēp), 1895–1918, Serbian political agitator, b Bosnia A high school student, he was a member of a Serbian nationalist secret society and was the assassin (1914) of Archduke FRANCIS FERDINAND and his wife on their visit to Sarajevo His act precipitated the First World War Princip died of tuberculosis in an Austrian prison

Principe see SÃO TOMÉ AND PRINCIPE

Principia, The (prinsi'pēu), coeducational, for the children of Christian Scientists, opened as a kindergarten 1898, chartered 1912 It has preparatory schools at St Louis and, at Elsah, near Alton, Ill , a college of liberal arts with junior and senior branches, a school of government, and a school of nations

Prineville, city (pop 2,358), co seat of Crook co , central Oregon, NE of Bend at the junction of the Crooked River and Ochoco Creek, settled 1868, laid out 1870, inc 1880 Lumbering and stock-raising are carried on in the area

Pringle, borough (pop 2,000), Luzerne co , NE Pa , near Wilkes-Barre, inc 1914

Pringle-Pattison, Andrew Seth: see SETH, ANDREW

Pringsheim, Nathanael (nätä'näēl prings'hīm), 1823–94, German botanist, one of the founders of the scientific study of algae He made important discoveries in the morphology and physiology of plants, especially in the fields of reproduction and evolution He founded the German Botanical Society and the *Jahrbücher für wissenschaftliche Botanik* His treatises are collected in *Gesammelte Abhandlungen* (4 vols , 1895–96)

printing. The story of the invention of printing and of its early days on the continent of Europe is told in the article TYPE The art in the 15th cent. spread, directly and indirectly from Mainz, to many parts of Europe It was brought to England in 1476 by William CAXTON, to the New World in 1539 by Juan PABLOS, who set up his press in Mexico City, and in the region that is now the United States it first appeared at Cambridge, Mass. (see DAYE, MATTHEW; DAYE, STEPHEN; GLOVER, JOSE). In 1814 *The Times* (London) announced its adoption of "the greatest improvement connected with printing since the discovery of the art itself." This improvement, the invention in 1810 of Friedrich König (1774–1833), a German, was the successful application of steam power to the printing press The invention did not improve the quality of the product but greatly increased the output of the machine In König's press, the type bed remained flat as in the hand presses, but the paper was pressed on the type by a cylinder The Adams power press was invented by an American, Isaac Adams, in 1827 In 1846 and 1847 Richard March Hoe (1812–86), an American, designed a rotary press in which the types were for the first time arranged in a true cylinder In 1866 a press known later as the Walter press was patented in England by J C MacDonald and J Calverley, in this press the printing surfaces were not types but stereotype plates curved to form parts of cylinders The leading newspapers now regularly use stereotype plates on their cylinder presses The invention of ways of making paper in sheets of any desired length, so that paper may be fed to cylinder presses from rolls, assisted in increasing the speed of printing Machines for folding newspapers were incorporated with the power cylinder presses Not until the late 19th cent were typesetting machines invented (see LINOTYPE, MONOTYPE, INTERTYPE). Printing surfaces were originally in relief, as in type, the STEREOTYPE, and the ELECTROTYPE Two additional kinds of printing surfaces have been developed by many inventions In intaglio printing, such as the ETCHING and the steel ENGRAVING, the design to be printed is lower than the surface of the plate, which is wiped clean before each impression, leaving the incised design filled with ink, which the paper receives In gravure intaglio printing, tone is produced by varying the thickness of the ink of the printing surface through depressions of varying depth, minute points constitute the clean surface that keeps the paper from being pressed into the depressions In photogravure the gravure plate is made by a photographic process Rotogravure is photogravure adapted for printing by a rotary or cylinder press The third kind of printing, known as planographic, is from a flat surface, as in LITHOGRAPHY, the original planographic process, devised by Aloys SENEFELDER Flat stones were the first lithographic plates and are still used, though metal plates also are used A drawing is made on the plate with greasy ink or crayon, and water is then applied to the plate When the plate is inked for printing, the greasy parts accept the ink and the wet parts do not Preparing a printing surface so that ink will adhere only to parts of it is basic in all planographic printing In collotype printing, a gelatin surface is varied by exposure to light In the pantone process, mercury instead of water is used to coat the parts of the printing surface that are not to accept ink In offset printing, a sheet of rubber is printed and the paper is printed from the rubber In all three kinds of printing—relief, intaglio, and planographic—illustrations are often produced by the half-tone process, in which a plate is made by photographing through glass marked with a network of fine lines (see also PHOTOENGRAVING) A usual form of color printing is by the Ben Day process (see DAY, BENJAMIN) Printing in colors is sometimes done, as excellently in Japan, by applying inks of different colors by hand to the printing surface, but usually a separate printing surface is used for each ink In the three-color process, red, yellow, and blue inks are used, and other colors are produced by printing one color over another, as green by printing blue on yellow The three-color process is often improved by adding a fourth printing in gray or black In recent years the use of photographic processes has expanded greatly, and development of typewriting with the spacing justified has encouraged production of "typewritten" books These particularly meet the demands for cheaper production of books issued in small quantities and for special types of printing The application of electronics to printing was in 1950 still in the experimental stage, but promised to introduce a new era in the evolution of printing For some account of type design and for bibliography see TYPE and TYPOGRAPHY An excellent selected bibliography is Hellmut Lehmann-Haupt, *One Hundred Books about Bookmaking* (1949)

printing, calico. see CALICO PRINTING

Printz, Johan Bjornsson, Swed *Johan Björnsson Printz* (yō'hän byürn'sōn prints'), 1592–1663, Swedish governor of New Sweden Appointed by the New Sweden Company, Printz, an experienced soldier, arrived in NEW SWEDEN in 1643 An energetic administrator, he established numerous works and maintained trade relations with the Indians, the English, and the Dutch But continued Swedish disinterest in the colony and the alleged harshness of his rule brought Printz's resignation and return to Sweden (1653).

Prior, Matthew, 1664–1721, English poet and diplomat, b. Westminster, grad. St John's College, Cambridge, 1687. With Charles Montagu, Prior

parodied Dryden's *Hind and the Panther* in a much-discussed poem, *The City Mouse and the Country Mouse* (1687) Prior was secretary to the embassy at The Hague during negotiations leading to the Treaty of Ryswick (1697), and during Anne's reign he helped, as special envoy, to conclude the Peace of Utrecht, popularly known as "Matt's Peace." Although later discredited and imprisoned by the Whigs, he was buried in Westminster Abbey. Noted during his life as a wit, as a poet he is remembered for his "society verse" and for two long satiric poems, *Alma, or, The Progress of the Mind* and *Solomon* (both 1718) See biography by C K Eves (1939).

Pripet (prĭ'pĕt), Pol *Prypeć* (prĭ'pĕch), Rus *Pripyat* (prē'pyŭtyŭ), river, c 500 mi long, rising NW of Kovel and flowing E through Belorussia into the Dnieper Navigable below Pinsk, it is connected by canals with the Vistula, the Niemen, and the Western Bug The **Pripet Marshes** are a forested, swampy area (c 33,500 sq mi.) extending along the Pripet and its affluents from Brest in the west to Mogilev in the east and to Kiev in the south They form a dense network of rivers, lakes, and canals. Drainage of the swamps was begun c 1870 A natural defense barrier, the marshes were a battlefield in the First World War, but were by-passed by the Germans when they invaded Russia in 1941

Pripyat, river, Belorussia see PRIPET

Prisca [Latin,=ancient], wife of AQUILA.

Priscian (Priscianus Caesariensis) (prĭ'shŭn), fl 500, Latin grammarian, b Caesarea in Mauretania He taught grammar at Constantinople His grammar, *Commentarii grammatici*, in 18 books, was long a standard grammar, and it was the basis of the work of Rabanus Maurus in the Middle Ages Other extant writings of Priscian are a textbook on 12 lines of the *Aeneid*, a treatise on accents, a study of the meters of Terence, a treatise on symbols of weights and measures, and a work on the declensions of nouns

Priscilla (prĭsĭ'lŭ) [diminutive of Latin *Prisca*= ancient], wife of AQUILA

Priscillian (prĭsĭ'lyun), d 385?, Spanish churchman, bishop of Ávila His appointment to the bishopric was protested by orthodox leaders, who had condemned his former activities as a lay preacher in N Spain, at the Synod of Saragossa (380) Although Priscillian's ideas were repeatedly denounced, it is not clear that they were heretical He was suspected of Manichaean and Gnostic leanings because he stressed puristic ideals, sought perfection in asceticism, and dabbled in astrology The Church had been attacking his views for some time, when Emperor Maximus ordered that Priscillian be put to death for practicing "magic" His execution was strongly protested by his former opponents in the Church, St Ambrose, St Martin, and the pope After a council held at Braga (563?) finally condemned it, Priscillianism disappeared from Spain

Prishtina, Yugoslavia see PRISTINA

prism: see SPECTRUM

prison, place of detention for the punishment and reform of criminals By the end of the 18th cent, imprisonment had been widely adopted as the chief mode of punishment At that time, largely as a result of the writings of BECCARIA in Italy and John HOWARD and others in England, there was a wave of penal reform, and improvement in the unspeakable conditions of detention places was begun The earliest American reform centered in Philadelphia (1790) and in Auburn, N Y, where systems of solitary confinement and congregate labor were introduced Reform efforts continued through the 19th cent, with two notable women (Elizabeth Fry and Dorothea L Dix) among the reformers British (especially Irish) influences led to the practice of PAROLE In the 20th cent, much has been accomplished in the United States to do away with unsanitary and demoralizing prison conditions, some advances have been made in individualization of treatment, inmate self-government, and constructive labor and vocational training (see CONVICT LABOR) There has been a growing tendency to regard the basic aim of imprisonment as regeneration of the criminal rather than as retributive punishment or protection of society by isolating the criminal In many places, corporal punishment is still used as a disciplinary measure, and such institutions as the chain gang are notorious for their brutality The chief types of modern American prisons (with similar institutions in other countries) are the local jail for pre-trial detention and short sentences and the state and Federal penitentiaries for convicts with long sentences Special institutions are provided for sick and insane criminals. Juvenile delinquents are usually sent to reformatories or other corrective institutions In England, the BORSTAL SYSTEM takes care of young offenders Among famous prisons are the Bastille, in Paris, the Tower of London, and in the United States, Sing Sing and Alcatraz See Blake McKelvey, *American Prisons* (1936), L. N. Robinson, *Jails* (1944); N. K. Teeters, *World Penal Systems* (1945)

prisoners of war. In ancient times the captors of prisoners of war held the right of life or death over them. The practice of keeping prisoners of war as slaves generally replaced that of killing them; this practice continued until relatively modern times among some Asiatic nations In the Ottoman Empire and in the Barbary states prisoners were also long considered as war booty, but the practice of offering them for ransom became general at least with regard to Christian captives In feudal times the custom of ransoming prisoners of war was general throughout Europe, as was that of releasing distinguished captives in exchange for hostages The fate of prisoners of the lower classes was usually unenviable, nobles were often, but by no means always, treated with consideration There were no commonly accepted standards of treatment Modern thought on the treatment of prisoners of war was succinctly stated by Montesquieu in *De l'esprit des lois* and by J J Rousseau in his *Social Contract*, both held that the right of the captor over the prisoner was limited to preventing him from taking up arms again and ceased altogether with the end of hostilities Their view was elaborated by Emerich de VATTEL Although no general international convention was reached before 1899 regarding prisoners of war, the humane view found wide acceptance, though it was not always practiced During the American Civil War Francis LIEBER drew up General Order No 100, which was a basis for subsequent conventions The first international convention on prisoners of war was signed at the Hague Peace Conference of 1899 It was widened by the Hague Convention of 1907 After the First World War, in which the Hague rules proved insufficient, the International RED CROSS proposed a more complete code At the invitation of the Swiss government, 47 governments meeting at Geneva in 1929 signed the Geneva Convention Relative to the Treatment of Prisoners of War, which remains the international law on the subject Chief among the nations which did not adhere to the Geneva Convention of 1929 were Japan and the USSR Japan, however, gave qualified promise (1942) to abide by the Geneva rules, the USSR announced (1941) that it would observe the terms of the Hague Convention of 1907, which did not provide (as does the Geneva Convention) for neutral inspection of prison camps, for the exchange of prisoners' names, and for correspondence with prisoners According to the Geneva Convention no prisoner of war can be forced to disclose to his captor any information other than his identity (i e, his name and rank, but not his military unit, home town, or address of relatives) Every prisoner of war is entitled to adequate food and medical care and has the right to exchange correspondence and receive parcels He is required to observe ordinary military discipline and courtesy, but he may attempt to escape at his own risk Once recaptured, he cannot be punished for his attempt Officers receive pay either according to the pay scale of their own country or to that of their captor, whichever is less, they cannot be required to work Enlisted men may be required to work for pay, but the nature and location of their work should not expose them to danger, and in no case can they be required to perform work directly related to military operations Camps should be open to inspection by authorized representatives of a neutral power In the Second World War, Switzerland and Sweden acted as protecting powers The International Red Cross at Geneva acted as clearing house for the exchange of all information regarding prisoners of war and had charge of transmitting correspondence and parcels It accomplished its truly gigantic task with remarkable efficiency With minor and inevitable exceptions on the lower levels, the United States and Great Britain fully honored the Geneva Convention throughout the conflict Japan at first committed such atrocities as the "death march of Bataan," but generally abided by the rules after a sufficient number of Japanese prisoners had fallen into Allied hands to make reprisals possible Germany did not treat all its prisoners alike. Americans and British subjects received the best treatment, Polish prisoners the worst At the end of the war the repatriation of prisoners of war was a major problem, which was part of the general problem of displaced persons At the beginning of 1950 all prisoners of war, except those accused or convicted of war crimes, had supposedly been repatriated or otherwise accounted for (many German prisoners, for instance, elected to remain in France) However, the government of Western Germany charged that the USSR had failed to account for a substantial number of prisoners and demanded an investigation The USSR, asserting that the charges were unfounded, refused to comply Despite the many and serious breaches of the Geneva Convention in the Second World War, the treatment accorded by the military authorities of any power to prisoners of war was far superior to that suffered by the civilian population of occupied or devastated areas See W. E. S. Flory, *Prisoners of War a Study in the Development of International Law* (1942).

Pristina or **Prishtina**, Serbo-Croatian *Priština* (prē'shtĭnä), city (pop. 19,822), S Serbia, Yugoslavia, N of Skoplje. It was a capital of the medieval Serbian empire Near by is the famous 14th-century monastery of Gracanica (Serbo-Croatian *Gračanica*), with notable frescoes.

Pritchard, Charles (prĭ'chûrd), 1808–93, English astronomer, b Shropshire, grad St John's College, Cambridge. He was Savilian professor of astronomy at Oxford from 1870, where he planned and developed a new observatory In 1885 appeared his *Uranometria Nova Oxoniensis*, a catalogue of stars with their relative brightness, which he had measured by means of a "wedge photometer" of his own invention In determining the parallax of stars he made use of photography, an application he was one of the first to develop In addition to scientific articles, he wrote *Occasional Thoughts of an Astronomer on Nature and Revelation* (1889)

Pritchett, Henry Smith (prĭ'chĭt), 1857–1939, American astronomer and educator, b Fayette, Mo, grad Pritchett College, Glasgow, Mo, 1875, Ph D Univ of Munich, 1894 From 1878 to 1906 he was successively assistant astronomer, U S naval observatory, professor of astronomy, Washington Univ, St Louis, superintendent of the U S Coast and Geodetic Survey, and president of the Massachusetts Institute of Technology After 1906 he was internationally known as the president of the Carnegie Foundation for the Advancement of Teaching, retiring as president emeritus in 1930

Privas (prēvä'), town (pop 4,000), capital of Ardèche dept, S France, at the foot of the Cévennes It has silk and wool manufactures

privateering, former usage of war permitting privately owned and operated war vessels (privateers) under commission of a belligerent government to capture enemy shipping Private ownership distinguished the privateer from an ordinary warship, letters of marque and reprisal (commission issued by a government), distinguished it from pirate craft The primary object of privateering was to harass the enemy, but it was often practiced as a retaliatory measure The great era of privateering was the period from 1692 to 1814, when privateers became adjuncts of national navies and when weaker naval powers used privateers as an effective method of injuring a more powerful maritime rival Privateersmen, who kept all or a part of their booty, often gained great wealth After the defeat of the French fleet by the Dutch and English (1692), France commissioned privateers, who preyed upon English commerce In the American Revolution and in the War of 1812 American privateersmen (including Joshua Barney, Thomas Boyle, Otway Burns, and Stephen Decatur) captured hundreds of prizes The Confederate States issued letters of marque, but the Federal blockade was effective In attempting to curb the abuses of privateering, nations required that captures be condemned in admiralty courts and that commissions (in restricted number) be granted only in the name of the sovereign Privateersmen were free of naval discipline, and their desire for PRIZE led them often to make no distinction between friendly and enemy shipping, to violate the rules of war, and to indulge in lawlessness after the conclusion of peace These abuses and new theories of naval warfare led to the abolition of privateering by the Declaration of Paris (1856) The declaration does not prohibit the creation of voluntary navies consisting of private vessels under the control of a state, such as that used in the Second World War in the evacuation from Dunkirk See E S Maclay, *History of American Privateers* (1902), E P Statham, *Privateers and Privateering* (1910), W C Kendall, *Private Men of War* (1931), J P Cranwell and W P Case, *Men of Marque* (1940)

private international law see CONFLICT OF LAWS

privet (prĭv'ĭt), any plant of the genus *Ligustrum*, Old World shrubs or small trees some of which are common as hedge plants Privet hedges (chiefly of the common and California privets) are popular because of their dark green leaves and their ease of cultivation even against adverse city conditions Some are fairly hardy in the north, but may be killed back to the ground by severe winters The various species are evergreen, nearly evergreen, or deciduous, some producing small white flowers in profusion They are usually propagated by cuttings The common privet (*Ligustrum vulgare*) has become naturalized in the United States

Prix de Rome, Grand (grä' prē' du rōm'), prize awarded by the French government, through competitive examination, to students of the fine arts It entitles them to four years' study at the Académie de France à Rome, an adequate annual income for expenses, and exemption from military service The prize is open to all French painters, sculptors, architects, engravers, and musicians between the ages of 15 and 30 who have completed required work at the École des Beaux-Arts or elsewhere It was instituted by Louis XIV in 1666 for the purpose of enabling talented student painters and sculptors to complete their education by study of classical art in Rome In 1720 the competition was opened also to architects, and in 1803 to engravers and musicians. The Académie des Beaux-Arts has charge of the competition, and the prize is awarded annually in all departments except en-

graving, the engraving award being made every two years For the final competition 10 students are selected and are given three months for the preparation of their work For the competition in music the entrant is required to compose a cantata A successful student must send to the French Salon annually during his residence in Rome specimens of his work (if a musician, to the Académie des Beaux-Arts).

prize, in maritime law, the private property of an enemy which a belligerent captures at sea For the capture of the vessel or cargo to be lawful it must be made outside neutral waters and by authority of the belligerent A prize court, in the territory of the belligerent or in that of an allied power, must adjudicate that the property belonged to an enemy national After the prize is captured, it is ordinarily placed in charge of a prize master and sent into port for judicial proceedings, however, if the enemy character of the ship is readily apparent, it may be destroyed at sea (after passengers, crew, and ship's papers have been removed), with the captor's government being liable for the losses of neutrals If the prize is sold before being adjudicated, the proceeds must be delivered to the court for distribution In case of condemnation the entire proceeds go to the belligerent government In the United States, since 1899, the crew of the vessel effecting capture has had no right to share in the profits of the sale A prize court renders a decision on the basis of the ship's papers, the testimony of those on board, and other relevant factors If the ship is not condemned, it is released and damages are awarded where no justifiable reason for its capture has been shown Prize law initially developed from the desire of governments to share in the profits made by ships engaged in PRIVATEERING The governments also wished to minimize diplomatic claims for damages by establishing regular procedures for disposing of captures Although they nominally apply international law, prize courts (in the United States, the Federal courts) in awarding judgment have been influenced, or even bound, by the national law To avoid this, prize cases are sometimes referred to international tribunals Efforts to establish an international prize court with appellate jurisdiction, however, have not succeeded See J W Garner, *Prize Law during the World War* (1927), C J Colombos, *Treatise on the Law of Prize* (1940)

prize fighting see BOXING

Prizren (prĕz'rĕn), city (pop 19,839), S Serbia, NW of Skoplje It was an important medieval trade center and reached its height as capital (14th cent) of the Serbian empire under Stephen Dushan, who is buried in a near-by monastery There are numerous ancient churches and monasteries, some of them in ruins

probability, in mathematics, a precisely defined value which indicates the chance of (or odds for) a given event occurring It is sometimes defined as the ratio of the number of ways in which the event can happen to the total number of ways in which it can either happen or not happen Thus the probability of an event is always a value between 0 and 1, 0 meaning that the event will not happen and 1 that it is certain to occur For example, if a penny is tossed, the probability of its landing heads up is 1/2, for this can happen only in one way (heads up) while there are two possible results of the toss (heads up or tails up) In cases in which it is not possible to determine the two figures used in computing the ratio (so that the above definition cannot be applied), the probability of the event is taken to be the limiting value of a sequence of ratios of the number of successes (occurrences of the event) to the total number of trials, as the number of trials is increased indefinitely Probability computed in this way is the basis of all insurance calculations If, out of a certain group of 1,000 people who were 25 years old in 1880, a certain number, e g , 120, lived to be 65, then the ratio 12/100 is approximately the probability of a 25-year-old person's living to be 65 Since the number of trials (1,000) is so large that this ratio, which may be considered as one of a sequence of ratios based upon numbers of trials varying up to 1,000, is very near the limiting value of the sequence Such a probability statement is of course true only for a group of people very similar to the original group However, by basing such life-expectation figures on very large groups of people and by constantly revising the figures as new data are obtained, values can be found that will be valid for most large groups of people and under most conditions of life The theory of probability was first developed by Blaise Pascal c 1654, and its history since that time involves the contributions of many of the world's great mathematicians. See Isaac Todhunter, *A History of the Mathematical Theory of Probability* (1865), J M Keynes, *A Treatise on Probability* (1921), J V Uspensky, *Introduction to Mathematical Probability* (1937)

probate (prō'bāt), in law, the certification by a court that a WILL was duly executed Probate, which is governed by various statutes in the jurisdictions of the United States, is required before the will can take effect The procedure requires that notification of a hearing be given to all persons who may possibly inherit the testator's property Lost wills and oral wills may also be probated if proof of due execution is furnished If the will is certified, the court will issue letters testamentary authorizing executors to carry out its provisions The judge sitting on a probate court is ordinarily called a surrogate

probation: see PAROLE

Probus (Marcus Aurelius Probus) (prō'bŭs), d 282, Roman emperor (276–82), b Pannonia He fought under VALERIAN and became governor of the East under M Claudius TACITUS, whom he succeeded as emperor He defeated the barbarians in Gaul and Illyricum and suppressed rebellions He reformed the administration and embellished Rome with fine buildings His troops mutinied and killed him His successor was CARUS

Procaccini (prōkät-chē'nē), Italian family of painters **Ercole Procaccini** (ĕr'kōlā), 1515?–c 1590, was head of a Bolognese school of painting His son and pupil, **Camillo Procaccini** (kämĕl'lō), c 1550–1629, was a historical painter His works are characterized by facile though somewhat careless execution, devotional feeling, and fine coloring Among his works are *Adoration of the Magi* (Brera, Milan), *Madonna and Child* (Santa Maria del Carmine, Milan), *Calling of St Peter* (Liechtenstein Gall , Vienna), and *Adoration of the Shepherds* (San Francesco, Bologna) His brother, **Giulio Cesare Procaccini** (jōō'lyō chā'zärā), c 1570–1625, became a highly successful imitator of Correggio His works are to be seen chiefly in the churches of Milan, especially the cathedral, and in the palaces of Genoa Others are a *Last Supper* (Church of the Annunziata, Genoa), the *Circumcision* (Modena), *Martyrdom of St Agatha* (the Ambrosiana, Milan), and *Marriage of the Virgin* (Parma)

procedure, in law, the rules which govern the obtaining of legal redress This article deals only with civil procedure (for criminal prosecution, see CRIMINAL LAW) Except for EVIDENCE, procedure conventionally embraces all matters concerning legal actions, thus, it is the means for enforcing the rights guaranteed by the substantive law A legal action, in its simplest form, is a proceeding of a plaintiff against a defendant from whom he seeks redress The plaintiff by his service upon the defendant of process (e g , a summons) gives a court jurisdiction over the case, i e , empowers it to render an enforceable judgment If the defendant does not respond to the process, the plaintiff is ordinarily entitled to a judgment by default When (as in most instances) the defendant contests the suit, the issue between the parties must be formulated by the pleadings These are written statements of the plaintiff's claim (the complaint) and the defendant's rejoinder (the answer) and of any additional responsive allegations which may be needed to join issue (determine the point in contention) The issue is one of law if the defendant denies that the acts with which the plaintiff charges him constitute a cause of action (i e , a violation of the substantive law entitling the plaintiff to relief) If the judge upholds the defendant's contention, the plaintiff's suit is dismissed, if he upholds the plaintiff, the parties proceed to formulate the issue of fact (e g , whether the defendant did or did not strike the plaintiff) and to present their evidence to the JURY After the jury has delivered a verdict on the factual issue, the judge renders his judgment, which in most (but by no means all) instances upholds the verdict At this point the case is closed (unless the losing party prosecutes an APPEAL), and if the plaintiff has won, he proceeds to execution of the JUDGMENT Current procedural law has had a long historical evolution The early COMMON LAW allowed an action to be brought only if it closely conformed to a WRIT Rigorous enforcement of the rule, "no writ, no right," and the small number of available writs acted to deny relief in meritorious cases and stimulated the growth of EQUITY, which, in its early days, gave redress generously By the 19th cent , however, the technical intricacy of equity and law procedure and the tendency to make cases hinge on procedural details rather than substantive rights made reform imperative The way was led by the New York code of civil procedure of 1848 (largely the work of David Dudley FIELD) which abolished the distinction of law and equity (thereby effecting great simplification) and established the cause of action as the procedural cornerstone A similar reform was accomplished in Great Britain by the Judicature Acts of 1875 Today the procedure of most American states is based on codes (like that of New York) rather than on common law and equity See Jerome Michael, *The Elements of Legal Controversy* (1948).

process, in law, see PROCEDURE

Prochorus (prŏ'kûrus), [Gr ,=leader of a chorus], one of the seven deacons According to tradition he became bishop of Nicomedia Acts 6 5.

Procida, John of, see JOHN OF PROCIDA

Procida (prō'chĕdä), small volcanic island, S Italy, in the Bay of Naples, between Cape Miseno and Ischia John of Procida was lord of this island, from which he took his name

Proclus (prō'klŭs), 410?–485, Neoplatonic philosopher, b. Constantinople. He studied at Alexandria and at Athens, where he was a pupil of the Platonist, Syrianus, whom he succeeded as a teacher. As a partisan of paganism he was forced to leave Athens, but he returned at the end of a year A synthesizer of Neoplatonic doctrines, Proclus gave the philosophy its most complete form He kept the elements of Plotinus, but introduced a principle of triadic development in the series of emanations, the three stages being an original, an emergence from the original, and a return in a lower form to the original Proclus differed from Plotinus in regard to the origin of matter, which he held to emerge from the first emanation rather than from the plastic forces Among his writings are commentaries on several Platonic dialogues and two treatises, *On Plato's Theology* and *Institutes of Theology* See NEOPLATONISM See Thomas Whittaker, *The Neo-Platonists* (1928)

Procne see PHILOMELA.

Proconnesus, see MARMARA

proconsul (prō"kŏn'sul), governor of a Roman province The post was usually conferred on a retiring consul or praetor but in exceptional cases others were appointed A proconsul held office for 12 months after reaching his post, or until his successor arrived He was in sole charge of the army, of justice, and of administration in his province and could not be prosecuted for maladministration until expiry of his office

Procopius (prōkō'pēus), d 562?, Byzantine historian He accompanied BELISARIUS on his campaigns as secretary and later commanded the imperial navy and served as prefect of Constantinople His education, high connections, and public offices give his histories great value as firsthand accounts He excelled in describing events which he himself witnessed, but he was careless in the use of sources His chief works are generally known as *Procopius' History of His Own Time*, dealing mainly with the wars against the Goths, Vandals, and Persians, and as the *Secret History of Procopius*, which is largely a scandalous and often scurrilous court chronicle His authorship of the *Secret History* has been questioned In his polished style Procopius imitated the historians of the Greek classical period His description of social and religious customs among the barbarians are very valuable, but his histories are marred by his violent prejudices, e g , in favor of Belisarius and against Empress Theodora

Procopius the Great, d 1434, Czech Hussite leader, called Prokop A married priest, he distinguished himself as a captain under John Zizka in the HUSSITE WARS He became (c 1425) the chief of the radical TABORITES and commanded in the great Hussite victory (1426) over the Saxons at Ustí-nad-Labem In the subsequent four years Procopius led Hussite forces to victory in Hungary, Silesia, Saxony, and Thuringia and was chosen commander in chief of the Czech forces against a new anti-Hussite campaign in 1431 The crushing defeat which he inflicted (Aug , 1431) on the crusaders at Domažlice led to peace negotiations (1432) at Eger (Cheb) between the Hussites and representatives of the Council of Basel Procopius, however, continued to campaign in Lusatia, Silesia, and Brandenburg even after Hussite delegates had arrived (1433) at Basel to negotiate a religious compromise He rejected the Compactata to which the moderate wing of the Hussites, the UTRAQUISTS, had agreed The Utraquists and Catholics of Bohemia now united their forces against the Taborites, whom they crushed at Lipany (1434), Procopius died in the battle As a general, Procopius was a worthy successor of Zizka His ally, **Procopius the Little,** called Prokupek, d 1434, was the leader of the Orphans, a radical group close to the Taborites He commanded at the unsuccessful siege (1432-34) of Pilsen, a Catholic stronghold, and perished in the battle of Lipany

Procrustes (prōkrŭ'stēz) [Gr ,=stretcher], in Greek legend, celebrated robber When guests accepted his hospitality he made them lie on one of two beds, one very long, the other very short If the guest was too long for the short bed, Procrustes cut off his legs until he was short enough, if he lay on the long bed, Procrustes stretched him until he fitted it. THESEUS killed the robber

Procter, Adelaide Anne, 1825–64, English poet, daughter of B W. Procter (Barry Cornwall) She wrote *Legends and Lyrics* (1858–61), which contained "The Lost Chord," and *A Chaplet of Verses* (1862) Her poetry, including many hymns, was very popular.

Procter, Bryan Waller. see CORNWALL, BARRY.

Proctor, Alexander Phimister, 1862–, American sculptor and painter, b Ontario In childhood he learned the wild life of the Rocky Mts in Colorado. His decorative work for the World's Columbian Exposition, Chicago, 1893, began a career distinguished for animal sculptures of power and individuality, often combined with human figures Examples are *Quadriga* for the U S. pavilion, Paris exposition, 1900, *Panthers* (Prospect Park, Brooklyn, N.Y.); *Princeton Tiger* (Princeton Univ.),

Broncho Buster and *On the Warpath* (Civic Center, Denver); *Wild Mustangs* (Univ of Texas); *R E. Lee Inspiring Youth of the South* (Dallas, Texas); and the equestrian *Roosevelt as a Rough Rider* (Portland, Oregon). His bronzes are in the Corcoran Gallery and the Metropolitan Museum

Proctor, Redfield, 1831–1908, American industrialist and political leader, b. Windsor co., Vt., grad Dartmouth, 1851. He studied law, practiced in Boston, and fought in the Civil War After he returned to Vermont he became president of the Vermont Marble Company at Sutherland Falls (now Proctor) and made the company one of the largest of its kind in the country He served in both houses of the state legislature and was lieutenant governor (1876–78) and governor (1878–80) before he became (1889) U S Secretary of War He resigned (1891) this post to enter the U S Senate, where he served until his death He visited Cuba in 1898, and his speech depicting conditions there was one of the immediate factors in bringing the United States into the Spanish-American War

Proctor, Richard Anthony, 1837–88, English astronomer and popular writer on scientific subjects In 1865 he published *Saturn and Its System* He founded in 1881 a popular scientific magazine, *Knowledge* Beginning in 1873, he made lecture tours in the United States and Australia, and from 1881 he lived in the United States—in Missouri and later in Florida Among his many books are *Half-Hours with the Telescope* (1868), *Half-Hours with the Stars* (1869), *Other Worlds than Ours* (1870), *The Orbs around Us* (1872), *The Borderland of Science* (1873), *Transits of Venus* (1874), *Mysteries of Time and Space* (1883), and *Old and New Astronomy* (completed by A C Ranyard, 1892)

Proctor 1 Village (pop 2,468), NE Minn, just SW of Duluth, settled 1893, inc 1894, called Proctorknott until 1939 It is a shipping point for iron ore 2 Town (pop 2,292), W Vt, NW of Rutland, on Otter Creek It includes Proctor village (pop 2,184) The village site was known as Sutherland Falls until Redfield Proctor developed the great Vermont Marble Company here Much of the construction in the village is of marble

Proctorsville, village (pop 643) in Cavendish town, SE Vt, in the Green Mts It grew as a lumber-milling and woolen-milling center. It is the birthplace of Redfield Proctor

prodigal son, parable of Jesus on heaven and the sinner who repents A young man leaves home and becomes a wastrel, repentant, he returns to be received with joyful welcome Luke 15 11–32

producer gas, fuel gas consisting chiefly of carbon monoxide and nitrogen It is prepared in a furnace or generator in which air is forced upward through a burning mass of coal or coke Although the fuel is introduced through the top, no air is admitted there The carbon of the fuel is oxidized by the oxygen of the air from below to form the carbon monoxide The nitrogen of the air, being inert, passes through the fire without change When steam is introduced with the air, the final gaseous product contains hydrogen also Producer gas has a low heating value because it is about 60 percent inert nitrogen It is widely used in industry because it can be made with cheap fuel

production, in economics, a term applied to all those activities of mankind which have to do with the creation of wealth, i e, with imparting to the raw materials of nature utility for satisfying human wants The farmer who manipulates the forces of nature to grow wheat, the miller who grinds the wheat into flour, and the baker who transforms flour into bread are examples of producers who, each in his own way, impart form utility to a natural material Another class of producers, those engaged in transportation, add place utility to goods or commodities, and a third class, including those engaged in canning, storage, and refrigeration activities, add time utility The creation of time and place utilities, thought of by businessmen as MARKETING, is regarded by economists as a part of production, for until goods are made available at the right time and place, it is obvious that they cannot satisfy human wants For any kind of production in modern society, large amounts of capital in the form of machinery are required Equally essential are land or nature, from which the raw materials are obtained, and labor, which with the aid of capital extracts and transforms the raw materials To these three primary factors of production is sometimes added a fourth, the entrepreneur or enterpriser, who organizes the forces of production and assumes the risks Since under capitalism production is for a market, an important function of the entrepreneur is to anticipate as accurately as he can the economic demand for goods and to produce the kind and quantity of goods that can be disposed of With the development of power and automatic machinery and with the many other practical applications of science, the production of goods to satisfy human wants has ceased to be a major economic problem Goods can readily be produced in excess of financial ability to buy them. Distribution has become a more difficult problem than production. Overproduction is production in excess of effective economic demand, i e., of ability to buy, not of ability or desire to consume A surplus is what cannot be sold profitably, not what could not be used The tendency is more and more to standardize goods and so produce them at low cost by a process characterized by extensive use of automatic machinery and minute division of labor, as exemplified by the so-called assembly-line methods of motor-car plants Such mass production is necessarily accompanied by large-scale purchase of raw materials and mass distribution of the manufactured goods See R G Tugwell and H C. Hill, *Our Economic Society* (1934)

professional, in athletics see AMATEUR

profit, in economics, the share of the entrepreneur in the product of industry As the capitalist receives interest, the landlord rent, and the workingman wages, so the entrepreneur receives profit, which is interpreted as remuneration for the labor of management In a business enterprise profit is thought of as the amount by which returns exceed expenditures When the entrepreneur provides his own capital, he often regards profit as the sole return of his investment of capital The owner of common stock in a corporation likewise usually thinks of dividends solely as profits, although they contain an element of interest It is profit in this loose sense which is spoken of as the incentive to production under capitalism In a cooperative, socialistic, or communistic society it is assumed that other motives than profit would become effective as incentives to production

profit sharing, arrangement by which employees, in addition to their wages, receive a share of the net profits of a business The purpose is to give them an incentive to increase their output through enhanced morale, less wasteful use of materials, better care of tools, and the like Profit sharing does not imply participation by the workers in management The employer determines the rate at which they share, a rate fixed beforehand, in which respect it differs from a bonus system Profit-sharing plans have been in operation in France since 1842 but have not been widely adopted in the United States The plan has been most successful in businesses where employees must work without direct supervision and where it is limited to supervisory employees or lesser executives, e g, branch managers and department managers in department stores

program music is so called because a program is needed to explain its external associations It endeavors to arouse in the thoughts of the hearer some association with external objects or ideas—to tell a story, depict a scene, or impel a mood Berlioz's *Symphonie fantastique*, intended by the composer as program music, might be contrasted with a symphony of Brahms, considering the latter as ABSOLUTE MUSIC

progressive education, movement in modern education It was developed in Europe by Froebel, Pestalozzi, and Montessori and in the United States by Francis Wayland Parker and John Dewey Postulates of the movement are that the child learns best in those experiences which have vital self-interest, and modes of behavior are most easily learned by actual performance Therefore, education must be a continuous reconstruction of living experience based on activity directed by the child The recognition of individual differences is crucial Progressive education opposes the formalized authoritarian procedure and fosters reorganization (see SCHOOL) of class-room practice, curriculum, and attitudes toward the individual student An early reorganization of subject matter was the project method devised by John Dewey and practiced (1896–1904) at his Laboratory School in Chicago Here the group's work is centered about some central project related to the interests of the students The division of more advanced work into the unit method is an attempt to adapt the theory to more rigid curriculums The Dalton plan, at Dalton, Mass (1919), subdivides the work of the traditional curriculum into contract units which the student undertakes to accomplish in a certain time The Winnetka plan, established at Winnetka, Ill., in 1919, separates the curriculum into the essential subjects handled by the Dalton technique and uses the cooperative method of creative and socialized activities in which the students work together Prominent experimental schools were that established by Parker at the Cook County Normal School (1883), the Horace Mann School (1887), the Speyer School (1899) and the Lincoln School (1917) at Teachers College, Columbia Univ., and the experimental school (1915) at the State Univ of Iowa The activities program, designed to supply the values of progressive education where more drastic adjustments are not possible, includes such devices as club programs, student self-government, and school publications The influence of progressive education's idea of learning by doing can be observed in modern vocational training and in the training techniques used by the army in the Second World War See KINDERGARTEN, NURSERY SCHOOL; ADULT EDUCATION; GUIDANCE. See W. H. Kilpatrick and others, *The Educational Frontier* (1933); J. W. Wrightstone, *Appraisal of Newer Practices in Selected Public Schools* (1938); A. E. Meyer, *The Development of Education in the Twentieth Century* (1939), W. M. Aikin, *The Story of the Eight Year Study* (1942)

Progressive party, in U S history, the name of three political organizations, active, respectively, in the presidential elections of 1912, 1924, and 1948 Republican insurgents dissatisfied with the conservative administration of President William Howard TAFT formed (Jan., 1911) the National Progressive Republican League Sen Robert M LA FOLLETTE was their choice for the Republican presidential nomination in 1912 until ex-President Theodore ROOSEVELT, at odds with his old friend Taft for various personal and political reasons, threw his "hat into the ring" (Feb 24, 1912) The regular Republicans, however, controlled the national convention at Chicago (June) and renominated Taft, whereupon the Roosevelt supporters organized the new Progressive party (the Bull Moose party) and nominated, also at Chicago (August), Roosevelt for President and Hiram W JOHNSON for Vice President The Progressive platform called for the direct election of U S Senators, the initiative, referendum, and recall, woman suffrage, downward revision of the tariff, and many social reforms After an exciting campaign, the Democratic candidate, Woodrow Wilson, won, but Roosevelt, who received 88 electoral votes and over 4,000,000 popular votes, fared better than Taft The party maintained its organization until 1916, when, after Roosevelt declined another nomination, most Progressives supported the Republican presidential candidate, Charles Evans Hughes Some years later, the success of the Conference for Progressive Political Action, sponsored by the railroad brotherhoods, in the Congressional elections of 1922 led to the nomination at Cleveland in 1924 of another Progressive party ticket, with La Follette for President and Burton K. WHEELER for Vice President La Follette's program, supported by the American Federation of Labor, the Socialist and Farmer-Labor parties, and most other non-Communist left-wing groups, called for the uprooting of monopoly, public control and conservation of natural resources, abolition of child labor, and recognition of the right of labor to organize and bargain collectively In the Coolidge landslide which followed, La Follette won only the 13 electoral votes of Wisconsin, but polled nearly 5,000,000 popular votes Under La Follette's sons, Robert M., Jr., and Philip F., the Progressives continued strong in Wisconsin until 1938, when they were defeated by the Republicans In 1946 the Wisconsin party dissolved itself and joined the Republicans The third Progressive party appeared at Philadelphia in July, 1948, when a new third party, organized as a challenge to the Democratic party, adopted the name and nominated Henry A WALLACE for President and Senator Glen H. TAYLOR for Vice President Endorsed to some degree by the COMMUNIST PARTY, which was said by many to control the organization, and by the AMERICAN LABOR PARTY of New York state, this Progressive party advocated repeal of the Taft-Hartley Act and the re-establishment of wartime price controls It denounced the Truman administration for failing to cooperate with Soviet Russia to end the cold war Its candidates won no electoral votes and only slightly more than 1,000,000 popular votes See B P De Witt, *The Progressive Movement* (1915), G E Mowry, *Theodore Roosevelt and the Progressive Movement* (1940), K C MacKay, *The Progressive Movement of 1924* (1947)

progressive school. see PROGRESSIVE EDUCATION and SCHOOL

prohibition, legal method of controlling the manufacture and sale of alcoholic beverages, the extreme of the regulatory LIQUOR LAWS The modern movement for prohibition had its main growth in the United States and developed largely as a result of the agitation of 19th-century TEMPERANCE MOVEMENTS A number of states passed prohibitory laws in the early part of the century, but most of them were soon repealed A new wave of state "dry" legislation followed the creation (1846–51) of a model law in Maine After this time emphasis shifted from advocacy of temperance to outright demand for government prohibition Chief of the forces in this new and effective approach was the ANTI-SALOON LEAGUE Prohibition had now become a political issue, with a growing PROHIBITION PARTY and support from a number of rural, religious, and business groups The drive was given impetus in the First World War, when conservation policies necessitated limitation of liquor output. After the war national prohibition became the law, the Eighteenth Amendment to the Constitution forbidding the manufacture, sale, and import or export of liquor. In spite of the strict VOLSTEAD ACT, law enforcement proved to be almost impossible Smuggling on a large scale (see BOOTLEGGING) could not be prevented, and the illicit manufacture of liquor, mostly strong spirits, sprang up with such rapidity that authorities were unable to suppress it. There followed a period of unparalleled drinking (often of inferior and dangerous bever-

ages) and lawbreaking. In 1933 the Twenty-first Amendment, repealing prohibition, was ratified. A number of states, counties and other divisions have maintained full or partial prohibition under the right of local option Prohibition laws were passed in Finland, the Scandinavian countries, and most of Canada after the First World War These were repealed, partly because of serious consequences to the countries' commerce with wine-exporting nations See *Report on the Enforcement of the Prohibition Laws* (1931) by the National Commission on Law Observance and Enforcement (Wickersham Commission), Charles Merz, *The Dry Decade* (1941), J H Wuorinen, *The Prohibition Experiment in Finland* (1931), Clark Warburton, *The Economic Results of Prohibition* (1932)

Prohibition party, in U S history, minor political party formed (1869) primarily for the legislative prohibition of the manufacture, transportation, and sale of alcoholic beverages Temperance leaders failed to gain active support from the major political parties in the early and middle 19th cent, and the movement which developed in 1867 for a separate party to campaign for prohibition culminated in the organization (Sept, 1869) of the Prohibition party at a convention in Chicago by delegates from 20 states After gaining several local victories, the Prohibition party offered a presidential candidate in 1872, and since that time it has offered candidates in every presidential election Though the central issue pressed by the party was that of prohibition, other reform planks—e g, woman suffrage, income-tax legislation, railroad regulation, the creation of a tariff commission—were also adopted over a period of years Its earlier presidential candidates—James Black (1872), Green C Smith (1876), and Neal Dow (1880)—each polled a very small number of votes A vigorous presidential campaign by John P St. John in 1884 resulted in the party's first sizable popular vote (150,626), which was topped by almost 100,000 votes four years later by Clinton B Fisk The peak of popular support was reached in 1892, when John Bidwell won close to 271,000 votes. After the split in the Prohibition party in 1896 over the currency issue, in which Joshua Levering represented the regular party and Charles E Bentley was the presidential candidate of those dissenting groups which advocated the free coinage of silver, the party lost momentum The later Prohibition party presidential candidates —John G Woolley (1900), Silas C Swallow (1904), Eugene W Chafin (1908, 1912), J Frank Hanly (1916), Aaron S Watkins (1920), Herman P Faris (1924), William F Varney (1928), William D Upshaw (1932), D Leigh Colvin (1936), Roger W Babson (1940), and Claude A Watson (1944, 1948)—failed to build their party's strength The institution of PROHIBITION by the Eighteenth Amendment and its repeal by the Twenty-first Amendment had a decidedly weakening effect on the party

projectile, missile generally elongated for projection to a target Its history begins with the throwing of stones and clubs. The boomerang is an ingeniously shaped club which describes remarkable curves, one type returns to the thrower Spears have been hurled at enemies, and the arrow is in effect a small spear launched by a bow or by a blowgun. Until the introduction of gunpowder, the arrow was the usual projectile in hunting and in war Engines such as the crossbow, the ballista, and the catapult were devised to project arrows and stones Incendiary projectiles consisting of balls of cordage impregnated with Greek fire, a chemical mixture, were sometimes hurled at enemy ships and embattlements The role of projectiles in hunting and in war grew greatly with the introduction of gunpowder Balls of metal replaced stones as cannon ammunition The Royal Arsenal at Rouen in 1338 had a *pot de fer*, which sent crossbow darts into the ranks of the enemy The mortar came into existence by 1354, and since iron balls were used in 1350, a marriage of the two could not have been far removed from the middle of the 14th cent Rifling of bores permitted the use of cylindrical projectiles which proved much more effective than spherical ones. The projectile most widely used is the bullet, essentially a mass of metal When these metallic masses carry their own explosive charges they are explosive bullets, or in larger sizes, shells Among their great variety are armour-piercing shells, high-explosive shells, incendiary, shrapnel, tracers, star shells, each with its special purpose The science of the motion and effects of projectiles is called ballistics See W H Tschappat, *Text-Book of Ordnance and Gunnery* (1917), Willey Ley, *Shells and Shooting* (1942)

projection or **map projection**. Only a globe can represent the earth's surface features correctly with reference to area, shape, scale, and directions A projection from a globe to a flat map causes distortion with regard to some of these characteristics It involves the construction on a plane surface of a grid or net formed by two intersecting systems of lines which correspond to the parallels of latitude and the meridians of longitude on the globe. Some projections aim to preserve correct distances in all directions from the center of the map (equidistant projection), others show areas (equal-area projection) or shapes (conformal projection) equal to those on a globe of the same scale. Projections are usually classified as cylindrical, conical, or azimuthal, according to their geometric origin One of the best known is Mercator's projection, first published in 1569 and widely used for maps of the world In it all parallels and meridians are represented as straight lines, intersecting at right angles, and all the parallels have the same length as the equator, thus causing considerable distortions in high latitudes (compare the size of Greenland and South America on Mercator's projection), polar regions can never be shown The projection's great advantage lies in the fact that the rhumb line (i e, the line of constant compass which crosses every meridian at the same angle) is here shown as a straight line, thus making the projection of great value for navigation. Of considerable strategic interest in the present air age is the azimuthal equidistant projection used for the mapping of areas adjacent to the poles.

Prokofiev, Sergei Sergeyevich (syĭrgā' syĭrgā'uvĭch prōkôf'ĕĕf), 1891–, Russian composer, pianist, and conductor, pupil of Ghère and of Rimsky-Korsakov at the St Petersburg Conservatory His First Piano Concerto was composed while he was still a student at the conservatory, and at his graduation (1914) his performance of it won him first prize in piano The cacophony of his Second Piano Concerto (1913) aroused the indignation of the critics and the public His first mature orchestral work, *Scythian Suite*, was begun as a ballet on Scythian mythology, at the suggestion of Diaghilev, who also commissioned *Chout* (*The Buffoon*, 1921), a ballet based on Russian folk music Diaghilev later produced *Le Pas d'acier* (1927), Prokofiev's first Soviet composition, and *L'Enfant prodigue* (1929) Prokofiev's only experiment with polytonality and atonality, the cantata *Seven, They Are Seven* (1917), was written simultaneously with his popular Classical Symphony. He came to the United States in 1918, his opera *The Love for the Three Oranges* (1921) was produced in Chicago In 1922 he moved to Paris, where, in addition to the ballets for Diaghilev, he composed his Second, Third, and Fourth symphonies, the 50th anniversary (1930) of the Boston Symphony being the occasion for the Fourth, his Fourth and Fifth piano concertos, and his *Symphonic Song*, for orchestra His works of this period are harsh, energetic, and full of innovations After his return (1932) to Russia, his output became more prolific, and he employed more native Russian materials and greater lyricism Among his works in the years before the Second World War are an orchestral suite, *Lieutenant Kije* (1934, from music for a film, 1933), an orchestral fairy tale, *Peter and the Wolf* (1936), in which each character is indicated by a different instrument, incidental music for Pushkin's *Queen of Spades*, *Boris Godunov*, and *Eugene Onegin* (all 1936), a ballet, *Romeo and Juliet* (1935), a cantata for the 20th anniversary (1937) of the November Revolution, based on speeches of Lenin, Stalin, and Marx, *Alexander Nevsky* (1937), a cantata based on Prokofiev's music for the film directed by Sergei Eisenstein, operas, *Semyon Kotko* (Moscow, 1940) and *Betrothal in a Convent* (1940), based on Sheridan's *Duenna* During the war he completed his opera *War and Peace* (1941–42), after Tolstoy's novel, his Seventh (1939–42) and Eighth (1939–44) piano sonatas, the former winning him the Stalin Prize (1943), music for *Ivan the Terrible*, a film directed by Eisenstein, and his Fifth Symphony (Moscow, 1945) He has also composed two violin concertos, a cello concerto, and many piano pieces and songs He has toured the United States and Europe several times, both as a pianist and as a conductor See biography by Israel V. Nestyev (Eng tr, 1946)

Prokopovich, Feofan (fāufăn' prukupô'vĭch), 1681–1736, Russian churchman He was archbishop of Novgorod and was chosen by Peter I to carry out his ecclesiastical reforms. A highly cultured man, he was a foe of ignorance in the clergy His most famous work regulated church discipline He also wrote a play, *Vladimir*, a catechism, and numerous tracts He founded a literary academy

Prokopyevsk (prŭkôp'yĭfsk), city (1926 pop 10,717, 1939 pop 107,227), RSFSR, in S central Siberia It is a growing coal-mining center of the Kuznetsk Basin

proletariat (prōlətâ'rēut), in socialist theory, the class of exploited workers and wage earners who depend on their labor power for means of existence In ancient Rome, a proletarian (*proletarius*) was a citizen without property or assured income who was held to be useful to the state only as a producer of offspring (*proles*). According to Karl Marx, the breakup of feudalism created a new, propertyless class from the dispossessed peasants and retainers, who were forced to sell their labor for wages in the new industrial centers. The Marxist theory, later elaborated by Lenin, is that the proletariat must take power from the capitalist class and, after a period of proletarian dictatorship, establish a classless society. See H. J. Laski, *Communism* (1927).

Prome (prōm), city (pop. 28,295), S Burma, on the Irrawaddy river It is connected by rail with Rangoon Old Prome was the capital of the Indianized Pyus, who were conquered and absorbed by the Burmese, probably in the 9th cent. The ruins of the old city are near its modern namesake.

Prometheus (prōmē'thēus) [Gr, =forethought], in Greek religion, a Titan He helped the Olympian gods to overcome the Titans, but later his sympathy with mankind, to whom he brought fire and the arts, roused the anger of ZEUS. Another account makes him the creator of mankind out of earth and water. Zeus punished him by chaining him to a Caucasian mountain where a vulture devoured his liver There he remained until Hercules set him free Prometheus' father was IAPETUS, his mother CLYMENE or THEMIS His brother EPIMETHEUS shared his interest in mankind, and his son DEUCALION saved the human race from extinction in a great flood. The story of Prometheus is the theme of *Prometheus Bound* by Aeschylus Shelley, moved by the French Revolution, wrote *Prometheus Unbound* on the theme of the deliverance of mankind

promethium (prōmē'thēŭm), rare metallic element (symbol=Pm), a member of the group known as rare-earth elements Its existence (as element 61 in the periodic table) was predicted at the beginning of the 20th cent, and its discovery was reported (1926) by B S Hopkins and his co-workers J. A Harris and L F Yntema; identification was made by means of the X-ray spectroscope, and the name illinium (after Illinois) was proposed In Italy, Luigi Rolla and his associates reported at about the same time that they believed they had discovered element 61 and gave it the name florentium However, in 1945, definite identification of a radioactive form of the element was made during the course of experiments on plutonium by J A Marinsky, L E Glendenin, and C D Coryell These investigators made the first chemical identification of radioactive isotopes of element 61 Since observable quantities of the natural element had not been previously found, this identification of the synthetic form was considered by the discoverers to represent possibly the first actual discovery of the element They suggested the name promethium, which was adopted (1949) by the International Union of Chemistry.

prominences see CHROMOSPHERE

promissory note (prŏmĭsô'rē), written promise to pay a certain sum of money on demand or at a definite time to bearer or to a specified person or his order The holder of a note made payable to bearer may transfer his rights to another by delivery of the note If the note is payable to order, it may be transferred by indorsement and delivery

pronghorn or **prongbuck**, native North American hoofed mammal, found in the SW United States and Mexico Although it is often called pronghorned or American antelope it does not belong to the true antelope family of Africa and Asia, but is the only living member of the family Antilocapridae Like the antelope, it has horns consisting of a core of bone with a horny covering, but unlike the antelope the covering is shed annually The horns have a single fork, those of the antelope are unbranched The back is usually reddish brown with under parts and neck bands of white, the muzzle is dark A prominent white rump patch can be elevated to warn other pronghorns of danger Secretions of scent glands also serve as signals Once numerous in the W United States, the pronghorn was saved from probable extinction through protection in national forests and parks

pronoun, in English, PART OF SPEECH, comprising certain words used as substitutes for nouns In English the pronouns are a group of tiny nonproductive form classes overlapping with the function class of nouns (see NOUN) Such substitution is perhaps universal in languages, but languages differ greatly in their use of pronounlike words.

prontosil: see SULFA DRUGS.

pronunciation: see PHONETICS

proof, in law see EVIDENCE

proof. In printing, a proof is a trial impression for inspection **Proofreading** is inspection of proof and marking it for correction of errors and imperfections. Proofreaders' marks are given in dictionaries. Directions for proofreading are given in *A Manual of Style*, published by the Univ of Chicago Press

propaganda (prŏpăgăn'dù) [from Latin *de propaganda fide*=for the propagation of the faith, in the official title of the Congregation of the Propaganda, a Roman congregation, for this, see MISSIONS and VATICAN], method of creating or maintaining a favorable (or, conversely, a hostile) attitude toward some person, organization, or ideal by a positive or negative influencing of opinion Propaganda is as old as history, for it was employed by leaders of primitive society to manipulate tribal conduct. All religions have had some propagandists as prophets Every social system depends upon propaganda for its dissemination The alteration of private or of public conduct has usually been a result of propaganda. The forms of propa-

ganda are as diverse as its aims; the propagandist may be religious, social, cultural, or political The Congregation of the Propaganda and the Protestant missionary boards are disseminators of religious propaganda. The Carnegie Foundation for International Peace has, as its object, the spreading of anti-war information The dissemination of propaganda is one of the chief activities of COMMUNISM Other organizations, equally diverse, have propagandizing as a chief, or a subsidiary, purpose; e g , the U S Chamber of Commerce, the Civil Liberties Union, the National Association of Manufacturers, the American Federation of Labor, and the Congress of Industrial Organizations Propaganda may be spread by direct or indirect means, free propaganda often being more effective than that for which money is paid The agent of dissemination may be open and acknowledged, or its identity may be purposely obscured The press, the radio, the theater, and the platform are used in the presentation of propaganda, and even the arts are media. The field of organized publicity is the stronghold of the propagandist Because governments have long realized the power of propaganda, they have sought to control its distribution, state supervision of radio broadcasting stations and the control of official newspapers help to maintain or create favorable public opinion within the nation, while subsidizing foreign publications tends to create a like attitude abroad Good-will missions of all kinds are less obvious forms of propaganda promoted by governments The presence of numerous and highly organized lobbies in every state and national capital (see LOBBYING) gives further indication of the power of propaganda Some argue that such propagandists are of invaluable assistance in supplying necessary information, others believe all propaganda to be evil, and a third group maintains that conflicting propaganda campaigns neutralize one another Because modern war involves the entire civilian population in addition to the military, governmental propaganda in such periods becomes of immense importance Even before the beginning of the Second World War, Nazi Germany had a highly organized propaganda department, headed by Paul Joseph Goebbels, moreover, Hitler himself was a master propagandist All the warring countries found it necessary to establish departments of propaganda, often called information services The U S agency was the OFFICE OF WAR INFORMATION See Peter Odegard, *The American Public Mind* (1930), L. W Doob, *Propaganda Its Psychology and Technique* (1935), Harold Lavino and James Wechsler, *War Propaganda and the United States* (1940), C R Miller, *The Process of Persuasion* (1946).

propagation of plants is effected by seeds and spores, which are nature's most common method of increasing and perpetuating higher plants, and by such vegetative means as CUTTING, LAYERING, root or tuber division, and GRAFTING. Most farm and garden crops are increased by seed, but the potato is propagated by planting a piece of the tuber containing an eye Some plants will not reproduce their own kind or breed true from seed, and it is necessary to propagate them by cuttings or root division or other vegetative means Propagating methods must be adapted to each kind of plant See M G Kains and L M McQuesten, *Propagation of Plants* (1943)

propeller, device consisting of a hub with one or more blades By rotating, it is capable of propelling a craft The screw propeller was patented by John Ericsson, a Swedish engineer, in 1836 It has since entirely superseded paddle wheels and a variety of other means of propulsion for waterborne vessels In a single-screw ship the propeller mounted on the end of a shaft is immediately in front of the rudder and operates in a special frame through which the shaft passes to the source of rotational power, the engine Twin-screw vessels were first introduced about 1860 in England Located on either side of the rudder and actuated by separate engines, they may be used to assist in steering If one breaks down, the other can propel the vessel. Screw propellers are of cast iron, cast steel, or manganese bronze, the last being the best material because of its resistance to corrosion The introduction of steam turbines has brought about the use of four propellers for large ships Propellers on airplanes may have a single blade with a counterweight but generally have from two to six blades These are made of wood, aluminum, or steel. All were of fixed pitch at first (i e , the angle of the blades was not variable once the propeller was machined). The advantages in speed and power shown by variable pitch propellers caused them to be much used, the blades are set into sockets in the hub with gear arrangements capable of altering the pitch in flight The next development was automatic equipment to alter the pitch as needed for maintaining a predetermined speed. These are constant-speed propellers. In increasing the number of blades from two to three, then from three to SIX, for achieving greater thrust or propulsion or keeping the blade size down, new stress problems arose. These were met by the development of counterrotating propellers, in which the six blades were arranged as two separate three-bladed units rotating in opposite directions. Variable pitch propellers generally take the name of the pitch-controlling device, and the principal ones are, internal-cylinder, hydromatic, external-cylinder and electric With modifications they can also act as air brakes The fast-developing jet-propelled aircraft does not employ propellers, and many propeller-driven planes augment their power with jet equipment See P J Cowan, *A Short History of Naval and Marine Engineering* (1938), J A Kyd, *Variable-Pitch Propellers* (1945), F T Meacock, *The Elements of Aircraft Propeller Design* (1947)

Propertius, Sextus (sĕk'stus prōpûr'shus), c 50 B C –c 16 B C , Roman elegiac poet, b Umbria He was a member of the circle of MAECENAS and was well known in Rome as a man about town His poems are mostly love lyrics to his mistress, called Cynthia A master of the Latin elegy, he wrote with vigor, passion, and sincerity, but his poems suffer from a stiffness due to misplaced erudition and artificiality See E H W Meyerstein, *The Elegies of Propertius* (1935)

property. Property is an all-pervasive social concept which cannot be precisely defined so as to cover all cases Fundamentally it comprises rights to the enjoyment of things of economic value, irrespective of whether the enjoyment is exclusive or shared, present or prospective, to such rights the term *ownership* may be applied Ownership necessarily is supported by correlative rights to exclude others from enjoyment Protection and content are given to ownership by custom or law By extension of usage the things in which one has property rights are called one's property, thus the person who holds title to a house, even though there is a MORTGAGE outstanding, calls it his "property" The type of property law in a society may be taken as index of its social and economic system For example, a primitive pastoral tribe which must be highly united to resist its many enemies may hold pasture lands in common or rotate ownership, thereby avoiding disruptive quarrels By contrast, in societies which possess an economic surplus and relative security the institution of private property may be highly developed with marked division of ownership and a competitive struggle for control On the other hand the institution may be swept away in certain societies—an avowed aim of Marxism Modern Anglo-American property law provides at least potentially for the ownership of nearly all things which have or may have value The requirement of free intercourse between nations, of course, prohibits the assertion of ownership in the high seas, and special rules apply to territorial waters (see WATERS, TERRITORIAL) and to domestic NAVIGABLE WATER In a sense all land presently or ultimately belongs to the state, for whatever is not actually owned by the public authority may be transferred to it by condemnation proceedings under the power of eminent domain (see PUBLIC OWNERSHIP) In fact, most land is in private hands, although ownership of subsoil mineral wealth or of buried objects (see TREASURE-TROVE) in some instances may be public The terminology and much of the content of modern property law stem from its origins in FEUDALISM The fundamental division is into realty (or real estate or real property) and personalty (or personal property) Realty is chiefly land and improvements built thereon Sometimes it is comprehensively, but loosely, described as lands, tenements (holdings by another's authority), and hereditaments (that which is capable of being inherited) Formerly its chief characteristics in a legal sense were that it went by descent to the heir of the owner (who had no control over its disposition) and that ownership might be recovered by a lawsuit (by a so-called real action) Also possessing these characteristics, and hence classified as real property, were titles of honor, heirlooms, and advowsons, i.e , the right to sell an ecclesiastical benefice The manner in which realty is owned is said to be an estate, specifically ownership is a fee of some sort, e g , an estate in fee simple (see TENURE) Personal property is chiefly movables, i e , portable objects Typically (but by no means invariably) the owner could by WILL, GIFT, or sale determine its distribution (note the contrast with the term *descent*), and if it was wrongly taken a lawsuit (a so-called personal action) would give damages only but would not restore the object Certain types of interests in land with these characteristics were also deemed personalty, examples are leases for a period of years, mortgages, and liens The distinction of realty and personalty served the purposes of early feudal society Land, the basis of most wealth and the keystone of the social structure, was controlled in many ways to protect society, while the ownership of personalty, being of minor importance, was almost unfettered As the economic system was altered during the Renaissance and trade expanded, personalty lost its subordinate position and grew to be the economic mainstay of a large class. The freedom with which personalty might be bought and sold made more evident and irksome restraints on the disposal of land and stimulated the capacity of lawyers to devise methods of evading them Gradually the law of realty tended in all important respects to be assimilated to that of personalty In time land could be sold with almost perfect freedom and distributed by will; fundamentally it joined the list of other commodities Differences of detail in the law of realty and personalty still persist, especially in the transfer of realty, which is attended with great formality There are also many distinctions of detail and some of substance in the property laws of the American states For rules affecting marital property, see HUSBAND AND WIFE For certain special types of property, see COPYRIGHT and PATENT

prophet [Gr , =foreteller], in the Bible, religious leader of Israel, especially in the period of the kingdoms and the Captivity The Major Prophets are Isaiah, Jeremiah, Ezekiel, and Daniel The Minor Prophets are Hoseа, Joel, Amos, Obadiah, Jonah, Micah, Nahum, Habbakuk, Zephaniah, Haggai, Zechariah, and Malachi In the Hebrew names of Old Testament books, the Prophets are classified as Former (Joshua through 2 Kings, excluding Ruth) and Latter (the Major Prophets and the Twelve, i e , the Minor, Prophets taken as one) The title is accorded to other men of varying importance, e g , Moses, Elijah, Elisha, Nathan, and Jehu (see JEHU 2) In the earlier accounts prophets are encountered who resemble medicine men rather than those great men who did much to mold Israel The behavior of Baal's prophets (1 Kings 18) is an instance But in this very narrative the dominating figure is of a different sort from Baal's prophets, for Elijah was an enemy, not only of foreign religions, but also of what they represented —evil and sin in every form The biblical account views him as being given the divine mission to root up the house of Ahab The later prophets, also sure of their divine mission to purify Israel's religion, attacked the whole life of the people and came forward as the advocates of the poor and oppressed and as the leaders in social reform According to them Israel could be reconciled with God only by complete purification in religion and in the state In the writings of the Prophets are many of the most beautiful portions of the Old Testament, monotheism receives its most eloquent support, and Judaism makes its convincing universal appeal From earliest times the Prophets were studied for revelations of the future, especially of the glories of Israel and the MESSIAH to come, they were imitated by prophetic PSEUDEPIGRAPHA The Gospels give many examples of the interpretation of Old Testament passages as predictive, and it is part of traditional Christian belief that the Holy Ghost "spoke through the prophets" (Nicene Creed), who foretold the life and passion of Christ Exegesis of the Prophets before the 19th cent hardly touched any aspect but this In the New Testament the term *prophecy* is used of enthusiastic, presumably inspired, utterance, and this was the principle of Montanism, an early Christian deviation This sort of prophecy has had a dubious existence in Christianity (e g , in Joachim of Floris and Joanna Southcott), but there have always been millennialists and miracle-working preachers among the unassailably orthodox (e g , St Vincent Ferrer) Among Christian woman mystics a number have spoken and acted like prophets (e g , Hildegard of Bingen, St Bridget of Sweden, and St Catherine of Siena, see also MYSTICISM) Some varieties of Protestantism have emphasized "inspired" utterance or behavior, the most spectacular were the Anabaptists (e g , Thomas Münzer and John of Leiden) Prophecy is essential also in Quakerism Emanuel Swedenborg and Joseph Smith are examples of different types of prophets of Protestant background Outside Christianity, Islam knows Mohammed as the last and greatest of prophets In ancient Greece the priests attached to an ORACLE were prophets, as were also the official Roman readers of omens through divination. The American Indian prophets resembled the great prophets of Israel in preaching a definite message; the ordinary medicine man (see SHAMAN) had no such role The Indian prophet in the late 18th and the 19th cent normally foretold the regeneration of the red man and the recapture of the lands from the white man, provided all Indians accepted the idea of Indian brotherhood and followed prescribed religious practices Frequently they were connected with Indian military leaders, more or less closely, as the DELAWARE PROPHET with Pontiac and the SHAWNEE PROPHET with his brother, Tecumseh Two later prophets of renown were SMOHALLA and Wovoka (of the GHOST DANCE) The holy man (or woman) who interprets for a divine power is a commonplace in religion (e g , in VOODOO), and the function he has varies according to the culture The terms therefore can be defined only with respect to a given religion, usually *prophet* connotes inspired utterance of an informal (even frenzied) nature, while *priest* suggests established ritual duties See Edith Hamilton, *The Prophets of Israel* (1936, modernist)

Prophetstown, village (pop 1,469), NW Ill , on the Rock River and NE of Rock Island, inc. 1859. The village of Waubeshiek, Indian prophet, was here.

prophylaxis (prō"flăk'sĭs), term for measures designed to prevent the occurrence or spreading of disease A fundamental principle of hygiene and public health, it usually includes restrictions in occupation, diet, and exercise Such restrictions are necessary, e g., in cases of diabetes, and in cardiac and other circulatory malfunctions Health regulations concerned with the reporting and QUARANTINE of cases of highly communicable disease (e g , typhoid, diphtheria, and smallpox) are, in effect, prophylactic measures In dentistry, prophylaxis refers to prevention of caries (tooth decay) by removal of tartar from tooth surfaces

Propontis: see MARMARA, SEA OF

proportion, in mathematics, the equality of two ratios. Two pairs of quantities a,b and c,d are in proportion if their ratios a/b and c/d are equal, i e., if the equation a/b=c/d is true For example, the lengths of two sides of any triangle and the lengths of the corresponding two sides of any similar (i e , same-shaped) triangle are in proportion, for the ratio of the two sides of the first can be proved to be the same as the ratio of the two sides of the second The proportion

$$\frac{a}{b} = \frac{c}{d}$$

was formerly written as a b c d and is read as "a is to b as c is to d " In this form it is customary to call b and c "the means" and a and d "the extremes " These terms are used in the statement of the rule, "The product of the means equals the product of the extremes " When the proportion is written in the equation form, however, this rule is seen to be simply the result of a familiar algebraic operation Similarly all the other rules stated for proportions become obvious when the proportion is written as an equation and the usual rules of algebra are applied

proportional representation: see REPRESENTATION

propylaeum (prŏplē'ŭm), in Greek architecture, a monumental entrance to a sacred enclosure, group of buildings, or citadel A roofed passage terminated by a row of columns at each end formed the usual type Known examples include those at Athens, Olympia, Eleusis, and Priene The most splendid example is the **Propylaea** at Athens upon the west end of the Acropolis, its restored remains still stand Of Pentelic marble, it was built (437–432 B C) at the command of Pericles by the architect Mnesicles

prose [Latin *prosa oratio*=straightforward, or direct, speech], meaningful and grammatical written or spoken language which does not utilize the metrical structure, word transposition, or rhyme common to poetry or verse and which is raised above the level of lifeless composition or commonplace conversation by the use of balance, rhythm, repetition, and antitheses In literature, prose is the usual mode of expression in such forms as the novel, short story, essay, letter (epistle), history, biography, sermon, and oration The earliest European prose still extant is the work of HERODOTUS (5th cent B C)

Proserpina or **Proserpine:** see PERSEPHONE

Proskurov (prŭskōō'rŭf), city (1926 pop 31,989), capital of Kamenets-Podolski oblast, W Ukraine, in Podolia, on the Southern Bug Its large Jewish population (40 percent before the Second World War) suffered in 1919 the worst pogrom of the Russian civil war at the hands of the Ukrainian nationalists, during the German occupation (1941–43) the Jews who had remained behind were wiped out

prosody. see VERSIFICATION.

Prospect, town (pop 1,006), SW Conn., SE of Waterbury, inc. 1827

prospecting, the search for mineral deposits suitable for MINING. Modern prospecting has replaced the earlier methods based on chance or superstition (e g , the use of the DIVINING ROD) with others grounded in the scientific knowledge of modern geology and mineralogy Surface indications of deposits are tested by extensive sampling of the area, i e , by examination and analysis of material taken from holes drilled at regular intervals (see ASSAYING) Modern geophysical methods of prospecting make use of instruments which measure variations in the earth's magnetic attraction (the dipping needle), in gravitational pull (the torsion balance), and in the direction, nature, and velocity of waves set up in the ground by explosions (the seismograph). Electrical methods employ instruments which indicate relative electrical conductivity (as a galvanometer or potentiometer) between points in the earth's surface Airplanes have proved useful in locating promising outcrops in unexplored country.

Prospect Park. 1 Borough (pop. 5,714), NE N J , near Paterson, inc 1901 2 Residential borough (pop 5,100), SE Pa , near Philadelphia; inc 1894.

Prosser, city (1940 pop 1,719, 1944 special census pop. 2,548), co seat of Benton co., S Wash., at falls of the Yakima, in a fertile valley; inc. 1904.

Prossnitz, Czechoslovakia see PROSTEJOV.

prostate gland (prŏs'tāt), organ in the male situated at the neck of the bladder and the beginning of the urethra. It is about the size of a chestnut and consists of glandular and muscular tissue contained within a fibrous capsule. Its tubules connect with the urethra. The gland secretes an alkaline fluid which, passing into the urethra at the time of the emission of semen, aids in the motility of the spermatozoa The prostate is subject to various diseases, including infections (e.g., abscess and gonorrhea), hypertrophy, and cancer. It often enlarges in men past middle age, making urination difficult, and prostatectomy, or removal of the gland, is sometimes necessary.

Prostejov, Czech *Prostějov* (prŏ'styĕyŏf), Ger *Prossnitz* (prŏs'nĭts), city (pop 31,718), Moravia, Czechoslovakia, NE of Brno It has breweries and machinery and clothing manufactures There are a town hall, a castle, and a church dating from the 16th cent

prostitution, act of offering oneself for sexual intercourse for mercenary purpose In ancient times and in some primitive societies, prostitution had religious connotations—intercourse with temple maidens was an act of worship of the temple deity The Greek *hetaerae* [Gr ,=companions or associates] were often women of intelligence and standing, but in Rome prostitutes (*meretrices*) were on a low social level and were forced to wear wigs and special garments signifying their trade In the Middle Ages prostitution flourished, and brothels were a source of revenue to municipalities As a result of the epidemic of venereal disease in Europe in the 16th cent , serious efforts began to be made to control prostitution Brothels were closed throughout Western and Central Europe from 1530 to 1565, and stricter punishment was meted out to those engaged in the trade When these measures proved unsuccessful, and venereal disease continued to claim thousands of victims, many cities began to institute control Berlin required fortnightly medical inspection in 1700, Paris began to register its prostitutes in 1785 In England legislation to control the spread of venereal disease was embodied in the Contagious Diseases Prevention Act in 1864, requiring periodic medical examination of all prostitutes in military and naval districts and the detention of all those found affected by the disease The act was not effective in controlling the disease, and a movement for its repeal was organized by Josephine Butler and other prominent women, leading finally to its abolition in 1886 In 1898 the Vagrancy Act prohibited all males from living on the earnings of prostitutes Towards the end of the 19th cent , efforts were made to control the international traffic in women for the purpose of prostitution Cooperation on an international scale to stamp out the white-slave traffic began in 1899 with an unofficial congress in London This was followed by another conference in Amsterdam in 1901, a third in 1902 in London, and a fourth in Paris in 1904, which resulted in an international agreement providing for a central authority in each nation to cooperate in the regulation of the white-slave trade and to make available information on those engaged in the procuration of women for immoral purposes In 1919 the League of Nations appointed an official body to gather all facts pertaining to the white-slave trade, and in 1921 a conference held at Geneva and attended by 34 states established the Committee on the Traffic in Women and Children (the work of this committee was assumed by the United Nations in 1946) By 1930 there were 30 countries which had no system of licensing houses of prostitution Among these were the United States, Great Britain and its dominions, the Scandinavian countries, most of the Balkans, Germany, some South American states (e g , Uruguay, Bolivia), Switzerland, and Poland Until 1945 France required that all prostitutes be at least 21 years of age, that they be registered, and that they be periodically examined In 1945 the Paris municipal council passed an ordinance closing all houses of prostitution, but the order was rescinded in March, 1946 In April of that year the national assembly passed a bill suppressing prostitution and white slavery It abolished the old system of licensing prostitutes and set up stiff penalties to deal with them All registers of prostitutes were destroyed, and special establishments for the reeducation of the women were ordered set up In the United States "red-light districts" existed in almost every town and were closely connected with many other phases of crime and vice No really major effort to stamp out prostitution appeared until about the end of the 19th cent , and then only in a half-hearted manner In 1910 the Mann Act or White Slave Traffic Act was passed through the efforts of James Robert Mann, it forbade under high penalty the interstate transportation of girls or women for immoral purposes. By 1915 nearly all the states had passed laws regarding the keeping of brothels or profiting in other ways from the earnings of prostitutes The First World War saw a great increase in prostitution, accompanied by a rise in the number of venereal-disease cases. In July, 1941, Congress, spurred by reports of widespread prostitution near army bases and a resultant rise in venereal disease, passed the May Act; this made it a Federal offense to practice prostitution in areas designated by the Secretaries of the Army and the Navy. On a local basis all states except Arizona and Nevada have legislation which makes it a crime for any person to keep, set up, maintain, or operate a house of prostitution Some 21 states have adequate laws against all forms of prostitution, although they exempt from prosecution the customers of prostitution Among the many agencies that have crusaded for better moral conditions are the Society for the Prevention of Crime (of which Charles Parkhurst was long a leader), organized in 1877, the Committee of Fourteen (1905), the National Vigilance Association, and the American Social Hygiene Association See Abraham Flexner, *Prostitution in Europe* (1914), H B Woolston, *Prostitution in the United States* (1921), Paul Lacroix, *History of Prostitution among All the Peoples of the World* (Eng tr , 1931), Geoffrey May, *Social Control of Sex Expression* (1931), B. L Reitman, *The Second Oldest Profession* (1931), Caroline Slade, *Sterile Sun* (1936, fictionalized case histories)

protactinium (prō"tăktĭ'nēŭm), rare radioactive element (symbol=Pa, for physical constants, see ELEMENT table), the precursor of actinium Little is known of its physical and chemical properties Protactinium was discovered (1917) by Otto Hahn and Lise Meitner and independently by Frederick Soddy and John A Cranston Aristid V Grosse prepared (1927) the pentoxide and isolated (1934) metallic protactinium from a purer sample of the pentoxide which he and his associate had prepared Protactinium has a half-life period (time required for half of its original atoms to disintegrate) of about 20,000 years Formerly the name was spelled protoactinium in the United States

Protagoras (prŏtăg'ŭrŭs), c 480–c 410 B C , Greek Sophist of Abdera He taught at Athens for a time but was forced to flee because of his professed agnosticism Protagoras was the author of the famous saying, "Man is the measure of all things " He held that each man is the standard of what is true to himself, that all truth is relative to the individual who holds it and can have no validity beyond him Thus he denied the possibility of objective knowledge and refused to differentiate between sense and reason One of Plato's most famous dialogues bears his name

Protase, Saint see GERVASE AND PROTASE, SAINTS

protection, practice of regulating imports and exports with a view to shielding the industries of a country from foreign competition To accomplish this certain imports may be excluded entirely, or import quotas may be established, or bounties may be paid on certain exports The usual method is to impose duties on imports (see CUSTOMS) Such duties were first levied as a tax to obtain revenue, but mercantilist statesmen in the 16th and 17th cent found them indirectly effective in developing manufactures and thus making the nation self-sufficient in time of war, an end devoutly desired by them In more recent times statesmen in new or industrially backward countries have had the same experience Protective duties tend to increase the price of the imported article, making it unattractive to the consumer, thus the domestic producer, whose costs at first are usually high, is given an opportunity to exploit the home market About 1860, after attaining industrial and commercial preeminence, England abandoned protection for free trade, but returned to it in the period between the First and Second World Wars as a means of coping with the depression as well as of gaining the advantages of "imperial preference" as a member of the British Commonwealth of Nations The United States, however, followed the policy of protecting "infant industries" from the very beginning of its national history Since bounties on exports are forbidden in the Constitution, the protective tariff has been the chief instrument of this policy A brief attempt was made in 1913 to lower duties, but after the First World War tariff rates were raised to the highest point in history Many rates were not merely protective, some were prohibitive and discriminated against the products of certain countries Though American industries had grown from infants to giants, it was still held that they needed protection from the cheaper labor and lower costs of production of many foreign countries To facilitate freer trade in the depression period, the President in 1934 was authorized to negotiate reciprocal trade agreements by which rates could be reduced within certain limits and the treaty countries given the lower rates accorded "most favored nations " See F W Taussig, *Tariff History of the United States* (7th ed , 1923), F D. Graham, *Protective Tariffs* (1942).

protective coloration, phenomenon of coloration or pattern of color of an animal that affords it some measure of protection. Concealment from predators is accomplished generally by the deceptive resemblance of creatures to features of their habitat. This resemblance is achieved by various effects which supplement the similarity of color between animal and surroundings The contrast of light and shadow which betray all but flat bodies are counteracted, in some forms, by a pattern of deepened and softened shades. In certain patterns such variations may produce upon a rounded surface the illusion of flatness. Disruptive coloration, or ir-

regular patches of contrasting colors, much used in CAMOUFLAGE, serve to distract the eye of the observer from the shape of the mass below the patches Frogs, lizards, and snakes are characterized by disruptive patterns Many other creatures are dappled, barred, speckled, mottled, or otherwise distinctively colored so that they blend with sand, weeds, leaves, tree trunks, water, or flowers, depending upon their natural habitat The chameleon and several of the flatfishes have the ability to change color to suit a new environment. Some animals exhibit a seasonal variation in color The stoat and caribou turn from brown in summer to white in winter (when the stoat is known as ermine) Protective coloration includes both resemblance and mimicry. The object of resemblance is to appear to be an object of no interest to the enemy, while mimicry, in this connection, is the exhibition of characteristics of an object known and avoided by the enemy Mimicry sometimes seems to have an aggressive purpose, a fish may resemble and act like a leaf in order to ambush its prey, or a spider may take on the appearance of bird's excrement on a leaf so that an unwary insect will come within its grasp Coloration may thus be categorized as concealing, revealing, or deceiving The most widely accepted explanation of the phenomena is Darwin's theory of natural selection See W P Pycraft, *Camouflage in Nature* (1927), G D H Carpenter and E B Ford, *Mimicry* (1933), H B Catt, *Adaptive Coloration in Animals* (1940)

Protectorate (prutĕk'tŭrĭt, prō-), in English history, the name given to the English government from 1653 to 1659 During the civil war (see PURITAN REVOLUTION) which began in 1642, the army of Parliament was reorganized in 1645 by the New Model Ordinance, which regularized the soldiers' pay and made the army more closely knit, and by the Self-denying Ordinance, which declared members of Parliament no longer able to hold army commissions Oliver CROMWELL, who inspired these changes, became lieutenant general, and Sir Thomas Fairfax general in chief As religious cleavage appeared among the Puritans, the Independents in the army opposed the more moderate Presbyterians in Parliament, who were allied to the Scots Cromwell stood with the army, and when Parliament fearfully began to look toward alliances with the Scots and the king, the soldiers seized and held CHARLES I prisoner Cromwell crushed a Scottish and English Presbyterian rising in 1648, and later that year the Presbyterian members of Parliament were driven out, in Pride's Purge, leaving only the remnant of Charles's 1640 Long Parliament This Rump Parliament, after the trial and execution of Charles, went on to set up a Commonwealth, or republic, with a House of Commons only and with the executive a council of 41 Cromwell and the army backed up the government against democratic agitation by Levelers and other religious sects Cromwell also subdued Ireland (1649–50) and conquered (1650–51) royalist uprisings in Scotland on behalf of Prince Charles, later CHARLES II Cromwell at last turned out (April, 1653) the Rump Parliament when it tried to perpetuate itself His Nominated Parliament or Barebone's Parliament proved ineffectual, and he accepted the Instrument of Government, a constitutional document drawn up by some of the army officers, which made him lord protector of the Commonwealth of England, Ireland, and Scotland, to rule with a Parliament of one house He became a virtual dictator, though Parliament did meet He enforced the laws, which were rigidly puritanical, and collected taxes through 10 major generals and their soldiers Under Cromwell, the state church was Puritan and the measure of toleration he introduced embraced Jews, but he opposed all Roman Catholics and Anglicans, as completely in error In foreign affairs he made peace in the first of the DUTCH WARS and used English sea power against Spain The Parliament in 1657 by its Humble Petition and Advice offered Cromwell the crown (which he refused), made him hereditary lord protector, and set up an upper house to be chosen by him, but this attempt at revision of the Instrument of Government had no genuine effect on the government Richard CROMWELL succeeded as lord protector on his father's death in 1658, but was unable to rule the army and resigned in May, 1659 The Rump was recalled, the form of the Commonwealth without the Protectorate resumed, and after a period of chaos, General Monck recalled the Long Parliament and brought about the restoration of Charles II See S R Gardiner, *History of the Commonwealth and Protectorate* (4 vols , 1903), Charles Firth, *The Last Years of the Protectorate* (2 vols , 1909), Godfrey Davies, *The Early Stuarts* (1937).

protectorate, in international law, a relationship in which one state surrenders part of its sovereignty to another The subordinate state is called a protectorate The term covers a great variety of relations, but typically the protected state gives up all or part of its control over foreign affairs while retaining a large measure of independence in internal matters. The relation may originate when the dominant power threatens or uses force or when the subordinate sees advantages (usually military protection) in the arrangement A protectorate is distinguishable from the relation of home country and colony, for the protected state retains its sovereignty (though often only nominally), its territory remains distinct from that of the protector, and its citizens do not become nationals of the protecting state Initially, in most cases, the extent to which the dominant state may interfere in local affairs is governed by treaty, but since a protected state usually has no access to diplomatic channels, it is in a poor position to resist attempts at increased control Protectorates in connection with large empires probably have existed from earliest times, and there are known instances in Greek and Roman history Many of the colonial empires erected by European powers after the 16th cent were largely comprised of protected states (e g , India) Before the abrogation (1934) of the Platt Amendment, Cuba was a protectorate of the United States Today many British possessions, including portions of Nigeria, Zanzibar, and Aden, are classed as protectorates In Overseas France, Tunisia and Morocco are termed associated states (*états associés*) and have the status of protectorates Trust territories of the United Nations (see TRUSTEESHIP, TERRITORIAL) are distinguishable from protectorates in that they are being prepared for ultimate independence See Charles Fenwick, *Wardship in International Law* (1919)

proteins (prō'tēĭnz, -tēnz), class of extremely complex substances forming an essential part of the protoplasm of all plants and animals Their presence in cells and tissue and, as a result, in food materials is essential to the continuance of life They serve as the source of nitrogen, in many cases as the only source, and are necessary to living things for the building of new tissue for growth and to take the place of that which has been destroyed Like the carbohydrates and fats, they serve also as a source of energy A number of proteins have been isolated in crystalline form, but because of their complexity it is difficult to be sure that the substances are chemically pure proteins In general, they occur in forms insoluble in water, but some simple proteins are soluble Their solutions are colloidal Not enough is known as yet of the exact nature and activity of these compounds to allow for satisfactory definition, but some information has been gathered by much research and has been established Chemically, proteins are extremely complex compounds The elements carbon, hydrogen, oxygen, and nitrogen are always present, and sulphur is often present Other elements sometimes occur, e g , phosphorus, iron, and copper Chemical analysis is difficult Protein molecules are extremely large, containing great numbers of atoms of the various constituents The molecules are made up from amino acids, which are organic substances containing the amino group of atoms—one nitrogen atom and two hydrogen atoms Only some 20 amino acids are known, but the number of possible combinations of them to form proteins is very large The nature of the proteins resulting from these combinations depends upon the number and nature of those acids which go to make them up Upon hydrolysis they all yield amino acids and also various other substances They are grouped commonly according to the nature of the substances so produced The simple proteins yield amino acids only or their derivatives Examples of simple proteins include the albumins (soluble in water), e g , egg albumen, serum albumin (from blood), lactalbumin (from milk), and leucosin (from wheat), the glutelins (soluble in dilute acids and alkalies), e g , glutenin (from wheat) and oryzenin (from rice), the globulins (insoluble in water, coagulated by heat, and soluble in dilute solutions of neutral salts), e g , serum globulin (from blood), fibrinogen (from blood plasma), and legumin (from seeds of pea and other legumes), albuminoids or scleroproteins (probably insoluble in all ordinary solvents), e g , keratin (from hoofs, horns, and fingernails) and elastin (from ligaments), histones (soluble in water), e g , globin (from hemoglobin), the prolamins (insoluble in water), e g , gliadin (from wheat and rye), zein (from corn), and hordein (from barley), and the protamins (soluble in water and not coagulated by heating), e g , salmine (from salmon) and sturine (from sturgeon) Conjugated proteins are those that are composed of proteins combined with one or more other compounds Among the conjugated proteins are nucleoproteins (combinations of nucleic acid and proteins) which make up much of the chromatin material in the nucleus of a cell and which are found also in glandular tissue, yeast cells, and wheat endosperm, glycoproteins (combinations of proteins with a carbohydrate), found in mucin (from saliva and egg white), jellyfish, and other mucoid materials, chromo-proteins (combinations of protein with heme (or hematin), of which hemoglobin of the blood is an example, and lecithoproteins (combinations of proteins with lecithin or another phosphoiipide), which are found in blood, egg yolk, milk, and the nuclei of cells. Proteins are decomposed by the action of various substances, e g , by acids and enzymes, into amino acids, but between the proteins and amino acids are formed certain protein substances (peptones, proteoses, and peptides) which are grouped together as derived proteins There are a number of tests for the presence of proteins, devised either for the group as a whole or for certain classes specifically For example, the Biuret reaction gives positive indication when a violet or blue color appears upon the addition of a dilute copper sulphate solution to a solution of certain proteins in an alkali (e g , sodium hydroxide) In the Xanthoprotein reaction, the addition of nitric acid to a solution causes a yellowish precipitate, which, upon heating with a hydroxide, turns orange Millon's reaction involves the use of Millon's reagent upon solid protein material, if a red color is produced on heating, protein is present The chemical processes and the way in which protein material is utilized by plants and animals is not clearly understood Plants are able to synthesize, from carbohydrates (as a base) and nitrogen, certain compounds from which proteins can be derived On the other hand, animals apparently can not perform this synthesis, but are able to build up their protein material only from the amino acids which they have obtained through the decomposition of those proteins taken into their bodies as food In the digestive processes the proteins of foods are acted upon by enzymes and broken down (hydrolyzed) into their amino acids These pass from the digestive tract into the blood, are carried to the different parts of the body, and are there brought together in new combinations to form the proteins specifically needed for tissue production

Proterozoic era (prō"turuzō'ĭk, prŏ"-) [Gr ,=belonging to earlier life], second grand division of geologic time It is now generally considered as the second era of Pre-Cambrian time (the Archeozoic era being the first) In the formation of the Proterozoic rocks sedimentation played a comparatively greater part than in the formation of the strata of the Archeozoic era, and igneous or volcanic activity comparatively less, warping and metamorphism, however, continued to be important The Proterozoic is best studied in the Lake Superior district of North America The Archeozoic was followed by a long erosion interval, perhaps the greatest in geologic history, in this the Laurentian Mts were reduced to an almost level plain The first system deposited in the Proterozoic was apparently the sedimentary Huronian, which many geologists now divide into the Bruce, Cobalt, and Animikean series The Bruce is made up of conglomerate quartzite, sandstone, and slate, the Cobalt also contains conglomerate, quartzite, and slate, but is especially remarkable for the presence of tillite which is presumably consolidated drift and therefore an indication of a glacial period at this early stage of the earth's development Following these earlier Huronian times, the Great Lakes were perhaps submerged, as the Animikean system is largely composed of schists, slates, and quartzites, which many geologists believe of marine origin Vast carbonaceous deposits, as well as the iron-ore deposits of the Mesabi district in Minnesota, are of Animikean age After the Animikean period came a time of great volcanic activity, the Keweenawan of which the strata are mingled lava and sediments The Keweenawan period was followed by some upthrusting of mountains, and that in turn by a long erosion interval which separates the Proterozoic from the Paleozoic era Outside the Lake Superior region, Proterozoic formations occur in the mountains of Montana and in the Grand Canyon of the Colorado and also in Scotland, Scandinavia, and Brazil The life of the Proterozoic is poorly represented by fossils, but a few invertebrates have been discovered, as well as the dubious EOZOON The best evidence that there probably were numerous forms of life is the variety and complexity which suddenly appears in Cambrian fauna The Proterozoic, like the Archeozoic, has been estimated to have occupied about 500 million years

Protesilaus (prō"tĕsĭlā'ŭs), in Greek legend, hero of the TROJAN WAR, son of a king of Phylace and husband of LAODAMIA A prophecy foretold that the first man who touched Trojan soil would be the first to die When the Greek ships arrived at Troy he leaped ashore and was killed by HECTOR

Protestant Episcopal Church see EPISCOPAL CHURCH, PROTESTANT

Protestantism, name applied to the religious movement which began with the REFORMATION and also to the principles on which it was based The name Protestant was first applied to the princes of the empire who issued a formal *Protestatio* against the recess (1529) of the Diet of Speyer, which had forbidden further religious innovations Since that time the term has been used in many different senses, but not as the official title of any church until it was assumed (1783) by the Protestant Episcopal Church in the United States, the American branch of the Anglican communion The reformers in Germany called themselves "evangelicals," while those in other countries spoke of their churches as "reformed " In England many Anglicans, especially since the OXFORD MOVEMENT, have

refused to consider themselves Protestants because they tend to agree with Roman Catholicism on most doctrinal points, rejecting only the primacy of jurisdiction of the pope (see ENGLAND, CHURCH OF, EPISCOPAL CHURCH, PROTESTANT, IRELAND, CHURCH OF) For many in all countries Protestantism embodies the conception of liberty in secular as well as religious matters, of private judgment and religious toleration, as against tradition and authority, and enjoys the adherence of many who are not professing Christians Within the churches it has come to denote "liberal" theological and ecclesiastical tendencies as well as opposition to elaborate ritual and ceremonialism In the broadest sense the name Protestant is applied to all Christians who do not belong to the Roman Catholic Church or to one of the churches of the East Protestantism in this sense has largely been adopted by the peoples of NW Europe and their descendants, excepting the South Germans and the Irish, important minorities of Protestants have existed in France, Bohemia, Hungary, and Poland According to many authorities, the essence of Protestantism lies in its acceptance of the responsibility of the individual Christian to God alone and not to the Church The characteristic Protestant views on interpretation of the Bible and on the nature and functions of the Church, of the ministry, and of the sacraments proceed from this fact, and the apparently irreconcilable differences between Protestantism and Roman Catholicism depend as much on that one concept as they do on any of the details proceeding therefrom In Protestant countries there has been much multiplication of denominations, most of them calling themselves Protestant, but certain movements have claimed new revelations of such a nature that they may hardly be said to be Protestant (see AGAPEMONE, MORMON, NEW JERUSALEM, CHURCH OF THE) Of a fundamentally distinct nature is CHRISTIAN SCIENCE There have been several groups commonly called Protestant but historically preceding the rise of Protestantism (see HUSSITES, LOLLARDRY, WALDENSES) The historical bodies of Protestantism divided into several great groups in the Reformation, and these have divided again many times until they have become very numerous For some of the great tendencies of Protestantism, see ADVENTISTS, ANABAPTISTS, BAPTISTS, CALVINISM, CONGREGATIONALISM, FUNDAMENTALISM, LUTHERANISM, METHODISM, MODERNISM, PRESBYTERIANISM, PURITANISM, SPIRITISM; UNITARIANISM For individual organizations, see BRETHREN, CATHOLIC APOSTOLIC CHURCH IN ZION; CHRISTIAN CATHOLIC APOSTOLIC CHURCH, CHRISTIAN REFORMED CHURCH, CHRISTIANS, CHURCHES OF CHRIST, CHURCHES OF GOD IN NORTH AMERICA, DISCIPLES OF CHRIST, DUNKARDS, EPISCOPAL CHURCH, PROTESTANT, EVANGELICAL AND REFORMED CHURCH, EVANGELICAL UNITED BRETHREN CHURCH, FRIENDS, SOCIETY OF, HUGUENOTS, IRELAND, CHURCH OF, MENNONITES, MORAVIAN CHURCH, RANTERS, REFORMED CHURCH IN AMERICA, REFORMED EPISCOPAL CHURCH, SALVATION ARMY, SCOTLAND, CHURCH OF, SCOTLAND, FREE CHURCH OF, SEVENTH-DAY BAPTISTS, SHAKERS, UNITED CHURCH OF CANADA, UNIVERSALIST CHURCH OF AMERICA See F S Mead, *See These Banners Go* (1936), K S Latourette, *A History of the Expansion of Christianity* (7 vols, 1937-45), W W Sweet, *The American Churches* (1947)

Protestant Union, in German history, an alliance of German Protestant states, founded in 1608 by Elector Palatine Frederick IV for the avowed purpose of defending the lands, person, and rights of each individual member Also known as the Evangelical League, it came into being after Archduke Ferdinand (later Emperor Ferdinand II) proposed that renewal of the religious peace of 1555 (see AUGSBURG, PEACE OF) should be conditional on the exact fulfillment of its terms, which provided for the restoration of all church lands appropriated by the Protestant princes after 1552 A Catholic League, headed by Duke Maximilian I of Bavaria, was formed shortly afterward The Protestant Union was weakened from the start by the absence of such powerful Protestant princes as the elector of Saxony, and it never really became operative In 1621, three years after the outbreak of the THIRTY YEARS WAR (which was not a religious conflict) the union went out of existence In French history, the alliance (1573-74) of Huguenot cities, districts, and nobles in the Wars of Religion is also known as the Protestant Union

Proteus (prō'tēŭs, prō'tūs), in Greek legend, prophetic old man of the sea who tended the seals of Poseidon He could change himself into any shape he pleased, but if he was nevertheless seized and held, he would foretell the future

Protevangelium of James. see PSEUDEPIGRAPHA

Prothero, Rowland Edmund see ERNLE, ROWLAND EDMUND PROTHERO, 1ST BARON

Protich, Stojan (stō'yăn prō'tĭch), 1857–1923, Serbian statesman As minister of the interior at the outbreak (1914) of the First WORLD WAR he worded the Serbian reply to the Austro-Hungarian ultimatum He played an important part in the making of the Pact of Corfu (1917) which resulted (1918) in the creation of the kingdom of the Serbs, Croats, and Slovenes (later called Yugoslavia). As first premier (1918–19) of the new state, Protich sought to meet Croatian and Slovene aspirations by a conciliatory attitude

protactinium: see PROTACTINIUM.

protocol (prō'tŭkŏl), diplomatic term referring usually to a more or less informal written document Examples are authenticated minutes of international conferences, preliminary agreements, or statements of principle, which eventuate in a formal TREATY, and agreements which do not require ratification The diplomatic protocol is the code of international courtesy governing the conduct of those in the DIPLOMATIC SERVICE or otherwise engaged in international relations, usually each office of foreign affairs (or equivalent body) has an official in charge of protocol (called the *chef de protocol*) Sometimes the term *protocol* is applied to an agreement which in all essentials of form or content is similar to a treaty, an example of this is the Geneva Protocol approved by the Assembly of the League of Nations in 1924 The Geneva Protocol branded aggressive war an international crime. It provided that no signatory would engage in war with other signatories who observed their international obligations Differences which might lead to war were to be referred in appropriate cases to the Council of the League of Nations, to the World Court, or to arbitration committees Signatories were not to mobilize while awaiting settlement of disputes Nations which refused arbitration or which rejected arbitral awards and went to war were to be branded aggressors The Council might subject them to economic sanctions, and they should be made to bear the costs of the attacked country but not made to cede any of their territory Finally, signatories were to participate in an international disarmament conference The protocol was supported by most nations, but British refusal to adhere prevented it from coming into force The LOCARNO PACT and the KELLOGG-BRIAND PACT were later agreements having the general tenor of the Geneva Protocol See J T Shotwell, *Plans and Protocols to End War* (1925), D H Miller, *The Geneva Protocol* (1925)

Protogenes (prōtŏj'ənēz), fl c 300 B C, one of the most celebrated of Greek painters of Rhodes and Athens Apelles is said to have been the first to recognize the talents of Protogenes, then in his 50th year and known only as a painter of decorations for ships For 20 years he enjoyed a reputation second only to that of Apelles Ancient writers, notably Pliny the Elder, record that his works were held in high esteem by the Rhodesians Famous works by him were *The Satyr in Repose*, the *Ialysus*, upon which he worked for years and which was removed by Vespasian to Rome, where it perished in the burning of the Temple of Peace, a *Cydippe*, *Paralus and Hammonias*, in the Propylaea at Athens, *Thesmothetae* in the senate chamber at Athens, and portraits of Philiscus, King Antigonus, and the mother of Aristotle

proton, term used for the single positive unit charge of electricity (as distinguished from the unit negative charge, or electron) which is held to constitute the nucleus of the atom of ordinary hydrogen The hydrogen atom is believed to be composed of one (+) proton which is in the nucleus and one (−) electron outside the nucleus, the presence of the two making the atom as a whole electrically neutral (since the two charges balance each other) The hydrogen ion, or proton, is believed to be the fundamental positively charged unit of the ATOM

protoplasm (prō'tuplăzm), fundamental material of which all living things are composed It was studied by a number of early scientists, especially by Félix Dujardin, J E Purkinje, M. J. S Schultze, and Hugo von Mohl, who is generally credited with the introduction of the name J H Huxley described protoplasm as "the physical basis of life" Protoplasm exists in all plants and animals in the small units called cells (see CELL), and it is always enclosed by a thin surface called a plasma membrane, actually a part of the protoplasm, that controls passage of materials into and out of the cell Under the microscope protoplasm has a granular appearance, the granules exhibit the irregular motion known as Brownian movement Protoplasm is considered to be a complex mixture of these visible granules and globules and of submicroscopic particles forming colloidal solutions The chief component of protoplasm is water, which comprises from 70 to 90 percent of its substance by weight Inorganic salts (forming about 1 percent by weight of protoplasm) are dissolved in the water The organic constituents of protoplasm include proteins (forming about 15 percent of its weight), carbohydrates (forming probably less than 1 percent by weight), and fatty substances (about 3 percent by weight). The four elements oxygen, hydrogen, carbon, and nitrogen make up about 99 percent of protoplasm, following these in importance as constituents of living material are the elements sulphur, phosphorus, potassium, iron, and magnesium Although the proportions of the chemical elements in protoplasm is essentially the same in all forms of life, there are differences in the qualities and chemical characteristics of the protoplasm of different species and even of different cells in the same multicellular animal or plant The protoplasm in both plant and animal cells is distinguishable as a more dense portion forming the rounded or ovoid nucleus of the cell and a less dense portion, the cytoplasm. (A distinct nucleus is lacking in bacteria and some other minute cells and also in mature red blood corpuscles in humans.) In most plant cells the cytoplasm forms a relatively thin layer between the vacuoles (saclike structures containing cell sap) and the cell wall, the cytoplasm also surrounds the nucleus and often extends through the cell in strands radiating from the region of the nucleus In animal cells, in which vacuoles are much less commonly found, the cytoplasm forms the bulk of the cell Since protoplasm is living matter, it exhibits the general properties associated with life, i e, it possesses irritability (the capacity to respond to influences in its environment) and the ability to perform the essential physiological functions. In some forms of life, e g, the protozoa, or one-celled microscopic animals, the protoplasm of the single cell is adapted to perform all the life functions, e g, locomotion, ingestion of food, digestion, absorption, circulation, excretion, and reproduction In multicellular animals and plants, where specialized cells are united to form tissues adapted to special functions, the protoplasm is particularly fitted for those functions, e g, nerve-cell protoplasm for receiving stimuli and conveying messages and muscle cells for contractility During reproduction the nucleus of a cell undergoes complex changes Under the microscope it is possible to observe the streaming movement, known as cyclosis, of the protoplasm in certain plant cells, e g, those of the leaf of the aquatic plant *Elodea* See W. E Seifriz, *Protoplasm* (1936)

Protopopov, Aleksandr Dmitreyevich (ŭlyĭksan'dur dumē'trēuvĭch prŏtupō'puf), 1866–1918, Russian landowner and statesman A trusted friend of Nicholas II, the empress, and Rasputin, he was one of the most extreme reactionaries in the third and the fourth Duma As minister of the interior from 1916, Protopopov is said to have secretly provoked the disturbances at St Petersburg in Feb (N S March), 1917, so as to have a pretext for putting down the revolutionary movement by force Whatever his plans, the February Revolution overthrew the emperor and his government Protopopov was arrested and was later executed.

protozoa (prōtuzō'u), phylum of invertebrates composed of microscopic one-celled animals most of which are solitary and a few colonial The majority are aquatic species, found in salt and fresh water, both on the surface and at great depths, at sea level and at high altitudes Some can live in damp sand and moss Many are parasitic in the bodies of humans and other animals The phylum is usually divided into four classes the Sarcodina (Rhizopoda), forms which have pseudopods, including the amoeba and shelled forms such as the foraminifera and radiolarians, the Mastigophora, e g, euglena, which move by means of whiplike flagella, the Infusoria, ciliated forms such as paramecium, the Sporozoa, parasitic forms, many of which are pathogenic Protozoa carry on all the life functions REPRODUCTION is by fission, conjugation, budding, and spore formation Protozoans parasitizing man include *Endamoeba histolytica*, which causes amoebic dysentery, the sporozoan parasites of the genus *Plasmodium*, which cause malaria, and the flagellates of the genus *Trypanosoma*, of which *T gambiense* and *T rhodesiense* cause African sleeping sickness and *T cruzi* causes Chagas disease in Central and South America Sporozoan animal parasites include *Babesia bigemina*, the cause of Texas cattle fever, and *Nosema bombycis*, discovered by Pasteur to be the cause of pebrine in silkworms Drinking water sometimes becomes infested with certain nonpathogenic flagellates which cause a fishy taste and odor *Noctiluca* imparts phosphorescence to sea water Protozoa provide food for many aquatic animals See also AMOEBA and FORAMINIFERA

Proudhon, Pierre Joseph (pyĕr' zhōzĕf' prōdō'), 1809–65, French social theorist Of a poor family, Proudhon won an education through scholarships Much of his later life was spent in poverty He achieved prominence through his pamphlet, *What Is Property?* (1840, Eng tr, 1876), in which he condemned the abuses of private property He also edited radical journals After the Revolution of 1848, he was elected a member of the constituent assembly, at that time he tried unsuccessfully to establish a national bank for reorganization of credit in the interest of workers As a compromise between state sovereignty and anarchism he developed a theory of small, loosely federated groups in which government was restrained by a system of checks and balances He hoped that man's ethical progress would eventually make government unnecessary He believed in the moral responsibility of the individual rather than any system authoritatively imposed. Proudhon left a great mass of literature which influenced the French syndicalist movement. Among the most important of his books are *System of Economical Contradictions; or, The Philosophy of Poverty* (1846; Eng. tr. of Vol. I,

1888) and *De la justice dans la révolution et dans l'église* [of justice in the revolution and in the church] (3 vols., 1858). See S Y Lu, *The Political Theories of P J Proudhon* (1922), biography by D W Brogan (1934)

Proust, Joseph Louis (shōzĕf' lwē' prōōst'), 1754–1826, French chemist He was professor of chemistry at the artillery school in Segovia, Spain, and director of the laboratory of Charles IV at Madrid from 1789 He returned to France c 1806 He discovered grape sugar and established the law of definite proportions (sometimes known as Proust's law), which states that in any compound the elements are present in a fixed proportion by weight

Proust, Marcel (marsĕl' prōōst'), 1871–1922, French novelist, b Paris As a youth he sought the company of fashionable and intellectual society, and in the salon of one of its members he met Anatole France He persuaded France to write an introduction to his first published, and unpromising, work, *Les Plaisirs et les jours* (1896, Eng tr , *Pleasures and Regrets*, 1948) In 1904 Proust translated two volumes of Ruskin, and after the death of his parents (in 1904 and 1905) he withdrew almost completely from society and began to work on his cyclic novel, *A la recherche du temps perdu* (1913–27, Eng tr , *Remembrance of Things Past*, 1922–32), which grew into a major work of 16 volumes The first, and perhaps the best-written, book of the series, *Du côté de chez Swann* (1913, Eng tr , *Swann's Way*, 1928), went unnoticed, but the second, *A l'ombre des jeunes filles en fleurs* (1919, Eng tr , *Within a Budding Grove*, 1919), was awarded the Goncourt Prize The author's reputation continued to soar with subsequent volumes —*Le Côté de Guermantes* (1920, Eng tr , *The Guermantes Way*, 1920), *Sodome et Gomorrhe* (1921–23, Eng tr , *Cities of the Plain*, 1927), *La Prisonnière* (1924, Eng tr , *The Captive*, 1929), *Albertine disparue* (1925, Eng tr , *The Sweet Cheat Gone*, 1930), and *Le Temps retrouvé* (1927, Eng tr , *The Past Recaptured*, 1932) Semi-autobiographical, the work illustrates Proust's theory of involuntary memory whereby a new encounter with an already experienced sense impression permits the past to be recalled His discursive style is sometimes difficult to follow, but his psychoanalysis of the generation he knew is penetrating He wrote a group of essays, *Pastiches et mélanges* (1919), and a large correspondence (6 vols , 1930–36), much is still being analyzed and organized for publication See biography by Leon Pierre-Quint (Eng tr , 1927), Harold March, *The Two Worlds of Marcel Proust* (1948), François Maurac, *Proust's Way* (Eng tr , 1950), André Maurois, *Proust Portrait of a Genius* (Eng tr , 1950)

Prout, Father see MAHONY, FRANCIS SYLVESTER

Prout, Wilham, 1785–1850, English chemist and physician He demonstrated (1824) the presence of free hydrochloric acid in the gastric juice of the stomach Prout's hypothesis, advanced in 1815–16, suggested that atomic weights of elements are multiples of that of hydrogen and that elements are formed by a condensation or grouping of hydrogen atoms Later work on the determination of atomic weights showed that part of the hypothesis does, in general, apply The discoveries of isotopes of a number of elements revealed that certain elements whose atomic weights could not be represented by simple integers are actually mixtures of isotopes having different weights and that the atomic weight in such cases represents an average of the atomic weight of the isotopes

Prouts Neck, Maine see SCARBORO

Provençal (prôvĕsal'), Romance LANGUAGE of SE France In the Middle Ages the troubadours of Provence developed a standard local Romance language (see TROUBADOUR) This was called *langue d'oc* (hence the province of Languedoc), in distinction to the contemporary Middle French *langue d'oil*, *oc* and *oil* were words for "yes" in the southern and northern dialects, respectively Provençal was wholly replaced by French as the standard language In the mid-19th cent Joseph Roumanille and a group of six other poets, of whom Frédéri MISTRAL is best known) outside of Provence, formed the Felibrige to introduce a standard Provençal based on the language of the people and the medieval languages Members of the Felibrige included Théodore AUBANEL and Félix GRAS French remains the only language permitted in the public schools

Provence (prôvāns', Fr prôvās'), region and former province, SE France, enclosed by the Mediterranean on the south, the Rhone on the west, Dauphiné on the north, and Italy on the east It is now divided into five departments, Var, Bouches-du-Rhône, Vaucluse, Basses-Alpes, and Alpes Maritimes The fertile valley of the Rhone (a commercial highway since antiquity) and the slopes of the Maritime Alps, along the beautiful French RIVIERA, produce wine, mulberry trees (for silk worms), fruits, olive oil, flowers, and vegetables. In the CAMARGUE cattle are raised Much of the mountainous interior, however, is hopelessly eroded; many towns and villages stand abandoned and in ruins. MARSEILLES, Toulon, Cannes, and Nice are the chief coastal cities; AVIGNON, ARLES, and AIX-EN-PROVENCE (the historic capital), the chief cities of the interior The coastal strip was settled c 600 B.C by Greeks from Asia Minor, Phoenician merchants also settled here, and in the 2d cent B C. the Romans established colonies Provence was the oldest of the Roman possessions beyond the Alps, the Roman *Provincia* par excellence (hence its name) A part of Narbonensis (see GAUL) under the empire, Provence was invaded by the Visigoths (5th cent), the Franks (6th cent) and the Arabs (8th cent); Charles Martel recovered it for the Franks Roman institutions, however, persisted and have left a profound impression to the present day The Provençal language was the standard literary idiom throughout S France in the Middle Ages and is still used by some Provençal writers in the literature of today (see LANGUE D'OC AND LANGUE D'OIL, PROVENÇAL) In 879 Boso, count of Arles, established the kingdom of Cisjurane Burgundy or Provence, which in 933 was united with Transjurane Burgundy to form the Kingdom of Arles (see ARLES, KINGDOM OF) It passed under the Holy Roman Empire in 1033, but in the several fiefs forming Provence itself imperial authority was minimal The major part, held by the house of ARAGON, passed to the ANGEVIN dynasty of Naples through the marriage (1246) of Charles I with Beatrice, heiress of Provence Under the Angevins the towns became virtually independent republics King RENÉ left Provence to his nephew, Charles of Maine, who left it to the French crown (1486) ORANGE was added in 1672, Avignon and the Comtat VENAISSIN in 1791, Nice and Menton in 1860 In recent times large-scale immigration from Italy has taken place

proverb, short statement of wisdom or advice which has passed into general use Less literary than aphorisms, proverbs generally refer to common experience and are frequently expressed in metaphor, alliteration, or rhyme, e g , "A bird in the hand is worth two in the bush," "When the cat's away, the mice will play " Nearly every nation has its own body of proverbs, and many are common to several nations Almost as old as language itself, proverbs can be found in the Old Testament, in early Greek and Roman literature, and in the gnomic verse of the Anglo-Saxons In medieval literature proverbs can be found in the homilies and *exempla* to drive home the moral lessons and, with a more humorous intent, in the works of Chaucer To the traditional folk sayings the Renaissance writers added the more literary proverbs from the classics, the most famous collection was *Adagia* by Erasmus (1500) Recommended by the rhetoricians, proverbs were extremely popular among the Elizabethans The most famous collections were those of John Heywood (1549?) and Florio (1578) Their popularity declined in the 18th cent , and they have become a subject for research and classification in more modern times There is a famous collection by William Carew Hazlitt (1869), and there are many 20th-century collections See Henry Davidoff, ed , *World Treasury of Proverbs* (1946), W G Smith, ed , *The Oxford Dictionary of English Proverbs* (2d ed , revised by Paul Harvey, 1948)

Proverbs, book of the Old Testament, in the 20th place in AV It is a collection of sayings, many of them moral maxims, in no special order There are eight divisions, some having traditional ascriptions first, to Solomon, 1–9, second, also to Solomon, 10–22 16, third, 22 17–24 22, fourth, 24 23–34, *fifth*, to Solomon, copied by the men of King Hezekiah, 25–29, sixth, to Agur, unknown, 30, seventh to King Lemuel, unknown, 31 1–9, eighth, 31 10–31, an acrostic in praise of a virtuous woman The book is an early example of a type of literature popular among the Jews of postexilic times, wisdom literature (see WISDOM), the praise of abstract wisdom (1 20–33, 8) is typical of such writing The dating of Proverbs is difficult, and some critics place it as late as 150 B C For bibliography, see OLD TESTAMENT

Providence. **1** City (pop 4,397), W Ky , NE of Paducah and SSW of Henderson, in a coal, farm, and timber region **2** City (pop 253,504), state capital, and co seat of Providence co , NE R I , chief city of the state, at the head of Providence Bay The bay receives the Seekonk and other rivers, opens into Narragansett Bay, and forms a good harbor Roger WILLIAMS chose this site in 1636 after he was exiled from Massachusetts. He secured title to the land from Narragansett chiefs and named the place in gratitude for "God's merciful providence " The settlement grew slowly in the 17th cent , and many of its buildings were burned in King Philip's War (1675–76) Prosperity came with foreign commerce in the 18th cent , and after the Revolution industrial development was rapid The Brown brothers, John, Joseph, Nicholas, and Moses, played leading roles in the growth of the town, prospering in the foreign trade and fostering the textile and other industries The city was incorporated in 1831 It is widely known as a silverware and jewelry manufacturing center Some of the work of the noted Rhode Island School of Design (1877) is related to this industry Textiles, machine tools, hardware, watches, and oil products are also made. Providence is a port of entry. The leading educational establishment in the city and in the state is BROWN UNIVERSITY, other institutions are Providence College (Catholic, Dominican, for men, 1919) and the Rhode Island College of Education There are several fine libraries, including the John Carter Brown Library. The city became sole capital of Rhode Island in 1900 (Newport had been the joint capital) In 1901 the legislature began to meet in the impressive new marble-domed capitol designed by McKim, Mead, and White Much rebuilding followed the disastrous hurricane which inundated the center of the city in 1938 Among the city's historic structures are the old colony house or old statehouse (1762), the old market house (1773), Stephen Hopkins House (1755), John Brown House (1786), Sarah Helen Whitman's home, and the First Baptist Meetinghouse (1775) The capitol has monuments to Oliver Hazard Perry (1928) and Nathanael Greene (1931), and on Prospect Terrace is Leo Friedlander's heroic statue of Roger Williams (1939) Another memorial to the founder is in Roger Williams Park (over 450 acres), containing a museum of natural history, the Benedict Memorial for music, and the Betsey Williams Cottage (1773) See G S Kimball, *Providence in Colonial Times* (1912). **3** City (pop 1,110), N Utah, in Cache Valley just S of Logan, settled 1859 by Mormons The area produces wheat and other grains Limestone is quarried

Provincetown, town (pop 3,668), SE Mass , on N Cape Cod, a port of entry with a good harbor on Cape Cod Bay, inc 1727 The Pilgrims landed here in 1620—the 250-foot granite Pilgrim Memorial, erected in 1910, is conspicuous in the village Permanent settlement was not made until c 1700 Fishing was always its staple industry, but whaling, saltmaking, rumrunning, and smuggling were also practiced In the 20th cent the town gained fame as a resort favored particularly by artists The Provincetown Players, of whom George Cram Cook became director in 1915, pioneered in the Little Theater movement. See M M H Vorse, *Time and the Town* (1942)

Province Wellesley, NW Malaya see PENANG

Provins (prôvĕ'), town (pop 7,963), Seine-et-Marne dept , N central France It is an agricultural market Built by the Romans on a rocky height, it was (11th–13th cent) a prosperous trade center and the site of one of the great fairs of CHAMPAGNE The picturesque upper town has preserved its 13th-century ramparts, a 12th-century keep (*tour de César*), and the fine Church of St Quiriace.

Provisions of Oxford, 1258, a scheme of governmental reform forced upon King Henry III of England by his barons The Mad Parliament of 1258, angered by Henry's expenditures and the foreign influence at his court, forced him to accept the appointment of a committee of 24 nobles, half of whom were to be chosen by the king, for the purpose of drafting a scheme of constitutional reform Under the leadership of Simon de MONTFORT, the plan was drawn up at Oxford in June, 1258, and accepted by the king in October It provided for a council of 15 members to advise the king and to meet three times a year to consult with representatives of the realm Committees were chosen by an involved electoral system to keep check upon the various branches of the government Local administrative reforms were instituted and an effort made to limit the taxing power of the king The committee of 24 completed their work the following year by drawing up an enlarged version of the Provisions of Oxford known as the Provisions of Westminster The new document provided for additional inheritance and taxation reforms These attempts to limit monarchical authority were repudiated, with papal sanction, by Henry in 1261. There followed a period of strife known as the BARONS' WAR (1263–67), which terminated in an ostensible victory by the king, but with a reaffirmation of the principles of the earlier documents in the form of a law known as the Statute of Marlborough (1267) These efforts to limit the power of the king achieved little, but they prepared the way for later constitutional reform

Provo (prō'vō) [for Étienne Provot], city (pop 18,071), co seat of Utah co , N central Utah, on the Provo river near Utah Lake, at the foot of the Wasatch Mts and SSE of Salt Lake City, inc 1851 Settled by Mormons in 1849, it was defended against the Indians and grew to be the center of the rich irrigated region of Utah Valley After railroads were completed from Salt Lake City (1873) and Scofield (1878), Provo also became a shipping point for a mining district Recently the water supply has been aided by the Provo river project, and mineral wealth has been used by the construction (begun 1941) with U S government funds of a large steel plant at near-by Geneva; the plant was sold in 1946 to the U S Steel Corp Provo is the seat of BRIGHAM YOUNG UNIVERSITY The state mental hospital is in Provo Near the city are peaks of the Wasatch Range, including Provo Peak (11,054 ft.) and Mt. Timpanogos (12,008 ft.).

Provo, river rising in NE Utah in the Uinta Mts. and flowing SW past Provo to Utah Lake It was early used for irrigation, but after Utah Lake was badly depleted in the 1930s, the Bureau of Reclamation undertook a plan to rehabilitate old irrigation installations and build new ones centering on Provo river The project also gets water from the Weber river by a canal (built 1930) and from the Duchesne river, a tributary of Green River, by a tunnel across the mountain divide (partially constructed 1940–42) The water is used to irrigate the valley of Utah Lake and to supply domestic needs in the towns there and also in Salt Lake City, the 41-mile Salt Lake Aqueduct was two thirds completed in 1948 Deer Creek Dam in the Provo was completed in 1941

Provoost, Samuel (prō'vōst), 1742–1815, first Episcopal bishop of New York, grad King's College (now Columbia Univ), 1758 He studied at Cambridge Univ and in 1766 was ordained He was appointed assistant minister of Trinity parish, New York Provoost sympathized with the colonial cause and retired from Trinity for a time, but returned as rector in 1784 Created bishop of New York (1786), he was consecrated (1787) in England He served as chaplain to the Continental Congress (1785) and to the U S Senate (1789).

proximity fuse: see RADAR

Prudden, Theophil Mitchell (prŏd'dun), 1849–1924, American pathologist, b Middlebury, Conn, M D Yale, 1875 He was professor at Columbia (1892–1909) and director of the Rockefeller Institute for Medical Research from 1901 He wrote on bacteria and sanitation and, with Francis Delafield, a standard textbook of pathology (1885, 16th ed, 1936) See his *Biographical Sketches and Letters* (1927)

Prudentius (Aurelius Clemens Prudentius) (prōō-dĕn'shus), b 348, Christian Latin poet, b Spain He wrote a number of hymns, occasional Christian lyrics, and poems on saints He held a high place at the Roman court but retired to devote himself to religion

Prud'hon, Pierre Paul (pyĕr' pôl' prudô'), 1758–1823, French painter, 13th child of a stone mason of Cluny He was educated by the monks and later studied in Dijon and Paris In 1784 he won a scholarship to Rome, where he remained six years On his return he passed some years of hardship and struggle but gained recognition in 1808 with his *Crime Pursued by Truth and Divine Justice* (Louvre). A favorite of the empress, he received many commissions for the decoration of public and private buildings, including the Gallery of Laocoon of the Louvre He was elected to the Académie des Beaux-Arts in 1816. Prud'hon's private life was tragic An unfortunate marriage embittered his earlier years, and his long and happy relationship with his devoted pupil Mlle Mayer ended disastrously with her suicide in 1821 He survived her only two years Prud'hon is noted for his subtle use of strong light and shade An admirer of Correggio, he has a tender and poetic quality, beautifully exemplified in such works as his portrait of Empress Josephine and *Psyche Carried Away by Zephyrs* (both Louvre) He is represented in many galleries, including the Wallace Collection, London, the Metropolitan Museum, and the New York Historical Society

prune, popular name for any dried PLUM Fruits of the many varieties of *Prunus domestica*, which are firm fleshed and dry easily without removal of the stone, are gathered after falling from the tree, dipped in lye solution to prevent fermentation, and dried in the sun or in kilns Most of the commercial product comes from the Pacific coast states A sort of prune was used by the American Indians as a staple article of diet

pruning, practice of removing superfluous parts of plants, especially trees, hedges, shrubs, and woody vines, to increase the chances for survival Proper pruning of plants will result in better growth, greater strength, and maximum production of flowers and fruits In nature, pruning is largely done by strong winds which blow away the decayed and withering branches Man uses pruning as a device to control the dimensions of a plant Through judicious cutting the gardener can influence growth both laterally and vertically Cutting at the top induces lateral growth and is known as top pruning or topping This method is often applied to fruit trees Two methods of top pruning are called disbudding (removal of bud that has not grown more than one inch) and pinching off (pinching out a limb's terminal growing point) Both practices strengthen a plant immeasurably by diverting growth vigor to other parts, thus increasing the formation of buds and fruit rather than of wood The vigor of transplanted trees and shrubs is maintained by careful root pruning and by reducing the aerial part of the plant in proportion to the root destruction This action gives the root a chance to develop and take firm hold in the soil There is no set rule for the best time of the year to prune plants Authoritative horticulturists themselves are not in complete agreement In general practice, it largely depends on the convenience of the pruner See G L Wittrock *The Pruning Book* (1948), N. Catchpole, *Simple Pruning* (3d ed, 1949).

Pruntrut, Switzerland see PORRENTRUY.

Prusa: see BURSA, Turkey

Prussia (prŭ'shù), Ger *Preussen* (proi'sùn), former state (113,041 sq mi, 1933 pop 39,934,011), the largest and most important of the German states Berlin was the capital Stretching from the borders of the Netherlands, Belgium, and Luxembourg in the west to those of Lithuania and Poland in the east, and from the Baltic Sea, Denmark, and the North Sea in the north to the Main river, the Thuringian Forest, and the Sudetes in the south, Prussia occupied more than half of all Germany and the major part of N Germany, and it surrounded several smaller German states, namely, Oldenburg, Brunswick, Lippe, Schaumburg-Lippe, Anhalt, Mecklenburg, and the free cities of Bremen and Hamburg Except along its southern edges, Prussia is mainly a low-lying country, drained by the Rhine, the Weser, the Elbe, the Oder, and many smaller rivers The central section and the historical core of the Prussian state is the former province of BRANDENBURG (after 1945 a separate state), including BERLIN, and with its capital at POTSDAM To the west of the ELBE, which approximately bisects the country from south to north, are the larger part of the former province of Saxony (after 1945 part of SAXONY-ANHALT), the former province of HANOVER (after 1945 part of LOWER SAXONY), the former province of Hesse-Nassau (after 1945 part of HESSE), the former province of WESTPHALIA (after 1945 part of North Rhine-Westphalia, which includes the gigantic industrial RUHR district), and the former RHINE PROVINCE (after 1945 divided between North Rhine-Westphalia and Rhineland-Palatinate) To the east of the Elbe are, in the southeast, the former provinces of Lower and Upper SILESIA and, in the northeast, the former provinces of POMERANIA and EAST PRUSSIA After 1919 the POLISH CORRIDOR cut East Prussia off from the rest of Prussia and Germany The northernmost province of Prussia was SCHLESWIG-HOLSTEIN The district of HOHENZOLLERN, in SW Germany, was a Prussian enclave between Wurttemberg and Baden After Berlin, the largest Prussian cities were COLOGNE, BRESLAU, ESSEN, FRANKFURT, DÜSSELDORF, HANOVER, DORTMUND, MAGDEBURG, and KÖNIGSBERG Industrially as well as politically, Prussia was the most important member of the German Reich It was partitioned after the Second World War among the American, Russian, British, and French occupation zones and into the four occupation sectors of Berlin In 1947 the Allied Control Council for Germany formally declared Prussia out of existence This action not only confirmed an accomplished fact, it also was intended as a blow against the spirit of German militarism, aggression, and imperialism, of which Prussia, rightly or wrongly, has been held the chief instigator for the past two centuries Prussia in its modern meaning came into existence only in 1701, when the elector of Brandenburg assumed the title king of Prussia Before that date the name Prussia applied only to the region later known as East Prussia (excluding the bishopric of ERMELAND), it was derived from the original Baltic population, conquered and largely exterminated by the TEUTONIC KNIGHTS in the 13th cent Through the secularization (1525) of the domain of the Teutonic Order by the grand master ALBERT OF BRANDENBURG, the domain became a hereditary duchy under Polish suzerainty, ruled by a branch of the Hohenzollern dynasty of Brandenburg In 1618 the duchy of Prussia passed, through inheritance, to the elector of Brandenburg, and in 1660, by the Peace of OLIVA, full independence from Polish suzerainty was confirmed to FREDERICK WILLIAM (the Great Elector) In the course of the 17th cent the electors of Brandenburg had also acquired the duchy of CLEVES, together with the counties of Mark and Ravensberg (1613), the bishoprics of Minden, Magdeburg, and Halberstadt (1648), and Farther (i e, eastern) Pomerania (1648) Though still small in comparison with later Prussia, the electorate of Brandenburg with its dependencies had become one of the major German states, a gain which it owed largely to the Reformation (the major part of its new acquisitions had been ecclesiastic territory) and to its successful diplomacy at the Peace of Westphalia (1648), which terminated the Thirty Years War In 1701 Elector Frederick III had himself crowned king of Prussia at Konigsberg, the capital of the former duchy of Prussia, and styled himself King FREDERICK I He remained a prince of the Holy Roman Empire in his quality of margrave and elector of Brandenburg and for his other possessions within the empire, but not as king of Prussia, which lay outside the imperial boundaries This technicality gave the kings of Prussia a still larger measure of independence from the emperors than the other princes of the empire had gained at the Peace of Westphalia Among the German princes, only the electors of Saxony (from 1697 to 1763 also kings of Poland) rivaled them in power, and only the Hapsburg emperors surpassed them. For the following century and a half German history was largely dominated by the successful struggle of Prussia for hegemony over Germany. As a result of the NORTHERN WAR Prussia gained (1720) the eastern part of Swedish Pomerania In the following 20 years, however, King FREDERICK WILLIAM I, the true creator of the Prussian state, avoided military ventures and took advantage of the general European peace in order to create a unified state and to build up the most efficient army in Europe It was left for his successor, FREDERICK II (Frederick the Great), to test the instrument his father had made; with him, Prussia entered on its career of ruthless conquest On a slim pretext (see SILESIA) and without a declaration of war, Frederick invaded (1740) Austrian territory, thus gaining the initiative in the War of the AUSTRIAN SUCCESSION (1740–48) Acting with utter disregard for its allies, Prussia got out of the war in 1742 by the Treaty of Berlin, reentered it in 1744, and quit again in 1745 at the Treaty of Dresden In both treaties Maria Theresa of Austria was forced to cede nearly all Silesia to Prussia Though it gained no additional territory in the SEVEN YEARS WAR (1756–63), Prussia emerged from it as the chief military power of the Continent By the Polish partition of 1772 (see POLAND, PARTITIONS OF) Prussia gained Pomerelia (except Danzig) and Ermeland Pomerelia was organized as the province of WEST PRUSSIA, and the original Prussia became known as East Prussia Frederick was succeeded (1786) by FREDERICK WILLIAM II, who further added to Prussia by the Polish partitions of 1793 and 1795 However, under his rule and that of his successor, FREDERICK WILLIAM III (1797–1840), Prussia underwent a period of eclipse due to the FRENCH REVOLUTIONARY WARS and the wars of NAPOLEON I Defeated by the French, Prussia withdrew from the antirevolutionary coalition by the Treaty of Basel (1795) and remained neutral until 1806 Its armies were crushed by Napoleon in the twin battles of Jena and Auerstedt, and in 1807 Prussia had to accept the harsh Treaty of Tilsit, by which it lost all lands W of the Elbe and most of its share of Poland and became a virtual dependency of France Yet Prussia was fortunate to possess, at the lowest ebb of its history, such able and energetic reformers as Karl vom und zum STEIN, Karl August von HARDENBERG, and Karl Wilhelm von HUMBOLDT These men transformed Prussia into a modern and progressive state by abolishing serfdom and nobiliar privileges, introducing agrarian and other social and economic reforms, and laying the groundwork for an exemplary system of universal education At the same time SCHARNHORST and GNEISENAU put the Prussian army on a modern basis Prussia was forced to send auxiliary troops for Napoleon's 1812 campaign in Russia, but late in the year YORK VON WARTENBURG concluded a separate truce with Russia, and in 1813 Prussia joined the coalition against France Field Marshal Blucher played a major role in defeating Napoleon at Leipzig (1813) and at Waterloo (1815) At the Congress of Vienna Prussia gained, in addition to its recovered territories, the entire Rhine Prov and Westphalia, the northern half of Saxony, the remainder of Swedish Pomerania, and a large part of W Poland, including Danzig, Posnan, and Gniezno However, Prussia disappointed the hopes of German liberals by following the lead of the Austrian chancellor, Metternich, in the HOLY ALLIANCE The promised constitution failed to materialize under the increasingly reactionary government of Frederick William III, and the half-hearted constitutional schemes of FREDERICK WILLIAM IV were impracticable Prussia did, however, take the lead in the economic unification of Germany (see ZOLLVEREIN), which was prerequisite to political union The March Revolution of 1848 was put down by force, and in 1849 Frederick William refused the imperial crown of Germany offered by the FRANKFURT PARLIAMENT His scheme for a North German Confederation under Prussian leadership was punctured by Austria in the Convention of OLMÜTZ (1850), and Prussia returned to the restored GERMAN CONFEDERATION In 1861 WILLIAM I (regent since 1858) became king, and in 1862 he appointed as chancellor Otto von BISMARCK, who was to direct the destiny of Prussia and (after 1871) of Germany until 1890 Bismarck effected the elimination of Austria from German affairs and the union of Germany under Prussian hegemony by means of three deliberately planned wars The first war (1864) was fought in alliance with Austria against Denmark over SCHLESWIG-HOLSTEIN Its settlement furnished a pretext for the AUSTRO-PRUSSIAN WAR of 1866, in which Prussia quickly and thoroughly defeated Austria and its allies and gained additional territory by the annexation of Hanover, Hesse-Nassau, Schleswig-Holstein, and the free city of Frankfurt The German Confederation was dissolved, and the Prussian-led NORTH GERMAN CONFEDERATION took its place Finally, in the FRANCO-PRUSSIAN WAR (1870–71) the North German Confederation overwhelmed France, and in 1871 William I of Prussia was proclaimed emperor of Germany. In its main features the subsequent history of Prussia was that of GERMANY. However, Bismarck's KULTURKAMPF against the Catholic

Church was largely confined to the kingdom of Prussia, which, like the other German states, continued as an individual member of the empire The Prussian constitution, drafted in 1848 and amended in the following years, was far less liberal than the federal constitution of the empire The government was not responsible to the Prussian Landtag (lower chamber), whose powers were small and whose members were elected by a suffrage system based on tax-paying ability The house of lords was largely controlled by the conservative Junker class The *Junkers* held immense tracts of generally poor land E of the Elbe (particularly in East Prussia) under semifeudal conditions. Endowed with little money and much pride, they formed the backbone of the army The rising industrialists, notably the great Rhenish and Westphalian mine owners and steel magnates, though their interests were often opposed to those of the *Junkers*, exerted an equally reactionary influence on politics The Prussian constitution was liberalized after Prussia became a republic in 1918, the *Junkers* lost many of their estates through the cession of Prussian territory to Poland However, both the *Junkers* and the Rhenish industrialists continued to exert much power behind the scenes, and when Franz von Papen became (1932) German chancellor, they came into their own In July, 1932, Papen suspended the Prussian parliament and ousted the Social Democrat Otto Braun, who had been premier of Prussia (with brief interruptions) from 1920 Early in 1933 Hitler seized power and made Goering premier of Prussia Strong rumors at the time purported that large *Osthilfe* funds, intended for relief to East Prussian farmers, had been diverted by the German government into the pockets of the East Prussian *Junkers*, the attempt to hush up the threatening scandal was, supposedly, a major factor in bringing Hitler to power Without question, Hitler's rise was helped by the Rhenish industrialists However, Hitler had no less popular support in the rest of Germany than he had in Prussia By 1933 German unity had progressed to a point where it was no longer possible to differentiate clearly between Prussia and the rest of Germany The proverbial qualities of the Prussian aristocracy—domineering arrogance combined with unquestioning devotion to duty, cold brutality juxtaposed with a refined and sensitive culture—are not distinct enough from similar traits in the ruling classes of countries with democratic traditions to account for the fact that Prussia always tended toward authoritarianism The classic histories of Prussia are those of Ranke, Treitschke, and Droysen See also Ernest Lavisse, *Études sur l'histoire de Prusse* (1879), Herbert Tuttle, *History of Prussia* (4 vols, 1884-96), Sir John A R Marriott and C G Robertson, *The Evolution of Prussia* (1915), G S Ford, *Stein and the Era of Reform in Prussia* (1922), S B Fay, *The Rise of Brandenburg-Prussia* (1937)

Prussian blue, pigment widely used for laundry bluing, in dyeing compounds, and in the manufacture of inks and paints Several varieties are made, generally by the action of potassium chlorate and sulphuric acid on a mixture of potassium ferrocyanide and ferrous sulphate in a heated solution

prussic acid see hydrocyanic acid

Pruth or **Prut** (both prōōt), river, 530 mi long, USSR and Rumania Rising in the Carpathians of the W Ukraine, it flows generally southeast, forming the border between the Rumanian province of Moldavia and the Moldavian SSR of the USSR, and joins the Danube E of Galati It is navigable in part By the Peace of the Pruth (1711) Peter I of Russia restored Azov to the Turks (see Russo-Turkish Wars)

Pryde, James (prid), 1869–1941, English painter and wood engraver He collaborated with Sir William Nicholson on many posters

Prynne, William (prin), 1600–1669, English political figure and writer, grad Oxford, 1621 He was admitted to the bar in 1628 A Puritan, he made pamphlet attacks on Arminian doctrine and earned the enmity of Archbishop William Laud When Prynne's structures on the stage in his book, *Histrio-mastix* (1633), were interpreted as aspersions on the king and queen, he was (1634) imprisoned, pilloried, and shorn of his ears He continued his Puritan pamphleteering in jail and in 1637 was again fined, sentenced to imprisonment for life, and branded with the letters S L (for seditious libeler) He was released by the Long Parliament in 1640 and was voted money reparation Prynne strongly supported the parliamentary cause in his writings and took a vindictive part in prosecuting his old enemy, Laud In defending his moderate position in theology he found himself opposing both Scottish Presbyterians and Independents He also came into conflict with John Milton over Milton's advocacy of divorce Prynne entered Parliament in 1648 and, opposing the army (see Puritan Revolution) and the execution of Charles I, he was expelled in Pride's Purge (see Pride, Thomas). He opposed the Commonwealth in frequent and violent pamphlets, for which he was imprisoned (1650–53), he wrote against the Protectorate and worked for the Stuart cause. After the Restoration he was keeper of the Tower records See biography by E W Kirby (1931), William Haller, *The Rise of Puritanism* (1938)

Pryor, Roger Atkinson, 1828–1919, American journalist, soldier, and jurist, b Dinwiddie co, Va, grad Hampden-Sydney College, 1845, and the Univ of Virginia law school, 1848 He was admitted to the bar in 1849 but soon entered journalism He founded (1849) and for a time edited the *South Side Democrat* at Petersburg, Va, edited, in association with others, the Washington *Union* and the Richmond *Enquirer*, and founded (1857) *The South*, a newspaper of extreme Southern views, published in Washington Pryor was (1859–61) a Democrat in Congress His acrimonious utterances in editorials and in Congress involved him in several duels Although reelected in 1861, Pryor did not resume his seat He served in the Confederate Congress until he became a colonel in the Southern army (1862) Pryor was made a brigadier general for gallantry at Fair Oaks in the Peninsular campaign In 1863 he resigned his commission after a disagreement with Jefferson Davis, but reentered the army as a private in Fitzhugh Lee's cavalry and served until his capture in Nov, 1864 After the war he practiced law in New York for many years See Mrs Roger A Pryor, *Reminiscences of Peace and War* (1904)

Pryor, city (pop 2,501), co seat of Mayes co, NE Okla, ENE of Tulsa, settled 1872 A U S agricultural experiment station and a state home for children are here

Prypec, river, Belorussia see Pripet

Przemysl, Pol *Przemyśl* (pshĕ'mĭshul), city (pop. 36,841), SE Poland, in the foothills of the Carpathians and near the Soviet border It is chiefly a trade center The city was allegedly founded in the 8th cent Between 981 and 1340 Przemysl was alternately ruled by Poland and Kiev, it became a diocese of the Orthodox Eastern (1271) and Roman Catholic (1375) churches Included in Austrian Poland (1772–1919), it was twice besieged (1914, 1915) and once occupied (1915) by the Russians.

Przhevalsky, Nikolai Mikhailovich (nyĭkulĭ' mĕkhĭ'luvĭch purzhĭvul'skĕ), 1839–88, Russian explorer in Asia His first important work was an exploration (1867–69) of the Ussuri river region From 1871 to 1884 he made five extensive trips, principally covering the mountainous region (including the Tien Shan and the Kunlun) of W China and E Tibet, which previously had not been systematically explored by any Westerner Przhevalsky is credited with the discovery of Lob Nor and of the Altyn Tagh range He wrote *Mongolia, the Tangut Country, and the Solitudes of Northern Tibet* (Eng tr, 1876) and *From Kulja across the Tian-Shan to Lop-Nor* (Eng tr, 1879).

Przhevalsky's horse see Tarpan

Przybyszewski, Stanislaus, Pol *Stanisław Przybyszewski* (stänēs'wăf pshĭbĭshĕf'skĕ), 1868–1927, Polish novelist, essayist, and dramatist He studied in Berlin, where his friendship for a socialist led him to prison He traveled in Scandinavia, married a Norwegian woman, and under Scandinavian influence developed his philosophy of medievalism, which repudiates reason and exalts intuition He was opposed to positivism and encouraged neoromanticism Among his works, written in Polish and in German, the dramas *For Happiness* (1912, Eng tr, 1912) and *Snow* (1903, Eng tr, 1920) and the novel *Homo Sapiens* (1898, Eng tr, 1915) have been translated into English

Psalmanazar, George (săl'munā'zur), 1679?–1763, English literary impostor His real name is not known Born and educated in France, he developed a marked ability in learning languages He traveled through Europe posing as a Japanese convert to Christianity In Holland (1702) he was examined by William Innes, an English army chaplain who, though he penetrated Psalmanazar's pose, sent him to England as a Formosan convert in order to gain credit for the conversion Psalmanazar was able without detection to publish *An Historical and Geographical Description of Formosa* (1704), to invent a complete "Formosan" language, and to instruct Oxford students in the use of it However, suspicions arose, and after 1706 he was disgraced He scraped a meager living by literary hack work, became intensely religious, and wrote of his life and impostures, *Memoirs of ——— Commonly Known by the Name George Psalmanazar* (1764)

Psalms (sämz) or **Psalter** (sôl'tŭr), book of the Old Testament, in the 19th place in AV, a collection of 150 poetic pieces This has been since several centuries B C the hymnal par excellence of the Jews and subsequently of Christendom The poems are of varying date and authorship, but many are ascribed to David, cf Eccles 47 8 The versions vary extensively in dividing individual psalms, and therefore citation of number and verse is confusing The Hebrew and AV and RV use one numbering, other versions, including earlier English ones (e g, Douay), have another, as follows: AV Pss 1–8= Douay Pss 1–8, AV 9–10=Douay 9, AV 11–113= Douay 10–112; AV 114–115=Douay 113, AV 116= Douay 114–115, AV 117–146=Douay 116–145, AV 147=Douay 146–147, AV 148–150=Douay 148–150 According to the text the Psalms are divided into five books (citations are in AV numbers): Pss. 1–41, 42–72, 73–89, 90–106, 107–150 The poems vary in tone and subject Thus, some express contrition, e g, 6, 32, 38, 51 (called, from the opening word in Latin, Miserere), 102, 130 (De profundis), 143, called the penitential psalms, some are imprecatory, e g, 32, 52, 54–59, 64, 68, 109, 137, some emphasize the history of Israel, e g, 78, 104–107, 114–115 (In exitu Israel), 135, 136, some are didactic, e g, 37, 49, 50, 73, some seem to have been especially adapted to public worship, e g, 47, 95 (Venite), 105, 134–136, 148 150, some have been regarded as Messianic, e g, 2, 8, 16, 22, 45, 89, 110 (Dixit Dominus), 132, cf Luke 20 40–44, John 19 36,37 Eight are acrostics 10, 25, 34, 37, 111, 112, 119, 145 There are psalms elsewhere in the Old Testament, e g, 1 Sam 2 1–10, 2 Sam 22 (cf Ps 18), 1 Chron 16, Isa 38 10–20, Hab 3 Many psalms have "titles" or musical and other directions Most of these are obscure The history of translations of the Psalms is more extensive than that of any other part of the Old Testament Earlier English versions include those of St Aldhelm and of Richard Rolle, the Psalms have been done into English verse a number of times, e g, the Bay Psalm Book and versions by Nahum Tate and Nicholas Brady and by Isaac Watts In the Book of Common Prayer the Psalms are in the version of the Great Bible of 1539 (by Coverdale from the Vulgate), the use of this version instead of AV was continued because of its popularity, just as St Jerome had incorporated a corrected Old Latin version (called the Gallican Psalter) into the Vulgate, not using his own (superior) translation from Hebrew See (besides books listed under Old Testament) W A Wright, ed, *The Hexaplar Psalter, or, The Psalms in Six English Versions* (1911), Patrick Boylan, *The Psalms* (1921), C G Cumming, *The Assyrian and Hebrew Hymns of Praise* (1934), C C Martindale, S J, *Towards Loving the Psalms* (1940), O E W Oesterley, *The Psalms* (1939), Ronald Knox, *The Psalms a New Translation* (1947)

Psalms of Solomon see Pseudepigrapha

Psalter. see Psalms

psaltery (sôl'turē, sôl'trē), stringed musical instrument It has a flat soundboard over which a variable number of strings are stretched Its origin was in the Near East, and it is referred to in the Bible It appeared in Europe in the 12th cent and flourished until the late Middle Ages The term *psaltery* is sometimes used as a generic term for all plucked zithers having flat bodies

Psamtik (săm'tĭk, sām'tĭk), Latin *Psammetichus*, d 609 B C, king of ancient Egypt (663–609 B C), founder of the XXVI dynasty When his father, Necho, lord of Sais under the Assyrians, was defeated and slain by the Nubian Tanutamon (663), Psamtik fled to his overlord, Assur-bani-pal, who reinstated him at Sais as viceroy of Lower Egypt While Assur-bani-pal was busy in Babylonia and elsewhere, Psamtik shook off his Assyrian allegiance and became master of all Egypt During his long and eminently prosperous reign, he encouraged the settlement of Greek soldiers and traders, who for the first time became important in Egypt His incursion into Palestine was stopped by the Scythians His son was the Pharaoh Necho

pseudepigrapha (sōō"dĭpĭ'grufu) [Gr, =things falsely ascribed], uncanonical writings of a biblical type, usually of spurious date and authorship Three of the best-known pseudepigrapha are placed in the Apocrypha in AV 3 and 4 Esdras and the Prayer of Manasses (see Manasseh 5), the rest of the books of the Apocrypha are not pseudepigraphic, but deuterocanonical The pseudepigrapha are Jewish, composed 200 B C–A D 200, and Christian, A D 50–A D 400, sometimes their Jewish or Christian nature is obscured by importations from foreign religions The greater number are apocalyptic, see Apocalypse Jewish apocalyptic pseudepigrapha include the Ethiopic Book of Enoch (150 B C –100 B C), of composite authorship, accepting the Resurrection and judgment, the Secrets of Enoch (A D c 50), by a Hellenistic Jew under strong non-Jewish influence, the Testaments of the Twelve Patriarchs (c 100 B C), by an idealistic Pharisee, probably popular with early Christians, the Assumption of Moses (A D c 1), by a Pharisee opposed to the politicians of his sect, the Sibylline Oracles, an accumulation (200 B C –A D 200) of Messianic prophecies, the Apocalypse of Baruch (1st cent), similar in hope to 2 Esdras Biblical stories romantically elaborated include the Books of Adam and Eve, Joseph and Asenath (see Gen 41 45), and Jannes and Jambres The Psalms of Solomon (c 50 B C), by Pharisees, denounce the later Maccabees Two histories of the world, the Book of Jubilees or Little Genesis (c 100 B C), ending with the giving of the Law on Sinai, and the Book of Biblical Antiquities (A D c 100), ascribed to Philo, ending with the accession of David, are intended to bear the same relation to the canonical books covering their material as Chronicles do to 2 Samuel and Kings Supposedly historical, 3 Maccabees tells how the Egyptian Jews escaped a massacre in the 3d cent B C, 4 Maccabees is an essay on the Law with Greek philosophical elaborations,

5 Maccabees is an imitation of 1 Maccabees and the material of Josephus on that family From Christian authors there are apocalypses attributed to most apostles and Jewish heroes, often simply revisions of Jewish works They include the Apocalypse of Peter (c 150), the Shepherd of HERMAS, and the Ascension of Isaiah, which is composed of Jewish legends on his death and an apocalypse offering information on Christian trends The canonical Gospels, Acts, and Epistles became models for many pseudepigrapha, the majority of which were written to give an odor of sanctity to beliefs challenged as heretical The fragmentary Gospel according to the Hebrews (c 100) was apparently similar to Matthew The Gospel of Nicodemus (300–500) was influential in the Middle Ages; it contains the Acts of Pilate (Pilate's report on the Crucifixion) and the HARROWING OF HELL GNOSTICISM is apparent in many gospels, e g , the Protevangelium of James and the Gospel of Thomas (both probably 2d cent), these are full of legends on Mary and Jesus Elaborations of these gospels were popular, e g , the Arabic Gospel of the Infancy of Jesus Fragmentary heretical gospels include the Gospels of the Twelve and of the Egyptians There are books of Acts named for most apostles, mainly heretical The Acts of Thomas or Judas Thomas is informative on Christianity in Mesopotamia The DIDACHE and the Apostolic CONSTITUTIONS are ancient, probably genuine, compilations Undoubtedly genuine are certain epistles, one of St CLEMENT I, seven of ST IGNATIUS OF ANTIOCH, one of St POLYCARP, and one of the church of Smyrna on Polycarp's martyrdom An epistle of the 1st cent denouncing the reaction toward Judaism in Christian circles is ascribed traditionally to St Barnabas The Epistles of Abgar (c 200) were popular for their pretended authorship by Jesus and a sick king of Edessa The spurious epistles of Paul, Clement, Ignatius, and others throw light on the Christian tendencies of the first four centuries See AGRAPHA OF JESUS See R H Charles, *The Apocrypha and Pseudepigrapha of the Old Testament* (1913); C C Torrey, *The Apocryphal Literature* (1945)

Pseudo-Dionysius: see DIONYSIUS THE AREOPAGITE, SAINT

pseudonym (sōō'dŭnĭm, sū–) [Gr ,=false name], name assumed by writers and others to conceal identity Famous examples in literature are Boz (Charles Dickens), Fiona Macleod (William Sharp), George Eliot (Mary Ann Evans), Mark Twain (Samuel Clemens), O Henry (William Sydney Porter), Stendhal (Marie Henri Beyle), and George Sand (Mme Dudevant) See the standard dictionary of anonyms and pseudonyms in French and Latin by A A BARBIER, Samuel Halkett and John Laing, *Dictionary of Anonymous and Pseudonymous English Literature* (rev ed , 7 vols , 1926–32), A. V. Morris, *Anonyms and Pseudonyms* (1934).

Psiloriti, Crete see IDA, MOUNT

psittacosis (sĭtŭkō'sĭs) or **parrot fever,** disease of certain birds, e g , the parrot, parrakeet, lovebird, and canary, believed to be caused by a virus A highly contagious disease, it is readily transmitted to man Patients with the disease should be strictly isolated to prevent its spread Apparently healthy birds have been found to be carriers of it Symptoms of parrot fever are very similar to those of influenza, pneumonia, and typhoid fever, and therefore many cases of it were mistakenly diagnosed Treatment by penicillin has often been successful Children seem to have more immunity to it than adults

Pskov (puskôf'), city (pop. 59,898), capital of Pskov oblast, W European RSFSR, near the southern end of Lake Peipus and the Estonian border It is one of the oldest Russian cities, dating from the early 10th cent Originally an outpost of Novgorod, it became (14th cent) an independent, democratic city-state and a flourishing commercial center. The Hanseatic League possessed trading privileges here. With the annexation (1510) of Pskov by Moscow its ancient democratic institutions disappeared. Its importance, except as a strategic fortress, soon declined The railroad station of Pskov was the scene (1917) of Nicholas II's abdication In the Second World War the city was occupied by the Germans and suffered much destruction. The historic core of Pskov is the inner walled city, containing a famous kremlin (12th–16th cent), with towers in the Byzantine style, a cathedral, and numerous medieval churches and monasteries. Modern Pskov is an important rail junction and a manufacturing center, producing linen and agricultural machinery

Psyche (sī'kē) [Gr.,=breath, soul, spirit], in Greek literature, personification of the human soul In later Greek literature a legend was developed Cupid (or Eros), the god of love, loved Psyche and secreted her in a beautiful palace Since he was a god, he forbade her to look at him when he visited her She disobeyed, and he left her. Thenceforth she suffered many hardships, but at last she was made immortal and was united with Eros forever

psychiatry (sŭkī'ŭtrē, sī–), branch of medicine which deals with the diagnosis and treatment of mental disorders. Until the time of Philippe PINEL there was no organized attempt to study or treat mental abnormalities or to improve institutional conditions for the insane. Throughout the 19th cent. reformers, such as Dorothea L. DIX, whose efforts were primarily humanitarian, fought for legislation and improved conditions. The start of the 20th cent. saw the organization of the MENTAL HYGIENE movement, dedicated to the prevention of mental disease through guidance clinics and education. During this period scientists were seeking the underlying causes of mental and nervous disorders. Emil Kraepelin, on the basis of prognostic considerations, was the first to delineate PSYCHOSIS, making the two general classifications of MANIC-DEPRESSIVE PSYCHOSIS and of dementia praecox (see SCHIZOPHRENIA) Gradually, some psychiatrists, led by Sigmund FREUD, turned from the study of organic structural traits to those of the behavior and emotional history of the patient as a clue to the nature of neurosis and psychosis Since the 1930s new methods of psychosurgery and the development of SHOCK THERAPY have resulted in improvement and remissions in certain types of psychoses PSYCHOTHERAPY and PSYCHOANALYSIS are now in general use and are even being applied with some success to disorders whose symptoms appear to be essentially physical (see PSYCHOSOMATIC MEDICINE) See W. A White, *Outlines of Psychiatry* (1932), Eugen Bleuler, *Textbook of Psychiatry* (Eng tr , reissue, 1934), Oscar Diethelm, *Treatment in Psychiatry* (1936), Gregory Zilboorg, *History of Medical Psychiatry* (1941)

psychical research (sī'kĭkul) or **parapsychology** (pă"rusīkŏ'lujē), study of mental phenomena not explainable by accepted principles of science. The use of scientific discipline in the investigation of paranormal and supernormal phenomena is comparatively modern, having its inception with the foundation (1882) in London of the Society for Psychical Research The early efforts were to dissociate psychical phenomena from spiritualism and superstition and particularly involved investigation of mediums and their claims of evoking spirits or apparitions They also studied automatic writing, levitation, and ectoplasm and poltergeist activities One of its principal founders, F W. H Meyers, summed up the society's early efforts in *Human Personality and Its Survival of Bodily Death* (1903) An American Society for Psychical Research was also founded, J H Hyslop was a major figure in it. Considerable experimentation has been carried on over the years, perhaps the best known being that of J B Rhine at Duke Univ Most study has been given to the area of extrasensory perception, a term originated by Rhine, to include telepathy, clairvoyance, and foreknowledge The Duke Univ laboratory has also investigated psychokinesis, the exercise of direct mental influence by matter In England the work of Whately Carington and S G Soal has paralleled that of Rhine The most common technique used has been card guessing and picture guessing Although positive conclusions have been claimed by scientists of repute, the methods and results are highly criticized by many There has been increasing interest in psychical research with fellowships established at Cambridge and Harvard universities, and a full scale laboratory in operation at the Univ of Groningen See Whately Carington, *Thought Transference* (1946), J B. Rhine, *Reach of the Mind* (1947)

psychoanalysis (sī"kōună'lusĭs), name given by Sigmund FREUD both to a system of psychopathology and to a therapeutic procedure designed primarily for the treatment of NEUROSIS Psychoanalysis began after Freud studied (1885–86) with Charcot in Paris and became convinced that hysteria was caused not by organic changes in the nervous system but by emotional disorders Later, in collaboration with, and influenced by, Josef Breuer, he wrote two papers on hysteria (1893, 1895) that were to be the precursors of the vast body of psychoanalytic theory The basic postulate of psychoanalysis, the concept of a dynamic UNCONSCIOUS, grew out of Freud's observation that the physical symptoms of hysterical patients tended to disappear after apparently forgotten material was made conscious He saw the unconscious as an area of great psychic activity, which influenced every action but operated with material not subject to recall by normal processes The mechanism inducing this so-called forgetfulness he called *repression*, and the one preventing repressed material from being brought to the surface he called *resistance* Observing the relationship between neurosis and repressed memories, Freud made conscious recognition of these forgotten scenes the keystone of psychoanalytic therapy Hypnosis was the earliest method used to probe the unconscious, but due to its limited effectiveness it was soon discarded in favor of free ASSOCIATION. Dreams, which Freud interpreted as symbolic wish fulfillments, were another key to the unconscious. A further factor in the analytic situation was what Freud called transference, the heightened emotional reaction of the patient to the analyst, which was believed to be a reactivation of the patient's infantile feelings for important figures of his early life, such as parents and siblings. To clarify the operation of the human psyche Freud and his followers introduced a vast body of theory. On the basis of observation and speculation, Freud conceived of the presence of two oppositional instincts or, more precisely, drives toward a particular type of behavior One of these, the death instinct, impels the individual toward aggressive, hostile, and destructive behavior; the other, the sexual instinct, moves in the direction of erotic, constructive, and affectionate behavior Freud believed that under ideal circumstances of adjustment the two drives would interact in such a way as to neutralize the overt primitive expressions of each other. It is basic psychoanalytic theory that damming up the energy of instinctual drives is crucial in producing neurosis Freud's theory of psychosexuality developed from the theory of infantile sexuality, in which he saw the libido, or sexual energy, of the infant progressively seeking outlet through different body zones (oral, anal, urethral, phallic, and genital) during the first five years of life Besides the changes in bodily localization, the libido is also believed to undergo development with respect to the object toward which it is directed The first object is the child's own body, the stage of NARCISSISM, later it is directed toward the parents, at which time the OEDIPUS COMPLEX develops, finally, if mature, it transfers to objects in the outer world, the so-called genital stage These impulses, however, may be arrested, or fixated, at some point in the process of libidinal development, or the libido of the adult, because of prolonged frustration, can be diverted from its normal genital outlet by means of regression, a return to objects or satisfactions associated with infantile life Diversion of libidinal energy from its proper channel is thought to prevent a mature response to the complexities of adulthood However, Freud believed that in the emotionally mature person a good part of the libidinal energy could be deflected by the process of sublimation from its unconscious sexual aim to nonsexual, socially useful goals In considering the human personality as a whole Freud divided it into three functional parts, id, ego, and superego He saw the id as the reservoir of the instinctual drives, imbedded in the deepest level of the unconscious and dominated by the pleasure principle, an automatic aspect of mental activity, with its object immediate gratification of drives The superego, originating in the child through identification with parents and others and in response to social pressures, functions as an internal censor, embracing both a conscious and an unconscious conscience Freud considered the ego that part of the id modified by contact with the external world Although only partly conscious, it makes up the bulk of what is commonly referred to as consciousness It is seen as the mental agent mediating between three contending forces, the outside demands of social pressure or reality, the libidinal demands for immediate satisfaction arising from the id, and the claims of the superego In reconciling these forces which converge upon it, the mature ego conforms to the reality principle, the acceptance of temporary denial of immediate pleasure in order to avoid painful consequences or to make gratification possible at a later date Further, psychoanalysts believe that the ego has available, besides repression and sublimation, several other means (see DEFENSE MECHANISM) which it utilizes in protecting itself against demands of the id Psychoanalysis, from its inception until 1906, was for all intents and purposes the private preserve of Freud After that date he was joined by an increasing number of students and physicians, among whom were C G JUNG and Alfred ADLER Both made significant contributions, but by 1913 ceased to be identified with the main body of psychoanalysis because of theoretical disagreements in relation to Freud's strong emphasis on sexual motivation Orthodox Freudian psychoanalysis was challenged in the 1920s by Otto RANK, Sandor Ferenczi, and Wilhelm Reich, later, in the 1930s, by Karen HORNEY, Erich Fromm, and Harry Stack SULLIVAN This latter group emphasizes social and cultural factors in neurosis and, in therapy, stresses the interpersonal aspect of the analyst-patient relationship Psychoanalysis is no longer confined to the analyst's office It has made significant contributions in the fields of child rearing and education, in the cultural and social sciences, and in the arts. See the works of Freud, K A Menninger, *Man against Himself* (1938), Ives Hendrick, *Facts and Theories of Psychoanalysis* (1939), Karen Horney, *New Ways in Psychoanalysis* (1939), Erich Fromm, *Escape from Freedom* (1941); Abram Kardiner, *Psychological Frontiers of Society* (1945), Franz Alexander, *Fundamentals of Psychoanalysis* (1948)

psychology (sīkŏ'lujē) is often described as the science or study of mind. Such a definition, however, without an accompanying adequate description of what is meant exactly by mind is without meaning, and as yet there is no agreement among psychologists upon any single definition of mind. By some, for example, mind is considered a definite thing apart from the body and as such

virtually synonymous with soul. Others, although they set up the mind as distinct from body, bind it to body by the interaction held to take place between the two. Still others, in an attempt to do away with this separation, tie mind closely to the brain, making the one a function of the other. Others, however, deny existence of mind altogether, basing their conclusion on the belief that human behavior can be adequately described without the use of any such vague and indefinable term. Though these matters are of concern to modern schools, they have shown less inclination than did their predecessors to involve themselves in broad, theoretical controversies. Contemporary psychology, in general, is interested in the total organism in all its aspects—its behavior as well as its mental activities. In its widest sense modern psychology can be defined as the science that studies interactions between living organisms and the environment. This view is designed to enable psychology to avoid the mechanistic approach of strict behaviorism, as well as the extreme of idealism which is part of its philosophical heritage. The subject matter of psychology is difficult to limit. It is closely allied to biological science in that it treats of living things and, in the search for causative factors governing their behavior, turns often for assistance to the study of anatomy and physiology—in the human being, for example, to the study of the nervous system. With anthropology, psychology has a common bond in being concerned with man as a particular kind of animal. It overlaps, in some degree, the subject matter of physics, as in its treatment of certain senses—vision, hearing, and touch—and of chemistry, as in its explanation of taste and smell. In spite of these varied and close connections, however, it still retains its identity as a specific branch of science in that no complete and wholly adequate explanation of an individual's behavior can be obtained entirely in terms of any one of the other sciences. Such of its important concepts as those of the emotions, the instincts, intelligence, and even consciousness are therefore described in terms of their relationship to the behavior of the individual as a whole. In its earliest speculative period psychological study was chiefly embodied in philosophical and theological discussions of the soul. The *De anima* of Aristotle is considered the first monument of psychology as such, while the foundations of modern psychology were laid by Hobbes in the 17th cent. The three body-mind theories which dominated later psychological thought were outlined in the 17th cent.—interactionism by Descartes, monism by Spinoza, and parallelism by Leibniz. The Leibniz theory of monads contributed also to the founding of faculty psychology by Christian von Wolff. The school was so called because it attributed separate faculties to the soul or mind. In England empirical psychology originated in the work of Locke, Berkeley, Reid, and Hume. It was followed by the associational psychology of David Hartley, James Mill, John Stuart Mill, and Alexander Bain, who stressed the relation of physiology to psychology, thus giving rise to physiological psychology. There were important contributions made in this field by Condillac, F. J. Gall, the founder of phrenology, and Paul Broca, who localized speech centers in the brain. Two factors dominating the beginnings of scientific psychology in the 19th cent. were the experimental method and the principle of evolution. The former was represented by the great laboratory work of the Germans E. H. Weber, G. T. Fechner, Wilhelm Wundt, and H. L. F. von Helmholtz and the Englishman, E. B. Titchener. The principle of evolution, stemming from Charles Darwin, gave rise to what was later called dynamic psychology. This approach was ably presented by William James in his *Principles of Psychology* (1890). Out of the new orientation in psychology grew the clinical experiments in hysteria and hypnotism carried on by J. M. Charcot and Pierre Janet in France. Sigmund Freud, in his elaborate theory of the unconscious, gave a new direction to psychology and laid the groundwork for PSYCHOANALYSIS. Freudian theory took psychology into such fields as education, anthropology, and medicine. The BEHAVIORISM of J. B. Watson played a highly influential part in American thought in the 1920s and '30s. Educational psychology derives from Froebel and Pestalozzi and their follower Herbart, and in later times it was developed by G. Stanley Hall and by E. L. Thorndike, who also worked in the field of genetic psychology, as did Galton. Social psychology was developed by such men as William McDougall and Havelock Ellis. Other branches of the field include child psychology, individual psychology, and religious psychology. Animal psychology, or the study of animal behavior, has become especially prominent in the 20th cent., and much research has been done on the sense perceptions of animals (vision and hearing) and their learning ability and intelligence. Great impetus was given by the work of Wolfgang Köhler on the chimpanzee. With Koffka he developed the school of GESTALT PSYCHOLOGY. In so-called applied psychology, psychological principles are adapted to industry and commerce. See E. F. Heidbreder, *Seven Psychologies* (1933), E. G. Boring and others, *Foundations of Psychology* (1948), R. S. Woodworth, *Contemporary Schools of Psychology* (rev. ed., 1948), Gardner Murphy, *Historical Introduction to Modern Psychology* (rev. ed., 1949).

psychoneurosis, see NEUROSIS.

psychosis (sīkō'sĭs), in PSYCHIATRY, mental disease, either functional or organic, involving emotional disturbances which render the individual incapable of adjusting realistically to his environment. The symptoms may include, either separately or in combination, disturbance of reality appreciation (hallucinations and delusions), severe deviation of mood (depression and mania), lack of, or inappropriateness of, apparent emotional response, and severe distortion of judgment. In legal usage the term INSANITY, not used in psychiatry, is applied to those psychoses in which the moral judgment of the individual is considered impaired. Among the more common of the organic psychoses, so called because of the structural damage of the brain, are general paresis, senile dementia, and certain late and neglected stages of genuine epilepsy. All psychoses, such as SCHIZOPHRENIA, PARANOIA, and MANIC-DEPRESSIVE PSYCHOSIS, which display no observable organic damage, are termed functional. Some psychiatrists, however, hold that the functional psychosis, like the organic, is the result of structural damage, as yet unknown. Psychoanalysis, on the other hand, has tended to emphasize the role of emotional conflicts. New techniques in psychosurgery and the administration of SHOCK THERAPY have proved valuable in the treatment of certain of the psychoses.

psychosomatic medicine (sī"kōsōmă'tĭk) treats emotional disturbances, usually unconscious, which manifest themselves in the form of physical disorders. The term *psychosomatic* emphasizes essential unity of the psyche and the soma, a combination rooted in ancient Greek medicine. The treatment ordinarily involves a medical regimen as well as some form of PSYCHOTHERAPY for the patient. Sigmund Freud, at the end of the 19th cent., laid the scientific groundwork for the psychosomatic study with his theoretical formulations based upon new methods of treating HYSTERIA. It was further reinforced by the psychobiology of Adolf Meyer and the research of W. B. Cannon on the physiological effects of acute emotion. Helen Flanders Dunbar's *Emotions and Bodily Changes* (1935), along with the founding (1939), under her editorship, of the publication *Psychosomatic Medicine*, helped establish psychosomatics as a separate field of research. Especially successful in the treatment of stomach ulcer, psychosomatic medicine has begun to treat such disorders as heart disease, rheumatics, asthma, and endocrine disturbances. See Franz Alexander and others, *Studies in Psychosomatic Medicine* (1948), Edward Weiss and O. S. English, *Psychosomatic Medicine* (2d ed., 1949).

psychotherapy (sī"kōthĕ'rupē), treatment of mental disorders by psychological methods. Although this type of treatment has been used in one form or another through the ages, it was not until the late 19th cent. that it received scientific impetus, primarily under the leadership of Sigmund Freud. His use of hypnosis in the treatment of hysteria led to the development of PSYCHOANALYSIS, now a specialized field. In cases where this form of therapy is deemed inadvisable or unwarranted, direction, support, and suggestion are used in an attempt to help the patient function on a higher level without becoming aware of the deeper, or unconscious, motives of his behavior. Such treatment is often supplemented by occupational therapy.

psyllium seed, see PLANTAIN.

Pt, chemical symbol of the element PLATINUM.

Ptah, see EGYPTIAN RELIGION.

ptarmigan (tär'mĭgŭn), game bird of the GROUSE family, characterized by the almost complete feathering of the legs and by seasonal changes of plumage. The willow and the rock ptarmigans range over arctic and subarctic regions and migrate southward in winter, occasionally to the United States. The white-tailed ptarmigan nests in the Rocky Mts. above the timber line. Protectively colored at all seasons, the birds molt three times a year. During the winter they match the snow. In the spring the males develop the chiefly brown, black-barred nuptial plumage, the females a more somber covering. White feathers gradually replace some of the dark summer feathers, resulting in the mixed fall coloring which is again replaced by the white winter dress. People of the Far North depend upon ptarmigans for much of their food.

pterodactyl (tĕrŭdăk'tĭl), extinct winged reptile of the order Pterosauria or Pterodactyla, abundant in the Mesozoic era of geologic time. The flying apparatus of the pterodactyls consisted of a membranous wing stretched between the fourth finger of the hand and the sides of the body. The fifth finger was degenerate, and the first three were free of the wing. The earlier varieties had fully toothed jaws and long tails, while in the later forms (e.g., *Pteranodon* of the Kansas chalk), the tail was a stump, and teeth were lacking, the jaws being modified into a beak. Sizes varied from that of a small perching bird to that of a dragon with a wingspread of more than 20 ft. The pterodactyl, unlike the ARCHAEOPTERYX, was not ancestral to the birds, but represented a wholly separate line of development.

Ptolemais (tŏlumā'ĭs), ancient name given to several cities to honor members of the dynasty of the Ptolemies. One of these was ACRE. Another was one of the great Hellenistic cities of Upper Egypt, on the Nile and S of Abydos. A third, in Cyrenaica, was one of the cities of the Libyan Pentapolis. A fourth was a small town, sometimes called Ptolemais Theron, on the Red Sea.

Ptolemy I (Ptolemy Soter) (tŏ'lumē sō'tur), d. 283 B.C., first king of the Macedonian dynasty (XXI or Lagid dynasty) of ancient Egypt, son of a Macedonian named Lagus. He was one of the leading generals of Alexander the Great, and after Alexander's death (323 B.C.) he joined the other DIADOCHI in dividing and quarreling over the empire. Ptolemy got Egypt and managed to keep control of it in the midst of incessant warfare. To strengthen his position he married Eurydice, daughter of ANTIPATER (though he soon shifted his affection to her cousin and his own half sister, Berenice). He defeated (321) PERDICCAS, and in the confused struggle for imperial power he at first supported ANTIGONUS I against EUMENES, then fearing Antigonus' efforts to remake the empire, allied himself with CASSANDER and LYSIMACHUS. Ptolemy defeated the troops of Antigonus in 312, but was himself defeated at Salamis in 306. The ultimate defeat and death of Antigonus at Ipsus in 301 clarified the situation somewhat. Ptolemy had already (304) declared himself king. He did much to make Alexandria a fountainhead of art and culture and founded the great library there. See J. P. Mahaffy, *The Empire of the Ptolemies* (1895), E. R. Bevan, *A History of Egypt under the Ptolemaic Dynasty* (1927).

Ptolemy II (Ptolemy Philadelphus) (flŭdĕl'fus), c.308–246? B.C., king of ancient Egypt (283?–246? B.C.), of the Macedonian dynasty, son of Ptolemy I and BERENICE. He did much to increase the power of his kingdom and the beauty of its cities. Finances were reformed, the administration was made efficient, and a canal from the Nile to the Red Sea was but one of his economic plans. It was Ptolemy II who completed the Pharos. He warred against Syria with wavering success until he married his daughter Berenice to Antiochus II. Support to Rome in the First Punic War helped to increase his prestige. Ptolemy repudiated his wife Arsinoe to marry his sister, also named Arsinoe. He was a patron of art and literature, and Manetho compiled his history for the king.

Ptolemy III (Ptolemy Euergetes) (yōō'ûr'jĭtēz), d. 222? B.C., king of ancient Egypt (246?–222? B.C.), of the Macedonian dynasty, son of Ptolemy II and the first Arsinoë. He plunged immediately into a war with Syria, where his sister, Berenice, was trying to secure the throne for her son. Berenice and her son seem to have been murdered before Ptolemy could arrive and Seleucus II held the throne, though the Egyptian king won a brilliant if impermanent victory. Egyptian fleets controlled most of the coasts of Asia Minor and E Greece, and the kingdom was enlarged by Ptolemy's marriage to Berenice, daughter and heiress of the king of Cyrene.

Ptolemy IV (Ptolemy Philopator) (flĭŏ'putur), d. 204? B.C., king of ancient Egypt (222?–204? B.C.), of the Macedonian dynasty, son of Ptolemy III and Berenice of Cyrene. He had his mother, his brother, his uncle, and possibly also his wife (who was his sister Arsinoe) killed. ANTIOCHUS III invaded the Egyptian lands in Palestine, and Ptolemy managed to defeat him at Raphia in 217, but administration disintegrated in Egypt.

Ptolemy V (Ptolemy Epiphanes) (ĭpĭ'funēz), d. 181? B.C., king of ancient Egypt (204?–181? B.C.), of the Macedonian dynasty, son of Ptolemy IV. He succeeded to the throne as a small boy, and his reign began with disastrous civil wars. Invasions by Antiochus III of Syria and Philip V of Macedon cost Egypt all of Palestine and the Egyptian possessions in Asia Minor. Peace was confirmed by the marriage of Ptolemy to Cleopatra, daughter of Antiochus. Egypt was much weakened when his reign ended.

Ptolemy VI (Ptolemy Philometor) (flŭmĕ'tur), d. 145 B.C., king of ancient Egypt (181?–145 B.C.), of the Macedonian dynasty, son of Ptolemy V. He became king when an infant, and his mother, Cleopatra, was regent. After her death, Antiochus IV of Syria invaded Egypt, and Ptolemy was captured (170 B.C.) at Pelusium. He was forced to share the rule with his wife (also his sister), Cleopatra, and his brother, Ptolemy Physcon (later PTOLEMY VII). Trouble between the brothers ultimately caused the intervention of Rome, Ptolemy Physcon ruled over Cyrene, Ptolemy Philometor over Egypt. Ptolemy VI aided Demetrius II to gain the throne of Syria and was killed in battle with the rival claimant, Alexander Balas. His young son in theory succeeded to the throne and is sometimes

called Ptolemy VII, but he was put to death as soon as Ptolemy Physcon (who is Ptolemy VIII by the other count) could reach Egypt

Ptolemy VII (Ptolemy Physcon) (fĭ'skun), d 117? B C, king of ancient Egypt (145–117? B C), brother of Ptolemy VI He is also called Ptolemy Euergetes II He was coruler with his brother and his brother's wife after 170 B C Trouble resulted in a settlement by which Ptolemy Physcon ruled Cyrene. On his brother's death he returned to Egypt, had his nephew put to death, and married Cleopatra, his brother's widow He soon repudiated her and married her daughter, also named Cleopatra The elder Cleopatra led a revolt and drove him (130) out of Egypt He returned in 127 B C and later ruled peacefully though despotically Both queens survived him

Ptolemy VIII (Ptolemy Lathyrus) (luthĭ'rus), d 81 B C, king of ancient Egypt (117?–107 B C, 89–81 B C) of the Macedonian dynasty, son of Ptolemy VII and the younger Cleopatra He is also called Ptolemy Soter II His mother ruled jointly with him and held the actual power She forced him to accept (110 B C) as coruler his brother, Ptolemy Alexander (Ptolemy IX), who drove him from the throne in 107 Ptolemy VIII went to Cyprus and then to Syria He returned to conquer Cyprus, and in 89 he reconquered Egypt

Ptolemy IX (Ptolemy Alexander), d 89? B C, king of ancient Egypt (107–89 B C), brother of Ptolemy VIII He was governor in Cyprus when called (110 B C) by his mother to be coruler with his brother He became sole king in 107 B C He was ousted by a revolt in Alexandria and died when trying to recover the kingdom

Ptolemy X (Ptolemy Alexander), d 80 B C, king of ancient Egypt (80 B C), of the Macedonian dynasty, son of Ptolemy IX His stepmother, Cleopatra Berenice, was joint ruler with her father, Ptolemy VIII, and sole ruler after his death until the Romans under Sulla brought about her marriage to Ptolemy X, who became joint ruler A few days later he murdered her, and the Alexandrians arose and killed him

Ptolemy XI (Ptolemy Auletes) (ôlē'tēz), d 51 B.C, king of ancient Egypt (80–58 B C, 55–51 B C), of the Macedonian dynasty, illegitimate son of Ptolemy VIII He is also called Ptolemy Neos Dionysus He succeeded Ptolemy X to the throne, but his violent misrule and reprehensible life caused the Alexandrians finally to rebel and unseat him in 58 B C He sought Roman aid and through Pompey got Aulus Gabinius, proconsul of Syria, to put him back on the throne The huge sum he had to pay Gabinius beggared Egypt He made the Roman senate executor of his will and Pompey the guardian of his son Ptolemy XII

Ptolemy XII, 61?–47 B C, king of ancient Egypt (51–47 B C), of the Macedonian dynasty On the death of his father, Ptolemy XI, he was under the guardianship of Pompey He was completely overshadowed from the start by his brilliant and celebrated sister, CLEOPATRA She became his wife and ruled with him She disagreed with his advisers, notably the eunuch Pothinus, and fled to Syria She came back (48 B C) with an invading army At this juncture the defeated Pompey arrived seeking refuge and was put to death by Pothinus Julius CAESAR followed immediately He fell under the influence of Cleopatra, forced Ptolemy XII to share the throne with her again, and put down a rebellion raised by Pothinus Ptolemy was thus defeated He drowned in the Nile by accident

Ptolemy XIII, d 44 B C, king of ancient Egypt (47–44 B C), the last of the Macedonian dynasty, but for his sister, CLEOPATRA He was a mere boy when Julius Caesar married him to Cleopatra in 47 B.C and made him joint ruler with her She had him murdered

Ptolemy XIV (Ptolemy Caesarion), 47–30 B C, son of CLEOPATRA and (almost certainly) Julius Caesar He became joint ruler with his mother, but was a mere cipher in the great and tragic events that brought Egypt and Cleopatra to their doom Fearing that he might gain popular support, Octavian (later Emperor Augustus) had him put to death

Ptolemy (Claudius Ptolemaeus), fl from 127 to 141 or 151, celebrated Greco-Egyptian mathematician, astronomer, and geographer He made his observations in Alexandria and was the last great astronomer of ancient times Although he discovered the irregularity in the moon's motion, known as evection, and made original observations regarding the motions of the planets, his place in the history of science is that of collator and expounder He systematized and recorded the data and doctrines that were known to Alexandrian men of science. His works on astronomy and geography were the standard textbooks until the teachings of COPERNICUS were accepted The mathematical and astronomical systems developed by the Greeks are contained in his ALMAGEST With credit to HIPPARCHUS as his chief authority, he presented problems and explanations dealing with the known heavenly bodies and their relations to the earth The Ptolemaic system thus evolved represented the earth (a globe in form) as stationary in the center of the universe, with sun, moon, and stars revolving about it in circular orbits and at a uniform rate From the center outward the elements were earth, water, air, fire, and ether Beyond lay zones, or heavens, each an immense sphere The planets were assumed to revolve in small circles (called epicycles) whose centers revolved around the earth in the vast circles (deferents) of the spheres To account for the precession of the equinoxes and other phenomena, later astronomers found it necessary to add more epicycles and to make both epicycles and deferents eccentric Ptolemy's system of geography is founded upon the works of Marinus of Tyre; many errors stem from his underestimate of the earth's circumference His mathematical theories, most valuable in the field of trigonometry, are preserved in his *Analemma*. His writings, circulated in the original Greek and in Arabic and Latin translations, include also the *Tetrabiblos* and the *Planisphaerium*

ptomaine poisoning: see FOOD POISONING.

Pua (pū'u), variant of PHUVAH

Puah (pū'u) [Heb, =month] **1** Midwife ordered by Pharaoh to kill Jewish boys at birth (Ex 1 15 **2** Father of the judge Tola Judges 10 1 **3** See PHUVAH

puberty (pū'burtē), onset of sexual maturity This occurs in the female usually between the 12th and the 14th year and in the male a little later, from about the 12th to the 16th year At this time the generative organs become capable of exercising the function of reproduction In the female, menstruation begins and the breasts develop In the male, semen is produced and discharged, the voice changes, and the beard begins to grow

publican (pŭ'blĭkăn) [Latin, =state employee], in ancient Rome, a man who was granted a state monopoly in return for annual rent The state monopolies were principally involved with public works and tax collecting, and the most lucrative were the tax concessions The publicans mentioned in the Gospels were tax farmers The Gospels also show the general detestation in which the publicans were held, the local publicans were the employees of the wealthy Romans who took the concessions The publicans were usually all *equites* (knights), the capitalists The exactions of the publicans especially in Asia Minor, Syria, and Palestine were a perpetual cause of provincial unrest As the backbone of the capitalistic power, tax farming was protected by the senate when it was in alliance with the knights, notably in the strife between Pompey and Caesar Money from taxes was the knights' weapon against reform

public defender, official whose office is to serve as the counsel of indigent persons accused of crime His position complements that of public prosecutor (often the district attorney), who represents the government in a criminal action The institution of public defender is not usual in the United States, and it has been argued that having the office would provide better protection to the indigent than the prevalent system of having the judge assign a lawyer from the local bar to represent an accused person See M C Goldman, *The Public Defender* (2d ed, 1919)

public domain: see PUBLIC LAND

public health, the field of medicine and hygiene dealing with the prevention of disease and the promotion of health It is primarily a community, rather than an individual, responsibility Such activities are commonly carried on by official departments of public health and of education and by private health-promotion agencies Some of the areas of public health work are the regulation of community sanitation, the control of communicable diseases, including SOCIAL HYGIENE, the collection of VITAL STATISTICS, the promotion of community health education, the promotion of school and industrial hygiene, and the promotion of maternal and child health Modern concepts of public health are based on an awareness of the importance of working with the family as a unit and encompass social factors such as better housing, improved nutrition, and more equitable distribution of medical care Recent studies have emphasized the need for the coordination of the work of governmental and private agencies and for more careful local and national planning to avoid duplication of efforts Federal public health activities are carried on principally by the U S Public Health Service, which aims to assist states in the development of their own health services The main function of state health departments is to advise and aid the local health departments, which in turn render direct service to the public Most states have a board of health, appointed by the governor, which establishes regulations known as the Sanitary Code and having the effect and force of law Counties or municipalities may enact local sanitary regulations if these are not inconsistent with those of the state Local departments of public health are generally under the direction of a board of health and a health officer, appointed by the mayor, and they utilize the services of such additional personnel as physicians, public health nurses, health educators, sanitary inspectors, laboratory technicians, and statisticians Private agencies carry on both national and local public health programs supported by voluntary contributions. Their work is often related to a particular disease, such as poliomyelitis, or to a particular need, e g, visiting-nurse services See M J Roseneau, *Preventive Medicine and Hygiene* (6th ed, 1935), I V. Hiscock, ed, *Community Health Organization* (3d ed, 1939), H S Mustard, *Introduction to Public Health* (2d ed, 1945), W G Smillie, *Public Health Administration in the United States* (3d ed, 1947), J S Simmons, ed, *Public Health in the World Today* (1949)

public land, in U S history, land owned by the Federal government but not reserved for any special purpose, e g, for a park or a military reservation Except in Texas, which made retention of its public lands one of the conditions for joining the union, there are no state public lands Public land is also called land in the public domain The government may charge fees for the use of such land for grazing, lumbering, mining, harnessing water power, and other purposes Usually the policy of the Federal government was to encourage settlement of the public domain by selling tracts of 160 acres or more (see HOMESTEAD ACT), this practice at present is followed in Alaska only Vast tracts of lands also were given to railroads as part of the right of way and to the land-grant colleges These owners obtained revenue by selling the land Gradually nearly all the public domain which had utility passed into private hands It was charged that large companies frequently acquired extensive holdings by dishonest means A reaction to this easy policy set in towards the end of the 19th cent, and steps were taken to insure the CONSERVATION OF NATURAL RESOURCES by withdrawing public lands from sale In the administration of President F D Roosevelt there were additions made to the public domain by the purchase of large tracts of land which had become barren The term "public domain" is also applied to products or operations of a type which ordinarily may enjoy copyright or patent protection but on which the protection has lapsed or has never been taken out Thus, a literary work is said to be in the public domain after expiration of the copyright term See Roy M Robbins, *Our Landed Heritage the Public Domain, 1776–1936* (1942)

public ownership, government ownership of lands, streets, public buildings, utilities, and other business enterprises The theory that all land and its resources belong ultimately to the people and therefore to the king or government is very ancient From it comes the doctrine of eminent domain, asserting the paramount control of the state over lands and buildings within its borders Until the policy of laissez faire in the 18th cent emphasized capitalistic activity, public ownership was unquestioned In ancient times governments owned and conducted many enterprises, such as water systems, theaters, and baths In the United States, governmental units own and manage the postal service, the public school system, public highways and bridges, dams for the reclamation of land and for power (and the management and sale of power), and many other enterprises The Panama Canal is an outstanding example of public ownership The importance of public utilities to the life of the community has frequently led to municipal ownership of water, sewerage, electric light, power, gas, and transportation systems In Europe, where public ownership is more extensive and of longer standing than in the United States, it has been extended to include railroads, telephone and telegraph lines, radio, coal mining, and banking Public ownership has been practiced most extensively in Soviet Russia, where the government owns almost all the land, and all the natural resources and where utilities, banking, transportation, and nearly all industries are carried on by state corporations or trusts Public ownership is to be sharply distinguished from government control of private enterprises in utilities, business, and agriculture, in the United States such control has been increased not only by laws imposing regulation but also through loans, direct financing, and the creation of corporations involving a greater or lesser measure of government regulation of the activities in question Atomic-energy development is a recent conspicuous example of public ownership enterprise See A Z Berman, *Municipal Enterprise* (1940), S E Chase, *Government in Business* (1935)

public school, in the United States, a tax-supported elementary or high school open to all In England the term was originally applied to grammar schools endowed for the use of the lay public, it has come to be used for the great endowed preparatory schools, which, however, charge tuition The English public schools include Charterhouse, Cheltenham, Clifton, Eton, Harrow, Rugby, Westminster, and Winchester.

public utility. see UTILITY, PUBLIC

Public Works Administration (PWA), government organ established (1933) by the U S Congress as the Federal Administration of Public Works, pursuant to the National Industrial Recovery Act In the hope of stabilizing employment and purchasing power, President F. D. Roosevelt brought about

the creation of this agency to administer the construction of various works—e g , public buildings, bridges, dams, and housing developments—and to make loans to states and municipalities for similar projects Subsequent legislation continued its operation, under the administration (1933–39) of Harold L Ickes, the PWA completed a great many public projects President Roosevelt's reorganization plan of 1939 made the PWA only a division of the Federal Works Agency By Jan. 1, 1947, the PWA was virtually liquidated

publishing, in the broadest sense, making something publicly known Usually in the modern world, the term refers to the issuing of printed materials, the "making public" of books, magazines, periodicals, and the like There is great latitude of meaning, partly because publishing has never emerged, and cannot emerge as a profession completely separate from printing on the one hand and retailing of printed matter on the other A book or pamphlet may be printed but not published, i e , it may be issued only for the private use of the author or some other person or group, when it is commonly said to be privately printed On the other hand, an author may publish his own work, print it himself or have it printed, then make arrangements to have it publicly distributed on his own behalf Public distribution is essential to make the process publishing In newspapers and periodicals, the owners and policy makers are sometimes called the publishers, while the editorial staff and the printing staff are considered separately In publication of books and magazines, on the other hand, those who merely own stock in a publishing firm are not always included in the class of publishers, while the publishers are the active managers of the firms Loosely, editors, and those in charge of production and primary (or wholesale) distribution are never excluded The publisher stands normally between the author and the printer and between the author and the public, while between the publisher and the public are the bookstores and other means of distribution The profession is primarily one of service, with the aim of preparing the work of an author in the most suitable form and presenting it in the most efficient manner to the widest audience for that particular work This is an ideal that is perhaps more often nobly expressed than it is adequately performed, but the contribution that the publisher has made to the spread of information and the development of literary art in the modern world is undeniable and great The making of extra copies of manuscripts for sale or distribution was known in the ancient world There is some evidence of such handling of manuscripts in Athens in the 5th cent B C , and the great libraries of the Hellenistic world encourage the making of copies of manuscripts In Rome there were booksellers - Horace mentions the Sosii, who were apparently brothers—and the copying of books by trained slaves reached considerable proportions In imperial times there seems to have been an organized business of making and selling books With the decline of Rome, the Church was left as the sole preserver of learning, and the copying of manuscripts was limited to the monastic *scriptoria* Manuscript publication thus ceased It was revived somewhat with the humanists of the early Renaissance, but the immense labor required always kept reproduction at a minimum With the introduction of printing to Europe in the middle of the 15th cent , (see TYPE), publishing at once sprang into lively existence, though it was at first only a function of the printer The author, the printer, and the publisher of a work were sometimes all the same man, as in the case of members of the Estienne family The differentiation of printer, publisher, and bookseller began to appear astonishingly early, however, as patrons of literature had books printed for distribution and booksellers had works made by others to meet their demands The first important publishing house was that of the Elzevir family (see ELZEVIR LOUIS) which first issued a book in 1583 The Elzevirs were businessmen rather than scholars like the Estiennes, and the business of bookselling grew as literacy spread The converse is also true printing, publishing, and bookselling spread learning across the West Religious controversy bred polemics, and arguments committed to broadsides, pamphlets, and books were handed out zealously and bought eagerly by partisans Not long after the appearance of printing came censorship, one of the bugaboos of publishing ever since The opponents of censorship today are taking a short view when they say that increasing censorship is increasing, it was not so long ago, in the days of the Puritan Revolution in England, that a man could have his ears cropped for injudiciously publishing works critical of the authorities Not only religious and political controversies but abiding interest in knowing the future tended to swell the amount of literature issued by bookseller-publishers, and almanacs and the like were issued for the wider public. With the steadily broadening mass of readers, slowly great publishing houses came into being; many were well established by the late 18th cent Leipzig had become a printing center in the 15th cent. and retained its eminence, along with Munich, most of the large German cities by the end of the 19th cent had flourishing publishing concerns Modern cities with long traditions of publishing are Vienna, Florence and Milan, Zurich, Paris, and London and Edinburgh The rate of literacy is very high in the Scandinavian countries, and publishing occupies a relatively larger place in the economy than in most Western countries Small Iceland has been particularly noted for its book trade In the United States, Boston, Philadelphia, and New York early took the lead in publishing, with the weight ultimately swinging to New York; in the 20th cent this lead has been challenged somewhat by Western cities By the beginning of the 19th cent specialization had become noticeable among publishers, and it continued to become more and more marked Music publishing is almost a completely separate business, and map publishing is almost as much so Somewhat less rigidly divorced from "general" publishing are the houses specializing in religious books, in textbooks, in art books, in technical books, and in reprints Frequently the matter is one of emphasis only, and a house issuing works for the general trade may have a strong textbook department, a strong juvenile department, or a good list of sports books Some houses founded for more or less special purposes may broaden their scope, as is sometimes the case with the UNIVERSITY PRESS Specialization also has grown in the late 19th and 20th cent within many of the houses themselves, with the separation not only according to the type of book but also according to the function of the workers Thus, editorial departments become distinct from production, and both may be quite separate from sales, promotion, and distribution The multiplication of technical specialties often, indeed, goes much farther The copy editor who prepares a book for printing may have nothing to do with the policy-setting editor who chooses or helps to choose books for publication, the designer of a book may be an artist employed to design one book or may be a staff designer who does not deal with the mechanics of ordering printing, an advertising copy writer may have nothing to do with actual handling of sales This splintering of functions, however, varies from one publishing firm to another and no generalization can do more than vaguely indicate trends that appear among some of the more prominent publishers The necessity for numerous skills and specialties, however, creates a problem, particularly in the United States, where the extent of the country and the generally high standard of living tend to have a bearing on publishing and restrict much of the book trade to a large mass market This is the more particularly true because books are a luxury item with which the usual purchaser can dispense when hard times cut down his spending money One proposal for meeting the problem in the United States has been the issuance of paper-backed books, which have long been a standard form of book publication in Continental countries The paper-backed, pocket-sized book rose meteorically in popularity in the English-speaking countries in the 1930s and 1940s but most —indeed almost all —of the works thus published have been reprints, and thus have not shown any answer to the problem The great problems of an earlier time were, however, successfully met, as publishers drew together and aided in having COPYRIGHT laws passed to halt the "pirating" of books and succeeded, after a long struggle, in establishing considerable regulation of book sales to enforce fixed prices There are today active associations among publishers, the most notable in the United States being the American Book Publishers Council (successor to the National ASSOCIATION of Book Publishers) For material on magazine and newspaper publishing, see JOURNALISM, NEWSPAPER, PERIODICAL See R L Duffus, *Books Their Place in a Democracy* (1930), O H Cheney and others, *Economic Survey of the Book Industry, 1930–1931* (1932), Sir Stanley Unwin, *The Truth about Publishing* (new ed , 1946), F L Mott, *Golden Multitudes the Story of Best Sellers in the United States* (1947), William Miller, *The Book Industry* (1949)

Publius, Paul's host at Malta Acts 28 7–10

Puccini, Giacomo (jä'kōmō pōōt-chē'nē), 1858–1924, Italian operatic composer, pupil of Ponchielli at the Milan Conservatory His outstanding operas are *Manon Lescaut* (1893), *La Bohème* (1896), *La Tosca* (1900), *Madame Butterfly* (1904), a failure when first produced, two one-act operas, *Il tabarro* and *Gianni Schicchi* (both 1918), and *Turandot* (completed by Franco Alfano and produced posthumously, 1926) *The Girl of the Golden West* (New York, 1910), based on David Belasco's play, was popular for a time Elements of verism and exoticism, an overflow of sensuous melodic material, and a genuine sense for the theater characterize his music, which is essentially romantic and often strikingly original, despite its debt to Wagner, Verdi, and Debussy See his letters (ed by Giuseppe Adami, Eng tr , 1931), biographies by Richard Specht (1933) and Vincent Seligman (1938)

Puck (pŭk), in Germanic folklore, the generic name for a minor order of devils, sprites, goblins, or demons. In *Piers Ploughman* the name (spelled *pouke*) signifies the devil In Spenser's *Epithalamion* Puck is classed as an "evil spright" Shakspere, who adopted the present spelling of the name, was the first to identify Puck with ROBIN GOODFELLOW

pudding. Early writers on cookery class puddings and dumplings together The earliest puddings were boiled in a bag or cloth Later they were placed in a buttered bowl or dish, covered with a cloth and steamed The baked or chilled puddings are still a later form Puddings are classed as those which are served with meat, such as Yorkshire pudding (batter baked with the meat or in the drippings), or which form the meat course, such as Sussex pudding (a large dumpling filled with meat instead of fruit), and those which are served as a sweet or dessert, such as almond, cabinet, and suet puddings, plum or Christmas pudding, and Indian pudding, as well as puddings made with milk, eggs, rice, sago, tapioca, arrowroot, cornstarch, bread crumbs, and fruit Custards are included by some writers, and jellied fruits by others An early use of the word, as in black pudding or white pudding, referred to forms of sausage

Pudens (pū'dĕnz) [Latin,=modest], Christian of Rome 2 Tim 4 21

Pudovkin, Vsevolod Ilarionovich (fsyĕ'vulŭt ĕlŭryôn'uvĭch pōōdôf'kĭn), 1893–, Russian moving-picture director Among the films which show his innovations in technique are *The Mechanism of the Brain, Chess Fever, Mother, Storm over Asia, Deserter*, and *General Suvorov* He wrote *Film Technique* (Eng tr , enl ed , 1933) and *Film Acting* (Eng tr , 1935), important works in which he demonstrates the distinct characteristics of the film medium

Puebla (pwā'blä), state (13,126 sq mi , 1946 pop. 1,440,000), E central Mexico Except for large valleys between ranges, the state is almost entirely mountainous The northern part is dominated by the Sierra Madre Oriental, and across the center stretches the volcanic belt, which includes on Puebla's borders the three highest peaks of Mexico —ORIZABA in the east, POPOCATEPETL and IXTACCIHUATL in the west The extreme northeastern section is on the humid coastal plain of the Gulf of Mexico, the southern part in drier upland valleys Differences in climate and elevation bring a variety of agricultural produce—sugar cane, cotton, tobacco, rice, and grains Stock raising is important, and minerals —gold, silver, copper, and lead—are mined **Puebla**, the capital (pop 138,491), is officially named Puebla de Zaragoza in honor of Gen Ignacio Zaragoza, who defeated the French here in 1862 Located in a highland valley, it is an important agricultural, commercial, and manufacturing center noted for cotton mills, onyx quarries, pottery, and the fine, colored tiles which decorate its buildings and 60-odd churches as well as those of near-by CHOLULA The cathedral, constructed between 1552 and 1649, is one of the finest in Mexico, and it is claimed that the theater, built in 1790, is the oldest on the continent Founded c 1535 as Puebla de los Ángeles, it was a link between the coast and Mexico City The city was taken (1847) by Winfield Scott in the Mexican War The French after their defeat captured (1863) it, and Porfirio Díaz recaptured (1867) it at the close of the French intervention

Pueblo (pwĕ'blō, pŭĕ'blō), city (pop 52,162), co seat of Pueblo co , S central Colo , on the Arkansas river at the mouth of Fountain Creek and SSE of Denver, in the foothills of the Rockies Zebulon M PIKE visited the region (1806) A trading post (formed 1842 and named Pueblo) was the scene of a temporary Mormon settlement (1846–47) Pueblo City was laid out in 1860, it was incorporated as a town in 1870, as a city in 1885 It produces iron, steel, railroad equipment, and electrical products and is the shipping, trade, and industrial center for a large livestock and irrigated farm area After a severe flood in 1921, levees were constructed and the Arkansas river controlled A junior college, the state fairgrounds, and a state hospital for the insane are here Pueblo is the headquarters of San Isabel National Forest

Pueblo Indians, name given by the Spanish to the North American Indians who lived in stone or adobe community houses in the Southwestern area. Their villages extended from S Utah and S Colorado southward into Arizona, New Mexico, and adjacent territory in Mexico In c 1500 B C the Indians here, called the BASKET MAKERS began to develop a culture that was marked by the growth of agriculture, in the late period there was intensive cultivation of corn, squash, and beans They also made true pottery and adopted the bow and arrow. They lived in slab houses, simple pit dwellings which were partly underground and lined with stone slabs set on edge New tribes began (c 500 B C) to migrate to this area, they were to become the cultural successors of the Basket Makers and the ancestors of the present Pueblo Indians The new peoples flattened their heads artificially, wore hard-soled sandals, domesticated the turkey for its feathers, and manufactured painted pottery They lived in pueblos, large, terraced, community houses

which were entered through the upper story by means of a ladder. Later, for protection from predatory nomadic tribes, they built their homes in cliffs or canyons. The Indians used a KIVA, which was probably evolved from the storage pits or slab houses of the pit dwellers. This period of CLIFF DWELLERS ended A.D. c.1300 following a severe drought (1275–99) and the invasion of the Navaho and the Apache from the north. After this period many of the Pueblo villages seen by the Spanish came into being. The seven Zuni towns, the fabulous Seven Cities of Cibola, were the first to be historically noted—by the Franciscan Marcos de Niza in 1539. A Spanish exploration party under Francisco Vásquez de Coronado, searching for the "wealthy" Cibola and Quivira, followed in 1540. The Pueblo Indians were hostile, and a number of bloody engagements were fought. Missionary work among the Pueblo Indians began in 1580, and in 1598 Juan de Oñate, the founder of Santa Fe, colonized the country. By 1630 most of the Pueblo villages had churches and missionaries. A feeling of resentment towards their Spanish conquerors motivated the Indians in the revolt of 1680. The Indians, led by Popé, killed over 400 colonists and missionaries and destroyed the missions. The Spanish were forced to retreat from their capital of Santa Fe to the region of El Paso. In fear of Spanish retribution, many of the Pueblo villages were abandoned for stronger sites, but in 1692 the Spanish, under Diego de Vargas, reconquered the territory, destroying a number of Pueblo towns. Except for a few minor revolts the Pueblo Indians have since maintained a peaceful existence. The Pueblo Indians, of all North American Indians, reached the highest point of civilization N of Mexico—probably because they were so close to the advanced civilizations of the Aztec and the Toltec Indians of Mexico. The Pueblo Indians not only have "apartment houses," but their basketry is good and their rich polychrome pottery, in form, variety, and decoration, is second to none N of Mexico. The hunting of large game and rabbits provided meat, but fishing was taboo because water was a sacred element. They domesticated turkeys and eagles and cattle (after Spanish introduction). The Indians practiced irrigation and raised corn, beans, and squash and also cotton. This cotton was woven into textiles (especially among the Hopi), and after the Spanish introduced the sheep, wool weaving became important. The men wore leggings, sandals, tunics and trousers, feather-decorated skin caps, and, in later times, blankets. The women wore knitted leggings, boot-moccasins, woven dresses and skirts, and blankets. Men made the textiles and cultivated the fields while the women made pottery and constructed the pueblos. The position of women was and is high; monogamy is universal and descent is matrilineal. The coming of the Spanish seems to have changed their government by the hereditary priests to an elective system—but the priests continue to exercise authority in all phases of Pueblo life. Pueblo religion and ceremony, e.g., the kachina, or fertility, ceremony and the snake dance, are the province of the men and are enormously elaborate and complicated. Fetish bundles, feather offerings, sand and meal paintings, are used in their rich and colorful ritual. There is a considerable body of mythology expressed in tales of early origin and tribal wanderings. Various secret societies have duties connected with healing, war, agriculture, and magic, each of which has its own rites, symbols, and ceremonies. Today the Pueblo Indians living on reservations in Arizona and New Mexico number some 19,000. There is no linguistic unity among these Indians, they speak languages of four different families. Languages of the Tanoan family (probably related to the Uto-Aztecan) are spoken at 11 pueblos, including Taos, Isleta, Jemez, San Juan, San Ildefonso, and the Hopi pueblo of Hano (see also LANGUAGE, table). Keresan languages also are limited to Pueblo people—Western Keresan, spoken at Acoma and Laguna, and Eastern Keresan, at San Felipe, Santa Ana, Sia, Cochiti, and Santo Domingo. The Hopi language (Uto-Aztecan) is spoken at all the Hopi pueblos except Hano. At Zuni the language is an isolated one. See Pliny Goddard, *Indians of the Southwest* (1921), A. V. Kidder, *Introduction to the Study of Southwestern Archaeology* (1924), Charles Lummis, *Mesa, Cañon, and Pueblo* (1925), Mary Coolidge, *The Rain-Makers* (1929), R. L. Bunzel, *The Pueblo Potter* (1929), E. L. Hewett, *Ancient Life in the American Southwest* (1930); H. B. Alexander, *Pueblo Indian Painting* (1932); Elsie Parsons, *Pueblo Indian Religion* (1939).

Puelche (pwĕl'chā), name given various bands of nomadic Indians who roamed the Argentine Pampa. Accomplished horsemen fighting with lance and bolo, they were not very numerous and were absorbed in the 18th cent. by the ARAUCANIAN INDIANS.

puerperal fever (pūûr'purŭl), acute disease of the genital tract caused by septic infection (frequently by *Streptococcus pyogenes*) contracted during childbirth. Puerperal fever has usually been caused by failure to observe sterile technique during delivery. The disease develops about two days after delivery and is characterized by chills and fever. There is danger that the germs may enter the bloodstream and cause septicemia. The formerly high death rate has been reduced by adherence to aseptic methods preceding and during childbirth and by the use of sulfa drugs. Early works advocating cleanliness as a means of preventing the disease include treatises by two Scottish surgeons, Charles White (1773) and Alexander Gordon (1795), a paper by Oliver Wendell Holmes (1843), and the treatise by I. P. Semmelweis (1861).

Puerto Barrios (pwĕr'tō bär'yōs), city (pop. 15,784), E Guatemala, a Caribbean port on the Gulf of Amatique. It is named for Justo Rufino BARRIOS. The port handles more trade than any other in Guatemala. Its preeminence largely resulted from expansion of United Fruit Company holdings, but as a terminus of the International Railways of Central America, it also provides an eastern seaport for Salvador. The chief exporting point for bananas, coffee, and other products, it has diverted much of the commerce of the Pacific ports to the Caribbean and seriously curtailed the trade of LIVINGSTON.

Puerto Bello, Panama: see PORTOBELO.

Puerto Cabello (pwĕr'tō kabā'vō), city (pop. 22,087), N Venezuela, a port on the Caribbean. With shipyards and an excellent harbor, Puerto Cabello also derives commercial importance from the railroad and highway connecting it with VALENCIA and the surrounding region. There are large meat-packing plants, also exported are coffee, cacao, dyewoods, and copper ores. Strategically located, it was subject to attacks by buccaneers in the colonial era. In the war against Spain it was lost (1812) to royalist forces by Simón BOLÍVAR, momentarily the cause of independence under Francisco de MIRANDA collapsed. This last northern Spanish stronghold was recaptured (1823) by José Antonio PÁEZ.

Puerto Cortés (kôrtās'), town (pop. 7,955), NW Honduras, a port on the Caribbean. Founded early in the 16th cent., it today surpasses TRUJILLO and is, with SAN PEDRO SULA, the principal seaport of the country. Chief exports are bananas, hardwoods, hides, abacá, and silver. It is the headquarters of the Cuyamel Fruit Company.

Puerto de Santa María (dā sän'tä marē'ä), city (pop. 28,262), Cádiz prov., SW Spain, in Andalusia, an Atlantic port on the Bay of Cádiz. It is a commercial center, exporting mainly wine.

Puerto México, Mexico: see COATZACOALCOS.

Puerto Montt (pwĕr'tō mônt'), city (pop. 21,360), S central Chile, a port on the Pacific. Founded in 1853 and named for President Manuel MONTT, it is the southern terminus of Chile's mainland railways and the starting point for navigation through the inland waterways and among the islands S to Chiloé, Aysen, and Punta Arenas. The scenery—forested hills, lakes, narrow fjords, and snow-capped peaks—helps make Puerto Montt a popular resort. Settled largely by Germans, the city is attractive and modern. Sheep farming and fishing are the major commercial activities, and there are dry docks and machine works.

Puerto Plata (plä'ta), city (pop. 15,366), N Dominican Republic. It is the *major* northern port, serving SANTIAGO DE LOS CABALLEROS and other inland towns, to which it is connected by rail and highway.

Puerto Príncipe, Cuba: see CAMAGÜEY.

Puerto Rico (pwĕr'tō rē'kō), formerly **Porto Rico** (pôr'tō rē'kō), island (3,425 sq. mi., 1940 pop. 1,869,255, 1948 estimated pop. 2,185,000), in the West Indies. It is the U.S. Territory of Puerto Rico, including the offshore islands of Mona, Vieques, and Culebra. SAN JUAN is the capital and largest city and port; other notable cities and ports are PONCE and MAYAGÜEZ. Smallest and most easterly of the Greater Antilles (which screen the Atlantic proper from the Caribbean), Puerto Rico is separated from the Dominican Republic on Hispaniola by Mona Passage (75 mi. wide), the Virgin Islands lie to the east. It is roughly rectangular and is crossed by mountain ranges, the most prominent being the Cordillera Central, rising to c.4,400 ft. in the Cerro de Punta, and the Sierra de Luquillo (in the northeast). There are some 50 rivers, all short and unnavigable, but some of them useful for irrigation in the more arid regions of the south and some used for hydroelectric power. The mildly tropical climate is moderated by the surrounding sea; there is little seasonal change. Rainfall is more than adequate, though the southern and western slopes of the mountains have less rain than the rest of the island. Gold was mined in the colonial era, but the other mineral deposits (iron, manganese, galena, gypsum, kaolin, and coal) are not very extensive and are little exploited. It is the fertile soil that supports one of the densest populations of a purely agricultural area in the world. Sugar is the most important product, employing the major part of the agricultural workers. Though this dependence on sugar has been recently somewhat broken down, the one-crop economy and the heavy population are still the centers of Puerto Rico's economic problems. The program of diversification has broadened production of coffee, tobacco, tropical fruits, coconuts, vanilla, winter vegetables, cotton, manioc, and subsistence crops. Reforestation is also being undertaken to restore the tropical woods in the interior, where the Caribbean National Forest is set apart. A program of encouraging cattle raising was promoted in 1945, but the low income levels prevent much native consumption, and the program is not as yet of major importance. Processing of sugar is the main industry, not only in sugar mills (*centrales*) and refineries but in distilleries making the well-known Puerto Rican rum. Tobacco, foodstuffs, and cotton are also processed. Puerto Rican needlework is distinctive and is very popular in the United States. The people are descended from Spanish colonists, with an admixture of Indian and African strains. The language is Spanish, the religion prevailingly Roman Catholic. There is an extensive railroad and highway system along the coast and into the interior, this is being improved to meet demands of the increasing number of winter tourists from the United States. The island was inhabited before the coming of the Spanish by Indians of Arawak stock, who called the island Boriquén or Borinquén. They were in the 15th cent. being slowly exterminated in warfare with the fierce Carib tribes. Columbus visited the island on his second voyage in 1493. Though Vicente Yáñez Pinzón was given a patent to settle the island, it was Juan Ponce de León who actually began the conquest in 1508, landing at San Juan harbor, which he called Rich Port [Span. *puerto rico*]. The first settlement was at Caparra, which was abandoned in 1521 for the site of the present San Juan 4 mi. away. Diego de Columbus sent a lieutenant from Cuba to contest the island with Ponce de León (who had been appointed governor in 1509), but was unsuccessful. The Indians, who had been put at forced labor and mistreated, revolted in 1511 and were put down. Hardships, disease, and the reprisals of the Spanish for the rebellion soon wiped out the Indians altogether. They were replaced on the plantations of the conquerors by imported Negro slaves, first introduced in 1513. San Juan soon became a leading outpost of the Spanish Empire in the New World. Here Spanish galleons bearing treasure anchored on their long trip to Spain, and therefore British buccaneers swooped down on the harbor. Sir Francis Drake was unsuccessful in his attack of 1595, but George Clifford, earl of Cumberland, took the island and held it for five months in 1598. The Dutch besieged San Juan in 1625. The colony then settled to quiet plantation existence. After the troubles in Spain had caused revolutions in most of Spanish America, there were movements of unrest and some uprisings in the island beginning in the 1820s, but they were abortive. The most important of them was the so-called Lares rebellion of 1868, which was quelled easily. Slavery was finally abolished in 1873. In Feb., 1898, Spain granted Puerto Rico autonomy. The new form of government, however, had little chance to operate, for a few months later the Spanish-American War broke out. On Oct. 18, 1898, U.S. troops under Gen. Nelson A. Miles landed. With little difficulty military occupation was completed. The Treaty of Paris of Dec. 10, 1898, ended the war, and by it Puerto Rico (along with other territories) was ceded outright to the United States. It remained under direct military rule until 1900, when an act of the U.S. Congress set up an administration with a U.S. governor, an executive council appointed by the U.S. President, and an elected house of delegates. There was a strong move for independence that showed increasing strength. In 1917 in the administration of Woodrow Wilson greater self-government was established by the Jones Act, which granted U.S. citizenship to Puerto Ricans, created an elected senate, and gave the governor power to make most appointments, subject to confirmation by that senate. In the U.S. Congress, Puerto Rico has an elected commissioner, and in U.S. presidential elections it has territorial status. The period of the First World War saw a considerable increase in U.S. holdings in Puerto Rico and the completion of the turn toward complete sugar economy. Absentee ownership and one-crop culture were thus added to the ills of over-population. U.S. occupation had greatly improved the health and sanitary service on the island, having an ironic effect in strengthening the over-population somewhat. Communications were also vastly improved. There was, too, an upsurge in education. Secondary schools were much increased in number, and the attempts to reduce illiteracy were so far successful that from 1898 to 1940 the percentage of illiteracy sank from 77.3 to 31.5. Lack of facilities, however, still in 1950 prevented a great number of children from attending school. The rural vocational schools set up are models of their kind. Of institutions of higher education, there are three—the Univ. of Puerto Rico, with its main branch at Río Piedras, a school of agriculture and mechanical arts at Mayagüez, and other schools, including the school of tropical medicine, at San Juan, a polytechnic institute at San Germán; and a Catholic college for girls at San Juan. Puerto Rico's contribution to learning was, however, established long since, and

Eugenio María de Hostos was an outstanding figure. The historian Salvador Brau was also a man of note. The critics of the American regime have pointed out that the development of the island was not a gift but had been brought to completion by the efforts of Puerto Ricans Criticism grew sharper when the sugar market dropped, and many of the Puerto Rican workers, who always lived close to the edge of starvation, were thrown over it Conditions grew desperate In the administration of President Franklin D Roosevelt measures for recovery were undertaken Reconstruction was pushed further in the governorship (1941–46) of Rexford G Tugwell The great military activities which made Puerto Rico a bastion and an armed camp in the Second World War, also aided Puerto Rican economy Organizations were created for the purpose of pushing industrial and agricultural development These advances were greatly forwarded by Luis MÚÑOZ MARÍN, head of the Popular Democratic party, which was formed in 1940 and had a program based on the expansion of the Puerto Rican economy rather than on primary concern with relations with the United States Those relations were a primary concern with other parties the conservative Republicans and the socialists favor statehood, the Independentists, headed by Gilberto Concepción, and the Nationalists, headed by Pedro Albizú Campos (who was imprisoned for anti-United States activities), favor independence In 1946 President Harry S Truman appointed Jesús T Piñero governor, the first Puerto Rican to hold that office An act of the U S Congress the next year amended the Jones Act to have the governor of Puerto Rico elected by the people of the island In the first such election Muñoz Marin was triumphant (1948) The new administration immediately undertook to increase agricultural reform by diversification, irrigation, and scientific methods Even more it sought to industrialize the island The dedication in 1949 of the Guanillas Dam in N central Puerto Rico seemed to symbolize the vigorous efforts of the new regime The immediate and pressing problem of overpopulation could not, however, be solved by short-term measures, and there was heavy immigration from Puerto Rico to the continental United States in the years of the Second World War and afterward A standard history of Puerto Rico in Spanish is that by Salvador Brau, *Puerto Rico y su historia* (revised, 1894) See Leo S Rowe, *The United States and Porto Rico* (1904), Victor S Clark, ed, *Porto Rico and Its Problems* (1930), Federal Writers' Project, *Puerto Rico a Guide to the Island of Borinquén* (1940), *Puerto Rico Handbook* (1947), Rexford G Tugwell *The Stricken Land* (1947), H S Perloff, *Puerto Rico's Economic Future* (1950)

Puerto Rico, University of, mainly at Río Piedras, near San Juan, land grant and territorial, coeducational, founded 1903 as successor to a normal school It has colleges of agriculture and mechanic arts (at Mayagüez), humanities, natural sciences, social sciences, commerce, education, law, and pharmacy and a school of tropical medicine (at San Juan), which was until 1949 also affiliated with Columbia Univ

Pueyrredón, Juan Martín de (hwän' märtēn' dā pwārādōn'), 1776–1850, Argentine general, supreme director of the United Provs of La Plata (1816–19) In 1806, when British troops under William Carr BERESFORD invaded the Río de la Plata, he organized a volunteer force, which, after a defeat outside Buenos Aires, united with the army of LINIERS to recapture the city (Aug 12) Taking an important part in the revolutionary government, he was governor of Córdoba (1810) and of Charcas (1810–11), commander of the patriot Army of the North (1811–12), and a member of the triumvirate at Buenos Aires (1812) As supreme director, he assisted SAN MARTÍN in the Chilean campaign of 1817-18 In 1819 congress promulgated a unitarian constitution, which was rejected by the people The demand for federalism brought Pueyrredón's resignation His success in preventing anarchy was transient, the civil war of 1820 followed

Pufendorf, Samuel, Freiherr von (zä'mōōĕl frī'hĕr fŭn pōō'fŭndôrf), 1632–94, German jurist and historian He is especially noted as an early theorist of international law Pufendorf maintained that the law of nations is a part of NATURAL RIGHTS and that to treat it as positive law (i e, law decreed by men) is erroneous The natural relations of nations (as of men) are peaceable, and war is justified only to punish an infraction of international law after attempts at pacific redress have failed These views are developed in his *Elementa jurisprudentiae universalis* [elements of universal jurisprudence] (1661) and in *De jure naturae et gentium* [on the law of nature and of nations] (1672) His chief historical work was *De statu imperii Germanici* [on the condition of the German Empire] (1667), in which he described Germany as a monstrous aggregate in the absence of a strong imperial power Pufendorf taught jurisprudence at the universities of Lund and Heidelberg, and in his later years he was royal historiographer at Stockholm and Berlin.

puffball or **smokeball,** fungus with a globular spore-bearing body usually lacking a stipe or stalk, common in meadows and woods. None are poisonous, and most forms are edible when young They are similar in flavor to mushrooms When young they are usually white, gray, or cream, later they often turn brown and contain a dustlike mass of spores which issue from them like puffs of smoke The giant puffball sometimes grows to a diameter of over one foot The larger specimens are usually the best flavored Threads of dried puffballs were formerly used as tinder for flint and steel fire making, and they were also used to stop the flow of blood from wounds

puffin, swimming and diving bird of the N Atlantic, N Pacific, and arctic regions, related to the auk Puffins are expert swimmers but have a clumsy gait on land because of their short legs set far back on dumpy bodies Very short, rapidly beating wings make their flight appear labored The large, laterally flattened, parti-colored bill is adapted to hold several fish caught in successive dives Puffins are seldom found on land except during the breeding season They lay their eggs in burrows or in rock cavities The Atlantic puffin sometimes migrates as far south as New Jersey Forms native to the Pacific regions include the horned puffin and the tufted puffin, both of which occasionally winter as far south as the Kurile Islands and S California

Pugachev, Yemelyan Ivanovich (yĭmĭlyän' ēvä'nuvĭch pōōgŭchôf'), d 1775, Russian impostor, leader of the peasant rebellion of 1773–75 An illiterate Don Cossack, he exploited the widespread belief that PETER III had not actually been murdered and claimed (1773) to be the rightful tsar He soon found himself at the head of an army and of a formidable revolutionary movement, of which he was actually a mere figurehead His followers—Cossacks, peasants, runaway serfs, and Tatar bands—all belonged to the lower classes whose rights and liberties had been increasingly curtailed in the past two centuries. Pugachev announced the abolition of serfdom His army overran the middle and lower Volga districts and the Ural region and took Kazan and several fortresses, committing barbarous excesses and threatening the throne of Catherine II, who at the same time was waging war on Turkey However, the rebels lacked experienced leadership and were ultimately defeated Pugachev was betrayed, brought to Moscow, and beheaded The direct result of the rebellion was the administrative reform of 1775 by CATHERINE II, a reform which increased the privileges of the landowners and of the cities and entrenched more firmly the institution of serfdom

pug dog, small pet dog with a fine, smooth, short coat, a large head, short, blunt muzzle, and wrinkled face The tail is tightly curled. In color the dog is silver, apricot fawn, or black The body is compact and muscular It has often been called the Dutch pug, although most authorities believe that it did not originate in Holland but is native to China and reached England through traders of the Dutch East India Company

Puget, Pierre (pyĕr' pūzhā'), 1622–94, French painter and sculptor In his youth he worked as a wood carver of nautical decorations At 17 he went on foot to Rome, where he worked for Pietro da Cortona on the ceilings of the Barberini and Pitti palaces Most of his life was spent in S France and in Italy, and much of his work is still there His famous statue of St Sebastian is in Genoa He painted many pictures for the churches of Aix-en-Provence and Toulon, but gradually came to devote himself wholly to sculpture From 1655 to 1658 he carved the caryatids for the town hall of Toulon Puget also executed commissions for Fouquet and Colbert He is splendidly represented in the Louvre by his *Milo of Crotona*, *Hercules*, and *Perseus and Andromeda* and by a bas-relief, *Alexander and Diogenes*

Puget Sound (pū'jĭt), arm of the Pacific Ocean, NW Wash, connected with the Pacific by Juan de Fuca Strait, extending more than 100 mi S to Olympia, with many branches, and receiving many streams from the Cascade Range It is navigable, and its shores are studded with important ports and commercial cities, centers of a rich industrial region Seattle, Tacoma, and Everett are on the east shore, and Port Townsend is at the entrance It was named by George VANCOUVER for his lieutenant, Peter Puget

Puget Sound, College of see TACOMA, Wash

pugilism see BOXING

Pugin, Augustus Charles (pū'jĭn), 1762–1832, English writer on medieval architecture, b France His writings furnished a mass of working material for the architects of the Gothic revival Among them is *Specimens of Gothic Architecture, Selected from Various Ancient Edifices in England* (1821) In some of his publications he was assisted by his son,

Augustus Welby Northmore Pugin, 1812–52, English architect and writer, noted for his prominent role in the Gothic revival Though he erected numerous buildings, including churches, monasteries, and convents, his published writings exerted greater influence than his architecture, and his work *The True Principles of Pointed or Christian Architecture* (1841) might be termed the textbook of the Gothic revival. Among other publications are *Gothic Furniture in the Style of the 15th Century* (1835) and *Glossary of Ecclesiastical Ornament and Costume* (1844) He worked under Sir Charles Barry on the Houses of Parliament, chiefly in directing the execution of fittings and ornamental details The cathedral in St George's Fields, London, is an example of his executed work, which included over 65 churches See Michael Trappes-Lomax, *Pugin, a Mediaeval Victorian* (1932)

Puhites (pōō'hīts), family of Kirjath-jearim. 1 Chron 2 53

Pul (pŭl) **1** Assyrian king, invader of Israel, apparently Tiglath-pileser III 2 Kings 15 19, 1 Chron 5 26 **2** African country Isa 66.19. Probably the same as PHUT

Pula, Yugoslavia see POLA

Pulaski, Casimir (kā'zĭmēr pulă'skē), Pol *Kazimierz Pulaski* (kă'zhēmĭrsh' pōōwă'skē), c 1748–1779, Polish military commander in the American Revolution Born in Podolia of a noble family, he worked with his father in forming (1768) the Confederation of Bar and in unsuccessful rebellion against Stanislaus II He escaped to Turkey and was in Paris when he decided to join the colonial cause in the American Revolution Coming to George Washington with a letter from Benjamin Franklin, he was commissioned (1777) brigadier general and served at Brandywine and Germantown In 1778 he resigned a cavalry command rather than continue in service under Gen Anthony Wayne and organized his own cavalry unit, the Pulaski Legion, which saw a great deal of service before Pulaski was mortally wounded when leading a cavalry charge in the attack on Savannah

Pulaski 1 (pūlă'skī, pu-, pulă'skē) Village (pop 1,895), a co seat of Oswego co, N N Y, on the Salmon river and N of Syracuse, inc 1832 Boilers, paper products, and milk products are made A state park is near by **2** (pulă'skē) Town (pop 5,314), co seat of Giles co, S Tenn, 88W of Nashville, settled 1807, inc 1819 It is a trade, processing, and shipping center for a farm and timber area The first KU KLUX KLAN was organized here in 1865 Pulaski is the seat of Martin College (junior, coeducational) **3** (pulă'skē) Town (pop 8,792), SW Va, SW of Roanoke, inc 1886 It is the trade, industrial, and rail center for a region yielding zinc, iron, coal, lumber, and farm produce The courthouse of Pulaski co is here.

Pulaski, Fort (pulă'skē), fortification on Cockspur Island, SE Ga, at the mouth of the Savannah river It was constructed (1829–47) by the Federal government and named for Casimir Pulaski It was seized by Georgia troops in Jan, 1861, but when the Civil War was well advanced fell to a Union force under Q A Gillmore, April 11, 1862, after a two-day bombardment in which the Federals used rifled cannon for the first time Fort Pulaski National Monument (est 1924) now includes all Cockspur Island (5,427 49 acres)

Pulcheria (pŭlkēr'ēə), 399–453, Roman empress of the East (414–53), daughter of Arcadius and Eudoxia She became coempress with her brother, THEODOSIUS II, and regent in 414 Theodosius remained under her influence all his life Pulcheria took a vow of chastity and brought an almost monastic atmosphere to the Byzantine court At her brother's death (150) she chose MARCIAN as emperor and nominally married him See Charles Diehl, *Byzantine Portraits* (1927)

Pulci, Luigi (lwē'jē pōōl'chē), 1432–84, Italian poet He was a protégé of Lorenzo de' Medici and friend of Politian and Aretino, but little else is known of him His most noted work is the *Morgante maggiore* (composed 1460–70, pub 1482) written for Lucrezia Tornabuoni, Lorenzo's mother It is a burlesque heroic poem, in a fine poetic style In spite of its aim it contains several lofty and noble passages The first canto was translated (1822) by Byron See Leigh Hunt, *Stories from the Italian Poets* (4 vols, 1846–54)

Pulitzer, Joseph (pōō'lĭtsŭr, pū'-), 1847–1911, American newspaper proprietor, b Hungary He came to the United States in 1864, served a year in the Union army in the Civil War, and became a journalist under Carl Schurz in St Louis As owner and publisher after 1878, he made the St Louis *Post-Dispatch* a successful paper, and in 1883 he bought the New York *World* from Jay Gould His aggressive methods of building up this paper, its Sunday edition, and the *Evening World* (started 1887) included the use of illustrations, news stunts, crusades against corruption, and cartoons, as well as good news coverage Hearst established his New York *Journal* in 1895 to vie with Pulitzer's papers in sensationalism and in circulation The resulting contest, with its banner headlines, lavish pictures, emotional exploitation of news—in short, "yellow journalism"—reached notorious heights in the treatment of the Spanish-American War Soon the *Journal* outstripped the *World*, which now became more conservative and the outstanding Democratic organ in the country, though sometimes opposed to party policies After 1890 partial blindness kept Pulitzer from the editorial offices, but he directed his papers no less closely than before. He left funds to found the School

(now Graduate School) of Journalism at Columbia Univ In 1931 Pulitzer's sons sold the New York papers to the Scripps-Howard chain, and the *Evening World* was merged with the New York *Telegram*. See biographies by Alleyne Ireland (1914, new ed , 1937), Don C Seitz (1924), and J. W Barrett (1941)

Pulitzer Prizes, annual awards for achievements in American journalism and letters The prizes are paid from the income of a fund left by Joseph Pulitzer to the trustees of Columbia Univ They are awarded each May since 1917 on the recommendation of an advisory board composed of newspapermen, of which the dean of the Graduate School of Journalism is secretary. The five original awards in journalism have become seven—$500 each for editorial writing, for local, national, and international reporting, for the best cartoon, and for the best news photograph and a gold medal to a newspaper for the most disinterested and meritorious public service The prizes in letters, of $500 each, are for fiction, drama, history, biography, and poetry, musical composition was added in 1943 Of the four traveling scholarships (of $1,500 each), three are to graduates of the School of Journalism, one is to an art student

Pulkovo (pōōl'kuvŭ), village (1939 pop over 2,000), RSFSR, S of Leningrad, near Pushkin, on a hill In its ancient park is the Pulkovo Observatory, founded in 1839 and made famous by F G W von Struve It was severely damaged by shelling in the Second World War

pulley, simple machine made up of two parts—the sheave, a wheel with a grooved rim in which a rope or cord can run, and the block, a frame in which the wheel is set and within which it is free to turn on an axle In the so-called fixed pulley, the frame is fastened to some rigid support, in the movable pulley, it is free to move Several wheels are often set in one block The combination of one or more pulleys and the rope or ropes used in operation is known as a block and tackle The pulley is widely used for hoisting It makes possible a change in direction of the effort applied For example, when a single fixed pulley is attached to a support above a load to be lifted, the "pull" to lift this load can be applied in a downward, instead of upward, direction No mechanical advantage is obtained by a single fixed pulley, but the single movable pulley has a mechanical advantage of 2, i e , it makes possible the balancing of a given weight (or resistance) by a force (effort) of one half that amount By using various combinations of fixed and movable pulleys, a great mechanical advantage can be obtained a very small effort can be used to overcome a large resistance The mechanical advantage of such a pulley system can usually be calculated quickly and easily by counting the number of parts of the rope (passing between the pulleys) which are supporting the load For example, a combination of two fixed and two movable pulleys can be so arranged that an effort of 5 lb can be applied to balance a resistance (load) of 20 lb If such a system is set up with one end of the rope fastened to the bottom of the fixed block of pulleys, the number of strands of rope between the two sets of pulleys is found to be 5 However, one of these (the last turn of rope) does not affect the mechanical advantage, since it merely changes the direction of the force, and therefore the number of ropes supporting the load is only 4 The same system can be given a mechanical advantage of 5 (e g , an effort of 5 lb can be used to balance a resistance of 25 lb) by fastening one end of the rope to the top of the movable block of pulleys instead of to the bottom of the fixed block Although there is a mechanical advantage in the use of pulley systems, the amount of work done is no less than the amount gotten out of the machine, the distance through which the effort is required to move is greater than that through which the load is moved, in the same ratio as the load is to the effort For example, when the mechanical advantage of a system is 4 (i e , an effort of 1 can balance a resistance of 4), the effort moves 4 times the distance that the resistance is moved The work put into a system of pulleys is however, always more than the output, for some work is done against friction A differential pulley consists of two pulleys of different radii connected and rotating as one on a common axle The pulleys have their circumferences grooved and spiked so that a chain will run in them without slipping Over the pulleys an endless chain is run, forming two hanging loops In one loop is placed a movable block, the pulley of which is shaped to take the chain The load is attached to the movable block and is raised by pulling on the other loop of the chain In power transmission, belt and rope drives commonly utilize pulleys, of another type This type consists of a hub suitably bored for mounting on a shaft, with a rim attached to the hub by spokes A pulley running free on a shaft is held in position by collars (protrusions on the shaft), and when required to be fixed on the shaft, a steel key is fitted into suitable keyways in the hub and shaft It may also be secured by set screws For use with belts, pulleys have a nearly flat face a little wider than the width of the belt used Except when the belt is of the shifting type, the face of the pulley is crowned (or raised in the center of the rim). This has the effect of keeping the belt central Pulleys with belt drives are made of paper, wood, cast iron, or steel and have diameters varying from a few inches up to 12 ft The larger sizes are of the split type In this case they are made in two halves, which facilitates mounting and unmounting For rope drives the face of the pulley has grooves of a number and size to suit the ropes used Cone pulleys consist of a number of pulleys of varying diameters massed in the shape of a cone They are used with belt drives for machines (e g , lathes) requiring a variety of speeds See L S Marks, ed , *Mechanical Engineers' Handbook* (latest ed)

Pullman, George Mortimer (pōōl'mun), 1831–97, American industrialist, b Brocton, N Y Early in life he became a cabinetmaker, and after he moved (1858) to Chicago he began converting (1859) old railroad coaches in order to facilitate long-distance traveling Some five years later he built the *Pioneer*, the first modern sleeping car Gaining great wealth from his invention, he founded (1867) the Pullman Palace Car Company The town of Pullman, now part of Chicago, was built (1880) for the company and its workers One of the most famous of all U S strikes was that at Pullman in 1894

Pullman. 1 Former city, part (since 1889) of Chicago, Ill It was founded in 1880 by G M Pullman as a model community for workers of his sleeping-car company, all property was company owned, and administration policies were paternalistic The residents voted for incorporation with Chicago, and Illinois courts later required the company to sell all property not used for industrial purposes Here in 1894 took place one of the most memorable strikes in U S history A protest against wage cuts led (May, 1894) to the strike, to a boycott by the American Railway Union (and ultimately to the imprisonment of its president, Eugene V Debs), and to a sharp contest between Gov John P Altgeld and President Grover Cleveland over the sending of Federal troops to the area The strike was broken in July **2** City (pop 4,417), SE Wash., near the Idaho border, in a farm area, founded 1884, inc 1888 The state college (see Washington, State College of) is here

pulmonary consumption see tuberculosis

pulmotor (pŭl'mō"tur, pōōl'-), mechanical device to restore breathing by artificial respiration It is also commonly referred to as a "blow and suck" machine, which succinctly describes the method of operation Resuscitation is accomplished by forcing air mixed with oxygen into the lungs and then sucking it out, rhythmically Although a division of opinion once existed as to the merits of devices of this kind, a device called the resuscitator is now an important piece of equipment in most fire houses For other means of restoring respiration, see artificial lung

pulp see paper

pulpit, in churches, elevated platform with low enclosing sides, used for preaching the sermon In the earliest churches the episcopal throne served this purpose The boxlike elevated ambo of early medieval times, the apparent forerunner of the pulpit, was situated in the choir and served for reading and singing In basilical churches there was usually an ambo at both north and south sides of the choir At an unknown date the north-side ambo came to be used for sermons, its location being a matter of favorable acoustics rather than one of ritual The modern pulpit is ordinarily in the nave against the first pier outside the chancel and at the epistle side Pulpits early became objects of fine craftsmanship They were generally polygonal, supported by a single pillar or a group of columns or by brackets extending from a wall In Italy there are many handsome examples, enriched with sculpture and mosaics The hexagonal carved marble pulpit (c 1260) in the baptistery at Pisa, by the sculptor Nicola Pisano, displayed the first intimations of the Renaissance The cathedral at Prato has the celebrated outdoor pulpit sculptured by Donatello With the Reformation the pulpit became the most conspicuous and important accessory in the Protestant church Modern pulpits are, as a rule, of simple design See J C Cox, *Pulpits, Lecterns, and Organs in English Churches* (1915) and *English Church Fittings, Furniture, and Accessories* (1923)

pulque (pōōl'kā), Mexican spirituous liquor, made from the sap of maguey (see agave) The bud of the flower stalk is removed before it is well developed, and a bowl is scooped in the heart of the plant, in this the sweet sap, *aguamiel*, collects Fermentation of *aguamiel* produces pulque, a muddy, ill-smelling liquid, highly alcoholic Habitual drinking leads to physical and mental degeneration In use in pre-Columbian times, pulque became the ordinary drink among the lower classes of Mexico, creating a grave economic and social problem against which stringent measures have been taken by the federal government and by some states

pulse, alternate expansion and contraction of artery walls as heart action varies the blood volume within the artery. The pulse rate is equivalent to the rate of heart beat. In the systolic movement, or contraction of the heart, the arteries become distended with increased blood, and in the diastolic movement, or relaxation of the heart, the tension is reduced. The pulse rate is usually determined by counting the pulsations of the radial artery at the wrist The normal rate at rest is from about 70 to 80 pulsations a minute in adults and from 80 to 140 in children Various diseases may be indicated by changes in the rate, rhythm, and force of the pulse The circulatory movement of blood through the veins and arteries was first explained by William Harvey in the early 17th cent

pulse, in botany see legume

puma (pū'mu), New World cat ranging from S Canada to Patagonia It is known in various regions as cougar, mountain lion, catamount, and panther In its northerly range the puma is reddish or grayish brown on the upper parts with lighter under parts An adult male measures from 7 to 8 ft in total length Tropical races are usually smaller and more reddish It is extinct or nearly so in the E United States and in the West is confined chiefly to the less settled parts It preys on deer, horses, cattle, and other animals See S P. Young and E A Goldman, *The Puma* (1946)

Pumacagua, Mateo García (mätä'ō gärsē'ä pōōmäkä'gwä, -kä'wä), 1738–1815, Peruvian Indian leader He aided in suppressing the insurrection of Tupac Amaru (1780–81) and later the first rebellion in the war against Spain but in 1814 he led an uprising Beginning in Cuzco, the movement spread, gaining force from Pumacagua's great influence over the Indians, but after a little success the Indians were defeated and Pumacagua was put to death

pumice (pŭ'mĭs), volcanic glass formed by the solidification of lava permeated with gas bubbles Usually found at the surface of a lava flow, it is colorless or light gray and has the general appearance of a rock froth The viscosity of the lava, the quantity of water vapor and gas, and the rate of cooling together determine the fineness of the vesicular substance Large amounts of gas result in a finer-grained variety known as pumicite The chemical composition is that of silicic lava Coarse-grained rock, with fewer and larger air spaces, is called scoria Pumice is used chiefly as an abrasive and is included in many scouring preparations. Ground pumice is also used in finishing furniture Deposits are found in volcanic areas throughout the United States and elsewhere, but the Lipari Islands off Italy are the chief source of commercial quantities

pump, device used for lifting a fluid or varying its pressure One of the earliest types, still a common form, is the suction or lift pump It consists of a cylinder from which an attached pipe extends down into a water source An inlet valve, which opens upward but not downward, is situated at the junction of the cylinder with the pipe An outlet valve in the cylinder itself opens outward but not inward When the pump handle is pushed down, a piston (a sliding piece fitted within the cylinder) displaces the air in the cylinder, and it escapes through the outlet valve An upward movement of the handle rarefies the air in the cylinder, this causes the outlet valve to close and the inlet valve to open, permitting water to flow up the pipe Atmospheric pressure causes these movements The next downward movement of the pump handle finds the piston displacing water, which flows through the outlet valve The distance a suction pump will lift water is determined by the atmospheric pressure and seldom exceeds 34 ft Other types, some of which utilize the principles involved in suction lift, are the reciprocating types of pumps, the centrifugal and force pumps, and the air lift The rotary pump employs the Archimedes screw principle Air pumps include vacuum pumps, for removing air from a closed structure, and air compressors, for pumping air into a closed container A pump for removing air was invented (1650) by Otto von Guericke Modern air pumps can create high vacuums Air compressors range from hand pumps to the large compressors driven by steam engines and electric motors which furnish compressed air for operating pneumatic machinery and for various other purposes

Pumpelly, Raphael (pŭmpĕ'lē), 1837–1923, American geologist, b Owego, N Y , studied abroad He made official surveys in Japan (1861–63) of Yezo (later Hokkaido) and in the coal fields of China (1864) and made the first extensive geological survey (1865) of the Gobi His scientific account of these studies appeared in 1866, and a popular account appeared in 1870 Pumpelly was professor of mining at Harvard (1866–75) He was state geologist of Michigan and of Missouri, served on the U S Geological Survey, exploring especially the iron-ore ranges of Michigan, and was in charge of the mineral industries survey for the 10th census He led the northern transcontinental survey (1881–84) and conducted (1903–4) explorations in Turkistan for the Carnegie Institution. He wrote a number of works on his findings. See his *Reminiscences* (1918).

pumpernickel: see BREAD.

pumpkin, name for a tender, usually vinelike annual herb and for its large yellow edible fruit Pumpkin and squash are terms sometimes used interchangeably and without botanical distinction Variations of the field or common pie pumpkin, *Cucurbita pepo,* include the summer squashes (e g , acorn, scallop, pattypan, and summer crookneck squashes), VEGETABLE MARROW, and some kinds of GOURD In Europe various kinds of *Cucurbita maxima* are called pumpkin but in America these are usually called SQUASH or winter squash Whether the pumpkin (*Cucurbita pepo*) is native to America or Asia is a matter of dispute, but if it is Asiatic in origin it was probably introduced into America in some prehistoric time, for it was cultivated by pre-Columbian Indians It was among the fruits of the first Thanksgiving celebration of the Pilgrims, as it has been a favorite pie filling of autumn festivities ever since Its shell is the jack-o'-lantern of Halloween

puna (pōō'nä) [South American], high plateau region between ridges of the Andes in Peru and Bolivia Arid, cold, and, for the most part, barren, the *puna* has, nevertheless, supported an Indian population since prehistoric times The icy wind sweeping the plateaus is also called *puna*

Punaka (pōōnŭ'ku), town (pop c 3,000), capital of Bhutan Founded in 1577, it is a fortress town, suited for strong defense

Punch and Judy, famous English puppet play, very popular with children and given widely by strolling puppet players It came to England in the 17th cent by way of France from Italy, where it probably had its origin in the *commedia dell' arte* Punch is the hook-nosed, squeaky-voiced, cruel, and boastful husband of a faithless, obstreperous wife, Judy The language of the play is usually coarse and often satirical See J P Collier, *Punch and Judy* (illustrated by George Cruikshank, 1870)

Punchbowl, hill, 498 ft high, in Honolulu, T H In the bowllike extinct crater at the summit is a national memorial cemetery for men who died in the Second World War There is a scenic drive to the top

puncheon (pŭn'chun) [O Fr], plank or board made by hewing instead of sawing American pioneers who could not procure the products of sawmills made much use of puncheons in their log buildings The puncheons used for floors were split logs hewn smooth on the split side only

punctuation, device of WRITING supplementing the use of letters In every LANGUAGE besides the sounds that go in succession there are other features, e g , tone, accent, and pauses, that are equally significant (see GRAMMAR and PHONETICS) In English these are stress pausing, and tonal changes, interlocking in a set of patterns often called intonations Of the two parts of English writing, punctuation represents the intonation features better than the letters represent the other phonemes The punctuation is done by signs placed among the letters, often at the end of the feature they mark The intonations of declaration are classified in three types, symbolized by the comma (,), the semicolon (;), and the full stop or period ( ) Other intonations are shown by the exclamation point (!), the interrogation point or question mark (?), the parenthesis ( ), and the colon ( ) The typical use of the colon is the introduction of material that elaborates what has already been said Quotation marks (' ") indicate direct quotation or some borrowing and usually demand special intonation Punctuation of material not intended to be read aloud—the far more usual case today—has introduced refinements designed to help the reader, hence brackets ([ ]), a secondary parenthesis, hence also capital letters, paragraphing, and indention The whole scheme of punctuation shifts when the material is to be read silently The long dash (—) is especially used in handwriting for incomplete intonation patterns Two other frequent signs are the apostrophe ('), marking an omission or a possessive case, and the hyphen (-), a line division or an intimate joining These two are practically extra letters, and their use, belonging with spelling rather than with punctuation, is highly arbitrary and has to be memorized from books Each written language has its tradition of punctuation, often very different from English, thus, in German initials of nouns are capitalized, and in Spanish the beginnings of exclamations and of questions are marked with inverted signs See T F and M F Husband, *Punctuation Its Principles and Practice* (London, 1905), for American usage, Univ of Chicago Press, *A Manual of Style* (latest ed)

Punic language, the language of Carthage, belonging to the Canaanite group of Semitic languages See LANGUAGE (table)

Punic Wars, between CARTHAGE and ROME When they began, Rome had nearly completed the conquest of Italy, while Carthage controlled NW Africa and the islands and the commerce of the W Mediterranean When they ended, Carthage was not even a ruin and Rome was the greatest power W of China The first war saw Rome fighting to break the tight hold Carthage was getting on the W Mediterranean. The last one was the final, desperate attempt to preserve Punic liberty. But it was the second war which was the most spectacular, the most brilliant, and the most interesting The initial area of conflict was Sicily, where the ambitions of the two commercial powers were directly opposed The **First Punic War,** 264–241 B C , grew immediately out of a quarrel between Messana (now Messina) and Syracuse, in which the Messanians called on Rome and Carthage for help The Punic army arrived first and arranged a peace between Messana and Syracuse The Roman army, however, ejected the Carthaginians, and the war was on Roman legions occupied E Sicily without difficulty, and the newly created Roman fleet, after victories at Mylae (260) and off Cape Ecnomus (256), landed a force in Africa This excursion was a failure, and its commander REGULUS was captured (255) by the Greek mercenary general, Xantippus In Sicily the Romans took Palermo (254) but were effectively blocked farther west by the brilliant guerrilla warfare of HAMILCAR BARCA and failed to take Lilybaeum, the chief Punic base The Romans equipped a new fleet which destroyed (241) the Punic fleet off the Aegates (now Aegadian Isles), and Carthage sued for peace The terms were the payment of an indemnity and the cession of Punic Sicily to Rome The chief events of the next 20 years were the Roman entry into Sardinia and Corsica—a gross breach of treaty —and the conquests in Spain by Hamilcar When Hamilcar's son Hannibal besieged (219) and took the Spanish city of Saguntum (modern Sagunto), a Roman ally, Rome declared war This **Second Punic War,** or Hannibalic War, 218–201 B C , was one of the titanic struggles of history Rome owed its success to various factors its stubborn will and splendid military organization, its superior economic resources, its generals, Fabius and, above all, Scipio, the failure of supply from Carthage to Hannibal's Italian army, and the mountainous character of central Italy, which rendered the Punic superiority in cavalry nearly useless For the course of the war, see HANNIBAL and SCIPIO AFRICANUS MAJOR At the war's close, Carthage surrendered to Rome its Spanish province and its war fleet, Carthaginian commercial greatness never returned The **Third Punic War,** 149–146 B C , originated, like the others, in a deliberate Roman aggression, the fruit of years of agitation by CATO THE ELDER Charging Carthage with a technical breach of treaty in resisting the encroachment of the Numidian MASINISSA, Rome declared war and blockaded the city Carthage never surrendered The younger SCIPIO (SCIPIO AFRICANUS MINOR) conquered it, house by house, and sold the surviving inhabitants into slavery The city was razed and its site plowed up The Latin accounts are biased, and there are no Punic ones, the best source is the work of POLYBIUS See also bibliography under ROME

punishment see CAPITAL PUNISHMENT, CORPORAL PUNISHMENT, CRIMINAL LAW, PRISON

Punites (pū'nīts), descendants of PHUVAH

Punjab (pŭn"jab') [Sanskrit, = five rivers], region (148,610 sq mi , pop 35,013,017), India and Pakistan The Indus river bounds it in part on the west and the Jumna river in part on the east The five rivers which give Punjab its name, the Jhelum, the Chenab, the Ravi, the Sutlej, and the Beas, merge to form the Panjnad, which flows into the Indus Except in the north, where there are mountains yielding salt and coal, Punjab is a level alluvial plain The rainfall is either undependable or deficient, but an extensive system of irrigation which uses the waters of the great rivers has made possible enormous agricultural productivity Wheat is the principal crop, millet, barley, fruits, and cotton are important Large-scale industry is limited to flour and cotton milling and textile weaving Communications (by road, by rail, and, in the rainy season, on the rivers) are good The Punjab was probably the seat of the earliest Aryan settlements in India The region was occupied by Alexander the Great and then by the Maurya empire Moslems occupied W Punjab by the 8th cent and firmly implanted Islam Not until the late 12th cent did they conquer E Punjab, which even afterward remained predominantly Hindu Under the Mogul empire the Punjab perhaps reached its cultural height When the empire declined in the late 18th cent , the Sikhs rose to dominance By the early 19th cent their territorial aggrandizement brought conflict with the British, who emerged victorious in the two Sikh Wars (1846, 1849) and in 1849 annexed most of the Punjab and made it a province, though some of the princely states were retained With the creation of Pakistan in Aug , 1947, the Punjab was partitioned approximately along the line marking the main concentrations of the Moslem and the Hindu population There were created the Pakistan province of West Punjab or Punjab (c 58,000 sq mi , pop c 20,000,000), with its capital at Lahore, the Indian state of East Punjab (c 41,000 sq mi , pop c 8,000,000) with its capital at Jullundur, and the Indian PATIALA AND EAST PUNJAB STATES UNION. In 1950 West Punjab was renamed Punjab

Puno (pōō'nō), city (pop. 15,999), SE Peru, on the northwestern shore of Lake TITICACA. Puno (alt. 12,648 ft) is the commercial and rail, highway, and steamship communications hub of SE Peru, connected with La Paz, Bolivia, to the southeast, Arequipa and the Peruvian coast to the southwest, and Cuzco, Peru, to the northwest

Punon (pū'nŏn), unlocated desert resting place, E of Mt Seir Num 33 42,43

Punta Arenas (pōōn'tä ärā'näs) [Span ,=sandy point], city (pop 29,883), capital of MAGALLANES prov , S Chile The only city on the Strait of Magellan and southernmost of the world's cities, Punta Arenas was founded in 1847 to maintain Chile's claim to the strait It is attractive and progressive, but there are few trees, and the adjacent country is cold, bleak, and barren Until the building of the Panama Canal, Punta Arenas was a busy coaling station and has since been an important center for export of Patagonian wool and mutton Reached by highway from Argentina and by boat from S Chile, it is becoming increasingly popular with tourists, in spite of a long rainy season It was for some time called Magallanes, but the older name was restored in 1938

Punta Gorda (pŭn'tu gôr'du), city (pop 1,889), co. seat of Charlotte co , SW Fla , on Charlotte Harbor It is a yachting and fishing center and exports fish and farm produce

Puntarenas (pōōntärā'nas) city (1944 estimated pop 8,547), W Costa Rica, a port on the Gulf of NICOYA Connected by rail and highway with the capital, San José, Puntarenas was a major port until the founding of LIMÓN It is a picturesque tropical resort and handles coastwise trade in cattle, sugar, and coffee Fish canneries and plants processing the skin and oil of sharks are local industries

punto in aria see LACE

Punxsutawney (pŭngksutô'nē), industrial borough (pop 9,482), W Pa , NE of Pittsburgh, settled 1772, laid out c 1818, inc 1850 It produces coal and coke and is a farm trade center The site was occupied by Shawnee villages

pupa (pū'pu), name for the third stage in the life of an insect which undergoes a complete metamorphosis—from the egg, through the larva and the pupa stages, to the adult A complete metamorphosis is characteristic of members of the orders Coleoptera (beetles), Diptera (flies, mosquitoes, gnats, etc), and Lepidoptera (moths and butterflies) Some pupae, e g , the mosquito, are active, but as a rule the pupa stage is outwardly quiescent and covered by a hard integument Pupae of moths usually have an outer covering called a cocoon, often made of silk secreted by the larva, but the pupae of bees, beetles, flies, and butterflies have no additional covering Some cocoons are formed on or under the ground, some under tree bark or boards, others are suspended The promethea moth uses a leaf in constructing its cocoon and winds silk around the leaf petiole and the twig to which it has attached itself The pupa case of a butterfly is called a chrysalis (krĭ'sulĭs) The chrysalis is usually suspended from a branch, stem, or leaf to which the posterior end is attached by a button of silk secreted by the larva In some species the chrysalis is also supported by a girdle of silk threads Some chrysalises are brightly colored, but the majority are inconspicuous That of the monarch or milkweed butterfly is pendent and of soft green studded with gold spots While the insect is in the pupa case the changes in structure take place which result in the development of the adult In some the larval tissues liquefy and new organs form The transformation to the imago or adult form takes several weeks in some Lepidoptera Others pass the winter in the pupa stage, and the imago emerges in the spring

Pupin, Michael Idvorsky (pūpĕn'), 1858–1935, American physicist and inventor, b Idvor, Hungary (now in Yugoslavia), grad Columbia (B A , 1883) He came to the United States in 1874 and from 1889 was associated with Columbia (as professor of electromechanics, 1901–31) He is known for his researches in X ray and for his invention of numerous electrical devices used in telegraphy and telephony Besides the Pulitzer Prize-winning autobiography, *From Immigrant to Inventor* (1923), he wrote *The New Reformation* (1927) and *The Romance of the Machine* (1930)

puppet, small figure of a man or animal performing on a miniature stage, manipulated by an unseen operator who also speaks the dialogue A distinction is sometimes made between marionettes, moved by strings or wires from above, and puppets, in which the hand of the operator is concealed in the costume of the doll The English Punch-and-Judy shows are an ancient and familiar form of the puppet show, and the Guignol puppet theaters are popular in France Puppet theaters for adults exist in Latin countries and have been established in the United States by Italian immigrants, old epic dramas, often based on the *Chanson de Roland,* and other medieval and modern pieces draw crowded houses In the hands of Tony Sarg and other artists and dramatists, puppet or marionette shows have attained a high degree of excellence and popularity The puppet show itself is so ancient that it is impossible to tell with accuracy

where it first appeared The Greeks of the 5th cent B C were familiar with it, in Java, China, and Japan it is almost immemorial; and in the Europe of the Middle Ages it was the most popular form of entertainment for the masses From the end of the 16th cent. to the end of the 18th, puppet or marionette shows reached the summit of their vogue on the Continent and in England These shows, sometimes called motions, were mentioned by Chaucer, Shakspere, Johnson, Pope, and Addison. During Puritan times in England they flourished after the theaters were interdicted On the Continent great writers, even Goethe, and such great composers as Mozart and Haydn wrote and composed for them In 18th-century Japan the most celebrated dramatists wrote plays for the puppet theater See W H Mills and L M Dunn, *Marionettes, Masks, and Shadows* (1928), Max von Boehn, *Dolls and Puppets* (1932), M H Batchelder, *Puppet Theatre Handbook* (1947), Paul McPharlin, *The Puppet Theatre in America* (1949)

Pur (pûr) [Heb ,=lot], lot cast by Haman to determine the time for the murder of the Jews. Esther 3.7, 9 15–32 See PURIM

Puranas see SANSKRIT LITERATURE

Purbeck, Isle of, peninsular district, c 12 mi long and 8 mi wide, Dorsetshire, England, between Poole Harbour and the English Channel The shores are rocky, St Albans Head being the most southerly point Ranges of chalk hills cross the area from east to west The region is noted for the production of Purbeck marble and china clay Swanage and Corfe Castle are the leading towns

Purcell, Henry (pûr'sĭl), 1659–95, English composer and organist He sang in the choir of the Chapel Royal until 1673 and became one of its organists in 1682 He became composer for the King's Violins in 1677 and was organist at Westminster Abbey from 1679 until his death Notable among his many works for the stage are *The Fairy Queen* (1692), based on Shakspere's *Midsummer Night's Dream*, and his music for Dryden's *King Arthur* (1691), but *Dido and Aeneas* (1689) is his only true opera in the modern sense His anthems are supreme among those of his period He also wrote services, instrumental music, and secular songs See biographies by A K Holland (1932) and J A Westrup (1937), E H Fellowes, *English Cathedral Music* (1941)

Purcell (pûrsĕl'), city (pop 3,116), co seat of McClain co, central Okla, on the Canadian river, here crossed by a bridge, settled 1887 The city is in a peach-growing area and has several cotton gins

Purchas, Samuel (pûr'chus, pûr'kus), 1577–1626, English clergyman and compiler of travel literature, b Essex, grad St John's College, Cambridge Chaplain to the archbishop of Canterbury, he later was rector of St Martin's Church, London His *Purchas His Pilgrimage* (1613), an eccentric survey of peoples and religions of the world, was well liked and later enlarged He is most famous for his compilation of travel literature, *Hakluytus Posthumus, or, Purchas His Pilgrims* (4 folios, 1625, 20 vols in Glasgow edition, 1905–7) For it he used the papers of Richard Hakluyt, East India Company records, and many manuscripts which he had collected and which have since been lost See selections by H G Rawlinson (1931) and Cyril Wild (1939)

Purdue University (pûrdû', -dōō', pûr–), at Lafayette, Ind, with state and land-grant support, coeducational, chartered 1865, opened 1874 It is especially known for its large engineering schools and has as well schools of agriculture, home economics, pharmacy, science, and aeronautics and a division of education and applied psychology At Purdue are also a public safety institute, an industrial research foundation, agricultural and locomotive history museums, and a radio station

pure-food laws see FOOD ADULTERATION

purgatory (pûr'g'–) [Latin,=place of purging], in the teaching of the Roman Catholic Church, the state after death in which the soul destined for heaven is purified of taint Since only the perfect can enjoy the vision of God (inferred from Mat 12 36, Rev 21 17), and some die in grace who have still unpunished or unrepented minor sins on their conscience, they must be purged of such sins Those who have suffered already (especially the martyrs) may have undergone much or all of their punishment Souls in purgatory are members of the Church along with the living and the blessed in heaven and may be helped, as in life, by the prayers and works of their fellow members This unity is the communion of saints Prayers for the dead are therefore a commonplace of Roman Catholic life, one form is the REQUIEM Mass (see also INDULGENCE) The nature and length of the state of purgatory are not defined, the suffering is different in kind from that of HELL, for the soul in purgatory knows that his punishment is temporary. The ancient Jews prayed for the dead (2 Mac. 12 43–46), and the Christians continued to, holding the concomitant belief in a middle state between life and heaven The Orthodox maintain this position without adopting the Western terms, which were developed in the Middle Ages. Protestants have abandoned it.

Puri (pōō'rē), town (pop. 41,055), Orissa state, India, on the Bay of Bengal Its life centers around the cult of Juggernaut (or Jagannath), a form of the Krishna avatar (incarnation) of Vishnu. The celebration of his cult, perhaps uniquely in HINDUISM, has never been attended with CASTE distinctions. The images of Juggernaut and of his brother and sister repose in a large temple within a vast temple compound Every summer each image is mounted on an enormous, unwieldy cart and dragged by thousands of pilgrims to a summer home a mile distant Although pilgrims have hurled themselves to death beneath the wheels of the cart, this act, contrary to common belief, is not part of the festival rite

purification, in a religion, the ceremonial removal of what the religion deems uncleanness Water and fire are usual agents in purification The origin of purification rites is a matter of dispute, but frequently need of purification may result from violation of taboo Sinful intent is not essential in causing uncleanness which may affect a thing or a place as well as a person or a community Highly developed religions retain rites of purification The ancient Hebrew rites are described in the Bible, as in Num 19 CANDLEMAS commemorates the purification of Mary after the birth of Jesus, Luke 2 22

Purim (pyōō'rĭm, pōō'–) [Heb ,=lots], Jewish festival celebrated on the 14th and 15th of Adar, the sixth month in the Jewish calendar According to the book of Esther (Esther 3 7, 9 24,26) it commemorated the deliverance of the Persian Jews from a general massacre, however, the festival may have arisen in the pagan celebration of the advent of spring Although preceded by a day of fasting, Purim is almost completely lacking in religious features and is a day of joy, marked by merrymaking and feasting The liturgy which is recited on this day is secular in tone Other features of the festival which developed in medieval times are the exchange of gifts the obligatory giving of alms to the poor, and often the presentation of Purim plays It is also characterized by playing pranks and the beating or burning of the effigy of Haman.

Puritanism, a composite of social, political, ethical, and theological ideas in middle-class English and American Protestantism Historically it began early in the reign of Queen Elizabeth as a movement for religious reform The early Puritans felt that the Elizabethan ecclesiastical establishment was too compromising, too broad and liberal, and too Catholic in its liturgy, vestments, and episcopal hierarchy They believed that the Scriptures did not sanction the setting up of bishops and churches by the state They had no quarrel with church doctrine, at the beginning it was their aim to purify the Church, not to separate from it However, by 1567 a small group of key rigorists were discovered meeting secretly in London to worship after the pattern of the service of the Church in Geneva Though Puritans believed that if they searched the Scriptures long enough they would eventually agree, they early differed on the nature of the church polity advised in the Bible The parish was the unit of the Puritan church, the parochial group of church members elected ministers PRESBYTERIANISM favored a central church government, whereas the Independents advocated CONGREGATIONALISM, defined the church as an autonomous congregation of believers, opposed a national, comprehensive, coercive church, and emphasized the point that a man could arrive at his own conclusion in religion There were many Puritans who were neither decided Presbyterians nor Independents, after the Restoration (1660), when the Puritans weakened as a political party, this distinction lessened in importance Though disappointed by James I at the Hampton Court Conference (1604) in the hope of imposing their program upon the state church, in the PURITAN REVOLUTION the Puritans enjoyed their greatest power after the political party that developed out of the movement came to power under Oliver Cromwell Its greatest apologist was John Milton In the Restoration they were oppressed under the Clarendon Code (1661–65), which sought to secure the supremacy of the Established Church By the end of the 17th cent the use of the word *Puritan* as a party designation had died out In New England, in the Puritan "Holy Commonwealth," some 25 churches had been formed by 1640 Puritans, strongly Calvinistic and accepting PREDESTINATION, carried the distinction between the elect and the damned into their theory of the church, membership in which consisted only of the regenerate minority who publicly confessed their experience of conversion Ministers had great political influence, and civil authorities exercised a large measure of control over church affairs. The Cambridge Platform (1648) expressed the Puritan position on matters of church government and discipline. In 1662 it was made easier for the unregenerate majority to become church members in Massachusetts by the adoption of the Half-Way Covenant. With the expansion of New England and the opening of frontier settlements filled with colonists who were resourceful, secular, and engaged in a struggle to adapt to a difficult environment, clerical control was undermined. In 1692 in Massachusetts a new charter expressed the change from a theocratic to a political, secular state, the suffrage was stripped of religious qualifications After the 17th cent Puritanism as a party largely disappeared, but Puritan attitudes and ethics continued to exert an influence on society To the Puritans the world was under an divine curse, sin was real and pervasive Their sexual code was rigid The family was a fortress of piety, Bible reading and prayers in the family group were customary. The world's physical realities must be used for purposes pleasing to God. The Puritans regarded the world as but a testing place before entering the future life They made a virtue of the qualities which social and urban isolation bred in them—austerity, impassiveness, self-reliance, frugality, industry, and energy —and through them influenced modern social and economic life Lengthy, emotion-rousing sermons were preached by a semi-prophetic, well-educated ministry, but the idea of congregational democratic church government was carried into the political life of the state as a source of modern democracy. See V. L Parrington, *The Colonial Mind* (1927, Vol I of *Main Currents in American Thought*), H W. Schneider, *The Puritan Mind* (1930), William Haller, *The Rise of Puritanism* (1938), M M Knappen, *Tudor Puritanism* (1939), Perry Miller, *The New England Mind* (1939), R B Perry, *Puritanism and Democracy* (1945), T F Wertenbaker, *The Puritan Oligarchy* (1947)

Puritan Revolution, name usually given to the conflict between the king of England and a large body of his subjects in the reigns of JAMES I (1603–25) and CHARLES I (1625 49) It culminated in civil war, the defeat of the king, and the establishment of a kingless Commonwealth, which became the Protectorate The name has been applied because the complexion of the king's opponents was prevailingly Puritan, while the king and his followers were believers in episcopacy and formal religion, it is somewhat of a misnomer because it overemphasizes the religious element at the expense of other issues, economic and constitutional The constitutional issue was one between a king who claimed the privileges of a divine-right monarch and a Parliament that stood for a constitutional monarchy with the real sovereignty residing in the electorate The electorate at the time was not, of course, made up of the full body of the English people, it was composed of the nobility and middle class, with the middle class in the majority and therefore dominant It was this middle class—the country gentry and the commercial classes of merchants and artisans which had been growing apace since the Commercial Revolution and the tremendous expansion of markets and trade in Tudor times—that made up the bulk of the parliamentarian party, the opponents of the king They were anxious to do away with financial and commercial restrictions and they desired to have the guiding hand in the government This ambition had been severely held in check by Tudor absolutism, but on the accession of a Scottish king to the English throne the popular party gathered its forces James was not long in gaining a personal unpopularity that helped to strengthen Parliament's hand The Hampton Court Conference (1604) was an unsuccessful effort to compromise religious questions The Parliament that met in 1604 was soon at outs with the king on what was to prove to be one aspect of the fundamental issue- the privileges of Parliament, claimed by that body as a legal right and regarded by James as a special grant from the crown James was forced to temporize with Parliament because of his great need of money, but the dissolution of 1611 found them further apart in spirit than ever The new Parliament met in 1614 and Commons engaged in quarrels not only with the king, but also with the Lords Because it passed not a single statute, this was called the Addled Parliament James, however, had little understanding of the popular unrest and continued on his way, arousing deeper opposition by his dependence on favorites and by the scheme of a Spanish marriage for the English crown prince In the search for constitutional precedents, Sir Francis BACON had zealously upheld the royal prerogative and Sir Edward COKE the common law and parliamentary rights The king dismissed Coke in 1616, and the Parliament of 1621 impeached Bacon The last Parliament (1624) of James's reign accompanied its grant of money with directions for its use to assist the enemies of Spain, to secure Ireland, and to equip the navy Charles I, married to the French Catholic princess, Henrietta Maria, was to prove more intractable and even less to the Puritan taste than his father, and Parliament was to become even more uncompromising in Charles's reign The leaders of the popular party—Coke, Dudley Digges, John Selden, Sir John Eliot, and John Pym—realizing the inevitability of the issue, sought by all means in their power to limit the powers of the king He was granted by the Parliament of 1625 the right to collect tonnage and poundage—but only for a year, not for his reign The Parliament of 1626 went farther and directly attacked the king's minister, George Villiers, 1st duke of Buckingham, and sought to impeach him. Charles dis-

solved Parliament in anger He sought by every means to obtain money, but was forced again to have recourse to Parliament. The calling of a new body, however, resulted only in much greater estrangement between king and legislature Parliament drew up (1628) the PETITION OF RIGHT, and so great was Charles's need that he was forced to accept it. The king levied tonnage and poundage—an act which the parliamentarians declared illegal (on arguments today generally considered invalid) Parliament in 1629 protested vigorously against Charles's conduct of affairs, the collection of tonnage and poundage, and the prosecution of the king's opponents in the Star Chamber The religious issue also came up, and the Parliament was dissolved, Charles took measures against the parliamentary leaders Ill-feeling had grown to hostility, which did not lessen in the succeeding 11 years when Charles attempted personal rule, without Parliament's aid The prosecution of William PRYNNE and of John HAMPDEN aroused popular indignation Charles's chief advisers, Archbishop LAUD and Thomas Wentworth, earl of STRAFFORD, a former Parliament man, were cordially detested All of the popular group felt that no rights of a citizen were safe Ominous peace reigned It was broken by trouble in Scotland, where efforts to enforce Anglican episcopal policy led to the violent opposition of the COVENANTERS and to the Scottish war (the Bishops' War) of 1639 and compelled Charles to seek the financial aid of Parliament The Parliament that convened in 1640 once more met the question of supplying the king by a demand for redress of grievances The king offered to abandon ship-money exactions, but delay and a tendency of Parliament to parley with the king's Scottish enemies caused him to dissolve this Short Parliament in just three weeks The disasters of the second Scottish war and other troubles compelled a virtual surrender by the king The Long Parliament was called (1640), and it reduced the king to purely nominal authority The men imprisoned by the Star Chamber were freed A Triennial Act provided that no more than three years should elapse without sessions of Parliament Strafford was impeached and despite efforts of the king to save him, was executed Parliament undertook church reform on Puritan lines, but there was considerable disagreement, especially between Commons and Lords Church courts were abolished Thirteen bishops were impeached The distrust of the king was expressed in measures that included the disbanding of armies and the placing of guardians over the king's children In the hope of regaining some power in Scotland, Charles went there in Aug , 1641 At the same time there was a considerable movement in England in favor of the king, and his position was strengthened, although he gained nothing in Scotland A rebellion against English rule in Ireland, however, aroused great anti-Catholic passion and led Parliament to adopt the Grand Remonstrance, which recited the evils of Charles's reign and called for further reforms, its object was the strengthening and protection of the state Commons also sought to gather an army by a militia bill Charles, compliant to the will of Parliament up to this point, refused to accept the Grand Remonstrance Contrary to Parliament's orders he began to organize an army Believing with some justice that impeachment proceedings were to be begun against Queen Henrietta Maria, Charles attempted to have five members of Commons (Hampden, Pym, Denzil Holles, Sir Arthur Heselrige or Hazelrig, and William Strode) seized and went in person unsuccessfully to the House This action made civil war inevitable In the lull that followed these stirring events both Parliament and king sought to secure the fortresses, arsenals, and popular support In June, 1642, Parliament sent to the king a group of 19 demands, embodying the conditions on which they could agree with the king These included the reform of governmental administration and of church practice according to the will of Parliament, the extirpation of Roman Catholicism in England, parliamentary control of the army, parliamentary control of the administration and of the appointment of privy councilors, ministers, all the great officers of the crown, and the judges, and even parliamentary control of the education of the king's children Obviously acceptance would have meant abject surrender by the king, this he refused Armed forces gathered about him in the north, Parliament organized an army and appointed Robert Devereux, 3d earl of Essex, to head it The king moved south with his royalist forces and on Aug 22, 1642, raised his standard at Nottingham The followers of king and of Parliament did not represent two absolutely distinct social groups as the popular conception of the royalist Cavaliers and the parliamentary Roundheads would indicate However, it is true that the parliamentary or Puritan group drew its strength largely from the trading classes and artisans of London, Norwich, Hull, Plymouth, and Gloucester, it centered in the southeast and had control of the fleet The majority of the great nobles followed the king, who had the support of the Anglicans and the Catholics, geographically the royalist strength centered in the north and the west. The king and his forces moved from Nottingham to the west, then, turning back to advance on London, met the parliamentary force under Essex in a fierce but indecisive engagement at Edgehill (Oct 23, 1642) The king then established himself at Oxford and Essex went to London The royalist forces gained ground in the north and the west, and, though another attempt by the king to advance on London was abortive, his fortunes were in the ascendant In 1643 the plan of a concerted royalist drive on London went awry The royalist general in the east, William Cavendish, duke of Newcastle, came to grief in a cavalry engagement, and had to turn back That engagement (July 25, 1643) was chiefly remarkable because in it Oliver CROMWELL, who had been an obscure member of the Long Parliament, first gained real military prominence with the troop of "godly" men that he had organized and trained, the regiment that was to become famous as the Ironsides The parliamentary forces continued to hold all the important ports Though Essex, after capturing Reading, failed to take Oxford, his lack of success was paralleled by the king's failure to take Gloucester after a long siege, which was raised by the approach of a parliamentary force that met the king in an indecisive battle at Newbury (Sept , 1643) Futile negotiations for peace had been conducted at Oxford early in 1643, and in the autumn Parliament took a decisive step by securing the alliance of the Presbyterian Scots in accepting the Solemn League and Covenant (Sept 25, 1643) The Scottish aid was obtained only by promise to submit England to Presbyterian rule, arrangements for that submission were made in the Westminster Assembly The war now entered a new phase A Scottish army advanced into York early in 1644 and gave aid to the Fairfaxes, who had been valiantly upholding the parliamentary standard in the north The brilliant and dashing Prince Rupert did something to stem royalist losses by retaking Newark and Lincoln, but these gains were temporary His campaign to relieve the besieged York led to the battle of Marston Moor (July 2, 1644), in which Cromwell and his men inflicted on the royalists a crushing defeat Charles pursued Essex and literally drove him into the sea in Devon, but he shortly afterward met parliamentary troops from the north, and, though the second battle of Newbury was really indecisive, Cromwell gained glory Dissension among the parliamentary leaders led Cromwell to sponsor the Self-Denying Ordinance, by which all members of Parliament were compelled to resign their commands and the army was reorganized into the New Model Army by parliamentary action In it Thomas Fairfax was commander in chief, and Cromwell, reappointed to command, was the leading spirit Another futile attempt to secure an arrangement with the king by a proposal usually called the Treaty of Uxbridge ended early in 1645 The New Model swung into action Charles, hoping to join with forces under James Graham, marquis of Montrose, and with Rupert, went north, then took Leicester A decisive engagement was fought with Cromwell at Naseby (June 14, 1645) This battle lost the Midlands to the royalists, and Charles's cause was lost Unable to join Montrose (whose fortunes declined to a decisive defeat in 1645), thwarted in his attempts to secure aid from Ireland or the Continent, the king was unable to halt the steady losses of his party and finally was compelled to surrender himself to the Scots, who made him reassuring promises The first civil war was at an end when Oxford was surrendered in June, 1645 The king was delivered by the Scots into the hands of Parliament, but the Presbyterian rule in that body had thoroughly alienated the army, and the army captured the king from the parliamentary party (May 31, 1647) Army discontent gradually became more radical, the desire to dispose of the king altogether grew, and the king, refusing to accept the Heads of the Proposals, the army council's proposals for peace, escaped Nov 11, 1647, and went to the Isle of Wight There he raised the standard of the second civil war, but this failed quickly A Welsh uprising, a Kentish uprising, and a Scottish invasion (which occurred because the Scots felt that the Solemn League and Covenant had been broken) all were suppressed, the only really serious fighting was with the Scots Cromwell took Colchester and defeated the Scots at Preston (Aug 17, 1648), Wigan, and Warrington Charles's forlorn hope of Irish aid failed Parliament again tried to reach some agreement with the king, the army, which was now completely under Cromwell's control, disposed of its enemies in Parliament by Pride's Purge, which reduced the Long Parliament to the Rump Parliament by expelling all members opposing the army This legislative remnant erected a high court of justice which tried the king for treason and found him guilty Charles was beheaded on Jan 30, 1649 A quasi-democratic Commonwealth was set up, governed by the reduced Parliament without king or House of Lords. The council of state of 41 members chosen for one year acted as the executive The disagreement of the various types of Puritan thought and the multiplication of radical sects caused religious trouble now that Presbyterian domination was overthrown, but the Puritan Revolution was accomplished Cromwell, its leading spirit, came to dominate, and the years of the interregnum under the Commonwealth to 1653 and of the PROTECTORATE after that are the story of his personal rule After his death and that of Richard Cromwell there was the short period of a renewed Commonwealth and of chaos ended in 1660 by the RESTORATION of the Stuart family It seemed then that the gains of the revolution might disappear Some of the changes did, Anglicanism was restored as the state church. Yet the Puritan rising was, somewhat ironically, a major factor in bringing about religious toleration in England The real results of the Puritan Revolution were, however, the emergence of the middle class and the settlement of the contest between king and Parliament, for by the GLORIOUS REVOLUTION OF 1688 those results were permanently assured for England The standard works on the period of the Puritan Revolution are books by S R GARDINER See also G M Trevelyan, *England Under the Stuarts* (1922), F C Montague, *The History of England from the Accession of James I to the Restoration* (1907, Vol. VII of *The Political History of England*, ed by William Hunt and R L Poole), Godfrey Davies, *The Early Stuarts of 1603–1660* (1937)

Purkinje, Johannes Evangelista (yōhn'nus ā"vänggā'lēs'tä pōōr'kĭnyĕ), 1787–1869, Czech physiologist While professor (1823–50) at the Univ of Breslau he pioneered in establishing laboratory training in German universities From 1850 he was professor at Charles Univ , Prague, and was active in the Czech nationalist movement He improved microscope technique and in the fields of histology and embryology made numerous contributions He discovered the apertures of the sweat glands and the large ramified nerve cells of the cerebellum now called by his name In his research in ophthalmology he worked on the functions of the eye and studied subjective visual figures and recurrent images He is known also as a poet, he translated poems of Schiller and Goethe into Czech

Pursh, Frederick, 1774–1820, American botanist, b Germany He made valuable contributions to the knowledge of North American flora Among his discoveries was the hart's-tongue, a rare fern He gave the name *Lewisia* (for Meriwether Lewis) to the genus which includes the bitterroot He wrote *Flora Americae septentrionalis* (1814) and *Journal of a Botanical Excursion in Pennsylvania and New York during the Year 1807*, which was published in 1869 and later reprinted (1923)

purslane or **pussley**, trailing annual plant (*Portulaca oleracea*) with fleshy radiating stems, succulent leaves, and small yellow flowers In the Old World it has been cultivated (in an upright form) for the leaves and young shoots, used for pickling and salads and as a potherb In America it is regarded as a weed The garden purslane is the closely related PORTULACA A number of other plants are called purslane

Purus (pōōrōōsh'), river, c 2,100 mi long, rising in E Peru It flows into Brazil and generally NE across Acre territory and Amazon state into the Amazon well above Manaus For most of its course it is navigable It receives the Acre river from the right

Purvey, John, c 1354–c 1421, English scholar, who in support of LOLLARDRY completed the first thorough translation of the Bible into English Becoming attached to John WYCLIF at Oxford, he accompanied the Lollard leader to Lutterworth in 1382 and there perhaps finished a faulty translation of the Bible previously begun by others under Wyclif's inspiration He completed c 1395 a careful and scholarly translation entirely his own. These two versions were erroneously attributed to Wyclif himself until recently The second shows a prose style better than that of Wyclif's writings, portions of it were later used by the translators of the King James Version Purvey continued active as a Lollard until his arrest in 1401 The following year he recanted under pressure and accepted a living from Archbishop Arundel In 1403, however, he resigned and resumed Lollard activities until his arrest again in 1421, after which time nothing certain is known of his fate

Purvis, town (pop 1,000), co seat of Lamar co., SE Miss , near Hattiesburg, in a farm area

Purvits, Vilhelms (vil'hĕlms pōōr'vĭts), 1872–, Latvian landscape painter One of the first to introduce modern Western art into Eastern Europe, he was director of the Latvian Academy of Art at Riga from 1919 and was director of the city museums and professor at the Univ of Latvia A follower of the school of French impressionism, he developed an international style of his own His work can be seen in museums of Riga, Tallinn, Stockholm, Leningrad, and Moscow

pus, thick fluid which contains decomposed tissue, bacteria, and certain white blood cells (chiefly polymorphonuclear leucocytes or pus cells) These white blood cells form one of the defense mechanisms of the body, known as phagocytes, they engulf invading bacteria in a process called **phagocytosis** During the process many white corpuscles are killed, and these form one of the constituents of

pus In any acute inflammation, pus may accumulate and an ABSCESS may form

Pusan (pōō'sän), Jap *Fusan*, city (1949 pop 473,619), S Korea, on the Korea Strait It is the largest port of Korea and has extensive overseas trade Industries include ironworks and shipyards Pusan was opened to general foreign trade in 1883

Pusey, Edward Bouverie (pū'zĭ), 1800–1882, English clergyman, leader in the OXFORD MOVEMENT, known also as Puseyism Having studied at Christ Church College, Oxford, Pusey was elected a fellow of Oriel College (1824) and thus became associated with John Keble, J H Newman, and their group After two years of study in Germany, he wrote a history (1828) of German theology from the Reformation and was made regius professor of Hebrew at Oxford, with the canonry of Christ Church The tract on baptism (1835) in the series *Tracts for the Times* was Pusey's He was editor in chief of the *Library of the Fathers* (from 1836) His influence in the High Church party was widened when he was suspended from preaching for two years because of the ideas on the Real Presence expressed in his sermon "The Holy Eucharist, a Comfort to the Penitent" (1843) Other sermons helped in the revival of such practices as auricular confession and in formulating High Church doctrines His sermon "The Rule of Faith" (1851) is credited with checking the secessions to Roman Catholicism which had been accelerated by his suspension and more recently by the controversy over the right of the privy council to adjudicate on matters of church doctrine Pusey's eucharistical writings culminated in his *Doctrine of the Real Presence* (1855) and *The Real Presence* (1857) *The Minor Prophets* (1860) and *Daniel the Prophet* (1864) were his answer to the rationalist methods of contemporary scholarship His *Eirenicon* (3 parts, 1865–70) was an endeavor to find some ground for reuniting Christendom His name is perpetuated in Pusey House at Oxford, where his library is kept together See biographies by Canon Liddon (completed by others, 1893–99) and Maria French (1906), C C Grafton, *Pusey and the Church Revival* (1914)

Pushkin, Aleksandr Sergeyevich (pōōsh'kĭn, Rus ŭlyĭksän'dur sirgā'uvĭch pōōsh'kĭn), 1799–1837, Russian poet and prose writer He is the greatest of Russian poets He was born in Moscow of an old family, a great-grandfather was Hannibal, the Negro general of Peter the Great Pushkin showed promise as a poet even as a student in the *lycée* of Tsarskoye Selo In 1820 he was exiled to S Russia because he wrote *An Ode to Liberty* and other revolutionary verses In the same year appeared the fairy romance *Russlan and Ludmilla*, which shows strong traces of French influence, Glinka later adapted it as an opera In S Russia he came under the influence of Byron and, like Lermontov, was strongly moved by the exotic natural beauty of the Crimea and the Caucasus The effect is seen in his next poems, *The Prisoner of the Caucasus* (1821), *The Robber Brothers* (1822), *The Fountain of Bakchiseras* (1822), and *The Gypsies* (1823–24), in which the author's frustrated yearning for freedom finds expression Pushkin often found his material in Russian history, as in *Poltava* (1828) and *The Bronze Horseman* (1833), in which he laid the foundations for a cult of Peter the Great, in *Boris Godunov* (1831), a tragic drama on which Moussorgsky based an opera, and in two works based on the great peasant uprising under Y I Pugachev in 1773–75, *The Captain's Daughter* (a short novel, 1837) and *The History of the Pugachev Rebellion* (1834) His masterpiece is *Eugene Onegin* (1831), a novel of manners in verse In this occurs one of the finest love poems in the Russian language, Tatiana's love letter to Onegin Pushkin expressed himself in many forms—in the drama, e g , the much-translated *Mozart and Salieri* and *The Stone Guest* (both 1830), in folk tales, e g , *The Golden Cockerel* (1833), on which Rimsky-Korsakov based an opera, and in short stories and novelettes as *Tales by Belkin* (pub anonymously, 1831), *Dubrovsky* (1841), and *The Queen of Spades* (1834) Tchaikovsky based operas on both *Eugene Onegin* and *The Queen of Spades* Pushkin died as the result of a duel which he fought in defense of his wife's honor His fame, great at the time of his death, has steadily mounted Most of his writings are available in English See his works (ed by Avrahm Yarmolinsky, 1936), biographies by E J Simmons (1937) and Henri Troyat (Eng tr , 1950)

Pushkin (pōōsh'kĭn, Rus pōōsh'kĭn), city (1948 pop over 50,000), RSFSR, S of Leningrad Founded under Peter I as Tsarskoye Selo [tsar's village], it was renamed Detskoye Selo [children's village] after the Russian Revolution and Pushkin in 1937 The huge summer palace of Catherine II, in baroque style, was begun under Empress Elizabeth The summer palace of Alexander I (built 1792–96) is in the classic mode The vast park has innumerable grottoes, pavilions, canals, lakes, and bridges in the rococo manner The *lycée* where the poet Pushkin studied is now a museum In the Second World War the Germans held (1941–44) Pushkin during the siege of Leningrad The palaces, park, and museum were looted and partially destroyed, but restoration was begun after the war. Near Pushkin is the observatory of PULKOVO.

Pushtu (pŭsh'tōō), language spoken in Afghanistan, called also Afghan It belongs to the Iranian group of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table).

pussley see PURSLANE

pussy willow see WILLOW

Puszta (pōō'stä), grazing lands which once covered a large part of the Hungarian plain They were used for extensive cattle raising With the progress of irrigation and drainage, the Puszta has disappeared except in the small Hortobagy region (104 sq mi), near Debrecen, E Hungary Here large herds of cattle are still rounded up by the Hungarian equivalent of cowboys, and all other characteristic features of the Puszta have been preserved

Put (pŭt), variant of PHUT

Puteoli (pūtē'ŭlī), ancient city of Campania, Italy Founded by Greeks from Cumae c 520 B C , it came under Roman control by the end of the 3d cent and was made a citizen colony in 194 B C Its greatness as a port waxed, and it handled much of the Italian importing as well as large exports, notably of mosaics, pottery, and perfumes The shops were rich, and the city was surrounded by handsome villas When St Paul visited the city there was already a large Christian community Acts 29 13 The wealthy port attracted raiders, and Puteoli was destroyed by Germanic invasions in the 5th cent A D Modern Pozzuoli is near

Putiel (pūtĭ'ul, pū'tĭĕl), grandfather of Phinehas Ex 6 25

Put in Bay, harbor of South Bass Island, N Ohio, in Lake Erie NW of Sandusky There are state and Federal fish hatcheries, and some commercial fishing is done At Put in Bay village, a summer resort on the bay, is Perry's Victory and International Peace Memorial National Monument

Putnam, Amelia Earhart see EARHART, AMELIA

Putnam, Arthur (pŭt'num), 1873–1930, American sculptor noted for his animal bronzes, b Wavaland, Miss He studied and worked in San Francisco In association with Willis Polk he assisted in the rebuilding of San Francisco after the earthquake (1906) Among his works are *Snarling Tiger* (Metropolitan Mus), *The Death* (Mus of Fine Arts, Boston), and the Sloat monument (Monterey, Calif)

Putnam, Frederic Ward, 1839–1915, American anthropologist, b Salem, Mass , studied at Harvard He introduced the custom of scientific expeditions under museum auspices From 1874 to 1909 he was curator at the Peabody Museum and from 1886 to 1909 Peabody professor of archaeology and ethnology at Harvard He secured many valuable collections of North American and Central American archaeological and ethnological specimens While curator of anthropology (1894–1903) at the American Museum of Natural History, New York, and as permanent secretary (1873–98) of the American Association for the Advancement of Science, he was a vitalizing influence in extending and developing American scientific research From 1903 to 1909 he was professor and director of anthropology at the Univ of California

Putnam, George Haven, 1844–1930, American publisher, b England, educated at the Sorbonne and the Univ of Gottingen, son of George P Putnam He served in the Civil War until captured by the Confederates in 1864, he retired with the rank of major On his father's death he became head of G P Putnam's Sons Major Putnam was active in many civic and social causes and was especially successful in his fight for an international copyright law Among his many books are *Authors and Publishers* (1883), *Books and Their Makers during the Middle Ages* (1897), *Memories of My Youth* (1914), *Memories of a Publisher* (1915), and *Some Memories of the Civil War* (1924) In 1899 he married as his second wife Emily James Smith (1865–1944), b Canandaigua, N Y , dean of Barnard from 1894 to 1900 Mrs Putnam wrote *The Lady* (1910), a history of the upper-class women from ancient times, and *Candaules' Wife* (1926)

Putnam, George Palmer, 1814–72, American publisher, b Brunswick, Maine, grandnephew of Israel Putnam After establishing in London a branch of the publishing house in which he was partner, he returned to New York to found (1848) G P Putnam's Sons He was proprietor of *Putnam's Magazine* (1853–57), which was revived for brief periods in 1868–71 and 1906–10 One of the founders of the Metropolitan Museum of Art, he was its honorary superintendent George Haven Putnam and Herbert Putnam were his sons, and Mary Putnam JACOBI was his daughter See the memoir by his son G H Putnam (1912)

Putnam, George Palmer, 1887–1950, American publisher, author, and explorer, b Rye, N Y , grandson of G P Putnam, founder of the publishing firm After editing (1910–13) a newspaper in Bend, Oregon, and serving in the First World War, he was treasurer of G P Putnam's Sons until 1930 He led two expeditions to the Arctic—one in 1926 under the sponsorship of the American Museum of Natural History up the west coast of Greenland and the other in 1927 to Baffin Island to collect specimens of wildlife He married Amelia Earhart in 1931, and after she was lost at sea in 1937 he wrote her biography in *Soaring Wings* (1939) His autobiography, *Wide Margins*, appeared in 1942.

Putnam, Herbert, 1861–, American librarian, b New York city, grad Harvard, 1883, and studied law at Columbia, son of George P Putnam He served as librarian at the Minneapolis Athenaeum (1884–87) and of the Minneapolis Public Library (1887–91) After practicing law in Boston, he turned definitely to librarianship, being librarian of the Boston Public Library from 1895 to 1899, when he began his long and valuable service as librarian of Congress He retired in 1938 as librarian emeritus to Congress, a post created for him. See *Essays Offered to Herbert Putnam by His Colleagues and Friends* (1929)

Putnam, Israel, 1718–90, American Revolutionary general, b Salem (now Danvers), Mass A farmer at Pomfret, Conn , he fought in the French and Indian War, seeing action at Montreal (1760) and at Havana (1762) In 1764, he was commander of the Connecticut force sent to relieve Pontiac's siege of Detroit When he heard the news of the battle of Lexington and knew the American Revolution was begun, he left his plow in the furrow and took horse to Cambridge to join the patriot forces He was prominent in the battle of Bunker Hill Putnam was in command at the unhappy battle of Long Island (1776) and in 1777 lost Forts Montgomery and Clinton in the Hudson Highlands A paralytic stroke (1779) ended his military career See biography by W F Livingston (1901)

Putnam, Mary see JACOBI, MARY PUTNAM

Putnam, Rufus, 1738–1824, American Revolutionary general, one of the founders of the OHIO COMPANY OF ASSOCIATES, b Sutton, Mass In the French and Indian War he joined (1757) the army and saw action around Lake Champlain In the American Revolution he was an engineering officer at Boston, New York, and West Point, then a field officer under Horatio Gates in the Saratoga campaign (1777) and under Anthony Wayne at Stony Point (1779) He was made a brigadier general in 1783, after the war's end In 1786 he, with other veterans, formed the Ohio Company of Associates Putnam helped the passage of the Ordinance of 1787, and in 1788 he and Manasseh Cutler supervised the building of Marietta Putnam was later (1796–1803) U S surveyor general See biography by Sidney Crawford (1899)

Putnam, textile city (pop 7,775) in Putnam town (pop 8,692), NE Conn , a co seat of Windham co , at the falls of the Quinebaug, settled 1694, inc 1895, town set off from Killingly 1855

Putney, (pŭt'nĭ), district of Wandsworth metropolitan borough, SW London, England, on the south side of the Thames, here crossed by a granite bridge to Fulham It is the starting point of the Oxford-Cambridge boat races Thomas Cromwell and Edward Gibbon were born in Putney, and Leigh Hunt, Swinburne, and William Pitt lived here Putney Heath was the scene of a duel between Pitt and George Tierney in 1798 and of one in 1809 between Castlereagh and George Canning

Putney, town (pop 904), SE Vt , N of Brattleboro in the Connecticut river valley, settled in the mid-18th cent Near the village of Putney, on a remodeled farm, is Putney School (1935), a private, coeducational, progressive school In 1839 John Humphrey NOYES formed at Putney a society of Perfectionists, which was the first of three.

Puto see CHUSAN ARCHIPELAGO

putrefaction (pūtrĭfăk'shun), decomposition of nitrogenous organic matter produced by microorganisms Among the compounds formed are ptomaines Disagreeable odors associated with putrefaction are caused by the production of aromatic bodies and gases, e g , ammonia and hydrogen sulphide Gangrene, following infection, is a putrefactive fermentation of dead tissue The products of putrefaction of organic matter in the soil are valuable as fertilizing material for plants

Putrid Sea, RSFSR see SIVASH

Puttenham, George (pŭt'unum), d 1590, reputed author of *The Arte of English Poesie* (1589), a treatise on the theory of English versification The book has also been ascribed to his brother **Richard Puttenham**, 1520?–1601 See edition by G D Willcock and Alice Walker (1936)

putty, commonly a mixture of whiting (calcium carbonate) and boiled linseed oil Other substances may be combined with the oil to make putties suitable for some specific purpose For example, the red and white oxides of lead mixed with linseed oil yield a putty used by plumbers in sealing pipe joints Putty hardens gradually when put in place, as along the edges of window panes to fasten them, in cracks in plaster walls, and in crevices in wood and other substances The linseed oil absorbs oxygen from the air and, holding fast the calcium carbonate or metallic oxides, causes the mixture to harden A powder composed of a mixture of lead and tin oxides, known as putty powder, is extensively used in polishing

Putumayo (pōōtōōmä'yō), river, c 800 mi long, formed by tributaries rising in the Colombian Andes, flowing SE to the Amazon in Brazil Most-

ly navigable, it marks part of Colombia's boundary with Ecuador and most of Colombia's frontier with Peru, the short Brazilian section is called the Içá The river valley is at present of little economic importance, but some rubber and balata are shipped to Manaus, Brazil In the early 20th cent , during the heyday of the wild-rubber bonanza, Roger CASEMENT was appointed to head a group to investigate the treatment of Indian laborers and made a report for the Peruvian government on the brutal exploitation of native labor, the report shocked the world

Puunene (pōōnĕ'nĕ), town (pop 4,456), on N Maui, T H , near Kahului Bay, in the sugar-cane area

Puvis de Chavannes, Pierre (pyĕr' puvĕs' du shăvan'), 1824-98, French mural painter, b Lyons In 1844 he went to Paris, where he studied under Scheffer, Delacroix, and Couture He also traveled in Italy His painting *War* (Amiens), purchased by the state in 1861, established his reputation From that time on he lived in Paris and painted the mural decorations in Lyons, Marseilles, Amiens, Poitiers, Rouen, Paris, and Boston which have made him famous Late in life he married his lifelong friend, Princess Marie Cantacuzène They both died the following year Although Puvis studied with the romanticists, his work is classical in inspiration His chaste murals with their subdued color and statuesque figures sometimes suggest the frescoes of Giotto However, he painted chiefly on canvas Puvis is usually considered the best of the French muralists since Delacroix Excellent examples of his work are in the Hôtel de Ville, the Sorbonne, and the Panthéon, Paris, and in the Boston Public Library His easel paintings are to be seen in many American and European galleries

Puy, Le (lu püē'), city (pop 18,347), capital of Haute-Loire dept , S central France, in VELAY, of which it was the capital The modern section lies below a bare rock, which, towering almost 500 ft above it, is capped by a bronze statue of the Virgin (50 ft high), erected in 1860 Immediately at the foot of the rock lies the old city, with a cathedral (12th cent) of extraordinarily daring construction, an 11th-century baptistery, and numerous Gothic buildings Atop a lesser, needle-shaped rock is the Romanesque Church of St Michel d'Aiguilhe, and at its foot is an 11th-century chapel Le Puy began to grow when it was made (6th cent) an episcopal see, after the 10th cent its shrine to the Virgin became a major place of pilgrimage It is the center of an old lace industry The Château of Chavaniac, c 25 mi to the northwest, was the birthplace of Lafayette

Puyallup (pyŭ'lup), city (pop 7,889), W Wash , on the Puyallup river and E of Tacoma, settled 1877, inc 1890 It has canneries and daffodil fields and is the seat of an agricultural experiment station An annual fair is held

Puyallup Indians, tribe of North American Indians of the Salishan linguistic stock Puyallup culture was of the Pacific Northwest Coast area In the early 19th cent they occupied the region around the mouth of the Puyallup river in W Washington, near the site of Tacoma By the Treaty of Medicine Creek (1854) they ceded their lands to the United States and moved to a small reservation on Puget Sound They now number some 450 See M W Smith, *Puyallup-Nisqually* (1940)

Puy-de-Dôme (püē'-dŭ-dōm'), department (3,095 sq mi , pop 478,732), S central France, in AUVERGNE Clermont-Ferrand is the capital

Puy de Dôme, extinct volcano, 4,806 ft high, S central France, the second highest peak of the AUVERGNE mts , 6 mi W of Clermont-Ferrand Here Florence PÉRIER conducted (1648), upon instructions of his brother-in-law, Blaise Pascal, the famous experiment which confirmed Torricelli's theory on air pressure

Puy de Sancy, France see MONT-DORE

Pu Yi, Henry (pōō' yē', pōō' ē'), Manchurian *Pu Hao-yen,* 1905–, last emperor (1908–12) of China, under the reign name Hsuan T'ung After his abdication he was granted a large government pension and permitted to live in the imperial summer palace near Peiping In 1934, under the reign name Kang Teh, he became the sole emperor of the Japanese puppet state of MANCHUKUO He was captured by the Russians in 1945 and kept as their prisoner In 1946 Pu Yi testified at the Tokyo war-crimes trial that he had been the unwilling tool of the Japanese militarists and not, as they claimed, the instrument of Manchurian self-determination

Pyarnu, Estonia see PARNU

Pyatigorsk (pyĭtyĭgôrsk'), city (pop 62,875), S Stavropol Territory, RSFSR, in the N Caucasus A health resort, it has sanatoriums, hot sulphur springs, and mud baths Lermontov was killed here in a duel in 1841, and there is a museum devoted to his memory Pyatigorsk was held (1942–43) by the Germans in the Second World War

Pydna (pĭd'nu), ancient town of Pieria, S Macedonia, near the Gulf of Salonica Near here the Romans under Aemilius PAULLUS defeated (168 B C) the Macedonians under Perseus and thus ended the kingdom of Macedon

Pye, John, 1782–1874, English engraver, founder of modern landscape engraving As an illustrator for popular art annuals, he developed his technique and became in time J M W Turner's favorite engraver He also executed plates for landscapes by Claude Lorrain and Gaspard Poussin The British Museum has his impressions for the gift annuals from 1813 to 1858, as well as those for Turner's *Liber Studiorum* His treatment of light and shadow is unsurpassed He founded the Artist's Benevolent Fund and wrote *Patronage of British Art* (1845)

Pyeshkov, Aleksey Maximovich see GORKI, MAXIM.

Pygmalion (pĭgmāl'yun) **1** In Greek mythology, king of Cyprus He made a marble statue of a woman, Galatea, so beautiful that he fell in love with it He prayed to Aphrodite for a wife like the statue, and Aphrodite heard him, the statue became a woman, and Pygmalion married her **2** In Vergil's *Aeneid,* king of Tyre He was the brother of Dido, and he murdered Dido's husband

Pygmy or **Pigmy** (both pĭg'mē), any one of various geographic populations scattered from Africa to New Guinea, Regarded by most writers as genetically related to the Negroids, the Pygmies nevertheless differ from them and from each other in many respects The African Pygmies, often called Negrillos, average less than 5 ft in height (the lowest average stature found in any population) and are lighter in color than the Negroids among whom they live, with whom they have interbred extensively, and whose languages they speak Before agriculture was developed they were probably the sole inhabitants of the Congo valley, today they number fewer than 100,000 and are subject to Negro chieftains, who employ them as specialists in hunting (e g , of elephants) and in various crafts Among the larger groups are the Batwas in the great bend of the Congo The Akkas of the upper Nile are probably the Pygmies known to the ancient Egyptians and to Homer and Herodotus The Far Eastern Pygmies, sometimes called Negritos, include the Aetas of the Philippines, the Semangs of the Malay Peninsula, and several other small groups from the Andaman Islands eastward There is abundant evidence of Pygmy admixture in the populations of Malaya and Melanesia The Pygmies in this area average about 5 ft tall have thick lips, very dark skin, and scant body hair, while the head hair is woolly They are settled mostly on poor land in isolated locales, where they live by primitive methods of food gathering, hunting, and fishing The theory that all Pygmies are of common stock, migrants from S Asia in prehistoric times, is unproved, as is the theory that they are the living survivors of the ancestral type of man

Pylades (pĭ'ludēz), in Greek legend, the dear friend of ORESTES He married ELECTRA

Pyle, Howard, 1853-1911, American illustrator and writer, b Wilmington, Del , studied at the Art Students League For many years he illustrated stories for *Harper's Magazine* and *Harper's Young People* He both wrote and illustrated many books for young people tales of chivalry and adventure, which both in their writing and in their drawing stirred the imagination Some of these were *The Merry Adventures of Robin Hood of Great Renown* (1883), *Within the Capes* (1885), *Pepper and Salt* (1886), *The Wonder Clock* (1888) *Otto of the Silver Hand* (1888), *Men of Iron* (1891), *The Story of Jack Ballister's Fortunes* (1895), *The Garden behind the Moon* (1895), *The Story of the Champions of the Round Table* (1905), and *Stolen Treasure* (1907) From 1879 Pyle lived in Wilmington He taught at Drexel Institute, Philadelphia, where his pupils included Maxfield Parrish and N C Wyeth He died in Italy

Pylos (pī'lŏs), ancient harbor, Messenia, SW Greece, on a bay of the Ionian Sea Tradition made it the home of NESTOR It was not inhabited in historic times, but excavation has revealed a great Mycenaean palace of the 13th cent B C The modern town of Pylos (pop 3,315), formerly known as Navarino, grew up on the south shore of the bay The Bay of Pylos was the scene of an Athenian naval victory over Sparta in 425 B C and of the battle of NAVARINO in 1827

Pym, John (pĭm), 1583?-1643, English Parliament leader He sat in the House of Commons of every Parliament from 1614 to his death and was a Puritan leader opposed equally to Roman Catholicism and to Arminianism in the Anglican church Pym was a leader in the impeachment of George Villiers, 1st duke of Buckingham (1626), and in the passing of the Petition of Right (1628) Little is known of his activities in the 11-year interval between Parliaments (1629–40), but in both the Short Parliament and the Long Parliament he was the unquestioned leader of the House of Commons, and he and John HAMPDEN were largely responsible for forcing CHARLES I to convene (1640) the Long Parliament Although several attempts were made to detach him from the popular cause by offers of the chancellorship of the exchequer, he only increased the firmness of his attack He sharply opposed the royal party in the prosecution of Thomas Wentworth, earl of Strafford, and of Archbishop Laud, in urging the abolition of the courts of high commission and the Star Chamber, in seeking to eradicate episcopacy, and in the presentation of the Grand Remonstrance to Charles In 1642 Charles came to Parliament to remove five members from Commons by military arrest, but the members had already fled Pym was one of the five His last important act was the arranging of an alliance with the Scots, after he had reluctantly signed (1642) the Covenant (see COVENANTERS) as a military necessity He had stood always for legal, constitutional change (see PURITAN REVOLUTION) and was a great party leader See biographies by S R Brett (1940) and J H Hexter (1941)

Pynchon, John (pĭn'chun), c 1626-1703, American colonist and merchant, b Springfield, England, son of William Pynchon In 1630 he went to Massachusetts Bay colony with his father When his father returned to England in 1652, young Pynchon acquired a profitable business and an influential position in the Springfield settlement of the colony He established trading posts at Westfield, Northampton, Hadley, Hatfield, and Deerfield and held a number of public offices His brick house at Springfield, known as the Old Fort, was a point of refuge when the settlement was practically destroyed during King Philip's War See J C Pynchon, *Record of the Pynchon Family in England and America* (1885, revised by W F Adams, 1898); H M Burt, *The First Century of the History of Springfield* (2 vols , 1898-99)

Pynchon, William, c 1590–1662, American colonist and theologian, b Springfield, England An original patentee and assistant in the Massachusetts Bay Company, he migrated to America in 1630, where he helped found Roxbury and served as treasurer of the colony (1632–34) In 1636 he settled, and was commissioned to govern, a plantation at the confluence of the Connecticut and Agawam rivers, which he called Agawam, but which was renamed Springfield in 1641 Through a flourishing fur trade he increased an already considerable fortune While visiting England (1650), he published *The Meritorious Price of Our Redemption,* which expressed his liberal views of the atonement The book was denounced as heretical and ordered burned in Massachusetts Relenting somewhat but refusing to retract all of his opinions, Pynchon left his property to his son John and other children and returned permanently (1652) to England See J C Pynchon, *Record of the Pynchon Family in England and America* (1885, revised by W F Adams, 1898), H M Burt, *The First Century of the History of Springfield* (2 vols , 1898–99), S E Morrison, "William Pynchon," in Massachusetts Historical Society, *Proceedings,* Vol LXIV (1932)

Pynson, Richard (pĭn'sun), d 1530, English printer, b Normandy He moved to England in 1482 and in 1491 or 1492 began printing books in London He became king's printer in 1508 In craftsmanship he surpassed William CAXTON WYNKYN DE WORDE, and all other English printers of his time He was the first English printer to use roman type

Pyongyang (pyŭng'yäng'), Jap *Heijo,* city (1944 pop 342,551), capital of the Democratic People's Republic of Korea It was founded, according to legend, in 1122 B C Six gates remain of the wall which once surrounded the city There are old Buddhist temples and a museum with historical relics Near Pyongyang are three tombs (1st cent B C) with remarkable murals Pyongyang was ravaged by Japanese invaders in 1592 and during the First Chino-Japanese War (1894) and the Russo-Japanese War (1904) Today it is an important industrial center in a coal-mining district There are sugar refineries, rayon and cotton mills, and chemical plants After the Second World War it was the headquarters of the zone of Korea occupied by the USSR

pyorrhea (pīurē'u) or **Riggs's disease,** disease of the bony supporting structure of the teeth, described by the American dentist John M Riggs There is infection with the discharge of pus, the gum tissues recede, the teeth loosen, and a progressive degeneration of the bony tissue takes place The formation of tartar (calcareous deposits) at the necks of the teeth, faulty occlusion, and other irritations, are thought to be causative factors Proper care of the teeth and gums and modern carefully fitted dental restorations are reducing the incidence of pyorrhea

pyramid. The true pyramid exists only in Egypt, though the term has been also applied to similar structures in other countries The Egyptian pyramids, usually of stone, are solid piles, square in plan Their triangular sides, directly facing the points of the compass, slope at an angle with the ground of about 50° and meet at an apex The earliest tombs in Egypt were probably excavated pits over which protective mounds were piled, but the oldest remaining tombs are the mastabas (see MASTABA) of the Old Kingdom, containing chambers and a mummy compartment From these the true pyramid was evolved about the IV dynasty, it remained the customary royal tomb until the New Empire Each monarch built his own pyramid, in which the mummified body might be preserved for eternity from human view and sacrilege and into whose construction went years of time and measureless amounts of material and labor. Entrance

into a pyramid is through an opening in the northern wall A small passage, traversing lesser chambers, leads to the sepulchral chamber deep beneath the immense pile, excavated from the rock upon which the monument is built Stone blocks forming a gable transfer the weight of the great masonry masses over these chambers The Great Pyramid of Khufu or Cheops (reigned c 2900 B C) at Gizeh near Cairo, one of the Seven Wonders of the World, is the largest pyramid ever built, a solid mass of limestone blocks covering 13 acres, it was originally 768 ft square and 482 ft high It has several passages, two large chambers in addition to one beneath the ground level, and two small air chambers for ventilation Though the pyramids were usually built of rough stone blocks laid up in horizontal courses, many were of mud bricks with a stone casing They are situated along the western hillside between the Nile and the western desert The group at Gizeh, composed of the Great Pyramid, the Second, and the Third, are all of the IV dynasty—to which early period belong all of the largest and finest, in contrast to the smaller and carelessly built examples of later times, such as those at Sakkara of the V dynasty Adjacent to each pyramid was a small funerary chapel for the performance of rites, as well as the mastabas of the nobles who had lived under that particular monarch Such a group at Gizeh formed the center of an impressive cemetery Pyramidal structures, though not true pyramids, were also built by the Assyrians and by the Maya of Central America and Mexico The Assyrian ziggurat was square in plan and built up in receding terraces formed by a sloping ramp winding around the four sides from base to summit Upon the summit a temple chamber served both as a shrine and as an astrological observatory The Maya pyramids, built in steep, receding blocks, also were topped by ritual chambers The Romans built small pyramid tombs The Pyramid of Cestius (62 B C –12 B C) at Rome, of concrete faced with marble, has an interior tomb vault and is 116 ft high The **battle of the Pyramids** was a notable victory won by Napoleon over the Mamelukes in Egypt in July, 1798 It gave him brief control over Egypt until Nelson destroyed his fleet at Aboukir in Aug , 1798

Pyramid Lake, c 30 mi long and c 10 mi wide, W Nev , NNE of Reno in the Pyramid Lake Indian Reservation It is a remnant of ancient Lake Lahontan and was discovered in 1844 by J C Frémont and named for a large pyramidal island In the Federal bird sanctuary on Anaho Island the white pelican breeds The Truckee river flows into the lake.

Pyramids, battle of the see PYRAMID

Pyramus and Thisbe (pĭr'rumŭs, thĭz'bē), in classic legend, youth and maiden of Babylon, whose parents opposed their marriage Their homes adjoined, and they conversed through a crevice in the dividing wall On a night when they had arranged to meet at the tomb of Ninus, Thisbe, who was the first at the trysting place, was frightened by a lion with jaws bloody from its prey As she fled, she dropped her mantle, which was seized by the lion When Pyramus came, the torn and bloody mantle convinced him that she had been slain He killed himself, and Thisbe, returning, took her own life with his sword The white fruit of a mulberry tree which stood at the trysting place was dyed red with Pyramus' blood, and the fruit was ever after blood-color The story is told by Ovid

Pyrenees (pĭr'rŭnēz), mountain chain of SW Europe, between France and Spain, separating the Iberian Peninsula from the European mainland It extends c 280 mi from the Bay of Biscay on the west to the Mediterranean on the east and is highest in its central section The Pico de Aneto (11,168 ft), in the Maladetta Mts (Spain), is the tallest peak, other peaks include the Pic de Vignemale and the Pic du Midi d'Ossau (France) and Monte Perdido (Spain) Characteristic of the French Pyrenees, which are much steeper than the southern slopes, are the torrents called *gaves*, often falling in cascades, and the natural amphitheaters known as *cirques*, notably the famous Cirque de Gavarnie On the French side also are the best-known resorts, such as Pau, Tarbes, Luchon, and Cauterets, famed both for the beauty of their scenery and for their mineral waters Here also is Lourdes, one of the world's chief places of pilgrimage. On the Atlantic shore, below the W Pyrenees, are the fashionable resorts of Biarritz and Saint-Jean-de-Luz (France) and San Sebastián (Spain) The Franco-Spanish border, unchanged since the Peace of the Pyrenees (1659), follows mostly the watershed The more important rivers —the Garonne, the Aude, and the Adour—run north, among the Spanish rivers rising in the Pyrenees are the Bidasoa, the Aragon, the Cinca, and the Segre. The Pyrenees are crossed by a railroad from Toulouse to Barcelona, via Puigcerdá, but the two chief rail lines connecting Spain with France skirt the Pyrenees in the west and east The mountain passes are high and difficult, but they were often crossed by invading armies and by innumerable medieval pilgrims on their way to Santiago de Compostela The Col de Perthus, used by the Romans, and Roncesvalles, famous for the Roland legend, are the best known The Pyrenees are rich in timber and in pastures, and the many streams are utilized by hydroelectric power stations The population, partly of Basque and Bearnese stock, engages mostly in stock raising and agriculture The high stage of civilization reached here by prehistoric man is evidenced by the cave drawings at Altamira and Aurignac The chief administrative divisions of the Pyrenees on the French side are, from east to west, the departments of Pyrénées-Orientales (comprising the old county of Roussillon, with Perpignan), of Hautes-Pyrénées (comprising part of the old county of Foix), and of Basses-Pyrénées (comprising Béarn, French Navarre, the Basque regions of Soule and Labourd, and the cities of Bayonne, Pau, and Orthez) On the Spanish side extend, from east to west, the northern sections of Catalonia (with Gerona), of Aragon (with Huesca), and of Navarre (with Pamplona) and the Basque Prov (with San Sebastián and Irún) Here the Pyrenees are prolonged to the west by the Cantabrian Mts Wedged between France and Spain, in the E Pyrenees, is the small republic of Andorra

Pyrénées, Hautes, France see Hautes-Pyrénées

Pyrenees, Peace of the, 1659, the treaty ending the warfare between France and Spain, which, continuing after the Peace of Westphalia, had been complicated by Spanish intervention in the Fronde. Together with the Treaty of Westphalia, it marked the rise of France as the dominant European power France received Roussillon and extensive territories in Flanders, while its Spanish border was set at the Pyrenees A marriage contract between Louis XIV and Marie Thérèse, daughter of Philip IV of Spain, was included in the terms The infanta renounced her claims to the Spanish throne in consideration of a large payment The nonpayment of this dowry was the occasion for the War of Devolution and, indirectly, the War of the Spanish Succession

Pyrénées-Orientales (pĕrānā'zôryätal'), department (1,600 sq mi , pop 228,776), S France, on the Mediterranean, separated from Spain by the Pyrenees It is virtually identical with Roussillon Perpignan is the capital

pyrethrum (pīrē'thrŭm), formerly a generic name for plants now included in the genus *Chrysanthemum*, but still retained as a common name for some of these, particularly the plant called also painted daisy This (*Chrysanthemum coccineum*) has small lacy carrotlike leaves and, in spring or early summer, large heads of daisylike flowers of red, pink, white, or lilac, sometimes double The feverfew is another pyrethrum An insecticide called pyrethrum is made from the dried flowers of *Chrysanthemum cinerariaefolium* and *coccineum* The root of a pellitory (*Anacyclus pyrethrum*) has been used medicinally under the name of pyrethrum

Pyrgos or **Pirgos** (both pĭr'gŏs), town (pop 18,943), SW Greece, in Elis, W Peloponnesus, near the mouth of the Alpheus river It is a commercial center and manufactures cigarettes and alcoholic beverages Pyrgos was sacked (1825) by the Turks in the Greek War of Independence It now forms the major part of the municipality of Letrinoi

pyridine (pĭ'rĭdēn,–dĭn), colorless liquid with a pungent, putrid odor Chemically it is a very stable compound, somewhat similar in structure to benzene Its aqueous solution is slightly alkaline It is obtained from coal tar, bone oil, and other similar substances and is formed when certain alkaloids, e g , nicotine, are decomposed It is present, for example, in tobacco smoke Pyridine is used as a solvent, as a denaturant in alcohol, and, in medicine, in treating asthma and as an antiseptic Among the pyridine alkaloids are conine and piperine (the alkaloid in pepper)

pyrite (pī'rīt) or **iron pyrites** (pīrī'tēz, pu–, pī'rĭts), pale brass-yellow mineral, the bisulphide of iron It occurs most commonly in crystals (belonging to the isometric system and usually in the form of cubes and pyritohedrons), but is also found in massive, granular, and stalactite form In spite of its nickname, "fool's gold," it often does contain gold, of which auriferous pyrite is a commercially important source Other metals which sometimes replace a part of the iron are cobalt, nickel, arsenic, and copper The most common sulphide mineral, pyrite is widely distributed in rocks of all ages and types Important localities for its occurrence are Spain, Portugal, Norway, Sweden, Italy, France, Bohemia, Hungary, and the United States (especially California, Colorado, Montana, New York, Tennessee, Virginia, and Wisconsin) Its chief use is as a source of sulphur in the manufacture of sulphuric acid The term *pyrites* is applied to any of a number of metallic sulphides which strike fire with steel Some minerals resembling pyrite in appearance or composition are arsenopyrite, chalcopyrite or copper pyrites, cobaltite, marcasite or white iron pyrites or spear pyrites, and pyrrhotite or magnetic pyrites

Pyrmont (pĭrmŏnt') or **Bad Pyrmont** (bät'), town (pop 16,534), Hanover, W Germany It is a noted spa with mineral springs and mud baths, known for many centuries The former small principality of Pyrmont was united with that of Waldeck In 1922 Pyrmont was incorporated into Hanover

pyrogallol (pī"rōgă'lŏl, –lōl, –lŏl) or **pyrogallic acid** (pī"rōgălĭk), colorless, crystalline substance with a biting taste, soluble in water, melting at 133°C and boiling at 309°C Chemically, it is a phenol, a complex organic compound of carbon, hydrogen, and three hydroxyl (OH) radicals, is weakly acidic, and in alkaline solution is an active reducing agent absorbing oxygen rapidly. It is commonly and widely used as a developing agent in photography and also in the manufacture of some dyes It is prepared from gallic acid

pyroligneous acid (pī"rōlĭg'nēŭs), dark liquid, essentially a mixture of acetic acid and wood (methyl) alcohol, obtained in the destructive distillation of wood It serves as a commercial source of acetic acid

pyromania (pī"rōmā'nēŭ) [Gr ,=craze for fire], symptom of an emotional disorder, characterized by a compulsion to set fires The behavior of the person so afflicted may be otherwise normal The cause of the compulsion is not generally known but is believed to date from childhood disorders Legally, the pyromaniac is considered an arsonist

pyrotechnics (pī"rōtĕk'nĭks, pī"ru–), the science and art of making and using fireworks Gunpowder was used in fireworks by the Chinese as early as the 9th cent , and it was they who brought the art to a high stage of development, the displays at their festivals are still notable, and many firecrackers for American Fourth of July celebrations were imported from China Many combustibles and explosives and ingenious combinations of the two were devised to produce impressive sounds and lights of many colors and to drive wheels and rockets The use of fireworks for display has spread throughout the world In the Orient, Italy, and Spain pyrotechnical display is an important element of festivals, and the peoples of these lands emigrating to the New World brought the custom with them Fireworks are also widely used as signal devices —red flares to stop railroad trains, star shells in combat for illumination of enemy positions, various colored flares by aircraft to denote distress or to locate targets for air bombardment Ships, artillery, and infantry make use of signal flares where other means of communication are absent or inexpedient

pyroxene (pī'rŏksēn), name given to members of a group of widely distributed rock minerals, metasilicates of magnesium, iron, and calcium often with aluminum, sodium, lithium, manganese, or zinc The pyroxene minerals crystallize in three different systems—orthorhombic, monoclinic, and triclinic—but all have a fundamental prism with angles of 87° and 93° and cleavages parallel to the prism angles They are commonly white, gray white, green white, greenish black, black, or brown, but yellow, reddish, pink, purple, and blue varieties occur The pyroxene minerals are found chiefly in igneous and contact metamorphic rocks Varieties include enstatite, bronzite, hypersthene, diopside, diallage, wollastonite, augite, pectolite, spodumene, and rhodonite

pyroxylin (pīrŏk'sĭlĭn), cottonlike substance produced by treating cellulose with nitric acid Chemically, it is a mixture of the lower cellulose nitrates and in this respect is distinguished from guncotton, a mixture of higher nitrates (chiefly the hexanitrate) It is soluble in an ether-alcohol solution, in methyl alcohol, in amyl acetate, and in some other organic solvents and is therefore sometimes called soluble guncotton It is highly inflammable Pyroxylin is used in the preparation of celluloid, collodion, and certain paints (pyroxylin enamels and lacquers) It was formerly used in making photographic film but has been largely replaced by cellulose acetate, which is less inflammable

Pyrrha see Deucalion

Pyrrho (pĭr'rō), c 360–270 B C , Greek skeptic philosopher, a native of Elis, said to have been originally a painter After accompanying Alexander's expedition to the Orient, where he is thought to have studied Indian and Persian philosophy, he enjoyed great respect at Elis and Athens His doctrines were preserved by his disciple, Timon of Phlius, in satires Pyrrho taught that nothing can be known, because the contradictory of every statement can be maintained with equal plausibility Hence the philosophic attitude is one of suspended judgment and imperturbability He is regarded as the father of skepticism

pyrrhotite (pĭ'rŭtīt) or **magnetic pyrites,** bronze-yellow to bronze-red mineral, a sulphide of iron sometimes containing nickel It tarnishes easily and is somewhat magnetic It crystallizes in the hexagonal system, but appears usually in massive form, and occurs chiefly in basic igneous rocks In some areas, e g , at Sudbury, Ont , it serves as an important ore of nickel It is found also in the United States, Europe, and South America

Pyrrhus, in Greek legend see Neoptolemus

Pyrrhus (pĭ'rus), c 318–272 B.C , king of Epirus He fought at Ipsus, in Phrygia, against Seleucus I and Lysimachus and, by the aid of Ptolemy I

(whose stepdaughter, Antigone, he married), became king of Epirus (295 B C). After a victory at Aetolia, he invaded Macedonia, from which he was driven by Lysimachus (283 B C). He went to Italy to aid the Tarentines with a large force and some elephants, and for the first time in history the Greeks met the Romans in battle, at Heraclea (280 B C). He completely defeated the Romans and repeated the success the following year at Asculum. His heavy losses caused him to declare that "one more such victory and I am lost." Asculum was the original Pyrrhic victory. At Beneventum he was defeated by the Romans (275 B C), but reestablished his prestige by a victory over King Antigonus II in Macedonia (273 B C). Failing to take Sparta by siege, he went on to Argos, where he was killed by a falling roof tile.

Pythagoras (pĭthăg'ŭrus), c 582–c 507 B C. Greek philosopher, native of Samos. Pythagoras settled in Crotona, where his influence became widespread owing to the activities of a religious brotherhood which he founded. There is little information concerning Pythagoras himself, and many of the later philosophers, especially Aristotle, tend to refer to the Pythagoreans rather than to the founder of the group. The Pythagoreans were influenced by Orphism and took from it belief in transmigration of souls. Besides purification rites that were intended to bring release from endless reincarnations, the followers of Pythagoras indulged in philosophic inquiry as part of their religious practice. The basic tenet of Pythagoras was that the essence of all things was number, in the same sense that his predecessors saw the single ultimate reality in water, the boundless, and air. He believed that numbers were not merely symbolic constructions but that all matter was essentially numerical, that all relationships in the universe could be expressed numerically. Pythagoras postulated a whole from which all matter was separated off. This matter he identified as the limited, and the space between he saw as a void and called it the unlimited. The limited was represented as fire, and the unlimited as air. The Pythagoreans were the first to reject the hypothesis of geocentricism and to reduce the earth to the status of a planet that revolved about a fixed point. This point they saw as the central fire, "the hearth of the universe," but not as the sun, which they believed also to revolve. In music the Pythagoreans discovered that tones have numerical interrelations (see GREEK MUSIC). Their interest in numbers extended to practical mathematics, and they are credited with inspiring the first part of Euclidean geometry and the theorem that bears their name. Their authority came to an abrupt end in Magna Graecia when the people, enraged at their interference with accepted religious practices, either killed or forced them to flee. At the beginning of the Christian era there was a short revival in NEO-PYTHAGOREANISM of Pythagorean ideas, with emphasis on the mystical element. Its leader was Apollonius of Tyana. See John Burnet, *Early Greek Philosophy* (1892).

Pythagoras of Rhegium (rē'jum), 5th cent. B C., Greek sculptor. In a signature on a pedestal at Olympia he declares himself a Samian, but the period of his training and work belongs to Rhegium, Italy. As no works are known that can with certainty be identified as his, his fame depends upon the statements of those who saw his statues and named them. They were mainly of athletes and mark a step in the transition between the archaic style and that of the masters. He is said to have been the first to represent hair, veins, and muscles naturally and the first to aim at rhythm and symmetry in sculpture. Among his statues were a portrait of the boxer Euthymus, a figure of a man singing to a lyre, and one of Apollo shooting the Python with his arrows.

Pythia (pĭth'ēă), in Greek religion, priestess of the oracle at DELPHI. The Pythian games, held every four years (the third of each Olympiad) to honor Apollo Pythius at Delphi included musical, literary, and athletic contests. Twelve of Pindar's odes honoring winners of the laurel wreath at the games are called the Pythian odes.

Pythias see DAMON AND PYTHIAS.

Python (pī'thŏn), in Greek legend, serpent, guardian of the oracle at DELPHI. Apollo killed him and took the oracle.

python (pī'thŏn", pī'thun), a constrictor, nonvenomous snake found chiefly in the tropical regions of Africa, Asia, the East Indies, and Australia. It climbs and swims expertly. Birds and mammals on which it preys are killed by the constrictor force of its body muscles. Most pythons are egg layers. The female coils her body around the eggs during the six to eight weeks' incubation period. The reticulated or royal python of SE Asia and the Malay Archipelago may reach a length of 30 ft or more. Snake charmers often use the Indian rock python.

pyxie, low, creeping woody plant (*Pyxidanthera barbulata*) of pine barrens from New Jersey to North Carolina. It forms cushionlike mats with small evergreen leaves, sprinkled in the spring with white or pink flowers. It is also called flowering moss and pine-barren beauty.

Q

Q, 17th letter of the ALPHABET corresponding to the koppa of western Greek alphabets. U must follow the letter in English, and the combination properly represents a sound much like the true voiceless labiovelar stop (also represented by the combination kw).

"Q" see QUILLER-COUCH, SIR ARTHUR THOMAS.

Qatar or **Katar** (both kä'tär), sheikdom (c 2,000 sq mi, pop c 25,000), Arabia, coextensive with the Qatar peninsula, which projects into the Persian Gulf. The capital is Doha or Bida (pop c 12,000). Qatar is largely barren. Fishing and work in the oil fields and refineries support most of the population. The sheikdom is in close treaty relations with Great Britain.

Qena, Egypt see KENEH.

Qom, Iran see KUM.

Quabbin Reservoir (kwŏ'bĭn), covering 39.4 sq mi in the Swift River valley, central Mass., near Belchertown NE of Springfield, completed 1937. Windsor Dam is 170 ft high. The water flows to the WACHUSETT RESERVOIR through Quabbin Aqueduct (24.6 mi long) and supplies Boston.

quack grass or **couch grass**, Old World perennial grass (*Agropyron repens*), now widely distributed and in the United States a troublesome weed. It somewhat resembles a beardless wheat and has creeping, yellowish rootstalks, the joints of which even though detached are capable of producing new plants, thus making it a good soil binder but also extremely difficult to eradicate. The dried sweetish rootstalks have been used medicinally, and the foliage is useful for forage.

quadrant (kwŏ'drunt). **1** An instrument used for measuring angular altitudes and made in several forms. In general, it consists of a graduated arc of 90° or a little more, to which is affixed an index arm. Some form of sighting arrangement is attached, with a plumb line or spirit level for fixing it in a horizontal or vertical position. In principle and application it is similar to the SEXTANT, by which it has been superseded. **2** The heavy casting keyed to the head of a ship's rudder, by which the rudder is turned and to which the steering chains are attached. **3** The fourth part of a circle, i e, the area bounded by an arc and two radii drawn at right angles to each other.

quadrille (kwudrĭl'), French dance, popular at the court of Napoleon I and imported into England and the United States in the 19th cent. Alternately in 6-8 and 2-4 meter, it was composed of five figures which four or eight couples danced in a square. The quadrille had a great vogue in France, England, and Germany in the 19th cent.

quadrivium: see LIBERAL ARTS.

Quadruple Alliance, name of several European alliances. The Quadruple Alliance of **1718** was formed by England, France, the emperor, and the Netherlands when Philip V of Spain, guided by Cardinal ALBERONI, sought by force to nullify the peace settlements reached after the War of the Spanish Succession (see UTRECHT, PEACE OF). A British fleet landed Austrian troops in Sicily, which Spain had seized, while French and British forces entered Spain. Early in 1720 Spain yielded to the allies, but the peace terms thoroughly revised those signed at Utrecht. The Treaty of The Hague restored Naples to the house of Austria, Austria in turn promised that Philip's son Charles (later Charles IV of Spain) would succeed to Parma, Piacenza, and Tuscany. Savoy, in exchange for yielding Sicily to the house of Austria, received the island of Sardinia and became the kingdom of Sardinia. Spain joined the alliance. A progressive rapprochement between Spain and France led to the FAMILY COMPACT (1733) and a further redistribution of territories after the War of the POLISH SUCCESSION (1733–35). The Quadruple Alliance of March, **1814**, was concluded among Great Britain, Austria, Prussia, and Russia at Chaumont, France, in order to strengthen their coalition against Napoleon I. After Napoleon's first abdication the four powers made peace with France (see PARIS, TREATY OF, 1814), after Napoleon's return from Elba, they defeated him in the Waterloo campaign and imposed on France the more severe Treaty of Paris of 1815. On the same day that treaty was signed (Nov. 20), the Quadruple Alliance was renewed in order to insure its execution. The so-called HOLY ALLIANCE, signed a few days earlier by Russia, Austria, and Prussia, became confused with the Quadruple Alliance, especially since the international congresses at Aachen (1818), Troppau (1820), Laibach (1821), and Verona (1822)—which were held according to provisions of the Quadruple Alliance—increasingly shaped the policy of the Holy Alliance, while England retired into "splendid isolation." The Quadruple Alliance was transformed into the Quintuple Alliance by the accession (1818) of France. The Quadruple Alliance of **1834** was formed by Great Britain, France, Spain, and Portugal for the purpose of strengthening the constitutional government of Spain and the throne of Isabella II against the CARLISTS. The Spanish marriages (1846, see ISABELLA II) ended Franco-British cooperation in Spanish affairs.

quaestor or **questor** (both kwĕ'stur), Roman magistrate, with criminal jurisdiction and with responsibility for the treasury. At first there were two, then four (421 B C.), Sulla named 20, and Caesar set 40 as the number (45 B C.). Augustus reduced them to 20. Quaestors were in theory deputies (for consuls, praetors, or proconsuls). A quaestorship was the first magistracy sought by an ambitious young man.

quagga (kwă'gŭ) [Hottentot], extinct African animal of the genus *Equus*, to which the horse, the ass, and the zebra belong. Hunted for its skin, it was exterminated in the 19th cent. The last quagga died in 1872 in the gardens of the Zoological Society of London. In form and size the quagga resembled the zebra. It was of a brownish color, and from the face to the middle of the body it was striped. Like other wild animals of the horse genus, it lived in herds. Some tamed quaggas drew light vehicles.

Quai d'Orsay (kā dôrsā'), quay on the left bank of the Seine in Paris, extending from the Eiffel Tower to the Palais Bourbon (housing the national assembly, formerly the chamber of deputies). Next to the Palais Bourbon stands the French ministry of foreign affairs, a vast palatial building, which is often referred to as simply the Quai d'Orsay.

quail, name for various small game birds of the Old and New Worlds. Originally the term referred to the common quail of the Old World which has not been successfully introduced into America. Many of these are netted during migration in the Mediterranean region for sale in European markets. Among the New World birds which are called quail are one eastern bird, the BOBWHITE, and a number of western ones, including the handsome mountain or plumed quail, also called mountain partridge, the largest of the group and native to the Pacific coast states, Gambel's quail of the southwestern deserts and Mexico, and the California and valley quails. Quails are useful birds, feeding mainly on insects and weed seeds.

Quaker City see PHILADELPHIA.

quaker-ladies see BLUET.

Quakers see FRIENDS, SOCIETY OF.

Quakertown, industrial borough (pop. 5,150), SE Pa., N of Philadelphia, settled c 1700, inc. 1855. Its manufactures include iron products, clothing, and luggage. A Quaker meetinghouse, built in 1802, is here.

quaking grass, any plant of the genus *Briza*, annual or perennial grasses cultivated for the graceful panicles of seeds which hang in flattened, pendulous clusters and vibrate in a breeze. It may be used as an EVERLASTING.

Quanah (kwā'nu, kwä'nu), city (pop. 3,767), co. seat of Hardeman co., N Texas, WNW of Wichita Falls, settled 1886, inc. 1887. Named for the half-white Comanche war chief, Quanah Parker, the city is in an area S of the Red River once frequented by the Comanche and now given over to irrigated wheat farms. Native gypsum is made into plaster and wallboard in Quanah and near by. Some miles away the Texas-Oklahoma Wolf Hunt is held each September.

Quantico (kwŏn'tĭkō), town (pop. 1,139), N Va., on the Potomac below Washington, D C., inc. 1927, rptd. 1934. It is an important U S Marine Corps base.

Quantrill, William Clarke (kwŏn'trĭl), 1837–65, Confederate guerrilla leader, b. Canal Dover (now Dover), Ohio. In the Civil War his band of guerrillas was active in Missouri and Kansas. On Aug. 21, 1863, Quantrill, with about 450 men, pillaged Lawrence, Kansas, and wantonly killed some 150 citizens. He was mortally wounded by Federal troops in May, 1865. Jesse JAMES and his brother Frank were Quantrill guerrillas. See W. C. Connelley, *Quantrill and the Border Wars* (1910).

quantum theory, a theory in physics dealing with emission and absorption by atoms and by subatomic particles of light and energy that are associated with radiation. The transfer of energy was held to be a continuous flow until Max Planck, in 1900, advanced the hypothesis that the transfer is discontinuous and involves a unit amount, or packet, of energy (the quantum). The quantum is a function of a constant derived by Planck (Planck's constant) represented by the symbol *h* and having

a probable value of about 6.6×10^{-27} erg-second) and of the frequency of radiation of the particle (represented by the symbol ν), the quantum formula is therefore $q=h\nu$ Albert Einstein in 1905 postulated light quanta (photons), comparable with energy quanta, by which he explained the photoelectric effect Thus he revived the corpuscular view of the nature of light which had been superseded by the wave theory However, since interference and diffraction phenomena were not explained by the quantum theory of light, the wave theory held its place and light was generally recognized to have dual aspects The general quantum theory as extended (1908) to atomic structure by Niels Bohr and as further developed by several scientists resolved many problems in physics (e g , the relation between the structure and the spectrum of an atom) but was recognized to have many inconsistencies The first step in the reorganization of the theory and in the formulation of a specialized quantum mechanics was a hypothesis, first suggested c 1923 by Louis de Broglie, that duality extended to matter and that electrons should be regarded not only as individual particles but as being associated with systems of waves Erwin Schrodinger developed a mathematical formulation (wave mechanics) of the theory, which was confirmed in 1927 by C J Davisson and L A Germer In the meantime another theory of the particle and the wave aspects of matter was evolved by Werner Heisenberg and elaborated mathematically by him in collaboration with a German physicist, Max Born In 1927 the essential elements of both theories were amalgamated by P A M Dirac into a new mathematical form which is the basis of modern quantum mechanics, of which wave mechanics is an integral part Quantum mechanics has not only revolutionized methods of dealing with atomic phenomena, but has undermined the concept of causality in physics because the quantum theory cannot predict the behavior of any individual particle It deals in terms of the relative probability of the future position and velocity of a particle, its predictions are accurate because it treats statistically very large numbers of particles In 1927 Heisenberg enunciated his principle of indeterminancy, which asserts that limitations inherent in nature prohibit the determination of both the position and the velocity of a particle, e g , even if an ultramicroscope sufficiently powerful for viewing a subatomic particle were constructed, the impact of the minimum quantity of light required for viewing the particle would change its direction and velocity The future course of a particle cannot be predicted unless both velocity and position at a given moment are known Most theoretical physicists agree that causality is therefore indeterminable and must be abandoned as a scientific concept However, a few scientists, including Einstein, regard the statistical nature of the present quantum theory as a transitional stage and hope that a unified theory of nature may be developed that will resolve certain contradictory aspects of the quantum and relativity theories Such a theory was enunciated by Einstein in 1950 but its value has not as yet been assessed See Banesh Hoffmann, *The Strange Story of the Quantum* (1947), a nontechnical work, P A M Dirac, *Principles of Quantum Mechanics* (3d ed , 1947), L E Schiff, *Quantum Mechanics* (1949)

Quantz, Johann Joachim (yō'hän yō'ākhĭm kvänts), 1697–1773, German flutist and composer for the flute He played several instruments and was in his early life a wandering bandsman and composer In 1741 he became chamber musician and teacher of the flute to Frederick the Great, for whom Quantz wrote more than 500 pieces, many of which were published He wrote also a famous textbook for the flute (1752), which was translated into French, English, and Dutch, and invented several improvements on the instrument

Quapaw (kwō'pô), town (pop 1,054), extreme NE Okla , near the Kansas boundary, in the region of lead and zinc mining

Quapaw Indians, North American Indian tribe, also called the Arkansas, of the Siouan linguistic stock According to their traditions, they once dwelt with the Omaha, the Kansa, the Ponca, and the Osage in the Ohio valley, but when the tribes separated the Quapaw went down the Mississippi In 1540, when visited by Hernando De Soto, the Quapaw lived on the west bank of the Mississippi, N of the Arkansas river, in present E Arkansas They then numbered perhaps some 5,000 Jacques Marquette arrived at this village in 1673 and was the first of many French explorers to visit the Quapaw They made a large land cession to the United States in 1818 and some years later moved to Oklahoma, where they later became reservation Indians Today they number some 600 The Quapaw were essentially "village" Indians of the Plains area, but they had certain distinctive traits, they built temple and burial mounds and lived in "long houses"

Qu'Appelle (kăpĕl'), river rising in S Saskatchewan NW of Moose Jaw and flowing 270 mi generally E through Buffalo Pound Lake and Fishing Lakes, past Fort Qu'Appelle to the Assiniboine, just over the Manitoba border and NE of Moosomin, Sask. The river is noted for whitefish

quarantine (kwŏ'runtēn), limitation of movement imposed upon humans and animals for a time just beyond the incubation period of a disease to which they may have been exposed. Originating in the 12th cent in Venice, where an offshore wait of 40 days was required of ships, the practice has been materially changed by developments in medical science Quarantine, or isolation, of cases of communicable diseases is an important principle of preventive medicine In 1937 New York harbor relaxed a regulation in force nearly 200 years requiring inspection of incoming vessels by the port's medical officers The word of the ship's physician is now accepted as to the freedom from disease of those aboard Public health regulations have the force of law, and physicians are required to report cases of certain communicable diseases to the authorities Posting of warning notices and related requirements of disinfection of the contaminated area are known as quarantine regulations In some countries passengers on ships and planes arriving from sites of epidemics are permitted to debark only if they produce medical certificates testifying that they have been inoculated against the disease The restriction by some countries on importation of plants to guard against entrance of plant diseases is also known as quarantine

Quarles, Francis, 1592–1644, English poet His best-known work is *Emblems* (1635), an ingenious volume of moral and religious verse *Enchiridion* (1640) is a collection of prose aphorisms

Quarnero, Gulf of (kwärnä'rō), arm of the Adriatic Sea between the eastern coast of Istria and the Dalmatian coast Fiume lies at its head, and the islands of Krk and Cherso are in it

quarrying (kwŏ'rĭĭng), the removal of rock from a large natural deposit The methods employed vary with the use to which the stone is to be put and with the nature and location of the deposit If building stone is required, the rock is cut in large and regular shapes, for the "aggregate" used in concrete it is shattered. Harder rocks which do not tend to shatter are separated by blasting, softer ones are channeled Channeling is done by a battery of rock drills actuated by steam or gasoline engines and by pneumatic machines For less dense building stone, quarrying is effected by drilling a line of holes perpendicular to the joint or cleavage plane of a formation, inserting wedges, and hammering them until the increasing pressure splits off the stone This method was probably used by the ancients, whose quarrying feats were remarkable Most of the present quarrying is done with channeling apparatus of various kinds When these have made their vertical cuts in the rock, gadding machines, working horizontally on the same principle as the channelers do vertically, make their cuts Wedges are then used to split off the long blocks These are subdivided and removed Wire saws are also used, these consist of two pulleys over which an endless steel wire passes Holes are drilled in the rock (perpendicular to the plane of separation) large enough to accommodate pulley and shaft, as the cut deepens the pulleys are lowered into the holes so that the wire is kept in constant contact with the rock Crushed stone is obtained by detonating high explosives in a series of holes arranged for the greatest fracturing effect This produces relatively small sized stones, which are then sent through crushing machinery to reduce them to the desired dimensions Multiple revolving screens separate them for uniformity See Oliver Bowles, *The Stone Industries* (1934)

Quarryville, borough (pop 1,120), SE Pa , SE of Lancaster, settled 1791, inc 1892

Quartus (kwôr'tŭs) [Latin, =fourth], follower of Paul at Corinth Rom 16 23

quartz (kwôrts), one of the commonest of all rock-forming minerals and one of the most important constituents of the earth's surface Chemically, it is silicon dioxide It occurs in crystals of the hexagonal system, commonly having the form of a six-sided prism terminating in a six-sided pyramid, the crystals are often distorted and twins are common Quartz may be transparent, translucent, or opaque, it may be colorless or colored Varieties are classified as crystalline, cryptocrystalline, and clastic Crystalline varieties include ordinary colorless crystallized quartz or rock crystal, rose quartz, yellow quartz, sometimes used as imitation TOPAZ, smoky quartz or cairngorm stone, milk-white milky quartz, aventurine quartz, which contains scales of hematite or mica, AMETHYST, and CAT'S-EYE Varieties of cryptocrystalline quartz, the crystal structure of which can be seen, if at all, only under the microscope, are CHALCEDONY, FLINT, hornstone, and chert Colored varieties of chalcedony known by special names are CARNELIAN, SARD, CHRYSOPRASE, AGATE, ONYX, SARDONYX, and JASPER Clastic quartzes are SAND and SANDSTONE

quartzite, consolidated rock composed of firmly cemented quartz grains Usually it is white, light gray, yellowish, or light brown, but is sometimes colored blue, green, purple, or black by included minerals. It results from the alteration of sandstone either by the deposition of quarts between the grains of sand in the sandstone or else by metamorphism It is most easily distinguished from sandstone by the fact that it fractures across its constituent grains of sand, while sandstone fractures along the line of the cementing material, between the grains of sand Sandstones containing impurities are frequently metamorphosed into gneiss and mica schist, and impure quartzites accordingly grade into gneisses and mica schists

Quaternary period (kwutûr'nurē), second period of the CENOZOIC ERA of geologic time During the early Quaternary, Europe and North America lay under the ice sheets of the PLEISTOCENE EPOCH In the Quaternary, the climate and present features of the earth have been developed The period has been characterized by erosion, which has been the chief agent in shaping mountains and valleys to their present form, and by extensive disturbances of the earth's surface, such as earthquakes, eruption of volcanoes, and frequent occurrences of folds and faults The continents, though comparatively stable, have been continually changing their elevation relative to the sea, as has been demonstrated within historic times, e g , by the submergence and emergence of the temple of Jupiter Serapis, near Naples, and by the rising of the shores of the Baltic The life of the Quaternary has been marked by the rise and dominance of man Some authorities maintain that although the terms *Quaternary* and *Tertiary* persist in common usage the division of the Cenozoic into these two periods is based on a misconception and is therefore unjustified

quaternion (kwŭtûr'nēun), in mathematics, a type of higher complex number first suggested by Sir William R Hamilton in 1843 A complex number is a number of the form $a+bi$ when a and b are real numbers and i is the so-called imaginary unit defined by the equation $i^2=-1$ The rules for operating with complex numbers are simply those of operating with the polynomial $a+bx$ except that x^2 is replaced by -1 whenever it occurs A quaternion, an extension of this concept, is a number of the form $a+bi+cj+dk$ when a, b, c, and d are real numbers and i, j, and k are imaginary units defined by the equations $i^2=j^2=k^2=ijk=-1$ Quaternions and vectors and tensors (later outgrowths of the concept of quaternions) have many important applications in mechanics

Quatre Bras (kätru brä'), village, Brabant prov , Belgium, on the road from Charleroi to Brussels Here on June 16, 1815, the French under Marshal Ney were defeated by the British under Wellington in an important battle of the WATERLOO CAMPAIGN

Quauhtémoc or **Quauhtemotzín** see CUAUHTÉMOC

Quay, Matthew Stanley (kwā), 1833–1904, American political leader, b York co , Pa , grad Jefferson College, Canonsburg, Pa , 1850 He studied law in Pittsburgh and was admitted (1854) to the bar He fought in the Civil War, and after the war he rose steadily in Pennsylvania politics until he became boss of the state Republican machine His skill in organization and manipulation of patronage kept Pennsylvania thoroughly Republican, as chairman (1888) of the Republican National Committee, Quay secured large campaign contributions and played a leading role in Benjamin Harrison's presidential election Closely associated with James Donald CAMERON, he served (1887–99) in the U S Senate, but serious charges of venality prevented his reelection in 1898 Quay was, however, able to block the election of anyone else When the governor appointed him Senator ad interim there was a great public protest, and the Senate refused to seat him, but in 1901 he was reelected

Quebec (kwēbĕk'), Fr *Québec* (kābĕk'), province (523,860 sq mi., with water surface 594,860 sq mi , 1941 pop 2,221,882, 1948 estimated pop 3,792,000), E Canada The city of Quebec is the capital, other important cities are Montreal, Verdun, Trois Rivières (Three Rivers), Sherbrooke, and Hull Quebec is bounded on the north by Hudson Strait and Ungava Bay, on the east by Labrador, on the south by New Brunswick, Maine, New Hampshire, Vermont, and New York, and on the west by Ontario and James Bay and Hudson Bay The province includes ANTICOSTI island It gained the Ungava peninsula from Northwest Territories in 1912 and lost part of the eastern section to Labrador in 1927 The northern nine tenths of this largest province is the ancient granite core of the Laurentian Plateau, planed by glacial action into a pattern of rounded hills, swiftly flowing rivers, and numerous lakes and bogs Dense forests cover much of the surface, and the mineral-rich rock yields gold, copper, zinc, and silver The aluminum plant at Arvida is the world's largest single producer of aluminum The relatively unexplored and uninhabited north country has been a source of luxury furs for many years, and trappers still travel by canoe along the watercourses Recent discovery of iron deposits running into Labrador have increased the development of this part of the province. Lumbering, particularly in S Quebec, has been widely developed and contributes to a thriving industry in the manufacturing of pulpwood and paper. The region is unsuitable for agriculture, except for dairying

and general farming in the valley of the Saguenay. To the south of the Laurentian Plateau the St Lawrence cuts its way out of the heartland of the continent Lowlands, the center of agriculture, commerce, and industry, extend on both sides of the river S and E of Quebec city That city itself, with its Old World atmosphere, and busy, industrial Trois Rivières are on the north bank, while Montreal, the leading manufacturing, transport, and commercial city of Canada, lies on an island at the confluence of the Ottawa and St Lawrence rivers The famous GASPÉ PENINSULA stretches E of the lowlands and S of the St. Lawrence The small farming and fishing villages that dot the coast charm tourists with their simplicity and self-sufficiency In the Gaspé, as in all of Quebec but the lowlands, the climate is extreme The rivers are closed to navigation five months of the year, and heavy land traffic moves across the ice Sportsmen and tourists are attracted to the winter sports in the Laurentians and to varied summer pleasures throughout the province Although the tourist trade is a valuable source of income, it is far surpassed by other developments Quebec's resources have been utilized to place it first in Canada in available water power and second in total value of production Since many continental explorations radiated from this area, Quebec has been called the cradle of Canada In 1534 Jacques Cartier planted a cross on the Gaspé, and the following year he sailed up the St Lawrence In 1608 Samuel de Champlain, founder of New France, built a trading post at the site of Quebec and from this and other early settlements missionaries, explorers, and fur traders penetrated the American continent westward to the Rockies and southward to the Gulf of Mexico The chartered fur trade ended in 1663 with the establishment of royal government of New France French military strength was long exerted to protect the colony and expand New France in the FRENCH AND INDIAN WARS The struggle ended with the dramatic and tragic battle on the Plains of Abraham (see ABRAHAM, PLAINS OF), and New France's 60,000 colonists came under British rule as a province in 1763 Pressed by the incipient American Revolution, the BRITISH wrote the QUEBEC ACT of 1774, under which the province was allowed to continue its semifeudal system of land tenure and to retain its language, religion, and institutions Representative government was introduced with the Constitutional Act of 1791, and Quebec became known as Lower Canada Growing resentment against the arbitrary rule of governors resulted in a revolt in 1837 led by Louis PAPINEAU Under threat of arrest Papineau escaped from the province but was later granted amnesty In 1840 Quebec (Lower Canada) was joined with Ontario (Upper Canada) under the Act of Union, and in 1846 it became Canada East, responsible government was instituted by 1849 after much struggle With Canadian federation in 1867 Quebec again became a province Quebec has taken its place in Canadian federation with its traditional institutions well protected A dual school system was set up to meet the needs of a population three fourths French Canadian and predominantly Catholic The major centers of higher learning are McGill Univ, the Univ of Montreal, Laval Univ, and the Univ of Bishop's College The problem of establishing national unity has been made difficult by the coexistence of two cultures as different as the French and the British The Quebec legislature is the one predominantly French lawmaking body in North America, and it is always strongly insistent on the widest interpretation of the provincial powers as set forth in the British North America Act The desire for independence flares up from time to time and was particularly vocal in the First World War and the Second World War The majority of the people, however, gave vigorous support to the war effort Quebec has undergone many changes in the 20th cent Its semifeudal land system, modified in the Act of 1854, has been completely eliminated, and today 95 percent of the 155,000 farmers own their land Agriculture has lost its dominance in the economy to commerce and industry, and two thirds of the population live in the cities While this transition has brought Quebec closer to the modes of 20th-century America, many communities retain the customs and charm of the Old World See Gordon Brinley, *Away to Quebec* (1937), Hazel Boswell, *French Canada* (1938), J M Donald, *Quebec Patchwork* (1940), E C Hughes, *French Canada in Transition* (1943), Stanley B Ryerson, *French Canada* (1944), E C Woodley, *The Province of Quebec through Four Centuries* (1944) and *Old Quebec* (1947), Mason Wade, *The French-Canadian Outlook* (1946), A E. Oakley and Thornton Oakley, *Kaleidoscopic Quebec* (1947).

Quebec, city (pop. 150,757), provincial capital, S Que, on the St Lawrence at the mouth of the St Charles and NE of Montreal Part of the city is built on the water front and is called Lower Town, and part, called Upper Town, is on Cape Diamond, a bluff rising to over 300 ft above the river. Winding and often narrow streets link the two sections of the city and add much to its picturesqueness Dufferin Terrace, a promenade, extends 1,400 ft along the top of the bluff, affording extensive views The city has an excellent harbor, with modern docks and wharves, grain elevators, paper mills, and varied industries It is the cultural and tourist center of French Canada, as well as the seat of government, but its chief interest lies in its historical associations Cartier visited the site, then the Indian village of Stadacona, in 1535, and in 1608 Champlain established a French colony in the present Lower Town. This was fortified but was taken (1629) by the English, who held it until 1632 In 1663 Quebec was made the capital of the royal province of New France and became the center of the developing fur trade and the starting point for expeditions to the north and west In the struggle between France and England for control of the country, the city was attacked in 1690 and again in 1711 by the English, who failed to take it In 1759, MONTCALM, the French general defended it against the English under WOLFE until forced into open battle and defeat on the Plains of Abraham (see ABRAHAM, PLAINS OF) above the city The peace treaty of 1763 ceded Canada to England, Quebec becoming the seat of government American forces under Richard MONTGOMERY and Benedict ARNOLD tried unsuccessfully (1775) to capture the city After the union (1841) of Upper and Lower Canada, Quebec was twice the capital (1851–55, 1859–65) It was the scene of Canadian confederation (1867) The population has always been largely French-speaking The city's history is manifest in numerous buildings, institutions, and monuments, including the Ursuline Convent (1639), the Hôtel-Dieu du Précieux-Sang (1639), the Basilica of Notre Dame (1647), Quebec seminary (founded 1663 by Bishop Laval), the Church of Notre-Dame-des-Victoires (1688), the General Hospital (1692, on the site of a Recollet monastery founded 1621), Kent House (1636, occupied 1791–94 by the duke of Kent), Talon brewery (1668), the Citadel (1823–32), parts of the enclosing wall (2 mi of fortifications around Old Quebec, with three out of the five earlier gates remaining, and Martello Towers, outside the wall, but part of the defense system), the Parliament buildings, city hall, the Anglican cathedral, LAVAL UNIVERSITY, the Provincial Museum, and monuments to Cartier, Champlain, Laval, Wolfe, and Montcalm The city is the point of departure for trips to many interesting places in the area, notably Montmorency Falls, Ste Anne de Beaupré, Île d'Orléans, and the Saguenay river, and has boat connections with Montreal, the Maritime Provs, and U S and European ports See Sir Gilbert Parker, *A History of Old Quebec* (1903), Blodwen Davies, *Romantic Quebec* (1931), T M Longstreth, *Quebec, Montreal, and Ottawa* (1933), J M Donald, *Quebec Patchwork* (1941), W P Percival, *The Lure of Quebec* (1941), Mazo de la Roche, *Quebec, Historic Seaport* (1944), J E Morgan, *Castle of Quebec* (1949)

Quebec Act, 1774, passed by the British Parliament to institute a permanent administration in Canada replacing the temporary government created at the time of the Proclamation of 1763 It gave the French Canadians complete religious freedom and allowed a restitution of the peculiar legal and political institutions enjoyed under French rule The Americans considered this law one of the INTOLERABLE ACTS, for it nullified many of the Western claims of the coast colonies by giving all the land N of the Ohio river to the province of Quebec The concessions in favor of Roman Catholicism also roused much resentment among Puritans and Anglicans in the Thirteen Colonies Though it thus helped to bring on the American Revolution, the act, for which Sir Guy CARLETON was largely responsible, was very influential in keeping Canada loyal to the crown in the Revolution It was replaced by the Constitutional Act of 1791 See studies by Reginald Coupland (1925) and C H Metzger (1936)

Quebec campaign, 1775–76, of the American Revolution The Continental Congress decided to send an expedition to Canada to protect the frontier from Indian attack and to persuade Canada to join the revolt against England Late in Aug, 1775, Gen Richard MONTGOMERY led troops up Lake Champlain, and after capturing St Johns, he entered Montreal on Nov 12 In Sept, 1775, Washington sent Benedict ARNOLD to lead an expedition against Quebec by way of the Kennebec and Chaudière rivers in Maine When this force arrived, it was so weakened by the incredibly hard march, illness, desertion, and lack of supplies that Arnold was forced to wait for Montgomery before attacking The unsuccessful assault was launched on the night of Dec 31, 1775 The Continentals withdrew after Montgomery was killed, Arnold wounded, and Daniel MORGAN captured Arnold and Montgomery's successor, David Wooster, continued the siege until spring, when Hessian reinforcements allowed Sir Guy CARLETON to push the Americans back to Crown Point

Quebec Conference, name of two meetings held in Quebec, Canada, in the Second World War The first meeting (Aug, 1943) was attended by President F D. Roosevelt of the United States, Prime Minister Winston Churchill of Great Britain, Prime Minister W L Mackenzie King of Canada, and Foreign Minister T. V Soong of China An important step toward unified Allied command was taken when the China-Burma-India theater of operations was created under the command of Lord Louis Mountbatten. The United States extended limited recognition to Charles de Gaulle's French Committee of National Liberation The chief decision reached was the approval of the Allied military plans for a landing in France These plans were communicated to Marshal Stalin later in the year at the Teheran Conference The second conference (Sept, 1944), attended by Roosevelt, Churchill, and their chief military advisers, was concerned with the broad strategy of the war

Quebec West, town (pop 3,619), S Que, northwest residential suburb of Quebec

quebracho (kăbrä'chō), name for several South American hardwood trees and for their wood and bark The cherry-red wood of the red quebracho or quebracho colorado, a deciduous tree of the genus *Schinopsis*, is one of the most durable woods known It is used in paving, in bridge and railway construction, for telephone poles, and for fuel The extraction of tannin, of which the heartwood contains a high percentage, is an important industry of Argentina and Paraguay The bark is used in dyeing and tanning White quebracho is an evergreen of the genus *Aspidosperma* The wood is lighter in color than that of the red quebracho, hard to season, and not durable in damp places It is used for heavy construction, tanning, and fuel and in vehicle manufacture White quebracho and several other trees of South America called quebrachos are sources of medicinal substances

Quechua see QUICHUA

Quedlinburg (kvād'lēnbo͝ork), city (pop 35,142), in the former Saxony prov of Prussia, E central Germany, after 1945 in Saxony-Anhalt, at the foot of the lower Harz and SW of Magdeburg It is the center of an agricultural and gardening region and is one of the oldest German cities Quedlinburg was walled in 922 by Henry I (Henry the Fowler) He and his wife, St Mathilda (who with her son, Emperor Otto I founded in 936 the celebrated convent of Quedlinburg), are buried in the castle church The beautiful castle, church, and convent (secularized 1803) dominate the quaint old town from a hill, the age of the structures varies from the 10th to the 14th cent Quedlinburg also has retained a Gothic city hall, several early Gothic churches, and a medieval market place Klopstock was born here

Queen Alexandra Range, mountains of Antarctica, at the head of Ross Shelf Ice, Ross Sea The range, which was discovered (1908) by Sir Ernest Shackleton, rises to c 14,600 ft in Mt Kirkpatrick

Queen Anne's lace see WILD CARROT

Queen Anne's War see FRENCH AND INDIAN WARS

Queen Charlotte Islands, archipelago of several large and many small islands, off the coast of W British Columbia Most of the inhabitants are Haida Indians The main islands are Graham and Moresby There are valuable timber and fishing resources and several good harbors The archipelago was visited in 1774 by Juan Pérez, in 1778 by Capt James Cook, in 1787 it was surveyed by Capt George Dixon Hecate Strait separates it from the mainland, Dixon Entrance lies between it and Alaska, to the north, and Queen Charlotte Sound lies south, between it and Vancouver Island

Queen Mary Coast or **Queen Mary Land,** part of Antarctica, on the Indian Ocean, W of Wilkes Land Discovered by Sir Douglas Mawson's expedition of 1911–14, it was named Queen Mary Land but is now usually called Queen Mary Coast

Queens, borough (land area 108 sq mi, pop 1,297,634) of New York city, at the west end of Long Island, SE N Y, between the East River and Jamaica Bay, coextensive with Queens co It is connected with Manhattan by the Queensboro Bridge, by the Queens-Midtown Vehicular Tunnel, and by railroad and subway tunnels, the Triborough Bridge joins it with the Bronx and Manhattan, and the Hell Gate railroad bridge and the Bronx-Whitestone Bridge link it with the Bronx The borough is heavily industrialized in LONG ISLAND CITY, ASTORIA and JAMAICA also are commercial and industrial centers Among the many residential communities are FLUSHING (QUEENS COLLEGE is here), FOREST HILLS, and Kew Gardens The first settlements were made by the Dutch in 1635, Queens co was established in 1683 (several buildings of the 17th and 18th cent still stand) The period of greatest growth began in the 20th cent, with the opening of the Queensboro Bridge in 1909 and the railroad tunnel in the following year Largest of the boroughs in area, it is the site of two municipal airports, of such resorts as the Rockaway beaches on Jamaica Bay, and of the Jamaica and Aqueduct race courses The main building of the Queens Borough Public Library (with many branches and subbranches) is at Jamaica.

Queensberry, James Douglas, 2d **duke of,** 1662–1711, Scottish statesman. One of the first in Scot-

land to favor William III, he held offices under him and Queen Anne, rising to become royal commissioner for Scotland in 1700 and secretary of state for Scotland in 1702 Duped by an intrigue of Simon Fraser, Lord Lovat, he falsely accused the duke of Atholl of Jacobite activities and for that mistake was dismissed in 1703 Restored to favor, he worked hard for the union with England as commissioner to the Scottish Parliament In 1708 he was created duke of Dover and marquess of Beverley, and in 1709 he was made third secretary of state

Queensberry, John Sholto Douglas, 8th marquess of, 1844–1900, English nobleman, originator of the code of rules which governs modern BOXING He served in the British army and navy and later sat (1872–80) in the House of Lords as representative peer from Scotland He is famous for drafting (1865) with the aid of Arthur Chambers the Queensberry rules for the sport of boxing This code of rules, superseding the London prize-ring rules that had been introduced (1743) by Jack Broughton, contained the basic provisions which govern boxing today The rules were more and more adopted in England and in the United States after 1875, and by 1889 they were standardized In 1895, objecting to the friendship of his son, Lord Alfred Douglas, with Oscar WILDE, Queensberry left an insulting letter to Wilde in a public place and was sued for libel by the writer In this libel suit, which Wilde dropped, information was brought to light that led to the conviction of Wilde for immoral conduct

Queensberry, William Douglas, 4th **duke of,** 1724–1810, English nobleman Also 3d earl of March, he was known in his later days as Old Q He was always famous for his escapades and generally regarded as one of the most dissolute men in London A great horse fancier, he did much to develop racing in England In 1760 he was made lord of the bedchamber, an honor he held until 1789, when his promotion of a regency for the prince of Wales (later GEORGE IV), his boon companion, brought him the royal disfavor

Queensberry rules see QUEENSBERRY, JOHN SHOLTO DOUGLAS, 8TH MARQUESS OF

Queens' College see CAMBRIDGE UNIVERSITY

Queen's College see OXFORD UNIVERSITY

Queens College of the College of the City of New York, at Flushing, in Queens borough, coeducational, opened 1937 The college occupies a tract of about 50 acres Coordination with community life is stressed

Queens College see CHARLOTTE, N C.

Queen's County, Ireland see LAOIGHIS

Queensland, state (670,500 sq mi , pop 1,106,269), NE Australia Brisbane is the capital The Coral Sea and the Pacific are on the east, New South Wales is on the south, South Australia on the southwest, the Northern Territory on the west, the Gulf of Carpentaria on the northwest, and Torres Strait on the north Queensland comprises the whole of the northeastern part of the continent, with the major part of its coast line sheltered by the Great Barrier Reef In 1770 Capt James Cook landed on the shores of Moreton Bay, which was used from 1824 to 1843 as a penal settlement area Queensland became a British colony in 1859, and in 1901 was federated as a state of the Commonwealth of Australia Roughly half of the state is in the tropical zone, with jungles on Cape York Peninsula in the extreme north The rainfall ranges from 5 in in the southwest desert area to 160 in in parts of the northeast coast The Great Dividing Range separates the fertile coastal strip from the vast interior plains The Great Artesian Basin in the interior, with an area of 376,000 sq mi , provides the water supply for a large stock-raising area Principally an agricultural state, Queensland produces sugar cane (the chief crop), cotton, wheat (produced mainly on the Darling Downs), and tropical fruits Gold, copper, silver, lead, and zinc are mined to some extent Thursday Island in the north is the center of the pearling industry Besides Brisbane, the principal cities, each having a port, are Rockhampton, Townsville, and Cairns Queensland is the habitat of the lungfish and the barramunda, fossil types found nowhere else in the world

Queensland, University of: see BRISBANE, Australia.

Queenston Heights, S Ont , on the Niagara peninsula, just N of Niagara Falls Here was fought the battle of Queenston Heights in the War of 1812, at which Gen Sir Isaac BROCK was killed

Queenstown, Co. Cork, Ireland see COBH

Queenstown, town (pop 23,538), E Cape Prov , Union of South Africa It was founded in 1853 by Sir George Cathcart, governor of the Cape Colony It is on a railroad to East London, and it exports wheat and wool

Queen's University see KINGSTON, Ont.

Queiros, Pedro Fernandes de (pā'drō fĕrnän'dĭsh dŭ kârōsh'), c 1560–1614, Portuguese navigator. In Spanish service, he sailed (1595) as second in command of the expedition of Álvaro de Mendaña de Neira to the Pacific The expedition discovered the Marquesas Islands and Solomon Islands, and after the death of Mendaña, Queiros continued in command On a later expedition he in 1606 discovered the Tuamotu Islands and the New Hebrides, but almost certainly not the Society Islands (as sometimes claimed)

Quelimane (kĕlĭmä'nē), town (pop, c 8,200), central Mozambique, a port in the Zambezi river delta The port was visited by Vasco da Gama in 1498 The present town was founded by the Portuguese in the 16th cent. In the 18th and 19th cent it was a notorious slave market Quelimane, the terminus of a railroad to the interior, has trade in sisal and copra The name is also spelled Quilimane, Kilimane, and Kilimani

Quellinus or **Quellin, Artus** (är'tŭs kvĕlē'nŭs, kvĕ'lĭn), 1609–68, Flemish sculptor His allegorical figures decorating the royal palace of Amsterdam are famous Quellinus was the outstanding follower of the Rubens tradition in sculpture In addition to his baroque architectural decorations, he made numerous fine busts and figurines His teacher, **Erasmus Quellinus** (ā'rä'smōōs), 1607–78, was a Flemish painter and a pupil and follower of Rubens His paintings of religious subjects are best seen in the churches of N France and Belgium Characteristic is his *St Roch* (Church of St Jacques, Antwerp) His son **Jan Erasmus Quellinus** (yän), 1634–1715, was court painter to Emperor Leopold I His *Coronation of Charles V* (Vienna) is a well-known work

Quelpart, Korea see CHEJU.

Quental, Antero de (äntĕ'rō dŭ kĕntal'), 1842–91, Portuguese poet He showed great brilliance and leadership when a student at the Univ of Coimbra and became the head of the Coimbra dissidents, who opposed romanticism and the monarchy. He spent some time in Paris, visited the United States, then worked for a time in the socialist cause in Lisbon His morbid introspection drove him to desperation and finally to suicide His tortured emotions were, however, the source of his carefully restrained *Odas modernas* (1865) and his exquisitely fashioned *Sonetos* (1881) He is one of the principal modern Portuguese poets His first name was formerly written Anthero

Quercia, Jacopo della (yä'kōpō dĕl'lä kwĕr'chä), c 1374–1438, Italian sculptor He marks the transition from medieval to Renaissance art in Italy and is especially noted for his Gaia Fountain in the Palazzo Publico, Siena (however his appellation Jacopo della Fonte), and the central doorway of San Petronio, Bologna, his masterpiece

Quercy (kĕrsē'), region and former county, S central France, traversed by the Lot river, now divided between Lot and Tarn-et-Garonne depts CAHORS is the chief city It consists of arid limestone plateaus (causses), cut by fertile river valleys Sheep raising is the chief activity in the causses, the famous Roquefort cheese is made from sheep's milk A county enfeoffed to the counts of Toulouse, Quercy (also known as Cahorsin) was ceded to England by the Treaty of Brétigny (1360), reconquered by France c 1370, and included in GUIENNE prov

Querétaro (kārā'tärō), state (4,432 sq mi , 1946 estimated pop 281,187), central Mexico, on the central plateau Mountainous in the north but with valleys and plains in the south, Querétaro raises a variety of agricultural products, including sugar cane, cotton, tobacco, and grains The principal river, forming most of the eastern boundary with Hidalgo, is the Moctezuma, a tributary of the Pánuco Famous for its opals, the state also produces silver, iron, copper, and mercury This territory of the Chichimec Indians was conquered in 1531 but not colonized until 1550, when it was established as a buffer against the Indians of the north, it was later included in the intendancy of Guanajuato It became a state in 1824 **Querétaro,** the capital (pop 33,629), is a distributing center, and its cotton mills are among the most important in Mexico An Aztec city, Querétaro was conquered by the Spanish in 1531 Here was planned (1810) the conspiracy under HIDALGO Y COSTILLA and ALLENDE that led to the revolution against Spain Part of the negotiations for peace following the Mexican War were conducted in Querétaro In 1867 Emperor MAXIMILIAN and his generals, Miguel Miramón and Tomás Mejía, were besieged and forced to surrender here They were shot on a hill outside the city

Querido, Israël (ĭs'räĕl kvä'rēdō), 1874–1932, Dutch novelist He was the author of naturalistic proletarian novels, including *Menschenwee* (1903, Eng tr , *Tool of Men*, 1909)

Quesada, Gonzalo Jiménez de: see JIMÉNEZ DE QUESADA, GONZALO

Quesnay, François (frāswä' kĕnā'), 1694–1774, French economist, founder of the physiocratic school A physician to Louis XV, he did not begin his economic studies until 1750, when he wrote the articles "Fermiers" [farmers] and "Grains" for the *Encyclopédie* His chief work was the *Tableau économique* [economic table] (1758), said to have been printed by the king's own hands. Quesnay and his followers believed that the *Tableau* summed up the natural law of economy (see PHYSIOCRATS) They greatly influenced the thought of Adam Smith. Quesnay's works have been collected in *Œuvres économiques et philosophiques* (with biographical studies and introduction, 1888).

Quesnel, Pasquier (päskyā' kĕnĕl'), 1634–1719, French Jansenist writer. He entered the Congregation of the Oratory in 1657 and was made director of the seminary at Paris in 1662 His edition of the works of Leo I was placed on the Index (1676) for its Gallicanism, and Quesnel left his congregation In 1685 he refused to subscribe to the formulas condemning JANSENISM and escaped to Brussels. There he completed his *Réflexions morales*, a French New Testament with Jansenist commentary He was imprisoned in 1703 by order of the king of Spain and escaped to Amsterdam. Quesnel's teachings were condemned by Clement XI in 1708 and in 1713 (in the bull *Unigenitus*)

Questa, unincorporated village (pop 1,341, alt 7,469 ft), N N Mex , on the Red River and N of Taos, in a farm and sheep area, settled 1829 as San Antonio del Rio Colorado, named Questa 1884.

question mark: see PUNCTUATION

questor see QUAESTOR

Quetelet, Adolphe (ädôlf' kĕtŭlā'), 1796–1874, Belgian statistician and astronomer He was the first director (1828) of the Royal Observatory at Brussels As supervisor of statistics for Belgium (from 1830), he developed many of the rules governing modern census taking and stimulated statistical activity in other countries One of the first to apply mathematical statistics to social problems, he formulated the theory of the "average man" *A Treatise on Man* (1835, Eng tr , 1842) is his best-known work See F H Hankins, *Adolphe Quetelet as Statistician* (1908)

Quetta (kwĕ'tŭ), town (pop 64,476), capital of Baluchistan prov , Pakistan It is in a valley (alt c 5,500 ft) surrounded by mountains For centuries it has been a strategic point on the trade route (via the Bolan Pass) from Afghanistan to the Indus river valley It was acquired (1840) by Great Britain by the Second Afghan War There is a military staff college (established in 1907) Much of the present city was built after a disastrous earthquake in 1935 Quetta manufactures woolen cloth and flour

quetzal (kĕtsäl') or **quezal** (kāsäl'), bird native to the high-altitude rain forests of Central America and Mexico With iridescent green plumage above and crimson on the under parts, streamerlike tail coverts, and crested head, it is the most striking of the trogon family As the national emblem of Guatemala it appears on the country's coat of arms, stamps, and money Associated with the god Quetzalcoatl, the bird was revered by the Maya and the Aztec A monetary unit of Guatemala is called a quetzal after the bird Other trogons are found in Africa, India, and South America One travels northward to S Arizona A fossil trogon was found in France

Quetzalcoatl (kĕt"sälkōä'tŭl) [Nahuatl,=feathered serpent], ancient god and legendary ruler of the TOLTEC in Mexico Quetzalcoatl, god of civilization, of the planet Venus, and of the wind, represented the forces of good and light pitted against evil and darkness The same qualities are attributed to the culture hero and ruler, Quetzalcoatl, who is credited with the discovery of maize, the arts, science, and the calendar It is unclear whether the ruler took his name from the god or as a great ruler was revered and later deified Quetzalcoatl, the hero, was defeated by hostile (and therefore evil) tribes, some time before A D 1000, he returned to his homeland, the east coast of Mexico, where he is supposed to have been consumed by divine fire The two great pyramids in honor of the deity are at TEOTIHUACAN and CHOLULA Adopting the name, the Aztec applied it to some of their ranking priests Quetzalcoatl left behind the promise of his return Some of the Aztec viewed the Spanish invaders as the returning hosts of Quetzalcoatl It is possible to say with some certainty that Quetzalcoatl is reflected in his Mayan counterpart, Kukulcán [Mayan,=feathered serpent], whose ancestors possibly came from the Toltec capital, Tollán Kulkulcán, definitely a historical figure, and other leaders whose forebears had lived in SW Campeche for two and a half centuries, moved northeastward in the 10th cent , occupying CHICHÉN ITZA and founding the cities of UXMAL and Mayapán Although using Mayan speech by this time, the invaders still employed Mexican architectural motifs (especially the feathered serpent) extensively In all probability Kulkulcán was deified after his death, for he became the patron deity of Chichén Itzá, and most of the temples were dedicated to him The symbol of both Quetzalcoatl and Kulkulcán, the serpent with quetzal feathers, would seem to have an obvious connection with serpent worship In a poetic sense the plumed serpent is a symbol of Mexico.

Quevedo y Villegas, Francisco Gómez de (fränthĕ'skō gō'mäth dä kävā'dhō ē vēlyā'gäs), 1580–1645, Spanish satirist, novelist, and wit He had to flee to Italy after a duel and spent much time in Naples. For a supposed satire on Philip IV he was imprisoned by his enemy the conde de Olivares, favorite of the monarch. Quevedo is one of the greatest writers of the Golden Age. Among his works

are *Los sueños* [visions] (1627), descriptions of the nether regions, amusing but bitterly satiric, the philosophical treatise *Providencia de Dios* (1641), the political essay *Política de Dios y gobierno de Cristo* (1626–55), and his best work, the picaresque novel *La vida del Buscón* (1626), also called *El Gran Tacaño* [the great sharper] He was also an outstanding poet and wrote many ballads and other verse, collected in *El Parnaso español* (1648), but he is better known for his *Epistola satírica y censoria* (1639), a satirical poem against Olivares

quezal: see QUETZAL

Quezaltenango (kāsältänäng'gō), city (pop 33,538), SW Guatemala. The metropolis of the western highlands, it is the second city of Guatemala The people of the surrounding country and suburbs are predominantly QUICHÉ, but those of the administrative and residential sections of the city are ladino The native market offers excellent textiles and handicraft, and the business center has foreign imports as well as local manufactures (textiles, shoes, cigarettes, and flour), which have been increased by the development of hydroelectric power, making Quezaltenango a leading industrial city of Central America The soil of the region is fertile, coffee, sugar cane, cacao, cereals, and tropical fruits are grown in neighboring valleys and along the adjacent Pacific littoral Quezaltenango was rebuilt after being severely damaged in 1902 by an eruption of near-by Santa María volcano (12,362 ft high) Improved transportation and centralization of federal government have curtailed much of the formerly independent character of the city

Quezon, Manuel Luis (mänwĕl' lwēs' kā'sōn), 1878–1944, Filipino statesman, b Tabayas prov, Luzon, grad College of San Juan de Letrán, Manila, 1893 Quezon joined (1898) the Philippine army, fought with Emilio Aguinaldo's insurrectionary forces against the Spanish government, and then led native troops against American forces He returned to the study of law at the Univ of San Tomás, Manila, was admitted (1903) to the bar, and was (1903–4) prosecuting attorney for the provinces of Mindoro and Tabayas before he became (1905) governor of Tabayas As a member (1907–8) of the Philippine assembly, he became floor leader of the nationalist party He served (1909–16) as resident commissioner to the United States and effectively lobbied in the U S Congress for the passage of measures to give the Filipinos real powers of self-government He returned to the Philippines, was elected (1916) to the Philippine senate, promptly became president of that body, and until he resigned in 1935 ardently crusaded there for Philippine independence Not only did he violently oppose the highhanded administration (1921–27) of Leonard Wood, but he helped bring about the passage (1934) of the McDuffie-Tydings Bill, which promised complete independence for the Philippines in 1946 Quezon became (1935) first president of the Commonwealth of the Philippines, remained a loyal friend to the United States, widely increased his power, and pushed many defense measures Reelected in 1941, he escaped after the Japanese invasion in the Second World War and carried on a government in exile in the United States until his death He was succeeded by Sergio OSMEÑA See his autobiography, *The Good Fight* (1946)

Quezon City (kā'sōn), city (1948 pop 107,977), on central Luzon, Philippine Islands, near Manila In July, 1948, it officially replaced Manila as the capital of the republic The government buildings are in the process of construction

Quezzan, French Morocco see WAZZAN

Quiberon (kēbrō'), peninsula, Morbihan dept, NW France, in Brittany, projecting into the Bay of Biscay The village of Quiberon is at its tip Here in 1795 a force of c 3,000 French counterrevolutionists was landed by British ships in the hope of reviving the VENDÉE movement The local population failed to rally, and the British ships were prevented by bad weather from giving assistance The invaders capitulated Contrary to the agreement of capitulation, the Convention ordered all the prisoners to be shot About 800 of them were massacred near Auray, the rest were allowed to escape **Quiberon Bay** was the scene (1759) of a victory by the British under Lord HAWKE over a French fleet in the Seven Years War

Quiché (kēchā'), Indians of Mayan linguistic stock, in the western highlands of Guatemala The largest of the Indian groups of Guatemala, they live principally in the region between QUEZALTENANGO and CHICHICASTENANGO. From their origins, as told in the POPOL VUH, the Quiché have retained many ancient traditions, blending them with Western customs to create a distinct and colorful mode of life Although they built no cities comparable to those of the Maya of N Guatemala and Yucatan, they were the most important of the southern Maya Pedro de ALVARADO with the help of the Cakchiquel or Kakchiquel, a neighboring but rival group similar in language and stock, conquered them in 1524.

Quichua (kēch'wä), **Kechua,** or **Quechua** (both: kĕ'chōōä, kēch'wä), linguistic family of W South America. Languages of the stock are spoken in the plateaus of Peru, Ecuador, much of Bolivia, and NW Argentina There is a modern standard language, spoken by about half the people of Peru The name Quichua may have been given to a powerful tribe allied to the Inca after its defeat by the Chanca, the official language of the Inca empire was of this family

Quick, Herbert, 1861–1925, American author and editor, b near Grundy Center, Iowa He taught school, practiced law, and in 1904 became associate editor of *La Follette's Weekly* From 1909 to 1916 he edited *Farm and Fireside* Iowa from its pioneer days to the '90s is the background of his trilogy of novels, *Vandemark's Folly* (1922), *The Hawkeye* (1923), and *The Invisible Woman* (1924) With Edward Quick he collaborated in writing *Mississippi Steamboatin'* (1926) See his autobiographical *One Man's Life* (1925).

quicklime. see LIME

quicksilver see MERCURY

Quidde, Ludwig (lōōt'vĭkh kvĭ'du), 1858–1941, German pacifist and historian. He was elected (1907) to the Bavarian diet, was a member of the national assembly at Weimar (1919), and later served as a member of the Reichstag Indefatigable in his attacks on German imperialism, he was sentenced to imprisonment for three months for his brochure, *Caligula eine Studie über römischen Cäsarenwahnsinn* [Caligula a study in Roman Caesarean madness] (1894), in which it was easy to recognize that Caligula stood for Emperor William II Quidde was a leading supporter of the League of Nations in Germany after the First World War, and he shared the 1927 Nobel Peace Prize with Ferdinand Buisson He died in exile in Switzerland

Quidor, John (kĭdôr'), 1801–81, b Tappan, N Y, studied with J W Jarvis Little appreciated in his own time, he was subsequently accorded a place among the best early American artists He is represented in the Brooklyn Museum by three paintings, *Dorothea, Money Diggers,* and *Wolfert's Will* He is probably best known for his illustrations for Irving's *History of New York*

quietism, extreme form of MYSTICISM proposed by Miguel de MOLINOS and more moderately by FÉNELON and Madame GUYON Another quietist was Antoinette BOURIGNON Quietistic ideas are especially common in Oriental religion, notably in BUDDHISM and HINDUISM, wherein annihilation of self or absorption of self into the world-soul is the *summum bonum* The essence of quietism and of similar mystical systems in the West lies in the passivity of the soul before God Since the supreme desire of the mystical life is to achieve the unity of the soul with God, the entrance of God into the soul, according to quietists, will be facilitated if the soul is completely inert Molinos proceeds from this fundamental idea The abandonment of all conscious effort, of reason, of emotion, of sacraments, and even of prayer is essential The Quakers, with their belief in the inner light, show tendencies toward quietism, but their interest in good works has always kept them from extremes See William Backhouse and James Janson, comp, *Guide to True Peace . Composed Chiefly of Writings of Fénelon, Guyon, and Molinos* (1946)

Quill, Michael Joseph, 1905–, American labor leader, b Co Kerry, Ireland Quill fought (1919–23) in the movement for Irish independence before emigrating (1926) to the United States to work as a laborer and then as gateman in New York city subways He helped organize (1934) the Transport Workers Union of America, and in 1935 he quit his subway work to become president of the union and to devote himself to labor organization. In 1937 the union became affiliated with the CIO, and Quill succeeded, with the help of John L Lewis, in getting closed-shop contracts with transit lines of New York city He then led in expanding the activities of the union to other big cities in the United States As a member (1937–39, 1943–45) of the New York city council, Quill—a colorful and fiery speaker—fought for numerous municipal reforms Quill was one of the leaders of the American Labor party, but he refused to support the party when it backed (1940) President F D Roosevelt's foreign policy He broke with the party in 1948 when its leaders came out against increased subway fare. Later he staunchly opposed Communist elements in labor unions

quill: see PEN

Quiller-Couch, Sir Arthur Thomas (kwĭl'ûr-kōōch"), pseud **Q,** 1863–1944, English man of letters He became professor of English literature at Cambridge in 1912. Among the novels of his native Cornwall are *Dead Man's Rock* (1887), *Troy Town* (1888), *The Splendid Spur* (1889), and *Hetty Wesley* (1903) Quiller-Couch finished Stevenson's novel *St Ives* (1898) *On the Art of Writing* (1916), *Studies in Literature* (1918–29), *On the Art of Reading* (1920), and *The Poet as Citizen* (1934) contain his essays and lectures He was editor of many anthologies, including the *Oxford Book of English Verse* (1900) and the *Oxford Book of English Prose* (1923). He was knighted in 1910 See his unfinished autobiography, *Memories and Opinions* (1945), biography by Fred Brittain (1947)

Quilmes (kēl'mās), city (pop 105,250), E Argentina, 11 mi SE of Buenos Aires and on the Río de la Plata A popular summer resort, it is also an industrial city, manufacturing textiles, rayon, and glass Quilmes has one of the largest of Argentine breweries.

quilting, antique form of needlework in which two layers of fabric over an interlining are sewn together, usually in a pattern of back or running (quilting) stitches. This method of securing warmth in coverings and clothing has been practiced in N Asia and Europe for centuries Quilting has been a feature of embroidery in the form of raised work It was a distinctive type of needlework in pioneer American homes, at first utilitarian, later ornamental Quilts were usually of the pieced, or patchwork, type until c 1750, when the appliquéd, or laid-on, quilt and the monotone quilt decorated by padding or cording became popular The art of quilting is still practiced by Southern mountaineers and in other rural districts and has been revived generally as ornamental needlework Machine-quilted materials are used for wearing apparel and in interior decoration The collecting of quilts and quilt designs has become a popular hobby See C A Hall and R G Kretsinger, *The Romance of the Patchwork Quilt in America* (1936), W R Dunton, *Old Quilts* (1947)

Quimby, Phineas Parkhurst, 1802–66, American mental healer, b Lebanon, N H He became interested in mesmerism and gave exhibitions of that art in New England and New Brunswick He passed from mesmerism to mental healing and gained a large and important following "Doctor" Quimby is, however, best known through the controversy which later arose as to the influence of his thought and his doctrines on Mary Baker EDDY and on Christian Science The problem is unsolved Quimby's *Questions and Answers* appeared in 1862 His name and teaching were potent long after his death

Quimper (kĕpĕr'), town (pop 17,722), capital of Finistère dept, NW France It was once the capital of the Breton county of CORNOUAILLE A port on an inlet of the Atlantic, it has important sardine fisheries and is known for its pottery (Quimper or Brittany ware) There is a museum of antiquities and art of Lower Brittany

Quin, James, 1693–1766, English actor of Irish descent He made his London debut as Bajazet in Rowe's *Tamerlane* in 1714 and was a star at Drury Lane and Covent Garden The last of the declamatory school which gave way to Garrick, he was unexcelled in the role of Falstaff Quin appears in Smollett's *Humphrey Clinker*

Quinault, Philippe (fēlēp' kēnō'), 1635–88, French dramatist His tragedies, comedies, and tragicomedies are affected and inferior, but he found the outlet for his genius in the 14 operas on which he worked as librettist but in real collaboration with Lully The charm and delicacy of his style is never so apparent as in *Armide* (1686), considered his masterpiece This libretto was used again by Gluck

quince, shrub or small tree of the rose family, native to Asia The common quince (*Cydonia oblonga*) is a spreading tree with crooked branches and long, ovate leaves, solitary white or pink flowers are borne at the ends of the twigs The stemless, fuzzy fruit, yellow or greenish, is globular or pear shaped; fragrant, but very astringent, it is used chiefly for preserves MARMALADE is said to have first been made from the quince The fruit, although hard, is easily bruised The quince has been cultivated from ancient times and was early naturalized in the Mediterranean region Most of the commercial crop in North America is produced in California, New York, Ohio, Pennsylvania, and Ontario The quince is often used as the rootstock for dwarf fruit trees, especially the pear Ornamental quinces (genus *Chaenomeles*) are profusely branching shrubs with showy scarlet, pink, or white flowers and small inedible fruits, best known is the Japanese quince

Quincy, Josiah (kwĭn'zē), 1744–75, American Revolutionary patriot, b Boston, grad Harvard, 1763 He was an outstanding lawyer Interest in politics in the pre-Revolutionary period led to his writing a series of anonymous articles for the Boston *Gazette* in which he opposed the Stamp Act and British colonial policies Even though an ardent patriot, he and John Adams defended the British soldiers in the trial after the BOSTON MASSACRE In 1773 he went to South Carolina for his health and on his journey established connections with other patriot leaders His *Observations on the Act of Parliament Commonly Called the Boston Port Bill* (1774) was an important patriot tract He was sent (1774) as an agent to argue the colonial cause in England and died on the way home His son, also named Josiah Quincy, wrote a memoir of him (1825)

Quincy, Josiah, 1772–1864, American political leader and college president, b Braintree (now Quincy), Mass, grad Harvard, 1790, son of Josiah Quincy, Jr (1744–75) He studied law, entered politics, and sat in the state senate (1804–5) before serving (1805–13) as a U S Congressman In Congress, where he became the Federalist minority leader,

Quincy opposed Thomas Jefferson, James Madison, and the proslavery forces In a speech in 1811 against admission of the state of Louisiana, he put forth an extreme view of the rights of individual states Though for political reasons he first urged preparedness, Quincy later violently opposed the War of 1812, resigned from Congress, and returned to Boston, where he became interested in scientific agriculture Again he served in the state legislature, and then from 1823 to 1828 he was mayor of Boston, accomplishing many needed reforms As president of Harvard (1829–45) he made a number of advances in its educational procedure, gave impetus to the law school, and wrote *The History of Harvard University* (2 vols , 1840) to silence critics. Among his writings are *The History of the Boston Athenaeum* (1851), *A Municipal History of the Town and City of Boston* (1852), and *Memoir of the Life of John Quincy Adams* (1858) His son, Edmund Quincy, edited his *Speeches Delivered in the Congress of the United States* (1874) and also wrote a biography (1867, 6th ed , 1874)

Quincy. **1** (kwĭn'sē) City (pop 3,888), co. seat of Gadsden co , NW Fla , near the Ga line, NW of Tallahassee and E of the Apalachicola river, founded c 1825 It is the market center for an important tobacco area and is in a region producing the bulk of the country's supply of fuller's earth **2** (kwĭn'sē) City (pop 40,469), co seat of Adams co , W Ill , on a bluff above the Mississippi and W of Springfield, in a farm and livestock area, settled 1822 on the site of an Indian village, inc 1839 It has a good harbor and was an important river port in the mid-19th cent It is an industrial and distributing center, manufacturing many kinds of metal products, dyes, clothing, and wallboard In early days the town was the scene of several proslavery-abolitionist struggles A Lincoln-Douglas debate was held here, Oct 13, 1858 Quincy College (coeducational) and the state soldiers' and sailors' home are here **3** (kwĭn'sē) City (pop 75,810), E Mass , on Boston Bay SE of Boston, set off from Braintree 1792, inc as a city 1888 The Plymouth Colony broke up (1627) a trading post established (1625) in the area by Thomas MORTON but a new settlement began in 1634 Granite quarrying, begun in 1750, became a great industry The first railroad tracks in the United States were laid here in 1826 Quincy's shipyards were of great importance in both world wars Soap and glycerin are produced John Adams and John Quincy Adams are buried in the Old Stone Temple (built 1828) Their home was made a national historic site in 1946 For the Quincy movement in education, see PARKER, FRANCIS WAYLAND See Daniel M Wilson, *Three Hundred Years of Quincy* (1926) **4** (kwĭn'sē) Village (pop 1,333), S Mich , SE of Battle Creek, settled 1833, inc 1858 It has a long-established flour mill and a cement plant Near-by lakes make the town a resort center The old Sac Trail crossed here

Quinet, Edgar (ĕdgär' kēnā'), 1803–75, French historian Like Michelet, whose colleague and friend he was, Quinet had a romantic belief in France's providential destiny to lead the nations in achieving freedom and democracy When he was (1842–46) professor at the Collège de France, his lectures and writings contributed to the "humanitarian republicanism" of 1848 For his opposition to Napoleon III, he was exiled to Belgium and Switzerland from 1851 to 1870, when he returned as deputy of the national assembly. A liberal Protestant and anticlerical, believing that religion was a profoundly important influence in molding a culture, Quinet was convinced that no real political reform could be effected without breaking the domination of the Catholic Church in France He held the Revolution did its most significant work in freeing the people from the grip of the Church but that it did not go far enough in breaking the Church's power For his attacks upon the Church and the Jesuits he lost his chair at the Collège de France Quinet's writings, published in a collected edition (26 vols , 1857–81), show imagination and feeling but neither careful reasoning nor graceful writing He was one of the first French students of German thought, His *Marnix de Sainte-Aldegonde* (1854) has been called his most important historical work See R H. Soltau, *French Political Thought in the Nineteenth Century* (1931).

quinine (kwī'nĭn", kwĭn'ēn'), white, crystalline alkaloid with a bitter taste Almost insoluble in water, it dissolves readily in alcohol and other organic solvents It is derived chiefly from the bark of several species of CINCHONA and is usually employed in the form of a salt, especially the sulphate Quinine was isolated (1820) by J B Caventou and P J Pelletier, the chemical synthesis was accomplished (1944) by the American chemists, R B. Woodward and W E Doering Quinine is known chiefly as a specific drug for the treatment of MALARIA It is used in medicine also to allay fever and pain, to induce uterine contractions during labor, as a sclerosing agent in the treatment of varicose veins, and as a bitter in tonics to increase the appetite. Although it may be injected intravenously, it is usually administered orally Excessive dosage or continuous use may bring about cinchonism, a serious poisoning (for symptoms and treatment, see quinine under POISONING, table) Native populations in malarial regions are commonly treated with the less expensive totaquine, a crude extract of cinchona bark which is a mixture of quinine and other alkaloids

Quinn, Edmond Thomas, 1868–1929, American sculptor and painter, b Philadelphia, studied at the Pennsylvania Academy of the Fine Arts He won distinction by his portrait sculpture and monumental work Of his statues the best known is *Edwin Booth as Hamlet*, Gramercy Park, New York He made a number of figures for memorials, among them a *Victory* for the First World War Memorial at New Rochelle, N Y One of the most impressive of his many portrait busts is that of Edgar Allan Poe, Fordham, Bronx borough, New York In the Metropolitan Museum he is represented by *Nymph*, a statuette

quinsy (kwĭn'zē), peritonsillar abscess, commonly known as quinsy sore throat It is an intense inflammation of the tissue around the tonsils (the mucous membrane of the tonsils, fauces, and uvula) Some relief may be afforded by hot or cold applications, but treatment by a physician is essential Fluctuation of the abscess is an indication of the need for incision

Quintana, Manuel José (mänwĕl' hōsā' kēntä'na), 1772–1857, Spanish patriot and poet He held high positions in the government and was tutor of Queen Isabella II He was a fervent patriot, and his favorite themes were liberty and progress Among his best-known poems are his odes *A la invención de la imprenta* [to the invention of printing] (1800), *El Panteón del Escorial* (1805), and *A la batalla de Trafalgar* (1805) He also wrote *Vidas de hombres célebres* [lives of famous men] (1807–35)

Quintana Roo (kēntä'na rō'ō), territory (19,630 sq mi , 1946 estimated pop 21,554), SE Mexico, on the Caribbean Occupying most of the eastern half of the YUCATAN peninsula, it is wild, sparsely settled, and populated almost entirely by independent Maya Indians With a hot climate and excessive rainfall, it has been little explored, the flat plain, with its almost impenetrable undergrowth, and the resistance of the Maya forced Francisco de MONTEJO to abandon his attempt (1527–28) to conquer Yucatan from the east There are no important industries, some coconuts and chicle are exported, and there is sponge and turtle fishing along the coast Until 1902, when it became a territory, Quintana Roo was part of the state of Yucatan Chetumal (pop 4,672), on the border of British Honduras, is the capital

Quintanilla, Luis (lwēs' kēntanē'lyä), 1900–, Spanish painter He was active as a muralist under the Spanish republican government and executed frescoes in the Casa del Pueblo and Ciudad Universitario in Madrid In 1939 he was sent to the United States by the Spanish government to paint the monumental fresco, in five panels, *Love Peace and Hate War* for the Spanish pavilion at the New York World's Fair Because of the change of governments in Spain these works were not exhibited at the fair In 1942 he settled in the United States, where his paintings and etchings, chiefly scenes of popular life in a gently satirical vein, have been widely exhibited and where he has been active as a teacher Characteristic of his style is the use of a sharp outline and delicate modeling effects that contrast with the monumentality of his figures

Quinte, Bay of (kwĭn'tē), arm of Lake Ontario, S Ont , between the mainland and the peninsula of Prince Edward co With its approach, Adolphus Reach, it is 60 mi long Belleville and Trenton are on its north shore

Quintero, Serafín Álvarez, and **Joaquín Álvarez Quintero**, see ÁLVAREZ QUINTERO

Quintilian (Marcus Fabius Quintilianus) (kwĭntĭl'yun), A D c 35–A D. c 95, Roman rhetorician, b Calagurris (now Calahorra), Spain He taught rhetoric at Rome (Pliny the Younger and possibly Tacitus were among his pupils) and, as a public teacher, was endowed with a salary by Vespasian, who also made him consul His *Institutio oratoria*, a complete survey of rhetoric in 12 books, begins with a discussion of the education of the young and proceeds with the various principles of rhetoric The last book deals with the life of the orator outside his profession, e g , his morality and his deportment The 10th book contains a list of great writers with brief but acute criticisms of their important works Quintilian's Latin is one of the most beautiful of his period, he succeeds in demonstrating what he sets out to inculcate—the necessity of good taste and moderation in rhetoric He had great influence in antiquity and in the Renaissance A number of declamations formerly assigned to him are falsely attributed

Quinton, town (pop 1,245), SE Okla., NE of McAlester, in a coal-mining region

quipu (kē'pōō) The Inca did not have writing; for the keeping of records and for the sending of messages, they made use of knotted cords called quipus, which served as memory aids The quipu might be a single cord but rarely was so, since the messages sent were complex Small cords with knots in them were attached to a main cord or a top band, the color of the cord, its place, its size, and the knots in it were all of significance to the record or the message The quipus had to be made up and deciphered by special, trained officials The method of deciphering is not known today, although Andean shepherds still use a sort of quipu See L L Locke, *The Ancient Quipu* (1923)

Quiraing (kwĕrăng'), mountain, on Skye, Inner Hebrides, Scotland. Its summit is a plateau 1,779 ft high, bordered by fantastic basalt formations.

Quiriguá (kērēgwē', kērēwā'), city of the Old Empire of the MAYA, E Guatemala Its stone steles have fine hieroglyphs Near the ruins the United Fruit Company has plantations and a hospital

Quirinal (kwĭr'ĭnul), one of the seven hills of Rome, NE of Capitoline Hill It was the site of several ancient shrines and the quarter of the *quirites*, probably the aristocracy in the first centuries of Roman history In the 16th cent a papal palace was built here, this palace was the residence of the kings of Italy from 1870 to 1946 and is now the home of the president of the Italian republic

Quirinius see CYRENIUS

Quirino, Elpidio (ĕlpē'dhyō kērē'nō), 1890–, Filipino statesman, b Ilocos Sur prov , Luzon, grad Univ of the Philippines (LL B , 1915) He worked his way through school and after he was admitted (1915) to the bar became a law clerk in the Philippine senate Here he met Manuel QUEZON, became his secretary, and for many years thereafter was his political aide He was elected (1919) to the Philippine house of representatives, and as senator (1925–41) he devoted himself to problems of finance After the Japanese invasion in the Second World War he became a leader of the underground and was captured and imprisoned, his wife and three of his five children were killed by the conquerors After the liberation (1945) of the Philippines, Quirino became president pro tempore of the senate and was elected (1946) first vice president of the independent Philippine republic When President Manuel Roxas died (1948), he succeeded to office and was elected president in 1949

Quirinus (kwĭr'ĭnus), in Roman religion, name of ROMULUS as a god In his honor the Quirinalia were celebrated

Quiroga, Juan Facundo (hwän' fakōōn'dhō kērō'gä), 1790–1835, Argentine *caudillo*, called *el tigre de los llanos* [the tiger of the plains] He was a zealous advocate of federalism (national organization based on provincial autonomy) With other provincial chieftains, he rejected the unitarian constitution of 1826, thus helping to bring about the resignation of the unitarian president, Bernardino RIVADAVIA (1827), and the installation of Manuel DORREGO as governor of Buenos Aires (Aug 1827) After the military uprising of Juan LAVALLE had overthrown Dorrego's government (Dec , 1828), Quiroga joined Estanislao López and Juan Manuel de Rosas in putting down the insurrectionists and in destroying, temporarily but with sanguinary thoroughness, the unitarian cause Quiroga was assassinated when returning from a conciliatory mission to the northern provinces A well-known study of him and his era is Domingo F Sarmiento's *Facundo*

Quisling, Vidkun (kwĭz'lĭng, Nor vĭd'kōōn kvĭs'lĭng), 1887–1945, Norwegian fascist leader An army officer, he served as military attaché in Petrograd and Helsinki and as assistant to Fridtjof Nansen in relief work in Russia From 1927 to 1929 he had charge, in the Norwegian legation, of British interests in Moscow He was Norwegian minister of defense from 1931 to 1933 He then left the Agrarian party to found the fascist Nasjonal Samling [national unity] party In 1940 he helped Germany prepare the conquest of Norway On April 9 he proclaimed himself premier, but was asked to resign by the German military on April 15 Remaining at the head of the sole party permitted by the Germans, he was made premier in 1942 Despite difficulties with his German masters and within his own party, he remained in power until May, 1945, when, after the Germans in Norway surrendered, he was arrested He was convicted of high treason and shot From his name came the word *quisling*, meaning traitor

quitclaim see DEED

Quitman, John Anthony, 1798–1858, American general and statesman, b Rhinebeck, N Y He studied law in Ohio and then moved to Natchez, Miss , where he practiced law and held a series of political offices, serving as state representative, state senator, and acting governor (1835–36) In 1836 he took part in the Texas Revolution, though without active service. As a brigadier general (promoted major general in 1847) he served under Gen Zachary Taylor in the Mexican War, distinguishing himself at Monterrey Under Gen Winfield Scott he fought at Veracruz, at Puebla, and at the storming of Chapultepec Scott appointed him governor of Mexico city in the occupation by Americans (1847–48). On his return to Mississippi he became governor (1850–51), but resigned after indictment by the Federal government for aiding a filibustering expedition to Cuba planned by Narciso LÓPEZ. From his election in 1855 until his death, he served in the U.S. House of Representatives, where he

defended the doctrine of states' rights and worked for the Southern cause

Quitman. 1 City (pop 4,450), co seat of Brooks co, extreme S Ga, just W of Valdosta, inc 1859 It is a trade and shipping center for a farm and livestock area 2 Town (pop 1,471), co seat of Clarke co, SE Miss, S of Meridian and on the Chickasawhay, in a farm and timber area

Quito (kē'tō) or **Panzaleo** (pänsälā'ō), Indians of Pichincha, Cotopaxi, and Tungurahua provs, Ecuador After the conquest of the Quito by the Inca under Tupac Yupanqui in the 15th cent, the Quitoan language apparently disappeared, and the Indians are today of the Quechua linguistic stock

Quito (kē'tō), city (pop 165,924), capital of Ecuador and of Pichincha prov It is the second largest city of Ecuador A settlement of the Quito Indians, it was captured by the Inca and became the center of the division of the Inca empire sometimes called the Kingdom of Quito a few years before Sebastián de Benalcazar entered (1533) and formally took possession (1534) for Spain Quito lies at the foot of Pichincha volcano in the hollow of a gently sloping, fertile valley Only a few miles below the equator but at an elevation of 9,350 ft, it has an average annual temperature of 54.6° F Monthly variations are generally less than one degree, but the nights are cool, the days warm, and there is usually a shower each day It is subject to earthquakes and was severely damaged in 1868 Quito has a Spanish colonial air with many examples of fine early architecture The Indians, the major element of the population, add color to the daily life The center of education and the political and cultural heart of Ecuador, it has little economic importance, though there are textile mills, and handicrafts and prepared foods are produced In 1563 it became the seat of an *audiencia*, and the boundaries of its power then foreshadowed present Ecuador The presidency of Quito was shifted back and forth between the viceroyalty of Peru and that of New Granada After an abortive uprising (1809), Quito remained under Spain until freed (1822) by Antonio José de Sucre Its republican history has been one of frequent revolutions led by aspiring *caudillos*, sometimes in efforts to escape control of economically preeminent Guayaquil

Quivira (kēvē'rä), land sought and reached by Francisco Vásquez de Coronado in 1541. The records do not make it entirely clear exactly where Quivira lay It is generally identified with villages of the Wichita Indians somewhere in Kansas, probably around Grand Junction, but other sites have been discussed, including one in N Texas The name was finally (and quite erroneously) settled upon Gran Quivira, a national monument

Quixote, Don see Don Quixote de la Mancha

Qum, Iran see Kum

Quoddy Head see West Quoddy Head

quoits, game played by two or more persons on a court in which metal pegs or pins 1 in high are placed 20 to 30 ft from each other These pegs are in the center of an end, i.e., a circle with a diameter of 3 ft The metal, circular quoits may be of any weight exceeding 3 lb and in the United States quoits are generally 9 in in diameter with a concentric bore 4 in in diameter They should have one rounded and one flat surface Standing within 4½ ft of the center of his end and to one side of it, the player throws his quoit with the rounded side uppermost His object is to deliver the quoit so that it rings the peg or settles as close as possible to it Players have two throws in succession and alternate in pitching first A ringer (i.e., circling the peg with the quoit) counts 3 points, a double ringer, 6 points, a hobber (i.e., quoit leaning against the peg), 2 points, a double hobber, 4 points, and each quoit nearer the peg than that of the opponent, 1 point A player who throws a double ringer or a double hobber gains any points already made by his opponent's throwing ringers in that set of throws This holds true in team play also A match may be for any number of points, although 21 points usually means game At sea, deck quoits are played, the quoits being made of rings of rope Horseshoe pitching is played on the same principle as quoits However, the pegs are 1 ft high and stand 30 or 40 ft apart The horseshoes should not weigh more than 40 oz or measure more than 7½ in in length and 7 in in width The ends are square boxes, elevated 6 in above ground or floor level Points in horseshoe pitching are scored on a basis similar to that of quoits, though hobbers are not accounted for and the second pitcher never gains the points of the first pitcher Points earned by the players offset each other in horseshoe pitching, and 50 points constitute a game The games (quoits and horseshoe pitching) developed concurrently, and though their origins are obscure, they were both played in Greece and Rome Both games were brought to England, where quoits attained great popularity In America quoits was played in colonial times, but horseshoe pitching rapidly eclipsed that game In the 20th cent several clubs were organized to further horseshoe pitching and several annual tournaments were organized.

Quonset Point (kwŏn'sĕt), in North Kingstown, S R I, on Narragansett Bay, site of the huge Northeastern Naval Air Station, completed in 1941

quotation marks see Punctuation

R

R, 18th letter of the alphabet, corresponding to Greek rho When in Latin alphabets the letters for P and R became similar in appearance the form was restricted to P and an extra line added for R In Greek, where no confusion developed, the rho continued to look like Latin P A modification of R is the symbol ℞, used medically for *recipe* [Latin, =take], liturgically for *responsum* [Latin, =response].

Ra see Egyptian religion

Ra, chemical symbol of the element radium

Raab (rap), Hung *Rába* (rä'bô), river, c 150 mi long, rising in E Styria, Austria It flows SE into Hungary, then NE into the Danube at Gyor

Raabe, Wilhelm (vĭl'hĕlm rä'bu), pseud **Jakob Corvinus** (yä'kôp kôrvē'nōōs), 1831–1910, German novelist At first a bookseller, at 23 he began to write novels and tales of village life, the first being *Die Chronik des Sperlingsgasse* (1857) An outstanding German humorist, he later turned to the historical past and wrote such tales as the tragic "Des Reiches Krone" [the imperial crown] (1870) His novels include *Der Hungerpastor* (1864, Eng tr, 1885), *Abu Telfan* (1867, Eng tr, *Abu Telfan, or, The Return from the Mountains of the Moon*, 1881), *Der Schuddertump* (1870), and *Stopfkuchen* (1891)

Raamah (rā'umu) [Heb, =trembling], founder of a tribe on the Persian Gulf Gen 10 7, 1 Chron 1 9

Raamiah (rā"umī'u), chief who returned with Zerubbabel Neh 7 7 Reelaiah Ezra 2 2

Raamses (rāăm'sēz), in the Bible, city of the eastern delta of Egypt, built by the children of Israel Ex 1 11 The Rameses of Gen 47 11 and Num 33 3,5 is the region of the central eastern delta This district was especially developed by Ramses II

Raasay (rä'sā), island, off NW Scotland, in Inverness-shire, one of the Inner Hebrides Between Skye and the mainland of Scotland, it is c 14 mi long and 3 mi wide, is generally rocky and barren, and produces some iron ore The Sound of Raasay separates Raasay from Skye

Rab (rab), Ital *Arbe* (ar'bā), island, area 40 sq mi, off Croatia, Yugoslavia, in the Adriatic Sea and c 40 mi S of Fiume One of the Dalmatian islands, it was under Venetian rule from the 10th cent until 1797, and it retains its ancient walls, the ruins of the palace of the Venetian governors, a 12th-century cathedral, and the medieval palace of the former archbishops. Rab is a popular seaside resort

Raba, river of Austria and Hungary see Raab

Rabanus Maurus Magnentius (rubā'nus mô'rus măgnĕn'shus), c 780–856, German scholar and theologian His name also appears as Hrabanus and Rhabanus A student under Alcuin, he was later abbot of Fulda (822–42), his zeal for learning and his excellent administration made the school and library at Fulda an outstanding source of intellectual light He is sometimes called the preceptor of Germany He retired from Fulda but in 847 was made bishop of Mainz Rabanus had an immense stock of knowledge, and his works, notably biblical exegesis, were encyclopedic rather than original *De universo* is a sort of encyclopedic dictionary, and *De institutione clericorum* is a course of study for clerics His poetry and writings on various subjects are today chiefly of linguistic interest, but his place in spreading the Carolingian revival of learning was eminent Walafrid Strabo was one of his students

Rabat (rəbät'), city (pop 161,416), French Morocco, a port on the Atlantic Ocean, on the southern bank of the Bou Regreg estuary, opposite Salé It is the seat of the French resident general and a residence of the sultan Conspicuous features are the old walls and the ruins of a large uncompleted mosque with adjoining tower (similar to the Giralda), these were built by Yakub I (reign 1184–99) Rabat, a stronghold of corsairs in the 17th and 18th cent, now exports agricultural products and produces textiles

Rabaul (rä'boul), town (1939 pop c 2,000), on NE New Britain, Bismarck Archipelago Formerly the capital of the Territory of New Guinea, it was supplanted in 1941 by Port Moresby It is surrounded by extremely active volcanoes, eruptions in 1937 nearly destroyed the town In the Second World War, Rabaul, a key Japanese stronghold, was bombed heavily by the Allies

Rabbah or **Rabbath** see Amman

rabbi [Heb, =my master or my teacher], in the United States, the title of a Jewish minister He is called *rav* [great] among certain Jews in Eastern Europe, where the word *rabbi* is used only for a scholar or teacher Jesus was frequently addressed as rabbi, but the word at that time had not the official connotation it acquired later The title originated among the Palestinian Jews The rabbi received no salary until about the 13th cent The duties of the modern orthodox rabbi include deciding all matters pertaining to marriage and divorce and all disputes concerning kashruth (the kosher laws), while the reform rabbi serves to expound Judaism and act as a leader of Israel

Rabbi Ben Ezra see Ibn Ezra, Abraham ben Meir

rabbit, herbivorous mammal of the same family (*Leporidae*) as the hare Some species are mature at six months and bear four litters a year Species of the genus *Sylvilagus*, which includes the cottontail, marsh, and swamp rabbits, are found from the United States to N South America Domesticated breeds are varieties of the European rabbit (*Oryctolagus cuniculus*), native to the W Mediterranean region This species was introduced into Australia, where it became a pest Rabbits are raised as pets, for food, and for fur, which is widely used in the trade Cony or coney is rabbit fur, as are many dyed imitation furs Rabbit fur is used in making felt The rabbit is often used as a laboratory animal See *Rabbit Production* (U S Dept of Agriculture, Farmers' Bul 1730)

rabbit fever see Tularemia.

Rabbith (rā'bĭth) [Heb, =multitude], town, E central Palestine. Joshua 19 20 It may have been located c 10 mi SW of Beth-shan

Rabboni (răbō'nī) [Heb, =my great master], title of respect addressed to Jesus John 20 16

Rabelais, François (rä'bŭlā', Fr. frăswä' räblā'), c 1490–1553, French writer and physician, b near Chinon His father was probably an advocate (though he has sometimes been called an apothecary and sometimes an innkeeper) who inherited a property, "La Devinière," near Chinon Rabelais early became a novice in a Franciscan monastery He later (c 1524) petitioned Pope Clement VII for permission to leave the Franciscan order and enter the Benedictine monastery of Maillezais, the bishop of Maillezais was a scholar and was Rabelais's friend The facts concerning Rabelais's study of medicine are obscure, but it is probable that he studied in Paris before receiving (1530) his degree of bachelor of medicine at the Univ of Montpellier. In 1532 he went to Lyons, at that time an intellectual center, and there besides practicing medicine, he edited various Latin works for the printer Sebastian Gryphius For another publisher at Lyons he composed burlesque almanacs At Lyons in 1532 appeared the first edition of *Gargantua— Les grandes et inestimables cronicques du grand et énorme geant Gargantua*, a crude chapbook, which Rabelais may simply have edited for the Lyons publisher, legends about the giant Gargantua are known to have already existed Rabelais was apparently inspired by the popularity of the *Gargantua* to write an original work on the history of Pantagruel, the son of Gargantua, this work, *Pantagruel*, appeared also in 1532 *Pantagruel* became the second book of the romance after Rabelais had published (in 1534 or possibly 1535) *Gargantua la vie inestimable du grand Gargantua, père de Pantagruel* The third book of the romance was published in 1546, an incomplete edition of the fourth book appeared in 1548 and a complete one in 1552 In 1562, some time after Rabelais's death, a fifth book appeared, the question of its authorship has never been settled The story of Gargantua and Pantagruel is one of the world's masterpieces, a work as gigantic in scope as the physical size of its heroes Under its broad humor, often ribald, are serious discussions of education, politics, and philosophy The breadth of Rabelais's learning and his zest for living are evident Rabelais left Lyons in 1534 to go with his friend Jean du Bellay to Rome Again in 1535 he went to Rome, where Du Bellay received his cardinal's hat There is some suspicion that Rabelais was for a time in hiding because persecutions for heresy were at this time rife Under the protection of Du Bellay he received permission to practice medicine without fees and to have ecclesiastical office He taught at Montpellier from 1537 to 1539 After 1547, when Francis I, who had been his patron, died, he wrote no more and became curate at Meudin, there he spent the last years of his life The classic translation of Rabelais is that of Sir Thomas Urquhart (Books I-II, 1653, Book III, 1693), Books IV and V were translated by Pierre Motteux, and all five appeared in 1708. A translation of the five books, with other writings, was made by W F. Smith (1893). Selections appear in Sir Walter Besant, *Readings in Rabelais* (1883), F. G Stokes, *Hours with Rabelais* (1905); C. H C. Wright, *Selections from Rabelais's Gar-*

gentua (1904) See Arthur Tillev, *François Rabelais* (1907), A F Chappell, *The Enigma of Rabelais* (1924), A J Nock and C R Wilson, *François Rabelais. the Man and His Work* (1929), Jean Plattard, *The Life of François Rabelais* (1931), Huntington Brown, *Rabelais in English Literature* (1934)

Rabi, Isidor Isaac (rō'bē), 1898–, American physicist, b. Austria, grad Cornell Univ, 1919, Ph.D Columbia, 1927 He began to teach at Columbia in 1929 (professor of physics from 1937) He is known for his work in magnetism, molecular beams, and quantum mechanics He discovered radiations emitted by atoms and found a method of measuring them, these radiations lie within the range of radio waves but are not detectable by ordinary radio devices He was awarded the 1944 Nobel Prize in Physics

rabies · see HYDROPHOBIA

Rabinowitz, Solomon or **Shalom:** see ALEICHEM, SHOLOM

Rab-mag: see NERGAL-SHAREZER

Rab-saris (rābsā'rĭs), title of a high official at the Assyrian and Babylonian court, used of the times of Sennacherib and of Nebuchadnezzar 2 Kings 18 17, Jer 39 3,13

Rab-shakeh (rāb-shā'kē), Assyrian official sent by Sennacherib against Jerusalem 2 Kings 18 17–19 8, Isa 36 2–37 8

Raca (rā'kŭ), current contemptuous word appearing only in Mat 5 22.

Racan, Honorat de Bueil, seigneur de (ōnōrä' dŭ bû'yu, sānyûr' dŭ rākā'), 1589–1670, French poet He wrote a pastoral drama, *Arthénice* (performed in 1619), published as *Les Bergeries* (1625), it has charming descriptions of nature The original title is an anagram of "Catherine"

raccoon (rākōōn'), New World mammal (*Procyon*), related to the kinkajou and panda It is from 2½ to 3 ft in total length, with mixed gray, brown, and black hair, the pointed face has a black mask, and the bushy tail is ringed with black It often nests in a hollow tree or climbs aloft for refuge When water is available it washes its food—crayfish and other water life, seeds, and fruits It sleeps through some of the northern winter The durable fur is used for coats and trimmings The crab-eating raccoon is a South American species

race, obsolete division of humanity based on criteria of hair texture and color, of skin color, of head shape, and other conspicuous physical features There was thus supposed to be a "Caucasian" or "white" race having divisions into longheaded and roundheaded strains The classification never worked at all, but it had great prestige in the 19th and the early 20th cent It was variously used politically, e g , to explain British colonial success or to justify the status quo in the S United States At its most destructive it lent a wholly false intellectual air to anti-Semitism A basic error concerning race is the notion that there have been a certain number of pure breeds or strains of men, like breeds in dogs, that have become mixed over long periods of time Anthropologists dismiss such an idea for several reasons First, it is now generally held that all men are descended from the same single couple Second, there is the fact that in any physical trait in which men vary there are infinite gradations between extremes, not sharp lines Third, scientists generally conclude that recorded history covers only a very small part (at the most about 6,000 years) of the time elapsed since the first men, so small a part that it is chimerical to hope to see anything like evolution in human history or to argue "primitive" conditions in man from anything found today or known from history One element which helps racial fallacies to keep alive is the popular view of heredity, long abandoned by scientists, that biological inheritance is analogous to a family tree, i e , that one inherits physically half from each parent, a quarter from each grandparent, and so on back It is known since Mendel's work that a child may have more or less of the genes of either parent, that it is unlikely (except for identical twins) that any brothers and sisters have identical inheritances, and that it is possible to have no genes at all in common with a grandparent, i e , to inherit literally nothing from him (or her) physically Hence expressions like "a Saxon strain" or "Norman blood" are futile The blood has, of course, no especial close relation with heredity, any more than the heart has with tender emotion Some kind of long isolation has combined with other factors to produce a large number of "stocks," such as west African Negroes, Japanese, Eskimo, or Tasman aborigines, where sizable communities have many (but never exclusive) traits in common It is probable that members of any human community isolated for some generations would begin to show increasing physical features in common. No known "stock" can be given an exact, identifying definition; so that it may be impossible to find many typical members of the stock The Jews are not a stock and have no hereditary unity, physical traits attributed to them are the common property of many people of the Eastern Mediterranean basin. The fashionable racial terms of the 19th cent , such as Aryan, Anglo-Saxon, Celtic, Nordic, Alpine, and Mediterranean, are scientifically meaningless (when applied to races), but some of them have strong emotional connotations. See Ralph Linton, ed., *The Science of Man in the World Crisis* (1945), Clyde Kluckhohn, *Mirror for Man* (1949), C S Coon and others, *Races: a Study of the Problems of Race Formation in Man* (1950).

Race, Cape, southeast tip of the Avalon Peninsula, SE N F , SSW of St. John's It has a lighthouse and a radio direction-finding station

Raceland, city (pop. 1,046), E Ky , on the Ohio near Ashland, inc 1920 as Chinnville city, renamed 1930 It has a noted race track

Rachab (rā'kăb), variant of RAHAB 1.

Rachal (rā'kăl) [Heb ,=traffic], unlocated town, S Palestine. 1 Sam 30 29

Rachel (rā'chŭl) [Heb ,=ewe], wife of Jacob and mother of Joseph and Benjamin Gen 29–33, 35, Mat 2 18 Rahel Jer 31 15

Rachel (rashĕl'), 1821–58, stage name of Elisa or Elisabeth Félix, French actress, b Switzerland, of Jewish parents In early childhood she sang in the streets with her sister Sarah and attracted the attention of Alexandre Étienne Choron, who gave her singing lessons until 1833 In 1835 she entered the Gymnase and in 1838 made her debut with great success at the Comédie Française in Corneille's *Horace* In tragic roles she was acknowledged queen of the French stage and in 1841–42, after a sensational success in London, was acclaimed throughout Europe Her genius was seen in all the major works of Racine and Corneille, but she reached the height of her powers in Racine's *Phèdre* in 1843 She appeared in the United States with fair success in 1855 (she knew little English) and on this visit contracted the tuberculosis which led to her death three years later Her death is the theme of a poem by Matthew Arnold See J E Agate, *Rachel* (1928), Bernard Falk, *Rachel the Immortal* (1936)

rachitis · see RICKETS

Rachmaninov, Sergei Vasilyevich (svĭrgā' vŭsē'lyĭvĭch rakhma'nĭnôf) 1873–1943, Russian pianist, composer, and conductor In Moscow he was conductor of the Imperial Opera, 1905–6, and of the Philharmonic concerts, 1911–13 He twice refused the permanent conductorship of the Boston Symphony Orchestra In the romanticism and lyricism of his compositions he owes much to his friend Tchaikovsky Outstanding works are the second of his four piano concertos (1901), Rhapsody on a Theme of Paganini (1934), for piano and orchestra, an orchestral tone poem, *The Isle of the Dead* (1907), inspired by Arnold Boecklin's painting, *The Bells* (1913), for chorus and orchestra, on Poe's poem, and many piano pieces and songs He also composed three symphonies and three operas He is best known, however, as one of the greatest pianists of his age See his *Recollections* (1934), biography by V I Seroff (1950)

Raciborz, Upper Silesia · see RATIBOR

Racine, Jean (zhā' räsēn'), 1639–99, French dramatist He was educated at PORT-ROYAL but broke with his Jansenist masters over his love for the theater His first dramatic attempts, *La Thébaïde* (1664) and *Alexandre le Grand* (1665), were imitations of CORNEILLE In 1667 *Andromaque*, a tragedy on ANDROMACHE after Euripides, gave to Racine Corneille's place as leading tragic dramatist. Corneille's friends, including Racine's former friend Molière, tried to ruin the young playwright, but the backing of Boileau and Louis XIV saved him Racine's next play, *Les Plaideurs* (1668), wittily satirizes the law courts The subsequent tragedies are all masterpieces *Britannicus* (1669), *Bérénice* (1670), *Bajazet* (1672) on a plot in the Seraglio of Sultan Murad IV, *Mithridate* (1673, Eng tr , *Mithridates*), *Iphigénie en Aulide* (1674, Eng tr , *Iphigenia at Aulis*), *Phèdre* (1677, Eng tr , *Phaedra*) Disgusted with his irregular life and with a concerted attack on *Phèdre*, Racine gave up the theater, married, and retired from court He remained in the royal favor and was appointed official historiographer Mme de Maintenon persuaded him to write *Esther* (1689) and *Athalie* (1691, see ATHALIAH 1) for performance at Saint-Cyr These have choruses, and *Esther* has three acts instead of the usual five All Racine's plays, except the first two, are presented today He occupies a unique position as the exemplar of French CLASSICISM par excellence The faultless nobility of his ALEXANDRINE verse, the simplicity of his diction, the psychological realism of his characters, and the skill of his dramatic construction contribute to this repute It is a truism of literary history that Racine is the most French of French writers, and this is often given as the reason for the failure of English-speaking people to appreciate him That they do fail is attributable rather to the difference of dramatic conception between the classical TRAGEDY and the English drama There are many translations of Racine into English, e g , John Masefield, *Berenice* (1922), H D Sporel, *Mithridates* (1926), Lacy Lockert, *The Best Plays of Racine* (*Andromaque, Britannicus, Phèdre, Athalie* 1936) See also Lytton Strachey, *Landmarks in French Literature* (1912) and *Books and Characters* (1922), Arthur Tilley, *Three French Dramatists* (1933), biography by A. M. F. Robinson (1925).

Racine (rusēn'), industrial city (pop. 67,195), co seat of Racine co , SE Wis., a port of entry on Lake Michigan at the mouth of the Root and S of Milwaukee, settled 1834, inc. 1848 The site was known to French explorers and fur traders Improvement of Racine's harbor (c 1844) and later the railroad brought industrial growth The city's chief products include farm machinery, floor wax, and malted milk The Sporer House was designed by Frank Lloyd Wright The courthouse contains historical exhibits, and the public library has the Hoy bird collection.

racing. The foot race was a popular sport in ancient civilizations The earliest OLYMPIC GAMES consisted of foot races only, the Greeks numbered the years from the first of these foot races Wherever the horse was introduced, riders and drivers of horses promptly developed the sport of racing, and in the Roman era, watching the chariot race was a favorite pastime Down through the ages competition for speed remained a favorite recreation and means of wagering, but few forms of racing became as popular as horse racing After the HORSE was domesticated by man, horseback riding was developed, and when highly bred strains of horses were developed, horse racing came to the fore Organized horse racing under saddle dates from the 12th cent in England, where royalty fostered the sport. The thoroughbred first appeared in England In 17th-century England the sweepstakes was originated for the first time, several important racing events—e g , the DERBY—were established, and harness-horse racing was probably instituted Steeplechase racing (the riding of horses over a course with hurdles to approximate natural conditions) was officially organized in the 19th cent and became popular in England and Ireland Hurdle racing (riding of horses over a dirt tract with hurdles) was organized about the same time Horse racing was introduced into France in the reign of Louis XIV There in the 19th cent Pierre Oller invented and introduced the "parimutuel" system as a means of reforming GAMBLING at the race track Before the American Revolution horse racing was common among members of the leisured classes in the American colonies and was very popular in New York and Virginia before the 19th cent After 1830 the introduction of the sulky brought about a vehicle-pulling event Racing and trotting horses were carefully bred in the 19th cent (see JUSTIN MORGAN and HAMBLETONIAN), and harness horse racing reached a new height of popularity in the United States in the 1870s In 1891 the present-day low-wheel sulky appeared, and the high-wheeler soon disappeared Churchill Downs at Louisville, Ky , was opened in 1875, and flat racing tracks began to appear all over the country in the 1880s Gambling on horse races, which was the subject of constant attack by the reform groups and religious leaders, grew by leaps and bounds, too often falling into the hands of criminal and unscrupulous elements Steps were taken to reform gambling, and in England much of the responsibility of organization and supervision was placed in the hands of the Jockey Club, founded in 1750 In the United States individual states set up racing commissions, and in 1893 horse owners and trainers set up a national Jockey Club (New York) to govern the sport Its functions include the supervision of horses, jockeys, and race tracks, handicapping, control of betting at tracks, the setting of race schedules, and examination of thoroughbreds In the United States the three traditionally most important racing events (all for three-year-olds) are the Kentucky Derby at Churchill Downs, the Preakness at the Pimlico track near Baltimore, and the Belmont at Belmont Park, N Y Other forms of racing that have gained popularity in the United States include boat racing (see BOATING), AUTOMOBILE RACING, bicycle racing, dog racing, airplane racing, and foot racing (see TRACK AND FIELD EVENTS) See John Hervey, *Racing in America, 1665–1865* (1944) and *American Trotter* (1947), S. E Wilkinson, *What You Should Really Know about Racing* (4th ed , 1946), M C Self, *The Horseman's Encyclopedia* (1946), T R Underwood, *Thoroughbred Racing & Breeding* (4th ed , 1948), M W Meek, *Racing Cyclopedia and Record Book* (1948).

Rackham, Arthur (rā'kŭm), 1867–1939, English illustrator and water-colorist. He is known for imaginative, delicately colored, and decorative pen drawings, especially for children's books Among these are *Peter Pan* (1906), *Alice in Wonderland* (1907), and *A Christmas Carol* (1915). Other works which have his illustrations are *Midsummer Night's Dream* (1905), *The Tempest* (1926), *The Vicar of Wakefield* (1929), and *The Compleat Angler* (1931)

Racovian Catechism. see SOCINIANISM.

racquets (rā'kĭts), game played by two or four persons on a court 60 by 30 ft which is surrounded by three walls 30 ft high and a backwall 15 ft. high The ball, 1 in, in diameter, is made of tightly wound cloth which is covered by leather. The gut-strung racquet is 30 in long, has a circular head 7 to 8 in in diameter, and weighs 8 to 10 oz. A service line is painted horizontally across the front wall a little over 9½ ft. from the ground, and a short-line is

painted 36 ft. from, and parallel to, the front wall. A line also extends from the center point of the short-line into two service courts The rules of the game are similar to those of squash. The hardness and speed of the ball makes racquets one of the fastest and most dangerous games It originated in 18th-century England, probably in debtors' prison, but was soon adopted by the wealthier classes Expensive racquets courts were built in England, and racquets was introduced into the United States in the 19th cent by way of Canada. See Allison Danzig, *The Racquet Game* (1930)

radar (rā'där), the radio detecting and ranging device which made possible in the Second World War the location of enemy planes and ships and the precision bombing of enemy targets First put into operational use by the British in 1935, Allied technicians improved it steadily throughout the war A radar instrument consists of a transmitter which sends out short radio waves (microwaves traveling at the speed of light), an antenna which concentrates the waves into a directed beam as the signal is sent out and receives the echo when the beam strikes an object and is reflected, a receiver; and an indicator The indicator usually consists of one or more cathode-ray tubes which act as a radar screen Pulses of light flash across the screen, the period of pulsation equaling the frequency of the radar waves and appearing to the human eye as a single beam of light Echoes from radar "strikes" appear as V-shaped depressions (pips) on the light beam, their location on the beam giving the range of the target The direction of the target may be found by revolving the antenna to find the point at which the echo is strongest or by synchronizing the cathode beam so that it revolves on the screen in conjunction with the antenna (thus pips or images are indicated at the degree bearing of the target) Calibration of the reception time lag of two antennae of different heights gives its altitude After its successful use for the detection of German planes, a vital factor in the Battle of Britain in 1940 radar played an increasingly important role throughout the war Bombing through overcast (BTO) was made possible by a form of radar which gave the bombardier a televised "map" of the terrain below Long-range bombing missions were guided to targets by radar beams Radar detectors adapted as fire-control mechanisms directed naval and anti-aircraft fire which destroyed enemy ships and planes, unseen in fog or darkness Small sets built into Allied fighter planes permitted them to find, track, and destroy enemy aircraft at night A miniature radar set, small enough to fit into the head of an artillery shell and called a VT or proximity fuse, was developed The pulses from this fuse exploded the shell when it came within a specified distance of any solid object It replaced the time fuse and proved a natural adjunct to radar-directed gunnery To overcome radar's inability to discriminate between enemy and friendly objects, IFF (identification, friend or foe) was developed. This consisted of a transmitter placed aboard Allied surface vessels and aircraft which was "triggered" into action when hit by a radar beam, causing it to emit a prearranged coded signal Perhaps more than any other military development, radar has been and is being adapted for peacetime use Commercial air liners are now equipped with radar devices which give warning of obstacles in their path and accurate altitude readings Planes can land in fog at airports equipped with radar-assisted ground-controlled approach (GCA) systems, in which the plane's flight is observed on radar screens and skilled operators radio landing directions to the pilot Radar is also used to measure distances and map geographical areas (Shoran), in navigation and position fixing at sea (Loran), and meteorological studies While the value of radar in astronomy has not been determined, the moon was first reached in 1946 by radar beam.

Radauti (rŭdŭôts'), Ger *Radautz* (rä'douts), town (pop 14,530), N Rumania, in Bukovina It is a trading and woodworking center An old Moldavian town, Radauti has a 14th-century church containing the tombs of early Moldavian princes and frescoes dating from the 15th cent

Radburn (răd'bûrn), planned community in Fair Lawn borough, NE N J , begun in 1928. See R B Hudson, *Radburn* (1934)

Radcliffe, Ann (Ward), 1764–1823, English novelist Her popular tales of mystery and intrigue have an element of the apparently supernatural, later explained by natural causes. Her best works are *The Romance of the Forest* (1791), *The Mysteries of Udolpho* (1794), and *The Italian* (1797) Students agree that these novels had a marked influence on Scott in his development of narrative method and on Byron in his conception of the "Byronic hero" See C F MacIntyre, *Ann Radcliffe in Relation to Her Time* (1920).

Radcliffe, John, 1650–1714, English physician, known also as a wit He practiced at Oxford and London and was physician to the royal family until he lost favor The Radcliffe Library, Observatory, and Infirmary at Oxford were established with funds he left. See biography by J. B. Nias (1918).

Radcliffe, urban district (1931 pop 24,675; 1947 estimated pop 27,670), Lancashire, England, on the Irwell and NW of Manchester. The parish church, founded in Norman times, has been restored. There are cotton and rayon mills, chemical, engineering, and paper plants, and coal mines

Radcliffe College, at Cambridge, Mass , nonsectarian, for women, associated but not corporately connected with Harvard Univ Instruction of women by Harvard professors, led by Arthur Gilman and his wife, began in 1879, and in 1882 the Society for the Collegiate Instruction of Women (known as the Harvard Annex) was chartered In 1894 it was rechartered and named for the first woman donor to Harvard Elizabeth C Agassiz was president from 1879 to 1903, she was succeeded by Dean Le Baron Russell Briggs of Harvard (1903–23), and Ada Louise Comstock (1923–43) Instruction for both undergraduates and graduates is given by members of the Harvard faculty, and the methods, including the tutorial system and general examinations, are the same

Raddai (rä'dāī, rădā'ī), brother of David 1 Chron 2 14

Radek, Karl (kärl' ra'dyĭk), 1885–, Russian Communist politician and journalist, b Lvov (then in Austrian Poland) He began his revolutionary activities at the age of 14 During the First World War he carried on pacifist propaganda in Switzerland He returned to Russia with Lenin in 1917 After the armistice of 1918 he went to Germany, where he unsuccessfully sought to organize a Communist revolution Back in Russia, he was expelled (1927) from the Communist party as an adherent of Trotsky, he was readmitted (1930) after acknowledging in a letter the error of his views Radek was a brilliant editorial writer for the newspaper *Izvestia*, but his career ended when he was implicated in testimony at the public treason trial of Aug , 1936 Arrested, he confessed, at the public trial of Jan , 1937, to a part in a Trotskyist plot against the Soviet government He was sentenced to imprisonment for 10 years

Radetzky or **Radetzki, Joseph, Graf Radetzky de Radetz** (yō'zĕf rädĕt'skē graf rädĕt'skē dŭ ra'dĕts), 1766–1858, Austrian field marshal In the war of 1848–49 against Sardinia (see RISORGIMENTO) he won the brilliant victories of Custozza (1848) and Novara (1849) He was governor of Upper Italy (1849–57) Johann Strauss (the elder) composed the famous Radetzky March in his honor

Radford, city (1940 pop 6,990, 1947 estimated pop 11,300), SW Va , WSW of Roanoke and on the New River, inc 1885 It has railroad shops, foundries, and textile and lumber mills In 1940–41 a large powder plant was established near here Radford College, woman's division of VIRGINIA POLYTECHNIC INSTITUTE, is here Near by is Claytor Lake, over 100 mi in circumference, formed by a hydroelectric dam (1939) in New River

radiation (rā"dēā'shun), emission of energy by substances or bodies of matter and its transfer through space The sun is a familiar source of radiant energy, and sunlight the best-known form When a beam of sunlight is passed through a prism, it is broken up into parts and is seen to be composed of rays of all colors These colors differ from one another in wave length, the shortest being violet (0 4 microns or 0 0004 mm) and the longest red (0 8 microns or 0 0008 mm), with the other colors ranging between these limits In addition to visible light, other radiation occurs which, although invisible, is similar in nature Ultraviolet radiation includes wave lengths ranging roughly from 0 01 microns or 0 00001 mm to the shortest of visible light Shorter still are X rays The wave lengths of the gamma rays of RADIOACTIVITY are shorter than those of the X rays, but their ranges overlap somewhat Longer in wave length than visible light is the infrared, and longer still are the radio waves, some of which are as much as 10 mi long All these waves of different lengths travel through space at approximately 186,000 mi per second Radiant energy is reflected and absorbed in the same way as visible light ¶ However, a body with a good reflecting surface is not a good radiator, while one which has a dark, rough surface (a poor reflecting surface, such as that of carbon black) and which is a good absorber is a good radiator The RADIOMETER is a means of detecting radiant energy

radiator (rā'dēā"tur) The familiar radiators of steam and hot-water HEATING systems in buildings are made of cast iron or of steel, brass, or copper They are usually constructed in sections so that several can be joined together to give a required number of square feet of radiating surface Heating efficiency is reduced (sometimes as much as 10 percent) if screens or shelves or even certain kinds of paint cover them When steam is the heating agent, the radiator acts as a condenser, heat is given off at the rate of about 5 calories per gram of steam for each degree centigrade decrease in temperature and 540 calories for each gram of steam that changes to water (see VAPORIZATION). The condensate is returned to the boiler. In hot-water systems, there is a continuous circulation of hot water. The heat is given off by the hot water or steam to the inner wall of the radiator, from which it is transmitted to the outer wall by CONDUCTION, there it passes off by RADIATION or by convection currents (see CONVECTION) set up by raising the temperature of the air that is in contact with the heated surfaces Coil radiators consist essentially of long steam pipes, they are used widely in factories, gymnasiums, auditoriums, and halls, being set on the walls or ceilings to conserve floor space Gas radiators use a gas flame to heat air or water or to generate steam Electric radiators have an electric resistance unit set in a reflector, heat is generated when an electric current flows through the unit The automobile radiator is a part of the COOLING SYSTEM of the engine

radical Certain chemical elements are often found grouped together in the same definite proportion (by weight) in each molecule of a number of different compounds Such a group of elements, called in chemistry a radical, acts as a unit or single element in many of the chemical reactions in which the compounds are involved One common group, for example, is the hydroxyl radical, which is composed of one atom of oxygen and one of hydrogen and which is present in the molecules of the class of compounds known as hydroxide or base, in chemical notation, it is written OH (O=oxygen, H=hydrogen) Sulphuric acid contains the so-called SULPHATE radical, and other common radicals are the ammonium radical (see AMMONIA), the CARBONATE, the CHLORATE, the NITRATE, and the PHOSPHATE A radical consisting of one carbon atom, two oxygen atoms, and one hydrogen atom is known as the carboxyl group, is written COOH, and is characteristic of organic acids such as acetic, uric, formic, and lactic acid See also ION

Radich or **Raditch, Stefan** (both stĕ'fan ra'dĭch), Croatian *Radić*, 1871–1928, Croatian politician Himself of peasant stock, he organized (c 1903) the Croatian Peasant party He fought for the economic emancipation of the Croatian peasants and for self-government of Croatia against Hungarian and (after 1918) Serbian centralism He opposed the union (1918) of Croatia with Serbia and led the Croatian separatists in the newly created Yugoslav state By joining (1924) the Peasant International at Moscow he exposed himself to charges of Communism Radich was Yugoslav minister of education (1925–27) He died of wounds inflicted on him by an assassin in the Yugoslav parliament

radio. Wireless telegraphy and telephony are based on studies of electromagnetic waves by James Clark Maxwell and by Heinrich Hertz The possibility of communication by means of such waves was realized, and in 1895 Guglielmo Marconi gave a demonstration of radiotelegraphy Radiotelephony, the transmission of speech and music and not merely of uniform signals, began its development with the invention of the diode rectifier tube by Sir John A Fleming (1904) and the triode amplifier tube by Lee de Forest (1906) Some practical use was made of radio before the First World War, especially in ship-to-shore communication During the war there were notable developments in radiotelephony between aircraft and ground stations and in determining the position of enemy transmitters by direction finding Broadcasting of speech and music in regularly scheduled programs for the public was introduced in the United States in 1920 by station KDKA at Pittsburgh, Pa During the next years, with the rapid growth of broadcast service, the manufacture of parts and of complete equipment mushroomed in response to public demand Particularly in the United States, the broadcast receiver became a standard household fixture Research and experimentation, zealously conducted both by industry and by radio amateurs, resulted in countless technical improvements and in such applications as FACSIMILE, TELEVISION, and RADAR The basic function of a radio transmitter is to emit from its antenna a magnetic field capable of inducing a voltage in any receiving antenna within its area of radiation This is accomplished in several stages, beginning with an oscillator circuit which generates a voltage of radio frequency (called the carrier wave, carrier current, or carrier frequency) Ensuing stages amplify the oscillator output and combine with it the amplified audio-frequency signal produced initially at the MICROPHONE Amplitude modulation and FREQUENCY MODULATION are the two practical methods of effecting this combination The final amplifier delivers the modulated carrier to the antenna, where this energy is radiated as a magnetic field Reception takes place in four steps—selection and amplification of the desired carrier (see SUPERHETERODYNE), detection or demodulation, and amplification of the resulting audio signal and its transformation into sound by a LOUDSPEAKER See O E. Dunlap, *Radio's 100 Men of Science* (1944), A R. Frey, *Fundamentals of Radio Communication* (1944), K S. Tyler, *Modern Radio* (1944), Erik Barnouw, *Handbook of Radio Production* (1949); R. W Hallows, *Wireless Simply Explained* (1949), Morris Slurzberg and William Osterheld, *Essentials of Radio* (2d ed., 1950).

radioactivity, property exhibited by a number of chemical elements—e g , actinium, polonium, radium, thorium, and uranium—that involves the giving off of radiations unlike ordinary radiation Becquerel (1896) discovered that salts of uranium when brought into the vicinity of an unexposed photographic plate which was carefully protected from light caused this plate to become exposed in spite of its wrapping These same salts when placed near a charged electroscope cause it to discharge Furthermore, they are able to produce fluorescence and also glow in the dark Since these effects are produced whether salts of a radioactive element are used or the pure element is used alone, radioactivity is a property of the ATOM of the element and not dependent upon the nature of the salt Marie and Pierre Curie extended the work on radioactivity, they demonstrated the radioactive properties of thorium and discovered the highly radioactive element RADIUM It is known that the radiation is of three distinct kinds, differing in velocity, in the way in which they are affected by a magnetic field, and in their ability to penetrate or pass through other substances Rays given off by radioactive substances consist of the so-called alpha, beta, and gamma rays The alpha rays, according to the important research of Rutherford, consist of positively charged particles, helium nuclei, which are hurled off from the atom They have a much lower velocity and smaller penetrative power than the other radiations, and their direction is changed slightly by a magnetic field The beta rays consist of electrons (or negative charges of electricity), they have a higher velocity than the alpha rays, and their direction is changed markedly by a magnetic field The gamma rays have the greatest penetrative powers of all three, being able to pass through thick layers of metals Their velocity is nearly that of light, and their direction is not changed by a magnetic field The atoms of the elements exhibiting radioactivity are not stable and are found to be undergoing disintegration (i e , breaking down) continually The disintegration proceeds at a definite rate (each of the radioactive elements has a definite "life"), and there is no known means by which this rate and process of change can be affected in any degree For example, it has been found constant for all temperatures to which it has been possible to subject the elements or their salts From the elements of higher atomic weights those of lower atomic weight are produced For example, from the disintegration of uranium (at wt =238 07), the element ionium (at wt =230) is produced From the disintegration of ionium, radium (at wt =226 05) is produced, the change being brought about by the ejection of a positively charged helium nucleus from the atom of the heavier element In turn, radium disintegrates Such a progression of changes from one element to another of lower atomic weight results finally in an element which is without radioactive properties and does not disintegrate The progression of changes is known as a disintegration series Because of the definite rate of disintegration the age of rocks can be determined by measuring the ratios between the disintegration products in them Lead is the end product in the uranium disintegration series and is also the end product in the disintegration series of other radioactive elements Thorium undergoes disintegration to produce mesothorium 1 Following this are mesothorium 2, radiothorium, thorium X, thoron, thorium A, B, etc , and finally thorium lead, which has an atomic weight of 208 016 Actinium results from the disintegration of protactinium and following it in order are radioactinium, actinium X, actinon, actinium A, B, etc , and finally actinium lead, which has an atomic weight of 207 016 For radioactive isotopes, see ISOTOPE

radio beacon, radio transmitting station to aid ships and aircraft in determining position and direction The simplest form of radio beacon is a radio signal tuned in through a loop antenna By rotating the antenna, the direction of strongest reception and, therefore, the bearing of the beacon can be determined If bearings are taken on two beacons of known location the position of the craft can be fixed by triangulation The radio-range beacon of an airport transmits at a set frequency signals known as A (—) and N (—) signals in alternate quadrants The overlapping of these signal quadrants creates the equisignal zones or beams, in which only a steady hum can be received The four equisignal zones are arranged to coincide with the standard flight approaches to the airfield A pilot flying a course approximating one of these standard approaches will upon entering the range hear either the N or A signal in his earphones By swinging to the right or left, as is indicated by the signal, he can pick up the beam and follow it to the airfield In overcasts he will know he is over the airport when he loses the signal entirely, for a zone of silence extends directly above the beacon A more recently developed radio-range beacon is the very high frequency (VHF) omnidirectional type Within range its signal can be picked up by a plane at any bearing from the beacon. Distance-measuring equipment (DME) tuned to the signal tells the pilot how far he is from the beacon Fan marker beacons and Z marker beacons emit characteristic signal fields of controlled height and broadness and indicate course position in respect to a near-by landing field or an airway

Radio City see ROCKEFELLER CENTER

radio frequency Electromagnetic waves with a period or cycle suitable to utilization in wireless communication are said to have a radio frequency They serve as carriers of the lower frequency audio waves generated in a microphone by sound Short waves have relatively high frequencies, long waves have relatively low frequencies Waves are identified by their kilocycles (thousands of cycles) or megacycles (millions of cycles) per second, i e , by their frequencies The waves regularly used in broadcasting have frequencies ranging from 550 to 1,600 kilocycles Waves with frequencies above 1,600 kilocycles are called short waves, those with frequencies of less than 550 kilocycles are called long waves A range or band of radio frequencies is regularly assigned to a broadcasting station by the nation in which it operates By international agreements, some of the frequencies are reserved for specific purposes, as for aircraft and ship communication and for amateur and experimental work

radiometer (rā″dēō′mutur), instrument by means of which radiant energy can be detected and its intensity measured It consists essentially of two parts—a glass bulb from which air has been removed to create a nearly complete vacuum and, within the bulb, a pair of very light, horizontal bars crossed and resting upon a vertical support at their intersection (so that they can rotate freely) and having a brightly polished metal vane placed vertically at each of the four free ends One side of each vane is blackened, the other is left polished When radiant energy strikes the blackened surfaces, it is absorbed, raising the temperature of that surface and causing the molecules of air still left within the bulb to become more active around that surface As a result of the more violent activity of these molecules on the blackened surface, the whole set of vanes is set in motion The velocity of the rotating vanes is an indication of the intensity of the radiant energy The radiometer was invented by Sir William Crookes

radiotherapy (rā″dēōthĕ′rupē), treatment of disease by means of radiation, using X rays, radium, and certain other rays Radium salts emit three kinds of radiation, known as alpha, beta, and gamma rays, and radium emanation, a gas which is the element of radon The very penetrating gamma rays are employed in the treatment of carcinoma, sarcoma, and other growths, and the beta rays are used in certain superficial conditions Radon, which also emits gamma rays, is sometimes collected in small containers which are embedded right in the tissue to be treated See also X RAY

radish, annual or biennial herb (*Raphanus sativus*) of the mustard family, with whitish or pinkish flowers and an edible, thickened root of little nutritive value but good as a relish It is a cool-weather plant that grows quickly and can sometimes be eaten three weeks after sowing of seed There are many shapes, colors, and sizes, the red and the white being most used Some kinds reach a very large size and these are generally cooked The long, curved fruit pods of the rat-tailed radish are eaten either raw or pickled

Radishchev, Aleksandr Nikolayevich (ŭlyĭksän′dur nyĭkul′yuvĭch rŭdyĭsh′chĭf), 1749–1802, Russian writer and reformer His fame rests on one work, *A Journey from St Petersburg to Moscow*, which he issued from his own press in 1790 Although in form it is modeled on Sterne's *Sentimental Journey*, in content it is an outspoken attack on serfdom and a plea for peasant emancipation and ownership of the land It was published in London in 1858, but was not reissued in Russia until 1888 Exiled to Siberia by Catherine II, Radishchev was pardoned (1801) by Alexander I He committed suicide

Radisson, Pierre Esprit (pyĕr′ ĕsprē′ rădĕsŏ′), c 1632-1710, French explorer and fur trader in North America He arrived in Canada in 1651 His four journals, first published as the *Voyages of Pierre Esprit Radisson* (1885), are confusing documents, often leaving great doubt as to the location of places and the time of events The first journal tells of his capture (1652 53) by the Iroquois It also asserts that he made a trip to the West with his brother-in-law, Médard Chouart, sieur des Groseilliers, his companion on the later three trips, it is probable, however, that only Groseilliers undertook this journey mentioned in the journal On the second trip (1659–60) the two men entered Lake Superior and went as far west as the Sioux villages near Isanti Lake, the first white men to enter the region that is now Minnesota They returned with an immense cargo of furs, which were confiscated at Montreal because they had traded without a license This episode led Radisson and Groseilliers to transfer their allegiance to the English and, backed by Prince Rupert, they set sail in 1668 for Hudson Bay. Radisson's ship was turned back but Groseilliers's continued to establish Fort Charles at the mouth of Rupert river in James Bay. He returned to England with furs, and in 1670 both men were back at Hudson Bay, Radisson establishing Port Nelson on the Nelson river It was thus largely because of their efforts and Radisson's stories of the wealth of the north in furs that the HUDSON'S BAY COMPANY was formed Later Radisson returned to the French and led a plundering expedition against the English forts on Hudson Bay He finally, in 1684, joined the English again and after a long lawsuit was pensioned by the Hudson's Bay Company in his old age See G L. Nute, *Caesars of the Wilderness* (1943)

Raditch, Stefan. see RADICH, STEFAN

radium, lustrous white, metallic, radioactive chemical element (symbol=Ra, for physical constants, see ELEMENT, table) Upon exposure to air it corrodes rapidly It reacts with and decomposes water In chemical activity it resembles closely the elements calcium, strontium, and barium, with which it appears in the periodic table With chlorine and bromine it is combined respectively in a chloride and a bromide Radium bromide is the usual form in which it appears commercially Radium is important for its great RADIOACTIVITY, which is equally high both for its salts and for the pure metal The element is derived from the disintegration of URANIUM, but not directly, for another radioactive element, ionium, is formed first and from it radium Radium undergoes disintegration also, yielding the gaseous element RADON, which in turn disintegrates as does each resulting product, thus are produced in order radium A, B, C, D, E, F (polonium), and G This last, radium G, has an atomic weight of 206, almost that of ordinary lead (207 22), and since it is the final product in this disintegration series which started with uranium, it is known as uranium lead In addition to the three kinds of radiation (the alpha, beta, and gamma rays) given off by radium and its decomposition products, energy in the form of heat is liberated continually at the rate of about 118 to 120 calories per hour for each gram of radium present either free or combined in the radium salt The element is found combined in nature, occurring in extremely minute quantities in uranium ores (in the ratio of one part of radium to about 3,000,000 parts of uranium), such as carnotite (United States) and pitchblende (Europe, the Belgian Congo, and Canada) Following the discovery of radioactivity by Becquerel (1896) as exhibited by uranium salts Marie and Pierre Curie found that other elements were present in pitchblende which were responsible also for this phenomenon In pitchblende from which the uranium had been removed, they discovered the presence of the radioactive element polonium (1898), and later (1910) Mme Curie isolated metallic radium The small amount of the element present in any ore and the difficulty of extraction make its cost very high and as a result limits its application Radium is probably best known for its use in the treatment of cancer The radium emanation (radon) given off from the bromide or sulphate is pumped off and confined in small tubes which can be conveniently applied to the diseased areas This treatment has produced some results in checking cancerous growth Much of the radium obtained is used in the manufacture of luminous paints and varnishes

radium emanation see RADON

radium therapy see RADIOTHERAPY

Radnorshire (răd′nur-shĭr) or **Radnor,** border county (471 sq mi , 1931 pop 21,323, 1948 estimated pop 20,288), E central Wales The county town is New Radnor The terrain is mostly hilly, rising to more than 2,000 ft in the Forest of Radnor, an extensive moorland area The region is, and has always been, one of the most sparsely populated of Wales (45 per square mile) The raising of sheep and cattle is the chief occupation The soil is not very fertile Radnorshire was taken from the control of its English marcher overlord and organized as a county in 1536 There are no large towns and no manufacturing

Radom (ra′dŏm), city (pop 69,455), central Poland, S of Warsaw One of the oldest Polish towns, it probably originated as an assembly place for local diets, its first church was built in 1187 It was the seat of Polish diets (14th-16th cent), of a tribunal (1613–1766), and of the Confederation of Radom (1767), which requested Catherine II of Russia to guarantee the old Polish constitution Radom passed to Austria (1795) and to the Russian Empire (1815) It reverted to Poland in 1919 Today it manufactures clothes, metal products, and leather

radon (rā′dŏn), **radium emanation,** or **niton** (nī′tŏn), gaseous, radioactive chemical element (symbol=Rn, for physical constants, see ELEMENT, table), derived from the disintegration of RADIUM In the periodic classification of the elements, it falls into the group of inert gases It exhibits RADIOACTIVITY and constitutes the emanation produced by radium and its salts which is used in the treatment of cancer. It undergoes disintegration, yielding radium A.

Rae, John (rā), 1813–93, Scottish arctic explorer. A physician in the employ of the Hudson's Bay Company in N Canada, Rae made (1846–47) a journey of exploration from Fort Churchill to the Gulf of Boothia, which he described in his *Narrative of Expedition to the Shores of the Arctic Sea* (1850) In 1847 he joined Sir John Richardson's expedition in search of the lost party of Sir John FRANKLIN, later (1851) he himself commanded a search party which crossed the barren grounds and explored part of Victoria Island It was not until his expedition of 1853–54, however, that he found evidence of Franklin's fate, for which he received the award offered by the British government

Raeburn, Sir Henry (rā'bûrn), 1756–1823, Scottish portrait painter. Son of a miller near Edinburgh, he was apprenticed to a goldsmith at 15 He early showed talent and after an advantageous marriage in 1778 devoted himself to portraiture In 1785 he went to Italy, where he spent two years When he returned to Edinburgh (1787) he was already in possession of his mature style, establishing himself in that city, he devoted himself to portraying the celebrities of his native Scotland His work was in constant demand and he enjoyed every honor, including knighthood (1822) His fine portraits number over 700 Raeburn's work is distinguished by a frank and direct approach, forcefulness, and sincerity His telling likenesses, for the most part painted in all detail direct from life, have a much more intimate character than the formal portraits of his famous contemporary Reynolds Raeburn is best represented in the National Gallery of Scotland, Edinburgh, which contains, among many others, his self-portrait and portraits of Mrs Campbell, Dr Wardrop, Adam Rolland, Dr Adam, and Mrs Scott Moncrieff, all justly famous His work is also in many other British galleries The Metropolitan Museum, the New York Public Library, and the Worcester (Mass) Art Museum all have splendid examples of his work See biographies by W R Andrew (1894), Sir Walter Armstrong (1901), and R S Clouston (1907)

Raeder, Erich (ā'rĭkh rā'dur), 1876–, German admiral As chief of staff to Admiral Hipper he took part in the battles of Dogger Bank (1915) and Jutland (1916) Appointed (1935) commander of the German navy by Hitler, Raeder secretly rebuilt the navy in violation of the Treaty of Versailles In 1943 Admiral Doenitz succeeded him in command Captured (1945) by Allied troops, Raeder was sentenced to life imprisonment as a war criminal for planning aggression and for violating the laws of naval warfare

Raeford (rā'furd), town (pop 1,628), co seat of Hoke co, S N C, SW of Fayetteville, in a cotton, tobacco, fruit, and truck area, with cotton mills.

Raemaekers, Louis (ra'mākurs), 1869–, Dutch cartoonist He contributed to the Amsterdam *Telegraaf* for over 30 years In the First World War, Raemaekers gained world renown for his anti-German cartoons These were published in the United States in three volumes (1916–18) In 1940 Raemaekers came to the United States to live

Rafa or **Rafah** (both ra'fa), village, on the border of Egypt and Palestine The ancient name was Raphia (ruff'u) It was brought entirely under Egyptian control in May, 1948 Here in 217 B.C, Ptolemy IV defeated Antiochus III

Raff, Joseph Joachim (yō'zĕf yō'ākhĭm ruf'), 1822–82, German composer and pianist, largely self-taught He was a friend and follower of Liszt, who produced his opera *King Alfred* at Weimar in 1851 A prolific composer, Raff achieved a position of eminence in Germany during his late years, but is remembered only for a few salon pieces

Raffaelli, Jean François (zhäⁿ' frāⁿswä' rafaĕl'ē), 1850–1924, French painter, sculptor, and etcher He is best known for his directly painted pictures of the streets of Paris and for his portraits His portrait of Clemenceau and *The Old Convalescent* (both Luxembourg Mus, Paris) and *Place Saint-Germain-des-Prés* (Metropolitan Mus) are good examples of his work

Raffaello Santi see RAPHAEL SANTI

Raffet, Denis Auguste Marie (dünē' ōgüst' marē' rafā'), 1804–60, French lithographer and illustrator, student and follower of Charlet He attained an individual style in his series depicting Napoleon I and his soldiers His most notable work was a series of lithographs (1850) of the siege of Rome An excellent draughtsman, Raffet illustrated numerous works, among them the *Histoire de la Révolution française* of Adolphe Thiers

raffia (rāf'ēə) or **raphia** (rā'fēə), fiber obtained from the raffia palm of Madagascar, exported for various uses, such as tying up plants that require support, binding together vegetables to be marketed, and weaving baskets, hats, and mats It is also made into a native cloth that is exported as rabanna The raffia palm (*Raphia ruffia*) is crowned with enormous leaves that may be as much as 65 ft long and composed of 80 to 100 leaflets The fiber, which is soft, pliable, strong, and nonshrinking when wet, is torn in thin strips from these leaves. After being dried in the sun, raffia takes on a yellowish-tan hue, but it is often dyed other colors.

Raffles, Sir Thomas Stamford Bingley, 1781–1826, English East Indian administrator He was born at sea Starting (1795) as a clerk in the East India House, he was sent to Penang in 1805 as assistant secretary His knowledge of the Malay language and customs brought him a large part in planning the capture of Java from the Dutch He ruled Java as lieutenant governor (1811–15) and reduced the power of native princes Raffles also reorganized the administration and launched reforms in taxation and land tenure Recalled (1815) on the eve of Java's restoration to Holland, he returned to England, where his *History of Java* (1817) was published While lieutenant governor of Bencoolen in Sumatra (1818–23), he secured the transfer (1819) of SINGAPORE to the East India Company and initiated policies that contributed greatly to Singapore's subsequent wealth Raffles was conspicuous for his liberal attitude toward peoples under colonial rule, his rigorous suppression of the slave trade, and his zeal in collecting historical and scientific information He played the chief role in founding the Zoological Society of London and was its first president See biographies by Lady Raffles (1830), D C Boulger (1897), and Emily Hahn (1940)

Rafinesque, Constantine Samuel (rafēnĕsk'), 1783–1840, American naturalist, b near Constantinople, of French and German parentage After a first visit (1802–5) to the United States, spent in making field trips near Philadelphia, he settled in America in 1815 Rafinesque taught botany and modern languages at Transylvania Univ in Kentucky He wrote, not always with scientific accuracy, on banking, history, shells, and fishes, as well as on botany His works include *Ancient History, or, Annals of Kentucky* (1824), *Medical Flora of the United States* (1828–30), *A Life of Travels and Researches in North America and South Europe* (1836), and *New Flora and Botany of North America* (1836) See studies by R E Call (1895) and H B Weiss (1936)

raft, floating platform of wood, cork, or air-inflated rubber for conveying goods or sustaining people Rafts followed tree trunks as a means of floating a person downstream Bound together by vines, strips of animal skin, and later rope, several logs yielded a flat surface upon which material, people, and beasts of burden could move across bodies of water From prehistoric times to the 19th cent rafting was an important means of transportation, and there still are several waterways upon which rafts continue to serve Lumber is still moved cheaply atop rafts Rafts have in recent times come to replace lifeboats on many vessels They are more easily handled and cannot capsize or crash in launching, as boats were wont to do in emergency situations Life rafts need merely be thrown over the side of a ship or permitted to slide down into the water from the simple runways on which they are suspended They are often fitted with lights which flash on immediately upon contact with water Watertight cases fixed to the rafts frequently contain flares for distress signals, emergency food rations, and other paraphernalia calculated to help sustain life while rescue is awaited

Ragau (rä'gô), variant of REU

Ragaz, Bad (bat' ra'gats), town (pop 2,337), St. Gall canton, Switzerland, on the Rhine The mineral waters of Pfafers-Bad, c 2 mi to the south, on the Tamina river, attract many patients The village of Pfäfers-Dorf had a Benedictine abbey, founded c 740 and secularized in 1838

Rages (rā'jēz) or **Rhagae** (rā'jē), ancient and medieval city of Persia, mentioned in the Avesta and in the Behistun inscriptions Seleucus I built a new city near by named Europos after his native town, and other cities were built or rebuilt by the Parthians and Arabs at or near this site Harun-al-Rashid was born at Rages Controlling the great northeastern Persian trade route, it flourished most in the next period, under various rulers, especially under the Seljuks, whose last Persian ruler was defeated and killed near Rages (1194) Fierce religious dissensions caused the destruction of much of the city in 1186, further damage was done by the Mongols (1220), and by 1400 the place was deserted The city is the scene of some of the principal events in the book of Tobit. The name also appears as Ray, Rai, and Rey

ragged robin, slender perennial herb (*Lychnis flos-cuculi*) native to Europe and Asia, but naturalized in E North America, where it has long been a favorite for old-fashioned gardens The plant blooms profusely over a long season, the clusters of flowers having deeply cleft petals of pink or red, with double-flowered and white varieties The ragged robin has also been called cuckooflower and was once known as crowflower, probably being the crowflower used by Ophelia in her garland (Shakspere's *Hamlet* IV 7) The CORNFLOWER is sometimes called ragged robin

Raglan, Fitzroy James Henry Somerset, 1st **Baron** (rā'glun), 1788–1855, English general He entered the army in 1804 and was made (1814) a lieutenant colonel for his services on Wellington's staff in the Peninsular War. He was secretary of the embassy in Paris when Napoleon reentered Paris (1815), and he lost an arm at the battle of Waterloo. Raglan became secretary to Wellington in 1822, conducted a special mission for him to Spain in 1823, was made major general in 1825 and lieutenant general in 1838, and was raised to the peerage in 1852 In the Crimean War, as before, Raglan showed himself a brave officer and was made field marshal after the battle of Inkerman Handicapped by his joint command with the French commander, Marshal Saint-Arnaud, by weather conditions, and by the inefficiency of government departments, he became the object of bitter criticism because of slow military progress and the sufferings of the troops The failure of the attack on Sevastopol hastened his death from disease before the end of the war The raglan, an overcoat in which the sleeves go directly to the neck and without shoulder seams, was named for Lord Raglan.

Ragland, town (pop 1,070), NE Ala, ENE of Birmingham

Ragnarok (rag'narûk") [Norse,=history of the gods], in the *Elder Edda*, a conception of the end of heaven, earth, and hell The gods of ASGARD and the giants fall in combat with each other, and fire destroys everything BALDER is to reappear thereafter and a new world is to be created Wagner's term *Gotterdammerung* is a mistranslation See also GERMANIC RELIGION

ragtime, style in American popular music which originated in the latter part of the 19th cent and was introduced to New York city in 1897 by the pianist Ben Harney Publishers all over the country were publishing pieces in ragtime during the first decade of the 20th cent The peak of its development and popularity came c 1910 and was followed by decadence of the style and a merger with JAZZ Ragtime was an instrumental style, in which the piano was the essential instrument It employed syncopation and polyrhythm to such a degree that all the rhythmic elaborations of jazz are to be found earlier in ragtime

Raguel (rāgū'ul) [Heb,=friend of God] **1** Same as JETHRO **2** Father-in-law of Tobias in the book of Tobit

Ragusa (ragōō'za), city (pop 40,480), capital of Ragusa prov, SE Sicily, Italy, near the site of ancient Hybla Herea It has asphalt plants and a cheese industry The lower part of the city has kept its medieval aspect

Ragusa, Yugoslavia see DUBROVNIK

ragweed, any plant of the genus *Ambrosia*, herbs, most of which are native to America They have inconspicuous flowers and soft leaves The two most common species, *Ambrosia elatior* or *artemisiaefolia* and *Ambrosia trifida*, are coarse annuals called common ragweed and giant ragweed, respectively They are regarded as troublesome weeds because their pollen is acknowledged as the most common cause of hay fever The leaves of *Ambrosia elatior* were formerly used as an astringent and hemostatic, they sometimes impart a bitter taste to milk if eaten by cattle

ragwort see GROUNDSEL

Rahab (rā'hăb), in the Bible, **1** [Heb,=wide] Harlot of Jericho whose protection of Joshua's two spies saved both herself and family from destruction She may be the same as the woman mentioned in the Gospel genealogy as Rachab Joshua 2, Mat 1 5 **2** [Heb,=proud] Monster, something like a dragon Isa 51 9 The name is sometimes translated Isa 30 6, Job 26 13

Raham (rā'hăm), Judahite 1 Chron 2 44.

Rahel (rā'hĕl), variant of RACHEL

Rahway (rô'wā), industrial city (pop 17,498), NE N J, SW of Newark and on the Rahway river, settled c 1720 from Elizabeth, inc 1858 Abraham Clark is buried in the city The British were routed in skirmishes here in 1777 Drug manufacture is one of Rahway's oldest industries

Raiatea (rī"yätā'a), volcanic island (92 sq mi, pop 4,505), S Pacific, largest and most important of the Leeward group of the SOCIETY ISLANDS, French Establishments in Oceania It is W of Tahiti The island is mountainous, the highest peak being Mt Temehani (3,388 ft) Uturoa is the chief port and seat of government of the Leeward Islands, it has a fruit cannery, a government hospital, and a wireless station The chief products are copra, tobacco, kapok, oranges, and vanilla The island was the ancient seat of learning of Polynesia. It was formerly called Uheta

Raiboloni, Francesco · see FRANCIA

Raiffeisen, Friedrich Wilhelm (frē'drĭkh vĭl'hĕlm rĭf'ī"zun), 1818–88, German economist, founder of the Raiffeisen bank After the agricultural crisis in Germany (1846–47), Raiffeisen, realizing that the chief need of the peasant was for credit, started a system of rural credit cooperatives and banks, which he later (1877) unified in the Raiffeisen bank, a form of CREDIT UNION

Raikes, Robert (rāks), 1735–1811, English philanthropist In 1780 he organized a Sunday school, primarily for poor children, who were taught to read and to spell in order that they might read the Bible. The Raikes system spread rapidly through England, and he became known as the founder of

Sunday schools, although others had been concerned with similar undertakings Raikes gave his project publicity in the Gloucester *Journal*, which he had inherited from his father See biography by J H Harris (1899)

railroad or railway. The first railroads were built in England in the 17th and 18th cent for hauling coal and other minerals in wagons drawn by horses Wooden rails were used at first and soon strips of iron were fastened on them Cast iron, however, began to replace the wooden rail in the late 18th cent , when scattered experimentation was conducted by various inventors in England, France, and the United States on the steam-powered LOCOMOTIVE Several "steam wagons" were patented in these centuries—e g , one by Oliver EVANS of Philadelphia in 1782 and another by James WATT of England in 1784—but it was not until 1801 that Richard Trevithick perfected a steam locomotive that was capable of drawing a heavy haulage Locomotives were constantly improved in early 19th-century England, in 1829 George STEPHENSON invented his famous locomotive, the *Rocket* Four years previously an even greater departure had occurred in the development of the railway, in 1825 the Stockton and Darlington Railway (a link in the road from Manchester to Liverpool) was opened for passenger as well as freight service, thus making the railway more than a mining device In the United States, as in England, the first railroads, employing horse and wagon, were used to haul minerals The earliest such railroad, built from Quincy, Mass , to the Neponset river, dates from 1826, and in the next year another such railroad was built in Pennsylvania from coal mines in Carbon co to the Lehigh river The DELAWARE AND HUDSON CANAL Company opened a railroad from Honesdale to Carbondale in 1829, in the same year the company imported two locomotives from England One of these, the *Stourbridge Lion*, was the first locomotive to run on any American railroad On Aug 8, 1829, Horatio ALLEN, drove it the length of the railroad and back again Although this trip was successful, the English locomotives were found too heavy for the tracks Locomotives suited to the American railway were from that time produced domestically, and Matthias BALDWIN of Philadelphia was soon to lead in that field Meanwhile the BALTIMORE & OHIO RAILROAD had been begun in 1828 with horse-drawn cars However, after the successful run (Aug , 1830) of the *Tom Thumb*, built by Peter COOPER, locomotive power was used Later the same year (Nov , 1830) another small engine, built by the West Point Foundry Company, made its first trip on the Charleston and Hamburg RR While the stagecoach type of railroad car was giving way to the square type in the 1830s the map of the United States was lined with many short railroads The big cities on the Atlantic Coast became the nerve centers, while inland points were readily connected with one another Only the ERIE RAILROAD was projected on a grand scale Despite many improvements in railroad technology—e g , in signaling devices and track laying—railroad travel was by no means safe or convenient according to present standards Soon, however the railroad in America served to undermine the commercial value of the TURNPIKE and the CANAL and with the settlement of the Midwest, where railroad building was begun in the 1840s and reached a peak in the 1850s, the railroad reigned supreme as the American medium of inland transportation Because of the heavy capital outlay involved, railroads more and more affected the economic well-being of the country, overspeculation, overbuilding, and disastrous competition affected the consumer as well as the railroad financier Growing sectionalism and the conflict between North and South before the Civil War tended to block large-scale railroad projects (e g , that of Asa WHITNEY), but the war itself gave tremendous impetus to railroads, which aided in the transportation of supplies and troops, as in the case of the PENNSYLVANIA RAILROAD Furthermore, Congress by acts of 1862 and 1864 initiated the building of the first transcontinental railway, the UNION PACIFIC RAILROAD, which was completed in 1869. The Union Pacific and the other transcontinental railroads completed later (see NORTHERN PACIFIC RAILWAY, SANTA FE RAILROAD, and SOUTHERN PACIFIC COMPANY) were given vast domains from public lands The railroads in the West as well as the Canadian transcontinental lines were generally built to develop new territory Frequently promoters were hired to induce farmers to settle the uncultivated lands With the mass production of steel, improvements in railway engineering and construction grew apace, but after the Civil War they were totally eclipsed by the great battles of the railway financiers Cornelius VANDERBILT consolidated the NEW YORK CENTRAL RAILROAD system, but he like others—e g , Jay GOULD, Daniel DREW, James FISK—was accused of acting with complete disregard for the American public Political chicanery, financial holocausts, and ruinous panics resulted. The process of consolidations continued by way of corporate mergers and operating agreements, and soon the farmer and small shipper began to bear the brunt of such unfair practices as the REBATE Public indignation welled up The GRANGER MOVEMENT directed much of its protest at the railroads in the 1870s, and states began to take measures against railway abuses. In 1887 Congress created the INTERSTATE COMMERCE COMMISSION, which over a period of years sought to fix adequate controls upon railroads The 1880s saw numerous other developments, including the adoption of the standard gauge (4 ft 8½ in between rails), the revival of Southern railway construction, and the last period of feverish expansion,—which was attributable in part to such men as James J HILL and Henry VILLARD Thereafter railway construction drastically declined, and disastrous rate wars followed One of the greatest financial battles over American railways was fought by Hill and Edward H HARRIMAN Labor became a potent force in the railroad world in the late 19th cent when the four big independent brotherhoods were organized Other unions sprang up, and their incessant struggle for better working conditions resulted in the Adamson Act of 1916 In the First World War, President Woodrow Wilson, by act of Congress, took over the country's railway system in 1917 After the railroads were returned (1920) to private ownership they failed to regain their prosperity largely because of added competition from the automobile, the bus, and the airplane Nevertheless, railroad management met this problem in part by improving safety and comfort Diesel locomotives were increasingly used in congested areas, and streamlined trains appeared in the 1930s In the Second World War many railroads previously on an insecure footing regained their stability In England, meanwhile, a well-integrated railway system was built mostly with private capital, and the Railways Act of 1921 amalgamated most of the railways into four systems Railroads in France date from 1827, and after the 1840s France had one of the largest railroad systems in Europe The first German railroad was opened from Nuremburg to Furth in 1835 Soon Germany had a well-developed system, and by the turn of the 20th cent a majority of the railroads were owned by the state In most other European countries, railroads date from the middle of the 19th cent and have increasingly come under government control and ownership British capital laid the basis for many of the railroads of South America American engineering skill contributed greatly there The greatest railroad systems in Asia exist in India and Japan Railroads of world importance include the BAGHDAD RAILWAY, the TRANS-CASPIAN RAILROAD, the CHINESE EASTERN RAILWAY, the TRANSANDINE RAILWAY, and the TRANS-SIBERIAN RAILROAD See W M W Splawn, *Consolidation of Railroads* (1925), C E R Skerrington, *A Hundred Years of Inland Transportation, 1830–1933* (1934), Matthew Josephson *Robber Barons* (1934), O D Boyle, *History of Railroad Strikes* (1935), Jocelyn Oliver, ed , *Railroads round the World* (1936), R D Tiwari, *Railways in Modern India* (1937), T W Van Metre, *Trains, Tracks and Travel* (5th ed , 1939), K T Healy, *Economics of Transportation in America* (1940), E P Morse, *Cavalcade of the Rails* (1940), C E Lee, *The Evolution of Railways* (2d ed , 1943), A C Kalmbach, *Railroad Panorama* (1944), K A Douglas, *French Railroads and the State* (1945), Barrington Tatford, *The Story of British Railways* (1946), and Stewart Holbrook, *The Story of American Railroads* (1947)

Raimar, Freimund see RÜCKERT, FRIEDRICH

Raimondi, Marcantonio (märkäntō'nyō rēmōn'dē), b c 1480, d before c 1534, Italian copperplate engraver He studied niello and line engraving in the workshop of the goldsmith-painter, Francia His earlier engravings show the influence of Francia and of the great German engravers In 1506, in Venice, Raimondi attracted wide attention by his copperplate counterfeits of Dürer's *Life of the Virgin* and *Little Passion*, to which he appended the counterfeited signature of Dürer—the result was a complaint by the German to the Venetian senate But his close study and imitation of Dürer's works had a marked and salutary effect upon Raimondi's technique He worked mainly in Bologna and Venice prior to 1510 At that time he moved to Rome by way of Florence, where he engraved *The Climbers*, after Michelangelo's cartoon of *The Battle of Anghiari*, with a landscape background in imitation of Lucas van Leyden Selected by Raphael to engrave his works, Raimondi thenceforth devoted himself almost exclusively to reproducing the designs of Raphael and his pupils, becoming, under the guidance of the Umbrian, the most eminent engraver of his works He copied not only the finished paintings, but also the tentative designs and rough sketches of the composition, thus preserving these valuable records of Raphael's methods After Raphael's death Raimondi was commissioned by Giulio Romano to engrave a series of licentious designs from Romano's illustrations of Aretino's *Sonnetti lussuriosi*, which were destroyed by Pope Clement VII Raimondi was temporarily imprisoned. In 1527 he lost his property in the sack of Rome and returned to Bologna, passing his remaining years in obscurity Among the best of his engravings are *Lucretia*, *Massacre of the Innocents*, *Poetry*, *The Death of Dido*, *Adam and Eve*, *Mary with the Dead Christ*, and *The Judgment of Paris*, after Raphael, *Martyrdom of St Lawrence*, after Bandinelli, and *Hercules and Antaeus*, after Romano He had many pupils See A. M Hind, *History of Engraving and Etching* (rev ed , 1923)

Raimu (rāmü'), 1883–1946, French moving-picture actor, whose full name was Jules Raimu. He was the principal comedian of the Théâtre de Paris when he began (1929) his career in moving pictures Raimu gained fame in Europe in Marcel Pagnol's productions of *Marius* and *Caesar* and first won acclaim in the United States in 1940 for his superlative performance in *The Baker's Wife*

Raimund, Ferdinand (fĕr'dēnänt rī'mōönt), 1790–1836, Austrian actor and dramatist From 1817 he was a popular comedian in Vienna In 1828 he began to produce his plays of Vienna life, such as *Der Bauer als Millionär* [the peasant millionaire] (1826), *Der Verschwender* [the spendthrift] (1833), and *Der Alpenkönig und der Menschenfeind* (1828, Eng tr , *The King of the Alps*, 1850), which raised the folk comedy to a literary level At the height of his fame he was attacked by melancholia and shot himself The Raimund Theater Association, formed in Vienna in 1890, dramatized episodes from his career

rain, precipitation formed by the further condensation of the moisture in a cloud. The raindrops formed are enlarged by coalescing with others on impact and by condensation, on their colder surface, of the moisture in the air through which they pass From the time they leave the bottom of the cloud, evaporation takes place, and if the cloud is high, the air warm and dry, and the raindrops small so that they fall slowly, they may evaporate completely before they reach the earth Rainfall, one of the primary elements in CLIMATE and a factor of tremendous importance in the distribution of plant and animal life, varies from less than an inch annually in an arid DESERT to more than 400 in where the monsoons strike the Khasi hills in Assam, India, and on the windward slopes of Hawaiian mountains In the United States the range is from less than 2 in in Death Valley, Calif , to more than 100 in on the coast of Washington state, in most of the country the average rainfall is between 15 and 45 in annually Factors controlling the distribution of rainfall over the earth's surface are the belts of converging-ascending air flow (see DOLDRUMS and POLAR FRONT), air temperature, moisture-bearing winds, ocean currents, distance inland from the coast, and mountain ranges Ascending air is cooled by expansion, which results in the formation of clouds and the production of rain Conversely, in the broad belts of descending air (see HORSE LATITUDES) are found the great desert regions of the earth, descending air being warmed by compression and therefore absorbing instead of releasing moisture If the temperature is low, the air has a small moisture capacity and, consequently, is able to produce little precipitation When winds blow over the ocean, especially over areas of warm water (where evaporation of moisture into the air is active), toward a given coastal area, that area receives more rainfall than a similar area where the winds blow from the interior toward the oceans Areas near the sea receive more rain than inland regions, since the winds constantly lose moisture and may be quite dry by the time they reach the interior of a continent Windward slopes of mountain ranges generally receive heavy rainfall, while the leeward slopes receive practically none The southwest coast of Chile, the west coast of Canada, and the northwest coast of the United States receive much rain because they are struck by the moisture-bearing westerlies from the Pacific and are backed by mountains which force the winds to rise and drop their moisture The territories immediately east of the regions mentioned are notably dry There are thousands of stations throughout the world where rainfall observations and records are made Included in such records is the fall of SNOW, reduced to its equivalent in rain Rainfall is measured, in terms of inches of depth, by means of a simple receptacle-and-gauge apparatus or by more complex electrical or weighing devices, placed where eddies of air will not interfere with the normal fall of the raindrops In addition to the annual, monthly, and daily totals, the depth of individual rainfalls and their intensity (amount of rain falling during a specific period of hours or minutes) and other pertinent facts are recorded Knowledge of the amount of rain that can be expected to fall annually and of its distribution throughout the year is of importance in many fields in agriculture, in problems of the choice of crops, the time of planting, irrigation and drainage systems, and soil erosion, in cities, in the construction of reservoirs and sewerage systems and, in certain areas, the construction of levees or other protection against flood, in aviation and in transportation by river, and in the building of bridges, dams, and hydroelectric plants. The total annual rainfall is often of less importance than the distribution of the precipitation throughout the year. Twelve inches may be ade-

quate for agriculture if the rain comes at the right time (during the growing season) and if the ground is able to retain all that falls during each rainstorm On the other hand, even 50 in may be insufficient if most of the rain occurs outside of the growing season or if the rain falls in short downpours and runoff is rapid The need for rain at a particular time and the dangers attendant upon drought brought rain prominently into the religion of most agricultural peoples Rain-gods and thunder-gods are more prominent in many mythologies than sun-gods, and they have been propitiated in various ways in different cultures The rain dances of the American Indians may, however, be said to be generally typical of all in the elaborate symbolic gestures and patterns and in much use of drums and rattles (presumably sympathetic magic by imitation of the sounds of thunder and showering rain) Because the purpose is to make the fields bear crops, the connection with fertility rites is obvious Sporadic experiments have been made in an attempt to cause rain by scientific methods, although some success has been reported as a result of scattering, from airplanes, pellets of dry ice through certain formations of supercooled clouds, the results are not conclusive Precipitation maps are published by the U S Weather Bureau, Washington, D C

Rainalducci or **Rainallucci, Pietro** (pyā'trō rīnäl-dōōt'chē, rīnäl-lōōt'chē), d 1333, Italian churchman (b Corvaro, near Rieti), antipope (1328–30) with the name Nicholas V He is sometimes called Peter of Corbara Having separated from his wife, he became (1310) a Franciscan and was made a penitentiary in Rome In 1328 Emperor Louis IV in his struggle with Pope John XXII (at Avignon) invaded Italy and took Rome, he declared the pope deposed for heresy and set up Pietro instead With in a year Pietro found his position untenable, and in 1330 he made submission to the pope, who pardoned him and kept him an honorable captive in the papal palace at Avignon thereafter

rainbow, arc showing the colors of the SPECTRUM, violet inside and red outside, which appears when the sun shines through water droplets It often appears after quick-passing thundershowers in the late afternoon The sun, the observer's eye, and the center of the arc must be on a line —the bow appears in the part of the sky opposite the sun The bow is an arc of 180° if the sun is at the horizon and cannot appear if the sun is high in the sky The bow is caused by REFRACTION and REFLECTION of rays from the sun, the rays refracted as it enters the sphere of the raindrop, is reflected from the drop's opposite side, and is again refracted as it leaves the drop and passes to the observer's eye When conditions are suitable two bows are seen, the larger, paler, secondary rainbow, with colors reversed (red inside), outside the primary bow is caused by the two refractions and two reflections The "rainbows" of mist, a lawn spray, or spray from a waterfall are similarly caused Descartes made an explanation of the rainbow, but the correct explanation was impossible until light and its reflection and refraction were understood—until the spectrum was explained In religion and art, the rainbow symbolizes God's promise of mercy to mankind after the flood (Gen 9 13) The Greeks and Romans called the rainbow the sign of Iris, messenger of the gods The Inca and other Indians regarded the rainbow as a gift from the sun-god There are fairy tales of the search for the pot of gold at the foot of the rainbow

Rainbow Bridge National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Rainbow Division, nickname of the 42d Division of the U S army in the First World War The Rainbow Division, the first American combat division to arrive in France, participated in the second battle of the Marne, fought in the counteroffensive at Château-Thierry, and spearheaded attacks at Saint-Mihiel and in the Meuse-Argonne sector Throughout the campaigns, the division suffered heavy losses See Henry J Reilly, *Americans All—The Rainbow at War* (1936)

rainbow fish see GUPPY

Raines, John (rānz), 1840–1909, American legislator, b Canandaigua, N Y He practiced law in New York state, served in the state assembly (1881–82, 1885) and senate (1886–89) before he was elected (1888) to the U S Congress He was in the state senate again after 1895 and drafted the unique **Raines Law** of 1896, providing for liquor sales on Sundays in New York state only in hotels paying a high license fee and having at least 10 bedrooms

Rainey, Henry Thomas, 1860–1934, American legislator, speaker of the House of Representatives (1933–34), b Carrollton, Ill, grad Amherst (B A, 1883, M A 1886) and Union College of Law, Chicago (LL B, 1885) He practiced (1885–1902) law at Carrollton and served in the U S Congress from 1903 to 1921 and from 1923 to his death A strong advocate of free silver and low tariffs, he was Democratic floor leader (1931–33) and succeeded John N. Garner as speaker in 1933

Rainier (rūnēr', rā-, rā'nēr), city (pop. 1,183), NW Oregon, on the Columbia and NW of Portland; settled 1851, inc. 1885. It has fisheries

Rainier Mount: see MOUNT RAINIER NATIONAL PARK.

Rain-in-the-Face, d. 1905, North American Indian chief, leader of the Sioux He was one of the commanders, with Sitting Bull, of the Indian forces at the battle on the Little Bighorn river in Montana on June 25, 1876, when George A. Custer and his entire force were annihilated

Rainolds or **Reynolds, John** (both rē'nŭldz), 1549–1607, English clergyman He was a fellow (1568–86) of Corpus Christi College, Oxford, and later president (1598–1607) of the college He was a leading Puritan representative at the Hampton Court Conference (1604) He suggested to King James that a new translation of the Bible be undertaken, and he assisted in translating the Prophets for the Authorized Version

rainproof fabric: see WATERPROOF AND WATER-REPELLENT FABRICS

Rainy Lake, c 60 mi long, W Ont, lying partly on the Minn -Ont boundary, irregular in shape and dotted with islands, in rough woodlands Its outlet, **Rainy River**, flows westerly 85 mi along the international line to Lake of the Woods, passing International Falls and Baudette, Minn

Rainy River, town (pop 1,205), W Ont, on Rainy River at the Minn border, S of Lake of the Woods and W of Fort Frances It is a railroad division point in a lumber and dairy-farming area

Rainy River, on the Minn -Ont line see RAINY LAKE

Rais, Gilles de Laval, seigneur de see RETZ, GILLES DE LAVAL, SEIGNEUR DE.

Raisin, river, c 115 mi long, rising in S Michigan and flowing generally E to Lake Erie, at Monroe After Detroit's surrender in the War of 1812, American troops under Gen James Winchester sent to retake Frenchtown (the present Monroe), were crushed there by the British and their Indian allies The Indians, after promising protection, massacred (Jan 22, 1813) the remaining Americans, and Remember the River Raisin" became the American rallying cry to the war's end

raisin, dried fruit of certain varieties of grapevines bearing grapes with a high content of sugar and solid flesh Although the fruit is sometimes artificially dehydrated, it is usually sun-dried The culture of grapes for the production of raisins is limited to regions with a long, hot growing season because the grape must remain on the vine until fully mature in order to attain a high percentage of sugar and because enough time must elapse between harvesting and fall rains to permit sun-drying Raisins are produced from grapes of the European type (*Vitis vinifera*) Most seedless raisins, especially in California, are produced from the Sultanina or Thompson seedless grape, known in international trade as the Sultana A different variety, produced in California, is known there as the Sultana The Muscat, a very ancient variety, is noted for its flavor and meatiness, but it has seeds and is somewhat sticky, it is commonly marketed in clusters for table use Raisins of sharp flavor and firm texture are often called currants and are preferred for certain bakery products The best known of these is the Black Corinth, or Zante, currant of Greece, the variety is grown also in California Grapes have been dried for out-of-season consumption from ancient times and were early important in Mediterranean trade Spain, Asia Minor, and Greece were long the centers of cultivation, but in the 20th cent Australia also became an important producer and the United States (California) became the leading producer Raisin production was introduced in California by Spanish missionaries in the late 18th cent and began to assume importance after 1875, although grapes are cultivated over a large area, the region around Fresno is outstanding in the production of grapes for raisins Clusters of fully ripened grapes are usually picked by hand, placed in trays between the rows of vines to dry in the sun for several days, then shipped to packing houses, where they are cleaned and stemmed by machinery Today most seed grapes are seeded, and many grapes are bleached and dipped in oil to improve their appearance About 3½ lb of grapes yield a pound of raisins Raisins are valuable nutritionally because of their sugar, mineral (especially iron), and vitamin (B and A) content See *Grapes, Raisins, and Wines* (U S Tariff Commission, Report 134, Second Series)

Raisuli, Ahmed ben Mohammed (a'mĕd bĕn mōhä'mĭd rīsōō'lē), 1875–1925, Berber bandit, tribal leader in NW Morocco His kidnapings of foreigners for ransom created international incidents embarrassing to the Moroccan government Defeated by the Spanish in 1919, he joined them later against Abd-el-Krim, who captured him

Rajagopalachari, Chakravarti (chŭkrŭvär'tē rə"jugōpä"lŭchä'rē), 1879–, Indian nationalist, educated in India He was admitted to the bar in 1900 In 1919 he joined the Indian National Congress, in which he rose to prominence. He was (1937–39) prime minister of Madras During the Second World War he broke with the Congress when he favored active support of the British war effort and the establishment of Pakistan After the war, however, he rejoined Gandhi He was (1948–50) the last governor general of India before that office was abolished. His name also appears Rajagopalachariar and Rajagopalacharya

Rajamundry or **Rajahmundry** (both rajəmŭn'drē), town (pop. 74,564), NE Madras state, India, on the Godavari river It is near the main dam of the irrigation system that uses the river

Rajasthan (rä'jŭstän), state (c 121,000 sq mi, pop c 650,000), India, comprising former princely states It includes all the territories (except Ajmer) which constituted RAJPUTANA

Rajasthani (rä'justa'nē), one of the languages of the Indic group of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Rajputana (raj"pōōtä'nŭ) [Rajput land], region (135,959 sq mi, pop 14,253,901), India It is bounded on the west by Pakistan The western section, a part of the Indian Desert, is inhabited by a scanty population of pastoral nomads The east, especially the southeast, is more fertile, and it has some rivers which supply water for agriculture Grains and cottons are the principal crops There are excellent handicrafts in Rajputana but little large-scale industry The rail and road systems are poorly developed Little is known of its history before the coming (7th cent) of the Rajputs Moslem invasions and attacks from the 11th to the 16th cent could not dislodge the Rajputs from their strongholds in the hilliest parts of the country Relative peace was enjoyed under the Moguls, but the Marathas (18th cent) brought new harassments Great Britain drove out the Marathas in the 19th cent and set up the province of Ajmer-Merwara (now Ajmer), but guaranteed the independence of nearly all the princely states By 1949 these states, of which Bikaner, Jaipur, Jaisalmer, Jodhpur, and Udaipur were the largest, had all joined Rajasthan

Rajputs (raj'pōōts), a people, numbering c 650,000, mostly in Rajputana, India They are of the warrior CASTE and are reputed to put great value on etiquette and the military virtues The Rajputs claim divine origin, and they are divided into three groups (Solar, Lunar, and Fire) and 32 exogamous clans Their present standing as the aristocracy of Rajputana reflects a history of rule since the 7th cent Until driven back (18th–19th cent) by the Sikhs and the Marathas, the Rajputs occupied much territory in the plains of central India

rake, harvesting tool or machine, consisting of a row of straight or curved teeth of metal or wood, attached to a hand or power-drawn bar It is used for collecting hay or grain into piles, for cleaning fields, lawns, and yards, and for smoothing soil Horse-drawn rakes first appeared early in the 19th cent, but were not generally used until later Several types of hay rakes are used on farms—the sulky or dump, which gathers hay into bunches convenient for loading, the side-delivery type, gathering the hay into continuous windrows, and sweep or push rakes, which haul a heavy load direct to the stack.

Rakem (rā'kĕm) [Heb, =flower garden], descendant of Manasseh 1 Chron 7 16

Rakka (ra'ka) town N Syria, on the Euphrates and E of Alep The ancient Nicephorium, it was prominent in early Moslem days and was a favorite residence of Harun-al-Rashid

Rakkath [Heb, =shore], unidentified city, on the western shore of the Sea of Galilee Joshua 19 35

Rakkon, obscure geographic name, in a textually difficult passage Joshua 19 46

Rakoczy, Hung *Rákoczy* (rä'kôtsĭ), noble Hungarian family that played an important role in the history of TRANSYLVANIA and Hungary in the 17th and 18th cent **Sigismund Rakoczy**, 1544–1608, was elected (1607) prince of Transylvania to succeed Stephen Bocskay His son, **George I Rakoczy**, 1591–1648, was elected prince of Transylvania in 1630 He continued the anti-Hapsburg policy of his predecessors, Gabriel Bathory and Gabriel Bethlen, and like them he relied on alliances with the Protestant powers In 1644 he declared war on Emperor Ferdinand III and overran Hungary Peace was made (1645) at Linz, and the emperor granted religious freedom to the Hungarians and ceded territory to Rakoczy George I's son, **George II Rakoczy**, 1621–60, succeeded his father on the throne of Transylvania but was deposed (1657) as a result of his unsuccessful invasion of Poland He was mortally wounded when the Turks invaded Transylvania He married Sophia, a niece of Gabriel Bathory Their son, **Francis I Rakoczy**, 1645–76, was designated George's successor by the diet of Transylvania in 1652 However, he was never recognized Having married a daughter of Peter Zrinyi, ban of Croatia, he entered with Zrinyi into an unsuccessful conspiracy against Emperor Leopold I **Francis II Rakoczy**, 1676–1735, the son of Francis I and Helen Zrinyi, became the leader of the rebellion of the Hungarians against Hapsburg oppression The outbreak (1701) of the War of the Spanish Succession was followed by an uprising (1703) of the Hungarian peasants, particularly of the Calvinists, against the emperor Rakoczy, at the head of the movement, soon controlled most of Hungary and in 1704 was elected "ruling prince" by the diet He secured the support of King Louis XIV of France, who supplied him with subsidies and troops At the

Diet of Onod (1707) the Hungarian nobles proclaimed the Hapsburg dynasty deposed in Hungary and set up an aristocratic republic Rakoczy, however, suffered severe defeats in 1708 and 1710, and in 1711 the Hungarians and Austrians negotiated peace at Szatmar The emperor promised an amnesty and the restoration of religious and constitutional freedom in Hungary Rakoczy, who refused to accept the treaty, fled to Poland, then to France, and eventually to Turkey He died in exile in Turkey, but his remains were brought back to Hungary in 1906 He left an autobiography Francis II Rakoczy is a major national hero of Hungary The stirring Rakoczy March, named in his honor, was composed (1809) by John Bihari It is possibly based on an older tune, sung by Rakoczy's army and was used by Berlioz in his *Damnation de Faust* and by Liszt in the Hungarian Rhapsody No 15 The playing of the Rakoczy March was long forbidden in Hungary, where the tune was used as a national air by the independence movement See Ladislaus Hengelmuller, *Hungary's Fight for National Existence* (Eng tr , 1913)

Rakovsky, Christian Georgyevich (khrĭstyan' gĕ-yôr'gyĭvĭch rŭkô'skĭ), 1873–, Russian Communist politician, b Bulgaria His early revolutionary activities extended through Bulgaria, Switzerland, Germany, France, and Rumania In 1919 he became a member of the central committee of the Communist party and briefly headed the Ukrainian Soviet government He was Russian chargé d'affaires at London (1924) and ambassador to France (1926–27) His opposition to Stalin's leadership caused his expulsion from the party (1927) and his subsequent exile to Siberia, but he was allowed to return in 1934 One of the defendants in the public treason trial of March, 1938, Rakovsky was sentenced to imprisonment for 20 years

Rakow, Pol *Raków* (ra'kōōf), small town, S central Poland, SE of Kielce It was founded in 1569 as the seat of Polish SOCINIANISM and became a noted intellectual center When the sect was suppressed (17th cent), Rakow lost importance

Rale, Sébastien see RASLE, SÉBASTIEN

Ralegh or **Raleigh, Sir Walter** (both rô'lĭ, rä'–), 1552?–1618, English statesman and man of letters Ralegh entered Oxford at about 14, but did not study there for more than three years Although listed as an undergraduate in 1572, he had served in the interim as a volunteer in the Huguenot army in France in 1569 Little is known of his activities after he returned to London, although the verses which he prefixed to George Gascoigne's *Steele Glas* (1576) indicate some literary connections In 1578, Ralegh, his brother Carew, and his half brother, Sir Humphrey GILBERT, outfitted a heavily armed fleet, ostensibly for a "voyage of discovery," but whatever their purpose, storms and desertions soon ended the project In 1579 Ralegh served in Ireland and there met the poet Edmund SPENSER, a member of Lord Grey de Wilton's staff When Ralegh returned to England in 1582 he immediately went to court and soon became a favorite of Queen Elizabeth Whether or not he placed his cloak in the mud for her, it seems fairly certain that his personal charm had much to do with his friendship with the queen As an important courtier he was granted wine monopolies in 1583, was knighted, and was given valuable estates Made warden of the Stanneries in 1585, Ralegh exhibited a genuine talent for administration but had already alienated many important people He was appointed captain of the queen's guard in 1587, an office devoid of policy-making responsibility but significant because it required constant attendance on Elizabeth Ralegh conceived and organized the colonizing expeditions to America which ended tragically with the "lost colony" on ROANOKE ISLAND, Virginia For these projects and for the introduction to England of potatoes and tobacco, Ralegh is popularly remembered He was later named a member of the commission for defense against Spain, but it is doubtful whether he participated in the naval operations of 1588 Probably because of his conflict with Robert Devereux, earl of Essex, Elizabeth's new favorite, Ralegh left court in 1589 At Kilkolman Castle, Ireland, he became fast friends with Spenser, whose *Faerie Queene*, begun under the aegis of Sir Philip Sidney, was continued under Ralegh's patronage Returned to influence in 1592 because of Elizabeth's quarrel with Essex over the earl's marriage, Ralegh was granted an estate at Sherborne However, because of an affair with Elizabeth Throckmorton, a maid of honor at court who later became his wife, he was recalled from a privateering expedition and imprisoned in the Tower Late in 1592 when the expedition returned, rioting broke out over the spoils of a carrack Ralegh was sent to Dartmouth, where he quelled the disturbance and thereby won his freedom Barred from the court, he was in Parliament during the next three years, but received far greater notoriety for his connection with the poetic group known as the "school of night" Led by Thomas Harriot and including Marlowe and Chapman, the group's skeptical attitude and free interpretation of Scripture won them a reputation for atheism. By 1595 Ralegh had determined to find the fabled El Dorado, and he embarked with the adventurer-scholar, Laurence Keinys Although the expedition penetrated only a short way up the Orinoco, Ralegh returned with specimens containing gold and with the manuscript of his *Discovery of Guiana* (1596) In 1596 Ralegh's personal bravery and tactical brilliance helped save an English expedition against Cádiz from disaster, and in the next year his capture of Fayal without waiting for Essex precipitated a violent quarrel between the two Ralegh was made governor of Jersey in 1600, but his fortunes ebbed when he drifted apart from Robert Cecil in the political tempest over Essex's treason and death They fell completely with the accession of James I, who had been convinced by Ralegh's enemies that Ralegh was opposed to his succession Many of Ralegh's monopolies and offices were taken away, and he was convicted of treason, on somewhat insufficient evidence, by the lords of the council—being found guilty of participating in a plot to kill the king and enthrone Arabella Stuart and of intrigues with Spain against England Saved from the block by a reprieve, Ralegh settled down in the Tower and devoted himself to literature and science There he began his incomplete *History of the World* He was released in 1616 to make another voyage to the Orinoco in search of gold, but was warned not to molest Spanish possessions or ships on pain of his life Ralegh gathered all his resources to outfit the expedition, and after abandoning the idea of diverting it to aid the cause of Savoy against Spain, he set out for South America in 1617, encountering many mishaps on the way The expedition failed to arrive at the reputed mine but captured a Spanish town Ralegh returned by way of Newfoundland to England When he was examined, his testimony was vague and perjured He was executed, at the demand of the Spanish ambassador, under the original sentence for treason passed many years before Ralegh was the author of a number of political essays and philosophical treatises and a body of poetry which was highly praised by his contemporaries Much of his verse is now lost, and a number of his prose works also appear to be missing His works, together with lives by William Oldys and Thomas Birch, were collected and published in 1829 There are biographies by Edmund Gosse (1886), I W Anthony (1934), and Edward Thompson (1935) See also M C Bradbrook, *The School of Night* (1935)

Raleigh (rô'lĭ, rô'), city (pop 46,897), state capital, and co seat of Wake co , central N C Known early as Bloomsbury, the site was selected for the state capital in 1788, and the city was laid out in 1792 In the Civil War, Sherman occupied the city on April 14, 1865 It is principally a cultural center, with numerous schools and state institutions, but there are also cotton and furniture industries, printing and publishing houses, and tobacco marts Andrew Johnson was born in Raleigh The city is the seat of Meredith College (Baptist, for women, 1891), NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING, Shaw Univ (Negro, Baptist, coeducational, 1865), St Augustine's College (Negro, Episcopal, coeducational, 1867), several junior colleges, and state schools for the blind and the deaf The state capitol was built in 1833–40, several old buildings remain

Raleigh, Fort. see ROANOKE ISLAND

Ralik Chain see MARSHALL ISLANDS

Ralls (rôlz), town (pop 1,512), NW Texas, ENE of Lubbock, in a farming region on the Llano Estacado, founded 1911, inc 1921

Ralph, Julian, 1853–1903, American journalist, b New York city He became famous as a brilliant reporter (1875–95) on the New York *Sun* Later he wrote for the New York *Journal* in London, was a war correspondent with the Turkish armies in 1897, and was a reporter in South Africa for the London *Daily Mail* during the Boer War

Ralph de Diceto (dĭsē'tō), d c 1202, English chronicler He was dean of St Paul's after 1180 His major work, the *Imagines historiarum* [outlines of history]—the first part (1148–72) based on Robert de Torigni, the second part (1172–1202) original—is especially valuable for the material after 1188 and for the original documents included He also compiled the *Abbreviationes chronicorum*, small lists of kings and bishops and brief historical compilations

Ralph Roister Doister. see UDALL, NICHOLAS

Ralston, James Layton (rôl'stŭn), 1881–1948, Canadian statesman, b. Amherst, N S , studied law at Dalhousie Univ. In 1911 he was elected as a Liberal to the Nova Scotia legislature, and in 1926 he was elected to the Canadian House of Commons In the first Mackenzie King administration, Ralston was minister of national defense (1926–30), in the second King government, he was made minister of finance (1939) but was transferred in 1940 to the post of minister of national defense When his demand that the cabinet invoke military conscription was rejected, Ralston resigned in Nov , 1944; the policy was shortly put in force by his successor, A G L McNaughton

Ram [Heb ,=high] **1** Ancestor of David. 1 Chron 2 9,10, Ruth 4 19. Aram Mat 1 3,4, Luke 3.33. **2** Son of Jerahmeel 1 Chron. 2.25,27. **3** Ancestor of Elihu. Job 32 2

Ram, sign of the Zodiac. see ARIES.

Rama, hero see RAMAYANA

Rama (rä'mŭ), variant of RAMAH

Ramadan (rämädän', rä"mudän'), in ISLAM, the ninth month of the year, during which all Moslems must fast in the daylight hours All indulgence of whatever sort is forbidden in the fast There are only a few who are exempt, e g , soldiers and the sick Because of the purely lunar calendar, Ramadan falls in different seasons The first revelation of the Koran is commemorated in this month

Ramadi (ramu'dē), town, central Iraq, on the Euphrates river There is a picturesque bridge of boats across the river Here, in Sept , 1917, British forces won a great victory over the Turks The name also appears Ramadie

Ramah (rā'mŭ) [Heb ,=high] **1** Town, NE Palestine, allotted to Naphtali Joshua 19 36 **2** Town, S Syria, near Tyre, allotted to Asher Joshua 19 29 **3** Unidentified town of Simeon, called Ramah of the south Joshua 19 8 It is apparently intended by the Ramoth of 1 Sam 30 27, by the Baal of 1 Chron 4 33, and by Baalath-beer in Joshua 19 8 **4** Traditional burial place of Rachel This was an important outpost of Jerusalem, c 5 mi north of the city Joshua 18 25, Judges 4 5, 19 13, 1 Sam 22 6, 1 Kings 15 17, 2 Chron 16 1, Ezra 2 26, Neh 7 30, 11 33, Isa 10 29, Jer 31 15, 40 1, Hosea 5 8 Rama Mat 2 18 This is possibly the Ramah of Samuel see RAMATHAIM-ZOPHIM **5** Same as RAMOTH-GILEAD The term *Ramathite* may refer to any of the above 1 Chron 27 27

Ramakrishna (rä"mukrĭsh'nu), 1836–86, Hindu mystic He studied for the Hindu priesthood, and c 1855 he became a devotee of Kali (see HINDUISM) in her aspect of the loving mother of mankind He studied Christianity in 1874, and he soon concluded that all religions are equally valid forms which most men need to approach the Eternal, but which are unnecessary to those adept in mystical union He repudiated quietism, however, and required active benevolence of his disciples Ramakrishna had little formal learning, but the saintly example of his life and the effective parables and proverbs in which he habitually spoke attracted a large following An order of monks, dedicated to chastity, poverty, and charity, practice his teachings, and even in Europe and America his creed is actively studied His sayings are contained in *The Gospel of Sri Ramakrishna* (Eng tr by Swami Nikhilananda, 1942) See biographies by Max Muller (1899) and Romain Rolland (Eng tr , 2d ed , 1931)

Ramallah (ramu'lä), town (pop 4,286), Palestine, c 3 mi SW of Bethel and on the ridge running north and south from Jerusalem It is chiefly inhabited by Christian Arabs See RAMATHAIM-ZOPHIM

Raman, Sir Chandrasekhara Venkata (chŭn'drusĕka'ru vĕng'kutu ru"mun), 1888–, Indian physicist He was professor of physics at Calcutta Univ. from 1917 to 1933 In Bangalore he directed the Indian Institute of Science and, from 1946, the Raman Institute For his research on the diffusion of light and for his discovery of the RAMAN EFFECT, he received the 1930 Nobel Prize in Physics He is noted also for his studies of diamonds In 1929 he was knighted

Raman effect [for C V. Raman], produced when some of a beam of monochromatic light is scattered in passing through a transparent medium (gas, liquid, or solid) The light so scattered undergoes a change (mainly an increase) in wave length and a change (mainly a decrease) in frequency The spectrum resulting is characteristic for the substance through which it passes See L E Howlett, *Raman-Effect and Chemical Bonds in Certain Organic Liquids* (1931), E A Crigler, *Raman Effect in Liquids and in Liquid Mixtures* (1932), J H Hibben, *The Raman Effect and Its Chemical Applications* (1939), S Bhagavantam, *Scattering of Light and the Raman Effect* (1940)

Ramapo (rä'mupō), river rising in SE New York and flowing S to the Pequannock S of Pompton Lakes, N J , forming the Pompton river which empties into the Passaic in NE New Jersey

Ramapo Mountains, beautiful forested range, NE N J and SE N Y , with many trails for walkers

Rama's Bridge see ADAM'S BRIDGE

Ramat Gan (rä'mät gän'), town (pop c 20,000), central Israel, 3 mi NE of Tel-Aviv, founded 1921 It is an industrial center and a health resort

Ramathaim-zophim (rā"muthā'ĭm-zō'fĭm) [Heb ,=two high places of Zophim], birthplace of Samuel, usually called Ramah for short 1 Sam 1 1,19, 7 17, 28 3 This has been variously identified with RAMAH **4**, with ARIMATHAEA, and with the modern RAMALLAH and RAMLEH The land of ZUPH is connected with the name

Ramathite (rā'muthīt), pertaining to RAMAH

Ramath-lehi (rā'măth-lē'hī), name given by Samson to the place in S Palestine where he wielded the jawbone of an ass Judges 15 17

Ramath-mizpeh (-mĭz'pē) [Heb ,=height of the lookout], unidentified place, E of the Jordan. Joshua 13 26

Ramayana (rama'yunu) [story of Rama], great Sanskrit epic of India, perhaps composed in the 2d

cent B C. It is traditionally the work of Valmiki, one of the minor characters. The *Ramayana* is more unified and far shorter than the *Mahabharata*, the other great epic of India. In some 43,000 couplets of 16-syllable lines, it relates the adventures of Rama, who, together with his half brothers, collectively made up the avatar (incarnation) of the god Vishnu. Rama was wrongly deprived of the succession to the kingdom of Ajodhya and forced into exile without his wife Sita. To attain the throne he allied himself with Humavun, king of the monkeys, and fought a mighty war in Ceylon. When he was restored to his kingdom, he subjected Sita to various ordeals to test her virtue, finally her mother (the earth mother) rose from a great chasm to proclaim her daughter innocent. For bibliography, see MAHABHARATA.

Rambam: see MAIMONIDES

Rambaud, Alfred Nicolas (alfrĕd' nēkôlä' räbō'), 1842–1905, French historian and politician. He served in the administration of Jules Ferry, was elected senator (1835), and was minister of public instruction (1896–98). Rambaud taught at the universities of Caen, Nancy, and Paris. The range of his interests and writings was wide, but all his works are characterized by the same honest scholarship, lucid style, insight, and clear presentation. His studies in Byzantine history, notably *L'Empire grec au dixième siècle* [the Greek empire in the 10th cent.] (1870) and *Études sur l'histoire Byzantine* (1912) are among the chief modern contributions to the subject. His *Histoire de la civilisation française* (2 vols., 1885–87) and his *Histoire de la civilisation contemporaine en France* (1888) are the best short general works on French civilization, both appeared in numerous later editions. Rambaud also was an authority on Russian history. His *Histoire de la Russie* (1877, Eng. tr., new ed., 2 vols., 1904) was long a standard work outside Russia, he also edited a collection of instructions to the French ambassadors in Russia for the period 1648–1789. Some of Rambaud's most important writings, particularly on Byzantine history, are contained in his contributions to the monumental *Histoire générale*, which he edited with LAVISSE.

rambler, popular name for a climbing rose used as pillar or trellis cover. The flowers are small and many-petaled and grow in large clusters. They are commonly red or pink.

Rambouillet, Catherine de Vivonne, marquise de (katrēn' du vēvôn' märkēz' du räbōōyā'), 1588–1665, famous Frenchwoman, whose salon exercised a profound influence on French literature. She retired from court life in 1608 and began to receive at her house the best minds of Paris. Her literary salon was the first of the kind, and her example was soon imitated throughout France and spread to the rest of the world. The height of her influence was between 1620 and 1645. Her circle included Mme de Sévigné, Mme de la Fayette, Mlle de Scudéry, the duchesse de Longueville, the duchesse de Montpensier, Corneille, Balzac, Richelieu, Malherbe, Racan, Voiture, Bossuet, Chapelain, Scarron, Vaugelas, and La Rochefoucauld. The conversation and literary criticism of the Hôtel de Rambouillet aimed solely at refinement and good taste, although the marquise liked to indulge in practical jokes on her guests which would have seemed questionable a century later. The name *précieux* (fem. *précieuse*) adopted by the members of her circle still lacked at that time its derogatory connotation, but the preciosity made fashionable by her salon soon deteriorated into extravagance and was much ridiculed by Molière. The oldest daughter of the marquise de Rambouillet was Julie d'Angennes (later duchesse de Montausier), to whom the members of the circle addressed the cycle of verses *Guirlande à Julie*, a younger daughter, Angélique, was the first wife of the marquis de Grignan, who after her death married the daughter of Mme de Sévigné. See Frank Hamel, *Famous French Salons* (1909).

Rambouillet (räbōōyā'), town (pop. 6,531), Seine-et-Oise dept., N France, S of Paris. The château (14th–18th cent.) is the official summer residence of the presidents of the French republic, and the vast Forest of Rambouillet is used for official hunting parties.

Rameau, Jean Philippe (zhä' fēlēp' ramō'), 1683–1764, French composer and theorist. He played the violin and the organ and was organist at the cathedral in Clermont and at Notre Dame de Dijon. His earlier works include harpsichord suites and two treatises on harmony in which he introduced the doctrine of inversions of chords. His first opera, *Hippolyte et Aricie* (1733), was produced when he was 50, and over 30 others followed, *Castor et Pollux* (1737) and *Les Fêtes d'Hébé* (1739) being notable. The operas of his older contemporary Lully were more popular in their time, but Rameau is now considered the greatest French musician of his day. See H. J. Foss, *The Heritage of Music*, Vol. II (1934).

Ramée, Joseph Jacques (zhōzĕf' zhäk ramā'), 1764–1842, French architect. He left France in 1792 and was active in Germany (where he built the Hamburg Exchange) and in Denmark. He lived in the United States from 1811 to 1816 and drew the plan for Union College, Schenectady, N.Y.

Ramée, Pierre de la: see RAMUS, PETRUS

Ramenghi, Bartolomeo: see BAGNACAVALLO.

Rameses or **Ramesses:** see RAAMSES. For Rameses in the Bible, see RAAMSES.

Ramiah (rūmī'ù), husband of a foreigner. Ezra 10 25.

ramie (răm'ē) or **China grass,** tall perennial plant (*Boehmeria nivea*) of the NETTLE family, native to the Orient where it has been cultivated since ancient times for its fiber. Ramie fiber is obtained from the bast and is extremely strong, durable, and lustrous, limited in use, however, because of the difficulty of separating the fiber—usually a hand process in the Far East—and freeing it from the adhering gum. Products made from the fiber include underwear, paper, cordage, gas mantles, and, in the Orient, grass cloth and other fabrics. Ramie plants have been cultivated experimentally in the United States and elsewhere, several crops may be cut in a season.

Ramillies, battle of (rä'mēlēz', Fr. rämēyē'), fought May 23, 1706, near the village of Ramillies-Offus, Brabant prov., Belgium, NNE of Namur, in the War of the Spanish Succession. Here Marlborough, commanding British, Dutch, and Danish troops, defeated the French under Villeroi in one of his most brilliant victories. The allies vigorously pursued the French and within a few days captured Antwerp, Ghent, and Bruges.

Ramiro I (rämē'rō), d. 1063, first king of Aragon (1035–63), natural son of Sancho III of Navarre, from whom he inherited Aragon. After the death of his brother Gonzalo he annexed Sobrarbe and Ribagorza and fought against the Moorish king of Saragossa. He died at the siege of Graus and was succeeded by his son Sancho Ramírez.

Ramleh (ram'lĕ) [Arabic,=sand], town (1931 pop. 6,880, 1946 estimated pop. 12,000), central Israel, SE of Tel-Aviv, on the road to Jerusalem at a crossing with an important road from the south. Ramleh is a very old town, and it was fought over constantly in the Crusades. The name also appears as Ramle, El Ramle, and Er Ramle. See RAMATHAIM-ZOPHIM.

rammed earth, material consisting chiefly of soil of sufficiently stiff consistency which has been placed in forms and pounded down. It has been used for buildings and walls since ancient times. Pliny the Elder records the survival of a rammed-earth fort built by Hannibal 250 years earlier. The material has been recommended especially for subsistence homesteads and for farm buildings, it has been widely used in the Rhone valley. It is known in England by the French term *pisé de terre*. It is formed either into monolithic walls or into blocks, and in both forms it makes strong durable walls with good insulating and fireproofing properties. Its resistance to water may be increased by stabilizing it with cement and by surfacing. Earth walls should rest on a foundation with a waterproof top and must be roofed immediately. The material usually costs nothing and does not require skilled labor. Adobe, unlike rammed earth, is sun-dried and is made without packing the earth down between forms. See R. L. Patty and L. M. Mimum, *Rammed Earth Walls for Farm Buildings* (1938), Clough Williams-Ellis and John and Elizabeth Eastwick-Field, *Building in Cob, Pisé, and Stabilized Earth* (1947).

Ramón y Cajal, Santiago (sänt'yä'gō ramōn' ē kahal'), 1852–1934, Spanish histologist. He was a university professor at Valencia (1881–86), at Barcelona (1886–92), and at Madrid (1892–1922), where he founded the Cajal Institute. He described the terminal branchings of nerve processes, devised a method of staining nerve tissues, and made numerous discoveries in the structure of the nervous system. For this work he shared with GOLGI the 1906 Nobel Prize in Physiology and Medicine. His writings include *Studies of the Degeneration and Regeneration of the Nervous System* (Eng. tr., 1928) and *Histology* (Eng. tr., 1933). See his autobiography (Eng. tr., 1937), biography by D. F. Cannon (1949).

Ramos, João de Deus (zhwă'ō du dă'ōōsh rä'mōōsh), 1830–96, Portuguese poet. His full name was João de Deus Nogueira Ramos, but he was, and is, known only as João de Deus. He was graduated from the Univ. of Coimbra in law and was later a journalist and a deputy, but his life was important only for his poetry. He composed his lyrics easily and disposed of them carelessly, it was Teófilo Braga who gathered them together from provincial newspapers and from casual friends as well as earlier volumes to make the complete collection, *Campo de flores* [flowering field] (1893). Simple in form and in metaphor, the lyrics are written in everyday language and are in one sense the most Portuguese of all Portuguese poems.

Ramoth (rā'mŏth), one who had married a foreigner. Ezra 10 29. For places named Ramoth, see RAMAH 3, RAMOTH-GILEAD; REMETH.

Ramoth-gilead or **Ramoth in Gilead** (-gi'lēăd) [Heb.,=high places in Gilead], important ancient center, E of the Jordan. It is named in the Bible as a city of refuge and as Ahab's last battlefield. Deut. 4 43; Joshua 20 8, 21 38; 1 Kings 4 13, 22, 2 Kings 8 28, 9 1, 1 Chron. 6 80, 2 Chron. 18, 22 5. Ramah: 2 Kings 8.29, 2 Chron. 22 6. Ramoth-gilead has been variously identified with es-Salt, c. 20 mi. northeast of the northern end of the Dead Sea, with GERASA, and with Ajlun, c. 10 mi. W. of Gerasa.

Rampolla del Tindaro, Mariano (märyä'nō rämpôl'lä dĕl tēn'därō), 1843–1913, Italian churchman, cardinal of the Roman Church. He was a nobleman. He was papal nuncio at Madrid (1882–87) and in his term was made cardinal. On his return to Rome he was LEO XIII's secretary of state, a key office he filled with distinction. On Leo's death the election of Cardinal Rampolla as pope was, it is said, prevented by Austria. He resigned his secretaryship but continued in the papal administration.

Rampur (rämpōōr'), former princely state (893 sq. mi., pop. 477,042), India, now part of United Provs. **Rampur,** town (pop. 89,322), formerly its capital, manufactures pottery, damask, and cutlery. The library here has an important collection of Oriental manuscripts.

Ramsay, Allan (răm'zē), 1686–1758, Scottish poet, a bookseller of Edinburgh. Of his poems the most famous is the pastoral comedy *The Gentle Shepherd* (1725). Ramsay is the first great figure in the revival of Scottish vernacular poetry which culminated in the work of Burns. He also compiled several collections of old Scottish poems and songs. His son, **Allan Ramsay,** 1713–84, was a noted portrait painter. After a successful career in Edinburgh he moved to London in 1767 and became principal painter to George III. Besides his portraits of George III (one of them in Independence Hall, Philadelphia), good examples of his work are those of Lord Chesterfield and Dr. Mead (both National Portrait Gall., London).

Ramsay, Sir Andrew Crombie, 1814–91, British geologist, b. Glasgow. He served from 1841 to 1881 on the Geological Survey, as director for England and Wales (1862–71) and as director general from 1871. He was knighted in 1881. His books include a geology of North Wales, papers on glacial action in lake formation and denudation of land, and a great *Physical Geology and Geography of Great Britain* (1863).

Ramsay, Sir Bertram Home, 1883–1945, British admiral. A career naval officer, Ramsay came out of retirement in the Second World War to command British and Allied naval units in some of the most spectacular operations of the war. He directed the evacuation of Dunkirk (1940) led the Allied fleets in the invasions of Africa (1942), Sicily, and Italy, and commanded, under General Eisenhower, the naval operations in the invasion of France in 1944. He was killed in a plane crash in 1945.

Ramsay, Sir William, 1852–1916, Scottish chemist. He was professor of chemistry at University College, Bristol (1880–87), and at University College, London (1887–1912). Investigating the inert gases of the atmosphere, he discovered helium, with Rayleigh he discovered argon, and with M. W. Travers, krypton, neon, and xenon. He also carried on research on radium emanation. In 1902 he was knighted. For his work on gases he received the 1904 Nobel Prize in Chemistry. His writings include *System of Inorganic Chemistry* (1891), *Experimental Proofs of Chemical Theory for Beginners* (1884), and *Essays Biographical and Chemical* (1908). See biographies by W. A. Tilden (1918) and C. L. F. Moureu (1921).

Ramsbottom, urban district (1931 pop. 14,929, 1943 estimated pop. 15,030), Lancashire, England, on the Irwell and N of Bury. The printing works of the Grants, reputed originals of the Cheerybles brothers in Dickens's *Nicholas Nickleby*, were here. There are cotton and wool mills and manufactures of paper and chemicals.

Ramsden, Jesse, 1735–1800, English optician and mechanician. In 1762 he started his own business as a maker of mathematical instruments and before long became well known for the fine quality of his work. He invented a machine for graduating instruments and made improvements in many of those then in use. His special attention was given to divided circles, in 1789 he completed the 5-foot vertical circle which PIAZZI used while constructing his star catalogue.

Rameses (răm'ŭsēz), **Rameses** (răm'ŭsēz", rūmē'sēz), or **Ramesses** (răm'ŭ-sēz"), name of several kings of ancient EGYPT of the XIX and XX dynasties. The kings of the XX dynasty, all but the first named Ramses, are often, on that account, called Ramessides or Ramessids. **Ramses I,** d. 1314 B.C., succeeded Harmhab, true founder of the XIX dynasty, c. 1315 B.C. He began the hypostyle at KARNAK. His son was SETI I, whose son in turn was **Ramses II,** d. 1225 B.C. Ramses was not the heir to the throne but usurper of the place of his brother. He reigned 67 years (1292–1225 B.C.). Under him Egypt acquired an unprecedented splendor. His empire extended from S. Syria to near the fourth cataract of the Nile. The most notable incident of his reign was his Pyrrhic victory over the Hittites near Kadesh on the Orontes, war with them continued for about 15 years until Ramses concluded a treaty of friendship with the Hittite king. All over Egypt Ramses left monuments. The principal are probably the Karnak temple he completed, the Rameseum, his mortuary temple, at Thebes; and the great rock temple at

Abu-Simbel. The social life of the period was characterized by great luxury, this with the increasing numbers of slaves, as well as the growth of a mercenary army, are said to foretell the imminent, final decline of Egypt Ramses' mummy is at Cairo He was succeeded by MERNEPTAH. The period of anarchy which followed Merneptah was ended by **Ramses III**, d. 1167 B C., the last important **Ramses** (reign, c 1198–1167 B C), and second king of the XX dynasty He fought vigorously and successfully in Libya and Syria The favors to the temples attributed to him are only official confirmations of earlier gifts By the time of his reign the temples had slaves numbering perhaps two percent of the entire population, and their riches were stupendous This fact and the evident riches of the nobility are causes of the decay in the Egyptian social structure from which the country would never recover The last year of Ramses III was darkened by the conspiracy of TIY After him the XX dynasty moves drearily to its end with Ramses XII, king in name alone

Ramseur (răm'sōōr", răm'swûr), cotton-mill town (pop 1,220), central N C, SSE of Greensboro; settled c 1850, inc 1895

Ramsey (răm'zē) **1** Market town (1931 pop. 5,180, 1943 estimated pop 5,135), Huntingdonshire, England Here Byrhtnoth's men were refused lodging the night before the battle of Maldon Ramsey Abbey was founded in the 10th cent under a charter from King Edgar Later the property passed to the Cromwell family, who held the lands until after 1670 Part of the Church of St. Thomas à Becket at Ramsey was constructed of the abbey stone **2** Seaport (pop 4,198), on the Isle of Man, Great Britain, at the mouth of the Sulby river The town is a tourist resort with a fine harbor and beach and attractive scenery Cattle and horses are exported

Ramsey (răm'zē), residential borough (pop 3,566), NE N J, N of Paterson, settled 1846, inc 1908

Ramsgate (rămz'gĭt), municipal borough (1931 pop 33,603, 1947 estimated pop 34,410), on the Isle of Thanet, Kent, England, ESE of London and near the famous roadstead of the Downs It is a resort and a seaport with a good harbor, used mainly by yachts and fishing boats The sea entrance is narrow, and there are two long stone piers, one with a promenade Ramsgate has associations with George Eliot and with the Pugins, who built the Roman Catholic church and who lived here for a time Victoria lived in Ramsgate as a young princess Ebbsfleet, near by, was the landing place of St. Augustine in the 6th cent and, traditionally, of Hengist and Horsa in the 5th cent, there is a Saxon cemetery in the neighborhood The borough has a Jewish college founded by Montefiore, who lived in Ramsgate The town suffered severe air raids in 1940, but caves in the cliffs provided bombproof shelters

Ramus, Petrus (pē'trŭs rā'mus), or **Pierre de la Ramée** (pyĕr' du lä rämā'), 1515–72, French humanist and philosopher In the process of trying to break through Aristotelian and scholastic traditions Ramus had a difficult time to maintain a teaching position In 1551, through the efforts of Cardinal de Lorraine, Ramus was established in a chair of rhetoric and philosophy at the Collège de France His work there was interrupted by the events of the religious wars, in the course of which Ramus, having attached himself to the reformers, fled to Germany His endeavors to form a system of logic to supersede Aristotle's are viewed as inadequate, but he must be credited with encouraging critical and skeptical thought. He was killed in the massacre of St Bartholomew's Day in Paris See N. E Nelson, *Peter Ramus and the Confusion of Logic, Rhetoric, and Poetry* (1947)

Ramusio, Giambattista (jäm"bät-tē'stä rämōō'zyō), 1485–1557, Italian editor and compiler, b. Treviso He served the Venetian state in diplomatic posts and eventually in the Council of Ten. He is remembered for his monumental *Delle navigationi e viaggi*, a collection of geographical accounts of explorations To this work we owe many of the explorers' accounts we have, it includes a fine edition of Marco Polo's account and an early description of Magellan's circumnavigation

Ramuz, Charles Ferdinand (shärl' fĕrdēnä' rämüz'), 1878–1947, Swiss novelist, who wrote in French Dealing with a simple people faced by the catastrophes and phenomena of nature, his novels probe to the elemental conflicts of existence His best works include *Le Règne de l'esprit malin* (1917, Eng tr, *The Reign of the Evil One*, 1922), *Presence de la mort* (1922, Eng. tr, *The End of All Men*, 1944), *La Grande Peur dans la montagne* (1926), *La Beauté sur la terre* (1927, Eng tr, *Beauty on Earth*, 1929), and *Derborence* (1935, Eng tr, *When the Mountain Fell*, 1947).

Rancagua (rängkä'gwä, -kə'wə), city (pop 31,018), central Chile, S of Santiago The city was founded in 1743 in a fertile valley among the Andean foothills Though one of Chile's largest copper mines (El Teniente) is near by, Rancagua has developed primarily as an agricultural center for cereals, beans, fruits, and vegetables Here on Oct 1 and 2, 1814, Bernardo O'HIGGINS commanded a magnificent defense of the plaza against a superior Spanish royalist force Failing to receive help from near-by patriot troops under José Miguel CARRERA, O'Higgins and the remnant of his men cut their way out of the trap. The engagement closed the first phase (1810–14) of the Chilean War against Spain.

Rancé, Armand Jean le Bouthillier de (ärmä' shă' lu bōōtēyā' du räsā'), 1626–1700, French religious reformer, b. Paris. He was of good family, received a good education, and lived at court as a worldly priest In 1664 he was converted and retired to an abbey of the Cistercians He then went to the Cistercian abbey at LaTrappe, where he was already abbot *in commendam*. There he established a discipline stricter than the primitive Benedictine rule, In a few years LaTrappe was famous, and its reform spread, out of the movement emerged the order of the TRAPPISTS

ranch. The cattle ranch came to the Great Plains from Latin America by way of Texas. At first the ranchman owned cattle, ponies, and camp equipment but no land, grazing his stock on the free public RANGE When fences became compulsory, the ranges were broken up into smaller ranches for the most part Sheep ranches have competed with cattle ranches for the grazing The term *ranch* has come to be applied in the W United States also to grain and fruit farms Cattle and sheep from ranches are often shipped to feed lots in the corn belt for fattening The dude ranch, which has attained great popularity in recent years, is a guest ranch devoted to supplying horseback riding and other Western recreation to vacationers Some are also "working" cattle ranches, but some depend solely on payment from guests.

Rand, the. see WITWATERSRAND

Randall, Alexander Williams (răn'dûl), 1819–72, governor of Wisconsin (1858–62), b Ames, Montgomery Co, N Y He moved to Wisconsin in 1840, practiced law, was postmaster at Prairieville (now Waukesha), and served in the state legislature As governor on the outbreak of the Civil War, Randall, a Republican, energetically supported the Union cause He was minister to the Papal States (1862–64), first assistant postmaster general (1863–65), and postmaster general (1865–69) under President Andrew Johnson

Randall, James Garfield, 1881–, American historian, b Indianapolis, Ind, grad Butler College, 1903, Ph D Univ of Chicago, 1911 He taught history and political science at various colleges before joining (1920) the faculty of the Univ of Illinois A leading authority on Lincoln and the Civil War, Randall wrote *Confiscation of Property during the Civil War* (1913), *Constitutional Problems under Lincoln* (1926), *The Civil War and Reconstruction* (1937), *Lincoln the President Springfield to Gettysburg* (2 vols, 1945), *Lincoln and the South* (1946), and *Lincoln the Liberal Statesman* (1947) He also edited, with T C Pease, *The Diary of Orville H Browning* (2 vols, 1927–33) and, with Mrs Jeannette Nichols, *Democracy in the Middle West, 1840–1940* (1941)

Randall, Samuel Jackson, 1828–90, U S Representative from Pennsylvania (1863–90), b Philadelphia He controlled the Democratic party in his state from 1875 to 1888 and was long a powerful figure in the House of Representatives, where, as speaker (1876–81), he presided over the sessions dealing with the disputed election of 1876 Because of Pennsylvania's industrial interests, Randall always opposed his party's traditional stand for a low tariff See H B. Fuller, *The Speakers of the House* (1909)

Randers (ra'nurs), city (pop 36,434), E Jutland, Denmark, a port on the Randers Fjord (an inlet of the Kattegat) and at the mouth of the Guden river. It has railroad and machine shops, iron foundries, distilleries, and dairy plants Randers dates from the 11th cent and was an important trade center in the Middle Ages Among the remaining medieval buildings is the three-towered Church of St Martin (c 1550)

Randfontein (rănt'fŏntān), town (pop 32,323), W Transvaal, Union of South Africa. It is the westernmost town in the major gold-mining fields of the Witwatersrand

Randleman, textile-mill town (pop 2,032), central N C, S of Greensboro.

Randolph, Edmund (răn'dŏlf), 1753–1813, American statesman, b "Tazewell Hall," Williamsburg, Va After attending William and Mary College, he studied law under his father, John Randolph, a Loyalist who went to England on the outbreak of the American Revolution. Edmund then lived with his uncle, Peyton RANDOLPH, before serving briefly in the Continental army as aide-de-camp to George Washington He was a member of the Virginia constitutional convention of 1776, state attorney general (1776–86), a delegate to the Continental Congress (1779–82) under the Confederation, and governor of Virginia (1786–88). He had a prominent role at the FEDERAL CONSTITUTIONAL CONVENTION in 1787, presenting the Virginia or Randolph Plan, which favored the large states. He at first vigorously opposed the Constitution as finally drafted, although his plan, more than any other, closely resembled it; later he urged its adoption in the Virginia ratifying convention (June, 1788). He was the first Attorney General of the United States (1789–94), leaving that post to succeed Thomas Jefferson as Secretary of State. Like Jefferson, he had difficulties because of Hamilton's constant pressure to secure a favorable treaty with England rather than one with France. In 1795 the British captured dispatches of Fauchet, French minister to the United States, which implied (falsely) that Randolph would welcome French money, whereupon Washington forced his resignation. He wrote *A Vindication of Mr. Randolph's Resignation* (1795), but many years passed before his name was entirely cleared Randolph returned to the practice of law in Virginia and in 1807 was chief counsel for Aaron Burr in his trial for treason See M D Conway, *Omitted Chapters of History Disclosed in the Life and Papers of Edmund Randolph* (1888), D R Anderson, "Edmund Randolph," in S. F. Bemis, ed., *The American Secretaries of State and Their Diplomacy*, Vol II (1927).

Randolph, Edward, c 1632–1703, British colonial agent In 1676 he carried royal instructions to Massachusetts Bay requiring the colony to send representatives to England to satisfy complaints of the heirs of John Mason and Sir Ferdinando Gorges, and he also had orders to make a complete report on the colony. Rebuffed by the Massachusetts authorities, he made a personal investigation in New Hampshire, Maine, and Plymouth and upon his return to England wrote a denunciatory report based on facts, but colored by his dislike for the Puritans His paper attacking the legality of Massachusetts Bay's charter helped bring about the withdrawal of Maine and New Hampshire from the colony's administration and the order that the colony repeal all laws unfavorable to England and enforce the Navigation Acts. In 1679 he established the new government in New Hampshire and then settled in Boston as collector of customs for New England His relations with the colonials was extremely bitter After the annulment (1684) of the Massachusetts charter, an act to which he had devoted much energy, he became secretary and register for the Dominion of New England and also acted as a councilor under Joseph Dudley and Sir Edmund ANDROS With the collapse of the Andros regime, Randolph was imprisoned for a time In 1691 he became surveyor general of customs for North America, continuing to condemn and denounce the colonists See R N Toppan, *Edward Randolph, Including His Letters and Official Papers from the New England, Middle, and Southern Colonies in America* (7 vols., 1898–1909)

Randolph, John, 1773–1833, American statesman, known as John Randolph of Roanoke, b Prince George Co, Va After studying for short periods at the College of New Jersey (now Princeton Univ) and at Columbia College, he began the study of law under Edmund Randolph, but soon abandoned it He served in the U S House of Representatives (1799–1813, 1815–17, 1819–25, 1827–29), where he became a powerful figure, and in the U S Senate (1825–27) In 1804 he was one of the managers appointed to conduct the impeachment proceedings against Federal Judge John Pickering and Supreme Court Justice Samuel Chase Having broken with Thomas Jefferson on the acquisition of Florida, Randolph soon lost his leadership in the House Known for his sharp, biting tongue, he strongly opposed James Madison and the Northern Democrats, the War of 1812, the second Bank of the United States, and the tariff measures During his vigorous fight against the Missouri Compromise he again exerted a strong influence His fiery denunciations of Henry Clay and John Quincy Adams led (1826) to a bloodless duel with Clay Appointed by Andrew Jackson minister to Russia (1830), he resigned shortly after his arrival there because of ill-health. Following his return he denounced Jackson's nullification proclamation In his later years he became very eccentric and at times suffered from dementia Randolph-Macon College was named for him and Nathaniel Macon See biographies by Henry Adams (1882), W C Bruce (2 vols, 1922, 2d ed, revised, 1939), and G W. Johnson (1929), H. S Eckenrode, *The Randolphs* (1946)

Randolph, Peyton, c.1721–1775, American statesman, first president of the Continental Congress, b Williamsburg, Va. After a general education at the College of William and Mary, he studied law in England He was prominent in Virginia after his return there, was king's attorney for Virginia (1744–66), and was long a member of the house of burgesses (1748–49, 1752–75) and its speaker of the house in 1766 He wrote the protest for the house against the proposed Stamp Act in 1764, but he opposed Patrick Henry's radical resolutions against it in 1765 A moderate and a personal friend of George Washington, Randolph worked for the patriot cause, headed the Virginia conventions of 1774 and 1775, and was elected to the First Continental Congress, of which he was briefly (Sept–Oct., 1774) president. It was chiefly this service that has made his name well remembered. He was elected (1775) to the Second Continental Congress but resigned because of illness.

Randolph, Thomas, 1523–90, English diplomat. He was graduated from Oxford (1545) and served as principal of Broadgates Hall (later Pembroke College), Oxford, until forced because of his Protestant sympathies to flee to France (1553) upon the accession of Queen Mary He returned (1559) after the accession of Elizabeth and served her in diplomatic missions to Scotland, where he acquired the friendship of Mary Queen of Scots He was directed to block the marriage of Mary to Darnley, and his promises were mainly responsible for the opposition to the marriage by James Stuart, earl of Murray, Mary's half brother Randolph's letters during his service in Scotland are a valuable source for the history of the period In 1568 he headed a special trade embassy to Russia. Subsequently he was sent on missions to France In 1580 he was in Scotland intriguing on behalf of the imprisoned former regent, James Douglas, 4th earl of Morton. His plot to abduct the young King James was discovered, and Randolph narrowly escaped death The last years of his life were spent as chancellor of the exchequer in England

Randolph, Thomas, 1605–35, English poet and dramatist He was a friend and protégé of Ben Jonson. Of Randolph's facile poems, the best known are "A Gratulatory to Mr Ben Jonson" and "On the Death of a Nightingale", *Amyntas* (1638), *The Muses' Looking Glass* (1638), and *The Jealous Lovers* (1632) are the best of his plays

Randolph. 1 Town (pop 1,612), SW Maine, on the Kennebec opposite Gardiner, inc 1887 **2** Town (pop 7,634), E Mass , S of Boston, settled c 1710, set off from Braintree 1793 **3** City (pop 1,094), NE Nebr , W of Sioux City, Iowa, settled 1886, inc. 1887 It has a dairy industry **4** Village (pop 1,321), W N Y , NE of Jamestown, inc 1867 Dairy products are made here **5** Town (pop 3,278), central Vt , inc 1783 Randolph Center is the seat of Vermont State School of Agriculture The Morgan horse was first bred at Randolph **6** Village (pop 1,146), central Wis , E of Portage and near Beaverdam Lake, settled 1844, platted 1857, inc. 1870

Randolph-Macon College, at Ashland, Va , Methodist, for men, chartered 1830, opened 1832 at Boydton, Va , moved 1868, named for John Randolph and Nathaniel Macon The same board controls an academy at Front Royal and **Randolph-Macon Woman's College** (opened 1893) at Lynchburg

Rand School of Social Science, in New York city, opened 1906 A socialist institution, it has no official connection with the Socialist party It offers courses in socialism, economics, the labor movement, social science, cultural subjects such as literature, drama, and music, and courses for social workers and teachers The schedule of classes is designed to suit the needs of working men and women

Randwick, municipality (pop 100,972), New South Wales, Australia, SE of Sydney, in the metropolitan area. A large race track is here

Ranelagh (răˈnĭlô), former amusement resort in Chelsea, London, England It was founded in 1742 on the estate of the earl of Ranelagh and closed in 1803 or 1804, when the grounds were acquired by the adjacent Chelsea Hospital

Ranelagh, North, and **South Ranelagh** (răˈnĭlô), suburbs of Dublin, Co Dublin, Ireland

Rangabe (rängäbäˈ) or **Rhangavis, Alexandros Rizos** (älĕkˈsändhrōs rēˈzōs rängˈgävēs'), 1810–92, Greek scholar, author, and diplomat, b Constantinople After 1831 he held government posts at Athens, notably in the ministry of education, and served as a diplomat in various capitals, among them Washington, D C As professor of archaeology at the Univ of Athens he was prominent in the Greek classicist revival The leading representative of the classical trend in modern Greek literature, he was particularly successful as a dramatist Among his works (written in classic Greek) are the comedy *Tou Koutroula o gamos* [the marriage of Koutroula] (1845) and the tragedy *Trakoniar tyrant* [the Thirty Tyrants] (1866)

range, grazing land of large area and low carrying capacity Formerly the ranges of the W United States and Canada were unfenced public land, ranges later often have been privately owned and fenced with barbed wire. In the national forests of the West are large unfenced ranges, rights to the grazing are purchased by ranchmen Ranges are known as summer ranges and winter ranges, according to the time of year when the grazing is at its best. See RANCH

Rangeley (rānjˈlē), town (pop 1,464), W Maine, NNW of Rumford on Rangeley Lake, inc 1855 In hilly (alt. c.1,500 ft.) and heavily wooded country, it is the headquarters of a famous fishing and hunting region. Small steamers ply on Rangeley Lake (7 mi long). Others of the Rangeley Lakes are Mooselookmeguntic, Cupsuptic, the Richardson lakes, Kennebago, and Umbagog. An Englishman, James Rangeley, settled here c.1825.

Rangely (rānjˈlē), unincorporated town (1946 estimated pop, 5,000), NW Colo., on the White River near the Utah line. Founded in 1880 as a supply post, it remained a tiny hamlet until the oil boom of the 1940s.

Ranger, Henry Ward (rānˈjûr), 1858–1916, American landscape painter, b. Syracuse, N Y , self-taught in art He worked much in France and Holland, and many of his canvases show the influence in feeling and color of Corot and of the Dutch school. He delighted in portraying the effects of sunlight through delicate foliage and the richer autumnal tones He left in his studio a collection of 129 canvases which were sold at auction after his death, providing a trust fund, to be administered by the National Academy of Design, for the purchase of paintings by American-born artists Among Ranger's paintings are *Spring Woods* and *Highbridge, New York* (Metropolitan Mus), others are in the National Gallery of Art, Washington, D.C., and the Syracuse Museum of Fine Arts He became a member of the National Academy of Design in 1906

Ranger (rānˈjur), city (1940 pop. 4,553, 1947 estimated pop 5,500), N central Texas, WSW of Fort Worth, founded 1881, inc 1919. It flashed to booming life and had nearly 50,000 inhabitants after oil was discovered in 1917 It still has some oil as well as produce of farms, ranches, and small factories It has a municipal junior college

Rangoon (răngˈgōonˈ), city (pop 500,800), capital of Burma, on the Rangoon river near its entrance into the Gulf of Martaban Until the 18th cent , the site was occupied by a small fishing village, dominated like the modern city by the gilded spire of the Shwe Dagon Pagoda, the most celebrated temple in Burma After a Burmese victory here in 1755, Rangoon was given its present name and built up as the chief port of Burma It was held briefly by the British in 1824–26, after it came under British rule in 1852, it was transformed into a modern city Rangoon is connected with all parts of Burma by roads, railroads, and waterways, it handles most of the country's foreign trade and is the commercial and industrial center The major exports are rice, petroleum, and teak, there are rice mills, sawmills, oil refineries, and other industrial plants The university at Rangoon was founded in 1920 In the Second World War, Rangoon was occupied by the Japanese from 1942 to 1945, much of the city was destroyed by bombing

Ranjit Singh (rŭnˈjĭt sĭngˈ), 1780–1839, Sikh ruler He built up a large army with the help of European officers and rapidly conquered Kashmir and the Punjab Although he had great military strength, he wished to avoid a contest with the British, and in 1809 a treaty was made establishing the Sutlej river as the southern boundary of his domain At the end (1849) of the Second Sikh War most of his kingdom fell to Great Britain

Ranjitsinhji Vibhaji, Sir (rŭnˈjĭtsĭnˈjē vĭˈbŭjē), 1872–1933, Indian maharaja and cricket player, b. Kathiawar state, India He was educated at Rajkumar College in India and at Cambridge After 1895 he established an illustrious reputation at cricket and twice (1896, 1900) won the English cricket batting crown "Ranji", as he was called by his fans, went (1897) to Australia with an all-star English cricket team and took one to America in 1899 In 1907, after a long fight for succession, he became the maharaja of Navanagar, and he was credited with abolishing many abuses during his 25-year reign He wrote *The Jubilee Book of Cricket* (1897) and *How to Play Cricket* (1906)

Rank, Otto (ôˈtō rangkˈ), 1884–1939, Austrian psychoanalyst, one of Sigmund Freud's first and most valued pupils He early employed Freudian techniques to clarify the underlying significance of myths, producing the classic paper *Der Mythus von der Geburt des Helden* (1909, Eng tr , *Myth of the Birth of the Hero*, 1914). Rank, in collaboration with Hanns Sachs, founded the psychoanalytic journal *Imago* in 1912 Rank's theoretical views, diverging from those of Freud, gave the birth trauma, rather than the Oedipus complex, the central position in the causation of neurosis, claiming all neurotic anxiety to be a repetition of the physiological phenomena of birth On the therapeutic side he attempted to reduce the time required for a successful psychoanalysis to a few months Rank came to the United States a few years before his death. Among his writings are *The Trauma of Birth* (Eng. tr , 1929), *Art and Artist* (Eng tr 1932), *Modern Education* (Eng tr , 1932), and *Will Therapy* (Eng. tr , 1936)

Ranke, Leopold von (läˈōpōlt fŭn rängˈkŭ), 1795–1886, German historian He applied and elaborated Barthold Niebuhr's scientific method of historical investigation, and he is generally recognized as the father of the modern objective historical school. His aim was to reconstruct events and institutions of the past "as they actually were" and to avoid foregone conclusions with the same conscientiousness as the physicist or biologist would Although impartiality is one of the oldest aims in history writing, Ranke was the first major historian to apply all the resources of modern research technique to its pursuit. He wrote and taught, moreover, at a period when scientific detachment was far less fashionable in history writing than the philosophical school of Hegel and the nationalist enthusiasm of Droysen and Treitschke, all of whom sought to fit history into preconceived patterns It is difficult to say whether Ranke was more influential through his writings or through his teaching As professor at the Univ of Berlin (1825–71), Ranke formed an entire generation of historians, who in turn spread his methods to all countries of the world In his seminars originated the collection and publication of the *Jahrbucher* [year books], which grew into a tremendous repository of information on medieval Germany The accumulation of facts and details—which served the double purpose of preparatory research and of practical training—was a prominent feature of Ranke's method One of Ranke's earliest works was *Zur Kritik neuerer Geschichtschreiber* [critique of modern historical writing] (1824), which set forth his method, the culmination of his old age was his *Weltgeschichte* [universal history] (9 vols , 1881–88) Ranke sought to apply his method to the history of all European nations, and his investigations ranged over a wide field. Among translations of his works are *Ecclesiastical and Political History of the Popes during the Sixteenth and Seventeenth Centuries* (Eng tr , 3 vols , 1840), *History of the Reformation in Germany* (Eng tr , 3 vols., 1845–47), *History of Servia* (Eng tr , 1847), *Memoirs of the House of Brandenburg and History of Prussia during the Seventeenth and Eighteenth Centuries* (Eng tr , 3 vols , 1847–48), *Civil Wars and Monarchy in France in the Sixteenth and Seventeenth Centuries* (Eng tr , 2 vols , 1852), and *History of England* (Eng tr , 6 vols , 1875) Important among his untranslated writings are *Geschichte Wallensteins* (1869), *Zwölf Bücher preussischer Geschichte* [12 books of Prussian history] (5 vols , 1874), and *Hardenberg und die Geschichte des preussischen Staates* [Hardenberg and the history of the Prussian state] (3 vols , 1879–81) Ranke was a conservative in politics, and he did not share in the liberalism and nationalism of his Prussian contemporaries He had no explicitly stated philosophy of history (which would have been irreconcilable with his objective and open-minded method), but it is implicit in his work that he regarded history as the expression of the divine will His complete works have been published in German (54 vols , 1867–90) See G P Gooch *History and Historians in the Nineteenth Century* (1913).

Rankin, Jeannette, 1880–, American Congresswoman, b Missoula, Mont , grad Univ. of Montana, 1902 She was active in social work and campaigned for woman suffrage A Republican, she was the first woman in the United States to serve (1917–19) in Congress and also was (1941–43) a member of the 77th Congress. She voted against the declaration of war against Germany in 1917 and cast the only vote in the House of Representatives against war in 1941

Rankin, industrial borough (pop 7,470), SW Pa , ESE of, and near, Pittsburgh, inc 1892 Steel is made here

Rankine, William John Macquorn (răngˈkĭn), 1820–72, Scottish engineer and physicist Serving as professor of engineering at the Univ of Glasgow from 1855, he made valuable contributions to civil and mechanical engineering as well as to thermodynamics His manuals of applied mechanics and of civil engineering and one on the steam engine and like engines went into many editions.

Rannoch, Loch (lŏkh răˈnukh), lake, c 9½ mi long and 1 mi wide, Perthshire, Scotland It is fed by the Ericht and drains to the Tay river by the Tummel Schiehallion mt to the southeast overlooks the lake, and desolate Rannoch Moor, c.30 mi long and 12 mi wide, surrounds it

Rann of Kutch: see KUTCH

Ransom, John Crowe (ränˈsŭm), 1888–, American poet and critic, b Pulaski, Tenn , grad Vanderbilt Univ and studied at Oxford as a Rhodes scholar. His poetry, concerned with the breakdown in the modern world of traditional order and stability, includes *Poems about God* (1919) and *Selected Poems* (1945) Ransom's Southern agrarian views were expressed in the magazine the *Fugitive* (1922–25) and in the symposia *I'll Take My Stand* (1930) and *Who Owns America?* (1936) His literary criticism includes *The World's Body* (1938) and *The New Criticism* (1941) He is editor of the *Kenyon Review* and since 1937 has been professor of poetry at Kenyon College

ransom, price of redemption paid to the captor of a person, vessel, or city The custom of ransoming was formerly sanctioned by law, and one of the rights of a feudal lord was to call upon his tenants to ransom him Soldiers, given the right to kill or enslave their prisoners, frequently preferred to free their captives after receiving money payment This operated to mitigate bloodshed, for it was more profitable to capture the enemy and hold him for ransom than to massacre him. The amount of ransom varied with the rank of the captive, and, while common prisoners might be killed, or freed upon payment of a small sum, the ransoming of a king or a noted warrior involved great sums For the payment of the ransom of Richard I a special tax was levied in England; the French sovereign paid heavy ransom for Bertrand du Guesclin; and Scotland was impoverished in paying for James I. In

ancient times, cities frequently paid ransom to prevent their plundering by captors, and merchant vessels captured by privateers were sometimes thus redeemed by the owners After receiving the ransom, the privateer sometimes furnished a ransom bill, which allowed safe conduct for the ship to one of her native ports At one time it was the custom for the captain of a captured ship to give bond for his vessel and leave one of his crew on board the privateer as hostage With the abolition of privateering, this form of ransom was no longer demanded Its present usage generally refers to the sum paid to a brigand or kidnaper for the release of an individual

Ranson, industrial town (pop. 1,171), W Va , in the Eastern Panhandle contiguous to Charles Town; inc 1910 It has a brass and iron foundry and apple-processing plants

Ranters, name given to the adherents of an antinomian movement in England about the time of the Commonwealth Its principal teaching was pantheistic, that God is present in all nature Individuals were allowed wide freedom of thought and action They were accused of fostering immorality and were legislated against by Parliament and vigorously suppressed Many of them became Quakers In the 19th cent the Primitive Methodists were sometimes called Ranters See Rufus M Jones, *Studies of Mystical Religion* (3d ed , 1909)

Rantoul (răn″tōōl′), village (pop 2,367), E Ill , N of Champaign, in a farm area, inc 1869 Chanute Field, U S military air technical school, is here

ranz des vaches (răz″ dā vash′), type of Alpine folk melody of irregular melodic and rhythmic form, played on the alphorn by Swiss herdsmen There are about 50 or more regional variations on the basic melodic pattern Beethoven, in the Pastoral Symphony, and Rossini, in *William Tell*, are among the composers who have used the *ranz des vaches* in compositions

Raoul (răōōl′), d 936, duke of Burgundy, king of France (923–36) Elected king to succeed his father-in-law, ROBERT I, he fought against the Normans and the Hungarians, who repeatedly invaded France, and defended his crown against those nobles who supported the claims of CHARLES III (Charles the Simple) Though successful in establishing his authority, he did not live to enjoy it long His successor was LOUIS IV.

Raoult, François Marie (frăswȧ′ mărē′ raōōl′), 1830–1901, French chemist He was professor (from 1870) and dean (from 1889) of the faculty of sciences at the Univ of Grenoble He is known especially for his work on solutions which led to his formulation of the law which bears his name

Raoult's law (răōōlz′) [for F M Raoult] states that the lowering of the vapor pressure of a solvent is proportional to the concentration (molar) of the substance dissolved

Rapallo (rŭpa'lō, Ital răpal'-lō), town (pop 6,766), Liguria, NW Italy A resort on the Italian RIVIERA, it is beautifully situated on the Gulf of Rapallo

Rapallo, Treaty of, 1920 see FIUME

Rapallo, Treaty of, 1922, agreement signed by Germany and the USSR at Rapallo, Italy It was reached by Walter Rathenau and G V Chicherin independently of the Conference of Genoa (see GENOA, CONFERENCE OF), which was then in session Germany accorded the USSR *de jure* recognition (the first such recognition extended to the Soviet government), and the two signatories mutually canceled all pre-war debts and renounced war claims Russia, however, agreed to indemnify Germany if payment were made to other states on pre-war debts Particularly advantageous to Germany was the inclusion of a most-favored-nation clause and of extensive trade agreements The treaty was viewed with suspicion in Allied countries as the beginning of a German attempt to overthrow the Treaty of Versailles

rape, name applied to the six territorial divisions into which Sussex, England, is divided

rape, annual or biennial herb (*Brassica napus*), belonging to the same genus as the cabbage and resembling the turnip in form It is grown for forage for hogs and sheep and sometimes for cattle, although it may cause bloating with stock other than swine, as a cover crop, sometimes in orchards, for the seed, from which is expressed an oil used for illuminating, lubricating, and food purposes The oil has been utilized in Europe since the 17th cent A cake, made of the seed residue, is a valuable stock feed and also a good nitrogenous fertilizer. The seed is also used in birdseed mixtures See *Rape as a Forage Crop* (U S Dept of Agriculture, Farmers' Bul 164)

rape, in law, the crime of sexual intercourse with a woman (other than one's wife) without her consent A woman is deemed legally incapable of consenting if she is insane, idiotic, or below the AGE OF CONSENT In other cases, failure to resist physically (unless it plainly would be useless) implies consent and exonerates the accused

Rapha (rā'fu), variant of REPHAIAH.

Raphael (rā'fēul, rā'-) [Heb ,=God heals], archangel He is prominent in the book of Tobit, as the companion of Tobias, as the healer of Tobit, and as the rescuer of Sara from Asmodeus Feast: Oct. 24. Milton made him a prominent character of *Paradise Lost*

Raphael Santi or **Raphael Sanzio,** Ital *Raffaello Santi* or *Raffaello Sanzio* (raf″fāēl'lō sän'tē,[sän'-tsyō), 1483–1520, Italian Renaissance painter, b. Urbino, considered one of the greatest artists of the period His father, Giovanni Santi, court painter and poet to the city lord Federigo Montefeltro, first taught him the elements of art After the death (1494) of Giovanni, Raphael was probably apprenticed to Timoteo Viti, he entered (c 1500) the workshop of Perugino, where he first produced independent works Raphael worked in Florence from 1504 to 1508, when he moved to Rome, summoned by Bramante to participate in the decoration of the Vatican There he remained until his untimely death of a fever His early, Perugian works show the influence of Perugino in their composition and coloring, *The Crucifixion* and *The Knight's Dream* (both National Gall , London), *Coronation of the Virgin* (Vatican), *The Three Graces* (Chantilly), the *Connestabile Madonna* (Hermitage, Leningrad), and the *Sposalizio* (Brera, Milan), painted for the Franciscans at Città di Castello, are examples of this period and show much technical and artistic progress compared with *St Michael, St George and the Dragon,* and *Apollo and Marsyas* (all Louvre), painted under Viti The Colonna altarpiece, representing the *Madonna and Saints* (Metropolitan Mus), marks a turning point, having been begun at Perugia and finished at Florence, the five predella scenes, *Agony in the Garden* (Metropolitan Mus), *St Anthony of Padua* and *St Francis* (both Dulwich), *Procession to Calvary* (National Gall , London), and *Pietà* (Gardner Mus , Boston), give evidence of the new influences of Leonardo, Masaccio, and, more especially, Fra Bartolomeo Studying the intricacies of anatomy, perspective, and coloring, he achieved in Florence a freer, more able, and deeper interpretation At Florence he produced those Madonnas which gained him popularity with all ages by their sweet and deep expression The *Madonna del Gran Duca* (Pitti Palace), *Madonna del Giardino* (Vienna), *Madonna Ansidei* (National Gall , London, named for the Ansidei Chapel in San Fiorenzi, Florence, for which it was commissioned), *Madonna del Cardinello* (Uffizi), *Cowper Madonna* (National Gall of Art, Washington, D C), and *La Belle Jardinière* (Louvre) all belong to this period, the *Madonna del Baldacchino* (Pitti Palace) was begun by Raphael at this time but finished by Ghirlandaio The landscape backgrounds for the Madonnas became at this time much expanded in the manner of Leonardo Other works of the Florentine period are *St Catherine* (National Gall , London), the fresco *Adoration of the Trinity* (San Severo, Perugia), *The Entombment* (Rome), self-portrait (Uffizi), and portraits of Angelo and Maddalena Doni (Pitti Palace) At Rome his style matured, benefiting from Michelangelo's influence In the Vatican, Raphael was wholly responsible for the Stanza della Segnatura (finished 1511), the two largest walls representing, respectively, the *School of Athens,* portraying the Greek philosophers, and *The Triumph of Religion,* also called *Disputa,* the side walls show *The Slaying of Marsyas* and *The Temptation of Eve* The ceiling is devoted to the allegorical figures *Law, Philosophy, Poetry,* and *Theology* Two large lunettes over the windows represent *Parnassus* and *Jurisprudence* In the Stanza d'Eliodoro he painted (1511–14) *The Expulsion of Heliodorus from the Temple, The Miracle of Bolsena, The Repulse of Attila from Rome by Leo I,* and *The Deliverance of St Peter* He also partly painted and wholly designed the *Incendio del Borgo* in the Stanza dell' Incendio, other designs for the Vatican include *The Battle of Ostia, The Oath of Leo III before Charlemagne,* and *The Victory of Constantine over Maxentius,* the 52 religious subjects covering one ceiling and known as "Raphael's Bible" were also executed by his pupils after his design. Among the easel paintings of his Roman period are the *Garvagh Madonna* (National Gall , London), *Madonna with the Fish* (Prado), *Madonna di Foligno* (Vatican), *Madonna of the Chair* (Pitti Palace), the *Sistine Madonna,* his best-known work, named after the Church of San Sisto, Piacenza, for which it was commissioned, *Galatea* (Farnesina), *St Cecelia* (Bologna), *Christ Bearing His Cross* (Prado), *Isaia* (Sant' Agostino, Rome), a fresco, the *Alba Madonna* (National Gall. of Art, Washington D C), and the unfinished *Transfiguration* (Vatican), completed by Giulio Romano Portraits of that period include Julius II, long his patron, Baldassare Castiglione (Louvre), Tommaso Inghirami (Gardner Mus , Boston), Cardinal Bibbiena (Prado), and *Pope Leo X with Two Cardinals* and the *Donna Velata* (Pitti Palace), the last portraying a lovely woman about whose identity there has been much romantic speculation Having been named (1514) successor to Bramante as chief architect, Raphael designed a number of churches, palaces, and mansions. For his patron, Leo X, he undertook (1518) a survey of ancient Rome showing the chief monuments He also designed 10 tapestries with themes from the Acts of the Apostles for the Sistine Chapel, seven of the designs being in the Victoria and Albert Museum. See *Raphael* (paintings and drawings, with introduction by W. E Suida, 1942), C. C. Perkins, *Raphael and Michelangelo* (1878); Estelle Hurl, *Raphael* (1899).

Raphia see RAFA, Egypt.

raphia. see RAFFIA.

Raphu (rā'fū) [Heb ,=healed], father of Palti the spy Num 13 9.

Rapidan (răpĭdăn′), small river rising in N Virginia in the Blue Ridge and flowing SE and then NE to the RAPPAHANNOCK.

Rapid City, city (pop 13,844), co seat of Pennington co , SW S Dak , on Rapid Creek near the Black Hills and SE of Lead, inc 1882. Founded in 1876 after gold was discovered near by, the city is a center of gold and silver mining and the seat of the SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY It is also a center of farming and dairying Near by the Bureau of Reclamation built Deerfield Dam (est 1947) in the Rapid valley project. Dinosaur Park contains life-size cement figures of five dinosaurs

Rapido (rä'pēdō), river, 20 mi long, rising in the Apennines, S central Italy It joins the Liri below Cassino In the Second World War an Allied attempt (Jan , 1944) to outflank CASSINO in the drive on Rome resulted in extremely heavy casualties, particularly for the U S 36th Infantry Division The Allies eventually crossed the Rapido successfully, but Cassino continued to hold out until May

Rapp, George, 1757–1847, German religious leader, known as Father Rapp, b Württemberg In 1803 he came to the United States, where he and his followers formed the HARMONY SOCIETY

Rapp, Jean (zhȧ′ răp′), 1772–1821, French general He held Danzig against the Russians in 1813–14 and commanded the Army of the Rhine during the Hundred Days Created a count by Napoleon, he was later raised to the peerage by Louis XVIII

Rappahannock (răpŭhă'nuk), river rising in N Virginia on the eastern slope of the Blue Ridge E of Front Royal It flows generally southeast 212 mi to Chesapeake Bay, c 20 mi below the Potomac, and is navigable to Fredericksburg In the Civil War much fighting took place in the vicinity of the Rappahannock and the Rapidan, the largest of its several tributaries (see BULL RUN, SECOND BATTLE OF, FREDERICKSBURG, BATTLE OF, CHANCELLORSVILLE, BATTLE OF, BRANDY STATION, KELLY'S FORD, WILDERNESS CAMPAIGN)

Rappahannock Station, small trading center, N Va , E of Culpeper It is now called Remington Here was fought, Nov 7, 1863, a battle of the Civil War Union forces under Gen John Sedgwick scored a minor victory

Rapperswil (ra'pursvēl), town (pop 5,070), St Gall canton, Switzerland, on the Lake of Zurich Allied with several Swiss cantons after the 15th cent , it was included in St Gall canton in 1803 The 14th-century castle housed (1875–1927) the Polish National Museum, established by Polish refugees There is a small diversified industry

rare earths, group of rare, vari-colored, earthy, mineral substances (the oxides of a number of metals) found in the United States, Greenland, South America (Brazil), Europe (Norway and Sweden), and India The more important are cerite, euxenite, gadolinite, monazite, orthite, and samarskite. Origin ally they were thought to be elementary substances themselves, but later from them a number of metals were obtained These metals, known as the **metals of the rare earths,** are similar in properties and are grouped together in the periodic table They all exhibit a valence of 3, and they range in atomic number from 57 to 71. In order of atomic number they are lanthanum, cerium, praseodymium, neodymium, promethium (formerly illinium), samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutecium Some other metals, as yttrium, thorium, and zirconium, are sometimes included The rare-earth metals are commonly arranged for convenience in three groups the first beginning with lanthanum and including the others in succession through samarium, the second, europium, gadolinium, and terbium, and the third, from dysprosium through lutecium The rare-earth metals are obtained from the rare earths only in small quantities

Raritan (rā'rĭtun), town (pop 4,839), N central N J , on the Raritan river near Somerville, inc. 1868

Raritan, river rising in N central New Jersey in a north and a south branch which meet W of Raritan It flows E and SE past Somerville, Bound Brook, and New Brunswick to Raritan Bay (an arm of Lower New York Bay) at Perth Amboy The Delaware and Raritan Canal connects the Raritan with the Delaware at Trenton and Bordentown The Thomas Alva Edison Memorial Bridge near Perth Amboy was built in 1938–40 See H E Wildes, *Twin Rivers: the Raritan and the Passaic* (1943).

Rarotonga (rărōtŏng'gă, rărūtŏng'gū), formerly **Goodenough's Island,** volcanic island (16,500 acres; pop. 5,775), S Pacific, the largest (c.6 mi. long and 4 mi. wide), most important, and most

southwesterly of the COOK ISLANDS. It is the capital of the group Rarotonga was discovered in 1823 by John WILLIAMS The highest of the forested hills reaches an altitude of 2,110 ft Avarua is the port and seat of government

ras (rŭs), Ethiopian title, usually translated "prince" It is used by the hereditary rulers of the major Ethiopian states, which were formerly independent kingdoms Thus, the present emperor, HAILE SELASSIE, was called Ras Tafari when his rule was limited to Shoa The most noted literary use of the title is in the name of the hero of Samuel Johnson's tale, *Rasselas*. Johnson may have erroneously believed that ras was part of the personal name and not merely a title

Rashi (rä'shē), 1040–1105, Jewish scholar and commentator, b Troyes, France The name he is known by is an abbreviation of Rabbi Solomon bar Isaac He studied in Worms, returning to Troyes c 1065 There, supported by the family vineyards, he taught and wrote his famous commentaries Those on the Old Testament (on all but a few books) and the Talmud rank as the greatest in Jewish exegesis and are still important in Jewish life Rashi's commentary on the Pentateuch (printed 1475) was the first dated Hebrew book printed His commentary on the Talmud covers the Mishna with the Gemara His work influenced Christian thinking, being known to Luther It is distinguished by great clarity

Rasis see RHAZES

Rask, Rasmus Christian (räs'mōōs krĭs'tyan rask), 1787–1832, Danish philologist, one of the great linguistic pioneers He published perhaps the first usable Anglo-Saxon and Icelandic grammars (translated into English) His work on the relationship of the Indo-European languages was extremely valuable and useful to his immediate successors

Rasles, Sébastien (sābästyĕ' rälĕ'), 1657?–1724, Jesuit missionary in North America, b France Arriving in present Maine in 1689, he spent two years with the Abnaki Indians in Acadia He then became a missionary among the Illinois tribes In 1696 he was recalled to take charge of the mission of the Abnaki, now at Norridgewock, Maine, which was disputed territory of the French and English When in 1721 the British invaded the camp, Father Rasles escaped, but his dictionary of the Abnaki language, which he had been carefully compiling, was carried off This book was published in 1833 He was killed in 1724 when the British raided the settlement His name also appears as Rale

Rasmussen, Knud Johan Victor (kunōōt' yō'hän vĭk'tôr räs'mōōsun), 1879–1933, Danish arctic explorer and ethnologist, an authority on the Greenland Eskimo Born in Greenland of Eskimo ancestry on his mother's side, he began in 1902 his 30 years of exploration and of study of the Eskimo, in which he sought confirmation of his theory that they are derived from the same stock as the North American Indians, having originally migrated from Asia In 1910 he established at Cape York, Greenland, his noted Thule station, the base for seven expeditions, five of which Rasmussen himself led He explored (1921–24) some 29,000 mi of arctic North America, being the first to traverse the Northwest Passage by dog sled when he crossed the ice of Viscount Melville Sound In 1932 he went on his last expedition, from Thule to SE Greenland for ethnological and archaeological data His translated works include *Greenland by the Polar Sea* (1921) and *Across Arctic America* (1927) in addition to several studies of the Eskimo

raspberry, name for several perennial shrubs of the genus *Rubus*, which include the blackberry and dewberry—all sometimes called brambles Several species of raspberry grow wild in North America, including *Rubus occidentalis*, the black raspberry or blackcap, and *Rubus strigosus* (or *Rubus idaeus* variety *strigosus*), the red raspberry The common European raspberry is *Rubus idaeus*, also cultivated in America In the United States raspberries are cultivated chiefly in the North The red, purple, black, yellow, or white fruits, tender and quickly perishable, are delicately flavored and are used fresh, dried, or canned and for jam A raspberry when picked differs from the blackberry in having a deep concave pit where it was separated from its stalk The plant is attacked by several diseases, such as orange rust, crown gall, and cane blight See also LOGANBERRY

Raspe, Rudolf Erich (rōō'dôlf ā'rĭkh räs'pu), 1737–94, friend and compatriot of Baron MUNCHAUSEN Raspe made a collection of the remarkable and quite incredible stories centering about the baron, which was published in London in 1785 under the title *Baron Munchausen's Narrative of His Marvellous Travels and Campaigns in Russia*

Rasputin, Grigori Yefimovich (räspōō'tĭn, Rus grĭgô'rĕ yĭfĕ'muvĭch räspōō'tyĭn), 1872–1916, Russian monk, a notorious figure at the court of Nicholas II He was an illiterate peasant and a debauchee, affiliated with a mystic sect akin to revivalism Because of his magnetism and because of his apparent miraculous cure of the young tsarevich, who suffered from hemophilia, Rasputin gained complete hold over Empress ALEXANDRA FEODOROVNA and, through her, over the emperor The statesmen and ministers who tried to oppose him were removed from their posts, those who remained were his tools The court was plunged into a nearly insane atmosphere of mysticism and the imperial family obeyed the slightest whims of the "holy man" while Russia suffered crushing defeats in the First World War It was suspected that the empress, who was German by birth, and Rasputin made their own use of the secret information which Nicholas was too weak to withhold from them The liberal section of the Duma also feared that Rasputin was working with the ultrareactionary clique for a separate peace with Germany In Dec, 1916, a group of conspirators, all belonging to the highest nobility, killed Rasputin at the palace of Prince Yussupov Rasputin's constitution was tough a generous dose of poison failed to produce any visible effect, and the terrified conspirators riddled him with bullets and drowned him in the frozen Neva for good measure During the February Revolution of 1917 Rasputin's corpse was exhumed and burned by the mob See M V Rodzianko, *The Reign of Rasputin* (1927), Prince F F Yussupov, *Rasputin* (1934)

Rassam, Hormuzd (hôrmōōzd' räsäm'), 1826–1910, Turkish archaeologist He assisted Layard in Mesopotamia in 1845–47 and 1849–51, studying at Oxford in the years between While in charge (1852–54) of excavations for the British Museum, he discovered at Kuyunjik (a mound on the site of Nineveh) the palace of Assur-bani-pal While doing field work (1872–82) in Assyria and Babylonia he identified and partially excavated the site of Sippar He wrote *Asshur and the Land of Nimrod* (1897) and *Narrative of the British Mission to Theodore, King of Abyssinia* (1869)

Ras Shamra, Syria see UGARIT

Ras Tafari see HAILE SELASSIE

Rastatt (räʹshtat, raʹstat), town (pop 13,526), S Baden, SW Germany, near the Rhine and SW of Karlsruhe It manufactures railroad cars, fine machinery, precision instruments, textiles, and paper First mentioned in 1207, it was completely destroyed (1689) by the French in the War of the Grand Alliance The Treaty of Rastatt (1714) complemented the treaties signed at Utrecht in 1713 (see UTRECHT, PEACE OF) As a result of the Treaty of CAMPO FORMIO (1797), a congress of the various states of the Holy Roman Empire, attended by France, was held here (1797–99), it was broken up by the resumption of hostilities against France Rastatt suffered considerable damage in the Second World War It is sometimes spelled Rastadt

Rastrelli, Bartolomeo Francesco, Conte (bärtôlōmāʹô franchāʹskō kônʹtā rästrĕlʹlē), 1700–1771, Italian architect He went with his father to Russia, where he became the outstanding architect of the imported Italian baroque style As court architect he was important in the development of St Petersburg His numerous great buildings include the Winter Palace and the Stroganov Palace at St Petersburg and the palace at Tsarskoye Selo

rat, rodent of world-wide distribution The brown house rat (*Rattus norvegicus*) and the black house rat (*R rattus*), both native to Asia, belong, like the house mouse, to the family Muridae They breed throughout most of the year The black rat probably migrated to Europe in the 12th cent Infesting ships, it was carried to America where, by 1700 it had become common on the Atlantic coast The brown rat reached Europe probably c 1727 and America c 1775 It drove the smaller and less pugnacious black rat from much of the territory Rats cause huge losses to stored foods, crops, and property Epidemics of typhus and bubonic plague spread by rats greatly influenced history in medieval Europe Other diseases transmitted by rats include rat-bite fever, tularemia, and rabies Albino rats are used in scientific experiments Various rodents of other families are also called rats, e g, kangaroo rat, wood or pack rat, cotton rat, rice rat, and bamboo rat

Rat Chain. see MARSHALL ISLANDS

ratchet and pawl, mechanical contrivance whose usual function is to permit motion in one direction only The ratchet is usually a wheel with angular teeth against which the pawl abuts The pawl is a lever arranged with a catch of such form that when drawn in one direction around the ratchet it catches the teeth, but when drawn in the opposite direction it merely slides over the teeth

Ratdolt, Erhard (ĕrʹhärt rätʹdōlt), 1442–1528, printer in Venice from 1476 to 1486 and in Augsburg from 1487 to 1522 A sheet showing specimens of his sizes and designs of type, dated 1486, is the earliest known specimen sheet His ornamental initials and borders, replacing the work of the illuminator, are still admired. His printing influenced that of William Morris

rath (rä, rath), hill fort protected by earthworks, used by the ancient Irish in the pre-Christian era as a retreat in time of danger Some of the larger raths, such as that at TARA, were famous in early Irish history and were used by chieftains or kings Many examples remain throughout Ireland

Rathenau, Walter (välʹtur räʹtŭnou), 1867–1922, German industrialist, social theorist, and statesman Son of Emil Rathenau (1838–1915), founder of the German public-utilities company *Allgemeine Elektrizitätsgesellschaft* (AEG), Rathenau succeeded to the presidency of this corporation on his father's death He directed the distribution of raw materials in the First World War under the so-called Hindenburg Program and became minister of reconstruction (1921) and later foreign minister (1922) He represented Germany at the Cannes and Genoa reparations conferences and negotiated the Treaty of Rapallo (see RAPALLO, TREATY OF) with Russia He was assassinated by nationalist and anti-Semitic fanatics (Rathenau was a Jew), who opposed his sincere attempts to fulfill reparations obligations Rathenau's social philosophy was idealistic He clearly realized the dangers of industrialization and feared that civilization was moving towards a stage of extreme mechanization, in which the human soul would be lost Opposed to socialism, Rathenau believed in the aristocracy of the mind He advocated a democratic social order, in which the means of production and distribution would be administered by consumer-producer guilds and private property would be restricted to consumer's goods His translated works include *In Days to Come* (1921) and *The New Society* (1921).

Rathgar, Ireland see RATHMINES AND RATHGAR.

Rathlin (räthʹlĭn), island (3,564 acres, pop 245), off Northern Ireland, in Co Antrim It is N of Benmore Head Rathlin is the Rikina or Ricinia of ancient times and is sometimes called Raghery Island Its cliffs, of limestone and basalt, rise at Sheveacarn to 449 ft The island's products include grain, fish, and kelp St Columba founded a church here in the 6th cent, and there are ruins of a castle in which Robert the Bruce is reputed to have hidden.

Rathmines and Rathgar (räthminzʹ, räthgarʹ), former urban district, now part of Dublin, Ireland.

Ratibor (raʹtēbôr) or **Raciborz,** Pol *Racibórz* (ratsēʹ-bōōsh), city (1939 pop 50,004, 1946 pop 19,605), Upper Silesia, on the Oder It has manufactures of precision instruments, textiles, and chemicals The capital of a principality founded in the 13th cent, it passed with Silesia to the house of Austria in 1526 and to Prussia in 1745 The princely title was revived in 1822 in favor of a member of the house of Hesse In 1840 Ratibor was raised to a titular duchy and the title was given to Chlodwig zu Hohenlohe-Schillingsfürst, with whose family it remained Ratibor was transferred (1945) to Polish administration at the Potsdam Conference

ratio The ratio of two quantities expressed in terms of the same unit is the fraction which has the first quantity as numerator and the second as denominator For example, if in a group of 100 people 5 die, the ratio of deaths to the total number in the group is 5/100=1/20=.05 Ratios are also indicated by writing the two values with a colon between them, e g, the ratio of 4 to 8 can be expressed by 4 8 as well as by 4/8

rationalism (räʹshunulĭzm) [Latin,=belonging to reason], theory which assigns first place to reason in the development and validation of human knowledge It stands opposed to empiricism on the one hand and to the justification of knowledge by faith on the other It is further to be differentiated from instrumentalism, which does not ascribe exclusive priority to any mode of investigation but asserts that the techniques of rational inquiry are a supporting tool in any inquiring activity of the mind Rationalism has been active in attacking the claims of religion In the Middle Ages the struggle appeared in the arguments of the scholastic theologians, and again in the 18th-century attack of the deists on the Roman Catholic Church The 19th-century controversy between partisans of the doctrine of evolution and those who denied it on religious grounds was essentially the dispute between rationalism and revealed religion By that time, however, rationalism was taking a decidedly empirical and even positivistic turn Religious modernism, an increasingly popular doctrine, has many features which it owes to rationalism When rationalism is opposed to empiricism, the argument is concerned with the source of knowledge and the techniques for verification of knowledge Rationalism tends to hold that truth can be achieved by a process of logical deductive reasoning from certain "self-evident" premises Empiricism and its allied theories hold that the only source of knowledge is sense perception and that the only test of knowledge is experience Locke represents the empirical position, Leibniz the rationalistic Kant attempted to harmonize the two positions by separating the areas which can be dealt with by reason and experience from those which are the province of faith The outcome was agnosticism, a result which appeared also in the ancient rationalistic system, Stoicism The pragmatic or instrumentalist position, which avoids the question by redefining truth according to the purposes of the investigator, is best exemplified by John Dewey See W E H. Lecky, *History of the Rise and Influence of the Spirit of Rationalism in Europe* (1904), E G Spalding, *The New Rationalism* (1918), John Dewey, *The Quest for Certainty* (1929), A E Murphy, *The Uses of Reason* (1943).

rationing, the allotment of scarce supplies to provide equitable distribution It may be employed also to conserve economic resources and to reinforce price and production controls Although early used in community emergencies and in distributing supplies to sailors, rationing was first organized on a national scale during the First World War, and during the Second World War it spread to most of the world The methods used have varied according to the degree of rationing needed and to the products These include specific rationing, allotment in terms of physical units, point rationing, the allotment of points to be apportioned by the user among commodities of a given group, and value rationing, allotment in terms of expenditure Rations may be allotted to individuals, institutions, and industrial users or to communities, as in rural areas of undeveloped countries In universal rationing, ration currency is issued to everyone in equal amounts, in differential rationing, the allocation is based on need and may vary according to occupation, age, sex, or health Ration currency, usually distributed by the government to the consumer, moves upward from the consumer level to the manufacturer or processor as the product moves down (this is the so-called flow-back system) To prevent direct exchange of cumbersome ration currency, especially at the higher levels, many nations instituted ration banking through regular bank channels In many countries rationing was continued for some years after the war The German system (widely used on the Continent) entailed almost total rationing on a differential basis The English system, designed largely to conserve resources, has allowed greater freedom of choice, differentiation among categories of consumers has been limited to specific items In the United States a flexible point system was used for most rationed foods, the unit system applied to sugar, coffee fuel oil, and other items Priorities and differential rationing were limited to a few commodities including tires and gasoline Rationing was administered by the OFFICE OF PRICE ADMINISTRATION See W A Nielander, *Wartime Food Rationing in the United States* (1947)

Ratisbon, Bavaria see REGENSBURG

Rat Islands see ALEUTIAN ISLANDS

Raton (rătŏn'), city (pop 7,607, alt 6,400 ft), co seat of Colfax co, NE N Mex, near the Colo line NE of Santa Fe, settled in the 1870s on the Santa Fe Trail, laid out 1880, inc 1891 It is a coal-mining town and rail and trade center for a live-stock region A state hospital and home for miners is here To the east are Capulin Mountain National Monument and Folsom (see FOLSOM CULTURE) Raton Pass (7,800 ft high) is just N of Raton

rattan (rătăn'), name for a number of plants of the genera *Calamus* and *Daemonorops*, climbing palms of tropical Asia Rattan leaves are of the feather-palm type, but are not clustered into a crown, they have prolonged, whiplike barbed tips by which the plant climbs to the tops of trees From the stem, noted for its extraordinary length, often several hundred feet, is obtained the rattan cane of commerce, a slender, flexible, tough cane of uniform diameter, usually split for wickerwork, baskets, and chair seats and left entire for walking sticks, e g, the Malacca cane A resin that exudes from the fruit is known commercially as DRAGON'S BLOOD

Rattazzi, Urbano (ōorbä'nō rät-tät'tsē), 1808–73, Italian statesman A leader of the left in the Sardinian parliament, he was briefly (1849) minister of the interior and later held cabinet posts as a strong supporter of Cavour until the two fell out (1857) Rattazzi was again minister of the interior (1859–60) and twice premier (1862, 1867), both his resignations as premier arose from trouble with Garibaldi, who attempted to take Rome during Rattazzi's premiership

Rattigan, Terence Mervyn, 1911–, British dramatist His best-known plays are *O Mistress Mine* (produced in New York, 1943) and *The Winslow Boy* (pub, 1946; produced in New York, 1947, filmed 1950). He also contributed to the British film *Bond Street* (1948) and other films

rattlesnake, poisonous snake of the Americas of the pit VIPER family. The head is widened at the base At the end of the tail is the "rattle," a series of dried, hollow segments which, when shaken, make a whirring sound While the snake is young three or four segments are usually added each year, one at each molt After maturity fewer develop Sometimes segments break off and a new one does not always form when the snake molts The timber rattlesnake is found from S Maine to NE Florida and W to Iowa and Texas It is about 3½ to 5 ft long and is yellow or tan with wide, dark crossbands The largest (5 to 8 ft in length) and most deadly species is the diamondback rattlesnake of the S and SE United States The western diamondback is shorter and stouter In the W United States the prairie rattlesnake sometimes lives in deserted prairie-dog holes, but despite popular lore, not with the prairie dogs and owls

Rattvik, Swed. *Rättvik* (rĕt'vēk), village, Kopparberg co, central Sweden, on Siljan lake. It has preserved ancient customs, traditions, and architecture, and its quaintness has made it a popular resort. Here Gustavus Vasa (later Gustavus I) made his appeal for support in the war for liberation from Danish rule in 1521

Ratzel, Friedrich (frē'drĭkh rät'sŭl), 1844–1904, German geographer He traveled as a journalist in Europe (1869) and in Cuba, Mexico, and the United States (1872–75) Thereafter he devoted himself to geographical studies and taught geography at the polytechnic school at Munich (1876–86) and at the Univ of Leipzig (from 1886) He was a pioneer in developing the science of anthropogeography and emphasized the importance of physical environment as a factor determining human activity His many works include *Anthropogeographie* (2 vols, 1881–92), *Völkerkunde* (3 vols, 1885–88, Eng. tr, *The History of Mankind*, 1896–98), and *Politische Geographie* (1891)

Ratzenhofer, Gustav (gōōs'täf rä'tsənhō"fûr), 1842–1904, Austrian sociologist and general, b. Vienna He had a distinguished military career, but is remembered chiefly for his contributions to social theory. His *Wesen und Zweck der Politik* [essence and purpose of politics] (3 vols, 1893) and other books in which he analyzed self and group interests and conflict had much influence on American sociologists

Rauch, Christian Daniel (krĭs'tyän dä'nyĕl roukh'), 1777–1857, German sculptor After some years of study in Rome (1804–11 and again later), where he felt the influence of Thorvaldsen, he achieved a high reputation as a sculptor of tombs, monuments, and portraits His outstanding works include portrait statues of five generals who fought against Napoleon, of Blücher, of King Maximilian II of Bavaria, and of Albrecht Dürer, and monuments to Queen Louise and Frederick the Great The last, Rauch's masterpiece, was a colossal bronze equestrian statue of Frederick on a pedestal with groups of generals and soldiers and with bas-reliefs depicting scenes from his life

Rauma (rou'mä), city (pop 9,459), W Finland, a seaport on the Gulf of Bothnia In the late 19th cent its sailing fleet, used for exporting timber, was the largest in Finland Incorporated in 1442, Rauma has narrow winding streets and a medieval Franciscan church, it has been noted for lacemaking since the Middle Ages

Rauschenbusch, Walter (rou'shunbōōsh), 1861–1918, American Baptist clergyman, b Rochester, N Y, grad Univ of Rochester (B A, 1884, D D, 1902) and Rochester Theological Seminary, 1886 In 1886 he was ordained and began religious work among German immigrants in New York city In 1902 he became professor of church history at the Rochester Theological Seminary An influential leader in the social interpretation of Christianity, he wrote *Christianity and the Social Crisis* (1907), *Christianizing the Social Order* (1912), *The Social Principles of Jesus* (1916), and *A Theology for the Social Gospel* (1917) His writings have been widely translated

Ravaillac, François (frāswä' rävāyak'), 1578–1610, assassin of Henry IV of France. A religious fanatic, he had convinced himself that Henry's policy was dangerous to the Church

Ravel, Maurice (mōrĕs' ravĕl'), 1875–1937, French composer, b in the Pyrenees, pupil of Fauré at the Paris Conservatoire Ravel and Debussy were the leaders of the anti-Wagnerian, impressionist movement His music is subtle, restrained, and well ordered He was a master of the piano and excelled at orchestration as well, sometimes orchestrating his own piano music Among his works are the piano suites *Miroirs* (1905), *Gaspard de la nuit* (1908), *Le Tombeau de Couperin* (1917), also for piano, *Pavane pour une infante défunte* (1899), *Jeux d'eau* (1901), *Ma Mère l'Oye* (1908, four hands, orchestrated), *Valse nobles et sentimentales* (1911), concerto for left hand (1931), for orchestra, *Daphnis et Chloé* (1909–12), *La Valse* (1919–20), the popular *Bolero* (1928), and a comic opera, *L'Heure espagnole* (1907) See Madeleine Goss, *Bolero. the Life of Maurice Ravel* (1940)

raven, large glossy black bird of the crow family, native to N Eurasia and North America The northern raven, a gloomy, dismal-voiced bird of N and E North America, is about 24 in long Ravens can be tamed and taught to imitate words They are primarily scavengers but will attack young or injured animals. A pair of ravens often use the same nest, usually on a cliff or in a tall tree, year after year Related western birds similar to the northern raven are the slightly smaller American raven and the white-necked raven of the desert regions of the SW United States and Mexico, which is about 20 in long. The raven is the subject of superstitions and legends, its most famous literary treatment is in Poe's poem, *The Raven*.

Ravena (ruvē'nŭ), village (pop. 1,810), E N.Y., near the Hudson S of Albany; inc. 1914. Ravena makes cider and vinegar and has stone quarries.

Ravenna (ruvĕ'nŭ, Ital rävĕn'nä), city (pop. 31,251), capital of Ravenna prov., Emilia-Romagna, N central Italy, in Romagna On a marshy plain near the Po delta, it is 6 mi. from the Adriatic. It rose to importance under the Romans, who made its port, Classis, the station for their fleet in the N Adriatic. Honorius made (402) Ravenna the capital of the Western Empire, and it was also the capital of Odoacer and Theodoric, who are responsible for some of the best buildings. Ravenna was the seat of the exarchs (governors of Byzantine Italy) from the late 6th cent until 751, when its capture by the Lombards broke Byzantine power in Italy Pope Stephen III claimed the exarchate and asked Pepin the Short to help wrest it from the Lombards Pepin donated the lands of the exarchate to the pope (754). This donation, confirmed by Charlemagne in 774, marked the beginning of the temporal power of the popes The Da Polenta family—known as Dante's hosts—were lords from the 13th to the 15th cent. After a period of Venetian domination, the city returned to the popes in 1509 The French won here a victory in 1512 over Spanish and papal forces, their commander, Gaston de Foix, died in the battle Ravenna is famous for its unique mosaics (see MOSAIC) of the 5th and 6th cent., showing strong Oriental connections, and for its Roman and Byzantine buildings Ornamented with mosaics are the mausoleum of Galla Placidia (5th cent), the octagonal baptistery (anciently a Roman bath), the 6th-century churches of Sant' Apollinare Nuovo and Sant' Apollinare in Classe, and, richest of all, the Byzantine Church of San Vitale There are the tombs of Theodoric and Dante Near the city along the sea are characteristic pinewoods celebrated since Roman times

Ravenna. 1 (ruvĕ'nŭ) Town (pop 1,098), central Ky., SE of Lexington and on the Kentucky near Irvine, inc 1921 **2** (rūvĕ'nŭ) City (pop 1,429), central Nebr, on the South Loup river and WNW of Grand Island, in a grazing area, inc. 1886 **3** (rĭvā'nŭ, rūvĕ'nŭ) City (pop 8,538), co seat of Portage co, NE Ohio, NE of Akron, in a lake and farm area, settled 1799, laid out 1808. Worsted cloth, derrick cranes, road sweepers, and iron castings are made here

Ravensberg (rä'vunsbĕrk), former county, NW Germany, in Westphalia, NW of Lippe It included Bielefeld. It passed (1346) to the counts of Berg With Berg, it passed to the duke of Jülich in 1348, and with Jülich it came (1524) to the duke of CLEVES In 1614 it went to Brandenburg

Ravensburg (rä'vunsbôrk), town (pop 23,912), S Württemberg, Germany, in Swabia, NNE of Friedrichshafen It has machinery, pharmaceutical, textile, and food-processing manufactures. A free imperial city from the 13th cent, it was a flourishing commercial center in the 15th and 16th cent It passed to Württemberg in 1810 Ravensburg has retained part of its medieval fortifications, a Gothic town hall, and several Gothic churches The ruins of the ancestral castle of the Guelphs are near by

Ravenstein, Ernest George (rā'vunstīn), 1834–1913, English cartographer and geographer, b Germany He studied and worked in Gotha, but did most of his cartographical and geographical work in England, where he was an employee of the government topographical department and a member of the Royal Statistical and the Royal Geographic societies Among his works were the *Map of Equatorial Africa* (1884) and *Atlas of the World* (1911).

Ravenswood, town (pop 1,061), W W Va, on the Ohio and SW of Parkersburg, chartered 1852.

Ravi (rä'vē), river, c 400 mi long, N India, flowing SW to the Chenab One of the five rivers of the Punjab, it first forms part of the border of West Punjab prov, Pakistan, and Punjab state, India, and it then enters West Punjab.

Rawalpindi (rəwulpĭn'dē), city (pop 185,042), West Punjab prov, Pakistan After the British occupation of the Punjab (1849), it grew to be one of their largest garrisons in India. There is much trade in agricultural produce. Manufactures include chemicals, ordnance, finished steel, furniture, and flour

Rawdon, village (pop 1,236), S Que, N of Montreal, in a lumbering, dairying, and potato-growing region

Rawdon-Hastings, Francis: see HASTINGS, FRANCIS RAWDON-HASTINGS, MARQUESS OF.

Rawlings, Marjorie Kinnan, 1896–, American author, b. Washington, D C, grad. Univ of Wisconsin, 1918. She did newspaper work until 1928. Her first novel, *South Moon Under* (1933), and two others were Book-of-the-Month Club selections, and one, *The Yearling* (1938), the story of a boy and his pet deer, was awarded the Pulitzer Prize for fiction in 1939. *Cross Creek* (1942) is an autobiographical account of her cracker neighbors. All her books deal with Florida's backwoods

Rawlins, John Aaron, 1831–69, Union general in the Civil War, b. Galena, Ill. Admitted to the bar in 1854, he served as city attorney in 1857. He joined the Union army in 1861 at the request of his fellow townsman Ulysses S. Grant and was appointed a captain and assistant adjutant general of volunteers on Grant's staff. Rawlins remained with Grant throughout the war and was his most influential adviser. He was promoted brigadier general of volunteers in 1863, was made chief of staff of the whole Union army in March, 1865, and became a major general in the regular army in April, 1865. On Grant's accession to the presidency in 1869, Rawlins became his Secretary of War, but died of tuberculosis before the year was out. He

was an ardent advocate of Cuban independence. See biography by J. H. Wilson (1916)

Rawlins, city (pop. 5,531; alt. 6,755 ft.), co. seat of Carbon co., S. Wyo., WNW of Laramie; founded c.1868. It is a rail, trade, and industrial center for a region of oil and gas, quarries, and sheep and cattle. The state penitentiary is here.

Rawlinson, George, 1812–1902, English Orientalist and historian, educated at Oxford. He taught history at Oxford and was made a canon of Canterbury. He is known for his long authoritative and still useful histories of the ancient world. His most famous history is that of *The Five Great Monarchies of the Ancient Eastern World* (4 vols., 1862–67). He and his brother, Sir Henry C. Rawlinson, edited Herodotus. He wrote a biography of his brother.

Rawlinson, Sir Henry Creswicke, 1810–95, English Orientalist and administrator, brother of George Rawlinson. In the course of his service with the Persian army and as consul at Baghdad, he became interested in deciphering the Persian CUNEIFORM of the inscription of Darius I at BEHISTUN. The results of his investigation were published in *Journal of the Royal Asiatic Society* and collected in *The Persian Cuneiform Inscription at Behistun* (completed 1851). He also helped prepare *The Cuneiform Inscriptions of Western Asia* (5 vols., 1861–84) for the British Museum. From 1865 to 1868 he sat in Parliament, and after 1868 he was a member of the India council. See biography by his brother, George Rawlinson (1898).

Rawlinson, Henry Seymour Rawlinson, 1st Baron, 1864–1925, English general. He accompanied Sir Frederick (later Lord) Roberts as his aide-de-camp in the Burmese expedition of 1886–87. He served under Kitchener in the Sudan campaign (1898) and in the South African War was a member of Lord Roberts's staff. He was made a brigadier general in 1903, and in the First World War he commanded the British 4th Army, which went through heavy fighting near the Somme. In 1918 he was a member of the Supreme War Council at Versailles, and later, returning to his previous command, he achieved notable success in piercing the Hindenburg line in a break-through between Saint-Quentin and Cambrai (Aug.–Nov., 1918). He was raised to the peerage in 1919 and commanded the British forces in India from 1920 until his death. See biography by Frederick Maurice (1928).

Rawmarsh, urban district (pop. 18,572), West Riding of Yorkshire, England, near Rotherham. It has ironworks, potteries, and coal mines.

Rawtenstall, municipal borough (1931 pop. 28,587, 1947 estimated pop. 24,870), Lancashire, England. N. of Bury. It has coal mines and manufactures of cotton, wool, and leather goods.

Ray or **Wray, John,** 1627–1705, English naturalist. With his pupil Francis Willughby, he planned a complete systematic classification of the vegetable and animal kingdoms and toured Europe collecting specimens. On Willughby's death, Ray organized and published the material left by his friend. Ray's own work—the botanical part of the project—includes the important *Historia plantarum* (3 vols., 1686–1704) and also *Catalogus plantarum Angliae* (1670) and *Methodus plantarum nova* (1682). The Ray Society for the publication of scientific works was founded in his honor in 1844.

ray, marine fish of the shark family, having a flat, diskike body with wide, fleshy, pectoral fins usually continuous with the sides of the head and body. Some are harmless, but the sting rays can inflict a severe and painful wound with the saw-toothed spine of the long tail. Some are destructive to oysters. A ray known as the devilfish or manta is found in warm Atlantic and Pacific waters. It reaches a weight of over 3,000 lb. and sometimes measures more than 20 ft. across the body from the tip of one fin to the other.

ray, in physics, a term commonly used to indicate an extremely narrow pencil of light or other form of radiation which proceeds through space in a straight line from the body serving as its source. It generally refers, therefore, to the line of propagation of waves, although it is also applied to streams of particles emitted by substances exhibiting RADIOACTIVITY. See also COSMIC RAYS, INFRARED RAYS, ULTRAVIOLET RAY, X RAY.

Rayburn, Sam (Samuel Taliaferro Rayburn), 1882–, U.S. Congressman (1913–), b. Roane co., Tenn., grad. East Texas Normal School. After his family removed (1887) to Fannin co., Texas, he worked at cotton picking. He worked his way through school, studied law at the Univ. of Texas, and practiced in Bonham, Texas. He was (1907–12) a member of the Texas legislature and was a prominent Democratic politician before entering Congress. He served as speaker of the House from 1940 to 1946 and returned to that post in 1949.

Rayleigh, John William Strutt, 3d Baron (rā'lē), 1842–1919, English physicist. He was professor of experimental physics at Cambridge (1879–84), professor of natural philosophy at the Royal Institution (1887–1905), and chancellor of Cambridge from 1908. He won the 1904 Nobel Prize in Physics. He is known for his extensive and important research in sound (resonance, vibration, absolute pitch) and light (radiation, polarization, and color vision), for his discovery (with Sir William Ramsay) of the inert gaseous element argon; for his determinations of electrical units, especially the ohm; and for his investigation of the application of Boyle's law to gases at low pressures. His works include *The Theory of Sound* (1877–78) and *Scientific Papers* (1899–1900). See biography by R. J. S. Rayleigh (1924), G. F. J. Temple and W. G. Bickley, *Rayleigh's Principle and Its Applications to Engineering* (1933).

Raymond IV (Raymond de Saint Gilles) (rāmōˊ du sĕ shēlˊ), d. 1105?, count of Toulouse (1093–1105?), leader in the First Crusade (see CRUSADES). The first great prince to take the Cross (and the only one to do so at the Council of Clermont), he led an army of Provençals to Constantinople. He refused to follow BOHEMOND and GODFREY OF BOUILLON in swearing fealty to ALEXIUS I, confining himself to a promise to do no injury to the emperor's life or honor. Raymond distinguished himself at the sieges of Nicaea, Antioch, and Jerusalem, but quarreled with Bohemond over the possession of Antioch. Having refused the title of king of Jerusalem, he fought at Ascalon (1099). Unable to protect his city of Laodicea against Bohemond, he went to Constantinople to seek the aid of Alexius. Subsequently he was held prisoner by TANCRED, who was acting as regent for Bohemond, and at the end of his life he laid siege to Tripoli, which was finally formed into a county by his descendants.

Raymond VI, d. 1222, count of Toulouse (c. 1194–1222). Repeatedly excommunicated for his tolerance toward the ALBIGENSES, he regularly submitted to the Church and made promises of a change in attitude. Attacked by Simon de MONTFORT (1211), he received the support of Peter II of Aragon, but in 1213 he and Peter were defeated at Muret, and Raymond went into exile in England. Though obliged to grant Toulouse and Montauban to Montfort and Provence to his own son, Raymond VI fought with his son against Montfort and Montfort's son till his death in 1222.

Raymond VII, 1197–1249, count of Toulouse, son of Raymond VI. He continued his father's war (see ALBIGENSES). In 1229 he signed a treaty which virtually transferred the major part of S France to the French crown, partly through immediate cession, partly through the marriage of his daughter to ALPHONSE of Poitiers, a brother of Louis IX of France. Raymond was several times excommunicated by the pope and in 1233 was compelled to permit the establishment of the Inquisition in his lands. After an unsuccessful revolt in 1241 he obtained peace by promising to destroy the Albigenses. He kept his promise in the year of his death he burned 80 Cathari.

Raymond, c. 1140–1187, count of Tripoli (1152–87), great-great-grandson of Raymond IV of Toulouse. He played a leading part in the last years of the Latin Kingdom of Jerusalem. Captured (1164) by the Moslems, he was released c. 1173 and became (1174) regent for King BALDWIN IV of Jerusalem. He relinquished this post in 1176, but in 1183 was appointed regent for Baldwin V. Raymond opposed GUY OF LUSIGNAN, who became king at the death (1186) of Baldwin, and he even entered into an alliance with SALADIN. However, in 1187 he became reconciled with Guy and valiantly led the Christians in the battle of Hattin. Saladin was victorious, and the Kingdom of Jerusalem soon fell entirely into the hands of the Moslems. Raymond died at Tyre soon after the battle. See M. W. Baldwin, *Raymond III of Tripolis and the Fall of Jerusalem* (1936).

Raymond, Antonin, 1889–, American architect, b. Czechoslovakia. He came to the United States in 1910, worked in Frank Lloyd Wright's office, and went with him to Japan in 1920. He practiced there from 1921 to 1938 and became a pioneer of modern building in the Orient. He edited *Architectural Details* (1939). See *Antonin Raymond: His Work in Japan* (ed. by Katsuya Nakamura, 1935).

Raymond, John T., 1836–87, American actor, whose real name was O'Brien. He had success as Asa Trenchard in Tom Taylor's *Our American Cousin* in 1858 and gained fame in 1874 as Col. Mulberry Sellers in a dramatization of Mark Twain's *Gilded Age*. A gifted character actor, he also appeared in tragedy.

Raymond, town (pop. 2,116), S Alta., SE of Lethbridge, in a sugar-beet area. A provincial agricultural college is here.

Raymond. 1 Town (pop. 1,340), SE N.H., between Portsmouth and Manchester, settled 1717. It was called Freetown and was part of Chester until its incorporation as Raymond in 1764. 2 Lumber city (pop. 4,045), SW Wash., a port on the Willapa river near Willapa Bay; homesteaded in 1861, incorporated 1907. It also has commercial fisheries and is a farm and dairying center.

Raymond Berengar IV (bĕˊrŭngär), d. 1162, count of Barcelona (1131–62). He married Petronella, daughter and only heir of King Ramiro II of Aragon, after whose abdication (1137) Raymond also ruled Aragon. Catalonia and Aragon remained united under Raymond's descendants. Raymond continued the fight against the Moors, took Tortosa (1148), Lérida (1149), and several other towns. He also took part in politics in S France. One of the greatest figures of the Catalan dynasty, Raymond was succeeded by his son Alfonso II.

Raymondville, city (1940 pop. 4,050, 1947 estimated pop. 6,500), co. seat of Willacy co., extreme S Texas, NNW of Brownsville; platted 1904, inc. as a city 1921. In the irrigated section of the Rio Grande valley, it handles citrus fruit and vegetables and some livestock and oil.

Raynal, Guillaume Thomas François, Abbé (gēvōm' tômäˊ frāswäˊ abāˊ rānälˊ), 1713–96, French historian and philosopher. A priest dismissed from his parish in Paris, he turned to writing and became an editor of the *Mercure de Paris*. His *Histoire philosophique et politique des établissements et du commerce des Européens dans les deux Indes* (6 vols., 1770) was condemned by the Parlement of Paris in 1781. He left France, returning later, he was elected to, and declined, membership in the States-General of 1789.

Rayne, town (pop. 4,974), SW La., SW of Baton Rouge. The town has rice mills and ships quantities of frogs.

Raynham (rāˊnum), town (pop. 2,141), SE Mass., set off from Taunton 1731. Ironworks were established here in 1652.

rayon (rāˊŏn"), synthetic fibers made from CELLULOSE or textiles woven from such fibers. The name was adopted (1924) in preference to "artificial silk" by the U.S. Dept. of Commerce and various commercial associations. As early as 1664 the English naturalist Robert Hooke had suggested the possibility of making artificial silk, but the first artificial textile fiber was produced in 1884 by a French scientist, Hilaire de Chardonnet, and was manufactured by him in 1889. Unpopular at first because it was too lustrous and laundered poorly, it has been steadily improved and of the textile fibers is second only to cotton in total consumption and cheapness. Cellulose from wood pulp or cotton linters, washed, bleached, and pressed into sheets, is dissolved by chemicals, then forced under pressure through minute holes in a metal cap (spinneret), emerging as filaments which unite to form one continuous strand solidified by passage through a suitable liquid or warm air. The spinning solution may be extruded through a larger orifice or slit to produce a monofilament, a ribbon, or a sheet. Filaments are doubled and twisted into smooth, silklike yarns or cut into staple lengths and spun. Spun rayon can be treated to simulate wool, linen, or cotton. Four methods of manufacturing rayon differ as to materials and processes used. In the nitrocellulose process developed by Chardonnet and no longer of commercial importance, cellulose is treated with nitric and sulphuric acids. In the VISCOSE PROCESS discovered in 1892 it is treated with carbon disulphide, then dissolved in caustic soda, forced through a spinneret, and hardened in sulphuric acid. For cuprammonium rayon the cellulose is dissolved in copper oxide and ammonia, forced through holes larger than the intended diameter, then, by a process known as stretch spinning, is elongated and twisted under tension to yield a very fine, strong yarn used for sheer fabrics and hosiery. Rayon produced by these three methods is classified as regenerated, since the final product, like the original material, is cellulose. The fourth type of rayon, originated in England in 1918, is an acetate derivative of cellulose made by steeping cellulose in acetic acid, then treating it with acetic anhydride. Acetate rayon is more resistant to stains and creasing, takes different dyes, and is plasticized by heat, permitting embossed effects such as *moiré* patterns. Yarns with new properties are constantly being developed, such as high-tenacity yarns used for tire fabrics and yarns with a permanent woollike crimp or with separate air pockets adapting it to use as sponge rubber and kapok substitutes. An acetate filler is used to make nonshatterable glass. Flexible greaseproof and moistureproof sheets such as CELLOPHANE are used for wrappings. See J. V. Sherman and S. L. Sherman, *The New Fibers* (1946), Zelma Bendure and G. B. Pfeiffer, *America's Fabrics* (1946).

Rayonnant style (rāˊŏnänt), the middle and culminating period (c. 1220–1350), of French Gothic architecture, so termed from the characteristic radiating tracery of the ROSE WINDOW. In this period most of the great cathedrals were under construction, the builders became bolder and more proficient, emphasizing in every way the vertical elements of the structure. Light and soaring structural skeletons became established, reducing the size of all supporting members, the enlargement of windows resulted in a drastic reduction of wall surfaces. Bar tracery, displaying elaborate geometrical patterns, supplanted plate tracery. Sculptural ornament turned to greater naturalism and was used more generously. Of this period are the cathedral at Amiens (1220–70), the Sainte-Chapelle at Paris (1240–48), and the earlier portions of St. Ouen at Rouen (commenced 1318).

Rayville, town (pop. 2,412), parish seat of Richland parish, NE La., near the Boeuf river E of Monroe. Cotton-ginning, hunting, and fishing are its main activities.

Razin, Stenka (stĕng'ká ra'zēn), d 1671, Cossack leader He was ataman [chief] of the *golytba* [property less Cossacks] of the Don After returning from a raid (1667–69) through the lower Volga valley and across the Caspian Sea—an expedition which brought him and his followers immense booty—Razin turned against the authority of the tsar in 1670 The rebel army led by him took Tsaritsyn (now Stalingrad), Astrakhan, Saratov, and Samara (now Kuibyshev) and was joined by the peasants and the non-Russian tribes of the middle and lower Volga region However, he was defeated by government troops at Simbarsk (now Ulyanovsk) and fled to the Don, where the propertied Cossacks delivered him to the government He was beheaded at Moscow His exploits have been celebrated in song and legend

Rb, chemical symbol of the element RUBIDIUM.

Re: see EGYPTIAN RELIGION

Ré (rā), island (33 sq mi ; pop c 9,000), off La Rochelle, W France, in the Bay of Biscay The name was formerly sometimes spelled Rhé It belongs to Charente-Maritime dept The citadel, built (1681) by Vauban at Saint-Martin-de-Ré, is now a penitentiary George Villiers, 1st duke of Buckingham, led (1627) an unsuccessful expedition to Ré in an attempt to raise the siege of the Huguenot stronghold of La Rochelle

Re, chemical symbol of the element RHENIUM

Rea, Samuel (rā), 1855–1929, American railroad engineer, b Hollidaysburg, Pa He entered (1871) the service of the Pennsylvania RR as rodman Rea was (1875–77) assistant engineer in the building of the Monongahela Bridge at Pittsburgh, was (1889–92) chief engineer of the Baltimore and Ohio RR, then returned to the Pennsylvania and was put in charge of the railroad's construction work The Pennsylvania Station in New York city, the Pennsylvania RR tunnels under the Hudson and East rivers and under Manhattan, and the Hell Gate Bridge were built under his direction He served as president of the Pennsylvania RR from 1913 to 1925

reaction, chemical: see CHEMICAL REACTION

Read, George, 1733–98, American jurist, signer of the Declaration of Independence b near Northeast, Cecil co , Md He was admitted to the bar in 1753 and later (1763–74) was attorney general of the Lower Counties (Delaware) and a member of the Continental Congress (1774–77) He was president of the Delaware constitutional convention in 1776 and briefly (1777–78) president of Delaware Read was a member of the Federal Constitutional Convention (1787) and helped to make Delaware the first state to ratify the Constitution (Dec 7, 1789) A U S Senator (1789–93), he resigned to become (1793) chief justice of Delaware See W T Read, *Life and Correspondence of George Read* (1870)

Read, Opie Percival, 1852–1939, American author, b Nashville, Tenn He had been a printer and small-town newspaper editor before he started (1883) the humorous *Arkansas Traveler*, which he edited at Little Rock, Ark , until 1891 His first novel, *Len Ganzett* (1888), was the first of a long series of robust, hastily written stories, humorous and human Very popular in their day, they included *A Kentucky Colonel* (1889), *A Tennessee Judge* (1893), and *My Young Master* (1896) Read was a successful Chautauqua lecturer. See his autobiography, *I Remember* (1930)

Read, Thomas Buchanan, 1822–72, American poet and artist, b Chester co , Pa He was a portrait painter and sculptor in Boston, then in Philadelphia and in Rome As a poet he is remembered only for his stirring "Sheridan's Ride," although his poetical works (1866) ran to three volumes

Reade, Charles, 1814–84, English novelist After being a fellow of Magdalen College, Oxford, he was called to the bar, but playwriting soon superseded law in his interests His first success was *Masks and Faces* (1852), written in collaboration with Tom Taylor, and the plot was used in his first novel, *Peg Woffington* (1853) A fiery defender of the causes he believed in, he began a long series of propagandist novels with *It's Never Too Late to Mend* (1856), describing the cruelties of prison discipline *Hard Cash* (1863) exposes the injustices in the care of the insane, and *Put Yourself in His Place* (1870), some of the abuses of trade unionism He clipped newspapers and government reports for the material of his novels and vigorously defended his facts against the attacks of critics His method of work is described in *A Terrible Temptation* (1871) Reade considered *Griffith Gaunt* (1866) his best novel, but he is remembered chiefly for his great medieval romance, *The Cloister and the Hearth* (1861), the hero of which is Gerard, the father of Erasmus This is little marred by the theatricality of much of Reade's work See biography by Malcolm Elwin (1931)

Reading, Rufus Daniel Isaacs, 1st marquess of (rĕ'dĭng), 1860–1935, British statesman He was called to the bar in 1887 and achieved great success in his profession. He entered Parliament as a Liberal in 1904, became attorney general in 1910, and in 1912 was given a seat in the cabinet. With Lloyd George he was involved in charges of buying stock in the American Marconi Corp while the government was contracting with the British branch of the firm He was, however, vindicated and in 1913 created lord chief justice He served the government in financial operations during the First World War, becoming (1915) president of an Anglo-French loan commission to the United States, where he subsequently served as special envoy (1917) and special ambassador (1918) In 1921 he was made viceroy of India at a time when the temper of the people, partly under the influence of Mahatma GANDHI and partly as a result of the Amritsar massacre (1919), was roused against English domination Faced with the passive resistance of the Gandhi adherents, Isaacs authorized the imprisonment of Gandhi and felt compelled to allow the hated salt tax. He returned to England in 1926 and was created a marquess, but he was much criticized for his administrative acts. See biographies by Stanley Jackson (1930) and his son, G R Isaacs, 2d marquess of Reading (2 vols , 1940–45)

Reading (rĕ'dĭng), county borough (1931 pop 97,149, 1947 estimated pop 114,260), county town of Berkshire, England, on the Kennet near its influx to the Thames and W of London Its history dates from 871 when it was occupied by the Danes, who burned it in 1006 A gateway and ruins of buildings, surrounded by a public park, remain of a Benedictine abbey founded in 1121 by Henry I, who is buried here The ancient castle was destroyed by Henry II In 1643 the town surrendered to the parliamentarians under the earl of Essex It was the seat of several parliaments There are a 15th-century grammar school, a museum, the Royal Berkshire Hospital, and the Univ of Reading (1926, formerly a college, founded 1892, of Oxford), with noted departments of agriculture and dairying Jane Austen attended school in Reading, and Oscar Wilde while in prison here wrote his *Ballad of Reading Gaol* Chaucer and Bunyan also commemorated the town, and it was the Aldbrickham of Thomas Hardy's *Jude the Obscure* Manufactures include biscuits, leather goods, aircraft, and farm implements

Reading 1 (rĕ'dĭng) Town (pop 10,866), NE Mass , N of Boston, settled 1639, set off from Lynn 1644 It has a 17th-century tavern **2** (rĕ'dĭng) City (pop 1,059), S Mich , SE of Battle Creek, in a farm and lake region, settled 1840, inc as a village 1873, as a city 1934 **3** (rĕ'dĭng) Village (pop 6,079), SW Ohio, N of Cincinnati, platted 1798 and called Vorheestown Varied manufactures include chemical products **4** (rĕ'dĭng) City (pop 110,568), co seat of Berks co , SE Pa , on the Schuylkill and NW of Philadelphia, laid out 1748, inc as a borough 1783, as a city 1847 In the Pennsylvania Dutch region and surrounded by a fertile agricultural area, it is one of the most important commercial and industrial centers in the state Chief among its diverse industries are large railroad shops and the manufacture of textiles, iron pipe, optical goods, hardware, and brick It has a symphony orchestra, the county historical society, a museum, and art galleries and is the seat of Albright College (Evangelical, coeducational, 1895) Mt Penn, Neversink Peak, and Crystal Cave are scenic attractions near by Reading was one of the first places in the country to manufacture iron products and supplied cannon in the Revolution Daniel Boone was born near the city

reading Facility in comprehension and interpretation of the printed page is an essential factor in educational progress, and instruction in this basic skill has always been a primary purpose of elementary education Research in the psychological and physical bases of reading has emphasized the importance of remedial work for students whose progress is impeded by impaired vision, faulty eye movements, or personal handicaps resulting from poor teaching The recognition of individual differences in reading speed and comprehension and in ability to learn by means of written rather than oral or manual instruction has resulted in the organization of special classes and courses of study in many schools See A I Gates, *The Improvement of Reading* (1935), M J Adler, *How to Read a Book* (1940), I A Richards, *How to Read a Book* (1943), E W Dolch, *Manual for Remedial Reading* (2d ed., 1945)

Readsboro, town (pop 913), S Vt , bordered on the south by the Mass line Davis Bridge Dam, 200 ft high, and power plant are on the Deerfield river near here This area was granted to Robert Rogers in 1764 and settled c 1780

Reagan, John Henninger (rē'gŭn), 1818–1905, American statesman, b Sevierville, Tenn. In 1839 he moved to Texas, joined the army of the republic, and fought in the Cherokee campaigns He was admitted to the bar in 1848, served in the state legislature (1847–49), and was judge of the district court at Palestine (1852–57) and U S Representative (1857–61) Reagan, a member of the Texas secession convention of 1861, was elected to the provisional congress of the Confederacy, and Jefferson Davis appointed him postmaster general in March, 1861 He ably administered that department throughout the Civil War and also served as secretary of the treasury in the last weeks of the Confederacy From May to Oct., 1865, he was imprisoned at Fort Warren, Boston, whence he wrote an open letter to Texans urging civil rights and qualified suffrage for the Negro, for this letter he was severely criticized He helped frame the state constitutions of 1866 and 1875, was returned to the House (1875–87), and served in the U S Senate (1887–91). Reagan's efforts to promote the much-needed regulation of railroads were particularly notable, and he was joint author of the act which established (1887) the Interstate Commerce Commission He was a member (1891–1903) and chairman (1897–1903) of the Texas railroad commission See his memoirs (ed by W F McCaleb, 1906), August Dietz, *The Postal Service of the Confederate States of America* (1929)

Reaia (rē"āī'u, rēā'yu) [Heb ,=whom God sees], son of Micah the Reubenite 1 Chron 5 5

Reaiah (rē"ā'u, rēā'yā) [Heb ,=whom God sees] **1** Grandson of Judah 1 Chron 4 2 **2** Family returned from exile Ezra 2 47; Neh 7 50

real estate: see PROPERTY

realgar (rēăl'gär) [ultimately from Arabic], mineral, arsenic monosulfide, with a red to yellow color It commonly occurs associated with other arsenic minerals, less often with ores of silver and lead It is monoclinic, showing short prismatic crystals, and on prolonged exposure to light it disintegrates and forms a powder Realgar is heat treated for the production of "yellow arsenic," a poisonous oxide, used in metallurgy Macedonia, Japan, Rumania and Switzerland are sources of the mineral, and in the United States it is found in Yellowstone National Park, in Utah, and in Nevada

realism, in literature, the attempt to describe characters and incidents as they actually are in life, without idealization Realism can be found in literature, especially in fiction, in all periods It became a conscious literary movement in late 19th-century France in opposition to romanticism Instead of idealizing their characters, novelists like Honoré de Balzac and Gustave Flaubert presented the sordid, trivial aspects of life as well as the nobler or more dramatic Flaubert, whose *Madame Bovary* is the most famous realistic novel, also insisted that the writer should keep his own feelings and attitudes out of the story, in order to give the reader an objective presentation of life Closely allied to realism was naturalism, whose chief exponent, Émile Zola, advocated a thorough, dispassionate inquiry into every aspect of society Realism, in this sense, can be found in the Russian novels of Dostoyevsky and Leo Tolstoy, the English novels of Thomas Hardy, George Moore, and Arnold Bennett, and the American novels of William Dean Howells, Frank Norris, and Theodore Dreiser In more recent times many novelists have reacted against a realism which, they believe, pays too much attention to facts for their own sake, and novelists such as Virginia Woolf, D H Lawrence James Joyce, and Marcel Proust have been less interested in merely presenting the objective facts They have tried to achieve realism, if the term can still be used for such novelists, by going below the surface to the underlying meaning of the facts Because so many different methods have been used by 20th-century novelists to present 'real" life, the term *realism* has lost much of its meaning However, the attempt to describe accurately and objectively the actions, speech, and surroundings of characters from all classes of society is still a major force in modern fiction In the drama, realism can best be seen in the early plays of Henrik Ibsen See W L Myers, *The Later Realism* (1927), J W Beach, *The Twentieth Century Novel* (1932), H J Muller, *Modern Fiction* (1937)

realism (rē'ălĭzm), in philosophy **1** A fundamental problem of medieval philosophy was the question of the UNIVERSAL, i e , what relation do general concepts have with individual things? For example, what connection does the notion of chair have with individual chairs? Early in medieval philosophy thinkers divided into two schools, those who held realism and those who held nominalism The realists claimed that general concepts have an existence independent of individuals they exist *ante rem* [Latin,=before the thing], nominalists held that they exist only *post rem* [Latin,=after the thing], i e , general concepts have no existence at all, they are but generalizations of individuals WILLIAM OF CHAMPEAUX is typical of the realists, ROSCELLIN of the nominalists Abelard urged a modified nominalism, which taught that the individual alone exists, but the mind is able to abstract what is common to different things. Moderate realism, the scholastic solution par excellence (taught by JOHN OF SALISBURY, St. THOMAS AQUINAS, St. BONAVENTURE, and DUNS SCOTUS), was not far removed from Abelard's nominalism, according to it the universal qua universal has existence only in the mind, but it has a real foundation existing in the individual, the foundation being the real essence of the individual. This was the key to the epistemology of scholasticism Exaggerated realism is most closely akin to the idealism of PLATO. **2** A modern expression of the problem of universals may be seen in the problem of subjectivism. The opposite of

subjectivism, i e , objectivism, is also called realism, because it teaches that there are real objects in existence outside the mind

Real Presence, the actual presence of Jesus Christ in the EUCHARIST The term is interpreted variously according to the various Eucharistic doctrines For Protestant interpretations, see LORD'S SUPPER.

real property: see PROPERTY

Ream, Vinnie. see HOXIE, VINNIE REAM

reaper, machine propelled by draft animals or a tractor and used for reaping grain Its predecessors were the SICKLE and the cradle, which have not everywhere gone out of use The earliest known reaper using animal power was described by Pliny the Elder as used in Gaul It was pushed by an ox and consisted of a box on two wheels with a comb projecting from the front of the box The heads of the grain were torn off by the comb and fell into the box Modern attempts to make reaping machines began in England, where the first patent was issued to Joseph Boyce in 1799 The first reaper to win general acceptance for practical field work was made and operated by Cyrus Hall MCCORMICK in 1831 The grain cut by this reaper fell on a platform, from which it was raked by a man who walked beside the machine An improvement permitted the raker to stand on the machine Devices were invented later by which the reaper itself did the raking A number of men followed the machine to bind the grain into sheaves The Marsh harvester, patented in the United States in 1858, carried, in addition to the driver, two men to bind the grain This was a heavy machine for the two horses to draw, and to bind the grain was more than work enough for two men, the machine was known as a "killer " The series of inventions that produced a practical self-binder put earlier reapers generally out of use The first self-binders used wire bands, which proved troublesome in many ways Cattle ate pieces of the wire with the straw, with fatal results Pieces of the wire found their way into the threshed grain and interfered with grinding The substitution of twine for wire was a great improvement A combine, which threshes the grain as it is reaped, has proved suited to large-scale operations The MOWER, or mowing machine, for cutting grasses and other plants for hay was developed from the reaper in the 19th cent See A A Stone, *Farm Machinery and Equipment* (3d ed , 1942), H P Smith, *Farm Machinery and Equipment* (3d ed , 1948)

Réaumur, René Antoine Ferchault de (rā′umyōr′, Fr runā′ ãtwan′ fĕrshō′ du rāōmür′), 1683–1757, French physicist and naturalist, one of the foremost scientists of the 18th cent He invented a thermometer (1731) and a temperature scale (still in use in Europe) in which the freezing point of water is zero and the boiling point 80° He added to knowledge of the expansion of gases and fluids and improved the methods of iron manufacture His work in physiology includes research on regeneration in crayfish and on digestion in birds (especially the role of gastric juice, which he isolated) He wrote monographs on many subjects and published in six volumes (1734–42) the results of his exhaustive study of insects, a seventh volume (part of the original manuscript) appeared in 1928

Reba (rē′ba) [Heb ,=a fourth], king of Midian killed by the Jews Num 31 8, Joshua 13 21

rebate (rē′bāt), a return to the purchaser of part of the price, in the United States, particularly the return on transportation charges formerly given by railroads to favored shippers In England deferred rebates are given in many branches of trade as a means of maintaining monopoly They consist of DISCOUNTS, on the price of articles sold, returned to the buyer every 6 or 12 months after purchase if the buyer has not in the meantime dealt with the competitor of the company giving the rebate In the United States, the Elkins Act of 1903, the Hepburn Act of 1906, and the INTERSTATE COMMERCE COMMISSION prohibit and penalize railroad rebates

Rebecca or **Rebekah** (both rĭbĕ′ka) [Heb ,=noose], wife of Isaac and mother of Jacob One day according to custom she drew water at the city well and was there chosen as wife for Isaac by Abraham's servant Eliezer, who had been sent by his master to select a suitable bride After years without children she bore the twins Jacob and Esau Jacob was his mother's favorite, and for him she devised their deception of the blind Isaac Gen 24–27, 49 31, Rom 9 10

Rebikov, Vladimir Ivanovich (vlŭdyĕ′mĭr ēvä′nuvĭch rā′byĭkŏf), 1866–1920, Russian composer, one of the first to use the whole-tone scale He studied at the Moscow Conservatory and in Vienna and Berlin He combined music and mining in pieces which he called *Mélommiques*, some for voice and some for piano His works include a number of piano pieces and several operas

Récamier, Juliette (shŭlyĕt′ rākämyā′), 1777–1849, celebrated French beauty and social figure, née Jeanne Françoise Julie Adelaïde Bernard At 15 she married Jacques Récamier, a middle-aged wealthy banker, their marriage was a mere formality. Her fashionable salon was, from the Consulate to the end of the July Monarchy, a gathering place for some of the most influential political and literary figures. Although innumerable men fell in love with her, Mme Récamier, whose nature was ineffably gentle and unpassionate, probably never had any but Platonic attachments The most celebrated of her liaisons was that with Châteaubriand, to whom she devoted the later part of her life Among her friends were Mme de Staël, Sainte-Beuve, and Benjamin Constant Though in reduced circumstances and ill-health during her later years, Mme Récamier never lost the charm and beauty to which she owed her influence The famous portrait of her by Louis David hangs in the Louvre Her memoirs and correspondence have been published See studies by Édouard Herriot (Eng tr , 1925), H Noel Williams (1926), and H D Sedgwick (1940)

recapitulation (rē″kupĭt′ŭlā′shun) This theory, stated as the biogenetic law by HAECKEL, maintains that the development of the individual repeats stages of the development of the race Studies of embryos show that at certain stages the embryos of fish, bird, and mammal are very similar In man the beginnings of gill clefts occur These disappear in the human embryo as it develops, whereas they are elaborated and eventually function in the fish The Eustachian tube of the human is a modified gill cleft The importance of recapitulation lies in the fact that it lends support to the theory of evolution

Recared (Recared I) (rē′kurĕd), d 601, Visigothic king in Spain (586–601), son and successor of LEOVIGILD Although he had before his accession greatly distinguished himself in warfare with the Franks he did not pursue his father's policy of conquest He did war on the Basques and repulsed Frankish invasion, but in general he was pacific He made peace with the Byzantine Empire, and he seems to have sought to conciliate his Roman subjects The most important event of his reign was his conversion to Catholicism This probably took place c 587, it was announced formally at the Council of Toledo in 589 His conversion meant the conversion of the Visigoths but only after the suppression of a number of Arian revolts and conspiracies Recared apparently took the conciliation of his German and his Roman subjects to heart, and there is very good reason for believing that he modified the Visigothic law even more than Euric or Leovigild His work is, however a matter of conjecture

Receswinth (rē′kuswĭnth), d 672, Visigothic king in Spain (653–72) He was the son of CHINDASWINTH, who in 649 admitted his son to joint rule Receswinth succeeded to the throne without election, but was promptly faced by a great insurrection of the nobles He conquered them, but nevertheless compromised with them by confirming at the Eighth Council of Toledo the old canon that enjoined election of the king, not hereditary succession Receswinth was one of the greatest of the Visigothic lawmakers It is generally thought that either he or Chindaswinth revoked the BREVIARY OF ALARIC, and it is certain that he did promulgate new laws It seems probable that Chindaswinth commenced the codification of law completed by Receswinth The code, generally called the *Forum Judicum*, contained both German and Roman law and was the basis of Spanish medieval law It was made as a handbook for the courts Many quotations from Isidore of Seville are included

Rechab (rē′kăb) [Heb ,=horseman] **1** Eponym of the Rechabites Jer 35 **2** Murderer of Ish-bosheth 2 Sam 4 2–12 **3** Father of a worker on the wall Neh 3 14

Rechabites (rē′kubīts), in the Bible, a family given to asceticism They drank no wine, built no houses, sowed no seed, planted no vines, and lived in tents Jer 35 They resembled in their practices the Nasarites The Rechabites were apparently related to the Kenites 1 Chron 2 55

Rechah (rē′kŭ), unidentified place 1 Chron 4 12

recidivism see CRIME

Recife (rusē′fu) [Port ,=reef], city (pop 323,177), capital of Pernambuco state, NE Brazil, a port on the Atlantic Ocean The city is also frequently called Pernambuco by foreigners It lies partly on the mainland and partly on an island and possesses a fine natural harbor, enclosed by a coral reef The harbor facilities have recently been modernized and can accommodate a large amount of coastwise and overseas shipping It exports great quantities of the hinterland's products, including sugar, rum, cotton, lumber, dyewood, fruit, and hides Sugar refining and cotton milling are the chief industries, and there is a large steam electric power plant The city is the terminus of two transatlantic cables Dissected by numerous waterways into several districts, Recife is often called the Brazilian Venice It was founded by the Portuguese in the 1530s as the port for near-by Olinda, and it was later occupied (1630–54) by the Dutch, when it prospered under the rule of Maurice of Nassau It is an interesting city, with a 17th-century cathedral, a basilica of Our Lady of Carmel, an old Dutch fort, and an elaborate government palace. The state university (founded 1945) is here

reciprocity (rĕsĭprŏ′sĭtē), commercial agreement whereby one nation grants another special privileges in return for equivalent advantages. It is based upon the assumption that such grants of privilege must be mutual, for if a single nation removes its import duties, it becomes tributary to any state retaining a tariff In European countries the term usually refers to an extension of most-favored-nation treatment (in which special advantages given one nation are extended to all nations having similar treaties), but in the United States it connotes a bargaining measure incorporated by that country into a treaty with another power without reference to a third state The English furnished an example of reciprocity when they signed a treaty with Portugal (1703) making special rates for Portuguese wines in return for similar rates on English cloth In the following century, England relaxed her Navigation Acts in return for a similar action by other nations In Germany the ZOLLVEREIN was based on reciprocity, and the system of reciprocity fostered by Napoleon III worked strongly in favor of FREE TRADE A reciprocity treaty was signed by Canada and the United States in 1854, and a similar agreement was concluded by the United States and Hawaii (1875) Beginning in 1880, reciprocity was advocated as a part of the U S tariff policy After the downfall of the French Empire (1870) most European countries raised tariffs in order to increase customs revenues In addition, increased nationalism discouraged international cooperation Besides the ordinary tariff, there developed one with maximum and minimum scales—a low tariff for most-favored nations and a higher one for all others Under such conditions, reciprocity tends to become mere retaliation The many reciprocal trade agreements concluded by the United States after 1934 applied the most-favored-nation principle to our trade with all areas save those with which the United States was especially intimate (such as Cuba) and those nations discriminating against us They were an important adjunct to American economic and political policy in the years preceding the Second World War See R A Hodgson, *An Introduction to International Trade and Tariffs* (1932), W S Culbertson, *Reciprocity a National Policy for Foreign Trade* (1937), H J Tosca, *Reciprocal Trade Policy of the United States* (1938)

recitative (rĕs″sĭtātēv′), musical declamation for solo voice, used in opera and oratorio for dialogue and for narration Its development at the close of the 16th cent made possible the rise of opera The Florentine composers Peri, Caccini, and Galilei, in revolting against vocal polyphony, sought a style in which the words could be clearly understood, the rhythms of natural speech would be followed, and the music would convey the feeling of a whole passage Toward the middle of the 17th cent arose *recitativo secco*, which employed a quick succession of notes having little melodic character and serving only to advance the action, punctuated by occasional chords in a figured bass accompaniment In 18th-century opera greater importance was assumed by the *recitativo accompagnato*, accompanied by the string section or the full orchestra, in which the music was more strictly measured and carried more emotional weight This type of recitative was used at the points of greatest dramatic interest and to introduce important arias Lully was the first to develop a style of recitative suited to the French language, Purcell and Mozart attacked similar problems in English and German Wagner, opposed to the Italian type of recitative, developed his *Sprechgesang*, in which the melody was completely molded to the text, upon which the accompaniment served as a sort of commentary

Recklinghausen (rĕk′lĭnghou″zŭn), city (pop 89,787), Westphalia, W Germany It is an industrial center of the RUHR district

Reclamation, United States Bureau of (rĕk′lumāshŭn), agency set up in the Dept of the Interior under the Reclamation Act of 1902 and at first called the Reclamation Service Its purpose is to encourage and promote irrigation of lands in the arid and semiarid regions of the West by examination, survey, and construction of irrigation works Irrigation in what is now the U S Southwest was practiced by the Indians before the coming of the Spanish, and the Catholic missionaries there and, more particularly in California, supervised agriculture on a large scale under irrigation Modern irrigation practices may, however, be said to have begun in 1847 with the Mormons in Utah, and in later years individuals and (more usually) groups undertook irrigation schemes in many arid spots of the entire West By 1865 nearly 150,000 acres were under irrigation In the closing years of the 19th cent there were strong moves to render governmental help to reclamation schemes The CAREY LAND ACT (1894) had this end for its purpose Attention focused sharply on conservation of natural resources in the time of Theodore Roosevelt, and reclamation was advocated for lands ruined by injudicious farming, grazing, and deforestation as well as for lands desert before the coming of the white man Representative (later Senator) Francis Griffith Newlands was the author of the Reclamation Act of 1902 (sometimes called the Newlands Act). It provided in general that the

Federal government should plan and construct irrigation projects and that the water users (usually organized in some type of cooperative) should liquidate the cost and purchase the irrigation works over a period of 10 years Under Secretary of the Interior Ethan Allen Hitchcock the program was immediately and vigorously pushed Among the many projects started then were the Truckee-Carson project (see NEWLANDS PROJECT) and the Salt river project (see SALT RIVER VALLEY) The 1902 act had an acreage-limitation provision, but it did not halt the process of speculation in lands to be irrigated, which made costs to the actual farmers prohibitive An investigation in 1913 uncovered bad conditions, and in 1914 the time for the water users to pay for the project was lengthened to 20 years (later raised to 40 years) A Fact Finders committee began investigating the situation in 1924 and made a report in 1926, which was the basis of an adjustment act in 1926. Interest in reclamation quickened after terrible droughts in the late '20s and early '30s, and in the public works program of the New Deal under Franklin D Roosevelt, the reclamation program was linked with projects for flood control and for the development of power The Bureau of Reclamation came to work alongside the U S Engineers Corps in building dams and forwarding many-purpose projects The Flood Control Act of 1944 broadened the powers of the Federal government in these matters The Bureau of Reclamation in many instances chooses the sites for dams to be used for power as well as irrigation, and it constructs them It cooperates with the Federal Power Commission and other government agencies in disposing of the power development Numerous ambitious projects were undertaken, and many were completed. Among them are the Bonneville Dam (with an enormous power project) and Grand Coulee Dam together with a host of related activities on the Columbia, the Snake, and their tributaries (see COLUMBIA, river), the CENTRAL VALLEY PROJECT in California; the COLORADO-BIG THOMPSON PROJECT, and the MISSOURI RIVER BASIN PROJECT (still in the planning stage in May, 1950)

reclamation of land, practice of making unproductive land productive The chief methods employed are IRRIGATION, DRAINAGE, flood control (see FLOOD), improvement of the texture and of the mineral and organic content of soil, and the checking of EROSION In the United States all these methods have been widely used, but the chief government effort has been directed toward reclamation by irrigation and by flood control Federal sponsorship of reclamation projects dates from the Reclamation Act of 1902 and is carried on chiefly by the Bureau of Reclamation (see separate article) See U S Dept of the Interior, *Reclamation Handbook* (1942)

Reclus, Jean Jacques Élisée (zhäʹ zhăk' ālēzāʹ rüklüʹ), 1830–1905, French geographer, b Gironde, educated mainly in Germany Several times he was forced to leave France because of his political views, and he traveled in the British Isles, the United States, and South America and for many years lived in Switzerland He was professor of comparative geography in the Univ of Brussels in the last decade of his life The great work of Reclus is his *Nouvelle Géographie universelle* (20 vols, 1876–94, Eng tr, *The Earth and Its Inhabitants*, 19 vols, 1876–94) *La Terre* (2 vols, 1868–69) was also translated into English (*The Earth*, 1872) Reclus was one of the outstanding geographers of the 19th cent, his geographical writings are many and valuable

recognition, acknowledgment of the admission of new states into the family of nations by political action of states which are already members Its derivation is found in the policy of the older European powers, which, after developing a system of binding diplomatic usage, refused to permit the admission of new states to the concert of nations unless the new power were properly qualified to assume its responsibilities under international law In the accepted doctrine of national sovereignty it is admitted that the independence of a people is exclusive of recognition, which is, therefore, simply a method of facilitating international relations Three kinds of recognition exist Recognition of independence occurs when a new state is created, usually by a successful rebellion, and is accepted by members of the family of nations, either by a formal statement or by entering into diplomatic relations with the new state Recognition of independence generally takes place after the new nation has demonstrated its ability to maintain itself; if a power recognizes an insurrectionary colony or dependency while the mother country is attempting to crush the rebellion, a grave offense is committed, for it is an act of intervention Recognition of a new form of government follows the establishment of a new political regime in a country. A republic may be recognized as the successor of a monarchy, or a new president may be acknowledged after the overthrow of the previous incumbent If the government appears to be well established and if it is apparently accepted by the people, then recognition is usually extended by other nations. Recognition of belligerency was introduced into international law when that form of acknowledgment was given to the Confederate States by Great Britain (1861). Such recognition grants the belligerents the rights and duties of a state as they concern war and commerce, but it does not grant the right to enter into official diplomatic relations with neutral nations In recognising belligerency, the nation offends the state against which the rebellion is directed Recognition, though it is sometimes granted upon condition that the recognized state fulfill certain obligations, if once extended, cannot be withdrawn Recognition is retroactive to the actual date of the establishment of the state or the formation of the new government, and all its acts from that time are valid The withholding of recognition may become a coercive agent, as illustrated by the nonrecognition of the Huerta (1913) and Obregón (1920) governments in Mexico by the United States Other examples of governments which were not recognized by the United States are Soviet Russia (until 1933), the puppet Japanese government in Manchukuo (1932), the Italian government in Ethiopia (1936), the Franco government in Spain (1936), and the Communist government in China (1949) See W. E Hall, *A Treatise on International Law* (1924), C C Hyde, *International Law Chiefly as Interpreted and Applied by the United States* (1922)

Reconstruction. At the end of the Civil War, the defeated South was a ruined land The physical destruction of towns, countryside, and transportation facilities wrought by the invading Union soldiers and, to a lesser extent, by the Confederates themselves was enormous The old social order founded on Negro slavery had collapsed completely, with nothing to replace it But before a beginning could be made on the tremendous task of economic and social rehabilitation, the political status of the Southern states had to be clarified, and there was wide disagreement in the North on this problem Some theorists maintained that since secession was unconstitutional the states had technically never been out of the Union, and they felt that the South should be dealt with gently At the other extreme, Thaddeus STEVENS, leader of the radical Republicans in Congress, held that the ex-Confederate states were conquered provinces, out of the Union, and should be punished for their rebellion Lincoln considered the question of whether the Southern states were in or out of the Union "a pernicious abstraction" Everyone agreed, he said, that they were "out of their proper practical relation with the Union" and that it was the duty of the Federal government, and specifically of the President, he thought, to restore that proper practical relationship Lincoln launched his program of restoration during the war in those areas of the Confederacy occupied by Union armies His proclamation of Dec. 8, 1863, offered pardon, with certain exceptions, to any Confederate who would swear to support the Constitution and the Union If a group in any conquered state equal in number to one tenth of that state's total vote in the presidential election of 1860, having taken the prescribed oath, organized a government which abolished slavery, he would grant that government executive recognition. Lincoln's plan aroused the sharp opposition of the radicals in Congress, which passed (July 2, 1864) the bill drawn up by Benjamin F WADE and Henry W DAVIS This measure limited organization of and participation in any new state government to the extremely small group which had remained absolutely loyal to the Union Although his pocket veto kept the Wade-Davis Bill from becoming law, Lincoln allowed each state to choose between the Wade-Davis Bill and his own plan Naturally, the states chose his more lenient plan, and at the end of the war it had been tried, not too successfully, in Louisiana, Arkansas, Tennessee, and Virginia Lincoln's assassination strengthened the radical cause, but his successor, Andrew JOHNSON, soon adopted a policy essentially like Lincoln's His amnesty proclamation (May 29, 1865) differed from Lincoln's mainly in excepting those who owned property worth $20,000 or more The obvious intent was to shift political control in the South from the old planter aristocracy to the small farmers and mechanics With Congress in adjournment from April to Dec, 1865, Johnson put his plan into operation Under provisional governors appointed by him, the Southern states held conventions which voided or repealed their ordinances of secession, abolished slavery, and repudiated Confederate debts Their newly elected legislatures ratified the Thirteenth Amendment guaranteeing Negro freedom, and by the end of 1865 every ex-Confederate state except Texas had fulfilled the President's requirements for restoration of civil government The control of white over Negro, however, seemed to be restored, and the Negroes were threatened with disillusion in their dreams of "forty acres and a mule," which had been definitely fixed if not inspired by the FREEDMAN'S BUREAU The Southern whites, unwisely ignoring the recommendations of Lincoln and Johnson that at least the most intelligent Negroes and Negro Union soldiers be given the vote, refused to enfranchise the blacks. They pointed out that there were Northern states which still denied the ballot to the Negro, and their claim that the freedmen were not capable of assuming the duties of citizenship immediately seemed to be borne out by later events But their black codes (laws which defined the new status of the emancipated Negro) were generally severe, most notably in Mississippi and Louisiana, in provisions covering apprenticeship, vagrancy, forced labor, and land-holding, and they led to an outcry in the North. Many radicals combined a genuinely sincere desire to make secure for the Negro the benefits won in the war with the admittedly selfish motive of assuring the continuance of the REPUBLICAN PARTY in power. Without Negro suffrage in the South, Republican ascendancy could not be assured, and Stevens in the House and Charles SUMNER in the Senate led the movement to make Reconstruction dependent on civil rights for the Negro The Civil Rights Act (April 9, 1866), designed to protect the Negro from legislation such as the black codes, and the Freedmen's Bureau Bill (July 16), extending the life of that organization, were both passed over Johnson's veto The newly created Joint Committee on Reconstruction reported (June 20) that the ex-Confederate states were not entitled to representation in Congress and also maintained that Reconstruction was a congressional, not an executive, function The radicals solidified their position by winning the elections of 1866, and on March 2, 1867, Congress enacted the Reconstruction Act, which, supplemented later by three related acts, divided the South (except TENNESSEE) into five military districts, in which the authority of the army commander was supreme The Supreme Court meekly accepted legislative restriction of its appellate jurisdiction, but Johnson, continuing the fight, insisted on the removal of the radical Secretary of War, Edwin M STANTON, in defiance of the TENURE OF OFFICE ACT, and the House impeached him (Feb, 1868) The radicals in the Senate fell one vote short of convicting him (May) and thus failed to establish a complete congressional dictatorship, but by this time Johnson's program had been effectively scuttled The South was now reduced to degradation Since ex-Confederates were disfranchised and the new Negro voters were too untutored to take control, the state governments fell into the hands of Northern CARPETBAGGERS and Southern SCALAWAGS These two groups, with the aid of the Freedmen's Bureau and the UNION LEAGUE CLUBS, dominated politics by shameless manipulation of the Negro votes and by terrorizing communities with Negro troops Doubts as to the constitutionality of the Civil Rights Act led the radicals to incorporate most of its provisions in the Fourteenth Amendment By late July, 1868, six states—Arkansas, North Carolina, South Carolina, Louisiana, Alabama, and Florida—having ratified the Fourteenth Amendment as required by the first Reconstruction Act, had been readmitted to the Union, in time to cast their electoral votes for U S GRANT With Grant, friend of Benjamin F BUTLER (1818-93) and other leading radicals, as President, the vindictives were securely in the saddle To doubly assure the Negro vote, they pushed through the Fifteenth Amendment (March 30, 1870) and made ratification of it a further condition for congressional recognition of the four remaining unreconstructed states—Virginia, Mississippi, Texas, and Georgia—which were finally readmitted in 1870 With continued Federal support (see FORCE BILL), the Republicans had in the South one of the most efficient and one of the most brutally corrupt political machines the United States has known Staggering tax assessments and outright robbery took away from many of the already-bankrupt white men the last vestiges of their property The legislators, carpetbaggers, Negroes (some of whom lacked the rapacity of their white colleagues), and scalawags spent most of their time passing bills for their own enrichment In some districts anarchy and crime ruled These conditions brought on the activities of such secret organizations as the KU KLUX KLAN, which, by successfully intimidating Negro voters, paved the way for gradual restoration of native white rule The real reason for the overthrow of the carpetbag administrations lay, however, in their own corruption Grant's administration was compelled to lessen its support because of growing criticism in the North of corruption in the Federal government itself Dissensions among the plundering carpetbaggers also helped tear down the rotten structure By 1876 only Florida, South Carolina, and Louisiana remained under Republican domination The Republican presidential candidate, Rutherford B. HAYES, promised to alleviate conditions in the South, but the feeling there had already led to the formation of the "solid South" in support of his Democratic opponent, Samuel J. TILDEN, whose pledge to work for complete cessation of Reconstruction evils was, understandably, more readily believed. In those three states the presidential contest was the occasion for a determined effort to throw off Republican misrule, and

on their electoral votes (and on one disputed electoral vote in Oregon) hung the fate of the famous disputed election of 1876 It is practically certain that actually all three gave a majority to Tilden, but two sets of returns were sent in from each of the three states A specially constituted electoral commission (supposedly impartial, but composed of eight Republicans and seven Democrats) accepted the Republican returns, and Hayes was given the presidency The whole nation, however had had enough of Reconstruction. All Federal troops were withdrawn from the South, and home rule was restored there. Reconstruction had utterly failed in its purpose The term itself is a patent misnomer for these bitter years, for decades were to pass before any real economic and social readjustment was begun The excesses of radical Republican rule made the South a region devoted to the Democratic party and to "white supremacy" No condemnation of continued Southern intransigency on the race question will dispel, the impression that with a wiser, more moderate national leadership after the Civil War a more successful beginning might have been made towards ultimately solving that vexing problem The literature on the period is extensive For studies of the various Southern states during Reconstruction, see the bibliographies in the articles on those states See also William A Dunning, *Essays on the Civil War and Reconstruction* (1898) and *Reconstruction, Political and Economic, 1865–1877* (1907), Walter L Fleming, *Documentary History of Reconstruction* (2 vols, 1906–7) and *The Sequel of Appomattox* (1919, Vol XXXII of *The Chronicles of America*), Allan Nevins, *The Emergence of Modern America, 1865–1878* (1927, Vol VIII of *A History of American Life*), C G Bowers, *The Tragic Era* (1929), H K Beale, *The Critical Year* (1930), G F Milton, *The Age of Hate* (1930), W E B Du Bois, *Black Reconstruction* (1935), P H Buck, *The Road to Reunion, 1865–1900* (1937), J G Randall, *The Civil War and Reconstruction* (1937), R S Henry, *The Story of Reconstruction* (1938), E M Coulter, *The South during Reconstruction* (1948, Vol VIII of *A History of the South*), J W De Forest, *A Union Officer in the Reconstruction* (1948)

Reconstruction Finance Corporation (RFC), U S government organ, created in 1932 by the administration of Herbert C Hoover Its purpose was to facilitate economic activity by lending money in the depression The life of the RFC was repeatedly extended while its scope of operations enormously widened At first it only lent money to financial, industrial, and agricultural institutions to help maintain economic stability, but later it also financed the construction and operation of war plants and made loans to foreign governments—notably to Britain in 1941 The agency provided protection against war and disaster damages and engaged in numerous other activities Congressional action (1945) following the appointment of Henry A Wallace as Secretary of Commerce to succeed Jesse H Jones, who had long headed the RFC, removed the agency from Dept of Commerce control In 1948 the life of the RFC was extended until 1954, but its lending powers were sharply curtailed

Record, George Lawrence, 1859–1933, American political reformer, b Auburn, Maine, grad Bates College, 1881 He studied law in New York city and after 1887 lived and practiced in Jersey City, N J For over 40 years he fought machine politics in New Jersey while carrying on numerous legal battles with public-utility interests He was an ardent advocate of Henry George's single tax and was an effective speaker He strongly influenced Woodrow Wilson, drafting many of the bills which Wilson, as governor, pushed through the New Jersey legislature Record ran for Congress, for the Senate, and for governor of New Jersey, but each time met defeat He wrote *How to Abolish Poverty* (1936) See James Kerney, *The Political Education of Woodrow Wilson* (1926)

recorder, musical wind instrument of the FLUTE family, made of wood, varying in length, and having a conical bore It was developed in the 16th cent and was particularly popular in the 17th and 18th cent The instrument has had a revival in the 20th cent. particularly among amateurs, and a number of contemporary composers have added to its literature

recreation, any activity engaged in voluntarily for the satisfaction it brings, whether through relaxation, fun, or the opportunity for self-expression Suitable recreation may be a factor in promoting mental and bodily health, in developing personality, skills, and social cooperation, and in preventing delinquency Although the universal human need for it has only recently been recognized, it has found expression since ancient times in games, festivals, dances, and music The expansion of recreational facilities has been stimulated by the growth of cities, by the need to relieve tension resulting from the speed of modern living and the specialization and mechanization of work, and by the increase of leisure time with the general reduction of working hours. Commercial interests provide such recreations as moving pictures, radio, music, travel, and professional sports. In the United States a noncommercial recreation movement was initiated in the 19th cent. by the establishment of gymnasiums in schools and universities and by the opening of parks and playgrounds The playground, fostered at first by social and philanthropic agencies in order to keep children off the streets, in the 20th cent received support also from schools and municipal agencies The Playground Association of America (organized in 1906 and renamed the National Recreation Association in 1930) has been a leader in promoting playgrounds and training recreation leaders and in widening recreation opportunities for adults The extension of community recreation facilities for adults was stimulated in the First World War by the organization of recreation for the armed forces In the 1930s the increased leisure caused by unemployment was an incentive to opening new recreation facilities to adults See F R Dulles, *America Learns to Play* (1940), G D Butler, *Introduction to Community Recreation* (revised 2d ed, 1949)

Rector, city (pop 1,736), extreme NE Ark, near the St Francis river

Red Bank, borough (pop 10,974), E N J, on the Navesink estuary, in a fertile farming area, inc. 1908 It is a resort and distributing and industrial center Albert Brisbane helped to establish a Fourierist community here in 1843 Military uniforms were an early product of Red Bank. The Revolutionary battle of Red Bank was not fought here but on the Delaware at the present NATIONAL PARK, N J

Red Bay, town (pop 1,560), NW Ala, at the Miss line on Bear Creek and SW of Florence, settled 1898, inc 1908

redbird. see CARDINAL.

Red Bluff, trade city (1940 pop 3,824, 1948 special census pop 4,735), co. seat of Tehama co., N Calif, on the Sacramento, in a farm and ranch area.

redbreast. see ROBIN

Red Bud, city (pop 1,302), SW Ill, S of East St Louis, in a farm area, inc 1867.

redbud or **Judas tree**, name for trees and shrubs of the genus *Cercis*, handsome leguminous plants covered in the early spring with deep rose or, rarely, white flowers resembling pea blossoms Three species are native to North America The common redbud is *Cercis canadensis* native to the E United States It blossoms about the same time as the dogwood, and when growing in proximity the two make a beautiful floral display According to tradition an Old World species was the tree on which Judas hanged himself

red bug, name for various red insects The apple red bug, a reddish-black hemipterous insect, feeds in the nymph stage on the juice of the leaves and fruit of the apple, pear, and other trees It causes the fruits to be pitted and dwarfed The cotton stainer, or red bug, *Dysdercus suturellus*, of the S United States pierces the seeds of the cotton plant, the yellow liquid which exudes discolors the fibers For the harvest mite called red bug, see CHIGGER

Redcar, municipal borough (1931 pop. 20,160, 1943 estimated pop 24,240), North Riding of Yorkshire, England NE of Middlesbrough and on the North Sea It is a steel center and a seaside resort and has a racecourse

red cedar see JUNIPER

Redcliff, town (pop 1,289), SE Alta, near the South Saskatchewan and just NW of Medicine Hat, in an area yielding clay, coal, and shale Natural gas is produced, and pottery is manufactured

Red Cloud, 1822–1909, North American Indian chief, leader of the Oglala Sioux Because of his opposition to the Bozeman Trail (see BOZEMAN, JOHN M) and the building of forts, Red Cloud led the Indians at the massacre of the party commanded by William J FETTERMAN (1866) and at the Wagon Box fight (1867) His continuous hostility led the government to abandon the forts and the trail in 1868 After signing a treaty he lived in peace with the whites, although he was later charged with duplicity in encouraging hostile Indians. He was deposed as chief in 1881 and thereafter lived in retirement on the Pine Ridge Reservation in South Dakota. See G E Hyde, *Red Cloud's Folk* (1937)

Red Cloud, city (pop 1,610), co seat of Webster co., S Nebr., on the Republican river, inc 1872. It was the childhood home of Willa Cather.

red corpuscle. see CORPUSCLES

Red Cross, international organization for the alleviation of human suffering and the promotion of public health. In 1862 Jean Henry Dunant, a Swiss, wrote *Un Souvenir de Solférino*, in which he described the suffering of the wounded on the battleground of Solferino and urged the formation of voluntary aid societies for relief of such war victims He also asked that service to military sick and wounded be neutral The Société genevoise d'Utilité publique, a Swiss Welfare agency, actively seconded Dunant's suggestion, the result being an international conference at Geneva attended by delegates from 16 countries At this conference the Geneva Convention of 1864 for the Amelioration of the Condition of the Wounded and Sick of Armies in the Field was adopted and signed by 12 of the nations represented It provided for the neutrality of the personnel of the medical services of the armed forces, the humane treatment of wounded, the neutrality of civilians who voluntarily assisted them, and an international emblem to mark personnel and supplies In honor of Dunant's nationality a red cross on a white background —the Swiss flag with colors reversed—was chosen as this symbol. Signatories to the original Geneva Convention, its subsequent revisions, and allied treaties such as the Hague Convention for naval forces and the Prisoner of War Convention include all civilized countries and their dependencies There are national Red Cross societies in 68 countries of the world, each a self-governing organization, and two international groups with headquarters in Geneva, the International Committee of the Red Cross (founded 1863) composed of 25 Swiss citizens and serving as a neutral intermediary in time of war, with special interest in the welfare of prisoners of war, and the League of Red Cross Societies (founded 1919), a federation of national societies for mutual help, cooperation, and program development, especially in times of peace The International Red Cross Conference, instituted in 1867, is the highest deliberative body of the organization Its membership consists of representatives of each national society, of the International Committee of the Red Cross, of the League of Red Cross Societies, and of the nations signatory to the Geneva conventions It is held every four years All societies are supported by membership fees and popular subscriptions, and a number receive government subsidies in addition The American National Red Cross was organized (1881) by Clara BARTON and received its first Federal charter in 1900 In 1905 it was brought into closer relationship to the government when a new congressional charter was granted The charter was revised in 1947 The organization, with headquarters in Washington, D C, is supported entirely by voluntary contributions The President of the United States is honorary chairman of the society and appoints its president and seven other members of a 50-man board of governors The organization accounts are audited by the War Dept The American Red Cross puts special emphasis on disaster relief, services to the armed forces and veterans, and public health and safety programs In 1947 a national blood program to make blood available without charge to all who need it was launched The world-recognized symbol of mercy and absolute neutrality is the Red Cross flag or brassard In Turkey, Egypt, Iraq, and four of the Soviet republics the red crescent and in Iran the red lion and sun replace the cross The International Red Cross was awarded the 1917 and 1944 Nobel Peace Prize See Clara Barton, *The Story of the Red Cross* (1904), F P Bicknell, *Pioneering with the Red Cross* (1935); J W Maloney, *Let There Be Mercy* (1941), George Korson, *At His Side* (1945), P B Kernodle, *The Red Cross Nurse in Action* (1949)

Red Deer, city (pop 4,042), S central Alta, on the Red Deer river and S of Edmonton It is the trade center for a dairying and mixed farming region, with grain elevators and oil refineries It has a provincial training school

Red Deer, river, 385 mi long, rising in the Rocky Mts in Banff National Park, SW Alta, and flowing NE past Red Deer city, then S, SE, and E across Alberta to the South Saskatchewan river just over the Sask border, NE of Medicine Hat, Alta

Redding. 1 City (pop 8,109), co seat of Shasta co, N Calif, on the Sacramento It is the agricultural, industrial, and tourist center for a mountain region There are gold and copper mines in the area Near by are Lassen Volcanic National Park and Shasta Dam 2 Town (pop 1,758), SW Conn, NW of Bridgeport, settled c 1711, inc 1767 Mark Twain's summer home was in Redding, and he gave the town a library. Joel Barlow was born here The Israel Putnam Memorial Campground N of Redding Ridge commemorates the winter of 1778–79

Redfield, Edward Willis, 1869–, American landscape painter, b Bridgeville, Del, studied at the Pennsylvania Academy of the Fine Arts and under Bougureau and Fleury in Paris His work is of the realistic school and has force and individuality, with warm coloring He is represented in various art galleries and museums in the United States His *Overlooking the Valley* is in the Metropolitan Museum He became a member of the National Academy of Design in 1904

Redfield, William C., 1789–1857, American scientist, b. Cromwell (then part of Middletown), Conn He studied the course of winds and developed a theory of the rotary motion of hurricanes, which became generally accepted He wrote many papers on meteorology, geology, and geography. Interested in railroads and in water transportation, he discovered a method of decreasing the hazards of travel on the Hudson river by means of safety barges for passengers and freight, towed by steamers at a distance sufficient to escape damage from the boiler explosions which were common at that

time. In 1848 he was active in organizing the American Association for the Advancement of Science, of which he was the first president

Redfield, William Cox, 1858–1932, American cabinet officer, b Albany, N Y. He was a businessman and manufacturer, served (1911–13) in the U S Congress, and was (1913–19) Secretary of Commerce under President Woodrow Wilson He wrote *The New Industrial Day* (1912), *With Congress and Cabinet* (1924), and *Dependent America* (1926)

Redfield, city (pop 2,428), co seat (since 1886) of Spink co, NE S Dak, S of Aberdeen It is a farm trade center and summer resort, noted for gamebird hunting The state school for the feebleminded is here

red gum: see EUCALYPTUS

red haw: see HAWTHORN

Red Hook, village (pop 1,056), SE N Y, near the Hudson N of Poughkeepsie, in a dairy and farm area, inc 1894

Redi, Francesco (frănchĭs'skō rā'dē), 1626?–1698?, Italian naturalist, poet, and court physician to the dukes of Tuscany. Through controlled experiments he demonstrated that certain living organisms, notably maggots in rotting meat, did not arise, as currently alleged, through spontaneous generation Redi is known not only as a pioneer in experimental entomology, but also as a philologist and poet His chief poetical work was a dithyrambic ode *Bacchus in Tuscany* (1685, Eng tr. by Leigh Hunt, 1825).

Red Jacket, c 1758–1830, chief of the Seneca Indians, b probably Seneca co, N Y His Indian name was Otetiani, changed to Sagoyewatha when he became a chief His English name came from the brilliant red jacket given him by a British officer when the Seneca supported the English in the American Revolution He had an excellent memory and an able tongue and was skillful in dealing with the whites, but he was accused of cowardice in active warfare At the meeting (1786) of Indian tribes at the mouth of the Detroit river, Red Jacket urged the continuance of hostilities against the whites, but in later years he aimed at making peace with the U S government He was one of the Indian chiefs who visited President George Washington in 1792, at which time the President presented him a large silver medal, which he thereafter prized highly In the War of 1812 he influenced his tribe to support the United States He was an ardent advocate of the Indian mode of life and often resisted the introduction of white customs Especially did he oppose Christianity and the work of the missionaries Late in his life the growth of Christian Indians and opposition to his policies resulted in his being deposed as chief, but he appealed to the government, defended himself before a tribal council, and was restored See biographies by W. L Stone (1841) and J N Hubbard (1886)

Red Jacket, Mich see CALUMET

Redkey, town (pop. 1,538), Jay co, E Ind, NE of Muncie

Red Lake Falls, city (pop 1,530), co seat of Red Lake co, NW Minn, on Red Lake River and NE of Crookston, inc as a village 1881, as a city 1898 A fur-trading post before 1800, it is now a dairy and farm trade center To the east, Red Lake Indian Reservation (est 1863) occupies large areas about Upper Red Lake and Lower Red Lake, N of Bemidji

Redlands, city (pop 14,324), S Calif, in the San Bernardino Valley E of Los Angeles, inc 1888 Oranges are packed and shipped The Univ of Redlands (Baptist, coeducational, 1907) is here

red lead or **minium** (mĭ'nēŭm), a bright red, scarlet, or orange-red powdery compound of lead and oxygen, the tetroxide of lead, prepared by heating litharge or lead monoxide It is used in the manufacture of storage batteries, glass, red pigments, and red paint employed as a protective paint in steel construction work

Red Lion, borough (pop 4,891), SE Pa, near York, inc. 1880 German customs are preserved here

Red Lodge, city (pop 2,950, alt 5,548 ft), co seat of Carbon co, S Mont., SW of Billings and NE of Yellowstone National Park, inc 1895. Coal is mined here

Redmond, John Edward, 1856–1918, Irish political leader He was elected to Parliament in 1881 at the height of Charles Stewart Parnell's Irish obstructionist program In 1890, when Parnell's political fortunes were destroyed by the O'Shea divorce case, Redmond was a leader in support of Parnell and in the subsequent Parnellite group, which was finally reunited with the majority in 1900, Redmond was chairman of the combined Irish party. He served on various commissions which led to the Wyndham Land Purchase Act of 1903 (see IRISH LAND QUESTION) and gradually gained the leadership as well as the chairmanship of the Irish party When the Liberals came into power in England in 1906 Redmond had no choice but to support them even though they held for "devolution," or merely administrative Home Rule He pressed the question of the veto power of the Lords, and the passage of the act crushing the power of the Lords in 1911 was hailed as a triumph for the Irish party. Redmond strongly supported the bill for Home Rule introduced in 1912 and opposed the exclusion of Ulster. In 1914 he supported the Irish Volunteer movement, a military organization raised to counter the threat of the newly formed Ulster Volunteers in Northern Ireland When the First World War broke out, Home Rule was approved, though suspended until after the war Redmond declined a cabinet post in the English coalition government of 1915 He had declared Ireland's loyalty to the common cause, and the Easter Rebellion of 1916 was a great blow to him He supported the plan to begin the operation of Home Rule with the temporary exclusion of Ulster, but his power and influence were declining, and at the end of his life he was opposed by the revolutionary SINN FEIN See Stephen Gwynn, *John Redmond's Last Years* (1919), biographies by W B Wells (1919) and Denis Gwynn (1932)

Redmond, city (pop 1,876), central Oregon, NNE of Bend, in an irrigated farming and cattle-grazing region, inc 1910

Red Oak, city (pop 5,763), co seat of Montgomery co, SW Iowa, on the East Nishnabotna and SE of Council Bluffs, in a farm area, inc 1869 An important industry is the printing of art calendars The city also processes farm products

Redon, Odilon (ōdēlôⁿ' rudôⁿ'), 1840–1916, French painter and lithographer, studied in Paris under Gérôme and Fantin-Latour His first volume of lithographs, *Dans le rêve*, appeared in 1879 Later in life he devoted himself to oil painting and pastel An admirable colorist, Redon excelled in depicting visionary and mystical subjects and in flower painting Beautiful examples of his work exist in many important galleries of Europe and America *Les Yeux clos* is in the Luxembourg Museum, Paris. See study by Walter Pach (1913)

Redonda, island, British West Indies see ANTIGUA

Redondo Beach (rĭdŏn'dō), resort and residential city (1940 pop 13,092, 1947 special census pop. 21,288), in Inglewood township, S Calif, SSW of Los Angeles, founded 1881, inc 1892

red polled cattle (pōld), breed of cattle originated in England in the early 19th cent The animals are typical of the "dual-purpose" breeds e g, those raised for both meat and milk They are medium sized and are a deep cherry red in color They are raised nearly everywhere in the United States, but in greatest numbers in the North Central states

Red River, Chinese *Yuan*, stream rising in Yünnan prov, China, and flowing SE through Tonkin, of which it is the chief river Its upper course is in a narrow valley between high mountains After receiving its chief tributaries, the Clear River and the Black River, it forms a delta, the heart of Tonkin Its waters enter the Gulf of Tonkin Hanoi is near the head of the delta, and Haiphong near one of the river mouths

Red River 1 River, 1,300 mi long, southernmost of the large tributaries of the Mississippi It rises in the Texas Panhandle, not far from Amarillo, flows ESE between Texas and Oklahoma and between Texas and Arkansas to Fulton, Ark, then turning southward enters Louisiana and crosses SE to the ATCHAFALAYA and the Mississippi In Texas it flows rapidly through a canyon in semiarid plains but later waters rich red-clay farm lands (whence the name Red) DENISON DAM impounds its waters, there is also a reclamation project on the North Fork near Altus, Okla Navigation was difficult in the log-choked lower course of the Red, but shipping was for a time important, and the river is now navigable for small ships to above Shreveport There are many lakes and bayous along the lower part of the river, and reservoirs—such as the Texarkana, the Wallace Lake, and the Bayou Bodcau reserves, all under construction in Feb, 1949—were planned on tributaries for flood control In the Civil War a military and naval expedition (1864) under Gen N P BANKS and Admiral Porter went up the Red River to open the way to Texas, but was defeated at SABINE CROSS-ROADS **2** River, often called the **Red River of the North,** c 530 mi long, formed N of Lake Traverse by the confluence of the Bois de Sioux and Otter Tail rivers and flowing N between Minnesota and North Dakota and through Manitoba to Lake Winnipeg It drains the principal spring-wheat area of the United States—the rich level Red River valley region, the bed of the old Lake Agassiz Its chief tributary is the Assiniboine river, which enters it at Winnipeg, Canada Severe floods in the spring of 1950 caused widespread losses.

Red River Rebellion see RIEL, LOUIS

Red River Settlement, agricultural colony in present Manitoba, North Dakota, and Minnesota It was the undertaking of Thomas Douglas, 5th earl of SELKIRK, who had already undertaken other colonizing schemes, notably one on Prince Edward Island His motive was philanthropic, he wished to relieve the distress of the dispossessed and impoverished in Scotland and N Ireland With that end in mind he began in 1808 to buy shares of the HUDSON'S BAY COMPANY, and by 1811 he and his close relatives had managed to obtain a large percentage of the stock The scheme of planting a colony in the middle of the fur country met opposition from the start, principally from the NORTH WEST COMPANY, but also from the actual fur traders in the Hudson's Bay Company The grant of land he acquired from the company was called Assiniboia and extended from Big Island in Lake Winnipeg south to the height of land separating the drainage basin of the Red River of the North from that of the Mississippi and from the Lake of the Woods west to the upper Assiniboine river This included a nodal point of travel and transport for North West Company men trading in the West and was also the prime region for the preparation of that staple food of northern fur traders, pemmican The area was much frequented by half-breeds, the *Bois-brûlés* or *métis* Opposition was strong, and efforts were made to discourage the colony from the beginning Nevertheless Miles Macdonnell, who had been one of Selkirk's recruiting agents, brought a small group to the colony at the end of Aug 1812, after wintering (1811–12) near York Factory These included some Irish as well as Scots, but the settlers sent out in the following years were all Scotsmen The struggle to get the colony started was severe despite the fertility of the land. The determined hostility of the North West Company mounted, especially after the company men had won the half-breeds entirely to their side By a mixture of cajolery and threat they persuaded settlers to desert and had Macdonnell arrested and sent to Upper Canada (Ontario) in June, 1815 A new group of settlers under Robert Semple came, however, and the colony was restored in 1816 North West Company men and half-breeds now resorted to violence on a large scale and defeated (June 19, 1816) a small force led by Semple to meet them, killing some 22, this was the massacre of Seven Oaks The colony was dispersed, but even then Selkirk was on his way to the settlement and he had finally received some approval, if not much help, from the government of Upper Canada, which had previously favored the North West Company On hearing the news of the massacre, he fell upon the North West Company post, Fort William, and seized it In the winter Macdonnell and an armed party went out to Red River and retook (Jan, 1817) the settlement at the junction of the Red and the Pembina and the main settlement (formerly Colony Gardens, later Kildonan) The result of these moves was a series of court charges and countercharges that beggared Selkirk and helped to bring about the union (1821) of the Hudson's Bay Company and the North West Company Agriculture had for the first time been firmly planted on the Western plains, and the Red River settlements were to grow and flourish See also RIEL, LOUIS See J P Pritchett, *The Red River Valley, 1811–1849* (1942)

Redruth, England see CAMBORNE-REDRUTH

Red Sea, an *Sinus Arabicus* or *Erythraean Sea* (ĕrĭthrē'ŭn), narrow sea, c 1,500 mi long, between Africa and Arabia, lying in the Great Rift Valley On the African side it washes Egypt, the Anglo-Egyptian Sudan, Eritrea, and French Somaliland It is connected on the south with the Gulf of Aden (and thence with the Arabian Sea) by the narrow Bab el Mandeb The northern arms, are the Gulf of Aqaba and the Gulf of Suez, between them is the Sinai peninsula The Bible in recounting the crossing of the Red Sea by the Israelites probably intended the Gulf of Suez Until the completion (1869) of the Suez Canal gave access to the Mediterranean Sea, the Red Sea had little importance as a commercial artery Today it lies on one of the chief shipping routes connecting Europe with the Far East and Australia The ports are all small and of relatively minor importance, they include Suez, Jidda, Hodeida, and Massawa The maximum depth of the Red Sea is over 7,000 ft, but since the slope to the central trough is gradual, the coasts are monotonously flat The sea is dotted with islands (notably the Dahlak Archipelago) and with dangerous coral reefs The climate of the area is exceedingly hot and humid.

red snapper: see SNAPPER

Red Springs, town (pop 1,559), S N C, SW of Fayetteville, settled c 1775. It has textile and lumber mills and a medicinal sulphur spring Flora Macdonald College (Presbyterian; for women, 1896) is here

redtop: see BENT GRASS

reduction: see OXIDATION AND REDUCTION.

reductions, Span *reducciones*, settlements of Indians in colonial Latin America, founded to teach the natives the ways of Spanish life Best known were the Jesuit missions in old Paraguay (many in present Argentina)—about 30 among the Guaraní Indians and 7 in the Chaco wilderness The first was founded in 1609 Each reduction was directed by two priests, a spiritual overseer and an administrator, the Indians were docile workmen in the fields and in the shops, with no share in the direction. The missions prospered in agriculture, trade, and manufactures. They also printed thousands of volumes and contributed greatly to geographic and scientific knowledge about South America. The Jesuits dominated Paraguayan commerce, aroused the jealousy of the merchants, and caused bitter governmental quarrels until the order was expelled (1767) by the Spanish crown.

Red Wing, city (pop 9,962), co. seat of Goodhue co., SE Minn , at the head of Lake Pepin; settled 1852, inc. 1857. The city is a commercial and manufacturing center in a farm area Brickmaking and pottery were early industries The Indians had a village here when early explorers came, from 1830 to 1840 there was a Swiss mission to the Indians, Red Wing is the seat of a state training school for boys (1890)

redwood: see SEQUOIA.

Redwood City, city (1940 pop 12,453; 1947 special census pop. 19,253), co seat of San Mateo co , W Calif , SSE of San Francisco, inc 1868 Once a lumbering town, it is now the center of chrysanthemum growing and shipping and has varied manufactures

Redwood Falls, city (pop 3,270), co seat of Redwood co , SW Minn , on the Redwood and NW of New Ulm, platted 1865, inc as a village 1875, as a city 1891 It is a shipping point for farm products and for granite from near-by quarries The site of the village of Little Crow, leader of the Sioux outbreak of 1862, is near Adjoining the city is the Alexander Ramsey State Park

Reed, James A, 1861–1944, American political leader, b near Mansfield, Ohio. He moved to Iowa and was admitted (1885) to the bar, practicing there and later in Missouri He was (1898–1900) prosecuting attorney of Jackson co , Mo , and then served (1900–1904) as mayor of Kansas City, Mo As Democratic Senator (1911–29) from Missouri, he adamantly opposed U S participation in the League of Nations In 1928 he lost the Democratic presidential nomination to Alfred E Smith but gave vigorous support to Smith in the presidential campaign. See Lee Meriwether, *Jim Reed, Senatorial Immortal* (1948)

Reed, John, 1887–1920, American journalist and radical leader, b Portland, Oregon, grad Harvard, 1910 He wrote articles in the United States for various publications and after 1913 was attached to the radical magazine the *Masses* The articles that he wrote from Mexico about the revolt of Pancho Villa established his reputation as a journalist and a radical He served as a reporter in Europe in the First World War and was in Petrograd (now Leningrad) when the Bolsheviks seized power in 1917, his book on that event, *Ten Days That Shook the World* (1919), is considered the best eyewitness account of the revolution The Paterson, N J , strike of 1913 and the Colorado coal strike of 1914 convinced him of the necessity of revolution In 1917 he helped organize the Communist Labor party, which was a splinter group of the Socialist party He was indicted for sedition in New York city in 1918, but the case was dropped Reed returned to the USSR, worked in the Soviet bureau of propaganda, and was appointed Soviet consul to New York Upon protest from the U S government, Reed was withdrawn from the consulship He died in Moscow in 1920 of typhus and was buried at the Kremlin See biography by Granville Hicks (1936)

Reed, Joseph, 1741-85, American Revolutionary statesman and officer, b Trenton, N J , grad College of New Jersey (now Princeton Univ), 1757 He studied law, was admitted (1763) to the bar, and then went to London to study at the Middle Temple After returning (1765) to practice law in Trenton, he took an active part in pre-Revolutionary affairs After a second trip to London (1770), he settled in Philadelphia and for a time corresponded with Lord Dartmouth, secretary of state for the colonies, though the information he offered on colonial discontent was disregarded Reed, an ardent patriot, became in 1774 a member of the committee of correspondence and in 1775 president of the Pennsylvania provincial congress and a member of the Continental Congress In the war he served as military secretary to Washington and as adjutant general and saw action at the battles of Long Island, Trenton, Princeton, Brandywine, Germantown, and Monmouth Reed served again in the Continental Congress (1777–78), and as president (1778–81) of the supreme executive council of Pennsylvania he abolished slavery in Pennsylvania and caused (1778) Benedict Arnold to be prosecuted on charges of corrupt practices He was a trustee and founder of the Univ of the State of Pennsylvania (later the Univ of Pennsylvania) See W B Reed, *Life and Correspondence of Joseph Reed* (1847); biography by George Bancroft (1867)

Reed, Stanley Forman, 1884–, Associate Justice of the U S Supreme Court (1938–), b Mason co , Ky. After receiving the B A degree from both Kentucky Wesleyan (1902) and Yale (1906), he studied law at the Univ of Virginia and Columbia Univ and then studied in France A lawyer of Maysville, Ky , he became general counsel of the Federal Farm Board (1929–32) and of the Reconstruction Finance Corporation (1932–35) He was (1935–38) Solicitor General and presented the government arguments in numerous New Deal cases. As Associate Justice of the U S. Supreme Court, Reed, generally considered a moderate, often held the balance between the liberal and the conservative members of the court in split decisions

Reed, Thomas Brackett, 1839–1902, American legislator, b. Portland, Maine, grad Bowdoin College, 1860 A lawyer, he served in the state assembly (1868–69) and state senate (1870) and was (1870–73) state attorney general before he was elected (1876) as a Republican to the U S Congress A brilliant parliamentarian with a mordant wit, a conservative by conviction, Reed quickly took his place among the top leaders of his party As speaker of the House (1889–91, 1895–99) he inaugurated the "Reed Rules"—by which the House quorum was determined by the count of members present rather than by the count of those voting "Tsar" Reed also arbitrarily used the speaker's power of recognition to prevent minority obstruction and to facilitate orthodox Republican legislation in the face of strong opposition In 1896 he was a candidate for the Republican presidential nomination, which Mark Hanna skillfully secured for William McKinley Reed was strongly opposed to war with Spain, to the annexation of Hawaii, and to the ensuing expansion program Though reelected in 1898, he retired from Congress in 1899 and then practiced law in New York city See biographies by S W McCall (1914) and W A Robinson (1930)

Reed, Walter, 1851–1902, American army surgeon, b Gloucester co , Va , M D Univ of Virginia, 1869, and Bellevue Hospital Medical College, 1870 He received his army appointment in 1875 Having studied bacteriology under W H Welch, in 1898 he investigated epidemic typhoid fever in army camps In 1900 Reed headed a commission (with James Carroll, Aristides Agramonte, and J W Lazear as members) which was sent to Havana to study yellow fever and which proved that the disease, as suggested earlier by C J Finlay, was carried by the mosquito then called *Stegomyia* (later designated as *Aedes aegypti*) Using measures suggested by this knowledge, W C Gorgas was able to rid Havana of the disease The army hospital in Washington, D C , is named for Reed See studies by H A Kelly (3d ed , 1923), A E Truby (1943), and L N Wood (1943).

reed, name used for several grasses The common reed is a tall, stout perennial grass (*Phragmites communis*), widely distributed in wet places It has stout creeping rootstalks and a large, plumelike panicle In the SW United States this grass is called carrizo and is used in building adobe huts, it has also been used for thatching and cordage, Indians collected an exudation from the plant for its sweetness and made arrows of the stalks The giant reed (*Arundo donax*), of similar appearance and habitat but more southern in range, is often cultivated for ornament and is sometimes used in a reed instrument or reed organ It was from a reed that Pan was fabled to have made his Panpipe. The reeds of wickerwork are often rattan

reed bird see BOBOLINK

Reed City, city (pop 1,845), co seat of Osceola co., N Mich , on a tributary of the Muskegon and S of Cadillac, in a farm and lake area, inc as a village 1875, as a city 1932 Wood products and wood-preserving chemicals are made

Reed College, at Portland, Oregon, nonsectarian, coeducational, opened 1911 with bequests from Mr and Mrs. Simeon G Reed The college pioneered in progressive and individualized education Student government is stressed and all students participate in athletics

reed instrument, in music, an instrument whose sound-producing agent is a thin strip of cane, wood, or metal which vibrates as air is forced over it There are single-reed instruments (see CLARINET) as well as double-reed instruments (see OBOE), in which two strips are arranged so that they strike against each other Free reeds, such as those used in the REED ORGAN, CONCERTINA, and HARMONICA, do not overlap the air passage, they are generally of metal Beating reeds, such as are used in ORGAN pipes, strike the edges of the aperture while vibrating

Reedley, city (pop 3,170), S central Calif , SE of Fresno and on the Kings river, in a fruit area of the San Joaquin Valley, founded 1889, inc 1913 A junior college (coeducational) is here

reed mace. see CATTAIL

reed organ, an ORGAN in which air is forced over free reeds by means of bellows, usually worked by pedals It is played by means of one or more keyboards. Variations in tone are produced by stops that control different sets of reeds or vary the manner in which the air acts upon them Couplers add the upper or lower octave of each tone played In the late 18th cent C G Kratzenstein built a small reed organ, inspired by the Chinese SHENG In 1810 G J Grenié of Paris invented the *orgue expressif*, also inspired by the sheng, and numerous similar instruments followed Most of these, including the harmonium, as invented in 1840 by Alexandre Debain of Paris, had bellows that blew the air over the reeds, but c 1835 a workman conceived the idea of employing suction bellows His idea was employed by Jacob Estey of Brattleboro, Vt , and Mason and Hamlin of Boston in the middle of the 19th cent American organ, melodeon, or melodium, and cabinet organ were the names generally applied to this type of instrument, although the terms harmonium and melodeon have sometimes been confused. Both types of instrument found wide use in churches and homes in the United States. Many larger modern reed organs are electrically powered and have pedal keyboards like those of the pipe organ

Reedsburg, city (pop 3,608), central Wis , NW of Madison and on the Baraboo, inc 1887

Reedsport, city (pop 1,421), W Oregon, N of Coos Bay and on the Umpqua river near its mouth on the Pacific, inc 1919 It has fisheries and lumber manufacturing

reef, shoal or submarine bar of sand, rocks, or coral, at or near the ocean surface and therefore dangerous to shipping The Great Barrier Reef off E Australia is the longest in the world Reefs may be formed by wave and tidal action, by CORAL growth, or by subsidence of the land

reefing, the shortening of the sail or the reducing of the area of the sail The operation is performed when the wind has grown so strong that the sails are in danger of being torn loose or damaged A reef is that part of a sail which can be rolled or folded up and which lies between the upper or the lower edge of the sail and a parallel row of eyelets or between two subsequent rows of eyelets, each row of eyelets is known as a reefing point On square-rigged ships, reefs are taken from the top, while on fore-and-aft-rigged ships they are taken from the bottom In modern sailing vessels (yachts) a mechanical reefing gear is used to roll up the sail like a window shade

reel, folk dance of the British Isles, probably of Celtic origin although often ascribed to the Scandinavians Danced by two or more couples standing in a circle, it is in quick duple meter with four or eight measures which are repeated The reel is found in Scotland, Ireland, and the United States, where it is known as the Virginia reel. The Scottish reel is slower than the Irish

Reelaiah (rē"ēlā'yū), same as RAAMIAH.

Reelfoot Lake, c 20 mi long, W Tenn , near the Mississippi river and the Ky line It was formed by earthquakes in the winter of 1811–12 The depression thus created was filled with river water. The lake is in a beautiful wooded area, the Reelfoot Lake State Fish and Game Preserve

Reese, Lizette Woodworth (rēs), 1856–1935, American poet, b near Baltimore She taught for many years in a Baltimore high school Her first volume of verse, *A Branch of May* (1887), was included in *A Handful of Dust* (1891) The well-known sonnet "Tears" appeared first (1899) in *Scribner's Magazine* Her lyric genius is shown also in *A Quiet Road* (1896), *A Wayside Lute* (1909), and the later collections *Spicewood* (1920), *Wild Cherry* (1923), and *Selected Poems* (1926) *A Victorian Village* (1929), in prose, is autobiographical

Reeve, Clara (rēv), 1729–1807, English novelist. In 1777 appeared her most famous work, *The Champion of Virtue a Gothic Story*, which after the first edition was entitled *The Old English Baron* It was the literary offspring of Walpole's *Castle of Otranto* Two other works—*The Progress of Romance* and *The History of Charoba, Queen of Aegypt*, issued together in 1785—were reprinted in 1930 by the Facsimile Text Society.

Reeve, Tapping, 1744–1823, American lawyer and jurist, b Brookhaven, N Y , grad College of New Jersey (now Princeton Univ), 1767 In 1784 he opened his famous law school in Litchfield, Conn., where Aaron Burr, John C Calhoun, and Horace Mann and many other future senators, governors, and judges studied

Reeves, John Sims, 1818–1900, English tenor He began his career as a church organist and in 1839 made his debut as a baritone, but it was as a tenor, in opera, oratorio, and concert, that he became one of England's most popular singers, retiring in 1896. See his autobiography (1888)

referendum. see INITIATIVE AND REFERENDUM

refining includes the finer processes of metallurgy, the separation of petroleum into its commercial products, and the purification of cane, beet, and maple sugar and many other substances The nature of the refining process differs with many factors, including the type of material involved, the value of the end product, and the degree of purity necessary The purification of a metal is accomplished usually by a continuation of a process used in separating the metal from its ore it is based upon differences between the metal and its accompanying impurities as to some physical or chemical property, e g , density, melting point, magnetic properties, or reaction to certain chemicals ELECTROLYSIS is much used in the refining of various metals, the BLAST FURNACE and the REVERBERATORY FURNACE are important especially in connection with the refining of copper and iron, the AMALGAMATION PROCESS and the CYANIDE PROCESS are chemical means of metal refining The addition of quicklime or lime in some form, filtration, evaporation, and crystallization are important in the refining of sugar

reflection. When a ray of light or other radiant energy or a sound wave strikes a surface and is thrown back into the medium through which it has come, it is said to be reflected. The general principles governing the reflection of light and sound

are similar, for both travel normally in straight lines and both are wave phenomena Objects are visible because of the light reflected from their surfaces, and their color depends upon their ability to reflect light of a certain wave length and to absorb that of other wave lengths The reflection of light follows certain definite laws A ray of light striking a reflecting surface at right angles is thrown back directly along the path it has followed in coming to the surface Its path can be represented by a line drawn perpendicular to the surface and erected at the point at which the incoming ray strikes the surface, a perpendicular line so erected is called the normal When, however, a ray strikes a reflecting surface at an angle, it is reflected at an angle and in an opposite direction The incoming ray is called the incident ray, and the angle that it makes with the normal is known as the angle of incidence The angle formed by the reflected ray and the normal is called the angle of reflection and is equal to the angle of incidence Furthermore, the reflected ray is always in the same plane as the incident ray and this plane is perpendicular to the surface Not all surfaces reflect light in the same way or in the same degree Smooth surfaces give regular reflection since the reflected rays are parallel, rough or uneven surfaces give diffuse reflection since the reflected rays are scattered and not parallel For example, the reflection by a MIRROR is regular, by a highly polished but uneven piece of metal, it is diffused Reflection of light is also brought about under certain conditions by the surfaces of transparent media through which light normally passes An example of this is seen in the blazing glare of sunlight on a window or an automobile windshield when the sun's rays strike them at a very oblique angle The phenomenon called total reflection is observed when light passing from one medium (e g , a glass prism or water) to a less dense medium (e g , air) reaches one of the surfaces and is thrown back into the denser medium again instead of passing outward as would be expected This occurs when the light strikes at an oblique angle, greater than a certain degree Up to that degree, refraction (not reflection) takes place, and the greatest angle at which refraction is possible is called the critical angle, if the angle of incidence exceeds this angle, total reflection occurs Internal reflection accounts in part for a number of natural phenomena. Rays of sunlight striking raindrops are refracted upon entering them and then undergo internal reflection, since the sunlight is broken up into its colors, a rainbow appears A mirage is also partially the result of internal reflection The reflection of sound waves from a surface is the cause of ECHO Sound waves striking a surface are partially reflected and partially absorbed (see ACOUSTICS) Heat and other forms of radiant energy are also reflected by smooth and highly polished surfaces

reflex action: see NERVOUS SYSTEM

Reform, Catholic, 16th-century reformation of the Roman Catholic Church The latter part is sometimes pejoratively called the Counter Reformation, to imply that it was only a response to the Protestant Reformation The Reformation and the Catholic Reform, however, differed basically, for the Protestant reformers set out to replace the organized Church and the sacraments with an altogether different sort of religious community Both Catholic and Protestant reformers were angered by widespread corruption in the clergy, in this fact lay their chief similarity Since the time of St Catherine of Siena (14th cent) many voices had cried out for extensive reforms—of the clergy, of Christian life, and of ecclesiastical administration Probably the Great Schism did more than anything else to prevent change, for in its duration ecclesiastical politics preoccupied those who might have been busy with reform In the 15th cent the PAPACY was too weak to lead any movement, much less a drastic reform A key factor in the corrupt stagnation in Christendom was the spirit of the prelates, powerful, worldly, and negligent bishops—with their kings and princes—really ran the Church Such was their power that in the only vigorous papal effort at reform of the century, the mission of Nicolas of Cusa in Germany (1451), the papal legate dared not touch the bishops At the time the most-publicized scandal was the immoral Renaissance papal court with its cultivation of pagan art, but of all the evils thus proved to be the easiest remedied, once it was attacked by PAUL IV This Paul (as Cardinal Carafa) was, with CAJETAN and others, a member of a tight little reform party at Rome The nucleus was a society of priests and laymen, the Oratory of Divine Love, founded (1497) at Genoa for charitable work and now extended as a spiritual movement in the Curia itself The reformers were helped from abroad by men of the prestige of St Thomas More, Erasmus, St John Fisher, and Cardinal Jiménes The first major reform efforts failed, these were the Fifth Lateran Council (1512-17) and the election of Adrian VI, who died too soon In the next pontificate (Clement VII, 1523-34) the reform party worked on quietly, forming the core of resistance to Lutheranism, they founded the Theatines (1524) and the Capuchins (1525), religious orders to evangelise the common people Meanwhile Protestantism expanded, and the sack of Rome (1527) convinced even the most complacent cardinals that political gambling was a danger to the Church The influence of Emperor CHARLES V weighed on the side of reform In 1534 PAUL III became pope, and St IGNATIUS OF LOYOLA and his friends took the vows that founded the Jesuits (see JESUS, SOCIETY OF) Thus simultaneously (but quite independently) the reformers finally won the papacy, and the pope was provided with a resolute band of helpers In 1545 after delay and miscarriage the Council of Trent (see TRENT, COUNCIL OF) was convened by Paul III This council (1545-47, 1551-52, 1562-63) was the central feature of the Catholic Reform The popes of the council were Paul III, JULIUS III, , and PIUS IV The reign of Pius's predecessor, Paul IV, an interlude in the council, was devoted to the purge of the papal court, from Paul's work dates the quasi-monastic air that has ever since characterized the Vatican The end of the council (1563) opened the second period of the reform, lasting until 1590, with the pontificates of St PIUS V, GREGORY XIII, and SIXTUS V The work of the council was given effect The chief evil in church life, simony (in many forms, including the preaching of some indulgences), was uprooted Worship was standardized, the law of the Church and the government of the Holy See were reorganized, new educational requirements for parish priests were introduced and provided for (by diocesan seminaries), religious orders were reformed, and the life of the clergy was scrutinized A new spirit began to breathe in the Church, this spirit is seen in the work of St CHARLES BORROMEO In the Papal States and in a few other lands the new INQUISITION was extended A far-reaching local movement in the reform was the Oratory (see ORATORY, CONGREGATION OF THE) of St PHILIP NERI Catholicism took the offensive in Europe, and the Jesuits and Capuchins won Austria, Poland, the S Netherlands, and parts of Germany, Hungary, and Bohemia back to the Church The Jesuits led in foreign missions, in America it was the spirit of the Catholic Reform that led the missionaries to work strenuously for the Indians often in opposition to the secular authorities Spanish religion was deepened by the Carmelite reforms of St THERESA of Avila and by St JOHN OF THE CROSS In France the Catholic Reform took root later, after the accession of Henry IV, the great French figures were St FRANCIS OF SALES and St VINCENT DE PAUL In England the Catholic Reform took effect less in the restoration of the Church under Mary (though Cardinal POLE was a reformer) than in the mission of the Jesuits (1580), led by Edmund CAMPION and Robert PARSONS Diverse figures showing effects of the Catholic Reform are Cardinal Baronius, Cardinal Bellarmine, Pedro Calderón de la Barca, Richard Crashaw, St Francis Borgia, St Rose of Lima, Robert Southwell, and Torquato Tasso There is no single book treating the Catholic Reform For bibliography, see PAPACY and ROMAN CATHOLIC CHURCH

Reformation, name generally given to the religious revolution in Western Europe in the 17th cent It arose from objections to doctrines and practices in the medieval church (see ROMAN CATHOLIC CHURCH) and ultimately led to the freedom of dissent (see PROTESTANTISM) The preparation for the movement was long Opponents of orthodox views had asserted themselves over centuries, and in the 14th cent John WYCLIF had led a dissident movement His ideas were repeated and amplified later by the able John HUSS in Bohemia, who was burned at the stake at the Council of Constance His followers in Bohemia upheld his cause after his death in the long and bitterly fought HUSSITE WARS These dwindled out into compromise, but Huss's challenge to the orthodox view of the Eucharist and the revolutionary effect of the wars did not melt away New forces came to fan discontent with the Church and the medieval order of society There had long been outcries against abuses in the Church, especially the shocking worldliness of some of the clergy, the emphasis on money, and the oppressiveness, not only intellectual but economic, of members of the hierarchy. The "conciliar theory" —that the ecumenical council is superior to pope— had reform as one aim, but it failed Nevertheless the number of those wishing reform grew steadily. It was increased by the appearance of HUMANISM and the spirit of the Renaissance Study of the ancient texts, Greek and Hebrew, concentrated attention on the Bible and evoked a new critical spirit, exemplified by such men as Lorenzo VALLA The Renaissance also tended to develop an emphasis on the individual and to encourage revolt against all authority The later humanists were outspoken in their attacks on the abuses in the Church; ERASMUS was, perhaps, the most prominent, but there were hosts of others, such as the humanists at Oxford The intimate connection between the new learning and the Reformation itself is shown in the pursuits of men who were to be prominent in the Reformation in central Europe; Ulrich von HUTTEN and Philip MELANCHTHON were outstanding figures in humanist study, and ZWINGLI arrived at opposition to the Church mainly through the study of Greek and Hebrew The very founding of the Univ. of Wittenberg, which was to be the center of revolt, was part of the urge to humanism The introduction of printing in West Europe made criticism more widespread Printing was to hasten the Reformation, and the Reformation in turn was to spread printing further In secular matters the opposition between Church and state was centuries old, but it had begun to take a new turn with the building of strong nations In Germany this opposition to the power of the Church was coupled in the minds of many princes with opposition to that other supranational body, the Holy Roman Empire, and the princes were to play a decisive part in the ecclesiastical rebellion. The great increase in the cities and in the power of merchants and the middle class generally not only upset the old medieval order of things but created much discontent with the scholastic views on finance and economic affairs, which fettered the enterprise of the men in search of wealth The economy of Europe was expanding and forcing cracks in the more or less rigid walls of the system Scholars of recent years have put a great deal of emphasis on this connection between the new modes of religious thought and economic change, between Protestantism and capitalism, as a major force in the Reformation There were, however, many influences at work, and the field was well prepared by 1517 Nevertheless, it was with suddenness and surprise that the Reformation began Martin LUTHER had been stirred to action by the campaign for dispensing indulgences (see INDULGENCE) being launched under Johann TETZEL in Germany He protested On Oct 31, 1517, he posted on the door of the castle church at Wittenberg his 95 theses, inviting debate on matters of practice and doctrine This was not as yet a revolt against the Church but a movement for reform within It was, however, much more than an objection to the money-grabbing and secular policies of the clergy Luther had already become convinced that in certain matters of doctrine the purity of the ancient church had been perverted by self-seeking popes and clergy His disagreement with the Church on matters of doctrine soon became apparent In 1519 Luther in a dispute with Johann Eck openly espoused doctrines that were implicit in his theses, and he denied the authority of the Church in religious matters The pope issued a bull of excommunication, and Emperor Charles V thundered against the rebel Luther defied them, publicly burned the bull of excommunication, and issued vigorous pamphlets assailing the papacy and the doctrine of the sacraments The breach was thus made in 1520, and the meeting of the Diet of Worms (see WORMS, DIET OF) not only did not produce a compromise but forced many doubters into the camp of the rebels Luther was declared an outlaw, but the threat was empty, under the protection of the powerful Frederick III, elector of Saxony, he was spirited off to the safety of the Wartburg The revolt was spreading with the speed of a grass fire over central and N Germany and almost immediately was burning beyond the German borders All the elements of discontent and rebellion coalesced The learned, such as Luther himself, Melanchthon, and Martin Bucer, saw the opportunity to express and expand their own views The nobles were enabled to cast off allegiance to the emperor and to enrich themselves by seizing the immense landed estates of the Church Too much can be—and has been— made out of this economic motive, however, for many of the princes belonged to the intellectual group that had been stirred to critical rejection of church doctrines, and they were perhaps better aware than common men of the venality and money-mindedness of many of the clergy Many of the pious, increased in number by a spontaneous religious revival in the late 15th cent , drank the doctrine of a new spirituality with pleasure, for Luther's doctrine of justification (i e , salvation) by faith alone and not by sacraments, good works, and the mediation of the Church placed man in naked and direct communication with God The new insistence upon reading the word of God in the Bible placed on the individual a greater responsibility Those who were feeling the first and welcome weight of nationalism were anxious to shake off the hand of Rome Absolutist rulers, particularly in Scandinavia, welcomed the opportunity to end the interference of the Church in state affairs; by creating national churches they were able to escape outside influence Merchants and capitalists found the air of individual freedom exhilarating The peasants, chafing under the old restrictions of feudalism, lifted up their heads in hope that the new dispensation would take away their burdens. Huldreich Zwingli had in Zurich developed his own brand of dissent In 1529 in the Colloquy of Marburg, Luther and Melanchthon on the one side and Zwingli and OECOLAMPADIUS on the other discussed the nature of the sacrament of the LORD'S SUPPER (the Protestant form of the Catholic EUCHARIST), but failed to come to an agreement The fundamental principle that every man could arrive at truth by study of the Scripture also led many to more radical conclusions than

those that Luther adopted. The preacher known as CARLSTADT (from the place of his birth) argued for a more thoroughgoing dismissal of old practices and doctrines in Wittenberg itself and caused Luther to emerge from his retirement to halt the progress of radicalism The PEASANTS' WAR (1524–25) showed plainly the rifts within the ranks of the rebels, and Luther, forced to choose between the revolutionary peasants *and their opponents*, the princes, chose the princes and orderly governance. The lower classes then in large measure followed more revolutionary social leaders, such as the communistic Thomas MÜNZER and JOHN OF LEIDEN. After their revolution had been put down with blood and brutality, many of them returned to Catholicism, and many continued to foster more radical sects, such as the ANABAPTISTS In general the princes were able to dictate what religion should prevail in their territories, and they opposed vigorously the attempt of the emperor to force them back into the old Church The Knights' War (1522–23), led by Franz von SICKINGEN, ended in failure, but the determination of Charles V to extirpate Lutheranism ultimately ended in even more abject failure The imperial Diet of Speyer in 1526 found no answer to the division of the empire, and when a new Diet of Speyer in 1529 ordered that the emperor's ruling against the heretics should be enforced, the Lutheran princes issued a defiant protest (from which the term *Protestant* is derived). The Diet of Augsburg in 1530 was equally fruitless in producing a compromise between Catholic and Lutheran princes, but it did produce the Confession of Augsburg (see CREED), which was drafted by Melanchthon and became the official statement of Lutheran faith The conflict in the empire led the Protestant princes to form a defensive union against the emperor in the Schmalkaldic League, in which the chief figures were PHILIP OF HESSE and JOHN FREDERICK I of SAXONY The league was put down in the Schmalkaldic War (1546–47) which did not, however, in the least solve the situation The confusion which political considerations brought to the religious issue is perhaps best seen in the career of MAURICE, duke of Saxony, who fought first on one side, then on the other A sort of peace of exhaustion and compromise was reached in the Peace of Augsburg (1555, see AUGSBURG, PEACE OF) The settlement was, however, at best uneasy and was not to endure except in principle The conflict was merged with many other issues in the later THIRTY YEARS WAR (1618–48) Meanwhile the fresh winds of the Reformation had been blowing all over Europe (except Russia) The Scandinavian countries became firmly Protestant under GUSTAVUS I (Gustavus Vasa) of Sweden and Frederick I of Denmark and Norway, later attempts to win them back to Catholicism failed Geneva had become in 1536 the headquarters of the French John CALVIN, who is considered by many the greatest theologian of Protestantism His *Institutes of the Christian Religion*, published at Basel in 1536, marked a new era in thought He differed from Luther principally in the doctrine of predestination (the foregone choosing by God of the elect to be saved), in the austerity of the life of the godly, and in the emphasis on theocratic government (see CALVINISM) His influence was immediate and enormous France, which had hardly been touched by Lutheranism, was fired by Calvinist doctrine, and the Protestant minority, called the HUGUENOTS, waged fierce battle against the Catholic majority in Wars of Religion until toleration was won when Henry of Navarre turned Catholic, became King Henry IV, and issued (1598) the Edict of Nantes Calvinism superseded Lutheranism in the Netherlands, where the religious revolt was coupled with revulsion from the policies of Charles V and his successor, PHILIP II of Spain Through bloody wars independence and Calvinism gained the upper hand in the N Low Countries Calvinism conquered Scotland, too, through the victory of John KNOX in his long duel with MARY QUEEN OF SCOTS. It spread also to Hungary and Poland and took root in parts of Germany It proved quite impossible to reconcile the finely wrought theology of Calvinism with Lutheran doctrines, for Lutheranism rejected predestination and clung to part of the sacramental system (see LORD'S SUPPER). Calvinist thought did greatly influence the course of the Reformation in the British Isles and the present United States There was also conflict of Lutheranism and Calvinism with the more radical and emotional religions (commonly called Evangelical, while Calvinist churches were called Reformed on the Continent and Presbyterian in the British Isles), but the enthusiasm of preachers who interpreted Scripture in their own way met with a cool reception among the Calvinists The divisions within Protestantism were from the beginning sharp, and attempts to reconcile Calvinist, Lutheran, and Evangelical doctrine had only partial success in some union of Lutheran and Evangelical practice. Moreover, in England the Reformation went its own course. It was there much more closely connected with the conflict of Church and state than was the Reformation on the Continent. The conflict of King HENRY VIII with the Church led to the Act of Supremacy (1534), which firmly rejected papal control and created a national church (see ENGLAND, CHURCH OF) Currents of Calvinistic and Evangelical thought were, however, strong in England The Reformation was begun with the creation of a state church and the dissolution of the monasteries It was given Calvinist touches under Edward VI, suffered a complete reversal under Mary I, and reached a sort of balance under Elizabeth, with persecution of both Catholics and Calvinists The process was to work itself out slowly later in the PURITAN REVOLUTION, just as the fierce hatreds between Protestant and Protestant as well as between Catholic and Protestant were to be worked out later on the Continent The burning of SERVETUS was a sample of the internal strife within Protestantism itself The divisions within the churches of the Reformation also served to forward the counterreformation within the Roman Catholic Church (see REFORM, CATHOLIC), which rewon Poland, Hungary, most of Bohemia, and part of Germany for the Catholics The end of the Thirty Years War in the Peace of Westphalia (see WESTPHALIA, PEACE OF) in 1648 brought some stabilization, but the force of the Reformation did not end then It has continued to exert influence to the present day, with its emphasis on personal responsibility and individual freedom, its refusal to take authority for granted, and its ultimate influence in breaking the hold of the Church upon life and consequent secularization of life and attitudes See Thomas M Lindsay, *History of the Reformation* (2 vols, 1906–7), E M Hulme, *The Renaissance, the Protestant Revolution, and the Catholic Reformation in Modern Europe* (rev ed, 1917), Preserved Smith, *The Age of the Reformation* (1920), Albert Hyma, *The Christian Renaissance* (1924), R H Tawney, *Religion and the Rise of Capitalism* (1926); G G Coulton, *Art and the Reformation* (1928), Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (Eng tr, 1930), H S Lucas, *The Renaissance and the Reformation* (1935), Constantin Hopf, *Martin Bucer and the English Reformation* (1946)

Reform Bills, in English history, name given to five measures which liberalized representation in the House of Commons (The last two, in 1918 and 1928, are more usually called REPRESENTATION OF THE PEOPLE ACTS) Parliamentary representation had been given the shires, boroughs, and cities by the crown and was not materially altered from Elizabeth's reign to 1832 The system was very irregular and greatly restricted the franchise, worse, it failed to take into account the great shifts of population and the growth of new social classes which attended the Industrial Revolution "Pocket boroughs," controlled by the crown or large landholders, and "rotten boroughs," whose population had declined, returned two members, while large cities such as Manchester and Birmingham were unrepresented Out of a population of 24,000 000 in 1831, only about 400,000 voters were qualified in the British Isles Corruption and the sale of seats flourished Reform agitation, beginning to become strong in the 1760s, was supported by William Pitt and others, but the emergency period of the French Revolution interrupted it Revived c 1807, it became part of the program of utilitarianism and was the leading issue of the day by 1830. The **Reform Bill of 1832**, enacted under the Whig administration of Earl Grey, redistributed seats in the interest of larger communities it extended the franchise in the boroughs to those who occupied premises of annual value of £10 and in the counties to similar leaseholders—to the advantage of shopkeepers and other middle-class men—and it simplified registration and voting procedure It was passed in the House of Lords by the king's threat to create Whig peers Agitation by the advocates of CHARTISM and others for more reform produced no results until Benjamin Disraeli made a bid for the support of the working classes by the passage of the **Reform Bill of 1867** This act, which further redistributed seats and more than doubled the electorate, gave the vote to workingmen in the towns The **Reform Bill of 1884**, passed in the time of a Gladstone ministry, removed the distinction between county and borough franchises and by the reduction of rural qualifications added about 2,000,000 electors A redistribution act in 1885 rendered representation nearly proportional to population. The Representation of the People Acts completed the conversion of England to a democratic voting basis See Charles Seymour, *Electoral Reform in England and Wales 1832–1885* (1915), H L. Morris, *Parliamentary Franchise Reforms in England from 1885 to 1918* (1921), and E L Woodward, *The Age of Reform, 1815–1870* (1938)

Reformed churches, in a general sense, all Protestant churches which claim a beginning in the Reformation In more restricted and usual historical usage, Reformed churches are those Protestant churches which had their ecclesiastical origin in the doctrines of Calvin, in distinction from those that are Lutheran or Evangelical. The Swiss and Dutch churches and a number in Germany came to be denominated Reformed. The Reformed churches as a rule follow the polity of PRESBYTERIANISM. They tend toward a simple form of worship rather than elaborate ritual. In the United States, churches bearing the Reformed title include the REFORMED CHURCH IN AMERICA, generally known as the Dutch Reformed Church, the CHRISTIAN REFORMED CHURCH, the EVANGELICAL AND REFORMED CHURCH, and the Free Magyar Reformed Church in America. The first two trace their origin to Holland, the third, to Germany and Switzerland, and the fourth, to Hungary

Reformed Church in America, founded in colonial times by Protestant settlers from the Netherlands, more commonly known as the Dutch Reformed Church The Reformed Church in Holland grew up in the 16th cent, after the Calvinistic Reformation movement had taken root in the northern provinces of the Netherlands In 1571 a synod held at Emden laid the foundation for the Reformed Church A presbyterian form of organization was decided upon Liturgical worship was formulated The Belgic Confession of Faith (1561) and the Heidelberg Catechism (1563) were adopted, later were added the Canons of the Synod of Dort (1619) After 1581, when the northern provinces of the Netherlands declared their independence from Spain, the Reformed Church was more firmly established In America, Dutch settlers in New Netherlands held informal meetings for worship until the Rev Jonas Michaelius organized (1628) a congregation in New Amsterdam The organization still survives in the important Collegiate Reformed Dutch Church, the St Nicholas Collegiate Dutch Reformed Church in New York city, oldest of its churches in the Middle Atlantic states, was razed in 1949 Until the English conquest of New Netherlands in 1664, the Reformed Church was the established church of the colony After that time, still owing ecclesiastical allegiance to the Classis of Amsterdam in Holland, the church had to give civil allegiance to the English government Nevertheless, the Reformed Church grew, ministers, supplied from Holland, were too few for the need Finally permission was given (1747) to form an assembly in America, which in 1754 declared itself independent of the Classis of Amsterdam This American classis secured a charter (1766) for Queens College (now Rutgers Univ) in New Jersey The appointment (1784) of John Henry Livingston as professor of theology marked the beginning of the New Brunswick Theological Seminary In 1792 a formal constitution was adopted, in 1794 the Reformed Church held its first general convention, in 1867 the present name became the official title New York and New Jersey were long the denominational stronghold, but in the middle of the 19th cent began the development of the church in the Middle West Hope College and Western Theological Seminary were founded in Holland, Mich., and Central College at Pella, Iowa In 1857 a group of settlers from Holland in Michigan separated from the Reformed Church and organized the CHRISTIAN REFORMED CHURCH The Reformed Church in America has long been active in the foreign mission field particularly in India, China, Japan, and Arabia See M G Hansen, *The Reformed Church in the Netherlands, 1340–1840* (1884), C E. Corwin, *A Manual of the Reformed Church in America* (5th ed revised 1922)

Reformed Church in the United States: see EVANGELICAL AND REFORMED CHURCH

Reformed Episcopal Church, formed in 1873 by members of the Protestant Episcopal Church who withdrew because of ritualistic dissensions The denomination publishes the *Episcopal Recorder*

reformed Judaism: see JUDAISM

Reformed Presbyterianism: see PRESBYTERIANISM and CAMERON, RICHARD

refraction, in physics, the bending of a ray of light (or of a sound wave or a heat ray) away from its original direction when it passes obliquely from a medium of one density into another medium of different density, as from air into glass No bending occurs, however, if the ray enters the surface at right angles to it The explanation of refraction is commonly given in terms of the wave theory of light and is based upon the fact that light travels with greater velocity in some media than it does in others and that the front of a WAVE is flat and at right angles to the direction it is following When, for example, a ray of light traveling through the air strikes the surface of a piece of glass at an oblique angle (not so small that the ray can glance off and thus be reflected), the under part of the ray, entering the glass first, is slowed down first—light travels more slowly in glass than it does in air—and turns off from the direction in which it was originally traveling As the upper part of the ray enters the glass, it also is bent, following the same direction as that of the under part A ray thus entering a different medium is called the incident ray, the point at which it enters the new medium, the point of incidence, an imaginary line erected at this point and perpendicular to the surface of the new medium, the normal, and the ray after bending, the refracted ray The ray is bent in a direction towards the normal when passing from a less dense to a more dense medium. The angle which the incident or incoming ray makes with the nor-

mal, or perpendicular to the surface, is called the angle of incidence, the angle which the refracted or bent ray makes with the normal is called the angle of refraction The law of refraction states that a constant ratio exists between the sines of the angles of incidence and refraction for any two given media; the discovery of the law is usually credited to Willebrord Snell Commonly this law is expressed in the statement that a constant ratio exists between the velocities of light in the two given media This ratio is called the index of refraction or refractive index for the two media If one of the media is a vacuum the ratio is called the absolute index of refraction Light is refracted in passing through such optical instruments as the prism and the lens White light passing through a prism in a certain way is dispersed or broken up into its component parts and a SPECTRUM is formed In certain crystals, e g , calcite, an entering ray of light is refracted in two ways, the phenomenon being called double refraction (see POLARIZATION OF LIGHT) If, however, a ray of light strikes a transparent surface in such a way that its angle of incidence is greater than a certain degree (called the critical angle), it will be reflected and not refracted, a phenomenon known as total reflection (see REFLECTION)

refrigeration, the act of drawing heat away from solids or liquids to lower their temperatures, generally for purposes of preservation Perishable foods have long been kept in cool cellars and in buckets lowered into wells A spring of cold water often determined the site of an American pioneer's home A springhouse was built over the flowing water, and the cooling fluid was led through troughs in which were placed crocks of butter and cream In the winter farmers stored ice in icehouses for use in the summer Similarly natural ice from commercial icehouses served the needs of urban homes and food merchants until artificial methods of producing ice became practical, after their initiation in the middle of the 19th cent When a solid is liquefied or when compressed air is permitted to expand, it absorbs heat Thus the changing of one gram of ice to a gram of water requires 80 calories of heat Following the removal of the pressure used to produce dry ice (solidified carbon dioxide), it absorbs much heat in its reversion to gas These principles find application in virtually all refrigeration equipment Ammonia, carbon dioxide, and sulphur dioxide are most widely used as refrigerants These and other volatile chemicals by their susceptibility to continuous re-use in the alternating evaporation and condensation process become part of sealed systems kept in motion through electricity or gas apparatus An electric motor controlled by a thermostat is used to exert pressure on ammonia, for example, before it moves into the coils of the refrigeration compartment Heat is drawn to the coils from whatever is in the compartment as the ammonia changes to its gaseous form The motor then acts to compress the gas issuing from the coils, rendering it liquid for its passage back into the coils The compression is done as far away from the refrigerated area as possible by reason of the heat generated in the action Compression and expansion of air are also used in refrigeration equipment Wherever fresh or frozen food must be stored, processed, transported or sold, refrigeration is indispensable, with the result that appropriate refrigeration machinery was developed for trains, ships, factories, and cold-storage plants (used not only for foods but also for fur storage) An outgrowth of the preservation of foods by refrigeration was the development of processes of preparing FROZEN FOODS Although a number of experimenters contributed to the discovery of a workable process, the name of Clarence Birdseye is associated with the early successful introduction of the method, one of his chief contributions was his system of freezing perishable foods (packed in individual containers ready for sale) between refrigerated metal plates See also AIR CONDITIONING and COOLING SYSTEMS See R C Jordan and G B Priester, *Refrigeration and Air Conditioning* (1948), J F Wostrel and J G Praetz, *Household Electric Refrigeration* (2d ed , 1948)

refugee, one who leaves his native land either because he is expelled or because he is fleeing to escape persecution The legal problem of accepting refugees is discussed under ASYLUM, this article considers only mass dislocations Early examples of the movement of refugees in considerable number include the expulsion of the Jews and the Moors from Spain in the late 15th cent , the settlement of the Pilgrims and the Quakers in America, and the flight of émigrés in the French Revolution Before the 20th cent there was usually little or no systematic attempt to help refugees After the First World War international organizations were created to give assistance. Those most in need were refugees from Russia and from Armenia, later there were Turks, Greeks, and Bulgarians resettled after the war between Greece and Turkey in 1922 In 1921 the League of Nations appointed Fridtjof NANSEN its high commissioner for refugee work. The International Labor Organization and the Nansen International Office for Refugees later took charge Nansen effected repatriation where possible, in other cases he arranged "Nansen passports," which gave the right to move freely The refugee problem was revived after Hitler's accession to power (1933) and his annexation of Austria (1938) and of Czechoslovakia (1939) The Loyalist defeat in Spain (1939) and anti-Semitic legislation in Eastern Europe were additional factors. Jews were the largest group affected Private aid was small, and there was no League action Many governments attempted to return the refugees to their country of origin Often they were forbidden to work and sometimes were imprisoned The United States absorbed a comparatively large proportion of refugees, however, without relaxing its IMMIGRATION laws Some work was accomplished by a permanent committee for refugees established in London after a conference of 32 nations held at Evian, France, in July, 1938 During the Second World War, as reports accumulated of the massacre of Jews and other peoples, President Roosevelt sought to rescue as many as possible from Nazi extermination and created (Jan , 1944) the U S War Refugee Board The board saved thousands of Balkan Jews At the end of the war the UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION (UNRRA) had the responsibility of caring for some 8,000,000 "displaced persons" (persons moved from their native countries as prisoners or slave laborers) The majority of "DP's" were speedily repatriated, but about 1,000,000 in Germany, Austria, and Italy refused to return to their homes and remained in special camps The number of Jewish "DP's" was in time greatly reduced by immigration to Israel, but uprooting the Arab population of that new state itself created some 700,000 refugees A large group of the remaining "DP's" were from the Baltic countries With the end of UNRRA the United Nations created the INTERNATIONAL REFUGEE ORGANIZATION to carry on its work After much debate the United States, in 1948, adopted the Displaced Persons Act, which permitted the entrance of 200,000 immigrants by 1950 With few exceptions, only those who had reached Allied territory by Dec 2, 1945, might be admitted At least 40 percent of the refugees were to come from territory recently placed under foreign control (in effect the Baltic states and the area of E Germany incorporated into Poland), and at least 20 percent were to be farmers Objections that the measure was covertly directed against Jews and Catholics led to amendments in June, 1949 The eligibility for reaching territory under Allied control was extended to Jan 1, 1949, the percentage restrictions were revoked, and the number to be admitted was set at 339,000 by June 30, 1951 See Maurice R Davie, *Refugees in America* (1947)

Refugio (rĭfyo͞o'rō, rĭf'yo͞o-rēō), town (pop 4,077), co. seat of Refugio co , S Texas, on the Mission river and NNE of Corpus Christi A Spanish mission, Nuestra Señora del Refugio [Our Lady of Refuge], established earlier near San Antonio Bay, was moved here in 1795 The town itself grew after settlement began in 1829 and was formally established in 1834 It was taken by the Mexicans in the Texas Revolution (1836) and was again occupied briefly by the Mexicans in the invasion of 1842 The bells in the present Catholic church are said to be those of the original mission, taken and later returned by the Mexicans Near-by oil wells give prosperity to the old farming and ranching area

refuse, in general, all the wastes that accumulate around homes and factories, except for the liquid SEWAGE discharged into the sewers Refuse includes ashes, rubbish, wastepaper, garbage, the offal from slaughterhouses, and dry factory waste It is in comparatively recent times that the problem of refuse disposal has become the concern of the municipality rather than of the householder or factory owner Sanitary engineers have pointed out that piles of refuse are not only unsightly and ill-smelling, but are disease-breeding, since germs are carried from them by the agency of flies and other vermin In most cities it is the practice to have garbage placed in containers separate from ashes and rubbish, to be collected daily or at regular intervals In some places in the United States (where much foodstuff is thrown away) this class of refuse is kept separate to be used for hog feed. Elsewhere it is reduced, or treated with heat and naphtha, to extract the grease, the residue being used in fertilizer Ashes from homes are usually dumped where they will aid in filling in low-lying land. Cinders from factories and large buildings are, when possible, screened and graded and sold for use in concrete or road work The remaining refuse is treated in various ways In some cities, after being sorted for salvageable material, it is dumped at sea, an undesirable method, since much floating matter finds its way back to shore and pollutes bathing beaches It is therefore becoming customary to dispose of it by means of incinerators See A P Folwell, *Municipal Engineering Practice* (1916), Rudolph Hering and S. A. Greely, *Collection and Disposal of Municipal Refuse* (1921), Karl Imhoff and G M Fair, *Sewage Treatment* (1940)

regatta (rĭgä'tu), series of ROWING or other boating races A rowing regatta may include sculling races, pair-oared, four-oared, or eight-oared boat races. Sailing regattas are for small craft. In England early in the 19th cent rowing, which had been popular there for several centuries, became an organized sport After the first Oxford-Cambridge intercollegiate regatta was held in 1829 on the Thames from Putney to Mortlake in Surrey, the Royal Henley Regatta—the most famous of its kind, in which eight-oared boats compete annually for the Grand Challenge Cup—was instituted in 1839 along the same course It became an annual event after 1856 Regattas in the British Isles have gained wide attention, and they are often made the basis of aquatic festivals, with various water sports in addition to the regular boat races In the United States boating races were common in the early 19th cent , but it was not until the 1840s that regattas became featured events In 1852 the first intercollegiate regatta took place at Lake Winnipesaukee, between Yale and Harvard, but their first official regatta dates from 1876 More and more American colleges entered into regatta competitions, and after 1895 the Poughkeepsie Regatta was conducted by the Intercollegiate Rowing Association and was held annually on a 4-mile Hudson river course as an eight-oared boat race for freshman, junior varsity, and varsity teams In 1950 the location of this regatta was moved to the Ohio river (at Marietta, Ohio)

Regem (rē'gĕm), name in an obscure genealogical passage 1 Chron 2 47

Regem-melech (-mē'lĕk) [Heb , =the king's friend], messenger sent to Zechariah Zech 7 2

Regence style (rā'jŭns), transitional style in architecture and decoration originated in France during the regency (1715–23) of Philippe II, duc d'Orléans While retaining from the Louis XIV style an underlying restraint and adherence to symmetry, it introduced curved lines and many motifs such as shells, masques, and sinuous foliated scrolls which were to be developed in ROCOCO design The legs of furniture took bulging outlines and the corners of panels were curved The use of gilt bronze was extended, and walnut, rosewood, and other woods largely replaced ebony in veneers Leaders in creating the style were the cabinetmakers Boulle and Cressent and such architects and artists as Cotte, J A Meissonier, Boucher, and Watteau Although essentially French, the style became current also in neighboring countries, notably in Germany

Regency, in British history, the period of the last nine years (1811–20) of the reign of GEORGE III, when the king's periodic insanity and other infirmities had rendered him unfit to rule and the government was conducted in the name of the prince of Wales (later GEORGE IV) The period witnessed the end of the Napoleonic Wars and the ascendancy of reactionary Tories, such as Lord Castlereagh, but was marked also by the beginnings of the reform agitation of such men as Henry Brougham, Jeremy Bentham, Robert Owen, and William Cobbett Socially, and to a large extent morally, the period took its distinctive coloration from the gay and dissolute group around the regent, as well as from the prince himself. It was a time of a notable flowering of arts, letters, and architecture In literature the period marks the culmination of the romantic movement in the work of such poets as Lord BYRON, John Keats, and Percy Bysshe Shelley and in the novels of Sir Walter Scott Regency architecture, culminated in the elegant simplicity of the Regency style (see separate article) Regency furniture shows a similar refinement of design and taste and a strong influence of the styles of the French Directoire. See Paul Emden, *Regency Parade* (1939)

Regency style, in English architecture, flourished during the regency and reign of George IV (1811–30) and was chiefly represented by the court architect, John Nash. The period is characterized by the preponderant use of stucco Buildings were simpler in appearance than during the previous century, partly because of the flat painted surfaces and partly through the use of refined Greek ornament, glazed casement doors, and flat, partitioned bay windows Eaves were strongly projecting, and the use of slate allowed for low-pitched and almost flat roofs Balconies were much in vogue for the first time in England, and in private dwellings these are usually supported on slender columns or by brackets The main achievement in this style is Regent's Park in London, laid out and designed by Nash as one of the first large-scale urban housing developments Characteristic also is Henry Holland's Carlton House (the terrace of which was added by Nash) See Paul Reilly, *An Introduction to Regency Architecture* (1948).

Regensburg (rā'gunsbo͝org, rā'gənsbo͝ork), city (pop. 108,604), capital of the Upper Palatinate, E Bavaria, on the Danube In English, it is also known as Ratisbon (rā'tĭzbŏn, -tĭs-). It is a river port and a commercial and industrial center, with machine-building plants, manufactures of precision instruments, printing plants, and breweries One of the oldest German cities, it has many monuments of historic and architectural interest. As Regina Castra it

was an important Roman frontier station. It became an episcopal see in 739 and was captured (788) by Charlemagne when he subjugated Bavaria One of the most prosperous commercial centers of medieval Germany, Regensburg was made (1245) a free imperial city Part of the surrounding countryside belonged to the city of Regensburg, other adjacent territories were ruled by the bishops The city itself accepted the Reformation in the 16th cent Its commerce declined somewhat in the 15th and 16th cent owing to the shifting of trade routes In the Thirty Years War, Regensburg, garrisoned by Bavarian troops, was bombarded and captured (1633) by Bernhard of Saxe-Weimar, but was recovered (1634) by the imperials under Ferdinand of Hungary and Bohemia (later Emperor Ferdinand III) Regensburg was frequently the meeting place of the imperial DIET from 1532, and in 1633 it became the permanent seat of the diet The diet which met here from 1801 to 1803 under the shadow of Bonaparte completely reorganized the moribund Holy Roman Empire The list of electors was revised, the ecclesiastic principalities were secularized, and the majority of the petty princes were "mediatized," i e , their territories were given to the larger states while they retained the mere titles The free imperial city and the bishopric of Regensburg were given, with Aschaffenburg, to K T von Dalberg, the archechancellor, as compensation for the secularized archbishopric of Mainz, in 1806, when the Holy Roman Empire was dissolved and the Confederation of the Rhine was created, Regensburg, Aschaffenburg, and Frankfurt were made into the principality of Aschaffenburg, again under Dalberg, finally, in 1810, Regensburg passed to Bavaria, while Frankfurt and Aschaffenburg were enlarged and constituted into the grand duchy of Frankfurt In the Second World War, Regensburg was one of the largest German airplane-manufacturing centers, as a result it was severely bombed Among the chief landmarks of Regensburg are the Cathedral of St Peter (13th-16th cent), the Church of St Jacob (12th cent), the episcopal residence (a former Benedictine convent with a 12th-century church), the early Gothic Dominican church, the city hall (built partly in the 13th cent , partly in the 17th and 18th cent), which was the meeting place of the diet, and the Porta Praetoria, a Roman gate built in A D 179 Part of the former Benedictine abbey of St Emeran (founded 7th cent) is incorporated with a huge 19th-century palace, now the residence of the princes of Thurn and Taxis The abbey church, with foundations dating from the 8th to the 12th cent , contains the tombs of Emperor Arnulf and of Louis the Child A 12th-century stone bridge was blown up in the Second World War Regensburg was a residence of Albrecht Altdorfer and of Kepler, both of whom died here

Reger, Max (mäks' rā'gûr), 1873–1916, German composer, pianist, and conductor As a pianist he was widely acclaimed, particularly in the playing of Mozart and Bach He taught composition (1907–16) at the Leipzig Conservatory and in 1911 became conductor of the court orchestra at Meiningen, a position which provided the incentive for much serious orchestral composition As a composer he was essentially a romantic but had a strong feeling for the forms of absolute music gained from intensive study of Bach and Brahms During his lifetime his works, particularly those for organ, were esteemed highly in Germany, but elsewhere he remains a controversial figure

Reggio di Calabria (rĕd'jō dē kälä'brēä), city (pop 60,342), capital of Calabria and of Reggio di Calabria prov , S Italy, a port on the Strait of Messina, at the tip of the "toe" of Italy The ancient REGIUM, it became (12th cent) a part of the kingdom of Sicily and later (13th cent) of Naples It suffered much from incursions by Turks and pirates The most devastating of the many earthquakes occurred in 1783 and 1908 Reggio is a modern city, with only parts of the medieval castle standing There is a ferry-boat service from Villa San Giovanni across the strait to Messina Grapes, olives, citrus fruit, and tobacco are produced in the vicinity

Reggio nell' Emilia (nĕl'lāmē'lyä), city (pop 49,069), capital of Reggio nell' Emilia prov , Emilia-Romagna, N central Italy, on the Aemilian Way. On a fertile plain, it handles wine, salami, and cheese A Roman town, later a free commune, it came (1289) under the Este, later dukes of Ferrara and Modena There are a 13th-century cathedral and the Renaissance Church of the Madonna della Ghiara Ariosto was born here.

regicides (rĕ'jĭsīdz) [Latin,=king-killers], name given to those judges and court officers responsible for the trial and execution of Charles I of England After the Restoration, in Oct , 1660, a court of commissioners condemned 10 regicides to death and 25 to life imprisonment Three others were arrested in Holland and executed in London in 1662 Some, however, escaped Among them, William GOFFE and Edward WHALLEY fled to New England and were never captured, and Edmund LUDLOW found safety in Switzerland.

Regillus, Lake (rĭjĭ'lŭs), in ancient Latium, SE of Rome, possibly near Frascati Traditionally it was the scene of a battle (499 or 496 B C) by which Rome gained supremacy in Latium

Regina (rĭjī'nŭ), city (pop 60,246), provincial capital, S Sask , on Wascana Creek and SE of Saskatoon, founded 1882 with the arrival of the railroad It was the capital of the Northwest Territories and headquarters of the Northwest Mounted Police from 1883 to 1905, when it became the capital of the newly created province The city is the principal wheat, dairy, and poultry market and railroad center for Saskatchewan and has stockyards and meat-packing, printing, bookbinding, oil-refining, and automobile-assembly plants In Regina are the Legislative Building (with the legislative library), a normal school, and theological and junior colleges affiliated with the universities of Saskatchewan, Ottawa, and Montreal

Reginald of Châtillon (shätēyô'), d. 1187, Crusader, lord of Krak and Montreal in the Latin Kingdom of Jerusalem He came to the Holy Land in the Second Crusade and married (1153) Constance, daughter of Bohemond II of Antioch He was energetic, impulsive, and high-spirited, and his quarrels with the Latin princes weakened the position of the Crusaders In 1159, after plotting with the Armenian prince, Thoros, against Emperor Manuel II of Byzantium, he was forced to make a humiliating submission to the emperor Captured (1160) by the Saracens, he remained a prisoner over 15 years After his release he took as his second wife the heiress of Krak and Montreal, and in 1177 he became procurator of Jerusalem for a brief period In 1182–83 he raided the African and Arabian coasts of the Red Sea with a naval squadron With GUY OF LUSIGNAN, whom he helped to install as king of Jerusalem in 1186, Reginald advocated a belligerent policy against SALADIN and opposed the conciliatory attitude of RAYMOND of Tripoli His attack (1187) on one of Saladin's caravans violated his truce with the sultan and helped to bring on Saladin's attack on the Christians Reginald was captured by Saladin at the battle of Hattin and was executed

Reglomontanus (rē"jōmŏn"tā'nŭs) [Latin,=belonging to the royal mountain i e , to Konigsberg], **1436–76**, German astronomer and mathematician, b. Königsberg His original name was Johannes Müller From 1458 to 1461 he lectured on mathematics at the Univ of Vienna In 1461 he went to Rome with Cardinal Bessarion and learned Greek in order to translate Greek writings In 1468 he was called to the court of the king of Hungary to make a collection of Greek manuscripts, and three years later he settled at Nuremberg, where, with his pupil and patron, Bernhard Walther, he established an observatory and a printing press Among other works they published the *Ephemerides* for the years 1474–1506, calculated by Regiomontanus, and Georg von Purbach's *Theoricae planetarum novae* Summoned by Pope Sixtus IV, Regiomontanus went to Rome in 1475 to assist in reforming the calendar and was made bishop of Regensburg He died in Rome He made improved instruments, both mathematical and astronomical, introduced algebra into Germany, and did much to further the study of trigonometry

regional planning. see CITY PLANNING

Regium or Regium Julium see RHEGIUM

Regla (rĕ'glä), port (pop 23,037), W Cuba, near Havana It has foundries, docks, and huge sugar and tobacco warehouses In the early 19th cent it was a smuggling center

Regnard, Jean François (zhäⁿ' frāswa' runyär'), 1655–1709, French comic dramatist He traveled widely throughout Europe and was captured by Barbary pirates and held in slavery (1678–79) until his ransom Perhaps his best-known comedies are *Le Joueur* [the gamester] (1696), a comedy of character, *Les Folies amoureuses* [the lover's madness] (1704), *Les Ménechmes* (1705), after Plautus' *Menaechmi*, and *Le Légataire universel* (1708, Eng tr , *The Sole Heir*, 1912) Regnard is outstanding for wittiness, verve, and mocking gaiety

Regnault, Alexandre Georges Henri (alĕksäⁿ'dru zhôrzh' ārō' rünyō'), 1843–71, French painter, son of Henri Victor Regnault He won the PRIX DE ROME in 1866 and traveled in Italy, Spain, and Morocco He was killed in the Franco-Prussian War Among his best paintings are *Salome* (Metropolitan Mus) and *Execution in Tangiers*

Regnault, Henri Victor (ärē' vĕktôr' runyō'), 1810–78, French physicist and chemist He was professor of chemistry at the École polytechnique, Paris, from 1840 and at the Collège de France from 1841, he became chief engineer of mines (1847) and director of the porcelain manufactory at Sèvres (1854) In chemistry he is known for his work on the halogen and other derivatives of the unsaturated hydrocarbons In physics he is noted for studies of specific heats and of the expansion of gases He formulated Regnault's law the specific heat of a gas at constant pressure does not vary

Régnier, Henri de (ärē' dù rānyā'), 1864–1936, French poet, leader of the young SYMBOLISTS of the circle of MALLARMÉ. His early work in *Poèmes anciens et romanesques* (1891) showed skill in free verse, but his style soon changed to follow classical models, chiefly through the influence of José Maria de Heredia father of Régnier's wife, Marie Louise de Heredia de Régnier (1875–), herself a poet The poetic volume *La Sandale ailée, 1903–1905* (1906, Eng tr , *Poems from the Winged Sandal*, 1933) is a high point of Régnier's classical style His well-wrought historical novels had great vogue See Amy Lowell, *Six French Poets* (rev ed , 1916)

Régnier, Mathurin (mätürē'), 1573–1613, French satirical poet He wrote 16 vigorous, realistic, and often licentious satires, first published as a whole in 1613

regrating see ENGROSSING

Regulator movement, organized (1768) by small farmers of W North Carolina to protest oppressive local government Unjust taxation and the extortion practiced by officials, who were appointed by the tidewater planter aristocracy, were the chief grievances The Regulators, strongest in Orange, Granville, Halifax, and Anson counties, first became active in 1764–65, and in 1768 they formed an association pledged to pay only legal taxes and fees and to abide by the will of the majority They won control of the provincial assembly in 1769, but with Gov William TRYON, the provincial council, and the courts against them were unable to secure relief The Regulators, orderly at first, resorted to acts of violence, especially at Hillsboro, after Edmund FANNING, convicted of extortion, was allowed to go unpunished On May 16, 1771, Tryon's militia completely routed a large body of unsuspecting and poorly armed Regulators in the battle of Alamance Creek Seven of the leaders were executed, and the movement collapsed One group of Regulators moved west (see WATAUGA ASSOCIATION), but most of them submitted They continued, however, to regard the eastern aristocracy as their principal enemy, and since many of that class supported independence in the American Revolution, many Regulators were Loyalists

Regulus (Marcus Atilius Regulus) (rĕ'gyōlŭs), d. c 250 B C , Roman general in the First Punic War. While consul (267 B C) he conquered the Sallentini and captured Brundusium He became consul a second time (256 B C), defeated the Carthaginians at sea, and prosecuted war against them in Africa, at first with success. Soon afterwards the Carthaginians won a complete victory and captured (255 B C) Regulus He is said to have accompanied envoys to solicit peace from the Romans but, instead, advised the senate against acceptance of the Punic terms or an exchange of prisoners Resisting persuasions to break his parole, he returned to Carthage, where he was tortured to death The story made Regulus famous as a Roman patriot-martyr See PUNIC WARS

Rehabiah (rē"hubī'u) [Heb ,=whom God enlarges], Moses' grandson 1 Chron 23 17, 24 21, 26 25

rehabilitation (rē"hubĭl"ĭtā'shŭn), in therapy, restoration of maximum physical, mental, and vocational capacities to handicapped persons Depending upon the handicaps involved, the services of physician, surgeon, psychologist, physiotherapist, and medical social worker may be required, or the coordinated work of several of these may be needed Rehabilitative measures may be taken where physical or mental incapacitation exists, whether it be of congenital origin or the result of accident or illness In all cases close attention is given to the mental attitudes of the subject, since the success of restorative treatment entails the active cooperation of the patient. With physical incapacitation there frequently develops a mental attitude which may, if not altered, frustrate any possible rehabilitation In other cases the mental outlook is the whole concern of the therapist A third category, possibly the most complex, is where a physical condition (e g , a facial disfigurement) is regarded by the patient as a handicap denying him the possibility of a normal existence when, in fact, it does not Where an irremediable physical condition does deny a person a place in a calling of his choice, it becomes the object of rehabilitation to change his orientation so that an alternate occupation satisfies him This is vocational guidance, and it is undertaken generally during physical restoration The rehabilitation worker may have to arrange a training or retraining program for those who must acquire skill at a new job or for those who must regain skills lost by reason of absence or through physical change in their capacities Physically incapacitated or mentally injured war veterans and those suffering from both conditions require rehabilitation Considerable success in restoring such persons to circumstances in which they may become gainfully employed was evident following the Second World War See H H Kessler *Rehabilitation of the Physically Handicapped* (1947), S W Bijou, ed , *The Psychological Program in AAF Convalescent Hospitals* (Army Air Forces, Research Report No 15, 1947), C H. Elledge, *The Rehabilitation of the Patient* (1948).

Rehan, Ada (rē'un), 1860–1916, American actress, whose real name was Crehan, b. Ireland She came to the United States when she was five From 1879 to 1899 she was a member of Augustin Daly's company and for a large part of this time was co-

starred with John Drew Excelling in Daly's adaptations of German and French society comedies and in Shakspearian comedies, she won special acclaim in *The Taming of the Shrew* See William Winter, *The Wallet of Time* (1913)

Rehnskiold or **Rehnskjold, Karl Gustaf,** Swed *Rehnsköld* (kärl' gŭs'tăv rān'shûld″), 1651–1722, Swedish field marshal One of the ablest lieutenants of Charles XII in the Northern War, he played an important part in the Polish campaign of 1701–3 and defeated (1706) the combined Russian, Polish, and Saxon forces at Fraustadt, SW of Poznan He accompanied Charles on his Ukrainian campaign When Charles was incapacitated by a wound just before the battle of Poltava (1709), he appointed Rehnskiold commander in chief The battle was disastrous to the hopelessly outnumbered Swedes, Rehnskiold himself was captured by the Russians

Rehob (rē'hŏb) [Heb ,=street] **1** Hadadezer's father 2 Sam 8 3,12 **2** Scaler of the covenant Neh 10 11 **3** See BETH-REHOB **4** Two otherwise unidentified towns of Asher Joshua 19 28,30, 21 31, Judges 1 31, 1 Chron 6 75

Rehoboam (rē'ŭbō'ŭm) [Heb ,=enlarger of the people], d c 914 B C , king of Israel (c 932–c 914 B C), son of Solomon Under him the northern tribes broke away from the rule of Jerusalem and set up a separate kingdom (called Israel) with JEROBOAM I as their king Rehoboam's foolish insolence to the protesting tribesmen is celebrated In Rehoboam's reign Palestine was invaded by SHESHONK I of Egypt 1 Kings 11 43–12 24, 14 21–31, 2 Chron 9 31–12 16 Roboam Mat 1 7

Rehoboth (rĭhō'buth) [Heb ,=room, wide places] **1** Well dug for Isaac Gen 26 22 **2** City or possibly a part of Nineveh Gen 10 11 **3** Probably a place by the Euphrates But as the home of an Edomite, such a location is strange Gen 36 37

Rehoboth (rĭhō'buth, -bŏth), **Rehovoth,** or **Rehovot** (both rĭhō'vŏt), town (pop c 14,000), Israel, c 15 mi S of Tel-Aviv, founded 1890 It is the urban center for a large citrus-growing area, and there is an institute for research in plant and soil chemistry Rehoboth was the temporary capital of Israel from late 1948 to Dec , 1949

Rehoboth, town (pop 2,736), SE Mass , near the R I line, settled 1636, inc 1645

Rehoboth Beach, summer resort town (pop 1,247), SE Del , on the Atlantic Ocean SE of Lewes, settled c 1675

Rehovoth or **Rehovot,** Israel see REHOBOTH

Rehum (rē'hŭm) [Heb ,=compassionate] **1** One of the returning exiles Ezra 2 2 Nehum Neh 7 7 **2** Samaritan official who obstructed work on the Temple Ezra 4 8,9,17,23 **3** Scaler of the covenant Neh 10 25 **4** Levite who worked to rebuild Jerusalem Neh 3 17 **5** Same as HARIM 1

Rei (rē'ī) [Heb ,=friendly], loyal adherent of David 1 Kings 1 8

Reichenbach (rī'khunbākh), city (pop 34,708), Saxony, E Germany, SW of Zwickau, at the foot of the Erzgebirge It is a major manufacturing center of cotton, wool, silk, rayon, and linen textiles

Reichenbach (rī'khunbakh) or **Dzierzoniow,** Pol *Dzierzoniów* (jĕĕrzhô'nvôôf), town (pop 16,646), Lower Silesia, at the foot of the Eulengebirge, transferred to Polish administration in 1945 (see SILESIA) Chiefly a trade center, it also has several industries Reichenbach was the scene of a Prussian victory (1762) over the Austrians Two treaties were signed here By the first (1790) Austria agreed with Prussia to renounce Austrian acquisition of Turkish territory By the second (1813) Austria conditionally agreed to join the coalition against Napoleon I

Reichenbach Falls (rī'khunbakh), cataract, Bern canton, Switzerland, where the Reichenbach joins the Aar river, near Meiringen The magnificent cascades have now disappeared because of a hydroelectric project The name Reichenbach Falls is familiar to readers of A Conan Doyle

Reichenberg, Czechoslovakia see LIBEREC

Reichenhall, Bavaria see BAD REICHENHALL

Reicher, Emmanuel (ĕm'ănŭ'ĕl rīkh'ur), 1849–1924, German actor and stage director He gained fame (1888-1902) in Germany, where he acted in the Freie Bühne, came to the United States (1915), and organized the Modern Stage and the American People's Theater He learned English after his arrival and produced and acted in a fine production of *The Weavers,* by Hauptmann He also excelled in the plays of Ibsen, Bjornson, and Strindberg

Reichsregiment (rīkhs'rā″gēmĕnt') [Ger ,=government of the empire], council of regency which formed the executive branch of the government of the Holy Roman Empire after its creation at the Diet of Augsburg in 1500 It was headed by the emperor-elector or by his deputy, and it comprised 20 other members, selected by a complicated system and representing the ecclesiastic and secular princes, the various estates, and the free cities The creation of the Reichsregiment (as well as of the imperial court of justice, of an imperial taxation, and of an imperial army) represented a serious but unsuccessful effort toward transforming the Holy Roman Empire into a modern national state Emperor Maximilian I, on whom the institution had been forced by the diet, gave it little support. His successor, Emperor Charles V, was requested at the Diet of Worms (1521) to restore the Reichsregiment, but he merely consented to a compromise solution which gave the council full powers only in the emperor's absence and which reduced it to an advisory body at other times In 1524 the Reichsregiment for the last time met with the diet (at Nuremberg) Neither the emperor nor the princes nor the nobles nor the cities—though their interests were widely opposed—showed any interest in strengthening the body, which thus was left to die

Reichstadt, Napoleon, duke of: see NAPOLEON II.

Reichstag (rīkhs'tăk), German name for the DIET of the Holy Roman Empire, for the lower chamber of the federal parliament of the NORTH GERMAN CONFEDERATION, and for the lower chamber of the federal parliament of Germany after 1871 The republican Weimar Constitution of 1919 did not change any essential features of the Reichstag, but it introduced proportional representation in addition to direct universal suffrage As does the House of Representatives in the United States, the Reichstag represented the country at large, the interests of the member states were represented by an upper chamber, called Reichsrat The German constitution differed radically from that of the United States in most other respects, but it included features of the English and Swiss constitutions The federal cabinet, headed by the chancellor of the Reich, was responsible to the Reichstag and normally had to resign if it received a vote of no confidence However, the president of the republic could, on the advice of his cabinet, dissolve the Reichstag and order new elections before the normal term (four years) had ended The jurisdiction of the Reichstag was limited to matters affecting Germany as a whole, in other matters the member states were sovereign The Reichsrat was composed of deputies appointed and paid by the individual states, each state had at least one vote, and no state could have more than two fifths of the total vote (a provision designed to limit the preponderance of Prussia) The Reichsrat had only a power of suspensive veto over legislation approved by the Reichstag When, in Jan , 1933, Adolf HITLER became chancellor he lacked an absolute Reichstag majority, even with the support of the monarchist German National party As a result President Hindenburg dissolved the Reichstag and ordered new elections for March 5 The election campaign was marked by violence On Feb 27, 1933, a carefully planned fire broke out in various parts of the Reichstag building, which was partly destroyed and has since been unusable Hitler immediately accused the Communists of having set the fire and without further proof proceeded to take terrorist measures against the alleged culprits Despite the terror, the combined National Socialists and German Nationals again fell short of an absolute majority in the elections Hitler seized the pretext of the Reichstag fire for outlawing the Communist party and expelling the 81 Communist deputies from the Reichstag The truncated and intimidated Reichstag voted him dictatorial powers on March 23 The National Socialist party became (1933) the sole legal party, and the Reichstag, during the rest of Hitler's rule, was merely summoned from time to time to approve important government measures The Reichsrat was abolished altogether in 1934, along with the sovereignty of the German states After the Second World War, Germany was split into two major units—the East German Republic, under Russian influence, and the West German Federal Republic, composed of the American, British, and French occupation zones In East Germany, the Reichstag and Reichsrat were replaced, respectively, by a 'people's chamber" (Ger *Volkskammer*) and a "states' chamber" (Ger *Länderkammer*), in West Germany, a federal diet (Ger *Bundestag*) was set up under the provisional constitution of 1949 The sensational Reichstag fire trial of 1933 stirred world opinion The Nazi authorities had arrested Marinus van der Lubbe, a young Dutchman, three Bulgarian Communists (among them Georgi DIMITROV), and a German Communist, Ernst Torgler Van der Lubbe was charged with having set the fire, the others with complicity Van der Lubbe, who appeared either drugged or mentally inferior, confessed to having set the fire but insisted that he had had no accomplices Dimitrov, who was the most eloquent of the defendants, accused Hermann Goering, then president of the Reichstag, of having instigated the fire in order to pin the crime on the Communists, and he supported that charge by pointing out that a subterranean passage between Goering's residence and the Reichstag was the only way by which the person or persons who had set the fire could have reached the basements of the Reichstag (where the fire started) Although Goering violently threatened both the court and the defendants from the witness stand, Dimitrov remained unperturbed and the court reached a verdict of not guilty for all save Van der Lubbe, who was beheaded early in 1934

Reid, George Agnew, 1860–1947, Canadian genre, landscape, and mural painter, b near Wingham, Ont., studied at the Pennsylvania Academy of the Fine Arts and abroad His *Pioneers* is in the city hall, Toronto, and another of his mural decorations is at Queen's Univ , Kingston Among his paintings are *Dreaming, Mortgaging the Homestead,* and *Champlain's Arrival at Quebec* (National Gallery, Ottawa) Others are in Saskatoon and Regina, in the Art Gallery of Toronto, and in private collections Reid was principal (1912–29) of the Ontario College of Art, Toronto

Reid, Robert, 1862–1929, American figure and mural painter, b Stockbridge, Mass , studied at the School of the Museum of Fine Arts, Boston, and under Boulanger and Lefebvre in Paris He taught at the Art Students League and at Cooper Union, New York, and at Broadmoor Art Academy, Colorado Springs He decorated ceilings and walls in the Library of Congress, made two figures for the Appellate Courthouse, New York, and painted murals for the statehouse, Boston The stained glass windows of the Rogers Memorial Church, Fairhaven, Mass , were designed by Reid His *Fleur-de-lys* is in the Metropolitan Museum, and he is represented in the Corcoran Gallery, the Albright Gallery, Buffalo, and the Detroit Institute of Arts

Reid, Thomas, 1710–96, Scottish philosopher He taught at King's College, Aberdeen, and at the Univ of Glasgow He is known as a leader of the common-sense school of philosophy, a group which had considerable influence in England and the United States during the 19th cent Common sense is regarded as self-evident knowledge, the means by which we know the objects of the external world These objects are known by us in their true sense and not as copies or ideas This is the theory of natural realism, and it is the point of difference with the theories of Locke Reid based morality on conscience or moral sense, the ethical position of intuitionism He influenced Dugald Stewart and Sir William Hamilton to a considerable extent His writings include *An Inquiry into the Human Mind on the Principles of Common Sense* (1764), *Essays on the Intellectual Powers of Man* (1785), and *Essays on the Active Powers of Man* (1788) Sir William Hamilton edited (1846) the complete works of Reid with notes and letters See biography by A C Fraser (1898), O M Jones, *Empiricism and Intuitionism in Reid's Common Sense Philosophy* (1931)

Reid, Thomas Mayne (Mayne Reid), 1818-83, British novelist, b Ireland He came to the United States in 1840 and after various adventures in the West served as a captain in the Mexican War He returned to England and began writing adventure stories, especially popular with boys The first of these was *The Rifle Rangers* (1850) Others included *The Scalp Hunters* (1851) and *The White Chief* (1855) See memoir by his wife (1890)

Reid, Whitelaw, 1837–1912, American journalist and diplomat, b near Xenia, Ohio, grad Miami Univ , 1856 His distinguished correspondence during the Civil War for the Cincinnati *Gazette,* especially his reports of Gettysburg, Richmond after its fall, and the funeral of Lincoln, led Horace Greeley to make him managing editor of the New York *Tribune* in 1868 After Greeley's death, Reid gained financial as well as editorial control of the paper and continued it as one of the leading journals of the nation. Retaining control of the *Tribune,* he was minister to France (1889–92), was the Republican candidate for Vice President in 1892, and was ambassador to England from 1905 until his death in London Reid's many books reflect his journalistic and diplomatic activities *After the War* (1866) and *Ohio in the War* (1868) relate to the Civil War, typical of several on foreign affairs is *Problems of Expansion* (1900) See biography by Royal Cortissoz (2 vols , 1921) Whitelaw Reid's son, Ogden Mills Reid (1882–1947), was editor (1908–47) of the paper, which became the New York *Herald Tribune* in 1924 Whitelaw Reid (1913–), son of Ogden and Helen Rogers Reid was appointed editor in 1947

Reidsville, industrial city (pop 10,387), N N C , near the Va line NNE of Greensboro, settled c 1815, inc 1873 An important cigarette-manufacturing center, the city is a port of entry

Reigate (rī'gĭt), municipal borough (1931 pop 30,825, 1947 estimated pop 40,820), Surrey, England It is a residential suburb SSW of London, at the base of the North Downs There are vestiges of an ancient castle beneath which are caves or vaults Within the church, which dates partly from early Norman times, is the tomb of Baron Howard of Effingham

Reign of Terror, 1793–94, period of the FRENCH REVOLUTION when the internal policy of the Committee of Public Safety was in full force To preserve the reforms of the Revolution and the very existence of the republic, the first Committee of Public Safety was created on April 6, 1793, the second—the Great Committee—was formed on July 10 and included BARÈRE DE VIEUZAC, BILLAUD-VARENNE, Lazare CARNOT, COLLOT D'HERBOIS, COUTHON, HÉRAULT DE SÉCHELLES, ROBESPIERRE, and SAINT-JUST. Their aim was to liqui-

date all internal counter-revolutionary elements, to raise new armies, and to regulate national economy The Law of Suspects (Sept. 17, 1793), which declared liable to arrest every person of noble family and anyone who had held office before the Revolution or who had any connections with an émigré or who could not produce a signed certificate of citizenship, was enforced by the Committee of General Security and the Revolutionary Tribunal. About 2,500 persons were sentenced to death and guillotined during that period, not counting the NOYADES and mass reprisals in the provinces Military mobilization was largely the work of Carnot Universal conscription (Aug 10, 1793) was followed by a complete reorganization of the armed forces and paid dividends in the FRENCH REVOLUTIONARY WARS In the field of economics, the Law of Maximum (May, 1793) and other measures fixed maximum prices and wages in all fields. Food speculators as well as royalists were guillotined, public granaries and bakeries were established, and all wealth was placed under state control However, the revolutionists lacked a unified program, and the Terror was used not only to further the Revolution, but also as a political weapon in the struggle among themselves The JACOBINS emerged victorious over the GIRONDISTS and HÉBERT After the execution of DANTON, Robespierre became virtual dictator. By June, 1794, however, the need for such drastic government had largely disappeared. The French armies were victorious and internal dissent had been crushed Threatened by further purges, the National Convention revolted and overthrew Robespierre on 9 THERMIDOR (July 27, 1794) The Reign of Terror was followed by the Thermidorian reaction under a reconstituted Committee of Public Safety (1794) and by the White Terror (May–June, 1795) While the Reign of Terror may have saved France from military defeat, its effect upon public opinion, especially foreign opinion, was immeasurably harmful to the revolutionary cause. See W B Kerr, *The Reign of Terror, 1793–1794* (1927), R R Palmer, *Twelve Who Ruled* (1941)

Reims, France see RHEIMS

Reinach, Joseph (zhôzĕf' rēnäk'), 1856–1921, French publicist and lawyer An associate of Gambetta, he conducted (1889) a campaign against General Boulanger in the journal *République française*, of which he later became part owner He was elected in the same year to the chamber of deputies, but lost his seat in 1898 as a result of his pro-Dreyfus campaign (which was the more courageous because Reinach himself was a Jew) in the DREYFUS AFFAIR He was again a deputy from 1906 to 1914. During the First World War he wrote, under the pseudonym Polybe, a series of widely praised military articles for the *Figaro* Reinach wrote *Histoire de l'affaire Dreyfus* (4 vols, 1901–11)

Reinach, Salomon (sälômô'), 1858–1932, French archaeologist, one of the first to relate archaeology and anthropology He did field work in Greece and the Near East (1880–84) and became assistant keeper (1893) and keeper (1902) of the French national museums He is chiefly noted for his writings, which have opened to scholars valuable source material Especially notable are a history of religion, *Orpheus* (1909, rev Eng ed, 1933) and a history of art, *Apollo* (1904, rev Eng ed, 1935). He was a brother of Joseph Reinach

Reinbeck (rīn'bĕk), town (pop 1,429), NE Iowa, SW of Waterloo, inc 1877

reincarnation (rē"inkärnā'shun) [Latin,=taking on flesh again], occupation by the soul of a new body after the death of the former body Beliefs vary as to whether the soul assumes the new body immediately or only after an interval of disembodiment It is usually thought that the soul is reincarnated in the same species it formerly inhabited, some religions teach, however, that it may inhabit a higher or lower form of life See TRANSMIGRATION OF SOULS.

reindeer, mammal of the deer family, of the genus *Rangifer*, found in arctic and subarctic regions of Europe, Asia, and America Both sexes have antlers Centuries ago the reindeer was domesticated from the caribou in Lapland and N Siberia, where it provides the people with meat, milk, clothing, and transportation. Lichens, grasses, willow and birch shoots, and other vegetation form its diet Introduction (beginning in 1891) of the reindeer into Alaska from Siberia was successful They are now essential to the life and economy of the Eskimo Herds were later (c 1935) established for the Canadian Eskimo. Wild reindeer (called CARIBOU in America) have been much reduced in number by hunters Reindeer are gregarious and migratory In folklore the reindeer is the steed of Santa Claus

Reindeer Lake, area 2,444 sq. mi., NE Sask and NW Man, with many islands, in forested country Its outlet is the Reindeer river, flowing S to the Churchill.

reindeer moss, common species of LICHEN, *Cladonia rangiferina*, of the arctic regions It forms the chief food of the reindeer and is eaten also by the musk ox and caribou. It is a low, many-branched, erect plant.

Reinecke, Carl (kärl' rī'nŭku), 1824–1910, German composer, pianist, and conductor. After many concert tours and serving as court pianist (1846–48) in Denmark, he taught at the Cologne Conservatory and the Univ of Breslau, in 1860 he moved to Leipzig, where he conducted the Gewandhaus concerts until 1895 and taught composition at the conservatory until 1902 He was esteemed for his interpretations of Mozart His compositions, the best of which are for piano, were successful

reinforced concrete see CONCRETE

Reinhardt, Max (mäks' rīn'härt), 1873–1943, Austrian theatrical director and manager, whose real name was Max Goldmann He managed cabaret theaters (1902) and was director of the Deutsches Theater (1905) and of the Kammerspiele (1906). His notable productions in the next 20 years included Shakesperian dramas, the complete *Faust*, Hofmannsthal's version of *Oedipus Rex*, Wilde's *Salome*, Shaw's *Caesar and Cleopatra*, Gorki's *Lower Depths*, Wedekind's *Erdgeist*, and the miracle play *Everyman* His production in 1912 of *The Miracle* by Karl Gustav Vollmoeller was a sensational success in London and New York Under his direction after the First World War, the Grosses Schauspielhaus and the Salzburg Festivals became theatrical centers for Germany and the world He managed major theaters in Berlin and Vienna (1925–29), and in 1933, when he was managing the Deutsches Theater, he was forced by the Nazis to flee Germany. In the United States he directed a moving-picture version of Shakspere's *Midsummer Night's Dream* (1935) and a fine stage pageant, *The Eternal Road* (1937) He became a U S citizen in 1940 A great innovator of the modern theater, he was a master of spectacular settings and mob scenes See Huntley Carter, *The Theatre of Max Reinhardt* (1914), *Max Reinhardt and His Theatre* (ed by O M Saylor, 1924)

Reinmar von Hagenau (rīn'mar fŭn ha'gunou), c 1160–c 1210, Alsatian minnesinger A lyric poet of the Viennese court, he was probably the teacher of Walther von der Vogelweide

Reinmar von Zweter (tsvā'tur), c 1200–c 1260, Austrian minnesinger He was a successor of Walther von der Vogelweide His *Spruche* comment satirically on the life of his time

Réjane (rāzhan'), 1857–1920, stage name of Gabrielle Réju, French actress She had her first success in Meilhac's *Ma Camarade* in 1883 and later increased her reputation as a comedienne in Porto-Riche's *Amoureuse* and the Goncourts' *Germinie Lacerteux* As Catherine in Sardou's *Mme Sans-Gêne*, which she gave with great success in New York (1895), Réjane displayed her great versatility and vivacity She acted it for a moving picture in 1911 She opened the Théâtre Réjane in 1905 in Paris

rejería (rāhārē'ä), type of iron screen and grille developed in Spain from the Romanesque period through the Renaissance It employs chiseled and hammered metal as well as wrought iron The screen makers or *rejeros* were often architects, armorers, or silversmiths The individual screen (*reja*) securely enclosed the sacred treasures of the high altars although they remained visible to worshipers In the 16th cent the priests' choir was provided with a *reja* facing that of the high altar and equally monumental The *rejas* of the Romanesque period were built up of numerous C-shaped scrolls topped by a cresting By the early 15th cent they were supplanted by the Gothic *rejas* composed of rows of upright bars strengthened by horizontal bands of pierced or *repoussé* ornament Both bars and crestings became more ornamental In the early Renaissance, Corinthian-esque pilasters were introduced, and later (16th cent) the bars were replaced by rows of ornamental balusters The *rejas* now became massive and lofty architectural compositions in iron That enclosing the Royal Chapel in the cathedral at Granada has a cresting composed of 10 biblical scenes with about 30 superb life-size figures in the round, hammered from iron In the cathedral at Seville the 16th-century *rejas* of high altar and choir are gilded plateresque creations

Rekem (rē'kĕm) [Heb,=flower garden] **1** Midianite king killed by the Jews Num 31 8, Joshua 13 21. **2** Son of Hebron 1 Chron 2 43 **3** Unidentified town of Benjamin Joshua 18 27

relativity, a theory in physics, introduced by Albert Einstein, which discards the concept of time and of space as absolute entities and views them as relative to moving systems or frames of reference It is still viewed as a theory, rather than as natural law, although much evidence has been accumulated to support its validity Full comprehension of the mathematical formulation of the theory can be attained only through a study of certain branches of mathematics, e g, tensor calculus The modern theory is an extension of the simpler Galilean or Newtonian concept of relativity which holds that the laws of mechanics are the same in one moving system as in another system in uniform motion relative to it Thus it is impossible to detect the motion of a system by measurements made within the system, and such motion can be observed only in relation to other systems in uniform motion This older concept tacitly assumes that space and time are correctly measured separately and regards them as absolute and independent realities It seemed for a time that the ether would provide a system for the measurement of absolute motion, but certain experiments in the late 19th cent. gave results unexplained by, or contradicting, Newtonian physics. Notable among these were the attempts of A A. Michelson and E W Morley to measure the velocity of the earth through the ether as one might measure the speed of a ship through the sea Although the null result of this measurement indicated that the earth is stationary, this was known to be untrue The validity of the concepts of absolute and independent time and space was challenged by H A Lorentz and others. Since absolute motion cannot be confirmed by objective measurement, Einstein suggested it be discarded from physical reasoning, he explained the experimental results by the special relativity theory enunciated in 1905 This theory accepts the Michelson-Morley experiment as evidence that the hypothesis that the laws of nature are the same in different moving systems applies also to the propagation of light, so that the measured speed of light is constant for all observers regardless of the motion of the observer or of the source of the light Einstein deduced from these hypotheses the full logical consequences and reformulated the mathematical equations of physics, basing them in part on equations of H A Lorentz (Lorentz transformation) by which measurements made in one uniformly moving system can be correlated with measurements in another system if the velocity of one relative to the other is known In most phenomena of ordinary experience, the results obtained from the application of the special theory approximate those based on Newtonian dynamics but deviate greatly for phenomena occurring at velocities approaching the speed of light In unnumerable cases where the results predicted by these theories are incompatible, evidence supports the Einstein theory The theory is difficult to understand because it entails a long chain of mathematical reasoning and because it invalidates ideas that have long seemed self-evident, e g, the absolute character of time and space Included among its assertions and its consequences are the propositions that the maximum velocity attainable in the universe is that of light, that mass appears to increase with velocity; that mass and energy are equivalent and interchangeable properties (this is spectacularly confirmed by atomic fission on which the atomic bomb is based), that objects appear to contract in the direction of motion, that the rate of a moving clock seems to decrease as its velocity increases, that events which appear simultaneous to an observer in one system may not appear to be simultaneous to an observer in another system and that, since absolute time is excluded from physical reasoning because it cannot be measured, both results are equally correct Under classical physics, physical reality could be represented by mechanical models obeying Newton's laws, under modern relativity theory, the changes cannot be visualized, but reality may be represented mathematically in a four-dimensional geometry of space time in which the order of events can be located by space and time coordinates and material particles can be charted by one-dimensional lines (world lines) Einstein expanded the special theory of relativity into a general theory (completed c 1916) which applies to systems in nonuniform motion as well as to systems in uniform motion The theory recognizes the equivalence of gravitation and inertia and substitutes a field concept for the Newtonian concept of gravitation as a force acting at a distance It asserts that material bodies produce curvatures in space that form a gravitational field and that the path of a body in the field is determined by its curvature From the equation of the general theory can be predicted the geometry of a given field and the motion in the field Details of the motions of the planet Mercury had long puzzled astronomers, Einstein's computations explained them He stated that the path of a ray of light is deflected by a gravitational field, observations of light from the stars, made during eclipses of the sun, confirmed his statement His prediction that in a gravitational field spectrum lines of substances would be shifted toward the red end of the spectrum was verified Cosmological deductions from the general theory by Einstein and other scientists have resulted in theories, as yet not fully verified, that the universe is a finite but expanding system Although the Einstein relativity theory has been subjected to repeated attacks and different formulations of relativity have been proposed by several scientists, notably E A Milne, the theory has proved its value as a tool in physics Einstein sought for many years to incorporate the theory into a unified field theory valid also for subatomic and electromagnetic phenomena and in 1950 presented a unified theory that cannot as yet be evaluated In *Albert Einstein, Philosopher-Scientist* (ed by P. A Schilpp, 1949) is a collection of somewhat technical interpretations and criticisms of Einstein's work by contemporary scientists and a reply and autobiographical notes by Einstein. See also Bertrand Russell, *The ABC of*

Relativity (3d ed , 1931), Lincoln Barnett, *The Universe and Dr Einstein* (1948)

relics, part of the body of a saint or something closely connected with him in life In traditional Christian life they have had great importance, and miracles have often been associated with them Members of the Orthodox Eastern Church have generally followed St John of Damascus in teaching that the earthly body of the saint has a kind of permanent grace, but in the Roman Catholic Church the miracles are held to be performed by the intercession of the saint in heaven on the prayer of the living, relics therefore are only to be revered as memorials, and belief is not required in any particular relic as authentic or miraculous Roman Catholic altars (even portable ones) contain a relic, a rule coming from the time of persecution in Rome, when Mass was said over the martyrs' graves Protestants have abandoned relics Veneration of relics as miraculous is as old as the 3d cent Famous relics include the pieces of the True Cross (see CROSS), the VERONICA, the Holy Nails in the iron crown of Lombardy (Monza, Italy), the Holy Lance (St Peter's, Rome), the Holy Coat (Trier, Germany), and the Precious Blood of Bruges These are all called relics of the Passion Celebrated shrines are often depositories of relics, e g , of St Peter and St Paul at St Peter's, of St James at Compostela, Spain, of St. Thomas à Becket at Canterbury, of St. Edward the Confessor at Westminster Abbey Many relics are duplicated, i.e , there are rival claims of genuineness Since the Middle Ages close accounting of relics has been maintained in Western Christendom, hence relics of a saint who has been formally canonized are probably genuine

relief, in sculpture, three dimensional on its surface but attached to a flat background In alto-relievo or high relief the projection is marked, bas-relief or basso-relievo projects only minimally, and mezzo-relievo lies between the two. Ancient Egyptian and Etruscan art used also so-called sunken relief which reverses the procedure by graving the design deeper than the background Classic reliefs are commonly low, the best example is among the Elgin Marbles in the British Museum The higher relief came with virtuosity and neoclassicism, reaching its climax in the baroque period Bas-relief is also used on coins and medals

religion [Latin], a term which can hardly be defined precisely because it admits of the widest diversity of interpretation, because of the entirely personal nature of the experience which it names Religion has to do with what is most vital in the feeling, belief, and performance of every human being It involves impulses which control the attitude toward life in each individual, "primitive" as well as highly developed modern man Even in one man's lifetime his conception of what is religion may change from one period to another All the interrelations between the human and the superhuman or supernatural are included under things religious When a man becomes conscious of a power above and beyond the human, and recognizes a dependence of himself upon that power, religion has become a factor in his being His emotions, thoughts, and behavior will all usually be affected by the experience His ideas of what is true and real depend upon it, and his values of life adjust themselves in accordance with the new understanding Problems of religion and opinions about religious matters are so intimately related to the individual life and consciousness that they are very many Extraordinary difficulties therefore present themselves when classification of religions is undertaken, for no wholly satisfactory scientific method for the investigation of the history of religion has been devised, even though the problems of religious phenomena have been attacked from various points of view e g , history, psychology, philosophy, and sociology Scholars are not agreed that there has been a progressive development of religion in history, for each religion presents special features, and the course of many religions has been not only independent but unlike that of any other Some resemblance, however, may be seen in the history of diverse religions "Primitive" men of today give the only clue (if it is a clue) to the religious state of the "primitive" ancestors of "modern" men Thus from the very beginning, theories on the history of religion are based on assumptions rather than on known relations of cause and effect Some believe that the most "primitive" form of religion was fetishism (see FETISH), others that it was a belief in ghosts, others that it was polytheism, and still others PANTHEISM or henotheism or monotheism According to one system, depending on the principle of development from simple to complex, the first religion would be naturism, worship of the objects of nature The next step would be the distinction between natural forms and their spirits or souls (see ANIMISM) Spiritism carries further the veneration or worship of souls, attributing to them experiences and performance of the kinds that characterize human beings This stage would include the worship of ancestors In polytheism of the simplest form, which is still closely allied with nature worship, the world of natural phenomena is regarded as ruled over by deities resembling human beings, capable of being influenced or propitiated in much the same way as are one's fellow men Higher types of polytheism, or such developments of it as were reached by HINDUISM and NEOPLATONISM, achieve a greater unity by giving to the many gods the position of impersonating attributes of one supreme god The end point in most historical analyses of religion is monotheism The three great representatives of this are JUDAISM, CHRISTIANITY, and ISLAM Such accounts of the evolution of religion are, however, not based on science but on synthesis, and directly (or nearly directly) contrary views may be held Classifications of religions have been made by many The study of religion from many points of view is always in progress, and the incidental rewards of such study have been great, especially in historical and sociological aspects The psychology of religion has evoked great interest especially among the successors to William James In philosophy, religion is in effect a theory of reality, concerned as it is with ultimate being, with man's relation to it, and with the first cause of all and the end and aim of being The stories of the great religions and of prominent modern sects, movements, and leaders may be found in the individual articles, e g , EGYPTIAN RELIGION, BABYLONIAN RELIGION, GREEK RELIGION; ROMAN RELIGION; TAOISM, CONFUCIUS

Religion, Wars of, 1562–98, series of civil wars in France The immediate issue was the French Protestants' struggle for freedom of worship and the right of establishment (see HUGUENOTS) Of equal importance, however, was the struggle for power between the crown and the great nobles and the rivalry among the great nobles themselves for the control of the king The foremost Protestant leaders were, successively, Louis I de CONDÉ, Gaspard de COLIGNY, and Henry of Navarre (later HENRY IV), the Catholic party was dominated by the house of GUISE A third party, called the *politiques* and composed of moderate Catholics, sided with the Protestants, while CATHERINE DE' MEDICI and her sons, CHARLES IX, HENRY III, and FRANCIS of Alençon, vainly sought to maintain a balance of power by siding now with the Catholics, now with the Huguenots The Conspiracy of Amboise (1560), by which the Huguenots attempted to end the persecutions suffered at the hands of FRANCIS II, was a prelude to the first three civil wars (1562–63, 1567–68, 1568–70) The Peace of Saint-Germain (1570) gave the Protestants new liberties and the wardenship of four cities, including La Rochelle The fourth civil war (1572–73) began with the Massacre of SAINT BARTHOLOMEW'S DAY, a general slaughter of Protestants throughout France The fifth civil war (1574–76) ended with the Peace of Monsieur (named for Francis of Alençon, who then sided with the Huguenots), which, ratified by the Edict of Beaulieu, granted freedom of worship throughout France except Paris When the Catholics retorted by forming the LEAGUE (1576) and persuaded Henry III to repeal the edict of toleration (1577), the Huguenots revolted once more and sought the aid of foreign Protestant states This sixth civil war ended with the Peace of Bergerac (1577), which renewed most of the terms of the Peace of Monsieur, this Henry III never carried out A seventh war (1580) was inconsequential, but in 1584 the recognition by Henry III of the Protestant Henry of Navarre as his heir presumptive led to the renewal of the League by Henri de Guise and to the War of the Three Henrys (1585–89, see HENRY III) After the assassination of Henri de Guise (1588) and of Henry III (1589), the League, now headed by MAYENNE, invoked the aid of Spain against Henry's successor, Henry IV Henry, after his victories at Arques (1589) and Ivry (1590) and his conversion to Catholicism (1593), entered Paris in 1594 With the Edict of NANTES, which granted freedom of worship throughout France and established Protestantism in 200 towns, and with the Treaty of VERVINS with Spain (both in 1598), Henry IV brought the Wars of Religion to as successful a conclusion as the Protestants could desire This result, however, was completely reversed in the 17th cent, by Cardinal Richelieu, who broke the political power of the Protestants, and by Louis XIV, who destroyed their religious privileges by his revocation of the Edict of Nantes

relocation center, in U S history Under authority of an executive order, the military leaders in March, 1942, defined an area on the West Coast from which all persons of Japanese ancestry were to be excluded The same month the War Relocation Authority was created After voluntary evacuation was prohibited, the army moved approximately 110,000 evacuees to 10 relocation centers in Western states operated by the authority At the camps, food and shelter were provided and wages were paid to those who wished to work Separation of loyal and disloyal began in July, 1943. Loyal persons were released to live anywhere except in the proscribed area, while the disloyal (those who signed papers stating that they were not loyal to the United States or refused to renounce allegiance to another country and those who had not been cleared by the FBI) were sent to the Tule Lake segregation center Many young men left the centers to serve in the army In Dec , 1944, the mass exclusion orders were revoked The last of the centers, the Tule Lake center, was closed in Feb , 1946 The WRA, which also administered at Oswego, N Y , an Emergency Refugee Shelter for European refugees, was terminated in 1946

Remah see ISSERLES, MOSES BEN ISRAEL

Remaliah (rĕmălī'ä) [Heb ,=God has adorned], father of Pekah 2 Kings 15 25, Isa 7 1–9, 8 6

Remarque, Erich Maria (ā'rĭkh mărĕ'ä rŭmärk'), 1897– German novelist He fought in the First World War and afterwards tried various occupations He was editor of a sports paper when he wrote his first novel, *Im Westen nichts Neues* (1929, Eng tr , *All Quiet on the Western Front*, 1929), an immediate success in Germany and widely translated This anti-war novel was followed by *Der Weg zurück* (1931, Eng tr , *The Way Back*, 1931), an account of post-war adjustment. His views led to the burning of his first book by the Nazis Remarque went to Switzerland in 1932 and in 1939 came to the United States, where he was naturalized in 1947 His later books are *Three Comrades* (Eng tr., 1937), *Flotsam* (Eng tr , 1946), a story of refugees from the Gestapo, and *Arch of Triumph* (Eng tr , 1946), an account of the lives of émigrés in Paris, which has been filmed

Rembrandt Harmenszoon van Rijn or Ryn (rĕm'brănt, Dutch rĕm'brānt här'mənsōn vän rīn'), 1606–69, Dutch painter and etcher, b Leiden, son of a well-to-do miller He was sent to a Latin school in preparation for the university, but early showed a determination to paint and was apprenticed for three years to a local artist After a short period in Amsterdam in the studio of Peter Lastman, who taught him to etch, Rembrandt returned to Leiden and busied himself in sketching the life about him and in painting members of his family and himself Of this period also are his *St Jerome* and *St Paul in Prison*, which bear witness to the precocity of his highly personal genius In 1631 he moved to Amsterdam, where he achieved immediate success as the most popular portrait painter of his day He established himself in a fine house in the Breedstraat with an excellent studio and for 10 years was besieged with commissions and pupils In 1632, at the age of 26, he painted his famous *Lesson in Anatomy* (The Hague), a study of his friend the anatomist Tulp performing a dissection While timidly painted in comparison with his later masterpieces, it marks a turning point in his development and shows him already in possession of great powers In 1634 he married Saskia van Uylenburgh, the daughter of a Friedland burgomaster of wide connections She brought him a handsome dowry and bore him four children, only one of whom, Titus, survived Their life together was one of affluence and happiness He painted many delightful portraits of her This period was one of great activity To it belong such canvases as *Portrait of an Old Woman* (National Gall , London), *Danaë* (Leningrad), *The Noble Slav* (Metropolitan Mus), *Presentation in the Temple* (The Hague), and *The Marriage of Samson* These works show a departure from the cooler and more painstaking early manner A golden tone pervades them and a growing boldness of brush stroke and conception is found The year 1642 marks a turn in the artist's fortunes. In this year Saskia died and he painted his unlucky masterpiece *The Night Watch* or, more properly, *Sortie of the Banning Cocq Company* (Rijks Mus) This picture was a bitter disappointment to the corporation which ordered it Instead of painting a conventional group portrait in which each member received due consideration, Rembrandt made of it a composition with strong light focused on a few central figures, leaving others almost lost in obscurity It was called *The Night Watch* in derision, and its subsequent darkening has made the misnomer stick But despite this, it remains a magnificent painting, in which the artist's genius for the suggestion of form and space by means of light and shade is fully realized From this time, however, his popularity declined He worked constantly but was obliged to borrow money on his house and his magnificent art collection During these years he lived with his housekeeper, Hendrickje Stoffles, who is thought to have posed for many of his nudes, including *Potiphar's Wife* In 1654 she bore him a child The Metropolitan Museum has portraits of Hendrickje and of Rembrandt's son Titus. To this period belong *John the Baptist*, *Jacob Blessing the Sons of Joseph*, a second *Lesson in Anatomy* (Rijks Mus), and his portrait of Jan Six (Six Coll , Amsterdam) Throughout his subsequent misfortunes this same Jan Six remained a constant friend and patron In 1657 Rembrandt was declared bankrupt, and his house and collection were sold. His son Titus and Hendrickje opened an art shop and maintained him, but his last years were spent in poverty and retirement. In these last days he painted many famous self-portraits, including one in the National Gallery of Art, Washington, D.C. The Frick Collection, New York,

contains a splendid example, painted in 1658, and also *The Polish Rider* of the same period *The Syndics* and *The Jewish Bride* (Rijks Mus.) are among his last great paintings In 1668 Titus died, and in the following year Rembrandt himself died and was buried in Westerkerk His work has been considered the greatest self-expression of the individual in painting Certainly the universal appeal of his art rests upon its profound humanity He remains unsurpassed in the ability to evoke with a few brush strokes light, form, character, and emotion In his characteristic work local color is subordinated and a warm, glowing tone prevails Some controversy exists as to the number of his true works, but his production was great In addition to some 700 paintings generally attributed to him, he produced throughout his life a vast number of etchings and is usually considered the greatest of all etchers Among his most famous plates are *Christ Healing the Sick, Descent from the Cross, Burgomaster Six, Three Trees, Christ Preaching, Crucifixion,* and *Barn and Cottage* Rembrandt's drawings are also highly prized Splendid collections of both drawings and prints are to be seen in the Louvre and in the museums of London, Vienna, and Amsterdam His works are to be found in most of the important galleries of Europe and America Both the National Gallery of Art, Washington, D C , and the Metropolitan Museum have good collections. See studies by Philip Hamerton (1894), Malcolm Bell (1901), Wilhelm Valentiner (1931), and W M Ivins (1942), biography by H W Van Loon (1935)

Remeth (rē'-), town of Issachar, near the Sea of Galilee Joshua 19 21. Jarmuth Joshua 21 29 Ramoth 1 Chron 6 73

Remi or **Remigius, Saint** (rē'mē, Fr rumē', rēmĭ'jŭs), d 533?, bishop of Rheims, called the Apostle of the Franks He baptized King Clovis

Remington, Elphalet (ĕl'fălĕt), 1793–1861, American inventor and gunsmith, b Suffield, Conn Trained in blacksmithing, he forged a rifle barrel for himself out of scrap iron, thus led to his making guns for others and eventually to establishing a firearms factory c 1828, at Ilion, N Y He supplied the U S army with rifles in the Mexican War In 1856 the business was expanded to include agricultural implements, Remington took his three sons into partnership **Philo Remington,** 1816–89, b Litchfield, N Y (E of Utica), directed the business after his father's death during the Civil War, when the firm held huge government contracts The firm later supplied the armies of several European countries with breech-loading guns In 1870 the factory began making sewing machines, and in 1873 Philo Remington became interested in the manufacture of typewriters The first Remington typewriter was exhibited in 1876 at the Centennial Exhibition in Philadelphia

Remington, Frederic, 1861–1909, American sculptor, painter, illustrator, and writer, b Canton, N Y , studied at the Yale School of Fine Arts and the Art Students League His subjects, drawn largely from his life on the Western plains, are chiefly horses, soldiers, Indians, and cowboys, each modeled or painted with sympathetic understanding and usually in spirited action His canvases have been extensively reproduced in color prints, and replicas of his 15 bronzes appear in many museums and private collections Remington was war correspondent for the Hearst papers in the Spanish-American War An indefatigable worker, he completed more than 2,700 paintings and drawings, including illustrations for *Century Magazine, Collier's Weekly,* Harper publications, and other periodicals He wrote *Pony Tracks* (1895), *Crooked Trails* (1898), *John Ermine of Yellowstone* (1902), and other books His bronze *Cavalry Charge on the Southern Plains* is in the Metropolitan Museum See biography by Harold McCracken (1947)

Remington, Philo see REMINGTON, ELIPHALET

Remizov, Aleksey Mikhailovich (ălĭksyā' mĭkhī'lōvĭch rĕ'mēzŏf), 1877–, Russian novelist, short-story writer, playwright, and poet Associated with the symbolists, he developed a style based on colloquial speech which influenced many Soviet writers (e g , Pilnyak and Bulgakov) In 1921 he left Russia His translated works include *The Clock and Other Stories* (1924, Eng tr , 1924), *The Fifth Pestilence and Other Stories* (1912, Eng tr., 1927), *On a Field of Azure* (1922, Eng tr , 1946).

Remmon (rĕm'-) see EN-RIMMON

Remmon-methoar (rĕm'ŭ-mēthō'ur), same as RIMMON 5

Remonstrants (rĭmŏn'strunts), Dutch Protestants, adherents to the ideas of Jacobus ARMINIUS, whose doctrines after his death were called Arminianism They were Calvinists but were more liberal and less dogmatic than orthodox Calvinists and diverged from the teachings of the Dutch Reformed Church After the death of Arminius and under the leadership of Simon EPISCOPIUS, they set forth their articles of faith for Holland and West Friesland in the "Remonstrance." Their main variations from orthodox views, as set forth, were conditional, rather than absolute, predestination, universal atonement, the necessity of regeneration through the Holy Ghost, the possibility of resistance to divine grace, and the possibility of relapse from grace. A movement to suppress the Remonstrants was led by Prince MAURICE OF NASSAU, and finally, after a hearing at the Synod of Dort (1618–19), the orthodox position prevailed Remonstrants were denied church services, and their leaders were persecuted and exiled With the death of Prince Maurice in 1625 the ban was lifted and the religion was tolerated until 1795, when it was recognized as an independent church In general the Remonstrants had a liberalizing influence on church doctrine.

Remphan (rĕm'făn), same as CHIUN

Remscheid (rĕm'shīt), city (pop 92,928), in the former Rhine Prov of Prussia, W Germany, on the Wupper, adjoining Solingen and Wuppertal It is a center of the German tool and machine tool industry and also manufactures steel, machinery, and textiles Chartered in 1808, Remscheid was nearly destroyed in the Second World War

Remsen, Ira, 1846–1927, American chemist b New York city, M D Columbia, 1867 At Johns Hopkins he founded the department of chemistry and was first professor of chemistry (1876–1913) and president of the university (1901–13) He is known for his work in organic chemistry, especially on saccharin His textbooks have been widely used See biography by F. H Getman (1940)

Remsen, town (pop 1,196), NW Iowa, NE of Sioux City, in a grain, dairy, and lumber area, founded 1839 A fire in 1936 destroyed many buildings

Remus see ROMULUS

Rémusat, Charles, comte de (shärl' kōt' dŭ rāmüzä'), French philosophical writer and liberal politician He was a deputy (1830–48) and minister of the interior (1840) under Louis Philippe. In the Revolution of 1848 he was associated with Thiers, and he went into exile after the coup d'état of Louis Napoleon (NAPOLEON III) He became active again politically when the emperor had to make concessions to the Liberals toward the end of the Second Empire, and after Napoleon's fall he served under Thiers as minister of foreign affairs (1871–73) In his retirement he devoted himself to scientific and literary pursuits Among his works are *Essais de philosophie* (1842), *Histoire de la philosophie en Angleterre depuis Bacon jusqu'à Locke* (1875), and biographies of Abelard, Bacon, John Wesley, and Channing His mother, **Claire de Vergennes, comtesse de Rémusat** (klār dŭ vĕrzhĕn kōtĕs' dŭ rāmüzä'), 1730–1821, wife of the chamberlain of Napoleon I and a close friend of Empress Josephine, left an intimate account of the court of the First Empire in her memoirs She also wrote an essay on education for women

Renaissance (rĕnəsäns', -zäns') [Fr , =rebirth], term used to describe the period of transition from medieval to modern times Though the term may denote a chronological period (14th–16th cent), it more often designates cultural and intellectual currents that began in the 14th cent in Italy, where it reached its highest flower in the 15th and 16th cent (Ital *quattrocento* and *cinquecento*) From Italy the Renaissance spread—partly as a result of the Italian Wars—to France, Spain, Germany, the Low Countries, England, and the rest of Europe The Italian Renaissance (see also ITALIAN ART, ITALIAN ARCHITECTURE, ITALIAN LITERATURE) culminated under the patronage of the MEDICI at FLORENCE, of the SFORZA at MILAN, of the Renaissance popes at ROME, of the ESTE of FERRARA, and of the GONZAGA at MANTUA VENICE attained its greatest cultural splendor during the High Renaissance (late 16th cent) The towering figures of the Italian Renaissance were undoubtedly LEONARDO DA VINCI and MICHELANGELO, whose genius approached the Renaissance ideal of universality Like the related movement of HUMANISM, the Renaissance was a conscious return to classical ideals and forms. The idea that their time was one of "enlightenment" and "emancipation" from Gothic and medieval barbarousness, blessed by the restoration of the humanities, was present in the minds of many persons of the Renaissance Of late years critical study of the Renaissance has broken down the idea started by the humanists themselves of the Renaissance as a sudden dawn of freedom, beauty, and knowledge of man and the world after the night of the Middle Ages, an idea which prevailed until recently, largely through the influence of the 17th-century and 18th-century classicists and rationalists, such as Dryden and Gibbon in England, Boileau and Voltaire in France, and Winckelmann in Germany New interpretations of the Renaissance emphasize the economic changes which made possible the patronage of artists and humanists by territorial princes and a lay aristocracy of wealth and the persistence in the Renaissance of many medieval problems and concepts By making knowledge of classical literature the mark of an educated gentleman, the Renaissance established a kind of international culture of a lay character, outside of, independent of, and often hostile to, the Church. An ideal of the autonomous, versatile, creative individual was perhaps the Renaissance answer to the ancient self-sufficient Stoic Whatever individualism may have meant, the Renaissance apparently centered its interest in the experiences, nature, and culture of the individual man. Its scientific activity operated in philology, ethics, biography, pedagogy, psychology, government, and history Though there were exceptional cases, the Renaissance picture of the physical world was not usually mechanical or mathematical, but bookish and qualitative Contrary to the general pattern, many intellectuals of the Renaissance disliked slavish adulation of antiquity and its literature (e g , VALLA, and ERASMUS), many followed contemporary problems and had more sympathy for the common people than is generally thought (e g , BUDÉ, COMINES, RABELAIS, and MONTAIGNE) Optimism and belief in the goodness of man, often given as characteristics of the Renaissance, were absent in many, e g , GUICCIARDINI and MACHIAVELLI Though the influence of Renaissance thought upon the formation of the modern mind is probably been exaggerated, it is impossible to exaggerate its influence on art architecture, and music up to contemporary times Modern critical research and scholarship have tended at times to eliminate the Renaissance altogether as a period in history As one of the periods of artistic creation, however, the concept of the Renaissance retains its validity, even if its beginning and its end are blurred Outstanding among the "old-fashioned" interpretations of the Renaissance are the two classics—Jacob BURCKHARDT, *The Civilization of the Renaissance in Italy* (1860, in German, several English editions) and J A SYMONDS, *The Renaissance in Italy* (1875–86, many later editions) Though their point of view may be questionable, these two works have not been superseded by any work of the same scope Modern scholarship, having moved away from the concept of the Renaissance as a period, has produced no general work on the subject See F H Hyett, *Florence Her History and Art* (1903), G F Young, *The Medici* (2 vols , 1909); Arthur Tilley, *Dawn of the French Renaissance* (1918); E K Chambers, *The Elizabethan Stage* (4 vols , 1923), Rafael Altamira, *A History of Spanish Civilization* (Eng tr , 1930), J B Black, *The Reign of Elizabeth* (1936), Douglas Bush, *English Literature in the Earlier Seventeenth Century* (1945), Ferdinand Schevill, *The Medici* (1949) For the Renaissance period in Germany, see bibliography under REFORMATION

Renaissance architecture. The rebirth of classic architecture, which took place in Italy in the 15th cent and spread in the following century through Western Europe, terminated the supremacy of the Gothic style Since the Gothic had never taken real root in Italy, a return to the classic was only natural, manifested in a rediscovery and appropriation of the classic orders Rome's structural elements, its arches, vaults, and domes, as well as its decorative forms, served as an open treasury, from which the designers of the 15th cent unstintingly borrowed, adapting them to new needs in novel combinations While using Roman motives, the churches, town halls, palaces, and villas were new developments in plan and mass. The Italians, even when using Gothic forms, had shown little taste for structural expression In their new system, structure served merely as a necessity and was hidden behind the façades and interiors, which thus were left free for dispositions of the classical motives Of the Italian Renaissance, three general periods can be seen early (c 1420–c 1500), with its chief centers at Florence (its birthplace), Milan, and Venice, High, or classic (c 1500–c 1580), with Rome the important center, and late, or BAROQUE and ROCOCO (c 1580–c 1780), with Rome also as center Brunelleschi, the earliest great architect of the Renaissance, produced its first fruits (1420) in the Pazzi Chapel and the dome of the cathedral, Florence. Leone Battista Alberti and Bramante were other great designers of the first period A fondness for the free use of beautiful details led, particularly in Lombardy, to graceful designs, in which, however, the larger possibilities of the building were submerged, the façade of the CERTOSA DI PAVIA is a notable example of this spirit On the other hand, the rugged stone palaces of Florence, of which the Riccardi (1430) by Michelozzo is the earliest, capitalized only the building's simple constituents Bramante's later works (after his removal to Rome, 1499) mark the beginning of the second period and exhibit the special quality of its products—sound organization with emphasis on the significant elements of the building's composition, work on SAINT PETER'S CHURCH was begun by Bramante Deeper understanding of the monumental Roman works resulted in grand and unified designs with pure and well-integrated details The classical ORDERS OF ARCHITECTURE, often at monumental scale, now played the chief role in decoration, replacing the free and graceful motives of the arabesque pilasters, candelabra, and colonnettes Vignola, Palladio, and others reduced the orders to systems of proportioning and initiated a formal academicism Numerous palaces and churches erected in Rome gave it preeminence, and here worked Peruzzi, Vignola, Michelangelo, and also Antonio da Sangallo, the younger, whose Farnese Palace embodies the period's highest standards In the early years of the phase Palladio and Jacopo Sansovino worked in N Italy. To bigness of scale baroque ar-

chitects now added a bold and theatrical character, giving the classic details an unprecedented animation Its notable achievements include the two works which completed St Peter's—Carlo Maderna's façade and Bernini's great colonnaded piazza Borromini and Domenico Fontana were other representative talents The introduction of Renaissance taste into France was hastened by French wars on Italian soil in the late 15th and early 16th cent. A number of Italian artists and craftsmen were encouraged to settle in France, even though not responsible for the first Renaissance creations there, they communicated the essence of the classic manner The style made one of its first tentative appearances in the Louis XII wing of the château of Blois. It passed through three general phases early, or transitional (c 1490–c 1547), including the reigns of Louis XII and Francis I, classical (c 1547–c 1610), and the LOUIS PERIOD STYLES (c 1610–c 1793) In the first period Gothic traditions persisted in plan, structure, and exterior masses, in which fresh and graceful Renaissance details were grafted The movement was sponsored by Francis I, a prolific builder Handsome and livable châteaux replaced the grim feudal castles Fontainebleau, Chambord, and Azay-le-Rideau are famous examples For the opening of the classical period the commencement of the Louvre (1546) by Pierre Lescot serves as a mark. Classic proportions and methods of composition were assimilated, and the use of the orders became general Though Italian models were followed, a distinctively French brand of classicism took form The leading architects were Lescot, Philibert Delorme, and the Androuet du Cerceau family Jean Goujon and others contributed fine sculptural adornments. The final period was similar to the High Renaissance in Italy in that the main forms of the building were selected for emphasis and classic simplification Jacques Lemercier and François Mansart inaugurated these larger ideals and, along with Louis Le Vau and Claude Perrault, launched the Louis XIV style To their period belong the Church of Val-de-Grâce, the Institut de France, Versailles, and the completion of the Louvre J H Mansart's works, including the Place Vendôme and the Dôme des Invalides, displayed its monumental trend The reign of Louis XV (1715–74) produced the decorative rococo style for interiors, while exteriors offered complete sobriety The lurid quality of French 18th-century taste now became marked in the plans of houses, in large works, and in town planning J A. Gabriel designed the Place de la Concorde at Paris and the Petit Trianon at Versailles With the reign of Louis XVI preferences for classic purity extended, reclaiming interiors and furniture from the rococo Servandoni and Soufflot are notable, the Panthéon by the latter, however, ushers in the academic classic revival, marking the end of the Renaissance In the style as adopted in Germany, about the middle of the 16th cent., the medieval love for picturesque forms still dominated though transferred to classic motives These, freely interpreted and resembling the Elizabethan work in England, gave full play to originality and craftsmanship The style, however, lacking truly great architects, failed to achieve full development as in France and in England Nuremberg and Rothenburg are rich in works of the early period The native taste for the fanciful assured favorable reception for the baroque in the 17th cent. in Germany and Austria, where Fischer von Erlach was a notable exponent A rococo based upon that of France and largely owing to the works of Cuvilliés on German soil attained wide use in the 18th cent The Renaissance in Spain also developed through three phases the early, or PLATERESQUE, commencing early in the 16th cent, the classic, or so-called Greco-Roman, late 16th cent and early 17th, and the baroque and subsequent CHURRIGUERESQUE, in the 17th and 18th cent In the first period Gothic and Moorish forms (see MUDEJAR) intermingled with the new classic ones Under the leadership of Berruguete and Francisco de Herrera, the younger, who imported strictly classic principles from Italy, the second period was one of correctness and formality The palace of Charles V at Granada (1527) is its finest product. The dramatic and sometimes violent elaborations of the final period had a particularly close correspondence to the national taste The west façade of the Church of Santiago de Compostela is perhaps the finest example In England the Renaissance arrived late, appearing only in the middle of the 16th cent The ELIZABETHAN STYLE and the JACOBEAN STYLE applied classic motives while retaining medieval forms. The turn towards a pure and monumental classic was due to Inigo Jones, whose royal banqueting hall (1619), London, decisively established the Palladian ideals in English architecture Upon this basis Christopher Wren created his great public and domestic works, followed by the architects of the GEORGIAN STYLE, eminent among whom were Hawksmoor, James Gibbs, Vanbrugh, Sir William Chambers, and the Adam brothers See T G Jackson, *Renaissance of Roman Architecture* (3 vols, 1922), Talbot Hamlin, *Architecture through the Ages* (1940)

Renaissance art was the natural outgrowth of the new humanism which replaced medieval thought This art, based on classic forms, developed first and most fully in Italy Characteristic of the style is the preoccupation with visual realism and scientific accuracy The problem of perspective especially occupied the painters of the period, and it is the faithful study of this which distinguished Renaissance art from its predecessors and paved the way for subsequent schools The dichotomy of visual realism and scientific accuracy was solved in Renaissance painting by painstaking observation of nature, on which were superimposed such geometric arrangements as the golden section and pyramidal construction. Another startling innovation was the careful modeling of light and shadow from a presumed single source of light, replacing the medieval over-all brightness The renewed interest in Greece and Rome produced in classic shapes individual personalities The trend toward the revival of classic ideals in the plastic art of Italy was begun by the 13th-century Apulian school, an exponent of which, Nicola Pisano, executed (c 1260) work on the baptistery of Pisa closely following Roman conceptions, but Byzantine and Gothic precedents were slow to yield to the freedom and harmony of naturalism A century passed before the advent of Donatello and two centuries before Michelangelo, whose plastic conceptions contained the germ of the succeeding period Italian Renaissance, productive of many monumental works of art, developed three periods (see RENAISSANCE ARCHITECTURE) Florence was the great center of many Renaissance masters, including Cimabue, Giotto, Fra Angelico, Verrocchio, Botticelli, Ghirlandaio, Leonardo da Vinci, and others Siena, Venice, Milan, Rome, and other Italian cities developed schools of painting and artisans' workshops, Titian was the great Venetian painter of the Renaissance Progress was gradual from the work of Duccio di Buoninsegna to the full flower of Renaissance form, color, light, and perspective in Raphael and Correggio With Charles VIII's expedition to Naples, Renaissance influences penetrated into France Francis I imported Italian artists, among whom Andrea del Sarto and Leonardo da Vinci are reported to have visited France Henry II's marriage to Catherine de' Medici strengthened Italian prestige It was in the minor arts and in glass and miniature painting that Renaissance France was most active and always retained a distinctive national style, although it absorbed current trends from Italy and Flanders In sculpture Jean Cousin founded the French school, Jean Goujon and Germain Pilon adding luster to it Only with the passing of the Renaissance did France produce such painters as Nicolas Poussin and Claude Lorrain It was through drifting Italian sculptors of the late 15th cent that Renaissance influences found their way into Spain and met with enthusiastic adaptation The early 16th cent witnessed an active native Renaissance school of definitely Spanish character, and during the period three distinct trends developed—Moorish, classic, and baroque Of the minor arts none are more characteristic than the elaborate ironwork (church screens and embossed leathers The Escorial (1563–84) reveals the Italian influence under Philip II The Low Countries, in contact with Renaissance influences, experienced a golden age of native art, with such masters as the Van Eyck brothers, Roger van der Weyden, Lucas van Leyden, Rubens, and Van Dyck In Germany, preceding the Reformation, Schongauer, Dürer, Holbein, Lucas Cranach, the elder, and Joos van Cleef dominated the field of art without being greatly moved by the Renaissance spirit England produced only isolated Renaissance examples, the baroque element being pronounced in the minor arts in the late Renaissance See Élie Faure, *The Italian Renaissance* (1929), Bernhard Berenson, *The Italian Painters of the Renaissance* (rev ed, 1930), J Mather, *Western European Painting of the Renaissance* (1939), Anthony Blunt, *Artistic Theory in Italy, 1450–1600* (1940), Otto Benesch, *The Art of the Renaissance in Northern Europe* (1945)

Renaissance lace see LACE

Renan, Ernest (ûrnĕst' runā'), 1823–92, French historian and critic, b Brittany In 1845 he renounced the priesthood for which a devout mother and early training had intended him With the moral and financial support of his sister Henriette he remained in Paris to study and write His impressions on a first trip to Italy in 1849, described in letters and in a fragmentary novel *Patrice* (1908), influenced him but did not change most of his basic ideas formed by 1848 when he wrote *L'Avenir de la science* (1890, Eng tr, 1891) Relativistic, concerned with fundamental problems of human nature, he studied religion from a historical rather than a theological point of view He wrote *Histoire des origines du christianisme* (8 vols, 1863–83; Eng tr, *The History of the Origins of Christianity*, 5 vols., 1888–90), of which the first volume, *Vie de Jésus*, became his most widely known book, and the *Histoire du peuple d'Israël* (5 vols, 1887–93; Eng. tr., *History of the People of Israel*, 1888–96) In 1878 he was elected to the French Academy and in 1883 was made director of the Collège de France Though he never wrote a complete novel, Renan turned to creative writing in later years and, with irony and poetic style, composed *Dialogues et fragments philosophiques* (1876) and the much discussed *Drames philosophiques* (1888) His subtle irony and beautiful prose are blended, sometimes whimsically, in the *Souvenirs d'enfance et de jeunesse* (1883; Eng tr., *Recollections of My Youth*, 1883) His influence has been widespread, and practically all of his works have been translated into English. See Lewis Freeman Mott, *Ernest Renan* (1921)

Renart, Jean (zhäⁿ' runär'), fl. 1212, French poet. He was the author of two or three *romans courtois* and of a lai. See P H. Beekman, *Jean Renart and His Writings* (1935)

Renault, Louis (lwē' runō'), 1843–1918, French jurist, professor of international law at the Univ of Paris He sat on the Hague Tribunal (the Permanent Court of Arbitration) and did much to advance arbitration. He shared with E T Moneta the 1907 Nobel Peace Prize.

Rendina, Gulf of, Greece see STRYMONIC GULF.

Rendsburg (rĕnts'bo͝ork), city (pop 35,502), Schleswig-Holstein, N Germany, W of Kiel It is a rail junction and a port on the Kiel and Eider canals, and it has shipyards, machinery plants, and various manufactures Rendsburg was chartered in 1253 When Schleswig-Holstein rose (1848–51) against Denmark, Rendsburg was its provisional capital The Danes regained control and razed (1852–56) its fortress In 1866 the city was annexed to Prussia

René (runā'), 1409–80, king of Naples (1435–80, rival claimant to ALFONSO V of Aragon and FERDINAND I of Naples), duke of Anjou, Bar, and Lorraine, count of Provence, also called René of Anjou and Good King René. The second son of King Louis II of Naples, he was count of Guise when he married (1419) Isabella, heiress of Lorraine and Bar He inherited Bar in 1430 and Lorraine in 1431, but the latter title was contested by a rival supported by Philip the Good of Burgundy René was captured (1431) and held a prisoner despite Emperor Sigismund's award of Lorraine in his favor At the death (1434) of his brother, Louis III of Naples, he inherited Anjou, Provence, and the claim to the succession of JOANNA II of Naples (d 1435), who adopted him as heir René was set free only in 1437 and in 1438 landed in Italy to take possession of his kingdom Alfonso V defeated him, and René returned to France, establishing a brilliant court at Angers In 1445 he married his daughter, MARGARET OF ANJOU, to Henry VI of England René about that time delegated his government in Lorraine and his interests in Naples to his son John, whom he made duke of Lorraine and Bar in 1452 John's expedition to Naples ended with his defeat at Troja (1462) René was obliged by Louis XI of France to promise to will Anjou to the French crown at his death He retired to Tarascon in Provence late in his life and there devoted himself almost entirely to poetry, painting, and pastoral games, in which he acquired a certain reputation His titles to Provence and Naples passed to his nephew, Charles, duke of Maine, on whose death (1486) the ANGEVIN dynasty was extinct, and they reverted to the French crown Lorraine and Bar continued under his descendants Though his historical importance rests chiefly on his dynastic connections, René was also remarkable as one of the last representatives of medieval chivalry and culture

Renewed Church of the Brethren see MORAVIAN CHURCH

Renfrew, county, Scotland see RENFREWSHIRE

Renfrew (rĕn'frōō), town (pop 5,511), S Ont., on the Bonnechère near its junction with the Ottawa river and W of Ottawa. Renfrew has flour and woolen mills and manufactures motors, stoves, and electrical equipment Iron, mica, and graphite are mined near by.

Renfrew (rĕn'frō), burgh (pop 14,986), county town of Renfrewshire, Scotland, on the south bank of the Clyde and near Glasgow A small part of the burgh is in Lanarkshire Renfrew is one of the oldest of Clyde ports, dating from the early 12th cent., it was made a burgh by Robert III in 1397 The prince of Wales has held the title baron of Renfrew since 1404 The airport for Glasgow is at Renfrew, the town's products include boilers, soap, and paint

Renfrewshire or **Renfrew,** county (227 sq mi, 1931 pop. 288,586, 1948 estimated pop. 333,095), SW Scotland, on the Clyde estuary The region is largely hilly, particularly on the southern (Ayrshire) border Besides the Clyde, the principal rivers are the Gryfe, the Black Cart, and the White Cart. It is one of the smallest but most populous counties of Scotland Because of its rich mineral deposits and its proximity to the Clyde, it has developed into an important industrial region, with manufactures of sugar, chemicals, textiles, and whisky, quarrying of shale, coal mining, and shipbuilding. Chief towns include Greenock, Paisley, Gourock, Barrhead, Port Glasgow, and Johnstone. Renfrewshire was not separated from Lanarkshire until 1404

Reni, Guido: see GUIDO RENI.

Rennell, James, 1742–1830, English geographer and oceanographer He was surveyor general (1764–77) of Bengal and published *A Bengal Atlas* (1779) He constructed the first approximately correct map of India (1783). A specialist on the geography of W Asia and of North Africa, he wrote on the geographical knowledge of Herodotus (1800), on the topography of the plain of Troy (1814), and on Xenophon's retreat (1816) He was a pioneer in the scientific study of winds and of ocean currents. He is buried in Westminster Abbey

Rennenkampf, Pavel Karlovich (pä'vĭl kär'lôvĭch rĕ"nyĭnkämpf'), 1854–1918, Russian general. He fought in the Russo-Japanese War (1904–5), and in the First World War he led (Aug., 1914) an army into East Prussia He failed to come to the aid of General SAMSONOV, thus facilitating Hindenburg's victory at Tannenberg In 1916 Rennenkampf was made commander of the northern front He was executed by the Bolsheviks

Renner, Karl (kärl' rĕ'nûr), 1870–, Austrian Socialist statesman A deputy after 1907, Renner became, after the abdication (Nov., 1918) of Emperor Charles I, the head of the provisional Austrian government and, after elections were held, the first chancellor of the Austrian republic (1918) As leader of the Austrian delegation at the Paris Peace Conference, Renner signed the Treaty of Saint-Germain In Oct., 1919, he again became chancellor and secretary of foreign affairs He resigned (1920) after refusing to extradite Hungarian revolutionaries to the reactionary government in Hungary As the Second World War was ending in April, 1945, Renner accepted the premiership and the ministry of foreign affairs in the provisional Austrian government, and in Dec., 1945, he was elected president of the liberated Austrian republic

Rennes (rĕn), city (pop 102,617), capital of Ille-et-Vilaine dept, NW France, on the Ille and Vilaine rivers An important Gallo-Roman town, it became (10th cent) the capital of the Breton county of Rennes and (1196) of the Angevin dukes of Brittany Under the *ancien regime* it was the seat of the provincial Breton estates, the powerful PARLEMENT of Rennes, and several courts of justice Ravaged by the Normans and in the Hundred Years War, it was swept by a fire in 1720 The palace of justice (1670), which housed the parlement, survived the fire An archiepiscopal see, Rennes has a cathedral (18th–19th cent) and a university founded in 1735 The city, a communications and manufacturing center suffered some damage in the Second World War It was liberated (Aug., 1944) from German occupation by U S troops

rennet (rĕ'nĭt), substance containing rennin, a ferment or enzyme having the property of curdling milk It is obtained from the stomachs of young mammals living on milk, especially from the inner lining of the fourth, or digestive, stomach of young calves The preparation of rennet was formerly a part of the domestic duty of making cheese, the inner membrane was kept in salt, dried, and, when needed, soaked in water Now extract of rennet is made and sold commercially It is usually prepared by soaking the tissues in warm, slightly salted water and straining and preserving the resulting liquid Heat interferes with the action of rennet Among the ancients, the acrid, milky sap of the fig tree was known as rennet The lady's bedstraw, or *Galium verum*, a small plant with yellow flowers, has long been known and used for the same purpose by English housewives

Rennie, John, 1761–1821, British civil engineer In London he designed the Waterloo (1811–17) and Southwark (1815–19) bridges London Bridge, also designed by him, was built (1824–31) by his son, **Sir John Rennie,** 1794–1874, who was knighted on its completion

Reno, Jesse Lee (rē'nō), 1823–62, Union general in the Civil War, b Wheeling, Va (now W Va), grad West Point, 1846 He was twice brevetted for his service in the Mexican War In the Civil War, Reno was made a brigadier general of volunteers (Nov., 1861) and commanded a brigade in Ambrose Burnside's expedition to North Carolina (1861–62) Promoted major general (July, 1862), he led the 9th Corps at the second battle of Bull Run, at Chantilly, and at South Mt, where he was killed, Sept 14, 1862 Reno, Nev, was named for him

Reno (rē'nō), city (pop 21,317), co seat of Washoe co, W Nev, on the Truckee river between Lake Tahoe and Pyramid Lake, inc 1903 Here was a popular camp site beside a ford on the Donner Pass route to California, and in 1860 a bridge was built The name of Lake's Crossing was changed to Reno when the Central Pacific RR came in 1868 and the town was laid out. Today the largest city in the state, it is a shipping and distributing center for a cattle and mining region Irrigation is aided by the Truckee storage project. The crisp climate and the extensive resort facilities in a state which permits quick and easy divorce have promoted Reno's prosperity. The annual rodeo is much attended. It is the seat of the state university (see NEVADA, UNIVERSITY OF) and of the museum and library of the state historical society. The state hospital for the insane is here See Max Miller, *Reno* (1941)

Reno (rā'nō), river, 131 mi long, rising in the Apennines, N central Italy It flows NE past Bologna, then SE into the Adriatic

Renoir, Pierre Auguste (pyĕr' ōgüst' rənwär'), 1841–1919, French painter, one of the greatest masters of the French school, son of a tailor of Limoges. The family early moved to Paris, and Renoir went to work at the age of 13 as a decorator of porcelain in a factory In 1862 he entered Gleyre's art school, where he met Cézanne, Monet, and Sisley Up to 1870 he lived in extreme poverty In the '70s he began to paint portraits for a living One of these, *Mme Charpentier and Her Children*, is now in the Metropolitan Museum From 1880 to 1882 Renoir traveled in Italy and Algeria In 1883 he held a successful exhibit at the Durand-Ruel galleries and henceforward never lacked funds In 1890, plagued by gout, he established himself in Provence, where he spent the rest of his life In his last years he was obliged to paint with a brush strapped to his paralyzed hand Throughout a long life Renoir developed consistently. At 30 he had the rudiments of his style and never ceased to perfect it Always concerned with the play of light, he did not, like certain impressionists, sacrifice it to form or composition In his essentially lyrical painting exquisite color combines with rhythmic line to delight the eye Although he painted many fine landscapes, he is perhaps best known for his pictures of women and children and for his nude figure compositions Renoir is represented in most of the important galleries of the world The Art Institute of Chicago, the Barnes Collection, Philadelphia, and the Louvre contain large and excellent collections Among his many famous works are *The Canoeists' Breakfast, Circus Children, Lady Sewing* (Art Inst, Chicago), *Girl Doing Her Hair* (Barnes Coll, Philadelphia), *Le Bal à Bougival* (Mus of Fine Arts, Boston), *La Balançoire* and *La Toilette* (Louvre) See A C Barnes and Violette de Mazia, *Art of Renoir* (1935)

Renouf, Sir Peter Le Page (rənōōf'), 1822–97, English Egyptologist, b Germany Educated at Oxford, he was influenced by John Henry Newman and became a Roman Catholic in 1842 From 1885 to 1891 he was keeper of Egyptian and Assyrian antiquities in the British Museum His chief work in a fine translation of the Egyptian BOOK OF THE DEAD, left unfinished at his death See G C Maspero, W H Rylands, and Edward Nairlie, ed, *The Life-Work of Sir Peter Le Page Renouf* (4 vols, 1902–7), containing a biography

Renouvier, Charles Bernard (sharl' bĕrnär' rənōōvyā'), 1815–1903, French philosopher He led a life of retirement, devoted to writing and study Renouvier sought a synthesis of the ideas of Kant and Comte, contributing articles to the *Année philosophique*, a magazine devoted to bringing together the ideas of these two philosophers He formulated an extensive system of idealism, modifying Kant by accepting his principal doctrines but rejecting the unknowable and the infinite His chief works are *Manuel républicain de l'homme et du citoyen* (1848), *Science de la morale* (1869), *Le Philosophe* (1900), and *Les Dilemmes de la métaphysique pure* (1901)

Renovo (rĭnō'vō), borough (pop 3,784), N central Pa, on the West Branch of the Susquehanna and NW of Lock Haven, laid out 1862, inc 1866

Rense, Germany see RHENSE

Rensselaer **1** (rĕn'sulur, -lâr) Residential city (pop 3,214), co seat of Jasper co, NW Ind, on the Iroquois river and NW of Logansport, settled c.1836, inc 1897 It is a farm trading center **2** (rĕnsulēr', rĕn'sulur) Industrial and commercial city (pop 10,768), E N Y, on the east bank of the Hudson opposite Albany, settled in the 17th cent by Dutch, inc 1897 It was formed by the union of several villages within the tract granted to Kiliaen Van Rensselaer by the Dutch West India Company Shirts, wool products, and chemicals are made. At the 17th-century Fort Crailo, now a museum, the British surgeon Richard Shuckburg is said to have written YANKEE DOODLE

Rensselaer Polytechnic Institute, at Troy, N Y, nonsectarian, for men, founded 1824, opened 1825, chartered 1826 to give degrees, though called a school until 1833, named Rensselaer Institute 1833–51. It has university courses in architecture, business administration, engineering, and science. Founded by Stephen VAN RENSSELAER for the application of science to common purposes, it was a pioneer technical school and a model for many others Amos Eaton, the first director, organized chemistry and physics laboratories for use of students The first U S engineering degrees were given here in 1835 See history by P C. Ricketts (3d ed, 1934)

rent, in law, whatever a tenant is required to pay for the use of another's property. Rent, in this sense, may be merely a token in recognition of the renter's ownership Its meaning in economics is more complex, but since the word *rent* means any income or yield from an object capable of producing wealth, its limitation to a more special sense is somewhat arbitrary and justified only by a general consensus of opinion and usage The term *rent* is now ordinarily used in the broad sense and, besides the return from land, includes the return from such things as tools, machinery, and houses Objects are rented for a limited period of time and must be returned in the original condition The early English writers on economics (16th–18th cent) used the word to mean interest on a loan, but its economic meaning gradually narrowed to the sense of the return on land Modern rent doctrine begins in the 18th cent The PHYSIOCRATS centered their economic system on land They believed that rent was measured by the net product, i.e., the surplus over the costs of production Because they identified wealth with fixed material objects, the physiocrats considered rent not as the variable yield from the land but as a fixed value, which they called "current price of leases" and "disposable revenue" Adam Smith attempted to formulate a "natural rate" of rent based on the laws of supply and demand This rate would insure the subsistence of landlord and farmer without upsetting the price system Too high a rate would force the farmer to overproduce and thus prices would be depressed, while too low a rate would have the contrary results The later theory developed by RICARDO (also by MALTHUS) was formulated in a period of great food scarcity Ricardo held that the demand determined the amount of marginal land under cultivation and that rent was determined by this margin, which, since it was the poorest land, had the highest costs of production Ricardo attacked Smith for putting rent on the same footing with wages and profits as one of the costs of production Ricardo thought that high or low wages and profits were the cause of high or low prices, while high or low rents were the effect of these prices He tended to underemphasize the importance of demand and overemphasize costs of production The subsequent history of rent doctrine consists largely of hostile criticisms of the Ricardian theory Henry GEORGE, for example, thought that monopolistic control of rent was the cause of poverty, which could only be cured by converting private rights into public by the medium of a single tax on land earning alone Much of the literature about economic rent was written when the farmer was not separated from the consumer by a middleman

Renton, city (1940 pop 4,488, 1947 special census pop 15,309), W Wash, near Lake Washington SE of Seattle, inc 1901 Renton produces coal, aircraft, and farm, dairy, and clay products

Renville, city (pop 1,256), SW Minn, E of Granite Falls, in a farm area, settled c 1863

Renwick, James, 1818–95, American architect, b New York city, grad Columbia, 1836 His design for Grace Church (1843–46) in New York city was followed by that for St Patrick's Cathedral, he was chosen architect in 1853, and the cathedral was dedicated in 1879, the most ambitious essay in Gothic which the period of the Gothic revival produced In Washington he built the original Corcoran Gallery and the Smithsonian Institution Other works were the first building of Vassar College and the distributing reservoir for the Croton Aqueduct in New York

reparations, term applied since the First World War to payments sought by victorious nations as compensation for material losses caused by the war By signing (1919) the Treaty of Versailles, which was not ratified by the United States, Germany accepted—though under protest—responsibility as an aggressor nation for "the loss and damage to which the Allied and Associated Governments and their nationals have been subjected as a consequence of the War" (Article 231) The treaty established a commission to administer the collection and distribution of reparations payments After several conferences, reparations were ultimately assessed on the basis of German capacity to pay rather than on the total loss or damage suffered The sum announced in 1921 by the reparation commission was 132,000,000,000 gold marks Subsequent agreements provided for partial payments in kind Early in 1924 the commission declared Germany in arrears on coal shipments, and French and Belgian troops occupied the RUHR district Great Britain refused to sanction French and Belgian action, and the split between British and French policies on reparations widened steadily In the meantime the reparations problem had become involved with the question of Allied WAR DEBTS to the United States. The U.S government, which had waived all claims on reparations, refused to accept the view of its debtors, who declared themselves unable to fulfill their obligations to the United States unless Germany fulfilled its obligations toward them In 1924 Germany and the Allies accepted the DAWES PLAN, by which, in exchange of a foreign loan, Germany undertook to pay 1,000,000,000 gold marks annually in reparations The unsuccessful occupation of the Ruhr was ended in the same year The Dawes Plan was replaced in 1929 by the YOUNG PLAN This established the Bank for International Settlements at Basel, it somewhat eased the annuities, to be paid by Germany until 1988, and sought to secure their payment by mortgaging the German

state railways However, the growing economic world crisis resulted (1931) in a one-year moratorium on all intergovernmental debts, proposed by U S President Herbert Hoover. Finally, in 1932, the Lausanne Pact set aside the German reparation debt and substituted a proposed issue of 5 percent bonds for 3,000,000,000 marks Though the agreement was never ratified, German payments were not resumed In the Second World War the principle of reparation payments by Germany was agreed upon at the YALTA CONFERENCE (Feb , 1945) At the Potsdam Conference (July-Aug , 1945) half of the German reparations payments was awarded to the USSR, which undertook to satisfy Polish claims with 15 percent of that half The remainder was to be distributed by Great Britain and the United States to the other claimants among the United Nations Reparation payments to the USSR were to be effected through removal of assets and industrial equipment from the Russian-occupied zone of Germany and of a small part of the industrial equipment seized in the three other zones The other countries were likewise to be satisfied out of German assets in Allied or neutral countries, removal of industrial equipment, and seizure of German ships Disagreement over the settlement of reparations were an intrinsic part of the disagreement between Russia and the Western Powers over GERMANY in general No final agreement had been reached by the end of 1949 Reliable reports indicated that dismantling of German industries took place on a large scale in Russian-held Germany Reparations other than to the USSR and Poland were apportioned in an agreement signed by 18 nations in Jan , 1946, at Paris, and a 10-nation reparations agency was established at Brussels Dismantling of German plants by American, French, and British occupation forces proceeded at an irregular rhythm The Paris Peace Conference of 1946 imposed reparations payments on Bulgaria ($125,000,000), Finland ($300,000,000), Hungary ($300,000,000), Italy ($360,000,000), and Rumania ($300,000,000) The United States, Great Britain and France claimed no reparations from these five countries, and the amounts due to Russia were subject to adjustment by treaties with the USSR For the payment of reparations by Japan, see JAPAN See J M Keynes, *The Economic Consequences of the Peace* (1919), G D H Cole, *War Debts and Reparations* (1932), J W Wheeler-Bennett, *The Wreck of Reparations* (1933), C G Dawes, *A Journal of Reparations* (1939)

repartimiento (rāpärtēmyĕn'tō), in Spanish colonial practice, in a broad sense any official distribution of goods, houses, mines, services, and the like From the very beginning of the Spanish Conquest in the Americas, the conquering soldiers and commanders and also officials and missions were allotted pieces of land together with the Indians living on them This process was the *repartimiento*, and it commenced as early as 1499 The lands and Indians were held as encomiendas (see ENCOMIENDA), and the early system is usually called by that name The encomienda disappeared soon, however, and was replaced by a system of forced labor and other assessments exacted from the Indians, called the *repartimiento de indios* The word was thus used in the sense of "assessment," and that is what is normally meant by *repartimiento* The system continued long and was the core of PEONAGE in New Spain In Peru the very similar assessment of forced labor was called the *mita*

Rephael (rē'fāĕl) [Heb ,=whom God heals], gatekeeper of the Temple 1 Chron 26 7

Rephah (rē'fu) [Heb ,=riches], ancestor of Joshua 1 Chron 7 25

Rephaiah (rē"fāī'ū, rēfā'yu) [Heb ,=healed by God] **1** Descendant of Judah 1 Chron 3 21 **2** Chief whose followers defeated the Amalekites 1 Chron 4 42 **3** Son of Tola 1 Chron 7 2 **4** Repairer of the wall Neh 3 9 **5** Descendant of Saul 1 Chron 9 43 Raphu 1 Chron 8 37

Rephaim (rēfā'ĭm), valley, SW of Jerusalem 2 Sam 5 18,22, 23 13, 1 Chron 11 15, 14 9, Isa 17.5

Rephaims (rĭfā'ĭmz), little-known race of giants mentioned in the Bible Gen 14 5, 15 20 They were also referred to simply as "giants" Deut 2 11,20, 3 11,13, Joshua 12 4, 13 12, 17 15

Rephidim (rē'fĭdĭm, rēfī'dĭm), unlocated place in Sinai where Moses smote the rock and brought forth water Ex 17, 19 2; Num 33 14

Repin, Ilya Yefimovich (ēlyà' yĭfē'mŭvĭch ryĕ'pĭn), 1844–1918, Russian historical and genre painter and sculptor He studied in St Petersburg and abroad and became the foremost representative of the realistic style in Russia In his *Volga Haulers*, *The Arrest of a Political Offender*, and *The Terrorists* he expressed the liberal views of his day His large historical paintings, such as *Ivan the Terrible* and *The Cossacks Drafting a Letter to the Sultan*, are his best-known works Most of his pictures are in the museums of Moscow and Leningrad

replacement series see METAL

repoussé (rŭpōōsā'), the process or the product of ornamenting metallic surfaces with designs in relief hammered out from the back by hand Gold and silver, being materials of both intrinsic value and great malleability, are most commonly used today for fine work, but other metals, such as copper and tin, are suitable for the purpose, and bronze was extensively used in past times. The method employed involves the use of a substance with firm but elastic properties, usually of a pitch composition, though linoleum, wood, or soft metal may be used, upon which the face of the object is placed and against which the raised portions of ornamentation are beaten out from the back with shaped hammers and punches For articles of special form and for rough blocking out, a snarling iron is used This is so formed that its point, or head, can be applied to interior portions of vessels to function as a hammer by reflex action resulting from a blow upon its opposite end The process is of ancient origin, having been used by most early civilizations. In succeeding ages the periods of highest artistic achievement have contributed work of great excellence and importance, from the famous bronze armor of Greece, of the 4th cent B C , through Byzantine religious works, and including some of the finest products of Benvenuto Cellini *Repoussé* work is often finished with chasing on the face of the metal The term is to be differentiated from embossing, in which the relief ornament is formed by dies

Repplier, Agnes (rĕ'plēr), 1855–, American essayist, b Philadelphia, of French parents Her essays, first published in the *Atlantic Monthly* and other magazines, are esteemed for their scholarly background, wit, and sometimes rapier-sharp social criticism Among her collections of essays are *Books and Men* (1888), *Essays in Miniature* (1892), *Points of Friction* (1920), and *To Think of Tea!* (1932) *In Pursuit of Laughter* (1936) is a historical study She has also written biographies of Père Marquette (1929), Mère Marie of the Ursulines (1931), and Junípero Serra (1933) Partly autobiographical works are *In Our Convent Days* (1905), *A Happy Half-Century* (1908), and *Eight Decades* (1937) See biography by G S Stokes (1949)

representation. In government the sovereign power is nearly always understood to be representative of the people as a whole Such a function derives either from the choice of the sovereign by the people, as in modern democracies, or from the sovereign's possession of a mixed civil and religious status similar to that of the Roman emperors, the divine-right monarchs, and, in recent times, Japanese rulers, symbolizing the union of the people in the person of the ruler Representation involving a degree of choice in the selection of the sovereign was known in ancient times and in early German popular assemblies The English Parliament had a notable part in developing representative government as it is understood today Early Western representation was based on the three estates, nobility, clergy, and burghers Modern representation is based usually on numbers and territorial groupings of the population and is predicated in democracies upon the elective principle Election districts in Great Britain and the United States customarily return only a single member to the legislative body, thus in effect nullifying the votes of the minority To remedy this situation 19th-century political theorists devised schemes of proportional representation or preferential voting to give minorities representation according to their numerical strength and to reflect the political complexion of the community with exactitude Systems of proportional representation have been tried in many countries and are used in many American municipalities Representatives in democratic governing bodies are theoretically subject to the wishes of their constituents, but must be guided in part by the policies and discipline of the political party to which they belong See REPUBLIC

Representation of the People Acts, enacted by the British Parliament to continue the extension of the franchise begun by the REFORM BILLS As a result of the government's dependence on the unified efforts of the whole people in the First World War, the **Representation of the People Act of 1918** qualified as voters with a few exceptions all men of 21 years or over who could establish a short residence and women over 30 years A few plural votes were allowed The basis of representation was fixed at 1 to 70,000 The **Representation of the People Act of 1928** qualified all women for the suffrage on the same terms as men

Representatives, House of see CONGRESS OF THE UNITED STATES.

reprieve (rĭprēv'), in law, the temporary suspension of a sentence for committing crime In the United States the power to reprieve rests in the executive (President or governor), who may also grant a PARDON A court may reprieve a convicted criminal pending his appeal, in most cases by releasing him in bail

reprisal (rĭprī'zŭl), in international law, the taking by one nation of the property or territory of another nation to compel redress for injury. A reprisal, technically, is not an act of war, because it is solely in response to conduct which violated international law When, however, reprisals are taken against a power of equal strength, they may provoke war. The Covenant of the League of Nations and the Charter of the United Nations probably may be interpreted as classing reprisals with acts endangering peace Modern international law no longer recognizes private reprisal This was the right of a private person to satisfy a legal claim against an alien by seizing property belonging to a person of the alien's nationality The authority was contained in a letter of reprisal issued by the sovereign

reproduction, one of the fundamental functions of all living things, the production of new individuals by other individuals The performance of the function varies widely in method and complexity, from the relatively simple division or pulling apart into two of some of the lowest forms of animals and plants to the complicated processes of the higher vertebrates Nevertheless, in spite of these differences in detail of performance, the process as a whole is capable of division into two main types that in which new individuals are produced by a single individual is called asexual reproduction, and that in which two individuals are involved is sexual reproduction Asexual reproduction is common among plants, but is not generally observed in animals except in the lower forms In it, germ cells or their equivalents are not produced The simplest form of such reproduction is the division into two (fission) of a single cell It is a simple pulling apart of the cell, followed by a reorganization of the cell material It occurs in one-celled animals, such as the amoeba, paramecium, stylonychia, and other protozoans Some of the simplest forms of green plants reproduce exclusively by fission, others partly by sexual means Desmids and diatoms separate thus into two equal and distinct parts, each of which can grow and develop, by a reorganization of the material in each part, into new individuals Some forms, e g , the Pleurococcus, divide, but the parts remain in contact for some time after division In some filamentous forms fragmentation occurs, i e , parts that have broken off from the parent develop into new individuals Another form of separation into parts is multiple fission or sporulation, in which the parent divides into a number of new cells or spores, each of which develops subsequently into new organisms The offspring of some of these remain attached, forming a colony in which all cells do not perform the same functions, but become specialized In other cases (e g , the malaria parasite), the cells separate to form new organisms In budding, the parent cells do not form equal parts but give off smaller portions from themselves called buds This form of asexual reproduction occurs also in lower forms of many-celled animals, as in the fresh-water hydra. Internal buds are formed in the sponges and are known as gemmules Many living things (a great many plants) reproduce by means of asexual spores, bodies which give rise directly to new individuals In addition to the nonmotile forms, some spores are free-swimming, being equipped with cilia (hairlike processes) or flagella (processes similar to cilia but larger and longer) Spores are found in the life cycles of many algae and fungi, e g , yeast, bread mold, the common tree lichen, wheat rust, and corn smut In the alternation of generations in mosses and ferns, in one part of the life cycle asexual spores are produced which give rise to new plants bearing sexual organs Vegetative reproduction involves the production of new individuals by various parts which are not specialized for reproduction Processes are formed on the leaves of some plants, thus giving rise to young plantlets Rootstocks, bulbs, the potato (tuber), the stolons of the strawberry, and the stems of some plants produce new individuals Regeneration commonly indicates the growing again of lost parts, but in some cases, as in certain flatworms, a small piece of an individual will become a new individual Fragmentation is not confined to the lower plants, but occurs also among the higher plants A twig of willow, for example, can give rise to a new plant Sexual reproduction is essentially cellular in nature, i e , involves the union of two cells to produce a third cell which can grow and develop into a new organism When it involves the union of two cells of like nature, it is called conjugation An exchange of material between two like cells is also called conjugation On the other hand, when the two cells are unlike in nature, the union is FERTILIZATION Sexual cells are called gametes and are distinguished as OVUM and SPERM They are produced in animals in ovary and testis In the flowering plants, the sperm appears in the pollen grain produced in the anther, and the ovum is found in the ovary at the base of the pistil

reptile (rĕp'tĭl, -tīl) [Latin,=creeping], member of the class of cold-blooded, lung-breathing vertebrate animals called Reptilia. They are classed above the amphibians and below the birds and mammals Scales, bony plates, or horny shells form the body covering. The young resemble the parents when hatched and do not undergo a metamorphosis The majority of reptiles lay their eggs in sand or earth or decaying vegetation In some snakes and lizards the young develop within the body of the female Included in the reptile group are the SNAKE, LIZARD, CHAMELEON, TURTLE, CROCODILE, and ALLIGATOR

and the extinct DINOSAUR, PTERODACTYL, and ichthyosaur Reptiles are believed to have first appeared in the Carboniferous era See R L Ditmars, *Reptiles of North America* (rev ed , 1936) and *Reptiles of the World* (1933), Thomas Barbour, *Reptiles and Amphibians* (1934), Arthur Loveridge, *Reptiles of the Pacific World* (1945)

Repton, town and parish (pop 1,518), Derby shire, England, SW of Derby A monastery stood here in the 7th cent but was later destroyed by the Danes There are remains of a priory founded in 1172, and the Church of St Wystan has a fine Saxon crypt Repton is known chiefly as the site of a public school for boys, Repton School (1557)

republic, now understood to be a sovereign state ruled by representatives of a widely inclusive electorate The size and population of modern republics have led to indirect government by chosen representatives of the people, and instances and functions of direct government by the electorate are rare, though the ancient Greek city-states and the Swiss cantons furnish examples of direct government Republics have repudiated the hereditary principle in the tenure of any office Republics today tend to include in the franchise all classes and both sexes The United States is an example of a federal republic, in which the powers of the central government are limited and component parts of the nation exercise a considerable measure of home rule Switzerland is similarly organized France is an example of a centralized republic, in which component parts have limited functions The USSR, in theory a group of federate and even autonomous regions, is actually highly centralized

Republican, river, 422 mi long formed in S Nebraska by the junction of the North Fork and the Arikaree It is joined by the South Fork at Benkelman and flows E across Nebraska and SE across Kansas to join the Smoky Hill and form the Kansas at Junction City The river is included in the MISSOURI RIVER BASIN PROJECT Many dams and reservoirs are planned for flood control, irrigation and power, among them the Bonny Dam on the South Fork in Colorado begun in 1948 by the Bureau of Reclamation the Harlan County Reservoir in Nebraska, begun in 1948 by the Corps of Engineers, and two dams of the Bureau of Reclamation's Frenchman-Cambridge unit—the Enders, begun in 1947, and the Medicine Creek, begun in 1948

Republican party, in U S history, the name first used by Thomas Jefferson's party, later called the Democratic Republican party (or, simply, the DEMOCRATIC PARTY) The name reappeared in the 1850s, when the present-day Republican party was founded At that time the crucial issue of the extension of slavery into the territories split the Democratic party and the WHIG PARTY, and opponents of the KANSAS-NEBRASKA BILL of 1854 organized the new Republican party Jackson, Mich , is called the birthplace of the party (July 6, 1854) and Joseph Medill is credited with having suggested its name, but these distinctions are also claimed for other places and other men By 1855 the new party was well launched in the North Antislavery Whigs such as William H SEWARD and Thurlow WEED were dominant in the new grouping, but the FREE-SOIL PARTY, the KNOW-NOTHING PARTY, and the political ABOLITIONISTS also supplied strength The party's national organization was perfected at Pittsburgh in Feb , 1856, and its first presidential candidate, John C FRÉMONT, made a creditable showing against victorious James Buchanan The party opposed the repeal of the Missouri Compromise and the extension of slavery, denounced the Supreme Court's decision in the DRED SCOTT CASE, and favored the admission of Kansas as a free state Generally belligerent towards the South, the "black Republicans" were regarded by Southerners with mingled hatred and fear as sectional tension increased They were successful in the elections of 1858 and passed over their better-known leaders to nominate Abraham LINCOLN in 1860 His victory over Stephen A Douglas John C Breckinridge, and John Bell was the signal for SECESSION of the Southern states, and the CIVIL WAR followed Union military failures early in the war and conservative opposition to such measures as the EMANCIPATION PROCLAMATION caused the party to lose ground in the Congressional elections of 1862 But despite mutterings against his leadership, Lincoln, renominated on the Union (Republican) ticket in 1864, defeated Gen George B McClellan Although a separate ticket headed by the radical Frémont withdrew before the election in 1864, the cleavage within the party between radicals and moderates widened as the war progressed more successfully Radicals such as Benjamin F WADE, Henry W DAVIS, Thaddeus STEVENS, Charles SUMNER, and Edwin M STANTON, advocated a punitive policy for the South, while Lincoln and the moderates were inclined to leniency The division was made complete, when, after Lincoln's assassination, his successor, Andrew JOHNSON, adopted a moderate program of RECONSTRUCTION Johnson's attempt to build up a strong moderate following failed when the radicals won the Congressional elections of 1866 and went on their vindictive way, finally impeaching (1868) the President The nomination of the war hero Ulysses S GRANT assured Republican success over the Democrats led by Horatio Seymour in the presidential election of 1868 The radicals were supreme under Grant, but their excesses and the open scandals of the administration created a new schism, leading to the formation of the LIBERAL REPUBLICAN PARTY, Its candidate, Horace GREELEY, although supported by the Democrats, was not popular enough to defeat Grant in 1872, and corruption became even more widespread The election of 1876 indicated that the nation had had its fill of Republicanism The Democratic candidate, Samuel J TILDEN, doubtless would have won in a fair count, but the disputed electoral votes of Florida, South Carolina, and Louisiana, the only Southern states still subjugated to Republican control, were awarded to Rutherford B HAYES, and the Republican was declared President-elect With the election, however, Republican domination of the South and radical rule of the party were definitely ended In the period that followed the two parties differed little in their programs Each party had numerous almost irreconcilable factions and, rather than alienate votes, each avoided taking any real stand on controversial issues, which were generally left to lesser political groups such as the GRANGER MOVEMENT and the GREENBACK PARTY The Republicans favored a protective tariff and the Democrats a tariff for revenue only, but even this traditional distinction was not rigidly kept However, the Republican tariff policy was the work of leaders of the new industrial capitalism, whose influence in party councils began definitely under Grant For the most part, then, the Republican party represented the wealthier and more conservative classes The Republican "old guard," led by Roscoe CONKLING, failing to secure a third nomination for Grant in 1880, nevertheless temporarily blocked the presidential aspirations of James G BLAINE Another ex-Union general, James A GARFIELD, was nominated and was elected over a Democratic general, Winfield S Hancock Assassinated shortly after taking office, Garfield was succeeded by Vice President Chester A ARTHUR In these post-war elections the party, always supported by the GRAND ARMY OF THE REPUBLIC, denounced all Democrats as former COPPERHEADS and claimed to have alone saved the Union But "waving the bloody shirt," as this type of propaganda was styled, was not enough to elect Blaine in 1884 The reform wing of the party, led by Carl SCHURZ, deserted Blaine for the conservative Democrat Grover CLEVELAND, who was elected This MUGWUMP movement illustrated the lack of real issues between the two parties, it was the man and not the party that counted Benjamin HARRISON defeated Cleveland in 1888 but lost to him in 1892 The growing POPULIST PARTY, with its radical program, had a peculiar position in those elections, receiving in each section of the country the support of the party not in power When, in 1896, the Democratic party was captured by the radicals under William Jennings BRYAN, its presidential candidate in 1896, 1900, and 1908, the Republican party became openly the champion of the gold standard and conservative economic doctrines The conservatives, skillfully guided by national chairman Marcus A HANNA, won with William MCKINLEY in 1896 and 1900, and under such leaders as Nelson W ALDRICH, Thomas B REED, Joseph G CANNON, Thomas C PLATT, and Matthew S QUAY, the party prospered Theodore ROOSEVELT, successor to the assassinated McKinley, easily defeated the conservative Democrat Alton B Parker in 1904, and the vigorous foreign policy of his administration fostered the belief that the Republicans stood for the imperialism represented by the recent Spanish-American War Under Roosevelt's Republican successor and friend, William Howard TAFT, "dollar diplomacy" flourished, but a new rift appeared in the party INSURGENTS led by Senator Robert M LA FOLLETTE balked at the party's conservatism and when the regulars renominated Taft in 1912, most of the dissidents withdrew and in the Bull Moose convention chose Roosevelt to lead the new PROGRESSIVE PARTY ticket With this division, the Democratic candidate, Woodrow WILSON, was elected President, and, narrowly reelected in 1916 over Charles Evans HUGHES, he served through the First World War The party, however, won the Congressional elections of 1918, and Republican opposition was a large factor in defeating Wilson's peace program Campaigning against the League of Nations and for a return to "normalcy," the party elected Warren G HARDING in 1920 His administration rivaled Grant's for corruption, but after Harding died in office, his successor, Calvin COOLIDGE, was easily returned over John W Davis and La Follette The Republican victory with Herbert C HOOVER in 1928 marked the only time since the end of Reconstruction that the party carried states of the old Confederacy, chiefly because the Democratic candidate, Alfred E SMITH, was a Catholic and a wet Hoover and the Republicans were blamed for the disastrous economic depression which soon hit the country, and the Democrats, under Franklin D ROOSEVELT, were swept into office in 1932 The frustrated Republicans were never able to break the remarkable hold of Roosevelt and the NEW DEAL on the electorate and regularly went down to defeat every four years, with Alfred M LANDON (1936), Wendell WILLKIE (1940), and Thomas E DEWEY (1944) Isolationists held the upper hand in the party before the Second World War, and in 1940 two Republicans, Henry L STIMSON and Frank KNOX, were virtually read out of the party for accepting posts in Roosevelt's cabinet But the party supported the nation's war effort and after the war, led by Senator Arthur H VANDENBERG, joined the Democratic administration in a bipartisan foreign policy In 1948 the Republican party, having bounded back in 1946 to win control of the 80th Congress and most of the state governorships, was supremely confident of defeating Roosevelt's successor, Harry S TRUMAN However, Dewey, the party's first unsuccessful candidate ever to be renominated, was defeated by a close margin This fifth successive defeat for the Presidency caused much soul searching, especially among forward-looking leaders of the type formerly represented by La Follette, William E BORAH, George W NORRIS, and others The conservatives under Senator Robert A TAFT, denounced President Truman's Fair Deal as socialistic (also calling it "statism") Another element in the party has publicly advocated abandoning the name Republican and uniting with anti-administration Southern Democrats, with whom Republicans in Congress are often allied, to form a new party See H R Bruce, *American Parties and Politics* (3d ed , 1946), W E Binkley, *American Political Parties* (1943), C E Merriam and H F Gosnell, *The American Party System* (1946)

Requesens, Luis de (Luis de Zúñiga y Requesens) (lwēs' dā thōō'nyēga ē), 1525–76, Spanish general Born into the highest nobility of Spain, he held high governmental and diplomatic posts and was chief adviser to John of Austria, with whom he took part in the battle of Lepanto (1571) In 1573 Philip II sent Requesens to the Netherlands to replace Alba as governor Alba's terrorism had failed to subdue the rebellious Netherlanders, and Requesens at first tried to restore peace by negotiation His overtures having been rejected by WILLIAM THE SILENT, warfare continued Requesens laid a long and unsuccessful siege to Leiden (1574) He was beset by financial difficulties which led his unpaid troops to mutiny, and in 1575 he once more made peace overtures to William, who again rejected them Despite his difficulties, Requesens began an energetic and victorious campaign in Zeeland He was succeeded as governor by John of Austria

requiem (rĕ'kwēum, rē'-, rā'-) [Latin, = rest], proper Mass for the souls of the dead, performed on ALL SOULS' DAY, at funerals, and at request Its peculiarities include omission of the Psalm *Judica me, Deus*, the Gloria, the creed, blessing of water, the kiss of peace, blessing of the people, and many doxologies The variable parts are appropriate, the sequence is the famous DIES IRAE The opening words of the introit, "Eternal rest grant unto them, O Lord, and let perpetual light shine upon them," echo through all the prayers for the dead, indeed through all Roman Catholic private prayers The Gregorian musical setting of the requiem is beautiful, other requiem music has been written (e g , by Mozart and Verdi), but it is not often heard in churches Brahms's *Deutsches Requiem* has nothing to do with a requiem The Mass is said in black, and flowers are not permitted in the church during the ceremony

reredos (rēr'dŏs), ornamented wall or screen which rises behind the high altar of a church, forming a background for it It may be built against the apse wall at the extreme end or directly behind the altar as in some English churches, where it served to separate the choir and the retrochoir In its earliest form called dossal or dorsal, it was a tapestry or a richly embroidered fabric suspended behind the altar In the 11th and 12th cent it was generally a screen of gold, silver, or ivory adorned with sculptures in relief It became a permanent architectural feature in the late Gothic in England and the Renaissance in Spain, where it consisted of a lofty decorative structure filling the entire width of the choir Relief sculptures of the Passion and figures of angels and saints were enclosed by a rich framework of pilasters and pinnacles Especially ornate were the marble and alabaster examples in Spain and those of polychromed and gilded wood in the baroque churches of Mexico In Italy and Germany they were mostly religious paintings within an architectural framework

Resaca de la Palma (rāsa'kä dā lä päl'ma), valley, an abandoned bed of the Rio Grande, N of Brownsville, Texas, where the second battle of the Mexican War was fought, MAY 9, 1846 Mexican troops under Gen Mariano Arista, retreating south after the battle of Palo Alto, were defeated by American forces led by Gen Zachary TAYLOR

Resen (rĕ'sĕn), unlocated city built by Nimrod between Nineveh and Calah Gen 10 12

Resende, Garcia de (garsē'u dŭ ruzĕn'du), d. 1536,

Portuguese poet and chronicler He was secretary to King John II and later was secretary to King Manuel I and held high court posts He was the compiler of the *Cancioneiro geral* (1516), a collection of court poetry of the day His own poems are among the best in it His lament for the death of Ines de Castro is generally regarded as his best lyric His chronicles are composed of all sorts of stories and anecdotes, serious and trivial, and descriptions of dress, manners, and court customs —a mine of information for the social historian

reservoir (rĕ'zûrvôr, -vwar), storage tank for water or a wholly or partly artificial lake for WATER SUPPLY The idea of building an embankment or DAM to preserve a supply of water for IRRIGATION is of ancient origin, India and Egypt have many old and large reservoirs In the United States great reservoirs have been built to irrigate the Western plains by damming rivers In building artificial lakes for municipal water supply, important factors to be considered are all the aspects of the CATCHMENT AREA (time and normal and extreme amount of rainfall, average runoff from average amount of rainfall, evaporation, soil or rock conditions and elevation (for its effect upon precipitation and upon the pressure in the conducting pipes) The ground of the reservoir may be naturally impervious enough to prevent excessive seepage, or a clay or other lining may have to be built The embankments or retaining walls may be of earth, loose rock, or masonry Earth forms a good embankment but must be sealed by a core of clay, and the face must be covered with masonry or similar substance to prevent erosion Distributing reservoirs in towns are sometimes built of masonry or of reinforced concrete They serve to take care of fluctuations of demand and in case of an interruption of supply from the source In reservoirs with earth embankments, overflow is provided for by a waste weir to carry off surplus water When the reservoir is formed by a masonry dam across a river, the surplus water may be allowed simply to flow over the top, or spillways are provided Reservoirs are also built on the headstreams of or along the courses of rivers to aid in flood control, on canals to maintain water level for navigation, and to insure water supply for hydroelectric plants

Resheph (rē'shĕf), Ephraim's son 1 Chron 7 25

Resht (rĕsht, rĕsht), city (pop 121,625), capital of the Second Prov, N Iran, and formerly capital of Gilan prov It ships silk through Pahlevi and sends fish and poultry to Teheran There is no rail connection, but there are usable highways The city was reached by English trading expeditions from Russia in the late 16th cent It was sacked by Stenka Razin in 1669 The name also appears as Rasht

residence. *see* DOMICILE

resin (rĕ'zĭn), any of a class of amorphous solids, light yellow to dark brown in color, tasteless and odorless or slightly aromatic, translucent and sometimes transparent, brittle and of glasslike cleavage when hard, and inflammable, burning with a smoky flame Resin is insoluble in water but soluble in alcohol, ether, and volatile oils When heated, it softens and finally melts The chemical composition varies, but all resins contain carbon, hydrogen, and oxygen, besides certain esters, resin acids, and resenes There are many kinds of resin, they are generally classified according to source or according to qualities, such as hardness or solubility (as oil-soluble resins and spirit-soluble resins) Natural resins are found as exudations, often globules or tears on the bark of various trees, mostly pines and firs; in other living plants, as fossils where such vegetable life formerly existed, or as exudations from the bodies of certain scale insects (see LAC) Some of these natural resins, especially those containing essential oils (oleo-resins), such as copaiba, turpentine (the source of ROSIN, the most common natural resin), and Burgundy pitch, are viscid, sticky, gummy, or plastic, others, such as the fossil amber, copal, and kauri resin (found as yellow to brown lumps in New Zealand and used in varnishes and as a substitute for amber), are exceedingly hard, are resistant to most solvents, and soften only at high temperatures Other natural resins include BENZOIN, CANADA BALSAM, DRAGON'S BLOOD, FRANKINCENSE, MASTIC, dammar, a hard resin sometimes found on living trees, sometimes fossil, guaiacum, an exudation of two evergreens (*Guaiacum officinale* and *G sanctum*) of the West Indies and South America, used in remedies for rheumatism, gout, and skin ailments and also in tests for blood stains, jalap, produced in Mexico and used in purgatives, sandarac, found in Morocco and Australia as brittle, aromatic, yellowish, translucent globules and used in incense and varnishes, and storax, used in perfumes and incense and as an expectorant The primary uses for most resins are in VARNISH, SHELLAC, and LACQUER, in medicines, in material for molded articles (e g., pipe mouthpieces and decorative objects), in electric insulators, in phonograph records, and in various parts for radios Synthetic resins (see PLASTICS) are used in varnishes and especially for a great variety of molded articles, ranging from tableware to automobile parts A common synthetic resin is BAKELITE, made by the condensation of an aldehyde, e.g., formaldehyde, with phenol or carbolic acid, furfural, with acetone and phenol, also forms a resin Coal-tar products and glycerin are much used in making artificial resin Some resins are made by polymerization of certain substances (e g, coumarone, by treatment with sulphuric acid) The resin compound is mixed with some medium, such as paper or cloth, in order to form a molding substance, some of the mixtures take beautiful clear colors and can be treated for high resistance to heat, to most chemicals, and to electricity and for various other special qualities Much experimentation is in progress in synthetic resin making.

Resina (rĕsē'nä), city (pop 26,580), Campania, S Italy, on the Bay of Naples, the site of ancient HERCULANEUM It has fine villas and gardens Near here is the starting point of the railway ascending Mt Vesuvius

Resolution Island, 45 mi long and 10 to 40 mi wide, off N Canada, in SE Franklin dist, Northwest Territories, at the east entrance of Hudson Strait and off SE Baffin Island It has a government radio direction-finding and meteorological station.

resorcinol (rĭzôr'sĭnôl, -ōl, -ōl) or **resorcin** (rĭzôr'sĭn), colorless crystalline substance, sweetish to the taste It turns pink on exposure to the air and is soluble in water, alcohol, ether, and benzene A method of manufacture is treating benzene with sulphuric acid and subsequently with caustic soda Resorcinol is used in the preparation of dyes, in medicines, especially for skin diseases, in dandruff remedies, and in antiseptics

Respighi, Ottorino (räspē'gē ōt"tōrē'nō), 1879–1936, Italian composer, studied at the Bologna Conservatory and with Rimsky-Korsakov and Max Bruch He was director (1924–25) of the Conservatory of St Cecilia, Rome, afterward teaching advanced composition there until his death His outstanding works are the romantic symphonic poems *The Fountains of Rome* (1917), *The Pines of Rome* (1924), and *Roman Festivals* (1929), which show him a master of orchestration, and four operas—*Belfagor* (1923, a comic opera), *La campana sommersa* (1927, based on Hauptmann's *The Sunken Bell*), *La fiamma* (1934), and the posthumously produced *Lucrezia* (1937), which was finished by his wife

respiration, process by which air enters the body of an animal or plant, oxygen is absorbed by the body cells for use in the process of oxidation, and carbon dioxide and water are expelled In fish, the gills carry on the exchange of gases, in many other vertebrates, including man, the lungs perform this function Breathing is the process by which air reaches the lungs, and it includes the acts of inspiration and expiration During inspiration, the diaphragm is lowered and the ribs are raised by muscular action In expiration, a reverse process occurs and the air is expelled This combined rhythmic action occurs about 18 times per minute when the body is at rest Some air always remains in the lungs (residual air), but with each breath a certain additional quantity of fresh air (tidal air) enters the lungs The blood absorbs oxygen in the lungs and distributes it throughout the body Sometimes distinguished as internal respiration is the passage of oxygen from the blood to the tissue cells, where oxidation (union of oxygen with cell constituents) occurs, and the passage of carbon dioxide and other wastes from the cells into the blood Oxygen of the air is utilized by plant cells in the same way that it is by animals For failure of respiration, see ARTIFICIAL RESPIRATION and PULMOTOR

respiratory tract, consisting of the nasal passages (see NOSE), the pharynx, the larynx, the WINDPIPE, and the two bronchi with their terminal branches, the bronchioles, in the lungs The bronchioles connect with air sacs in the tissue of the lungs The blood flowing through the tiny capillaries which surround the air sacs carries to the lungs the waste products (carbon dioxide and water) to be excreted and absorbs the oxygen to be supplied to the body tissues This exchange takes place through the thin walls of the capillaries and air sacs.

rest, in music *see* NOTE

restaurant, house of entertainment serving food to the public In the 16th cent English inns and taverns began to serve one meal a day at a fixed time and price, at a common table, and usually distinguished by a special dish The meal was called the ordinary, and inn dining rooms and eating places generally began to be called ordinaries Famous among these in London were the Castle, much frequented by famous men—Fielding, Defoe, Swift, Pope, and Gainsborough—and LLOYD'S, a meeting place for merchants and men interested in shipping In the 17th cent, the ordinaries became fashionable clubs, gambling resorts, and such centers of political activity that they were closed by Charles II in 1675 The name restaurant was first used c 1765 for a Paris establishment serving light ("restoring") dishes After the French Revolution many former chefs of aristocratic houses opened restaurants. Early American taverns and inns resembled those of England. FRAUNCES TAVERN in New York was a famous meeting place After the Revolution, Philadelphia had its Blue Anchor and City Tavern, and Boston, the Bunch of Grapes About 1834 Lorenzo DELMONICO opened the first modern restaurant in New York city Others followed, such as Sherry's and Martin's Celebrated eating houses in other cities were Bégué's in New Orleans and the El Dorado of San Francisco, known for its Spanish dishes The first restaurant in Chicago (1856) is supposed to have been kept by H S Thompson Peculiar to the United States is the self-service restaurant, usually called a cafeteria, which was originated by philanthropic organizations to help working girls secure cheaper meals The idea was rapidly adopted by commercial restaurants, business organizations, and schools See J. O Dahl, *Restaurant Management* (4th ed, 1944)

Restif de la Bretonne, Nicolas Edme (nēkôlä' rĕ'mu rĕstĕf' dù lä brətôn'), 1734–1806, French novelist A printer by trade, he wrote and published over 250 novels, mostly based on incidents in his own rather libertine life, his detailed realism earned him the epithets "the Rousseau of the gutter" and "the Voltaire of the chambermaids" He was the author of many tracts on social reform Outstanding among his novels are *Le Pied de Fanchette* (1769), *Le Paysan perverti* (1775), *Les Parisiennes* (1787), and *Monsieur Nicolas* (16 vols, 1794–97, Eng tr, 6 vols, 1930–31)

Restigouche (rĕstĭgo͞osh'), river, 130 mi. long, rising in NW New Brunswick, E of Edmunston, and flowing generally NE to the Matapedia, W of Campbellton, thence ENE past Campbellton to Chaleur Bay at Dalhousie Its lower course forms part of the boundary between Quebec and New Brunswick The river is noted for salmon fishing

Restoration, in English history, the reestablishment of monarchical government on the accession (1660) of CHARLES II after the collapse of the COMMONWEALTH and the PROTECTORATE The term is often used to refer to the entire period from 1660 to the fall of JAMES II in 1688, and in English literature the Restoration period (often called the age of Dryden) is commonly viewed as extending from 1660 to the death of John Dryden in 1700 After the death of Oliver Cromwell in Sept, 1658, the English republican experiment was doomed to failure Cromwell's son and successor, Richard, was a well-liked but ineffectual person, and power quickly fell into the hands of the generals, chief among whom was George MONCK, leader of the army of occupation in Scotland In England a strong reaction had set in against Puritan supremacy and military control When Monck marched on London with his army, opinion had already crystallized in favor of recalling the exiled king Monck recalled the Rump Parliament and the members who had been excluded in 1648 The reconvened body voted its own dissolution The newly elected Convention Parliament, which met in the spring of 1660, was overtly royalist in sympathy An emissary was sent to the Netherlands, and Charles was easily persuaded to issue the document known as the Declaration of Breda, promising an amnesty to the former enemies of the house of Stuart and guaranteeing religious toleration and payment of arrears in salary to the army Charles accepted the subsequent invitation to return to England and landed at Dover May 25, 1660, entering *London* amid rejoicing four days later The real power went to Charles's inner circle of old Cavalier supporters, notably to Edward Hyde, earl of CLARENDON, whose control was eventually superseded by the group known as the CABAL The last remnants of military republicanism, as exemplified in the FIFTH MONARCHY MEN, were violently suppressed, and persecution spread to include the Quakers The Cavalier Parliament, which assembled in 1661, restored a militant Anglicanism, and Charles attempted, though cautiously, to reassert the old absolutist position of the earlier Stuarts The crown, however, continued to be dependent upon Parliament for its finances The unwillingness of Charles and his successor, JAMES II, to accept the implications of this dependency had some part in bringing about the deposition (1688) of James II, who was hated as a Catholic as well as a suspected absolutist The Glorious Revolution gave the throne to William III and Mary II The Restoration period was marked by an advance in colonization and overseas trade, by the Dutch Wars, by the Great Plague (1665) and the Great Fire (1666), by the birth of the Whig and Tory parties, and by the Popish Plot and popular resentment against James II's attempts to extend toleration to Catholics. In literature perhaps the most outstanding result of the Restoration was the reopening of the theaters, which had been closed since 1642, and a consequent great revival of the drama (see ENGLISH LITERATURE). The drama of the period was marked by brilliance and wit and by a moral laxity, which reflected the looseness of court manners The last and greatest works of John Milton fall within the period but are not typical of it. Similarly John Bunyan's *Pilgrim's Progress* (1678) is in the period but not of it. The age is vividly brought to life in the diaries of John Pepys and John Evelyn, and in poetry the Restoration is distinguished by the work

of Dryden and a number of lesser poets such as Andrew Marvell. See Osmund Airy, *The English Restoration and Louis XIV* (1895); Richard Garnett, *The Age of Dryden* (1901); Allardyce Nicoll, *A History of Restoration Drama* (1928); G. M. Trevelyan, *England under the Stuarts* (rev ed, 1930), G. N. Clark, *The Later Stuarts* (1934)

Restoration, in French history, the period from 1814 to 1830. It began with the first abdication of Napoleon I and the return of the Bourbon king, Louis XVIII, but was interrupted (1815) by Napoleon's return (the HUNDRED DAYS). After Napoleon's defeat at Waterloo, Louis XVIII returned once more. The period, which ended with the dethronement (1830) of Louis XVIII's successor, Charles X, was one of increasing government reaction against the changes produced by the French Revolution. See LOUIS XVIII, CHARLES X, JULY REVOLUTION. See Pierre de la Gorce, *La Restauration* (1926); Jean Lucas-Dubreton, *The Restoration and the July Monarchy* (1929); F. B. Arts, *France under Bourbon Restoration* (1931), N. E. Hudson, *Ultra-Royalism and the French Restoration* (1937)

resurrection (rĕz″ŭrĕk′shŭn) [Latin, =rising again], arising again from death to life. The emergence of Jesus from the tomb to live on earth again for 40 days as told in the Gospels has been from the beginning the central fact of Christian experience and a cardinal feature of Christian doctrine. Mat. 28, Mark 16; Luke 24, John 20, Acts 4:2, Romans 6. It was the guarantee not only of Christ's mission and the seal of redemption, but also the guarantee of the resurrection of all men. The general resurrection or resurrection of the body has been understood in diverse ways, always in the light of St. Paul's teaching on the risen or glorified body. In the conventional theology the glorified body is identified with the material body (since the soul is the substantial form of each), but is in some way spiritualized so that it is made incorruptible and immortal. This relation is regarded as a mystery, theologians attempt no explanation but only definition. At the last things (see JUDGMENT DAY) the souls of all men will, in the usual eschatological scheme, be reunited with their risen bodies and shall be judged in the Last Judgment, the evil will be permanently cut off from God, and the good will see Him face to face. The Christian doctrine of resurrection of the body, except when interpreted without reference to the risen body, is thus fundamentally different from the resurrection beliefs of the ancient EGYPTIAN RELIGION and other ancient religions (see FERTILITY RITES).

resurrectionists see BODY SNATCHING

resurrection plant, name for several plants, usually of arid regions, that may apparently be brought back to life after they are dead. In reality they have hygroscopic qualities which cause them to curl up when dry and to unfold when moist. They are frequently sold in the dried condition as a novelty. The most common are the ROSE OF JERICHO and the bird's-nest moss, a CLUB MOSS (*Selaginella lepidophylla*), native to Mexico and Texas, which has a rosette of flattened branches and is capable of growing if it has not been dry too long.

resuscitation (rĭsŭ″sĭtā′shŭn), act of reviving persons who are victims of asphyxia as a result of drowning, shock, gas poisoning, hemorrhage, fainting, sunstroke, poisons, or other accidents causing inability to breathe. It is important to determine the nature of the mishap, since certain measures are beneficial while others can be injurious. In cases of DROWNING the Schafer or prone-pressure technique (see ARTIFICIAL RESPIRATION) is the commonly accepted method for restoring breathing. In cases of asphyxia by gas, the PULMOTOR or a similar device is used. After an operation a patient in shock is sometimes given carbon dioxide to stimulate breathing. These and other techniques of resuscitation have saved many a person on the border of death. The search for new and better lifesaving techniques continues. Russian experiments on resuscitation have evolved a pumping apparatus that simulates a heart and lung, called the autojector. In tests of the device on dogs apparently dead for 15 min., the autojector was successful in numerous cases.

Reszke, Jean de (jăn dŭ rĕ′skĕ), 1850–1925, Polish singer. He began his career as a baritone, making his debut in Venice in 1874. In 1876, after many successful appearances, he accepted the advice that he was actually a tenor and began to retrain his voice. In Madrid in 1879 he first appeared as a tenor, but it was after his debut (1885) at the Paris Opéra, where he created the leading roles in several of Massenet's operas, that he began to receive his greatest acclaim. He sang (1888–1900) at Covent Garden, London, and from 1891 to 1901 he was leading tenor of the Metropolitan Opera Company. He added Wagnerian roles to his repertory in 1895. From 1902 until his death he was in great demand as a teacher. See biography by Clara Leiser (1934). His brother, **Edouard de Reszke** (ā′dwŭrd), 1855–1917, a bass, made his debut in Paris in 1876 as the king in *Aida*, sang (1880–84) in London, and from 1891 to 1903 was a leading bass of the Metropolitan Opera Company. He retired in 1906.

Rethel, Alfred (äl′frāt rā′tul), 1816–59, German historical painter and draughtsman. He early gained a reputation in Frankfurt, where he painted *Daniel in the Lions' Den* and *Guardian Angel of Emperor Maximilian*. Best known was the cycle of frescoes depicting the life of Charlemagne in the town hall of Aachen, half of which were painted by Josef Kehren. Rethel also made a series of remarkable drawings for woodcuts illustrating *The Dance of Death*.

Rethel (rŭtĕl′), town (pop. 4,482), Ardennes dept., N France, on the Aisne and NE of Rheims. It is an agricultural trade center. In the Middle Ages, Rethel was the seat of a county held by the counts of Champagne. The county was acquired (1384) by the house of Burgundy, and after the death (1477) of Charles the Bold in the battle of Nancy it passed to the cadet branch of Burgundy-Nevers. Raised to a duchy (1581), it was acquired, by marriage, by the house of Gonzaga. In 1663 Charles de Gonzague sold the title to the Mazarin family, which held it until the French Revolution. A strategic place, Rethel was the scene of much fighting in both world wars and suffered heavy damage.

reticella lace see LACE

retriever (rutrē′vur), sporting dog bred for fetching game that has been shot by a hunter. The retriever must have a keen sense of smell for locating the game and a soft mouth for carrying the game without damaging it. Five breeds are known in the United States, none of them very common. The Labrador retriever actually originated in Newfoundland, it is a hardy dog with a short, straight coat (commonly black, although other solid colors are also found) and webbed feet. The Chesapeake Bay retriever was developed in America in the early 19th cent., but its ancestry is not definitely known. In color it varies from dark brown to a faded tan, it is desirable that its coat color blend with the dead grasses and other vegetation, since it is much used in duck hunting. The hair is short, sheds water easily, and consists of an outer rough coat and woolly undercoat. The golden retriever was developed originally in England (c. 1860) from a group of dogs from the Caucasus known as Russian trackers, a later cross with a bloodhound reduced the size. It has a relatively long golden coat, and it is used as a retriever both on land and in the water. The curly-coated retriever is liver or black in color, with tightly curled hair on the body and tail. It was one of the first retrievers developed in England. Also of English origin is the flat-coated retriever which has a rather dense slightly wavy or straight coat.

Retz or **Rais, Gilles de Laval, seigneur de** (zhĕl′ dŭ lăvăl′ sănyûr′ dŭ rĕts′, rĕs′), 1404–40, marshal of France, a lord of the Breton marches. He was a noted soldier, and he was at Orléans with Joan of Arc. Charles VII made him marshal of France. He was a liberal patron of music, literature, and the arts. After his retirement rumors spread about the countryside of satanic and vicious doings in his castle. He was tried in an ecclesiastical court, and he confessed to kidnaping more than 100 children, mostly boys, and to murdering them after maltreating them. He was handed over by the Church to the secular arm and executed. There is no good reason to doubt his confession. Gilles de Retz was notorious among the peasantry, among whom he is still a byword. He has been supposed, probably without good cause, to be the original of BLUEBEARD. See Emile Gabory, *Alias Bluebeard* (Eng. tr., 1930), Tennille Dix, *Black Baron* (1930)

Retz, Jean François Paul de Gondi, Cardinal de (zhäʹ frăswä′ pôl′ dŭ gôdē″, du rĕtsʹ), 1613–79, French prelate and politician. He was made coadjutor of his uncle, the archbishop of Paris, in 1643. An enemy of Mazarin (whose position as prime minister he coveted), Retz took a prominent part in the FRONDE. His liberality had gained him great popularity, and Mazarin, in an attempt to win his support, nominated him to be made cardinal (1651). Retz received the red hat in 1652. At the close of the Fronde, Mazarin imprisoned him (1652). On the death of his uncle (1654), Retz became archbishop of Paris but was not allowed to take office. He escaped, fled to Rome, and appealed to the pope, but without much success. After Mazarin's death he resigned his see in return for several rich abbeys. He retired from Paris and occasionally represented the court at Rome. His memoirs (1717, Eng. tr., 4 vols., 1723) are among the classics of French literature.

Reu (rē′ŭ), son of Peleg. Gen. 11:18, Ragau. Luke 3:35.

Reuben (rōō′bŭn) [Heb., =behold a son!], Jacob's eldest son and ancestor of one of the 12 tribes. His intercession for Joseph's life and his guaranteeing the safe return of Benjamin indicate a kindly nature. At the occupation of Palestine his tribe, with that of Gad, was allotted the pasture lands E. of the Jordan. To Reuben was given the region adjoining the Dead Sea and S. of Gad. After this the Reubenites are unreported until, with Gad, they are carried captive by Tiglath-pileser into Assyria. Gen. 29:32, 35:22, 37, 42:22,37, 46:8, 49:3,4, Num. 1:20,21, 2:10, 26:5–10, 32:37, Joshua 22, 1 Chron. 5:26.

Reuchlin, Johann (yō′hän roikh′lĭn), 1455–1522, German humanist, a scholar of Greek and Hebrew, b. Pforsheim, Baden, M.A. Univ. of Basel, 1477. He taught jurisprudence at Tübingen. In 1492 he began the study of Hebrew, and his *Rudimenta Hebraica* (1506) was the first Hebrew grammar written by a Christian. His reputation as a scholar had already been made by the translations from the Greek which he made at Heidelberg. When a converted Jew, Johann Pfefferkorn, advocated destruction of all Hebrew books, Emperor Maximilian requested Reuchlin's opinion in the matter. Reuchlin suggested that only those Hebrew books which calumniated Christianity should be suppressed and that the Jews should be required to furnish books for the universities, with two chairs of Hebrew learning to be set up in every university in Germany. His decision brought forth a storm of opposition from bigots and obscurantists, which Reuchlin met by his *Augenspiegel* (1511). The attack made upon him by the Univ. of Cologne he met with his *Defensio Reuchlini contra calumniatores suos Colonienses* (1513). In the struggle that developed between the humanists supporting Reuchlin and the clericals supporting Pfefferkorn, Reuchlin was victorious. From the struggle emerged the famous *Epistolae obscurorum virorum* of Crotus Rubianus and Ulrich von Hutten.

Reuel (rē′ŭl) [Heb., =friend of God] **1** See JETHRO. **2** Son of Esau and Bashemath. Gen. 36:4,10, 1 Chron. 1:35. **3** See DEUEL. **4** Descendant of Benjamin. 1 Chron. 9:8.

Reumah (rōō′mu), concubine of Nahor. Gen. 22:24.

Réunion (rāunyō), overseas department of France (965 sq. mi., pop. 242,007), an island in the Indian Ocean off the coast of Africa, more than 400 mi. E. of Madagascar. The capital is Saint-Denis. Réunion, formerly called Bourbon, is one of the Mascarene Islands. It was settled (c. 1646) by the French and held briefly (1810–14) by the British in the Napoleonic Wars. Réunion is mostly composed of active and extinct volcanoes, its greatest elevation is c. 10,000 ft. More than one third of its area is cultivated, crops include sugar, coffee, vanilla, and cloves. Sugar and rum are the chief exports. A railroad, which nearly encircles the island, connects Saint-Denis on the north coast and Port-des-Galets, the main port of the northwest. Abd-el-Krim, who was exiled here in 1926, escaped to Egypt in 1947. Leconte de Lisle was born on Réunion.

Reus (rĕ′ōōs), city (pop. 29,480), Tarragona prov., NE Spain, in Catalonia. Since the introduction (18th cent.) by English manufacturers of a cotton-spinning industry, Reus has grown into an important commercial and industrial center.

Reuss (roiss), two former principalities in E Thuringia, central Germany. The house of Reuss dates from the 12th cent., and its genealogical history is as complicated as its territories were small, the fact that it was customary in the family to name all sons indiscriminately Henry does little to clarify family history. After numerous territorial subdivisions, two branches emerged in 1848—Reuss Older Line, which held princely rank from 1778 and which had Greiz as its capital, and Reuss Younger Line, which held princely rank from 1806 and whose capital was Gera. The last prince of Reuss-Greiz, Henry XXIV, was insane, and his principality was administered by Henry XXVII of Reuss-Gera, who abdicated in 1918. Both territories were incorporated (1920) into Thuringia.

Reuss (roiss), river, c. 98 5 mi. long, central Switzerland. It flows N from the St. Gotthard Pass, through the Lake of Lucerne, and joins the Aar river near the town of Brugg.

Reuter, Fritz (Heinrich Ludwig Christian Friedrich Reuter) (frĭts′ roi′tur), 1810–74, German novelist and poet. His political tendencies brought him a sentence of death (1833), later commuted to life imprisonment. Released in 1840, he spent an unsettled life until, in 1850, he began his rise to fame through novels, tales, and verse in Low German dialect, or Plattdeutsch. The best of these are *Ut de Franzosentid* (1860, Eng. tr., *In the Year '13*, 1867) and *Ut mine Stromtid* (1862–64, Eng. tr., *Seedtime and Harvest*, 1871), both laid in his native Mecklenburg, and *Ut mine Festungstid* [from my prison days] (1863).

Reuter, Gabriele (gubrēā′lu), 1859–1941, German novelist and critic, b. Egypt. Her feministic novel *Aus guter Familie* [of good family] (1895) was followed by many other stories and novels on similar themes, among them *Tochter* (1927, Eng. tr., *Daughters*, 1930). Her contributions to the New York *Times Book Review* (1931–39) are well known to American readers. She was blind in the last years of her life.

Reuter, Ludwig von (lōōt′vĭkh fŭn), 1869–1943, German admiral. In the First World War he took part in the battles of Dogger Bank and Skaggerak. After the war, on June 21, 1919, he scuttled the German fleet at Scapa Flow to prevent its surrender to the Allies. Reuter retired in 1920.

Reuter, Paul Julius (poul′ yōō′lyōōs), 1816–99, founder of Reuter's Telegraph Company, b. Cassel, Germany. He became (1829) a clerk in his uncle's bank in Gottingen. In 1849 he bridged a gap in the telegraph line between Aachen, Germany, and

Verviers, Belgium When he tried to start a news agency in Paris, the French government's restrictions made it impossible He went (1851) to England and was naturalized Reuter soon opened a news office in London, and in 1858 he persuaded English newspapers to publish his foreign telegrams He then extended his influence all over the world and was granted concessions for the cables between England and Germany, between England and France, and between France and the United States He became a baron in 1871

Reuterdahl, Henry (rōō'tûrdal), 1871–1925, American naval artist and writer, b Sweden Coming to the United States in 1893 to do some work for the World's Columbian Exposition, he settled here and illustrated magazine articles on naval subjects, of which he was often the author "Needs of the Navy," an article published in 1908, spurred government investigation Reuterdahl was a correspondent in the Spanish-American War and again in 1914 at the opening of the First World War In the latter part of the war (1917–18) he became an officer in the U S naval reserve, retiring in 1921 Ten paintings in the U S Naval Academy are his record of the cruise of the U S fleet around South America in 1907 He painted a naval scene for the state capitol of Missouri and decorations for several steam yachts Other works of his are in the Naval War College, Newport, R I and in the National Gallery of Art, Washington, D C

Reuther, Walter Philip (rōō'thur), 1907 , American labor leader, b Wheeling, W Va A tool- and die-maker, he became shop foreman in a Detroit automobile plant, meanwhile completing his high school work and attending college Discharged because of his union activities, he spent some years (1932–35) in Europe, (including Russia) and the Far East Active in the organization drives (1935–37) of the United Automobile Workers of America (C I O) and in the sit-down strikes, he became director of the union's General Motors department (1939) and union vice president (1942) In the Second World War he favored active support of the war by labor and evolved a plan for airplane mass production in automobile plants He was elected president of the United Automobile Workers in 1946 and in that year became vice president of the C I O After 1945 he led the auto workers in several major contests for wage increases and social welfare programs, while gaining undisputed control of the U A W His importance as an anti-Communist liberal spokesman grew He was severely wounded by an unidentified assailant in April, 1948, as was his brother Victor some 13 months later, in Dec , 1949, an unsuccessful attempt was made to dynamite the office building of the United Automobile Workers See biography by Irving Howe and B J Widick (1949)

Reutlingen (roit'lĭng-un), city (pop 36,785, with suburbs 62,869), S Wurttemberg, Germany, S of Stuttgart It has machinery and textile manufactures A free imperial city from 1240 until its transfer (1802–3) to Wurttemberg, Reutlingen was the first Swabian city to accept the Reformation Here in 1377 the Swabian League defeated Ulrich of Württemberg The Church of St Mary is an outstanding example of German late Gothic architecture

Reval, Estonia see TALLINN

Revelation or **Apocalypse** (upō'kulĭps), last book of the New Testament It was written A D c 95, on Patmos island by one John Universal tradition has made of him the disciple St John, but many scholars deny such authorship Critics disagree also as to whether this book has common authorship with the Gospel or with 2 and 3 John The book is a mysterious prophetic work, mainly visions dealing with the overcoming of evil and persecution and the triumph of God and the martyrs The plan is careful and depends heavily on arrangement in seven s prologue (1 1–8), letters to seven churches in Asia Minor, counseling and warning (1 9–3 22), opening of the seven seals on the scroll in the hand of God, including the Four Horsemen (4 1–8 1) blowing of seven trumpets by angels standing before the throne of God (8 2–11 19), seven signs, including St Michael and the Dragon and the beast with the number 666 (12 1–15 4), seven vials "full of the wrath of God" (15 5–16 21), the great harlot, named Babylon, i e , Rome (17 1–19 10), visions of heaven, including the defeat of Satan, the judgment, and the New Jerusalem (19 11–22 5), epilogue (22 6–21) The style is majestic Throughout there is constant reminiscence of Old Testament prophecies, especially Ezekiel, Daniel, and Isaiah One immediate goal of Revelation was to encourage Christians faced with martyrdom, but assurance of interpretation stops there it is not even agreed as to whether the author expected an early fulfillment of his prophecies or intended a more spiritual interpretation Every period of Christian history has produced new (often bizarre) explanations of the mysteries of the book See APOCALYPSE See L F Scott, *The Book of Revelation* (1939)

Revelstoke (rĕ'vulstōk), city (pop 2,106), SE British Columbia, on the Columbia river at the mouth of the Illecillewaet and E of Kamloops The city is at the foot of the Selkirk Mts. and is the gateway to Mt Revelstoke National Park It is also a railroad division point, a distributing center for a mining and lumbering area, and an outfitting center for tourists and hunting and fishing parties

Reventazón (rĕvĕntäsōn'), river rising in E Costa Rica and flowing northeast to empty into the Caribbean N of Limón The Reventazón is navigable for a short distance only, but through the mountains it has cut a deep valley, which offers the best access for the railway from San José, the capital, to Limón, the principal port of the country

revenue, see FINANCE

reverberatory furnace, type of furnace used in the separation of metals from their ores and in the refining of some metals It differs from the blast furnace chiefly in that the fuel is burned in one compartment while the ore or other material to be heated is in another compartment The ore is affected only by the flames and gases from the burning fuel, these flames and gases are thrown back from the low ceiling of the fuel compartment and pass over the shallow layer of ore in the neighboring compartment, at the farther end of which is a flue In the reverberatory furnace wrought iron is thus produced from pig iron, lead is prepared from its sulphide ores, and copper is refined and copper matte produced

Revere, Paul, 1735–1818, American Revolutionary patriot, b Boston In his father's smithy he learned to work gold and silver, and he became a leading silversmith of New England He also turned his hand to various other skills—designing, engraving, printing, bell founding, and dentistry In the French and Indian War he was a soldier, and in the period of growing colonial discontent with British measures after the Stamp Act (1765), he was a fervent propagandist and a maker of caustic caricatures He early joined the Sons of Liberty, took part in the BOSTON TEA PARTY, and was a courier for the Massachusetts committee of correspondence Revere became a figure of popular history and legend, however, because of his ride on the night of April 18, 1775, to warn the people of the Massachusetts countryside that British soldiers were being sent out in the expedition which, as it turned out, started the American Revolution (see LEXINGTON AND CONCORD, BATTLES OF) William Dawes and Samuel Prescott also rode forth with the news Revere did not reach his destination at Concord but was captured by the British, nevertheless, it is Revere who is remembered as the midnight rider, chiefly because of the poem by H W Longfellow He promptly escaped from the British officers and later rendered service to the Revolutionary cause He designed the first seal for the united colonies, designed and printed the first Continental bond issue, and established a powder mill at Canton, Mass His military career was not distinguished he was a lieutenant colonel of artillery on garrison duty at Fort William in Boston harbor and later took part in the ill-fated expedition against Penobscot On the expedition he was arrested for disobeying orders (though a court-martial later acquitted him of the charges), and in 1780 he returned to silversmithing His shrewdness in other enterprises—shipping ice to the West Indies and establishing a copper-rolling and brass-casting foundry at Canton—helped to make his later years very prosperous See C F Gettemy, *The True Story of Paul Revere* (1905), biography by E G Taylor (1930), Esther Forbes, *Paul Revere and the World He Lived In* (1942)

Revere, city (pop 34,405), E Mass , on the coast NE of Boston, settled c 1630, set off from Chelsea 1871, inc as a city 1914 It was named for Paul Revere It is a residential suburb and produces optical goods Revere Beach is a popular resort

reversion, see ATAVISM

Revilla Gigedo, Juan Francisco de Güemes y Horcasitas, conde de (hwän' fränthĕ'skō dā gwā'mās ē ōrkäsē'täs kōn'dā dā rĕvē'lyä hēhā'dhō), 1682?–1766, Spanish colonial administrator, viceroy of New Spain (1746–55) As captain general of Cuba he amassed, chiefly by illicit trade in tobacco, a fortune, which he increased in Mexico His businesslike rule brought new revenues to the Spanish treasury He encouraged the conquest and settlement of N Mexico, particularly under José de ESCANDÓN His son, **Juan Vicente Güemes Pacheco de Padilla, conde de Revilla Gigedo** (vĕthän'tā, pächā'kō dā padhē'lyä), 1740–99, b Havana, was viceroy of New Spain (1789–94) He gave to the viceroyalty one of the finest administrations of the colonial era He put the new administrative system of intendancies into working order, improved Mexico city, sent out an expedition that carried the Spanish territorial claims N of the California coast, and brought the revenues of the viceroyalty to their highest point

Revillagigedo Island (ruvē'lùgugē'dō, -gūgē'dō), area 1,120 sq mi , off SE Alaska, in the Alexander Archipelago, lying E of Prince of Wales Island It was visited by Russian, English, and Spanish explorers and named (1793) for the conde de Revilla Gigedo, viceroy of Mexico Ketchikan is its chief town

revival, religious, renewal of attention to religious faith and service in a church, a community, or a district of any extent It usually follows a period of comparative inactivity and lagging interest and is frequently marked by intense fervor in spiritual expression, which rapidly is communicated Those believers who have been lax or have lost interest are aroused to fresh devotion, while the unregenerate, sometimes in great numbers, are awakened to their need and helped to a better way of thinking and living under religious conviction and guidance As applied to the Christian religion, the phrase belongs to modern times, dating from the 18th cent , but the experience had its place in the earliest history of the Church, as is attested by scriptural accounts The course of Christianity's progress through the Middle Ages and into the modern era is marked by waves and variations resulting from changing influences and conditions From time to time great outbursts of enthusiasm occurred. The development of the Protestant movements in the 14th, 15th, and 16th cent was in the nature of a series of revivals under the strong impelling force of such leaders as WYCLIF, HUSS, LUTHER, CALVIN, and others But revivals, so called, in Europe began with the evangelical awakening in England c 1737 under John and Charles WESLEY and George WHITEFIELD Under their direction an army of itinerant and local workers and of missionaries spread the spirit of Methodist evangelism with amazing rapidity over Great Britain, into Ireland and Wales, and across the seas Almost simultaneously with this European movement, the GREAT AWAKENING in America occurred Just before the 19th cent opened and during its early years the newer settlements in the South and the West were visited by a wave of religious animation attended by emotional excitement and physical manifestations The movement began in Kentucky c 1797 under the preaching of James McGready From these meetings held in the open developed the CAMP MEETING The first of the professional revivalists was Asahel Nettleton, he and Charles Grandison Finney worked, chiefly in the E United States, before 1850 The preeminent figure in modern revivalistic history in the United States and Great Britain is Dwight L MOODY, who, with the singing evangelist Ira D SANKEY, moved vast audiences for more than 25 years In later years campaigns have been conducted by George F Pentecost, B Fay Mills, Sam Jones, Sam Small, J Wilbur Chapman, R A Torrey, William A Sunday, and Gipsy Smith Modern psychologists devote particular attention to the states of mind represented in the conversions which result from revivalistic methods See C G Finney, *Autobiography* (1876), J H Overton, *Evangelical Revival in the Eighteenth Century* (1886), E D Starbuck, *Psychology of Religion* (1899), William James, *Varieties of Religious Experience* (1902), J W Chapman, *Present Day Evangelism* (1903), F G Beardsley, *History of American Revivals* (1904), F M Davenport, *Primitive Traits in Religious Revivals* (1905), C C Cleveland, *The Great Revival in the West, 1797–1805* (1916), W W Sweet, *Revivalism in America Its Origin, Growth, and Decline* (1944)

revolver, a PISTOL with a revolving cylinder capable of firing several shots without reloading The earliest example dates from the last half of the 16th cent , but a usable multifiring weapon did not appear until the Collier revolving system was introduced in the first quarter of the 19th cent The first revolver to win a place as a standard weapon was invented by Samuel Colt, an American, and was patented by him in England in 1835 and in the United States in 1836 Colt's revolvers were used by the Texas Rangers in the Mexican War In taming the American wilderness, the revolver became an essential in the light equipment of the frontiersman west of the woodland region On the prairies and the Great Plains, the frontiersmen were mounted and the long muzzle-loading rifle was not a horseman's weapon, it was outclassed by the mounted Indian's bow and arrows The revolver restored to the white man the advantage that the accuracy and the long range of the rifle had given him in the woodland The revolver (the six-shooter or six gun) is said to have civilized the West The automatic pistol, though widely used, has not completely displaced the revolver Revolvers are the small arms of most law-enforcement officers See H B C Pollard, *History of Firearms* (1926), W B Webb, *The Great Plains* (1931), C T Haven and F A Belden, *A History of the Colt Revolver* (1940)

revue (rĭvū'), a stage presentation which originated as a light, satirical commentary on current events It was rapidly developed, particularly in England and the United States, into an amorphous musical entertainment, retaining a small amount of satire and partaking more and more of the elements of vaudeville and the pageant In the United States the revue became in the second decade of the 20th cent a vehicle notable for its extravagant staging and costumes, for its display of feminine beauty, and for its short comedy sketches and popular songs The best known of this type was the annual *Follies* produced by Florenz ZIEGFELD, which had

as its chief rivals Earl Carroll's *Vanities* and George White's *Scandals* Continental revues such as the *Chauve-Souris* retained more of a satirical tone, and others felt the influence of the elaborate staging developed by MAX REINHARDT In the late '20s the revue reverted to its original form as the so-called intimate revue in the hands of such men as Noel Coward In the late '30s the labor revue *Pins and Needles* had a great success See E M. Gagey, *Revolution in American Drama* (1947)

Rexburg, city (pop 3,437), co seat of Madison co , E Idaho, on the small Teton river in the Snake valley and NNE of Idaho Falls Founded in 1883 by Mormons and named for one of the founders, Thomas Ricks, it is a busy center of ranches irrigated farms, and dry farms Ricks College (junior, Latter-Day Saints, 1888) is here The site of the fur-trading post founded by Andrew Henry in 1810 is between Rexburg and St Anthony

Reyer, Ernest (ĕrnĕst' rāvĕr'), 1823–1909, French composer and critic, whose name originally was Louis Étienne Ernest Rey Largely self-taught, he was strongly influenced by Berlioz, whom he succeeded as critic of the *Journal des débats* He composed little besides operas, the most successful of which was *Sigurd* (Paris, 1884) His last opera, *Salammbô* (1890), was based on Flaubert's novel

Reyes, Alfonso (älfōn'sō rā'ĕs), 1889 , Mexican writer A man of wide culture, he was a diplomat who spent some years in Spain and became an authority on Spanish classical literature He was also the director of the Colegio de México and editor of the publishing organization Cuadernos Americanos He is known, however, as a literary critic, as a poet, and as the author of brilliant essays His prose style is generally recognized as of the finest in recent Latin American literature *Visión de Anahúac* (1917) and the several series of *Simpatías y diferencias* show that style at its height

Reyes, Rafael (rāfāĕl'), 1850 1921, president of Colombia (1904-9) When a young man, he explored the upper Amazon wilderness with his brother Later he distinguished himself in the civil wars of 1885 and 1895 Sent to Washington in 1903, he was unable to secure redress for the U S part in the revolution in Panama Elected president, he assumed national powers and vigorously pushed the economic development of Colombia, improving communications, bringing order to the finances, beautifying Bogotá, and encouraging industry He also put down opposition ruthlessly and remade the constitution to his liking A treaty with the United States recognizing the independence of Panama awoke widespread popular opposition that brought about his downfall

Reykjavik (rā'kyuvĭk), Icelandic *Reykjavík* (rā'kyävĕk, rā'kävĭk), city (pop 51,690), capital of Iceland, a port on the Faxa Fjord, SW Iceland The chief commercial center of the island, it is also a Lutheran episcopal see and the seat of a university (founded 1911) Reykjavik was chartered in 1786 and had a relatively recent growth, due chiefly to near-by fisheries One of its remarkable features is its hot-water supply system (completed 1945), which utilizes natural hot springs An important airfield was built at Keflavik, W of Reykjavik, by the U S army during the Second World War The spelling Reikjavik also occurs

Reyles, Carlos (kär'lōs rā'lās), 1868 1938, Uruguayan novelist A wealthy cattleman, he traveled extensively and devoted himself to writing His novels are generally naturalistic, *La raza de Cain* (1900) shows especially the influence of Zola *Beba* (1894) and *El terruño* [the plot of earth] (1916) depict Uruguayan ranch life, but *El embrujo de Sevilla* (1922, Eng tr , *Castanets*, 1929) is a story that is almost a prose poem about the Andalusian city He lost his wealth late in life, and the state created a university lectureship for him

Reymont, Ladislaus Stanislaus, Pol *Władysław Stanisław Reymont* (vwädĭs'wäf stänĕs'wäf rā'mônt), 1867–1925, Polish short-story writer and novelist He was awarded the 1924 Nobel Prize in Literature The early years of his life, which he spent partly as a vagabond and often in poverty, exerted a strong influence on his later writings Reymont turned away from the positivists, who placed their faith in industry, he deplored urbanization and turned to peasant life for his themes Among his best works are *The Comedienne* (1896, Eng tr , 1920), a story of a wandering theatrical troupe, *The Promised Land* (1899, Eng tr , 1927), a novel about the city of Lodz, and *The Peasants* (4 vols , 1902–9, Eng tr , 1924-25)

Reynard the Fox (rĕ'nûrd, rā'närd), celebrated hero of the medieval beast epics, works predominantly in verse which became increasingly popular after c 1150 They are found chiefly in Latin, French, Low German, Dutch and Flemish, High German, and English. The type probably originated in a German-speaking section of what is now Alsace-Lorraine, whence it passed into France, the Low Countries, and Germany The summons of Reynard by King Noble (the Lion) to answer accusations by Isengrim the Wolf and other animals forms the nucleus and starting point of the loosely connected tales Most of the stories reflect in biting satire the peasant's criticism and contempt for the upper classes and the clergy. An episode at once outstanding and typical is the funeral of Revnard, with the pious laments of his late enemies and his devastating resurrection from the grave Professional minstrels and poets soon found these tales good entertainment and made them popular with the upper and middle classes The French, who contributed most to the original story, produced *Le Roman de Reynard* (1170–1250) Caxton translated from a Flemish version his *Historie of Reynart the Foxe* (1481) Modern English versions include T J Arnold's translation (1860) of Goethe's *Reinecke Fuchs*, a paraphrase of an older High German version, and William Rose's *Epic of the Beast* (1924)

Reynaud, Paul (pôl' rānō'), 1878–, French statesman and lawyer He held cabinet posts under Tardieu (1930) and Laval (1931–32) After Nov , 1938, as minister of finance in the cabinet of Édouard DALADIER, he pursued an extremely deflationary policy In the midst of the Second World War he succeeded Daladier as premier in March, 1940 On May 18, when France faced military disaster, he called in Marshal PÉTAIN as vice premier On June 16–17, despite his opposition to surrender he gave way to Marshal Pétain and resigned He was arrested later in 1940 and was one of the defendants at the abortive Riom war-guilt trial Freed (1945) from German imprisonment, Reynaud reentered politics as an advocate of free enterprise

Reynolds, John see RAINOLDS, JOHN

Reynolds, John Fulton (rĕ'nuldz), 1820–63, Union general in the Civil War, b Lancaster, Pa , grad West Point, 1841 He distinguished himself at Monterrey and Buena Vista in the Mexican War In the Civil War, Reynolds was made (Aug , 1861) a brigadier general of volunteers In the SEVEN DAYS BATTLES (1862), he was captured at Gaines's Mill but was exchanged in time to command a division at the second battle of Bull Run (Aug , 1862) In November he was made commander of the 1st Corps of the Army of the Potomac and promoted major general He rendered able service in the battles of Fredericksburg (Dec , 1862) and Chancellorsville (May, 1863) In the GETTYSBURG CAMPAIGN Reynolds directed the fighting on the first day (July 1, 1863) until he was killed

Reynolds, Sir Joshua, 1723 92, English portrait painter, son of a Devonshire clergyman At 17 he was sent to study painting in London and two years later set himself up as a portrait painter in Plymouth Intensely ambitious, he early determined to study in Italy and in 1749 was enabled to do so through the generosity of Captain Keppel, commander of the Mediterranean squadron, who took him there on his own ship After three years of study and travel Reynolds returned and took London by storm His social gifts no less than his talents advanced him, and within a year he was besieged with portrait commissions and was employing assistants For the remainder of his life he continued to better his condition, he would move from one establishment to a more ambitious one, maintaining a gallery not only of his own work but of that of old masters whose paintings he bought and sold and entertaining a wide circle which included not only the world of wealth and fashion but also the great literary figures of the day When the Royal Academy was founded in 1768 Reynolds was elected president and was knighted His yearly discourses before that body and his voluminous correspondence have literary distinction Reynolds's ambition not merely for renown but for greatness gave him no rest, and his life was a constant round of labor and engagements At 59 he had a paralytic stroke, but recovered sufficiently to continue his work for several years Reynolds painted over 2,000 portraits and historical paintings He often used very experimental painting methods, and as a result much of his work is badly preserved At his best, however, his color is rich, and in design he surpassed his rivals Gainsborough and Romney His portraits of Commodore Keppel, Dr Johnson Lord Heathfield, Sterne, Goldsmith, Garrick, Edward Gibbon, Edmund Burke, and Charles James Fox are admirable and have great historic interest Much of Reynolds's work is in private collections He is best represented in the National Gallery, London, but fine examples of his work are to be seen in the Metropolitan Museum, the Museum of Fine Arts, Boston, the Cleveland Museum of Art, the New York Public Library, the Widener Collection, Philadelphia, the Art Institute of Chicago, the Detroit Art Institute, and in the private Frick collection at Prides Crossing, Mass One of his masterpieces, *Mrs Siddons as the Tragic Muse*, is in the Huntington Gallery. See his letters (ed by F W Hilles, 1929), biographies by James Northcote (2 vols , 1818), C R. Leslie and Tom Taylor (1865), Sir Walter Armstrong (1900), and F W Hilles (1936)

Reynoldsville, industrial borough (pop 3,675), W Pa , in the Alleghenies SE of Brookville, settled c 1824, laid out 1873 It produces brick, glass, textiles, and caskets

Rezaieh (rĕzäĕ'ē), city (1947 estimated pop. 45,575), capital of the Fourth Prov. (W Azerbaijan), NW Iran It was the seat of Iran's earliest American mission (1835) Most of the Christian inhabitants fled in 1918; many of those who remained were massacred by invading Kurds The population is mostly Turkomans Rezaieh's fertile plain produces grain, fruit, cotton, and tobacco Nearby mounds have yielded ancient earthenware and coins and also a Babylonian seal The city was formerly Urmia

Rezanov, Nikolai Petrovich (nyĭkulĭ' pĕtrô'vĭch rvĕza'nuf), 1764–1807, Russian trader, an official of the Russian American Company He headed an expedition to Russian America in 1803 There he found (1805) Sitka in desperate need of food and determined to go to California to obtain supplies He reached what is today San Francisco and succeeded in his mission partly because of romantic attachment to Doña Concepción, daughter of the commandant, José Darío Argüello He took the supplies to Sitka but died on his return trip to Russia See Hector Chevigny, *Lost Empire* (1937).

Reza Shah Pahlavi (rĕ'za shä' pälävē'), 1877–1944, shah of Iran (1925–44) He began his career as an army officer and displayed great valor and leadership He led in expelling the Russians and headed a coup d'etat in 1921, establishing a military semi-dictatorship In 1923 Reza Kahn forced his associate out of office, and in 1925 he demanded and got full dictatorial power The Kajar or Qazar dynasty had been deposed, and in Dec , 1925, Reza Khan was made shah, thus founding the Pahlavi dynasty. He introduced many reforms, reorganizing the army, government administration, and finances He abolished all special rights granted to foreigners, thus gaining real independence for Iran The Trans-Iranian RR was built, the Univ of Teheran was established, and industrialization went on apace In the Second World War his rapprochement with the Germans was protested by the Allies, and in 1941 British and Russian forces invaded and occupied Iran Reza Shah was forced to abdicate in favor of his son, Mohammed Reza Shah He went to South Africa in exile His name is also written Riza Shah

Rezekne (rā'zĕknā), Ger *Rositen* (rōzĭ'tun), city (pop 13,139), E Latvia, in Latgale It is an agricultural market center Rezekne was founded (1285) as a fortress by the Livonian Knights, ruins of the ancient castle remain

Rezeph (rē'zĕf), ancient city, probably to be identified with Rasafa, E of Palmyra in the Euphrates valley 2 Kings 19 22, Isa 37 12

Rezia (rēzĭ'u) [Heb ,=delight], son of Ulla the Asherite 1 Chron 7 39

Rezin (rē'zĭn) **1** Syrian king who was defeated and killed by the Assyrian king Tiglath-pileser 2 Kings 15 37, 16 5–9 **2** Family returned from exile Ezra 2 48 Neh 7 50

Rezon (rē'zŏn), founder of a dynasty in Damascus and adversary of Solomon 1 Kings 11 23–25

Rh, chemical symbol of the element RHODIUM

Rhaetia (rē'shŭ), ancient Roman province including parts of S Bavaria, Tyrol, and E Switzerland The larger part lay in the Alps, where the Rhaetian Alps commemorate the name The region was annexed by the Romans c 15 B C , and the capital was set up at Augusta Vindelicorum (now Augsburg) The province had practically no importance except the military The name is spelled also Raetia

Rhaeto-Romanic (rē'tō-rōmă'nĭk), generic name for several Romance dialects spoken in Switzerland and small bordering areas Romansh and the closely related Ladin are spoken in SW Switzerland, Friuli or Friouli in the southeast Romansh is designated as one of the official languages of Switzerland See LANGUAGE (table)

Rhagae: see RAGES

Rhangavis, Alexandros Rizos see RANGABE

Rhazes (rā'zēz) or **Rasis** (rā'sĭs, -zĭs), Arabic *Abu-Bakr Mohammed ibn Zakariya al-Razi*, c 860–c 925, Persian physician A noted clinician, he was chief physician at the Baghdad hospital He formulated the first known description of smallpox which he differentiated from measles in a work known as *Liber de pestilentia* and translated into English as *A Treatise on Smallpox and Measles* (1848, 1939) His works, widely circulated in Arabic and Greek versions and published in Latin in the 15th cent , include also a textbook of medicine known as *Almansor* and an encyclopedia of medicine edited posthumously from his papers and known as *Liber continens*

Rhé, island, France see RÉ

Rhea (rē'ă), in Greek religion, **Titaness,** Great Mother of the Gods She was the daughter of Gaea and Uranus, the wife and sister of Cronus, and the mother of Zeus, Poseidon, Demeter, Hera, Pluto, and Hestia The worship of Rhea evidently originated in Crete, and in early times she was identified with Cybele Like Cybele's, Rhea's worship was orgiastic and associated with fertility rites In Rome, Rhea was worshiped as Magna Mater and identified with Ops

Rhea Silvia. see ROMULUS

Rhegium (rē'jĕŭm), ancient city, S Italy, on the Strait of Messina, today REGGIO DI CALABRIA. Rhegium was founded (c.720 B.C.) as a colony of

Chalcis, later many Messenians settled. It was powerful until defeat and destruction by Dionysius the Elder of Syracuse (386 B C) The Romans, who favored it, called the city Rhegium Julium. It is mentioned in Acts 28 13 The name is spelled also Regium.

Rheims (rēmz), Fr. *Reims* (rĕs), city (pop. 106,081), Marne dept., NE France, in Champagne The center of the CHAMPAGNE industry and seat of the greatest firms, it is situated amid large vineyards Before the champagne industry took on its present proportions in the 18th cent., the chief products of Rheims were woolen textiles As Durocotorum, the city of the Remi, it was one of the most important cities in Roman Gaul. The see of an archbishopric since the 8th cent., it continued to play an exceptional role in French history CLOVIS I was crowned (496) king of all Franks in its cathedral by St Remi, the bishop of Rheims, and it became customary (but not obligatory) for the kings of France to be crowned here In the present cathedral, begun in 1211 by Robert de COUCY and finished a century later by his son, JOAN OF ARC stood next to Charles VII when, at her instance, he was crowned in 1429. The cathedral is a monument of French Gothic architecture It was shelled by the Germans in 1870 in the Franco-Prussian War and in 1914 in the First World War On the second occasion the interior, including most of the irreplaceable stained-glass windows, which made its special fame, was destroyed Restored (partly with funds of the Rockefeller Foundation), it was reopened in 1938 The town hall (17th cent.) and the old Church of St Remi (11th–16th cent.) were also gravely damaged In the Second World War, Rheims again suffered destruction, though all its artistic and historical monuments were spared Here, early on May 7, 1945, German emissaries signed the unconditional surrender of Germany at Allied headquarters Rheims has a university (founded by Pope Paul III in 1547) and a fine municipal library (built by the Carnegie Foundation in 1930). It was the birthplace of Jean Baptiste Colbert and of St JOHN BAPTIST DE LA SALLE

Rhein, river. see RHINE

Rheinberger, Josef Gabriel (yō'zĕf, rīn'bĕrgur), 1839–1901, German composer, studied at the Munich Conservatory, where he later taught Of his works—which include two symphonies, the operas *Die sieben Raben* and *Thurmer's Tochterlein*, two Stabat Maters, and 20 organ sonatas—the sonatas have proved the most enduring

Rheinfelden (rīn'fĕldun), town (pop 3,910), Aargau canton, Switzerland, on the Rhine Here in 1638 Bernhard of Saxe-Weimar defeated the imperial troops and Henri de Rohan was killed The town is noted for its salt mines and baths

Rheinhessen, Germany see HESSE

Rheinland, Germany: see RHINELAND

Rheinpfalz, Germany see PALATINATE

Rheinsberg (rīns'bĕrk), town (pop 4,215), Brandenburg, E Germany, NW of Berlin The rococo palace here was the residence (1736–40) of Crown Prince Frederick, later FREDERICK II of Prussia, who devoted his quasi-exile to music, literature, and study

Rheinwald (rīn'vält), valley, SW Grisons canton, Switzerland. At its western end is the **Rheinwaldhorn** (rīn'vält-hôrn"), a peak, 11,175 ft high, in the Adula group Below it two of the Rhine headstreams originate

Rhenanus, Beatus (bē'tus rēnā'nus), 1485–1547, German humanist After some years spent in Paris and in Basel, he returned to his native city, Schlettstadt, Alsace (1526), where he spent the rest of his life in scholarly activities With Erasmus he had a close friendship, corresponding with him and with others whose tastes were scholarly He edited several classics, including the *Editio princeps* (1522) of Velleius Paterculus, which he discovered himself, and published the works of Erasmus along with his own biography of the great humanist Rhenanus' *Rerum Germanicarum libri tres* (1531) is a fine work of historical research for that period See J E Sandys, *History of Classical Scholarship*, Vol. II (1908)

Rhenish Hesse, Germany. see HESSE

Rhenish Prussia: see RHINE PROVINCE

rhenium (rē'nēum) or **dvi-manganese** (dvī'măng'gunēs, măn'-), heavy, silvery, metallic element (symbol=Re for physical constants, see ELEMENT, table). It was discovered (1925) by Walter Noddack, Ida Tacke, and Otto Berg It is found in the minerals columbite, tantalite, wolframite, and molybdenite

Rhense (rĕn'zu), officially **Rhens** (rĕns), village (pop 2,287), in the former Rhine Prov. of Prussia, W Germany, after 1945 in Rhineland-Palatinate on the Rhine and S of Coblenz The Königsstuhl [royal throne], an octagonal building erected in 1376, is near by, here the electors of the Holy Roman Empire met in the 14th cent. (For the declaration made at Rhense in 1338 by six of the electors, see LOUIS IV, emperor) Rhense is still partly surrounded by its medieval fortifications. A variant spelling is Rense.

rheostat (rē'ustăt), device used to operate or control electrical equipment through variations in resistance. The metallic type, favored for laboratory use, consists of wire wound about an insulated cylinder and in contact with a movable arm. Resistance is increased by moving the arm so as to increase the number of windings through which the circuit passes. Sliding the arm in the other direction to decrease the number of windings lessens the resistance To vary very small currents, carbon rheostats are used As carbon granules are compressed, electricity passes through more easily, and a screw clamp acting on the carbon functions as a rheostat This type is used for volume and tone controls of radio and for brightness, contrast, and focusing controls on television Electrode plates dipped into a tank of salt or acid solution constitute the electrolytic type of rheostat The heat energy generated by currents passing through the solution is dissipated by vaporization, thus enabling electrolytic rheostats to handle heavy loads

Rhesa (rē'su), ancestor of Joseph Luke 3 27.

rhetoric (rĕ'turĭk) As far as is known, the art of effective public speaking was first studied and taught in Greece, where it was called rhetoric. The most distinguished of Greek authorities on the art is Aristotle, Isocrates was the greatest Greek teacher of rhetoric Quintilian is the most famous of Latin rhetoricians In the LIBERAL ARTS of the medieval curriculum, rhetoric, together with grammar and logic, made up the trivium Public speaking came to be studied and taught as a distinct art, and rhetoric to be limited to the art of writing effective prose or composition, as it is now often known. Sound principles of rhetoric hold also in poetry, but rhetoric does not include verse form, or prosody Rhetoricians have understood that in the art of writing, as in other arts, progress requires practice, as well as right aims and methods See also ORATORY

Rhett, Robert Barnwell, 1800–1876, American secessionist, b Beaufort, S C His family changed its name from Smith to Rhett (after a colonial ancestor) in 1837 A lawyer, he was a state legislator, state attorney general (1832), U S Representative (1837–49), and Senator (1850–52) In 1844 he split with John C Calhoun to lead the movement for separate state action on the tariff, an act indicative of his extreme Southern views, he even favored the restoration of the slave trade Rhett was one of the leading "fire-eaters" at the Nashville Convention of 1850, which failed to endorse Rhett's aim of secession for the whole South However, when South Carolina passed (1852) an ordinance declaring the state's right to secede, he felt partially vindicated and temporarily retired from politics, though he continued to express his rabid secessionist sentiments through the Charleston *Mercury*, edited by his son He was a member of the South Carolina secession convention in 1860 and served in the lower house of the Confederate congress until he was defeated in 1863 Rhett was almost always in opposition to President Jefferson Davis, whose office he had coveted See biography by Laura A White (1931)

rheumatic fever: see RHEUMATISM

rheumatism (rōō'mutĭzm), general term applied to painful conditions of muscle, bone, joint, or nerve Among the diseases with which it is associated are arthritis, bursitis, neuritis, lumbago, sciatica, and gout Distinct from these is rheumatic fever, an acute disease with painful migratory arthritis, which often affects the heart and sometimes leads to chronic valvular heart disease Primarily a disease of children, it is evidenced by the rapid development, often within a single day, of fever, swollen joints, and loss of function St Vitus's dance, or chorea, may occur Rheumatic fever attacks especially those between the ages of 5 and 19 years So-called "growing pains" are sometimes caused by it There is no certainty as to the causative factors, but the disease has been attributed by some to streptococcal infection and by others to climate Some evidence for hereditary susceptibility has been adduced An important segment of medical opinion considers sensitization to antigens (allergy) to be the cause of rheumatic fever On an experimental basis, remission of symptoms in rheumatic arthritis has been obtained through the use of Cortisone, a chemical obtained by complex processing from the cortex of the adrenal glands of animals It has also been prepared synthetically from a bile acid

Rheydt (rīt), city (pop 68,921), in the former Rhine Prov of Prussia, W Germany, W of Düsseldorf It forms a twin city with MÜNCHEN GLADBACH An industrial center, Rheydt produces textiles (cotton, silk, and velvet), machinery, chemicals, and shoes. Mentioned from 1180, it was chartered only in 1857 and from 1929 to 1933 was a part of München Gladbach. Rheydt was more than half destroyed in the Second World War

Rh factor, a factor present in the blood of about 85 percent of the total population The term is derived from the rhesus monkey in the blood of which it was discovered (1940) by Karl Landsteiner and Alexander S. Wiener Individuals whose blood contains the Rh factor are said to be Rh positive, those who lack this factor are Rh negative. Blood is now typed to determine the Rh factor before transfusions are given. Blood of an Rh positive donor may be given to an Rh negative recipient without incident, but in the event of a second transfusion of Rh positive blood to the same individual, the result may be fatal because of the formation of antibodies in the blood stream of the recipient stimulated by the Rh factor of the first transfusion. Antibodies may also be formed in the blood of pregnant women who are Rh negative, because the blood of the fetus may be Rh positive through inheritance from the father if he is Rh positive, the Rh factor, passing through the placenta to the blood stream of the mother, stimulates the formation of antibodies In such a case, if a transfusion of Rh positive blood is given to the mother after the birth of her child, the outcome may be fatal, the child of this Rh negative mother may be born with a disease known as erythroblastosis fetalis, usually fatal

Rhind, John Massey (rīnd), 1860–1936, American architectural sculptor, b. Scotland Moving to America in 1889, he designed decorations for public buildings in many cities of the United States and is widely represented by fountains, monuments, and statues His works include the Senator Rufus King Fountain, Albany, N Y., the Corning Fountain and the Colt Memorial, Hartford, Conn., decorations for Alexander Commencement Hall, Princeton, N J., a high relief for the 106th Infantry Armory, Brooklyn, N Y., statues of Andrew Carnegie and Robert Burns in Pittsburgh and Stephen Girard and H H Houston in Philadelphia, and an equestrian Washington in Newark, N J

Rhine (rīn), Dutch *Rijn* (rīn), Fr *Rhin* (rĕ), Ger *Rhein* (rīn), Latin *Rhenus*, river, c.820 mi long, W central Europe and W Europe Its main headstream, the Vorder-Rhein, rises in central Switzerland in the St Gotthard group and flows NE through the Grisons, it is joined by the Hinter-Rhein, with which it forms the Rhine proper. Turning north, the Rhine flows between Switzerland on the west and Liechtenstein and Austria on the east into the Lake of CONSTANCE, which it traverses from southeast to northwest After passing SCHAFFHAUSEN, where it falls in a cataract, it follows the Swiss-German border to Basel, the head of Rhine steamship navigation The Aar is its main tributary above Basel Turning sharply northward at Basel, the Rhine forms the French-German border, between Alsace (France) and Baden (Germany) Strasbourg is the principal city along this section Just S of Karlsruhe the river fully enters German territory and continues generally N past Speyer, Mannheim (where it is joined by the Neckar), Ludwigshafen, Worms, Mainz (where it is joined by the Main), Wiesbaden, Bingen, Coblenz (where it is joined by the Moselle), Bonn, Cologne, Düsseldorf, and Duisburg (where it is joined by the Ruhr), into the Netherlands The section of the Rhine between Mainz and Bonn is particularly famous for its idyllic landscape, its vineyards and superb wine, its romantic castle ruins, its legendary landmarks (such as the LORELEI and the DRACHENFELS), and its historic and cultural past The Rhine valley narrows considerably between Mainz and Bonn, winding through the Rhenish Slate Mts., which include the TAUNUS on the east and the HUNSRÜCK and the EIFEL on the west Between Cologne and the Dutch border the Rhine traverses an important industrial district adjoining in the east on the WUPPER and RUHR districts After crossing the Dutch border the Rhine divides into two branches, the more southern of which is called the WAAL The northern branch or Lower Rhine (Dutch *Neder Rijn*) in turn fans out in several branches Just above Arnhem the IJSSEL branches out to the north, and at some distance below Arnhem another branch, the LEK, continues west The Old Rhine (Dutch *Oude Rijn*), which continues NNW past Utrecht, empties into the North Sea below Leiden, it is less important as a navigation route than the Waal and the Lek, through which it communicates with the Meuse estuary and with the port of ROTTERDAM. The canal systems of Germany, France, Belgium, and the Netherlands and the huge traffic between the Rhine–Ruhr industrial basin and Rotterdam make the Rhine commercially the most important river of Europe Coal, iron ore, and cereals form the bulk of transported goods Duisburg is the largest inland port on the Rhine Seagoing vessels displacing up to 4,000 tons can navigate as far as Cologne The Rhine is regulated throughout its course It was declared free to international navigation in 1868 By the Treaty of Versailles (1919) an international navigation commission, with its seat at Strasbourg, was set up, it resumed functioning after the Second World War In Roman times the Rhine was a fortified boundary of the empire, traces of Roman civilization are still evident Although contested for more than 1,000 years between Germany and France, the Rhine links the economically inseparable regions of E France, NW Germany, and the Low Countries. The Rhine has also functioned throughout all political rivalry as a link of the French, German, and Dutch-Flemish cultures.

Rhine, Confederation of the: see CONFEDERATION OF THE RHINE.

Rhinebeck, village (pop. 1,697), SE N.Y., near the Hudson above Poughkeepsie; settled before 1700, inc. 1834 It is a violet-growing center

Rhine Canals. Among the chief canals linking the Rhine with other river systems are the Rhine-Marne Canal, 195 mi long (built 1841–52); the now unimportant Rhine-Rhone Canal, 217 mi. long, connecting with the Rhone through the Saône (built 1784–1833), and the Rhine-Herne and Dortmund-Ems canals, connecting the Rhine with the German port of Emden Construction of the Rhine-Main-Danube Canal was interrupted by the Second World War

Rhineland (rīn'lănd″), Ger *Rheinland* (rīn'lănt″), region of W Germany, along the Rhine The term is sometimes used to designate only the former RHINE PROVINCE of Prussia, but in its general meaning it also includes the RHENISH PALATINATE, Rhenish and S HESSE, and W BADEN. (For a description, see RHINE) The Treaty of Versailles (1919) after the First World War provided for the Allied occupation of the Rhine Prov of Prussia, the Rhenish Palatinate, and part of Hesse-Nassau The northern zone, including Cologne and Aachen, was to be evacuated after five years; the central zone, with Coblenz, after 10 years, the southern zone, including Wiesbaden, Mainz, Trier, Ludwigshafen, and Speyer, after 15 years In 1921 French troops also occupied Düsseldorf and part of the Ruhr district, on the ground that Germany had not fulfilled its reparations obligations, and in 1923 France and Belgium occupied the remainder of the RUHR and the area around Kehl in Baden, on the same grounds At the same time France and Belgium supported the Rhenish separatist movement, which proclaimed a Rhineland republic at Aachen in 1923, by 1924, however, the movement had collapsed The first Allied troops to withdraw from the Rhineland were the Americans, whose place was taken by the French. The northern occupation zone and the Ruhr were evacuated by the Allies in 1925–26 Thanks mainly to the efforts of the German foreign minister, Gustav STRESEMANN, the last occupation troops (who were French) withdrew from the Rhineland in June, 1930, five years before the term set by the treaty The Treaty of Versailles had provided that after its recovery of the occupied territories, Germany was to maintain no fortifications on the left bank of the Rhine and within a zone 50 km E of the Rhine All existing fortresses were dismantled, and Germany was furthermore forbidden to send troop concentrations into the demilitarized area Germany specifically reaffirmed these conditions in the Locarno Pact of 1925 In March, 1936, however, the National Socialist government of Germany began to remilitarize the Rhineland, and at the same time Hitler denounced the Locarno Pact The League of Nations censured Germany, but no further action was taken - largely because of British unwillingness to support France in a contemplated military intervention The German fortifications in the Rhineland —the so-called Siegfried Line—were an extensive system of defenses in depth, which were penetrated (1944–45) by the Allies in the Second World War after very heavy fighting

Rhinelander, city (pop 8,501), co seat of Oneida co, N Wis, on the Wisconsin and NW of Green Bay, in a lake and dairy region, settled 1882, inc 1894 It is a supply center for a resort area Long a lumbering town, the city still makes paper and wood products

Rhineland-Palatinate (rīn'lănd″-pulă'tĭnĭt″), Ger *Rheinland-Pfalz* (rīn'lănt″-pfälts′), state (7,666 sq mi , pop 2,761,138), set up in Aug , 1946, in the French zone of occupation in W Germany Coblenz is the temporary capital, and MAINZ was designated as the permanent capital The state consists of the Rhenish PALATINATE (taken from Bavaria), of part of formerly Prussian Hesse-Nassau, of Rhenish HESSE, and of the southern portion of the former RHINE PROVINCE of Prussia, including Coblenz and Trier It borders on France, the Saar Territory, Luxembourg, and Belgium in the south and west Drained by the Rhine and Moselle, it includes the Hunsrück and Eifel and other divisions of the Rhenish State Mts. It contains some of the most famous German vineyards, Ludwigshafen and Pirmasens are important industrial centers, Worms and Speyer are rich in historic associations, Bad Ems and Bad Kreuznach are famous spas Rhineland-Palatinate has no historical unity whatsoever It joined (1949) the West German federal republic

Rhine Palatinate: see PALATINATE

Rhine Province, Ger *Rheinprovinz* (rīn'prōvĭnts″), former province (9,451 sq mi , 1939 pop 7,915,830) of Prussia, W Germany, bordering in the west on the Netherlands, Belgium, and Luxembourg Coblenz was the capital, and Cologne, Düsseldorf, and Aachen were among its chief cities Traversed by the Rhine, Moselle, and Wupper rivers and by the lower course of the Ruhr, the province contained some of the most important industrial concentrations of Germany, including part of the RUHR district, WUPPERTAL, SOLINGEN, and REMSCHEID. There are famous wine districts along the Moselle and Rhine valleys in the south. The province was also known as Rhenish Prussia and as the Rhineland, although the term *Rhineland* usually has a more inclusive meaning After the breakup (11th cent) of the duchy of Lower Lorraine (see LOTHARINGIA), of which the area was a part, the region fell into a multitude of ecclesiastic and secular fiefs; Aachen and Cologne became free imperial cities Chief among the territorial princes were the archbishops of COLOGNE and TRIER and the dukes of CLEVES, who also absorbed the duchies of JÜLICH and BERG In 1613 Jülich and Berg passed to the electors of Brandenburg (later kings of Prussia) As a result of the French Revolutionary Wars, France annexed the entire territory W of the Rhine, while the territory E of the Rhine was constituted (1803)(the duchy (after 1806, grand duchy) of Berg The award of the entire territory to Prussia at the Congress of Vienna (1814–15) represented the greatest Prussian territorial gain since the Partitions of Poland One of the strongholds of Roman Catholicism in Germany, the Rhine Prov played an important part in the Kulturkampf later in the century Under the Treaty of Versailles (1919), the border territories of EUPEN and of MALMÉDY and Moresnet were ceded to Belgium, and the southernmost corner of the province was included in the SAAR TERRITORY These were recovered by Germany after 1935, but the status quo as of 1920 (with minor modifications) was restored in 1945 after the Second World War At the same time, the Rhine Prov was divided between the British-occupied state of North Rhine-Westphalia, which received the highly industrial northern part, and the French-occupied state of Rhineland-Palatinate, which received the southern part, including Coblenz and Trier During the Second World War, the Rhine Prov had been the scene of very heavy fighting in 1944–45, when the Allies broke through the Siegfried Line, a powerful chain of defenses in depth All major cities of the Rhine Prov suffered heavy damage For the Allied occupation and for the demilitarized zone of the Rhine Prov after the First World War, see RHINELAND

Rhinns of Galloway, Scotland see GALLOWAY

rhinoceros (rīnŏ'sərŭs), massive ungulate animal of Africa, India, and SE Asia It has a very thick skin, often deeply folded The African species have two nasal horns, the Asiatic, one. The rhinoceros is herbivorous and fond of wallowing in mud and water It was shown in Roman circuses The white African rhinoceros, of which the male may reach a shoulder height of 6 ft 6 in , is the largest

rhizome (rī'zōm) or **rootstock,** fleshy, creeping underground stem by means of which certain plants are propagated Such weeds as Canada thistle and quack grass—both propagated by rhizomes—are hard to eradicate They are perennial and jointed and have buds at the joints When a rhizome is cut up with a cultivating tool, instead of dying, as would a root, it becomes a group of plants in place of one Ginger, the common iris, trillium, and SOLOMON'S SEAL all have rhizomes True ARROWROOT is the starch of the rhizome of a West Indian plant

Rhoda (Gr , =rose), servant of Mary , Mark's mother. Acts 12 13

Rhode Island, state (1,058 sq mi , 1940 pop 713,346, 1949 estimated pop 743,000), NE United States in New England, one of the Thirteen Colonies Providence is the capital Rhode Island, the smallest and most densely inhabited of the 48 states, is bounded on the north and the east by Massachusetts, on the south by the Atlantic Ocean, and on the west by Connecticut The rolling and hilly surface is cut by short, swift streams having numerous falls Officially the State of Rhode Island and Providence Plantations, it takes its familiar name from the largest island in NARRAGANSETT BAY About these waters the earliest English settlements were made Roger WILLIAMS, banished (1635) from the Massachusetts Bay colony, established the first settlement at Providence in 1636 on land purchased from the friendly Narragansett Indians In 1638 William CODDINGTON, John CLARKE, Anne HUTCHINSON, and other Puritan exiles bought, with Williams's aid, the island of Aquidneck (Rhode Island) from the Narragansett Here they settled Portsmouth (1638). Because of factional differences Coddington and Clarke withdrew and founded NEWPORT (1639) on the southwestern side of the island, but the two towns later combined governments (1640–47). A fourth settlement, Warwick, was made on the western shore of Narragansett Bay by Samuel GORTON in 1642 With Massachusetts and Plymouth pressing claims to the area, Williams, through influential friends, secured a parliamentary patent (1644) under which the four towns drew up a code of civil law and organized a government (1647) Coddington received a commission (1651) annulling the patent, but this was in turn revoked through the efforts of Williams and Clarke (1652), and in 1654 the four towns reunited. The surprisingly liberal charter (1663) granted by Charles II, through Clarke's instrumentality, assured the colony's survival, though boundary difficulties with Massachusetts and Connecticut continued well into the 18th cent. The early settlers were mostly of English stock Practically all were drawn by the guarantee of religious freedom, a cardinal principle with Williams, confirmed in the patent of 1644 and reaffirmed by the royal charter of 1663. Quakers came in large numbers and Jews settled in Newport in the first year of Williams's presidency (1654) All the early settlers owned land which, following Williams's practice, was bought from the Indians Fishing and trade with the Indians supplemented the living won from the soil The inhabitants of "Rogues' Island," or "the sink of New England," as others styled it, were an extremely contentious lot who valued highly the liberties of their lively agrarian democracy Viewed with mixed loathing and fear by the more powerful neighboring colonies, Rhode Island was never admitted to the NEW ENGLAND CONFEDERATION, but bore equally the devastation of King Philip's War in 1675–76 (see PHILIP). Charter government was suspended while Sir Edmund ANDROS was governor of all New England (1686–89) Livestock from the Narragansett country (South County), especially the famous Narragansett pacers, figured largely in the early commerce, which developed rapidly late in the 17th cent Until the American Revolution, Newport virtually dominated commercial activity, thriving especially, with other New England ports, on the "triangular trade" in rum, Negro slaves, and molasses Rhode Island, like other colonies, did not take kindly to British mercantilist policies and consistently violated the Molasses Act of 1733 and the Navigation Acts In Narragansett Bay, a notorious haven for smugglers and privateers, the British revenue cutter GASPEE was burned (1772) Militia under Nathanael GREENE joined the Continental Army at Boston in 1775 and the following year Rhode Island renounced its allegiance to George III (May 4, 1776) British forces occupied the island of Rhode Island from 1776 to 1779, when they withdrew before the arrival of the French fleet The Revolution won, Rhode Island, jealous of its independence and exhibiting a kind of congenital obstinacy, was one of the states responsible for the failure of the Articles of CONFEDERATION. It held out against ratifying the Constitution until 1790 The post-Revolutionary era brought bankruptcy and currency difficulties but also the beginnings of the state's industrial greatness Samuel SLATER, with the financial backing of Moses BROWN, pioneered at the end of the 18th cent in establishing cotton textile mills in America An abundance of water power led to the rapid development of manufacturing, in which the wealthy merchants and shipping magnates invested their capital With the growth of industry the towns, especially Providence, increased in population Since the colonial charter limited the suffrage to freeholders, most of the townspeople were disenfranchised Dorr's Rebellion in 1842 (see DORR, THOMAS WILSON) resulted in the adoption of a new constitution (1843) extending suffrage, though the property qualification was not completely abolished until 1888 Until well into the 20th cent Rhode Island's political and economic life was dominated by the mill owners Nelson W ALDRICH was a power in the nation as well as the state The manufacture of textiles (high-grade cotton cloth particularly) and textile machinery, the dyeing and finishing of textiles, and the manufacture of silverware, jewelry, and machine tools became, and for the most part remain, the principal industries The small mill town, with its company houses and company store, and the large foreign-born population were important elements in the social fabric. English, Irish, and Scots began arriving in large numbers in the first half of the 19th cent , French Canadian immigration commenced around the time of the Civil War, and there was a large influx of Poles and Italians at the end of the 19th and beginning of the 20th cent Sporadic labor troubles in the 19th cent. had little effect on the state's economy But after the First World War a long textile strike, centering in the Blackstone Valley, combined with the gradual removal of the mills to the source of supply and cheaper labor in the South led to a partial decline in the cotton-textile industry In recent years new, diversified industries have been introduced The hurricane of 1938 caused extensive damage to life and property In the Second World War the Narragansett Bay area was the site of important military, naval, and air installations Shipbuilding, important earlier, experienced a temporary revival Brown University in Providence is the state's leading educational institution The Rhode Island School of Design, Providence College, and the Rhode Island College of Education (state supported) are also in the capital, Kingston is the seat of the Rhode Island State College See I B Richman, *Rhode Island: Its Making and Its Meaning* (1902), Edward Field, ed , *State of Rhode Island and Providence Plantations* (3 vols, 1902), W B Weeden, *Early Rhode Island, a Social History of the People* (1910), H. M. Chapin, *Documentary History of Rhode Island* (1916), Federal Writers' Project, *Rhode Island* (1937).

Rhode Island, island, c 15 mi long and 3½ mi wide, S R I , at the entrance to Narragansett Bay It gave its name to the state It is the largest island in the bay, with bold cliffs and fine beaches. Known to the Indians and early colonials as Aquidneck, it was officially designated Rhode Island (probably after the isle of Rhodes) in 1644 Newport, Middletown, and Portsmouth are on it

Rhode Island State College, at Kingston, with land-grant support, coeducational, chartered 1888, opened as a school 1890, became a college of agriculture and mechanic arts 1892, renamed 1909 It has schools of agriculture, business administration, engineering, home economics, and science

Rhoden, Ausser and **Inner,** Switzerland see APPENZELL

Rhodes, Cecil **John** (sē'sĭl, rōdz') 1853–1902, British statesman and capitalist, b Hertfordshire He first came to South Africa in 1870 and joined his oldest brother Herbert on a cotton plantation in Natal In 1871 the brothers staked a claim in the newly opened Kimberley diamond fields where Cecil Rhodes was to make most of his fortune Cecil returned to England in 1873 and entered Oxford, but his studies were repeatedly interrupted by visits to South Africa and he did not receive his degree until 1881 A trip in 1875 through the rich territories of Transvaal and Bechuanaland inspired him with the dream of British dominion in South Africa, and in youthful exuberance he envisaged the whole world under British rule His power in the diamond-mining industry developed until, in 1880, he formed the De Beers Mining Company, which was second only to that organized by Barnato Rhodes decided to increase his power by entering politics and in 1881 he was elected to the parliament of Cape Colony, in which he held a seat for the remainder of his life In parliament he stressed the policy of containing the northward expansion of Transvaal, and in 1884, largely at his persuasion, Great Britain annexed Bechuanaland, which was given into Rhodes's charge In 1888 he induced Lobengula, the MATABELE ruler, not to alienate his land and to grant mining concessions which Rhodes exploited through the British South Africa Company (organized 1889) Earlier (1888), Rhodes had secured a monopoly of the Kimberley diamond production by the creation (with Barnato) of the De Beers Consolidated Mines, which reputedly had the largest capital in the world Rhodes became the prime minister of Cape Colony in 1890 and the virtual dictator He was responsible for educational reforms and for restricting the franchise to literate persons (thereby reducing the native vote) His personal and business sympathies with the Uitlanders [Dutch, = foreigners], who were suffering discrimination in Transvaal, brought him to conspire in a movement to seize the Transvaal government Great opposition developed to Rhodes after the raid into Transvaal of Sir Leander JAMESON, and Rhodes resigned as prime minister in 1896 In 1897 a committee of the House of Commons pronounced him guilty of grave breaches of duty as prime minister and as administrator of the British South Africa Company Thereafter he devoted himself mainly to the development of the country which was called Rhodesia in his honor In the South African War he commanded troops at Kimberley and was besieged for a time He died in South Africa from the effect of nearly life long ill-health. Rhodes left nearly all his fortune of £6,000,000 to public service One of his chief benefactions was the Rhodes Scholarships There are 32 scholarships for the United States and other scholarships for the British colonies and for Germany. See biographies by Philip Jourdan (1911) and Sarah Millin (1933)

Rhodes, James Ford, 1848–1927, American historian, b Cleveland, Ohio He studied (1865–66) at the Univ of the City of New York (now New York Univ), at the Univ of Chicago, and in Paris and Berlin (1867–68) While in Europe he visited ironworks and steelworks in Germany and Great Britain, and upon his return he investigated for his father iron and coal deposits in Georgia, North Carolina, and Tennessee In 1874 he became associated with his brother, Robert, and his brother-in-law, Marcus A Hanna, in an iron and coal business at Cleveland Having made a considerable fortune, he retired in 1885 to devote himself to writing history He moved to Cambridge, Mass , in 1891 His major work, *History of the United States from the Compromise of 1850* (7 vols., 1893-1906), which covered the years 1850–77, made him a national figure in historical literature. This work, upon which his fame rests, was highly praised by the critics, especially for its fair-mindedness, and has maintained its reputation fairly well He was honored by numerous academic and literary institutions and societies His other books include *Historical Essays* (1909), *Lectures on the American Civil War* (1913), delivered at Oxford in 1912, *History of the Civil War, 1861–1865* (1917), for which he received the 1918 Pulitzer Prize in history; *History of the United States from Hayes to McKinley, 1877–1896* (1919); and *The McKinley and Roosevelt Administrations, 1897–1909* (1922). See biography by M. A. De Wolfe Howe (1929).

Rhodes (rōdz), Gr. *Rhodos* (rō'dhŏs), island (542 sq mi , pop 55,181), off SW Asia Minor, in the Aegean Sea, largest of the Dodecanese, which belong to Greece The chief city is Rhodes, on the northeast shore The island has a fertile coastal strip, producing wheat, tobacco, cotton, olives, vegetables, and fruit. The interior is mountainous, rising to c 4,500 ft. in Mt Atairo Cattle raising, fishing, and sponge diving are important occupations The population is mostly Greek, but there is an Italian minority (11 percent) Rhodes appears in ancient history before 1000 B C The inhabitants were Dorians, who formed the three city-states of Camirus, Lindus, and Ialysus In the early 7th cent B C , Rhodians established Gela, in Sicily, their principal colony Rhodes retained its independence until the Persian conquest (late 6th cent B C) and joined in the Ionian revolt that led to the PERSIAN WARS The Rhodians joined the Delian League and became dependents of Athens, but fell away from Athens in 411 B C during the Peloponnesian War At the same time the three city-states united in a confederacy, with their federal capital at the newly founded city of Rhodes After the death of Alexander the Great (323 B C) Rhodes asserted its independence from Macedonian hegemony and entered the period of its greatest prosperity, power, and culture Its chief source of wealth was its vast carrying trade In the late 3d cent B C , however, its commerce (and with the commerce, the power of Rhodes) declined sharply, and Rhodes became an ally of Rome Involved in the Roman civil wars of the 1st cent B C , the island was seized and sacked by Cassius in 43 B C The symbol of Rhodes at the height of its greatness was the COLOSSUS OF RHODES, which stood in the harbor of the city The arts and sciences flourished here with the painter Protogenes and the astronomer Hipparchus Later, Rhodes was the seat of a famous school of rhetoric, Julius Caesar studied here, and throughout the early Christian era Rhodes retained a high literary reputation Rhodes continued under the Byzantine Empire until the capture (1204) of Constantinople by the host of the Fourth Crusade It then was under local lords, was held by the Genoese (1248–50), was annexed (1256) by the emperor of Nicaea, and was conquered (c 1282) by the Seljuks In 1309 it was taken by the KNIGHTS HOSPITALERS, who defended the island against the attacks of the Ottoman sultans for 50 years until its fall to the forces of Suleiman I (1522, final capitulation, Jan 1, 1523) The island had prospered under the knights but was neglected by the Turks With the other DODECANESE, Rhodes was taken by Italy in 1912 and was ceded by Italy to Greece in 1947 The city of **Rhodes** (pop 21,694) is a manufacturing center (notably of cigarettes, soap, brandy, carpets, and processed foods) and a port It is near the site of ancient Rhodes, planned in 408 B C by Hippodamus of Miletus After it had repulsed a siege by Demetrius I of Macedon in 305 B C the city erected the Colossus of Rhodes in the harbor The present city was built largely by the Knights Hospitalers and bears many relics of their occupation

Rhodes, Knights of see KNIGHTS HOSPITALERS

Rhodesia (rōdē'zhə, -shə), region of Africa, comprising NORTHERN RHODESIA and SOUTHERN RHODESIA It was named in 1894 for Cecil RHODES, the founder of the British South Africa Company, who took the territory for the company in 1888 The company governed from 1890 to 1923, when the region was divided along the Zambezi river See T. G Standing, *The Story of Rhodesia* (1936)

rhodium (rō'dēəm), hard, gray-ish-white metallic element (symbol = Rh, for physical constants, see ELEMENT, table) It is not affected by acids when pure, but when alloyed with platinum it reacts with aqua regia Alloyed with platinum, it is used in making thermocouples for measuring high temperatures, the element alone is used in plating reflecting surfaces and in treating metals (e g , silver) to prevent tarnish Rhodium occurs with platinum (which it resembles) in its ore in Europe, South America, and the United States. It was discovered (1803) by William Wollaston

rhododendron (rō"dədĕn'drən) [Gr , = rose-tree], any plant of the genus *Rhododendron*, shrubs found chiefly in mountainous regions and particularly abundant in Asia They commonly have large shining leathery evergreen leaves and clusters of large flowers of pink, white, or purplish color Popular for their handsome foliage and flowers, they are planted as single specimens or in groups. Rhododendrons, like most of the plants of the heath family, require an acid soil Many of those in cultivation are hybrids Native American species include the great laurel or rose bay (*Rhododendron maximum*), the common eastern species and the state flower of West Virginia, the catawba or Carolina rhododendron or mountain rose bay (*Rhododendron catawbiense*) of the southern mountains, and the western rhododendron (*Rhododendron californicum*), the state flower of Washington Rhodora, a shrub of Canada and the NE United States that has been immortalized by Emerson for its rose-purple two-lipped flowers, and AZALEA are sometimes included in the genus *Rhododendron* but are usually distinguished by their deciduous leaves.

Rhodope (rō'dupē), mountain range of the Balkan Peninsula, in S Bulgaria and in NE Greece. It extends from the Struma river in the west to the Maritsa in the east and rises to 9,596 ft. in the Musala, its highest point, in Bulgaria It was also known as Despoto Dagh.

rhodora: see RHODODENDRON.

Rhoecus (rō'kŭs), 6th cent B C , Greek sculptor of Samos He and Theodorus, another Samian, are said to have introduced better methods of casting bronze for sculpture Rhoecus is recorded as architect (probably with Theodorus) of the temple of Hera at Samos and the sculptor of the bronze figure *Night* at Ephesus

Rhondda, David Alfred Thomas, 1st Viscount (rŏn'dŭ), 1856–1918, British coal operator and statesman He entered his father's business in S Wales and eventually developed one of the largest coal combines in Britain He sat in Parliament from 1888 to 1910 but achieved no political prominence In the First World War he served the government in facilitating the munitions output and arranging war contracts in the United States and Canada In 1917 he was made food controller instituted a compulsory rationing system of vital foodstuffs, and successfully curbed food profiteering He was created baron in 1916 and viscount shortly before his death See biography by his daughter (1921) That daughter, **Margaret Haig, 2d Viscountess Rhondda,** 1883–, by special provision inherited his title She was active from 1906 to 1914 in the militant suffrage movement and became editor of *Time and Tide*, a liberal and feminist weekly

Rhondda (rŏn'dhə, Welsh rŏn'dhă), urban district (1931 pop 141,346, 1947 estimated pop 112,450), Glamorganshire, Wales, on the Rhondda river, a tributary of the Taff The lower Rhondda valley is the great coal-mining region of S Wales, the upper reaches are noted for beauty of scenery Ystradyfodwg (ŭstrădvŏ'dōog) was an ancient parish in the valley, Rhondda is still sometimes called Ystradyfodwg

Rhône (rōn), department (1,104 sq mi , pop 918,866), E central France, in LYONNAIS, on the west banks of the Rhone and Saône rivers BEAUJOLAIS forms its northern part LYONS is the departmental capital

Rhone, Fr *Rhône* (both rōn), Latin *Rhodanus*, river, 505 mi long, Switzerland and SE France Springing from the Rhone glacier in the upper Valais (Switzerland), it flows west through a narrow, flat valley which separates the Bernese from the Valaisan Alps and enters the Lake of Geneva near Montreux Leaving the lake at Geneva, it enters France and is joined by the Saône at Lyons Now navigable, it flows due S past Vienne, Valence, and Avignon and separates at Arles into the *Grand Rhône* and the *Petit Rhone*, which join the Mediterranean W of Marseilles and enclose the island of CAMARGUE Both branches being silted, a canal has been built connecting the Rhone with the port of Marseilles (see ROVE TUNNEL) With its impetuous Alpine tributaries (Isère, Drôme, Durance, and others), the Rhone has the largest water flow of all the French rivers Exploitation of its hydroelectric potential has only begun There are large power plants near Sion and Geneva (Switzerland), in France, the GÉNISSIAT DAM and allied projects are of the utmost economic importance Almost the entire Rhone valley is covered with excellent vineyards and fruit and vegetable gardens, in the south silkworms are cultivated for the Lyons textile factories, and olives and flowers are important products The Rhone is the cradle of Provençal culture Separating Languedoc from Provence, it forms the main common battery of both these provinces, on which Roman colonization has left an indelible imprint

Rhône, Bouches du, France see BOUCHES-DU-RHÔNE.

rhubarb or **pieplant,** hardy, large-leaved, acid perennial plant (*Rheum rhaponticum*), cultivated for the thick, fleshy leafstalks which are used in pies and sauces, especially in early spring It grows easily and responds well to good cultivation In market gardens near large cities it is forced in fields or under simple protective structures In the home garden one or two plants usually furnish all the rhubarb a family uses The plant is also occasionally grown for ornament where a coarse-leaved, background planting is needed It is sometimes called wine plant Medicinal rhubarb is obtained from the same plant and also from the dried rhizomes of other species of *Rheum* cultivated in Asia

Rhyl (ĭl), urban district (1931 pop 13,485, 1943 estimated pop 15,680), Flintshire, Wales, at the mouth of the Clwyd and NW of Chester, England. It is seaside resort.

rhyme or **rime,** the most prominent of the literary artifices used in VERSIFICATION. It was practically unknown to the ancient Greeks and Romans, although it was used in the oldest extant Oriental poetry. With the decline of the classical quantitative meters and the substitution of accentual meters, rhyme began to develop, especially in the sacred Latin poetry of the early Christian Church. In the Middle Ages, end rhyme, assonance, and ALLITER-

ATION were predominant in vernacular verse, and after 1300 rhyme came to be the outstanding metrical mark of poetry until the introduction of blank verse in the 16th cent By old writers alliteration and assonance were both called rhyme, but today only when the sound of the final accented syllable of a word (placed usually at the end of a line of verse) agrees with the final accented syllable of another word so placed, do we say that the two words rhyme. The vowels in the final accented syllables of the two rhyming words must have the same sound, as must the consonants (if any) succeeding the vowel The consonants preceding the vowel, however, must be dissimilar in sound to make a perfect rhyme, e g , *mark* and *bark*, good, *mark* and *remark*, bad The French distinguish a *rich* rhyme (in which the rhyming syllables are completely identical, e g , beauté and santé from a *poor* rhyme such as English allows (sage and rage) Two words cannot rhyme unless both are accented on the same syllable When rhymes are of one syllable or end in a consonant with no mute *e* following, as *sad* and *bad*, they are said to be a single or masculine rhyme Because of the great number of monosyllabic words in English, this type predominates in English verse When rhymes are of two syllables or, more properly, when they are not accented on the last syllable or end in a final mute *e* (*able* and *cable*), they are said to be weak endings, or double or feminine rhymes This type predominates in Spanish and Italian poetry, while German and French use both to about the same extent Triple rhymes, or three syllable rhymes, as *cheerily* and *wearily*, are less common, especially in serious verse Rhymes of more than three syllables are rare Some rhymes, as *wind* (noun) and *kind*, normally bad rhymes, have come into general use through "poetic license " Occasionally the initial words in a line may rhyme, more often there may be a rhyme within the line Rhymes when used in a set pattern combine with other metrical elements to form such verse structures as the sonnet, the Spenserian stanza, and the heroic couplet See rhyming dictionaries in English (which include discussions of versification) by John Walker (1775, revised and reprinted frequently), Burges Johnson (1931), and Clement Wood (1943, 1947)

Rhys, Ernest (rēs), 1859–1946, British author, editor, and anthologist His creative writing was incidental to his great services as an editor and anthologist He is best known as the editor of Everyman's Library from its inception (1906) till his death He wrote *Welsh Ballads* (1898, Eng tr , 1903), *Everyman Remembers* (1931), and *Wales England Wed* (1940), an autobiography

Rhys, Sir John (rēs), 1840–1915, Welsh Celtic scholar, grad Jesus College, Oxford, 1869 He was an authority on the Welsh language and Celtic folklore and was professor of Celtic at Oxford from 1877 to 1915 His chief works are *Celtic Britain* (1879), *The Welsh People* (1900), and *Celtic Folklore* (1901)

Rhys ap Gruffydd (rēs' ap grĭf'fĭdh), d 1197, ruler of South Wales, called the Lord Rhys The failure of the English troops under Henry II in Wales (1165) and Henry's later troubles with English barons and clergy and with the Irish contributed to Rhys's power He signed a pact with Henry which lasted until Henry's death The authentic history of the National Eisteddfod began with the festival Rhys held in Cardigan in 1176

Rhys ap Tewdr (tōō'dur), d 1093, ruler of South Wales (1078–93) His death at the hands of Norman invaders ended a period of order and opened the floodgates of Norman conquest

rhythm, that basic element of music which is concerned with the duration of sound It is concerned both with the relative duration of tones and with the stress or accent placed upon certain tones The formulation in the late 12th cent of the rhythmic modes—basic recurrent patterns which were adhered to in composition—led to the development of METER In the centuries immediately following, music achieved a rhythmic complexity such as is found in no later music except perhaps that of our own day The degree of rhythmic complexity and the types of rhythms used are major considerations in analysis of the style of a composer or a period In the 20th cent , composers have been much interested in the possibilities of polyrhythm, the simultaneous use of several rhythmic patterns whose accents do not coincide See C F A Willhams, *The Rhythm of Modern Music* (1909), H. D. Cowell, *New Musical Resources* (1930)

Riad, Riyad, or **Riyadh** (all rēäd'), city (pop, c 30,000), capital of Saudi Arabia, in the Nejd. It lies in a palm oasis c 230 mi inland from the Persian Gulf and is a nodal point of desert travel and trade A railroad connecting Riad to the oil-rich Hasa coast is under construction. Riad has been the center of the Wahabi movement in Islam since the early 19th cent The architecture, including notably the palace of King Ibn Saud, is simple in design, reflecting the austere tenets of that sect.

Rialto, city (1940 pop. 1,770, 1949 special census pop 3,104), S Calif , near San Bernardino, in a citrus-fruit region; inc 1911.

Rialto (rēäl'tō, Ital. rēäl'tō), bridge of Venice, Italy, over the Grand Canal. It is named after an island, the most ancient quarter of the city The bridge, built in 1588–91, consists of a single marble arch and has arcades lined with shops

Ribai (rĭ'bā, rībā'), father of one of David's valiant men 2 Sam 23 29, 1 Chron 11.31

Ribalta, Francisco (frănthĕ'skō rēbäl'tä), c 1555–1628, Spanish religious painter Most of his work was done in his native Valencia Ribalta was one of the first Spaniards to use the dramatic strong light and shade characteristic of his pupil Ribera His *Last Supper* (Colegio del Patriarca, Valencia) and *St. Francis* (Prado) are splendid examples of his work

Ribaut or **Ribault, Jean** (both zhä' rēbō'), c 1520–1565, French mariner and colonizer in Florida, b Dieppe When Admiral Coligny decided to plant a French colony as an asylum for Huguenots in the New World, which had been explored for France by Verrazano (1524) and Jacques Cartier (1534–35), he appointed Ribaut to lead the expedition Ribaut sailed from France in Feb , 1562, with five vessels carrying 150 colonists On May 1, after entering the St Johns river, which he called the River of May, he landed in Florida and claimed the land for France Sailing north, he established his colony on present Parris Island, S C (see SEA ISLANDS), naming it Charlesfort, and then returned to Dieppe in July, 1562 With Catholics and Huguenots at war, Ribaut fled to England in October and there published the English translation of his report to Coligny, *The Whole and True Discouerye of Terra Florida* (1563) Queen Elizabeth, after urging Ribaut to join Thomas Stucley in establishing an English colony in Florida, accused him of planning to escape to France with the ships, and Ribaut was for some time imprisoned in the Tower Meanwhile, René de LANDONNIÈRE in 1564 established a new post, Fort Caroline, near the mouth of the St Johns Charlesfort had been abandoned, the colonists sailing for France when aid did not come In 1565 Ribaut sailed with seven ships and reinforcements for Fort Caroline The Spanish, alarmed by the activities of these Frenchmen and heretics, dispatched Pedro MENÉNDEZ DE AVILÉS to drive them out Ribaut's fleet avoided a fight with Menéndez at the mouth of the St Johns, and the Spanish sailed to SAINT AUGUSTINE Ribaut followed intending to annihilate them With Fort Caroline virtually undefended, Menéndez marched overland and killed most of the colonists Ribaut's fleet, meanwhile, was wrecked in a storm He and his followers, stranded on the coast S of St Augustine, were captured by Menéndez, who massacred most of them His narrative has been reprinted in facsimile with notes by H M Biggar and a biography by Jeannette T Connor (1927) See Francis Parkman, *Pioneers of France in the New World* (1865)

Ribbentrop, Joachim von (yō'äkhĭm fŭn rĭ'buntrôp), 1893–1946, German foreign minister (1938–45) After the First World War he grew wealthy as a champagne merchant and early joined the National Socialist party He served as German ambassador at large (1935–36) and was ambassador to Great Britain (1936–38), returning a violent Anglophobe Succeeding Neurath as foreign minister, he was influential in the formation of the Rome-Berlin AXIS, in the conclusion of the Russo-German nonaggression pact of Aug , 1939, and in planning the attack on Poland that set off the Second World War He was dismissed by Admiral Doenitz after Hitler's death Arrested (1945) by British occupation authorities, he was convicted as a war criminal and hanged

Ribble, river of England It rises in the Pennines in the West Riding of Yorkshire and flows 75 mi SW across Lancashire to the Irish Sea through a long estuary, at the head of which is Preston

ribbon, relatively narrow width of woven fabric edged with selvage Ribbons have been used for centuries as girdles, headdress, badges, and decorations The blue and the red ribbon early indicated in England the Orders of the Garter and the Bath, respectively The Ribbon Society in Ireland, opposed to the Orange men, wore a green ribbon As a symbol of awards and favors, the ribbon has long been known and was used in heraldry In the 11th cent , ribbon was woven at Saint-Étienne, France, which with Saint-Chamond still leads in the manufacture Other centers include Basel, Switzerland, Krefeld, Germany, Coventry, England, and Pennsylvania and New Jersey Ribbon weaving is a special branch of textile manufacture, a modern loom weaving from 2 to 40 webs simultaneously. Novelty types include brocade, metallic, two-tone, and picot edge ribbons

ribbon grass, ornamental perennial grass (*Phalaris arundinacea picta*), a variety of the reed canary grass It has green leaves striped with white and is often cultivated in gardens and called gardener's-garters.

Ribe (rē'bŭ), city (pop. 6,770), SW Jutland, Denmark, near the North Sea coast One of the oldest and most important cities of medieval Denmark, it has kept its 12th-century cathedral (restored) and its ancient city hall. The episcopal palace dates from c.1500.

Ribeiro, Bernardim (bĕrnärdēm' rēbā'rō), 1482?–1552?, Portuguese poet Little is known with certainty of his life He was a figure at court, fell deeply in love, and after his beloved was married to someone else, he is supposed to have gone mad His *Saudades* [yearning], usually called *Menina e moça* (the first words of the text), tells of that affair under thin disguise It is a tale of chivalry in the guise of a pastoral romance in eclogues It is remarkable not only for its prevailing tone of melancholy—which became fashionable in bucolic poetry—but also for its tone of simple sincerity and its realistic details in the midst of a complicated romantic tale

Ribera, Jusepe, José, or **Giuseppe** (hōōsā'pā rēbā'ra, hōsā', jōōzĕp'pā), c 1590–c 1652, Spanish religious painter He studied in Valencia with Ribalta and in Rome, but early settled in Naples, then a Spanish possession There, under the nickname of Lo Spagnoletto [little Spaniard], he achieved immense popularity and became court painter to the Spanish viceroy Involved in numerous intrigues, Ribera led a life as dramatic as his painting, but his influence, prestige, and prosperity constantly rose In 1644 he was knighted by the pope The art of Ribera is somber but magnificent in color and luminosity A follower of M. A Caravaggio he surpassed the latter in dramatic power and humanity and in his truly Spanish capacity to combine mysticism and realism His favorite subjects were austere He often painted the single figure of an old saint or martyr stripped to the waist and modeled in strong light and shade against a dark background These intensely realistic studies of old and emaciated figures have extraordinary power, dignity, and beauty Among his many famous paintings are *Martyrdom of St. Bartholomew, Magdalen, Prometheus,* and *Isaac Blessing Jacob* (Prado), *Descent from the Cross* and *Communion of the Apostles* (Naples), *Adoration of the Shepherds* (Louvre), *Pieta* (National Gall , London), and *St Paul* (Hispanic Society, New York) Ribera also produced a few fine etchings.

Riblah (rĭ'blu) [Heb , =fertility] **1** Unidentified boundary landmark, N Palestine, Num 34 11, **2** Important city of ancient Syria, used by the Babylonians as a headquarters in the west It was on the Orontes at the foot of Lebanon, c 40 mi E of Tripoli Its situation at the beginning of the valley between Lebanon and Anti-Lebanon gave it strategic importance, guarding the entrance to Syria and Palestine 2 Kings 23 33, 25, Jer 39 5, 52 9. Diblath Ezek 6 14

Rib Lake, village (pop 1,042), central Wis , NW of Wausau and on Rib Lake, settled 1881, inc 1902

Rib Mountain, 1,940 ft high, central Wis , a quartzite outcrop near Wausau Its summit is a state park Winter sports are held here

riboflavin see VITAMINS

Ribot, Augustin Théodule (ōgustē' tāôdül' rēbō'), 1823–91, French genre painter and engraver In early life he was a commercial designer, but he gained a reputation as a vigorous, realistic painter in his late middle age His *Good Samaritan* and *Jesus among the Doctors* are in the Luxembourg Museum, Paris

Ribot, Théodule, 1839–1916, French psychologist He was professor of experimental psychology at the Sorbonne and later at the College de France His many works in his field include *Heredity a Psychological Study of Its Phenomena, Laws, Causes, and Consequences* (1873, Eng tr , 1875), *The Diseases of the Will* (1884, Eng tr , 1884), *The Diseases of Personality* (1885, Eng tr , 1887), and *The Psychology of the Emotions* (1896, Eng tr , 1897)

Ricardo, David (rĭkär'dō), 1772–1823, British economist, of Dutch-Jewish parentage He was able to retire at 25 on the proceeds of his brokerage business, thereafter he devoted himself to study, writing, and local county affairs save for a brief period in Parliament at the end of his life Ricardo propounded a law of rent, influenced by MALTHUS, the so-called "iron law of wages", and a labor theory of value His law of rent is summed up in the statement that rent is a result and not a cause of price, the "iron law of wages" asserts that, all things considered, wages cannot rise above the lowest level necessary for subsistence, while his theory of value maintains that in exchange the value (not the price) of goods is measured by the amount of labor involved in their production Though Ricardo was a foe of the corn laws and in Parliament once suggested a levy on all property as a means of paying the national debt, his views were in general narrow, and he lacks Adam Smith's social insight and sympathies His application of theory to practice and vice versa was to some extent the foundation of the science of economics. His theory of value had tremendous influence on radical economists, and his recommendations for "sound" currency and banking practices were paramount in the 19th cent Ricardo's chief work was *Principles of Economics and Taxation* (1817).

Ricasoli, Bettino, Barone (bĕt-tē'nō barō'nā rēkä-sō'lē), 1809–80, Italian statesman. An active propagandist for Italian unity, he became (1859) head of the provisional government of Tuscany

after the flight of Grand Duke LEOPOLD II. As a result of his skillful policy the annexation of Tuscany to the kingdom of Sardinia was overwhelmingly voted in the plebiscite of 1860 Ricasoli succeeded Cavour as Italian premier (1861–62) During his second premiership (1866–67) he elaborated a proposal which tended in substance to separate Church and state, but strong opposition in the elections led to his resignation

Ricci, Matteo (mät-tā'ō rēt'chē), 1552–1610, Italian missionary to China He entered the Society of Jesus (1571) and was sent to the Indies (1578) He worked at Goa and Cochin until 1582, when he was called to Macao to enter China In 1583 he and his companion, Father Ruggieri, were at the capital of Liangkwang (present Kwangtung and Kwangsi provs.), studying the language and culture They found ready acceptance among the official classes, for the Chinese took an intense interest in their possessions, such as clocks and Western paintings The missionaries wrote tracts on Christianity, including a dialogue In 1595 Father Ricci, now alone moved to Nanchang, a center of erudition After 1601 he lived at Peking, where he became a court mathematician and astronomer, he made few converts, but he brought Christianity into good repute His maps were eagerly perused by the Chinese, who gained from him their first notion of modern Europe In return, Ricci sent back to Europe the first modern detail on China He composed a number of treatises, the principal being a catechism, *True Doctrine of God*, which was widely printed in China He made a careful study of the translation of Christian teachings into Chinese Concerning the attitude Christians should have toward Chinese official ceremonies, he concluded that the rites expressed respect only, not worship, for Confucius and the imperial ancestors See Henri Bernard, *Matteo Ricci's Scientific Contribution to China* (1937)

Riccio, Andrea see BRIOSCO, ANDREA

Riccio, David see RIZZIO, DAVID

Riccio, Domenico (dōmā'nēkō rēt'chō), c 1516–1567, Italian painter of the Veronese school, called Brusasorci. Most of his paintings, pictorial in style, are in Verona, including his masterpiece, *The Entry of Charles V into Bologna*, a fresco (Ridolfi Palace) He is represented also in the Johnson Collection, Philadelphia Museum of Art

Rice, Alice Caldwell Hegan, 1870–1942, American author, b Shelbyville, Ky , wife of Cale Young Rice Best known for the widely popular *Mrs Wiggs of the Cabbage Patch* (1901), she also wrote *Lovey Mary* (1903), *Sandy* (1905), *Miss Minks' Soldier and Other Stories* (1918), and *Mr Pete & Co* (1933) With her husband she wrote *Turn about Tales* (1921) and *Winners and Losers* (1925) See her autobiography, *The Inky Way* (1940)

Rice, Cale Young, 1872–1943, American poet and dramatist, b Dixon, Ky , grad Harvard (B A , 1895, M A , 1896) He married Alice Caldwell Hegan in 1902 His volumes of verse include *With Omar* (1900), *Sea Poems* (1921), and *Bitter Brew* (1925) He wrote many poetic dramas, two novels, and reminiscences, *Bridging the Years* (1939)

Rice, Dan, 1823–1900, American circus clown, whose real name was Daniel McLaren He was a wandering showman, an acrobat in Barnum's circus, and later a partner in Spalding's circus He performed in many other circuses and gained a wide reputation For his devotion to the works of Shakspere he was called the "Shakspere clown"

Rice, Elmer, 1892–, American dramatist, b New York city, studied law His first play, *On Trial* (1914), was highly successful for its employment of the then unique flashback It was also popular as a moving picture *The Adding Machine* (1923), an expressionistic play which startled audiences with its bluntness, and *Street Scene* (1929), the Pulitzer Prize winner of 1929, established Rice as a leading American dramatist Other plays include *Subway* (1929), *Counsellor-at-Law* (1931), and *We, the People* (1933) *Two on an Island* (1940), *Flight to the West* (1941), *A New Life* (1943), and *Dream Girl* (1945) all starred his wife, Betty Field *Imperial City* (1937) and *The Show Must Go On* (1949) are novels

Rice, Thomas Dartmouth, 1808–60, American singer and comedian, b New York city A strolling player, he first appeared in his famous song-and-dance act, "Jim Crow," c 1828, at Louisville, Ky , and repeated it in 1832 at the Bowery Theater, New York, and later in London with sensational success He popularized the NEGRO MINSTREL See Carl Wittke, *Tambo and Bones* (1930)

rice, cereal grass (*Oryza sativa*), native to the deltas of the great Asiatic rivers, the Ganges, the Tigris, the Yangtze, and the Euphrates Its cultivation has been carried into all regions where conditions of heat and moisture are favorable to its growth, mainly subtropical rather than hot or cold Modern culture makes use of irrigation, and a few varieties of rice may be grown with only a moderate supply of water The plant is an annual, from 2 to 6 ft tall, with a round, jointed stem, long, pointed leaves, and seeds borne in a dense head on separate stalks In S China and some other warm countries two crops a year may be grown. In the East the seed is broadcast in highly fertilized mud; transplanting is done when the young growth is 2 or 3 in. high In the United States the seed is usually drilled, like wheat, and the ground is kept wet until germination When the young plants appear they are flooded, later drained and cultivated, then flooded again Methods of growing differ greatly in different localities, but in most Far Eastern countries the primitive methods of growing and harvesting rice, which have been followed for centuries, are still practiced In lowlands along rivers, canals are used to irrigate the fields, on higher grounds, as in Arkansas and Texas, pumps regulate the supply of moisture, in China and Japan some hillside terraces are watered by pumps operated by treadmills In many parts of the Orient harvesting is done by hand, but in most Western countries cutting and threshing are done by machinery Rice when it comes from the threshing is known as paddy (rice fields are also called paddy fields or rice paddies) and is covered by a brown hull or coating which must be removed before marketing This is done in the Orient mainly by flailing, treading, or working in a mortar, though machinery is being introduced, in the United States a special mill is used After husking, the grains are usually polished and become white and glistening Brown rice, however, has a much greater food value than white, since the brown coatings and germ are rich in vitamins of the B-complex group and in minerals Use of white rice as a staple food when unsupplemented by foods having vitamins, minerals, and other nutrients results in deficiency diseases As a food, rice is rich in starch but low in protein and fat In China and Japan it is eaten with sauces made from the SOY BEAN, which supplies the lacking elements In combination with meat, oil, or cheese rice is a valuable food. Since it is deficient in gluten, it will not make bread unless used with the flour of other grains For feeding domestic animals, the bran, meal, and chopped straw are useful, especially when mixed with the polishings or given with skim milk The straw, which is soft and fine, is plaited in the East for hats and shoes, and the hulls fill beds and supply packing material Laundry starch is manufactured from the broken grain, which is also used by distillers A distilled liquor called arrack is sometimes prepared from a rice infusion, and in Japan the beverage sake is brewed from rice The leading rice-producing countries are India, China, Japan, Indo-China, Java, Egypt, and Brazil From the 17th cent , rice culture has been carried on in the United States, especially in Louisiana, Texas, Arkansas, California, and South Carolina See F H King, *Farmers of Forty Centuries or, Permanent Agriculture in China, Korea, and Japan* (originally privately printed, later reprinted)

rice, wild see WILD RICE

rice bird see BOBOLINK

Rice Institute, at Houston, Texas, nonsectarian, coeducational, chartered 1891, given a bequest by William Marsh Rice, opened 1912 It offers university courses in engineering, science, architecture, and liberal arts The 400-acre campus with Italianate buildings is a show place of the city There are no tuition fees

Rice Lake, city (pop 5,719), NW Wis , NW of Eau Claire, on Rice Lake and the Red Cedar river, in a dairy region, inc 1887 It grew as a lumber town and is a center for the surrounding farm and resort area There are Indian mounds

Rich, Edmund see EDMUND, SAINT

Rich, John, 1692–1761, English pantomime actor and originator of pantomime in England He imported dancing and dumb-show entertainments from the Continent and in his annual productions (1717–60) introduced pantomime to England Uneducated and uncouth in speech, he chose the role of Harlequin and, under the name Lun, first appeared at Lincoln's Inn Fields in 1716 His *Harlequin Sorcerer* (1717) took London by storm, and the success of his production of John Gay's *Beggar's Opera* (1728) enabled him to build Covent Garden theater and open it in 1732 Garrick was his only rival as Harlequin, but Garrick spoke the part See A E Wilson, *King Panto* (1935)

Rich, Penelope, Lady, 1562–1607, the "Stella" of Sir Philip Sidney's *Astrophel and Stella* (1591) Daughter of Walter Devereux, first earl of Essex, she married Lord Rich (later earl of Warwick), after a divorce she married the earl of Devonshire

Rich, Richard, fl 1610, British adventurer Few facts concerning his life are known except that he sailed for Virginia in 1609 and upon his return to England published a narrative poem, *News from Virginia* (1610) This poem includes an account of a shipwreck on the Bermuda rocks, and it is possible that some of the scenes in *The Tempest* may have been suggested to Shakspere by Rich's book There is a facsimile edition of the poem (ed by W F. Craven, 1937)

Richard I, Richard Cœur de Lion (kŭr" dŭ lē'ŭn), or **Richard Lion-Heart,** 1157–99, king of England (1189–99), duke of Aquitaine and Normandy, and count of Anjou. He saw little of England and was concerned with it chiefly as a source of revenue, but his career and his personal qualities have made him a central figure in English romance and an English symbol of chivalry He was the third son of HENRY II, against whom he was at war when only 16 years old (1172–73) as an ally of his mother (ELEANOR OF AQUITAINE) and his two older brothers Later he was at war with his brothers Again in 1189 he warred with his father, defeated him, and after Henry's death succeeded him Though Richard and his father quarreled, they seem to have had genuine mutual affection The most memorable of Richard's many warlike enterprises was the Third Crusade, in which he was allied with PHILIP II of France Departing in 1190, Richard captured Messina and Cyprus en route and married Berengaria of Navarre. He and Philip stormed Acre, and although he did not capture the strongly fortified city of Jerusalem, his valiant conduct made him the subject of many stories Philip left for France, where he plotted with Richard's brother John to divide England After Richard had made a treaty with Saladin that allowed Christians access to the holy places of Jerusalem, he started home He was captured and imprisoned by Leopold II (margrave of Austria) and held in the castle of Dürnstein, where the troubadour BLONDEL DE NESLE is supposed to have found him Leopold was compelled to surrender Richard to Emperor Henry VI, who released him only after Richard was obliged to pay a huge ransom, raised by his English subjects, and to surrender England, receiving it back as a fief Richard returned to England briefly in 1194 to try to repair the treachery of his brother JOHN and to raise funds Thereafter he fought Philip in France, in the process building the famous CHÂTEAU GAILLARD He was killed in a minor engagement Richard's ministers, including William of LONGCHAMPS and Herbert WALTER, were able to rule in the king's long absences by the excellent administrative system set up by Henry II and extended by them By Richard's wish, John succeeded him He is the subject of the romance *Richard Cœur de Lion* (c 1300) and of Maurice Hewlett's *Richard Yea-and-Nay* (1900), and his chivalrous reputation is known to all English-speaking schoolboys through Sir Walter Scott's *Ivanhoe* See Kate Norgate, *Richard the Lion Heart* (1924)

Richard II, 1367–1400, king of England (1377–99) b Bordeaux, France He was the son of Edward the Black Prince, who died in 1376 On the death of his grandfather, Edward III, in 1377, Richard of Bordeaux came to the throne During his minority, his uncle JOHN OF GAUNT was the most influential single noble, but the struggle for power among several rival factions continued the inefficient governments inherited from his predecessor Disastrous wars with France and Spain led in 1380 to a poll tax, a severe hardship for the lower classes This and other political grievances—backed by discontent at repressive labor legislation and the decaying manorial system—led to the peasant uprising of 1381, in which Wat Tyler and John Ball were most conspicuous The king, then but 14 years old, met the chief body of insurgents outside London and with great courage won their allegiance Soon afterwards the rebellion collapsed The royal concessions—abolition of serfdom, market monopolies, and restrictions on commerce—and the royal pardons were revoked, the rebels were ruthlessly persecuted In 1382 Richard married Anne of Bohemia, and the next year he asserted his full independence as ruler There followed another struggle for power between the court party of Richard, led by Michael de la Pole, earl of Suffolk, and that of the barons, led by Thomas of Woodstock, duke of Gloucester The baronial party had Richard's favorite ministers dismissed and established in 1388 a council of lords appellant The following year, however, Richard reasserted himself and with the counsel of John of Gaunt, now returned from Spain, ruled in comparative peace for several years After Anne's death Richard went (1394) to Ireland to settle troubles there, returned, and in 1396 married a young French princess, Isabelle or Isabella, to obtain a long truce with France In 1397 Richard had Gloucester murdered and some of the other appellants executed or banished and won from Parliament considerable revenue Oppressive taxes and the king's highhanded actions made England ripe for rebellion When in 1399 the king's banished cousin, Henry of Bolingbroke, duke of Hereford, returned to England, Richard himself came back hastily from Ireland to find his abdication inevitable Hereford was crowned Henry IV in September of that year Thus the house of Lancaster succeeded the Plantagenets Richard was imprisoned in Pontefract Castle and there either starved himself to death or was murdered the following year Not an ungenerous or unable man, Richard lacked that strength of character and devotion to royal business which alone might have surmounted the political, economic, and religious tensions of his period Chaucer, Gower, Langland, and Wyclif make his reign outstanding in the literary and ecclesiastical history of England. Perhaps it was through Anne that John Huss learned of Wyclif, whose follower he became. Shakspere's *Richard II*

is a subtle interpretation of the king's character based largely on Holinshed's account. See biography by Anthony Steel (1941).

Richard III, 1452–85, king of England (1483–85). The younger brother of Edward IV, of the house of York, Richard, as duke of Gloucester, served his brother faithfully during Edward's lifetime, fighting in England and invading Scotland On the death of Edward IV, his eldest son, then but 12 years old, was proclaimed king as EDWARD V. Richard, with the aid of Henry Stafford, 2d duke of Buckingham, gained control of the young king and nullified the influence of Edward IV's widow, Elisabeth Woodville, and her party These actions were popular enough, but Richard then proceeded to attack the legitimacy of Edward's children and have himself proclaimed king Upon the supposed murder (later almost conclusively proved) of Edward V and his brother in the Tower, a rebellion broke out (1483) led by Richard's erstwhile supporter, Stafford, in favor of the earl of Richmond (later HENRY VII) This was unsuccessful, and Stafford was executed In 1485, however, Richmond landed in England, and Richard was defeated and killed in the battle of Bosworth Field Richmond ascended the throne as HENRY VII Richard was the last of the Yorkist kings, and his death marked the end of the Wars of the ROSES His character has been the subject of some dissension among historians but the general unfavorable impression of him has been that presented in Shakspere's *Richard III*

Richard, earl of Cornwall, 1209–72, titular king of the Romans (see HOLY ROMAN EMPIRE), son of John of England Knighted in 1225 by his brother, Henry III of England, he rebelled against Henry in 1227 and received the grants of land and wealth he regarded as his right, as well as the title earl of Cornwall He went on expeditions, none too successful, to make good English claims in Gascony and Poitou, but all his life preferred arbitration to war He went on crusade in 1240 and, refusing to be drawn into the rivalry of the Knights Templars and Knights Hospitalers in the Holy Land, ratified (1241) a truce begun by his predecessor, Thibaut IV of Navarre and Champagne, with Egypt, and helped Robert of Burgundy rebuild Ascalon On an expedition to Gascony undertaken by Henry immediately on Richard's return, Richard was barely able to save Henry from complete military disaster Henceforth, and after Richard's marriage in 1243 to the queen's sister, Richard was the king's most businesslike adviser and acted as regent when Henry was absent. He became the wealthiest man in England Against his advice Henry accepted for Prince Edward (Edward Crouchback) the Sicilian crown, which Richard had refused Richard himself wanted to be emperor and to that end had himself elected king of the Germans (1257) The minority of the electors who did not favor him stubbornly adhered to their candidate, Alfonso X of Castile Richard was crowned in Germany as king of the Romans and made four visits to Germany, but never ruled all of the country When the BARONS' WAR broke out in earnest, Richard was one of Henry's chief supporters, was captured at the battle of Lewes, and was held prisoner until after the battle of Evesham (1265) In the settlement afterward he advised moderation against the rebels See Noel Denholm-Young, *Richard of Cornwall* (1947)

Richard City, city (pop 1,008), S Tenn , at the Ala. line near Chattanooga Cement is produced

Richard Cœur de Lion see RICHARD I, of England

Richard de Bury (bʊrˈē), 1287–1345, English bibliophile and bishop of Durham His name was Aungerville, but he was called Bury from his birthplace, Bury St Edmunds Under Edward III he served as treasurer and as chancellor and went on numerous diplomatic missions In *Philobiblon* he describes his experiences as a book collector See edition by E. C Thomas (1888, Medieval Library, 1925) of the Latin text with an English translation

Richard Lion-Heart see RICHARD I, of England

Richard of Cirencester (sīsˈĭtur, sĭrˈĭnsĕstur), d c 1401, English chronicler, monk of the Benedictine Abbey of St Peter's, Westminster He compiled the *Speculum historiale de gestis regum Angliae* [historical mirror of the deeds of the English kings], covering the period 447–1066 There is little original material, and as the compilation was carelessly done, the work has small value today Richard's name is better known for the famous forgery (1757) of Charles Bertram, who alleged that Richard was the author of a tract *De situ Britanniae*.

Richard of Devizes (dĭvīˈzĭz), late 12th cent , English chronicler and monk of St Swithins, Winchester He wrote a lively *Chronicon de rebus gestis Ricardi primi* [chronicle of the deeds of Richard I], a valuable historical source having information not found elsewhere. He may also have been the author of part (as far as 1202) of the annals of Winchester

Richard of Saint Victor, d. 1173, Scottish monk, prior of the Abbey of St. Victor, Paris. His principal importance is in the history of mystical theology, in which he is a successor to HUGH OF SAINT VICTOR. In *Benjamin Major* and *Benjamin Minor* he defined anew the stages of mystic contemplation, which he divided into six. He also wrote on rational theology, especially on the Blessed Trinity and on the Incarnate Word

Richards, Ellen Henrietta (Swallow), 1842-1911, American chemist, educator, and organizer of the home economics movement, b Dunstable, Mass , grad Vassar, 1870 In 1870 she began the study of chemistry at the Massachusetts Institute of Technology, being the first woman to enter that school and from 1884 until her death was an instructor there in sanitary chemistry She became (1872) assistant chemist to the Massachusetts state board of health, where she specialized in water analysis After her marriage (1875) she became a pioneer in the systematizing and simplifying of housekeeping to free women for broader living The last 30 years of her life were given to the development of what she called euthenics, "the science of controlled environment" With the spur of her enthusiasm and scientific knowledge, the teaching of HOME ECONOMICS made rapid progress in the first decade of the 20th cent She was an organizer and first president (1908) of the American Home Economics Association Her publications include *Euthenics* (1910) and *Conservation by Sanitation* (1911) See biography by C L Hunt (1912)

Richards, Joseph William, 1864–1921, American chemist and metallurgist, b England, grad Central High School, Philadelphia (B A , 1882) He was at Lehigh Univ from 1887 (as professor from 1903) He wrote *Aluminum* (1887) and *Metallurgical Calculations* (3 vols , 1906–8)

Richards, Laura Elizabeth (Howe), 1850–1943, American author of children's books, b Boston, daughter of Julia Ward Howe and Samuel G Howe She is best known for *Captain January* (1890) and for the Hildegarde books for girls

Richards, Theodore William, 1868-1928, American chemist, b Germantown, Pa , grad Harvard (B A , 1886, Ph D , 1888) After studying abroad he taught at Harvard from 1894 For his work in determining the atomic weights of many elements he received the 1914 Nobel Prize in Chemistry He also worked on electrochemistry, growth of crystals, and the compressibility of atoms and evolved a new atomic theory

Richards, Thomas Addison, 1820-1900, American landscape painter, illustrator, and author, b London He came to the United States in 1841 Richards organized (1858) and was first director of the School of Design for Women at Cooper Union and from 1867 taught art at New York Univ His landscapes, views from many parts of the United States and Europe, include *Warwick Castle*, *Pennsylvania Homestead*, and *French Broad River* For his illustrations for *Harper's Magazine* and elsewhere he drew directly on the wood the scene to be engraved He wrote and illustrated *The Romance of American Landscape* (1854) and *American Scenery* (1854) He became a member of the National Academy of Design in 1851

Richards, William Trost, 1833–1905, American marine and landscape painter, b Philadelphia, studied and painted in Italy, France, Germany, and England He is known especially for his marines He is represented by *The Bell Buoy* (Pa Acad of the Fine Arts), *Germantown Woods* (N Y Public Library), *On the Coast of New Jersey* and *On the Coast of New England* (Corcoran Gallery), and *Rocky Coast, Indian Summer*, and a series of 85 water colors (Metropolitan Mus)

Richardson, Clifford, 1856–1932, American chemist, b Worcester, Mass , grad Harvard, 1877 He served in various departments of the Federal government as chemist and as consulting engineer and is known for his work on asphalt, native bitumens, cements, and the chemistry of American cereals

Richardson, Dorothy M , 1882–, English novelist, whose married name is Mrs Alan Odle Her important work is *Pilgrimage* (12 vols , 1915–38, omnibus ed, 1938) She prefers the label "interior monologue" for her work as more expressive of contemplative consciousness than "stream of consciousness" See study by J C. Powys (1931)

Richardson, Ernest Cushing, 1860–1939, American librarian and bibliographer, b Woburn, Mass , grad. Amherst, 1880, and Hartford Theological Seminary, 1883, Ph D Washington and Jefferson College, 1887 He was assistant librarian at Amherst (1879-80), librarian and professor of bibliology at Hartford Theological Seminary (1884-90), and director of Princeton Univ libraries and professor of bibliography (1890–1925) In 1925 he became consultant to the Library of Congress He was the author of many professional papers and books, including *Classification, Theoretical and Practical* (1901), *Special Collections in American Libraries* (1927), and *Some Aspects of Cooperative Cataloging* (1934)

Richardson, Henry Handel, pseud. of **Henrietta Richardson Robertson,** 1870–1946, British novelist, b Melbourne, Australia. She was named Ethel Florence Lindesay Richardson, but used the name Henrietta Her years of study at the Presbyterian Ladies' College, Melbourne, were reflected in her book *The Getting of Wisdom* (1910) When she was 18, she and her sister were taken by their mother to Leipsig to study music Soon her engagement to be married and her realization that she would never be a concert pianist led her to give up music study, remove to England, and begin translating and writing She and John G Robertson were married in 1895 and lived in Germany until 1903 when he became professor of German at the Univ of London Her first novel, *Maurice Guest* (1909) is a subtle story of a musician Her major work and the most outstanding in Australian fiction is the trilogy published in 1930 as *The Fortunes of Richard Mahony*, it consists of *Australia Felix* (1917), *The Way Home* (1925), and *Ultima Thule* (1929)—the whole a tragedy of personal failure She also wrote *The End of a Childhood* and *Other Stories* (1934) and a fictional biography of Cosima Wagner, *The Young Cosima* (1939) See her autobiographical fragment, *Myself When Young* (1948)

Richardson, Henry Hobson, 1838–86, American architect, b St James parish, La , grad Harvard 1859, studied at the École des Beaux-Arts, great grandson of Joseph Priestley. He was a major exponent of romanticism in American architecture and was noted for his revival of Romanesque design. After employment in Paris, he began practice (1866) in New York but moved to Brookline, Mass in 1874 Trinity Church in Boston (1872–77) was his first monumental, and his finest work, it French Romanesque design was a departure from the Gothic revival which controlled contemporaneous American architecture In this and in subsequent works Richardson developed a free and strongly personal interpretation of Romanesque design The style, known as Richardson Romanesque, spread and won many followers, exerting great influence upon the building arts of the period especially in the young, growing cities of Chicago Cleveland, Cincinnati, and St Louis But the style was finally superseded by the Roman classicism which the World's Columbian Exposition at Chicago, 1893, strongly reestablished Richardson buildings showed strength, simplicity, and a skilful employment of varied materials In his country houses of wood he produced a distinct American type He elevated the position of the minor craft in his work, and to artists such as Augustus Saint Gaudens and John La Farge he entrusted the important units of decoration Among Richardson principal works are the New Brattle Square Church, Boston, public library, Woburn, Mass courthouse and jail, Pittsburgh, Sever Hall and Austin Hall, Harvard, parts of the state capitol at Albany, in association with Eidlety and Olmstec Glessner House, Illinois Institute of Technology Chicago See H R Hitchcock *The Architecture of H H Richardson and His Times* (1936)

Richardson, John, 1796 1852, first Canadian novelist to write in English He wrote a number of frontier romances, of which *Wacousta* (1832) and *The Canadian Brothers* (1840) are the best His personal experiences as a British soldier in Canada and in Europe furnished material for several vivid autobiographical and historical works such as *Personal Memoirs* (1838) and *The War of 181* (1842) See biography by W. R Riddell (1923)

Richardson, Sir Owen Willans, 1879–, English physicist He served as professor at Princeton Univ (1906–14) and at King's College, London (from 1924) For his researches in electrons, by which he established Richardson's law of the motions of electrons emanating from hot bodies, he received the 1928 Nobel Prize in Physics He has also worked on photoelectricity, the gyromagnetic effect, spectroscopy, X rays, and the structure of the hydrogen molecule. He was knighted in 1939 Among Richardson's books are *The Electron Theory of Matter* (1914), *The Emission of Electricity from Hot Bodies* (1916), and *Molecular Hydrogen and Its Spectrum* (1933)

Richardson, Samuel, 1689–1761, English novelist b Derbyshire When he was 50 and established as a prosperous printer, he was asked to compose a guide to letter writing While preparing it, the idea of introducing a central theme occurred to him, he interrupted his task to write and publish his novel of morals in letter form, *Pamela, or, Virtue Rewarded* (2 vols , 1740) The guide known now as *Familiar Letters*, came out in 1741, just before Vols III and IV of *Pamela* He wrote two more long, epistolary novels, *Clarissa, or, The History of a Young Lady* (7 vols , 1747–48) and *The History of Sir Charles Grandison* (7 vols , 1753–54) His novels are didactic, moral, and sentimental and were enormously popular *Pamela* was recommended even from pulpits and was dramatized several times, Rousseau is said to have drawn inspiration from *Clarissa* Richardson was a poor storyteller he won his secure place among the great novelists by his minute realism, his characterizations of women, and his sentimentalism See biography by A D McKillop (1936), bibliographical study by W M Sale, Jr (1936)

Richardson, William Adams, 1821–96, American jurist and U S. Secretary of the Treasury, b Tyngsboro, Mass , grad Harvard, 1843 Admitted to the bar in 1846, he helped to codify the statute law of Massachusetts in 1855 He was appointed Assistant Secretary of the Treasury (1869) by President Ulysses S. Grant, handled the Treasury's

funding operations in London (1871–72), and succeeded his sponsor, George S Boutwell, as Secretary in 1873 In the Panic of 1873 he yielded to the pressure of inflationists and reissued $26,000,000 in greenbacks, though their legality was doubtful Following an investigation into the shady contracts awarded to John D Sanborn for tax collections, by which the Treasury was defrauded of money it would have collected, Richardson was censured and forced to resign Grant, however, appointed (1874) him to the U S Court of Claims, of which he became chief justice in 1885 He wrote *Banking Laws of Massachusetts* (1855) and *Practical Information concerning the Public Debt of the United States* (1872, 3d ed , 1873)

Richberg, Donald Randall, 1881–, American public official, b Knoxville, Tenn , grad Univ of Chicago, 1901, and Harvard Law School, 1904 He practiced law in Chicago, served as attorney for the city and for Illinois, and became nationally known after specializing in railroad and labor legislation He helped draft (1933) the act that established the National Recovery Administration and was its administrator just before NRA was declared (1935) unconstitutional His writings include *A Man of Purpose* (1922), *Tents of the Mighty* (1930), and *Government and Business Tomorrow a Public Relations Program* (1943)

Richelieu, Armand Emmanuel du Plessis, duc de (rĭ'shlōō, Fr armäN' ēmanüēl' du plĕsē' duk' du rēshülyû'), 1766–1822, French statesman An émigré, he was in the service of Russia as governor of Odessa (1803) and of the Crimea (1805) Made chief minister by Louis XVIII after the Hundred Days (1815), he secured the quick payment by France of the indemnity imposed by the Treaty of Paris of 1815 and thus hastened the evacuation of occupation troops In his domestic policy, Richelieu favored leniency toward the ex-revolutionists and Bonapartists, thus displeasing the ultraroyalist faction headed by the king's brother, the comte d' Artois (later Charles X) In 1816 Richelieu advised the king to dissolve the extreme reactionary chamber of deputies (the so-called *chambre introuvable*) rather than submit to its program Richelieu resigned in 1818, but returned to power in 1820, when the murder of the duc de Berry caused the fall of Decazes His measures against the radicals were not sufficient to suit the taste of the comte d' Artois, who applied pressure on Louis XVIII and secured (1821) Richelieu's dismissal With Richelieu's successor, Villèle, the ultras came into power

Richelieu, Armand Jean du Plessis, duc de (Cardinal de Richelieu) (zhä), 1585–1642, French prelate and statesman, minister of Louis XIII, cardinal of the Roman Church Consecrated bishop of Luçon (1607), he was chosen a delegate of the clergy to the States-General (1614) In 1616, through the favor of Marie de' Medici, he became a secretary of state He went into exile with Marie after the murder of Concini (1617) and was her emissary (1621) to the king after the death of Luynes In 1622 he was made cardinal He became chief minister in 1624 The growing jealousy of Marie endangered his position, but he succeeded in procuring her exile in 1630 From then until his death he was in complete control of the government Richelieu's domestic policy aimed at centralizing authority by destroying the power of the Huguenots and the great nobles The Huguenots were humbled by the capture of La Rochelle (1628), the Peace of Alais (1629) ended their special political privileges —without, however, denying them religious toleration Conspiracies of the nobles, who invariably found a figurehead in Gaston d'Orléans, were rigorously suppressed In foreign affairs, Richelieu reacted against Marie de' Medici's pro-Hapsburg diplomacy in favor of the traditional French anti-Spanish and anti-Austrian policy To this end he strengthened the army and navy, made alliances with the Netherlands and the German Protestant states, and in 1631 subsidized Gustavus II of Sweden against the emperor In 1635 he formed an active alliance with Sweden and Bernhard of Saxe-Weimar, and France entered the Thirty Years War The terms of the Peace of Westphalia (see Westphalia, Peace of), though reached six years after his death, were in general conformity with his aims Heavy taxation incident upon the expenses of the war and Richelieu's ignorance of finance depleted the treasury and caused widespread dissatisfaction, which later led to open revolt. On the other hand, Richelieu expanded commerce by organizing companies to trade in the Indies and Canada Richelieu was a patron of the arts and the founder of the French Academy Among his literary works are his memoirs and the *Testament politique* Richelieu's appearance is well known from the portrait by Philippe de Champaigne See biographies by Richard Lodge (1914), Karl Federn (1928), Auguste Bailly (1936, Eng. tr , 1936), and Carl Burckhardt (1940), J B Perkins, *Richelieu and the Growth of French Power* (1900), F C Palm, *The Economic Policies of Richelieu* (1922)

Richelieu (rĭ'shülōō), river, c 75 mi long, issuing from the north end of Lake Champlain, near the N.Y.–Quebec line, and flowing N across S Quebec to the St Lawrence river at Sorel, at the head of Lake St Peter Discovered by Samuel de Champlain in 1609, the river was the route of early explorers. It played a role in the French and Indian War, in the American Revolution, and in the War of 1812 and was important in the logging industry It is a link in the waterway connecting the Hudson and St Lawrence rivers

Richepin, Jean (zhäN' rēshpĕ'), 1849–1926, French poet, dramatist, and novelist His affiliations with the naturalistic school are most evident in the frankness of his poems and in the realistic portrayals in his plays His more successful plays include *Par le glaive* (1892) and *Le Chemineau* (1897) Imprisoned for the "offense to morals" in his *La Chanson des gueux* [the song of beggars] (1876), he later was made a member of the French Academy

Richer (rēshā') fl c 1000 French chronicler, a monk of the abbey of St Remi at Rheims There he was a protégé of Archbishop Gerbert (Pope Sylvester II) He composed a continuation of Hincmar's annals, extending from 884 to 998 It is the prime source on French history of this period

Richet, Charles Robert (shärl' rōbĕr' rēshā'), 1850–1935, French physiologist From 1887 to 1927 he was professor at the Univ of Paris He studied the nervous system, animal heat, serum therapy, and, especially, anaphylaxis—the sensitivity of the body to alien protein substances For his work on anaphylaxis he received the 1913 Nobel Prize in Physiology and Medicine He was also interested in psychical research

Richfield 1 Village (pop 6,750), SE Minn , just S of Minneapolis 2 City (pop 3,584), co seat of Sevier co , S central Utah, in the Sevier river valley Settled in 1863 by Mormons, it was abandoned in the Indian war (the Black Hawk War) of 1865–68 It is processing center for a farm and dairy region, and there are coal and gypsum mines near by

Richfield Springs, village (pop 1,209), E central N Y , SE of Utica, in dairy country, inc 1861, reinc 1934 Its sulphur springs have made the town a health resort since the early 19th cent

Richford, town (pop 2,646), N Vt , at the Canadian line, a port of entry on the Missisquoi, in a lumbering region, settled 1795 Plywood and other wood products are made here

Rich Hill, city (pop 1,994), W Mo , SSE of Kansas City, in a farm and timber area

Richier, Ligier (lēzhyā' rēshyā), c 1500–c 1567, French sculptor Most of his work is in the churches of his native Lorraine The most famous is *The Entombment*, consisting of 13 life-size figures in marble in the Church of St Étienne, Saint-Mihiel The group is dramatically conceived and beautifully executed Other works are in the Church of St Pierre, Bar-le-Duc, and in the Louvre

Richland. 1 City (pop 1,497), SW Ga , SSE of Columbus, in an eroded farm area, inc 1886 Providence Caverns are between Richland and Lumpkin 2 Unincorporated village (pop c 18,000), SE central Wash , on the Columbia and E of Yakima Richland is the headquarters of Hanford Works, run by the U S Atomic Energy Commission for the production of plutonium Richland was built on Federal property from 1943 to 1945 to house the employees of Hanford Works, while it was being built, the workers lived in a temporary camp city called Hanford

Richland Center, city (pop 4,364), co seat of Richland co , central Wis , NW of Madison and on the Pine, settled 1849, inc 1887 It is the trade and industrial center of a dairy region and has several cooperative enterprises Frank Lloyd Wright was born here

Richlands, mining town (pop 2,203), extreme SW Va , near the W Va line, in a coal area of the Allegheny Mts

Richmond, Sir William Blake, 1842–1921, English painter and decorator He is best known for his pictures on classical themes, such as *A Procession in Honor of Bacchus* and *An Audience at Athens* He designed decorations and glass mosaics for the interior of St Paul's Cathedral

Richmond, town (pop 3,082), S Que , on the St Francis river and NNW of Sherbrooke It is a market town for a dairying region, with copper, chrome, and steatite mining near by

Richmond. 1 Municipal borough (1931 pop 37,797, 1947 estimated pop 41,720), Surrey, England, WSW of London and on the Thames It is the site of the Palace of Sheen, in which Edward III, Richard II, Henry V, Henry VII (who changed the name to Richmond), Elizabeth, and other sovereigns lived Charles I established the large deer park Kew Observatory is here The 18th-century Inn of the Star and Garter, which figures in Scott's works, was torn down in 1919 The town is a residential suburb of London and a resort and has market gardens and nurseries 2 Municipal borough (pop 4,769), North Riding of Yorkshire, England, on the Swale river It has an old church and ruins of an ancient castle and a monastery of the Gray Friars

Richmond. 1 City (1940 pop 23,642, 1947 special census pop 101,519), W Calif , NE of San Francisco, across San Francisco Bay, inc. 1905. Originally part of a Spanish rancho founded in 1823, it was heavily settled with the coming of the railroad in 1899 and is now a deep-water port and industrial center with oil refineries, railroad repair shops, and foundries Varied manufactures include metal products, chemicals, canned foods, fish oil and meal, and plumbing and building supplies The council-manager form of government was adopted in 1920 Several areas given over to busy shipyards in the Second World War were returned to private industry in 1947–48 2 City (pop 35,147), co seat of Wayne co., E Ind , near the Ohio border E of Indianapolis, settled 1806, inc 1818 A trading center for a large farming area, it has manufactures of farm machinery and automotive gears Earlham College (Friends, coeducational, 1847) is here and there is a tuberculosis sanatorium Quakers from North Carolina and Pennsylvania made the first settlement of the city 3 City (pop 7,335), co seat of Madison co , central Ky , SSE of Lexington, settled 1784 It is in the bluegrass region and produces tobacco, livestock, and corn The Civil War battle of Richmond, Aug 30, 1862, was a victory for the Confederates under Kirby Smith Richmond is the seat of Eastern Kentucky State Teachers College and of a U S trachoma hospital Cassius M Clay is buried here 4 Town (pop 2,063), SW Maine on the Kennebec 12 mi N of Bath, set off from Bowdoinham and inc 1823 5 Village (pop 1,722), S Mich , SW of Port Huron, in a farm and dairy region, settled 1836, inc 1879 Plows are manufactured There are annual harness races here 6 City (pop 4,240), co seat of Ray co , NW Mo , near the Missouri river ENE of Kansas City, in a farm and coal area, laid out 1827 7 Borough of New York city, SE N Y see Staten Island 8 Rural town (pop 1,629), S R I , set off from Charlestown and inc 1747 Its villages include Wyoming, Carolina, and Usquepaugh 9 Town (pop 2,026), co seat of Fort Bend co , S Texas, on the Brazos and SW of Houston, founded 1822 Prominent at the time of the Texas Revolution, it was a busy plantation market until the Civil War and is now a wide and shady town in a farm and livestock area with some oil There is a monument to a hero of the Texas Revolution, Erastus Smith (Deaf Smith), who is buried here, as is Mirabeau B Lamar A state prison farm is near by 10 City (pop 1,131), extreme N Utah, N of Logan, settled 1859 by Mormons It is the trade and processing center of an irrigated farm and dairy area 11 Town (pop 1,225), NW Vt , SE of Burlington, formed 1794, area first settled 1775 Dairying is done here In the town is a 16-sided church built in 1812 and long used by several denominations 12 City (pop 193,042), state capital, SE Va , largest city of the state, at the head of navigation on the James (which furnishes water power) The courthouse of Henrico co is here Richmond is a port of entry and a shipping, financial, cultural, and distributing center Settled in 1637 as a trading point, it was later the site of a trading post called Byrd's Warehouse, the town was projected by Col William Byrd in 1733, laid out in 1737, and first incorporated in 1742, city incorporation was in 1782 It was made capital of the commonwealth in 1779 and was pillaged by Arnold in 1781 During the Civil War, Richmond was the capital of the Confederacy and the constant objective of Federal troops The city was seriously threatened in the Peninsular campaign (1862), when it was saved by the Seven Days battles, in the Wilderness campaign (1864), and in Grant's campaign of 1864–65 (see Petersburg), which culminated in the city's fall Much of the city was burned during the final evacuation, April 3, 1865 Richmond National Battlefield Park (684 44 acres, est 1944) includes several of the battlefields Chief among its varied industries is the processing of tobacco, machinery, paper, and textiles are also important products Places of interest include the state capitol (begun 1785), with Houdon's figure of Washington, the Washington Monument (by Thomas Crawford), the Valentine Museum, the White House of the Confederacy, once the home of Jefferson Davis, now the Confederate Museum, St John's Church (1741), where Patrick Henry made his famous speech ending, "Give me liberty, or give me death", the Poe Foundation (the oldest building in the city, built c 1686), John Marshall's house (1793), the Virginia Museum of Fine Arts (1934), and Monument Ave , with its statues of Confederate leaders The city is also the seat of Union Theological Seminary, Richmond Professional Institute of the College of William and Mary, the General Assembly's Training School for Lay Workers (Presbyterian, coeducational), Virginia Union Univ (Negro, Baptist, coeducational, 1865), the Medical College of Virginia, and the Univ of Richmond (Baptist, for men and women, 1832) See W A Christian, *Richmond Her Past and Present* (1912), M N Stanard, *Richmond Its People and Its Story* (1923)

Richmond and Derby, Margaret Beaufort, countess of: see Beaufort, Margaret

Richmond and Lennox, Charles Lennox, 3d duke of, 1735–1806, English statesman He served in the army until 1759, meanwhile (1750) succeeding to

his father's titles and taking his place in the House of Lords He served as ambassador to France (1765) and was a staunch defender of the cause of the American colonies, holding that their resistance was justifiable In 1780 he introduced a reform bill which advocated annual Parliaments, manhood suffrage, and equal electoral districts His famous letter advocating universal suffrage was first published in 1783 The following year, however, he joined the ministry of the younger William Pitt, made up his previous differences with George III, and abandoned the cause of reform He held a seat in the Pitt cabinet until 1795.

Richmond and Lennox, Frances Teresa Stuart, duchess of see STUART, FRANCES TERESA, DUCHESS OF RICHMOND AND LENNOX

Richmond Heights, city (pop 12,802), E Mo , near St Louis

Richmond Hill, village (pop 1,345), S Ont., N of Toronto, in a market-gardening area

Richter, Adrian Ludwig (ä'drēən lo͝ot'vĭkh rĭkh'tur), 1803–84, German painter, illustrator, and etcher, son and pupil of the engraver Karl Richter (1778–1848) His characteristic paintings combine figure and landscape, as in *Bridal Procession in Springtime*. Richter made some 240 etchings and scenes in Saxony and Rome and over 3,000 drawings for woodcuts, including illustrations for Goldsmith's *Vicar of Wakefield*, Schiller's poem "Song of the Bell," and many others

Richter, Gustav Karl Ludwig (go͝os'täf kärl' lo͝ot'vĭkh), 1823–84, German figure and portrait painter, studied in Berlin, Paris, and Rome He painted some large compositions, such as *The Raising of Jairus' Daughter*, but excelled as a portraitist His portraits of Countess Karolyi and George Bancroft and his ideal portrait of Queen Louise are good examples The Metropolitan Museum has his *Victory*

Richter, Johann Paul Friedrich (vō'hän poul' frē'drĭkh), pseud **Jean Paul** (zhä pōl'), 1763–1825, German author After completing his university studies, he taught in Leipzig Years of struggle followed until the novel *Hesperus* (1795, Eng tr, 1865) established his fame The fantasies *Leben des Quintus Fixlein* (1796, Eng tr by Carlyle *Quintus Fixlein*, 1827) and *Siebenkäs* (1796–97, Eng tr, 1845) attracted much notice, and Richter was rewarded by a pension in 1800 Other works include the novel *Titan* (1800–1803, Eng tr, 1862) and *Levana* (1807, Eng tr, 1848), a treatise on education Widely admired for the sentiment, humor, and lofty viewpoint, his novels made Jean Paul the outstanding romancer of his period He greatly influenced other German authors and the composer Schumann

Richthofen, Ferdinand, Baron von (fĕr'dē nänt' bärōn' fŭn rĭkht'hōfun), 1833–1905, German geographer, geologist and traveler He took part in a Prussian expedition in E Asia (1860–62), worked as a geologist in the W United States (1862–68), then made several exploring journeys in China and Japan (1868–72) His geographical, geological, economic, and ethnological findings in China were embodied in three volumes and an atlas (1877–85), three posthumous volumes appeared in 1911 and 1912 He was professor at the universities of Bonn (1875–83), Leipzig (1883–86), and Berlin (from 1886) and was a founder and the first director (1902–5) of the Institut für Meereskunde, Berlin

Richthofen, Manfred, Baron von (män'frāt), 1892–1918, German aviator of the First World War He is credited with shooting down 80 planes and was killed in action See Floyd Gibbons, *Red Knight of Germany* (1927)

Richtmyer, Floyd Karker (rĭkt' mī"ur), 1881–1939, American physicist, b Cobleskill, N Y , grad Cornell (B A , 1904, Ph D , 1910) He was associated with Cornell from 1906, as professor from 1918, and as dean of the graduate school from 1931 He studied with K M G Siegbahn and became internationally known for his researches in X rays, especially their absorption by various substances; he also investigated the photoelectric effect, photometry, and physiological optics

Richwood. 1 Village (pop 1,628), W central Ohio, SW of Marion **2** Lumber city (pop 5,051), S W Va , on the Cherry river, in a once-important timber area, inc as a town 1901, as a city 1921 It manufactures many wood products, including clothespins, pulp, and paper

Ricimer (rĭ'sĭmŭr), d 472, Roman general of the tribe of the Suebi In 456 he won a naval victory over the Vandals and deposed the Emperor AVITUS He was thereafter the real ruler of Italy and erected a series of puppet emperors, of whom the only one to show any ability was MAJORIAN, whom Ricimer deposed and killed

Rickenbacker, Edward Vernon (rĭ'kŭnbă"kŭr), 1890–, American aviator, b Columbus, Ohio In the First World War he was commander of the 94th Aero Pursuit Squadron in France He is credited with bringing down 25 German aircraft and for his heroism in action was awarded the Congressional Medal of Honor and the Croix de Guerre He retired from the army with the rank of captain and in 1938 became president of Eastern Airlines. In the Second World War he visited various theaters of operations on special missions for the air force; on one of these trips his plane crashed in the Pacific and he and the crew were adrift for 27 days before being rescued *Seven Came Through* (1943) is his story of this ordeal He also wrote *Fighting the Flying Circus* (1919) See biography by H C Adamson (1946)

Rickert, Heinrich (hīn'rĭkh rĭ'kŭrt), 1863–1936, German philosopher, disciple of Windelband Rickert, interested in the field of values, stressed the selective nature of thought, believing that the bias of each individual influences what he learns. His doctrine, called "the primacy of the ought," declared the values of each individual the starting point of truth His works include *Der Gegenstand der Erkenntnis* (1892) and *Die Grenzen der naturwissenschaftlichen Begriffsbildung* (1896–1902)

rickets (rĭ'kĭts), or **rachitis** (rukĭ'tĭs), acquired constitutional disease of infancy and childhood caused by a nutritional disturbance which affects the calcium metabolism of the body Decrease in the amount of calcium deposited causes softening of bone structure and brings bone deformities The chest may present an abnormal appearance, in some cases showing the "rachitic rosary," a series of enlargements occurring on both sides of the breastbone The child's skull is usually large, and the fontanels are delayed in closing, the teeth are late in developing, the lower jaw may be deformed, causing an "open bite" condition, and the child is late in learning to stand Bowleg, knock-knee, and curvature of the spine occur frequently The disease is prevented and is treated by proper nutrition with adequate amounts of calcium, phosphorus, and vitamin D Sunlight and ultraviolet treatments aid calcium metabolism

Ricketts, Charles, 1866–1931, British artist, b Geneva He and his lifelong friend, Charles Shannon, edited (1897–99) the *Dial*, and Ricketts's oils are notable for their coloring and romantic mood He is best remembered, however, as designer and manager of the VALE PRESS from 1896 to 1904 His contribution to fine bookmaking was very great He also wrote on art See *Self-Portrait Letters and Journals of Charles Ricketts* (1939)

Rickman, Thomas, 1776–1841, English architect He was educated as a physician, but a taste for ecclesiastical archaeology led him to the practice of architecture While his many churches—all in the Gothic style—show a meticulous knowledge of medieval forms rather than any originality of design, Rickman was an important figure in the Gothic revival His book, *An Attempt to Discriminate the Styles of Architecture in England* (1817), the first systematic treatise on the English medieval period, is a standard work Besides innumerable churches, he built, in 1826, the new court of St John's College, Cambridge Univ

riddle, puzzling question, specifically one which consists of a fanciful description or definition of something to be guessed A famous riddle was asked by the Sphinx "What goes on four legs in the morning, on two at noon, on three at night?" OEDIPUS guessed the answer correctly "Man—in infancy he crawls, at his prime he walks, in age he leans on a staff " Samson's riddle is also famous 'Out of the eater came forth meat, and out of the strong came forth sweetness " Judges 14 14 It refers to a lion he had just killed, on which he saw bees and honey, he ate some of the lion and the honey There are many riddles in folklore A common modern one among English-speaking people is "What goes up the chimney down or down the chimney down, but never up the chimney up or down the chimney up?" The answer is, "An umbrella " Punning riddles are common, as "When is a door not a door?" The answer is, "When it's ajar " There is comparatively little riddle literature, but riddles do figure considerably in Old English The Exeter Book contains many English verse riddles of uncertain date, they vary considerably in matter There are also many riddles in Latin hexameters dating from Anglo-Saxon England See Frederick Tupper, *The Riddles of the Exeter Books* (1910), J G Lawson, *The World's Best Conundrums and Riddles of All Ages* (1924)

Rideau Canal (rēdō', rē'dō), 126 mi long, S Ont , connecting the Ottawa river at Ottawa with Lake Ontario at Kingston The canal, which has 47 locks, follows the course of the Rideau river to Rideau Lake, thence the course of the Cataraqui river It was built (1826–32) by army engineers under the direction of Col John By to provide access from the St Lawrence to Lake Ontario without exposure to attack by American forces on the U S shore of the St Lawrence Little used as a waterway, the canal system has become a popular recreation area and scenic attraction

Ridgefield. 1 Residential town (pop. 3,900), SW Conn , at the N Y line, settled 1708, inc 1709 The battle of Ridgefield (April 27, 1777) was fought in an effort to stop Tryon's men in their retreat from Danbury The fine homes on the broad main street include that of Cass Gilbert **2** Borough (pop 5,271), NE N J., E of Rutherford, inc 1892

Ridgefield Park, residential village (pop 11,277), NE N J , NW of Ridgefield, inc 1892

Ridgeland, town (pop. 1,021), co. seat of Jasper co., S S.C., WSW of Charleston, in a farm, lumber, and livestock area.

Ridgeley, residential town (pop 1,907), W Va in the Eastern Panhandle, on the North Branch of the Potomac opposite Cumberland, Md ; settled 1747 Fort Ohio was established here in 1754

Ridgely, town (pop. 1,068), W Tenn , near the Mississippi and just SSW of Reelfoot Lake

Ridgetown, town (pop 1,944), S Ont , E of Chatham It is a trade center for a farm and tobacco region, with canneries and grain elevators

Ridgeville, town (pop 1,003), Randolph co , E Ind near the Ohio border, settled 1817, inc 1868

Ridgewood, residential village (pop 14,948), NI N J , NNE of Paterson, inc 1894

Ridgway, Robert (rĭj'wā), 1850–1929, American ornithologist, b Mt Carmel, Ill Curator of the division of birds at the U S National Museum from 1880, he is known for his work in systematic ornithology and color definition His works include, besides catalogues of bird collections and descriptions of birds in the National Museum *Manual of North American Birds* (1887), *Birds of North and Middle America* (1901–10), and *Color Standards and Color Nomenclature* (1912)

Ridgway (rĭj'wā) **1** Village (pop 1,167), SE Ill W of the junction of the Wabash and the Ohio in a farm and timber region, inc 1886 **2** Borough (pop 6,253), co seat of Elk co , NW Pa , on the Clarion river and NE of Clarion, laid out 1833 inc 1881 It produces electrical machinery and leather

riding The riding of horses was practiced as far back as the Bronze Age and was thereafter adapted to commerce, industry, and war Diverse styles of riding developed, and the SADDLE, as well as the STIRRUP and other riding aids, were manufactured in conjunction with the different needs of horseback riding Thus the jockey's riding style sacrifices the rider's comfort and security to enable the horse to obtain maximum speed On the other hand, the cowboy's style developed from the need of staying in the saddle for long hours to herd cattle, consequently the legs are straight, the foot normally rests in a large stirrup, the rider does not grip his horse, and he keeps his seat by means of balancing This also was the general style of the knight in the medieval period when horseback riding developed into a sport and an essential part of the gentleman's education The "academy" style of riding is very popular in the NE United States as well as in Europe Horse shows in America date from 1883 and equestrian events have been included in the Olympic games See J M T Baretto de Souza *Horseback Riding Made Easy* (1935), M F McTaggart, *The Art of Riding* (7th ed , 1946), L W Durrell, *Manual for Riders* (1949)

Riding, East, North, West see YORKSHIRE, England

Riding Mountain National Park, 1,148 sq mi , SW Man , S of Dauphin and W of Lake Manitoba, established 1929 A wooded region with several small lakes, on the highest part of the Manitoba escarpment, it is a recreation area and big-game sanctuary

Ridley, Nicholas, 1500?–1555, English prelate, reformer, and Protestant martyr In 1534, while a proctor of Cambridge Univ , he was a signer of the decree against the pope's supremacy in England In 1537 he became chaplain to Cranmer, in 1540 master of Pembroke Hall, Cambridge, and in 1541 chaplain to Henry VIII and canon of Canterbury As bishop of Rochester (1547) Ridley was chosen to strengthen and establish the Reformed teachings at Cambridge In the reign of Edward VI, he took part in compiling (1548) the Book of Common Prayer, and he was a commissioner in the examination that resulted in the deposition of Bishops Stephen Gardiner and Edmund Bonner In 1550 he succeeded Bonner as bishop of London Ridley's support of Lady Jane Grey brought upon him the condemnation of Mary Tudor, shortly after Mary's accession to the throne he was sent (1553) to the Tower and then imprisoned in Oxford, but he would not recant his religious opinions He was declared a heretic and excommunicated At a second trial (1555), Ridley was convicted and sentenced to be burned at the stake With LATIMER he suffered this fate at Oxford See his works (ed by Henry Christmas, 1841), J C Ryle, *Bishops Latimer and Ridley* (1925)

Ridley Park, residential borough (pop 3,887), SE Pa , near Philadelphia, inc 1888 It manufactures rock-wool insulation The home of John Morton is here

Ridpath, John Clark, 1840–1900, American educator and author, b Putnam co , Ind , grad Indiana Asbury College (now DePauw Univ), 1863 He became a teacher in Indiana schools From 1869 to 1885, when he retired to devote his time to writing, he was successively professor of belles-lettres, of history, and of political philosophy at Indiana Asbury, serving also, after 1879, as vice president He was instrumental in interesting Washington Charles De Pauw in the university which was renamed in his honor Ridpath wrote biographies of James G Blaine, James A Garfield, William E Gladstone, and James Otis, monographs on monetary subjects, and popular histories of the United States and of the world, which

have been frequently reissued He was also editor in chief of the *Redpath Library of Universal Literature* (25 vols , 1898, rev. ed., 1906).

Riduna: see ALDERNEY, Channel Islands.

Riehl, Wilhelm Heinrich (vĭl'hĕlm hĭn'rĭkh rēl), 1823–97, German historian and novelist Influenced by Ernst Moritz Arndt, he devoted himself to the cultural and social history of Germany, taught at Munich, and later directed the Bavarian national museum He wrote *Naturgeschichte des Volkes als Grundlage einer deutschen Sozial-Politik* [the natural history of the people as the foundation of a German socio-political system] (4 vols , 1851–64), an important pioneer work in German sociology, and various works of fiction and history His story *Castle Neudeck* (1876) was translated into English (1907)

Riel, Louis (lwē' rĕĕl'), 1844–85, Canadian insurgent, leader of two rebellions, b Manitoba, of French and half-breed parentage In 1869–70 he led the rebels of the Red River settlements and headed the provisional government of their founding Riel's followers were mainly French half-breeds (the BOIS-BRÛLÉS or *métis*) and Indians, who considered that, in the transfer (1869) of the Hudson's Bay Company territory to Canada, their land rights and other interests were threatened Donald A Smith (later Lord Strathcona) was sent by the government to treat with Riel When Canadian and imperial troops under Garnet Wolseley were dispatched (1870) to face the rebels at Fort Garry, the Red River Rebellion collapsed without bloodshed, and Riel fled the country In that year, under the Manitoba Act, the Red River settlements were accorded a provincial government and many of the rights that Riel had sought In 1884 **Riel's Rebellion** occurred when he was summoned back to Canada to lead a group of Indians and *métis* in Saskatchewan, who were bent upon securing titles to their lands The uprising ended with an engagement (1885) at Batoche, his headquarters. He was captured, tried for treason, and hanged See G F G Stanley, *The Birth of Western Canada a History of the Riel Rebellions* (1936)

Riemann, Georg Friedrich Bernhard (gā'ôrkfrē'drĭkh bĕrn'härt rē'män), 1826–66, German mathematician His great contributions to mathematics include his work on the theory of the functions of complex variables and his method of representing these functions on coincident planes or sheets (Riemann's surfaces) He laid the foundations of a non-Euclidian system of geometry (Riemannian geometry) representing elliptic space He was professor at the Univ of Gottingen from 1859 See L P Eisenhart, *Riemannian Geometry* (1926)

Riemenschneider, Tilman (tĭl'man rē'munshnī"dur), c 1460-1531, German sculptor, who worked in stone and in wood Coming from the Harz mts , he is known to have been in Wurzburg by 1483 In 1520 he was made burgomaster, but because of participation in the peasant insurrection, he was imprisoned in 1525, and little is known about his work in later years Among fine sepulchral monuments are the tombs of Bishop Rudolf von Scherenberg (cathedral, Würzburg) and of Emperor Henry II and his wife Kunigunde (cathedral, Bamberg) Other works which are undoubtedly Riemenschneider's are *Adam and Eve* (Frankfurt-am-Main) and a bust of Bishop Burkhard (National Gall of Art, Washington, D C) Riemenschneider is among the foremost German sculptors of the Renaissance.

Rienzi or **Rienzo, Cola di** (kō'lä dē rēĕn'tsē, rēĕn'tsō), 1313'–1354, Roman popular leader Partly through his readings in the classics, he conceived the idea that he had a mission to end the rule of violence in Rome, to establish a democracy, and to make Rome the capital of Italy In 1343 he was sent to Avignon on a mission to Pope Clement VI There he befriended Petrarch and won the pope's confidence. After returning to Rome as papal notary, he won great popular support, wide dictatorial powers were conferred upon him (May, 1347), these he declared he held under papal sovereignty He crushed the barons, started great reforms, and tried to arouse a national conscience rising above factional strife He sought to rally the support of the other Italian cities, dreaming of a popular Italian empire He called himself tribune of the sacred Roman republic The pope, who at first supported him, was now aroused by his policies and incited the barons against Rienzi After a tumult (Dec 1347) Rienzi retired He stayed for two years in a convent in the Apennines In 1350 he went to Prague to tell Emperor Charles IV that they both were called to regenerate the Church and the world Charles jailed him, then sent him (1352) to Avignon to be tried by the Inquisition. Pope Clement VI died in the meantime, and his successor Innocent VI absolved and freed Rienzi and sent him with ALBORNOZ to Italy The cardinal made him senator, and Rienzi entered Rome in triumph, his violent, arbitrary rule, however, resulted soon afterward in his murder in a popular uprising In modern times he has been idealized as a forerunner of Italian nationalism Wagner's opera *Rienzi* is based on his life

Riesa (rē'sa), city (pop 34,406), Saxony, E Germany, NW of Dresden. It is a river port on the Elbe and has steel mills and varied manufactures

Riesener, Jean Henri (rē'sənûr, Fr shäⁿ' ärē' rēsənĕr'), 1734–1806, French cabinetmaker, one of the great artists who contributed largely to the formation of the Louis XVI style in France Born in Germany, he early moved to Paris and joined the Arsenal workshop of J F Oeben, with whom he collaborated in the creation of Louis XV's writing desk, finished in 1769, one of the supremely fine achievements of 18th-century cabinetmaking After Oeben's death (c 1765), Riesener became conductor of the Arsenal workshops and continued the production of sumptuous furniture for the court and fashionable society Riesener's pieces are distinguished for their architectural lines, finely executed adornments in chiseled bronze, and exquisite marquetries Examples are in the Louvre, Compiègne, Fontainebleau, Windsor, and the Wallace Collection, London

Riesengebirge (rē'zungûbĭr'gu), Czech *Krkonoše* (kŭr'kônôshĕ), Pol. *Karkonosze* (kärkônô'shĕ), range extending along the border of Bohemia Czechoslovakia) and Silesia, a part of the Sudetes It is sometimes called, in English, the Giant Mts Its highest peak, the Schneekoppe (Czech *Sněžka*, Pol *Snieżka*) rises to 5,258 ft on the Czech-Silesian border There are numerous spas, notably Johannisbad (Czech *Janské Lázně*), with warm carbonic springs, and many resorts famous for their lovely scenery

Rietschel, Ernst Friedrich August (ĕrnst' frē'drĭkh ou'gōōst rē'chul), 1804–61, German sculptor He was a student of C D Rauch in Berlin and professor at the Dresden Academy Among his most successful works were the Lessing Memorial, Brunswick, the Goethe and Schiller monument, Weimar, a statue of Weber, Dresden, and the Luther Memorial, Worms, completed by Rietschel's students

Rievaulx (rē'vō, rĭv'us) [Rye vale], village, North Riding of Yorkshire, England Here are the noted ruins of Rievaulx Abbey, a Cistercian foundation of 1131, which include the choir and transepts of the church and the refectory

Rif or **Riff**, mountainous region on the Mediterranean seaboard of Spanish Morocco It is a stronghold of Berber tribes, who were unsubdued until overcome by a joint campaign (1925–26) of the French and Spanish against the Berber leader, Abd-el-Krim See W B Harris, *France, Spain, and the Rif* (1927), Ramón J Sender, *Pro Patria* (Eng tr , 1935)

Rifle, town (pop 1,373, alt 5,332 ft), NW Colo., on the Colorado and NE of Grand Junction, inc 1905 It is in a diversified farming area with oil and gas wells and timber

rifle, firearm with the bore spirally grooved to impart a spinning motion to the bullet The principle of grooving or "rifling" the inner surface of the barrel is applied also in artillery and in pistols and revolvers. The grooving was at first straight and in line with the bore so that the accumulation after firings would not be in the bore proper It is not known precisely when the idea of giving projectiles a spinning motion through spiraling of the grooves developed The rifle's history extends back to the 15th cent , but its widespread practical use is traced to the settling of the woodland regions of the present E United States The Swiss colonists in Pennsylvania in the early 1720s possessed rifles, and it is possible that they were constructed in what is now Lancaster co during the same decade This weapon, called the Kentucky rifle, was the pioneer's defense against Indians and also the means of providing him with meat and skins. Its merits were its long range and accuracy, and the outstanding defect was the difficulty and time involved in reloading the weapon through the muzzle The disadvantage against the Indian's bow and arrows was even greater when the pioneer was mounted on a horse It was for this reason that so much importance was attached to marksmanship, as evidenced in Cooper's novels and the stories of Daniel Boone The percussion-cap method of igniting powder, introduced in 1820, resulted from the experiments of A J Forsyth in England, begun in 1793 The Minié rifle, adopted by the United States, British, and French governments midway in the 19th cent , used the principle of gas pressure temporarily sealed in the bore by the base of the bullet Breech-loading rifles were in general use in the United States towards the end of the Civil War. Magazine loading and smokeless powder were the next significant developments in rifles The model 1903 Springfield armory rifle and an English-manufactured variant also using a 30-caliber bullet were standard equipment for U S troops in France in the First World War. The semi-automatic Garand rifle, a self-loading, clip-fed, gas-operated shoulder weapon, weighing just over 9 lb and firing 30-caliber ammunition, supplanted the bolt-action weapon during the course of the Second World War The Garand is equipped with an operating rod which causes automatic rejection and reloading and in an expert's hands can fire 12 clips of eight cartridges within a minute. It is the standard service rifle of the U.S. army, navy, and marine corps. See P. B. Sharpe, *The Rifle in America* (1947); Arcadi Gluckman, *United States Muskets, Rifles, and Carbines* (1948).

Riga (rē'gŭ), city (pop. 392,926), capital of Latvia, in Vidzeme, on the Gulf of Riga and at the mouth of the Western Dvina It is a major Baltic port and a historic, cultural, and industrial center Its industries include manufactures of electrical, heavy, and fine machinery, of precision instruments, of paper, and of textiles Timber, paper, linseed oil, and dairy products are the chief export articles Riga has a university (founded 1919), an academy of fine arts, a conservatory of music, an agricultural college, and several other educational institutions The city was founded in 1201 by Albert, bishop of Livonia. From here the LIVONIAN KNIGHTS, a German order founded by Albert, spread Christianity in the Baltic region Having become an archiepiscopal see (1254) and a member of the Hanseatic League (1282), Riga—essentially a German city in the Middle Ages—soon developed into a major commercial center Although it was part of the domain of the Livonian Knights, it maintained a semi-independent existence under its archbishops and the German merchants, and it controlled a large part of Livonia Riga accepted the Reformation After the dissolution (1561) of the Livonian Knights it was held by Poland, despite attempts by Ivan IV of Russia to seize it, and Polish attempts to reintroduce Catholicism made the capture (1621) of Riga by Gustavus II of Sweden a welcome event for the Protestant citizens Captured (1710) by Peter I of Russia in the Northern War, Riga and the rest of Swedish Livonia were ceded by Sweden to Russia in 1721 In the 19th cent Riga became the second largest Baltic port of Russia A stronghold of the Russian Social Democratic party, Riga played an important part in the Revolution of 1905 It was occupied (1917–19) by the Germans in the First World War, after which it became the capital of newly independent LATVIA When Latvia passed to the USSR (1940), Riga became the capital of the Latvian Soviet Socialist Republic In the Second World War it was again occupied (1941) by the Germans, from whom it was retaken (1944) by the Russian army The old section, or Hansa town, of Riga suffered some damage during the fighting, it is circled by a park-lined moat and contains the chief buildings of the city Among these are the ancient castle (rebuilt at various periods), the Lutheran cathedral (13th cent , rebuilt 16th cent), the Church of St Peter (15th cent), with a steeple 412 ft high, the parliament building (19th cent , in Renaissance style), and the opera. The famous Hanseatic Schwarzhaupter Haus [house of the black heads], dating from the 15th cent , was largely destroyed The old city has retained much of its medieval aspect, its narrow cobbled streets are lined with gabled dwellings and warehouses. The new sections of Riga are planned along spacious, modern lines and contain fine parks and residences Across the Dvina is the industrial city of JELGAVA The harbor of Riga is frozen from December to February, its dock installations extend for miles along both shores of the river The beach resort of Rigas Jurmala was included in the city limits in 1946

Riga, Gulf of, eastern arm of the Baltic Sea, bordering on Estonia in the north and on Latvia in the east and the south In the west it is nearly closed off by SAAREMAA The gulf, which is frozen from January to April, receives the Western Dvina. Riga and Parnu are the chief ports

Riga, Treaty of, name of two peace treaties signed at Riga, Latvia By the Treaty of Riga of **1920**, between the USSR and Latvia, the USSR recognized the independence of Latvia The more important Treaty of Riga of **1921**, between the USSR and Poland, followed a truce concluded late in 1920 The Russo-Polish War of 1920 had been precipitated largely by the demand of POLAND that its eastern border of 1772 be restored. The treaty terms, which fixed the Russo-Polish border, did not fully satisfy the claims of the victorious Poles, but they awarded to Poland large parts of Belorussia and of the Ukraine Nullified by the German and Russian invasion of Poland in 1939, the treaty was replaced in 1945 by a new Russo-Polish border agreement which generally is based on ethnic considerations

Rigaud, André (ädrā' rēgō'), 1761–1811, Haitian mulatto general in the wars that liberated Haiti He sought (1798–1800) unsuccessfully to wrest the leadership from TOUSSAINT L'OUVERTURE. After two years in France he returned to Haiti with General Leclerc, who sent him back to France as a prisoner In 1810, once more on the island, Rigaud tried to take the leadership in the south from Alexandre Pétion Defeated by a military conspiracy, he died, supposedly starving himself to death.

Rigaud, Hyacinthe (Hyacinthe Rigaud y Ros), (yäsĕt', ē rōs'), 1659–1743, French portrait painter, b. Perpignan,[of Spanish ancestry. He won the Prix de Rome in 1682 but remained in Paris and devoted himself to portraiture, rapidly gaining celebrity throughout Europe. His sitters included

most of the distinguished men of the day Rigaud's portraits are excellent likenesses and full of character, his costumes and accessories accurately rendered Among the most celebrated are those of Louis XIV, Philip V of Spain, Bossuet, Desjardins, Robert Cotte, Le Brun, his mother (Marie Serre), and a self-portrait (Louvre); Marquis Dangeau and Mignard (Versailles); and Cardinal Fleury (National Gall., London)

Rigaud (rēgō'), town (pop 1,222), S Que, on the south shore of the Ottawa and W of Montreal Tanning, lumbering, and woodworking are carried on here, in a dairy and apple-growing region

Rigby, city (pop. 1,978), co seat of Jefferson co, E Idaho, NNE of Idaho Falls, settled 1884 by Mormons, inc as a village 1903, as a city 1915 It is a shipping point for an irrigated farming and dairying district

rigging, wire, rope, and chain supporting and operating the masts, yards, booms, and sails of a ship The standard rigging consists mainly of the mast supports (shrouds) running from the masthead to each side of the ship and firmly secured there Ratlines cross them at regular spaces to form ladders Footropes hung from stirrups along the yards enable the crew to furl the sails Running rigging includes the ropes, blocks, and other apparatus needed to operate the yards, booms, gaffs, and sails, to raise and lower boats, and to handle cargo The running rigging of a steamship is restricted to operating the booms swinging off the mast and to the functioning of the shackles, hooks, ships, and nets needed to move cargo See Felix Riesenberg, *Standard Seamanship for the Merchant Service* (1936)

Riggs, Bobby (Robert Larimore Riggs), 1918–, American tennis player, b Los Angeles Playing at tennis from the age of 11, Riggs won several tournaments in 1930s and helped the U S team win the Davis Cup in 1938 After winning the U S singles (1939, 1941) and British singles (1940), he turned professional (1941) He returned to the game after service (1942–45) in the U S navy in the Second World War and won the national professional singles championship in 1946, 1947, and 1949 He wrote *Tennis Is My Racket* (1949).

Riggs, Elias, 1810–1901, American missionary, noted for his mastery of the Semitic languages and of Greek, b New Providence, N J, grad Amherst, 1829 For 67 years after his ordination (1832) to the Presbyterian ministry, Riggs was a missionary in Greece, Asia Minor, and Turkey His translation of the Scriptures into Armenian (1853) was followed by his Bulgarian translation (1871), and he was a member of the committee which prepared the standard Turkish text (1878) He prepared grammars of the Chaldee, modern Armenian, and Turkish languages and translated hymns into Greek, Armenian, and Bulgarian

Riggs, Lynn, 1899–, American dramatist, b near Claremore, Okla, studied at the Univ of Oklahoma His talent for buoyant comedy which stops short of farce has been productive of several fine plays *Green Grow the Lilacs* was produced in New York by the Theatre Guild in 1931, the musical comedy *Oklahoma!* (produced 1943) was based on it His *Russet Mantle* was produced in 1936

Rigga's disease see PYORRHEA

Righi, Switzerland see RIGI

right, In politics, relatively conservative groups make up the right, in contrast to the radical LEFT and the liberal CENTER In some European legislative assemblies, conservative members are seated at the right of the presiding officer The more conservative members of a party are its right wing

Right, Petition of see PETITION OF RIGHT

right of way, in land traffic and in sea and air navigation, rules which determine precedence in the use of traffic lanes The rules are framed in the simplest possible terms and with nearly absolute uniformity in order to minimize the possibility of collisions In land traffic railroad trains, military vehicles in convoy, government vehicles (e g, mail trucks), and emergency vehicles have the right of way over ordinary private vehicles Rules of sea and air navigation are largely governed by international conventions The term "right of way" is also applied to an EASEMENT in gross (e g, that of a railroad)

Rights, Bill of: see BILL OF RIGHTS.

Rights of Man: see DECLARATION OF THE RIGHTS OF MAN

Rigi (rē'gē), mountain, Switzerland, between the lakes of Lucerne, Zug, and Lowerz Its highest peak, the Kulm (5,905 ft.) commands a magnificent view.

rigor mortis (rī'gûr môr'tĭs, rĭ'gûr), stiffened condition of the muscles of the body after death. The time of onset varies from about 10 min to several hours or more. Coagulation of muscle proteins is believed to be the cause, the facial musculature is affected first, and then the condition spreads to other parts of the body The state of rigor passes after about 24 hr as a result of the effects of bacterial decomposition and the formation of acids.

Rigsdag (rĭks'dä), national parliament of Denmark. According to the constitution of 1849, revised in 1915 and 1920, the Rigsdag shares legislative powers with the king and is composed of an upper and lower house, the Landsting (länz'tĭng) and the Folketing (fōl'kŭtĭng) respectively.

Rigsmaal: see NORWEGIAN LANGUAGE.

Rig Veda: see VEDA.

Riis, Jacob August (rēs), 1849–1914, Danish-American journalist and philanthropist, b Denmark He came to the United States in 1870 and, after a desperate struggle to support himself, turned to journalism, in 1877 he became a reporter for the New York *Tribune* and later for the New York *Evening Sun* His first book, *How the Other Half Lives* (1890), began his lifelong friendship with Theodore Roosevelt, and together they worked to improve New York Riis as journalist and lecturer publicized the wretched conditions of slum dwellings His association with social welfare agencies is commemorated in a settlement house (named for him in 1901) in New York city, and with the public park and playground movements by Jacob Riis Park on Long Island See his autobiography, *The Making of an American* (1901), biography by Louise Ware (1938)

Rijeka-Susak, Yugoslavia see FIUME

Rijks Museum or **Ryks Museum** (both rĭks'), at Amsterdam, was opened in 1885 and houses the outstanding collection of Dutch master paintings as well as extensive examples of national crafts Best known are the museum's Rembrandts, among them the *Night Watch* and *Syndics of the Cloth Hall* Frans Hals, Vermeer, Ruisdael, Jan Steen, and others are also well represented The museum building was designed by P J H Cuypers

Rijswijk (rīs'vĭk), municipality (pop 23,017), South Holland prov, W Netherlands, 3 mi SE of The Hague It has varied manufactures A former spelling is Ryswick The Treaty of Ryswick (see RYSWICK, TREATY OF) was signed here in 1697

Riksdag (rēks'dag, rēks'tä), national parliament of Sweden It was formed in 1866 to replace the old diet of the four estates Constitutional revisions took place in 1909 and 1921 The first chamber (upper house) consists of 150 members elected for eight-year terms by the Landstings (county councils) and by the councilors of the six major cities The second chamber has 230 members elected for four-year terms by direct universal suffrage Representation in both chambers is proportional Except in the matter of taxation, which is exclusively reserved to the Riksdag, the king has the right (rarely used) to an absolute veto on legislation The cabinet is responsible to the Riksdag Laws are usually initiated by the government The approval of both chambers is required to validate legislation

Riley, Charles Valentine, 1843–95, American entomologist, b England He came to the United States in 1860 and served as state entomologist (1868–77) of Missouri and as entomologist (1878–79, 1881–94) in the Dept of Agriculture Riley first observed the destructive cottony cushion scale in California and helped introduce scale insect parasites from Australia He first described the rose weevil and suggested the use of American phylloxera-resistant grapevine stock in France The periodical *Insect Life* was founded and edited by him (1889–94)

Riley, James Whitcomb, 1849–1916, American poet, b Greenfield, Ind, whence he was known as the Hoosier poet He tried being a traveling actor, a sign painter, and, finally, a newspaperman Under the name Benjamin F Johnson of Boone he began to write verse for the Indianapolis *Journal* in 1875 and first collected it in "*The Old Swimmin'-Hole*" *and 'Leven More Poems* (1883) This collection was followed by many others, mostly written in Hoosier dialect Among many honors he received was the gold medal of the National Institute of Arts and Letters, and in 1915 Indiana observed his birthday as Riley Day Riley's verse has humor, pathos, simplicity, and sentiment of universal appeal, especially is this true of his children's poems such as "Little Orphant Annie," "The Raggedy Man," and "The Runaway Boy" Among the collections of his verse are *Rhymes of Childhood* (1890), *An Old Sweetheart of Mine* (1902), *When the Frost Is on the Punkin* (1911), and *Knee Deep in June* (1912) See biography by Marcus Dickey (*Youth*, 1919, *Maturity*, 1922)

Riley, Fort, U S military post, established in 1852 on the Kansas river near JUNCTION CITY, Kansas, to protect travelers on the Santa Fe Trail from Indian attacks Because of its position near the geographical center (though not the geodetic center) of the United States, it was first called Camp Center, but in 1853 it was renamed Fort Riley after Gen Bennet Riley In 1855 it became a cavalry post and later (1891) a cavalry school was set up there In 1917 it was made into a training center for reserve officers. Today Fort Riley maintains a permanent garrison for the training of field artillery, cavalry, and other units

Rilke, Rainer Maria (rĭ'nûr märē'ä rĭl'kŭ), 1875–1926, German lyric poet, b Prague Sent to a military school at 10, he became ill and was later sent to a business school. His relations with his father were unhappy, but through an uncle he was able to attend the Univ of Prague. He led an unsettled, wandering life Visits to Russia in 1899 and 1900 made a profound impression on him His *Geschichte vom lieben Gott* (1900; Eng. tr., *Stories of God*, 1931) was one result. Commissioned (1902) to write a monograph on Rodin, he spent some time in Paris with the sculptor and was much influenced by his philosophy of the artist's attitude toward his work Rilke served as Rodin's secretary in 1905–6 His first volume of poetry, *Leben und Lieder* [life and songs], had appeared in 1894, but only with *Das Buch der Bilder* [the book of pictures] (1902, 2d ed, enlarged, 1906) was his peculiar blending of impressionism and mysticism recognized Other collections of his poetry are *Das Stundenbuch* (1905, Eng tr, *Poems from the Book of Hours*, 1941) and *Neue Gedichte* (2 vols, 1907–8) He won a wide popularity with *Die Weise von Liebe und Tod des Cornets Christoph Rilke* (1906, Eng tr, *The Tale of the Love and Death of Cornet Christopher Rilke*, 1932), a series of "ballads in prose" After extensive travels in Italy, North Africa, and elsewhere, he arrived in Paris in 1913, but the First World War drove him back to Germany, there after 1916 his ill-health made any kind of war work impossible and he lived a life of frustration and nonproductiveness in Munich until the end of the war From 1919 he lived at Castle Muzot, in the canton of Valais, Switzerland. There he wrote what he considered his finest achievement, *Duineser Elegien* (1923, Eng trs, *Duinese Elegies*, 1930, 1939) His last work was *Die Sonette an Orpheus* (1923, Eng tr, *Sonnets to Orpheus*, 1936) His later poetry was profound, austere, and without the lucidity of his earlier work Rilke died of leukemia which developed from the prick of a rose thorn His stature as a major poet of his time has increased since his death Most of his work has been translated into English, especially good are the translations by J B Leishman—*Poems* (1934) *Requiem* (1935), *Later Poems* (1938), and *Selected Poems* (1944)—and by M D Herter Norton (1939), C F MacIntyre (1941), and Jessie Lamont (1943) See Rilke's *Journal of My Other Self* (Eng tr, 1930) and the letter collections *Letters to a Young Poet* (Eng tr, 1934), *Wartime Letters* (Eng tr, 1940), and *Letters, 1910–1926* (Eng tr, 1948) Magda von Hattingberg, *Rilke and Benvenuta* (Eng tr, 1949), study by Federigo Olivero (1931), biography by E M Butler (1941)

Rímac (rē'mäk), river rising in W Peru, in the Andes and flowing W through LIMA to the Pacific just N of Callao With ample water, it is used for extensive irrigation The Rímac valley affords one of the chief lines of communication to the high, interior mountain basins

Rimbaud, Arthur (ärtür' rĕbō'), 1854–91, French poet who had great influence on the SYMBOLISTS and subsequent French poets, a prime representative of the DECADENTS At 16 he was a poet corresponding with VERLAINE, and in 1872–73 the two poets lived together in London and Brussels Verlaine's wounding of Rimbaud terminated their relation Thereafter Rimbaud wandered and did many things, including acting as a minister at the Ethiopian court He died at Marseilles His adolescent memoirs are *Une Saison en enfer* (1873) Rimbaud's poetry, never added to after he was 19 was published completely in 1895 It is sometimes called hallucinatory because the poet seems to write not of material reality but of his dreamworld, his technique anticipates the symbolists by its suggestiveness, by its music, and by its nonintellectuality "Le Bateau ivre" is an outstanding example See biography by Enid Starkie (new ed, 1947)

rime see RHYME

Rimersburg (rĭ'mûrzbûrg), coal-mining borough (pop 1,393), W Pa, NNE of Pittsburgh, settled 1829, laid out 1839, inc 1853

Rimini (rĭ'mĭnē, Ital rē'mēnē), anc *Ariminum* city (pop 31,505), Emilia-Romagna, N central Italy, in Romagna, a port on the Adriatic At the junction of the Flaminian and Aemilian Ways it was a Roman colony of strategic importance and became a member of the PENTAPOLIS under Byzantine rule Rimini was included in Pepin the Short's donation to the popes (754) The MALATESTA family seized power in 1295 and later conquered neighboring cities FRANCESCA DA RIMINI married a Malatesta In 1509 the city passed to the popes The 13th-century Church of St Francis (called the temple of the Malatesta after Sigismondo Malatesta renovated it, c 1450, to honor his wife Isotta) was one of the finest Renaissance buildings before it was very severely damaged in 1943–44. Rimini has a triumphal arch and a bridge built by Augustus, a 13th-century town hall, and the ruins of the Malatesta castle It is a fashionable bathing resort The city suffered severe destruction in the Second World War

Rimmer, William, 1816–79, American sculptor and writer, b Liverpool, England He was brought up in the United States and after working as a cobbler in Brockton, Mass, at the age of 30 began the study of medicine He practiced medicine for a number of years, at the same time painting occasional portraits and religious subjects In 1855 he began to carve in granite Among his early works are the colossal head, *St. Stephen* (Mus of Fine Arts, Bos-

ton), and the *Falling Gladiator* (Metropolitan Mus) His knowledge of anatomy and his imaginative power are apparent in the few pieces which survive His work was not appreciated in his lifetime He completed statues of Alexander Hamilton and Osiris in 1864, and other remaining sculptures are *The Dying Centaur* and *Fighting Lions* (Metropolitan Mus) In 1876 Rimmer became professor of anatomy and sculpture at the School of the Museum of Fine Arts, Boston He was director and chief instructor (1866-70) of the School of Design for Women, Cooper Union, New York He wrote *Elements of Design* (1864) and *Art Anatomy* (1877)

Rimmon (rĭ'mun) [Heb ,=pomegranate] **1** Syrian god 2 Kings 5 18 **2** Father of the murderers of Ishbosheth 2 Sam 4 2-9 **3** Rock where the remnants of the Benjamites took refuge after the battle of Gibeah, it was E of Bethel Judges 20 45,47, 21 13 **4** See EN-RIMMON **5** Levitical town, N Palestine 1 Chron 6 77 Remmon-methoar Joshua 19 13 Dimnah Joshua 21 35

Rimmon-parez (-pā'rĕz) [Heb ,=pomegranate of the breach], unlocated camp, S of the Dead Sea Num 33 19,20

Rimouski (rĭmōō'skē), town (pop 7,009), E Que , on the south shore of the St Lawrence at the mouth of the Rimouski and NE of Quebec It has lumber industries, buttermaking, and cod-liver-oil refining A Roman Catholic cathedral and seminary are here

Rimsky-Korsakov, Nicolai Andreyevich (nyĭkŏlī' undrā'uvĭch rĭm'skē-kôr'sukôf), 1844-1908, Russian composer, pupil of Balakirev He prepared himself for a naval career, but in 1871 he became professor of composition at the St Petersburg Conservatory, retiring from the navy in 1873 In 1883 he became assistant to Balakirev, director of the Imperial Chapel He conducted (1886-1900) the St Petersburg Symphony Concerts Though his first symphony (1865) and his symphonic poem *Sadko* (1867) were the first works in these forms composed by a Russian, more important are his operas, notably *The Snow Maiden* (1881), on the play by Ostrovsky, *The Maid of Pskov* (1873, revised 1892, also known as *Ivan the Terrible*), *Sadko* (1895), and *Le Coq d'Or* (completed 1907, posthumously performed) *Scheherezade* (1888), for orchestra, was used by Diaghilev as ballet music He wrote a treatise on orchestration and an autobiography, *My Musical Life* (Eng tr , 3d ed , 1942) Glazunov, Gretchaninov, and Stravinsky were among his pupils See V I Seroff, *The Mighty Five* (1948)

rinderpest (rĭn'dûrpĕst") [Ger ,=cattle plague] or **cattle plague,** communicable disease of cattle, caused by a virus Other animals are also susceptible to it, e g , buffalos, goats, and sheep, but to a lesser degree than cattle It is endemic to Russia, central Asia, and Africa --especially Ethiopia From these lands it has spread to all parts of Europe, as far as England The disease is still unknown in the United States and Canada Symptoms of rinderpest appear from three to nine days after an animal has been infected There is high fever, chills, and a general state of debility Eruptions appear on the mouth, lips, and udder Milk secretions almost vanish, and the animal's breathing is labored Death is usually inevitable There is no available treatment for the diseased animal In countries where it is not indigenous, the animals are slaughtered to prevent its spreading to the others Little success was achieved with preventive inoculations until the time of the Second World War, when significant progress was made toward containing rinderpest Scientists, working under Canadian-U S sponsorship, were experimenting with vaccines to counter a Japanese threat of germ warfare A result of this research was a highly effective vaccine to prevent rinderpest The vaccine, grown in incubated eggs, was sent to China, where cattle plague has long been a major cause of famine It is believed this vaccine may in time help to free China, India, and Africa from the scourge of famine

Rinehart, Mary Roberts (rĭn'hărt), 1876-, American novelist and dramatist, b Pittsburgh A graduate nurse, she married Dr Stanley M Rinehart in 1896 The first of her many mystery stories, *The Circular Staircase* (1908), established her as a leading writer of the genre and, dramatized by Mrs Rinehart and Avery Hopwood as *The Bat* (1920), was her most successful play Her mystery novels include also *The Man in Lower Ten* (1909), *The Case of Jennie Brice* (1914), *The Red Lamp* (1925), *The Door* (1930), and *The Yellow Room* (1945) The humorous stories of "Tish," a self-reliant old maid, were first published in the *Saturday Evening Post* Among her other novels are *K* (1915) and *The Amazing Interlude* (1917) She has also written travel books See her autobiography, *My Story* (1931; rev ed , 1948)

Rinehart, William Henry, 1825-74, American sculptor, b near Union Bridge, Md A Baltimore stonecutter, he became one of the best of the early American sculptors, working in the classic vein He lived in Italy after 1858 His works are best seen in the Peabody Institute, Baltimore, where there are casts of 42 of his figures, reliefs, and busts and three marble originals, including his masterpiece, *Clytie* Rinehart's bronze of Chief Justice Taney is at Annapolis, and a replica is in Baltimore Other memorable works are *Endymion* and *Sleeping Children* (both Corcoran Gall.) and *Latona and Her Children* and *Rebecca* (both Metropolitan Mus.). He left a fund for the education of American sculptors, first used in 1895

ring, small hoop worn as ornament, talisman, or pledge on finger or thumb or attached to the ear or, among primitive peoples, the nose It may be a band, plain, modeled, engraved, encrusted, pierced, or enameled, penannular, spiral, such as the Greek serpent ring, or with a bezel for holding a gem or inscription The signet ring grew from an early custom of wearing a cylindrical seal suspended from the arm or neck, developed in Egypt as a scarab on a swivel for easy use as a seal, and has been widely adopted as a stamp of authority A gold seal ring (Fisherman's ring) with an intaglio of St Peter in a fishing boat is given each pope and destroyed when he dies In ancient Rome the wearing of rings was governed by law During the republic citizens might wear rings of iron, in the reign of Tiberius gold rings became badges of civil or military rank, later the gold ring was permitted to freeborn citizens, silver to freedmen, and iron to slaves The betrothal ring, used by Egyptians, Greeks, and Romans, was adopted by early Christians in the 2d cent and later became the wedding ring The engagement ring set with a precious gem came into use in the Middle Ages, the diamond attained popularity in the 15th cent and became customary c 1800 The ring has had a variety of symbolisms knobbed decade rings were used like a rosary for prayers, memorial rings of the 16th cent were often in mello with designs showing skeletons or coffins and later mourning rings, especially in the 19th cent , enclosed braided hair, charm rings have been credited with conferring health, strength, and, in folk tales, invisibility, rings have figured in the coronation of kings and the consecration of bishops as emblems of authority or mystical significance Poison rings were used (as by Hannibal) for suicide in classical times and for assassination during the Middle Ages and Renaissance See J R McCarthy, *Rings through the Ages* (1945)

ringbone, Bony outgrowths on the front and sides of the pastern bones of the horse's foot result from faulty conformation of the bones in relation to one another They are increased by various injuries, including sprains The horse suffers from lameness, and the condition, once developed, is difficult to remedy It may be controlled by keeping the feet of young animals in proper balance by correct trimming In some cases where swelling above the top edge of the hoof wall has developed and lameness is marked, the sensory nerves may be cut

Ring des Nibelungen, Der see NIBELUNGEN

Ringgold, village (pop 1,006), NW La , SE of Shreveport, in a cotton, farm, and lumber area

Ringwood, borough (pop 977), N N J , near the N Y line, in the Ramapos E of Greenwood Lake Iron was found in this vicinity in 1730, mines and works were developed from 1764 by Peter Hasenclever, who made Ringwood Manor his headquarters His successor, Robert Erskine, produced munitions for the patriots in the Revolution Martin I Ryerson and his sons owned (1807-53) the Ringwood properties, Peter Cooper, Abram S Hewitt, and Erskine Hewitt followed Presented to the state in 1936 by Erskine Hewitt, the 95-acre estate in 1939 became a park, the manor house a museum.

ringworm or **tinea** (tĭ'nēu), fungus infection of the skin, caused by species of *Microsporum* and *Trichophyton* The condition, though widespread, occurs more commonly in the tropics and subtropics than in temperate zones The early lesions of ringworm are characterized by flattened reddish papules, forming disk-shaped areas, the margins of the lesions are sharply demarcated and may be either dry and scaly or filled with fluid Variations of the sores include inflammation and a condition similar to eczema Diagnosis is made from microscopic examination of scrapings from the lesions In an acute inflammatory condition, treatment consists of wet dressings of boric acid or Burow's solution, followed by ointment of ammoniated mercury or tincture of iodine Interdigital ringworm, sometimes called athlete's foot, is believed to be caused by several fungi including *Trichophyton*

Rinnah (rĭ'nu) [Heb ,=a cry], descendant of Judah 1 Chron 4 20

Rinns of Galloway, Scotland see GALLOWAY

Río and Rio, respectively Spanish and Portuguese terms for river For those not listed here, see under the second element of the name Thus, for Rio Amazonas, see AMAZON, for Río Lerma, see LERMA

Riobamba (rēōbäm'bä), city (1944 estimated pop 27,459), central Ecuador Near CHIMBORAZO volcano, in a high basin of the Andes, Riobamba is a commercial center It was completely destroyed by earthquake in 1797. Assembled here in 1830 under Juan José FLORES, a convention proclaimed Ecuador's independence by seceding from the republic of Greater Colombia

Río Branco, Brazil: see BRANCO, RIO.

Río Cuarto (rē'ō kwär'tō), city (pop. 49,186), Córdoba prov., central Argentina, in the W Pampa, on the Río Cuarto A rail hub, Río Cuarto serves as the commercial focus for a large agricultural area yielding fruit and cattle

Rio de Janeiro (rē'ō dŭ jänā'rō, Port rē'ō dŭ zhänā'rō), state (16,443 sq mi , 1940 pop 1,847,857, 1949 estimated pop 2,230,708), SE Brazil, on the Atlantic It encloses but does not include the federal territory in which the city of Rio de Janeiro is situated The capital of the state is NITERÓI The Serra do Mar escarpment divides the area into a coastal lowland, a central hill section, with several health resorts (including Petrópolis), and the fertile Paraíba river valley in the west. The state produces coffee, sugar, citrus fruit, vegetables, and livestock It is a leading industrial region, manufacturing light consumer goods, cement, textiles, and chemicals There is a large steel mill at Volta Redonda The Federal District, originally part of the state, was separated in 1834

Rio de Janeiro [Port ,=river of January], city (1940 pop 1,519,010), capital of Brazil, on Guanabara Bay of the Atlantic Ocean, in the Federal District (524 sq mi , 1949 estimated pop 2,129,648) Rio, as it is popularly known, has one of the most beautiful natural harbors in the world and is surrounded by several outstanding landmarks, including Sugar Loaf Mt (1,290 ft), Corcovado peak (2,310 ft), on which stands a huge statue of Christ, and the hills of Tijuca (3,350 ft) and Gávea (2,760 ft) The harbor is deep enough to permit the largest vessels to come alongside the wharves, which lie near the center of the city , to the right (east) of its entrance is the residential and industrial suburb of Niterói Rio is an important railroad hub and is served by international airways The city handles a major portion of Brazil's trade, exporting coffee, iron ore, manganese, meat, cotton, and hides Its varied manufactures include textiles, glass, household appliances, chemicals, trucks, and leather products Although its climate is hot and humid, Rio is a healthful city and has a world-wide reputation as a tourist center Of particular attraction are the fine, crescent-shaped beaches, especially the Copacabana, with near-by places of entertainment and modern apartment houses The most popular of all holidays is the well-known Mardi Gras carnival, when the streets are thronged with colorful processions and reveling *cariocas* (citizens of Rio) The various parts of the city and the outlying districts are connected with each other by beautiful drives, the result of an extensive rebuilding and modernizing campaign begun in 1902 The palm-lined Avenida Beira Mar skirts the water front through Botafogo and Copacabana districts, while the broad Avenida Rio Branco, with its mosaic sidewalks, is the city's central street Rio has a botanical garden, founded in 1808, and many fine public buildings, including the municipal theater (1909), the national library, the academy of fine arts, the Catete and Guanabara palaces (the president's executive office and residence), and the elaborate Tiradentes Palace, which was completed in 1926 to house the chamber of deputies The Univ of Rio de Janeiro, which was formed in 1920 from the earlier professional and technical schools, is the foremost educational institution, there are also military and naval academies and scientific institutes Religious buildings include the ornate Candalaria Church, where Pedro Alvares Cabral is buried, the 17th-century Franciscan convent, and a 16th-century Benedictine monastery The area was visited by Portuguese explorers presumably in Jan , 1502, whence the name In 1555 French Huguenots, led by Nicholas Villegagnon (for whom an island in the harbor is named), established a colony here, but they were driven out in 1567 by Mem de Sá, governor general of the Portuguese colony of Brazil, who then founded the city of São Sebastião do Rio de Janeiro It replaced Bahia (now called Salvador) as the capital of Brazil in 1763, and subsequently it became the capital of the exiled royal court of Portugal (1808-21), of the Brazilian empire (1822), and of the federal republic (1889) In 1906 the Pan American Congress convened here It is now proposed to transfer the seat of the federal government inland to a site in Goiás state See L E da Costa, *Rio in the Time of the Viceroys* (1936); Hugh Gibson, *Rio* (1937)

Río de Oro see SPANISH SAHARA

Rio Grande (rē'ō grän'dĕ), name of several rivers of Brazil The largest rises in S Minas Gerais and flows c 650 mi WNW to the Paranaíba, with which it forms the Paraná river In its lower course it forms part of São Paulo's northern boundary

Rio Grande (rē'ō grănd', rē'ō grän'dĕ), river, c 1,800 mi long, rising in SW Colorado in the San Juan Mts and flowing south through the middle of New Mexico, then generally southeast as the border between Texas and Mexico, making a big bend (see BIG BEND NATIONAL PARK) and much later emptying into the Gulf of Mexico at Brownsville, Texas, and Matamoros, Mexico. Other paired towns are Laredo, Texas, and Nuevo Laredo,

Mexico, and El Paso, Texas, and Juárez, Mexico. Albuquerque is on its New Mexican course Indian pueblos throve on its banks when Coronado came (1540), and irrigation of the arid country was practiced then Now Elephant Butte Dam, completed in 1916, creates a reservoir (near Hot Springs, N Mex), which serves a large area, including Las Cruces, N Mex , and El Paso Further downstream are irrigated areas about Del Rio and Eagle Pass, Texas, and near the mouth of the Rio Grande is the citrus-fruit and truck region commonly called simply the Rio Grande Valley and developed principally in the 1920s An agreement between the United States and Mexico in 1945 provided for further projects The river is known to Mexicans as Río Bravo del Norte See Harvey Fergusson, *Rio Grande* (1933), Laura Gilpin, *The Rio Grande, River of Destiny* (1949)

Rio Grande City (rē'ō grănd" sĭ'tē), unincorporated town (pop c 2,500), co seat of Starr co , extreme S Texas, on the Rio Grande and WNW of Brownsville The region was settled by Spanish of José de Escandón's colony c 1753, and the town, founded c 1847, was at first called Rancho Davis Cattle and oil from the semiarid plains support the town, which was once a river port and is still a port of entry Near-by Fort Ringgold, established in 1848, had almost a century of border history before it was made inactive in 1944

Rio Grande de Cagayan, Philippines see CAGAYAN

Rio Grande do Norte (rē'ō gran'du dōō nôr'tu), state (20,482 sq mi , 1940 pop 768,018, 1949 estimated pop 927,141), NE Brazil, on the Atlantic Ocean The capital is NATAL It consists of a sandy coastal plain, rising to a semiarid plateau in the south Its valuable mineral resources include saltworks, gypsum quarries, and largely untapped deposits of beryl, diatomite, and columbite Sugar cane is widely grown A European settlement was established near Natal in 1599, and for a brief period in the 17th cent the Dutch occupied the area

Rio Grande do Sul (rē'ō gran'du dōō sōōl'), state (109,066 sq mi , 1940 pop 3,320 681, 1949 estimated pop 4,008 691) S Brazil The capital is PÔRTO ALEGRE Between Argentina on the west and the Atlantic Ocean on the east, Rio Grande do Sul is the southernmost state of Brazil and borders on Uruguay It is Brazil's leading stock-raising and meat-processing state and is also the most important producer of wheat and wine The state's inhabitants are popularly called *gauchos*, and there are many farmers of German and Italian descent, who are noted for their progressive agricultural methods The first European settlement was made by Jesuit missionaries in the 17th cent The state was the scene of a revolt from 1835 to 1845 Getulio Vargas was born here The city of **Rio Grande do Sul** (pop 49,337), also known as Rio Grande, is in the southern part of the state, at the entrance to Lagoa dos Patos It is an important port and commercial center, exporting meat products, hides, wool, and grain There are meat-packing plants, fish canneries, and textile mills The site was settled in 1745

Rioja (rē'ō'hä), region, N Spain, in Old Castile, along the right bank of the Upper Ebro It is very fertile and is famous for its fine wines Logroño is the chief center

Riom (rē'ôN'), town (pop 10,420), Puy-de-Dôme dept , S central France, near Clermont-Ferrand Before the French Revolution it was the seat of the intendants of Auvergne, and it has kept its old aspect In 1942 the Vichy government of France here held a trial of French political and military leaders (including Léon Blum, Édouard Daladier, and Maurice Gamelin), accused of plunging France into the Second World War unprepared When the defendants produced evidence placing the guilt on their accusers, the trial was indefinitely postponed

Río Muni, see SPANISH GUINEA

Rion (rēôn'), anc *Phasis*, river, 195 mi long, rising in the Caucasus near the Mamison Pass, W Georgian SSR, and flowing S and W past Kutais into the Black Sea at Poti Its upper course is used for hydroelectric power In its lower course it passes through the lowland of Mingrelia or Colchis The Ossetian Military Road follows the upper Rion valley

Río Piedras (pyā'dhrās), town (pop 19,935), NE Puerto Rico, just SE of San Juan Seat of the Univ of Puerto Rico (see PUERTO RICO, UNIVERSITY OF), it is also a center of industry and of farm trade

riot, rout, and unlawful assembly, in law, varying degrees of concerted disturbance of the peace At common law, an unlawful assembly is a gathering for a common purpose (whether lawful or unlawful) of at least three persons whose conduct causes near-by observers reasonably to fear that a breach of the peace will result When the meeting is a furtherance of a criminal CONSPIRACY, the participation of only two persons will suffice to constitute the crime of unlawful assembly A gathering, originally peaceable, may be transformed into an unlawful assembly if three or more persons behave in concert so as palpably to threaten disorder Modern statutes have freed the crime of unlawful assembly from some of its technicalities. Thus there are municipal ordinances which make unlawful an unlicensed street assembly which blocks traffic even if there is no danger of tumult An unlawful assembly becomes a rout when the participants take some step which, if consummated, would result in crime, e g , if three men who have assembled unlawfully to commit arson proceed toward the building which they intend to fire, they are guilty of a rout even if they never reach their goal There is a riot if violence actually results from an unlawful assembly If a police officer (or other officer of the peace) commands bystanders at a riot to help him in repressing it, they must obey on pain of themselves being deemed rioters

Río Tinto, Riotinto (both rē'ōtēn'tō), or **Minas de Riotinto** (mē'nas dā), town (pop 2,727), Huelva prov , SW Spain, in Andalusia It is the center of the Río Tinto mining region, named for the river which crosses it Known since Phoenician times, the area has some of the world's largest copper deposits and some iron and manganese

Riouw Archipelago (rē'ou, rō'), island group (2,279 sq mi , pop 77,149), Indonesia, at the entrance to the Strait of Malacca, near Singapore Its largest island, Bintan, has extensive bauxite and tin mines and is the site of Tanjung Pinang, capital of the group The Lingga Archipelago (842 sq mi , pop 30,524) is S of the Riouw Archipelago and has important tin mines

Rio Vista (rē'ō vĭ'stu), town (pop 1,666), central Calif , on the Sacramento river and SSW of Sacramento, in an irrigated farm area, inc 1894 Asparagus and fruit are canned here

riparian right see WATER RIGHT

Riphath (rĭ'făth), grandson of Japheth Gen. 10 3, 1 Chron 1 6

Ripley, Eleazer Wheelock (ē"lĭzā'zur), 1782–1839, American general, b Hanover, N H , grad Dartmouth, 1800, grandson of Eleazer Wheelock In the War of 1812 he commanded the 21st Infantry Regiment, served in Canada, and in 1814, having been promoted brigadier general, assisted Gen. Jacob J Brown in the Niagara campaign In 1820 he resigned from the army to practice law, served (1832) in the Louisiana legislature, and was a U S Representative from 1835 to his death See biography by his nephew Nicholas Bayles (1890)

Ripley, George, 1802–80, American literary critic and author, b Greenfield, Mass , grad Harvard, 1823 He entered the Unitarian ministry in 1826 He was one of the leaders of the transcendentalists and a contributor to their magazine, the *Dial* In 1841 his interest in social reform led him to resign from the ministry and help found BROOK FARM, where he remained as president until 1847 His edition, with F H Hedge, of *Specimens of Foreign Standard Literature*, in translation (14 vol , 1838–42), increased American knowledge of European literature In his later life he became an influential literary critic on the New York *Tribune* See biography by O B Frothingham (1882)

Ripley, William Zebina, 1867–1941, American economist, b Medford, Mass , Ph D Columbia, 1893 While professor of political economy at Harvard (1901–33), he also served the government, holding advisory posts with the War Dept (1918), the Interstate Commerce Commission (1920–23), and other organizations An authority on railroads, he urged regional consolidation of railway lines He also attacked the practice of corporations in failing to inform small shareholders concerning the affairs of the business His books include *Trusts, Pools, and Corporations* (1905), *Railroads Rates and Regulation* (1912), *Railroads Finance & Organization* (1915), and *Main Street and Wall Street* (1927) *The Races of Europe* (1900) made him known as an anthropologist

Ripley 1 Town (pop 2,011), co seat of Tippah co , NE Miss , SE of Memphis, Tenn , in a farm and dairy area, platted 1835, inc 1837 Near by is Blue Mountain College (Baptist, for women, 1873) **2** Village (pop 1,623), SW Ohio, on the Ohio river and SE of Cincinnati, laid out 1812 There are tobacco farms here The Rankin Home, said to be the Underground Railroad station where the original of Eliza in *Uncle Tom's Cabin* found refuge, was made a state memorial in 1937 **3** Town (pop 2,784), co seat of Lauderdale co , W Tenn , near the Mississippi NNE of Memphis, in a farm and timber area, inc 1838, rechartered 1901 Open Lake is near by

Ripon, Frederick John Robinson, 1st **earl of** (rĭ'pun), 1782–1859, English Tory statesman Ripon, who had the distinction of being the man who introduced the CORN LAWS of 1815 and later advocated their repeal in 1846, entered Parliament in 1806 and served as president of the Board of Trade (1818–23) and as chancellor of the exchequer (1823–27) Although he supported the repressive legislation of 1817–19, he pursued, as chancellor of the exchequer, a liberal policy of lowering tariffs In 1827 he was created Viscount Goderich and was appointed secretary for war and the colonies, and on George Canning's death he became prime minister Want of resolution and internal strife wrecked his ministry in 1828, and Goderich (created earl of Ripon in 1833) later served as secretary for war and colonies (1830–33), lord privy seal (1833–34), and president of the Board of Trade (1841) under Robert Peel, with whom he resigned when the repeal of the corn laws split the Tories in 1846

Ripon, George Frederick Samuel Robinson, 1st **marquess of,** 1827–1909, English statesman, viceroy of India (1880–84) As a young man he was interested in the Christian Socialist movement, lectured at a workingmen's college, and in 1853 entered Parliament He served as undersecretary and secretary for war (1859–61, 1863–66), secretary for India (1866–68), and lord president of the council (1868–73) His successful chairmanship of the commission to negotiate settlement of the *Alabama* claims with the United States was rewarded with the title of marquess (1871) Ripon resigned public office in 1873 just before his conversion to Roman Catholicism (1874), but he accepted the office of viceroy of India under William Gladstone in 1880 He dealt vigorously with the Afghan troubles and incurred the criticism of English Tories and Anglo-Indians by supporting the freedom of the press, racial equality in office-holding and legal status, and extension of self-government On his return to England he served as first lord of the admiralty (1886), colonial secretary (1892–95), and lord privy seal (1905–08) See biography by Lucien Wolf (1921)

Ripon (rĭ'pun), municipal borough (1931 pop 8,591; 1943 estimated pop 11,266) and city, West Riding of Yorkshire, England, on the Ure and NW of York St Cuthbert founded a monastery here c 660, it was refounded a few years later by St Wilfrid, on another site The present minster, restored by Sir George Gilbert Scott, dates from the 12th to the 15th cent , it has a Saxon crypt with a narrow passage called St Wilfrid's Needle, ability to pass through which was supposed to be an indication of chastity The Ripon hospital was originally a 12th-century foundation for lepers The Wakeman's House, in the market place, was the residence of the mayor (wakeman") in the 13th cent In 1640 a treaty here concluded the second of the Bishops' Wars The town has foundries, paint works, tanneries, and breweries

Ripon (rĭ'pun), city (pop 4,566), central Wis , NW of Fond du Lac, settled 1844 as Ceresco, a Fourierist community, inc 1858 as Ripon Washing machines are made Carrie Chapman Catt was born in the city Ripon is the seat of Ripon College (coeducational, 1851)

Ripon Falls (rĭ'pun), 16 ft high and c 900 ft wide, in the Victoria Nile, just below its outlet from Victoria Nyanza in SE Uganda They were named for the viceroy of India by John Speke, who discovered them in 1862

Rip Van Winkle, character in the story of that name by Washington IRVING, published serially in 1819–20 and collected in *The Sketch Book of Geoffrey Crayon, Gent* The story is based on a legend once current in the Catskills of a man who slept for 20 years Several plays have been written from Irving's story, the most familiar one being a collaboration between Dion Boucicault and Joseph Jefferson, played, with immense success, by Jefferson for many years An opera on the theme was produced in Chicago in 1920, the music by Reginald de Koven, the book by Percy Mackaye

Riquet, Pierre Paul de (pyĕr' pōl' du rkā'), 1604–80, French engineer He planned the Canal du Midi, which links the Mediterranean Sea with the Atlantic Ocean by way of the Garonne Construction was begun in 1666 with the approval of Colbert and Louis XIV The difficulties of the work were nearly insuperable at the time, and Riquet spent the rest of his life and his personal fortune on the construction It was finished (1681) a few months after his death

Rishon le Zion (rē'shōn lu zĭ'un, rēshōn' lu tsēōn'), town (pop c 10,000), central Israel, c 10 mi S of Tel-Aviv, founded 1882 There are manufactures of beer, wine, glassware, and textiles

Rising Star, town (pop 1,198), N central Texas, SW of Fort Worth, in an oil, gas, and farm area, settled 1880, inc 1905

Rising Sun, city (pop 1,545), co seat of Ohio co , SE Ind , on the Ohio and SE of Aurora, settled 1812, inc 1849 It is a shipping point for a farming area

Rison (rī'zun), trade town (pop 1,005), co seat of Cleveland co , S central Ark , SW of Pine Bluff, in a cotton area

Risorgimento (rēsôr"jēmĕn'tō) [Ital =resurgence], period of national unification in the history of Italy It is generally considered to have begun in 1815 and to have ended in 1870 Before the Risorgimento, Italy had not formed a political unity since the fall of the Western Roman Empire in the 5th cent Foreign domination or influence became overwhelming in the 16th cent and virtually complete in the French Revolutionary Wars and the period of domination by NAPOLEON I. The French Revolution and the political changes it wrought in Italy were at first enthusiastically welcomed by liberals throughout Italy, who were dreaming of a national revival However, French domination—notably the Murat regime in Naples—soon roused the opposition of the patriots. Secret

societies such as the CARBONARI were organized and continued their revolutionary activities after the restoration of the old order by the Congress of Vienna (1814–15, see ITALY) The Carbonari engineered revolutions in the TWO SICILIES (1820) and in the kingdom of SARDINIA (1821) Despite severe reprisals imposed by the HOLY ALLIANCE, new uprisings occurred in 1831 in the Papal States, Modena, and Parma Being above all a nationalistic movement, the Risorgimento received wide support among all classes, including the highest nobility. Inevitably, however, it split into political groups, each of which also represented economic class interests The radical group was led by MAZZINI, whose secret society Giovine Italia [young Italy], replaced the Carbonari in 1831 Its program was republican and anticlerical and contemplated economic and social reforms The conservative and clerical elements among the nationalists generally advocated a federation of Italian states under the presidency of the pope The moderates, the propertied bourgeoisie, and the N Italian industrialists favored the unification of Italy under a king of the house of Savoy, i e, as events turned out, under VICTOR EMMANUEL II of Sardinia The explosive phase of the Risorgimento began with the revolutionary years 1848–49 The Lombardo-Venetian kingdom rose against Austrian rule After bitter fighting the rebels expelled the Austrians from Milan KING CHARLES ALBERT of Sardinia openly intervened in favor of the rebels, but after some initial successes he was defeated by the Austrians under Radetzky at Custozza Charles Albert signed an armistice and withdrew his forces, in 1849 he renewed his attack, only to be disastrously routed by Radetzky at Novara He abdicated in favor of his son, Victor Emmanuel II, who made peace In the meantime similar revolutions had taken place at Venice (under Daniele MANIN) and in Parma, Modena, Tuscany, the Two Sicilies, and the Papal States A republic was proclaimed at Rome under the leadership of Mazzini after the flight of Pius IX, French intervention brought about its fall in July, 1849, after its heroic defense by Garibaldi Throughout Italy the revolutionary movement was suppressed In fact, however, the liberal movement quietly gained strength More and more liberals rallied around the new king of Sardinia and his *minister* CAVOUR, the chief author of Italian unification Cavour realized that Sardinia could not defeat Austria without foreign aid He set out to secure French support and British sympathy by joining (1855) the allies in the Crimean War At the interview of PLOMBIÈRES, Emperor Napoleon III promised military aid against Austria War broke out in 1859 and the French and Sardinians were victorious over the Austrians at Magenta and at SOLFERINO These victories however, were so costly that Napoleon signed the separate preliminary peace of VILLAFRANCA DI VERONA (later confirmed at Zurich) Sardinia gained only Lombardy Tuscany, Modena, Parma, Bologna, and the Romagna, where the revolutionists had once more set up provisional governments, were to return to their former rulers, actually, however, this provision was not fulfilled, and plebiscites were held (March, 1860) in these states, which voted for their union with Sardinia Napoleon, who countenanced the plebiscites, received Savoy and Nice as a reward In May, 1860, GARIBALDI landed in Sicily with 1,000 volunteers, and after a spectacular campaign he was master of Sicily and Naples by Sept, 1860 Sardinia now sent an army across the Papal States to join Garibaldi The Marches and Umbria were annexed to Sardinia, and only Rome and Latium remained to the pope (thanks largely to French intervention) Naples and Sicily also voted for union with Sardinia When Gaeta, the last stronghold of Francis II of the Two Sicilies, fell to the Sardinian forces, the kingdom of Italy was proclaimed (March, 1861) Through its alliance with Prussia in the AUSTRO-PRUSSIAN WAR of 1866, Italy obtained Venetia, after the fall of Napoleon III and the withdrawal of French troops from the Papal States, Italian forces seized the remainder of the papal possessions, including *Rome itself* (Sept, 1870) See Carlo Tivaroni, *Storia critica del risorgimento italiano* (9 vols, 1888–97), W R Thayer, *Life and Times of Cavour* (2 vols, 1911), G M Trevelyan, *Garibaldi and the Making of Italy* (1911), René Albrecht-Carrié, *Italy from Napoleon to Mussolini* (1949)

Rissah (rĭ'sə) [Heb, =ruin], unlocated desert resting place in the wanderings Num 33 21,22

Ristich, Jovan (yō'vän rĕ'stĭch), 1831–99, Serbian statesman A leader of the liberal party, he was repeatedly foreign minister and was twice premier (1872–73, 1876–80) During his second term Serbia gained full independence and additional territory at the Congress of Berlin (1878) After the abdication of King Milan, Ristich headed (1889–93) the council of regency

Ristori, Adelaide (rēstō'rē), 1822–1906, Italian actress The daughter of strolling players, she appeared at 18 in the title role of an Italian version of Schiller's *Mary Stuart* and became a leading tragedienne In 1847 she married the marchese del Grillo, but continued her theatrical career, winning fame before Italian audiences in the title roles of Alfieri's *Myrrha* and Pellico's *Francesca da Rimini* She triumphed a few years later in Paris in familiar Italian roles and in classical French drama, in which she rivaled Rachel, who was at the Comédie Française She had great success in Europe and, in 1866, 1875, and 1884–85, in the United States A woman of melancholy beauty and graceful movement, she also excelled as Lady Macbeth and Medea See her *Studies and Memories* (Eng tr, 1888)

Ritchey, George Willis, 1864–1945, American astronomer, b Meigs co, Ohio, studied at the Univ of Cincinnati (1883–84, 1886–87) He was superintendent of instrument construction first (1899–1904) at Yerkes Observatory and then (1905–9) at the Solar Observatory of Carnegie Institution From 1901 to 1905 he taught astronomy at the Univ of Chicago Ritchey was in charge of the designing and construction of the 60-inch and the 100-inch reflecting telescopes at Mt Wilson Observatory Later he went to the Paris Observatory as director (1924–30) of the astrophotographic laboratory. He is coinventor of the Ritchey-Chrétien reflecting telescope, and he supervised (1931) the construction of a 40-inch telescope of that type for the U S Naval Observatory The cellular type of optical mirror was also his invention.

Ritchie, Alexander Hay, 1822–95, American engraver and painter, b Scotland His plates display a fine technique and delicate handling Among them are *Lady Washington's Reception Day* after Daniel Huntington and *Death of Lincoln* after Ritchie's own painting

Ritchie, Anna Cora (Ogden) Mowatt see MOWATT, ANNA CORA (OGDEN)

Ritchie, Anne Isabella Thackeray, Lady, 1837–1919, English writer, eldest daughter of William Makepeace Thackeray In 1877 she married a cousin, Richmond T W Ritchie (knighted 1907) Her writings include several novels, biographical notes for an edition of Thackeray's works (1898–99), *Madame de Sévigné* (1881), *Tennyson and His Friends* (1892), and *Chapters from Some Memoirs* (1894) See *Thackeray and His Daughter* (ed by Hester Thackeray Ritchie, 1924)

Ritchie, Thomas, 1778–1854, American journalist, b Tappahannock, Va. As editor (1804–45) of the Richmond *Enquirer* he was practically Democratic boss of Virginia and was also powerful in national politics Under President Polk he edited the administration journal, the Washington *Union*, leaving the *Enquirer* in the hands of his two sons See C H Ambler, *Thomas Ritchie a Study in Virginia Politics* (1913)

Rithmah (rĭth'mə) [Heb, =broom], unlocated desert station of the Jews Num 33 18,19.

Ritschl, Albrecht (ĭl'brĕkht rĭ'chul), 1822–89, German theologian He was professor of theology at Bonn (1852–64) and at Göttingen (from 1864) The Ritschlian theology was very influential in the 19th and early 20th cent, especially among Lutherans It was in some respects a reaction against metaphysical rationalistic speculation in theology It taught that God may be known only in religious faith from the works and person of Jesus Christ Its interest is in the needs and ideals of man's spiritual life Ritschl's most typical work has been translated into English as *The Christian Doctrine of Justification and Reconciliation* (Vols I and III, 1872 and 1900) His son Otto Ritschl wrote his biography (2 vols, 1892–96) See also E A Edghill, *Faith and Fact a Study of Ritschlianism* (1910).

Ritson, Joseph, 1752–1803, English antiquarian and scholar, b Stockton-on-Tees He became a London lawyer Ritson attacked Thomas Warton's scholarship in *Observations on Warton's History* (1782) and protested the "creations" of Bishop Percy's *Reliques* in his own careful editions of *Ancient Songs* (1790), *Robin Hood* (2 vols, 1795), and *Ancient English Metrical Romances* (3 vols, 1802) In his *Remarks on Shakespeare* (1783) he criticized Dr Johnson, George Steevens, and Malone as editors and wrote some notes of real value See biography by B H Bronson (1938)

Rittenhouse, David, 1732–96, American astronomer and instrument maker, b near Germantown, Pa, self-educated A clockmaker by trade, he developed great skill in the making of mathematical instruments He was called upon to determine, with his own instruments, the boundary lines of several states and also part of the boundary known as MASON-DIXON LINE In 1769 he was asked by the American Philosophical Society to observe the transit of Venus His contributions include the use of measured grating intervals and spider threads (1785) on the focus of the telescope Active in public affairs, he was a member of the convention that framed Pennsylvania's constitution and was state treasurer (1777–89) and director of the U.S mint (1792–95). After the Revolution he was Anti-Federalist. He succeeded Benjamin Franklin as president (1791–96) of the American Philosophical Society, most of his writings appeared in its *Transactions*. See biography by Edward Ford (1946)

Rittenhouse, Jessie Belle, 1869–1948, American poet and anthologist, b Mt Morris, N.Y., wife of Clinton SCOLLARD. She compiled five anthologies of American and British verse and wrote criticism in *The Younger American Poets* (1904) Of several volumes of poetry, the last is *The Moving Tide* (1939) She collaborated with her husband in *Patrician Rhymes* (1932) See her autobiography, *My House of Life* (1934)

Ritter, Frederic Louis, 1834–91, Alsatian composer, choral conductor, and music historian, long resident in the United States In 1856 he went to Cincinnati, founding there the Philharmonic Orchestra and the Cecilia Society In 1861 he moved to New York, where he was active as teacher and choral conductor, and later became professor of music at Vassar. His *Music in America* (1883), although not highly reliable, was the first thorough study of its subject Besides other historical works, he wrote music textbooks and composed piano pieces, songs, and chamber music

Ritter, Henry, 1816–53, Canadian marine and genre painter, b Montreal He studied art in Hamburg and Düsseldorf and remained in Germany Most of his works were in German museums

Ritter, Karl, 1779–1859, German geographer, a founder of modern human geography Professor at the Univ of Berlin from 1820, Ritter was an outstanding teacher He helped define the scope of geography and its relationship to other sciences, and he emphasized the influence of natural environment on the development and activities of man His *Comparative Geography* (1852) was translated into English in 1865 and 1881 His most important work, *Die Erdkunde* (2 vols, 1817–18), was revised and enlarged in the second edition (19 vols, 1822–59) See biography by W L Gage (1867)

Rittman, village (pop 2,770), NE central Ohio, SW of Akron Paper products are made here

Ritzville, city (pop 1,748), co seat of Adams co, E central Wash, SW of Spokane, settled c 1878, inc 1906 It processes and ships wheat

Ryukyu Islands see RYUKYU ISLANDS

Rivadavia, Bernardino (bĕrnärdhē'nō rōvä'dhävyä), 1780–1845, Argentine statesman and diplomat, first president of the United Provs of La Plata (1826–27) He served (1806–7) under Jacques de LINIERS against the British invaders and was a leading advocate of independence in 1810 As a member of the first triumvirate of the young republic (1811–12), he exerted a significant influence After six years (1814–20) as a diplomat in Europe, he became a minister under Martín RODRÍGUEZ, governor of Buenos Aires, and was largely responsible for the progressive measures of this administration He was envoy to Great Britain before becoming president of the republic Rivadavia instituted many reforms and strove to impose centralistic government on the nation A unitarian constitution, adopted in 1826, was rejected by QUIROGA and other chieftains, who revolted Rivadavia resigned and went into exile

Riva di Trento (rē'va dē trĕn'tō), town (pop 4,989), Trentino-Alto Adige, N Italy It is a summer resort at the northwest end of Lake GARDA It belonged to Austria until 1919

Rivas, Ángel de Saavedra, duque de (än'hĕl dā savä'dhrä dōō'kā dā rē'vās), 1791–1865, Spanish poet and dramatist of the romantic school He was active in politics and had to flee to England in 1823 Later he went to Italy, France, and Malta, returning to Spain in 1834 His first publication was the narrative poem *El moro expósito* [the Moorish foundling] (1834), followed in 1835 by *Don Álvaro, o, La fuerza del sino*, the first triumph of romanticism in the Spanish theater This play was later used by Verdi for the libretto of *La forza del destino* Rivas is known also for his lyrics and for his collection *Romances históricos* (1841), based on popular legends and written in the traditional ballad meter

Rivas (rē'vās), town (1940 estimated pop 7,311), SW Nicaragua, near the shore of Lake Nicaragua. It is on the Isthmus of Rivas, the narrow land strip between the lake and the Pacific Seat of an Indian civilization at the time of the Spanish Conquest, Rivas continued prominent It controlled the transit route across Nicaragua during the California gold rush, and the loss of Rivas by William WALKER in 1857 ended his Nicaraguan campaign Connected by rail with SAN JUAN DEL SUR and by the Inter-American Highway with Managua, the capital, it is strategically located near the route of the proposed NICARAGUA CANAL

river, stream of running fresh water larger than a brook or creek Land surfaces are nowhere perfectly flat, and the runoff after precipitation tends to flow downward by the shortest and steepest course in depressions formed by the intersection of slopes Runoffs of sufficient volume and velocity join to form a stream that, by EROSION of underlying earth and rock, deepens its bed, it becomes permanent when it cuts deeply enough to be fed by subsurface water. Sea level is the ultimate base level, but the floor of a lake or basin into which a stream flows may become a local and temporary base level. Cliffs or escarpments and differences in the resistance of rocks create such irregularities in the bed of a river as the WATERFALL and the pot-

hole. A stream tends to eliminate irregularities and to form a smooth gradient from source to base level. As it approaches base level, downward cutting is replaced by lateral cutting, and the river widens its bed and its VALLEY and develops a curving course In old rivers the curves form exaggerated loops and bends (meanders), a stream may open up a new channel across the arc of the meander, leaving a cutoff or an OXBOW LAKE The discharge of a river depends on the cross-section area of its channel and on its velocity. Velocity is governed by the volume of water, the slope of the bed, and the shape of the channel (which determines the amount of frictional resistance) The volume is affected by the force and quantity of precipitation and may be increased by receiving water from tributaries, these are commonly formed by headward erosion of the main stream A river system may be enlarged by piracy one river, cutting through the divide (WATERSHED) that separates it from another river, diverts the waters of the other stream into its own channel Rivers modify topography by deposition as well as by erosion The quantity and size of rock fragments and earth a stream can carry depend on its velocity When the velocity is checked by changes of gradient, by meeting the water mass of lakes or oceans, or by the spreading of water when a stream overflows its banks, part of the load carried by the stream is deposited in the stream bed or as ALLUVIUM beyond the channel Land forms produced by deposition include the DELTA, the FLOOD PLAIN, the bar, and the alluvial fan and terrace Stream systems are classified according to their stage of development as young, mature, or old The young stream is marked by a steep-sided valley, steep gradients, and irregularities in the bed, the mature stream, by a valley with a wide floor and flaring sides, by advanced headward erosion by tributaries, and by a more smoothly graded bed, the old stream has graded its course to base level and runs through a peneplain River valleys have been important centers of civilization, they afford travel routes, and their alluvial soils form good agricultural lands Navigable rivers are important in commerce and have influenced the location of cities Among the large or otherwise well-known river systems of the world are the Nile, the Congo, the Niger, and the Zambezi, the Amazon, the Orinoco, and the Río de la Plata, the Mississippi-Missouri, the St Lawrence, the Hudson, the Colorado, the Columbia, the Mackenzie-Peace, and the Yukon, the Danube, the Rhine, the Rhone, the Seine, the Scheldt, the Elbe, the Oder, the Niemen, the Don, the Volga, the Dnieper, the Po, the Tagus, and the Thames, the Tigris the Euphrates, the Ob, the Yenisei, the Lena, the Syr Darya, the Amu Darya, the Amur, the Yellow River, the Yangtze, the Ganges, the Brahmaputra, the Indus, the Irrawaddy, and the Mekong, and the Murray-Darling See also FLOODS, WATER RIGHT, WATERS, TERRITORIAL See F C Lane, *Earth's Grandest Rivers* (1949)

Rivera, Diego (dēā'gō rēvā'ra), 1886–, Mexican mural painter, studied in boyhood under Mexican painters The ancient sculpture of MEXICO deeply impressed him In Europe (1907 9, 1912-21) he worked in several countries and was influenced by the paintings of El Greco and Goya He had close association with Cézanne and Picasso and with communistic Russians in exile He became convinced that a new form of art should respond to "the new order of things and that the logical place for this art belonging to the populace, was on the walls of public buildings" Returning (1921) to MEXICO, he painted, with the assistance of younger artists, large murals dealing with the life, history, and problems of MEXICO, in the Preparatory School and the Ministry of Education in MEXICO city and the Agricultural School of Chapingo To the peasants and workers he became a sort of prophet He visited Moscow in 1927–28 Again in MEXICO, he painted in the National Palace and in the Palace of Cortés at Cuernavaca He painted frescoes in the luncheon club of the Stock Exchange and in the Fine Arts Building, San Francisco, and murals in the Detroit Institute of Arts, giving his interpretation of industrial America as exemplified in Detroit A mural for Rockefeller Center, New York, was rejected because of the inclusion of a portrait of Lenin Rivera in 1936 interceded with President Cárdenas to permit Trotzky to come to MEXICO See biography by B D Wolfe (1939)

Rivera, Fructuoso (frōōktōō-ō'sō), 1790?–1854, first president of Uruguay (1830–34, 1839–42) After serving with ARTIGAS, he was one of the Thirty-three Immortals who raised the standard of independence under Juan Antonio LAVALLEJA He was chosen president and was responsible for the succession of Manuel ORIBE, against whom he revolted in 1836. In the long civil strife, which was to characterize much of Uruguay's subsequent history, two factions appeared, distinguished by their badges, the Colorados [reds] of Rivera and the Blancos [whites] of Oribe Rivera succeeded in 1838 in routing Oribe, who fled to Buenos Aires. The following year Rivera declared war on Juan Manuel de Rosas, ruler of the United Provs (Argentina) With the help of Rosas, Oribe besieged Montevideo from 1843 to 1851 Rivera, opposed by factions within his own party, was exiled from the invested city in 1847, taking refuge in Brazil After the downfall of Rosas and the end of the siege, he was selected (1853) as one of the triumvirate to head the provisional government of Uruguay.

Rivera, José Eustasio (hōsā' āōōstā'syō), 1889–1928, Colombian novelist He was a member of the commission to fix the Venezuela-Colombia boundary deep in the rain forest of the Amazon basin He thus learned about the jungle, which is the setting and the chief actor in his one and masterly novel, *La vorágine* (1924, Eng tr, *The Vortex*, 1935) In fluid, plastic language he tells of the hardships and brutal sufferings of rubber gatherers in the violent and hostile forest He also wrote sonnets in classical manner about the tropics in *Tierra de promisión* (1921)

Rivera, Primo de. see PRIMO DE RIVERA, MIGUEL

Riverbank, city (1940 pop 1,130, 1946 special census pop 2,670), central Calif, on the Stanislaus and SE of Stockton, in a farm area, inc 1922

River Brethren, name used to designate certain Christian bodies originating in 1770 in a revival movement among the German settlers in E Pennsylvania In the 1750s Mennonite refugees from Switzerland had established their homes near the Susquehanna river Their religious leaders, Jacob and John Engle, became associated with Philip William OTTERBEIN, Martin BOEHM, and others in the revival movement The followers of the Engles, who believed in trine immersion, came to be known as the River Brethren, either because they lived "down by the river" or because they were baptized in the Susquehanna upon joining the brotherhood In 1843 a conservative group in York co, Pa, withdrew, these are known as the Old Order or Yorker Brethren In 1852 another group left the main body, under the leadership of Matthias Brunser, adopting the name United Zion's Children The main body took the name Brethren in Christ, by which a group of Mennonites is also known The Brethren are very similar to the Dunkards, they practice trine immersion and foot washing, adhere to a plain dress, and oppose war, alcohol, tobacco, and "worldly" pleasures

Riverdale 1 Village (pop 2,865), NE Ill, just S of Chicago, settled c 1836, inc 1892 It is a rail center with a steel plant 2 Residential town (pop 2,330), W central Md, near Washington, D C, inc 1920 3 Borough (pop 1,110), N N J, near Pompton Lakes, inc 1923

River Edge, borough (pop 3,287), NE N J, on the Hackensack and E of Paterson, inc 1894

River Falls, city (pop 2,806), W Wis, SE of St Paul, Minn, and on the Kinnikinnic, settled c 1850, inc 1875 It has a state teachers college

River Forest, residential village (pop 9,487), NE Ill, west suburb of Chicago, settled 1836, inc 1880 Rosary College and Concordia Teachers College are here The village has a number of houses designed by Frank Lloyd Wright, who lived near by

River Grove, village (pop 3,301), NE Ill, northwest suburb of Chicago, inc 1888

Riverhead (rĭ'vərhĕd), town (pop 8,922), co seat of Suffolk co, on E Long Island, SE N Y, at the mouth of the Peconic on Peconic Bay, settled c 1690 In a potato-growing and truck-gardening area, it is also a fishing center Bedding and cement blocks are made The museum of the Suffolk County Historical Society is here, and near by is a large radio receiving station

Riverina (rĭ"vərē'nə), rural administrative district (26,560 sq mi, pop 83,000), S New South Wales, Australia, between the Lachlan and Murray rivers It produces wool and wheat

River Junction, town (pop 7,110), NW Fla, on the Apalachicola at the Ga line NW of Tallahassee, in a productive tobacco area, inc 1921 The town, which produces lumber and furniture, has long been known as Chattahoochee, and preliminary returns for the 1950 census list it under that name

River of Doubt see ROOSEVELT, river

River Point, R I see WEST WARWICK

River Rouge (rōōzh'), industrial city (pop 17,008), SE Mich, on the Detroit river at the mouth of the Rouge, adjacent to S Detroit, inc as a city 1921 It grew in the 1920s with the expansion of the Ford Motor Company in the area

Rivers, Richard Woodville, Earl, d 1469, English nobleman He was knighted by Henry VI in 1426 and acquired wealth and power by marrying (1436) Jacquetta of Luxemburg, widow of John of Lancaster, duke of Bedford He served in English armies in France and helped suppress the rebellion under Jack Cade in England In the Wars of the Roses, Rivers was a Lancastrian partisan and fought for Henry VI through the Lancastrian defeat at Towton (1461) Then, feeling that the cause was lost, Rivers supported Edward IV, to whom he gave his daughter (see WOODVILLE, ELIZABETH) in marriage (1464) He became treasurer (1465) and was created earl. The favoritism shown the Woodville faction at court embittered Richard Neville, earl of Warwick. In the revolt which Warwick led in 1469, the king was defeated, and Rivers was captured and executed

Rivers, Thomas Milton, 1888–, American bacteriologist, b Jonesboro, Ga, M D Johns Hopkins, 1915 He taught at Johns Hopkins (1917–22) and then joined the Rockefeller Institute, becoming director of its hospital in 1937 An authority on viruses, he developed methods of culturing the germs and made studies of diseases caused by viruses and other microorganisms

Riverside, town (pop 4,878), S Ont, on the Detroit river and E of Windsor It is a residential suburb of Windsor

Riverside 1 Residential city and tourist center (pop 34,696), co seat of Riverside co, S Calif, on the Santa Ana and E of Los Angeles, founded 1870 inc 1883 The navel orange was introduced here in 1873 The city is the seat of a citrus experiment station of the Univ of California, Sherman Indian Institute, a junior college (coeducational), and the Glenwood Mission Inn Easter sunrise services are held on near-by Mt Rubidoux (1,337 ft high), where a large cross stands in memory of Father Junípero Serra March Field (U S army) and the lake resort of Arlington are in the area 2 Residential village (pop 7,935), NE Ill, on the Des Plaines river and W of Chicago, inc 1875 It was designed as a model suburb by Frederick Law Olmsted and Calvert Vaux 3 Commuters' town (pop 1,043), N W Va, near Star City, inc 1912

Riverton 1 Village (pop 1,524), central Ill, just NE of Springfield, inc 1873 2 Borough (pop 2,354), SW N J, on the Delaware between Camden and Burlington, inc 1893 3 Town (pop 2,540), W central Wyo, on the Bighorn river at the mouth of the Wind river and NE of Lander, founded and inc 1906 The Riverton reclamation development is served by several dams (Wind River Diversion, Bull Lake, and Pilot Butte) and irrigates some 42,500 acres The project will ultimately include about 100,000 acres

Rives, Amélie, Princess Troubetzkoy (ămālē' rēvz', trōōbĕtskoi'), 1863–1945, American novelist and playwright, b Richmond, Va After her divorce from her first husband, John A Chanler, she married (1896) Prince Pierre Troubetzkoy, a Russian artist Of her many novels, the first, *The Quick or the Dead* (1888), was sensational in its day Among her plays the best is perhaps *Love-in-a-Mist* (1926), written in collaboration with Gilbert Emery.

Rives, William Cabell (rēvz), 1793–1868, American statesman and diplomat, b Nelson co (then part of Amherst co), Va, grad College of William and Mary, 1809 A lawyer, he served in the Virginia constitutional convention of 1816 and the state legislature (1817–21, 1822–23) and was a U S Representative (1823–29) Rives was twice minister to France (1829–32, 1849–53) and was elected to three terms in the U S Senate (1832–34, 1836–39, 1841–45) Originally a Jacksonian Democrat, he opposed Van Buren's Independent Treasury System and supported William H Harrison for President in 1840, by 1844, when he backed Henry Clay, he was definitely a Whig In 1861 he was a member of the peace convention at Washington sponsored by Virginia in an effort to prevent the Civil War He served in the provisional and then the regular congress of the Confederacy until 1862 His *History of the Life and Times of James Madison* (3 vols, 1859–68) covers Madison's life through the year 1797

Rivesville (rēvz'vĭl), mining town (pop 1,552), N W Va, near Fairmont, in a coal region, laid out 1837

rivet (rĭ'vĭt), solid metal cylinder with a head on one end, the other end being hammered down after passing through the plates or other materials which it fastens closely together Rivets are generally made of the same material as the parts to be joined Steel rivets are made by feeding round bars, heated to a proper temperature, into a rivet-making machine which forms the head and cuts off the bar The steel of rivets should permit bending, when cold, through an angle of 180° without fracture The buttonhead rivet, most commonly used, has a hemispherical head The countersunk-head rivet has a flat head made to fit a countersunk hole Holes for rivets in steel members are either punched or drilled and are generally larger than the rivet diameter The spacing of rivets depends upon the nature of the work, rivets for watertight or oiltight vessels (e g boilers) are placed much closer together than are those in most structural members Rivets for ordinary construction work range from ¼ to 1¼ in in diameter, smaller rivets are made for many purposes Hot rivets are used for heavy construction, they are easier to head and they shrink on cooling, thus pulling pieces closer together Most riveting in the field is done by pneumatic appliances, driven by portable air compressors Split rivets are generally of small diameter and are made of brass or some other relatively soft metal The shank is split part way, and when put in place the split portion is bent over and hammered down The split rivet is used for connecting fibrous material to metal, as in the brake band of an automobile Either split or tubular rivets are used to fasten soft materials such as

leather See A. E. R. de Jonge, *Riveted Joints* (1945)

Riviera (rĭvēâ'ru), narrow coastal strip between the Alps and the Mediterranean, extending, roughly, from La Spezia (Italy) to Hyères (France) Genoa is the center of the Italian Riviera and divides it into the Riviera di Levante (east) and the Riviera di Ponente (west) The French Riviera is also known as the Côte d'Azur The whole region is celebrated for its scenic beauty, mild climate, and luxuriant vegetation Dotted with fashionable resorts, hotels, and villas in a setting of beautiful gardens, it is the major playground of Europe Among the most famous resorts are RAPALLO, SAN REMO, and Bordighera on the Italian Riviera, and NICE, MONTE CARLO, and CANNES on the Côte d'Azur Flowers for export and for use in the perfume industry are grown throughout the region, particularly at Grasse A panoramic highway runs along the Riviera from end to end, its section (the *Corniche du littoral*) between NICE and Menton, which hugs the characteristic red cliffs of the coast line, is particularly famous

Riviera Beach (rŭvēr'ŭ), town (pop 1,981), SE Fla, just N of Palm Beach, inc 1922 It is a tourist and fishing center

Rivière Bleue (rēvyĕr' blû') or **Saint Joseph de la Rivière Bleue** (sĕ zhôzĕf' du la), village (pop 1,082), E Que, on the St Francis and SE of Rivière du Loup, in a dairy-farm and lumbering region

Rivière du Loup (rēvyĕr' dü lōō'), city (pop 8,713), E Que, on the south shore of the St Lawrence at the mouth of the Rivière du Loup and NE of Quebec It is a commercial and industrial center, with railroad shops, woodworking plants, and stove manufacturing and with lumbering and peat cutting in the surrounding area It is also a resort and tourist center The site was visited (1683) by French missionaries, settled after 1833, it was originally called Fraserville

Rivière du Moulin (rēvyĕr' dü mōōlĕ'), village (pop 1,561), S Que, on the Saguenay at the mouth of the Rivière du Moulin It is just NE of Chicoutimi, of which it is a suburb

Rivinus, Augustus Quirinus (ôgŭ'stŭs kwĭrī'nŭs rĭvī'nŭs), 1652–1723, German botanist and physician Rivinus is the Latinized form of his surname, Bachmann. He is known chiefly for his botanical work *Ordo plantarum* (5 parts, 1690–99), which includes his system of classification of plants according to their petals

Rivoli (rē'vōlē), officially **Rivoli Veronese** (vārōnā'zā), village, Venetia, NE Italy, on the Adige and 12 mi NW of Verona It was the scene in 1797 of a decisive French victory over the Austrians Masséna, who participated in the battle under Bonaparte, was later created duke of Rivoli

Rix, Julian Walbridge, 1850–1903, American landscape painter, b Peacham, Vt, mainly self-taught His work is in private collections in New York city, Baltimore, Rochester, N Y, and South Bethlehem, Pa, it includes *Solitude*, *Sunset*, *High Tide*, and *Noonday*

Riyad or **Riyadh,** Arabia see RIAD

Rizal, José (hōsā' rēsäl'), 1861–96, Philippine patriot, author, poet, and physician, b Calamba, Laguna prov He studied at a Jesuit school in Manila, at the Univ of Madrid (M D, 1884, Ph D, 1885), and in Paris, Berlin, Heidelberg, and Leipzig. In Berlin he published his first novel, *Noli me tangere* (1886), a violent diatribe against Spanish administration and the religious orders in the Philippines Because of this attack he was compelled by Spanish officials to leave the islands soon after his return home in 1887 He lived successively in China, Japan, the United States, England and France, before establishing himself in Hong Kong to practice medicine In 1890 he published an annotated edition of Antonio Morga's *Sucesos de las islas Filipinas*, and in 1891 he published his second novel, *El filibusterismo*, a sequel to his first Returning to Manila in 1892, he was arrested as a revolutionary agitator and banished to Dapitan on Mindanao While on his way to Cuba in 1896, he was arrested and returned to Manila There he was given a farcical trial and executed as an instigator of insurrection and founder of secret revolutionary societies He also wrote articles, *Mariang Makiling* (1890), a Philippine folk tale, and considerable poetry See biographies by Austin Craig (1913), Antonio Iraizoz y de Villar (1929, and F C Laubach (1936), C E Russell and E B Rodriguez, *The Hero of the Filipinos* (1923), Austin Craig, ed, *Rizal's Political Writings* (1933), Carlos Quirino, *The Great Malayan* (1940), Rafael Palma, *The Pride of the Malay Race* (1949)

Riza Shah Pahlavi see REZA SHAH PAHLAVI

Rizpah (rĭz'pu), Saul's concubine who held watch over her dead sons on Mt Gibeah 2 Sam 3 7, 21 8–11

Rizzio, David (rĭt'sēō), 1535?–1566, favorite of MARY QUEEN OF SCOTS He was a Piedmontese musician (also called RICCIO) who arrived in Scotland with the ambassador from Savoy He came to the notice of Queen Mary and toward the end of 1564 became her secretary The reliance which Mary placed in him, however, caused jealousy and hatred on the part of many great nobles They persuaded Lord DARNLEY, Mary's husband, that RIZZIO was Mary's lover Then, in 1566, with Darnley's support, they broke into Holyrood Palace, seized RIZZIO in Mary's presence and killed him There is no proof or disproof of the charges that Mary was his mistress, but it is clear that his murder was only part of a larger campaign by Scottish nobles against Mary

Rjukan (rēōō'kan), village (pop 5,460), Telemark co, S Norway, on the Rjukanfoss, a waterfall (780 ft high) of the Mane river Its large hydroelectric and nitrogen-fixation plants were destroyed (1943) by Allied bombings in the Second World War After the war a plant for making heavy water was built here

Rn, chemical symbol of the element RADON.

roach see COCKROACH

road. The history of roads has been related to the centralizing of populations in powerful cities, which they have served for military purposes and for the collection of supplies and tribute In Persia, between 500 and 400 B C, all the provinces were connected with the capital, Susa, by roads, one of them 1,500 mi long Greece, cherishing the independence of city-states and opposing centralization, did relatively little road making The ROMAN ROADS are famous In Italy and in every region that the Romans conquered, they built roads so durable that parts of them yet remain serviceable The Roman roads were generally straight, not avoiding steep grades The surface was of large slabs of hard stone well cut This surface rested on a bed of smaller stones and cement about 3 ft thick Modern engineers criticize the Roman roads for their steep grades and for their disregard of economy of materials and labor The English word *street* is from Latin *via strata*, a paved road From the fall of the Roman Empire until the 19th cent, European roads generally were neglected and hard to travel People usually walked, rode horses (as did Chaucer's Canterbury pilgrims), or were carried in sedan chairs Goods were transported by pack animals In France, Louis XIV and Napoleon built good roads for military purposes Elsewhere on the Continent roads were not much improved before the middle of the 19th cent In Great Britain two Scottish engineers, Thomas TELFORD and John L McADAM, were responsible for the development of the MACADAM ROAD This was an item of some importance to the Industrial Revolution, and the expansion of the Industrial Revolution brought road improvement over the Continent, although the emphasis was on the railroad until after the invention of the automobile In the Americas the Inca empire was remarkable for its fine roads In the present United States, however, the waterways were the normal mode of Indian travel, and the Indian trails, though many, were simply crude footpaths These were used by white settlers and were widened to make wagon trails The increase in stagecoaches did bring some improvement, and the TURNPIKE was introduced with the beginning of the 19th cent Turnpikes were of great significance in the first half of that century One of the big items of internal improvement in that period was planning and building road arteries, notably the NATIONAL ROAD The canal and then the railroad, however, took precedence It was not until the invention of the automobile that the road became paramount again Hard-surfaced highways were stretched across the entire land in a relatively few years, and the complex system came to include superhighways, elevated highways, and many-laned traffic conveyors The building of roads became a major branch of engineering, and even the most difficult obstacles were surmounted Roads have helped greatly to equalize and unify American culture in the 20th cent The highways through Canada and the Pan American Highway are also serving to promote land travel in the Americas and increase understanding For the hard surfacing of roads, see PAVEMENT A B Hulbert wrote and edited many historical works about roads in the present United States, some of them collected into two series, "Historic Highways of America" and "Overland to the Pacific"; the volumes of the "American Trails" series are edited by Jay Monaghan See J W Gregory, *The Story of the Road* (new ed, 1939), Wilfred Owen, *Automotive Transportation* (1949), Jean Labatut and W J Lane, ed, *Highways* (1950)

road runner, a cuckoo found in the cactus country of the W United States and parts of Mexico Terrestrial in habit (although it can fly with ease), it speeds over the ground with its head down, its ragged crest erect, and its long tail extended horizontally Motor traffic has interfered with its pleasure in running ahead of horse-drawn vehicles It eats insects, small reptiles, mice, fruit of the giant cactus, and occasionally small birds It is easily tamed but is mischievous

Road Town see VIRGIN ISLANDS, BRITISH

Roanne (rôän'), town (pop 40,216), Loire dept, SE France, on the Loire It has large textile, machine, and other manufactures

Roanoke (rō'unōk) **1** City (pop 4,168), E Ala, near the Ga line SE of Anniston, in a farm area; settled c 1835, inc 1888 **2** Village (pop 1,090), central Ill, ENE of Peoria in a farm area, inc 1874 **3** City (pop 69,287), SW Va, on the Roanoke river, founded 1834 as Big Lick, inc as a town 1874, name changed to Roanoke 1882 with the coming of the railroad, inc as a city 1884 It is between the Blue Ridge and the Allegheny Mts, and is the southern gateway to the Shenandoah Valley The industrial, rail, and trade center of a coal, lumber, and farm area, it has steel, textile, wood-processing, and other plants and a huge rayon mill Near by are a veterans' hospital and HOLLINS COLLEGE

Roanoke, river rising in SW Virginia and flowing 410 mi SE to Albemarle Sound, N C The Federal government approved (1944) a plan for dams and reservoirs for flood control, hydroelectric power and other purposes in the Roanoke river basin

Roanoke College see SALEM, Va

Roanoke Island, NE N C, off the coast in Croatan Sound between Albemarle and Pamlico sounds Manteo (pop 571) is the chief town, and fishing is the principal industry of the island, which is 12 mi long and averages 3 mi in width The English navigators Philip Amadas and Arthur Barlowe, exploring for Sir Walter RALEGH in 1584, brought back such glowing accounts of the island that Ralegh immediately dispatched a colonizing expedition under Sir Richard Grenville and Sir Ralph Lane The colonists landed on Roanoke in Aug, 1585, and built the "Citie of Ralegh" (or New Fort), but, faring badly, returned to England the next year In 1587 Ralegh sent out another group under John White Forced to return to England for supplies White was unable to come back to Roanoke until 1591, and then the colony had disappeared In 1940 a group of scholars tentatively approved the authenticity of some 40 stone tablets (now at Brenau College Gainesville, Ga), which supposedly record the history of the "lost colony", the first one was found on the banks of the nearby Chowan river in 1937 They tell of the death of many of the colonists (including Virginia Dare, White's granddaughter, the first English child born—on Roanoke—in America) from disease and Indian attacks and of the migration of others into the interior, as far away as present-day Atlanta, Ga If the stones are not a hoax, as some think possible they would seem to dispel forever the CROATAN theory of the colony's disappearance In 1937 Paul Green's symphonic drama *The Lost Colony* was first presented to commemorate the 350th anniversary of the landing of White's colony, and in 1947 U S government archaeologists at Fort Raleigh National Historic Site (16 45 acres, est 1941) announced that they had uncovered other artifacts of the colony In the Civil War, Roanoke Island fell (Jan, 1862) to Union forces under Gen A E Burnside

Roanoke Rapids, industrial city (pop 8,545), N N C, on the Roanoke near the Va line, NNE of Rocky Mount, founded 1893, inc as a city 1931 It has textile and paper mills

roaring forties, name applied, especially by sailors, to the latitudes between 40° and 50° S latitude, where the prevailing westerly winds (here called the brave west winds) blow strongly and steadily The winds are unimpeded by the large land areas which interfere with the westerlies in the Northern Hemisphere

Roaring Spring, borough (pop 2,724), S Pa, c 10 mi S of Altoona, inc 1888.

Roatán, island see BAY ISLANDS

Robbers, Herman (hĕr'man rō'burs), 1868–1937, Dutch novelist He was the author of *De Roman van een Gezin* (1909–10, Eng tr, *The Fortunes of a Household*, 1924)

Robber Synod see EUTYCHES

robbery, felonious taking of property from a person against his will by threatening or committing force or violence The injury or threat may be directed against the person robbed, his property, or the person or property of his relative or of anyone in his presence at the time of the robbery There is no robbery unless force or fear is used to overcome resistance Thus, surreptitiously picking a man's pocket or snatching something from him without resistance on his part is larceny, but not robbery Robbery is distinguished from LARCENY, where the unlawful taking of property without the owner's consent is not accomplished by violence or by inducing fear through threats Robbery differs from EXTORTION, where force or fear are used to obtain the consent of the victim The distinction, however, is tenuous In some states there are several degrees of robbery with graduated penalties, aggravating circumstances, e g, the use of firearms, result in a greater penalty

Robbia, Italian sculptors see DELLA ROBBIA

Robbins, village (pop 1,349), NE Ill, near Chicago, inc 1917. It is an all-Negro community.

Robbinsdale, city (pop 6,018), E Minn, northwest residential suburb of Minneapolis, platted 1887

Robersonville, town (pop. 1,407), NE N C, ESE of Rocky Mount, in a region producing tobacco, cotton, and peanuts, settled in the 1700s, inc. 1872

Robert I, c.865–923, French king (922–23), son of Count Robert the Strong and younger brother of EUDES In 922 he led a rebellion against King CHARLES III (Charles the Simple) and was crowned king at Rheims by a party of nobles, but he was soon killed in battle His son-in-law, Raoul of Burgundy, succeeded him

Robert II (Robert the Pious), c 970–1031, king of France (996–1031), son of Hugh Capet, with whom he ruled jointly after 987. Distinguished for his piety and learning, he also sought to strengthen the weak royal power, conquered several towns, established his claim to the duchy of Burgundy, and formed an alliance with Flanders. His plans for the dismemberment of the empire came to nothing He was compelled to yield to the pope in a controversy over the validity of his second marriage His successor was Henry I

Robert I or **Robert the Bruce,** 1274–1329, king of Scotland (1306–29) He belonged to the BRUCE family and was the grandson of that Robert the Bruce who in 1290 was rejected by Edward I of England as competitor for the Scottish crown against the successful John de Baliol He was earl of Carrick from an early age and in 1304, upon his father's death, assumed the lordship of Annandale and of the hereditary lands in England In 1296 he appears to have sworn fealty to Edward I and to have supported him in his invasion of Scotland after Baliol openly defied the authority of England But when Edward treated Scotland as a fief and established a governor over it, Robert the Bruce was among the leaders in the struggle for national independence (1297–1302) An obscure contest between him and John Comyn, nephew and heir to John de Baliol, for the adherence of the Scottish nation chiefs resulted in Comyn's murder (probably unpremeditated) by the Bruce In defiance of Edward, the Bruce was crowned king at Scone on March 27, 1306 After defeat at Methven, he took refuge in wild country until he could gather up his power According to legend, the Bruce at this time of discouragement learned courage and hope from watching a spider persevere in spinning his web The Bruce estates were confiscated by the king of England, and punishment was dealt out to his followers In 1307 a successful battle at Loudon Hill brought numbers of adherents to his side Edward I, aged and ill, attempting to lead an army against the rebellious Scots, died on the way Edward II failed to pursue the vigorous course of his father The Bruce was able to consolidate his hold on Scotland and recapture lands and castles from the English while raids continued across the border, both to and from England Stirling, the last Scottish castle held by the English, was besieged and so hard pressed that the governor finally agreed to its surrender if relief from England did not arrive to hold it by June 24, 1314 On June 23 and 24 at near-by Bannockburn, the Bruce overwhelmingly defeated a large English force led by Edward II The war went on and in 1318 the Scots took Berwick Robert the Bruce was excommunicated by the pope A truce, made in 1323, was broken in 1327 after Edward III ascended the throne of England Finally, in the Treaty of Northampton (1328), the independence of Scotland and the validity of the Bruce's title to the throne were recognized Robert I passed the short remainder of his life in his castle at Cardross and died there, perhaps of leprosy As he requested, his embalmed heart was given to Sir James Douglas, to be carried to Jerusalem for burial In Spain, Douglas fell in fighting with the Moors The heart of the Bruce, borne safely back to Scotland, was buried in Melrose Abbey His body had been interred in the Abbey of Dunfermline By his skill and courage he had delivered Scotland from the control of England and by his wise policies had set the country on its way to new prosperity He was succeeded by David II The 14th-century poem *The Bruce* by John Barbour is a spirited account of his life See biography by A N Mackenzie (1934)

Robert II, 1316–90, king of Scotland (1371–90) He was the first sovereign of the house of Stuart His father, Walter the Steward, had married Marjory, the daughter of ROBERT I (Robert the Bruce), but their son did not succeed to the throne until the death of his uncle, David II, during whose reign Robert on several occasions acted as regent or joint regent and led the opposition to Edward de Baliol He rebelled in 1363 against David when that monarch proposed an English successor to the Scottish throne, and in accordance with a law of succession adopted in 1318 Robert succeeded to the crown on David's death He was the founder of the dynasty of Stewart or Stuart (see STUART, family) which eventually succeeded to the English as well as the Scottish throne Robert II's first marriage took place after the birth of several of his sons, whose succession to the kingdom was legitimized by an act of Parliament in 1373 One or another of Robert's sons acted as guardian during most of the king's reign The Scots in alliance with France fought invasions by England—one in 1384 led by John of Gaunt and one in 1385 led by Richard II The Scots themselves invaded England in 1388 and won a great victory at OTTERBURN

Robert III, c 1340–1406, king of Scotland (1390–1406) Eldest son of Robert II, he assumed the name Robert when he ascended the throne, although he had previously been John, earl of Carrick A brother, Robert, earl of Montueth and Fife, whom in 1398 he created duke of Albany (see STUART, ROBERT, 1ST DUKE OF ALBANY), guided affairs of state in great measure, because the king was an invalid War with England during this reign was marked by Henry IV's invasion of Scotland, which reached Edinburgh (1400), and a return expedition into England (1402) led by Archibald Douglas The duke of Albany is held to have been responsible for the death of Robert's heir, David STUART, DUKE OF ROTHESAY, in 1402 When another son (later James I) was seized and detained in England by Henry IV, King Robert died—of grief, it is said

Robert I (Robert the Magnificent), d 1035, duke of Normandy (1027–35), father of William the Conqueror He is often identified with the legendary ROBERT THE DEVIL He aided HENRY I of France against his rebellious brother and mother, intervened in the affairs of Flanders, and supported Edward the Confessor, then in exile at Robert's court Having designated as his heir his illegitimate son William, he made a pilgrimage to Jerusalem and died at Nicaea

Robert II (Robert Curthose), c 1054–1134, duke of Normandy (1087–1106), eldest son of WILLIAM I of England Aided by Philip I of France, he rebelled (1077) against his father, whom he wounded in battle (1079) He was subsequently reconciled to him, then again exiled At William's death he succeeded to Normandy, England falling to WILLIAM II He and William were intermittently at war (1091–96) till Robert went (1096–1100) on the First Crusade After his return he disputed the claim of HENRY I to the English throne but was persuaded to accept a settlement The conflict was revived, however, and Henry defeated Robert at Tinchebrai (1106), seized Normandy, and kept Robert a prisoner of the English See biography by C W David (1920)

Robert, Henry Martyn, 1837–1923, American military engineer, b Robertsville, S C , grad West Point, 1857 In the Civil War he was assigned to the engineers and worked on the defenses of Washington, Philadelphia, and the New England coast Almost continuously from 1867 until 1895, he was in charge of river, harbor, and coast improvements along the Pacific and Gulf coasts, on the Great Lakes, and on Long Island Sound In 1901 he was appointed brigadier general, chief of engineers, soon afterward he retired He is best known as the author of a book on parliamentary law, *Pocket Manual of Rules of Order for Deliberate Assemblies* (1876), of which a revision appeared in 1915

Robert, Léopold (lāôpôld' rôbĕr'), 1794–1835, French genre painter, b Switzerland, student of J L David He excelled in depicting Italian folk life in a classical style His two best-known paintings, *Pilgrimage of the Madonna of the Arc*, or *Spring*, and *Harvesters in the Pontine Marshes*, or *Summer*, are in the Louvre

Robert Bruce see ROBERT I, king of Scotland

Robert College, at Istanbul, opened 1863 with funds contributed by Christopher R Robert and other Americans for the higher education of Turkish men In 1912 a school of engineering was added to the college of arts and sciences The buildings are on a hill overlooking the narrowest part of the Bosporus

Robert Curthose see ROBERT II, duke of Normandy

Robert-Fleury, Joseph Nicolas (zhôzĕf' nēkôlà' rôbĕr'-flûrē'), 1797–1890, French historical painter He enjoyed a long career of official honors crowned by the directorship of the Académie de France à Rome in 1864 He is best known for paintings of such subjects as *Scene from the Massacre of St Bartholomew* and *Charles V at Yuste* Many of them are in the Luxembourg Museum, Paris His son, **Tony Robert-Fleury** (tônē'), 1837–1912, also a historical painter, is represented in the Luxembourg Museum and the Metropolitan Museum

Robert Grosseteste see GROSSETESTE, ROBERT

Robert Guiscard (gēskär'), c 1015–1085 Norman conqueror of S Italy, one of the sons of Tancred de Hauteville (see NORMANS) Robert joined (c 1046) his brothers in S Italy and fought with them to expel the Byzantines In 1057 he succeeded his brother Humphrey as count of Apulia, and in 1059 Pope Nicholas II invested him at Melfi with the counties of Apulia, Calabria, and Sicily Most of these lands remained to be conquered, and Robert set himself to the task with the help of his younger brother Roger, who wrested (1061–91) Sicily from the Arabs (see ROGER I) Calabria was occupied by 1060, Bari fell in 1071, Salerno in 1076 Robert's attacks on the duchy of Benevento, a papal fief, provoked papal displeasure (1074), but a reconciliation was brought about because of Gregory VII's need of Norman assistance against Emperor Henry IV Ultimately only the city and a small ring of land around Benevento remained to the pope Robert now coveted the Byzantine Empire Championing the cause of the deposed emperor, Michael VII, he sailed in 1081, conquered Corfu, and defeated (1082) ALEXIUS I. In 1083 he returned to aid Pope GREGORY VII, who was besieged in the Castel Sant' Angelo Robert's troops sacked Rome for three days (1084), but were again expelled by those of Emperor Henry IV. Robert, with his elder son BOHEMOND, resumed their conquests in the east Robert died of fever during the siege of Cephalonia and was succeeded in Apulia by his younger son, Roger

Robert-Houdin, Jean Eugène. see HOUDIN, JEAN EUGÈNE ROBERT

Robert of Brunne. see MANNYNG, ROBERT.

Robert of Courtenay (kôrt'nĕ, kōōrtunā'), d 1228, Latin emperor of Constantinople (1221–28) His father, Peter of Courtenay, count of Auxerre in France, died in 1217, shortly after his election by the Latin nobles to succeed Henry of Flanders as emperor Robert's mother Yolande was regent until 1219, when Robert was elected to succeed his father He was crowned in 1221 Disaster befell the Latin Empire in 1224, when Robert was defeated almost simultaneously by Theodore, despot of Epirus, and by John III, emperor of Nicaea The emperor's territories were reduced to little more than the city of Constantinople Robert was deposed in 1228, and his brother Baldwin II succeeded him under the regency of John of Brienne

Robert of Geneva, d 1394, Genevan churchman, antipope (1378–94, see SCHISM, GREAT) with the name Clement VII He was archbishop of Cambrai (1368) and was created (1371) a cardinal He was subsequently papal legate in Italy, and he put down a rebellion at Cesena with great cruelty In 1378, on the death of GREGORY XI, URBAN VI was elected, but the cardinals reconsidered and elected Robert instead He went to Avignon at once, and the Great Schism had begun He was recognized by France (his protector), by Scotland, (France's ally), and by Castile, Aragon, Navarre, Denmark, and Norway Several Italian and German states also recognized him Portugal twice recognized, and twice repudiated him He was unsuccessful in trying to increase his support He died just as the ideas that led to the conciliar theory were being propagated from Paris His successor at Avignon was Benedict XIII (see LUNA, PEDRO DE)

Robert of Gloucester (glô'stur, glo'stur), fl c 1300, an English writer, possibly a monk of Gloucester To him is attributed a Middle English metrical chronicle in the Gloucestershire dialect which covers the period from Brutus to 1270 Probably the chronicle was written by more than one person, for the two recensions, while having one part (through the reign of Henry I) in common, vary in the length of the continuations, one also has a long insertion in the early material The chronicle is important for philological studies and for the history of the reign of Henry III

Robert of Jumièges (zhumyĕzh'), fl 1037–52, Norman churchman in England, b Normandy As abbot of Jumièges he won the favor of Edward (later EDWARD THE CONFESSOR) during Edward's exile in Normandy He went (1043) to England with the king and received the bishopric of London (1044), becoming archbishop of Canterbury in 1051 A leader of the Norman party of the king, he opposed the powerful Earl Godwin and helped send him into exile in 1051 Upon Godwin's return he fled to France, was later outlawed by the hostile English, and never succeeded in returning to his see, despite the support of the pope

Roberts, Benjamin Titus, 1823–93, American clergyman, one of the founders of the Free Methodist Church , b Gowanda, N Y He was expelled in 1858 from the Genesee Conference of the Methodist Episcopal Church, of New York state, because of his criticisms of conditions and methods of modern Methodism He and other ministers of the same mind formed the Free Methodist Church of North America in 1860, of which he was general superintendent from 1860 to 1893

Roberts, Sir Charles George Douglas, 1860–1943, Canadian author, b near Fredericton, N B , grad Univ of New Brunswick, 1879 After teaching literature several years at King's College, Windsor, N S , he moved to New York (1897), later to England, and finally, after serving in the First World War, back to Canada, settling in Toronto He greatly influenced other young Canadian poets of the "Confederation school,"—such as Bliss Carman and Archibald Lampman—with his nature lyrics and idyls in *Orion* (1880), *Divers Tones* (1886), and other volumes He is best known to the public for his numerous tales of wildlife, e g , *Watchers of the Trails* (1904) and *Hoof and Claw* (1913) He was also the author of many other works, including a popular *History of Canada* (1897) Upon his return to Canada he received many acknowledgments of his literary reputation, among which were the Lorne Pierce medal from the Royal Academy of Canada (1926) and a baronetcy (1935) See his *Selected Poems* (1936), James Cappon, *Roberts and the Influences of His Times* (1905)

Roberts, David, 1796–1864, British landscape and architectural painter, largely self-taught He began as a scene painter in Edinburgh and London Later he traveled widely Both his paintings and his published lithographic reproductions were pop-

ular His painting *Interior of Burgos Cathedral* is in the Tate Gallery, London Among his lithographs are *Sketches in Spain* and *Sketches in Italy*

Roberts, Elizabeth Madox, 1885–1941, American poet and novelist, b Perryville, Ky , grad Univ of Chicago, 1921 Her early poetry was awarded the Fisk Prize at the Univ of Chicago and appeared as *Under the Tree* (1922), poems for children Her later collection, *Song in the Meadow* (1940), displays her lyrical and ballad-writing ability She is best known for her novels and stories of the Kentucky mountain people, and her work is distinguished by fidelity to their speech and customs, Her novels include *The Time of Man* (1926), *My Heart and My Flesh* (1927), *Jingling in the Wind* (1928), *The Great Meadow* (1930), a story of the settling of Kentucky; *A Buried Treasure* (1931), and *Black Is My Truelove's Hair* (1938) Some of her short stories are collected in *The Haunted Mirror* (1932) and *Not by Strange Gods* (1941)

Roberts, Frederick Sleigh, 1st **Earl Roberts of Kandahar** (kăndŭhär'), 1832–1914, British field marshal He was educated at Eton and Sandhurst and joined the Bengal Artillery (1851) for service in India He served under his father on the northwest frontier and distinguished himself in a number of engagements, notably in the Sepoy Rebellion He acquired a reputation as an expert in the quartermaster general's department and had progressed to the rank of major general in 1875 Roberts advocated the "forward" policy against Russian encroachments, which became the general defensive policy of India As commander of the Punjab frontier forces in 1878 Roberts forced the acceptance by Afghanistan of the British demands in the Treaty of Gandamuk (1879) He remained in Afghanistan to repulse subsequent outbreaks, becoming a popular British hero after the defeat of the Afghan forces following a forced march of 300 mi to Kandahar (1880) Roberts was made commander in chief of the Madras army in 1881 and of the entire Indian forces in 1885 In 1893 he returned to England and wrote his reminiscences, *Forty-one Years in India* (1897) In 1899, when the English were meeting reverses at the hands of the Boers in South Africa, Roberts was sent to take control Aided by his chief of staff, Lord KITCHENER, Roberts reorganized the transport system, achieving a mobility that had been lacking By Nov , 1900, the SOUTH AFRICAN WAR seemed near a successful conclusion, and Roberts was returned home and awarded an earldom Roberts's office as commander in chief of the British army was abolished in 1904, and thereafter he devoted himself to the cause of compulsory military service for home defense, setting forth his ideas in *Fallacies and Facts* (1911).

Roberts, Howard, 1843–1900, American sculptor, b. Philadelphia, studied at the Pennsylvania Academy of the Fine Arts and in France His statue *La Première Pose* at the Centennial Exposition, 1876, was the first notable American work to show the influence of modern French schooling He made a statue of Robert Fulton for Statuary Hall, Washington, D C , and portrait busts.

Roberts, Kenneth Lewis, 1885–, American author, b Kennebunk, Maine, grad Cornell, 1908 Well known as staff correspondent for the *Saturday Evening Post* and as the author of travel books, in 1928 he retired to write the *Chronicles of Arundel*, a series of American historical novels including *Arundel* (1930), *The Lively Lady* (1931), *Rabble in Arms* (1933), and *Captain Caution* (1934) He has since written the novels *Northwest Passage* (1937), *Oliver Wiswell* (1940), and *Lydia Bailey* (1946) and several books of essays and has edited two historical source books See the autobiographical *I Wanted to Write* (1949)

Roberts, Owen Josephus, 1875–, American jurist, Associate Justice of the U S Supreme Court (1930–45), b Philadelphia, grad Univ of Pennsylvania (B A., 1895, LL B , 1898) He practiced law in his native city, and while teaching law (1898–1918) at the Univ of Pennsylvania, he was (1901–4) assistant district attorney of Philadelphia co In the First World War he was appointed by the U S Attorney General to prosecute cases involving espionage, and he became nationally known as a prosecuting attorney in the Teapot Dome scandal (1924) While serving as Associate Justice of the Supreme Court, Roberts was appointed (1941) by President F D Roosevelt to head a commission to investigate the Pearl Harbor disaster After he resigned from the Supreme Court, he became (1948) dean of the Univ of Pennsylvania law school

Robertson, Agnes, 1833–1916, British actress The adopted daughter of Charles Kean, she made her debut (1851) at Princess's Theatre, London, as Nerissa in *The Merchant of Venice* In 1853 she married Dion BOUCICAULT and came with him to the United States, where she played leading parts in his Irish dramas Her greatest successes, however, were in the title roles of Boucicault's *Jessie Brown, or, The Relief of Lucknow* and *Dot*.

Robertson, Frederick William, 1816–53, English clergyman and lecturer Ordained (1840) in the Church of England, in 1847 he began his ministry in Trinity Chapel, Brighton. His understanding of the truths of the spiritual life and his power in presenting them gave him great influence in the pulpit He strove to improve conditions among the working classes of Brighton His works, published posthumously, include five series of sermons (1855–74), which were widely read

Robertson, Henrietta Richardson: see RICHARDSON, HENRY HANDEL

Robertson, James, 1742–1814, American frontiersman, a founder of Tennessee, b Brunswick co , Va He was reared in North Carolina. After the failure of the REGULATOR MOVEMENT, he led (1771) a group of settlers from Orange co , N C , to the transmontane region and became a leader of the WAUTAUGA ASSOCIATION In 1779 Robertson explored the Cumberland river country for Richard HENDERSON and his TRANSYLVANIA COMPANY and on Jan 1, 1780, began the settlement of Nashborough, later renamed Nashville Under the Cumberland Compact he became the chief civil and military officer of the community, and its survival was largely due to his wise leadership Neglected by North Carolina, subjected to Indian attacks, and denied free passage to New Orleans for their products, the Cumberland settlers came near placing themselves under Spanish rule But North Carolina's cession (1789) of its Western lands to the United States and the subsequent creation of the Southwest Territory held them in the Union When the state of Tennessee was organized in 1796, Robertson was prominent in drafting its first constitution In his later years he served as agent to the Chickasaw See Archibald Henderson, *The Conquest of the Old Southwest* (1920), biography by T E Matthews (1934)

Robertson, Morgan, 1861–1915, American author of sea stories, b Oswego, N Y His writing was based on his experience as a sailor from 1877 to 1886 Among his books of short stories are *Spun-Yarn* (1898), *Where Angels Fear to Tread* (1899), and *Sinful Peck* (1903)

Robertson, Thomas William, 1829–71, English dramatist Many of his successful comedies, superficial but more realistic than others of the period, were created for the actress Marie Wilton, who became the wife of Squire Bancroft His first success, *David Garrick* (1864), was followed by *Society* (1865), *Ours* (1866), *Caste* (1867), *School* (1869), and *M P* (1870) Several of these, including *Caste*, are still played See his *Life and Writings* (ed by T E Pemberton, 1893)

Robertson, William, 1721–93, Scottish churchman and historian He studied at the Univ of Edinburgh, entered the Church of Scotland, and as a member of its general assembly was the leader of the moderate party His *History of Scotland during the Reigns of Queen Mary and King James VI* (2 vols , 1759) was a factual, pragmatic history, praised for its literary merits and breadth of view by Edmund Burke, David Hume, and others and widely read in Scotland Soon after its success, he became principal of the Univ of Edinburgh, moderator of the general assembly, and historiographer royal *The History of the Reign of Charles V* (3 vols., 1769, ed by W H Prescott, 2 vols , 1857) was his masterpiece, though it has long been obsolete His *History of the Discovery and Settlement of America* (2 vols , 1777) was the first sympathetic treatment in English of the Spanish in America. His interest in the background of history is reflected in his last work, *A Historical Disquisition concerning the Knowledge Which the Ancients Had of India* (1781) A number of collected editions of his work have been published See J B Black, *The Art of History* (1926)

Robertson, Sir William, 1860–1933, English general He enlisted as a private in 1877 and was later sent to India From 1892 to 1896 he served as a staff captain in the intelligence department in India, and in a similar capacity under Lord Roberts in the South African War At the outbreak of the First World War he went to France as quartermaster general of the British army, became (1915) chief of staff to Gen Sir John French, and was promoted general He was chief of the imperial general staff (1915–18) and came into conflict with Lloyd George over the concentration of forces on the Western Front, a move which General Robertson strongly advocated He was relieved of his command in Feb , 1918 He commanded (1919–20) the British army on the Rhine and was made a baronet (1919) and a field marshal (1920) He is the author of *From Private to Field-Marshal* (1921) and *Soldiers and Statesmen, 1914–1918* (1926).

Robert the Bruce see ROBERT I, king of Scotland

Robert the Devil, hero of a medieval legend which perhaps owed certain details to the life of Robert I, duke of Normandy He was sold to the devil by his mother before his birth, but upon discovering the fact did penance and succeeded in purifying himself of his many sins. The story exists in several French and English versions and is the basis of Meyerbeer's opera *Robert le Diable*

Robert the Strong, d 866, French warrior, count of Anjou and Blois, father of the French kings Eudes and Robert I, and ancestor of the Capetians. He joined the rebellious nobles against Emperor Charles II; they invited Louis the German to invade France. Becoming reconciled to Charles in 861, he was charged with the defense of the country between the Seine and the Loire, from which he repelled the Bretons and Normans. He was killed fighting against the Normans.

Roberval (rō'bûrvŭl, Fr rôbĕrvăl'), town (pop. 3,220), S Que , on the southwest shore of Lake St. John and W of Chicoutimi It is a resort, with an airport, in a dairying, lumbering, and potato-growing region

Robeson, Paul (rōb'sŭn), 1898–, American Negro actor and concert singer, b Princeton, N J. The son of a runaway slave who became a minister, Robeson graduated first from Rutgers (1919), where he was a "four letter" man in athletics and a member of Phi Beta Kappa, and then from Columbia Univ School of Law (1923). In 1924 he embarked on a theatrical career, playing leading roles in Eugene O'Neill's *All God's Chillun Got Wings* and *The Emperor Jones* He began his career as a singer (1925) with a program of Negro spirituals, and his rich, warm baritone voice has since become known all over the world His theatrical career continued with triumphs in Ferber and Kern's *Showboat*, Shakespere's *Othello* (in England, 1930, in the United States, 1943–45), and O'Neill's *Hairy Ape* Some of the moving pictures in which he starred include *The Emperor Jones*, *Sanders of the River*, *King Solomon's Mines*, and *Song of Freedom* See biographies by his wife (1930) and Shirley Graham (1946)

Robesonia (rōbusō'nēu), borough (pop 1,570), SE Pa , W of Reading, settled 1855 It has textile mills

Robespierre, Maximilien Marie Isidore (rōbz'pēĕr, -pēr, Fr maksēmēlyĕ' marē' ēzēdōr' rôbĕspyĕr'), 1758–94, one of the leading figures of the French Revolution His youth was poverty-stricken, and he was enabled to study law in Paris only by a scholarship Returning to his native Arras, he practiced law, gained some reputation, and was appointed by his patron, the bishop of Arras, to a judgeship, which he resigned because he objected to capital punishment Robespierre soon came under the influence of Rousseau's theories, democracy and deism became his dogmas, and his emphasis on virtue later earned him the epithet, the Incorruptible Elected to the States-General of 1789, he remained in obscurity, but his influence in the Jacobin Club grew steadily until he became its leader (see JACOBINS). Elected to the Constituent Assembly, he championed the law that made members of the Constituent Assembly ineligible to the Legislative Assembly He unsuccessfully attacked the war policy of the GIRONDISTS, and, though he became a member of the Commune of Paris (Aug 10, 1792), he was not a leader in it As a deputy from Paris in the National Convention, he played an important part in the quarrel between the Girondists and the MOUNTAIN, but he still was overshadowed by Marat and DANTON Robespierre demanded the execution of the king and was a leader in the rising that brought about the destruction of the Girondists On July 27, 1793, he was elected to the second Committee of Public Safety (the "Great Committee"), where his powers waxed while Danton's waned The dangers of foreign invasion and internal dissent led the committee to inaugurate the REIGN OF TERROR, with which the name of Robespierre, its leading apologist, is always associated Having disposed of the Girondists, Robespierre turned against both the extreme left and the so-called moderates Jacques René HÉBERT and his party were overthrown, the moderates led by Danton and Camille DESMOULINS followed soon after (March, 1794) The guillotine having cleared their way, Robespierre and his two lieutenants, Louis de SAINT-JUST and Georges COUTHON, gave every appearance of being masters of France The Law of 22 Prairial (June 10, 1794) made the Revolutionary Tribunal an arbitrary tool and initiated the bloody horrors of the Great Terror, Robespierre even succeeded in forcing his deism on his colleagues by establishing the worship of the Supreme Being However, his dreams of a new state were not yet accomplished His enemies were desperate, and France was sick of the Terror On 9 Thermidor (July 27, 1794) Saint-Just's attack on Robespierre's enemies was the signal for a dramatic rising in the Convention against Robespierre, led by Jean Lambert TALLIEN and BILLAUD-VARENNE Robespierre was arrested, and, though he was freed by the troops of the commune, he hesitated to lead an insurrection against the Convention. BARRAS and his troops did not hesitate but attacked, they seized Robespierre He was summarily tried and guillotined with his followers the next morning (July 28). Legends concerning him and his ideas grew up. Generally he came to be considered an ambitious demagogue and dictator; others praised him as an idealistic champion of social revolution. Among historians, AULARD and MATHIEZ are the chief leaders of the opposing schools. See their works and the biographies by Ernest Hamel (3 vols , 1865–67, in French), Hilaire Belloc (1901), Louis Gosselin (Eng. tr., 1927), J M Thompson (2 vols., 1935), G. J. Renier (1936),

Friedrich Sieburg (Eng. tr., 1937), Ralph Korngold (1937), and James Michael Eagan (1938).

robin or robin redbreast, name in the Old World of a small bird of the warbler family and in the New World of a familiar migratory bird of the thrush family named by English colonists after their beloved redbreast The eastern robin of America is about 10 in. long (more than 4 in longer than the European robin), its back is olive gray, the head and tail darker; the white throat is barred with black, and the breast is chestnut red Its early spring return, its cheerful warble, and its destruction of harmful insects make it a welcome bird. The eggs are a clear greenish blue Usually two broods are raised Geographic varieties of the robin in North America are the western, the northwestern, the southern, and the San Lucas robins

Robin Goodfellow, mischievous and merry elf, sprite, or goblin in diminutive human shape, popularly believed in the 16th and 17th cent to haunt the English countryside Some of his powers and tricks are mentioned by Shakspere (who identified him with Puck) in *A Midsummer Night's Dream* (II 1)

> Either I mistake your shape and making quite,
> Or else you are that shrewd and knavish sprite,
> Call'd Robin Good-fellow are not you he,
> That frights the maidens of the villagery,
> Skim milk, and sometimes labor in the quern,
> And bootless make the breathless housewife churn,
> And sometime make the drink to bear no barm,
> Mislead night-wanderers, laughing at their harm?

See FAIRY See also M W Latham, *The Elizabethan Fairies* (1930)

Robin Hood, legendary outlaw of England With Little John (his chief archer), Friar Tuck, Maid Marian, and his band, he lived in Sherwood Forest and robbed the rich to help the poor He was mentioned in *Piers Plowman* He was the subject of at least 30 ballads and of a collection, *A Gest of Robyn Hode* (c 1510), of many stories and plays, and of an opera by Reginald de Koven

Robins, Elizabeth, 1865–, Anglo-American actress and author, b Louisville, Ky In 1885 she married George Richmond Parks She was noted in the '90s for her roles in Ibsen dramas Her novels, some written under the name C E Raimond, include *The Magnetic North* (1904), about Alaska, *The Convert* (1907), about the English militant suffrage movement, and *My Little Sister* (1913) She also wrote a suffragist play, *Votes for Women* (1905) See her *Theatre and Friendship Letters of Henry James* (1932) and her autobiography, *Both Sides of the Curtain* (1940)

Robinson, Benjamin Lincoln, 1864–1935, American botanist, b Bloomington, Ill, grad Harvard, 1887 He wrote many papers on the classification of the higher plants of the United States, Mexico, and tropical America and also *Flora of the Galapagos Islands* (1902) He edited the seventh edition, *New Manual of Botany* (1908), of Asa Gray's work and parts of the *Synoptical Flora of North America* (1895–97), by Gray and others James Harvey Robinson was his brother

Robinson, Beverley, 1723–92, American Loyalist, b Middlesex co, Va He served as a major under Gen James Wolfe at Quebec His marriage to Susanna Philipse, an heiress to extensive properties on the Hudson river, enabled him to eventually become a wealthy landowner He disapproved of the separation of the colonies from England, and, moving to New York city, he raised a Loyalist regiment, of which he became colonel He was involved in the preliminaries of Benedict Arnold's treason and later pleaded for Major John André's life With his family he was banished from New York The Robinson property was confiscated by the state of New York, £17,000 being paid him by the British government for the loss He died at Thornbury in England

Robinson, Boardman, 1876–, American painter, illustrator, and cartoonist, b Somerset, N S, studied at the Massachusetts School of Art, Boston, and in Paris After four years of painting in San Francisco he went to New York city and was illustrator and cartoonist for the *Morning Telegraph* (1907–10) and for the *Tribune* (1910–14) He went with John Reed to the Balkans and Russia at the beginning of the First World War His *Cartoons of the War* (1916) is a satirical record Robinson was cartoonist for the *Masses* and its successor, the *Liberator*, as well as for the conservative *Harper's Weekly*, until he went to England in 1922 as cartoonist for the London *Outlook* After his return in 1924 he taught at the Art Students League and became known for his murals Since 1930 he has lived at Colorado Springs, Colo, and since 1936 has been director of the Colorado Springs Fine Arts Center. Robinson is perhaps most famous for draughtsmanship in his cartoons and illustrations, e g, for Dostoyevsky's works, Masters's *Spoon River Anthology*, and Melville's *Moby Dick* His murals decorate Rockefeller Center, New York, the Dept of Justice Building, Washington, D C, and many other buildings. See study by A. W. Christ-Janer (1946)

Robinson, Charles, 1818–94, first governor of the state of Kansas (1861–63), b. Hardwick, Mass He was educated at Amherst, studied medicine, and, beginning in 1843, practiced at Belchertown, Springfield, and Pittsfield, Mass. In 1849 he joined the gold rush to California, where he became a miner, a restaurant keeper, and one of the editors of the *Settlers and Miners Tribune* at Sacramento Elected to the California legislature in 1850, he supported squatter sovereignty and opposed the establishment of slavery He returned (1851) to Massachusetts, again practiced medicine, and for two years edited the Fitchburg *News* In 1854 Robinson went to Kansas as agent of the EMIGRANT AID COMPANY, began the settlement of Lawrence, and commanded Free State forces in the Wakarusa War Under the Free State constitution adopted by the Topeka convention, he was elected (Jan, 1856) governor He attempted to avoid conflict with Federal authorities, but ignored the laws passed by the proslavery territorial legislature of 1855 and, after taking office, was arrested for treason and usurpation of office by the proslavery party A Federal grand jury acquitted him Robinson was reelected in 1858 and, under the Wyandotte Constitution, again in 1859, but waited until Kansas was admitted (1861) to the Union before assuming the governorship He was active in organizing Kansas regiments for the Civil War He was elected state senator in 1874 and 1876, was a regent of the state university (1864–74, 1893–94), and was superintendent of the Haskell Institute at Lawrence (1887–89) He wrote *The Kansas Conflict* (1892) See biography by F W Blackmar (1902)

Robinson, Charles Seymour, 1829–99, American Presbyterian clergyman, b Bennington, Vt, educated at Williams College and at Union and Princeton theological seminaries From 1871 he served as pastor of various Presbyterian churches in New York city, but he is particularly remembered as a compiler of books of hymns His *Laudes Domini* (1884) and other hymn collections were widely adopted

Robinson, Edward, 1858–1931, American archaeologist and museum director, b Boston, grad Harvard, 1879 After six years as curator of classical antiquities at the Museum of Fine Arts, Boston, he became its director in 1902, serving until 1905 In 1906 he became assistant director of the Metropolitan Museum of Art, he served as director from 1910 to 1931

Robinson, Edwin Arlington, 1869–1935, American poet, b Head Tide, Maine, attended Harvard (1891–93) He grew up in Gardiner, Maine and returned there to write after leaving Harvard and again after living in New York in 1897 In 1899, having written two volumes of verse, *The Torrent and the Night Before* (privately printed, 1896) and *The Children of the Night* (1897), he settled in New York He was still comparatively unknown and the jobs by which he supported himself included construction work on the subway until in 1905 President Theodore Roosevelt appointed him to the New York customhouse Robinson resigned in 1910, from 1911 he spent his summers at the MacDowell Colony in Peterborough, N H A somber, ironic analysis of character is evident in his portraits of New Englanders (such as "Miniver Cheevy" and "Flammonde") and in "Ben Jonson Entertains a Man from Stratford" They show, too, the same emotional power which underlies his longer tales, e g, *Avon's Harvest* (1921) and *Cavender's House* (1929), his Arthurian romances, *Merlin* (1917), *Lancelot* (1920), and *Tristram* (1927), and his two poetic dramas, *Van Zorn* (1914) and *The Porcupine* (1915) With easy technical mastery, Robinson wrote in traditional metrical forms, often using familiar and colloquial language General recognition, long denied him, came in 1916 for *The Man against the Sky* and was confirmed by three Pulitzer Prizes—for his *Collected Poems* (1921), for *The Man Who Died Twice* (1924), and for *Tristram* (1927) See his *Collected Poems* (complete rev ed, 1937), *Selected Letters* (comp by Ridgely Torrence, 1940), and letters in *Untranquilated Stars* (ed by Denham Sutcliffe, 1947), Laura E Richards, *E A R* (1936), biography by Hermann Hagedorn (1938), critical biography by E E Neff (1948), study by Yvor Winters (1946)

Robinson, Henry Crabb, 1775–1867, English diarist, a lawyer His voluminous correspondence and diaries are a mine of information about his literary acquaintances, among whom were Goethe, Schiller, the Wordsworths, Coleridge, and Lamb Various selections from his writings have been published since 1869, the most recent volumes were edited by E J Morley, who also wrote his biography (1935) See study by J M Baker (1937)

Robinson, Jackie (Jack Roosevelt Robinson), 1919–, American baseball player, the first Negro to play in the major leagues, b Cairo, Ga He was reared in Pasadena, Calif, to which his family removed (1920) after his father died He became an outstanding athlete in high school and junior college. While attending (1939–41) the Univ of California at Los Angeles, he established a state-wide reputation at baseball, basketball, football, and track Robinson left college to support his mother, and in 1941 he played professional football with the Los Angeles Bulldogs of the Pacific Coast League He entered (1942) the U S army in the Second World War and was discharged as a lieutenant in 1945 After coaching (1945) basketball at Samuel Huston College for Negroes in Austin, Texas, he played shortstop for the Kansas City Monarchs of the Negro American Baseball League In Oct, 1945, Branch Rickey, president of the Brooklyn Dodgers baseball organization, signed Robinson to play for the Montreal Royals, a Brooklyn farm club of the International League Despite several tense situations in spring training in the South and many inconveniences during the season, Robinson—the first Negro ball player in that league—excelled as second baseman and won the batting crown of the league for 1946 In 1947 major-league precedent was shattered when Robinson was brought up to the Brooklyn club Negroes had never before played in big-league competition, but resistance against Robinson died down soon after the well-built, agile Negro proved his worth. In 1949 he won the batting crown of the National League, hitting 342, and was named the most valuable player of the league Other Negroes began playing in the major leagues after Robinson's debut. See his autobiography, *My Own Story* (1948)

Robinson, James Harvey, 1863–1936, American historian, b Bloomington, Ill, grad Harvard (B A, 1887, M A, 1888), Ph D Univ of Freiburg, 1890 He taught history at Columbia Univ from 1892 to 1919, becoming a full professor in 1895 In 1919 he was one of the founders of the New School for Social Research, of which he was the first director Through his writings and lectures, in which he stressed the "new history"—the social, scientific, and intellectual progress of mankind rather than merely political happenings—he exerted an important influence on the study and teaching of history An editor (1892–95) of the *Annals* of the American Academy of Political and Social Science, he was also an associate editor (1912–20) of the *American Historical Review* and president (1929) of the American Historical Association Among his many textbooks and books for the general public are *The Development of Modern Europe* (2 vols, 1907–8, rev ed, 1929), with C A Beard, *The New History* (1912), *The Mind in the Making* (1921), which enjoyed a wide sale, *The Humanizing of Knowledge* (1923, rev ed, 1926), *The Ordeal of Civilization* (1926), and *The Human Comedy as Devised and Directed by Mankind Itself* (1937) See biography by L V Hendricks (1946)

Robinson, John, 1576?–1625, English nonconformist pastor of the Pilgrim Fathers in Holland In 1592 he entered Cambridge, in 1597 he received a fellowship and was ordained Soon thereafter he became curate of a church at Norwich He was a member of the group of separatists at Gainsborough and a little later (c 1606) was in the company of the separatists gathered around William Brewster at Scrooby He became their pastor and was a leader in the removal (1608) of the Scrooby group to Amsterdam In 1609 he and his flock moved to Leiden, where they set up a church Robinson actively encouraged the projected emigration (1620) to America and would have accompanied the PILGRIMS had the majority of his congregation gone, with their settlement at Plymouth, CONGREGATIONALISM was founded in the New World Robinson wrote a number of essays and polemics on the separatists' position See his works (ed by Robert Ashton 1851), Champlin Burrage, *New Facts concerning John Robinson* (1910), biography by W H Burgess (1920).

Robinson, Sir John Beverley, 1791–1863, Canadian jurist, b Berthier, Que He was educated at Kingston and at Cornwall under John Strachan, and later he studied law He served as an officer under Isaac Brock in 1812 Appointed acting attorney general (1813), then solicitor general, and attorney general (1818) of Upper Canada, he sat (1821–30) in the legislative assembly of Upper Canada In 1830 he entered upon his 32-year career as chief justice of Upper Canada, in this period he was also briefly president of the executive council and was speaker of the legislative council (1830–41) A man of great ability and integrity, he was, as a leading member of the unpopular and ultraconservative Family Compact group, an opponent of the Reform party in its efforts to secure responsible government and of the union (1841) of Upper and Lower Canada See biography by C W Robinson (1904).

Robinson, Joseph Taylor, 1872–1937, U S Senator (1913–37), b Lonoke, Ark After study at the Univ of Arkansas, he was admitted (1895) to the bar and practiced in his native town He was (1903–13) in the U S. House of Representatives and became (1913) governor of Arkansas, but immediately resigned the post after his election to the U S Senate. He was reelected three times (1918, 1925, 1930) and ran for Vice President on the Democratic ticket along with Alfred E Smith in 1928 As majority leader (1933–37) in the Senate, he steered many New Deal measures through the Senate and assumed (1937) leadership of the fight for President F. D. Roosevelt's Supreme Court organization bill.

Robinson, Lennox, 1886–, Irish dramatist. *The Clancy Name* (1908), in one act, was his first play, but his first successes include the historical drama *The Dreamers* (1915); a play about Parnell, *The Lost Leader* (1918), and the comedy *The White-headed Boy* (1920) His later dramas of Irish life include *The Big House* (1926), *The Far-off Hills* (1928), and *Drama at Inish* (1933, in America, *Is Life Worth Living?*) He was stage manager and director for the ABBEY THEATRE in Dublin from 1910 to 1914 and from 1919 to 1923 and has been a director since 1923. He served as organizing librarian of the Carnegie Trust in Ireland from 1915 to 1925 Robinson has lectured and taught variously in the United States and has written short stories and a novel as well as editing *The Irish Theatre* (lectures, 1939) and Lady Gregory's journals (1946) He also wrote a study of W B Yeats (1939) See his autobiographical *Curtain Up* (1942)

Robinson, Mary Darby, 1758–1800, English actress. She was known as Perdita from her appearances in that role in *The Winter's Tale* and was the mistress of the prince of Wales (later George IV) She had great beauty, and her portrait was painted by Reynolds, Gainsborough, Hoppner, and Romney An edition of her memoirs was published in 1930 See E Barrington, *Exquisite Perdita* (1926)

Robinson, Sir Robert, 1886–, English biochemist, educated at the Univ of Manchester He was professor of organic chemistry (1912–15) at the Univ of Sydney, New South Wales, and subsequently served as professor at the universities of Liverpool, St Andrews, and Manchester and at University College, London In 1930 he became professor of chemistry at Oxford Noted for his work on the structure of vegetable substances and for the synthesis of natural products, including hormones and plant pigments, Robinson was awarded the 1947 Nobel Prize for Chemistry In 1939 he was knighted, and in 1945 he was elected president of the Royal Society

Robinson, Theodore, 1852–96, American landscape painter, b Irasburg, Vt, studied in Paris with Carolus-Duran and Gérôme His impressionistic paintings at first met with adverse criticism Among his works are *The Canal* (Pa Acad of the Fine Arts) and *Girl and Cow, The Old Mill,* and *Bird's-Eye View, Giverney, France* (all three Metropolitan Mus) Most of Robinson's canvases are in private collections

Robinson, William Heath, 1872–1944, English illustrator, designer, and comic artist He collaborated with his brothers, T H Robinson and Charles Robinson, in illustrating *Arabian Nights, Don Quixote,* and other classics He was known especially for the fantastic devices he invented for his cartoons He also produced stage scenery in the same vein

Robinson, city (pop 4,311), co seat of Crawford co, E Ill, near the Wabash SW of Terre Haute, Ind, in an oil and farm area, inc 1886 It manufactures glycerin, china and pottery, and oil-well supplies and refines oil

Robinson Crusoe, famous character created by Daniel DEFOE in *The Life and Strange Surprizing Adventures of Robinson Crusoe* (1719) and two sequels This story of a castaway on a desert island was founded on *A New Voyage round the World* (1697) by William DAMPIER, the adventures of Alexander SELKIRK, a Scottish sailor, and other sources There were many translations and imitations of *Robinson Crusoe,* and a tale by J D WYSS was widely known in its English translation, *The Swiss Family Robinson* See studies by A W Secord (1924) and H C Hutchins (1925)

Robinson-Patman Act, 1936, passed by the U S Congress to supplement the CLAYTON ANTI-TRUST ACT The act, advanced by Wright Patman forbade any person or firm engaged in interstate commerce to discriminate in price to different purchasers of the same commodity when the effect would be to lessen competition or to create a monopoly Often called the Chain-Store Act, this act was directed at protecting the independent retailer from chain-store competition See G H Montague, *The Robinson-Patman Act and Its Administration* (1945).

Roboam (rōbō'ŭm) see REHOBOAM

robot (rō'but, rŏ'but) [from Czech, =compulsory service], mechanical device designed to perform actions or work generally performed by a human being Karel Capek, a Czech dramatist, used the expression in his play *R U R* (*Rossum's Universal Robots*), produced in Prague in 1921 In the play a scientist discovers a method of "organizing living matter," and his engineer son founds a factory for the production by the thousands of artificial workers, or robots They have human form, intelligence, memory, and strength but are devoid of feelings The robots, functioning as workers and soldiers, revolt and slay their creators. Also concerned with the theme of the destruction of persons by their own works is Mary Wollstonecraft Shelley's *Frankenstein* (1818) In the novel Victor Frankenstein, a Swiss student, having found the secret of life creates a powerful monster with human desires The creature escapes from the laboratory only to return, embittered against humans. Frankenstein, his family, and his friends are destroyed because of his unwillingness to make a mate for the monster. The terms *robot* and *automaton* are commonly used to designate a device that supplants a human in the doing of a given task Modern applications of the robot principle include the robot pilot or automatic pilot which automatically keeps an airplane on its course Robot devices have also been developed to control calculating machines. The robot bombs or "buzz-bombs" used against England by Germany in the Second World War were small, pilotless, jet-propelled airplanes, guided by a gyroscopic device and laden with explosives Man's construction of automatic contrivances including figures of animals and humans dates from early times Heron of Alexandria and other ancient experimenters reported the construction of various automatic devices From the time of the Middle Ages flying mechanical creatures were produced The Swiss especially have long made automatic toys, including birds that could fly and sing Many of these devices operated by clockwork Some of the early clocks (e g, the Strasbourg cathedral clock) were lavishly decorated with automata A famous device was a supposedly automatic chess player invented by Wolfgang von Kempelen and demonstrated in Europe in the 18th cent, it was, however, operated by a man cleverly concealed within Among other famous devices was a figure called Psycho (constructed by J N Maskelyne and exhibited in London in 1875) which played cards and made mathematical calculations Various mechanical figures have been demonstrated especially at exhibitions and fairs in recent years

Rob Roy [Scottish Gaelic,=red Rob], 1671–1734, Scottish freebooter, whose real name was Robert MacGregor He is remembered chiefly as he figures in Sir Walter Scott's novel *Rob Roy* (1818) The MacGregors had long been proscribed, and Rob took his maternal name of Campbell on this account Starting as a cattle dealer, he became an outlaw One of his most lucrative types of trade was returning stolen cattle to their owners for a commission From 1712 he was in open conflict not only with the government but also with the duke of Montrose and John MURRAY, 1st duke of Atholl, and he pillaged and burned as they did He was aided on every hand by the people of his own clan and others In 1715 he supported the Pretender (see JACOBITES) but did not join his army In 1727, having submitted voluntarily, Rob Roy was about to be transported to Barbados, but a pardon saved him His lawless career was offset by his kindness to the unfortunate He was converted late in life to Roman Catholicism See A H Millar, *History of Rob Roy* (1883)

Robsart, Amy (rŏb'sărt), 1532?–1560, maiden name of the wife of Robert Dudley, later earl of LEICESTER, a favorite of Queen Elizabeth of England When Lady Dudley was found dead at the foot of a staircase in Cumnor Hall, Oxfordshire, rumor suggested that her husband had arranged her murder so that he might be free to wed the queen An investigating jury returned a verdict of accidental death, but Leicester's innocence or guilt has never been definitely established A garbled version of the story appears in Sir Walter Scott's novel *Kenilworth* See Sir Bartle Frere, *Amy Robsart of Wymondham* (1937)

Robson, Stuart (rŏb'sun), 1836–1903, American comedian, b Annapolis, Md His real name was Robson Stuart He was associated (1877–89) with William H Crane, their partnership reaching its peak in Bronson Howard's Wall St satire, *The Henrietta* (1887)

Robson, Mount see MOUNT ROBSON PROVINCIAL PARK

Robstown, city (1940 pop 6,780, 1947 estimated pop 10,500), S Texas, W of Corpus Christi This packing and shipping center for a truck-farming, cotton, and oil region has benefited from the recent growth in the Corpus Christi region

Robusti, Jacopo see TINTORETTO

Roca, Julio Argentino (hōō'lyō ärhāntē'nō rō'ka), 1843–1914, Argentine general and statesman, president of the republic (1880–86, 1898–1904) Minister of war under Nicolás AVELLANEDA, he drove (1878–79) the Patagonian Indians beyond the Río Negro, opening a vast territory for colonization His first administration effected the federalization of Buenos Aires It was a time of peace and growth, of rapid immigration, of railway construction, and of increased wealth Speculation, however, flourished and later became flagrant Roca's second administration was, indeed, marked by recovery from the crisis caused by the misgovernment of Miguel JUÁREZ CELMAN Paper-currency redemption stabilized money The boundary dispute with Chile was settled in 1902, and perpetual peace between the nations was symbolized in the CHRIST OF THE ANDES (dedicated March, 1904) Roca's foreign minister, Luis M Drago, formulated the significant DRAGO DOCTRINE (1902).

Roca, Cape (rō'ku), W Portugal, not far from Lisbon It is the western extremity of Europe.

Rocafuerte, Vicente (vēsän'tā rōkäfwĕr'tā), 1783–1847, president of Ecuador (1834–39). Rocafuerte headed (1833) the opposition to Juan José FLORES. Leader of a revolt at Guayaquil (1834), he was defeated and imprisoned, but was released after he and Flores settled their differences As president he promulgated a new constitution and accomplished many liberal reforms, notably protection of the Indians and advancement and secularization of education Protesting against the clerical policy and dictatorial practices of Flores, Rocafuerte went into exile in 1843

Rocco, Saint see ROCH, SAINT.

Roch, Saint (rŏk), 14th cent, Frenchman who nursed the plague-stricken in Italy, b Montpellier He is invoked against plague, cholera, and skin afflictions. In Italian the name is Rocco Feast Aug 16

Rochambeau, Donatien Marie Joseph de Vimeur, vicomte de (dônäsyĕ' märē' zhôzĕf du vēmûr' vēkôt' du rôshänbō'), 1750–1813, French general He fought under his father, the comte de Rochambeau, in the American Revolution and in 1793 aided in quelling a Negro revolt in Saint-Domingue (including Haiti and Santo Domingo), of which he was appointed governor in 1796 After commanding (1800) a division in Italy, Rochambeau returned to Santo Domingo in 1803, was captured by the insurgents, and was freed only in 1811. He was killed at the battle of Leipzig See J E Weelen, *Rochambeau, Father and Son* (1936), which includes the younger Rochambeau's journal

Rochambeau, Jean Baptiste Donatien de Vimeur, comte de (zhäN' batēst', kōt'), 1725–1807, marshal of France He took part in the wars of Louis XV and had been promoted to lieutenant general by 1780, when Louis XVI sent him, with 6,000 regulars, to aid Washington in the American Revolution He landed in Newport, R I, and remained there a year because the French fleet was blockaded off Narragansett In July, 1781, he joined Washington on the Hudson and elaborated with him a plan to strike south at Cornwallis instead of attacking Clinton at New York The result was the YORKTOWN CAMPAIGN, which ended the war Congress voted thanks to Rochambeau, and Louis XVI made him a marshal In the French Revolution, Rochambeau commanded the Northern Army, but he soon resigned (1792), being out of sympathy with the revolutionary extremists He was imprisoned in the Terror and barely escaped execution Napoleon restored him to his rank His memoirs of the American Revolution were translated in 1838 See J E Weelen, *Rochambeau, Father and Son* (1936)

Rochdale (rŏch'dāl), county borough (1931 pop 90,263, 1947 estimated pop 86,970), Lancashire, England, on the Roch and NNE of Manchester There is a memorial to John Bright, who was born here and whose father was a cotton spinner here The parish church of St Chad dates from the 12th cent The chief industry is the making of cotton and woolen goods There are also foundries and engineering works

Rochdale Society of Equitable Pioneers, one of the first consumers' cooperatives, founded in 1844 in Rochdale, England, by 28 Lancashire weavers Influenced by the theories of Robert Owen, they opened a grocery store which was so successful that they were able to establish a cooperative shoe factory and textile mill The society laid down the basic tenets of subsequent consumer COOPERATION See Joseph Reeves, *A Century of Rochdale Co-operation, 1844–1944* (1944)

Rochefort, Victor Henri, marquis de Rochefort-Luçay (vēktôr' ärē' rôshfôr' märkē' du rôshfôr'-lusā'), 1830–1913, French journalist and politician, a radical pamphleteer and the editor of the *Figaro* (1863) Founder and editor of the anti-imperial journals, the *Lanterne* (1868) and the *Marseillaise* (1869), he was a bitter opponent of the Second Empire After the Franco-Prussian War he founded the *Mot d'ordre* (1871) and supported the Commune of Paris For his part in the uprising he was sent to the penal colony of New Caledonia in 1873, escaped the following year, and revived the *Lanterne* in Geneva, Switzerland Upon the declaration of general amnesty in 1880 he returned to Paris and started the *Intransigeant* He was twice elected to the chamber of deputies and in 1889 suffered exile with General Boulanger, whom he had supported In 1895 he was allowed to return Rochefort's extreme nationalism led him to take a violent stand against Dreyfus in the Dreyfus Affair. A very able writer, he is remembered for his vigorous, biting style

Rochefort (rôshfôr') or **Rochefort-sur-Mer** (-sürmĕr'), city (pop 22,930), Charente-Maritime dept, W France, in Aunis, a port on the Charente near the Bay of Biscay. It was created (1666) by Colbert and fortified by Vauban Once a busy Atlantic port, it later became noted for its arsenal and its shipyards The military installations were severely damaged in the Second World War, and Rochefort's present importance is chiefly as a fishing port Lafayette embarked at Rochefort for his first trip to America In 1815 Napoleon surrendered himself to a British warship off Rochefort. Pierre Loti was born here.

Rochelle (rōshĕl′). **1** City (pop. 1,175), S central Ga., near the Ocmulgee river S of Macon. **2** City (pop. 4,200), N Ill., S of Rockford, inc. 1869. It is a shipping, processing, and trade center in a farm area.

Rochelle, La (lä rōshĕl′), city (pop. 45,864), capital of Charente-Maritime dept. and of the former province of AUNIS, W France, on the Bay of Biscay. Chartered in the 12th cent., La Rochelle soon became one of the chief seaports of France. It was a Huguenot stronghold during the Wars of Religion and successfully resisted its Catholic besiegers for half a year (1572–73). However, when Cardinal Richelieu resolved to crush the HUGUENOTS, La Rochelle fell after a siege of 14 months (1627–28). Louis XIV had the port refortified by Vauban, his revocation (1685) of the Edict of Nantes resulted in the foundation of NEW ROCHELLE by Protestant refugees. La Rochelle prospered again as it became the chief center of trade with Canada, but it suffered from the loss of Canada by France and from the Continental System under Napoleon. Though its fisheries, canneries, and shipyards still make it a busy port, it never recovered its former importance. The principal harbor is now that of La Pallice, c.3 mi. distant, which was a German submarine base in the Second World War. The picturesque old fishing port in the heart of the city, the Renaissance town hall, and other ancient buildings make the city a favorite tourist center. Only the outlying districts were damaged in the Second World War.

Rochelle salt, sodium potassium tartrate, a chemical compound first made in Rochelle, France, in 1672. In medicine, it is used as a saline purgative and as a chief ingredient of SEIDLITZ POWDERS. It is a chief ingredient also of FEHLING'S SOLUTION.

Rochester, John Wilmot, 2d earl of (rŏ′chĭstur), 1647?–1680, English poet and courtier. He was famous for his profligacy, all that is remembered of him is his witty satires and occasional lyrics, many of them licentious. See his works (ed. by John Hayward, 1926), study by F. J. Whitfield (1936).

Rochester (rŏ′chĭstur), municipal borough (1931 pop. 31,193; 1947 estimated pop. 40,540) and city, Kent, England, on the Medway and near Chatham. It was the Roman Durobrivae and was a place of importance in Saxon times. St. Augustine founded a mission here in 604, and Bishop Gundulf (architect of part of the Tower of London) built a cathedral on its site in the late 11th and early 12th cent., of this there are remains, but most of the present cathedral is of much later structure. A Norman wall 12 ft. thick surrounds ruins of a 12th-century castle, which was besieged several times in the 13th and 14th cent. From Rochester, in 1688, James II embarked in disguise. Charles Dickens's home, "Gadshill Place," is near the city.

Rochester (rŏ′chĕs″tur, rŏ′chĭstur). **1** City (pop. 3,835), co. seat of Fulton co., N Ind., on Lake Manitou E of Winamac, laid out and chartered 1832. Dairy products are made here. It is a popular resort. **2** Town (pop. 1,269), SE Mass., NE of New Bedford, settled c.1638, inc. 1686. **3** Village (pop. 3,759), SE Mich., on the Clinton river and N of Detroit, settled 1817, inc. 1869. Its industries include paper and textile mills. The Parke Davis Biological Farm is near. **4** City (pop. 26,312), co. seat of Olmsted co., SE Minn., SSE of St. Paul, settled 1851, inc. 1858. It is famed as the seat of the MAYO medical center, founded (1889) by Dr. W. W. Mayo, with his sons, Charles Horace MAYO and William James MAYO. The city is a commercial center for the surrounding farm region and, because of the Mayo medical center, has a large transient population. There is an airport here. A state mental hospital is in the city. **5** City (pop. 12,012), SE N.H., along the Cocheco and Salmon Falls rivers and NW of Dover, inc. as a town 1722, settled 1728, inc. as a city 1891. It produces woolens, shoes, and lumber goods; there is also printing. From 1874 an annual farm fair has been held. **6** City (pop. 324,975), co. seat of Monroe co., W N.Y., E of Buffalo, on the Genesee and on Lake Ontario, in a rich fruit and truck-garden region. Permanent settlement by Col. Nathaniel Rochester and others began in 1812. The village was incorporated in 1817, the city in 1834. The Erie Canal gave impetus to Rochester's growth, and the Civil War and the two world wars brought industrial expansion. Its first important industry was flour milling, chief among its later products are cameras, films, optical goods, men's clothing, business machines, and chemicals. Rochester is a port of entry, large quantities of freight are handled at the Port of Rochester on the lake. Noted are the Eastman Kodak, Bausch & Lomb, and Taylor Instrument companies. The Philharmonic, civic, and Eastman orchestras are heard widely, and among the city's educational institutions are the Univ. of Rochester (see ROCHESTER, UNIVERSITY OF), Nazareth College (Catholic, for women, 1924), and the Rochester Institute of Technology. Among the numerous parks is Highland Park, which has many varieties of lilac viewed by scores of people every May. The extensive nurseries here have earned for Rochester the name Flower City. In the city's modern growth, George EASTMAN was prominent. Susan B. Anthony was a Rochester resident, and Frederick Douglass carried on his antislavery work here. Points of interest include Ontario Beach Park, the Rochester Museum of Arts and Sciences, the Memorial Art Gallery, and the Rundel Memorial Building, housing the public library and an art gallery. **7** Borough (pop. 7,441), W Pa., at the confluence of the Ohio and Beaver rivers NW of Pittsburgh, settled 1799, laid out c.1835, inc. 1838. Resources of shale and sandstone are found in the area, and abrasives are made here. **8** Town (pop. 1,129), central Vt., in the Green Mts. E of Brandon. Its center is a summer and winter resort, with some manufactures, near the White River. Talc is found in the town.

Rochester, University of, at Rochester, N.Y., nonsectarian, private, coeducational, chartered and opened 1850 by Baptists. It is especially known for the Eastman School of Music (1918, see HANSON, HOWARD, who became director in 1924), for the school of medicine and dentistry, and for its courses in engineering, optics, and physics. It includes Ward's Natural Science Establishment, geology and biology museums, a herbarium, and the Eastman Theater. The Memorial Art Gallery is affiliated. The buildings are on several sites. See EASTMAN, GEORGE.

Roche-sur-Yon, La (lä rôsh″-sür-yō′), town (pop. 15,278), capital of Vendée dept., W France. It is an agricultural center. Founded by Napoleon I in 1805, it was first named Napoleon-Vendée, then (1814–48) Bourbon-Vendée.

rock, aggregation of solid matter composed of one or more minerals, or glass, or glass and minerals together, forming the earth's crust. The term is applied not only to the solid rock or bed rock, but also to the mantle rock—the fragments which have been detached from the solid rock and overlie it, such as clay, sand, gravel, and broken rock. Rocks are commonly divided, according to their origin, into three major classes—igneous rock, sedimentary rock, and metamorphic rock. Igneous rocks originate from the cooling and solidification of molten matter from the earth's interior. Such rocks formed by rapid cooling and solidification on the earth's surface of magma or lava from within the earth are called extrusive igneous rock; magma which cools and solidifies slowly beneath the earth's surface forms intrusive rock. Among the forms commonly taken by intrusive rocks are batholiths, which are enormous, irregular masses cutting through older formations, stocks, irregular and smaller than batholiths, necks or plugs, columnar in form and probably the result of the hardening of magma in the necks of extinct volcanoes; dikes, more or less vertical, filling fissures in previously existing rock; sills, more or less horizontal, forced between layers of previously existing rock; and laccoliths, modified domelike sills which arch up the overlying rock. Igneous rocks are commonly divided into classes according to texture. Some rocks are markedly granular (e.g., GRANITE, syenite, diorite, gabbro, peridotite, and pyroxenite), while others (e.g., BASALT, trachite, dacite, and andesite) are built up of grains visible only under a microscope. Both fine-grained and coarse-grained igneous rocks frequently contain grains called phenocrysts larger than the surrounding grains in which they are set as in a matrix, such rocks are said to be porphyritic in texture, while rocks with grains of uniform size are called nonporphyritic. Igneous rocks are commonly light in color if their constituent minerals are predominantly alkali feldspars and dark in color if the feldspars are calcic or if magnesia and iron minerals are abundant. The glassy igneous rocks include OBSIDIAN, pitchstone, and PUMICE, which contain few or no phenocrysts, and vitrophyre or glass porphyry which does contain phenocrysts. Rocks such as tuff and volcanic breccia which are formed from fragmental volcanic material are sometimes grouped as pyroclastic rocks. Sedimentary rocks originate from the consolidation of sediments derived in some part from living organisms but chiefly from older rocks of all classes (ultimately the mineral elements are derived from igneous rocks alone). The sediments of mineral origin are chiefly removed from older rocks and transported to the place of deposition by erosion, chemical precipitation from solution is a secondary cause of deposition of mineral matter. Sedimentary rocks are commonly distinguished, according to their place of deposition, by a great variety of terms, such as continental, marine, littoral, estuarine, lacustrine, and fluviatile. The characteristic feature of sedimentary rocks is their STRATIFICATION, they are frequently called stratified rocks. Sedimentary rocks made up of angular particles derived from other rocks are said to have a clastic texture in contrast to pyroclastic sediments, which are particles of volcanic origin. Among the important varieties of sedimentary rock, distinguished both by texture and by chemical composition, are conglomerate, GRAVEL, SAND, SANDSTONE, grit, till, tillite, sedimentary breccia, CLAY, mud, SHALE, MARL, CHALK, LIMESTONE, COAL, PEAT, LIGNITE, GYPSUM, rock salt, and iron ore. Characteristic occurrences in sedimentary rocks are fossils, footprints, raindrop impressions, concretions, oolites, ripple marks, rill marks, and cross-bedding. All of these occurrences are useful in determining the antiquity of sedimentary formations and in interpreting geologic history. Metamorphic rocks originate from the alteration of the texture and mineral constituents of igneous, sedimentary, and older metamorphic rocks (see METAMORPHISM). Some (e.g., MARBLE and QUARTZITE) are massive in structure, others, and particularly those which have been subject to the more extreme forms of metamorphism, are characterized by foliation, i.e., the arrangement of their minerals into roughly parallel planes. This foliation gives them a banded appearance. A distinguishing characteristic of many metamorphic rocks is their slaty CLEAVAGE. Among the common metamorphic rocks are SCHIST (e.g., mica schist and hornblende schist), GNEISS, quartzite, SLATE, and marble. The scientific study of rocks is called petrology. See L. V. Pirsson, *Rocks and Rock Minerals* (3d ed., revised by Adolph Knopf, 1947); S. J. Shand, *Study of Rocks* (2d ed., 1947); H. L. Williams, *Stories in Rocks* (1948).

Rockaway, borough (pop. 3,514), N N.J., W of Paterson, on the Rockaway river and the old Morris Canal, settled 1739, inc. 1894.

Rockaway, narrow peninsula, on SW Long Island, SE N.Y., in Queens borough of New York city. Rockaway Beach stretches for c.5 mi. along its length. The peninsula, which separates Jamaica Bay from the Atlantic, is the site of Fort Tilden (1917), Jacob Riis Park (1937), and several beach resort and commuters' villages, including Far Rockaway, Arverne, Edgemere, and Neponsit.

Rockcliffe Park, village (pop. 1,480), SE Ont., on the Ottawa river just E of Ottawa. It is a residential suburb.

rock crystal see QUARTZ.

Rockdale. **1** Village (pop. 1,532), NE Ill., near Joliet, inc. 1903. Firebrick is made here. **2** City (pop. 2,136), central Texas, S of Waco, settled 1873, inc. 1874. It is a farm market and dairy-processing center with a lignite mine and some oil production.

Rockefeller, John Davison, 1839–1937, American industrialist and philanthropist, b. Tioga co., N.Y. He moved (1853) with his family to a farm near Cleveland, Ohio, and at the age of 16 went to work as a bookkeeper. Frugal and industrious, Rockefeller became (1859) a partner in a produce commission business, and four years later, with his partners, he established an oil refinery, thus taking part in an industry already thriving in Cleveland. In 1870 he and his associates—including S. V. Harkness, H. M. Flagler, and his brother William—organized the Standard Oil Company of Ohio, capitalized at $1,000,000. By enforcing strict economy and efficiency, by mergers and agreements with his able competitors, by ruthlessly crushing his less able opponents, and by accumulating large capital reserves, John D. Rockefeller soon dominated the American oil-refining industry. Agreements with railroads and the control of pipe-line distribution of refined oil strengthened the monopoly of the Standard Oil Company. In 1882 the diverse holdings of the various members of Rockefeller's combination were tied together into the Standard Oil trust. Court action compelled the trust to dissolve 10 years later, and in a few years the Standard Oil Company of New Jersey was chartered as a holding company with a capitalization of $110,000,000. In 1911 a decision of the U.S. Supreme Court required this company to be dissolved as a holding company, and its directors to relinquish their control over the numerous subsidiaries. Rockefeller personally ruled over the great petroleum business until 1911, when he retired with a fabulous fortune. When the United States Steel Corporation was formed (1901) Rockefeller was one of the directors. He was also prominent in the affairs of railroads and banks, being second only to J. P. Morgan in the domain of finance. He generously gave to the Baptist Church, to the Y.M.C.A., and to the Anti-Saloon League. He founded (1892) the Univ. of Chicago (see GATES, FREDERICK TAYLOR). The most prominent of the philanthropic enterprises to which he eventually turned over some $500,000,000 were the Rockefeller Institute for Medical Research, founded in 1901, the General Education Board, organized (1902) to make gifts to various educational and research agencies, the Rockefeller Foundation, established (1913) to promote public health and to further science, and the Laura Spelman Rockefeller Memorial Foundation, founded (1918) in memory of his wife, for the furthering of child welfare and the social sciences. He wrote *Random Reminiscences of Men and Events* (1909). See biography by Allan Nevins (1940). **John Davison Rockefeller, Jr.**, 1874–, b. Cleveland, grad. Brown, 1897, took over active management of his father's interests in 1911 and engaged in numerous philanthropies. Riverside Church, New York city, was built through his gifts. He gave vast sums of money for religious projects, for scientific investigation, and for the restoration of historic monuments. He founded (1931) and helped plan ROCKEFELLER CENTER in New York city, which the Rockefeller interests completed in 1939. His son, **Nelson Al-**

drich Rockefeller, 1908–, b Bar Harbor, Maine, grad Dartmouth, 1930, was director of Rockefeller Center after 1931 He served (1940–45) as Coordinator of Inter-American Affairs in the U S Dept of State and was (1944 45) Assistant Secretary of State

Rockefeller, William, 1841-1922, American capitalist, b Tioga co., N Y , brother of John D Rockefeller He joined (1865) his brother in the oil-refining business William was an able market manipulator and was the New York representative of the Rockefeller interests until the Standard Oil Company of New Jersey was dissolved (1911) by the Supreme Court. He was associated with copper interests, railways, and public utility corporations With his vast resources he built up the National City Bank of New York

Rockefeller Center, in central Manhattan, New York city, between 48th and 51st streets and Fifth Ave and the Ave of the Americas (Sixth Ave) Built in 1931–39, it comprises 14 buildings, including the 70-story RCA (Radio Corp of America) Building, which are occupied by offices, stores, restaurants, exhibition rooms, broadcasting studios, the New York Museum of Science and Industry, the Center Theatre, and the Radio City Music Hall The five western buildings of Rockefeller Center, the radio and entertainment section, are known as Radio City

Rockefeller Foundation, founded in 1913 by John D Rockefeller with an endowment of $150,000,000 Its expressed purpose was to promote the well-being of mankind throughout the world Its work has been in the fields of public health and research in the medical sciences, the natural sciences, and the social sciences Besides maintaining a large staff of experts it has given many fellowships, scholarships, grants-in-aid, and grants to outside agencies. Some of its recent work has been in the field of psychiatry

Rockefeller Institute for Medical Research, philanthropic organization (founded 1901) for studying the nature, cause, and treatment of disease in humans, animals, and plants Many millions of dollars allocated to the institute by the family who founded it and for whom it is named enabled it to develop into one of the principal research groups of the United States It consists of three departments, laboratory, hospital, and plant and animal pathology Research projects in chemistry, physiology, pathology, and bacteriology are continually under way in the laboratories of the institute The laboratories and the hospital are adjacent to the East River in mid-Manhattan, in New York city Only those patients who suffer from diseases which the institute is investigating are admitted to the hospital The diseases include respiratory and metabolic ailments, rheumatic fever, and malfunctions of the liver

rocket, popular name for several plants of the mustard family The dame's or damask violet, dame-wort, or sweet rocket is *Hesperis matronalis*, a hardy, herbaceous Old World perennial with fragrant, four-petaled flowers ranging from white to purple, both single and double in form It grows wild in many parts of North America, where it has escaped from gardens The dyer's rocket or dyer's-weed is *Reseda luteola*, a species of MIGNONETTE. Rocket salad (*Eruca sativa*) is the roquette of France and Italy and is a coarse, weedy plant with whitish or creamy yellow flowers which have an orange-blossom odor Also known as taramira, it is cultivated for salads. Yellow rocket (*Barbarea vulgaris*) is the name for a variety of winter cress or upland cress, a weedy plant sometimes cultivated for salads The sea rocket (*Cakile*) is a fleshy annual with purplish flowers, found on northern seacoasts.

rocket, projectile propelled by a force within itself It is set in motion by the reaction of a rapid stream of gas escaping through vents Rockets were used in Asia before the discovery of gunpowder and have had wide use in festive and military activities throughout the centuries In the First World War they were used to illuminate enemy positions and for purposes of signaling In the Second World War they became the basis of various explosive projectiles Rockets are the motive force for skyrockets, airplane rockets, "bazookas," and plane catapults The Russian "Katusha," the German "Nebelwerfer," and the British "Z-gun" were all essentially rockets, as were the propellants of the German V-2 weapon or "buzz-bombs" The V-1 explosives used against England, often mistakenly spoken of as rockets, were actually pilotless miniature airplanes carrying their own propulsion machinery See also JET PROPULSION

Rock Falls, industrial city (pop 4,987), NW Ill , on the Rock River opposite Sterling, in a farm area, platted 1837, inc 1889 Farm machinery is made

rockfish, name applied to various fishes which frequent rocky shores and reefs, chiefly to members of the family Scorpaenidae Among the more than 50 species of the Pacific coast are the black rockfish or priest fish and the red rockfish (both of the genus *Sebastodes*), of which large commercial catches are made Allied forms live in Asiatic, South American, and African waters

rockfoil: see SAXIFRAGE

Rockford, 1 City (pop 84,637), co seat of Winnebago co , N Ill , on both banks of the Rock River near the Wis line, founded 1834 at a ford, inc. 1839 It is an industrial, shipping, and trade center in a productive grain, dairy, and livestock area Supplied with water power from a dam in the river, it manufactures knit goods, furniture, hardware, agricultural implements, machines, and tools It is the seat of Rockford College (for women, 1847) The city has a large Swedish population Beattie Park contains interesting Indian mounds, near by is Camp Grant, an army training station The historic and scenic Black Hawk Trail runs between Rockford and Dixon 2 Town (pop 1,054), N Iowa, SE of Mason City 3 City (pop 1,773), S Mich , on the Rouge (or Rogue) a tributary of the Grand River and NE of Grand Rapids, in a farm and resort region, settled 1841, inc as a village 1871, as a city 1933 It has a tannery, and shoes are made 4 Village (pop 1,066), W Ohio, on the St Marys river and W of Lima Tomato canneries are here

rock garden, garden planned around natural rock formations or rocks artificially arranged to simulate natural —often mountainous—conditions Tiny streams of water add to the beauty of the garden and provide additional moisture In making a rock garden the rocks must be so laid that there will be deep pockets of soil between them, for rock plants usually have long roots that enable them to obtain moisture even when the surface is hot and dry Low plants requiring well-drained conditions are suited to rock gardens, these include, besides ALPINE PLANTS, many dwarf shrubs (especially evergreens), species of columbine, phlox, bluebell, and rockrose See H H Thomas, *Rock Gardening for Amateurs* (1914), L B Wilder, *Pleasures and Problems of a Rock Garden* (1937), W H A Preece, *North American Rock Plants* (1937)

Rockhampton (rŏkhămp'tŭn), city (pop 34,983), Queensland, Australia, on the Fitzroy river 40 mi from its mouth on Keppel Bay and NNW of Brisbane Founded in 1858 with the discovery of gold near by, it is the principal port for the pastoral and mining regions of central Queensland The chief exports are wool, meat, gold, coal, and copper

Rockhill, William Woodville, 1854–1914, American diplomat, Orientalist, and author, b Philadelphia After graduating from the military academy of Saint-Cyr, France, in 1873, he served in the French army for three years before he was appointed (1884) second secretary of the U S legation at Peking and served (1886–87) as chargé d'affaires in Korea Between 1888 and 1892 he made several explorations in China, Mongolia, and Tibet He became chief clerk in the U S Dept of State (1893) and first Assistant Secretary of State (1896) and served (1897–99) as U S minister to Greece, Rumania, and Serbia On his return and until 1905 he was director of the International Bureau of American Republics (later the Pan American Union) He was (1900–1901) in China as special minister for the settlement of the Boxer Rebellion, was minister to China (1905–9), was ambassador to Russia (1909–11), and finally was ambassador to Turkey (1911–13) While on his way to China again in 1914, he died at Honolulu A translator and editor of Oriental works, he also wrote *The Life of the Buddha* (1884), *The Land of the Lamas* (1891), and *Diary of a Journey through Mongolia and Thibet in 1891 and 1892* (1894) He edited *Treatyes and Conventions with or concerning China and Korea, 1894–1904* (1904)

Rock Hill 1 City (pop 1,821), E Mo , near St Louis, inc 1929 2 City (pop 15,009), N S C , near the Catawba river and the N.C line, SSW of Charlotte, N C , inc 1870 It has textile mills and other plants WINTHROP COLLEGE is here

Rockingham, Charles Watson-Wentworth, 2d **marquess of** (rŏ'kĭng-ŭm), 1730–82, English statesman Entering the House of Lords in 1750 after his father's death, he established himself as an opponent of the "king's friends," held several cabinet offices, and formed a coalition government in 1765 During his ministry the Stamp Act was repealed and conciliation with America attempted, but the administration fell with the resignation of one of its members, the duke of Grafton Rockingham continued to oppose the coercive policy of the government, and in 1782, at the fall of Lord North, he again became prime minister The war was already lost, and Rockingham died before the peace settlement could be reached Rockingham's second ministry was marked by the repeal of Poynings's Law and by measures to reduce corrupt practices in parliamentary elections The unity of the Whigs was broken by Rockingham's death, and the Tories began a long period of ascendancy under the younger William Pitt

Rockingham (rŏ'kĭnghăm″) 1 Town (pop 3,657), co seat of Richmond co., S N.C , SE of Charlotte near the S C line and the Pee Dee river, in a peach and cotton area, settled c.1780, inc 1887. Textiles and paper goods are made here 2 Town (pop. 5,737), SE Vt , on the Connecticut; settled c 1753. It includes BELLOWS FALLS, Saxtons River (pop. 740), seat of Vermont Academy, and Rockingham, notable for its 1787 Congregational church.

Rock Island, village (pop. 1,395), S Que , S of Sherbrooke at the Vt border It has textile milling and granite quarrying and manufactures machine tools and skis Stanstead College is here.

Rock Island, city (pop 42,775), co seat of Rock Island co , NW Ill., on the Mississippi adjacent to MOLINE and opposite DAVENPORT, Iowa, inc. 1841. The three cities, with East Moline, form an economic unit called the Quad Cities Rock Island is a rail, industrial, and trade center with coal deposits near by In 1833 George DAVENPORT built a house on Rock Island, in the Mississippi, the island, fortified in 1816, played an important part in the Black Hawk War. It is government owned and is the site of a U S arsenal The island, the city, Moline, and Davenport are connected by bridges Supplied with water power from a dam in the river, the city's manufactures include agricultural implements and other metal products, paints, and clothing There are foundries, railroad shops, and ironworks AUGUSTANA COLLEGE AND THEOLOGICAL SEMINARY is here, Black Hawk State Park adjoins the city

Rockland, town (pop 2,040), SE Ont , on the Ottawa river and ENE of Ottawa It is in a poultry-raising area and has flour and lumber mills

Rockland. 1 City (pop 8,899), co seat of Knox co , S Maine, settled c 1770 inc 1848 as East Thomaston town, name changed 1853, inc as a city 1854 It has a good harbor on the west side of Penobscot Bay and once shipped quantities of lime from its quarries Rockland today is a fishing place, trading center, port of entry, and resort Edna St Vincent Millay was born here 2 Industrial town (pop 8,087), SE Mass , SE of Boston, settled 1673, set off from Abington 1874 Shoes are its chief product

Rockledge, borough (pop 1,773), SE Pa , near Philadelphia, settled 1880, inc 1893

Rockmart, city (pop 3,764), NW Ga , in the piedmont region WNW of Atlanta, inc 1872 Rubber products are made here

Rockne, Knute Kenneth (rŏk'nē), 1888–1931, American football coach, b Norway In 1893 he arrived with his parents in Chicago, where he attended grade school and worked at odd jobs While studying science at Notre Dame (from which he was graduated in 1914), Rockne excelled at football and in 1913, with Gus Dorais, astounded the football world by upsetting the heavily favored Army team at West Point through the use of the forward pass—a legal but then unused football tactic After becoming (1914) a chemistry instructor at Notre Dame, Rockne was selected (1918) as its head football coach and soon revolutionized the sport by stressing offense, developing the backfield or Notre Dame shift, and perfecting line play He brought forward many football stars, had undefeated, untied teams five seasons (1919 20, 1924, 1929–30), and from 1918 through 1930 gave Notre Dame a football record of 105 games won, 12 games lost, and 5 ties Rockne, a muscular, medium-sized man of forceful character and great energy, not only put Notre Dame on the football map," but also changed football theory He died in an airplane crash He wrote *Coaching* (1925), *Four Winners* (1925), and *Football Problems* (1927) See his autobiography (1931), biographies by Harry Stuhldreher (1931), Warren Brown (1931), and Robert Harron (1931), Francis Wallace, *Notre Dame Story* (1949)

Rockport. 1 City (pop 2,421), co seat of Spencer co , SW Ind , on the Ohio and E of Evansville, settled 1807 Oil is obtained in this area Built on bluffs above the river, it is the site of Lincoln Pioneer Village, a memorial with reconstructed pioneer homes 2 Town (pop 1,526), S Maine, a resort on Penobscot Bay N of Rockland, settled 1769, set off from Camden 1891 3 Town (pop 3,556), NE Mass , on Cape Ann, settled 1690, set off from Gloucester 1840 It is a resort and artists' colony 4 City (pop 1,406), co seat of Atchison co , extreme NW Mo , near the Missouri river, platted 1851 Diversified farming is carried on in the area 5 City (pop 1,729), co seat of Aransas co , S Texas, on Aransas Bay and NE of Corpus Christi Built in the 1860s as a port to ship cattle, it is today a fishing port that attracts vacationers There is a state marine biological laboratory

Rock Rapids, city (pop 2,556), co seat of Lyon co , NW Iowa, on the Rock River near the Minn line, inc 1885. It is a farm and dairy center

Rock River, rising in S Wisconsin and flowing S and SW through NW Illinois to the Mississippi near Rock Island It flows through a fertile farm area, cities on it include Beloit, Wis , and Rockford and Dixon, Ill Lorado Taft's Black Hawk statue stands on a bluff overlooking the river near Oregon, Ill

rock salt: see SALT.

rock sculptures, designs cut into rock surfaces in many parts of the world and attributed to primitive man. They are found on the face of natural rocks and of megalithic monuments, all of prehistoric antiquity. Included among them are the petroglyphs dating from the Neolithic period Some rock carvings seem to be votive in nature. Some portray agricultural scenes, with plowmen, plows, oxen, and oxen and riders, in regions now

sterile, e.g., the Alps of N Italy. Drawings on a grand scale of elk, reindeer, and bears are found on polished rocks in Norway In the 20th cent a systematic search for rock sculptures, carvings, and paintings was made, thousands of new ones being found and copied from Norway to the southern part of Africa and the Near East Two styles of this primitive art have been distinguished One is confined to the walls and ceilings of caves (e g , the Altamira caves in N Spain) and portrays large wild animals usually at rest, the figures of men being seldom reproduced Pictures in the second style are usually found under overhanging rocks or in natural niches in cliffs and are vivid representations of men in motion—hunting, fighting, dancing, and climbing trees Pictures of wild animals are sometimes included Examples of both styles are found side by side See Leo Frobenius and D C Fox, *Prehistoric Rock Pictures in Europe and Africa* (1937).

Rock Springs, city (pop 9,827, alt c 6,270 ft), SW Wyo , on Bitter Creek Settled around a trading post and stage station established in the 1860s, it is now a coal-mining city, with a polyglot population, and a center for hunting and fishing activities in the near-by forest and canyon area

Rocksprings, town (pop 1,339), W Texas, NE of Del Rio and on the Edwards Plateau, settled 1887, inc 1924 Rocksprings, a center of goat and sheep ranching, was almost destroyed by a 1927 tornado

rock temple · see TEMPLE

Rockton, village (pop 1,156), N Ill , on the Rock River near the Wis line, inc 1847

Rock Valley, town (pop 1 507), NW Iowa, on Rock River and N of Sioux City, near the S Dak line, inc 1888 There is a large Dutch population The town has a creamery and makes cement blocks

Rockville 1 City (pop 7,572) in Vernon town, N Conn , co seat of Tolland co , chartered 1889 Woolens and worsteds are produced **2** Residential town (pop 2,208), co seat of Parke co , W Ind , near the Wabash NNE of Terre Haute, settled 1823, inc 1854 A state tuberculosis sanatorium is here **3** Town (pop 2,047), co seat of Montgomery co , W central Md , NNW of Washington, D C Near by are Clara Barton's house and the testing laboratory of the Navy Dept

Rockville Centre, residential village (pop 18,613), on SW Long Island, SE N Y , S of Hempstead, inc 1870 Its industries include the making of organ pipes

Rockwall, city (pop 1,318), co seat of Rockwall co , N Texas, near the East Fork of the Trinity and NE of Dallas, on the black land prairie City and county are named for a geological formation that looks like a man-made wall

Rockwell, Norman, 1894–, American illustrator, b New York city, studied at the Art Students League He is best known for his magazine covers, notably for the *Saturday Evening Post;* he invariably depicts, with great clarity and detail, scenes from daily small-town life, taking for models the people and objects surrounding him He has also executed many posters and a series of murals, illustrating the Four Freedoms, in the Nassau Tavern, Princeton, N J

Rockwell City, city (pop 2,391), co seat of Calhoun co , W central Iowa, WSW of Fort Dodge, in the heart of the corn country, inc 1882 The state reformatory for women is here

Rockwood 1 Village (pop 1,147), SE Mich , on the Huron and S of Detroit, in a farm area, inc 1926 **2** Borough (pop 1,375), SW Pa , SE of Pittsburgh, laid out 1857, inc 1885 **3** City (pop 3,981), E Tenn , WSW of Knoxville and near the Tennessee and Clinch rivers, in an area of coal, iron, limestone, timber, and farms, settled c 1816 Ferromanganese is among the city's products

Rocky Ford, city (pop 3,494), SE Colo , on the Arkansas river below Pueblo, inc 1887 The fame of its melons is celebrated in an annual Melon Day The city has food-processing plants and manufactures brooms and pumps Bent's Fort is near by

Rocky Hill, town (pop 2,679), central Conn , on the Connecticut river and S of Hartford, settled 1650, inc 1843 Rayon yarns are produced

Rocky Mount. 1 City (pop 25,568) E N C , on the Tar river and ENE of Raleigh, inc 1867 It is a railroad, cotton, and tobacco center, with processing plants **2** Tobacco town (pop 1,366), SW Va , S of Roanoke, combined with contiguous Mt Pleasant and inc 1873 The courthouse of Franklin co is here

Rocky Mountain College, at Billings, Mont , interdenominational, coeducational It was formed in 1947 by a merger of Billings Polytechnic Institute (chartered 1908, opened 1909) and Intermountain Union College, formed at Helena in 1922 by merging the College of Montana (opened 1878 as a collegiate institute at Deer Lodge, chartered and renamed 1883) and Montana Wesleyan College (opened 1890) The college includes a school of commerce and a conservatory of music and art

Rocky Mountain goat, mammal (genus *Oreamnos*) found in the Rocky Mts of Alaska, British Columbia, and the NW United States. It is not a true goat although it has a goatlike appearance, it is related to the antelope and to the chamois The male stands about 3 ft high at the humped shoulder. The chin is bearded, the face is long, and the sharp black horns (9 to 12 in long) curve slightly backward It traverses barren slopes and precipitous ledges, protected from icy gales by its thick white coat It feeds above the timber line on vegetation

Rocky Mountain House, town (pop 1,017), S central Alta , at the foot of the Rocky Mts , on the North Saskatchewan near the mouth of the Clearwater and W of Red Deer Founded in 1799 as a fortified post of the North West Company, in Blackfoot Indian country and known as Blackfoot Post, it was taken over (1821) by the Hudson's Bay Company and operated until 1875 Lumbering, coal mining, and grain growing are carried on in the region

Rocky Mountain National Park, 252,788 28 acres, N central Colo , est 1915 Estes Park is headquarters A beautiful area in the Front Range, with lakes, streams, waterfalls, and trails, the park includes 65 named peaks over 10,000 ft high Longs Peak, the highest, rises to 14,255 ft

Rocky Mountains, longest and highest mountain system of North America, composed of numerous complex systems, extending S from N Alaska through W Canada and the United States into N New Mexico In Alaska the chain includes the BROOKS RANGE, in Canada it includes the Mackenzie Mts , STIKINE MOUNTAINS, CARIBOO MOUNTAINS, and SELKIRK MOUNTAINS Where the Rocky Mts form the boundary between the provinces of British Columbia and Alberta, they are popularly known as the Canadian Rockies Here lie five national parks—Jasper, Banff, Yoho, Kootenay, and Waterton Lakes Glacier National Park and Mt Revelstone National Park are to the west, in the Selkirk Mts of British Columbia In the United States the Rocky Mts cross portions of Washington, Idaho, Montana, Utah, Wyoming, and Colorado and terminate in N New Mexico The mountain complex, separated in places by high plateaus or wide basins, includes the Lewis Range, Big Belt Mts , BITTERROOT RANGE, SAWTOOTH MOUNTAINS, SALMON RIVER MOUNTAINS, ABSAROKA RANGE, BIGHORN MOUNTAINS, WIND RIVER RANGE, TETON RANGE, WASATCH RANGE, UINTA MOUNTAINS, LARAMIE MOUNTAINS, MEDICINE BOW MOUNTAINS, PARK RANGE, FRONT RANGE, SAWATCH MOUNTAINS, SAN JUAN MOUNTAINS, SANGRE DE CRISTO MOUNTAINS and numerous other groups On the east the system rises from the GREAT PLAINS, on the west the GREAT BASIN and other depressions separate it from the Coast Ranges The Continental Divide follows the crests of the Rockies, the source of the great river systems of the Yukon, Mackenzie, Peace, Athabaska, Saskatchewan, Missouri, Platte, Arkansas, and Rio Grande and, flowing to the Pacific, the Fraser, Columbia-Snake, and Colorado The Rockies, geologically young, are chiefly a granite and gneiss mass but represent a great variety of rocks, with occasional evidence of volcanic action, as in Yellowstone National Park There are a number of glaciers in the system and many snow-capped summits over 14,000 ft high, such as MT ELBERT, MT MASSIVE, MT HARVARD, BLANCA PEAK, UNCOMPAHGRE PEAK, LONGS PEAK, and PIKES PEAK, all in Colorado Gold, silver, copper, lead, coal, and other minerals are found in the system, which also has extensive farming and grazing regions GLACIER NATIONAL PARK, YELLOWSTONE NATIONAL PARK, GRAND TETON NATIONAL PARK, ROCKY MOUNTAIN NATIONAL PARK, and Mesa Verde National Park embrace some of the most interesting and beautiful areas The Rockies were a formidable obstacle to transcontinental crossing, for early travelers' routes, see OREGON TRAIL and OVERLAND TRAIL Explorers of the Rockies have included CORONADO, VÉRENDRYE, Jonathan CARVER, Sir Alexander MACKENZIE, Meriwether Lewis and William Clark (see LEWIS AND CLARK EXPEDITION), Zebulon M PIKE, Stephen H LONG, B L E de BONNEVILLE, J C FRÉMONT, and, more particularly, the host of MOUNTAIN MEN See W W Wilcox, *The Rockies of Canada* (1909), R G Thwaites, *A Brief History of Rocky Mountain Exploration* (1914), W W Atwood, *The Rocky Mountains* (1945), publications of the U S Geological Survey and of the National Park Service of the U S Dept of the Interior

Rocky Mountain sheep see BIGHORN

Rocky Mountain spotted fever, acute infectious disease transmitted to humans by the bite of certain ticks It is most prevalent in the NW United States although it has spread over most of the country The causative agent is *Rickettsa rickettsi,* a member of the group known as rickettsia bodies, forms usually considered intermediate between viruses and bacteria Ticks infected with the germs may be carried on dogs, rodents, cattle, and some other animals and may thus reach humans. If they are removed promptly after coming in contact with the human skin the disease may be avoided Since the young ticks infest grass and brush before finding an animal host, keeping the land clear around dwellings helps to prevent spread of the disease Hemorrhagic skin spots, chills, fever, and pain in the muscles and bones accompany the disease. Fatalities long were very high, but with the development of a preventive vaccine and a serum, these have been reduced

Rocky River, city (pop 8,291), NE Ohio, residential suburb of Cleveland, settled 1815, inc 1903

rococo (rōkō'kō, rō–), style in architecture, especially in interiors and the decorative arts, which originated in France early in the reign (1715–74) of Louis XV It was widely used in other parts of Europe in the 18th cent The term may be derived from the French words *rocaille* and *coquille* (rock and shell), natural forms prominent in the Italian BAROQUE decorations of interiors and gardens The style was an offshoot from baroque, with its abandonment of rules and its free and unsymmetrical handling of architectural forms Juste Aurèle Meissonier of Turin, who worked in Paris after 1723, is considered to have originated rococo by his engraved designs incorporating the shell motifs The Parisian tapestry weavers, cabinetmakers, and bronze workers followed his lead and introduced a new lightness and delicacy in reaction from the sobriety and heaviness of the reign of Louis XIV In room decorations and furniture, shells, scrolls, branches of leaves, flowers, and bamboo stems were organized into deft and engaging compositions The fanciful decorations of monkeys in human costume were termed *singeries,* while the fashionable enthusiasm for Chinese art added to the style the whole bizarre vocabulary of CHINOISERIE motives The rococo vogue spread to other countries, especially to Germany and to Austria, where François de CUVILLIÉS was its pioneer Italian rococo, particularly that of Venice, was brilliantly decorative The furniture of Thomas CHIPPENDALE manifested its influence in England See Fiske Kimball, *The Creation of the Rococo* (1943)

rococo, in music, an offshoot of the baroque Less austere, less formal in structure, it was a graceful, hedonistic style which began in France Its extreme manifestations were in keyboard music A host of minor composers wrote highly ornamented genre pieces, but the greatest rococo composer was François COUPERIN (1668–1733) In Germany the style was taken up by Bach's contemporaries Georg Philipp Telemann (1681–1767) and Johann Mattheson (1681–1764) and in Italy it was represented in the keyboard sonatas of Domenico SCARLATTI Traces of the rococo are present in the works of C P E Bach, Haydn, and Mozart

Rocourt (rōkōōr'), village (pop 2,541), Liége prov , SE Belgium, N of Liége Here in the War of the Austrian Succession the French under Maurice de Saxe defeated (1746) the allied English and Austrians The place was also known as ROCOUX and ROUCOUX

Rocroi (rōkrōwä'), village, Ardennes dept , N France, near the Belgian border Here in the Thirty Years War the French under Louis II de Condé inflicted a decisive defeat on the Spanish

Rod, Édouard (Louis Édouard Rod) (ādwär' rôd', lwē'), 1857–1910, Swiss novelist and critic in France He was editor of the *Revue contemporaine* and, later, professor of comparative literature at Geneva He shared in the idealistic reaction against naturalism, favoring the psychological and analytical method of Stendhal Among his novels are *La Course à la mort* (1885), *Le Sens de la vie* (1889), and *L'Incendie* (1906) His excellent critical volume, *Les Idées morales du temps présent* (1891), is a survey of the literature of the period

Rodanim (rō'du–, rō'du–, rōdā'–) see DODANIM

Rodbertus, Karl Johann (kärl yō'hän rōdbĕr'tōōs), 1805–75, German economist and conservative socialist He held several public offices, but after 1849 devoted himself to his writings in economics He believed that society would eventually attain, without violence, to the socialist ideal of state-owned property His books include *Overproduction and Property* (1850–51, Eng tr , 1898) See E C K Gonner, *The Social Philosophy of Rodbertus* (1899)

Rodenbach, Albrecht (al'brĕkht rō'dənbäkh), 1856–80, Flemish poet His lyrics and verse drama *Gudrun* (1882) place him among foremost Flemish poets See Jethro Bithell, *Contemporary Flemish Poetry* (1917)

Rodenbach, Georges (zhôrzh' rōdənbäk'), 1855–98, Belgian symbolist poet and novelist Living in Paris from 1887, he wrote on Flemish life His works include the poems *Le Foyer et les champs* (1877), *La Jeunesse blanche* (1886), and *Les Vies enclose* (1896) and a novel, *Bruges-la-morte* (1892)

rodent (rō'dənt), member of the largest order of mammals, the Rodentia, with teeth adapted for gnawing and chewing A pair of upper and lower incisor teeth are enlarged and grow throughout life Because enamel is lacking on the posterior surface the cutting edge of the incisors remains chisel shaped as the teeth are worn down Cheek teeth for grinding food number (except in the rabbit) not more than five in the upper and four in the lower jaw and often less Canine teeth are lacking In size rodents range from the harvest mouse (with a length of from 4½ to 7 in including the tail) to the CAPIBARA (about 4 ft long) Among the rodents are the chipmunk, squirrel, rat, beaver, porcupine,

guinea pig, and chinchilla In some classifications the hare and rabbit are included and in others they are placed in a separate order

rodeo (rō'dēō, rōdā'ō), public exhibition of the skill of cowboys in various activities Events include riding broncos, riding steers, "bulldogging" steers, roping and tying steers and calves, the use of the lasso, and other less closely related activities such as contests of marksmanship The rodeo was originally merely an adjunct to the ROUNDUP, a contest of skill between various cow hands, but the spectacle became popular in the late 1880s and the 1890s and gradually took on more and more of the aspect of a circus Today there are rodeo artists who go from exhibition to exhibition There are annual rodeos at many places in the West, in the East the rodeos normally travel like the circus and have only professional entertainers

Roderick (rō'durĭk), d 713?, last Visigothic king in Spain (710–713?) After the death of King Witiza in 708 or 709 the kingdom was thrown into confusion and a group of nobles chose Roderick, duke of Baetica, as successor He defeated Witiza's son and established himself on the throne Of his reign little is actually known because innumerable legends have gathered about it Most of the legends involve one Julian, governor of Ceuta, who—either for political motives or because his daughter had been violated by Roderick—joined the family of Witiza in going over to the side of the Moslems, then pressing on Spain from the south At any rate, the Moslems under TARIK crossed (711) the Strait of Gibraltar, and Roderick, campaigning in the north against the Franks and the Basques, hastened south only to be defeated (711) by Tarik on the shores of Lake Janda, near Medina Sidonia Because of a misreading of the Arabic chronicles, the battle became known as the battle of Guadalete According to some stories, Roderick was killed in the battle, but it is widely believed that he continued to fight until he was slain in 713 The colorful legends that gathered about this "last of the Goths" gained a permanent place in Spanish literature and passed into English writing, especially in the works of Washington Irving, Robert Southey, and Walter Savage Landor

Rodessa, unincorporated town (pop 1,605), extreme NW La , near the Ark and Texas boundaries It boomed when oil was discovered here in 1935

Rodez (rôdĕz'), city (pop 16,366), capital of Aveyron dept , S France, and historic capital of ROUERGUE An episcopal see since the 5th cent , it has a Gothic cathedral (13th–16th cent) of northern French style The town is an agricultural center and has textile manufactures

Rodgers, Christopher Raymond Perry, 1819–92, American naval officer, b Brooklyn, N Y , son of George Washington Rodgers Appointed midshipman in 1833, he saw wide and varied duty at sea before serving in the Mexican War In the Civil War, Rodgers took part in the Union reduction of Port Royal, S C , received the surrender of St Augustine and other Florida and Georgia coastal towns, and commanded the naval forces in the trenches at the capture of Fort Pulaski before Savannah, Ga He was fleet captain commanding the *New Ironsides* in the attack on Charleston in April, 1863 From Oct , 1863, to the end of the war he commanded the *Iroquois* in its world-wide search for the *Shenandoah* and other Confederate cruisers Promoted captain in 1866 and rear admiral in 1874, he was chief of the Bureau of Yards and Docks (1871–74), superintendent of Annapolis (1874–78), and commander in chief of the Pacific squadron (1878–80)

Rodgers, George Washington, 1787–1832, American naval officer, b Cecil co , Md His brother, John Rodgers (1773–1838), secured him a midshipman's warrant in 1804 At the beginning of the War of 1812, he was a lieutenant on the *Wasp*, which captured the *Frolic*, but both were soon taken by a larger British ship After varied service, he was promoted captain in 1825 and at his death was commander of the Brazil squadron

Rodgers, John, 1773–1838, American naval officer, b Harford co , Md He had seen years of merchant service before he became (1798) a lieutenant in the new U S navy He served against the Barbary pirates, and in 1805 he succeeded Commodore Samuel Barron in command of the squadron in the Tripolitan War Later, in the troubles over English impressment of seamen from American ships, Rodgers, in command of the *President*, was sent to stop impressment by the British *Guerrière* He encountered a British ship, gave chase, and overhauled her After a passage between the two, concerning which accounts are varied, a battle between them occurred, and the British vessel, the *Little Belt*, was defeated and cut to bits The incident was one of those leading up to the outbreak of the War of 1812 Rodgers, on the outbreak of the war, at once set out to pursue British ships In a battle he was wounded by an explosion of a gun on his own vessel He later saw distinguished service After the war he was president of the board of naval commissioners (1815–24, 1827–37) and acting Secretary of War in 1823 See biography by C O Paullin (1910)

Rodgers, John, 1812–82, American naval officer, son of John Rodgers (1773–1838). He entered the navy and saw varied service He conducted exploring expeditions in the N Pacific and off the coast of China (1852–55), making valuable surveys and charts, and in 1855 he commanded the *Vincennes* on an expedition to the arctic He served on the Atlantic coast in the Civil War, commanding the *Galena* in the bombardment of Fort Darling (1862) and the monitor *Weehawken* in the capture of the ironclad *Atlanta* Rodgers protected (1865) American interests at Valparaiso in the face of a threatened Spanish attack He commanded (1870–72) the Asiatic fleet and was in charge in the trouble with Korean forts (1870) Later he was in charge of the Mare Island navy yard (1873–77) and was superintendent of the U S. Naval Observatory (1877–82)

Rodgers, Richard, 1902–, American composer, b New York city, studied at Columbia and the Institute of Musical Art, New York He met Lorenz Hart (1895–1943), his lyricist, in 1919, and the first musical comedy in which they collaborated, *Garrick Gaieties* (1925), was an enormous success They worked together on *The Girl Friend* (1926), *A Connecticut Yankee* (1927), *On Your Toes* (1936), *Babes in Arms* (1937), in which *The Lady Is a Tramp* is included, *I'd Rather Be Right* (1937), *I Married an Angel* (1938), and *By Jupiter!* (1942), of which Rodgers was coproducer Rodgers's collaboration with the lyricist Oscar Hammerstein 2d (1895–) began with *Oklahoma!* (1943), which won a special Pulitzer award, and was continued in *Carousel* (1945) and *South Pacific* (1949)

Rodin, Auguste (ōgüst' rôdăⁿ'), 1840–1917, French sculptor, b Paris, of humble parents He began his art study at 14 in the Petite École and in the school of Barye, earning his living by working for an ornament maker In 1863 he went to work for the architectural sculptor Carrier-Belleuse, and from 1870 to 1877 he continued in the same trade in Brussels In the Salon of 1877 he exhibited a nude male figure, *The Age of Bronze* It was extravagantly praised and condemned, his critics unjustly accused him of having made a cast from life The upshot was that Rodin gained the active support and patronage of Turquet, undersecretary of fine arts His *Age of Bronze* and *St John* were purchased for the Luxembourg Gardens, Paris The government gave him a studio in Paris, where he worked the rest of his life with growing fame From 1880 Rodin worked intermittently on studies for a huge bronze door for the Musée des Arts décoratifs It was inspired by Dante's *Inferno* and was to be called the Gate of Hell He never finished it. Among the figures and groups intended for it are *Adam* and *Ève* (Metropolitan Mus) and *The Thinker* (Paris) These, together with his group *The Burghers of Calais* (Calais), completed in 1894, are among his most famous creations Other ambitious works are his monuments to Victor Hugo (1909, Paris) and Balzac Rodin is known also for his many fine portrait busts and for many little figures and groups in marble, such as *The Kiss*, *Ugolino*, and *Danaïd* in the Luxembourg Museum, Paris, and *Pygmalion and Galatea*, *The Bather*, and *The Hand of God* in the Metropolitan Museum He is best represented in these museums and in the Rodin museums of Paris and Philadelphia, but fine examples of his work exist in many galleries throughout the world Rodin's work is usually considered the most important contribution to sculpture of his century Highly realistic in many respects, it is nevertheless always imbued with deep poetic feeling Dante, Baudelaire, Michelangelo, and the Gothic were sources of inspiration Rodin considered his work completed when it expressed his idea Some of his sculpture is polished, some seems scarcely to have emerged from the rough stone He worked long over his more important works, returning to them again and again Their dynamism was the result not of feverish production but of long, patient labor See biography by Judith Cladel (Eng tr , 1937), study by Rainer Maria Rilke (Eng tr , 1945)

Rodman, Hugh, 1859–1940, American admiral, b Frankfort, Ky , grad Annapolis, 1880 After service in the Spanish-American War, he commanded many warships and later held administrative posts and was promoted through the grades to become (1917) rear admiral He led several divisions of the Atlantic Fleet in the First World War and, in command of the 6th Battle Squadron, served (1918) with the British fleet in the North Sea Promoted (1919) admiral, he was given command of the Pacific Fleet He retired from the navy in 1923 and thereafter served on diplomatic missions He wrote *Yarns of a Kentucky Admiral* (1928)

Rodney, Caesar, 1728–84, American Revolutionary patriot, signer of the Declaration of Independence, b near Dover, Del He held several political posts in Delaware and was a delegate to the Stamp Act Congress (1765) Rodney, as a member of the Continental Congress (1774–76), advocated independence Later he was a general commanding Delaware militia in the Revolution and was (1778–82) president of Delaware

Rodney, George Brydges Rodney, 1st Baron, 1719–92, British admiral. He entered the navy in 1732, became a captain in 1742, and served with distinction in the War of the Austrian Succession and the Seven Years War. As rear admiral, he bombarded Le Havre (1759) and prevented the contemplated invasion of England by the destruction of French transports In 1762 he reduced Martinique and was made a vice admiral, and in 1763 he was created baronet. Pressed by debts, Rodney resided in France (1775–78), but in 1778 he was made an admiral and dispatched to the West Indies On the way he crushed a Spanish fleet off Cape St Vincent, relieved Gibraltar, and became a national hero In 1781 he captured St Eustatius in the West Indies and confiscated large quantities of goods belonging to British merchants, who hounded him with lawsuits for the rest of his life Rodney's greatest victory was over the French fleet of Admiral de Grasse (1782) in the West Indies It made possible more advantageous terms of peace with the French at the close of the American Revolution Rodney returned to England (1782), was created baron, and was given a pension See biographies by Godfrey Mundy (1830) and David Hannay (1891)

Rodó, José Enrique (hōsā' ānrē'kā rôdō'), 1872–1917, Uruguayan essayist, literary critic, and moralist He spent most of his life in Montevideo, where he taught at the university He helped to found and edited *La revista nacional de literatura y ciencias sociales* His essays, in the *modernista* manner, gained him acclaim in and outside Spanish America Rodó developed a new philosophy of ethics and sought to create a new spirit in politics In *Ariel* (1900, Eng tr , 1922), his best-known work, he calls upon Latin America (Ariel) to hold to spiritual values unsullied by the materialistic impact of the United States (Caliban) Other collections of essays are *Los motivos de Proteo* (1909, Eng tr , 1928) and *El mirador de Próspero* (1913)

Rodosto, Turkey see TEKIRDAG

Rodrigues Alves, Francisco de Paula (fransēsh'kō dē pou'lu rôdrē'gēsh ul'vĭsh), 1848–1919, president of Brazil (1902–6) As finance minister he played a part in securing a funding loan that made possible the later rehabilitation of Brazil As president he pushed forward national development Public health was under the care of Oswaldo Cruz, who carried out a vast sanitary campaign that rid Brazil of the worst of its plagues of yellow fever, bubonic plague, and smallpox A civic improvement plan made Rio into a luxuriously beautiful modern city The dispute with Bolivia over the territory of Acre was settled through the brilliant diplomacy of the foreign minister, the barão do Rio Branco

Rodríguez, Abelardo Luján (ävälär'dhō lōōhän' rôdhrē'gās), 1889– , Mexican revolutionist and president (Sept , 1932–Nov , 1934) He became a general in the army, and under Álvaro OBREGÓN and Plutarco E CALLES he held various governmental posts On the resignation of President ORTIZ RUBIO, Rodríguez was provisional president until succeeded by LÁZARO CÁRDENAS The conflict between the Catholic Church and the government was resumed in his administration

Rodríguez, Martín (märtēn' rôdhrē'gās), 1771–1844, Argentine general, governor of Buenos Aires province (1820–24) With Juan Martín de PUEYRREDÓN, he organized a force to expel the British invaders of the Río de la Plata, and later he served under Jacques de LINIERS in the recapture (1806) and the defense (1807) of Buenos Aires He was one of the leaders in the revolution of May, 1810, when the viceroy was deposed and a junta was established, and was active in the war against Spain His administration as governor, following a period of anarchy, was progressive Many measures of reform and administrative reorganization were undertaken, chiefly on the initiative of Bernardino RIVADAVIA These served as an example to the other provinces, thus helping to lay the basis for the future national organization

Rodríguez (rôdrē'gās), island (42 sq mi , 1946 estimated pop 12,839), in the Indian Ocean, E of Mauritius It belongs to the British colony of Mauritius and is one of the Mascarene Islands Rodríguez was discovered in 1645 by the Portuguese and briefly occupied (1691–93) by the Dutch Great Britain took it in 1810 Live cattle are exported

Rodríguez Francia, José Gaspar see FRANCIA, JOSÉ GASPAR RODRÍGUEZ

Rodríguez Larreta, Enrique see LARRETA, ENRIQUE RODRÍGUEZ

Roe, Edward Payson, 1838–88, American clergyman and novelist, b Windsor, N Y , studied at Williams and at Auburn Theological Seminary He was a Civil War chaplain and later a Presbyterian minister in Highland Falls, N Y , until literary success turned him to a career of writing His best-known book, *Barriers Burned Away* (1872), based on the Chicago fire, was followed by other moral novels, including *The Opening of a Chestnut Burr* (1874)

Roebling, John Augustus (rō'blĭng), 1806–69, German-American engineer, b Mulhouse He studied engineering in Berlin and in 1831 came to the United States He demonstrated the practicability

of steel cable and established a plant for manufacturing it at Trenton, N J A pioneer in the building of suspension bridges, he built the Allegheny Bridge at Pittsburgh, the Niagara Falls Suspension Bridge (completed 1855), and the Cincinnati and Covington bridge over the Ohio His most ambitious project was the Brooklyn Bridge It was scarcely begun when Roebling, directing operations, was injured in an accident and died a few days later His son **Washington Augustus Roebling,** 1837–1926, b Butler co , Pa , grad Rensselaer Polytechnic Institute, 1857, had aided his father in building the Allegheny Suspension Bridge During the Civil War he joined the Union army as a private, was transferred to Irvin McDowell's engineering staff, and rose to the rank of colonel He went to Europe to study engineering and especially pneumatic caissons After his father's death he directed the construction of Brooklyn Bridge Because of continuous underground work he was stricken (1872) with caisson disease, but despite his invalidism he directed the project until the bridge was opened to traffic (1883) In 1888 he took over the management of the Roebling plant in Trenton See biography by Hamilton Schuyler (1932), D B Steinman, *The Builders of the Bridge* (1945)

Roelas or **Ruelas, Juan de las** (hwän dā lās rō'lās, rō̄ā'lās), c 1558–1625, Spanish painter of the school of Seville He brought the liberating influence of Tintoretto to his native Seville, where he counted among his pupils Zurbarán Among his most famous works are *Martyrdom of St Andrew, St Anne and the Virgin, Pentecost,* and *Circumcision* (all in the museums and churches of Seville)

Roemer, Olaus see ROMER, OLAUS

Roentgen or **Röntgen, Wilhelm Conrad** (both rĕnt'gĭn, rŭnt'-, Ger vĭl'hĕlm kōn't ät rŭnt'gun), 1845–1923, German physicist His notable research in many fields of physics, especially thermology, mechanics, and electricity, have been overshadowed by his discovery (1895) of a short-wave ray, the Roentgen ray or X ray, for which he received the first Nobel Prize in Physics (1901) He taught at several German universities, including those at Würzburg (1888–99) and Munich (1899–1920) See biography by Otto Glasser (1946)

Roentgen ray see X RAY

Roerich, Nicholas Konstantin (rō'rĭkh), 1874–1947, Russian painter, stage designer, and archaeologist Until 1916 he was director of the School for Encouraging Fine Arts in Russia and was connected with the Moscow Art Theatre and the Diaghilev ballet His most important work for the stage was done for Stravinsky's *Sacre du printemps* He was a brilliant colorist He came (1920) to the United States, and in 1921 the Roerich Museum in New York was founded in his honor Roerich spent five years exploring the Himalayas, with 500 pictures as a result, after 1935 he made his home in a valley of the Punjab He is represented in the Louvre and the Luxembourg Museum, Paris, the Victoria and Albert Museum, London, the National Museum, Stockholm, and many American galleries Among his books are *Heart of Asia* (1929) and *Realm of Light* (1931) See N N Selivanova, *The World of Roerich* (1924)

Roermond (rōōr'mŏnd), municipality (pop 20,905), Limburg prov , SE Netherlands, on the Meuse at the mouth of the Roer river It has an electrochemical industry and various manufactures Roermond was an important medieval trade center It suffered heavy damage in the Second World War

Rogaland (rō'gälän"), county (3,543 sq mi , pop 202,252), SW Norway, rising eastward from the North Sea It is deeply indented by fjords STAVANGER is the county seat and chief city.

Rogation Days, in the calendar of the Western Church, four days set apart for solemn processions to invoke God's mercy They are April 25, the Major Rogation, coinciding with St Mark's day, and the three days preceding Ascension Day, these are the Minor Rogations The processions are Christian adaptations of Roman pagan ones, in rural districts they are regarded as blessing the fields The prayers include the Litany of the Saints (see LITANY)

Rogelim (rōgē'lĭm), unidentified town of Gilead, E of the Jordan 2 Sam 17 27, 19 31

Roger I (Roger Guiscard), c 1031–1101, Norman conqueror of Sicily, a son of Tancred de Hauteville (see NORMANS) He came to Italy in 1057 to join his brother, ROBERT GUISCARD, in the conquest of Apulia and Calabria from the Byzantines Between 1061 and 1091 he conquered Sicily from the Arabs Robert made him count of Sicily and Calabria (under Robert's suzerainty) in 1072, after the fall of Palermo Robert's death (1085) left Roger the most powerful Norman lord in S Italy. He ruled justly and tolerantly the various races living in his domains His was a feudal state, with a strong central power In 1099 Roger was made papal legate His son, Roger II, succeeded him.

Roger II, c 1097–1154, count (1101–30) and first king (1130–54) of Sicily, son and successor of Roger I He conquered (1127) Apulia and Salerno despite papal opposition and sided with Antipope Anacletus II (who crowned him king in 1130) against Pope INNOCENT II. Innocent rallied Emperor Lothair II and other allies against Roger, but was defeated in 1139 Naples and Capua recognized Roger's sovereignty, and Innocent was obliged to invest him with all the lands that, for seven centuries, were to constitute the kingdoms of Naples and Sicily Roger also conquered several cities on the African coast He favored a fusion of the disparate ethnic groups in his kingdom and established a strong central administration Sicily recovered its prosperity and Roger's brilliant court at Palermo was a center of the arts, letters, and sciences Roger was succeeded by his son, William I

Roger de Coverley (dŭ kŭ'vûrlē) or **Roger of Coverley,** old English country dance and its tune, which survived into the 20th cent The dancers face each other in two rows and perform figures similar to those of the VIRGINIA REEL, in which each dancer dances with each of the others The Sir Roger de Coverley papers, begun in the SPECTATOR in 1711, introduced the literary character, Sir Roger, as a gentleman of Worcestershire whose "great grandfather was the inventor of the famous country dance which is called after him" Since that time the dance has often been called the *Sir* Roger de Coverley

Roger of Hoveden (hŏv'dun, hūv'dun), fl 1200, English chronicler, probably b Hoveden or Howden (hou'dun), Yorkshire His chronicle, covering the years 732–1201, is an original source only for the period 1192–1201 His life as a member of the household of Henry II and the documents he included make his work important It was translated by Henry T Riley (1853)

Roger of Loria, Lauria, or **Luria,** c 1245–1304, Sicilian-Aragonese admiral After the fall (1266) of MANFRED he went in exile to Aragon where Manfred's daughter Constance was married to King PETER III After holding various posts there he followed Peter to Sicily, Peter having been chosen king of that island as a result of the SICILIAN VESPERS (1282) Roger distinguished himself as commander of the Aragonese fleet in the long war between the Aragonese and the Angevin rulers of Naples for the possession of Sicily He defeated the Angevins at Malta (1283) and in the Bay of Naples (1284), and won a brilliant victory (1285) over the French fleet off the coast of Catalonia After Peter III's death Roger served James (later JAMES II of Aragon), Peter's successor in Sicily, and twice defeated the Angevin fleet In 1295 James reversed his policy, ceding Sicily to the pope, who bestowed it on CHARLES II of Naples, James agreed to help Charles to gain possession of the island Roger, devoted to Aragon, fought with the Angevins against the Sicilians In 1302 he retired to Catalonia, where he died

Roger of Wendover, d c 1236, English chronicler He was a monk of St Albans and for a brief time prior of Belvoir Later, when historiographer of St Albans, he wrote the *Flores historarum,* a general chronicle from the Creation to 1235, which is dependent for the material from 1192 to 1201 on ROGER OF HOVEDEN and is original from 1201 to 1235 His work was carried on by MATTHEW OF PARIS The chronicle was translated by J A Giles (1849)

Rogers, Bruce (rŏj'urz), 1870–, American book designer, b Lafayette, Ind As printing adviser to Cambridge Univ Press and to Harvard Univ Press, as well as to commercial houses specializing in limited editions and fine printing, he earned the reputation of being America's leading book designer of his time. He designed the type face called Centaur and the format of the famous Oxford Lectern Bible (1935) He is the author of *Paragraphs on Printing* (1943) See biography by Frederic Warde (1925)

Rogers, Henry Huddleston, 1840–1909, American financier, b Fairhaven, Mass After he moved (1860) to Pennsylvania, he entered the oil business, experimented in the refining of petroleum, and, in partnership with Charles Pratt, became one of the important independent refiners When in 1874 his company was absorbed by the Standard Oil Company, Rogers—who originated the idea of pipe-line transportation for oil—became a lieutenant of John D Rockefeller His holdings steadily grew larger and more diverse and he became one of America's leading capitalists His son, **Henry Huddleston Rogers,** 1879–1935, b New York city, succeeded to his father's holdings He was interested in military affairs and fought in France in the First World War

Rogers, James Edwin Thorold, 1803–90, English economist He taught (1862–67) at Oxford and was for many years (1859–90) professor of statistics and economics at King's College, London Of his many works most noted is *History of Agriculture and Prices in England* (7 vols in 8, 1866–1902).

Rogers, James Gamble, 1867–1947, American architect, b Kentucky, grad Yale, 1889 Resident in New York from 1905, he designed many buildings for his alma mater, among them the Sterling Memorial Library, the Sterling School of Graduate Studies, Pierson College, and the Harkness Memorial Quadrangle He was for 10 years architectural advisor to Yale. Among his other designs are the Columbia-Presbyterian Medical Center and the Butler Library of Columbia Univ , the New Haven (Conn) post office, and the Deering Library of Northwestern Univ

Rogers, James Harvey, 1886–1939, American economist, b South Carolina, grad Univ of South Carolina (B A , 1906) and Yale (B A , 1909, Ph D , 1916) He was professor of economics at the Univ of Missouri (1923–30) and of political economy at Yale (from 1930) and had written *Stock Speculation and the Money Market* (1927), *The Process of Inflation in France, 1914–1927* (1929), and *American Weights How Gold* (1931) before he was called to Washington as monetary adviser to President F D Roosevelt In 1933 he was sent to Europe to consult with British economists on stabilization and in 1934 went to the Orient to study, for the U S Treasury, the monetary systems of the world's largest silver-using countries He was killed in an airplane crash at Rio de Janeiro.

Rogers, John, 1500?–1555, English Protestant martyr, grad Cambridge, 1526 He became a Roman Catholic priest, but under the influence of William Tyndale, whom he met in Antwerp, he turned (1535) to Protestantism He employed himself in preparing for the press an English version of the Bible, which he published (1537) under the pseudonym Thomas Matthew He contributed prefaces and marginal notes but most of the translation was the work of Tyndale and of Miles Coverdale Returning (1548) to England, Rogers became (1551) a prebendary of St Paul's, London On the accession of Queen Mary he was deprived of his benefices because of anti-Catholic expression in the pulpit and was imprisoned (1554) He was tried and burned at Smithfield as a heretic

Rogers, John, 1627–1665?, English minister He was ordained (1647) a Presbyterian and spent several years preaching in Dublin Upon his return (1652) to England, he joined the FIFTH MONARCHY MEN, a millenarian group His attacks against Cromwell from the pulpit and by pamphlet led to his arrest (1654) He was released (1657) but was imprisoned again (1658) on charges of conspiracy At the Restoration, Rogers fled to Holland, where he studied medicine and received a medical degree at Utrecht in 1662 He died several years after his return to England

Rogers, John, 1829–1904, American sculptor, b Salem Mass Trained as an engineer, he was forced by failing eyesight to work as a machinist He began modeling in clay as a pastime and studied sculpture in Rome for a short while His early clay group, *The Slave Auction,* was given publicity by the abolitionists, and "Rogers groups" by the end of the Civil War had attained great popularity Thousands of copies were made by machine of such subjects as *One More Shot, Going to the Minister,* and *The Wounded Scout* As accurate records of the period, they have regained a certain popularity

Rogers, Lindsay, 1891–, American political scientist b Baltimore, grad Johns Hopkins (B A , 1912, Ph D , 1915) He was (1914–15) a fellow in political science at Johns Hopkins before becoming (1915) professor at the Univ of Virginia In the First World War he was attached (1918) to the general staff corps He lectured (1920–21) on public law at Harvard and after 1920 he taught government and public law at Columbia He was visiting lecturer at several colleges and universities and served with the New York state department of labor (1928), the National Recovery Administration (1933), and Public Works Administration (1934–36) He wrote several books, including *The Postal Power of Congress* (1916), *The American Senate* (1926), *Crisis Government* (1934), and *The Pollsters* (1949)

Rogers, Randolph, 1825–92, American sculptor, b Waterloo, N Y He grew up in Ann Arbor, Mich After some success in portrait modeling he went (1848) to Florence to study From 1857 he lived in Rome Numerous replicas were made of the ideal statues *Nydia* (Art Inst , Chicago) and *The Last Plead* His *Ruth* is in the Metropolitan Museum, the *Angel of the Resurrection* in Hartford, Conn His monumental works include the military memorials at Providence, R I , and at Detroit He made a statue of John Adams (Mt Auburn Cemetery, Cambridge, Mass), a colossal Lincoln (Philadelphia), and a statue of William H Seward (Madison Square, New York), completed the Washington monument (Richmond, Va) begun by Thomas Crawford, and produced the bronze doors for the Rotunda of the Capitol and *The Genius of Connecticut,* on the dome of the capitol at Hartford, Conn He left all his casts to the art gallery of the Univ of Michigan

Rogers, Robert, 1731–95, American frontiersman, b Methuen, Mass As a child he moved with his family to the New Hampshire frontier In the French and Indian War known as King George's War he served as a scout, and in the last of the FRENCH AND INDIAN WARS he headed a company of frontier rangers under the direction of Sir William Johnson Such men as John Stark, Israel Putnam, and James Dalyell or Dalzell distinguished themselves in the company of rangers commanded by Rogers. In 1758 was fought the famous "battle

on snowshoes" at Rogers Rock, Lake George, where the company fought gallantly and was all but decimated. The next year Rogers led his men in a daring expedition which resulted in the destruction of the SAINT FRANCIS INDIANS. At the close of the war he was a major and a popular hero. In 1760 he was sent to receive the submission of the French posts on the Great Lakes, and in 1763 he served under Dalyell on the expedition to crush Pontiac's Rebellion. His participation in illicit trade with the Indians brought him into disgrace, and he went (1765) to England to rehabilitate himself. There he was much feted and had published his *Journals* and *A Concise Account of North America*, both in 1765. He also wrote a crude play, *Ponteach* (1766), important primarily as an early American drama. Successful in securing an appointment as commander of the post at MACKINAC, he returned to the Northwest, but his career there has been the subject of much speculation and discussion. Rogers, who was ambitious to find the Northwest Passage, sent out the mysterious expedition of Jonathan CARVER to the Northwest, quarreled with his associates, was accused of plotting to set up an independent state, and was arrested on charges of planning to sell out to foreign interests. Brought to Montreal in chains and court-martialed, he was acquitted of all charges. He went to England but returned to America and played such an equivocal role at the beginning of the American Revolution that he was imprisoned as a Loyalist spy. He escaped and openly joined the Loyalists, but his record in the war was anything but distinguished. In 1780 he returned to England, dying there in 1795 in obscurity. He has often been reviled for his drunkenness, his dishonesty in money matters, and his violence. Rogers is the central figure in Kenneth Robert's historical novel, *Northwest Passage* (1937). See also F. B. Hough, ed., *Journals of Major Robert Rogers* (1883), Allan Nevins, ed., *Ponteach* (with biographical account, 1914), Arthur Pound, *Native Stock* (1931), V. H. Paltsits, ed., *Journal of Robert Rogers, the Ranger, on His Expedition for Receiving the Capitulation of Western French Posts* (1933).

Rogers, Samuel, 1763–1855, English poet and conversationalist. His poetry, *Pleasures of Memory* (1792), *Jacqueline* (1814), and *Italy* (1822–28), is pleasant though undistinguished. Rich and a honker, he was acquainted with Byron, Lamb, and Wordsworth and other literary men of his day. *Table Talk* (1856) and *Recollections* (1859) indicate his influence.

Rogers, Will (William Penn Adair Rogers), 1879–1935, American humorist, b. Oologah, Indian Territory (now in Oklahoma). From an early age he worked as a cowboy in Oklahoma, and after traveling over the world, he returned to the United States and worked in vaudeville as a cowboy rope-twirler. He was an immediate success when he joined (1915) the Ziegfeld *Follies*. Through moving pictures, a newspaper column, books, and radio, he gained a wide audience, his salty comments on the passing show made the "cowboy philosopher" world-known. A constant booster of airplane travel, Rogers made several long airplane trips, but was killed along with Wiley Post when their plane crashed near Point Barrow, Alaska. See Donald Day, ed., *The Autobiography of Will Rogers* (1944).

Rogers, William Allen, 1854–1931, American cartoonist and illustrator, b. Springfield, Ohio. He worked at various times for the New York *Daily Graphic*, *Harper's Weekly* and *Harper's Monthly*, and the *Century* and from 1923 for the Washington *Post*. He was made a chevalier of the Legion of Honor for a First World War cartoon in the New York and Paris *Herald*. He wrote *America's Black and White Book* (1917), *A World Worth While* (1922), *Danny's Partner* (1923), and *A Miracle Mine* (1925).

Rogers, William Augustus, 1832–98, American astronomer and physicist, b. Waterford, Conn.; grad. Brown, 1857. He was professor of astronomy and mathematics at Alfred Univ. (1858–70) and then went to Harvard as assistant in the observatory. There he mapped a narrow belt of the heavens, north of the zenith. In 1878 he became assistant professor of astronomy, and in 1886 he was appointed to the chair of astronomy and physics at Colby Univ. (now Colby College). He is known particularly for his work on standards of length; he went to Europe to compare standards used there. He was coinventor of a comparator (an apparatus for comparing and subdividing measures of length) of great precision. He contributed to scientific journals and also prepared several star catalogues.

Rogers, Woodes, d. 1732, English navigator and colonial administrator. He wrote *A Cruising Voyage round the World* (1712), the record of a privateering expedition made (1708–11) under his command against the Spanish. The expedition rescued Alexander SELKIRK from Juan Fernández Islands. Rogers leased the Bahama Islands (1717) from the lords proprietors and was twice governor there (1718–21, 1729–32). In his administration, piracy was extinguished, a Spanish invasion was repelled (1718), and the House of Assembly was founded.

Rogers, city (pop. 3,550), extreme NW Ark., in the Ozarks, founded 1881. It ships and processes poultry, fruit (especially apples and grapes), and dairy products of the region.

Rogers, Mount, peak, 5,720 ft. high, extreme SW Va., near the Tenn.–N. C. line S of Marion, highest point in Virginia.

Rogers City, city (pop. 3,072), co. seat of Presque Isle co., N. Mich., on Lake Huron, settled 1869, inc. as a village 1877, as a city 1944. It has limestone quarries and fisheries.

Rogersville, town (pop. 2,018), co. seat of Hawkins co., NE Tenn., WNW of Johnson City and near the Holston, in a farm and timber region, founded 1786. Swift Memorial Junior College (Negro, coeducational) is here. Mineral springs are in the area, and a home for printers is near by.

Roger van der Weyden see WEYDEN, ROGER VANDER.

Roget, Peter Mark (rō'zhā, rōzhā'), 1779–1869, English physician and lexicographer. While he practiced medicine and was secretary (1827–49) of the Royal Society, he worked nearly 50 years preparing his *Thesaurus of English Words and Phrases* (1852). In successive editions supervised by him, his son, and his grandson, it has remained a standard reference book.

Rogue, river of SW Oregon rising in the Cascade Range N of Crater Lake and flowing through a fertile and protected valley, noted for its orchard fruits, to the Pacific c.30 mi. N of the Calif. line.

Rohan, Henri, duc de (ärē' dük' du rôā'), 1579–1638, French Protestant general, son-in-law of Sully. He first appeared as a leader of the HUGUENOTS in 1611. As a consequence of the reestablishment of Catholicism in Béarn (1617), he and his brother, Benjamin de SOUBISE, took up arms against LUYNES in 1621, Rohan led a new revolt in Languedoc and the Cévennes in 1625–26, and again in 1627–29, but was forced to submit to Richelieu in the Peace of Alais (1629), and retired to Venice. In 1635 he was chosen by Richelieu to command the French troops in the VALTELLINA, which he subdued. Treachery and weak official support forced his retreat in 1637. Rohan subsequently joined the army of Bernhard of Saxe-Weimar and was killed at Rheinfelden. He translated and edited the Gallic War and Civil Wars of Caesar under the title *The Complete Captain* (1636, rev. ed., 1638, Eng. tr., 1640) and left *Mémoires* (1644, enl. ed., 1646, Eng. tr., 1660), and other writings.

Rohan, Louis René Édouard, prince de (lwē runā' ādwär' prās'), 1734–1803, French churchman and politician, cardinal of the Roman Church. Although he succeeded (1779) his uncle as archbishop of Strasbourg, he spent most of his career in Paris. As French ambassador to Vienna (1772) he made himself disliked by Empress Maria Theresa because of his worldly behavior. In France, his anti-Austrian attitude earned him the cordial hatred of Queen Marie Antoinette. It was apparently in a desire to curry favor with her that he became involved in the affair of the DIAMOND NECKLACE. For his inglorious part in this he was acquitted of guilt (1786), but lost his office of grand almoner and was banished from Paris. He was elected to the States-General (1789), refused to sign the Civil Constitution of the Clergy (1791), and emigrated.

Rohde, Ruth Bryan see OWEN, RUTH BRYAN.

Rohgah (rō'gu), Asherite 1 Chron. 7.34.

Roi, Marshall Islands see KWAJALEIN.

Rojas, Fernando de (fĕrnän'dō dā rō'häs), 1465?–1526?, Spanish novelist. He was of Jewish descent and studied law in Salamanca. His fame rests on his authorship of *La Celestina* (see CELESTINA, LA). He was mayor of Talavera and was still alive in 1525, but the exact date of his death is unknown. In 1929 an inventory of his library was published in the *Revista de filología española*.

Rojas Zorrilla, Francisco de (fränthē'skō dā rō'häs thōrē'lyä), 1607–48, Spanish dramatist, b. Toledo. He created a type known as *comedia de figurón*, presenting the extravagant or ridiculous aspects of characters in a play. His best-known play is *Del rey abajo ninguno* (none beneath the king), also called *El labrador más honrado* and *García del Castañar*. He wrote more than 60 pieces and was imitated by many playwrights in Spain and in France.

Rokitansky, Karl (karl' rōkĭtän'skē), 1804–78, Austrian pathologist, b. Bohemia. From 1834 to 1873 he taught at the Univ. of Vienna. Many valuable contributions to pathology resulted from his more than 30,000 post-mortem examinations. Besides treatises on diseases of the arteries and defects in the septum of the heart, he wrote *A Manual of Pathological Anatomy* (3 vols., 1842–46, Eng. tr., 4 vols., 1849–54).

Roland (rō'lŭnd), the great French hero of medieval legend and of the Charlemagne cycle of chansons, immortalized in the 11th-century poem, *Chanson de Roland* (shänsōd' rōlā'). The legend has transformed history to a certain extent. Roland was really Charlemagne's prefect of the Breton march, he was one of those killed when Basques cut off in a pass in the Pyrenees the rear guard of the army returning from the Spanish invasion of 778. The legend makes Roland one of Charlemagne's 12 peers and his nephew, changes the Basques into Saracens, and locates the pass at RONCESVALLES. The poem relates: the treason of Ganelon, count of Mayence, a vassal of Charlemagne, the departure of the king from Spain, leaving Roland in command of the rear guard, with his friend Oliver (Olivier) and with Bishop Turpin; the Saracens' attack in the pass of Roncesvalles, instigated by Ganelon; Roland's refusal to blow his horn Olifant to summon aid until the death of Oliver; his attempt to break his sword, Durandal, his heroic death, the tardy return of Charlemagne in response to Roland's horn, and the capture and death of Ganelon. The poem is cast into a heroic mold; the traits are broad and the feats are mighty. The contrast of character between the friends Roland and Oliver is famous—Oliver was prudent, Roland was rash. A striking evidence of the popularity of the poem is Wace's statement that TAILLEFER sang some of it at Hastings. The Roland epopee was long a favorite with French, Spanish, and Italian poets, and Roland was eventually transformed beyond recognition into the *Orlando* of the Italian Renaissance epics of BOIARDO and ARIOSTO. The *Song of Roland* has been translated many times, e.g., by Arthur S. Way (1913) and by Leonard Bacon (1914).

Roland de la Platière, Jean Marie (zhäN' märē' rôlä' du la platyĕr'), 1734–93, French revolutionist. An inspector general of commerce at Rouen and Amiens, he went to Paris when the Revolution began, and published the *Financier patriote*. Roland rose to power with the GIRONDISTS and became minister of the interior in 1792. Accused of royalism in 1793, he resigned and fled Paris. When he heard that his wife, Manon Joanne Roland de la Platière, had been executed, he committed suicide.

Roland de la Platière, Manon Jeanne Phlpon (Mme Roland) (mänô' zhän' flēpô'), 1754–93, French revolutionist. Imbued with classical ideals and with the philosophy of Rousseau, she made her house the intellectual center of the GIRONDISTS. Her husband, Jean Marie Roland de la Platière, was dominated by her, and her influence on Girondist policy was very great. When her party fell, Mme Roland was arrested, as she walked to the guillotine (Nov. 10), she cried out "O Liberty, what crimes are committed in thy name!" See her letters (ed. by Claude Perroud, 1900–1902), biographies by Ida Tarbell (1896) and M. C. Jacquemaire (1930).

Roland Holst, Henriëtte (van der Schalk) (hĕnrēē'tu vän dĕr skhälk' rō'länt hôlst'), 1869–, Dutch poet, a Communist and friend of Lenin. Her poetry won high repute for lyric enthusiasm and delicate expression.

Rolfe, John (rôlf), 1585–1622, English colonist in Virginia. He reached the colony in May, 1610, and introduced (1612) the regular cultivation of tobacco, which became Virginia's staple. A widower, he fell in love with and married (1614) POCAHONTAS, daughter of the Indian chief Powhatan. They went to England in 1616, and there she died (1617). He returned to Virginia, remarried, and held several offices. He was probably killed in the Indian massacre of 1622.

Rolfe, town (pop. 1,122), NW Iowa, NW of Fort Dodge.

Rolla (rō'lu) **1** City (pop. 5,141), co. seat of Phelps co., S central Mo., SE of Jefferson City, founded c.1856. It is in a farm, timber, clay, and pyrite area of the Ozarks. The city is the seat of the Univ. of Missouri school of mines and metallurgy and of the state trachoma hospital. An annual Ozark festival is held. Many caves and springs are found in the region. **2** City (pop. 1,008), co. seat of Rolette co., N. N. Dak., near the Canadian boundary NNW of Devils Lake, in a farm area, inc. 1907. The Turtle Mountain Indian Reservation is near, and the city is headquarters for the International Peace Garden.

Rolland, Romain (rōmĕ' rôlä'), 1866–1944, French novelist, playwright, biographer, and musicologist. He wrote biographies of Beethoven (1903, Eng. tr., 1909), Michelangelo (1905, Eng. tr., 1912), Tolstoy (1911, Eng. tr., 1911), and Mahatma Gandhi (1924, Eng. tr., 1924). His 10-volume novel *Jean-Christophe* (1904–12, Eng. tr., 1910–13), the biography of a German-born musician, is filled with appraisals of contemporary French and German civilization and established his reputation in the literary world. He was awarded the 1915 Nobel Prize in Literature. Rolland's genuine pacifistic philosophy and the courage of his own convictions, reflected in *Au-dessus de la mêlée* (1915, Eng. tr., *Above the Battle*, 1916), led to self-imposed exile in Switzerland, where he remained until 1938. Among his other works are the play *Les Loups* (1898, Eng. tr., *The Wolves*, 1937), inspired by the Dreyfus Affair, and the seven-volume novel *L'Âme enchantée* (1922–33, Eng. tr., *The Soul Enchanted*, 1925–34). In 1945 his biography of Péguy appeared. See biography by Stefan Zweig (Eng. tr., 1921).

Rolle of Hampole, Richard (rōl), d. c.1349, English religious writer, a Yorkshire hermit. He wrote mainly in Latin, but his English works are important for the history of the language. Some of Rolle's Latin works were translated after his death into English, thus becoming disseminated and influential as popular manuals of spiritual life. The

most important of these were *De emendatio vitae* (Eng. tr., *The Mending of Life*) and *Incendium amoris* (tr into Middle English, *The Fyre of Love*, 1896; same, with modern spelling, 1913, new tr., 1935; the 1896 and 1913 editions include *The Mending of Life*) *The Form of Perfect Living* was composed in English. Besides some English lyrics there is a translation of the Psalms (ed by H. R Bramley, 1884) which circulated throughout England Rolle is often regarded as typical of English mystics (see MYSTICISM), so his writings are characterized by tender, burning love of God and of Jesus and Mary, with constant allusions to sweetness and music, there is much lyrical analogy with human affection *The Pricke of Conscience*, a long, devout poem in Northern Middle English, was formerly ascribed to Richard See Robert H Benson, *A Book of the Love of Jesus* (several editions), Frances M M Comper, *The Life of Ruhard Rolle with His English Lyrics* (1928)

roller bearings see BEARINGS

roller printing see CALICO PRINTING

roller skating see SKATING

Rolling Fork, town (pop 1,320), co seat of Sharkey co, W Miss, N of Vicksburg and on Deer Creek near the Mississippi, in a farm area, settled c 1827 Indian mounds are near by

rolling mill. see IRON and STEEL

Rollins College (rŏ'lĭnz), at Winter Park, Fla, nonsectarian, coeducational, founded 1884 by Congregationalists, chartered 1885 It stresses a conference plan and an individualized curriculum Notable are the Inter-American Center and a shell museum There is a conservatory of music

Rollinsford, town (pop 1,463), SE N H, NE of, and near, Dover, inc 1849

Rollo (rŏ'lō) or **Hrolf** (rōlf), c 860–c 932, first duke of Normandy (911–27) As leader of the Norman pirates settled at the mouth of the Seine, he led attacks (910) on Paris and Chartres By the Treaty of Saint-Clair-sur-Epte (911) with King Charles III of France (Charles the Simple), he was granted in fief the territory his men had already occupied, corresponding to a part of the future duchy of Normandy, on condition that he defend it against future attacks and that he receive baptism Rollo subsequently supported Charles against RAOUL, from whom he obtained an additional grant of territory He abdicated in 927 in favor of his son, William Longsword Rollo's direct descendants included William the Conqueror

Rolph, John (rōlf), 1793–1870, Canadian physician and politician, b England He went to Canada in 1812, but later studied law and medicine in England Upon his return (1821) to Canada, he practiced both law and medicine (until 1828) and sat (1824–30, 1836–37) in the legislative assembly of Upper Canada Settling in York (now Toronto) in 1831, he began to teach medical students A leader in the Reform party and a fomenter of the rebellion of 1837 although not a participant in the uprising, Rolph fled to the United States In Rochester, N Y, he practiced medicine until, under the amnesty of 1843, he was allowed to return to Toronto There he founded (1843) a well-known school of medicine (later part of Victoria Univ) One of the founders of the Clear Grit (Reform) party, he again sat (1851–57) in the legislative assembly In the Hincks-Morin administration, he became commissioner of crown lands (1851) and president of the council (1853)

Rolvaag, Ole Edvart (ō'lu ĕd'vart rōl'vag), Norw *Rølvaag* (rûl'vôkh), 1876–1931, Norwegian-American novelist, b Rolvaag, Helgeland, Norway, grad St Olaf College, Northfield, Minn, 1905, and studied at the Univ of Oslo He came to the United States in 1896 At St Olaf he was head of the department of Norwegian from 1906 to 1931 His powerful realistic novels of Norwegian pioneers in the Northwest were written in Norwegian and translated into English and other languages. Among the English translations are *Giants in the Earth* (1927), his most popular work, its sequel, *Peder Victorious* (1929), *Pure Gold* (1930), *Their Father's God* (1931), and *The Boat of Longing* (1933) See biography by Theodore Jorgenson and N O Solum (1939)

Roma (rō'mu), officially **Roma-Los Saenz** (rō'mälōs sīns'), city (pop 1,414), extreme S Texas, on the Rio Grande and WNW of Brownsville inc 1937 It was long a river port opposite Mier, Mexico, and is still a port of entry

Romagna (rōmä'nyä), historic region, N central Italy, on the Adriatic, now included in the region of EMILIA-ROMAGNA Though its boundaries varied at different times, the Romagna is now understood to occupy the provinces of Forlì and Ravenna and part of Bologna prov The independent republic of San Marino is an enclave within the Romagna The region was the center of Byzantine domination in Italy (540–751) RAVENNA was the seat of the Byzantine exarchs; RIMINI was a city of the PENTAPOLIS In spite of the donations of Pepin the Short (754) and of Charlemagne (774), which gave the exarchate and the Pentapolis to the pope, later emperors continued to claim the territory OTTO IV recognized (1209) the papal rights, but effective papal rule was prevented first by the free communes and later by the petty tyrants who ruled the cities Cesare BORGIA, made duke of Romagna (1501) by Pope Alexander VI, tried to make the Romagna the nucleus of a state for himself, but his plans failed Shortly afterward, Pope JULIUS II effectively incorporated the Romagna in the Papal States Papal rule, interrupted (1797–1814) by French occupation, ended in 1860, when the Romagna was annexed to the kingdom of Sardinia. Austrian occupation troops helped until 1859 to maintain the papal régime

Romaine (rōmān'), river rising in SW Labrador and flowing 220 mi generally S across E Quebec to the Gulf of St Lawrence

Romains, Jules (zhül' rômă'), 1885–, French novelist, whose real name is Louis Farigoule He was a brilliant student and is known as the chief exponent of unanimism, a literary theory illustrating the unity of all groups and their emotions This theory pervades a collection of his early poems, *La Vie unanime* (1908) He is the author of the 27-volume novel cycle *Les Hommes de bonne volonté* (1932–46, Eng tr, *Men of Good Will*, 13 vols, 1933–46) giving a panoramic view of Paris from 1908 to 1933 Among his other novels are *Mort de quelqu'un* (1911, Eng tr, *The Death of a Nobody*, 1914) and *Les Copains* (1913, Eng tr, *The Boys in the Back Room*, 1937) His plays include *Cromedeyre-le-Vieil* (1920), considered by some his masterpiece, and the farce *Knock, ou, Le Triumphe de la médecine* (1923, Eng tr, *Doctor Knock* 1925) In 1941 he wrote a biography of Stefan Zweig He was elected to the French Academy in 1946

Roma-Los Saenz, Texas see ROMA

Romamti-ezer (rō"mămtī-ē'zur), leader of a group of temple singers 1 Chron 25 4,31

roman see TYPE

Roman architecture First inspired by the Greek buildings of S Italy and Sicily, it later learned post-and-lintel construction in its perfect columnar form from Greece itself and the Hellenistic East From the Etruscans came the true arch and the vault and dome To these elements, adapted to their special needs, the Romans added the use of concrete which, after the 2d cent B C, led them to revolutionary structural forms Of early Rome and of the republic (c 500 B C –27 B C) the aqueducts outside the city of Rome are the most impressive remains The principal examples of Roman architecture belong chiefly to the years between 100 B C and A D 300 The reign of Augustus (30 B C –A D 14) initiated the centuries of far-flung building enterprises The special feature of Roman design was the combined use of arches and columns Though at first tentatively employed in the spaces between the classical columns, the arch eventually came to be the chief structural element, the flanking columns, usually engaged and superimposed, served merely as buttresses or for decoration In few cases, other than temple porticoes, did the pure Greek orders, uncomplicated by arches, prove adequate for the complex Roman buildings As the empire expanded, architectural forms as close as possible to the types of those of Rome itself were brought to distant lands The cut-stone construction of the Greeks was largely replaced after the 2d cent B C by CONCRETE Though unfired brick was employed in all periods, under the empire baked bricks became popular as a facing for concrete walls, triangular in shape, they resembled modern tiles in thickness and were set with points inward From early times stucco was used as a finish for important buildings For luxurious finish of exterior and interior walls sheathings of alabaster, porphyry, or marble were employed Vaults of sun-dried or baked brick were developed to their full capacities The types employed were the barrel vault, the cross or groined vault, and the dome and semi-dome Vault buttresses became an integral part of the interior instead of forming exterior projections The vault surfaces were finished with tile or stucco, or the concrete was cast with recessed coffers, which lightened the weight The immense vaulted halls, unencumbered by supporting columns or piers, created pure spatial effects, as in the domed interior of the Pantheon at Rome Under Trajan (A D 98–A D 117) Roman architecture reached its climax, after that it declined, even if constructive boldness remained In all periods, however, splendor and utility were the Roman ideals; as opposed to the subtle refinements of the Greeks Provincial towns were laid out according to logical plans, particularly in North Africa In Syria colonnaded streets were built Each town's focus was the forum, or open public square, surrounded by colonnades and the principal buildings in axial arrangement In Rome itself civic planning resulted in the series of great fora created by successive emperors to extend the crowded area of the Roman Forum (see FORUM), the most ancient in the city That of Trajan was the latest and most splendid Temples, conforming to Etruscan type, usually were elevated upon high bases with steps ascending to a deep portico. Designed to face the fora, they were adorned merely with pilasters or engaged columns along their sides instead of with side porticoes Their pseudoperipteral type is seen in the Maison Carrée (1st or 2d cent. A.D.) at Nîmes, France Examples of circular temples were the temple of Vesta at Tivoli (1st cent A D) and the 3d-century temples of Jupiter at Split and of the Sun at Baalbek Most important among the buildings developed by the Romans themselves were basilicas, baths, amphitheaters, and triumphal arches. Theaters were derived from those of the Greeks. The auditorium was semicircular, with the orchestra at ground level arranged for the movable seats of distinguished spectators A Roman innovation was the uniting of stage and auditorium as a single structure and the rich architectural embellishment of the stage itself For the amphitheaters there are no known Greek precedents The monumental or TRIUMPHAL ARCH was also a purely Roman invention In the typical dwelling the rooms were grouped about the atrium, which, by means of an opening in its roof also served as a court Beginning in the 2d cent B C the addition of a Greek peristyle provided garden space and a focus for the grouping of the more private apartments In the large cities were houses suggesting modern tenements, probably four or five stories high, with staircases and many large windows and with shops or warehouses on the ground floors At Ostia there are remains of these, mostly from the 3d cent. A D A third type of Roman dwelling was the luxurious country establishment or VILLA

Roman art. Early Etruscan art was strongly influenced by that of archaic Greece, but lacked the underlying sense for rational order and tectonic composition of the Greek models Large polychrome terra-cotta images, sandstone tomb effigies and reliefs, and tomb paintings reveal a native feeling for voluminous forms, bold decorative color effects, and an exuberant, animalistic spirit From c 400 B C the vitality of the earlier art gave way to stolid imitation of Greek classical models Between 300 B C and 100 B C Romano-Etruscan art was influenced by an archaic revival which involved imitation of the conventions of early Etruscan as well as Greek forms After the conquest of Greece (c 146 B C) Greek artists settled in Rome, for about two centuries works executed in the Greek classical manner or in direct imitation of Greek originals found a ready market there While the many works by such copyists are principally of interest for their reflection of earlier Greek art, they throw light on the eclecticism of Roman taste, and their influence was of paramount importance throughout the development of Roman art By the time of the empire, the Roman conception of art was definitely allied with the political ideal of service to the state In the Augustan period (30 B C A D 14) there was an attempt to combine realism with the Greek feeling for idealization and abstract harmony of forms This modification is seen in the famous *Augustus from Prima Porta* (Vatican), which represents the first of a long series of the distinctly Roman type of portrait Under the emperors from Tiberius through the Flavians (A D 14–A D 96) magnificent portrait busts were produced which reveal in general a growing concern with effects of pictorial refinement and psychological penetration The magnificent reliefs from the Arch of Titus, Rome, commemorating the conquest of Jerusalem in A D 70, mark a climax in the development of illusionism in historical relief sculpture From the time of Trajan (A D 98–A D 117) the influence of the art of the Eastern provinces began to gain in importance The spiral band of low reliefs on Trajan's Column (Rome), which commemorates the wars against the Daci, employs a system of continuous narration suggestive of the influence of the Egyptian or Near Eastern illustrative tradition In the period of Hadrian (117–38) there was a reversion to the idealization of the Augustan style and at the same time an almost Oriental sense of voluptuousness Typical of the period are many idealized portraits of the youth Antinoüs, a favorite of the emperor Major works from the later period of the Antonines (138–92) are the column and the equestrian statue of Marcus Aurelius (Rome) From the time of Caracalla to the death of Constantine (211–337) the rapid assimilation of Oriental influence encouraged a tendency toward abstraction Already in the reliefs from such monuments as the Arch of Septimius Severus, Rome (203), there were signs of the decline in technical tradition, and the reliefs of the friezes from the Arch of Constantine, Rome (c 315), may be regarded as the last example of monumental Roman sculpture Roman painting, like sculpture, was strongly influenced by the art of Greece Unfortunately much of the painting has perished What remains suggests that the art was principally conceived as one of interior decoration The largest single group of murals are from Pompeii Until c 80 B C there was an architectonic style with flat areas of color broken by full-scale painted pilasters and imitation marble slabs and diaper patterns. Increased illusionism led to a tendency, most often displayed after A D 50, to dissolve the entire wall surface by representing sequences of receding vistas Many famous paintings, such as the *Aldobrandini Wedding* and *Odyssey Landscapes* (Vatican), are believed to be Roman copies of Greek originals The continued striving after three-

dimensional illusionist effects revealed in the various phases of painting is duplicated in the development of mosaics which were extensively produced throughout the empire In the pictorial arts, as in sculpture, there was from the beginning of the 3d cent A D a strong wave of Eastern influence and a gradual tendency to abandon illusionism for more abstract and symbolic compositions In general the Roman minor arts tend to emphasize sumptuousness of materials and ornamentation Cameos were extensively produced Among the most famous is the large *Cameo of the Deified Augustus* (Paris) Magnificent artistry is revealed in metalwork (e g , plates with emblems and cups with *Augustus Receiving Conquered Peoples* and the *Triumph of Tiberius*, Louvre) Arretine pottery was mass produced and extensively exported Early examples employed a black finish and aimed at imitation of metallic effects From the time of Augustus, the ware is characterized by a deep red glaze with decorative figures in low reliefs applied to the body of the vase There are large collections of Arretine ware in the Museum of Fine Arts, Boston, and the Metropolitan Museum During the 1st cent A D new processes were invented for making glass, and techniques developed for imitation of precious stones which made possible the production of fine murrhine vases (e g , the famous Portland vase, British Museum) See Eugénie Strong, *Art in Ancient Rome* (2 vols ,1928)

Roman Catholic Church, Christian church headed by the pope, the bishop of Rome, regarded as spiritual leader of Christians (see PAPACY and PETER, SAINT) Its commonest title in official use is perhaps Holy Catholic and Apostolic Church "Roman Catholic" is a 19th-century British novelty, which was often resented (see CATHOLIC CHURCH) The term "Roman Church," when used officially, means only the archdiocese of Rome To belong to the Church one must accept as factually true the gospel of Christ as handed down, uncontaminated, by the popes Included in this divine tradition is the BIBLE, its text determined, guarded, and disseminated by the Church Many features of the traditional teaching (dogma) have been analyzed and restated, by the councils and by great theologians (see COUNCIL, ECUMENICAL, CREED, THOMAS AQUINAS, SAINT, TRENT, COUNCIL OF, VATICAN COUNCIL) Members vary in knowledge, but probably all grasp the following points God's objective existence, His interest in individual men, who can, if they want to, enter into relations with Him (through prayer), the immortality of the soul of each human being, each one being accountable at death for his actions in life, with the award of HEAVEN or HELL, the historicity of the Gospels, and the divine commission of the Church and of the pope Since the members, living and dead, share in each other's merits, the Virgin MARY and other saints and the dead in PURGATORY are never forgotten (see CHURCH and SAINT) The Church has from God a system of conveying His GRACE direct to man (see SACRAMENT) The ordinary Catholic frequents the sacraments of PENANCE (minimum, once a year) and the EUCHARIST (minimum, once every Easter time, see also SIN) The Eucharist is the center of public worship, often surrounded with pomp and color (see MASS) Private prayer is essential, contemplation is the ideal (see MYSTICISM), and everyone is expected to devote some time to prayer that is more than begging favors Different methods of prayer are recommended (see ROSARY, IGNATIUS OF LOYOLA, SAINT, THOMAS A KEMPIS) Self-renunciation is a necessary part of prayer (see FASTING and LENT) Catholics are urged to perform every act as an offering to God, either a sacrifice or a free gift, thus the main motive for ethical behavior is the love of God The ethical system is based on the Ten Commandments and the New Testament Everything lies in the intent, the things that God has created are not bad in themselves, but bad use may be made of them Thus, drinking liquor is sinful only through some circumstance, e g , if done at the expense of obligations, similarly sexual relations are laudable in marriage, but otherwise wrong The doctrine concerning persons not Catholic is that since God affords each human being light sufficient to his salvation, all will be saved who persevere in what they believe to be good, regardless of ignorance Only those will be damned who persist in what they know to be wrong, among these are persons who resist the Church when they know her to be the one, true Church There is in Catholic life no division between what is religion and what is not, thus, stealing and refusing to attend Mass on Sunday are both wrong, just so, although there are different ways of learning (e g , through science, revelation, reasoning), the truth is all equally true These ideas, like the solidarity Roman Catholics feel with the martyrs, are examples of a characteristic sense of oneness and wholeness, referred to mystically as the "seamless robe" (John 19 23 24) Some traits of Catholic life are more conspicuous than essential (e g , many ceremonies and blessings, the use of Latin, incense, and images, the calendar, and the occurrence of miracles). Some practices were taken from pagan worship, this "baptizing" of uses of non-Christian cultures is cited as an example of the universalism of the Church There are in Christendom a number of rites, i.e., ancient, independent traditions of discipline and worship, differentiated through isolation (see LITURGY). Doctrine and rite are not interrelated Besides the Roman rite, to which the vast majority belongs, there are among Catholics five Eastern rites, used by a number of communities (Eastern Catholics or Uniates, see PATRIARCH) To the Byzantine, the rite of the Orthodox, belong many groups, including MELCHITES, Ruthenians, Rumanians, and the Italo-Albanians of S Italy Others of the Eastern Catholics are the MARONITES, the Syrian Catholics, and the Malankarese of Malabar, all of the West Syrian or Antiochene rite (see JACOBITE CHURCH), the Catholic Copts and Ethiopians, of the Alexandrian rite (see COPT), the Chaldean Catholics and Syro-Malabarese, of the East Syrian or Chaldean rite (see NESTORIAN CHURCH), and the Armenian Catholics, of the rite of the ARMENIAN CHURCH These rites and communities now have their own organizations under the pope and are protected from attempts to "Latinize" them Best known, perhaps, of the non-Roman Western rites are the Ambrosian, the Dominican, and the Mozarabic Apart from these rites and foreign missions, the organization of the Church is by diocese, the territory of a bishop Important sees have archbishops, who often supervise neighboring, suffragan bishops With certain restrictions, the pope names the bishops Dioceses are made up of parishes, each of which has a church and a priest (the pastor) The pope controls bishops mainly by general legislation His government, which is run by the cardinals living at Rome, is concerned with matters of wide significance, such as MISSIONS and relations with states (see also CARDINAL, PAPAL ELECTION, VATICAN) Cutting across territorial lines are the religious orders of men and women, their field is monastic life and most non-parish activities and schools, they frequently run missions, hospitals, and colleges (see MONASTICISM) Their members generally receive subsistence only The parish clergy support themselves, often with salaries fixed by the bishop Most of the clergy are priests (see ORDERS, HOLY), they are trained (usually from four to six years) in seminaries maintained by the bishops and the orders Members of the clergy do not marry, unless they are parish priests of Eastern rites There is no Church-wide census, and available statistics are based on inconsistent criteria Some parts of the world are traditionally Catholic There most local churches are Catholic and other signs of Catholicism abound (e g , wayside crosses and observance of saints' days), but there is no uniform Catholic percentage in the population Some places have now no Catholics, in others the vast majority may be practicing The traditionally Catholic areas in Europe are Lithuania, Poland, Slovakia, most of Hungary, Croatia, and the continent west of these lands and S of the Baltic, except Denmark, central and N Germany, the Netherlands, and parts of Switzerland and Bohemia In such a category too are Ireland, French Canada, Latin America, and much of the Philippines Catholics are an important minority in the Netherlands, the United States, and many overseas dominions and territories of the British and the French It is true, probably, that there are some hundreds of millions of Roman Catholics and that they include more than half the persons who claim to be members of a Christian Church

The Past of the Church For the first centuries of the Church's history, see CHRISTIANITY From the 9th cent to 1520 the Church was simply Western Europe taken in its religious aspect, and no clear line divided spiritual from temporal life In the West (unlike the East) the religious organization was free for centuries from grave interference from civil rulers Charlemagne was an exception, but his influence was benign In the chaotic 9th and 10th cent every part of the church organization, including the papacy (now an Italian principality), became the prey of the powerful The restoration of order began in monasteries, from Cluny a movement spread to reform Christian life (see CLUNIAC ORDER) This pattern of decline of religion followed by reform is characteristic of the history of the Roman Catholic Church; the reform goals vary but always include the revival of spiritual life in society and the monasteries and the elimination of politics from the bishops' sphere and venality from the papal court The next reform (11th cent) was conducted by popes, notably St Gregory VII and Urban II Part of this movement was to exclude civil rulers from making church appointments—the first, bold chapter in a 900-year battle between the Church and "Catholic princes" (see INVESTITURE and HENRY IV, emperor) The 12th cent , that of the Crusades and the rise of the Hohenstaufen, was a time of great intellectual beginnings St. Bernard of Clairvaux and the Cistercians revived practical mystical prayer Gratian founded the CANON LAW, and civil law began its development. This double study was to provide weapons to both sides in the duel between the extreme papal claims of Innocent III, Innocent IV, and Boniface VIII and the anti-papal theories of Frederick II and Louis of Bavaria In the 12th cent Abelard pioneered in rationalist theology, from his tendency and from Aristotle, newly rediscovered, developed the philosophies and theologies of St Bonaventure and St. Thomas Aquinas (see SCHOLASTICISM) This was the work of the new 13th-century universities, for to them and the friars who animated them, Dominicans and Franciscans, passed the intellectual leadership held by the monasteries St Dominic's order was called to life to preach against the Albigenses (a campaign which produced the Inquisition also) The vast popular movement of St Francis was a spontaneous reform contemporary with the papal reform of the Fourth Lateran Council This 13th cent saw also the flowering of Gothic architecture Meanwhile the contest of Church and state went on It ruined the Hohenstaufen, but in the quarrel with Philip IV of France it brought the papacy near ruin too Now came the Avignon residence—the "Babylonian captivity" of the papacy (1305-77), a time of good church administration, but of excessively pro-French politics At mid-century the Black Death did incalculable damage to all society Except for lonely voices, such as that of St Catherine of Siena, the Church seemed to lose energy, and the longest period without reform set in A long schism and a series of ambitious councils (see SCHISM, GREAT) involved most churchmen in a welter of politics and worldliness There were popular religious movements, characterized by revivalism and a tendency to minimize the sacraments (along with church authority), they encouraged private piety, and one group produced the wonderful *Imitation* ascribed to Thomas à Kempis The popular tendencies were extreme in John Wyclif, who developed an antisacramental, predestinarian theology emphasizing Bible study – Protestant 150 years before Protestantism The 15th-century councils did nothing for reform, and the popes, shorn of power, were reduced to being Renaissance princes Such men could not cope with the revolt of Luther and Calvin (see REFORMATION) The Protestants aimed to restore primitive Christianity (divined from the Bible), and they succeeded in destroying the Church in all N Europe, in Great Britain and in parts of Central Europe and Switzerland Politics and religion were completely intertwined (as in England, Scotland, and France), hence the admixture of religious issues in the Thirty Years War Within the Church there triumphed the most extensive of all the Church's reform movements (see REFORM, CATHOLIC, and JESUS, SOCIETY OF) From its energy sprang a general revival of religion and much missionary activity in the new empires of Spain and Portugal and in the Far East In France, Catholicism found new life, beginning with St Francis of Sales and St Vincent de Paul There, too, began the cultus of the Sacred Heart (i e , God's love for men), which would affect Catholic prayer everywhere A contrary influence was Jansenism, a gloomy antisacramental middle-class movement In all the Catholic countries the 17th cent saw an increase of state control over the Church (see GALLICANISM), and in the 18th the Bourbons began a course openly aimed at eliminating the papacy The suppression of the Jesuits was part of the campaign, which reached a bizarre climax in the legislation of Joseph II The revolutionary movement eventually destroyed the Catholic princes, and the Church now would have to live with secular states, some anti-Catholic, some tolerant The facts of the change were not clear at once, and for much of the 19th cent the popes (and other Catholics) would look back to an imaginary 18th-century golden age before "liberalistic" atheism and materialism The last of these popes was Pius IX, who, unwitting, saw the Church freed of a millstone when he lost the Papal States In enouncing the dogma of papal infallibility Pius vitally cemented church unity In Leo XIII (elected 1878) the Church found new leadership, he and his successors sought vigorously to urge Catholics to take part in modern life as Catholics, abandoning reactionary dreams and reorganizing the inequitable capitalistic order In some countries Catholic political parties were formed Meanwhile oppressive conditions combined with Marxism in much of Latin Europe to detach workingmen en masse from the Church Bismark and "liberal" governments (Italy, France, and Portugal) passed hostile measures, especially against religious orders, and in the 20th cent came bloody persecution (in the USSR, Mexico, Spain, the Baltic states, Yugoslavia, Hungary, Czechoslovakia, and China) Mussolini, Hitler, and militaristic Japan also wrecked as much of the Church as they could In the two centuries after 1730 there was a popular revival of religion, its first figure was St Alphonsus Liguori Religious orders expanded, and foreign missions were revivified There was a series of apparitions of the Virgin Mary In England, CATHOLIC EMANCIPATION and the OXFORD MOVEMENT ushered in a brilliant Roman Catholic revival In the 20th cent Pius X's popular movement for receiving communion frequently has encouraged holiness in laymen living in an unchristian world See F J Sheed, *A Map of Life* (1933); Michael Williams and Julia Kernan, *The*

Catholic Church in Action (1934); W. M Agar, *Catholicism and the Progress of Science* (1940), Joseph McSorley, *Outline History of the Church by Centuries* (1943); Donald Attwater, *The Christian Churches of the East* (1947, 1948), Philip Hughes, *A History of the Church* (incomplete, Vols I and II, rev ed , 1948)*and *A Popular History of the Catholic Church* (1949); Donald Attwater, ed , *A Catholic Dictionary* (2d ed , 1949), *The Catholic Encyclopedia The Church in the United States* The oldest Roman Catholic foundations in U S. territory are of Spanish (mainly Franciscan) origin, in Florida, New Mexico, and California The French left their main religious legacy in the United States at New Orleans English-speaking Catholicism began with Maryland Only there and in Pennsylvania might Roman Catholics worship Independence brought toleration In 1789 John Carroll was made bishop for the United States with Baltimore as his see The Church grew with immigration By 1840 there were 16 dioceses Then in the late 1840s came floods of Irish They were followed by many German Catholics and later by Italians, Poles, and others The Church made a feverish effort (not always successful) to keep up with the arrivals, building thousands of churches and schools (see PAROCHIAL SCHOOL) The fact that the Irish were the first mass of Catholics to come determined that the United States should have a Catholicism officially English-speaking (except, of course in liturgy), but not without resentment from non-Irish Catholics, aggravated by Irish-American hegemony in the clergy The Irish also began the heavy urban concentration of American Catholics There have been several outbreaks of the perennial prejudice against Catholicism—in the 1830s, led by Lyman Beecher and Samuel F B Morse, in the 1850s, the Know-Nothing movement, in the 1890s, the A P A (American Protective Association), in the 1920s, the Ku Klux Klan agitation culminating in the opposition to Alfred L Smith as presidential candidate in 1928 Many leaders have worked to orient American Catholics toward America (away from foreign allegiances) These include John Carroll, Mother Elizabeth Seton, John England, Orestes Brownson, Isaac Hecker, John Hughes, John Ireland, John J Keane, John Lancaster Spalding (bishop of Peoria, d 1910), and the famous Cardinal Gibbons The 20th cent saw new tendencies, including the liturgical movement, the Catholic Youth Organization, Catholic social work (led by the New York Catholic Charities of Patrick Joseph Cardinal Hayes), a movement to enrich and encourage rural life, Catholic trade unions, the Catholic Evidence Guild (for street preaching), and the Catholic Worker (apostolate of the exploited, led by Peter Maurin and Dorothy Day) A new interest in the contemplative life showed in a rapid growth of the Trappists See Ray A Billington, *The Protestant Crusade, 1800–1860* (1938), A G Cronnan, *Sanctity in America* (1939), Dorothy Day, *House of Hospitality* (1930), L G Ligutti and J C Rawe, *Rural Roads to Security* (1940), Theodore Maynard, *The Story of American Catholicism* (1941)

romance (rō'măns, rōmăns') [O Fr ,=something written in the popular language, i e , a Romance language] The *roman* of the Middle Ages was a form of chivalric and romantic literature widely diffused throughout Europe from the 11th cent With the Provençal TROUBADOUR the *roman* was a form of narrative, originally sung but later recited before courts The TROUVÈRE lengthened these into the CHANSONS DE GESTE and the *romans d'aventures*, or romances of love and adventure It is from the latter class that the modern romance descends (see NOVEL) See William Courthope, *The Connexion between Ancient and Modern Romance* (1911)

Romance languages, group of Italic languages of the Indo-European family They are also called Romanic, See LANGUAGE (table)

Roman de la Rose, Le (lu rōmă' du la rōz'), French poem of 22,000 lines in two parts The first (4,058 lines) was written (c 1237) by GUILLAUME DE LORRIS and was left unfinished It is an elaborate allegory on the psychology of love, often subtle and charming The second part, written (1275–80) by JEAN DE MEUN, is of a wholly different nature, for the poet is not at home in allegory, and his digressions into erudition tire the reader Jean's satirical, often brutal, tone seems to typify the medieval bourgeois spirit as against the courtly ideals of Guillaume The *Roman* has been translated into English by Frederick S Ellis as *The Romance of the Rose*. The Middle English *Romaunt of the Rose* (1st ed , 1532, reedited 1911) is a fragmentary translation of the first part and of some of the second part of the *Roman* Chaucer translated the first 1,700 lines of the *Romaunt*

Roman Empire: see ROME, BYZANTINE EMPIRE; HOLY ROMAN EMPIRE.

Romanes, George John (rōmā'nĭs), 1848–94, English biologist, b Kingston, Ont As a youth he went to England and there became a friend of Darwin He lectured (1886–90) at the Univ of Edinburgh, was professor (1888–91) at the Royal Institution, London, and in 1891 established at Oxford the annual Romanes Lectures. He made important studies in animal psychology His works include *Mental Evolution in Animals* (1883), *Mental Evolution in Man* (1888), *Darwin and after Darwin* (3 vols , 1892–97), and *Mind and Motion and Monism* (1895) See biography by his wife (1896)

Romanesque architecture (rōmunĕsk'), style which prevailed throughout Europe from the 11th to 13th cent The term indicates the chief influence behind its evolution—the buildings of the Roman Empire For the basilica type of building which developed in the Mediterranean area after 330, see BYZANTINE ARCHITECTURE In the early Middle Ages monasteries of the increasingly powerful orders fostered a revival of the arts Churches, vast abbeys, and other buildings arose From shortly before the 11th cent until the middle of the 15th, the great evolution progressed from the Romanesque with its round arch to the pointed arch of the Gothic, both were parts of one great style Romanesque building drew inspiration not only from Western classical traditions the East contributed the symbolic and rhythmic treatment of ornament, and the Sassanian architecture of Persia probably furnished ideas, both as to structure and ornament Notable was the return to masonry vaulting which after the decline of Roman building had been ignored However, Romanesque vaults were not of brick and concrete but of blocks of cut stone laid in narrow courses, and the thrust thus exerted introduced the element of equilibrium as against the Roman one of inert stability The wood roofs of early Christian basilicas were abandoned, except in Italy, and vaulted ceilings made the structures fireproof The floor plan of the Italian basilical churches was retained, with its nave and side aisles, apse, transept, and clerestory But to resist the thrust of the masonry vault over the nave, heavy piers replaced the marble columns formerly supporting the clerestory wall The naves became narrower, while the clerestory windows became higher Thus the endeavor to create a vaulted style forced a steady progression in technique, while early efforts in all the countries were characterized by massiveness and simplicity While Italian builders generally held to traditional forms, the new system found its first full organic expression in the Lombard Romanesque, exemplified in the Church of Sant' Ambrogio at Milan Here the nave vaulting is one of the earliest to adopt the use of diagonal ribs at the lines of intersection of the groined vaults Transverse ribs had already been employed, but these furnished little structural advantage, whereas the addition of groin ribs, together with upright supports rising from the pavement to receive them, furnished an adequate framework for carrying the weight of the vault surfaces The essential interdependence of vaults, abutments, and supports was recognized as the chief structural problem The attempts at various solutions culminated in France in the abbey church of St Denis, where the articulated stone skeleton was achieved that permitted the subsequent development of Gothic architecture In the Rhine district of Germany, in Normandy, France, and in England (see NORMAN ARCHITECTURE), the Romanesque found its home as a great northern style Here the demands of the vaulting were paramount in the expression of both exteriors and interiors, whereas in Italy effort was chiefly expended upon beautiful details influenced by classic remains Early Romanesque churches adhered to the general plan of the Christian BASILICA However, after c 1050 the advance toward the plan of fully developed Gothic cathedrals can be seen The chancel end was elongated and often elevated to provide crypts beneath One transept and sometimes two were added, producing a plan shaped like a cross By making the transept width the same as that of the nave, a square was produced at the crossing, emphasized by heavier piers at the four corners, often supporting an exterior tower or cupola Side apses were removed, permitting the side aisle to continue around the outside of the choir to form an ambulatory Both mosaic and fresco were used for interior decorations, chiefly in Italy, Sicily, and Germany With the diminishing of wall areas emphasis was increased upon structural organism to furnish the decoration The use of stained glass to give warmth and color came later, with Gothic design In Romanesque sculptural adornment a consistent general character may be seen, in spite of local variations In Byzantine-influenced ornament floral and animal forms were prominent Sculptural details introduced symbolism and biblical incidents In France the figure sculptures of the style rank among the most beautiful achievements of the Middle Ages The following are noted Romanesque works France—the abbey church (981) at Cluny, Abbaye-aux-Hommes (1066) and Abbaye-aux-Dames (1083) at Caen, and St Sernin (1096) at Toulouse, Germany—the cathedral (1110–1200) at Worms and the Church of the Holy Apostles (1220–1250) at Cologne, Italy—the cathedral (1063–92), baptistery (1153), and campanile (1172) at Pisa and the cathedral (1174) at Monreale, Sicily See Sir T. G. Jackson, *Byzantine and Romanesque Architecture* (1913), R W Hammett, *Romanesque Architecture of Western Europe* (1927).

Romanesque art, developed roughly from 500 to 1200, the period of transition from Roman to Gothic The Roman and Byzantine elements remained more or less dominant though blended with Eastern influences, especially in Persian and Mesopotamian textiles, motifs from these were applied to manuscript illumination and to stone carving There were also Celtic and Lombard elements which lent the barbaric vigor and grotesqueries that so vitalize Romanesque architecture This was the most important expression of the period and with it sculpture was developed decoratively and pictorially, such crowded and dramatic scenes as the *Last Judgment* being employed to enrich the portals of a church (as in the porch of the cathedral at Autun, France) or lintels with processions of apostles (as at the cathedral of Pistoia, Italy) The technique in general is crude but varies somewhat in the different countries, Italy, with her classic traditions, leading in skill Abstract and conventional forms prevail The primitive Norman and Anglo-Saxon carving was surpassed by the more decorative Celtic and Scandinavian expressions, the Norman combined elaborate interlacings with dragons or grotesque figures, as in the stone crosses, and the Anglo-Saxon united pagan and Christian symbolism, as revealed in Norse wood carving German ivory carving (c 820), e g , in St Gall's monastery, Switzerland, followed Byzantine types The monastery at Hildesheim was one of the most active art centers of Romanesque Germany, silverwork, mello, bronze casting, and other crafts were taught and practiced there, giving rise to the Saxon school In this the bronze sepulchral slab originated, and bronze doors for the cathedral of Augsburg and the gold altar front for the cathedral of Basel were designed and executed A Rhenish school also developed (12th cent), which produced superior goldwork and the fine bronze font at St. Bartholomew, Liége Romanesque metalwork also includes much filigree and examples of wrought iron, such as hinges and screens Painting fluctuated through this period without attaining any marked development Mural work in Italy was insignificant, but the frescoes of Sant' Angelo, Rome, show Greek traditions In France, by the 12th cent , there were some few mural achievements, such as at St Jean, Poitiers Ecclesiastic paintings executed wall, panel, and miniature (manuscript) work, mostly after early Christian precedent, yet markedly native in spirit Various churches preserve examples, among them St Michael's, at Hildesheim, and the Brunswick cathedral It was in the decoration of manuscripts that Romanesque painters were most successful, and 7th-century Ireland produced the most brilliant school, long imitated on the Continent Italian skill, especially in Venice and Sicily, in manipulating colored marble or glass tesserae in pictorial design perfected mosaic work, and in this too Byzantine influence was strong French Romanesque artisans produced little masterpieces in colored enamels, among which are reliquaries, chalices, and crosses Needlework is another of the skilled Romanesque crafts, the BAYEUX TAPESTRY and many richly embroidered altar frontals and vestments in numerous churches reveal artistry of no mean consideration in such work Textiles, however, were largely supplied by Persia

Romania see RUMANIA

Romanic languages, group of Italic languages of the Indo-European family They are also called Romance See LANGUAGE (table)

Roman law. The term generally denotes the legal system of Rome from the supposed founding of the city in 753 B C to the fall of the Eastern Empire in A D 1453 Most authorities, however, disregard the largely static period following the reign of Justinian I (527–65) Roman law in the earliest period known is typically expressed in the TWELVE TABLES with their marked formalism The usual early procedure was also stereotyped, it was the *legis actio*, a form of charge and denial which had to be followed exactly by the parties at the risk of losing the suit Exact knowledge of the words constituting the *legis actiones* was limited to a body of patrician priests, the College of Pontiffs The reduction of these forms to writing (c 250 B C) was a victory for the plebeians and a step in reducing the religious and formal element in the law Soon the primary source of law became the *lex* (plural *leges*), a statutory enactment which was proposed by a magistrate and accepted by a popular assembly Among the assemblies empowered to enact *leges* was that of the plebeians. In the late 3d cent B C , Roman law could no longer limit itself to the inhabitants of the republic but was forced to take account of the surrounding non-Roman peoples Thus, to the *jus civile*, which governed relations among the Romans and those admitted to Roman status, was added the *jus gentium*, the law applied in dealings with a foreigner The *jus gentium* incorporated much of the highly developed commercial law of the Greek city-states and of other maritime powers Such provisions, being better adapted to Rome's expanding economic needs than the unyielding provisions of the *jus civile*, in time tended to be applied universally The development of new principles was especially vigorous after c.100 B.C.,

with an important source the *jus honorarium*, i.e., the law of the praetors (chief magistrates) On assuming office the praetor announced the principles, sometimes novel, which would govern his decisions The praetors also contributed greatly to making practice more flexible In place of the *legis actiones*, they often used the formulary system A *formula*, like a *legis actio*, was a device for determining the issue between the parties (see PROCEDURE), the *formula*, however, instead of being an interchange of prescribed speeches, was suited exactly to the situation at hand Whichever method was used, when the nature of the dispute was agreed upon, the parties brought their case before the *judex*, a private functionary, who considered the evidence and gave judgment After the establishment of the empire the development of law largely passed from the praetors (the practice of issuing new edicts ended A D c 125) and from the popular assemblies into the hands of the emperors, sometimes operating through the senate Various types of imperial enactments called constitutions were issued in abundance Legal problems attained great complexity, and the aid of a specially trained class of scholars was enlisted for their solution Those jurists with a special license from the emperor could write *responsa* to guide the judges in deciding cases Most prominent among the jurists was PAPINIAN, his work, with that of GAIUS, MODESTINUS, PAULUS, and ULPIAN, attained the highest authority The employment of jurists was a step in making the whole of Roman procedure official, in this process the institution of *judex* was abolished and the trial placed entirely in the hands of a judge By the early 4th cent most branches of Roman law were fully developed The system was generally responsive to legal needs and allowed sufficient variety to meet local customs. A grave disadvantage of the system, however, was that the vast corpus of legal matter included much that was confused, contradictory, or redundant, and reduction to CODE form was required The THEODOSIAN CODE (438), the earliest attempt, was followed by the BREVIARY OF ALARIC (506) Finally the task was accomplished with the culminating work of Roman legal scholarship, the CORPUS JURIS CIVILIS (completed 535) After this date Roman law persisted as a part of the GERMANIC LAWS and was in effect in the Eastern Roman Empire Revival of classical studies in the Renaissance prepared the way for the partial resurrection of Roman law in a large part of the world as the modern CIVIL LAW The *jus gentium* is perhaps most widely represented in modern legal systems, for it is the basis of COMMERCIAL LAW even in those countries which follow COMMON LAW See Leopold Wenger, *Institutes of the Roman Law of Civil Procedure* (1925, Eng tr, 1940), W W Buckland, *A Text-Book of Roman Law from Augustus to Justinian* (1932), H F. Jolowicz, *Historical Introduction to the Study of Roman Law* (1932)

Roman literature see LATIN LITERATURE

Romano, Giulio see GIULIO ROMANO

Romanov (rō'mənôf, Rus rŭma'nuf), ruling dynasty of Russia from 1613 to 1917 The name Romanov was adopted in the 16th cent by a family of boyars (great nobles) which traced its origin to the 14th cent Tsar Ivan IV took as his first wife Anastasia Romanov Anastasia's brother, Nikita, was a regent for Tsar Feodor I His son, Philaret, whom Boris Godunov forced to take monastic vows, was patriarch of Moscow from 1619 till his death in 1633 MICHAEL, Philaret's son, was chosen in 1613 as tsar of Russia His election ended a turbulent period in Russian history Until 1722 the succession was regulated by the law of primogeniture The direct successors of Michael were ALEXIS (1645–76) and Feodor III (1676–82) Ivan V and PETER I (Peter the Great) reigned jointly under the regency of their sister Sophia until 1689, when Peter assumed sole rule. In 1721 Peter was proclaimed emperor of Russia, a title borne by all his successors His succession decree of 1722 denounced the law of primogeniture as stupid and declared that the choice of a successor lay solely with the ruling emperor In 1723 Peter made his consort joint empress as CATHERINE I, and after his death (1725) she continued to rule until she died in 1727 Peter's son by his first marriage, Tsarevich ALEXIS, was executed in 1718 By his second marriage, with Catherine, there were two daughters—Anna, who married Duke Charles Frederick of Holstein-Gottorp, and Elizabeth They were bypassed in the succession of 1727 in favor of PETER II (1727–30), son of Tsarevich Alexis On Peter II's death ANNA, duchess of Courland, a daughter of Ivan V, ascended the throne She died without heirs and was succeeded (1740) by Ivan VI, a great-grandson of Ivan V He was a German, son of the duke of Brunswick and of Anna Leopoldovna, a princess of Mecklenburg The rule of foreigners was unpopular, and Peter I's daughter ELIZABETH executed a coup d'etat in 1741 and was proclaimed empress Her nephew PETER III succeeded her in 1762 but was deposed (and probably assassinated) in 1762 in a coup that made his consort, a princess of Anhalt-Zerbst, empress as CATHERINE II (Catherine the Great) There is some argument as to the paternity of Catherine's son and successor, PAUL I (1796–1801), but it is now generally believed that he was the actual son of Peter III Paul, whose insanity led to his assassination, restored the succession by primogeniture in 1797 His successors were ALEXANDER I (1801–25), NICHOLAS I (1825–55), ALEXANDER II (1855–81, assassinated), ALEXANDER III (1881–94), and NICHOLAS II (1894–1917, executed 1918 by the Bolsheviks). The marriage of Nicholas II with Alix of Hesse (Empress Alexandra) brought hemophilia into the family Their son, Tsarevich Alexis (b 1904, executed 1918) was afflicted with the disease, his apparent cure by RASPUTIN gave that monk tremendous power at the court The members of the Romanov family who escaped execution fled abroad Grand Duke Cyril (1876–1938), first cousin of Nicholas II and grandson of Alexander II, claimed the succession and styled himself emperor He died at Paris, and his son Vladimir (b 1917) succeeded him as pretender See R N Bain, *The First Romanovs* (1905), F A Walsh, *The Fall of the Russian Empire* (1928)

Roman Question. see LATERAN TREATY.

Roman religion The indigenous Italic religion, which was the nucleus of Roman religion, was essentially animistic It depended on the belief that spirits, or *numina*, existed in natural objects and controlled human destiny The spirits were held in awe and were placated with offerings and prayers. By thus giving the gods their due, the Romans hoped to obligate them and so secure peace between gods and men The fundamental Roman religious attitude, therefore, might be said to be basically contractual Not only did the Roman placate the gods, he also attempted to control them by ritual invocation By "naming" the *numina* he tried to focus the vague power on a purpose vital to himself This in general was the kernel of ancient Roman religion In the beginning of the historical period, when Italy was dotted with small agricultural communities, the family and the household were the basic religious units For the perpetuity of the family, the Italian farmer made offerings to the genius of the family For the safety of the household, he worshiped Vesta, the guardian spirit of the hearth fire, the lares and penates, guardians of the house, and Janus, guardian of the door For an abundant harvest, he held three principal festivals, in spring, the Cerealia in honor of Ceres, in summer, the festival to Consus and Ops, and in winter, the Saturnalia in honor of Saturn To protect himself from the spirits of the dead, particularly his ancestors, he made offerings to Dis, ruler of the underworld, to the larvae, and to the manes In performing these religious functions the head of the family acted as the priest and was assisted by his sons and daughters When these families coalesced into tribes and then a state, the family cult and ritual formed the basis of the state cult and ritual Thus by analogy, since Rome was theoretically one family, the king was the head of the family, and as such chief priest He was assisted by his "sons," the former heads of families, and his "daughters" (the vestal virgins). The ritual necessary for the propitiation of the deities was elaborated and recorded by the colleges, and the *pontifex maximus*, their president, regulated the state ceremonies and the ceremonial calendar Among the priests were the augurs, who practiced divination by consulting various phenomena, notably the entrails of animals and the flight of birds The state had special devotion to gods of war and justice Thus in the earliest period of Roman state religion, Jupiter, Mars, and Quirinus were the supreme triad The Romans, always tolerant of new gods and religions, provided that no harm was done to public morals or to the state as such, adopted many foreign gods In the 7th cent they acquired Minerva from the Etruscans, in the 5th cent Diana from other Italic communities, and in the 3d to the 1st cent B C Oriental cults and Greek gods From the Greeks (mainly via S Italy) they acquired the Sibylline Books, the triad of Demeter, Dionysus, and Persephone, and Apollo, Hermes, and Aesculapius The poets and intellectuals of the period equated many of the Greek deities with Roman deities and adopted much of Greek mythology Thus class was also influenced by the Epicurean and Stoic philosophies The Orient contributed new religions, notably the worship of Isis, Osiris, Mithra, Magna Mater (Cybele), and Bacchus Thus at the end of the republic there were in general three religions in Rome—the old religion of the countryside, the Greco-Roman religion of the upper classes, and the Oriental cult-worship. The religious offices at Rome became political sinecures, the augurs used their powers for political ends, and public morality was at low ebb—such was Rome when Augustus became emperor He attempted to institute a religious revival based on the "old way," but to little avail. Roman religion finally degenerated into Oriental emperor-worship. Until the Roman farmers had flocked to the city, the individual Roman was subordinated to his ancestors, his family, and his tribe When he became free of these collectives, he searched for a dramatic, emotional, and optimistic religion which would satisfy his yearnings for salvation. This was the religious air of Rome in which Christianity took root. See J. B Carter, *Religious Life of Ancient Rome* (1911); Franz Cumont, *Oriental Religions in Roman Paganism* (Eng. tr., 1911); W. R Halliday, *Lectures on the History of Roman Religion* (1922); Franz Altheim, *A History of Roman Religion* (1938)

Roman roads, ancient system of communications linking Rome with its most distant provinces. They often ran in a straight line, regardless of obstacles, and were efficiently constructed, generally in four layers of materials; the uppermost was a pavement of flat, hard stones, of concrete, or of pebbles set in mortar. Roads were built or rebuilt by the Romans throughout the empire in Europe, Asia, and Africa Many modern roads are laid out on their routes, and some of the old bridges are still in use. Specimens of Roman roads exist near Rome and elsewhere. Their primary purpose was military, but they also were of great commercial importance and brought the distant provinces in touch with the capital In Italy roads led out of Rome in every direction The most ancient were the Ostiense Road to Ostia at the mouth of the Tiber, the Praenestine Way SE to Praeneste; and the Latin Road or Latin Way to a point near Capua where it later joined the APPIAN WAY, which was the first of the great highways The three roads from Rome to the north were connected with others crossing the Alps by the great Alpine passes—Alpis Cottia (Mont Genèvre), Alpis Graia (Little St Bernard), Alpis Poenina (Great St Bernard), the Brenner Pass, and others leading into Rhaetia and Noricum The FLAMINIAN WAY was the most important northern route Built (220 B C) by Caius Flaminius, it ran from Rome N and NE to the Adriatic at Fanum Fortunae (Fano), thence along the coast to Arimnum (Rimini), from that point it was extended (187 B C) as the Aemilian Way, which ran in a straight line NW through Bononia (Bologna) to the Po at Placentia (Piacenza), later it was extended farther to Mediolanum (Milan) Another northern route was the Aurelian Way from Rome along the Tyrrhenian coast to Pisae (Pisa) and Lunae, from there it was extended to Genua (Genoa) The third northern route was the Cassian Way from Rome through Etruria to Faesulae (Fiesole) and Luca (Lucca), near Luca it joined the Aurelian Way The chief roads leading from Rome to the regions across the Apennines and to the Adriatic were the Salarian Way to Ancona and the Valerian Way to Aternum (Pescara) There were other roads in Italy, most notable among them the Postumian Way, leading from Genua across the Po valley to Aquileia at the head of the Adriatic A wide system of roads was also built and rebuilt by the Romans in Britain, mainly for military purposes The best-known British roads were ERMINE STREET, FOSSE WAY, WATLING STREET, and the pre-Roman ICKNIELD STREET See Thomas Codrington, *Roman Roads in Britain* (4th ed reprint, 1929)

Romans, epistle of the New Testament, the sixth book in the usual order It was written by St PAUL from Corinth before his last trip to Jerusalem, A D c 56 It is substantially a treatise addressed to the church at Rome, apparently to introduce the apostle before his expected visit The subject treated is central in Paul's teaching, the justification by faith, i e, the spiritual process by which the Christian enters into relation with God The same matter is the subject of GALATIANS The letter opens with a solemn introduction (1 1–15) The doctrine (summarized in 1 16–17) explains first that justification is necessary (1 18–4 25), for Gentiles (1 18–32) as well as for Jews (2–3 8), and that it applies to everyone (3 9–4 25), an eloquent chapter (4) on Abraham's faith closes the section Next (5–9) the state of the justified man is treated, listing the fruits of the Redemption as confidence in the defeat of original sin by grace (5), freedom from sin because of death and resurrection "in Christ" (6), and freedom from the Mosaic law (7–8 11), then a magnificent passage deals with the future glory of the just (8 12–39) Finally there is a discussion of the apparent rejection of Israel by God (9–11), but this is shown to be no result of failure on God's part (9–10) and, anyway, the Jews are not irrevocably lost (11) The rest of the epistle is mainly exhortation (12–15 13), beginning with a beautiful general admonition (12) to Christian virtue The end contains remarks of St Paul about his life (15 14–33), greetings to various Romans (16), and a fine doxology (16 25–27) Some critics have rejected the last two chapters as belonging to some other, lost epistle Romans, one of the longest and most important of St Paul's works, is claimed as an authority by many divergent theologians, thus, Lutheran and Roman Catholic interpretations of justification, diametrically opposed, both depend on this epistle. See C J. Callan, O P, *The Epistles of St Paul*, Vol. I (1922); C H Dodd, *The Epistle of Paul to the Romans* (1933)

Romansh see RHAETO-ROMANIC.

Romanshorn (rō'mänś-hôrn''), town (pop. 5,862), Thurgau canton, Switzerland It is a port on the Lake of Constance with steamer and railway connections, there are minor diversified industries.

romanticism (rōmăn'tĭsĭzm), term for a movement in the arts which has been variously defined as a return to nature, an exaltation of the emotions and senses over the intellect, and a revolt against 18th-century rationalism. Many literary historians deny that it is opposed to CLASSICISM, which is concerned with form rather than content. One of its facets is an interest in the supernatural. The romantic movement in literature is usually considered to begin in the middle of the 18th cent. with the works of Jean Jacques Rousseau, who promulgated in an early essay the doctrine that man is by nature good, but is corrupted by bad laws and doctrines. Early romantic writers idealized the savage (the "noble savage" idea), the peasant, and the child, they believed in the importance of the individual. Early French romanticists include Chateaubriand, Mme de Staël, and André Chénier. In Germany the movement was influenced by Kant, especially that aspect of his philosophy which set limits to reason; Lessing, Friedrich von Schlegel, and August Wilhelm von Schlegel were its leading literary exponents. It reached its finest form in the works of Goethe and Schiller and later in those of Heine. In English literature romanticism came to the fore with the publication of *Lyrical Ballads* (1798) of Wordsworth and Coleridge, which included Wordsworth's famous preface. Perhaps the most perfect exponent was William Blake in both his poetry and his painting. Romanticism continued in the poetry of Shelley, Byron, and Keats and in the critical writings of Coleridge and Hazlitt. In 19th-century French literature the chief figure was Victor Hugo, whose preface to *Cromwell* (1828) was a manifesto of romanticism and whose play *Hernani* (1830) was the occasion for a public dispute between the romantics and the classicists. Other French romanticists include Alphonse de Lamartine, Alfred de Vigny, and Alfred de Musset. In Italy the greatest romantic poet was Giacoma Leopardi, and the best-known novelist was Manzoni. In Spain the leading romantic writers were the duque de Rivas, José Espronceda, and Zorrilla y Moral. In every country the literature of this era responded to the romantic impulse, it found expression not only in poetry but in historical novels (such as those of Walter Scott and Alexander Dumas père), in tales of fantasy and horror, and in romances of love and adventure. Some of the world's finest lyric poetry was born of it. In the United States the chief romantic writers were Edgar Allan Poe, James Fenimore Cooper, Nathaniel Hawthorne, and Herman Melville. The idealism and mysticism of New England TRANSCENDENTALISM was a direct offspring. As the 19th cent. progressed, romanticism gave way to realism, and it no longer exists as a literary movement. But its influence is still strong, and it is still the subject of investigation and controversy. In painting, romanticism was the leading movement of the 19th cent. Its general character—avoidance of classic forms and rules, emphasis on the emotional and spiritual, and the predilection for themes drawn from simpler or less civilized ways of living—manifested itself in several ways. In France, introduction of exotic detail was begun by Géricault and perfected by Delacroix, the colors and shapes of the East became romantic themes. The Pre-Raphaelites in England were romanticists, as were the German Nazarenes who worked in Rome. A countermovement in Germany was the trend toward historical painting, choosing especially martial scenes from the Middle Ages and Germanic myth. But the chief, and international, trend in romantic painting was the wide predilection for landscape painting. The classically heroic landscape was abandoned, and emphasis was placed on the intimate and spiritual in nature. John Constable and J. M. W. Turner in England, the Barbizon school in France, the Germans Feuerbach and Arnold Böcklin, and the Hudson River school in America all gave new meaning and new life to landscape painting and managed to instill into their depictions of nature the essence of romantic thought. Musical romanticism, beginning in the late 18th cent. and lasting throughout the 19th cent., emphasizes feeling and deals freely with forms; its early exponents were Mozart, Beethoven, and Schubert. Sonata and symphony, the forms developed during the period of Viennese classicism, were used by the romantics with considerable freedom. Liszt was outstanding in the romantic tendency to link music and literature, creating the SYMPHONIC POEM. This interworking of the arts also appealed to Berlioz, who is generally most prominently associated with PROGRAM MUSIC. Romantic opera began with Weber and culminated in Wagner, who aimed at a complete synthesis of the arts in his idea of the *Gesamtkunstwerk* [total work of art]. Composers such as Mendelssohn, Schumann, Chopin, and Brahms worked much in small forms not rigid in structure, e.g., prelude, intermezzo, nocturne, ballade, rhapsody, and capriccio, especially in solo music for the piano. Chopin and Liszt introduced a new conception of the possibilities of the piano, and it became the foremost solo instrument of the period. Italy in the romantic period simply continued the development of opera with the works of Rossini, Bellini, Donizetti, and—greatest of all—Verdi. These men composed some church music, mostly of a highly dramatic, sometimes even theatrical, nature. France saw the flourishing of grand opera in the 1830s and the rise of the operetta. Catholic church music was written by Berlioz, Franck, and Gounod, some of which has survived in the concert hall; some of it, like most of the output of a host of minor composers rejected as unsuitable by the Church, has passed into oblivion. Germany was the leading nation musically in the romantic period, and perhaps its greatest contribution was the romantic lied (see SONG). While Tchaikovsky held a kinship to the more universal romanticism, nationalism, exemplified by Glinka, was the form taken by the movement in Russia. Smetana and Dvorak in Czechoslovakia and Grieg in Norway also exemplify nationalistic romanticism. It was under the influence of European romanticism that American music began to mature, with Edward MacDowell as the leading figure. The symphony orchestra and the art of orchestration attained their final development in the romantic era, as did the modern art of conducting. Toward the end of the 19th cent. interest in classical forms was revived at the hands of Bruckner, Brahms, Tchaikovsky, and Franck. The end of the period, decadent, grandiose, sometimes even megalomaniac, is often referred to as postromanticism and is represented by Holst and Elgar in England and Mahler and Richard Strauss in German music. IMPRESSIONISM, which appears now as a special sort of romanticism, was a reaction against Wagnerian romanticism. ATONALITY, however is seen by some as in direct line from Wagner through Bruckner and Mahler. Romanticism as the spirit of a work of art may be present in any age and can be found notably in the Middle Ages and the early baroque. For literary romanticism, see Lascelles Abercrombie, *Romanticism* (1926), Hoxie Fairchild, *The Noble Savage* (1928) and *The Romantic Quest* (1931), Ernest Seillière, *Romanticism* (Eng. tr., 1929), Mario Praz, *The Romantic Agony* (Eng. tr., 1933), Jacques Barzun *Romanticism and the Modern Ego* (1944), C. M. Bowra, *The Romantic Imagination* (1949). For the movement in art, see William Gaunt, *Bandits in a Landscape* (1937), John Piper, *British Romantic Artists* (1942). For musical romanticism, see Alfred Einstein, *Music in the Romantic Era* (1947), Dika Newlin, *Bruckner, Mahler, Schoenberg* (1947).

Romanus I (Romanus Lecapenus) (rōmā'nŭs, lĕkŭpē'nŭs), d. 948, Byzantine emperor (919–44). He usurped the throne during the minority of his son-in-law, CONSTANTINE VII. He defended Constantinople against the Bulgars under SIMEON I and in 927 made peace with Simeon's son. He also issued decrees to protect peasant and military holdings from absorption into the estates of the great landowners. In 944 Romanus was overthrown by his two surviving sons, who were in turn overthrown by Constantine VII. See biography by Steven Runciman (1929).

Romanus II, 939–63, Byzantine emperor (959–63), son and successor of Constantine VII. He and his wife Theophano, a former courtesan, probably poisoned Constantine. Romanus was a reckless debauchee and the only significant events of his reign were the military successes of Nicephorus Phocas against the Arabs. Nicephorus married Theophano on Romanus' death and succeeded him as Emperor Nicephorus II.

Romanus III (Romanus Argyrus) (ar'jĭrŭs), d. 1034, Byzantine emperor (1028–34). He married Zoë, daughter of Constantine VIII, and succeeded to the throne. He depleted the treasury by his generosity to the victims of a plague and an earthquake and by his building mania. He was defeated by the Saracens near Antioch in 1030 but took Edessa in 1031. He was probably murdered by Zoë and Michael IV, who succeeded him as emperor and husband.

Romanus IV (Romanus Diogenes) (dīŏj'ənēz), d. 1071, Byzantine emperor (1067–71). He succeeded Constantine X by marrying his widow, EUDOCIA MACREMBOLITISSA. After some early successes against the Seljuk Turks he was crushingly defeated and captured (1071) by Alp Arslan at MANZIKERT. He was ransomed and promised to pay tribute, but he was deposed by his stepson, Michael VII, and died shortly afterward.

Roman Wall, England: see HADRIAN'S WALL.

Romany (rŏ'mŭnē, rō'–), language of the gypsies (see GYPSY). It belongs to the Indic group of the Indo-Iranian subfamily of Indo-European languages. See LANGUAGE (table).

Romberg, Sigmund (rŏm'bûrg), 1887–, Hungarian-American composer, educated in Vienna. He came to the United States in 1910, played in restaurant and café orchestras, and soon had his own orchestra. He wrote the score for *The Whirl of the World* (1914), a musical show produced at the Winter Garden, New York, and his first operetta, *Maytime*, appeared in 1917. It was followed by such outstanding successes as *The Student Prince* (1924), *Blossom Time* (1926, based on the life and music of Franz Schubert), *The Desert Song* (1926), and *The New Moon* (1927). He later wrote scores for moving pictures, some of which were adaptations of his operettas. In 1942 he began to tour with an orchestra and soloists, giving programs of light music. *Up in Central Park* was produced in 1945. Elliott Arnold's *Deep in My Heart a Story Based on the Life of Sigmund Romberg* (1949) contains a complete list of Romberg's works.

Rome, Ital. *Roma* (rō'mä), city (pop. 1,089,996), capital of Italy and seat of the pope, whose residence, VATICAN CITY, is a sovereign state within the city of Rome. Rome is also the capital of Latium, a region of central Italy, and of Rome prov. It lies on both banks of the Tiber, in the CAMPAGNA DI ROMA, near the Apennine mts., c. 15 mi. from the Tyrrhenian Sea. Called the Eternal City, it is one of the richest cities in the world in history and art and one of its great cultural, religious, and intellectual centers. Because of the complexity of the subject matter, the following article is divided into several sections, and additional information will be found in the articles to which there are cross references. See also ROMAN ART, ROMAN ARCHITECTURE, LATIN LITERATURE, ROMAN RELIGION.

Rome before Augustus. Ancient Rome was built on the east bank of the Tiber on elevations (now much less prominent) emerging from the marshy lowlands of the Campagna. The seven hills of the ancient city are the Palatine roughly in the center with the Capitoline to the northwest and the Quirinal, Viminal, Esquiline, Caelian, and Aventine in an outlying north-southwest curve. The Pincian is N of the Quirinal. In the westward bend of the Tiber, W of the Quirinal, lies the Martian Field (Campus Martius), facing the Vatican across the Tiber. Across the Tiber from the Palatine is the Janiculum, a ridge running north and south, which was fortified in early times. Early in the first millenium B.C. the Tiber divided the Italic peoples from the Etruscans in the north and west (see ETRUSCAN CIVILIZATION). Not far to the north were the borders between the Sabines and the Latins, and the Sabines were closely related to Rome, free from the very beginning. The hills of Rome, free from the malaria that has been the bane of Latium, were a healthful and safe spot to live, a convenient outlet for Etruscan trade to the south and to the sea, and a meeting ground for Latins, Sabines, and Etruscans. In the 8th cent. B.C. the fortified elevation of the Palatine was probably taken by Etruscans, who amalgamated the tiny hamlets about the Palatine into a city-state. The traditional story tells of the founding of Rome by ROMULUS in 753 B.C. (hence the dating *ab urbe condita*, or A.U.C., i.e., from the founding of the city), and of the TARQUIN family, the Etruscan royal house. It was probably Etruscan rule that civilized Rome and gave it the hegemony of Latium. About 500 B.C. the Romans overthrew their foreign rulers and established the Roman republic, to last four centuries. The PATRICIAN class controlled the government, but the patricians allowed the PLEBS to elect the two patrician consuls, who held joint power. The plebs, by far the bulk of the population, may possibly have represented the Latin founders of the city, and the patricians, who were originally distinguished from the plebs in religion, custom, and politics, may have been descendants of the Sabine stock of the city; on the other hand, they may have been merely two developing classes of the same people. The vitality of the patricians was remarkable, and long after political power had been given to the plebs, patricians governed Rome. As the majority felt its power and the nobles continued their oppression, the people demanded (and got) privilege after privilege, the greatest was the election of two plebeian tribunes (see TRIBUNE). With the growth of the city multiplication of consular duties called for new officials: QUAESTOR, PRAETOR, and CENSOR. The three popular assemblies, or comitia, developed slowly, but they quietly abstracted legislative power from the patricians. The ancient senate, theoretically the supreme power of the state, became more and more powerful until in the 3d cent. B.C. it controlled the consuls completely. It is incorrect to view the Roman republic as a true democracy at any time, it might be said to have begun as a patrician aristocracy and to have ended a senatorial oligarchy. The history of the Roman republic to all intents is the history of the senatorial administration, under the senate Rome began her march to world supremacy, but in the end the senate was crushed under the weight of the huge problems of empire. In the 4th and 3d cent. B.C. Rome came into full contact with Greek culture which modified Roman life tremendously. The idea of the old Roman courage and morality was always alive among some Romans, typical of it was the elder CATO. In the 4th cent. B.C. Rome ruled W. Latium and S. Etruria. The power of the city may be inferred from the tremendous impression the sack of Rome (390 B.C.) by the Gauls made in subsequent times. The Samnites were subdued in the wars dated conventionally 326–304 B.C. and 298–290 B.C., and the inhabitants of Picenum, Umbria, Apulia, Lucania, and Etruria were "pacified." The Roman policy in dealing with Italy was that of a merciless master with slaves. Tarentum,

besieged by the Romans, called for the aid of PYRRHUS of Epirus, he won victories at Heraclea (280 B C) and Asculum (279 B C), but after a dispute with his Italian allies he returned to Greece, leaving the Romans masters of central and S Italy Rome had been until now a continental power, but S Italy made her look seaward Sicily was the next obvious desideratum, but Rome's rapid conquests could not go on there without meeting the like ambitions of CARTHAGE, which ruled the W Mediterranean The PUNIC WARS were thus inevitable In this titanic struggle the fate of Carthage and the destiny of Rome were decided Rome had no HANNIBAL—not even SCIPIO AFRICANUS MAJOR was so great—but she fought with the resources of Italy behind her Rome gained from the Punic Wars dominion over Spain, Sicily, Sardinia, Corsica, the northern shores of Africa, and the sea, indisputable hegemony in the world west of India, an insatiable desire for conquest, and a consciousness of her destiny Carthage being humbled, the Roman republic could turn eastward Philip V of Macedonia was defeated after two campaigns (214–205, 200–197 B C), and Antiochus III of Syria was conquered at Magnesia (190 B C), eventually the defeat of Perseus (172–168 B C) gave Macedonia to Rome as a province Greece was not made into a province, but the brief opposition of the ACHAEAN LEAGUE was disposed of, and the Greeks became subject to Rome Egypt acknowledged vassalship to Rome (168 B C) The rapid expansion of Roman dominion had terrible effects at home The provinces were governed by the senate for the benefit not of Rome but of the senatorial class Enormous wealth (by graft and by trade) flowed into the hands of the senators, and they used it exclusively to their own advantage The *equites* (see KNIGHT), a class of capitalists came into its own through management of imperial trade Class dissension became the order of the day, and in spite of AGRARIAN LAWS the masses were daily more dissatisfied The slaves in Sicily rebelled twice (c 136–c 131, 104–c 101 B C) to their permanent detriment, and the Gracchus brothers in a political victory tried to make the populace more powerful Massacre and incredible barbarities disposed of the slaves' restlessness, and assassination removed the GRACCHI (133 and 121 B C) JUGURTHA defied Rome in Numidia for a time but in 106 B C he was defeated by MARIUS Marius also conquered the Cimbri and the Teutons (112–101 B C), and foretold a new era by definitively introducing Roman arms into Transalpine GAUL There was a short revolt in Italy, the Social War (90 B C – 88 B C), which forced Rome into extending citizenship widely in Italy, but the republic was really doomed Marius, the idol of the populace, used proscription to rid himself of his foes, but SULLA, a conservative, destroyed Marius' party by the same method After Sulla's retirement his lieutenant POMPEY came forward as a popular champion He abolished some of Sulla's reactionary reforms (70 B C), suppressed Mediterranean piracy, and made himself master of Rome His defeat of MITHRIDATES brought Pontus, Syria, and Phoenicia into the Roman dominion On Pompey's return from the East he found an ally for his ambitions in Julius CAESAR, a popular democratic leader of the best patrician blood With CRASSUS to furnish the funds, Pompey and Caesar formed the First Triumvirate (60 B C), and Caesar departed to make himself immortal in the GALLIC WARS Within ten years Caesar and Pompey fell out, Pompey joined the senatorial party, and Caesar (as the champion of the people and of republican legality) led his devoted army against Pompey PHARSALA was the result (48 B C), and Caesar was master of Rome He governed, through the old institutions, with wisdom and vigor, until his assassination (44 B C) Caesar marked an epoch, for he really completed the destruction of the republic and founded the empire In the view of ages Caesar's additions to the Roman rule were the most important ever made, for his conquest and organization of Gaul placed Rome in the role of the civilizer of barbarians as well as the mistress of the older world The age of Caesar was a great period in Roman culture, and the cosmopolitan Roman became the ideal of men Greek was the language of much of the empire and Greek letters were fashionable Even more influential was Greek thought, which served to destroy Roman religion and to open the Romans to the Eastern cults, which were enormously popular for years Typical of the period before Pharsala was CICERO, who combined political ineptitude with the widest culture At the death of Caesar the territories ruled by Rome included Spain (except part of the northwest), Gaul, Italy, Illyria, Macedonia, Greece, W Asia Minor, Bithynia, Pontus, Cilicia, Syria, Cyrenaica, Libya, Numidia, and the islands of the sea, and Rome completely controlled Egypt and Palestine See bibliography at the end of the following section

The Roman Empire —Caesar's assassination brought anarchy, out of which the Second Triumvirate emerged with the rule of Octavian (later AUGUSTUS), ANTONY, and LEPIDUS Octavian was Caesar's nephew, ward, and heir, and his true successor At Actium (31 B C) he defeated Antony and made the empire one No change was made in the government, but Octavian received from the senate the title Augustus and from the people the tribuneship, this, with the governorship of all the provinces conferred by the senate, made him the real ruler He was called *princeps* [leader] and *imperator* [commander], and is usually considered the first Roman emperor He organized provincial government and the army, rebuilt Rome, and patronized arts and letters Augustus began a long period of peace, 200 years In this time the Roman Empire was at its greatest extent, bounded by Armenia, middle Mesopotamia, the Arabian Desert, the Red Sea, Nubia, the Sahara, the Moroccan mountain mass, the Atlantic Ocean, the Irish Sea, Scotland, the North Sea, the Rhine, the Danube, the Black Sea, and the Caucasus Augustus' chief additions to the empire were a strip along the North sea W of the Elbe and part of the Danubian area The blessings of peace were great for the empire The great system of ROMAN ROADS made transportation easier than it was again until the development of railroads A postal service was developed in connection with the army Commerce and industry were developed to a great extent, particularly by sea, over which the grain ships carried the food for Rome and the West from the ports of the northern African shores The Roman Empire became under Augustus one great nation The enlarged view of the world made a great impression on Rome, where literary and artistic interests were of importance, though nearly always tending to imitation of Greece and of the East Augustus died A D 14, and was succeeded by his stepson TIBERIUS, of more ability than his biographers have granted, his general GERMANICUS fought fruitlessly in Germany CALIGULA, who followed, was a cruel tyrant (A D 37–A D 41), and he was succeeded by CLAUDIUS I (A D 41–A D 54), who was dominated by his wives, but found time to conquer half Britain In his time Thrace, Lydia, and Judaea were made Roman provinces NERO (A D 54–A D 68) won note as an unparalleled tyrant In his reign occurred the great fire of Rome (A D 64), attributed (probably falsely) to Nero, it burnt everything between the Caelian and Palatine and Esquiline, but it was a boon to the city, for Nero rebuilt the region with broader streets and great buildings and moved the population to the right bank of the Tiber, then very thinly populated At that time an entirely new factor made its appearance in Rome, the Christians A barbarous persecution took place at Nero's orders, in which many Christians died, among them St Peter and St Paul Throughout the Roman Empire the Christians expanded steadily for the next centuries Their conflict with the empire, which brought on them persecution after persecution, was chiefly a result of the Christian refusal to offer divine honors to the emperors But Christianity penetrated the army and the royal household in spite of the constant danger of detection and of persecution There were many periods in the first three centuries when Christians worshiped in the open, even in Rome, where the CATACOMBS housed not only graves but also churches With Nero the Julio-Claudian line ended There was a brief struggle (see GALBA, OTHO, VITELLIUS) before VESPASIAN (A D 69–A D 79) took the purple Under him his son TITUS destroyed Jerusalem (A D 70), and Titus succeeded his father After his mild, rather benign rule, his brother DOMITIAN (A D 81–A D 96), a despot and persecutor of Christians, gained the empire In Domitian's reign AGRICOLA conquered England almost entirely Domitian was unsuccessful in his dealings with the Daci and finally bought them off After NERVA came TRAJAN (A D 98–A D 117), one of the greatest of emperors Trajan undertook great public works, defeated the Daci and established Roman colonies there (hence the modern Rumanians), and pushed the eastern borders past Armenia and Mesopotamia His successor, HADRIAN, withdrew Roman rule to the Euphrates and built his wall (HADRIAN'S WALL) in Britain to hold back the barbarians, who constantly threatened that now fast-developing province He also reorganized the senate and the army Roman armies were now seldom seen far from the boundaries of the empire, and life continued throughout the Roman world in peace and quiet Italy was sinking into a purely provincial state, though many emperors made attempts to make it a special country The successors of Hadrian were ANTONINUS PIUS and MARCUS AURELIUS This is commonly called the Golden Age of the empire With COMMODUS (180–92) the decline of the empire is usually said to have begun. The age of the PRAETORIANS was now at hand, when the purple was in the gift of the capital soldiery Septimius SEVERUS (193–211) was unusually able for his period, he campaigned with success against the Parthians and against the Picts of northern Britain His son CARACALLA is noteworthy for extending Roman citizenship to all free men of the empire and for the famous baths named after him Emperors succeeded one another rapidly in the 3d cent . HELIOGABALUS, ALEXANDER SEVERUS, PHILIP (Philip the Arabian), and DECIUS among them Decius was one of the most violent persecutors of Christians, he fell fighting the Goths, first of the GERMANS, who were eventually to overwhelm the empire In 265 the emperor VALERIAN was captured by the Persians, and the empire fell into anarchy To supplement the increasingly bad government of the provinces a pestilence carried off half the population CLAUDIUS II (268–70) revived Roman fortunes somewhat, while AURELIAN (270–75) overthrew the Palmyrene kingdom of ZENOBIA In 283 DIOCLETIAN made himself emperor He was a reformer of government and of the social order, but only one of his efforts was successful This was the division of the empire into four political sections, two east and two west There were to be two Augusti and two Caesars The division of East and West was resumed after the death (337) of CONSTANTINE I, who moved the capital to Byzantium, renamed Constantinople By the Edict of Milan (313) Constantine granted universal religious tolerance, thus placing Christianity on the same footing as the other religions He distributed the empire into prefectures, dioceses, and provinces, the bishops thus gained great influence and shared in the authority of the civil administration There was a brief resurgence of paganism under JULIAN THE APOSTATE On the death of JOVIAN, Julian's successor, VALENTINIAN I (364–75) ruled the West, VALENTINIAN II (375–92) succeeded him After the death (391) of THEODOSIUS I the empire was permanently divided into East (see BYZANTINE EMPIRE) and West, and Rome rapidly lost its political importance Under the emperors, Rome had been the center of the world It must have presented a splendid, though heterogeneous appearance Little remained of the original city, for the emperors had redrawn its map to add to the glory of the city and to their own Parts of the Aurelian Wall still stand On the Capitoline were the citadel (the arx) and the temple of Jupiter Capitolinus, the Palatine was the site of the palaces of Augustus and Tiberius (the word *palace* derives from the hill), the palace of Nero and Trajan's baths were on the southern slopes of the Esquiline South of the Palatine was the CIRCUS MAXIMUS, where the famous chariot races were held The old FORUM, extending from the Capitoline almost to the COLOSSEUM, remained the center of the city, northeast of it were the Emperors' Fora, with many fine public buildings, and the Temple of Peace On the Martian Field were Pompey's theater, the Circus Flaminius, the PANTHEON, and the baths of Agrippa and Nero Across the Tiber was Nero's circus where St Peter's now stands, Hadrian's tomb, now known as the CASTEL SANT' ANGELO, has survived as a major landmark The largest of the many public baths were those of Caracalla, near the Appian Way Nineteen imposing aqueducts, of which many remains are extant, supplied the city with water At its height, imperial Rome counted well over a million inhabitants It was well policed, sanitation was excellent, and a fire-fighting force of seven brigades was maintained Among the rich such luxuries as central heating and running water were not unknown The indigent (c 200,000) were cared for at public expense Not until the 18th cent were luxury and technical proficiency on a like scale to return to any European city Decline came quickly HONORIUS (395–423) made Ravenna the capital of the West, other emperors chose Milan and Trier (Treves), where they were nearer the border to stem Germanic attacks The West sank into anarchy, and Italy was ravaged by invaders ALARIC I took Rome in 410, and GAISERIC conquered it in 455 Attila was kept from sacking it only through the efforts of Pope LEO I In this general disintegration the popes, originally the bishops of Rome, greatly increased their power and prestige, thus restoring to Rome in the religious field the importance it had lost in the political In 476 the last emperor of the West, appropriately called Romulus Augustulus, was deposed by ODOACER, this date is commonly accepted as the end of the West Roman Empire The so-called Dark Ages that followed in Western Europe could not eradicate the profound imprint left by the Roman civilization ROMAN LAW is still alive, the Romance languages are but modifications of Roman speech Roman Catholicism for fifteen centuries was the only religion and the main cultural force of Western Europe The fall of Rome marked no abrupt ending of an era, for the barbarians that filled the gap left by the disappearance of the old order were quick in accepting and adapting what vital elements there remained of it The survival of the East Roman Empire and the creation of the HOLY ROMAN EMPIRE showed what vitality there was left in the imperial ideal Italy itself, however, did not recover from the fall of Rome until the 19th cent General histories of ancient Rome are countless Among the ancient histories, that of LIVY is the only comprehensive work Other great Roman historians were CAESAR, TACITUS, SUETONIUS, POLYBIUS, DION CASSIUS, and JOSEPHUS. The works of MOMMSEN and GIBBON are monumental

Recent general works on ancient Rome include those of J B Bury, Guglielmo Ferrero, Tenney Frank, and Michael Rostovtzeff See also Victor Duruy, *History of Rome* (8 vols in 16, 1883–86), Samuel Dill, *Roman Society in the Last Century of the Western Empire* (1898) and *Roman Society from Nero to Aurelius* (1904), A H J Greenidge, *Roman Public Life* (1901) and *History of Rome During the Later Republic and Early Principate* (1904); F F Abbott, *History and Description of Roman Political Institutions* (1911), Ludwig Friedländer, *Roman Life and Manners* (4 vols, 1908–13), W W Fowler, *Social Life at Rome in the Age of Cicero* (1909) and *Rome* (2d ed, 1947), M Cary, *History of Rome* (1935), F G Moore, *The Roman's World* (1936), A E R Boak, *History of Rome* (3d ed, 1943)

Medieval Rome The history of Rome in the Middle Ages, bewildering in its detail, is essentially that of two institutions, the papacy and the commune of Rome In the 5th cent the Goths ruled Italy from Ravenna, their capital Odoacer and Theodoric the Great kept the old administration of Rome under Roman law, with Roman officials The city, whose population was to remain less than 50,000 throughout the Middle Ages, suffered severely from the wars between the Goths and Byzantines In 552 Narses conquered it for Byzantium and became the first of the exarchs (viceroys) who ruled Italy from Ravenna Under Byzantine rule commerce declined, and the senate and consuls disappeared Pope Gregory I (590–604), one of the greatest Roman leaders of all time, began to emancipate Rome from the exarchs Sustained by the people, the popes soon exercised greater power in Rome than the imperial governors The papal elections were, for the next twelve centuries, the main events in Roman history Two other far-reaching developments (7th–8th cent) were the division of the people into four classes (clergy, nobility, soldiers, and the lowest class) and the emergence of the Papal States The coronation (800) at Rome of Charlemagne as emperor of the West ended all question of Byzantine suzerainty over Rome, but it also inaugurated an era characterized by the ambiguous relationship between the emperors and the popes That era was punctuated by visits to the city by the German kings, to be crowned emperor or to secure the election of a pope to their liking or to impose their will on the pope In 846 Rome was sacked by the Arabs the Leonine walls were built to protect the city, but they did not prevent frequent occupations and sacks by Christian powers By the 10th cent Rome and the papacy reached their lowest point Papal elections, originally exercised by the citizens of Rome, had come under the control of the great noble families, among whom the Frangipani and Pierleone families and later the Orsini and the Colonna were the most powerful Each of these would tear Rome apart rather than allow the other families to gain undue influence They built themselves fortresses in the city (often improvised transformations of the ancient palaces and theaters), and ruled Rome from them From 932 to 954 Alberic, a very able man, governed Rome firmly and restored its self-respect, but after his death and after the disgraceful proceedings that accompanied the coronation of Otto I as emperor, Rome relapsed into chaos, and the papal dignity once more became the pawn of the emperors and of local feudatories Contending factions often elected several popes at once Gregory VII reformed these abuses and strongly claimed the supremacy of the Church over the municipality, but he himself ended as an exile, Emperor Henry IV having taken Rome in 1083 The Normans under Robert Guiscard came to rescue Gregory and thoroughly sacked the city on the same occasion (1084) Papal authority was challenged in the 12th cent by the communal movement A commune was set up (1144–55) and was led by Arnold of Brescia and subdued by the intervention of Emperor Frederick I Finally, a republic under papal patronage was established, headed by an elected senator However, civil strife continued between popular and aristocratic factions, between Guelphs and Ghibellines The commune made war to subdue neighboring cities, for it pretended to rule over the Papal States, particularly the duchy of Rome, which included Latium and parts of Tuscany Innocent III controlled the government of the city, but it regained its autonomy after the accession of Emperor Frederick II Later in the 13th cent foreign senators began to be chosen, among them were Brancaleone degli Andalò (1252–58) and Charles I of Naples During the "Babylonian captivity" of the popes at Avignon (1309–77) Rome was desolate, economically ruined, and in constant turmoil Cola di Rienzi became the champion of the people and tried to revive the ancient Roman institutions, in 1347 he was made tribune, but his fantastic dreams were doomed Cardinal Albornoz temporarily restored the papal authority over Rome, but the Great Schism (1378–1417) intervened Once more a republic was set up In 1420 Martin V returned to Rome, and with him began the true and effective dominion of the popes in Rome, the senator himself becoming a mere municipal officer See Ferdinand Gregorovius, *History of the City of Rome in the Middle Ages* (8 vols in 13, 1894–1902), Alain de Boüard, *Le Régime politique et les institutions de Rome au moyen âge* (1920).

Renaissance and Modern Rome A last effort at restoring the Roman republic failed utterly in 1453 The history of Rome became more than ever that of the papacy The successors of Martin V in the 15th cent and the first half of the 16th cent were chiefly interested in increasing the temporal power of the papacy, in patronizing arts and letters, in beautifying the city, and in raising the fortunes of their relatives The moral tone of the papal court was a scandal to Christendom and contributed not a little to the success of the Reformation The period of the great popes of the Renaissance—Sixtus IV, Innocent VIII, Alexander VI, Julius II, Leo X, Clement VII, and Paul III—was one of sensuous splendor Among the countless artists and architects who served the papal court Bramante, Michelangelo, Raphael, and Domenico Fontana were the chief creators of Rome as it is today The popes also played a leading part in the Italian Wars of the 16th cent As a result of Clement VII's alliance with Francis I of France, Rome was stormed (1527) by the army of Emperor Charles V and subjected to a thorough sack The triumph of the Catholic Reform in the late 16th cent restored dignity and moral power to the papal court and gave the Society of Jesus great influence Though the power of the pope was established as absolute, more religious tolerance (particularly toward the Jews) could be found at Rome than in many other capitals of Europe The city continued to prosper and to benefit by the influx of hundreds of thousands of pilgrims (see jubilee) The great creative effort of the Renaissance was largely spent, but the noble baroque monuments—notably those built by Bernini—that were erected in the 17th and early 18th cent added to the grandiose harmony of the city The splendor of religious ceremonies as well as the encouragement given by the popes to art, music and classical and archaeological studies continued to make Rome a center of world civilization When in 1796 French troops under Napoleon Bonaparte invaded the Papal States, a truce was bought by Pope Pius VI, and many Roman art treasures passed into French possession In 1798 the French occupied Rome deposed the pope, and proclaimed Rome a republic Pius VII reentered Rome in 1800, but in 1808 Napoleon reoccupied the city, and in 1809 he annexed it to France Papal rule was restored in 1814 Pope Pius IX, who ruled during a crucial period (1846–78) yielded to liberal demands and granted a constitution However, disorders in 1849 caused his flight to Gaeta, and once more Rome became a republic, under the leadership of Mazzini French troops intervened, defeated the republican forces under Garibaldi, and restored Pius IX, who made no further attempts at liberalism The Italian kingdom, proclaimed in 1862 included most of the former Papal States but not Rome, which remained under papal rule under the virtual protectorate of Napoleon III Napoleon's fall in 1870 made possible the occupation of Rome by Italian troops, and in 1871 Rome became the capital of Italy Pius IX and his successors did not recognize their loss of temporal sovereignty The conflict between pope and king—or Vatican and Quirinal, as the antagonists were designated because of the location of their palaces—was not solved until the conclusion (1929) of the Lateran Treaty, which gave the pope sovereignty over Vatican City The Fascist march on Rome (1922) brought Mussolini to power In the Second World War, Rome fell to U S troops on June 4, 1944 An air raid (July, 1943) damaged the Basilica of St Lawrence without the Walls (San Lorenzo fuori le Mura), but otherwise Rome remained virtually undamaged by the war The post-war years were marked by a remarkable economic, artistic, and intellectual revival The year 1950 was designated a holy year by Pope Pius XII, and Rome, more than ever the spiritual capital of Catholicism, prepared for the arrival of millions of pilgrims In the past half century Rome has expanded well beyond the walls started in the 3d cent A D by Emperor Aurelian Long sections of the walls have been preserved, however, and archaeology remains an essential element of modern town planning in Rome As in ancient times, the larger section of Rome lies on the left bank of the Tiber, which intersects the city in three wide curves and is spanned by 19 bridges Aside from modern residential quarters, the right-bank section contains Vatican City, including Saint Peter's Church, and the ancient popular quarter of Trastevere In describing the left-bank section one may use the Piazza Venezia, a central square, as a convenient point of departure It lies at the foot of the old Capitol (see Capitoline Hill) and borders on the huge monument to King Victor Emmanuel II and on the Palazzo Venezia, a Renaissance palace from the balcony of which Mussolini used to address the crowds A broad avenue, the Via dei Fori Imperiali runs from the Piazza Venezia SE to the Colosseum, leaving the Emperors' Fora and at a distance the Church of St Peter in Chains (San Pietro in Vincoli) to the left, and the Capitol and the ancient Forum to the right. From the Colosseum the Via di San Gregorio continues south past the Arch of Constantine and the Baths of Caracalla to the Appian Way Here, as in several other places in the outskirts of Rome, are large catacombs From the Piazza Venezia another modern thoroughfare, the Via del Mare, leads southwestward to the Tiber and then east past the Basilica of St Paul's without the Walls (San Paolo fuori le mura) to the sea at Ostia The central part of Rome is cut, roughly from west to east, by a thoroughfare called Via Nazionale and, between the Piazza Venezia and the Tiber, Corso Vittorio Emmanuele, it is continued by a bridge crossing to St Peter's Church Another, nearby, bridge leads to the Castel Sant' Angelo The narrow and busy Via del Corso leads N from the Piazza Venezia past the Piazza Colonna (now the heart of Rome) to the Piazza del Popolo at the gate of the old Flaminian Way E of the Piazza del Popolo are the Pincian Hill, commanding one of the finest views of Rome, and the famous Villa Borghese In the widest westward bend of the Tiber, W of the Via del Corso, is the Campo Marzio quarter (the ancient Martian Field), where most of the medieval buildings are located, here also are the Pantheon (now a church) and the parliament buildings To the east of the Via del Corso the fashionable Via Condotti leads to the Piazza di Spagna, a flight of 132 steps ascends from that square—once the residence of Keats and Shelley—to the Church of Santa Trinità dei Monti and the Villa Medici The Quirinal is NE of the Piazza Venezia In the southeastern section, near the gate of San Giovanni, are the Lateran buildings The various institutes of the Univ of Rome (founded 1303) were formerly scattered throughout the city but were transferred in 1935 to the southeastern section Among the countless churches of Rome there are five patriarchal basilicas—St Peter's, St John Lateran, St Mary Major (Santa Maria Maggiore), St Lawrence without the Walls, and St Paul's without the Walls With the exception of St Mary Major, the basilicas and the other ancient churches occupy the sites of martyrs' tombs Characteristic of the old Roman churches are their fine mosaics (4th–12th cent) and the use of colored marbles for decoration, introduced in the 12th cent by the workers in marble known as Cosmati Among the many palaces and villas of Rome the Farnese Palace and the Farnesina are particularly famous, others, all dating from the 17th cent, are those of the great Roman families, the Colonna Chigi, Torlonia and Doria The richest museums and libraries of Rome are in the Vatican Others include the National, Capitoline, and Torlonia museums, notable for their antiquities, and the Borghese, Corsini, Doria, and Colonna collections of paintings Rome is celebrated for its beautiful Renaissance and baroque fountains, such as the imposing Fontana di Trevi As an educational center, Rome possesses—aside from its university, monuments museums, and libraries—the colleges of the Church several academies of fine arts, and the Accademia di Santa Cecilia (founded 1584), the oldest academy of music in the world See bibliographies at the end of the articles Renaissance and Italy There are numerous good descriptions and guide books of Rome Among the most up-to-date descriptive works Herbert Bittner and Ernest Nash, ed, *Rome* (1950), and Ludwig Curtius, *Rome* (1950) may be noted

Rome 1 City (pop 26,282), co seat of Floyd co NW Ga, at the confluence of the Etowah and Oostanaula rivers NW of Atlanta, founded 1834 on the site of a Cherokee village It is an industrial center, with textile and lumber mills, tanneries, and foundries and is also a cotton market in a farm, timber, and quarry area In the Civil War, Gen N B Forrest captured a Union cavalry force near here (May, 1863) Sherman destroyed the city's industrial facilities in Nov, 1864 Shorter College (Baptist, for women, 1873) and the headquarters of a soil conservation project are here Near by are the Berry schools (see Berry, Martha M) and the state school for the deaf Limestone caves and mineral springs are in the area 2 Industrial city (pop 34,214), a co seat of Oneida co, central N Y, on the Mohawk and the Barge Canal and NW of Utica, laid out c 1786 on the site of Fort Stanwix, inc as a village 1819, as a city 1870 The city flourished with the building of the Erie Canal, which was begun here in 1817, and is noted especially for its copper and brass products The Jervis Library was formerly the home of J B Jervis State schools for the deaf and for mental defectives are here, and near by is a large state fish hatchery

Romeo (rō'mēō), village (pop 2,627), S Mich, N of Detroit, in a rich farm and fruit area, settled c 1830, inc 1838 Cotton textiles and feed are made The vicinity is rich in Indian mounds

Romeo and Juliet, tragedy composed by Shakspere in 1596 His source was Arthur Brooke's poem *Romeus and Juliet* (1562), but the story can be traced through many popular 16th-century Italian versions—such as that of Matteo Bandello—ulti-

mately to the *Ephesiaca* by Xenophon of Ephesus (pseud) of the 3d or 4th cent The play has been used in the librettos of 18 different operas, of which Gounod's is the most famous Also with the same title are Berlioz's Fifth Symphony (1839) and a symphonic tone poem by Tchaikovsky (1870)

Rømer, Olaus or Ole (ōl'ŏŏs, ō'lu rū'mur), 1644–1710, Danish astronomer He is noted for his discovery that light travels at a definite speed and does not move through space instantaneously While assistant (1672–79) at the Royal Observatory, Paris, he estimated the approximate velocity of light through observations of the eclipses of satellites of Jupiter From 1681 he was professor of astronomy at the Univ of Copenhagen and royal mathematician He constructed the first good transit instrument (1690) and the earliest transit circle (1704) and supervised the erection of an observatory near Copenhagen. The name also appears as Roemer.

Romford (rŭm'-), municipal borough (1931 pop 35,918, 1947 estimated pop 70,800), Essex, England, ENE of London It is a market town, manufacturing shoes, pharmaceuticals, and ale It was the capital of the Saxon royal lands called the "Liberty of Havering-atte-Bower "

Romilly, Sir Samuel (rō'mĭlē), 1757–1818, English law reformer Admitted to the bar in 1783, he soon developed a wide chancery practice He was in sympathy with Rousseau's views and he knew well several figures of the Enlightenment, including Diderot and Alembert Romilly's enthusiasm for the French Revolution inspired his *Letters Containing an Account of the Late Revolution in France* (1792) His work in reforming criminal law began with *Thoughts on Executive Justice* (1786), which developed the views of BECCARIA As solicitor general (1806) in the cabinet of Lord Grenville, he ameliorated bankruptcy practice, and later, while in Parliament, he had reduced by a few the many comparatively trivial offenses (e g , pocket picking) which were subject to capital punishment The immediate results of his efforts were small, but in Victoria's reign many of his proposals were adopted See his memoirs (1840), biography by C G Oakes (1935)

Rommel, Erwin (ĕr'vēn rō'mul), 1891–1944, German field marshal An early member of the National Socialist party, he served as Hitler's bodyguard and rose to high rank in the SS Hitler made him an army general after the Polish campaign (1939) In 1940 he trained a special tank corps, the Afrika Korps, for desert warfare This was sent into action in Libya in Feb , 1941 Rommel, later known as the "desert fox," was created field marshal for his early success in North Africa, but he was defeated by Montgomery in Oct , 1942, at ALAMEIN His Afrika Korps was driven into Tunisia, but Rommel was recalled to Germany before its final defeat Rommel was in command of the German forces in N France when the Allies invaded Normandy in June, 1944 Wounded in an air raid in July, he had just recovered when he was reportedly ordered to take poison for having taken part in the plot of July, 1944, against Adolf Hitler

Romney, George (rŏm'nē), 1734–1802, English portrait painter, son of a Lancashire builder He had little early training, but after his marriage in 1756 he was emboldened to set up in Kendal as a traveling portrait painter He left his wife and children in 1762 and went to London, where he rapidly became a popular and fashionable portrait painter He studied in Italy (1773–75), and after his return to London his popularity rivaled that of Reynolds In 1782 Romney met Emma Hart, the future Lady Hamilton, whom he painted over and over, as Joan of Arc, Circe, St Cecilia, the Magdalen, a bacchante, and in other roles During his last years he largely gave up portrait painting for ideal subjects, such as *Milton and His Daughters* and *Scene from "The Tempest"* (for Boydell's Shakespeare Gall) In 1799 his health gave way and he returned to Kendal, where his wife nursed him through his last years Romney's work is uneven, but his best portraits are ranked among the finest of the English school Particularly his portraits of women are famous for their grace and charm Much of his work is in private collections Well known are his portraits of Lady Craven, Lady Prescott and family, and Lady Hamilton as a bacchante (all National Gall , London) He is well represented in the American collections of Frick and J S Bache and in the Huntington Gallery, the Metropolitan Museum, and the National Gallery of Art, Washington, D C See biographies by William Hayley (1809), his son John Romney (1830), H E Maxwell (1902), Lord Ronald Gower (1904), and A B Chamberlain (1910).

Romney (rŭm'nē), officially **New Romney,** municipal borough (pop 1,786), Kent, England, in Romney Marsh SW of Folkestone It was formerly on the seacoast and was one of the CINQUE PORTS. Old Romney is a village farther inland Of several ancient churches, only the partly Norman Church of St Nicholas remains

Romney (rŏm'nē), trading town (pop. 2,013), co seat of Hampshire co , W Va., in the agricultural Eastern Panhandle, on the South Branch of the Potomac and S of Cumberland, Md.; founded 1762. The state schools for the deaf and blind are here. Ice Mt is near by.

Romney Marsh (rŭm'-), tract of pasture land, Kent, England, along the coast NE of Rye and SW of Folkestone It is known for the Romney Marsh sheep Romney is the leading town.

Romo, Dan *Rønø* (rŭm'ō'), island (39 sq mi ; pop 747), Denmark, in the North Sea, one of the North Frisian Islands. Mostly flat and sandy, it is important as a bathing resort.

Romorantin, Edict of see AMBOISE, CONSPIRACY OF

Romsdal (rōōms'dāl'), valley of the Rauma, a river of central Norway, in More og Romsdal co Piercing the sheer mountains of the DOVREFJELL, it is an ancient passage from the western coast to central and SE Norway, connected with the Gudbrandsdal by a pass A force of Scottish mercenaries who sought to join Gustavus II of Sweden during the Kalmar War was almost entirely massacred at Kringen, in the pass, by Norwegian peasants Many jagged peaks line the valley, especially the Vengetinder (6,549 ft), the Trolltinder (5,850 ft), and the Romsdalshorn (5,961 ft), their weird outlines have given rise to many legends The Rauma descends in several cataracts into the Romsdal Fjord, an arm of the Molde Fjord

Romsey (rŭm'zē), municipal borough (1931 pop 4,862, 1943 estimated pop. 5,779), Hampshire, England, near Southampton and on the Test The Church of St Mary and St Æthelflæd was part of a Benedictine convent founded c 907 by Edward the Elder

Romulo, Carlos Pena (rō'mŭlō, Span kar'lōs pā'na rō'mōolō), 1900-, Filipino statesman, b Manila, grad Univ of the Philippines, 1918, M A Columbia, 1921 He returned (1921) from the United States to Manila and became the head of a large Philippine newspaper syndicate When the Japanese invaded the Philippines, Romulo became (1941) a press aide to Gen Douglas MacArthur, Romulo's experiences in the defense of Bataan and Corregidor were recorded in his book, *I Saw the Fall of the Philippines* (1942) He was (1943) a member of Manuel Quezon's government in exile in the United States and served (1944) as resident commissioner of the Philippines in the United States After he became (1945) a delegate to the United Nations, he was elected (1949) president of the United Nations General Assembly He wrote *My Brother Americans* (1945)

Romulus (rŏm'ŭlus), in Roman legend, the founder of Rome He and his twin brother Remus were sons of MARS and Rhea Silvia, daughter of Numitor, king of Alba Longa Her uncle, Amulius, had usurped Numitor's throne and had forced her to become a Vestal Virgin Her infant sons he exposed in a basket on the Tiber A she-wolf suckled them, and the shepherd Faustulus found them and, with his wife, ACCA LARENTIA, reared them When they were grown, the brothers learned their true identity, slew Amulius, and restored Numitor to the throne They then set out to found a new city Though Romulus was chosen as the founder by an omen of birds, the brothers quarreled (one version of the legend says that Remus mockingly leaped over Romulus' new-built wall), and Remus was killed The traditional date of founding—from which Roman historians reckoned the history of the city—corresponds to 753 B C To get wives for his people Romulus led the rape of the Sabine women He also established the constitution of the city After disappearing in a thunderstorm, Romulus was worshiped thereafter as Quirinus

Romulus Augustulus (ôgŭs'tŭlus), d after 476, last Roman emperor of the West (475–76) He was the son of the general ORESTES, who proclaimed him emperor after deposing Julius Nepos He was captured and deposed by Odoacer, who granted him a pension and allowed him to retire to a villa near Naples which had once belonged to Lucullus

Ronan (rō'nun), town (pop 1,032), NW Mont , S of Flathead Lake, settled 1910, inc 1912 The well-irrigated farm and ranch area developed rapidly in the drought and depression years of the 1930s.

Roncesvalles (rōn"thāsvä'lyās), Fr *Roncevaux* (rōsuvō'), mountain pass in the Pyrenees, Navarre, Spain, between Pamplona and Saint-Jean-Pied-de-Port (France) Tradition has made it the scene of the death of the hero ROLAND

Ronceverte (rŏn'suvûrt), trade and rail city (pop 2,265), S W Va., on the Greenbrier and S of Lewisburg, in a farm and livestock area, settled c 1800 Organ Cave is near by

Ronda (rŏn'dä), city (pop 15,813), Málaga prov , S Spain, in Andalusia, beautifully situated above 2,000 ft in the mountains of Sierra de Ronda The old Moorish town, atop a hill, is separated from the lower new town by a deep gorge of the Guadalevín river There are Moorish walls, a gate, and a palace and Roman remains near by.

rondo (rŏn'dō, rŏndō'), instrumental musical form in which the opening section is repeated after each succeeding section containing contrasting thematic material The rondeau of French keyboard music of the 17th cent , the most frequently occurring form, was the predecessor of the 18th-century rondo, which became the usual concluding movement of the classical sonata. The usual plan of the classical rondo was ABACAB'A.

Rondout (rŏn'dout), early village, SE N.Y., on the west bank of the Hudson at the mouth of Rondout Creek. It is now part of KINGSTON.

ronin (rō'nĭn), in Japanese history, masterless SAMURAI. The ronin were usually men who for one reason or another were deprived of their place in the usual loyalty patterns of Japanese feudalism. The DAIMYO they had served might have fallen on evil days, or the conditions of service might have grown so bad that the samurai had to abandon his lord The ronin were knights errant or, in more mundane terms, soldiers of fortune, who were in demand in times of war but might become a burden on society in times of peace The story of the 47 ronin, which was used by Chikamatsu in composing an extremely popular drama, was an actual occurrence A feudal lord had come into disgrace and was compelled to commit suicide His properties were forfeit Compelled to avenge him, 47 of his followers, now ronin, assassinated the man responsible for his disgrace Though their loyalty was universally admired, the code compelled that they all commit suicide

Ronkonkoma, Lake (rŏngkŏng'kumu), central Long Island, SE N Y , SE of Smithtown It is a resort A replica of the Grotto of Our Lady of Lourdes was dedicated here in 1936

Ronne, Dan *Rønne* (rû'nu), town (pop 11,497), capital of Bornholm island, Denmark, on the west coast of the island It has ceramic manufactures and is a fishing port There are granite quarries near by Ronne dates from the 12th cent

Ronsard, Pierre de (pyĕr' du rōsär'), 1525–c 1585, French poet, leader of the PLÉIADE, which formed about him at the Collège de Coqueret (from 1547) Ronsard was a courtier all his life—page (1536), squire (1540), and finally poet royal (c 1563) He was handicapped by deafness He wrote an enormous number of poems, representing all the genres the Pléiade propagated sonnets after Petrarch, odes after Pindar and Horace, elegies, eclogues, and songs Nearly one possible theme is treated by Ronsard, especially love and patriotism Of his love poems perhaps the best appear in *Sonnets pour Hélène* (1578, Eng tr by Humbert Wolfe, 1934) Ronsard's most ambitious effort was *La Franciade* (1572), an unfinished epic Two long patriotic poems deploring the Wars of Religion, written 1562, are *Discours des misères de ce temps* and *Remontrances au peuple de France* Ronsard's reputation was long in eclipse, but since Sainte-Beuve he has taken his place as one of the greatest of French poets See George Wyndham, *Ronsard and the Pléiade* (1906), C H Page, *Songs & Sonnets of Pierre de Ronsard* (1924), Morris Bishop, *Ronsard, Prince of Poets* (1940), D B Wyndham Lewis, *Ronsard His Life and Times* (1944)

Röntgen, Wilhelm Conrad see ROENTGEN

Röntgen ray see X RAY

rood (rōōd), crucifix mounted above the entrance to the chancel and flanked by large figures of the Virgin and St John, an almost invariable feature in the 14th- and 15th-century European churches This group, usually carved in wood and painted and gilded, was in early examples supported upon a beam as wide as the chancel arch By the 15th cent the richly ornamental screen of wood or stone closing the chancel from the nave became the support for the cross and figures and was therefore termed rood screen The screen, built often as a narrow arcaded portico, supported an overhead platform or rood loft reached by a small stairway from the nave and providing access for illuminating and adorning the figures The rood loft, which sometimes had its own small altar, served also for a Palm Sunday ceremonial In England, as a result of the Reformation, many roods with their screens were destroyed, they are not part of the fittings for an Anglican church

Roodepoort-Maraisburg (rō'dupôrt-mä'rĭsbûrg, rōō'-), city (pop 72,034), W Transvaal, Union of South Africa It is on a railroad to Johannesburg Gold is mined near by and metal utensils are manufactured

Roodhouse, city (pop 2,557), W central Ill , SW of Springfield, inc 1881 It is a farm trade center with railroad shops

roof, overhead covering of a building with its framework support Various methods of construction, such as are suited to different climates, have diversified exterior and interior architectural effects A roof may be flat, e g , those built with enormous stone blocks in Egypt and Assyria and the modern roofs commonly employed for attached city dwellings, or it may be low or high pitched (a northern style) in GABLE, GAMBREL, MANSARD, or hip (having four sides sloping from a short ridge or center) form It may be of the lean-to type, as in the simplest shed or as for aisle or penthouse of a cathedral, it may achieve the dignity and aspiration expressed in DOME and SPIRE and embody such features as the dormer window, cupola, or minaret Pointed roof construction includes the tie-beam, trussed-rafter, collar-beam, and hammer-beam types. English churches and halls afford many examples of these various methods, some of which

have open-timber interiors of a highly decorative character. Steel has replaced timber in monumental construction. The simplest roof covering is the primitive thatch (of straw, palm leaves, or other fibers) used by the peasants of many lands Other finishing materials include wood (usually shingles), tile, slate, tin, lead, zinc, copper, felt, and tar A roof's ridge is the point where the rafters meet; its principals, the purlins, resting on center or side posts, support the rafters, a valley or trough is formed by the junction of two slopes (e g , when an ell joins the main structure) The overhang, or eaves, carry gutters or themselves drain water away and the walls and in chalet and bungalow are very wide The concave curve of Oriental roofs is said to have followed the graceful lines of a sagging tent The classic Greek roof of marble slabs upon timber framing was gently sloping, as in the pediment of the Parthenon Early Roman roofs also were timber framed (as in the basilicas), but vault and dome construction (as in the Pantheon) are prominent in later buildings The pointed arch and vaulting gave the slope to the Gothic roofs of Europe, while roofs in Renaissance Italy, except those with domes, were concealed, but France and Germany of this period emphasized the gable The stepped gables of Dutch and German roofs form a picturesque feature, and the cone-topped turrets of the steep French château roof are characteristic Finials, crockets, crestings, gable crosses, bosses, fantastic GARGOYLES, and sometimes the chimney pots form roof ornamentations, being particularly elaborate in Oriental and Gothic architecture

rook (rŏŏk), common European bird of the crow family It is slightly smaller than the American crow and has glossy purplish-black plumage and a bare space around the base of the bill It nests in large colonies It is very intelligent

Rooke, Sir George (rŏŏk), 1650–1709, English admiral He distinguished himself in the War of the Grand Alliance at the battle of La Hogue (1692), and by his good judgment he saved part of his convoy from a French attack off Cape St Vincent (1694) In the War of the Spanish Succession his expedition to Cádiz in 1702 was unsuccessful, but he destroyed the Spanish plate fleet off Vigo, captured Gibraltar (1704), and won over superior forces at Málaga (1704) See his journal for 1700–1702 (ed by Oscar Browning, 1897)

Rookwood pottery, American artware made in Cincinnati since 1880 and having an international reputation Its beauty lies in a range of full, rich colors, well-executed decoration, and superior glazes, both mat and lustrous In addition to the usual potter's mark, each piece is signed individually by the artist who modeled or painted it

Roon, Albrecht Theodor Emil, Graf von (äl'brĕkht tā'ōdōr ā'mēl graf fŏn rōn'), 1803–79, Prussian field marshal He adopted the cause of military reform, and from the time of his service under Prince William (later Emperor WILLIAM I) in the suppression of the revolution of 1849 in Baden, he insistently pleaded for the reorganization of the army In 1859 he was made minister of war, he retained that position until 1873 and was also minister of marine (1861–71) He would have accomplished little but for the hearty cooperation of BISMARCK, for whose appointment as premier Roon was largely responsible Roon instituted the three-year compulsory service and the organization of the civilian population into reserve corps He laid the groundwork for the brilliant success of Prussia in the Danish War (1864), Austro-Prussian War (1866), and the Franco-Prussian War (1870–71) His military books and his memoirs have been the subject of much study

Roos, Johann Heinrich (yō'hän hīn'rĭkh rōs'), 1631–85, German painter of animals and landscapes and etcher He was court painter to Elector Palatine Charles Louis He is represented in German galleries, and the New York Historical Society has two of his paintings His son **Philip Peter Roos,** 1657–1705, known as Rosa da Tivoli, also painted animals and landscapes Two of his paintings are *Sheep Destroyed by a Wolf* (Louvre) and *The Twelve Cascade* (Vienna)

Roosebeke (rō'zŭbā"kŭ), village (pop 428), East Flanders prov , Belgium, E of Oudenarde Here in 1382 the French under Oliver de Clisson defeated the Flemings under Philip van ARTEVELDE The battle restored the control of Louis de Mâle over his county of FLANDERS. The new official spelling is Rozebeke

Roosevelt, Eleanor (Anna Eleanor Roosevelt Roosevelt) (rō'zuvŭlt), 1884–, American humanitarian, b. New York city The daughter of Elliott Roosevelt, she was the niece of Theodore Roosevelt and a distant cousin of Franklin Delano Roosevelt. She was an active and able worker in social causes before she was married (1905) to her cousin Franklin Roosevelt, and she continued her interest in social betterment after her marriage and while bearing her husband five children After he was stricken (1920) with poliomyelitis, she took a more active interest in political issues As wife of the governor of New York and then as wife of the President, she played a leading part in women's organizations and was actively interested in encouraging youth movements, in promoting consumer welfare, in guaranteeing the rights of minorities, and in combating bad housing and unemployment In 1933 she held the first press conference ever held by a president's wife She had previously written much and in 1935 started a daily column, "My Day," syndicated in many newspapers She also for a time conducted (1940-41) a radio program, and she traveled far and wide, lecturing, observing conditions, and furthering causes Her vigor, speaking ability and charm won her many admirers, although she also had many detractors In the Second World War she was (1941–42) assistant director of the Office of Civilian Defense She also visited England (1942), the SW Pacific (1943), and the Caribbean (1944) In 1945 she was appointed a U S delegate to the United Nations, and in 1946 she was made chairman of Commission on Human Rights, a subsidiary of the Economic and Social Council Many of her magazine and book articles have been collected into volumes *This Is My Story* (1937) and *This I Remember* (1949) are autobiographical. See biography by Ruby Black (1940)

Roosevelt, Franklin Delano (dĕ'lunō), 1882–1945, 31st President of the United States, b Hyde Park, N Y Through both his father, James Roosevelt, and his mother, Sara Delano Roosevelt, he came of well-to-do, more or less patrician families He was a distant cousin of Theodore Roosevelt After schooling at Groton, Harvard (B A , 1904), and Columbia Univ School of Law (LL B , 1907), he began a career as a lawyer He had already married a distant cousin, a niece of Theodore Roosevelt, Eleanor Roosevelt, in 1905 His political career was launched when he was elected (1910) to the state senate There he became the leader of a group of insurgent Democrats who prevented the Tammany candidate, William F Sheean, from being chosen for the U S Senate He allied himself even more firmly with reform elements in the party by his vigorous campaign for Woodrow Wilson in the election of 1912 He was rewarded by appointment as Assistant Secretary of the Navy and served (1913–20) with competence and affability In 1920 he was named to run as vice presidential candidate with James M. Cox on the Democratic ticket that lost a bitter election The next year he was spending a vacation at the Roosevelt summer home on Campobello Island, New Brunswick, when he was stricken with poliomyelitis He was at first paralyzed from the waist down, but by unremitting effort he recovered partial use of his legs He found the waters at WARM SPRINGS, Ga., beneficial, and there he was to establish a foundation to help other victims of poliomyelitis To the end of his life he was somewhat crippled, but his vigor reasserted itself He had kept up his interest in politics, partly through the efforts of his wife, and his speech at the Democratic National Convention of 1928, when he nominated Alfred E Smith for the presidency, was a strong statement of liberal principle He reluctantly allowed Smith to persuade him to run for the governorship of New York Elected, he broadened the reform program Smith had initiated His program was one of state action for general welfare, and items were a farm-relief plan, a state power authority, regulation of public utilities, and old-age pensions The economic crash of 1929 soon brought a depression, against which the governor, advised by a little group of intellectuals called the BRAIN TRUST as well as by many other experts, undertook to establish vigorous relief At the same time he struck out at corruption in New York city politics, and an investigation brought the resignation of dapper Mayor James J WALKER. A nation, suffering greatly in the distress of its worst economic crisis, was looking for new leadership When Franklin Roosevelt was chosen by the Democratic party as its presidential candidate in 1932 to face the Republican Herbert C Hoover, whose administration had seen the beginning of the period of disaster and despair, Roosevelt was elected He came to the White House at the height of crisis, for the financial structure of the country was, or at least seemed to be, tottering Roosevelt promptly declared a general bank holiday With that act began a peaceful revolution in U S government The new President had visions not only of relieving the tension with emergency measures but of building a government that would protect the "little man" from the ravages of the economic system permanently His words were words of hope and vigor, his actions were prompt and drastic, The NEW DEAL that he was fashioning was far from being his alone, and his critics accused him of having a superfluity of advisers with "crackpot" schemes of social betterment Some of the Brain Trust accompanied him to Washington, and counselors such as Raymond Moley, Rexford Guy Tugwell, and Adolph A Berle, Jr , were at hand in the early years, as were the members of cabinet, including Henry A WALLACE, Harold L ICKES, Frances PERKINS (one of the first women to be high in government policy making), Cordell Hull, and James A Farley, and various others, notably Harry L Hopkins. Opinions and schemes varied, and in the center was the President himself, listening and choosing. There were no moments of inactivity Congress, stunned by the magnitude of the depression, surrendered much power to the President A series of measures set up governmental agencies to reorganize industry and agriculture under controls and to revive the economy by a vast expenditure of public money in "pump priming" The NATIONAL RECOVERY ADMINISTRATION, the AGRICULTURAL ADJUSTMENT ADMINISTRATION, and the PUBLIC WORKS ADMINISTRATION were all directed to the same general end Finance and banking were regulated by new laws, and in 1934 the gold standard was adjusted to the advantage of the debtor groups and to the detriment of the creditor groups Later the SECURITIES AND EXCHANGE COMMISSION was set up to halt the evils of speculation The hand of government in developing the natural resources of the country grew stronger The TENNESSEE VALLEY AUTHORITY ultimately challenged private utilities interest, as did the RURAL ELECTRIFICATION ADMINISTRATION later The Works Progress Administration (later the WORK PROJECTS ADMINISTRATION) was intended to offer work programs for the employment of those thrown out of work by the depression, while the legislation for SOCIAL SECURITY was a long-range plan for the future protection of the worker in unemployment, sickness, and old age This vast, many-pronged program was not undertaken without a great deal of friction, disorder, and waste There was dissension within the ranks of the President's advisers, and the process of a former counselor breaking from the group, denouncing the policies of the administration, and sometimes pouring acid words upon the President himself began early and became familiar The steady plunge of action, the building-up of the program, and the personality of Roosevelt himself offset early opposition His beautiful and persuasive radio voice, broadcast to the nation in intimate "fireside chats," his self-assured and reassuring bearing, his constant attention to the least (and most numerous) of the citizens held for him the mandate of the nation In 1936 he won, elected by a stupefying majority over his Republican opponent, Alfred M LANDON, who won the electoral votes of only two states The impetus of the reform had, however, begun to slow somewhat Though his admirers continued to shower their admiration on him, the opposition (generally conservative) turned more bitter toward "that man in the white house," who was a "traitor to his class" The enormous expenditures and staggering national budget, the disorderliness of some of the reforms, and the undeniable waste produced unpleasant reaction Quarrels and shifts among supporters in the government continued to have divisive effect The action of the Supreme Court in declaring a number of the New Deal measures invalid--notably those creating the National Recovery Administration and the Agricultural Adjustment Administration—rejoiced the opponents of Roosevelt and tended to reduce the pace of reform to a walk Roosevelt undertook to reorganize the court in 1937, but failed (see SUPREME COURT) He failed, too, in his attempt to "purge" members of Congress who had opposed New Deal measures, for most of those opponents were triumphant in the elections Nevertheless, the policies of social reform had been fixed in the government and were solidifying, while opposition forced some measures of restraint and slowing down The dynamic force of the administration continued, however, to be exerted and to impress foreign observers Roosevelt had become a world figure when he first dramatically attacked the depression His foreign policy featured at the start the "good neighbor" policy toward Latin America, which had already been foreshadowed by the preceding Republican administrations, and relations with the neighboring republics to the south became more cordial than they had ever been before and created a basis for "hemisphere solidarity" in the troubles that were to come By 1938 the international skies were already black, and as the power of the Axis nations grew, increased by the Munich Pact and by inaction, Roosevelt spoke out against aggression and international greed Until 1939 he appealed to Hitler and Mussolini for peaceful settlement, and even after war had begun in Europe negotiations with Japan went on, though the United States refused to recognize the conquest of Manchuria and decried the Second Chino-Japanese War Before war had actually come to Europe in 1939, Roosevelt had begun his move to make the United States the "arsenal of democracy." After fighting had begun, the program for building U S strength was speeded In the gloomy summer of 1940 after the fall of France and while Great Britain was being bombed in the "blitz," aid to Britain (permitted since relaxation of the Neutrality Act) was greatly increased. There was no secret as to where the sympathies of the government and the people of the United States lay How much effect the President himself had in building up opposition to the fascist nations it is impossible to say It is significant, however, that in the presidential election of 1940 there was no opposition between Republicans and Democrats on the issue of foreign

policy Roosevelt broke tradition in accepting the nomination for that year, since never before had a President run for a third term Opposition to him had built up, and some of his former associates were vocal in criticism John N Garner, who had been Vice President, was alienated, and the new vice presidential candidate was Henry A Wallace James A Farley, who had been prominent in managing the earlier campaigns, fell away John L Lewis, with his large labor following, bitterly denounced Roosevelt The Republican candidate, Wendell WILLKIE, had a far greater personal following than Roosevelt's earlier opponents Yet the President won—not so easily as before, but still definitively The mass of the people followed him The story of his third administration was the story of the Second World War The first peacetime selective service act now came into full force In Aug , 1941, Roosevelt met Prime Minister Winston Churchill at sea and drafted the ATLANTIC CHARTER The United States was being more and more aligned with Britain, while U S relations with Japan grew steadily worse through the summer and autumn Negotiations went on, and on Dec 6, 1941, Roosevelt addressed a personal peace message to Emperor Hirohito Already the process of Japanese war making was past recall On Dec 7, 1941, the Japanese attack on PEARL HARBOR plunged the United States into the war, and a startled and angry nation arose to fight Much later, accusations of responsibility for negligence at Pearl Harbor and even for starting the war were leveled at Roosevelt, just what responsibility he had, if any, cannot be determined There is no question, however, that he was responsible at least to a very large extent for the rapid growth of American strength, armament, and air power He was not only the active head of a nation at war but also a world leader against all that Adolf Hitler, Benito Mussolini, and Japanese militarism represented His diplomatic duties were heavy There was no conflict within the United States over foreign policy, and the election that occurred in wartime was again largely on domestic issues In 1944 Roosevelt, who had thrown his personal influence to having Harry S Truman rather than Wallace as a running mate, was triumphant over the Republican Thomas E Dewey The turn in the fortunes of war had already come, and the series of international conferences with Churchill (for whom Roosevelt seems to have had a warm personal friendship), Joseph Stalin, William Lyon Mackenzie King, Chiang Kai-shek and others (see CASABLANCA CONFERENCE, QUEBEC CONFERENCE, TEHRAN CONFERENCE; YALTA CONFERENCE) had turned gradually more to plans for the post-war world rather than war plans Roosevelt spoke eloquently for human freedom and labored to assure perpetual peace through the UNITED NATIONS Just what result the agreement at Yalta would ultimately have yielded if Roosevelt had stayed in command is a matter of debate, for not quite a month before Germany surrendered to the Allies Franklin Delano Roosevelt died suddenly on April 12, 1945 A shocked world mourned The man whose character and achievements are still hotly argued by his fervent admirers and his fierce detractors is buried on the family estate at Hyde Park—much of which he donated to the nation He was succeeded in the presidency by Harry S TRUMAN Franklin D Roosevelt and Eleanor Roosevelt had five children Ann Eleanor Roosevelt (married to Curtis Dall, then to John Boettiger, both marriages ending in divorce), James Roosevelt, Elliott Roosevelt, Franklin D Roosevelt, Jr , and John A Roosevelt All were much in the public eye Franklin D Roosevelt, Jr , was elected to the House of Representatives from New York in 1949, and James Roosevelt also has political prominence Franklin Delano Roosevelt's public addresses and papers for the years 1941–45 were published in 4 volumes in 1950 Others of his papers have been collected and published There are no unbiased accounts of Roosevelt Perhaps outstanding among friendly works are R E Sherwood, *Roosevelt and Hopkins* (1948) and Frances Perkins, *The Roosevelt I Knew* (1946), and outstanding among unfriendly works is J T Flynn, *The Roosevelt Myth* (1948) See also Donald P Geddes, ed , *Franklin Delano Roosevelt* (memorial volume, 1945), Alden Hatch, *Franklin D Roosevelt* (1947)

Roosevelt, Theodore, 1858–1919, 25th President of the United States (1901–9), b New York city, grad Harvard, 1880 Of a prosperous and distinguished family, Theodore Roosevelt was educated by private tutors and traveled widely in his youth His health had been delicate in childhood, and his determination to rebuild his strength later had a marked effect on his character After he graduated from Harvard, he studied law at Columbia His interest was drawn to politics and while serving (1881–84) in the New York state legislature as a Republican member, he strongly opposed the nomination of James G BLAINE for the U.S. presidency After this move failed, however, Roosevelt, in giving support to Blaine, lost much of his political backing Discouraged by this turn of events, and bereaved by the simultaneous deaths (1884) of his mother and his wife, Alice Hathaway, Roosevelt retired to his ranch in the Dakota Territory Though unsuccessful as a rancher, he gained in the West many of the picturesque mannerisms that complemented his positive personality Roosevelt returned (1886) to New York city and ran as the Republican candidate for mayor against Henry George and Abram S Hewitt, he came in third Nevertheless, he became increasingly important in Republican party politics Appointed (1889) by President Benjamin Harrison as a member of the Civil Service Commission, he prosecuted the duties of his office vigorously until he resigned in 1895 As head (1895–97) of the New York city police board, Roosevelt set out on a program of reform that alienated the more corrupt politicians He returned (1897) to Federal office as Assistant Secretary of the Navy under President William McKinley and worked toward putting the U S navy on war basis After the outbreak of the Spanish-American war, he resigned to organize, with Leonard Wood, the volunteer regiment which was to become famous as the ROUGH RIDERS The exploits of that troop gained much public notice, and Roosevelt was a popular hero when he returned from Cuba. "Boss" Thomas C Platt supported him as Republican candidate for governor, but after Roosevelt's inauguration, a half-concealed political battle went on between the two, mainly because Roosevelt imposed taxes on corporation finances It was at least partially to "shelve" Roosevelt that Platt backed his nomination as Vice President in 1900 Roosevelt ran with William McKinley He served as Vice President only a few months McKinley was assassinated, and Roosevelt became (Sept 14, 1901) President at the age of 42 His inexhaustible vitality and enthusiasm, reinforced by his ability to dramatize himself and to coin vivid phrases, won him a large personal following and immediately made him popular His intellectual interests, moreover, did much to elevate the tone of American politics On the other hand, he received quite a bit of criticism for his capacity for self-deception and for his strong inclination toward militarism and jingoistic patriotism He recognized, from the outset of his first administration, the growing demand for reform in America that was apparent in the muckraking criticism From 1902 he set about "trust busting" under terms of the moribund Sherman Anti-Trust Act, directed the successful antitrust suit against the Northern Securities Company, and led the attack on a number of other large trusts In seven and one half years in office he brought about 25 indictments and 18 bills in equity against trusts Roosevelt's threat to intervene in the anthracite coal strike of 1902 caused the operators and the miners to accept arbitration In his first term he also fathered important legislation, e g , the Reclamation Act of 1902 (the Newlands Act) which provided for the establishment of Federal irrigation projects, the bill (1903) setting up the U S Department of Commerce and Labor, and the Elkins Act of 1903 (see INTERSTATE COMMERCE COMMISSION) which forbade railroad company rebates on freight rates Roosevelt's vigorous championship of the rights of the "little man" captured the American imagination, and when he ran for reelection in 1904, he defeated Alton B Parker, the Democratic presidential candidate, by 196 electoral votes In his second administration, with Charles W Fairbanks as Vice President, Roosevelt continued his campaign against the "malefactors of great wealth " He directed the passage (1906) of the Hepburn Act, which revitalized the Interstate Commerce Commission and authorized greater governmental authority over railroads In 1906 T R also backed the passage of the Meat Inspection Act and the Pure Food and Drug Act A firm believer in the conservation of national resources, he followed with determination a policy of preventing the exploitation of timber and mineral supplies by private interests and added many millions of acres of land to public ownership Yet his progressive reforms were not so much directed at the abolition of "big business" as its regulation—an attitude shown by his tacit approval of the absorption of the Tennessee Coal and Iron Company by United States Steel in the Panic of 1907 Roosevelt, by insisting on government right to control business, increased the power of the President by decisive actions—which were equally manifest in his foreign policy Ably backed by John Hay and Elihu Root, he set out to solidify the world position won by the Spanish-American War. His desire to enhance the prestige and influence of the United States brought him the hatred of anti-imperialist groups in the United States. Most notable, perhaps, was his Caribbean policy In the VENEZUELA CLAIMS dispute he advanced the theory—known as the Roosevelt corollary to the Monroe Doctrine—that the United States had direct interest and some police power in the foreign affairs of Latin American countries This "big stick" policy awoke great indignation in Latin America Even more drastic was his action in the matter of the PANAMA CANAL. After the Colombian senate refused to ratify the proposed Hay-Herrán treaty, the U S navy was used (1903) to make the revolution in Panama against Colombia successful The new republic of Panama was immediately recognized, and the Panama Canal begun In 1905 the Dominican Republic, deeply in debt to European bond holders and threatened by intervention by European powers, was persuaded to accept a form of U S control in the appointment of an American receiver of customs Thus, the way was prepared for the American "dollar diplomacy" to gain headway in the Caribbean area Elsewhere the foreign policies of Roosevelt were active He and Hay sought to keep the OPEN DOOR in China. Roosevelt mediated to end the Russo-Japanese War, and the peace conference met at Portsmouth Navy Yard in 1904. He was an ardent advocate of the Hague Tribunal and it was through his offices that the Algeciras Conference (see MOROCCO) was called in 1906 He was awarded the 1906 Nobel Peace Prize In 1907 his gentleman's agreement with Japan, to discourage emigration of Japanese laborers to the United States, eased the tensions caused by California's anti-Japanese legislation He practically dictated the nomination of his presidential successor, William Howard TAFT After an African big-game expedition and a triumphant tour of European cities, "Teddy" Roosevelt returned (1910) to the United States and joined the campaign for the direct primary in New York President Taft had alienated the Progressive Republicans headed by Robert M La Follette, and the Republican party in 1912 was threatened with a split over presidential nomination The conservatives, however, controlled the Republican convention of 1912 and Taft was nominated Roosevelt led his followers out of the convention, organized the PROGRESSIVE PARTY—also called the "Bull Moose" party—and ran for President on this third-party ticket He ran second in the three-cornered presidential election of 1912 which made Woodrow WILSON President Forced into retirement, Roosevelt denounced the policies of Wilson, whose attempt to secure a treaty awarding Colombia damages for the loss of Panama particularly enraged T R After the outbreak of the First World War, he attacked Wilson's neutrality policy and after the United States declared war, he pleaded vainly to be allowed to raise and command a volunteer force He died soon after the end of the First World War Throughout his busy career he had found time not only for hunting and exploring expeditions—one of the most important of which was the exploration (1913) of the River of Doubt (now called the Roosevelt river or Rio Teodoro) in the Amazon jungles—but also for writing a great number of books These deal with history, hunting, wildlife, and politics Among them are *The Naval War of 1812* (1882), biographies of Thomas H Benton (1887) and Gouverneur Morris (1888), *The Winning of the West* (4 vols , 1889–96), *African Game Trails* (1910), *The New Nationalism* (1910), *Progressive Principles* (1913), *Through the Brazilian Wilderness* (1914), and his important autobiography (1913) His daughter by his first wife, Alice Lee Roosevelt, married Nicholas Longworth in the White House, "Princess Alice" by her forthright personality, unconventional ways, and able tongue attracted much notice There were five children of his second marriage—Theodore Roosevelt, Jr , Kermit Roosevelt, Archibald Bulloch Roosevelt, Ethel Carow Roosevelt (Mrs Richard Derby), and Quentin Roosevelt Quentin was killed in the First World War, Theodore, Jr , and Kermit both died in active service in the Second World War See the biographies by J B Bishop (1920), Henry F Pringle (1931), W F McCaleb (1931) and A F Harlow (1943), Tyler Dennett, *Roosevelt and the Russo-Japanese War* (1925), D C Hill, *Roosevelt and the Caribbean* (1927), T A Bailey, *Theodore Roosevelt and the Japanese-American Crises* (1935), G C O'Gara, *Theodore Roosevelt and the Rise of the Modern Navy* (1943), G E Mowry, *Theodore Roosevelt and the Progressive Movement* (1946)

Roosevelt 1 Borough, N J see HIGHTSTOWN 2 [for Theodore Roosevelt] City (pop 1,264), NE Utah, E of Provo, settled 1908, inc 1913 It is a farm and ranch center in the Uintah Basin, S of the Uinta Mts Moon Lake is to the northwest, and some lands are irrigated by the Moon Lake project

Roosevelt, river, c 400 mi long, W Brazil, rising in E Guaporé territory It flows N across NW Mato Grosso and SE Amazonas into the Rio Aripuañia, a tributary of the Madeira. It was called the River of Doubt (Rio da Dúvida) until it was explored by Theodore Roosevelt in 1913 Renamed in his honor, it is also called Rio Teodoro The lower course of the Aripuañia is sometimes also called the Roosevelt See Theodore Roosevelt, *Through the Brazilian Wilderness* (1914)

Roosevelt Dam: see SALT RIVER VALLEY.

Roosevelt Lake. see GRAND COULEE DAM

Root, Elihu, 1845–1937, American statesman, b Clinton, Oneida co , N Y., grad Hamilton College, 1864, and New York Univ law school, 1867 He practiced law in New York city, became prominent in Republican politics, and was appointed

(1883) district attorney of the southern district of New York He soon (1885) returned to his private practice, in which he gained distinction as a corporation lawyer As U S Secretary of War (1899–1904) under William McKinley and Theodore Roosevelt, Root not only improved the efficiency of the War Dept, made drastic reforms in the organization of the army, and established the Army War College, but also helped direct the U S policies in Cuba and in the Philippines He became Secretary of State under Roosevelt in 1905, serving until 1909 He improved relations with Latin America somewhat after much criticism had been leveled at U S activities in Panama, and he brought Japan to confirm the Open Door policy in China by the Root-Takahira Agreement (1908) His great interest was in forwarding international organization and world peace He was reluctant to run for public office—partly, perhaps, because his opponents made much of his having been defense attorney for William M Tweed in 1873—though he did accept appointment in 1909 as U S Senator from New York and served until 1915 In 1912 he was chairman of the Republican national convention, and in the break between Roosevelt and William H Taft adhered to the conservative Taft faction He was a member of the Hague Tribunal (Permanent Court of Arbitration) and was prominent (1910) in the North Atlantic Coast Fisheries Arbitration His reputation as one of the greatest of internationalists was enhanced when he received the 1912 Nobel Peace Prize He took part in the preliminary planning for the League of Nations, helped to bring the World Court (Permanent Court of International Justice) into existence, and was prominent in work for international peace See biography by Philip C Jessup (1938)

Root, George Frederick, 1820–95, American composer, b Sheffield, Mass He taught at Lowell Mason's Boston Academy of Music and in various schools in New York He wrote gospel songs and composed sentimental ballads to Fanny Crosby's lyrics, but best known were his Civil War songs *The Battle Cry of Freedom* and *Tramp, Tramp, Tramp*

Root, John Wellborn, 1850–91, American architect, b Lumpkin, Ga, studied at Oxford, grad Univ of the City of New York (later New York Univ), 1869 He worked in New York with James Renwick and became a partner of D H Burnham in Chicago The firm created the modern type of highly organized architectural office suited to the planning of metropolitan buildings, were pioneers in the development of the steel-frame office building, and won international attention by their planning of the World's Columbian Exposition, Chicago, 1893 Root developed a type of ornament, based upon Romanesque design, which later was to be further developed by Louis Henry Sullivan

root, in botany, the descending axis of a plant, as contrasted with the stem, the ascending axis In the growing plant it is usually underground, but may grow in water or in the air The function of roots is to absorb water and chemical elements from the soil for nutrition and to stabilize the plant Young roots usually have root hairs (cellular projections) which increase the surface for absorption The long main root, the tap root, characteristic of most trees and of many other plants, is edible in the carrot, parsnip, radish, and other root crops Plants are classed by their roots as annual, biennial, or perennial, according to their length of life The bulb, corm, rhizome, and tuber, although they commonly grow partly or entirely underground, are not roots but stem structures A plant that does not root in the soil is known as an air plant or epiphyte The Indians used the roots of many plants for food Those of the Great Basin area depended so much on edible roots for their food supply that they became known as Digger Indians See Vernon Quinn, *Roots Their Place in Life and Legend* (1938)

root, in mathematics If a quantity is multiplied by itself some number of times, the product is a power of the quantity multiplied, which is a root The product of 2x2x2x2 is 16 Since the factor 2 is used four times, 2 is the fourth root of 16, and 16 is the fourth power of 2, or 2 raised to the fourth power. The second root is called the square root, or g, the square root of 16 is 4 The third root is called the cube root the cube root of 64 is 4

root crop, plant cultivated chiefly for its edible roots, e g, the beet, turnip, mangel-wurzel, carrot, and parsnip The term is often used to distinguish such crops from field crops All root crops have a large water content and grow best in deep soil and during cool weather Their harvesting and handling require more handwork than do cereal crops Because they require thorough cultivation of the soil for successful growing, they are often desirable in a rotation of crops—beets and turnips being most frequently so used. Root crops, especially beets, turnips, and carrots, are grown also as food for livestock.

rootstock. see RHIZOME.

rope: see CORDAGE

Roper, Daniel Calhoun, 1867–1943, U S government official, b Marlboro co, S C, grad Trinity College (now Duke Univ), 1888. He studied law and held many clerkships on Congressional committees Roper was First Assistant Postmaster General (1913–16) and Commissioner of Internal Revenue (1917–20) in the Wilson administration Under President F D Roosevelt, he served as Secretary of Commerce (1933–38) and as minister to Canada (1939) With F H Lovette he wrote *Fifty Years of Public Life* (1941)

Roper, Margaret, 1505–44, English woman of learning, educated by her father, Sir Thomas More She is remembered as much for her sweet disposition and filial devotion as for her learning It is said that, after her father's execution, she secured his head and preserved it until her own death This story, probably untrue, has been often repeated and finds an echo in Tennyson's *Dream of Fair Women* Margaret's husband, **William Roper,** 1496–1578, was the author of *The Life, Arraignement, and Death of That Mirrour of All True Honour and Vertue, Syr Thomas More* (Paris, 1626), an English biographical classic

Rops, Félicien (fālēsyĕ' rôps'), 1833–98, Belgian painter, etcher, and lithographer, of Hungarian descent He was first known through drawings published in a student publication of the Univ of Brussels In 1857 he founded a satirical journal, *Uylenspiegel*, for which he made lithographs and caricatures From c 1862 he lived principally in Paris and became noted as an illustrator of unusual imagination and an artist of great technical skill He illustrated the poems of Baudelaire His etchings, of which there are several hundred, include such series as the *Sataniques* and the *Album of 100 Sketches* He also made many lithographs and water colors

roque see CROQUET

Roquefort cheese (rōk'furt), semihard, unpressed rennet cheese Its distinctive flavor and greenish-blue mottled appearance are produced by a penicillium mold added to the unheated curds The cheese is cured in the limestone caves around Roquefort, Aveyron dept, S France First made over six centuries ago from the milk of ewes, the cheese is now produced also from cow's milk The Roquefort-type cheese manufactured in the United States is known as blue cheese

Roraima (rōrē'mə), mountain, 9,219 ft high, at the junction of the boundaries of Brazil, British Guiana, and Venezuela A giant table mountain, it is the highest point in the Guiana Highlands

Rorer, Sarah Tyson, 1849–1937, American lecturer, writer, and teacher of domestic science and cookery, b Richboro, Bucks co, Pa In 1884 she established the Philadelphia School of Domestic Science and remained until 1902 as principal She edited *Table Talk* (1886–92) and *Household News* (1893–97) and then became domestic editor of the *Ladies' Home Journal* Among her many publications are *Mrs Rorer's New Cook Book* (1902) and *Diet for the Sick* (1914)

Roros, Nor *Røros* (rû'rōs), village (pop 2,556) Sor-Trondelag co, E Norway The copper mines in the vicinity, opened in 1644, are among the most important in Norway The copper ore, mined and smelted by electricity from waterfalls near by, is shipped to Trondheim for export

Rorschach (rōr'shākh), town (pop 10,591), St Gall canton, Switzerland on the southwest shore of the Lake of Constance Artificial-silk textiles are made

Rorschach Test see MENTAL TESTS

Rosa, Salvator (salvätōr' rō'zä), 1615–73, Italian landscape, historical, and portrait painter of the Neapolitan school, as well as etcher and poet For several years he wandered about the wild regions of the Apennines and the shores of S Italy, sketching the mountainous landscapes and the shepherds, bandits, and seamen that appear in many of his most characteristic paintings In 1635 he went to Rome, where he established his reputation with his painting *Prometheus* (Corsini Palace, Rome) At the invitation of the grand duke, he moved (1640) to Florence, where he worked under the patronage of the Medici, returning to Rome in 1649 Salvator Rosa is best known for his spirited battle pieces and for his landscapes, but he also painted admirable portraits and occasionally a fine marine, such as the large *Coast Scene* (Colonna Palace, Rome) His work is characterized by grandeur of design, vigorous execution, and effective chiaroscuro Well-known examples are *Conspiracy of Catalina* and a marine (Pitti Palace, Florence), self-portrait (Uffizi), *Mercury and the Dishonest Woodman* and *Landscape with Figures* (National Gall, London), *St Paul in the Desert* (Milan), *The Shade of Samuel Appearing to Saul* and a battle piece (Louvre) *Sisyphus*, a fine battle piece, and *Christ and the Doctors* (Naples), and a battle piece and a self-portrait (Metropolitan Mus) He also produced vigorous etchings after his own designs and a number of well-known satiric poems, treating of *music, poetry, painting, war*, and other subjects See biography by Lady Sydney Morgan (1824).

Rosa, Monte (mōn"tā rō'zä), mountain group of the Pennine Alps, on the Swiss-Italian border Its highest peak, the Dufourspitze (dūfôr'shpĭ"tsü), 15,217 ft, is also the highest point in Switzerland.

Rosalie, Fort: see NATCHEZ

Rosamond (rō'zumŭnd), fl c 570, wife of the Lombard king Alboin The daughter of King Kunimund of the Gepidae, she was taken captive by Alboin, who had defeated her father and slain him Forced by Alboin to drink out of a cup fashioned from her father's skull, she had him murdered by two of his own courtiers and took refuge with the Byzantine prefect at Ravenna Having married one of her fellow conspirators, Helmechis, she sought to rid herself of him in order to marry the prefect, Longinus She offered Helmechis a poisoned drink, of which he drained half and forced her to swallow the remainder Her story, which has been neither confirmed nor disproved by historical research, is the subject of two tragedies—Swinburne's *Rosamund* and Alfieri's *Rosmunda*

Rosamond, d 1176?, mistress of Henry II of England, who was known as the Fair Rosamond She was the daughter of Walter de Clifford Henry II openly acknowledged his connection with Rosamond (c 1174), after he had imprisoned his wife, Eleanor of Aquitaine A considerable body of legendary material concerning Rosamond was written by the medieval chroniclers but is incapable of proof The best known of these stories tell how Queen Eleanor murdered Rosamond by poison, stabbing, or beheading

Rosario (rôsär'yō), city (1944 estimated pop 522,403), Santa Fe prov, E central Argentina, a port on the Paraná river The second largest city of Argentina, it is on the eastern margin of the Pampa and is primarily the import and export center for the central and northern provinces The chief exports are wheat and other grains, flaxseed, sugar, meat and meat products, hides, wool, and quebracho Although sugar refining and flour milling are the principal industries, there are also large meat-processing plants Rosario is the terminus of several railroads and has splendid port facilities Made the port of the Argentine confederation by Justo José de Urquiza in the 1850s, it grew mainly after 1870 with the rapid development of the productive Pampa

rosary (rō'zurē) [rose garden], prayer of Roman Catholics, in which beads are used as counters It was formerly called the chaplet The term, applied also to the beads, is extended to Moslem and Buddhist prayers which use beads The rosary is a series of 15 meditations on events (mysteries) in the lives of Jesus and Mary The joyful mysteries are (Luke 1–2) the Annunciation, the Visitation, the birth of Jesus, the Purification of the Virgin, and the finding of the child Jesus among the doctors The sorrowful mysteries are (Mat 26–27) the agony of Jesus in the garden, His scourging, the crowning with thorns, the carrying of the Cross, and the Crucifixion The glorious mysteries are the Resurrection (Luke 24), the Ascension (Acts 1 1–11), the descent of the Holy Ghost (Acts 2), the assumption of the Virgin, and her coronation as Queen of Heaven As one dwells on a mystery in thought one recites prayers—the Lord's Prayer once, Hail Mary (Ave Maria) 10 times, and Glory Be to the Father (Gloria Patri) once Count is kept by slipping beads though the fingers, the beads have no other significance The usual string has five sets of 10 beads (decades), between the decades a single bead is set apart, for the Glory of one mystery and the Our Father of the next There is a pendant with crucifix and beads for introductory prayers The rosary is often said in common, as in churches and families, but it remains an individual's prayer Of Christian private systems of prayer it is perhaps the most used, this popularity is often ascribed to the combination of simplicity of method with solidity of subject matter It has been in use some 600 years There is a feast of the rosary, Oct 7, the anniversary of the victory of Lepanto

Rosas, Juan Manuel de (hwän' manwĕl' dā rô's ās), 1793–1877, Argentine dictator, governor of Buenos Aires prov (1829–32, 1835–52) As a boy he served under Jacques de Liniers against the British invaders of the Río de la Plata (1806–7), but most of his youth was spent in the cattle country, where he laid the foundations of his fortune through large-scale ranching In 1820 he began his political career by leading his well-trained gaucho troops in support of the conservatives and federalism, and after the deposition and execution of Manuel Dorrego (1828) he became the federalist leader In conjunction with Estanislao Lopez, Rosas defeated Juan Lavalle (April, 1829), thereby increasing his prestige, and soon he became governor of Buenos Aires (1829) Aided by López and Quiroga, he destroyed, temporarily and with sanguinary thoroughness, the unitarian cause He surrendered office in 1832, but maintained his prestige by a successful expedition against Indians In 1835 he again became governor, by machinations and by agreements with other provincial chiefs, he soon assumed the dictatorship of most of Argentina His power was absolute and his government at times complete tyranny He instituted a régime of terror, he was assisted by spies, servile propagandists, and the *Mazorca* (a secret political society which degenerated into a band of assassins) Few intervals of tranquillity occurred under his dictatorship.

Successive and continuous revolutions were organized against him, secret revolutionary groups were formed, and his conduct of foreign affairs incurred the hostility of foreign nations Argentina was involved with the United States and England in a dispute over the FALKLAND ISLANDS Rosas's ambition led him to interfere in Uruguay, refuge of Argentine exiles, where he supported Manuel ORIBE His suspected designs of reducing Paraguay and Uruguay to dependent Argentine states increased ill-feeling with France and England Argentina was blockaded by France from 1838 to 1840 and by both England and France from 1845 to 1850. Brazil also became apprehensive of Rosas's imperialistic aspirations These foreign difficulties, although they furnished Rosas patriotic support, greatly injured Argentine business and commerce Resentment against the political and economic dominance of Buenos Aires at length resulted in the last and successful revolution against Rosas In 1851, Justo José de URQUIZA, governor of Entre Rios and a lieutenant of Rosas, rose in revolt Aided by Brazil and Uruguay, Urquiza crushed the tyrant's army at Monte Caseros (Feb 3, 1852), and the dictator fled to England, where he lived in exile until his death Rosas, by dominating the provinces and by subjugating the provincial *caudillos*, helped bring about the unification of Argentina

Rosas, Juan Martínez de see MARTÍNEZ DE ROSAS, JUAN

Roscelin (rŏ'sulĭn), fl 1092–1119, scholastic philosopher He is also called Roscellinus, Jean Roscelin, and Johannes Roscellinus He was a canon at Compiegne when in 1092 he was ordered by the Synod of Soissons to recant his doctrines concerning the Trinity He recanted and fled to England, but later returned to France He was an opponent of Anselm and a teacher of Abelard, with whom he later had a violent quarrel A letter answering Abelard's attack is the only writing of Roscelin which has been preserved Roscelin has often been called the originator of nominalism He was certainly opposed to the realists, though his own doctrines are somewhat obscure. That he was, strictly speaking, a tritheist (one who teaches that the three Persons of the Trinity are distinct individuals) has also been questioned He seems to have considered the separate persons as separate beings, having a single will and power

Roscher, Wilhelm (vĭl'hĕlm rō'shur), 1817–94, German economist Criticizing classical economic theorists, he founded the historical school of economics His chief work is *System der Volkswirtschaft* (5 vols, 1854–94, Eng tr of 13th ed, *Principles of Political Economy*, 1878)

Roscius, Quintus (kwĭn'tŭs rō'shus), c 126 B C –62 B C., Roman actor Born a slave at Solonium, he became the greatest actor of his time From the dictator Sulla, Roscius received the honor of the gold ring signifying equestrian rank In a lawsuit Cicero, whom he had taught elocution, defended him by an extant oration, *Pro Q Roscio Comoedo* In British drama the appellation "young Roscius" was bestowed upon William Henry West BETTY, and actors of distinction have often been called the "new Roscius"

Roscoe, Sir Henry Enfield (rŏ'skō), 1833–1915, English chemist He was professor (1857–87) at Owens College, Manchester In 1884 he was knighted He is known for his work, with R W Bunsen, in photochemistry and for his study and analysis of vanadium compounds and his isolation of the metal He wrote two standard works, *Elementary Chemistry* (1866) and, with Carl Schorlemmer, *A Treatise on Chemistry* (3 vols, 1877–84) See his autobiography (1906), study by T E Thorpe (1916).

Roscoe, William, 1753–1831, English historian and author. He was called to the bar in 1774 and later, as a member of Parliament, fought against the slave trade (1806) *The Life of Lorenzo de' Medici* (1795), his principal historical work, received praise, but his *Life of Leo X* (1805) was severely criticized In 1806 he contributed a children's classic, *The Butterfly's Ball and the Grasshopper's Feast*, to the *Gentleman's Magazine* See biographies by C S Jones (1931) and G W Matthews (1931)

Roscoe. 1 Borough (pop 1,372), SW Pa, on the Monongahela and S of Pittsburgh, inc 1892 **2** City (pop 1,166), W Texas, near Sweetwater, inc 1907 It has railroad shops, grain elevators, and cotton gins

Roscommon, Wentworth Dillon, 4th earl of (rŏskŏ'mun), 1633?–1685, English poet and scholar, b Ireland One of the first to praise Milton's genius, he himself made a blank-verse translation (1680) of Horace's *Ars poetica* and wrote an *Essay on Translated Verse* (1684)

Roscommon (rŏskŏ'mun), inland county (951 sq mi, pop 72,510), N central Ireland, in Connaught The county town is Roscommon A part of the central plain of Ireland, the region is low-lying and contains many lakes (Lough Allen and Lough Ree) and bogs. The River Shannon, which forms the eastern border, and the Suck, which borders the county on the west, are the principal rivers It is an agricultural county, chiefly pasturing cattle and sheep Roscommon was organized as a shire with its present boundaries in 1579.

Roscommon, town (pop. 2,038), county town of Co. Roscommon, Ireland It has a Dominican priory and a castle, both dating from the 13th cent

Rose, Gustav (gōōs'täf rō'zŭ), 1798–1873, German mineralogist He served as professor at the Univ of Berlin from 1839 and as director of the Royal Mineralogical Museum from 1859. Noted especially as a crystallographer, he advanced the scientific study of rocks His brother, **Heinrich Rose** (hīn'rĭkh), 1795–1864, an analytical chemist, was professor at the Univ of Berlin from 1835 He demonstrated (1844) that niobium (columbium) and tantalum are different elements

Rose, Sir John, 1820–88, Canadian lawyer and politician, b. Scotland. He went to Canada in 1836, was called (1842) to the bar of Lower Canada, and became a noted lawyer in Montreal In the Macdonald-Cartier administration, he was appointed (1857) solicitor general for Lower Canada and (1858) minister of public works He was a delegate to the conference held at London in 1866–67, at which Canadian confederation measures were framed, and in 1868, after the resignation of Sir Alexander Galt, Rose became minister of finance for the dominion He resigned in 1869 and went to England to live and was created baronet in 1870

Rose, John Holland, 1855–1942, English historian Educated at Manchester and Cambridge universities, he was a reader in history (1911–19) at Cambridge and professor of naval history there from 1919 until his retirement in 1933 An authority on the Napoleonic era, he was noted for careful use of archival materials and corrected old erroneous interpretations His *Life of Napoleon I* (2 vols, 1902) is masterly His other historical works include *The Development of the European Nations, 1870–1900* (1905, 6th rev ed, 1922, bringing the account to 1921) and *Nationality in Modern History* (1916) He was one of the editors of *The Cambridge History of the British Empire* and contributed to other similar works

Rose, Joseph Nelson, 1862–1928, American botanist, b. near Liberty, Ind, grad Wabash College, 1885 He was associated (1894–1928) with the U S National Museum and was research associate (1912 23) of the Carnegie Institution, both in Washington, D.C He made a special study of cacti, several genera being named for him Besides numerous scientific papers, he wrote *Notes on Useful Plants of Mexico* (1899) and *Monograph of North American Umbelliferae* (1901) and collaborated in other books

Rose, Mary Swartz, 1874–1941, American nutrition expert, b Newark, Ohio, grad Teachers College, Columbia (B S, 1906), Ph D Yale, 1909. A teacher from 1899, she joined the faculty of Teachers College in 1909 and became professor in 1921 She was a director (1918–19) of the Bureau of Conservation of the Federal Food Board and of the New York state food commission Her writings include *A Laboratory Handbook for Dietetics* (1912, rev ed, 1937), *Feeding the Family* (1916, rev ed, 1940), *The Foundations of Nutrition* (1927, rev ed, 1938), and *Teaching Nutrition to Boys and Girls* (1932)

rose, wild and cultivated plant, native to the Northern Hemisphere but known and grown all over the world in many hundreds of varieties The blossoms may be single or double, in white, yellow, and many shades of pink and red, and usually fragrant The thorny plant ranges in size from a tiny rock-garden form to a spreading, climbing vine The foliage is often fragrant, as in the European SWEET BRIER The rose has been a favorite flower in many lands since prehistoric times It appears in the earliest art, poetry, and tradition It has been used in innumerable ways in decoration In ancient times it was used medicinally—Pliny lists 32 remedies made of its petals and leaves. Formerly it was eaten in salads and conserves. It was sacred to Aphrodite and was a favorite flower of the Romans, who spread its culture wherever their armies conquered Among the old species are the damask rose and the cabbage or hundred-leaved rose, cultivated in the Old World for ATTAR OF ROSES The famous roses of England include the white rose that was the emblem of the house of York and the red rose of the house of Lancaster in the Wars of the Roses, as well as the variegated red and white rose (now called the York and Lancaster) which was the device of the Tudors because it united the houses of York and Lancaster The RAMBLER, tea, and hybrid tea roses are of more recent origin, the result of modern rose culture which really began when the East India Company's ships brought new everblooming or monthly roses from the Orient The rose is the emblem of England and the flower of New York state, the wild rose, of Iowa, the prairie rose, of North Dakota, and the American Beauty, of the District of Columbia Rose shows are held annually in many cities, and rose carnivals in several, rose gardens are often important parts of civic parks and private gardens Although roses are easy to grow in most soils, many varieties require careful annual pruning and constant spraying against disease and insect pests during the growing season. See the *American Rose Annual*, issued by the American Rose Society, E. A. Bunyard, *Old Garden Roses* (1937); J. H McFarland, *Modern Roses* (3d ed., 1947); R. C. Allen, *Roses for Every Garden* (1948).

Roseau (rō'sō, rōzō'), village (pop 1,775), co. seat of Roseau co., NW Minn., near the Canadian line W of Lake of the Woods It is a port of entry and a trade and shipping center for a farm area

Rosebery, Archibald Philip Primrose, 5th **earl of** (rōz'bŭrē), 1847–1929, English statesman. He succeeded his grandfather as earl in 1868. Rosebery was (1881–83) an undersecretary for home affairs and held the position of foreign secretary under William Gladstone in 1886 and from 1892 to 1894 In the latter office he advocated a form of imperial federation In 1894 he succeeded Gladstone as prime minister but was forced to resign in 1895 because of a split in the support of the Liberal party He became the leader of the Liberal Imperialist division of the party, but retired from politics in 1905 when Henry Campbell-Bannerman was chosen as Liberal prime minister He wrote a number of historical monographs, including *William Pitt* (1891), *Sir Robert Peel* (1899), *Napoleon* (1900), *Oliver Cromwell* (1900), and *Chatham* (1910) See biography by his son-in-law, R O A. Crewe-Milnes, 1st marquess of Crewe (1931)

Rosebud, city (pop 1,842), E central Texas, S of Waco, in a farming area, settled 1890, inc 1906

Rosebud, river of SE Montana, a tributary of the Yellowstone It is also called Rosebud Creek On its banks Indians under CRAZY HORSE defeated U S troops under Gen George CROOK in June, 1876

Roseburg, city (pop 4,924), co seat of Douglas co, SW Oregon, S of Eugene and on the Umpqua, settled c 1851, inc 1872 It is a rail and trade center, with fruit canneries and lumber mills A U S veterans' hospital is here

Rosecrans, William Starke (rōz'krănz), 1818–98, Union general in the Civil War, b Kingston, Ohio, grad West Point, 1842 He resigned from the army in 1854 but in April, 1861, became volunteer aide-de-camp to G B McClellan and helped to organize the Ohio Home Guards Rosecrans was made a brigadier general (May, 1861), operated successfully against the Confederates in W Virginia (July, 1861–April, 1862), and was promoted major general (March, 1862) As commander of the Army of the Mississippi, he was victorious at IUKA and CORINTH (Sept –Oct, 1862) In Nov, 1862, Rosecrans succeeded D C BUELL in command of the Army of the Cumberland (formerly called the Army of the Ohio) and one month later opposed Braxton BRAGG in the battle of MURFREESBORO, which ended in a Confederate retreat In the CHATTANOOGA CAMPAIGN, he ably outmaneuvered Bragg, but the Confederates thoroughly defeated him at Chickamauga (Sept, 1863) Relieved of his command, Rosecrans for a time directed operations in Missouri After resigning from the army in 1867, he became minister to Mexico (1868–69), member of the House of Representatives (1881–85), and register of the Treasury (1885–93) An act of Congress (1889) reappointed him brigadier general on the retired list

Rosedale, city (pop 2,063), a co seat of Bolivar co, NW Miss, on the Mississippi and N of Greenville It has fishing and farming activities

Rosegger, Peter (pā'tur rō'zĕgur), 1843–1918, Austrian novelist He wrote many tales and novels of Styrian peasant life, which he knew at first hand, having been a shepherd boy and an itinerant tailor Beginning to write almost without education, he received the means to study through an interested editor His work became very popular in German-speaking countries and abroad Rosegger was critical of modern life and progress A strong religious viewpoint gives his work a didactic tendency His voluminous writings include *Das Volksleben in Steiermark* [folk life in Styria] (1875), *Die Schriften des Waldschulmeisters* (1875, Eng tr, *The Forest Schoolmaster*, 1901), *Der Gottsucher* (1893, Eng tr, *The God-Seeker*, 1901), and several autobiographical works, notably *Waldheimat* (1877, Eng tr, *The Forest Farm*, 1912), *Als ich jung noch war* [while I was still young] (1894), and *Mein Weltleben* [my life in the world] (1898)

Rose Island, coral atoll, most easterly of the Samoan islands It is 150 mi E of Pagopago, Tutuila Rose Island was claimed in 1921 by the United States.

Roseland, borough (pop. 1,556), NE N J, W of Newark, inc 1908

Roselle (rōzĕl'), borough (pop 13,597), NE N.J, near Elizabeth, inc 1894

Roselle Park, borough (pop 9,661), NE N J., near Roselle, inc 1901

rose mallow · see HIBISCUS.

rosemary (rōz'mârʺē) [ultimately from Latin, =dew of the sea], widely cultivated evergreen shrub (*Rosmarinus officinalis*) of the mint family, fairly hardy and native to the Mediterranean region It has small light blue flowers The aromatic leaves, whitish beneath, are used for seasoning, and the oil is used in perfume and medicine. Rosemary from ancient times has been regarded as a token of constancy and remembrance. In *Hamlet* (IV 5) Ophelia says, "There's rosemary, that's for remembrance." There is a prostrate variety.

Rosemont, village, Montgomery co, SE Pa, seat of Rosemont College (Catholic; for women; 1921).

rose moss: see PORTULACA.

Rosenau, Milton Joseph (rō'zənou), 1869–1946, American sanitarian, b Philadelphia, M D Univ of Pennsylvania, 1889 He served in the U S Public Health Service as surgeon (1890–1909) and as member of the national health council (from 1929). He was professor of preventive medicine and hygiene at Harvard (1909–35) and director of the division of public health, Univ of North Carolina (from 1936) He wrote many works in his field

Rosenberg, Alfred (äl'frät rō'zənbĕrk), 1893–1946, German National Socialist leader He was born in Reval (now Tallinn, Estonia), where he was a teacher until he fled (1918) before the Red Army to Germany There he joined the National Socialist party and became the editor of the party organ, *Der völkische Beobachter* The author of an anti-Christian anti-Semitic, and neopagan book, *Der Mythus des 20 Jahrhunderts* [the myth of the 20th cent] (1930), he supplied Hitler with the spurious philosophical and scientific basis of his racist doctrine (see NATIONAL SOCIALISM) In 1941 he was appointed minister for the occupied Eastern territories Responsible for the poisoning of millions of minds and the death of millions of persons, Rosenberg was prosecuted as a war criminal at the Nuremberg trial (1945–46), convicted, and executed See *Memoirs of Alfred Rosenberg* (1949)

Rosenberg (rō'zənbûrg), city (pop 3,457), S Texas, SW of Houston and near Richmond, inc 1902 Founded with the coming of the railroad in 1883, it drew German and Czech immigrants and grew as market and shipping center for a rural area now producing cotton, rice, and truck There are some oil wells

Rosendale, village (pop 671), SE N Y , on Rondout Creek and SW of Kingston, inc 1890 On the Delaware and Hudson Canal, it was known for its production and shipping of Rosendale cement

Rosenfeld, Morris (rō'zənfĕlt), 1862–1924, Jewish poet, b Russian Poland In 1886 he settled in New York, where he edited the *New Yorker Morgenblatt* and later also the *Jewish Annals* His *Lieder Buch* (1897) was translated into English by Leo Wiener as *Songs from the Ghetto* It has also been translated into a number of European languages Rosenfeld, singer of the sweatshop in such poems as "Mein Ingele" and "Cradle Song"

Rosenthal, Moriz (mō'rĭts rō'zəntäl), 1862–1946, Polish pianist, pupil of Liszt He first appeared in the United States in 1888, assisted by Fritz Kreisler, in a concert at the Metropolitan Opera House He was considered one of the greatest pianists of his time, retaining his powers almost until the end of his life

Rosenwald, Julius (rō'zənwôld), 1862–1932, American merchant and philanthropist, b Springfield, Ill He was president (1910–25), and later chairman of the board, of the mail-order house of Sears, Roebuck & Company He established in 1917 the Julius Rosenwald Fund, which was largely used to establish rural schools for Negroes His many philanthropies included also Jewish relief in the Near East, Jewish colonization in Russia, funds for Y M C A and Y W C A buildings in cities with large Negro populations, and grants to educational institutions See biography by M R Werner (1939)

rose of Jericho, desert annual plant of Asia Minor (*Anastatica hierochuntica*), a RESURRECTION PLANT The branches curl into a ball at maturity, after which the plant, in its native habitat, is blown about by the wind and the seeds are dispersed Another plant (*Odontospermum pygmaeum*) of the same region has similar properties and is also called rose of Jericho

Rose of Lima, Saint (lē'mu), 1586–1617, Peruvian Dominican tertiary, of Spanish family She was remarkable for pious austerities St Rose was canonised in 1671 (the first canonised saint of the New World), and her shrine is at Lima Feast Aug 30

rose of Sharon or **shrubby althea** (ălthē'u), common ornamental Asiatic shrub (*Hibiscus syriacus*), cultivated elsewhere for its showy single or double flowers in white, rose, and purple, resembling the blooms of the hollyhock The shrub often reaches the size of a small tree, some forms having variegated leaves One species of St -John's-wort is called rose of Sharon The rose of Sharon of the Scriptures (Cant 2 1) is thought to be either a NARCISSUS or the MEADOW SAFFRON

Rose Polytechnic Institute. see TERRE HAUTE, Ind

Roses, Wars of the, traditional name given to the intermittent struggle for the throne of England between the noble house of LANCASTER (whose badge was a red rose), and the noble house of YORK (whose badge was a white rose) from 1455 to 1485 The Lancastrian house, since the deposition of Richard II 1399), had held the throne in the persons of Henry IV, Henry V, and HENRY VI, when about the middle of the century Richard, duke of YORK, came to the front as the leader of the opposition to William de la Pole, duke of Suffolk, Edmund Beaufort, duke of SOMERSET, and the queen, MARGARET OF ANJOU, who were in control of the weak Henry VI. The York party gained popular support from discontent over the failure of English arms in defense of the French provinces In 1450 Suffolk was impeached, banished, and then murdered as he was leaving the kingdom This was followed by the rebellion of Jack CADE (1450) which indicated strongly that the losses in France, the corruption and waste at court, and political rather than social grievances were at the bottom of popular unrest In the same year Richard returned to England, forced the king to recognize him, and demanded the removal of Somerset Although both sides raised armies, Richard was induced to disperse his troops by promises which were subsequently not kept The situation was complicated by the insanity of the king (1453) and the birth of a son to Queen Margaret Richard managed to gain the position of protector, but this lasted only until the king recovered, late in 1454 Richard was excluded from the royal council at Leicester (1454) and resorted to arms The opposing factions met at St Albans (1455), where Somerset was killed and the Yorkists were victorious over the royal party, now led by Queen Margaret This first battle of St Albans is usually taken as the beginning of the Wars of the Roses Richard again served as protector during another short period when the king lost his reason, and comparative quiet ensued, broken only by minor personal feuds In 1459 both parties were once again in arms, and the royal forces succeeded in driving the Yorkist leaders out of England In 1460 the Yorkists, the earl of Warwick and the earl of March, returned to defeat and capture the king at the battle of Northampton Richard hurried to London to assert his claims to the throne, which were, by laws of strict inheritance, perhaps better than those of Henry VI A compromise was effected, Henry retained the crown, and York and his heirs were declared successors Queen Margaret, whose son was thus disinherited, raised an army in the north and defeated (1460) the Yorkists at Wakefield Richard was killed in this battle and his claims devolved upon his son, the earl of March, but Richard Neville, earl of WARWICK, became the real leader of the Yorkist party Margaret, advancing towards London, defeated (1461) Warwick in the second battle of St Albans and rescued the king. The earl of March, meanwhile, had secured (1461) a Yorkist victory at Mortimer's Cross, marched into London unopposed, and assumed the throne as EDWARD IV With Warwick he pursued the Lancastrians northward and defeated them (1461) near Towton Henry and Margaret, with Scottish aid, continued troublesome in the north until the Yorkist victories of Hexham and Hedgeley Moor (1464) A truce was made with Scotland, Margaret fled to France, and the deposed Henry was captured and put into the Tower (1465) The Lancastrian cause seemed hopeless, but about this time a quarrel broke out between Warwick and Edward after the king's marriage to Elizabeth WOODVILLE in 1464 Warwick secured the support of the king's brother George, duke of CLARENCE, and fomented the rebellions of Robin of Redesdale (1469) and Sir Robert Welles (1470) These were crushed, and Warwick and Clarence fled to France (1470) Warwick became reconciled with Margaret and, supported by Louis XI of France, crossed to England, entered London during Edward's absence, and restored Henry VI. Edward fled to the Netherlands and received the support of Louis XI's enemy, Charles the Bold He returned to England in 1471, was reconciled with Clarence, regained London, and recaptured Henry Edward defeated Warwick and then Margaret at the battles of Barnet and Tewkesbury (1471) Warwick and Henry's son Edward were killed, Margaret was imprisoned, and shortly thereafter Henry died, probably slain at the orders of Edward IV Edward IV was succeeded by his 12-year old son, EDWARD V (1483), but soon the boy's uncle Richard, duke of Gloucester, gained complete control and then became king as RICHARD III Richard's ruthlessness and the murder of Edward V and his brother in the Tower created opposition and advanced the fortunes of Henry Tudor, earl of Richmond, the Lancastrian claimant Henry Stafford, duke of Buckingham, led an unsuccessful revolt in 1483, in 1485 Henry landed from France, gained supporters on his march through England, and defeated Richard at Bosworth Field Richard was killed in the battle and Henry ascended the throne as HENRY VII He secured the right of succession for himself and his heirs from Parliament and further strengthened his title by marrying Edward IV's daughter, Elizabeth, thus uniting the houses of Lancaster and York Except for two efforts to place pretenders on the throne the Wars of the Roses were ended It is generally said that with them ended feudalism in England, since the nobles who participated suffered heavy loss of life and property and were too weak to contest the rise of the monarchy under the Tudors The middle and lower classes, largely indifferent to the struggle, emerged with a strong desire for order and efficient administration. See Sir J. H Ramsay, *Lancaster and York* (1892); Sir Charles Oman, *The History of England, 1377–1485* (1906); K. H. Vickers, *England in the Later Middle Ages* (1930).

Roseto (rōzĕ'tō), borough (pop 1,778), E Pa , near Easton and the Delaware river, inc. 1910. There are slate quarries close by

Rosetown, town (pop 1,563), SW Sask , SW of Saskatoon, in wheat country It has grain elevators.

Rosetsu, Nagasawa (nä'gäsä"wä rō'sĕtsōō), 1755–99, Japanese landscape painter His playful puppies and other animals in his landscape scenes are original and humorous

Rosetta (rōzĕ'tu), Arabic *Rashid*, city (pop 28,698), Egypt, near the Rosetta mouth of the Nile Founded in the 9th cent , Rosetta was once important in commerce Today there is rice growing and fishing The **Rosetta stone** is a basalt slab inscribed by priests of Ptolemy V in hieroglyphic, demotic, and Greek Troops of Napoleon found it near the city in 1799, it was captured by the British in 1801 and is now in the British Museum It gave CHAMPOLLION, Thomas Young, and others the key to Egyptian HIEROGLYPHIC

Rosetti, Constantin (kŏnstăntēn' rōsĕt'), 1816–85, Rumanian statesman He took part in the Revolution of 1848, and after a period of exile in Paris he returned in 1861 to Rumania, was elected deputy, and in 1866 was made minister of public instruction After 1865 he was in a revolutionary group opposing Cuza He was president of the chamber in 1877 and minister of the interior (1881–82) He wrote verse and translated Byron and Lamartine

Roseville. 1 City (pop 6,653), N central Calif , NE of Sacramento, inc 1909 It is a fruit-shipping center, with an airport and railroad shops, in the Sacramento valley **2** Village (pop 1,061), W Ill , SW of Galesburg, in a farm and coal area, inc 1875 **3** Residential village (pop 9,023), SE Mich , northeast suburb of Detroit, inc 1926 There is a sheet-metal plant here **4** Village (pop 1,320), SE central Ohio, SW of Zanesville Clay products are manufactured, and there are coal mines here

rose window, large, circular stone-traceried window of the medieval church, the most noted being those of French Gothic cathedrals Circular windows, usually ornamented by shafts radiating from a small center circle, appeared in the Romanesque churches of both England and the Continent These wheel windows are the rudimentary form preceding the elaborate rose windows The latter, in their full development, were mostly used in France, where they appear in practically every important cathedral, either over the center portal of the west front or on at least one of the transept ends The early examples, as on the west façade of the cathedral at Chartres (12th–13th cent), were filled with plate TRACERY, pierced from a stone slab With the perfection of bar tracery, the typical rose, as in the cathedral at Rheims (13th–14th cent) and in Notre Dame de Paris (12th–14th cent), was filled with numerous radiating bars and intermediate bars, joining to form pointed arches at their outer ends The arches themselves were in turn filled with trefoils, quatrefoils, etc These radiating traceries furnish the term *Rayonnant* for the middle period (c 1220–1350) of French Gothic In the final or flamboyant period (1350–c 1525) the bars were arranged in wavy curves and more intricate patterns This rich and closely packed tracery, as in the fine transept window of St Ouen at Rouen, suggests the design of an open rose.

rosewood, popular name for the ornamental wood of several species of tropical trees, especially for the heartwood of certain leguminous trees of Brazil of the genera *Dalbergia* and *Machaerium* Brazilian rosewood or jacaranda (*Dalbergia nigra*) is one of the best woods of the country, important in commerce for 300 years It is obtained from the purplish-black heartwood of old trees, is rather oily, fragrant—whence the name—and durable, and is used whole or in veneers for piano casings and other kinds of cabinetwork and for tools, instruments, brush backs, and other articles East Indian rosewood, another species of *Dalbergia*, is also called blackwood Honduras rosewood, also of the same genus, is now used chiefly in percussion instruments where Brazilian rosewood was formerly employed Some rosewoods of the genus have been introduced into California as ornamental and timber trees, and one of the rosewoods of the genus *Machaerium* has also been introduced into the S United States as an ornamental tree Jamaica rosewood comes from a tropical tree of the rue family

Rosh (rŏsh) [Heb ,=head], son of Benjamin. Gen 46 21

Rosh ha-Shanah (hŭ-shä'nu) [Heb ,=head of the year], the Jewish New Year, also known as the Feast of the Trumpets It is a day second in importance only to the Day of Atonement (Yom Kippur) It is observed on the first day of the seventh month, Tishri, occurring usually in September. This holy day is held in very great reverence as the day of judgment, when all the people of the earth pass before the Lord and are marked in the "Book of Life" or in the "Book of Death " The 10 days from Rosh ha-Shanah to and including Yom Kippur are observed as days of penitence A distinguishing feature of the New Year is the blowing of a trumpet (shofar—a ram's horn) which summons Jews to their penitential observance.

Rosiclare (rō'sĭklâr"), city (pop 1,774), extreme SE Ill , on the Ohio, inc as a village 1874, as a city 1932

Rosicrucians (rōzĭkrōō'shŭnz), members of an esoteric society or group of societies, who claim that their order has been in existence since the days of ancient Egypt and has over the course of time included many of the world's sages The secret learning deals with occult symbols—notably the rosy cross, the swastika, and the pyramid—and with writings containing cabalistic messages (e g , Hermes Trismegistus) Some scholars trace modern Rosicrucianism to the 16th-century Christian Rosenkranz [rose cross], the pseudonym of Johann Valentin Andreæ, but some of the ideas seem to have been current earlier The adepts are called Illuminati The society was variously called Brothers of the Rosy Cross, Rosy-Cross Knights, and Rosy-Cross Philosophers Some students doubt that such an organization ever existed anciently as claimed They believe that the name was used as a device for arousing attention, by Andreæ and other theological reformers in the 17th and 18th cent In 1614 Andreæ published *Fama fraternitatis*, which caused great excitement in Europe In 1615 appeared the *Confessio rosæ crucis* An obscure connection seems to have existed between the Rosy Cross and Freemasonry American Rosicrucians are largely followers of theosophical doctrines The Rosicrucian Order (Ancient Mystical Order Rosæ Crucis) has headquarters at San Jose, Calif , the Rosicrucian Brotherhood (Fraternitas Rosæ Crucis) has headquarters in Quakertown, Pa , and the Society of Rosicrucians (Societas Rosicruciana in America) has a center in New York city See A. E Waite, *Real History of the Rosicrucians* (1887), H S Lewis, *Rosicrucian Questions and Answers* (1929)

rosin (rŏ'zĭn) or **colophony** (kŏ'lufŏ"nē, kŭlŏ'funē), solid residue obtained from crude turpentine (an oleoresin) after the oil of turpentine has been distilled off It is hard, brittle, translucent, without taste, but with a faint odor of pine or turpentine, usually pale yellow or amber, its color and general appearance depending upon the nature of the crude turpentine used and the method employed in its preparation As a result several grades are known, ranging from brownish black to transparent When prepared from crude turpentine obtained as an exudation from various species of pine, it is called gum rosin, when produced from turpentine obtained from wood, wood rosin Chemically, rosin is not a single substance but is thought to be a mixture containing an organic acid (abietic acid) It is soluble in alcohol, ether, turpentine, and several other organic solvents and in solutions of various hydroxides It is used in making some soaps, varnishes, paints, sealing wax, and cements, for treating violin bows, as a dressing for machine belting, as a sizing material for paper, in the preparation of certain metals for soldering, and, in pharmacy, in some ointments, plasters, and similar preparations Acrobats commonly rub it (in the form of dust) upon their hands and the soles of their shoes, as do prize fighters, to prevent slipping **Rosin soap** is prepared by treating rosin with an alkali The soap is often mixed with other (fatty) soaps, increasing the amount of suds, but its presence is not always of advantage since the soap may cause stains

rosinweed see COMPASS PLANT

Rositten, Latvia see REZEKNE

Roskilde (rōs' kĭlŭ), city (pop 23,497), E Zealand, Denmark, W of Copenhagen It is a port on Roskilde Fjord (an inlet of the Kattegat), with a fishing fleet and with various industries, including meat packing, canning, distilling, and paper milling One of the oldest Danish cities, Roskilde was the capital of Denmark until 1443 Many Danish kings are buried in its magnificent cathedral (11th-12th cent) Copenhagen, the new capital, was a foundation of a bishop of Roskilde, which was the ecclesiastic capital of Denmark until the suppression (1536) of the see in the Reformation The Lutheran bishops of Zealand subsequently resided at Copenhagen, but their cathedral was that of Roskilde In 1923 Roskilde again became an episcopal see By the Treaty of Roskilde (1658) Denmark ceded its lands in S Sweden to CHARLES, X of Sweden

Roslavl (rŏ'slävul, rŏslä'vŭl), city (pop 25,992), W European RSFSR, SE of Smolensk It is a rail junction and the center of an agricultural district Dating from the 14th cent , it was chartered (1408) under Lithuanian rule and passed to Russia by the Treaty of Andrusov (1667). In the Second World War it was the center of heavy fighting and was held (1941–43) by the Germans.

Roslin (rŏz'lĭn), village, Midlothian, Scotland, S of Edinburgh It has ruins of a chapel (15th cent)

Roslyn (rŏz'lĭn) **1** Village (pop 972), on NW Long Island, SE N Y , N of Mineola, inc. 1932 It is a residential suburb of New York William Cullen Bryant's home, "Cedarmere," is in Roslyn Bryant, his wife, and his son-in-law Parke Godwin are buried here **2** Coal-mining city (pop 1,743), central Wash , on the Yakima, settled 1886, inc 1889

Rosmini-Serbati, Antonio (äntō'nyō rōzmē'nē-sĕrbä'tē), 1797–1855, Italian philosopher and theologian. In 1828 he founded the Institute of the Brethren of Charity (Rosminians), whose members were laymen and clergy devoted to education and charity, a work which spread to England and America In 1830 Rosmini wrote *Nuovo saggio sull origine delle idee* (Eng tr , *Origin of Ideas*, 1883–86), and in 1848 *Cinque piaghe della Santa Chiesa* (Eng tr , *The Five Wounds of the Holy Church*, 1883) appeared. This aroused instant opposition, particularly from the Jesuits, and it was placed on the Index but later released The institutions started by Rosmini still are in operation See J F Bruno, *Rosmini's Contribution to Ethical Philosophy* (1916)

Rosny, J. H., aîné (rônē', ânā'), pseud of **Joseph Henri Honoré Boëx** (zhōzăf' ärē' ônôrā' bōĕks'), 1856–1940, and **J. H Rosny, jeune** (zhŭn'), pseud of **Séraphin Justin François Boëx** (sārăfăN' zhŭstăN' frăswa'), 1859–1948, French novelists The brothers were among the original members of the Goncourt Academy Early works, under the pseudonym J H Rosny, are *Le Bilatéral* (1887), *L'Immolation* (1887), *Daniel Valgrave* (1891), *Vamireh* (1892), and *Le Serment* (1896) Some of these were written by the elder Rosny alone, some by both After 1909 they worked separately

Ross, Alexander, 1783–1856 Canadian fur trader and pioneer, b Scotland He went to Canada in 1805, taught school for a while in Upper Canada, and in 1810 left for Oregon as a clerk in Astor's Pacific Fur Company In the founding (1811) of Astoria, Ross played a part When that fur-trading post was sold (1813) to the North West Company, he entered their employ and was a member of the expedition that established (1818) Ft Nez Percé (also called Fort Walla Walla), he was in charge of this post until after the amalgamation (1821) of the North West Company with Hudson's Bay Company His account of these years on the Pacific slope remains in his *Adventures of the First Settlers on the Oregon or Columbia River* (1849, new ed., 1923) and *The Fur-Hunters of the Far West* (1855, new ed , 1924) He was head of an expedition (1823–24) in the Snake river country In 1825 Ross settled in the Red River district, in Assiniboia he was sheriff and a member of the council His *Red River Settlement* was published in 1856, the year he died in that community

Ross, Betsy (Elizabeth Griscom Ross), 1752–1836, American flagmaker, b. Philadelphia. She is known to have made flags during the American Revolution, and the family continued in the flagmaking business long after her death The long-accepted story that she designed and made the first American national flag (the Stars and Bars) is now generally discredited

Ross, Edward Alsworth, 1866–, American sociologist, b Virden, Ill , Ph D Johns Hopkins, 1891 He taught economics (1893-1900) at Stanford Univ , from which he was ousted in a controversy over academic freedom From 1906 to 1937 he was professor of sociology at the Univ of Wisconsin He analyzed collective behavior and social control and wrote voluminously on population and other problems His chief works are *Social Control* (1901) and *Principles of Sociology* (1920) See his autobiography, *Seventy Years of It* (1937)

Ross, George, 1730–79, American Revolutionary patriot, signer of the Declaration of Independence, b New Castle, Del He was a lawyer in Lancaster, Pa , and a member of the colonial assembly (1768–74) before serving as delegate (1774–77) to the Continental Congress

Ross, Sir George William, 1841–1914, Canadian political leader, b Ontario He entered (1872) the Canadian House of Commons and was Liberal prime minister of Ontario from 1899 to 1905 Appointed to the Senate in 1907, he became Liberal leader in that body in 1911 He was a notable public speaker, many of his addresses have been published He wrote *Getting into Parliament and After* (1913) and *The Senate of Canada* (1914) See biography by Margaret Ross (1924)

Ross, Sir James Clark, 1800–1862, British polar explorer and rear admiral In 1818 he accompanied his uncle, Sir John Ross, in search of the Northwest Passage, and later he made several arctic voyages with W E Parry In another expedition (1829–33) with his uncle, he located (1831) in Boothia Peninsula the north magnetic pole (now located in Prince of Wales Island) In command of an expedition (1839–43) of exploration in Antarctica, Ross discovered Ross Sea, reaching Ross Island and following the Ross Shelf Ice eastward for c 350 mi He also discovered Victoria Land He recorded his experiences in his *Voyage of Discovery and Research to Southern and Antarctic Regions* (1847) In 1848–49 he led an expedition to search for Sir John Franklin's party

Ross, Sir John, 1777–1856, British arctic explorer and rear admiral In 1818 he went in search of the Northwest Passage but turned back after exploring Baffin Bay Financed by Sir Felix Booth, he commanded a second search expedition (1829–33), in the course of which he discovered Boothia Peninsula, the Gulf of Boothia, and King William Island His nephew, Sir James Clark Ross, accompanied him on both voyages His last trip to the arctic regions was made in 1850–51, when he went to the Lancaster Sound region to search for Sir John Franklin. He wrote two books describing his quest for the Northwest Passage.

Ross, John, called in Cherokee *Koweskoowe* (kōs"wĭs"kōōwā'), 1790–1866, Indian chief, b near Lookout Mt., Tenn., of mixed Scottish and Cherokee (one eighth) blood He was educated at Kingston, Tenn , and in the War of 1812 served under Andrew Jackson against the Creeks Elected principal chief of the eastern Cherokee in 1828, Ross struggled valiantly to hold the ancestral lands of his people but was unable to withstand the constant pressure of Georgia for removal. In a treaty (1835) of questionable validity, a small minority of the Cherokee ceded the lands and moved west. Ross and the majority refused to acknowledge the cession but resistance was futile, and in 1838–39 he led them on the long, hard journey to what is now Oklahoma Thousands died on the "trail of tears " From 1839 till his death Ross was chief of the united Cherokee nation (the western Cherokee had migrated at the beginning of the century) He counseled neutrality in the Civil War, but the Cherokee ultimately adhered to the Confederacy See biography by R C Eaton (1921), M L. Starkey, *The Cherokee Nation* (1946)

Ross, Nellie Tayloe, 1880–, American public official, b St Joseph, Mo She was elected (1925) governor of Wyoming to fill the unexpired term of her husband, William B Ross, and she served until 1927 She was the first woman to become (1933) director of the U S mint, a post to which she was reappointed in 1938, 1943, and 1948

Ross, Robert, 1766–1814, British general He served against the French in the Netherlands, in Egypt, and in the Peninsular War In 1814 he was sent to the United States in the War of 1812 Advancing through the Chesapeake Bay, he ascended the Patuxent river to Benedict With a reinforcement of marines that brought his army up to 4,500 men, he started toward Washington At BLADENSBURG, Md., he fell upon and defeated (Aug 24, 1814) the American troops, consisting mostly of militia Continuing the march to Washington, on the same day, they surprised and captured the city, burning all the public buildings, but respecting private property The arsenal and vessels under construction in the dockyards were destroyed by the Americans The British reembarked on Aug 30, but, spurred by victory, they decided to attempt the capture of Baltimore On Sept 12, in a thick wood near North Point, they again encountered the American militia, a skirmish ensued, and Ross was killed The attack on Baltimore was abandoned

Ross, Sir Ronald, 1857–1932, English physician, b India He was professor of tropical medicine at University College, Liverpool, from 1902 and directed the Ross Institute and Hospital for Tropical Diseases, London, from 1926 He demonstrated (1898) the malarial parasite in the stomach of the mosquito and, in W Africa, discovered the mosquito that transmits African fever For his work on malaria he received the 1902 Nobel Prize in Physiology and Medicine He was knighted in 1911 See his memoirs (1923), studies by R L Mégroz (1931) and J O Dobson (1934)

Ross, residential town (pop 1,751), W Calif , N of San Francisco, inc. 1908

Rossa, O'Donovan, 1831-1915, Irish rebel, whose original name was Jeremiah O'Donovan He joined the Fenian movement, edited a Fenian newspaper, and was convicted of treason Released in 1871, he emigrated to New York

Ross and Cromarty (krŏ'murtē), maritime county (3,089 sq mi , 1931 pop 62,799, 1948 estimated pop 63,872), N Scotland The county town is Dingwall The county extends from the North Sea to the Atlantic and includes the island of Lewis and many smaller islands The irregular shoreline is indented by Moray, Cromarty, and Dornoch firths on the east and by a series of sealochs on the west Except for a fertile strip along the east coast, it is a mountainous region of moors and barren rocks, reaching its highest point at Mam Soul or Mam Sodhail (3,862 ft) Sheep grazing and fishing are the main occupations The history of the county is largely that of feuds among the local clans Ross-shire, once independent, was incorporated with Cromarty in the latter part of the 17th cent

Rossbach (rŏs'bäkh), village (pop 2,474), in the former Saxony prov of Prussia, after 1945 in Saxony-Anhalt, c 25 mi NE of Weimar Here on Nov 5, 1757, Frederick II of Prussia defeated the imperial army and the French under Soubise in the Seven Years War It was one of Frederick's most brilliant victories, but its effect was largely offset by his defeat at Leuthen one month later

Rosse, William Parsons, 3d earl of (rŏs), 1800–1867, British astronomer and constructor of telescopes He served as member of Parliament for King's co , Ireland (1821–34), Irish representative peer (from 1845), president of the British Association (1843), president of the Royal Society (1849–54) and chancellor of the Univ of Dublin (from 1862) His greatest interest was the construction of specula of large size for reflecting telescopes, he overcame defects caused by warping and cracking of surfaces in the cooling process, and counteracted to a con-

siderable degree other defects His great reflecting telescope, with a speculum 6 ft in diameter, the largest up to that time, was mounted in his park at Parsonstown (now Birr), Ireland, in 1845 For many years it was chiefly devoted to the study of the nebulae Some nebulae which had eluded Sir William Herschel were resolved into groups of stars, many binary and triple stars were discovered, and the moon was more completely described

Rosselli, Cosimo (kô'zēmō rôs-sĕl'lē), 1439–1507, Florentine painter He was one of the artists summoned to Rome by Sixtus IV to assist in decorating the Sistine Chapel For it he painted *The Last Supper* and other subjects Of his many works in Florence the most famous is *The Miracle-working Chalice* in Sant' Ambrogio, in which a great number of persons are represented, some in actual portraits *The Coronation of the Virgin* is in the Church of Santa Maria Maddalena dei Pazzi Other works are *The Virgin Presenting Her Son for the Adoration of Angels and Two Saints* (Louvre), *The Madonna in Adoration, The Adoration of the Child*, and *Madonna and Child* (National Gall of Art, Washington, D C), and *Madonna and Child Enthroned* (Rollins College, Winter Park, Fla) Rosselli's work shows the influence of Benozzo Gozzoli and Baldovinetti

Rossellino, Bernardo (bĕrnär'dō rôs-sĕl-lē'nō), 1409–64, Florentine architect and sculptor, whose real name was Bernardo di Matteo di Domenico Gambarelli With his four brothers he opened a workshop in Florence He built the Rucellai Palace, Florence, the Palazzo Piccolomini delle Papesse, Siena, and a group of buildings in Pienza Under Pope Nicholas V he did important reconstruction work in Rome and made a design for St Peter's, which was afterward altered by Bramante Bernardo's most famous sculpture is the tomb of Leonardo Bruni in Santa Croce, Florence The first example of the arched wall tomb, it is counted the finest of its type **Antonio Rossellino** (antô'nyô), 1427–c 1478, Florentine sculptor, whose real name was Antonio di Matteo di Domenico Gambarelli, was the youngest and most celebrated of the four brothers He is distinguished for his religious sentiment and grace and vigor of style His sculptures (1459–61) for the tomb of the young cardinal of Portugal in San Miniato al Monte, Florence, brought him fame Some of his reliefs, such as the *Nativity* (Monte Oliveto, Naples), show the same pictorial perspective in marble that Ghiberti used for his bronze panels In the Metropolitan Museum, Antonio is represented by a *Madonna and Child* and a terra-cotta group, *Nativity* His *St Sebastian* (Collegiata, Empoli) is one of the finest statues of the early Renaissance

Rossetti, Christina Georgina (rôsĕ'tē), 1830–94, English poet, sister of Dante Gabriel Rossetti Publication of some of her poems in her brother William's magazine the *Germ* was her only contribution to Pre-Raphaelite activities Of a very religious nature, she was a devout member of the Church of England, twice refused to marry, and lived the last 15 years of her life as a recluse in her home Much of her poetry is religious, some of it melancholy, and such poems as her famous "Uphill" and "When I Am Dead, My Dearest" are written about death Her life and her spontaneous lyric gift seem perhaps comparable to Emily Dickinson, though the comparison can go no further, for Christina Rossetti, who came close to technical perfection in traditional poetic forms, experimented very little Her gay and simple songs, especially those in *Sing-Song* (1872), are favorites with children Some of her volumes of poetry are *Goblin Market and Other Poems* (1864), *The Prince's Progress* (1866), and *A Pageant and Other Poems* (1881) See biographies by E W Thomas (1931), T E Walter (1931), and Marya Zaturenska (1949)

Rossetti, Dante Gabriel (dän'tē gä'brēul), 1828–82, English Pre-Raphaelite painter and poet, son of Gabriele Rossetti D G Rossetti began the study of art at 14, and he wrote verses as a child, reaching maturity earlier as a poet than as a painter At 20 he became acquainted with W Holman Hunt, Millais, Woolner, and others and with them formed the brotherhood of PRE-RAPHAELITES The brotherhood published in 1850 a magazine, the *Germ*, edited by Rossetti's brother William Michael Rossetti (1829–1919) Here was printed "The Blessed Damozel" by Dante Gabriel, written when he was 19 In 1860 he married his model, Elizabeth Siddal, who died two years later, in his grief Rossetti buried with her the manuscript of his poems Some years later he permitted them to be recovered In his closing years, his mind was increasingly deranged by his habit of taking chloral Rossetti's translations from the Italian appeared as *The Early Italian Poets* (1861–), later ed as *Dante and His Circle* (1874). *Poems* (1870) and *Ballads and Sonnets* (1881) include the great sonnet sequence "The House of Life" and the ballads "Sister Helen" and "The White Ship." Among his best-known paintings are *Beata Beatrix*, for which Elizabeth Siddal posed, and *Mona Vanna* (Tate Gallery, London); *Lady Lilith* (Metropolitan Mus.); *Proserpina in Hades; The Blessed Damozel;* and a triptych, *Francesca and Paolo*. See edition of his works (1911) and letters (with a memoir, 1895) by W. M. Rossetti; studies by H C Marillier (1901), A C Benson (1904), Hall Caine (1928), Evelyn Waugh (1928), and Violet Hunt (1932)

Rossetti, Gabriele (rôsĕ'tē, Ital gäbrēä'lā rôs-sĕt'tē), 1783–1854, Italian poet and critic, father of Dante Gabriel Rossetti and of Christina Rossetti He was exiled in 1824 and fled to England There he wrote patriotic and liberal verse in Italian As a critic he is noted for his theory that the *Divine Comedy* was wholly symbolic See R D Waller, *The Rossetti Family* (1932).

Rossford, village (pop 3,912), NW Ohio, S of Toledo and on the Maumee river, inc 1939 Glass and chemicals are made here

Rossi, Bruno (brōō'nō rô'sē), 1905–, American physicist, b Italy, Ph D Univ of Bologna, 1927 After teaching at the universities of Florence and Padua he came to the United States and was naturalized (1945) He served as associate at the Univ of Chicago (1939–40), associate professor at Cornell Univ (1940 43), and staff member of the Los Alamos atomic-bomb project (1943–46) and in 1946 became professor at the Massachusetts Institute of Technology An authority on cosmic rays, he wrote *Rayons cosmiques* (1935).

Rossi, Giovanni Battista de (jōvän'nē bat-tē'sta dā rô'sē), 1822–94, Italian archaeologist, b Rome He is noted for his work in the Roman catacombs, of which he mapped the whole maze of passages, he located and identified the St Calixtus burials, with the 3d-century tombs of the popes

Rossi, Pellegrino Luigi Edoardo, Conte (pĕl"lāgrē'nō lwē'jē ādôär'dō kōn'tā rô'sē), 1787–1848, Italian political leader For his participation in the political movement in favor of Murat in Emilia (1815), Rossi was obliged to emigrate first to Geneva, where he became a noted professor of law and an active politician, then to Paris (1833), where he taught at the Collège de France He was also active in politics, and Louis Philippe sent him as ambassador to the Holy See, where he favored the election of Pope Pius IX After the revolution in France deprived him of his post (1848), Rossi became president of the council in the pope's first constitutional government Two months later he was assassinated by extremists He wrote treatises on economics

Rossini, Gioacchino Antonio (jōäk-kē'nō ântō'nyō rôs-sē'nē), 1792–1868, Italian operatic composer He excelled in comic opera, *Il barbiere di Siviglia* (*The Barber of Seville*, 1816), based on the play by Beaumarchais, is a masterpiece of its genre Selections from *L'italiana in Algeri* (1813), *La gazza ladra* (1817), and *Semiramide* (1823) are still popular After writing *William Tell* (1829) he renounced musical composition, producing only his *Stabat Mater* (1842), in which his operatic style is still evident The Rossini crescendo, achieved by means of sequential imitation with gradually fuller orchestral texture, is a striking feature of his work See biographies by Stendhal (1822) and Francis Toye (1934)

Rossiter, Thomas Pritchard (rô'sĭtur), 1818–71, American historical painter, b New Haven, Conn For 10 years he worked abroad, chiefly in Paris, where he was awarded a medal at the Universal Exposition (1855) for his *Venice in the Fifteenth Century* Other works are *Washington's First Cabinet* and *Jews in Captivity*

Rossland, city (pop 3,657), SE British Columbia, in the Selkirk Mts, near the Wash border It is just WSW of Trail, of which it is a suburb

Rosslare (rôs'lâr), town, Co Wexford, Ireland, on St George's Channel and SE of Wexford It is a seaside resort and is the port for Wexford, an artificial harbor was built in 1906

Rosso di San Secondo, Pier Maria (pyĕr"märē'ä rôs'sō dē sän sākōn'dō), 1887–, Italian dramatist and novelist, b Sicily. His numerous plays, brilliant, intellectual, and artificial, have won him popularity and strong critical support Among them are *Marionette, che passione!* (1918), *La bella addormentata* [the sleeping beauty] (1919), and *Il delizio dell' aste Bazza* [the delirium of the innkeeper Bassa] (1925) Among his novels is *La fuga* [flight] (1917)

Ross-on-Wye, urban district (pop 4,735), Herefordshire, England, above the Wye river, in a farming region. The church is the burial place of John Kyrle, Pope's "Man of Ross"

Ross Sea, large inlet of the Pacific Ocean, Antarctica, E of Victoria Land In its southwest section lies Ross Island, with Mt. Erebus, an active volcano The southern extension of Ross Sea is a great frozen area, known as the Ross Shelf Ice or Ross Barrier, lying between Marie Byrd Land and Victoria Land The side it presents to the sea is a wall of ice c 400 mi long It is indented by the Bay of Whales, an inlet of Ross Sea, this region is the site of Little America Ross Sea was discovered by Sir James Clark Ross during his expedition of 1839–43.

Rossville. **1** City (pop. 3,538), extreme NW Ga., at the Tenn line. It is an industrial suburb of Chattanooga, Tenn., and textiles are made here Near by are Chickamauga and Fort Oglethorpe (1903), a U S army post. **2** Village (pop 1,428), E Ill., N of Danville, in a farm area; platted 1857, inc. 1872.

Rostand, Edmond (ĕdmō' rôstä'), 1868–1918, French poet and dramatist, b Marseilles. In 1890 appeared a volume of verse, *Les Musardises* His first plays were light, fanciful, and charmingly poetic, though of slight substance—*Les Romanesques* (1894, Eng tr, *The Romancers*, 1899), *La Princesse lointaine* (1896, Eng tr, *The Princess Faraway*, 1899), written for Sarah Bernhardt, and *La Samaritaine* (1897, Eng tr, *The Woman of Samaria*, in his *Plays*, 1921) They were followed by one of the finest dramas of its kind in French literature, *Cyrano de Bergerac* (1897), a tour de force of dramatic poetry that still holds its place on the stage through the part of Cyrano, made memorable by the acting of Coquelin and later of Richard Mansfield In 1900 came *L'Aiglon*, whose central figure is the pathetic duke of Reichstadt (NAPOLEON II), a role long played by Sarah Bernhardt The barnyard fable *Chantecler* (1910) was played in the United States by Maude Adams Less known is the dramatic poem *La Dernière Nuit de Don Juan*, produced at the Greenwich Village Theatre in 1925

Rosthern (rôs'thûrn", -tûrn"), town (pop 1,218), central Sask, NNE of Saskatoon, in a wheat-growing area It has grain elevators and flour mills, and an experimental farm and a government telephone center are here

Rostock (rôs'tôk, Ger rôs'tôk), city (pop 114,869), Mecklenburg, NE Germany, on the Baltic Sea It is a port with petroleum tank installations and shipyards, and it manufactures machinery and chemicals Its university was founded in 1419 Chartered in 1218, Rostock became one of the chief members of the Hanseatic League and a flourishing medieval city It has retained parts of its old town walls and gates, but the Church of St Mary (Ger *Marienkirche*), the university library, and many other old buildings were destroyed by air raids in the Second World War

Rostopchin, Feodor Vasilyevich, Count (fyô'dur vŭsē'lyuvich, rŭstupchēn'), 1763–1826, Russian general He rose rapidly under Paul I, becoming in fact minister of foreign affairs, but retired after the accession of Alexander I because, as a conservative, he opposed the alliance with France In 1812, however, he was appointed governor general of Moscow, his stirring proclamations, calling on the people to resist the French invaders, became famous He was later held responsible for the burning of Moscow (Sept, 1812) and was dismissed from office in 1814, but he denied the accusation in his pamphlet *The Truth concerning the Fire of Moscow* (in French, 1823)

Rostov (rô'stôv, Rus rŭstôf'), city (pop 20,864), N central European RSFSR, SW of Yaroslavl and NE of Moscow Founded in 864, it is one of the oldest of Russian cities, and it still retains its medieval aspect It was the capital of a principality from the 10th cent and passed to Moscow in 1474 Its ancient kremlin contains the Uspenski Cathedral (1214) and other splendid 13th-century churches with precious murals There are many old churches and monasteries near by Rostov was also known as Rostov-Veliki and as Rostov-Yaroslavski It now has linen mills and a metal industry

Rostov or **Rostov-on-Don,** Rus *Rostov-na-Donu* (rŭstôf'-nŭ-dunôō'), city (1926 pop 308,103, 1939 pop 510,253), capital of Rostov oblast, S European RSFSR, on the right bank of the Don c 25 above its entrance into the Sea of Azov It is a major port and railroad hub and is an industrial center producing agricultural and other machinery, sheet metal, automobiles, locomotives, railroad cars, ships, textiles, and processed foods It has a university (established here in 1915), various technical schools, and several museums Founded in 1761 as a fortress, Rostov-on-Don developed rapidly after 1834, when the port was established. Throughout the 19th cent it was a major grain-export center The workers here were active in the Russian Revolution of 1905 In the civil war of 1917–20, it was occupied (1918–20) first by the Germans, then by the Whites Rostov was taken (1941) by the Germans in the Second World War, was recovered by the Russians, and was again held (1942–43) by the Germans in their drive on the Caucasus The city suffered much destruction in the heavy fighting

Rostovtzeff, Michael Ivanovich (rôstôv'tsĕf), 1870–, American historian, b Kiev, Ukraine He studied at the Univ of St Petersburg (Leningrad), where he was professor of Latin and of Roman history from 1898 to 1918 He emigrated to the United States in the Russian Revolution, taught ancient history at the Univ of Wisconsin (1920–25), and was appointed (1925) Sterling professor of ancient history and archaeology at Yale Univ From 1939 to 1944, when he received emeritus status, Rostovtzeff was director of archaeological studies at Yale Univ One of the most distinguished modern scholars of ancient history, Rostovtzeff won his chief reputation through his *Social and Economic History of the Roman Empire* (1926) and *A History of the Ancient World* (Vol I, *The Orient and Greece*, 1926, Vol. II, *Rome*, 1927). The first of these was a pioneering effort in its application of the most

recent archaeological research to an aspect of Roman history which until then had been neglected It has taken its place among the chief modern contributions to Roman historiography The two volumes of his *History of the Ancient World* are admirable condensations and place the cultural, economic, and social aspects of ancient life on the same level of importance as political and military events Among Rostovtzeff's other works in English are *A Large Estate in Egypt in the Third Century B C* (1922) and *Iranians and Greeks in South Russia* (1922)

Roswell (rŏz'wĕl) 1 Town (pop 1,622), NW Ga, on the Chattahoochee river and N of Atlanta, settled c 1837, inc 1854 2 City (pop 13,482), co seat of Chaves co, SE N Mex, on the Rio Hondo in the Pecos valley, settled 1869 as a trading post, inc 1903 It is the trade and rail center of a stock-raising and irrigated farm area, with an oil refinery and a cottonseed oil mill Artesian wells were discovered in 1891 Oil wells and potash mines are in the area New Mexico Military Institute (a junior college) is here Near by are Bottomless Lakes State Park and Lincoln National Forest Carlsbad Caverns lie c 100 mi to the south The ranch of John S CHISUM is near Roswell

Roswitha see HROSWITHA

Rosyth (rŏsĭth', rō'sĭth), naval base near Dunfermline, Fifeshire, Scotland, on the Firth of Forth Its construction was begun by the British government in 1909 It was important in both world wars The ruins of Rosyth Castle are near by

Rotan (rō'tăn), city (pop 2,029), NW Texas, N of Sweetwater, inc 1908 It has a gypsum-products plant, an oil refinery, and other plants and is the market for an area of dairy and cotton farms and cattle ranches

Rotary International, organization of business and professional men, founded in 1905 by Paul Percy Harris (1868–1947), a Chicago lawyer Beginning with one club in Chicago, it spread to other cities, and in 1910 the National Association of Rotary Clubs was formed Branches were established in many countries, and in 1922 the name was changed to Rotary International Each club contains one representative of each business or profession in its locality The name was derived from the original custom of meeting in rotation at the members' places of business. The organization promotes friendly cooperation and high standards of service, supports charities and welfare activities, and encourages international friendship Its monthly magazine, the *Rotarian*, is published in Chicago

rotation of crops, agricultural practice of varying the crops on a piece of land in a planned series, to save or increase the strength of the soil, to increase crops, and to eradicate weeds, insects, and plant diseases In a rotation, it is desirable to alternate a cultivated crop (e g., Indian corn) and a legume (e g, clover), which adds nitrogen to the soil See W W Weir, *Productive Soils* (5th ed, 1946).

rotenone. see INSECTICIDE

Roth, Frederick George Richard (rōth), 1872–1944, American animal sculptor, b Brooklyn, N Y, educated at Bremen, Germany, and studied art in Vienna and Berlin His elephants, dogs, and horses, whether in small bronzes or life-size, are presented in an original and sympathetic manner Among his works are several in Central Park, New York city, including the dog *Balto*, the bronze lion at Baker Field, Columbia Univ, stone panels in Prospect Park, Brooklyn, illustrating Kipling's *Jungle Book*, and the equestrian statue of George Washington for Morristown, N J

Roth, Rudolf von (rōō'dôlf fŭn rōt'), 1821–95, German Orientalist He was the principal collaborator with Otton von Bohtlingk on a Sanskrit lexicon (7 vols, 1855–75)

Rothamsted Experimental Station (rō'thumstĭd), England's oldest and most important agricultural experiment station It was founded in 1843 by John Bennet Lawes on his manor at Harpenden, in Hertfordshire, where he had already begun experimenting with fertilizer In 1842 a patent had been granted him for the development of superphosphate—bone meal, or calcium phosphate, treated with sulphuric acid—an artificial fertilizer which his factory soon was producing in large quantities The station continued working with fertilizers and expanded its activities to include crop-production studies and animal nutrition experiments From the time of the organization of Rothamsted, Joseph Henry Gilbert was associated with Lawes in carrying on the work, and their collaboration continued for nearly 60 years A series of expansions started in 1902 provided new facilities and added to the staff botanists, bacteriologists, chemists, and writers, which increased the value of the station to Great Britain's varied agricultural interests, distributed as they were throughout the world. In 1934 a public appeal brought forth the funds needed to buy, from the Lawes estate, the grounds used by the station. The experimental work which had once been subsidized entirely by J. B Lawes came to be sustained by government grants, supplemented by the contributions of private interests. The departments among which the station's functions are divided are chemistry, soil microbiology, physics, botany, entomology, insecticides and fungicides, plant pathology, and statistics. Their work is recorded in *Rothamsted Memoirs on Agricultural Science* and *Rothamsted Monographs on Agricultural Science*. In 1890 these comprised 10 volumes, and sets of the bound volumes were distributed to major libraries, agricultural colleges, and other stations throughout the world An important function of the station now is the training of postgraduate research workers See A D Hall, *The Book of the Rothamsted Experiments* (1905); Sir Edward John Russell, *British Agricultural Research: Rothamsted* (new ed, 1947)

Rothe, Richard (rĭkh'ärt rō'tə), 1799–1867, German Lutheran theologian Rothe was influenced by Pietism while professor at Wittenberg Theological Seminary His strong development of the close connection between ethics and religion is presented in *Theologische Ethik* (3 vols, 1845–48)

Rothenburg ob der Tauber (rō'tənbōōrk ŏp dĕr tou'bur), town (pop 11,045), Middle Franconia, W Bavaria, on the Tauber and WNW of Ansbach Almost completely preserving its medieval appearance, it is entirely walled (the walls dating from the 14th and 15th cent), and it contains many Gothic and Renaissance buildings The town hall is considered one of the most beautiful in S Germany Founded in the 11th cent., Rothenburg was a free imperial city until 1803

Rothenstein, Sir William (rō'thunstīn), 1872–1945, English painter and writer He was well known for his portraits of notables and for his pictures of Jewish subjects, such as *Jews Mourning in the Synagogue* (Tate Gall, London) A self-portrait is in the Metropolitan Museum He was official artist to the British and Canadian forces in the First World War and unofficial artist to the Royal Air Force in the Second World War From 1920 to 1935 he was principal of the Royal College of Art, London Important as a picture of the period are his biographical sketches in *English Portraits* (1898) and *Twenty-four Portraits* (1920–23) and his autobiographical *Men and Memories* (2 vols, 1922–38) and *Since Fifty* (1940) Rothenstein was knighted in 1931

Rotherham (rŏdh'ərum), county borough (1931 pop 69,691, 1947 estimated pop 81,240), West Riding of Yorkshire, England, at the confluence of the Don and the Rother NE of Sheffield, in an iron- and coal-mining district On an old bridge over the Don is a 15th-century chantry chapel The Church of All Saints dates from the 15th cent The city's manufactures include steel, electrical equipment, glass, and chemicals

Rothermel, Peter Frederick (rō'dhurmĕl), 1817–95, b Nescopeck, Pa He was director (1847–55) of the Pennsylvania Academy of the Fine Arts Among his works are *Battle of Gettysburg* (Memorial Hall, Philadelphia) and *Embarkment of Columbus* (Pa Acad of the Fine Arts)

Rothermere, Harold Sidney Harmsworth, 1st **Viscount** (rō'dhurmēr), 1868–1940, English publisher He was the financial wizard of the publishing firm headed by his brother Alfred, Viscount NORTHCLIFFE In 1915 he founded the *Sunday Pictorial* and after his brother's death in 1922 gained control of the vast newspaper empire He was created viscount in 1919 Though long friendly to fascism and a proponent of appeasement in 1938, he wholeheartedly supported the British cause in the Second World War He died in Bermuda

Rothesay, David Stuart, duke of. see STUART, DAVID, DUKE OF ROTHESAY

Rothesay (rŏth'sē, -sā), burgh (pop 9,347), county town of Buteshire, Scotland, on Bute island in the Firth of Clyde Rothesay Castle dates from the 14th cent, destroyed in 1685, it was rebuilt in 1871 The burgh's harbor was improved late in the 19th cent It is the scene of an annual regatta in July Rothesay is a resort, and the Royal Northern Yacht Club has its headquarters here The prince of Wales has the title duke of Rothesay.

Rothschild (rŏth'chĭld, Ger rōt'shĭlt), prominent family of international bankers The first important member was Mayer Amschel Rothschild (mī'ur ăm'shĕl) (1743-1812), son of a small Jewish money changer in Frankfurt, Germany His first names are also variously spelled as Meyer and Anselm It was he who laid the foundation of the family fortune by his skillful operations as financial agent for the landgraves of Hesse-Kassel. His five sons were Amschel Mayer Rothschild (1773–1855), who remained at Frankfurt with his father, Salomon Rothschild (1774–1826), who established the Vienna branch of the family, Nathan Meyer Rothschild (see separate article), who founded the London branch, Karl Rothschild (1780–1855), who established the Naples Branch (closed 1860), and Jacob Rothschild (1792–1868), who settled in Paris. After the Napoleonic Wars the house of Rothschild, which remained a single family enterprise, attained increasing power, and in 1822 all five brothers were created barons by Emperor Francis I of Austria The Rothschilds were undoubtedly one of the world's chief financial powers in the 19th cent. The First World War and the subsequent events greatly reduced their influence and wealth. The Rothschild family has made it a tradition to cling to the Jewish faith and to engage in large-scale philanthropies, both for Jews and non-Jews. Many later and contemporary members of the family distinguished themselves as patrons of the arts, sportsmen, writers, and doctors They were, perhaps, the only Jewish family fully accepted in the highest society of London, Paris, and Vienna See E C Corti, *Rise of the House of Rothschild* (1928) and *Reign of the House of Rothschild* (1928), M. E. Ravage, *Five Men of Frankfurt* (1929)

Rothschild, Nathan Meyer, 1777–1836, English banker, b Frankfurt, Germany; third son of Mayer Amschel Rothschild The ablest member of the family, he came to England in 1797, was naturalized in 1804, and opened a business house in London in 1805 He acted as agent of the English government in supplying subsidies to the powers opposing Napoleon I and was of vital help in the ultimate defeat of Napoleon Though created an Austrian baron in 1822, he never carried the title After the Napoleonic Wars, the house of Rothschild, guided by Nathan Meyer Rothschild, floated several major loans to various countries and attained enormous power Aside from his financial acumen, Rothschild was aided in his transactions by a very efficient information service Thus he was informed of the allied victory at Waterloo by carrier pigeons and, in a single day, won a fortune and saved the London stock exchange from collapse by buying up all the shares sold by frightened investors. After his death the house of Rothschild was dominated by his son, **Baron Lionel Nathan de Rothschild,** 1808–79, who virtually established a family monopoly for the flotation of large international loans He was the first Jewish member of Parliament and an active philanthropist

Rothstein, Arnold (rōth'stēn), 1883–1928, American gambler, b New York city He started his gambling career at the age of 12 with money stolen from his father When he was 15, he ran away from home He became a professional gambler and operated gambling houses in New York city, Saratoga Springs, N Y, and Long Beach, L I, N Y He had a reputation for betting large amounts of money, one time as much as $140,000 on a single horse, and he ran a racing stable and a real-estate business Rothstein was supposed also to have been a ringleader of bank robbers and bootleggers He was murdered after refusing payment in a card game he had lost His assassin was never identified See Donald Henderson Clark, *In the Reign of Rothstein* (1929), Carolyn Rothstein, *Now I'll Tell* (1934)

rotogravure see PRINTING

Rotorua (rōtōrō'ə), borough (pop 7,512), on N North Island, New Zealand It is the largest health resort in the Hot Springs District There is a sanatorium on the south shore of Lake Rotorua

Rotrou, Jean de (zhăⁿ' du rōtrōō'), 1609–50, French dramatist *Saint-Genest* (1646) and *Venceslas* (1647) are noble and effective tragedies

Rotten Row, track in Hyde Park, London, for horseback riders The origin of the name is unknown

Rotterdam (rŏ'tərdăm, Dutch rôterdăm'), municipality (pop 637,165), South Holland prov, W Netherlands, on the New Meuse (Dutch *Nieuwe Maas*) near its mouth on the North Sea It is the largest port and the second largest city of the Netherlands HOOK OF HOLLAND, a part of the city, is its outer port Rotterdam has large shipyards, petroleum refineries, and manufactures of chemicals, machinery, food products, and clothing It is the seat of many important shipping and trading companies Before the Second World War, Rotterdam was (on the basis of the volume of trade) the largest port of continental Europe, rivaled only by Antwerp Its chief importance was—and continues to be—as a center for transit trade It is connected by waterways with the Ruhr basin of NW Germany, for which it acts as the chief transshipping point Chartered in 1328, it was long overshadowed by neighboring Delft and its port Delfshaven (now a suburb of Rotterdam), from which the Pilgrim Fathers sailed for America The separation (1830) of Belgium from the Netherlands diverted much trade from Antwerp to Rotterdam It experienced its greatest growth after the construction (1866–90) of the New Waterway, which made it accessible to even the largest ocean-going vessels, and with the phenomenal expansion of the industries of NW Germany. In May, 1940, when German forces invaded the Netherlands, the outskirts of Rotterdam were the scene of fighting On May 14, several hours after the city had capitulated, Rotterdam was subjected to a brutal and totally unnecessary bombardment by air Civilian casualties were high, and the entire center of the city was destroyed. Although Warsaw had been similarly treated earlier in the Second World War, the bombing of Rotterdam may be said to have opened the phase of unrestricted air warfare Extensive reconstruction work is still in progress (as of 1950) Most of the old houses of Rotterdam (including the birthplace of Erasmus) were destroyed, the Groote Kerk (a 15th-century church) was damaged. Among the important buildings that survived the raid are the exchange (18th cent.)

and the Boijmans (formerly spelled Boymans) Museum.

Roty, Louis Oscar (lwē' ōskär' rōtē'), 1846–1911, French medalist and engraver, one of the greatest medalists of the 19th cent. His best-known commemorative medals include those for the death of President Sadi Carnot and for the 25th anniversary of the Franco-Prussian War. He also designed French coins. The originality of his graceful designs won him high honors.

Rouault, Georges (shôrsh' rōō-ō'), 1871–, French artist. Study under Gustave Moreau after 1891 and association with fauvism left Rouault a highly individual artist. In various media—oil, water color, gouache, pastel, etching, and lithograph, often daringly mixed—and in rough conventionalized forms he spoke, at first with harsh anger and later with more tranquillity, of injustice and human suffering. Clowns, bourgeois judges, the passion of Christ, and the misery of war are recurrent subjects with Rouault.

Roubaix (rōōbā'), city (pop. 98,834), Nord dept., N France, in Flanders. With neighboring Tourcoing, it produces the larger part of all woolen textiles consumed in France.

Roubillac or **Roubiliac, Louis François** (both lwē' frāswā' rōōbēyäk'), 1695?–1762, French sculptor. He worked principally in England, where he became popular as the designer and builder of fine mausoleums.

Rouen (rōōā'), city (pop. 101,187), capital of Seine-Inférieure dept., N France, and ancient capital of Normandy. Situated on the Seine near its mouth at the English Channel, Rouen functions as the port of Paris, handling a larger volume of traffic than any other port of France. It also has important cotton manufactures and is an old commercial, administrative, and cultural center. Dating from pre-Roman times, Rouen was the victim of repeated raids (9th cent.) by the Norsemen. By the 10th cent. it was the capital of Normandy and a leading European city. It was held (1419–49) in the Hundred Years War by the English. Joan of Arc was burned here in 1431. From 1499 to 1789 it was, with interruptions, the seat of a provincial PARLEMENT. A judicial center, Rouen furnished many magistrates to France. The most illustrious sons of the city were, however, Pierre Corneille and Gustave Flaubert. Rouen has been an archiepiscopal see since the 5th cent. and is particularly rich in ecclesiastic buildings (see GOTHIC ARCHITECTURE). Much was damaged in the Second World War. One of the two strikingly different towers of the cathedral of Notre Dame (13th–15th cent.) was burned, the other, left intact, is the famous Tour de Beurre [butter tower]. The Church of St. Maclou and the palace of justice (both 15th–16th cent.) were partially destroyed. Undamaged buildings include the Church of St. Ouen (begun 14th cent.) and the Grosse Horloge, a Renaissance clock tower. Rouen's port installations suffered very heavy damage.

Rouergue (rōōĕrg'), region and former county, S France, in the S MASSIF CENTRAL. It is now occupied by Aveyron dept. Traversed by the Aveyron and Tarn rivers, it includes the southern end of the Auvergne Mts., where some coal is mined, and, in the south, part of the CÉVENNES Mts., with deeply eroded limestone plateaus (*causses*). Except in the valleys, rye and chestnuts are the only products. Sheep are raised in great quantity and furnish milk for the Roquefort cheese industry. Rodez, the historic capital, and Millau are the chief towns. The county of Rodez or Rouergue and the viscounty of Millau, formed in the feudal period as dependencies of the counts of Toulouse, passed to the French crown in 1271, were ceded to England by the Treaty of Brétigny (1360), and reverted to France in 1368. The lands passed to the Bourbon family. Henry IV, who inherited them, united them with the royal domain (1589) and incorporated them into the province of Guienne.

Rougé, Emmanuel, vicomte de (ämänüĕl' vēkōt' dŭ rōōzhā'), 1811–72, French Egyptologist. He was curator of the Egyptian section of the Louvre and professor of Egyptology at the Collège de France. He and LEPSIUS produced a consistent system for the interpretation of discoveries, and he worked out fundamental principles for studying Egyptian texts. He compiled a *Chrestomathie égyptienne* (4 vols., 1867–76). He sought to prove that the Semitic alphabet had an Egyptian origin.

Rouge (rōōzh), river rising in S Michigan and winding S and SE to the Detroit river at the city of RIVER ROUGE. Dearborn and part of Detroit also lie on the river.

rouge: see COSMETICS and POLISHES.

Rouget de Lisle, Claude Joseph (klōd' shōzĕf' rōōzhä' dŭ lēl'), 1760–1836, French poet, musician, and soldier. While an officer in garrison at Strasbourg for the army of the Rhine, he wrote the words and music of the MARSEILLAISE as a marching song for his soldiers. Although the song later became inseparably associated with the Revolution, he himself was a royalist and barely escaped the guillotine. The name also appears as Rouget de l'Isle.

Rough Riders, name popularly given to the 1st Regiment of U.S. Cavalry Volunteers in the Spanish-American War (1898). The regiment was a spectacular one, composed of ranchers and cowboys and Indians from the ranges of the Far West with a sprinkling of adventurous "blue bloods" from the Eastern universities. It was recruited largely by Theodore ROOSEVELT, who resigned his post as Assistant Secretary of War to enter active fighting. The command of the regiment went, however, to a man of more military experience, Leonard Wood. Roosevelt was made lieutenant colonel. Transportation difficulties caused its horses to be abandoned in Florida, and the regiment fought chiefly on foot in Cuba. It took part in the battles about Santiago, its exploits, especially at San Juan Hill, were highly publicized.

roulette (rōōlĕt'), game of chance popular at Monte Carlo and other gambling resorts and played in simplified form elsewhere. The roulette wheel is placed in the middle of an oblong table, it is usually marked off into 37 or 38 spaces alternating red and black. Each sector of the wheel is marked off at the edge with one of the numbers from 1 to 36. The one or two remaining sectors, of a different color, are marked off by zeros. The table has on either side of the wheel an arrangement of red and black squares containing numbers corresponding to those on the wheel, besides indications of certain bets (*manque*, that the winning number will be 1–18, *passe*, that it will be 19–36, *pair*, that it will be an even number, *impair*, that it will be odd, *rouge*, that it will be red, *noir*, that it will be black). The players place their stakes on the table in positions indicating their bets, and the *croupier* spins the wheel. A small ball, tossed into the wheel, finally comes to rest on one of the numbers at the margin, indicating the winner. Many betting combinations are allowed, with varying odds and maximum stakes. This gambling game dates from the late 18th cent.

Roumania: see RUMANIA.

Roumelia: see RUMELIA.

round, in music, a canon on a simple tune in which all the voices enter at the unison or the octave. An example is SUMER IS ICUMEN IN. Rounds were popular in 17th-century England, particularly during the reign of Charles II, when the catch reached its height. The catch was originally just a simple round, e.g., *Three Blind Mice*, written out in a single line of music with the effect gained by having another singer come in ("make the catch") at just the right time. Later comic effects, often quite bawdy, were added, resulting from the interweaving as the parts were sung together. *The Rounds and Canons of England* (1864) by E. F. Rimbault is a comprehensive collection.

Roundheads, derisive name for the supporters of Parliament during the English civil war (see PURITAN REVOLUTION). The name, which originated c. 1641, referred to the short haircuts worn by some of the Puritans in contrast to the fashionable wigs worn by many of the Cavaliers, who supported King Charles I.

Round Rock, town (pop. 1,240), central Texas, N of Austin. An old-established farm market with a lime kiln and dairy plants, it saw in 1878 the bloody gun battle in which Texas Rangers ended the outlaw career of Sam Bass.

Round Table, in ARTHURIAN LEGEND, the table at which King Arthur and his knights sat, said to have been round so that questions of precedence might not rise to vex the company. According to one version it was given to Arthur as a wedding gift by his father-in-law. The Siege Perilous was the seat at the table in which only he might sit who was to see the Holy GRAIL; GALAHAD claimed the seat. A round table of undetermined antiquity hangs now in the castle at Winchester. Traditionally King Arthur's, it may be a relic of one of the medieval jousts also called round tables.

Round Tops: see GETTYSBURG CAMPAIGN.

Roundup, city (pop. 2,644), co. seat of Musselshell co., central Mont., on the Musselshell river and N of Billings, inc. 1909. A cow town in the late 19th cent., it is now the center of a coal and oil region.

roundup, name given the periodic collecting of live stock on Western ranges in the United States. Cowboys, mounted on ponies especially trained for the work, gather cattle in herds, which they drive to headquarters. The purpose of the roundup is to enable the rancher to cull his herd, to select animals for marketing, to dip diseased live stock, to brand newly acquired cattle and the calves born since the last roundup, and to castrate calves. Roundups occur once or twice a year, usually in the spring and fall. Cowhands on the large ranches spend the entire day in the saddle, eat their meals at the chuck wagon (wagon carrying a stove and provisions), and sometimes sleep on the ground. The old flavor of the roundup has diminished somewhat in automobile days, but still persists.

roup (rōōp), infectious disease of poultry, marked by inflammation of the mucous membranes of the air passages and of the eyes. Its cause is not known, and the death rate is very high. The infected areas are treated with argyrol, and the birds should be isolated.

Rouphia, river, Greece: see ALPHEUS.

Rourke, Constance (rōōrk), 1885–1941, American writer, b. Cleveland, grad. Vassar, 1907. In 1908–9 she studied at the Sorbonne, and on her return to the United States she taught at Vassar until 1915. Her first book was *Trumpets of Jubilee* (1927), a social history. Her best-known works are *American Humor* (1931) and the biographies *Troupers of the Gold Coast* (1928), on Lotta Crabtree; *Davy Crockett* (1934), and *Audubon* (1936). Her last book, *The Roots of American Culture* (1942), includes essays on early American drama, music, art, and folklore.

Rousay (rou'zā), island, off N Scotland, one of the Orkney Islands. A complete Stone Age village was discovered here in 1938.

Rouses Point (rou'zĭz), village (pop. 1,846), extreme NE N.Y., on Lake Champlain, inc. 1877. At the Quebec line, it is a port of entry. There are fisheries here, and pharmaceutical goods are made.

Rousseau, Henri (ärē' rōōsō'), 1844–1910, French primitive painter, self-taught. He was called Le Douanier from his profession of customs official. His impressions of landscapes and figures in France and Mexico, where he served with the army, are simple and vivid. Using exotic, bright colors, his jungle scenes are especially effective. Among these are *The Snake Charmer* (Louvre) and *The Sleeping Gypsy* and *Jungle with a Lion* (both Mus. of Modern Art, New York). See study by D. C. Rich, (rev. ed., 1946).

Rousseau, Jean Jacques (zhäN' zhäk'), 1712–78, French philosopher, author, political theorist, and composer. He was born at Geneva, Switzerland, the son of a watchmaker. His mother died in childbirth, and the child's upbringing was haphazard. At 16 he set out on a wandering, irregular life which brought him to Turin, where he became an unenthusiastic Catholic convert. After serving as a footman in a powerful family, he left Turin (1731) and spent the next 10 years at Chambéry, Savoy, with his patroness, Louise Éléonore de Warens, who soon made him her lover. During that period he made several adventurous excursions to Switzerland and France, but always returned to *Maman*, as he called Mme de Warens. In 1741 he set out to make his fortune at Paris with a new system of musical notation, which turned out a failure. He made valuable contacts, however, and secured (1742) a position as secretary at the French embassy in Venice, but soon had to resign. In Paris he became an intimate of the circle of DIDEROT (to whose *Encyclopédie* Rousseau contributed the musical section), Melchior Grimm, and Mme d'ÉPINAY. At this time also began his liaison with Thérèse Le Vasseur, a half-illiterate servant girl who became his common-law wife. In his *Confessions*, his celebrated autobiography, Rousseau accused himself of having sent his five children by Thérèse to a foundling home. The theory has been advanced that Rousseau, who was developing a psychosis, had invented the whole episode and that Thérèse's children were not his or that there never were any children. In 1749 Rousseau won the first prize in a contest, held by the Academy of Dijon, on the question Has the progress of the sciences and arts contributed to the corruption or to the improvement of human conduct? Rousseau took the negative stand, contending that man was good by nature and was corrupted by civilization. His essay made him both famous and controversial overnight. Although it is still widely believed that all of Rousseau's philosophy was based on his call for a return to nature, this view is an oversimplification, due to an excessive importance attached to this first essay. Success came to Rousseau also in the musical field with the production (1752) of his pastoral melodrama, *Le Devin du village* [the village sage], some of its simple and graceful tunes are still performed. A second philosophical essay, *Discours sur l'origine de l'inégalité des hommes* (1754), is one of Rousseau's most mature and daring productions. After its publication Rousseau returned to Geneva, reverted to Protestantism in order to regain his citizenship, and returned to Paris with the title "citizen of Geneva." Mme d'ÉPINAY lent him a cottage, the Hermitage, on her estate at Montmorency. His unfortunate love for Mme d'Houdetot, sister-in-law of Mme d'Épinay, exerted a disastrous influence on Rousseau's unbalanced psyche. Rousseau began to quarrel with Mme d'Épinay, Diderot, and Grimm, whom he accused of complicity in a sordid plot against him, and left the Hermitage to become the guest of the tolerant duc de Luxembourg, whose château was at Montmorency. Here he finished his novel *La Nouvelle Héloïse* (1761), written in part under the impact of his love for Mme d'Houdetot; his *Lettre sur les spectacles* (1758), a diatribe against D'Alembert's suggestion (in the article "Genève" in the *Encyclopédie*) that Geneva would be better off for having a theater; his *Contrat social* (1762), and his *Émile* (1762). The last of these works contained a passage offensive to both the French and the Genevese ecclesiastic authorities. The book was burned at Paris and at Geneva, and Rousseau, with the connivance of high-placed friends, escaped to the Swiss canton of

Neuchâtel, then a Prussian possession. His house was stoned, and Rousseau fled once more, this time into the canton of Bern, settling on the small island of Saint-Pierre, in the Lake of Biel. Rousseau described his asylum in idyllic terms in his *Confessions* and in his *Rêveries d'un promeneur solitaire* (1776–78). In 1765 he was expelled from Bern and accepted the invitation of David Hume to live at his house at Wotton, Derbyshire. Here he began to write the first part of his *Confessions*, but after a year he quarreled violently with Hume, whom he believed in league with Diderot and Grimm. The fixed idea gained ever wider proportion and became a full-fledged persecution mania. After wandering for several years through the provinces of France (always accompanied by Thérèse, although he considered her and her mother to be leaders in the plot against him), he finally settled (1770) at Paris, where he lived in a garret and copied music for a living. The French authorities left him undisturbed, while curious foreigners flocked to see the famous man and to be insulted by him. At the same time he went from salon to salon, reading his *Confessions* aloud. It is remarkable that despite his obvious madness, his contemporaries thought him merely an eccentric. Shortly before his death, Rousseau moved to the house of a protector at Ermenonville, near Paris. The suggestion that he was killed in a violent quarrel with Thérèse has not been substantiated. In 1794 his remains were transferred to the Panthéon in Paris. Rousseau's influence on posterity has been equaled by few men, and it is by no means spent. Men as diverse as Kant, Goethe, Robespierre, Pestalozzi, and Leo Tolstoy have been his disciples. His influence was equally strong in the fields of politics, literature, and education. His political doctrine is largely contained in the *Contrat social*, but it must be supplemented by other writings, notably the *Discours sur l'origine de l'inegalité* and his draft of constitutions for Corsica (made at the request of Paoli) and for Poland (made at the request of Stanislaus II). Rousseau supposed that "natural man" was a pure animal, neither good nor bad, equality disappeared with the appearance of industry, agriculture, and property. Laws were instituted merely to consolidate the power of the oppressors over the oppressed, and inequality became permanent. Man cannot regain the freedom he lost when he ceased to be "natural man." But men may attain civic liberty by entering a social contract among themselves. This contract must be based on the assumption that sovereignty is inalienably vested in society as a whole and that this collective sovereignty cannot be delegated. This basic principle holds true whether the form of government be monarchic, aristocratic, or democratic (all three forms being justifiable in their time and place). No laws could be made without the consent of the collective sovereign. The common will, reflecting the common interest, is required for all important decisions, each citizen must subordinate himself to the common will, for the minority is deceived as to the true content of the general will. Personal property is sacred, but a measure of economic equality must be assured. Similarly, political equality is maintained as long as "power is never exerted except as rank and laws permit it." Contrary to widespread opinion, Rousseau never intended to lead society back to the "state of nature," which he considered an impossibility; his whole plan was to make the loss of its original innocence tolerable to mankind by substituting the social contract—a step forward rather than backward. Although Rousseau did not advocate collective ownership, his ideas had a profound impact on modern socialist and communist thought. In his pedagogical novel *Émile*, Rousseau traced the principles of all modern education. Its underlying theory, however—that a child at birth is entirely natural and unspoiled—has been discredited by modern psychology. According to Rousseau, education should do nothing but give the child an opportunity to develop its natural gifts unhampered and shield it from the corrupting influences of civilization. Everything it learns should be from an inner realization, not from books. The ultimate object of education should be to teach men to live. Religious dogma should be replaced by the teaching of a "natural religion," common to all. *Émile* not only influenced education, but it also made it fashionable for mothers to breast-feed their babies, contributed to the decline of swaddling clothes, and propagated the notion that fresh air and hygiene were essential to children's upbringing. Rousseau's epistolary novel, *La Nouvelle Héloïse*, knew immense popularity in its time, but is scarcely read today, while his *Confessions* remain one of the most widely read books of world literature. Proposing to describe not only his life, but his innermost thoughts and feelings, hiding nothing be it ever so shameful, Rousseau followed the model of St Augustine's *Confessions* but also created an entirely new, intensely personal style of autobiography. Despite their stated intention, however, the *Confessions* are far from ingenuous, and they must be read with the idea in mind that the man was suffering from paranoia. The *Nouvelle Héloïse*, *Émile*, the *Confessions*, and the *Rêveries* all transfer to the domain of literature Rousseau's longing for closeness with nature. His sensitive art apprehended the subtle nuances of the influence of landscape, trees, water, birds, and other aspects of nature on the shifting state of the human soul, and Rousseau was the father of romantic sensibility. The trend existed before Rousseau, but he was the first to give it full expression. His influence on German and English romanticism—and thus, indirectly, on romanticism in general—cannot be overestimated. Rousseau's style, in all his writings, is always personal, sometimes bizarre, sometimes rhetorical, sometimes bitterly sarcastic, sometimes deliberately plebeian, and often animated by a tender and musical quality which has never been quite successfully imitated in prose. Though self-taught, Rousseau possessed a thorough knowledge of musical theory, but his compositions exerted no direct influence on music. Indirectly, romanticism in music shows great affinity with Rousseauan sensibility. Rousseau's principal works are available in English translations. Publication of his correspondence was begun in 1924. Passions still fly high for and against Rousseau, and there is as yet no fully objective and documented biography. Among the principal biographies are those by John Morley (2 vols., 1873), Henri Beaudouin (2 vols., 1891, in French), Arthur Chuquet (1893), and Émile Faguet (1911, in French). Specialized studies of Rousseau are legion. See Émile Faguet, *Rousseau penseur* (1912), Henri Baldensperger and others, *Jean-Jacques Rousseau* (1912, in French), P. M. Masson, *La Religion de Jean-Jacques Rousseau* (3 vols., 1916), E. H. Wright, *The Meaning of Rousseau* (1929), Harald Hoffding, *Jean Jacques Rousseau and His Philosophy* (Eng. tr., 1930), W. J. McAllister, *Growth of Freedom in Education* (1931), Ernst Cassirer, *Rousseau, Kant, Goethe* (Eng. tr., 1945).

Rousseau, Théodore (tāôdôr'), 1812–67, French landscape painter of the Barbizon school, son of a tailor. He first received recognition in the Salon of 1848 and was commissioned by the state to paint his *Sortie de la forêt de Fontainebleau* (Louvre). Thereafter he enjoyed a modest success and lived simply in Barbizon near his friend Millet. Rousseau's landscapes are grave and full of a deep love of solitude. He is best represented in the Metropolitan Museum and in the Louvre.

Rousseau, Victor (vēktôr'), 1865–, Belgian sculptor, pupil of Van der Stappen. He was a professor at the Brussels Academy. Fine examples of his naturalistic work are in the museums of Brussels and Antwerp and include *Child, Demeter*, and *Towards Life*. His monument (1920) expressing Belgian gratitude for British protection of war refugees is on the Thames Embankment, London. Another war memorial is at Forest near Brussels.

Roussel, Albert (älbĕr' rōōsĕl'), 1869–1937, French composer. He prepared himself for a naval career and went to sea in 1887. In 1894 he resigned from the service to follow a musical career and studied (1898–1907) with Vincent d'Indy at the Schola Cantorum, where he taught counterpoint (1902–14). In technique he follows the post-romantic school of Franck and D'Indy, but often employs the images and emotions of impressionism. The influence of his Oriental travels is seen in his orchestral-choral *Evocations* (1912), written after a trip to Indo-China, and *Padmavati* (1914–18, Paris, 1923), which adapts Hindu scales and a Hindu story to the 18th-century opera-ballet technique. Other important works, showing the diversity of his art, are the ballet-pantomime *Le Festin de l'Araignée* (1912), the lyric drama *La Naissance de la lyre* (Paris, 1925) after Sophocles, *Joueurs de flûte* (1924), for flute and piano, his Third Symphony (1930), his Fourth Symphony (1935), and piano pieces, chamber music, and songs.

Roussillon (rōōsēyō'), small region and former province, S France, bordering on Spain along the E Pyrenees and on the Mediterranean. It is now the department of Pyrénées-Orientales. Perpignan is the historic capital. Wine, fruit, and olives are the chief products of this fertile and densely populated region. Conquered from the Arabs by the Franks (8th cent.), it formed a county which passed, in turn, under the suzerainty of the counts of Barcelona and the kings of Aragon, France, Majorca, and Spain. Louis XIII conquered it from Spain in 1642, and it was formally annexed to France by the Treaty of the Pyrenees (1659).

rout see RIOT, ROUT, AND UNLAWFUL ASSEMBLY.

Rouvray, battle of: see HERRINGS, BATTLE OF THE.

Roux, Pierre Paul Émile (pyĕr' pōl' āmēl' rōō'), 1853–1933, French physician and bacteriologist. He was a pupil of Pasteur and director of the Pasteur Institute (1904–18). He assisted E. I. E. Nocard in the study (1898) of bovine pneumonia and with A. E. J. Yersin in 1889 demonstrated that the diphtheria bacillus produces a toxin. This led to the development by E. A. von Behring of methods of producing a specific antitoxin, revolutionizing the treatment of diphtheria. Roux worked with Metchnikoff on the problem of syphilis.

Roux, Wilhelm (vĭl'hĕlm rōōks'), 1850–1924, German anatomist. He was professor (1895–1921) at the Univ. of Halle. A pupil of Rudolf Virchow and E. H. Haeckel, he is considered a founder of experimental embryology, especially because of his discoveries through experiments on the frog's egg. He called his field "developmental mechanics" and in 1894 founded as its organ the *Archiv für Entwicklungsmechanik*.

Rouyn (rōō'ĭn, Fr. rōōăN'), town (pop. 8,808), extreme W Que., on Osisko Lake just S of Noranda and 140 mi. NNE of North Bay, Ont., inc. 1927. It is a mining center with an airport in a region producing gold, copper, and zinc.

Rovaniemi (rô'vänē"ĕmē), urban district (pop. 22,818), N Finland. The starting point of the Great Arctic Highway, it is a fur-trading, timber-shipping, and winter sports center. Late in the Second World War the fighting between Finns and Germans in the area resulted in considerable destruction.

Rovereto (rōvārā'tō), town (pop. 11,155), Trentino-Alto Adige, N Italy, on the Adige. With some surrounding territory, it was taken (15th cent.) from the bishopric of Trent by Venice, which ceded it to Austria in 1518. A part of S Tyrol, it was ceded to Italy in 1919. Near by the French defeated the Austrians in 1796.

Rove Tunnel (rōv, Fr. rôv), southern section of the Marseilles-Rhone Canal, SE France, starting near the village of Le Rove and piercing a rocky ridge. It is c.4.4 mi. long, with a water channel 72 ft. wide, and is considered one of the greatest pieces of engineering since the Panama Canal. It was opened in 1927.

Rovigno (rôvē'nyō) or **Rovigno d'Istria** (dē'strēä), Serbo-Croatian *Rovinj* (rô'vēnyu), town (pop. 9,438), NW Croatia, Yugoslavia, on the west coast of Istria. An Adriatic port, it was ceded by Italy in the Treaty of Paris of 1947. Rovigno was a Venetian possession from the 13th cent. until 1797, and it has kept a beautiful cathedral and campanile.

Rovigo (rôvē'gō), city (pop. 14,561), capital of Rovigo prov., Venetia, NE Italy, between the Adige and the Po. It is an agricultural center in the midst of a fertile plain producing mainly cereals and sugar beets. After 1482 it belonged to Venice, and its architecture shows Venetian influence. Rovigo has an important art gallery and several churches and palaces.

Rovinj, Yugoslavia: see ROVIGNO.

Rovno (rôv'nu), Pol. *Równe* (rôōv'nĕ), city (1931 pop. 40,788), capital of Rovno oblast, W Ukraine. It is the center of an agricultural region. An old settlement, it passed from Poland to Russia in 1793, back to Poland in 1921, and again to Russia in 1945. The population is largely Ukrainian.

Rovuma (rôvōō'mu), river, c.540 mi. long, rising in SW Tanganyika, near Lake Nyasa, and flowing W to the Indian Ocean. It forms most of the Tanganyika-Mozambique boundary. It is not navigable.

Rowan, Andrew Summers (rou'un), 1857–1943, American army officer, b. Monroe co., Va. (now W. Va.), grad. West Point, 1881. In the Spanish-American War he was the hero of the exploit involving Calixto García y Iñigues) described in Elbert Hubbard's essay "A Message to Garcia." Rowan wrote his own account in *How I Carried the Message to Garcia* (1923). After the war he served in the Philippines and in the United States and retired in 1909.

rowan tree see MOUNTAIN ASH.

Rowe, Nicholas (rō), 1674–1718, English dramatist and editor. He wrote a number of tragedies, the most popular in his day were *Tamerlane* (1701) and *Jane Shore* (1714). For his edition of Shakspere, which appeared in six volumes in 1709, he sent Thomas Betterton to Stratford to gather facts about Shakspere's life. In 1715 Rowe became poet laureate.

Rowell, Newton Wesley (rou'ul), 1867–1941, Canadian jurist and statesman, b. Ontario. Called (1891) to the bar of Ontario, he was elected (1911) to the Ontario legislature and was chosen to lead the Liberal party of the province. Member (1917–21) of the Canadian House of Commons, Rowell was president of the council in the Union government of Sir Robert Borden and a member of the imperial war cabinet. In the first Assembly of the League of Nations (1920) he was Canadian delegate. He wrote *The British Empire and World Peace* (1922) and *Canada a Nation* (1923). In 1936 he became chief justice of Ontario, and in 1937 he was appointed by Mackenzie King as head of the royal commission on dominion-provincial relations. Although he was obliged to resign in 1938 because of ill-health, the commission's findings are commonly called the **Rowell-Sirois Report** (1940). He was replaced as chairman of the commission by Joseph Sirois of Laval Univ. Other members were R. A. MacKay, H. F. Angus, and John W. Dafoe. The report is an exhaustive survey of the economic and welfare problems of all Canada and showed the need for an enlargement of dominion responsibilities—contrary to earlier Liberal party policies. No legislation established those responsibilities.

rowing. Boats propelled by oars (e.g., the GALLEY) were used in ancient times for both war and commerce. Rowing is now generally used only for small boats on rivers and lakes or for sport. The rower

faces the stern of the boat and propels the craft by repeatedly dipping his two oars into the water and pulling the oars—which are fixed by rowlocks or oarlocks to the sides of the boat—through the water in the direction of the stern by means of leverage In a small rowboat steering is accomplished by using one oar on the opposite side of the boat from the direction desired; in larger craft steering is often done by use of rudders In crew racing, a coxswain steers the shell by means of tiller ropes attached to a rudder, he also directs the crew Each member of the crew uses both hands on one oar and sits on the opposite side of the shell from the oarsman immediately in front of him The most famous of all crew races are those between Oxford and Cambridge, first held at Henley in 1829 Rowing is in the United States an old intercollegiate sport, a collegiate REGATTA took place between Harvard and Yale in 1852, 18 years after the first rowing club, the Castle Garden Amateur Boat Club, was organized in the United States Several rowing events have been included in the Olympic games

Rowland, Henry Augustus (rō'lund), 1848–1901, American physicist, b Honesdale, Pa., grad Rensselaer Polytechnic Institute, 1870 He was professor of physics at Johns Hopkins Univ from 1875 and was one of the founders of the American Physical Society He is known especially for his invention of a dividing apparatus for making grating lines and for ruling diffraction gratings on concave surfaces which advanced spectroscopy as an exact science and also for his experiments in determining the value of the ohm and the mechanical equivalent of heat

Rowlandson, Thomas (rō'lundsun), 1756–1827, English caricaturist, b London, son of a well-to-do merchant He studied at the Royal Academy and in Paris (where he spent three years) and early evinced talent in drawing and painting His passion for gambling, however, prevented him from producing much until c 1782, when, having squandered his inheritance, he was obliged to earn a living As a caricaturist and humorous commentator on social life Rowlandson speedily gained celebrity His drawing *Vauxhall Gardens* (1784) was a great success In 1798 a series of his drawings, *The Comforts of Bath* was reproduced This was followed by the famous *Tour of Dr Syntax* (three-volume series, 1812–21), *Dance of Death* (1814–16), and *Dance of Life* (1822)—all with text by William Combe Rowlandson also illustrated Smollett, Goldsmith, and Sterne Most of his drawings were first done in ink with a reed pen and given a delicate wash of color For reproduction he etched them himself on copper, the printer later coloring them by hand Rowlandson's work has enormous variety Along with his caricatures of high society are scenes of country life—taverns, barracks, county fairs, stage coaches, and admirable landscapes He traveled over England and over the Continent making spirited sketches A rollicking humor pervades his work, which is sometimes hurried and often coarse or sardonic, but never dull and never hackneyed Collections of Rowlandson's drawings are in the British Museum and the Victoria and Albert Museum and in the Metropolitan Museum See Joseph Grego, *Rowlandson the Caricaturist* (1880)

Rowlesburg (rōlz'bûrg), town (pop 1,452), N W Va , on the Cheat river and E of Grafton, chartered 1858

Rowley, William (rou'lē), 1585?–1642?, English playwright and actor He was sole author of several plays, but his best work, including *The Spanish Gipsie* (1653) and *The Changeling* (1653), was done in collaboration with Thomas Middleton His best-known plays are *A New Wonder* (1632), *A Match at Midnight* (1633), and *All's Lost by Lust* (1633)

Rowley (rou'lē), town (pop 1,533), NE Mass , S of Newburyport, settled 1638, inc 1639 The town still has fine 17th-century buildings

Rowley Regis (rō'lē rē'jĭs), urban district (1931 pop 41,235, 1947 estimated pop 48,530), Staffordshire, England, on the Stour and W of Birmingham, in the Black Country Rowley stone is quarried for road surfacing, and there are coal mines, iron foundries, and potteries

Rowne, Ukraine see ROVNO

Rowntree, Benjamin Seebohm (roun'trē), 1871–, English philanthropist and sociologist His several books on poverty and other social problems include the noted survey of York, *Poverty a Study in Town Life* (1901).

Rowson, Susanna Haswell (rou'sun), 1762–1824, American author, actress, and teacher, b England She was brought to America as a young child, but since her father was a British naval officer, his property was confiscated in the Revolution, and the family returned to England Susanna became governess to the children of the duchess of Devonshire. Her first novel, *Victoria*, appeared in 1786. The same year she married William Rowson Having acted for a short time in England, the Rowsons came to the United States in 1793, joining a theatrical company in Philadelphia Retiring from the stage in 1796, Mrs Rowson opened a school for girls in Boston, one of the best of its day, which she directed for 25 years, in the meantime writing novels, poetry, and textbooks She is remembered for one novel, *Charlotte a Tale of Truth* (1791), called in later editions *Charlotte Temple*, a sentimental story written with considerable realism, which went through more than 150 editions

Rowton, Montagu William Lowry Corry, 1st **Baron** (rō'tun, rou'–), 1838–1903, English philanthropist, grad Cambridge, 1860 He was called to the bar in 1863 From 1866 until 1881, he served as private secretary to Disraeli, who recommended him for the title of Baron Rowton (1880) and made him his literary executor Lord Rowton became interested in London housing conditions and promulgated a scheme for a poor man's hotel which was opened in Vauxhall in 1892. Its success led to the formation of a company which constructed a number of similar establishments known as Rowton Houses

Roxana (rŏksă'nu) or **Roxane** (rŏksă'nē), d 311 B C , wife of ALEXANDER THE GREAT She was the daughter of Oxyartes, king of Bactria, and Alexander married her (327 B C) to consolidate his power in Persia She and Alexander's posthumous son, Alexander Aegeus, were after Alexander's death embroiled in the wars of the DIADOCHI and were imprisoned by CASSANDER at Amphipolis They were later killed.

Roxana (rŏksă'nu), village (pop 1,255), SW Ill , on the Mississippi adjacent to Wood River, inc 1921

Roxas, Manuel (manwĕl' rō'hās), 1892–1948, Filipino statesman, b Capiz, Panay, grad Univ of the Philippines (LL B , 1913) He served in the Philippine house of representatives from 1921 to 1933 Roxas was (1935–37) a member of the Philippine national assembly, became (1938) secretary of finance in Manuel Quezon's cabinet, and was elected (1941) to the Philippine senate In the Second World War he was captured (1942) by the Japanese after he aided Gen Douglas MacArthur Supporting the Japanese-sponsored government during the war, he is said to have aided the Filipino underground at the same time In 1946 he became the first president of the republic of the Philippines and upon his death he was succeeded by Elpidio Quirino

Roxboro, town (pop 4,599), co seat of Person co , N N C , N of Durham near the Va line It is a textile-mill town, with a tobacco market, and has council-manager government

Roxburgh, county, Scotland see ROXBURGHSHIRE

Roxburgh (rŏks'burŭ), parish (pop 698), Roxburghshire, Scotland Jedburgh replaced it as the county town

Roxburghshire (rŏks'burŭshĭr) or **Roxburgh,** border county (666 sq mi , 1931 pop 45,788, 1948 estimated pop 47 085), S Scotland The county town is Jedburgh, the old historic town is Roxburgh The Cheviot Hills extend along the southern border between Scotland and England The region is drained by the Teviot and the Tweed, and the county is frequently called Teviotdale The main occupation of the region is sheep grazing, although there are some manufactures of farm implements, woolen textiles, and flour The county was important in the border warfare between England and Scotland Here was fought the battle of Ancrum Moor (1545) See W S Crockett, *Berwickshire and Roxburghshire* (1926)

Roxbury, Mass see BOSTON

Roxelana. see SULEIMAN I

Roy, village (pop 1,138), NE N Mex , SW of Clayton and near the Canadian river, in a farm area Carbon dioxide gas fields are near by

Royal Academy of Arts, London, founded (1769) by George III at the instigation of Sir William Chambers and Benjamin West, "for the purpose of cultivating and improving the arts of painting, sculpture, and architecture" Sir Joshua Reynolds was the first president The king himself chose the original 36 Academicians and fixed the number at 40 Until 1867 their successors were elected by the Academicians only, since that date by the Academicians and associates together Since its inception the academy has maintained two yearly exhibitions, one of the works of masters of the past and one of contemporary art, has maintained a free school (women students have been admitted only since 1860), and has administered funds (partly derived from its exhibitions) for the relief of distressed artists and their families and for prizes and scholarships In 1867 the academy was given a lease of 999 years on the old Burlington House and the adjoining gardens, where its galleries and school have since been erected See W R M Lamb, *The Royal Academy* (1935)

Royal Air Force, British military air arm The RAF was created as a service independent of either army or navy in April, 1918, by a merging of the Royal Flying Corps (established 1912) and the Royal Naval Air Service By the end of the First World War the RAF had more than 20,000 planes and had engaged in a number of strategic bombing raids on military targets within Germany In the interval between the two world wars the RAF was hampered by interservice rivalry, but the necessity for expansion became increasingly apparent in the '30s The British military air budget in 1937 was double that of the previous year Nevertheless, at the outbreak of the Second World War, Britain's air force was dangerously inadequate It met its first crisis valiantly, however, and held back the powerful German Luftwaffe [air force] during the evacuation of Dunkirk in 1940 Before the fall of France in June of that year the RAF had entered upon that struggle with the Luftwaffe that has come to be known as the Battle of Britain The RAF fighter command was unable to prevent the Germans from inflicting vast bombing damage on Britain throughout the summer and autumn of that year, but it was able to destroy German aircraft in such increasing numbers that by the spring of the following year the Axis threat of invasion had been halted By 1942, with the beginning of close cooperation between the U S Army Air Force and the RAF, the tide had completely turned Under Air Chief Marshal Sir Charles Portal and the bomber command's Air Marshal Arthur T Harris, effective retaliatory raids upon Axis and Axis-controlled countries began, developing into the enormous "saturation" raids, advocated by Harris, upon German cities and industrial targets The RAF specialized in long-range night raids. By June, 1944, Axis aircraft production, oil fields and refineries, and transportation, were so effectively crippled as to obviate effective air resistance to the Normandy invasion See H A. Jones and Walter Raleigh, *The War in the Air* (7 vols , 1922–37), C G Grey, *A History of the Air Ministry* (1940), Sir Arthur Harris, *Bomber Offensive* (1947), L E O Charlton, *The Royal Air Force September, 1939, to September, 1945* (5 vols , 1941–47)

Royal Canadian Mounted Police, constabulary organized (1873) as the Northwest Mounted Police to bring law and order to the Canadian Far West and especially to prevent Indian disorders In 1904 the name was changed to Royal Northwest Mounted Police and in 1920 to the present title The corps, which came to have a romantic reputation for daring exploits and persistence in trailing criminals, originally consisted of 300 men, they came to be known as Red Coats, Riders of the Plains, and Mounties In 1948 the force had 14 divisions, over 3,000 men, and motor vehicles, ships, airplanes, and tracking and sleigh dogs as well as horses It enforces dominion law throughout Canada, notably in preventing smuggling, in maintaining security, and in keeping order in the Arctic region, the Yukon, and the Northwest Territories See R C Fetherstonhaugh, *The Royal Canadian Mounted Police* (1938)

Royal George, English naval vessel, which sank with its commander, Admiral Richard Kempenfelt, and about 800 sailors and visitors, at Spithead, Aug 29, 1782, while undergoing repairs The incident is commemorated in William Cowper's poem, "On the Loss of the *Royal George* "

Royal Gorge, impressive canyon of the Arkansas river, S central Colo Its granite walls rise abruptly on either side of the narrow river bed to heights of considerably over 1,000 ft Just W of Canon City it is crossed by a suspension bridge 1,053 ft above the water

Royal Highlanders see BLACK WATCH

Royall, Kenneth Claiborne, 1894–, U S Secretary of the Army (1947–49), b Goldsboro, N C , grad Univ of North Carolina, 1914, and Harvard Law School, 1917 Royall was wounded in the First World War Later he was (1919–42) an eminent trial lawyer in his native state He rejoined the army (1942) to head the legal division and organized (1943) the office of fiscal director Named (1942) Undersecretary of War, he toured the world (April, 1946) He was the first to be Secretary of the Army

Royal Leamington Spa, England see LEAMINGTON

Royal Oak, residential city (1940 pop 25,087, 1947 special census pop 35,319), SE Mich , northwest suburb of Detroit, settled c 1820, inc as a village 1891, as a city 1921 Tools, paint, and mattresses are made The city was the headquarters of the Rev Charles E Coughlin The Detroit Zoological Park is here

Royal Society, first incorporated in 1662, in 1663 and again in 1669 chartered as the Royal Society of London for Improving Natural Knowledge It was founded by a group of learned men in London who met to promote scientific discussion, concerned particularly with the physical sciences It stimulates research in this field and acts in the capacity of adviser on scientific matters to the government, from which it receives annual subsidies The Royal Society ranks as the foremost organization of its kind, its membership always including leading scientists of the world Its activities include the publication of its *Proceedings* and *The Philosophical Transactions* Among those who served as president of the Royal Society are Samuel Pepys, Sir Isaac Newton, Sir Joseph Banks, Sir Humphry Davy, Sir William Huggins, Lord Rayleigh, Sir Archibald Geikie, Sir William Crookes, Sir Joseph John Thomson, Sir Charles Sherrington, Lord Rutherford, Sir Frederick Gowland Hopkins, and Sir William Henry Bragg See Sir Henry George Lyons, *The Royal Society* (1945), Dorothy Stimson, *Scientists and Amateurs a History of the Royal Society* (1949).

Royalton. 1 Village (pop. 1,772), S Ill., N of Cairo, in a farm and coal area; inc. 1907 2 Borough (pop 1,201), Dauphin co., SE Pa., on the Susquehanna river below Harrisburg. Shale and clay are found here, and brick is manufactured 3 Town (pop 1,291), E central Vt., along the White River The first settlement was raided in 1780 by Indians and Tories, who burned the buildings, killed some of the settlers, and took many prisoners to Canada, a granite monument commemorates the event

Royal Tunbridge Wells, Kent, England see TUNBRIDGE WELLS.

Royal Victoria College see MCGILL UNIVERSITY

Royan (rwäyäⁿ'), town (pop 5,086), 1936 pop 10,111), Charente-Maritime dept., W France, on the Gironde where it empties into the Bay of Biscay Known as a port since the 11th cent., it has been in recent times a very popular seaside resort The German garrison here held out long after the Allies had liberated France in 1944, and the picturesque old town was almost totally destroyed by Allied bombings late in April, 1945

Royat (rwaya'), town (pop 3,420), Puy-de-Dôme dept., S central France, at the foot of the PUY DE DÔME It is a thermal station frequented ever since Roman times for rheumatic and cardiac diseases It has a chocolate industry The old section of the town has houses dating from the 12th to 15th cent and a fortified Romanesque church.

Royce, Josiah (rois), 1855–1916, American philosopher, b. California, grad Univ of California, 1873 After studying in Germany and at Johns Hopkins, he returned to California to teach (1878–82) From 1882 until his death he was at Harvard, becoming a professor in 1892 Among his important works are *The Spirit of Modern Philosophy* (1892), *The World and the Individual* (1900–1901), *The Philosophy of Loyalty* (1908), and *Lectures on Modern Idealism* (1919) Royce, a thorough student of history and cognizant of scientific thought, was the foremost American idealist He held that the knowable world exists only in so far as beings with minds actually know it The finite self knows truth beyond itself only because it is part of the logos or world-mind Science successfully depends on description, but appreciation must precede description and consequently ideals must be deeper than the mechanism of science The natural order of the world must be also a moral order Man's ethical obligation is to the moral order and takes the form of loyalty to the great community, or collective individuals See Clifford Barrett, *Contemporary Idealism in America* (1932).

Roycroft Press see HUBBARD, ELBERT

Royden, Maude (Agnes Maude Royden), 1876–, English preacher and social worker, studied at Oxford The first woman to preach (1917–20) in an established Anglican church, she has also been active in social reforms, notably the woman-suffrage and social-hygiene movements Her several books include *Sex and Common Sense* (1922), *I Believe in God* (1927), and *Women's Partnership in the New World* (1941)

Royer-Collard, Pierre Paul (pyĕr' pôl' rwäyä'-kôlär'), 1763–1845, French statesman and philosopher He entered the law, took part in the French Revolution, but later developed legitimist sympathies, so that during the Consulate he devoted himself entirely to philosophy He lectured at the Sorbonne from 1811 to 1814 After 1815 he was deputy for Marne in the chamber almost continuously until 1839 From 1815 to 1820 he was president of the commission for public instruction Royer-Collard was a leader of the Doctrinaires, a middle-of-the-road group that included Guizot, Camille Jordan, Charles de Rémusat, and the duc de Richelieu In philosophy he opposed the sensationism of Condillac and helped introduce the ideas of Thomas Reid into France Victor Cousin was one of his pupils Royer-Collard left no important writings

Royersford, borough (pop 3,605), SE Pa., on the Schuylkill river and c 25 mi NW of Philadelphia, settled 1839, inc 1879

Royse City (rois), town (pop 1,190), N TEXAS, NE of Dallas, in a blackland farming area, settled c 1886, inc. 1888

Royston, urban district (1931 pop 3,831; 1943 estimated pop 16,689), Hertfordshire, England, on the ancient Roman Ermine Street It was the site of a Dominican priory in the 12th cent., and there is a 13th-century church Remains of Roman and previous occupation have been discovered in the neighborhood

Royston, city (pop 1,549), NE Ga., NE of Athens near the S C line, in a farm area

Rozebeke, Belgium see ROOSEBEKE

Rozhdestvenski, Zinovi Petrovich (zēnô'vē pētrô'-vĭch rŭzhdyĭstvyĕn'skē), 1848–1909, Russian admiral. He commanded the Baltic fleet during the Russo-Japanese War of 1904–5 and was ordered to take his fleet to Far Eastern waters by way of the Cape of Good Hope. His fleet was destroyed by Admiral Togo in the battle of TSUSHIMA (1905). On his return to Russia a court-martial declared him blameless in the disaster

RSFSR see RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC

Ru, chemical symbol of the element RUTHENIUM.

Ruad: see ARADUS

Ruanda-Urundi (rōōän'dä-ōōrōōn'dē), United Nations trust territory (19,536 sq. mi., pop 3,718,545), E Africa, under Belgian administration Usambara is the capital It is bordered on the north by Uganda, on the east by Tanganyika, and on the west by Belgian Congo and Lake Tanganyika Lying on a plateau, it has excellent ranching country, especially in the north Cotton, coffee, and tobacco are raised, and tin and gold are mined The territory is prosperous and has one of the densest populations in Africa It was a part of German East Africa After the First World War it was administered by Belgium as a mandate of the League of Nations, and after the Second World War it was made a trust territory See Negley Farson, *Behind God's Back* (1941).

Ruapehu (rōōŭpä'hōō), extinct volcanic peak, 9,175 ft high, on central North Island, New Zealand, highest mountain of North Island Skiing is a popular sport here

Rub al Khali (rōōb' al kha'lē) [Arabic,=empty quarter], desert, c 300,000 sq mi, occupying nearly all S Arabia away from the coastal zones It is usually considered part of Saudi Arabia, but since it is wholly without water and can sustain no life, its ownership is of little consequence The name Dahna is sometimes applied to the entire desert (predominantly of white sand) and sometimes only to the red-sand area of the northeast. The name also appears Ruba al Khali

rubber, solid substance, usually elastic, obtained from the milky secretion (latex) of various plants Pure rubber (often called caoutchouc) is a hydrocarbon made up of molecules of isoprene linked into loosely twisted chains Its properties of elasticity, toughness, impermeability, adhesiveness, and electrical resistance make it useful as an adhesive, a coating composition, a fiber, a molding compound, and an electrical insulator It is resistant to water, alkalies, and weak acids but is soluble in a number of hydrocarbons, including benzene, toluene, gasoline, and lubricating oils Although a large variety of plants contain latex, a milky fluid with globules of rubber in suspension, only a few, most of them tropical or subtropical, have been commercial sources Over 95 percent of the rubber used is obtained from the PARA RUBBER TREE, most of the remainder comes from the Castilla tree (or caucho), the Ceará tree (*Manihot*), guayule, a shrubby plant native to arid regions of Mexico and the SW United States, a few African vines, and, in Russia, from a Siberian dandelion Pre-Columbian Indians of South and Central America used rubber for balls, containers, and shoes and for waterproofing fabrics Although it was mentioned by Spanish and Portuguese writers in the 16th cent., rubber did not claim the interest of Europeans until reports (1736–51) to the French Academy of Sciences by Charles de la Condamine and François Fresneau Pioneer research in finding rubber solvents and in waterproofing fabrics was done before 1800, but rubber was used only for elastics and erasers, and these were made by cutting up objects imported from Brazil Joseph Priestley is credited with the discovery c 1770 of its use as an eraser, whence the name rubber The first rubber factory in the world was established in Vienna in 1811, the first in England by Thomas Hancock in 1820 Hancock devised the forerunner of the rubber masticator, and in 1835 Edwin Chaffee, an American, patented a mixing mill and a calender (a press for rolling the rubber into sheets) In 1823 Charles Macintosh found a practical process for waterproofing fabrics, and in 1839 Charles GOODYEAR discovered VULCANIZATION, which revolutionized the rubber industry In the 19th cent wild rubber was harvested in South and Central America and in Africa, most of it from the Para rubber tree of the Amazon basin After 1910 plantation rubber displaced wild rubber, and Malaya, Indonesia, and Ceylon became the chief producers For more than 100 years the United States has used over 50 percent of the world supply Akron, Ohio, is the leading manufacturing center In the United States above 50 percent of rubber imports are used in TIRE and inner-tube manufacture, 10 percent for belting, hose, tubing, insulators, valves, and gaskets, and about 6 percent for footwear Most of the Para rubber is exported as crude rubber prepared for market by rolling slabs of coagulated latex into thin sheets of crepe rubber or into heavier firmly pressed sheets, usually ribbed and smoked An increasing quantity of latex, treated with alkali to prevent coagulation, is shipped for processing in manufacturing centers For most purposes rubber is ground, dissolved in a suitable solvent, and compounded with other ingredients, e g, fillers and pigments such as carbon black for strength and whiting for stiffening, antioxidants, plasticizers, usually oils, waxes, or tars, accelerators, and vulcanizing agents The compounded rubber is sheeted, extruded in special shapes, applied as coating or molded, then vulcanized. Uncoagulated latex, compounded with colloidal emulsions and dispersions, is extruded as thread, coated on other materials, or beaten to a foam and used as sponge rubber Used and waste rubber may be reclaimed by grinding followed by devulcanization with steam and chemicals, refining, and remanufacture A threatened overproduction of rubber led in 1922 to the British Stevenson Plan which restricted production in British possessions. It was abandoned in 1928 after increased production in Netherlands-controlled areas The International Rubber Regulation Agreement designed to stabilize prices was ratified by Great Britain, the Netherlands, France, India, and Thailand in 1934, and it operated until 1943 American rubber companies, as a step toward diminishing foreign control of the supply, enlarged their plantation holdings in Liberia and in South and Central America The cutting off of Far Eastern rubber during the Second World War gave impetus to the growth of plantations in the Western Hemisphere and of the synthetic-rubber industry, which by 1946 had established facilities adequate to supply most of the world's rubber needs Although natural and synthetic rubber (see RUBBER, SYNTHETIC) have differing qualities which make each preferable for certain purposes and inferior for others, in a large proportion of rubber goods the cost factor is decisive and will determine the relative importance of the two products See P. W Barker, *Rubber* (1940); C M. Wilson, *Trees and Test Tubes* (1943), K E Knorr, *World Rubber and Its Regulation* (1945), P. T. Bauer, *The Rubber Industry* (1948).

rubber, synthetic. A number of rubberlike commercial products are generally known as synthetic rubber However, no synthetic substance identical with natural rubber in chemical and elastic properties has been produced There is no general agreement as to whether the expression *synthetic rubber* should be reserved for substances chemically identical with or closely related to natural rubber or whether it should be applied to all substances having the chief distinguishing physical characteristics of rubber Many names and a variety of classifications have been proposed for the rubberlike materials Some use the designation elastics in preference to rubber The term *elastomer* (ēlă'stumur) has been rather widely accepted for synthetic rubber material By some it is used to include all such substances and by others elastomer is used only for the vulcanizable substances, e g, Buna S, Chemigum, Neoprene, and Perbunan Butalastic polymers, elastoprenes, and other names have been used to indicate the synthetic rubberlike substances based on butadiene (a hydrocarbon derived from ethyl alcohol or from petroleum) Several types of synthetic rubber had been produced by the late 19th and early 20th cent During the First World War, Germany, cut off from supplies of natural rubber, produced synthetic rubber to satisfy emergency needs In 1939 Russia and Germany led the world in production Although research had been intensified in the United States after 1925, it was only during the Second World War that large-scale production was undertaken and soon resulted in creating a major industry The basic materials from which most synthetic rubbers are derived are the hydrocarbon substances, e g, petroleum, alcohol, coal tar, natural gas, and acetylene Rubberlike qualities are obtained by polymerization, i e, linking the molecules of the basic substances into long chains Natural rubber and the synthetic products each have some characteristics in which they are superior to the other In general natural rubber has properties which make it more suitable for processing, usually has greater elasticity, resilience, and resistance to tearing, and usually maintains its elasticity at lower temperatures Most synthetic rubbers have greater resistance to the harmful action of oils and organic solvents and to the effects of sunlight, heat, and acids and are less permeable to gases and liquids In the United States, as in some other countries, butadiene is the basis of many of the leading synthetic elastic materials, among these are Buna S, Perbunan (formerly Buna N), Hycar (Ameripol), and Chemigum. Buna S was the type produced in largest quantities under the government program during the Second World War Neoprene (formerly Duprene) was one of the first successful synthetic rubbers produced (1931) in the United States Butyl rubber is another commercially important type, in its production butadiene is sometimes employed, although isoprene or another related substance may be used Thiokol is a rubberlike material produced by a process of condensation rather than polymerization. See E O Kraemer, *Scientific Progress in the Field of Rubber and Synthetic Elastomers* (1946), Frederick Marchionna, *Butalastic Polymers* (1946); F A Howard, *Buna Rubber* (1947); Harry Barron, *Modern Synthetic Rubbers* (3d ed, 1949).

rubber plant or India-rubber tree, a large tree as it grows in its native Asia but elsewhere cultivated chiefly as a house plant, popular for its long, shining, leathery leaves. This plant (*Ficus elastica*) is no longer important as a source of rubber. It may be propagated by air LAYERING. Any plant that yields rubber may be called rubber plant.

Rubens, Peter Paul (rōō'bŭns), 1577–1640, foremost painter of the Flemish school, b. Siegen, Westphalia, where his family was in exile. His father was

an apothecary and a man of learning and had been an alderman of Antwerp before his expulsion as a Calvinist After his death in 1587, the family returned to Antwerp There the youthful Rubens attended a Jesuit school, acted as court page, and became an accomplished linguist After 1591 he was apprenticed to several minor painters In 1598 he was admitted to the painters' guild and two years later went to Italy He spent eight years in the service of the duke of Mantua In 1608, on the death of his mother, he returned to Antwerp, where he became almost at once the foremost painter of the city Students flocked to him He set up a fine studio and married Isabella Brant It was a period of prosperity, and Rubens was besieged with commissions, especially for church decorations and altarpieces of large dimensions For such works many helpers were needed, and he organized an enormous workshop of skilled apprentices Among his masterpieces of this period are such imposing compositions as the *Adoration of the Magi* (Prado) and the *Raising of the Cross* and *Descent from the Cross* (cathedral, Antwerp) In these works Rubens already rivaled the grandiose creations of Italian art which had dominated the imagination of northern artists for almost a century From 1620 to 1625 he executed numerous commissions for the French court, including a series of 24 paintings of the life of Marie de' Medici for the Luxembourg Palace (they are now in the Louvre) Much of the work on these large allegorical pictures was done by assistants, although Rubens designed them and added the finishing touches From this time on his workshop turned out a steady stream of monumental works *The Assumption* (cathedral, Antwerp) belongs to this period In 1626, on the death of his wife, he entered the diplomatic service, for which his pleasing personality, knowledge of languages, and acquaintance with royalty fitted him well In 1628 he went to Spain to arrange an agreement between Philip IV and England After nine months in Madrid, where he knew Velázquez and painted the royal family, he went to London There he was idolized and knighted He painted the ceiling at Whitehall and *The Blessings of Peace* (National Gall , London) On his return to Antwerp in 1630, Rubens, now 53, married the beautiful 16-year-old Helen Fourment His portraits of her (Vienna Mus , Louvre, and National Gall of Art, Washington, D C) are among his most joyous and personal paintings During the last 10 years of his life Rubens worked with incredible energy, producing many of his finest pictures Over 100 were painted for the Spanish court alone *The Judgment of Paris* and *Three Graces* (Prado) and *Venus and Adonis* (Metropolitan Mus) belong to this period Many of his last years were spent on his princely estate, "Castle Steen," near Brussels Rubens died of gout at the age of 63 and at the height of his powers and popularity Under his direction or influence a whole school of brilliant artists flourished in Antwerp The volume of Rubens's work is enormous Much that is attributed to him he scarcely more than supervised, but so absolute was his domination that almost everything proceeding from his workshop shows the mark of his genius Some of the great decorations, it is true, have an almost impersonal character Rubens owed to Italy his monumental composition, freedom of handling, and large conception But his color, technique, and lusty spirit were Flemish As he matured, his color became ever brighter and clearer, and he finally abandoned all violent oppositions of light and shade in favor of an all-pervading luminosity No artist has surpassed Rubens in depicting movement, and he delighted in painting scenes of mythical battle and abduction, in which nude figures struggle in attitudes of superabundant vitality Despite his superb religious paintings, a pagan joy of life is his most characteristic quality He explored all fields of painting In landscape, portrait, genre, and animal painting he was as supremely successful as in his large religious and allegorical works Some of his small pictures, such as *Helen Fourment and Her Children* (Louvre) and *Peasant Dance* (Prado), are among his greatest masterpieces Despite the rapidity with which he worked, his paintings are miracles of craftsmanship Contemporaries doubted the durability of his delicate glazes, but his pictures are singularly well preserved Over 2,000 paintings have been attributed to Rubens's studio Almost every principal gallery of Europe contains fine examples He is represented in many American galleries, including the Art Institute of Chicago, the Nelson Gallery, Kansas City, the National Gallery of Art, Washington, D C , the Metropolitan Museum, the Cleveland Museum, and the Gardner Museum, Boston See biographies by Louis Hourticq (1918) and Anthony Bertram (1929), study by S L Bensusan (1908).

rubeola: see MEASLES

Rubicon (rōō'bĭkŏn), Latin *Rubico*, small stream that marked the boundary between Cisalpine Gaul and ancient Italy It may have been the modern Fiumicino, but is not certainly identified In 49 B C , after some hesitation, Julius Caesar crossed it to march against Pompey in defiance of the senate's orders. He thus committed himself to conquer or to perish Thus "to cross the Rubicon" means to take an irrevocable step

rubidium (rōōbĭl'dēŭm) [Latin *rubidus*=red], rare, silver-white, very soft metallic element (symbol=Rb, for physical constants, see ELEMENT, table) It is included in the alkali-metals group of elements and, like the other members, is extremely active, reacting violently with water to form the hydroxide and oxidizing rapidly when exposed to the air It resembles especially potassium in its chemical activity Its salts color the Bunsen flame red Rubidium does not occur uncombined in nature, but is present in certain minerals, e g , lepidolite, and also in seaweed ashes, beet roots, cocoa, coffee, tea, and tobacco Combined with chlorine as the chloride, it occurs in many natural spring waters The metal is obtained by several methods from its compounds, such as the hydroxide and the cyanide Rubidium and its salts have little commercial value The metal is used in the manufacture of photoelectric cells It was discovered along with cesium by Bunsen and Kirchhoff (1860–61), these elements being the first to be discovered by means of the spectroscope The spectrum of rubidium exhibits two deep red lines

Rubinstein, Anton Grigoryevich (ŭntôn' grĭgôr'yŭvĭch rōō'bĭnstĭn), 1829–94, Russian pianist and composer As a piano virtuoso he ranked with Liszt He made his debut in Moscow at nine and later won the admiration of Mendelssohn, Chopin, and Liszt He toured the United States, 1872–73, with Henri Wieniawski and an orchestra conducted by Theodore Thomas A highly successful tour, it raised the standard of the American concert repertoire Earlier, in 1859, he had founded the Russian Musical Society and, in 1862, the St Petersburg Conservatory, of which he was twice director (1862–67, 1887–91) He was a prolific composer, but his real importance lies in his work as an educator, both of musicians and of the public His brother, **Nicholas Grigoryevich Rubinstein**, 1835–81, also a brilliant pianist and teacher, founded (1864) the Moscow Conservatory See Catherine D Bowen, *"Free Artist" the Story of Anton and Nicholas Rubinstein* (1939)

Rubinstein, Artur (rōō'bĭnstēn, -stīn), 1886–, Polish piano virtuoso, studied in Berlin as a protégé of Joseph Joachim He made his debut in 1898 with the Berlin Symphony Orchestra, conducted by Joachim, and first played in the United States in 1906, but it was after his third appearance here, in 1937, that he achieved his greatest acclaim He became a U S citizen in 1946

Rubio, Pascual Ortiz see ORTIZ RUBIO, PASCUAL

ruby, precious stone, a variety of red CORUNDUM, found chiefly in Burma, Siam, and Ceylon and classified among the most valuable of gems The Burmese stones are blood red, the most valued tint being the "pigeon's blood " The Siamese stones are darker and the Ceylon stones lighter than the Burmese specimens Star rubies, i e , those that show an internal star-shaped formation when cut in cabochon (with a rounded top), are rare Stones sometimes confused with the ruby are spinel ("balas ruby"), rubellite (pink TOURMALINE), and pyrope GARNET

Rückert, Friedrich (frē'drĭkh rŭ'kurt), pseud **Freimund Raimar** (frī'mōōnt rī'mär), 1788 1866, German Orientalist and poet An editor and a professor of Oriental languages, he wrote many imitations of Oriental poetry and some works for the theater At his best he was a fine lyric poet, and many of his works are still popular Among them are the patriotic and anti-French *Geharnischte Sonette* [sonnets in armor] (1814), *Liebesfrühling* [the springtime of love] (1823), and *The Wisdom of the Brahmins* (1836, Eng tr , 1882) Well-known poems are the ballad *Barbarossa* and the lyric "Dedication," set to music by Schumann Five of the *Kindertotenlieder* [elegies for children] (1834) were set to music by Mahler

Ruckstull, Frederick Wellington (rŭk'stŭl'), 1853–1942, American sculptor, b Alsace, brought to the United States in 1854 He studied art in Paris for 12 years The leading spirit in organizing (1893) the National Sculpture Society, he was active in promoting the interests of sculpture in the United States His important works include *Evening* (Metropolitan Mus), *Mercury Teasing the Eagle of Jupiter* (St Louis), *Solon* (Library of Congress), *Wisdom* and *Force* (Appellate Courthouse, New York), *Victory* (soldiers' and sailors' monument, Jamaica, Queens borough, New York), *Gloria Victis* (Confederate monument, Baltimore), and equestrian statues at Harrisburg, Pa , and Columbia, S C He wrote *Great Works of Art and What Makes Them Great* (1925)

rudbeckia (rŭdbĕ'kēŭ), any plant of the genus *Rudbeckia*, North American composite-flowered herbs with usually yellow rays The best known are the BLACK-EYED SUSAN and GOLDEN GLOW. Rudbeckias are often called coneflower, a name also used for species of *Lepachys* and *Echinacea*—related plants with composite flowers.

rudder, mechanism for steering a vessel or airplane In ships it is a flat-surfaced section fastened by hinging to the stern. When the ship follows a straight course, the rudder is in line with the vessel, and if the rudder is turned to one side or the other it offers sufficient resistance to the water to deflect the stern, thus changing the direction of the ship. The movement of the rudder is controlled by a helm or tiller In the earliest times a single paddle or oar at the stern served to turn a boat, and in very small craft it still does. The construction of Greek and Roman vessels required two rudders, one at either end, to maintain a course when the prow or stern moved up out of the water The vikings placed their rudder not directly on the stern but on the right side toward it, which gave the name starboard (steerboard) to the right side of a vessel By early 14th cent the stern rudder had largely replaced the side rudder Wooden rudders gave way to iron and steel in the latter half of the 19th cent The rudder of a modern steamship or motor ship consists of a heavy steel frame, made up of a vertical member, from which radiate arms, all of which are covered with steel plate The top of the rudder extends into the ship's hull through a watertight stuffing box Large liners have rudders that are 60 ft or more in height and weigh 100 tons In aeronautics, the rudder is a part of the tail assembly and gives right or left direction Upward and downward direction is achieved through the rudderlike action of ailerons, these are movable surfaces which are hinged to the trailing edge of the wings.

Rude, François (frăswä' rüd'), 1784–1855, French sculptor, son of a coppersmith As a Bonapartist, he left Paris after the battle of Waterloo and spent 12 years in Brussels In 1828 he attracted attention by exhibiting in Paris *Mercury Fastening His Sandal*, followed by the *Neapolitan Fisher Boy*, both now in the Louvre, where also is his *Jeanne d'Arc* The animation and natural expression shown in the *Fisher Boy* found larger and wider play in the great patriotic group, *Le Départ* (*Departure of the Volunteers*; known also as *La Marseillaise*), on the Arc de l'Étoile, Paris, Rude's most famous work Other achievements are his Napoleon at Fixin on the Côte-d'Or, the tomb of Godefroy Cavaignac, Montmartre Cemetery, Paris; and the statue of Marshal Ney, Paris

Rüdesheim (rü'dus-hīm), town (pop 5,736), Hesse, W Germany, on the right bank of the Rhine and WSW of Wiesbaden The vineyards of the vicinity produce some of the most excellent Rhine wines There are several castle ruins near by

Rudinì, Antonio Starabba, marchese di (äntô'nyô starab'bä markā'zā dē rōōdēnē'), 1839–1908, Italian statesman. A Sicilian revolutionist, he became mayor of Palermo (1864), prefect of Naples (1868), minister of the interior (1869), and twice premier (1891–92, 1896–98) as the leader of the right He renewed the Triple Alliance (1891) and attempted a rapprochement with France He was obliged to resign in 1898 after having severely suppressed a series of bread riots

Rudolf I (rōō'dôlf) or **Rudolf of Hapsburg, 1218–91,** emperor (never crowned) and German king (1273–91), founder of the HAPSBURG dynasty The death of RICHARD, EARL OF CORNWALL (1272), the desire for a native, resident king, and the eagerness of the pope for the restoration of order after the great interregnum (see HOLY ROMAN EMPIRE) led to the election of Rudolf, count of Hapsburg Rudolf immediately sought the pope's friendship, and subsequently eased imperial-papal relations by renouncing sovereignty over the Papal States and S Italy The losses which the imperial power had suffered in the interregnum led Rudolf to seek expansion of his private possessions, as a means to this end he decided to deprive OTTOCAR II of Bohemia—who had, besides, opposed his election—of the imperial fiefs which he had seized He forced Ottocar to submit (1276) and crushed his attempt at rebellion (1278), in 1282 he invested his sons Albert (later King ALBERT I) and Rudolf with Austria, Styria, and Carniola, thus establishing the Hapsburgs in these states Rudolf tried to overcome internal anarchy by issuing local land peaces, and to strengthen the central government by taxing the imperial towns, but these measures had little success He also failed to have Albert elected king in his lifetime Adolf of Nassau succeeded Rudolf

Rudolf II, 1552–1612, emperor (1576–1612), king of Bohemia (1575-1611) and of Hungary (1572–1608), son and successor of Emperor Maximilian II Mentally sick, he was unable to maintain order in the empire The revolt (1604–6) led by Stephen BOCSKAY in Hungary ended with the treaties of Vienna and Szitvatorok, negotiated with Bocskay and Sultan AHMED I by Rudolf's brother, MATTHIAS, who took over the actual power In 1608 Matthias forced him to cede Hungary, Austria, and Moravia BOHEMIA, where the Protestant nobles rebelled in 1609, also passed (1611) to Matthias, who on Rudolf's death was elected emperor. Rudolf's turbulent reign was a prelude to the Thirty Years War He is remembered for his passionate, if often misguided, interest in science. Tycho Brahe, Kepler, and Drebbel worked at his court at Prague. In Golden Lane, a street of Prague, he locked up alchemists, ordering them to transmute base metals to gold.

Rudolf, 1858–89, Austrian archduke, crown prince of Austria and Hungary; only son of Emperor Francis Joseph and Empress Elizabeth His mysterious death at Mayerling (near Vienna), together with that of his mistress, Baroness Maria Vetsera, was officially declared a double suicide but is still the subject of vivid speculation.

Rudolf, Lake, from 10 to 30 mi wide and 180 mi. long, NW Kenya colony, in the Great Rift Valley. At its northern extremity it touches Anglo-Egyptian Sudan and Ethiopia Surrounded by volcanic mountains, it has no outlet

Rudolf of Hapsburg see RUDOLF I.

Rudolstadt (rōō'dŏlshtät"), town (pop 22,100), Thuringia, central Germany, on the Thuringian Saale and S of Weimar It has manufactures of china, glass, musical instruments, and pharmaceuticals Founded before 800, it was (1584–1918) the seat of the princes of SCHWARZBURG-RUDOLSTADT. The Heidecksburg Palace, rebuilt in 1735, is now a museum

rue (rōō), aromatic, woody herb of the genus *Ruta*, native to Europe, sometimes cultivated for ornament. The common rue of history and literature is *Ruta graveolans*, which has greenish-yellow flowers and blue-green leaves sometimes variegated, with a very strong odor and a bitter taste The leaves are now sometimes used in herb vinegars, in the preparation of cosmetics and perfumes, and as a treatment for roup in poultry In medieval times rue was much used as a drug Its use as a condiment was thought to prevent poisons from affecting the system, and it was strewn about law courts in parts of Great Britain as a preventive against diseases carried by criminals It was sometimes associated with witches, but also symbolized grace, repentance, and memory Shakspere in *Richard II* refers to it as the "sour herb of grace" It is also mentioned in *Hamlet*, *A Winter's Tale*, and many other great works of literature including Milton's *Paradise Lost* See M W Kamm, *Old-Time Herbs for Northern Gardens* (1938).

Rueda, Lope de see LOPE DE RUEDA.

Ruef, Abraham (Abe Ruef) (rōōf'), 1865–1936, American political boss, b San Francisco, grad Univ of California, 1884 He practiced law in Oakland, Calif, after 1886 and became a familiar figure in San Francisco ward politics At first in the local Republican party, Abe Ruef later became the leader of the Union Labor party After securing the election (1903) of Eugene Schmitz, a musician, as mayor of San Francisco, Ruef came to control the city politically and directed it with shocking corruption until he was indicted in 1907 In a sensational trial—Prosecutor Francis J Heney was shot in the courtroom—Ruef was convicted of bribery and extortion and was sentenced (1909) to a 14-year prison term

ruffed grouse see GROUSE

Ruffin, Edmund (rŭ'fĭn), 1794–1865, American agriculturist, one of the Southern "FIRE-EATERS," b Prince George co, Va His interest in improving the worn-out land led him to become a pioneer in soil chemistry Against much opposition he advocated the benefits of marl and proved its value His arguments were propounded in *An Essay on Calcareous Manures* (1832, rev ed, 1852) He founded (1833) and edited until 1842 an excellent agricultural publication, the *Farmers' Register* An ardent supporter of states' rights and secession, he left Virginia for the more congenial political milieu of South Carolina, where on April 12, 1861, he was given the privilege of firing the first shot against Fort Sumter With the surrender of Robert E Lee at Appomattox he committed suicide See biography by A O Craven (1932)

Ruffo, Fabrizio (fäbrē'tsēō rōōf'fō), 1744–1827, Neapolitan general, cardinal of the Roman Church In the French Revolutionary Wars he led the royal Neapolitan army against the PARTHENOPEAN REPUBLIC, set up at Naples under French protection Promising the Neapolitan rebels full immunity from reprisals, he obtained their capitulation in June, 1799 Cardinal Ruffo was in good faith and sympathized with the grievances of the revolutionists, but in granting full pardon he possibly exceeded his authority Even before Naples surrendered, Admiral Horatio NELSON appeared with his fleet, rudely called the cardinal to task for his leniency, and revoked the capitulation terms The rebels, who had been only vaguely informed of the change, capitulated nevertheless Their leader, Caracciolo, was executed on Nelson's flagship, and a general massacre of the rebels began

Rufinus (rōōfī'nŭs), d 395, Roman statesman, minister of THEODOSIUS I and ARCADIUS He influenced Theodosius to order the massacre at Salonica (390) and was generally hated for his rapacity. After Theodosius' death he virtually ruled the Eastern Empire for Arcadius, but his attempt to marry his daughter to the young emperor was thwarted by EUTROPIUS Rufinus still hoped to become coemperor, but he was assassinated by the Gothic mercenaries under Gainas, possibly on the instigation of STILICHO

Rufus [Latin, =ruddy] **1** Son of Simon of Cyrene. Mark 15 21. **2** Christian in Rome Rom. 16.18. Perhaps the same as **1.**

rug: see CARPET AND RUGS.

Rugby, urban district (1931 pop. 23,826; 1947 estimated pop 44,380), Warwickshire, England, near the Avon It is an important railroad junction and engineering center, with a prominent radio transmitting station It is, however, known chiefly as the seat of one of the great English public schools Rugby School was founded in 1567 by Laurence Sheriff, a wealthy London merchant. Its present buildings date from the early 19th cent., when Rugby became famous under the headmastership of Thomas ARNOLD His son Matthew Arnold helped immortalize Rugby in his poetry, and another Rugbeian, Thomas Hughes, wrote the great schoolboy classic *Tom Brown's School Days*, which deals with Rugby life Rugby football (from which American football developed) originated here in 1823 Other famous graduates are Arthur Hugh Clough, Rupert Brooke, C L Dodgson (Lewis Carroll), and Walter Savage Landor Among Rugby's fine buildings is the chapel, which commemorates the 682 Old Rugbeians who fell in the First World War

Rugby, city (pop 2,215), co seat of Pierce co, N N Dak, ENE of Minot, in farm and dairy country, platted 1885, inc 1906

rugby, game which originated (1823) on the playing fields of Rugby in England It has many of the characteristics of SOCCER and American FOOTBALL The game is said to have been started quite by accident when in a soccer game a player picked up the ball and ran downfield with it instead of kicking it Games of this sort were soon seen frequently at Rugby, and when other English schools and universities adopted this style of play in the mid 19th cent, the name rugby was given to the game In 1871 the English Rugby Union was formed to standardize the game, and the sport was soon organized in other sections of the British Isles The game was introduced (1875) into the United States, where it made relatively little headway The rugby field is roughly 160 yd long and 75 yd wide, with goal lines 110 yd apart and two in-goals (corresponding to football's end zones) 25 yd deep A halfway line divides the field, which is further subdivided by other lines parallel to the goal line The goal posts have measurements similar to those used in American football, and the ball, although larger and more rounded, is similar to the American football A team consists of 15 players (8 forwards and 7 backs), and no substitution is permitted If a player is seriously injured, the team must play shorthanded The ball may be kicked, carried, or passed (to the sides and to the rear), though tackling is permitted, blocking is forbidden Unlike American football, play is almost continuous in rugby, after penalties and out-of-bounds plays, however, a scrummage (in which the two opposing lines of forwards kick the ball thrown between them) starts play again A try (carrying the ball into the opponents' in-goal) counts 3 points, a conversion (kicking the ball between the goal posts after a try is scored) 2 points, a field goal 4 points, and a penalty kick 3 points A rugby match is divided into two periods of 40 min, and there is no overtime period in case of a tie Professional rugby, organized in England in 1895, is played by 12-man teams See I H B Stuart, *The Theory of Modern Rugby Football* (1930), D R. Gent, *Rugby Football* (1932), H B T Wakelam, *Rugby Football* (1936)

Rügen (rü'gun), island (358 sq mi, pop 89,306), Pomerania, NE Germany, in the Baltic Sea off Stralsund After 1945 it was included in Russian-occupied Mecklenburg It has been connected since 1936 by a dam with the mainland at Stralsund. Agriculture and fishing are the main occupations There are many very popular seaside resorts The chief town is Bergen Saßnitz is the terminus of a tram ferry from Trelleborg, Sweden Rügen was conquered by Denmark in 1168, came to Pomerania in 1325, and shared the history of Swedish Pomerania from 1648 to 1815, when it became Prussian

Ruggles, Samuel Bulkley, 1800–1881, American public figure, b New Milford, Conn, grad Yale, 1814 He was a successful lawyer in New York city, but at 40 gave up his practice to devote himself to public affairs He enthusiastically promoted real-estate development in the city and was mainly responsible for several private neighborhood parks Ruggles promoted the new water system and other improvements and served as a state assemblyman He helped to organize the Erie RR and the Union Pacific RR As a trustee of Columbia College he was to a large extent responsible for the beginning of its development into a great university Interested in international affairs, he was a delegate to the International Monetary Conference in 1867. See D G Brinton Thompson, *Ruggles of New York* (1946)

Ruhamah (rūhā'mu) [Heb, =commiserated], daughter of Hosea. Hosea 2.1.

Ruhmkorff, Heinrich Daniel (hīn'rĭkh dän'yĕl rōōm'kôrf), 1803–77, German physicist He manufactured scientific apparatus and instruments in Paris and invented (1851) the induction coil which bears his name.

Ruhr (rōōr), river, 145 mi. long, rising in the hills of N Hesse, NW Germany. It flows generally W past Essen and Mülheim and joins the Rhine at Duisburg Its lower course is the southern limit of the industrial **Ruhr** district (c 2,000 sq mi.; pop c 4,000,000) of Westphalia and the former Rhine Prov. of Prussia The district extends from the Dutch border in the west to Hamm in the east and is between the Ruhr and Lippe rivers It was included after 1945 in the British-occupied state of North Rhine-Westphalia It is one of the world's densest and most important industrial concentrations The basis of its industries is its huge anthracite basin, which provides coal not only for the heavy industries of the Ruhr itself, but also for those of France and other countries The chief industry of the Ruhr is steel production, which relies heavily on imports of iron ore from the Lorraine basin in France and on Swedish ore Unfinished, semifinished, and finished steel (notably heavy machinery and, until 1945, armaments) are produced. Coke, tar, and chemicals are important by-products From Duisburg to Dortmund the region is one continuous urbanized district, including the adjoining cities of Bochum, Essen, Gelsenkirchen, Oberhausen, and Recklinghausen A web of railroad and trolley lines connects the various localities, the Ruhr river, the Rhine-Herne Canal, and the Dortmund-Ems Canal connect the region with the Dutch port of Rotterdam and with the German port of Bremen The development of the Ruhr district began with the expansion in the 19th cent of the KRUPP and Thyssen concerns In Jan, 1923, the Ruhr was occupied by French and Belgian forces after the REPARATIONS commission had declared Germany in default The German government in turn discontinued all reparations payments and supported the movement of passive resistance to the Allies in the Ruhr The Franco-Belgian commission arrested several industrialists and took severe measures against sabotage, applying martial law After Gustav Stresemann became German chancellor in Aug, 1923, the government ended resistance and inaugurated a policy of treaty fulfillment which resulted in the German acceptance (Aug, 1925) of the Dawes Plan and the Allied evacuation (Nov, 1925) of the Ruhr The occupation of the Ruhr brought no essential advantages to France or Belgium, and it greatly embittered German nationalist feeling Some of the chief Ruhr industrialists were instrumental in helping Hitler to power in 1933 In the Second World War the cities and plants of the Ruhr district were devastated by air raids In March–April, 1945, a large concentration of German forces were sealed off in the "Ruhr pocket" by the Allies and eventually surrendered The disposition of the Ruhr after the war and the status of ownership and operation of its mines and industries were major factors of disagreement among the Allies French proposals to detach the Ruhr from Germany and to place it under international control were opposed by the United States, the USSR, and Great Britain and were abandoned, as were British proposals favoring socialization of the mines and plants In 1949 an international authority for the Ruhr was set up with the participation of France, England, the United States, Belgium, the Netherlands, Luxembourg, and (after Nov, 1949) the West German federal republic, its headquarters was established at Dusseldorf, and it was given full economic control over the Ruhr The USSR refused to recognize the Ruhr authority No final disposition regarding ownership was taken Production was resumed under the direction of German trustees and soon came close to pre-war production level A plan inaugurated in 1950 by the French foreign minister Robert Schuman provided for the pooling of European coal and steel resources and was adopted by the member countries of the Ruhr authority except England, which objected to the fact that the industries would not be publicly owned The Schuman Plan is likely to exert considerable effect on the status and the production of the Ruhr

Ruisdael or **Ruysdael, Jacob van** (both ya'kōp van rois'dal), c 1628–1682, Dutch painter and etcher, most celebrated of the Dutch landscape painters He was the pupil of his uncle, Salomon van Ruisdael (c 1600–1670), well-known Haarlem landscapist Very little is known of Jacob's life He was admitted to the painters' guild of Haarlem in 1648 and later moved to Amsterdam, receiving the freedom of the city in 1659 In 1668 he is recorded there as a witness to Hobbema's marriage His work was little appreciated in his day, and his life was passed in poverty He died in the Haarlem almshouse His characteristic work shows northern nature in a somber mood In his landscapes the skies are usually overcast, and his marines are gray and stormy He excelled in painting woodland scenes with ancient, gnarled oaks. In these pictures the prevailing tone was originally a strong, rich green, but many of them have darkened badly. He also painted various mountain scenes with waterfalls and foaming torrents, possibly inspired by Van Everdingen's Norwegian pictures. In general Ruisdael's landscapes, unlike those of his Dutch

contemporaries, do not depict any given spot but are imaginary Their realism is the product of keen visual memory and vivid imagination. His little figures are said to have been painted by Wouwerman, Berchem, Van Ostade, and Lingelbach. Ruisdael anticipated and inspired many of the great French and English landscapists of the next two centuries His mature work, in its breadth of handling and impressive light effects, shows the influence of Rembrandt His rare etchings are highly prized He is well represented in many important European and American collections Among his many famous paintings are *Blenheim Castle* and *Jewish Cemetery; Mill near Wijk* and *Waterfall* (Rijks Mus), *Forest* (Louvre), and *Landscape with Ruins* (National Gall , London) The Metropolitan Museum, the Art Institute of Chicago, the Museum of Fine Arts, Boston, the Frick Collection, New York, the National Gallery of Art, Washington, D.C , and the Philadelphia Museum of Art have fine examples of his art

Ruiz, Juan (hwin' rōō'ēth'), 1283?–1350?, Spanish poet He was archpriest of Hita, and what is known of his life has been reconstructed mainly from his masterpiece, the *Libro de buen amor* (Eng tr , *The Book of Good Love*, 1933) It is a collection of poems, fables, and adventures told in a picaresque manner, adaptations of medieval, classical, and Oriental stories and apologues, all forming a unified satirical panorama of medieval society

Ruiz Aguilera, Ventura · see AGUILERA

Ruiz de Alarcón y Mendoza, Juan see ALARCÓN Y MENDOZA, JUAN RUIZ DE

Ruiz de Apodaca, Juan, see APODACA, JUAN RUIZ DE

Rule, town (pop 1,195), W central Texas, N of Abilene, in a farm area, inc 1909

Ruleville, town (pop 1,378), NW Miss , near the Sunflower river NW of Greenwood, laid out 1898 It is a trade center for a plantation area Near by is an experimental vocational school for Negroes

rum, spirituous liquor properly distilled from molasses which has been dissolved in dunder (the lees of a previous distillation) and fermented Inferior rum is made from skimmings and other waste of cane sugar in process of manufacture Naturally colorless, rum acquires by the addition of caramel a rich brown color deepened by storage in casks The mellow, well-aged spirit has a high commercial value It is produced chiefly in the West Indies, where it originated, the choicest being made in Jamaica and Barbados In colonial times rum was extensively manufactured and consumed in New England See Charles Taussig, *Rum, Romance & Rebellion* (1928)

Rumah (rōō'mu) [Heb ,=high], unidentified place, home of Pedaiah the grandfather of King Jehoiakim 2 Kings 23 36

Rumania (rōōmā'nēu), **Romania** (rōmā'nēu, Rumanian rômû'nya), or **Roumania** (rōōmā'nēu), republic (c 92,500 sq mi , 1948 pop 15,872,624), SE Europe BUCHAREST is the capital Rumania is bounded by the Black Sea, the Ukraine, and the Moldavian SSR on the east, by the Ukraine on the north, by Hungary and Yugoslavia on the west, and by Bulgaria on the south The Danube, which forms part of the frontier with Yugoslavia and most of the frontier with Bulgaria, traverses Rumania in the east, its tributary, the Pruth, constitutes the major part of the frontier with the USSR The crest of the CARPATHIANS, of which the Transylvanian Alps are part, traverses Rumania in a wide arc from north to southwest and rises to 8,346 ft in the Negoiul Though Rumania is administratively divided into some 50 departments, the country falls into seven historic and geographic regions or provinces To the south and east of the Carpathian crest are WALACHIA, MOLDAVIA, S BUKOVINA, and—E and S of the lower Danube—DOBRUJA The center of Rumania is occupied by mountainous TRANSYLVANIA Further west, and extending into the Hungarian plain, are CRISANA-MARAMURES and the Rumanian part of the BANAT Primarily agricultural, Rumania is a major producer of wheat and corn, but because of the continental climate crop failures and resulting famines are not uncommon Industrial production, which might put Rumanians on a more stable economic basis, is only beginning to approach its potentialities The only large-scale industry that has been extensively developed for some time is the production of petroleum and natural gas, particularly in the PLOESTI area of Walachia Other mineral resources include salt, lignite, and iron, copper, gold, and silver ores Transylvania is rich in timber Wine production, fruitgrowing, and sheep and cattle raising are important occupations, and food processing (which, of course, depends on crop results) is a major industry. GALATI (Moldavia) is the chief Danubian port, and CONSTANTA (Dobruja), the chief Black Sea port Among other important cities are JASSY in Moldavia; Braila in Walachia, CLUJ in Transylvania; TIMISOARA in the Banat, and ORADEA in Crisana-Maramures. The majority of the population speak Rumanian, a Romance language, but there are considerable minorities whose native languages are Hungarian, German, and Yiddish The Rumanian Orthodox Church is the chief religious body; in 1948, when the Communist-led government took over control of religious worship and education, the Orthodox Church also absorbed the Greek Catholics in communion with the papacy (the Uniates), who as of 1930 had formed about 10 percent of the population Other religious groups include Roman Catholics (about 8 percent in 1930), Jews, various small Protestant denominations, and Moslems. There are four universities—at Bucharest, Jassy, Cluj, and Timisoara Rumania occupies, roughly, ancient DACIA, which was a Roman province in the 2d and 3d cent A D Although the present Rumanians are an ethnical mixture resulting from centuries of invasions and foreign occupation, their ancestors clung tenaciously to the most vital element of their Roman heritage—their Latin speech. After the Mongols withdrew in the 13th cent , the history of the Rumanian people became in essence that of the two Rumanian principalities—MOLDAVIA and WALACHIA —and of TRANSYLVANIA, which for most of the time was a Hungarian dependency By the 15th cent , the princes of Moldavia and Walachia were reduced to vassalage to the Ottoman Empire They retained, however, considerable independence Despite their Asiatic despotism and despite their continuous wars against each other and against their Turkish suzerains, their rule was a period of prosperity compared to that which followed To the cultural revival of the time the many old cathedrals of Rumania still testify MICHAEL THE BRAVE of Walachia defied both the sultan and the emperor and at the time of his death (1601) had united Moldavia, Walachia, and Transylvania under his sway, but his empire soon fell apart The ill-fated alliance (1711) of the princes of Moldavia and Walachia with Peter I of Russia led to the end of the rule by native princes From that time until 1821 the sultans appointed governors, called hospodars, usually chosen from among the Greek PHANARIOTS Some hospodars avoided exertion to the point of having themselves carried from the table to their beds They and their subordinates squeezed the country dry Except for the few great landowners, the bovars, the Rumanian people became a nation of starving peasants and nomadic shepherds In Transylvania the Rumanians fared little better under Magyar rule than their brothers across the Carpathians fared under the Phanariots The Treaty of KUCHUK KAINARJI (1774) gave Russia considerable influence over Moldavia and Walachia When, in 1821, Alexander Ypsilanti raised the Greek banner of revolt in Moldavia, the Rumanians (who had more grievances against the Greeks than against the Turks) rose on their part and helped the Turks in expelling the Greeks In 1822, the Turkish government consented to appoint native governors, after the Russo-Turkish War of 1828–29, during which Russian forces occupied the two principalities, the governors were given life tenure Though technically Moldavia and Walachia remained within the Ottoman Empire, they actually became Russian protectorates Under Russian pressure a constitution was devised which gave exclusive rights to the boyars However, a national and cultural revival was under way, and in 1848, following the French lead, the Rumanians rose in rebellion Their uprising, secretly welcomed by the Turks, was suppressed by Russian military intervention The Crimean War, however, brought the evacuation (1854) of the Russian troops, who were replaced by a neutral Austrian occupation force The Congress of Paris (1856) established Moldavia and Walachia as principalities under Turkish suzerainty and under the guarantee of the European Powers, and it awarded S BESSARABIA to Moldavia The election (1859) of Alexander John CUZA as prince of both Walachia and Moldavia prepared the official union (1861) of the two principalities under the name Rumania Cuza freed the peasants of feudal obligations and enabled them to buy land at cheap rates, but his personal corruption obscured his real achievements, and he was deposed by a coup d'état in 1866 CAROL I, a prince of the house of Hohenzollern-Sigmaringen, was chosen his successor A moderately liberal constitution was adopted in 1866, and in 1877 Rumania joined Russia in its war on Turkey At the Congress of Berlin (1878) Rumania gained full independence, but was obliged to restore S Bessarabia to Russia and to accept DOBRUJA instead In 1881 Rumania was proclaimed a kingdom Its history for the following 70 years was one of violence and turmoil, caused largely by the discontent of the peasants over governmental failure to institute adequate land reforms, by the inexhaustible corruption of the government, and by continuous foreign interference No true attempt was made by the government to curb the barbarous anti-Semitic excesses through which the peasants, misled by demagogues, vented their feelings Rumania remained neutral in the first of the BALKAN WARS but entered the second war, against Bulgaria, in 1913 and gained S Dobruja Although Rumania had adhered (1883) to the Triple Alliance, it proclaimed its neutrality when the First World War broke out King FERDINAND, Carol's nephew, acceded in 1914 Rumanian irredentism in Transylvania helped to bring Rumania into the Allied camp, and in 1916 Rumania declared war on the Central Powers Most of the country soon was overrun by Austro-German forces, and in Feb., 1918, by the Treaty of Bucharest, Rumania consented to a harsh peace By Nov , 1918, however, the Allies under Franchet d'Esperey entered Rumania, which reentered the war on the Allied side The general armistice of Nov 11, annulled the Treaty of Bucharest, and shortly afterward Rumania annexed Bessarabia from Russia, Bukovina from Austria, and Transylvania and the Banat from Hungary Rumanian intervention (1919) in Hungary put down the Communist regime of Bela Kun and put Admiral Horthy into power The acquisition of Bukovina, Transylvania, part of the Banat (the rest going to Yugoslavia), and Crisana-Maramures (until then an integral part of Hungary) was confirmed by the treaties of Saint-Germain (1919) and Trianon (1920), but the USSR never recognized the Rumanian seizure of Bessarabia A series of agrarian laws, beginning in 1917, went a long way toward breaking up the large estates in favor of the peasants The large Magyar and other minorities Rumania had acquired were a constant cause of friction, particularly with Hungary and Bulgaria. Rumania entered the LITTLE ENTENTE (1921) and the BALKAN ENTENTE (1934) to protect itself against Hungarian and Bulgarian revisionism Internal politics demonstrated a thorough lack of understanding of democratic (or even merely fair) methods Electoral laws were repeatedly revised by the party in power to keep out its opponents, and murder was not unusual as a political instrument This state of affairs entered an acute stage on the death (1927) of King Ferdinand, when even the royal succession was thrown into confusion Ferdinand's son, Carol, had renounced the succession and MICHAEL became king, but in 1930 Carol returned, set his son aside and was proclaimed king as CAROL II The court party, led by the king and by Mme LUPESCU, was almost universally unpopular, but its opponents were divided. The Liberal party, led by John Bratianu (see BRATIANU, family) and later by Ion Duca, was bitterly opposed by the Peasant party, led by Iuliu MANIU A right wing of the Peasant party joined with other anti-Semitic groups in the National Christian party, which was linked with the terrorist IRON GUARD Cabinets succeeded each other, and the only figure of some permanence was Nicholas TITULESCU, foreign minister from 1927 In 1936 the increasingly powerful fascistic groups forced him to resign In 1938 King Carol II dissolved parliament, assumed dictatorial powers, and promulgated a corporative constitution which was approved by a farcical plebiscite After CODREANU and the other leaders of the Iron Guard were shot "while trying to escape," Carol proclaimed the "Front of National Renascence" as the sole legal party Veering away from its support of the French collective security system, Rumania after 1936 drew closer to the AXIS powers It remained neutral when the Second World War broke out in 1939, but in 1940 it became a neutral partner of the AXIS Rumania was powerless to resist Russian demands for Bessarabia and N Bukovina (ceded in June, 1940) or to oppose Bulgarian and Hungarian demands backed by Germany, on the Dobruja, the Banat, Crisana-Maramures, and part of Transylvania (ceded in Aug , 1940) Although these losses were in part the result of the rise to power of Iron Guardists and other fascists, the Iron Guard rose in rebellion against Carol's "treachery " Carol was deposed and exiled, Michael returned to the throne, Ion ANTONESCU became dictator, and German troops entered Rumania Early in 1941 Antonescu crushed the Iron Guard, which now had become a hindrance to him, and in June he declared a "holy war" on Russia Rumanian troops recovered Bessarabia and Bukovina and helped to take Odessa, but they suffered heavily in the STALINGRAD disaster In Aug , 1944, two Russian army groups entered Rumania King Michael, until then in the background, by a daring coup d'état arrested the entire Antonescu cabinet, surrendered to Russia, and ordered Rumanian troops to fight on the Allied side The peace treaty between Rumania and the Allies, signed at Paris in 1947, confirmed essentially the armistice terms of 1944. Rumania recovered all its territories except Bessarabia, N Bukovina, and S Dobruja Politically and economically, it became increasingly dependent on Russia A Communist-led coalition government, headed by the non-Communist Peter Groza, came into power in 1945, and obtained (1946) an overwhelming electoral victory which the United States and Great Britain denounced as fraudulous Friction between the king and the Russian-supported cabinet led to his eventual abdication in Dec , 1947. Rumania became a people's republic on the soviet model under a constitution promulgated in 1948. Nationalization of industry and national resources was completed by a law of 1948 Control over the major industries, notably petroleum, had been shared with Soviet Russia since 1945, despite the protests of investors in other countries Although little reliable information has come out of Rumania

since 1948, there are indications that industrialization of the country was speeded up by Rumanian-Soviet industrial trusts See Nicolae Iorga, *History of Roumania* (1920, in French, Eng tr , 1926); J S Roucek, *Contemporary Roumania and Her Problems* (1932), R W Seton-Watson, *A History of the Roumanians* (1934)

Rumanian language, Romance language, belonging to the Italic subfamily of Indo-European languages See LANGUAGE (table)

Rumanian literature Until the 16th cent most writing among the Rumanians was in Slavonic An exception was a crude translation of the Acts of the Apostles and the Psalms, made by a Transylvanian cleric under the impulse of Hussite propaganda. In 1541 a catechism in Rumanian was issued at Sibiu and from 1560 liturgical works were published in Rumanian to meet the needs of the local Calvinist Church In c 1600, translations of the legend of Alexander the Great appeared, and in 1673 the Moldavian Bishop Dositheiu published the first volume of poetry in Rumanian, a verse translation of the Psalms Dositheiu also started (1679) a movement for the use of the vernacular in the liturgy Early historical works were the *Moldavian Chronicle* of Miron Costin (1633–91) and the famous *Moldo-Wallachian Chronicle* (1710) of Demetrius Cantemir (1673–1723), who also wrote a philosophical treatise in Rumanian on the old theme of body versus soul Cantemir's *Chronicle* laid the foundation of a movement which, starting in Transylvania under George Lazan (1779–1823), had as its purpose the emphasis of the Latin as opposed to the Slavic element in the Rumanian national composition The mainspring of this movement was Ion Eliade (1802–72, known as Radulescu), and its culminating product was a dictionary of the Rumanian language produced (1871–76) by August Laurianu and others in which all words of non-Latin origin were eliminated In 1860 the Latin replaced the Cyrillic as the official Rumanian alphabet (the Church used the Cyrillic until 1890), and 1860 marks the beginning of modern Rumanian literature As at first the Slavic and later, in the Phanariot period (1711–1821), Greek influence had been strong, in the early 19th cent that of France predominated Against this the native Rumanian spirit had to struggle to make itself articulate The efforts of Vasili Alecsandri (1819–90) in the ballad *Lulle Lamb* (1852) gave Rumanian literature its starting point Drama played a major part in the rise of Rumanian literature, from the time of Ion Eliade and George Asachi (1788–1869), co-founders (1833–36) of the Rumanian national theater Outstanding in the drama are Ion Luca CARAGIALI, a master of the comedy of manners, Ronetti Roman (1853 -1908), author of the tragedy *Manasse* (1900) dealing with the conflict of Jew and Christian in Rumania, Victor Eftimiu (1889–), who experimented with poetic drama, and Lucian Blaga. Poetry received a spur in 1867 when at Jassy in Moldavia Titu Maiorescu (1840–1917) founded the journal *Convorbiri literare* [literary conversations], which soon began to publish the lyrics of Mihail EMINESCU Maiorescu represents the cosmopolitan art for art's sake school in Rumanian letters The opposite school, holding that Rumanian writing to become great must spring from the peasant, had as its spokesman the historian Nicolae Iorga (1871–1940) In poetry the native school produced George Cosbuc (1866–1918) and in prose Ion Slavici (1848–1945), who collected native tales, and Ion Creanga (1837–89) and Mihail Sadoveanu (1880–), pioneers in the field of the novel A fusion of cosmopolitanism with Rumanianism was achieved in 1894 by Alexandru Vlahuta (1858–1919) in the novel *Dan* (1894), a theme found also in *Country Life* (1894) by Duiliu Zamfirescu (1858–1922) The contrast existing between rural and urban life inspired the realistic novels *Dinu Mullian* by Constantin Mille and *Parasites* (1893) by Barbu Delavrancea (1858 1919) From the "back to the soil" movement in Rumanian letters came the novel *Ion* (1920) by Liviu Rebreanu (1885–), known also for his novel of the First World War, *The Forest of the Hanged* (1922) Of poets, Dimitrie Anghel (1872–1914) and Tudor Arghezi (1880–) are to be noted, as well as Octavian Goga (1881–1938), an outspoken and often partisan advocate of Transylvanianism in Rumanian letters Queen Elizabeth wrote both prose and verse under the pseudonym Carmen Sylva See Leon Feraru, *The Development of Rumanian Poetry* (1929).

rumba (rŭm'bu), Cuban dance of African character, introduced into the United States c 1930 It has an eight-measure theme, with complex syncopation and strong rhythm Unlimited in repetition, the rumba emphasizes movements of the body more than movements of the feet.

Rumelia or **Roumelia** (both rōōmē'lēŭ), former administrative area of the Ottoman Empire, comprising, very roughly, Epirus, Macedonia, S Bulgaria, and part of Thrace and named for Rome (i e , the East Roman Empire) It was divided into several pashaliks Sofia was the seat of the governors until 1878, when the Congress of Berlin (see BERLIN, CONGRESS OF) made N Bulgaria an autonomous principality and created the autonomous province of **Eastern Rumelia.** This province, also known as Southern Bulgaria, had Plovdiv as capital and comprised, roughly, the part of present Bulgaria situated S of the Balkan Mts. It was administered by Bulgarian governors and enjoyed considerable autonomous rights under Turkish sovereignty, but the division of Bulgaria was deeply resented in both parts of the country. In 1885, a revolution broke out at Plovdiv, and Prince Alexander of Bulgaria annexed Eastern Rumelia Serbia, which had claims of its own on the area, promptly declared war on Bulgaria but was forced to make peace (1886) on the basis of the status quo, while the sultan consented to appoint Alexander governor of Eastern Rumelia This arrangement amounted to a tacit surrender by Turkey of that province, which henceforth remained united with Bulgaria

Rumford, Benjamin Thompson, Count, 1753–1814, American-British scientist and administrator, b Woburn, Mass In 1776 he went to England Later he entered the service of the elector of Bavaria as an administrator and in 1791 was created count of the Holy Roman Empire He chose his title from the name of the town Rumford (later Concord) N.H , where his wife was born While in Bavaria he reorganized the army, provided peacetime employment for the soldiers, and did much to aid the industrial workers He also introduced sociological reforms in England and Ireland Rumford's scientific contributions included experiments in gunpowder, improvements in methods of heating, lighting, and cooking, and a scientific theory of heat In contrast to the then prevalent belief that heat was a substance, he presented, in a paper (1798) to the Royal Society, the theory that heat was produced by the motion of particles He founded the Royal Institution in England, established the Rumford medal of the Royal Society, and founded the Rumford professorship of chemistry at Harvard Univ See biography by James Alden Thompson (1935)

Rumford 1 Town (pop 10,230), W Maine, at falls of the Androscoggin and NW of Augusta, settled 1774, inc 1800 It has large paper mills A winter sports center in hilly country, the town has an annual winter carnival 2 Village, R I see EAST PROVIDENCE

Rumi, Jalal ed-Din (julāl' udēn' rōō'mē), 1207–73, Persian poet He was a native of Balkh, but lived at Rum (ancient Iconium, modern Konya), whence his name He was a Sufi, and his lyrics express mystic thought in finely wrought symbols He is considered by many as the greatest of the brilliant school of Sufist poets His name occurs in several other forms in English

Ruml, Beardsley (rŭ'mul), 1894–, American economist, b Cedar Rapids, Iowa, grad Dartmouth, 1915, Ph D Univ of Chicago, 1917 He was an executive of philanthropic societies, dean (1931–33) of the social science division of the Univ of Chicago, and after 1934 a department-store administrator He was the author of the withholding tax plan ('pay-as-you-go plan"), which was adopted by the U S Congress in 1943 He wrote *Tomorrow's Business* (1945)

rummy, card game played by two to six players with an ordinary deck The cards usually rank from king down through ace Seven cards are dealt to each player in the three- or four-hand game, one card is turned up on the table, and the remaining cards are left face down in a stock pile Players, in order, each draw one card from stock and then discard one card from their hands into the discard pile, face up They have the option of drawing the top card from the discard pile The object is to meld, within the closed hand, sets—three or four cards of the same rank or sequences of three or more in the same suit A straight is seven cards in sequence in the same suit The first player to meld all his seven cards calls out "rummy," shows his hand, and thus wins One of the favorite variations of the game is knock rummy, in which a player may wait to meld his seven cards for higher stakes, but may also "knock" after he draws from stock and discards By "knocking" he lays down his cards, and if the nonmelded cards have a total less than the nonmelded cards of each of the other players, he wins Aces are counted 1 point, each face card 10, and all others for their pip values In the early 1940s, gin rummy became an immensely popular game in the United States Each player is dealt 10 cards, knocking is permitted with unmatched cards totaling 10 points or less, and "gin" is announced if all the cards are melded Scoring gin rummy is relatively complicated, for it involves box tallies and a system of bonus points Another variation of rummy, canasta (kŭnä'stu) [fr Span , =basket], was brought by travelers from Argentina to the United States, where in 1949 it gained great popularity It is played with two decks of 52 cards each, plus four jokers, which, with the eight deuces, are wild cards. Red threes are counted as bonus cards and black threes may be used as defensive discards It also differs from most other (but by no means all) forms of rummy in that a card is turned up to form the basis of a discard pile and the whole pile may be drawn by a player. Furthermore, sequences have no value and suits no meaning. A player's object is to score the most points by making canastas (seven or more cards of the same rank or four or more cards of one rank plus wild cards to total seven cards constitute a canasta) and melding cards of the same rank. To go out of the game a player must lay at least one canasta on the table with the remaining cards in melded form. At the end of the game the base score (for going out, for bonus cards, and for each canasta) and the point score (for individual cards of the canastas and the melds) are tallied. In the four-hand game 11 cards are dealt each player. Other popular variations of rummy are five-hundred rummy, continental rummy, and contract rummy.

Rump Parliament see PARLIAMENT

Rumsey, James (rŭm'zē), 1743–92, American inventor, b Cecil co , Md He built and demonstrated (1787) on the Potomac river a vessel propelled by streams of water forced through the stern by steam Patents for the development were granted (1791) him in the United States and England His death prevented an exhibition of a second model of the ship on the Thames in London He wrote *A Short Treatise on the Application of Steam* (1788)

Rumson, borough (pop 2,926), E N J , a resort S of Sandy Hook, settled c 1700, inc. 1907

Runciman, Walter Runciman, 1st **Viscount** (rŭn'-simun), 1870–1949, English shipping magnate and public official He inherited his father's large shipping business As a Liberal he served in Parliament, with two interruptions, from 1899 to 1937 and held a number of governmental administrative positions As president of the Board of Trade (1914–16, 1931–37) he concluded trade agreements with 23 countries He was made viscount in 1937 Lord Runciman's mission to Czechoslovakia in 1938 was a prelude to the Munich Pact

Runcorn, urban district (1931 pop 18,127, 1943 estimated pop 23,220), Cheshire, England, on the Mersey between Liverpool and Manchester It is at the terminus of the Manchester Ship Canal and of the Bridgewater Canal, which connects with the Mersey by a series of locks There are bridges to Widnes, on the Lancashire side of the Mersey Runcorn is a tanning and pharmaceutical and chemical manufacturing subport of Manchester, it owed its development chiefly to the construction of the Bridgewater Canal in the 18th cent It was the site of a castle of ÆTHELFLÆD in 916

Rundstedt, Karl Rudolf Gerd von (kurl' rōō'dōlf gĕrt' fŭn rōont'shtĕt), 1875–, German field marshal He proved his exceptional abilities in the First World War In the Second World War he commanded the southern army group in the Polish campaign (1939), the central sector in the French campaign (1940), and the southern army front in Russia (June–Dec , 1941) Named commander of all German forces in the West (May, 1944), he was defeated in the Normandy campaign and replaced (July) by Field Marshal Günther von Kluge. Reinstated in his Western command in October, he launched a deadly counteroffensive on Dec 16, 1944 (see BATTLE OF THE BULGE) In March, 1945, he was once more dismissed and was replaced by Field Marshal Albert Kesselring He was captured by U S troops in May, 1945

Runeberg, Johan Ludvig (yōō'hän lŭd'vig rū'-nubĕryu), 1804-77, Finnish national poet His first long work was the peasant epic *The Elkhunters* (1832) In 1837 he became professor of Latin at Porvoo near Helsinki, and here he wrote all his later works These include his cycle of romances in unrhymed verse based on Scandinavian legend, *King Fjalar* (1844, Eng tr , 1912), and the great poem on the Russo-Swedish War of 1808–9, *The Tales of Ensign Stal* (1848, Eng trs , 1925, 1938), of which the first song has been adopted as the Finnish national anthem Like all Finnish authors of his day, Runeberg wrote in Swedish Others of his poems are available in English, especially *Nadeschda* (1841, Eng. tr , 1879, 1883, 1890)

runes (rōōnz), ancient Germanic alphabet It was probably first used among the East Goths (c 300) and suggested by a Greek cursive script The runes are adapted to carving on wood, consisting of perpendicular and oblique, and a few curved, lines The first six signs were for f, u, th, o (a), r, c (k), hence the name Futhorc for the runic alphabets There were two alphabets, one of 16 signs, the other of 24 (the 16 with eight more) In historical times the runes were used primarily in England and in Scandinavia, where runic manuscripts occur. In Sweden runes were used after the Middle Ages in some outlying districts

Runge (rŭng'ē), town (pop. 1,001), S Texas, SE of San Antonio, in a farm area, settled 1884, inc 1913

Runnemede (rŭ'nimēd), borough (pop 2,835), SW N J , SSE of Camden, settled 1683 by Friends as New Hope, inc. 1926

runner, creeping, slender, tendrillike stolon issuing from a plant stem and rooting at the node to form a new shoot. The runner itself dies at the end of the season, leaving the new shoot independent of the parent plant. Among plants which multiply by means of runners are the strawberry, the black raspberry, white clover, and some grasses.

Runnymede or Runimede (rŭn'ĭmēd), meadow, 20 mi. W of London, England, on the south bank of the Thames river Either on this meadow or on near-by Charter Island, King JOHN accepted the MAGNA CARTA (1215)

Rupert, 1352–1410, emperor (never crowned) and German king (1400–1410), count palatine He was elected after the deposition of Emperor WENCESLAUS. Defeated (1401) in Italy by Gian Galeazzo VISCONTI, he returned to Germany in 1402, after having raised the necessary money by pawning his jewels and silverware Recognized (1403) by Pope Boniface IX, he adhered stubbornly to the Roman popes in the Great SCHISM When he sent envoys to plead for Gregory XII at the Council of Pisa, the council refused to recognize his title. Rupert was unable to exercise any control over the warring cities and nobles He was succeeded by Emperor SIGISMUND

Rupert, Prince, 1619–82, count palatine of the Rhine and duke of Bavaria Born in Prague, he was the son of Frederick the Winter King and Elizabeth, queen of Bohemia, and was thus a grandson of James I of England Rupert was reared in the Netherlands and studied at Leiden Active in the later part of THIRTY YEAR WAR, Rupert was at the siege of Breda (1637), was taken prisoner (1638), and was not released until 1641, when he went to the aid of his uncle, Charles I of England, in the civil wars Despite his youth, Rupert became an outstanding royalist commander His cavalry was generally successful until the battle of Marston Moor (1644), and despite his defeat there he was made a general of the king's army However, the prince's surrender of Bristol (1645) to Sir Thomas Fairfax and his discussion of peace proposals with the parliamentarians alienated the king Rupert went to France, but later commanded an English fleet assisting the king's forces in Ireland He spent the years from 1654 to 1660 in Germany, but returned to England at the Restoration, became a privy councilor to Charles II, and, as an admiral, played an important part in the DUTCH WARS A man of many artistic and scientific interests, Rupert also took part in colonial and commercial schemes, notably in the ventures of the Hudson's Bay Company See biographies by Elliott Warburton (1849), Eva Scott (1899), and Clennell Wilkinson (1934)

Rupert, city (pop 3,167), co seat of Minidoka co, S Idaho, E of Twin Falls in the Snake valley, laid out 1905, inc as a village 1906, as a city 1917 It is a shipping point for farm products of the MINIDOKA PROJECT

Rupert, river of W Quebec, issuing from Lake Mistassini and flowing 380 mi W through Nemiscau Lake to James Bay, just W of Rupert House

Rupert House, village and trading post, W Que, on the Rupert river east of its mouth on James Bay Founded in 1668 as Fort Charles by Groseilliers and later called Fort Rupert, then Rupert's House or Rupert House, it is the oldest fur-trading post of the Hudson's Bay Company In the struggle between English and French in Canada, the post was captured by the French in 1686, and alternately held until the Peace of Utrecht (1713) restored it permanently to the Hudson's Bay Company

Rupert's Land, Canadian territory held (1670–1869) by the Hudson's Bay Company, named for Prince Rupert first governor of the company Under the charter granted (1670) to the company by Charles II, the region comprised the drainage basin of Hudson Bay, an area embracing what is today the provinces of Ontario and Quebec N of the Laurentians and W of Labrador, all of Manitoba and Saskatchewan, the southern half of Alberta, and the southeast corner of the Northwest Territories In 1869 the Hudson's Bay Company transferred Rupert's Land to Canada for £300,000 but retained certain blocks of land for trading posts and other purposes

rupture *see* HERNIA

Rural Electrification Administration (REA), created (1935) by executive order as an independent Federal bureau Authorized by the U S Congress in 1936 and later (1939) reorganized as a division of the U S Dept of Agriculture, the Rural Electrification Administration undertook a program to provide American farms with cheap electric lighting and power and to improve farming equipment To this end the administration made long-term, self-liquidating loans to state and local governments, to farmers' cooperatives and to nonprofit organizations, no loans were extended directly to consumers In 1944 Congress liberalized the terms of the REA loans and removed the time limitation from the lending program, by July, 1946, loans amounting to $825,000,000 were allocated to about 1,000 borrowers in 45 states, Alaska, and the Virgin Islands

Rurik (rōō'rĭk), d 879, reputed founder of Russia He supposedly was the leader of a band of VARANGIANS who in 862 settled in Novgorod in response to an invitation from the Slavs to establish order and unity among them His heirs—the house of Rurik—ruled RUSSIA till 1598. See V L P Thomsen, *The Relations between Ancient Russia and Scandinavia* (1877).

Rusby, Henry Hurd (rŭs'bē), 1855–1940, American botanist and pharmacologist, b Franklin, N J, M D New York Univ, 1884 In 1888 he became professor of botany, physiology, and materia medica in the department of pharmacy of Columbia Univ In 1904, when the College of Pharmacy of the City of New York became affiliated with Columbia, he became dean, serving until 1930 As a result of his expeditions to Brazil, Bolivia and Colombia he introduced new drugs to materia medica He was influential in the establishment of pure food and drug laws and in increasing the educational requirements for pharmacists He assisted in the revision of three editions of the U S Pharmacopoeia, and he helped found the New York Botanical Garden and was curator of its economic collections His many writings include *Fifty Years of Materia Medica* (1907), *The Properties and Uses of Drugs* (1930), and *Jungle Memories* (1933)

Ruschuk, Bulgaria *see* RUSE

Ruse (rōō'sĕ), city (pop 53,420), NE Bulgaria, on the Danube It is a land and water communications center and has machinery, textile, leather, and tobacco manufactures There is a polytechnic school Dating from Roman times, Ruse is noted for its mosques and for the ruins of its medieval fortress It was formerly also known as Ruschuk (rōōs'chōōk).

Rush, Benjamin, 1745?–1813, American physician, signer of the Declaration of Independence, b Byberry (now part of Philadelphia), Pa, grad. College of New Jersey (now Princeton Univ), 1760, M D Univ of Edinburgh, 1768 On his return to America (1769) he became professor of chemistry, the first in the colonies, at the College and Academy of Philadelphia He was a member of the Continental Congress (1776–77) and was for a time surgeon general of the Continental army. In 1786 he established in Philadelphia the first free dispensary in the United States He was a member of the Pennsylvania convention that ratified the Federal Constitution In 1792 he became professor of the institutes of medicine and clinical practice at the Univ of Pennsylvania (which had absorbed the College of Philadelphia), later becoming professor of theory and practice also His reliance upon the bleeding and purging of patients, particularly in the yellow-fever epidemic of 1793 (in which he worked heroically), aroused medical controversy Very popular as a teacher, he made notable contributions to psychiatry, was a founder of the first American antislavery society, and helped in the founding of Dickinson College From 1797 to his death he was treasurer of the U S mint at Philadelphia Rush Medical College, Chicago, was named for him His principal writings were *Medical Inquiries and Observations* (5 vols, 1794–98, 4th ed, 1815), *Essays, Literary, Moral, and Philosophical* (1798, 2d ed, 1806), and *Medical Inquiries and Observations upon the Diseases of the Mind* (1812, 2d ed, 1818) See D O Runes, ed, *The Selected Writings of Benjamin Rush* (1947), G W Corner, ed, *The Autobiography of Benjamin Rush* (1948), biography by N. G. Goodman (1934)

Rush, Richard, 1780–1859, American statesman and diplomat, b Philadelphia, Pa, grad College of New Jersey (now Princeton Univ), 1797, son of Benjamin Rush He studied law and in 1811 became attorney general of Pennsylvania, resigning the same year to become comptroller of the U S Treasury, and from 1814 to 1817 was U S Attorney General While serving temporarily as Secretary of State (1817), he helped negotiate the RUSH-BAGOT CONVENTION and in the same year was made minister to Great Britain During his service there, Rush obtained concessions on the fisheries problem and the joint occupation of Oregon by England and the United States He also played a part in the negotiations preceding the Monroe Doctrine In 1825 he became Secretary of the Treasury and in 1828 was the vice presidential candidate on the unsuccessful John Quincy Adams ticket Rush spent from 1833 to 1838 in England obtaining the Smithson bequest for the establishment of the Smithsonian Institution, of which he became regent He was (1847–49) minister to France See biography by J H Powell (1942)

Rush, William, 1756–1833, American sculptor, one of the earliest in the country, self-taught His wood carvings, clay models, and figureheads were famous in their day Of his other works, carved in wood, the statue of George Washington is in Independence Hall, Philadelphia, and a bronze replica of his graceful *Spirit of the Schuylkill* is in Fairmount Park, Philadelphia Rush was a leader in founding the Pennsylvania Academy of the Fine Arts, which owns a plaster cast of a vigorous self-portrait of his head carved in a pine knot He did portraits of Joseph Wright, Samuel Morris, Washington, Franklin, and others

rush, name for tall, grasslike plants of various families, many of which have hollow stems The true rushes belong to the family Juncaceae, and most of them grow in swamps Among them are the common or bog rush (*Juncus effusus*), widely distributed in swamps and moist places of the Northern Hemisphere, and the slender rush (*J. tenuis*) found in dryer surroundings Rushes are used for basketwork, mats, chair seats, and other articles Wicks for candles known as rushlights are made from the pith of some rushes The wood rush (*Luzula*) grows on dry ground, and some species are relished by livestock. Other plants often called rushes are the BULRUSH, the Dutch or scouring rush, a horsetail (*Equisetum hyemale*), still used in some regions for scouring, and the sweet flag or sweet rush (*Acorus calamus*) of the arum family Rushes were formerly used for strewing the floors of churches, castles, and other buildings

Rush-Bagot Convention (băg'ŭt), 1817, agreement between the United States and Great Britain concerning the Canadian border It consisted of the exchange of notes signed by Richard Rush, Acting Secretary of State of the United States, and Charles Bagot, British minister in Washington The convention provided for practical disarmament on the U S –Canadian frontier It provided that each nation should have no more than four warships, of 100 tons burden each, on the frontier The agreement was the result of negotiations commenced after the Treaty of Ghent was signed It is important because it set a precedent for the pacific settlement of all Anglo-American difficulties and because it inaugurated a policy of strict peace between the United States and Canada Only one move has been made to abrogate it That was in the Civil War when strained relations with Canada caused W H Seward to announce an intention to abrogate (1864), but before the six months of grace he allowed had elapsed he canceled the announcement (1865) The provision in the 1941 agreement about the St Lawrence seaway that warships could be built on the lakes had no bearing on the disarmament of the frontier.

Rush City, village (pop. 1,020), E Minn, N of St Paul near Rush Lake, settled before 1873. It is a resort in a farm area

Rushford, city (pop 1,182), SE Minn, SE of Rochester, settled before 1854 It is a trade and shipping point in the Root river valley

Rush Medical College, in Chicago, chartered 1837, affiliated with the Univ of Chicago 1898–1941 and with the Univ of Illinois after 1941 It is one of the oldest and best-known medical schools

Rushmore, Mount *see* MOUNT RUSHMORE NATIONAL MEMORIAL

Rush Springs, town (pop 1,422), SW central Okla, SW of Oklahoma City It is a marketing center for a farm area producing chiefly watermelons

Rushville, **1** City (pop. 2,480), co seat of Schuyler co, W central Ill, NW of Springfield, in a coal and farm area, founded 1825, inc 1839 Lincoln pleaded cases and made a campaign speech here **2** City (pop 5,960), co seat of Rush co, E Ind, c 40 mi ESE of Indianapolis, settled 1821 It is a trading center for an agricultural area **3** City (pop 1,125), co seat of Sheridan co, NW Nebr, in the high plains region, founded c 1885 Pine Ridge Indian Reservation, S Dak, is not far

Rushworth, John, 1612?–1690, English historian He collected information on state affairs, after taking down verbatim reports in shorthand His interest was recognized when in 1640 he was made a clerk in the House of Commons During the Puritan Revolution he served in a clerical capacity, first under Thomas Fairfax and then under Oliver Cromwell He was elected to Parliament in 1657 He narrowly escaped trial as a regicide, but retained under Charles II his position as agent for the town of Berwick and was later (1677) agent for the colony of Massachusetts His famous *Historical Collections* (8 vols, 1659–1701) are a hodgepodge of biography, transcripts of documents, and his own valuable notes, covering the years 1618–48

Rusk, Jeremiah McLain, 1830–93, American political leader, b Malta, Morgan co, Ohio He became a farmer in Wisconsin, where he entered politics and held many offices After he served in the Civil War, he was a U S Representative (1871–77) and then (1882–89) served as governor of Wisconsin President Benjamin Harrison appointed (1889) Rusk to the newly created cabinet post of Secretary of Agriculture

Rusk, Thomas Jefferson, 1803–57, Texan statesman, U S Senator from Texas (1846–57), b Pendleton District, S C He studied law under John C Calhoun and practiced in Clarksville, Ga, for 10 years before moving to Texas in 1835 Rusk was a member of the convention that declared the independence of Texas (1836) and became secretary of war in the provisional government of the new republic He distinguished himself at the battle of San Jacinto and, when Sam Houston was wounded there, commanded the Texas army for a brief period thereafter A member of the second congress of Texas (1837) and chief justice of the Texas supreme court (1838–42), he was appointed major general in 1843 to lead a counterinvasion of Mexico, which never came off He was president of the convention that confirmed the annexation of Texas (1845) and the next year was elected to the U S. Senate and remained a Senator until his death Despondent over the death of his wife, he committed suicide.

Rusk, town (pop 5,699), co seat of Cherokee co, E Texas, E of Palestine, settled 1846, inc 1858 It is a center for a truck and dairy section of pine woods on red sandy hills. A small iron industry

has flourished intermittently near by. A state mental hospital is in Rusk

Ruskin, John, 1819–1900, English author and critic Educated by his wealthy, evangelical parents, Ruskin was prepared for the ministry, spending his mornings (till 1836) with his domineering mother, reading and memorizing the Bible, a procedure which colored his thought and taste His father, a wine merchant, imbued in him a love of literature and art and showed him the art of the great estates they visited on business tours In 1833 the family went on the first of its many tours of Europe, and the boy ardently studied nature and painting His stay at Oxford (1836–40) resulted in his winning the Newdigate Prize for poetry, in his determining not to enter the ministry, and in a breakdown of health (1840) which forced him to travel He returned in 1842 for the degree In 1843 appeared the first volume of *Modern Painters*, a work which started as a defense of the painter J M W Turner and developed into a treatise elaborating the principle that art is based on national and individual integrity and morality He finished the five volumes in 1860 *The Seven Lamps of Architecture* (1849) applied his theory to architecture He was married (1848) to Euphemia Gray, but the unconsummated union was nullified (1854) From his position of art dictator, Ruskin defended the work of the Pre-Raphaelite group *The Stones of Venice* (1851–53) maintained that the Gothic architecture of Venice reflected national and domestic virtue, while Venetian Renaissance architecture mirrored corruption In 1860 Ruskin broke with organized religion and with his class and turned from art to political economy—a change of interest presaged by *The Political Economy of Art* (1857) He wrote *Unto This Last* (in *Cornhill*, 1860) and *Munera Pulveris* (in *Fraser's*, 1862–63), which attacked the foundations of mercantile England, saying that modern art reflected the ugliness and unsoundness of modern industry when considered as a basis for national life Both series were stopped because of the outcry against them Ruskin's positive program for reconstruction appeared in *Sesame and Lilies* (1865), *The Crown of Wild Olive* (1866), *Time and Tide* (1867), and *Fors Clavigera* (1871–84) and was carried out with varying success in his industrial experiments Many of Ruskin's social theories have now become accepted doctrine He was made the first professor of art in England (Slade professor, Oxford, 1870) and lectured to crowded halls, but his multifarious activities broke down his health and he suffered (1878) his first period of insanity Recurrences of unbalance became more frequent, though some of his greatest prose, the autobiography *Praeterita* (1885–89), was written in the lucid intervals After 1889 his reason was permanently clouded See his works (ed by E T Cook and Alexander Wedderburn, 39 vols, 1903–12), E T Cook, *Studies in Ruskin* (1890), A C Benson, *Ruskin a Study in Personality* (1911), H A Ladd, *Victorian Morality of Art* (1932), R H Wilenski, *John Ruskin* (1933), biographies by W G Collingwood (rev ed, 1902), Frederick Harrison (1902), Amabel Williams-Ellis (1929), and Peter Quennell (1949), Sir William James, ed, *John Ruskin and Effie Gray* (1947)

Russell, name of an English noble family It first appeared prominently in the reign of Henry VIII when **John Russell, 1st earl of Bedford,** 1486?–1555, rose to military and diplomatic importance He was lord high steward and lord keeper of the privy seal under Henry VIII and Edward VI, was created 1st earl of Bedford in 1550, and had a part in arranging the marriage of Mary I (Mary Tudor) to Philip II of Spain He died possessed of great wealth and lands which have remained in the family until the 20th cent His son, **Francis Russell,** 2d **earl of Bedford,** c 1527–1585, was an influential privy councilor under Elizabeth and president of the council of Wales **Francis Russell,** 4th **earl of Bedford,** 1593–1641, was the most important opponent of Charles I in the House of Lords and the brightest hope for reconciliation in the Puritan Revolution when he suddenly died in 1641 He also began the draining of the Fen country **William Russell,** 5th **earl and** 1st **duke of Bedford,** 1613–1700, fought first for Parliament and then for the king in the civil war His son was the unfortunate Lord William Russell (see separate article) In 1694, when the verdict in his son's treason trial was reversed, the 5th earl was made duke of Bedford, a title which had been held in the 15th cent. by JOHN OF LANCASTER **John Russell,** 4th **duke of Bedford,** 1710–71, was one of the statesmen who attacked Robert Walpole and succeeded him in the government He became leader of the "Bloomsbury Gang," served in the cabinets of the duke of Newcastle, Lord Bute, and George Grenville, and was one of the subjects of the bitter letters by JUNIUS. It was **Francis Russell,** 5th **duke of Bedford,** 1765–1802, whose criticism of Edmund Burke's pension elicited Burke's *Letter to a Noble Lord* (1796). Bedford was a notable stockbreeder Probably the greatest member of the family was the 5th duke's brother, John Russell, 1st Earl Russell (see separate article). His grandson Bertrand Russell (see separate article) became 3d Earl Russell The Bedford title went to the 5th duke's descendant **Hastings William Sackville Russell,** 12th **duke of Bedford,** 1888– See various studies of the family to 1771 by Gladys S Thomson, especially *Two Centuries of Family History* (1930)

Russell, Annie, 1864–1936, American actress, b England She was brought to Canada as a child and came to prominence in the title role of *Esmeralda* (1881) by William Gillette She was also successful in London, where she played in Bret Harte's *Sue* (1898) and Shaw's *Major Barbara* (1906) In 1912 she organized the Old English Comedy Company, from which she retired in 1917 She assumed direction in 1932 of a playhouse named for her in Rollins College

Russell, Bertrand Arthur William Russell, 3d **Earl,** 1872–, English philosopher and mathematician. He studied at Trinity College, Cambridge, where later he was lecturer and fellow His activities on behalf of peace in the First World War caused him to lose his fellowship, and later he was briefly imprisoned because of an anti-war publication Afterwards he taught and lectured in England and the United States He succeeded to the earldom in 1931, and in 1938 he came to the United States At first professor of philosophy at the Univ of California, in 1940 he went to teach at the Barnes Foundation in Philadelphia when his appointment to City College, New York, was canceled after a legal battle Much of his writing has centered on mathematics and logic With A N Whitehead he wrote *Principia Mathematica* (3 vols, 1910–13), a major contribution to symbolic logic The perfection of mathematics appealed to him strongly, and he endeavored to answer the problems of philosophy in the same rigid and abstract forms He is a reformer, emphasizing the importance of the creative activity of man as contrasted with the possessive and acquisitive activities The development of the creative instincts, which he calls the principle of growth, is to be achieved through a system of universal education This educational system must have complete freedom of thought and speech and must use the scientific method in its search for truth and knowledge Russell writes with clarity and vivid metaphor, and his lectures and writings have a wide popular appeal throughout the world Some of his important works are *Principles of Social Reconstruction* (1917), *Mysticism and Logic* (1918), *Introduction to Mathematical Philosophy* (1919), *An Outline of Philosophy* (1927), *Marriage and Morals* (1929), *Education and the Social Order* (1932), *History of Western Philosophy* (1945), *Philosophy and Politics* (1947), and *Human Knowledge* (1948) He edited with his wife, Patricia, *The Amberley Papers the Letters and Diaries of Bertrand Russell's Parents* (1937) See *The Bertrand Russell Case* (ed by John Dewey and H M Kallen, 1941), P A Schilpp, *Philosophy of Bertrand Russell* (1944)

Russell, Charles Edward, 1860–1941, American editor and author, b Davenport, Iowa He was a prominent newspaper editor (1894–1902) in New York and Chicago, an early muckraking writer, a well-known socialist, and a biographer His many books include *The Uprising of the Many* (1907), *Why I Am a Socialist* (1910), *These Shifting Scenes* (1914), *Wendell Phillips* (1914), and *The American Orchestra and Theodore Thomas* (1927), a Pulitzer Prize biography See his autobiography, *Bare Hands and Stone Walls* (1933)

Russell, Charles Taze, 1852–1916, founder of the movement whose followers are known as Russellites, as Bible Students, and (since 1931) as JEHOVAH'S WITNESSES, b Pittsburgh, Pa There he organized (1872) the first group of followers to adopt his beliefs concerning the second coming of Christ and the millennium In 1878 he became an independent minister "Pastor Russell" moved (1909) to the Brooklyn Tabernacle, New York city His teachings are contained in his many pamphlets, which have been widely translated and circulated

Russell, Francis, dukes and earls of Bedford see RUSSELL, family

Russell, George William, pseud **A. E.,** 1867–1935, Irish poet and painter, b Lurgan, educated in Dublin He was an active member of the Irish nationalist movement in both its political and cultural aspects, editing the *Irish Homestead* (1904–23) and the *Irish Statesman* (1923–30) Always a mystic, A E was a theosophist until he left the society to work with Sir Hugh Plunkett, founder of the Irish Agricultural Society For several years A E traveled among Irish farmers, campaigning for cooperatives As a painter he had no technical interests and did not try to exhibit or sell his work, but his landscapes of the Donegal country have been greatly admired His poetry is noted for its melodious lyrics A E. was a famous talker and a convincing lecturer He made a lecture tour through the United States in 1930–31 Among his works are *Homeward Songs by the Way* (1894), *The Candle of Vision* (1918), *The Avatars* (1933), and *Selected Poems* (1935) See his prose collection *The Living Torch* (ed. by Monk Gibbons, 1937), *memoir* by John Eglinton (1937)

Russell, Hastings William Sackville, 12th duke of Bedford: see RUSSELL, family.

Russell, Henry Norris, 1877–, American astronomer, b Oyster Bay, N Y., **grad.** Princeton, 1897. In 1902 he went to Cambridge, England, first as research student, then as research assistant for the Carnegie Institution of Washington, D C He returned to Princeton in 1905, was professor of astronomy there (1911–27), research professor (1927–47), and director of the observatory (1912–47) In 1947 he became research associate at the Harvard Observatory His spectroscopic studies resulted in his development of a theory of stellar evolution He wrote *Determinations of Stellar Parallax* (1911), *Astronomy* (1926–27), *Fate and Freedom* (1927), *The Solar System and Its Origin* (1935), and *The Masses of the Stars* (with C E Moore, 1940)

Russell, James Earl, 1864–1945, American educator, b Hamden, N Y, grad Cornell, 1887, Ph D Leipzig, 1894 From 1895 to 1897 he was professor of philosophy and pedagogy at the Univ. of Colorado As professor of education and dean at Teachers College, Columbia Univ, from 1897 he developed it from a small normal school into an influential professional college In 1927 he became dean emeritus but remained professor of education until 1931 His writings include *The Extension of University Teaching in England and America* (1895), *Trend in American Education* (1922), and *Founding Teachers College* (1937) His son, **William Fletcher Russell,** 1890–, b Delhi, N Y, grad Cornell, 1910, Ph D Columbia, 1914, succeeded him as dean of Teachers College in 1927 He had been dean (1917–24) of the College of Education, State Univ of Iowa, and professor of education and associate director of the International Institute of Teachers College from 1923 He wrote *Economy in Secondary Education* (1916), *Education in the United States* (1917), and *The Meaning of Democracy* (with T H Briggs, 1941) and edited *The Rise of a University*, Vol I (1937)

Russell, John, dukes and earls of Bedford. see RUSSELL, family

Russell, John Russell, 1st **Earl,** 1792–1878, English statesman, son of the 6th duke of Bedford As Lord John Russell, he became a Whig member of Parliament in 1813 and in 1820 began his long career as a liberal reformer He worked for repeal of the Test and Corporation Acts, supported CATHOLIC EMANCIPATION and helped prepare and introduce the REFORM BILL OF 1832 He gave the name to the newly formed Liberal party and helped shape its policies He supported the reduction of Irish church revenues, the act to liberalize municipal governments, the repeal of the corn laws, and educational reform He had meanwhile been in several cabinets and had led the opposition during the second ministry (1841–46) of Sir Robert Peel As prime minister (1846–52) Russell used public works, grants, and other relief to help the Irish during the potato famine and forced the resignation (1851) of PALMERSTON, his foreign secretary and the most popular man in the party, for recognizing Louis Napoleon's coup d'état in France without authorization In 1855 Russell represented England at Vienna in an unsuccessful conference to end the Crimean War As foreign secretary (1860–65) under Palmerston, he vigorously advocated English neutrality during the American Civil War and worked brilliantly for the liberation of Italy He had been made an earl in 1861 and became prime minister again on Palmerston's death (1865) Russell had introduced unsuccessful parliamentary reform bills in 1849, 1854, and 1860, and failure of another in 1866, along with several unfortunate incidents in England, Ireland, and the colonies, caused his ministry to fall Among Russell's literary and historical writings are a translation of Schiller's *Don Carlos* and biographies of Lord William Russell (1819) and of Charles James Fox (3 vols, 1853–57) See his *Recollections and Suggestions, 1813–1873* (1875), his early correspondence (ed by Rollo Russell, 1913) and later correspondence (ed by G P Gooch, 1925), biography by Spencer Walpole (1889), O A Kinchen, *Lord Russell's Canadian Policy* (1945)

Russell, John Scott, 1808–82, Scottish naval engineer and architect. From his studies of waves of translation, he developed the wave-line method of ship construction, he built the large vessel, the *Great Eastern*, and the first armored English frigate, the *Warrior*. He wrote several works on naval architecture

Russell, Lillian, 1861–1922, American actress and singer, whose real name was Helen Louise Leonard, b Clinton, Iowa At 18 she made her debut at Tony Pastor's in New York in burlesques of Gilbert and Sullivan and in comic opera, and she later appeared with the McCaull Opera Company and in her own company She was an immense success at Weber and Fields Music Hall in 1899 She was long famous for her beauty as well as for her talent in light opera See Parker Morell, *Lillian Russell* (1940).

Russell, Mary Annette (Beauchamp) Russell, Countess, pseud **Elizabeth,** 1866–1941, British novelist, b Sydney, Australia, cousin of Katherine Mansfield In 1890 she married Count Henning von Arnim and went to live in Germany. There she wrote her first anonymous and immediately successful novel, *Elizabeth and Her German Garden* (1898), and its

successors, including *The Solitary Summer* (1899), *Adventures of Elizabeth in Rügen* (1904), and *The Pastor's Wife* (1914). Her husband died in 1910, and in 1916 she married the 2d Earl Russell, brother of Bertrand Russell Her later works, almost as popular as the early ones, include *The Enchanted April* (1922), which was made into a play and a moving picture, *Love* (1925), and *Jasmine Farm* (1934) Her last novel, *Mr Skeffington* (1940), achieved widespread popular success

Russell, Sol Smith, 1848–1902, American actor, b Brunswick, Mo He played his first part in an Illinois stock company in 1862 He was chiefly known on tour throughout the United States and was extremely popular in the comedy *Edgewood Folks* (his first play as star, 1880) and in *Peaceful Valley* and *A Poor Relation*

Russell, William, 5th **earl and** 1st **duke of Bedford:** see RUSSELL, family

Russell, Lord William, 1639–83, English statesman, son of the 1st duke of Bedford He entered Parliament in 1660 Contempt for the dissolute court and fear of Catholicism and of France made him join the opposition In 1678 he negotiated with his relative, the marquis de Ruvigny, agent of Louis XIV, to secure the dissolution of Parliament and overthrow of DANBY, in order to prevent war with France In the excitement over the Popish Plot (1678) he joined the 1st earl of Shaftesbury in demanding the indictment of the duke of York (later JAMES II) and in pressing the bill to exclude him from the succession With the temporary Whig success he became a privy councilor (1679), but he was arrested (1682), tried, and convicted of treason because of the RYE HOUSE PLOT—upon perjured testimony Executed in 1683, he was vindicated by the reversal of attainder under William III See biography by Lord John Russell (1819)

Russell, William Clark, 1844–1911, English novelist and biographer, b New York city His eight years (1858–66) in the British merchant service provided background for his tales of the sea, among which the best known are *John Holdsworth, Chief Mate* (1875) and *The Wreck of the "Grosvenor"* (1877) His other works include biographies of Dampier (1889), Nelson (1890), and Collingwood (1891) and *The Turnpike Sailor* (1907), sea ballads

Russell, William Fletcher: see RUSSELL, J E

Russell. 1 City (pop 4,819), co seat of Russell co, central Kansas, between the Saline and the Smoky Hill W of Salina, inc 1872 It is in the oil-producing region, near a farming and grazing area **2** Town (pop 1,844), E Ky, on the Ohio just below Ashland It has railroad yards and repair shops A bridge crosses the river to Ironton, Ohio **3** Town (pop 1,242), SW Mass, NW of Springfield, settled 1782, inc 1792 It includes the paper-milling village Woronoco

Russell of Killowen, Charles Russell, 1st **Baron** (kĭlō'ŭn), 1832–1900, English jurist Born in Ireland, he practiced law in Belfast and London before his election to Parliament in 1880 In the Commons he worked for the conciliation of Ireland He served as William Gladstone's attorney general (1886, 1892–94), supporting that statesman's Irish policy As lord chief justice (1894–1900), he was the first Roman Catholic to hold the office since the Reformation Russell served as counsel (1893) in the Bering Sea Fur-Seal Controversy and in 1899 was one of the Venezuela Boundary Arbitration Tribunal His most dramatic trial was his defense of Charles Stewart Parnell on the Parnell Commission (1888–90) See biography by R B. O'Brien (1909)

Russell Sage College, at Troy, N Y, nonsectarian, for women, opened 1916, chartered 1917, with a gift by Margaret O Slocum Sage It has schools of arts and sciences, business, home economics, nursing, and physical education Preparation for group living is stressed The site was earlier occupied by the Emma Willard School

Russellville. 1 City (pop 3,510), co seat of Franklin co, NW Ala, S of Florence, in a cotton, grain, and mineral area, settled c 1815 **2** City (pop 5,927), co seat of Pope co, NW central Ark, near the Arkansas river, in an area yielding coal, natural gas, lumber, and farm products, settled 1835, inc 1870 Lumber and cotton processing are important The Arkansas Polytechnic College and the Ozark National Forest headquarters are here **3** City (pop 3,983), co seat of Logan co, S Ky, SW of Bowling Green and near the Tenn line, founded c 1790 as Big Boiling Spring The area yields coal, asphalt, timber, and tobacco

Russia, Rus *Rossiya* (rŭsē'ŭ), name commonly applied to the whole vast area now forming the Soviet Union In its political meaning, the term Russia applies only to the RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC, chief member of the union, where Russian is the language of the majority The following article deals with the history of the Russian state—i e., Russia in its wider meaning—from its origins until the Russian Revolution of 1917 For geographic, economic, and constitutional data and for Russian history after 1917, see UNION OF SOVIET SOCIALIST REPUBLICS Numerous remains show that there were inhabitants as early as the Old Stone Age. When in the 7th cent B C the northern shore of the Black Sea and the CRIMEA became known to the Greeks—who soon established flourishing colonies there—the region was in the possession of the Scythians (see SCYTHIA), these were displaced (3d cent B C) by the SARMATIANS. Later the open steppes of Russia invited invasion by numerous peoples, notably the Germanic Goths (3d cent A D), the Asiatic HUNS (4th cent), and the Turkic AVARS (6th cent) In the 7th cent the Turkic KHAZARS built up a powerful state in S Russia, and in the 8th cent the Eastern BULGARS established their empire in the Volga region By the 9th cent the Eastern SLAVS (the ancestors of the Russians) had settled in the northern part of the Ukraine (Little Russia), in Belorussia (White Russia), and in the regions of NOVGOROD and SMOLENSK, and had established colonies to the east on the Oka and the upper Volga rivers The chief Slavic tribes in S Russia were dominated by the Khazars Colonization of the regions north, east, and south of this original territory, which were inhabited by Turkic and Ugro-Finnic tribes, was a main feature of early Russian history The origin of the Russian state coincides with the arrival (9th cent) of Scandinavian traders and warriors, the VARANGIANS Tradition has it that one of their leaders, RURIK, in response to the call of the local population, established himself peacefully at Novgorod (862), and founded a dynasty The name Russ or Rhos possibly originally designated the Varangians, or part of them, but it was early extended to the Slavs and Russia became the name of their country in general Another theory concerning the origin of the name Russia, tracing it to much earlier times, has been favored by nationalist historians Rurik's successor, OLEG (reign 879–912), transferred (882) his residence to Kiev, which remained the Russian capital till 1169 He united the Eastern Slavs and freed them from Khazar suzerainty His successors were IGOR (reign 912–45) and his wife St OLGA Under SVIATOSLAV (reign 964–72) the duchy reached the peak of its power Sviatoslav crushed the Khazars, extending his state to the lower Volga and the N Caucasus, and fought the Greeks and Bulgars in the Balkans Christianity, propagated by St Olga, was made the state religion by VLADIMIR I (980–1015), who adopted the Greek Orthodox rite Thus the cultural influence of Byzantium became predominant Yaroslav the Wise (reign 1018–54) was the last to rule Kievan Russia as an undivided state, after his death the country was subdivided among the various branches of the dynasty Kiev's prosperity, however, reached its highest point under VLADIMIR II (1113–25) and under his son Mstislav (1125–32) Though agriculture was, and remained, the basis of Russian economy, large cities grew and throve on trade with Byzantium, the Orient, and Scandinavia Furs, hides, honey, wax, and slaves were the chief export articles, transit trade also assumed great importance From this period dates the oldest document of Russian literature, *The Lay of the Host of Igor* (see IGOR) However, perpetual strife among the princes and the devastating raids of the nomadic CUMANS soon led to the decline of the cities and the depopulation of the countryside The peasants—then still freemen for the most part—migrated to the northeast, into the basin of the Oka and Volga Political supremacy also shifted northeast, passing from Kiev to the duchy of Suzdal-Vladimir (see VLADIMIR) The Suzdal prince, Yury Dolgoruki (d 1158) became, after a long struggle, the grand duke of Kiev, and in 1169 Kiev was stormed by his son, Andrei Bogolubski, who made Vladimir the capital of the grand duchy The final blow came in 1237–40, when the Mongols (commonly called TATARS) under Batu Khan destroyed the chief Russian cities save Novgorod In S and E Russia they established the empire of the GOLDEN HORDE, which lasted till 1480 In W Russia they were gradually replaced by Lithuanian rule, by the 14th cent the grand dukes of LITHUANIA held all of BELORUSSIA, most of the Ukraine, and part of Russia proper In the grand duchy of Vladimir, Moscow under Ivan I (reign 1328–41) took precedence over the other cities Its rulers, still tributary to the Tatars, began to be called grand dukes of Moscow or of Muscovy (see MOSCOW, GRAND DUCHY OF) The victory (1380) of DMITRI DONSKOI over the Tatars at KULIKOVO established the power of Moscow The Muscovite state expanded and under IVAN III (reign 1462–1505) absorbed the other Russian principalities and the republic of Novgorod In 1480 Ivan ceased to pay tribute to the Tatars Having married the niece of the last Byzantine emperor, Ivan considered Moscow the "third Rome" and himself heir to the imperial tradition of Byzantium VASILY III, his successor, rounded out his father's conquests IVAN IV (Ivan the Terrible), who succeeded in 1533, was the first to assume the title tsar He conquered the Tatar khanates of KAZAN and ASTRAKHAN, establishing Russian rule over the huge region of the middle and the lower Volga The Cossack YERMAK conquered (1582) the khanate of SIBIR for Russia. Soon the Cossacks penetrated deep into SIBERIA and early in the 18th cent they reached the Pacific Ocean. The conquered border territories were colonized by Russian settlers and defended against the Crimean Tatars, the Kazakhs, the Kirghiz, and other hostile border nations by the COSSACKS At home, Ivan crushed the opposition of the great feudal nobles—the boyars—and set up an autocratic government After the death (1605) of Boris GODUNOV began the Time of Troubles—a period marked by the appearance of false pretenders (see DMITRI) and of intervention by foreign powers SIGISMUND III of Poland attempted to conquer all Russia and even took Moscow However, in 1612, a people's army led by Prince Pozharski expelled the invaders, and in 1613 a *zemsky sobor* [popular assembly] chose the boyar Michael Romanov as tsar (see MICHAEL) Thus began the ROMANOV dynasty, which ruled Russia until 1917 The reign (1645–76) of Tsar ALEXIS was an important period in the formation and expansion of the modern Russian state His chief acquisition was that of the E UKRAINE from Poland Russia in the 17th cent was still a semi-Oriental state Medieval in culture and outlook, it was not regarded as a member of the European community of nations In its economic development it was centuries behind the European West, distrust of foreign ways and innovations kept it ignorant and isolated The consolidation of the central power, though it followed the general European trend, was effected not with the help of the almost nonexistent middle class, but through the forcible deprivation of the nobility and gentry of their political influence The nobles were compensated with grants of increasing rights over the peasants Thus serfdom (see SERF), uncommon in medieval Russian society, engulfed growing masses of people and approached the form of slavery This process, which reached its climax in the 18th cent, caused violent peasant revolts, notably those under Stenka RAZIN (1670) and Y I PUGACHEV (1773–75) The reign (1689–1725) of PETER I (Peter the Great) revolutionized Russia politically and culturally, but it hastened rather than changed the social trend Peter, who assumed the title emperor, "Westernized" Russia by a series of reforms that were forced on the people by the most stringent methods He created the Russian navy and modernized the army, he abolished the patriarchate of Moscow (see ORTHODOX EASTERN CHURCH) and placed the Russian Church under the authority of the emperor, he recast the administrative and fiscal systems, founded the first modern Russian industries, and introduced Western education The upper classes were forced to adopt European clothes and even to shave their beards Seeking to make Russia a maritime European power, he transferred his capital to St Petersburg (now LENINGRAD), and in the NORTHERN WAR (1700–1721) acquired LIVONIA and INGERMANLAND, on the Baltic coast, from Sweden He began the Russian push to the Black Sea by taking AZOV He even sent out Vitus Bering to ALASKA, which was later a Russian colony The RUSSO-TURKISH WARS of the following two centuries resulted in the expansion of Russia at the expense of the Ottoman Empire and in the growing influence of Russia on Ottoman affairs (see EASTERN QUESTION) Having become a great power, Russia also took an increasing part in European affairs Empress ELIZABETH (reign 1741–62) successfully sided against Prussia in the SEVEN YEARS WAR, but her successor, PETER III, took Russia out of the war On his mysterious death (1763) his wife assumed power as CATHERINE II (Catherine the Great) Under her rule Russia became the chief continental power of Europe The three successive Polish partitions (1772, 1793, 1795, see POLAND, PARTITIONS OF), the annexation (1783) of the Crimea, and the treaties of Kuchuk Kainarji (1774) and Jassy (1792) with Turkey gave Russia vast new territories in the west and south Catherine's administrative reforms further enhanced the central power Under her "enlightened despotism" Russian writers, scientists, and artists began the great creative effort that culminated in the late 19th and early 20th cent The suppression of Pugachev's rebellion strengthened the privileged classes and lessened the chances of a successful social reform Russia became involved in the French Revolutionary Wars under Catherine's successor, the demented PAUL I, who was murdered in 1801 His son, ALEXANDER I, joined the third coalition against NAPOLEON I, but made peace with France at Tilsit (1807) and annexed (1809) FINLAND from Sweden In wars with Turkey and Persia Alexander gained BESSARABIA by the Treaty of Bucharest (1812) and Caucasian territories by the Treaty of GULISTAN (1813) In 1812 Napoleon began his great onslaught on Russia and took Moscow, but his army was repulsed and nearly annihilated in the winter of that year Napoleon's downfall and the peace settlement (see VIENNA, CONGRESS OF) made Russia and Austria the leading powers on the Continent at the head of the HOLY ALLIANCE Liberal ideas gained among the Russian aristocracy and educated bourgeoisie despite Alexander's growing reaction They found an outlet in the unsuccessful DECEMBRIST CONSPIRACY (1825), which sought to prevent the accession of NICHOLAS I Under Nicholas, Russia acted as the "police-

man of Europe," opposing all liberalism and helping Austria in putting down the Hungarian revolution (1848–49) Russian POLAND, nominally a kingdom ruled by the Russian emperor, was deprived of its autonomy after its unsuccessful rising of 1830–31. A clash of interests between Russia and the Western powers in the Ottoman Empire led to the CRIMEAN WAR, which revealed the inner weakness of Russia The liberal-minded ALEXANDER II, who acceded (1855) one year before the war ended, resolved to accomplish a revolution "from above" Among his reforms the liberation (1861) of the serfs (see EMANCIPATION, EDICT OF) was the most revolutionary Alexander was about to issue a limited constitution when he was murdered (1881) by radical revolutionists The second half of the 19th cent was one of territorial and industrial expansion The CAUCASUS was subdued and pacified, Russian Turkistan was annexed from the local khans, the southern section of the FAR EASTERN TERRITORY was acquired from China The TRANS-SIBERIAN RAILROAD, begun in 1892, opened Siberia to colonization and exploitation Much of the material and industrial progress was due to the initiative of Count WITTE ALEXANDER III, who succeeded Alexander II, pursued a thoroughly reactionary domestic policy, with POBYEDONOSTSEV its leading spirit He was succeeded (1894) by NICHOLAS II, the last Russian emperor, who was dominated by his reactionary entourage Russia, having suffered a severe diplomatic setback at the Congress of Berlin (see BERLIN, CONGRESS OF, 1878), eventually abandoned the THREE EMPERORS' LEAGUE with Germany and Austria-Hungary and in 1892 entered into an alliance with republican France This alliance led to the Triple Entente (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) of England, France, and Russia The disastrous and unpopular RUSSO-JAPANESE WAR (1904–5) made possible the success of the 1905 revolution (see RUSSIAN REVOLUTION) The emperor was forced to grant a constitution, a parliament (see DUMA) was set up As soon as feasible, however, the new democratic freedoms were again curtailed and reaction returned to power Revolutionary agitation, terror, and assassination continued The government countered with police terror and sought to channel popular discontent into anti-Semitic outbreaks (see POGROM) At the same time the premier, STOLYPIN, tried to conciliate the peasants by breaking up the land owned by village communities and making the peasants landowners Despite political disturbances, considerable economic progress was made Russia was still a preponderantly agricultural state, but industry, largely financed by foreign capital, developed with great speed, notably at St Petersburg and Moscow and in the Baku oil fields It was particularly among the industrial proletariat, which because of its geographic concentration possessed great political strength, that the Social Democratic party found its adherents The split of the party into BOLSHEVISM AND MENSHEVISM had crucial consequences after the outbreak of the Revolution of 1917 Russia, by its promotion of PAN-SLAVISM in the Balkan Peninsula and in the Austro-Hungarian Monarchy, played a leading role in the events that led to the outbreak (1914) of the First WORLD WAR Ill prepared and cut off from its allies in the West, it suffered serious reverses at the hands of the Germans and Austrians Inflation, food shortages, and poor morale among the troops contributed to the outbreak of the February Revolution of 1917 and the abdication of Nicholas II The provisional government under Prince LVOV, a moderate, tried to continue the war effort but was opposed by the *soviets* [councils] of workers and soldiers KERENSKY who succeeded LVOV as premier in July, 1917, was equally unsuccessful in enforcing the authority of the central government Finally, on Nov 7, 1917 (Oct 25 O S) the Bolsheviks under LENIN rose and seized the government The Treaty of BREST-LITOVSK (Jan , 1918) with the Central Powers not only was profoundly humiliating to Russia, but even failed to bring peace The civil war between Reds and Whites and the intervention of foreign powers ended only in 1920 with the victory of the Soviet regime These events are related in greater detail in the article RUSSIAN REVOLUTION See A N Rambaud, *History of Russia* (new ed , 1929), S F Platonov, *History of Russia* (new ed , 1929), D S Mirsky, *Russia a Social History* (1931), S R Tompkins, *Russia through the Ages* (1940), Paul Miliukov, *Outlines of Russian Culture* (3 vols , 1942), Alexander Kornilov, *Modern Russian History* (1943), George Vernadsky, *Ancient Russia* (1943) and *A History of Russia* (new ed 1944), Joshua Kunitz, *Russia, the Giant That Came Last* (1947), P I Lyaschenko, *History of the National Economy of Russia to the 1917 Revolution* (1949).

Russia Company. see MUSCOVY COMPANY.

Russian art and architecture was from the beginning deeply rooted in Byzantine traditions The introduction of Christianity in the 11th cent. led to wide building of churches The Byzantine models acquired a definite national and local stamp. Kiev was the first important architectural center, but Novgorod and Pskov soon assumed leadership The sloping roof and the cupola appeared, while Byzantine ornamentation was displaced by simpler decorative motifs In the 13th cent Vladimir and Suzdal became prominent architectural centers There Romanesque influence vied with the Byzantine The palace of Prince Andrei Bogolyubsky in Vladimir is an example of the Romanesque-Byzantine school At the same time icon painting dominated the art of Russia. Until the 16th cent it retained all its Byzantine characteristics Artistic centers were in the same cities in which architecture flourished most, the Novgorod school, where icon painting was at its zenith in the 14th and 15th cent , produced the finest examples In the 16th cent Moscow became the artistic center of Russia, in the 14th cent it had assumed political leadership and thereafter attracted the finest Russian architects, and Ivan the Terrible had imported Italian masters to beautify his capital In architecture the Moscow Kremlin is a masterpiece of the Russian-Italian style In icon work the Moscow school proved less inventive than the Novgorod, producing standardized, ornate works, these are, however, more peculiarly national in character Late in the 16th cent icon painting once more reached a high-water mark The 16th- and 17th-century architecture, characterized also by rich ornamentation, showed no important new developments The reforms of Peter I (Peter the Great) put an end for a time to local expression both in architecture and in art, Western influence loomed large in the late 17th cent , and foreign architects and foreign painters were most active in Moscow during that time Many of the important buildings, in a Russian baroque style, were constructed by foreigners whom Peter had expressly imported Most of the architectural activity of the 18th cent centered around the building of St Petersburg (Leningrad) The outstanding Russian architect of that period was Conte Bartolomeo Francesco Rastrelli, who built the Winter Palace The classical style, in both architecture and art, which succeeded the baroque, owed its great success to Catherine the Great St Petersburg, still the center of architectural activity, seethed with foreign as well as Russian masters The whole country followed the example of the capital Nineteenth-century architecture continued along the severe and simple lines of the classical school The so-called Russian Empire style carried austerity to its limits The Aleksandrovsky Theater in Leningrad is an example of this trend The classical school in painting produced pictures of an academic nature The first years of the 19th cent saw the beginnings of the romantic school The realistic school which followed produced finer pictures than any of its predecessors The growth of a liberal sentiment, of social consciousness, and of opposition to bureaucracy formed the basis of the idealistic realism which distinguished the works of Perov, Vereshchagin, and Repin The 1890s tended to stylize decoration with mystic overtones, culminating in the *Mir Isskusstva* (World of Art) school to which belonged Benois, Roerich, Somov, and Bakst The representative sculptor of the movement was Paul Troubetzkov The 20th cent brought schools of cubists and expressionists, Chagall being outstanding among the latter A short-lived futurist movement, known as constructivism, identified itself with the revolution, the later state control of art insisted on the ideal of service to society rather than art for aesthetic purposes The revolution also affected architecture, after a highly productive period in the beginning of the century when Russian genius was at its best Serious effort has been made to express the new social and political ideology in current architecture, as in the city of Stalingrad See R H Newmarch, *The Russian Arts* (1910), Geoffrey Holme, ed , *Art in the U S S R* (1935), David Talbot Rice, ed , *Russian Art* (1935), C G E Bunt, *A History of Russian Art* (1946)

Russian Church see ORTHODOX EASTERN CHURCH

Russian language, language of the Slavic subfamily of the Indo-European languages See LANGUAGE (table)

Russian literature. In the late 12th cent Russian literature had its origin in *The Lay of the Host of Igor*, a masterpiece of poetic prose celebrating a raid led by Igor Svyatoslavovich against the Cumans This work, discovered in 1795, is held by some to be a forgery, but whether genuine or not its influence on Russian literature has been great It is in Old Slavonic, which up to the late 18th cent was the literary language. In this language there were annals of the Kievan period, tales of the Tatar rule, and translations of the Church Fathers In the early 15th cent appeared *Beyond the River Don*, a poetical account of the battle of Kulikovo (1380), composed by Sophonia of Ryazan, who made use of *The Lay of the Host of Igor* This early period produced also Athanasy Nikitin's *Journey beyond the Three Seas*, an account of India in 1466–74. The exchange of correspondence between Ivan the Terrible and his former favorite, Prince Andrei Mikhailovich Kurbsky (c 1528–1583), who had deserted to the enemy, shows a mastery of invective as well as of the Russian language on both sides. Kurbsky also wrote a history of Ivan, first published in 1833. The great schism which took place in the Russian Church in the mid-17th cent. produced the autobiography of the archpriest Avvakum (martyred in 1682), the first work in colloquial Russian Peter I (Peter the Great), by his interest in advancement of all kinds (he founded the first Russian newspaper and the Academy of Sciences), prepared the way for a genuine Russian literature Prince Antioch Kantemir (1708–44), a cosmopolitan, sought by example and through translating foreign works to bring Russia into harmony with Western ideas, he wrote *Satires* (1749, in French, 1762, in Russian) With Tredyakovsky and Lomonosov a true Russian literature came into existence, and with Sumarokov the beginnings of a Russian theater Fables were popular and were written by Sumarokov, Khemnitser, and especially Krylov The ode was cultivated by Tredyakovsky and Lomonosov and reached a high point with Derzhavin The drama was encouraged by Catherine II, who wrote plays herself and in whose reign appeared the first comedies of importance—*The Brigadier* (1766) and *The Young Hopeful* (1782, Eng tr , 1933), by Denis Ivanovich Fonvizin (1745–92) Social and political criticism made its appearance in a pamphlet, *On the Decline of Morals* (first published in book form in 1858), by Prince Mikhail Shcherbasov (1733–90), in the satirical journals published in 1769–74 by Novikov; and in Radishchev's *Journey from St Petersburg to Moscow* (1790) Wars dominated the early 19th cent , generating a new spirit, on the one hand of reform, on the other of heightened national self-consciousness The latter is seen in patriotic odes by Zhukovsky and in the dramas of Vladimir Aleksandrovich Ozerov (1770–1816), especially the popular *Dmitri Donskoi* (1807) By now the Russian language had become a worthy literary instrument, thanks to the pioneer work of Lomonosov, the example set by Karamzin, the lyrics of Batyushkov, and the translations of Zhukovsky It was really through Zhukovsky that the romantic spirit entered Russian literature The great poet of Russian romanticism was Pushkin, whose best-known poem is *Eugene Onegin* He wrote short stories and novels as well as drama and as a literary figure dwarfs all other Russian poets except possibly his younger contemporary Lermontov Other poets of individuality and lasting fame were Koltsov and Tyutchev Popular writers of the romantic era were the poets Eugene Abramovich Baratinsky (1800–1844) and Nikolai Mikhailovich Yazikov (1803–46) and the short-story writer Bestuzhev In the 1830s the schism that since Peter the Great had divided Russian thought into two camps, one pro-West, the other pro-native, deepened, and from the latter emerged the Slavophile movement This produced no great literary figure but exerted great influence through the writing of Alexey Stepanovich Khomyakov (1804–60), the brothers Kireyevsky (Ivan, 1806–56, and Peter, 1808–56), Ivan Aksakov, Mikhail N Katkov, and finally Nikolai Yakovlevich Danilevsky (1822–85), whose *Russia and Europe* (1869) is the ultimate expression of the Slavophile position The pro-Western camp had as its great spokesman the critic Belinsky With Gogol, especially his short story "The Overcoat" (1842), Russian literature began to follow the path most natural to the Russian genius, that of realism Social responsibility became the watchword, and the people, at first the peasant later also the middle class, its theme In poetry Nekrasov sounded the new note and in prose Grigorovich, followed by Goncharov, Pisemsky, and Saltykov and finally by the great triumvirate of novelists, Turgenev, Dostoyevsky, and Leo Tolstoy In the short story realism reached its zenith of perfection in Chekhov, the chief realistic dramas of the period were those of Chekhov and of Ostrovsky This was a golden age of Russian literature, and Russian writing was brought into the main stream of world literature In the 1870s a reaction against realism set in This is seen in the rise of symbolism, which reached its height in the '90s in the works of Sologub and Bryusov, Annensky, Bely and Blok, Balmont and Remizov The reaction manifested itself also in the religio-philosophical works of Vladimir Soloviev and the historical novels of Merezhkovsky In 1912 a return to more concrete imagery in poetry seemed desirable, and the Acmeist school was proclaimed by Gumilev and Gorodetsky To this belonged also the poets Mandelstam and Akhmatova In fiction the figures of Garshin and Korolenko stand out in the period following the golden age, after which the scene was dominated by Gorki, who injected a revolutionary note into Russian realism A similar note appears in the stories and dramas of Gorki's principal disciple, Leonid Andreyev, while Ivan Bunin, also a member of the Gorki circle and a Nobel Prize winner, remained faithful to the older, conservative realism. With the Bolshevist Revolution many writers emigrated from Russia and continued active abroad (Bunin, Kuprin, Merezhkovsky, Aldanov, among others), but no new talents were produced among the émigrés. Within Russia literary development since the revolution falls into four periods. In the first period (1918–21), with

war at home and abroad still in progress, poetry flourished, the symbolist Blok, the imaginist Yesenin, and the iconoclastic Mayakovsky being the principal figures. The older novelist Boris Pilnyak chronicled the scene in a novel *The Naked Year*, and Babel was a novelist of promise In the second period (that of the New Economic Policy, 1922–28), there was much debate on the issue of literary dictatorship, with the "On Guard" group arguing for and the Mayakovsky group against. The Serapion Brothers proclaimed their credo of artistic independence, and the formalists appeared, emphasizing the structure of a poem as of greater importance than its meaning or content This period saw the reburth of the novel, in the humorous works of Petrov (pseud of Yevgeny P Katayev) and Ilf and in the psychological or romantic novels of Leonov, Olesha, and Kaverin With Sholokhov, especially his *Silent Don*, the Russian novel was restored to Tolstoyan stature In the third period (1929–32) following the revolution, a general dissolution of the various literary groups took place, and there was a marked trend toward mobilization of the writer This trend continued in the fourth period (1932–41), when the new Soviet realism was proclaimed as the guiding principle in all writing In the field of drama, a form greatly encouraged and widely used as a means of instruction, the outstanding figures since the revolution are Afinogenov, Kirshon, and Valentin P. Katayev In poetry Pasternak and Nikolai Tikhonov (1896–) are leading figures, in the novel, Ostrovsky and Aleksey N Tolstoy. In criticism Shklovsky has had wide influence. The outstanding war reporter was Ilya Ehrenburg See Maurice Baring, *Landmarks in Russian Literature* (1910); Peter Kropotkin, *Ideals and Realities in Russian Literature* (1915); D S Mirsky, *History of Russian Literature to 1881* (rev ed , 1949), E J Simmons, *Outline of Modern Russian Literature* (1943), George Reavey, *Soviet Literature Today* (1947), Marc Slonim, *The Epic of Russian Literature* (1950)

Russian Revolution. The revolution of 1917 against the Romanov autocracy was not the expression of newly conceived philosophies or policies, but the culmination of a long series of efforts to secure rights to the less privileged Russians From the time of PETER I, the breach between government and people widened Members of the governing class became so imbued with Western culture that it was impossible for them to understand the people they absolutely controlled The rising intelligentsia became abstractly humanitarian and democratic, and politically radical The Russian university became a chief seat of revolutionary activity, and NIHILISM, ANARCHISM, and MARXISM were espoused or propagated by students Industrialization caused the concentration of population in urban centers where radical leaders found receptive ears among workingmen The factory became a second breeding place of revolution The emancipation of the serfs (1861, see EMANCIPATION, EDICT OF) was an unsatisfactory solution of the agrarian problem, the peasant's craving for land and his eagerness to despoil the large landowners only increased his desire to overthrow the existing régime A reactionary and often ignorant clergy kept religion as static as the government which from the time of CATHERINE II had almost ceased to progress A wanton disregard of human life and liberty was frequently exhibited by an incompetent officialdom, the corruption of which was pitilessly revealed by the Russo-Japanese War (1904–5) Various subject nationalities within the empire were repressed and subjected to a policy of "Russification" Religious dissenters were persecuted, and pogroms, with official connivance, were instituted against the Jews, from whose ranks came many radical leaders At the outbreak of the Revolution of 1905, Russia was divided into several political groups The autocracy was upheld by the landed nobility and the higher clergy, the capitalists desired a constitutional monarchy, the bourgeoisie made up the bulk of the Constitutional Democratic party; peasants and intelligentsia were incorporated into the Socialist Revolutionary party; and the proletariat, strongly influenced by Marxism, found expression in the Bolshevik and Menshevik wings of the Social Democratic party (see BOLSHEVISM AND MENSHEVISM). The Russian Revolution of 1905 began on Jan. 9 (O S) when troops fired on a defenseless crowd, which, led by a priest, was marching to the winter palace to petition the tsar A series of great strikes broke out in all the chief industrial centers Riots and assassinations were frequent Revolts took place in the fleet and at naval bases This disorder, coupled with the disaster of the Russo-Japanese War, forced the government to grant concessions, and an electoral manifesto was issued in August. Since the ukase did not guarantee freedom of speech, assembly, or press, renewed strikes broke out. When the power of the government appeared paralyzed, another ukase, which guaranteed civil liberties, was issued (Oct. 1905), but as soon as disorder had been quelled, the autocratic regime was restored. A DUMA with curtailed powers functioned, but it was unsatisfactory to all parties. The revolution aroused the masses and greatly strengthened the radical parties, while accentuating the differences between the right wing, which favored the establishment of a bourgeois republic, and the left wing, which desired a fusion government of urban and rural proletariat The agrarian reform (1906–7) of STOLYPIN came too late to create a conservative peasant class, and his ruthless suppression of the revolutionary movement did not prevent its spread. When the First World War broke out in 1914, most elements of Russia, except the extreme left, united in supporting the war effort However, the repeated military reverses, the acute food shortage, and the intense suffering of the civilian population brought on a revolutionary climate by the end of 1916 The sinister influence of RASPUTIN over Emperor NICHOLAS II and Empress ALEXANDRA FEODOROVNA gave rise to rumors accusing the court and the Stürmer cabinet of secret deals with Germany. The emperor lost the support of all but the extreme reactionary elements. Socialist revolutionary propaganda was effective among the war-weary population By the end of Feb , 1917 (N S , March, 1917) most of the workers in Petrograd (Leningrad) and Moscow were on strike for higher food rations and the soldiers were fraternizing with them Nicholas II, instead of following the advice of the Duma and of forming a new cabinet, ineffectually sought to put down the workers by force and dissolved (March 11, N S) the Duma The Duma refused to obey, while the Petrograd workers took over the capital (March 12) Nicholas II was forced to abdicate (March 15) at Pskov after the Duma had appointed a provisional government of moderate complexion, headed by Prince Lvov and including MILYUKOV and KERENSKY The end of the monarchy was welcomed by the overwhelming majority of the Russians This, however, was the only point of general agreement While the provisional government was being formed, a rival power was set up by the Socialists through the organization of workers'[1] peasants', and soldiers' soviets (see SOVIET), which spread from Petrograd and Moscow over all Russia The soviets did not openly seize the power at the time, but they gained control over the masses and, particularly, the armed forces, and were effective in blocking the vacillating provisional government whenever they pleased One of the first acts of the provisional government was to proclaim a general amnesty for political and military prisoners, freedom of speech and press, abolition of all social, religious, and racial discrimination, and the summoning of a constituent assembly Local self-government was restored under a reorganized ZEMSTVO system The burning issue, however, was the question whether or not the war should be continued The moderates favored continuation, the Bolsheviks agitated for immediate peace Milyukov's strong stand in favor of continuing the war led to his enforced resignation in May, 1917, and to the reorganization of the cabinet, with Kerensky as war minister The collapse of the all-out Brusilov offensive in July, 1917, had a double effect, loaded with political consequences The war party, with General KORNILOV as spokesman, demanded the immediate restoration of army discipline, the Bolsheviks, on the other hand, redoubled their agitation for peace V I LENIN, leader of the Bolsheviks, had been permitted by the German government to cross Germany into Russia in order to help take Russia out of the war At the first all-Russian soviet congress, held in June, 1917, his faction was outnumbered by the Socialist Revolutionaries and the Mensheviks, and his attempt at seizing power in July by an armed uprising at Petrograd was put down However, the uprising resulted in the resignation of Prince Lvov and the formation of a predominantly Socialist cabinet, headed by Kerensky The Kerensky government neither outlawed the Bolsheviks nor conciliated them The war was continued despite overwhelming sentiment for peace, and all measures of economic reform, particularly the redistribution of land, were delayed pending the convocation of the constitutional assembly, although the Russian economy was in a state of collapse The government's vacillation on these points led to a spectacular growth of the Bolshevik following Kerensky's position was further weakened when he broke (Sept , 1917) with Kornilov, who sought to restore order by setting up a military dictatorship, and Kerensky ordered Kornilov's arrest after the general had tried to seize Petrograd by force Kerensky was thus forced into a rapprochement with the Petrograd soviet, which had little use for him. The time was ripe for a Bolshevik revolution, the provisional government having lost the support of both the right and the majority of the left After Bolshevik troops had occupied (Nov 7, 1917) the principal government buildings in Petrograd and arrested the cabinet, the second all-Russian soviet congress met and approved the Bolshevik program A cabinet, called the Council of People's Commissars, was formed under Lenin's chairmanship. It included TROTSKY, RYKOV, and STALIN Kerensky had managed to escape from the Bolshevik October Revolution (so called because it took place in October according to the old Russian calendar), but he ceased to play an active role. Moscow, after some fighting, also fell to the Bolsheviks, whose government was quickly accepted in most of Russia Immediately upon its accession the new government adopted a decree calling for a general cessation of hostilities and a decree abolishing private ownership of the land A dictatorship of the proletariat—actually of the Communist party, as the Bolsheviks came to be called—was set up, and a policy of terror, directed by DZERZHINSKY, was inaugurated against the opposition Negotiations with the Central Powers were begun late in 1917 and resulted in the Russian acceptance (March, 1918) of the humiliating Treaty of BREST-LITOVSK The Bolshevik government having proclaimed the right of national self-determination the Russian Empire quickly fell apart Finland, Estonia, Latvia, Lithuania, the Ukraine, Georgia, Armenia, Azerbaijan, and other territories became independent The constituent assembly met at Petrograd in Jan , 1918, but was immediately disbanded by Bolshevik troops, its composition being predominantly non-Bolshevik Many of the Socialist Revolutionaries, who had formed the majority of the assembly, joined with the anti-Bolshevik forces which began to gather strength in various parts of Russia The civil war between the Reds and the Whites tore Russia until 1920 The Whites represented all shades of anti-Communist groups, several of their leaders sought to set up a military dictatorship, but few were outspoken tsarists Armed opposition to the Soviet regime centered at first in the south, where the volunteers under Kornilov (succeeded by DENIKIN) joined forces with the Don Cossacks. The UKRAINE, which had been occupied by German forces, was the scene of fighting after the Germans evacuated it as a result of the general armistice of Nov 11, 1918, it was seized by the Bolsheviks (early 1919), by the forces of Denikin (Aug –Dec , 1919), again by the Bolsheviks (Dec 1919), and finally by the Poles (May, 1920), with whom war had broken out over the Russo-Polish frontier question Denikin in the meantime had turned over his command to General P N WRANGEL, who after the conclusion of the Russo-Polish armistice was driven by the Bolsheviks into the Crimea and who was obliged to evacuate his forces to Constantinople (Nov , 1920) The civil war in the east was equally fatal to Whites A government was organized at Samara (now Kuibyshev) by a group of Socialist Revolutionaries who had been members of the constituent assembly It received the support of the Czech Legion (see CZECHOSLOVAKIA), which controlled the Trans-Siberian RR, but it merged (Sept , 1918) with a more conservative government set up at Omsk, in Siberia, and a few weeks later fell under the dictatorship of Admiral KOLCHAK Though at first successful, Kolchak's forces were eventually driven to the Far East, by January, 1920, all Siberia except VLADIVOSTOK and some Far Eastern territory was in Bolshevik hands The civil war was complicated by Allied intervention In the Far East the Japanese held Vladivostok until 1922 In N Russia, British, French, and American forces occupied (1918) Murmansk and Archangel with the stated purpose of protecting Allied stores against possible seizure by the Germans, they were evacuated only in Nov , 1919 American forces did not participate in the fighting between the Allies and the Bolsheviks The Bolshevik military victory was due partly to the lack of cooperation among the various White commanders, partly to the remarkable reorganization of the Red forces after Trotsky became commissar for war It was won, however, only at the price of immense sacrifice, and Russia by 1920 was ruined and devastated Atrocities were committed throughout the civil war by both sides For the history of Russia after the civil war, see UNION OF SOVIET SOCIALIST REPUBLICS and LENIN, VLADIMIR ILYICH See W H Chamberlin, *The Russian Revolution* (1935), V M Chernov, *The Great Russian Revolution* (1936), A G Gordon, *Russian Civil War* (1937), Sir Bernard Pares, *The Fall of the Russian Monarchy* (1939)

Russian Soviet Federated Socialist Republic (RSFSR), largest and most populous constituent republic (6,533,600 sq mi , 1947 estimated pop 111 000,000) of the USSR Moscow is the capital The RSFSR occupies most of E Europe and N Asia, extending for c 5,000 mi from the Baltic Sea in the west to the Pacific Ocean in the east and for 1,500 to 2,500 mi from the Arctic Ocean in the north to the Black Sea, the Caucasus, the Caspian Sea, the Altai and Sayan mts., and the Amur river in the south The Urals form the conventional geographic border between the European and the Asiatic RSFSR The European RSFSR, including the Ural Area, covers 1,578,700 sq mi and has an estimated population of 91,500,000 (1947), the Asiatic RSFSR, commonly known as Siberia, has an area of 4,922,800 sq mi and an estimated population of 19,500,000 The neighbors of the RSFSR are the Karelo-Finnish SSR and Finland in the northwest, Estonia, Latvia, Lithuania, and Belorussia in the west, the Ukraine in the southwest, and the Georgian SSR, the Azerbaijan SSR, the Kazakh SSR,

China, and Mongolia along the long southern land border The RSFSR occupies about 77 percent of the total area and contains about 58 percent of the total population of the USSR Its dominant relief features are (from west to east) the East European plain, the Urals, the West Siberian plain, and the central Siberian plateau The chief rivers draining the European RSFSR are the Don (into the Black Sea), the Volga (into the Caspian Sea), the Northern Dvina (into the White Sea), and the Pechora (into the Barents Sea) The highest mountains of the European RSFSR are in the Caucasus (For the main physical features of the Asiatic RSFSR, see Siberia) The climate of the RSFSR, generally continental, varies from extreme cold in N Russia and Siberia (where is Verkhoyansk, the coldest place on earth), to subtropical along the Black Sea shore The soil and vegetation zones include the entire tundra and taiga belts of the USSR, nearly the entire wooded steppe and the northern black-earth steppes, and isolated sections of the semi-desert, desert, and subtropical zones The vast majority of the population are Russians (74 percent) and Ukrainians (8 percent) Among the non-Slavic linguistic and ethnic groups that help to make up the rest of the population are the Finno-Ugric Komi, Mari, Mordvinians, Udmurts, Permyaks, Chuvash, Ostyaks, and Voguls, the Turco-Tatar Bashkirs, Tatars, and Khakass, Circassians, Mongols, Tungus, Samoyedes, Yakuts, and various Hyperborean groups The Eastern Orthodox faith, Islam, and Judaism are the chief religions Administratively, each area with a predominant Russian population is constituted as a territory (Rus *Kray*) or oblast, non-Russian nationalities are constituted, in descending order of importance, as autonomous republics, autonomous oblasts, and national okrugs The RSFSR may be conveniently divided into physico-economic regions as follows

Europe The Central Industrial Region has as its chief cities Moscow, Vladimir, Ivanovo, Yaroslavl, Kostroma, Ryazan, and Tula The Central Black Earth Region, in the southwest, is a rich agricultural area, Orel, Kursk, Voronezh, and Tambov are the main centers The European West includes Bryansk, Kaluga, Smolensk, Kalinin, and Velikiye Luki The European Northwest includes Leningrad, Novgorod, and Pskov The European North, occupying the Kola Peninsula and the Arctic coast, includes the Komi ASSR and has Murmansk, Archangel, and Vologda as chief cities The Upper Volga Region, a wooded area, includes the Mari ASSR, its main centers are industrial Gorki and Kirov The Middle Volga Region, a wooded steppe, includes the Chuvash ASSR, the Tatar ASSR, and the Mordvinian ASSR, and the cities of Ulyanovsk, Penza, and Kuibyshev The Lower Volga Region is a fertile steppe country and contains the important cities of Saratov, Stalingrad, and Astrakhan On the Black Sea and in the N Caucasus are the Crimea, the Lower Don Region (with Rostov, Novocherkassk, and Taganrog), Krasnodar Territory, Stavropol Territory, the Kabardian ASSR, the North Ossetian ASSR (see Ossetia), and the Dagestan ASSR The northern part of former East Prussia, including Konigsberg (Rus *Kaliningrad*), was incorporated into the RSFSR in 1945

Ural Area This region, which is of growing economic importance (see Urals), includes the industrial and administrative centers of Molotov, Sverdlovsk, Magnitogorsk, Chelyabinsk, and Chkalov, the Udmurt ASSR, and the Bashkir ASSR

Siberia Western Siberia has as its chief cities Kurgan, Tyumen, Omsk, Novosibirsk, Tomsk, and Kemerovo, it also includes Altai Territory Eastern Siberia comprises Krasnoyarsk Territory, Irkutsk and Chita oblasts, the Buryat-Mongol ASSR, the Yakut ASSR, and the Tuva Autonomous Oblast The Far East includes the Maritime Territory, Khabarovsk Territory, and Sakhalin

The RSFSR is extremely rich in mineral resources There are huge coal reserves in the industrial Kuznetsk Basin, the Moscow Basin, and the Pechora Basin, large oil fields at Grozny and Maikop, iron ore at Kursk, Kerch, Magnitogorsk, and many other places, nickel and apatite near Murmansk, and nonferrous and rare metals in the Urals and in Siberia Other resources include huge timber reserves, salts, chromite, and pyrite The principal industrial products are machinery, chemicals, textiles, leather goods, and lumber products Fishing, fish canning, and caviar processing are also important industries Fur trapping is a major source of livelihood in the north and in Siberia Land transportation is assured by a dense railroad net in the European RSFSR and by the Trans-Siberian Railroad River and canal navigation uses mainly the Volga, Kama, and Oka rivers, the Mariinsk System, the Baltic-White Sea Canal, and the Northern Dvina canal system Besides Leningrad, the chief seaports include Murmansk and Archangel in the north, Sevastopol, Kerch, Rostov, and Novorossisk on the Black Sea, Astrakhan on the Caspian, and Vladivostok on the Pacific The RSFSR dates in its present organization from the Soviet constitution of 1936. For history, see Russia and Union of Soviet Socialist Republics.

Russian thistle see tumbleweed

Russian Turkestan, see Turkistan.

Russian wolfhound, see borzoi

Russky, Nikolai Vladimirovich (nyĭkŭlī' vlŭdyē'mĭruvĭch rōō'skē), 1854–1918, Russian general In the First World War he captured Lvov (1914) and later held command of the armies in the northwest and the north Nicholas II abdicated at his headquarters Russky was shot by the Bolsheviks

Russo-Finnish War, 1939–40 see Finnish-Russian War

Russo-Japanese War, 1904–5, imperialistic conflict which grew out of rival designs of Russia and Japan on Manchuria and Korea Russian failure to withdraw from Manchuria and Russian penetration into N Korea were countered by Japanese attempts to negotiate a division of the area into spheres of influence However, the Russian government was inflexible and was willing to risk an armed conflict in the belief that Japan was bound to be defeated and that a Russian victory would head off the growing threat of internal revolution in Russia. Japan broke off negotiations and severed (Feb 6, 1904) diplomatic relations with Russia Two days later, without a declaration of war, Japan attacked Port Arthur and bottled up the Russian fleet A quick series of Japanese victories, which astounded the world, culminated in the fall of Port Arthur (Jan , 1905), the victory of General Oyama at Mukden (Feb –March, 1905), and the destruction of the Russian fleet under Rozhdestvenski at Tsushima by Admiral Togo (May, 1905) Through the mediation of U S President Theodore Roosevelt peace was made in September at Portsmouth, N H (see Portsmouth, Treaty of) The disastrous outcome for Russia of this war was one of the chief immediate causes of the Russian Revolution of 1905 Japan gained the position of a world power and continued on its ultimately ruinous career of imperialistic expansion For the Russo-Japanese War of 1945, see World War, Second

Russo-Turkish Wars. The great eastward expansion of Russia in the 16th and 17th cent still left the shores of the Black Sea in the hands of the Ottoman sultans and their vassals, the khans of Crimea The Russo-Turkish Wars were the result of Russian attempts to find an outlet on the Black Sea and—in their later stages—to conquer the Caucasus and to dominate the Balkan Peninsula Warfare between the Russians and the Crimean Tatars was a chronic condition in the 16th and 17th cent In 1696 Peter I won the first major Russian victory over the Turco-Tatars by capturing the fortress of Azov In the Northern War (1700–1721) Sultan Ahmed III openly joined the conflict against Russia in 1710 and regained Azov by the Treaty of the Pruth (1711) This, however, was the last Turkish success against Russia France, the traditional ally of Turkey, had a large share in instigating this and later Turkish attempts at stemming the Russian advance In 1736 war again broke out between Turkey and Russia, allied with Austria The Russians retook Azov and won a spectacular success in Moldavia, where General Münnich entered Jassy (1739) However, Austria became alarmed by Russian ambitions in the Balkans and concluded the separate Treaty of Belgrade (1739), in which Russia was forced to join The first major Russo-Turkish War, that of 1768–74, was an indirect result of Russian interference in Poland The Polish Confederation of Bar secured the alliance of Sultan Mustafa III against Catherine II of Russia The Russians conquered (1771) the Crimea, where a pro-Russian khan was installed, and overran Moldavia and Walachia The Treaty of Kuchuk Kainarji (1774) declared the Crimean khanate independent of the sultan, gave Russia considerable territorial gains, and conceded to Russia the role of protector of the sultan's Greek Orthodox subjects A general partition of the Ottoman Empire was contemplated in the treaty of alliance (1781) between Catherine II and Emperor Joseph II, the fate of Turkey thus became a major concern of the Western Powers and created the explosive Eastern Question In 1783 Catherine annexed the Crimea outright A new Russo-Turkish War broke out in 1787, and in 1788 Joseph II entered the war as Catherine's ally Although Austria was forced, chiefly by Prussian exertions, to withdraw from the alliance in 1791, Russian successes under Suvarov enabled Catherine to reach a favorable settlement in the Treaty of Jassy (1792) In 1806 the energetic Sultan Selim III deposed the Russophile governors of Moldavia and Walachia, an act which led to the Russo-Turkish War of 1806–12 This was brought to a close by Kutuzov's lightning campaign of 1811–12 and resulted in the gain of Bessarabia by Russia in the Treaty of Bucharest (1812) The Greek War of Independence (see Greece) precipitated the Russo-Turkish War of 1828–29, which ended with the Treaty of Adrianople (see Adrianople, Treaty of) and brought Russian influence in the Near East to its peak. When, in 1853, Russia sought to obtain further concessions from Turkey, the Turks, backed by England and France, declared war, their allies entered the conflict in 1854, and the Crimean War resulted. The peace of 1856 (see Paris, Congress of) brought no territorial changes but marked a severe setback to Russian influence The last Russo-Turkish War came as a result of the anti-Turkish uprising (1875) in Bosnia and Hercegovina Serbia and Montenegro joined, on Russian instigation, the rebels in their war on Turkey, after securing Austrian neutrality, Russia openly entered the war (1877) The Treaty of San Stefano in 1878 so thoroughly revised the map in favor of Russia and of Russian-influenced Bulgaria that the European powers called a conference to revise its terms (see Berlin, Congress of). In 1878 a thorough realignment of alliances took place It, the First World War, Russia and Turkey faced each other once more, Russia aided with the traditional allies of Turkey—England and France—while Turkey fought with the former partners of Russia—Austria and Bulgaria By the separate Russo-Turkish treaty of 1921, the USSR returned the districts of Kars and Ardahan, acquired in 1878, to Ataturk's Turkish government

Rust, John Daniel, 1892–, American inventor, b. Stephens co , Texas He invented in 1927 the basic mechanism of the Rust cotton picker, which was tested in 1935 and is now in widespread use His other inventions include a cotton cleaner (1940). His associate in inventing the cotton picker was his brother **Mack Donald Rust**, 1900–, a designing engineer, b near Breckenridge, Texas, grad Univ. of Texas, 1925

rust, name for various fungi which parasitize plants, forming brown or rusty patches of spores on the host About 1,000 species are known in North America Some grow entirely on one plant, others require two hosts, plants of two species, in order to complete their life cycles Cedar rust, for instance, grows on cedar and apple trees, needing both for development Blister rust of pine grows on pines and either currant or gooseberry bushes The stem rust *Puccinia graminis* is one of the most destructive to wheat, rye, and other grasses In all but warm climates it forms five kinds of spores, two are produced on barberry shrubs Rusts attack all cereal crops and many fruits, vegetables, forage crops, ornamental plants, and forest trees The planting of barberry, currant, and gooseberry is often forbidden or restricted in areas growing cereals Rusts are hard to eradicate, The best preventive is the use of rust-resistant varieties of seed See U S Dept of Agriculture and experiment-station literature

rust, of metals see rusting

rustication (rŭstĭkā'shŭn), method of creating textures upon masonry wall surfaces, chiefly upon those of stone, by projecting the blocks beyond the surface of the mortar joints Each joint thus lies in a channel or in a V-shaped groove, between adjoining stones, and a separating shadow line is produced The degree of projection, whether slight or bold, permits varying effects The Romans occasionally built rusticated walls This device was used by Renaissance architects in the palace façades at Florence, a favorite treatment being that of a ground floor with stones of strong projection and roughly textured surface, surmounted by upper stories in which both forms were more refined Often columns and pilasters also were rusticated The basement story of the Pitti Palace (c 1440) by Brunelleschi exhibits a celebrated example of rustication, some of its enormous and roughly quarried blocks of stone projecting as much as 2 ft 6 in beyond the surface of the joints The garden architecture of the Italian baroque villa shows many grotesquely textured examples Rustications also appeared often in Georgian and American Colonial architecture Here and in modern work often only the corners of a building are rusticated, contrasting with the smooth surface of the remainder

Rustico di Filippo (rōō'stēkō dē fēlēp'pō), 13th cent , Italian poet, perhaps one of the first to write in the Tuscan dialect as distinguished from the Sicilian Little is known of him save that he was a friend of Brunetto Latini Some 60 of his sonnets are extant, most of them in burlesque vein Examples are translated in D G Rossetti, *The Early Italian Poets* (1861), Lorna de'Lucchi, *An Anthology of Italian Poems* (1922)

rusting of metals is essentially oxidation, the substance rust being formed by the chemical combination of the metal with the oxygen of the atmosphere Moisture is necessary, and the presence of carbon dioxide is apparently of importance When iron is exposed to moist air, a reddish-brown substance (probably a mixture of iron oxide, hydroxide, and carbonate) is formed rapidly at the surface This rust flakes off and the process is continued at the new surface exposed The term is often extended to include the corrosion of other metals besides iron Since this metal is so widely used both as simple iron and as steel in building construction and in tools, methods for its protection against rusting are important Paint is commonly used Galvanized iron is iron covered by a protective layer of zinc. Iron is also plated with tin for protection Oil is used to protect steel tools and instruments Nickel and chromium steels do not

rust and are known as stainless (or rustless) steels Recent experiments indicate that ships can be protected against corrosion by hanging small magnesium plates all around the ship below the water line. As a result an electric current is set up between the steel of the ship and the magnesium, with the water as the electrolyte, slight decomposition of the water touching the ship occurs and corrosion is checked

Ruston (rŭ'stŭn), town (pop 7,107), parish seat of Lincoln parish, N La , E of Shreveport, est c 1884 on a railroad It is the trading, industrial, and cultural center of a rich farming and dairying section and is the seat of Louisiana Polytechnic Institute (coeducational, 1894)

rutabaga see TURNIP

Rutebeuf (rūtŭbûf'), fl between 1254 and 1285, French poet, author of an early miracle play, *Le Miracle de Théophile*, and of fabliaux, allegories, saints' lives, and satires His name is spelled also Rustebeuf

Rutgers University (rŭt'gurz), mainly at New Brunswick, N J , undenominational, with land-grant, state, and private support, for men and women, chartered 1766 as Queen's College, opened 1771 Rutgers was the eighth colonial college, receiving a royal charter from George III in response to the petition of leaders in the Dutch Reformed Church In 1825 the name was changed to honor Henry Rutgers (1745–1830), a captain in the Revolution and colonel of the New York militia The New Jersey legislature in 1864 designated the Rutgers Scientific School as the State College for the Benefit of Agriculture and the Mechanic Arts, under the provisions of the Morrill Act, and in 1917 named it the State Univ of New Jersey In 1924 the whole institution was named Rutgers Univ , and in 1945 it was called the State Univ of New Jersey The New Jersey College for Women was established as a branch in 1918 In 1946 the Univ of Newark (chartered 1933, organized by merging five schools) was absorbed, its college of arts and sciences and schools of business administration and law forming with the college of pharmacy (incorporated in the university in 1927) the Newark Colleges of Rutgers Univ The university also includes colleges of agriculture, arts and sciences, and engineering, a school of education, University College, biological, mineral, and economics and business research bureaus, a psychological clinic, a geology museum, a large library, a university press, and an institute of management and labor relations

Ruth, George Herman (Babe Ruth), 1895–1948, American baseball player, the greatest hero of the "national game," b Baltimore When he was seven years old his parents placed him in St Mary's Industrial School (Baltimore), an institution for underprivileged boys His days at St Mary's were spent in learning the tailor's trade and in practicing baseball in his spare time He began to play semiprofessional ball in Pennsylvania and was signed to pitch and play as an outfielder by the Baltimore Orioles (International League) in 1914 That same year he was sold to the Boston Red Sox of the American League The left-hander proved to be (1914 19) a formidable hurler for the Red Sox—winning 87 and losing 44 games and winning three world series games (one in 1916, two in 1918)—but in 1919, because of his hitting prowess, Ruth was shifted to the outfield In 1920 Ruth was sold to the New York Yankees of the American League, and by his batting feats and attractive personality he greatly helped to salvage the popularity of baseball after the Black Sox scandal He hit the most home runs per season for several years (1919 21, 1923–24, 1926–30), tied for the home-run lead in 1918 and 1931, and set the existing record of 60 "circuit blows" for one season in 1927 In all, he hit 714 home runs in major-league play while establishing many other records He led the Yankees to seven pennants (1921–23, 1926–28, 1932), and the Yankee Stadium, built in 1923, came to be known as "the house that Ruth built " With his large frame and spindle-thin legs, Ruth while on the diamond captured the baseball fan's imagination with his efficient and colorful play—e g , in the third game of 1932 world series he indicated a spot in the stands of the Chicago Cubs' ball park where he would hit the ball and promptly blasted it there for a home run Off the playing field "the Bambino," as he was affectionately called, made headlines by his charitable actions—e g , visiting sick children in hospitals He was the highest-paid player of his era, but took several salary cuts before he was traded by the Yankees to the Boston Braves (National League) in 1935. He played with the Braves while serving as assistant manager, but soon (June, 1935) was released He served as coach for the Brooklyn Dodgers (National League) for one season (1938) In the 1940s the Babe, although stricken with several illnesses, appeared at many benefits and charitable exhibitions. A year before he died he established and endowed the Babe Ruth Foundation to aid underprivileged youth He wrote *How to Play Baseball* (1931). See biographies by Tom Meany (1947), D. M. Daniel (1948), and R. B. Considine (1948).

Ruth, book of the Old Testament, eighth in order in AV, a little story laid in the days of the judges It tells of the fidelity of a Moabite widow (Ruth) to her Jewish mother-in-law (Naomi) and how they return to their husbands' home at Bethlehem There Ruth marries her kinsman and legal protector, Boaz Boaz and Ruth were ancestors of David This idyl is one of the most popular of scriptural stories Date and authorship of Ruth are unknown For bibliography, see OLD TESTAMENT

Ruthenia (rōōthē'nēŭ), Latinized form of the word *Russia* The term was used in the Middle Ages when the princes of GALICH briefly assumed the title kings of Ruthenia In modern times the term *Ruthenians* was used in Austria-Hungary to designate the Ukrainian population of the NE Carpathians, divided among Hungary, Austrian Poland (i e , GALICIA), and Bukovina. It thus was used in the same sense that the term *Little Russian* or *Ukrainian* was used in the Russian Empire, and no ethnical or linguistic distinction can be made between Ukrainians and Ruthenians Culturally, however, the Ruthenians were distinct from the Ukrainians, especially after 1596, when the Orthodox Church of the Polish Ukraine entered into union with the Roman Church, and after 1649, when a similar union was effected in Hungary The Ruthenian Uniate Church of the Eastern rite (see ROMAN CATHOLIC CHURCH) thus included the majority of the Ruthenians in the Austro-Hungarian Monarchy, while the Greek Orthodox Church was fully restored (17th cent) in the Russian part of the Ukraine When, as will be seen later in this article, all Ruthenians were united (1945) in the Soviet Ukraine, government pressure resulted in the secession of the Ruthenian Uniate Church from Rome and its reunion with the Russian Orthodox Church After 1918 the term *Ruthenia* was sometimes applied to the easternmost province (4,890 sq mi ; pop c 900,000) of Czechoslovakia It was also known as Carpathian Ukraine, or by its Czech name, *Podkarpatská Rus* [Sub-Carpathian Russia], or as Carpathian Russia UZHGOROD, the capital, and MUKACHEVO are the chief cities A largely mountainous, agricultural, and pastoral region, Carpathian Russia was ruled from the 10th cent until 1918 by Hungary It was here that the feudal rule of the Hungarian absentee landlords, who owned virtually the entire country, left its most evil traces Carpathian Russia in the 20th cent was one of the most backward regions of the world The peasantry was plunged in abysmal poverty, ignorance, and superstition, the Jews, who formed a large element of the urban population, were economically better off, but also lived under quasi-medieval conditions (it was here that the so-called wonder rabbis held their sway) Many Ruthenians emigrated to the United States, where they exerted themselves vigorously for the rehabilitation of their home country When in 1919 Carpathian Russia joined Czechoslovakia, the Czechoslovak government made an energetic and costly, but on the whole futile, effort to modernize the country The peasantry was freed from its nearly servile status, but the agrarian reform failed to break up all the large estates Efforts at public education were more successful, but could not offset a thousand years of ignorance The promise of an autonomous political status was not kept until 1938, when - as the result of the reorganization of Czechoslovakia after the Munich Pact—the province became autonomous In March, 1939, Czechoslovakia was dismembered, and Hungary annexed the region It was reconquered late in 1944 by Russian troops and local guerrillas, but in 1945 Czechoslovakia, by an agreement with the USSR, ceded the strategically important province Carpathian Russia became the Transcarpathian oblast of the Ukrainian SSR The USSR having also acquired Galicia and N Bukovina, the vast majority of the Ruthenians were united with the Ukraine

ruthenium (rōōthē'nēŭm), rare, gray-ish-white metallic element (symbol=Ru, for physical constants, see ELEMENT, table) It is extremely hard and slightly soluble in acids It unites with the oxygen of the air Ruthenium forms compounds with oxygen (a number of oxides), sulphur (a sulphide), chlorine, and other elements The element is included in the platinum group of metals and occurs chiefly in platinum ores It resembles closely osmium, with which it is associated in nature, as in the mineral laurite Discovery of ruthenium is accredited to C E Claus (1844), who first prepared it in a pure form, its existence had been announced previously by G W Osann, who obtained it only in an impure form Ruthenium and its compounds are of no commercial importance

Rutherford, Daniel (rŭ'dhurfûrd), 1749–1819, Scottish physician, botanist, and chemist, uncle of Sir Walter Scott He studied under Joseph Black at the Univ of Edinburgh, where he was professor of botany and keeper of the Royal Botanical Gardens from 1786. In 1772 he discovered nitrogen, which he called mephitic air; he believed it to be air combined with phlogiston

Rutherford, Ernest Rutherford, 1st Baron, 1871–1937, British physicist, b New Zealand. From 1898 to 1907 he was professor of physics at McGill Univ ; he then served as professor of physics and director of the physical laboratory at the Univ of Manchester (1907–19) and as Cavendish professor of experimental physics at Cambridge (from 1919) He is known especially for his research in radioactivity, for which he received the 1908 Nobel Prize in Chemistry His contribution to the knowledge of the structure of the atom is of great importance He postulated the nucleus of the atom as that part in which the mass is concentrated and atoms themselves as being composites of hydrogen and helium atoms He produced hydrogen by bombarding the atoms of various elements, e g , nitrogen, with helium particles He was knighted in 1914 and elevated to the peerage in 1931 His works include *Radioactive Transformations* (1906), *The Electrical Structure of Matter* (1926), *The Artificial Transmutation of the Elements* (1933), and *The Newer Alchemy* (1937) See biographies by A. S Eve (1939) and Norman Feather (1940)

Rutherford, Joseph Franklin, 1869–1942, American sectarian leader, known as "Judge" Rutherford, b Missouri He became legal adviser c 1907 to a group known as Russellites, later as JEHOVAH'S WITNESSES, in 1916, after the death of Charles T Russell, he became their leader His many pamphlets and books have been widely translated

Rutherford, Mark see WHITE, WILLIAM HALE

Rutherford, Samuel, 1600–1661, Scottish clergyman His *Exercitationes apologeticae pro divina gratia* (1636), upholding the doctrine of divine grace against Arminianism, caused his suspension from his living at Anwoth on the charge of nonconformity to the Acts of Episcopacy He was banished to Aberdeen, where he remained until the National Covenant was drawn up in 1638 The next year he was made professor of divinity at St Mary's College, St Andrews, and later (1651) he was appointed rector of the university In 1643 he was one of the commissioners from Scotland to the Westminster Assembly After the Restoration he was removed from his official positions, his *Lex, Rex the Law and the Prince* (1644) was ordered burned, and he was summoned (1661) by Parliament on a charge of treason He died before he could be tried Rutherford's letters, first published as *Joshua Redevivus* (1664), edited by A A Bonar with a life (2 vols , 1863) have passed through a number of editions

Rutherford (rŭ'thurfurd), suburban residential borough (pop 15,466), NE N J , NE of Newark, laid out 1862, inc 1881 It has pre-Revolutionary houses Fairleigh Dickinson College (coeducational, 1942) is here

Rutherfordton, textile-mill town (pop 2,326), co seat of Rutherford co , W N C , SE of Asheville in a grain, cotton, and truck area, founded 1779

Rutherfurd, Lewis Morris (rŭ'dhurfûrd), 1816–92, American physicist, b New York city, grad Williams, 1834 From 1837 to 1849 he practiced law He studied and experimented in celestial photography, especially in spectral analysis, in which he was a pioneer, and he invented several instruments for his work, including a micrometer and a telescope specially fitted for astronomical photography He gave his instruments and collections of photographs to Columbia Univ , of which he was a trustee (1858–84)

Rutherglen (rŭdh'urglĕn), burgh (pop 25,157), Lanarkshire, Scotland, on the Clyde and SE of Glasgow It became a royal burgh in 1126 under David I and was for some time one of the leading Clyde ports Here, in 1679, the Covenanters published the Declaration and Testament which preceded the battles of Drumclog and Bothwell Bridge The ancient castle was taken by Robert the Bruce in 1313 and burned by James Stuart, earl of Murray, in 1568 The burgh's industry includes the making of chemicals There are coal mines in the vicinity

Ruthin (rĭ'thĭn, rōō'dhĭn), municipal borough (1931 pop 2,912, 1943 estimated pop 3,500), Denbighshire, Wales, on the Clwyd There are ruins of a castle built in the late 13th or early 14th cent and dismantled by the parliamentarians in 1646

Ruthven (rĭ'vun, rōō'thvun), name of a noble family in Scotland, believed to trace its ancestry to Thor, a Saxon or Dane, who in the time of King David I settled in Scotland The name is derived from lands in Perthshire, held by the family, several members of which were in the 16th cent earls of Gowrie **Sir William de Ruthven,** d 1528, was the 1st lord of Ruthven, the title being conferred by James III in 1488 His grandson, **Patrick Ruthven,** 3d **lord of Ruthven,** 1520?–1566, was a firm supporter of the Protestant doctrines. He acted on various commissions appointed by the lords of the congregation to deal with the queen regent, Mary of Guise, and with Elizabeth, queen of England, and he served later as privy councilor to Mary Queen of Scots He took a leading part in the murder of RIZZIO and wrote a memoir of the affair which still exists in manuscript in the British Museum He took refuge in England, where he died shortly after His son, **William Ruthven,** 4th

lord of Ruthven, 1541?–1584, was created 1st earl of Gowrie in 1581 Associated with his father in the murder of Rizzio, he also fled to England, where he remained until pardoned (1567) by the queen He took part in the opposition to Bothwell and was active against Mary Queen of Scots. He was the head of the confederated nobles who planned and carried out the "raid of Ruthven" (1582), to get possession of the person of James VI and bring about the dismissal of his favorites, in the name of religion and the liberties of the kingdom After being held for a time in Ruthven Castle and in Edinburgh, the king escaped Although pardoned in 1583, the earl of Gowrie later fell under condemnation, when the conspirators were declared traitors by the convention of the estates. Ordered to France, he delayed sailing and carried on a correspondence plotting another conspiracy Tried for high treason, he was found guilty and beheaded in May, 1584 In 1600, the name and dignity of the family were extinguished and the estate annexed to the crown in consequence of the Gowrie conspiracy, a mysterious incident that resulted in the killing of the two sons of the 1st earl of Gowrie for having made an attempt upon the person of the king They were **John Ruthven,** 3d **earl of Gowrie** and 6th **lord of Ruthven,** 1578?–1600, and his brother, **Alexander Ruthven,** 1580?–1600 Their dead bodies were indicted and pronounced by Parliament guilty of high treason Descended in a collateral line, **Patrick Ruthven,** 1573?–1651, won distinction in the service of Gustavus Adolphus of Sweden Later he supported the cause of Charles I in Scotland and England, eventually serving as general in chief of the royalist forces (1643–44) He was created Lord Ruthven of Ettrick in 1639, earl of Forth in 1642, and earl of Brentford in 1644 He had no sons, and his titles became extinct

Ruthven, Alexander Grant (rōō*th*'vŭn), 1882–, American zoologist, b. Hull, Iowa, grad Morningside College (B S , 1903). He was instructor and professor of zoology (1906–29) and president (from 1929) of the Univ of Michigan. His special studies were on amphibia and reptilia Among his works is *A Naturalist in a University Museum* (1931)

rutile (rōō'tēl, -tĭl), mineral, one of the three forms in which titanium dioxide is found It crystallizes in the tetragonal system, crystals being common, twins are of frequent occurrence, and rosettes (six-lings and eight-lings) are not unusual Iron is generally present, the mineral is typically brownish red, though there are black varieties The most common titanium mineral, rutile is of wide occurrence in igneous rocks, e g., granite, sedimentary rocks, e g , granular limestone or dolomite, and metamorphic rocks, e g , gneiss and mica schist. It is found in Switzerland, Norway, and some other parts of Europe, in various parts of the United States, and in Brazil

Rutland or **Rutlandshire** (rŭt'lŭndshĭr), inland county (151 sq mi , 1931 pop 17,401, 1948 estimated pop 19,260), central England The county town is Oakham Smallest of the English shires (though not of the administrative counties), both in area and in population, it has a rolling terrain and is largely devoted to farming and pasturage It is drained by the Welland river Rutland was organized as a shire by the 12th cent , but its history is largely associated with that of its neighboring counties See *Victoria History of Rutland* (2 vols , 1908–35)

Rutland. **1** Town (pop 2,181), central Mass , NW of Worcester, settled 1716, inc 1722 Private, veterans', and state tuberculosis hospitals are here The site of a camp for Burgoyne's defeated troops after Saratoga is marked **2** City (pop 17,082), co seat of Rutland co , W Vt , at the junction of Otter and East creeks, settled 1770, inc as a village 1847, as a city 1893. Rutland town (pop 1,350, chartered 1761), surrounding the city, formerly also included the present Proctor and West Rutland towns Claimants under New York grants gave the early community some trouble, in the Revolution two forts were built in the town Marble quarrying began c 1845 and flourished particularly after Redfield Proctor organized the industry. Marble is no longer quarried here, but Rutland is a railroad center, with varied industries Among notable buildings in the city are the old Federal Building, now a public library, the new Federal Building (1933), and the Roman Catholic Church of Christ the King (1929) John Deere was born in Rutland A flood occurred in 1947, when a dam on the East Creek broke

Rutlandshire, England see RUTLAND, county.

Rutledge, Ann, 1813?–1835, American heroine of a romantic story concerning Abraham Lincoln Her father kept the inn at New Salem, Ill , where Lincoln lived from 1831 to 1837 Her sudden death from "brain fever" on Aug. 25, 1835, grieved Lincoln deeply, and from this one known fact William H. Herndon Lincoln's old law partner and biographer, wove the famous story of Lincoln's alleged great romantic love for the girl. Herndon sent the story on its way into the Lincoln legend (where it is still firmly embedded) in a lecture at Springfield, Ill., on Nov. 16, 1866, in which he declared that Lincoln had said his heart was buried with Ann Rutledge. Herndon and Lincoln's wife, Mary Todd Lincoln, had always cordially despised each other, and this story about Lincoln and Ann Rutledge was naturally a cruel blow to a woman who had already suffered much. Mary Lincoln insisted that the story was false, and, in truth, Herndon's "evidence," preserved in the Herndon-Weik manuscripts, is shaky and contradictory Actually, Ann was engaged to Lincoln's friend John McNamar, who was away from New Salem at the time of Lincoln's alleged courtship. Partisans of the Herndon story say, again without any reliable evidence, that McNamar had deserted Ann and that she had entered into a conditional understanding with Lincoln In 1890 Ann's remains were removed from the old Concord cemetery near New Salem and reinterred in Oakland cemetery near Petersburg, Ill , where in 1921 was erected a monument, bearing the passage in Edgar Lee Masters's *Spoon River Anthology* referring to her.

Rutledge, Edward, 1749–1800, American Revolutionary patriot, signer of the Declaration of Independence, b Charleston, S C , brother of John Rutledge He studied law at the Middle Temple, London, and was admitted (1772) to the English bar He returned to America and was a member (1774–77) of the Continental Congress He held many official posts in both nation and state Rutledge was captured (1780) by the British at the fall of Charleston He was governor of South Carolina from 1798 to 1800

Rutledge, John, 1739–1800, American jurist and statesman, b Charleston, S C , brother of Edward Rutledge After studying law in London, he began practice in Charleston, S C., in 1761 He rose to prominence when very young, was a member (1762) of the provincial assembly, attorney general of South Carolina (1764–65), and a delegate (1765) to the Stamp Act Congress, where he was chairman of the committee that drafted the petition to the House of Lords He twice (1774–76, 1782–83) was a member of the Continental Congress and meanwhile held strong sway as president (1776–78) of his state and later (1779–82) as governor As delegate (1787) to the Federal Constitutional Convention, Rutledge played an important role in the drafting of the U S Constitution, and then (1788) was a member of the state ratifying convention After he served (1789–91) as Associate Justice of the U S Supreme Court, he was chief justice of South Carolina In 1795 he was nominated Chief Justice of the U S Supreme Court, but the Senate refused to confirm the appointment See biography by Richard Barry (1942)

Rutledge, Wiley Blount, 1894–1949, Associate Justice of the U.S Supreme Court (1943–49), b, Cloverport, Ky , grad Univ of Wisconsin, 1914, LL B Univ of Colorado, 1922 He became (1924) associate professor of law at the Univ of Colorado and later was (1926–35) professor and dean of the law school at Washington Univ He also was (1935–39) professor and dean at the State Univ of Iowa law school He was associate justice of the U S Court of Appeals, District of Columbia, when President F D Roosevelt appointed him to the Supreme Court Rutledge proved to be one of the court's outspoken defenders of civil liberties

Rütli (rut'lē) or **Grütli** (grut'lē), meadow, Uri canton, Switzerland, on the shore of the Lake of Lucerne Here, according to the legend of William TELL, representatives of Uri, Schwyz, and Unterwalden met in 1307 to swear the **Rütli Oath,** on which Swiss freedom was founded The discovery in the 19th cent. of a written alliance of the three cantons, dated Aug 1, 1291, took away from the historic importance of the Rütli meeting

Ruwenzori (rōō"wunzō'rē), mountain range, central Africa, on the Uganda–Belgian Congo border Albert Nyanza is to the north and Edward Nyanza to the south The snow-capped summits of the range include Mt. Margherita (16,798 ft.), named for the queen of Victor Emmanuel III of Italy, and Mt. Alexandra (16,750 ft.), named for the queen of Edward VII of England The range may be the semifabulous "Mountains of the Moon," erroneously supposed by the ancients to be the source of the Nile The duke of the Abruzzi explored (1906) the range See P M Synge, *Mountains of the Moon* (1938)

Ruysbroeck, John, Dutch *Jan van Ruusbroec* (rois'brōōk, yan' vän rois'brōōk), 1293–1381, Brabantine monk, an outstanding Roman Catholic mystic He was an Augustinian canon In middle age he retired to a hermitage at Groenendael (near Brussels), where he was prior of a small community His sanctity and good counsel attracted visitors from afar, and Tauler and Gerard GROOTE were among his friends On Gerard his influence was so great that John is regarded as a forerunner of the Brothers of the Common Life His mystical treatises are classics of Middle Dutch literature and of Christian mysticism There are English translations of *The Book of the Twelve Béguines* (1913); *The Adornment of the Spiritual Marriage* with *The Sparkling Stone* and *The Book of Supreme Truth* (1916), and *The Kingdom of the Lovers of God* (1919) His cult is widespread among Roman Catholics of N Europe. He was beatified in 1908. See Vincent Scully, *A Mediæval Mystic* (1911).

Ruysdael, Jacob van see RUISDAEL, JACOB VAN.

Ruyter, Michiel Adriaanszoon de (mēkhēl' ä'drēänsōn" dŭ roi'tŭr), 1607–76, Dutch admiral. His life was spent in the Dutch mercantile and naval service. He fought under TROMP in the first (1652–54) of the DUTCH WARS and distinguished himself in the Second Dutch War (1664–67) by the capture of English holdings on the Gold and Guinea coasts. He saved the Dutch fleet in a brilliant withdrawal after defeat at North Foreland (Aug 4, 1666) and burned (1667) English ships in the Medway. With Tromp he led the Dutch fleet in the Third Dutch War (1672–78) and saved (1672) Dutch ports from attack by the English and French. Despite his protests over the conditions of the Dutch fleet, he was sent to the Mediterranean (1675), where he was mortally wounded at Messina

Ruzicka, Leopold (lā'ōpôlt rōō'tsĭkä, rōō'shōchkä), 1887–, Swiss chemist, b Yugoslavia. He was professor of chemistry at the school of technology at Zurich (1923–26 and from 1929) and lectured at the Univ. of Utrecht (1926–29). He investigated the chemical structure of sterols, including vitamin D and the sex hormones, and developed the degradation synthesis of hormones from sterols By this process he produced androsterone and testosterone For this work on hormones he shared with Adolf Butenandt the 1939 Nobel Prize in Chemistry.

Ruzicka, Rudolph (rōōzĭ'kù), 1883–, American artist, b Bohemia He was brought to the United States as a child Ruzicka, with study at the Art Institute of Chicago and long experience in the graphic arts, established himself early as a distinguished wood engraver and an etcher He gained general admiration as one of the leading book illustrators and also as a book designer and the designer of a type face, Fairfield He wrote *Thomas Bewick, Engraver* (1943)

Ryan, city (pop 1,115), S Okla., near the Red River, founded 1892

Ryan, Loch (lŏkh rĭ'un), long narrow inlet, Wigtownshire, Scotland, at the southern entrance of the Firth of Clyde It is 9 mi long and c 1½ mi wide and provides a good harbor which is sheltered by hills

Ryazan (ryŭzän'yu), city (pop 95,358), capital of Ryazan oblast, central European RSFSR, on the Oka river and SE of Moscow It is an agricultural processing center, with flour mills, fruit canneries, distilleries, and tanneries, and it manufactures agricultural machinery The city, originally called Pereyeslavl-Ryazanski, became the capital of the Ryazan principality when the Mongols destroyed Old Ryazan (see SPASSK-RYAZANSKI) in 1237 It was annexed by Moscow in 1520 Late in 1941, in the Second World War, Ryazan was the objective of a German column in the double-pronged attack on Moscow, but the German advance was stopped before it reached the city Ryazan retains much medieval architecture and has picturesque churches with many-colored domes and gilded ornaments A kremlin wall, dating from 1208, surrounds two former monasteries built in the 15th and the 17th cent The former archiepiscopal palace is now a museum

Rybinsk, RSFSR see SHCHERBAKOV

Rybinsk Reservoir (rĭ'bĭnsk), artificial lake, area 1,800 sq mi , N central European RSFSR It was formed in 1941 between the upper Volga and its left affluents, the Mologa and Sheksna, with the completion of the dam and hydroelectric station at Shcherbakov The filling of the reservoir flooded the former city of Mologa. The reservoir is part of the MARIINSK SYSTEM of waterways

Rybnik (rĭb'nēk), town (pop. 23,052), Silesia prov , SW Poland, on the Ruda river Originally a fish hatchery (established c 1100) noted for its carp, it is now an industrial center manufacturing metal products and chemicals It passed from Germany to Poland in 1921

Rydberg, Abraham Viktor (ä'brähäm vĭk'tôr rŭd'bĕryu), 1828–95, Swedish philosopher, poet, and novelist He was a member of the Swedish academy His novel *The Last Athenian* (1859, Eng tr., 1869) was a study of Hellenic versus Christian ideals In his biblical criticism he opposed the fundamentalist views of his day His poetry was distinguished for its lyric quality and for its purity of style and language See C W. Stork, *Anthology of Swedish Lyrics* (rev ed , 1930).

Rydberg, Per Axel (rĭd'bûrg), 1860–1931, American botanist, b Sweden, grad. Univ of Nebraska, 1891. He was associated with the New York Botanical Garden from 1899 Rydberg was an authority on plants of the W United States. Besides articles in various botanical journals and monographs on several plant groups (among them the saxifrages, the rose family, and the potentillas), he wrote *Catalogue of the Flora of Montana and the Yellowstone National Park* (1900), *Flora of Colorado* (1906), *Flora of the Rocky Mountains and Adjacent Plains* (1917), *Key to the Rocky Mountain Flora* (1919), and *Flora of the Prairies and Plains of Central North America* (1932).

Ryde (rīd), municipal borough (pop. 10,520), on the Isle of Wight, England, on the Spithead and NE of

Newport. It is one of the leading resorts of the island.

Ryder, Albert Pinkham, 1847–1917, American painter, b New Bedford, Mass. In 1867 the family moved to New York. There he studied with W E Marshall, the engraver, and at the National Academy of Design, but he was largely self-taught. Except for a brief trip abroad in 1893, most of his life was spent in New York, where he lived as a recluse in a room 10 ft by 12, devoting his whole energy to his paintings, on which he worked over and over, often for years Ryder was indifferent to most comforts and all material success Despite his solitary life and extreme preoccupation with his art, he had devoted friends and admirers. He experimented constantly with the oil medium and produced only about 150 canvases These are now considered among the finest American works of art Although small in size, they have grandeur of design and feeling, great luminosity, and subtle color Moonlight and the sea predominate in Ryder's highly imaginative paintings, which are remarkable in their power to evoke a lonely and poetic mood Notable examples are in most of the important American galleries, the Brooklyn and Metropolitan museums and the National and Phillips Memorial galleries, Washington, D C , have the largest collections *Toilers of the Sea* (Metropolitan Mus), *Death on a Pale Horse* (Cleveland Mus), and *The Flying Dutchman* (National Gall , Washington, D C) are much loved and characteristic works See studies by F F Sherman (1920) and F M Price (1932)

Rydz-Smigly or **Smigly-Rydz, Edward,** (rĭts'-shmĭg'-wĭ), Pol *Rydz-Śmigły,* 1886–1943?, Polish statesman He served under PILSUDSKI in the Polish Legion (1914–17), in the war with the USSR (1920), and in the coup d'état of 1926 According to Pilsudski's wish, he succeeded him (1935) as inspector of the army, in 1936 he was named "first citizen after the president" and marshal of Poland As virtual dictator, he fostered the OZON (Camp of National Unity), a government party which dominated the parliament When Germany and the USSR invaded Poland, he fled (Sept , 1939) to Rumania

Rye, municipal borough (1931 pop 3,947, 1943 estimated pop 4,150), Sussex East, England, near the English Channel and NE of Hastings It was, like Winchelsea, one of the "ancient towns" added to the CINQUE PORTS under Richard I It had good trade, but decayed after the recession of the sea early in the 19th cent There are remains of an ancient friary, a large Norman and Early English church, the 12th-century Ypres Tower, and a school (Pocock's, 1636) It is a resort of artists and authors John Fletcher was born here

Rye. 1 Town (pop. 1,246), SE N H , S of Portsmouth, inc 1837. The villages Rye and Rye Beach are included The first settlement was made in 1623 by David Thomson at Odiorne's Point The Atlantic Air Academy for boys (1945) is at Rye Beach **2** City (pop 9,865), SE N Y , in Westchester co , on Long Island Sound between Port Chester and Mamaroneck, settled 1660, inc as a village 1904, as a city 1942 It is a residential suburb of New York Rye Beach includes the amusement park Playland

rye, staple farm grain crop (*Secale cereale*), grown in many parts of the world but especially important in Central and N Europe It seems to have been domesticated later than wheat. Where it grows well, wheat is preferred, but rye will produce a good crop on soil too poor to produce a good crop of wheat Rye bread is the usual bread in some countries, e g , Germany and Sweden A bread of lighter color, also called rye bread, is made of rye flour mixed with wheat flour As a grain for livestock, rye is commonly mixed with other grains, all being ground together and fed as a moistened mash. Rye is much used as a distillers' grain in making whisky and gin The tough straw of rye is valued for many purposes, e g , thatching for roofs and stuffing for horse collars. ERGOT is a fungus disease of rye; the fungus is poisonous and may make the rye unsafe to use Wild rye and lyme grass are names for several grasses belonging to the genus *Elymus,* some of which are occasionally planted as ornamentals or used for binding sand. See H K Wilson, *Grain Crops* (1948)

Ryegate, town (pop 1,105), NE Vt , E of Barre, on the Connecticut, chartered 1763, settled 1773 It includes East Ryegate, a paper-mill village

rye grass, short-lived perennial grass of leafy, tufted habit Two species are grown in the United States —Italian rye grass (*Lolium multiflorum*), the leading hay grass of Europe, and English or perennial rye grass (*L perenne*) Both are sowed, often mixed with other grains, in parts of the United States where winters are mild, for pasturage and,for temporary and winter lawns Perennial rye grass was probably the first of all perennial grasses to be cultivated pure for forage Poison rye grass or darnel (*L temulentum*), which is reputed to be poisonous and grows in grain fields and waste places, is thought to be the tares of the Bible Western rye grass or slender wheat grass (*Agropyron pauciflorum*) provides nutritious forage

Rye House Plot, conspiracy (April, 1683) to assassinate Charles II and his brother James, duke of York (later James II), as they passed by Rumbold's Rye House in Essex on the road from London to Newmarket However, the king did not make the journey, the plot, which was an offshoot of an older insurrection plot hatched by the 1st earl of Shaftesbury, was revealed Lord William RUSSELL and Algernon SIDNEY were executed, although proof of their guilt was not definitely established.

Ryerson, Egerton (Adolphus Egerton Ryerson) (rī'ərsŭn), 1803–82, Canadian clergyman and educator, b Ontario, son of a United Empire Loyalist Entering (1825) the Methodist ministry, he was a founder (1829) and the first editor of the *Christian Guardian,* a Methodist periodical, which under his guidance achieved wide circulation His attack (1826) on the powerful Church of England clergyman, John Strachan, on the questions of the clergy reserves and ecclesiastical control of education, was the beginning of many years of political controversy, in the course of which Ryerson published a number of pamphlets In the field of education, his achievements were notable Ryerson was a founder and first president (1841) of Victoria College, Cobourg (later Victoria Univ) For 32 years (1844–76) he was superintendent of public schools in Upper Canada The school system of Ontario, which was largely of his creating, served as the model for other provincial school systems in Canada He founded and edited (1848–76) the *Journal of Education* and wrote *The Loyalists of America* (1880) and a history of Canadian Methodism (1882) See biographies by Nathanael Burwash (rev ed , 1926) and C B Sissons (Vol I, 1937, Vol. II, 1948), J H Putnam, *Egerton Ryerson and Education in Upper Canada* (1912)

Rykov, Aleksey Ivanovich (ălyĭksyā' ēvä'nuvĭch rē'kôf), 1881–1938, Russian revolutionist One of Lenin's chief lieutenants, he became commissar for the interior after the October Revolution of 1917 On Lenin's death (1924) he supported Stalin against Trotsky and became chairman of the council of commissars (i e , premier of the USSR), a post which he occupied until 1930, when he was accused of "rightist deviation," because of his opposition to Stalin's drastic collectivization program He recanted in 1931 and was given cabinet posts of secondary importance In 1936 he was implicated in testimony, given in the party purge trials, which linked him with the murder of KIROV in 1964 and with a Trotsky-inspired plot to assassinate Stalin He pleaded guilty in the public treason trial of 1938 and was executed.

Ryks Museum: see RIJKS MUSEUM

Rymer, Thomas (rī'mur), 1641–1713, English critic and historiographer, educated at Cambridge He was called to the bar in 1673 but turned his efforts to literature, especially drama He was fanatically hostile in his criticism of contemporary dramatists in his treatise *The Tragedies of the Last Age* (1677), and in *A Short View of Tragedy* (1692) he labeled Shakspere's *Othello* "a bloody farce without salt or savour " Made historiographer royal in 1692, Rymer began (1693) to edit a work bringing together all public documents showing relations between England and other nations from 1101 to 1654 This work, called *Foedera* (1704–35), was modeled after Leibniz's *Codex juris gentium diplomaticus,* the last 5 of the 20 volumes were edited by Robert Sanderson See preface to T. D Hardy's *Syllabus of Rymer's "Foedera"* (1869–85).

Ryswick, Netherlands see RIJSWIJK

Ryswick, Treaty of, 1697, the pact which ended the War of the GRAND ALLIANCE It was a setback for LOUIS XIV, who kept Strasbourg but lost most other conquests made after 1679 Commercial concessions were granted the Dutch, the independence of Savoy was recognized, and William III was acknowledged king of England

Ryukyu Islands (rēōō'kyōō), Jap *Ruykyu-retto* or *Nansei-shoto* [southwest group], archipelago (1,803 sq mi , 1940 pop 759,683), extreme W Pacific, between Formosa and Kyushu island, Japan The chain, 650 mi long, separates the East China Sea on the west from the Philippine Sea on the east and has three principal groups—Amami-gunto in the north and the Okinawa Islands and Sakishima Islands in the south The major islands are mountainous and of volcanic origin, the smaller ones relatively flat and of coral formation. They are frequently visited by typhoons Semitropical products—sugar cane, sweet potatoes, pineapples, and bananas—are grown, and there is some industry on OKINAWA The inhabitants, who speak a language said to be related to Ainu, had an ancient independent kingdom with its capital at Shuri on Okinawa The Chinese invaded it in the 7th cent. and began to exact tribute in the 14th cent. In the 17th cent the Japanese prince of Satsuma invaded the islands, which henceforth paid tribute to both China and Japan until China relinquished (1874) all claims to Japan In 1879 the Ryukyus were incorporated into the Japanese empire Okinawa and the Sakishima Islands were in Okinawa prefecture, Amami-gunto was in Kagoshima prefecture After the Second World War, in which a crucial battle was won by the Americans on Okinawa, the island groups were placed (Aug , 1945) under a U S military governor at NAHA. Other forms of the name are Lu-chu, Loo-choo, Lu-kiu, Lu-ch'iu, and Riukiu

Rzeszow, Pol *Rzeszów* (zhĕ'shōōf), city (pop 29,407), SE Poland It is a commercial center and the seat of a metal industry It passed to Austria in 1772 and reverted to Poland in 1919 Rzeszow prov (c 7,000 sq mi , pop 1,535,400) mostly an arable lowland in the north, rises to the Carpathians in the south Its mineral deposits include oil, iron, manganese, copper, and salt. The main cities besides Rzeszow are Przemysl and Jaroslaw.

Rzhev (urzhĕf'), city (pop 54,081), central RSFSR, WNW of Moscow and on the Volga It is a railroad center and has hemp spinning mills, oil presses, sawmills, and various other industries. Dating from the 11th cent , Rzhev was a medieval trade center on the Novgorod-Kiev route. In the Second World War it was held (1941–43) by the Germans and suffered virtual destruction.

S

S, 19th letter of the ALPHABET, representing the common sibilant, voiceless in *spur,* voiced in *rose.* It answers to the Greek letter called sigma Formerly s, unless it was final, looked like an f which had lost the part of the bar lying right of the stem In chemistry S is the symbol of the element SULPHUR

Sá, Mem de (mān' dŭ sä'), d 1572, Portuguese colonial official, governor general of Brazil (1557–1572) He drove the French away from Guanabara Bay in 1567 and then established the city of Rio de Janeiro at its present site. He cooperated with Father Manuel de Nobrega in continuing the foundation work of Tomé de Souza.

Saadi. see SADI.

Saadia ben Joseph al-Fayumi (sä'dēä, älfīōō'mē), 892?–942, Jewish scholar, b Egypt. He was the head of the great Jewish academy at Sura, Babylonia, which under his leadership became the highest seat of learning among the Jews His *Book of Language* laid the foundation of Hebrew grammar; he also wrote a Hebrew dictionary, called the *Agron,* and made an Arabic translation of the Old Testament which became the standard version for all Arabic-speaking Jews and exerted an important influence upon Mohammedans as well His great philosophical work, *The Book of Beliefs and Opinions,* was translated by Samuel Rosenblatt (1948). See David Druck, *Saadya Gaon* (1942)

Saale (zä'lə), river, c 270 mi long, E central Germany. It rises in the Fichtelgebirge of NE Bavaria and flows generally N through Thuringia and the former Saxony prov of Prussia past Hof, Saalfeld, Rudolstadt, Jena, Naumburg, Merseburg, and Halle to join the Elbe SE of Magdeburg Its course is flanked by numerous medieval castles It is also called Saxonian or Thuringian Saale, to distinguish it from another river, the Franconian Saale, 84 mi. long, which flows generally SW from the Thuringian Forest through N Bavaria, past Bad Kissingen, to join the Main at Gemünden

Saalfeld (zälˈfĕlt), town (pop 26,387), Thuringia, central Germany, on the Thuringian Saale and S of **Weimar.** It has numerous and diverse manufactures, notably of machine tools, electrical appliances, dyes, paper, chocolate, and textiles, and it was a silver-mining center in the 16th cent In 1826 the duke of SAXE-COBURG exchanged Saalfeld for Gotha with the duke of Saxe-Meiningen Saalfeld has a 14th-century church, a 16th-century town hall, a 13th-century Franciscan monastery (now a museum), and a 13th-century castle. Here in 1806 in the Napoleonic Wars the French defeated the Prussians

Saar, Ferdinand von (fĕr'dēnänt fŭn zär'), 1833–1906, Austrian novelist, poet, and dramatist His *Wiener Elegien* [Viennese elegies] (1893) were little read and his plays were unimportant, but his short stories influenced later writers, among them Schnitzler Saar's works include the collection of stories *Novellen aus Österreich* [tales from Austria] (1897). His short story "Die Steinklopfer" was translated into English as *The Stonebreakers* (1907).

Saar, region. see SAAR TERRITORY.

Saar (zär), Fr. *Sarre* (sär), river, c 150 mi long, ing in the Vosges mts in E France. It flows N/

Sarrebourg, Sarre-Union, and Sarreguemines. It then forms part of the border between France and the Saar Territory, continues NW past Saarbrücken and Saarlouis, and after entering Germany flows N to join the Moselle SW of Trier. It is paralleled in France by a canal used for shipping the Saar coal

Saarbrücken (zär"brü'kun), Fr *Sarrebruck* (sărubrük') city (pop 89,700), capital of the Saar Territory, on the Saar. The largest industrial center of the Saar coal basin, it manufactures steel and machinery Saarbrücken was chartered in 1321 and was the capital of the counts of Nassau-Saarbrücken, a dependency of the Walramian counts of Nassau, from 1381 until its occupation (1793) by the French The Congress of Vienna awarded (1815) it to Prussia From 1919 to 1935 and again after 1945 Saarbrücken was included in the Saar Territory The city was heavily damaged in the Second World War, it was captured by American troops in March, 1945

Saare (sä'rĕ), Estonian *Saaremaa* (sä'rĕmä), Ger *Oesel* or *Ösel* (both ö'zul), Swed *Ösel* (ö'sul), island (1,046 sq. mi.), off the mainland of Estonia in the Baltic Sea, across the entrance to the Gulf of Riga It is irregular in shape, has a level terrain, and is used mainly for dairy farming and stock raising Kuressaare (pop 4,478) is the main town and port The island was ruled by the Livonian Knights until 1560, when it passed to Denmark, which in turn ceded it (1645) to Sweden From 1710 until 1917 it was under Russian rule

Saargemünd, France see SARREGUEMINES

Saarinen, Eliel (ä'lēĕl sä'rĭnĕn), 1873–, Finnish city planner and architect, resident in the United States since 1923 In Finland, where he was a member (1896–1907) of the firm of Herman Gesellius & Armas Lindgren and then practiced alone, he designed the National Museum and the railway station in Helsinki In America he has designed many of the performance halls at the Berkshire Music Center, and he took second prize in the Chicago *Tribune* Tower Contest At the Cranbrook Foundation he not only designed several of the buildings, but also heads the Academy of Art He is the author of *The City Its Growth, Its Decay, Its Future* (1943) and *Search for Form* (1948) See study by Albert Christ-Janer (1948)

Saarlautern, Saar Territory see SAARLOUIS

Saarlouis (zär"lōō'ē), Fr *Sarrelouis* (sarlwē'), city (pop 26,088), Saar Territory, on the Saar and near the French border. It has a steel industry and various manufactures Founded (1680) by Louis XIV, for whom it is named, it was fortified by Vauban and became a major French frontier fortress The Congress of Vienna awarded it (1815) to Prussia A part of the Saar Territory from 1919 to 1935, it was renamed Saarlautern (zär"lou'turn) after its reunion in 1935 with Germany, it reverted to its former name in 1945, when the Saar Territory was once more set up Marshal Ney was born here

Saar Territory or **Saar,** Fr *Sarre,* region (988 sq mi., pop 904,040), W Europe, between Germany on the north and east and France on the west and south As of 1950 the Saar was an autonomous territory in customs union with France, its final political status remained undetermined until the conclusion of a final peace treaty between Germany and the Allies of the Second World War SAARBRÜCKEN (the capital), Neunkirchen, and Saarlouis are the chief cities A hilly, partly wooded region, the territory is drained by the Saar river It is important for its vast coal mines, on which its iron and steel industry is based Iron ore is imported from the neighboring Lorraine basin, in France Agriculture does not cover the local food requirements The territory is covered by a dense rail net and is connected by canals with the Rhine and Rhone The population is German-speaking and largely Catholic The Saar Territory possessed little historic unity before the 20th cent Until 1797, when it was ceded to France by the Treaty of Campo Formio, it was divided among France, which held Saarlouis and the adjacent territory, the county of Saarbrücken (a dependency of Nassau), and the palatine duchy of Zweibrücken The Treaty of Paris of 1815 divided the territory between Bavaria (i.e., the Bavarian or Rhenish Palatinate) and Prussia. The Saar Territory as a political unit came into existence when the Treaty of Versailles (1919) made it an autonomous territory, administered by France under League of Nations supervision, pending a plebiscite to be held in 1935 to determine its final status As compensation for the destruction of the French coal mines in the Nord and Pas-de-Calais depts during the First World War, France received the right, for 15 years, to exploit the Saar coal fields However, though Saar coal constituted—and again constitutes—an important element in the French steel industry, it is inferior for coking purposes to the coal of N France and of the Ruhr basin, and it is by no means sufficient in quantity The Saar Territory was the only area where the League of Nations maintained an international police force The plebiscite, though preceded by an intense campaign, was carried out in an exemplary manner, never approached before or since in similar cases. More than 90 percent of the votes cast favored the reunion of the Saar with Germany, a small group voted for the continuation of the status quo under the League of Nations; some 2,000 votes favored union with France. The Saar accordingly was restored to Germany, where it formed the Saarland prov., in 1940 Hitler united it with Lorraine, annexed from France, into the province of Westmark At the close of the Second World War the Saar was the scene of heavy fighting (1944–45), and a large part of its population was evacuated It was placed under French military occupation in 1945 and obtained an autonomous government. In a referendum (1947) the population voted for economic union with France, which gave it considerable economic advantage over the rest of Germany, and on Jan 1, 1948, the customs union went into effect A pact (1950) between France and the Saar gave France a 50-year lease on the Saar coal mines The Saar Territory entered (1950) the Council of Europe as a separate entity See M. T. Florinsky, *The Saar Struggle* (1934)

Saavedra, Ángel de, duque de Rivas: see RIVAS, ÁNGEL DE SAAVEDRA, DUQUE DE

Saavedra, Hernandarias de. see ARIAS DE SAAVEDRA, HERNANDO

Saavedra Lamas, Carlos (kär'lōs sävä'dhra la'mäs), 1880–, Argentine statesman, foreign minister (1932–38) An exponent of Pan-Americanism and the League of Nations (he was president of the Assembly in 1936), he presided over several international conferences He drafted (1932) an anti-war pact, adopted (1933–34) by many American republics, and was active in bringing an end to the war over the CHACO Saavedra Lamas received the 1936 Nobel Peace Prize

Saavedra y Fajardo, Diego de (dēä'gō dā sävä'dhra ē fahär'dhō), 1584–1648, Spanish writer and diplomat in the reign of Philip IV His chief works are *Empresas políticas* [political maxims] (1640), considered one of the outstanding political treatises of the 17th cent., and *República literaria* [the literary republic] (1655), a work of literary and critical importance

Saaz, Czechoslovakia see ZATEC.

Saba see SHEBA

Saba (sä'bu), island (5 sq mi., 1948 pop c.1,100), Dutch West Indies, one of the NW Leeward Islands It belongs to the Dutch Antilles (formerly Curaçao territory) The rugged island is actually a single volcanic cone, rising to 2,851 ft Saba is not easily accessible because of its steep cliffs and lack of sheltered anchorages Bottom is the chief settlement Fishing and boatbuilding are the principal occupations, lacework is exported The Dutch first settled here in the early 17th cent

Sabac or **Shabac,** Serbo-Croatian *Šabac* (sha'bats), city (pop 18,238), Serbia, Yugoslavia, on the Sava and W of Belgrade It is an agricultural center Since its foundation (1470) by Sultan Mohammed II as a frontier fortress it has frequently changed hands

Sabadell (säbädhĕl'), city (pop 45,931), Barcelona prov., NE Spain, in Catalonia It is an industrial center manufacturing cotton and wool textiles and paper

Sabaeans see SHEBA

Sabalan or **Savalan** (sä"vulän'), mountain, c 15,800 ft high, NW Iran, near Ardebil There are warm springs Zoroaster is supposed to have written the *Avesta* here

Sabaoth (să'bāŏth, -ŏth, săbā'uth) [Heb., =armies], Hebrew term used in the New Testament (Romans 9 29, James 5 4) and in Christian hymns (e.g., SANCTUS and *Te Deum*) in the title of God translated in the Old Testament "Lord of Hosts" (Isa 1 9)

Sabatier, Louis Auguste (lwē' ōgüst' sȧbētyā'), 1839–1901, French Protestant theologian He was professor (1867–72) of reformed dogmatics at Strasbourg, and from 1877 until his death he was a member of the Protestant theological faculty of the Sorbonne, Paris Sabatier became noted as a liberal theologian, stressing the subjective, symbolic nature of religious knowledge and the need of continual revision of religious dogmas in the light of personal experience Among English translations of his works are *The Apostle Paul* (1891), *Religion and Modern Culture* (1897), and *Religions of Authority and the Religion of the Spirit* (1904)

Sabatier, Paul (pôl), 1854–1941, French chemist He assisted P E M Berthelot at the Collège de France and from 1882 was professor of chemistry and from 1905 dean of the faculty of science at the Univ of Toulouse Noted for his researches in catalysis, he shared (with Victor Grignard) the 1912 Nobel Prize in Chemistry for his method of hydrogenating organic compounds in the presence of finely divided metals He wrote *Catalysis in Organic Chemistry* (1913, Eng tr., 1922)

Sabatier, Paul, 1858–1928, French Protestant clergyman and historian, brother of Louis Auguste Sabatier Ill-health required his withdrawal from the active ministry, and he went to Assisi, Italy, here he studied the life of St Francis, and his *Life of St Francis of Assisi* (1893) was widely translated and has passed through a number of editions. In 1919 Sabatier became professor of Protestant theology at Strasbourg.

Sabbatai Zevi (säbätī' zä'vē), 1626–76, Jewish mystic, founder of the Sabbatean sect, b. Smyrna In 1648 he proclaimed himself the Messiah, named the year 1666 as the millennium, and gathered a host of followers In 1666 he attempted to land in Constantinople, was captured, and to escape death embraced Islam Nevertheless, the influence of the Sabbatean movement survived for a long time

Sabbatarians, persons, usually Protestants, who insist upon strict observance of Sunday as the SABBATH A Sabbatarian organization is the Lord's Day Alliance of the United States The term is also applied to those who observe the seventh day (Saturday) as the Sabbath, such as certain ADVENTISTS and the SEVENTH-DAY BAPTISTS

Sabbath [Heb., =repose], last day of the week (Saturday), observed as a rest day by the Jews since time immemorial In the biblical account of creation (Gen 1) the seventh day is set as a Sabbath to mark God's rest after his work In the Hebrew Law, starting with the Ten Commandments, the rules for the Sabbath are carefully detailed The early Christians had a weekly celebration of the liturgy on the first day (Sunday) observing the Resurrection Hence, in the Christian tradition, which survives among Roman Catholics and Orthodox, Sunday is a liturgical feast, and most penitential rules are relaxed then Protestants, applying the idea of the Hebrew Sabbath to Sunday, forbade all but pious activity then The term "Lord's Day" was used, especially by Sabbatarians, to promote such observance (see also BLUE LAWS) Some sects (e.g., SEVENTH-DAY BAPTISTS) replaced Sunday with Saturday In Islam, Friday is the weekly day of public prayer

Sabeans see SHEBA

Sabelli (subĕ'lī), people of ancient Italy who spoke Oscan They were a loose group and seemed to have had little or no political unity Oscan-speaking tribes had expanded over central Italy and in the 5th cent B C seem to have taken ancient Campania and Lucania The Samnites were probably Sabelli, and the Sabines may have been So-called Old Sabellic dialects were not Oscan but other non-Etruscan dialects

Sabellius, fl 215, Christian priest and theologian, b probably Libya or Egypt He went to Rome, became the leader of those who accepted the doctrine of modalistic MONARCHIANISM, and was excommunicated by Pope St Calixtus I in 220 Opposing the orthodox teaching of "essential Trinity," Sabellius advanced the doctrine of the "economic Trinity" God, he held, was one indivisible substance, but with three fundamental activities or modes, appearing successively as the Father (the creator and lawgiver), as the Son (the redeemer), and as the Holy Spirit (the maker of life and the divine presence within men) The term **Sabellianism** later was used to include all sorts of speculative ideas which had become attached to the original ideas of Sabellius and his followers In the East, all monarchians came to be labeled Sabellians

Sabetha (subĕ'thu), city (pop 2,241), NE Kansas, near the Nebr line N of Topeka, inc 1874 It is the trading point of a farm area

Sabians see MANDAEANS

Sabin, Florence Rena (sā'bĭn), 1871–, American anatomist, b Central City, Colo, M D Johns Hopkins, 1900 She was assistant and professor at Johns Hopkins (1902–25), was a member of the Rockefeller Institute (1925–38), and was elected (1925) to the National Academy of Sciences Her special studies were on the lymphatic system and the brain and on tuberculosis and blood diseases

Sabin, Joseph (sā'bĭn), 1821–81, American bibliographer, b England He came to the United States in 1848 and established himself as a dealer in rare books in New York and Philadelphia He compiled the *American Bibliophilist* (1869–75), *Bibliography of Bibliography* (1877), and *Bibliotheca Americana,* better known as *A Dictionary of Books Relating to America* (begun in 1868, after his death continued by others to 1892)

Sabina (subĭ'nu), village (pop. 1,525), SW Ohio, NE of Cincinnati It is a farm trade center, and small tools and canned goods are made At the Methodist Protestant State Conference Grounds here annual meetings have been held since 1892

Sabinal (sā'bĭnăl'), town (pop 1,768), SW Texas, near the Sabinal river and W of San Antonio, settled before 1870, inc 1906 The ranches here produce beef, wool, and mohair

Sabine (sā"bēn'), river rising on the prairies NE of Dallas, Texas, and flowing east and southeast across a corner of Texas, then turning south to form the Texas-La line Near its mouth it broadens to make Sabine Lake (c 17 mi long and 7 mi wide), then goes through Sabine Pass to the Gulf of Mexico. Port Arthur, Texas, is on Sabine Lake, and Orange, Texas, is on the river The Sabine-Neches Canal leads to Beaumont, Texas

Sabine Crossroads (sā"bēn'), locality, De Soto parish, NW La., near Mansfield Here in the Civil War, Union forces under N P BANKS, advancing on Shreveport, were defeated and driven back by Gen Richard Taylor, April 8, 1864

Sabines (sā'bĭnz), ancient people of central Italy, centered principally in the Sabine Hills, NE of

Rome. Not much dependable information on them can be gathered from the wealth of contradictory legends among ancient writers. They were probably Oscan-speaking and therefore may be classed among the Sabelli From the earliest days there was a Sabine element in Rome (the story of the rape of the Sabine women to supply wives for the womanless followers of Romulus is a fictional explanation of this fact), Roman religion is said to have had a strong Sabine tinge, and one theory has it that the patricians were descended from Sabines, the plebeians from Latins Rome was involved in numerous wars with the inland Sabines, and Horatius is supposed to have defeated them in 499 B C and M Curius Dentatus is said to have conquered them in 290 B C The Sabines became full Roman citizens a little later The Samnites were possibly a branch of the Sabines

Sabiyah (sä'bēū), city (pop c 10,000), Asir, Saudi Arabia, c 40 mi inland There is extensive agriculture in the vicinity The name also appears as Sabiya and as Sabya

Sablé, Madeleine de Souvré, marquise de (mädulĕn' du sōōvrā', markēz' du säblā'), 1599–1678, French woman of letters, whose salon was in vogue after the decline of the Hôtel de Rambouillet Its circle drew upon the later Rambouillet group and included the duchesse de LONGUEVILLE, Mme de LA FAYETTE, Philippe I, duc d' ORLÉANS, Armand, prince de CONTI, SAINT-ÉVREMOND, and LA ROCHEFOUCAULD Mme de Sablé's maxims have been published

sable (sā'bul), carnivorous mammal (*Martes zibellina*), found in N Europe and parts of N Asia. Its thick soft fur is generally brown or black mixed with gray and brown The dark Siberian sable is the most valuable Unrestricted hunting for several centuries exterminated the sable in some regions and dangerously reduced it in others Protection is now afforded in parts of Russia, and it is raised on farms The American or Hudson Bay sable is the American marten

Sable, Cape, S Fla, southernmost extremity of the U S mainland

Sable Island, low, sandy island, 30 mi long and 2 mi wide, off Nova Scotia, ESE of Halifax Known as the "graveyard of the Atlantic," it is the exposed part of a sand shoal which stretches northeast-southwest for over 100 mi The island was known to mariners in the early 16th cent, and a small French semimilitary colony was here from 1598 to 1603 It has been the scene of many shipwrecks and a major hazard to navigation There are a lighthouse, a lifesaving station, and a radio beacon on the island A second lighthouse was dismantled in 1948 The island is a breeding place for seals, which are protected by the government See G A England, **Isle of Romance** (1929)

Sables-d'Olonne, Les (lā sa"blu-dôlôn'), town (pop 17,013), Vendée dept, on the Atlantic coast An old fishing port, it is also a favorite beach resort and is famous for its sea food

sabotage (să"butazh') [Fr, *sabot*=wooden shoe, hence to work clumsily], form of DIRECT ACTION by workers against employers through obstruction of work and lowering of plant efficiency Methods range from peaceful slowing of production—in Great Britain known as ca'canny (kă''kā'nē, kô'')—to destruction of property Sabotage was adopted in 1897 as general strategy by organized French workers and later by syndicalists (see SYNDICALISM) and the I W W It has been condemned by Communists and Socialists as counterrevolutionary The term has also been used, notably by Thorstein Veblen, to refer to limitation of output by businessmen to enhance profits by maintaining scarcity of goods In wartime it connotes nonmilitary enemy activity, especially the physical damage of vital industry and matériel See Émile Pouget, *Le Sabotage* (1910, Eng tr, 1913), S B Mathewson, *Restriction of Output among Unorganized Workers* (1931)

Sabraton (sā'brutŏn), town (pop 1,810), N W Va, near Morgantown, in a mining area, inc 1922 Sheet steel, tin plate, and glass are produced

Sabrina, see SEVERN, river

Sabta or **Sabtah** (both sä'bu), son of Cush His descendants occupied some region on the coast of Arabia Gen 10 7, 1 Chron 1 9

Sabtecha or **Sabtechah** (both sä'bu'tēku, sä'bu'tē-), son of Cush His descendants apparently occupied regions near the Persian Gulf Gen 10.7, 1 Chron 1 9

Sabutai: see SUBUTAI

Sabzawar, Sabzevar (both sä'bzuvär'), or **Sebzewar** (sĕb-), town (1947 estimated pop 28,151), NE Iran, W of Meshed An ancient town noted for copper mining, it was ruined by the Mongols.

Sacajawea (să"kujuwē'u, sukă"-), **Sacagawea** (-guwē'u), or **Sakakawea** (-kuwē'u), fl 1804–6, Indian woman guide on the LEWIS AND CLARK EXPEDITION She is generally called in English the Bird Woman, though this translation has been challenged, and there has been much dispute about the form of her Indian name She belonged to a Western tribe (probably the Shoshone), had been captured and brought to the Missouri, and finally was traded to Toussaint Charbonneau, whose wife she became. He was interpreter for the expedition. She had a patient and heroic bearing in the hardships of the journey, and she proved invaluable as a guide and interpreter when Lewis and Clark reached the upper Missouri and the mountains from which she had come She and Charbonneau on the return journey left (1806) the expedition at the Mandan villages Concerning her later history there is great conflict She may have died on the upper Missouri in 1812, or she may have died on the Wind River Reservation in Wyoming in 1884 See notes by Stella M Drumm in the edition of John C Luttig, *Journal of a Fur-trading Expedition* (1920), Grace R. Hebard, *Sacajawea* (1933)

Sac and Fox Indians, North American Indian tribes of Algonquian linguistic stock For a long period they dwelt around Saginaw Bay in E Michigan, but in the early 17th cent they were driven from this area by the allied Ottawa and Neutral groups The Sac (also commonly written Sauk) and the Fox fled N across the Strait of Mackinac, then S into present Wisconsin Thus in 1667, when visited by Father Allouez, they were settled around Green Bay in NE Wisconsin They then numbered some 6,500 Warlike and savage, they were involved in many wars against the Sioux, the Illinois, the Ojibwa, and the French The French, harassed by the Fox on the Fox-Wisconsin waterway, waged a war of extermination, by 1730 they had reduced the Fox to a mere handful The remnants of the tribe incorporated with their longstanding allies, the Sac, and from that time the two tribes have been known as the Sac and Fox After the war with the Illinois (c 1765), the Sac and Fox moved into Illinois territory In 1804 a fraudulent treaty was extracted from them, and they were told to move W of the Mississippi Most of the tribe refused to go, but by 1831 they were induced to cross the river into Iowa By 1832, however, they were back on the east side of the river, attacking frontier settlements This started the BLACK HAWK WAR After that war they moved west, eventually settling on reservations in Iowa, Kansas, and Oklahoma Today they number some 1,600 Sac and Fox culture was of the Eastern Woodlands area with some intrusive Plains area traits. They are also called the Sauk and Fox

Sacar (sā'kur) [Heb, =hire] **1** Father of Ahiam. 1 Chron 11 35 Sharar 2 Sam 23 *33*. **2** Son of Obed-edom 1 Chron 26 4

saccharin (să'kurĭn), white, crystalline substance of great sweetness When pure it is held to be some 550 times sweeter than cane sugar, but the commercial product is usually much less (about 300 or more times) Saccharin is a coal-tar product prepared from toluene, it is a compound of carbon, hydrogen, oxygen, sulphur, and nitrogen, is unrelated chemically to sugar, and has no nutritive value Saccharin was discovered by Ira Remsen and C Fahlberg (1879) It is only slightly soluble in water, but in the form of the sodium salt it is quite soluble and is used as sweetening in foods for those suffering from diabetes and certain other conditions

Sacchetti, Franco (frăng'kō săk-kĕt'tē), c 1330–1400, Italian merchant, statesman, and novelist He held a number of public offices in Florence and wrote lyric verse and a collection of tales, simply and tersely told, as well as moral discourses See Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

Sacchini, Antonio Maria Gasparo (antō'nyō marē'a gäsparō săk-kē'nē), 1734–86, Italian operatic composer of the Neapolitan school He wrote about 50 operas, *Alessandro nell' Indie* (Venice, 1768) and *Œdipe à Colone* (1786) are the most famous He was active in England and Paris as well as Italy and composed chamber music and oratorios

Sacchis, Giovanni Antonio de see PORDENONE

Sac City, city (pop 3,165), co seat of Sac co, W central Iowa, on the Raccoon river and between Sioux City and Fort Dodge, inc 1856 It is a trade and processing center in a farm, livestock, and dairy area Indian mounds are near by

Sacco-Vanzetti Case (săk' kō-vänzĕt' tē) On April 15, 1920, a paymaster for a shoe company in South Braintree, Mass, and his guard were shot and killed by two men who escaped with the money taken from the company (over $15,000) in an automobile containing three other men It was thought from reports of witnesses to the crime that the murderers were Italians Because Nicola Sacco and Bartolomeo Vanzetti had gone with two other Italians to a garage to claim a car which local police had connected with the crime, they were arrested Both men were anarchists and were fearing deportation by the Dept of Justice Both had evaded the army draft On their arrest they made false statements, both carried firearms, neither, however, had a criminal record, nor was there any evidence of their having had any of the money Indicted by the grand jury, they were tried (May–July, 1921) in Dedham, Mass Many then believed that the conviction was unwarranted and had been influenced by the reputation of the accused as radicals when antiradical sentiment was running high Later much of the evidence against them was discredited Demands for a new trial were denied, and there was a great public outcry In 1927 when the Massachusetts supreme court upheld the denial of a new trial, protest meetings were held and appeals were made to Gov Alvan T Fuller He postponed the execution and appointed a committee of three—President A Lawrence Lowell of Harvard, President Samuel W. Stratton of the Massachusetts Institute of Technology, and Judge Robert Grant—to advise him On Aug 3 the governor announced that the judicial procedure in the trial had been correct Sacco and Vanzetti were executed on Aug 22, 1927 They were—and continue to be—widely regarded as martyrs The case was the subject of Maxwell Anderson's play *Gods of the Lightning* and is reflected in his *Winterset* It is also the subject of Upton Sinclair's novel *Boston* and of sonnets by Edna St Vincent Millay See Felix Frankfurter, *The Case of Sacco and Vanzetti* (1927), Eugene Lyons, *The Life and Death of Sacco and Vanzetti* (1927), Michael A Musmanno, *After Twelve Years* (1939), G L Joughin and Edmund M Morgan, *The Legacy of Sacco and Vanzetti* (1948)

Sacheverell, Henry (sushĕ'vurul), 1674?–1724, English clergyman, the center of a religio-political incident in the reign of Queen Anne In two sermons (1709) Dr Sacheverell attacked the existing Whig government, lashing out especially against its toleration of dissenters He was charged with seditious libel, tried, convicted, and sentenced (1710) to a three-year suspension from preaching The trial created a furor, and the light sentence made Sacheverell the victor in the eyes of the public The Whigs, weakened by the unpopularity of the War of the Spanish Succession, were humiliated by the trial See A T Scudi, *The Sacheverell Affair* (1939)

Sachs, Hans (häns' zaks'), 1494–1576, German meistersinger, leading poet of the school at Nuremberg A shoemaker who became master of his guild, he was self-educated and, imitated in the art of the meistersinger by a weaver, wrote by his own account 4,725 master songs for the Nuremberg school, 1,700 fables and tales in verse, and 208 plays His poem *The Nightingale of Wittenberg* was written in honor of Luther Among his best pieces are the *Schwänke* or brief verse anecdotes, his Shrovetide plays are a delightful and informative picture of 16th-century German life Among his works are *Saint Peter mit der Gans* [St Peter with the goat] and *Die ungleichen Kinder Eva* [the dissimilar children of Eve] Sachs is one of the principal characters in Wagner's opera *Die Meistersinger*

Sachs, Julius von (yōōlyōōs fŭn zaks'), 1832–97, German botanist A professor at the Univ of Wurzburg from 1868, he was a founder of experimental plant physiology He demonstrated the importance of transpiration in plants and the role of chlorophyll, his researches on plant metabolism were a conspicuous contribution to botanical knowledge He was the teacher of many eminent European botanists Among his works are the famous *Textbook of Botany* (1868, Eng tr, 1882), which first brought together the results of the work of various branches of modern botany, *Lectures on Physiology* (1882, Eng tr, 1887), and *History of Botany* (1875, Eng tr, 1890)

Sachsen (zak'sun), German form for SAXONY The name appears, in English, also under its French form, Saxe, as in SAXE-ALTENBURG, SAXE-COBURG-GOTHA, SAXE-WEIMAR, and in personal names, as in Maurice, comte de SAXE

Sac Indians see SAC AND FOX INDIANS

Sackets Harbor, village (pop 1,962), N N Y, at the eastern end of Lake Ontario W of Watertown, settled c 1801, inc 1814 An important naval base in the War of 1812, it was successfully defended against British attacks The village was the starting point in 1813 of Gen James Wilkinson's unsuccessful invasion of Canada Zebulon M Pike is buried in the military cemetery here

Sackville, Charles, 6th **earl of Dorset,** 1638–1706, English poet and courtier in favor with Charles II and William of Orange He wrote witty epigrams, short pieces, and songs of which the best known is *To All You Ladies Now at Land* Dryden dedicated to him his *Essay of Dramatick Poesy*

Sackville, George Sackville Germain, 1st **Viscount** see GERMAIN, GEORGE SACKVILLE

Sackville, Lionel Sackville-West, 2d **Baron,** 1827–1908, English diplomat, ambassador to the United States (1881–88) He entered public service (1845) as an assistant to the earl of Aberdeen, who was then foreign minister, and later served in diplomatic posts at Lisbon, Naples, Stuttgart, Berlin, Turin, Madrid, and Buenos Aires. From 1868 to 1872 he was minister plenipotentiary to France As ambassador to Washington he worked to settle the Bering Sea Fur-Seal Controversy and the North Atlantic Fisheries Controversy He was constantly troubled by Irish-American disturbances growing out of Fenian activity In 1888 his unguarded reply to a letter purporting to come from a British subject naturalized in the United States implied that Grover Cleveland's reelection would be to the British interest The letter was publicized to further the Republican campaign for Benjamin Harrison Sackville's recall was asked by President Cleveland.

Sackville, Thomas, 1st **earl of Dorset,** 1536–1608, English statesman and poet A barrister of the Inner Temple, Sackville entered Parliament in 1558, gained favor with Queen Elizabeth, and was created Baron Buckhurst in 1567 He was sent on several diplomatic missions to France and served as a commissioner of state trials In 1586 he conveyed to Mary Queen of Scots her sentence of death Elizabeth was angered at his conduct in a mission (1587) to the Low Countries, but he soon regained her favor and rose rapidly in rank He was made treasurer (1599) and lord high steward (1601) After the accession of James I, he was appointed lord treasurer for life and created earl of Dorset (1604) Sackville is important in English literature as the author, with Thomas Norton, of *Gorboduc* (1562), a drama in blank verse, generally considered the earliest English tragedy His most important poems are the "Induction" and the "Complaint of the Duke of Buckingham," which were included in the second edition (1563) of *The Mirror for Magistrates,* a collection of verse tragedies in the form of dramatic monologues Sackville's contributions give the work most of its literary value His works were edited by Reginald Sackville-West (1859)

Sackville, town (pop 2 489), SE N B , near the head of Chignecto Bay of the Bay of Fundy and SE of Moncton The early French settlers, who came in 1760, diked and reclaimed the near-by Tantramar marshes, creating fertile agricultural land There is a strawberry market here and stoves, paper boxes, and leather goods are manufactured Sackville is the seat of Mt Allison Univ (United Church, coeducational, 1858) The university owns preparatory schools for boys and girls

Sackville-West, Victoria Mary, 1892–, English poet and novelist; wife of Harold Nicolson Her volumes of verse include *The Land* (1926), *Selected Poems* (1941), and *The Garden* (1946), the best known of her novels are *The Edwardians* (1930) and *All Passion Spent* (1931) She has also written short stories, travel books, and biographical studies, including one of her home and family, *Knole and the Sackvilles* (1922), and one of her grandmother and her mother, *Pepita* (1937) She herself was the heroine of Virginia Woolf's *Orlando*

Saco (sō'kō), industrial and residential city (pop 8,631), SW Maine, at falls of the Saco opposite Biddeford, settled 1631, inc 1867 Textiles, textile machinery, and shoes are produced here A legislative and judicial "court," the first in Maine, was held here in 1640 Saco suffered Indian raids in the 17th and 18th cent It is the seat of Thornton Academy, a preparatory school, and of York Institute, which has historical and other collections

Saco, river rising in N central New Hampshire and flowing c 105 mi southeasterly into SW Maine near Fryeburg and on to the Atlantic below Biddeford

sacrament (săk'-) [Latin, =something holy, especially an oath], in Christianity, one of certain ceremonial observances instituted by Christ while he was on earth Generally, Christendom is divided into two on the belief concerning the sacraments The traditional view, held by Roman Catholics and Orthodox, counts seven sacraments—EUCHARIST, BAPTISM, CONFIRMATION, PENANCE, EXTREME UNCTION, matrimony (see MARRIAGE), and order (see ORDERS, HOLY) These are held to convey grace to the recipient by the very performance of the sacrament Most Protestant sects allow only two, the Eucharist and baptism, regarding them as being merely symbols of grace The exact Catholic teaching in the West was first delineated by PETER LOMBARD A conventional division of the seven sacraments sets apart the "sacraments of the dead," viz , baptism and penance, because they are for souls in a state of sin, the rest, "sacraments of the living," are conferred on souls in a state of grace

sacramental, in the Roman Catholic Church, aid to devotion which is not a sacrament According to the teaching, sacramentals are not founded by God but by the Church, and they do not convey grace Examples are HOLY WATER, many blessings, and the ROSARY

Sacramento (săkrŭmĕn'tō), city (pop 105,958), state capital, and co seat of Sacramento co , central Calif , on the Sacramento at its confluence with the American, founded 1848, first chartered 1849, inc as a city 1850 The city lies on a part of a Mexican land grant belonging to John A Sutter, who in 1839 began a settlement called New Helvetia and in 1840 built a fort The discovery of gold in 1848 at near-by Sutter's Mill (see COLOMA) transformed the little colony into a community of 10,000 people Sacramento was made the capital in 1854 It became the terminus (1856) of the first railroad in California and the western terminus (1860) of the PONY EXPRESS It is the shipping and rail center for a rich agricultural region and an industrial city, with large canneries, packing houses, railroad shops, and other plants. Sacramento College (junior, coeducational) is here Points of interest include the capitol building in a beautiful park, Sutter's Fort, and the Crocker Art Gallery.

Sacramento, river, c.320 **mi. long,** rising in N California near Mt Shasta and flowing generally southwest to enter the tidal reaches of Suisun Bay, an arm of San Francisco Bay. It is joined in the early reaches by the Pit (which rises in NE California and has as its tributary the McCloud) and later by the Feather and the American. Just before it enters Suisun Bay, its waters are swelled by the San Joaquin The river is at high water navigable by small steamers c 260 mi to Red Bluff The valley saw the great gold strike of 1848, and many of the cities on or near the river and its tributaries sprang up in the gold rush Sacramento is the largest This northern part of the Central Valley of California has been developed as a fertile agricultural region In recent years the CENTRAL VALLEY PROJECT has been developed to use the waters of the Sacramento with greater efficiency SHASTA DAM in the Sacramento below the mouth of the Pit, Keswick Dam a few miles downstream, and Folsom Dam on the American (begun 1948) are part of the project See Julian Dana, *The Sacramento, River of Gold* (1939)

Sacré-Cœur (săkrā-kûr'), basilica in Paris, dedicated to the Sacred Heart of Jesus It is a famous landmark atop the MONTMARTRE, from which it dominates the city Built (1875–1914) by subscriptions as a votive offering after the Franco-Prussian War, it was consecrated in 1919 after the First World War and has a patriotic as well as religious symbolic significance Designed by the architect Paul Labadie, the basilica is a huge and harmonious edifice in the Byzantine-Romanesque style Behind its tall dome rises a bell tower 276 ft high

sacrifice, element in religion found in many cultures and in diverse forms The motives are the same as those of any human gift, propitiation of wrath is a common one, another is the *ex voto* offering (made because of a promise) Biblical accounts of sacrifices begin with Cain's sacrifice of the fruit of the ground, not acceptable to God, and Abel's rightful sacrifice of the firstlings of his flock (Gen 4 2–5) The release of Abraham from the vow to sacrifice Isaac (Gen 22) is said to mark an end of human sacrifice in Hebrew tradition, but the story of Jephthah's daughter is an example of human sacrifice (Judges 11–12) The chief sacrifices of Old Testament worship were the paschal lamb (Ex 12) and the scapegoat (Lev 16 20–26), in the Temple there was a regular offering of incense also In the New Testament the symbolization of Jesus by the sacrificial lamb is frequent, and his death on the cross became the supreme sacrifice of history (Heb 8–10) In the ancient liturgies the EUCHARIST is regarded as a real continuation of this sacrifice of Calvary; hence Roman Catholics call the Mass "the holy sacrifice" *Ex voto* offerings are common in Christian tradition, e g , offerings of candles or of ships' models hung up in churches in thanksgiving The other ancient cultures of the Middle East and Europe also had religions with sacrificial rituals The Maya and the Aztec developed a peculiarly bloody and elaborate ritual of human sacrifice Human sacrifice in simpler forms (e g , cannibalism, head-hunting, killing of prisoners) is widespread

Sacsahuaman (săksăwā'mān), stronghold of the ancient Inca outside CUZCO, Peru Built in the 15th cent , Sacsahuaman is a masterpiece of stone construction The Cyclopean blocks, one of which is 38 ft long, 18 ft high, and 6 ft thick, were precisely fitted, though not of uniform size, and were brought from some distance away over rugged terrain without wheeled vehicles Fortress, military storehouse, and castle of the Inca, it was captured by the Spanish garrison besieged in CUZCO (1536–37) by MANCO CAPAC. The loss hastened the defeat of the Indians

Sacy, Antoine Isaac, Baron Silvestre de (ôtwăn' sāzăk' bărō' sĕlvĕ'strŭ dŭ săsē'), 1758–1838, French Orientalist His works on Arabic were pioneering, and he was one of the founders of modern Arabic study in France

saddle. The saddles mentioned in the Bible are believed to have been saddlecloths The ancient Greeks sometimes used saddlecloths, but they had no saddles and often rode bareback The Romans did not use a saddle until near the end of the empire That good riding is possible without a saddle is demonstrated in circuses The Indians of the Great Plains were famous horsemen, and often they rode bareback To riders accustomed to the saddle, however, its advantages are decisive Probably it developed either in France during the early Christian era or in the steppe region of Asia In Europe it came into general use in the Middle Ages The exploits of medieval knights would have been impossible without it Modern saddles include the packsaddle, to which the load of a pack animal is secured, the camel saddle, the howdah used by riders of elephants, and the saddle used by riders of horses There are two main types of horse saddles, the Hungarian and the Moorish. The Moorish saddle, represented by the cowboy's saddle, has a horn, the Hungarian saddle, represented by the English saddle, the McClellan saddle, and the racing saddle, has no horn The English saddle is padded, and the stirrup is hung farther forward than on the cowboy's saddle or the McClellan saddle, neither of which is padded. For constant use, the hard saddle is believed in America to be better for both the horse and the rider The padded saddle has advantages in brief and occasional rides The horn of the cowboy's saddle is essential in using the lasso For holding this saddle in place under the strain of the lasso, it has two strong girths, each tightened by a cinch strap See also RIDING and STIRRUP

Sadducees (săd'jŏosēz, săd'dyŏŏ-), sect of Jews of the time of Jesus It was drawn largely from the upper classes, especially of the city The Sadducees accepted only the five books of the Law and rejected all they thought was not taught therein, e.g , immortality and the resurrection They also denied the existence of demons and angels They were a smaller group than their enemies the Pharisees, and they were devoted to the political status quo The Sadducees were rigorous upholders of all the prescriptions of the Law

Sade, Donatien Alphonse François, comte de (dônăsyĕ' älfôs' frănswä' kôt' dŭ säd'), 1740–1814, French soldier, libertine, and author of licentious novels, known as the marquis de Sade He fought in the Seven Years War, but was imprisoned for his scandalous conduct Thereafter, he spent much of his time under arrest in the Bastille, the dungeon at Vincennes, and at Charenton, for the publication of such obscenities as *Justine, ou, Les Malheurs de la vertu* (1791) and its sequel *Histoire de Juliette, ou, Les Prospérités du vice* (6 vols , 1797) His name has been given the form of perversion known as sadism See Otto Flake, *Marquis de Sade* (1931)

Sá de Miranda, Francisco de (frănsĕsh'kō dŭ sä' dŭ mĕrän'da), d 1558, Portuguese writer A noble, he was known at the Portuguese court He lived for a time in Italy, and there he came into contact with the literature of the Italian Renaissance He was imbued with the new classic style and, coming back, introduced it to Portugal His sonnets and other Italian-patterned poems were disillusioned and moralistic He wrote poetical letters, and his two comedies, *Estrangeiros* [strangers] and *Vilhalpandos* were the foundation of the Portuguese classical theater He wrote in Spanish as well as in Portuguese

Sadi or **Saadi** (both sä'dē), 1184 1291, Persian poet, b Shiraz He seems to have studied in Baghdad, made the pilgrimage to Mecca more than once, and traveled widely before returning to Shiraz He was a mystical poet of great power, one of the finest of the Sufi writers His *Bustan* [garden of fruits] (1257) is a long didactic poem, but his *Gulistan* [garden of roses] (1258), generally considered his masterpiece, is a mélange of prose and poetry—stories, anecdotes, aphorisms, lyrics, and other highly symbolic verses The work is suffused with warmth of feeling and high purpose and mingles entertainment with lofty religious thought Lyrics not included in the *Gulistan* also have a shimmering beauty His tomb in Shiraz is highly venerated

sadism (sā'dĭzm, sā'-), psychical abnormality in which pleasure is obtained from inflicting pain on others In psychoanalysis the term refers to a destructive drive which is turned on other people The word *sadism* derives from the comte de Sade

Sadler or **Sadleir, Sir Ralph** (both săd'lûr), 1507–87, English diplomat Through the influence of Thomas Cromwell, Sadler secured the favor of Henry VIII, whom he served in Scotland and in the dissolution of the monasteries In 1542 he was sent to Scotland to prevent the revival of the influence of Cardinal BEATON Sadler distinguished himself at the battle of Pinkie (1547) He retired during the reign of Queen Mary, but after Elizabeth's accession he became an agent of William Cecil (Lord Burghley) and was sent (1559) to form an English alliance with the Protestant party in Scotland In 1568 he was one of the commissioners appointed to treat concerning the problem of Mary Queen of Scots, who had fallen into English hands He was frequently employed to carry messages to the captive queen, and in 1584 he reluctantly undertook the guardianship of Mary, but was relieved of the task the following year

Sado (sä'dō), island (330 sq mi , 1947 pop 124,250), 35 mi long and 12 mi wide, in the Sea of Japan, off N Honshu, Japan It yields gold, silver, and agricultural products In feudal times it was a place of exile to which Emperor Juntoku and other notable persons were banished

Sadoc (sā'dŏk) [Gr , =Heb ZADOK], name appearing in the Gospel genealogy. Mat 1 14

Sadowa (sădŏ'vă), Czech *Sadová* (sä'dōvä), village, E Bohemia, Czechoslovakia, near Hradec Kralove (Ger *Königgrätz*) Here in 1866 the Austrians suffered a decisive defeat in the AUSTRO-PRUSSIAN WAR

Sadtler, Samuel Philip (săt'lur), 1847–1923, American chemist, b. Pine Grove, Pa , grad. Harvard (B S , 1870). He was professor of chemistry at the Univ of Pennsylvania (1874–91) and at the Philadelphia College of Pharmacy (1878–1916). He edited the 15th to 19th editions of the *Dispensatory of the United States,* aided in the revision of the *Pharmacopoeia of the United States,* and wrote

the widely used texts *Handbook of Industrial Organic Chemistry* (1891; 5th ed., 1923) and *A Text-Book of Chemistry for . . Pharmaceutical and Medical Students* (1892), which went through a number of editions.

Sadyk Pasha: see CZAJKOWSKI, MICHAEL.

Sáenz Peña, Roque (rō'kā sā'ānz pā'nyā), 1851–1914, Argentine statesman, president of the republic (1910–14), son of an earlier president (1892–95), Luis Sáenz Peña. He had an active career as soldier, legislator, diplomat, and cabinet official before he was inaugurated president (Oct., 1910) for a six-year term. His administration was significant for electoral reform. Because of these measures a peaceful revolution occurred when, in the presidential election of 1916, the landowning oligarchy was replaced by a new group, the Radicals, headed by Hipólito IRIGOYEN. Sáenz Peña, however, did not live to see the full results of his reform.

Saeterdal, Norway: see SETESDAL.

Safad, Israel: see SAFED.

Safarik, Pavel Josef, Czech *Šafařík* (pä'vĕl yō'zĕf shä'fär-zhĕk), 1795–1861, Slovak antiquarian, scholar, critic, and journalist. His first great work was a *History of the Slavic Language and Literature* (1826) written in German, of which a free translation in English appeared in 1850. His claim to the title of father of modern Slavonic studies rests on the monumental *Slavonic Antiquities* (1837). In 1848 he was for a short time professor of Slavic languages in the Univ. of Prague. As a young man he translated Aristophanes' *Clouds* and Schiller's *Maria Stuart*. His name also appears as Schafarik.

Safed or **Safad** (both sā'fŭd), Heb. *Zefat,* town (pop. c 9,000), NE Israel, c 12 mi. NW of the Sea of Galilee. It is at an elevation of c 2,700 ft. and is a hot-weather resort. There are ruins of fortifications erected in the 12th cent. by the Knights Templars. In the 16th cent. many learned Jews moved here and made the town a center for cabalistic studies. Much of the town was destroyed in fighting between Arabs and Jews in 1929.

Safed Koh (sāfĕd' kō'), mountain range, Afghanistan, SE of Kabul, reaching 15,620 ft. in Mt. Sikaram. It is crossed by Khyber Pass.

Safety Islands: see ÎLES DU SALUT.

safety lamp, oil lamp so constructed as to be safe for use in mines and other places where inflammable gases such as firedamp (see DAMP) may be present. Its invention c 1816 is usually accredited to Sir Humphry Davy, although it is also claimed for George Stephenson. The Davy lamp is based upon the principle that to be ignited a substance must first be heated to its kindling temperature and that if such heating is prevented it will not undergo combustion. The flame is surrounded by a metal-gauze screen that absorbs the heat and thus prevents its escape into the outside atmosphere. Many improvements have been made, such as special locks to prevent the accidental opening of the lamp and devices to permit the lamp to be held upside down without danger. The work of K. G. Bischof is important in this connection. When explosive gas is present in the atmosphere, the flame shows blue or burns higher, the lamp thus serves to indicate the presence of dangerous gas, and as a result it is used for testing mine atmosphere. Its general use has been superseded by that of the electric light in most modern mines, but it is still useful for testing and in certain cases where glass electric bulbs are likely to be broken. The portable electric lamp has come into increasing use.

safety movement. The increasing number of accidents in industry, traffic and transportation, and homes that followed upon the centralization and mechanization of industry and the growth of cities resulted in a widespread effort at prevention. Large manufacturing companies, public utilities, railroads, steamship lines, and insurance companies were particularly concerned with reducing the number of injuries and deaths and thus the cost of WORKMEN'S COMPENSATION and other damage payments and litigation. Humanitarianism and the growth of social consciousness were other factors in the initiation of the safety movement, which took the form of the organization of safety clubs, the display of posters, the publication of magazines, and other means of educating the public to the prevention of accidents. A part of the safety movement has been the passing of such laws as those requiring that buildings be constructed of fireproof materials and be provided with fire escapes, that ships carry radios and enough lifeboats to accommodate all persons on board, that fire drills be held, that automobile brakes be kept in good condition, that halls be well lighted in certain classes of buildings, that theater exits be marked, that machinery, especially gears, belts, and drive shafts be properly guarded, that food conform to specified standards, that poisonous materials be so marked, and that elevators be equipped with safety devices. The National Safety Council (organized 1913) collects and distributes information regarding safety in industry, the home, travel, and schools and publishes five monthly safety magazines and other propaganda. Attempts to diminish traffic accidents have resulted in maximum speed laws in most states. Safety is taught in many schools through classroom lectures, films, school patrol systems, and the teaching of driving. See S. J. Williams, *The Manual of Industrial Safety* (1927); S. J. Williams and W. W. Charters, *Safety* (1941); publications of the National Safety Council and the U.S. Bureau of Standards.

safety valve, contrivance attached to a BOILER or other vessel for automatically relieving the pressure of steam before it becomes great enough to cause bursting. In the lever type the valve is held closed by weights acting on a lever which passes over the valve. These weights can be adjusted so that the valve lifts when the internal pressure reaches a point in excess of the calculated safe load of the boiler. The spring-loaded type of valve is held closed by a spring the strength of which is designed to achieve the same purpose as the lever type. Spring-loaded valves are in general use, and this type is compulsory on all boilers which are not of the stationary type, such as marine or locomotive boilers. Two or more safety valves are installed on most boilers.

Saffi, French Morocco: see SAFI.

safflower. see SAFFRON.

Safford, Truman Henry, 1836–1901, American astronomer, b. Royalton, Vt., grad. Harvard, 1854. He was on the staff of the Harvard Observatory (1854–66) and professor of astronomy at the original Univ. of Chicago and director of Dearborn Observatory until 1871. After five years with the U.S. Coast and Geodetic Survey he was appointed to the chair of astronomy at Williams College. There he established a meridian observatory. From his untiring observations resulted catalogues of the stars and other compilations. He predicted the position where the suspected companion of SIRIUS might be found. Among his published works are *Mathematics Teaching and Its Modern Methods* (1887) and *The Development of Astronomy in the United States* (1888).

Safford, town (pop. 2,266), co. seat of Graham co., SE Ariz., on the Gila river, founded 1872, inc. 1901.

saffron, autumn-flowering white or lilac CROCUS (*Crocus sativus*), widely cultivated in the Old World since ancient times for the stigmas of the flowers, which are also called saffron and are used as a coloring matter, flavoring, perfume, and medicine. The stigmas of about 4,000 flowers, it has been estimated, are required to be picked and dried for one ounce of saffron. The orange-yellow stigmas have an aromatic odor and, powdered, are soluble in water. Perfume thus made was sprayed in the theaters of Greece and Rome, and on Nero's entry into Rome the powder was sprinkled on the streets. Saffron was until recently popular for coloring and flavoring foods and is still so used in some places. It was formerly used medicinally. Saffron is mentioned in the Bible (Cant. 4:14). This species of crocus is sometimes cultivated in America for ornament. The safflower or American saffron, often used as a substitute, and the MEADOW SAFFRON are not related to saffron.

Saffron Walden, municipal borough (pop. 5,930), Essex, England, NNE of London. The museum has a noteworthy collection. There are remains of a castle probably built in the 12th cent. and a 15th-century church. The town is named for the saffron crocus, grown here from the time of Edward III until the 18th cent.

Safi or **Saffi** (both sā'fē), city (pop. 50,845), French Morocco, a port on the Atlantic Ocean. It was a Portuguese base in the early 16th cent., then, until 1660, it was the chief port of the Sadian dynasty, being the nearest to their capital, Marrakesh. Since 1936 Safi has exported phosphates from a near-by deposit.

Safid Rud (sāfēd' rōōd'), river, 450 mi. long, rising in NW Iran, S of Lake Urmia, and flowing to the Caspian Sea E of Resht. There are few bridges. The river is rich in fish.

Saga (sä'gä), city (1947 pop. 64,978), capital of Saga prefecture, W Kyushu, Japan. It is a railroad, manufacturing, and coal-distributing center. The prefecture is known for its fine porcelain ware.

saga (sä'gə), in OLD NORSE LITERATURE, particularly the Icelandic and Norwegian, an epic in prose or verse centering about a legendary or historical figure. These sagas were composed from the beginning of the 11th to the middle of the 13th cent. Toward the end of the 12th cent. they were written down. Among the most noted of the sagas are the *Heimskringla* and the *Starlunga Saga* by SNORRI STURLUSON; the *Laxdœla,* translated in *The Earthly Paradise* by William Morris, who also translated the *Grettla,* the *Njala,* translated by W. E. Dasent, the FRITHJOF saga by Esaias TEGNER, and *Gisli,* translated by R. B. Allen. See J. W. Hartmann, *The Gongu Hrolfssaga* (1912), A. S. Hoffman, *Book of the Sagas* (1913), E. E. Kellett, *The Northern Saga* (1929); Knut Liestol, *Origin of the Icelandic Family Sagas* (1930), Halvadan Koht, *The Old Norse Sagas* (1931).

Sagamore Hills, village (pop. 1,471), NE Ohio, SE of Cleveland, inc. 1931.

Sagan (sä'gän) or **Zagan,** Pol. *Żagań* (zhä'gänyŭ), town (1939 pop. 22,770, 1946 pop. 4,359), Lower Silesia, on the Bober and NW of Breslau. It was transferred to Polish administration at the Potsdam Conference of 1945. There are textile and other industries. Founded in 1140, Sagan was (1274–1472) the seat of a principality, originally a fief held from the dukes of Glogau. The principality passed (1472) to the electorate of Saxony, which lost it (1547) to the house of Austria. It was ceded (1745) to Prussia. Wallenstein was created (1628) duke of Sagan, and in 1785 the title was purchased by Peter von Biron, duke of Courland, through whose daughter it passed to the French house of Talleyrand.

Sagar (sä'gur), island, West Bengal state, India, at the mouth of the Hooghly river. It is sacred to Hindus as the place where the Ganges formerly emptied into the Bay of Bengal.

Sagasta, Práxedes Mateo (präk'sädhäs mätā'ō sagh'stä), 1825–1903, Spanish statesman. A leader of the Progressive party in the Cortes, he was twice exiled for his opposition to the government of Isabella II. In 1868 he led, with Juan PRIM, the revolution which resulted in the queen's deposition. He served as premier (1871–72) under King Amadeus and as cabinet minister under the first Spanish republic, but retired after the accession of Alfonso XII. In 1880 the Liberal party was founded under his leadership, and Sagasta returned to power as premier (1885–90, 1892–95, 1897–99, 1901–2). Sagasta offered Cuba autonomy, but was unable to suppress the Cuban revolution or to prevent American intervention. Sagasta signed the Treaty of Paris of 1898, which ended the Spanish-American War, and he was generally blamed for the Cuban disaster.

Sage, Russell, 1816–1906, American financier, b. Oneida co., N.Y. He was successful in the grocery business in Troy, N.Y. Active in public affairs, he became (1845) alderman of Troy and served (1853–56) as a Whig member of Congress. He continued to amass wealth by banking, and after he moved (1863) to New York city, he engaged in stock speculation. In association with Jay Gould, Sage gained extensive financial control in several Western railroads, in the elevated railway system in New York city, and in the Western Union Telegraph Company. An attempt to assassinate him in 1891 failed. Upon his death, the distribution of his fortune was left in the hands of his widow, **Margaret Olivia Slocum Sage** 1828–1918. She made large gifts to the Emma Willard School and to the Rensselaer Polytechnic Institute in Troy and donated money to other educational organizations and to benevolent societies. Marsh Island in the Gulf of Mexico was bought in 1912 and given to Louisiana as a bird sanctuary. The great single benefaction was the establishment (1907) of the Russell Sage Foundation in New York city. This institution is largely devoted to cooperating with social agencies for the improvement of social and living conditions in the United States. It maintains a library of the social sciences and has participated in several important surveys. By 1947 the foundation had given more than $9,000,000 for special projects in the field of social science.

sage, any species of the large genus *Salvia,* widely distributed herbs or shrubs of the mint family. The common sage of herb gardens is *Salvia officinalis,* a strongly aromatic perennial native to Europe. It has gray-green, hairy, wrinkled leaves and, commonly, blue or white flowers. The leaves are used as seasoning, especially in dressings for meat and poultry, and in sage cheese, sage tea, once popular as a beverage, has also been used as a domestic remedy for colds and other ailments and as a hair rinse; the oil is sometimes used in perfumery. For commercial purposes sage is cut two or three times a season. The dried leaves soon lose their aroma unless they are kept in airtight containers. Prized since ancient times, common sage was thought to prolong life and to increase wisdom by strengthening the memory—whence the name. The ornamental sages (of which there are several blue-flowered species) are often popularly called salvia. Of these the scarlet sage (*Salvia splendens*) is best known. It is cultivated as an annual bedding plant for the neat spikes of red blossoms; there are also varieties in other colors. Clary is a biennial sage the seeds of which were once used to 'clear the eye'; it has bluish or pinkish flowers. Most sages are good honey plants. A LANTANA is sometimes called red or yellow sage.

sagebrush, name for several species of *Artemisia,* deciduous shrubs related to WORMWOOD and particularly abundant in W North America. The common sagebrush (*Artemisia tridentata*), called also big sagebrush, is a silvery gray low shrub with small wedge-shaped leaves, three-toothed at the wide apex, and with a pungent odor of sage. It is one of the most common shrubs of the West, where it is important as a forage plant on many cattle ranges and is often indicative of good soil. This species has been employed as a domestic remedy and tonic, and the seeds were used for food by Indians. The wood ignites easily and burns well so that it has been valuable for starting fire by friction. Sagebrush is the state flower of Nevada, which is sometimes called the Sagebrush State. The pasture or mountain sagebrush (*Artemisia frigida*) has also

been used medicinally The word sagebrush is often shortened to sage

sage grouse, sage hen, sage cock, or **cock of the plains,** large GROUSE native to the sagebrush country of W North America Much hunted for food, young birds are preferred because the adult flesh is often strongly flavored by buds of the sagebrush, which, with insects, form the diet The plumage is mottled brown, black, and gray above, and the belly is black Yellow air sacs on the neck of the male are distended like balloons during the courtship display

Saghalien, see SAKHALIN

Sag Harbor, resort village (pop 2,517), on E Long Island, SE N Y , on Gardiners Bay, settled 1720–30, inc 1846 During the first half of the 19th cent it was an important whaling port, today it is primarily a summer resort, with small manufactures The *Long Island Herald* (1791) was the island's first local paper Among the town's historic buildings are the Whalers' Church and the Whalers' Museum, and the first customhouse in the state, moved a few blocks in 1948 to a new site

Saginaw (să'gĭnô), city (pop 82,794), co seat of Saginaw co , S Mich , on the Saginaw river and S of Bay City, inc 1857 Indian trails crossed here, and Indian villages were in the vicinity Lewis Cass negotiated here a treaty (1819) with the Indians, who ceded much of Michigan to the United States Fur trade was followed by a thriving lumbering industry, which declined after 1890 Situated in an extensive area producing beans and beet sugar, Saginaw is also a port of entry and an industrial center, near large coal beds, oil wells, and salt deposits Its varied manufactures include automobile parts, graphite, measuring instruments, washboards, and boilers The old Schuch Hotel has a collection of antiques and curios

Saginaw, river, c 22 mi long, formed near Saginaw, S Mich , by the Shiawassee and Tittabawassee rivers and their tributaries and flowing NNE to Saginaw Bay near Bay City With its headstreams and tributaries the river drains a large area in lower Michigan

Saginaw Bay, arm of Lake Huron, c 60 mi long and 15 to 25 mi wide indenting N Michigan Bay City is at the head of the bay, near the mouth of the Saginaw river

Sagittarius (săjĭtă'rēŭs) [Latin,=the archer], in astronomy, a zodiacal constellation lying partly in the Milky Way It is pictured as a centaur, usually considered to represent Chiron, drawing his bow to release an arrow The constellation contains many nebulae, star clusters, and variable stars The sun is in Sagittarius at the time of the winter solstice Sagittarius is the ninth sign of the zodiac

sago (să'gō) [Malay], edible starch extracted from the pithlike center of several East Indian palms (chiefly species of *Metroxyla*) or sometimes of palmlike plants (e g , cycads) The starch furnishes an important item of food for East Indians and is exported for use in puddings and in stiffening textiles It is obtained by cutting down the sago palm when it blossoms, which it does at about 15 years of age, and powdering the starchy material that fills the stem and sometimes weighs 700 lb The starch, washed free from the powder, is made into cakes by the natives, but for market is usually sieved and heated to form granules If uncut, the sago palm blossoms once, matures its fruit, and then dies after having produced new shoots at the base, which propagate the plant The sago palm of florists is not the plant commonly used for the production of sago The wild sago or coontie yields Florida ARROWROOT.

Saguache (sŭwŏch'), town (pop 1,219, alt c 7,800 ft), co seat of Saguache co , S central Colo , on Saguache Creek and N of Monte Vista, in a mine and livestock area, founded 1866, inc 1891.

saguaro see CACTUS

Saguaro National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Saguenay (să'gunā, să'gunā'), river of S Quebec, issuing from Lake St John in two channels, the Grande Décharge and the Petite Décharge, separated by the Île d'Alma, and flowing 110 mi generally ESE to the St Lawrence at Tadoussac It passes St Joseph d'Alma, Arvida, and Chicoutimi and is navigable below Chicoutimi, flowing through a picturesque gorge whose banks rise to more than 1,500 ft at Eternity and Trinity capes The Saguenay was first visited (1535) by Cartier, and Champlain explored its lower reaches in 1603 For more than three centuries it was a route traveled by explorers, missionaries, and fur traders, later becoming a major lumber transportation route and the approach to noted hunting and fishing areas In the 20th cent pulp and paper mills and important hydroelectric stations have been built on the banks of the river and some of its tributaries, and at Arvida is one of the world's largest aluminum plants Excursions up the river by steamer from Quebec have long attracted tourists. See Marius Barbeau, *The Kingdom of Saguenay* (1936)

Sagunto (sägōōn'tō), Latin *Saguntum*, city (pop 10,352), Valencia prov, E Spain, in Valencia, on the Palencia river and 4 mi from the Mediterranean Probably of Iberian origin and later settled by Greeks, Saguntum was an ally of Rome when it was besieged and captured (219–218 B C.), after heroic resistance, by the Carthaginians under HANNIBAL Thus led to the Second Punic War. Saguntum was conquered by the Romans (214 B C) and made a *municipium*. On a ridge above the present city are important Roman remains, notably a well-preserved theater The city fell to the Moors and was called Murviedro until the old name was restored in 1877 In 1874 the restoration of the Bourbon dynasty was proclaimed here

Sahagún, Bernardino de (bĕrnärdhē'nō dā säägōōn'), c 1499–1590, Spanish historian and Franciscan missionary in Mexico The most important of his works, *A History of Ancient Mexico* (Eng tr , Vol I, 1932), was the product of a wide and patiently acquired learning in Indian history and ethnology Sahagún was hampered by opposition within the order, and the work was not published until 1829 (ed by Carlos María de Bustamente)

Sahagún (sä-ägōōn'), town (pop 3,606), Leon prov , NW Spain An agricultural center, it has kept the ruins of a Benedictine abbey, the most powerful in Spain until the 15th cent , founded in the 11th cent by Alfonso VI The abbey was abandoned in 1835

Sahand (sähänd'), peak, c 12,000 ft high, Iran, E of Lake Urmia and S of Tabriz It is crowned with snow most of the year and is traditionally connected with Zoroaster

Sahaptin Indians see NEZ PERCÉ INDIANS.

Sahara (sŭhâ'ru) [Arabic,=desert], desert, North Africa, the largest desert on the earth It occupies most of Spanish Sahara, Morocco, Algeria, Tunisia, Libya, and Egypt and also N French West Africa and N Anglo-Egyptian Sudan It is defined by many geographers as extending from the Atlantic Ocean to the Nile and from the Mediterranean to the Sudan, with these boundaries its estimated area is over 3,000,000 sq mi Other authorities consider the desert area E of the Nile in Egypt also to be a part of the Sahara The Sahara may be regarded as belonging to a larger desert area occupying most of the Near East as well On the northwest the Sahara is separated from the sea by a coastal strip backed by the Atlas Mts and by a steppe region that merges into the desert This area gets off whatever moisture is carried by winds blowing inshore from the Mediterranean The desert comprises varied natural formations It has high sand dunes (*erg*) especially in the NE Sahara (known as the Libyan Desert) and in Algeria, plateaus of denuded rock (*hammada*), and beds of gravel (*reg*) or of rounded stones (*serir*) Although for the most part a level plateau, the Sahara is marked by mountainous massifs, including the Tibesti, Air, and Hoggar elevations, and by a series of depressions (50–100 ft below sea level) in the Libyan Desert The prevailing barrenness is broken by fertile date-bearing oases, many of them on the courses of intermittent streams (wadis) Important oases include Siwa in Egypt, Ghat, Ghadames, and the oases of the Fezzan in Libya, Biskra, Tugurt, Wargla, Mzab, and the Hoggar plateau in Algeria, and Tafilelt in Morocco In ancient times the inhabitants of the desert were predominantly Sudanese Negroes After the introduction of the camel, probably in the early Christian era, Berbers and, later, Arabs took up a nomadic existence in the desert, gradually driving back the Negroes or employing them as laborers in the oases Tibesti is one of the few areas still dominated by Negroid tribes The white nomads extended existing oases or tapped underground waters to create new oases, they also introduced date-palm cultivation. Outstanding among the nomad groups are the Berber TUAREG Although northern shores of Africa have long been dominated by foreign powers, some of whom extended their rule to the northern oases and even into the Fezzan, most of the Sahara was not penetrated by Europeans until the 19th cent One of the earliest European explorers to have crossed the desert (c 1828) and to have returned was Rene CAILLIÉ Other explorers who extended knowledge of the Sahara include Heinrich BARTH and Gustav NACHTIGAL The Algerian section of the Sahara was the first to be extensively explored The suppression of the slave trade, especially by the French in Algeria, has curtailed trans-Saharan trade Today the Sahara is linked by telegraph stations, by railroads to several of the northern oases, and by a network of air and automobile routes The construction of a trans-Saharan railroad has been contemplated since the 1850s but there is only a short section completed See E F Gautier, *Sahara* (1933, Eng tr , 1935).

Saharanpur (suhâ'runpōōr"), city (pop 108,263), NW United Provs , India It was a summer resort of the Mogul court The botanical gardens (founded 1817) are noted There is wood carving, furniture manufacturing, and sugar and paper milling

Saigo, Takamori (täkä'mōrē sī'gō), 1822?–1877, Japanese soldier and statesman noted for his obstinate conservatism A SATSUMA samurai and an early opponent of the shogun, he trained a Satsuma force and led it in the fighting against the shogun's troops in 1868 He entered the new government as an imperial adviser, and in 1873 he advocated war with Korea and opposed the Occidentalization of Japan When his advice was rejected, he retired from the government In 1877 he led the Satsuma revolt, but his samurai followers were defeated by imperial troops, drawn from the peasantry and equipped with modern arms Saigo committed suicide

Saigon (sīgŏn', sīgōn', Fr sāgô'), city (pop. 110,577), capital of Cochin China, on the right bank of the Saigon river, a tributary of the Dong Nai Together with the neighboring Chinese city of Cholon, Saigon is the greatest port and industrial city of Indo-China It is linked by canals to the lower Mekong and by rail to Pnom Penh and Hanoi The principal export is rice, the main industrial activities are rice mills and shipyards With its cathedral, museums, gardens, and tree-lined avenues, Saigon is known for its beauty throughout the East Although the site was occupied in turn by Cambodians and Annamese, the modern city is entirely the product of French rule

sail, expanse of canvas, matting, or similar material on which the wind acts to propel a vessel The oldest sails, used by the ancient Egyptians, were of papyrus fibers Later canvas made of flax came into general use Since the middle of the 19th cent cotton has widely supplanted flax, particularly in sails for racing vessels and smaller craft The finest and most expensive sail cotton comes from Egypt The Chinese make sails for their junks and sampans of grass or fiber matting The old seafaring nations of the Mediterranean and the vikings used square or quadrilateral sails The triangular type is the more modern form The sails of a ship may be square-rigged or fore-and-aft rigged, with some vessels carrying both Square sails are carried on yards which are hung to the mast at the middle, while fore-and-aft sails are secured to a boom or gaff which has only one end attached to the mast, the outer (or after) end being free to swing to suit the wind A vessel can carry more canvas if square-rigged, but the sails are heavier and less easy to handle, a fore-and-aft rigged vessel can usually lie nearer the wind in sailing The names of the sails a full-rigged ship may carry, from bottom to top, are course, lower topsail, upper topsail, lower topgallant, upper topgallant, and royal Some ships have an additional skysail, also called a skyscraper Each sail is designated by prefixing the name of the mast to which it is attached, e g , foretopsail Auxiliary sails, called studding sails, are spread out only when the wind is very light Reducing the sail area is known as reefing, while completely rolling up the sails is referred to as furling Sailing ships were in use as far back as 6000 B C in Egypt and Mesopotamia and not much later in China Sailing was the only means of seafaring until the steam engine was adapted to propelling vessels For more than half a century in the mid-19th cent sailing ships competed successfully with steamships The quickest and best sailing ship ever built, the CLIPPER-SHIP, beat them even in speed Finally the machine conquered, and sailing ships were used only where cheap transport was of importance That was the case with the wheat transport from Australia to Great Britain In the 1920s barks still carried wheat from Fremantle to London, making the voyage in about three months See also SCHOONER

sailcloth, canvas, more commonly called duck, from which sails are made It is woven from hemp, ramie, flax, or cotton, in widths from 14 to 120 in and in weights from 18 to 38 oz per yard The best sailcloth is produced from long flax, because this fiber possesses flexibility, lightness, and strength (see SAIL) Sailmaking was an important handicraft from antiquity, but with the transition from sailing vessels to steamships only a small part of the sailcloth produced found use in sailmaking The greater part of the material now goes to make tenting, awnings, fire hose, tarpaulin, and bags It is also used in bookbinding In the making of sails the canvas cloths are laid together with overlapping seams (1 or 1½ in) and sewed with special twin in an overhand stitch on both edges Heavy sails are given an additional running stitch in the middle of the seams, and extra pieces of canvas are set on the edges for strength and for reef and strain bands A rope is sewed all around to finish the sail Modern sailmaking is generally done on special sewing machines

Sailendra (sīlĕn'drä), name given to a dynasty or dynasties of Indonesia and SE Asia, fl 8th–13th cent Appearing probably in Java in the latter part of the 8th cent , the Sailendras extended their power over the Sumatran domains of Sri Vijaya and the Malay Peninsula and exerted influence in Siam and Indo-China After their eclipse in Java (late 9th cent), they retained control of Sri Vijaya, with important centers at Palembang (generally thought to have been their capital) and in Kedah and Patani The Sailendra power was badly shaken by the Chola war of the 11th cent , but endured in some form till the Javanese invasion of Sumatra and the Malay Peninsula in the 13th cent.

sailfish, marine game fish related to the swordfish It has a long body (sometimes reaching 10 ft), a

high saillike, black-spotted, deep blue dorsal fin, and a spearlike upper jaw. The body is usually a metallic blue above and silvery below. It is an excellent food fish. The American sailfish inhabits tropical Atlantic waters and may travel up the coast in summer, another species inhabits the Indian and Pacific oceans

sailing, general term for the navigation of a ship to a destination by any one of several methods. In plane sailing the ocean is assumed to be a flat surface, the curvature of the earth being ignored. The meridians are assumed to be parallel to each other and at right angles to the parallels of latitude, and the length of a degree everywhere equal on both parallels and meridians. The ship's course is plotted and followed accordingly. In Mercator sailing, the ship's course is plotted and followed on the basis of a chart drawn by the MERCATOR projection. Great-circle sailing has certain advantages over the two preceding methods. The shortest distance between any two points on the earth's surface is represented by the length of the arc of the great circle which passes through these points. (A great circle is a circle with its plane passing through the center of the earth, the equator and all meridians are examples of great circles.) The navigator follows the great circle which passes through the port he is leaving and his destination. To assist the navigator in laying out his course, tables, charts, and diagrams have been worked out which obviate much original calculation. Great-circle sailing is extensively employed by steamships, as in the N Atlantic lanes, and by airplanes. The U S Hydrographic Office publishes a series of great-circle sailing charts for all the navigable waters of the earth

Saima (sī'mä), lake system of central Finland. It comprises more than 120 connecting lakes, covering c 1,850 sq mi., the large southern basin of the system constitutes Lake Saima proper. The Saima system drains into Lake Ladoga through the Vuoksi river (460 mi. long). Numerous canals facilitate steamship and lumber-raft traffic to the Gulf of Finland through the **Saima Canal** (c 36 mi. long, completed 1856), which terminates at Vyborg, RSFSR. On the lakes are the towns of KUOPIO and MIKKELI

Saindon (sĕdō') or **Sayabec** (sayäbĕk'), village (pop. 2,115), E Que., on Lake Matapedia and ENE of Rimouski, in a lumbering and dairying region

sainfoin (sān'foin) [Fr.=holy hay], leguminous, perennial herb (*Onobrychis sativa*), indigenous in Europe and in temperate regions of Asia. From a woody rootstock arise stalks bearing pinnate leaves and clusters or spikes of pink or white flowers, flattened pods enclose single, brownish seeds. Sainfoin has for centuries been widely cultivated in Europe as a forage crop. Although it was introduced into the United States about 150 years ago, it has never become agriculturally important here. It thrives on calcareous soils too dry or too barren for clover or alfalfa. The plant is sometimes associated with the Christmas story of the Infant Jesus in the manger. Sainfoin is also called esparcet

saint [O Fr., from Latin *sanctus*=holy], in Christianity, person living in heaven. In the traditional belief, as taught by Roman Catholics and Orthodox, faithful Christians on earth and the saints are all members of the Church, and just as living members seek the prayers of others and share in the merits of others, so the living ask those in heaven for their prayers and share in their merits (see INDULGENCE). This is the essence of the traditional doctrine of the communion of saints, an aspect of the same cooperation of the living and the saints is prayer for the dead (not yet saints, see PURGATORY). The Virgin MARY is the chief saint. Angels are counted as saints. Prayer to the saints ("veneration" or "honor") is distinct in kind from prayer to God ("worship" or "adoration"), who is the source of all their glory, the saint is asked to pray to God for a favor sought, exactly as a living person is. In the liturgy a saint is commemorated and his intercession sought on a special day ("saint's day", see also ALL SAINTS), usually the anniversary of his death. In the ancient churches each member has at least one PATRON saint from baptism, and in the West another is adopted at confirmation, patrons are expected to have a mutual relation of affection with their earthly clients. Saints vary in popularity, thus St. Joseph, very popular today among Catholics and Orthodox, had scarcely any cultus 1,000 years ago, and St. Nicholas, for centuries a favorite in the West, has today few clients among Roman Catholics. Only the Virgin, preeminent and unique, suffers no change in the love of the people. Examples of nonliturgical devotions to saints are pilgrimages (see PILGRIM), many forms of LITANY, images and icons, novenas, and annual celebrations in honor of patron saints. Saints' lives have been a favorite form of reading, and at times the composition of them (hagiography) has become a real art. Apart from those which are simple, contemporary records, they often become miracle-studded tales. Two immortal collections of saints' lives are the GOLDEN LEGEND and the *Little Flowers of St. Francis* (see FRANCIS, SAINT). In the modern Roman Catholic Church the BOLLANDISTS have been charged with separating the true from the false in hagiography. The effort entails revision of official books, e.g., the Roman Martyrology, a compendium of saints' lives. The addition of the name of a person to the official list of saints is called CANONIZATION. Generally in the Roman Catholic Church the title saint is limited to the canonized if they lived after the year 1000, otherwise the title is used according to custom. In East and West criteria for recognition of sainthood are martyrdom, holiness of life, miracles in life and after death (e.g., with RELICS), and a popular cultus. In the New Testament "saints" often refers to living Christians. See Alban Butler, *Lives of the Saints* (rev. ed. by Herbert Thurston, S.J., Donald Attwater, and Nora Leeson, 12 vols., 1926-38), Donald Attwater, *A Dictionary of Saints* (abridged from the Butler work, 1948), F. J. Sheed, ed., *Saints Are Not Sad* (1949).

Saint Agatha (sānt ă'gŭthu, sāntugăt'), town (pop. 1,874), N Maine, near the N.B. line, a fishing resort on Long Lake, set off from Frenchville and inc. 1899

Saint Albans (sunt ôl'bunz), municipal borough (1931 pop. 28,624, 1947 estimated pop. 42,910) and city, Hertfordshire, England, on the slope and summit of a hill above the Ver river NNW of London. It is the site of the Roman Verulamium and of a Benedictine abbey founded in 793 by Offa of Mercia, in honor of St. ALBAN. The abbey was made famous by a succession of notable chroniclers, including Roger of Wendover, Matthew of Paris, William Rishanger, and Thomas Walsingham. The church was largely rebuilt in 1077, by Abbot Paul of Caen, who used broad flat tiles and other Roman materials from Verulamium. It is an excellent example of Norman architecture, second only to Winchester in size. It was extensively restored by Sir George Gilbert Scott and Lord Grimthorpe in 1871-85. St. Albans became a separate diocese in 1877. A grammar school was attached to the abbey from the 10th to the 16th cent., it was refounded by Edward VI. St. Michael's Church dates from the 10th cent. and contains a memorial to Francis Bacon, Viscount St. Albans, who lived near here. The town was in turn a stronghold of the Britons, Romans, and Danes. John Ball was hanged here in 1381. In the Wars of the Roses it was the scene of two battles: in 1455 the Yorkists were victorious and Henry VI was captured, and in 1461 the Lancastrians were victorious and Henry VI was freed. The site of one of the Eleanor Crosses (see ELEANOR OF CASTILE) is marked by a fountain. Much information about the Roman town has been acquired through extensive excavations. See William Page, *Saint Albans* (1920)

Saint Albans (sānt ôl'bunz). **1** City (pop. 8,037), co. seat of Franklin co., NW Vt., N of Burlington, inc. as a village 1859, as a city 1897. It is a port of entry. St. Albans town (pop. 1,733, chartered 1763), on St. Albans Bay, Lake Champlain, surrounds the city. St. Albans was after the embargo of 1807 a base for smugglers. Confederates coming in from Canada in 1864 raided the local banks, escaping with some $200,000. Two years later a large group of Fenians gathered here for a proposed invasion of Canada. The coming of the railroad in 1850 spurred the growth of the town. Mixed feeds and grain are milled here. St. Albans is the seat of Bellows Free Academy (1930). **2** Trade city (pop. 3,558), W W Va., at the junction of the Coal river with the Kanawha, WNW of Charleston, in a rich coal, lumber, and tobacco area, settled c 1790 on the site of Fort Tackett. The battle of Scary Creek (1861) was fought near here

Saint Alexis de la Grande Baie (sētălĕk'sĭs dŭ lä grănd bā'), village (pop. 2,230), S Que., on Ha Ha Bay of the Saguenay river and SE of Chicoutimi, in a dairying and lumbering region

Saint Andrews, town (pop. 1,167), SW N.B., at the mouth of the St. Croix on Passamaquoddy Bay and just E of the Maine border. It is a summer resort, noted for golf and fishing

Saint Andrews, burgh (pop. 8,269), Fifeshire, Scotland, on St. Andrews Bay and SE of Dundee. A summer resort, it is famous for its golf courses, and its Royal and Ancient Golf Club establishes rules for the game. St. Andrews was the seat of an archbishopric by the 10th cent., the cathedral (in ruins) dates from the 12th cent. The Martyrs' Monument commemorates the burning for heresy of the Protestant reformers George Wishart, Patrick Hamilton, and others. The Univ. of St. Andrews, founded in 1411, is the oldest in Scotland. It includes the United College of St. Salvator and St. Leonard, St. Mary's College, and University College (at Dundee). See Andrew Lang, *St. Andrews* (1893).

Saint Anne, principal town on Alderney, Channel Islands.

Saint Anne, village (pop. 1,131), NE Ill., SE of Kankakee, in a farm area, founded 1852 by French settlers, inc. 1872

Saint Anthony, city (pop. 2,719), co. seat of Fremont co., E Idaho, on Henrys Fork in the Snake valley and NE of Idaho Falls, founded 1890, inc. 1905. Potatoes, alfalfa, and seed peas are among the products of irrigated farming. St. Anthony is the headquarters of Targhee National Forest, and tourists go from the city to see the Crystal Falls Cave. A state industrial school is near by. To the south is the site of the fur-trading post founded by Andrew Henry in 1810

Saint Anthony, Falls of see MINNEAPOLIS, Minn.

Saint-Arnaud, Armand Jacques Leroy de (ärmä' zhäk' lurwä' dù sētärnō'), 1801-54, marshal of France. He was one of the generals summoned from Africa by Louis Napoleon (later NAPOLEON III) to support his coup d'état of Dec., 1851. Saint-Arnaud played a major part in the execution of the coup. He commanded the French troops in the Crimean War and won the victory of the Alma shortly before he died of cholera. Canrobert succeeded him in command

Saint Asaph (sunt ă'suf), rural district (pop. 7,752), Flintshire, Wales, SE of Rhyl and on the Elwy and Clwyd rivers. The small cathedral, restored by Sir George Gilbert Scott, has a collection of early Bibles and other religious books. The ancient monastery of Llanelwy in this cathedral city was renamed to honor Asaph, a 6th-century abbot, traditionally he is called a bishop. Morgan, translator of the Bible into Welsh, was bishop here. In 1920 the bishop of St. Asaph became Anglican archbishop for Wales

Saint Augustine (sānt ô'gustēn), city (pop. 12,090), co. seat of St. Johns co., NE Fla., on a narrow peninsula between the Matanzas and San Sebastian rivers and separated from the Atlantic by Anastasia Island. It is a port of entry, a shrimping and shipping center, and a popular winter and summer resort. Oldest city in the United States, it was founded in early Sept., 1565, by Pedro MENÉNDEZ DE AVILÉS, on the site of an ancient Indian village and near the place where Ponce de León landed in 1513. Menéndez named his fort for St. Augustine, on whose day (Aug. 28) he entered the harbor. The town was burned and sacked by the English buccaneers Sir Francis Drake (1586) and Capt. John Davis (1665). It withstood attacks by South Carolinians in 1702-3 and by Oglethorpe in 1740. St. Augustine passed to the English in 1763, in the Revolutionary War, Tories flocked to it from the North, leaving the city when it reverted to Spain in 1783. With cession to the United States in 1821, the city's growth was rapid until checked by the Seminole War. Union troops occupied St. Augustine in March, 1862, and held it throughout the Civil War. Much of the colonial atmosphere is retained. Notable among the old landmarks is the Castillo de San Marcos, the oldest masonry fort in the country (built 1672-1756). It was called Fort St. Mark in the British occupation and became Fort Marion in 1825. Made a national monument in 1924 (18.51 acres), it was renamed Castillo de San Marcos in 1942. Fort Matanzas at the southern entrance to the Matanzas river, c 15 mi. south of the city, is also a national monument (c 228 acres, est. 1924). It was built by the Spanish in 1737, near the site where Menéndez massacred Jean Ribaut and his company of French Huguenots in 1565. The Castillo, Fort Matanzas, and the old city gates (1804), which replaced earlier ones, were all built of native coquina rock. Other places of interest in the city are the old schoolhouse, the so-called "oldest house" in the United States (said to date from the late 16th cent.), the slave market, the cathedral (1793-97, partly restored), and the Flagler Memorial Church

Saint Augustine's College see RALEIGH, N C

Saint Austell (sunt ô'stul), urban district (pop. 8,295), Cornwall, England, near St. Austell Bay. It is a center of kaolin production and shipping and a resort. Cornish china clay was first discovered here c 1755 by William Cookworthy

Saint Barthélemy, island, West Indies see GUADELOUPE

Saint Bartholomew's Day, massacre of, massacre of French Protestant leaders which began in Paris on Aug. 24, 1572. It was preceded, on Aug. 22, by an attempt, suborned by CATHERINE DE' MEDICI, on the life of Admiral COLIGNY. The failure of the attempt led to the formulation of the plan for a general massacre, for which an opportunity was furnished by the presence in Paris of numerous Protestant chieftains, guests at the wedding of Henry of Navarre (later KING HENRY IV). Involved with Catherine in the scheme were the duke of Anjou, later King HENRY III, Henri, 3d duc de GUISE, and the reluctant King CHARLES IX. Coligny was the first victim, his death was followed by the killing of minor chiefs and of all Huguenots within reach of the soldiery and the mob. The massacre spread from Paris into other sections of France. Its result was the resumption of civil war (see RELIGION, WARS OF).

Saint Benoît Joseph Labre (sē bunwä' zhōzĕf' läbrù), village (pop. 1,593), E Que., on the Matapedia river and E of Rimouski, at the base of the Gaspé Peninsula, in a lumbering and dairy-farming area

Saint Bernard (sānt burnärd'), city (pop. 7,387), SW Ohio, a suburb of Cincinnati. Soap and industrial chemicals are made here

Saint Bernard (sānt bûrnärd'), two Alpine passes, both used since antiquity. The **Great Saint Ber-**

nard, between Valais canton, Switzerland, and Val d'Aosta, Italy, was crossed by Charlemagne, Emperor Henry IV, Frederick Barbarossa, and Napoleon I The hospice (alt 8,114 ft), founded (c.982) by St Bernard of Menthon, is in charge of Augustinian friars The St Bernard dogs bred by them were formerly used to search for lost travelers. Here are a hotel, a church, a library, and a scientific institute A ruined temple of Jupiter stands at the summit The Great St Bernard Road was completed in 1905 The **Little Saint Bernard**, with a road from Val d'Aosta, Italy, to Savoy, France, also has a hospice (alt 7,080 ft) founded by St Bernard of Menthon

Saint Bernard dog, largest of domestic dogs It was named after St Bernard de Menthon, founder (c 982) of the famous hospice in the Swiss Alps It is believed that the dogs were used from the 17th cent by the monks for rescuing lost persons in the mountains However, the name for the dogs was not commonly used until after 1880, when it was officially recognized as a breed name The origin of the dog is uncertain, but it is believed that the Molossus hound introduced from Asia is included in its ancestry, it is believed that a cross with the Newfoundland dog, in 1830, contributed the long hair to the breed Powerfully built, intelligent, and possessed of a keen sense of smell, the dogs proved themselves invaluable in Alpine rescue work With the decrease in foot travel through the Alps their work diminished Modern St Bernards are found in two varieties, the smooth-coated (with dense, short hair) and the rough-coated or long-haired variety (having moderately long hair, ranging from flat to slightly wavy) In color the coat may be white with red markings, red with white markings, white with brindle, or brindle with white The muzzle is white, the face is characteristically marked with black, and the forehead is wrinkled The body and head are massive Males should measure a minimum of 27 5 in at the shoulder, some weigh more than 200 lb

Saint Bonaventure College see ALLEGANY, N Y

Saint Boniface (sānt bŏ'nĭfās), city (pop 21,613), SE Man, on the Red River opposite Winnipeg, founded 1818 as a Roman Catholic mission, inc 1880. It is an industrial center, with oil refineries, paper, lumber, and flour mills, grain elevators, breweries, and varied manufactures The population is largely French A Roman Catholic cathedral is here, as is St Boniface College, affiliated with the Univ of Manitoba In 1938 a memorial was erected commemorating the 300th anniversary of the explorations of Vérendrye in the region

Saint-Brieuc (sĕ-brēû'), town (pop 28,596), capital of Côtes-du-Nord dept, NW France, on the English Channel It is named after a Welsh missionary (6th or 7th cent), who founded a monastery here An episcopal see since the 9th cent, Saint-Brieuc played an important part in Breton history There are many old houses and a Gothic cathedral

Saint Casimir (sĕ kă'zĭmēr, kăzēmēr'), village (pop 1,307), S Que, on the Ste Anne river and W of Quebec, in a lumbering and dairy-farming area

Saint Catharines, city (pop 30,275), S Ont, near Lake Ontario, on the Welland Ship Canal and S of Toronto, founded 1792 as an Anglican mission An industrial center in a rich fruitgrowing region, it has canneries and wineries as well as textile and paper mills, hardware, tools, motors, electrical equipment, and clothing are manufactured Its equable climate and mineral springs make it a popular resort Ridley College is here, as is a sanatorium for tubercular cases

Saint Catharine's College. see CAMBRIDGE UNIVERSITY.

Saint Césaire (sĕ sāzĕr'), village (pop 1,209), S Que, on the Yamaska river and E of Montreal

Saint-Chamond (sĕ-shămō'), town (pop 14,546), Loire dept, E central France, in the SAINT-ÉTIENNE industrial district

Saint Charles. **1** City (pop 5,870), NE Ill, W of Chicago and on the Fox river, founded 1834, inc 1839 It is a residential and industrial center in a farm area. Near by is the state school for boys **2** Village (pop 1,300), S Mich, on the Bad River and SW of Saginaw, inc before 1875. There are bituminous coal mines here **3** City (pop. 1,507), SE Minn., E of Rochester, in a farm area, platted 1854, inc 1870 Whitewater State Park is near **4** City (pop 10,803), co seat of St Charles co, E Mo, on the low bluffs along the north bank of the Missouri river and near St Louis It was settled by French traders in 1769 and was incorporated as a village in 1809, as a city in 1849 The earliest permanent white settlement on the Missouri river, St Charles was an important trading post, a starting point on the westward Boone's Lick Trail, and the state capital until 1826 It is the trade and distribution center of a rich farm area, with various manufactures, among which are shoes and metal products Lindenwood College for Women (Presbyterian, 1827) and Sacred Heart Convent (erected 1838) are here

Saint Charles, Cape, eastern point of Labrador, at the north end of the Strait of Belle Isle

Saint Christopher, British West Indies see SAINT KITTS.

St. Clair, Arthur, 1734–1818, American general, b. Thurso, Caithness co., Scotland. He left the Univ. of Edinburgh to become (1757) an ensign in the British army and served in the French and Indian Wars with Lord Jeffery Amherst at Louisburg and with Gen. James Wolfe at Quebec. In 1762 he resigned his commission, settled in Boston, then moved to Pennsylvania, where he purchased property and held a number of civil offices. In the American Revolution he served in the expedition to Canada as colonel of a regiment of militia which he raised (1775) and was made a brigadier general a year later Authorized by George Washington to organize the New Jersey militia, he fought in the battles of Trenton and Princeton As major general he took command (1777) at Fort Ticonderoga, which he evacuated without a fight to superior British forces A court-martial in 1778 cleared him of blame, and he served afterwards in several minor capacities In 1785–87 St Clair was a delegate to the Continental Congress, serving as its president in 1787 He was appointed (1787) the first governor of the Northwest Territory, established its capital at Cincinnati, and became (1791) commander in chief of the forces fighting the Indians, led at the time by the able LITTLE TURTLE In moving his army to attack he was surprised and defeated near the Miami villages and subsequently resigned his commission (1792), although a congressional investigating committee later exonerated him His arbitrary rule as governor secured him many enemies, and in 1802 he was removed by Thomas Jefferson after condemning the act making Ohio a state He published in 1812 a defense of his conduct in the Indian wars and spent his later years in poverty. See W H Smith, ed, *The St Clair Papers* (2 vols, 1882), biography by F E Wilson (1944)

Saint Clair. **1** City (pop 3,471), S Mich, on the St Clair river at the mouth of the Pine, laid out 1818, inc as a village 1850, as a city 1858 It has large saltworks and manufactures automobile parts The Indian lake shore trail crosses the site **2** Farm trading town (pop. 1,410), E Mo, SW of St Louis, settled in the 1840s Coal, lead, zinc, and barite are found in the area **3** Borough (pop 6,809), E Pa, near Pottsville, laid out 1831, inc 1850. It has anthracite mines and textile mills

Saint Clair, Lake, c 27 mi long and 25 mi wide at its greatest breadth, between S Ontario and SE Michigan Its outlet is the Detroit river, which flows S to Lake Erie, and its inlet is the St Clair river, which flows c 41 mi S from Lake Huron

Saint Clair Shores, village (pop 10,405), SE Mich, on Lake St Clair and NE of Detroit, inc 1925

Saint Clairsville, village (pop 2,797), co seat of Belmont co, E Ohio, W of Wheeling, W Va, laid out 1801 It is a trade center Benjamin Lundy founded (1815) here the antislavery Union Humane Society

Saint-Claude (sĕ-klōd'), town (pop 9,865), Jura dept, E France It has manufactures, particularly of brier pipes, and is also a favorite resort in the French Jura mts The town originated with the foundation (5th cent) of a monastery The abbey church is now the cathedral The monks of Saint-Claude, who had held the land under mortmain and had developed the brier industry of the region, were among the few landowners in France who until 1789 kept their peasants in complete servitude Voltaire, in a spirited but unsuccessful polemic, brought the condition to public attention The abbey was suppressed in the French Revolution

Saint-Cloud (sĕ-klōō'), town (pop 17,068), Seine-et-Oise dept, N France, on the Seine, a western suburb of Paris Its name derives from St Clodoald (6th cent), a grandson of Clovis I, who built a monastery here The palace at Saint-Cloud, built in 1572 and destroyed by fire in the siege of Paris (1870), was a residence of several rulers, particularly Napoleon I, who was declared emperor here by the senate in 1804

Saint Cloud (sānt kloud') **1** City (pop 2,042), E central Fla, N of Lake Kissimmee, between Tohopekaliga and East Tohopekaliga lakes, settled in the 1880s **2** City (pop 24,173), co seat of Stearns co, central Minn., on the Mississippi and NW of Minneapolis, in a farm region, settled 1852, platted 1855, inc as a village 1857, as a city 1868 Granite has been quarried here since 1868, granite finishing is a leading industry A state teachers college (1869), a state reformatory (1889), a U S veterans' hospital (1924), and an orphans' home (1924) are here

Saint Croix see VIRGIN ISLANDS OF THE UNITED STATES

Saint Croix (sānt kroi') [Fr. =Holy Cross] **1** River rising in the Chiputneticook Lakes on the Maine–N.B. border and flowing 75 mi. S and E to Passamaquoddy Bay, forming the international boundary. Champlain and the sieur de Monts planted a colony on St Croix, or Dochet, Island (now part of Washington co, Maine, below Calais) near the mouth of the river in 1604 but moved the surviving settlers to Port Royal (now Annapolis Royal) in 1605 See Guy Murchie, *Saint Croix, the Sentinel River* (1947). **2** River rising in N Wisconsin in the lake region and flowing SW, then S, through Lake St Croix to the Mississippi at Prescott, Wis. It forms part of the Wisconsin-Minnesota boundary. Its beautiful Dalles are near St Croix Falls.

Saint Croix Falls, village (pop 1,007), NW Wis, on the St Croix and NE of St Paul, Minn., settled 1837, inc 1888 It was an early lumbering center Interstate Park contains the Old Man of the Dalles and other rock formations.

Saint-Cyr, Laurent Gouvion, marquis de. see GOUVION-SAINT-CYR, LAURENT, MARQUIS DE.

Saint-Cyr-l'École (sĕ-sēr'-lākōl'), town (pop. 4,288), Seine-et-Oise dept, N central France, W of Versailles. Here in 1684 Mme de Maintenon founded a famous school for daughters of impoverished noblemen Racine's *Esther* and *Athalie* were first performed here by the pupils Mme de Maintenon is buried in the chapel The building later housed the famous military academy (the West Point of France) founded by Napoleon in 1808. It was destroyed (1944) in the Second World War, and the school was temporarily transferred to Coëtquidam in Brittany.

Saint-Cyran, Abbé de: see DUVERGIER DE HAURANNE, JEAN

Saint David's, village, Pembrokeshire, Wales, NW of Haverfordwest An ancient close, of whose ruined walls one gate remains, encompassed monastic buildings here The cathedral, the most famous and one of the finest in Wales, is mainly Transitional Norman in style, built of red-violet stone Among its features is the base of the shrine of St David. The cathedral was added to and altered chiefly by Bishops Martyn, Gower, and Vaughan and was restored by Sir George Gilbert Scott Across the Alan or Alun brook, which flows past the cathedral, are the imposing ruins of the palace of Bishop Gower (14th cent) St David's (ancient Menevia) was for centuries one of the most important places of pilgrimage in Great Britain, several old roads focus here **Saint David's Head**, 2½ mi northwest of the village, is the most westerly point of Wales.

St. Denis, Ruth (sānt dĕ'nĭs), 1880–, American dancer, b Newark, N J, whose real name is Ruth Dennis She made her debut (1906) in a recital of highly imaginative and spectacular Oriental dances which she performed in Europe (1906–8) and in the United States (1910) With Ted Shawn, whom she married (1914), St Denis founded the Denishawn School in Los Angeles and in New York (1920). A divergence in their views led her to found, with La Meri, the Authentic School of Oriental Dancing (1940) An outstanding American pioneer of the dance, she has trained such dancers as Martha Graham, Doris Humphrey, and Charles Weidman Her dances include *Radha*, *Incense*, *Cobras*, *Nautch*, and the *Masque of Mary*. See her autobiographical *An Unfinished Life* (1939).

Saint-Denis (sānt-dĕ'nĭs, Fr sĕ-dunĕ'), town (pop 68,595), Seine dept, N France, a northern suburb of Paris Today dominated by machine and chemical industries, it has a long history Saint-Denis grew around a Benedictine abbey founded (626) by Dagobert I at the tomb of St DENIS, patron saint of France The early Gothic basilica (12th–13th cent), restored after its devastation in the French Revolution, profoundly influenced the evolution of Gothic architecture It contains the tombs of the kings of France Particularly remarkable are the tombs of Francis I by Philibert DELORME and of Henry II by Germain PILON Louis XVI and Marie Antoinette are buried in the crypt The basilica was the scene (1593) of Henry IV's abjuration of Protestantism The abbey (rebuilt in the 18th cent and now a school) played a very important role in French medieval history Its banner, the oriflamme, was the royal standard from the reign of Louis VI to that of Charles VI. It was here that Abelard became a monk

Saint Denis (sānt dĕ'nĭs, Fr sĕ dūnĕ'), town (pop 30,762), capital of Réunion It is a port on the Indian Ocean and exports sugar and rum

Saint-Dié (sĕ-dyā'), city (pop 11,423), Vosges dept, E France, in Lorraine, on the Meurthe It grew around a monastery founded in the 7th cent which later was the seat of a chapter of noble canons and a bishopric In 1944 retreating German troops dynamited its Romanesque and Gothic cathedral, set fire to the city, and partially destroyed the ancient cloisters (14th–16th cent), a large part of the population had previously been expelled, deported, or massacred Here in 1507 was printed the *Cosmographiae introductio* of Martin Waldseemüller, a geographic work which for the first time referred to the newly discovered continent as America.

Saint-Dizier (sĕ-dēzyā'), town (pop. 15,936), Haute-Marne dept, NE France, on the Marne It has a metalworking industry and trade in lumber.

Sainte Agathe des Monts (sētăgāt" dā mō'), town (pop 3,308), S Que, on the North River and NW of Montreal It is a health resort and trade center for a summer and winter recreation area

Sainte Anne de Beaupré (sānt ăn' dŭ bōprā', bō'prā, Fr sĕtăn" dŭ bōprā'), village (pop. 1,783), S Que, on the St Lawrence and NE of Quebec. It is the seat of a famous shrine established in 1620 by sailors who had been shipwrecked A chapel was built in 1658 and a large church in 1876. Burned in 1922,

the church was magnificently rebuilt, it houses relics and is one of Canada's foremost pilgrim resorts, many miraculous cures being ascribed to prayers at the shrine Mountains, a river, and falls near the village are also named for the saint

Sainte Anne de Bellevue (sĕtăn" du bĕl'vü'), town (pop 3,006), S Que , on Montreal island, WSW of Montreal In fur-trading days it was the point of departure for canoes going west and is referred to in Thomas Moore's "Canadian Boat Song" The town has lumbering and publishing industries and is the seat of Macdonald College, a branch of McGill Univ

Sainte Anne de Chicoutimi (du shĭkōō'tĭmē", shē-kōōtēmē'), village (pop 1,540), S Que , on the Saguenay opposite Chicoutimi

Sainte Anne de la Pérade, Que see LA PÉRADE

Sainte-Baume (sĕt-bōm'), grotto near the village of Saint-Maximin-la-Sainte-Baume (pop 1,998), Var dept , SE France, in the Alps of lower Provence, N of Toulon Because of the legend (held utterly improbable by the Roman Catholic Church) that St Mary Magdalen lived here in penitence, the grotto became a place of pilgrimage Saint-Maximin has a fine Gothic church (13th-16th cent)

Sainte-Beuve, Charles Augustin (sharl' ōgüstĕ' sĕt-büv'), 1804–69, French literary historian and critic He studied medicine but abandoned it for literature, contributing reviews to the *Globe* as early as 1824 After attempts at writing poetry, *Les Pensées de Joseph Délorme* (1829), and a semi-autobiographical psychological novel, *Volupté* (1834), which was inspired by his love for Mme Victor Hugo, he broke with romanticism and turned to criticism His weekly articles in four reviews, collected as the *Premiers Lundis* (15 vols , 1851–62) and the *Nouveaux Lundis* (13 vols , 1863–70), are referred to as the *Causeries du lundi* (Eng tr , *Monday Chats*, 1877) He considered his great work to be *Port-Royal* (1840–60), taken in part from his lectures in 1837 at Lausanne This work, comprised of six books, is not only a history of Jansenism but of a whole section of 17th-century French society Made a member of the French Academy in 1844, he taught (1848–49) at Liège, where he lectured on Chateaubriand and his followers, and in 1857 he became a professor at the École normale supérieure, Paris He was made senator in 1865 His vast literary output reveals a critic aware of the many-sidedness of things, hesitant to limit himself by the narrowness of conclusion, and seeking always deep and constant human values See study by L F Mott (1925)

Sainte-Chapelle (sĕt-shăpĕl'), former chapel in Paris Forming part of the buildings of the Palais de Justice (once the royal palace) on the Île-de-la-Cité, it was built (1242–48) for Louis IX) (St Louis) to enshrine the Crown of Thorns and other sacred relics brought back from the Crusades It was admirably restored in the 19th cent by J B Lassus and Viollet-le-Duc Now a museum, the Sainte-Chapelle is one of the purest jewels of medieval art It consists of two chapels, one above the other, and a spire From the painted and gilded lower chapel a winding staircase leads to the porch of the upper chapel The elegant proportions and airiness of the upper chapel, its 15 magnificent stained glass windows, separated only by the width of the buttresses and reaching nearly from floor to ceiling, and its vividly painted columns and panels, combine to create the effect of a sheer blaze of color and light The Sainte-Chapelle is a unique work of art, second to no other in Paris, but its effect depends largely on the presence of sunlight

Sainte-Claire Deville, Henri Étienne (ărē' ătyĕn' sĕt-klār' duvēl'), 1818–81, French chemist, b St Thomas, West Indies He reorganized (1844) the department of sciences at the Univ of Besançon and became professor (1845) and dean there, he was professor at the École normale supérieure, Paris, from 1851 He investigated toluene (1841) and is known especially for his important theory of dissociation and for his research on the properties and preparation of various metals, especially aluminum His work on aluminum (1859) was translated in 1933

Saint Edmund Hall see OXFORD UNIVERSITY

Sainte Genevieve (sānt jĕ'nuvēv), city (pop 2,787), co seat of Ste Genevieve co , E Mo , on the Mississippi below St Louis The earliest permanent white settlement in Missouri, it was founded before 1750 by Frenchmen as a trading post The salt springs, rich bottom lands, and near-by lead mines attracted settlers The settlement was an important river port in the steamboat days Today it is the trade center of a farm area and a shipping point for the lime and marble of the region The Ste Genevieve Church (1880) is built on the site of the city's first church (1785)

Saint Elias, Mount (ĭlī'ŭs), 18,008 ft. high, in the St Elias Mts on the international border between Yukon territory and Alaska. One of the highest of North American mountains, this giant landmark was first seen by Vitus Bering on July 16, 1741. It was climbed by the duke of the Abruzzi in 1897

Malaspina Glacier rises here.

Saint Elias, Mount, Greece. see HAGIOS ILIAS.

Saint Elias Mountains, section of the Coast Ranges, SW Yukon and SE Alaska Its highest point is Mt. LOGAN; the second highest is Mt SAINT ELIAS

Saint Elmo, city (pop 2,290), S central Ill , NE of Vandalia, in an oil area; settled 1830, inc 1903 It has oil refineries, railroad shops, and brick plants

Saint Elmo's fire, luminous discharge of electricity extending into the atmosphere from some projecting or elevated object It is usually observed (often during a snowstorm or a dust storm) as brushlike fiery jets extending from the tips of a ship's mast or spar, a wing, propeller, or other part of an aircraft, a steeple, a mountain top, or even from blades of grass or horns of cattle Sometimes it plays about the head of a person, causing a tingling sensation The phenomenon occurs when the atmosphere becomes charged and an electrical potential strong enough to cause a discharge is created between an object and the air around it The amount of electricity involved is not great enough to be dangerous The appearance of St Elmo's fire is regarded as a portent of bad weather The phenomenon, also known as corposant, was long regarded with superstitious awe. See also PETER GONZALEZ, SAINT

Sainte Marie de Beauce (sĕt mărē' dŭ bōs'), village (pop 1,736), S Que., on the Chaudière river and SSE of Lévis It has plants making shoes, furniture, and textiles. The Chapel of St Anne is a pilgrimage center

Saint Émilien, Que see DESBIENS

Sainte Rose (sĕt rōz'), village (pop 2,292), S Que on the west shore of Île Jésus and NW of Montreal It is a dairying center

Saintes (sĕt'), town (pop 20,711), Charente-Maritime dept , W France, on the Charente The capital of the Santones in Gallo-Roman times, it continued as the capital of the county, later province, of SAINTONGE Among its ancient monuments are the amphitheater (1st cent A D), still in use, a triumphal arch (A D 21), and the churches of St Eutrope and Sainte-Marie-des-Dames, parts of which date from the 11th and 12th cent It is today a trading center for grain and spirits Considerable damage was inflicted on the town in the Second World War

Saintes, Les see GUADELOUPE

Sainte Thérèse (sĕt' tărĕz'), town (pop 4,659), S Que , WNW of Montreal It has piano, furniture, plywood, and clothing factories

Saint-Étienne (sĕtyătĕn'), city (pop 156,315), capital of Loire dept , E central France In a region of coal and iron mines, Saint-Étienne and neighboring towns produce steel, machinery, arms, and textile goods The city was considerably damaged in the Second World War

Saint Eustache (sātūstash'), village (pop 1,564), S Que , W of Montreal It is a summer resort and a trade center in an agricultural region and has vegetable canneries

Saint Eustache sur le Lac (sür lŭ läk'), village (pop. 1,472), S Que , on the north shore of Lake of the Two Mountains and W of Montreal It is a resort in dairy-farming country

Saint Eustatius (sānt ūstā'shus), island (8 sq mi , pop 970), Dutch West Indies In the Leeward Islands, near St Kitts, it is a dependency of CURAÇAO The mountainous island exports yams, corn, and cotton through its port, Orangetown The island, is also locally called Statia

Saint-Évremond, Charles de Marguetel de Saint-Denis de (sharl' dŭ margutĕl' du sĕdünē' dŭ sĕtā-vrumō'), 1616?–1703, French critic, writer, and soldier He served under Condé at Rocroi and Nördlingen, was made *maréchal de camp* in 1652, and was later exiled for expressing hostility to the Peace of the Pyrenees (1659) His exile was divided between Holland and England Refusing permission given in 1689 to return to France, he died in England and was buried in Westminster Abbey Saint-Évremond contributed to the skeptical, freethinking current of his century He revealed his mordant wit in his *Comédie des académistes* and his originality as a critic in essays and dissertations upon tragedy, poetry, religion, and history His correspondence (Eng tr , 1930) is a valuable source for events and persons of his time

Saint Exupéry, Antoine de (ătwăn dŭ sĕtĕgzüpārē'), 1900–1944, French author and aviator From his experiences as a commercial air-line pilot in Europe, Africa, and South America he wrote three works of poetic quality, *Courrier Sud* (1929, Eng tr , *Southern Mail*, 1933), *Vol de nuit* (1931, Eng tr , *Night Flight*, 1932), and *Terre des hommes* (1939, Eng tr , *Wind, Sand, and Stars*, 1939) From his war experience came another work engrossed with the effect of the airplane on human vistas, *Pilote de guerre* (1942, Eng tr , *Flight to Arras*, 1942), based on a mission performed in 1940 as a reconnaissance pilot *Le Petit Prince* (1943, Eng tr , *The Little Prince*, 1943) is a fantasy. He was missing in action in 1944

Saint Félicien (sĕ fālēsyĕ'), village (pop 1,603), S Que , on the Ashuapmuchuan river near its mouth on Lake St John and W of Chicoutimi Lumbering and dairying are important here

Saint Félix de Valois (sĕ fālĕks" dŭ valwā'), village (pop 1,130), S Que , NNE of Joliette, in dairying and lumbering country

Saint Ferdinand, Que.· see BERNIERVILLE.

Saint Ferdinand, Mo see FLORISSANT

Saint Francis. **1** City (pop 1,041), co seat of Cheyenne co., extreme NW Kansas, on the Republican river in the Great Plains region, founded 1885, inc 1903 It is a farm trade and shipping center **A lake** is near by **2** Plantation (pop 1,489), N Maine, on the St Francis near the influx of the St John

Saint Francis 1 River, 150 mi long, rising in SE Quebec in Lake St Francis, NW of Mégantic, and flowing SW through Lake Aylmer and past East Angus to Lennoxville, then NW past Sherbrooke, Richmond, Drummondville, and Pierrefville to Lake St Peter of the St Lawrence, ENE of Sorel **2** River, 60 mi long, rising in E Quebec and flowing generally SE to the St John river For a few miles it forms the boundary of Quebec and New Brunswick with extreme N Maine

Saint Francis, river rising in the hills of SE Missouri and flowing S through Arkansas to join the Mississippi above Helena It forms part of the Arkansas-Missouri line The Wappapello Dam (77 ft high and 2,700 ft long), for flood control, is near Poplar Bluff, Mo

Saint Francis, Lake. 1 SE Ont , and S Que , an expansion of the St Lawrence SW of Montreal, extending 30 mi between Cornwall, Ont , and Valleyfield, Que **2** S Que , NW of Mégantic, drained into Lake Aylmer by the St Francis river

Saint Francis Indians, group of the ABNAKI INDIANS, attacked by Robert Rogers and his Rangers in Oct , 1759 The group, after warfare with New Englanders along the Kennebec river, were forced into Canada and settled chiefly at St Francis, a village on the St Francis river near its confluence with the St Lawrence Rogers's troops sent out against the Indians, burned the town of St Francis, killed 200 Indians, taking several children as prisoners, and released five white captives Despite the damage to the settlement, it remained the principal home of the remnants of the tribe

Saint Francisville, city (pop. 1,145), SE Ill , on the Wabash below Vincennes, Ind , inc 1843

Saint Francis Xavier University (zā'vyür), at Antigonish, N S , Catholic, for men and women, opened as a college 1853, chartered as a university 1866 The woman's college is Mt St Bernard (Congregation of Notre Dame) The university through extension courses has promoted a successful cooperative movement among farmers and fishermen

Saint Gabriel de Brandon (sĕ gābrĭĕl" du brădō', brōdō'), village (pop 1,632), S Que , on Lake Maskinongé and N of Joliette It is a summer resort in a lumbering and dairying region

Saint Gall (sānt gôl', gäl', gal'), Ger *Sankt Gallen* (zängkt gä'lun), canton (777 sq mi , pop 286,201), NE Switzerland, bordering on the Lake of Constance in the north and on the Rhine in the east It surrounds the entire canton of Appenzell The south is fairly mountainous, the north mainly a meadowland The canton has important manufactures, especially of silk, embroideries, and cotton goods The prevailing language is German The capital, **Saint Gall** (pop 62,530), grew up around the abbey of St Gall, its abbots, who also ruled APPENZELL, became princes of the Holy Roman Empire in 1204 Rebelling against the abbot, the town made an alliance with the Swiss Confederation (1454) and in 1457 bought its freedom from the abbot, who later also became an ally of the SWISS The Reformation, accepted by the town but suppressed in the districts controlled by the abbot, brought about a long series of disturbances (notably the War of the TOGGENBURG) until 1718 In 1803 the town and the abbot's domains (secularised in 1798) were consolidated as a canton of the Swiss Confederation under Napoleon's Act of Mediation An episcopal see since 1846, St Gall has a cathedral (formerly the abbey church), a library containing important medieval manuscripts, and several museums It is noted for its embroideries

Saint Gall, former Benedictine abbey, at St Gall, Switzerland Originating in a cell built c 614 by St Gall, an Irish missionary (see COLUMBAN, SAINT), it became an abbey under Charles Martel (8th cent) and acquired universal fame as one of the principal centers of learning in the early Middle Ages In its library invaluable classic manuscripts were copied and preserved Among the teachers were NOTKER BALBULUS, NOTKER LABEO, and the four monks named EKKEHARD The abbey was secularized in 1798 The present buildings date mainly from the 18th cent See J M Clark, *The Abbey of St Gall* (1926)

Saint-Gaudens, Augustus (sānt-gô'dŭnz), 1848–1907, American sculptor, b Dublin, Ireland An apprentice in cameo cutting, he early gained mastery over sculpture in low relief To his unusual genius for plastic expression and his unfailing enthusiasm and industry were added thorough French training and knowledge of the Italian Renaissance Saint-Gaudens became the foremost sculptor in the United States and a strong influence in the development of American sculpture His statues *Hiawatha* (1872) and *Silence* (1874) were followed by a bust of William M Evarts (1874) and some fine low-relief portraits In 1881 his

statue of Admiral Farragut for Madison Square, New York, was unveiled, setting a new standard for public monuments and introducing a new conception of the pedestal In this base and in several others Stanford White collaborated In 1887 the Lincoln in Lincoln Park, Chicago, was completed Other works that followed are Deacon Samuel Chapin (*The Puritan*), Springfield, Mass , Peter Cooper, New York, the Shaw Memorial, Boston Common, the Garfield monument, Fairmount Park, Philadelphia, General Logan, Chicago, General Sherman, entrance to Central Park, New York, Phillips Brooks, Boston, and the seated Lincoln for the Chicago lake front Of the portrait tablets and plaques, most notable are Dr McCosh, Princeton, N J , Robert Louis Stevenson for St Giles, Edinburgh, Scotland, and charming low reliefs of children Among ideal figures a few are the caryatids for a mantel in the Cornelius Vanderbilt house, New York (now in the Metropolitan Mus), *Amor Caritas* (Luxembourg Museum, Paris), and the Adams Memorial, Rock Creek Cemetery, Washington, D C , one of his most famous works His brother, **Louis Saint-Gaudens,** 1854–1913, also was a sculptor of talent

Saint-Gelays or **Saint-Gelais, Mellin de** (mĕlăⁿ' du sĕ-zhulā'), c 1490–1558, French poet With MAROT he introduced the sonnet into French literature

Saint George, town (pop c 1,700), on St George's island, Bermuda Capital of Bermuda until Hamilton was selected in 1815, it was long the chief port, and in the American Civil War it harbored Confederate blockade-runners

Saint George, British West Indies see SAINT GEORGE'S

Saint George, town (pop 1,169), SW N B , on the Magaguadavic river estuary near Passamaquoddy Bay It is a fishing port and has pulp and lumber mills and a hydroelectric station

Saint George. 1 Fishing town (pop 1,550), S Maine, on a peninsula S of Rockland, inc 1803 It includes the coast villages St George, Port Clyde, and Tenants Harbor George Weymouth visited this area in 1605, an English trading post was established c 1630 The Indians raided it several times, and the settlement grew slowly Fort St George, built here in 1809, fell to the British in the War of 1812 **2** Town (pop 1,908), co seat of Dorchester co , S S C , NW of Charleston near the Edisto, in a farm, livestock, and lumber area, settled 1788 Near by are Methodist campgrounds **3** City (pop 3,591), co seat of Washington co , extreme SW Utah, in the Virgin river valley The hot climate caused the Mormons to found (1861) a colony in Utah's "Dixie" to grow cotton and other subtropical crops, but the coming of the railroads to Utah made these crops unprofitable St George is much visited by tourists It has Dixie Junior College, a Latter-Day Saints temple (1877), and a Latter-Day Saints tabernacle (1871)

Saint George, Cape, promontory, W N F , at the extreme west tip of Port au Port peninsula, on the north side of the entrance to St George Bay

Saint George Bay, W N F It is 60 mi long, and its mouth, between Cape St George and Cape Anguille, is 40 mi wide The Anguille Range extends along the southeast shore There are several small fishing settlements on the bay

Saint George's or **Saint George,** town (pop c 6,000), capital of GRENADA, British West Indies A picturesque town on a well-fortified, deep, and beautiful harbor, it is administrative headquarters of Grenada and the Windward Islands colony

Saint George's Channel, sea arm, c 100 mi long and 50 to 95 mi wide, linking the Atlantic and the Irish Sea It separates SE Ireland from Wales

Saint Georges de Beauce (sĕ zhôrzh" du bōs'), village (pop 1,945), SE Que , on the Chaudière river and SE of Lévis It has woolen and rayon mills

Saint-Germain, Treaty of (sĕ-zhĕrmĕ'), name of several treaties signed at Saint-Germain-en-Laye, near Paris, France, The Treaty of Saint-Germain of **1570** terminated the first phase of the French religious wars (see RELIGION, WARS OF) The Treaty of Saint-Germain of **1679** made peace between France and the elector of Brandenburg at the end of the Third Dutch War Frederick William the Great Elector had to restore nearly all his conquests in Pomerania to Charles XI of Sweden, who was allied to France The Treaty of Saint-Germain of Sept 10, **1919,** was signed by the victorious Allies of the First World War on the one hand and by the new republic of AUSTRIA on the other Like the Treaty of Versailles with Germany, it contained the Covenant of the League of Nations and as a result was not ratified by the United States The treaty declared the Austro-Hungarian Monarchy dissolved The new republic of Austria, consisting of the German-speaking part of the former Austrian Empire, recognized the independence of Hungary, Czechoslovakia, Poland, and Yugoslavia (then called the kingdom of Serbs, Croats, and Slovenes) Austria was reduced not only by the loss of crownlands incorporated into Czechoslovakia, Poland, and Yugoslavia (the) "successor states") but by cession of S Tyrol, Trieste, Istria, several Dalmatian islands, and Friuli to Italy, and the cession of Bukovina to Rumania BURGENLAND, then a part of Hungary, was awarded to Austria. The Treaty of Trianon (1920) between Hungary and the Allies completed the disposition of the former Dual Monarchy Austria assumed the responsibility of the imperial Austrian government for its share in bringing about the war, but its reparations payments to the Allies actually were never exacted because of the obvious insolvency of the Austrian state An important article of the treaty was the one obliging Austria to refrain from any act which might directly or indirectly compromise its independence, this meant that Austria could not enter into political or economic union (Ger *Anschluss*) with Germany The Austrian army was limited to a force of 30,000 volunteers. There were numerous provisions dealing with Danubian navigation, the transfer of railroads, and other details involved in the breakup of a great empire into several small independent states

Saint-Germain-des-Prés (sĕ-zhĕrmĕ"-dā-prā'), historic abbey and church of Paris, on the left bank of the Seine It was founded (6th cent) by Childebert I, several Merovigian kings were buried here Both church and abbey were several times destroyed, the present church, in Romanesque style, dates from the early 11th cent It has a remarkable façade Of the old abbey, destroyed in the French Revolution, there remain only ruins, but the Renaissance palace of the abbots (16th cent) still stands near by Among the abbots were Hugh Capet and John II of Poland Mabillon and Prévost d'Exiles, among many other illustrious men, were monks at the abbey

Saint-Germain-en-Laye (sĕ-zhĕrmĕ"năⁿ-lā'), town (pop 20,028), Seine-et-Oise dept , N France, a western suburb of Paris Its handsome Renaissance château (now a museum), overlooking the Seine, was the chief royal residence from the time of Francis I to that of Louis XIII Designed by Pierre Chambiges, it has a vast and beautiful park Henry II, Jeanne d'Albret, Louis XIV, and Claude Debussy were born at Saint-Germain

Saint Germans (sunt jûr'munz) [for St GERMANUS OF AUXERRE], rural district (pop 11,820) and village, Cornwall, England, WNW of Plymouth In the 10th and 11th cent it was the seat of the bishopric of Cornwall, which was later transferred to Exeter

Saint Gotthard, Hungary see SZENTGOTTHARD

Saint Gotthard (sănt gŏ'thurd, gŏ'turd), Alpine group, S central Switzerland It is crossed by the **Saint Gotthard Pass,** 6,929 feet high The pass, made accessible in the 13th cent , has been much used since and is crossed by the St Gotthard Road (built 1820–30) The **Saint Gotthard Tunnel** (length 9¼ mi , maximum alt 3,786 ft) was constructed in the years 1872–80 and is used by the St Gotthard RR, which links the northern and southern parts of Switzerland

Saint Helena (sănt hulē'nu), city (pop 1,758), W Calif , N of San Francisco, in a vineyard region, inc 1876 Pacific Union College (Seventh-Day Adventist, coeducational, 1882) is at near-by Angwin

Saint Helena (hulē'nu), British island (47 sq mi , 1946 pop 4,748), in the Atlantic ocean, 1,200 mi W of Africa The island was discovered by the Portuguese navigator João da Nova in 1502 and was subsequently occupied by the Dutch, who were succeeded in 1651 by a garrison of the British East India Company In 1834 St Helena became a British crown colony, which has included Ascension since 1922 and Tristan da Cunha since 1938 The island served as a prison for Boers (1900–1902) St Helena is best known as the place of exile of Napoleon, who was sent there in 1815 and died at Longwood, near Jamestown, in 1821 His home has been maintained as a memorial The principal industries are flax production, lacemaking and fish curing Jamestown is the port and capital See Philip Gosse, *St Helena, 1502–1938* (1938)

Saint Helena Island (sănt hĕ'lunu), c 15 mi long and 3 to 5 mi wide, S S C , between Saint Helena Sound and Port Royal Sound, one of the largest of the SEA ISLANDS It was discovered and named by early-16th-century Spanish explorers Descendants of the Negro slaves who worked the large sea-island cotton plantations here in ante-bellum days live on St Helena They are chiefly engaged in diversified farming on lands which they have owned since the plantation system was broken up by the Union invasion at the beginning of the Civil War Gullah, best-known Negro dialect of the Sea Islands, is spoken The Penn Normal, Industrial, and Agricultural School (Negro), founded here in 1862, has been a great influence in molding the life of the islanders See studies by Guion G Johnson, Guy B Johnson, and T J Woofter, Jr (all 1930), and by C V Kiser (1932)

Saint Helens 1 Former urban district (1931 pop 5,501), since 1932 part of Ryde municipal borough, on the Isle of Wight, England **2** County borough (pop 106,789), Lancashire, England, NE of Liverpool It is the chief seat of glass manufacture in England and also has iron and copper foundries, chemical and soap factories, and potteries There are deposits of coal and fire clay in the vicinity The Gamble Institute has a technical school and library.

Saint Helens, city (pop. 4,304), co seat of Columbia co , NW Oregon, on the Columbia below Portland, founded 1847–48, inc 1889 The site was early known variously as Wyeth's Rock and as Plymouth Rock It is a port and trade center for lumber, lumber products, pulp, and paper

Saint Helens, Mount, volcanic peak, 9,671 ft high, SW Wash., in the Cascade Range, E of Kelso

Saint Helier (sănt hĕl'yur, Fr sētälyā'), town and parish (pop 25,824), capital of Jersey, Channel Islands, on the eastern side of St Aubin's Bay, on the southern coast It is a residential town, resort, and point of export of local produce Royal Square was the scene of a battle (1781), when the French unsuccessfully attempted to regain Jersey, and Major Pierson, the leader of the defense, was killed Victoria College was founded in 1852 The parish church dates partly from the 14th cent There are a museum, an art gallery, and an observatory On an adjacent island, protecting the harbor and connected with the mainland at low water, is Elizabeth Castle, built in 1551–86 On a rock near the castle are remains supposedly of the hermitage of St Helier or St Helerius, the early missionary for whom the town was named Fort Regent is east of the harbor

Saint-Hilaire, Étienne Geoffroy: see GEOFFROY SAINT-HILAIRE, ÉTIENNE

Saint Hilda's College see OXFORD UNIVERSITY

Saint-Hubert (sătubĕr'), town (pop 2,980), Luxembourg prov , S Belgium It is a tourist resort in the Ardennes and has a Benedictine abbey dating from the 7th cent St Hubert, patron of the hunt, is buried in the 16th-century church There is a juvenile reformatory

Saint Hugh's College see OXFORD UNIVERSITY

Saint Hyacinthe (sănt hī'usĭnth, Fr sētyasĕt'), city (pop 17,798), S Que , on the Yamaska, ENE of Montreal and SW of Drummondville, inc as a town 1849, as a city 1857 It is an industrial center, having hosiery, cotton, silk, and knitting mills and plants manufacturing clothing, shoes, paper and wood products, machinery, and organs A Roman Catholic episcopal see, it has the Séminaire de St Hyacinthe and the Collège St Maurice, affiliated with the Univ of Montreal

Saint Ignace (sănt ĭg'năs), resort city (pop 2,669), co seat of Mackinac co , E Upper Peninsula, N Mich , on the Straits of Mackinac, in a farm and dairy region, inc as a village 1882, as a city 1883 Long the center of the MACKINAC fur trade, it is today principally a resort and fishing town The early French fort, Fort de Buade, was restored in 1938 Marquette Park here contains the grave of Father Marquette

Saintine, Xavier Boniface (zăvyā' bônĭfās' sētēn'), 1798–1865, French dramatist and novelist, author of *Picciola* (1836), a sentimental novel of prison life His real name was Joseph Xavier Boniface.

Saint Ives (sunt īvz') **1** Municipal borough (1931 pop 6,687, 1943 estimated pop 8,267), Cornwall, England, on the west shore of St Ives Bay and N of Penzance It is a fishing town (pilchard, herring, mackerel), bathing resort, and watering place Its mild climate and picturesque aspect have made it an artists' colony **2** Municipal borough (1931 pop 2,664, 1943 estimated pop 3,000), Huntingdonshire, England, on the Ouse and E of Huntingdon The old stone bridge over the Ouse was built by the abbots of Ramsey The parish church dates from the 15th cent Oliver Cromwell lived in the town c 1635

Saint Jacques (sĕ zhak'), village (pop 1,634), S Que , N of Montreal, in a tobacco district

Saint James 1 City (pop 3,400), co seat of Watonwan co , S Minn , SW of Mankato, inc as a village 1871, as a city 1899 It is a manufacturing and shipping center in a farm area **2** City (pop 1,812), S central Mo , SE of Jefferson City, in a timber and farm area, founded c 1857 A soldiers' home (U S and state supported) is here

Saint James's Palace, in London on St James's Street and fronting on Pall Mall The site was once occupied by St James's hospital for leprous women Henry VIII built the palace and established the park about it It was the London royal residence after the burning of Whitehall in 1697 until the time of Queen Victoria Charles I stayed here the night before his execution, Charles II, the Old Pretender, and George IV were born here, and Queen Mary died here (1558) The palace was damaged in an air raid in May, 1941 Although it is now seldom used except for certain ceremonials the British court is still designated as the Court of St James's

Saint Jean, Que see SAINT JOHNS.

Saint-Jean d'Acre see ACRE

Saint-Jean-de-Luz (sĕ-zhäⁿ'-du-lūz'), town (pop 8,848), Basses-Pyrénées dept , SW France A fishing port and fashionable beach resort on the Bay of Biscay, it is an old Basque town, whose sailors early exploited the Newfoundland fisheries

Saint Jérôme (sĕ zhārōm'), town (pop 11,329), S Que , on the North River and NW of Montreal, inc 1881. It is an industrial center, has woolen and paper mills, and manufactures rubber and wood products, shoes, and plastics. An annual Passion play is given here.

Saint Jo, city (pop 1,010), N Texas, ESE of Wichita Falls It was founded on the California Trail, throve as a cow town in the '70s, and now serves cattle ranches as well as farms that produce poultry, truck, and staple crops

St. John, Henry, Viscount Bolingbroke (sĭn'jŭ, bŏ'lĭngbrŏŏk), 1678–1751, English statesman Entering Parliament in 1701, he attached himself to Robert HARLEY and distinguished himself as a Tory advocate As a favorite of the duke of MARLBOROUGH, he became secretary for war (1704), but resigned when Harley was forced out by the Marlborough-Godolphin faction in 1708 When unpopularity of the war (see SPANISH SUCCESSION, WAR OF THE) and the Henry SACHEVERELL incident brought in (1710) a Tory ministry under Harley, St John became a secretary of state, and management of the Commons fell to him in 1711, when Harley was raised to the peerage as earl of Oxford. St John used the London Tory clubs, periodicals such as the *Examiner*, and writers such as Jonathan SWIFT to mould public opinion and carried on, despite protests of England's allies, separate peace negotiations with France The duke of ORMONDE, the British commander, was instructed to avoid military action In 1712 St John was created Viscount Bolingbroke, and by the influence of Lady Masham, Queen Anne's favorite, he became the leading figure in the government The Peace of Utrecht (1713–14) and Bolingbroke's intrigues preceding it were denounced by the Whigs, whose political influence he sought to weaken by the Schism Act and the Occasional Conformity Act, directed against dissenters He now broke with Harley, who was dismissed in 1714 Bolingbroke's true intent is not known, but it is sure that, in anticipation of a Hanoverian and Whig succession, he negotiated with the Old Pretender and began replacing Whig officers, especially in the army, with Tories Whatever plans he had were thwarted by Queen Anne's sudden death He was promptly dismissed by George I He was impeached, along with Oxford (as Harley now was styled) and Ormonde, but fled to France before the trial and was then attainted by Parliament Bolingbroke served the Pretender and helped plan the Jacobite rising of 1715, although he remained in France He soon abjured the Jacobite cause and received a pardon in 1723 and full restitution in 1725, by bribing the duchess of Kendal, one of George I's mistresses Although excluded from the House of Lords, he exerted great political influence and organized a strong opposition to Robert Walpole among the Tories and disgruntled Whigs He supported the periodical *Craftsman*, to which he contributed a famous series of letters, including a "Dissertation upon Parties," under the signature Occasional Writer He retired from politics after Walpole's electoral success in 1735 and spent most of his remaining years on his estates in France He was a friend of Voltaire and of Alexander Pope, whose *Essay on Man* reflects Bolingbroke's philosophical influence His *Idea of a Patriot King* (1749) is supposed to have helped form the political beliefs of George III His numerous writings, in a lucid but rhetorical style, greatly admired in that day, include *Letters on the Study of History* (privately printed 1735–36) and *The True Use of Retirement* (1736) One of England's great orators, Bolingbroke was one of her most undignified politicians, profligate and unstable In a period of low political morals, he fell victim of current practices and became generally distrusted, although he apparently believed sincerely in a sort of "Tory democracy" such as was later advocated by Benjamin Disraeli His works were edited by David Mallet (5 vols., 1754) and several times thereafter See his correspondence (ed by Gilbert Parke, 1798), J M Robertson, *Bolingbroke and Walpole* (1919), biographies by Thomas MacKnight (1863), J C Collins (1886), Arthur Hassall (1889, 1915), and Walter Sichel (1901–2).

St John, John Pierce (sānt jŏn'), 1833–1916, American political reformer, b Brookville, Ind He traveled in the West and in South America, fought in the Union army in the Civil War, and after 1869 practiced law in Kansas As governor of Kansas (1879–83) he successfully supported a prohibition amendment to the state constitution In 1884 he was the Prohibition party candidate for President He joined the free-silver movement and championed woman suffrage.

St John, Oliver (sĭn'jŭ), 1598?–1673, English statesman A proponent of the parliamentary cause before and during the PURITAN REVOLUTION, he did not commit himself to extreme action In 1638 he married a cousin of Oliver Cromwell, and in 1637–38 he was, by his brilliant defense of Viscount SAYE AND SELE and John HAMPDEN, drawn toward John PYM Although he served under appointment of Charles I as solicitor general (1641–43), St John remained a conspicuous opposition leader in the Long Parliament He supported Cromwell against Parliament in 1647 and was made chief justice of the common pleas (1648) He refused to take part in the trial of Charles I In 1651 St John failed to negotiate a treaty with the Dutch but secured one with Scotland Always fearful of Cromwell's power, he took no part in the government of Richard CROMWELL and cooperated with General MONCK in effecting the Restoration. In his *Case of Oliver St John* (1660) he denied complicity in Pride's Purge, the establishment of the Commonwealth, and the execution of the king, he was punished only with incapacitation for holding office He lived abroad after 1662

Saint John, city (pop 51,741), co seat of St John co, S N B, at the mouth of the St John river on the Bay of Fundy It is a major year-round port, with an excellent harbor, large dry docks, and terminal facilities and with extensive shipping connections to Europe, North and South America, and the West Indies The city is the commercial, manufacturing, and transportation center of New Brunswick, with lumber, mining, and agricultural industries, food processing, fish canning, and the making of pulp, wood, and metal products The site was visited (1604) by Champlain, and a fort and trading post was built (1631–35) by Charles de la Tour In the struggle between France and England for possession of Acadia, the fort was captured and recaptured several times, finally becoming British in 1758 when it was taken by Anglo-American forces Growth of the city dates from 1783, when a large party of Loyalists from the United States established themselves here on land grants The settlement was called Parr Town and in 1785 was incorporated with Carleton (across the harbor) and named St John, becoming the first incorporated city in Canada Benedict Arnold lived and from 1786 to 1791 conducted a business here Much of the old city was destroyed by fire in 1877 In 1912 a commission form of government was adopted Among notable features of the city are Market Slip (1783), the old Loyalist Burying Ground (1783), Martello Tower (fortification, built 1812), the old courthouse (1830), the Roman Catholic cathedral and bishop's residence (1853), the Museum of New Brunswick, and the horticultural gardens The law faculty of the Univ of New Brunswick is here

Saint John, city (pop 1,735), co seat of Stafford co, S central Kansas, WNW of Wichita, platted 1879, inc 1885 It is the trade center of a grain area.

Saint John, Virgin Islands see VIRGIN ISLANDS OF THE UNITED STATES

Saint John, river, c 400 mi long, rising in N Maine in forested, sparsely settled country and flowing NE to New Brunswick, then generally SE below Edmundston, past St Leonard, Grand Falls, Woodstock, and Fredericton to the Bay of Fundy at St John For 75 mi it forms the border between Maine and New Brunswick Its chief tributaries are the St Francis, Madawaska, Aroostook, Tobique, Nashwaak, and Oromocto rivers At Grand Falls the river drops 75 ft in a great cataract and shortly drops 50 ft more in rapids through a mile-long gorge, with walls 80 to 100 ft high At its mouth, within the city limits of St John, are the Reversing Falls Rapids, caused by the strong tides of the Bay of Fundy which force the river to reverse its flow at high tide The river was discovered (1604) by Champlain and Monts, on St John the Baptist's Day, and named by them for the saint In the 17th and 18th cent it was an important route for French, Indian, and English traders, and several trading posts were established on its banks It later became a major logging transportation route It is navigable to Fredericton for vessels of 120 tons

Saint John, Lake, area 375 sq mi, S Que, NNW of Quebec city and W of Chicoutimi, in a sparsely settled region popular for hunting and fishing It is fed by the Ashuapmuchuan Mistassini, and Peribonca rivers and drained ESE by the SAGUENAY. Roberval, Chambord, and Metabetchouan are on the south shore of the lake

Saint John of Jerusalem, Knights of see KNIGHTS HOSPITALERS.

Saint John's, town (pop c 10,000), capital of the Leeward Islands colony and of the Antigua presidency, British West Indies, a port on ANTIGUA island Because of a bar across the entrance, the harbor is limited to shallow-draft vessels

Saint John's, city (1945 pop 56,709), provincial capital, SE N F, on the northeast coast of the Avalon Peninsula It is built on hills overlooking a fine harbor and is the commercial and industrial center of the province and the base of its great fishing fleet The city's industries are chiefly related to fishing and include shipbuilding, manufacturing of fishing equipment and marine engines, and plants for storing, preserving, and processing fish There are shipping connections with ports in the United States, Canada, and Great Britain and rail connections with the west coast of the island Mink and fox farms are near by A fishing settlement was established here by Devon fishermen in the early 16th cent, and the harbor was visited (1542) by Jacques Cartier In 1583 Sir Humphrey Gilbert took possession of the region for England Since that time fishing boats from many lands have based here, and the settlement was captured and recaptured by France and England, becoming finally British in 1762 and serving as a naval base in the American Revolution and in the War of 1812 It was at St John's that Marconi heard (1901) the first transatlantic wireless message and from here that the first nonstop transatlantic flight was made in 1919 The city has been partially destroyed by fire several times In the Second World War a U S army and naval base and a Canadian air base were established just north of the city It is the site of provincial government offices, of Roman Catholic and Anglican cathedrals, several denominational schools and institutes, and an athenaeum

Saint Johns or **Saint Jean** (sĕ zhā'), city (pop 13,646), S Que, on the Richelieu and SE of Montreal It is an industrial center, with silk, paper, and hosiery mills, food canning, and varied manufactures A fort built here in the 17th cent and rebuilt in 1749 was captured by an American force under General Montgomery in 1775, but was retaken by the British and served as a supply base for Carleton and Burgoyne The city was the terminal of the first Canadian railroad (1836) from Laprairie Dawson College, a branch of McGill Univ, and the Collège de St Jean sur Richelieu, affiliated with the Univ of Montreal, are here

Saint Johns, city (pop 4,422), co seat of Clinton co, S Mich, N of Lansing, in a farm region, inc as a village 1857, as a city 1904 Peppermint is an important crop Farm implements and iron castings are made Indian mounds are near by

Saint Johns, river rising in the swampy waters of SE Florida, N of Lake Okeechobee and c 15 mi inland from the Atlantic coast at Fort Pierce It flows in a general northerly direction up the Florida peninsula for c 300 mi, passing through eight lakes and receiving many tributaries, the Oklawaha being the most important At Jacksonville it turns abruptly east and enters the Atlantic 28 mi away The river is navigable for c 170 mi, there is a 30-foot channel from Jacksonville to the ocean See Branch Cabell and A J Hanna, *The St Johns a Parade of Diversities* (1943)

St -John's-bread see CAROB

Saint Johnsbury, town (pop 9,095), co seat of Caledonia co, NE Vt, on steep bluffs above the Passumpsic and Moose rivers, NE of Montpelier, settled 1786 Its maple-sugar industry is famous, and it also has granite works, but the town's industrial development came after the invention of the platform scales by Thaddeus Fairbanks, a son of Joseph Fairbanks, who settled in 1815 Joseph Fairbanks's sons established the St Johnsbury Academy (1842) Scales, grain products, and farm implements are made here The town is the seat also of Fairbanks Museum of Natural History and of an athenaeum containing an art gallery Larkin G Mead designed the town's war monument In 1937 a municipal airport was opened

Saint John's College see CAMBRIDGE UNIVERSITY and OXFORD UNIVERSITY

Saint John's College, at Annapolis, Md, nonsectarian, for men, chartered 1784, opened 1789 as successor to King William's School (chartered 1696) In 1937 Stringfellow Barr as president and Scott Buchanan as dean put into effect a new nonelective curriculum based on the "great books" plan advocated by Robert M Hutchins The 100 classics which must be read and discussed include science and mathematics as well as literature and philosophy Seminar and tutorial methods are used

Saint John's University, at Brooklyn, N Y, Catholic (Vincentian), partly coeducational, opened 1870, chartered 1871 It became a university in 1906 but was called a college until 1933 It has a teachers college and a college of pharmacy, two colleges of arts and sciences, and schools of commerce, law, nursing education, and social action There are two sites—in downtown Brooklyn and in the Stuyvesant Heights section The university has many evening classes.

Saint Johnsville, village (pop 2,283), E central N Y, on the Mohawk and the Barge Canal and SE of Utica, settled c 1775, inc 1868 Broom handles, shoes, and knit goods are made here

Saint John's Wood, residential district of NW London, England, just N of Marylebone Lord's Cricket Ground in the district is the headquarters of the Marylebone Cricket Club, which is the authority for rules of the game. Many artists have lived in the district

St -John's-wort, any species of the large genus *Hypericum*, widely distributed herbs or shrubs with usually bright yellow flowers, for which several species are cultivated A St -John's-wort is said to have been associated with the sun-god Baldr, because of its golden flowers, and when Baldr's Day became St John's Day the plant was likewise transferred to St John It was supposed to ward off evil spirits and thunderbolts, for which it was worn or suspended above doors and windows, particularly on St John's Eve It was also considered to have curative properties, and some species are still used in the Old World for healing wounds The common St -John's-wort is *Hypericum perforatum*, naturalized in North America from Europe, it has tiny black dots on the foliage and margins of the petals This species and others are reported to cause a photosensitivity in livestock with white, or unpigmented, areas, such places sometimes developing a severe irritation if the animal is in the light after feeding on the plants Goats are thought to be

the least affected of any livestock. There are several American species of the plant.

Saint John the Divine, Cathedral of, New York city The charter for the building was granted to the Episcopal diocese in 1873, the first stone was laid in 1892, and the crypt was opened for worship in 1899 In 1941 the entire length of the cathedral was for the first time opened Begun in the Romanesque style after designs by G L Heins and C Grant La Farge, the plans were altered (1911) and a Gothic style adopted according to the design of Ralph Adams Cram The grounds also include a complete close, with a bishop's house, deanery, synod house, the Boys' Choir School, and an open-air pulpit The cathedral is on Amsterdam Ave between 110th and 113th St

Saint Joseph (sĕ zhōzĕf') **1** Village (pop 1,892), S Que , on the Chaudière and SSE of Lévis It has marble quarries **2** Village (pop 1,021), S Que , on the Yamaska opposite St Hyacinthe

Saint Joseph (sānt jō'zŭf) **1** Town (pop 1,096), parish seat of Tensas parish, E La , near the Mississippi, in a cotton-growing area A state agricultural experiment station is here, and some fine ante-bellum houses are in the vicinity **2** City (pop 8,963), co seat of Berrien co , SW Mich , on Lake Michigan at the mouth of the St Joseph and opposite BENTON HARBOR, inc as a city 1891 It is a resort with beaches and mineral springs, and it is a port and trade center for a large fruitgrowing region Its varied manufactures include machinery and rubber goods Indian villages, a Jesuit mission, Fort Miami (a French trading fort built by Robert Cavelier, sieur de LA SALLE, in 1679), and a fur-trading post occupied this site before permanent settlement began c 1830 **3** Village (pop 1 055), central Minn , just W of St Cloud The College of St Benedict (for women) is here **4** City (pop 75,711), co seat of Buchanan co , NW Mo , on bluffs above the east bank of the Missouri river and NNW of Kansas City It was laid out c 1843 on the site of a trading post founded (1826) by Joseph Robidoux In 1860 it became the eastern terminus of the pony express The city, a port of entry, is a huge livestock and grain market, with meat-packing and grain-processing plants, railroad shops, and many other industries, including a factory making serum for hog cholera Of interest are the Robidoux houses, Eugene Field's home, the pony-express stables, and the home of Jesse James The city has a coeducational junior college

Saint Joseph, river, c 210 mi long, rising in S Michigan, near Hillsdale, and flowing generally westward in wide curves to Lake Michigan between St Joseph and Benton Harbor, Mich South Bend, Ind , lies on the river, which was an important route for Indians, explorers, fur traders, and pioneers, portages connected it with rivers flowing to the Ohio and to Lake Erie

Saint Joseph d'Alma (sĕ zhōzĕf" dalmä', dăl'mu), town (pop 6,449), S Que , on the Saguenay near Lake St John and WNW of Chicoutimi, inc 1924 Its industries include lumbering, wool carding, and manufacturing of paper products and bricks

Saint Joseph de Grantham (sānt jō'zŭf du grăn'tum), town (pop 5,556), S Que , just SW of Drummondville It is a market center for a dairying and pig-raising region

Saint Joseph de la Rivière Bleue, Que see RIVIÈRE BLEUE

Saint Joseph de Sorel (sĕ zhōzĕf" du sōrĕl'), town (pop 2,207), S Que , on the St Lawrence and at the mouth of the Richelieu just opposite Sorel, in a dairying and fruitgrowing area

Saint Jovite (sĕ zhōvēt'), village (pop 1,059), S Que , NW of Montreal It is a skiing resort in the Laurentians

Saint-Just, Louis de (lwē'dŭ sĕ-zhüst'), 1767–94, French revolutionist A member of the Convention from 1792, he became a favorite of Robespierre and was (1793–94) a member of the "triumvirate" with Robespierre and Couthon in the Committee of Public Safety (see REIGN OF TERROR) As commissioner (1793) with the army of the Rhine, he was credited with the successful operations that drove the allies beyond the French border On his return he was president of the Convention He fully supported Robespierre in the destruction of the Hébertists and Dantonists, and he shared Robespierre's doctrinaire interpretation of J J Rousseau's political teachings He fanatically believed in the possibility of a perfect state, based on Spartan virtue, which would bring happiness on earth At the coup d'état of the 9 THERMIDOR, Saint-Just was supposed to deliver the speech that was to save the day for Robespierre, but he was not permitted to finish it. He was guillotined with Robespierre Saint-Just's youthful beauty and his terrifying virtue made him known as the "archangel of the Revolution" See biographies by Geoffrey Bruun (1932), E N Curtis (1935), and J B Morton (1941)

Saint Just or **Saint Just-in-Penwith** (pĕn'wĭth), urban district (pop 4,359), Cornwall, England, W of Penzance It has a 15th-century church and one of the oldest Christian tombs in England Near the town is the amphitheater called St. Just Round, a scene of early miracle plays.

Saint Kilda or **Hirta,** island, off NW Scotland, in Inverness-shire, westernmost of the Outer Hebrides, W of North Uist It is c 3¼ mi long and 1½ mi wide The shores are precipitous except at the southeast, where there is a landing place, and rise in the northeast to 1,220 ft at Conagher The Macleods owned the isle for centuries In 1930 the 36 inhabitants were removed at their own request and settled in Argyllshire. The island is now a bird sanctuary

Saint Kitts or **Saint Christopher,** island (68 sq mi), British West Indies, in the LEEWARD ISLANDS It is the chief island of the St Kitts–Nevis presidency (pop 46,253) and has BASSETERRE, the capital Nevis (50 sq mi) is included in the presidency, its chief settlement is Charlestown, the birthplace of Alexander Hamilton The two islands are separated only by a narrow strait (2 mi wide) Both islands are mountainous, volcanic in origin, and notable for their scenery Anguilla (34 sq mi) and small Sombrero are dependencies The islands yield sugar, molasses, cotton, salt, and coconuts St Kitts and Nevis were discovered by Columbus in 1493, but were not settled until the British and the French (under ESNAMBUC) arrived on St Kitts in 1625 Nevis was first settled by the British in 1628 The islands changed hands in the great colonial wars but were awarded to Great Britain by the Peace of Utrecht (1713) The French briefly occupied them at the end of the American Revolution

Saint Lambert (sānt lăm'bûrt), city (pop 6,417), S Que., inc 1921 It is a residential suburb across the St Lawrence from Montreal

St. Laurent, Louis Stephen (sĕ lôrä'), 1882–, Canadian lawyer and statesman, b Quebec prov , of French Canadian and Irish Canadian parentage, educated at St Charles College, Sherbrooke, and at Laval Univ Called to the bar in 1905, he early became a well-known lawyer in the city of Quebec He was president (1930–32) of the Canadian Bar Association In 1941 he entered political life as minister of justice and attorney general in the Mackenzie King government, he was later minister of external affairs (1946–48) Selected (Aug , 1948) by a national convention to succeed King as leader of the Liberal party, St Laurent took office (Nov , 1948) as prime minister of the dominion after King's retirement

Saint Laurent (sĕ lôrä'), town (pop 6,242), S Que , on Montreal island, W suburb of Montreal

Saint Lawrence, one of the principal rivers of North America It is the outlet of the Great Lakes, which it links to the Gulf of St Lawrence to form a waterway c 2,350 mi long from the western end of Lake Superior to the Atlantic The St Lawrence proper issues from the northeast end of Lake Ontario and flows 744 mi northeast to its mouth on the Gulf of St Lawrence, N of Cape Gaspé Northeastward from Lake Ontario the river forms c 114 mi of the international boundary between New York and Ontario Here lie the scenic Thousand Islands (between Kingston and Brockville, Ont) and the International Rapids section, c 48 mi long (below Ogdensburg, N Y) Below the rapids the river widens into Lake St Francis, then passes into the province of Quebec Shortly it widens again into Lake St Louis, then descends through the Lachine Rapids to Montreal, head of navigation for ocean-going vessels Between Sorel and Trois Rivières is Lake St Peter, a widened section c 28 mi long Below the city of Quebec the river is tidal It increases gradually in width to c 90 mi at its mouth In its course it cuts through a part of the Laurentian Plateau The river's principal tributaries from the south are the Richelieu (linking the St Lawrence with Lake Champlain and the Hudson) and the St Francis, its main affluents from the north are the Ottawa, the St Maurice, and the Saguenay rivers The St Lawrence is an important source of hydroelectric power, agreements between the United States and Canada govern power distribution and navigation in the international section Canals have been constructed around the rapids, making the entire river navigable by vessels of limited draft The most important cities and ports along the river are Ogdensburg, N Y , Kingston, Brockville, and Cornwall, Ont , and Montreal, Sorel, Trois Rivières, Quebec city, and Lévis, Que The many bridges which cross the St Lawrence include the Thousand Islands International Bridge (1938), the Roosevelt International Bridge (1934) between Cornwall, Ont , and Rooseveltown, N Y , the Victoria Bridge (remodeled 1898) at Montreal, and the Quebec Bridge (1917), near Quebec The St Lawrence was visited in 1534 by Jacques CARTIER, in 1535 he ascended it as far as Montreal Quebec was settled (1608) by Samuel de CHAMPLAIN The river system was long a highway for explorers, fur traders, and missionaries. The valley remained in the possession of the French until Canada was surrendered to the British at the close of the French and Indian Wars in 1763 After the establishment of the independence of the United States the river became an international boundary, but British influence was generally dominant over the whole St. Lawrence and most of its southern tributaries until after the War of 1812 Since then all questions regarding the St. Lawrence system have been settled by arbitration. The GREAT LAKES–SAINT LAWRENCE SEAWAY AND POWER PROJECT for improved navigation and new water-power sites has long been under discussion. See J. C Hopkins, *French Canada and the St Lawrence* (1913), Henry Beston, *The St Lawrence* (1942).

Saint Lawrence, Gulf of, large bay of the Atlantic, SE Canada, extending 250 mi from the mouth of the SAINT LAWRENCE river to Newfoundland on the east At its greatest width (northeast-southwest) it is c 500 mi It is bounded on the south by Nova Scotia, on the west by New Brunswick and the Gaspé Peninsula, and on the north by Quebec, in the Gulf are Prince Edward Island, Anticosti Island, the Magdalen Islands, and numerous small islands near its north shore Chaleur Bay, a west inlet, lies between the Gaspé Peninsula and New Brunswick The Strait of Belle Isle, Cabot Strait, and the Strait of Canso lead to the Atlantic. The Gulf is subject to frequent fog and is closed to navigation by ice from early December to mid-April It was visited by explorers before the 16th cent , and it has important fishing grounds, especially cod Since 1936 the government has protected the cod fisheries by extermination of porpoises

Saint Lawrence Island, 90 mi long and 8 to 22 mi wide, off W Alaska, in the Bering Sea It is a barren, snow-covered island, inhabited by Eskimo engaged in whaling and fox trapping It was discovered by Vitus Bering on St Lawrence's Day, 1728 Since 1881 several archaeological expeditions have visited the island to study remains of primitive Eskimo culture See H B Collins, Jr , *Archeology of St. Lawrence Island, Alaska* (1937).

Saint Lawrence Islands National Park, 189 4 acres, S Ont , in the THOUSAND ISLANDS, est 1914 It contains 13 Canadian islands and some adjacent mainland between Kingston and Brockville The islands are wooded and have public recreational facilities

Saint Lawrence University see CANTON, N Y

St. Leger, Barry, 1737–89, British officer in the American Revolution In the French and Indian War he served at Louisburg (1758) and with Wolfe at Quebec He was given (1777) command of the Mohawk valley wing of the British attack that was ended by the SARATOGA CAMPAIGN St Leger's force, composed mostly of Indians and Tories, was intended to come down the valley, then meet Burgoyne at Albany St Leger laid successful siege to Fort Stanwix and ambushed at Oriskany a relief force led by Nicholas Herkimer, but his strength was depleted He retreated to Canada before Benedict Arnold's advance

Saint Leonard, town (pop 1,095), NW N B , on the St John river and NW of Grand Falls, in a potato-growing region

Saint Leonards, Sussex East, England see HASTINGS

Saint Lin, Que see LAURENTIDES

Saint-Lô (sĕ-lō'), town (1936 pop 10,009, 1946 pop 5,196), capital of Manche dept , NW France, in Normandy An ancient town, it was pillaged by the Norsemen (889), by Geoffrey Plantagenet (1141), by Edward III of England (1346), and by the Huguenots (16th cent), and it was partially destroyed during the NORMANDY CAMPAIGN of 1944

Saint-Louis (sĕ-lwē'), town (pop c 51,000), capital of Senegal, on the Senegal river, founded c 1658 by the French It is a port handling Atlantic shipping and is the terminus of a railroad from Dakar Peanuts, hides, and skins are exported

Saint Louis (sānt lōō'ĭs) **1** City (pop 3,039), S Mich , on the Pine river and W of Saginaw, settled 1849, inc as a city 1891 Oil found in the vicinity is refined here, and beet sugar, flour, and dairy products are made There are mineral springs **2** City (pop 816,048), E Mo , largest city of the state, on the west bank of the Mississippi some miles below the mouth of the Missouri Pierre LACLÈDE in 1763 chose this spot for a fur-trading post and in 1764 14-year-old Auguste CHOUTEAU built it. In honor of King Louis XV of France, it was named for his "name" saint, Louis IX of France It was transferred to the Spanish in 1770 in accord with earlier treaty agreement, retroceded to France in Napoleon's day, and sold with the other lands of the LOUISIANA PURCHASE to the United States, but the population and customs remained predominantly French until well into the 19th cent This gateway city to the Missouri and the West was the market and supply point for fur traders such as Manuel Lisa and the later mountain men and for explorers, notably the Lewis and Clark expedition The town, incorporated in 1808, did not grow rapidly until after the War of 1812, when flatboat immigrants came in numbers to people the West St Louis became a city in 1823 and grew to be one of the greatest of U.S. river ports Even after the railroads came, the river steamers were at the peak of their glory After the Civil War—in which St Louis was Unionist in sympathy—industry, already planted in the city, expanded greatly Already many German immigrants had come and had helped to foster manufacturing, though their traditionally noted contributions were brewing and interest in music.

St. Louis today has a fine symphony orchestra and presents operatic works in the municipal open-air theater Though it has largely turned from the river, the city is one of the great traffic handlers of the nation There are five bridges across the Mississippi; the first, constructed by James B Eads, still stands St. Louis is a market for farm produce and livestock as well as for furs, wool, and lumber. Its many factories make diverse products —stoves, machinery, iron and steel, drugs and chemicals, liquor, and foodstuffs It is also a banking and financial center and a dispenser of learning and the arts Saint Louis University, Washington University, and Concordia Theological Seminary (Lutheran) are here There is a notable art museum, and the St. Louis *Post-Dispatch* is one of the distinguished newspapers of the country Forest Park, the largest of the many city parks, has the Jefferson memorial building, which recalls the Louisiana Purchase Exposition of 1904 (the "St Louis Fair") and now houses the Missouri Historical Society The botanical garden called Shaw's Garden (officially named the Missouri Botanical Garden) is well known The civic center has many imposing public buildings, and the Jefferson National Expansion Memorial along the water front was projected in 1935 to preserve such historical buildings as the old courthouse (1839–62), the old cathedral (1831–34), and the old rock house built in 1818 by the Missouri Fur Company The birthplace of Eugene Field is now a museum Near by is the military establishment of Jefferson Barracks, with an air base and a national cemetery.

Saint Louis Park (sānt lōō'is park'), manufacturing village (pop 7,737), E Minn , southwestern suburb of Minneapolis, settled 1853, inc 1886 It has the Hennepin County Historical Society museum

Saint Louis University, mainly at St Louis, Catholic (Jesuit), for men and women, opened 1818, the oldest college W of the Mississippi, chartered as a university 1832 It includes University College, colleges of arts and sciences (one at Florissant, Mo), schools of commerce and finance, dentistry, divinity (at St Marys, Kansas), law, medicine, nursing, philosophy and science, and social service, Parks College of Aeronautical Technology (at East St Louis, Ill), Institute of Geophysical Technology, and corporate colleges for women—Fontbonne, Maryville, and Notre Dame Junior College (all at St Louis), Webster (at Webster Groves, Mo), and St Mary's (junior, at O'Fallon, Mo). There are a seismograph, an observatory, and a radio station

Saint Lucia (sānt lōō'shu, -shēu), island (233 sq mi ; pop 72,055), British West Indies, coterminous with St Lucia colony, part of the Windward Islands The capital is Castries The mountains rise abruptly from the sea, creating startlingly lovely scenic effects The forests of the mountain slopes yield fine cabinet woods, and the volcanic soil is rich The island exports sugar, copra, and cacao, and lesser amounts of lime juice and lime oil, spices, honey, hides, rum, coconuts, logwood, and bananas Columbus probably discovered it in 1502 The British attempted to colonize it early in the 17th cent , but were beaten back by the fierce Carib Indians The French signed a treaty with the Carib in 1660, and St Lucia was much contested in the imperial warfare until the British gained permanent control in 1803 French culture has left an indelible mark, and the Negroes, who, with an admixture of Carib, make up the bulk of the population, speak a French patois In 1940 the United States obtained a 99-year lease to a naval base on St Lucia

Saint-Malo (sĕ-mälō'), town (pop 10,873), Ille-et-Vilaine dept, NW France, in Brittany, a port on the English Channel It was built (9th cent) on a rocky promontory by refugees fleeing the Norman raids on Saint-Servan, a town opposite Saint-Malo across an inlet of the Rance estuary, they named Saint-Malo after a 6th-century Welsh missionary. Its prosperity as a seaport dates from Jacques Cartier's exploration of E Canada Saint-Malo was the home of Duguay-Trouin, Surcouf, and other naval heroes. The English tried repeatedly (17th and 18th cent) to destroy its fortified port and the fleet stationed here Saint-Malo is famous for its old ramparts and its 17th-century houses, much was destroyed in the Second World War, particularly in the 11-day siege of the citadel constructed by the Germans on an island in the harbor (Aug , 1944) The Gothic and Renaissance cathedral was heavily damaged Saint-Malo was the birthplace of Châteaubriand, his tomb, planned by himself, is on a rock in the harbor.

Saint Marc des Carrières (sĕ märk" dā käryĕr'), village (pop 2,118), S Que , W of Quebec, in a limestone-quarrying, lumbering, and dairying area.

Saint Maries (sānt mâ'rēs), city (pop 2,234), co. seat of Benewah co , N Idaho, SE of Coeur d'Alene Lake at the confluence of the St. Joe and St. Maries rivers, settled 1888, inc. 1902 Father P. J. De Smet founded a mission for the Coeur d'Alene Indians on the site in 1842. This lumbering town is today headquarters of the St Joe National Forest.

Saint Mark's Church, Venice, named after the tutelary saint of Venice. The original Romanesque basilical church, built in the 9th cent as a shrine for the saint's bones, was destroyed by fire in 976 Byzantine architects assisted in its reconstruction, the main fabric being completed c.1071 In the 12th and following centuries through alterations and elaborate adornments it became a splendid Byzantine monument, reflecting Venice's preeminent position in trade with the East In the 15th cent the façade received Gothic additions The present structure is thus a mixture of Byzantine and Gothic and incorporates materials taken from temples and Eastern ruins Its plan is a Greek cross, with a dome over the center and one over each arm of the cross Across the west front extends a vestibule from which five portals open upon the Piazza San Marco The façade is incrusted with marble slabs and glass mosaics In the interior the lower walls are sheathed with veined marbles. The vaults and domes are completely covered with beautifully colored mosaics spread on a golden background These varied materials combine into a unique harmonic architectural polychromy, effectively illuminated by a hazy light admitted through narrow openings in the domes The Four Horses of St Mark's, in gilded bronze, stand upon the gallery over the main entrance The only existing specimen of an ancient quadriga, they are believed to have adorned Nero's triumphal arch in Rome They were later moved to Constantinople and in 1204 were brought to Venice In 1797 Napoleon carried them off to Paris to adorn the Arc de Triomphe du Carrousel, but in 1815 Francis I of Austria returned them to Venice

Saint-Martin, Louis Claude, marquis de (lwē' klōd' märkē' du sĕ-martĕ'), 1743–1803, French mystic He wrote under the name of *le Philosophe inconnu* [the unknown philosopher] Influenced at first by the Spanish mystic Martínez Pasquales, Saint-Martin was later affected by the mysticism of Jakob Boehme, whose work he translated His own writings include *Des erreurs et de la vérité* (1775), *L'Homme de desir* (1790), and *Le Nouvel Homme* (1792) See biography by A E Waite (1901)

Saint Martin (sānt mar'tĭn, Fr sĕ martĕ'), Dutch *Sint Maarten* (sĭnt"mär'tu), island, area 33 sq mi , West Indies, in the Leeward Islands Since its occupation in 1648 by the Dutch and the French, it has been divided, the northern part (20 sq mi , pop 6,786) belonging to French Guadeloupe, the southern part (13 sq mi , pop 1,609) to Dutch Curaçao The island is low and receives little rainfall so that only small quantities of sugar cane, cotton, and fruits are raised

Saint Martin's see Scilly Islands

Saint Martin's-in-the-Fields, church in London, on Trafalgar Square, built 1722–26 by James Gibbs It has a Corinthian portico and elaborate spire The crypt is kept open all night for the use of the homeless, in the Second World War it was an air-raid shelter The church was damaged in an air raid (1940)

Saint Martinville, historic town (pop 3,501), parish seat of St Martin parish, S La , on Bayou Teche The first settlement was made by the French c 1760, later, various and conflicting groups of French royalists, republicans, Acadians, and Spanish came in It was an important resort during the early steamboat era, but declined after 1855 Today a quiet French town, it is interesting chiefly as the alleged site of the Evangeline romance, commemorated by the Longfellow-Evangeline state park

Saint Marylebone, London see Marylebone, Saint

Saint Mary's, town (pop 3,635), S Ont , on the Thames and N of London It has quarrying, stoneworking, and cement industries

Saint Marys. 1 City (pop 1,132), NE Kansas, on the Kansas river and WNW of Topeka, laid out as a town 1866, inc as a city 1869 One of the oldest Kansas towns, it was the site of a Catholic mission to the Potawatami Indians in 1847–48 St Mary's College, a divinity school of St Louis Univ , is here **2** City (pop 5,532), W Ohio, on the St Marys river and SW of Lima. Cigars and rubber products are made here It is a supply center for sportsmen and summer visitors to Grand Lake (Lake St Marys) **3** Borough (pop 7,653), NW Pa , on Elk Creek E of Ridgway, settled 1842, laid out 1844, inc 1848. Its manufactures include radio parts, carbon products, and leather Flint and clay mixed near here are made into firebrick Dairying and potato farming are done here **4** City (pop 2,201), co seat of Pleasants co , N W Va , on the Ohio river and E of Marietta, Ohio, in a coal and natural-gas area, settled c 1850. It produces glass A training school for mentally defective children is near by.

Saint Mary's see Scilly Islands

Saint Marys. 1 River rising in Okefenokee Swamp, SE Ga , and flowing, with a great south bend, 175 mi E to Cumberland Sound, an arm of the Atlantic It forms part of the Georgia-Florida boundary. **2** River, c.63 mi. long, flowing generally SE from Lake Superior to Lake Huron and forming part of the international boundary The cities of Sault Ste Marie, Mich and Ont., are on the river The falls here are circumvented by canals with five large locks

Saint Marys City, first town settled (1634) in Maryland, on the St Marys river, S Md Leonard Calvert's colonists took over a small Indian village here and built Fort St George The town grew and in 1676 became the provincial capital In 1694 Annapolis became the capital, and the town and port began to decline See H. C Forman, *Jamestown and St Mary's* (1938).

Saint Mary's College, at Notre Dame, Ind., N of South Bend, Catholic (Sisters of the Holy Cross), for women, opened 1844, chartered 1851 at Bertrand, Mich , chartered 1855 by Indiana, moved 1855 It was not called a college until 1903

Saint Mary's College see Oakland, Calif

Saint Mary's Island see Bathurst, Gambia.

Saint Mary's Loch (lŏkh), lake, 3 mi long and ½ mi wide, Selkirkshire, Scotland, WSW of Selkirk Sir Walter Scott celebrates its beauty. It is connected with the smaller Loch of the Lowes, its outlet is the Yarrow, at the northeast

Saint Matthews, town (pop 2,187), co seat of Calhoun co , central S C , SE of Columbia, in a farm area producing cotton, truck, and livestock, settled in the early 18th cent

Saint Maurice (sānt mô'rĭs, Fr sĕ môrēs'), river rising in S Quebec in the Laurentian Mts and flowing 325 mi SE and S to the St Lawrence at Trois Rivières It passes La Tuque, Grand'Mère, and Shawinigan Falls, where waterfalls furnish hydroelectric power The Ribbon, Vermilion, Croche, and Bostonnais rivers are its main tributaries

Saint Michaels, resort town (pop 1,309), Eastern Shore, Md , between the Miles and Broad rivers W of Easton It is an oyster-dredging center A historic house, "West Martingham" (c 1670), remains

Saint Michael's Mount, pyramid-shaped rocky islet, Cornwall, England, in Mounts Bay A natural causeway connects it at lowest tide with the mainland On its summit are a castle and a chapel of St Michael (who, legend says, appeared to hermits here in the 15th cent)

Saint Michel (sĕ mēshĕl') or **Côte Saint Michel** (kōt"), town (pop 2,956), S Que , on Montreal island It is a north suburb of Montreal

Saint Michel, Mont see Mont-Saint-Michel.

Saint-Mihiel (sĕ-mēēl'), town (pop 4,134), Meuse dept , NE France, in Lorraine, on the Meuse It grew around a Benedictine abbey (founded 709). Ligier Richier lived and worked here; his masterpiece is in the flamboyant Gothic Church of St Étienne In the First World War, Saint-Mihiel was captured in 1914 by the Germans, who thus cut the vital railways linking Verdun, Toul, and Nancy It was recovered, largely by American troops, in Sept , 1918, in one of the most important American actions of the war

Saint Moritz (sānt mô'rĭts, murĭts'), Ger *Sankt Moritz* (zangkt mô'rĭts, mōrĭts'), resort (resident pop 2,418), Upper Engadine, Grisons canton, Switzerland, on the Lake of St Moritz One of the largest winter sports centers in the world, surrounded by magnificent peaks, it is also noted for the near-by mineral springs, known probably since prehistoric times The Olympic winter games were held here in 1928 and in 1948

Saint-Nazaire (sĕ-nazĕr'), town (1936 pop 37,710, 1946 pop 4,408), Loire-Inférieure dept , W France, at the mouth of the Loire on the Bay of Biscay Functioning as the port of Nantes, it had until its destruction in the Second World War the largest shipyards of France In the First World War the first contingent of American troops landed here on June 25, 1917 The German invaders made it after 1940 a principal submarine base on the Atlantic, by 1943 Allied bombing had virtually obliterated the town, but its German garrison withstood the besieging American and French troops from Aug., 1944, until May, 1945

Saint Neots (sunt nēts, nē'uts) [uncanonized associate of King Alfred, perhaps his brother], urban district (pop 6,468), Huntingdonshire, England, on the Ouse and W of Cambridge It has a 15th-century church

Saint-Nicolas (sĕ-nēkôlä'), Flemish *Sint-Niklaas* (sĭnt-nē'klăs), city (pop 43,669), East Flanders prov , Belgium, WSW of Antwerp It is the old capital of the Pays de Waas, formerly a wasteland, now highly cultivated, and it is a textile center

Saint Olaf College (sānt ō'lŭf), at Northfield, Minn., Lutheran, coeducational, opened by Norwegians as a school 1875, became a college 1886, chartered 1889 The choir of its music school has made national and European tours There is a radio station Ole E Rolvaag taught here

Saint-Omer (sĕtômĕr'), city (pop 15,785), Pas-de-Calais dept , N France, in Artois An old city, it is rich in medieval art and architecture The Gothic Basilica of Notre Dame (13th–14th cent.; formerly a cathedral), slightly damaged in the Second World War, has magnificent paintings and sculpture. A Catholic college for Englishmen was founded here by Robert Persons in 1592. It was suppressed in 1762.

Saintonge (sĕtôsh'), region and former province, W France, on the Atlantic coast and at the mouth of

the Gironde It is now comprised in Charente-Maritime dept Cattle raising, dairying, and the manufacture of cognac from the grapes grown along the Charente are the chief occupations Salt is evaporated in the large coastal swamps, and there are large oyster beds along the coast The country of the Santones in Roman times, Saintonge later became a subfief of AQUITAINE Reconquered from the English, it was incorporated (1372) into the French crown lands

Saint Pacôme (sĕ pȧkōm′), village (pop 1,254), E Que , near the south shore of the St Lawrence and SSW of Rivière du Loup, in a pig-raising, dairying, and lumbering region

Saint Paris, village (pop 1,308), W Ohio, NW of Springfield, settled 1813 Honey products are made

Saint Pascal (sĕ paskal′), village (pop 1,265), E Que , near the St Lawrence and SSW of Rivière du Loup, inc 1939 It is in a pig-raising, dairying, and lumbering area

Saint Paul (sĕ pôl′) **or Saint Paul des Métis** (dā mātē′), town (pop 1,187), E Alta , NE of Edmonton, founded 1894 as a settlement for half-breeds (métis) It has grain elevators, and fruit is canned

Saint Patrick's Cathedral, New York city, largest Roman Catholic church in America The Gothic building at Fifth Ave between 50th and 51st St replaces an earlier cathedral at Mott St The original plans, by James Renwick, were executed in 1853, the cornerstone was laid in 1858, in 1879 the building was dedicated The Lady Chapel behind the high altar was added later after plans by William R Ware The cathedral is of marble in the traditional cruciform shape and has 12 side chapels, many stained glass windows, and a chime of 19 bells

Saint Patrick's Purgatory, place where St Patrick had a vision of Purgatory, traditionally located on little Station Island in Lough Derg in SE Donegal, Ireland It is a place of pilgrimage and has been since the early Middle Ages, though its connection with St Patrick is not accepted by modern scholars The wild, rough scenery is also alleged to suggest Purgatory

Saint Paul (sānt pôl′) **1** City (pop 287,736), state capital, and co seat of Ramsey co , E Minn , on hills overlooking the Mississippi, contiguous to Minneapolis Permanent white settlement in this area began with the establishment in the early 1800s of the MENDOTA fur-trading post and Fort Snelling, traders, lumbermen, and settlers made their homes here, and in 1841 Father Galtier established St Paul's Church, from which the city took its name Pierre Bottineau was an early resident, Settlers came from the east after treaties with the Indians opened the lands to settlement and to profitable lumber operations, their numbers were augmented by immigrants, among whom were many Irish and German Roman Catholics Bishop IRELAND was long their leader St Paul became territorial capital in 1849, was incorporated as a city in 1854, and became state capital when Minnesota was admitted to the Union in 1858 The situation of St Paul and Minneapolis at the head of navigation of the Mississippi made the Twin Cities the double metropolis of a large, rich area St Paul also became the center of the railroad empire of James J HILL Printing, publishing, meat packing, and diversified manufacturing are important industries, and the Ford Motor Company has a large plant here The city is a port of entry Like many of the upper Mississippi river towns, St Paul's oldest streets are narrow and crooked, conforming to the hills and river frontage, but as the city grew, new residential sections were laid out with wide, tree-shaded streets and many parks and playgrounds The two largest parks, Como and Phalen, have lakes and recreation facilities The capitol (completed 1904) was designed by Cass Gilbert, with a dome modeled after St Peter's in Rome Near the capitol are the state historical society building, containing a museum and library, and the St. Paul Institute, with science collections In the concourse of the city hall and county courthouse (1932) is a peace memorial designed by Carl Milles St Paul is the seat of Hamline Univ (Methodist, coeducational, 1854), Macalester College (coeducational, 1874), the College of St Thomas (Catholic, for men, 1885), the College of St Catherine, and the St Paul School of Art The agricultural campus of the state university and the state fairgrounds are in the Midway district, between St Paul and Minneapolis The *Pioneer Press,* founded in 1849, is one of the oldest papers in the Middle West Holman Airport and a state fish hatchery are near St Paul **2** City (pop 1,571), co seat of Howard co , central Nebr , near the junction of the North Loup with the middle Loup N of Grand Island, founded 1871. It is a farm trade and shipping point

Saint Paul Park, village (pop. 1,096), SE Minn., near St Paul

Saint Pauls, textile-mill town (pop. 1,923), S N.C., S of Fayetteville, in a cotton area.

Saint Paul's Cathedral, London, masterpiece of Sir Christopher Wren and one of the finest church designs of the Renaissance. It stands at the head of Ludgate Hill, where, according to traditions, once stood a Roman temple The first church on the site was destroyed by fire in 1087 and was replaced by a cathedral which was completed by the end of the 13th cent This structure fell into decay, and toward the middle of the 17th cent Inigo Jones was employed in restoring it Plans for further repairs were next prepared by Wren, but the great fire of London (1666) almost destroyed the church, and in 1668 he was granted authority to demolish the badly ruined structure and to build an entirely new one Wren's design, in the shape of a Greek cross, with a dome over the center, was modified to provide the long nave and choir of the traditional medieval plan In 1675 Wren himself laid the first foundation block of the building, and 35 years later he set the final stone in place The interior of the church consists of a three-aisled nave and choir, of equal lengths, extending east and west from a great central space at the crossing Porticoes project north and south at the center of the building The total length of the interior is more than four times its width, including side aisles The mosaic decorations are modern work and accord with Wren's original program for the interior adornment The crossing is covered by a great dome, pierced at the crown to admit a view of the lantern above Over this dome rises a concealed conical dome of brick, which acts as support for the timber framework of the exterior dome, the entire domical feature thus being constructed in three shells The western front of the church has as central motive a double-storied portico of coupled columns, flanked by two finely designed towers The exterior dome, which ranks as one of the great domes of the world, rises above a colonnaded drum and supports a stone lantern terminating with a cross Wren's scheme for an open, colonnaded piazza to furnish a setting for St Paul's failed of execution because of the high value of the requisite space In the Second World War bombs in 1940 destroyed the east end with the altar and the chapel behind it and in 1941 the roof and floor of the north transept In 1949 it was announced that the east end would be rebuilt according to Wren's original plan

Saint Paul's School, London, England, one of the great English public schools It was founded by John Colet, then dean of St Paul's Cathedral, being planned in 1509 and opened in 1512 with William Lily as first headmaster The school is chiefly a day school, though it has a few boarders The first building was in the churchyard of St Paul's, this burned in the great fire of 1666 and was replaced (1674) by one designed by Wren A third building was erected in 1824 and a fourth in 1884, in West Kensington Milton was a pupil at St Paul's, as was Samuel Pepys. See M F J McDonnell, *A History of St Paul's School* (1909), D L Clark, *John Milton at St Paul's School* (1948)

Saint Peter, city (pop 5,870), co seat of Nicollet co , S Minn , on the Minnesota and N of Mankato, settled 1853, inc 1865 It is a farm trade and manufacturing center Traverse des Sioux, near the site of St Peter, was an early fur-trading post and the scene of a treaty with the Sioux in 1851 Gustavus Adolphus College (Lutheran coeducational, 1862) and a state hospital for the insane are at St Peter

Saint Peter Port, town and parish (pop 16,720), capital of Guernsey, Channel Islands, on the eastern coast It has a shallow harbor protected by piers and exports vegetables, fruits, and flowers Hauteville House, the residence of Victor Hugo from 1856 to 1870, contains memorials of the author The Church of St Peter, partly 14th cent , is the finest on the islands Elizabeth College for boys was founded in 1563 Castle Cornet is on an islet near the town

Saint Petersburg, Russia see LENINGRAD

Saint Petersburg, city (pop 60,812), W Fla , on Tampa Bay at the southern end of the Pinellas peninsula A port of entry with a fine harbor, it ships fish, fruit, and vegetables St Petersburg is one of the state's most popular winter resorts, with boating, fishing, and bathing activities For its annual average of 360 sunny days it is called the Sunshine City It was first settled in the mid-19th cent , but the real founder was John C Williams, who came here c 1876 A railroad arrived in the late 1880s, and the city was incorporated in 1903 Places of interest include the yacht basin, the municipal pier, the historical museum, an alligator farm, and large shell mounds on the site of an Indian village The city has a junior college and a U S coast guard base Near by is a U S veterans' hospital St Petersburg is the winter training ground of big-league baseball teams Gandy Bridge crosses the harbor to Tampa

Saint Peter's Church, Rome, principal and largest church of the entire Christian world Its construction occupied 181 years (1445–1626) Here, with great ritualistic splendor, the pope himself officiates on certain occasions Closely adjoining are the Vatican buildings This was originally the site of Nero's circus, scene of numerous Christian martyrdoms under Nero. In the 4th cent rose the first church of St Peter, a wood-roofed basilica with transepts and five aisles, built over the sarcophagus of the apostle. Here Charlemagne and many other emperors and popes were crowned By the 15th cent this basilica had so far disintegrated that Pope Nicholas V undertook to create an entirely new structure after a design by Bernardo Rossellino Actual work was commenced in 1450, but little was done Pope Julius II, after his accession (1503), selected from the plans of several competing architects those of Bramante They provided for a church in the form of a symmetrical Greek cross with a great dome over the center In 1506 the foundation stone of Bramante's design was laid, but the artist died in 1514. Giuliano da Sangallo, Fra Giocondo, and Raphael were put in charge of the work but accomplished little After their deaths, Peruzzi was appointed (1520), and Antonio da Sangallo, the younger, after him (1538) Pope Paul III appointed (1546) Michelangelo architect, disregarding the recommended changes, he returned to Bramante's original plan, designed the great dome, and, before his death (1564), carried its construction to the top of the drum Vigola, in charge from 1564 to 1573, executed the secondary domes Giacomo della Porta and Domenico Fontana completed (1573–90) the great dome according to drawings left by Michelangelo In 1605 the church plan was transformed into a Latin cross with the addition of a long nave by Carlo Maderna, who also added the narthex and the façade The completed church was dedicated (1626) by Urban VIII Between 1629 and 1667 Bernini completed the great composition of St Peter's, creating a forecourt preceded by a majestic elliptical piazza bounded by quadruple colonnades The great obelisk of Heliopolis, brought to Rome by Caligula, adorns the center of the piazza From the narthex of the church five doors lead to the interior, including the celebrated Porta Santa (Holy Door), which is opened only in jubilee years, once in every 25 The huge scale of all the elements of the interior prevents any accurate notion of its magnitude, and its effectiveness is chiefly owing to the dome, 404 ft high from the pavement The interior diameter of the dome, 137 ft , is one of the largest in the world Beneath it is the high altar, covered by Bernini's superb bronze baldachino, 95 ft high At this altar only the pope may read Mass The crypt beneath it contains the tomb of St Peter The interior, with its colored marbles, its numerous sculptures, and its gilt and fresco decorations, achieves great magnificence The foot of the 5th-century seated bronze figure of St Peter receives the kiss of devotees

Saint Pie (sĕ pē′), village (pop 1,009), S Que , S of St Hyacinthe St Pie has dairying, pig raising, and woodworking

Saint-Pierre, Charles Irénée Castel, Abbé de (sh\ur\ ērānā′ kästĕl′ ȧbā′ du sĕ-pyĕr′), 1658–1743, French social philosopher Elected to the French Academy in 1694, he was expelled in 1718 for his criticism of Louis XIV He was a cofounder of the Club de l'Entresol (c 1720–1734), a group of writers and savants interested in social amelioration In his *Discours sur la polysynodie* (1718), Saint-Pierre advanced the idea of constitutional government by elected councils and an academy of experts, he wanted the state to be responsible for the poor and to supply free education, highways, canals, and a central postal service His economic views included the ideas of freedom of enterprise, a graduated income tax, and land and work as the sources of wealth He wrote *Projet de paix perpetuelle* (1713), in which he described the mechanism of an international court of arbitration and a league of states His writings, prolix and confused, touched a great variety of problems and were animated by faith in human nature, progress, and *bienfaisance,* a word he coined

Saint-Pierre, Jacques Henri Bernardin de. see BERNARDIN DE SAINT-PIERRE, JACQUES HENRI

Saint Pierre (sĕ pyĕr′), town (pop 4,061), S Que , on Montreal islands It is a suburb of Montreal

Saint-Pierre (sĕ-pyĕr′), town and commune (pop 6,218), French West Indies, a port on MARTINIQUE Founded by ESNAMBUC in 1635 and once the chief commercial city of the island, it was engulfed by a mass of flame, lava, and ash in the eruption (1902) of PELÉE Of the city's inhabitants (c 28,000), only one person survived and many thousands more were killed in the region

Saint Pierre (sānt pĕär′, Fr sĕ pyĕr′), town (pop 3,396), seat of government of St Pierre and Miquelon Territory (see MIQUELON), on the east coast of St Pierre island It has a fine harbor, which is the base of the island's fishing fleet, the town's chief industry is centered around codfishing The harbor was known to Breton and Basque fishermen by the 16th cent , permanent settlement began c 1763 after the expulsion of the French from Acadia The town was badly damaged by fire in 1939

Saint-Privat (sĕ-prēvȧ′), village (pop 859), Moselle dept , NE France, NW of Metz Here, in the Franco-Prussian War, the Germans defeated (Aug 18, 1870) the French in a bitter engagement, thus offsetting the simultaneous German defeat at near-by Gravelotte

Saint-Quentin (sānt-kwĕn′tĭn, Fr sĕ-kätĕ′), city (pop. 46,876), Aisne dept., N France, on the

Somme It has been a center of linen manufacture since the 16th cent Of Roman origin, it was chartered in 1080 and was the capital of the medieval county of VERMANDOIS Saint-Quentin has a long history of sieges and captures, notably that by the Spanish in 1557 In the First World War it was virtually destroyed by the Germans, from whom it was recovered (1918) by the Allies after heavy fighting It suffered minor damage in the Second World War The Gothic (12th–15th cent) collegiate Church of St Quentin (a martyr bishop beheaded here in 287) is a large and original structure, the town hall, in flamboyant style, was left almost intact The La Tour Museum contains numerous pastels by Maurice Quentin de LA TOUR, who was born here

Saint-Raphaël (sĕ-rafuĕl′), town (pop 6,642), Var dept , SE France, a resort on the French RIVIERA Its small port has replaced that of near-by Fréjus Bonaparte landed here on his return from Egypt in Oct , 1799

Saint Raymond (sānt rā′mund, Fr sĕ rāmō′), village (pop 2,157), S Que , on the Ste Anne river and NW of Quebec It has paper mills

Saint Regis (sānt rē′jĭs), settlement of Catholic Iroquois on the south bank of the St Lawrence river, on both sides of the boundary line between Canada and the United States, partly in Huntingdon co , Que , and partly in Franklin co , N Y The village was named after St John Francis Regis (1597–1640), French nobleman, philanthropist, and priest, canonized in 1737 It was established c 1755 by a party of Catholic Iroquois from Caughnawaga, Que Being chiefly of Mohawk descent (though mingled with the whites) the Indians speak that language They are expert basketmakers They number in all c 2,500, of whom 1,200 are on the American side See IROQUOIS CONFEDERACY

Saint Rémi (sĕ rāmē′), village (pop 1,431), S Que , S of Montreal It is the market center for a dairying and vegetable-growing region

Saint-Saëns, Charles Camille (shärl′ kämēy′ sĕ-sāⁿs′), 1835–1921, French composer He was an infant prodigy, making his debut as a pianist at 10 His compositions are of a polished classical excellence He is best known for his Third Symphony (1886), with organ and piano, the biblical opera, *Samson et Dalila* (1877), the *Introduction and Rondo Capriccioso* (1863), for violin and orchestra, the piano concertos in G minor (1868) and C minor (1875), and symphonic poems, notably *Le Rouet d'Omphale* (1871) and *Danse macabre* (1874) He studied at the Paris Conservatoire and taught piano at the École Niedermeyer, he was organist for 20 years at the Madeleine See his *Musical Memories* (1919), biographies by Arthur Hervey (1921) and Watson Lyle (1923)

Saintsbury, George Edward Bateman (sānts′burĕ), 1845–1933, English critic Educated at Oxford, he became an authority on French literature and was professor of rhetoric and English literature (1895–1915) at Edinburgh He contributed to the *Saturday Review* and other periodicals from 1875 and to a series of volumes, *Periods of English Literature* (1897-1915), which he edited His writings include *A Primer of French Literature* (1880), *A Short History of French Literature* (1882), and *A History of the French Novel* (1917-19), *A Short History of English Literature* (1898) and several special studies of English literature, biographies of Dryden (1881), Scott (1897), Matthew Arnold (1899), Thackeray (1931), and others, several scrapbooks, collections of essays See *A Saintsbury Miscellany* (1947)

Saint-Servan (sĕ-sĕrvā′), town (pop 10,815), Ille-et-Vilaine dept , NW France, in Brittany, a port on the English Channel, just S of SAINT-MALO Its 14th-century tower (Tour Solidor) was damaged, as was a large part of the town, in the American advance across Brittany (1944)

Saint-Simon, Claude Henri de Rouvroy, comte de (klōd′ ārē′ dŭ rōōvrwa′ kōt′ dŭ sĕ-sēmō′), 1760–1825, French social philosopher While still a young man Saint-Simon won distinction with the French army in America Returning to France in 1783, he supported the Revolution and surrendered his title He made a fortune through speculation, but lavished it on a salon for scientists and spent his later years in poverty, sustained by the faith that he had a message for mankind Finding the controlling forces of society in industry and science, he concluded that industrial and scientific leaders should reorganize and direct the state so as to establish a better social order In *Le Nouveau Christianisme* (1825) he proclaimed that the concept of the brotherhood of man must accompany scientific organization His writings contain ideas foreshadowing the positivism of COMTE (for a time his pupil), socialism, federation of the nations of Europe, and many other modern trends Around him gathered a small group of brilliant young men After his death, they modified and elucidated his principles into a system known as **Saint-Simonianism** (sānt sīmō′nēŭnĭzm) Partly because of their eccentricities the Saint-Simonians achieved brief fame Led by ENFANTIN and BAZARD, they published (1829) the *Doctrine de Saint-Simon Exposition, premier année*, calling for abolition of individual inheritance rights, public control of means of production, and gradual emancipation of women The movement developed into a moral-religious cult, and, though split and disintegrated by 1833, it exerted much influence, especially on later socialist thought See *Œuvres de Saint-Simon et d'Enfantin* (47 vols , 1865–78); study by Sébastien Charléty (rev. ed , 1931)

Saint-Simon, Louis de Rouvroy, duc de (lwē′ dŭ rōōvrwa′ dük′), 1675–1755, French writer of memoirs and courtier He resigned from the army (1702) after his arrogance had involved him in a quarrel with Marshal Luxembourg Though disliked by Louis XIV, he fixed himself at the court of Versailles, where he associated with Louis, duke of Burgundy, until the duke's death (1712) Between 1715 and 1723 he served ineffectually as a member of the regency council and as special ambassador to Madrid His fame is due entirely to his memoirs, written in the years 1739-51 They are based on Saint-Simon's own notes, begun in 1691, and on contemporary journals and memoirs Despite their unevenness and their aristocratic disregard for literary technique and even grammar, the memoirs are a monument of French literature Saint-Simon's account of the court of Louis XIV is the intensely personal and emotional apology of a grand seigneur who was prevented, by his proud temperament and his limited intelligence, from accepting the rise of the bourgeoisie Born a century too late, he vented his resentment against Louis XIV, whose victory over the great nobles he refused to recognize Though full of errors, the memoirs are an indispensable historical source and are remarkable for their psychological observation and brilliant sketches First published in 1788, his memoirs subsequently appeared in several enlarged editions, notably that of Arthur de Boislisle (41 vols , 1879–1928), and in an abridged English version (tr by K P Wormeley, 4 vols , 1899)

Saint Simons Island see SEA ISLANDS

Saint Sophia see HAGIA SOPHIA

Saint Stephen, town (pop 3,306), SW N B , on the St Croix river and W of St John Just opposite is Calais, Maine, with which it is connected by an international bridge The two towns form practically a single community, cooperating in fire-fighting services, a hospital, public utilities, employment, and patriotic celebrations St Stephen was founded by Loyalists, after the American Revolution, and incorporated in 1871 Its industries include cotton milling and the manufacture of shoes, soap, and food products

Saint Stephen, lumbering town (pop 1,185), E S C , N of Charleston near the Santee river

Saint Stephens, former town SW Ala , at the head of navigation on the Tombigbee The Spanish fort built here (1789) came into U S possession by the terms of the demarcation line of 1798 George S GAINES was for many years factor of the trading post established here (1803) The first territorial legislature of Alabama met at St Stephens in 1818

Saint Stephen's College see BARD COLLEGE

Saint Thomas, city (pop 17,132), S Ont , near Lake Erie and S of London It is the commercial and distributing center of a farm and orchard district, with railroad workshops, foundries, and food-processing plants Alma College (junior), affiliated with the Univ of Western Ontario, is here

Saint Thomas see SÃO TOMÉ AND PRINCIPE

Saint Thomas see VIRGIN ISLANDS OF THE UNITED STATES

Saint Thomas, College of see SAINT PAUL, Minn

Saint Tite (sĕ tēt′), town (pop 2,385), S Que , N of Trois Rivières Gloves and shoes are made here, and dairying and lumbering are carried on

Saint-Trond (sĕ-trō′), Flemish *Sint-Truden* (sĭnt-troi′dun), town (pop 18,468), Limburg prov , E Belgium, NW of Liége It grew around an abbey founded in 655 by St Trudo, and it has kept a Beguinage church of the 13th cent and the 15th-century Church of Notre Dame

Saint-Tropez (sĕ-trôpĕā′), town (pop 3,171), Var dept , SE France, a popular resort on the French RIVIERA It was heavily damaged in the Second World War

Saint-Vallier, Jean Baptiste de la Croix (zhäⁿ′ bätēst′ dŭ lä krŏŏ′ sĕ-valyā′), 1653–1727, Catholic bishop of Quebec b Grenoble, France He succeeded F X de LAVAL in 1688 after serving as vicar general. Austere and aggressive, he formulated a strict ecclesiastical discipline and came into conflict with the civil governors, especially Frontenac Quarrels also arose between Saint-Vallier and Laval with regard to diocesan organization, the seminary, and the new bishop's expenditures From 1700 to 1713 Saint-Vallier was in France and, as a prisoner, in England He did much for the people of Quebec, notably in founding the Hôpital Général for the poor

St. Vincent, John Jervis, earl of. see JERVIS, JOHN, EARL OF ST VINCENT

Saint Vincent, island, area 140 sq mi , British West Indies It comprises most of St Vincent's colony (150 sq mi , pop 61,593), which includes also the tiny islands of the northern half of the archipelago known as the Grenadines and which itself is attached to the WINDWARD ISLANDS colony The capital is KINGSTOWN The island is mountainous and generally well forested, with an equable climate and abundant rainfall Arrowroot and exceptionally fine sea-island cotton are the chief products, followed by copra, sugar, rum, cassava starch, and peanuts Presumably discovered by Columbus in 1498, St Vincent remained uncolonized until the first half of the 18th cent The French took it in 1779, but it was restored to England in 1783 Attempts to subdue the warlike Carib Indians failed until most of the natives were deported to Roatán island off Honduras in 1797 Besides the ruling white element and a few Portuguese and East Indians, the population is predominantly Negro with a small admixture of Carib In 1898 a disastrous hurricane swept over the island and in 1902 much of it was destroyed by an eruption of SOUFRIÈRE.

Saint Vincent, Cape, Port *Cabo de São Vicente* (ka′bō dŭ sä′ō vēsän′tŭ), southwestern extremity of Portugal Near it were fought several memorable sea battles, notably that in 1797, when the British under John Jervis defeated a large Spanish fleet and Commodore Horatio Nelson distinguished himself For the Portuguese it is connected with the dreams and plans of Prince Henry the Navigator, who lived near by

Saint Vincent, Gulf, large inlet of the Indian Ocean, 90 mi long and 45 mi wide, South Australia, E of Yorke Peninsula Port Adelaide is on the east shore of the gulf

Saint Vincent College see LATROBE, Pa

Saint-Vith (sĕ′-vēt′), Ger *Sankt Vith* (zangkt″ vēt′), village (pop 1,327), Liége prov , Belgium, in the Malmédy district and near the German border A key road junction, it was captured by the Germans early in the BATTLE OF THE BULGE (Dec , 1944) and was recaptured by American forces on Jan. 23, 1945 It was largely destroyed in the fighting

Saint Vitus's dance see CHOREA

St Vrain, Céran (sārā′ sĕvrē′), 1798–1870, American fur trader, b near St Louis He went to the Gila in 1825 and later with the Bents was an important figure in the development of trade along the Santa Fe Trail and in the Southwest See BENT'S FORT

Saionji, Kimmochi, Prince (kĕmō′chē slōn′jē), 1850–1940, Japanese statesman A member of the old court nobility, he took part in the Meiji restoration, then spent 10 years in France, absorbing many democratic ideas In 1882 he accompanied his friend and patron, Prince ITO, to Europe to study foreign governments He was made minister to Vienna in 1885 and minister to Berlin in 1888, served in several cabinets under Ito, and was president of the privy council (1900–1903) He succeeded Ito as president of the Seiyukai party in 1903 and was prime minister (1906–8, 1911–12) In 1919 he headed the delegation to the Paris Peace Conference He retired from party politics in 1914 but as genro [elder statesman] continued to enjoy tremendous prestige and influence until his death, using his power to block the appointment of prime ministers identified with the military extremists See Bunji Omura, *The Last Genro* (1937)

Saipan (sī′pän″, sīpän′), volcanic island (47 sq mi , pop 4,945), W Pacific, largest and most important of the Marianas Islands It is 150 mi NNE of Guam Saipan is mountainous, the highest peak being Mt Tapotchau (1,554 ft) There are manganese and phosphate deposits, the chief products are sugar, coffee, and copra In the Second World War the island (site of a Japanese air base) was taken in 1944 by U S forces There is a U S naval base at Tannapag Harbor, Isely Field (formerly Ashto Field) is the largest of three airfields

Sais (sā′ĭs), ancient city of Egypt, in the west central region of the Nile delta It was the royal residence of the XXVI dynasty and much visited as a shrine of Neith and Osiris

Saishu, Korea see CHEJU

Saisset, Bernard (bĕrnär′ sĕsā′), d 1314, French churchman In 1295 he became bishop of Pamiers (near Foix, S France), and in 1301 he was sent by BONIFACE VIII as papal legate to PHILIP IV of France to protest against the king's anticlerical measures and to urge his support for Boniface's projected crusade On his return to Pamiers, Saisset—whose hostility to Philip was well known —was arrested on the ground that he had sought to incite rebellion against the king Philip requested of Pope Boniface that Saisset be deposed, and the pope replied by requesting the king to send Saisset to Rome for trial by an ecclesiastic court Philip refused and secured Saisset's indictment by a civil court, a strictly illegal measure This helped to bring the struggle between Church and state to a head Boniface issued the bulls *Salvator mundi* (reinforcing *Clericis laicos*), *Ausculta fili*, and *Unam sanctam*, and Philip in 1303 sent a military expedition which deposed the pope Saisset, the relatively unimportant object of the titanic struggle, was forgotten in the meantime He was allowed to go to Rome and in 1308 was restored to his see

Saitama (sī′tämä), prefecture, central Honshu, Japan see URAWA, the capital

Saito, Makoto, Viscount (mäkō'tō sī'tō), 1858–1936, Japanese statesman An admiral, he was navy minister (1906–14), governor of Korea (1919–27, 1929), a member of the privy council, and a delegate to the Geneva Naval Conference of 1927 A conservative militarist, he succeeded Inukai as prime minister in 1932, serving until 1934 In 1936 he became keeper of the privy seal, a position close to the emperor In the "barrack" uprising on Feb 26, 1936, he was assassinated by young militarists, who failed to kill Premier Okada

Saito, Takao (täkä'ō sī'tō), 1871–, Japanese statesman A member of the Minseito party, he served many years in the diet, but was expelled in 1940 for questioning Japan's policy in China After the war he was active in organizing the Progressive party and served in the cabinets of Yoshida and Katayama

Sajous, Charles Eucharist de' Medici (sūzhōō'), 1852–1929, American endocrinologist, b at sea near France, M D Jefferson Medical College, 1878 He was professor of endocrinology at the Univ of Pennsylvania from 1921 His chief work was *The Internal Secretions and the Principles of Medicine* (1903–7, 10th ed , 1922)

Sakai (säkī'), city (1940 pop 182,147, 1947 pop 194,048), Osaka prefecture, S Honshu, Japan, on Osaka Bay, at the mouth of the Yamato river It was an important port in ancient times, today it is an industrial center, with engineering works, chemical plants, and textile mills

Sakakawea: see SACAJAWEA

sake (sä'kē), chief alcoholic beverage of the Japanese Made principally from rice, it is fermented by a kind of mold cake called *koji* Sake is yellowish and sherrylike in flavor When distilled it forms a variety of ARRACK

Sakhalin (sä'kulēn", säkulēn', Rus sükhulyēn') or **Saghalien** (sä'gulēn', sugul'yun), island (29,700 sq mi , pop c 500,000), RSFSR, lying off the coast of Siberia, between the Sea of Okhotsk and the Sea of Japan Two parallel mountain ranges, separated by a central valley, run the length of this elongated island There is some agriculture (limited by a severe climate), but lumbering, coal mining, and herring fishing are the principal industries Sakhalin was explored by Russians in the 17th cent and colonized by Russia and Japan in the 18th and 19th cent The two countries shared control until, by the Treaty of Portsmouth (1905), Russia obtained the portion north of lat. 50° N and Japan the remainder The Japanese territory was named Karafuto, and this name was sometimes applied to the whole island Both countries colonized extensively and reduced the aboriginal population to a minority After the Second World War the Japanese holdings were transferred to the USSR as provided by an agreement reached at the YALTA CONFERENCE, and nearly all the Japanese population was repatriated

Saki · see MUNRO, HECTOR HUGH

Sakkara (säkä'rä), necropolis of ancient MEMPHIS, Egypt, 3 mi from the Nile and on the border of the Libyan desert There are pyramids of the V and VI dynasties, inferior to the earlier ones The oldest dated papyrus (VI dynasty) was discovered here in 1893

Sakonnet, R I see LITTLE COMPTON

Sakuntala. see KALIDASA

Sakura-jima (säkōō'rä'-jimä), peninsula, Kagoshima prefecture, S Kyushu, Japan, opposite Kagoshima Of its three volcanic cones, the highest is Kitadake (3,686 ft)

Sala (sä'lu), variant of SALAH

salad, herbs, vegetables, fruit, meat, poultry, eggs, or fish usually served cold or uncooked and with a dressing Green salads have been used from ancient times Lettuce, camomile, dandelion, and mint were the bitter herbs of the Hebrew Paschal feast The Greeks often closed a repast with lettuce, and the Romans served lettuce and eggs as an appetizer Today light salads, served as accompaniments to a meat course or as a separate course, usually consist of greens or tart fruits, the heartier salads are served as a main course Green salads especially are important in the diet because of the mineral salts, vitamins, and stimulating acids they contain Frozen and jellied salads are a modern development The important salad dressings are the dressing of oil (preferably olive) and vinegar or lemon, with seasonings, now generally known as French, mayonnaise, and boiled dressing, a modern adaptation of mayonnaise, cheaper and simpler to prepare

Saladin (sä'lüdĭn), 1137?–1193, Moslem warrior and Ayyubite sultan of Egypt, the great opponent of the Crusaders, b Mesopotamia, of Kurdish descent He lived for 10 years in Damascus at the court of NUREDDIN, where he distinguished himself by his interest in Sunnite theology. He went with his uncle, Shirkuh (or Shirkoh), a lieutenant of Nureddin, on campaigns (1164, 1167, 1168) against the Fatimite rulers of Egypt Shirkuh became vizier there and on his death (1169) was succeeded by Saladin Saladin later caused the name of the Shiite Fatimite caliph to be dropped from the Friday prayer, thus deposing him After the death of Nureddin, who was planning to campaign against his too-powerful subordinate, Saladin proclaimed himself sultan of Egypt, thus beginning the Ayyubite dynasty He spread his conquests westward on the northern shores of Africa as far as Gabès and also conquered Yemen He took over Damascus after Nureddin's death and undertook to subdue all Syria and Palestine He had already come into conflict with the Crusaders (see CRUSADES), and he put the rulers of the Latin Kingdom of Jerusalem on the steadily weakening defensive He was unsuccessful in his efforts to conquer the Assassins in their mountain strongholds, but he took Mosul, Alep, and wide areas from rival Moslem rulers and became the principal warrior of Islam Gathering a large force of Moslems of various groups—but all called Saracens by the Christians—he set out to attack the Christians Raymond of Tripoli was at first his ally, but then joined the other Crusaders, and the great battle of Hattin (near Tiberias) in 1187 found Christians matched solely against Moslems Saladin won brilliantly, capturing GUY DE LUSIGNAN and Reginald DE CHÂTILLON Jerusalem fell to him, and the Christians seemed lost The Third Crusade was gathered (1189) and came to the Holy Land to try to recover the Holy City Thus it was that Richard I of England and Saladin met in the conflict that was to be celebrated in later chivalric romance The reputation that Saladin had among the Christians for his generosity and chivalry does not, however, seem to have been a legend, and there seems no doubt that Saladin admired Richard as a worthy opponent The Crusaders, however, failed of their purpose, and succeeded only in capturing Acre. In 1192 Saladin agreed with them upon the Peace of Ramleh, which left the Latin Kingdom only a strip along the coast from Tyre to Jaffa The Christians were never to recover from their defeat Saladin was not only a warrior but a builder He restored the irrigation systems and erected fine mosques He was also a cultured man and a patron of literature and learning as well as an able theological disputant in his own right See biographies by Stanley Lane-Poole (1898) and C J Rosebault (1930)

Salado, Río (rē'ō sälä'dhō), name of several South American rivers, including four in Argentina The most important is the Río Salado del Norte, rising in the Andes near Salta, N Argentina, and flowing SE to the Paraná at Santa Fe

Salah (sā'lu), descendant of Shem Gen 10 24, 11 12,14 Shelah 1 Chron 1 18,24 Sala Luke 3 35

Salair Ridge (sülīĕr'), range, c 200 mi long, RSFSR, in S Siberia, between the Ob and Tom rivers Extending along the northern border of the Altai Territory, it rises to c 2,000 ft It is rich in iron, silver, lead, and zinc

Salamanca (sälumäng'ku, Span sälämäng'ka), city (pop 71,725), capital of Salamanca prov , W Spain, in Leon, on the Tormes river Dating from Carthaginian times, it was conquered from the Moors by the Christians in 1085 and reached world fame after the foundation (c 1230) of its university by Alfonso IX The university soon rivaled Bologna, Paris, and Oxford, and it made Arabic philosophy available to the Western world In the late Middle Ages and throughout the Renaissance, Salamanca was the center of Spanish cultural life and the fountainhead of Spanish theology In the Peninsular War the city was in part demolished (1811) by the French It was (1937–38) the capital of the Insurgents in the Spanish civil war Salamanca is rich in architectural interest The Plaza Mayor is among the finest colonnaded squares in Spain Adjoining the old Gothic cathedral (12th cent) is the imposing new cathedral (1513–1733), in which the Gothic, plateresque, and baroque styles are combined Among the other churches, the Gothic Church of San Estebán is the finest The university building (15th cent) has a richly adorned façade and possesses a library with precious manuscripts There are many splendid palaces, notably the Casa de las Conchas, named for the scallop shells on its façade, and the Casa de la Salina, with a picturesque patio

Salamanca (sälumäng'ku), city (pop 9,011), W N Y , on the Allegheny and S of Buffalo, settled in the 1860s, inc as a city 1913 Salamanca is within the Allegany Indian Reservation and near Allegany State Park It is a farm trade center and also a resort Among its manufactures are furniture, leather, and yarn

salamander (sä'lumän'dur), a tailed amphibian with small, weak limbs, which superficially resembles the unrelated lizard Lost limbs or tail can be regenerated Many salamanders are gregarious at breeding time The eggs, which are surrounded by a gelatinous material, are usually laid in ponds or brooks where the gill-breathing larvae remain until the lungs develop Among the North American salamanders are the tiger salamander, the larva of which is called in Mexico the axolotl, commonly found E of the Pacific coast states except in New England, the red-backed and the shiny salamanders, which breed on land, the young passing the gill-breathing stage in the egg, the dusky salamander, the two-striped salamander; the terrestrial marble salamander, which lays its eggs where the young can crawl to the water, the more aquatic red salamander, the mud puppy or necturus, which retains its gills through life; and the aquatic hellbender, the largest North American form The giant salamander of China and Japan is 3 to 5 ft long. Old legends portrayed the salamander as a creature that could go through flames unharmed See also NEWT

Salamaua (sälämou'ä), town, on E New Guinea, in the Morobe dist., Territory of New Guinea, on Bayern Bay of Huon Gulf It was founded in 1927 to serve air transport lines into the gold fields In the Second World War it was the site of a Japanese air base taken in 1943 by Allied forces

Salambria, river, Greece see PENEUS

Salamis (sä'lumis), ancient city on Cyprus, once the leading city St Paul visited it on his first missionary journey Acts 13 5

Salamis (sä'lumis), island, E Greece, in the Gulf of Aegina, SW of Athens. It early belonged to Aegina, was under control of Megara in the 7th cent B C , and later was taken by Athens Off Salamis in the PERSIAN WARS the allied Greek fleet decisively defeated (480 B C) the Persians Homer represents Salamis as the home of Ajax and Teucer

sal ammoniac (säl umō'nēăk), common name for ammonium chloride, a compound of chlorine with the ammonium radical (NH_4) It is a white, crystalline substance without odor but with a biting taste, prepared by the combination of ammonia and hydrochloric acid and also from the ammonia dissolved in the water used in treating illuminating gas for commercial use It occurs in nature in volcanic regions It is widely and diversely used, e g , in making dry cells, in preparing metals for soldering, in warfare in forming smoke screens, in medicine in the treatment of certain respiratory diseases, and in the preparation of ammonia

Salandra, Antonio (äntō'nyō sälän'drä), 1853–1931 Italian statesman He entered parliament as a moderate conservative (1886), held various cabinet posts from 1891 to 1910, and succeeded Giolitti as premier in 1914 He immediately declared Italian neutrality in the First World War, but undertook active military preparations After the failure of his negotiations with Austria, he signed the Treaty of London (1915) with the Western powers, denounced the Triple Alliance, and finally declared war on Austria He resigned in 1916 after the Italian retreat in the Trentino Salandra was one of the Italian delegates at the Paris Peace Conference (1919) and Italian delegate to the League of Nations He at first supported Fascism, then opposed it and resigned in 1925 In 1928, however, he was made a senator

Salang see PHUKET

Salathiel (sälā'thēĕl), variant of SHEALTIEL

Salaverry, Peru see TRUJILLO

Salazar, Antonio de Oliveira (äntō'nyō dū ōlēvā'rū sulăzar'), 1889–, Portuguese statesman He made a brilliant record at the Univ of Coimbra, and after graduation he became a member of the teaching staff In 1917 he obtained a lectureship in economics, and he rose to distinction as a professor Profoundly religious, Salazar became the leader of a political group committed to putting into action the social principles expressed in the encyclicals of Pope Leo XIII He was elected a deputy in 1921 but withdrew from the chamber immediately, viewing the proceedings there as futile After Gen Antonio de Fragoso CARMONA had been established in power by a coup, Salazar was appointed (1926) minister of finance, but when he was denied full power over finances he resigned In another financial crisis in 1928 he was recalled and given the full financial control he asked He was now in a position to institute reforms, and he put Portuguese finances on a stable footing for the first time in the 20th cent He occupied other ministries as well and after 1932 was prime minister and was recognized as dictator The constitution of 1933, which established the corporative state of the *Novo Estado* [new state], was of his devising Regimentation of the economy produced great effects in improving the Portuguese position, but at the expense of democratic action Though the constitution provides for an opposition, the attempt to create a democratic party in 1945 was ended by intimidation Salazar remained firmly in control

Salcah or **Salchah** (both säl'ku), ancient fortress, SE Syria, E of the Jordan, in the Hauran, 12 mi E of Bosra. There is now a castle, a landmark for miles around The present town is Salkhat Deut 3 10, Joshua 12 5, 13 11, 1 Chron 5 11.

Sale, George (säl), 1697?–1736, English Orientalist His translation of the Koran was long standard but has been outdated The notes showed great prejudice

Sale, Victoria, Australia. see GIPPSLAND

Sale, municipal borough (1931 pop 28,071; 1943 estimated pop 39,635), Cheshire, England, SW of Manchester. It is a residential and market-gardening suburb. Biscuits are manufactured.

Salé (sälā'), city (pop. 57,188), French Morocco, on the north bank of the Bou Regreg estuary, 9 mi from the Atlantic Ocean, opposite Rabat It has flour mills and produces carpets Its harbor was long a haven for pirates, called the Sallee Rovers

sale, in a general sense, a transfer of ownership for a valuable consideration The consideration distinguishes a sale from a gift Typically, the consideration in a sale is money, and in a narrower sense the word *sale* means a transfer of ownership for money, an exchange of goods for goods being barter The distinction between sale and barter is technical merely, laws that govern one govern the other equally Laws governing sales distinguish fundamentally between sales of real PROPERTY and sales of personal property If nothing is said to the contrary, the law of sales is understood to be the law of sales of personal property, sales of real property being governed by real-estate law Delivery of goods sold passes title to the goods, even though full payment has not been made, the seller may sue for the amount due him, but cannot recover the goods A contract may provide, however, that the goods, though delivered, remain the property of the seller until full payment for them has been made By a contract, one may purchase goods not yet in existence, e g , the crop that a farmer will grow in his field

Salegard, RSFSR see SALEKHARD

Salekhard (sälyĭkhärt'), city (1937 estimated pop 8,800), capital of Yamal-Nenets National Okrug, RSFSR, in NW Siberia, on the lower Ob river and on the Arctic Circle There are sawmills, fish canneries, and an agricultural experimental station Founded as Obdorsk in 1595, it was renamed c 1930, the name was Salegard until 1938.

Salem (sā'lŭm) [Heb , =peace], in the Bible **1** Unidentified kingdom of Melchizedek Gen 14 18, Heb 7 1,2 **2** Abbreviation used for Jerusalem Ps 76 2

Salem, city (pop 129,702), SE Madras state, India Near by are iron and manganese mines Cloth and carpets are woven

Salem 1 City (pop 7,319), co seat of Marion co S central Ill , E of St Louis, in a coal, oil, timber, and farm area, inc 1837 It manufactures lumber, shoes, and paint, and has railroad shops William Jennings Bryan was born here **2** City (pop 3,194), co seat of Washington co , SE Ind , NW of Louisville, Ky , settled c 1800, inc 1815 John Hay was born here **3** City (pop 41,213), a co seat of Essex co , NE Mass , NE of Boston, inc 1846 Roger Conant led a group from Cape Ann to this site, called Naumkeag by the Indians, in 1626 Its early history was darkened by the witchcraft trials of 1692, in which Samuel SEWALL was a judge Salem, a port of entry, was once one of the leading colonial ports and was the home of Revolutionary privateersmen and of world-traveled sea captains Its mast-crowded harbor was prosperous until the middle of the 19th cent Today the harbor is silted up, but mansions designed by Samuel McINTIRE recall the days of commercial glory Electrical supplies and textiles are now the chief products Fire in 1914 destroyed part of Salem, but the city is still rich in fine old buildings Nathaniel Hawthorne's birthplace dates from the 17th cent , and the House of the Seven Gables is preserved Hawthorne was surveyor of the port, 1846–49 The Essex Institute has an excellent library and historical collections George Peabody founded the Peabody marine museum A U S coast guard base and airport occupy Winter Island See R D Paine, *Ships and Sailors of Old Salem* (1909), history by J D Phillips (3 vols , 1933, 1937, 1947) **4** City (pop 3,151), co seat of Dent co , S central Mo , SE of Jefferson City, in an iron-mining, timber, and farm area, settled 1853, inc 1860 **5** Town (pop 3,267), SE N H , SE of Manchester, inc 1750 Among its products are shoes and potato chips The Rockingham Fairground near by has become a race track Robert Frost taught at a district school in the town **6** City (pop 8,618), co seat of Salem co , SW N J , on Salem Creek 3 mi from the Delaware It was settled by John Fenwick and other Friends in 1675 (the first permanent English settlement in the Delaware valley) and incorporated in 1858 It grew as a port and farm trade center and became a muskrat-fur market Glass and linoleum are made here The county historical society has collections in the Alexander Grant House (1721), there are many other old places The Friends' meetinghouse dates from 1772 Salem Oak (30 ft. in circumference and 80 ft high) stands in the Friends' burial ground **7** Village (pop. 1,034), E N Y , near the Vt line NE of Saratoga Springs, settled 1764, inc. 1803 Salem has clothing factories and slate quarries **8** City (pop 12,301), NE Ohio, SW of Youngstown, laid out 1806 by Friends Washing machines and metal-working machinery are made here It was an early abolitionist center and was an important station on the Underground Railroad **9** City (pop 30,908), state capital, and co seat of Marion co , NW Oregon, on the Willamette and SSW of Portland, founded 1841 by Jason Lee and his missionaries, inc 1857 The capital of Oregon Territory in 1851, it remained the capital when Oregon became a state in 1859 In a fertile area producing fruits, grain, flax, hops, and livestock, the city has fruit canneries and packing houses and linen, paper, and woolen mills. It is the seat of WILLAMETTE UNIVERSITY In addition to various state and Federal buildings, Salem has the state penitentiary, state schools for the deaf, the blind, and the feeble-minded, state hospitals for the insane and the tubercular, and the state industrial school for girls. Near by, at Chemawa, is an Indian school The annual state fair is held at Salem A new capitol was completed in 1939, replacing one destroyed by fire in 1935 **10** City (pop 1,185), co seat of McCook co , SE S Dak , WNW of Sioux Falls, settled 1880, inc 1885 It is a farm trading and distributing center **11** Residential and textile town (pop 5,737), SW Va , on the Roanoke river, between the Blue Ridge and the Allegheny Mts , laid out 1802, inc 1806 The courthouse of Roanoke co is here, as is Roanoke College (coeducational, 1842) **12** City (pop 2,571), N W Va , W of Clarksburg, settled 1790 Oil and gas fields were developed in the 1890s Salem College is here

Salem Church see CHANCELLORSVILLE, BATTLE OF

Salem College see WINSTON-SALEM, N C

Salem Kemen, Yugoslavia see SLANKAMEN

Salerno (sulĕr'nō, Ital sälĕr'nō), city (pop 41,925), capital of Salerno prov , Campania, S Italy, a port on the beautiful Gulf of Salerno, an inlet of the Tyrrhenian Sea It is an important agricultural and commercial center, machinery, textiles, and macaroni are manufactured A Roman colony, it became (6th cent) a part of the duchy of Benevento and in the 9th cent the seat of an independent principality, which fell to the Normans in 1076 From Sept 9 to Sept 16, 1943, a fierce battle raged between Allied landing forces and German forces on the beaches around Salerno It ended with the Germans retreating toward Naples Salerno has a fine cathedral with 11th-century bronze doors and ancient mosaics The famous medical school of Salerno, where Latin, Greek, Arabic, and Jewish influences were merged, is considered the first of its kind Originating in the 9th cent , it reached its highest splendor in the 12th cent

sales tax, a tax on the sale of goods or services, generally calculated as a percentage of the selling price, sometimes called a purchase tax It is usually collected in the form of an extra charge by the retailer, who remits the tax to the government It may be levied each time a commodity changes hands—as from manufacturer to wholesaler, from wholesaler to retailer—and is then called a turnover or transactions tax Many oppose the tax as being regressive, i e , as placing a disproportionately heavy burden on persons of small means, but it yields a large revenue, and governments find it easy to collect More than half the states in the United States and many foreign countries levy sales taxes

Salford (sôl'furd, sŏl'–), county borough (1931 pop 223,438, 1947 estimated pop 176,600) and city, Lancashire, England, across the Irwell from Manchester A textile center, it shares the manufacturing and commercial activities of Manchester There is an unusual number of parks and recreation grounds

Salgotarjan, Hung *Salgótarján* (shŏl'gōtŏr"yun), city (pop 20,318), N Hungary One of the chief mining and industrial centers of Hungary, it has iron and steel mills and machinery plants There are large coal and lignite deposits near by.

Salian Law. see GERMANIC LAWS

Salians see FRANKS

Salic Law. see GERMANIC LAWS

Salic law (sā'lĭk), rule of succession in certain royal and noble families of Europe, forbidding females and those descended in the female line to succeed to the titles or offices in the family The aim seems to have been to prevent alienation of family lands by marriage of the female members It is called the Salic law on the mistaken supposition that it was part of the Lex Salica (see GERMANIC LAWS), that code as a matter of fact contains no public law at all The rule was most prominently enforced by the house of Valois and the succeeding house of Bourbon in France At the time of PHILIP V it was introduced to Spain, when it was reasserted there in favor of Isabella II, the Carlists rose in revolt on the grounds of the law The rule was also involved in the rivalry of STEPHEN and MATILDA for the throne of England and in the claim of EDWARD III to the French succession (one item in bringing on the HUNDRED YEARS WAR) It obtained, too, among the Guelphs, and the rule of Great Britain and Hanover—united in one king after George I—had to be separated when VICTORIA ascended the British throne

salicylic acid (sălĭsĭl'ĭk), white crystalline organic acid, without odor and having a sweetish taste It is almost insoluble in cold water, but soluble in hot water and very soluble in alcohol It is present, often in the form of its methyl ester, methyl salicylate, in oil of wintergreen (from which it is obtained) and in other parts of many plants It is commonly prepared commercially from phenol The acid and its sodium salt are used as preservatives in foodstuffs, since they inhibit bacterial growth Their use has been prohibited in some countries because of their injurious effects in any but very small quantities Aspirin (the acetate) and some of the acid's other derivatives (salicylates) are used in medicine as antipyretics, as antiseptics, and in the treatment of certain ailments such as rheumatism Methyl salicylate is widely used as a flavoring, and medically as an ingredient in liniments An important use of salicylic acid is in the manufacture of dyestuffs It was first prepared (1838) by R. Piria. Its presence is detected by the addition of ferric chloride, when a brilliant violet appears

Salida (sulī'dŭ), city (pop 4,969, alt c 7,000 ft), co seat of Chaffee co , central Colo , on the Arkansas river and WNW of Pueblo, founded c 1880, inc 1891 It is a resort, trade, and industrial center for a granite, lime-rock, fluor-spar, and farm area The city is a railroad division point and has an airport It is headquarters for the Cochetopa National Forest Hot springs are near by

Salieri, Antonio (äntō'nyō sälyā'rē), 1750–1825, Italian composer and conductor He received his first training in Italy, going afterward (c 1766) to Vienna, where he remained as conductor of the opera and later (1788–1824) as court conductor He was a friend of Haydn, and he taught Beethoven, Schubert, and Liszt The most successful of his 43 operas were *Les Danaïdes* (Paris, 1784) and *Tarare* (Paris, 1787)

Salim (sā'lĭm) [Gr from Heb SALEM], unlocated place, W of the Jordan and near the scene of John's last baptizing John 3 23

Salina (sulī'nu) **1** City (pop 21,073), co , seat of Saline co , central Kansas, near the confluence of the Saline and Smoky Hill rivers, platted 1858, inc 1870 It is the marketing, shipping, and distributing center for a large grain and livestock area and has elevators, flour mills, and farm-implement factories The city is one of the leading centers of the great hard-winter-wheat belt Kansas Wesleyan Univ , Marymount College, and a military school are here **2** Historic town (pop 687), NE Okla , on the Grand River and ENE of Tulsa It was settled on the site of the first Oklahoma trading post, founded in the early 19th cent by Jean Pierre CHOUTEAU **3** City (pop 1,616), central Utah, in the Sevier river valley NE of Richfield First settled in 1864, it was abandoned (1866) in the Indian wars and resettled in 1871 It ships coal, livestock, salt, grain, and sugar beets

Salinas, Pedro (pā'drō sälē'nus), 1892–, Spanish poet and critic, b Madrid He lectured on Spanish literature at the Univ of Seville and at the Sorbonne In 1936 he came to the United States and taught at Johns Hopkins That he is a profound and perceptive critic of Spanish contemporary literature is shown in his critical works, *Reality and the Poet in Spanish Poetry* (published only in English, 1940) and *Literatura española siglo XX* (1941) He ranks among the best Spanish poets of the 20th cent , and his poetry is characterized by subtlety and intellectualism All poetic experience is submitted to ironical analysis His best poetry is included in *Presagios* (1923), *Seguro azar* (1929), *Fábula y signo* (1931), *Amor en vilo* (1933), *La voz a ti debida* (1933), *Razón de amor* (1936) and *El contemplado* He translated (1925) the *Poema de Mío Cid* into modern Spanish and edited the poems of Meléndez Valdés (1925) Some of his poems have been translated into English as *Lost Angel and Other Poems* (1938), and *Truth of Two and Other Poems* (1940)

Salinas (sulē'nus), city (pop 11,586), co seat of Monterey co , W Calif , SSE of San Francisco, settled 1856, inc 1874 It is the shipping and processing center of a fertile valley, which produces lettuce and other vegetables, fruits, sugar beets, and dairy products In 1936 a strike of lettuce workers here was attended with violence On the outskirts is an unincorporated farm community called East Salinas (pop c 6,500), settled since 1933, principally by migratory farm workers Salinas is the scene of an annual rodeo and the seat of Hartnell College (junior, coeducational)

Salinas, river, c 150 mi long, rising in S California, in the Santa Lucia Mts E of San Luis Obispo, and flowing (partly underground) past King City, Paso Robles, and Salinas, NW to Monterey Bay The valley is highly productive See Anne Fisher, *The Salinas, Upside-down River* (1945)

Saline (sulēn'), city (pop 1,227), SE Mich , S of Ann Arbor, settled 1824, inc as a village 1877, as a city 1931 A Ford plant here uses soybean oil made at a company mill near by The cooperative Saline Valley Farms is near here

Saline, tributary of the Ouachita river, starting in the Ouachita Mts , W Ark , and flowing to S Arkansas, where it joins the Ouachita

Salineville (sulēn'vĭl), village (pop 2,018), NE Ohio, SW of Youngstown, in a coal-mining region.

Salisbury, John of see JOHN OF SALISBURY.

Salisbury, Robert Arthur Talbot Gascoyne-Cecil, 3d **marquess of** (sôlz'bûrē), 1830–1903, British statesman and diplomat He entered Parliament in 1853 as a Conservative and devoted himself for 50 years to a program of cautious imperialism and implacable resistance to parliamentary and franchise reforms He served as secretary for India in Lord Derby's government, but resigned (1867) in protest against the reform bill sponsored and passed by Benjamin DISRAELI. Throughout the various administrations of William Ewart GLADSTONE,

Salisbury (who succeeded to his father's title in 1868) was a consistent opponent of Gladstone's policies, particularly of his determination to grant Home Rule to Ireland Salisbury served Disraeli as Indian secretary (1874–78) and as foreign secretary (1878–80) His "Salisbury Circular" outlined British policy in the Near East and led to the Congress of Berlin (1878), to which gathering he accompanied Disraeli He became Conservative leader in the House of Lords in 1881 In 1885 he entered upon the first of his three ministries His government fell shortly thereafter, and Gladstone was briefly prime minister (1886) until the Liberals split on the first Home Rule bill Salisbury's second government lasted six years (1886–92), his third, seven years (1895 1902) In each of his ministries he acted as his own foreign minister He favored a liberal land policy in Ireland despite his conservative attitude toward Home Rule He maintained peaceful relations with the great powers Zanzibar and Uganda were exchanged for Heligoland with Germany and the cornerstone of an African agreement with France was laid in the Fashoda settlement He conciliated the United States at the time of the Venezuela Boundary Dispute, in the Spanish-American War, and in the Panama negotiations He directed the arrangements for the Anglo-Japanese alliance and attempted with some success to maintain the Open Door in China The South African War darkened the last years of his career He relinquished the foreign office to Lord Lansdowne in 1900 and resigned as prime minister in 1902, designating his nephew, Arthur Balfour, as his successor Despite his conservatism, Salisbury achieved some domestic reforms, such as the County Councils Act, workmen's compensation laws, and housing reform Throughout his life Salisbury contributed a number of topical essays to various periodicals, notably to the *Quarterly Review* See biography by his daughter, Lady Gwendolen Cecil (5 vols , 1921–35)

Salisbury, Robert Cecil, 1st **earl of,** 1563?–1612, English statesman, son of William Cecil, Baron Burghley A sickly, deformed child, he was educated at home and at Cambridge and spent some years abroad, being in 1588 a member of Lord Derby's mission to negotiate a peace with the Spanish Netherlands Cecil entered Parliament and came gradually to rank second only to his father as adviser to Queen Elizabeth About 1589 he began to perform the duties of secretary of state and was officially appointed to that position in 1596 He became chancellor of the duchy of Lancaster in 1597 and in 1598 succeeded his father as chief minister, despite the rivalry of Francis Bacon and the earl of Essex The fall and execution of Essex in 1601 cleared the way for Cecil to prepare, by secret negotiation with James VI of Scotland, the peaceful accession of the latter to the English throne as James I on the death of Elizabeth (1603) After the accession of James, Cecil was created Baron Cecil (1603), Viscount Cranborne (1604), and earl of Salisbury (1605) His influence over James was due to his abilities, not, as in the case of the earl of Somerset and the duke of Buckingham, to a personal ascendancy over the king For the remainder of his life virtually the entire administration of the government was in his care The duties of lord treasurer devolved upon Salisbury in 1608 He exhibited great financial skill, reducing the public debt and attempting to restrain James's extravagance He greatly increased customs duties without the consent of Parliament and began the ruinous Stuart policy of attempting to circumvent Parliament in securing revenue His proposed Great Contract with Parliament, by which James would receive a settled income in return for abandoning his feudal revenues and assumed rights of imposition, failed of acceptance In foreign affairs Salisbury attempted to maintain a balance of power between France and Spain After 1604 he received a pension from Spain, but his hope that England might lead a Protestant alliance led him to support the marriage of James's daughter to the elector palatine (1612) In his latter years Salisbury planned and had built the great Jacobean mansion, Hatfield House, which remained in the possession of the family

Salisbury (sôlz'–) or **New Sarum** (sar'um), municipal borough (1931 pop 26,460, 1947 estimated pop 30,970), county town of Wiltshire, England It originated with the transfer of the bishopric from Old Sarum in 1220 Squares or "checkers" are characteristic of the regular plan of the city The great cathedral, a splendid example of Early English architecture with the highest spire in England (404 ft), was built mainly between 1220 and 1260, some of the materials being brought from the razed cathedral of Old Sarum The 13th-century palace of the bishops, the churches of St Martin, St Edmund (13th cent), and St Thomas (13th cent), the Blackmore Museum, old hospitals and inns, Audley House (15th cent), and the Salisbury and South Wiltshire Museum are of interest The city is the Melchester of Thomas Hardy's Wessex novels

Salisbury (sôlz'–), city (pop 69,049), capital of Southern Rhodesia, founded 1890 It is connected by rail to Lusaka, the capital of Northern Rhodesia, and to Beira on the coast of Mozambique Textiles are manufactured Gold and chrome are mined near by

Salisbury **1** Resort town (pop 3,030), extreme NW Conn., in the Taconics, settled c 1720, inc 1741 Bear Mountain is in the town, which includes the villages Ore Hill, Lime Rock, Lakeville, Salisbury, and Taconic The hills surrounding the village of Salisbury once yielded iron ore On the broad main street of the village are fine old buildings, including the town hall Salisbury School for boys (preparatory, founded 1901) is near by **2** City (pop 13,313), co seat of Wicomico co, Eastern Shore, Md , at the head of Wicomico river, settled 1732 It is an industrial and shipping point, producing garments and processing lumber, vegetables, meats, fruits, dairy goods, and sea foods A state teachers college is here **3** Town (pop 2,376), extreme NE Mass , N of the Merrimack, settled 1638, inc 1640 It includes the resort Salisbury Beach There are several 17th-century buildings in the town **4** City (pop 1,759), N central Mo , W of Moberly, in a coal and farm area, settled 1877, inc 1891 **5** City (pop 19,037), co seat of Rowan co , W central N C , NNE of Charlotte, in the piedmont, settled 1751, inc 1753 It is a textile-mill city with granite quarries near by A national cemetery, Catawba College (coeducational, 1851), and Livingstone College (Negro, Methodist Episcopal Zion, coeducational, 1879) are here

Salisbury Plain, chalk plateau of undulating, mostly barren highland, 300 sq mi , Wiltshire, England, NW of Salisbury It is noted chiefly as the site of ancient monuments, of which Stonehenge is the most famous The area is an important training ground for the British army

Salishan (sā'lĭshun, să'–), linguistic stock of North American Indians of the NW United States and British Columbia It includes such tribes as the Flathead, the Pend d'Oreille, the Okanogan, the Puyallup, the Nisqually, the Spokan, the Colville, the Coeur d'Alene, the Bella Coola, the Clallam and Shuswap See Algonquian and language (table)

Salish Indians see Flathead Indians

saliva (sulī'vu), alkaline digestive fluid secreted by the salivary glands (să'lĭvē"rē) The saliva bathes the mouth, keeping it moist, and softens the food in the oral cavity It is produced chiefly by the three pairs of salivary glands known as the parotid glands (found just below and in front of the ear), the submaxillary (below the jaw), and the sublingual (beneath the tongue) Ducts carry the secretion into the mouth cavity Other small glands in the mouth region also add to the secretion of saliva The digestive ferment (ptyalin) contained in the saliva converts starch to sugar, thus beginning the process of digestion The flow of saliva is increased when stimulated by the presence of food A lack of salivary flow from a gland may be caused by the formation of a calculus which blocks the duct

Salkhat, Syria see Salcah

Sallai (săl'āī [Heb , =exaltation] **1** Man who returned from the Exile Neh 11 8 **2** Same as Sallu 1

Sallee, French Morocco see Salé

Sallisaw (să'lĭsô), city (pop 2,140), co seat of Sequoyah co , E Okla , in a hilly region near Arkansas, founded c 1886 It is the center of a rich farm district

Sallu (săl'ū) [Heb , =exaltation] **1** One who returned with Zerubbabel Neh 12 7 Sallai Neh. 12 20 **2** Benjamite 1 Chron 9 7, Neh 11 7

Sallust (Caius Sallustius Crispus) (să'lust), 86 B C – c 34 B C , Roman historian He was tribune of the people (51 B C) and praetor (46 B C) He was ejected from the senate ostensibly for adultery (50 B C), but more probably because of his partisanship for Caesar He served with Caesar after his praetorship and was his governor in Numidia, he was subsequently accused of enriching himself from the province His principal work is the *Bellum Catilinarium* or *Catilina*, on the conspiracy of Catiline Sallust's account of the Jugurthine war, *Bellum Jugurthinum* or *Jugurtha*, is of little value as history Sallust's history of Rome is extant only in fragments, it probably covered the period 78 B C –66 B C. There are also two letters, in rhetorical style, from Sallust to Caesar As a historian Sallust was inaccurate and strongly biased, but he was important as one of the first to write historical monographs, dealing with sharply limited events and periods His style is consciously archaizing and strained, but is distinguished by its terseness and directness His character sketches are particularly impressive and vivid, and his work has found as many imitators as critics

Salma (săl'mu), variant of Salmon **1**

Salmasius, Claudius (klô'dēus sălmā'shus), 1588–1653, French humanist and philologist He is known in French as Claude de Saumaise Taught Latin and Greek by his father, he later studied law, theology, Hebrew, Arabic, and Persian Commencing a law career at Dijon in 1610, he turned to his studies when his Protestantism, embraced as a student in Paris, impeded advancement In 1631 he was called to the Univ of Leiden to succeed Joseph Scaliger and glorify it with his name and writings Supporting the Stuarts, he wrote *Defensio regia pro Carlo I* (1649), upholding the divine right of monarchy, which brought a dissenting reply from John Milton In 1650–51 Salmasius was patronized in Stockholm by Queen Christina He is remembered for his discovery (1606) of the Greek anthology of Cephalas at Heidelberg, an important commentary on Pliny (1629), and *De lingua hellenistica* (1643) Vain and pompous, he left over 80 books, full of learning but often hastily written and poorly organized

Salmerón y Alonso, Nicolás (nĕkōlās' sălmārōn' ē alōn'sō), 1838–1908, Spanish statesman and philosopher A professor at Oviedo and Madrid universities and a convinced republican, he became, after the expulsion of Isabella II (1868), a member of the revolutionary junta, of the constituent assembly (1869), and of the Cortes (1871) After Amadeus' abdication, he was minister of justice and then president of the republic (1873) He restored some order, but was unable to handle the confused political situation and soon resigned He opposed Pavía's coup d'état and fled to Paris after the restoration of Alfonso XII Returning to Spain in 1881, he regained (1884) his chair of philosophy at Madrid and was reelected (1886) to the Cortes, where he led the federalist republicans

Salminen, Sally (săl'lē săl'mĭnĕn), 1906–, Finnish novelist While working in Massachusetts as a housemaid for a wealthy family she entered her first novel, *Katrina* (1936, Eng tr , 1937), in a Finnish-Swedish literary competition, in which it won first prize This story in Swedish about the author's native Aland Islands became an international best seller Other novels are *Mariana* (1939, Eng tr , 1940) and *New Lands* (1945)

Salmon (săl'mŏn) **1** Father of Boaz Ruth 4 20, Mat 1 5, Luke 3 32 Salma 1 Chron 2 11,51,54 **2** Place, probably the same as Zalmon **2**

Salmon (să'mun), city (pop 2,439), co seat of Lemhi co , E Idaho, at the confluence of the Salmon and Lemhi rivers near the Mont line The site was visited by Lewis and Clark With the discovery of gold in the area (1866), Salmon City was founded (1867) as a supply center Later it was a distributing point for mining, lumbering, and agriculture A Federal fish hatchery and the headquarters for Salmon National Forest are here

Salmon, river, c 425 mi long, rising in many branches in central Idaho, in the Sawtooth and the Salmon River Mts It flows northeast and is joined, at Salmon, by the Lemhi, after which it flows west and is joined by the Middle Fork and the South Fork, then goes north to join the Snake The canyon of the river threads through a wilderness preserve The river itself has a large salmon run, which is unfished In 1935 a party sponsored by the National Geographic Society explored the canyon See R G Bailey, *The River of No Return the Salmon* (1935)

salmon (să'mun), marine fish of the N Atlantic and the N Pacific which breeds in fresh water The Atlantic salmon, genus *Salmo*, provided a plentiful source of food for the Indians and colonists Pollution of waters, erection of dams, and overfishing have nearly exterminated it Some remain in European rivers and in rivers of Maine and E Canada, and larger quantities are caught near Labrador Pacific coast salmon, genus *Oncorhynchus*, are taken from Monterey, Calif , to Nome, Alaska The chief canning areas are near the regions of abundance on the Columbia river and Puget Sound and in Alaska, British Columbia, Siberia, and N Japan Alaska furnishes over half the world's supply of canned salmon There are five common species of Pacific salmon The Chinook (or quinnat or king) salmon, which averages about 20 lb and sometimes reaches 100 lb , is the chief salmon of the Columbia and Sacramento rivers and the most important commercially It is marketed fresh, smoked, and canned The red (or sockeye or blueback) salmon forms the bulk of the canned salmon. Also valuable commercially are the pink or humpbacked salmon and the silver or coho salmon The chum, keta, or dog salmon flesh is better frozen, salted, or smoked than canned When ready to spawn, salmon migrate from the ocean, each species seeking the region where it hatched Those which journey far to headwater streams arrive battered and exhausted, having fought their way against the current over rapids and falls, past a gauntlet of fishermen and hungry animals The Pacific salmon die soon after the eggs are laid and fertilized, but the Atlantic salmon return to the sea In some species the young descend to the sea immediately after hatching, others remain in fresh water from one to three years They feed in salt water for a period of one to nine years before seeking the freshwater breeding grounds Some salmon are landlocked in northern lakes

Salmone (sălmō'nē), cape on the eastern point of Crete It is mentioned in the account of Paul's voyage to Rome Acts 27 7.

Salmoneus (sălmō'nēus, –nūs), in Greek legend, son of Aeolus and brother of Sisyphus He was founder and king of Salmone in Elis Posing as Zeus' equal, he demanded sacrifices and with flaring torches

imitated lightning Zeus destroyed him and his city with a thunderbolt

Salmon Falls River, rising in lakes around the Maine–N H border and flowing south-southeast, forming the border It enters the Atlantic at Portsmouth Harbor Its lower course is known as the Piscataqua

Salmon River Mountains, central Idaho, between the Sawtooth Mts to the south and the Bitterroot Range to the northeast Twin Peaks reach a height of 10,328 ft The Middle Fork and the East Fork of the Salmon river bracket the Salmon River Range of the Salmon River Mts

Salome (sălō′mē) [from Heb ,=peace] **1** Daughter of Herod Philip and Herodias She is generally supposed to be the daughter who danced for the head of John the Baptist Mark 6 16–28 Thus is the subject of a poem *Salomé* by Oscar Wilde, set to music as a one-act opera by Richard Strauss (Dresden, 1905) **2** One of the women who ministered to Jesus, who beheld his crucifixion, and who brought offerings to his tomb Mark 15 40, 16 1

Salome Alexandra see MACCABEES, Jewish family

Salomon, Haym, 1740–85, American Revolutionary patriot and financier, b Leszno, Poland He aided Robert Morris in securing foreign and domestic loans, and his pledging of his own banking fortune, the personal risks he took, and the taxing work he did to promote the patriotic cause demonstrated that a man could be a hero in the countinghouse as well as on the battlefield See biography by C E Russell (1930)

Salona (sulō′nu), Latin *Salonae,* ancient city of Dalmatia A port on the Adriatic, it was used as a base for Roman conquest and was made a Roman colony and capital of Illyricum The busy commercial city gained prestige when Diocletian on retiring built a magnificent palace near by after A D 305 Salona became an episcopal see in the 4th cent , but in the 7th cent the people fled before invaders and transformed Diocletian's palace into the city of Spalato (now Split, Yugoslavia) Salona was destroyed

Salonica, Salonika (both sălun′ku, sulō′nĭku), or **Saloniki** (sălunē′kē), Gr *Thessalonike* or *Thessaloniki* (both thĕs″salōnē′kē), city (pop 226,147), NE Greece, in Macedonia, on the Gulf of Salonica, an inlet of the Aegean Sea, and at the neck of the Chalcidice Peninsula It is the second largest city of Greece, a major port, and the center of an industrial district producing textiles, cigarettes, leather goods, and machine tools The port trades in wheat, cotton, silk cocoons, vegetables, tobacco, and livestock Salonica also is a road and air transportation center, the seat of the governor of Greek Macedonia, and the seat of a university (opened 1926) The city was founded c 315 B C by Cassander, king of Macedon, on or near the site of the older Therma, and was named Thessalonike in honor of his wife, a half sister of Alexander the Great In 146 B C it became the capital of the Roman province of Macedonia It enjoyed great prosperity under the Romans and was second only to Constantinople under the Byzantine Empire The city had, from early times, a large Jewish colony, and it was an early Christian diocese St Paul addressed his two epistles to the THESSALONIANS to his converts here The Jewish population was greatly increased in the late 15th and early 16th cent by the influx of Spanish-Jewish refugees The massacre (A D 390) of the rebellious citizens of Salonica by order of THEODOSIUS I led to the emperor's excommunication and repentance The city was occupied by the Saracens in 904 and by the Normans of Sicily in 1185 When in 1204 the leaders of the Fourth Crusade created a Latin empire (see CONSTANTINOPLE, LATIN EMPIRE OF), the kingdom of Thessalonica, comprising most of N and central Greece, was its largest fief It was given to Boniface, marquis of Montferrat, but it was seized in 1222 by the Greek despot of Epirus, who had himself proclaimed emperor The kingdom fell into anarchy in the struggle between the Greek rulers of Epirus and the Greek emperors of Nicaea In 1246 the city fell to the Nicaeans, who in 1261 were to restore the Byzantine Empire Conquered by Sultan Murad I in 1387, Salonica was restored to the Byzantines in 1405, was bought by Venice in 1423, and was again conquered by the Turks under Murad II in 1430 From then until its reconquest (1912) by the Greeks in the Balkan Wars, Salonica remained under Ottoman rule In the First World War the Allies landed (1915) at Salonica, thus beginning the Salonica campaigns (see separate article), and in 1916 VENIZELOS set up here his pro-Allied provisional government of Greece Salonica suffered considerable damage in the Second World War The city is famous for its many fine churches, notably those of Hagia Sophia, with notable mosaics, of St George, and of St Demetrius Among its ancient ruins is the triumphal arch of Emperor Constantine

Salonica campaigns. After the outbreak of the First World War, Greece remained neutral When the pro-Allied government of VENIZELOS fell in 1915 because of its intention to enter the war on the Allied side, the Allies landed (Dec , 1915) a force under the French general Maurice Sarrail at Salonica and began a "peaceful blockade" of Greece Their object was to relieve Serbia and to maintain a foothold in the Balkans by bringing Greece into the war King CONSTANTINE proved obdurate, and the Allies fostered the establishment (1916) of a rival Greek government, headed by Venizelos, at Salonica The Venizelos government declared war on the Central Powers, and in June, 1917, after the Allies had begun to invade central Greece, Constantine abdicated and Greece formally joined the Allies In the meantime, the Macedonian front had stabilized after several unsuccessful Allied offensives against the Bulgarian, Turkish, and German forces facing them Bitolj was taken (Nov , 1916), but the battle of the Vardar (May, 1917) was inconclusive The Allies were hampered by friction among their commanders, by the insecure status of Greece, and by the malaria which wrought havoc among their forces In 1918, however, huge reinforcements were brought to Salonica Gen Franchet d'Esperey took command, and in September the Allies began their northward advance along the entire front in an uninterrupted offensive Bulgaria capitulated on Sept 30, Serbia was recovered by Nov 1, and on Nov 10 Rumania was in Allied hands The armistice of Nov 11, 1918, ended the campaign

Salonika or **Saloniki,** Greece see SALONICA

Salop, county, England see SHROPSHIRE

salsify see GOATSBEARD

Salsomaggiore (sal″sōmäd-jō′rā), town (pop 7,751), Emilia, N Italy, W of Parma It is a watering place noted for its iodine saline waters, used for rheumatic and respiratory disorders

Salt, Sir Titus, 1803–76, English textile manufacturer and inventor He invented a machine for making worsted from coarse wool and a process for spinning and weaving alpaca In 1851 he started to build, on the Aire river, extensive textile works and a model manufacturing town, called Saltaire, in which he attempted to embody his conceptions of ideal factory conditions for workers

salt **1** A common and widely used substance, chemically a compound of the elements sodium and chlorine called sodium chloride It crystallizes in small transparent cubes, melts at about 803°C , is soluble in both hot and cold water, and in solution conducts a current of electricity by which it is decomposed (see ELECTROLYSIS) Salt is widely and abundantly distributed in nature It constitutes the greater part of the matter dissolved in sea water, in such large inland bodies of water as the Dead Sea and the Great Salt Lake, and in salt wells in various parts of the world It is a constituent of animal fluids, such as urine and perspiration It occurs in large deposits as rock salt, in the United States (notably in New York, Michigan, Ohio, Kansas, Texas, and Louisiana) and also in Great Britain, France, and Germany India and China also produce much salt Salt is mined from these deposits or is obtained by introducing water beneath the surface of the ground, dissolving the salt, and then pumping the solution to the surface, where the solution is evaporated and the salt crystallizes out Salt is obtained also by the evaporation of sea water, which is led into shallow basins for this purpose and allowed to stand The compound is important in many ways It is the chief source of the metal sodium and of its compounds, such as baking soda and caustic soda It is a source also of chlorine and some of its compounds, notably hydrochloric acid It is employed in industry in the manufacture of glass, pottery, dyes for textiles, and soap It is used for preserving fish and other foods, in curing meat, and in making ice cream It aids digestion by increasing the quantity of hydrochloric acid, which is a small but essential part of the animal digestive fluid, and it is an extremely important part of the diet both of men and of animals Trails have been worn by animals seeking accessible salt Men of primitive tribes have traded their wives and children into slavery for salt See G L Eskew, *Salt, the Fifth Element* (1948) **2** In chemistry, a salt is any one of a class of compounds similar to sodium chloride, which contain some other positive ion than the hydrogen ion (e g , that of a metal or metallic radical) and some other negative ion than the hydroxyl (OH) ion (e g , that of a nonmetal or nonmetallic radical) Salts that contain neither the hydrogen ion (all hydrogen ions having been replaced) nor the hydroxyl ion are called normal salts, those containing the hydrogen ion in addition to another positive ion are called acid salts, and those containing the hydroxyl ion (i e., all the hydroxyl ions of the base are not replaced), in addition to some other negative ion, are basic salts Salts are named from the elements of which they are composed and the acid from which they are derived A salt which is composed of only two elements has the ending -ide suffixed to the name of the nonmetallic one of its constituent elements For example, the chemical name for common table salt is sodium chloride Other chlorides, as well as bromides, sulphides, fluorides, and iodides, are common salts Salts made up of more than two elements and derived from acids with names ending in -ic (as sulphuric acid) have the ending -ate, e g , as in carbonate, chlorate, nitrate, phosphate, silicate, and sulphate. Salts derived from -ous acids receive the ending -ite Salts are widely used in industry, medicine, the arts, and agriculture, for various reasons — for some special property of a specific salt, e g , its color, solubility, or insolubility, as a source for some other element, e g , sodium or chlorine, and for the ions which the soluble salts yield in solution

Salta (sal′ta), city (estimated pop 42,931), capital of Salta prov , NW Argentina, founded 1582 It is the commercial center of a region rich in agriculture, minerals (chiefly oil), and forest products Sugar, tobacco, grain, cattle, sheep, and hides are the chief exports Here in 1813 Belgrano defeated Spanish royalists under Tristán

Saltaire, model village, West Riding of Yorkshire, England, just W of Shipley It was founded in 1851 by Sir Titus SALT for the manufacture of alpaca

Saltcoats, burgh (pop 10,173), Ayrshire, Scotland, on the Firth of Clyde and SW of Glasgow It is now a resort, formerly it was noted for its salt production and shipbuilding

Salten, Felix (fā′lĭks z ăl′tun), 1869–1945, Austrian novelist He was first a journalist and dramatic critic He won a wide public in the United States with his delightful animal stories *Bambi* (1923, Eng tr , 1928), later filmed by Walt Disney (1940), and *Fifteen Rabbits* (1929, Eng tr , 1930) He also wrote *The Hound of Florence* (1921, Eng tr , 1930), *The Good Comrades* (1930, Eng tr , 1942), and *Florian, the Emperor's Stallion* (1933, Eng tr , 1934), filmed in 1940 Salten, who fled to Switzerland when the Nazis invaded Austria, died in that country

Salter, Sir James Arthur, 1881–, English economist He has filled many government posts as an authority on transport and shipping problems, has worked for social welfare, and is noted as an internationalist Sir Arthur's activities have included service in the League of Nations and a professorship at Oxford He became a member of Parliament in 1937 His books include *Allied Shipping Control* (1921), *The Framework of an Ordered Society* (1933), and *Personality in Politics* (1947)

salt glaze, in pottery, a finish produced in an open-flame kiln by adding salt to the fire This technique, developed in Germany in the 15th cent , has been used by many English and American potters

Saltillo (sältē′yō), city (pop 49,430), capital of Coahuila, N MEXICO, founded 1575 Saltillo is built in an alluvial valley almost surrounded by mountains The climate is temperate Primarily an agricultural and mining community, it is also an important rail center and has some manufacturing —cotton, woolen, and flour mills, cottonseed-oil plants, and engineering works Woolen serapes have helped to make Saltillo famous in Mexico and among tourists Often a focal point in wars and insurrections, Saltillo was taken by Zachary Taylor's forces in the Mexican War, and a short distance to the south was fought the battle of BUENA VISTA During the French intervention French troops occupied it several times

Salt Lake City, city (pop 149,934), state capital, and co seat of Salt Lake co , N central Utah, on the Jordan river, SE of Great Salt Lake and at the foot of the Wasatch Range Founded in 1847 by Brigham YOUNG as the capital of the MORMONS, it achieved greatness as the hub of the Mormon economy, the prominence of the gigantic Temple (built 1853–93) on Temple Square at the city's heart shows that Salt Lake City is still eminently the City of the Saints The first Mormon irrigation used the water of City Creek, and the city (called Great Salt Lake City until 1868) led in most enterprises in Utah An outfitting point for California overlanders after 1849, it was connected with the first transcontinental railroad by a line that Young had built (1869–70) to Ogden and is today a focal point for automobile and air traffic across the United States Salt Lake City ships the products of a rich irrigated region and of many mines and has varied small industries It is the seat of the Univ of Utah (see UTAH, UNIVERSITY OF), the College of St Mary-of-the-Wasatch (Catholic, for girls), Westminster College (junior, Presbyterian, coeducational), and McCune School of Music and Art Fort Douglas, founded here in 1862 as Camp Douglas, was particularly notable under the command of Gen P E CONNOR A veterans' hospital and the state prison are also in Salt Lake City See C D Harris, *Salt Lake City, a Regional Capital* (1940, Univ of Chicago dissertation), Josef Muench, *Salt Lake City* (1947, photographs)

Salto (sal′tō), city (1941 estimated pop 46,000), capital of Salto dept , NW Uruguay, on the Uruguay river Falls here interrupt river navigation In competition with CONCORDIA, Argentina, across the river, Salto is a thriving rail and shipping center for the agricultural products and livestock of the Uruguayan side There is a small boatbuilding industry In the environs are extensive orange and tangerine orchards as well as vineyards

Salton Sea (sol′tun), body of water, c 30 mi long and 8 to 14 mi wide, SE Calif , in the IMPERIAL VALLEY Until 1905 the area was a salt-covered depression known as Salton Sink (c 280 ft below sea level) At that time, the Colorado river broke

through an irrigation gap in its levee and flowed for two years into the sink before it was checked Water from irrigation systems, flowing into the Salton Sea, helps to counteract evaporation, so that its level is receding with extreme slowness Its surface is c 245 ft below sea level

Salton Sink · see SALTON SEA

Saltonstall, Sir Richard (sôl'tunstôl), 1586–1658, early English colonist in Massachusetts (1630–31) Of a prominent Yorkshire family (he was knighted in 1618), Saltonstall became a member and was appointed an assistant of the Massachusetts Bay Company in 1629 With his five children, he accompanied John WINTHROP (1588–1649) to America in 1630 and was a founder of Watertown, Mass , but returned to England in 1631 There he helped secure the grant at the mouth of the Connecticut which led to the settlement of Saybrook

saltpeter or **niter** (nī'tûr), naturally occurring form of a white crystalline substance, potassium nitrate, a compound of potassium and the nitrate radical (NO_3), melting at 334°C and decomposing at 400°C It occurs widely distributed in parts of Asia, Europe, and the United States (Indiana, Kentucky, Missouri, Tennessee, Virginia) It is prepared commercially by treating sodium nitrate with potassium chloride It is extensively used in the manufacture of explosives (especially gunpowder), fireworks, and matches, as a preservative in foods (especially meats), and in medicine **Chile saltpeter** (natural sodium nitrate, called in its crude, impure state *caliche*) when pure is a colorless, crystalline substance It resembles ordinary saltpeter in appearance, but it is a compound of sodium and the nitrate radical, melting at 307°C, and decomposing at 380°C It is called also soda niter Chile saltpeter occurs in large deposits in South America in Chile, Peru, and Bolivia Owing to the abundance of the natural form, it is not necessary to prepare it artificially to any great extent, it is, however, prepared synthetically (see NITROGEN and NITRIC ACID) The pure sodium nitrate is obtained by separation from the impurities It is much used in making potassium nitrate, fertilizers, and explosives and in the preparation of nitric acid

Salt River Valley, irrigated region about the lower course of the Salt river, which rises in mountain streams near the Mogollon Rim and flows westsouthwest to join the Gila in S central Arizona Its chief tributary is the VERDE Indians used Salt river for irrigation many centuries ago American settlers commenced irrigated farming about 1867, and at Mesa the Mormons used (1878) some of the old Indian canals In 1905 began the Salt river project, the first large undertaking under the Federal reclamation act Roosevelt Dam (c 280 ft high, of masonry) was built (1906–11) in a canyon 80 mi E of Phoenix Other dams were later built to supply water and power—the Horse Mesa (1924–27), the Mormon Flat (1923–25), and the Stewart Mountain (1928–30) in the Salt and the Bartlett (1936–39) in the Verde, besides the Granite Reef Diversion Dam (1906–8) and the Cave Creek Flood Control Dam (1922–23) The region is richly productive of lettuce, melons, and other truck, citrus fruits, dates, alfalfa, and other crops The sun-pervaded climate makes the region a winter resort The metropolis of the Salt river project is Phoenix, and other cities are Mesa, Glendale, Tempe, Tolleson, and Chandler

Saltsburg, residential borough (pop 1,097), SW Pa , ENE of Pittsburgh, laid out 1817, inc 1838

Saltus, Edgar Evertson (sôltus), 1858–1921, American author, b. New York city, studied at Yale and in Paris and Heidelberg, grad Columbia Law School, 1880 After writing a study of Balzac and two books on philosophy he turned to fiction, specializing in violent plots and lavish descriptions His novels include *Mr Incoul's Misadventure* (1887), *The Truth about Trustrem Varick* (1888), and *The Pace That Kills* (1889) *Imperial Purple* (1892), a history of the Roman emperors, best displays his unusual style

Saltville, town (pop 2,650) extreme SW Va., in the Holston river valley SW of Marion, land patented 1753, inc 1894 Saltmaking began in 1788. The saltworks were taken by Federal forces in Dec , 1864, and destroyed but were later reestablished

Saltykov, Mikhail Evgrafovich (mĭkhīŭyĕl' yīvgrä'fuvĭch sŭltĭkôf'), pseud of **Nikolai Evgrafovich Shchedrin** (shchĕdrēn'), 1826–89, Russian novelist and fabulist He wrote in satirical vein, attacking directly or in Aesopic language such figures as government officials, greedy capitalists, and backward landowners His *Fables* (1885) are available in English (1931), as is his masterpiece, *The Golovlyov Family* (1876, Eng tr , 1917), a study of decaying gentry See Nikander Strelsky, *Saltykov and the Russian Squire* (1940).

Salu (sä'lo͞o), father of ZIMRI 2 Num 25 14

Saluafata (sä"lo͞oäfä'to͞o), American naval station, Upolu island, Western Samoa, on Saluafata harbor on the northeast coast

Saluda (sŭlō'du), town (pop 1,516), co seat of Saluda co., W S C , W of Columbia and SE of Greenwood, in a diversified farming area

Saluda, river rising in W South Carolina in the Blue Ridge and flowing southeast across the piedmont to the Broad River (with which it forms the Congaree) near Columbia Above Columbia the river is dammed by the huge earthen Saluda (or Dreher Shoals) Dam (1930) to form Lake Murray Buzzard Roost Dam, forming Lake Greenwood, is also in the Saluda

Salut, Îles du see ÎLES DU SALUT

Saluzzo (sälo͞ot'tso), town (pop 10,443), Piedmont, NW Italy From the 12th to the 16th cent. it was the capital of a marquisate by the same name, which included several other communes After being occupied several times by France, it passed to the house of Savoy in 1601 There are ruins of a castle and the Church of San Giovanni with sculptured tombs of the marquises

Salvador (săl'vudôr, Span sälvidhôr') or **El Salvador,** republic (13,176 sq mi , 1946 estimated pop 2,018,895), Central America The capital is SAN SALVADOR The country is bounded on the southwest by the Pacific, on the west by Guatemala, and on the northeast by Honduras With the exception of Haiti, Salvador is the smallest and most densely populated of the Latin American countries Homogeneity of population (about 80 percent ladino, less than 20 percent Indian) and uniformity of terrain have contributed to agricultural prosperity From west to east, Salvador is broken by two roughly parallel volcanic ranges, which reach altitudes of 7,000 ft The most active of its volcanoes is IZALCO Between these ranges are warm valleys, such as that of the Río LEMPA, where savannas afford excellent cattle grazing The dominant crop is coffee, which, because of the low elevation of the valleys (c 2,000 ft), is planted far up the precipitous sides of the volcanoes, but corn, the staple food, covers more acreage Communications are good The INTER-AMERICAN HIGHWAY extends the length of the country, and other roads lead out from San Salvador to the interior and to the coast at La LIBERTAD The International Railways of Central America connects La UNIÓN with Puerto Barrios, in Guatemala, and the Salvador Railway links the capital and SANTA ANA with ACAJUTLA The Pacific orientation, the sparse native labor supply, and the failure to find gold left the conquering Spanish under Pedro de ALVARADO with little interest in the region The region, however, became a source of indigo Throughout the colonial period Salvador was under the captaincy general of Guatemala The declaration of independence from Spain in 1821 led to a brief period under the empire of ITURBIDE, and after its collapse Salvador joined the CENTRAL AMERICAN FEDERATION Salvador protested against the continued dominance of Guatemala and under Francisco MORAZAN succeeded in having the federal capital transferred (1831) to San Salvador After the dissolution of the federation, the republic continued to foster the idea of a Central American union, but there was frequent interference from dictators of other Central American countries—Rafael CARRERA, Justo Rufino BARRIOS, and José Santos ZELAYA It was not until the development of coffeegrowing in the second half of the 19th cent that Salvador experienced a phenomenal increase in population Intense cultivation led to the predominance of small, landed proprietors Agricultural growth in turn contributed to minor industrial development, especially in the export of henequen bags, Peruvian balsam, and sugar Some domestic self-sufficiency has been attained in tobacco, clothing, and liquor With the collapse of coffee prices in 1931, the incumbent administration was overthrown and Maximiliano HERNANDEZ MARTÍNEZ became president His dictatorship ended in 1944 Gen Salvador Castañeda Castro was elected president in 1945 When he was planning a constitutional change to permit his reelection, he was ousted by an army coup in Dec , 1948 Maj Oscar Osorio, who became head of the governing junta, won the presidential elections of March, 1950 See M W Williams, *People and Politics of Latin America* (1938); P E James, *Latin America* (1942), George Wythe, *Industry in Latin America* (1946), Ralph Hancock, *Rainbow Republics* (1947)

Salvador (sälvädôr'), formerly **Bahia** (bäē'ù) or **São Salvador** (sä'ō), city (pop 290,443), capital of Bahia state, E Brazil, a port on the Atlantic at the entrance to Todos os Santos Bay It is built on a peninsula and has two sections The older, lower part, next to the harbor, is the market district, the more modern, upper part, which is reached by elevators and railways, contains government buildings, attractive parks, and private residences The city is one of the oldest in Brazil, having been founded in 1549 by Tomé de Sousa A bishopric was established in 1551 Until 1763 it was the capital of the Portuguese possessions in America It has a large Negro population Salvador is an important trade center, exporting tobacco, sugar, cacao, textiles, hides, and industrial diamonds. Processing of agricultural goods is the chief industry. There are many churches, including a 16th-century cathedral, a university (with medical, law, and engineering schools), and agricultural institutes. There is a military arsenal here.

salvage (săl'vĭj), in maritime law, the compensation which the owner must pay for having his vessel or cargo saved from peril, such as shipwreck, fire, or capture by an enemy It is awarded only when the party making the rescue was under no legal obligation to do so A claim ordinarily is allowed if the salvor's activities had some effect in averting the threatened peril even if they were not indispensable In the United States, at least, salvage is granted for rescues made on navigable streams and lakes as well as on the open sea Salvage includes a reward designed to encourage rescue operations besides the payment for the value of the services In setting the value, relevant factors for the consideration of the court include the expense and hazard of the rescue and the price of the ship or goods saved Salvage is distributed by the court to the owner, the master, and the crew of the rescuing ship, usually according to fixed ratios

Salvation Army, international organization for religious and philanthropic work, chiefly among those who would not ordinarily come under the influence of Christian churches It was originated by William BOOTH, with the able assistance of his wife, Catherine Booth Booth, a Methodist minister, began independent evangelistic work in Cornwall in 1861 In London he first held out-of-door meetings in 1865, tents, theaters, and other structures were used to accommodate the crowds that gathered The movement was known as the East London Revival Society, but shortly was called the Christian MISSION By 1878, when it was designated the Salvation Army and organized along military lines, evangelists had carried the activities well beyond the original field, and the new agency for social welfare was drawing wide attention It is said that Booth was the author of the statement, "The Christian Mission is a Salvation Army", from this arose the titles and forms of army organization From the beginning, practical physical relief accompanied spiritual ministrations Soup kitchens came first in a long line of widely varied projects to provide help of the kind needed Although opposition had met the workers at nearly every step, the value of Salvation Army services had been plainly demonstrated by 1890, when General Booth set forth his plan of procedure in his book *In Darkest England and the Way Out* The Army took root in North America, Australia, India, on the European continent, and elsewhere Leaders were trained for their labors before being sent out On the death of William Booth, he was succeeded by his son, Bramwell Booth, as general, but in 1929 Bramwell Booth's removal was voted by the high council of the Army, and Edward J Higgins was elected to that post Salvation Army work in the United States dates from 1880, when Commissioner George Railton and seven women workers from England founded a branch in Pennsylvania In 1904 Evangeline Booth, daughter of the founder, was put in command of the work in the United States, in 1934 she became general of the international Salvation Army Every grade of society is represented in the ranks of the great Army attacking the "fortresses of sin" Its ministers are officers and its members are soldiers, women have parity of position and responsibility with men High commands may be attained by promotion from lower offices Each country has its divisions and its local corps, with a commander at the head of all In the United States national headquarters are in New York city, Ernest I Pugmire became national commander in 1944 International headquarters are in London, Gen Albert W T Orsborn was elected general of the whole Army in 1946 Officers are prepared in training colleges for their varied responsibilities Though spiritual regeneration is the supreme object in view, social service is closely allied with the evangelical efforts The Army operates settlements, hotels, hospitals, children's homes, nurseries, and other such projects Support of the vast undertakings in all parts of the world depends upon voluntary contributions and profits on the sale of publications The *War Cry* is the official organ There is no formal creed, acceptance of which is required for membership, but the beliefs are in general in agreement with those of the Evangelical churches The salvation of God and deliverance from sin are emphasized In conducting the meetings officers are allowed great freedom as no form of service is required, bands and singing are important features The Salvation Army enhanced its reputation by its work with the armed services in the First and Second World Wars See also VOLUNTEERS OF AMERICA.

Salvator Rosa. see ROSA, SALVATOR.

Salvemini, Gaetano (gäätä'nō sälvämē'nē), 1873–, Italian historian He taught at the universities of Messina, Pisa, and Florence until he was arrested (1925) as an anti-Fascist Leaving Italy in the same year, he went to London. He became lecturer on history at Harvard Univ. in 1930 and became a U S citizen in 1940 Salvemini wrote chiefly on recent and contemporary history His best-known works are *The Fascist Dictatorship in Italy* (1928, in English) and *Italian Fascism* (1938, in English).

Salve Regina (säl'vā rājē'nū) [Latin,=hail, queen], prayer or hymn to the Virgin, very popular among Roman Catholics It is said, usually in the vernacular, after Low Mass and also, during part of the year, at Vespers (in Latin) as an antiphon. It begins, "Hail, holy queen, mother of mercy."

Salvi, Giovanni Battista · see SASSOFERRATO.

salvia · see SAGE

Salvian (säl'vēun), 5th cent, Christian writer of Gaul His Latin name was Salvianus. He was a monk and priest of Lérins and became a renowned preacher and teacher of rhetoric Of his several works two treatises and nine letters are extant *De gubernatione Dei* [on the government of God] is in eight books, of which the first five are Salvian's Incomplete as it is, it is a moving indictment of contemporary Roman and Gallic society and a call to true Christian living The other work, usually called *Contra avaritiam* [against avarice] is a plea for generosity to the Church See the English translations by E M. Sanford (1930) and J. F. O'Sullivan (1947)

Salviati, Antonio (äntō'nyō salvyä'tē), 1816–1890?, Italian mosaic worker and designer At his school in Murano he revived the ancient art of making Venetian glass His mosaics are in St Mark's, Venice, the Paris Opéra, and Westminster and St. Paul's, London

Salvini, Tommaso (tōm-mä'zō sälvē'nē), 1829–1915, Italian tragedian He gained fame in Italy and France for his portrayals of Alfieri's Saul, Voltaire's Orosmane, and Niccolini's Oedipus Salvini offered a wide Shakesperian repertoire in England and the United States, but his greatest role was always Othello See his autobiography (1893).

Salween (säl"wēn'), Chinese *Lu*, river, c 1,750 mi long, rising in E Tibet It flows through Yünnan prov, China, in deep, narrow gorges parallel to the Mekong, Yangtze, and Irrawaddy Descending through the Shan State and the Karenni State of Burma, it reaches the Gulf of Martaban near Moulmein It is navigable only for c 75 mi of its lower reaches

Salyersville (säl'yurzvĭl), town (pop 1,254), co seat of Magoffin co, E Ky, on the Licking river and SSW of Ashland, in a mountain valley, settled as Adamsville, renamed 1860 It is in an oil and farm area

Salza, Hermann von (fün sôl'tsu, Ger fün zal'tsä), d 1239, grand master of the TEUTONIC KNIGHTS, conqueror of Prussia, friend and adviser of Emperor Frederick II In 1226 Duke Conrad of Masovia issued a call for a crusade against the heathen Prussians, and in the same year Hermann von Salza obtained from Frederick II vast privileges for his order and the rank of a prince of the empire About 1230 Duke Conrad gave the order the territory of Chelmno (Kulm) and promised to grant it all further territory it conquered, but in 1234 Hermann placed his conquests under papal suzerainty Not until 1466 did the kings of Poland succeed in restoring their suzerainty over the order In 1237 Hermann effected a union with the LIVONIAN KNIGHTS Among the towns founded by him are Torun (Thorn), Marienwerder, and Elbing

Salzburg (sôlz'bŭrg, Ger zälts'bŏork), autonomous province or *Bundesland* (2,762 sq mi, pop 331,615), W central Austria A predominantly mountainous region, it is rich in minerals, with large salt deposits and ancient gold and copper mines still worked on a small scale and some deposits of precious stones on the northern slope of the HOHE TAUERN There are numerous Alpine resorts, Zell am See being the most famous Originally inhabited by Celts, it was conquered by the Romans and became part of the province of Noricum After the fall of the Roman Empire, its history followed that of its capital, Salzburg (pop 105,407) A Roman trading center named Juvavum on the site of an ancient Celtic settlement, it was as early as 816 the seat of an archbishop Emperor Rudolf I created (1278) its ecclesiastical rulers princes of the Holy Roman Empire and they wielded their power with extreme intolerance In the late 15th cent the Jews were expelled, and in 1723 some 30,000 Protestants migrated to Prussia after a period of severe persecution Secularized in 1802, Salzburg was transferred from Austria to Bavaria by the Peace of Schönbrunn (1809) The Congress of Vienna awarded it (1815) to Austria Salzburg is a veritable architectural gem Picturesquely situated on both banks of the Salzach river, it is bounded by two steep hills, the Capuzinerberg (left bank) and the Mönchsberg, on the southern tip of which is the 11th-century fortress of Hohensalzburg (right bank). The main buildings are in late Renaissance and German baroque, erected by the splendor-loving archbishops in the 17th and 18th cent —the cathedral, modeled after St Peter's in Rome; the *Residenz*, formerly the archiepiscopal palace, and Mirabell castle, in a beautiful formal garden The Carolino-Augusteum Museum houses a library and collections of antiquities There is a monument to Paracelsus, who died here in 1541 The university (founded 1623) was closed in 1810 except for its theological seminary. Mosart, Salzburg's most distinguished son, who met scant recognition in his city during his stay there, is now honored by an annual music and theatrical festival, which, attended by celebrities and music lovers from all over the world, constitutes an important source of revenue The third floor of the house where he was born was converted into a museum, and there is a commemorative statue on the quaint little Mozart Platz

Salzkammergut (sälts'kä"murgōōt"), Alpine resort area in Upper Austria, Styria, and Salzburg, Austria. Its principal resorts are ISCHL, SANKT WOLFGANG, HALLSTATT, and Gmunden (all in Upper Austria) and Altaussee (Styria) Among its lovely mountain lakes are the Sankt Wolfgangsee or Abersee, the Traunsee or Gmundnersee, the Mondsee, and the Kammersee or Attersee The Dachstein (9,829 ft), covered with glaciers, is the principal peak. The region has been known since antiquity for its salt mines

Samain, Albert (älbĕr' sämĕ'), 1858–1900, French poet He is often classed as a symbolist, though he was influenced by the Parnassians and other schools He was one of the founders (1890) of the literary periodical *Mercure de France* Samain's first published collection was *Au jardin de l'infante* (1893), which was reissued with *L'Urne penchée* in 1897 *Aux flancs du vase* appeared in 1898, and a selection of his best poems, *Le Chariot d'or*, in 1901, after his early death from tuberculosis A poetic drama, *Polyphème*, was presented in 1904 and published in 1906

Samar (sa'mar), island (5,050 sq mi, pop 470,678), one of the Visayan Islands, in the Philippine Islands It is just NE of Leyte Iron is mined, and rice, hemp, and coconuts are grown Samar prov (5,309 sq mi, pop 546,306) comprises Samar and offshore islands, the capital is Catbalogan

Samara, city, RSFSR see KUIBYSHEV

Samara (sŭmä'rŭ), river, 365 mi long, SE European RSFSR It rises in the foothills of the S Urals, flows generally northwest, and joins the Volga at Kuibyshev, at the eastern extremity of the Samara Bend (see VOLGA) Its lower course is navigable

Samaria (sumā'rēu), ancient city, central Palestine, in territory now claimed by Jordan It was on a hill c 6 mi NW of Nablus (Shechem), the site is now occupied by a village, Sebaste Samaria (named for Shemer, who owned the land) was built by King Omri as the capital of Israel in the early 9th cent B C The scene of the wickedness of Omri's son Ahab and Ahab's wife Jezebel, Samaria was considered a place of iniquity by the Hebrew prophets In the expansion of Assyria, Samaria fell in 722 B C to Sargon The native population was deported, others were settled in its place, and the city was made the capital of an Assyrian province 1 Kings 16 23–33, 20 1–21, 2 Kings 6 24–33, 10 17–28, 13 9–13, 17 It was destroyed in 120 B C by John Hyrcanus and was rebuilt by Herod the Great Here PHILIP preached and the incident of Simon Magus occurred Acts 8 5–24 According to tradition St John the Baptist is buried here There are remains of a church of the Crusaders The area of Samaria was excavated in the 20th cent The city has given its name to the **Samaritans,** of whom a small remnant still live at Nablus The sect may have first arisen in the region at the time of Ezra and later been altered by the addition of non-Hebrew peoples In the Bible the Samaritans recognize only the Pentateuch and observe its ordinances with even greater scrupulosity than orthodox Jews They worship on Mt GERIZIM, where anciently they had a temple The continual hatred of Jew and Samaritan apparently governed the choice of characters in the parable of the Good Samaritan Luke 10 30–37 The Samaritan language is a variety of Palestinian Aramaic (a Semitic language see LANGUAGE, table) The Samaritan manuscripts are not believed ancient, but they do supply some useful variants of biblical passages In 1949, at a site 18 mi NW of Jerusalem, the floor of a Samaritan synagogue was unearthed, and allegedly ancient inscriptions were found

samarium (sumā'rēum), metal of the RARE EARTHS It is a lustrous gray metallic element (symbol=Sm, for physical constants, see ELEMENT, table) It forms several compounds with other elements Samarium is present with other metals of the rare-earths group in the minerals monazite and samarskite It was discovered (1879) by Lecoq de Boisbaudran by means of the spectroscope. The element has no commercial importance

Samarkand (sämŭrkänd', Rus. sŭmŭrkänt'), city (pop 134,346), capital of Samarkand oblast, Uzbek SSR, near the Zeravshan river and on the Trans-Caspian RR It is one of the oldest existing cities in the world and the oldest of central Asia Known to the ancient Greeks as Maracanda, it was built on the site of Afrosiab, which dated from the 3d or 4th millennium B C; ruins of the old town remain north of the present city. The chief city of SOGDIANA, on the ancient trade route between the Near East and China, Samarkand was conquered (329 B C.) by Alexander the Great and became a meeting point of Western and Chinese culture It fell to the Moslems early in the 8th cent A.D. and developed as a center of Arabic civilization as part of the Omayyad and Abbasid empires Here in 751 the first paper mill outside China was established The tomb of BUKHARI (d 870), near Samarkand, is a major Moslem shrine Samarkand continued to prosper under the Samanid dynasty of Khurasan (874–999) and under the subsequent rule of the Seljuks and of the shahs of KHOREZM In 1220 JENGHIZ KHAN took and devastated the city. In the 14th cent TAMERLANE made Samarkand the capital of his empire, under his rule the city reached its greatest splendor Under Tamerlane's successors, the Timurids, the empire soon was much reduced, it broke up in the late 15th cent and was ruled by the Uzbeks for the following four centuries Samarkand formed part of the emirate of Bukhara (see BUKHARA, EMIRATE OF) until 1920 It fell to Russian troops in 1868, when the emirate passed under Russian suzerainty In 1925 Samarkand became the capital of the Uzbek SSR, but in 1930 it was replaced by Tashkent The old quarter of Samarkand, occupying the eastern part of the city, centers on the Registan, a great square It contains some of the most remarkable monuments of central Asia, built during the reign of Tamerlane and his successors The most famous of these is Tamerlane's mausoleum, surmounted by a ribbed dome and faced with multicolored tiles, the conqueror's tomb was opened in 1941 Other buildings include the now ruined Bibi Khan Mosque, erected by Tamerlane to the memory of his favorite wife, several other magnificent mosques, the mausoleums of the Timurid cemetery (Shah-i-Zinda), and the ruins of the observatory built by Ulugh-Beg, a grandson of Tamerlane At the time of its greatest splendor medieval Samarkand was a fabulous city of palaces and gardens, with paved and tree-lined streets and a water system that supplied most of the individual houses It had great silk and iron industries and was the meeting point of merchants' caravans from India, Persia, and China Modern Samarkand still is a major cotton and silk center The irrigated surrounding region is filled with orchards and wheat and cotton fields It is the seat of the Uzbek state university and of medical, agricultural, and teachers' institutes

Samaroff, Olga (sumă'rŏf), 1882–1948, American pianist and educator, whose real name was Hickenlooper, b San Antonio, Texas, studied at the Paris Conservatoire Her American debut (1905) was in New York, in 1925 she joined the faculty of the Juilliard School of Music She was music critic (1927–29) for the New York *Evening Post* and in 1933 founded the Layman's Music Course, Inc She was the wife of Leopold Stokowski from 1911 to 1923 Her writings on music include *The Layman's Music Book* (1935) and *A Music Manual* (1936) See her autobiography, *An American Musician's Story* (1939)

Samarra (samă'ra), town (pop c 8,000), Iraq, on the Tigris river and c 60 mi N of Baghdad It was the residence of the Abbasid caliphs from 836 to 876 The 17th-century mosque with its golden dome is sacred to the Shiite sect of Islam There are also remains of the Great Mosque (built 847)

Sambourne, Edward Linley, 1844–1910, English caricaturist and illustrator He was associated with *Punch* from 1867, when he began contributing, until the end of his life and was chief cartoonist after 1900 Among other works he illustrated Charles Kingsley's *Water-Babies* (1885)

Sambre (sä'brŭ), river, 120 mi long, N France and SE Belgium It flows NE to the Meuse at Namur, traversing the important Franco-Belgian coal basin and industrial district It was the scene of heavy fighting in the First World War, here in 1918 the British won one of the final battles of the war

Samgar-nebo (säm'gär-nē'bō), Babylonian prince with Nebuchadnezzar at Jerusalem Jer 39 3

Samlah (säm'lu) [Heb,=garment], king of Edom Gen 36 36,37, 1 Chron 1 47,48

Samnites (säm'nīts), people of ancient Italy Their country was Samnium The Samnites were Oscan-speaking and therefore included among the Sabelli and were perhaps related to the Sabines The loose confederation of agricultural tribes was expanding in the 4th cent B C and came into conflict with the Romans over Campania. There was probably a good deal of warfare before the Samnite Wars (328 or 326 B C -304 B C, 298–290 B C), in which the Romans won control of central and S Italy The Samnites declined rapidly They sided with Marius in the Social War and were crushed by Sulla before the gates of Rome (82 B C), most of them were killed Some survivors were sold into slavery, the rest Romanized

Samnium (säm'nēum), country of the Samnites, central and S Italy, mostly in the S Apennines It was E of Campania and Latium and NE of Apulia It included a stretch of the Adriatic coast and also the region about present Naples The desire of the Samnites to expand Samnium at the expense of Campania led to the Samnite Wars

Samoa (sumō'u), island group, S Pacific, midway between Honolulu and Sydney, comprising in a 350-mile chain 10 principal inhabited islands and several uninhabited islets. The group was formerly

called Navigators' Islands The major islands are volcanic and mountainous, Mauga Silisili (6,094 ft), on Savaii, being the highest peak The temperature ranges from 90°F (Dec -Feb) to 75°F (Aug), the annual rainfall is 190 in, with a rainy season from December to March The group is in the hurricane zone There are flourishing tree ferns and coconut, hardwood, and rubber trees, the fertile soil yields taro, breadfruit, cacao, pineapples, oranges, bananas, and yams The chief export is copra There are few wild animals The islands were discovered in 1722 by the Dutch Savaii, Upolu, Apolima, Manono, and four uninhabited islands are known as the **Territory of Western Samoa** (1,135 sq mi, pop 68,197) Formerly belonging (1899–1914) to Germany, the group has been under New Zealand mandate since 1920 Apia, the capital, and Saluafata are on Upolu The rest of the Samoan group belongs to the United States and is known as **American Samoa** (76 sq mi, pop 12,908), comprising Tutuila, Aunuu, the three islands of the Manua group, Swains Island, and uninhabited Rose Island Pagopago on Tutuila was ceded to the United States in 1872 as a naval station The only port, it is the headquarters of the U S naval command which governs all of American Samoa Nearly all the land is owned by the Polynesian natives, local government is controlled by *matai* [chiefs] Feleti (F D Barstow Memorial) School for the training of the sons of chiefs is an unusual experimental school See F M Keesing, *Modern Samoa* (1934), Margaret Mead, *Coming of Age in Samoa* (1936)

Samos (sā'mŏs), island (193 sq mi, pop 56,273), off W Asia Minor, in the Aegean Sea, one of the Sporades, SW of Chios and near ancient Ephesus and Miletus, belonging to Greece Largely mountainous, it rises to 4,725 ft in Mt Kerki The island has a fine climate and a fertile soil producing wine tobacco, olives, and citrus fruit The chief city is Vathy on the northeast shore Colonized (about the 11th cent B C) by Ionian Greeks, Samos entered the period of its greatest splendor as a commercial and maritime power and as a center of culture under the tyrant Polycrates (6th cent B C) Anacreon and the legendary Aesop lived on Samos, Pythagoras and Conon were born here Subjected to the Persians, Samos regained independence after the battle of Mycale (479 B C) and joined the Athenian Confederation It declined after Macedon gained hegemony in the 4th cent B C In the Middle Ages, Samos became (1204) a part of the Latin Empire of Constantinople and was in the hands of a Genoese trading company from 1304 to 1329 and from 1346 until its fall (1475) to the Turks. It passed to Greece in 1913 after the First Balkan War Samian earth was formerly valued as an astringent Samian ware is ancient Roman pottery of a soft, deep red Samos is mentioned in Acts 20 15

Samosata (sumŏ'sutu), ancient city of N Syria, on the Euphrates It was built in the 2d cent as the capital of the Commagene kingdom It was taken by the Romans in A D 72 and was of some importance in later Roman times The Arabs took it in the 7th cent Lucian was born here

Samothrace (sā'mōthrās"), Gr *Samothrake* (sāmōthra'kē), island (71 sq mi, pop 3,993), in the Aegean Sea, between the mainland of Thrace and the Gallipoli Peninsula and belonging to Greece. Its chief town, Samothrace or Samothrake (pop 2,055), is on the northwest shore Largely mountainous, the island rises above 5,000 ft in the center In ancient times Samothrace was the center of the worship of the Cabiri There are ruins of a temple dating from the 6th cent B C The famous winged *Nike* (or *Victory) of Samothrace*, erected on the island in 306 B C, is now in the Louvre in Paris Samothrace was the first stop in St Paul's Macedonian itinerary (Acts 16 11) The island was ceded (1913) by Turkey to Greece after the First Balkan War

Samoyede dog (sămoi-ĕd'), working dog long bred by the Samoyede people for herding reindeer and pulling sledges Its resemblance to the chow dog suggests a common ancestor A sturdy, muscular dog noted for its loyalty, it has proved its worth on arctic and antarctic expeditions It makes an intelligent, gentle, and affectionate pet Its luxuriant coat is pure white or cream in color, the undercoat is soft and close, and the outer coat is straight and coarse. The skull is broad and flat, the head wedge shaped, and the hair on the face is short Males stand from 20 to 22 in at the shoulder and should weigh from 45 to 55 lb.

Samoyedes or **Samoyeds** (both sămoi-ĕdz') partly nomadic, partly settled agricultural tribes found in N Siberia and the Taimyr Peninsula, especially in the basin of the Ob and Yenisei rivers The Samoyede language is perhaps distantly related to the Finno-Ugric family. The Samoyedes have more recently been known as the Nentsy.

samp: see HOMINY

sampler, sample piece of work, of silk, cotton, or worsted needlework or embroidery, for the preservation of some pattern worthy of keeping and copying or as an example of the ability of a child or a beginner in the handiwork. Several such designs might be worked on one large piece of material. In museums and private collections there are many samplers dating from 1643 and later It was long the custom for each little girl to work her own sampler as soon as her needlework showed a proper degree of skill While there is great variety of arrangement and design, certain features are found in nearly all—the name of the maker, the date, the alphabet, texts from Scripture, proverbs or bits of verse, birds, animals, or houses Framing the whole, as a rule, there is a conventional border

Sampson, William Thomas, 1840–1902, American naval officer, b Palmyra, N Y, grad Annapolis, 1861 He served in the Civil War and was an officer of the *Patapsco* when she was blown up (1865) in Charleston harbor He afterwards saw varied naval service and was (1886–90) superintendent at Annapolis As chief of the Bureau of Ordnance (1893–97) he made important changes in naval gunnery Sampson was president of the board of inquiry on the destruction of the Maine in Havana harbor With the outbreak of the Spanish American War, he was made commander of the N Atlantic squadron He commanded the blockade of Cuba and the attack on San Juan When the Spanish fleet under Admiral Pascual Cervera was defeated at Santiago, Sampson was not present for most of the battle, being in conference with Gen William R Shafter, and there was some controversy later as to whether the credit of the victory should go to Sampson, who had laid down general instructions, or to Winfield Scott Schley, who actually commanded in the engagement Public opinion favored Schley, and Sampson never received due recognition In 1899 he attained the rank of rear admiral and from then until his death commanded the Boston navy yard See R S West, *Admirals of American Empire* (1948)

Sampson, unincorporated village, W central N Y, in the Finger Lakes region, on Seneca Lake near Geneva It was built in 1942 as a U S naval training station and converted in 1946 into one of the state's emergency colleges for veterans

Samson [Heb, =sun], judge of Israel He was marvelously strong and owed his strength to the hair he never cut b The enemies of his people, the Philistines, accomplished his destruction through the woman Delilah By cutting his hair, she destroyed his might Captured and blinded and chained in the temple of the Philistines, he regained his strength as his hair grew long again, and with his bare hands he pulled down the temple, destroying himself along with his enemies Judges 13–16 Milton's *Samson Agonistes* is a celebrated English poem on the blinded Samson

Samson, town (pop 2,182), Geneva co, SE Ala, near the Fla line, settled 1895, inc 1906

Samsonov, Aleksandr Vasilyevich (ŭlyĭksan'dur vŭsē'lyuvĭch sămsô'nuf), 1859–1914, Russian general Early in the First World War his army advanced into East Prussia in order to relieve German pressure on the French, but it was virtually annihilated by Hindenburg in the battle of Tannenberg (Aug, 1914) His defeat may have been partially caused by the failure of General Rennenkampf to support him. Samsonov shot himself on the field of battle

Samsun (samsōōn'), city (pop 38,725), N Turkey, a Black Sea port It is a major tobacco manufacturing center and an agricultural market. The ancient Amisus, it was founded (6th cent B C) by Greek colonists, became an important city of the kingdom of Pontus, and was much favored under the Roman Empire In the Middle Ages it was held by the Byzantines, the Seljuks, the Genoese, and the empire of Trebizond before falling (14th cent) to the Ottoman Turks

Samuel, Herbert Louis Samuel, 1st **Viscount,** 1870–, English statesman He served in Parliament as a Liberal from 1902 to 1918 and from 1929 to 1935 In 1937 he was raised to the peerage, and in 1944 he became Liberal leader in the House of Lords Samuel held numerous governmental positions He was postmaster general (1910–15, 1915–16) and secretary of state for home affairs (1916) He was first British high commissioner in Palestine (1920–25), chairman of the royal coal-inquiry commission (1925), and again home secretary (1931–32) Samuel's writings include *Practical Ethics* (1935) and *Belief and Action an Everyday Philosophy* (1937) See his memoirs (1945)

Samuel (să'mūul), books of the Old Testament, a single work in the Hebrew canon, called in AV 1 and 2 Samuel, in the Greek versions and the Western canon 1 and 2 Kings, they occupy the 9th and the 10th place in AV They are a consecutive historical narrative of events of Hebrew history, covering substantially the careers of Samuel, Saul, and David (roughly the 11th cent B C), as follows: first, Samuel's career and judgeship (1 Sam 1–7), second, the establishment of the Hebrew monarchy (1 Sam 8–31), which begins with the anointing and subsequent success of Saul (1 Sam. 8–15), followed by his replacement as anointed by David, with stormy consequences (1 Sam 16–31); third, the reign of David (2 Samuel), first at Hebron (2 Sam 1–4), then at Jerusalem (2 Sam 5–20), and, fourth, an appendix of various materials out of order (2 Sam 21–24). The prophet Samuel (fl 1050 B C) was the last judge of Israel The wonderful circumstances of his birth, childhood, and vocation are told in 1 Sam 1–3. His judgeship was dominated by war with the Philistines, who captured the Ark of the Covenant (1 Sam 4–7) In his old age he agreed, at the divine behest, to the establishment of a king and anointed Saul (1 Sam, 8–12) He remained chief prophet in Saul's reign (1 Sam 13 11–16, 15, 19 18–24, 25 1) In this role he anointed David and, after dying, appeared to Saul at Endor (1 Sam 28) Samuel, a great leader, became a national hero and eventually a popular figure of Jewish legend Ecclus 46 16–23 For books and views of the critics, see Old Testament

samurai (să'mōōrī'), the knights of feudal Japan, retainers of the daimyo This aristocratic warrior class arose during the wars of the 12th cent between the Taira and Minamoto clans and crystallized in the Tokugawa period Samurai were privileged to wear two swords and at one time had the right to cut down any commoner who offended them They cultivated the martial virtues, indifference to pain or death, and loyalty to their overlords (see Bushido) They were the dominant group in Japan for long periods, and the masterless samurai, the ronin, were a serious social problem Dissatisfied samurai were largely responsible for overthrowing the shogun in 1867 They also took part in the Satsuma revolt under Takamori Saigo in 1877 The class was abolished, but as statesmen, soldiers, and businessmen, former samurai took the lead in building modern Japan

San (sän), river, 247 mi long, rising in the Carpathians in the Ukraine It flows through Poland northwestward past Przemysl to the Vistula near Sandomierz Its lower course is navigable

Sana or **Sanaa** (both sänä'), city (pop c 25,000), capital of Yemen, largest city of S Arabia It lies c 100 mi inland on a plain c 7,750 ft high Sana has been settled from pre-Islamic times and has an ancient wall It was under Ethiopian control in the 6th cent, in the 17th cent and again from 1872 to 1918 it was occupied by Turkey Sana is especially known for its many (nearly 50) mosques and the numerous minarets Many of the houses are seven stories high An interesting feature of the architecture is the use of elaborate designs in white against the brown brick of the walls There is extensive trade in hides and in the famed grapes of the region

San Angelo (săn ăn'julō), city (1940 pop 25,802, 1947 estimated pop 35,000), co seat of Tom Green co, W Texas, where two forks join to make the Concho river, laid out 1869, inc 1889 Founded beside the border military post, Fort Concho, it was a rough frontier town of cattle trails and overland traffic in the 1870s and grew after the railroad came in 1888 Today it is the metropolis, market, and shipping point for a wide area which has sheep, goat, and cattle ranches, irrigated farms, and oil fields San Angelo has a junior college The municipal reservoir, Lake Nasworthy, is near by, and the state tuberculosis hospital is in the county

San Anselmo (săn ănsĕl'mō), residential town (pop 5,790), W Calif, N of San Francisco, inc 1907 San Francisco Theological Seminary is here

San Antonio (săn" ăntō'nyu,-nēō), city (1940 pop 253,854, 1947 estimated pop 350,000), co seat of Bexar co, S central Texas, at the source of the San Antonio river The site had been visited by the Spanish long before an expedition under Martín de Alarcón founded here a mission, San Antonio de Valero, and a presidio, San Antonio de Béjar (or Béxar) in 1718 Other missions were opened in the neighborhood—San José (1720), Concepción (1721), San Francisco de la Espada (1721), and San Juan Capistrano (1731)—and the neighboring town of San Fernando (now the heart of San Antonio) was founded in 1731 San Antonio was the most important Texas settlement in Spanish and Mexican days In the Texas Revolution it was taken by Texans under Ben Milam in Dec, 1835, and witnessed the heroic tragedy of the Alamo in March, 1836 Later a group of Comanche Indians were killed (1840) in the "council house fight," and in 1842 the city was taken and held briefly by Mexican invaders After the Civil War and especially after the coming (1877) of the first railroad, San Antonio prospered as a roaring cow town with a Spanish flavor Today the city, which is a port of entry, still ships steers as well as cotton, truck, fruits, pecans, and oil and gas It has food-processing plants, oil refineries, and garment and metalwork factories as well as other industries In accord with its military past, San Antonio has big army establishments, notably Fort Sam Houston (est. 1865), and in the vicinity are some of the largest U S military airfields, including Brooks Field, Kelly Field, and Randolph Field It is the see of a Roman Catholic archbishop and of a Protestant Episcopal bishop Among the educational institutions are Trinity Univ (Presbyterian, coeducational, 1869), St Mary's Univ of San Antonio (Catholic, partly coeducational), Our Lady of the Lake College (Catholic, for girls), Incarnate Word College (Catholic, for girls), the

Univ of San Antonio, a municipal junior college, and a junior college for Negroes San Antonio keeps a strong color of its past, and the missions, the warm winter sun, the green and flowered streets and parks, and the exotic customs of the huge Mexican quarter give the city individuality as a popular resort See G P Wertenbaker, *San Antonio, City in the Sun* (1946)

San Antonio de los Baños (sän äntō'nyō dā lōs bä'nyōs), city (pop 16,512), W Cuba, c 20 mi SSW of Havana It is a popular health resort, with mineral springs and baths Tobacco of fine quality is grown in the vicinity, and cigars are manufactured

San Augustine (săn ô'gustēn), town (pop 1,516), co seat of San Augustine co, E Texas, on Ayish Bayou and ESE of Nacogdoches In this forested section a Spanish mission, Nuestra Señora de los Dolores de los Ais [Our Lady of Sorrows of the Ais], was established in 1716, abandoned in 1719, and refounded in 1721 A presidio was established at San Augustine in 1756 which, like Nacogdoches, protected the Spanish-French border Both presidio and mission were abandoned before American settlers came from Louisiana in 1818, several years before Stephen F Austin brought settlers to Texas Today the town, a center of pine lumbering, has on its hills old houses that recall pre-Civil War prosperity Much of the population is Negro

Sanballat (-bāl'ăt), one of the Persian officials in Palestine who consistently opposed Nehemiah in his restoration of Jerusalem He is called a Horonite, a designation perhaps from the name Bethhoron Neh 2 10,19, 4, 6, 13 28

San Benito (săn bunĕ'tō), city (1940 pop 9,501, 1947 estimated pop 12,000), extreme S Texas, NW of Brownsville It is a considerable processing center for the citrus fruit and vegetables grown in the irrigated region of the lower Rio Grande valley and attracts tourists Near by is a state fish hatchery.

San Bernardino (săn bûrnurdē'nō), city (pop 43,646), co seat of San Bernardino co, S Calif, E of Los Angeles, laid out 1853 by Mormons, inc 1854 It is a railroad center, with railroad shops, as well as a citrus-fruit packing and shipping center A national orange show is held here annually The city is the seat of a junior college (coeducational) To the east lies San Bernardino Mt

San Bernardino (săn bĕrnurdē'nō), pass, 6,770 ft high, from the Mesocco Valley to the Rheinwald Valley, Grisons canton, Switzerland Used possibly since prehistoric times, it is crossed by a road (built 1818–23), which passes through the resort village of San Bernardino

San Bernardino Mountains, part of the Coast Range, S Calif, extending NW and SE through San Bernardino and Riverside counties for c 80 mi Notable peaks are San Bernardino Mt (10,630 ft) and Mt San Gorgonio (11,485 ft)

San Blas (săn blăs'), town (pop 752), Nayarit, W Mexico, a port on the Pacific It was in colonial times a thriving city and port busy with traffic across the Pacific The harbor has since silted and has lost importance

San Blas, archipelago off the northeast coast of Panama It is also called the Mulatas archipelago and comprises some 332 islands The inhabitants are almost pure-blooded aborigines of Carib origin Protected by a treaty with the government of Panama, the Indians have only recently permitted scientific observation of their culture and visits of curious tourists Coconuts and fish are their principal foods

Sanborn, Franklin Benjamin, 1831–1917, American journalist, author, and philanthropist, b Hampton Falls, N H, grad Harvard, 1855 He was an active abolitionist, friend and agent of John Brown, although he disapproved of the Harper's Ferry raid He was a correspondent of the Springfield *Republican,* editor (1863–67) of the Boston *Commonwealth,* and a founder of the American Social Science Association and editor (1867–97) of its journal He served as secretary of the Massachusetts Board of Charities, which was the first of its kind in America, and helped found the Massachusetts Infant Asylum, the Clarke School for Deaf Mutes, and the National Prison Association Long a resident in Concord, he gathered his famous friends there and wrote valuable biographies of Alcott, Emerson, W E Channing, Hawthorne, and Thoreau ("American Men of Letters" series), as he did of John Brown, Pliny Earle, and S G Howe

Sanborn, town (pop 1,344), NW Iowa, W of Spencer; founded 1878, inc 1880

San Bruno (săn brōō'nō), residential city (1940 pop 6,519, 1943 special census pop 15,178), W Calif., S of San Francisco, in a truck area, inc 1914.

San Buenaventura, Calif see VENTURA

San Carlos (săn kär'lōs), residential city (1940 pop 3,520, 1947 special census pop 9,828), W Calif, S of San Francisco; inc 1925 It is a flower-shipping point

Sánchez-Coello, Alonso: see COELLO, ALONSO SÁNCHEZ

Sancho I (Sancho Ramírez) (sän'chō ramē'răth), 1045?–1094, king of Aragon (1063–94) and, as Sancho V, king of Navarre (1076–94), son and successor of Ramiro I. He continued the war against the Moors and at the death of Sancho IV of Navarre was proclaimed king of Navarre at Pamplona He died in the siege of Huesca Peter I succeeded him

Sancho III or **Sancho the Great,** c 965–1035, king of Navarre (1000–1035) He inherited Navarre and Aragon, conquered (1008) the seigniories of Sobrarbe and Ribagorza from the Moors, and acquired (1028), through his wife's inheritance, Castile, Vizcaya, and Álava His kingdom thus was the largest Christian state in Spain Its unity was broken at his death when he divided his lands among his sons Navarre passed to García, Castile and Aragon, made into kingdoms, went, respectively, to Ferdinand I and to Ramiro I, Sobrarbe and Ribagorza were given to Gonzalo

Sancho I (săn'chō), Port *Sancho o Povoador* (sĕ'shō ō pōōvwădhōr') [Sancho the settler or populator], c 1154–1211, king of Portugal, son and successor of Alfonso I He shared the rule with his father from c 1170 and was sole king after 1185 He undertook to restore and repeople the lands devastated by war and established the kingdom on a firm base Early successes against the Moors in Algarve were canceled by new Moorish attacks He was succeeded by his son Alfonso II

Sancho II (săn'chō), d 1072, Spanish king of Castile (1065–72), son and successor of Ferdinand I He conquered from his brother ALFONSO VI the kingdom of Leon, except for the city of Zamora, while besieging it, Sancho was assassinated The CID first appears as his retainer Sancho was succeeded by his brother Alfonso VI

Sancho IV (Sancho the Brave), 1257?–1295, Spanish king of Castile (1284–95), son and successor of ALFONSO X On the death (1275) of his elder brother, Ferdinand de la Cerda, Sancho rather than any of Ferdinand's children was designated Alfonso's successor Throughout his reign Sancho had to defend his throne against the claims of Ferdinand de la Cerda's heirs, who at times received the support of Aragon He conquered Tarifa from the Moors in 1292 His son, Ferdinand IV, succeeded him under the regency of Sancho's widow, María de Molina.

Sancho Panza see DON QUIXOTE DE LA MANCHA

Sancho the Great see SANCHO III, king of Navarre.

San Cristóbal (săn krēstō'băl), city (pop 31,477), W Venezuela, near the Colombian border in a mountainous region San Cristóbal is a commercial, agricultural, and mining center of some importance Linked by highway to CÚCUTA and PUERTO CABELLO, it exports coffee, cacao, sugar, corn, wheat, gold, silver, copper, and iron

Sancroft, William (săng'krôft), 1617–93, English prelate, archbishop of Canterbury His strong High Church sentiments caused him to remain abroad during the latter part of the Puritan Revolution Returning to England in 1660, he advanced through various ecclesiastical offices to become (1678) archbishop of Canterbury Earlier, as dean of St Paul's, he directed the building of the famous cathedral designed by Sir Christopher Wren He crowned James II at his accession, but refused to serve on the newly reconstituted court of high commission and in 1687, with six of his bishops, signed a petition asking that the Declaration of Indulgence, which suspended the penal laws directed against non-Anglicans, be withdrawn and gave reasons for their refusal to read it in their churches. The imprisonment, trial, and acquittal of the seven bishops greatly heightened religious tension prior to the deposition of James Sancroft, however, refused to take the oath of allegiance to William and Mary He was suspended and, in 1690, deprived of his office

sanction, in law and ethics, any inducement to follow or refrain from following a particular course of conduct In its ethical sense the term designates the factors which contribute to a moral decision In its legal sense it may mean either a promise of reward for the desired conduct (positive sanction) or a threat of injury for following some disapproved course (negative sanction) Thus, the fee paid to a police informer is a positive sanction while the penalty for crime is a negative sanction (more specifically a penal sanction) The word *sanctions* was applied to the coercive measures available to the League of Nations under its Covenant for inducing states to stop acts of aggression Sanctions, then, are contrasted with moral suasion, offers of arbitration, and other noncoercive steps to restore peace The bootless prohibition of economic relations with Italy which was ordered by the League in 1935 after the invasion of Ethiopia was the sole use of the League's sanction power The Covenant also permitted it to order military and economic sanctions The powers of the United Nations to prevent and punish aggression in a legal sense include the infliction of sanctions, although the term is not generally used See Royal Institutute of International Affairs, *International Sanctions* (1938)

Sanctis, Francesco de. see DE SANCTIS, FRANCESCO.

Sancti-Spíritus (sängk'tē-spē'rētōōs), city (pop. 28,262), central Cuba, SE of Santa Clara It trades in sugar, tobacco, and cattle and has light manufactures Founded in 1514, it subsequently experienced several pirate attacks.

Sanctorius (săngktō'rēus), Ital. *Santorio,* 1561–1636, Italian physiologist He was a professor at Padua (1611–24) By his quantitative experiments in temperature, respiration, and weight he measured what he called "insensible perspiration" and laid the foundation for the modern study of metabolism Among the instruments which he invented was a clinical thermometer He wrote *De statica medicina* (1614, Eng tr, 5th ed, 1737)

sanctuary (săngk'chōōĕ'rē), sacred place, especially the most sacred part of a sacred place Sanctuaries served for ASYLUM or a place of refuge for persons fleeing from violence or from the penalties of the law, to injure a person in a sanctuary or to remove him from it forcibly was considered sacrilege In ancient Greece the ways of escape from a sanctuary were sometimes guarded until the fugitive starved In Rome sanctuary was not infrequently sought by fugitive slaves The Old Testament tells of cities of refuge to which the slayer might flee if he had killed his neighbor unawares and had not hated him in times past (Deut 4 41–43, Joshua 20) Christian churches were made places of refuge by Constantine I In England, in early times, a confessed felon in sanctuary was permitted to go to perpetual exile in a foreign Christian country if he took an oath never to return Abuses of the privilege of sanctuary, tending to encourage crime, led to its curtailment and abolition A secular parallel to the benefit of sanctuary is the immunity which may be gained by a fugitive who crosses the bounds of his state if he is not subject to EXTRADITION See also WILDLIFE REFUGE See N M Trenholme, *The Right of Sanctuary in England* (1903)

Sanctus [Latin,=holy], hymn of the Roman Mass beginning, "Holy, holy, holy," from Isa 6 3, Mat. 21 9 It is the solemn choral ending of the preface (see MASS) The second part of the hymn, called *Benedictus,* is sometimes sung after the elevation The *Sanctus* includes also the *Hosanna* The *Sanctus* is sometimes called *Tersanctus*

Sand, George (sănd, Fr zhôrzh' sän'), pseud of **Amandine Aurore Lucie Dupin, baronne Dudevant,** 1804–76, French novelist Other variant forms of her maiden name include Amantine Lucile Aurore Dupin Born of an aristocratic father (whose mother was the natural daughter of Marshal Saxe) and a plebeian mother, she was reared by an austere grandmother on a country estate in Berry After eight years of a marriage of convenience with baron Dudevant, a country squire, she went with her two children to Paris, obtaining a divorce in 1836 She wrote some 80 novels widely popular in their day, supporting herself and her children chiefly by her writing Her earlier novels were romantic, later ones often expressed her serious concern with social reform Her liaisons—with Jules Sandeau, Musset, Chopin, and others—were open and notorious, but were only part of her life She demanded for women the freedom in living which to men of her day was a matter of course Her first two works, *Prima Donna* and *Rose et Blanche* (both 1831), were in collaboration with Jules Sandeau (a shortening of his last name provided her with the pseudonym which she kept all her life), with whom she had previously written articles for the journal *Figaro* Of her own novels, *La Mare au diable* (1846, Eng tr, *The Haunted Pool,* 1890) and *Les Maîtres sonneurs* [the master bell-ringers] (1853) are considered masterpieces; notable also are *Indiana* (1832, Eng tr, 1881), *Mauprat* (1837), *Consuelo* (1842, Eng tr, 1846), *François le champi* (1849, Eng tr, *Francis the Waif,* 1889), *La Petite Fadette* (1848, Eng tr, *Fanchon the Cricket,* 1864), and *Contes de ma grand'mère* (1881, Eng tr, *Tales of a Grandmother,* 1930), a collection of Breton fairy tales All these books are distinguished by a deep, romantic love of nature as well as an extravagant moral idealism. She also wrote a number of plays Much of her work was also autobiographical, notably *Histoire de ma vie* (1854), *Elle et lui* [she and he] (1858), which concerns her life with Musset, and *Un Hiver à Majorque* [a winter in Majorca] (1841), of her life with Chopin See her *Intimate Journal* (Eng tr by Marie Jenney Howe, 1929), biographies by René Doumic (Eng tr, 1910) and Marie J Howe (1927), Felizia Seyd, *Romantic Rebel* (1940); Frances Winwar, *The Life of the Heart* (1945)

sand, rock material occurring in the form of loose, rounded or angular grains, varying in size from $^1/_{16}$ mm to 2 mm in diameter, the particles being smaller than those of GRAVEL and larger than those of SILT or CLAY A secondary rock, sand is formed as a result of the WEATHERING and decomposition of igneous, sedimentary, or metamorphic rocks Its most abundant mineral constituent is silica, usually in the form of QUARTZ, and many deposits are composed almost exclusively of quartz grains Many other minerals, however, are often present in small quantities, e g, the amphiboles, the pyroxenes, olivine, glauconite, clay, the feldspars, the micas, iron compounds, zircon, garnet, tourmaline, titanite, corundum, and topaz Some sands—e g, coral sands, shell sands, and foraminiferal sands—are organic in origin Sand grains may be rounded or more or less angular, and differences in shape and size account chiefly for differences in such important properties as porosity (proportion of interstices

to the total mass), permeability to gases and liquids, and viscosity or resistance to flow Permeability and viscosity are also affected by the proportion of clayey matter present The chief agents in accumulating sands into deposits are winds, running water, and glaciers, and sand deposits are classified according to origin as fluviatile, lacustrine, glacial, marine, and aeolian The most extensive superficial deposits are seen in the DESERT and on beaches The surface of a sand deposit may be level or very gently sloping, or the sand may be gathered by wind action into ridges called dunes SANDSTONE and QUARTZITE are indurated masses of sand, and sand deposits are sometimes formed by the weathering of sandstone and quartzite formations Sand is used extensively in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and refractory materials It is also used in the metallurgical industry, in the filtration of water, in pottery making, in glassmaking, in the manufacture of explosives, and as an abrasive Other industrial uses are numerous. Although soils entirely composed of sand are too dry and too lacking in nourishment for the growth of plants, a soil to some extent sandy (a "light" soil) is favorable to certain types of agriculture and horticulture, as it permits the free movement of air in the soil, offers less resistance than a clay soil to growing roots, improves drainage, and increases ease of cultivation. Sand to which nutrient solutions have been added is often used in soilless gardening.

sandal, footwear consisting of a covering for the sole of the foot, held in place by cords, thongs, or straps. Worn since ancient times and still common in the Orient, sandals have been made of leather, wood, cork, plaited straw and papyrus, palm leaves, velvet, linen, and other fabrics Sandals with turned-up toes have been found on Egyptian mummies Asiatic sandals partly covered the foot, Grecian sandals, often covering the toes, commonly had gilded or embroidered straps, Roman sandals followed Etruscan models Roman Catholic high ecclesiastics at one time wore ceremonial sandals of embroidered red leather As a cheap, cool, and colorful footwear, sandals have recently come into vogue.

sandalwood, name for several fragrant tropical woods, especially for *Santalum album*, an evergreen partially parasitic tree either native to India or introduced there centuries ago It is used in Buddhist religious ceremonies and funeral rites and is made into ornamental wares The oil distilled from it is used extensively as a perfume in the East and has a place in medicine About 19 species of *Santalum* are distributed over the Hawaiian and other Pacific islands Red sandalwood obtained from a leguminous tree (*Pterocarpus santalinus*), also native to India, was probably the almug of the Bible. It is used chiefly as the source of a dye.

Sandalwood Island, Fiji see VANUA LEVU.

Sandalwood Island, Indonesia see SUMBA

Sanday, William (săn'dā), 1843–1920, English theologian and biblical scholar. He was professor of exegesis (1883–95) at Oxford, from 1895 to 1919 he was Lady Margaret professor of divinity and canon of Christ Church, Oxford He was joint editor of the Variorum Bible (1880) Besides commentaries, his many writings include *The Authorship and Historical Character of the Fourth Gospel* (1872), *The Gospels in the Second Century* (1876), and *The New Testament Background* (1918)

Sanday (săn'dă), island (area with North Ronaldsay c 21 sq mi , pop, 1,160), off N Scotland, one of the more northerly Orkney Islands Ancient remains include a broch or prehistoric round stone tower Farming and fishing occupy the inhabitants

sandblast, stream of sand or other like material driven by a jet of COMPRESSED AIR or steam against a surface to clean or abrade it. Powdered quartz, emery, chilled iron globules, and other hard granular substances are used as the abrasive material The sandblast is used for cleaning castings in foundries, for preparing metal surfaces for painting, enameling, and galvanizing, and for cleaning the stonework of buildings The pressure used with the sandblast varies from 10 to 60 lb. per square inch according to the surface and kind of work. Frosted designs are worked on glass by placing a stencil or suitable pattern over the surface so that the blast affects only the uncovered parts.

sandbur or bur grass, any species of the genus *Cenchrus*, sandy-soil grasses with burlike seeds At maturity the sharp spines make the plant a troublesome weed The name sandbur is sometimes used for the BUFFALO BUR.

Sandburg, Carl (sănd'bûrg), 1878–, American poet and biographer, b Galesburg, Ill , studied at Lombard College (now Knox College), Galesburg. The son of a Swedish-born blacksmith, he was a day laborer, a soldier in the Spanish-American War, and a private secretary and was a newspaperman when in 1914 his poem "Chicago" won a prize in the magazine *Poetry*. His *Chicago Poems* (1916) shocked some readers because of what seemed brutal frankness and because of the formlessness of the verse Succeeding volumes—*Cornhuskers* (1918), *Smoke and Steel* (1920), *Slabs of the Sunburnt West* (1922), *Good Morning, America* (1928), and *The People, Yes* (1936)—established him as an American artist, sometimes working with vernacular cadences and slang and sometimes, as in "Fog," with subtle impressionism Rebecca West edited his *Selected Poems* (1926), and he collected his poems for children in *Early Moon* (1930). He wrote (1917–33) for the Chicago *Daily News* and later supported himself by lecture recitals of his poetry and by the sale of his books for children, *Rootabaga Stories* (1922) and others, while he wrote his biography of Lincoln, which won the Pulitzer Prize in history in 1940—*Abraham Lincoln. the Prairie Years* (2 vols , 1926) and *Abraham Lincoln the War Years* (4 vols , 1939) His other works include a biography of his brother-in-law, *Steichen the Photographer* (1929), *Mary Lincoln, Wife and Widow* (with Paul Angle, 1932), an anthology, *The American Songbag* (1927 and later editions); *Photographs of Abraham Lincoln* (with Frederick Meserve, 1944), and a long historical novel, *Remembrance Rock* (1948) See biography by Karl Detzer (1941).

Sandby, Paul (sănd'bē), 1725–1809, English watercolorist and draughtsman He began in 1746 as a draughtsman with the Highland's Military Survey and became chief drawing master at the Woolwich Military Academy in 1768 Sandby was successful as an etcher and illustrator, but is best known for his fine topographical water colors. He is represented in the British Museum, the Victoria and Albert Museum, and the Tate Gallery, London.

Sandeau, Jules (Léonard Sylvain Jules Sandeau) (zhül' sădō', lāōnar' sēlvĕ'), 1811–83, French novelist His best-known romances are *Madeleine* (1847; Eng tr., 1850) and *Mademoiselle de la Seiglière* (1847), made into a play in 1851. With George Sand he wrote *Rose et Blanche, ou, La Comédienne et la religieuse* (5 vols , 1831) From Sandeau, Mme Dudevant took her pen name George Sand

Sandefjord (să'nufyōr), town (pop. 6,302), Vestfold co , SE Norway, near the mouth of Oslo Fjord. A base for the whaling fleets operating in arctic waters, it has whale-oil refineries, shipyards, and chemical works.

Sandemanians (săn'dĭmā'nēănz), name given in England and America to the Glassites, a religious sect founded by John GLAS. Robert Sandeman was a co-worker of Glas

Sanders or **Sander, Nicholas,** 1530–81, English Roman Catholic churchman He became prominent at Oxford as an ally of Cardinal Pole and had to flee on Elizabeth's accession He attended the Council of Trent and traveled in Poland and Lithuania By 1570 he was recognized by the English Catholics as their leader From 1573 to 1578 he worked on plans to restore Catholicism by deposing Elizabeth, and in 1579 he sailed with a Spanish troop to join in the struggle of the Desmond Fitzgeralds against the government Disaster overtook them, and in 1581 he died of the hardships he had undergone His *De origine ac progressu schismatis Anglicani* is the prime source for the state of Catholics in England under Elizabeth Bishop Gilbert Burnet attacked the work, but historians have shown that where Sanders and Burnet disagree Sanders is either right or he is quoting a previous unreliable source

Sanders, Otto Liman von: see LIMAN VON SANDERS, OTTO

Sanderson, Nicholas see SAUNDERSON, NICHOLAS.

Sanderson, Robert, 1587–1663, English clergyman He was regius professor of divinity at Oxford (1642–48) and bishop of Lincoln (1660–63) The second preface of the Anglican prayer book and the General Thanksgiving are attributed to him He published many sermons, other writings include *Logicae artis compendium* (1618) and *De obligatione conscientiae praelectiones* (1660). See his works (6 vols , 1854), biographies by Isaak Walton (1678) and George Lewis (1924).

Sanderson, unincorporated town (pop. c.2,000), co. seat of Terrell co., W Texas, N of the Rio Grande and W of the Pecos. On a railroad and the Del Rio–El Paso highway, this old cow town ships wool, mohair, and cattle

Sandersville, city (pop. 3,566), co. seat of Washington co , E central Ga , SW of Augusta, founded 1796, inc. 1812. It is a farm trade and industrial center.

sand fly, minute biting, bloodsucking fly which breeds in mountain streams, in salt marshes, or in water that has collected in depressions in trees. They are sometimes called punkies and nosee-ums

Sandham, Henry, 1842–1910, Canadian painter and illustrator, b. Montreal. After studying in Europe, he settled (1880) in Boston. His illustrations appeared in *Century, Harper's* and *Scribner's* magazines. Among his paintings are *March of Time* (National Gall. of Art, Washington, D.C.) and *The Dawn of Liberty* (town hall, Lexington, Mass.). He lived in London after 1901.

Sandhurst, Victoria, Australia. see BENDIGO.

Sandhurst, village, Berkshire, England, N of Aldershot It is the site of the Royal Military College, which was founded at Great Marlow in 1802.

San Diego (săn dēā'gō) 1 City (1940 pop. 203,341; 1946 special census pop 362,658), co seat of San Diego co , S Calif., on the east side of San Diego Bay. It was the first permanent white settlement in California Juan Rodrigues Cabrillo sailed into the bay in 1542. In 1769 San Diego de Alcalá Mission was established by Junípero Serra After the United States had taken California, the community was incorporated (1850) as a city Today its excellent natural harbor brings extensive commerce and makes San Diego an important port of entry The city, which has a wide variety of industries, is the distributing and processing center for the surrounding fruit and dairy region and has experienced a large increase in population in recent years The U S navy has a number of large installations here An aqueduct brings water to San Diego from the Colorado The city is the seat of San Diego State College (coeducational, 1897) and a junior college Balboa Park (1,400 acres) contains museums, galleries, gardens, and a zoo Some of the buildings of the Panama-California International Exposition (1915–16) and the California Pacific International Exposition (1935–36) remain in the park. Adobes from the city's Spanish and Mexican days are to be found in the Old Town Across the bay is CORONADO. 2 City (pop. 2,674), co. seat of Duval co , S Texas, WSW of Corpus Christi; inc. 1935 The region produces oil, salt, and cattle

Sandino, Augusto César (ougōō'stō sā'sar săndē'nō), 1893–1934, Nicaraguan revolutionary general. A farmer and a mining engineer, he joined the liberal revolution (1926) against the conservative government headed by Adolfo Díaz and Emiliano CHAMORRO He protested against the new U S intervention in Nicaragua in 1926 and rejected the Stimson-Moncada agreement for the elections of 1927 On this score Sandino broke with the liberal leader, José María Moncada, and conducted vigorous guerrilla campaigns (1927–33) against the U.S marines Never captured but finally reconciled after the withdrawal of the marines, he headed a cooperative farming scheme In 1934 he was suddenly seized and executed

Sandomierz (săndô'myĕrzh), Rus *Sandomir* (sŭndumēr'), town (pop 8,357), S Poland, at the confluence of the Vistula and the San, E of Kielce Founded probably before Poland accepted Christianity, Sandomierz became (1139) the capital of a duchy A synod (known as the Consensus Sandomirensis) held here in 1570 united all Polish Protestants The town passed to Austria in 1795 and to the Russian Empire in 1815 It reverted to Poland (1919) and was included in the Central Industrial District.

San Domingo, shortened form of Santo Domingo that once was much employed in English for the country that is now the Dominican Republic It has long fallen into disuse

Sandomir, Poland see SANDOMIERZ

Sandoval, Prudencio de (prōōdhān'thyō dā sandōvāl'), c 1560–1621, Spanish historian, bishop of Túy and of Pamplona His chief work is a history of Emperor Charles V (1625, Eng tr , 1703), considered by many the best work on Charles's reign He also wrote a history of the kings of Castile and Leon

Sandoval (săndō'vul), village (pop 1,796), S central Ill , E of St Louis, in a farm and coal area, inc 1859

Sandow, Eugene (săn'dō), 1867–1925, German "strong man" and advocate of physical culture, b Konigsberg His original name was Frederick Wilhelm Eugene Sander Physically inept in childhood, Sandow at the age of 10 undertook a course of training which made him a powerfully built man He became a model and accompanied circus troupers, in England, where he had become naturalized, Sandow was successful at wrestling He was presented to the American public by Florenz Ziegfeld in 1893 and made several tours of the country. He gained much notice as an exponent of physical culture for the average man In 1911 he was appointed by royal warrant as professor of physical culture to King George V See biography by G. T. Trevor (1946).

Sandown-Shanklin, urban district (1931 pop 11,240, 1943 estimated pop 11,615), on the Isle of Wight, England, S of Ryde It is a coast resort There is a fountain with verses by Henry Wadsworth Longfellow, who visited the town.

sandpaper, ABRASIVE made by coating heavy paper with glue and dusting the still-wet surface with fine, sharp-edged sand The paper is graded according to the size of the sand particles and is used for polishing and for removing old paint or varnish and otherwise preparing wood surfaces for refinishing or other treatment.

sandpiper, small wading bird of Europe and America, related to the snipe and the curlew Its bill and legs are relatively long The plumage is usually streaked brown or gray above and lighter with streaks or spots below. Most sandpipers are found on seacoasts but some frequent inland waters and marshes

Sandpoint, city (pop. 4,356), co seat of Bonner co , N Idaho, on Pend Oreille Lake, laid out 1898, inc 1900 A lumber town, it is also a rail and highway center and a lake resort

Sandracottus or **Sandrocottus** (both: săndrŭkŏ'tŭs), Greek name of **Chandragupta** (chăndrŭgōōp'tŭ),

d. c.298 B.C., founder of the MAURYA empire. He conquered (c.320 B.C.) the Magadha kingdom and expelled the garrisons Alexander the Great had established in NW India. In 303 he repelled an invasion of India by Seleucus I. According to tradition, Sandracottus abdicated his throne and died a suicide.

Sandringham (sănˈdrĭngŭm), village, Norfolk, England, 3 mi from the Wash and NE of King's Lynn. The Church of St. Mary Magdalene contains numerous memorials of royalty. Sandringham House with its 7,000-acre estate was purchased by Edward VII, then prince of Wales, in 1861. Queen Alexandra lived here until her death in 1925, and George V died here (1936).

Sandrocottus. see SANDRACOTTUS.

Sands, Robert Charles, 1799–1832, American editor and author, b. New York city, grad. Columbia, 1815. He founded the *Atlantic Magazine* in 1824, and when it was merged with the *New York Review and Athenaeum*, he became joint editor with William Cullen Bryant. With G. C. Verplanck and Bryant he wrote the *Talisman*, an annual, 1828–30. His life of Cortés, in Spanish, was well received in South America, his best-known work was his *Life and Correspondence of John Paul Jones* (1830). See G. C. Verplanck, ed., *The Writings of Robert C. Sands* (with memoir, 1834).

Sand Springs, city (pop. 6,137), NE Okla., on the Arkansas river, founded 1907 as the site of a widows' and orphans' home. It has since become an industrial suburb of Tulsa. Lorado Taft designed the memorial group here.

Sandstone, village (pop. 1,559), E Minn., SW of Duluth, settled 1885 when near-by sandstone quarries were opened. It is a farm center and resort.

sandstone, secondary rock formed by the cementing together of grains of sand. The usual cementing materials in sandstone are calcium carbonate, iron oxides, and silica, and the hardness of sandstone varies according to the character of the cementing material, quartz sandstones cemented with quartz are the hardest. Sandstones are commonly gray, buff, red, or brown, although green and some other colors are also found. Green sandstones often contain, in addition to sand and quartz, fossil shells and iron oxides, these that break apart easily are known as greensands and are sometimes used to replenish depleted potash in soils. Sandstones are widely used in construction. In the E United States a red-brown sandstone sometimes called brownstone has been much used in city buildings, the Triassic rocks of the Atlantic coastal region are sources of this stone. Other varieties of sandstone are arkose, which contains feldspar and resembles granite, and graywacke, a gray or sometimes greenish or black rock composed of quartz and feldspar with numerous fragments of other rocks, e.g., shale, slate, quartzite, granite, and basalt. Sandstone may be reduced by crushing it to the form of loose sand grains and can then be put to the same industrial uses as sand.

sandstorm, strong dry wind blowing over the desert which raises and carries along clouds of sand or dust, often so dense as to reduce visibility to practically zero and to obscure the sun. Such a wind is usually the result of convection currents created by intense heating of the ground. The wind is strong enough to move dunes and often interferes with travel, sometimes obliterating roads in flat dry regions such as those of the W United States. The simoom (or simoon) is the sandstorm of North Africa and Arabia which contributes largely to the atmospheric dust over Europe.

Sandusky (sundŭsˈkē, sănˈ-) **1** City (pop. 1,512), co. seat of Sanilac co., S Mich., N of Detroit, in a farm and dairy region, inc. as a village 1885, as a city 1905. **2** Industrial and resort city (pop. 24,874), co. seat of Erie co., N Ohio, W of Cleveland, on Sandusky Bay of Lake Erie, laid out 1817 as Portland, named Sandusky City 1818, "City" dropped 1844. With a natural harbor, it is a shipping point for coal, and there are foundries, clay works, packing houses, and paper and crayon plants. It is a port of entry. Near by are Cedar Point, popular summer resort, PORT CLINTON, KELLEYS ISLAND and numerous other small islands, Blue Hole spring, Crystal Rock Caves, and Marblehead peninsula. The state soldiers' and sailors' home is here.

Sandusky, river, c.120 mi long, rising in N Ohio and flowing W through Bucyrus to Upper Sandusky, thence N past Tiffin and Fremont to Sandusky Bay. This landlocked harbor, c.18 mi long, is one of the best on Lake Erie.

Sandviken (sändˈvēkŭn), town (pop. 17,514), Gavleborg co., E Sweden. It is an iron and steel manufacturing center and was founded c.1860.

Sandwich, Edward Montagu, 1st **earl of** (mŏnˈtŭg), 1625–72, English statesman and admiral. He fought for Parliament at Marston Moor (1644) and Naseby (1645) and served (1653–56) on Oliver Cromwell's council of state. After the failure of Richard Cromwell, however, he assisted in the restoration of Charles II. He brought the new queen, Catherine of Braganza, from Portugal (1661) and secured the cession of Tangiers, which had been promised as part of Catherine's dowry. Sandwich, who had Samuel Pepys as his secretary, was high in naval command. He fought in the DUTCH WARS, assisting in a notable victory off Lowestoft (1665). He was defeated and killed in Southwold Bay seven years later.

Sandwich, John Montagu, 4th **earl of,** 1718–92, English politician. In his early career he undertook diplomatic missions. He also served several times as secretary of state and as first lord of the admiralty (1748–51, 1771–82). Unpopular and profligate, he used the navy for political ends, with the result that it decayed incredibly. Ships of the line literally fell to pieces (see ROYAL GEORGE), and naval stores were sold by officials for profit. His mismanagement contributed largely to British failure in the war of the American Revolution. The Sandwich (Hawaiian) Islands were named for him by Captain James Cook. The sandwich (slices of bread with filling) is supposedly named for him, he is said to have been given to eating informally at the gaming table.

Sandwich (sănˈdwĭch, sănˈwĭch), part (since 1935) of Windsor, Ont. Settled by French in the 18th cent., it received many British inhabitants from Detroit, Mich., in 1796. Assumption College, affiliated with the Univ. of Western Ontario, is here.

Sandwich (sănˈwĭch, sănˈdwĭch), municipal borough (pop. 3,287), Kent, England, on the Stour 2 mi from the coast and E of Canterbury. One of the CINQUE PORTS, it was the chief naval and military port in England under Henry VII, later the harbor silted up. The ancient walls remain, with Fisher Gate (1384) and Barbican Gate (1539). St. Bartholomew's Hospital dates from the 12th cent. Flemish exiles introduced cloth weaving into Sandwich (16th cent.). It is now a resort with tanning and a cereal-food industry.

Sandwich (sănˈdwĭch, sănˈwĭch) **1** City (pop. 2,608), N Ill., SW of Aurora, inc. 1859. It manufactures farm implements. **2** Town (pop. 1,360), SE Mass., on W Cape Cod E of Bourne, settled 1637, inc. 1639. Sandwich glass was made here from 1825 to 1888, the historical museum has a good collection. State forest and game preserves and fish hatcheries are here. See H. B. Barbour, *Sandwich* (1948).

sandwich, two or more slices of bread with a filling usually of meat, cheese, or salad. It is supposed to have been named for the 4th earl of Sandwich, who was given to eating informally at the gaming table.

Sandwich Islands see HAWAIIAN ISLANDS.

Sandy, city (pop. 1,487), N central Utah, S of Salt Lake City, settled 1871. It was a busy ore-shipping and smelting center in the late 19th cent., and slag is now processed to make rock wool.

Sandy Hook (sănˈdē hŏŏkˈ), peninsula, NE N.J., projecting 5 mi N toward New York and separating Sandy Hook Bay from the Atlantic. It is a government reservation, at the northern end is Fort Hancock, built to protect New York harbor. The Sandy Hook Lighthouse (85 ft high, built in 1763) is the oldest in service in the United States. Hudson's men explored this region in 1609, and one was killed by Indians. The British held the peninsula in the Revolution.

Sandys, Edwin (sändz), 1516?–1588, English prelate, archbishop of York (1576–88). While a student at Cambridge he turned to Protestantism. On the death of Edward VI, Sandys supported Lady Jane Grey as candidate for the throne. As a result he was imprisoned by Queen Mary, but was released and fled to the Continent. He returned on the accession of Elizabeth and was made bishop of Worcester (1559), bishop of London (1570), and archbishop of York (1576). He translated parts of the Bishops' Bible (1568) and was a member of the commission to revise the liturgy.

Sandys, Sir Edwin (sändz), 1561–1629, English statesman, leading promoter of the colony in Virginia, b. Worcestershire, grad. Oxford (B.A., 1579, M.A., 1583), son of Archbishop Edwin Sandys. He studied law and in 1586 entered Parliament. His *Europae speculum* (1605), published after an extended tour abroad beginning in 1593, revealed a remarkably tolerant attitude toward Roman Catholics for an Englishman of that period. Sandys was knighted (1603) on the accession of James I, reentered Parliament, and became a leading figure in the House of Commons. In 1614 he denied the the doctrine of the divine right of kings by enunciating the principle that there were certain reciprocal conditions of the constitution which neither the king nor the people could violate, the speech led to some difficulty with the royal government. Sandys had been appointed to the council of the Virginia Company in 1607, was chosen to assist Sir Thomas Smythe, the treasurer, in the management of the company in 1617, and replaced Smythe as treasurer in 1619. The leader of the liberal faction within the company (see LONDON COMPANY), he was responsible for many of the progressive features that characterized the last years of the company's control over Virginia. The king prevented his reelection in 1620, but despite opposition from this and other formidable quarters, he continued to wield great influence until the king annulled the company's charter in 1624, when Virginia became a royal colony. See Alexander Brown, *The Genesis of the United States* (1890).

Sandys, Frederick (sändz), 1832–1904, English Pre-Raphaelite painter and illustrator. He is best known for his wood-block illustrations for *Cornhill* and other magazines and for his crayon portraits of prominent writers.

Sandys, George (sändz), 1578–1644, English poet and traveler, b. Yorkshire, son of Archbishop Edwin Sandys. He was educated at Oxford and in 1610 began an extended tour of Europe and the Near East, about which he wrote in *Relation of a Journey* (1615). In 1621 he became a treasurer of the Virginia Company, an office previously held by his brother, Sir Edward Sandys. He accompanied (1621) the new governor, Sir Francis Wyatt, to Virginia, where he remained until 1631, serving three years on the governor's council. While in Virginia he produced his most famous work, a translation of Ovid's *Metamorphoses* (1626), the first translation of a classic ever made on American soil. His other works include paraphrases of the Psalms and other divine songs and a translation of a work of Grotius, under the title *Christ's Passion a Tragedy* (1640).

San Felipe (sănfĕˈlĭpē), town (pop. 305), S Texas, on the Brazos and W of Houston, founded 1823. It was the administrative center of Stephen F. Austin's colony and the scene of several meetings (1832, 1833, 1835) of Texans before and in the Texas Revolution. Burned in the revolution, it was rebuilt but declined in the latter half of the 19th cent. It is also called San Felipe de Austin. There is a state park here.

San Felipe (sănˈ fēlēˈpā), North American Indian pueblo, N central N.Mex. It is on the west bank of the Rio Grande and 33 mi SW of Santa Fe. The 787 inhabitants are Pueblo Indians of the Keresan linguistic stock. They have ceremonial dances in May and December. The pueblo dates from the early 18th cent.

San Fernando (sănfûrnänˈdō), city (pop. 32,300), Cádiz prov., S Spain, in Andalusia, an Atlantic port near Cádiz. Much salt is obtained from near-by marshes by evaporation. There are a naval academy and an observatory.

San Fernando (sănfurnänˈdō), city (pop. 28,842), Trinidad, a port on the Gulf of Paria, opposite Venezuela. The second largest city of TRINIDAD AND TOBAGO, it is the major exporting point for the colony's petroleum.

San Fernando (sănfurnänˈdō), city (pop. 9,094), S Calif., N of Los Angeles. It is in San Fernando Valley, most of which is now in Los Angeles. The valley, first entered by white men in 1769, was used for journeys to N California from early days. Gold was found in 1842 before the big gold strike. Today the region is one of farms and oil wells. The San Fernando Rey Mission (1797) and a U.S. veterans' hospital are near the city. A railroad tunnel was built through mountains to the north in 1876.

Sanford, Edward Field, Jr, 1886–, American sculptor, b. New York city, studied at the Art Students League and the National Academy of Design and in Paris and Munich. He has done much memorial and decorative work, including the Charles Francis Adams Memorial, Lexington, Va., groups for the Core mausoleum, Norfolk, Va., pediments, figures, and panels for the state capitol, Sacramento, Calif., a commemorative tablet, Columbia Univ., a colossal stone statue for the Payne Whitney Memorial, Yale, and several garden figures, including his *Great Dane*. His style shows the influence of archaic Greek art.

Sanford. **1** City (pop. 10,217), co. seat of Seminole co., E central Fla., on Lake Monroe SW of Daytona Beach. It has resort activities and is a market center for the state's celery district. The city was founded in 1871 by Gen. Henry Sanford on the site of Mellonville, a little settlement established in 1837 near a fort. **2** Industrial town (pop. 14,886), SW Maine, on the Mousam river and SW of Portland, inc. 1768. It is the site of textile factories since the mid-18th cent. Nasson College is in the town. **3** Town (pop. 4,960), co. seat of Lee co., central N.C., SW of Raleigh, in a tobacco, cotton, and farm area. Near by is a large pottery.

San Francisco (sănfrunsĭsˈkō), city (pop. 634,536), coextensive with San Francisco co., W Calif., on a hilly peninsula between the Pacific and San Francisco Bay, which are connected by the strait of the Golden Gate. It is a great cosmopolitan port, the focus of many transportation lines, the market place of a large agricultural and mining area, and the center of the web of busy industrial cities around SAN FRANCISCO BAY. It is the seat of a U.S. mint. With its interest in music, art, letters, and the theater, San Francisco is also one of the country's great centers of culture. The city was founded in 1776, when a Spanish presidio and a mission were established at a location chosen by Juan Bautista de ANZA. The little settlement called Yerba Buena, although a much-visited port on the road to the Orient, was still a village when the Mexican War broke out and Commodore John D. Sloat and his naval force took it in the name of the United States in 1846. The name of San Francisco was given to the town. When gold was discovered in California in 1848, San Francisco had a population of c.800, two years later it was incorporated

with a population of c 25,000 The rush of gold seekers, adventurers, and settlers brought a period of lawlessness when the BARBARY COAST flourished and the VIGILANTES were organized The city took on a metropolitan aspect, with newcomers from over the world, among others the Chinese, the first settlers of the Chinatown which is today the largest Chinese settlement outside the Orient The pony express in 1860 and the Union Pacific RR in 1869 linked San Francisco overland with the East The city grew as California grew. After one of the most spectacular disasters in U S history, the earthquake of April 18, 1906, and the sweeping fire that followed, rebuilding was rapid The opening of the Panama Canal, which swelled the trade of the port, was celebrated by the Panama-Pacific Exposition of 1915 By the time of the GOLDEN GATE INTERNATIONAL EXPOSITION (1939–40), the whole San Francisco Bay area was heavily industrialized When the conference that drafted the United Nations Charter met here in 1945, San Francisco only confirmed its world importance The SAN FRANCISCO–OAKLAND BAY BRIDGE was opened in 1936, and the GOLDEN GATE BRIDGE in 1937 The individuality of the city, almost legendary in the United States, is compounded of items such as the San Francisco fogs, the cable cars, busy Market St the water front of the Embarcadero, Telegraph Hill (where in earlier times a signal tower sent word to the city of harbor doings), Nob Hill (where the nabobs lived in grandiose castles), and Russian Hill The visitor today can see relics of the past, notably the presidio (now an army post) and Mission Dolores (1782, at first called San Francisco de Asís), as well as the modern civic center and Golden Gate Park Institutions of higher learning in the city include the Univ of San Francisco (Jesuit, for men, 1855), San Francisco College for Women (Catholic, 1887), the School of Medicine of Stanford Univ, some schools of the Univ of California, a state teachers college, and a junior college See Federal Writers' Project, *San Francisco the Bay and Its Cities* (1941), Gertrude Atherton, *My San Francisco* (1946), William M Camp, *San Francisco, Port of Gold* (1947) Robert O'Brien, *This Is San Francisco* (1948), John Bruce, *Gaudy Century the Story of San Francisco's Hundred Years of Robust Journalism* (1948), and Edmond M Gagey, *The San Francisco Stage* (1950).

San Francisco Bay, 50 mi long and 3 to 13 mi wide, W Calif, entered through the Golden Gate, a strait between two peninsulas On the southern peninsula stands the city of San Francisco, on the northern peninsula are the residential cities of Marin co, while on the eastern shore of the crescent-shaped bay are such industrial cities as Alameda, Oakland, Berkeley, and Richmond Angel Island, Alcatraz, and Yerba Buena Island are in the bay With the subsidiary waters of San Pablo Bay to the north and Suisun Bay to the east of San Pablo Bay, the natural harbor of San Francisco Bay is one of the most notable of the world On these secondary bays and on Carquinez Strait, which connects them, are the cities of Vallejo, Benicia, Martinez, and Pittsburg Recent evidence tends to show that Sir Francis Drake was in 1579 the first white man to enter the bay, but it was not really known until explored by the Spanish in the late 18th cent

San Francisco–Oakland Bay Bridge, W Calif, built 1933–36 A double-decked structure, it has an over-all length of 8¼ mi From San Francisco it goes to Yerba Buena Island, where a tunnel connects with spans that lead to Oakland and Berkeley approaches

San Francisco Peaks, N Ariz, N of Flagstaff, consisting of Humphreys, 12,655 ft (highest in Arizona), Agassiz, 12,340 ft, Fremont, 11,940 ft

San Gabriel (săn gā'brēul), residential city (1940 pop 11,867, 1946 special census pop 16,840), S Calif, E of Los Angeles, inc 1913 The Spanish mission (1771) contains rare paintings and relics

San Gabriel Mountains, S Calif, E and NE of Los Angeles, running c 50 mi westward from Cajon Pass (c 15 mi NNW of San Bernardino) San Antonio Peak (10,080 ft) is the highest of the range

Sangallo (säng-gal'lō), three Italian Renaissance architects, two brothers and their nephew **Giuliano da Sangallo** (jōōlyä'nō), 1445–1516, designed the Church of Santa Maria delle Carceri at Prato and palaces in Florence After Bramante's death he worked on St Peter's at Rome with Raphael and Fra Giocondo His brother, **Antonio da Sangallo** (äntō'nyō), the elder, 1455–1534, built the domed Church of the Madonna di San Biagio at Montepulchiano **Antonio da Sangallo,** the younger, 1485–1546, their nephew, whose real name was Antonio Cordiani, was the most noted of the three He collaborated with Bramante in the latter's final years For Cardinal Alessandro Farnese (later Pope Paul III) he designed the Farnese Palace, the most magnificent type of Roman Renaissance palace. After Peruzzi's death Antonio was appointed (1538) to succeed him in the construction of St Peter's, though his complex plan for its completion was not accepted At the Vatican he designed the Sala Regia and the Pauline Chapel

Sangamon (săng'gumun), river rising in E central Illinois, c 44 mi. NE of Springfield, flowing SW to Decatur, where it is dammed to form Lake Decatur, then W and NW to the Illinois, above Beardstown Its course is c 250 mi Abraham Lincoln spent much of his youth on and near the river See Edgar Lee Masters, *The Sangamon* (1942)

Sanger, George (săng'ur), 1827–1911, English showman. He was the proprietor of a famous traveling circus which he developed with his brother, John Sanger, from a small show started in 1871 See his *Seventy Years a Showman* (1910)

Sanger, Margaret (Higgins), 1883–, American leader in the BIRTH CONTROL movement, b Corning, N Y Personal experience and work as a public health nurse convinced her that family limitation, especially where poverty was a factor, was a necessary step in social progress She studied in London with Havelock Ellis and others and, back in America, began her campaign almost singlehanded Indicted in 1915 for sending information through the mails and arrested the next year for conducting a birth control clinic in Brooklyn, Mrs Sanger gradually won support from the public and the courts She organized the first American (1921) and international (1925) birth control conferences and visited many countries in Europe and Asia, lecturing and helping to establish clinics Her books include *Women and the New Race* (1920), *Happiness in Marriage* (1926), and an autobiography (1938)

Sanger (săng'ur) **1** City (pop 4,017), S central Calif, near Fresno in the San Joaquin Valley, inc 1911 Raisins and fruits are packed here **2** Town (pop 1,000), N Texas, NNE of Fort Worth, in a farming area

San Germán (sän hĕrmän'), town (pop 6,446), SW Puerto Rico It is an agricultural market Settled by early Spanish explorers, it possesses one of the oldest churches (built 1511) in America Close to the town is the Polytechnic Institute of Puerto RICO (1912)

Sangerville (săng'gurvĭl), town (pop 1,194), central Maine, on the Piscataquis and SW of Dover-Foxcroft, settled 1801, inc 1814 Hiram Maxim was born here

Sangi Islands (säng'ē) or **Sangihe Islands** (sänggē'u), volcanic group (314 sq mi, pop 134, 904), Indonesia, NE of Celebes Mountainous and forested, the group produces ebony, rattan, copra, and nutmeg The largest island, also called Sangi (217 sq mi, pop 79,537), has an active volcano, Mt Awu, 6,002 ft high

San Gimignano (sän jēmēnyä'nō), town (pop 3,426), Tuscany, central Italy, NW of Siena No other Italian town has preserved its medieval aspect so fully The city walls, the palaces, and the celebrated 13 towers still stand as they did in the 13th and 14th cent The collegiate church, rich in works of art, was damaged in 1944 by a German bombardment In the Church of St Augustine there are frescoes by Benozzo GOZZOLI

Sangre de Cristo Mountains (säng'grā dē krĭstō) [Span, =blood of Christ], part of the Rocky Mts, extending from S central Colorado into N central New Mexico Noted elevations in Colorado are Blanca Peak (14,363 ft), the highest, lying in the portion of the Sangre de Cristos known as the Sierra Blanca, and Kit Carson Peak (14,100 ft) The Truchas peaks are in New Mexico

Sangster, Charles, 1822–93, Canadian poet, b Kingston, Ont The son of a shipwright, he had only a common school education and spent his later life as a civil service clerk At first a mediocre imitator of Byron, he became with the publication of *Hesperus and Other Poems and Lyrics* (1860) the first notable Canadian poet to make use of native subject matter His descriptions of rural life and natural scenery and his religious LYRICS are best

Sanhedrin (sănˈhĭdrĭn, sănˈhē-), Jewish legal and religious institution in Jerusalem which exercised the functions of a court The accounts in the Mishna do not correspond to those in Josephus or in the New Testament, most scholars, following the theory of Adolf Büchler, maintain that there probably were two Sanhedrins—one political and civil, the other, known as the Great Sanhedrin, purely religious The former, of 23 members, was like a legal court, the latter, of 71 members, was presided over by a *nasi* [prince] Both bodies perished with the destruction of the Temple, later Jewish academies are considered continuations of the Great Sanhedrin In 1807 Napoleon appointed a Sanhedrin of 71 members, both rabbis and laymen, to consider questions of relationship between Jews and Christians

San Ildefonso (sän ēldäfōn'sō), village, Segovia prov, central Spain, in Old Castile Here is the royal summer residence, called La Granja, built by Philip V (1721–23) in imitation of Versailles It consists of the palace, the collegiate church, and the celebrated gardens, laid out by French landscaping architects

San Ildefonso (sănˈ ēlˈdufōn'sō), North American Indian pueblo, N central N Mex It is on the east bank of the Rio Grande and 17 mi NW of Santa Fe The 174 inhabitants speak a language of the Tanoan family These Pueblo Indians raise grain, chilies, and vegetables The pueblo has become increasingly famous for its excellent pottery and paintings, and many of its native artists have won individual fame, notably María Martínez, one of the finest of Indian pottery makers, and Awa Tsireo, one of the leading Indian painters On Jan 23, their day of fiesta, ceremonial dances (e g, the buffalo and the eagle dances), are performed The present village was established early in the 18th cent See Ruth Bunzel, *The Pueblo Potter* (1929), Alice Marriott, *Maria, the Potter of San Ildefonso* (1948)

San Ildefonso, Treaty of, name of several treaties signed at the royal residence of San Ildefonso, Spain The Treaty of San Ildefonso of **1796** was an alliance of France with Spain against England in the French Revolutionary Wars The secret Treaty of San Ildefonso of **1800** was actually a draft confirmed by two later treaties (March, 1801; Oct, 1802) Spain retroceded Louisiana to France and was compensated by the creation of the kingdom of Etruria in Tuscany, which was given to the duke of Parma, son-in-law of Charles IV of Spain Although Napoleon Bonaparte undertook never to alienate Louisiana, he disregarded the treaty and sold Louisiana to the United States in 1803

sanitary science, principles of health preservation, embracing HYGIENE, on an individual level, and PUBLIC HEALTH, on a communal level Those who specialize in sanitary science are sanitary engineers They endeavor to eliminate or reduce health hazards associated with the supply of water and milk, the collection and disposal of sewage and refuse, and the prevalence of rodents and insects Conditions of noise, odors, obnoxious gases, and food handling that threaten the well-being of the public are also their concern See E S Hopkins, ed, *Elements of Sanitation* (1929), S C Prescott and M P Horwood, *Principles of Sanitary Science* (1935), E B Phelps and others, *Public Health Engineering* (rev ed, 1948), A J Martin, *Work of the Sanitary Engineer* (rev ed, 1949)

sanitation see PLUMBING and SANITARY SCIENCE

San Jacinto (săn jŭsĭn'tu), city (pop 1,356), S Calif, ESE of Los Angeles, inc 1888 It is in a fruit-growing region Hot mineral springs are near by

San Jacinto, river rising in E central Texas and flowing south to an arm of Galveston Bay Its chief tributary is Buffalo Bayou, and both the bayou and the lower river are used for the Houston ship channel In 1836 Texans under Sam Houston surprised and defeated a larger force of Mexicans in the final and decisive battle of the Texas Revolution on the San Jacinto near the mouth of Buffalo Bayou The battlefield is a state park with a slim, tall (570 ft) monument, and April 21, San Jacinto Day, is a Texas holiday

San Jacinto Mountains, part of the San Bernardino Mts, S Calif, NW of the Salton Sea The highest peak is San Jacinto Peak or Mt San Jacinto (10,805 ft), near Palm Springs

San Joaquin (săn wäkēn'), river, c 325 mi long, rising in E California in the Sierra Nevada and flowing westward a short distance, then turning N through the Central Valley to join the Sacramento near Suisun Bay, an arm of San Francisco Bay. The Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno flow into the San Joaquin along its course The wide southern part of the basin between the Sierra Nevada and the Coast Range is usually called the San Joaquin Valley, though it includes independent rivers such as the Kings and the Kern Between Stockton in the north and Bakersfield in the south are many cities, notably Fresno, Modesto, and Merced The CENTRAL VALLEY PROJECT, undertaken largely to make fertile San Joaquin Valley more fertile, has as one of its units FRIANT DAM in the San Joaquin

San José (sän hōsā'), city (1944 estimated pop 77,182), W central Costa Rica, capital and largest city of Costa Rica Unrivaled by provincial capitals, San José is the economic, political, and social center of Costa Rican life, dominating the central plateau and the near-by towns, ALAJUELA and HEREDIA San José was founded (c 1738) at the beginning of westward expansion from CARTAGO, with independence from Spain (1821) it became the center of the country's liberal element and, shortly afterwards, the capital A modern city, with parks and fine public buildings, including the elaborate National Theater, it has a mixture of Spanish and North American architecture, unusual in Latin American cities, with many houses set back to have lawns and gardens fronting the street Often seen in the surrounding towns, on the small coffee farms of the countryside, and in the city itself are tiny brightly painted oxcarts characteristic of the region San José is a station for international air lines, the hub of the highway system, and the center of the Pacific and Caribbean railways It has a university (founded 1844)

San José, town (pop 1,783), W Guatemala, a port on the Pacific coast, S of Guatemala city The harbor is unprotected, and cargoes are handled by lighters, but San José, a rail terminus of the International Railways of Central America, is the principal Pacific port of the country

San Jose (sănuzā', săn hōsā'), city (pop 68,457), co. seat of Santa Clara co, W Calif, SE of San Francisco Bay, founded 1777, inc. 1850 It was the meeting place of the first state legislature (1849)

and was the capital from 1849 to 1851 It is in a rich fruitgrowing area and is the center of a very large canning and dried-fruit-packing industry San Jose State College (coeducational, 1857) and a junior college (coeducational) are here Willow Glen was annexed in 1936. To the north lies Mission San Jose de Guadalupe (1797), with a small portion of the original structures

San José (săn hōsā'), city (1941 estimated pop. 30,000), capital of San José dept, S Uruguay It was founded in 1783, and is now the commercial center for a large grain-growing region There are flour mills

San Jose scale, scale insect introduced into San Jose, Calif, in plants from China Transported by wind, birds, and large insects, it spread over the fruit-growing areas of North America It causes great damage to a variety of trees by draining the sap and attacking the fruit It covers the bark with tiny gray specks, the waxy scales secreted by the insects The females remain under the scales throughout life The male nymphs become, in spring, yellowish two-winged adults which do not feed The females produce living young which soon lose their legs and attach themselves to the bark Some control is possible by spraying with oil emulsions, especially in winter, and with lime sulphur in spring and fall

San Juan (săn hwän'), city (estimated pop 80,000), capital of San Juan prov, W Argentina, on the San Juan river It is the center of an irrigated region, where viticulture is the chief activity, fruits and grains are also grown, and cattle are raised The province is rich in minerals San Juan was founded in 1562

San Juan (săn" wän', Span săn hwän'), city (1940 pop 167,247, 1949 estimated pop 240,000), capital and chief city of Puerto Rico, on the northeast coast It is an important port, on an island at the entrance to San Juan harbor, and is connected with the mainland by bridges The bay was named Puerto Rico [rich port] by the Spanish explorer Juan Ponce de León, in 1508, and in 1521 the city of Puerto Rico, soon after called San Juan Bautista de Puerto Rico, was founded Strongly fortified, it successfully resisted attacks by the English buccaneers Drake and Hawkins in 1595 but for a short time in 1598 it was occupied by George Clifford, earl of Cumberland, the Dutch took and sacked the place in 1625 It grew in importance as a West Indian port during the 18th and 19th cent and in 1885 was the scene of an uprising against Spanish rule San Juan was taken over by U S troops in Oct, 1898, in the Spanish-American War The city retains much of its early colonial character, with its many crowded, narrow streets, with its small shops and houses with overhanging balconies, and especially with its impressive historic buildings, such as El Morro castle (begun 1539), which commands the harbor entrance, San Cristóbal Castle (begun 1631), and La Fortaleza (begun 1529, now the governor's palace) Other points of interest include the Casa Blanca (1523), the Cathedral of San Juan Bautista, with the tomb of Juan Ponce de Leon, and parts of the Univ of Puerto Rico and its School of Tropical Medicine San Juan is the commercial and financial center of the island and has a considerable export trade in sugar, tobacco, coffee, and fruit, mostly sent to the United States Sugar refining, rum distilling, and the manufacturing of needlework, clothing, buttons, cigars and cigarettes are the chief industries In the vicinity of the city are the residential suburb of Santurce and several fine resort beaches (notably the Condado and Isla Verde), which attract many winter tourists from North America There is an international airport (with seaplane landing) and a U S air base

San Juan (săn" wän'), city (pop 2,264), extreme S Texas, WNW of Brownsville, in the irrigated district of the lower Rio Grande valley

San Juan (săn" wän'), North American Indian pueblo, N N Mex It is on the east bank of the Rio Grande and 26 mi NW of Santa Fe The 788 inhabitants are Pueblo Indians who speak a language of the Tanoan family It was the home of Popé, the medicine man who led the Indians in the Pueblo Revolt of 1680 The principal festival is held on June 24 in honor of St John the Baptist. The village was settled prior to 1598

San Juan (săn hwän'), river, 108 mi long, flowing from the southeast corner of Lake Nicaragua E to the Caribbean The lower course is the boundary between Nicaragua and Costa Rica The deep navigable river is of importance because of the port of SAN JUAN DEL NORTE on one of its mouths and because it would be a vital link in the projected NICARAGUA CANAL In 1916 Costa Rica protested that Nicaragua in granting to the United States an option to build the canal had violated Costa Rican rights

San Juan (săn" wän'), river rising in SW Colorado in the San Juan Mts and flowing SW into New Mexico, NW into Utah, then W to the Colorado near Rainbow Bridge National Monument

San Juan Boundary Dispute (săn" wän'), controversy between the United States and Great Britain over the U.S.–British Columbia boundary It is sometimes called the Northwest Boundary Dispute The difficulty arose from the faulty wording of the treaty that settled the Oregon question in 1846 That instrument set the boundary as a line through the middle of the channel between the mainland and Vancouver Island and through the middle of Juan de Fuca Strait The strait, however, breaks into several channels, and between the two main ones—Haro Strait and Rosario Strait—lie the San Juan Islands Ownership of the islands, especially San Juan itself—was disputed The Hudson's Bay Company in 1853 established a sheep farm there The quarrel, unsettled by diplomatic negotiations, was brought to a crisis in 1859, when G E Pickett and U S troops occupied San Juan Island under orders of W S Harney British war vessels promptly appeared No armed conflict resulted, for Gen Winfield Scott, commander in chief of American armies went to the scene and arranged with the British for joint occupation of San Juan Until 1872 there were soldiers of both powers on the island Attempts to appoint a neutral arbitrator were defeated by the U S Senate until the Washington Treaty of 1871 Emperor William I of Germany as arbitrator in 1872 decided upon Haro Strait as the line, thus giving the archipelago to the United States

San Juan Capistrano (săn" wän" kăpĭstra'nō), unincorporated town (pop 724), S Calif, SE of Los Angeles Junípero Serra founded a mission here in 1776, but the church, completed in 1806, was soon ruined by earthquake It is said that swallows yearly come on St Joseph's day, March 19, and yearly depart on the death day (not the feast day) of St John Capistran, Oct 23

San Juan del Norte (săn hwän' dĕl nôr'tā), town (1946 estimated pop 719), E Nicaragua, a Caribbean port on the northern mouth of the San Juan river Also called Greytown, it was occupied (1848) by the British to secure control of the MOSQUITO COAST and to check the U S efforts to build an interoceanic canal The port became the thriving eastern terminus of a transisthmian transport company operated by Cornelius VANDERBILT in the gold rush to California In 1854 it was bombarded by the U S warship Cyane in retaliation for insults to the U S minister and damage to U S property in Nicaragua San Juan was important in the filibustering activities of William Walker Small quantities of bananas, coconuts, rubber, and hardwoods are exported

San Juan del Sur (dĕl sōōr'), town (1946 estimated pop 1,443), SW Nicaragua, a port on the Pacific Used as Pacific terminus of the transit route across the isthmus during the California gold rush, it is today connected by a short railway to RIVAS and handles some export traffic in coffee and sugar

San Juan Hill (săn" wän', Span săn hwän), E Cuba, near the city of Santiago de Cuba It was the scene (July, 1898) of a battle in the Spanish-American War, in which Theodore Roosevelt and the Rough Riders took part

San Juan Islands (săn' wän"), archipelago of 172 islands constituting San Juan co (pop 3,157), NW Wash, E of Vancouver Island, between Haro and Rosario straits, discovered and named c 1790 by the Spanish The islands were the subject of the SAN JUAN BOUNDARY DISPUTE between Great Britain and the United States, their ownership was decided in 1872 San Juan, Orcas and Lopez are the largest of the group An oceanographic laboratory is at the town of Friday Harbor on San Juan Island

San Juan Mountains, part of the Rocky Mts, SW Colo and NW N Mex, lying W of the San Luis Valley and S of the Gunnison river Its peaks include Uncompahgre Peak (14,306 ft), Mt Sneffels (14,143 ft), and others over 14,000 ft high

Sankara, see VEDANTA

Sankey, Ira David (săng'kē), 1840-1908, American evangelistic singer and hymn composer, b Edinburg, Pa Leading the musical part of the meetings, he toured Great Britain and the United States with the revivalist Dwight L Moody from 1871 to 1899 He worked with P P Bliss on *Gospel Hymns* (1875), the first of a series See his autobiography, *My Life and the Story of the Gospel Hymns* (1907), Elias Nason, *The American Evangelists, Dwight L Moody and Ira D Sankey* (1877)

Sankt Moritz, Switzerland see SAINT MORITZ

Sankt Pölten (zăngkt pûl'tun), city (pop 40,711), Lower Austria, 30 mi W of Vienna It is an industrial center with varied manufactures The 11th-century abbey church here was rebuilt in the 18th cent

Sankt Wolfgang (zăngkt vôlf'gung), resort (pop 2,454) in the SALZKAMMERGUT, Upper Austria, on a lake, the Sankt Wolfgangsee Its Gothic church has an altar carved by Michael PACHER The inn Zum Weissen Rossl is world famous

San Leandro (săn lēăn'drō), city (1940 pop 14,601, 1948 special census pop. 26,701), W Calif, adjoining Oakland, inc 1872. There are metal-goods and automotive industries and canneries Fruits, flowers, and vegetables are raised in the area. Lake Chabot is near by

San Lorenzo (săn lōrān'sō), town (pop 2,723), S Honduras, a port on the Gulf of Fonseca It is the mainland transshipping point between AMAPALA and TEGUCIGALPA

Sanlúcar de Barrameda (sanlōō'kar dā bārāmā'dhā), city (pop 28,446), Cádiz prov, SW Spain, in Andalusia, on the estuary where the Guadalquivir reaches the Atlantic It is a popular bathing resort The port of Bonanza, c 3 mi upstream, has active trade, exporting mainly wine and fish Sanlucar flourished after the discovery of America when all ships passed here to reach Seville Columbus sailed from here in 1498, and Magellan in 1519 A medieval castle, the palace of the dukes of Montpensier, and a 14th-century church are of interest

San Luis (săn lwēs'), city (estimated pop 30,021), capital of San Luis prov, W central Argentina An oasis in an arid region, it is the center of an irrigated area where cattle, grain, and wine are the chief products The province is rich in minerals San Luis was founded c 1596

San Luis Obispo (săn lōō'ĭs ōbĭ'spō), city (pop. 8,881), co. seat of San Luis Obispo co, S Calif, near San Luis Obispo Bay and NW of Los Angeles, inc 1856 It lies in a fertile agricultural region, where oil is also found The Franciscan mission, San Luis Obispo de Tolosa (1772), is now a parish church The city is the seat of California State Polytechnic College and a junior college (coeducational)

San Luis Potosí (săn lwēs' pōtōsē'), state (24,417 sq. mi, 1946 estimated pop 807,849), N central Mexico Most of the state lies on the eastern tablelands of the central plateau Except for the humid and unhealthful tropical valley of the PÁNUCO in the extreme eastern portion near the Gulf of Mexico, the climate is mild and dry Generally level, with a mean elevation of c 6,000 ft, the plateau, largely desert in the north, is broken by spurs of the Sierra Madre Oriental Rainfall is light, and there are few rivers, consequently, although the soil is fertile, agriculture has little commercial value beyond the usual subsistence crops Tobacco, sugar cane, coffee, and tropical fruits and vegetables are grown in the lowlands. On the uplands, stock raising is important, hides, tallow, and wool are exported, and some timber is cut in the forested areas San Luis Potosí has found its wealth in rich deposits of silver, gold, copper, zinc, and bismuth and is one of the leading mining states For this reason it was settled by the Spanish soon after the fall of Tenochtitlán **San Luis Potosí,** the capital (pop 77,161, alt 6,100 ft), was founded in 1576 It was of strategic importance in colonial times and in the wars in Mexico during the republican period Briefly imprisoned here in 1910, the patriot, Francisco I MADERO, later named his revolutionary call to arms the Plan of San Luis Potosí The city is on a small plain almost entirely encircled by low mountains Solid colonial architecture and narrow cobbled streets give it a well-built clean, and picturesque atmosphere A mining and agricultural distributing center, the capital has smelters and also factories making matches, candles, textiles, flour, and beer

San Marcos (săn mar'kus), city (pop 6,006), co seat of Hays co, S central Texas, on the San Marcos river and between Austin and San Antonio, settled 1845, inc 1877 The springs in which the river rises near by, the natural parks on its banks, and the steep, wooded slopes hereabout make the city a resort There are varied processing plants and factories, a military air field, and a U S fish hatchery San Marcos is the seat of Southwest Texas State Teachers College

San Marcos, University of see LIMA, Peru

San Marino (săn murē'nō, Ital săn marē'nō), small and ancient independent republic (23 sq mi, pop c 14,000), in the Apennines near the Adriatic coast, SW of Rimini, Italy Agriculture (corn, grapes, and fruit) and stock raising are the main occupations Frequent issues of postage stamps for collectors are one of the main sources of revenue The republic is governed by two *reggenti* and a general council According to tradition, Marino, a Christian stonecutter from Dalmatia, took refuge on Mt Titano in the 4th cent Soon a little community was formed, because of its position and its poverty it succeeded, with few and brief interruptions, in keeping its independence The capital, **San Marino,** is built on Mt Titano, a precipitous rocky height commanding a fine view over hills, plain, and sea Three towers are built on the rocks and part of the pinnacled walls still stand A bust of Abraham Lincoln, who in 1861 accepted the honorary citizenship of San Marino, was unveiled here in 1937.

San Marino (săn murē'nō), residential city (1940 pop 8,175, 1948 special census pop 10,656), S Calif, near Pasadena, inc 1913 It is the seat of the Henry E Huntington Library and Art Gallery (see HUNTINGTON, HENRY EDWARDS)

San Martín, José de (hōsā' dā săn martēn'), 1778–1850, South American revolutionist, b Yapeyú, in the present Argentina After service with the Spanish army in Europe, he returned to join the revolution in his native country (1812) He superseded Manuel BELGRANO in command of the army against Upper Peru and decided, after some experience, that the attack on the royalist stronghold in

Peru could best be made through Chile After training his troops at Mendoza, San Martín accomplished the difficult feat of leading an army across the Andes through Los Patos and Uspallata passes. Ably seconded by Bernardo O'Higgins, he defeated the Spanish at Chacabuco (1817) San Martín was offered the governorship of Chile, which he refused After a setback at Cancha Rayada, the patriots defeated the royalists at Maipú (1818) and completed the liberation of Chile San Martín, with the aid of Thomas Cochrane (earl of Dundonald), prepared to conquer Peru Lima was taken (1821), and San Martín became protector of Peru When Simón Bolívar advanced with the intention of driving out the Spanish, San Martín interviewed him at Guayaquil (July, 1822) and then resigned, leaving the conquest of Peru to the Liberator. San Martín retired from public life and in 1824 went to Europe, where he spent his remaining years in exile and comparative poverty See Anna Schoellkopf, *Don Jose de San Martín* (1924), Bartolomé Mitre, *Historia de San Martín* (Eng tr by William Pilling, *The Emancipation of South America*, 1893), Ricardo Rojas, *San Martín* (1933, Eng tr , 1945)

San Mateo (săn mətā'ō), residential city (1940 pop 19,403, 1947 special census pop 32,580), W Calif , S of San Francisco on San Francisco Bay, laid out 1863, inc 1894 A junior college is here Flowers and vegetables are raised in the region

Sanmicheli, Michele (mēkā'lā sänmēkā'lē), 1484–1559, Italian architect and engineer He is said to have been the first to introduce corner bastions in his restoration of Italian fortifications. He built many notable churches and palaces, among them Madonna di Campagna near Verona, the Petrucci Chapel at San Domenico, Orvieto, the Grimani Palace, Venice, noted for its façade, and the particularly fine Pompei Palace, Verona The city gates of Venice and Verona are also his work He wrote a book on the orders of architecture See biography by E J Langenskiold (1938)

San Miguel (săn mēgĕl'), city (1946 estimated pop 18,733), SE Salvador Founded in 1530 at the foot of San Miguel volcano (6,996 ft), it grew with commerce in indigo Today the city is the center of the republic's henequen-producing area and also ships some cattle and sugar

Sannazaro, Jacopo (yä'kōpō sän-nätsä'rō), 1458–1530, Italian poet and prose writer, a Neapolitan Devoted to Frederick III of Naples, he followed him to France after his defeat, returning after several years of exile Sannazaro is best known for his pastoral romance in prose and verse, the *Arcadia* (1504), which shows the influence of Boccaccio and exerted considerable influence on the development of Italian prose His Italian verse, modeled upon that of Petrarch, consists of sonnets and other lyrics, he wrote much in Latin, including the long poem *De partu Virginis*, and was called the Christian Vergil A lyric from *Arcadia* is translated in Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

Sannikov Island (sə'nĭkôf), mythical island, N of the New Siberian Islands, RSFSR Reported in 1810 by the Russian explorer Sannikov, its existence was disproved during the expedition (1937–40) of the Russian icebreaker *Sedov*

San Pablo Bay: see San Francisco Bay

San Pedro (săn pĕ'drō), city, S Calif , consolidated 1909 with Los Angeles Laid out in 1882 on San Pedro Bay, it became an important port and today handles much of the maritime commerce of Los Angeles It has shipyards, dry docks, fish canneries, and oil refineries The population was estimated in 1940 at c 40,000 In 1898 began the development of San Pedro Bay into a serviceable harbor The bay was discovered in 1542 by Juan Rodríguez Cabrillo San Pedro Channel separates the city and Long Beach from Santa Catalina Island

San Pedro Sula (săn pā'dhrō sōō'lä), city (pop 22,116), NW Honduras, second largest city of the country San Pedro Sula, with Puerto Cortés, is the chief port of Honduras and center of the northwestern banana and sugar plantations It is connected by railroad with other ports of the north coast region and by road with Tegucigalpa

San Pier d'Arena (săn pyĕr' därä'nä), city (pop 58,216), Liguria, NW Italy In this industrial suburb of Genoa locomotives, railroad equipment, machinery, tools, and chemicals are manufactured.

San Quentin (săn kwĕn'tĭn), point extending into San Francisco Bay, W Calif , N of San Francisco The state prison here was begun in 1852

Sanquhar (săng'kur), burgh (pop, 1,753), Dumfriesshire, Scotland, on the Nith and NW of Dumfries. The ruined castle on a hill above the river was the birthplace of the Admirable Crichton (James Crichton) A monument marks the site of the cross to which the "Sanquhar Declarations" were affixed by the Covenanters in 1680 and 1685.

San Rafael (săn rəfĕl'), residential city (pop, 8,573), co. seat of Marin co , W Calif , N of San Francisco, inc 1874 It is the seat of the restored Mission San Rafael Arcángel (est. 1817), Dominican College, San Rafael Military Academy, and Tamalpais School for boys

San Remo (săn rä'mō), city (pop, 23,963), Liguria, NW Italy. A fashionable resort on the Italian Riviera, it has a medieval and a modern section. The gambling tables in the casino are the most visited in Italy.

San Remo, Conference of. Representatives of Great Britain, France, Italy, Japan, Greece, and Belgium met at San Remo, Italy, in April, 1920, to discuss problems arising from the First World War Members of the supreme council of the Allies (Lloyd George, Millerand, and Nitti) took a leading part in the proceedings Methods of executing the Treaty of Versailles were discussed, the basic features of a peace treaty with Turkey (see Sèvres, Treaty of) were adopted, and Class A mandates were allotted

San Saba (săn sa'bə, sä'bu), town (pop 2,927), co seat of San Saba co , central Texas, on the San Saba river and NW of Austin It ships pecans and melons and other crops as well as products of surrounding ranches—sheep, wool, cattle, mohair, and turkeys

San Salvador (san sälvädhōr'), city (1946 estimated pop 115,598), W central Salvador, capital and largest city of Salvador The city is high enough to escape the excessive heat of the tropics but has a year-round summer climate Built on the volcanic belt which parallels the Pacific coast (near by is San Salvador volcano, 6,398 ft high), the city has suffered from recurrent and severe earthquakes and has been frequently rebuilt The most disastrous quake caused the founding of Santa Tecla To resist shock, public buildings in the capital are constructed of concrete and pressed iron. San Salvador has several fine parks, broad avenues, and modern houses, particularly in outlying sections It is the center of the republic's trade and communications, with international air lines, the International Railways of Central America, and paved roads (notably the Inter-American Highway) The city was founded early in the 16th cent and for a time (1831–38) was the capital of the Central American Federation under Francisco Morazán

San Salvador (săn säl'vudôr, Span san sälvädhōr'), name given by Columbus to one of the Bahama Islands, first land discovered in the New World on Oct 12, 1492 It was called Guanahani by the Indians and was long thought to have been what is now Cat Island, but is identified by most historians with, and is also called, Watling or Watlings Island

Sansannah (sănsă'nu), unidentified town, S Palestine Joshua 15 31

sans-culottes (sä-kulôt') [French,=without knee breeches], term applied to the lowest class in France during the French Revolution The name came from the fact that such people wore long trousers instead of knee breeches (*culottes*) Throughout the early part of the Revolution, the sans-culottes were held in check by the upper bourgeoisie, but after the fall of the Girondists (June, 1793) France was handed over to the Jacobins, who identified themselves with the sans-culottes

sans-culottides (sä-kulôtĕd'), the last five days of the year in the French Revolutionary calendar, thus named in honor of the sans-culottes

San Sebastián (săn sābastyän'), city (pop 89,276), capital of Guipúzcoa prov , N Spain, in the Basque Provs near the French frontier A seaport picturesquely situated at the foot of Mt Urgull on the Concha Bay of the Bay of Biscay, it was a summer residence of the Spanish court and still is one of the most fashionable seaside resorts in Spain Now a fine modern city, it was rebuilt in the 19th cent after its virtual destruction in the Peninsular War, when it was the scene of a bloody battle between Wellington and the French (1813) The San Sebastián pact, or republican manifesto, which precipitated the fall of the Spanish monarchy, was signed here in 1930 It was not damaged in the civil war (1936–39)

Sans-Gêne, Madame: see Lefebvre, Pierre François Joseph

Sanskrit (săn'skrĭt) [Sanskrit,=perfect], classical standard language of India, of the Indic group of the Indo-Iranian subfamily of Indo-European languages (see language, table) Its earliest form, Vedic, is that of the Veda In its usual form, spoken c 400 B C as a standard court language, Sanskrit became the literary vehicle of Hindu culture Sanskrit remains are among the oldest Indo-European documents, and the language was formerly supposed to be a "parent language." The comparison of Sanskrit with the languages of Europe, especially by Sir William Jones, opened the way to the scientific study of language

Sanskrit literature, main body of the classical literature of India The literature is divided into two main periods—the Vedic (c 1500–c 200 B C), when the Vedic form of Sanskrit generally prevailed, and the Sanskrit (c 200 B C –A.D c 1100), when classical Sanskrit (a development of Vedic) was the language in use Sanskrit had, however, become the standard language of the court by 400 B C , and its early literature overlapped the Vedic. The first part of the Vedic period (c.1500–c 800 B.C), that of the Veda, was a poetic and creative age, but afterwards (c 800–c 500 B.C.) the priestly class transferred its energies to sacrificial ceremonial. They produced the *Brahmanas*, these are prose commentaries, in a later form of Vedic, explaining the relations of the Vedas (which had become sacred texts) to the ceremonials of the Vedic religion in all its symbolic meanings In time the *Brahmanas*, like the Vedas, came to be considered sruti [Sanskrit,=hearing, i.e , revealed]. All later works, in contrast, are called smriti [Sanskrit,=memory or tradition] and are considered to be derived from the ancient sages. The later portions of the *Brahmanas* are theosophical treatises, since they were meant to be studied in the solitude of the forest, they are called *Aranyakas* [forest books] The final parts of the *Aranyakas* are the philosophical *Upanishads* [secret doctrine] (see Vedanta). In language structure the *Aranyakas* and the *Upanishads* approach classical Sanskrit The *Sutras* [Sanskrit,=thread or clue] were written in the third and final stage (c 500–c 200 B C) of the Vedic period They are compendious treatises dealing with Vedic ritual and customary law They were written to fulfill the need for a short survey in mnemonic, aphoristic form of the past literature, which by this time had assumed massive proportions There are two forms of *Sutras;* the *Srauta Sutras*, based on sruti, which developed the ritualistic side, and the *Grihya Sutras*, based on smriti Those *Grihya Sutras* dealing with social and legal usage are the *Dharma Sutras*, the oldest source of Indian law (see Manu) The body of works composed in the *Sutra* style was divided into six *Vedangas* [members of the Veda]—*Siksha* [phonetics], *Chhandas* [meter], *Vyakarana* [grammar], *Nirukta* [etymology], *Kalpa* [religious practice], and *Jyotisha* [astronomy] Linguistic standards were stereotyped in the middle of the *Sutra* period by the grammar of Panini (c 350 B C), regarded as being the starting point of the Sanskrit period The literature of the Sanskrit period is essentially profane Nearly all, except grammar and philosophy, is in verse The first period (c 500 B C –c 50 B C) of the Sanskrit age is one of epics They are divided into two main groupings, the natural epics, i e , those derived from old stories, and those which are derived from artificial epics called *Kavya* The oldest and chief representative of the natural school is the Mahabharata, while the oldest and best known of the artificial epics is the Ramayana The *Puranas*, a group of 18 epics, didactic and sectarian in tone, are a direct offshoot of the *Mahabharata* They are also connected with the old law books and the Vedas In the court epics (c 200 B C –A D c 1100), most of which were derived from the *Ramayana*, the matter gradually became subordinated to the form, and elaborate laws were set up to regulate style The lyric poems are artificial in technique and are mainly stanzaic The most common form, the *Sloka*, developed from the Vedic *Anushtubh*, a stanza of four octosyllabic lines Part of the lyric poetry is comprised of gemlike miniatures, portraying emotion and describing nature, most of it is erotic There are, however, many lyrics ethical in tone These reflect the doctrine of the transmigration of souls in a prevailing melancholy tone and stress on the vanity of human life Sanskrit drama (A D. c 400–1100) had its beginnings in those hymns of the *Rig-Veda* which contain dialogues The origin of staged drama is obscure, but probably derives from the dance and religious ceremonial Sanskrit drama is characterized by the complete absence of tragedy, death never occurs on the stage Other typical features are the alternation of lyrical stanzas with prose dialogue and the use of Sanskrit for some characters and Prakrit for others (see Prakrit literature) The stories were borrowed from legend, and love is the usual theme The play almost always opened with a prayer and was followed by a dialogue between the stage manager and one of the actors, referring to the author and the play Like Western drama, it contained acts (ranging from one act to 10) and scenes The unities were not observed, and when Sanskrit drama reached its full development, it was very similar, in its emphasis on character, to Shakespearian drama There were no theaters, so the plays were performed in the concert rooms of palaces The most famous drama was the *Sakuntala* of Kalidasa There is a didactic quality in all of Sanskrit literature, but it is most pronounced in fairy tales and fables (A D c 400–1100). These are usually mixed together in a single story, but characteristically different stories are inserted within the framework of a single narration. The characters of the tale themselves tell stories until there are many levels to the narrative The Panchatantra is the most important work in this style The sententious element reached its height in the *Hitopadesa*, which was derived from the *Panchatantra*. The Sanskrit literature being composed at present consists mainly of academic exercises, while the main body of Indian literature is written in various vernacular languages Translations of many of the important texts of Sanskrit literature are in *The Sacred Books of the East*, the famous collection edited by Max Müller See A. A. Macdonell, *History of Sanskrit Literature* (1900); *Somadeva. the Ocean of Story* (Eng. tr , 10 vols., 1924–28); A. B. Keith, *History of Sanskrit Literature* (1928); H. H. Gowen, *A History of In-*

dian Literature (1931); Moriz Winternitz, *History of Indian Literature* (2 vols., 1927–33), N K Sidhanta, *Heroic Age of India* (1931), R K Yajnik, *The Indian Theatre* (1933)

Sanson (sänsôN'), French family of public executioners who held that office from the 17th to the 19th cent

Charles[Henri Sanson (sharl' ärē'), 1740–93, guillotined Louis XVI His son **Henri Sanson**, 1767–1840, was chief executioner in the Reign of Terror, he guillotined Marie Antoinette

Sansovino, Andrea (ändrā'ä sänsôvē'nô), 1460–1529, Florentine sculptor and architect of the high Renaissance period, b Monte Sansavino His real name was Andrea Contucci His tombs of cardinals in Rome and his statues and reliefs for church decoration were greatly admired

Sansovino, Jacopo (yä'kôpô), 1486–1570, Italian sculptor and architect of the Renaissance His surname was taken in place of his own, Tatti, as homage to the Florentine sculptor, Andrea Sansovino, under whom he was apprenticed After early years devoted to sculpture, he was architect of several buildings in Rome and in 1527 moved to Venice, importing to that city the classic manner of Roman architecture In Venice, besides his masterpiece, the Library of St Mark's (designed 1536) in the Piazza San Marco, he built the Palazzo Corner della Ca' Grande, the mint, the loggia at the base of the great campanile, and some churches The handsomely designed adornments which distinguish his buildings show his talents as sculptor

Sans Souci (säN sôôsē') [Fr ,=without cares, content], palace built (1745–47) at Potsdam, Germany, by Frederick the Great, who lived here for 40 years It is one story high, over 300 ft long, and is believed to have been conceived by Frederick himself and executed by Knobelsdorff Frederick's apartments are shown as they were when he occupied them, there are also rooms which were Voltaire's during his long visit The library and the magnificent park, the audience chamber with its fine paintings, the orangery, the statue of Frederick, and the great fountain are all well known

San Stefano, Treaty of (sän stĕ'fänō), 1878, peace treaty between Russia and the Ottoman Empire (see Russo-Turkish Wars), signed at San Stefano (now Yesilkoy), a village W of Istanbul, Turkey Turkey ceded to Russia parts of Armenia and the Dobruja, agreed to pay a very large indemnity, and, recognizing the independence of Rumania, Serbia and Montenegro, increased their territories Bulgaria was made an autonomous principality and immensely enlarged, and Turkey promised reforms for Bosnia and Hercegovina Because the treaty modified the Treaty of Paris of 1856 (see Paris, Congress of) and greatly increased Russian influence in SE Europe, the other great powers obtained its revision at an international conference (see Berlin, Congress of)

Santa Ana (sän'ta ä'nä), city (1946 estimated pop 49,008), W Salvador Second largest city of the republic, it is the center of a rich coffee, sugar, and cattle region Santa Ana is in a warm valley and has rail and highway connections with San Salvador and with Guatemala Near by rises Santa Ana volcano (7,828 ft)

Santa Ana (sän'tu ä'nu), city (pop 31,921), co seat of Orange co, S Calif, SE of Los Angeles, founded 1869, inc 1886 In the fertile Santa Ana valley, it produces beet sugar, canned fruits and vegetables, and walnuts A junior college (coeducational) is here

Santa Ana (sän'tŭ ä'nu), North American Indian pueblo, central N Mex It is on Jemez Creek and 24 mi N of Albuquerque The 294 inhabitants are Pueblo Indians of the Keresan linguistic stock Their ancient church, Santa Ana de Alamillo, dates from 1692

Santa Anna, Antonio López de (sän'tu ä'nu, Span änto'nyō lō'päs dā san'tä a'na), 1794–1876, Mexican general and politician He fought in the royalist army, but joined Iturbide in the struggle that won independence for Mexico (1821) With the coming of independence he entered upon a long and tortuous political career His actions were governed by opportunism rather than by any fixed principle, and he shifted his allegiance from party to party, his fortunes rising and falling with bewildering rapidity He led the revolution against Iturbide (1823), aided, then revolted against, Vicente Guerrero, and turned against Anastasio Bustamante after helping him to power His victory over the Spanish when Guerrero was in power gained for him a popularity which he turned into political capital, he was ever afterward "the hero of Tampico" Elected president for a term beginning in 1833, he struggled with the vice president for power and established himself as a reactionary dictator in 1834 He went to Texas to crush the revolution there and became a sort of ogre in American eyes because of the slaughter at the Alamo and the brutality of the massacre at Goliad, which was committed under his orders. His defeat and capture by Sam Houston at San Jacinto (1836) put a temporary halt to his political career in Mexico, but his shrewd political sense, aided by the not unhappy accident of losing a leg in an attempt to repulse the French at Veracruz (1838), restored his prestige Driven from power after a wasteful, corrupt presidential administration (1841–44), he returned from exile—with U S aid apparently—and again was president (1846–47) He commanded in the Mexican War, but his defeats at Buena Vista, Cerro Gordo, and Puebla and the loss of Mexico city sent him again into exile He returned and ruled (after Dec , 1853) as "perpetual dictator" until the revolution of Ayutla again drove him into exile (1855) and brought Benito Juárez to the fore After several attempts, he was allowed to return to Mexico (1874) See his memoirs, *Mi historia militar y política* (1905), biographies by F C Hanighen (1934) and W H Callcott (1936)

Santa Anna, town (pop 1,661), W central Texas, at the foot of Santa Anna Mt W of Brownwood A farm market center, it also makes glass of local sand.

Santa Barbara (săn"tŭ bär'brŭ, -bûrŭ), city (pop 34,958), co seat of Santa Barbara co , S Calif , inc 1850 The presidio was founded in 1782 and the mission in 1786 (present building completed in 1820), today the residential and resort city by the sea retains a little of the air of an old Spanish town. The modern buildings harmonize with the old adobe houses Greenery and flowers abound Santa Barbara has a branch of the Univ of California, a junior college, an art museum, and a museum of natural history An annual fiesta commemorates the city's past

Santa Barbara Islands, off S California, separated from the coast by the Santa Barbara Channel They extend c 160 mi One of the most important of the islands is Santa Catalina Santa Barbara Island and Anacapa Island are included in the Channel Islands National Monument (see National Parks and Monuments, table)

Santa Catalina (săn"tu kă"tulē'nu) or **Catalina Island,** 22 mi long, S Calif , one of the Santa Barbara Islands It is off Long Beach Discovered in 1542 by Juan Rodrigues Cabrillo, it was given its present name by Vizcaíno in 1602 In 1919 William Wrigley bought and developed it as a pleasure resort On it is the city Avalon

Santa Catarina (săn'tu kätürē'nu), state (36,435 sq mi , 1940 pop 1,178,340, 1949 estimated pop 1,422,476), SE Brazil The capital is Florianópolis on Santa Catarina island (30 mi long and from 5 to 10 mi wide) just off the coast Mainland Santa Catarina is between the Atlantic on the east and Argentina on the west On a narrow coastal strip, cereals, vegetables, tobacco, fruit, manioc, and wine are produced The state rises westward to a rolling tableland, where cattle and hogs are raised Coal is mined in the southeast and exported, other industries include textile milling and lumbering The area was first colonized by the Portuguese in the 17th cent , and in the 19th cent there was an influx of German settlers, whose culture is still in evidence

Santa Clara (sän'ta klä'ra), city (pop 27,925), central Cuba On the main rail and highway systems, Santa Clara is an important commercial center for sugar and tobacco Its location is particularly attractive because of the surrounding hills of weathered and worn limestone rock

Santa Clara (săn"tu klă'ru), city (1940 pop 6,650, 1948 special census pop 9,839), W Calif , SE of San Francisco Bay and near San Jose, inc 1866 The Santa Clara de Asís Mission was founded in 1777 The city has large fruit-processing plants The Univ of Santa Clara (Catholic, for men, 1851) is here

Santa Clara (san"tu klä'ru), North American Indian pueblo, N N Mex It is on the west bank of the Rio Grande and 21 mi NW of Santa Fe The 579 inhabitants are Pueblo Indians of the Tanoan linguistic stock They make distinctive black pottery which is exceptionally beautiful The feast day of St Clare of Assisi is celebrated on Aug 12, Mass is accompanied by ceremonial dances Near the village are Puyé ruins, remains of a 15th-century pueblo that included cliff dwellings, kivas, and four terraced community houses Pictographs and pottery remains have been found

Santa Claus see Nicholas, Saint

Santa Cruz, Álvaro de Bazán, marqués de (alva'rō dā bäthän' markäs' dā san'ta krōōth'), 1526–88, Spanish admiral He fought in various actions against the Turks and distinguished himself at Lepanto (1571) In the war of Philip II for the crown of Portugal, he decisively defeated (1582), off the Azores, the French under Filippo Strozzi, who were supporting the Portuguese pretender The leading promoter of an invasion of England, he was to have commanded the Invincible Armada, but died before the expedition

Santa Cruz, Andrés (ändrās' sän'ta krōōs'), 1792?–1865, president of Bolivia (1829–39), b La Paz In 1820 he joined the revolutionists against Spain and, as Bolívar's chief of staff, participated in the decisive liberating battles of Junín and Ayacucho To achieve his one great aim of a Peru-Bolivia confederation Santa Cruz, elected president shortly after the resignation of Antonio José de Sucre, energetically set about establishing Bolivia on a sound footing At the same time he carried on intrigues to foster trouble in Peru and Chile so that his confederation might be realized When the opportunity came with internal disorder in Peru in 1835, Santa Cruz invaded and established himself as protector However, at the battle of Yungay (1839) he was defeated by a coalition of his enemies under Manuel Bulnes of Chile and barely escaped to spend the remainder of his life in Europe in exile

Santa Cruz (sän'tu krōōz', Span san'ta krōōs'), city (1948 estimated pop 38,200), capital of Santa Cruz dept , central Bolivia Formerly called Santa Cruz de la Sierra (dā lä syĕ'rä), it was founded in 1557 and was reestablished at its present site in 1595 by settlers from Asunción, Paraguay It is an agricultural mart for sugar, coffee, rice, and cattle and is potentially of strategic and commercial importance because of its central location for local and international trade Roads link Santa Cruz to Sucre in the highlands and to the oil fields to the south, whenever a railroad is completed, the city will have direct access to the Pacific through Peru and to the Atlantic through Brazil

Santa Cruz (sän'tu krōōz'), city (1940 pop 16,896, 1948 special census pop 21,874), co seat of Santa Cruz co , W Calif , on the north shore of Monterey Bay, inc 1866 A mission was established here in 1791 but was in decay before the modern town grew up Santa Cruz lies in an area of fine beaches along the bay, with the Santa Cruz Mts near by, and has a variety of manufactures

Santa Cruz de Tenerife (dā tānārē'fā), city (pop c 92,000), capital of Tenerife prov , Spain, a port on Tenerife island in the Canary Islands It is a fueling station for ships Horatio Nelson tried unsuccessfully to take it in 1797

Santa Cruz Islands (sän'tu krōōz'), small volcanic group (pop c 5,000), S Pacific, in the Solomon Islands It is E of Guadalcanal Ndeni is the largest island of the group In the Second World War the U S victory (1942) at Santa Cruz prevented the Japanese relief of Guadalcanal

Santa Fe (sän'tä fā'), city (1944 estimated pop 153,713), capital of Santa Fe prov , E central Argentina It is a river port near the Paraná, with which it is connected by canal On the eastern margin of the Pampa, it is important as a transshipping point for products (grain, meat, quebracho) from much of NW Argentina Some manufacturing has developed Founded by Juan de Garay (1573), Santa Fe has played a leading role in Argentine history Here was promulgated the constitution of 1853 The city has several notable churches and is the seat of a university

Santa Fe (sän'tu fā", sän'tu fā'), city (pop 20,325, alt c 7,000 ft), state capital and co seat of Santa Fe co , N N Mex , between the Pecos river and the Rio Grande It is a tourist and resort center, with an artists' and writers' colony, and a shipping point for Indian wares, minerals, and farm products Founded c 1609 by the Spanish on the site of an ancient Indian ruin, it was the center of Spanish-Indian trade for over 200 years and has been a seat of government since its founding, it is the oldest capital city in the United States In a Pueblo revolt of 1680, the Spanish colonists were driven out, they returned in 1692 under Diego de Vargas Shortly after Mexican independence from Spain (1821), extensive commerce with the United States developed by way of the Santa Fe Trail In 1846 Gen S W Kearny and his troops entered the city, without resistance, the region became a province of the United States The railroad reached Lamy (the station for Santa Fe, 16 mi distant) in 1879 The see of an archbishopric since 1875, the city is a center of Roman Catholicism in North America Among the churches are San Miguel Mission Church (c 1636) and the Cathedral of St Francis, built (1869) by Archbishop Lamy on the site of a monastery erected in 1622 by Alonzo de Benavides Other places of interest include the Palace of the Governors (over 300 years old and occupied by Spanish, Indian, Mexican, and American governors), which houses the state museum, the historical society, and a school for archaeological research, the state-owned art gallery, and the Laboratory of Anthropology At Santa Fe are the state school for the deaf, two Indian schools, the state penitentiary, and the regional headquarters for the National Park Service Many Indian pueblos are in the region Bandelier National Monument is near by

Santa Fe Railroad. In 1859 the Atchison and Topeka Railroad was chartered in Kansas, and with government subsidy it was built at a feverish pitch It was recharted (1863) as the Atchison, Topeka, and Santa Fe Railroad, which was opened to traffic in 1864 The Santa Fe, largely because of a boom in the cattle business, was able to recover early from the Panic of 1873 It met increasing competition from the Denver and Rio Grande RR, but in 1880 the city of Santa Fe was reached, and one year later it connected with the Southern Pacific RR Acquisition of several small railroads and further construction followed, and by the early 1890s the Santa Fe, with its 9,000 mi of trackage and with connections of Chicago and Los Angeles, became one of the longest railroad systems in the world The depression of 1893, however, threw the railroad company into bankruptcy, and in 1895 it was reorganized as the Atchison, Topeka & Santa

Fe Railway Company In the 20th cent the railway increased its holdings, and today the Santa Fe operates over 13,000 mi of trackage reaching Lake Michigan, the Gulf of Mexico, the Rio Grande, and the Pacific See J L Marshall, *Santa Fe the Railroad That Built an Empire* (1945)

Santa Fe Trail, important caravan route of the W United States, leading from W Missouri to Santa Fe, N Mex Isolated trapping parties had penetrated to Santa Fe while it was still under Spanish rule but they were not welcomed, and trade was forbidden In Nov , 1821, William Becknell returned with the news that Mexico was free and that Santa Fe now welcomed the trade, and soon afterward he left with a small party of traders from the town of Franklin, on the Missouri Franklin flourished for a time as the chief outfitting point for the trail, but as steamboats went farther up the Missouri, Westport (now part of Kansas City) and Independence were settled and became the chief outfitting points By the middle of the century Old Franklin had disappeared Each year from 1822 until the trade was broken up by the Civil War, an increasing amount of merchandise was taken to Santa Fe, its value was estimated at as much as $5,000,000 for 1855 Five years later, 3,033 wagons, 9,084 men, 6,147 mules, and 27,920 oxen were employed In 1850 a monthly stage line was established between Independence and Santa Fe over this route The Atchison, Topeka, and Santa Fe RR reached Santa Fe in 1880 and marked the death of the old trail, which the line in part parallels See also OREGON TRAIL. For the history of the trail, Josiah Gregg's *Commerce of the Prairies* (1844) and Susan S Magoffin's *Down the Santa Fe Trail and into Mexico Diary, 1846–1847* (1926) are source materials See R L Duffus, *The Santa Fe Trail* (1930), editors of *Look* (magazine), *The Santa Fe Trail* (1946)

Santa Isabel (sän'ta ēsabäl'), town (9,280), capital of Fernando Po, a port on the Gulf of Guinea Cacao is the chief export

Santa María, Domingo (dōmēng'gō sän'ta märē'a), 1825–89, president of Chile (1881–86) A liberal statesman, scholar, and author of several historical works, he took part in revolutions against the conservative regime of Manuel Montt and was twice exiled (1852–53, 1859–60) In his administration the separation of Church and state was fostered, the War of the Pacific brought to a triumphant end, and the last serious uprising of Araucanian Indians suppressed

Santa María (sän'tu märē'u), city (pop 39,074), central Rio Grande do Sul state, S Brazil, c 150 mi W of Pôrto Alegre It is an important rail junction, with an active trade in livestock and agricultural produce The former name was Santa Maria da Bocca do Monte

Santa María (sän'tu murē'u), city (pop 8,522), S Calif , on the Santa Maria and near San Luis Obispo Bay, NW of Santa Barbara, inc 1905 It has oil refineries, processes beet sugar, and is the shipping center for an area producing seeds, bulbs, and vegetables A junior college (coeducational) is here

Santa Marta (sän'tä mär'tä), city (pop 25,113), N Colombia, a port on the Caribbean Founded by Rodrigo de BASTIDAS in 1525, on a deep harbor surrounded by hills, it was important in colonial times as a seaport for the Magdalena river valley It was looted (1543, 1555, 1596) by corsairs, the last time by Sir Francis Drake Royalist in the revolution against Spain except when briefly held (1813) by the republic of CARTAGENA, it was finally liberated in 1821 On a near-by estate SIMÓN BOLÍVAR died Today Santa Marta's banana industry, operated by the United Fruit Company, is the most important on the continent Rising behind the city is the Sierra Nevada de Santa Marta, a range having the highest point in Colombia—the Pico de Cristóbal Colon, 18,947 ft high

Santa Maura see LEUCAS

Santa Monica (sän'ta mō'niku), city (pop 53,500), S Calif., W of Los Angeles and on Santa Monica Bay, in sight of the Santa Monica Mts , laid out 1875, inc as a town 1886, as a city 1902 A resort and residential city, it also has a large aircraft industry A junior college (coeducational) is here

Santana, Pedro (pä'dhrō sänt'na), 1801–64, president of the Dominican Republic (1844–48, 1853–56, 1858–61) Joining the revolution that in 1844 freed his nation from Haiti, Santana was chosen its first president. He and his bitter rival, Buenaventura BÁEZ, alternated in power He repulsed later Haitian attacks, but the republic did not fare well under his repressive rule Convinced that security was possible only with foreign protection, Santana in 1861 made his country a Spanish province and became governor. Intense opposition forced him to resign.

Santander, Francisco de Paula (fränsē'skō dā pou'lä säntändēr'), 1792–1840, Colombian revolutionist, b Cúcuta Given command of the guerrillas of the llanos by Simón BOLÍVAR, Santander materially contributed to the victory at BOYACÁ In Oct., 1821, he became vice president of Colombia and ably administered the country during Bolívar's long absences. A believer in constitutional government, Santander led the federalist opposition to Bolívar, who, on Sept. 24, 1828, suspended him from office. That night Bolívar barely escaped assassination. Convicted without proof of complicity in the plot, Santander was sentenced to death, but was instead banished After Bolívar's death and the dissolution of the large republic of Colombia, he returned and served (1832–36) as president of New Granada His administration was competent, but there were plots against his life and he maintained control only by force

Santander (säntändär', säntän'dur, Span santandēr'), city (pop 84,971), capital of Santander prov , N Spain, in Old Castile, on the Bay of Biscay It is a seaport and a popular bathing resort On the near-by peninsula of **Magdaleua** is a former royal summer palace A port since Roman times, Santander became, after the discovery of America, one of the busiest ports of N Spain The exploitation of near-by mines has recently favored the development of industries (ironworks and shipyards) Santander was the last port of the north coast to fall (Aug , 1937) to the Insurgents in the Spanish civil war The 13th-century cathedral and the business district were destroyed by fire in 1941

Santa Paula (sän'tu pô'lu), city (pop 8,986), S Calif , on the Santa Clara and NW of Los Angeles, laid out 1875, inc 1902 It refines oil and processes the fruits and vegetables of the region

Santaquin (säntukēn'), city (pop 1,297), N central Utah, S of Provo, settled 1851 by Mormons, inc 1931 The area has lands watered by the STRAWBERRY VALLEY PROJECT and grazing lands.

Santarém (sänturän'), city (pop 7,527), W Pará state, N Brazil, at the confluence of the Tapajós and Amazon rivers It trades in guarana, rubber, cacao, cotton, and jute It was founded (1661) by Jesuit missionaries

Santarém (sänturän'), city (pop 11,785), capital of Santarém district, W Portugal, in old Estremadura, on the Tagus It has much trade in olive oil, grain, and other agricultural produce It was retaken from the Moors by the first king of Portugal, Alfonso I, in 1147, just before the capture of Lisbon At a strategic point on the Tagus, it has been of importance through the history of Portugal The old royal palace is now in ruins

Santa Rita (sän'tu rē'tù), unincorporated village (pop 2,588, alt 6,311 ft), SW N Mex , near Silver City It is a copper-producing center The Santa Rita mine was discovered in 1800

Santarosa, Santorre Annibale De Rossi di Pomarolo, conte di (säntōr'rā an-nē'balā dā rōs'sē dē pōmarō'lō kōn'tā dē sän"tarō'za), 1783–1825, Italian patriot Believing in the support of CHARLES ALBERT, the heir to the throne of Sardinia, he organized the unsuccessful revolution in Piedmont in 1821 He fled first to France, then to England, and died while fighting for Greek independence

Santa Rosa (sän'tu rō'zu) **1** City (1940 pop 12,605, 1948 special census pop 17,818), co seat of Sonoma co , W Calif , N of San Francisco, inc 1868 A trade and industrial center for the fertile Sonoma Valley, the city produces canned and dried fruits and wines, as well as shoes and other manufactures Luther Burbank had his home and gardens here. Santa Rosa has a junior college A petrified forest is near by, and to the northwest lie Fort Ross State Historic Monument and Armstrong Redwoods State Park **2** Village (pop 2,310), co seat of Guadalupe co , E central N Mex on the Pecos and ESE of Albuquerque, settled c 1865 It is a trade and shipping point for a livestock and farming area

Santa Sophia, see HAGIA SOPHIA

Santa Tecla (san'ta tā'kla), city (1946 estimated pop 24,691), W central Salvador Also called Nueva San Salvador (nwē'va san salvadhōr'), it was founded after the destruction of SAN SALVADOR by earthquake in 1854 The capital was rebuilt, and Santa Tecla has since become a wealthy suburb among some of the finest coffee farms in the country

Santayana, George (säntayä'na), 1863–, American philosopher and poet, b Madrid, Spain He came to the United States in 1872 A graduate (1886) of Harvard, he taught in the department of philosophy from 1889 until 1912, excluding a year of study at Cambridge Univ and a lecture course he gave at the Sorbonne, Paris After resigning from Harvard he returned to Europe, eventually settling in Italy Living in retirement in a convent, Santayana detached himself from the social turmoil of the 20th cent He sees the rise of Fascism and Communism as another small event in the history of mankind, rejects organized religion while retaining a sense of religion, and secludes himself from relationship with either people or events Santayana's first published philosophical work was *The Sense of Beauty* (1896), an important contribution in the field of aesthetics *The Life of Reason* (1905–6), a major work, was comprised of five volumes which investigated the role of reason in the history of human interests and activities Viewing the operation of reason as essential in the understanding of life, Santayana saw it as the union of impulse and ideation. With the publication of *Scepticism and Animal Faith* (1923), he deviated from his previous theories. New theories were developed in *The Realms of Being*, a four-volume work (*The Realm of Essence*, 1927, *The Realm of Matter*, 1930, *The Realm of Truth*, 1937, and *The Realm of Spirit*, 1940, one-volume ed , 1942) Here he stressed the role of faith as dominant in the life of man This was a modification of his previous emphasis on reason, although he retained the method of scientific analysis as the best resource available to man in the study of human affairs Faith in the unknowable is symbolized by the doctrine of essences Santayana calls himself a "decided materialist" and regards everything that exists as matter All events are to be viewed as both material and mechanistic This is difficult to reconcile with his doctrine of essence—essence is capricious, impossible to will or control Thus leaves the relationship between existence and essence undefined, and since this doctrine is fundamental to much of Santayana's thought, it is difficult to accept his own appraisal of himself as a materialist Santayana has also made valuable contributions to poetry, and his sonnets (1923) are widely read His only novel, *The Last Puritan* (1935), had great popular success All of his writings exhibit a rare gift of poetic expression, excellence of style, and emotional depth See his memoirs, *Persons and Places* (Vols I-II, 1944–45), P A Schlipp, *The Philosophy of George Santayana* (1940)

Santee (säntē'), river formed in central South Carolina by the confluence of the Congaree and Wateree rivers SE of Columbia and flowing 143 mi to the Atlantic S of Georgetown The huge Santee-Cooper hydroelectric and navigation project, which was built by the Federal government, began operation in 1942

Santerre, Jean Baptiste (zhä' batēst' sätēr'), 1658–1717, French figure and portrait painter Among his works are *Susanna at the Bath* (Louvre), *Young Girl Asleep* (Nantes), *Adelaide* and *Marie de Savoy* (Versailles)

Santi, Raphael see RAPHAEL SANTI

Santiago (säntēä'gō), city (pop 952,075), central Chile, capital of Chile and of Santiago prov It was founded and named Santiago de Nueva Estremadura on Feb 12, 1541, by Pedro de VALDIVIA Laid out according to Valdivia's plan in a gridiron pattern between the hill of Santa Lucía and the Mapocho, a mountain torrent, Santiago has spread over a broad valley plain and is today one of the largest cities in South America Low foothills encompass the valley and, forming a superb backdrop, the snow-capped Andes rise in the eastern distance For most of the year the capital (alt 1,703 ft) has a nearly perfect climate—warm sun and cool nights While some architectural elements of the colonial era remain, the atmosphere of Santiago is largely modern, with neoclassical governmental edifices, modern office buildings, and sumptuous residences Spacious parks, plazas, gardens, and wide avenues (the Avenida Bernardo O'Higgins extends 2 mi in a straight line through the city) are characteristic features Focal point of the intellectual and cultural development of Chile from colonial times to the present, Santiago has many national establishments the library, the museum, the theater, and (besides other institutions of higher learning) the National Univ , which is the successor to the Univ of San Felipe, founded by a royal decree of 1738 As the political, commercial, and financial heart of the nation, Santiago is linked by rail and highway to cities in the north and south, to its port at Valparaíso, and to Argentina by the famous Transandine RR Much of Chile's industry is divided among other cities, but Santiago manufactures textiles, cordage products, enamelware, paper, cement, and lesser goods and has large iron and steel foundries Within seven months of its founding the city began to experience disasters In Sept , 1541, the Araucanian Indians revolted and nearly wiped out the new settlement, it was completely leveled by earthquake in 1647, and the Mapocho frequently flooded the city (notably in 1748 and 1783) In 1863 the Campania Church, with doors that opened inward, caught fire from a falling lamp, and 2,000 worshipers perished But in spite of these setbacks and damage from recurrent earthquakes, Santiago has flourished

Santiago, river in Mexico see LERMA

Santiago, Cape Verde Islands see SÃO TIAGO

Santiago de Compostela (säntyä'gō dā kōmpōstä'lä), city (pop 30,127), La Coruña prov , NW Spain, in Galicia It owes its importance to its role, for a thousand years, as one of the chief shrines of Christendom Here in the early 9th cent the supposed tomb of the apostle St JAMES (St James the Greater) was miraculously discovered, and Alfonso II of Asturias had a sanctuary built The city grew around the shrine and became, after Jerusalem and Rome, the most famous Christian place of pilgrimage in the Middle Ages Santiago still thrives as a pilgrimage and tourist center. It is an archiepiscopal see and has a university (founded 1501, expanded 1526) Its most remarkable building is the cathedral, which replaced the earlier sanctuary after its destruction (10th cent.) by the Moors. Originally built (11th-

12th cent) in Romanesque style, it was outwardly transformed by baroque and plateresque additions and restorations Other historic buildings include the Hospital Real (1501–11), built for the accommodation of poor pilgrims, and the Colegio Fonseca (16th cent), a part of the university

Santiago de Cuba (dä kōō'bä), city (pop 120,577), SE Cuba, a port on the southern coast It is the second largest city of Cuba Founded in 1514 by Diego de VELÁZQUEZ, it was for some time capital of Cuba It is an important shipping point, exporting minerals (copper, iron, and manganese) and agricultural produce (coffee, sugar, and tobacco) as well as woods In early days Santiago was captured by French and English buccaneers and was a center of smuggling trade with the BRITISH West Indies It was important in the SPANISH-AMERICAN WAR in 1898 U S ships established a blockade, and the Spanish admiral, Pascual Cervera y Topete, bottled up in the harbor, made a desperate attempt to escape His fleet was completely destroyed There was heavy land fighting around Santiago before the city surrendered There are many colonial survivals, notably the cathedral (the largest on the island) and the crumbling forts that stand on high cliffs above the harbor Since the elimination of the old scourge of yellow fever, Santiago has been a fine modern port

Santiago del Estero (dĕl ĕstä'rō), city (estimated pop 58,925), capital of Santiago del Estero prov, N central Argentina Agriculture, timber cutting, charcoal burning, sugar refining, and lime making are the chief industries of the region The city (founded 1553) is the center of an active cattle trade and a popular health resort

Santiago de los Caballeros (dā lōs kä-bäyä'rōs), city (pop 52,943), N central Dominican Republic A rail and highway crossroads in the center of the fertile region known as the Cibao lowland, Santiago is a commercial and agricultural distributing point for the most densely populated part of the republic Subsistence crops, cacao, sugar cane, and tobacco are grown as well as coffee and cotton There is some commercial production of beeswax and honey Most exports pass through PUERTO PLATA

Santillana, Iñigo López de Mendoza, marqués de (ēnyē'gō lō'päth dā mĕndō'thä märkās' dā säntēlyä'nä), 1398–1458, Spanish poet Though much of his literary work was imitative of Dante, Petrarch, and BOCCACCIO, he is important in Spanish literature as the chief figure of his century He was the first to write sonnets in Spanish and was the author of a dialogue, *Comedieta de Ponza* [the little comedy of Ponza], a dramatic poem, *Diálogo de Bias contra Fortuna*, and several charming songs called *serranillas*

Santo, New Hebrides see ESPIRITU SANTO

Santo Domingo (sän'tō dōmĕng'gō), former Spanish colony on the island Hispaniola The name is also popularly given to the Dominican Republic (sometimes also incorrectly called San Domingo) Geographic and economic material and an account of recent history are to be found in the articles HISPANIOLA, DOMINICAN REPUBLIC, and HAITI This article briefly sketches the history of the colony, which began in Dec , 1492, when Columbus discovered the island He established a settlement on the north coast, but when he returned in 1493 the settlers had vanished He administered a new colony until loud complaints against his rule caused him to be replaced (1500) by FRANCISCO DE BOBADILLA In 1509 Diego Columbus became governor Failing to find mineral wealth in quantity, the colonists became farmers, the work was done for them under the ENCOMIENDA system by the Indians, who had already been reduced in number by frequent Carib raids Before the adoption (1512) of the New Laws urged by Bartolomé de las Casas for protection of the Indian, most of the natives had perished and importation of Negro slaves had been sanctioned Santo Domingo was subject to frequent raids by English and French buccaneers Although Spain nominally owned the whole island, colonization had not been undertaken in the west, French buccaneers used the ports there (in present Haiti) as a rendezvous, and later French planters were able to establish settlements In the latter half of the 18th cent sugar cane was introduced and sugar plantations became dominant Unable to enforce its claims to the whole island, Spain by the Treaty of Ryswick (1697) ceded the western part (then called Saint-Domingue) to France and in 1795 by the Treaty of Basel gave up the whole island French administration of the former Spanish colony was hampered by the sharp cultural division between the two, by the sharp changes in France itself in the days of the French Revolution and the rise of Napoleon, and above all by the revolutionary campaigns of the Haitians against French rule. The inhabitants of the eastern Spanish-speaking part of the island resisted not only the French but also the Haitians French control ended definitely when the Spanish uprose and overthrew Ferrand (1808). Out of the chaotic years that followed came the Dominican Republic The seat of colonial administration was the city of **Santo Domingo.** Founded Aug 4, 1496, by Bartholomew Columbus, brother of Christopher Columbus, it is the oldest continuously inhabited settlement in the Western Hemisphere Shortly after its founding it became the base from which Diego de Velázquez went out to conquer Cuba In 1511 it was made the seat of an audiencia, which was not, however, formally constituted until 1526 Sacked by Sir Francis Drake in 1586, the city always played a colorful role in the history of the colony and in the wars and revolutions that marked the emergence of the modern republic Santo Domingo was almost totally destroyed by a hurricane in 1930 but was rebuilt and renamed TRUJILLO (Ciudad Trujillo).

Santo Domingo (sän'tu dumĭng'gō), North American Indian pueblo, central N Mex It is on the east bank of the Rio Grande and 26 mi SW of Santa Fe Its 1,122 inhabitants are Pueblo Indians of the Eastern Keresan linguistic family It was founded c 1700, earlier pueblos having been destroyed by floods Farming and pottery making are the chief activities Its principal ceremony, a magnificent Green Corn dance, is held on the feast of St Dominic, Aug 4

santonin (sän'tunĭn), colorless, odorless crystalline solid with a bitter aftertaste It is soluble in alcohol and slightly soluble in boiling water It is extracted from the flowers of certain wormwoods and other plants and is used in medicine to expel roundworms and pinworms It disturbs color vision and in large doses is a poison (for treatment, see POISONING table)

Santorin see THERA

Santos (sän'tōōsh), city (pop 155,894), São Paulo state, SE Brazil, on a small island in the Atlantic just off the mainland It is 35 mi SE of São Paulo, with which it is linked by rail and highway It is the world's greatest coffee port and the chief shipping point for the rich interior of São Paulo state Besides coffee, it exports sugar, fruit, cotton, and meat Along its spacious harbor there are over 3 mi of wharves, equipped with modern loading machinery, large warehouses, and mechanical conveyers The city, which was founded c 1545, has a hot, humid climate, with heavy rainfall, and was long an unhealthful spot, until at the beginning of the 20th cent conditions improved with the drainage of swamps and the construction of a new sewage system The impressive Coffee Exchange stands in the center of the crowded business district, a symbolic reminder of coffee's dominance over the economic life of the city

Santos-Dumont, Alberto (sän'tōs-dōō'mônt, Port älbĕr'tō sä'tōōzh-dōōmō'), 1873–1932, Brazilian aeronaut From 1891 to 1928 he resided in France A pioneer in the development of aircraft, he was the first to construct and fly (1898) a gasoline-motored airship He built several other lighter-than-air craft, winning in one a prize for a round-trip flight between Saint-Cloud and the Eiffel Tower (1901) At Neuilly, France, he established in 1903 the first airship base In 1905 he turned to the construction of airplanes and in 1909 built a successful small monoplane See his autobiography (1904)

Santo Tomás, University of (sän'tō tōmäs'), at Manila, Philippine Islands, Catholic, coeducational, founded 1611 by Dominican priests It has faculties of canon law, civil engineering, civil law, engineering, medicine and surgery, pharmacy, and theology and colleges of education and liberal arts

San Vicente (sän vĕsän'tā), town (1946 estimated pop 14,093), E central Salvador It is an export center for coffee, sugar, and indigo and also manufactures shawls, straw hats, cigars, shoes, and liquor A visitor on the summit of the near-by active volcano, San Vicente (7,360 ft), may view most of Salvador, part of Honduras part of Nicaragua, and the international Gulf of Fonseca

Sanzio, Raphael see RAPHAEL SANTI

São Francisco (sä'ō frənsĕsh'kō), river, c 1,800 mi long, rising in SW Minas Gerais state, E Brazil It flows NNE to N Bahia, whence it continues NE and SE along the Pernambuco-Bahia and Alagoas-Sergipe borders into the Atlantic NE of Aracaju Although navigable in its middle course for over 800 mi , rapids and the Paulo Afonso Falls prevent traffic lower down A vast irrigation and hydroelectric project in the river basin was begun in 1949

São Luís (sä'ō lōōēsh'), city (pop 58,735), capital of Maranhão state, N Brazil, on São Luís island, at the mouth of the Itapecuru river Founded in 1612 by the French and named in honor of Louis XIII, it was captured in 1615 by the Portuguese The city is a well-known cultural center and has a large 17th-century cathedral, a government palace, schools of law and pharmacy, and a historical and geographical institute It exports cotton, sugar, babassu oil, balsam, and hides There are cotton mills and sugar refineries São Luís is the birthplace of the poet, Antonio Gonçalves Dias

São Miguel (sä'ō mĕgĕl'), island of the eastern group of the AZORES It is the largest island of the archipelago and has on it Ponta Delgada, the largest city of the islands It is included in Ponta Delgada dist , an integral part of Portugal A remarkable natural phenomenon on São Miguel is the volcanic crater with a large lake, the Caldeira das Sete Cidades

Saône (sōn), river, 267 mi long, E France, mostly in Franche-Comté and Burgundy It flows S from the Vosges mts and, after being joined by the Doubs, passes Chalon-sur-Saône and Mâcon to join the Rhone at Lyons There are famous vineyards along its course

Saône, Haute see HAUTE-SAÔNE

Saône-et-Loire (sōn"-ā-lwär'), department (3,331 sq mi , pop 506,749), E central France, in BURGUNDY It is traversed by the Saône and bounded in the east by the Loire Mâcon (departmental capital) and Chalon-sur-Saône are the main cities

São Paulo (sä'ō pou'lō), state (95,453 sq mi , 1940 pop 7,180,316, 1949 estimated pop 8,679,059), SE Brazil The capital is the city of São Paulo The state extends inland from the Atlantic to the Paraná river, between the states of Minas Gerais (north) and Paraná (south) It rises from a narrow coastal strip across the Serra do Mar (the eastern edge of the great interior plateau) and through hill ranges and uplands to the wide Paraná river valley It is drained by several left-bank tributaries of the Paraná, including the Tietê river Along the coast it is hot and humid, with a very heavy rainfall, while inland it is drier and cooler The state is the most populous in Brazil and is its most important agricultural and industrial area Coffee is the dominant crop and is exported in vast quantity from the port of SANTOS Cotton, sugar cane, bananas, oranges, corn, rice and tobacco are also grown Cattle are raised in many sections There is an extensive transportation net of railroads and highways The development of coffee production and progressive agricultural methods has been aided by numerous foreign immigrants (chiefly Italian), who arrived in the 19th and early 20th cent Textile milling and the processing and shipping of agricultural products are the chief industries

São Paulo, city (1940 pop 1,258,482), capital of São Paulo state, SE Brazil, on the Tietê river and c 225 mi WSW of Rio de Janeiro The plateau city, at an elevation of 2,700 ft , is the commercial and industrial center of Brazil It is a transportation and shipping point for the rich agricultural hinterland and in recent years it has become one of the leading cities of South America Its numerous and varied manufactures include machinery, textiles, metal goods, automobiles, footwear, hosiery, household appliances, cement, and chemicals, meat packing food canning, and dairy farming are also important São Paulo is a wealthy city, with fine public buildings, beautiful parks, and some palatial private homes It contains a government palace, the state university (founded 1934), MacKenzie Institute (1871), a police training school, a modern public library, the noted Butantan Institute (where serums against snake bites are prepared), and several technical and professional schools Near the Ypiranga or Ipiranga Museum (ethnography and natural history) is a monument commemorating the proclamation by Dom Pedro I of Brazilian independence from Portugal in 1822 The city was founded in 1554 by Jesuits on the site of an old Indian village, it later became (1681) the administrative capital of the surrounding area With the enormous increase in coffee cultivation throughout the state in the late 19th cent , São Paulo grew rapidly as a processing and trading center Its inhabitants, called *paulistas*, are among the most enterprising in Brazil In 1932 the city joined a state-wide revolt against the federal government, which ended unsuccessfully after less than three months of resistance

São Salvador, Brazil see SALVADOR

São Thiago, Cape Verde Islands see SÃO TIAGO

São Thomé and Principe see SÃO TOMÉ AND PRINCIPE

São Tiago (sä'ō tyä'gō) or **Santiago** (sänt-yä'gō), Portuguese possession (c 600 sq mi , pop c 60,000), largest of the Cape Verde Islands On it is Praia, the capital of the islands São Tiago produces coffee and fruit

São Tomé and Principe (sä'ō tōōmä', prēn'sĕpä), islands in the Gulf of Guinea, off the coast of Africa, comprising a province (372 sq mi , pop 60,490) of Portugal They were discovered by the Portuguese in 1471 An appointed governor rules the islands, which export cacao, coffee, and palm products

São Vicente (sä'ō vĕsĕnt'), city (pop 12,983), SE São Paulo state, SE Brazil near the city of Santos, on an island off the mainland It was the first permanent Portuguese settlement (1532) in Brazil, it later became the capital of the São Vicente captaincy

São Vicente, Cabo de see SAINT VINCENT, CAPE

sap, fluid consisting of water, dissolved plant foods (especially sugars, salts, and organic acids), and pigments which permeates the cells of plants In a mature plant cell the sap is generally contained in a vacuole, or sap cavity, that occupies the center of the cell The sap water enters the plant through root hairs by osmosis and is carried by the vascular tissues (xylem or wood) to the parts containing chlorophyll, usually the leaves, through which excess water leaves the plant by transpiration Sap is known to ascend at a rate of from 1 to 4 ft per

hour and to rise to a height of from 300 to 400 ft. in tall trees The causes for the ascent of sap are not fully explained, but it is believed that the osmotic pull resulting from higher sap concentration in leaves after transpiration creates an upward movement which causes tension in the water column within the xylem ducts and that the cohesive force of water maintains sufficient tension to permit the upward translocation of sap Sap ascent results also, to some extent, from osmotic pressure arising in the roots This root pressure is especially great in the spring when transpiration is absent and accounts for the rise of sap and its flow (bleeding) from cut stems The sap of certain plants (e g , the sugar maple) contains much sugar and is an article of commerce The name sap is sometimes applied to latex and to other specialized plant fluids

Saph (sāf), Philistine giant killed by one of David's men 2 Sam 21 18 Sippai 1 Chron 20 4

Saphir (sā'fûr), unidentified village, SW Palestine, denounced by Micah Micah 1 11.

Sapir, Edward (supēr'), 1884–1939, American linguist and anthropologist, b Lauenburg, Pomerania, Germany, grad Columbia (B A , 1904, M A , 1905, Ph D , 1909) He was brought to America in 1889 After teaching at the Univ of California and the Univ. of Pennsylvania, he served (1910–25) as chief of the division of anthropology of the Canadian National Museum Assistant professor and then professor of anthropology at the Univ of Chicago (1925–31), he was professor of anthropology and linguistics at Yale from 1931 to his death His studies of the ethnology and linguistics of various Indian groups of the United States contributed greatly to the development of descriptive linguistics, in which he was an influential pioneer Among his books are *Wishram Texts* (1909), *Time Perspective in Aboriginal American Culture* (1916), *Language an Introduction to the Study of Speech* (1921), and *Nootka Texts* (1939) A selection of his writings, edited by D G Mandelbaum, appeared in 1949

saponin: see SOAP PLANT

Sapor. see SHAPUR

Sapphira (sŭfī'ru), wife of ANANIAS 1

sapphire (sā'fīur), precious stone A variety of transparent blue corundum, it is classified among the most valuable of gems Sapphires are found chiefly in Siam, India, Ceylon, and Burma and also in Australia and in the United States (in Montana) Those from Kashmir, India, are of a beautiful cornflower blue and are highly valued The Ceylon varieties are paler, those from Montana have a metallic luster, and the Australian sapphires are of a dark blue shade approaching black The terms yellow sapphire, purple sapphire, and green sapphire are used alternatively with Oriental topaz, Oriental amethyst, and Oriental emerald for other varieties of corundum Like rubies of similar structure, some sapphires display a six-pointed star when cut to a round-topped cabochon shape and exposed to direct sunlight Such star sapphires are usually obtained from Ceylon

Sappho (sā'fō), fl early 6th cent B C , greatest of the early Greek lyric poets (Plato calls her "the tenth Muse"), b Mytilene on Lesbos Facts about her life are scant She was an aristocrat like her countryman ALCAEUS, and apparently she was a member of a society of girls (for whom some of her lyrics were written) There is reason to believe she was married and had a son The legend that she fell in love with the youth Phaon and committed suicide by leaping from the Leucadian Rock is almost certainly pure invention Another story has it that she and Alcaeus exchanged responsive lyrics The ancients had seven (or nine) books of her poems Only fragments survive, the longest an invocation to Aphrodite in seven stanzas She wrote in Aeolic dialect in a great many meters, one of which has been called, after her, the Sapphic Her verse, the classic example of the "pure" love lyric, is characterized by a vehement expression of passion, a vivid use of epithet, a splendid choice of words, perfect control of meter, and a direct simplicity, it evinces a great love of nature She influenced many later poets, e.g., Catullus, Ovid, and Swinburne

Sapporo (sŭp-pō'rō), city (1947 pop 259,602), capital of Hokkaido, SW Hokkaido, Japan Largest city of the island and an industrial and cultural center, it was laid out in 1871 and has wide streets and modern buildings Hokkaido Imperial Univ (1918) is here

sapsucker, small North American WOODPECKER The yellow-bellied sapsucker has black, white, and yellow plumage, with a bright red crown and throat and a black crescent on the breast It damages or kills trees of many kinds because it girdles them with small holes, eats some of the inner tissue, and drinks the sap with its brushlike tongue Ants and other insects attracted by the oozing sap and wild fruits form much of its diet A red-breasted sapsucker is native to the W United States, and there are several other species

Sapulpa (sŭpŭl'pu), city (pop. 12,249), co seat of Creek co , NE central Okla., SW of Tulsa It is the trade center of an agricultural and oil region; its industries include cotton, glass, and brick and tile manufacturing. A government school for Indians is here

Sara or **Sarah** (both sā'ru) [Heb ,=princess], wife of Abraham and mother of Isaac Her name was at first Sarai (sa'rī, sā'rā-ī) She was Abraham's lifelong companion, she was childless until, by divine favor, the birth of Isaac in her old age After his birth, jealous of her handmaid Hagar, who was Abraham's concubine, she drove Hagar and her son Ishmael into the desert to die Sarah died in Hebron when 127 years old and was buried in the cave of Machpelah Gen 11 31–23 20, Rom 4 19, 9 9, Heb 11 11, 1 Peter 3 6 The Sarah of Num 26 46 is the same as SERAH

saraband (sā'rŭbănd), dance of Oriental origin which first appeared in Spain in the 16th cent At this time it was characterized by alternate 3-4 and 3-8 meter and was accompanied by castanets and tambourines Cervantes denounced it for its indecent gestures and text, and it was suppressed at the end of the reign of Philip II In the 17th and 18th cent it had a slow triple meter and a more dignified form It then began to appear as a movement in the instrumental suite

Saracens (sā'rusunz), term commonly used in the Middle Ages to designate the Arabs and, by extension, the Moslems in general, whether they were Arabs, Moors, or Seljuk Turks Strictly, the term applied only to the people of NW Arabia In Spain and Portugal, the Moslems were known as Moors, rather than Saracens The Saracens invaded France in the 8th cent , where they were defeated by Charles Martel Their cultural influence in Europe is particularly noticeable in Sicily, which they held from the 9th to the 11th cent , and in S Italy Palermo and Monreale have fine examples of the fused architectural styles of the Saracens, Byzantines, and Normans

Saracoglu, Sukru (shu'krū" sārā'ȯlōō"), 1890?–, Turkish statesman A close collaborator of Kemal Ataturk, he served as minister of justice (1932–38) and of foreign affairs (1938–42) and as premier (1942–46) His skillful diplomacy kept Turkey out of the Second World War until shortly before its termination

Saragossa (sā"rugŏ'sŭ), Span *Zaragoza* (thārägō'tha), city (pop 205,833), capital of Saragossa prov and of Aragon, NE Spain, on the Ebro An important commercial and communications center, it has sugar refineries, flour mills, canneries, and mechanical industries It is an archiepiscopal see and has a university (founded 1474) Of ancient origin, it was called Caesarea Augusta (hence Saragossa) by Emperor Augustus It fell to the Goths (5th cent) and to the Moors (8th cent), under whom it became (1017) the capital of an independent emirate Charlemagne tried to take it, but was defeated by the Moors (778) The CID fought for a time in the service of the Moorish ruler of Saragossa The city was conquered (1118) by Alfonso I of Aragon, who made it the capital of his kingdom The most notable event in the later history of Saragossa was its heroic defense, under the leadership of PALAFOX, against the French in the Peninsular War The city resisted the first siege (1808) but surrendered after some 50,000 defenders had died in the second siege (1808-9) Saragossa is a cultural center and is rich in works of art, many of which show Moorish influence There are two cathedrals—La Seo (12th-16th cent), formerly a mosque, and El Pilar, named for the sacred pillar near which the Virgin is said to have appeared in the vision of St James the Greater El Pilar contains frescoes by Velázquez and Goya Noteworthy also are the Church of San Pablo, the Moorish castle of Aljaferia (residence of the emirs and later of the kings of Aragon), the exchange building, and a 15th-century stone bridge across the Ebro

Sarah or **Sarai** · see SARA

Sarah Lawrence College, at Bronxville, N Y , nonsectarian, for women, chartered 1926, opened 1928, named for the wife of the founder An experimental college, it has a curriculum which is based on individual needs and interests and is without fixed requirements, textbooks, regular lectures, or examinations Individual conferences, discussion groups, and field work are used While each student has a faculty adviser, she is increasingly responsible for self-direction in work and recreation See Constance Warren, *A New Design for Women's Education* (1940)

Sarai (sūrī'), former city in SE European Russia, E of the Volga and near modern Stalingrad It was (13th-15th cent) the capital of the GOLDEN HORDE.

Sarajevo (sā"rāĭ'yĕvō), city (pop 118,158), capital of Bosnia and Hercegovina, central Yugoslavia, in Bosnia. It is a trade and railroad center and produces tobacco, lumber, carpets, leather, beer, and jewelry. Dating from the 14th cent , Sarajevo fell to the Turks in 1429 The city was sacked (1697) by Prince Eugene of Savoy. With the rest of BOSNIA AND HERCEGOVINA, it passed under Austro-Hungarian administration in 1878 and was annexed to Austria-Hungary in 1908. The assassination here of Archduke FRANCIS FERDINAND and his wife on June 28, 1914, was an immediate cause of the First World War The city is the seat of an Orthodox Eastern metropolitan, a Roman Catholic archbishop, and the chief ulema of the Yugoslav Moslems. The population is largely Moslem There are several Moslem seminaries and various institutes of higher education Sarajevo is noted for its Moslem architecture, including its Oriental market place and more than 100 mosques, the most important one dating from 1450 The city was known originally as Vrh-Bosna and under Turkish rule as Bosna-Sarai or Bosna-Serai An alternate spelling is Serajevo

Saranac Lake (sā'rănăk), village (pop 7,138), N N Y , SW of Plattsburg, in the Adirondacks W of Lake Placid, on Flower Lake and near the Saranac Lakes, settled c 1819, inc 1892 It is a health and year-round resort Edward L TRUDEAU established a tuberculosis sanatorium in 1884 and a research laboratory in 1894 Robert Louis Stevenson was a patient here during the winter of 1887–88, his *Master of Ballantrae* describes the region The Will Rogers Memorial Sanatorium (built 1930) is open to variety, radio, and screen actors

Saranac Lakes, three resort lakes, N N Y , in the Adirondacks Upper Saranac Lake (c 8 mi long), Middle Saranac Lake (c 2 mi long), and Lower Saranac Lake (c 5 mi long) are linked by the Saranac river, which flows NE to Lake Champlain at Plattsburg

Saransk (sŭransk'), city (1926 pop 15,431, 1939 pop 41,211), capital of Mordvinian ASSR, E central European RSFSR, N of Penza Founded in 1641 as a Russian stronghold, it is now an agricultural center

Saraph (sā'răf), Judahite 1 Chron 4 22.

Sarapul (sŭrä'pōōl), city (1938 estimated pop 42,000), SE Udmurt ASSR, RSFSR, on the Kama river, on the border of European and Asiatic Russia It is the center of an agricultural region and has food-processing plants, distilleries, and sawmills Sarapul was founded (16th cent) as a Russian fortress on the trade route to Siberia

Sarasate, Pablo de (pä'blō dā sarasa'tā), 1844–1908, Spanish violin virtuoso, whose name stands near that of Paganini He made difficult arrangements which displayed his brilliant technique and wrote violin pieces which effectively popularized what came to be known as the Spanish idiom, as well as his popular *Zigeunerweisen* Lalo, Bruch, and Saint-Saëns wrote concertos for him

Sarasota (sā"rusō'tu), city (pop 11,141), co seat of Sarasota co , SW Fla , on Sarasota Bay S of Tampa, settled c 1884 by Scotch It is a winter resort for tourists, yachtsmen, and fishermen and the packing and shipping center for a productive citrus-fruit and vegetable (particularly celery) area The winter headquarters of the Ringling Brothers–Barnum and Bailey Circus and the John and Mable Ringling Museum of Art (largest art gallery in the state) are here The colorful Sara de Sota pageant held annually in March is based on the legendary love of De Soto's daughter for an Indian chief

Saratoga campaign (sā"rutō'gu), June–Oct , 1777, of the American Revolution Lord George GERMAIN and John BURGOYNE were the chief authors of a triple plan to end the American Revolution by splitting the colonies along the Hudson Burgoyne was to advance S from Canada along Lake Champlain to Albany, where he would join Sir William HOWE, advancing N from New York city up the Hudson, and Barry ST LEGER, coming E along the Mohawk For reasons that are still disputed, neither Howe nor Sir Henry CLINTON reached Albany Burgoyne had little trouble in taking TICONDEROGA (July 6), but his march south proved difficult The column of Hessians he sent to raid Bennington was badly beaten (Aug 14–16) by the GREEN MOUNTAIN BOYS, under John STARK and Seth WARNER Meanwhile, the second column, under St Leger, was halted at Fort Stanwix (Fort Schuyler) An American party under Nicholas HERKIMER coming to the relief of the fort was ambushed (Aug 6, 1777) when crossing Oriskany Creek, Herkimer was mortally wounded, and the force dispersed Yet the victory was questionable The siege did not prosper, and when rumors came that a large patriot force was approaching under Benedict Arnold, the Indians deserted the British service St Leger had to abandon (Aug 22) the siege and begin a retreat to Canada Burgoyne continued southward, crossed the Hudson (Sept 13), and halted near the present Saratoga Springs, where, on Bemis Heights, Thaddeus KOSCIUSKO had prepared American positions With Benjamin LINCOLN threatening his rear and his supplies running low, Burgoyne tried to break through at Freeman's Farm (Sept 19) and at Bemis Heights (Oct 9) Both attempts were stopped by Benedict Arnold, Daniel Morgan, and Horatio GATES, who had replaced Philip J Schuyler as American commander The British commander then tried to retreat, but, finding himself outnumbered and surrounded, he surrendered Oct. 17, 1777. This battle of Saratoga was the first great American victory of the war, and it is considered by many the decisive battle of the Revolution Besides the heartening effect on the patriots, the campaign also immedi-

ately encouraged the French, who had helped the victory by unofficial supplies and funds, to send official aid to the colonies The battlefield is included in Saratoga National Historical Park (2,087.59 acres, est 1948)

Saratoga Springs (sā"rətō'gu), city (pop 13,705), E N Y, near Saratoga Lake N of Albany; inc as a village 1826, as a city 1915 It produces chemicals, wallpaper, and bottled spring water, but it is chiefly known as a health and pleasure resort famous for its springs An elaborate state-owned spa (1935) preserves and utilizes the waters and contains curative baths, there is also a research laboratory, named for Simon BARUCH Horse racing, one of the city's main attractions, was begun after 1850 SKIDMORE COLLEGE and St Faith's School for girls are here, and the state tree nursery is not far The large estate "Yaddo" was made a retreat for artists and authors The last battles of the SARATOGA CAMPAIGN were fought near by See Hugh Bradley, *Such Was Saratoga* (1940)

Saratov (sŭrä'tuf), city (1939 pop 375,860, 1946 estimated pop 450,000), capital of Saratov oblast, SE European RSFSR, on the high right bank of the Volga It is a major industrial center Its important natural-gas wells have been linked (1946) by pipe line with Moscow Saratov manufactures machinery, chemicals, and cotton textiles and has oil refineries, lumber mills, and shipyards Its port is an important transfer point for petroleum and timber A railroad bridge across the Volga connects Saratov with Engels Saratov has a university (founded 1919), several technical institutes, and several museums The city was originally founded (1590) on the left river bank as a Russian fortress, After its capture (1670) by the rebels under Stenka Razin, it was moved (1674) to its present site In the 19th cent Saratov developed as a major shipping center for grain and as a transfer point for oil shipments from Baku In the civil war it was successfully defended (1918–19) by Soviet troops The discovery, during the Second World War, of natural-gas wells in the vicinity resulted in the expansion of the city limits

Sarawak (sŭra'wuk, -wä, -wäk), British crown colony (47,071 sq mi, pop 546,385), NW Borneo The capital is Kuching Sarawak is bounded on the northeast by British North Borneo and on the west and south by the Indonesian autonomous areas There are rich oil fields, and rubber, rice, sago, and pepper are grown In 1841 the area was ceded by the sultan of Brunei to James Brooke, an Englishman, who became raja of the independent state Sarawak became a British protectorate in 1888, but remained under the control of the Brooke family During the Second World War the area was occupied (1941–45) by the Japanese, in July, 1946, Sarawak became a British colony The name is sometimes spelled Serawak

Sarazen, Gene (sa'ruzun), 1901–, American golfer, b Rye, N Y He became a caddie at Rye, N Y, and later taught golf at Fort Wayne, Ind In 1922—at the age of 20—Sarazen won the U S Open championship He repeated this performance in 1932, the year he also won the British Open crown He won the Professional Golfers Association championship three times (1922–23, 1933) and for several years played on the U S Ryder Cup teams. He wrote *Gene Sarazen's Common Sense Golf Tips* (1924)

sarcoma (särkō'mu), malignant tumor composed of connective-type cells Sarcomas grow rapidly, attaining large proportions They grow upon a scaffolding of blood vessels, this abundant blood supply tends to increase the rapidity of the cell growth Edema and hemorrhage within the tumor result in an increase of bulk of the sarcoma, circulation fails, and degeneration of tissue follows, infection, local suppuration, and gangrene or general sepsis may then develop Sarcoma infiltrates surrounding tissue, rarely forming a capsule The more malignant growths spread along blood vessels and nerves and through soft tissues Cellular bone sarcoma destroys bone tissue and penetrates joint cavities The varieties of sarcoma are many and include sarcomas of the blood vessels, lymph nodes, bone, cartilage, and skin Little is known of the specific cause of sarcoma

sarcophagus (särkō'fugus) [Gr, =flesh-eater], name originally given by the Greeks to a special limestone found in Asia Minor and used in caskets. It was described by Pliny as having the property of destroying in 40 days the entire body with the exception of the teeth The term later generally designated any elaborate burial casket not sunk underground. The oldest known examples are from Egypt, they are box shaped with a separate lid on which sometimes are sculptured effigies of the corpses. The sarcophagus of Tut-ankh-amen (14th cent B C), which was recovered in 1922, is of red granite and ornamented with reliefs of spirits with outspread wings. Later Egyptian sarcophagi are sometimes shaped to the mummy they contain. Sarcophagi were not in common use in Greece earlier than the 6th cent B C because of the previous custom of cremation After that time they became numerous Records reveal that the majority of sarcophagi were made of wood, but the only remaining ones are of stone and terra cotta, as is shown in the early 6th-century examples (British Mus) from Clazomenae Many Greek and Etruscan sarcophagi are in the shape of a couch, examples of this form are in the Louvre and the British Museum Others, such as the sarcophagus of Alexander the Great, are carved and painted in imitation of temple architecture The marble sarcophagi from Sidon (excavated 1877, now in Constantinople) are among the finest examples of Greek art In Rome sarcophagi became popular before the Punic Wars The earliest known example is that of the consul Cn Cornelius Scipio of the 3d cent B C, now in the Vatican Under the rule of the emperors Roman sarcophagi became elaborate, with mythological scenes carved on the sides and statues of the deceased on the lid The early Christians also used sarcophagi for their eminent dead The carvings, usually representing Bible stories, are our chief source of early Christian sculpture Examples are preserved in the Lateran Palace at Rome and at Arles, France In the Middle Ages the vogue for this form of burial decreased, and sarcophagi proper were thereafter used only in rare instances for especially elaborate entombments Although memorials in the shape and decoration of sarcophagi were erected in the Renaissance and often appeared in churches, the body itself was usually buried underground

Sarcoxie, city (pop 1,057), SW Mo, E of Joplin; laid out 1834

sard, semiprecious stone, a variety of chalcedony It is very similar to the carnelian but differs somewhat in color Sard appears brownish red by reflected light and deep red by transmitted light, while carnelian is a brighter red The color is believed to be caused by the presence of ferric oxide Like agate, bloodstone, chalcedony, chrysoprase, and jasper it is a cryptocrystalline variety of quartz It has been valued from ancient times

Sardanapalus (särdună'pulus), in the *Persica* of CTESIAS, an Assyrian monarch who lived in great luxury He was besieged in Nineveh by the Medes for two years, at the end of which time he set fire to his palace and burned himself and his court to death Lord Byron wrote a tragedy on the theme The identity of Sardanapalus is a complete mystery, as the facts given certainly do not fit those of the life of ASSUR-BANI-PAL, with whom some have tried to identify him

Sardes, see SARDIS

Sardica see SOFIA, Bulgaria.

sardine (särdēn'), name for various small fish packed with oil or sauce in flat cans The true sardine from France, Spain, and Portugal is usually the young pilchard (*Sardinia pilchardus*) of the Mediterranean and warm Atlantic coastal waters Young sprat and herring packed in Norway are sometimes called sardines Sardine fishing and canning are an important industry in Maine, where small herring are used, and in California, where the sardine is a species closely related to the European pilchard

Sardinia (särdĭ'nēu), Ital *Sardegna* (särdā'nyä), island in the Mediterranean (second only to Sicily in size) and autonomous region (9,302 sq mi, pop 1,014,206) of Italy, W of the Italian peninsula It is separated in the north from Corsica by the Strait of Bonifacio As a region, Sardinia includes several small adjacent islands and is divided into the provinces of Cagliari, Nuoro, and Sassari Cagliari is the capital The island is mountainous Gennargentu (6,016 ft) is the highest peak, the Campidano in the southwest is the largest valley Natural pastures occupy over half the area Horses, sheep, and goats are raised, corn, barley, grapes, olives, and some tobacco are produced Sardinia is rich in minerals (zinc, lead, lignite, copper, iron, and salt) There are tuna and lobster fisheries Industries are few The development of the island was greatly hampered by malaria and by feudal conditions, which prevailed till the 19th cent Hydroelectric power plants, roads, and reclamation works have been recently completed There are many traces of prehistoric inhabitants, and Carthaginians settled here before the Roman conquest (238 B C) After falling to the Vandals (5th cent), Sardinia passed to the Byzantines (6th cent), their negligent rule strengthened the power of the popes, who claimed suzerainty over the island and helped repel Arab attacks (8th–11th cent) Pisa and Genoa fought long wars (11th–14th cent) for supremacy over the island In the 14th cent the pope bestowed Sardinia on the house of ARAGON, from which it passed to Spain In the Peace of Utrecht (1713) Spain ceded it to Austria, but in 1717 Cardinal ALBERONI sent a Spanish force to occupy the island The settlement of 1720 finally awarded Sardinia to VICTOR AMADEUS II of Savoy (who styled himself king of Sardinia) in exchange for Sicily, which was given to the emperor. The kings of Sardinia ordinarily resided in Turin. They tried to establish some order out of chaos with judicial, agrarian, and ecclesiastic reforms Feudal privileges caused much unrest before their abolition in 1835 Administrative autonomy disappeared in 1847, but was reestablished a century later by the republican constitution of Italy.

Sardinia, kingdom of, name given to the possessions of the house of Savoy (see SAVOY, HOUSE OF) in 1720, when the island of Sardinia was awarded to the duke of Savoy to compensate him for the loss of Sicily Besides Sardinia, the kingdom included Savoy, PIEDMONT, and NICE, LIGURIA, including Genoa, was added by the Congress of Vienna in 1815 During the wars of the RISORGIMENTO the kingdom grew to include almost all Italy Lombardy was added in 1859 In 1860 Parma, Modena, Bologna, the Marches, and the Romagna (i e, the Papal States except Rome and Latium) were joined to the kingdom After annexation (1861) of the Two Sicilies, Victor Emmanuel II of Sardinia was proclaimed king of Italy Though the name kingdom of Sardinia was derived from the island, Turin was its capital except from 1798 to 1814, when the mainland territories were annexed by France During that period, Cagliari was the royal residence

Sardis (sär'dĭs) or **Sardes** (-dēz), ancient capital of Lydia, W Asia Minor, at the foot of Mt Tmolus near the River Pactolus An almost impregnable rock citadel guarded the city on the plains, which, of prehistoric foundation, was frequently devastated by earthquakes and restored Captured by the Persians and later by the Romans, it was an early seat of Christianity, one of the SEVEN CHURCHES IN ASIA Rev 3 1 It was destroyed by Tamerlane Excavation of its ruins have disclosed important Hittite inscriptions

Sardis, town (pop 2,022), a co seat of Panola co, NW Miss, S of Memphis, Tenn, near the Tallahatchie, in a dairy and farm area, founded 1856 Near by is the Sardis Dam and Reservoir, a flood-control project for the Tallahatchie valley.

Sardites (sar'dīts), descendants of SERED.

sardonyx (sär'duniks), banded variety of cryptocrystalline quartz It has parallel layers of sard or of carnelian alternating with bands of onyx or of white chalcedony

Sardou, Victorien (vēktôryĕ' särdōō'), 1831–1908, most popular French dramatist of his day Author of some 70 plays and a master of stagecraft, he excelled in light comedy and in pretentious historical pieces His best farce comedy is *Divorçons* (1880, Eng tr, 1881), and among the semihistorical melodramas of his late period the best are *Patrie!* (1869, Eng tr, 1915) and *Fédora* (1882, Eng tr, 1883), in which Sarah Bernhardt made her triumphant return to the Paris stage Others written for her are *Théodora* (1884, Eng. tr, 1885), *La Tosca* (1887, Eng tr, 1925), the source of Puccini's opera, and *Cléopâtra* (1890) Two plays written for Sir Henry Irving, *Robespierre* (1899) and *Dante* (1903), were never given in French Also among Sardou's best plays in lighter vein is *Madame Sans-Gêne* (1893, Eng tr, 1901) He was several times attacked for plagiarism, but defended himself successfully Sardou was elected to the French Academy in 1877

Sarema, Estonia see SAARE

Sarepta (surĕp'tu), variant of ZAREPHATH

Sarett, Lew (särĕt'), 1888–, American poet, b Chicago, grad Beloit College, 1911, LL B Univ of Illinois, 1916 After 1921 he taught at Northwestern Univ school of speech His long association with the Rocky Mts and the Canadian woods as woodsman, guide, and forest ranger is reflected in his poetry Among his books are *Many Many Moons* (1920), *Slow Smoke* (1925), winner of the 1925 prize of the Poetry Society of America, and *Wings against the Moon* (1931) See his *Collected Poems* (1941)

Sarg, Tony (Anthony Frederick Sarg), 1882–1941, American marionette maker and craftsman, b Guatemala He came to the United States in 1915 after a career (1905–14) as an illustrator and puppeteer in England and became a U S citizen in 1921 He was the creator of Tony Sarg's Marionettes and of numerous workshops His books include *Tony Sarg's Book for Children* (1924), *Tony Sarg's Animal Book* (1925), *Tony Sarg's Wonder Zoo* (1927), and *Book of Marionette Plays* (1927)

Sargasso Sea (särgă'sō), part of the N Atlantic Ocean, extending between the West Indies and the Azores and from about lat 20° N to lat 35° N The relatively still sea is the center of a great swirl of ocean currents and is a rich field for the marine biologist It is noted for the abundance of GULFWEED on its surface

Sargent, Charles Sprague (sär'junt), 1841–1927, American dendrologist, b Boston, grad Harvard, 1862 He was professor of horticulture (1872–73) and of arboriculture (1879–1927) at Harvard and director (1873–1927) of the university's Arnold Arboretum He was influential in encouraging the extension of forest preserves and park systems He was the author of a *Manual of the Trees of North America* (1905) and of the first comprehensive work on North American timbers, the *Silva of North America* (14 vols, 1891–1902).

Sargent, Epes (ĕps'), 1812–80, American editor and author, b Gloucester, Mass He was a journalist (1839–47) in New York and editor (1847–53) of the *Boston Transcript* His works typify a surprising number of the literary interests of his day—poetry, his best in *Songs of the Sea* (1847), plays, of which

the most successful was the tragedy *Velasco* (produced 1837), novels, among which *Fleetwood* (1845) was most popular, and a famous and influential series of readers and textbooks

Sargent, Henry, 1770–1845, American genre and portrait painter, b. Gloucester, Mass., studied in London with Benjamin West. His portrait of Peter Faneuil is in Faneuil Hall, Boston, and there are three portraits at the Massachusetts Historical Society. Two conversation pieces, *The Tea Party* and *The Dinner Party*, are often reproduced.

Sargent, John Garibaldi, 1860–1939, American cabinet officer, b. Ludlow, Vt., grad. Tufts College, 1887. Admitted (1890) to the bar, Sargent practiced law in Ludlow and held several state offices between 1898 and 1912. He served (1925–29) as U.S. Attorney General under President Calvin Coolidge.

Sargent, John Singer, 1856–1925, American painter, b. Florence, Italy, of American parents, educated in Italy, France, and Germany. In 1874 he went to Paris, where he studied under Carolus-Duran. There he remained 10 years except for visits to the United States, Spain, and Africa. From his first exhibit in the Salon of 1878 he received early recognition, and in 1884, when he removed to London, he already enjoyed a high reputation as a portrait painter. There he spent most of the remainder of his life, painting the portraits of American and English social celebrities for which he is famous. In 1890 he was commissioned to paint a series of murals, *The History of Religion*, for the Boston Public Library. He completed them in 1916. An indefatigable and prolific painter, Sargent was particularly brilliant in his treatment of textures. Despite the extraordinary virtuosity of his brush work and the summary character of his portraiture, his paintings were the result of careful, thorough preparation. He was as conscientious and sincere as he was fashionable. In his youth, and again after 1910, he deserted portrait painting long enough to produce a large number of brilliant impressionistic landscapes in water color, many of them painted in Venice and in the Tyrol. Of these, fine collections are in the Museum of Fine Arts, Boston, and the Brooklyn Museum. His portraits and figure pieces are to be seen in many private and public collections in England and America. Well-known examples are *Carmencita* (Luxembourg Mus., Paris), the portraits of Mme X, the Wyndham sisters, Henry Marquand, and William Chase (Metropolitan Mus.), *The Fountain* (Art Inst., Chicago), *Children of C. D. Bost* (Mus. of Fine Arts, Boston). See biography by W. H. Downes (1925).

Sargon (sär'gŏn), fl. c. 2800? B.C., king of Akkad in Mesopotamia. He is sometimes called Sargon the Ancient. By conquest he created a great, though loose-knit, empire, which included various peoples. He not only became overlord of the Sumerian cities but also conquered much of Elam and controlled territories W. to the Mediterranean and N. to the Black Sea. The dynasty he founded seems to have lasted two centuries or more and did much to spread Semitic and Sumerian civilization. The name appears also as Sharrukin.

Sargon, d. 705 B.C., king of ASSYRIA (722–705 B.C.), successor to Shalmaneser V. Supposedly he completed Shalmaneser's conquest of Samaria in 722 B.C., and he defeated a coalition of enemies at Raphia in 720. He pushed his conquests wide, taking Carchemish, subduing Babylonia, and pushing eastward to Kurdistan. He founded the last and most powerful Assyrian dynasty. His magnificent palace of Dur Sharrukin (at present Khorsabad) has been much studied. The name appears also as Sharrukin.

Sarid (sā'rĭd) [Heb.,=survivor], landmark, N Palestine. Joshua 19:10,12.

Sark, Fr. *Serq* (sĕrk), island (2 sq. mi., pop. 571), in the English Channel, E of Guernsey, one of the CHANNEL ISLANDS. It is divided into unequal sections (Great Sark and Little Sark) connected by a natural causeway, the Coupée, 300 ft. long and 6 ft. wide, with high precipitous sides. The coast scenery is extremely beautiful. The interior is reached through tunnels from Creux Harbour, the landing place, on the east. The island belongs to Guernsey bailiwick, its local government is a survival of the feudal system.

Sarmatia (särmā'shu), ancient district occupied by the Sarmatians (Latin *Sarmatae*) about the lower Don river from the 3d cent. B.C. through the 2d cent. A.D. The term is vague and is also used for the territory into which the people were later driven by German pressure, along the Danube and across the Carpathians. The **Sarmatians** spoke an Indo-Iranian language and were a nomadic pastoral people related to the Scythians, whom they displaced in the Don region. The main divisions were the Rhoxolani, the Iazyges, and the Alans or Alani. They came into conflict with the Romans and later allied themselves with Rome, acting as buffers against the Germans. They were dispersed by migration pressures by the 3d cent. A.D.

Sarmiento, Domingo Faustino (dōmēng'gō foustē'nō särmyän'tō), 1811–88, Argentine statesman, educator, and author, president of the republic (1868–74). An opponent of Juan Manuel de ROSAS, he spent years of exile in Chile, becoming known as a journalist and an educational reformer. He toured Europe and North America and was impressed by the school system and the political organization of the United States. He helped URQUIZA to overthrow Rosas (1852) and became active in politics. In Oct., 1868, he succeeded Bartolomé MITRE as president. His administration was marked by the conclusion of the War of the Triple Alliance against Paraguay, by material progress, and, especially, by the organization of schools and the reform of educational methods. Sarmiento was succeeded by Nicolás AVELLANEDA. His essays, writings on education and politics, and critical works are distinguished by crisp style. Best known is *Facundo* (which appeared as *Civilizacion i barbarie*, 1845), nominally a biography of Juan Facundo Quiroga but actually a deep-going study of *caudillismo*, personalism in politics.

Sarmiento de Acuña, Diego see GONDOMAR, DIEGO SARMIENTO DE ACUÑA, CONDE DE.

Sarnath (sărnät'), archaeological site, SE United Provs., India, near Benares. The deer park (*mrigadawa*) where, according to tradition, Buddha first preached is located here. Buddhist monuments include an inscribed pillar (3d cent. B.C.) of Emperor Asoka and a stupa (7th cent. A.D.), c. 140 ft. high.

Sarnen (zär'nun), town (pop. 5,591), capital of Obwalden half-canton, Switzerland, at the north end of the Lake of Sarnen. The town hall has documents on the formation of the Swiss Confederation. There is a small wood industry.

Sarnia, city (pop. 18,734), S Ont., on the St. Clair river, at the south end of Lake Huron and opposite Port Huron, Mich. The two cities are connected by a railroad tunnel and ferries and by an international bridge between Port Huron and Point Edward, just N. of Sarnia. The city is a port, with extensive docking facilities, and handles a large volume of freight for transshipment from railroads to lake steamers. There are grain elevators, lumber and woodworking mills, machinery plants, oil refineries, and chemical and synthetic-rubber industries. It was settled in 1833 as The Rapids and named Port Sarnia (1836) by Sir John Colborne, in 1880 the name was changed to Sarnia.

Saron (sā'rŭn), variant of SHARON.

Saronic Gulf (surŏ'nĭk), inlet of the Aegean Sea, W. central Greece, bounded by Attica on the northeast, the Isthmus of Corinth on the north, and the Argolis peninsula on the southwest. It is connected with the Gulf of Corinth by the Isthmian Canal. Athens, Piraeus, Eleusis, Megara, and Epidaurus are on or near the Saronic Gulf, which also contains many islands, notably Aegina and Salamis. It is also known as the Gulf of Aegina.

saros (sā'rŏs), in astronomy, the period, or cycle, in which eclipses of the sun and moon repeat themselves. It is a period of 18 years 11¼ days and is equivalent to 223 lunations. In times of antiquity the cycle was used in the calculations of the Chaldeans to predict eclipses.

Saros, Gulf of (sä'rôs), inlet of the Aegean Sea, between the Gallipoli Peninsula and the mainland of European Turkey.

Saroyan, William (surō'ŭn), 1908–, American short-story writer and dramatist, b. Fresno, Calif. Since publication of his first stories, *The Daring Young Man on the Flying Trapeze* (1934), he has written several hundred others, including the highly successful collection *My Name Is Aram* (1940). His play *The Time of Your Life* (1939) won both the New York Drama Critics' and the Pulitzer prizes. Other plays produced were *My Heart's in the Highlands* (1939) and *Hello Out There* (1942). A novel, *The Human Comedy* (1942), was filmed in 1943. Three plays were published (1940) under the title of the first play, *Don't Go Away Mad!*

Sarpedon (särpē'dun), in Greek legend, son of Zeus and Europa. He fled the wrath of his brother Minos and settled in Lycia. Zeus allowed him to live as king of Lycia for three generations. His grandson **Sarpedon** fought against the Greeks in the TROJAN WAR. In Homer he is killed by Patroclus, but his body is cleansed and anointed by Apollo, Zeus' agent, and carried back to Lycia by Sleep and Death. The two Sarpedons are sometimes considered the same, and the legends are much confused.

Sarpi, Paolo (pä'ōlō sär'pē), 1552–1623, Venetian councilor, theologian, and historian. In 1565 he became a Servite friar and later theologian and adviser to the republic. In the conflict which developed in 1606 between Venice and Pope PAUL V he staunchly defended the right of the state to control ecclesiastic matters. In his writings against the papal interdict he showed great intransigence. In 1607 he was wounded in an attempt, said to be sponsored by the pope, to seize him by force, and this increased his prestige. His most important work is his history of the Council of Trent in which he viewed the council as the triumph of papal absolutism and centralization. The work was published in London in 1619, many editions and translations followed.

Šar-Planina or **Shar-Planina,** Serbo-Croatian *Šar-Planina* (shär'-plĭnē'nä), mountain group, SW Yugoslavia, between the upper Vardar river and the Albanian frontier. Its highest peak, the *Turčin* (tōōr'chēn) (8,863 ft.), rises 8 mi. W of Tetovo.

Sarpsborg (särps'bôr), city (pop. 12,943), Ostfold co., SE Norway, on the GLOMMA and SSE of Oslo. A large hydroelectric plant operates its important chemical works, textile and paper mills, zinc smelters, and other industrial plants. Sarpsborg was rebuilt in 1838 on the ruins of a medieval town destroyed by the Swedes in 1567.

Sarraut, Albert Pierre (ălbĕr' pyĕr' särō'), 1872–, French politician, a Radical Socialist. He was governor general of French Indo-China (1911–14, 1916–19) and was minister for the colonies in several cabinets between 1920 and 1924. After a brief premiership in 1933 he held cabinet posts under Chautemps and Doumergue and again was premier in 1936 until the electoral victory of the Popular Front. After the fall (1937) of Léon Blum's first Popular Front ministry, Sarraut held portfolios in the increasingly conservative cabinets of Chautemps (1937–38), Blum (1938), Daladier (1938–40), and Reynaud (1940). After the fall of France in 1940 he was interned in Germany until liberated in 1945. Sarraut wrote on colonial problems.

Sarrazin or **Sarazin, Jacques** (zhäk' sărăzĕ'), 1588?–1660, French sculptor and painter, a founder (1648) and rector (1654) of the Académie royale de Peinture et de Sculpture. Examples of his work are the caryatids on Lemercier's pavilion at the Louvre, the statuettes of St. Peter and Mary Magdalen (Louvre), and the tomb of Henri II, prince de Condé (Chantilly).

Sarre see SAAR, river, and SAAR TERRITORY.

Sarrebruck, Saar Territory: see SAARBRÜCKEN.

Sarreguemines (särgumēn'), Ger. *Saargemünd* (zärgumunt'), town (pop. 12,876), Moselle dept., NE France, in Lorraine, on the Saar river. It has porcelain and chemical manufactures.

Sarrelouis, Saar Territory: see SAARLOUIS.

sarrusophone (sŭrŭ'sufōn), brass wind musical instrument played with a double reed and therefore considered a member of the oboe family. Invented by a Frenchman named Sarrus in 1865, it is made in several sizes and exists mainly in military bands. The contrabass sarrusophone occasionally replacing the contrabassoon.

Sars, Michael (mōkäl' särs'), 1805–69, Norwegian biologist. He was professor of zoology at Christiania from 1854. A pioneer in marine research, he discovered the metamorphosis of marine mollusks, established the relation of crinoids to similar fossil groups, and helped to clarify the knowledge of alternation of generations.

sarsaparilla (särs"pərĭl'ə), name for various plants and for the extract made from their roots, used in medicine and in beverages. True sarsaparilla is obtained from various tropical species of the genus *Smilax*, particularly *Smilax officinalis*, *medica*, and *papyracea*. These have thick rootstalks and thin roots several feet long. Other plants used as substitutes for sarsaparilla include *Aralia nudicaulis*, or wild sarsaparilla, and the American SPIKENARD, both North American plants.

Sarsechim (särsē'kĭm, sär'sēkĭm), general with Nebuchadnezzar at Jerusalem. Jer. 39:3.

Sarsfield, Patrick, earl of Lucan (särs'fēld, lōō'kun), d. 1693, Irish Jacobite general. During the reign of Charles II he served with the English forces attached to the army of Louis XIV in France. He helped suppress the rebellion of the duke of Monmouth (1685), supported James II in 1688, and went with him into exile. Commanding James's forces in Ireland, he had some successes, but the battle of the Boyne destroyed the venture. He was forced (1691) to arrange the disadvantageous treaty of Limerick, surrendering that city. Allowed to go to France, Sarsfield took thousands of Irish soldiers with him into foreign service in the War of the Grand Alliance. He fought with the French at Steenkerke (1692) and was mortally wounded at Neerwinden. Though he was not a great general, his loyalty to Catholicism and his king won him the respect and affection of his countrymen. See biography by John Todhunter (1895).

Sarsi Indians (sär'sē), small tribe of North American Indians of the Athapascan linguistic stock. From an early time they had been allied with the BLACKFOOT INDIANS. Sarsi culture was probably acquired from the Blackfoot of the N. Plains cultural area. In the early 19th cent. the Sarsi numbered some 400. They are now on a reservation near Calgary, Alta.

Sartain, John (särtān'), 1808–97, American engraver, b. London. He was a pioneer in mezzotint engraving in the United States, to which he came in 1830. After being engraver for several periodicals he founded in 1848 *Sartain's Union Magazine*, which was discontinued in 1852. He engraved many fine plates after the older school of painters—West, Sir Thomas Lawrence, and Thomas Sully. His daughter, **Emily Sartain,** 1841–1927, b. Philadelphia, was an engraver and painter. She studied with her father and in Paris. Her painting *The Reproof* was exhibited at the Centennial Exposition,

Philadelphia, 1876 She executed some mezzotint engravings and in 1886 became principal of the Philadelphia School of Design for Women A son, **Samuel Sartain,** 1830–1906, b Philadelphia, was also an engraver. He studied mezzotint engraving with his father and engraved after paintings by C W Peale, Thomas Sully, and others Another son, **William Sartain,** 1843–1924, b Philadelphia, engraver and painter, studied with his father and in Paris He made some mezzotint portrait plates and painted landscapes and genre pictures Among his paintings are *Street in Dinan, Brittany* (Corcoran Gall), *A Chapter from the Koran* (Metropolitan Mus); and *Algerian Water Carrier* (National Gall of Art, Washington, D C)

Sarthe (sart), department (2,411 sq mi , pop 412,214), NW France, in MAINE It is traversed by the Sarthe river Le Mans is the capital

Sarthe, river, 175 mi long, rising in the hills of Perche, NW France It winds southwestward past Alençon and Le Mans, through MAINE Joined by the Loir, the Sarthe unites, just above Angers, with the Mayenne to form the Maine river, which after a brief course empties into the Loire

Sarto, Andrea del (ändrā'ä dĕl sär'tō), 1486–1531, Florentine painter, equally famous for his frescoes and his oils He painted chiefly religious subjects In 1509 he was commissioned by the Servites to decorate their cloisters of Sant' Annunziata, Florence His five frescoes there, illustrating the life of St Philip, won him the title the faultless painter Also in this court are *Nativity of the Virgin, Procession of the Magi,* and a lunette, *Madonna del Sacco* Notable scenes from the life of St John the Baptist in monotone are in the Cloisters of the Scalzo, Florence, and the *Last Supper* is in the refectory of the Convent of San Salvi His oils include two *Annunciations, Deposition from the Cross,* two *Assumptions, Madonna in Glory* (Pitti Palace, Florence), *Madonna of the Harpies* (Uffizi), *Holy Family* and *Charity* (Louvre), *Holy Family* (Metropolitan Mus), *Madonna and Child with St John* (National Gall of Art, Washington, D C), and others in London and Madrid Del Sarto's work is distinguished for its monumental composition, fine draughtsmanship, and sumptuous color His handsome and capricious wife, Lucrezia, is thought to have posed for many of his Madonnas

Sartre, Jean Paul (zhäⁿ pōl' sär'trŭ), 1905–, French philosopher and writer, noted as the originator of the French existentialist philosophy (see EXISTENTIALISM) After teaching (1929–39) philosophy, he joined the French army, he was imprisoned (1940–41) by the Germans After his release he participated in the resistance movement in Paris In 1945 he founded and edited the periodical the *Temps modernes,* which covers literature and politics from an existentialist viewpoint Among his philosophical works are *L'Être et le néant* (1943) and *L'Existentialisme est un humanisme* (1946, Eng tr , *Existentialism,* 1947) He is the author also of the novels *La Nausée* (1938, Eng tr , *Nausea,* 1949), *L'Âge de raison* (1945, Eng tr , *Age of Reason,* 1947), *Le Sursis* (1945 Eng tr , *The Reprieve,* 1947), and *La Mort dans l'âme* (1949), the latter three form the trilogy *Les Chemins de la liberté* [the roads to freedom] As a dramatist Sartre has written *Les Mouches* (1943, Eng tr , *The Flies,* 1947), *Huis-Clos* (1944, Eng tr , *No Exit,* 1947), *Morts sans sépulture* (1946, Eng tr , *The Victors,* 1948), *La Putain respectueuse* (1946, Eng tr , *The Respectful Prostitute,* 1948), and *Les Mains sales* (1948, Eng tr , *Dirty Hands,* 1949, produced in New York as *The Red Gloves,* 1948)

Saruch (sā'ruk), variant of SERUG

Sarum, Wiltshire, England see OLD SARUM and SALISBURY

Sarus, river see SEYHAN

Sasanidae or **Sasanians** see SASSANIDAE

Sasebo (säsä'bō), city (1940 pop 205,989, 1947 pop 175,233), Nagasaki prefecture, W Kyushu, Japan It is a port and naval base on the East China Sea and was heavily bombed in the Second World War

Saskatchewan (suskă'chuwun, -wän", sä"–) [Indian, =swift current], province (247,975 sq mi , with water surface, 251,700 sq mi , 1941 pop 895,992, 1948 estimated pop 854,000), W Canada Regina, the largest city, is the capital, other important cities are Prince Albert, Saskatoon, and Moose Jaw Saskatchewan is bounded on the north by the Northwest Territories, on the east by Manitoba, on the south by North Dakota and Montana, and on the west by Alberta It is the central one of the Prairie Provs Its desolate northern third is part of the Laurentian Plateau, with large areas of granite rock laid bare by glaciation An intricate system of lakes and rivers drain NW into the Mackenzie river through the enormous Lake Athabaska or E into the Churchill river Inaccessible except by canoe or plane, the region is inhabited by only a few trappers and prospectors Geological surveys indicate abundant mineral resources, and the discovery of pitchblende-yielding ore of high uranium content may encourage development Between the Saskatchewan and Churchill rivers lie park lands containing much merchantable timber, a large area of which is reserved as Prince Albert National Park. Only in S Saskatchewan has there been any substantial settlement or development. In this region the prairie fields of rich alluvial soil, with adequate rainfall during the growing season, have permitted highly productive agriculture Except for a semiarid section in the southwest used for grazing and an area in the east and central portion given over to mixed farming and dairying, the land is devoted to the raising of hard wheat Vast expanses of unbroken country are well suited to large-scale, mechanized farming, and miles of undulating hills glisten sea green in the spring, soon turning gold under the intensive heat of long summer days The cities serve as railroad and distribution points, 7,500 mi of rail lines, including two transcontinental roads, connect the towns with the Great Lakes ports Oil and lignite are produced for fuel, and there has been some development of hydroelectric power The province of Saskatchewan was created in 1905 from portions of the provisional districts of Saskatchewan, Assiniboia, and Athabaska—formerly part of the Northwest Territories After the transfer of territorial rights by the Hudson's Bay Company to the Canadian government, Saskatchewan was the scene of violent revolt by half-breed trappers in the Riel Rebellion of 1884–85 (see RIEL, LOUIS) By this time the Canadian Pacific Railway had reached the province and was bringing immigrants from E Canada, and later from Europe, and opening up trade through the Great Lakes ports Agricultural settlement, stimulated by free land grants, proceeded so rapidly that there was little opportunity to consider the wisest use of the land As a result large areas were plowed that should have been left covered The Dust Bowl development of the '20s and the drought and world depression of the '30s have resulted in large migrations to other areas Soil-conservation measures and greater diversification of crops have improved agricultural production The high food demands of the Second World War and post-war years and the wide development of consumer and producer cooperatives have placed the economy on a firmer footing Politically Saskatchewan is experimenting with a socialist government After rejecting in 1938 the Social Credit Plan as developed by Alberta, the province gave victory in 1944 to the Co-operative Commonwealth Federation under leadership of T C Douglas Its administration has passed legislation favorable to farmers, promoted numerous welfare measures, and established several government-owned and -operated business enterprises See G M Dunlop, *Tales of the North-West Rebellion* (1934), A S Morton, *History of Prairie Settlement* (1938), G E Britnell, *Wheat Economy* (1939), S R Montague, *North to Adventure* (1939), M W Campbell, *The Saskatchewan* (1950), S M Lipset, *Agrarian Socialism* (1950)

Saskatchewan, river formed in central Saskatchewan, just E of Prince Albert, by the confluence of two large branches, the North Saskatchewan and the South Saskatchewan It flows generally east 340 mi , past Nipawin, crossing the Manitoba border, and past The Pas, then through Cedar Lake to Lake Winnipeg The North Saskatchewan rises in the Columbia ice field at the foot of Mt Saskatchewan, SW Alta , and flows generally east 760 mi past Rocky Mountain House and Edmonton, into Saskatchewan, and past North Battleford and Prince Albert Its chief tributaries are the Clearwater, Brazeau, Vermilion, and Battle rivers The South Saskatchewan is formed in S Alberta by the confluence of the Bow and Oldman rivers, it flows 550 mi (with the Bow 865 mi) E past Medicine Hat, then NE into Saskatchewan, where it receives the Red Deer, then E and N past Saskatoon to its junction with the North Saskatchewan The Saskatchewan proper, with its two branches and their tributaries, drains the prairies of central and S Alberta and Saskatchewan It was a chief transportation route of explorers and fur traders in the old Northwest Territories before the arrival of the railroad See M W Campbell, *The Saskatchewan* (1950)

Saskatchewan, University of, at Saskatoon, provincially supported, coeducational, chartered 1907, opened 1909 It has colleges of agriculture, arts and science, commerce, education, engineering, law, music, and pharmacy, schools of household science, medical sciences, nursing, and physical education, and a junior branch, Regina (Sask) College, which includes a music conservatory and a fine arts school

Saskatoon (săskutōn'), city (pop 46,028), S central Sask , on the South Saskatchewan river and NW of Regina Laid out in 1883, it grew rapidly after the arrival (1890) of the railroad, it was incorporated in 1906 It is the chief manufacturing and distributing center for central and N Saskatchewan, with grain elevators, stockyards, meat-packing plants, woodworking and metalworking plants, and manufactures of farm machinery, soap, chemicals, and powdered eggs The Univ of Saskatchewan (see SASKATCHEWAN, UNIVERSITY OF), with its affiliated colleges, is here, as is a dominion forestry station

sassafras (să'sufrăs"), tree or shrub (*Sassafras variifolium*) with entire or two-lobed or three-lobed leaves It is native to E North America and was one of the earliest plants to command the attention of Europeans on this continent and was early exported to the Old World and sold at high prices It was considered a panacea for many ills More recently it has been reduced to minor medicinal importance The pith of sassafras yields a mucilaginous product used in ophthalmia, the reddish bark of the root is brewed for sassafras tea and is included in root beers, the leaves are powdered and used in parts of the S United States in making soups and condiments Oil of sassafras is used commercially to scent soap and other products and to flavor confectionery

Sassafras Mountain, peak, 3,560 ft high, NW S C , in the Blue Ridge near the N C and Ga lines, highest point in South Carolina

Sassanidae (săsă'nĭdē), **Sassanids** (să'sunĭdz), or **Sassanians** (săsā'nĭunz), last dynasty of native rulers to reign in Persia. The period of their dominion extended from A D c 226, when the Parthians were overthrown and the capital, Ctesiphon, taken, until c 640, when the country fell under the power of the Arabs The last of the Sassanian kings died a fugitive in 651, but he had been forced to yield Ctesiphon to the Arabs in 636 Under the Sassanidae the ancient Zoroastrian religion had a season of new life The name of the dynasty was derived from Sassan, an ancestor of the founder of the dynasty, ARDASHIR I, who seems to have established possession of Ctesiphon in 226 and reigned until 241 In his reign and many of those which followed, war with the Romans occupied much attention Sassanian persecution of the Christians led to wars with Byzantium Syria and Armenia suffered particularly from invading armies Ardashir I was succeeded by his son SHAPUR I who was victorious over Roman Emperor Valerian and ruled until 272 The next reign of importance was that of SHAPUR II, from 309 to 379, a period of particular significance and glory Bahram V, ruling 420 to 438, was defeated by the Emperor Theodosius, but was successful against the White Huns The Armenians were overwhelmed by Yazdagard II in 451, and their land was overrun by the Sassanians under KHOSRU I, who reigned from 531 to 579 and who also invaded Syria Both countries were entered again by KHOSRU II, reigning 590 to 628, whose conquest of Egypt was the final victorious achievement of the dynasty The last representative of the family on the throne was Yazdagard III, who began to reign in 632 His struggle against the Arabs ended in entire defeat The name is also spelled Sasanidae or Sasanian See PERSIA

Sassari (sä'särē), city (pop 44,130), on NW Sardinia capital of Sassari prov , Italy It is an agricultural center Cheese and oil are the main products Zinc and lead are mined near by Sassari was an important center in the Middle Ages, later declined, and is now expanding again It has a cathedral, a university (founded 1677), and a museum of antiquities

Sassoferrato (sä"sōfär-ra'tō), 1609–85, Italian painter, pupil of Domenichino His real name was Giovanni Battista Salvi He is best known for his somewhat sentimental Madonnas in the style of Raphael, such as the *Madonna of the Rosary* (Santa Sabina, Rome) and *Madonna* (Metropolitan Mus)

Sassoon, Siegfried (susōōn'), 1886–, English poet and novelist An officer in the First World War, he expressed his conviction of the brutality and futility of war in his powerful, realistic verse, *The Old Huntsman* (1917), *Counter Attack* (1918), and other volumes His autobiographical novels are on the same theme—*Memoirs of a Fox-hunting Man* (1928), *Memoirs of an Infantry Officer* (1930), and *Sherston's Progress* (1936), all collected as *The Memoirs of George Sherston* (1937) His autobiography to 1920 is in *The Old Century* (1949), *The World of Youth* (1942), and *Siegfried's Journey* (1946) He has also written a biography of George Meredith (1948), and his *Collected Poems* were brought out in 1949

Satalia or **Satalieh** see ANTALYA, Turkey

Satan (sā'tŭn) [Heb ,=adversary], in Judaism, Christianity, and Islam, the principle of evil conceived as a person He is also called the devil [from Gr ,= accuser] and is an angel of heaven who fell from heaven to eternal damnation because he raised a rebellion against God, with him minor angels fell, called devils To Satan the three monotheistic religions commonly ascribe the origin of much of the evil of the world, his characteristic activity in the world, about which he is considered to roam, is the destruction of souls, his favorite method of accomplishment being temptation, especially in carnal things The conception most similar to that of Satan is that of the ruler of the kingdom of darkness in ZOROASTRIANISM and MANICHAEISM Popular legend has been very busy with Satan and his angels, and countless stories are told of him The most celebrated of literary uses of such stories is undoubtedly the Mephistopheles of Goethe's *Faust* The Lucifer of Milton's *Paradise Lost* is a very famous literary treatment LUCIFER is a standard proper name for Satan Names and nicknames of Satan are countless, some of these are variously applied to lesser devils or demons. Besides Satan (I

Chron 21.1; Job 1; 2; Zech 3 2; Luke 10.18; Acts 26 18, 2 Cor 2 11; 11 14) and Lucifer (Isa 14 12), such are Abaddon and Apollyon (both Rev 9 11), Asmodeus (see the book of Tobit), Beelzebub or Baal-zebub (Mat 10 25, 12 22–30, Mark 3 22–30, Luke 11.14–26), and Belial ANTICHRIST is not properly a name for Satan English names for Satan are Dragon and Serpent (both Rev 12 9, 20 2), Evil One, God of This World (2 Cor 4 4), Prince of Darkness, Prince of the Devils (Mat 9 34), Prince of the Power of the Air (Eph 2 2), Prince of This World (John 12 31, 14 30, 16 11), Tempter (1 Thess 3 5), and Wicked One (Mat 13 19) There is no extended account of Satan in the Bible, but there are several references to his fall from heaven and to his strife with Michael before the world began or at its end See (besides the references above) Mat 4 1, 13 39, 25 41, Luke 10 18, John 8 44, Jude 6, and the book of Revelation

Satanism (sā'tunĭzm). The cult of Satan, or Satan worship, is in part a survival of the ancient worship of demons and in part a revolt against Christianity or the Church It rose about the 12th cent and reached its culmination in the blasphemous ritual of the Black Mass, a desecration and perversion of the Christian rite The history of Satanism is secret and obscure It was revived in the reign of Louis XIV in France and is said to be still practiced occasionally there as in some large cities elsewhere

satellite (sā'tulīt), in astronomy, a smaller celestial body attendant upon and revolving round a PLANET or a star Satellites shine only by reflected light. The known satellites differ greatly in size relatively to their primary planets Of them all, the earth's only satellite, the MOON, is the largest in comparison with its planet No satellites have been discovered for Mercury, Venus, or Pluto, but MARS, SATURN, JUPITER, URANUS, and NEPTUNE all have their secondary planets, or satellites, and each one except Neptune is accompanied by more than one satellite In the planetary system, satellites revolving comparatively near their respective planets have orbits nearly circular, the planes of which almost coincide with those of the equators of the primaries, but those which, like the moon, are more remote from their primaries, show greater eccentricity and inclination of orbit The usual motion is from west to east, but some, like the satellite of Neptune, the 9th satellite of Saturn, and the 8th, 9th, and 11th of Jupiter, move in the opposite direction, i e , have a retrograde motion In such cases the satellite has a plane of revolution which is almost perpendicular to the ecliptic It is difficult to find a theory of the origin of the planetary system which satisfactorily accounts for the retrograde motion of satellites

Satie, Erik (ārēk' satē'), 1866–1925, French composer, studied at the Paris Conservatoire, pupil of Vincent d'Indy and Albert Roussel at the Schola Cantorum He reacted against the lush and sensuous in music and wrote in a highly simplified style His perverse sense of humor led him to write his scores in red ink and without bar lines and to give them titles such as *Three Pieces in the Shape of a Pear* (1903) He wrote piano pieces, ballet music, and music for moving pictures, his own music is, however, of less importance than his influence on other composers, among them Ravel In 1918 there gathered around him a group of young composers—POULENC, HONEGGER, Georges Auric (1899–), Louis Durey (1888–), and Germaine Tailleferre (1892–)—who were united in the reaction against impressionism They were joined in 1919 by Milhaud and were later referred to as *Les Six* A ballet, *Les Mariés de la tour Eiffel* (1921), which had music by all except Durey, was the only work in which the group collaborated. Jean Cocteau, their literary prophet, wrote the scenario

satin, lustrous silk in which the filling is so arranged as to bind the warp as seldom as possible and so spaced that practically nothing shows but the warp. Satin was first woven by the ancient silk weavers of China, it is mentioned by classic writers as being greatly desired by early Greeks and Romans In the Middle Ages it was rare and costly and was known as *zaloni* (from the name of a Chinese town) and samite It was used for churchly and royal garments, a robe of Charlemagne's being of blue satin embroidered with gold As the secrets of silk making were carried westward, splendid satins were woven in Genoa and Florence, then at Lyons and in England in the 15th cent Modern satins are made in a great variety of fibers, weights, and qualities and under different names

satin spar see CALCITE and GYPSUM

satinwood, hard and durable wood with a satinlike sheen, much used in cabinetmaking, especially in MARQUETRY East Indian or Ceylon satinwood is the yellowish or dark brown heartwood of *Chloroxylon swietenia* The lustrous, fine-grained, usually figured wood is used for furniture, cabinetwork, veneers, and backs of brushes West Indian satinwood, sometimes called yellowwood, is considered superior It is the golden yellow, lustrous, even-grained wood of an evergreen (*Zanthoxylum flavum*), found in the Florida Keys, the Bahamas, Santo Domingo, and Puerto Rico. It has long been valued for furniture It is also used for musical instruments, veneers, and other purposes

satire (sā'tīr), term applied to any literary form, in poetry or prose, which ridicules a situation, an individual, or an idea The purpose of satire is to correct manners and morals, but it does not do this by being didactic Instead it makes use of mockery, broad humor, sophisticated wit, harsh invective, parody, or a gentle irony. It may be humorous or serious, but in general the object of the satire is made to seem ridiculous rather than evil The Greek Archilochus is said to be the founder of satire, and the most famous Greek satires are the comedies of Aristophanes The satiric dialogues of Lucian were an important influence in the development of satire Among the Romans, who originated the word, satire can be traced to the FESCENNINE VERSES of the Etruscans But the founder of Latin satire was Lucilius, and the most famous satires were those of Horace (ironic and somewhat gentle) and of Juvenal (who flayed contemporary vices) Other satirists include Persius, whose satire was harsh, Petronius, and Martial, the epigrammatist The Middle Ages contributed a large body of satire in fables, beast epics (such as Reynard the Fox), fabliaux, and Goliardic verse The great satirists were Jean de Meun, who wrote the second part of *Le Roman de la Rose*, Chaucer, Langland, and, at the beginning of the Renaissance, Rabelais In the 16th cent great satirists could be found throughout Europe—Cervantes, Erasmus, Ulrich von Hutten, Sebastian Brant, the authors of *Till Eulenspiegel*, and, in England, John Skelton and Alexander Barclay Elizabethan satire is found in Thomas Lodge, Thomas Nash, and John Marston and in the comedies of Ben Jonson Later in the 17th cent , satire was very popular in Butler's *Hudibras*, an attack on the Puritans, and in the famous narrative poems of Dryden Satire now began to use ridicule rather than invective Aside from the comedies of Molière, the best-known French satirist of this period was Boileau-Despréaux In the 18th cent , satire dominated English literature and can be found in the brilliant couplets of Pope, in the fiction of Fielding and Smollett, and in the great prose works (*Gulliver's Travels*, *A Tale of a Tub*, and others) of Swift Others included Arbuthnot, Rochester, and, later in the century, Robert Burns The dominant literary figure in France at this time was also a satirist—Voltaire Lessing, Wieland, and (in the 19th cent) Heine were prominent German satirists Fewer individual literary works can be called satires in 19th-century literature Manners and morals were still ridiculed, but it was generally part of a longer work, usually a novel In poetry famous satires were written by Byron, in light verse by William Gilbert, in drama by Wilde and Shaw, and in fiction by Thackeray, Dickens, Samuel Butler, and many others In America the satirists include Washington Irving, James Russell Lowell, Oliver Wendell Holmes, and Mark Twain The development of the columnist in the modern newspaper and magazine produced a new type of satirist Contemporary satirists of note are Sinclair Lewis, James Thurber, Aldous Huxley, Evelyn Waugh, and W H. Auden See David Worcester, *The Art of Satire* (1940), Edgar Johnson, ed , *A Treasury of Satire* (1945)

Satire Ménippée see SATYRE MÉNIPPÉE

Satoraljaujhely, Hung *Sátoraljaujhely* (sha'tôrô-lyô-ō͞ō'lhĕl), city (pop 18,427), NE Hungary, near the Czechoslovakian border It is sometimes called Ujhely It is the center of a winegrowing region

satrap (sā'trăp), governor of a province (satrapy) of the ancient Persian Empire He was nominated by the king and given extensive powers DARIUS I reorganized the privileges and duties of his 31 satraps in the 6th cent B C The satrap commanded the provincial troops, but the fortresses were garrisoned by imperial forces The king regulated the taxes and imposed a fixed sum upon each satrap Alexander the Great revised the system, replacing Persians by Macedonians and reducing their powers The command of the troops was taken from the satraps, who lost the right to engage mercenaries and to issue coinage

Satsuma (sătsō͞o'mä), peninsula, Kagoshima prefecture, SW Kyushu, Japan It gave its name to a famous porcelain, Satsuma ware It was the old province that was in control of the powerful Satsuma clan, prominent for centuries in Japanese history and most notable for the revolution against the imperial government in 1877 led by Takamori Saigo The suppression of this Satsuma revolt was an important step in the Meiji restoration

Satterlee, Henry Yates, 1843–1908, American Episcopal bishop, b. New York city, grad Columbia, 1863, and General Theological Seminary, 1866 In 1896 he was consecrated as the first bishop of the diocese of Washington, D.C The National or Washington Cathedral, the cornerstone of which was laid before his death, has its origin in his plans and work.

Satu-Mare (sä'tō͞o-mä'rĕ), Hung *Szatmárnémeti* (sôt'marnä'mĕtē) or *Szatmár* (sôt'mär), city (pop. 46,519), NW Rumania, in Crisana-Maramures, near the Hungarian border. It is the commercial center of an agricultural region and has manufactures of textiles, machinery, and various other goods Two thirds of the population are Hungarians. Satu-Mare has three cathedrals and an old palace The peace of Szatmar (1711) ended the rebellion of Francis II RAKOCZY.

saturation, in general, the condition existing in a SOLUTION when the solvent has dissolved all that it can of the solute at a given temperature. It is possible, however, by mechanical means, to dissolve a greater quantity of a substance in a solvent than the solvent would normally hold in solution Such a solution is known as a supersaturated solution and is commonly prepared by heating a saturated solution, adding more of the solute, and then cooling carefully When it is in this condition, in some cases the addition of a minute crystal of the solute will bring about almost instantaneous crystallization of much of the solute DEW results from the saturation of the air near the ground with water vapor (in this case the solute) and the subsequent condensation of this water vapor when the temperature of the air is lowered In chemistry, an organic compound such as methane is called a saturated hydrocarbon because in its molecule the full valence of the carbon atom is taken up in holding the hydrogen atoms Certain derivatives can be formed from it by the substitution of other atoms or radicals for the hydrogen atoms (see METHANE SERIES), but not by the addition of other atoms

Saturday see WEEK and SABBATH

Saturn (sā'turn), in Roman religion, god of the harvest, husband of OPS and father of CERES He is identified with CRONUS He ruled the world in the Golden Age of peace and plenty. Of the origins of his cult little is known His festival was the **Saturnalia** (sā"turnā'lēu) On Dec 17, and for several days thereafter, all work was stopped, gifts were exchanged, and slaves did as they pleased

Saturn, in astronomy, the major planet revolving in an orbit next outside that of Jupiter and sixth in order of distance from the sun It is almost twice as far from the sun as Jupiter, its mean distance being 886,120,000 mi., its period of revolution is almost 30 years Its volume is 734 times that of the earth, its mass 94 9 times as great, but its density, which is less than that of any other planet, is about one-eighth that of the earth Its equatorial diameter is c 75,000 mi To the eye unaided by lenses, Saturn is a star shining with a yellowish light, and it appears to be of about first magnitude Seen through the telescope, its form is a markedly oblate disk, brightest at the equator Bands parallel to the equator present markings across the surface somewhat resembling those of Jupiter but less definite Clearly marked spots, or points, that would aid in determining the rotation period are lacking, but various observers have calculated the time, obtaining different results that depend upon the region under observation In general, the rotation period is shorter near the equator than in other latitudes The shortest time arrived at is 10 hr 14 min , the longest, 10 hr 38 min The different periods of rotation for different regions indicate a fluid or vaporous condition, in place of a solid surface Its atmosphere contains ammonia and methane, the methane predominating Saturn is known to have at least nine satellites In the 17th cent Christiaan Huygens discovered one and G D Cassini four, William Herschel added two in 1789, the eighth was detected independently by W C Bond and W Lassell in 1848, and the ninth was found photographically by W H. Pickering and named Phoebe This one revolves in the retrograde direction. Pickering announced the detection of another, Themis, in 1905, but it is still considered problematical The largest of all the satellites, and the first known, is Titan, about the size of Mercury In 1944 it was determined that Titan has an atmosphere But the feature which has no parallel and which makes Saturn the most interesting and beautiful object of study in the planetary company is the system of rings encircling it and lying in the plane of its equator Seen for the first time by Galileo through his telescope, this appeared in the form of winglike extensions on the sides of the planet Huygens, in 1655, explained that the true form of the extension was a great ring, and in 1675 Cassini discovered that a dark rift separated it into two bright rings Hence the gap is called Cassini's division In the space between the inner of these two rings and the planet, and extending to within c 7,000 mi of the equator of Saturn, is what is known as the crape ring, because it is comparatively faint and dusky First noted by J G Galle in 1838, it was not generally recognized until G. P Bond of Harvard and W R Dawes of England discovered it anew and independently The central ring is the brightest and is c 15,000 mi wide The outer ring is somewhat less broad, and Cassini's division between them is c 2,500 mi. across. The extreme diameter of the whole ring system is estimated to be over 172,000 mi , but the thickness is believed to be only from 10 to 50 mi The plane of the system has an inclination of about 27° to the planet's orbit, of about 28° to the ecliptic It crosses the earth's orbit twice in the course of each

revolution of Saturn. The edge of the system is then turned towards the earth and can be perceived only by means of powerful telescopes This occurs at intervals of nearly 15 years In the periods between, the rings unfold by degrees to their widest stage and diminish gradually again Early in the 18th cent Jacques Cassini indicated that the rings may be made up of meteoric bodies It has since been proved that they are composed of swarms of particles moving in their own individual orbits round the planet The particles of the inner edge revolve with greater velocity than those in the outer regions The dimness of the crape ring is probably the result of a less close distribution of the particles The conclusion reached by James Clerk Maxwell in 1857 that the rings are meteoric particles was confirmed by J E Keeler in 1895 in his observations by means of the spectroscope.

Saturnalia. see SATURN, in Roman religion

Saturninus (Lucius Appuleius Saturninus) (săt'ûr-nī'nŭs), d 100 B C , Roman statesman He was quaestor in 104 B C and later tribune of the people He was violently opposed to the senatorial party and allied himself with MARIUS to procure the banishment of METELLUS NUMIDICUS, the passage of a grain law, and the establishment of new colonies in Sicily, Achaia, and Macedonia With the demagogue Glaucia he instigated the murder of C Memmius, Glaucia's rival for the consulship, for this the senate proscribed them He and Glaucia fled from the Forum to the Capitol, where they surrendered to Marius after the water supply had been cut off When they were being held for security, the mob stoned them to death with roofing tiles

satyr (să'tur, săt'ûr), in Greek mythology, one of a tribe of creatures who lived in forests and mountains A satyr, a lesser deity of fertility, was lustful and fond of wine, of revelry, and all kinds of mischief In this aspect he was like Silenus and Comus A satyr, like a faun, was pictured as a hairy little man, with a short tail, and pointed goatlike ears Later, satyrs became followers of DIONYSUS

Satyre Ménippée or **Satire Ménippée** (sătēr' mānēpā') [from *Saturae Menippeae*, lost work of Varro based on satires by the Greek cynic Menippus], anonymous French political lampoon (1st ed , 1594) circulated in Paris in the 1590s, especially at the States-General (1593) A brilliant burlesque of the part of the leaders of the League at the session, it helped sway Parisian opinion to the side of Henry IV A canon, Le Roy, had the principal part in writing it

Sau, river, Yugoslavia see SAVA

sauce, seasoning or flavoring composition, usually in liquid or semiliquid form, used as an appetizing accompaniment for meat, fish, vegetables, and desserts Since ancient Roman times sauces have been considered an important feature of good cookery, many famous cooks and epicures having distinguished certain concoctions by their own names Sauces may be roughly divided into two general classes, hot and cold, and divided again, the hot as white and brown, the cold as the mayonnaise type and the type used for coating cold foods and often containing gelatine Hot sauces, made with a base of flour, fat, and milk or stock, may be varied by seasonings and added ingredients into some hundred different sorts Some of the familiar sauces are soubise or onion sauce, hollandaise, a rich composition of butter and egg, béchamel, a rich white sauce made with white stock, and béarnaise, with vinegar, onions, and egg yolks Stewed fruits, such as apple and cranberry, are sometimes classified as sauces Commercial sauces are finely blended extracts of various fruits and vegetables with vinegar and condiments Worcestershire-style sauce contains vinegar, onions, spices, chilies, soy, and pickled fish, finely blended and strained Leicester sauce is less pungent Chili sauce, most catchup, and creole sauce contain tomatoes Sauces for puddings and desserts include syrup, custard, fruit, and creamed sauces (hard sauce and wine and brandy sauce)

Saud, Ibn see IBN SAUD

Saudi Arabia (sou'dē ŭrā'bēŭ), kingdom (c 900,000 sq mi ? pop c 5,500,000?), Arabia Riad is the capital Saudi Arabia is washed on the west by the Red Sea and on the east by the Persian Gulf Its land boundaries include, on the north, Jordan (frontier partly undefined), Iraq, Kuwait, and two neutral territories and, on the east, Qatar and Trucial Oman The vast desert stretches of the Rub al Khali in the south make the boundaries with Yemen, Aden, and Oman indeterminate The country was in fact, though not in name, founded in 1925, when the ruling monarch, IBN SAUD, then king of the Nejd, formally annexed the Hejaz In 1927 the kingdom of the Nejd and the Hejaz was proclaimed and recognized by Great Britain The name Saudi Arabia was adopted in 1932. The country is a nearly absolute monarchy, ruled by the king and his sons under Moslem law In several respects Saudi Arabia is one of the leading Arab nations of the world. It is of prime religious significance, for within the Hejaz are the holy cities of MECCA and MEDINA, which yearly attract thousands of pilgrims. Its economic importance also is great, with El Hasa (the east coast) having perhaps the largest oil reserves in the world. The oil concession for the entire country was granted in 1933 to a corporation organized in Delaware, the Arabian American Oil Company With the royalty and rental fees the royal government intends to reduce poverty and undertake a large program of public works, including improvements to the deep-water port of Dammam on the Persian Gulf and construction of a railroad from Riad to the coast In the Second World War, Saudi Arabia was until late in the conflict neutral but sympathetic to the British In March, 1945, it declared war on the Axis and became an original member of the United Nations It belongs to the ARAB LEAGUE and in 1948 gave its support (but few troops) to the attack on Israel For additional history and geography see ARABIA, HEJAZ, NEJD See K S Twitchell, *Saudi Arabia* (1947)

Sauer, Christopher see SOWER, CHRISTOPHER

sauerkraut (sou'ûrkrout") [Ger ,=sour cabbage], finely shredded cabbage fermented and preserved in a brine composed of its own juice and salt Its making, formerly a branch of domestic food preservation, is now chiefly a large-scale commercial operation Layers of cabbage and salt are placed under pressure in large wooden vats, inoculated with a lactic acid culture, and kept at a temperature of about 80°F for two months, then sold in bulk or canned The juice, also canned is used as an appetizer, alone or in vegetable cocktails

Saugerties (sô'gurtēz), village (pop 3,916), SE N Y , on the west bank of the Hudson and N of Kingston, at the foot of the Catskills, inc 1831 Esopus Creek empties into the Hudson here There are stone quarries, and paper and other products are made

Saugus (sô'gŭs), town (pop 14,825), NE Mass , N of Boston, settled before 1637, set off from Lynn 1815 The Saugus ironworks (1645) were the first successful enterprise of the kind in the colonies

Sauk Centre (sôk), city (pop 3,016), central Minn , WNW of St Cloud, on the Sauk river, settled 1856, platted 1863, inc as a village 1876, as a city 1889 It is a trade center for a farm and dairy region A state industrial school for girls is here Sinclair Lewis laid the scene of *Main Street* in Sauk Centre, his birthplace

Sauk City, village (pop 1,325), central Wis , adjoining Prairie du Sac on the Wisconsin and NW of Madison, founded 1838, inc 1854 It is a farm trade center Agoston Haraszthy de Moksca settled here (1840), and other European refugees followed See August Derleth, *Village Daybook a Sac Prairie Journal* (1947)

Sauk Indians see SAC AND FOX INDIANS

Sauk Rapids, village (pop 2,981), central Minn , on the Mississippi just N of St Cloud, in a farm area near granite quarries, platted 1851, inc 1881

Saul [Heb ,=asked for], fl 1025 B C , first king of the ancient Hebrews He was a Benjamite Samuel anointed him king Saul's territory was probably limited to the hill country of Judah and the region to the north, and his proximity to the Philistines brought him into constant conflict with them The Bible tells his story dramatically, for it is really the story of David, first the protégé, then the rival, finally the successor, of the king Saul's son JONATHAN was David's dear friend—a fact that adds pathos to the story of Saul's attempts to destroy David David would not harm Saul, who nevertheless met a melancholy end after he went to the witch of Endor and heard his defeat and death prophesied Saul fell in battle with the Philistines on Mt Gilboa 1 Sam 10-31 There is an oratorio by Handel called *Saul* The Saul of Gen 36 37 is elsewhere called SHAUL

Saul of Tarsus see PAUL, SAINT

Sault Sainte Marie (sōō' sānt mûrē'), city (pop 25,794), S Ont , on the north shore of the St Marys river opposite Sault Ste Marie, Mich A railroad bridge and a ferry connect the two cities A Canadian government canal and lock were completed in 1895 The city is an important port, with ore docks, steel, lumber, pulp, and paper mills, foundries, railroad shops, smelting and chemical works, and breweries It is a tourist center and the gateway to hunting and fishing resorts in near-by lake and forest regions

Sault Sainte Marie, city (pop 15,847), co seat of Chippewa co , E Upper Peninsula, N Mich , on the St Marys river opposite Sault Ste Marie, Ont , inc as a village 1879, as a city 1887 The region (known as "the Soo") on the American and Canadian sides of the rapids here was named (1641) by the Jesuits Isaac Jogues and Charles Raymbault, and later Father Marquette's Jesuit mission was here (1668). Early explorers on their way from Montreal to Lake Superior and the Northwest paused in the Indian village at the rapids, where in the 18th and 19th cent a succession of French and British trading posts were constructed. The U S Fort Brady, built after Lewis Cass had negotiated (1820) an Indian treaty here, was used until the Second World War The Sault Ste Marie Canal and lock opened in 1855 links Lakes Superior and Huron on the American side of the rapids. Since the Federal government's building of additional locks (1881-1943), together with Canada's lock, the volume of iron-ore, coal, grain, limestone, and lumber tollfree shipping has increased manyfold Carbide, leather, woolen goods, lumber, and dairy and other products are made here The city is a port of entry The library's museum has letters and papers of the early white settlers The site of Father Marquette's mission, the house of H R SCHOOLCRAFT, the house of the fur trader John Johnston, and other historic sites, as well as the excellent fishing and hunting near by, draw tourists. A U S. coast guard base is here.

Saumaise, Claude de: see SALMASIUS, CLAUDIUS

Saumarez, James Saumarez, baron de (sô'murĕz), 1757-1836, British admiral He entered the navy in 1770, rose from the ranks, and attained command of a vessel in 1781 Saumarez distinguished himself in the wars with the French, though he did not command at any of the great victories He was with Admiral George RODNEY at the defeat of Admiral de Grasse in the West Indies (1782), with Admiral John JERVIS at the victory of Cape St Vincent (1797), and with Horatio NELSON at Aboukir in 1798, taking an important part in each engagement In 1801 he became rear admiral and was created baronet The same year, after an initial repulse, he defeated a French and Spanish fleet off Algeciras in his greatest victory Made vice admiral in 1807, he conducted a five-year patrol of the Baltic (1809-14), which did much to strengthen Russia for the final campaigns against Napoleon. In 1814 Saumarez was made an admiral, and in 1831 he was raised to the peerage

Saumur (sōmur'), town (pop 14,885), Maine-et-Loire dept , W France, on the Loire It is noted for the sparkling wine of the region and for its cavalry school, founded in the 18th cent Dating from Roman times, Saumur was seized (1026) from the count of Blois by Fulk Nerra, count of Anjou, next to Angers, Saumur became the most important town of ANJOU In the 16th and 17th cent it was a great Huguenot center, with a famous academy founded by Philippe de MORNAY Among the notable buildings are the Church of Notre Dame de Nantilly (early 12th cent), the town hall (16th cent), and many Renaissance houses The town suffered damage in the Second World War

Saunders, Sir Charles, 1713?-1775, British admiral He had seen 32 years of service in the British navy when he was selected to command the fleet that in 1759 carried the soldiers of James Wolfe up the St Lawrence to Quebec To this skillful feat of navigation the fall of Quebec may be in part ascribed Saunders was knighted in 1761, he became first lord of the admiralty in 1766 and an admiral in 1770 He is buried in Westminster Abbey. See biography by Edward Salmon (1914)

Saunders, Sir Charles Edward, 1867-1937, Canadian wheat expert, b London, Ont , grad Univ. of Toronto, 1888, and Johns Hopkins (Ph D , 1891) Appointed (1903) dominion cerealist, he originated four hardy, early-ripening varieties of wheat; his Marquis became the dominant type of Canadian wheat For his notable services to agriculture, he was knighted in 1934 In his wheat discoveries, he worked under and continued the experiments begun by his father, **William Saunders**, 1836-1914, who was director (1886-1911) of the experimental-farms branch of the Canadian department of agriculture In many scientific papers he reported his findings on the cross-breeding of cereals and fruits His *Insects Injurious to Plants* (1883) has passed through several editions

Saunderson or Sanderson, Nicholas, 1682-1739, English mathematician He was blind from infancy A lecturer (1707) on Newtonian philosophy, Cambridge Univ , in 1711 he became Lucasian professor of mathematics. To enable himself to accomplish figuring by touch, he invented a calculating machine He was a fellow of the Royal Society. He wrote *Elements of Algebra* (1740)

sausage, food consisting of finely chopped meat mixed with seasonings and, usually, other ingredients Over a hundred different varieties are known, many of them indigenous to particular localities and some of great antiquity Many different ingredients have been used for different varieties One of the earliest was said to be made from shrimps, crabs, oysters, prawns, and lobsters Black pudding, an ancient dish in England and Scotland, was made of oatmeal, suet, and hog's blood, variously seasoned in different localities White pudding was suet with toasted oatmeal A special white pudding is made in France of chicken, yolks of eggs, spices, and bread crumbs The pork sausage commonly known in the United States is composed of pork, potato flour, water, and seasonings Liver puddings contain parboiled liver with other ingredients Sausages are divided into two classes, wet and dry, according to whether they are made with fresh or cooked meat Dry kinds may be pickled, smoked, or boiled Salame, common in Italy and Germany, contains beef, pork, and bacon and is highly seasoned The large Bologna sausage is of veal, pork, and bacon and is smoked Frankfurters and wienerwurst are small, smoked varieties containing lean pork and beef. Sausage is usually packed in casings made of the cleaned and

salted intestines of the slaughtered animals or in cellulose casings

Sausalito (sô'sulē'tō), residential city (pop 3,540), W Calif, N of San Francisco across the Golden Gate, inc 1893 Fort Baker and Fort Barry overlook the harbor

Saussure, Horace Bénédict de (ôras' bānādēkt' dū sōsür'), 1740–99, Swiss physicist and geologist. He was professor at the Univ of Geneva from 1762 to 1786 He is famous for his studies of the geology, meteorology, and botany of the mountainous regions of Europe, particularly the Alps These are described in his great work, *Voyages dans les Alpes* (4 vols, 1779–96) See biography by D. W Freshfield and H F Montagnier (1920)

Saussure, Nicolas Théodore de (nēkôla' tāôdôr' dū sōsür'), 1767–1845, Swiss chemist and plant physiologist, son of H B de Saussure He applied the methods of chemistry to the study of nutrition and respiration in plants and contributed to the knowledge of fermentation, of the conversion of starch into sugar, and of the composition of alcohols

sauterne · see WINE

Sava (sa'vä) or **Save** (säv), Ger *Sau* (zou), Hung *Szava* (sä'vŏ), river, 583 mi long, N Yugoslavia It rises in two headstreams in the Julian Alps and flows SE past Ljubljana, Zagreb, and Sabac to join the Danube at Belgrade It is navigable for two thirds of its course during part of the year The Sava basin is a fertile agricultural region

Savage, Edward, 1761–1817, American portrait painter, engraver, and goldsmith, b Princeton, Mass, self-taught except for a brief period in London, where he probably studied with Benjamin West He painted a portrait of George Washington for Harvard and a group picture of the Washington family His engraved portraits of Thomas Jefferson and Dr Benjamin Rush are highly prized

Savage, Eugene Francis, 1883–, American mural painter, b Covington, Ind Much of his youth was spent in Washington, D C, where he studied at night in the Corcoran School of Art He later attended the Art Institute of Chicago and Chicago Academy of Fine Arts In 1912 he won the American Academy fellowship for Rome After three years abroad he returned to the United States, where he taught at Cooper Union, Carnegie Institute of Technology, and, after 1924, Yale Univ His murals may be seen in the Elks National Memorial, Chicago, the Buffalo Savings Bank, Buffalo, N Y, the Friday Morning Club, Los Angeles, Yale Univ, Columbia Univ, and the City Art Museum, St Louis His work is characterized by its highly decorative use of line and color His themes are often biblical or mythological

Savage, Minot Judson (mī'nut), 1841–1918, American Unitarian clergyman and writer, b Norridgewock, Maine, grad Bangor Theological Seminary, 1864 After serving for nine years in the ministry of the Congregational Church, he became a Unitarian He was pastor of the Third Unitarian Church, Chicago (1873–74), of the Church of the Unity, Boston (1874–96), and of the Church of the Messiah, New York city (1896–1906) In some of his sermons and writings he advocated Protestant acceptance of Darwinism His many books include *Christianity, the Science of Mankind* (1874), *The Religion of Evolution* (1876), *The Morals of Evolution* (1880), *Social Problems* (1886), and *Immortality* (1906)

Savage, Richard, 1697?–1743, English poet The now discredited story of his illegitimate descent from a noble line and of his persecutions, set forth in a biography by Samuel Johnson, won him a reputation which his works—*The Bastard* (1728), *The Wanderer* (1729), poems, *Love in a Veil* (1719), *Sir Thomas Overbury* (1724), plays—did not merit See biography by S V Makower (1909)

Savage's Station see SEVEN DAYS BATTLES

Savaii (savī'ē), formerly **Chatham Island,** volcanic island (703 sq mi, pop 18,654), Western Samoa, under New Zealand mandate, largest and most westerly of the Samoan islands Fertile and mountainous, it contains Mauga Silisili (6,094 ft), the highest peak in Samoa There are many craters with well-forested slopes Tussivi is the headquarters of the resident commissioner

Savalan, mountain, Iran, see SABALAN

Savanna (suvă'nu), city (pop 4,792), NW Ill, on the Mississippi above Clinton, Iowa, in a farm area, settled 1828, inc 1874 An early river port, the city is a trade center and shipping point, with railroad shops Near by is Mississippi Palisades State Park

savanna or **savannah** (both suvă'nu), tropical or subtropical grassland lying on the margin of the trade-wind belts The migration of the belts or equatorial calms brings a rainy season, when savannas are covered with grasses, these wither in the dry season when trade winds prevail Parklike savannas near the equatorial belt, e g, in Nigeria, support clumps of trees The most extensive savannas—all important pasture lands—are in Africa, others include the llanos and the campos of South America

Savannah (suvă'nu) **1** City (pop 95,996), co seat of Chatham co, SE Ga, a port of entry with a good harbor on the Savannah river 16 mi from its mouth, inc 1789 The port is a rail, fishing, and industrial center, exporting rosin, turpentine, cotton, lumber, tobacco, and the products of its many factories. Georgia's oldest and second largest city, it was founded by James OGLETHORPE in 1733 and was the colonial seat of government. In the American Revolution the British took Savannah on Dec 29, 1778, and held it until July, 1782. A navy-army force of French and Americans led by D'Estaing and Benjamin Lincoln tried to retake the city in 1779, first by siege and then by direct assault (on Oct 9), but failed dismally Savannah was state capital, 1782–85 With the growth of trade, especially after the Revolution and the War of 1812, the city came to rival Charleston as a commercial center The first steamship to cross the Atlantic, the *Savannah*, sailed from here to Liverpool in 1819 In the Civil War although Fort Pulaski (see PULASKI, FORT) was captured by Federals in 1862, the city did not fall until Dec 21, 1864, when Sherman entered it on completing his march to the sea Savannah, well planned at its founding, has beautiful, wide, shaded streets, many parks, and numerous fine ante-bellum houses It is a popular winter resort and is the seat of Christ Episcopal Church (1838), housing the colony's first congregation (1733), preached to by John Wesley in 1736, the Roman Catholic co-cathedral of St John the Baptist (1876), the Telfair Academy of Arts and Sciences, with its fine art gallery, Armstrong Junior College (1935), Georgia State College (Negro, 1891), and the Georgia Historical Society About half the city's population is Negro **2** City (pop 2,108), co seat of Andrew co, NW Mo, N of St Joseph, laid out 1842 It ships farm products **3** Town (pop 1,504), co seat of Hardin co, S Tenn, on the east bank of the Tennessee and Sb of Jackson, in a farm area Near by are Shiloh National Military Park (3 729 26 acres, est 1894) and Shiloh National Cemetery at Pittsburg Landing (see SHILOH, BATTLE OF) Pickwick Dam is south

Savannah, river formed when the Tugaloo, flowing along the S C–Ga line, is joined by the Seneca The Savannah, continuing the boundary between South Carolina and Georgia, flows southeast 314 mi to Tybee Sound, an arm of the Atlantic The Clarks Hill Dam, under construction above Augusta, is for flood control and hydroelectric power

Savary, Anne Jean Marie René (ăn' zhă' marē' rună' săvärē'), 1774–1833, French general in the Napoleonic Wars He presided at the trial of the duc d'ENGHIEN (1804), was created duke of Rovigo (1808), and became ambassador to Russia (1807) In 1808 he lured FERDINAND VII of Spain into France, and shortly thereafter he took command in Spain Succeeding FOUCHÉ as minister of police (1810), Savary did not approach his predecessor's skill and efficiency He wished to go with Napoleon to St Helena, but the English sent him to Naples, there the Bourbons condemned him to death, but he escaped and in 1819 was allowed to return to France He commanded an Algerian expedition in 1831 See his letters (4 vols, 1914–24, in French)

Save, river, Yugoslavia see SAVA

Saveh (savă'), town (1947 estimated pop 15,365), N central Iran, SW of Teheran and NW of Kum It is in a fertile district producing cotton and pomegranates Archaeological investigations have been made

Savery, William (să'vurē), 1721–87, American cabinetmaker Little is known of his early life, but he is believed to have resided in Philadelphia from c 1740 He is noted for his artistic and original interpretation of 18th-century English furniture styles and for his fine workmanship Examples of his work are displayed at the Metropolitan Museum

Savigny, Friedrich Karl von (frē'drĭkh kärl' fŭn sa'vĭnyē), 1779–1861, German jurist and legal historian He taught (1810–42) Roman law at the Univ of Berlin, of which he was the first rector In 1814 Savigny wrote *The Vocation of Our Time for Legislation and Jurisprudence* (Eng tr, 1831), which developed the view that the legal institutions of a people are an indigenous expression of the culture and may not be externally imposed He argued that the jurists who formulate law for an advanced culture are representatives of the popular spirit His works on Roman law, models of historical research, are notable for their explication of the social factors The greatest is *Geschichte des römischen Rechts im Mittelalter* [history of the Roman law in the Middle Ages] (2d ed, 7 vols, 1834–51) His books on the modern European system of Roman law include *The Law of Possessions* (Eng tr, 1848) and the uncompleted *System of Modern Roman Law* (partial Eng tr, 1867–94)

Savile, George. see HALIFAX, GEORGE SAVILE, MARQUESS OF

Savile, Sir Henry (să'vĭl), 1549–1622, English classical scholar and mathematician, grad Merton College, Oxford (B A, 1566, M A, 1570). Elected warden of Merton College (1585), he also became provost of Eton, in 1596 He is principally remembered for his translation of four books of Tacitus' history (1591), for his edition of St John Chrysostom (8 vols, 1610–13), and for being one of the translators of the Bible under King James. At Oxford he founded the chairs of geometry and astronomy.

Saville, Marshall Howard (sŭvĭl'), 1867–1935, American archaeologist, b Rockport, Mass, studied (1889–94) anthropology at Harvard Saville was Loubat professor of American archaeology at Columbia Univ from 1903 He studied the remains of the mound builders of S Ohio and made many expeditions to Central and South America, he was an authority on Mayan ruins Much of his work was done under the auspices of the American Museum of Natural History and the Museum of the American Indian, New York city

savings bank, financial institution which receives savings deposits of individuals, often up to a specified amount, places them in sound investments, and provides a modest return in the form of interest to its depositors Mutual savings banks are the only type which accept savings deposits exclusively They are state-chartered institutions, owned by their depositors, and are managed for their mutual benefit by self-perpetuating boards of trustees Other types of savings banks include stock savings banks, national and state commercial banks, and industrial banks However, since all of these banks accept demand and other time deposits, as well as savings deposits, and perform a wide variety of banking services, they are usually classed as commercial banks A great many mutual savings banks as well as commercial banks are insured by, and operate under the regulations of, the Federal Deposit Insurance Corp Savings deposits are also received by the Postal Savings System, which operates within the U S Post Office Dept See F J Sherman, *Modern Story of Mutual Savings Banks* (1934), John Lintner, *Mutual Savings Banks in the Savings and Mortgage Markets* (1948), J I Bogen, *Financial Handbook* (1948)

Savoie (savwä'), department (2,389 sq mi, pop 235,949), E France, in SAVOY, bordering on Italy Chambéry (the capital) and Aix-les-Bains are the chief towns

Savoie, Haute- · see HAUTE-SAVOIE

Savo Island (sa'vō, sä'vō), volcanic island, S Pacific, one of the Solomon Islands It is N of Guadalcanal In the Second World War the naval battle (1942) of Savo Island resulted in a costly defeat for U S forces

Savona (säVō'nä), city (pop 57,354), capital of Savona prov, Liguria, NW Italy, a Mediterranean seaport The seat of a marquisate in the Middle Ages, it was a flourishing commercial center until crushed by Genoa in 1528 It has a fort, a medieval tower, and a cathedral (17th cent) The well-equipped harbor handles large coal imports, there are heavy industries and glass factories

Savonarola, Girolamo (jĕrō'lämō savōnärō'la), 1452–98, Italian religious reformer, b Ferrara He joined the Dominicans (1475) In 1481 he went to San Marco, the Dominican house at Florence, where he soon became a popular preacher, attacking every sort of laxity with burning eloquence He even predicted events, sometimes (as in the date of the death of Innocent VIII) with success. In 1491 he became prior of San Marco, and on the exile of the Medici (1494) he was real spiritual ruler of the city His severity was terrifying, thus he trained his followers to spy out the vices of others In horror at the scandals of the court of Pope Alexander VI, Savonarola felt inspired to put Florence against him politically by joining with Charles VIII of France, now invading Italy Alexander silenced him, then Savonarola resumed preaching, and the pope excommunicated him for disobedience (1497) Savonarola now declared Alexander was no true pope, being elected by simony Florence seethed There was hostility to him in the city, led by local Franciscans, and in March, 1498, the government, threatened by a papal interdict, asked him to stop preaching His run came suddenly when one of his disciples accepted an ordeal by fire to prove Savonarola's holiness Rain prevented the event Nevertheless there were riots, and Savonarola and two disciples were arrested by the city Under torture he confessed to being a false prophet, or so it was announced The three were hanged for schism and heresy, papal commissioners had passed on the sentence, which was certainly assured by Alexander's vindictiveness See Ralph Roeder, *The Man of the Renaissance* (1933)

Savoy (suvoi'), Fr *Savoie* (savwa'), Alpine region, E France, along the Swiss and Italian borders It is bounded by the Alpine crest (east), the Lake of Geneva (north), the Rhone (west), and Dauphiné (south) It is now divided into two departments, Savoie (south) and Haute-Savoie (north) Commanding the passes which connect Italy and France (notably the Little SAINT BERNARD and the Mont CENIS), it also includes the highest Alpine peak, the MONT BLANC Agriculture and dairying have long been the chief resources of the population. Among the numerous mountain resorts and spas Chamonix, Aix-les-Bains, Évian-les-Bains, and Annecy are the best known Chambéry is the historical capital. Occupied by the ALLOBROGES when Julius Caesar conquered the region, Savoy was part

of the successive kingdoms of BURGUNDY and, after 933, that of Arles It was divided into numerous fiefs when the first counts of Savoy appeared in the 11th cent ; from then on its history was closely linked with that of the house of Savoy (see SAVOY, HOUSE OF) Under AMADEUS VIII, Savoy became a duchy; it then extended far into France, Switzerland, and Italy After the losses (to Switzerland) of Lower VALAIS (1475) and GENEVA and VAUD (1536) and (to France) of GEX, BRESSE, and Bugey (1601), the interest of the dukes shifted increasingly to PIEDMONT Turin became the chief ducal residence When VICTOR AMADEUS II became king of Sardinia, Savoy became a part of that new state (see SARDINIA, KINGDOM OF) Annexed by France in 1792, it was returned to Sardinia in 1815 Finally, by the Treaty of Turin (1860), Savoy (which is French-speaking) was ceded to France and was annexed after a plebiscite

Savoy, the, chapel in London, between the Strand and the Thames Its name is derived from the palace of Peter of Savoy, uncle of the queen of Henry III Destroyed (1381) in Wat Tyler's Rebellion, it was rebuilt (1505) as the Hospital of St. John of Jerusalem by Henry VII and finally destroyed when its foundations were removed in 1810 before the Waterloo Bridge was built The chapel, which was connected with the hospital, is always maintained by the queen The **Savoy Conference** of 12 bishops of the Church of England and 12 Puritan divines was convened in 1661 They failed to agree on alterations in the Book of Common Prayer Near the chapel is the **Savoy Theatre,** erected in 1881 by D'Oyly Carte for the production of Gilbert and Sullivan operas

Savoy, house of, ancient dynasty of Western Europe It ruled Savoy and Piedmont from the 11th cent , the kingdom of Sardinia from 1720 to 1861, and the kingdom of Italy from 1861 to 1946 Its first historical member was Count Humbert the Whitehanded, a powerful feudal lord of the kingdom of Arles in the 11th cent He held possessions in SAVOY and acquired, through marriage, several fiefs in PIEDMONT, including TURIN Through marriage, diplomacy, and conquest his successors expanded their holdings in France, Switzerland, and Italy, acquiring BRESSE and BUGEY, Chablais (on the south shore of the Lake of Geneva), VAUD, lower VALAIS, GEX, GENEVA, IVREA, PINEROLO, NICE, and other seigniories and towns CHAMBÉRY, acquired in 1232, became the seat of the counts, whose scattered possessions were gradually consolidated AMADEUS VIII took the ducal title in 1416 His son Louis (d 1465) married Anne de Lusignan, titular heiress to the kingdoms of Jerusalem, Cyprus, and Armenia, these were titles later borne by ruling members of the house The expansion of Switzerland and the ITALIAN WARS resulted in the temporary disintegration of the duchy The Swiss took the lower Valais (1475) and Vaud (1536), Geneva became independent (1533), and the rest of the duchy was occupied (1536) by Francis I of France In 1559, however, Duke EMMANUEL PHILIBERT called Ironhead, obtained the restoration of his duchy—except the larger part of the Swiss conquests—at the Treaty of Cateau-Cambrésis Emmanuel Philibert made Turin his capital, thus shifting the center of his duchy from France to Italy The language and tone of the court, however, remained French until the late 18th cent Emmanuel Philibert's son and successor, CHARLES EMMANUEL I, unsuccessfully sought to reconquer Geneva He ceded (1601) Bresse, Bugey, and Gex to France in exchange for the marquisate of Saluzzo VICTOR AMADEUS II first sided with France in the War of the Spanish Succession, but later passed to the allied side, his cousin was Prince EUGENE OF SAVOY The peace settlement of 1713–14 (see UTRECHT, PEACE OF) made Victor Amadeus king of Sicily and enlarged his Piedmontese territories Spain reconquered Sicily in 1718, but the QUADRUPLE ALLIANCE was formed, and in 1720 Victor Amadeus was given Sardinia in exchange for Sicily The political history of the dynasty became that of the kingdom of Sardinia (see SARDINIA, KINGDOM OF) and of Italy Victor Amadeus II was succeeded by Charles Emmanuel III (reigned 1730–73), Victor Amadeus III (reigned 1773–96), and Charles Emmanuel IV, who lost all but the island of Sardinia to Napoleon I and abdicated (1802) in favor of his brother, VICTOR EMMANUEL I Restored to his possessions in 1814, Victor Emmanuel I abdicated in 1821, after the outbreak of a revolution in Piedmont His brother and successor, Charles Felix, died without issue in 1831, and the cadet line of Savoy-Carignano, descended from a younger son of Charles Emmanuel I, came to the throne in the person of CHARLES ALBERT In his reign the house of Savoy became the center of the RISORGIMENTO, the movement which led to the unification of Italy under his son, VICTOR EMMANUEL II Savoy itself, however, was ceded to France in 1860 HUMBERT I, who succeeded (1878) Victor Emmanuel II as king of Italy, was assassinated in 1900 His son, VICTOR EMMANUEL III, took the title emperor of Ethiopia (1936) and king of Albania (1939), after the Italian armistice (1943) with the Allies in the Second World War he delegated (1944) his powers to his son, who briefly ruled (1946) as HUMBERT II from Victor Emmanuel's abdication until the establishment of the Italian republic Collateral branches of the house of Savoy include that of NEMOURS A younger son of Victor Emmanuel II, AMADEUS, was given the title duke of Aosta, he was king of Spain from 1870 to 1873 His ducal title descended to Emmanuel Philibert, duke of AOSTA

Savoy Conference. see SAVOY, THE.

Savoy Theatre. see SAVOY, THE

saw Saws of stone were used in the NEOLITHIC PERIOD, and that age knew ways of sawing hard stone, probably by using abrasives In Egypt, Greece, and Rome various types of saws were developed Hundreds of other types have been developed since steel came into general use These range from the delicate instruments used by surgeons, dentists, and jewelers to the powerful machines used in sawmills and the steel industry Some saws cut by means of abrasives, but typically the cutting edge of the saw has teeth To make the cut slightly wider than the blade, so that the saw will not bind or be pinched by the material sawed, the teeth are usually set, i e , bent out alternately in opposite directions The circular saw is not known to have been used for sawing wood before the 18th cent , it was used earlier for sawing stone and metals More recent is the band saw, like a belt running over two wheels The gang mill consists of several straight saws side by side, it cuts heavy timber into boards with one pass through the mill Before power sawmills were used, boards were made by laying a log over a saw pit, a two-handled saw was used, one sawyer working in the pit the other working above the log Well-known saws worked by hand include the bucksaw, for sawing firewood, the carpenter's crosscut saw, for sawing across the grain of wood, the carpenter's ripsaw, for sawing with the grain of wood, and the hack saw, for sawing metals The cylinder or drum saw makes a circular cut, it is used in such work as making buttons and the staves of barrels

Sawatch Mountains (sŭwŏch'), high range of the Rocky Mts , W central Colo , extending c 110 mi S from the Eagle river to the vicinity of Saguache The Arkansas river bounds the range on the east, to the west lie the Elk Mts and West Elk Mts The highest summits in the range are Mt Elbert (14,431 ft), Mt Massive (14,418 ft), and Mt Harvard (14,390 ft) Other noted peaks are La Plata (14,342 ft), Holy Cross (13,986 ft), and Ouray (13,955 ft) That part of the Sawatch Mts known as the Collegiate Range includes Mt Harvard, Mt Princeton (14,177 ft), and Mt Yale (14,172 ft)

sawfish, sharklike ray fish found in most warm seas It enters the lower Mississippi and ascends rivers in Africa and India The saw for which the fish is named is a flat extension of the upper jaw, sometimes 6 ft long and 1 ft wide, edged with a row of strong, toothlike structures The true teeth are within the small mouth Although it may sometimes be a weapon of defense, the saw is used chiefly to secure food by searching through the mud or sand for small animals, by slashing at schools of smaller fish, and by cutting pieces from larger fish The belief that it attacks whales is probably unfounded Some species reach a total length of 20 ft

sawfly, insect of the order Hymenoptera which resembles a wasp Its name refers to the female's use of the ovipositor to saw into plant tissues to deposit eggs Some species produce galls The larvae of some are leaf and stem miners, others feed on the surface of the foliage Various species are destructive to larch, spruce, broad-leaved fruit and shade trees, shrubs, and grasses

Sawtooth Mountains, central Idaho Its several towering ranges rise to forbidding peaks, such as Ryan Peak (11,900 ft) and Castle Peak (11,820 ft) Mt HYNDMAN is in the Pioneer Mts , sometimes considered part of the Sawtooth Mts

Sawyer, Charles, 1887–, U S Secretary of Commerce (1948–), b Cincinnati, LL B Univ of Cincinnati, 1911 He was a Cincinnati city councilor (1911–15), lieutenant governor of Ohio (1933–34), and Democratic gubernatorial candidate (1938) before he served (1944–45) as ambassador to Belgium and Luxembourg He succeeded W. Averell Harriman as Secretary of Commerce in May, 1948

Sax, Charles Joseph (sharl' zhôzĕf' saks'), 1791–1865, Belgian maker of musical instruments, who made some improvements in the clarinet His son, **Antoine Joseph Sax** (ătwan'), known as **Adolphe Sax** (adôlf'), 1814–94, was a highly successful instrument maker He designed the saxhorn, the saxophone, and the saxotromba and influenced the instrumentation of French bands of his time

Saxe, John Godfrey (săks), 1816–87, American editor and author of humorous verse, b Highgate, Vt , grad Middlebury College, 1839 He owned and edited (1856–60) the Burlington *Sentinel* and wrote for the Albany *Journal* His verse appeared in such leading periodicals as *Harper's Magazine* and was collected in several volumes, among them *Clever Stories of Many Nations Rendered in Rhyme* (1865) and *Leisure-Day Rhymes* (1875) Perhaps his best-remembered poem is "The Proud Miss McBride "

Saxe, Maurice, comte de (mō-rēs' kŏt' dŭ saks'), 1696–1750, marshal of France, one of the greatest generals of his age He was the natural son of Augustus II of Saxony and Countess Maria Aurora Konigsmark When very young he entered the Saxon army, and in 1720 he went into French service In 1726 he obtained leave to make good his claim to the duchy of Courland, but in 1727 the attempt failed He fought under the duke of Berwick in the War of the Polish Succession In the War of the Austrian Succession, he led the successful attack on Prague (1741) and later, after becoming (1744) marshal, made his reputation by victories at Fontenoy (1745) and Raucoux (1746) and the capture of Maastricht (1748) In recognition of his services Louis XV gave him life tenure of the castle of Chambord and (1747) the title of marshal general His *Mes Rêveries* (1757) is a remarkable work on the art of war Of a handsome physique, Maurice de Saxe was notorious for his amorous exploits and for his tragic liaison with Adrienne LECOUVREUR Among his descendants was George Sand L H Thornton has translated (1944) *Mes Rêveries* See Thornton, *Campaigners Grave and Gay* (1925)

Saxe-Altenburg (săks'-ăl'tunbûrg), Ger *Sachsen-Altenburg* (zak'sun-äl'tunbōōrk), former duchy, Thuringia, central Germany Altenburg was the capital It became a separate duchy early in the 17th cent and was ruled by an Ernestine line of the house of Wettin In 1672 it passed to the dukes of Saxe-Gotha, but from 1826 to 1918 it was again a separate duchy under a collateral line It sided (1866) with Prussia in the Austro-Prussian War In 1920 it was incorporated into Thuringia

Saxe-Coburg (săks'-kōbûrg), Ger *Sachsen-Coburg* (zak'sun-kō'bōōrk), former duchy, central Germany A possession of the Ernestine branch of the house of WETTIN, it was given by Ernest the Pious (d 1679) of SAXE-GOTHA to his son Albert On Albert's death (1699) it passed to his younger brother, John Ernest, duke of Saxe-Saalfeld, whose descendants ruled the duchy of Coburg until 1918 and the duchy of Saalfeld until 1826 The extinction (1825) of the related line of Saxe-Gotha-Altenburg resulted in a general redivision of the Ernestine possessions in 1826 The duchy of Saalfeld passed to the duke of Saxe-Meiningen, while Ernest III of Saxe-Coburg received the duchy of Gotha and assumed the style ERNEST I, duke of **Saxe-Coburg-Gotha** (-gō'thu) Ernest I's brother Leopold became in 1831 Leopold I, king of the Belgians, and his younger son was Prince Albert, consort of Queen Victoria of England Thus the house of Saxe-Coburg-Gotha became the ruling dynasty of Belgium and of England (where the name was changed to Windsor in the First World War) His elder son, Ernest II, sided with Prussia in the Austro-Prussian War of 1866 He was succeeded (1893) by Alfred, duke of Edinburgh, a son of Queen Victoria and the father of Queen Marie of Rumania On Alfred's death (1900) the duchy passed to his nephew, Charles Edward, who abdicated in 1918 In 1920 Saxe-Gotha was incorporated into Thuringia, and Saxe-Coburg into Bavaria

Saxe-Eisenach see SAXE-WEIMAR

Saxe-Gotha (-gō'thu), Ger *Sachsen-Gotha* (zak'sŭn-gō'tä), former duchy, central Germany, since 1920 included in Thuringia A possession of the Ernestine branch of the house of WETTIN, it passed in the 16th cent to the dukes of Saxe-Weimar After the death (1605) of Duke John of Weimar, his territories were divided among his heirs Saxe-Gotha, along with Coburg, Meiningen, Saalfeld, and other territories, went to Ernest the Pious, one of John's younger sons, who also inherited Saxe-Altenburg in 1672 On Ernest's death (1679), the succession was divided among seven sons, the eldest, Frederick I, received Gotha and Saxe-Altenburg which his direct descendants continued to rule until the failure of the male line in 1825 Saxe-Gotha was awarded in 1826 to Ernest III of Saxe-Coburg who became Ernest I of SAXE-COBURG-GOTHA Saxe-Altenburg became a separate duchy under a collateral line

Saxe-Meiningen, Ger *Sachsen-Meiningen* (zak'sunmī'ning-un), former duchy, Thuringia, central Germany The capital was MEININGEN A possession of the Ernestine branch of the house of WETTIN, it became a separate duchy in the 17th cent under one of the sons of Ernest the Pious of SAXE-GOTHA In the dynastic rearrangement which followed the extinction (1825) of the male line of Saxe-Gotha, the duke of Saxe-Meiningen received (1826) Saxe-Saalfeld from the duke of Saxe-Coburg (who obtained Gotha instead) and Saxe-Hildburghausen (whose duke was compensated with Saxe-Altenburg) Saxe-Meiningen sided (1866) with Austria in the Austro-Prussian War The last duke abdicated in 1918, and in 1920 Saxe-Meiningen was incorporated into Thuringia.

Saxe-Saalfeld see SAXE-COBURG.

Saxe-Weimar, Ger *Sachsen-Weimar* (zak'sŭnvī'mar), former duchy, Thuringia, central Germany It remained with the Ernestine branch of the house of WETTIN after the redivision of the Wettin lands in 1547, when Elector JOHN FREDERICK I of Saxony was captured at the battle of Muhlberg. John Frederick's heirs divided the Er-

nestine lands into the duchies of Weimar, Gotha, Coburg, Eisenach, and Altenburg Duke John of Weimar, who died in 1605, left several sons, one of them was the celebrated Protestant general, BERNHARD OF SAXE-WEIMAR, in the Thirty Years War. The cadet lines of Coburg, Gotha, and Eisenach having failed by 1640, their lands passed to the sons of Duke John Ernest the Pious, who had Gotha and Coburg, also inherited Altenburg in 1672, his possessions were again divided among his seven sons (see SAXE-GOTHA, SAXE-COBURG, SAXE-MEININGEN) An elder brother of Ernest the Pious, William, received Weimar and Eisenach, these duchies, however, were again separated under his heirs until the failure of the Eisenach line in 1741, when its territory (including Jena) reverted to Duke Ernest Augustus I of Saxe-Weimar Small as it was, the duchy of **Saxe-Weimar-Eisenach** (-I'zənäkh), which resulted from the reunion in 1741, was the most important of the Thuringian principalities It gained its greatest prosperity and cultural importance under Duke CHARLES AUGUSTUS, the patron and friend of Goethe, who made WEIMAR, the ducal capital, an intellectual center of Europe Charles Augustus sided against Napoleon I in the War of the Third Coalition, but was forced in 1806 to join the Confederation of the Rhine The Congress of Vienna raised him (1815) to the rank of grand duke Grand Duke Charles Alexander sided (1866) with Prussia in the Austro-Prussian War His grandson, William Ernest, abdicated in 1918, and in 1920 Saxe-Weimar-Eisenach was incorporated into Thuringia

saxhorn, type of brass wind musical instrument designed c 1850 by Adolphe Sax There are about seven varieties of saxhorn, the nomenclature of which is inconsistent and confusing All are transposing instruments, commonly used in bands

saxifrage (săk'ləfĭj), or **rockfoil**, any of a large number of plants of the genus *Saxifraga* or of similar and related genera, noted as low, rock-loving or alpine, spring-blooming herbs Commonly the leaves are borne in a tuft or rosette at the base, and the flowers in a cluster on a flower stalk Many species are prized for rock gardens by specialists but are not yet commonly cultivated in America The strawberry geranium (*Saxifraga sarmentosa*), called also mother-of-thousands and beefsteak saxifrage, is a species cultivated as a house plant, which, like the strawberry, propagates itself by runners The early saxifrage (*Saxifraga*, or *Micranthes, virginiensis*) is one of the better-known wild saxifrages of North America A large saxifrage of West Coast stream banks (*Saxifraga peltata* or *Peltiphyllum peltatum*) is called umbrella plant In the old doctrine of signatures, saxifrages, from an apparent ability to split rocks in obtaining a foothold, were prescribed for calculous formations in the body See Walter Irving and R A Malby, *Saxifrages or Rockfoils* (1915)

Saxo Grammaticus (săk'sō grumă'tĭkus), fl 1188–1201, Danish historian in the service of Archbishop ABSALON At Absalon's suggestion he wrote the *Gesta Danorum* (or *Historia Danica*) The first nine books are mostly composed of oral material and legends concerning the early Danes, including the story of Hamlet The remaining seven books, dealing more nearly with contemporary events, are a valuable source for Danish history The cognomen *grammaticus* [learned] was probably bestowed on Saxo after his death An English translation of the first nine books was made by Oliver Elton (1894)

Saxons, Germanic people who are first known to history through Ptolemy's mention of them in the 2d cent as living in the southern part of the Cimbric peninsula, probably that portion now included in Schleswig Holding both shores of the Elbe at its mouth and some of the islands near by, they gradually extended their territory southward to, and then across, the Weser In the 3d and 4th centuries they were active in raiding expeditions along the coasts of the North sea They made incursions into Roman dominions, and came into conflict with the Franks In the 5th cent they had settlements on the north shore of Gaul between the Elbe and the Loire This strip and the southeastern coast of Britain, where their piratical raids were feared and guarded against, were called by the Romans *litora Saxonica* [the Saxon shores] As the Roman occupation of Britain weakened, the Saxon bands not only increased their marauding attacks but began to settle in groups, resisting all attempts to drive them off, until by the end of the 6th century, they and their neighbors the Angles had become firmly established in the island, laying the foundations of the Anglo-Saxon kingdoms, of which Wessex, that of the West Saxons, proved the dominant unit (see ANGLO-SAXONS) After the migration to Britain, the Saxons on the Continent were the "Old Saxons" They occupied all the northwestern part of Germany. Their great struggles with the Franks ended in their being conquered by Charlemagne before the opening of the 9th cent and forming part of his empire By this conquest they were changed from a heathen to a Christian people In the division of the empire by the Treaty of Verdun (843), the lands of the Saxons were included in the section which made the beginning of modern Germany.

Saxony (săk'sŭne), Ger. *Sachsen* (säk'sŭn). The geographic concept of Saxony has undergone great shifts and has acquired many meanings in the past 15 centuries The land of the Saxons (see separate article), Saxony was in Frankish times roughly the area in NW Germany between the Elbe and Ems rivers; it also included part of S Jutland This area corresponds in part to the state of LOWER SAXONY, created after the Second World War After Charlemagne's conquest (8th cent) of the Saxons, their land was incorporated into the Carolingian empire, and late in the 9th cent the first **duchy of Saxony,** one of the German stem duchies, was created Comprising the three main divisions of Westphalia, Angria, and Eastphalia, it occupied nearly all the territory between the Elbe and Saale rivers on the east and the Rhine on the west, it bordered on Franconia and Thuringia in the south, and it included Holstein in the north Duke Henry I (Henry the Fowler) of Saxony was elected German king in 919, and his son, Emperor Otto I, established the Holy Roman Empire, which he and his descendants ruled until the death (1024) of Henry II Shortly before his imperial coronation, Otto I bestowed (960) Saxony on Hermann Billung (d 973), a Saxon nobleman, whose descendants held the duchy until the extinction of the male line in 1106 Lothair of Supplinburg was invested with the vacant duchy and upon becoming emperor as LOTHAIR II bestowed it on his Guelphic son-in-law, HENRY THE PROUD, who was already duke of Bavaria Emperor Conrad III deprived Henry of Saxony, which he gave (1138) to ALBERT THE BEAR of Brandenburg, but in 1142 the duchy was restored to Henry the Proud's son, HENRY THE LION The struggle between Henry the Lion and Emperor Frederick I ended with Henry's loss of all his fiefs in 1180 The stem duchy was broken up into numerous fiefs The Guelphic heirs of Henry the Lion retained only their allodial lands—the duchy of BRUNSWICK, from which emerged the duchies of Brunswick-Wolffenbüttel and of Brunswick-Lüneburg (the later kingdom of Hanover) Vast territories passed under the rule of ecclesiastic princes—notably the archbishops of Bremen, of Magdeburg, and of Cologne (who received the duchy of Westphalia) and the bishops of Münster, of Osnabrück, of Paderborn, of Minden, of Halberstadt, and of Hildesheim The counties of Holstein, Oldenburg, and Lippe also became immediate fiefs of the empire The ducal title of Saxony went to Bernard of Anhalt, a younger son of Albert the Bear of Brandenburg and founder of the Ascanian line of Saxon dukes Besides Anhalt, Bernard received LAUENBURG and the country around WITTENBERG, on the Elbe These widely separate territories continued after 1260 under separate branches of the Ascanians as Saxe-Lauenburg and Saxe-Wittenberg The Golden Bull of 1356 raised the duke of Saxe-Wittenberg to the permanent rank of elector **Electoral Saxony,** as his territory was called, was a relatively small area, and it lay outside the original stem duchy, being a part of the eastern march of Saxony, which was conquered from its Slavic population in the 13th cent To the south of Electoral Saxony extended the margraviate of Meissen, ruled by the increasingly powerful house of WETTIN The margraves of Meissen acquired (13th–14th cent) the larger parts of THURINGIA and of Lower LUSATIA and the intervening territories, and in 1423 Margrave Frederick the Warlike received Electoral Saxony as well and became (1425) Elector FREDERICK I Thus from NW Germany, Saxony had shifted to E central and E Germany In 1485 the Wettin lands were partitioned between two sons of Elector Frederick II Ernest, founder of the Ernestine branch of Wettin, received Electoral Saxony with Wittenberg and most of the Thuringian lands Albert, founder of the Albertine branch, received ducal rank and the Meissen territories, including Dresden and Leipzig Elector Ernest was succeeded by his son, FREDERICK III, who protected Luther and encouraged the Reformation, as did his brother and successor, John (reigned 1525–32), and John's son JOHN FREDERICK I One of the leaders of the SCHMALKALDIC LEAGUE, John Frederick was deprived of the electorate by Emperor Charles V after the battle of Mühlberg (1547) Duke MAURICE of Saxony, a grandson of Albert, received the electoral title, which remained in the Albertine branch until the dissolution (1806) of the Holy Roman Empire. The Ernestine branch retained after 1547 only the Thuringian duchies, which were split among its various lines (see SAXE-ALTENBURG, SAXE-COBURG, SAXE-GOTHA, SAXE-MEININGEN, SAXE-WEIMAR) Although Maurice had helped Charles V in conquering the Schmalkaldic League, he soon turned against the emperor and made Lutheranism the religion in his domains Despite his Protestant sympathies, Elector John George I (reigned 1611–56) sided with the emperor during the first part of the Thirty Years War; in 1631, however, he joined in an alliance with Gustavus II of Sweden; in 1635, at the Peace of Prague, he made peace with the emperor and obtained both Upper and Lower Lusatia. His failure to reach an understanding with Sweden led to the resumption of war in the same year, with the Saxons taking the field against Sweden and on the imperial side. Electoral Saxony was occupied by Swedish troops and thoroughly devastated, until in 1645 John George made a truce with Sweden. At the Peace of Westphalia (1648) he emerged—despite his military reverses and despite, or possibly because of, his frequent shifts of allegiance—as one of the two most powerful Protestant princes of Germany, the other being the elector of Brandenburg The old rivalry between Saxony and Brandenburg (after 1701 the kingdom of Prussia) was a decisive factor in later Saxon history, as was the election (1697) of AUGUSTUS II (who was Frederick Augustus I as elector of Saxony) as king of Poland In the NORTHERN WAR (1700–1721) Augustus lost and regained the Polish throne His son and successor in Saxony and Poland, AUGUSTUS III, retained the Polish crown in the War of the POLISH SUCCESSION (1733–35) In the War of the AUSTRIAN SUCCESSION, Saxony adhered to its by now traditional wavering policy, changing sides in the middle of the conflict It lost no territory at the Treaty of Dresden (1745), but paid a heavy indemnity to Frederick II of Prussia, who in 1756 opened the Seven Years War by invading Saxony once more At the Treaty of Hubertusburg (1763) Saxony was restored to its pre-war boundaries Its prestige was much diminished The death (1763) of Augustus III ended the union with Poland, where Stanislaus II became king Saxon rule in POLAND marked a period of decay During that period the electors had reverted to Roman Catholicism, but Saxony remained staunchly Lutheran Augustus II and Augustus III were lavish patrons of art and learning and greatly beautified their capital, DRESDEN The universities of Wittenberg and Leipzig had long been leading intellectual centers, and 18th-century Leipzig led in the rise of German literature and music, which reached its first peak in J S Bach Thus, from the cultural point of view, Saxony reached its flower in the 18th cent Saxony sided with France in the Napoleonic Wars, and in 1806 its elector was raised to royal rank, becoming King FREDERICK AUGUSTUS I His failure to follow his predecessor's policy and to change sides in time cost him (1815) about half his kingdom at the Congress of Vienna The **kingdom of Saxony** lost Lower Lusatia, part of Upper Lusatia, and all its northern territory including Wittenberg, Torgau, and Merseburg to Prussia Its principal remaining cities were Dresden, Leipzig, Chemnitz, and Plauen Saxony sided (1866) with Austria in the AUSTRO-PRUSSIAN WAR, was defeated, and was forced to join the North German Confederation From 1871 until the abdication (1918) of Frederick Augustus III, it was a member state of the German Empire Meanwhile the larger part of the territories ceded in 1815 were incorporated with several other Prussian districts into the Prussian **province of Saxony** (9,853 sq mi , 1939 pop 3,616,635), with Magdeburg its capital This was united after 1945 with Anhalt to form the Russian-occupied state of Saxony-Anhalt (see separate article) The former kingdom of Saxony formed after the revolution of 1918 the **state of Saxony** (6,561 sq mi , 1946 pop 5,558,566), with Dresden its capital The RIESENGEBIRGE, in the south, forms its border with Czechoslovakia In the 19th and 20th cent Saxony became one of the most industrialized German states, with the textile industry taking the first place CHEMNITZ became its main industrial, and LEIPZIG its main commercial center After the Second World War the state of Saxony was reconstituted under Russian occupation, it lost a small district E of the Lusatian Neisse, which came (1945) under Polish administration, but it gained a part of former Silesia W of the Neisse

Saxony-Anhalt (săk'sŭnē-ăn'hălt), Ger *Sachsen-Anhalt* (säk'sun-ăn'hălt), state (9,525 sq mi , pop 4,160,539), formed in 1946, in the Russian zone of occupation in E Germany Magdeburg is the capital Consisting, roughly, of the former state of ANHALT and of the former Prussian province of Saxony, the state is mountainous and hilly in the south, where it includes the eastern slopes of the HARZ mts. The section N of Magdeburg is part of the North German plain and is largely agricultural, with sugar beets the main crop The country is rich in minerals There are important potash mines at Stassfurt, coal mines at Halle, iron mines in the Harz, and copper mines at Mansfeld and Eisleben The chief industrial products include sugar, metal goods, and chemicals Among the chief cities are Magdeburg, Halle, and Halberstadt, and there are the historic towns of Wittenberg, Merseburg, and Eisleben (all in the former Saxony prov. of Prussia), and Dessau in Anhalt The towns and districts of Erfurt, Langensalza, and Mühlhausen, in the former Saxony prov. of Prussia, were incorporated with Thuringia after 1945. Though it possesses little historic unity, Saxony-Anhalt has considerable economic cohesion

saxophone, hybrid musical instrument invented in 1840 by Adolphe Sax. While a member of the clari-

net family, it has a conical bore like the oboe and is made of metal, resembling the brass instruments By 1846 there was a family of 14 saxophones, those in F and C intended for orchestral use, those in E flat and B flat for military bands The latter are most common today. The saxophone has a powerful tone, suggesting at times the clarinet and occasionally the cello Its serious solo literature is small, but it is often a member of jazz ensembles, particularly in "sweet" orchestras, such as that of Guy Lombardo. All saxophones except those in C are transposing instruments

Saxton, borough (pop 1,152), S Pa , SE of Altoona, inc 1867 Fisher's Summit Memorial commemorates an Indian attack on rangers of Capt William Phillips in 1780

Say, Jean Baptiste (zhäʹ bätēstʹ sāʹ), 1767–1832, French economist. In *A Treatise on Political Economy* (1803, Eng tr from the 4th ed , 1821) he effectively reorganized and popularized the theories of Adam Smith Say also developed a noted theory of markets and the concept of the entrepreneur His works include *Cours complet d'économie politique pratique* (6 vols , 1828–29) See study by Ernest Teilhac (1927, in French) His grandson was **Léon Say** (lāōʹ), 1826–96, statesman and economist. As minister of finance under several governments he accomplished the payment of war debts to Germany ahead of schedule He edited and wrote several works on finance

Say, Thomas (sā), 1787–1834, American naturalist, b Philadelphia He went to Georgia and Florida on a collecting expedition in 1818 and afterwards accompanied as naturalist the expeditions of Stephen H Long to the Rocky Mts and up the Mississippi and Minnesota rivers, gathering specimens of insects and mollusks Among his works are *American Entomology* (1824–28) and *American Conchology* (1830–34) In 1825 he moved to New Harmony, Ind , where he became a member of Robert Owen's colony See biography by H B. Weiss and G M Ziegler (1931)

Sayabec, Que see SAINDON

Sayan Mountains (sīyänʹ), central Asia, chiefly in the RSFSR, in S Siberia The Eastern Sayan Mts , rising to 11,453 ft , extend SE from the Yenesei river and form part of the boundary of the RSFSR and the Mongolian People's Republic The Western Sayan Mts , rising to 9,180 ft , extend NE from the Altai and border Tuva Autonomous Oblast The Sayan Mts yield gold, silver, lead, graphite, coal, and lumber

Saybrook, town (pop 2,332), S Conn , on the Connecticut above Essex, settled 1635 on the site of the present Old Saybrook under a patent issued to Lord Saye and Sele and Lord Brooke (hence the name) Saybrook colony was sold to Connecticut in 1644, the present town was incorporated in 1899 It includes the village Deep River and is often called Deep River, distinguishing it from Old Saybrook town, which lies south Gliders are made

Saybrook Platform see CAMBRIDGE PLATFORM

Sayce, Archibald Henry (sās), 1845–1933, English philologist, grad Queen's College, Oxford, 1869 From 1891 to 1915 he was professor of Assyriology at Oxford Among his many works are *An Assyrian Grammar for Comparative Purposes* (1872), *The Principles of Comparative Philology* (1874, 3d ed , 1885), *Introduction to the Science of Language* (1880, 4th ed , 1900), *The Races of the Old Testament* (1891), and *The Early History of the Hebrews* (1897, 2d ed , 1899) See his reminiscences (1923).

Saye and Sele, William Fiennes, 1st **Viscount** (fīnz, sāʹunsēl), 1582–1662, English statesman and promoter of colonization in America He was a Puritan in religious sympathy and a leader in the House of Lords in every measure against the king, as such he opposed the 1st duke of Buckingham and supported the Petition of Right (1628) From 1630, Viscount Saye, with Baron Brooke (Robert Greville), John Pym, and other Puritan lords and gentlemen entered into several colonization schemes The first of these was in Providence Island (Old Providence Island in the Caribbean off the Central American coast, now belonging to Colombia) The second was at Saybrook (named for the two lords), Conn , settled in 1635 on the strength of a deed obtained from the 2d earl of Warwick John Winthrop the younger was their governor at Saybrook In 1633 they bought a plantation at Cocheco (now Dover, N H) The lords planned to settle in New England, but their plan of establishing an hereditary aristocracy in the colonies met with definite disfavor in New England, and after a few years they lost interest in the settlements. In 1641 they sold the Dover establishment to Massachusetts and three years later they sold Saybrook to Connecticut In 1641 Providence Island was taken by the Spanish In the Puritan Revolution, Viscount Saye continued his alliance with the rebels although he did not desire the abolition of the monarchy. When the division with the Presbyterians arose, he maintained a position as an Independent. "Old Subtlety," as he was called, was a leader in the move for peace resulting in the short-lived Treaty of Newport. He retired after the king's execution.

Sayers, Dorothy Leigh (sārz), 1893–, English writer, grad Somerville College, Oxford, 1915 Her married name is Fleming. Taking first honors in medieval literature, she was one of the first women to receive an Oxford degree For a time she worked as a copy writer in a London advertising agency—the setting for her *Murder Must Advertise* (1933) Her first detective novel was *Whose Body?* (1923), in which appeared her young nobleman-detective, Lord Peter Wimsey, he reappeared in over a dozen novels between 1926 and 1939, including *The Nine Tailors* (1934) and *Gaudy Night* (1935), with a Somerville College setting *Begin Here*, a statement of faith, came out in 1941, *Creed or Chaos?* in 1949 She has made a translation (1949) of the first part of Dante's *Divine Comedy*

Sayre, Francis Bowes (sār), 1885–, American statesman, b South Bethlehem, Pa A graduate of Williams College (1909) and of Harvard Law School (1912), he later taught at both schools He married a daughter of Woodrow Wilson As Assistant Secretary of State (1933–39), he had charge of reciprocal-trade agreements He then served (1939–42) as U S high commissioner to the Philippines In the Second World War he escaped from Corregidor in Feb , 1942, and was appointed (1943) to assist the Secretary of State in foreign relief He headed UNRRA missions after 1945 to many countries throughout the world and was appointed (1947) U S representative on the United Nations Trusteeship Council Sayre wrote several books on law

Sayre, Lewis Albert, 1820–1900, American surgeon, b Bottle Hill (now Madison), N J , M D College of Physicians and Surgeons, 1842 One of the first in his field, a professor of orthopedic surgery (at Bellevue Hospital Medical College, from 1862), he devised valuable new methods in surgery as well as in other branches of medicine His son, **Reginald Hall Sayre,** 1859–1929, M D Bellevue, 1884, taught at Bellevue from 1885

Sayre 1 City (pop 3,037), co seat of Beckham co , W Okla , on the North Fork of the Red River, settled 1901, inc as a town 1903, as a city 1910 There are gas fields, oil refineries, and a carbon-black plant, the city is also a broomcorn market 2 Borough (pop 7,569), NE Pa , NW of Towanda, laid out 1871, inc 1891 It is a railroad center and manufactures railroad equipment

Sayreville, borough (pop 8,186), E N J , on the Raritan between New Brunswick and South Amboy, inc 1919 Brick and chemicals are made here

Sayville, unincorporated village (pop 4,183), on S Long Island, SE N Y , on Great South Bay It is a resort and yachting center and is noted for its blue-point oysters and flowers

Sazonov, Sergei Dmitreyevich (sĭrgāʹ dumēʹtrēuvĭch sŭzōʹnuf), 1861–1927, Russian statesman As minister of foreign affairs (1910–16) he played a leading role in the crisis that led to the First World War It was probably largely because of Sazonov's pressure that Russia mobilized (July 29, 1914) its armed forces, a gesture which hastened the catastrophe In the Russian civil war (1917–20) Sazonov was minister of foreign affairs in the Kolchak government See his memoirs, published in English as *Fateful Years* (1928) See also S B Fay, *The Origins of the World War* (1928)

Sb [Latin *stibium*], chemical symbol of the element ANTIMONY

Sc, chemical symbol of the element SCANDIUM.

scab see MANGE

scabies (skāʹbēēz, skāʹbēz) or **itch,** contagious disease caused by penetration of the skin by a mite (*Sarcoptes scabiei*) It occurs on hands and wrists, in the armpit and groin, and around the anus There are holes where the mites enter and blisters and redness of the skin Scratching because of the intense itching may result in infection with bacteria Scabies is contracted from towels or bed linen or by direct contact with a case To kill the mite it is necessary to scrub with hot water and soap and then rub in a sulphur ointment twice a day for three days, again taking a hot bath Clothing and sheets should be boiled to prevent reinfection A method more recently found effective consists of the application of an emulsion of benzyl benzoate to the body (not to the head) after a hot bath

scabiosa (skābēōʹsŭ) or **scabious** (skāʹbēŭs), any plant of the genus *Scabiosa*, annual or perennial garden flowers native to the Old World Scabiosas have lacy round- or flat-topped heads of small flowers, for which they are often called pincushion flower The plant is sometimes called mourning bride, particularly the purple-flowered sweet scabiosa, this species, the most commonly cultivated, has flowers also of various other colors Scabiosas were once used as a remedy for scabies

Scaevola (Caius Mucius Scaevola) (sēʹvōlu, -vūlu), 6th cent ? B C , quasi-historical Roman hero He tried to murder Lars Porsena, who was besieging the city, and was condemned to be burned at the stake When Scaevola put his right hand into the blaze and held it there, Porsena was so impressed he liberated him Scaevola's warning that many Romans would follow his example persuaded Porsena to raise the siege.

Scaevola (Quintus Mucius Scaevola), d. 82 B C , Roman jurist He was tribune of the people (106 B C) and consul (95 B C) He was consul with L Licinius CRASSUS and collaborated with him in the law ordaining a purge of the rolls of citizenship The wholesale disfranchisement of allies under this law brought on the Social War He was proconsular governor of Asia, where the people esteemed him highly Later he was elected pontifex maximus, but his sacred inviolability did not prevent his murder at the very hearth of Vesta in the proscription of MARIUS He made a systematic compilation of the civil law

Scafell (skōʹfēlʹ) or **Scaw Fell,** mountain group, Cumberland, England, in the Lake District, between Wastwater and the Esk river It includes the peaks Scafell (3,162 ft), Scafell Pike (3,210 ft ; maximum altitude of England), Great End (2,984 ft), and Lingmell (2,649 ft) The region is a tourist resort

Scala, Can Francesco della (känʹ franchäʹskō dĕlʹlä skäʹlä), or **Can Grande della Scala** (kang-granʹdä), 1291–1329, lord of Verona, the greatest member of the Ghibelline family that ruled Verona from 1277 to 1387 Can Grande was made imperial vicar by Emperor Henry VII and participated in all the struggles against the Guelphs, extending his territories to include Vicenza, Padua, Feltre, Belluno, and Treviso His was one of the important states of N Italy A great patron of the arts and letters, he was a protector of Dante, who mentioned him in the *Paradiso* The tombs of the Della Scala (or Scaligeri) family are one of the landmarks of Verona

scalawags (skāʹlŭwăgz), opprobrious epithet used in the South after the Civil War to describe native white Southerners who joined the Republican party and aided in carrying out the congressional RECONSTRUCTION program The scalawags and their Republican allies who came from the North, the CARPETBAGGERS, were notoriously corrupt.

scaldic poetry see OLD NORSE LITERATURE

scalds see BURNS AND SCALDS

scale, in cartography, the ratio between distances on the map and distances on the earth's surface It may be expressed in three ways numerically as a ratio or a fraction, e g , 1 63,360 or $\frac{1}{63,360}$, verbally, e g , "one inch to one mile" (not "one inch equals one mile"), and graphically, by recording mileage on a graduated line This last scale has the advantage of remaining true even if the size of the map has been changed by photographic processes. The more closely the size of features on the map approaches their actual size on the earth's surface, the larger is the scale of the map A large-scale map, therefore, shows more detail than does a small-scale map

scale, in music, any series of tones arranged in rising or falling order of pitches Scales serve to classify and catalogue the tonal material used in composition The chromatic scale, represented by all the notes of the piano keyboard, contains all the tonal material of Western music This scale, by means of EQUAL TEMPERAMENT, comprises 12 equal semitones and is therefore without MODE The diatonic scale, which may be illustrated by means of the white keys of the piano, contains both whole tones and semitones, seven basic modes are possible in this scale Two of these, the major and minor, assumed in the 17th and 18th cent a dominant position in Western music not challenged until the end of the 19th cent Although the diatonic scale is basically heptatonic, music which is in a major or minor TONALITY generally employs the remaining five tones of the chromatic scale as auxiliary or ornamental tones Music which employs them freely is said to be highly chromatic, while music which employs them sparingly is said to be diatonic Each note in the diatonic scale is thought of as derived from the series of harmonics (see HARMONIC), with the keynote as fundamental The closeness of relationship between any tone and the keynote is determined by the closeness of that tone to the fundamental in the harmonic series Thus degrees of organization only came as a result of the development of HARMONY, an element possessed only by Western music, and no purely melodic system has so highly organized a scale The pentatonic scale (the black keys of the piano illustrate one form) has long been thought of as having an Oriental character because of the prevalence of pentatonic scales in Chinese, Japanese, and Javanese music Joseph Yasser presents the theory (in *A Theory of Evolving Tonality*, 1932) that as a musical system becomes more highly developed the intervals of its scale become smaller and the number of tones employed becomes greater Pentatonic systems frequently employ two additional tones as auxiliary tones As the use of these tones increases, they become part of the basic tones of the scale, and a heptatonic system results By the early 20th cent. the use of the five remaining tones had become so extensive that the feeling of tonality within a heptatonic system had begun to break down According to Yasser's theory the 12-tone system of Arnold Schönberg (see ATONALITY) was an attempt at the next logical step in the tonal evolution—the absorption of the five auxiliary tones into the basic

tonal material of the scale The most highly developed scales known belong to ARABIAN MUSIC and HINDU MUSIC The earliest intelligible records of these scales show them already highly developed, so nothing of the evolution of these scales is known, and little of the application The whole-tone scale, which divides the octave into six equal whole tones (C, D, E, F sharp, G sharp, A sharp, on the piano), was employed to a small extent by Rebikov and to a greater extent by Debussy It gives a feeling of vagueness which made it adaptable to impressionism, but its possibilities seem to have been exhausted in Debussy's works See C H H Parry, *The Evolution of the Art of Music* (1930)

scale, in weights and measures see SCALES

scale, in zoology, an outgrowth, either bony or horny, of the skin of an animal The scales characteristic of fish are of the bony type The teeth of vertebrates—from fish to man—are said to have evolved from the placoid scales such as those in the skin of sharks, scales having a dentine base with a pulp cavity Fish scales show great variety in shape and markings and in their arrangement on the body Some fish such as the ganoid fish (e g , gar pike and sturgeon), have an armor of bony plates derived from scales Horny scales are found on most reptiles In some lizards the scales are modified to form tubercles or granules The crocodile has both horny and bony scales Among turtles and their relatives, scales are usually found on the head, neck, limbs, and tail, in most of the group there are horny plates on the body and these are fused with the bony shell Birds have horny scales on the feet and sometimes on the legs Some mammals, e g , the mouse and the rat, have scales on the tail, the pangolin and the armadillo have a body covering of large horny scales

Scale Force, waterfall, c 120 ft high, Cumberland, England, one of the finest of the Lake District

scale insect, member of the family Coccidae, small sap-sucking insects destructive to many fruit and shade trees and greenhouse plants The armored scale insects secrete a protective wax covering, thick and hard on the upper part of the body and thin on the under surface Among the armored scales are the cottony-cushion scale, the oyster-shell scale, the California and Florida red scales, and the purple scale of Florida, the other Gulf states, and California The chief harm is done by the females, which insert their beaks in the bark and drain the sap They do not move about The adult males are winged and very short-lived and do not feed The unarmored scale insects form no separate covering of wax and are protected only by the chitinized body wall Among these are the black, the terrapin, and the soft brown scales They discharge honeydew in which destructive fungus grows The ladybird beetle is an enemy of scale insects Spraying with oil emulsions and with lime sulphur and fumigation with hydrocyanic gas are methods of control See also COCHINEAL, LAC, SAN JOSE SCALE

scales, instruments for determining weight, generally for other than laboratory use For the principles of operation of all weighing devices, see BALANCE Platform scales utilize a succession of multiplying levers which transmit the weight to a beam or other registration device They are used where massive objects or large quantities are to be weighed For example, railway cars and trucks move onto a platform scale before and after unloading or before and after loading, in each case the difference being the weight of their haul As the name implies, counter scales are commercially used in establishments whose weighing needs can be most conveniently met on a counter These are invariably scales of the beam type Cylinder, drum, or barrel scales have their calibrations on a rotatable chart These find wide use because of the ease with which the concomitant cost of a given weight may be read from them through the juxtaposition of fixed and rotating charts The same service is rendered in the fan-type scale where an indicator describes an arc which is marked off from zero to the weight capacity of the scale Both the indicator and the fan expanse are calibrated for automatic computation A great variety of scales are specially constructed for industrial uses in which weighing of a continuous flow of material is involved These are known as continuous weigh feeders, automatic and conveyor type batching scales, and (where weighing is an intermediate operation in a process) automatic packing and filling scales The scale in such cases is part of the machinery that carries the weighed material to a succeeding operation Many scales provide printed records of each reading, and some keep a cumulative registration of a succession of readings See H T Wade, *Scales and Weighing* (1924), D M. Considine, *Industrial Weighing* (1948)

Scaliger, Joseph Justus (skă'lĭjur), 1540–1609, French classical scholar He was the son of Julius Caesar Scaliger, from whom he acquired his early mastery of Latin and his passion for learning He embraced Protestantism in 1562, served as tutor in the family of a Poitevin noble (1563–70), studied under Cujas at Valence (1570–72), and was professor of philosophy at Geneva (1572–74). After 1593 he held a research professorship at Leiden. Known in his own day as "the bottomless pit of erudition," he was learned in mathematics, in philosophy, and in many languages, a promoter of critical, scientific methods for textual criticism and the study of the classics His *De emendatione temporum* [on the correction of chronology] (1583) surveyed all ways then known of measuring time and established knowledge of ancient calendars and dates on a scientific basis He restored the content of the lost original of the second book of Eusebius' chronicle The chronological foundation for the modern study of ancient history was summed up in his *Thesaurus temporum* [repertory of dates] (1606) His *Catalecta* (1573) was a collection of Vergilian and other Latin poems A brief autobiography, extending to 1594, is supplemented by a selection from his letters in G W Robinson, *Autobiography of Joseph Justus Scaliger* (1927)

Scaliger, Julius Caesar (skă'lĭjur), 1484–1558, Italian philologist and physician in France Discontinuing his military career because of ill-health, Scaliger studied medicine and settled (1526) as a physician in Agen, where he was naturalized as a French citizen Deeply learned but contentious and vain, he quarreled violently with Erasmus and Jerome Cardan In his *De causis linguae Latinae* (1540), he analyzed Cicero's style and pointed out over 600 errors of his humanist predecessors He wrote commentaries on the medical and botanical writings of Hippocrates, Theophrastus, and Aristotle and urged an improved classification of plants according to their unique characteristics His famous *Poetices* (1561), in which he extolled Vergil and Seneca, played an important role in the creation of the unities and other neoclassic principles See F M Padelford, *Select Translations from Scaliger's Poetics* (1905)

scallion see LEEK

scallop (skŏ'lup, skă'–), marine bivalve mollusk, the shells of which have radiating ridges and wings at the sides of the hinge It moves through the water by flapping its shells In some species a row of eyes is found along the edge of the mantle The common scallop found on the Atlantic coast from Cape Cod southward is abundant in the shallow waters near Long Island It is widely marketed Only the adductor muscle (the muscle which closes the shell) is used for food The giant scallop lives in deeper waters from New Jersey to Labrador

scalp, covering of the skull, consisting of three layers, the skin, a subcutaneous fatty layer, and the occipitofrontalis muscle (stretching from the eyebrows to the back of the head) The blood supply of the scalp nourishes the hair follicles and glands Wounds of the scalp bleed profusely Infection beneath the deep layer of the scalp, sometimes called the "dangerous area," may spread readily

scalping, taking the scalp of an enemy The custom, comparable to head-hunting, was formerly practiced in Europe, Asia, and Africa, as well as by some of the American Indians, but by no means all of them To these Indians, the scalp was not always merely a trophy, it bestowed the powers of the scalped enemy In scalping, a circular cut was made around the crown of the head and the skin raised at one side, seized with the teeth, and torn off The scalping of a living person was not always fatal In their early wars with the Indians the American colonists retaliated by taking scalps and heads of Indians, bounties were offered for these, while French scalps brought bounties from the British and the French paid for British scalps These practices were, however, viewed with horror by the opposing parties When scalps were paid for with bounties, the temptation was strong for the Indian to kill indiscriminately, since it was difficult to identify the source of the scalp

Scalp Level, borough (pop 1,950), SW Pa , near Johnstown, inc 1898

Scamander (skumăn'dur), ancient name of the Kuçuk Menderes, a small river of NW Turkey, in Asia Minor It flows W and NW from the Ida Mts. through the Troas into the Mediterranean It is frequently mentioned in the *Iliad*

scammony (skă'munē), twining plant (*Convolvulus scammonia*) of the bindweed family, native to Asia Minor It has white flowers, arrow-shaped leaves, and a thick taproot from which is obtained a dried gum resin sometimes used in medicine Formerly the fresh juice from the living root was used

Scamozzi Ionic order (skămôt'tsē), in architecture, a variant of the Ionic order, named after Vincenzo Scamozzi (1552–1616), the Italian Renaissance architect who standardized it Its capital is slightly different from the ordinary Ionic, having all four faces identical, the volutes protrude diagonally at each corner below a concave-sided abacus similar to that of the Corinthian order Moreover, the volutes, instead of being connected horizontally on each face above the echinus, curve downward into the top of the echinus, in the empty space thus left in the center of each face a rosette or other ornament is placed; often the eyes of the volutes are linked by festoons

Scanderbeg or **Skanderbeg** (both· skăn'dŭrbĕg), c 1404–1468, Albanian national hero. His original name was George Castriota, which was corrupted by the Turks into Iskander Bey (Lord Alexander) or Scanderbeg The son of a prince of N Albania, he was educated in the Moslem faith as a hostage at the court of Sultan Murad II. The sultan showered favors on him and gave him command over a troop of horse, with the title bey. In 1443, when the Turks had signalized their project of adding Albania to their empire, Scanderbeg made his way home by a series of ruses, proclaimed himself prince of Albania, and abjured Islam All Albania and Montenegro rallied to his support, Venice courted his aid, and Pope Calixtus III named him (1457) captain general of the anti-Turkish crusade Scanderbeg held out against the attacks of the formidable Mohammed II, who in the meantime had succeeded Murad, and in 1461 the sultan was forced to conclude a 10-year armistice In 1463, however, Scanderbeg broke his pledge and renewed warfare after Pope Pius II had projected a new crusade The death of Pius II caused the abandonment of the crusade, and Scanderbeg found himself facing the sultan without allies He nevertheless held out in his fortress of Kroia After his death, resistance soon collapsed, and Albania fell to Turkey Scanderbeg's life has furnished Albania with a great fund of popular lore

Scandinavia (skăn'dĭnā'vēu), region of N Europe It consists of the kingdoms of SWEDEN, NORWAY, and DENMARK, the Scandinavian nations are usually also understood to include FINLAND and ICELAND Geographically, Denmark (i e , Jutland and the Danish islands) belongs to the North European plain rather than to the geologically distinct Scandinavian peninsula, occupied by Norway in the west and Sweden in the east The peninsula is washed by the Baltic Sea on the east, the Kattegat, the Skagerrak, and the North Sea on the south, the Atlantic Ocean on the west, and the Arctic Ocean on the north It is mountainous in the west, and its western, or Norwegian, coast is deeply indented by fjords It slopes down in the east and south, and its southernmost tip is the most fertile agricultural section of Sweden A large part of the peninsula lies N of the Arctic Circle, reaching its northernmost point in Cape NORDKYN The climate varies from arctic to humid maritime (in SW Norway) and to continental (in Sweden) The peninsula is particularly rich in timber and minerals (notably iron and copper ore), and its coastal waters are important fishing grounds In the east, Scandinavia is continued by the glacial lake plateaus of Finland and Karelia Except for the Lapps and Finns in the north and east, the Scandinavian peoples speak a closely related group of Germanic languages—Norwegian, Danish, Icelandic, Faeroese, and Swedish The oldest Germanic literature (see OLD NORSE LITERATURE) flourished in Scandinavia and Iceland.

Scandinavian art and architecture The Scandinavian countries are rich in artifacts and objects of archaeological interest from the Bronze Age, the Celtic and Germanic Iron Ages, and the viking period These are exhibited in large number at the civic museums of Copenhagen and Stockholm Peculiar to Scandinavia is the STAVKIRKE, examples of this type of pre-Christian building survive in Norway only, where they were most prevalent When Scandinavia became Christianized in the 11th cent , a great activity of church building set in These were chiefly in wood, but some were in stone The cathedral at Lund, Sweden, begun in 1085, shows Lombard influence, Gothic elements predominate in the cathedrals of Linkoping and Skora The Gothic cathedral at Trondheim, begun in 1248, is in the English Gothic style, the Uppsala cathedral was built by French architects This overwhelming influence from other European countries persisted through the Renaissance and baroque periods, the North German school of Lübeck becoming more and more the chief source for Scandinavian styles, the castles, such as Gripsholm, exemplify this borrowing In the 18th and 19th cent native artists began to make international names for themselves, sometimes through study in France or Germany, whose schools they followed In Denmark the sculptor Albert Bertel Thorvaldsen and the painter Nikolaj Abraham Abildgaard may be mentioned In the same country the academy of Copenhagen grew so renowned in the 19th cent that German artists, such as Philip Otto Runge and Caspar David Friedrich, came to study there Norway produced its best-known artists late in the 19th cent —the sculptors Stephan Sinding and Adolf Gustav Viegland and the expressionist painter Edward Munch Among Swedish artists are the classical sculptor Johan Tobias Sergel and, in the late 19th and early 20th cent , the painters Anders Leonhard Zorn and Carl Larsson as well as the modern sculptor Carl Milles See Carl Laurin, *Scandinavian Art* (1922)

scandium (skăn'dēum), metal of the RARE EARTHS It is a chemical element (symbol=Sc; for physical constants, see ELEMENT, table) discovered by means of the spectroscope by L. F Nilson in 1879 and shown (by P. T Cleve) to correspond to the ekaboron predicted by Mendelejeff through his PERIODIC LAW of 1869. It forms an oxide (scandia),

various halides, and a sulphate, its salts are colorless. Scandium does not occur free in nature but in compounds in various rare minerals (e g, gadolinite, monasite, orthite, thortveitite, wukite, and wolframite) associated with other metals of the rare earths It is present in the sun Separation of the element from its compounds and the other metals with which it appears is extremely difficult. The metal is of no commercial importance

Scania, Sweden see SKANE

Scapa Flow (skă'pu), area of water, c 15 mi long and 8 mi wide, in the Orkney Islands, Scotland, bounded by the islands Pomona, Burray, South Ronaldsay, and Hoy In the First World War it was a well-mined British naval base, but nevertheless the *Vanguard* was torpedoed here (July 9, 1917), and early in the Second World War a German submarine passed the defenses and sank another British vessel, the *Royal Oak* (Oct 14, 1939) The chief historic event at Scapa Flow was, however, the scuttling of vessels of the interned German fleet by their crews in 1919

scarab (skă'rub), name for certain members of a large family of beetles (the Scarabaeidae) It refers especially to the dung beetle *Scarabaeus sacer* of Mediterranean regions, the sacred scarab of Egypt It is the name also for representations of the beetle made of stone (both precious and semiprecious), metal, and faience Like the TUMBLEBUG, the scarab makes balls of dung for its food or as a source of food for the larva which hatches from the egg laid in it From early times the beetle has been a source of interest and an object of symbolism The beetles were thought to be all males and as military symbols were worn in the rings of Roman soldiers In ancient Egypt the scarab was associated with worship of the sun god and with resurrection and immortality In the 3d millennium B C finely carved scarabs came into use as seals, and in the XII dynasty (2000–1788 B C) they generally replaced cylinders and other forms for this purpose Scarabs, often inscribed with quotations from the Book of the Dead, were buried with mummies Scarabs also were issued commemorating events such as marriages and lion hunts Usually the scarab was shown with wings folded, but some later examples had the wings spread

Scaramouch (skă'rumouch, -mōōsh), stock character in the Italian *commedia dell' arte* of the 16th and 17th cent The part was made popular by Tiberio Fiorilli (fl 1608–92) and was meant to ridicule the grandiloquent Spanish don Scaramouch was dressed in black and was constantly cudgeled by Harlequin for cowardice and boasting He appears later in French farces and in English pantomime Joseph Grimaldi was famous in the part

Scarba (skär'bŭ), island, off W Scotland, in Argyllshire, one of the Inner Hebrides It is separated from Jura to the south by Corrievrekin strait

Scarboro, town (pop 2,842), SW Maine, between Saco and Portland, inc 1658 It includes, besides Scarboro village, the resorts Scarboro Beach and Prouts Neck Thomas Cammock settled at Prouts Neck in the 1630s, the colony suffered greatly in Indian raids, being practically destroyed in 1675 Rufus King was born in Scarboro

Scarborough, municipal borough (1931 pop 41,788, 1947 estimated pop 43,450), North Riding of Yorkshire, England, NE of York Spreading inland from a peninsula between two bays, the town is a North Sea port and resort, with a spa, a marine drive along the base of the peninsula, and gardens (South Cliff Gardens, Italian Gardens, and Alexandra Park) A music festival and a sports meet (tennis and cricket) are held annually The summit of the peninsula was early recognized as a valuable site there are vestiges of a 4th-century Roman signaling station in the grounds of the castle, which was founded in the 12th cent and converted into a fort by Henry II This castle was besieged by the Scots under Bruce in the 14th cent , again at the time of the Pilgrimage of Grace, and twice in the civil war The town was attacked by Harold Hardrada (Harold III) in 1066 In the First World War it was several times bombarded by the Germans The ancient Church of St Mary is on the site of a Cistercian priory St Martin's has windows by Burne-Jones, D G Rossetti, and William Morris George Fox was imprisoned in Scarborough

scarlatina see SCARLET FEVER

Scarlatti, Alessandro (älĕs-san'drō skärlät'tē), b 1658 or 1659 in Sicily, d 1725, Italian composer, founder of the Neapolitan school He developed the forms of the *aria da capo* and the Italian overture He was master of the chapel to Queen Christina of Sweden, at Santa Maria Maggiore in Rome, and at the Royal Chapel, Naples He composed 115 operas, 200 Masses, and over 700 cantatas and oratorios See biography by E J Dent (1905) His son, **Domenico Scarlatti** (Giuseppe Domenico Scarlatti) (dōmā'nēkō), 1685–1757, was a harpsichord virtuoso and the composer of works representing the rococo in Italy He was for 25 years chamber virtuoso to the prince of the Asturias in Madrid, during which time he composed many of his 545 one-movement sonatas for the harpsichord The style of these sonatas is florid, and they are of polished classical excellence, brilliant but not deeply emotional See Sacheverell Sitwell, *A Background for Domenico Scarlatti* (1935).

scarlet fever or **scarlatina** (skärlutē'nu), acute contagious, infectious disease, believed to be caused by the *Streptococcus hemolyticus* (or *S scarlatinae*) It occurs commonly in children under the age of eight and less frequently at greater ages The incubation period varies from several hours to a week Symptoms at the onset of the condition include vomiting or chills, high fever, rapid pulse, sore throat, and, after the first day or two, a scarlet-red eruption The tongue becomes coated and red at the tip and edges and the papillae are red and swollen (strawberry tongue) The symptoms are intensified during the period of eruption, which gradually disappears after about a week and is followed by a peeling and shedding of the skin Involvement of the kidney, heart, and ears may be complications of the disease One attack usually gives immunity The Dick test is used to determine the immunity of an individual An antitoxic serum is generally used in treatment, and the disease responds to sulfa-drug therapy.

scarlet runner see BEAN.

scarp, see ESCARPMENT

Scarpanto see KARPATHOS

Scarron, Paul (pōl' skarō'), 1610–60, French novelist, author of *Le Romant comique* (1651), a novel in picaresque style about strolling players He also wrote short stories, collected as *Les Nouvelles tragi-comiques* (1655), satires, and burlesque plays. He married (1652) Françoise d'Aubigné, known later as Mme de MAINTENON He was bedfast with paralysis much of his life See *The Comical Romance and Other Tales*, a 17th-century English translation republished (1892) with introduction by Jusserand

Scarsdale, suburban village (pop 12,966), SE N Y , in Westchester co., S of White Plains, settled c 1701, inc 1915

Scaw Fell see SCAFELL.

scenic design see STAGE DESIGN

Sceva (sē'vu), chief priest of Ephesus Acts 19 14

Schacht, Hjalmar Horace Greeley (yäl'mar, shäkht'), 1877–, German financier He held high executive positions in several major German banks before the finance minister, Hans Luther, appointed him (1923) commissioner of currency Inflation had reached its height and the paper mark had become worthless Schacht substituted the Rentenmark, secured by a mortgage on all land and industry By various stringent deflationary measures the Rentenmark was stabilized and the budget balanced In 1924 Germany obtained a foreign loan under the Dawes Plan, and in 1925 the Rentenmark was replaced by the Reichsmark, based on a gold standard Appointed president of the Reichsbank in 1923, Schacht resigned in 1930 because of his opposition to continued German reparations payments A nationalist and a representative of conservative capitalism, Schacht supported the National Socialist party and in 1934 was appointed minister of economy and president of the Reichsbank by Hitler and was given wide powers He initiated a complicated system of currency exchange controls and barter trade with foreign countries, employing highly unconventional methods His program enabled Germany to secure raw materials for its rearmament and extended German economic influence in Central Europe, the Balkans, and South America The appointment (1937) of Hermann Wilhelm GOERING as director of the Four-Year Plan led to Schacht's resignation from the ministry Schacht continued as president of the Reichsbank until 1939 He had always opposed certain National Socialist practices, notably the elimination of the Jews from economic life When a German defeat in the Second World War became inevitable Schacht allegedly took a leading part in the plot (1944) against Hitler's life He was placed in a concentration camp and, after the German collapse, was tried by the Allies for war crimes He was acquitted (1946) by the Allied court at Nuremberg and (1948) by a German "denazification" court

Schadow, Johann Gottfried (yō'hun gôt'frēt shä'dō), 1764–1850, German sculptor of the neoclassic school, studied in Rome In 1788 he returned to Berlin, where he became court sculptor Among his best-known works are the tomb of Graf von der Mark in Berlin, the *Quadriga* and other sculptures on the Brandenburg Gate, Berlin, statues of Dessau and Frederick the Great, and monuments to Blücher at Rostock and to Luther at Wittenberg His son **Rudolph Schadow** (rōō'dōlf), 1786–1822, also a sculptor, was a follower of Canova and Thorvaldsen Another son, **Friedrich Wilhelm von Schadow-Godenhaus** (frē'drĭkh vĭl'hĕlm fŭn shä'dō-gō'dunhous), 1789–1862, noted German religious and historical painter, was one of the NAZARENES in Rome On his return to Berlin in 1819 he was professor at the Berlin Academy and from 1826 to 1859 was director of the Düsseldorf Academy Among his noted works are *The Wise and Foolish Virgins*, *Christ at Emmaus*, and a portrait of Thorvaldsen.

Schaeffer, Asa Arthur (shā'fûr), 1883–, American zoologist, b Kunkletown, Pa , grad Franklin and Marshall College, 1904. He taught at the Univ. of Tennessee (1909-23), at the Univ of Kansas (1924–31), and from 1932 at Temple Univ He made special studies of the protozoa, particularly of amoeboid movement and the classification of amoebas.

Schafarik, Pavel Josef see SAFARIK, PAVEL JOSEF.

Schaff, Philip (shäf), 1819–93, noted biblical scholar and church historian in America, b Switzerland He came to the United States in 1844 to teach in the Theological Seminary of the Reformed Church, Mercersburg, Pa. His importance as an interpreter of German theology and (in his writings) as a conveyor of the religious thought of America to Germany gained wide recognition From 1870 until his death he was professor at Union Theological Seminary, New York, where he was given the chair of sacred literature (1874) and of church history (1887) Schaff was president of the American branch of the English Bible Revision Committee. He edited the first edition (1882–84) of the *Schaff-Herzog Encyclopedia of Religious Knowledge* and wrote *A History of the Christian Church* (7 vols , 1858–90) His literary work embraced the writing or editing of some 80 publications

Schaffhausen (shafhou'zun), canton (115 sq mi ; pop 53,772), Switzerland Entirely on the right (northern) bank of the Rhine, the canton consists of three agricultural and forested areas, unconnected with each other and largely surrounded by German territory The capital, **Schaffhausen** (pop 22,498), on the Rhine, was originally a Benedictine abbey (founded c 1050), of which the 11th-century minster has been preserved It became (c 1208) a free imperial city, ruled first by its abbots, then by the Hapsburgs, and (after c 1415) by its local trade guilds Schaffhausen joined the Swiss Confederation in 1501 and accepted the Reformation shortly afterward The Rhine, which falls c 60 ft southwest of the town, is industrially exploited, and there are important wool, machinery, and metal industries In the Second World War the town suffered damage when American aircraft bombed it by mistake

Schäffle, Albert (al'bĕrt shĕf'lu), 1831–1903, German economist and sociologist He taught economics in the universities of Tubingen and Vienna His views were based partly on the idealism of Hegel and Schelling, partly on Comtian and Darwinian ideas His work was characterized by the use of organic analogies and the concept of value as indicating the elements of intelligence and spirituality Schäffle was interested in socialism, which he believed would evolve out of capitalism He made important contributions to the theory of taxation His most popular book was *Die Quintessenz der Socialismus* (1875, Eng tr , 1901), his most elaborate was *Bau und Leben des sozialen Korpers* [structure and life of the social body] (4 vols , 1875–78, revised 1896)

Scharnhorst, Gerhard Johann David von (gär'hart yō'han da'vĕt fŭn sharn'hôrst), 1755–1813, Prussian general He fought in the disastrous war of 1806–7 against Napoleon I, and he headed the commission for reorganizing the army and controlled the war ministry from 1807 to 1810 Scharnhorst turned the Prussian army from a mercenary into a people's army Every Prussian was considered liable to military service As the introduction of general conscription was impossible under Napoleonic rule, Scharnhorst invented the famous *Krumpersystem* by which citizens were called to service for a short training period to be then replaced by another group Thus a number far exceeding the 42,000 men allowed Prussia could be trained in the use of arms This system was revived in Germany after the Treaty of Versailles of 1919 The abolition of physical punishment and the admission of nonnobles into the officers' corps further helped to popularize the cause of the army So successful was Scharnhorst in this endeavour that thousands of volunteers rushed to the colors when Prussia turned against Napoleon early in 1813 General conscription, however, was introduced formally only in 1814 after Scharnhorst's death His military reforms were aided by GNEISENAU and Karl vom und zum STEIN

Scharwenka, Franz Xaver (frants' ksavâr' shärvĕng'ka), 1850–1924, German pianist and composer In Berlin he founded (1881) his own conservatory, which was later (1893) merged with the Klindworth Conservatory Beginning in 1874, he toured in Europe and the United States His compositions include the opera *Mataswintha* (Berlin, 1894, New York, 1897), piano concertos, chamber music, and technical studies His brother **Ludwig Philipp Scharwenka** (lōōt'vĭkh fē'lĭp), 1847–1917, associated with him in teaching, wrote several orchestral works, chamber music, and choral music.

Schaudinn, Fritz (frĭts' shou'dĭn), 1871–1906, German zoologist He confirmed the work of Sir Ronald Ross and G B Grassi on malaria, investigated amoebic dysentery, and in his research on protozoa discovered (1905) with Erich Hoffmann the *Treponema pallidum* (or *Spirochaeta pallida*) of syphilis.

Schauenburg see SCHAUMBURG-LIPPE, Germany.

Schaulen, Lithuania. see SIAULIAI

Schaumburg-Lippe (shoum'bōōrk-lĭ'pŭ), former state (131 sq. mi.; 1939 pop. 53,195), W Germany,

W of Hanover and E of the Weser river. After 1945 it was incorporated with British-occupied Lower Saxony Bückeburg is the chief city It is a fertile agricultural region. The county of Schauenburg (as Schaumburg was originally called) occupied a considerable part of Westphalia in the 12th cent, and its lord, Count Adolf, was invested with Holstein in 1111 The direct line died out in 1459, and the branch line which succeeded retained only Schaumburg and the seignory of Pinneberg in Holstein When it in turn became extinct (1640), Pinneberg passed to the Danish crown and Schaumburg was divided among Brunswick-Lüneburg (later the electorate of Hanover), Hesse-Kassel, and the county of Lippe The territorial divisions among the various lines of the Lippe family resulted in the creation (1790) of the principality of Schaumburg-Lippe The last prince abdicated in 1918, and Schaumburg-Lippe became a member of the Weimar Republic.

Scheele, Karl Wilhelm (kärl' vĭl'hĕlm shā'lə), 1742–86, Swedish chemist, b Stralsund He is known as the discoverer of many chemical substances He was a pharmacist in Stockholm, in Uppsala (1770–75), and then in Koping (N of Lake Malar). He prepared and studied oxygen c 1773, but his account in *Fire and Air* (1777, Eng tr, 1780) appeared after the publication of Joseph Priestley's studies He discovered nitrogen independently of Daniel Rutherford and showed it to be a constituent of air His treatise on manganese (1774) was influential in leading to the discovery of that element as well as to the discovery of barium and chlorine. He also isolated glycerin and several acids See his *Collected Papers* (Eng tr, 1931)

Scheer, Reinhard (rīn'härt shār'), 1863–1928, German admiral As commander (1916–18) of the German High Seas Fleet in the First World War, he proved himself a brilliant naval tactician in the battle of Jutland (see Jutland, battle of) He headed the admiralty staff in 1918

Scheffel, Joseph Viktor von (yō'zĕf vĭk'tôr fŭn shĕ'fəl), 1826–86, German poet, novelist, and lawyer He went to Italy, where he wrote a hugely successful romantic epic, *The Trumpeter of Säkkingen* (1853, Eng tr, 1877), made into an opera by Victor Nessler Its success was repeated in a different sphere with *Gaudeamus!* (1868, Eng tr, 1872), a collection of student songs which are still popular. His masterpiece is *Ekkehard* (1857, Eng tr, 1867), the story of a 10th-century monk

Scheffer, Ary (ärē' shĕfĕr'), 1795–1858, Dutch painter in France A fellow student of Delacroix and Géricault, he too is classed as a leader of the romantic movement because of his sentiment and choice of subject matter. Technically, however, he was a conventional and eclectic painter In his early works, such as *Death of Gericault* (Louvre), he attempted realism Later he painted scenes from the works of Goethe, Schiller, and Byron, e g, *Marguerite at the Fountain* (Wallace Coll, London) From 1840 he devoted himself chiefly to religious painting and is best known for such works as *Christus Consolator* (Amsterdam), *Temptation of Christ* (Louvre), and *Christ Weeping over Jerusalem* (Marseilles)

Scheffler, Johannes. see Angelus Silesius

Scheherazade see Thousand and One Nights

Scheidemann, Philipp (fē'lĭp shī'dumän), 1865–1939, German politician, a Social Democrat A member of the Reichstag from 1898, he became (1918) secretary of state without portfolio in the cabinet of Maximilian, prince of Baden After William II had fled (Nov, 1918), Scheidemann proclaimed the German republic and served as its first chancellor He resigned (1919) in protest over the Treaty of Versailles He left Germany in 1933. See his *Making of New Germany* (Eng tr, 1929).

Scheiner, Christoph (krīs'tôf shī'nur), 1579?–1650, German astronomer and mathematician, a Jesuit priest. He taught at Ingolstadt, Rome, and other places and became rector of a Jesuit college at Neisse, Germany, in 1622 His observation of sunspots in 1611 was recorded in two works (1612) and resulted in a controversy with Galileo, who claimed that he was the first to discover sunspots Scheiner made over 2,000 observations of the sun and embodied the results of his studies in *Rosa ursina* (1630) His pioneer research on the physiology of vision appeared in his *Oculus* (1619).

Scheldt (skĕlt), Dutch and Flemish *Schelde* (skhĕl'də), Fr *Escaut* (ĕskō'), river, 270 mi long, rising in N France and flowing generally NNE past Valenciennes, into Belgium and past Tournai, Ghent (where it is joined by the Lys), and Antwerp. Through the Scheldt estuary (between Belgium and the Dutch islands of South Beveland and Walcheren) it empties into the North Sea Navigable for most of its course, it is connected with a dense network of canals in N France and Belgium From the Peace of Westphalia (1648) until 1863, the Netherlands possessed (except during the Napoleonic period) the right to close the Scheldt estuary and thus had a stranglehold over the port of Antwerp. Again, in the Second World War, the Allies had to expel (late 1944) the German garrisons on Walcheren and South Beveland before they could make use of Antwerp.

Scheler, Max (mäks' shā'lùr), 1874–1928, German philosopher and sociologist. His work, done largely in the field of values, led him to an interest in the phenomenological school of Franz Brentano and Husserl, of which he became a leader Scheler conceived of each individual as developing a unique personality structure composed of values graded in order of merit as sensual, organic, cultural, and religious. This position led him to a rejection of the democratic and equalitarian concepts of the value of each human being, but in later life he changed his position to some extent, finding a basic human value beyond the individual personality. His works include *Die transzendentale und die psychologische Method* (1900) and *Schriften zur Soziologie und Weltanschauung* (3 vols, 1923–24)

Schelling, Ernest (Ernest Henry Schelling) (shĕ'lĭng), 1876–1939, American pianist, composer, and conductor, b Belvidere, N J ; pupil of Paderewski He first appeared as a pianist in Philadelphia at the age of four In 1903 he began the appearances which earned him recognition as an outstanding pianist of the romantic school. His most important compositions are his *Impressions from an Artist's Life* (1916), variations for piano and orchestra, and his *Victory Ball* (1923), for orchestra, inspired by the poem of Alfred Noyes He conducted the children's concerts of the New York Philharmonic from 1924 until his death and was conductor of the Baltimore Symphony Orchestra from 1936 to 1938

Schelling, Friedrich Wilhelm Joseph von (frē'drĭkh vĭl'hĕlm yō'zĕf fŭn shĕ'lĭng), 1775–1854, German philosopher After theological study at Tübingen and two years of tutoring at Leipzig, he became in 1798 a professor at Jena, where he helped found the romantic movement in philosophy There he was closely associated with the Schlegel brothers and Fichte and maintained friendship with Goethe While at Jena, Schelling was a collaborator of Fichte, but they drew apart when Schelling left Jena for a professorship at Wurzburg in 1803 He lived in Munich (1806–20), holding various state posts, and after academic work at Erlangen (1820–27) returned to Munich Frederick William IV called Schelling to the Univ of Berlin in 1841 to try to counteract the Hegelian influence In this Schelling was unsuccessful Schelling's early essays were a development of the Fichtean science of knowledge, though in *Ideen zu einer Philosophie der Natur* (1797) he had already differed somewhat in holding that nature cannot be subordinated to mental life If there is to be knowledge of nature and understanding of the origin of mind, the principle of mind must be already manifest in nature Then the difference between the forces of nature and mind must be only a matter of degree or level, and the problem of knowledge is absorbed in the ultimate unity of mind and matter in the Absolute In his later period, Schelling attempted to explain the origin of different degrees or levels within the unity The work in which this was advanced (published in 1809) was translated into English by James Gutmann in 1936 as *Schelling, Of Human Freedom* Schelling maintained that history is a series of stages progressing toward harmony from a previous fall, so that the differences are matters of development Schelling argued, in a doctrine not unlike that of Boehme, that God also partakes of this unfolding and development, for the Deity, to have personality, must hold within himself the limiting factors which define personality See Benjamin Rand, *Modern Classical Philosophers* (1908)

Schenck, Robert Cumming (skĕngk), 1809–90, American politician and diplomat, Union general in the Civil War, b Franklin, Ohio, grad. Miami Univ, 1827 He studied law and practiced in Dayton Schenck was a Whig in Congress (1843–51) and minister to Brazil (1851–53) In the Civil War he fought at both battles of Bull Run and in West Virginia He resigned his major generalcy of volunteers in 1863 and reentered Congress, where he was one of the leading radical Republicans (1864–70) While minister to Great Britain (1871–76), Schenck, for a consideration, allowed the Emma Silver Mining Company to use his name in promoting its stock, which soon proved fraudulent A congressional investigation forced his resignation He afterwards practiced law in Washington

Schenectady (skunĕk'tədē), city (pop 87,549), co seat of Schenectady co, E N Y, on the Mohawk and the Barge Canal and NW of Albany, founded 1662 by Arent Van Curler, inc 1798 Its location on transportation routes spurred the city's growth, particularly after the building of railroads in the 1830s. Locomotive works established here in 1848 are still important. Since 1894 it has been the headquarters of the General Electric Company Other products include athletic equipment and sport goods. The state bought (1938) Charles P. Steinmetz's home and laboratory for use as a science museum Union College is here There are several old buildings, among them the pre-Revolutionary St. George's Episcopal Church.

Schérer, Edmond (ĕdmō' shārĕr'), 1815–89, French critic, of Swiss descent He studied for the Protestant ministry, but, unable to accept all the tenets of the church, turned to literary and religious criticism. His influential articles written for the *Temps* have been collected as *Études sur la littérature contemporaine* (10 vols, 1885–95), of which *Essays in English Literature* (1891) appears in translation, *Mélanges de critique religieuse* (1860), and *Mélanges d'histoire religieuse* (1864).

Scherer, Wilhelm (vĭl'hĕlm shā'rur), 1841–86, German philologist, b Austria He held professorships at the universities of Vienna, Strasbourg, and Berlin. His *Geschichte der deutschen Litteratur* (1883, Eng tr, *A History of German Literature*, 1886) and a history of the German language (1868), in which he applied the scientific attitude to linguistics, are his most famous works. Through his writings ran a strong sense of nationalism He was one of the first to maintain a view now generally held—that in scientific linguistics there can be no such thing as an exception.

scherzo (skĕr'tsō) [Ital, =joke], in music, a term used to denote various types of composition but primarily one which is lively and which presents certain surprises in the rhythmic or melodic material In the symphonies of Haydn the scherzo was a further development of the minuet, and in Beethoven's works it largely replaces the minuet as the third movement of a work in sonata form The humor in a Beethoven scherzo is sometimes of a rather grim sort. In Mendelssohn the scherzo assumes an elfin quality, while the four piano scherzos of Chopin are works of great boldness and strength

Scheveningen (skhā'vunĭng"un), resort town, South Holland prov, W Netherlands, on the North Sea and 2 mi NW of The Hague, of which it is a part It is one of the most popular bathing resorts on the North Sea

Schiaparelli, Giovanni Virginio (jōvän'nē vērjē'nyō skyäpärĕl'lē), 1835–1910, Italian astronomer He was director (1862–1900) of the Brera Observatory, Milan He is especially noted for having detected (1877) on the surface of the planet Mars the markings which he called canals He showed that meteor swarms travel through space in cometary orbits and that Mercury and Venus rotate on their axes He discovered the asteroid Hesperia (1861) and several double stars.

Schick, Bela (bā'lō shĭk'), 1877–, American pediatrician, b Hungary, M D Karl Franz Univ, Graz, 1900 After having taught at the Univ of Vienna (1902–23), he came to the United States From 1923 he was a pediatrician at Mt Sinai Hospital, New York In 1929 he became a naturalized American citizen He devised (1913) the Schick test, a skin test to determine susceptibility to diphtheria He also made important studies of allergy and wrote, with others, *Scarlet Fever* (1912) and *Child Care Today* (1933)

Schiedam (skhē"dam'), municipality (pop 69,095), South Holland prov, W Netherlands, on the New Maas and W of Rotterdam It has large distilleries and is famous for its gin, which is exported throughout the world There also are shipyards and factories Chartered in 1273, Schiedam has kept a 15th-century church and a 17th-century city hall

Schiehallion (shĭhăl'yŭn), mountain, 3,547 ft high, Perthshire, Scotland, near Loch Rannoch In 1774 Nevil Maskelyne experimented here to determine the density of the earth

Schiff, Jacob Henry (shĭf), 1847–1920, American banker and philanthropist, b Frankfurt, Germany He emigrated to America in 1865 and became a partner in a brokerage house in New York city At 38 he was head of the banking house of Kuhn, Loeb and Company. Schiff became associated with E H Harriman in notable contests with the house of Morgan for control of Western railroads His numerous philanthropies included the endowment of the Jewish Theological Seminary, the Montefiore Home, both in New York, and a museum at Harvard See biography by Cyrus Adler (1928)

Schildkraut, Rudolph (shĭlt'krout), 1862–1930, German-Jewish actor He won fame at Vienna, Hamburg, and Berlin for his Shakesperian portrayals, especially Lear and Shylock He was a star (1911–22) of the Yiddish Theater in New York His son, **Joseph Schildkraut**, 1896–, acted at Berlin and Hamburg and after 1920 appeared on the New York stage in such successes as Molnar's *Liliom* and Ibsen's *Peer Gynt* After 1927 he acted in moving pictures

Schiller, Ferdinand Canning Scott (shĭl'lur), 1864–1937, British philosopher Schiller studied at Oxford and was professor of philosophy there (1897–1926) and at the Univ. of Southern California (1929–37). His philosophical position is closely related to the pragmatism of William James. Schiller called his system humanism, holding that "man is the measure of all things." Among his works are *Riddles of the Sphinx* (1891), *Humanism* (1912), *Problems of Belief* (1924), and *Logic for Use* (1929), *Our Human Truths* (1939), a collection of his last writings, was published posthumously.

Schiller, Johann Christoph Friedrich von (yō'hän krĭs'tôf frē'drĭkh fŭn shĭ'lur), 1759–1805, German poet, dramatist, historian, and philosopher, b Marbach, Württemberg; son of an army surgeon Schiller was forced to attend the military school of the duke of Württemberg at Ludwigsburg. When the school was moved to Stuttgart, Schiller studied

medicine there and, again at the duke's insistence, became an army doctor. His first play, *Die Räuber*, written while he was studying medicine, was printed anonymously and at the author's expense in 1781 This, one of the great plays of the STURM UND DRANG period, was remarkable for its freedom of form and for its picture of violence and radicalism. After it was successfully performed at Mannheim in 1782, Schiller fled from Stuttgart and the petty tyranny of the duke Living as a fugitive, he completed two other dramas, a historical tragedy, *Die Verschwörung des Fiesko zu Genua* (1783, Eng tr, *Fiesco, or, The Genoese Conspiracy*, 1796), and *Kabale und Liebe* (1784, Eng tr, *Cabal and Love*, 1795) In these early plays he showed himself to be a great tragic dramatist He was appointed (1783) dramatist to the Mannheim theater Soon, however, he was in financial difficulties and went to Leipzig on the invitation of the family of his friend, C G Körner In the same year (1784) he went to Dresden, where he remained until 1787 Here he wrote (1785) the hymn to joy, *An die Freude*, used by Beethoven in the choral finale to his Ninth Symphony, and the drama *Don Carlos* (1787, Eng tr, 1795), in blank verse Schiller lived in Weimar from 1787 to 1789 and wrote a historical work on the revolt of the Netherlands against Spanish rule (pub 1788) He was closely associated with Goethe in one of the most celebrated of all literary friendships Schiller obtained a professorship in history at the Univ of Jena from 1789 to 1793, when illness forced him to give up teaching In this period he had married (1790) Charlotte von Lengefeld In 1793 he completed his second historical work, on the Thirty Years War Schiller was strongly influenced by Kant, an influence which is evident in his critical writing, in several works on aesthetics, and in his philosophical poems His last years were passed at Weimar and in this period were produced his greatest dramas Outstanding is the dramatic trilogy on Wallenstein, *Wallenstein's Lager* (1798), *Die Piccolomini*, and *Wallenstein's Tod* (both 1799), the last two parts appeared in an English translation by S T Coleridge as *Wallenstein* (1800) Others of his major works are *Maria Stuart* (1800, Eng tr, 1800), *Die Jungfrau von Orleans* (1801), on Joan of Arc, *Die Braut von Messina* (1803), and *Wilhelm Tell* (1804, Eng tr, 1825) His many ballads have been popular in Germany, perhaps the favorite is "The Song of the Bell" Schiller was one of the founders of modern German literature, second in his time only to the overpowering Goethe His dramas are infused with idealistic nobility and with hatred of tyranny English translations of his complete works appeared in 1846–49 and 1897–1903 See biographies by Thomas Carlyle (1825) and Calvin Thomas (1902)

Schilling, Johannes (yōhä'nus shĭ'lĭng), 1828–1910, German sculptor He is represented by many monuments in Germany, including the colossal *Germania* (1883), a national monument in the Niederwald, counted his masterpiece

Schimper, Andreas Franz Wilhelm (ändrā'as frănts' vĭl'hĕlm shĭm'pur), 1856–1901, German botanist, one of a famous family of naturalists He wrote on plant ecology, gathering materials for his works in North America, Asia, and the West Indies as well as in Europe Among his works is *Plant-Geography upon a Physiological Basis* (1898, Eng tr, 1903)

Schinkel, Karl Friedrich (kärl' frē'drĭkh shĭng'kul), 1781–1841, German architect and painter He studied in Berlin and spent two years in Italy copying classical works Upon his return he turned to landscape painting, embodying architectural features in his compositions A member of the Berlin Academy, he became a professor in 1820 He also worked in lithography, etching, and illustration, but attained real distinction as an architect of the classical tradition Among the public buildings, castles, and country residences he designed are the Royal Guard House (1816–18), Royal Theater (1819–20), and Old Museum (1825–30) in Berlin and the New Gate, Church of St Nicholas, and Casino in Potsdam

Schipa, Tito (tē'tō skē'pä), 1889–, Italian operatic tenor He made his debut in 1911 in Vercelli After many appearances in Europe, he came to the United States in 1919, joining the Chicago Opera Company He sang with the Metropolitan Opera Company from 1932 to 1935 Possessed of both a beautiful voice and an impeccable artistry, he sang the leading lyric tenor roles in all the principal operas of the French and German repertory and appeared in the principal opera houses of Spain, Italy, and South America Schipa also toured in concert

schipperke (skĭ'pûrkē, -kŭ) [Flemish, =little captain], small dog said to have originated in the Flemish provinces. Its coat is solid black and rather coarse with a dense undercoat, usually it has no tail. The dog weighs up to 18 lb Although it resembles the spits and the Pomeranian, some authorities say that it is not related to these breeds but is a miniature form of a black Belgian sheep dog. An excellent watch dog, it was long used for that purpose on canalboats.

Schism, Great, or Schism of the West (sĭ'zm), division in the Roman Catholic Church from 1378 to 1417. There was no question of faith or practice involved, it was entirely a matter of persons and politics Shortly after GREGORY XI had returned from Avignon and reestablished the PAPACY at Rome, he died (March 27, 1378). The Romans feared that the papal court might be returned to Avignon, and there was rioting, with the mob demanding a Roman, or at least an Italian, pope On April 8 the 16 cardinals present elected URBAN VI The new pope was soon acting very offensively to all in the Church—some historians believe he was insane The cardinals slipped out of Rome and unanimously declared (at Anagni, Aug 2) that Urban's election was null as being done in fear of the mob At Fondi on Sept 20 they elected ROBERT OF GENEVA pope as Clement VII The next year Clement fled Italy for Avignon, where he reigned, surrounded by the former Roman court, he was recognized by France, Aragon, Castile, Naples, Scotland, and part of the empire There were thus two lines of popes The popes at Rome were Urban VI (1378–89), BONIFACE IX (1389–1404), Innocent VII (1404–6), and GREGORY XII (1406–15) Those of the rival line at Avignon were Clement VII (1378–94) and Benedict XIII (1394–1417, see LUNA, PEDRO DE) There was schism within schism, too, for France withdrew from obedience to Benedict XIII and knew no pope (1398–1403, 1408–9) The rivalry was, of course, perpetually irritating to churchmen The element most consistently eager to end the schism was centered around the theologians of the Univ of Paris, led by Pierre d'Ailly and Gerson From them came the proposal to call a council (1380), and there developed (c 1394) the conciliar theory, that the popes are subject to general councils The Council of Pisa (1409, see PISA, COUNCIL OF) was the result This meeting declared Gregory XII of the Roman (or Urbanist) line and Benedict XIII of the Avignon (or Clementine) line no popes and elected another, Alexander V He died soon, but his energetic successor, Baldassarre COSSA (John XXIII, 1410–15), detached most of Europe from his rivals In 1414 John reluctantly convened the Council of Constance (see CONSTANCE, COUNCIL OF) Gregory XII resigned, and John XXIII and Benedict XIII, who refused to resign, were declared deposed by the council MARTIN V was elected, and the schism was at an end The main effects of the schism were to delay the reforms which were the admitted need of the Church and to give rise to the conciliar theory, which was revived at the Council of Basel (see BASEL, COUNCIL OF) It is generally agreed by Roman Catholic scholars that the line of popes from Urban to Gregory was the canonical one See Edmund G Gardner, *St Catherine of Siena* (1907), L Salembier, *The Great Western Schism* (Eng tr, 1907), E F Jacob, *Essays in the Conciliar Epoch* (1943)

Schism of East and West, division between the ORTHODOX EASTERN CHURCH and the ROMAN CATHOLIC CHURCH See CHRISTIANITY, FERRARA-FLORENCE, COUNCIL OF, LYO IX, SAINT, LYONS, SECOND COUNCIL OF, PAPACY, PHOTIUS

Schism of the West see SCHISM, GREAT

schist (shĭst), metamorphic rock having the crystals of its constituent minerals elongated, segregated, and arranged in bands or leaves (folia) which are parallel not only to each other but also to the cleavage planes of the minerals Schists are distinguished from the other foliated rocks, slates and gneisses, by the size of their mineral crystals, these are larger than those of slates, being visible to the naked eye, but smaller than those of gneisses, which are coarsely foliated rocks as opposed to finely foliated or schistose rocks As contrasted with the folia of slates, the folia of schists are rough-surfaced and irregular Schists split readily along their planes of schistosity, like slates along cleavage lines Like other foliated rocks, schists owe their origin to the metamorphism of other, preexisting rocks The commonest of the schists is mica schist, the essential minerals of which are QUARTZ and MICA (biotite or muscovite) Other schists are hornblende schist, talc schist, chlorite schist, and graphite schists Schists are abundant in the Pre-Cambrian (Archeozoic and Proterozoic) rocks

schizophrenia (skĭt"sufrē'nēū, skĭ"zu-) or **dementia praecox** (dĭmĕn'shū prē'kŏks"), functional PSYCHOSIS characterized by unrealistic behavior dominated by private fantasy In 1896 Emil Kraepelin grouped what were previously considered unrelated mental diseases under the heading of dementia praecox, using four subdivisions (simple, hebephrenic, catatonic, and paranoid), which still have wide and official acceptance It was not, however, until 1911 that Eugen Bleuler, preceded by the work of Freud, C G Jung, and others, wrote the highly influential *Dementia Praecox oder die Gruppe der Schizophrenien*, which corrected the Kraepelin theory that the disease is incurable. In it he introduced the term *schizophrenia* to replace dementia praecox, as the former emphasized the dissociative or splitting phenomena in the mind and avoided the implication regarding age of onset and outlook for deterioration. Schizophrenia commonly, though not always, occurs in late adolescence or early adulthood in the withdrawn, seclusive type of person Among its basic symptoms are faulty thought processes, bizarre actions, tendency to live in an inner world, and incapacity to maintain normal interpersonal relationships Among accessory symptoms Bleuler noted are hallucinations, delusions, stupor, negativism, impulsive acts, and incoherence Because of the crippling nature of the psychosis, a high percentage of sufferers must be hospitalized It is roughly estimated that half the psychotics in mental hospitals are schizophrenic As ordinary psychiatric therapy has had very limited success, more radical approaches have been attempted, such as psychosurgery and shock therapy Chemical and organic factors in schizophrenia have been studied with as yet no impressive results See PARANOIA

Schlegel, August Wilhelm von (ou'gōst vĭl'hĕlm fŭn shlā'gul), 1767–1845, German poet and scholar He studied at Gottingen and went to Jena to join the Schillers With his brother, Friedrich von Schlegel, he founded the *Athenaeum* and edited it (1798–1810) He was thereafter secretary to Bernadotte (later Charles XIV of Sweden) and professor (1818–45) of art and literary history at Bonn Schlegel was one of the first critics to realise the importance of social evolution in the history of art, a champion of the *Nibelungenlied*, and author of the translations (1797–1810) of Shakspere later completed by Ludwig Tieck, his daughter Dorothea, and her husband, Graf von Baudissin These translations, in addition to their extraordinary literary qualities, established Shakspere in Germany Schlegel also translated works of Camoens, Calderón, Cervantes, and Dante His original writings have not been much read since his death, among them is *Lectures on Dramatic Art and Literature* (1809, Eng tr, 1815)

Schlegel, Dorothea von (dōrōtā'a), 1763–1839, German author, daughter of Moses Mendelssohn She married Friedrich von SCHLEGEL after her divorce from her first husband, Simon Veit She wrote *Florentin* (1801), an imitation of Goethe's *Wilhelm Meister*, translated Mme de Staël's *Corinne* (1807), and cooperated in the editing of her husband's works Philipp Veit was her son

Schlegel, Friedrich von (frē'drĭkh), 1772–1829, German philosopher, critic, and writer, most prominent of the founders of the romantic school Educated in law at Göttingen and Leipzig, he turned to literature, writing *Die Griechen und Römer* (1797) It was followed by experimental literary works, notably *Lucinde* (1799) and *Alarcos* (1802). With his brother, August Wilhelm von Schlegel, he founded and edited the *Athenaeum*, the organ of the romantic school He lectured at Jena (1800) and in Paris (1802), where he edited the *Europa* In Paris he studied Sanskrit and Indian civilization which later contributed to his outstanding work, *Über die Sprache und Weisheit der Indier* [on the speech and wisdom of India] (1808) From 1808 to 1819 he engaged in political and diplomatic activities and also wrote works in history and literature At Vienna, after 1818, he edited *Concordia*, issued his collected works (1822–25), and lectured on philosophy Schlegel, during his early period, held that comprehension of life depends on the richness and variety of experience He called it "romantic irony" that truth changes from experience to experience and that wisdom depends on the recognition of the fickleness of truth Later, after he and his wife, Dorothea von Schlegel, had joined (1808) the Roman Catholic Church, he became somewhat more conservative Among the translated lectures are *The Philosophy of History* (Eng tr, 1835) and *The Philosophy of Life and the Philosophy of Language* (Eng tr, 1847)

Schleicher, August (ou'gōst shlī'khur), 1821–68, German philologist A professor at the universities of Prague and Jena, he wrote studies of the Lithuanian language (1856–57), the German language (1860), and the language of the Polabian Slavs (1871) His most important work on comparative philology, published in German (1861–62), was translated as *A Compendium of the Comparative Grammar of the Indo-European Sanskrit, Greek, and Latin Languages* (2 vols 1874–77)

Schleicher, Kurt von (kōrt' fŭn shlī'khur), 1882–1934, German general After the First World War he helped to suppress the extremist revolutionaries in Germany and became a leader of the Reichswehr He was war minister in the cabinet of Franz von Papen, whom he succeeded as chancellor of Germany in Dec, 1932 Trying to prevent HITLER from seizing power, Schleicher demanded authority from President HINDENBURG to dissolve the Reichstag and to assume emergency powers Hindenburg refused and, after Schleicher's resignation (Jan 28, 1933), appointed Hitler chancellor Schleicher retired from public life but was shot with his wife by the Nazis in the 1934 "blood purge"

Schleiden, Matthias Jakob (mätē'äs ya'kôp shlī'dun), 1804–81, German botanist He was professor at the universities of Jena (1839–63) and Dorpat (1863–64) A pioneer in the development of the cell theory, he presented proof, in a paper on phytogenesis (1838), that plant tissues were composed of cells, he emphasized the importance of the

nucleus He wrote an influential textbook, *Principles of Scientific Botany* (2 vols , 1842–43, Eng tr , 1849). His work was carried forward by Theodor Schwann

Schleiermacher, Friedrich Daniel Ernst (frē'drĭkh dä'nyĕl ĕrnst' shlī'ûrmäkh"ur), 1768–1834, German philosopher and Protestant theologian His religious background was the Moravian Church. He studied at Halle and was professor of theology there (1804–10) and at the Univ of Berlin (from 1810) His thought was eclectic, he was influenced by Kant, Fichte, and Schelling His major work, *Der Christliche Glaube nach den Grundsätzen der evangelischen Kirche* (1821–22, Eng tr of 2d ed , *The Christian Faith*, ed by H R Mackintosh and J S Stewart, 1928), is one of the most important theological writings of modern times Schleiermacher sought to reconcile the theories of modern society with religious speculation He stressed the virtues of the organized state and was a strong advocate of national independence Important works include *Reden über die Religion* (1799) *Monologen* (1800), *Grundlinien einer Kritik der bisherigen Sittenlehre* (1803), *Weihnachtsfeier* (1806), and *Kurze Darstellung des theologischen Studiums* (1810) See R B Brandt, *Philosophy of Schleiermacher* (1941)

Schlesinger, Arthur Meier (shlā'zĭng-gur), 1888–, American historian, b Xenia, Ohio, grad Ohio State Univ (B A , 1910) and Columbia (M A , 1911, Ph D , 1917) In 1924, after teaching at Ohio State and the State Univ of Iowa he became a professor of history at Harvard and in 1928 became an editor of the *New England Quarterly* His special interest has been the interpretation of social history, as in *The Rise of the City, 1878–1898* (1933) and *Political and Social Growth of the American People, 1865–1940* (1941) His other books include *The Colonial Merchants and the American Revolution* (1917), *New Viewpoints in American History* (1922), and *Paths to the Present* (1949). With Dixon Ryan Fox he edited the "History of American Life" series (12 vols , 1927–44)

Schlesinger, Arthur Meier, Jr., 1917–, American historian and author, b Columbus, Ohio, grad Harvard, 1938, son of Arthur Meier Schlesinger (1888–) After the publishing success of *Orestes A Brownson a Pilgrim's Progress* (1939), his Harvard honors thesis, Schlesinger became a member of the Society of Fellows at Harvard (1939–42) In the Second World War, he served with the Office of War Information (1942–43) and the Office of Strategic Services (1943–45) In 1946 he became an associate professor of history at Harvard His *Age of Jackson* (1945) won the Pulitzer Prize in history for 1946 and was highly praised An active member of several organizations, historical and political (he was a cofounder of Americans for Democratic Action), he contributed articles to magazines and newspapers and also wrote *The Vital Center* (1949), a defense of liberalism

Schlesinger, Frank (slī'sĭnjur), 1871–1943, American astronomer, b New York city, grad College of the City of New York, 1890, Ph D Columbia, 1898 He was in charge of the International Latitude Observatory at Ukiah, Calif (1899–1903), and astronomer at Yerkes Observatory (1903–5) From 1905 to 1920 he was director of the Allegheny Observatory of the Univ of Pittsburgh and from 1920 to 1941 was director of the observatory at Yale His works are principally monographs on the reduction of photographic plates, variations of latitude, and stellar parallaxes

Schleswig (shlēz'wĭg, slĕz-, Ger shlās'vĭkh), Dan *Slesvig* (slās'vĭkh), former duchy, N Germany and S Denmark, occupying the southern part of Jutland The Eider river separates it from Holstein German Schleswig forms part of SCHLESWIG-HOLSTEIN, its chief cities are Flensburg, Schleswig, and Husum Danish Schleswig, known as North Schleswig (Dan *Nordslesvig*) includes the cities of Aabenraa, Hadersley, Sonderborg, and Tondern Unlike HOLSTEIN, which was part of the Holy Roman Empire even after its union with the Danish crown, the duchy of Schleswig, created in 1115, was a fief held directly from the kings of Denmark King Waldemar III, however, was forced (1376) to grant Schleswig a constitution which forbade the union of Schleswig and Denmark under a single overlord. In 1386 the count of Holstein received Schleswig as a hereditary fief His descendant, Christian I of Denmark, inherited (1460) both Schleswig and Holstein, but was obliged to recognize the inseparability of the two territories and to affirm that they were bound to the Danish crown by a personal union only In the 16th cent Schleswig and Holstein (which had also become a duchy) underwent a complex subdivision, although the principle of the inseparability of the two duchies was in theory not violated The three main divisions were a ducal portion, including parts of both duchies, which was conferred on Adolphus, duke of Holstein-Gottorp, younger brother of Christian III of Denmark, and on his descendants, the dukes of Holstein-Gottorp; a royal portion, including parts of both duchies, ruled directly by the Danish kings, and a common portion, ruled jointly by the Danish kings and the dukes of Holstein-Gottorp The arrangement was complicated by a number of factors, among them was the creation, within the royal portion of Schleswig, of the duchy of Sonderburg (see SONDERBORG) in favor of John, youngest brother of Frederick II of Denmark The Sonderburg branch split into the Augustenburg line and the cadet Glücksburg line. By the Treaty of Roskilde (1658) the Danish crown renounced its suzerainty over ducal Schleswig, the resulting quarrels between Denmark and the duke of Holstein-Gottorp were a major factor in the NORTHERN WAR (1700–1721), which ended with the dispossession of Duke Charles Frederick of Holstein-Gottorp and the union of the ducal portion of Schleswig with the Danish crown Charles Frederick's son became (1762) emperor of Russia as Peter III, his heir, Grand Duke Paul (later Emperor Paul I), renounced (1773) the ducal portion of Holstein, yielding it to the Danish crown, in exchange for OLDENBURG Thus all Schleswig and Holstein were once more united under the Danish kings The events related in the article SCHLESWIG-HOLSTEIN led to the annexation (1866) of both duchies by Prussia After the First World War, North Schleswig passed to Denmark after a plebiscite (1920), held in accordance with the Treaty of Versailles

Schleswig, city (pop 36,935), Schleswig-Holstein, N Germany, NW of Kiel It is a minor port on the Schlei, an inlet of the Baltic Sea, and a Lutheran episcopal see The city is chiefly residential First mentioned c 800, it was the residence of early dukes of Schleswig and (1544–1713) of the dukes of Holstein-Gottorp It was the capital of Schleswig-Holstein from 1866 until 1917, when it was superseded by Kiel The Gottorp or Gottorf castle (16th-17th cent) now houses the state archives and a museum The Romanesque-Gothic cathedral contains the tomb of Frederick I of Denmark

Schleswig-Holstein (-hōl'stĭn, Ger. -hôl'shtīn), state (6,045 sq mi , 1939 pop 1,589,284, 1946 pop 2,650,488), N Germany KIEL is the capital and chief port Schleswig-Holstein occupies the southern part and the base of the JUTLAND peninsula and extends from the Elbe, between the North Sea and the Baltic, northward to the Danish border Other important cities are Flensburg, Kiel, Lübeck, and Schleswig Schleswig-Holstein is drained by the Eider, which forms the border between the former duchies of Schleswig (in the north) and Holstein (on the south) The Kiel Canal links the North Sea and the Baltic A low-lying region, Schleswig-Holstein has fertile agricultural land (except in the center, where heaths and moors predominate) and is famous for its cattle The chief industrial products are ships, machinery, and processed foods Kiel has a university Concerning the history of Schleswig-Holstein, Lord Palmerston once stated in Parliament that it was so complicated that only three men had ever understood it fully, one was Prince Albert, who was dead, the second was a professor, who had become insane, the third was Palmerston himself, but he had forgotten it The history of the area up to the close of the 18th cent will be found in the articles HOLSTEIN and SCHLESWIG From 1773 the kings of Denmark held both duchies —Schleswig as full sovereigns, Holstein as princes of the Holy Roman Empire Both duchies were in personal union with, but not part of, Denmark The Congress of Vienna (1814–15) did not change the status of the two duchies, except that the German Confederation had succeeded the Holy Roman Empire in its suzerainty over Holstein A constitution for Holstein was guaranteed by the German Confederation The growing national consciousness of the predominantly German population in the two duchies made any change in their status an explosive issue In 1846 King Christian VIII announced that succession by females was to apply not only to the Danish throne, but to Schleswig as well This announcement met violent opposition among German nationalists, who feared the complete incorporation of Schleswig into Denmark Nevertheless, on the pressure of the Danish nationalists, Frederick VII, who had succeeded Christian, declared the complete union of Schleswig with Denmark in 1848 Revolution broke out in both duchies, a provisional government was formed, and the German Confederation came to the aid of the rebels and occupied the duchies British intervention led to an armistice in the German-Danish fighting, but in 1849 the war was resumed After inconclusive fighting, peace was made in 1850 between Prussia (which had been commissioned by the Confederation to conduct the war) and Denmark, both sides reserved their rights The fact that Frederick VII was childless made the Schleswig-Holstein succession a burning European issue The question was taken up by the powers in a conference at London, and in 1852 Prussia and Austria (but not the German Confederation as a body) adhered to the London Protocol The succession to Denmark and both duchies was settled on the Glücksburg branch of the Danish royal house, which derived its claim through the female line Duke Christian Augustus of Augustenburg, who represented a collateral line, renounced his claim to the duchies and accepted a money indemnity. Denmark in turn guaranteed the inseparability of the duchies and their continued status in personal union with Denmark. However, once more the pressure of the Danish nationalists forced Frederick VII to proclaim (1855) the Danish constitution as valid for both duchies. The protest of the German Confederation led to the withdrawal (1858) of that measure, but in Nov , 1863, just before Frederick's death, a common constitution for Denmark and Schleswig was drawn up. His successor, Christian IX, signed the constitution, which the German diet declared in violation of the protocol. In Jan , 1864, Prussia and Austria declared war on Denmark, which was easily defeated The disposal of the duchies was still at issue Austria favored the claims of the duke of Augustenburg, who denounced the surrender of the Augustenburg claim by his father in 1852, but BISMARCK, who was guiding Prussian policy, had already resolved to annex the duchies and had encouraged the Danish war with that end in view By the Treaty of Gastein (1865) with Austria, Bismarck deliberately imposed a solution which was bound to create friction with Austria Schleswig was placed under Prussian administration and Holstein under Austrian administration, while the duchy of LAUENBURG (also lost by Denmark in 1864) went to Prussia in return for a money payment to Austria The dual administration led, as Bismarck had anticipated, to such tension that Austria could easily be maneuvered into declaring war on Prussia The AUSTRO-PRUSSIAN WAR of 1866 ended with a swift Prussian victory, Schleswig, Holstein, and Lauenburg were annexed to Prussia and became the province of Schleswig-Holstein After the First World War the Danish majority of N Schleswig determined by plebiscite (1920) the return of that part of the province to Denmark The former free city of Lübeck and the Lübeck district of Oldenburg were incorporated with Schleswig-Holstein in 1937 After the Second World War, Schleswig-Holstein was constituted (1946) as a state in the British zone of occupation The influx of displaced persons and of refugees from E Germany increased the population by 60 percent In 1949 Schleswig-Holstein joined the West German republic

Schley, Winfield Scott (slī), 1839–1911, American naval officer, b Frederick co , Md , grad Annapolis, 1860 After serving in the Civil War, he held various naval posts In 1884 he commanded the third, and successful, relief expedition to rescue the arctic explorer Adolphus W GREELY, and from 1885 to 1889 he headed the Bureau of Equipment and Recruiting Schley was promoted to the rank of commodore in 1898 and in the Spanish-American War commanded the "flying squadron," ordered to seek out the Spanish under Admiral Pascual Cervera There was some ill feeling between Schley and William Thomas SAMPSON, who had been advanced to chief command When the battle of Santiago was fought and the Spanish fleet destroyed, Sampson was absent and Schley had command, thus giving rise to a bitter controversy over the credit for the victory Schley was made a rear admiral and resigned from the navy in 1901 A court of inquiry, requested by Schley to investigate charges leveled against him of negligence and misconduct in the battle of Santiago, was generally adverse toward him but recommended that no action be taken He wrote *The Rescue of Greely* (with J R Soley, 1895) and also memoirs, *Forty-five Years under the Flag* (1904) See R S West, *Admirals of American Empire* (1948)

Schlich, Sir William (shlĭk), 1840–1925, British forestry expert Of German birth and training, he became conservator and inspector general of forests in India and later a pioneer in forest work in England, where he organized the first forestry school Among his writings are *A Manual of Forestry* (1889–96) and *Forestry in the United Kingdom* (1904)

Schlieffen, Alfred, Graf von (äl'frät gräf fŭn shlē'fun), 1833–1913, German field marshal and strategist As chief of the general staff (1891–1906) and after his retirement he developed the brilliant and famous **Schlieffen plan**, by which he hoped Germany could defeat France in a lightning campaign The plan was based on the strategy employed by Hannibal at the battle of Cannae, transposed to a larger scale It called for a flanking movement by an overwhelmingly strong right (i e , northern) wing, which was to crash through Belgium and Holland, capture the Channel ports, and bear down on Paris from the west, while a weak left (or southern) wing engaged the attention of the French along the Franco-German border The plan (which disregarded Belgian and Dutch neutrality) demanded boldness for its execution, it was necessary to mass nearly the entire available strength in the north and to take a calculated risk by leaving the south exposed. Although Schlieffen's last words are said to have been "Make the right wing strong," his successor, H J L. von MOLTKE, lacked the courage to take the full risk When the First World War broke out in 1914, the Schlieffen plan was ostensibly carried out, but it was vitiated in its essence by Moltke's reluctance to leave the left wing exposed. The right wing was not strong enough, and the blow was not delivered in its full force. In the

Second World War, in the battles of Flanders and of France (May–June, 1940), the German command followed the Schlieffen plan successfully

Schliemann, Heinrich (hīn'rĭkh shlē'män), 1822–90, German archaeologist. He acquired American citizenship because he was living in California when it became a state (1850). He accumulated a fortune in business, chiefly in Russia A student of Homer from childhood, he retired from business in 1863 to dedicate himself to his dream of finding Troy and other Homeric sites After several years of study and travel, in 1871 he undertook at his own expense excavations at Hissarlik which resulted in his discovery of four superimposed towns (see TROY) He related every object he found to the verses of Homer, which he knew by heart He made other notable excavations at Mycenae (1876–78), Ithaca (1878), Orchomenus, Boeotia (1881–82), and Tiryns (1884–85) and was assisted by Wilhelm Dörpfeld from 1882 Schliemann wrote several books describing his discoveries and left a vast collection of personal papers, records, and an autobiography published in 1892 See biography by Emil Ludwig (1931)

Schlüsselburg (shlü'sĕlbŏrk), fortress, NW European RSFSR, E of Leningrad and on Lake Ladoga, dominating the access of the lake from the Neva river It stands on an island opposite the city of Petrokrepost (pop 6,412), also named Schlüsselburg until 1944 Built in 1323 by the republic of Novgorod and first called Oreshek, the fortress later fell to Sweden and was renamed (1661) Noteborg Peter I recovered it (1702) from the Swedes and named it Schlüsselburg [Ger ,=key fortress] From the 18th cent until 1917 the fortress was used as a prison for high-ranking persons (including several members of the imperial family) and for political prisoners In the Second World War, Schlüsselburg fell (1941) to the Germans Its recapture (1943) by the Russians opened the land route to besieged Leningrad

Schlüter, Andreas (andrā'äs shlü'tür), 1664–1714, German sculptor After studying in France and Italy, he became architect and sculptor to the Hohenzollern at Berlin, where the principal examples of his decorative work were in the royal castle Although he was the most important German exponent of the baroque style, his work shows a tendency toward realism Most noted among his sculptures were the statue of King Frederick I in front of the castle at Königsberg and in Berlin the *Great Elector*, an equestrian group, on the Long Bridge, a pulpit in the Marienkirche, and the tombs of King Frederick I and his consort in the cathedral At the end of his life, having lost the favor of his patron, King Frederick I, Schlüter entered the service of Peter the Great of Russia

Schmalkalden (shmal'kal"dun), town (pop 12,663), Thuringia, central Germany, SW of Erfurt It is a resort with mineral springs and with tuberculosis sanatoriums, and it has several manufactures First mentioned in 874, it passed to Hesse-Kassel in 1583 and with it to Prussia in 1866, it was transferred to Thuringia, in which it formed a Prussian enclave, in 1945 In the town hall (built 1419) the Schmalkaldic League (see separate article) was founded in 1531, the inn where Luther drew up (1537) the Schmalkaldic Articles, outlining the Protestant viewpoint, has been restored Schmalkalden has kept a 15th-century church and parts of its fortifications

Schmalkaldic League (shmalkăl'dĭk), alliance formed in 1531 at Schmalkalden by Protestant princes and delegates of free cities The chief members were PHILIP OF HESSE and JOHN FREDERICK I of Saxony Its purpose was to defend Protestantism and to oppose Emperor CHARLES V, who eventually crushed the League in the so-called Schmalkaldic War, culminating in the battle of Mühlberg (1547)

Schmeling, Max, 1905–, German pugilist At the age of 17 he began boxing in Germany, and in 1924 he turned professional After several successes Schmeling claimed the championship of Germany and in 1928 came to the United States After scoring several upsets, he was awarded (1930) the world heavyweight championship in New York city when a foul was attributed to his opponent, Jack Sharkey Two years later Schmeling lost the heavyweight crown when Sharkey defeated him in a 15-round decision in New York city In 1936 he became the only boxer to defeat Joe Louis in a professional match, knocking him out in the 12th round In 1938 Louis knocked out Schmeling in the first round of their return match Schmeling then returned to Germany and continued boxing until he became a parachute trooper in the Second World War

Schmidt, Kaspar: see STIRNER, MAX.

Schmidt, Wilhelm (vĭl'hĕlm), 1868–, German philologist, a Roman Catholic priest Educated at the universities of Berlin and Vienna, he entered the Society of the Divine Word in 1890 Residing principally in Austria, he taught at the Univ. of Vienna, founded and directed an anthropological institute at Mödling, and, after 1938, was a professor at the Univ. of Freiburg He devoted particular attention to the languages of S Asia, Australia, and Oceania. His books available in English translation are *The Origin and Growth of Religion* (1931), *High Gods in North America* (1933), *The Culture Historical Method of Ethnology* (1939), and *Primitive Revelation* (1939).

Schmitz, Ettore: see SVEVO, ITALO

Schmoller, Gustav (gōōs'tăf shmō'lür), 1838–1917, German economist He was the leader of the younger school of German historical economists, who tried to interrelate economics with the other social sciences Selections from his chief writings have been translated by Walter Abraham and Herbert Weingast as *The Economics of Gustav Schmoller* (1942)

Schnabel, Artur (är'tōōr shnä'bŭl), 1882–, pianist and teacher, b Lipnik, then in Austria He studied (1891–97) with Leschetizky and began his concert tours in Europe in 1896 He made his first tour of the United States in the season 1921–22 and appeared here regularly beginning in 1936 He earlier taught at the State Academy of Music, Berlin Schnabel is best known for his interpretations and editions of Beethoven's piano works and made records of all 32 Beethoven sonatas and many other works Among his own compositions are his First Symphony (Minneapolis, 1946) and his Rhapsody for Orchestra (Cleveland, 1948) He is the author of *Reflections on Music* (Eng tr , 1933) and *Music and the Line of Most Resistance* (1942) He became an American citizen in 1945

Schnabel, Johann Gottfried (yō'hän gôt'frēt shnä'bul), b 1692, d after 1750, German author He fought in the War of the Spanish Succession and was afterward surgeon and editor His most popular work, known by its short title, *Die Insel Felsenburg* [Felsenburg island] (4 vols , 1731–43), was perhaps the best contemporary imitation of *Robinson Crusoe*. Schnabel wrote under the pseudonym Gisander

Schnakenberg, Henry, 1892–, American painter, b Staten Island, N Y Of a well-to-do family, he traveled abroad from childhood At 21 he studied at the Art Students League under Kenneth Hayes Miller and from then on devoted himself to painting save for service (1917-19) with the U S army medical corps His work is naturalistic with an emphasis on both pattern and structure in space His landscapes of New York and Vermont are well known, but he is also successful in intimate portraits and figure compositions

schnauzer see TERRIER

Schneeberg (shnā'bĕrk"), mountain, 6,808 ft high, Lower Austria, W of Neunkirchen Its popular skiing grounds are reached by cogwheel railroad from Puchberg

Schneidemühl (shnī'dumül") or **Pila** (pē'lä), Pol. *Piła* (pē'wä), town (1939 pop 45,791, 1946 pop 10,671), E Pomerania, transferred to Polish administration in 1945 (see POMERANIA) Chiefly a trade and administrative center, it also has several industries, there are lignite deposits in the vicinity

Schneiderman, Rose (shnī'durmun), 1884–, American labor leader, b Poland She came to the United States in 1890 After going to work as a lining stitcher in a cap factory, she was instrumental in getting women admitted to the United Cloth and Cap Makers Union and participated (1905) in a successful strike Probably the best-known American woman trade unionist, she was elected (1907) vice president of the New York branch of the Women's Trade Union League and was one of their organizers (1908–14) and, later, sole organizer (1917–19) in the Eastern states She was subsequently elected president (1918) of the New York branch and became vice president (1919) and president (1928) of the National Women's Trade Union League She served also as secretary (1937–44) of the New York state department of labor

Schnitzler, Arthur (är'tōōr shnĭts'lür), 1862–1931, Austrian dramatist and novelist The son of a well-known Jewish physician in Vienna, he studied medicine, practiced for a short time, and edited a medical journal (1887–94) Always interested in the theater, he left medicine for authorship when he attracted critical attention with *Anatol* (1892, Eng tr , 1911), a series of seven scenes about a philanderer His first full-length play was *Das Märchen* (1894). *Liebelei* (1895, Eng trs , *The Reckoning*, 1907, *Light-o'Love*, 1912) was very successful and has been frequently played With several other Viennese writers he formed (c 1900) a group known as Young Vienna, opposed to the German naturalistic school of drama. His many plays, novelettes, and a few novels are distinguished in the flexibility and brilliancy of their style, acuteness of observation, and a tendency to clinical consideration of the pathological The happiness of the individual is his concern, rather than society as a whole His translated dramas include *Der einsame Weg* (1903, Eng tr , *The Lonely Way*, 1915), *Das weite Land* (1911, Eng tr , *The Vast Domain*, 1923), *Professor Bernhardi* (1912, Eng tr , 1913), the tragedy of a Jewish doctor, and a number of one-act plays, collected in *Stories and Plays* (1934) Of his novels, *Der Weg ins Freie* (1908, Eng tr , *The Road to the Open*, 1923) is autobiographical See biography by Solomon Liptsin (1932)

Schnorr von Carolsfeld, Julius (yōō'lyŏs shnôr' fün kä'rôlsfĕlt), 1794–1872, German religious and historical painter and draughtsman He studied with his father, Veit Hans Schnorr von Carolsfeld (1764–1841), a German painter and engraver, and in Vienna In 1817 he went to Rome and joined the group of the NAZARENES With them he worked on the frescoes of the Villa Massimi, contributing his *Orlando Furioso* In 1827 he was summoned by King Louis I of Bavaria to Munich, where he was professor and later director of the academy and decorated the palace with his *Nibelungen* frescoes Among his well-known paintings are *Flight into Egypt*, *The Marriage in Cana*, *Ruth and Boaz*, and *Luther at the Diet of Worms* Schnorr is best known, however, for his vigorous drawings for the illustrated Bible, *Bibel in Bildern* (1851–60)

Schober, Johann (yō'hän shō'bur), 1874–1932, Austrian statesman, one of the leading political figures in post-war Austria As chief commissioner of police, he maintained order when the empire became a republic in 1918 An opponent of SEIPEL, he was twice chancellor (1921–22, 1929–30) and was also vice chancellor and foreign minister (1930–32) He sought to better relations with Czechoslovakia and Italy and promoted the customs-union pact with Germany, losing power when other nations forced the abandonment of the project

Schoelcher, Victor (vĕktôr' shülshĕr'), 1804–93, French humanitarian and statesman As undersecretary of state for the colonies (1848) he secured the abolition of slavery in French territory His active opposition to Louis Napoleon's coup d'état of Dec , 1851, forced him into exile in England until Napoleon's fall in 1870 Elected to the national assembly, he sat with the extreme left, and in 1871 he tried unsuccessfully to conciliate the Commune of Paris with the provisional government at Versailles He became senator for life in 1875

Schoenbrunn Memorial State Park (shän'brün, -brōōn), E central Ohio, near New Philadelphia It is the site of the first town to be established in Ohio In 1772 David ZEISBERGER, a Moravian missionary, and his Indian converts settled here and named the town, it was abandoned in 1776 and later burned In 1923 the site was located, and since then the Ohio State Archaeological and Historical Society has been rebuilding Schoenbrunn to its original appearance

Schöffer, Peter: see FUST, JOHANN

Schofield, John McAllister (skō'fēld), 1831–1906, Union general in the Civil War, b Gerry, N Y , grad West Point, 1853 He taught at West Point (1855–60) and was on leave teaching at Washington Univ in St Louis when the Civil War broke out Schofield was chief of staff to Nathaniel LYON, brigadier general commanding Missouri troops (Nov , 1861–April, 1863), and commander of the Dept of the Missouri (May, 1863–Jan , 1864) In Feb , 1864, he was made a brigadier general in the regular army, and he led the Army of the Ohio in the ATLANTA CAMPAIGN He opposed J B HOOD in Tennessee (Oct –Dec , 1864), fighting at Franklin and Nashville Schofield was Secretary of War under Andrew Johnson (1868–69) and held various commands until 1888, when he became commander of the U S army He was appointed lieutenant general shortly before he retired in 1895 See his *Forty-six Years in the Army* (1897)

Schofield, Walter Elmer, 1867–1944, American landscape painter, b Philadelphia, studied at the Pennsylvania Academy of the Fine Arts and at Julien's academy, Paris His paintings, which include many snow scenes, are in leading museums in the United States He lived in England for many years Schofield became a member of the National Academy of Design in 1907

Schofield, village (pop 1,536), central Wis , near Wausau and on the Wisconsin, settled 1849, inc. 1904

Schofield Barracks (skō'fēld), large U S army military post, on central Oahu, T H , 19 mi NW of Honolulu, est 1909 It is situated on a plateau, on the southern edge of which is Wheeler Field

Schoharie (skōhā'rē), village (pop 941), co seat of Schoharie co , E N Y , on Schoharie Creek and W of Albany, inc 1867 A stone fort (1772), originally a church, is preserved as a museum. Near-by Schoharie Reservoir, created by Gilboa Dam and forming part of the New York city water system, collects water from Schoharie Creek and delivers it through the Shandaken Tunnel to Esopus Creek (see CATSKILL AQUEDUCT)

scholasticism, (skŏlă'stĭsĭzm, skō-), philosophical thought of medieval Western Europe The term suggests more unity in the thinkers than there was, it is actually analogous to an expression like "Chinese philosophy" The greatest of earlier Christian philosophers had been St Augustine, who saw in Plato (or in Neoplatonism) a system most congenial with Christianity This influence combined with that of the Pseudo-Dionysius (see DIONYSIUS THE AREOPAGITE, SAINT) to color the speculations of Western thinkers with Neoplatonic ideas Besides St. Augustine, Boethius also was much read, and some Latins had read one or two works of Plato and Aristotle The Neoplatonic bent appeared in the first medieval Western speculative philosopher, Erigena (9th cent.). In the

monastery schools of the 11th cent they began to discuss intellectual implications of Christianity, but rather as biblical commentary than as what later generations would call philosophy Of the theologians of the day (including Berengar of Tours, Lanfranc, and St. Peter Damian) the most original was St. Anselm. He took data of revelation and tried to show how they could be explained in the light of reason This problem of faith and reason, a crux of any Christian philosophy, was boldly explored by Abelard A philosophical problem of the period which has gained great notoriety is that of the universal, an approach to epistemology Abelard had a brilliant victory in a dispute over universals with William of Champeaux William's pupil, Hugh of St Victor, was very influential, especially in maintaining that there is a clear field for reason to exploit, apart from religion Abelard had very important pupils in Peter Lombard and the brilliant canonist Bandinelli (Pope Alexander III), still, Abelard did the rational approach a disservice by his recklessness, for by bringing down the denunciation of St Bernard upon him for teaching heresy (e g , in denying original sin), he made all rationalism seem dubious to the devout All through the 12th cent there was much interest in the work of Aristotle, which was becoming generally available in Western Europe, here was an encyclopedia of knowledge and an integrated philosophical system Early in the 13th cent universities (e g , at Paris) began to replace the monastic schools as the chief centers of learning, and their lectureships were soon manned by the Dominicans and Franciscans, the popular new religious orders There were introduced at this time at Paris through books from Moslem Spain the works of Avicenna and Averroës, Arabian commentators of Aristotle, in them the Christian scholars were horrified to read that what is true in the light of faith may be untrue in the light of reason, and vice versa—a theory since called "Averroism"—and that the immortal soul has no individual character and is identical with a "world soul." The Paris authorities accepted the Arabic interpretation as bona fide and banned the study of Aristotle. Aristotle's prestige was restored and the Arabian interpretations were demolished by the generation of the mid-13th cent , notably the Dominicans St Albertus Magnus and St Thomas Aquinas and the Franciscan St Bonaventure St Thomas produced the greatest body of philosophical work of the Middle Ages, wonderfully careful, detailed, and organized One of his important contributions was separation of the field of philosophy, in which everything is known and studied by reason, from that of theology, where certain basic facts are known from revelation There is a nexus between philosophy and theology God can be proved by the light of reason (as the first cause), also reason operates throughout theology except only in the demonstration of data known from revelation The Thomistic position on truth flatly opposes Averroism There can be, he taught, no conflict between something known to be true by faith and something known to be true by reason; a thing that is unreasonable (i e , can be disproved) cannot be true, a thing known by divine revelation and not amenable to rational proof (e g , the nature of the Trinity) cannot be disproved either Finally, St Thomas held that each man is individualized, by his active intelligence (his soul), which is free and unique St. Thomas's theories were not influential in the Middle Ages There was a three-cornered dispute between him, the Averroist Siger de Brabant, and St Bonaventure St Bonaventure's position was in the Augustinian tradition, and he feared the excesses of reason in its contact with faith—so much so that he nearly succeeded in having St Thomas's teachings condemned by the university, St Bonaventure's Franciscan successors passed from mistrusting Thomism to denying its claims on behalf of reason (e g , that something that is contrary to reason cannot be true), chief of these was Duns Scotus of Oxford, who developed a wholly new and different Aristotelian system An example of an important difference between Scotism and Thomism (as the two schools were called) is that Scotus held that what was good was good because God willed it to be good; Thomists saw in this an implicit denial of their concept of natural law. Out of the Scotists came William of Occam, one of the great radical thinkers of the age His most important contention was that there is no rational ground to anything in faith and that a barrier separates philosophy and religion. This attitude (a flat denial of everything Thomistic) gained complete dominance in the schools and formed the minds of most educated men of the 15th cent Since philosophy and theology were now antithetical, the devout mistrusted all speculative thought, an attitude which dominated most Protestant reformers. Meanwhile, under the influence of the classics newly in vogue with the Renaissance, those who became interested in philosophy abandoned all but lip service to the Christian faith. The reputation of medieval philosophy fell very low Some of those who derided it most knew least about it (e.g., Francis Bacon and Erasmus), and it was true until the 20th cent. that even eminent historians could maintain willful ignorance of medieval philosophy while professing to discuss it. The break between medieval philosophy and Renaissance thought affected mainly metaphysics; scholastic tradition and methods were continued in the field of politics and law—in canon law, civil law, and common law and, later, in the development of international law. In the late 15th cent the Dominicans began a Thomistic revival, its brilliant leader was the reformer Cajetan It was probably this influence which prevented the Catholic Reform from becoming a victory for the devout obscurantists who feared learning and philosophy. St. Thomas's ideas were propagated greatly by the Jesuits, for whom St Ignatius had made Thomism the official philosophy. There was also a living Scotist tradition, and each Catholic university had Thomists and Scotists in its theological faculty In the revolutionary period the secularization of the universities suppressed the theological faculties, and the old tradition was broken. The Scotists always suffered from the very bad state of the text of Duns Scotus's works, and in the 20th cent the Franciscan order has undertaken to make a complete and authoritative edition of them In 1879 Leo XIII proclaimed Thomism to be the "official" philosophy of the Church—this is not a question of religious belief The Univ of Louvain became a center of Thomistic studies, Cardinal Mercier was an ornament of this school Another important modern Thomist is Jacques Maritain Medieval philosophy may be said to have flourished between St Anselm and William of Occam Other important names in its development include Roscelin, Adelard of Bath, William of Champeaux, Hugh of St Victor, Abelard, Gilbert de la Porrée, Peter Lombard, Richard of St Victor, John of Salisbury, Alain de Lille, Alexander of Hales, Robert Grosseteste, Adam de Marisco, St. Albertus Magnus, St Thomas Aquinas, St Bonaventure, Siger de Brabant, Roger Bacon, Duns Scotus, and John Bacon or Baconthorpe See METAPHYSICS, PHILOSOPHY, THEOLOGY See Maurice de Wulf, *History of Medieval Philosophy* (3d Eng ed , Vols I and II, 1935–38), Étienne Gilson, *The Spirit of Medieval Philosophy* (Eng tr , 1936), *The Philosophy of St Thomas Aquinas* (Eng tr of 3d ed , 1937), and *The Philosophy of St Bonaventure* (Eng tr , 1938), Jacques Maritain, *Scholasticism and Politics* (Eng tr., 1940)

Scholz, Wilhelm von (vĭl'hĕlm fŭn shôlts'), 1874–, German poet, dramatist, and critic He was dramatic director (1910–23) of the Stuttgart Theater Besides lyric verse, many critical editions of German classics, and theoretical works, he has written plays, including *Der Jude von Konstanz* [the Jew of Constance] (1905) and *Der Wettlauf mit dem Schatten* [the wager with the shadow] (1921), the novel *Perpetua* (1926), and the short-story collections *Erzählungen* (1924) and *Die Gefährten* (1937) His imaginative writings are fantastic and mystical.

Schomberg, Frederick Herman, 1st **duke of** (shŏm'bûrg), Ger *Friedrich Hermann von Schönburg* (frā'drĭkh hĕr'man fŭn shûn'bōrk), 1615–90, German soldier of fortune, baron of Tetford, conde de Mertola, marshal of France. He was born at Heidelberg, the son of Hans Meinhard von Schönburg (1582–1616), ambassador of the elector palatine to England and tutor of Frederick the Winter King, and of Anne Sutton, daughter of Edward Sutton, 9th Baron Dudley After studying at the Protestant Univ of Sedan, at Paris, and at Leiden, he served in the Thirty Years War under Prince Frederick Henry of Orange and under Bernhard of Saxe-Weimar He entered the French service during the Fronde and fought (1658) in the battle of the Dunes. From 1660 to 1668 Schomberg fought against Spain in Portuguese service, defeating John of Austria at Estremoz and receiving the title conde de Mertola. (The barony of Tetford was conferred on him by Charles II in 1660) Returning to French service, Schomberg distinguished himself in the Third Dutch war and was made marshal of France and created duc de Schomberg by Louis XIV After the revocation of the Edict of Nantes (1685), Schomberg, a Protestant, left France and entered the service of the elector of Brandenburg, who made him governor of the duchy of Prussia and commander in chief of the army of Brandenburg in 1687. He accompanied (1688) William III of Orange to England and assisted William in the Glorious Revolution. Created duke in the English peerage (1689), he was given command over the English forces in Ireland. He was killed in action at the battle of the Boyne, where he defeated the forces of James II. His last victory is also his most celebrated.

Schomburg, Arthur Alonzo (shŏm'bûrg), 1874–1938, American collector of Negro literature, art, and historical materials, b San Juan, Puerto Rico. After he went to New York, he painstakingly assembled a collection of manuscripts, books, and prints of West Indian, African, and American Negroes. The collection was purchased (1926) by the Carnegie Foundation and presented to the New York city public library.

Schomburgk, Sir Robert Hermann (shŏm'bûrk), 1804–65, British traveler and explorer, b. Germany. Under the direction of the Royal Geographical Society he went (1835) on a trip of botanical and geographical exploration to British Guiana For the British government he later (1841–43) surveyed that colony, outlining a boundary which played a prominent part in subsequent boundary disputes with Venezuela. Knighted in 1844, Schomburgk was appointed British consul at Santo Domingo (1848) and at Bangkok (1857). He wrote books on British Guiana and Barbados and edited (1848) Sir Walter Raleigh's journal of his second voyage to Guiana.

Schön, Martin: see SCHONGAUER, MARTIN.

Schönbein, Christian Friedrich (krĭs'tyän frĭ'drĭkh shûn'bīn), 1799–1868, German chemist From 1828 he taught at the Univ of Basel (as professor from 1835) He discovered ozone (1840) and, through his work on nitrocellulose, developed guncotton and collodion

Schönberg, Arnold (ar'nôlt shûn'bĕrkh), 1874–, Austrian composer His early works—*Verklärte Nacht* (1899), *Gurre-Lieder* (1900, Vienna, 1913), the symphonic poem, *Pelleas und Melisande* (1902–3), and the *Quartet in D Minor* (1905)—carry on the romantic tradition of Brahms, Wagner, and Richard Strauss In his first *Kammersymphonie* (1906) the use of chords built in fourths foreshadows his later use of atonality, which appears in the finale of the *Second String Quartet* (1907–8) and in two sets of piano pieces (1908, 1911) Reduced instrumentation and increased use of counterpoint and of classical devices of form accompany his development of atonality The *Gurre-Lieder*, the monodrama *Erwartung* (1909), and *Pierrot lunaire* (1912) require a vocal technique which is neither singing nor speaking In 1914, in a fragment of an oratorio, he arrived at the 12-tone technique (see ATONALITY), which he first used explicitly in his *Serenade* (1924) Other important works of Schönberg are the song cycle *Der hängenden Gärten* (1908), to poems of Stefan George, a second *Kammersymphonie* (1906–39), a violin concerto (Philadelphia, 1940), *Ode to Napoleon* (1944), to Byron's poem, for male reciter, piano, and string orchestra, and some songs and piano pieces Performances of Schönberg's works offer great technical difficulties and are often attended by hostile demonstrations. He has written several theoretical treatises and has done some expressionistic paintings In 1933 he came to the United States, where he has taught at the Malkin Conservatory, Boston, and at the Univ of Southern California, Los Angeles See biography by Egon Wellesz (1925), Merle Armitage, ed , *Schoenberg* (1937), Dika Newlin, *Bruckner, Mahler, Schoenberg* (1947)

Schönbrunn (shûnbrōōn'), royal palace in Vienna, built in the reigns of Emperor Charles VI and Maria Theresa Its beautiful park, emulating Versailles, has a large zoological and botanical garden Both palace and park were heavily damaged when the Russians took Vienna in the Second World War By the **Peace of Schönbrunn** (1809), imposed by NAPOLEON I, Austria temporarily lost W Galicia to the grand duchy of Warsaw and Illyria to France

Schongauer, Martin (mar'tĭn shōn'gou-ur), c 1445–1491, German painter and engraver, known also as Martin Schön (shûn'), son of a goldsmith of Colmar, Alsace He painted altarpieces somewhat in the style of Roger van der Weyden Of these the *Madonna of the Rose Arbor* (Church of St Martin, Colmar) is the only authenticated example He is better known for his remarkable engravings of religious subjects These have a considerable breadth of handling together with minute finish unequaled by any of his contemporaries in the field. Outstanding examples are *The Wise and Foolish Virgins, The Passion, Bearing the Cross, Death of the Virgin, Adoration of the Magi, Christ Enthroned,* and *Temptation of St Anthony.* Schongauer was one of the earliest engravers on copper for reproduction and contributed much to the development of the art

Schönherr, Karl (karl' shûn'hĕr"), 18677–1943, Austrian dramatist and physician, winner of the Schiller, Bauerfeld, and Grillparzer prizes in literature His skillfully constructed and forceful plays include the popular *Glaube und Heimat* (1910, Eng tr., *Faith and Home*, 1913–15), the comedy *Erde* [earth] (1907), and *Der Weibsteufel* [the devil's wife] (1915)

Schoodic Lake (skōō'dĭk), central Maine, in a lumbering, hunting, and fishing region

school, term commonly referring to institutions of precollege formal education It also properly includes colleges, universities, and many types of special training establishments (see ADULT EDUCATION, UNIVERSITY, VOCATIONAL EDUCATION). The United States has no national system of public schools, though Federal support is furnished to land-grant colleges and to some types of vocational and agricultural training. Local governmental units, with various degrees of supervision and assistance from the state, operate and support the free public schools. Compulsory attendance at school has been legislated in all states, though

standards of age and length of the school year vary considerably The standard school system in the past 150 years has changed from an uncoordinated conglomeration of dame schools, reading and writing schools, private academies, Latin grammar schools, and colleges into a well-organized system in which a child may progress from KINDERGARTEN to college in a continuous and efficient free public system By 1890 there had evolved the now common 12-grade system whereby the child enters kindergarten at five, goes to grammar or elementary school for grades one through eight, high or secondary school for grades nine through twelve, and then enters college Recently, to meet the psychological and social stresses of early adolescence, the junior high school has been introduced in many systems for the grades seven through nine This organization, sometimes called the 6-3-3 plan, eases the transition period and makes possible the development of special techniques To provide opportunity for advanced training beyond high school without a full college course, the junior college, which generally includes the first two years of college, has been widely instituted Efforts to reorganize the schools include the Gary plan, developed between 1908 and 1915 in Gary, Ind Devised to utilize the school plant more efficiently, to provide opportunity for more practical work, and to coordinate various levels of schooling, the plan divides the school building between classrooms and space for auditorium, playground, shops, and laboratories Two schools run simultaneously in this space so that every facility is in constant use The school day is eight hours long, and schools are open six days a week The Gary plan has been widely adopted in what is commonly known as the platoon system Public school services have been extended, in some communities, into the sponsorship of community centers, adult education, summer schools, and recreation programs Special programs are established for the deaf, the blind, and the mentally and physically handicapped and in a few instances for the mentally superior In large cities special high schools are sometimes set up to serve special student needs, e g , there may be separate schools for artistic, industrial, scientific, and classical subjects The free public school system is paralleled in many areas by a relatively small number of private and parochial schools Preparatory schools are private schools operated primarily to prepare students for college They correspond to English public schools See also EDUCATION, GUIDANCE, PROGRESSIVE EDUCATION See E P Cubberly, *Public Education in the United States* (1919), C H Judd, *Education and Social Progress* (1934), and S H Patterson, E A Choate, and E de S Brunner, *The School in American Society* (1936)

Schoolcraft, Henry Rowe, 1793–1864, American ethnologist, b near Albany, N Y He came of a family of glassmakers, and he was a glassmaker himself after 1810, but the difficulties of the business led him to abandon it and make a journey down the Ohio to Missouri There in 1818–19 he made valuable geographical, geological, and mineralogical surveys His journal and findings were recorded in *A View of the Lead Mines of Missouri*, completed in 1819 As geologist on the expedition of Gen Lewis Cass he made topographical surveys of the country of present N Michigan and about the upper Great Lakes The expedition reached what they supposed incorrectly to be the source of the Mississippi (see ITASCA, LAKE) This voyage was described in *A Narrative Journal of Travels from Detroit through the Great Lakes to the Sources of the Mississippi* (1821) In 1822 he was appointed Indian agent with headquarters at Sault Ste Marie and began his ethnological researches He married the half-Ojibwa daughter of the fur trader John Johnston, and he learned the Ojibwa language and much Ojibwa lore His area of administration as Indian agent was later much increased, and he had his headquarters at Mackinac He made another journey to the Mississippi in 1832 and served in the territorial legislature from 1828 to 1832 When the Whigs came to power in 1841 he lost his Indian agency and removed to the East, where he continued the Indian studies begun with *Algic Researches* (1839) He wrote voluminously on the Indians, the chief result being his *Historical and Statistical Information Respecting the Indian Tribes of the United States* (6 vols , 1851–57) Schoolcraft may be regarded as the chief pioneer in study of the Indians

schooner (skōō'nur), sailing vessel, of American origin, rigged fore-and-aft It has between two and seven masts. It can lie closer to the wind than square-rigged sailing ships and needs a smaller crew for its service The first schooner was designed by Capt Andrew Robinson of Gloucester, Mass , in 1713, and before long schooners became the favorite craft of the Newfoundland fishers. In the Second World War, when shipping space was scarce, the United States Maritime Commission built hundreds of schooners in shipyards of the West Indies and Latin America These schooners, of between 300 and 500 tons displacement, carried coffee and sugar from South and Central America to the United States.

Schopenhauer, Arthur (är'tōōr shō'punhou"ur), 1788–1860, German philosopher. Out of his own temperament and experience grew his celebrated philosophy of pessimism, which he presented with such clarity and skill as to gain himself recognition among the greatest philosophical writers Born in Danzig of a well-to-do family, he studied at Göttingen, Berlin, and Jena His studies were broad, and he traveled throughout Europe In Berlin he attempted without success to establish himself as a lecturer, and after 1831 his life was one of retirement spent chiefly at Frankfurt-am-Main He had no friends, never married, and was estranged from his mother, a woman of considerable ability Schopenhauer's most important work is *Die Welt als Wille und Vorstellung* (1818, Eng tr , *The World as Will and Idea*, 1883) His other works, mainly elaboration and commentary upon his original thesis, include *Ueber den Willen in der Natur* (1836, Eng tr , *Will in Nature*, 1889), *Die beiden Grundprobleme der Ethik* (1841), and *Parerga und Paralipomena* (1851) Working out his philosophy on Kantian idealism, Schopenhauer argued that the true reality, expressing itself through all things, is a blind impelling force which is manifest in individuals as a will to live Although it sometimes works below the level of consciousness, the will, nevertheless, constantly strives to push itself out As action fails to meet the demands of the stimulus, intellect and consciousness appear The constant mutual resistance of various wills causes continual strife as each individual attempts to fulfill the never fully satisfied wants of his restless will The world, therefore, is a world of unsatisfied wants, of pain Pleasure is simply the absence of pain, unable to endure, it brings only ennui The only possible escape is renunciation of desire, a negation of the will reminiscent of Buddhism Temporary escape from the imperious will can be found in science and art The ethical side of Schopenhauer's philosophy is based upon sympathy, where the moral will, feeling another's hurt as its own, makes an effort to relieve the pain His stress on the strength of the impelling will was profoundly influential in both philosophy and psychology Schopenhauer is noted for his misogyny See biography by William Wallace (1902), Michael Kelly, *Kant's Ethics and Schopenhauer's Criticism* (1910), V J McGill, *Schopenhauer, Pessimist and Pagan* (1931), Thomas Mann, *The Living Thoughts of Schopenhauer* (1940)

Schoreel, Jan van see SCOREL, JAN VAN

Schouler, James (skōō'lur), 1839–1920, American historian and lawyer, b West Cambridge (now Arlington), Mass , grad Harvard, 1859 Admitted to the bar in 1862, he served in the Union army and returned to Boston in 1863 to practice law From 1871 to 1873 he published the *United States Jurist* in Washington, D C He lectured on law at Boston Univ (1883–1902) and at the National Univ , Washington, D C (1888–1908) and on American history at Johns Hopkins (1891–1908) His *History of the United States of America under the Constitution* (7 vols , 1880–1913), covering the period 1783–1877, is primarily a political and constitutional interpretation Other works, aside from a number of treatises on legal subjects, include *Thomas Jefferson* (1893), *Alexander Hamilton* (1901), and *Ideals of the Republic* (1908) His *Historical Briefs* (1896) in part concerns his own experience as a historian

Schouten, Willem Cornelis (vil'lum kôrnā'lis skhou'tun), 1567?–1625, Dutch navigator In 1615 he sailed from Texel island, Holland, in command of an expedition whose objective was to evade the trade restrictions of the Dutch East India Company by finding a new route to the Pacific Avoiding the Strait of Magellan, in 1616 he rounded Cape Horn, which he named for his birthplace, Hoorn He followed the north coasts of New Ireland and New Guinea and visited adjacent islands, including the Schouten Islands Although Schouten had opened a new route, the East India Company claimed infringement of its monopoly, arrested Schouten (who was later released) and confiscated his ship in Java

Schrader, Julius (yōō'lyōōs shrä'dur), 1815–1900, German historical painter He was noted for his brilliant use of color In 1848 he became professor at the Berlin Academy Among his paintings are a portrait of Baron Alexander von Humboldt (Metropolitan Mus)

Schreckhörner (shrĕk'hûr"nur), two peaks of the Bernese Alps, Switzerland Gross Schreckhorn (grōs" shrĕk'hôrn") is 13,386 ft high, while Klein Schreckhorn (klīn") reaches only 11,473 ft

Schreiner, Olive (shrī'nûr), pseud **Ralph Iron,** 1855–1920, South African author and feminist, b Wittebergen Reserve, Cape Colony, of German and English parents After several years as a governess, she went to England in 1881, taking with her the manuscript of her novel, *The Story of an African Farm* Its publication (1883) made her famous, and it was translated into many languages Her later works included *Dreams* (1921), a collection of allegories, *Women and Labour* (1911), important in the literature of feminism, and a significant novel, unfinished, *From Man to Man* (1926) Her letters were edited (1924) by her husband, S C Cronwright-Schreiner, who also wrote her biography (1923).

Schreyer, Adolf (ä'dôlf shrī'ur), 1828–99, German painter of Oriental scenes and of battles and horses He gained material for his pictures in the Crimean War and later on a visit to Algeria and Asia Minor in 1861 He became court painter to the grand duke of Mecklenburg He is best known for his brilliantly colored and dramatic pictures of Arab horsemen, such as *Arabs on the March* (Metropolitan Mus)

Schröder, Friedrich Ludwig (frē'drĭkh lōōt'vĭkh shrû'dur), 1744–1816, German actor, manager and dramatist He became one of the most celebrated tragic actors of his day, playing such Shakspearian roles as Lear and Hamlet and translating Shakspere and other English classics into German In 1771 he and his mother assumed the management of the Hamburg Theater, where he produced and acted in Shakspearian plays, as well as the plays of Schiller, Goethe, Lessing, and himself His natural style of acting and excellent productions raised the standards of the German stage, and his translations familiarized his countrymen with the works of Shakspere

Schrödinger, Erwin (ĕr'vĭn shrû'dĭng-ur), 1887–, Austrian theoretical physicist For his work on the quantum theory, especially the mathematical formulation of wave mechanics, he shared with P A M Dirac the 1933 Nobel Prize in Physics He was professor at the Univ of Berlin (1927–33), fellow of Magdalen College, Oxford Univ (1933–36), and professor at the Univ of Graz (1936–38) and at the Dublin Institute for Advanced Studies (from 1940)

Schubert, Franz Peter (frants' pā'tur shōō'bûrt), 1797–1828, Austrian composer, foremost of the romantic movement In Vienna he learned the piano and the violin from his older brothers and studied composition with Salieri, though his formal musical education was scanty The German lied reached its flower in his songs, they number over 600 and illustrate his incomparable melodic genius His two great cycles, *Die schöne Müllerin* (1823) and *Die Winterreise* (1827), were set to poems by Wilhelm Müller, and he also employed texts from Goethe, Schiller, Heine, and others His symphonies in B minor (the Unfinished Symphony, 1822) and C major (1828) rank with the greatest works in that form The Quartet in D Minor (*Death and the Maiden*, 1824) and the Quintet in A (*The Trout*, 1819) are the best known among many mature chamber works Of his dramatic music, only the incidental music for *Rosamunde* (1823) achieved even moderate success He also composed several overtures, choral music, Masses, and much piano music, including 21 sonatas in addition to the more popular shorter works, such as the waltzes, scherzos, impromptus, and the *Moments musicaux* Although he had a small group of followers, headed by Grillparzer, the only music position he ever succeeded in securing was as piano teacher to the children of a Hungarian nobleman He sold his compositions for pitifully small sums and lived in poverty until his death in Vienna See biographies by W N Flower (1928), Karl Kobald (1928), Edmonstoune Duncan (rev ed , 1934), and A J B Hutchings (1945), O E Deutsch, *The Schubert Reader a Life ... in Letters and Documents* (Eng tr , 1947)

Schulenburg, Ehrengard Melusina von der, duchess of Kendal (ā'rungart mālōōzē'na fŭn dĕr shōō'lunbōōrk), 1667–1743, German mistress of GEORGE I of England She exerted great influence over the king, but was unpopular with the English people because of her foreign birth and manners and the wealth she acquired through bribery and corrupt public transactions

Schulenburg (shōō'lunbûrg), town (pop 1,970), S central Texas W of Houston and E of San Antonio, inc 1873 The blackland farms, settled by Germans and Czechs, long were devoted to cotton Dairying is now prominent, and the thriving town has an evaporated-milk plant and various small industries

Schultze, Max Johann Sigismund (mäks' vō'han zĕ'gĭsmōōnd shōōl'tsu), 1825–74 German biologist He was professor at Bonn from 1859 He is known for his work on the cell theory, on protoplasm, on protozoa, and on nerve endings.

Schulze-Delitzsch, Hermann (hĕr'man shōōl'tsuădā'lĭch), 1808–83, German liberal politician and economic reformer Believing in economic self-help by cooperative associations he founded people's banks, mercantile and consumers' cooperatives, and a general association of German cooperatives (1859), which were given legal security by his statute of 1867 He was a member of the Prussian lower house from 1861, of the North German diet from 1867, and of the Reichstag from 1871

Schumacher, Heinrich Christian (hīn'rĭkh krĭs'tyan shōō'mäkhur), 1780–1850, Danish astronomer He is noted for his work in geodesy and in astronomical literature From 1815 he was professor of astronomy and director of the observatory at Copenhagen He directed a triangulation of Holstein and a geodetic survey of Denmark In 1821 he inaugurated the *Astronomische Nachrichten*, destined to hold a foremost position among astronomical periodicals

Schumacher, Peder, Count Griffenfeld · see GRIFFENFELD, PEDER SCHUMACHER, COUNT

Schuman, Robert (rōbĕr' shōōmä'), 1886–, French statesman and lawyer, b grand duchy of Luxembourg. A member of the Catholic Mouvement Républicain Populaire (MRP), he was finance minister in 1946 and again in 1947 and was premier in 1947–48 He continued as foreign minister, and in 1950 he proposed the so-called Schuman Plan, calling for the creation of a West European coal and steel pool Belgium, the Netherlands, Luxembourg, West Germany, and the Saar Territory joined in the plan, but Great Britain remained aloof

Schuman, William (shōō'mun), 1910–, American composer, b New York city, grad Columbia (B A , 1935, M A , 1937) As a youth he organized a jazz band for which he wrote popular music He taught (1935-45) at Sarah Lawrence College, Bronxville, N Y , leaving to become president of the Juilliard School of Music, where he instituted a curriculum designed to make the musician a responsible member of society His outstanding compositions are his Third Symphony and his Fourth Symphony (both 1941), his *American Festival Overture* (1939), *Symphony for Strings* (1943), *Newsreel* (1941), a suite "in five shots", two secular cantatas, *This Is Our Time* (1940) and *A Free Song* (1942), the ballet *Undertow* (1945), and several chamber works His music is highly contrapuntal and often employs rhythms suggestive of jazz

Schumann, Robert Alexander (shōō'män), 1810–56, German romantic composer, b Zwickau He studied theory with Dorn and piano with Friedrich Wieck, whose daughter he married (1840) A career as a concert pianist was prevented by a permanent hand injury, incurred in 1832 in using a device meant to strengthen the fingers rapidly He founded (1834) the *Neue Zeitschrift für Musik* and was its editor and contributor until 1844 Compositions for piano, including *Papillons*, *Die Davidsbundlertänze*, *Carnaval*, *Fantasiestücke*, *Etudes symphoniques*, *Kinderszenen*, and *Kreisleriana*, occupied him until 1840, when he composed nearly 150 songs, to poems of Heine, Goethe, Chamisso, Kerner, Ruckert, Eichendorff, and others His Piano Concerto in A Minor (1841–45), Spring Symphony (1841), Third, or Rhenish, Symphony (1850), Fourth Symphony in D Minor (1841-51), and later songs, piano pieces, and chamber works are well known His one opera, *Genoveva* (1847–48), was unsuccessful Both as composer and as critic, he was leader of the romantic movement, and he championed younger composers, Brahms and Chopin among them His life was clouded by a threat of insanity, and in 1854 he entered a sanitarium, where two years later he died See his *On Music and Musicians* (Eng tr , abridged, 1946), biographies by Frederick Niecks (1925), Victor Basch (Eng tr , 1931), and R H Schauffler (1945) His wife, **Clara Josephine (Wieck) Schumann**, 1819–96, who bore him eight children, was one of the outstanding pianists of her time She taught at the Frankfurt Conservatory, 1878–92 See biographies by Berthold Litzmann (Eng tr , abridged, 1913) and J N Burk (1940)

Schumann-Heink, Ernestine (shōō'mun-hĭngk'), 1861–1936, American contralto, b near Prague Her concert debut was as soloist in Beethoven's Ninth Symphony in 1876, and in 1878 she made her operatic debut in Dresden in *Il Trovatore* She sang (1883–98) at the Staattheater, Hamburg, and in 1892 sang in *Die Walkure* at Covent Garden From 1896 to 1906 (except 1904) she sang at Bayreuth, made her American debut in Chicago in 1898, and sang regularly (1899–1904) with the Metropolitan Opera Company She toured (1904–5) with great success in a comic opera, *Love's Lottery*, written for her. After that, she appeared mainly in concert, giving her farewell concert in 1925 and appearing once more at the Metropolitan in 1932 In 1935 she was in a moving picture, *Here's to Romance* She had a wide range, a repertoire of 150 roles, and was an extraordinary actress, popular even when her voice had deteriorated She became a U S citizen in 1908. See biography by Mary Lawton (1928)

Schumpeter, Joseph Alois (yō'zĕf a'lōĭs shōōm'pā"tur), 1883–1950, Austrian-American economist, LL D, Univ of Vienna, 1906 He began practicing law but turned to teaching two years later. He was professor of economics at the Univ of Graz from 1911 to 1914 and at Bonn from 1925 to 1932, when he came to the United States, thereafter he was professor of economics at Harvard He served in 1919–20 as Austrian minister of finance His contribution to economics was the theory of the entrepreneur as the dynamic factor in disturbing business equilibrium His most important books are *Theory of Economic Development* (1911, in German, Eng. tr , 1934), *Business Cycles* (1939), and *Capitalism, Socialism, and Democracy* (1942, 2d ed , 1947).

Schurman, Jacob Gould (shûr'mŭn), 1854–1942, American educator and diplomat, b Freetown, Prince Edward Island. His education was completed in London, Edinburgh, and, as Hibbert fellow, Heidelberg, Berlin, and Göttingen In 1886 he became head of the philosophy department at Cornell Univ. He won a notable reputation as teacher, speaker, founder and editor of the *Philosophical Review*, and author of *The Ethical Import of Darwinism* (1887) and other philosophical works In 1892 he succeeded Charles K Adams as president of Cornell In that office until 1920, he helped in the expansion of the university. He headed the first U S Philippines Commission (1899), was joint author of its report, and wrote *Philippine Affairs* (1902) Schurman served (1912-13) as minister to Greece, returning to write *The Balkan Wars, 1912–1913* (1914), later he was envoy to China (1921–25) and ambassador to Germany (1925–30)

Schurz, Carl (shōōrts), 1829–1906, American politician, b Germany He studied in the so-called Jesuit gymnasium at Cologne and at the Univ of Bonn and took part in the revolutionary uprisings of 1848–49 Compelled to flee to Zurich after the collapse of the movement, he went to Paris and London and, in 1852, migrated to the United States For a few years he lived in Philadelphia, but in 1856 he settled in Watertown, Wis , and soon associated himself with the newly formed Republican party He campaigned for Abraham Lincoln in the latter's senatorial contest with Stephen A Douglas in 1858 and again in the presidential canvass of 1860 For his services he was appointed (1861) U S minister to Spain Made restive, however, by the prolongation of the Civil War, Schurz resigned his mission, commissioned brigadier general of volunteers in 1862 (promoted major general in 1863), he fought in the battles of Chancellorsville, Gettysburg, and Chattanooga and served with Gen W T Sherman's army in North Carolina in 1865 Between 1865 and 1868 he was Washington correspondent of the New York *Tribune*, editor of the Detroit *Post*, and joint editor and owner of the St Louis *Westliche Post*, a German daily He was U S Senator (1869-75) from his adopted state of Missouri Antagonized by the excesses of the radical Republican Reconstruction program and opposed to the administration of Ulysses S Grant, Schurz aided in forming the LIBERAL REPUBLICAN PARTY, which, though short-lived, had some effect in checking the cause of the radicals in Congress In 1876 Schurz supported Rutherford B Hayes, whose sound-money views he approved, for the presidency and served (1877–81) in Hayes's cabinet as Secretary of the Interior He was an editor (1881–83) of the New York *Evening Post* and wrote editorials (1892–98) for *Harper's Weekly* In 1884, convinced of James G Blaine's unfitness for office, Schurz led the MUGWUMPS in their opposition to his nomination and candidacy He supported the Democrat Grover Cleveland in that year and again in 1888 and 1892 He turned to William McKinley in 1896 because of William Jennings Bryan's currency views, but in 1900 he supported the Commoner because of his anti-imperialist views Because of his honesty and fearlessness, Schurz exercised wide influence through his writings and speeches From 1892 to 1900 he was president of the National Civil Service Reform League He wrote *Life of Henry Clay* (2 vols , 1887), *Abraham Lincoln an Essay* (1891), and his own reminiscences (3 vols , 1907–8) See Frederic Bancroft, ed , *Speeches, Correspondence, and Political Papers of Carl Schurz* (6 vols , 1913), Joseph Schafer, ed , *Intimate Letters of Carl Schurz, 1841–1869* (1928), C V Easum, *The Americanization of Carl Schurz* (1929), biographies by Joseph Schafer (1930) and C M Fuess (1932)

Schuschnigg, Kurt von (kōōrt' fŭn shōōsh'nĭk), 1897–, Austrian statesman A lawyer by training, he became a political disciple of Mgr SEIPEL and served (1932–34) as minister of justice and education under DOLLFUSS He helped Dollfuss in repressing the Social Democrats and in drawing up a corporative constitution, and after Dollfuss's assassination (July, 1934) he succeeded him as chancellor In 1936 Schuschnigg forced the resignation of Ernst Rüdiger von STARHEMBERG as vice chancellor, disbanded Starhemberg's monarchist militia, the *Heimwehr*, and restored military conscription, thus making himself sole head of the semi-fascist state Schuschnigg's chief aim was to strengthen Austria internally against the attempt of Hitler, acting through the National Socialist party, to unite Austria with Germany In this he was successful as long as he enjoyed the support of Italy, but in 1937 Mussolini withdrew his support Growing German pressure led Schuschnigg to visit Hitler at Berchtesgaden (Feb., 1938), Hitler forced him to grant full amnesty to imprisoned Austrian Nazis and to take the Nazi leader Seyss-Inquart into his cabinet as minister of the interior Violent trouble soon broke out, and Schuschnigg proclaimed (March, 1938) that a plebiscite would be held on the question of Austrian independence Two days later German troops entered Austria unopposed, and Schuschnigg resigned (March 11) He was arrested and kept in confinement until his liberation by American troops in May, 1945 In 1947 he settled in the United States He wrote *My Austria* (Eng. tr , 1938) and *Austrian Requiem* (1947). See biography by R K. Sheridon (1942)

Schuster, Sir Arthur (shōō'stur), 1851–1934, English physicist He was professor of physics at the Univ of Manchester (1888–1907) and is known especially for his work in spectroscopy In 1920 he was knighted His works include *Introduction to the Theory of Optics* (1904), *Progress of Physics during 33 years (1875–1908)* (1911), *Britain's Heritage of Science* (with A. E Shipley, 1917), and *Biographical Fragments* (1932).

Schütt, Great (shŭt), Slovak *Veľký Žitný Ostrov* (vĕl'kē zhlt'nē ô'strôf), island, 53 mi long and 9 to 18 mi wide, SW Slovakia, Czechoslovakia, formed by the Danube proper and a northern arm of the Danube It extends from Bratislava to Komarno Its fertile soil produces wheat, corn, sugar beets, fruit, and grapes Opposite the Great Schütt lies the **Little Schütt**, Hung *Szigetköz* (sĭ'gĕtkûz), an island belonging to Hungary and formed by the Danube proper and a southern arm It is c 30 mi long and c 6 mi wide and produces wheat, rye, and dairy products

Schütz, Heinrich (hĭn'rĭkh shuts'), 1585–1672, German composer of choral music, considered the greatest of his period He was a pupil (1609–12) of Giovanni Gabrieli From 1617 until his death he was director of music at the Dresden chapel His first German work was his *Psalmen Davids* (1619), in which he made use of the new monodic or declamatory style In 1627 he set to music a German translation of *Dafne*, set earlier in Italian by Jacopo PERI Schütz's work (no longer extant) has been called the first German opera Church music comprised the rest of his work, his *Symphoniae sacrae*, written in three parts (1629, 1647, 1650), are influenced strongly by Monteverdi, but it was in his *Seven Last Words of Christ on the Cross* (1645) and his settings of the Passion as narrated in each of the four Gospels that he established his choral style, evolved from the old Venetian polyphony and the new dramatic Florentine style Handel was influenced by Schütz in his development of the oratorio, Bach in his settings of the Passion Schutz's complete works were published in 1885–94 See M F Bukofzer, *Music in the Baroque Era* (1947)

Schuyler, Eugene (skī'lur), 1840–90, American diplomat and author, b Ithaca, N Y , grad Yale, 1859, and Columbia Law School, 1863 Linguistic interests led him from law to diplomacy, and in 1867 he was appointed consul at Moscow, serving later as consul at Reval (now Tallinn), and secretary of legation at St Petersburg (now Leningrad) *Turkestan* (2 vols , 1876), criticizing Russian rule in the East, was the result of a journey in 1873 Appointed secretary of legation at Constantinople, he published (1876) a report on Turkish atrocities in Bulgaria which aroused Turkish resentment and eventually resulted in his recall He acted as minister to Greece, Rumania, and Serbia, negotiating several treaties with the Balkan states Shortly after his appointment as consul general at Cairo he died He translated one of Turgenev's novels – *Father and Sons* (1867)—and wrote *Peter the Great* (2 vols , 1884), *American Diplomacy and the Furtherance of Commerce* (1886), and *Italian Influences* (1901) *Selected Essays* (1901) contains a memoir of him by Evelyn Schuyler Schaeffer

Schuyler, Philip John, 1733–1804, American Revolutionary general, b Albany, N Y He was a member of one of the wealthiest colonial New York families After serving in the French and Indian War, he was appointed (1764) a commissioner in the settlement of the boundaries of New York and of New Hampshire and Massachusetts The major question was the bitterly contested one of the New Hampshire Grants (see VERMONT), and Schuyler, accused with some justice of favoring New York, was viewed with hatred by the Green Mountain Boys and with some dislike by most New Englanders A member of the New York assembly (1768–75) and of the First Continental Congress (1775), he was a strong patriot, and in the Revolution he was appointed (1775) a major general and head of the Northern Dept After Ethan ALLEN and the Green Mountain Boys captured Ticonderoga, Schuyler helped to plan the QUEBEC CAMPAIGN, but his illness forced him to give his command to Gen Richard MONTGOMERY In 1776 a command dispute arose between Schuyler and Horatio GATES When Gen Arthur St Clair surrendered Ticonderoga without a shot, Schuyler was accused of negligence and Gates was given the high command in the SARATOGA CAMPAIGN (1777) A court-martial acquitted Schuyler, who nevertheless resigned from the army in 1779 His wealth and position made him a public figure of note He was a member of the Continental Congress (1779–81), favored adoption of the Constitution, and was U S Senator (1789–91, 1797–98) Among his activities were advocating a canal (eventually the Erie Canal) and helping to found Union College His daughter, Elizabeth, married Alexander Hamilton See biography by Bayard Tuckerman (1904)

Schuyler, city (pop 2,808), co seat of Colfax co., E Nebr , on the Platte in a prairie region WNW of Omaha, founded 1869. It is a rail and trade center for a grain and livestock area.

Schuyler, Fort, name given in the American Revolution to the rebuilt Fort STANWIX The fort built on the site of present Utica, N Y , in 1758 was also called Fort Schuyler A third Fort Schuyler was

built as part of the defenses of New York city in the Bronx

Schuylerville, village (pop. 1,447), E N Y , on the west bank of the Hudson and E of Saratoga Springs, settled in the 17th cent as Saratoga, inc 1874 Woodboard and paper are made here It is famous as the scene of Burgoyne's surrender to Gates in the SARATOGA CAMPAIGN

Schuylkill (skōōl'kĭl", skōō'kəl) [Dutch, = hidden creek], river rising in Schuylkill co , Pa , flowing generally southeast 130 mi , and emptying into the Delaware at Philadelphia There are many industrial cities along its banks—Pottsville, Reading, Pottstown, Norristown, and Philadelphia A state dredging project to remove silt and anthracite culm from the river was started in 1948

Schuylkill Haven, industrial borough (pop 6,518), E Pa , on the Schuylkill near Pottsville, laid out 1829, inc 1840 A railroad center in a coal-mining region, it produces shoes and textiles

Schwab, Charles Michael (shwŏb), 1862–1939, American steel magnate, b Williamsburg, Pa He became (1880) a stake driver in the steelworks of Andrew Carnegie and rose to be chief engineer, then continued to go up the ranks until in 1897 he was made president of the Carnegie Steel Company He was (1901–3) the first president of the U S Steel Corp , but he resigned to direct the Bethlehem Steel Company, which became the largest independent producer in the field In the First World War he made Bethlehem Steel the leading manufacturer of war materials for the Allies, and after serving the government in 1918, he returned to his old post

Schwabach (shvä'bäkh), town (pop 17,873), Middle Franconia, W central Bavaria, SSE of Nuremberg It has metalworking and lead-processing industries The late Gothic church has carvings by Veit Stoss and a tabernacle by Adam Krafft The town hall dates from 1509 The **Articles of Schwabach,** drawn up here in 1529, were used in drafting (1530) the Augsburg Confession of the Protestant faith The articles emphasized differences between Luther and Zwingli, and therefore many cities of S Germany refused to take part in the Augsburg discussions

Schwäbisch Gmünd (shvā'bĭsh gumünt') or **Gmünd,** city (pop 30,748), central Württemberg, E of Stuttgart and at the foot of the Swabian Jura After 1945 it was included in the American-occupied state of Württemberg-Baden Long known as a gold- and silver-working center, it now also manufactures machinery It was a free imperial city from 1268 to 1803 and has retained several medieval churches and monasteries and part of its fortifications

Schwäbisch Hall (shvā'bĭsh hal') or **Hall,** town (pop 16,589), N Württemberg, E of Heilbronn It is a rail junction and has an iron and steel construction industry Its saline baths make it a popular resort Chartered in the 12th cent , it was a free imperial city and ruled a considerable territory surrounding it until 1803 Its baroque town hall burned down in 1945

Schwann, Theodor (tā'ōdōr shvän'), 1810–82, German physiologist and histologist He was an assistant of J P Müller and professor at the universities of Louvain (1838–48) and Liége (from 1848) He carried forward and amended the work of Schleiden and demonstrated that the cell is the basis of animal as well as of plant tissue In his early work Schwann described the nerve sheath known by his name, described pepsin in gastric juice, and recognized the living nature of yeast Of great influence was his *Microscopical Researches in the Structure and Growth of Animals and Plants* (1839, Eng. tr , 1847)

Schwanthaler, Ludwig von (lōōt'vĭkh fün shvän'tä-lur), 1802–48, German sculptor Though he was a neoclassicist, his later works were treated more in the romantic manner and devoted to themes that appealed to the growing national sentiment Overwhelmed by commissions for monuments and large decorative sculptures, for the new palace, the Ruhmeshalle, and other buildings erected in Munich by King Louis I of Bavaria, he left the execution to a great extent in the hands of apprentices Notable among his works in Munich were 12 gilded bronze figures of Bavarian princes for the throne room of the Königsbau and the statue of Bavaria in front of the Ruhmeshalle Elsewhere he is represented by portrait statues and monuments, such as the Mozart at Salzburg and the Goethe at Frankfurt-am-Main and pediment groups for the Valhalla near Regensburg In the Metropolitan Museum is his *Dancing Girl* in bronze

Schwartz, Delmore (shwôrts), 1913–, American poet, b Brooklyn, N Y , grad New York Univ , 1935 His volume of poems *In Dreams Begin Responsibilities* appeared in 1938, in 1940 he was awarded a Guggenheim fellowship *Shenandoah* (1941) is a verse play, *Genesis* (1943), a long poem, and *World Is a Wedding* (1948), a collection of short stories He taught English at Harvard after 1940 His poetry is intellectual and sometimes obscure

Schwartz, Maurice (shvärts), 1890–, American actor, producer, and theater manager, b. Russia He came to the United States (1901) and made his debut (1905) in a Yiddish stock company in Baltimore He gained fame when he acted (1912–19) at the Second Avenue Theatre, New York city, and he established himself as the foremost Yiddish actor of the United States at the Yiddish Art Theatre, New York city, which he founded (1919) His successes include *The Dybbuk, The God of Vengeance, The Lower Depths, Yoshe Kalb, The Brothers Ashkenazi, Three Cities, The Family Carnovsky,* and *Dr Herzl*

Schwartze, Teresa (turā'sä svärt'su), 1852–1918, Dutch figure and portrait painter Her fresh color, lively handling, and clever characterization made her a fashionable and successful portraitist in both oil and pastel *Three Inmates of the Orphanage* and the portrait of P J Joubert (both, Rijks Mus) are good examples of her work

Schwarz, Berthold (bĕr'tôlt shvärts'), fl 14th cent , German Franciscan monk and alchemist He was formerly credited, especially in Germany, with the discovery of gunpowder Though nothing definite about Berthold Schwarz's life is known, it is considered possible that he was the first to make bronze cannons, in a foundry he established in Venice

Schwarzburg-Rudolstadt (shvärts'bŏŏrk-rōō'dôlsh-tät") and **Schwarzburg-Sondershausen** (-sŏn'durs-hou"zun), two former principalities, Thuringia, central Germany Occupying a small area in the central Thuringian Forest, they had, respectively, Rudolstadt and Sondershausen as capitals The ruling dynasty was named after the castle of Schwarzburg, on the Schwarza river The line of Schwarzburg-Rudolstadt was raised to princely rank in 1710, that of Sondershausen, in 1697 The Sondershausen line died out in 1909, and its principality was united in personal union with that of Rudolstadt until 1918, when Prince Gunther abdicated In 1920 both districts were incorporated into Thuringia

Schwarzenberg, Felix, Fürst zu (fā'lĭks fürst' tsōō shvär'tsünbĕrk), 1800–1852, Austrian statesman, prime minister (1848–52), nephew of Karl Philipp zu Schwarzenberg He persuaded Emperor Ferdinand I to abdicate (1848) in favor of the young Francis Joseph and suppressed the Revolution of 1848 in AUSTRIA and BOHEMIA with the aid of his brother-in-law, Prince WINDISCHGRÄTZ, and in HUNGARY with the aid of the Russians At the Convention of Olmütz (1850), he humiliated Prussia by restoring leadership of the German Confederation to Austria See Adolph Schwarzenberg, *Prince Felix zu Schwarzenberg* (1946)

Schwarzenberg, Karl Philipp, Fürst zu (karl' fē'lĭp), 1771–1820, Austrian field marshal in the Napoleonic Wars He led the Austrian forces sent to aid Napoleon I in the Russian campaign of 1812 When Austria joined (1813) the allies against Napoleon, Schwarzenberg was the senior general of the victorious coalition He commanded at Leipzig (1813) and entered Paris in 1814

Schwarzwald, Germany see BLACK FOREST

Schwatka, Frederick (shwŏt'ku), 1849–92, American explorer, b Galena, Ill , grad West Point, 1871, and later studied law and medicine With William H Gilder he commanded an arctic expedition (1878–80) to King William Island to search for traces of Sir John Franklin's party The evidence he unearthed largely answered the last questions as to the fate of the Franklin expedition Later (1883–84) he explored the Yukon river in Alaska Resigning from the army in 1885, he commanded (1886) an Alaskan expedition financed by the New York *Times* Schwatka wrote several books on Alaska, *In the Land of Cave and Cliff Dwellers* (1893) described his explorations in the Southwest and Mexico

Schweidnitz (shvīt'nĭts) or **Swidnica,** Pol *Świdnica* (shvēdnē'tsä), city (1939 pop 39,052, 1946 pop 21,448), Lower Silesia, SW of Breslau It was transferred to Polish administration at the Potsdam Conference of 1945 It is a trade center and has manufactures of electrical appliances, textiles, and chemicals An early residence of the Piast dukes of Silesia, Schweidnitz and the surrounding principality came to the Bohemian crown in 1308 and were ceded to Prussia in 1745

Schweinfurt (shvīn'fōōrt), city (1939 pop 49,321, 1946 pop 37,331), Lower Franconia, NW Bavaria, on the Main. It is an industrial center producing machine tools and dyes Paris green is also called Schweinfurt green First mentioned in 791, Schweinfurt was a free imperial city from the 13th cent until 1803 Schweinfurt was, at the time of the Second World War, the chief center of the German ball-bearing industry It was very heavily damaged in a series of air raids in 1943–44 Friedrich Rückert was born here

Schweinfurth, Georg August (gä'ôrk ou'gōōst shvīn'-fōōrt), 1836–1925, German ethnologist and traveler in Africa, b Riga, Latvia Between 1863 and 1888 he explored extensively in eastern and equatorial Africa and in Arabia In 1870 he discovered the Welle river and later definitely established the existence of African Pygmies. Among his books is *The Heart of Africa* (1873)

Schweitzer, Albert (äl'bĕrt shvī'tsur), 1875–, Alsatian philosopher, theologian, physician, and musician Resolved to become a doctor in French Equatorial Africa, Schweitzer at 30 began his medical studies, meanwhile continuing his other activities, and in 1913 he left for Lambaréné, Gabon, French Equatorial Africa Except for frequent trips to the Continent to raise money and a visit to the United States in 1949 to address the Goethe Festival in Colorado, he remained there, establishing extensive medical facilities which have received financial support throughout the world On these trips he was honored in many countries for his work as a scientist and humanitarian, his artistry as an organist, and his contributions as a philosopher His biography of Bach (1905), considered one of the best studies of the master, along with his edition (with C M Widor, 1912–14) of Bach's organ music, has made him the outstanding authority on Bach *On the Edge of the Primeval Forest* (1920, Eng tr , 1922) is an account of his early years at Lambaréné, supplemented later by *More from the Primeval Forest* (1925, Eng tr , 1931) and *From My African Notebook* (1936, Eng tr , 1938) Schweitzer's philosophy is developed in a three-volume series, *Philosophy of Civilization* (*The Decay and the Restoration of Civilization,* 1923, Eng tr , 1923, *Civilization and Ethics,* 1923, Eng tr , 1923, and *Reverence for Life,* as yet unpublished) "Reverence for life" is the term Schweitzer uses for a universal concept of ethics He believes that such an ethics would reconcile the drives of altruism and egoism by requiring a respect for the lives of all other beings and by demanding the highest development of the individual's resources A profound Christian, Schweitzer is unorthodox in that he rejects the historical infallibility of Jesus while following him spiritually His theological works include *The Quest of the Historical Jesus* (1906, Eng tr , 1910) and *The Mysticism of Paul the Apostle* (1930, Eng tr , 1930) See his autobiography, *Out of My Life and Thought* (1932, Eng tr , 1933) and *Albert Schweitzer an Anthology* (ed by C R Joy, 1947) See Oskar Kraus, *Albert Schweitzer His Work and His Philosophy* (Eng tr , 1944), Hermann Hagedorn, *Prophet in the Wilderness* (1947), George Seaver, *Albert Schweitzer the Man and His Mind* (1947), M C Ratter, *Albert Schweitzer Life and Message* (1949), C R Joy and Melvin Arnold, *The Africa of Albert Schweitzer* (1948)

Schwellenbach, Lewis Baxter (shwĕl'lunbuk), 1894–1948, U S Secretary of Labor (1945–48), b Superior, Wis , LL B Univ of Washington, 1917 He served in the First World War, was admitted (1919) to the bar, and became (1924) chairman of the Democratic state convention After serving (1935–40) in the U S Senate, he was made (1940) U S district judge in Washington state As Secretary of Labor, he reorganized the Dept of Labor and opposed congressional legislation curbing labor-union activity He died in office

Schwenkfeld, Kaspar von (kä'spar fün shvĕngk'-fĕlt), 1490–1561, German religious reformer Schwenkfeld was in court service with the duke of Liegnitz from 1510 to c 1522 He visited Wittenberg during Luther's absence at the Wartburg and there met the radical reformers, Munzer and Carlstadt Returning to Liegnitz, he devoted himself to the reform movement in Silesia Luther suspected Schwenkfeld of Anabaptist leanings and was further provoked by Schwenkfeld's belief that the Eucharist was only a spiritual symbol (see LORD'S SUPPER) After Lutheranism became dominant in Silesia, Schwenkfeld was forced to move to Strasbourg and later to Ulm An anathema was proclaimed against him by the Lutherans at Schmalkald, and his books were banned He wrote a full statement of faith and enunciated the differences between Luther and Zwingli An important part of his belief was the distinction between the outward and transitory word of God as given in the Scriptures and an inward spirit, divine and eternal His followers, known as **Schwenkfeldians** or **Schwenkfelders,** were persecuted, and in the 18th cent many of them fled to other parts of Europe and to North America Some Schwenkfelders emigrated to SE Pennsylvania in the 18th cent , and there the sect still exists

Schwerin, Kurt Christoph, Graf von (kōōrt' krĭs'tôf gräf'fün shvärēn'), 1684–1757, Prussian field marshal, b Pomerania He was one of the most brilliant lieutenants of Frederick II in the War of the Austrian Succession and the Seven Years War In Swedish service before entering (1720) the Prussian army, he was one of the handful of officers that remained with CHARLES XII at Bender He was created count after his victory (1740) over the Austrians at Mollwitz, and he was killed in the battle of Prague

Schwerin (shvärēn'), city (pop 88,164), capital of Mecklenburg, NE Germany, on a lake of the same name It is the center of an agricultural and dairying region First mentioned (1018) as a Wendish settlement, it was chartered (1161) by Henry the Lion and became (1167) an episcopal see The Peace of Westphalia (1648) secularized the bishopric and gave its territories to the duke of Mecklenburg-Schwerin (see MECKLENBURG) Schwerin was occupied (1624–31) by the imperial troops

under Wallenstein in the Thirty Years War. It has a Protestant cathedral (14th–15th cent). The former grand ducal palace, on an island in the lake, was built in the 19th cent

Schwind, Moritz von (mō'rĭts fŭn shvĭnt'), 1804–71, Austrian historical painter and illustrator One of the last of the German romanticists, he studied at the Vienna Academy and at Munich In 1847 he became professor at the Munich Academy He decorated various royal residences for Louis I, king of Bavaria, and his frescoes depicting scenes from Mozart's *Zauberflöte* adorn the Vienna Opera Other works are *Beautiful Melusine* (Vienna) and *Singers' Contest at the Wartburg* Schwind illustrated *Robinson Crusoe* and works of Goethe

Schwyz (shvēts), canton (351 sq mi ; pop 66,555), Switzerland one of the FOUR FOREST CANTONS It is mountainous, forested, and pastoral, with meadows in the valleys and large hydroelectric plants in the north The population is German-speaking In the 13th cent the rights to Schwyz passed to the counts of Hapsburg, but in 1240 Emperor Frederick II granted Schwyz a charter making it immediately subject to the empire The charter having been revoked (1274) by Rudolf I of Hapsburg, Schwyz concluded (1291) with URI and UNTERWALDEN the pact which became the basis of Swiss liberty (see SWITZERLAND, which derives its name from Schwyz) The canton rejected the Reformation and in 1845 joined the Catholic SONDERBUND Its capital, **Schwyz** (pop 9,530), has a 16th-century town hall with historic paintings The Swiss federal archives here contain the original pact of 1291 The town has a small diversified industry

sciatica (sīăt'ĭkŭ), condition characterized by pain, often associated with numbness, tingling, and tenderness, along the course of the sciatic nerve of the leg The condition may be caused by trauma (injury) and by pressure (sometimes the result of an internal growth) on the nerve

science [from Latin *scientia*=knowledge], accumulated and systematized learning, in general usage restricted to the knowledge of natural phenomena The progress of science is marked not only by an accumulation of facts but by the emergence of the scientific method and of the scientific attitude. The first step of the scientific method is the gathering of data by the observation of phenomena By inductive reasoning a hypothesis or preliminary generalization is built on the data The validity of deductions that follow logically from a generalization are tested by further observations and experiments A verified generalization is considered a scientific theory or law, if contradictory facts arise, the theory may be modified to include the new facts or it may be replaced by a new concept The scientific method is an expression of the scientific attitude which rests on rational impartiality and on a strict regard for accuracy and controlled experiment The origins of science can be traced to the crude, and often subjective, observations on which early man based empirical rules for the practical utilization of knowledge The Greeks advanced the systematization of knowledge by classification and by deduction from hypotheses, usually closely bound with metaphysical concepts and unverified by experiment Notable among Greek and Hellenistic scientists are Hippocrates, Pythagoras, Aristotle, Euclid, Archimedes, and Ptolemy Although the Romans made little advance in pure science, they made great strides in applied science The Arabs made valuable contributions in mathematics, astronomy, and medicine and preserved many Greek, Roman, and Hellenistic scientific writings The revival of science in Europe during the late medieval period was stimulated by the recovery of ancient works, especially those of Aristotle. However, progress was slow because investigators relied on ancient authorities and on deductions from the Scriptures as interpreted by the Church instead of on independent observations, a notable exception is Roger Bacon Leaders in basing scientific concepts on observed data and on experiment include Copernicus, Kepler, and Galileo The value of inductive reasoning and of experiment in scientific work was formulated in the early 17th cent by Francis Bacon. In the 17th and 18th cent. much scientific progress was made by men unconnected with universities; scientific societies were the chief agencies in furthering and correlating research. Universities began to play a major role in the 19th cent , and the 20th cent. has seen the rise of research institutes and of industrial research laboratories. Natural science is commonly divided into abstract sciences (e g., mathematics, a tool of increasing value in all other branches of science) and concrete sciences, including the physical sciences (e g , astronomy, geology, physics, and chemistry) and the biological sciences. The vast increase of the body of knowledge has resulted in the subdivision of the sciences into specialized branches. The interrelationship of the divisions of science is evidenced by the establishment of branches dealing with overlapping fields, e.g., biochemistry, biophysics, chemical geology, and psychophysics. See also articles on the several sciences and on scientists. See C W. Watkeys, ed , *An Orientation in Science* (1938); J. B Conant, *On Understanding Science* (1947); W C. Dampier, *A History of Science* (4th ed , 1949); F. Sherwood Taylor, *A Short History of Science and Scientific Thought* (1949)

scientific management: see INDUSTRIAL MANAGEMENT.

Scilla: see SCYLLA.

Scilly Islands (sĭl'ē), archipelago of more than 150 isles and rocky islets, off SW England, in Cornwall, WSW of Lands End They have been identified with the Cassiterides [tin islands] of the ancients, although they have produced very little tin On the rocky coasts, now marked by lighthouses and lightships, scores of ships were wrecked, notably Sir Cloudesley Shovel's fleet in 1707 Five isles are inhabited, St Mary's, Tresco, St Martin's, St Agnes, and Bryher On the largest, St Mary's, is the capital, Hugh Town, with the 16th-century Star Castle at which Prince Charles stopped in 1645 on his flight to Jersey and from which there is a view of the other isles On Tresco are Oliver Cromwell's Tower, ruins of a 10th-century abbey, and the residence of the proprietor of the islands Augustus Smith, who ruled the islands from 1834 to 1872 and did much for the people, began the tropical gardens at the residence. Samson has ancient stone monuments and is the scene of *Armorel of Lyonesse* by Walter Besant The climate is mild and equable, the rainfall heavy, subtropical plants flourish The growing of flowers for Bristol and London markets is one of the leading occupations The isles connect with Cornwall by steamer and telegraph

Scio (sī'ō), village (pop 1,181), E Ohio, W of Steubenville

Scioto (sīō'tō), river, c 245 mi long, rising in W Ohio and flowing east, then turning south to pass through Columbus and Chillicothe and enter the Ohio at Portsmouth. It receives numerous tributaries.

Scipio (sĭ'pēō), ancient Roman family of the Cornelian gens They were patricians In their heyday (3d and 2d cent B C) they were distinguished by love of Greek culture and learning, they were rich, amiable, and generous, in all things different from the family of Cato and Elder, who detested them and worked hard to ruin them **Cneius Cornelius Scipio Calvus** (nē'ŭs), d 211 B C , consul in 222 B C , was sent to Spain (218 B C) to wreck the supply lines of HANNIBAL, who was invading Italy He and his brother Publius defeated Hasdrubal (215 B C.) and captured Saguntum (212 B C) They were killed in different engagements **Publius Cornelius Scipio,** d c 211 B C , brother of Calvus, was consul in 218 B C. He tried vainly to intercept Hannibal in Gaul, then rushed back to Italy, where he failed to hold the enemy at the Ticino He gave battle (against his judgment) at Trebia, and Hannibal won (218 B C) The next year he joined Calvus in Spain Publius was the father of the conqueror of Hannibal, Scipio Africanus Major (see separate article) Africanus Major's wife was the sister of Aemilius Paullus, his daughter CORNELIA was the mother of the Gracchi, and his eldest son was the adoptive father of the destroyer of Carthage, Scipio Africanus Minor (see separate article); Africanus Minor was the son of Aemilius Paullus **Publius Cornelius Scipio Nasica Serapio** (nā'zĭkŭ sĭrā'pēō), d c 132 B C , consul in 138 B C , and pontifex maximus, was a great-grandson of Calvus and a son of Africanus Major's daughter, despite the family connections he led the mob of senators that murdered Tiberius Gracchus He left Rome to escape popular hatred A descendant of Nasica Serapio was adopted by Q Caecilius Metellus Pius (see METELLUS) and named **Quintus Caecilius Metellus Pius Scipio** (sēsĭl'ēŭs), d 46 B C He early became a leader of the senatorial conservatives and was allied with POMPEY from 53 B C , when he ran against MILO for the consulship. In 52 B C , Pompey made Scipio his colleague in the consulship, and Scipio threw all his influence against Julius CAESAR He led the senate in trying to humiliate Caesar and backed the measure of 49 B C , designed to wrest the army from him In 49 B C.–48 B C he was governor of Syria, where he displayed a rapacity unusual even in the Roman Empire He commanded the center at Pharsala and fled after the battle to Africa. He fought Caesar and lost at Thapsus and took to the sea to escape He was met by a fleet under one of Caesar's lieutenants, and, foreseeing defeat, he stabbed himself

Scipio Africanus Major (Publius Cornelius Scipio Africanus) (ăfrĭkā'nŭs), 234?–183 B C , Roman general, the conqueror of HANNIBAL in the PUNIC WARS He was the son of Publius Cornelius SCIPIO, and from a very early age he considered himself to have divine inspiration. He was with his father at the Ticino (218 B C), and he survived Cannae (216 B.C.). On his father's death in Spain (c.211 B C), the young Scipio ran for the proconsulship of Spain and was elected. His conduct of the war in Spain showed his military genius. He conquered New Carthage (Cartagena) almost at once (209 B.C), and used this Punic store city as his own base. Within a few years he had conquered Spain from Carthage. In 205 B.C., Scipio, burning with a desire to carry the war into Africa, ran for consul, but his jealous enemies in the senate, not being able to defeat him, granted him permission to go only as far as Sicily and gave him no army Scipio employed his year in Sicily drilling a volunteer army and at the end of his term (204 B C.) received permission to go to Africa. He immediately joined his allies the Numidians, but for more than a year no real engagement took place against the Punic arms. In 202 B C., Hannibal crossed to Africa and tried to make peace, but Scipio's demands were so extreme that war resulted, and Hannibal was defeated at Zama (202 B C), the greatest battle of the Punic Wars Scipio returned home in triumph and retired from public life But his pride aggravated the hatred of his enemies, and his ruin was attempted by accusing him of receiving bribes in the campaign against Antiochus III in which Scipio had accompanied his brother (190 B C.) Scipio was tried (185 B C), and ignored his enemies, led by CATO THE ELDER, it was only through the influence of his son-in-law, T Sempronius Gracchus, that Scipio was saved from ruin He retired into the country and ordered that his body might not be buried in his ungrateful city. The magnanimity of Scipio was the subject of countless stories; it is notable that he, almost singlehanded, attempted to prevent the ruin of the exiled Hannibal by Rome See B. H Liddell Hart, *A Greater than Napoleon Scipio Africanus* (1926)

Scipio Africanus Minor (Publius Cornelius Scipio Aemilianus Africanus Numantinus), c 185–129 B C , Roman general, destroyer of Carthage He was the son of Aemilius Paullus, conqueror of Macedonia, under whom he fought at Pydna He was adopted by the eldest son of Scipio Africanus Major (see SCIPIO, family). He earned a great reputation as a patron of Greek literature and of Roman writers, notably Terence and Laelius, and he was the lifelong friend of Polybius, his protégé His friendship with Laelius has been immortalized by Cicero in *De amicitia* He served in the army in Spain (151 B.C), and he visited Masinissa of Numidia The Third Punic War had dragged on for several years when Scipio received the consulship (147 B C) He went to Africa and terminated the war with the capture and destruction of Carthage (see PUNIC WARS) In 142 B C he was censor He was consul again (134 B C) and went to Spain, where he ended the rebellion with the destruction of Numantia On his return to Rome he openly rejoiced at the murder of his adoptive cousin and own brother-in-law, Tiberius Gracchus (Scipio's wife, Sempronia, was sister of the GRACCHI), and led the conservatives in attempting to wreck the Gracchan reforms This culminated in a measure introduced by Scipio to deprive the Gracchan land commission of its powers and thus vitiate the agrarian law A great public quarrel arose, and Scipio again denounced the memory of Gracchus The next morning he was found dead in his bed No inquiry was made, and it was generally said that he was murdered by his wife, his mother-in-law, or some other of the Gracchan party. Cicero lauds Scipio beyond measure The *Dream of Scipio*, telling of the apparition of the greater Scipio to this Scipio is a splendid passage of Cicero's *De republica*

scissor-tailed flycatcher, bird of the New World flycatcher family Tyrannidae The length of the male is about 14 in including its deeply forked 7 to 10 in tail Its head and body are soft gray, with a bright reddish patch at the base of the wing and shades of pinkish and orange red in the gray The dark tail feathers are marked with white Grasshoppers, weevils, and other insects provide most of its food It is often seen on lookout perches in open country Males indulge in a dancing flight during courtship It breeds chiefly in parts of Texas, Oklahoma, Kansas, and Nebraska and usually winters in Central America It is sometimes called bird of paradise

Scituate (sĭ'chōōwāt, -wĭt) **1** Resort town (pop 4,130), SE Mass., on the coast about midway between Boston and Plymouth, settled c 1630, inc 1636 Irish moss, sand, and gravel are found here **2** Town (pop 2,838), W R I., W of Providence, set off from Providence 1731. Scituate Reservoir was formed by damming the Pawtuxet river. In the Revolution, cannon were cast at ironworks here North Scituate village is administrative center of the town. Stephen and Esek Hopkins spent their early years in Scituate

Scobey, city (pop. 1,311), co. seat of Daniels co., NE Mont., a port of entry on the Poplar river, inc 1919.

Scollard, Clinton (skŏ'lŭrd), 1860–1932, American poet and educator, b. Clinton, N.Y , grad. Hamilton College, 1881. He was professor of English literature at Hamilton College (1888–96, 1911–32). Alone or with collaborators he wrote more than 40 volumes of poetry, and from them his wife, Jessie B RITTENHOUSE, selected the lyrics in *The Singing Heart* (1934).

Scone (skōōn), parish (pop 2,559), Perthshire, Scotland, on the Tay and N of Perth Old Scone, west of the present-day village of New Scone, was the capital of the semilegendary King Kenneth I. The abbey founded here in 1115 by Alexander I for Augustinian canons was destroyed in 1559 by people from Perth. The site is now occupied by Scone

Palace (built 1803–8). Scone was a royal residence of Scottish kings from 1157 until 1488. The Stone of Scone or CORONATION STONE is now in Westminster Abbey The last coronation in Scone was that of Charles II in 1651

'Sconset, Mass. see SIASCONSET.

Scopas (skō'pŭs), Greek sculptor, fl 4th cent. B C, b. Paros Although numbered among the Athenians, he wandered from place to place and did not attach himself to any school He was the first to express violent feeling in marble faces Some mutilated fragments from the temple of Athena Alea, Tegea, of which he is recorded as architect, furnish evidence of his style and method They are in the national museum at Athens Among the works attributed to him by ancient writers are a seated Mars, of which the *Ludovisi Ares* in Rome is probably a reflection; an *Apollo Citharoedus*, known through a copy in the Vatican; and a statue of Meleager, of which there are copies in Rome and in the Fogg Museum of Art, Cambridge, Mass A celebrated group, probably in relief, represented Achilles, accompanied by Nereids, Tritons, and other creatures of the sea

Scopes trial. A statute was passed (1925) in Tennessee which prohibited the teaching in public schools of theories contrary to belief in the divine creation of man as related in the Bible In a test case that attracted wide notice, John T Scopes, a biology teacher, was tried (July, 1925) for teaching the Darwinian theory in a Dayton, Tenn, public school Clarence Darrow and other distinguished attorneys appeared in defense of Scopes, while William Jennings Bryan was the representative of the state In a dramatic trial Scopes was convicted, but he was later released by the state supreme court on a technicality The law, however, remained on the statute books, although the outcry over the case tended to discourage enactment of similar legislation in other states

scopolamine (skŏpŏ'lŭmēn, -mĭn) or **hyoscine** (hī'ŏsēn, -sĭn), drug classified as an alkaloid and obtained from plants of the nightshade family, chiefly from henbane (*Hyoscyamus niger*) Scopolamine acts as a depressant of the central nervous system, causing drowsiness, fatigue, and sleep It is used as a sedative prior to anesthesia and for patients who are restless and agitated, as in delirium tremens, maniacal states, and cardiac and hyperthyroid psychoses It is sometimes used in preventing airsickness When combined with morphine, the effect produced is known as TWILIGHT SLEEP, formerly used in obstetrical anesthesia and now considered much too dangerous More recently scopolamine has been used in conjunction with barbiturates Scopolamine is also employed in the "withdrawal treatment" of narcotic and alcoholic addicts

scorbutus see SCURVY

score, in MUSICAL NOTATION, manuscript or printed music in which the various parts are placed one above the other so that notes which are to be played simultaneously are in vertical alignment Early polyphony was notated in score until about the 12th cent, when choir books, in which the parts were written out separately one after another, came into use Part books, with a separate book for each part, were employed in the 15th and 16th cent With the rise of orchestral music around the beginning of the baroque period, the modern score came into being, with bar lines scored from top to bottom through all the staffs A full score is one such as an orchestral conductor uses, in which each part is on a separate staff, while in a condensed score two or more parts are written on a single staff In a vocal score or piano-vocal score of an opera or a choral work, the vocal parts are written out in full but the accompaniment is reduced to two staffs

Scorel or **Schorel, Jan van** (yän' vän skō'rŭl, skō'rĕl"), 1495–1562, Dutch portrait and religious painter, studied with Mabuse in Utrecht and probably with Dürer in Nuremburg About 1521 he visited Palestine and later Rome, where he acted as overseer of the Vatican gallery On his return to Utrecht he became a priest and later a canon. Few of his religious paintings have survived Well known are his *Virgin and Child* and portraits of pilgrims from the Holy Land, including a self-portrait (town hall, Utrecht), and *Last Judgment* (Rijks Mus) Scorel was the master of Antonio Moro and of Heemskerk

Scoresby, William (skōrz'bē), 1789–1857, English arctic explorer and scientist He made yearly voyages (1803–22) to Greenland, at first on his father's whaler, later as captain on other ships Fitting himself by study between voyages, he mapped, charted, made deep-sea temperature soundings, noted the flora and fauna, and collected other valuable data along the little-known and hitherto unknown coasts of Greenland, giving special attention to terrestrial magnetism His last trip to the arctic regions was made in 1822. In 1825 he entered the Anglican ministry. He maintained his interest in exploration and encouraged the search for the Northwest Passage. The year before his death he made a voyage to Australia to study terrestrial magnetism. Scoresby wrote several books dealing with his arctic experiences.

Scoresby Sound, inlet of E Greenland. It has numerous branches, some of which extend c 150 mi inland, and it contains many islands Near its mouth the small settlement of Scoresbysund was founded in 1924, it is a fishing and hunting base and has a radio station

Scorpio (skôr'pēō) [Latin, =scorpion], in astronomy, a conspicuous constellation, somewhat resembling the shape of a scorpion. It is seen on the ecliptic between Sagittarius and Libra The giant red star ANTARES is situated in Scorpio, it is attended by a green companion star An account by Pliny credits to Hipparchus in 134 B C the observation of a nova known as the star of Hipparchus in the constellation Scorpio Scorpio is also the name of the eighth sign of the ZODIAC, and Scorpio is one of the zodiacal constellations

scorpion (skôr'pŭn), nocturnal arachnid from ½ in to 8 in long, found in warm and tropical regions It attacks insects and spiders with its pincerlike claws It can paralyze its prey by injecting poison from its sharp, curved spine at the end of the last segment of its narrow post-abdomen The sting of some species is fatal to children The young hatch from the mother's body and are carried on her back for about a week afterward Scorpions are cannibalistic They are immune to their own poison

Scot, Michael, c 1175–1232, medieval scholar He studied at the universities of Oxford, Paris, Bologna, Palermo, and Toledo and spent much of his later life at the court of Emperor Frederick II Popes Honorius III and Gregory IX gave Scot clerical posts He supervised the translations of Aristotle and of Arabian writings into Latin In 1230 he visited Oxford and introduced there the study of Aristotle Scot was famous for occult learning and reputed miraculous powers, and he wrote numerous works of occult wisdom There were many legends concerning his death and burial, but he is supposed to be in a grave at Melrose Abbey, in England Michael Scot, as a magician, figures in Dante's *Inferno* and Scott's *Lay of the Last Minstrel* See J Wood Brown, *Life and Legend of Michael Scot* (1897)

Scotch: see SCOTTISH DIALECT and GAELIC

Scotia (skō'shŭ), Latin name for Scotland, used in the Middle Ages and today occasionally used in rhetoric

Scotia (skō'shŭ), village (pop 7,960), E N Y, on the Mohawk opposite Schenectady, settled before 1660, inc 1904

Scotland, northern portion of Great Britain (30,405 sq mi, including its islands and 609 sq mi of inland waters, 1931 pop 4,842,980, 1948 estimated pop, 5,169,217) bounded by the Atlantic Ocean on the north and west, by the North Sea on the east, by England on the south It is separated from England in part by the River Tweed, the Cheviot Hills, the Liddell river, and Solway Firth The greatest length (274 mi) is from Cape Wrath in Sutherland to the Mull of Galloway, and the greatest width (154 mi) is from Applecross in Ross and Cromarty to Buchan Ness in Aberdeenshire In places Scotland is very narrow, it is 26 mi from the head of Loch Broom to Bonar Bridge on Dornoch Firth, and 30 mi from Bowling on the Clyde to Grangemouth on the Forth Because of the irregular outline and the numerous inland arms of the sea (usually called sea lochs when narrow, and firths when broader and more extensive), the coast line is 2,300 mi long There are many islands off the coast which are of no inconsiderable importance to Scotland On the north are two large groups, the Orkneys and the Shetlands, on the east the islands are few and small, on the west are a series of groups, the Inner and Outer Hebrides or Western Isles, stretching from north to south at a short distance from the coast The most important islands on the west are Lewis, Harris, North Uist, South Uist, Barra, Skye, Rum, Eigg, Coll, Tiree, Mull, Iona, Colonsay, Jura, and Islay Off the southwest coast, in the Firth of Clyde, are the islands of Arran and Bute On the east coast are the prominent firths of Moray, Tay, and Forth, and on the west coast are the firths of Solway, Clyde, and Lorne In N Scotland the land is higher in the west, with the result that the rivers generally are short on the west and longer on the east Scotland may be divided into three physical regions The HIGHLANDS occupy more than one half the area of the country and are divided by the depression known as Great Glen or Glen More (or Albin) into the northwestern and the southwestern Highlands Practically all this region is mountainous (The Hebrides are grouped with the Highlands) The ridges, rising to a generally uniform level, trend northeast to southwest, with deep valleys and sea lochs between The highest ground in the northwest section is along the Atlantic coast (2,000 ft to 3,000 ft) The southeastern section is much more varied, containing transverse valleys (northwest to southeast), overgrown with heather and gorse, many lakes and inland arms of the sea, and some of the loftiest peaks of the British Isles The Grampians, on the Lowland border, constitute the chief mountain chain The highest mountain in Great Britain is Ben Nevis (4,406 ft); among the other prominent peaks are Ben Macdhui (4,296 ft), Cairngorm (4,084 ft), Ben Lawers (3,985 ft), Ben More (3,843 ft), Ben-y-Gloe (3,770 ft), Ben Wyvis (3,429 ft), and Ben Lomond (3,192 ft) The principal rivers are the Dee, with the city of Aberdeen at its mouth, the Don just north of the Dee, the Deveron, with Banff at its mouth, the Spey, and the Beauly, emptying into Inverness Firth. The city of Inverness lies at the northern end of the CALEDONIAN CANAL, a series of navigable lochs and canals which form a waterway across Scotland The central Lowlands, lying between a line drawn from Girvan to Dunbar and a line from Dumbarton to Stonehaven, with a northeast to southwest trend, have a general elevation of 500 ft, with valleys dropping to 200 ft, and eminences rising well above the surrounding country The main ridges are the hills of Ochil, Sidlaw, Pentland, Renfrew, Campsie, and Lantry This region contains several of the finest lakes in Scotland Practically two thirds of the population of the country lives in the central Lowlands, which form one tenth of the total area Here, on the west, at the head of the estuary of the Clyde river lies Glasgow, second largest city in Great Britain, a center of shipbuilding and manufacturing, and an important port On the east, on the Forth river and the Firth of Forth are the manufacturing towns of Stirling, Linlithgow, Dunfermline, and Kirkcaldy On the southern shore of the Firth of Forth lies the beautiful capital, Edinburgh, long a publishing and cultural center On the smaller Firth of Tay lie the cities of Perth and Dundee Coal and iron in Lanarkshire, the Lothians, and Fife have made possible the growth of heavy industry throughout this area The southern uplands are a well-defined slightly mountainous region, less elevated than the Highlands, but rising abruptly from the Lowlands They consist chiefly of rolling moorlands, cut by numerous valleys Here the chief rivers, all in the south and the west, are the Nith (on which is Dumfries), the Cree, and the Ayr On the east is the border river, the Tweed Only about one fourth of Scotland is under cultivation, as a great part of the country is too rugged to be fit for agriculture The principal cereals are barley, oats, and wheat Potatoes, turnips, and beans are also extensively cultivated Sheep raising is important especially in the southern uplands and the Highlands Fisheries are a source of considerable income One of the chief manufacturing countries of Europe, Scotland manufactures chiefly woolen cloth worsted, linen, cotton, and silk textiles, whisky, beer, and paper Scotland and England have been united under the name of Great Britain since 1707 The country is represented in the House of Commons and the House of Lords, and the secretary of state for Scotland, a member of the cabinet, presides over the Local Government Board for Scotland (established in 1894) Municipal bodies exist in the towns of Scotland, as in those of England Each burgh has a town council, consisting of provost or lord provost (the head of the Scottish municipality), bailies, and councilors There are three principal kinds of burgh, royal, parliamentary, and police The Local Government Bill of 1929, bringing local government machinery in line with that of England and Wales, made the county councils and burghs of more than 20,000 population the new unit of local government, and abolished parish councils Scottish counties north of the Grampians are SHETLAND, ORKNEY, CAITHNESS, SUTHERLANDSHIRE, ROSS AND CROMARTY, INVERNESS-SHIRE, NAIRNSHIRE, MORAYSHIRE, BANFFSHIRE, and ABERDEENSHIRE South of the Grampians are ARGYLLSHIRE, PERTHSHIRE, ANGUS, BUTESHIRE, and the more populous counties of KINCARDINESHIRE, DUMBARTONSHIRE, STIRLINGSHIRE, CLACKMANNANSHIRE, KINROSS-SHIRE, FIFE, RENFREWSHIRE, AYRSHIRE, LANARKSHIRE, WEST LOTHIAN, MIDLOTHIAN, EAST LOTHIAN, and PEEBLESSHIRE The counties of the southern uplands are WIGTOWNSHIRE, KIRKCUDBRIGHTSHIRE, BERWICK, DUMFRIESSHIRE, SELKIRKSHIRE, and ROXBURGHSHIRE The Church of Scotland, established in 1560 and confirmed in 1688, is Presbyterian In 1929, the Church of Scotland and the United Free Church (see SCOTLAND, FREE CHURCH OF) were united The four universities of Scotland are those of Edinburgh, Glasgow, Aberdeen, and St Andrews. The law of Scotland is based on Roman law, rather than on common law as in England The pre-Roman history of Scotland is included in that of BRITAIN The PICTS, of obscure origin, were living there at the beginning of historic times Gaels or Celts from Ireland formed roving bands of fierce soldiers who, together with the Picts, kept the Romans from penetrating far into Scotland Agricola, who invaded Scotland (A D 80) built a line of temporary forts, won the battle of Mons Graupius against the Caledonians (as the northern Scots were called) under Calgacus, and left, thinking he had subdued the tribes south of the firths of Forth and Clyde The successive walls built by the Romans proved inadequate barriers to contain the northern tribes whenever the Roman garrisons were depleted The Romans had little influence in Scotland, but before they left Britain, in the 5th cent, Christianity had been introduced into Scotland by St NINIAN and his disciples In the century and a half after the

Roman evacuation, four kingdoms came into being in Scotland that of the Picts in the north, that of the Scots who came from Ireland and founded Dalriada north of Strathclyde in what is now Argyllshire and the island of Iona, that of the Britains in Strathclyde, on the west coast between the Mersey and the Clyde, and that of NORTHUMBRIA, founded by the Angles, from the Lees to the Forth, and largely settled by Teutonic immigrants and people from what was later England The mission of St COLUMBA (fl. 563) from his monastery at Iona in Dalriada brought Christianity to the Picts in the form known in Ireland and the tradition was continued by St Mungo and St Cuthbert, the apostle of Lothian, and in Northumbria by St Aidan As the teachings of the Roman Church persisted in the south of Britain, the disagreements which arose between Roman and Irish usage were decided by King Oswy of Northumbria at the Synod of Whitby (see WHITBY, SYNOD OF) in 664 That decision began the reorientation of Scotland toward Europe rather than toward Ireland and Scandinavia This King Oswy was defeated in 683 by the king of the Picts, and Northumbrian power in Scotland declined During the period of Mercian domination in England, there began the raids of the Norsemen, which disturbed Scotland from the 8th to the 12th cent In 794 they attacked the islands off Scotland and soon returned to live in the Hebrides, by 870 they were established in what are now Caithness and Sutherland Meanwhile, about 843 KENNETH I or Kenneth mac Alpin inherited the kingdoms of the Picts and of Dalriada, thus ruling over the land N of the Firth of Forth, which he called Alba His descendant Malcolm II pushed his sovereignty south by defeating an Anglo-Danish army (Canute of Denmark ruled in England) in Northumbria and annexing all of N Northumbria Malcolm's grandson, Duncan, was a real king of Scotland, ruling Dalriada, Pictland, Strathclyde, and Lothian, though the Norsemen held N Pictland and the islands Duncan was murdered by, and succeeded by, Macbeth, who was in turn slain and succeeded by Duncan's son MALCOLM III Malcolm and his wife St Margaret, an English princess, began a process of Anglicizing and modernizing the Lowlands In Malcolm's long reign (11th cent) though he disliked the Norman conquerors of England, he maintained peace and achieved a stable, cultured court and a new devoutness in the Scottish church After the death of William I of England, Malcolm refused to acknowledge William II's claim to sovereignty over Scotland and died invading England After quarrels among the heirs, complicated by the raids of Norwegians in the west, Scotland was ruled by Malcolm's son Edgar The king's sister Maud became the queen of Henry I of England, and peace with England allowed the process of feudalization to continue in Scotland The clan ties were apparently based on blood relationship and personal loyalty to a chieftain, whereas the feudal system in Europe and Norman England also involved the land rights of lord and vassal The clans survived in the Highlands, but the feudal property rules were adopted fairly generally in the Lowlands in the 11th and 12th cent Alexander I succeeded Edgar, his brother, in Alba, N of the Forth, and David I succeeded S of the Forth The kingdoms were reunited by David on Alexander's death in 1122, and in his long reign he kept Scotland united and peaceful despite his having to take part in the unhappy wars in England between Matilda and Stephen I David regulated the new feudalism with his land grants by the crown He also organized his government into responsible departments, encouraged the growth of walled, self-governing burghs, and promoted foreign trade He further reorganized church government in Scotland, backed his bishops in their refusal to recognize the supremacy of the archbishop of York over them, and founded new monasteries Scotland had achieved the stature of a nation by the time of his death (1153). Malcolm IV (Malcolm the Maiden) succeeded him. The next long reign was that of David's grandson WILLIAM THE LION (1165–1214), who in 1174 was captured by Henry II while the Scottish monarch was aiding Henry's son in revolt. By the Treaty of Falaise extorted from William, Scotland became the vassal of England, a coalition ended only in 1189, when Richard I sold the Scots their freedom for funds to go on Crusade, but couched the agreement in ambiguous terms which allowed English kings later to revive the claim. William's successors Alexander II and Alexander III pushed the Norsemen out of Scotland, finally defeating them in 1263 Orkney and Shetland only remained in Norse hands until 1469. On the death (1286) of Alexander III his heiress was the baby MARGARET MAID OF NORWAY She was betrothed to the son of EDWARD I of England, but never married, for she died as a child (1290). In the ensuing struggle among many claimants to the throne, Edward I declared for John de BALIOL, who was crowned, with Edward acknowledged as overlord of Scotland When in 1295 Edward began a war with Philip IV of France and demanded for it Scottish troops, the Scottish lords and burghs allied themselves with Philip, beginning the long relationship with France that distinguishes Scottish history. Edward invaded Scotland, captured King John, and forced submission of the Scots Scotland rose under William WALLACE to fight for Baliol's return, but Wallace was defeated and executed, and Scotland was governed by England The heir to Baliol was killed by Robert Bruce (later ROBERT I), another claimant to the throne, in 1306, and Bruce had himself crowned at Scone A great general, he gathered men and arms and at last captured Edinburgh and defeated Edward II of England at Bannockburn (1314) Robert I and his brother Edward even extended their conquests to Ireland Not until 1328 was a treaty of peace signed The king of England, now Edward III, acknowledged Scotland's free status Scotland was, during the minority (1329–41) of David II, Bruce's son, invaded by a pretender and during David's reign was attacked by Edward III of England In 1349 the Black Death killed nearly a third of the people David's successor was ROBERT II, first king of the house of STUART, who not only had to deal with quarreling nobles, but also with dissension among his heirs English attacks continued intermittently After Robert III was deposed in 1399 the regent was David Stuart, duke of Rothesay, who was followed by Robert Stuart, duke of Albany Henry VI of England captured the young King JAMES I, and kept him in England, where he received the education which was to make him one of Scotland's most learned and accomplished kings and the best of the Scottish Chaucerian poets Under Albany the Scots sent help to France, who was fighting desperately against England, and helped turn the tide for France At last (1424) James I and his bride, Joan Beaufort, returned to Scotland, and James vigorously attempted to revamp the laws, and put down the too-powerful nobles and unite them He improved his relations with Norway and Flanders, and married his daughter to the future Louis XI of France His murder in 1437 threw Scotland into the old pattern of civil conflict during long minorities for the next hundred years (JAMES II, JAMES III, JAMES IV, and JAMES V) In the 15th cent the Orkneys and Shetlands were gained by marriage alliances James IV married a Tudor princess, a marriage which was ultimately to unite the crowns of England and Scotland in the person of James VI of Scotland (James I of England), but peace with England in the time of James IV seemed impossible He reduced the clans to some order, built a small navy, and tried to improve the laws, but this brief age of order ended at Flodden Field (1513) There James and the flower of Scottish nobility were killed fighting the English army of Henry VIII on behalf of France James V continued the French alliance by marrying MARY OF GUISE, and many French came to Scotland The Reformation was brought to Scotland largely through the efforts of John KNOX (see also PRESBYTERIANISM and SCOTLAND, CHURCH OF), and religious issues were mingled with opposition to the foreigners Cardinal BEATON, James V's chancellor, was an able executive, but he was not successful in opposing the Reformation It progressed rapidly during the rule of Mary of Guise as regent for her daughter MARY QUEEN OF SCOTS, who lived in France as dauphiness and then as queen By the time of the arrival of MARY Queen of Scots Catholicism had been nearly driven out of the Lowlands The melancholy career of the young queen is largely a matter of the personalities of the day and of her conflict with the nobility, now divided into pro-French and pro-English factions ELIZABETH of England maintained the English party with money and arms Mary's struggle ended in loss of the throne, imprisonment in England, and execution But on Elizabeth's death, Mary's son, James VI of Scotland, became king of England as JAMES I (1603) as heir through both his mother's and father's lines. Scotland now had comparative peace for a few years, and many of the nobility went to England with the court Presbyterianism and its maintenance became under James the great question in Scotland, and every political move of the Scottish Parliament was governed by its desire to oppose episcopacy, which was favored by the Stuarts The COVENANTERS declared their opposition to the forms imposed by Charles I and stoutly resisted his attempt to bring them to heel in the BISHOPS' WARS (1639–40) The wars brought Charles's downfall, for the financial drain compelled the king to summon the Long Parliament, and the sharp contest between Parliament and king took the PURITAN REVOLUTION into actual civil war Scotland, like England, was somewhat divided, though the great majority opposed the king, and Charles's effort to win the Scots by yielding rights to Presbyterianism in 1641 did not move Archibald CAMPBELL (who was made marquess of Argyll) and his Covenanters. James Graham, earl of MONTROSE, failed in an early attempt to win Scotland for the king, but almost succeeded with the Highlanders behind him in 1644–45. The Covenanters sought to force Presbyterianism upon England, and Parliament was led to proclaim that form of religion in 1643, but the Puritan movement was by no means unified, and the Independents were strong in the army. The army under Oliver Cromwell ultimately prevailed over Parliament, and the Scottish religion gained only toleration, not supremacy, in England Charles I surrendered to the Scottish army and was turned over to Parliament The execution of the king in 1649 caused a revulsion of feeling in Scotland. Charles II was recognized as king in 1651, but Scottish opinion remained divided. The junction with England enforced by Cromwell was not popular, and the Restoration was welcomed in Scotland The restored Stuarts, however, sought to restore episcopacy, and the Covenanters were under Charles II and James II subjected to bitter persecution James II was hated in Scotland even more bitterly than in England, and the accession of William and Mary was the cause for rejoicing The Glorious Revolution made Presbyterianism once more legal. Scotland was, however, troubled in the reign of William III The brutal massacre of a Highland clan at GLENCOE somewhat discredited the government. William's failure to support the DARIEN SCHEME furthered embittered relations, and Scotland felt that the Navigation Acts were discriminatory Constitutional union of England and Scotland, which had been considered ever since the junction of the crowns, was rejected at this time by the English, but its desirability grew more apparent The question of succession to the throne was a burning issue in the reign of Queen Anne, and the proponents of James Francis Edward STUART (the Old Pretender) worked assiduously in Scotland as well as in England Finally, in order to insure the Hanoverian succession after Queen Anne, the union was voted by both Parliaments in 1707 and provided for Scottish representatives in the Parliament of Great Britain Thereafter the history of Scotland was that of GREAT BRITAIN Freedom of trade and toleration of episcopacy, along with recognition of the Presbyterian Established Church of Scotland were provided The important religious history of Scotland after the union is treated under SCOTLAND, CHURCH OF The Scottish JACOBITES especially in the Highlands attempted in 1715 and again in 1745 to destroy the union, but without success The economic results of the union were eventually wholly favorable to Scotland, and, with revived trade and improved agricultural methods, the Scottish people in the 18th cent were able to raise somewhat their standard of living Feudalism gave way but slowly to modern land leases With a market for cattle, Scottish farmers developed new breeds, raised more diversified crops to feed them, and by 1725 had started the earliest of many societies to improve agricultural knowledge The increasing market for meat and wool led unfortunately also to the dispossession of a large part of the population in the Highland grazing lands during the latter 18th cent and early 19th cent inclosures Partly as a result there was such emigration of Highlanders to Canada, the United States, and Australia as nearly to depopulate parts of Scotland Along with the agricultural revolution of the 18th cent came the rise of the textile industry Early in the century linen manufacture and, to a lesser extent, woolcloth manufacture in the Lowland towns, was of major importance, and toward the end of the century cotton spinning and weaving on the new machinery resulting from the Industrial Revolution became by far the leading industries Thriving commerce within the growing British Empire led naturally to expansion of shipping, and Glasgow achieved eminence as a commercial center The cotton textile factories were by the middle of the 19th cent concentrated mostly in Lanarkshire and Renfrewshire, and the linen ones in Dundee By the end of the century metallurgical industry had taken the lead in Scottish economy, and the development of the coal fields resulted in concentration of the iron industry in Ayrshire, Lanarkshire, Fife, Stirling, and West Lothian The new steamships of the later 19th cent were built on the Clydeside Concentration on heavy industry meant that Scotland was an important arsenal in the First World War It also meant that Scotland suffered heavily in the depression which followed the war and more especially when the depression of 1929 ruined the market for ships In the First World War Scotland was scarcely damaged, but great naval battles were fought off the Scottish shores, and the German fleet was sunk in the harbor of Scapa Flow In the Second World War Scotland shared with England the new air fields and encampments of allied soldiers, and heavy industries of coal, steel shipbuilding, and engineering supplied a great deal of British war material. Again Scotland did not suffer extensive bombing. The steady exodus of population from the Highlands, which in the latter half of the 19th cent. was increased by the seclusion of much land for deer parks and hunting, continued even after the Second World War, but an extensive program of reforestation and hydroelectric development, begun in a small way as early as 1922, was accelerated to make the Highlands profitably habitable. Immigration from Ireland partly replaced the laborers who emigrated.

Also, many new, diversified light industries were started to balance the concentration on heavy industry which had made the Scottish economy somewhat unbalanced Efforts to attract and entertain tourists have included building many modern hotels and the development of the Edinburgh festival of the arts Scotland's part in the social experiments of Great Britain has not lessened a persistent nationalist movement which urges greater autonomy for Scotland The oldest detailed history of Scotland is William Robertson, *The History of Scotland during the Reigns of Queen Mary and of King James VI* (2 vols, 1759) Sir Walter Scott, *Tales of a Grandfather* (4 Scottish series, 1828–31) is still a good introduction to Scotland by a sturdy Border conservative Two useful general histories are P Hume Brown, *History of Scotland* (3 vols, 1900–1909) and Andrew Lang, *A History of Scotland* (4 vols, 1900–07) Invaluable also are the series of studies by W L Mathieson *Politics and Religion a Study in Scottish History* (1902), *Scotland and the Union* (1905), *The Awakening of Scotland* (1910), and *Church and Reform in Scotland* (1916) Six self-contained volumes by A M Mackenzie make up a history of Scotland *The Foundations of Scotland to 1286* (1938), *Robert Bruce King of Scots, 1286–1329* (1935), *The Rise of the Stewarts, 1329–1513* (1935), *The Scotland of Queen Mary and the Religious Wars, 1513–1638* (1936), *The Passing of the Stewarts, 1638–1748* (1937), *Scotland in Modern Times, 1720–1939* (1941) There are several good short histories, among them G M Thomson, *A Short History of Scotland* (1930), Sir Robert Rait and G S Pryde, *Scotland* (1934), and A M Mackenzie, *The Kingdom of Scotland* (1940) See also E W Robertson, *Scotland Under her Early Kings* (1862), V Gordon Childe, *Prehistoric Scotland* (1940), Wallace Notestein, *The Scot in History* (1946), D H McNeill, *The Scottish Realm, an Approach to the Political and Constitutional History of Scotland* (1947), H M Chadwick, *Early Scotland* (1949)

Scotland, city (pop 1,204), SE S Dak, NW of Yankton, founded 1879 by Scottish settlers It is a farm trade center

Scotland, Church of, the established church of Scotland, PRESBYTERIANISM in a national form Under the leadership of John KNOX, the Scottish Reformation was deeply impressed with the influence of Calvin Following the signing of the First Covenant in 1557 by great barons and other nobles, Parliament abolished the jurisdiction of the Roman Catholic Church in Scotland in 1560 A new confession of faith was adopted by the Reformed Church and an organization on Presbyterian lines was begun The first General Assembly of the Church met in Edinburgh, and the *First Book of Discipline* was drawn up *The Second Book of Discipline* (1581) was ratified by Parliament in 1592 This definitely settled the Presbyterian form of government and the Calvinistic doctrine as the recognized Protestant establishment in the country But under James VI (from 1603 JAMES I of England) and the other Stuart rulers who followed, periods of restored episcopacy interrupted the progress of the new organization and were accompanied by confusion and protest In 1638 the National Covenant, a solemn promise to defend the Reformed religion, was signed, in 1643 the Solemn League and Covenant was signed in England as well as Scotland In 1647 the Westminster Confession was accepted In 1689, with William and Mary on the throne of England, religious liberty was secured, and the Act of Settlement (1690) made sure the establishment of the Church of Scotland Confirmation of its status was made in 1707, when the kingdoms of Scotland and England came together as one Questions on the connection between Church and state caused division and resulted in secessions from time to time, but in faith there was no diversity The most extensive break occurred in 1843, amounting to a "disruption" The new body formed was the Free Church of Scotland, under the leadership of Thomas CHALMERS In 1929 the United Free Church (except for a few congregations) was reunited with the Church of Scotland In 1944 women were made eligible for the office of eldership

Scotland, Free Church of, in general acceptance, the secession Presbyterian church established as a result of the great disruption of 1843 in the Church of Scotland The cause of the separation lay in trouble over the question of patronage, which by that time had developed into a question of civil jurisdiction in relation to spiritual In 1712 under Queen Anne an act was passed restoring patronage, previously abolished. Protests and remonstrances resulted In cases brought up for decision, civil and ecclesiastical courts did not agree Intrusion of ministers upon unwilling congregations became a serious issue Congregations everywhere were divided In 1843, after 10 years of conflict, in the General Assembly of the Church of Scotland a body of nonintrusionists signed a protest, withdrew, and constituted themselves the first Assembly of the Free Church Thomas CHALMERS was their leader and organizer. Over 400 ministers and professors who formed the center of the movement signed a deed of demission, giving up their claims to any benefits of the Established Church. There was no divergence from the accustomed doctrine, discipline, and worship New College at Edinburgh was established All but a minority of the Free Church in 1900 entered a union with the United Presbyterian Church as the United Free Church of Scotland In 1929 the body rejoined the Church of Scotland, except for a few congregations

Scotland Neck, town (pop 2,559), NE N C, near the Roanoke NE of Rocky Mount, settled 1722 The town has hosiery mills and processes peanuts

Scotland Yard, short street in London, named for a palace which in the 11th and 12 cent was the residence of Scottish kings when they visited England It became the site of the headquarters of the metropolitan police in 1829 New headquarters, known as New Scotland Yard, were established (1890) on the Thames The Criminal Investigation Department (CID), popularly known as "Scotland Yard," is part of it See J F Moylan, *Scotland Yard and the Metropolitan Police* (rev ed, 1934), B H Thomson, *The Story of Scotland Yard* (1935)

Scotstown, town (pop 1,273), SE Que, on the Salmon river and ENE of Sherbrooke It is a market center for a dairy and pig-raising region

Scott, Charles Prestwich, 1846–1932, English editor He headed (1872–1932) the Manchester *Guardian*, which became under his guidance the most distinguished and influential Liberal newspaper, noted for its editorials He was a member of the House of Commons from 1895 to 1905 See biography by J L Hammond (1934)

Scott, Cyril Meir, 1879–, English composer His compositions, influenced strongly by French impressionism, include several symphonies, operas, choral works, chamber music, songs, and piano pieces Greatly interested in mysticism and in science, he is the author of books on these as well as on musical subjects His writings include *Music Its Secret Influence throughout the Ages* (1933), *An Outline of Modern Occultism* (1935), and *Health, Diet, and Commonsense* (1940) See his autobiography, *My Years of Indiscretion* (1924), A Eagle-field Hull, *Cyril Scott, Composer, Poet, and Philosopher* (1918)

Scott, David, 1806–49, Scottish painter and illustrator Among his works are *Ariel and Caliban* and *Vintager* (National Gall, Edinburgh), portraits of Ralph Waldo Emerson (public library, Concord, Mass) and Dr John Brown, and illustrations for Coleridge's *Ancient Mariner* (1837 ed.) and Bunyan's *Pilgrim's Progress* (1857 ed) He wrote *British, French, and German Painting* (1841)

Scott, Duncan Campbell, 1862–1947, Canadian poet and civil servant, b Ottawa After graduation from Stanstead College, in 1879 he entered the Dept of Indian Affairs and eventually became head in 1913 He began publication with *The Magic House and Other Poems* in 1893 His earlier poems are collected in the edition of 1926, the later in *The Green Cloister* (1935) Recognition came slowly, but in 1921 he received the high honor of the Lorne Pierce medal from the Royal Society of Canada The subject matter of his poetry is various, but many of the best narratives, such as "The Forsaken," treat Indian life Also excellent are his nature poems and the elegy "Lines in Memory of Edmund Morris" His style is characterized by technical skill, restraint, and a melodic quality derived from his interest in music He also wrote excellent short stories and shared editorship of "The Makers of Canada," a historical biography series

Scott, Sir George Gilbert, 1811–78, English architect He was prominent in the Gothic revival as the designer of many public structures and director of a vast amount of restoration work upon Gothic edifices His restorations began with renovations of Ely Cathedral in 1847 and included Westminster Abbey (where he worked upon the north front and the chapter house) and many other cathedrals and churches His design for the Church of St Nicholas at Hamburg, Germany, won first place in competition in 1844 Among his other designs were the buildings (1860–70) for the home office and the foreign office, the ALBERT MEMORIAL in Kensington Gardens, and St Pancras Station, London He was president (1873–76) of the Royal Institute of British Architects and served as a professor of architecture and lecturer at the Royal Academy of Arts He was buried in Westminster Abbey His grandson, **Sir Giles Gilbert Scott,** 1880–, English architect, while still a pupil submitted designs in the competition for the proposed Liverpool Cathedral They were accepted (1903), but because of the winner's youth G F Bodley was placed in partnership with him After his associate's death (1907), Scott redesigned the cathedral and created a monumental modern Gothic structure King Edward VII laid the foundation stone in 1904, and it was consecrated in 1924 After its consecration Scott was knighted. His many works, chiefly ecclesiastical, include the War Memorial Chapel, Charterhouse; new buildings for Clare College, Cambridge, and a number of war memorials

Scott, Hugh Lenox, 1853–1934, U.S. army officer, b Danville, Ky, grad West Point, 1876 He was assigned (1876) to military service in the West. In the Sioux territory he learned the sign language and therefore was made a leader of many scouting parties and was called upon to settle misunderstandings between whites and Indians He was (1898–1903) adjutant general of Cuba In 1903 he was sent to the Philippines as commander of the troops and governor of the Sulu Archipelago, he abolished slavery and the slave trade in the archipelago He was (1906–10) superintendent of West Point, and after brief retirement he was (1913–14) head of a Texas border patrol before serving (1914–17) as chief of staff After service on a Russian mission, he saw action in France in the First World War and retired in 1919 Later he was a member of the Board of Indian Commissioners He wrote an autobiography, *Some Memories of a Soldier* (1928), and various monographs on the Plains Indians

Scott, James Brown, 1866–1943, American lawyer and educator, b Ontario He studied international law at Harvard and at Berlin, Heidelberg, and Paris He was dean of the law schools of the Univ of Southern California (1896–99) and the Univ of Illinois (1899–1903) and professor of law at Columbia and George Washington universities and the Univ. of Chicago. He was solicitor of the Dept of State (1906–10), delegate to the Second Hague Peace Conference (1907), and arbitrator in international disputes He was secretary of the Carnegie Endowment for International Peace (1910–40) and president of the American Institute of International Law (1929–40) He edited (1907–24) the *American Journal of International Law* His books include *The Hague Peace Conferences of 1899 and 1907* (2 vols, 1909) and *Law, the State, and the International Community* (2 vols, 1939)

Scott, John see ELDON, JOHN SCOTT, 1ST EARL OF

Scott, Robert, 1811–87, English classical scholar, grad Christ Church College, Oxford, 1833 Ordained in 1835, he was master of Balliol College (1854–70) and dean of Rochester from 1870 to his death He collaborated with Henry George Liddell in compiling the much-used *Greek-English Lexicon* (1843, new ed, 2 vols, 1925–40)

Scott, Robert Falcon, 1868–1912, British naval officer and antarctic explorer He commanded two noted expeditions to ANTARCTICA The first expedition (1901–4) in the *Discovery*, organized jointly by the Royal Geographical Society and the Royal Society and well equipped for scientific research, was concerned with exploration of the region about the Ross Sea Scott's achievements included sounding the sea, discovering King Edward VII Land (now known as Edward VII Peninsula), surveying the coast of Victoria Land, and making a long, important exploring trip on the antarctic continent itself E H SHACKLETON was a member of Scott's expedition from 1901 until he was invalided home in 1903 Upon Scott's return to England he was promoted captain in the navy and wrote an account of his expedition, *The Voyage of the "Discovery"* (1905) In 1910 he again set forth for Antarctica, this time in search of the South Pole His *Terra Nova* reached its base on the Ross Sea in 1911, and in November he started southward on foot toward the pole Scott and his four companions pulled their heavy sledges by hand across the high polar plateau, in sub-zero weather the whole way When they reached the South Pole on Jan 18, 1912, it was to find that Roald AMUNDSEN had preceded them by about one month On their retreat the heroic party was beset by illness, lack of food, frostbite, and blizzards All five members died, the last three overwhelmed by a blizzard when but a few miles from their depot Their bodies were later recovered, together with Scott's diaries, the records, and the valuable scientific collections Scott's journey constitutes one of the epic events of British exploration His diaries and the scientific findings of the expedition are contained in *Scott's Last Expedition* (2 vols, 1913) See biographies by S L Gwynn (1929) and Martin Lindsay (1934)

Scott, Thomas, 1747–1821, English clergyman and Bible commentator Ordained priest in 1773, he served in several curacies In that of Olney he was the successor of John Newton, through whose influence his religious views had been changed from Unitarianism to extreme Calvinism This experience Scott recorded in *The Force of Truth* (1779), which was revised by William Cowper and has passed through a number of editions In 1801 he became vicar of Aston Sandford, Buckinghamshire His most notable work, a commentary on the Bible (4 vols, 1788–92), many times reissued, was considered one of the theological achievements of the period in England His works (10 vols, 1823–25) and his letters and papers (1824) were edited by his son See biography by A C Downer (1909).

Scott, Thomas Alexander, 1823–81, American railroad president, b Fort Loudon, Franklin co, Pa. He entered the employ of the Pennsylvania RR as a station agent in 1850 and rose to become general superintendent (1858) and first vice president (1860) His efficiency in transporting Pennsylvania troops at the beginning of the Civil War won him a

lieutenant colonelcy of volunteers, and from Aug, 1861, to June, 1862, he was Assistant Secretary of War (an office newly created by Congress) in charge of all government railroads and transportation lines At various times later he was called upon to advise the government on the operation of its railroads After the war he was active in promoting the enormous expansion of the Pennsylvania system, of which he was president (1874–80) He was also president of the Union Pacific (1871–72) and of the Texas Pacific (1872–80) See S R Kamm, *The Civil War Career of Thomas A. Scott* (1940)

Scott, Sir Walter, 1771–1832, British novelist and poet, b. Edinburgh He attended (1783–86, 1788–92) the Univ of Edinburgh and after apprenticeship to his father, who was a writer to the signet, was called to the bar in 1792 Infantile paralysis in his second year left him lame, his convalescence began his association with the Border countryside which he continued in his vacations from legal practice He married Charlotte Carpenter in 1797 and in 1799 was made sheriff-deputy of Selkirkshire Scott's first published work was a translation of two ballads from the German of Bürger (1796), followed by a translation of Goethe's *Götz von Berlichingen* (1799) His *Minstrelsy of the Scottish Border* (2 vols, 1802, enl ed, 3 vols, 1803) was his impressive collection of old ballads with introductions and notes, it led naturally to his first major poem, *The Lay of the Last Minstrel* (1805) He was busy with editions of standard works, including one of Dryden (1808), with contributions to the *Edinburgh Review* and the *Quarterly Review* (which he helped to found), and with his own creative work His second poem, *Marmion*, appeared in 1808 In 1809 a quarrel with Constable and Company, the publishers of *Marmion*, led Scott to supply three fourths of the capital in a reorganization of the Ballantyne printing firm in which he had had an interest since 1805 As publishers the firm began well with Scott's poem *The Lady of the Lake* (1810), but other ventures were less fortunate A court clerkship assured Scott, after 1812, of a moderate steadv income, but his later long poems, *The Vision of Don Roderick* (1811), *Rokeby* (1813), and *The Bridal of Triermain* (1813), were coolly received In 1813 a financial crisis caused Scott to dissolve his publishing firm, return to Constable, and assume responsibility for the Ballantyne printing firm His first novel, *Waverley* (1814), was an immediate success, and though he was technically anonymous until 1827, he became the most popular British novelist In contrast, his next poems, *The Lord of the Isles* (1815) and *Harold the Dauntless* (1817), failed, and he wrote no more verse tales There followed romances of Scottish life—*Guy Mannering* (1815), *The Antiquary* (1816), *The Black Dwarf* (1816), *Old Mortality* (1816), *Rob Roy* (1818), *The Heart of Midlothian* (1818), *The Bride of Lammermoor* (1819), and *The Legend of Montrose* (1819) *Ivanhoe* (1820), Scott's first prose reconstruction of a long-past time, was his first venture into English history His public acclaim grew, and in 1820 Scott was gazetted a baronet His financial affairs were in precarious shape, since he was meeting Ballantyne's obligations out of advances from Constable and was expanding his estate of Abbotsford (purchased in 1812) Most of the novels of the succeeding years were of the *Ivanhoe* style of reconstructed history, *The Monastery* (1820), *The Abbott* (1820), *Kenilworth* (1821), *The Pirate* (1822), *The Fortunes of Nigel* (1822), *Peveril of the Peak* (1822), *Quentin Durward* (1823), *The Betrothed* (1825), and *The Talisman* (1825) In *St Ronan's Well* (1824), however, Scott attempted a novel of manners, and in *Redgauntlet* (1824) he reverted to the background and treatment of his early novels In 1825 an English depression brought ruin to Constable, to Ballantyne's, and to Scott Refusing to go through bankruptcy, Scott assigned to a trust his property and income in excess of his official salary and set out to pay his debt and much of Constable's The next few years' work included *Woodstock* (1826), a life of Napoleon (1827), *Chronicles of the Canongate* (1827), *The Fair Maid of Perth* (1828), *Anne of Geierstein* (1829), three series of history for children (*Tales of a Grandfather*, 1828, 1829, 1831), and much hack work Scott's health was failing, however, and after finishing (1831) *Count Robert of Paris* and *Castle Dangerous*, he went abroad to rest, returning only to die The remainder (less than half) of the debt he had assumed was paid from the earnings of his books. Scott with his swinging narrative poems had introduced a form of verse tale which won great popularity, his lyrics and ballads, such as "Lochinvar" and "Proud Maisie," are masterly in feeling and technique In his novels, models for later historical fiction, he excelled in re-creating the spirit (if not the letter) of great events and in painting realistic pictures of Scottish life, although some of his heroes now seem wooden and his plots mechanical. See Scott's journal for 1825–32 (ed. by David Douglas, 2 vols, 1890) and for 1825–26 (ed by J G. Tait, 1939) and his letters (ed. by Sir H. J. C Grierson and others, 12 vols., 1932–37), the classic biography by his son-in-law, J. G. Lockhart (7 vols, 1837), biographies by John Buchan (1932) and Sir H. J C. Grierson (1938)

Scott, Walter, 1867–1938, Canadian journalist and statesman, b London, Ont. From 1892 to 1906 he was engaged in newspaper work, editing and publishing various papers. A member of the House of Commons from Assiniboia West in 1900 and 1904, he was instrumental in securing the creation of the provinces of Saskatchewan and Alberta A noted Liberal, he was premier of Saskatchewan from 1905 until 1916 He was also president of the council and minister of education

Scott, Walter, 1872–, American adventurer, b near Covington, Ky He is called "Death Valley Scotty" A rider in Buffalo Bill's Wild West Show, Scott established himself c 1903 in Death Valley as a prospector He claimed to have discovered a secret gold mine In 1905 he achieved notoriety by chartering a train to run from Los Angeles to Chicago in the unprecedented time of slightly less than 45 hr He built a "castle" in Death Valley, reputedly costing more than $2,000,000, which has become a tourist show place His mysterious source of wealth was finally discovered to be two backers, the chief of whom was A M Johnson, a retired insurance man from Chicago See C. P. Milligan, *Death Valley and Scotty* (1942)

Scott, Walter Dill, 1869–, American psychologist and educator, b Cooksville, Ill, grad Northwestern Univ, 1895, Ph D Leipzig, 1900 He taught psychology at Northwestern Univ from 1901 to 1920 and was president from 1920 to 1939 He specialized in business psychology, particularly personnel management, and wrote many books in his field He devised the personnel system in the U S army in the First World War

Scott, Winfield, 1786–1866, American general, b "Laurel Branch," near Petersburg, Va He attended the College of William and Mary briefly in 1805 before studying law at Petersburg Abandoning the law, he was commissioned a captain of light artillery in 1808 and was made a lieutenant colonel on the outbreak of the War of 1812 Scott was one of the few U S army officers to distinguish himself in that conflict He fought well at Queenston Heights (Oct, 1812) but was captured Exchanged, he was made (March, 1814) a brigadier general and sent again to the Niagara frontier The thorough training he gave his brigade paid off in July as it chased the British at Chippewa and bore the brunt of the fighting at LUNDY's LANE, where Scott was severely wounded Scott became a hero and was brevetted major general In 1815–16 he visited Europe, where he studied French army practices His army career, following his return, was a long and varied one He was to participate in the Black Hawk War (1832), but cholera broke out among his troops Later that year, however, President Andrew Jackson personally dispatched him to Charleston, S C, during the nullification troubles, and Scott ably handled the potentially explosive situation He served in the Seminole and Creek campaigns and in 1838 supervised the removal of the Cherokee to the Southwest His talent for peacemaking was further revealed in 1838, when he was sent to the Canadian border in the CAROLINE AFFAIR, and again in 1839, when he went to Maine during the so-called AROOSTOOK WAR From July, 1841, when he succeeded Gen Alexander MACOMB, to Nov, 1861, when he retired in favor of Gen George B MCCLELLAN (1826–85), Scott was the supreme commander of the U S army In the Mexican War, Scott personally headed the southern expedition, after Gen Zachary Taylor, whom he had endorsed, had already begun his northern campaign With the cooperation of the navy, he took Veracruz early in 1847 and then began the long march inland to Mexico city CERRO GORDO fell (April, 1847), and Scott's army entered Puebla, where it remained inactive for several months In August the Americans recommenced their advance Fighting at CONTRERAS and Churubusco preceded the attack on the outposts of Mexico city. An engagement at Molino del Rey was followed by the storming of CHAPULTEPEC, which fell on Sept 13, 1847, and the way was clear to the capital The campaign was a triumph for Scott's daring strategy and confirmed his reputation as a bold fighter Scott had objected violently to the actions of Nicholas P TRIST in his peace negotiations when the army was at Puebla, and trouble between the two men caused some embarrassment at home, but after the capture of Mexico city, the quarrel between the general and the envoy subsided However, Scott was a Whig, and in Jan., 1848, he was recalled by the Democratic administration of James K. Polk. Although he was severely criticized by his political enemies in the United States, Scott returned from the Mexican War even more of a national hero. The charges leveled at him because of the criticisms of a few officers were withdrawn, and he was brevetted a lieutenant general. In 1852 he was nominated as the Whig candidate for President (chiefly through the agency of Thurlow WEED), but the Whig party was disintegrating, and he made a poor showing against his Democratic opponent, Franklin PIERCE. In 1859 he once more took a hand in a boundary contest, going to Washington Territory in an effort to settle the SAN JUAN BOUNDARY DISPUTE. The outbreak of the Civil War brought onerous burdens to the general, who, though a Southerner by birth, opposed secession and was loyal to the Union. He wished some delay before any military action was taken so that the civilian army could be more adequately trained The disastrous first battle of Bull Run, fought despite his wishes, bore out his views Old and in failing health, Scott was compelled to retire on Nov 1, 1861. President Lincoln and his whole cabinet paid him a formal call in fitting tribute to his long and honorable service to the nation Scott lived to see the Union victorious in the Civil War, in which many of the leading commanders on both sides, notably Robert E Lee and Ulysses S Grant, had received their most valuable training under him in Mexico He is buried at West Point, an institution he did much to foster In 1947 a monument to him was unveiled in Elizabeth, N J, where he lived for some years Although he was vain and pompous ("Old Fuss and Feathers" he was called), Scott was also generous to a fault His fair-mindedness and love of justice mitigated the severity of the stern discipline he was wont to lay down Considerate of his officers and solicitous for the welfare of his men, he always had the unlimited confidence of both groups, for they had firsthand knowledge of his superior military abilities In nonmilitary matters, excluding his diplomatic ventures, his tendency to be quarrelsome and his faculty for "putting his foot in it" made him far less successful However, it is not possible to dispute the statement that he was the greatest American general between Washington and Lee His memoirs (2 vols) appeared in 1864 The definitive biography is by Charles W Elliott (1937) See also biography by Arthur D Howden-Smith (1937)

Scott City, city (pop 1,848), co seat of Scott co, W central Kansas, N of Garden City, in an irrigated region, inc 1887 Dairy products are made here In a state park north of the city are the remains of an Indian pueblo, El Cuartelejo, and also a buffalo preserve In a near-by canyon was fought (1878) the last battle with Indians in Kansas

Scottdale, industrial borough (pop 6,493), SW Pa, near the Youghiogheny river SE of Pittsburgh, laid out 1872, inc 1874 It manufactures coffins, iron allovs, sheet metal, and mining supplies

Scotti, Antonio (skō'tē), 1866–1936, Italian operatic baritone He made his debut in Malta in 1889, his London debut as Don Giovanni at Covent Garden in 1899, and his American debut in Chicago the same year From 1899 to 1933 he was immensely popular at the Metropolitan Opera House, both for his acting and for his vocal artistry Among his outstanding roles were Iago in *Otello*, Scarpia, a role he created, in *La Tosca*, and Hans Sachs in *Die Meistersinger*

Scottish dialect, English dialect of the Lowlands Since the English speech area is continuous, no boundary sets off Scottish, it is a northern modern form of the Old English of Northumbria Scottish has had a distinct existence in literary form since the Middle Ages In the 11th cent it gained as the language of the courts, and Malcolm III, abandoning Scottish Gaelic, made Scottish the official language *The Bruce*, by John Barbour, dating from the 14th cent, is the oldest literary monument in the Scottish dialect Early great Scottish poets were James I, Robert Henryson, William Dunbar, and Gawin Douglas, all Chaucerians The history of Scottish grammar roughly parallels that of standard English (see ENGLISH LANGUAGE), with loss of inflections and consequent modification of syntactical forms In the details of its sound changes, Scottish frequently differs from standard English, for instance, Old English *hām* (hām) has become modern English *home* (hōm), but modern Scottish *hame* (hām) In vocabulary Scottish is more archaic than standard English, retaining in semicultivated speech many words which have been lost in all but the most rustic forms of English After a golden age during the 15th and early 16th cent, Scottish declined as a medium for literary expression, and since the beginning of the 17th cent, English has made continual inroads into the Scottish vernacular For this decline of Scottish two reasons may be assigned, the accession of the house of Stuart to the English throne with the loss of a Scottish national self-consciousness and the use throughout Scotland of the English Bible. A notable literary revival of Scottish took place in the 18th cent, with Allan Ramsay, Robert Fergusson, and Robert Burns as the leading figures

Scottish Gaelic language and literature: see GAELIC and GAELIC LITERATURE

Scottish terrier: see TERRIER.

Scottsbluff (skŏts' blŭf'), city (pop. 12,057), W Nebr, on the north bank of the North Platte, in the Great Plains region near the Wyo. line, settled after 1885, laid out 1899, inc. 1900. It grew as the commercial and industrial center of an irrigated farm area. It has beet-sugar factories, creameries, and flour mills. An agricultural experiment station is here. The city is named for a near-by butte, Scotts Bluff (alt. 4,649 ft), landmark to travelers

of the Oregon Trail. Oregon Trail Museum is in Scotts Bluff National Monument (see NATIONAL PARKS AND MONUMENTS, table) across the river.

Scottsboro, city (pop. 2,834), co seat of Jackson co, NE Ala., near the Tennessee river at the edge of the Cumberland Plateau, in a farm area. The city gave its name to the famous Scottsboro Case.

Scottsboro Case. On March 31, 1931, nine Negro boys were indicted at Scottsboro, Ala., on charges of having raped two white girls (Ruby Bates and Victoria Price) in a gondola car of a Southern RR freight train passing through Jackson co., Ala., on its way to Memphis. Eight of them (the ninth was only 13 years old) were tried, convicted, and sentenced to death early in April. In March, 1932, the Alabama supreme court affirmed the conviction of seven, the eighth was also a juvenile. The belief that the case against them was unproved and that the verdict was the result of anti-Negro feeling in Alabama caused Northern liberals and radicals to come to the defense of the boys, and the Scottsboro Case became a *cause célèbre*. The decision was appealed to the U.S. Supreme Court, which declared (Nov., 1932) a mistrial on the grounds that the defendants' right to counsel had been infringed. In March, 1933, a change of venue was granted, and Haywood Patterson, called by the prosecution the ringleader of the defendants, was retried at Decatur, county seat of Morgan co., Ala. Despite Ruby Bates's recantation of her previous testimony, the jury convicted Patterson and imposed the death penalty (April). However, in June, Judge James E. Horton set aside the conviction on the ground that it was against the weight of evidence and granted a new trial (Horton was defeated for reelection the next year). At this third trial Patterson was again convicted (Dec., 1933), as was Clarence Norris shortly afterwards, both were again sentenced to death. Once more the case was appealed, and in April, 1935, the U.S. Supreme Court reversed the convictions on the grounds that Negroes had been excluded from the juries which had indicted and tried the boys. In Nov., 1935, at Scottsboro, a grand jury of 18, which included one Negro, returned new indictments charging rape against all nine of the boys. Patterson, tried again at Decatur, was convicted by an all-white jury (Jan., 1936) and sentenced to 75 years in prison. The trials of the remaining defendants were postponed until July, 1937, when three more were convicted and sentenced—Clarence Norris (execution), Andy Wright (99 years), and Charlie Weems (75 years). The indictments against the remaining five defendants were quashed. Ozzie Powell, who pleaded guilty to attacking with a knife one of the deputy sheriffs who were transferring the prisoners, was sentenced to 20 years for that assault. The remaining four defendants—Olen Montgomery, Willie Roberson, Eugene Williams, and Roy Wright—were freed. Norris's death sentence was later commuted to life imprisonment by Gov. Bibb Graves. The dropping of the indictments was later attributed by the chief defense counsel, Samuel Leibowitz of New York, to a compromise offered by the Alabama authorities by which all the defendants save Powell were to go free in two years. Patterson's petition for a review of his sentence by the U.S. Supreme Court on the ground that a fair trial in the county court had been impossible was denied in Oct., 1937. In Feb., 1940, the Alabama pardon and parole board began to consider the cases of the imprisoned five, and by Sept., 1946, when Clarence Norris was freed on parole, only Haywood Patterson remained in prison. However, Andy Wright was returned (Oct., 1946) to prison for having violated the terms of his parole. Patterson later escaped and early in 1950 remained a fugitive. The fact that Communists used the Scottsboro boys for propaganda purposes further complicated the affair. The ultimate freeing of most of the defendants was, however, the result of unceasing labor by the Scottsboro Defense Committee, headed by the Rev. Allan Knight Chalmers, which, formed in Dec., 1935, for the most part represented liberal, non-Communist organizations. See Scottsboro Defense Committee, *The Scottsboro Case* (1936, a pamphlet), Haywood Patterson and Earl Conrad, *Scottsboro Boy* (1950).

Scottsburg, town (pop. 2,189), co. seat of Scott co., SE Ind., W of Madison.

Scottsville, town (pop. 1,797), co. seat of Allen co., S Ky., SE of Bowling Green and near the Tennessee line, in a farm, timber, and oil area.

Scottville, city (pop. 1,162), N Mich., on the Pere Marquette river and E of Ludington, settled 1876, inc. as a village 1889, as a city 1907. It is a farm trade center with canneries. Indian mounds are in the vicinity.

Scotus: see ERIGENA, JOHN SCOTUS, and DUNS SCOTUS.

scouring rush: see HORSETAIL.

scouting: see BOY SCOUTS and GIRL SCOUTS.

Scranton, George Whitefield, 1811–61, American manufacturer, b. Madison, Conn. With his brother Selden he bought (1839) the lease and stock of the ironworks of Oxford Furnace (near Washington, N.J.). The next year, with several others, Scranton formed a company to obtain large tracts of coal-bearing lands in the Lackawanna valley, including the site of Scranton, Pa., which he laid out. By 1842 he had developed the use of anthracite for smelting ore. Later he organized and was president of the Northumberland division of the Delaware, Lackawanna & Western RR and was a Republican Congressman from 1859.

Scranton. 1 Town (pop. 1,014), central Iowa, W of Boone, inc. 1880. It is a farm trade center. 2 City (pop. 140,404), co. seat of Lackawanna co., NE Pa., in a mountainous region, on the Lackawanna river and c. 135 mi. NW of New York city, settled late in the 18th cent., laid out 1841, inc. 1866. Named for George W. SCRANTON, it is the commercial and industrial center of the anthracite section of NE Pennsylvania. Its industries include silk, machinery, munitions, and metal products. The Univ. of Scranton (Catholic, for men, 1892), Marywood College, and the International Correspondence Schools are here. The Everhart Museum of Natural History, Science, and Art and the Pennsylvania State Oral School for the Deaf are in Scranton.

screen, in architecture, a partition or enclosure not extending to the ceiling. It is usually a structure of decorative openwork. Although any open colonnade or arcade enclosing a courtyard or the like is called a screen, the most common use of the term is Gothic and ecclesiastical, applied to a dwarf wall or decorated and pierced partition of stone, wood, or metal, frequently serving to mark the boundaries of portions of churches and cathedrals. The choir screen, or chancel screen, the most usual form, separates the choir or chancel from the body of the church, in some cases it is carried around the *chevet* to enclose the choir entirely. In many medieval cathedrals, the choir screen was a richly decorated structure of pierced stonework, often with sculpture. The screens of the cathedrals of Chartres and Albi in France and of York, Lincoln, and Durham in England are especially noteworthy. Many English parish churches contain fine screens of carved and painted wood. In the basilican churches of Italy, such as San Miniato al Monte at Florence, the chancel front was often marked by an elaborate inlaid marble parapet wall. With the coming of the Renaissance, the constructing of chancel screens became rare except in Spain, where *rejas* of ironwork or bronze were extensively employed (see GRILLE). In Greek Christian churches, the choir screen takes the form of a solid partition, the iconostasis, decorated with holy images (whence its name) and usually provided with three doors. It entirely separates the sanctuary from the body of the church and conceals from the congregation the altar and the celebration of Mass. The haikal is a corresponding screen wall in the Coptic churches of Egypt and in other Eastern Christian churches. The rood screen is a more elaborate form of choir screen which bears the ROOD or crucifix and is sometimes surmounted by a gallery or elevated platform called the rood loft, from which the lessons may be read or sermons preached. A jube is a choir screen equipped with balconies for clerical reading or preaching. A REREDOS is a wall or screen behind the high altar. As an article of furniture, the folding sectional screen is of great antiquity, dating in China from the 2d cent. B.C. Widely used to adorn palaces and mansions, the screens of China and Japan were often gorgeous conceptions with carved wood frames, paneled and inlaid with jade or precious metals, or rich textiles, and the art of screen painting reached superb heights. The use of the folding screen, often showing Oriental influences, has continued to the present day, in various textiles, stamped or painted leathers, and other materials. The term *screen* is applied rather indiscriminately to various forms of covered frameworks, often portable, whose purpose is to conceal or shield from injury, e.g., the fire screen or the window screen, the term is also used of diverse kinds of openwork barriers, such as a bank screen, a low partition of glass or metal which in banks separates the public space from the tellers' cages. See Francis Bond, *Screens and Galleries in English Churches* (1908), Aymer Vallance, *English Church Screens* (1936).

screw, simple MACHINE consisting essentially of a cylinder (usually of metal) around which an INCLINED PLANE winds spirally, either clockwise or counterclockwise. The ridge forming the inclined plane is called the thread, the distance from any point on one thread to a corresponding point on the next successive thread is called the pitch. A thread can be placed on the inner surface of a hollow cylinder. Two screws of the same pitch, one on the outer surface of a solid cylinder and the other on the inner surface of a hollow cylinder, can be so arranged as to revolve one within the other, as in the common nut and bolt. The thread on the convex surface of the bolt is called the external or male screw, that on the concave surface of the nut, the internal or female screw. The common jackscrew used to lift automobiles, houses, and other heavy objects is an application of this principle. The internal screw is situated in the base, the external screw on a metal cylinder; at the top of the cylinder a lever or handle is fastened. As the handle is rotated, the external screw moves up the internal screw and the object placed on top of the jack is lifted. The mechanical advantage of the jackscrew, as of any other screw, is theoretically the ratio between the circumference through which the end of the handle moves and the pitch of the screw. Since, however, there is much friction in the operation of a screw, the amount of WORK put into this machine is much greater than the amount done, and the efficiency is small. On the other hand, the small effort necessary to turn the handle, when compared to the enormous load raised, makes such a machine of great value. The screw is often used for making delicate adjustments of tools and machines, e.g., in the micrometer screw and in the carburetor of the gasoline engine (for regulating the flow of gasoline). Wood and metal screws, the carpenter's and machinist's vise, the PROPELLER of a boat or airplane, ARCHIMEDES' SCREW, and many other devices are applications of the screw.

Scriabin, Aleksandr Nikolayevich (ŭlyĭksan'dur nyĭkŭlā'uvĭch skrē-ŭbēn', skrēä'bĭn), 1872–1915, Russian composer and pianist. He studied at the Moscow Conservatory, where he later taught, 1898–1903. In his piano compositions he introduced chords built in fourths instead of the conventional major and minor triads. He aspired toward a fusion of the arts, and his *Divine Poem* (1903), a programmatic orchestral work, attempts to unite music and philosophy. *Prometheus: a Poem of Fire* (1909–10) calls for the play of colored light upon a screen during the performance. A projected composition, *Mystery*, which would employ the media of all the arts, including colors and scents, was never realized. See biographies by A. E. Hull (1918) and A. J. Swan (1923), M. D. Calvocoressi and Gerald Abraham, *Masters of Russian Music* (1936).

Scribe, Augustin Eugène (ôgüstĕ' üzhĕn' skrēb'), 1791–1861, French dramatist and librettist. He began his writing career with vaudeville sketches and was soon to revolutionize 19th-century French opera with an influx of liberal political and religious ideas and a brilliant dramatic technique. One of the first to mirror bourgeois morality and life, Scribe wrote librettos for Boieldieu's *Dame blanche* (1825), Jacques Halévy's *La Juive* (1835) and *Manon Lescaut* (1856), and Verdi's *Vêpres siciliennes* (1855). Scribe also collaborated with the composers AUBER and MEYERBEER.

scribe (skrīb), originally a Jewish scholar who knew the art of writing, later one of the official teachers of Jewish law as based upon the Old Testament and accumulated traditions. The work of the scribes developed into the Oral Law, as distinct from the Written Law of the Torah. The name in its official designation of teacher was first applied to EZRA, c. 444 B.C., and last to Simeon the Just. These scribes lost their religious leadership in the 1st cent. A.D. and were followed by the Tannaim (plural of Tanna), scholars and teachers of the Oral Law who flourished between A.D. 10 and A.D. 220. The Mishna, begun by HILLEL and SHAMMAI and completed by Judah I (the last Tanna), and the Baraithas are the work of this group. Other prominent Tannaim were Gamaliel I, Johanan ben Zaccai, who founded the academy at Jamnia, and Akiba ben Joseph. They were succeeded by the Amoraim, who developed the Gemara of the TALMUD and established the famous academies of Sura and Pumbedita. From c. 200 to 350 they flourished in Palestine, and subsequently in Babylon. Among the most prominent Amoraim were Rab, Abbahu, and Ashi, compiler of the Babylonian Talmud. Their activities ceased by the beginning of the 6th cent., and the labors of the Saboraim began, the latter disappeared before the century was over, having completed the Babylonian Talmud. They were followed by the Geonim, who became the authoritative interpreters of the Old Testament and the Talmud in its relation to the changed social and economic conditions of the Jews. The title Gaon was applied to the heads of the academies of Sura and Pumbedita in Babylon. Saadia was the greatest of the Sura Geonim, Sherira and his son Hai the most important of the Pumbedita Geonim. The period of the Geonim ended with the death of Hai in 1038.

Scriblerus Club, English literary group formed (1713) to satirize "false tastes in learning." ARBUTHNOT, GAY, Thomas PARNELL, POPE, and SWIFT were among its members. Meetings of the club as such apparently did not continue after 1714. The club's major production was "Memoirs of Martinus Scriblerus," published in Pope's prose works (1741), but almost entirely—if not entirely—by Arbuthnot. The influence of the club is seen in Swift's *Gulliver's Travels* (1726) and Pope's *Dunciad* (1728). See R. J. Allen, *The Clubs of Augustan London* (1933), George Sherburn, *The Early Career of Alexander Pope* (1934).

Scribner, Charles, 1821–71, American publisher, b. New York city, grad. College of New Jersey (now Princeton Univ.), 1840. He founded in 1846 the publishing house which in 1878 became Charles Scribner's Sons and began *Scribner's Monthly* in 1870 (in 1881 it became the *Century Magazine*)

His son, **Charles Scribner,** 1854–1930, b New York city, grad Princeton, 1876, became head of the firm in 1879 and founded *Scribner's Magazine* in 1887 He was the donor of the Princeton Univ Press building

scrip, temporary substitute for money, securities, or other valuable claims Business enterprises and municipalities have at times, especially when short of cash, paid employees in scrip, and communities have facilitated trade by using it Various devices have made it acceptable, e g , a store that would receive it in exchange for goods The term *scrip* has also been applied to money of fractional denominations

Scripps, Edward Wyllis, 1854–1926, American newspaper publisher, b Rushville, Ill His brother James Scripps, publisher of two Detroit papers, gave him his start in journalism E W Scripps's first independent venture was starting the Cleveland *Penny Press* (later the *Press*) in 1878 As Scripps founded other papers, he set up, with his manager, Milton A McRae, and his brother George Scripps as partners, the Scripps-McRae League, a powerful chain of newspapers, liberal in politics and crusaders for labor It developed its own news service, and in 1907 Scripps set up the United Press Association, with Roy W Howard as manager from 1908 McRae left the Scripps papers in 1914 Scripps also organized the Newspaper Enterprise Association to furnish his papers with features, cartoons, and illustrations In 1920 he started the Science Service for newspapers, later he endowed a foundation for population research at Miami Univ, Oxford, Ohio, and the Scripps Institution of Oceanography at La Jolla, Calif, connected with the Univ of California Scripps was paralyzed in 1917 and retired in 1922 His son, Robert P Scripps, soon afterward made Roy Howard a partner, and the newspaper chain was known as the Scripps-Howard papers See biographies by Gilson Gardner (*1932*) and N D Cochran (1933)

Scripps College see CLAREMONT COLLEGE

Scripps Institution of Oceanography, at La Jolla, Calif, since 1912 part of the Univ of California.

scrofula. see TUBERCULOSIS.

Scroggs, Sir William, 1623?–1683, English jurist Trained in law at Gray's Inn, he fought for the king in the civil wars, became (1669) a king's sergeant, was made (1676) justice in common pleas through the influence of the earl of Danby, and became (1678) lord chief justice In the early trials for the alleged Popish Plot (see OATES, TITUS) Scroggs discriminated against and abused Catholic defendants notoriously, but in the case of Sir George Wakeman (1679), the queen's physician, who was accused of plotting to poison the king, Scroggs changed his stand, impugned the testimony of Oates and his fellow conspirators, and brought about the acquittal of Wakeman Subsequently, Scroggs was one of the justices who discharged the grand jury which was to consider the impeachment of the duke of York (later James II) as a Catholic recusant Scroggs was attacked by fanatical Protestants as having yielded to court pressure An effort was made (1681) to impeach and try him, but it failed because of the dissolution of Parliament by Charles II Scroggs was supplanted on the bench, however, and retired on a pension from the crown

scroll sawing see FRETWORK

Scrooby, village, Nottinghamshire, England, SE of Doncaster It was the home of William BREWSTER and center of the group later called the Pilgrims

Scrope, Richard Le (lu skrōōp), 1350?–1405, English archbishop He probably studied law at both Oxford and Cambridge and took priest's orders in 1377 He rose steadily in church rank In 1386 he was made bishop of Coventry and Lichfield, and in 1398 at the request of Richard II the pope made Scrope archbishop of York He at first supported Henry IV, but in 1405 he issued an indictment of Henry's government and raised an armed body of supporters By the guile of the leader of the king's forces, the earl of Westmorland, Scrope was arrested and imprisoned He was convicted, and his execution, held at York as an example to the people, tended to elevate him as a martyr

Scrope of Bolton, Richard le Scrope, 1st **Baron,** 1327?–1403, English chancellor He fought at Neville's Cross (1346) and in many French and Scottish campaigns For many years he was in the service of John of Gaunt and fought with him at Nájera (1367). Scrope became treasurer in 1371, warden of the West Marches in 1375, and steward of the royal household in 1377. He twice served as chancellor (1378–80, 1381–82), finally resigning after refusing to apply the seal to the lavish grants of Richard II In 1385 Scrope began his celebrated controversy with Sir Robert Grosvenor over the use of the same heraldic arms which ended, after a five-year trial, in his favor Scrope was named in 1386 to the reform commission but continued to serve Richard after the king regained power and pardoned him in 1397.

Scudder, Henry Martyn, 1822–95, American missionary and clergyman, b. Ceylon, the son of a missionary. He was educated at New York Univ and Union Theological Seminary In 1844 he went to India under the auspices of the American Board He worked for several years in Madras, then founded a mission and dispensary in the Arcot region for the board of the Dutch Reformed Church Returning (1864) to the United States, he filled pastorates in Jersey City, San Francisco, and Brooklyn and at Plymouth Congregational Church, Chicago From 1887 to 1890 he was with his son and daughter in the mission field of Japan He published several works in the Tamil language of India

Scudder, Horace Elisha, 1838–1902, American editor and writer, b Boston, grad Williams, 1858 He was editor (1890–98) of the *Atlantic Monthly,* and for Houghton Mifflin he directed the "American Commonwealth Series" and the Cambridge Edition of the Poets He wrote many juvenile stories—among them the popular Bodley series—and a study, *Childhood in Literature and Art* (1894) His biographies include those of Bayard Taylor (with Marie Hansen Taylor, 1884) and James Russell Lowell (1901)

Scudder, Janet, 1873–1940, American sculptor, b Terre Haute, Ind , studied at the Art Academy of Cincinnati, under Lorado Taft at the Art Institute of Chicago, and in Paris Her fountains and other garden figures, usually joyous, playful children, are widely known Among them are the *Frog Fountain* (Metropolitan Mus), the *Tortoise Fountain* (Peabody Inst , Baltimore), *Fighting Boy Fountain* (Art Inst , Chicago), *Seated Faun* (Brooklyn, N Y , Mus), *Young Diana,* and others She is represented by portrait medallions in the Library of Congress and in the Luxembourg Museum, Paris She lived in France for many years. See her autobiography, *Modeling My Life* (1925)

Scudder, Samuel Hubbard, 1837–1911, American entomologist, b Boston, grad Williams (B A , 1857) and Harvard (B S , 1862), brother of H E Scudder The founder of American insect paleontology and an authority on Orthoptera and Lepidoptera, he was assistant to Louis Agassiz (1862–64), custodian of the Boston Society of Natural History (1864–70), assistant librarian of Harvard (1879–82), and paleontologist of the U S Geological Survey (1886–92) His works include *A Century of Orthoptera* (1879), *Butterflies Their Structure, Changes, and Life-Histories* (1881), and *Fossil Insects of North America* (1890) See A G Mayer, *Biographical Memoir* (1924, in National Academy of Science, *Memoirs,* Vol XVII)

Scudder, Vida Dutton, 1861–, American educator and writer, b India, of missionary parents, educated at Smith and at Oxford She taught at Wellesley from 1887 to 1927 (as professor after 1910) and was active in settlement-house work Besides editing the works of several English authors, she wrote literary studies, e g , *Social Ideals in English Letters* (1898, enl ed , 1923) and *Socialism and Character* (1912), essays, collected in *The Privilege of Age* (1939), and an autobiography, *On Journey* (1937)

Scudéry, Madeleine de (mädůlĕn' du skůdārē'), 1607?–1701, French novelist She was prominent at the Rambouillet salon and later had one of the chief salons of polite Paris Her two principal works, *Artamene, ou, Le Grand Cyrus* (1649–53) and *Clélie* (1654–60), are immensely long pseudo-historical novels, full of fashionable sentimentalism and preciosity They were popular and influential, and each was translated into English within a few years of its publication On the title pages appeared only the name of her brother, **Georges de Scudéry** (zhôrzh'), 1601–68, who was probably only a secondary collaborator Georges was author of many plays and other works

sculpture, art of producing in three dimensions representations of natural forms or objects of the imagination It includes the whole range of three-dimensional representation, from sculpture in the round which can be viewed from any direction to the incised relief in which lines are merely cut in a flat surface It embraces such varied techniques as modeling, carving, casting, and construction These techniques materially condition the character of the work Whereas modeling permits addition as well as subtraction of the material and is highly flexible, carving is strictly limited by the original block from which material must be subtracted For this reason carvers have sometimes had recourse to construction in which separate pieces of the same or different material are mechanically joined together In contemporary sculpture, however, much emphasis is given to construction as an independent technique Casting is, strictly speaking, a reproduction technique which duplicates the form of an original whether modeled, carved, or constructed, but it also makes practical certain effects which are impractical in the other techniques For example, top-heavy works which would require external support in clay or stone can stand alone in hollow, cast metal because of its lightness and the strength of the material, which also makes practical the free use of delicate outstanding parts These traditional techniques of the sculptor have undergone comparatively slight change in outstanding works throughout the ages. Modeling in wax or clay, largely by hand, is unaltered, although the range of possibilities in the firing of the clay from simple terra cotta to elaborately glazed ceramics has varied greatly Carving, which makes use of such varied materials as stone, wood, ivory, bone, and plastics, has for centuries employed a large number of tools, including many types of hammers, chisels, drills, gauges, and saws For carrying out monumental works from small studies various devices have been evolved for mechanically approximating the proportions of the original study Today, by means of the pointing machine, this process of reproducing general dimensions is greatly facilitated. However, it in no way diminishes the importance of the final work, which must be done by the hand of a sensitive artist Casting bronze is also a technique of extreme antiquity The Greeks and Chinese early mastered the cire-perdue (lost-wax) process, which was revived in the Renaissance and practiced until modern times By this method the final layer of the model is executed in wax, and the whole is coated with a heavy outer mold of heat-resistant material which is attached by rods to the core Then the wax is melted away and molten bronze is run in through tubes and replaces it Little Greek sculpture in bronze has survived, apparently because the metal was melted down for other purposes, but the material itself resists exposure better than stone and was preferred by the Greeks for their copious art of public sculpture Today the cire-perdue method has been largely replaced by the French sand method, in which a damp, packed sand is used for the mold and the core is pared away to leave space for the molten metal. This method is adapted to the casting of many types of metals but cannot be said to have produced finer results artistically Metal may also be cast in solid forms, hammered, carved, and incised, but all these techniques are adapted rather to small works than to large Construction has gained a new importance as a sculpture technique with the contemporary interest in abstract art, with the mobile, which might be defined as a construction which moves and is intended to be seen in motion, it utilizes a wide variety of materials and techniques In general, however, it can be said that each of the principal techniques has its characteristic materials Contemporary practice emphasizes the beauty of materials and the frank expression of their nature in the work, an emphasis partly due to the fact that most of our sculpture is unpainted In many of the great periods of the past, however, and notably in ancient Greece and Egypt and medieval Europe, sculpture was commonly painted or gilded The art of sculpture has had a most varied part to play in the culture of different peoples and periods, from the abstract arabesque which decorates Moorish architecture to the independent, freestanding figure beloved by the Greeks Much of our conception of the cultures of Egypt, Assyria, and ancient America is derived from their magnificent sculptural remains In the history of Western culture sculpture was probably never more flourishing than during the late Middle Ages The great architectural sculpture of the Romanesque and Gothic periods forms an integral part of the church and often a single cathedral displays thousands of masterpieces of carving Most of this art is anonymous but as early as the 13th cent the individual sculptor and individual work gained prominence in Italy with Nicola and Giovanni Pisano, who preceded a long line of famous Italian Renaissance sculptors from Della Quercia to Giovanni da Bologna Florence was the center of this flowering of the art and could boast of such masters as Ghiberti, Luca Della Robbia, Donatello, and Michelangelo The northern Renaissance also produced important known masters such as the German Peter Vischer the elder, the Flemish Sluter, and Pilon and Goujon in France, where a courtly and secular art flourished under royal patronage during the 16th and 17th cent The baroque period produced a dramatic art represented in France by Puget, Girardon, and the Coustous, in Spain by Berruguete, and in Italy by Bernini The 18th cent modified this grandiose style to produce the more intimate art of such sculptors as Clodion and Houdon and also saw the birth of neoclassicism with Canova This rather derivative style flourished well into the 19th cent in the work of Thorvaldsen and his followers but the period is better represented by the long line of French realistic sculptors from Rude to Rodin, including among many others Dalou, Falguière, M J A Mercié, and Carpeaux. In the 20th cent, sculpture like painting has tended to free itself from the extreme realism of the preceding period and also from the long domination of the Greek ideal, although in the admirable work of Maillol that ideal still predominates. The influence of other traditions, such as those of African Negro sculpture and Aztec sculpture (in which a more direct expression of materials, textures, and techniques is found), has contributed to this liberation. The English (with Epstein, Eric Rowland Gill, and Henry Moore), the French (with Lipschitz), the Germans (with Barlach, Lehmbruck, and

Kolbe), the Yugoslavs (with Mestrovic), the Rumanians (with Brancusi), and the Americans (with Lachaise, Archipenko, Calder, and Zorach) have contributed to the number of gifted 20th-century sculptors who have explored widely different and highly original applications of the art See Lorado Taft, *The History of American Sculpture* (new rev ed., 1924); Herbert Maryon, *Modern Sculpture Its Ideals and Methods* (1933), Malvina Hoffman, *Sculpture Inside and Out* (1939), Lincoln Rothschild, *Sculpture through the Ages* (1942), A T Gardner, *Yankee Stonecutters the First American School of Sculpture, 1800–1850* (1945); W R. Valentiner, *Origins of Modern Sculpture* (1946)

Scunthorpe and Frodingham (frŏd'ĭngum), urban district (1931 pop 33,761, 1947 estimated pop 51,070), in the Parts of Lindsey, Lincolnshire, England It is a steel-milling center

scup: see PORGY

scurvy or **scorbutus** (skûrbū'tŭs), deficiency disease resulting from a lack of vitamin C (ascorbic acid) in the diet It occurs in individuals who have not had fresh fruits or raw vegetables in their diet for long periods Symptoms of scurvy were treated with decoctions of twigs and with fruits and other fresh materials by various peoples as early as the 16th cent , but not until 1932 were the chemical nature and antiscorbutic properties of the vitamin definitely determined At one time scurvy was common among sailors whose diet was limited and often consisted mainly of salt meats and biscuits In order to prevent scurvy, the British navy after 1795 supplied lime juice for long sea voyages, hence the term *limeys* as applied to British sailors In the United States some of the pioneers used the juice of white spruce to prevent scurvy The disease may occur in bottle-fed babies after six months of age if the diet lacks orange or tomato juice Raw milk contains vitamin C, but the vitamin is largely destroyed by heat in the process of pasteurization Symptoms of scurvy include bleeding of the gums, ulcers of the limbs, anemia, and general debility The disease is preventable and curable by a diet rich in vitamin C or by the addition to the diet of tablets sold under the names of vitamin C, ascorbic acid, or cevitamic acid

scutage (skū'tĭj), feudal impost originating as a fine or cash impost in lieu of actual military service due by a vassal to a suzerain and especially by the vassals of the king The perpetual warfare of the Middle Ages placed a great burden on the king, who had to assemble armies and funds The wars of the English king for his French territories in the 12th, 13th, and 14th cent were a great drain on the English kingdom The king was always demanding money for his transmarine expeditions and his demands took the form of levies on his vassals and their subvassals These levies usually took the forms of specific scutages, collected for stated expeditions There were also other general levies of scutage, and the question of the exact nature, extent, and meaning of the levy still presents numerous thorny questions to the historian The growth of a professional military class (see KNIGHT) is supposed to have had much to do with causing the increase of scutage collections in the later 12th cent , for scutage was a fee intimately connected with the knight-service holding—was, in fact, a commutation of the military service Subinfeudation is also supposed to have so complicated the collection of military service as to have made money payments more feasible At any rate, the always needy king took advantage of the scutage to obtain some money The barons resisted, and one of the major items in their demands against King JOHN concerned scutage In the MAGNA CARTA (1215) John had to pledge himself to collect scutage only with the "common counsel" of his barons Normally in later times the more important vassals collected the scutage from their subvassals, acting as tax farmers after a fashion The growth of taxes after the time of Edward III entirely displaced the feudal impost of scutage

Scutari (skōō'tärē), Albanian *Shkodër* (shkō'dûr) or *Shkodra* (shkō'drä), anc *Scodra*, city (pop 33,852), N Albania, on a plain at the southeastern end of Lake Scutari It has manufactures of textiles, cement, cigarettes, and flour products An ancient Illyrian capital, Scodra became (168 B C) a Roman colony and was conquered by the Serbs from Byzantium in the 7th cent A D Until the fall of Serbia in the late 14th cent , Scutari was the seat of the princes of Zeta (i e , Montenegro), who pledged it to Venice in return for a subsidy in the war against Turkey It was soon an object of contention between Montenegro and Venice and was lost to Sultan Mohammed II in 1479 Scutari, known under Turkish rule as Iskenderiye, was the seat of a pashalik. The pashas, often chosen from among Montenegrin renegades, fought for centuries against their stubborn neighbors Montenegrin troops occupied (1913) Scutari in the Balkan Wars, but the European powers assigned it to newly independent Albania. Early in the First World War the city was again taken by the Montenegrins, from 1916 it was held by the Austrians, and from 1918 to 1920 it was under Allied occupation. Scutari was made a Roman Catholic archdiocese in 1867. The city has a large bazaar and is dominated by a citadel built by the Venetians It has a Catholic cathedral and several mosques

Lake Scutari, area 150 to 200 sq. mi , partly in Albania, partly in Montenegro (Yugoslavia), is the largest lake in the Balkan Peninsula It is c 25 mi long and 4 to 8 mi wide, seasonally it varies in depth and, as a result, in size Once an inlet of the Adriatic, the lake is separated from the sea by an alluvial isthmus It is navigable by small steamers, and it abounds in fish, which are important to the local economy

Scutari (skōō'tŭrē) or **Uskudar** (ŭskü'där), anc. *Chrysopolis*, urban district (pop 60,722) of Istanbul, Turkey, on the Asiatic side of the Bosporus It has various manufactures and is an important market center During the Crimean War, Scutari was the base (1854–56) of the British army and the site of the military hospital made famous by the work of Florence Nightingale There is a noted Moslem cemetery The spelling Skutari also occurs

Scylla (sĭl'lu), in Greek mythology **1** Princess of Megara She betrayed her father, Nisus, to his enemy Minos When Minos scorned her, she drowned herself **2** Sea nymph She was the daughter of Phorcus and Ceto Circe, her rival in love for the sea-god Glaucus, changed Scylla into a monster, who afterwards lived on a rock between Italy and Sicily, on the Italian side of the Strait of Messina Near by, on the Sicilian shore, was the whirlpool of Charybdis (kurĭb'dĭs) Odysseus in his wanderings passed between them, as did the Argonaut heroes Scylla and Charybdis was the most dangerous strait in the vicinity, it is today called Scilla (shē'lä)

Scyllis see DIPOENUS AND SCYLLIS.

Scyros see SKYROS

scythe (sīdh), harvesting implement consisting of a long, curved metal blade attached at right angles to a long handle or snath, straight or curved It is used for cutting hay crops and sometimes also for cutting grains For large harvesting operations it was superseded by the MOWER and the REAPER drawn by either horse or tractor, but even in the most advanced agricultural regions it is still used regularly for small mowings and where large and complicated machines are impractical It was used in Egypt and other countries in antiquity In war, one type of the scythe-bearing chariot had a scythe blade projecting from each end of the axle, another type had blades attached to the felloes of the wheels The graceful and efficient form of the scythe is a result of many centuries of development One of the earliest American inventions was the strengthening ridge along the back of the scythe blade, patented in Massachusetts in 1655 by Joseph Jenks In art, the scythe symbolizes agriculture, Saturn, time, and death, the reaper See also CRADLE SCYTHE

Scythia (sĭ'thēu), ancient region of S Europe inhabited by the Scythians Its extent varied with the power of the Scythians, but the heart of the region was on the north shore of the Black Sea, on the lower courses of the Don and the Dnieper, and in the Crimea The **Scythians** spoke an Indo-Iranian language and were nomadic conquerors and skilled horsemen They seem to have maintained themselves as a ruling class while others (probably earlier inhabitants) worked the rich grainfields This Scythian kingdom was established long before the end of the 9th cent B C , and Scythian power was maintained in obscure warfare with the Cimmerians After the 7th cent the Scythians—the barbarians par excellence to the Greeks—traded grain and their service as mercenaries for Greek wine, Greek ornaments, and other luxury items They successfully invaded the Assyrian Empire and late in the 7th cent held Palestine They also pushed down into the Balkan Peninsula, and a century later the mysterious campaign of Darius I against them (c 512 B C) may have checked their expansion, though it was no conquest Alexander the Great also sent an expedition against them in vain, but in the 3d cent B C the Scythians were replaced by the related Sarmatians, and part of their shadowy empire became SARMATIA See M Rostovtzeff, *Iranians and Greeks in South Russia* (1922), G Barovka, *Scythian Art* (1928)

Scythopolis (sĭthŏ'pulĭs), name given in classical times to the Palestine city called BETH-SHAN in the Bible and BEISAN today It was a principal city of the Decapolis and a major trade center The Greek name probably commemorates the invasion of Palestine by the Scythians in the 7th cent B C The city has been excavated

Se, chemical symbol of the element SELENIUM

sea, term used as synonymous with OCEAN or designating a large LAKE, usually salt (Caspian Sea, Aral Sea), or a subdivision of an ocean (Caribbean Sea, Yellow Sea)

sea, law of the see MARITIME LAW.

sea anemone (ănĕ'mūnē), marine animal related to the jellyfish and coral. Its muscular cylindrical body is attached by a basal disk to a rock, shell, or seaweed in shallow water Hollow tentacles with cells for stinging prey surround the mouth Many forms are brightly colored and resemble flowers

Seabees [from the initials of Construction Battalion], colloquial name for the U S Naval Construction Battalions of the Second World War The first construction regiment was authorized in Dec , 1941, under the command of the navy's civil engineer corps Recruited largely of volunteer construction workers, the Seabees grew to a force of some 250,000 men who built many of the navy's far-flung bases, often under fire and under difficult conditions See W B Huie, *Can Do!* (1944) and *From Omaha to Okinawa* (1945)

Sea Bright (sē' brĭt), borough (pop 779), NE N J , between the Atlantic Ocean and the Shrewsbury river In a region of fine estates and gardens, Sea Bright is a summer resort and the scene of national and international tennis and polo matches

Seabrook, town (pop 1,782), SE N H , settled 1638, set off from Hampton and inc 1768 A Friends' meetinghouse was built here in 1701

Seabury, Samuel, 1729–96, American clergyman, first bishop of the Protestant Episcopal Church, b Connecticut, grad Yale, 1748 He studied medicine at the Univ of Edinburgh, then turned to theology and was ordained (1753) a priest in the Church of England before returning to America as a missionary in New Brunswick, N J He was then rector at Jamaica (Long Island) and in Westchester co , New York, until 1775 He then avowed himself a Loyalist in the American Revolution, and for a time he had to practice medicine in New York city He later became a chaplain to a royal regiment After the war he was chosen bishop of Connecticut in 1783 The English bishops withheld consecration because of a legal difficulty, but in 1784 he was consecrated at Aberdeen by bishops of the Scottish Episcopal Church In 1789 the General Convention in the United States confirmed his position, and he became presiding bishop of the Church in the United States

Seabury, Samuel, 1873–, American jurist, b New York city, grad New York Law School, 1895, great-great-grandson of Samuel Seabury (1729–96) He served on the supreme court (1907–14) and on the court of appeals (1914–16) of New York state He became nationally prominent when he headed (1930–31) investigations of New York city's magistrate courts and of New York city politics As a result of his investigations, Mayor James WALKER resigned in 1932 The Tammany government was defeated in the ensuing elections

Sea Cliff, residential village (pop 4,416), on NW Long Island, SE N Y , near Glen Cove, inc 1883.

Seaford, town (pop 2,804), SW Del , on the Nanticoke river, inc 1865 It grew as an oyster-packing, shipping, and shipbuilding place Now it is a nylon-industry center

Seaforth (sē'fôrth), town (pop 1,668), S Ont , on the Bayfield river and SE of Goderich It has tanneries and various manufactures

Seagraves (sē'grāvz), city (pop 3,325), NW Texas, SW of Lubbock on the southern part of the Llano Estacado, inc 1928 The region produces oil as well as cattle, and Seagraves has a carbon-black plant

sea horse, small fish of warm waters Its appearance suggests that of a horse—it has an elongated head and snout supported by a portion of the abdomen modified to resemble a neck It swims weakly in an upright position by moving the dorsal fin and rests in the same position by curling its tail around some seaweed It ranges from 2 in to 1 ft in length and is covered with rectangular bony plates bearing spines at their junctures The male has an abdominal pouch in which the eggs are carried and from which the young hatch

Sea Islands, chain of low islands (some are sandy, others marshy and fertile), off the Atlantic coast of South Carolina, Georgia, and N Florida, extending from the mouth of the Santee river to the mouth of the St Johns They were known to the Spanish before 1562, when Huguenots, led by Jean Ribaut, made an unsuccessful settlement called Charlesfort on Parris Island, S C The Spanish missions and garrisons which later dotted the islands were abandoned as the English made steady advances in the area In the early 19th cent SAINT HELENA ISLAND and Port Royal Island (most important of the South Carolina group) became the seats of great plantations devoted to the raising of the fine long-fibered sea-island cotton The wealthy planters were ruined in the Union invasion at the beginning of the Civil War, and the Federal government parceled out the land to the newly freed slaves The Carolina islands are still largely inhabited by Negroes Of almost pure African descent and virtually isolated until the 1920s, they developed a distinct set of customs and dialects (Gullah is the best known), which are pictured in the works of Julia Peterkin and DuBose Heyward With the coming of the boll weevil c 1920, cotton culture gave way to diversified farming (corn, potatoes, peanuts, poultry), oystering and shrimping are also important BEAUFORT, on Port Royal Island, is the principal city Parris Island is the chief basic-training center on the Atlantic coast for the U S Marine Corps St Simons Island, Sea Island, and Jekyll Island (also called the Golden Isles), near Brunswick, Ga , are popular resorts On St Simons Island are the ruins of Fort Frederica (now in a

national monument, 74.53 acres, est 1945), built by James Oglethorpe in 1736–54 during the English-Spanish struggle for the present SE United States, near by, Oglethorpe defeated the Spanish in the battle of Bloody Marsh (July 7, 1742) Jekyll Island, once the private preserve of Northern millionaires, was made a state park in 1948 Cumberland Island, Ga., largest of all the Sea Islands (c 22 mi long and from 1 to 5 mi wide), is almost completely privately owned For bibliography, see SAINT HELENA ISLAND

seal, carnivorous aquatic mammal with front and hind limbs modified as flippers The suborder Pinnipedia consists of three families, the true, earless, or hair seals (Phocidae), the eared fur seals and sea lions (Otariidae), and the walruses (Odobenidae) Among the true seals are the harbor, ribbon, ringed, bearded, Greenland, gray, hooded or bladdernose, elephant, and Lake Baikal seals, they have no external ears, the hair is coarse and short Their progress on land is slow and awkward since the hind limbs are directed backwards Eskimo depend on the seal for food and oil and use the hides for boats and other necessities The eared seals have small external ears, and the hind flippers can be bent forward to facilitate progress on land The Alaskan fur seals, also called sea bears, winter from the Alaska Peninsula to the northern coast of California and in spring migrate northward to breeding grounds on the Pribilof Islands The mature males (six years or older) establish themselves on the beaches in April or May, and each gathers a harem from the females which arrive a month or more later The single pups, the result of the previous year's mating, are born a few days after the females arrive Mating again occurs The bulls fast for more than a month while guarding their harems The females swim out to the feeding grounds regularly and return to suckle the young Immature males herd together apart from the others From this group, usually the three-year olds, the annual kill for fur pelts (often in excess of 50,000) is made under government supervision In preparing the sealskin of commerce the long hairs are removed and the soft brownish underfur is dyed The fur of species found farther south is less valuable The trained "seal" of the circus is the California sea lion (*Zalophus*), the northern or Steller's sea lion (*Eumetopias*) inhabits the N Pacific, and the southern sea lion (*Otaria*) is found in the waters near S South America See also BERING SEA FUR-SEAL CONTROVERSY

seal, stamp, made from a die or matrix of metal, a gem, or other hard substance, which yields an impression on wax or other soft substance The use of seals is very ancient, examples of great antiquity occurring in China, Egypt, Greece, Rome, and other places The commonest form was the seal ring, of which the GEM formed the seal Ecclesiastical seals, used in the 9th cent., reached their greatest perfection in the 13th and 14th cent The use of seals with emblematic designs antedates the development of the ESCUTCHEON and is therefore important in the history of HERALDRY Edward the Confessor was the first English king to adopt a Great Seal for the kingdom. Heraldic or emblematic seals are in wide use by national, state, and local authorities, by institutions of all kinds, and in the certification of legal documents A committee was appointed by the Continental Congress on July 4, 1776, to prepare a device for the Great Seal of the United States. It was not, however, until 1782 that a design, made by Will Barton, was accepted It shows the escutcheon borne on the breast of an eagle, and on the reverse an unfinished pyramid with an eye (the eye of Providence) above it The eagle has arrows in one talon and an olive branch in the other In his beak is a scroll inscribed E Pluribus Unum

Seal Beach, resort city (1940 pop 1,553, 1948 special census pop 3,549), S Calif., SE of Long Beach, inc 1915.

Seal Harbor, Maine: see MOUNT DESERT ISLAND.

sea lion: see SEAL

Seal Islands: see LOBOS ISLANDS

Sealy, unincorporated town (pop c 1,800), S Texas, W of Houston. It is a market center for a farm area and has a mattress factory and other small industries

Sealyham terrier: see TERRIER.

sea otter. see OTTER.

sea pink or **thrift,** names for perennial garden plants of the genus *Statice* (formerly *Armeria*) They have papery globe-shaped clusters of flowers of various colors borne on stiff stems arising from a clump of grasslike, evergreen leaves. The different species are useful as border, rock-garden, EVERLASTING, and pot plants. The sea lavenders (*Limonium*) are often called sea pinks or *Statice*, from which they may be differentiated by the flowers, which are not in rounded heads. Wild flowers of the genus *Sabbatia* are sometimes called sea pinks

seaplane, any airplane designed to take off from and alight on water The two most common types are the floatplane, in which the body of the plane is supported by struts attached to two or more pontoon floats, and the flying boat, in which the fuselage has a boat-hull form so constructed as to impart the buoyancy and strength necessary for landing on and floating in the water. Amphibians may be of either of these types with the addition of landing gear, enabling them to take off from and alight on both land and water Because the floating structures offer greater resistance to the air than wheel landing gear, seaplanes are less efficient in speed for the horsepower developed than are land craft

sea power, naval strength which enables a state to control part of the sea and deny its use to enemy nations or to uphold its maritime rights in time of peace or war. The development of sea power dates from earliest history, when tribes constructed primitive navies to ward off attacks or, conversely, to raid their enemies' coast settlements Later, with the increase of sea-borne commerce, naval forces were necessary to protect overseas trade from acts of PIRACY Possession of sea power enabled states poorly endowed with natural resources to become powerful, and nations already strong to extend their dominions and increase their wealth The Phoenicians, because they developed their sea power, controlled Mediterranean commerce and traded with Atlantic and Baltic ports. Athens flourished because of the Athenian commerce and navy, and the great Athenian leader Themistocles by stressing the importance of sea power enabled the Greeks, with their fleet of triremes, to defeat the Persians at Salamis The long struggle between Rome and Carthage was essentially a contest for the control of the W Mediterranean Roman victory was largely the result of superior sea power To the extension of the empire the Roman navy contributed greatly, and by patrolling sea lanes it enabled the capital to draw vital supplies from the lands of the E Mediterranean and the northern shores of Africa The Italian city states derived their wealth from maritime trade, and their sea power was indicated by the great fleets which operated from Venice, Genoa, and Pisa. In the north the HANSEATIC LEAGUE exercised similar control of the seas Turkish naval power, which had developed in the early 16th cent., was brought to an end by the great battle of LEPANTO (1571) Sea power had already grown far more important after Portuguese navigators had found the way around Africa to the Indies and Christopher Columbus had reached the New World It was upon the sea that small Portugal built its enormous empire Spain's period of greatness also depended strictly on control of the waters and disappeared after that control was challenged by English sea dogs and was shattered by the defeat of the Armada The Dutch also lifted their small land to great power by exploits on the sea, and the era of modern IMPERIALISM brought the modern navy The contest between Great Britain and France in the 18th and early 19th cent was spread across the world and depended upon the sea lanes It is not without good reason that the British revere Horatio Nelson as one of the greatest of their heroes British control of the sea was a strong factor in the American Revolution, and the partly successful challenge to that power was a major factor in the War of 1812 The United States developed its navy along with its commerce, and the Civil War illustrated how sea power could be dominant even in closed land warfare The blockade established along the coast of the South showed the force of sea power exerted to keep necessary goods from reaching an enemy—a demonstration repeated in the blockade of Germany in the First World War A T MAHAN contributed greatly to the study of the significance of sea power late in the 19th cent His emphasis on the matter was glaringly high-lighted by the course of the Spanish-American War The recognition that the British Empire depended on naval might even more than had the Roman Empire made other expanding powers undertake to develop navies, notably Germany and Japan The bottling-up of the German navy in the First World War proved the value of the big navies and led to a naval armaments race in the period after the First World War (see NAVAL CONFERENCES) After the outbreak of the Second World War and the demonstration of the tremendous striking power of aircraft, there were many who saw supremacy in the air as having made sea power obsolete The fall of Crete was the example cited. But Great Britain did not fall despite air attack. The combination of air and sea power in aircraft carriers and the development of amphibious warfare proved that sea power might have changed slightly in character but had lost none of its significance The essential requirement of sea power in the Pacific (where the battle of the Coral Sea showed a new type of sea warfare but no change in principle) and its tremendous force in the invasion of the Continent dried the tears of those who had mourned the passing of sea power The effect of atomic energy in warfare has yet to be assayed, but it is perhaps significant that the U.S. navy has been of the greatest importance in post-war experiments with the atomic bomb. See A. T. Mahan, *The Importance of Sea Power upon History, 1660–1783* (1890), *The Interest of America in Sea Power* (1897), and *Sea Power in Its Relations to the War of 1812* (1905); Archibald Hurd and Henry Castle, *German Sea-Power* (1914), W. O. 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search, right of, in international law, right of a warship or military airplane to detain and search a private vessel belonging to a foreign national In peacetime, this right is ordinarily exercised only within the territorial waters and merely as an incident of the power to police such waters A search on the high seas is not justified in peacetime except where piracy or violation of fishing regulations is suspected or where a vessel which has fled the territorial waters is being freshly pursued. In wartime, a belligerent may search neutral vessels on the high seas in order to capture the property of enemy nationals or to remove contraband of war bound for enemy ports Forcible resistance to search allows the warship to attack or destroy the vessel or its cargo or to take them as a PRIZE The right of search in wartime occasioned bitter controversy between Great Britain and the United States just before the War of 1812 The United States objected to the practice of the British navy in stopping American merchant ships at sea to impress into naval service sailors who were believed to be British subjects IMPRESSMENT virtually ended after the War of 1812 The right of search is sometimes also called the right of visit and search

searchlight, device using a lens and a reflecting surface to direct a beam of light In 1892 such apparatus was used along the English Channel as a coastal defense measure, and later in the Boer War as an aid to infantry movement It was used to illuminate vessels for identification and possible bombardment, for dazzling the enemy, for illuminating the ground in an attack, and to locate targets for the guns After 1900 acetylene came into use as an illuminant, and in 1916 Edison invented a portable apparatus fed from storage batteries During the First World War powerful searchlights mounted on trucks and railroad cars came into use The electric arc was the type mostly employed, especially after 1915 when E. A. Sperry, the American inventor, introduced his high intensity arc lamp, embodying principles of operation that predominate in modern searchlight equipment Lights of 1,500,000,000 candle power capable of reaching 150 mi are common at present Revolving searchlights as beacons spaced along air routes have yielded to radio beacons, but the use of powerful lights coordinated with anti-aircraft guns developed considerably during the Second World War

search warrant, in law, written order by an official of a court directing an officer to search in a specified place for specified objects and to seize them if found The objects sought may be stolen goods or physical evidences of the commission of crime (e.g., during the period of prohibition, alcoholic beverages) The Fourth Amendment of the U S Constitution provides, in effect, that a search warrant may be issued only on oath or affirmation that a crime was probably committed, and the Federal courts have uniformly excluded from evidence in a trial information or objects which were obtained by an illegal search State constitutions and statutes have similar provisions, but in most states evidence obtained through an unlawful search is admissible against the accused, whose sole remedy is to sue the officer for damages

Searcy (sûr'sē), city (pop 3,670), co. seat of White co., N central Ark., near the Little Red River NE of Little Rock, in a strawberry-growing area Harding College is here

Seares, Frederick Hanley (sērz), 1873–, American astronomer, b Cassopolis, Mich., grad Univ of California, 1895 He taught at the Univ of California before studying in Berlin and Paris Upon his return to the United States in 1901, he became professor of astronomy at the Univ of Missouri From 1909 to 1946 he was connected with Mt Wilson Observatory of the Carnegie Institution of Washington, D C His many papers contributed to astronomical periodicals give the results of his researches in stellar photometry, the orbits of comets, the general magnetic field of the sun, and the distribution of stars He is the author of *Practical Astronomy for Engineers* (1909). He edited publications of Mt Wilson Observatory and was editor (1927–45) of the *Astrophysical Journal*

Sears, Paul Bigelow, 1891–, American botanist and author, b. Bucyrus, Ohio, grad. Ohio Wesleyan Univ. (B S., 1913), Ph.D Univ. of Chicago, 1922 He was professor of botany at the Univ. of Oklahoma (1927–38) and in 1938 became professor at Oberlin College. Known for his studies of soil erosion and of climatic history by pollen analysis, he has presented his findings and theories to the layman in *Deserts on the March* (1935; rev. ed.,

1947), *This Is Our World* (1937), *Who Are These Americans?* (1939), *Life and Environment* (1939), and *This Useful World* (1941). He is also the author of *Charles Darwin, the Naturalist as a Cultural Force* (1950).

Searsport (sērz'pôrt), town (pop 1,319), inc 1845, in Maine, on the west shore of Penobscot Bay, inc 1845. It includes the resort village of Searsport, which flourished in the sailing-ship days. Its Penobscot Marine Museum was incorporated in 1936.

seas, freedom of the, in international law, the principle that outside its territorial waters a state may not claim sovereignty over the high seas except with respect to its own vessels. This principle, first established by the Romans, gives to all nations in time of peace unrestricted use of the seas for navigation (both naval and commercial), for fishing, and for the laying of submarine cables. During long periods, leading naval powers have repudiated the principle. From the late 15th cent to the early 19th cent., Spain, Portugal, and Great Britain assumed to exclude commercial rivals from parts of the open sea. The opposition of other nations revived the traditional freedom of the seas. One of its strongest advocates was the United States, especially in its dispute with Great Britain preceding the War of 1812. In time of peace freedom of the seas cannot be restricted lawfully except by international agreements, such as those which regulate fisheries or the right of visit and search. During war, however, belligerents often assert limitations of the principle which will permit more effective conduct of hostilities, and it is then that the sharpest disagreements arise, e.g., the case of the *Lusitania* in the First World War. Subjects of contention between neutrals and belligerents include the right to seize neutral property and persons aboard an enemy ship, the mining of sea lanes, and the exclusion of neutral vessels from enemy ports by blockade. See J. B. Potter, *The Freedom of the Seas in History, Law, and Politics* (1924).

seasickness, condition caused in some individuals by the pitching and rolling of a ship at sea. A similar state is sometimes induced by traveling in cars, elevators, or airplanes (see AIR SICKNESS). Symptoms include vertigo, nausea, vomiting, and prostration. There is no certain preventive measure or cure. Relief may be obtained by the use of sedatives and certain other drugs (e.g., Dramamine).

Seaside, resort city (pop. 2,902), extreme NW Oregon, on the Pacific and S of Astoria, inc 1899. A monument marks the point sometimes considered the end of the Oregon Trail.

seasons, divisions of the year characterized by variations in the amount of heat received from the sun. These variations depend on the inclination of the equator in the plane of the ECLIPTIC and on the revolution of the earth around the sun. The amount of heat received at a given point on the earth's surface depends chiefly on the angle at which the sun's rays strike the earth at that point and on the daily duration there of exposure to the sun's rays, the more vertical the rays and the longer the exposure, the more heat will be received. Seasonal change varies greatly with latitude. Near the equator there is little change, in high latitudes spring and autumn are very short. In the temperate zones there are four well-defined seasons, e.g., in the North Temperate Zone spring begins theoretically on March 21, the vernal equinox, summer, on June 22, the summer solstice, autumn, on Sept. 23, the fall equinox, and winter, on Dec. 22, the winter solstice. Actually the seasons lag somewhat, e.g., at the time of maximum insolation (June 22) in the Northern Hemisphere, the ground is too cold to radiate as much heat as is received, and average temperatures usually rise for several weeks until a balance is reached between reception and radiation of heat. In low latitudes and in certain other areas (e.g., India) where oceans and winds are the chief factors governing seasonal changes, the terms "wet season" and "dry season" are used. The seasons play an important part in mythology and folklore, many holidays are connected with the changes of season.

Seaton, John Colborne, Baron, 1778–1863, British soldier and colonial administrator. Active service in Egypt (1801) and Sicily (1806) was followed by participation in the Peninsular War (1808–14) and the Waterloo campaign, where the regiment he commanded was instrumental in securing the defeat of Napoleon's "Old Guard." He was appointed lieutenant governor of Guernsey (1825) and lieutenant governor of Upper Canada (1829). As commander in chief of Canadian forces he suppressed the rebellions of 1837 and 1838 and in 1839 was appointed governor general of Canada. At the end of 1839 he returned to England and was raised to the peerage.

Seat Pleasant, town (pop. 1,553), W central Md., a suburb of Washington, D.C.

Seattle (sēă'tūl), city (1940 pop. 368,302; 1947 estimated pop. 600,000), co. seat of King co., W Wash., built on hills between Elliott Bay of Puget Sound and Lake Washington and between the Olympic and Cascade mountain ranges. Mt. Rainier is southeast and Mt. Baker is northeast. Seattle was settled in 1852 but remained a small lumber town until the coming of railroads after 1884. Subsequent growth was rapid, despite strikes, anti-Chinese riots, and the great fire of 1889. In 1897 the Alaska gold rush made Seattle a boom town, and the opening of new waterways, especially the Panama Canal, began an era of major expansion. The Alaska-Yukon-Pacific Exposition was held at Seattle in 1909. Important chiefly as a port and commercial center, with Alaskan and Far Eastern trade, it has also manufactures of lumber and food products and iron and steel and is a headquarters for fishing and pleasure boats. As a fur market, it is second to New York. Shipbuilding and aircraft industries brought a tremendous influx of workers during the Second World War and began a new period of industrial growth which was aided by the development of hydroelectric power projects in the region. The Univ. of Washington (see WASHINGTON, UNIVERSITY OF) is here, as are Seattle Univ. (Jesuit, coeducational, 1898), Seattle Pacific College (Free Methodist, coeducational, 1891), the state museum, an art museum, a Roman Catholic cathedral (1907), an Episcopal cathedral (1931), and historical landmarks. It is the seat of Sand Point Naval Air Station and Fort Lawton. See Archie Binns, *Northwest Gateway* (1941).

sea urchin, marine animal which, like the starfish, is an echinoderm. The body is protected by a calcareous, somewhat flattened globular exoskeleton. Irregular spines, which show variation among the approximately 500 species, are attached by means of movable joints to the tubercles on the shell, and these aid the tube feet in locomotion. Most sea urchins have a complex structure called Aristotle's lantern which contains five sharp teeth and is found in the mouth region on the underneath surface of the animal. Sea urchins are scavengers, most forms eat chiefly algae and other plants, others eat animals. Especially in S Europe the eggs and some internal portions of the sea urchin are used as food.

seaweed, name commonly used for the marine ALGAE. The simplest forms consist of a single cell, or of rows of cells, but the more highly developed seaweeds have a base or disk, called a holdfast, and a frond. Varying greatly in size, the frond may be leaflike, ribbonlike, or branched. Few seaweeds appear below a depth of 150 ft. The green forms grow nearest the shore, the brown seaweeds (the commonest marine forms) from the low-tide mark to a depth of 50 or 60 ft, the red seaweeds are found at the greatest depths. Seaweeds reproduce by forming spores or by the union of eggs and sperms. The green alga *Ulva*, or sea lettuce, provides food for many sea creatures, and its thin, broad surface releases a large amount of oxygen. *Fucus* or rockweed, a tough, leathery brown alga (though it often looks olive green), clings to rocks with its suckerlike disks. Its flattened fronds, branched in one plane, are lifted by air bladders at the tips. Seaweeds, especially species of the red algae *Porphyra* and *Chondrus*, form an important part of the diet in China and Japan. Other species are eaten in the British Isles and Iceland. Commercial AGAR or vegetable gelatin is obtained from a red alga. The red algae are all anchored forms and are rarely seen except when torn from their holdfasts. Ranging in coloring from pale pink through red and dark purple, their fronds ribbonlike or branched and fernlike, they have a delicate beauty. See also GULFWEED, IRISH MOSS, KELP.

Seba (sē'bu), grandson of Ham. Gen. 10:7, 1 Chron. 1:9, Ps. 72:10.

Sebago Lake (sĭbā'gō), 12 mi. long and from 1 to 8 mi. wide, SW Maine, NW of Portland, in a resort area. It is the source of Portland's water supply.

Sebaste or **Sebastia**: see SIVAS, Turkey.

Sebastian, Saint, 3d cent.?, Roman martyr. Tradition made him a beautiful youth beloved by Diocletian, who turned against him for embracing Christianity and had him killed with arrows. He is invoked against the plague. Feast (with St. Fabian) Jan. 20.

Sebastian, Port. *Sebastião*, 1554–78, king of Portugal (1557–78). He was the grandson and successor of John III. His grandmother acted as regent until 1562, then his uncle Henry (a cardinal and later king) was regent until Sebastian was declared of age in 1568. Weak and sickly, he was imbued by his Jesuit training with fanatic religious fervor, and his admiration for the military was tremendous. He viewed himself as a Christian knight and was determined to try to win glory by fighting the Moslem infidels in Africa. He asked the aid of Philip II of Spain (his uncle) for an expedition against Morocco and spent vast sums of money in preparation. He gathered an immense force, with many foreign mercenaries (but no Spaniards). In 1578 Sebastian set out to take Larache and landed in Morocco. His headstrong desire to command and lack of experience led the force to defeat in the battle of the three kings at ALCAZARQUIVIR. His army was wiped out and he was himself killed. It was not at the time known, however, that he was dead, and rumor had it that he was captured. There grew up a legend that he would return, and Sebastianism (a messianic religious belief) persisted until well into the 19th cent. His uncle, the cardinal, succeeded him and was the last of the Avis kings. The crown then went to Philip II, and Spanish control of Portugal began. Sebastian's expedition is generally considered the worst disaster that ever befell Portugal.

Sebastiano del Piombo (sābāstyä'nō dĕl pyōm'bō), c.1485–1547, Italian painter of the Venetian school, whose real name was Sebastiano Luciani. His first important work is the frescoed altarpiece representing St. Chrysostom in the Church of San Giovanni Grisostomo, Venice. Called (c.1510) to Rome, he painted a series of lunettes in the Farnesina. Under Michelangelo's influence he painted the *Raising of Lazarus* (National Gall., London), *Pietà* (Church of San Francesco, Viterbo), *Martyrdom of St. Agatha* (Pitti Palace, Florence), *Flagellation* and *Transfiguration*, the latter a fresco (Church of San Pietro in Montorio, Rome). In 1531 he was appointed to the lucrative office of the *piombo* (keeper of the papal seals) and thereafter painted but little. Piombo also painted occasionally on stone, e.g., the *Ecce Homo* (Madrid), and on slate, e.g., *Holy Family* (Naples). Piombo's portraits are justly famous for their characterization and coloring. Noted examples are the likenesses of Doge Andrea Doria (Doria Palace, Rome), Cardinal Pole (Hermitage, Lenmgrad), Christopher Columbus (Metropolitan Mus.), and Cardinal Pucci (Vienna).

Sebastopol, RSFSR: see SEVASTOPOL.

Sebastopol (sĭbă'stupul, -pōl), city (pop. 1,856), W Calif., near Santa Rosa, in an orchard and vineyard region, inc. 1902.

Sebat or **Shebat** (subät', shŭbät'), the 11th month of the Jewish CALENDAR, the fifth from New Year's. Zech. 1:7.

Sebec Lake (sē'bĭk), 11 mi. long and from ¼ to 3 mi. wide, central Maine, SE of Moosehead Lake. It is noted for its salmon and bass fishing.

Sebenico, Yugoslavia: see SIBENIK.

Sebewaing (sē'buwĭng), village (pop. 1,598), N Mich., on Saginaw Bay NE of Bay City and at the mouth of Sebewaing Creek, in a farm area, settled 1835, inc. 1879. Beet-sugar refining and commercial fishing are its chief industries.

Sebree (sē'brē), town (pop. 1,109), W Ky., S of Henderson near the Green River, in a timber and gas area, settled c.1850, inc. 1872.

Sebring (sē'brĭng), **1** City (pop. 3,155), co. seat of Highlands co., S central Fla., on Lake Jackson, in a citrus-fruit area. It was founded in 1912 by George Sebring, a manufacturer of Sebring, Ohio. Near by are a botanical garden and Highlands Hammock State Park. **2** Village (pop. 3,902), NE Ohio, near Alliance. Pottery and chinaware are made here.

Sebzewar, Iran: see SABZAWAR.

Secacah (sē'kuku, sēkā'ku), unidentified place in the wilderness. Joshua 15:61.

Secaucus (sēkō'kŭs), town (pop. 9,754), NE N.J., N of Jersey City, inc. 1917.

Secchi, Pietro Angelo (pyā'trō an'jälō sĕk'kē), 1818–78, Italian astronomer, a Jesuit priest. He was director of the observatory of the Gregorian Univ., Rome, from 1849. He is known especially for his work in spectroscopy and was a pioneer in classifying stars by their spectra. In 1860 he made some notable solar-eclipse photographs. His works include a star catalogue (1867) and *Le stelle* (1878).

secession, formal withdrawal from an association by a group discontented with the decisions or actions of a majority. The best-known example of secession was the withdrawal (1860–61) of the 11 Southern states from the United States. They formed the CONFEDERACY and fought the CIVIL WAR with the Northern states. Their defeat settled a constitutional question that had been an issue in the United States from the formation of the Union. It was the most important point in the controversy over STATES' RIGHTS. The Union created by the Constitution, according to the theory behind secession, was only a compact of sovereign states, and the power given the Federal government was only a partial and strictly limited power, not paramount over the states and effective only in the limited field assigned to it. It followed then, said secessionists, that the states, being sovereign, had the legal right to withdraw from the voluntary union. The opponents of secession argued that the Constitution created a sovereign and inviolable union and that withdrawal from the union was impossible. The sections which supported one or the other of these arguments changed with political and economic conditions, the party out of power which felt that its interests were threatened or impaired naturally thought of leaving the Union. The most notable example of secessionist sentiment in the North was the HARTFORD CONVENTION. The theory was, however, more traditional in the South from the days of the KENTUCKY AND VIRGINIA RESOLUTIONS. The NULLIFICATION movement in South Carolina indicated how one Southern state felt threatened by the predominance of the Northern industrial, nonslaveholding economy in the government. The compromises as to the question of the extension of slavery in the territories did not settle any question permanently (see MISSOURI COMPROMISE and COMPROMISE OF 1850). Oppo-

nents of the extension of slavery grew in power in the North, and there are those who claim that the agitation of the ABOLITIONISTS was one of the prime reasons for secession. However, the South had equally belligerent agitators in the "fire-eaters," men such as Edmund RUFFIN, R B RHETT, and W L. YANCEY They failed to achieve secession in 1850, but eventually succeeded in winning over the majority. The reasons for secession were quite complex Some hold that fundamentally the South became convinced, falsely, it would appear, that the powerful North would, sooner or later, destroy its social and economic system More recent views emphasize the psychological and racial factors — Southerners were determined to retain "white supremacy " At any rate, in the election of the Republican, Abraham Lincoln, most of the Southern states chose to see a direct threat to their very existence With justificatory speeches, the delegates of South Carolina took the momentous step and seceded on Dec 20, 1860 Six other Southern states soon followed suit, and Lincoln's call for troops after the firing on Fort Sumter brought four more into the secessionist fold For secession in the various states, see the articles on those states See also D W Howe, *Political History of Secession, to the Beginning of the American Civil War* (1914), R G Russel, *Economic Aspects of Southern Sectionalism, 1840–1861* (1924), J. T Carpenter, *The South as a Conscious Minority, 1789 1861* (1930), D L Dumond, *The Secession Movement, 1860-1861* (1931) and (ed), *Southern Editorials on Secession* (1931), G W Johnson, *The Secession of the Southern States* (1933), U B Phillips, *The Course of the South to Secession* (1939), H C Perkins, ed , *Northern Editorials on Secession* (1942)

Secession, War of. see CIVIL WAR.

Sechu (sē'kŭ) [Heb , =watch tower], unlocated place, N of Jerusalem 1 Sam 19 22

Second Adventists see ADVENTISTS.

secondary school see SCHOOL

Second Empire see NAPOLEON III

second sight, faculty of seeing as a vision events which are occurring at a distance or which will occur in the future Although this type of CLAIRVOYANCE is common among Celtic peoples, particularly in the Scottish Highlands, it is not peculiar to one people or one time Allusions to second sight are made in classic and Icelandic literature, and it has been found among the Lapps, the Zulu, and the American Indians Among the Scottish seers the gift, or the particular vision, is said to be transmitted by contact, others believe the faculty to be inherited The "sight" is sometimes, though rarely, accompanied by epileptic symptoms, often by a sense of oppression or uneasiness Warnings of death are given by the appearance of shrouds, corpses, and candle lights Unexpected arrivals are also often foreseen The most curious phase of second sight is the belief that it is experienced by domestic animals, notably dogs and horses They manifest their uncanny knowledge by signs of fear and distress, when nothing startling is visible or audible to human beings

Secord, Laura (Ingersoll) (sē'kôrd), 1775–1868, Canadian heroine of the War of 1812 Born in Massachusetts, she was taken by her parents to Canada after the American Revolution In 1813 she learned from American troops billeted in her house at Queenston of a planned surprise attack on the British at Beaver Dams on the Niagara frontier She made her way through the American lines and gave warning to James FITZGIBBON at Beaver Dams See biography by W S Wallace (1932)

secretary bird, African bird of prey with long legs, a hooked beak, and a crest of black feathers which suggest quill pens stuck behind the ear of a secretary It is about 4 ft high and is grayish blue with the upper part of the legs feathered in black and with black on the wings and tail It attacks even poisonous snakes with its powerful feet Because it destroys reptiles and other harmful animals it is sometimes domesticated on African farms

secretion, in biology, a substance formed by the living material of an animal or a plant In some cases a single cell produces the secretion and in others the substance is produced by a group of cells commonly called a gland Secretions are well exemplified by those produced in the human and in some other higher animals Some of these perform special functions within the body and others are eliminated as excretions Digestive secretions include saliva, gastric juice, intestinal juice and pancreatic juice, and bile Certain secretions serve as lubricants, e.g , the synovial fluid in joints and secretions from mucous membranes and from the lachrymal gland. In the external auditory gland is secreted cerumen, a waxy substance The mammary gland secretes milk The endocrine (ductless) glands secrete hormones which are poured directly into the blood stream (see GLAND). Among those excreted are urine from the kidneys, sweat from the sebaceous glands, and bile pigments from the gall bladder. Plant secretions include nectar and the various enzymes concerned with the digestion of nutrients within the plant cells.

secret police. The enforcement of the law has required, in nearly all organized societies, a certain amount of secrecy, particularly in that phase of law enforcement which is connected with the investigation of crime rather than with the apprehension and conviction of the criminal It is probable that the emergence of a uniformed, clearly recognizable police force is of much more recent origin than secret bodies formed by societies for their protection from internal and external attack. In its wider meaning, the term "secret police" embraces all those members of any police force that operate, usually in ordinary civilian clothes, without giving warning to the suspected criminal that he is being investigated However, in democratic nations, the role of the secret police ordinarily ends once the investigation is closed, either no sufficient ground for supposing guilt has been found, or the criminal is indicted and confronted with the full evidence against him The limitation of the role of the secret police to investigation only and the right of the indicted offender to an open trial and to complete access to the evidence against him—these two conditions are basic guarantees of individual freedom in the societies that have adopted the English and American concepts of democracy Wherever these interrelated conditions are not fulfilled, a secret police in the narrower sense of the term either exists or is in progress of developing This is a body officially or in fact endowed with authority superior to other law-enforcing agencies It investigates, apprehends, and sometimes even judges the suspect in secrecy, and it is accountable only to the executive branch of the government In extreme cases such a secret police force may even have its own courts and prisons, and its activities are kept secret not only from the mass of the population, but also from the administrative, judiciary, and executive authorities of the state except at the topmost level Like any ordinary police force, a secret police force may operate either in a recognizable uniform or in "plain clothes", the distinction does not lie there It is popularly assumed that secret police forces (in the usual narrower sense) have always been primarily concerned with the security of the state and that they are invariably created by governmental action, but this is not the case Thus the formidable VEHME of medieval Germany was a spontaneous creation of a segment of the people to protect its interests, it may be argued that the Vehme and similar institutions were secret societies rather than bodies of secret police, but the distinction is not always easy to make It is certain that the institution of a secret police has reached its most menacing aspect in the modern totalitarian state—largely because of the improved technical means at its disposal Yet the institution is in no way exclusively limited to totalitarianism It has existed in most societies where a minority has exercised an uneasy rule over a majority Thus, in ancient Sparta, a well-organized secret police controlled the helots and ruthlessly suppressed any sign of rebellion or dangerous talent among them In Rome, particularly under the Julian emperors, a professional class of informers, who received a share of their victims' confiscated fortunes, was employed by the state, for obvious reasons, their activities were confined to the wealthy classes Among the earliest secret police forces organized along modern lines were the Venetian Inquisition (see TEN, COUNCIL OF) and the Oprichnina of Tsar IVAN IV of Russia After the abortive Decembrist coup d'état of 1825, a powerful secret police was again organized in Russia As in all "police states," the secret police worked hand in hand with the censorship and sought to suppress not only subversive activity, but even subversive thought (The culmination of this trend was symbolized by the name of the Japanese secret police before 1945—Thought Police) The use of *agents provocateurs* in late 19th-century and early 20th-century Russia by the tsarist police led to such extremes that in investigating revolutionary movements members of the secret police actually spread revolutionary propaganda and helped to assassinate government officials, while posing as revolutionists After the Russian Revolution of 1917 the Soviet regime instituted its own secret police, the Cheka (in full, its Russian name meant "extraordinary commission for the suppression of counterrevolution"), under DZERZHINSKY This was renamed (1922) OGPU or GPU (in full, "united department of political police") and was abolished in 1934. The functions of the OGPU were transferred to the people's commissariat (later ministry) of internal affairs (NKVD, later MVD) Its head, G. G. Yagoda, was removed in 1936 and was convicted, in the 1938 Moscow treason trials, of having been a leader in a conspiracy against Stalin, true or false, the charge is characteristic of the inherent danger of a strong secret police, namely, the danger of its becoming a state within the state, so that it ultimately may easily overthrow the very state it is supposed to protect The Communist party purges of the 1930s appear to have averted that danger in the USSR at least temporarily. Under the ministry of internal affairs, the Russian secret police continued to exist despite its changed name; its responsibilities include the detection of subversive elements as well as the supervision of prison and labor camps and the "reeducation" of political offenders. A similar secret political police helped to consolidate Mussolini's power in Italy and to put down anti-Fascist activities Germany under Adolf Hitler came closest to an absolute police state, i e , a state where the police runs the government rather than the government the police. The German Gestapo (secret state police) was founded in 1933 after the advent of National Socialism. Its first head was Hermann Goering. In 1936 the Gestapo was combined with the SS (see NATIONAL SOCIALISM) under Heinrich Himmler, who subordinated it to the over-all *Sicherheitsdienst* or SD [security service] Just as the Gestapo had its secret ramifications among the mass of the population, the SD had agents, known only to the chief SD officers, in every department of the German government, in the armed forces, in the Nazi party, among the chief industrial executives, and among the Gestapo itself While the existence of the Gestapo was a matter of common knowledge, the existence of the SD was generally little known By the end of the Second World War, Himmler was the real master of Germany, and even the Nazi party, which supposedly controlled the state, was to some extent at the mercy of the SD The SS, which by then formed a separate army, was responsible to Himmler only, thus, probably for the first time in history, a secret police wielded virtually absolute power, demonstrated by its victory over the army plot on the life of Hitler (July, 1945) The crimes and atrocities of the Nazi authorities throughout German-occupied Europe during the Second World War were largely carried out by the SS and Gestapo, who controlled the extermination and concentration camps and who set up their subsidiary agencies in every conquered country

secret society. Human groups from the most primitive to the most civilized on all the continents maintain secret societies The ceremonies of initiation into such a society typically begin with an oath pledging secrecy as to all proceedings of the society, assuming special obligations to its members, and assenting to penalties for violation of the oath This is followed by tests of the candidate's worthiness In primitive groups physical courage is stressed especially, and the tests often include painful mutilations After the candidate has passed the prescribed tests, the knowledge understood to be a possession of the society exclusively is transmitted to him This knowledge includes the explanation of the secret and overt signs and symbols of the society Among remote peoples such societies function as schools in which the elders instruct the young men in the tribal code Women have comparable secret societies Societies that admit both men and women are unusual The mysteries or secret rites and doctrines of the Egyptians, the Persians, the Greeks, the Romans, and other ancient peoples were transmitted solely through secret societies The Greek mysteries included the Orphic, the Eleusinian, and the Samothracian The Romans adopted mysteries from various sources, e g , the mysteries of Isis (from Egypt), Adonis (of Semitic origin), the Great Mother (from Asia Minor), and Mithras (from Persia) In modern civilizations secret societies are numerous In various ways, they usually function in mutual aid, there are, for example, special obligations to members who are ill and to the families of deceased members Some churches oppose secret societies, as do some governments, who suspect them of being centers of disloyalty and subversion Some secret societies, e g , the BLACK HAND and the MAFIA, under the guise of fraternal forms have defended the interests of their members by violence, at a later stage supplementing this function with criminal activities such as blackmail, extortion, and murder. See also FRATERNITY and FREEMASONRY See Hutton Webster, *Primitive Secret Societies* (1908)

Secundus (sēkŭn'dus) [Latin, =second] companion of Paul on his third journey Acts 20 4

securities, in finance, instruments giving to their legal holders rights to money or other property Securities include stocks, bonds, notes, mortgages, bills of lading, and bills of exchange See BUCKET SHOP, BULLS AND BEARS; SPECULATION, STOCK EXCHANGE

Securities and Exchange Commission (SEC), agency of the U S government created by the Securities Exchange Act of 1934 and charged with certain duties in connection with the public issuance and sale of corporate securities The SEC administers a number of the most important "reform" measures of the New Deal, namely, the Securities Act of 1933, the Securities Exchange Act of 1934, the Public Utility Holding Company Act of 1935, the Trust Indenture Act of 1939, the Investment Company Act of 1940, and the Investment Advisers Act of 1940 In addition it may act as a participant in corporate reorganizations in the Federal courts under the National Bankruptcy Act. The first three of these statutes were passed in response to pressure for greater protection of investors, consequent upon the drastic decline in values of securities after Oct. 1929, the revelation of fraudulent and unfair practices in the sale of stocks and bonds, and wide-

spread belief that such practices had contributed to the severity of the depression of 1930–33. The SEC is composed of five commissioners, appointed by the President for terms of five years One of the commissioners is annually elected chairman Its staff is organized into various divisions, each of which is headed by a director who is responsible to the commissioners. Regional offices are maintained in 10 administrative zones in the United States The Securities Act of 1933 is intended to compel full disclosure to investors of material facts about securities offered and sold in interstate commerce or through the mails It requires that, before an issue of securities may be offered for public sale, the issuer must file with the SEC a registration statement giving complete information on such securities and on the issuing company Dealers in securities must provide their customers with a condensation of the data in the statement The SEC examines the statement and may refuse registration if it appears to be misleading, inaccurate, or incomplete If registration is denied, the securities may not be offered for sale However, an approval of the statement is not a finding by the SEC that the securities have investment value The Securities Exchange Act of 1934 is designed to increase the information available to investors and to prevent unfair practices in the securities markets It requires that certain current information be made public on the financial and managerial condition of corporations whose securities are traded in the exchanges A registration statement containing such data for each listed security must be submitted to the SEC The act also places the stock exchanges and over-the-counter markets under the SEC's supervision Stock exchanges, brokers, and dealers must file information about themselves with the commission Manipulative practices and false and misleading statements are prohibited Other practices, such as short sales and market pegging, are regulated Officers, directors, and principal stockholders of corporations whose securities are registered must report all their transactions in equity securities of their companies The Board of Governors of the Federal Reserve System is responsible for regulating by means of margin requirements the use of bank credit to finance trading in securities The Public Utility Holding Company Act regulates the financial practices of holding-company systems controlling electric and gas utilities It provides for registration of holding companies, elimination of uneconomic holding-company structures, and supervision of their transactions in securities and of certain of their financial practices The SEC must pass upon all plans for reorganization of such companies or their subsidiaries and must require the corporate simplification and geographic integration of holding-company systems However, it does not regulate public-utility rates This act was upheld by the Supreme Court in 1946 The Trust Indenture Act requires that securities of trustees meet satisfactory standards, and it also sets up qualifications for trustees The Investment Company and Investment Advisers Acts provide for registration and regulation of investment trusts, investment companies, and investment advisers The various laws administered by the SEC are intended to give investors a greater degree of safety in entrusting their money to enterprises than was previously afforded them The emphasis has shifted from *caveat emptor* to *caveat vendor* However, the statutes do not guarantee investors against loss It is perhaps no more difficult for them to lose their money than before The regulatory measures were at first bitterly opposed by the financial community, on the ground that they imposed such severe limitations and liabilities on security issuers and dealers as to impede the financing of industry Persons aggrieved by the decisions of the SEC have a right of review by a U S circuit court of appeals The original penalties of the Securities Act of 1933 were softened in 1934 As time passed, governmental supervision tended to win considerable acceptance by the interests concerned See annual reports of the SEC

security, in international relations, state of safety from aggression Typical expressions of the search for security may include building up armaments and making military and naval pacts and defensive alliances Measures of this sort often have the consequence of alarming other states and inducing them to take similar steps The final effect may be to bring two groups of antagonistic powers to readiness for war or even to war itself To avoid this eventuality, a foreign policy looking to security may stress disarmament, nonaggression pacts, neutrality, and even appeasement of aggressors. Here there is danger that aggression will be invited by weakness. Since the end of the First World War the attempt has been made to attain security through international organizations which are intended to have behind them the moral and physical strength of most of the powerful nations The LEAGUE OF NATIONS, the first of such bodies, failed in its main goal, and it was hoped that its successor, the UNITED NATIONS, would prove successful In the case of both organizations internal disagreements led to the creation of complementary security alliances between some of the members Thus in the '20s France made alliances with other continental countries, and after serious rifts developed in the United Nations the NORTH ATLANTIC TREATY was concluded at the instance of the United States

Security Council: see UNITED NATIONS

Sedalia (sĭdā'lyə), city (pop 20,428), co seat of Pettis co, W central Mo, ESE of Kansas City, in an area of farms and limestone quarries, laid out 1859 It has railroad shops and manufactures disinfectants and food products The state fairgrounds are here

Sedan (sĭdăn', Fr sudã'), town (pop 12,987), Ardennes dept, NE France, on the Meuse near the Belgian border It is primarily a garrison town but also has a textile industry A part of the duchy of BOUILLON, it passed to France in 1642 It was a Protestant stronghold in the 16th and 17th cent, with a famous Calvinist academy where Pierre Bayle and Pierre Jurieu taught Sedan was the scene (1870) of the decisive French defeat in the FRANCO-PRUSSIAN WAR and of the capture of Napoleon III Occupied by the German army in the First World War, it was recaptured by American troops in Nov, 1918 In the Second World War the Germans broke through here (May, 1940) and thus opened the fateful "battle of France", the town was heavily damaged

Sedan (sĕdăn'), city (pop 1,948), co seat of Chautauqua co, SE Kansas, WNW of Coffeyville, in a farm and oil area, founded 1875, inc 1876

sedative (sĕ'dətĭv), in medicine, a drug employed to lessen general nervous excitement or to reduce the activity or irritability of a specific organ The term is sometimes applied also to drugs administered to alleviate pain, although drugs that are given primarily for this purpose are usually called anodynes or analgesics Most sedatives, especially the bromides, act as mild depressants of the central nervous system, by relieving nervous tension they sometimes assist also in inducing sleep Certain sedatives taken in sufficient quantity have a direct soporific effect and, in large doses, produce anesthesia Sedatives are useful in relieving convulsions, coughing, and nausea, in lessening anxiety, and in quieting patients with cardiac disorders They should be taken only under the direction of a physician, since they frequently produce harmful effects

Sedding, John Dando, 1838–91, English architect A leading figure in the Gothic revival, he was an enthusiast for medieval forms and methods and especially interested in a rebirth of Gothic craftsmanship, which he emphasized in his many churches, notably Holy Trinity in Sloane Square, London

Seddon, James Alexander, 1815–80, secretary of war in the Confederacy, b Fredericksburg, Va, grad Univ of Virginia law school, 1835 He served in the U S House of Representatives (1845–47, 1849–51) Jefferson Davis brought him into the cabinet in Nov, 1862, and Seddon faithfully discharged the president's orders until he resigned in Jan, 1865 See B J Hendrick, *Statesmen of the Lost Cause* (1939)

sedge (sĕj), name for grasslike and rushlike marsh plants of the family Cyperaceae, widely distributed in temperate and tropical regions and found in some species in the arctic Sedges differ from the related grass family chiefly in having solid, angular (usually triangular) stems Many are perennial, reproducing by rhizomes *Carex*, with over 1,000 species, and *Cyperus*, with about 600 species, are the largest genera Pith from the stems of *Cyperus papyrus* was made into papyrus in early Egypt and in other Mediterranean countries Species of *Scirpus*, especially *Scirpus lacustris*, are known as bulrushes Some sedges are woven into mats and chair seats, and a few yield a coarse hay

Sedgemoor, tract of moorland, Somerset, England, SE of Bridgwater The duke of Monmouth was disastrously defeated here in 1685 by James II

Sedgwick, Adam (sĕj'wĭk), 1785–1873, English geologist He was a professor at Cambridge from 1818 His most important work was a study, made with R I Murchison, of the rock formation of Devonshire, which they named the Devonian system See biography by J W Clark and T McK Hughes (1890)

Sedgwick, Anne Douglas (sĕj'wĭk), 1873–1935, American author, b Englewood, N J After the age of nine, she lived in England and later studied painting in France In 1908 she married Basil de Selincourt Her most successful novels were *Tante* (1911), *The Little French Girl* (1924), and *Philippa* (1930). See *Anne Douglas Sedgwick a Portrait in Letters* (ed by Basil de Selincourt, 1936)

Sedgwick, Catharine Maria, 1789–1867, American author, b Stockbridge, Mass, of a wealthy and influential family She spent most of her life in the Berkshires, the scene of many of her novels Her novels were frankly didactic and dealt with domestic life The first, *A New-England Tale*, was written in 1822, the most famous, *The Linwoods*, in 1835, and her last, *Married or Single* (a justification of her single life), in 1857 See biographies by M E Dewey (1871) and Sister Mary Michael Welsh (1937)

Sedgwick, Ellery, 1872–, American editor, b New York city, grad Harvard, 1894, brother of Henry Dwight Sedgwick As editor (1908–38) of the *Atlantic Monthly* he continued the literary traditions of the magazine and broadened its popularity See his reminiscences, *The Happy Profession* (1946).

Sedgwick, Henry Dwight, 1861–, American biographer and historian, b Stockbridge, Mass, studied at Harvard, brother of Ellery Sedgwick His works include biographies of Francis Parkman (1904), Alfred de Musset (1931), and Horace (1947) and several short histories of European nations See his autobiography, *Memoirs of an Epicurean* (1942)

Sedgwick, John, 1813–64, Union general in the Civil War, b Cornwall Hollow, Conn, grad West Point, 1837 He fought against the Seminole and won two brevets under Scott in the Mexican War Sedgwick's Civil War service was with the Army of the Potomac In the PENINSULAR CAMPAIGN he was prominent at Fair Oaks and was wounded at Frayser's Farm in the Seven Days battles (1862) Wounded again in the Antietam campaign, Sedgwick was afterwards promoted major general of volunteers and given command of the 6th Corps In Joseph Hooker's move on Lee (see CHANCELLORSVILLE, BATTLE OF), he drove Jubal Early from Marye's Heights at Fredericksburg but was defeated at Salem Church His corps was in reserve at Gettysburg Sedgwick was killed at Spotsylvania Courthouse in the WILDERNESS CAMPAIGN, May, 1864 See his correspondence (1902–3)

Sedgwick, Theodore, 1746–1813, American lawyer and statesman, b West Hartford, Conn, grad Yale, 1772 (as of 1765) He practiced law in Massachusetts after being admitted (1766) to the bar In the American Revolution he acted (1776) as military secretary to Gen John Thomas on the Canadian expedition After serving in the state legislature for several years, he became a member of the Continental Congress (1785–88), was concerned with the suppression of Shays's Rebellion, and was a delegate to the Massachusetts convention that ratified the Constitution (1788) From 1789 to 1801 he served either in the U S House of Representatives, where he was speaker (1799–1801), or in the Senate He was afterwards judge of the Massachusetts supreme court until his death His most famous legal case concerned the freeing of an escaped Negro slave, Elizabeth Freeman, under the Massachusetts Bill of Rights (1783)

sedimentary rock see ROCK

sedition (sĭdĭ'shən) in law, acts or words which may tend to upset the authority of a government The scope of the offense was very wide in early common law, which even permitted prosecution for a remark insulting the king In the United States there was long doubt that the protection accorded free speech by the First Amendment of the U S Constitution would permit language to be deemed seditious In 1940, however, Federal legislation was adopted which made utterances deliberately designed to overthrow the government of the United States or to cause disaffection in the armed forces criminal, and there were several prosecutions

Sedley, Sir Charles, 1639?–1701, English wit and profligate, father of the countess of Dorchester, who became the mistress of James II The comedy *Bellamira* (1687) was the best of his several plays, and "Phyllis Is My Only Joy," the best known of his songs See biography (1927) and edition of his works (1928) by V de S Pinto

Sedro-Woolley (sē'drō-wōō'lĭ), farm trading city (pop 2,954), NW Wash, on the Skagit river and SE of Bellingham Sedro and Woolley, founded separately, were consolidated in 1898 A state mental hospital is near by

sedum (sē'dŭm) or **stonecrop,** any species of the large genus *Sedum*, fleshy or succulent, usually low herbs of wide distribution Most species are hardy (some evergreen) and perennial, a number of them are popular for rockeries, bedding plants, and window boxes One of the most common species, naturalized from the Old World, is *Sedum acre*, which is called also wall pepper and gold moss It is a low creeping plant with bright yellow flowers and is common in cemeteries and rock gardens The orpine or live-forever is a garden sedum sometimes found wild in North America, it has flat-topped clusters of flowers commonly rosy purple, stems that root easily, and leaves that children delight to blow up into "frogs"—whence it is called also frog plant The showy sedum (*Sedum spectabile*), with pink, crimson, or white flowers, is another species popular for gardens

See, Thomas Jefferson Jackson, 1866–, American astronomer, b near Montgomery City, Mo, grad Univ of Missouri, 1889 Between 1893 and 1896 he organized the department of astronomy in the Univ of Chicago and, as its head, had a part in establishing Yerkes Observatory at Williams Bay, Wis From 1896 to 1898 he was astronomer at the Lowell Observatory, Flagstaff, Ariz He made a survey of the southern skies, examining about 200,000 fixed stars, among them about 600 new double stars were discovered and measured, and about 1,400 other double stars remeasured In 1899 he was appointed professor of mathematics in

the U S navy and from 1903 was at the naval observatory, Mare Island, Calif He is particularly known for his elaboration of the laws of the capture theory of the formation of the solar system, which substitutes for Laplace's process of throwing off a process of building up the larger bodies by the attraction and capture of the smaller, this theory is described in the second volume of his *Researches on the Evolution of the Stellar Systems* (1896–1910) Among his numerous other publications are double-star catalogues and contributions to scientific journals

Seebohm, Frederic (sē'bōm), 1833–1912, English historian. He was a Quaker in religion, a barrister, and a partner in the bank of Sharples & Company His earliest historical studies were on aspects and results of the Reformation, *The Oxford Reformers* (1867) and *The Era of the Protestant Reformation* (1874) Economic history claimed his attention, and in the discussion among historians of the village or MARK, Seebohm's *The English Village Community* (1883) upheld the theory that the feudal village had its origin in a semipastoral system probably influenced strongly by the Roman villa *The Tribal System in Wales* (1895) and *Tribal Custom in Anglo-Saxon Law* (1902) were close studies of original, pre-Roman customs His last work, *Customary Acres* (1914), was posthumously published

Seeckt, Hans von (hans' fŭn säkt'), 1866–1936, German general He fought in Poland, Serbia, Rumania, and Turkey during the First World War After the Treaty of Versailles he created (1920) the Reichswehr—the army of 100,000 men which Germany was allowed to keep under the peace terms He commanded the Reichswehr until his retirement in 1926 and made it an efficient nucleus capable of serving as cadre for a much larger army Seeckt was (1930–32) a member of the Reichstag, representing the conservative People's party In 1934–35 he was a military adviser to Chiang Kai-shek in China Among his writings are *Die Zukunft des Reiches* (1929, Eng tr , *The Future of the German Empire*, 1930) and *Gedanken eines Soldaten* (1929, Eng tr , *Thoughts of a Soldier*, 1930)

seed, product of the fertilization of the ovum of a FLOWER following POLLINATION A seed is a complex structure of many cells borne within a FRUIT and containing the embryo or young plant and stored food It is produced by the highest group of plants in the evolutionary scale The plants of lower orders (e g , mosses and ferns) bear spores, which are unicellular and contain no embryo Agents which aid in the dispersal of seeds include wind, water, birds, quadrupeds, and man (particularly with improved methods of transportation) There is usually a close correlation between a fruit and its distributing agent wind-borne fruits typically have wings (e g , the maple) or tufts of down (e g , the dandelion), bird-borne fruits usually have an edible pulp with a hard indigestible seed, and animal-borne fruits usually have burs or prickles that tangle in the fur Seeds vary in size from the dusthke seed of some orchids to the very large seeds of a PALM (*Lodoicea maldivica*) which have been called sea coconuts and double coconuts Seeds by providing a resting stage in the life cycle of a plant often enable it to endure adverse conditions An ANNUAL is particularly dependent upon its seeds for renewed existence Many seeds require a resting or dormant period before they will germinate, some are capable of prolonged resting periods (a lotus seed was viable after over 200 years), while others will not germinate after more than one season One factor aiding a long dormancy period for some seeds is an exceptionally hard seed coat. This is overcome in horticultural practice by filing, soaking, or other methods Under suitable conditions of temperature, moisture, and oxygen, the dormant period of a seed is brought to an end and vital activity is begun, which results in the growth of the embryo into the young seedling A plant grown from seed may differ from its parent plant (as a result of cross-pollination or other causes); this is particularly true of horticultural varieties. Under controlled conditions seed are produced which will assure the desired type of plant Some few plants that multiply by vegetative means, e g , by shoots, produce aborted seeds that are useless, such a plant is the banana—cultivated and propagated vegetatively for centuries Because of the large quantities of stored food contained within seeds they are an important source of food for man (see GRAIN)

Seeger, Alan (sē'gur), 1888–1916, American poet, b New York city, grad Harvard, 1910 He enlisted in the French Foreign Legion in 1914 and was killed in battle in 1916 He is famous for his war poem, "I Have a Rendezvous with Death." See his *Collected Poems* (1916)

seeing-eye dog, trained to guide a blind person Among the dogs used for this purpose are the German shepherd dog, the Doberman pinscher, and some bulldogs Dorothy Harrison Eustis was the founder (1929) of the Seeing Eye, Inc , which established itself near Morristown, N J., in Dec , 1932 At the school in Morristown each dog is first trained alone, and then dog and master undergo training together. Scores of blind persons have completed the course and with the aid of a seeing-eye dog have achieved new independence. See Dickson Hartwell, *Dogs against Darkness* (1942).

Seekonk (sē'kŏngk), town (pop. 4,912), SE Mass , at the R I line NW of Fall River; settled 1636, set off from Rehoboth 1812

Seeland, Denmark: see ZEALAND.

Seeley, Sir John Robert, 1834–95, English historian. He was, from 1869 until his death, professor of modern history at Cambridge His first work was the anonymously published study of the life of Christ, *Ecce Homo* (1865), which created wide discussion His historical works include the *Life and Times of Stein* (1879), *The Expansion of England* (1883), and the posthumous *Growth of British Policy* (1895) He was a proponent of the British imperialist ideal

Seely, John Edward Bernard, 1st baron of Mottistone, 1868–1947, British statesman and general He served with distinction in the South African War and in the First World War, rising to the rank of major general (1918). In 1900 he was elected to Parliament, where he served until 1924 In 1912 he was appointed secretary of war, but was forced to resign in 1914 for exceeding his authority in assenting to demands of officers opposed to serving against Ulster in the Home Rule crisis He was undersecretary in the ministry of munitions (1918) and then undersecretary for air (1919), resigning as a protest against the failure to establish a separate air ministry In *Adventure* (1930) and *Fear and Be Slain* (1931) he tells the story of his life

Seelye, Julius Hawley (sē'lē), 1824–95, American clergyman and educator, b Bethel, Conn , grad Amherst, 1849, and Auburn Theological Seminary, 1852, and studied in Germany, brother of L C Seelye After serving as pastor of the First Reformed Church, Schenectady, N Y., he became professor of mental and moral philosophy at Amherst in 1858, he was president of the college from 1876 to 1890 He inaugurated at Amherst what is said to be the first case of student self-government on record in any American college Seelye also served (1874–77) in Congress, to which he was elected in a nonpartisan movement His writings include *The Way, the Truth, and the Life* (1873), *Duty* (1891), and *Citizenship* (1894)

Seelye, Laurenus Clark, 1837–1924, American educator and Congregational clergyman, b Bethel, Conn , grad Union College, 1857, and studied at Andover Theological Seminary and in Germany From 1865 to 1873 he was professor of rhetoric, oratory, and English literature at Amherst In 1873 he became first president of Smith College, retiring in 1910 See his *Early History of Smith College* (1923), biography by H C S Rhees (1929)

Segantini, Giovanni (jōvän'nē sägäntē'nē), 1858–99, Italian painter, b in the Tyrol A herdsman in his youth, he is known for his portrayal of peasant scenes in the Alpine regions Among his works are *The Angel of Life* (Budapest), *The Punishment of Luxury* (Liverpool), and *At the Watering Place* (Basel) At St Moritz there is a Segantini Museum

Segesta (sĭjĕ'stŭ), ancient city of Sicily Tradition called it a Trojan colony It was the long-standing and bitter rival of Selinus Athens undertook the disastrous expedition against Syracuse (415–413 B C) as an ally of Segesta in trouble growing out of a quarrel with Selinus After this failure, Segesta got the help of Carthage, and Selinus was sacked Thereafter Segesta was a Carthaginian dependency with some interruptions until the First Punic War, when it surrendered to the Romans It declined in the 1st cent B C The ruins, with a fine temple to Ceres, are near modern Alcamo

sego lily (sē'gō), ornamental plant (*Calochortus nuttallii*), belonging to the same genus as the Mariposa lily It is native to the region E of the Rocky Mts , especially Utah, of which it is the state emblem It has narrow leaves, beautiful tulip-like white flowers marked with purple, lilac, or yellow, and bulbous roots which were used by the early settlers for food It is used in Mormon church symbolism

Segonzac, André Dunoyer de (ädrā' dünwäā' du sugōzäk'), 1884–, French painter, studied at the École des Beaux-Arts and Julien's academy, Paris He served (1915–18) as an officer in the French army. He is best known for his fine landscapes, nudes, and still lifes in oil and water color, painted in a direct and highly simplified manner, approaching abstraction in form but not in spirit. His drawings, prints, and illustrations are equally successful

Segou, French West Africa: see SEGU

Segovia, Andrés (ändrās' sägō'vyä), 1894–, Spanish guitarist, studied at the Granada Musical Institute. He is famous for his transcriptions of early contrapuntal music, which have shown the possibilities of the guitar as a concert instrument Composers who have written works for him include Ottorino Respighi and Paul Hindemith

Segovia (sĕgō'vēu, Span sägō'vyä), city (pop 24,258), capital of Segovia prov., central Spain, in Old Castile. It stands on a rocky ledge crowned by the cathedral and the alcasar Of ancient origin, Segovia was favored by the Romans, who built the aqueduct (about 900 yards long) that still brings water to the town, built of uncemented limestone blocks, it is one of the greatest Roman monuments in Spain. Segovia was repeatedly taken and lost by the Moors from 714 until Alfonso VI conquered it in 1083. It was a favorite residence of the kings of Castile. Isabella I was proclaimed queen in the alcasar (14th cent ; mostly rebuilt in the 19th). Segovia, long famous for its wool industry, declined in the 18th cent. The late Gothic cathedral (1525–1616) has fine cloisters Of the many medieval churches and palaces, the Romanesque churches of San Estebán and San Millán are the most notable

Segovia (sägō'vyä), river rising in NW Nicaragua and flowing NE to the Caribbean. Also called the Coco, Cape, and Wanks, it is one of the longest Central American rivers Honduras claims the Segovia as the southeastern boundary with Nicaragua, but Nicaragua claims the whole territory

Segu or Segou (both sägō'), town, S central French Sudan, French West Africa, on the upper Niger There is trade in cotton and peanuts It was the capital of the state of the Bambara Mandingoes, powerful in the 17th and 18th cent Hajj Omar captured it in 1861 It passed to the French in 1890

Segub (sē'gŭb) [Heb ,=elevated]. 1 Son of Hiel the restorer of Jericho 1 Kings 16 34 2 Son of Hezron 1 Chron 2 21,22.

Séguier, Pierre (pyĕr' sāgyā'), 1504–80, French jurist A president in the Parlement of Paris, he secured the withdrawal of the edict introducing the Inquisition into France and was also notable for his moderate tone in dealing with the Protestants

Séguier, Pierre, duc de Villemor (dük' du vēlmôr'), 1588–1672, chancellor of France, grandson of Pierre Séguier. A councilor to the Parlement of Paris, he rose to power after crushing a revolt in Normandy (1639) A friend of Mazarin, he was instrumental in having the parlement accept Anne of Austria as regent He helped to found the French Academy

Seguin, Édouard (sā'gwĭn, Fr ādwär' sügĕ'), 1812–80, French psychiatrist, instrumental in introducing a scientific method of treatment of the insane He opened a school for the feeble-minded in 1839 and after the Revolution of 1848 came to the United States to continue his pioneer work He received a medical degree in 1861 from the Univ of the City of New York (later New York Univ) His son, **Edward Constant Seguin** (kŏnstă'), 1843–98, b Paris, M D Columbia, 1864, was a leading neurologist

Seguin (sügēn'), city (1940 pop 7,006, 1947 estimated pop 9,200), co seat of Guadalupe co , S central Texas, on the Guadalupe and ENE of San Antonio, settled 1832, laid out 1838, inc 1853. It was named after Col Juan Seguin, a hero of the Texas Revolution, was once a plantation center, and still keeps a tidy German look given it by German settlers, thus, the city epitomizes much of Texas history The region produces oil, cattle, diversified farm produce, and pecans, and the city has processing plants and small factories The Guadalupe river and near-by Lake McQueeney attract vacationers Seguin is the seat of Texas Lutheran College

Ségur, Louis Philippe, comte de (lwē' fēlēp' kōt' du sägür'), 1753–1830, French general and diplomat, son of Philippe Henri, marquis de Ségur (1724–1801), marshal of France and war minister under Louis XVI The younger Ségur served in the American Revolution under Rochambeau, was ambassador (1783) to Catherine II of Russia, served on Napoleon's council of state, and became a member of the chamber of peers in the Restoration

Ségur, Philippe Paul, comte de (fēlēp' pōl'), 1780–1873, French general and historian, son of Louis Philippe de Ségur He fought in the Napoleonic campaigns and wrote (1824) an excellent account of the Russian campaign of 1812 He was made a peer by Louis Philippe (1831)

Segura (sägōō'rä), river, c 200 mi long, SE Spain It rises on the northeastern slopes of the Sierra de Segura (a mountain range rising to 7,812 ft) and flows generally E into the Mediterranean 20 mi SSW of Alicante It is used for irrigation

Seidl, Anton (än'tŏn zī'dul), 1850–98, Hungarian conductor, famous as a conductor of Wagnerian opera. He conducted the first Bayreuth Festival (1876) and was conductor at the Leipzig Opera House (1879–82), the Metropolitan Opera House (1885–91), and of the New York Philharmonic Society (1891–98). His extensive library of scores and personal papers was given to Columbia Univ

Seidlitz powders (sĕd'lĭts), mild, saline cathartic consisting of two powders One powder, contained in a blue paper, is a mixture of Rochelle salt (sodium potassium tartrate) and bicarbonate of soda, the other, contained in a white paper, is tartaric acid Each powder is separately dissolved in about one third of a glass of water; the solutions are then combined and should be taken before effervescence (arising from the generation of carbon dioxide) has subsided The medicine is named for its resemblance to the natural waters of Seidlitz (now Sedlcany), near Prague, Czechoslovakia, and is also known as "compound effervescent powders "

Seignelay, Jean Baptiste Colbert, marquis de: see COLBERT, JEAN BAPTISTE, MARQUIS DE SEIGNELAY.

Seignobos, Charles (shärl' sānyōbō'), 1854–1942, French historian. He taught at the Univ. of Paris and wrote many works on French and European

history and civilization, partly as contributions to the cooperative series edited by Ernest LAVISSE and Alfred Rambaud. Some of these are widely used as textbooks in France and, in translation, in English-speaking countries. With C. V. Langlois he wrote an *Introduction to the Study of History* (1897; Eng. tr., 1898), analyzing the methods of objective and scientific history writing. His *La Méthode historique appliquée aux sciences sociales* (1901) extended his method into the fields of social and economic history. Among the most useful works of Seignobos is *The Feudal Régime* (Eng. tr., 1902, new ed., 1926).

seignorial system: see MANORIAL SYSTEM and FEUDALISM

Seillière, Ernest, Baron (ĕrnĕst' bärō' sāyĕr'), 1866–, French critic, studied at the École polytechnique, Paris, and the Univ. of Heidelberg. On socialism in Germany he wrote a study of Ferdinand Lassalle (1897) and a collection of essays (1898), but he is especially known for his studies on romanticism, to which he is antagonistic. A collection of his essays was translated as *Romanticism* (1929), with a bibliography of his works.

Seine (sān, Fr. sĕn), department (185 sq. mi., pop. 4,775,711), N France, coextensive with Paris and its suburbs (Greater Paris). Unlike the other departments of France, each of which is administered by one prefect, Seine dept. has two prefects, the prefect of Seine and the prefect of the police. In the outskirts (*banlieue*) of Paris there are numerous large industrial and residential suburbs, most populous are Asnières, Aubervilliers, Boulogne-Billancourt, Clichy, Courbevoie, Levallois-Perret, Neuilly-sur-Seine, Saint-Denis, Montreuil, Saint-Maur-des-Fossés, and Vincennes. Much of the industry and all of the agriculture of the region depend on the needs of the capital, but there also are machine, automobile, airplane, textile, chemical, and other plants and numerous luxury industries, particularly in Paris itself. The area is the largest industrial concentration of population in France although it has almost no raw materials. See PARIS.

Seine, Latin *Sequana*, river, 482 mi. long, N France. With its tributaries (Aube, Yonne, Marne, Oise, Eure, and others) it drains the entire Paris basin. Rising in the Langres Plateau, it winds NW through CHAMPAGNE and ILE-DE-FRANCE, passing Troyes and Paris, whence it meanders in large loops through the VEXIN and Normandy, past Les Andelys and Rouen, to the English Channel. Its estuary is very wide, measuring 6 mi. from Le Havre to Honfleur. Its waters have a regular flow and are easily controlled despite the fact that for two thirds of its course it traverses a plain less than 300 ft. above sea level. The ports of PARIS, ROUEN, and Le HAVRE handle the major part of French river and ocean trade, since time immemorial the Seine has been the chief commercial artery of France, and therefore the cities on its banks have prospered.

Seine-et-Marne (sĕn"-ā-märn'), department (2,290 sq. mi., pop. 407,137), N France, in ILE-DE-FRANCE, E of Paris. Melun is the capital.

Seine-et-Oise (sĕn"-ā-wāz'), department (2,185 sq. mi., pop. 1,414,910), N France, in ILE-DE-FRANCE. It surrounds but does not include Paris. The southern section is a part of BEAUCE. Versailles is the departmental capital.

Seine-Inférieure (sĕn"-ănfārēûr'), department (2,448 sq. mi., pop. 846,131), N France, in Normandy. It is traversed by the lower Seine, at the mouth of which on the English Channel lies Le HAVRE. Other coastal towns are Dieppe and Fécamp. ROUEN is the departmental capital.

Seipel, Ignaz (Ig'näts zī'pul), 1876–1932, Austrian statesman, a Roman Catholic prelate and leader of the Christian Socialist party. After the collapse of the monarchy, Monsignor Seipel held the divergent elements of his party together, and, as chancellor (1922–24, 1926–29), he introduced stringent economies, stabilized the currency, and secured Austrian acceptance of the Geneva Protocol. He was hated by many because of his clericalist and sternly anti-Socialist policies, and an attempt was made on his life in 1924.

Seir (sē'ĭr), mountainous region, S Palestine, S of the Dead Sea. Mt. Hor is the highest point. It is identical with EDOM. It is mentioned frequently in the Bible as Mt. Seir. The eponym appears at Gen. 36:20, 1 Chron. 1:38. The Seir of Joshua 15:10, a border point of Judah, seems to be different.

Seirath (sē'ĭrăth, sēĭr'-), mountainous region, E central Palestine. Judges 3:26.

Seishiu, Korea: see CHONGJIN.

seismology (sīsmŏ'lŭjē, sīs-), scientific study of earthquakes or movements of the earth's crust. Instruments used to indicate and record earthquakes are known as seismographs or seismometers. Simple devices were employed even in ancient times. Among those who laid the foundations of the science were John Winthrop in the United States and Sir James Ewing and John Milne in Great Britain. Among the seismographs used now are those known as the Milne-Shaw, the Galitsin (Galitsin), the McComb-Romberg, the Wood-Anderson, and the Benioff. Seismographs vary somewhat in design but generally a heavy mass, either a pendulum or a large permanent magnet, is an essential part of the structure. A recording device consisting of either a mechanical system or an optical system is connected with the pendulum or the magnet. A mechanical one has a pen which marks on a smoke-covered surface on a rotating drum or has a pen or pencil which draws on a roll of paper fastened to the rotating drum. In an optical system a beam of light is reflected by a mirror on a photographic paper or film. When tremors of the earth occur, the pendulum or the magnet because of inertia actually remain still as the earth beneath moves. The relative motion between the earth and the instrument is magnified either by a system of levers connected with the pendulum or by electrical apparatus. For scientific studies the time intervals must be accurately marked on the drum. From the graphic record, called the seismogram, the severity and other information about an earthquake can be learned. By using three instruments, each set to respond to motions from a different direction (north-south horizontal, east-west horizontal, and vertical), both the distance and the direction of the earth movement can be found. A more recently developed instrument installed in the observatory at Harvard can make, with this single instrument, a triple record of movement in all three directions. An important commercial application of seismology is its use in the petroleum industry for the detection of oil deposits. In 1924 the first deposit was discovered by this method in Texas. A portable seismograph is set up in the area to be investigated, and dynamite or another high explosive is detonated in a hole drilled near by. From an interpretation of the waves created by the explosion and recorded on the seismograph the detection of a geologic formation called a salt dome is possible, such a dome is characteristically covered with a cap of rock with which oil is associated. See John Milne, *Earthquakes and Other Earth Movements* (1886, 7th ed., rewritten by A. W. Lee, 1939), Charles Davison, *Manual of Seismology* (1921) and *Founders of Seismology* (1927), J. J. Lynch, *Our Trembling Earth* (1940), Perry Byerly, *Seismology* (1942), K. E. Bullen, *Introduction to the Theory of Seismology* (1947).

Seistan (sēstän'), lowland region of W Afghanistan (c. 4,000 sq. mi.) and E Iran (c. 2,000 sq. mi.). The Helmand river ends here. The region has the large swamps Hamun-i-Helmand and Gaud-i-Zireh. It corresponds roughly to the ancient Drangiana.

Seitz, Karl (karl' zīts'), 1869–1950, Austrian politician. After the electoral victory of the Social Democrats in 1907, he became, with Viktor Adler, a Socialist parliamentary leader. He was acting president of Austria (1919–20) and later mayor of VIENNA from 1923 until the Socialist revolt of 1934. Arrested, he was soon released on parole. He was incarcerated by the Nazis in 1944. When Austria was restored after the Second World War, Seitz was elected to parliament (1945).

Seiyukai (sā'yōōkī"), Japanese political party founded in 1900. It was derived, via the Kensei-to, from the Jiyuto, organized by Itagaki in 1881. Ito was its first president, and Saionji its second, but these great statesmen were more powerful in their own right than as party leaders. The first real party cabinet, marking the decline of the old clan oligarchy, was that of Hara, Seiyukai leader, in 1918. Party governments prevailed from 1924 to 1932 the Seiyukai cabinets of Tanaka (1927–29) and Inukai (1931–32) alternating with Minseito governments. After this the influence of political parties steadily declined as that of the militarists increased, and in 1940 all political parties voluntarily disbanded to make way for a government-sponsored totalitarian party. Japanese parties have been based more on factionalism and personal loyalty than on divisions of principle, and there was little difference between the program of the Seiyukai and that of Minseito. The Seiyukai was slightly more conservative and more amenable to army demands, it was identified with the Mitsui interests.

Sejanus (Lucius Aelius Sejanus) (slĭā'nus), d. A.D. 31, Roman statesman; son of L. Sejus Strabo, Praetorian prefect. When his father went to Egypt as governor, he succeeded to the command of the Praetorian guards and obtained great ascendancy over Emperor TIBERIUS. He was suspected of conspiring with Livia in a successful plot to poison her husband, the emperor's son, Drusus, and obtained the arrest of AGRIPPINA I. Tiberius feared a plot on the part of Sejanus and had him put to death.

Sek Harbour, New Guinea: see ALEXISHAFEN.

Sekia-el-Hamra: see SPANISH SAHARA.

Sekondi-Takoradi (sĕ'kŭndē-tăkōrä'dē), municipality (pop. 44,130), SW Gold Coast colony, a port on the Gulf of Guinea. Sekondi, settled in the 16th cent. by the Dutch, went to Great Britain in 1872. It flourished after the construction (1903) of a railroad to the mining and hardwood-lumbering region of the interior. The old port was replaced (1928) by the deep-water harbor of the near-by town of Takoradi. The two towns were amalgamated in 1946. Sekondi formerly appeared as Seccondee.

Sela or **Selah** (sē'lä) [Heb., =rock], unidentified town, S of the Dead Sea. It was captured by Amasiah and renamed by him Joktheel. Some identify Sela with PETRA. 2 Kings 14:7, Isa. 16:1.

Selah (sē'lä), obscure Hebrew word occurring many times in Psalms and three times in Hab. 3. Its derivation is unknown. It may be a musical notation signifying a pause or the end of a phrase.

Selah (sē'lä), town (pop. 1,130), S central Wash., on the Yakima river just N of Yakima, in a fruit-growing section.

Sela-hammahlekoth (sē'lä-hăm"ulē'kŏth) [Heb., = cliff of escape], unlocated place, S Palestine, associated with Saul's pursuit of David. 1 Sam. 23:28.

Selangor (sulăng'ur), state (3,160 sq. mi., pop. 708,091), central Malaya, on the Strait of Malacca. It is bordered on the north by Perak, on the east by Pahang, and on the south by Negri Sembilan. It contains coal deposits that are mined commercially, as well as tin mines, rubber, pineapples, and rice are grown. These are considerable fisheries. Both the Chinese and the Indian groups in the population exceed the Malay group, together the Chinese and Indians constitute two thirds of the inhabitants. Before the 16th cent. the territory of Selangor was subject to the powers that in turn dominated the Malay Peninsula. After the fall of Malacca (1511), it was nominally ruled by the kings of Riouw and Johore, but in the late 17th cent. it was conquered by Bugis tribesmen from Celebes, who for a time threatened to dominate Malaya from Selangor. Selangor accepted British protection in 1874, and in 1895 it became one of the Federated Malay States. The capital, Kuala Lumpur, is the capital of the federation of Malaya.

Selborne, Roundell Palmer, 1st earl of (sĕl'bôrn), 1812–95, English jurist and statesman. A brilliant academic and legal career preceded his entry into Parliament as a nominal Conservative in 1847. He served Lord Palmerston as solicitor general (1861–63) and Lord John Russell as attorney general (1863–66). He was raised to the peerage in 1872 and during the ministries of William Ewart Gladstone served as lord chancellor (1872–74, 1880–85). Selborne had an important influence on law reform through his work on the Judicature Act of 1873. In 1885 he broke with Gladstone on the question of Irish Home Rule and joined the Liberal Unionists. Selborne was a conservative writer on problems of church history and doctrine. See his *Memorials* (ed. by Lady Sophia Palmer, 4 vols., 1896–98).

Selborne (sĕl'bôrn), village, Hampshire, England, SSW of Aldershot. *The Natural History and Antiquities of Selborne* was written by the vicar Gilbert WHITE, who was born here. He lived in "The Wakes" (still standing) and is buried in the old parish church.

Selby, William, 1738–98, English organist and composer, who resided in Boston, Mass., from c. 1771. He was organist at King's Chapel, Boston, before the Revolution and from 1782 until his death, and he gave concerts of an ambitious sort, which were very important in the musical development of Boston. His own compositions, which included church music, a harpsichord concerto, and an organ concerto, were esteemed during his lifetime but have long been forgotten. See O. G. Sonneck, *Early Concert Life in America* (1907).

Selby, urban district (pop. 10,064), West Riding of Yorkshire, England, on the Ouse and 8 of York. The fine cruciform Church of St. Mary and St. German was part of a Benedictine abbey founded in 1069 by William the Conqueror. It was partly burned in 1906, but was rebuilt. The town is the traditional birthplace of Henry I.

Selden, John, 1584–1654, English jurist and scholar. He studied at Oxford, was called to the bar in 1612, and practiced as a consultant and conveyancer. He was elected to Parliament in 1623, but had already been politically active. He had assisted in preparing the protestation of Commons in 1621 and had briefly been held in custody as a result. He continued to support the rights of Parliament in its struggle with the crown, was prominent in the trial of George Villiers, duke of Buckingham, and helped to draw up the Petition of Right in 1628. For his activity in the recalcitrant Parliament of 1629 he was imprisoned and not released until 1631. He represented Oxford Univ. in the Long Parliament, which convened in 1640, and he retired from public life in 1649. Selden was considered one of the most erudite men of his time. His *England's Epinomis* and *Jani Anglorum* (1610) established him as the father of legal antiquarianism. Thus field of work was further explored in his *Analecton Anglo-Britannicon* (1615). The preface to his edition of the Fleta (1647) summarizes his lifelong study of the origins of British law. Selden's reputation as an Orientalist was begun with his *De Diis Syris* (1617), and he prepared a number of studies of rabbinical law. His *History of Tithes* (1618) involved him in a conflict with the clergy, and the work was suppressed. Others of his works are *Titles of Honour* (1614), *Privileges of Baronage* (1642), and *Mare Clausum* (1635), a defense of England's right to sovereignty over the seas between that country and the Continent. He is popularly best remembered for the record of his conversations kept by his secretary, Richard Milward, and published as *Table Talk* (1689, ed. by Frederick Pollock, 1927). See G. W. Johnson, *Memoirs of John Selden* (10 vols., 1883–84).

selection. In DARWINISM, the mechanism of natural selection is considered of major importance in the process of EVOLUTION As a result of various factors in the environment (e g , the quantity of food and water available and the conditions of temperature and pressure) and the overproduction in animals and plants, a struggle for existence arises In this struggle, according to Darwin, those organisms better adapted to the environment survive (survival of the fittest) and reproduce, while those least fitted do not The "selection" is therefore based upon adaptation A special form of natural selection, sexual selection, is also stressed in Darwinism It attempted to account for secondary sex characters which were not necessarily of value in the struggle for existence It assumed that the female animal selects as a mate one having the most highly developed of such characters, e g , the most beautiful plumage or a superior song, therefore through reproduction those characters are perpetuated Artificial selection, the selection by man of individuals best suited for his purpose, is common in plant and animal breeding

selective service, in U S history Although national military CONSCRIPTION was begun (1863) in the Civil War to replenish the number of men in the Union army, Congress authorized release from service to anyone who furnished a satisfactory substitute and, at first, those who paid $300 General conscription was undertaken in the First World War The Selective Service Act of 1917 required all men between 21 and 30 years of age, inclusive, to register The age limits were extended to 18 and 45 in 1918 The men actually drafted for military service were chosen from the list of registrants by lottery Exemptions from service were granted to men who had families dependent on them, who were physically unfit, who were indispensable for duties at home, or who belonged to religious organizations with pacifistic principles Well over 2,500,000 men were drafted into the U S army in the First World War The United States adopted peacetime conscription for the first time in its history by the Selective Training and Service Act of Sept , 1940, when the Allies reached one of their blackest moments in the Second World War The act provided for an army limited to 900,000 men, men between 21 and 35 years of age registered and one year was made the length of service—later (Aug , 1941) extended to 18 months After the United States was plunged into the Second World War by the attack on Pearl Harbor, a new selective service act was passed (Dec , 1941), this made men between 18 and 45 liable for military service, while all men between 18 and 65 were required to register The terminal point of service was extended to SIX months after the war, and after enlistments were halted in the navy, marine corps, and coast guard, all the major branches of service were augmented from the pool of conscripted men As the need for men in the armed services increased, deferments for essential employment and for family dependents were steadily cut From 1940 until 1947—when the wartime selective service act expired after extensions by Congress—a total of over 10,000,000 were inducted into the armed services A new selective service act was passed in 1948 which required all men from 18 through 25 years of age to register and which made men from 19 to 25 liable for induction for 21-month service

Seled (sē'lĕd) [Heb ,=exultation], descendant of Jerahmeel 1 Chron 2 30

Selene (sŭlē'nē) [Gr ,=moon], in Greek religion, moon-goddess, daughter of the Titans HYPERION and THEIA She was identified with ARTEMIS and HECATE

Selenga (sĕlĕng-gä') river, c 750 mi long, rising in the Khangai mts , NW Mongolian People's Republic It flows east through the republic and then north along a generally navigable course through the Buryat Mongol ASSR to Lake Baikal The Orkhon is the principal tributary.

selenite (sĕ'lĭnīt, sŭlē'nīt) [Gr ,=of the moon], transparent variety of gypsum When pure, it is clear and colorless It occurs commonly in nature, in the United States (New York, Utah, and Ohio), in Canada, and in Europe (France, Italy, and Switzerland) Crystals of great beauty have been discovered in Sicilian sulphur mines Selenite crystallizes in the monoclinic system Chemically it is anhydrous calcium sulphate It is valued for its optical properties

selenium (sŭlē'nēum), rare, nonmetallic element (symbol=Se, for physical constants, see ELEMENT, table) Selenium exhibits allotropy, appearing in a number of different forms, including a red, amorphous powder, a red crystalline material, and a gray, metallike form which is called, from its appearance, "metallic" selenium A remarkable property (discovered by Willoughby Smith in 1873) of the crystalline "metallic" form is the difference shown in its ability to conduct electricity in darkness and in light When illumination is increased, its conductivity is increased As a result, the element has been used in a variety of devices in so-called selenium cells, which are highly sensitive to light The element is also extensively used in the preparation of rubber and in the manufacture of red glass and of some enamels In the colloidal condition it is used as a germicide and insecticide Selenium is grouped with sulphur and tellurium in the periodic system, resembling these elements in chemical activity, it forms, with oxygen, an oxide, with hydrogen and oxygen, selenious and selenic acids, of which the salts are, respectively, selenites and selenates, with hydrogen and several metals, e g , iron and silver, selenides, with chlorine, a chloride, and with chlorine and oxygen, an oxychloride It is rarely found uncombined in nature, but often occurs in the form of selenide in sulfide ores, especially those of copper, lead, silver, and iron Commercially it is obtained chiefly as a by-product in the refining of copper and in the preparation of sulphuric acid In some parts of the United States, chiefly in the Great Plains region, selenium is absorbed from the soil by vegetation in quantities sufficient to cause poisoning of livestock, thus making the land useless for grazing The element was discovered by Berzelius in 1817

Seleucia (sulū'shu), ancient city of Mesopotamia, on the Tigris below Baghdad It was founded by Seleucus I (c 312 B C) and soon replaced Babylon as the main center for east-west commerce through the valley As long as the Seleucids held the area Seleucia was their eastern capital When the Parthians conquered, they placed their capital at Ctesiphon, across the river from Seleucia Seleucia was thus superseded In a Parthian campaign Trajan burned the city, and it was destroyed by Romans in 164 The Arabs applied the name El Maidan to Seleucia-Ctesiphon Another Seleucia was founded by Seleucus as the seaport for Antioch. St Paul sailed from there Acts 13 4

Seleucus I (Seleucus Nicator) (sulū'kus), d 280 B C , king of ancient Syria An able general of Alexander the Great, he played a leading part in the wars of the Diadochi In the new partition of the empire in 312 B C he received Babylonia Conquest of Susiana and Media enlarged his holdings, and he managed to extend his power to the Oxus and the Indus He joined the league against ANTIGONUS I, and when Antigonus was defeated at Ipsus in 301 B C , Seleucus gained a large part of Asia Minor and all of Syria Of the Macedonian generals he was the one who tried hardest to set up a kingdom following Alexander's ideas He founded Greek colonies everywhere and tried to govern the subject peoples according to the methods of the Persian Empire He was succeeded by ANTIOCHUS I

Seleucus II (Seleucus Callinicus), d 226 B C , king of ancient Syria, son of Antiochus II On his father's death there was a struggle for the throne between Seleucus and his stepmother, Berenice (on behalf of her infant son) Before Berenice's brother, PTOLEMY III of Egypt, could arrive, Seleucus seems to have had Berenice and his half brother murdered A long war with Ptolemy ensued Seleucus also had to wage long war against his own brother, Antiochus Hierax, for Asia Minor Bactria and Parthia revolted and threw off Seleucid control, and Seleucus failed in attempts to reduce them ANTIOCHUS III was his son

Seligman, Edwin Robert Anderson (sĕ'lĭgmun), 1861–1939, American economist, b New York city, Ph D Columbia, 1885 As professor (1885–1931) at Columbia, he edited the "Columbia University Studies in History, Economics, and Public Law" and the *Political Science Quarterly* He was editor in chief of the *Encyclopaedia of the Social Sciences* An expert on public finance, he acted on many tax commissions and in 1931 was financial adviser to the Cuban government His works include *The Shifting and Incidence of Taxation* (1892, 5th ed , 1925), *Essays in Taxation* (1895, 10th ed , 1925), *The Economic Interpretation of History* (1902, 2d ed , 1924), *Principles of Economics* (1905, 12th ed , 1929), and *The Economics of Farm Relief* (1929)

Selim I (Selim the Grim) (sĕ'lĭm, sulēm'), 1467–1520, Ottoman sultan (1512–20) He ascended the throne by deposing his father, BAJAZET II, and by killing his brothers Selim ordered the massacre of some 40,000 Shiites—perhaps for political rather than religious reasons—and in 1514 he attacked and defeated the Shiite conqueror of Persia, Shah Ismail, annexing Diyarbekir and Kurdistan Aided by his superior artillery, he defeated (1516–17) the Mamelukes in Syria and Egypt, which he added to the Ottoman Empire By assuming the CALIPHATE, Selim made himself and his successors spiritual as well as temporal heads of the empire and gained control over the holy cities, Mecca and Medina. Selim died while preparing the conquest of Rhodes A bloodthirsty and inflexible despot, Selim was also an able organizer and reformer Under him the Ottoman Empire entered the period of its greatest power He wrote poetry in Persian and protected literature His son, Suleiman I, succeeded him

Selim II (Selim the Drunkard), c 1524–1574, Ottoman sultan (1566–74), son and successor of Suleiman I His reign was dominated by his grand vizier, Sokolli. Although the Turks conquered Cyprus from Venice and recovered Tunis from Spain, the Ottoman Empire received its first severe setback during Selim's reign in the naval defeat at LEPANTO (1571). He was succeeded by his son Murad III.

Selim III, 1761–1808, Ottoman sultan (1789–1807), nephew and successor of Abdu-l-Hamid I He suffered severe defeats in the second of the RUSSO-TURKISH WARS with Catherine II, but suffered no territorial losses when peace was made at Jassy in 1792 An ardent reformer, Selim set out to rebuild the Turkish navy on European lines, to reform the army, and to curb the JANIZARIES In 1798 Selim joined the second coalition against France in the French Revolutionary Wars Turkish forces lost Jaffa to Napoleon Bonaparte, who had invaded (1799) Syria after taking Egypt, but they held out at Acre and forced Napoleon to retreat In 1801 the French left Egypt, which was restored to the sultan In 1806 war with Russia broke out again (see RUSSO-TURKISH WARS). A revolt of the Janizaries led to Selim's deposition and imprisonment in 1807 MUSTAFA IV was placed on the throne A loyal army marched on Constantinople to restore Selim It entered the city in 1808, just after Selim's enemies had strangled him Mustafa was deposed and another of Selim's cousins, Mahmud II, ascended the throne During Selim's reign Egypt became virtually independent under MOHAMMED ALI, as did Albania under ALI PASHA Selim's well-intentioned and efficient reforms came too late to arrest the decay of Turkey

Selinsgrove (sĕ'lĭnzgrōv), borough (pop 2,877), E Pa , on the Susquehanna and c 35 mi N of Harrisburg, settled 1755, laid out 1790, inc 1827 A trading center for farmers, it produces textiles Susquehanna Univ (Lutheran, coeducational, 1858) and a state colony for epileptics are here

Selinus (sĭlī'nus), ancient city of Sicily It was founded (628? B C) by Dorian Greeks and was the constant rival of neighboring Segesta Selinus got Syracuse to interfere in a quarrel, which led to the unsuccessful Athenian expedition in Sicily (415 413 B C) Segesta invoked the aid of the Carthaginians, who sacked Selinus in 409 B C The city was rebuilt, but did not prosper and was finally destroyed by Carthage in 250 B C Ruins of the five Doric temples on the Acropolis of Selinus recall the brilliance of the city when it was at its height

Seljuks see TURKS

Selkirk, Alexander (sĕl'kûrk), 1676–1721, Scottish sailor, whose adventures suggested to Daniel Defoe the story of *Robinson Crusoe* (1719) In 1704, when a sailing master, he quarreled with the captain of his ship in the Juan Fernández islands and asked to be put ashore He remained on Más Afuera Island for four years and four months before he was rescued (Feb 9, 1709) by an English privateer His equipment on the island included a gun and ammunition Later he became a lieutenant in the British navy See John Howell, *The Life and Adventures of Alexander Selkirk* (1829)

Selkirk, Thomas Douglas, 5th **earl of,** 1771–1820, Scottish philanthropist, founder of the RED RIVER SETTLEMENT Emigration to America seemed to him the best solution for the poverty of his countrymen, especially those Highlanders who had been evicted from their small holdings He obtained land on Prince Edward Island and supervised (1803) the founding of a successful settlement His experiences in planting a colony in Rupert's Land were far less happy To get the necessary land there, he acquired a controlling financial interest in the Hudson's Bay Company In 1812 the first party of colonists settled at the forks of the Red and Assiniboine rivers, a site important to the powerful North West Company as a food-supply region and focal point in their east-west fur trade Selkirk later dispatched other parties to join the first Trouble soon broke out, in 1815 the North West Company broke up the colony, which was, however, refounded that year Selkirk decided to visit his project He went from Scotland to Montreal, and from there with a company of colonists and an armed guard he set forth via the Great Lakes En route he learned of the attack (the massacre of Seven Oaks, 1816) on his colony He seized Fort William, a headquarters post of the North West Company, and in his capacity as justice of the peace of Upper Canada, he arrested some of the ringleaders, whom he sent east for trial After refounding (1817) his colony for the third time, he returned to Canada Lawsuits were brought against him by the North West Company, and he was forced to pay damages Having sacrificed his health and most of his fortune in his philanthropic enterprises, he returned home in 1818 and died in France two years later He wrote *Observations on the Present State of the Highlands of Scotland* (1805) and *A Sketch of the British Fur Trade in North America* (1816). See Chester Martin, *Lord Selkirk's Work in Canada* (1916), George Bryce, *Mackenzie, Selkirk, Simpson* (rev. ed , 1926)

Selkirk, county, Scotland see SELKIRKSHIRE

Selkirk (sĕl'kûrk), town (pop 5,408), SE Man , on the Red River, NE of Winnipeg and S of Lake Winnipeg It is a transshipping center for Lake Winnipeg fish and has lumber and steel mills, dairies, and truck gardens. The town is named for the 5th earl of Selkirk, who established (1812) the RED RIVER SETTLEMENT in the region.

Selkirk, burgh (pop 5,667), county town of Selkirkshire, Scotland, on Ettrick Water and S of Gala-

shiels. Here, in 1113, the future David I founded an abbey which was later moved to Kelso. There are statues commemorating Sir Walter Scott (sheriff of Selkirkshire for many years) and Mungo Park. There is also a memorial of the battle of Flodden. The term "souters of Selkirk" originated from the former occupation of the town, shoemaking. Since the 19th cent tweed has been the principal manufacture.

Selkirk Mountains, range of the Rocky Mts, SE British Columbia, near the Alta. border and extending northwest 200 mi. from the Idaho and Mont. borders. It is almost encircled by the Columbia river, which loops around the north end of the range.

Selkirkshire (sĕl'kûrkshĭr) or **Selkirk,** inland county (267 sq. mi., 1931 pop. 22,608, 1948 estimated pop. 22,296), S Scotland. The county town is Selkirk. It is a region of rolling hills, watered by the Ettrick river. Sheep raising is the chief occupation. The county has literary associations with Sir Walter Scott, who lived here for some years, and with James Hogg, the "Ettrick Shepherd." Selkirkshire was once part of the Saxon kingdom of Northumbria and was not annexed to Scotland until 1020. It was the scene of much strife during the border warfare between England and Scotland.

Sellersburg, residential town (pop. 1,121), Clark co., SE Ind., SE of Salem.

Sellersville, borough (pop. 2,115), SE Pa., c 30 mi. NNW of Philadelphia, inc. 1874. Quarrying is done near here.

Selma **1** City (pop. 19,834), co. seat of Dallas co., SW central Ala., W of Montgomery and on the Alabama river, in a diversified farm area, settled 1816, inc. 1820. It processes cotton, cottonseed oil, iron, lumber, and dairy goods and is a rail center. A Confederate arsenal and supply point, it was ravaged in 1865. There are a number of fine ante-bellum houses. Selma Univ. (Negro) is here. The U.S. military aviation school here was opened in 1941. **2** City (1940 pop. 3,667, 1946 special census pop. 5,894), S central Calif., SE of Fresno in the San Joaquin Valley, inc. 1893. The surrounding area produces fruit, truck, dairy products, and cotton. **3** Textile-mill town (pop. 2,007), E central N.C., SE of Raleigh.

Selous, Frederick Courtenay (sulōō', -lōōs, kôrt'nē), 1851–1917, English author, hunter of big game in Africa. His explorations and collections of museum specimens were a valuable contribution to geography and natural history. He guided the pioneering expedition of the British South Africa Company to Mashonaland (1890). He was killed in action in German East Africa. His books include *Travel and Adventure in South-East Africa* (1893), *Sunshine and Storm in Rhodesia* (1896), and *African Nature Notes and Reminiscences* (1908). See biography by J. G. Millais (1918).

seltzer water, alkaline water, rich in salts, especially sodium carbonate. It is also known as selters water, deriving its name from the Neider-Selters spring water in Prussia. It was very popular during the 19th cent. as a beverage and as medicine. First produced artificially in the 19th cent., it is now manufactured in commercial quantities in Europe and America. It is reputedly beneficial in certain diseases of the digestive, respiratory, and urinary systems.

selvas (sĕl'vəz) [Span., =woods], tropical forested plains, more particularly the selvas of the Amazon basin. They are remarkable for lush, variegated plant growth and numerous species of animal life. Their many rubber-yielding trees were formerly of great commercial value.

Selwyn, George Augustus (sĕl'wĭn), 1809–78, English prelate, first Anglican bishop of New Zealand and bishop of Lichfield. In 1841 he was appointed to the new colonial diocese of New Zealand. Having prepared himself on the voyage by studying navigation and the language of the Maoris, he extended his area among the South Sea Islands, sailing his own vessel. In 1868 Bishop Selwyn was made bishop of Lichfield. In 1882 Selwyn College, Cambridge, a tribute to his memory raised through popular subscription, was incorporated. See Louise Creighton, *G. A. Selwyn, Bishop of New Zealand and Lichfield* (1923).

Selwyn College · see CAMBRIDGE UNIVERSITY.

Sem, variant of SHEM.

Semachiah (sĕm'əkī'ə), temple doorkeeper 1 Chron. 26:7.

semaphore (sĕ'məfôr'), device for the visible transmission of messages. The marine semaphore, used by day between ships or between a ship and the shore, consists essentially of a post at the top of which are two pivoted arms. The arms are connected by light gearing to two operating levers. Each letter of the alphabet and each numeral is indicated by a different placing of the arms. The system can also be used by the signalman through motions of his own arms, with or without small flags as indicators. The semaphore used in traffic regulation consists of an upright post on a stand, having at the top right-angle arms bearing stop and go signals. For night use there are red and green lights on the arms. In the railroad semaphore a single projecting arm pivoted at one end and attached to a vertical post is devised to take three positions. Horizontal indicates stop, and vertical, all clear, the inclined position indicates that the locomotive may go ahead under control expecting to be stopped.

Semarang (sōmä'räng), city (pop. 217,796), on N Java, Indonesia, on the Java Sea and at the mouth of the Semarang. An important port, it is one of the major commercial centers of Java. It exports tobacco, sugar, copra, rubber, kapok, and coffee. There are textile mills and shipyards.

Sembrich, Marcella (sĕm'brĭk), 1858–1935, stage name of Praxedo Marcelline Kochanska, Polish coloratura soprano, studied piano and violin at the Lemberg Conservatory. Urged by Liszt to train her voice, she studied in Vienna and Italy and made her operatic debut in Athens in 1877. She sang from 1878 to 1880 in Dresden and then for five seasons in London. In 1883 she made her debut at the Metropolitan Opera House, where she sang regularly from 1898 to 1909. She continued concert appearances until 1917, afterward teaching at the Curtis Institute, Philadelphia, and the Juilliard School of Music. Considered the greatest coloratura of her day, she was outstanding as Violetta in *La Traviata*.

Semei (sĕ'mēī), ancestor of Joseph in the Gospel genealogy. Luke 3:26.

Semele (sĕ'məlē), in Greek religion, daughter of Cadmus and Harmonia. ZEUS, who loved her, appeared to her as a man. She asked him to come in all his divine majesty, but when he did so she died of terror and was consumed by lightning. Zeus rescued her child, DIONYSUS, who later found his mother in Hades and took her to Olympus.

Semendria, Yugoslavia · see SMEDEREVO.

semicolon · see PUNCTUATION.

Seminole (sĕ'mĭnōl) **1** City (pop. 11,547), central Okla., SE of Oklahoma City, settled 1890, inc. as a town 1908, as a city 1926. It is the trade center for a farm and oil region. **2** Town (pop. 1,761), co. seat of Gaines co., NW Texas, SW of Lubbock, in a ranching area on the Llano Estacado, founded 1908, inc. 1936.

Seminole Indians, North American Indian tribe of Natchez-Muskogean linguistic stock. They separated (their name means "separate") from the Creek Indians in the early 18th cent. and settled in the former territory of the Apalachee Indians in Florida. They gradually grew in strength, absorbing many runaway Negro slaves and the remnants of the Apalachee. While still under Spanish rule the Seminole became involved in trouble with the United States, particularly in the War of 1812 and again in 1817–18. In the war of 1817–18 Gen. Andrew Jackson with over 3,000 men invaded Florida to punish the hostile Seminole. By the treaty of Paynes Landing in 1832 the Seminole were bound to move W of the Mississippi within three years. A large portion of the tribe, led by Osceola, refused to go and prepared for resistance. In 1835 began the Seminole War which proved to be the most costly Indian war in which the United States engaged. The war lasted for nearly eight years, and 1,500 American soldiers were killed and $20,000,000 spent. The American troops were led, for a time, by Richard Keith Call. The Seminole, finally subdued (Aug., 1842), consented to move to the West. Some remained isolated in the Everglades, and there is now a reservation for them. In Oklahoma the Seminole are one of the Five Civilized Tribes. There are 650 Seminole in Florida and 2,000 in Oklahoma. The Seminole, like their parent tribe the Creek Indians, were of the Southeast culture area. See Alexander Spoehr, *Florida Seminole Camp* (1944).

Semipalatinsk (syĭmē"pŭlä'tyĭnsk), city (pop. 109,779), capital of Semipalatinsk oblast, E Kazakh SSR, on the Irtysh river and the Turksib RR. Founded in 1718 as a Russian frontier post, it grew into an important trade, transportation, and administration center. The population consists of Russians, Kazakhs, and Tatars.

Semi-Pelagianism see PELAGIANISM.

semiprecious stone · see GEM.

Semiramis (sĕmĭr'əmĭs, sĭ-), in Assyrian mythology, the daughter of the Syrian fish-goddess Derceto. She was brought up by the royal shepherd Simmas. Afterwards Onnes, an Assyrian general, married her. Her skill in conducting the capture of Bactria brought her the love of Ninus, the king of Assyria, who married her after Onnes had killed himself. She reigned for 42 years after the death of Ninus, and according to legend she conquered Persia, Libya, and Ethiopia, founded Babylon and Nineveh, and built many monuments. She left the kingdom to her son Ninyas. After her death she became a dove and was worshiped as such. The historical figure behind this legend is probably Sammuramat, who was regent of Assyria from 810 to 805 B.C. Later, she acquired many of the characteristics of Ishtar.

Semite (sē'mīt, sĕ'–), originally one of a people believed to be descended from Shem, son of Noah. Today the term is used to include the following peoples: Arabs, the Akkadians of ancient Babylonia; the Assyrians, the Canaanites (including Amorites, Moabites, Edomites, Ammonites and Phoenicians), the various Aramaean tribes (including Hebrews); and a considerable portion of the population of Ethiopia. These peoples are grouped under the term *Semite*, chiefly because their languages were found to be related, deriving presumably from a common tongue, Semitic (see LANGUAGE, table). Other kinds of evidence, such as similarities in physical characteristics and in aspects of culture other than language, also indicate relationships between peoples but are less easily demonstrable and are subject to more varied interpretation. In fact, no such evidence as physical or linguistic similarities between two groups is conclusive in asserting kinship and must be used with care. Though the matter is not beyond controversy, the weight of opinion holds that the original home of the Semites was Arabia, from which they spread in successive migrations to Mesopotamia, the eastern Mediterranean littoral, and the delta of the Nile. Such movement over a considerable period of time resulted in mixing of various tribes, who as they entered an area came into contact with Semitic predecessors or with non-Semitic peoples. In Mesopotamia, Semitic people from the earliest date were in contact with Sumerian civilization and with the rise of Sargon of Agade and Hammurabi of Babylon were able to dominate it completely (see SUMER). In Phoenicia, the Semitic population developed a widespread maritime trade and became the first great seafaring people (see PHOENICIAN CIVILIZATION). That group of Hebrews which had been diverted through Sinai into the Nile delta settled at last with other Semitic inhabitants in Palestine. These southern or Judean Hebrews became the leaders of a new nation and religion (see JEWS and JUDAISM). See W. H. Worrell, *A Study of Races in the Ancient Near East* (1927), G. A. Barton, *Semitic and Hamitic Origins* (1934).

Semitic languages (sĭmĭt'ĭk), great linguistic family. See LANGUAGE (table).

Semliki (sĕmlē'kē), river, c 150 mi. long, rising in the western foothills of the Ruwenzori mts. It flows from Edward Nyanza N to Albert Nyanza and forms for c 50 mi. the boundary of Belgian Congo and Uganda. The explorer Henry M. Stanley reached the Semliki in 1888.

Semmelweis, Ignaz Philipp (ĭg'nätsfĭ'lĭp zĕ'mulvĭs), 1818–65, Hungarian physician. He was a pioneer in employing antiseptic methods in obstetrics. While on the staff of the general hospital in Vienna, he recognized PUERPERAL FEVER to be an infectious disease, and by insisting on the antiseptic cleansing of the hands of attendants in obstetrics cases, he notably reduced the death rate from infection in childbirth. Opposition to his campaign caused him to leave Vienna (1854) for Pest, Hungary, and ultimately affected his mind. Although he recorded his results in *The Cause, Concept, and Prophylaxis of Childbed Fever* (1861, Eng. tr., 1941), the value of his work was not fully recognized until c 1890. See biography by L. F. Destouches (1937).

Semmering (zĕ'mərĭng), scenic resort region of the Eastern Alps on the border of Styria and Lower Austria, SW of Wiener Neustadt. The Alps here are crossed by the **Semmering Pass,** 3,215 ft. high, 275 ft. beneath it runs the first mountain railroad in the world (built 1848–54). It penetrates 15 tunnels and is carried over 16 viaducts.

Semmes, Raphael (sĕmz), 1809–77, American naval officer, b. Charles co., Md. He was appointed midshipman in the U.S. navy (1826), and although he studied law and was admitted to the bar (1834), he continued in the service. He took part in the Mexican War, practiced law at Mobile, Ala., and was in the Lighthouse Service from 1856 to Feb., 1861, when he resigned his commission as commander. He soon took the same rank in the Confederate navy. His first ship, the *Sumter*, eluded the Union blockade at the mouth of the Mississippi (June, 1861) and did considerable damage to Northern commerce before she was bottled up at Gibraltar in Jan., 1862. In Aug., 1862, Semmes now a captain, took command of the *Alabama* (see CONFEDERATE CRUISERS), and a two-year cruise made him the naval hero of the Confederacy. After the *Alabama* was sunk by the *Kearsarge*, Semmes returned to the South. He was promoted rear admiral in Feb., 1865, and charged with the naval defense of Richmond. He also became a brigadier general. After the war Semmes taught, edited a newspaper, lectured, and again practiced law in Mobile. He wrote several books concerning his naval exploits. See biographies by Colver Meriwether (1913) and W. Adolphe Roberts (1938), H. A. Gosnell, *Rebel Raider* (1948).

Semnae, see ERINYES.

Semnan (sĕmnän'), city (pop. 23,078), capital of the Second Prov., N Iran, E of Teheran. It has cotton manufactures and handles pistachio nuts. It is a road junction.

Semonides of Amorgos (sĭmŏ'nĭdēz, umôr'gŏs), fl. c 650 B.C., Greek iambic poet. His satires were more general than personal, in one of the few extant fragments he satirizes women, whose peculiar characteristics he describes by comparison with animals. His name also appears as Simonides.

Sempach (zĕm'pakh), town (pop. 1,229), Lucerne canton, Switzerland, near Sempach Lake. Here, in

1386, the Swiss decisively defeated the Austrians. According to a legend, victory was secured by the self-sacrifice of Arnold von WINKELRIED

Semper, Gottfried (gôt'frēt zĕm'pur), 1803–79, German architect, skillful in adapting the Italian Renaissance style to German environment. He taught (1834–49) architecture at the Dresden Academy and became (1855) director of the architectural section of the Polytechnische Schule, Zurich. Because of his part in the Revolution of 1848, he was forced to leave Germany and was for a time in London. Among the buildings he designed are the New Synagogue and Hoftheater, Dresden, Polytechnicum, Zurich, and two museums and the imperial palace, Vienna. His chief written work was on style in the technical arts (1878)

Sempill, Robert, 1530?–1595, Scottish ballad writer and satirist. He spent a number of his early years abroad and probably was a soldier of the army, for he was present at the siege of Leith (1559–60). In his ballads and crude, coarse but vigorous satires, Sempill supported the earl of Moray and the Reformation party. The manuscript of his poems, written in black letter, is still extant; they were published in *The Sempill Ballates* (1872), edited by T. G. Stevenson

Semple, Ellen Churchill, 1863–1932, American geographer, b. Louisville, Ky., grad. Vassar, 1882, and studied at the Univ. of Leipzig. She helped develop the study of anthropogeography (science of geographical distribution of mankind), lecturing (1906–23) on the subject at the Univ. of Chicago. From 1921 to 1932 she was professor of anthropogeography at Clark Univ. She was a frequent contributor to geographical journals; her writings include *American History and Its Geographic Conditions* (1903, revised 1933), *Influences of Geographic Environment* (1911), and *The Geography of the Mediterranean Region* (1931)

Senaah (sĕnā'u), same as HASSENAAH

Senancour, Étienne Pivert de (ātyĕn' pēvĕr' du sŭnăkōor'), 1770–1846, French writer. He is known principally for his autobiographical epistolary novel *Obermann* (1804, 2d ed., 1833, 3d ed., 1840, Eng. tr., 1903). The sentimental attitude toward nature and the morbid melancholy of his novel without a plot suggest Rousseau, but a pervasive preoccupation with intellectual problems sets it apart from other works of the same genre and period

Senate, United States see CONGRESS OF THE UNITED STATES

senate, Roman, governing council of the Roman republic. It was the outgrowth of a royal privy council. By the 3d cent. B.C. the senate was a group of 300 men with legislative and administrative control of Rome. There were serious checks on its power, especially in the hands of the tribunes. The members were chosen by the censors, and included theoretically the "best" citizens, but as it worked out, the senate consisted of ex-magistrates, almost entirely members of a small number of old families. In the expansion of Rome in the 3d and 2d cent. B.C. the senate sent out the armies, made the treaties, organized the new domain, and controlled finance. The senatorial conduct of Roman affairs was fairly successful until c. 130 B.C. After that provincial administration of the huge empire was increasingly inefficient and graft-ridden. In spite of the narrowness of the membership, the authority of the senate was not called in question until the growth of party-class division that developed with the agitation of the GRACCHI. The leaders of the senate became also the leaders of the most reactionary group and would yield on no point, economic or political. The fatal development in the republic of two parties, optimates (the senatorial conservatives) and populares, grew out of this resistance to change. The optimates tried to foster the idea that they represented constitutionalism versus subversion, but after SULLA, who combined the bloodiest illegality with strictest defense of the senate (which he raised to 600 members), such a claim by optimates was cynical. Julius CAESAR, a popularis, did not make his famous (illegal) move across the Rubicon until the senate had defied him with a clearly unconstitutional decree. Caesar enlarged the number (to 900) to broaden it. The ruin of the optimates and the senate was accomplished in the proscription of 43 B.C. after Caesar's assassination (the work of optimates who had sided with Pompey and who had been reconciled with Caesar). After the proscription what was left of the senate was docile and ineffectual. AUGUSTUS included the senate in his plans and, reversing Caesar's program of enlarging Roman citizenship and responsibility, lowered the number to 600. As an administrator he found he had to reduce senatorial control in the provinces, and an attempt he made to turn the city government to the senate was a failure. He made much of senatorial prestige, and for generations the emperor's chief title was *princeps senatus* [leader of the senate]. There was an important revival of the senate late in the 1st cent. A.D. often attributed to the influx of non-Roman Italians. Nerva and his successors emphasized the role of the senate, but even this shadow of former authority was obviously only possible if the monarch willed it. The ancient senate is not heard of after the 6th cent.

Senath (sē'năth), cotton city (pop. 1,261), extreme SE Mo., near the St. Francis river, founded 1882.

Senatobia (sĕnătō'bēu), town (pop. 1,757), co. seat of Tate co., NW Miss., S of Memphis, Tenn., in a farm area, founded 1856. A district junior college is here.

Sendai (sändī'), city (1947 pop. 293,816), capital of Miyagi prefecture, N Honshu, Japan, on Ishinomaki Bay. It is a manufacturing and educational center, seat of Tohoku Imperial Univ. and the Industrial Art Research Institute. In the 17th cent. it was the stronghold of the powerful feudal lord, Date. Masamune Miyagi prefecture yields farm products, lumber, raw silk, and minerals.

Sender, Ramón José, (rämōn' hōsā' sändĕr'), 1902–, Spanish novelist. Educated at religious colleges, he also studied law. His success has been greater in foreign countries than in his own, and most of his books have been translated. He was active in the Spanish revolutionary movement and was exiled for republican ideas. He is considered the original of the character "Manuel" in André Malraux's novel *Man's Hope*. Some of his best-known novels, all of which are concerned with social problems, are *Imán* (1930, Eng. tr., *Earmarked for Hell*, 1934, American title *Pro Patria*, 1935), *Siete domingos rojos* (1932, Eng. tr., *Seven Red Sundays*, 1936), *El lugar del hombre* (1939, Eng. tr., *A Man's Place*, 1940), and *Epitalamio del prieto Trinidad* (1942, Eng. tr., *Dark Wedding*, 1943). See his autobiographical *Crónica del alba* (1942, Eng. tr., *Chronicle of Dawn*, 1944)

Senebier, Jean (zhä' sunubyā'), 1742–1809, Swiss natural philosopher. After leaving the ministry he became a librarian at Geneva. He is known for his discovery and demonstration of the dependence of plant nutrition on sunlight.

Seneca (Lucius Annaeus Seneca) (sĕ'nuku), c.3 B.C.–A.D. 65, Roman philosopher, dramatist, and statesman, b. Corduba (Córdoba), Spain. He was the son of Lucius (or possibly Marcus) Annaeus Seneca, who wrote on rhetoric. The younger Seneca went to Rome in his childhood, studied rhetoric and philosophy, and earned renown as an orator when still a youth. He was exiled by Claudius (A.D. 41) ostensibly because of his intimacy with Julia, Germanicus' daughter. In 49 he was recalled at the urgings of AGRIPPINA to become tutor of the young NERO. In the first years of Nero's reign Seneca was virtual ruler with Afranius Burrus, and their influence on the emperor was probably for the best. But the ascendancy of Poppaea brought about first the death of Agrippina (A.D. 59), then that of Burrus (A.D. 62). Seneca asked to retire. He had amassed a huge fortune and wanted no more of court life. Accusations of conspiracy were finally leveled at Seneca, who, bidden to commit suicide, opened his veins. His death scene was considered remarkably noble by the Romans. Seneca was a Stoic, and his writings show a high, unselfish nobility considerably at variance with the greed, timeserving, and even actual connivance at murder in his own life. His *Epistolae morales ad Lucilium* are essays on ethics written for his friend Lucilius Junior, to whom he also addressed *Quaestiones naturales*, philosophical, rather than scientific, remarks about natural phenomena. The so-called *Dialogi* of Seneca include essays on anger, on divine providence, on Stoic impassivity, and on peace of soul. Other moral essays have also survived, notably *De clementia*, on the duty of a ruler to be merciful, and *De beneficiis*, on the award and reception of favors. The *Apocolocyntosis* is a satire on the apotheosis of Claudius. Perhaps the most influential of his works as far as European literature is concerned were his tragedies. Nine of these are now accepted as his—*Hercules Furens*, *Medea*, *Troades*, *Phaedra*, *Agamemnon*, *Oedipus*, *Hercules Oetaeus*, *Phoenissae*, and *Thyestes*. All of them are based on Greek originals, and all have lofty moralizing declamations that slow the action. They seem to have been written for recitation rather than for acting. The poetry is highly finished and to the modern reader seems contrived and monotonous. Indeed the plays are ill thought of today, but they—and a 10th, *Octavia*, now no longer ascribed to Seneca but to a later imitator—had a tremendous influence on the Renaissance. In Italy, France, and England their high tone, magnificent rhetoric, and formal elegance appealed very greatly, and the Senecan drama was long popular. Some of the plays written in imitation of them (e.g., Racine's *Phèdre*) are generally considered much finer than the originals. Among the English dramas modeled on his were the first of the regular English tragedies, *Gorboduc* (largely by Thomas Sackville, earl of Dorset), and the tragedies of Ben Jonson. He was also admired in the neoclassic period and imitated by such men as Addison and James Thomson. See F. L. Lucas, *Seneca and Elizabethan Tragedy* (1922).

Seneca (sĕ'nŭkŭ). **1** Unincorporated community, N Ill., on the Illinois river and E of La Salle. It experienced a temporary expansion during the Second World War with the installation of a large U.S. navy shipyard where landing craft were constructed. **2** City (pop. 2,015), co. seat of Nemaha co., NE Kansas, near the Nebr. line, NNW of Topeka; laid out 1857, inc. 1870. It is the trade center of an agricultural area. **3** City (pop. 1,091), SW Mo., at the Okla. line, SW of Joplin, platted c.1869. Tripoli is mined and processed here. **4** Textile town (pop. 2,155), NW S.C., between the Tugaloo and Seneca rivers, NW of Anderson, in a cotton area, founded 1874.

Seneca, river flowing ENE from Seneca Lake, W central N.Y., to Cayuga Lake and thence northeasterly to join the Oneida and form the Oswego. Part of the river is utilized by the Barge Canal.

Seneca Falls, village (pop. 6,452), W central N.Y., in the Finger Lakes region, on the Seneca river and E of Geneva, settled 1787, inc. 1831. Its products include power pumps and machinery. Elizabeth Cady Stanton lived here and was one of the organizers of the first woman's rights convention in the United States, held in the village in 1848.

Seneca Indians: see IROQUOIS CONFEDERACY.

Seneca Lake, 35 mi. long, W central N.Y., one of the FINGER LAKES. It lies between Keuka and Cayuga lakes, with Watkins Glen at its head and Geneva at its foot, and drains ENE through the Seneca river. A naval training base was set up at SAMPSON here in 1942.

Senefelder, Aloys (zā'nufĕl"dur), 1771–1834, b. Prague. He invented lithography in Munich c. 1796. In 1818 he published a full account of the nature and the history of his invention. The English translation, *A Complete Course of Lithography*, appeared in 1819.

Seneff or **Seneffe** (both sunĕf'), town (pop. 3,052), Hainaut, Belgium, NW of Charleroi. Here in 1674 the French under Louis II de Condé defeated the Dutch.

Senegal (sĕnĭgôl', sĕ'nĭgôl), overseas territory (731,000 sq. mi.; pop. c. 1,895,000), French West Africa, on the Atlantic. The capital is Saint-Louis. It is bordered on the north by the Senegal river, which separates it from Mauritania, on the east by French Sudan, on the southeast by French Guinea, and on the southwest by Portuguese Guinea. Gambia forms an enclave. The coast (c.250 mi. long) is low lying, and the interior is a well-forested plain. Railroads connect Dakar, the capital of French West Africa, with Saint-Louis, and during the rainy season the Senegal river is a trade artery. Peanuts, the chief crop and export, are shipped principally from Kaolack on the Saloum river. Cotton and gum arabic are also exported, and fisheries are increasing in importance. Senegal was first explored by the Portuguese in the 15th cent. Other European nations followed, including the French, who in 1659 established a trading post in Saint-Louis. French possession was internationally recognized in 1814, and the conquests of General Faidherbe established the colony on a firm basis, but the country was not completely pacified until 1900. The Senegalese have contributed many soldiers to the French forces.

Senegal, river, c.900 mi. long, rising in SW French Sudan. It flows NW through Senegal to empty into the Atlantic Ocean below Saint-Louis. During the rainy season it is navigable to the Senegal border.

senega snakeroot (sĕn'ĭgu), perennial plant (*Polygala senega*) which bears small white flowers and grows wild in the United States. The rootstock, once used by Indians for treating snake bite, is the source of the drug senega, an expectorant and a diuretic for some ailments. The senega snakeroot is a SOAP PLANT.

Seneh (sē'nĕ), in the Bible: see BOZEZ.

Senigallia (sänēgäl'lyä), town (pop. 11,394), the Marches, central Italy, on the Adriatic. A Roman town, it was (6th cent.) one of the five cities of the PENTAPOLIS. Although included in the territories donated by Pepin the Short to the popes, it was a free commune (12th cent.) and later a papal fief under various lords. Cesare Borgia had several rebellious lords slain here (1502). The city has walls and a castle dating from the 15th cent. and two Renaissance churches. It is today a bathing resort.

senility (sunĭ'lutē), state of body and mind that tends to develop in old age. The span of life varies, and evidences of old age vary in the time of their appearance. Brittleness of bones, loss of pigment in the hair, and loss of elasticity of the lens of the eye are evidences of senility. The degenerative diseases are characteristic of old age, e.g., arthritis and arteriosclerosis. The advance of old age is thought to be hastened by an improper balance of endocrine gland secretions.

Senior, Nassau, 1790–1864, English economist. A graduate of Oxford, he was called there in 1825 to fill the first chair of political economy in England. In *An Outline of the Science of Political Economy* (1836) he sought to carry classical economic principles closer to scientific formulation. He also promulgated a famous theory which stated that capital was a productive factor and that interest and profit accrued to the capitalist as a result of his "abstinence" (i.e., saving). Senior served on several commissions to investigate social problems and helped produce the report that was the basis for the

poor law of 1834. See studies by Marian Bowley (1937) and S. L Levy (1944).

Senir (sē'nûr) or **Shenir** (shē'nûr), Amorite name for Mt. HERMON and its neighborhood. Deut 3 9; 1 Chron 5 23, Cant 4.8; Ezek. 27.5.

Senlac: see HASTINGS, Sussex East, England.

Senlis (sälēs'), city (pop. 6,049), Oise dept., N France, NE of Paris. A royal residence from the time of Clovis, it has preserved an inner city wall, which dates from Gallo-Roman times and is largely embedded in the present houses, and vestiges of a medieval wall. The Church of Notre Dame (a cathedral until the French Revolution) is one of the earliest of all large Gothic structures (12th cent.), other historical buildings include the town hall (15th cent.) and numerous old private houses. Here in 1493 Charles VIII signed a treaty yielding Franche-Comté, Artois, and Charolais to Emperor Maximilian I.

Senn, Nicholas, 1844–1908, American surgeon, b. Switzerland, M. D. Chicago Medical College, 1868. He came to the United States in 1853. He practiced in Milwaukee and from 1887 taught at Rush Medical College. In 1898 he served as surgeon in the Spanish-American War. A noted surgeon, he introduced methods of repair of the intestines and, by inflation with hydrogen, a method of detecting perforation. He also made a study of tumors and wrote numerous works on surgery.

senna, any plant of the genus *Cassia*, leguminous herbs, shrubs, or trees most common in warm regions. Some species are cultivated for ornament, but sennas are best known as medicinal plants. The dried leaves are used as a purgative and are chiefly obtained from *Cassia acutifolia* (Alexandria senna) and *Cassia angustifolia* (Indian senna), both cultivated in Old World tropics. The wild senna (*Cassia marylandica*) of the E United States is a tall yellow-flowered plant that has been sometimes similarly used. The seeds of one senna have served as a coffee substitute. Cassia or cassia bark is a species of CINNAMON.

Sennacherib (sĕnă'kurĭb), d. 681 B.C., king of Assyria (705–681 B.C.). Son of Sargon, Sennacherib spent most of his reign fighting to maintain the empire established by his father. His first campaign was waged against Babylonia. In 701 B.C. he marched against an uprising of the western nations, Phoenicia, Palestine, and Philistia, who were supported by Egypt. He defeated the Egyptians at Eltekeh (701) and prepared to take Jerusalem. ISAIAH encouraged HEZEKIAH of Judah to resist Sennacherib and the Assyrian came to terms, but exacted a heavy tribute. It is uncertain whether the biblical account of the plague which ravaged Sennacherib's army occurred at this time or at a later date. Byron's poem, "The Destruction of Sennacherib," relies on the account in 2 Chron. 32. Disturbances in Babylonia called the king to that area, and he waged a naval campaign against the Chaldaeans. He laid Elam waste and finally fought both the Chaldaeans and the Elamites at the battle of Halulina (Khaluli) (c. 691 B.C.). The exact outcome of this battle is uncertain. Two years later Sennacherib captured and destroyed Babylon. Sennacherib constructed canals and aqueducts and built a magnificent palace at Nineveh. He was murdered, perhaps by his two sons, and was succeeded by his son, ESAR-HADDON. Isaiah 36, 37, 2 Kings 18,19. See A. T. Olmstead, *History of Assyria* (1923).

Sennar (sĕnär'), town (pop. c. 8,000), E central Anglo-Egyptian Sudan, on the Blue Nile. It was the capital of the Moslem kingdom of Sennar, founded by Amara Dunkas (reigned c. 1484–c. 1526), who overthrew the Christian kingdom of Aloa. Under its strongest rulers Sennar extended from the Atbara river to the White Nile. The kingdom declined in the 18th cent., and Egypt easily annexed its territory in 1821. Sennar town is connected by rail with Khartoum and with El Obeid. Near it is the Sennar Dam (completed 1925), which impounds water used to irrigate over 10,000 sq. mi., planted mainly in cotton and millet.

Sennett, Mack (sĕ'nĭt), 1884–, American moving-picture director and producer, whose real name was Michael Sinnott, b. Danville, Que. He acted for David Wark Griffith at the Biograph Company in 1909 and was in charge of production for the Keystone Company in 1912. Sennett's films, rarely more than one or two reels long, were slapstick comedies with fantastic chases, custard pie warfare, Keystone cops, and bathing beauties. They include *Bright Lights, Fatty and Mabel Adrift, The Surf Girl, Tillie's Punctured Romance*, and *Mickey*. Mabel Normand, Ford Sterling, Ben Turpin, Roscoe ("Fatty") Arbuckle, Marie Dressler, and Charles Chaplin all acted for Keystone. See Gene Fowler, *Father Goose* (1934).

Senones (sĕnō'nēz, sē'nōnēz), ancient people of GAUL. There were two groups, one of which settled in NE Italy S of the Po in the 4th cent. B.C. The others, known to Caesar, lived in the valley of the Seine.

Sens (säs), city (pop. 15,936), Yonne dept., France, in Champagne. It is an old ecclesiastic city and an archiepiscopal see. An important center of the Roman province of Lugdunensis, Sens later became a county which in 1055 was annexed to the French crown. Several ecclesiastic councils took place here. The massacre (1562) of the Huguenots of Sens rekindled the Wars of Religion, during which Sens was a stronghold of the League. The great power of the archbishops of Sens declined when Paris, until then under their ecclesiastic jurisdiction, was made (1622) an archdiocese. The Cathedral of St. Étienne (mostly 12th cent.) is one of the oldest Gothic monuments in France. Its windows probably were painted by Jean COUSIN. Its chief architect, William of Sens, also worked on Canterbury cathedral, which resembles it in part. Town and cathedral were slightly damaged in 1940 in the Second World War.

sensationalism, in philosophy, the theory that there are no innate ideas and that knowledge is derived solely from the sense data of experience. This was the position of Hobbes, Locke, Berkeley, Hume, La Mettrie, Holbach, Helvétius, and others. Compare EMPIRICISM.

sense, faculty by which external or internal stimuli are conveyed to brain centers where they are registered as sensations. The five senses, sight, hearing, touch, smell, and taste, are special faculties concerned with the receiving and conducting of external stimuli through the eye, ear, skin, olfactory organ, and the taste buds of the oral cavity. Visceral senses, e.g., the hunger sense, thirst sense, and other internal sensations, are conducted to the brain from internal organs.

sensitive plant: see MIMOSA.

Senta (sĕn'tä), Hung. *Zenta* (zĕn'tô), city (pop. 24,916), N Serbia, Yugoslavia, on the Theiss and NNW of Belgrade. It is an agricultural center of the fertile Vojvodina. Here in 1697 Prince Eugene of Savoy won a decisive victory over the Turks, who accepted (1699) the Treaty of Passarowitz.

sentence, in law, punishment which a court orders inflicted on a person convicted of crime. Sentences may consist of a fine, imprisonment for life or a shorter period, or execution. In the United States exile and forfeiture of property by heirs are not used as punishment. A fine and imprisonment may both be imposed, or (especially in misdemeanors) payment of a fine may be the alternative to a prison sentence. The sentence to be imposed is generally fixed by statute. In some cases the duration is exactly prescribed and in others the judge has a limited discretion. If a person is convicted of more than one crime at his trial, his sentences may run concurrently (i.e., all begin at the same date) or consecutively. Sentences may be determinate (a fixed duration) or indeterminate. In the latter a minimum and a maximum term is set, and if the convict's behavior is good he may be released on PAROLE any time after the expiration of the minimum term. In many states successive convictions of felony bring longer sentences. New York state provides that imprisonment for life shall be mandatory after the fourth conviction of felony.

Sentinel, city (pop. 1,088), SW Okla., settled 1901, inc. 1906.

Sentinel Ridge, SW Wis., near Prairie du Chien. It is in Wyalusing State Park and is the site of interesting Indian mounds.

Sentinum (sĕntī'num), ancient town of Umbria, E central Italy, near the modern Sassoferrato. In 295 B.C. the Romans (led by P. Decius Mus) here defeated the Gauls and the Samnites.

Senuah (sĕnū'u) [Heb., =hated woman], Benjamite. Neh. 11 9.

Seorim (sēō'rĭm) [Heb., =barley], chief priest of David's time. 1 Chron. 24 8.

Seoul (sā'ōōl', sā'ōōl, sōl) or **Kyongsong** (kyŭng'sŭng'), Jap. *Keijo*, city (1949 pop. 1,446,019), capital of the South Korean Republic. It is scenically situated at the base of high hills. Three gates are all that remain of the wall which once surrounded Seoul. There are three imperial palaces, and in the center of the city is a huge bronze bell, which was cast in 1468. Seoul was the capital of Korea from 1393 until the partition of the country after the Second World War, when it became the headquarters of the U.S. forces occupying S Korea. Today it is a thoroughly modernized city with an international airport. Manufactures include flour and textiles. Here are the Univ. of Seoul and several colleges.

sepal: see CALYX.

separation, in law, either the voluntary agreement of husband and wife to live apart or a partial dissolution of the marriage relation by court order. The marriage bond subsists, and remarriage of either party is criminal. The separated parties will ordinarily be bound by the provisions of an agreement respecting the amount to be paid for separate maintenance and the adjustment of their property rights. Separation by court decree is a divorce *a mensa et thora* [from bed and board], the parties are forbidden to live together, and the wife has a right to ALIMONY. The laws of the states of the United States vary greatly as to separation, generally jurisdictions where DIVORCE is difficult to obtain have a more lenient policy toward legal separation than do jurisdictions with easier divorce laws. The main grounds for legal separation are adultery, cruelty, and desertion.

separatists, in religion, a term used to describe those bodies of Christians who withdrew from the Established Church in Great Britain. They desired freedom from church and civil authority, control of each congregation by its membership, and changes in ritual. In the 16th cent. a group of early separatists were known as Brownists after their leader, Robert BROWNE. The name Independents came into use in the 17th cent. Among other separatist groups were the Pilgrims, the Quakers, and the Baptists. See CONGREGATIONALISM.

separator, cream, dairy machine used to separate fresh milk into cream and skim milk. Formerly the separation was made by allowing the cream to rise to the top of a pan and skimming it off. C. G. de Laval of Sweden devised the first mechanical cream separator c. 1880. The design of the machine varies but the principle is that of the centrifuge. Whole milk is conducted into a bowl, commonly through a central tubular shaft. A spindle rotates the bowl very rapidly, and a series of identical conical disks separate the milk into layers. The skim milk flies to the outer circumference of the rapidly whirling bowl, and the lighter cream tends to move towards the center. The pressure of the whole milk supply above the bowl forces the cream and skim milk out of the machine into separate collecting vessels. The cream separator makes it possible to control the amount of fat remaining in the milk. With the cream separator nearly all of the fat can be removed, and because the process is much faster than the settling method, there is less chance for bacterial action to injure the products.

Sephar (sē'fur), unlocated hill in the Sinai peninsula. Gen. 10 30.

Separad (sĕ'furăd), unlocated place peopled with Jews in captivity. Obad. 20.

Sephardim (sĕfär'dĭm): see ASHKENAZ.

Sepharvaim (sĕ"farvā'ĭm). **1** City of Babylonia, probably SIPPAR, whence colonists for Samaria were brought. 2 Kings 17 24, 31. **2** Unknown city conquered by the Assyrians, probably in Syria. 2 Kings 18 34, 19 13, Isa. 37 13.

Sepik (sā'pēk), river of NE New Guinea, rising near the Netherlands New Guinea boundary and flowing 700 mi. eastward across the Territory of New Guinea to the Bismarck Sea. It is navigable for 180 mi. It was formerly the Kaiserin-Augusta river.

Sepoy Rebellion (sē'poi), 1857–58, rebellion of the native soldiers (sepoys) in the Bengal army of the East India Company. Many factors combined to precipitate the revolt. A belief commonly held by Indians at the time was that the centennial anniversary of the battle of Plassey (1757) would witness the end of British rule in India. Many Indian princes, fearing the confiscations of land by Governor General Dalhousie and his successor Lord Canning, were ready for an armed struggle, and they may have encouraged rebelliousness. The Bengalese soldiers (all Brahmins) had been repeatedly affronted. They resented the annexation, in 1856, of the kingdom of Oudh, from which most of them came. They interpreted a regulation of 1856 which subjected them to service overseas (despite the loss of CASTE entailed in crossing the open sea) as part of a plot to force them to adopt Christianity. This belief was strengthened when they were furnished cartridges coated with what they believed to be beef grease. Handling beef grease was a violation of Hindu law, and the initial concerted act of disobedience occurred at Berhampore in Feb., 1857. It was at Meerut that an attempt (which proved unsuccessful) was first made to seize a large city. After May rebellious forces swarmed over N central India, gaining much support. They besieged Lucknow and captured Cawnpore and Delhi. At Delhi, BAHADUR SHAH, the last Mogul emperor, was proclaimed sovereign of all India, and he appears to have received the adherence of the principal leaders, including NANA SAHIB, who was responsible for the massacre at Cawnpore. In repressing the rebellion the British were aided by the loyalty of the soldiers from Madras, Bombay, and the Punjab and by the large princely states, including Hyderabad, Mysore, and Kashmir. Troops (largely British) under Sir John Lawrence (see LAWRENCE, JOHN LAIRD MAIR LAWRENCE, 1ST BARON) and Generals Colin Campbell and Henry Havelock accomplished the reconquest. Delhi and Cawnpore were invested in Sept., 1857, and the long siege of Lucknow was relieved in March, 1858. The punishment inflicted on the rebels may even have exceeded in atrocity what they themselves had wrought. The rebellion demonstrated the urgency of reform, and in 1858 the East India Company was abolished and rule directly assumed by the crown. Expropriation of land was discontinued, religious toleration was decreed, and Indians were admitted to subordinate positions in civil service. Military precautions against further uprisings included increasing the proportion of British to native troops and restricting artillery service to Britons. See Sir John Kaye and George Malleson, *History of the Indian Mutiny* (6 vols., 1896), Thomas P. Holmes, *History of the Indian Mutiny* (3 vols., 1904–12).

Seppänen, Unto Kalervo (ōōn'tô kä'lĕrvô sĕp'pänĕn), 1904–, Finnish writer. A native of Helsinki, he

attended school in Karelia, and this province on the Russian border became his spiritual home, as well as the scene of his stories He has written plays, short stories, and several novels, of which *Sun and Storm* (1931–34, Eng tr , 1939), based on the Finnish-Russian duel for Karelia, was awarded a prize

septaria: see CONCRETION.

September: see MONTH

September massacres (1792): see FRENCH REVOLUTION

septicemia (sĕptĭsē'mēù), condition in which the blood stream is infected by bacteria which multiply in the blood It is most commonly caused by the streptococci and staphylococci It is a form of blood poisoning, it differs from toxemia, also a type of blood poisoning, in that in septicemia the blood stream is infected by both the bacteria and their toxic products, while in toxemia only the bacterial toxins are present in the blood In many infectious diseases bacteria enter the blood stream and are carried to tissues in other portions of the body where they thrive Bacteria passing through the blood stream also sometimes lodge in tissues and cause abscesses, this condition is known as pyemia Bacteria may enter the blood through small cuts, larger wounds, and blisters or as a result of careless treatment of pimples on the face Septicemia is always a serious condition and may be fatal The early care of cuts and other injuries is the best preventive measure

septic tank, sedimentation tank into which sewage is discharged and in which it remains for periods ranging from 8 to 24 hr The organic matter in the sewage is attacked first by aerobic bacteria while there is oxygen present in the tank, when no oxygen remains anaerobic bacteria attack it, causing it to disintegrate, liquefy, and give off gases The Imhoff septic tank is an improvement over the ordinary septic tank and is still used in the United States, it is a two-story structure with the upper compartment used for settling the sewage and the lower one for the anaerobic disintegration of sludge A sloping floor enables solid material to slide to the lower compartment, and with the sludge separated from the material in the sedimentation compartment, the action is more rapid Some cities have more modern sewage-treatment plants in which the processes of sedimentation and sludge digestion are more completely separated

Septimania (sĕptĭmā'nēù), region of S France In Roman times it was the narrow strip along the Mediterranean coast about Narbonne and was named for the Seventh Legion In Frankish days the name was extended to include the whole area from the upper Garonne to the Rhone and from the Pyrenees to the Cevennes The Visigoths held it, and it was taken from them by the Franks and lost again. The Moors held it briefly Later it was attached to Aquitania for a time. Finally it passed to the counts of Toulouse

Septimius Severus. see SEVERUS

Septuagint (sĕp'tūùĭnt) [Latin, =70], translation of the Old Testament into Alexandrian Greek by Hellenistic Jews, between 250 B C and c 100 B C. The story that it was done in 72 days by 72 translators for Ptolemy Philadelphus accounts for the name. The Septuagint is of importance to critics because it is translated from texts now lost It was the version of Hellenistic Jews and the Greek-speaking Christians, including St Paul, it is still used in the Greek Church It includes the books of the APOCRYPHA and some PSEUDEPIGRAPHA, therefore the whole of the Western canon (see OLD TESTAMENT) The symbol for the Septuagint is LXX No copy of the original form of the translation exists, textual difficulties abound

Sepulcher, Holy: see HOLY SEPULCHER

Séquard, Charles Édouard Brown-. see BROWN-SÉQUARD, Charles Édouard

sequoia (sĭkwoi'ù), name for either of two huge, coniferous, evergreen trees of the genus *Sequoia*. The genus probably originated over 100,000,000 years ago. Once widespread in temperate regions of the Northern Hemisphere, the trees were almost exterminated by the ice sheets of the glacial ages Several species are known only by fossil remains, some have been found in the Petrified Forest in Arizona Only two species are extant, and these survive only in a narrow strip near the Pacific coast of the United States The redwood (*Sequoia sempervirens*) occurs along the coast of California and S Oregon Growing 100 to 340 ft high, it is probably the tallest tree in the world Its trunk is 20 to 25 ft in diameter. It usually has bluish-green, needlelike leaves. Some redwoods are believed to be over 2,000 years old. The big tree (*S gigantea*), 150 to 325 ft tall and with a trunk 10 to 30 ft in diameter, grows on the western slopes of the Sierra Nevada in California It reaches an even greater age than the redwood; some big trees are believed to be 3,000 to 4,000 years old The leaves are small, overlapping scales. Recently it has been proposed to separate the two species into different genera, *Sequoia* and *Sequoiadendron*. Both trees have deeply grooved, reddish bark and soft, straight-grained, reddish heartwood whose resistance to decay makes it especially valuable for outdoor building purposes, e g., for shingles, siding, and flumes. Although the sequoias are protected in parks, e g , in Sequoia National Park of California, their extermination elsewhere is threatened by exploitation China's "dawn redwood" tree (*Metasequoia*) is believed to be a related species and is perhaps an ancestor of the California redwood. See Walter Fry and J R White, *Big Trees* (1930).

Sequoia National Park, 385,100 13 acres, E Calif , ESE of Fresno, est 1890 Large groves of sequoias give the park its name The General Sherman Tree, said to be the largest living thing, is 272 4 ft high and 36 5 ft in diameter at its widest point and is estimated to be more than 3,000 years old Within the park are Mt WHITNEY, Kern River Canyon, and the Great Western Divide (which separates westward-flowing from eastward-flowing streams) Kings Canyon National Park adjoins Sequoia See John R White and Samuel J Pusateri, *Sequoia and Kings Canyon National Parks* (1949)

Sequoyah (sĭkwoi'ù), c 1770–1843, North American Indian leader, creator of the Cherokee syllabary, b Loudon co., Tenn He was the son of a Cherokee girl and a white trader It is said that his father was Nicholas Gist, at any rate his "white" name was George Guess He was a silversmith and a trader in the Cherokee country in Georgia He set out to create a system for reducing the Cherokee language to writing, and c 1821 he compiled a table of 85 characters, he took some letters from an English spelling book and by inversion, modification, and invention adopted the symbols to Cherokee sounds In 1822 he visited the Cherokee in Arkansas, and soon he taught thousands of the Indians to read and write He moved with them to what is now Oklahoma Parts of the Bible were soon printed in Cherokee, and in 1828 a weekly newspaper was begun His remarkable achievement helped to unite the Cherokee and make them leaders among the Indians The giant tree, sequoia, is named for him See biographies by G E Foster (1885), Grant Foreman (1938), and C. C Coblentz (1946)

Seraglio see ISTANBUL, Turkey.

Serah (sē'rù), daughter of Asher. Gen. 46 17. Sarah Num 26 46

Seraiah (sĕ"rui'ù) **1** See SHAVSHA **2** High priest under Zedekiah 2 Kings 25 18 21, 1 Chron 6 14, Ezra 7 1, Jer 52 24 **3** Companion of Zedekiah Jer 51 59 **4** Captain at Mizpah 2 Kings 25 23, Jer 40 8 **5** Father of Joab 1 Chron 4 13,14 **6** Grandfather of Jehu 1 Chron 4 35 **7** Leader in the return with Zerubbabel Ezra 2 2, Neh 12 1,12 Azariah Neh 7 7 **8** Same as AZARIAH **24** **9** Officer of Jehoiakim Jer 36 26 **10** Scaler of the covenant Neh 10 2

Seraing (surĕ'), city (pop 39,622), Liége prov , SE Belgium, on the Meuse and W of Liége It is an important coal-mining center and has large iron mills

Serajevo, Yugoslavia see SARAJEVO

Serampore (sĕ"rŭmpōr'), town (pop 55,339), West Bengal state, India, on the Hooghly river Founded (1799) by Denmark, it was bought (1845) by Great Britain Its college (opened 1818), alone in India, grants degrees in Christian theology

Seran or **Serang,** Indonesia see CERAM

Serao, Matilde (mätēl'dā sārä'ō), 1856–1927, Italian novelist and journalist, b Greece She was taken to Naples as a child A journalist in Rome, she founded with D'Annunzio, Eduardo Scarfoglio, and Carducci the paper *Capitan Fracassa* In 1884 she married Scarfoglio She helped her husband found the Naples *Mattino* and in 1904 founded her own newspaper, the *Giorno*, which she edited until her death. Of her 50 volumes of fiction and miscellaneous prose, outstanding works are the novels written in the 1880s Her novels include *Fantasca* (1883, Eng tr , *Fantasy*, 1890), *La conquista di Roma* (1885, Eng trs , *The Conquest of Rome*, 1902, 1906), *Il paese di cuccagna* (1891, Eng tr , *The Land of Cockayne*, 1901), *La ballerina* (1899, Eng tr , *The Ballet Dancer*, 1901), and *Suor Giovanna della Croce* (1901, Eng tr , "Sister Giovanna of the Cross," in *Living Age*, 1901) The short stories *All' erta, sentinella* (1899) were translated as *On Guard* in 1901 Serao's fiction combines idealism and naturalism and is notable for its description of Naples and its people

seraph (sē'ruf), plural **seraphim** (sē'ruffĭm), kind of ANGEL According to the Bible seraphim have six wings Isa 6 2–6 From ancient times they have been associated with the cherubim, with whom they share most attributes Thus in art seraphim are usually differentiated only in the surrounding color, red In the Christian liturgy they go together, e g , in the preface of Mass and the *Te Deum*. See CHERUB

Serapis. see EGYPTIAN RELIGION.

Serawak, Borneo: see SARAWAK

Serbia (sûr'bēù), Serbo-Croatian *Srbija* (sŭr'bēä), autonomous republic (34,194 sq mi.; pop 6,523,224), E Yugoslavia Its capital, BELGRADE, is also the capital of Yugoslavia Serbia borders in the west on the Yugoslav republics of Croatia, Bosnia and Hercegovina, and Montenegro; in the southwest, on Albania, in the south, on Yugoslav Macedonia; in the east, on Bulgaria and Rumania; and in the north, on Hungary. It is the largest and most important of the Yugoslav republics Serbia is largely mountainous in the west and the south, but its northeastern section is part of the fertile great Danubian plain, drained by the Danube, the Sava, the Theiss, and the Morava The northeastern section has been Serbian only since 1920, when it was ceded by Hungary in the Treaty of Trianon, and it includes the autonomous VOJVODINA prov , with SUBOTICA and NOVI SAD and the western section of the former BANAT OF TEMESVAR. Next to Belgrade, the principal city of Serbia proper is NIS About 80 percent of the Serbian population is agricultural, but efforts are being made to increase the industrial and mineral output of the country, which has great potentialities Serbia contains some Slovenian, Croatian, Magyar, and Albanian minorities, but the majority of the population are Serbs Culturally, the Serbs distinguish themselves from the closely related Croats and Slovenes in that they have for centuries belonged to the Orthodox Eastern Church and use the Cyrillic rather than the Roman alphabet Linguistically, Serbian, Croatian, and Slovene are very similar members of the South Slavic language group Coming from present Galicia, the Serbs settled in the Balkan Peninsula in the 6th and 7th cent and accepted Christianity in the 9th cent Their petty principalities were theoretically under an overlord, called the grand *zhupan*, who for the most time recognized the suzerainty of the Byzantine emperor at Constantinople Civil strife and constant warfare with their Bulgarian, Greek, and Magyar neighbors characterized the early history of the Serbs Stephen Nemanja, who became (1159) grand *zhupan*, founded a dynasty which ruled Serbia for two centuries His successor assumed the title king of all Serbia in 1217 The Serbian kingdom was at first overshadowed by the meteoric rise of the Bulgarian empire under IVAN II (Ivan Asen), but under STEPHEN DUSHAN, who became king in 1331 and had himself crowned tsar in 1346, Serbia became the most powerful empire in the Balkan Peninsula, the larger part of which it absorbed However, soon after Stephen's death, the empire decayed and fell victim to the onslaught of the Ottoman Turks The Serbs were defeated (1371) at the Maritsa, in the same year the last tsar, Stephen Urosh V, died and left no male issue His successor and relative, Lazar, contented himself with the title prince of Serbia Lazar was slain (1389) in the battle of Kossovo, which sealed the fate of Serbia Lazar's son Stephen was allowed to rule over a diminished and divided Serbia by Sultan Bajazet I, to whom he paid tribute He and his successor George Brankovic (1427–56) received the title despots from the Byzantine emperors, but they witnessed the gradual absorption of their land by the Turks and did not take part in the Christian crusade that ended in disaster at Varna (1444) The quarrel for the succession to George Brankovic facilitated the complete annexation of Serbia by Sultan Mohammed II in 1459. Belgrade, then held by Hungary, fell to the Turks only in 1521 Serbia became a Turkish province, its pashas residing at Belgrade, but MONTENEGRO continued for 500 years to fight for its independence Turkish rule in Serbia was more oppressive than in most Turkish provinces The Serbian nobility was annihilated and the lands of the nobles were distributed to the Turkish military aristocracy, while the Christian peasants—the *rayas*—were treated little better than slaves Although the Serbs were forbidden to possess weapons, insurrections were frequent No attempt was made to curb Christianity, but the Serbian Church was placed in the hands of the Greek PHANARIOTS, who were no less unpopular than the Turks Many Serbs fled to Hungary and Austria in order to help those countries fight the sultans The Turkish reverses in the wars of the 17th and 18th cent against Austria and Russia revived Serbian hopes for independence, and in 1804 KARAGEORGE led a successful insurrection, but by 1813 the Turks were once more in control In 1817 Milosh Obrenovich (see MILOSH) procured the assassination of his rival Karageorge and was named prince of Serbia by the chief Serbian leaders Turkey was in no position to challenge his power, and in 1828 Russia forced the sultan, in the Treaty of Adrianople, to recognize Milosh as a vassal prince Except for Turkish garrisons in Belgrade and other fortresses, Serbia was evacuated by the Turks. Much of the ensuing internal politics of Serbia was the direct result of the bloody feud between the KARAGEORGEVICH and OBRENOVICH families Serbia remained neutral in the Crimean War, but the Congress of Paris (1856), while recognizing the suzerainty of the sultan over Serbia, placed the principality under the collective guarantee of the European powers. In 1867 Serbia obtained the peaceful evacuation of the last Turkish troops. King MILAN liberalized the constitution in 1869, giving increased powers to the Skupchtina (lower house of parliament). He supported the rebellion of BOSNIA AND HERCEGOVINA against Turkish rule and in 1876 declared war on Turkey. The rout of the Serbs in 1876 led to the entry of Russia into the war in 1877 (see RUSSO-TURKISH

WARS) on the Serbian side. The Congress of Berlin (1878) declared Serbia fully independent but disappointed Serbian hopes of aggrandizement by placing Bosnia and Hercegovina under Austro-Hungarian administration, in 1882 Milan proclaimed himself king The assumption by Serbia of the role of champion of PAN-SLAVISM in the Balkans led to bitter rivalry with Bulgaria and the Austro-Hungarian Monarchy The Serbian defeat (1885) by the Bulgarians over the question of Eastern RUMELIA and the inglorious reign (1889–1903) of King ALEXANDER greatly harmed Serbian prestige With PETER I, who acceded in 1903, the Karageorgevich dynasty became firmly entrenched He restored the liberal constitution of 1889 and in 1904 appointed as premier Nikola PASHITCH, leader of the strongly nationalist and pro-Russian Radical party Pashitch's policy dominated the following 20 years Dissatisfied with its failure to secure a major part of MACEDONIA in the first (1912–13) of the BALKAN WARS, Serbia in 1913 turned against, and defeated, its former ally Bulgaria in the Second Balkan War It thus became the foremost Slavic power in the Balkans The Austrian annexation (1908) of Bosnia and Hercegovina had led to increased Austro-Serbian tension, which was to explode in the FIRST WORLD WAR after the assassination (June 28, 1914) of Archduke FRANCIS FERDINAND at Sarajevo by a Serbian nationalist The Serbian army at first held the Austro-Hungarian army in check, but in 1915, when Bulgaria joined the Central Powers and when the Austrians were reinforced by the Germans, Serbia was quickly overrun The Serbian troops and government were evacuated to Corfu, where in 1917 Serbian, Croatian, Slovenian, and Montenegrin representatives declared the union of the southern Slavs In 1918 the kingdom of the Serbs, Croats, and Slovenes, headed by Peter I of Serbia, was formally proclaimed The later history of Serbia is essentially that of YUGOSLAVIA The predominant position of Serbia in the new kingdom was a major cause for unrest in Croatia and Macedonia in the years between the First World War and the Second World War After the conquest (1941) of Yugoslavia by the Axis powers in the Second World War, a Serbian puppet government was set up by the victors over a much-diminished Serbia It never received the support of the Serbian people, who continued to wage guerrilla warfare under the leadership of Draja MIKHAILOVICH Later in the war Marshal TITO won the support of the majority of resistance fighters in Yugoslavia, while Mikhailovich's following became largely restricted to the Serbian nationalists The federal constitution of Yugoslavia, adopted in 1945, stripped Serbia of Macedonia, Bosnia and Hercegovina, and Montenegro, which became autonomous republics Servia is an alternate name for Serbia, but is now in general disuse See H W V Temperly, *History of Serbia* (1917), Ferdinand Schevill, *History of the Balkan Peninsula* (1922)

Serbian literature see YUGOSLAV LITERATURE

Serbo-Croat (-krō'ăt), language of the southern group of the Slavic subfamily of Indo-European languages See LANGUAGE (table)

Sercq, Channel Islands see SARK

Sered (sē'rĕd) [Heb ,=fear], Zebulunite, the ancestor of the Sardites Gen 46 14, Num 26 26.

Serena, La (la sārā'nä), city (pop 21,742), N central Chile Its port is Coquimbo Founded in 1544, La Serena was destroyed in 1549 by an Indian revolt and sacked in 1680 by English filibusters It is a city of old-world charm, noted for its cathedral, fine buildings, and gardens The climate is uniform, and the surrounding region is covered with orchards and vineyards

serenade (sĕrunād') [Ital *sera*=evening], term used to designate several types of musical composition Opera and the song literature yield numerous examples of the serenade sung or played by a lover at night beneath his beloved's window, outstanding being *Deh vieni alla finestra* from Mozart's *Don Giovanni* In the late 18th cent the serenade became a light instrumental suite, the movements of which were numerous and short and usually included a march and a minuet The lover's song is known in German as *Ständchen*, while the suite is usually designated *Nachtmusik*, an example being Mozart's *Eine kleine Nachtmusik* The Italian *serenata*, while the equivalent of the term *serenade*, had an additional usage in the late 18th cent in designating a short opera or dramatic cantata written to celebrate a special event in the household of the composer's patron

Seres (sē'rēz), Roman name for China It is possibly derived from the Latin *sericum* [silken cloth].

Seres, Greece· see SERRAI.

Sereth (sĭrĕt', să'rĕt), Rumanian *Siret* (sĭrĕt') or *Siretul* (sĭrĕ'tōōl), Rus *Seret* (sĭryĕt'), river, 280 mi. long, rising in the W Ukraine, in the Carpathians SW of Chernovtsy. It flows SSE through Moldavia, E Rumania, to join the Danube 3 mi. above Galati Its chief tributaries are the Bistrita and the Moldava

serf. Serfdom may be said to be the state of half freedom characteristic of the bulk of peasant labor in a typical agricultural society under FEUDALISM (see also MANORIAL SYSTEM). It is usually distinguished from slavery by saying that the serf is bound to the land, but this distinction is false A serf was not necessarily bound to the soil, there are many exceptions to be found in the medieval economy of Western Europe, in which serfdom is best known Serfdom is distinguished from slavery chiefly by the body of rights the serfs hold by a custom generally recognized as inviolable and by the strict group arrangement that makes the peasants servile in a group rather than severally Serfdom has arisen only under a local, agricultural economy, connected with a political system based on personal contract—some form of feudalism It sometimes arose from conquest of a people by victors who, because of weakness or for some other reason, did not reduce the natives to slavery but only depressed them into tributaries, holding their lands as of old, but paying dues (especially labor dues) to the conquerors Thus serfdom was established in some Aegean regions by Greek conquests Serfdom was also known in the Hellenistic civilization, and in the Roman Empire economic maladjustment led to appearance of the servile class, the *coloni*. In the Middle Ages, serfdom developed in France, Italy, and Spain, later spread to Germany, and in the 15th cent was carried to Slavic lands It developed separately in England, but underwent a great change with the Norman Conquest, when most of the free villeins (see VILLEIN) were depressed to serfdom Since the status of the manorial peasants was regulated by local custom, there was a wide and confusing diversity in the names applied to the various types of tenants, which ran from the complete servile tenant to the freeholder who paid simply a form of rent The tendency in the Middle Ages was for all the tenants to approximate the same social status The free villeins tended to become the equal of the serfs, and all tended to have their landholding become tenure by labor service (a mark of servile tenure) as well as fixed payments The true serf was theoretically subject to labor service at the will of his lord, but all such matters came to be governed by customs and worked in a set pattern One distinguishing mark of servile tenure was the lord's control of the marriage of his serf's children In legal theory the holding was granted at the will of the lord, but actually the right to hold came to be hereditary In Western Europe the growth of towns and of commerce and the transfer to a money economy broke down the manorial systems and made serfdom anachronistic Even at the height of the manorial system many serfs were manumitted by their lords, and one of the principal questions of modern European reform was the emancipation of serfs Serfdom disappeared in England before the end of Middle Ages In the Hapsburg monarchy, it was ended (1781) by Emperor JOSEPH II, but feudal labor service (*robot*) continued in some provinces until 1848 In France, where it survived only in outlying provinces, serfdom was swept away by the French Revolution The repercussions of the Napoleonic Wars helped to destroy it elsewhere, the most notable examples being the reforms of Karl vom und zum STEIN in Prussia In Russia and the other Slavic lands it was late in coming, took strange forms, and persisted late Serfdom in Russia originated in the 16th cent when Ivan IV created a new landholding aristocracy, the *pomestchiks*, whose tenure was based on service to the tsar Beginning in 1581, laws were passed inhibiting the free movement of the peasant tenants of the *pomestchiks*, however, the peasants were as yet not the property of the landholders, and they kept their civil rights In the reign of Peter I the peasants, whose rights had been gradually diminished by various encroachments, were definitely bound to the landowner rather than to the land, and their condition became virtual slavery There had been real slaves already in the Muscovite state, and in the 18th cent the distinction between slaves and serfs was abolished In the mid-18th cent, masters were given the right to punish their serfs, to exile them to Siberia, and to sell them There were two categories of serfs—the "house serfs," who held domestic positions, and the peasants The peasants enjoyed a larger measure of freedom and often formed self-administered village communities, headed by an elder, the *starets* As can be seen, the institution bore more resemblance to slavery in the S United States than to serfdom under feudalism It reached its peak in the late 18th cent under Catherine II, but was somewhat limited by reforms under Alexander I and Nicholas I Thus, in 1833, the breaking up of servile families by sale was forbidden Serfdom was regarded by the majority of Russians as the major defect in the structure of the Russian state It was contrary to the interests of the rising industrial class, and even a large number of the great landowners recognized that the abolition of serfdom was to their own best interest It was the class of small landowners who risked losing everything if serfdom were abolished, and it was that class which most stubbornly resisted reform The serfs were freed only in 1861 by Alexander II (see EMANCIPATION, EDICT OF) Serfdom also appeared with feudalism in China, Japan, India, pre-Columbian Mexico, and elsewhere. See also SLAVERY and PEONAGE For bibliography, see MANORIAL SYSTEM and FEUDALISM.

sergeanty. see SERJEANTY

Sergel, Johan Tobias (yō'hän tōōbē'äs sĕr'yŭl), 1740–1814, Swedish sculptor, foremost representative of the classical school in Sweden He became court sculptor at Stockholm and in 1810 was made director of the academy Among his works in Stockholm are a relief, *Resurrection* (Church of St Clarons), *Cupid and Psyche*, *Mars and Venus*, *Diomedes Stealing the Palladium*, and a colossal historical group, *Chancellor Oxenstierna Relating to History the Deeds of Gustavus Adolphus* (National Museum), and a monument to Gustavus III

Sergiev or Sergievski Posad, RSFSR see ZAGORSK

Sergius Paulus (sûr'jŭs), proconsul in Cyprus, friendly to Paul Acts 13 7

Sergiyev or Sergiyevski Posad, RSFSR: see ZAGORSK

sericulture· see SILK and SILKWORM

series, in mathematics, a sum of several terms. An infinite series is a sum of infinitely many terms, e g , the infinite series $1/2+1/4+1/8+1/16+$ The dots mean that the remaining terms are formed according to the rule made evident by the first few terms, in this case doubling the denominator of the preceding term to form that of the next term Some infinite series converge to a certain value called its limit, i e , as one adds together progressively more terms, these sums (called the partial sums of the series) form a sequence of values which get closer and closer and in fact arbitrarily close to this value called the limit For example, the series given above converges to the value 1 because the partial sums form the sequence $1/2, 3/4, 7/8, 15/16$, Many series, however, do not converge, i e , have no value which their partial sums approach Such a series is $1/2+1/3+1/4+$ for even though the terms get very small, enough of them added together will give a value greater than any number named

Srinagar, Kashmir see SRINAGAR

Seringapatam (surĭng"guputam', -tăm'), town (pop c 6,000), S Mysore state India, on an island in the Cauvery river There are Hindu monuments some built in the 13th cent Most of the large buildings were erected in the 17th and 18th cent when this was the capital of Mysore The greatest builder was Tippoo Sahib, who left a large mosque, a summer palace, and a mausoleum, in which he and his father Hyder Ali rest Seringapatam declined after its capture (1799) by the British in a battle in which Tippoo was killed

serjeanty or sergeanty (both sär'jĕntē), that type of TENURE in British FEUDALISM in which the tenant held his lands from the king or overlord in return for the performance of some personal, often menial, service Such duties varied from that of king's constable or chamberlain to that of supplying arrows for an overlord when he went hunting This method of landholding was less widespread than other forms of tenure, such as knight service and socage, by which it was largely superseded Such tenures were inalienable and indivisible A remnant of the custom survives in certain ceremonial offices at royal coronations

Serna, José de la (hōsă' dā la sĕr'na), 1770–1832, Spanish general, viceroy of Peru (1821–24) In 1821 the military leaders, dissatisfied with Viceroy PEZUELA and his conduct of the war against José de SAN MARTÍN, deposed Pezuela and named José de la Serna in his place, he was confirmed in the office by Spain Forced to evacuate Lima, he made Cuzco his capital and preserved some show of royal government until the defeat at AYACUCHO, where he was captured

Serov (syĕ'rŭf), city (pop 64,719), RSFSR, in the eastern foothills of the central Urals It is a leading metallurgical center, producing quality steels and pig iron Its development began in the late 19th cent and was greatly speeded in recent years In 1939 its name was changed from Nadezhinsk to Serov

Serowe (sĭrō'ē), town (pop c 30,000), Bechuanaland protectorate, South Africa It is the capital of the Bamangwato tribe Most of the inhabitants are farmers

serpent, name which is often applied to any crawling creature, chiefly to a snake No real sea serpents have been discovered to substantiate the legends about them Large squids or octopuses, whales, dolphins, seals, and other sea animals are sometimes mistaken for sea serpents In religion and art, the serpent symbolizes Satan (Rev. 20 2). See also DRAGON

serpentine (sûr'puntēn, -tĭn), hydrous silicate of magnesium It occurs in crystalline form only as a pseudomorph having the form of some other mineral and is generally found in masses which may be granular, fibrous, or foliated It is commonly some shade of green, but may also be reddish, yellowish, black, or nearly white It has a greasy or silky luster and is often translucent, even in large masses Serpentine is a secondary mineral, usually resulting from the alteration of minerals or rocks containing magnesium, and it occurs very widely in Europe and the United States Serpentine rocks are classified as common serpentine and precious serpentine,

the common serpentine being darker, less translucent, and sometimes impure When serpentine is mixed with calcite, dolomite, or magnesite, a mottled or veined rock called verd antique is produced A fibrous variety of serpentine is chrysotile or commercial ASBESTOS. Serpentine is sometimes used as a gem, and the massive varieties are quarried and used like marble for decorative purposes, although the masses are frequently jointed and only small slabs can be secured Serpentine takes a beautiful high polish, but it is easily cracked and discolored by exposure to the weather and is consequently of little value for exterior use

Serpent Mound State Park, S Ohio, N of Peebles. Of the several prehistoric mounds, the largest, Serpent Mound, a 1,330 ft long, represents a serpent swallowing an egg Harvard Univ held the land from 1887 to 1900, when the Ohio State Archaeological and Historical Society assumed care of it

Serpukhov (syĕr'pōōkhŏf), city (pop 90,766), central European RSFSR, on the Oka and S of Moscow. It is a textile center, processing cotton, wool, and flax Dating from the 14th cent, it has a well-preserved kremlin (16th cent) In the Second World War, Serpukhov resisted (1941) the Germans in their drive on Moscow

Serra, Junípero (hōōnĕ'pārō sĕ'rä), 1713–84, Spanish Franciscan missionary in North America, b Majorca His name originally was Miguel José Serra, and Junípero was his name in religion. For 15 years he taught philosophy in the college at Palma In 1749 he was sent to America with Francisco Palou, his lifelong friend and biographer, and proceeded to Mexico city, where he taught briefly at the College of San Fernando For three years he worked successfully among the Indians of the Sierra Gorda, then returned to Mexico city for seven more years, working half of each year in the surrounding villages His passionate preaching and stern asceticism won him a large and respectful following It was at this time that his self-mortification began and that legends began to grow up about him. In 1769 Serra went with the second expedition sent by José de Gálvez to California and commanded by Gaspar de Portolá When the party reached San Diego, Serra remained to found the mission there, while most of the rest of the party went on in search of the harbor of Monterey When they returned unsuccessful, Serra was one of those responsible for the sending of a second expedition, which he accompanied When Monterey was reached and the mission San Carlos Borromeo founded, Serra remained there as president of Alta California missions, moved the mission to Carmel-by-the-Sea, and made it his headquarters for the rest of his days Under his presidency were founded the missions San Antonio de Padua (1771), San Gabriel Arcángel (1771), San Luis Obispo (1772), San Juan Capistrano (1776), San Francisco de Asís (1776), Santa Clara de Asís (1777), and San Buenaventura (1782) The source material on Father Serra is chiefly in Francisco Palou, *Life and Apostolic Labors of the Venerable Father Junípero Serra* (Eng tr., 1913) and *The Founding of the First California Missions under the Spiritual Guidance of the Venerable Padre Fray Junípero Serra* (Eng. tr 1934). See J J Walsh, *These Splendid Priests* (1926), biographies by A H Fitch (1914) and Agnes Repplier (1933)

Serrai (sĕ'rē), city (pop 34,766), central Macedonia, NE Greece It is a trading center for tobacco, cotton, grain, and livestock and manufactures textiles and cigarettes In the 14th cent it was a capital of Tsar Stephen Dushan of Serbia. In 1913 the city passed to Greece as a result of the Balkan Wars, but it was occupied and damaged by Bulgarian troops both in the First World War and the Second World War. It is also known as Seres or Serres

Serrano Suñer, Ramón (rämōn' sĕrra'nō sōōnyĕr'), 1901–, Spanish politician A conservative member of the Cortes (1933–36) and one of the founders of the fascist FALANGE, he joined his brother-in-law, Francisco Franco, early in the Spanish civil war of 1936–39 and became minister of the interior (1937–40), of the press and propaganda (1939–40), and of foreign affairs (1940–42) A leading advocate of Spanish collaboration with the Axis during the Second World War, he had to resign as foreign minister and as president of the political council of the Falange when Franco adopted a less warmly favorable attitude toward Germany and Italy With Serrano's fall the Falange lost much of its power

Serrano y Domínguez, Francisco (franthē'skō sĕrä'nō ē dōmēng'gäth), 1810–85, Spanish general and statesman In 1834–39 he distinguished himself in the war against the Carlists. He at first supported ESPARTERO but later worked for his overthrow. He was appointed captain general of Granada (1848), then of Cuba (1859) On his return he was created duque de la Torre and a grandee of Spain After the death of his friend O'Donnell he led the Liberal Union party He participated with Juan Prim in the revolution of 1868 and was named regent by the constituent assembly. Serrano was premier under King Amadeus, after whose abdication (1873) he opposed the newly established republic In 1874 a military coup d'état placed him at the head of the provisional government. Serrano fled to France when Alfonso XII was restored (1875) to the Spanish throne, but he returned in 1881.

Serres, Greece see SERRAI.

Sert, José María (hōsä' märē'ä sĕrt'), 1876–1945, Spanish painter, b Barcelona. He settled in Paris in 1900. Maintaining close contact with Spain, he later became a Franco sympathizer His mural paintings, internationally known, include the decorations of the council chamber of the League of Nations, Geneva, of the ballroom and the music room at the Kent House, London, six panels illustrating scenes of American progress in the RCA Building at Rockefeller Center, New York, and the *Marriage of Don Quixote,* a mural in brown and silver tones in the Sert Room at the Waldorf Astoria Hotel, New York.

Sertorius, Quintus (surtô'rēŭs), d 72 B C, Roman general He was a general under Marius but did not take part in Marius' proscriptions. He was appointed governor of Farther Spain in 83 B C, but fled to Africa to escape Sulla's reprisals He later was summoned to Spain by the Lusitanians, who were in rebellion, in 80 B C He was successful even after Metellus Pius and Pompey were sent out with new armies The tide was turning against Sertorius when he was assassinated by Perperna, a disaffected officer Sertorius attempted to build on a sort of national feeling among the local leaders, by founding a senate and a school for their sons. He thus expanded the work of Viriatus. The identification of Sertorius with local interests led, long after, to a mistaken glorification of him as a Portuguese patriot

Serug (sĕ'rug) [Heb, =sprout], ancestor of Abraham Gen 11 20–27 Saruch Luke 3 35

serum (sēr'um), straw-colored liquid component of blood which separates from the corpuscles when clotting occurs Serum is therefore the liquid part of the blood after coagulation has occurred, while plasma is the liquid part of the blood before clotting has taken place The composition of serum is complex and includes water, albumin, globulins, hormones, salts, and enzymes It is removed from whole blood by centrifuging Serums from immunized animals (animals which have been inoculated with bacteria or toxins) or from persons convalescent from infectious diseases contain antibodies When the serum is introduced into another individual, it may have a prophylactic effect by establishing an immunity for varying lengths of time In addition to this prophylactic use of serum, there are other uses to which it is put in diagnosis and therapy Normal human serum is sometimes introduced into a patient to counteract surgical or traumatic shock or losses of the fluid resulting from burns Antitoxic serums are used against toxin-producing bacteria in cases of tetanus, botulism, and scarlet fever, and antibacterial serums are used against pneumococcic pneumonias, anthrax, and dysentery Some persons are serum sensitive and react badly when serum is administered to them Only rarely is the reaction fatal Untoward effects can be avoided by determining such sensitivity beforehand through making skin tests

Servandoni, Jean Nicolas (zhä' nēkôlä' sĕrvädônē'), 1695–1766, French architect, b Italy Winning a competition for the building of a façade for the Church of St Sulpice, Paris, which had been originally constructed by Le Vau, he produced (1733–45) an imposing colonnaded design which is his most famous work In this church the organ loft and the Chapel of the Virgin also are by him He built the high altars of several churches, including the cathedral of Sens Throughout Europe he attained fame as a decorator

Servetus, Michael (survē'tŭs), 1511–53, Spanish physician and theologian. His name in Spanish was Miguel Serveto In his early years he came into touch with some of the leading reformers in Germany and Switzerland—Oecolampadius, Martin Bucer, Capito, and probably Luther But he held views, concerning the Trinity in particular, which brought condemnation from the theologians of the Reformation as well as from those of the Catholic Church When he published *De trinitatis erroribus* (1531) and *De trinitate* (1532), the feeling of opposition was so strong that he assumed the name of Michel de Villeneuve, from the family home, Villanueva, and spent some time in Lyons, working on an edition of Ptolemy's geography and other scientific works, then in Paris studying medicine There he is said to have seen Calvin He became well known for his ability in dissection and had unusual success as a physician, he discovered that some of the blood circulates through the lungs. From 1541 to 1553 he lived in the palace of the archbishop of Vienne as his confidential physician. When (1553) he had a work setting forth his ideas of Christianity secretly printed, investigation was begun by the Inquisition Servetus, arrested, tried, and condemned, escaped from prison Several months later, while making his way to Italy, he was seized in Geneva by Calvin's order. There, after a long trial, in which Calvin's condemnation was a stern factor, he was burned on Oct 27, 1553. See William Osler, *Michael Servetus* (1909), Alexander Gordon, *The Personality of M. Servetus* (1910) and *Servetus and the Spanish Inquisition* (1925).

Servia: see SERBIA.

Service, Robert William, 1876–, Canadian poet and novelist, b England, educated at the Univ of Glasgow. He went to Canada in 1897 and spent some time in British Columbia and at White Horse in the Yukon. He celebrated the Yukon in *Songs of a Sourdough* (1907; reprinted 1915 as *The Spell of the Yukon*) and *Ballads of a Cheechako* (1909) and in the novel, *The Trail of '98* (1910) He became a foreign correspondent in *1912* and drove an ambulance during the First World War, an experience which gave him material for *Rhymes of a Red Cross Man* (1916) He remained in France until 1940, when he took refuge from the Second World War in Canada and later in the United States. Soon after the war he moved back to Monte Carlo His later works did not have the tremendous popularity of his earlier ones *The Rough Neck* (1924), a novel, was followed by *Master of the Microbe* (1926) and *The House of Fear* (1927) His *Complete Poems* appeared in 1944 His autobiography was issued in two books, *Ploughman of the Moon* (1945) and *Harper of Heaven* (1948) His *Songs of a Sun-Lover* (1949) shows the same rough prosody which marked his earliest poetry.

serviceberry: see SHADBUSH

Servile Wars, name given in Roman history to three slave uprisings The agricultural slaves were exploited by their owners, who had extreme powers and were never averse to using them The first of the Servile Wars was fought in Sicily from 134 to 132 B C (or from 135 to 133 B C), the second, more serious, also occurred in Sicily from 104 to 101 B C (or from 105 to 102 B C) The third took place in Campania and was led by the gladiator SPARTACUS He and his men gained control over most of S Italy in 73 B C and were finally put down cruelly by Crassus and Pompey in 71 B C

sesame (sĕs'umē), herb (*Sesamum indicum* or *orientale*) cultivated for its seeds since ancient times and growing in the tropics, chiefly of Africa and Asia, called also benne Sesame seed, or gingili, are black or white and yield an oil which keeps well without turning rancid The oil, particularly important in India, is used for cooking, soap manufacture, food, and medicine and as an adulterant of olive oil The seeds are also added to cookies and made into candy Sesame was introduced by Negroes into the Far South of the United States, where it sometimes escapes cultivation The sesame was formerly credited with mystic powers, and the phrase "open sesame!" from the Arabian Nights' tale of the Forty Thieves has come to mean a magical password

Sesostris I (sĭsō'strĭs), d 1935 B C, 2d king of the XII dynasty of ancient EGYPT, son and successor of AMENEMHET I He had been coregent with his father from 1980 B C, he was sole ruler from 1970 to 1938 B C His reign was notable for successful campaigns in the present Sudan His son and successor, AMENEMHET II, was his coregent in the last three years of his reign **Sesostris II,** d 1887 B C, was the son of Amenemhet II, his coregent (1906 B C), then his successor (1903–1887 B C) **Sesostris III,** d 1849 B C, succeeded his father Sesostris II (1887 B C) He fixed the southern boundary of Egypt above the second cataract of the Nile, not far from Wadi Halfa It was under Sesostris III that Egypt made the first recorded Egyptian expedition to Syria He also curbed the power of the Egyptian nobles

Sesser, city (pop 2,117), S Ill, SW of Mt Vernon, in a farm area, inc 1906

Sesshu (sĕs'shōō'), 1420–1506, Japanese painter and Buddhist priest Having won distinction for the boldness and individuality of his work, he was commissioned to decorate a Chinese palace Upon returning to Japan in 1469, he declined court favors and withdrew to his rural temple to resume duties as a Zen priest, though he continued to paint and to teach, becoming one of Japan's most famous artists He executed wall paintings in various monasteries, decorated many sixfold screens, and painted *kakemonos* that are masterpieces

Sessions, Roger, 1896–, American composer, b Brooklyn, N Y, grad Harvard, 1915, pupil of Horatio Parker at Yale and of Ernest Bloch He taught (1917–21) at Smith College, leaving to teach at the Cleveland Institute of Music as Bloch's assistant From 1925 to 1933 he lived in Europe, after his return he taught in New York and Boston and in 1935 joined the faculty of Princeton Univ, becoming associate professor in 1940 He became professor of music at the Univ of California c 1945 With Aaron Copland he organized in 1928 the Copland-Sessions Concerts for contemporary music His first major work was his incidental music (1923) for Leonid Andreyev's *Black Maskers* Among the works which followed are choral preludes for organ; two symphonies (1927, 1946), a violin concerto (1931–35, première, 1940), a choral work, *Turn O Libertad* (1944), which takes its text from Walt Whitman, piano pieces, and a string quartet (1936). In 1935 he began composing a gigantic opera, *Montezuma,* to a libretto by G. A. Borgese.

Sestos (sĕs'tŏs), ancient town on the Thracian shore of the Hellespont, opposite Abydos. It was the scene of the story of HERO and Leander. It was here that Xerxes entered Thrace on his invasion of Greece, crossing the Hellespont on a bridge of boats. The city was later controlled by Athens and continued important in Roman times, but declined after the founding of Byzantium.

Sesto San Giovanni (sĕs'tō sän jōvän'nē), city (pop 31,394), Lombardy, N Italy, just NE of Milan. There are important iron, machinery, chemical, and textile plants.

Sestriere (sĕstrēā'rā), Fr *Sestrières*, village, Piedmont, NW Italy. A fashionable skiing resort, it lies 6,600 ft. high in the Alps near the French border.

Sestri Ponente (sĕs'strē pōnĕn'tā), city (pop 26,374), N Italy, a western suburb of Genoa. The noted Ansaldo shipyards are located here with many other industries (steelworks and ironworks, machinery and tool factories, and tanneries).

Set· see EGYPTIAN RELIGION

Sète, formerly **Cette** (both sĕt), town (pop 29,914), Hérault dept, S France, a Mediterranean seaport. Founded (17th cent.) by Colbert to serve as outlet for the Canal du Midi, it now is an important export center for wine. It suffered heavy damage in the Second World War.

Setesdal or **Saetersdal** (both· sä'tusdäl), narrow valley, S Norway, in Aust-Agder co. It is drained by the Otra river and contains several lakes. Communication with the rest of the country has, until recently, been difficult, as a result the Setesdalers have retained their ancient dress, speech, customs, and handicrafts (notably wood carving, weaving, and goldworking). Agriculture, stock raising, and fishing are the chief means of livelihood.

Seth, Egyptian god: see EGYPTIAN RELIGION

Seth, son of Adam and Eve, father of Enos. Gen 4 25,26, 5 3. Sheth 1 Chron 1 1.

Seth, Andrew (Andrew Seth Pringle-Pattison), 1856–1931, Scottish philosopher. He was professor of logic and philosophy at University College, Cardiff (1883–87), and at St. Andrews (1887–91) and was professor of logic and metaphysics at Edinburgh (1891–1919). With R. B. Haldane he edited *Essays in Philosophical Criticism* (1883). He wrote *Man's Place in the Cosmos* (1897), *The Philosophical Radicals* (1907), and *The Balfour Lectures on Realism* (ed. with a memoir by G. F. Barbour, 1933).

Sethur (sē'thur) [Heb.,=hidden], one of the spies sent by Moses into Canaan. Num 13 13.

Seti I (sē'tĭ, sā'tē), d. 1292 B.C., king of the XIX dynasty of ancient Egypt, succeeded his father, RAMSES I, c 1313 B.C. He invaded Palestine and Syria to reduce them again to the tributary state and defeated the Libyans. He built temples at Thebes and Abydos and a magnificent tomb in the Valley of the Kings at Thebes. His successor was RAMSES II. **Seti II,** d. 1205 B.C., one of the ephemeral kings following MERNEPTAH, seems to have ruled for about four years with indifferent success, after him anarchy set in for a few years until the accession of RAMSES III.

Sétif (sātēf'), city (pop. 39,883), NE Algeria. It was built by the French on the ruins of a Roman city founded in the 1st cent. A.D. In a cereal-growing region on the edge of the steppe, it has become a trade center linking the Tell region and the interior.

Seto (sā'tō), city (1947 pop 42,788), Aichi prefecture, central Honshu, Japan. An important porcelain center since the 13th cent., it is the site of a national ceramic experiment station.

Seton, Elizabeth Ann (Bayley) (sē'tun), 1774–1821, American Roman Catholic leader, usually called Mother Seton. She was a New Yorker, the daughter of the anatomist Richard Bayley, professor in Columbia College. She married William Seton, a substantial merchant. He died in Italy (1803), leaving her with five young children. Soon afterwards she became a Roman Catholic (1805). This conversion severed her from her relatives, and she started a school in New York to support her family. In 1808, invited by Bishop Carroll, she opened a school in Baltimore, then (1809) moved to Emmitsburg, Md., already the seat of a Catholic school for boys, Mt. St. Mary's. She stayed at Emmitsburg, and there she opened the first Catholic free school, the beginning of American parochial education. She also founded St. Joseph's College (for women). About her she formed a community of women, which soon adopted the rule of the Daughters of Charity of St. Vincent de Paul, the great sisterhood centered in Paris. This was the first American congregation of Daughters of Charity (or Sisters of Charity). Mother Seton was superior of her community, this had grown into 20 communities before her death. Her journals, letters, and memoirs have been published, her life has been much studied as part of the work for her beatification, and her cause has been introduced at Rome. See Katherine Burton, *His Dear Persuasion* (1940); E. F. X. McSweeney and M. M. Meline, *The Story of the Mountain* (1911).

Seton, Ernest Thompson, 1860–1946, American writer and artist, b. England. His name was originally Ernest Seton Thompson. He grew up in W. Canada and studied art in London. His stories and paintings of wildlife, especially *Wild Animals I Have Known* (1898, new ed., 1942) and *The Biography of a Grizzly Bear* (1900), were standard works on nature study and wood lore for boys and girls in the first quarter of the century. In 1902 he organized the Woodcraft Indians (later the Woodcraft League), much in the spirit of the later Boy Scout movement. See his autobiography, *The Trail of an Artist-Naturalist* (1940).

Seton Hall College: see SOUTH ORANGE, N.J.

Seton Hill College: see GREENSBURG, Pa.

Settembrini, Luigi (lwē'jē sĕt-tĕmbrē'nē), 1813–77, Italian patriot and author. An ardent liberal, he conspired against the Neapolitan Bourbons and spent many years in prison (1839–41, 1851–59), most of his second term was spent in the island penitentiary of Santo Stefano off the Gulf of Gaeta. While being deported to America he and his companions forced the captain to land them in Ireland. Settembrini returned to Naples after the fall of the Bourbons and was appointed (1862) professor of Italian literature at the university. Of his writings, the best known are his memoirs covering his life from 1850 to 1859.

setter, large hunting dog, probably derived from the spaniel. It has been known in England since the 16th cent. There are three well-known varieties of setter. The English setter has a silky coat with "feathered" legs and tail, in color usually tan and white, black and white, lemon and white, or liver and white. The Gordon setter has a very glossy coat of coal black and tan. The Irish setter is a golden chestnut or mahogany red, sometimes with a little white on chest, throat, and toes. Setters require considerable exercise. They are known for their beauty, intelligence, and good dispositions.

Settignano, Desiderio da see DESIDERIO DA SETTIGNANO

Settle, Elkanah, 1648–1724, English dramatist and poet, considered in his day a rival of Dryden. The production in 1671 of his heroic play, *The Empress of Morocco*, stirred up a quarrel with Dryden, who satirized Settle as Doeg in *Absalom and Achitophel*. Although he was made city poet in 1691, he later died penniless in the Charterhouse. See biography by F. C. Brown (1910).

Settlement, Act of, 1701, passed by the English Parliament, to provide that if William III and Princess Anne (later Queen Anne) should die without heirs, the succession to the throne should pass to Sophia, electress of Hanover, granddaughter of James I, and to her heirs, if they were Protestants. The house of HANOVER, ruling from 1714 (George I), owes its claim to this act. Among additional provisions, similar to those in the Bill of Rights, were requirements that the king must join in communion with the Church of England, that he may not leave England without parliamentary consent, that foreign-born kings may not use English armies in defense of foreign territory without parliamentary consent, and that no appointee or pensioner of the king shall sit in the House of Commons. The unpopularity of William's pro-Dutch policy, the lack of an heir to William or Anne, and fear of the JACOBITES prompted the act.

settlement house: see SOCIAL SETTLEMENT.

Setúbal (sətōō'bal), city (pop. 37,071), capital of Setúbal prov., W Portugal, in old Estremadura, an Atlantic port on the Bay of Setúbal. One of the more important ports of Portugal, it handles wine, fruit, cork. It has a fishing fleet and shipyards and processing plants. King John II resided here.

Seurat, Georges (shôrzä' sürä'), 1859–91, French postimpressionist painter. He early elaborated a technique of painting in tiny dots of pure color, called pointillism, a refinement on the broken color of the impressionists. His major achievements are his *Baignade* (Tate Gall., London), shown in the Salon des Indépendants in 1884, and his masterpiece, *Un Dimanche à la Grande Jatte* (Art Inst., Chicago), painted two years later. He died of pneumonia at 31. Seurat is recognized as one of the most intellectual artists of his time and was a great influence in restoring harmonious and deliberate design to painting at a time when sketching from nature had become the mode. Other examples of Seurat's work are in the Barnes Foundation, Philadelphia, and in the Louvre. See study by Walter Pach (1923).

Sevan (svĭvän'), mountain lake, area 546 sq. mi., central Armenian SSR, at an altitude of 6,285 ft. It is fed by some 30 streams, but the Zanga, a tributary of the Aras, is its only outlet. The Sevan-Zanga hydroelectric project, begun in 1930, has drained part of the lake. Lake Sevan remains free of ice in winter and abounds in trout. On Sevan Island, in the northwest, stands an ancient Armenian monastery, now a rest home. The town of Sevan (pop. 2,700) is at the Zanga outlet. The lake was formerly known under its Turkish name, Gokcha.

Sevastopol (sĭvä'stŭpōl", Rus. syĭ"vustô'pŭl), city (1939 pop. 111,946), RSFSR, in the S Crimea, on the Bay of Sevastopol, an inlet of the Black Sea. It is also spelled Sebastopol. A major naval base and a strategic strong point, it also has various industries, notably shipbuilding, fish processing, and flour milling. There are an institute of physiotherapy and a biological marine research station. Sevastopol stands near the site of the ancient Greek colony of Chersonesus, founded in the 5th cent. B.C. by Heraclea Pontica. Chersonesus or Cherson later became a Roman protectorate and was a flourishing Byzantine trade center until the 13th cent. Here Vladimir I of Kiev accepted Christianity. The city was abandoned after the Tatar conquest. Sevastopol was founded by Catherine II on the site of the Tatar village of Akhtiar after the Russian annexation (1783) of the Crimea. It was strongly fortified and became the chief base of the Russian Black Sea fleet. In the CRIMEAN WAR, Sevastopol resisted the besieging British, French, and Turks for 11 months (1854–55). The hero of the defense was Gen. E. I. TOTLEBEN. The Russian fleet was sunk to block the entrance into the harbor. In Sept., 1855, the French stormed the fortress of Malakhov, on the south shore of the Bay of Sevastopol, and three days later the Russians were forced to abandon Sevastopol. The fortifications were razed, but were rebuilt after 1870. In the First World War, Sevastopol was shelled by the Germans, and in the Russian civil war it was the headquarters of Gen. P. N. Wrangel during the last stand of the "Whites" (1920). The heroic resistance of Sevastopol in 1854–55 was, if possible, eclipsed by the stand the city made against the Germans in the Second World War. In the course of a siege lasting more than eight months, the city was virtually destroyed. For three weeks the defenders fought on in the rubble, against all hope, until July 3, 1942, when German and Rumanian troops at last entered the city. After its recapture (May, 1944) by the Russians reconstruction began.

Sevcik, Ottokar Josef, Czech *Ševčík* (ōt'ōkăr jō'sĕf shĕv'chĕk), 1852–1935, Czech violinist. He taught in Kiev (1875–92), at the Prague Conservatory (1892–1906), in Vienna (1909–21), and in the United States (1922–31) and had many distinguished pupils. He produced valuable technical studies for the violin.

Seven against Thebes, in Greek legend, seven heroes —POLYNICES, ADRASTUS, AMPHIARAÜS, Hippomedon, CAPANEUS, TYDEUS, and PARTHENOPAEUS— who made war on ETEOCLES, king of Thebes. After the death of OEDIPUS, father of Eteocles and Polynices, Eteocles excluded his brother from a share in the kingdom. Polynices led the Seven against him. The brothers killed each other in single combat. Of the seven, only Adrastus survived. Ten years later he led against Thebes the sons of the leaders, the EPIGONI, who avenged their fathers. Tragedies by AESCHYLUS and EURIPIDES and the *Thebaid* of STATIUS are based on the story.

Seven Churches in Asia, addressed in the preface of the REVELATION (1–3). They are the churches of Ephesus, Smyrna, Pergamos, Thyatira, Sardis, Philadelphia (Lydia), and Laodicea (Phrygia). They are in W Asia Minor.

Seven Days battles, in the Civil War, name given to the week of heavy fighting near Richmond, Va. (June 26–July 2, 1862). After the battle of Fair Oaks (see PENINSULAR CAMPAIGN) the Union general G. B. MCCLELLAN moved his army so that only the 5th Corps under Fitz-John Porter remained N of the Chickahominy river. Thereupon Gen. R. E. LEE, commanding the Confederate Army of Northern Virginia, planned to attack Porter and cut McClellan off from his base at White House Landing on the Pamunkey river. T. J. (Stonewall) JACKSON, who was on his way from the Shenandoah Valley to join Lee, was to advance from the north and turn Porter's strong position behind Beaver Dam Creek before A. P. Hill fell upon the Union advance lines at Mechanicsville, a village c 5 mi. NE of Richmond. Jackson failed to arrive. Nevertheless Hill attacked and was severely repulsed in the battle of Mechanicsville (or Beaver Dam Creek) on June 26. Porter fell back to another strong position at Gaines's Mill, a locality near Old Cold Harbor, c 10 mi. NE of Richmond. Here on June 27, Longstreet, Jackson, A. P. Hill, and D. H. Hill led the Confederates against Porter's greatly inferior forces in the battle of Gaines's Mill and at nightfall finally broke the heroic Union resistance. With a good part of his corps, Porter crossed the river and joined the bulk of McClellan's army, which had remained inactive. The Union general now began to change his base to the James river. Lee crossed the Chickahominy and followed him, but in the battles of Savage's Station (a railroad station c 8 mi. E of Richmond) on June 29, and Frayser's Farm or Glendale (c 12 mi. SE of Richmond) on June 30, he failed to cut off McClellan's movement. McClellan posted his army on Malvern Hill (an elevation on the north bank of the James c 18 mi. SE of Richmond), and in the battle of Malvern Hill on July 1, the Union troops repeatedly repulsed the spirited Confederate attacks in some of the hardest fighting of the war. On the next day, however, McClellan withdrew to Harrison's Landing on the James, and the Peninsular campaign was over. Although his losses were heavier, Lee had saved Richmond. Not until 1864 did Union forces again come so near to the Confederate capital. See K. P. Williams, *Lincoln Finds a General* (1949).

Seveneh: biblical name see ASWAN.
Seven Hunters, Hebrides see FLANNAN ISLANDS.
Sevenoaks, urban district (1931 pop 10,484, 1943 estimated pop 12,780), Kent, England, on a hill, SE of London It has a 15th-century parish church and a grammar school founded in 1432 "Knole," the seat of Lord Sackville, built largely by Archbishop Bourchier in the 15th cent, has a park of over 900 acres. See V M Sackville-West, *Knole and the Sackvilles* (new ed , 1947)
Seven Pines see PENINSULAR CAMPAIGN
Seven Sleepers of Ephesus (ĕf'ĭsŭs), in a Christian version of a widespread story, martyrs immured in a cave near Ephesus in the persecution of Decius (c 250). Long afterward they awoke, as from sleep, and were taken before the emperor, Theodosius II (d 450) Their story convinced the emperor, who had been wavering in his faith The youths returned to their cave, to sleep again until Judgment Gregory of Tours told the story.
seventeen-year locust. see CICADA
Seventh-Day Adventists see ADVENTISTS
Seventh-Day Baptists, Protestant sect holding the same doctrines as other Calvinistic Baptists but observing the seventh day of the week as the Sabbath In the Reformation in England the observance was adopted by many, and in the 17th cent there were Seventh-Day Baptists among the followers of Oliver Cromwell In America the first Seventh-Day Baptist church in the country was organized (1671) in Rhode Island German Seventh-Day Baptists, under the leadership of Johann Conrad Beissel, established (c 1728–1733) at Ephrata, Pa , a semimonastic religious society, famous in colonial times Among the industries was a noted print shop
Seven Weeks War see AUSTRO-PRUSSIAN WAR
Seven Wise Men of Greece. Lists of men drawn from among the outstanding politicians and political philosophers of ancient Greece differed widely One usual listing is BIAS, CHILON, CLEOBULUS, PERIANDER, PITTACUS, SOLON, and THALES
Seven Wonders of the World, in ancient classifications were the Great Pyramid of Khufu (see PYRAMID) or all the pyramids with or without the SPHINX, the Hanging Gardens of Babylon, with or without the walls, the MAUSOLEUM at Halicarnassus, the Artemision at EPHESUS, the COLOSSUS OF RHODES, the Olympian *Zeus,* statue by PHIDIAS, and the PHAROS at Alexandria, or, instead, the walls of Babylon
Seven Years War, 1756–63, world-wide war fought in Europe, North America, and India between France, Austria, Russia, Saxony, Sweden, and (after 1762) Spain on the one side and Prussia, Great Britain, and Hanover on the other The struggle was complex in its origin and involved two main distinct conflicts the colonial rivalry between France and England and the struggle for supremacy in Germany between the house of Austria and the rising kingdom of Prussia It was preluded in America by the outbreak of the last of the FRENCH AND INDIAN WARS and in India by fighting among native factions and the struggle between DUPLEIX and CLIVE The War of the AUSTRIAN SUCCESSION (1740–48) had left Austria humiliated Seeking to recover Silesia from Prussia, Empress MARIA THERESA even before the conclusion of that war had secured the alliance of ELIZABETH of Russia In the years following the Treaty of Aix-la-Chapelle (1748) Maria Theresa's chancellor KAUNITZ worked for a rapprochement with France In 1755, when hostilities broke out in North America, George II of England and Hanover negotiated an alliance with FREDERICK II of Prussia, the Treaty of Westminster This event hastened the alliance (1756) of France and Austria, sometimes called the "diplomatic revolution" Shortly afterward Frederick II opened hostilities by invading Saxony In Jan , 1757, war was declared on the aggressor in the name of the Holy Roman Empire Austria concluded offensive alliances with France and Russia and was joined by Sweden The main European phase of the war began with the Prussian invasion of Bohemia early in 1757 Victorious at first, Frederick was severely defeated by the Austrians under Daun at Kolin (June, 1757) and had to evacuate Bohemia The fighting was carried into Saxony and Silesia, where Frederick gained the great victories of Rossbach (Nov , 1757) and Leuthen (Dec , 1757) over the French and Austrians The Russians, who had invaded Prussia, were defeated by Frederick at Zorndorf (Aug , 1758) The English and Hanoverians, at first unsuccessful against the French in NW Germany, began a vigorous effort when the younger Pitt (later earl of CHATHAM) came into power, the troops then won the victories of Krefeld (June, 1758) and Minden (Aug , 1759) However, Frederick soon found himself in an almost desperate situation He was badly beaten by Daun at Kunersdorf (Aug , 1759) and in Nov , 1759, Daun captured a Prussian army of 13,000 at Maxen. In Oct , 1760, the Russians entered Berlin Frederick succeeded in expelling them a few days later and in November won a victory over Daun at Torgau, but his situation remained critical, especially after the fall of Pitt (1761) deprived him of British subsidies Only the death (Jan , 1762) of Elizabeth of Russia and the accession of PETER III, Frederick's ardent admirer, saved him from certain defeat By the Treaty of St Petersburg (1762) Russia concluded peace and restored all conquests, Sweden made peace in the same year Now fighting alone in the east, the Austrians were soundly defeated at Burkersdorf (July, 1762). The French, too, had suffered severe reverses In America, they had lost Louisburg (1758), Quebec (1759), and some possessions in the West Indies, in India, the British victories at Plassey (1757) and Pondichéry (1761) had destroyed French power, on the sea, the French took Port Mahón from the British (1757) but were defeated by Hawke in Quiberon Bay (1759). The entry of Spain into the war under the terms of the Family Compact of 1761 was of little help to France, where the war had never been popular in the first place After protracted negotiations between the war-weary powers peace was made (Feb , 1763) among Prussia, Austria, and Saxony at HUBERTUSBURG, and among England, France, and Spain at Paris (see PARIS, TREATY OF, 1763) The Treaty of Hubertusburg, though it restored the pre-war status quo, marked the ascendancy of Prussia as a leading European power Through the Treaty of Paris, Great Britain emerged as the world's chief colonial empire at the expense of France For Russia, the Seven Years War was the first great venture into purely European affairs See Richard Waddington, *La Guerre de sept ans* (5 vols , 1899–1914)
Severing, Wilhelm Karl (vĭl'hĕlm kärl' zā'vurĭng), 1875–, German statesman A Social Democrat, he served, between 1907 and 1933, several times in the Reichstag and was long (1920–32) Prussian minister of the interior
Severn, Joseph (sĕ'vurn), 1793–1879, English portrait and landscape painter He was consul at Rome from 1861 to 1872 He is best known for his devotion to Keats in his last days He became a popular portraitist, especially among the friends and associates of Keats See biography by William Sharp (1892), Sheila Smith, countess of Birkenhead, *Against Oblivion* (1944)
Severn (sĕ'vurn) **1** River rising in W Ontario in lake country and flowing 420 mi NE through Severn Lake to Hudson Bay Fort Severn, a Hudson's Bay Company trading post established (1689) at the mouth of the river, was captured (1690) by Pierre le Moyne, sieur d'Iberville The post was rebuilt in 1759 and has been in continuous operation since **2** River of S Ontario, issuing from the north end of Lake Couchiching and flowing 20 mi WNW to Georgian Bay of Lake Huron, NW of Orillia It drains Lake Couchiching and Lake Simcoe and forms part of the inland waterway system linking Georgian Bay with Lake Ontario via the Trent Canal
Severn, ane *Sabrina,* one of the principal rivers of England It rises on Plinlimmon, in Wales, and flows c 200 mi (of the rivers in Great Britain second to the Thames in length) NE and E to Shrewsbury and thence SE, S, and SW—through a great estuary—to the Bristol Channel It borders or passes through the counties of Montgomery, Shropshire, Worcester, and Gloucester, and Worcester, Gloucester, and numerous smaller towns are on its banks The tributaries include the Teme, Wye, Usk, Upper Avon, and Lower Avon It is connected by canal with the Thames, Mersey, Trent, and other streams A railroad tunnel more than 4 mi long passes under the estuary between Portskewett and New Passage The river is still important as a transportation route Because of the conformation of the estuary, a great tidal rise, or bore, occurs up to Gloucester
Severnaya Zemlya (svĕ'vĭrnŭ zĭmlya') [Rus ,= northern land], archipelago, area 14,300 sq mi , in the Arctic Ocean, N of Siberia, in Krasnoyarsk Territory, RSFSR, extending from lat 77° 50' N to lat 81° 15' N It separates the Kara Sea from the Laptev Sea Discovered in 1913, it was at first named Nicholas II Land
Severovostochny, Cape, RSFSR see CHELYUSKIN, CAPE
Severus or **Septimius Severus** (Lucius Septimius Severus) (sĕptĭ'mēus sēvē'rus), 146–211, Roman emperor (193–211), b Africa He was the only African who became emperor He was campaigning in Pannonia and Illyria when PERTINAX was murdered He moved on Rome vowing to avenge Pertinax and accomplished the death of the usurper, Didius Julianus He was proclaimed emperor and went to the East against Pescennius Niger, who had been proclaimed by his legions Severus defeated the pretender (194) and put him to death He took Byzantium (196) and subdued the rebellious Arabs of Mesopotamia He then came to the West and reduced Clodius Albinus, another pretender, in Gaul (197) and, returning eastward, attacked and expelled the Parthians from Mesopotamia (198) In 208 he went to Britain, thence he invaded Scotland He also repaired HADRIAN'S WALL He died at York Severus ruled with vigor, always favoring the army In beautifying Rome he built the Arch of Septimius Severus in the Old Forum To pay his way he debased the coinage. He was the patron of Papinian. **Caracalla** succeeded him See M Platnauer, *The Life and Reign of the Emperor L Septimius Severus* (1918).
Severus (Flavius Valerius Severus) (sēvē'rŭs), d. 307, Roman emperor (306–7). He was proclaimed Caesar by Galerius, with whom he participated in an unsuccessful attempt to overthrow Maxentius He was captured at Ravenna by Maximian (father of Maxentius) and was taken to Rome. He was treacherously killed
Severus, Alexander see ALEXANDER SEVERUS
Sevier, John (suvēr'), 1745–1815, American frontiersman and statesman. He was born near the site of New Market, Va , the town he founded in young manhood In 1773 he moved with his family to W North Carolina, where he became a leader of the WATAUGA ASSOCIATION In the American Revolution, Sevier, an ardent patriot and veteran of many Indian campaigns, was prominent as one of the frontier leaders in the American victory at Kings Mountain (1780) in the CAROLINA CAMPAIGN After the war, when North Carolina ceded (1784) its Western lands to the United States, the settlers organized a separate, short-lived government headed by Sevier (see FRANKLIN, STATE OF) Following its demise, he was elected (1788) to the North Carolina senate, voted for the U S Constitution in the state ratifying convention of 1789, and was elected (1789) to represent the western districts in Congress In 1791 he was made a brigadier general in the "Territory South of the River Ohio" and in 1794 was appointed to its 10-man legislative council The new state of Tennessee was organized (1796) out of this territory, and Sevier, elected the first governor, served from 1796 to 1801 and again from 1803 to 1809 The rising young Andrew Jackson unsuccessfully tried to curb Sevier's political power, and the two men became bitter personal enemies Sevier ended his distinguished career by returning to Congress (1811–15), where he was one of the "war hawks," who favored hostilities with Britain See J R Gilmore, *The Rear-Guard of the Revolution* (1886) and *John Sevier as a Commonwealth Builder* (1887), C S Driver, *John Sevier, Pioneer of the Old Southwest* (1932)
Sevier (sēvēr'), river formed in SW Utah by the junction of Panguitch Creek and Assay Creek It flows northward through canyons, then rounds out of the mountains and flows SW through the Sevier Desert to the salt Sevier Lake The river is much used for irrigation and is impounded, particularly in the Sevier Bridge Reservoir and the Sevier River Reservoir
Sevierville (suvēr'vĭl), town (pop 1,161), co seat of Sevier co , E Tenn , ESE of Knoxville, in a timber and farm area, laid out 1795 Great Smoky Mountains National Park and Douglas Dam in the French Broad are near by
Sévigné, Marie de Rabutin-Chantal, marquise de (marē' du rabütē'-shätal' markēz' du sāvēnyā), 1626–96, French woman of letters Her correspondence (1st partial ed , 1725, definitive ed , 1862–68, 2 vols of newly found letters, 1876) of more than 1,500 letters is a monument of French literature After her husband's death (1651) she devoted herself to her two children To her daughter, the comtesse de Grignan, who lived in Provence, the marquise wrote long letters of personal, literary, and social news, full of witty comment These letters are the chief element of the Sévigné correspondence The conscious art of Mme de Sévigné is best seen in the unaffected elegance of her style and in the acuteness of her observation But the letters interest most for the revelation of their author, a high-principled, delightful, and intelligent woman Her most intimate friend was Mme de la Fayette The letters of Mme de Sévigné have been frequently issued in English translation A recent partial edition is that by Richard Aldington (1937). Edward FitzGerald, the poet, left a useful *Dictionary of Madame de Sévigné* (1914) See J Aldis, *The Queen of Letter Writers* (1907), Arthur Tilley, *Madame de Sévigné* (1937)
Seville (suvĭl', sĕ'vĭl), Span *Sevilla* (sāvē'lyä), city (pop. 312,123), capital of Seville prov and of Andalusia, SW Spain, on the Guadalquivir Connected with the Atlantic by the river and by a canal accessible to ocean-going vessels, Seville is a major port as well as an important industrial and cultural center. Its industries include manufactures of tobacco, armaments, explosives, perfume, porcelain, pharmaceuticals, chemicals, textiles, and machinery It is an archiepiscopal see and has a university (founded 1502) The ancient Hispalis, Seville was an important place in Phoenician times It was favored by the Romans, who made it the capital of Baetica prov and who built the near-by city of Italica, of which some ruins remain Seville continued as the chief city of S Spain under the Vandals and the Visigoths Falling to the Moors in 712, it was (c.1023–1091) the seat of an independent emirate under the ABBADIDES and was a flourishing commercial and cultural center under the Almoravides and the Almohades. In 1248 Ferdinand III of Castile conquered it after a long siege and made it his residence. It is said that 300,000 Moors left the city at that time With the discovery of the New World, Seville entered its

greatest period of prosperity, holding the monopoly of trade with the new colonies until 1718, when it was superseded by Cádiz Its economic recovery from the subsequent decline is only recent Seville was the seat of a flourishing school of painting to which Velázquez, Murillo (both born here), and Pacheco belonged The colorful life of the city was the subject of many of the best-known paintings of MURILLO, who is generously represented in the art gallery and in the cathedral Seville has to a large degree retained its Moorish aspect The Gothic cathedral (1401-1519), one of the world's largest, occupies the site of a former mosque, of which two parts remain—the Court of Oranges and the beautiful GIRALDA tower The interior of the cathedral is extraordinarily rich and contains invaluable works of art Here also is the tomb of Christopher Columbus During Holy Week the cathedral is the scene of unique and colorful pageantry Adjoining the cathedral is the alcazar, built (14th cent) in Moorish style by Moorish artisans on the order of Peter I (Peter the Cruel) Among the many other notable buildings of Seville are the city hall (16th cent), the Casa de los Pilatos, a palace in Mudéjar style, the Torre del Oro, a 13th-century tower, the university building, the Colombina library, containing manuscripts by Columbus and many volumes, the large tobacco factory (scene of part of the action of Mérimée's and Bizet's *Carmen*), and numerous churches and private palaces One of the world's most beautiful cities, it derives its charm not only from its palatial buildings and churches, but mainly from its general color and architecture, which summarize all that has made S Spain a land of romance It is, moreover, the capital of bullfighting in Spain and a center of the Andalusian gypsies, famed for their songs and dances

Sèvres (sĕv'ru), town (pop 15,112), Seine-et-Oise dept, N France, a southwestern suburb of Paris Its name is famous for SÈVRES WARE There is a ceramics museum established by Alexandre BRONGNIART Sèvres is the headquarters of the International Bureau of Weights and Measures

Sèvres, Treaty of, 1920, peace treaty concluded after the First World War at Sèvres, France, between Turkey on the one hand and the Allies (excluding Russia and the United States) on the other The treaty, which liquidated the Ottoman Empire and virtually abolished Turkish sovereignty, followed in the main the decisions reached at San Remo (see SAN REMO, CONFERENCE OF) In Asia, Turkey renounced sovereignty over Mesopotamia (Iraq) and Palestine (including Trans-Jordan), which became British mandates, Syria (including Lebanon), which became a French mandate, and the kingdom of HEJAZ Turkey retained Anatolia, but was to grant autonomy to Kurdistan ARMENIA became a separate republic under international guarantees, and SMYRNA with its environs was placed under Greek administration pending a plebiscite to determine its permanent status In Europe, Turkey ceded parts of E Thrace and certain Aegean islands to Greece and the Dodecanese to Italy, retaining only Constantinople and its environs, including the Straits zone (see DARDANELLES), which was neutralized and internationalized The Allies further obtained virtual control over Turkish economy The treaty was accepted by the government of Sultan Mohammed VI at Constantinople, but was rejected by the rival nationalist government of Kemal ATATURK at Ankara Ataturk's separate treaty with the USSR and his subsequent victorious campaign against the Greeks forced the Allies to negotiate a new treaty in 1923 (see LAUSANNE, CONFERENCE OF)

Sèvres ware, porcelain made in France by the royal (now national) potteries established (c 1740) by Louis XV at Vincennes, moved (1756) to Sevres, and still in operation Before 1770 it was a soft-paste porcelain (*pâte tendre*), of underglaze decoration and alkaline glaze, subsequently it was made of kaolin, with a feldspar glaze and an overglaze decoration, a hard infusible porcelain Delicacy and perfection of technique are dominant characteristics Tableware shows flower and figure subjects on a white ground, clocks, vases, and plaques display panels or medallions on white with figures enclosed by ornate gold frames, the main ground being a brilliant color Sometimes a diaper design in gold enriches the background Jeweled SÈVRES exhibits a rich decoration of enamels, simulating precious stones encrusted gem-fashion in gold relief ornament The early *pâte tendre* Sevres is eagerly sought by collectors

sewage. Modern cities now have water-carriage sewerage systems, which are conduits of iron, concrete, brick, stone, or vitreous earthenware Those of London and Hamburg date back to the early 19th cent In the United States the development of efficient sewerage systems was begun c 1850. In the water-carriage system the sewage from the various plumbing fixtures is discharged into the house sewer and thence into the street sewer system Before leaving the plumbing fixtures, the solids are enormously diluted with water which rushes the solid matter along to the ultimate disposal point at the end of the sewers Sewage disposal must be such that all germs and other matter are destroyed or rendered harmless Methods of treating sewage include dilution, screening, tank treatment by sedimentation or precipitation, septic-tank treatment, broad irrigation, filtration, disinfection, and combinations of these methods All rely on the oxidation of the organic matter suspended or dissolved in the sewage and the destruction of bacteria by chemicals or by burning Dilution is accomplished by discharging the raw or partially treated sewage into the sea or a river Unless the deposit is made sufficiently far out, bathing places, shell fisheries, and other water facilities may become polluted Screening is used to remove the suspended matter before disposing of the liquid and dissolved sewage by filtration or disinfection Sedimentation tank treatment consists of sending a sewage flow slowly through sizable tanks so that suspended matter will sink to the bottom If chemicals are added to the process, it is called precipitation Mechanical devices are frequently employed to remove the sludge from the tanks The SEPTIC TANK is used widely Filtration employs beds of crushed coke or fine coal which catch the solid particles as the liquid runs through, the filter-bed materials are removed and burned after becoming clogged with sludge Disinfection is most often accomplished by adding chlorine in various forms to the sewage and allowing it to stand in tanks for stipulated periods of time Sludge from the tanks is dried out as much as possible and then used as fertilizer or ground fill, or it is dumped many miles out at sea Sewers vary in size from 6 in in diameter to 16 by 12 ft, and more, in cross section The sewer of egg-shaped cross section, with the small radius at the bottom, keeps the stream of sewage relatively deep even when a small quantity is passing through and thus keeps the solid matter moving To prevent stoppage, the sewer must be flushed out, either by using a hose through a manhole or automatically by building flushing tanks at the ends of the sewer At intervals of about 300 ft along the main sewers are placed manhole covers with perforated cover plates to permit ventilation Rain water is drained off by a combined sewer system, or it may be taken care of by itself in a storm sewer See A P Folwell, *Sewerage* (1898, 11th ed, 1936), H F Babbitt, *Sewerage and Sewage Treatment* (1922, 6th ed 1947), C E Keefer, *Sewage-Treatment Works* (1940)

Sewall, Samuel (sū'ul), 1652-1730, American jurist, b England He was brought as a child to Newbury, Mass, and was graduated from Harvard in 1671 He became a minister but gave up the cloth in 1677 to assume management of a printing press in Boston and entered upon a public career He was elected (1684) to the General Court and was (1692-1725) a member of the council As one of the judges who tried the Salem witchcraft cases in 1692, he shared responsibility for the condemnation of 19 persons Convinced of the error of these convictions, in 1697 in Old South Church, Boston, he publicly accepted the "blame and shame" for them and thereafter annually spent a day of repentance in fasting and prayer Sewall served (1692-1728) as judge of the superior court of the colony, being chief justice during the 10 last years His diary (3 vols, 1878-82) reveals an attractive and very humane man of Puritan days See N H Chamberlain, *Samuel Sewall and the World He Lived In* (1897)

Sewanee see SOUTH, UNIVERSITY OF THE

Seward, Anna (sē'wurd), 1742-1809, English poet, called the Swan of Lichfield A member of the Lichfield literary group which included Thomas DAY and Erasmus DARWIN, she was acquainted also with Dr Johnson and Boswell She bequeathed her literary remains to Sir Walter Scott, who edited them in 1810 Her letters appeared in 1811 (6 vols), selections are in *The Swan of Lichfield* (ed by Hesketh Pearson, 1936) See M E Ashmun, *The Singing Swan* (1931)

Seward, William Henry, 1801-72, American statesman, b Florida, Orange co, N Y, grad Union College, 1820 Admitted to the bar in 1822, he established himself as a lawyer in Auburn, N Y, which he made his lifelong home He was active in the Anti-Masonic party and later joined the Whig party Seward and his close personal and political friend, Thurlow WEED, became the two most influential Whigs in New York state A state senator from 1830 to 1834, he ran unsuccessfully for the governorship in 1834, but won in 1838 and 1840 Educational reforms and internal improvements were vigorously pressed in his administrations At the close of his second term he returned to his law practice until 1848, when he was elected to the U S Senate and, reelected in 1854, was one of its most prominent members in the troubled years preceding the Civil War A genial, gregarious man with intellectual interests, he was generally well-liked, even by his political opponents Seward was an uncompromising foe of slavery and, though he apparently tempered his public expressions so as not to alienate votes, he nevertheless made two remarks which became catch phrases of the antislavery forces In the Senate on March 11, 1850, he said that there was a "higher law" than the Constitution, and in a speech at Rochester on Oct 25, 1858, he declared that there would exist "an irrepressible conflict" until the United States became either all slave or all free With the disintegration of the Whig party, Seward and Weed joined (1855) the new Republican party Prominent as he was Seward, despite (probably, indeed, because of) the efforts of Weed's machine, was never able to secure the Republican presidential nomination He was passed over for John C Frémont in 1856 and for Abraham Lincoln in 1860 He was also a sincere friend of the immigrants, especially the Irish, and naturally received their political support and the opposition of former members of the Know-Nothing group within the Republican party As Lincoln's Secretary of State he was hardly impressive at first In a peculiar memorandum (April 1, 1861) to the President he proposed waging war against most of Europe so as to unite the nation and also revealed a desire to dominate presidential policy Lincoln's masterly rebuke did not offend him however, and the President wisely retained his services Seward also did some unwarranted meddling during the Fort Sumter crisis, but after war broke out he showed himself an able statesman though it took all of Lincoln's ingenuity to keep both Seward and his rival, Salmon P CHASE, eternally ambitious for the presidency, in the same cabinet Seward's handling of delicate matters of diplomacy with Great Britain, particularly in the TRENT AFFAIR was notably adept He also protested French intervention in Mexico and after the Civil War helped bring an end to it The plot of John Wilkes BOOTH to assassinate Lincoln also marked Seward for death, but he recovered from the attack and retained his cabinet position under the new President, Andrew JOHNSON He supported Johnson's Reconstruction policy and, like the President, was roundly denounced by the radical Republicans Seward's most important act in this administration was the purchase of ALASKA from Russia in 1867 His foresight was not generally acknowledged, however, and Alaska was long popularly called "Seward's folly" He also tried to purchase the two most important islands in the Danish West Indies (the Virgin Islands), but the Senate refused to approve his action See G E Baker, ed, *The Works of William H Seward* (5 vols, 1853-84), F W Seward, ed, *Autobiography of William H Seward to 1834 and Selections from His Letters* (3 vols, 1891), biographies by T K Lothrop (1896), Frederic Bancroft (1900), and E E Hale, Jr (1910), Gideon Welles, *Lincoln and Seward* (1874), Gamaliel Bradford, *Union Portraits* (1916), B J Hendrick, *Lincoln's War Cabinet* (1946)

Seward, town (pop 949), S Alaska, on the east side of Kenai Peninsula, at the head of Resurrection Bay It was founded in 1902 by surveyors for the Alaska RR (built 1915-23) as the ocean terminus of the railroad With an airfield and an ice-free harbor, it is an important supply center for the Alaska interior Fishing and lumbering are also carried on During the Second World War, Seward was a major port of entry for U S troops and matériel

Seward, city (pop 2,826), co seat of Seward co, SE Nebr, WNW of Lincoln, founded 1868, inc 1874 It is a farm trade and rail center in a prairie region A Lutheran teachers college is here

Seward Peninsula, W Alaska, projecting c 200 mi into Bering Sea, between Norton Sound and Kotzebue Sound, just below the Arctic Circle The region is mostly bleak tundra, with very long and cold winters Placer gold mining and trapping are the chief occupations of its sparse population Nome is on the south coast

Sewell, Anna (sū'ul), 1820-78, English author Her one work, *Black Beauty* (1877), the story of a horse became a children's classic and has gone into countless reprints Her mother, **Mary Wright Sewell,** 1797-1884, was also a popular writer for children

Sewell, Jonathan, 1766-1839, Canadian jurist, b Cambridge, Mass He went to New Brunswick in 1785 and was called in 1789 to the bar in Quebec While chief justice (1808-38) of Lower Canada, he made a decision (1818) which was the basis for drawing the boundary between Upper and Lower Canada He was president (1808-29) of the executive council and speaker (1809-39) of the legislative council. He was one of the earliest advocates of confederation

sewer see SEWAGE

Sewickley (sū'ĭklē), residential borough (pop 5,614), SW Pa, on the Ohio and NW of Pittsburgh, inc 1853

sewing see EMBROIDERY and NEEDLEWORK

sewing machine An attempt at mechanical sewing was made in England (1790) by Thomas Saint, with a machine having a forked, automatic needle which made a single thread chain B Thimonnier, a French tailor, patented in 1830 a wooden device with a hooked needle In 1841 he used 80 of these machines to make uniforms for the French army His factory was wrecked by a mob, but in 1848 he placed another machine on the market An eye-pointed needle making a chain stitch was tried about the same time for glovemaking Walter

Hunt of New York city is said to have devised in 1832 a machine using an eye-pointed needle but failed to patent it Elias Howe made the first successful machine (1846) using an eye-pointed needle and an intermittent feed After perfecting various features and defending his patents, he made a fortune from his machine A B Wilson invented in 1850 an automatic feed and later perfected the four-motion feed, an essential feature of later machines Before 1850 all machines were operated by hand and the cloth was fed by various clumsy devices, such as a separately moved belt with projecting steel spikes He also invented the rotary bobbin and hook Isaac M Singer, who is credited with the invention of the foot treadle and the yielding presser foot, finally coordinated previous attempts into the modern machine, gave it a commercial status, and began large-scale manufacturing Two types of machine, the chain and the lock stitch, operate on the same principle, an eye-pointed needle, raised and lowered at great speed, pierces the material lying on a steel plate, casting a loop of thread on the under side of the seam In the lock-stitch machine a second thread, fed from a shuttle under the plate, passes through the loop and is interlocked with the upper thread as it is drawn tightly up by the rising needle In the chain-stitch or single-thread machine the loop is held under the seam while the needle rises, the cloth is fed forward, and the needle descends again engaging the loop and drawing it flat under the cloth Both lock and chain machines are made in two classes, domestic and industrial Of the domestic machines 90 per cent are the lock-stitch type Electrification and an ever-increasing number of attachments for hemming, gathering, tucking, quilting, and other operations are improving the efficiency of the household machine Power-driven, highly specialized machines for industrial use include many used in clothing manufacture such as those for buttonholing and button sewing, seam finishing, and embroidery Shoes, gloves, hats, books, upholstery, hosiery, corsets, tents, awnings, flags, and sails are sewn on specially devised machines The thin plates of the all-metal dirigible are sewn so that the gas will not escape The United States leads in the manufacture of sewing machines and exports them to all parts of the world See Julia Silverman, *Power Machine Sewing* (1942)

sex, term used to refer both to the two groups distinguished as males and females and to the anatomical and physiological characteristics associated with maleness and femaleness Sex is associated with the ability to produce special reproductive cells known as gametes, the type produced by a female organ is an ovum or egg cell and that produced by a male organ is a sperm Differentiation into the two sexes is observable in some members of all divisions of both plant and animal kingdoms Among the higher animals, i e , the vertebrate animals, the sexes are usually quite readily distinguished by certain anatomical differences (e g , in the structure of the reproductive organs and in size of the animal) and by the possession of secondary sexual characters Among these characters are the brighter coloring that usually distinguishes males from females in birds, fish, and certain other animals, the presence in male deer of antlers, and the growth of the beard and the deepening of the voice in the human male In the highest group of plants, the seed-producing plants, or spermatophytes, the female organ is the pistil or egg-producing organ and the male organs are the stamens or pollen-producing structures Most seed plants have both stamens and pistil in the same flower, and many have separate staminate and pistillate flowers on the same plant In a few (e g , species of holly and willow) staminate and pistillate flowers are borne on separate plants Studies of sex in plants are complicated by the fact that an alternation of generations is characteristic of some members of the lower plant groups as well as of the seed plants This alternation involves the production of eggs and sperm by a gametophyte generation, fusion of an egg and sperm results in the development of a spore-bearing plant capable of producing spores which give rise to a gametophytic generation In certain animals, e g , the earthworm, eggs and sperm are produced by the same individual, such an animal is said to be hermaphrodite In certain lower plants and animals, especially the microscopic forms, there is often little or no apparent differentiation into sexes Many of the lower multicellular forms are capable of producing within the one individual two different kinds of cells capable of uniting and developing into a new individual, this is true of some jellyfish However, in some members of the group, e g , the sea anemone, male and female cells are produced by different individuals In some mold plants, e g , in bread mold, there is a foreshadowing of differences in sex in that certain plants known as plus strains produce a kind of gamete which unites with a gamete produced by a minus strain to form a zygospore capable of developing into a new plant The gametes in this case are apparently identical anatomically but they differ physiologically In both plants and animals that form egg and sperm cells the union of an egg and sperm is called fertilization and the resulting cell is known as a fertilized egg or a zygote The factors that determine sex have long been a subject of interest Early ideas centered around superstitious beliefs. With the development of the concepts of Mendelism and the later studies of chromosomes and genes came a better understanding of the problem Although much remains to be learned, the method of inheritance of sex has, in some cases, been determined In human beings each body cell contains 48 chromosomes and each sex cell before the occurrence of meiosis, or reduction division, contains also 48 chromosomes or 24 pairs of chromosomes In the female there are 23 pairs consisting of apparently similar (homologous) members and another pair known as X chromosomes (the pair is indicated by XX) In the male 23 pairs appear to be homologous and the 24th pair consists of one X chromosome and a smaller chromosome known as a Y chromosome When meiosis occurs, one member of each pair of chromosomes enters each mature sex cell Therefore, all of the mature egg cells will contain 24 chromosomes and each will have one of the X chromosomes However, in the male, the segregation of members of each pair of chromosomes will result in the production of two kinds of mature sperm cells—half with 23+X and half with 23+Y The presence of a Y chromosome as a member of a pair is believed to determine the sex of the individual as male When fertilization occurs, according to Mendelian ratios, in one half of the fertilized eggs the chromosomes will consist of 46+2X (resulting in a female) and the other half will have 46+X+Y (resulting in a male) Theoretically the number of male and female births would then be in a one-to-one ratio, actually there is a slight deviation This mechanism of inheritance of sex accounts for the mode of inheritance of sex-linked characters Genes located in the X chromosome are said to be sex-linked, i e , they are inherited through the X chromosome Such characters are not necessarily limited to a particular sex For example, red-green color blindness in humans is attributed to a recessive gene in the X chromosome, a female carrying this trait can transmit it to her male offspring, although she herself may not suffer from it

sexpartite vault (sĕks'pär'tīt) It developed in medieval masonry construction from the difficulty of vaulting an oblong space with ribs of exclusively semicircular form, since the diagonal ribs being longer, would unavoidably rise to a higher crown than the transverse ones The adoption of pointed arches was eventually to solve this problem by permitting arches of varying spans to be brought to the same crown Before this, however, the Romanesque builders of the early 12th cent , in an attempt to secure square compartments not only for the wide nave, but also for the narrow side aisles, adopted the expedient of including two aisle bays in the width of each nave bay The intermediate nave pier which resulted from this was then, in some cases, carried up to the vault height, and from it an intermediate vault rib was sprung This extra member strengthened the diagonal ribs, aided in supporting the vault masonry, and transformed the quadripartite or four-part vault into one of six sections The sexpartite vault thus created is seen in its tentative stage at the Abbaye-aux-Dames, Caen (1083) It was employed frequently in France in the 12th cent , and in a few cases in England, e g , the choir of the Canterbury cathedral However, its form was productive of unsatisfactory warped surfaces, and it fell from use in the early 13th cent when the complete adoption of pointed arches had fully solved the original vaulting difficulties

sextant, instrument for finding geographical position by measuring the altitude of the sun or the stars The sextant was invented independently by the American Thomas Godfrey and the Englishman John Hadley in 1731 Its construction is based on the principle that a reflected ray of light leaves a plane surface at the same angle that the direct ray strikes the surface The sextant consists of a triangular frame, the bottom of which is a graduated arc forming a sixth part of a circle A horizontal mirror lies in the same vertical plane, while a small telescope is mounted on an adjustable ring with an index arm and a vernier The position is mostly taken at noon The user looks through the telescope straight at the sea horizon, but he sees also the image of the sun, dimmed by an interposed dark glass, through the mirror He moves the mirror slowly until the solar image appears just to touch the horizon Then the sun's altitude is read, and by reference to the tables of altitude in different latitudes in the nautical almanac and by a simple calculation, the altitude is obtained A sextant may be used on land with an "artificial horizon" This consists of a small shallow receptacle with mercury, which gives a truly horizontal surface In air navigation a bubble octant—sometimes called a bubble sextant—is used, in which a spirit level is reflected into the field of view in such a way that the center of the bubble indicates the true horizon

Sextus Empiricus (sĕk'stus ĕmpĭ'rĭkŭs), 3d cent , skeptic philosopher and physician, probably a Greek. Two of his works are extant, one an exposition of skepticism as he held it, the other an attack on mathematicians from a skeptical point of view He is the best source for ancient skepticism. A translation of his works appeared in 1933–36.

sexual selection: see SELECTION

Seychelles (sāshĕl'), British crown colony (156 sq mi ; pop 30,940), comprising 92 volcanic islands in the Indian Ocean, c 800 mi. E of Zanzibar They were settled by the French in the 18th cent , taken by the British in 1794, and later ceded to Great Britain Copra, cinnamon, vanilla, and guano are exported Mahé (pop. 26,327) is the largest island Others are Praslin and Silhouette The Seychelles are ruled by an appointed governor with the aid of an executive and a legislative council. The inhabitants, of mixed African and European descent, mostly speak a French patois

Seydisfjord, Icelandic *Seyðisfjörður* (sā'dhĭsfyûr'-dhûr), town (pop 778), E Iceland It is a trade center

Seydlitz, Friedrich Wilhelm, Freiherr von (frē'drĭkh vĭl'hĕlm frī'hĕr fŭn zīd'lĭts), 1721–73, Prussian general under Frederick II A cavalry commander, he made the cavalry a decisive offensive weapon by using it for fierce galloping attacks He took a major part in the most important battles of the War of the Austrian Succession and the Seven Years War, notably at Hohenfriedberg (1745), Kolin (1757), Rossbach (1757), Zorndorf (1758), and Freiberg (1762) His family produced distinguished officers until present times

Seyffert, Leopold (sī'fŭrt), 1887–, American painter, b California, Mo He studied art in Pittsburgh and under William M Chase at the Pennsylvania Academy of the Fine Arts Traveling scholarships enabled him to spend some time in France and in Spain, where he worked under Zuloaga On his return to the United States he rapidly acquired a reputation as a portrait painter, particularly of men Seyffert taught at the Art Institute of Chicago and the National Academy of Design, New York In addition to his portraits his work includes numerous figure compositions and decorations He is represented in the museums of Chicago, Detroit, and Rochester and in the Pennsylvania Academy

Seyhan (sāhän'), ane *Sarus,* river, 320 mi long, rising in the Anti-Taurus mts It flows SSW past Adana into the E Mediterranean It is also known as Sihun

Seymour, Charles see SOMERSET, CHARLES SEYMOUR, 6TH DUKE OF

Seymour, Horatio (sē'môr, sē'mur), 1810–86, American statesman, b Pompey Hill, Onondaga co , N Y Educated at the military academy at Middletown, Conn , which later became Norwich Univ (Northfield, Vt), he studied law at Utica, N Y and was admitted to the bar in 1832 Seymour, a Democrat, was military secretary to Gov William L Marcy (1833–39), was thrice elected to the New York assembly (1841, 1844, 1845), and was chosen mayor of Utica in 1842 Elected governor in 1852, he was criticized for vetoing a prohibition bill and was defeated for reelection In the Civil War, Seymour was again elected (1862) governor He declared the Emancipation Proclamation unconstitutional, opposed Federal conscription as an unwarranted invasion of states' rights (but vigorously promoted voluntary enlistments), and denounced the military arrest of Clement L VALLANDIGHAM His conciliatory speech in New York city on the occasion of the DRAFT RIOTS (July, 1863) played into Republican hands and was a factor in his defeat (1864) by Reuben E Fenton He was the Democratic presidential candidate in 1868, and after his defeat by Gen U S Grant assumed the role of elder statesman in his party See biography by Stewart Mitchell (1938), C H Coleman, *The Election of 1868* (1933), W B Hesseltine, *Lincoln and the War Governors* (1948)

Seymour, Jane, 1509?–1537, third queen of Henry VIII of England She served as a lady in waiting to both of Henry's first two queens, Katharine of Aragon and Anne Boleyn Henry became interested in her c 1535, but Jane, by the advice of Sir Nicholas Carew and others, refused to accept any proposal other than marriage Thus was a strong factor in the institution of trial proceedings against Anne Boleyn. She and Henry were married (1536) 10 days after Anne's execution Jane was a partisan of Katharine of Aragon, strove to reunite the king with Princess Mary, and during the Pilgrimage of Grace implored Henry to restore the monasteries She was, however, personally too timid and weak to be effectual Parliament vested succession to the throne in Jane's issue, and in 1537 she gave birth to a son, later Edward VI She died 12 days later

Seymour 1 Town (pop 6,754), SW Conn , on the Naugatuck and NW of New Haven, settled c 1680, inc 1850 The industrial village of Seymour, on the river, produces wire and other metal products 2 City (pop 8,620), SE Ind , S of Columbus, settled c 1850 Its products include automobile parts and household appliances The city has an aviation school Jackson County State Forest is near by

3 Town (pop. 1,539), S Iowa, near the Mo line SW of Centerville; inc 1874 **4** City (pop 3,328), co seat of Baylor co, N Texas, on the Brazos and SW of Wichita Falls, inc 1906 The city, settled in 1878 as a farming community in ranch country at the crossing of the old Dodge City and California trails, handles cotton, grains, and cattle **5** City (pop. 1,365), E Wis, W of Green Bay, settled 1871, inc 1879

Seymour of Sudeley, Thomas Seymour, Baron (sē'mŏr, sŭd'lē), 1508?–1549, English lord high admiral After the marriage of his sister Jane to Henry VIII (1536) he received a number of preferments He served on various diplomatic missions, was in command of the English army in the Netherlands in 1543, and was admiral of the fleet in 1544 At the death of Henry VIII in 1547, Seymour became lord high admiral and Baron Seymour of Sudeley His brother Edward Seymour, duke of Somerset, became the protector to King Edward VI, thereafter Thomas Seymour tried to supplant his brother as the guardian of the young king Refused the hand of Princess Elizabeth, he secretly married the dowager queen, Catherine Parr (1547) In the same year he was influential in securing an act of Parliament which made the duration of the protectorate depend on the king's pleasure instead of being fixed until the king should reach the age of 18 Seymour used his position as admiral to come to an understanding with pirates, in the hope of securing their support After his wife's death (1548) he sued once again for the hand of Elizabeth His activities provoked questioning by the council, and he was convicted of high treason and executed in 1549

Seyne-sur-Mer, La (lä sĕn"-sür-mĕr'), town (pop 18,490), Var dept, SE France, near Toulon A Mediterranean port, it has shipyards

Seyss-Inquart, Arthur (är'tōōr zīs'ĭng'-kvärt), 1892–1946, Austrian National Socialist leader In Feb, 1938, Chancellor Schuschnigg of Austria was forced by German pressure to appoint Seyss-Inquart to the ministry of the interior and of security, a step which considerably facilitated the *Anschluss* [union] of Austria and Germany shortly afterward Seyss-Inquart became governor of the Ostmark, as Austria was called under the Nazi regime In 1940 he was appointed German high commissioner in the occupied Netherlands He ruthlessly exterminated the Dutch Jews and countered Dutch patriotic opposition by executing hostages and by deporting many thousands to slave-labor camps in Germany and German-occupied Europe Captured in 1945, he was tried at Nuremberg as a war criminal He was convicted and hanged

Sfax (sfäks), city (pop 54,637), SE Tunisia, a port on the Mediterranean Sea The site of Phoenician and Roman colonies, it early enjoyed a prosperous trade It was taken (c 1147) by Roger II of Sicily and in the 16th cent by the Spanish Later it became a stronghold of Barbary pirates Today it exports phosphates, olive oil, cereals, and sponges

Sforza (sfôr'tsä), Italian family which ruled the duchy of MILAN from 1450 to 1535 The first prominent member was **Muzio Attendolo Sforza** (mōō'tsēō ät-tĕn'dōlō), 1369–1424, a farmer from the Romagna who became a noted condottiere and took the surname Sforza [the forcer] He fought in the service of several Italian states, then became involved in the struggles for the succession to the kingdom of Naples and died while serving Queen Joanna II His natural son, Francesco I Sforza (see separate article), became duke of Milan in 1450 through his marriage to Bianca Maria VISCONTI He was succeeded by his eldest son, **Galeazzo Maria Sforza** (gälä'ät'tsō märē'ä), 1444–76, a highly educated but dissolute and cruel man, he was a patron of the arts and had Bramante work for him He was assassinated in the Church of San Stefano at Milan by republican conspirators The popular uprising anticipated by the assassins did not materialize Galeazzo's daughter Bianca Maria married Emperor Maximilian, and his natural daughter **Caterina Sforza** (kätärē'nä), 1463?–1509, became the wife of Gerolamo Riario, lord of Imola and Forlì, a nephew of Pope Sixtus IV After Gerolamo's murder (1488) Caterina ruled both cities until she lost them to Cesare Borgia in 1499 Her second husband, Giovanni de' Medici, a grandnephew of Cosimo de' Medici, died in 1498, to him she bore a son who became the famous condottiere Giovanni delle Bande Nere (see MEDICI, GIOVANNI DE') **Galeazzo's** wife, Bona of Savoy, acted as regent for their minor son, **Gian Galeazzo Sforza** (jän'), 1468–94, who succeeded to the duchy on his father's assassination However, in 1480, Galeazzo's brother Ludovico Sforza (see separate article) deprived his nephew of the duchy and assumed its control Gian Galeazzo died a virtual prisoner. His daughter, Bona Sforza, married SIGISMUND I of Poland In the ITALIAN WARS Milan was claimed by Louis XII of France, great-grandson of Gian Galeazzo VISCONTI Ludovico lost Milan to Louis in 1499, but in 1512 the Swiss, as members of the Holy League, stormed Milan and installed Ludovico's son, **Massimiliano Sforza** (mäs"sēmēlyä'nō), 1491–1530, as its duke The Swiss actually controlled Milan until their defeat at Marignano (1515), which obliged Massimiliano to surrender Milan to Francis I of France Massimiliano retired to France, and Emperor Maximilian conferred the title of duke of Milan on Massimiliano's brother, **Francesco II Sforza**, 1495–1535 Francesco took possession of his duchy after the French defeat (1522) by the army of Emperor Charles V at Bicocca Accused by PESCARA of plotting against Charles, Francesco was deprived (1525) of most of his duchy. He joined (1526) the League of Cognac, headed by Francis I, against the emperor, but was obliged to surrender to the imperial troops who besieged him in the citadel of Milan After the Treaty of Cambrai (1529) Francesco was restored as duke and ruled till his death He had no issue, and the succession to Milan once more was contested by France and Spain, with Spain emerging victorious in the Treaty of Cateau-Cambrésis (1559) The Sforza family had several other branches, some of which are still in existence See C M Ady, *History of Milan under the Sforza* (1907), Lacy Collison-Morley, *The Story of the Sforzas* (1933)

Sforza, Carlo, Conte (kär'lō kōn'tā), 1872–, Italian statesman He held high ministerial and diplomatic posts and became a senator in 1919 As foreign minister (1920–21) he negotiated the Treaty of Rapallo with Yugoslavia He was ambassador in Paris, and when Mussolini came to power (1922) he resigned After leading the opposition in the senate for a few years, he went (1927) into voluntary exile to Belgium and France and, after 1940, to the United States, where he became the most prominent Italian anti-Fascist and anti-monarchist leader In 1943 Count Sforza returned to Italy, where he played a major role in politics He became foreign minister in 1947 Among his numerous writings are *Europe and Europeans* (1936), *Fifty Years of War and Diplomacy in the Balkans* (1940), and *The Real Italians* (1942)

Sforza, Francesco I (franchä'skō), 1401–66, duke of Milan (1450–66), natural son of Muzio Attendolo Sforza He succeeded his father to the command of the mercenaries and by his valor and sagacity became one of the most powerful condottieri of his time In 1441 he married Bianca Maria, natural daughter of Filippo Maria VISCONTI, duke of Milan On Filippo's death (1447) the so-called Ambrosian republic was set up in Milan Francesco, who commanded the Milanese troops, made himself master of the republic and was proclaimed duke in 1450 with the support of the Medici of Florence He consolidated the power of Milan and in 1464 seized Genoa An able prince, he patronized arts and letters and beautified Milan His son, Galeazzo Maria Sforza, succeeded him as duke

Sforza, Ludovico or **Lodovico** (lōdōvē'kō sfôr'tsä, lōdōvē'kō), 1451–1508, duke of Milan (1494–99), younger son of Francesco I Sforza He was called Ludovico il Moro (the Moor) because of his swarthy complexion In 1480 he deprived his sister-in-law, Bona of Savoy, of the regency for her infant son, Gian Galeazzo Sforza (see SFORZA, family), and from that date his actual rule may be reckoned In 1494 Gian Galeazzo died, a virtual prisoner, and Ludovico was formally invested with Milan by Emperor MAXIMILIAN I Partly in order to divert French ambitions from Milan, partly in order to protect himself from the hostility of the king of Naples, Ludovico concluded an offensive alliance with CHARLES VIII of France, whose invasion (1494) of Italy was the beginning of the ITALIAN WARS In 1495, however, he reached an understanding with Charles's enemies and turned against the French, who were expelled from Italy In 1499 Louis XII of France, who had a hereditary claim to the duchy of Milan (he was a great-grandson of Gian Galeazzo Visconti), invaded Italy and expelled Ludovico from his duchy Ludovico's attempt, with the aid of Swiss mercenaries, to recover his lands was defeated at Novara (1500), he was captured and died a prisoner in France Before his fall, Ludovico Sforza was one of the wealthiest and most powerful princes of Renaissance Italy He was a subtle diplomat and an unscrupulous intriguer, these qualities undoubtedly helped him to power and most probably contributed to his ruin With his wife, Beatrice d'ESTE, he held a brilliant court and spent immense sums to further the arts and sciences His chief fame in the eyes of posterity is his patronage of LEONARDO DA VINCI and of Bramante

sgraffito. see GRAFFITO

's Gravenhage, Netherlands see HAGUE, THE

Shaalabbin (shā"ălā'bĭn) or **Shaalbim** (shāăl'bĭm), unidentified town, W central Palestine The related adjective is Shaalbonite Joshua 19 42, Judges 1.35, 2 Sam 23 32, 1 Kings 4 9, 1 Chron 11 33

Shaaph (shā'ăf) **1** Descendant of Judah 1 Chron 2 47 **2** Son of Caleb and Maachah 1 Chron 2 49

Shaaraim (shā"ūrā'ĭm) [Heb ,=two gates], unidentified town, S Palestine 1 Chron. 4 31 Shilhim, Joshua 15 32 Sharuhen Joshua 19 6

Shaashgaz (shāăsh'găz), chamberlain of King Ahasuerus Esther 2.14

Shabats, Yugoslavia: see SABAC.

Shabbethai (shăbē'thāĭ, shā"bēthā'ĭ) [Heb ,=born on the Sabbath], name of three Levites returned from exile Ezra 10 15, Neh 8 7, 11 16

Shachia (shukī'ŭ), descendant of Benjamin. 1 Chron 8 10

Shackleton, Sir Ernest Henry, 1874–1922, British antarctic explorer, b Ireland The first of his four voyages to Antarctica was made as a member of the expedition (1901–4) of Robert F. SCOTT Although Shackleton was invalided home in 1903, he had gained valuable experience in antarctic exploration which stood him in good stead as commander of a south polar expedition (1907–9) In the course of this expedition, of which Sir Douglas Mawson was a member, Mt Erebus was ascended, the south magnetic pole located, and the polar plateau crossed to a point less than 100 mi from the South Pole The scientific results of the expedition were of vast importance Knighted in 1909, Scott published that year an account of his expedition, *The Heart of the Antarctic* As commander of a transantarctic expedition, he set out in the *Endurance* in 1914, planning to enter the Weddell Sea and cross over the south polar region to the Ross Sea When his ship was crushed in the ice in 1915, he led (1916) his party to safety at Elephant Island, some 180 mi distant, from that small island in the Scotia Sea, Shackleton and several companions made a voyage of 800 mi through wild seas and across the unknown, rugged interior of South Georgia Island to a whaling station on its north coast, where he received aid He managed to rescue his Elephant Island party and later returned to the Weddell Sea to pick up a sledging party which he had left there earlier in the expedition His *South* (1919) is an account of the whole expedition In 1921 he sailed on the *Quest* to study Enderby Land but died and was buried on South Georgia Island See biography by H R Mill (1923), F A Worsley, *The Endurance* (1931), Frank Hurley, *Shackleton's Argonauts* (1948)

shad, fish of the herring family native to the N Atlantic The American shad, blue green above, silvery white on the sides, weighs from 2½ to 14 lb Its flesh and roe are valued as food Large catches are made in vertical nets in the spring when the fish ascend the larger rivers to spawn It is also of commercial importance on the Pacific coast, where it was introduced The European species are less palatable

shadbush, Juneberry, or **serviceberry,** any species of *Amelanchier*, chiefly North American shrubs or trees, conspicuous in the early spring for their white blossoms The bush is more often called shadbush on the East Coast (it is said to bloom when the shad are running), serviceberry is in general a Western name The berrylike fruits of native species—ripening in the early summer to a dark purple and resembling in taste the huckleberry—have been an important food for Indians Some kinds of shadbush are cultivated for ornament. The wood is very hard

shaddock see GRAPEFRUIT

shadow, relative darkness over some area caused by the interception of light waves by an opaque mass. The factors involved in the casting of shadow are the size and intensity of the light source, its proximity to the opaque body, the bulk of the body, and the angle and distance of the surface upon which the shadow appears Where light is wholly interfered with, there is complete shadow, or umbra An illustration is the darkness during a total eclipse of the sun by the moon A small portion of the earth is in complete shadow, and a partial shadow, or penumbra, is produced over a larger area where a part of the sun's disk appears from behind the moon Several sources of light and several opaque objects will produce, when superimposed, a range of effects from maximum illumination to umbra Objects that intercept sound or radio waves are said also to cast shadows, which affect reception The phenomena of shadow figures largely in superstitions

Shadrach (shā'drăk), one of the THREE HOLY CHILDREN

Shadwell, Thomas, 1642?–1692, English poet and playwright His Jonsonian comedies of type characters are distinguished chiefly for realistic London scenes and coarse but witty dialogue They include *The Sullen Lovers* (1668), *Epsom Wells* (1673), and *The Squire of Alsatia* (1688) In his notorious feud with Dryden, whom he succeeded as poet laureate, Shadwell attacked him in *The Medal of John Bayes* (1682) and was himself lampooned as Og in Dryden's *Absalom and Achitophel* and under his own name in *MacFlecknoe* See biography by A S Borgman (1928)

Shadyside, residential village (pop 4,048), E Ohio, on the Ohio river below Wheeling, W Va, platted 1901, inc 1913 Caskets are made here

Shafter, William Rufus (shăf'tur), 1835–1906, American general, b Galesburg, Mich Joining the army in the Civil War, he was mustered out in 1865 reentered in 1867, and rose to the rank of brigadier general In the Spanish-American War he was placed in command of the army invading Cuba, which in June, 1898, went from Tampa to Cuba The battles of Siboney, El Caney, and San Juan and the capture of Santiago after the destruc-

tion of the Spanish fleet insured the success of the campaign, despite deficiencies in equipment and some mismanagement Shafter received little credit for his victories He was a major general when retired in 1901 In 1919 a bust of Shafter was dedicated at Galesburg, Mich See J O Miley, *In Cuba with Shafter* (1899)

Shafter, city (pop 1,258), S central Calif., NW of Bakersfield, inc 1938

Shafter, Fort, military headquarters of the Hawaiian Dept, on Oahu, T H , 3 mi NW of Honolulu It was the first military post to be occupied (1907) after Hawaii was annexed by the United States

Shaftesbury, Anthony Ashley Cooper, 1st **earl of,** 1621–83, English statesman In the civil war of the Puritan Revolution he supported the crown until 1644, but then turned to Parliament He was an able general, was made a member of the council of state, and supported Oliver Cromwell until 1654 Thereafter, he opposed the Protectorate because of his distrust of autocratic rule He opposed Richard Cromwell, supported the Rump Parliament against John Lambert, then swung to General Monck and assisted in restoring Charles II Made a privy councilor and Baron Ashley (1661), he assisted in the trial of the regicides, but worked for a lenient settlement The same year he became chancellor of the exchequer and gained royal favor by his support of toleration Named one of the proprietors of Carolina in 1663, he took much interest in plans for the colony He joined the opposition to the 1st earl of Clarendon and was a member of the Cabal Created earl of Shaftesbury, he was made lord chancellor in 1672, but became strongly anti-Catholic, supported the Test Act (1672), and was dismissed in 1673 Out of favor at court and embittered by his imprisonment in 1677 for opposing the prorogation of Parliament, he made use of the Popish Plot (see Oates, Titus) to promote opposition to Danby and anti-Catholic feeling On Danby's fall he became president of the council, pressed for the bill to keep James, duke of York, from the throne, and supported the claims of the duke of Monmouth, illegitimate son of Charles II For this he was arrested (1681), and his position became precarious since his Whig party was now discredited and the king in complete control of government He was bitterly satirized in Dryden's *Absalom and Ichitophel* The indictment for treason failed, and he fled to Holland (1682), and soon died Shaftesbury has been called the most skillful politician of his day Rich and intellectual, he was a close friend of John Locke, and probably a deist See biographies by W D Christie (1871), H D Traill (1886) and L F Brown (1933)

Shaftesbury, Anthony Ashley Cooper, 3d **earl of,** 1671–1713, English philosopher, son of the 2d earl and grandson of the 1st earl The philosopher Locke was in charge of his education, which was largely classical Shaftesbury's ill-health restricted his political life, although he served (1695–98) in Parliament and supported the Whig party later Shaftesbury's contributions are in the field of moral philosophy. He reacted against individualism as an ethical basis and found true morality in a balance between egoism and altruism This balance is possible because there is a harmony between society and the individual which makes the general welfare identical with individual happiness Man is innately equipped with spontaneous instincts or affections to promote this harmony In the ethical field he called this the moral sense, the first use of this term His influence was considerable, and his ideas were immediately further developed by Francis Hutcheson Most of the important essays of Shaftesbury he collected himself as *Characteristics of Men, Manners, Opinions, Times* (1711) See F M G E Higham, *Lord Shaftesbury* (1945)

Shaftesbury, Anthony Ashley Cooper, 7th **earl of,** 1801–85, English social reformer He was known as Lord Ashley until 1851, when he succeeded his father as earl Entering Parliament in 1826, he worked steadily for reforms in many fields Notable legislation introduced by him included acts prohibiting employment of women and children in coal mines (1842) providing for care of the insane (1845), and establishing a 10-hour day for factory workers (1847) He promoted the building of model tenements and the "ragged schools" for waifs. See biographies by J L Hammond and Barbara Hammond (4th ed., 1936) and J W Bready (1926)

Shaftesbury, municipal borough (1931 pop 2,367, 1943 estimated pop 3,093), Dorsetshire, England, on a hill WSW of Salisbury It is in a farming region and is known locally as Shaston There are vestiges of British, Roman, and Saxon occupation, Alfred founded a convent here in 880.

Shaftsbury, town (pop 1,577), SW Vt , N of Bennington at the N Y line, chartered 1761, settled 1763 Steel squares are made in South Shaftsbury village

shaft sinking. Little difficulty is experienced in shaft sinking through solid rock which contains little water When loose, water-bearing strata have to be contended with, careful shoring and sealing of the shaft lining becomes necessary, and pumping facilities are needed Vertical shafts are usually circular or rectangular and are generally lined with wood, masonry, concrete, steel, or cast iron Shafts sunk in loose water-bearing soils, where there is great external pressure on the shaft sides, are nearly always circular, rectangular shafts with wood lining are largely used in mining work, as the shafts are frequently of a temporary nature. Shaft sinking through rock is generally accomplished by blasting When the loose surface material has been removed, holes are drilled, and the charges are placed and are fired by electricity The broken rock is removed, and the process is repeated In an ordinary rectangular shaft the lining consists of timbers 8 or 12 in square placed horizontally around the shaft Shafts of a more permanent nature are generally circular in form and lined with cast iron or with concrete masonry 1 to 2 ft thick, built in sections as the work advances When excessive quantities of water are met with, cast-iron tubbing is sometimes used This consists of heavy cast-iron rings made in segments, with flanges for connecting, and bolted together in place Cement grout is forced into the space between the outside of the tubbing and the surrounding earth to form a seal Shaft sinking by the freezing process in very watery soil is accomplished by sinking pipes in the area to be excavated and circulating brine at low temperature in them until the earth is frozen and hard so that it can be excavated in the same manner as rock In the grouting method, liquid cement is forced into the water-bearing earth under very high pressure On mixing with the water, the cement solidifies the adjacent area, and it is removed by drilling and blasting as with rock

Shagall, Marc see Chagall, Marc.

shagbark hickory see Hickory

Shage (shā'gē) [Heb ,=errant] see Shammah

Shah Alam (shä' ä'lum), 1728–1806, Mogul emperor (1759–1806) Throughout his reign he was merely the tool of rival forces contending for power in India While a pensioner of the British, he gave them (1771) control of Bengal, Bihar, and Orissa Later he came under the power of the Mahrattas The Rohillas, who captured (1788) his capital at Delhi, blinded and deposed him The British restored him to the throne in 1803 when they captured Delhi

Shahaptin Indians see Nez Percé Indians

Shaharaim (shā"hurā'im) [Heb ,=two dawns], descendant of Benjamin 1 Chron 8 8

Shaharaimah (shāhăz'imu, shā"huzi'mu) unidentified town, NW Palestine Joshua 19 22

Shahi (shahē') town (1947 estimated pop 7,407), N Iran, at the Caspian end of the Trans-Iranian RR near Gorgan

Shahjahanpur (shajuhan'pōōr), city (pop 110,163), central United Provs , India Founded (1647) by Shah Jehan (or Shah Jahan), it was named in his honor The city is a railroad junction Sugar is the chief article of trade and manufacture

Shah Jehan or **Shah Jahan** (both shä juhan'), d 1666, Mogul emperor (1628–58) He won his way to the throne by defeating his brothers in battle In his long reign he conquered much of S India and made it possible for his son Aurangzeb to bring the Mogul empire to its greatest extent Shah Jehan's reign is considered the golden period of Moslem architecture in India He built extensively in Delhi and in Agra (with the unsurpassed Taj Mahal) and encouraged literature and the arts His sons revolted against him in the last years of his reign, and in 1658 he was deposed by Aurangzeb and imprisoned for the rest of his life

Shahrud (sharōōd'), town (pop 23,123), N Iran, on the railroad between Teheran and Meshed The region produces cotton and fruit

Shaker Heights, residential village (pop 23,393), NE Ohio, near Cleveland, founded 1905 as a suburban development by the Van Sweringens East View village was annexed in 1920

Shakers, members of a religious society, styled by themselves "The United Society of Believers in Christ's Second Appearing" and sometimes called "The Millennial Church " The movement originated about the middle of the 18th cent in England in the Society of Friends The group known as "Shaking Quakers" because of their physical manifestations of spiritual power during public worship, was led by Jane and James Wardley They were succeeded by Ann Lee, a convert Imprisoned for her zeal, she received through a vision the announcement that the mother element of Christ's spirit was manifested in her Following a vision's instruction, she and eight followers emigrated (1774) to New York Near Albany, at what is now Watervliet, they settled in 1776 "Mother Ann" gained a number of converts who, after her death (1784) began the formation of Shaker communal societies, the first at Mt Lebanon, N Y in 1787. By 1794 there were (in addition to the original settlement at Watervliet) 11 communities in New England and New York, 7 more had been founded by 1826 in Kentucky, Ohio, and Indiana The total membership was c 6,000 After 1860 Shakerism began to decline, in 1948 fewer than 50 elderly members remained in the three societies still extant One of the fundamental doctrines of the society was belief in the dual nature of the Deity The male principle of Christ came to earth in Jesus, the female principle, in "Mother Ann " Other tenets were celibacy, open confession of sins, community of possessions, separation from the world, pacifism, equality of the sexes, and consecrated work Singing, dancing, and marching characterized phases of Shaker worship Ministers, elders, deacons, and trustees, both male and female, managed Shaker affairs The communal life was in "families" of from 30 to 90 individuals Although upon entering a family, a Believer donated his services and possessions to its use, he was free to withdraw and to take back his possessions at any time There was equality of labor and of responsibility, but men and women worked at separate occupations and lodged and ate separately The Shakers were noted agriculturalists and craftsmen, their farm products, their herbs and seeds, their excellent furniture and textiles enjoyed a wide sale The members wore a prescribed garb, somewhat like that of the Quakers *The Testimony of Christ's Second Appearing,* prepared by some of the Shaker leaders and often called the Shaker Bible, appeared in 1808 See C A Nordhoff, *Communistic Societies of the United States* (1875), E D Andrews and Faith Andrews, *Shaker Furniture the Craftsmanship of an American Communal Sect* (1937), E D Andrews, *The Gift to Be Simple Songs, Dances and Rituals of the American Shakers* (1940), and M F Melcher, *The Shaker Adventure* (1941)

Shakespeare, William. see Shakspeare, William

Shakhty (shakh'tē), city (1926 pop 41,043, 1939 pop 155,081), S European RSFSR, NE of Rostov It is a major anthracite-mining center of the Donets Basin The city, now enlarged by the incorporation of adjacent towns, was known as Aleksandrovsk-Grushevski before the Russian Revolution

Shakopee (shăkŭpē'), city (pop 2,418), co seat of Scott co, E Minn , on the Minnesota and SW of Minneapolis, settled 1851 as a trading post, inc 1870 It is a commercial and industrial center in a farm area A state reformatory for women is here

Shakspere, Shakespeare, or **Shakspeare, William,** 1564–1616, English poet and dramatist, b Stratford-on-Avon, Warwickshire His father, John Shakspere, was a well-to-do glover in Stratford and was prominent in municipal affairs, his mother, Mary, came from a prosperous landed family Comparatively little of William Shakspere's life is known, and what is known is based on official records, contemporary allusions, and various traditions He was fairly well educated, probably at the Stratford grammar school, and as a young man may have taught as a schoolmaster In 1582 he married Anne Hathaway, and despite popular tradition to the contrary there is no real evidence that the marriage was not a happy one, and it is thought that the couple had three children Moving to London as early as 1588, he probably joined the stage as an apprentice who performed minor roles and jobs By 1592 he had become a recognized playwright His first production, probably *The Comedy of Errors* or Part I of *Henry VI,* appeared c 1589, and from that time until he stopped writing c 1613, he steadily composed plays, usually at the rate of two a year By 1593 he secured the patronage of Henry Wriothesley, the wealthy and brilliant young earl of Southampton, to whom he dedicated *Venus and Adonis* In 1594-95 he appeared as a member of the Lord Chamberlain's Men, the dramatic company which later became the King's Men of James I Until the end of his London career, he remained with this company as playwright and frequently as an actor It may be assumed that he played supporting roles such as that of the Ghost in *Hamlet* In 1599 he became a partner in the new Globe Theatre and in 1609 of the Blackfriars Theatre, which his company took over that building He gradually extended his financial interests in the London stage, and by the time of his retirement to Stratford c 1610 he seems to have possessed a moderate fortune His will containing three of the six accepted Shakspere signatures, is dated March 25, 1616 he died on April 23 of the same year The majority of scholars accept 38 plays as the work of Shakespere The chronology of the plays can be determined only approximately, on the basis of the dates of publication, some references by contemporary writers, allusions in the plays themselves, and, within limits, on the evidence of style and versification Shakspere's dramatic and poetic genius developed and deepened consistently, but his responses to changing popular tastes and to the demands of his company would make rather arbitrary an arrangement of his plays into characteristic "periods " For convenience, however, they may be divided into four groups—the first (from c 1589 through 1594) *The Comedy of Errors,* the three parts of *Henry VI, Titus Andronicus, The Two Gentlemen of Verona, Richard III, Love's Labour's Lost, The Taming of the Shrew,* and *King John,* the second period (from 1595 through 1600), which is sometimes called his lyrical period and which includes most of his best comedies and chronicle plays and most of his poems and sonnets *Richard II, A Midsummer*

Night's Dream, *The Merchant of Venice*, *Romeo and Juliet*, the two parts of *Henry IV*, *The Merry Wives of Windsor*, *Much Ado about Nothing*, *Henry V*, *Julius Caesar*, *As You Like It*, and *Twelfth Night*, the third period (1601 through 1609), in which his greatest tragedies appeared *Hamlet*, *Troilus and Cressida*, *All's Well That Ends Well*, *Measure for Measure*, *Othello*, *King Lear*, *Macbeth*, *Antony and Cleopatra*, *Timon of Athens*, *Coriolanus*, and *Pericles*, *Prince of Tyre*, and the fourth period (from 1609 through 1613) *Cymbeline*, *The Winter's Tale*, *The Tempest*, *Henry VIII*, and *The Two Noble Kinsmen* Of the 38 plays which comprise the Shakspere canon, 36 were printed in the First Folio (1623), the first collected edition of his dramatic works Of these 36, 18 had been published during his lifetime in the so-called Quartos *Pericles*, first printed as a quarto, was not added to the collected works until 1664, in the second issue of the Third Folio *The Two Noble Kinsmen* was first published in 1634 It is generally agreed that some of the plays are not entirely Shakspere's own and are either the products of collaboration or the incomplete adaptation by Shakspere of old plays He does not seem to be the sole author of Part I of *Henry VI*, of *Timon of Athens*, or of *Pericles* It is fairly well established that he collaborated with John Fletcher on *Henry VIII* and *The Two Noble Kinsmen* Shakspere's principal poems are *Venus and Adonis* (1593), *The Rape of Lucrece* (1594), and the sonnets, most of which were probably composed between 1593 and 1596 and which were published in 1609 The former two works were dedicated to the earl of Southampton, and it is likely that so were the sonnets, although other contemporaries have been suggested At any rate, the majority of them are addressed with affection to a noble young man Some of the others speak of the poet's passion for a "dark lady" who apparently scorns his attentions for those of his friend The story, however, is not very clear, the lady cannot be identified, and the evidence is not adequate to assume that such a situation actually occurred in Shakspere's life The sonnets are in the form now known as the Shakesperian sonnet, an Elizabethan variation of the Italian three quatrains with alternate rhymes and a concluding couplet (*abab cdcd efef gg*) Other poems by Shakspere include *The Phoenix and the Turtle* (1601), an allegory *The Passionate Pilgrim* (1599), a collection of lyrics was published under Shakspere's name but contains little assignable to the poet which cannot be found elsewhere His authorship of *A Lover's Complaint* (1609) is doubtful Shakspere read extensively in the more important French, Italian, and classical authors as well as in the literature of England Two of his important sources were Holinshed's *Chronicles of England, Scotland, and Ireland*, on which were based *Macbeth* and most of the plays of English history, and North's translation of Plutarch's *Lives*, on which the Roman plays were chiefly based Of all his plays, *Love's Labour's Lost* is the only one for which no direct literary source is known In the history of English literature Shakspere's influence has been greater than that of any other author During the Restoration period, when dramatic fashions had changed a decline in Shakspere's prestige was threatened Nahum Tate and Colley Cibber wrote adaptations of some of the plays, and Dryden wrote *All for Love* as an "improvement" on *Antony and Cleopatra* But Dryden himself readily recognized Shakspere's genius, by the beginning of the 18th cent serious study of Shakspere had begun, and his position as the greatest English poet was recognized In 1709 Nicholas Rowe produced the first "edited" edition of Shakspere, in which the plays were divided into acts and scenes and the actor's entrances and exits were noted Among the numerous editions which followed was that of Samuel Johnson (1765), important in Shakspere criticism for its preface The Shakspere cult was introduced into Germany by Lessing and Herder and was carried on by Goethe and the romantic school The German version of Shakspere, begun by A W von Schlegel in 1797 and completed by Ludwig Tieck and others in 1853, is one of the world's great translations On the contemporary stage and in contemporary reading and criticism, Shakspere has continued to hold his place as the greatest poet and dramatist in perhaps all literature His genius can still not be explained alone in terms of his specific accomplishments, e g , his perfection of the blank-verse line which he received from Marlowe or his development of the form of tragedy In the words of his friend and critic, Ben Jonson, he is "for all time" Good one-volume editions of Shakspere are by W A Neilson (1906, rev ed , 1942) and G L Kittredge (1936) Of the larger editions the most important are H H Furness and H H Furness, Jr , *The New Variorum* (1871–), which is the fullest of all editions, and W J Craig and R H Case, *The Arden Shakespeare* (1899–1924), the best annotated edition of the separate plays O J. Campbell, *The Living Shakespeare* (1949), an excellent edition of the more important plays, contains a well-balanced and readable introduction to Shakspere's life and works For Shakspere's biography, see J Q Adams, *A Life of William Shakespeare* (1923), E K Chambers, *William Shakespeare* (1930), Hazelton Spencer, *The Art and Life of William Shakespeare* (1940), M G Chute, *Shakespeare of London* (1949) Good works of general criticism are Harley Granville-Barker, *Prefaces to Shakespeare* (3 series, 1927–36), *A Companion to Shakespeare Studies* (ed by Harley Granville-Barker and others, 1934), Mark Van Doren, *Shakespeare* (1939); J D Wilson, *The Essential Shakespeare* (1948) More specialized critical works are C F E Spurgeon, *Shakespeare's Imagery* (1935), H B Charlton, *Shakespearian Comedy* (1938), O J Campbell, *Shakespeare's Satire* (1943), E M W Tillyard, *Shakespeare's History Plays* (1944), A C Bradley, *Shakespearian Tragedy* (1949) For Shakspere's theater, see E K Chambers, *The Elizabethan Stage* (1923), for the life of his day, *Shakespeare's England* (1916) The standard Shakspere bibliography is Walther Ebisch and L L Schucking, *A Shakespeare Bibliography* (1931, supplement, 1937) An annual listing is to be found in Allardyce Nicoll, *Shakespeare Survey* (1948–)

Shakuntala · see KALIDASA

shale (shāl), sedimentary rock formed by the consolidation of mud or clay, having the property of splitting into thin layers parallel to the bedding planes upon which the rock was deposited Shales containing abundant carbonaceous matter grade into bituminous coal, and some of these carbonaceous shales are a possible source of petroleum (oil shales)

Shalem (shā'lĕm) [Heb ,=peace], unidentified town, near Shechem Gen 33 18

Shaler, Nathaniel Southgate (shā'lur), 1841–1906, American geologist, b Newport, Ky , grad Harvard, 1862 He was at Harvard from 1864, as professor of paleontology (1869–88) and of geology (1888–1906) and as dean of the scientific school (from 1891) Shaler served (1873–80) as head of the geological survey of Kentucky and as director (1884–1900) of the Atlantic division of the U S Geological Survey His works include *The United States of America* (1894), *The Individual* (1900), and *Man and the Earth* (1905) See his autobiography (1909)

Shalim (shā'lĭm) [Heb ,=land of foxes], unidentified region, perhaps N of Jerusalem 1 Sam 9 4

Shalisha (shā'lĭshā), region of Palestine, probably W of Shiloh 1 Sam 9 4 BAAL-SHALISHA may have been in it

Shallecheth (shăl'ĕkĕth, shăl'ăkĕth) [Heb ,=falling down], gate of the Temple 1 Chron 26 16

shallot (shulŏt') [O Fr], perennial plant (*Allium ascalonicum*) of the lily family, closely related to the onion, leek, and garlic, a native of Asia and supposedly introduced into Europe from Ascalon by Crusaders It is cultivated for both its leaves and its bulbs The plant is easily propagated from the cloves or bulblets The flavor is similar to garlic, but milder It is less known in the United States than in Europe Scallion is a name sometimes used for shallots, leeks, and onions

Shallum (shă'lum) [Heb ,=retribution] **1** Died c 749 B C , king of Israel for a month He killed King Zachariah for the throne and was himself killed by Menahem. 2 Kings 15 13–15 **2** King of Judah see JEHOAHAZ **3** Husband of Huldah 2 Kings 22 14 **4** Chief of a family of porters 1 Chron 9 17 Meshullam Neh 12 25 **5** See MEHHELEMIAH **6** Ruler over part of Jerusalem Neh 3 12 **7** Priest 1 Chron 6 12,13, Ezra 7 2 Meshullam 1 Chron 9 11, Neh 11 11 **8** See SHILLEM **9** Simeonite 1 Chron 4 25 **10** Ephraimite 2 Chron 28 12 **11, 12** Men who had foreign wives Ezra 10 24,42 **13** Descendant of Jerahmeel 1 Chron 2 40

Shallun (shă'lun), one who rebuilt the walls of Jerusalem Neh 3 15

Shalmai (shăl'māī, shăl'mī), family returned from exile Ezra 2 46, Neh 7 48

Shalman, name occurring in a prophecy, perhaps for SHALMANESER Hosea 10 14

Shalmaneser I (shălmănē'zŭr), d 1290 B C , king of Syria He restored the great temple at Assur, established a royal residence at Nineveh, and removed the capital from Assur to Calah, c 18 mi S of Nineveh **Shalmaneser III,** d 825 B C , claimed to have defeated (c 854 B C) Benhadad and AHAB, king of Israel, at Karkar (Kirharaseth) on the Orontes His victory was probably indecisive since he failed to reach Damascus or fight his other enemies He received presents from Jehu of Judah and subdued some Median tribes, but was defeated by the Chaldaeans in Armenia In Calah he built an enormous tower, or ziggurat, 167 ft long He recorded his conquests in Syria and Palestine on a great black obelisk which is now in the British Museum **Shalmaneser V,** d 722 B C , succeeded Tiglath-pileser IV (728 B C) He attacked Hosea, king of Israel, and captured Samaria (2 Kings 17 3-6) The claim of Sargon to its capture has not been substantiated

Shama (shā'mu) [Heb ,=obedient], one of David's mighty men 1 Chron 11 44

shaman (shā'mun, shă'mŭn, shă'mun), among primitive peoples, a healer, priest, or magician. The name is applied especially to one who uses mediumistic methods, as among the Siberian tribes, where the name originated The shaman is sometimes distinguished from the Indian medicine man, who resorted to dreams and visions for help and guidance, but there is no difference in the functions performed Either name may be used to designate the individual, found in all primitive groups, who was the earliest to practice the medical, magical, and religious arts Both make use of spells or incantations as well as of material remedies, where such are known (e g , quinine was used by the Brazilian Indians) Both are specialists in the use of supernatural agencies, whether these are conceived as personal spirits or as impersonal mysterious power like mana or manito In working a cure the shaman goes into a trance or ecstasy, characterized by hallucinations and sometimes convulsions, in which his familiar in the spirit world – which may be an animal or the soul of an ancestor or a dead shaman—takes possession of him Treatment of the patient includes suggestion and incantations, bloodletting, blowing and suction, and pounding, kneading, and massage designed to remove from the body the cause of the disease, which may be a material object (e g , a piece of bone or quartz), a disease demon, or a spell cast upon him by a sorcerer The shaman knows how to induce in himself the trancelike state—by fasting, autosuggestion, drugs or intoxicants, exhausting dances or gyrations, and self-torture He enhances his authority and the awe and fear with which he is regarded by wearing special garments and by the use of hypnotism, ventriloquism, and sleight of hand. His spells or oracles consist of a combination of gibberish and archaic words and phrases The oracles at Delphi were uttered by a medium and had to be interpreted by a priest The shaman is thought to be able to change his form, talk with spirits, and travel to the other world He can make rain, foretell the future, and detect thieves and murderers which makes him greatly feared If he can cure disease and bring benefits to his clients, he can also cause disease, death, and ill luck If too many of his patients die or he is suspected of sorcery, he may be put to death In some groups he gains his office by inheritance, but any individual possessing the peculiar aptitudes required may gain recognition as a shaman Women shamans are common among some peoples Among the Plains Indians all young people were encouraged to seek supernatural guidance from dreams and visions. The mediumistic shaman is often a nervously unstable person, sometimes an epileptic The American medicine man was usually a person of superior intellect and ability whose advice was sought by chiefs and elders See J L Maddox, *The Medicine Man a Sociological Study of the Character and Evolution of Shamanism* (1923), W T Corlett, *The Medicine-Man of the American Indian* (1935); W Z Park, *Shamanism in Western North America* (1938)

Shamariah (shă'murī'u) [Heb ,=whom God keeps], son of Rehoboam 2 Chron 11 19

Shamed (shā'mĭd), son of Elpaal 1 Chron 8 12.

Shamer (shā'mur) **1** Temple singer 1 Chron 6 46 **2** Grandson of Heber 1 Chron 7 34. Shomer 1 Chron 7 32

Shamgar (shăm'gar), deliverer and apparently a judge of Israel He slew 600 Philistines with an ox goad Judges 3 31, 5 6

Shamhuth (shăm'hŭth) see SHAMMAH

Shamir (shā'mĭr) [Heb ,=thorn] **1** Levite serving in the Temple 1 Chron 24 24 **2** Unidentified town, S Palestine Joshua 15 48 **3** Unidentified place, E Palestine, home of the judge Tola Judges 10 1,2

Shamma [Heb ,=loss], Asherite 1 Chron 7 37

Shammah (shă'mu) [Heb ,=desolation] **1** Jesse's third son 1 Sam 16 9, 17 3 Shimea 1 Chron. 20 7 Shimeah 2 Sam 13 3,32 Shimma 1 Chron. 2 13 Shimeah 2 Sam 21 21 **2** Duke of Edom, grandson of Esau Gen 36 13,17, 1 Chron 1 37. In the confusing list of David's mighty men the name Shammah occurs several times, and the references may be to the same man 2 Sam 23 11, 25,33 The correspondences with the parallel list in 1 Chron 11 are also obscure, but Shammoth of 1 Chron 11 27 seems to be the same as Shammah of 2 Sam 23 25—as well as the captain Shamhuth of 1 Chron 27 8 – and the Shage of 1 Chron 11 34 seems the same as Shammah of 2 Sam 23 33

Shammai (shă'mī) [Heb ,=desolated] **1** Jerahmeelite 1 Chron 2 28 **2, 3** Descendants of Caleb. 1 Chron 2 44, 4 17

Shammai, 1st cent A D , Jewish scribe, vice president of the Sanhedrin His fame rests upon his opposition to the liberal teachings of HILLEL. Shammai's interpretation of the laws was extremely rigorous The conflict between the schools of Shammai and Hillel continued to rage long after the death of the leaders, the school of Hillel finally winning

Shammoth: see SHAMMAH

Shammua or Shammuah (both shă'mūū) **1** Son of David and Bathsheba 1 Chron 14 4, 2 Sam 5.14. Shimea 1 Chron. 3.5 **2** Reubenite spy. Num.

13 4 **3** Father of ABDA **2.** Neh 11 17 Shemaiah 1 Chron 9 16 **4** Priest. Neh 12 18

Shamo see GOBI

Shamokin (shŭmō'kĭn), borough (pop 18,810), E Pa., ESE of Sunbury and on Shamokin Creek, settled c 1836 The borough is a mining and industrial center in an anthracite region Textiles and machinery are produced here

Shamrock, city (pop 3,123), extreme N Texas, E of Amarillo in the Panhandle, settled 1900, inc 1911 In what was once ranching country a large natural-gas field was discovered and Shamrock now has a gas refinery and other plants

shamrock, a plant with leaves composed of three leaflets which, according to legend, was used by St Patrick in explaining the doctrine of the Trinity and which is now used as the emblem of Ireland An artificial or real shamrock leaf is customarily worn on St Patrick's Day The actual species of the true shamrock has long been debated, but the plants most often favored and used as an emblem are the white clover (*Trifolium repens*), the black medic (*Medicago lupulina*), the wood sorrel (*Oxalis acetoselia*), a hop clover (*Trifolium dubium* or *minus*), and, formerly, the water cress (*Rorippa nasturtium aquaticum*)

Shamsherai (shăm'shērā'ī, shăm'shērī), descendant of Benjamin 1 Chron 8 26

Shamyl (shä'mĭl), c 1798–1871, leader of the Moslem rebellion against Russian domination in E Caucasia As imam (religious and political leader) of the rebellious mountaineers from 1834 to 1859, he conducted a Holy War by effective guerrilla methods and stirred his adherents to religious and nationalist fanaticism The conclusion (1856) of the Crimean War enabled the Russians to send more forces to the Caucasus Shamyl was captured in 1859, and the rebels were gradually pacified Taken first to St Petersburg and then to Kaluga, Shamyl was allowed in 1870 to go to Mecca, where he died

Shang (shang) or **Yin,** dynasty of China, which ruled, according to traditional dates, from c 1766 to c 1122 B C or, according to some modern scholars, from c 1523 to c 1027 B C The legendary founder, T'ang, is said to have defeated the last Hsia ruler, Chieh His successors consolidated an empire comprising modern Szechwan, Honan and Hopeh to the eastern shore, and part of Korea They warred against the Huns and against the Chou, who finally defeated the last Shang emperor, Shou Archaeological remains at one of the capitals, near modern Anyang, suggest (along with later records) that the Shang had a complex agricultural civilization of peasants and city-dwelling craftsmen with a priestly class, nobles, and a king The Chinese family system seems to have been already developed

Shanghai or **Shang-hai** (both shăng'hī'), city (pop 4,300,630), m, but independent of, Kiangsu prov, China It is the largest city of China and one of the world's greatest seaports It is on the Whangpoo river, a narrow tributary of the Yangtze The name dates from A D 1280, but the old walled city was unimportant until it was opened to foreign trade by the Treaty of Nanking in 1842, certain sections were ceded to foreign powers In 1863 the United States and Great Britain consolidated into the International Settlement the areas which had been conceded to them The French concession, however, always remained separate in government These areas formerly under foreign control constitute the modern section of the city Here are broad streets and handsome boulevards lined with imposing buildings, including banks, commercial houses, consulates, hotels, and department stores, many of skyscraper height The Bund (which runs along the waterfront), Nanking Road, and Bubbling Well Road are the most noted thoroughfares Nothing in the architecture of this section suggests that Shanghai is not a Western city It is only in the original native town, no longer walled, that typical Chinese buildings are found Shanghai, the only large port of central China which is not cut off from the interior by mountains, is the commercial center and outlet for the productive Yangtze basin, and it regularly handles about half of China's foreign shipping Great sums are expended to keep open its rather poor harbor Shanghai is the terminus of railroads to most parts of China, and it maintains regular air service to Peiping, Nanking, Hankow, and abroad There are many colleges supported by foreign missions and by the government, and the city is second only to Peiping in the extent of its educational activities Leading institutions include the National Chiao-Tung Univ, the National Medical College, Saint John's Univ, (Episcopal), the Univ of Shanghai (Baptist), and the Université l'Aurore (Jesuit) Shanghai is one of the leading manufacturing cities in China The chief industry is cotton spinning and weaving, of great importance are silk weaving, ironworking, shipbuilding, tobacco processing, and paper, flour, and oil milling. In recent years Shanghai has undergone repeated attacks Japan invaded and bombed the native city in 1932 to force the Chinese government to break an unofficial boycott of Japanese goods There was great havoc, especially in the Chapei quarter, and China capitulated in May. Further trouble with the Japanese occurred in 1935. In Aug, 1937, as part of the general Japanese hostilities against China of the Second Chino-Japanese War, a campaign was launched to capture the native city, and stubborn resistance was overcome in November. A puppet municipal regime was later set up The Japanese, who had earlier occupied the French concession, seized the undefended International Settlement on Dec 8, 1941 The city was restored to China at the end of the Second World War With the abolition of all foreign holdings in 1946 the Chinese central government for the first time gained control of the entire city Shanghai fell to the Communists in 1949 in their sweep through central and S China See W C Johnstone, *The Shanghai Problem* (1937), G E Miller, *Shanghai, the Paradise of Adventurers* (1937), E O Hauser, *Shanghai, City for Sale* (1940)

Shanhaikwan, China see LINYÜ

Shankin, England see SANDOWN-SHANKLIN

Shannon, Charles Hazelwood, 1865–1937, English portrait and figure painter, etcher, and lithographer. Among his paintings are *Bunch of Grapes* and *Lady with the Green Fan* (Municipal Art Gall, Dublin) Many others are in private collections The British Museum print room has sets of his lithographs and etchings

Shannon, Sir James Jebusa, 1862–1923, English portrait and figure painter, b Auburn, N Y. He was long a popular London portraitist Among his paintings are *Girl in Brown* (Corcoran Gall), *Miss Kitty* (Carnegie Inst, Pittsburgh), *Fairy Tales* and *Magnolia* (Metropolitan Mus), and *Flower Girl* (Tate Gall, London)

Shannon, Wilson, 1802–77, American political leader, b Mt Olivet, Belmont co, Ohio, educated at Ohio Univ and Transylvania Univ A lawyer, he entered politics and was governor of Ohio (1838–40, 1842–44), minister to Mexico (1844–45), and a U S Representative (1853–55) In Aug, 1855, he succeeded Andrew H Reeder as territorial governor of KANSAS and was barely able to avert warfare between the proslavery and Free State forces His resignation one year later was quickly accepted, and Shannon ultimately settled in Lawrence to practice law

Shannon, principal river of Ireland It rises in the mountains of Co Cavan and flows generally south c 220 mi through Loughs Allen, Boderg, Forbes, Ree, and Derg to Limerick, where it turns west in a broad estuary (c 70 mi long) to the Atlantic The entrance is marked by Loop Head and Kerry Head Towns along the Shannon include Carrick, Athlone, Portumna, Killaloe, and Limerick The main tributaries are the Boyle, Inny, Suck, Brosna, and Fergus The river, connected with E Ireland by the Royal Canal and the Grand Canal, formed an important commercial waterway Large vessels, however, cannot ascend above Foynes, and Limerick is the head of estuary navigation There is an important hydroelectric plant between Lough Derg and Limerick The fisheries of the river are valuable

Shansi (shăn'sē'), Mandarin *Shan-hsi,* province (60,393 sq mi, pop 11,631,026), E China The capital is Taiyüan It is bounded on the west and the south by the Yellow River Much of Shansi is mountainous Its soil is fertile loess, but scant rainfall and widespread erosion (following destruction of the forest cover) prevent the raising of sufficient food for the population's needs Crops include millet, wheat, barley, kaoliang, and cotton Livestock is raised in the northern grazing areas, and there is an exportable surplus of wool and hides Coal, the most abundant mineral, is sometimes found with iron The best communication system of the province is its rail net with connections to central and N China There are few good roads, and none of the internal rivers, of which the Fen is the longest, are navigable

Shan State (shan'), division (c 56,000 sq mi, pop. 1,699,585) of E Burma The capital is Lashio Essentially the Shan State is a hilly plateau, continuous with the plateaus of Yunnan prov, China, to the northeast and of Thailand to the southeast The gorge of the Salween river cuts across it The valleys and tableland are inhabited by the Shans, who in language and customs resemble the Siamese and the Laos They are Buddhists and are mostly engaged in agriculture Among them live Burmese, Chinese, and Karens The hills are held by primitive tribes, notably the head-hunting Was, who form a numerous group in the N Shan State and along the Chinese border The Shans dominated most of Burma from the 13th to the 16th cent In the 19th cent they were distributed among more than 30 petty states, most of them paid tribute to the Burmese king Under British rule in Burma, the Shan states were ruled by their hereditary chiefs as feudatories of the British crown In 1922 most of them were joined in the Federated Shan States, under a commissioner who also administered the Wa states This arrangement survived the constitutional changes of 1923 and 1937 in Burma proper A single Shan state within the union of Burma, including the former Wa states, was formed in 1948. Represented in the union government by members of parliament and a cabinet minister, it retains a large degree of self-rule The Bawdwin mine is an important producer of lead, silver, copper, and other metals, and there are smelters at Namtu.

Shantar Islands (shăntär'), archipelago, area 965 sq mi, Khabarovsk Territory, RSFSR, in the Sea of Okhotsk Discovered in 1645, they are used mainly for fishing and hunting

Shantung or **Shan-tung** (both shän'tŭng'), province (56,655 sq mi, pop 38,539,930), N China, on the Pohai and the Yellow Sea Tsinan is the capital Shantung is venerated by Chinese as the birthplace of the ancient philosophers Confucius and Mencius and as the site of Tai, a sacred peak Off the coast (c 380 mi long) there is extensive fishing Tsingtao and Yentai are the chief ports Central and E Shantung are mountainous and have abundant coal and iron and some lead, copper, and mica The level area of the west is part of the delta of the Yellow River, which crosses Shantung to empty into the Pohai Although the soil is very fertile, famine occasionally results from inadequate rainfall Wheat, kaoliang, millet, corn, beans, peanuts, and cotton are the main crops Mulberry trees are raised for silk culture The leading industries are cotton and silk spinning and flour milling Several rail lines running to Tientsin, a section of the Grand Canal, and many paved roads provide good communications Strategically located near Manchuria, Shantung has often attracted foreign interference, and for a time (1898–1930) Great Britain leased the territory of WEIHAIWEI Germany leased KIAOCHOW, which was taken by the Japanese in the First World War In recent years many Chinese have migrated from Shantung to Manchuria to escape extreme overcrowding

Shantung see SILK

shanty, in music see CHANTEY

Shaoking (shou'jĭng', -shĭng'), Mandarin *Shao-hsing,* city (pop 92,573), N Chekiang prov, China It is an important commercial center Its manufactures include silks and satin and brass and pewter implements

Shapham (shā'făm) (Heb =sheep) **1** Chief Gadite 1 Chron 5 12

Shaphan (shā'făn) (Heb =coney) **1** Trusted secretary of King Josiah He was the father of friends of Jeremiah and grandfather of Gedaliah 2 Kings 22 3–14, 2 Chron 34 8,15–22, Jer 26 24, 29 3, 36 10–12, 39 14, 40 5 **2** Father of the idolatrous Jaazaniah Ezek 8 11

Shaphat (shā'făt) (Heb =judge) **1** Prince of the blood in Judah 1 Chron 3 22 **2** Father of Elisha 1 Kings 19 16,19 2 Kings 3 11, 6 31 **3** One of the spies Num 13 5 **4** Officer under David 1 Chron 27 29 **5** Gadite 1 Chron 5 12

Shapher (shā'fur), unlocated desert resting place of the Jews Num 33 23,24

Shapinsay (shă'pĭnsā), island (6,761 acres, pop 584), off N Scotland, one of the Orkney Islands It is E of Pomona Balfour Castle is on Shapinsay

Shapiro, Karl (shupēr'ō), 1913–, American poet, b Baltimore, studied at the Univ of Virginia and Johns Hopkins His *V-Letter* (1944), written on active duty in the Pacific, won the Pulitzer Prize for poetry in 1944 *Essay on Rime* (1945), a verse essay of criticism composed, without a library, as a sergeant in the medical corps, drew wide attention His earlier volumes, *Person, Place, and Thing* (1942) and *Place of Love* (1943), both appeared while he was in the army *Trial of a Poet* (1947) confirmed his standing as a poet of intellect and originality

Shapley, Harlow (shăp'lē), 1885–, American astronomer, b Nashville, Mo, grad Univ of Missouri (B A, 1910), Ph D Princeton, 1913 He was astronomer at Mt Wilson Observatory, from 1914 to 1921, before he became director of Harvard Observatory He has won distinction as a lecturer in foreign universities and in America and has done notable research work in photometry and spectroscopy, devoting particular study to the structure of the universe His investigations in the fields of Cepheid variables and globular clusters are especially important His works include *Galaxies* (1943)

Shapur I (shăpōōr') or **Sapor I** (să'pôr), d 272, king of Persia (241–72), son and successor of Ardashir I, of the Sassanid or Sassanian dynasty He was an able warrior king Although he was defeated by the Roman emperor, Gordian III, in 242, Gordian's successor, PHILIP (Philip the Arabian), concluded a peace with him guaranteeing Shapur's power in Armenia and Mesopotamia Shapur put down a revolt of the Armenians in 244 In 260 he achieved his greatest triumph by defeating Emperor VALERIAN thoroughly at Edessa—a landmark in the decline of Rome The rise of ODENATHUS of Palmyra cut into Shapur's territories and even threatened Ctesiphon. Yet, Shapur not only maintained Persian power in the west but also rebuilt Persian economy

Shapur II or **Sapor II,** 309–79, king of Persia (309–79), of the Sassanid or Sassanian dynasty, called Shapur the Great He was the posthumous son of Hormuz II and therefore was born king His wisdom and competence as a ruler were thoroughly admirable. The Arabs of the Persian Gulf area had

taken advantage of his minority to overrun parts of Persia and even threaten Ctesiphon When he was grown, Shapur swept upon them and had his revenge Warfare with the Romans went on over the control of Armenia Shapur's army defeated Constantius II, and Julian was killed (363) when retreating from an attack on Ctesiphon His realm thus assured, Shapur devoted all of his last years to successful efforts to build up Persian prosperity

Shapur III or Sapor III, d 388, king of Persia (383–88), of the Sassanid or Sassanian dynasty, son of Shapur II, successor of his uncle, Ardashir II He warred with the Arabs and took up the long-lasting struggle with Rome over Armenia He lost part of that territory The circumstances of his death are unknown, he may have died in a sandstorm, or he may have been killed by rebellious subjects. He had a large rock sculpture made near Kermanshah, representing his father and himself

Sharai (shā'rāī, shārā'ī), one who had a foreign wife Ezra 10 40

Sharaim (shārā'īm) [Heb ,=two gates], unidentified town, SW Palestine Joshua 15 36

Sharaku (shā'rākōō, sha'rak), fl 1794, Japanese color-print artist, whose real name was Toshusai Saito A professional performer of *no* drama and attached to a noble family, he produced in 1794 many full-length portraits of actors of the *kabuki*, or popular, stage The drawing is vigorous and the coloring beautiful Of these prints, 136 have survived Nothing is known of Sharaku after 1794. See H G Henderson and L V Ledoux, *The Surviving Works of Sharaku* (1939)

Sharar (shā'rār), same as SACAR 1.

share, in finance see STOCK

share cropping, system of farm tenancy common in the United States Similar arrangements exist in S Europe and in Asiatic countries In the United States the institution arose at the end of the Civil War out of the plantation system Many planters had ample land but little money for wages At the same time most of the former slaves were unaccustomed to wage labor, uneducated, and impoverished The solution was the share-cropping system, which continued the workers in the routine of cotton cultivation under rigid supervision Economic features of the system were gradually extended to poor white farmers The cropper brings to the farm only his own and his family's labor Most other requirements—land, animals, equipment, and seed—are provided by the landlord Generally he also advances credit to meet the living expenses of the cropper family Most croppers work under the close direction of the landlord, who markets the crop and keeps accounts Normally in return for their work they get a share (usually half) of the money realized From this share is deducted the debt to the landlord High interest charges, emphasis on production of a single cash crop, slipshod accounting, and chronic cropper irresponsibility are among the abuses of the system However, it is argued that the arrangement enables landlords to obtain a reliable labor force for the crop season and that it provides croppers with greater security than they would have as wageworkers Economically the croppers are merely hired hands who are paid, not a stipulated amount of money, but in terms of a share in the crop In recent years farm mechanization and a marked reduction in cotton acreage have tended to reduce the number of share croppers See T J Woofter, *Landlord and Tenant on the Cotton Plantation* (1936)

Sharezer (rē'-), brother of ADRAMMELECH 2.

Shari (shā'rē), river, c 1,400 mi long, rising in central French Equatorial Africa It flows NW to Lake Chad and is partly navigable

shark, member of a group of fish more primitive than the bony fish The skeleton is cartilaginous, and the fish lack scales and an air bladder Dermal denticles, which consist of a bony base embedded in the skin and a projecting enamel-covered spine, roughen the surface of the body of most forms Sharks inhabit nearly all seas but are most abundant in warm waters The one fresh-water species lives in Lake Nicaragua Almost any kind of animal food, including carrion and refuse, is eaten by sharks The toothed mouth is on the ventral surface, but it is not necessary for the shark to swim upside down to secure its prey Sharks range in length from 2 to 50 ft The larger species are usually viviparous Many of the smaller forms lay eggs heavy with yolk and protected by horny coverings The great white shark or man-eater roves all warm seas and occasionally temperate ones Other sharks are the whale shark (the largest species) and the Greenland, basking, nurse, blue, sand, and hammerhead sharks The flesh of sharks is sometimes eaten, but it is generally coarse and unpalatable The liver oil of some is valuable as a source of vitamins and as a lubricant Shagreen and a durable tanned leather can be made from the skins In the Orient a gelatinous soup is made from shark fins See also DOGFISH

Shark Bay, inlet of the Indian Ocean, 150 mi long and 60 mi wide, W Western Australia. It has pearl-fishing grounds.

Shark Island: see FORT JEFFERSON NATIONAL MONUMENT.

Sharon (shā'rŭn, shă'rŭn) [Heb ,=plain], fertile plain between the mountains of central Palestine and the sea 1 Chron 5 16, Isa 33 9, 35 2, 65 10 Saron Acts 9 35 See ROSE OF SHARON

Sharon (shă'run, shă'-) **1** Resort town (pop 1,611), NW Conn , in the Taconics, inc 1739, shortly after settlement Fine old homes edge a broad main street Noah Webster wrote his *Spelling Book* when he taught school here **2** Town (pop 3,737), E Mass , SW of Boston, settled c 1650, inc 1775 **3** City (pop 25,622), NW Pa , on the Shenango river near the Ohio line, settled c 1800, laid out 1815, inc as a borough 1841, as a city 1918 Its manufactures include metal and electrical products Bituminous coal is mined here Sharon grew with the advent of the Pennsylvania Canal and the railroad **4** Town (pop 530), E Vt , NE of Rutland It is the birthplace of Joseph Smith, founder of Mormonism, who is commemorated by a Barre granite monolith

Sharon Hill, residential borough (pop 4,467), SE Pa , near Philadelphia, inc 1890 The Convent of the Holy Child Jesus now occupies buildings erected for John Jackson's Quaker School, famous in the mid-19th cent There are brickyards here

Sharon Springs, resort village (pop 433), E central N Y , NW of Albany, inc 1871 Its sulphur springs are used for hydrotherapeutic treatments

Sharonville, village (pop 1,157), SW Ohio, NE of Cincinnati, surveyed 1796 It is a transportation center, with railroad shops and yards

Sharp, Cecil James, 1859–1924, English musician, best known for his researches in English folk music. He was principal (1896–1905) of the Hampstead Conservatory of music and in 1911 founded the English Folk Dance Society In the United States (1914 18) he collected folk songs in the Appalachian Mts , where he found many songs of English origin In addition to his many anthologies of folk song, he wrote *English Folk-Song Some Conclusions* (1907) and, with A P Oppe, *The Dance an Historical Survey of Dancing in Europe* (1924) See biography by A H Fox Strangways and Maud Karpeles (1933)

Sharp, Dallas Lore, 1870–1929, American educator and author, b Haleyville, N J , grad Brown, 1895 He was ordained a Methodist pastor in 1895 and was professor of English at Boston Univ from 1902 to 1929 His many books of nature essays include *Wild Life near Home* (1901), *Watcher in the Woods* (1903), *The Spirit of the Hive* (1925), and *The Seer of Stabindes* (1921), a boy's life of John Burroughs

Sharp, Granville, 1735–1813, English reformer, scholar, and abolitionist In 1772 he won a case which established the principle that any slave should become free upon reaching British land Sharp continued his abolitionist activities notably the promotion of a Negro colony in Sierra Leone which was unsuccessful He was also interested in many other reforms In 1776 he began agitation against the impressment of seamen Later he founded a Bible society Self-taught in Greek and Hebrew, he was noted for his studies in biblical texts, especially his *Remarks on the Uses of the Definitive Article in the Greek Text of the New Testament* (1798) He wrote many pamphlets on political questions See Prince Hoare, *Memoirs of Granville Sharp* (1820, 2d ed , 1828)

Sharp, James, 1618?–1679, Scottish divine He became prominent as a Presbyterian minister and a supporter of the resolutions of 1650, which paved the way to conciliation with the royalists by holding that persons not avowed enemies of the Covenant might join the army On behalf of the resolutioners (the more moderate church party which supported the resolutions) he went in 1657 to London to counteract the influence of the protestors (opponents of the resolutions) with Cromwell. In 1660 Monck sent him to see Charles II at Breda While apparently supporting the Presbyterian cause, Sharp seems to have been secretly advocating the restoration of episcopacy in Scotland After the Restoration he was appointed (1661) archbishop of St. Andrews, admittedly as a reward for his change of views, and thereupon embarked on a policy of severe repression of the principles of the Covenanters, a band of whom murdered him on Magus Moor In Scottish history Sharp is usually pictured as a hated figure

Sharp, William, pseud **Fiona Macleod** (fō'nŭ mŭkloud', fō'nu), 1855–1905, Scottish poet and man of letters Under his own name he wrote literary biographies, poems, *Earth's Voices* (1884) and others, and novels, notably *Silence Farm* (1899) With his wife he made the anthology *Lyra Celtica* (1896) Under the name Fiona Macleod, supposedly a talented Celtic lady, he wrote his best work, *Pharais* (1894), *The Mountain Lovers* (1895), and *The Washer of the Ford* (1896), as well as two plays, *The House of Usna* (1903) and *The Immortal Hour* (1908) The identity of "Fiona Macleod" was revealed only after Sharp's death See memoir by his wife, E H Sharp (1910)

Shar-Planina, Yugoslavia see ŠAR-PLANINA.

Sharpsburg. 1 Town (pop 834), NW Md see ANTIETAM CAMPAIGN. **2** Borough (pop 8,202), SW Pa., on the Allegheny river and near Pittsburgh, inc. 1842.

Sharpsville, borough (pop 5,129), NW Pa , near Sharon, inc 1874 Buhl Park, here, is a large recreation and sports center

Sharuhen (shārōō'hĕn), variant of SHAARAIM

Shashai (shā'shāī, shă'shī), one who had a foreign wife Ezra 10 40

Shashak (shā'shăk), descendant of Benjamin 1 Chron 8 14,25

Shasta, Mount (shă'stu), volcanic peak, 14,162 ft, high, N Calif , in the Cascade Range It was discovered c 1827 by Peter Skene Ogden The town of Mt Shasta is at the southwest foot of the peak

Shasta Dam, N Calif , in the Sacramento river and near Redding, built 1938–45 The huge dam, 602 ft, high and 3,500 ft long, is, with small Keswick Dam downstream, a unit in the CENTRAL VALLEY PROJECT Its power plant develops much energy, and the dam is also intended for flood control and improvement of navigation

Shatt el Arab (shăt'ĕl ă'rŭb), river, c 120 mi long, formed by the confluence of the Tigris and Euphrates rivers It flows through SE Iraq, then forms part of the Iraq-Iran border, and empties into the Persian Gulf It is navigable to Basra, the chief port of Iraq The broad, swampy delta is a rich agricultural area The name also appears as Shatt-el-Arab and Shatt-al-Arab

Shattuck (shă'tuk) farm town (pop 1,275), NW Okla , near the Texas line, settled 1904, inc 1906

Shaughnessy, Thomas George Shaughnessy, 1st **Baron** (shô'nusē), 1853–1923, Canadian railroad official, b Milwaukee, Wis He worked (1869–82) for the Chicago, Milwaukee and St Paul, and in 1882 he became purchasing agent of the Canadian Pacific Railway, of which later (1898–1918) he was president He was knighted in 1901 and raised to the peerage in 1916

Shaul (shôl) [Heb ,=SAUL] **1** Son of Simeon, eponym of the Shaulites Gen 46 10, Ex 6 15, Num 26 13, 1 Chron 4 24 **2** King of Edom 1 Chron 1 48 Saul Gen 36 37 **3** Same as JOEL 13

Shaulyai or **Shaulyay,** Lithuania see ŠIAULIAI

Shaunavon (shô'nuvun, shô-), town (pop 1,643), SW Sask , in the Cypress Hills SW of Swift Current It has grain elevators, flour mills, and cold-storage plants Coal is mined near by

Shaveh (shā'vĕ), unidentified valley near Salem Gen 14 17 This is possibly the same as the king's dale where Absalom placed his commemorative pillar 2 Sam 18 18

Shaveh Kiriathaim (kĭ'rēuthā'ĭm) [Heb ,=plain of KIRIATHAIM], unidentified place Gen 14 5

Shavli, Lithuania see ŠIAULIAI

Shavsha (shāv'shu) [Heb ,=warrior of God], David's scribe 1 Chron 18 16 Seraiah 2 Sam 8 17 Sheva 2 Sam 20 25 Shisha 1 Kings 4 3

Shaw, Albert, 1857–1947 American editor, b Shandon, Ohio, grad Grinnell College, 1879, Ph D Johns Hopkins, 1884 In 1891 he established, with others, the *Review of Reviews*, which he edited until 1937, the year of its merger with the *Literary Digest* His extensive writings on municipal government and public relations include *Political Problems of American Development* (1907), and he wrote as well a biography of Lincoln (2 vols , 1929).

Shaw, Anna Howard, 1847–1919, American woman-suffrage leader, b England She came to the United States in early childhood and grew up on a farm in Michigan She received a degree in theology (1878) and one in medicine (1885) from Boston Univ , and, although the Methodist Episcopal Church refused to allow her to preach, she was ordained by the Methodist Protestant denomination She had filled several pastorates in Massachusetts when, in 1888, she met Susan B Anthony and thereafter devoted her life to working for woman suffrage She was vice president at large (1892–1904) and president (1904–15) of the National American Woman Suffrage Association In Miss Anthony's last years, she was her constant associate Dr Shaw campaigned in every state where a suffrage measure was under consideration she was one of the most effective speakers of the suffrage movement See her autobiography, *The Story of a Pioneer* (1915)

Shaw, George Bernard, 1856–, British dramatist, b Dublin He left school at 14 to work in an estate agent's office In 1876 he went to London, whither his mother and his sister had preceded him For his first nine years there he made only a few pounds, being supported by his mother's music teaching and a small allowance from his father Yet in the years 1879–83 he wrote his five novels, *Immaturity*, *The Irrational Knot*, *Love among the Artists*, *Cashel Byron's Profession*, and *An Unsocial Socialist* Several of these appeared serially in small socialist papers After some journalistic hack work, Shaw became (1888) music critic for the *Star* For four years from 1890 he was music critic for the *World* His unacademic, lively, and individual music reviews were read with interest and infected others with his own enthusiasm for Wagner In 1895 he became dramatic critic for the *Saturday Review*, a position he continued to hold until his own plays brought him fame and a living His interest in economics had been stimulated as early as 1882 by hearing Henry George speak. The reading of Marx's *Das Kapital*

turned his allegiance to socialism, and he was one of the founders of the famous FABIAN SOCIETY It was through Shaw that Sidney Webb joined it Through his friends Sidney and Beatrice Webb he met Charlotte Payne-Townshend, whom he married in 1898 Shaw's early plays were produced only at small theaters *Widowers' Houses*, with a plot based on the slum landlordism familiar to him from his rent collecting in Dublin, was the first to be produced (1892), in an independent theater *The Philanderer* (written 1893) was not presented until much later, it is one of the least successful of his plays *Mrs Warren's Profession* (written 1893), in which the leading character is a procuress, was banned in England until 1924, but was produced privately in 1902 by the Stage Society, it was produced (1905) by Arnold Daly in New York These three plays were published (1898) as the "unpleasant" plays in the volumes *Plays Pleasant and Unpleasant* The "pleasant" plays were *Arms and the Man* (written and presented 1894), *Candida* (written 1894, played by Janet Achurch, 1897, produced with great success by Arnold Daly in New York in 1904), the first of the characteristically Shavian plays with dialogue that sparkles with paradoxes, and *You Never Can Tell* (written 1895, produced for a short run in 1900) The plot of *The Devil's Disciple* (written 1896, presented 1899) concerns the American Revolution, as produced (1897) by Richard Mansfield in New York, it brought Shaw financial returns which enabled him to give up his reviewing *Caesar and Cleopatra* (1899) was a historical extravaganza, a genre which has since been popular *Captain Brassbound's Conversion* was written in 1899 for Ellen Terry, but was not played by her until 1906 These three plays were published in 1900 as *Three Plays for Puritans* Shaw had corresponded with Ellen Terry for some years before he finally met her in 1900, a selection of their letters was published in 1931 *Man and Superman*, considered very startling in its frank discussion of the relations between men and women, was published in 1903 but was not produced till 1905 It has been several times revived *John Bull's Other Island* (1904), about Ireland, was written at the request of W B Yeats for the Irish Literary Theatre *Major Barbara* (produced 1905) deals sympathetically with the Salvation Army *The Doctor's Dilemma* was produced in 1906 *Getting Married* (produced 1908), though one of his lesser plays, was a modest success *The Shewing-up of Blanco Posnet*, censored in England, was produced (1909) at the Abbey Theatre In the farcical *Fanny's First Play* (1911) Shaw ridiculed dramatic critics *Androcles and the Lion* (1911), the gentlest of Shaw's plays, has genuine religious emotion *Pygmalion*, written for Mrs Patrick Campbell, was produced in 1912 *Heartbreak House* was begun in 1913 but not produced until after the First World War, during which Shaw's outspoken pacifism made him unpopular, it was presented in New York in 1920, in London in 1921 *Back to Methuselah* was produced first in New York by the Theatre Guild, and in England in 1924. *Saint Joan* (produced 1924), a full, rich tragedy of Joan of Arc, is usually considered Shaw's masterpiece He was awarded the 1925 Nobel Prize in Literature, but refused to accept the money Two later plays, *The Apple Cart* (pub 1929) and *Too True to Be Good* (1932), were produced but had Shaw's fault of wordiness with less than his usual wit Shaw's period of activity in the theater and in literature extended for almost 60 years In the course of these years he expressed himself on all subjects with great frankness, sometimes with wisdom, but always with wit, the prefaces to his published plays are perhaps the best expressions of his philosophy His books on widely varying subjects include *The Quintessence of Ibsenism* (1891), *The Perfect Wagnerite* (1898), *The Intelligent Woman's Guide to Socialism and Capitalism* (1928), and *Music in London, 1890–94* (3 vols, 1931). Shaw has been most of his life an ardent vegetarian and a teetotaler His complete works were published in 30 volumes in 1930–32 A large body of literature about Shaw has appeared, including biographies by G K Chesterton (1909), Archibald Henderson (1911), Frank Harris (1931, called an unauthorized biography), and Hesketh Pearson (1942) and a study by E. C. Wagenknecht (1929)

Shaw, Henry Wheeler: see BILLINGS, JOSH

Shaw, Leslie Mortier, 1848–1932, American Secretary of the Treasury, b. Morristown, Vt, grad State Univ. of Iowa law school, 1876 He practiced law in Denison, Iowa, became a strong advocate of the gold standard, and was (1898–1902) governor of Iowa He served (1902–7) as Theodore Roosevelt's Secretary of the Treasury and then took up banking in New York

Shaw, Richard Norman, 1831–1912, British architect Breaking away from the current Victorian house designs and returning to the Queen Anne and Georgian styles and to traditional English craftsmanship and use of materials, he became the leader of a revolution in domestic architecture Shaw designed numerous London and country houses The economical small houses which he designed in the late 1870s for the Bedford Park housing development had beneficial influence throughout England Shaw's most important work was the New Scotland Yard (1891) He became a member (1877) of the Royal Academy of Arts, retiring in 1901. He wrote *Architectural Sketches from the Continent* (1858). See study by Sir R T Blomfield (1940)

Shaw, Robert Gould, 1837–63, Union hero in the Civil War, b Boston, educated at Harvard Colonel of the 54th Massachusetts Regiment, the first body of Negro troops from a free state, he was killed leading it in the attack on Fort Wagner, Charleston, S C A sculptured figure of him by Saint-Gaudens is on Boston Common

Shaw, town (pop 1,669), NW Miss , NE of Greenville, in a rich cotton area

Shawangunk Mountain (shŏng'gŭm, -gŭngk), ridge of the Appalachian system, SE N Y , extending northeast from its junction with Kittatinny Mt near the N J border Sam's Point (2,255 ft high), near Ellenville, is one of the best-known elevations in the ridge, which has a maximum altitude of 2,289 ft

Shawano (shô'nō, shô'wunō), city (pop 5,565), co seat of Shawano co , NE Wis , on the Wolf and NW of Green Bay, settled c 1840, inc 1874 It grew with lumbering and is a farm trade center with manufactures of paper and wood products The Menominee Indian Reservation is north, and Shawano Lake is east

Shawano Indians · see SHAWNEE INDIANS

Shawinigan Falls (shuwī'nĭgun), city (pop 20,325), S Que , on the St Maurice and NW of Trois Rivières, founded 1899, inc 1909 Just north are the falls of the St Maurice, 150 ft high, with a hydroelectric station supplying power for the city's pulp and paper mills and plants whose products include aluminum, abrasives, electrodes, chemicals, cellophane, and shoes

shawl, a wrap, usually a square or oblong cloth worn loosely over the shoulders, used in most parts of the world at different periods and known by different names The term is of Persian origin, and the shawl was made in Persia, India, and central Asia The cashmere shawl is famous for its beauty and workmanship Made in the Vale of Kashmir, from the fine under wool of the Tibetan or Kashmir goat, it was of the finest texture Its characteristic by an intricate pattern of large and small floral motifs The borders are of varying widths with designs of small floral motifs The shawl may be woven in one piece, but it is often woven in sections and sewn together with invisible stitches Another type of cashmere shawl was woven with a fine twilled ground embroidered all over in small patterns Indian shawls were imported into Europe late in the 18th cent At Paisley, Scotland (c 1820), hand looms turned out beautiful shawls patterned after Indian models Broché shawls having tapestry-like patterns were made about the same time Norwich, England, produced fine goods for a short time Shawls were fashionable in France early in the 19th cent and in America a little later, they were made in many styles of crepe, embroidered and fringed, and of *barège* printed in cashmere patterns The beaver shawl was a heavy single one for common use Shetland shawls, made from the native wool of the islands, spun and knitted or crocheted by hand, are marvelously light and warm The Spanish shawl of silk with long knotted fringe and gay silk embroidery was sometimes made in China for Spanish trade Lace shawls were fashionable in the 19th cent and Chantilly lace was much used The mantilla, a triangular shawl of a type of lace known as blonde, is worn on the head and falls over the shoulders Formerly universal in Spain and Spanish America, it is still much worn in those lands.

Shawnee (shô"nē') **1** Village (pop 1,475), S central Ohio, SW of Zanesville **2** City (pop 22,053), co seat of Pottawatomie co , central Okla , on the North Canadian river and SE of Oklahoma City, inc 1894 Formerly an oil boom town, it is more important now as the trade and rail center for a rich agricultural area A U S Indian tuberculosis sanatorium is here Shawnee is the seat of Oklahoma Baptist Univ (coeducational) and a Benedictine junior college

Shawnee Indians or **Shawano Indians** (shô'wunō), North American Indian tribe of Algonquian linguistic stock In the mid-17th cent part of the tribe was settled in W South Carolina and part in N Tennessee These two bodies, divided by the Cherokee, migrated constantly, from South Carolina to S New York, thence to W Pennsylvania and into Ohio, where they finally united in the mid-18th cent They then numbered some 1,500 The warlike Shawnee after their reunion in Ohio participated in almost every war of the Old Northwest By the Treaty of Greenville (1795) they were obliged to give up their lands in Ohio and move to Indiana. The Shawnee Prophet arose (c 1800) He and his followers, cooperating with TECUMSEH, established themselves on a village at the mouth of the Tippecanoe river in Indiana It was this village that William Henry Harrison destroyed in the battle of Tippecanoe. The Shawnee were thereafter moved to Missouri, to Kansas, and finally to Oklahoma Today living on reservations in Oklahoma, they number some 1,000 See T W Alford, *Civilization* (1936)

Shawnee Prophet, 1768–1837, North American Indian of the Shawnee tribe, twin brother of TECUMSEH His Indian name was Tenskwatawa He is said, on not very good authority, to have been backward and dissolute before he received his message from the spirit world and announced himself as a prophet bearing a revelation from the Indian master of life The message urged the renunciation of the acquired ways of the white man and the return to Indian modes and customs in all matters His doctrines were spread over a wide area of scattered tribes, and his prestige was enhanced by his foretelling a solar eclipse in 1806 His influence gave rise to the plan to confederate all the Indian tribes in opposition to the whites—a plan which inspired the Creek War of 1813 The movement provided many recruits for the British in the War of 1812, after which Tenskwatawa returned to Canada with a British pension He returned to Ohio in 1826 and accompanied his tribe to Missouri and farther west into Kansas, where he died, already forgotten

Shawneetown (shô'nētoun), city (pop 1,963), co seat of Gallatin co , SE Ill , on the Ohio, in a farm and coal region It is one of the state's oldest towns, settled after 1800, laid out in 1808, and incorporated in 1814 It was an important river port and commercial center in the early part of the 19th cent , and the first bank chartered in the state still stands here Lafayette was entertained in Shawneetown on his American visit After the severe flood of 1937, the decision was made to move the city a few miles west to higher ground In 1940 the state purchased part of the old Shawneetown area Cave-in-Rock State Park lies to the south

Shaw University see RALEIGH, N C

Shays, Daniel (shāz), c 1747–1825, American soldier, b probably in Hopkinton, Mass A farmer of W Massachusetts, he answered the patriot call from Lexington which began the American Revolution and later fought at Bunker Hill, Ticonderoga, Saratoga, and Stony Point, being made a captain of the 5th Massachusetts Regiment in 1777 After the war he settled at Pelham, Mass , and became a leader in the revolt of the small farmer known as Shays's Rebellion Pardoned after the uprising was quelled, he later moved to New York state

Shays's Rebellion, 1786–87 In the period of financial depression after the American Revolution there was general discontent among the farmers, which in W Massachusetts reached the point of armed insurrection The high land tax pressed more heavily upon farmers than upon other classes, legal costs were exorbitant, and salaries of public officials were felt to be too high The general unrest centered chiefly among those of the debtor class, who wanted extreme remedies to prevent the foreclosure of mortgages on their property and their own imprisonment for debt Sentiment of the oppressed farmers and laborers against the merchants and lawyers of Boston and other seaboard towns was especially strong in the Connecticut valley and Berkshire Hills Resolutions were passed against the state senate and the court of common pleas In 1786 armed insurrectionists under Daniel Shays prevented the sitting of the courts Later in the same year the state supreme court at Springfield was forced to adjourn Early in 1787 Gov James Bowdoin appointed Gen Benjamin Lincoln to command 4,400 men against the rebels Before these troops arrived at Springfield, Gen William Shepard's soldiers there had repelled an attack on the Federal arsenal The rebels, losing several men, had dispersed, and Lincoln's troops pursued them to Petersham, where they were finally routed Shays himself escaped to Vermont Later, with other leaders of the rebellion, he was pardoned by Gov John Hancock The rebellion influenced Massachusetts's ratification of the Federal Constitution.

Shchedrin, Nikolai Evgrafovich see SALTYKOV, MIKHAIL EVGRAFOVICH

Shcherbakov (shchĕrbŭkôf'), city (1926 pop 55,494; 1939 pop. 139,011), central European RSFSR, on the upper Volga and the RYBINSK RESERVOIR It was named Rybinsk until 1946 Shcherbakov is a major inland port and a lumber center and is the site of the Rybinsk Reservoir dam and hydroelectric station, completed in 1941 Dating from the 16th cent , it developed as a trading and transshipment center after the founding (1703) of St Petersburg and the construction of the Volga-Neva canal systems.

Sheaffe, Sir Roger Hale (shēf), 1763–1851, soldier in the British army and administrator in Canada, b Boston, Mass He entered the British army in 1778 and twice (1787–97, 1802–11) was stationed in Canada before serving there in the War of 1812 On the death of Sir Isaac Brock at the battle of Queenston Heights (1812), Sheaffe succeeded to the command of the British forces He was also president and administrator of Upper Canada until recalled to England in 1813 He was made a baronet that year and later a general.

Sheal (shē'ul), one with a foreign wife. Ezra 10.29.

Shealtiel (shĕăl'tē-ĕl) [Heb ,=whom I asked of God], father of Zerubbabel Ezra 3 2,8, 5 2, Neh 12 1, Hag 1, 2 Salathiel 1 Chron 3 17, Mat 1 12, Luke 3 27

Shearer, Thomas, fl late 18th cent , English cabinet-maker and furniture designer His work shows the Adam influence and he, in turn, influenced Hepplewhite His furniture was original in design and simple in style His sideboards are especially notable Many of his patterns were published in *Designs for Household Furniture*

Sheariah (shē"ăr-ī'ă) [Heb ,=God esteems], one of the descendants of Saul 1 Chron 8 38, 9 44

Shear-jashub (shē'ăr-jā'shŭb) [Heb ,=a remnant shall return], son of Isaiah Isa 7 3

Sheba (shē'bŭ) **1** Descendant of Shem, Eber's grandson Gen 10 28, 1 Chron 1 22 **2** Descendant of Shem, Abraham's grandson Gen 25 3 Either may be the eponymous ancestor of the Sabaeans, and textual confusion may explain the difference of ancestry of **1** and **2** **3** Rebel against David 2 Sam 20 1–22 **4** Place Joshua 19 2

Sheba (shē'bŭ), biblical name of a region of S Arabia This region, also called Saba (sā'bŭ), included Yemen and the Hadramaut, and its inhabitants were called Sabaeans or Sabeans It is believed that the Sabaeans migrated south at an early date from N Arabia The Semitic colonization of Ethiopia was made from Sheba An ancient culture in Sheba is evidenced by the many inscriptions found there, the oldest dating from about the 8th cent B C , and the remains of engineering works, such as the dam near Marib The inscriptions are written in a Semitic language (Himyaritic) akin to Ethiopic and Akkadian, in characters derived from Phoenician script Sheba, situated along the trade route from India to Africa, was known as a country of great wealth, a fact commemorated in the biblical story of the visit of the queen of Sheba (called in Moslem tradition Balkis) to Solomon (1 Kings 10) Ethiopia after a short occupation in the 4th cent A D , conquered Sheba c 525 A D , but this rule was ended after about 50 years when Sheba became a Persian province With the rise of Mohammed, Sheba came under Islamic control and lost its separate identity See De Lacy O Leary, *Arabia before Muhammad* (1927), H St J B Philby, *The Background of Islam* (1947)

Shebam (shē'băm), town in the pasture land E of the Jordan Num 32 3 Shibmah Num 32 38 Sibmah Joshua 13 19, Isa 16 8 9, Jer 48 32

Shebaniah (shĕ"bŭnī'ă) [Heb , = God has hidden] **1, 2** Two signers of the covenant Neh 9 4, 10 10, 12 **3** Priestly signer of the covenant Neh 10 4, 12 14 Shechaniah Neh 12 3 **4** Musician 1 Chron 15 24

Shebarim (shē'bŭrĭm, shĕbā'rĭm) [Heb ,=breaches], place, central Palestine Joshua 7 5

Shebat. see SEBAT

Sheber (shē'bur) [Heb ,=rum], son of Caleb 1 Chron 2 48

Shebna (shĕb'nu), official of Hezekiah's court who was denounced by Isaiah 2 Kings 18, 19, Isa 22 15, 36, 37

Sheboygan (shĭboi'gun), city (pop 40,638), co seat of Sheboygan co , E Wis , a port of entry on Lake Michigan at the mouth of the Sheboygan and N of Milwaukee, inc as a village 1846, as a city 1853 The North West Company established a fur-trading post here in 1795 Permanent settlement began c 1835, and Sheboygan grew as a shipping, industrial, and dairying center Much cheese is shipped from here German refugees in the 1840s and 1850s gave the city its liberal character

Sheboygan Falls, city (pop 3,395), E Wis , W of Sheboygan and at falls of the Sheboygan river, inc as a village 1854, as a city 1913 It has varied manufactures

Shebuel (shē'bū-ĕl, shĕbū'ul) [Heb ,=captive of God] or **Shubael** (shōō'bā-ĕl, shoōbā'ul) **1** Descendant of Moses 1 Chron 23 16, 24 20, 26 24 **2** Leader of temple singers 1 Chron 25 4, 20

Shecaniah or **Shechaniah** (both shĕ"kunī'ă) [Heb , =familiar with God] **1, 2** Two chief priests 1 Chron 24 11, 2 Chron 31 15 **3** Father-in-law of Tobiah Neh 6 18 **4** See SHEBANIAH **5** Additional mention of this name is in 1 Chron 3 21, 22, Ezra 8 3,5, 10 2, Neh 12 3

Shechem (shē'kŭm, shĕ'-) **1** Hivite prince Gen 34 Sychem Acts 7 16 **2** Manassite chief Num 26 31, Joshua 17 2, 1 Chron 7 19

Shechem (shē'kum), town, central Palestine, N of Jerusalem, called NABLUS in modern Arabic Shechem lies between Mts Gerizim and Ebal It is an ancient holy city Here Jacob lived, his well, famous throughout antiquity, is still pointed out Joseph was buried here It was the first northern capital, before Samaria Schem and Sychem are variants of the name Gen 12 6, 33 18, 34, Joshua 21 20,21, 24 32, Judges 9 6, 1 Kings 12.

Shedeur (shē'dē'ur), father of ELIZUR

Shediac (shē'dē-ăk), town (pop 2,147), SE N B , on Northumberland Strait and NE of Moncton It is a resort and has a seaplane base and lobster, oyster, and smelt fisheries

Shee, Sir Martin Archer, 1769–1850, British portrait painter and writer, b. Dublin, pupil of Sir Joshua Reynolds He attained popularity in court and theatrical circles and executed many royal commissions Among his portraits are those of Daniel O'Connell and William Archer Shee (Metropolitan Mus) and Lord Chief Justice Denman and William Popham (National Portrait Gall , London) He wrote *Rhymes on Art* (1805), a tragedy, *Alasco* (1824), and *Old Court* (1829) and was president of the Royal Academy from 1830

Sheeler, Charles, 1883–, American painter and photographer, b Philadelphia, studied at the School of Industrial Art there and later at the Pennsylvania Academy of the Fine Arts under William M Chase With Chase he made two visits to Europe to study the galleries After exhibiting at the famous Armory Show in New York in 1913 he became widely known both as a painter and a photographer His characteristic works are meticulously painted, with great emphasis on flat pattern in which straight lines often predominate Through his choice of subject and viewpoint Sheeler achieves effects at once realistic and abstract He is represented in numerous prominent galleries His *Upper Deck* (Fogg Mus of Art, Cambridge) is a characteristic work

Sheen, Fulton John, 1895–, American Roman Catholic clergyman, b El Paso, Ill , grad St Viator College, Bourbonnais, Ill (B A , 1917, M A , 1919) After receiving (1920) his baccalaureates in sacred theology and canon law at the Catholic Univ of America, he studied at the Univ of Louvain (Ph D , 1923) in Belgium and at the Univ of Rome (D D , 1924) Ordained a priest in 1919, he joined the faculty of Catholic Univ in 1926 He was appointed a papal chamberlain in 1934 and a domestic prelate in 1935 An outstanding orator, he won an increasingly large radio audience after he began broadcasting in 1930 Known for his attacks on Communism and Freudianism as well as for his many conversions, Monsignor Sheen is the author of numerous books, including *God and Intelligence in Modern Philosophy* (1925), *The Cross and the Crisis* (1938), *Preface to Religion* (1946), *Communism and the Conscience of the West* (1948), *Philosophy of Religion* (1948), and *Peace of Soul* (1949)

sheep, common name for many species of wild and domesticated ruminants of the genus *Ovis*, of the cattle family (Bovidae) The male is called ram (if castrated it is a wether), the female is called ewe, and their offspring lamb All but the wild species, whose outer coat is usually of coarse hair, are covered with a fleece of wool of varying length, fineness, and curliness Sheep are bred for cropping of this wool, for their meat (mutton), and for their skins They were one of the first animals to be domesticated by man their care and pasturing leading primitive peoples to adopt a pastoral existence The domesticated breeds are thought to be derived chiefly from the wild mouflon of the Greek peninsula and islands and from the urial of Asia The Romans bred sheep for their fine wool as early as 200 B C , and descendants of their flocks have helped to evolve the forerunners of the Merino type in Spain In mountainous parts of India sheep are used as beasts of burden Elsewhere they are kept for their milk, with which cheese is made No domesticated sheep were found in North America by the early explorers, nor has the wild bighorn or Rocky Mountain sheep been domesticated or crossed with the sheep bred from those brought over from the Old World In the United States important sheep-raising areas are in Colorado and Nebraska Most sheep mate in the fall, and the lambs, born five months later, are known as spring lambs Sometimes lambs are produced in the fall by the few breeds that mate at other seasons Among the important breeds of sheep are the COTSWOLD SHEEP, HAMPSHIRE SHEEP, KARAKUL SHEEP, LEICESTER SHEEP, MERINO SHEEP, SHROPSHIRE SHEEP, and SOUTHDOWN SHEEP The herding of sheep is one of the first occupations mentioned in the Bible Sheep figure largely in the symbolism of both Old and New Testaments, representing innocence and purity and those under God's care and protection in this connotation used in the best known of the Psalms and so extended to the congregation of a church and its minister The sheep also was the literal and symbolic SACRIFICE in Judaism, hence in Christianity Jesus is called the Lamb of God The secular poetry of England, one of the chief sheep-raising countries, is rich in references to sheep See *Breeds of Sheep for Farm* (U S Dept of Agriculture, Farmers' Bul 576), *Farm Sheep Raising for Beginners* (U S Dept of Agriculture, Farmers' Bul 840), *Equipment for Farm Sheep Raising* (U S Dept of Agriculture, Farmers' Bul 810)

sheep dog, name applied commonly to many dogs bred originally for guarding sheep but forming part of the breed name of only certain dogs These include the Belgian sheep dog, the old English sheep dog, and the SHETLAND SHEEP DOG The Briard is a French sheep dog There are about six varieties of the Belgian sheep dog Of these two are recognized in the United States, the Groenendael, a long-coated black variety developed in Groenendael (near Brussels), Belgium, and the Malinois, having a short coat and appearance similar to the German shepherd dog and originating in Malines, Belgium The old English sheep dog was developed in England, probably in the 18th cent , for driving sheep and cattle to market It has a long, shaggy coat covering the face as well as the body In color it is some shade of gray often marked with white or white marked with gray Males stand about 22 in at the shoulder The tails are cut off when the puppies are very young The dogs are amiable and intelligent The Briard is descended from a type known in France in the 12th cent Although developed for herding and guarding sheep and cattle, the dog has proved its worth as a police dog and as a war dog It makes an excellent companion and pet dog It is a muscular, well-proportioned, active breed, the males stand from 23 to 27 in at the shoulder The coat is usually black black with some white hairs, or a mixture of dark and light gray, the hair is long, rather stiff, and slightly wavy The tail should be well feathered and carried low

sheep laurel see MOUNTAIN LAUREL.

Sheepshead Bay, community in S Brooklyn borough of New York city, SE N Y , on Sheepshead Bay, indenting SW Long Island W of Jamaica Bay It is a center for commercial and pleasure fishing craft and has a number of restaurants which serve sea food In past years it was noted for its horse and automobile races

sheep sorrel see DOCK

Sheerness, urban district (pop 16,738), on the Isle of Sheppey, Kent, England, at the confluence of the Medway with the Thames It is a seaport and has government dockyards, begun and fortified by Charles II Much of the industry of the town depends upon the garrison There are officers' residences, barracks and storehouses, constituting a part of Sheerness known as Blue Town Another section is a resort, with a good beach The town was taken by the Dutch in 1667

Sheffield, county borough (1931 pop 511,757, 1947 estimated pop 514,290) and city, West Riding of Yorkshire, England, on the Don and E of Manchester It is one of the leading industrial centers of England, having been the chief seat of cutlery manufacture since the 14th cent The Cutlers' Company, the governing body of cutlery manufacturers, was founded here in 1624 Silver and electroplate goods, tools and heavy steel goods, including plates for battleships, artillery, and rails, are also made The first Bessemer steelworks were built here in 1858 The Univ of Sheffield (1905) has a medical school and a technical college The city's parks include Meersbrook (the site of the Ruskin Museum), High Hazels (with botanic gardens and a museum) Weston (with an observatory and a museum), Norfolk, and Firth The Mappin Art Galleries are famous Among noteworthy buildings are Cutlers' Hall, the Renaissance town hall, libraries, the Church of St Peter, and the market hall Mary Queen of Scots was held captive for years in the old Norman castle, which was taken by parliamentarians in 1644 and later dismantled The city and surrounding manufacturing districts were heavily bombed in air raids in Dec , 1940, resulting in many casualties and wide damage See J S Fletcher, *Sheffield* (1919)

Sheffield **1** Railroad and industrial city (pop 7,933), NW Ala , on Pickwick Lake of the Tennessee river near Muscle Shoals and S of Florence, in an iron and coal area, founded 1883, inc 1885. Its industries produce ferrosilicon, aluminum sheets and bars, nitrates, stoves, and other iron and steel products **2** Town (pop 1 060), N central Iowa, S of Mason City, inc 1876 **3** Resort town (pop. 1,709), SW Mass , in the Berkshires, on the Housatonic and S of Great Barrington, settled 1726, inc 1733

Sheffield Lake, village (pop 1,099), NE Ohio, near Lake Erie and E of Lorain, inc 1920

Sheffield plate, metalware of copper, silver-plated by fusion, originated at Sheffield, England This process of plating was discovered c 1742 by a Sheffield cutler, Thomas Boulsover, who found while doing repair work on silver and copper that they fused at high temperature and could be hammered and shaped as one metal He used his discovery to make buttons and buckles, but an apprentice, Joseph Hancock, grasped the broader application and began the production of tableware and other domestic articles which won wide popularity as substitutes for the more expensive solid silver The manufacture spread not only in England, where Birmingham became an active center of production, but to the Netherlands, Russia, and Poland, where English methods and patterns were adopted. Similar ware was produced in France by a different process Sheffield plate followed in general the contemporary styles in silver, but used some original designs and in the 19th cent developed characteristic flat-chased pieces Early ware was plated on one side only, but c 1765 a method for plating both sides was introduced Edges were at first soldered, then concealed with plated wire and finally with applied silver edges Additional silver was embedded in areas to be engraved German silver, an alloy of nickel, zinc, and copper, came into common use c 1835 and was preferred to copper as a base,

since it showed less where the plating wore off Special hallmarks were used after 1784 Sheffield plate was superseded c 1840 by the cheaper electroplating method

Sheharlah (shĕ″hurl′u) [Heb =God seeks], descendant of Benjamin 1 Chron 8 26

Sheherazade. see THOUSAND AND ONE NIGHTS

Shekinah (shĕkī′nŭ) [Heb, =dwelling], term used in the Targum and elsewhere to indicate the manifestation of the presence of God among men Wherever the Hebrew text speaks of the presence of God in a way which implies certain human limitations, the Targum paraphrases by substituting the word *Shekinah* for the word *God* or *Jehovah* ("And I will cause my Shekinah to dwell," in the Targum Onkelos) Although the Shekinah is never intended as an intermediary between God and man, the word is sometimes used in such a manner that it cannot be identical with God, i e, "God allows his Shekinah to rest"

Sheksna (shĭksnä′), river, c 100 mi long, central European RSFSR Flowing into the Rybinsk Reservoir, it forms part of the MARINSK SYSTEM of inland waterways and is also connected by canal with the Northern Dvina Before the filling of the Rybinsk Reservoir in 1941 the Sheksna emptied into the Volga

Shelah (shē′lŭ) **1** Son of Judah and ancestor of the Shelanites Gen 38 5, 46 12, 1 Chron 2 3, 4 21; Num 26 20 This tribe is the same as the Shilonites of 1 Chron 9 5 and as the Shiloni of Neh 11 5 **2** Same as SALAH

Shelbina (shĕlbī′nu), city (pop 2,107), NE Mo, W of Hannibal, in a stock, grain, and poultry area, founded 1857

Shelburn (shĕl′burn), town (pop 1,606), SW Ind, c 20 mi S of Terre Haute, inc 1872 Coal mining is done here

Shelburne, William Petty Fitzmaurice, 2d **earl of** (shĕl′burn), 1737–1805, British statesman President of the Board of Trade (1763) in Grenville's cabinet, he then became a supporter of William Pitt (see CHATHAM, WILLIAM PITT, 1ST EARL OF), spoke in favor of John WILKES, and was made (1766) secretary of state in Pitt's cabinet When Shelburne's policy of conciliating the American colonies was not supported by the king and Parliament, he resigned (1768) He had been in the cabinet again before in 1782 he was made head of the ministry of the king's friends, including William Pitt the younger Shelburne concluded the Treaty of Paris in 1783, granting independence to the new United States, but he was driven from office (1783) by a coalition of Tories under Lord North and Whigs under Charles James Fox One of the most consistently liberal of the English statesmen of his day, he was also one of the most consistently unpopular He was created marquess of Lansdowne in 1784

Shelburne (shĕl′burn) **1** Town (pop 1,605), SW N S, on Shelburne Harbour and E of Yarmouth, settled 1783 by United Empire Loyalists It has fish curing and packing, lumbering, shipbuilding, and manufacturing of boxes and barrels Granite is quarried near by **2** Village (pop 1,005), S Ont, SE of Owen Sound.

Shelburne. **1** Town (pop 1,636), NW Mass, on the Deerfield river and W of Greenfield, settled c 1756, set off from Deerfield 1768 Shelburne Falls village is near the crest of the Mohawk Trail **2** Town (pop 1,010), NW Vt, on Lake Champlain S of Burlington, granted 1763, first settled 1768 but abandoned in the Revolution, organized 1787 Macdonough's fleet wintered in Shelburne Harbor, 1812–13

Shelby, Isaac, 1750–1826, American frontiersman, b Washington co (then part of Frederick co), Md Around 1773 he settled in the Holston river country in what is now E Tennessee In the American Revolution he was one of the frontier leaders who defeated the British at Kings Mt (1780) in the CAROLINA CAMPAIGN Shelby moved to Kentucky in 1783, helped secure its separation from Virginia, and was the first governor (1792–96) of the new state During his second term (1812–16) he organized and commanded a body of volunteers under Gen W H Harrison at the battle of the Thames (Oct, 1813), one of the few American land victories in the War of 1812 In 1818, with Andrew Jackson, he was a member of the special commission which purchased the remaining lands of the Chickasaw in Kentucky and Tennessee See Archibald Henderson, *The Star of Empire* (1919)

Shelby. **1** Village (pop 1,367), S Mich, N of Muskegon, in a fruit and dairy area, inc 1885 **2** Town (pop 1,956), NW Miss, near the Mississippi NNE of Greenville, in a cotton area **3** City (pop 2,538), co seat of Toole co, N Mont, NNW of Great Falls Once a cowboys' town, then a center of dryland farming, it later benefited from discovery (1921) of oil near by **4** City (pop 14,037), co seat of Cleveland co, W N C, W of Charlotte, in a rich piedmont farming area, inc as a city 1929. It has important textile and woodworking plants **5** City (pop 6,643), N central Ohio, NW of Mansfield Steel tubing is made here

Shelbyville **1** City (pop 4,092), co seat of Shelby co., S central Ill, on the Kaskaskia river and SE of Springfield, in a farm and coal area, inc 1839 Farm equipment is made here Lincoln argued law cases in the courthouse **2** City (pop 10,791), co seat of Shelby co, SE Ind, c 25 mi SE of Indianapolis, platted 1822 It is a farm trading center in the Corn Belt and has furniture factories **3** City (pop 4,392), co seat of Shelby co, N Ky, between Louisville and Frankfort, founded 1792 It is in a bluegrass region yielding tobacco, livestock, grain, and dairy products. The city refines oil and is also a large tobacco market Science Hill, a girls' school (1825), is here Near by is the Old Stone Inn (1794) **4** Town (pop 6,537), co seat of Bedford co, central Tenn, on the Duck river and SSE of Nashville, laid out 1810, inc 1819 Tire cord and pencils are among its manufactures The region, which yields dairy and other farm products and timber, is noted for the breeding of the Tennessee "walking horse"

Sheldon, Charles Monroe, 1857–1946, American Congregational clergyman and author, b. Wellsville, N Y, grad Brown, 1883, and Andover Theological Seminary, 1886 He filled a long pastorate (1889–1919) at Topeka, Kansas, and edited the *Christian Herald* from 1920 to 1925 His religious novels grew out of his Sunday evening services. Of them, *In His Steps* (1896) was world famous He was a well-known lecturer and a militant pacifist

Sheldon, Edward Brewster, 1886–1946, American dramatist, b. Chicago, grad Harvard, 1908 His first play, *Salvation Nell* (1908) starring Mrs Fiske, was followed by *The Nigger* (1909), *The Boss* (1911), and *The High Road* (1912) *Romance* (1913), his most popular play, was successful in London as well as in the United States As a light opera, with music by Sigmund Romberg, it had a short run in 1948 With Charles MacArthur he wrote *Lulu Belle* (1926), and with Margaret Ayer Barnes, *Dishonored Lady* (1930)

Sheldon, Gilbert, 1598–1677, English divine, archbishop of Canterbury He attended Charles I at Oxford and Newmarket and in the Isle of Wight, remaining thereafter in retirement until the Restoration, when he became (1660) bishop of London and later (1663) archbishop of Canterbury Sheldon was an influential adviser to Charles II While chancellor of Oxford Univ he built (1669) the Sheldonian Theatre at his own expense

Sheldon **1** Village (pop 1,046), E Ill, near the Ind line, founded 1860, inc 1901 It is a shipping center in a grain and stock area **2** City (pop 3,768), NW Iowa, on the Floyd river and NNE of Sioux City, in a farm area, inc 1876 It has varied manufactures **3** Town (pop 1,471), NW Vt, NE of St Albans, granted 1763, settled 1789–90, organized 1791

Shelekhov, Grigori Ivanovich (grēgô′rē ēvä′nuvĭch shĕl′ĭkhuf), 1747–95, Russian fur merchant In Siberia he built up a large fur business Profitable trading ventures in the Aleutian Islands led to his resolve to open a new fur-trading area In 1784 he led a company to Kodiak Island and at Three Saints Bay founded the first permanent settlement in Alaska From there the mainland was explored, and other fur-trade centers were established In 1786 Shelekhov set out for Russia, seeking a grant to his company of the monopoly of the fur trade To manage his interests in Alaska he dispatched (1791) Aleksandr Baranov, the man who was to dominate affairs during the Russian occupation of Alaska Shelekhov's company, of which Ivan L Golikov was a partner, was the nucleus for the noted Russian American Company, which was formed several years after Shelekhov's death His *Journal of the Voyages . to the Coast of America in 1783–87* was published in London in 1795 Shelikof Strait is named for him

Shelemiah (shĕ″lĭmī′u) [Heb, =God repays] **1** Father of Hananiah Neh 3 30 **2** Treasurer Neh 13 13 **3** Father of Irijah Jer 37 13 **4** See MESHELEMIAH These identifications are not all certain, other appearances of the name may refer to some of the same persons Ezra 10 39,41, Jer 36 14,26, 37 3

Sheleph (shē′lĭf) [Heb, =drawing out], ancestor of a tribe of S Arabia Gen 10 26, 1 Chron 1 20

Shelesh (shē′-), Asher's descendant 1 Chron 7 35

Shelford, Victor Ernest, 1877–, American zoologist, b Chemung, N Y, grad Univ of Chicago (B S, 1903, Ph D, 1907) He taught at the Univ of Illinois from 1914 to 1946 (professor from 1927) and is known for his research in animal ecology His many contributions include *Animal Communities in Temperate America* (1913), *Laboratory and Field Ecology* (1929), and *Bio-Ecology* (with F E Clements, 1939). He compiled the *Naturalist's Guide to the Americas* (1925).

shell, in zoology, a hard outer covering secreted by some part of an animal Usually it refers to the calcareous shells of the many species of MOLLUSK It is also applied to the exoskeleton of the crab and other crustacean animals and to the bony covering of the turtle Man has made use of mollusk shells since early times as receptacles for food and water, as money, and for ornamentation The scientific study of shells is conchology See A. H Verrill, *Strange Sea Shells and Their Stories* (1936), P. A Morris, *What Shell Is That?* (1939) and *A Field Guide to the Shells of Our Atlantic Coast* (1947); C N Vilas and N R. Vilas, *Florida Marine Shells* (1945).

shellac (shŭlăk′), name commonly used for a solution of LAC in alcohol. In commerce the name is applied to the resinous substance itself rather than to the solution. It ranges in color from orange to light yellow depending upon the extent to which it has been purified, the darker shellacs being the less pure When bleached it is known as white shellac The alcoholic solution is applied to surfaces such as wood and plaster, and it forms upon evaporation of the alcohol a hard coating It is widely used as a paint varnish, as a protective covering for drawings and plaster casts, for stiffening in the manufacture of felt hats, in making sealing wax, and in electrical insulation.

shellbark hickory see HICKORY

Shelley, Harry Rowe, 1858–1947, American organist and composer, b New Haven, Conn, studied at Yale and with Dvorak and Dudley Buck in New York He was organist of various churches in New Haven, Brooklyn, N Y, and New York city, including Plymouth Church, Brooklyn, of which Henry Ward Beecher was pastor His anthems follow the tradition of the Victorian composers He also wrote cantatas, organ music, and orchestral music and compiled anthologies of organ music

Shelley, Mary Wollstonecraft, 1797–1851, English author, daughter of William Godwin and Mary Wollstonecraft Although she was a talented child, she received no formal education In 1814 she fell in love with the poet Shelley, accompanied him abroad as his wife, and after the death of his first wife in 1816 was married to him As the result of a story competition with Shelley and Byron, she wrote the best of the novels of terror, FRANKENSTEIN (1818) The historical novel *Valperga*, written at this time, was published in 1823 At first overwhelmed by the death of her husband in 1822, Mrs Shelley later edited Shelley's writings (1824–40) and wrote biographies, articles, and fiction to educate her surviving son Percy, until 1840, when he received an allowance from his grandfather Her best works of this period are *The Last Man* (1826), an imaginative work on the destruction of the human race, and the partly autobiographical novel *Lodore* (1835) See her letters (1944) and journal (1947), both ed by F L Jones, biography by R G Gryll (1938) See also bibliography under Percy Bysshe Shelley

Shelley, Percy Bysshe, 1792–1822, English poet, b Horsham, Sussex, son of Timothy Shelley (later Sir Timothy) He attended Syon House Academy (1802–4) Eton (1804–10), and Oxford (1810–11), but his real education came from reading and from the exercise of his imagination In Feb, 1811, he had published a pamphlet, *The Necessity of Atheism*, his authorship being discovered, he and his friend Thomas Jefferson Hogg were expelled from the university (March, 1811) His father, already alienated by Shelley's advanced views, broke with him, but grudgingly continued his allowance In Aug, 1811, Shelley eloped to Scotland with his sister's schoolmate Harriet Westbrook For three years, the couple moved frequently, driven by financial embarrassments and Shelley's enthusiasm for new causes In *Queen Mab* (1813), he set forth more completely and violently than before or later his belief in man's degradation by priestcraft, monarchy, and commerce and in his final redemption Doubting the validity of his marriage, Shelley remarried Harriet in March, 1814, but soon became infatuated with Mary Wollstonecraft Godwin, with whom he eloped (July) Financial straits, estrangement from the Godwins, the problem of a settlement with Harriet—all made the couple's life a troubled one *Alastor* (1816) met with little favor A stay in Switzerland (summer, 1816) brought association with BYRON The suicide of Harriet late in 1816 and the chancellor's refusal to give Shelley custody of her children (March, 1817) increased Shelley's and Mary's misery, somewhat relieved by a new association with Leigh Hunt and his circle Soon after Harriet's suicide, Mary and Shelley were married *Laon and Cythna*, a history of an ideal revolution in which the mistakes of the French Revolution were avoided, was printed in Dec, 1817, then withdrawn and reissued as *The Revolt of Islam* In March, 1818, the Shelleys left England for the last time, to settle in Italy Domestic troubles continued, but there Shelley composed the great body of his poetry The closet dramas *Prometheus Unbound* and *The Cenci* and the "Ode to the West Wind" were composed in 1820 A girl known at Pisa, Emilia Viviani, helped to inspire *Epipsychidion* (1821)—part spiritual autobiography, part praise of ideal love The death of Keats (Feb, 1821) led to *Adonais* (1821), in which Shelley reasserted the eternity of beauty; the Greek struggle for independence prompted *Hellas* (1822) On July 8, 1822, Shelley was drowned while sailing in the Bay of Lerici Shelley's political philosophy long inspired radical thinkers, though his aversion from Christianity and his zeal for violent change were modified before he died The overweighted Spenserian stanzas of *The Revolt of Islam* never attained popularity, but the restrained and somber

blank verse of *The Cenci*, the rich variety of *Prometheus Unbound*, and the polished completeness of *Adonais* made them endure Shelley's reputation is based most firmly, however, on the fresh imagery and subtle melody of his many shorter pieces, e g , his "Ode to the West Wind," "To a Skylark," "The Indian Serenade," and "When the Lamp Is Shattered " The complete works were edited by Roger Ingpen and W E Peck (1927) See *New Shelley Letters* (ed by W S Scott, 1949), Mary Shelley's letters (1944) and journal (1947), both ed by F L Jones, biographies by Edward Dowden (1886), W E Peck (1927), N I White (1940), and Edmund Blunden (1946), studies by Carl Grabo (1930), R M Smith (1945), and Carlos Baker (1948)

Shelley, city (pop 1,751), SE Idaho, on the Snake and S of Idaho Falls, settled 1884, inc 1904 It is the center of a potato-growing region

shellfish, popular name used for certain edible aquatic animals such as the oyster, clam, scallop, and other mollusks and for crustacean animals such as the crab, lobster, and shrimp To avoid the danger of spoilage, shellfish must be cooked, canned, or served very soon after being caught

Shellman, city (pop 1,063), SW Ga , NW of Albany, in a farm area, settled 1837

shell money, in its many forms, is the most widely distributed type of primitive money It is particularly useful for this purpose because it may be strung in long strips of proportionate value or it may be used to provide a single, small unit value in exchange Relative scarcity of the type of shell used or the way the shell is fashioned often determines its value COWRIE shells have been the most common shell media and are probably the oldest in usage as money WAMPUM was usually fashioned from thick-shelled clams, dentalia ("tooth shells") were popular with the Indians of the west coast of North America Mother-of-pearl and tortoise shell are said to have been used as money in ancient China Oceanic peoples, in particular, use a variety of shells in trade It is often difficult to distinguish monetary from ritual function in barter exchange Thus, the ostrich-eggshell disks of SW Africa and the shell arm bands in Melanesia are not usually considered as money though they are actually exchanged

shell mound, in archaeology, a mound consisting largely of the shells of edible mollusks It is a kind of KITCHEN MIDDEN found in both the Old World and the New

Shelomi (shĕ'lōmī, shĕlō'mī) [Heb ,=*peaceful*] father of Ahihud, a prince of Asher Num 34 27

Shelomith (shĕ'lōmĭth, shĕlō'-) or **Shelomoth** (shĕ'lōmŏth, shĕlō') [Heb ,=*peace*] **1** Woman whose son was stoned for blasphemy Lev 24 10–16 **2** Zerubbabel's daughter 1 Chron 3 19 **3** Kohathite Levitical family 1 Chron 23 18 24 22, 26 25,26, 28 **4** Gershonite Levite 1 Chron 23 9 **5** Family which returned from exile Ezra 8 10

Shelter Island, c 7 mi long, between the north and south peninsulas of Long Island, SE N Y Settled in the 17th cent , the island is a summer resort, its much-indented coast provides harbors for yachts

Shelton 1 City (pop 10,971), SW Conn , on the Housatonic and N of Bridgeport, settled 1697, inc 1915, coextensive with Shelton town inc 1789 It produces textiles, silverware, and metal products A state tuberculosis sanatorium is here **2** Lumber city (pop 3,707), co seat of Mason co , NW Wash , on an arm of Puget Sound NW of Olympia, inc 1889

Shelumiel (shĕlū'mĭul) [Heb ,=*friend of God*], Simeonite prince at the time of the Exodus Num 1 6, 2 12, 7 36,41, 10 19

Shem, in the Bible, eldest son of Noah and eponymous ancestor of the Semites Gen 5 32, 7 13, 9 25-27, 11.10 Sem Luke 3 36

Shema (shē'mu) **1** Reubenite 1 Chron 5 8 Shemaiah 1 Chron. 5 4 **2** ADAIAH **3** Son of Hebron 1 Chron 2 43,44 **4** Companion of Ezra Neh 8 4 **5** Unidentified town, S Palestine Joshua 15 26.

Shemaah (shĕmā'u) [Heb ,=*hearing*], father of two warriors 1 Chron 12 3

Shemaiah (shĕ"mā'ĭu) [Heb ,=*God has heard*] **1** Prophet at the time of Rehoboam 1 Kings 12 22-24, 2 Chron 11 2–4, 12 5–7 **2** False prophet in the Captivity Jer 29 24 **3** False prophet hired to discredit Nehemiah Neh 6 10 **4** Descendant of Zerubbabel 1 Chron 3 22 **5** Scribe 1 Chron 24 6 **6** Kohathite, 1 Chron 26 4,6,7 **7** Levite in the time of Jehoshaphat 2 Chron 17 8 **8, 9** Levites in the time of Hezekiah 2 Chron 29 14, 31 15 **10, 11** Chief Levites 1 Chron 15 8,11, 2 Chron 35 9 **12, 13** Chief men in the Exile Ezra 8 13,16 **14, 15, 16, 17** Men present at the dedication of the wall Neh 12 34,35,36,42 **18** Father of URIJAH **2** **19** Father of DELAIAH **4** **20** Merarite Levite 1 Chron 9 14, Neh 11 15 **21** Sealer of the covenant Neh 10.8, 12 6,18 **22** Same as SHAMMUA **3** **23, 24** Men who had foreign wives Ezra 10 21,31 **25** Reparer of the wall Neh 3 29 **26** Simeonite. 1 Chron 4 37 **27** Same as SEMAA **1**

Shemakha (shĕmŭkhā'), city (pop 3,665), E Azerbaijan SSR, at the foot of the Greater Caucasus It produces silk and champagne Known since ancient times, it was an important silk center in the 16th cent , trading especially with Venice, and was the capital of the khanate of Shirwan until the 17th cent It was destroyed by an earthquake in 1902

Shemariah (shĕ"murī'ŭ) [Heb ,=*whom God keeps*] **1** Benjamite warrior of David 1 Chron 12 5 **2, 3** Men who married foreigners Ezra 10 32,41

Shemeber (shĕ'mubur, shĕmē'bûr), king of Zeboim Gen 14 2

Shemer (shē'mur) [Heb ,=*kept*], owner and eponym of the hill of Samaria 1 Kings 16 24.

Shemida or **Shemidah** (shĕmī'du) [Heb ,=*fame of knowledge*], Gileadite Num 26 32, Joshua 17 2, 1 Chron 7 19

Shemiith see ALAMOTH

Shemiramoth (shĕmĭr'umŏth") **1** Temple musician 1 Chron 15 18,20, 16 5 **2** Teacher of the Law. 2 Chron 17 8

Shemuel (shĕmū'ĕl) **1** One who helped apportion Canaan Num 34 20 **2** Son of TOLA **1**

Shemya (shĕm'ya), island, 4 mi long , off W Alaska, one of the ALEUTIAN ISLANDS In the Second World War a U S air base was established here

Shen [Heb ,=*tooth*], place, perhaps close to Bethel, near which Samuel set up Ebenezer 1 Sam 7 12

Shenandoah (shĕnŭndō'ŭ) **1** City (pop 6,846), SW Iowa, SE of Council Bluffs and on the East Nishnabotna river, inc 1871 The city is a trade and shipping center for a farm and livestock area, it has varied manufactures **2** Industrial borough (pop 19,790), E Pa , in the Schuylkill anthracite region near Pottsville, settled 1835, laid out 1862, inc 1866 Coal mining is the principal activity There are also textile mills and meat-packing plants Many languages are spoken here **3** Railroad town (pop 1,829), N Va , on the South Fork of the Shenandoah river, NE of Harrisonburg between the Blue Ridge and Massanutten Mt , inc 1884

Shenandoah, river, c 170 mi long, rising in two main forks in western Virginia which flow northeastward, unite near Front Royal, and continue to the Potomac at Harpers Ferry, W Va The two forks, separated by Massanutten Mt for some 40 mi , lie in the two distinct parts of the beautiful Shenandoah Valley (c 150 mi long and 10–20 mi wide), which has rich farm lands, orchards, and pastures Between the Blue Ridge on the east and the Alleghenies on the west, it is a region of varied scenery and natural wonders In the Civil War the valley was the ideal avenue of approach for a Southern invasion of the North and figured as such in the brilliant campaign of T J (Stonewall) JACKSON in 1862 (which, however, was only a diversion), in the GETTYSBURG CAMPAIGN (1863), and in the raid of J A EARLY in 1864 Lee retreated through the valley after being checked in the ANTIETAM CAMPAIGN (1862) and in the Gettysburg campaign It was one of the principal storehouses for Lee's army The first conspicuous Union success in the Shenandoah Valley was achieved by DAVID HUNTER in 1864, but he was defeated by Early Early was in turn driven out by P H SHERIDAN, who then laid waste the fertile countryside By early 1865 the valley was completely lost to the South The principal cities and towns are Winchester, Front Royal, Luray, Staunton, Waynesboro, and Lexington See S C Kellogg, *The Shenandoah Valley and Virginia, 1861 to 1865* (1903), W O Stevens, *The Shenandoah and Its Byways* (1941), Julia Davis, *The Shenandoah* (1945)

Shenandoah see CONFEDERATE CRUISERS

Shenandoah National Park, 193,472 98 acres, N Va , extending c 75 mi along the crest of the Blue Ridge from Front Royal to Jarman Gap, near Waynesboro, est 1935 In 1936 the state of Virginia transferred title of the area to the United States Skyline Drive, 107-mile highway, begins at Front Royal and extends through the park From its parking overlooks may be viewed the Blue Ridge, Shenandoah Valley, Massanutten Mt , and the Allegheny Mts Elevations in the park run from 600 ft at the northern entrance to 4,049 ft at the summit of Hawk's Bill Another peak, Stony Man, is 4 010 ft

Shenandoah Valley see SHENANDOAH, river

Shenazar (shĕnā'zur), descendant of Josiah 1 Chron 3 18 See SHESHBAZZAR

sheng, Chinese musical instrument consisting of a gourd into which is fastened a set of graduated tubes with free reeds These are set in motion by the player's breath, blown through a mouthpiece Each tube has a hole which must be stopped in order to sound The sheng was introduced into Europe in the 18th cent and possibly furnished the idea for other free-reed instruments, such as the reed organ, accordion, and concertina The spelling cheng is sometimes used for the sheng

Shenir (shē'nur), variant of SENIR

Shensi (shĕn'sē'), Mandarin *Shan-hsi*, province (72,407 sq mi , pop 9,140,180), N central China, Sian is the capital Shensi is bordered on the east by the Yellow River, which forms the boundary with Shansi The Tsingling in the south is the greatest range of this predominantly hilly and mountainous province. The Wei, a tributary of the Yellow River, crosses Shensi from west to east and divides it into two approximately equal areas The soil in the north is fertile loess, but insufficient rainfall makes agriculture uncertain The south, with poorer soil but adequate rainfall, is the main farming region Wheat, fruit, tobacco, and cotton are important crops There is much coal in Shensi, but it is almost untouched because there is little transportation from the main deposits Parts of the province, however, are served by the Lung-Hai RR, the principal east-west line of China, and by several short branch lines

Shenstone, William, 1714–63, English poet and landscape gardener *The Schoolmistress* (1742) and *The Pastoral Ballad* (1755) are his best-remembered poems His home, "Leasowes," in Shropshire, became a famous example of 18th-century gardening. See studies by E M Purkis (1931), Marjorie Williams (1945), and A R Humphreys (1937).

Shemyang, China see MUKDEN

Sheol see HELL

Shepham (shē'făm), unidentified boundary town, NE Palestine Num 34 10,11 See SHIPHMITE

Shephatiah (shĕfutī'u) [Heb ,=*God is judge*] **1** One of David's mighty men 1 Chron 12 5 **2** Chief Simeonite under David 1 Chron 27 16. **3** Son of David 2 Sam 3 4 **4** Son of Jehoshaphat 2 Chron. 21 2 **5** Prince in Jeremiah's time Jer 38 1, **6** Benjamite 1 Chron 9 8 **7** Judahite Neh 11 4. **8, 9** Families of returning exiles Ezra 2.4,57, 8 8.

shepherd dog, working dog long bred in Germany for guarding sheep It is correctly known as the German shepherd dog, although because it has been, in more recent times, much used in police work it came to be called the German police dog Because of its intelligence, stamina, loyalty and teachability it has proved valuable as a war dog and as a seeing-eye dog for the blind Males stand from 22 to 26 in at the shoulder and weigh from 75 to 85 lb They require considerable exercise. The woolly undercoat is overlaid with a coarse outer coat, which may be solid black, solid white, or, more commonly, a mixture of browns grays, and brindle The body is firm and muscular, the back straight, and the tail long and plumed. When the dog is at attention the ears are erect.

Shepherdstown, town (pop 945), W Va , in the agricultural Eastern Panhandle, on the Potomac and SE of Martinsburg, settled 1762 It is one of the oldest towns in the state The *Potowmac Guardian* (started here in 1790) was the first newspaper in what is now West Virginia Rumsey State Park and Shepherd State College are here

Shephi (shē'fī) or **Shepho** (fō) [Heb ,=*smoothness*], Seir's descendant 1 Chron 1 40, Gen 36 23.

Shephuphan (shĕfū'făn), variant of SHUPHAM.

Sheppard, John (Jack Sheppard), 1702–24, English criminal Brought up in the Bishopgate workhouse and apprenticed to a carpenter, he ran away with Bess Lyon, known as Edgeworth Bess, who, with another girl known as Poll Maggott, incited him to a short but spectacular career as a thief and robber. He achieved his greatest fame for his numerous and astonishing escapes from custody, climaxed by an amazing escape (1724) from Newgate, when he overcame manacles, chains, bars and heavily bolted doors and made his way out through a chimney. He was soon apprehended, however, and hanged at Tyburn His exploits became the subject of numerous narratives and plays, one or two attributed to Daniel Defoe The most famous fictionized version was written by W H Ainsworth (1839). See Horace Bleackley, *Jack Sheppard* (ed , with additional materials, by S M Ellis, 1933).

Sheppard, Morris, 1875–1941, American legislator, b Morris co , Texas, grad Univ of Texas (B A., 1895, LL B , 1897) He practiced law in Texas and was elected (1902) to Congress to succeed his father, John L Sheppard He was in the House until his election (1913) to the Senate, where he served until his death His name is connected with the Sheppard-Towner Act which provided for Federal and state cooperation toward maternity and infant welfare He helped draw up the Webb-Kenyon Act (1913) to control interstate shipment of liquor and also wrote the Sheppard Bill (1916) to make the District of Columbia dry He fathered the Senate resolution which was destined to become the Eighteenth Amendment, and he helped frame the Volstead Act

Sheppey, Isle of [isle of sheep], Kent, England, in the Thames estuary, separated from the mainland by the narrow Swale It is largely flat, with low cliffs in the north, where the sea is encroaching and undercutting The soil is fertile and vegetables, grain, and sheep are raised The chief towns are Sheerness, Queenborough, and Minster, where there is a church, founded in 673 containing the tomb of Sir Robert Shurland, protagonist of a story in R H Barham's *Ingoldsby Legends*

Sherah (shē'ru) [Heb ,=*kinswoman*], daughter of Ephraim, eponym of the unidentified Uzzensherah 1 Chron 7 24

Sher Ali see SHERE ALI

Sheraton, Thomas (shĕ'rutun), 1751–1806, English designer of furniture and author Little is known of his early years, but he is believed to have been apprenticed to a cabinetmaker An earnest Baptist, he wrote religious books and preached Records show that he was in London from c 1790 and eked out the meager earnings from his books by giving drawing lessons Although he may have supervised the making of some furniture, his style

became influential through his manuals of design, especially the *Cabinet-Maker and Upholsterer's Drawing-Book* (1791) Sheraton's style is marked by a graceful delicacy and simplicity, emphasis on straight, vertical lines, and a preference for inlay decoration, reeded legs, and classical motifs.

Sherborn, town (pop 1,022), E Mass, SE of Framingham, settled 1652, inc 1674

Sherborne (shur'bŭrn), urban district (1931 pop, 6,542, 1943 estimated pop 7,094), Dorsetshire, England, on an elevated site in the Vale of Blackmore It became the seat of a bishopric under St. Aldhelm in 705, but the see was transferred to Old Sarum in 1075 The abbey church was part of a Benedictine abbey founded in 998 Sherborne School, founded by Edward VI in 1550, is a well-known English public school It occupies some of the old abbey buildings, and the library is rich in musical scores. The town's products are silk and cheese

Sherbrooke, Robert Lowe, Viscount (shŭr'brŏŏk), 1811–92, English statesman He emigrated to Australia (1842) and achieved notice as a reform politician Returning to England (1850), he entered the House of Commons (1852), distinguished himself as a speaker, and held subordinate offices in the ministries of Lord Aberdeen and Lord Palmerston In 1866, with Edward Horsman, he led the "cave of Adullam," the insurgent Liberals who attacked and defeated their government's reform bill Despite this action, he served William E Gladstone as chancellor of the exchequer (1868–73) and home secretary (1873–74), effecting some tax reduction, but pursuing no very marked policies. See biography by A P Martin (1893)

Sherbrooke (shŭr'brŏŏk), city (pop 35,965), co seat of Sherbrooke co, SE Que, on the St Francis at the mouth of the Magog and E of Montreal It is the commercial and market center for a surrounding farm region and is an industrial city, with hosiery, rayon, and knitting mills, steel foundries, railroad workshops, milk canning, and plants producing mining machinery, rubber products, clothing, gloves, and furniture There are asbestos mines near by Sherbrooke is a Roman Catholic episcopal see, and the Séminaire St Charles Borromée, affiliated with the Univ of Montreal, is here

Sherburn, village (pop 1,030), S Minn, W of Fairmont near the Iowa line It is a resort in a lake and farm region

Sherburne, village (pop 1,192), S central N Y, SW of Utica, settled 1793, inc 1830 Knitted goods and dog foods are made A state game farm is near here

Shere Ali (shēr'ä'lē, shâr') or **Sher Ali** (shâr'), 1825–79, emir of Afghanistan (1863–79), son of Dost Mohammed His succession was opposed by other members of his family, notably his brothers Shere Ali turned from his friendship with the British toward friendly relations with Russia Trouble resulted and finally brought on the second of the Afghan Wars Shere Ali's forces were defeated by the British, and he had to flee the country He died in exile, and his entire party was ousted from Afghanistan in 1880 His nephew Abdu-r-Rahman Khan became emir

Sherebiah (shĕ"rĕbī'ŭ), companion of Ezra and signer of the covenant Ezra 8 18,24; Neh. 8.7, 9.4,5, 10 12, 12 8,24

Sheresh (shē'rĕsh), Manassite 1 Chron 7.16

Sherezer (shĕ-rē'-), one of a group sent to ask the priests about fasting Zech 7 2

Sheridan, Philip Henry (shĕ'rĭdun), 1831–88, Union general in the Civil War, b Albany, N Y He spent his early life in Somerset, Ohio After graduation from West Point (1853), he saw varied service on the frontier In the Civil War, Sheridan, made colonel of the 2d Michigan Cavalry (May, 1862), took part in the Union advance on Corinth, Miss., under H. W Halleck For his victory over Confederate cavalry at Booneville, Miss., on July 1, 1862, he was made a brigadier general of volunteers and was given command of a division of the Army of the Ohio Sheridan distinguished himself under D. C Buell at Perryville (Oct, 1862) and was promoted major general of volunteers (Dec, 1862) for his able conduct under W S Rosecrans at Murfreesboro In the Chattanooga campaign (1863) he aided G H Thomas in holding off the Confederates at Chickamauga and had a prominent part in the Union victory at Missionary Ridge Grant recognized his ability and, shortly after he was made commander in chief, appointed Sheridan commander of the cavalry corps of the Army of the Potomac (April, 1864) In a notable raid (May 9–24, 1864) beyond Lee's army in the Wilderness campaign, he destroyed communications and supplies and defeated J E. B Stuart at Yellow Tavern The success of the Confederate general J. A Early in the Shenandoah Valley prompted Grant to give Sheridan command of the Union forces there in Aug, 1864 At Winchester (Sept. 19) and Fishers Hill (Sept 22) Sheridan roundly defeated Early and drove him up the valley Sheridan then slowly withdrew, systematically laying waste to the Shenandoah so that, as he reported, even a crow flying over the place would have to take his rations with him But Early advanced again, and on the morning of Oct 19, while Sheridan was at Winchester, 15 mi away, he surprised the Federals at Cedar Creek and drove them back Upon hearing of the defeat Sheridan hurried to the field, rallied his men, and, counterattacking, won a decisive victory (This success was highly dramatized by Thomas Buchanan Read in his poem, "Sheridan's Ride") In March, 1865, Gen George Custer of Sheridan's army defeated the remains of Early's command at Waynesboro Sheridan then moved eastward, destroying Confederate communications as he went, and joined Grant near Petersburg After his victory at Five Forks (April 1, 1865), he pursued Lee vigorously and cut off the Confederate retreat at Appomattox Courthouse, forcing Lee's surrender. From May, 1865, to March, 1867, Sheridan commanded the Military Division of the Gulf His force on the Mexican border was instrumental in causing the fall of Maximilian in 1867 In Reconstruction days he commanded the 5th Military Dist (Texas and Louisiana) from March until Sept, 1867, when President Johnson transferred him to the command of the Dept of the Missouri because of the excessive rigor of Sheridan's administration In the Franco-Prussian War he was a military observer with the Prussian army Sheridan was again sent to Louisiana in 1875, when the revolt against Republican rule created great public disturbance His military rule was even more severe than before, and his name is anathema in Louisiana even today On W T Sherman's retirement in 1883, Sheridan was made commanding general of the U S army He was promoted general shortly before his death Sheridan was not a brilliant general, but his flair for leadership and ready fighting ability made him the outstanding Union cavalry commander See his *Personal Memoirs* (1888), biographies by P C Headley (1889) and H C Davies (1895), Joseph Hergesheimer, *Sheridan a Military Narrative* (1931), A H Burne, *Lee, Grant, and Sherman* (1939), C C. Rister, *Border Command General Phil Sheridan in the West* (1944).

Sheridan, Richard Brinsley, 1751–1816, British dramatist and politician, b Dublin After his elopement in 1773 with Elizabeth, daughter of the composer Thomas Linley, Sheridan began writing for the theater and in 1776 became part owner and director of the Drury Lane Theatre Sheridan's masterpieces are *The Rivals* (1775) and *The School for Scandal* (performed 1777), comedies of manners intended to instruct as well as to entertain *The Critic* (performed 1779) is a dramatic caricature modeled on *The Rehearsal* (1671) of the 2d duke of Buckingham Other noteworthy dramatic works are the comic opera *The Duenna* (performed 1775) and *A Trip to Scarborough* (performed 1777), an adaptation of *The Relapse* (1696) by Vanbrugh Several of Sheridan's characters, particularly Mrs Malaprop, Lydia Languish, Bob Acres, and Lady Teazle, are comic classics Entering Parliament in 1780, Sheridan became one of the most brilliant orators of his time He played a prominent part in the impeachment of Warren Hastings and with Charles James Fox defended the French Revolution The burning in 1809 of the new Drury Lane Theatre virtually ruined Sheridan financially See his plays and poems (ed by R C Rhodes, 5 vols, 1928), biographies by R C Rhodes (1933), Alice Glasgow (1940), Kenelm Foss (1940), and Lewis Gibbs (1948) Sheridan's mother, **Frances Sheridan,** 1724–66, wrote a popular novel, *Memoirs of Miss Sidney Bidulph* (3 vols, 1761, enl ed, 1767), *The History of Nourjahad* (1767), an Oriental tale, and *The Discovery*, a comedy staged in 1763

Sheridan. 1 Lumber town (pop 1,338), co seat of Grant co, S central Ark, NW of Pine Bluff, in a farm region **2** Town (pop 1,720), central Ind, NNW of Indianapolis **3** City (pop 1,294), NW Oregon, NW of Salem, in a lumber and fruitgrowing area, settled 1847, inc 1880 It was named for Gen Philip Sheridan **4** City (pop 10,529), co seat of Sheridan co, N Wyo, on Goose Creek 20 mi E of the Bighorn Mts, in a coal-mining, cattle-raising, farming, and dude-ranch area, settled 1878, laid out 1882, inc 1884 A railroad division point and the largest city in N Wyoming, it refines sugar and has farm-product processing plants A rodeo and a flower show are annual events Near by are a U S veterans' hospital (on the site of Fort MacKenzie) and the state industrial school for girls. To the south are a number of historic places, including a reproduction of Fort Phil Kearny (a post in the 1860s) and the site of the Fetterman massacre, where Indians wiped out a force of soldiers

Sheriffmuir (shĕ'rĭfmvōōr"), battlefield in Perthshire, Scotland, near Dunblane It was the scene, Nov 13, 1715, of an indecisive battle between the Jacobites under John Erskine, earl of Mar, and George I's forces under John Campbell, 2d duke of Argyll.

Sherley, Sir Anthony see Shirley, Sir Anthony.

Sherman, Francis, 1871–1926, Canadian poet, b. Fredericton, N B A successful banker, he published during his lifetime only the small volume *Matins* (1896) Other poems, which had been printed only in private editions, were collected for his *Complete Poems* (1945), which established his reputation His work is reminiscent of the Pre-Raphaelites in style and sensitivity

Sherman, Henry Clapp, 1875–, American chemist, b Ash Grove, Va, near Washington, D C, grad Maryland Agricultural College (B S, 1893), Ph D Columbia, 1897 From 1895 he was associated with Columbia Univ, as Mitchill professor of chemistry (from 1924 to 1946) and as executive officer of the chemistry department (1919–39) An authority on nutrition, he served on the National Research Council and the Public Health Association and as research associate of the Carnegie Institution (1912–29, 1933–) His research has added especially to knowledge of the contributions of vitamins and minerals in the diet to the maintenance of optimum health His many works include *Chemistry of Food and Nutrition* (1911, rev ed, 1946), *Food Products* (1914, rev ed, 1948), *The Vitamins* (with S L Smith, 1922, rev ed, 1931), *Food and Health* (1934, rev ed, 1947), *Essentials of Nutrition* (with C S. Lanford, 1940, rev ed, 1943), *Foods Their Values and Management* (1946), *Calcium and Phosphorus* (1947), and *The Nutritional Improvement of Life* (1950)

Sherman, James Schoolcraft, 1855–1912, Vice President of the United States (1909–12), b near Utica, N Y, grad Hamilton College, 1878 He was admitted (1880) to the bar and was (1884–85) mayor of Utica Sherman served (1887–91, 1893–1909) as a Republican in Congress and headed the House Committee on Indian Affairs for 14 years In 1908 he was elected Vice President on the Republican ticket along with William H Taft Sherman was renominated in 1912 but died shortly thereafter, and Nicholas M Butler ran in his place.

Sherman, John, 1823–1900, American statesman, b Lancaster, Ohio, brother of William Tecumseh Sherman He studied law, was admitted (1844) to the bar, and practiced law several years in Mansfield, Ohio, before he moved (1853) to Cleveland He had been a delegate to the Whig conventions of 1848 and 1852, and after the passage of the Kansas-Nebraska Bill he intensified his political activities He helped organize the Republican party in Ohio and presided over the first Republican state convention in 1855 Sherman, a moderate opponent of slavery expansion, served (1855–61) in the House of Representatives and quickly rose to prominence As chairman (1859–61) of the Committee on Ways and Means, he was influential in the passage of the Morrill Tariff Act of 1860 Sent (1861) to the Senate to fill the vacancy caused by the resignation of Salmon P Chase, he served there until 1877 He became (1867) chairman of the Senate finance committee and played a leading role in government finance in the Reconstruction period He had supported the Legal Tender Act of 1862 and the National Banking Act of 1863, but, opposed to Secretary of the Treasury Hugh McCulloch's plan to retire the greenbacks in circulation (see Greenback), Sherman vigorously pushed a compromise plan for resuming specie payment He forced the Resumption Act of 1875 through the Senate, and as Secretary of the Treasury (1877–81) under President Rutherford B Hayes, Sherman directed the working out of the act in resumption of specie payment In 1880, 1884, and 1888 he was a candidate for the Republican nomination for President Again (1881–97) in the Senate, he was associated in 1890 with the passage of the Sherman Anti-Trust Act and the Sherman Silver Purchase Act He resigned from the Senate to provide a seat for Marcus A Hanna in 1897 The same year he was appointed Secretary of State by President William McKinley Because of age and failing memory, he retired to private life in 1898 He wrote *Recollections of Forty Years in the House, Senate, and Cabinet* (1895) See *The Sherman Letters* (ed by R S Thorndike, 1894), biographies by T. E. Burton (1906) and W S Keir (1908).

Sherman, Roger, 1721–93, American statesman, b Newton, Mass Sherman helped to draft and signed the Declaration of Independence He was long a member (1774–81, 1783–84) of the Continental Congress, helped to draw up the Articles of Confederation, and after serving as a member of the Federal Constitutional Convention was one of the strongest proponents of the new Constitution He was prominent in Connecticut colonial and state politics and was mayor of New Haven, treasurer of Yale College, a member of the House of Representatives (1789–91) and U S Senator (1791–93) See biographies by L H Boutell (1896) and R S Boardman (1938)

Sherman, Stuart Pratt, 1881–1926, American critic and educator, b Anita, Iowa, grad Williams, 1900, Ph D Harvard, 1906 Professor of English at the Univ of Illinois from 1907 to 1924, he resigned to edit the literary section of the New York *Herald Tribune* With others he edited *The Cambridge History of American Literature*. He stood midway between the conservatives and the radicals in his biography of Matthew Arnold (1917) and in his critical works, among them *Americans* (1922), *The Main Stream* (1927), and *The Emotional Discovery of America and Other Essays* (1932) See his *Life and Letters* (ed by Jacob Zeitlin and H. E. Woodbridge, 1929)

Sherman, William Tecumseh, 1820–91, Union general in the Civil War, b Lancaster, Ohio After the death of his father (1829) he lived in the family of Thomas EWING, whose daughter, Eleanor Boyle EWING, he married in 1850 He was graduated from West Point (1840), spent several years at various Southern garrisons, served in California in the Mexican War, and was later stationed at St. Louis and at New Orleans Sherman, resigning from the army in 1853, was a banker in San Francisco and New York (1853–57) and a lawyer in Leavenworth, Kansas (1858–59) In 1859 he was made superintendent of the State Seminary of Learning and Military Academy opened in Jan , 1860, near Alexandria, La (now Louisiana State Univ at Baton Rouge), but resigned in Jan , 1861, when Louisiana seceded In May he rejoined the U S army as a colonel Sherman commanded a brigade at Bull Run (July) and in August was made a brigadier general of volunteers and sent to Kentucky There he succeeded Robert Anderson in command of the Dept of the Cumberland (Oct), but in November he was replaced by Buell and transferred to the Dept of the Missouri Sherman distinguished himself as a division commander at Shiloh (April, 1862) and was promoted major general in May He took part in operations about Corinth, occupied Memphis (July), and commanded the Dist of Memphis (Oct –Dec , 1862) After his defeat at Chickasaw Bluffs in the first advance of the VICKSBURG CAMPAIGN, he served under J A MCCLERNAND in the capture of Arkansas Post (Jan , 1863) In the successful move on Vicksburg, Sherman ably led the 15th Corps In July he was made a brigadier general in the regular army When U S Grant assumed supreme command in the West, Sherman became commander of the Army of the Tennessee (Oct , 1863) He commanded the Union left at Missionary Ridge in the CHATTANOOGA CAMPAIGN (Nov), went to the relief of A E BURNSIDE at Knoxville (Dec), and destroyed Confederate communications and supplies at Meridian, Miss , in Feb , 1864 On Grant's becoming commander in chief Sherman succeeded him as supreme commander in the West (March). His ATLANTA CAMPAIGN (May–Sept , 1864) resulted in the fall of that city on Sept 2, and on Sept 9 he ordered its evacuation The Confederate attempt to draw him back failed (see HOOD, JOHN BELL), and Sherman burned (Nov 15) most of Atlanta and the next day, with 60,000 men, began his famous march to the sea With virtually no enemy to bar his way, he was before Savannah in 24 days, leaving behind him a ruined and devastated land Savannah fell on Dec 21, and in Feb , 1865, Sherman started northward to close in on Lee from the rear Every step now reduced the area upon which the Confederates in Virginia could depend for aid His advance through South Carolina (the state which in the eyes of Sherman's men had provoked the war) was slower but even more destructive than the march through Georgia In North Carolina, J F JOHNSTON opposed Sherman in engagements at Averasboro and Bentonville, but after hearing of Lee's surrender, he asked for terms Sherman, understanding the South and the ruin wrought there better than any other Union general, offered him generous terms that practically amounted to a plan of Reconstruction, but Secretary of War Stanton repudiated them Johnston then surrendered the last major Confederate army on the same terms as Lee (April 26, 1865) Sherman was promoted lieutenant general in 1866 and general in 1869, when he succeeded Grant as commander of the U S army He saw more clearly than any other Civil War general that modern warfare was completely unlike its 18th-century counterpart Since the Civil War was a war between free peoples, Sherman maintained that only by breaking the war spirit of the enemy, noncombatant as well as combatant, could victory be won—hence the march through Georgia and South Carolina His answer to the mayor of Atlanta, who had protested the evacuation, epitomizes his sentiments "War is cruelty, and you cannot refine it " Sherman is said by many to be the greatest of Civil War generals How effective his actions were is proved by the fact that his name is still cordially detested in the South See his memoirs (1875), *The Sherman Letters* (correspondence with his brother John SHERMAN, ed by R S Thorndike, 1894), and *Home Letters of General Sherman* (ed by M A DeWolfe Howe, 1909), biographies by Edward Robins (1905), Lloyd Lewis (1932), and B H Liddell Hart (1929), Anna McAllister, *Ellen Ewing, Wife of General Sherman* (1936), A H Burne, *Lee, Grant, and Sherman* (1939)

Sherman. 1 Town (pop 1,058), E Maine, E of Mt Katahdin, in the Aroostook farming region, inc. 1862 **2** City (pop 17,156), co seat of Grayson co , N Texas, near the Red River NNE of Dallas, settled 1849, inc 1854 Stagecoaches once passed through Sherman, which is now a highway and railroad junction It processes farm produce flour mills, cereal plants, and feed mills use grain, cotton gins, cottonseed-oil mills, a textile mill, and a garment factory use cotton Despite these and other industries Sherman has somewhat the air of a wealthy farm market Austin College (Presbyterian, coeducational) was founded in 1849 in Huntsville and later moved to Sherman

Sherman Anti-Trust Act, 1890, passed by the U S. Congress It took its name from Sen John Sherman Increasing public opposition to large corporations and to combinations of large business caused much political turmoil The demand for restrictive legislation grew to great power in the 1880s and finally brought about the Sherman Anti-Trust Act Based on the constitutional power of Congress to regulate interstate commerce, the act declared illegal every contract, combination (in the form of trust or otherwise), or conspiracy in restraint of interstate and foreign trade A fine of $5,000 and imprisonment for one year were set as the maximum penalties for violating the act The Supreme Court by its decisions, as in the E C Knight Company Case of 1895, reduced the force of the act greatly in the first decade of its operation As a result of President Theodore Roosevelt's "trust-busting" campaigns, however, the Sherman Anti-Trust Act was later invoked with some success, and under the terms of the act the Northern Securities Company was ordered to dissolve in 1904 The act was further employed by President W H Taft in 1911 to dissolve the Standard Oil trust and the American Tobacco Company In the Wilson administration, the CLAYTON ANTI-TRUST ACT (1914) was enacted in supplement to the Sherman Anti-Trust Act, and the FEDERAL TRADE COMMISSION was set up (1914) In the 1920s anti-trust action sharply declined, but under President F D Roosevelt, new acts supplementary to the Sherman Anti-Trust Act were passed (e g , the ROBINSON-PATMAN ACT), and anti-trust action was vigorously resumed In recent years the new decisions of the Supreme Court have eased many of the old difficulties of government prosecution of trusts See Thurman Arnold, *The Sherman Antitrust Act and Its Enforcement* (1940)

Sherman Silver Purchase Act, 1890, passed by the U S Congress to supplant the BLAND-ALLISON ACT of 1878 It not only required the U S government to purchase nearly twice as much silver as before, but also added substantially to the amount of money already in circulation The Sherman Silver Purchase Act (supported by John Sherman only as a compromise with the advocates of FREE SILVER), when put into operation, threatened to undermine the U S Treasury's gold reserves After the Panic of 1893 broke, President Grover CLEVELAND called a special session of Congress and secured (1893) the repeal of the Sherman Silver Purchase Act

Sherridon (shĕ'rĭdun), town (estimated pop 1,500), W Man , on Kississing Lake and N of The Pas It is a center of copper and gold mining and the north terminus of the Manitoba Northern Railway

Sherriff, Robert Cedric, 1896–, English dramatist His experience in the First World War gave him material for his impressive play *Journey's End* Produced in 1929, it met with huge success in England and the United States *St Helena,* written with Jeanne de Casalis, was produced in 1936 Sherriff has also written many moving-picture scenarios, including *Goodbye Mr Chips* (1936) and *Odd Man Out* (1945)

Sherrill, Clarence Osborne, 1876–, American army officer and city manager of Cincinnati (1926–30, 1937–44), b Newton, N C , grad West Point, 1901 As an engineer, Sherrill advanced through the army grades to become colonel in 1917 After service in France in the First World War he was director of public buildings and parks in Washington, D C In 1926 he resigned from the army to become city manager of Cincinnati after that city had shaken itself loose from party-ridden politics Four years later he was succeeded by C A DYKSTRA When Dykstra resigned (1937) to become a university president, Colonel Sherrill was immediately recalled as city manager

Sherrill, city (pop 2,184), central N Y , W of Utica, inc 1916 Silverware is made here

Sherrington, Sir Charles Scott, 1861–, English physiologist, educated at Cambridge He was professor of physiology at the universities of Liverpool, London, and Oxford He was knighted in 1922 Noted for his research on the nervous system, he shared with E D Adrian the 1932 Nobel Prize in Physiology and Medicine for their discoveries regarding the function of the neuron Among his works are *The Integrative Action of the Nervous System* (1906), *Mammalian Physiology* (1919, rev ed 1929), *The Brain and Its Mechanism* (1933), and *Man on His Nature* (1940)

sherry [from Jerez], naturally dry, fortified wine, pale amber to brown in tint It is made from grapes grown in the region of Jerez de la Frontera, Andalusia, Spain After fermentation the wine is fortified with brandy Matured in cask for several years, the wine when mature is classed as *palma,* very dry, *raya,* full and rich, or *palo cortado,* an intermediate variation. The big sherry houses blend the wines with reserves from the Soleras, collections of flavoring wines from very fine vintages, kept in dated casks and maintained for long periods by exact replenishment of the blending wine withdrawn from the oldest cask with wine from the next oldest The varieties of sherry include AMONTILLADO and manzanilla, dry *aperitif* wines of the *palma* type, the fairly sweet, fruity oloroso and amoroso, blended from *palo cortado,* and the very sweet golden or brown sherries, *raya* blends The dessert sherries are usually colored and sweetened by the addition of dark, syrupy wines Sherry contains from 15 to 23 percent of alcohol, the more highly fortified wines being for export Wines of the sherry type are produced in the United States and Latin America Sherry must be long matured in wood and bottle to acquire the mellowness demanded of blended wines It is widely used as a flavoring in fine cookery. See H Warner Allen, *Sherry* (1933)

's Hertogenbosch (sĕr'tōkhŭnbŏs'), Fr *Bois-le-Duc* (bwa"-lu-dük'), municipality (pop 53,432), capital of North Brabant prov , S central Netherlands It is a manufacturing center for electric-light bulbs, bicycles, food products, and cigars Chartered in 1184, it was a fortress city until 1876 It suffered heavy damage in the Second World War

Sherwood, Mary Martha (Butt), 1755–1851, English writer of moral and religious stories for young readers She is best known for *Little Henry and His Bearer* (1815), a story of India, and the popular *History of the Fairchild Family* (1818–47) See biography by F J H Darton (1910)

Sherwood, Robert Emmet, 1896–, American playwright, b New Rochelle, N Y , grad Harvard, 1918, son of Rosina Emmet Sherwood, painter and illustrator After service in the First World War, Sherwood wrote for *Vanity Fair* and *Life;* he served as editor of *Life* from 1924 until 1928. His first successful play, *The Road to Rome* (1927), was equaled in popularity by his *Reunion in Vienna* (1931) and *The Petrified Forest* (1935) He won the Pulitzer Prize in drama three times, in 1936 for *Idiot's Delight* (1936), in 1939 for *Abe Lincoln in Illinois* (1938), and in 1941 for *There Shall Be No Night* (1940) All of these plays have been published. Politically active, Sherwood was director of overseas operations in the Office of War Information, and a speech writer for President Franklin D. Roosevelt On the basis of the papers of Harry Hopkins he wrote a memoir, *Roosevelt and Hopkins* (1948), one of the most important and comprehensive histories of the Second World War, it won the 1949 Pulitzer Prize in biography Sherwood collaborated with Irving Berlin and Moss Hart in the musical comedy *Miss Liberty* (1949)

Sherwood Forest, formerly a large royal forest, Nottinghamshire, England, including the district of the DUKERIES Today remnants of the forest exist near Mansfield and Hucknall The forest is most celebrated as the haunt of Robin Hood and his famous band Alfred Noyes has written two poems on Sherwood Forest

Sheshach (shē'shăk), mysterious name apparently meaning Babylon Jer 25 26, 51 41

Sheshai (shē'shī), son of ANAK

Seshan (shē'shăn), descendant of Judah 1 Chron. 2 31,34,35

Sheshauen or **Sheshawen,** Morocco see XAUEN

Sheshbazzar (shĕsh'shbă'zar), probable predecessor of Zerubbabel as governor of Jerusalem, commissioned by Cyrus to carry back the sacred vessels. Ezra 1 8,11, 5 14,16 Some think him identical with ZERUBBABEL and SHENAZAR

Sheshonk I (shē'shŏngk), d c 924 B C , king of ancient Egypt (c 945–c 924 B C), founder of the Libyan dynasty Originally a commander of mercenaries at Heracleopolis—an office hereditary in the family—he assumed royal authority when the weak dynasty at Tanis died out He captured Gaza and presented it to Solomon Later he overran (c 926 B C) all Palestine He enlarged the Karnak temple and on its walls recorded the tribute paid him in Palestine and Nubia His temple court (314 ft wide and 269 ft deep) is the largest ever built, and it was fronted by a huge pylon Sheshonk is the Shishak (shī'shăk) of the Bible 1 Kings 9 16, 11 40, 14 25, 26 The name occurs in English also as Shoshenk

Sheth 1 See SETH **2** Otherwise unknown person mentioned in an obscure passage Num 24 17

Shethar (shē'thur), prince and counselor of King Ahasuerus Esther 1 14

Shethar-Boznai (-bōz'nāī), Persian who tried to obstruct the building of the second Temple Ezra 5 3,6, 6 6,13

Shetland (shĕt'lund) or **Zetland** (zĕt'lund), county (550 sq mi , 1931 pop 21 421, 1948 estimated pop 20,263), consisting of the **Shetland Islands** or **Shetlands,** an archipelago (70 mi long, NE of the Orkneys, Scotland The group consists of some 100 islands About a fourth of them are inhabited Mainland, Yell, Unst, Fetlar, Whalsey, and Bressay are the largest islands Lerwick, on Mainland, is the county seat, the only large town, and the chief port of the islands The surface of the islands is generally low and rocky, with few trees and little good farm land, in places cliffs rise to 1,000 ft The climate is humid and, despite the northern latitude, rather mild Oats and barley are the chief crops, but fishing (herring) and cattle and sheep raising are more important than farming The region is famous for its knitted woolen

goods The small, sturdy Shetland pony is bred here The islands were early occupied by the Norsemen, and traces of their speech and customs survive Shetland was not annexed to Scotland until 1472, when the islands were taken over as an unredeemed pledge of King Christian I of Norway and Denmark for the dowry of his daughter Margaret, who married James III of Scotland, See William Moffatt, *Shetland* (1934)

Shetland sheep dog, miniature working dog, very closely resembling the larger collie in appearance The "Sheltie," as the dog is often called, was developed in the Shetland Islands, near Scotland Although its exact ancestry is not known, it undoubtedly includes the working collies taken to the islands from Scotland The standards require that the shoulder height be between 12 and 15 in The heavy double coat is usually sable, black, or blue marked with various proportions of white and tan The hair of the mane and frill should be abundant, and the legs well feathered Although dainty in appearance the dog is sturdy and makes an intelligent easily trained pet and watchdog

Sheva (shē'vŭ). 1 Son of Caleb 1 Chron 2 49 **2** David's scribe see SHAVSHA

Shevchenko, Taras (tä'rus shĭvchĕn'kō), 1814–61, Ukrainian poet and nationalist Son of a bondman, he was apprenticed to a painter in St Petersburg, there the poet Zhukovsky met him and bought him free Becoming politically suspect because of the nationalist themes in his poetry, Shevchenko was exiled (1848–58) to Siberia, by the time he was pardoned, his health was broken His verses, written in simple folk language, were very popular in his country *Selected Poems* were rendered into English in 1945 He was the author also of the short-story collection *Music* (1882) and the autobiographical novel *The Artist* (1887)

Shiahs see SHIITES

Shibboleth (shĭ'bŏlĕth) [Heb ,=ear of corn or stream], test word which the Gileadites made the Ephraimites pronounce As Ephraimites could not say *sh* but only *s* as in "Sibboleth," this was regarded as a test of an Ephraimite, 42,000 Ephraimites were thus detected Judges 12

Shibmah (shĭb'mŭ), variant of SHEBAM

Shickshinny (shĭk'shĭ'nē), industrial borough (pop 2,354), NE Pa , on the Susquehanna and SW of Wilkes-Barre, inc 1861 It has a silk mill and anthracite collieries

Shickshock Mountains, range forming part of the Appalachian system, E Que , a continuation of the Notre Dame Mts extending c 100 mi east-west near the north coast of the Gaspé Peninsula Table-top Mt or Mt Jacques Cartier (4,160 ft) is the highest point in SE Canada

Shicron (shī'krŏn) [Heb ,=drunkenness], unlocated landmark, SW Palestine Joshua 15 11

Shidehara, Kijuro, Baron (kē"jōōrō', shēdā'hărä), 1872–, Japanese statesman A career diplomat, he was ambassador to the Netherlands (1914–15), vice foreign minister (1915), ambassador to the United States (1919 22), and foreign minister (1924–27, 1929–31) As foreign minister he pursued a conciliatory policy toward China, contrary to the desires of the army After the war he became head of the Progressive party and was prime minister from Oct , 1945, to May, 1946 Known as a liberal before the war, in post-war Japan he was regarded as a conservative He is connected by marriage with the Mitsubishi interests When in 1947 he opposed nationalization of the coal industry, he was ousted from the party

Shiel, Loch (lŏkh shēl'), lake, c 17 mi long and 1 mi. wide, Inverness-shire, Scotland It is drained by the Shiel river to Loch Moidart Prince Charles Edward raised his standard (1745) at Glenfinnan, at the head of Loch Shiel

shield, piece of defensive ARMOR, borne upon the left arm to ward off weapons in war prior to the introduction of gunpowder The ancient Greeks and early Romans carried circular shields, a later type being square and curved to the body The Normans of Sicily are said to have introduced, in the 11th cent., a shield comparable in shape to a boy's kite, and it was on shields of this shape that armorial designs were first represented With the disuse of shields in war, on the introduction of firearms, the form of shields carrying armorial bearings became varied For the shield in heraldry, see ESCUTCHEON

Shields, James, 1806–79, American soldier and statesman, b Altmore, Co. Tyrone, Ireland Coming to the United States in 1826, Shields settled in Kaskaskia, Ill , where he became a lawyer and entered politics A Democrat, he was a state representative (1836), state auditor (1839), and a justice of the state supreme court (1843–45) President Polk appointed him commissioner of the General Land Office in Washington in 1845, but Shields resigned the next year to become a brigadier general of volunteers in the Mexican War He was brevetted major general of volunteers for gallantry at Cerro Gordo, where he was wounded He also distinguished himself at Churubusco After the war he was governor of Oregon Territory, U S Senator from Illinois (1849–55), and U S Senator from Minnesota (1858–59). When the Civil War broke out he was engaged in mining in Mexico He offered his services to the Union and was made a brigadier general of volunteers. His division defeated T J (Stonewall) JACKSON at Kernstown in the Shenandoah Valley in March, 1862 After Stonewall had routed Banks, Shields and Frémont attempted to cut off his withdrawal but were defeated at Cross Keys and PORT REPUBLIC Shields resigned his commission in 1863 and ultimately settled in Carrollton, Mo He served in the legislature in 1874 and 1879 and was again in the U S Senate (Jan – March, 1879), filling a vacancy from Missouri

Shields, England see TYNEMOUTH (for North Shields) and SOUTH SHIELDS

Shiga (shē'gä), prefecture, S Honshu, Japan see OTSU, its capital

Shigatse (shēgät'sē), town (pop c 14,000) S central Tibet, on the Tsangpo (Brahmaputra) river After Lhasa, it is the most important trade center in Tibet Half a mile outside the town is the monastery of Tashilunpo (founded 1446), within its walls are c 5,000 monks headed by the Panchen Lama (see LAMAISM)

Shigaion (shĭgā'yun), plural **Shigionoth** (shĭgī'ō-nŏth), in Ps 7 1 and Hab 3 1, terms perhaps describing the character of the psalm

Shihon (shī'hŏn), town, N Palestine, probably near Nazareth Joshua 19 19

Shihor (shī'hôr), variant of SIHOR

Shihor-libnath (-lĭb'năth), unidentified boundary mark of Asher Joshua 19 26

Shiites (shē'īts) [Arabic,=sectarians], members of one of the great divisions of ISLAM, the other much more numerous group being the SUNNITES The Shiites (also called Shiahs) may be said to represent a Persian variation of the religion of Mohammed, and the Sunnites certainly are the norm of Moslems The essential belief of the Shiites is that Ali and his successors were divinely ordained caliphs and that any variation from this order is intolerable They regard Ali as almost half divine and consider HUSEIN a sacred martyr The nationalism of Persia under the early CALIPHATE and the detestation by the Persians of what they considered the usurpation of the divine position gave Shiism its peculiar attitude of looking for an IMAM or MAHDI, who was always in existence, but in hiding from the usurpers Hence arose the fanatical behavior which has characterized some of the Shiites, as evinced in the Ismaelites, the FATIMITE sect and the ASSASSIN fanatics The Shiites have many more festivals than the Sunnites and a much greater cult of saints They have also produced many more dervishes than other Moslems, and SUFISM arose among them Shiism is the religion of Persia, of Oman, and of Afghanistan The movements of BABISM and BAHAISM have Shiite bases

Shikoku (shĭkō'kōō), island (c 6,800 sq mi , 1940 pop 3,337,102, 1947 pop 4,074,708), Japan, S of Honshu and E of Kyushu, between the Inland Sea and the Philippine Sea It is the smallest (140 mi long and from 30 to 95 mi wide) of the four major islands Its mountainous, forested interior is sparsely settled Of the coastal cities, the largest are Matsuyama, Kochi, and Tokushima The chief exports of Shikoku are salt, copper, tobacco, lumber, and fruit

Shilhi (shĭl'hī), grandfather of King Jehoshaphat 1 Kings 22 42

Shilhim (shĭl'hĭm), variant of SHAARAIM

Shilka (shĕl'kŭ), river, 345 mi long, formed by the union of two rivers rising in Mongolia It flows ENE in Far Eastern Siberia, RSFSR, past the town of Shilka (1939 pop over 10,000) and joins the Argun river to form the Amur on the border between Russia and Manchuria It is navigable in its entire length

Shillaber, Benjamin Penhallow (shĭ'lubur), 1814–90, American humorist, b Portsmouth, N H As editor of a humorous weekly, the *Carpet-Bag* (1851–54), and creator of "Mrs Partington," the amiable and loquacious small-town gossip, he influenced Mark Twain and other writers His works include *Rhymes with Reason and without* (1853) and *Life and Sayings of Mrs Partington* (1854)

Shillelagh (shĭlā'lu), town, Co Wicklow, Ireland, SW of Aughrim The ancient Forest of Shillelagh gave its name to the Irishman's oak or blackthorn cudgel, the shillelagh or shillalah

Shillem (shĭl'ĕm), son of Naphtali Gen 46 24, Num. 26 49 Shallum 1 Chron 7 13.

Shillington, industrial borough (pop 4,932), SE Pa , near Reading, settled 1860 It produces building blocks, textiles, lumber, and limestone

Shillong (shĭlŏng'), town (pop 38,192), capital of Assam state, India At an altitude of 5,000 ft., it is a summer resort There are two colleges

Shiloah (shĭlō'u), variant of SILOAM.

Shiloh (shī'lō), in the Bible **1** Name appearing in a passage where the text is obscure Gen 49 10 **2** Place where the ark rested after the conquest of Judah and the home of the prophets Eli and Ahijah Here Samuel spent his boyhood. It was the sanctuary and general meeting place of the Levites until the Philistines captured the Ark of the Covenant Joshua 18 1, Judges 18 31, 21 19, 1 Sam 3, 4, 1 Kings 11 29, 12.15; 14 2, Jer 7 12 Shiloh has been identified as a ruin NNE of Jerusalem.

Shiloh, battle of, April 6–7, 1862, also called the battle of Pittsburg Landing, one of the great battles of the Civil War The battle took its name from Shiloh Church, a meetinghouse c 3 mi SSW of Pittsburg Landing, which was a community in Hardin co , Tenn , 9 mi S of Savannah on the west bank of the Tennessee river After the fall of Fort DONELSON, Gen U S Grant advanced up the Tennessee river and, on March 17, 1862, established headquarters for his Army of the Tennessee (45,000 men) at Savannah Five divisions were placed in the vicinity of Pittsburg Landing and one at Crump's Landing, 5 mi north Meanwhile, Gen D C Buell, commanding the Army of the Ohio (35,000 men), was marching W from Nashville to join Grant and crush the Confederate army at Corinth, Miss , strategic point on the Memphis-Charleston RR Gen A S Johnston, about to make a stand after leading the retreat from original Confederate positions in the West, commanded the army at Corinth (40,000 men), with Gen P G T Beauregard second in command Johnston's plan was to defeat Grant before Buell could arrive. He moved to attack on April 3, but because of delay in the 20-mile advance to the Union front, it was not until early on April 6 that his troops fell upon the enemy near Shiloh Church Grant's position was unfortified, in spite of orders to the contrary from Gen H W Halleck, Union commander in the West Having offensive plans of his own, Grant expected no attack, and consequently his irregularly placed divisions were thrown back in confusion at the Confederate assault In the day's fighting the Confederates swept the field, but Johnston was killed When Beauregard, who assumed command, ceased battle at nightfall, the Union forces had been pushed back over a mile from their first positions but on the hard-pressed left still held Pittsburg Landing, which the Confederates wanted to secure in order to cut off retreat With 20,000 reinforcements from the division at Crump's Landing and the advance divisions of Buell's army, the Federals took the offensive on April 7 Beauregard, outnumbered and without fresh troops, resisted for about eight hours and then proceeded to withdraw on Corinth, the Union command not making any effective pursuit Corinth was abandoned to the Union forces one month later Ultimately, Shiloh may be considered a Union victory because it led to later successful campaigns in the West It was one of the bloodiest contests of the war, losses on each side reaching over 10,000, and, except possibly Gettysburg it has been the subject of more controversy than any other Civil War battle See J C Ropes, *The Story of the Civil War* (1895–1913), J F Rhodes, *History of the Civil War* (1917).

Shiloh National Military Park see SAVANNAH, Tenn

Shiloni (shĭlō'nī) or **Shilonites** (shĭlō'nīts, shī'lō-nīts) see SHELAH **1** The term also refers to Shiloh, the place

Shilshah (shĭl'shu), son of Zophah 1 Chron 7 37

Shimane (shĭm'nä), prefecture, SW Honshu, Japan see MATSUE, the capital

Shimea (shĭ'mēu) [Heb ,=renown] **1, 2** Levites 1 Chron 6 30, 39 **3** See SHAMMUA **1 4** See SHAMMAH 1

Shimeah (shĭ'mēu) [Heb ,=renown] **1** See SHAMMAH **1 2** See SHIMEAM

Shimeam (shĭ'mĕum) [Heb ,=renown], Gibeonite 1 Chron 9 38 Shimeah 1 Chron 8 32

Shimeath (shĭ'mēăth) [Heb ,=known], mother of Jozachar the murderer 2 Kings 12 21

Shimei (shĭ'mēī) [Heb ,=famous] **1** Benjamite who cursed David 2 Sam 16 5–14, 1 Kings 2 36–46 **2** Royal official 1 Kings 1 8, 4 18 **3** Ancestor of Mordecai Esther 2 5 **4** Gershonite family 1 Chron 2 4 9,10 Shimi Ex 6 17 **5** Brother of Zerubbabel 1 Chron 3 19 **6** Simeonite 1 Chron 4 26,27 **7** Reubenite 1 Chron 5 4 **8, 9** Levites 1 Chron 6 29,42 **10** Course of priests 1 Chron 25 17 **11** Keeper of vineyards 1 Chron 27 27 **12, 13** Levites contemporary with Hezekiah 2 Chron 29 14, 31 12 **14, 15, 16** Husbands of foreign wives EZRA 10 23,33,38

Shimeon (shĭ'mēŏn) [Heb ,=famous], Israelite who had a foreign wife Ezra 10 31

Shimhi (shĭm'hī) [Heb ,=famous], Benjamite. 1 Chron 8 21

Shimi (shĭ'mī), variant of SHIMEI **4**

Shimizu (shĭmē'zōō), city (1947 pop 80,515), Shizuoka prefecture, central Honshu, Japan, a port on Suruga Bay It exports tea and oranges.

Shimma see SHAMMAH 1

Shimoda (shĭmō'dä), town, Shizuoka prefecture, central Honshu, Japan, at the south extremity of Izu peninsula, on the Sagami Sea Under the U S - Japanese treaty of 1854, its port was to be opened to American trade, but its poor harbor rendered this impracticable The first U S. consulate, under Townsend Harris, was opened at Shimoda in 1856

Shimon (shĭ'mŏn), name in a genealogy of Judah 1 Chron. 4.20

Shimonoseki (shē'mōnōsākē), city (1940 pop 190,022, 1947 pop 176,666), Yamaguchi prefecture, extreme SW Honshu, Japan An important port on Shimonoseki Strait, it is opposite Moji, Kyushu, with which it is connected by a tunnel.

Shimonoseki is a railroad and industrial center, with engineering works, shipyards, and metal and chemical plants It is also an important fishing port. There are well-known shrines In 1864 a fleet of U.S., British, French, and Dutch ships, in retaliation for hostile acts of the Chosu clan, bombarded the port The Treaty of Shimonoseki was signed here (1895) The city was bombed (1945) in the Second World War

Shimonoseki, Treaty of, 1895, ending the First CHINO-JAPANESE WAR. The negotiators and signers were Yuko Ito for Japan and Li Hung-chang for China Harsh terms, including a large indemnity, were imposed upon a badly defeated China The treaty provided for ending Chinese suzerainty over Korea, giving Korea at least nominal independence, and for the cession to Japan of Formosa, the Pescadores islands, and the Liaotung peninsula Later in 1895 Japan gave up Liaotung in exchange for an increase in China's indemnity payment

Shimrath (shĭm'răth) [Heb ,=watch], descendant of Benjamin 1 Chron 8 21

Shimri (shĭm'rī) [Heb ,=vigilant] **1** Descendant of Simeon 1 Chron 4 37 **2** Father of one of David's guard 1 Chron 11 45 **3** One who helped clean the Temple in Hezekiah's reign. 2 Chron 29 13

Shimrith (shĭm'rĭth), same as SHOMER **2.**

Shimrom (shĭm'rŏm) or **Shimron** (-rŏn) [Heb ,=watching place] **1** Son of Issachar Gen 46 13, Num 26 24, 1 Chron 7 1 **2** Unlocated town of Zebulun Joshua 11 1, 19 15 This may be the same as **Shimron-meron** (-mē'rŏn), a place whose king Joshua defeated Joshua 12 20

Shimshai (shĭm'shī, shĭm'shāī) [Heb ,=like the sun], author of a letter to Artaxerxes which stopped the work on the Temple Ezra 4 8,9,17,23

Shinab (shī'năb), king of Admah Gen 14 2

Shinano (shĭnä'nō), river, 229 mi long, flowing generally NNE through central and N Honshu, Japan, to the Sea of Japan at Niigata It is the longest river of the country

Shinar (shī'nur), in the Bible, the whole or a part of Babylonia Gen 10 10, 11 2, 14 1, Isa 11 11, Dan 1 2, Zech 5 11

Shiner, town (pop 1,520), S Texas, E of San Antonio, settled 1887 principally by Czechs, inc 1890 It processes farm products and has a brewery

Shingishu, Korea see SINUIJU

Shingle House, borough (pop 1,106), N Pa , near the N Y boundary NE of Smethport, settled 1808, inc 1902

shingles, virus infection of a nerve which usually affects one side of the body The condition, also known as *herpes zoster*, begins with pain similar to that of neuralgia, followed by reddening of the skin and the appearance of vesicles or blisters Scabs and sometimes scars form The lower thorax and the upper abdomen are the most common sites Vitamin B has been used in treatment In severe cases X-ray therapy has been found to be of benefit

Shinn, Everett, 1876 , American muralist and magazine illustrator, b Woodstown, N J , studied at the Pennsylvania Academy of the Fine Arts He painted murals for the Trenton city hall and for the Stuyvesant and Belasco theaters, New York At the Metropolitan Museum of Art is his *London Music Hall*

Shinnston, trade city (pop 2,817), N W Va , on the West Fork of the Monongahela and NNE of Clarksburg, in a mining region, settled 1818

Shinto (shĭn'tō), ancient native religion of Japan, still practiced in a form modified by the influence of Buddhism and Confucianism In its present form it is not so much a religion as a set of traditional rituals and customs involving pilgrimages to famous shrines and celebrating popular festivals The term *Shinto* is the equivalent in Chinese for the Japanese *Kami-no-michi*, "the way of the gods" or "the way of those above " The word *kami*, meaning "above" or "superior," is the name used to designate a great host of supernatural beings or deities In general the Kami are beneficent, many of them are felt to be responsible for the fertility of the crops It is significant that phallic worship was prevalent in ancient times Like other primitive religions, Shinto cannot be traced to its beginnings, because until the 5th cent the myths and rituals were transmitted orally for lack of a written medium There are, however, three compilations in which is gathered together much of the ancient belief and custom The mythical matter is contained chiefly in the *Kojiki* [records of ancient matters], prepared under imperial order and completed in A D 712, and the *Nihongi* [chronicles of Japan], completed in A D 720 Both were written in Chinese script The *Engishiki*, compiled in the 10th cent , is the first written record of ritual and prayers, the texts of prayers of earlier times are included From these first Japanese accounts of the religion of days then already far past it can be seen that a worship of the forces and forms of nature had grown into a certain stage of polytheism in which spiritual conceptions had but the slightest place Nor was there any clear realization of a personal character in the beings held to be divine. This was one reason why there were practically no idols. There was no one deity supreme over all, but some gods were raised to higher ranks, and the one who held the most exalted position was the sun-goddess, known as the Ruler of Heaven According to the mythology, Kami first had their being on the Heavenly Plain, after heaven and earth had taken form out of original chaos There were three Kami at first Others came after them At length two, Izanagi and Izanami, a pair of creators, standing on the rainbow, "the bridge of heaven," and piercing with a jewel spear the surface of the mass of matter beneath, made an island to which they descended They then produced the other islands of Japan and brought forth many gods and goddesses, among them Amaterasu-o-mi-kami, the sun-goddess, and her brother, Susa-no-wo, the storm-god, who in some ways seems to represent the principle of evil His rough behavior made Amaterasu retire into a heavenly cave, withdrawing her radiance from the earth Finally, enticed by the Kami with music, dancing, offerings, and proffer of a mirror, she emerged and restored light to the world From her the emperors of Japan are said to be descended in unbroken line from the first Jimmu Tenno, who ascended his throne in 660 B C The mirror bestowed upon him by his divine ancestress, it is claimed, is in her shrine (one of the great shrines of Ise at Uji-Yamada), where many pilgrims go to worship Thus the emperor was looked upon as divine, even while living, by divine right he was the chief priest, and as such he presided over ceremonies of foremost importance Aside from this, his religious responsibilities were delegated to others A Shinto shrine, unaffected by other religious influences, is a simple unpainted wooden building, having some object within it which is believed to be the dwelling place of the Kami Before the shrine stands the detached portal called the torii In many shrines Buddhistic influences are seen and Buddhist priests serve The worship under their direction is more elaborate than that of pure Shinto, which consists almost entirely in reciting prayers, dances by the priests and the offering of food Since Buddhism entered Japan in the 6th cent A D , the two religions have been mingled until the separate elements can hardly be dissociated, although a vigorous effort was made, beginning in the 17th cent , to revive the old ways and ideas, and after the restoration of imperial power in 1868, the ancient department of Shinto rites was reestablished Reverence of ancestors and worship of the spirits of dead heroes as Kami, originally introduced from China with Buddhism, is still an essential part of Shinto In present-day Shinto there is no dogmatic system Ceremonial purity is strongly insisted upon, and bodily cleanliness is an absolute necessity In ancient times wounds, sickness, and even death were considered states of pollution There is no formulated code of morals, only the socially immoral require to have ethics prescribed In 1882 all Shinto organizations were divided into two groups, state shrines (supervised and partially supported by the government) and sectarian churches The official cult became a powerful instrument in the hands of the militarists, who used it to glorify their policy of aggression Shinto flourished even abroad wherever large Japanese communities existed, as in the United States and South America The defeat of Japan in the Second World War brought about a collapse of state Shinto In 1946 in a New Year's rescript, Hirohito destroyed its chief foundation by disavowing his divinity, in the same year Gen Douglas MacArthur forbade the use of public funds to support Shinto At the present time sectarian Shinto thrives in much the same form as before, although some of the newer sects promote such strange innovations as faith healing See W G Aston, *Shinto* (1905), D C Holtom, *Modern Japan and Shinto Nationalism* (1943), R O Ballou, *Shinto: the Unconquered Enemy* (1945)

ship, large craft in which persons and goods may be conveyed on water The term BOAT is sometimes employed when ship is meant, and there are some vessels which may be called by either name Seagoing vessels large enough to be called ships were used in ancient times, as by the Phoenicians, Cretans, Egyptians, Greeks, Romans, and Chinese The voyages made by these ancient ships were sometimes years in duration Homer's *Odyssey* is an account of such a voyage The legendary voyage of Jason and his companions in the ship *Argo* is further evidence that seaworthy ships were known at the dawn of history Ancient ships were propelled by oars or by sails or by both They were of different types, for different functions Heavy and slow ships transported grain The trireme used by the Greeks and the Romans was the most famous warship of ancient times Its swiftness was given by oars In the beginnings of their history, the Scandinavians were seafaring men Their notably seaworthy viking ships, propelled both by oars and by sails, enabled them to make surprise attacks on settlements, as in Normandy and England Even Alfred the Great could not defend England from the vikings until he restored to Englishmen their forgotten skills in building and handling ships He is rightly considered the founder of the English navy. Such a ship as the vikings used carried Leif Ericsson to America. The structure of viking ships is well known from such evidences as the Gokstad ship, unearthed in 1880, it is 80 ft long, 16 ft 6 in wide, and 6 ft 10 in deep There was one 40-foot mast, and on each side of the ship 16 oars projected through holes in the bulwarks The introduction of the mariner's compass and the transoceanic voyages of the Portuguese who rounded Africa and of Columbus and other explorers of the New World gave new impetus to the building and navigation of ships Many sturdy and refined types of wooden sailing vessels were developed Men-of-war included ships of the line, corresponding to the modern battleships, frigates, corresponding to the modern cruisers, and the smaller ships known as corvettes By types of design, differing especially in such details as number and position of masts, with sails either square-rigged or fore-and-aft ships were differentiated into such types as the bark, the barkentine, the brig, the brigantine, the clipper, and the schooner Building wooden ships became an important industry, especially in England, Scotland, and America The success of Fulton's *Clermont* on the Hudson river (1807) prepared the way for superseding sailing ships by steamships, and later in the 19th cent. steel began to supersede wood as material for shipbuilding Steel ships are often much larger than wooden ships ever were, and steamships attain much greater speed than sailing vessels Steam engines were followed by steam turbines (see TURBINE), which actuated the propeller directly or through gear mechanisms Both methods of power production underwent many improvements across the years before the DIESEL ENGINE came into maritime use The first marine Diesel engine was of 20 horsepower and was used in 1902–3 on a French canal boat Four decades later a 12,000 horsepower oil engine was installed as the power plant of a vessel Freight ships are equipped with powerful machines for handling cargo Passenger ships are provided with the luxuries of the finest hotels Warships have guns of great power and long range and are protected by armor plate See E Kehl Chatterton, *Sailing Ships and Their Story* (1923) and *Ships and Ways* (1924), Hawthorne Daniel, *Ships of the Sailing Seas* (1925), S R H. Rogers, *Book of the Sailing Ship* (1931), H I Chapelle *American Sailing Craft* (1936), W H Clark, *Ships and Sailors* (1938), C E Gibson, *The Story of Ships* (1949)

Shiphi (shĭf'fī) [Heb ,=abundant], father of a Simeonite prince 1 Chron 4 37

Shiphmite (shĭf'mīt), geographical epithet of David's officer, Zabdi 1 Chron 27 27 Some connect it with the town of SHEPHAM

Shiphrah (shĭf'rŭ), midwife ordered to kill Jewish boys Ex 1 15

Shiphtan (shĭf'tăn) [Heb ,=judicious], Ephraimite Num 34 24

Shipka (shĭp'kä), pass through the Balkans, central Bulgaria It is 4,166 ft high At Gabrovo, north of the pass, the Russians defeated the Turks in 1878

Shipley, urban district (1931 pop 30,242, 1947 estimated pop 32,220), West Riding of Yorkshire, England, on the Aire and near Bradford Its industries include woolen milling, leather tanning and the manufacture of machine tools, metal products, paint, and pharmaceuticals

Shippen, Margaret, 1760–1801, wife of Benedict ARNOLD, b Philadelphia The daughter of Edward Shippen, a prominent Tory, Peggy Shippen became Arnold's second wife in 1779 Just how much influence she had on him is hotly debated After his treason at West Point, she joined him in New York and later went to England

Shippen, William, Jr., 1736–1808, American surgeon, b Philadelphia, M D Edinburgh, 1761 A pioneer lecturer on anatomy and midwifery, he was influential in stimulating the organization (1765) at the College of Philadelphia (later the Univ of Pennsylvania) of the first medical school in the country, where he served as professor of anatomy and surgery The actual plans for the medical school were drawn up by John Morgan Shippen claimed that the establishment of the school had been his idea and that Morgan had taken it over The controversy resulted in a bitter rivalry between the two men Shippen succeeded Morgan as head of the army medical service, both men were court-martialed—on charges arising in part from their personal feud—and acquitted Shippen afterward resumed his teaching at the medical school

Shippensburg, borough (pop 5,244), Cumberland and Franklin counties, S Pa , SW of Carlisle, settled 1738, inc 1819 It has a state teachers college

shipping, transportation of passengers and goods, particularly on waterways From prehistoric times shipping has been a major influence on the fortunes of the human race Water routes, unlike roads, did not need making Their difficulties and dangers were less than those offered by mountains, marshes, and enemy tribes Therefore the first civilizations developed on navigable rivers or on the coasts of warm seas Ancient peoples famous for their shipping enterprises include the Phoenicians, the Cretans (particularly in the Minoan period), the Egyptians, the Greeks, and the Romans.

The shipping of these highly civilized peoples was chiefly about the Mediterranean, but their voyages extended to India, along the coasts of Africa, and to Britain, where tin was secured The goods shipped consisted largely of luxuries, as spices, perfumes, and such fine pottery as the famous Athenian ware, but shipments of grain became important as cities grew in size Shipping never ceased to be of importance, but the great modern merchant marine (a country's commercial ships) appeared in the commercial revolution Leaders in shipping included the Spanish, the Portuguese, and the Venetians The activities of mariners of SW Europe included discovery and conquest in the New World In the 13th and 14th cent the HANSEATIC LEAGUE built up a great trading and fishing fleet, while the Italian city-republics developed marine insurance on modern lines England's shipping industry was associated with colonization, with the development of manufacturing, and especially with leadership in the Industrial Revolution The greatest competitors of the British were the French and the Dutch Both were vanquished in war and strangled in peace through the British NAVIGATION ACTS The introduction of slave labor into the American colonies made the slave trade a most profitable branch of shipping for two centuries America's vast resources in timber gave advantages in building wooden ships, and such swift sailing vessels of American design as the schooners and the clippers for a time were dominant in shipping Steamships of steel returned to England the chief place in shipbuilding and shipping From c 1900 until the First World War, Germany held second place in the world in both navy and merchant marine, and her competition with Great Britain's domination of the sea was an important cause of the war In the period between the First and Second World Wars the principal maritime nations were Great Britain and its dominions, the United States, Japan, Norway, Germany, Italy, the Netherlands, and France, but the United States merchant marine steadily declined In order to stimulate shipbuilding the Merchant Marine Act of 1936 created the U S MARITIME COMMISSION At the beginning of the Second World War U S trade was handicapped by the NEUTRALITY ACT American vessels were diverted to trade outside the war zones and many were transferred to other flags, mainly the Panamanian After the entry of the United States into the war (Dec , 1941), a huge shipbuilding program rapidly got under way, and standardized vessels were turned out by assembly-line methods In spite of losses in the war, at its end U S shipping had risen to first rank in the world Other countries ranked in the following order Great Britain, Norway, the Netherlands, France, and Panama See SHIP and SEA, LAW OF THE See M D Stevers and Jonas Pendlebury, *Sea Lanes the Story of Man's Conquest of the Oceans* (1935)

Shiprock, unincorporated village (pop c 2,100), extreme NW N Mex , in the Navajo Indian Reservation, for which it is a trade center It is named for a rock formation towering 1,400 ft above the surrounding desert

Shipstead, Henrik (shĭp'stĕd), 1881–, U S Senator (1923–46), b Kandyohi co , Minn , grad Northwestern Univ dental school, 1903 He practiced dentistry in Minnesota before he entered politics He was elected to the U S Senate on the Farmer-Labor party ticket in 1922 and was three times reelected He opposed the policies of the Coolidge and Hoover administrations, but in 1940 joined the Republican party See biography by Martin Ross and K F Chalkley (1940)

Shipton, Mother, traditional English prophetess Her supposed prophecies concerning the reign of King Henry VIII and later events were first published in 1641, and she rapidly entered the folklore of English literature Her fame was increased by the great fire of London (1666), which she was considered to have predicted A life by Richard Head, first published in 1667, more than a hundred years after her death, purported to identify her as Ursula Shipton (1488–1561) of Knaresborough, Yorkshire A new version of her life in 1862, with additional prophecies, was discovered to be a forgery

shipworm, wormlike marine bivalve mollusk of the genus *Teredo* It has very long siphons and small shells bearing spines with which it makes cavities in wood, causing great damage when it attacks ships or piers It lines the holes with a shell-like secretion

shipwreck, complete or partial destruction of a vessel as a result of collision, fire, grounding storm, explosion, or other mishap In recent times the number of ships wrecked at sea has steadily declined, except for ship destruction arising from war Factors contributing to the decrease are the improvements in ship construction, modern methods of navigation, efficient ship-to-ship and ship-to-shore radio communication, meteorological reports and storm warnings, and radar equipment The greater size and larger accommodations of present-day vessels, however, involve greater potential loss of life and cargo in each ship disaster In the following table are some of the major shipwrecks since 1850 (naval losses as a result of hostilities not included)

Year	Name	Type of Ship	Cause of Disaster	Lives Lost
1850	*Griffith*	steamship	fire	300
1852	*Atlantic*	steamship	collision	350
1854	*City of Glasgow*	steamship	never heard from	450
1854	*Prince*	steamship	sank in storm	500
1856	*Lyonnais*	steamship	collision	250
1857	*Central America*	steamship	sank	400
1858	*Austria*	steamship	fire	471
1859	*Pomona*	steamship	wrecked	400
1859	*Anglesea*	steamship	wrecked	446
1865	*Sultana*	steamship	boiler explosion	1,450
1873	*Atlantic*	steamship	wrecked	547
1874	*Cospatrick*	steamship	burned	470
1887	*Kapunda*	steamship	collision	300
1887	*Ida Belmore*	steamship		
1890	*Juberg*	steamship	wrecked	400
1891	*Utopia*	steamship	collision	574
1898	*Maine*	steamship	blown up	260
1898	*La Bourgogne*	steamship	collision	560
1898	*Cromartyshire*	sailing ship		
1904	*General Slocum*	steamship	fire	1,021
1904	*Norge*	steamship	wrecked	590
1905	*Berlo*	steamship	wrecked	350
1908	*Matsu Maru*	steamship	collision	300
1912	*Principe de Asturias*	steamship	struck rock	500
1912	*Titanic*	steamship	struck iceberg	1 517
1912	*Aichermaru*	steamship	sank	1 000
1914	*Empress of Ireland*	steamship	collision	1 024
1914	*Storstad*	collier		
1915	*Lusitania*	steamship	torpedoed	1,198
1915	*Eastland*	steamship	overturned	812
1916	*Hsin Yu*	steamship	sank	1 000
1919	*Volbanera*	steamship	lost	500
1921	*Hongkong Villalta*	steamship	hit rock	1 000
1922		steamship	sank in storm	300
1929	*Lee Cheong*	steamship	sank	400
1934	*Morro Castle*	steamship	fire	134
1947	*Himitra*	steamship	mine	392
1948	*Kinaya*	steamship	exploded	6 000
1949	*Taiping*	steamship	collision	600
1949	*Voronic*	steamship	fire	130

Shiras, George (shī'rŭs), 1832–1924, Associate Justice of the U S Supreme Court (1892–1903), b Pittsburgh, grad Yale, 1853 Admitted (1855) to the bar, he practiced in Iowa and Pennsylvania and attained eminence as lawyer His appointment as Associate Justice of the Supreme Court by President Benjamin Harrison was confirmed (1892) by the U S Senate after objections had been raised by Senators on the grounds that Shiras lacked judicial experience

Shiraz (shĕ-răz'), city (pop 129,023), SW Iran On a fertile highland plain, Shiraz is the metropolis of the Fars region (Seventh Prov) The city is noted for its wines its juicy lemons, and its big gardens The people have a reputation for gaiety Textiles, rugs, brocades, and metalwork are produced Shiraz became an important city in the 7th cent and was often the capital of the country, notably under Karim Khan in the 18th cent Karim Khan's vengeful successor, Aga Mohammed Khan razed part of it The city has also suffered much from earthquakes, but has been rebuilt Shiraz has the garden-enclosed tombs of Hafiz and Sadi The founder of Babism was a native of Shiraz

Shiré (shēr'ā), river, c 370 mi long, flowing out of Lake Nyasa in Nyasaland It flows S through Nyasaland and Mozambique to the Zambesi river

Shirlaw, Walter (shûr'lô), 1838–1909, American painter, b Scotland His parents settled in Chicago when he was a child At first a banknote engraver, he studied (1870–77) art in Munich and became widely known in the United States as illustrator, painter, muralist, and designer for stained glass He took an active part in the founding of the Art Institute of Chicago and the Society of American Artists (1878), of which he was first president He became a member of the National Academy of Design in 1888 Among his paintings are *Toning the Bell, Sheep Shearing in the Bavarian Mountains, Susanna and the Elders,* and *Street Scene in Brittany*

Shirley or **Sherley, Sir Anthony,** 1565-1635?, English adventurer He graduated from Oxford in 1581 and served in the army under the earl of Leicester and later under the earl of Essex, who became his patron He was knighted by Henry IV of France (1593) without the permission of Queen Elizabeth, who had him imprisoned Released after relinquishing the honor, he was still generally known as Sir Anthony Shirley organized a buccaneering expedition in 1595, and his travels to Jamaica and North America were related (1598) in Richard Hakluyt's collection of narratives of voyages In 1598 he left for Italy to aid in the capture of Ferrara but, on the instructions of Essex, he soon set out (1599) for Persia Falsely representing himself as an English envoy, Shirley gained some trade concessions and returned to Europe as the shah's envoy (1600) Barred from England, even after the accession of James I, he visited various European courts attempting to arrange alliances with Persia against the Turks Although unsuccessful in this, Shirley was favorably received at many courts Emperor Rudolf II sent him (1605) on a mission to Morocco and made him a count of the Holy Roman Empire He was made an admiral of the Spanish navy After the failure of an expedition against the Turks in the Mediterranean (1609), Shirley lost favor although Spain gave him a pension After 1611 he lived in Madrid in abject poverty His account of his Persian travels was published in London in 1613 See *The Three Brothers* (1825), a record of his travels and of those of his brothers Thomas and Robert, Samuel Chew, *The Crescent and the Rose* (1937), Boies Penrose, *The Shirleian Odyssey* (1938)

Shirley, James, 1596–1666, English dramatist He was ordained in the Church of England, but was converted to Catholicism and became a schoolmaster He wrote about 40 plays, both comedies and tragedies Among his comedies are *Hyde Park* (1632), *The Young Admiral* (1633), and *The Lady of Pleasure* (1635), his tragedies include *The Traitor* (1631), *The Cardinal* (1641), and *The Contention of Ajax and Ulysses* (1659), containing the famous dirge beginning, "The glories of our blood and state" See biography by A H Nason (1915)

Shirley, William, 1694–1771, colonial governor in British North America, b England After graduation from Cambridge Univ , he became a lawyer and in 1731 emigrated to Massachusetts In 1741 he became governor of Massachusetts He opposed the issuance of more paper money, and in the war with France he promoted the successful expedition (1745) against Louisburg British specie payments for the expenses of that expedition helped redeem the paper money and stabilize the colony's currency Shirley led (1755) an unsuccessful expedition against Canada in the French and Indian War and was briefly commander of British forces in America after the death of Gen Edward Braddock He was cleared of charges concerning the Canadian expedition and served as governor of the Bahamas until he retired (1770) to Roxbury, Mass. His correspondence was edited by D H Lincoln (1912). See biography by G A Wood (1920)

Shirley, town (pop 2,608), N Mass , E of Fitchburg, settled c 1720, set off from Groton 1753 Twine is produced A Shaker community was established here in 1793

Shirpurla see LAGASH

Shisha (shī'shu), David's scribe see SHAVSHA.

Shishak see SHESHONK I

Shitrai (shĭt'rāĭ, shĭtrā'ī), chief herdsman of David 1 Chron 27 29

Shittim [Heb , =acacias], last place in which the Israelites encamped before reaching the Holy Land It was E of Jericho Num 25, Joshua 2, 3 Abel-shittim Num 33 49 The valley of Shittim of Joel 3 18 is not the same place, and the Shittim of Micah 6 5 is not clear

shittim wood, wood of the shittah tree (Isa 41 19), probably an ACACIA, from which the Ark of the Covenant and furniture of the Tabernacle were made (Ex 25 10) The Revised Version of the Bible calls it acacia wood The various species with which it is usually identified have hard durable wood, light in color at first but becoming nearly as dark as ebony It seems to have been held in high esteem (Ex 25 5) The name shittim wood is sometimes given two plants not acacias, the BUCKTHORN and the false buckthorn

Shiva see HINDUISM

Shively (shĭv'lĭ) town (pop 1,273), N Ky , near Louisville, settled c 1885, inc 1938 Whisky is distilled here

Shiza (shī'zŭ), father of one of David's valiant men 1 Chron 11 42

Shizuoka (shĭzōō'ōka), city (1940 pop 212,198, 1947 pop 205,737), capital of Shizuoka prefecture, central Honshu, Japan, a port on Suruga Bay A tea and orange center, it is also known for its lacquer ware It is the site of the castle of the last of the Tokugawa shoguns A statue of Ieyasu, founder of that shogunate, is in Hodai-in, a Buddhist temple in the city Shizuoka prefecture is the chief tea-producing area of Japan The prefecture contains celebrated Fuji-yama, the cities of Hamamatsu and Shimizu, and the town of Shimoda, seat of the first U S consulate in Japan

Shkhara (shukhûr'ŭ), peak, 17,037 ft high, in the Greater Caucasus, SW of Nalchik

Shklovski, Victor Borisovich (vēk'tur bŭrē'suvĭch shklôf'skē), 1893–, Russian critic and novelist He was an exponent of the formalist school, which held that in literature only the form and structure of a work are important, not its content or the social conditions that produced it At the outbreak of the 1917 revolution, Shklovski served the provisional government at the front as a commissar After a period of opposition to the Bolshevist government he spent two years abroad, chiefly in Berlin, where he wrote *A Sentimental Journey* (1923) He returned to Petrograd and supported the Bolshevist government Among his critical works are *The Technique of the Writer's Craft* (1928) and *Material and Style in Leo Tolstoy's Novel "War and Peace"* (1928) A historical novel, *Minin and Pozharski,* appeared in 1940

Shkodër or **Shkodra,** Albania see SCUTARI

Shoa (shō'ŭ), people mentioned in Ezek 23 23 in connection with Mesopotamian nations

Shoa see ETHIOPIA

Shoals, town (pop 1,031), co seat of Martin co , SW Ind , on the East Fork of the White River and E of Washington, settled 1818, inc c 1845 In a farming area, its products include lumber and buttons Martin County State Forest is near by

Shobab (shō'băb) [Heb , =rebellious] **1** Son of David and Bathsheba 2 Sam 5 14 **2** Descendant of Caleb. 1 Chron 2 18

Shobach (shō′băk), Syrian general defeated by David 2 Sam 10 16,18 Shophach 1 Chron 19 16,18

Shobai (shō′bāī, shōbā′ī), family of temple doorkeepers Ezra 2 42, Neh 7 45

Shobal (shō′băl) [Heb ,=flowing], three descendants of Judah Gen 36 20,23,29, 1 Chron 1 38,40, 2 50, 4 1,2 These may be one person

Shobek (shō′bĕk), signer of the covenant Neh 10 24

Shobi (shō′bī) [Heb ,=captivating], Ammonite who was kind to David 2 Sam 17 27 See HANUN 1

Shocho or **Shochoh** (both shō′kō) see SOCOH

shock, sudden depression of the vital centers of the nervous system The condition may be caused by injury or emotional stress following an accident, by hemorrhage, by surgery, or by the use of certain drugs Symptoms include a grayish pallor of the skin, sweating, rapid thready pulse, rapid and shallow breathing, subnormal temperature, and low blood pressure Loss of consciousness and prostration may occur Necessary treatment should be given to the injury, and the individual should be wrapped in warm blankets and maintained in a supine or horizontal position, usually with the head lower than the legs Stimulants, e g , hot coffee or spirits of ammonia, can be given but this should be done only if the patient is conscious See also SHELL SHOCK

shock absorber, device on automobiles, airplanes, and machinery, used to supplement the action of the springs and to reduce the effects of sudden movements In the friction-type absorber the rebound of the springs is counteracted to a degree by the rubbing together of friction plates The pneumatic shock absorber is a two-sectioned air chamber, one telescoping into the other upon impact Differing only to the extent that oil is the agent upon which compression acts, the hydraulic shock absorber also has an air valve to enable air to be sent in when the oil pressure in the chamber falls The spring type of shock absorber is used in industrial power-cham drives so that starting impulses are taken up by the springs to avoid stress on the cham

shock therapy, in psychiatry, treatment employing chemical agents or electricity to effect improvement or cure in certain mental diseases The therapeutic possibilities of these treatments were discovered in the 1930s by Manfred Sakel (insulin), Medunas (metrazol), and Cerletti and Bini (electric) Injection of insulin causes coma while metrazol and electric shock result in convulsions similar to those of epileptics There is no general agreement as to the over-all value of shock therapy although electric shock has had unquestionable success with involutional melancholia and other depressive disorders Metrazol and insulin have accounted for a very limited number of remissions in cases of schizophrenia Shock therapy is often used to make the psychotic patient rational enough for psychotherapy

Shoco (shō′kō), variant of SOCOH

shoddy see WOOL

shoe, foot covering, usually of leather, consisting of a sole and an upper The SANDAL, probably the earliest form of shoe, was worn in Egypt, Greece, and Rome, the boot was used for hunting, for traveling, and, especially in Rome, for outdoor wear The thick-soled cothurnus was first worn on the Greek stage to give added height to actors representing gods and heroes Wooden clogs and shoes were known from ancient times and became the standard footgear of peasants about the 11th cent , especially in N Europe From the 15th cent either the flat clog or the patten raised on blocks was commonly fastened under the shoe to protect it from mud or water The patten was later attached to the upper and was probably the forerunner of the heeled shoe Europe went to picturesque extremes in footwear In fashion at different periods were shoes with points so long they required support by chains fastened at the knee, shoes with toes of exaggerated breadth, chopines with soles a foot high, "French" heels 3 in high, boots faced with fur or velvet, cavalier boots with wide, floppy tops In the 16th and 17th cent elaborate ornaments—rosettes, buckles, lace, and jewels—were worn by both sexes In colonial America the Indian moccasin, similar to the one-piece shoe worn by early tribes in N Europe, sometimes served as shoes, since real shoes were scarce The earliest known shoemaker in the colonies was Thomas Beard, who arrived in Salem, Mass , in 1629 Early shoemakers worked at home, in small shops, or as itinerant workers who went to homes to make up the annual supply Hand processes were used until the middle of the 19th cent Although some shoe machinery had appeared by 1845, the industry was revolutionized by a machine to stitch together soles and uppers, invented c 1858 by a shoemaker, Lyman Blake, and bought and developed by Gordon McKay Shoemaking has developed into a highly organized industry using over 180 different kinds of machines Most of the essential machines are manufactured in the United States by a consolidated concern and are leased on a royalty basis Modern footwear is made in a wide range of sizes, materials include fabrics, plastics, and rubber, as well as a variety of leathers Special models are built for sports, for different occupations, and for orthopedic purposes See R Turner Wilcox, *The Mode in Footwear* (1948)

Shoemakersville, borough (pop 1,081), SE Pa , N of Reading It has an onyx cave and natural onyx bridge Brick is made here.

shogun (shō′gōōn), title of the military dictators who from the 12th cent to the 19th cent were the actual rulers of Japan The title itself, *Sei-i-tai Shogun* [barbarian-subduing generalissimo], dates back to 794 and originally meant commander of the imperial armies The shogunate as a system of military government was established by YORITOMO after 1185 and was known as the *Bakufu* [literally, army headquarters] The imperial court at Kyoto continued to exist, but effective power and actual administration were in the hands of the hereditary shoguns The shogunate was held in turn by the Minamoto family and their successors, with their capital at Kamakura (1192–1333), the Ashikaga with their capital at Kyoto (1338–1597), and the TOKUGAWA, with their capital at Yedo (Tokyo) after 1603 The overthrow of the shogun in 1867 brought the MEIJI restoration and the beginning of modern Japan

Shoham (shō′hăm) [Heb ,=onyx], descendant of Merari 1 Chron 24 27

Sholapur (shō′lupōōr, shōlupōōr′), city (pop 212,620), W central Bombay state, India A fort of Mohammedan construction, perhaps dating from the 14th cent , is the most interesting monument The city was occupied by the Moguls (1668), by Hyderabad (1723), by the Mahrattas (1795), and by the British (1818) Today Sholapur is a major trading center

Sholes, Christopher Latham (shōlz), 1819–90, American journalist and inventor, b Mooresburg, Montour co , Pa He moved to Wisconsin, where he edited the Southport *Telegraph* and the Milwaukee *News* and *Sentinel* and also served as state senator and as collector of the port of Milwaukee In 1868, with Carlos Ghidden and S W Soulé, he received a patent for a typewriter See histories of the typewriter by C L Weller (1918) and H W Roby (1925)

Sholokhov, Mikhail Aleksandrovich (mēkhīl′ ălyĭksăn′drŭvĭch shō′lŭkhŏf), 1905–, Russian novelist His epic novel of the Don Cossacks, *The Silent Don* (4 vols 1928–40, Eng tr in 2 vols, *And Quiet Flows the Don*, 1934, and *The Don Flows Home to the Sea*, 1940, one-volume ed , 1942), is a work in the great tradition of the Russian novel It has been vastly popular at home and widely translated, winning for its author top ranking among Soviet writers Sholokhov wrote another novel of the Cossacks *Seeds of Tomorrow* (1932–33, Eng tr , 1935, title in England, *Virgin Soil Upturned*), dealing with collective farming Both novels have been used by Ivan Dzerzhinsky as the basis for operas, and *The Silent Don* has been filmed

Sholom Aleichem see ALEICHEM, SHOLOM

Shomer (shō′mĕr) [Heb ,=keeper] **1** See SHAMER **2** Mother of one of the murderers of King Joash 2 Kings 12 21 Shimrith 2 Chron 24 26

Shonnard, Eugénie Frederica (shō′nurd), 1886 American sculptor, b Yonkers, N Y studied under Rodin and Boudelle Her greatest success has been with animal subjects in a formalized manner, but she has also succeeded in portrait sculpture and in her granite and wood carving of the Pueblo Indians Examples of her work are *Rabbit* (Luxembourg Mus , Paris), *Brittany Peasant* and *His Majesty the Heron* (Metropolitan Mus), and *Two Geese* (Cleveland Mus)

shooting, the firing with RIFLE, SHOTGUN, PISTOL, or REVOLVER at stationary or moving targets The term *shooting* is also used in England to mean HUNTING In the 19th cent the sport of rifle shooting became increasingly popular in England and in America, where the National Rifle Association was formed in 1871 to standardize the rules for rifle marksmanship Matches were arranged and trophies offered Pistol and revolver events soon were included In 1906 shooting matches with a variety of firearms were included in the Olympic games In small-bore rifle shooting the targets range in distance from 50 ft to 200 yd , while in pistol and revolver shooting they range from 25 ft to 50 yd For long-range rifle marksmanship, targets from 200 to 1,000 yd are used A shooting target is made of black-on-white cardboard and is composed of a bullseye (black) and several concentric circles Often adjacent circles to the bullseye are blackened In small-bore rifle and pistol shooting a bullseye counts 10 points, and in long-range rifle marksmanship it counts 5 Trapshooting was begun in England in the 19th cent Moving targets—usually "pigeons," made of silt and pitch in the shape of saucers, which are hurled out of a mechanical contrivance—to simulate the flight of game birds are used in place of stationary targets The range is from 16 to 25 yd , a 12-gauge gun is preferred Trapshooting was adopted in the United States in the late 19th cent , and in 1900 the American Trapshooting Association was organized Annual championship matches are held at Vandalia, Ohio Skeet, in its early years called "round the clock" shooting, was developed in the United States after 1910 The trapshooting hurling contrivance is used, but the "pigeons" are hurled in a fixed circular path 40 yd in diameter The marksman shoots at the moving target from different positions corresponding to the perimeter and to the units of the circle, 12-, 16-, 20-, and 28-gauge guns are used In skeet matches 25 "pigeons" are thrown, of which 8 are hurled in pairs See also SPORTING GUN See H B C Pollard, *Gun Room Guide* (1930), Robert Churchill, *How to Shoot* (7th ed , 1938), W F Roper, *Pistol and Revolver Shooting* (1945), C E Chapel, *Rifle, Skeet, and Trap Shooting* (1949), Jack O'Connor, *Rifle Book* (1949)

shooting star or **American cowslip,** North American perennial wild flower (*Dodecatheon meadia*) of the primrose family The leafless flower stem is topped with a cluster of nodding flowers, in which the stamens project in a narrow cone and the petals, white to rose or lilac, flare backward like those of the related cyclamen The plant is cultivated in rock and wild gardens Both names also apply to other species of the genus

shooting star see METEOR

Shophach (shō′făk), variant of SHOBACH

Shophan (shō′făn), town, E of the Jordan, unless it be taken with ATROTH Num 32 35

Shore, Jane, d 1527?, mistress of Edward IV of England The wife of William Shore, a goldsmith, she became mistress to Edward IV c 1470 and exerted a great influence over the king After Edward's death she became the mistress of Thomas Grey, marquess of Dorset Probably only out of political motives, she was accused (1483) by Richard III of sorcery, placed in the Tower, and later forced to do public penance as a harlot Her great beauty attracted the king's solicitor, Thomas Lynon, but their proposed marriage failed to come about, and Jane died in poverty Her life was the subject of Nicholas Rowe's *Tragedy of Jane Shore* (1714) See C J S Thompson, *The Witchery of Jane Shore* (1933)

shore see COAST

Shoreditch, metropolitan borough (1931 pop 97,042, 1948 estimated pop 44,960) of E London, England It is a center of the furniture-making industry and suffered much air-raid damage in 1940–41 London's first theater was built in Shoreditch c 1576 by James Burbage

Shorewood, residential suburban village (pop 15,184), SE Wis , on Lake Michigan and the Milwaukee river adjoining N Milwaukee, settled c 1834 inc 1900 as East Milwaukee, renamed 1917 It has numerous recreational facilities

Shorewood Hills, village (pop 1,064), S Wis , near Madison, inc 1927

shoring (shō′rĭng), the placing of inclined braces against the sides of a building to prop it up for repairs or structural changes Generally 12″ x 12″ timbers called shores are used The upper end, which is sometimes capped with steel, fits into a niche cut in the brickwork, and the lower end rests on a base or platform, frequently of steel plate The application of wedges or steel jacks between the lower end of the shores and the platform permits the weight of a building to be shifted from underpinning to shoring Shores are frequently used as supplemental support for buildings damaged by fire or by underpinning failure When employed horizontally, e g , when a building is removed from between two others, the shores consist of wooden struts suitably braced and exerting pressure on wall plates in order to distribute the thrust over a wide area See Lazarus White and E A Prentis, *Underpinning Its Practice and Applications* (rev ed , 1950)

Short, Sir Francis Job (Sir Frank Short), 1857–1945 English engraver and water-colorist, at first an engineer He was knighted in 1911 He is best known for his mezzotints, which are sometimes combined with etching Among them are *Putney Bridge Wary Moon, Nathdale,* and *Ebb Tide* He also reproduced paintings of Turner and Watts He was professor of engraving at the Royal College of Art

short circuit The current in an electric circuit is deflected if it is given a path of less resistance, it is then said to be short-circuited In common usage the term is often used to indicate a broken ELECTRIC CIRCUIT, such as occurs when an electric FUSE "blows out" or when a wire of connection in the circuit is broken and current no longer flows through it

Shorter, Clement King, 1857–1926, English journalist and critic He founded the *Sketch* (1893) and the *Sphere* (1900) and was an authoritative biographer of George Borrow, the Brontës, and Dr Johnson See his unfinished autobiography (ed by J M Bulloch, 1926) His first wife, **Dora Sigerson Shorter,** 1866–1918, was an Irish poet, closely allied to Ireland's cause Among her works are *Ballads and Poems* (1898) and *Sixteen Dead Men and Other Poems of Easter Week* (1919)

Shorter College see ROME, GA

shorthand, any brief, rapid system of writing that may be used in transcribing or in recording the spoken word Such systems, their characters based on the letters of the alphabet, were used in ancient times, the shorthand of Tiro, Cicero's amanuensis was used for centuries. Modern systems date from

1588, when Timothy Bright published his 500-odd symbols for words, a French system was developed by Jacques Cossard in 1651, a German one in 1679 In 1602 Rev John Willis published the *Arte of Stenographie*; there followed dozens of systems before 1837, when the shorthand of Isaac PITMAN appeared This, with improvements, is in wide use in English-speaking countries today; it is perhaps the most rapid shorthand system and is favored by many court and convention reporters The Pitman system makes use of shading (a line heavily drawn has a meaning different from that of the same line lightly drawn) and of difference in slope and position on a given line, it is geometric in outline and is difficult to master, but makes possible very great speed John Robert Gregg (b. Ireland, 1867) in 1888 published a popular system of business shorthand in use today Its outlines are curved and natural, resembling those of ordinary script, need for lifting the pen was eliminated as much as possible, so that a cursive motion is used, there is no shading, but variation in length of line indicates variation in translation The outlines were scientifically worked out for simplicity, naturalness, and other qualities that make for speed The National Shorthand Reporters Association was organized in 1899 On the Continent, F X Gabelsberger (Germany) and Émile Duployé (France) originated systems widely used, the Sloan-Duployan shorthand has found favor also in South America and Canada

Short Hills, N J see MILLBURN

shorthorn cattle or **Durham cattle** (dŭ'rum), breed of cattle originated in NE England as a result of the mixture of breeds brought in by various invaders Development of the shorthorns as a distinct breed took place chiefly in the Tees valley, in the counties of Durham and York The first systematic breeding of shorthorns was undertaken (c 1784) by Robert and Charles Colling after they had observed the methods of Robert Bakewell in the inbreeding of livestock It is believed that shorthorns were first shipped to America in 1783 They are dual-purpose cattle, their milk production is good, and they yield a high percentage of superior beef Their strength and mild disposition have led to their occasional use as draft animals In color shorthorns are red, red and white, or white and roan, the body is large and deep, and the back broad A hornless variety known as the polled shorthorn cattle originated in the United States At first they were called polled Durhams, but the name was officially changed (1919) to polled shorthorns They are found over most of the United States

Shorthouse, Joseph Henry, 1834–1903, English novelist, b Birmingham He was the author of *John Inglesant* (1880), his only well-known book See his *Life and Letters* (ed by his wife, Sarah Shorthouse, 2 vols, 1905)

Short Parliament see PARLIAMENT

short story, form of fiction, generally under 10,000 words in length Short stories can be found in the Bible, in the *Gesta Romanorum* in the Middle Ages, in Boccaccio's *Decameron*, and in Chaucer's *Canterbury Tales* But the modern short story, with its great compactness and its tendency towards a pointed ending, begins with Edgar Allan Poe and Guy de Maupassant in the 19th cent This form has proved immensely popular, especially in magazines and newspapers Among the most famous writers of short stories are Rudyard Kipling, Bret Harte, Anton Chekhov, O Henry, Katherine Mansfield, and Ring Lardner The form has also been popular with such famous novelists as Balzac, Leo Tolstoy, Henry James, and, in more recent years, Ernest Hemingway and William Faulkner The very short story of less than 2,000 words has become increasingly popular

Shortsville, village (pop 1,316), W central N Y, in the Finger Lakes region, SE of Rochester, inc 1889 Paper and threshing machines are made here

Shortt, Adam, 1859–1931, Canadian economist and historian, b near London, Ont, grad Queen's Univ, Kingston (B A, 1883, M A, 1884, LL D, 1911) He studied at Glasgow and at Edinburgh universities and taught (1885–1908) first philosophy, then political science at Queen's Univ Shortt was civil service commissioner (1908–18) in Ottawa. In 1918 he was appointed chairman of the board of historical publications of the Public Archives of Canada A recognized authority on Canadian economic and banking history, he wrote *Imperial Preferential Trade from a Canadian Point of View* (1904) and edited *Documents Relating to Canadian Currency, Exchange, and Finance during the French Period* (1926). He also wrote *Lord Sydenham* (1908, new ed, 1926) and, with A G Doughty, edited *Documents Relating to the Constitutional History of Canada, 1759–1791* (1907, rev. ed, 1918) and *Canada and Its Provinces* (23 vols, 1913–17).

Shoshannim and **Shoshannim-Eduth.** see AIJELETH SHAHAR.

Shoshenk I: see SHESHONK I

Shoshone (shōshō'nē), village (pop 1,366), co seat of Lincoln co, S Idaho, on the Little Wood river and N of Twin Falls In a region well known in the 1880 mining rush, Shoshone was founded in 1882 with the coming of the railroad, was a cattle town, then became an irrigated farming center after 1905 and particularly after Magic Dam was built in the Big Wood river in 1907 It is in the MINIDOKA PROJECT, ships wool, and is the gateway to Sun Valley and the Sawtooth Mts

Shoshone Cavern National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Shoshone Falls, S Idaho, in the Snake river, near Twin Falls Once a spectacle of some grandeur, with a gush of water leaping more than 200 ft, they have now been much reduced by irrigation projects upstream

Shoshone Indians, tribe of North American Indians of the Uto-Aztecan linguistic stock In the early 19th cent, according to Lewis and Clark, the Shoshone occupied SW Montana, W Wyoming, S Idaho, and NE Nevada The eastern Shoshone had horses and ranged into the N Great Plains in search of buffalo, but the western and horseless Shoshone subsisted largely on nuts and wild vegetables The Shoshone, the Bannock, and the northern Paiute, all dwelling in essentially the same area, were called the Snake Indians Today the Shoshone live on reservations in California, Idaho, Nevada, Utah, and Wyoming, they number some 4,500 See R H Lowie, *Notes on Shoshonean Ethnography* (1924)

Shoshone project, NW Wyo., near the Mont line and near the Shoshone river in the Bighorn river basin Developed by the Bureau of Reclamation, it includes 161,654 acres and has five divisions The project is supplied by a system of small diversion dams, canals, and laterals and by Buffalo Bill Dam (formerly Shoshone Dam, est 1910), in the Shoshone river A powerhouse (est 1922) at Buffalo Bill Dam and the Heart Mt power plant (est 1948), 2 mi below it, supply power for the project Powell is on the project, Cody is c 10 mi southwest

Shostakovich, Dmitri (dyĭmē'trē shŏstŏkô'vĭch), 1906–, Russian composer, studied at the Leningrad Conservatory, 1919–25 His First Symphony (1925) has had frequent performances, and an opera, *The Nose*, and a ballet, *The Golden Age* (both 1930), satirical works, firmly established his reputation His opera *Lady Macbeth of the District of Mzensk* (Leningrad, 1934) and his ballet *The Limpid Stream* (1934) were attacked vigorously by Soviet critics in 1936, after they had become quite popular A storm of controversy followed, and Shostakovich withdrew the Fourth Symphony (1935–36) from rehearsal It has never been performed His Fifth Symphony (1937), performed during the 20th anniversary festival of the November Revolution, restored his works to favor His Piano Quintet (1940) won the Stalin Prize The Sixth (1939), the Seventh (Kuibyshev, 1942), composed during the siege of Leningrad, the Eighth (1943), and the Ninth (1945) symphonies have all been received enthusiastically Among his other works are his satirical, grotesque Twenty-four Preludes (1933) for piano, a piano concerto (1933), a cello sonata (1934), and a string quartet (1938) He has composed incidental music (unpublished) for many films and stage plays See biography by Victor Seroff (1943)

shotgun, smooth-bore firearm, designed for firing a number of small shot at short range Shotguns are usually double-barreled Repeating shotguns with a single barrel and with a magazine holding a number of cartridges are made, the objection to them is that they give game too little chance to escape In some states the use of the repeating shotgun is prohibited by law The shot from a shotgun spreads in a widening circle The larger the game that is hunted, the larger the shot used See P A Curtis, *Guns and Gunning* (1934), Sir Gerald Burrard, *The Modern Shotgun* (1945)

Shottery, village, Warwickshire, England, a mile W of Stratford-on-Avon The cottage in which Shakspere's wife, Anne Hathaway, lived and its surrounding grounds are national property, preserved much as they were in Shakspere's time

Shotwell, James Thomson, 1874–, American historian, b Strathroy, Ont, grad Toronto Univ, 1898, Ph D Columbia Univ, 1904 A teacher of history at Columbia from 1900 and professor from 1908 to 1942, Shotwell was an active member of several national and international labor, peace, and historical conferences He was director of the division of economics and history (1942–49) and president (1949–50) of the Carnegie Endowment for International Peace and served as chairman (1932–43) of the American committee on International Intellectual Cooperation of the League of Nations In 1939 he organized the Commission to Study the Organization of Peace. Among his many books are *The Religious Revolution of Today* (1913), *An Introduction to the History of History* (1922, rev. ed, *The History of History*, Vol. I, 1939), *Plans and Protocols to End War* (1925), *War as an Instrument of National Policy* (1929), *On the Rim of the Abyss* (1936), and *The Great Decision* (1944) He was also assistant general editor (1904–5) of *The Encyclopaedia Britannica*, co-author of several books on international relations, first editor of the "Records of Civilization" series, and editor of *Economic and Social History of the World War* (150 vols, 1919–29) and of other series

shovel. The shovel, used for handling loose materials such as sand and gravel, is a tool of prehistoric origin, related to the SPADE, from which it differs especially in having its edges turned up to hold the material For handling such materials in large quantities, steam shovels are used. In the revolving type of shovel, the whole unit, including the shovel and the operating mechanism, revolves in a complete circle on a turntable mounted on a traveling base Shovels were formerly operated by steam, but Diesel units or electric power units are more commonly used to operate modern shovels

Shovell, Sir Clowdisley, or **Sir Cloudesley Shovel** (klou'dĭs'lē shŭ'vul), 1650–1707, English admiral He served James I faithfully, just as faithfully he convoyed William III to Ireland in 1690 He burned enemy ships at the battle of La Hogue in 1691 and was joint commander (1693) with Admiral Killigrew and Ralph Deleval In the War of the Spanish Succession he brought home the silver captured by Sir George Rooke at Vigo (1702), helped him capture Gibraltar (1704), and assisted at the capture of Barcelona (1705) On Sir Clowdisley's return from an abortive attack on Toulon he was lost with 800 or 900 men when his ship was wrecked off the Scilly Islands

Shrady, Henry Merwin (shrā'dē), 1871–1922, American sculptor, b New York city A businessman and amateur in art, he stepped into the ranks of professional sculptors and won immediate recognition In 1901 his Washington, an equestrian statue for Brooklyn, N Y, took first prize in competition In 1902 he was given the commission, also competitive, for the U S Grant Memorial, Washington, D C Other works are equestrian statues of General Williams (Detroit, Mich) and General Lee (Charlottesville, Va) and a seated bronze of Jay Cooke (Duluth, Minn)

Shrapnel, Henry (shrăp'nul), 1761–1842, British General, inventor of the shrapnel shell The shell, consisting of a steel case filled with bullets and an explosive charge, is fired in midair by a time fuse and scatters shot and shell fragments with great force over a wide area Adopted by the British army in 1803, it was used at Surinam in 1804 and in the Peninsular War It has been important in modern warfare Henry Shrapnel also improved construction of howitzers and mortars

Shreve, Henry Miller (shrēv), 1785–1851, American inventor, b Burlington co, N J The *Washington*, a double-decked, shallow-hulled steamboat with its high-pressure engine on the main deck was built under his direction and made several successful trips (1816–17) on the Mississippi and Ohio rivers He established the practicability of steam navigation on the Western rivers and broke the monopoly held by Robert Fulton and R R Livingston Shreve invented a heavy-timbered, twin-hulled snag boat with which he cleared (1830) 1,200 mi of the Mississippi of tree trunks and other impediments along the waterway Shreveport, La, is named for him See F L Dorsey, *Master of the Mississippi* (1941)

Shreve (shrēv), village (pop 1,113), NE central Ohio, S of Wooster, in a gas and oil region

Shreveport (shrēv'pôrt), city (pop 98,167), parish seat of Caddo parish, NW La, on the Red River near the Texas and Ark borders, founded c 1834, inc 1839 Important during the steamboat era and the antebellum cotton boom, it became the Confederate capital of Louisiana in 1863, the discovery of oil in 1906 provided the greatest impetus for its growth Now the second largest city in the state, it is primarily an oil center, with important cotton, cottonseed-oil, glass, and lumber manufactures A typical modern industrial city, it has some fine buildings, notably the Shreveport incinerator (1935), built in modern functional style The state fairgrounds and Centenary College of Louisiana (Methodist, coeducational, 1825) are here Cross Lake, with recreational facilities, and a U S pecan experiment station are near by

shrew (shrōō), insectivorous mammal (family Soricidae) of North America, extreme N South America, Europe, and Asia It is related to the mole and has a musky odor A nervous, active animal, it is a prodigious eater and vicious fighter The common species of shrews of both hemispheres are of the genus *Sorex* Shrews are among the smallest of mammals, some species are barely 2½ in from the head to the tip of the tail The largest are about 6¼ in in total length Early beliefs that the shrew was poisonous were recently substantiated by the discovery that the saliva of the American short-tailed shrew (*Blarina*) is lethal when injected into mice, and the bite of the animal causes discomfort to humans African elephant shrews and Oriental tree shrews belong to other families

Shrewsbury, Charles Talbot, duke of (shrōōz'burē, shrōz'–), 1660–1718, English statesman Brought up a Catholic, he embraced Protestantism in 1679 Talbot was one of seven who signed the invitation for William of Orange (later WILLIAM III) to take the throne in 1688 He was made secretary of state and privy councilor in 1689 and resigned in 1690. William III reappointed the powerful Whig in 1694, made him marquess of Alton and duke of Shrewsbury in the same year, and so trusted him that in spite of his known correspondence with Jacobites the king regarded him as chief minister

until his resignation in 1699. Shrewsbury went abroad to improve his precarious health Returning in 1706, he was won over by Robert HARLEY to the Tory cause, became lord chamberlain (1710), lord lieutenant of Ireland (1713), and lord treasurer (1714). He supported the Hanoverian succession and was briefly (1714–15) lord chamberlain under George I See biography by T. C. Nicholson and A S Turberville (1930)

Shrewsbury, Elizabeth Talbot, countess of, 1518–1608, English peeress, known as Bess of Hardwick At the age of 14 she married Robert Barlow, who died shortly after She married and was widowed twice more, inheriting large estates, and in 1568 was married to George Talbot, 6th earl of Shrewsbury The marriage of her daughter Elizabeth to Charles Stuart, brother of Lord Darnley, angered Queen Elizabeth because Stuart had a claim upon the throne, and the countess was sent to the Tower for three months The countess quarreled with her husband and accused him of a love affair with Mary Queen of Scots, whose custodian he was, but the couple was reconciled before his death (1590) She built a number of great mansions, including Hardwick Hall See Maud Stepney Rawson, *Bess of Hardwick and Her Circle* (1910)

Shrewsbury, John Talbot, 1st **earl of,** 1388?-1453, English soldier As lieutenant of Ireland (1414–19, 1445–47) he quelled native unrest in that country, but he achieved his greatest fame for his military daring in France during the latter years of the HUNDRED YEARS WAR He was present at the siege of Orléans and was taken prisoner (1429) at Patay and held for four years He was finally slain at Castillon

Shrewsbury (shrōz'burĕ, -bŏŏz'-), municipal borough (1931 pop 32,372, 1947 estimated pop 44,550), co seat of Shropshire, England, on the Severn and WNW of Birmingham It is an ancient Saxon and Norman stronghold, retaining much of its former medieval atmosphere There are ruins of an 11th-century castle and abbey, several English and Welsh bridges built in the early Middle Ages, and a few old churches The narrow streets are lined by many oak-timbered, black-and-white houses of the 15th, 16th, and 17th cent , and there is a fine public garden and park which adds to the city's beauty In 1403 Henry IV defeated Henry Percy (Hotspur) on a plain near Shrewsbury and had the body of the rebel displayed to the townspeople as proof Shrewsbury School, a public school founded in 1551 by King Edward VI, overlooks the Severn Sir Philip Sidney, Fulke Greville, and Charles Darwin studied here Shrewsbury has tanneries and manufactures electrical equipment and pharmaceuticals

Shrewsbury (shrōōz'burĕ, -bĕr'rē) **1** Town (pop 7,586), central Mass , NE of Worcester, settled 1722, inc 1727 Gen Artemas Ward was born here **2** City (pop 2,182), E Mo , near St Louis **3** Borough (pop 1,058), E N J , S of and near, Red Bank, settled 1665, inc 1926 It has an 18th-century church

shrike (shrīk) or **butcher bird,** bird of prey, chiefly of the Old World but with two New World species The plumage is mostly gray, black, and white, the tail is long and rounded, and the wings are rather short The name butcher bird is applied to certain shrikes of both hemispheres because of their habit of impaling their prey—small birds and mammals and large insects—on a thorn or sharp twig while tearing it apart with their strong, terminally hooked beaks One explanation for the habit of either impaling the prey or pushing it into a crevice is that the shrike's claws are too weak to hold it firmly The northern and the loggerhead shrikes are the North American species

shrimp, small marine crustacean, usually about 1½ to 3 in long, found on most coasts Like the related prawn, lobster, and crayfish, it has 10 jointed legs, and there are swimmerets on the abdominal segments The exoskeleton is flexible, not calcified, usually grayish, and translucent or transparent When cooked the palatable flesh is pink and white In the United States the chief centers of the shrimp industry are in Louisiana, Texas, Mississippi, Alabama, Florida, and Georgia Shrimps are canned in large quantities, but many are packed in ice and shipped raw They are used in salads and in many hot dishes Dried shrimps are exported to the Orient Shrimp fishing in Japan is carried on chiefly near the southern islands.

shrine see PILGRIM

Shropshire (shrŏp'shĭr, -shər), border county (1,346 sq mi ; 1931 pop 244,156, 1948 estimated pop 272,350), W England It is also sometimes called Salop (săl'ŭp) The county town is Shrewsbury The terrain to the north and east of the Severn, Shropshire's principal river, is level, toward the Welsh border the land is hilly The Wrekin, an extinct volcano, rises to 1,335 ft The county is chiefly pastoral (Shropshire sheep) and agricultural, but some coal is mined The ancient Watling Street and Offa's Dyke cross the county In Anglo-Saxon times it was a part of the kingdom of Mercia, and it was organized as a county in the 10th cent. After the Norman Conquest it became an important part of the Welsh Marches and was the scene of much border conflict recalled by the ruins of many medieval castles (among others, Ludlow and Stokesay) The quiet beauty of the countryside is suggested in A E Housman's poems *A Shropshire Lad* (though Housman was not actually a Shropshire man) See Arthur Mee, *Shropshire* (1939)

Shropshire sheep, mutton breed of sheep developed from the native sheep of Shropshire and Staffordshire, England As early as 1340 a grade of wool was known as Shropshire, but the breed was not officially recognized until about the middle of the 19th cent The Shropshire is of medium size, with dark face and legs, is prolific and fast growing, and produces a good grade of mutton and wool Because of its adaptability, it has spread widely over the world. It is the most popular breed of English origin in America. Its importation to America began c 1855

Shrove Tuesday [English *shrove*=confession], day before ASH WEDNESDAY (the beginning of LENT) In the Latin countries it is the hilarious last day of the carnival, called by the French MARDI GRAS

shrub, common name for any woody, perennial plant which usually branches at the base and is smaller than a TREE Shrubs are an important feature of permanent landscape planting, being used for formal decorative groups, hedges, screens, and background plantings, to which they contribute pattern, color, fragrance, or utility In the natural style of landscape gardening they are often allowed to grow according to inclination, but in many gardens they are pruned in the spring or fall for greater shapeliness and to induce more compact growth Many shrubs are beautiful even in winter, furnishing green foliage (as in the evergreen arborvitae and rhododendron) and often decorative stem and branch forms and bright-colored fruits The introduction of the use of native shrubs in masses marked a great change in American landscape architecture Among the most frequently used shrubs are the lilac, mock orange, viburnum, forsythia, azalea, flowering shadbush, cotoneaster, and barberry See W R Van Dersal, *Ornamental American Shrubs* (1942), M D Lamson, *Gardening with Shrubs and Small Flowering Trees* (1946)

Shua (shō'ŭ), Asherite woman 1 Chron 7 32 Shua is also a variant of SHUAH

Shuah (shō'ŭ) **1** Father of one of Judah's wives Shua 1 Chron 2 3 **2** Son of Abraham Gen 25 2, 1 Chron 1 32 **3** Brother of Chelub 1 Chron 4 11 The patronymic of BILDAD the Shuhite may refer to any Shuah

Shual (shō'ŭl) [Heb ,=jackal], descendant of Asher 1 Chron 7 36

Shubael (shōō'bā-ĭl, shōōb'ā'ŭl), variant of SHEBUEL

Shubun (shōō'bōōn'), fl 1st half of 15th cent , Chinese painter of the Ming period He was naturalized c 1420 in Japan, where he founded the high-ranking Soga (his Japanese name) school of Ashikaga, which linked Chinese and Japanese art in the time of Yoshimitsu Notable among Shubun's works are the monochrome landscaped *fusuma* [sliding doors] in the collection of Count Inouye Those formed three sides of the artist's living rooms in his residence at Daitokuji (Buddhist temple), where he lived, though not a priest

Shufeldt, Robert Wilson (shōō'fĕlt), 1850–1934, American scientist and author, b New York city, M D Columbian Univ (now George Washington Univ), 1876 He was army surgeon (1876–81) in the Indian wars His scientific writings, chiefly on the osteology of birds, include *Contributions to the Anatomy of Birds* (1882) and *Osteology of Birds* (1909)

Shuham (shōō'hăm), son of Dan Num 26 42 Hushim Gen 46 23

Shuhite (shōō'hīt), a patronymic see SHUAH

Shuksan, Mount (shōōk'sun), peak, 9,038 ft high, N Wash , in the Cascade Range

Shulamite (shōō'lumit), female character of the Song of Solomon Cant 6 13 See SHUNEM

Shullsburg, city (pop 1,197), SW Wis , SW of Madison, inc 1889 There are zinc mines here

Shumathites (shōō'muthīts), family of Kirjath-jearim 1 Chron 2 53

Shumen (shōō'mĕn), city (pop 31,169), NE Bulgaria, W of Varna It is a trade and railroad center Founded in 927, it was of strategic importance during the Turkish rule (15th-19th cent) and was frequently besieged by the Russians Shumen is noted for its Moslem architecture and has the largest mosque in Bulgaria (built 1649) It was formerly also known as Shumla

Shunem (shōō'num), town of Issachar, probably on the north side of the vale of Jezreel not far from Endor The adjective SHULAMITE probably refers to it Joshua 19 18, 1 Sam 28 4

Shuni (shōō'nī) [Heb ,=quiet], founder of a family of Gadites Gen 46 16, Num 26 15

Shupham (shōō'făm) or **Shuppim** (shŭ'pĭm) [Heb , =serpent], family of Benjamin Num 26 39, 1 Chron 7 12,15, 26 16 Muppim Gen 46 21 Shephuphan 1 Chron 8 5

Shur (shûr) [Heb ,=wall], unidentified landmark of the Egyptian border N of the Red Sea It is associated with the wandering of Hagar and with the Exodus Gen 16 7, 20 1, 25 18, Ex 15 22, 1 Sam. 15 7, 27 8.

Shuri, city, Okinawa see RYUKYU ISLANDS

Shurtleff, Roswell Morse, 1838–1915, American landscape painter, b Rindge, N H , grad Dartmouth, 1857 At first an architect and lithographer, he turned to illustration and oils after his service as an officer in the Civil War Forest scenes were his specialty Two of his paintings are *Mountain Stream* (Metropolitan Mus) and *First Snow* (Corcoran Gall) He became a member of the National Academy of Design in 1890

Shurtleff College see ALTON, Ill

Shusha (shōōsha'), city (pop 5,104), Mountain-Karabakh Autonomous Oblast, Azerbaijan SSR, on the eastern slope of the Lesser Caucasus, near Stepanakert Silk spinning and rugmaking are the chief industries Shusha flourished as the fortress capital of the Karabakh khanate, conquered by Russia in 1805, it had more than 40,000 inhabitants, mainly Armenians, until 1920, when the Armenians were massacred by the Moslem mountaineers and most of the city was destroyed

Shushan see SUSA

Shushan-eduth see AIJELETH SHAHAR.

Shushtar (shōōshtär'), town (1947 estimated pop 23,654), W Iran, on the Karun river It is the head of river navigation and handles much shipping It was long known for its textiles The population—Kurds, Arabs, and Lurs—take refuge from the summer heat in deep cellars The name also appears as Shuster

Shuster, George Nauman, 1894–, American educator and author, b Lancaster, Wis , grad Notre Dame (B A , 1915, M A , 1920), Ph D Columbia, 1940 Head of the department of English at Notre Dame (1920–24), he later was professor of English at St Joseph's College for Women, Brooklyn, N Y. (1924–35), and dean and acting president of Hunter College (1939–40) In 1940 he became president of Hunter From 1925 to 1937 he was on the editorial board of the *Commonweal*, being managing editor (1929–37) Chairman of the Historical Commission to Germany for the War Dept (1945), he was appointed state commissioner for Bavaria in 1950 Among his writings are *The Catholic Spirit in Modern English Literature* (1922), *The Germans* (1932), *Like a Mighty Army* (1935), *The English Ode from Milton to Keats* (1940), and *Germany, a Short History*, (with Arnold Bergstraesser, 1944)

Shuswap Indians (shōō'swŏp), tribe of North American Indians of the Salishan linguistic stock In the mid-19th cent they lived in S British Columbia on the Fraser river They then numbered some 4,000 The Shuswap are on reservations in British Columbia See J A Teit, *Shuswap* (1909)

Shuthelah (shōō'thĕlu), head of an Ephraimite family Num 26 35, 1 Chron 7 20

shuttle see LOOM

Shuvalov, Piotr Andreyevich, Count (pyô'tur ŭndrā'yĭvĭch shôôvä'luf), 1827–89, Russian diplomat He was special envoy (1873), then ambassador (1874–79) to England He sought to smooth over difficulties caused by Anglo-Russian rivalry in Asia, arranged for the marriage of Grand Duchess Marie to the duke of Edinburgh, and negotiated to secure a treaty at the end of the Russo-Turkish War (1878) that would please England better than the Treaty of San Stefano The upshot was the calling of the Congress of Berlin, to which Shuvalov was plenipotentiary The new territorial arrangements were unpopular, and Shuvalov was recalled

Si (sē), Mandarin *Hsi*, river of SE China, c 600 mi long, rising in E Yunnan prov and flowing E through Kwangsi and Kwangtung provs to the S China Sea near Canton The Si is navigable to large steamers most of its length The river is called in Chinese Si-kiang (sē'-kyäng') [west river]

Si, chemical symbol of the element SILICON

Sia (sē'ŭ) or **Siaha** (sē'ŭhu), family returned from exile Ezra 2 44, Neh 7 47

Sialkot (sēäl'kōt") city (pop 138,708), West Punjab prov , Pakistan There is a fortress built in 1181 This city is known for its manufacture of surgical instruments and sporting goods

Siam see THAILAND

Siam, Gulf of, arm of the South China Sea, separating the Malay Peninsula on the west from Indo-China on the east The coasts of the Malay Peninsula and at the head of the gulf form part of Thailand, the Indo-Chinese coast is divided between Cambodia and Cochin China

Siamese language, the standard accepted speech of Thailand The name is sometimes used to include all of the Tai group of Indo-Chinese languages, and the standard speech is also called Tai or Thai See LANGUAGE (table)

Siamese twins, conjoined twins consisting of two nearly complete individuals united side by side or back to back by musculofibrous tissue The generic term is derived from a set of TWINS Chang and Eng, born in Siam in 1811, of Chinese parents Following years of exhibiting themselves in P T Barnum's circus they settled on a farm in North Carolina They married English sisters and fathered a total of 22 children Chang and Eng died within two hours of each other in 1874 Siamese twins make common use of one or more parts of their joined bodies Their other organs are asym-

metrical (in mirror-image relationship), with the heart of one twin normally placed and that of the other in inverse position One is likely to be right-handed, the other left-handed Only rarely do conjoined twins survive birth or childhood Fatal illness in one dooms the other unless separation of the two by surgery is accomplished successfully

Sian (sē'ān', shē'ān'), Mandarin *Hsi-an*, city and county (pop 499,376), central Shensi prov , China The city is the capital of the province Hsienyang, one of several cities which previously occupied this site, was (255–206 B C) the capital of the Ch'in dynasty The present city, then called Changan, was the western capital of the T'ang dynasty (618–906), and it was then a center of Buddhist, Moslem, and Nestorian Christian missionary activity A Nestorian stone tablet (781) commemorating the establishment of a church is preserved The city, on the Lung-Hai RR, the principal east-west line of China, is important as a commercial center In Sian in 1936 Chang Hsueh-liang kidnaped Chiang Kai-shek

Siang (sēäng', shēäng'), Mandarin *Hsiang*, river, c 400 mi long, rising in N Kwangsi prov , S China, and flowing N through Hunan prov to Tungting lake The river is navigable to large steamers for most of its course

Siangtan (sēäng'tan', shē–), Mandarin *Hsiang-t'an*, city and county (pop 917,500), E central Hunan prov , China The city is on the Siang river and is a commercial and marketing center

Siasconset (skŏn'sĭt, sĭuskŏn'sĭt) or **'Sconset**, resort village, on E Nantucket, SE Mass

Siauliai (shăou'lyĭ), Ger *Schaulen* (shou'lŭn), Rus *Shavli* (shăv'lyĕ), city (pop 31,641), N Lithuania Here the Lithuanians defeated the LIVONIAN KNIGHTS in 1236 and a German free corps in 1919 The city itself dates from the 15th cent It is a rail center and a manufacturing town, producing mainly shoes and other leather goods and linen and wool textiles The name also appears as Shaulyai or Shaulyay

Sibbecai or **Sibbechai** (both sĭ'bŭkī, -kā"ī), one of David's guard, noted for his fight with the Philistine giant 2 Sam 21 18, 1 Chron 11 29, 20 4, 27 11 Mebunnai 2 Sam 23 27

Sibboleth see SHIBBOLETH

Sibelius, Jean Julius Christian (shan' yōō'lyŭs krĭs'tyan sĭbā'lyŭs) 1865–, Finnish nationalist composer He studied in Berlin (1889) and with Karl Goldmark in Vienna (1890) Although he wrote a great deal of chamber music, piano music, and violin music, he is best known for his orchestral works, many of which have become part of the standard orchestral repertoire These include tone poems on national subjects, such as *En Saga* (1892) and *Finlandia* (1900), *Valse triste*, *The Swan of Tuonela* (1893, from the suite *Lemminkäinen*), a violin concerto (1903), and seven symphonies (1899, 1901, 1907, 1911, 1915 1923, 1924) He is a romantic composer, sometimes criticized as a reactionary, but exalted by many of his admirers as the greatest of contemporary composers See biography by Karl Ekman (Eng ti , in Finland, 1935, American ed , 1938), studies by Bengt de Torne (1937) and Rosa Newmarch (1939), *The Music of Sibelius* (ed by Gerald Abraham, 1947)

Sibenik, Serbo-Croatian *Šibenik* (shēbĕ'nĭk), Ital *Sebenico* (sābā'nēkō), town (pop 16, 015), Croatia, Yugoslavia, an Adriatic seaport on the coast of Dalmatia It has a chemical industry First mentioned in the 10th cent , it was an early residence of the kings of Croatia From 1212 to 1497 it was a Venetian possession Its finest buildings date from that period, notably the cathedral (begun in the 15th cent), which is considered the most beautiful in Dalmatia

Siberia (sībēr'ēu), Rus *Sibir* (sĭbĕr'), vast area of the Asiatic USSR Although it has no official standing as a territorial division, it is generally understood to comprise the Asiatic part (4,922,800 sq mi , estimated pop 19,500,000) of the RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC Occupying the northern third of Asia, Siberia extends from the Ural mts to the Pacific Ocean (specifically, the Bering Sea, the Sea of Okhotsk, and the Sea of Japan) and from the Arctic Ocean (specifically, the Laptev Sea, the Kara Sea, and the E Siberian Sea) to the Kazakh Hills, the ALTAI and SAYAN mountain systems, and the AMUR and the USSURI rivers Its southern land border separates it from the Kazakh SSR, China, and Mongolia, in the extreme northeast, the narrow Bering Strait separates it from Alaska Among the islands off Siberia in the Arctic Ocean are the NEW SIBERIAN ISLANDS, the SEVERNAYA ZEMLYA archipelago, and WRANGEL ISLAND Siberia may be divided, from north to south, into the zones of vegetation that run across the entire Russian land mass—the TUNDRAS, the TAIGA, the mixed forest belt, and the steppe belt It is drained, from south to north, by the mighty OB, YENISEI, and LENA rivers and by their tributaries These rivers are the only means of longitudinal transportation East-west transportation depends largely on the TRANS-SIBERIAN RAILROAD (which follows the steppe belt) and to some extent on the Arctic sea route, which has been increasingly used in recent years There are many polar and arctic stations on the north shore and on the northern islands The conventional geographic subdivisions of Siberia are W Siberia, E Siberia, and the Far East W Siberia, between the Urals and the Yenisei, is a low-lying, partly marshy plain, drained by the Ob and the IRTYSH Agriculture and dairying (particularly in the Baraba Steppe) are important in its southern steppe belt In the southeast of W Siberia, at the foot of the Altai, is the KUZNETSK BASIN, one of the world's richest coal regions, it also has large iron deposits E Siberia, which is drained by the Lena, extends from the Yenisei to a huge mountain chain, an offshoot of the mountains of central Asia, comprising (from southwest to northeast) the YABLONOVY, STANOVOI, VERKHOYANSK, KOLYMA, and ANADYR ranges and the plateaus along the VITIM and ALDAN rivers In the center of E Siberia rise the central Siberian uplands, farther south, and surrounded by mountains, is Lake BAIKAL The Far East comprises the CHUKCHI PENINSULA, terminating in EAST CAPE, and KAMCHATKA in the extreme northeast, these are administratively included in the vast KHABAROVSK TERRITORY, which extends southward, along the Sea of Okhotsk, to the Amur and to the Manchurian border Farther south, along the Sea of Japan, stretches the MARITIME TERRITORY The island of SAKHALIN and the KURILE ISLANDS are administratively included in Siberia Except for the southern steppe belt and for a few cities along the rivers, Siberia is virtually unpopulated, chiefly because of the extreme rigors of its continental climate and the difficulties of communication Thus Verkhoyansk, where the lowest temperatures on earth have been recorded, has summer heats rising above 90°F However, the opening up of Siberia for colonization in the late 19th cent and the intensive colonization and exploitation of its vast resources under the Soviet regime have resulted in the growth of numerous cities Not counting the cities in the URALS (sometimes considered part of Siberia), the chief Siberian cities include NOVOSIBIRSK, OMSK, TOMSK, TOBOLSK, BARNAUL, and STALINSK in W Siberia and in the Kuznetsk Basin, KRASNOYARSK, IRKUTSK, ULAN-UDE, and CHITA in the southern part of E Siberia, and VLADIVOSTOK, KHABAROVSK, and KOMSOMOLSK in the Far East YAKUTSK, on the Lena, is the largest and oldest center of the interior Igarka, on the Yenisei, is the largest Siberian city N of the Arctic Circle and is the principal lumber center More than 90 percent of the Siberian population is Russian Non-Russian groups include Turkic-speaking nationalities in the KHAKASS AUTONOMOUS OBLAST, the TUVA AUTONOMOUS OBLAST, and the YAKUT ASSR, Mongols in the BURYAT-MONGOL ASSR and in the MOUNTAIN-ALTAI AUTONOMOUS Oblast, Finno-Ugric Ostyaks and Voguls in the KHANTY-MANSI NATIONAL OKRUG, Samoyedes (now called Nentsy) in the TAIMYR PENINSULA, Tungus in the EVENKI NATIONAL OKRUG, and various Hyperborean groups, such as the Chukchi, the Kamchatkans, and the Koryaks in the extreme northeast A Jewish Autonomous Oblast was founded by the Soviet regime in BIROBIDZHAN, in the Far East The Mongol and Turkic groups of S Siberia were, until recently, largely nomadic herdsmen, but under the Soviet regime the majority settled down to agriculture The indigenous peoples of central and N Siberia remain, for the most part, hunters and fishermen, reindeer play an important part in the economy of the northernmost belt The chief non-Christian religions are Islam and Lamaism in the south, primitive shamanism is still widespread in the rest of Siberia The growing colonization and exploitation of Siberia in the past 50 years is a historical event of world-wide importance and may, in the long run, prove of equal consequence to that of the Russian Revolution of 1917 Numerous remains show that Siberia has been inhabited from prehistoric times In the historical period S Siberia frequently was—for reasons still obscure—the point of departure for several nomadic hordes, such as the HUNS, the MONGOLS, and the Manchus (see MANCHU), who within relatively short spans of time conquered immense empires, lost them, and reverted to their original obscurity Russian traders from Novgorod crossed the Urals as early as the 13th cent and established colonies in NW Siberia, chiefly for the fur trade The actual Russian conquest of Siberia, however, began only in 1581, when the Tatar khanate of SIBIR (see also TATARS) was conquered by the Cossack YERMAK In 1582 TSAR IVAN IV annexed Siberia to the Russian state The Cossacks to whom the conquest of the immense country was exclusively due, rapidly penetrated eastward by land and on their river boats, building a string of small fortresses and levying tribute from the sparse population in the form of precious furs By 1640—within less than 60 years—they had reached the Pacific and soon afterward they collided with Chinese troops By the Treaty of Nerchinsk (1689) Russia abandoned to China the region later known as the FAR EASTERN TERRITORY, which was ceded to Russia only in 1858 and 1860. S Sakhalin and the Kuriles were annexed after the surrender (1945) of Japan in the Second World War. From the early 17th cent. Siberia was used as a penal colony and as a place of exile for criminal and political offenders However, there was no organized attempt to colonize the country, and large sections remained unexplored. When the Russian serfs were freed by the Edict of Emancipation of 1861 they were allowed to take free possession of Siberian land, but they received little practical aid from the government and suffered intolerable hardship Settlement on a large scale began only with the construction (1892–1905) of the Trans-Siberian RR, after which the eastward migratory movement reached gigantic proportions, comparable to the westward migration of the American pioneers in the 19th cent Between 1914 and 1946 the population of Siberia was doubled Siberia played a major role in the Russian civil war of 1918–20 (see RUSSIAN REVOLUTION) The counterrevolutionary government of Admiral KOLCHAK collapsed in 1920, but Vladivostok and part of the Far Eastern Territory remained in the hands of the Japanese interventionist army until 1922 Under the Five-Year Plans, the Soviet government stepped up not only the agricultural colonization of Siberia, but also its industrial growth The decentralization of Russian economy was vastly stimulated in the Second World War, when entire industries were transferred E of the Urals Thus a city such as Novosibirsk grew from 120,128 inhabitants in 1926 to c 750,000 in 1946 Siberian grain was an essential factor enabling Russia to resist the German onslaught in the Second World War despite the loss of some of its most valuable agricultural areas in the west The iron and steel industry of the Kuznetsk Basin makes Siberia (if combined with the Urals) virtually self-sufficient The effect of the economic transformation of Siberia and the Ural region was to shift the vital center of the USSR from central and S European Russia to the area between the Volga and the Yenisei Part of the agricultural colonization of Siberia was carried out, after 1929, by the forced resettlement of large segments of the Russian rural population, notably the expropriated kulaks Forced labor is used extensively in the exploitation of the rich gold mines (particularly in the Aldan and Kolyma ranges) of E and NE Siberia and for clearing and road and railroad construction projects in the least hospitable sections of the country In the northern areas of Siberia fur hunting remains one of the principal pursuits of the Russians as well as of the indigenous population Fishing, crabbing, sealing, and whaling are conducted on a large scale in the northern and eastern coastal waters, particularly off Kamchatka See R A Davies and A J Steiger, *Soviet Asia* (1942), Emil Lengyel, *Siberia* (1943), William Mandel, *The Soviet Far East* (1944), Daniel Henderson, *From the Volga to the Yukon* (1944)

Sibert, William Luther (sĭ'bŭrt), 1860–1935, American army engineer, b Gadsden, Ala , grad West Point, 1884 A member of the Isthmian Canal Commission (1907–14), he built the Gatun locks and dam, for which he was made brigadier general in 1915 He was promoted major general (1917), served in the First World War, and organized and directed (1918–20) the Chemical Warfare Service He wrote *Construction of the Panama Canal* (with J F Stevens, 1915) See biography by E B Clark (1930)

Sibilla Aleramo see ALERAMO, SIBILLA

Sibir (sĭbĕr'), former city, SE of the present TOBOLSK, RSFSR It was the capital of the Tatar khanate of Sibir or Siberia, which rose after the disintegration of the empire of the GOLDEN HORDE and which extended along the Irtysh, Tobol, and Ishim rivers The Cossack Yermak conquered Sibir in 1582, and the khanate was annexed by Ivan IV of Russia The city was abandoned after the founding of Tobolsk Its name was subsequently extended to all of present Siberia Sibir was also known as Isker and Kashlyk

Sibiu (sēbyōō'), Ger *Hermannstadt* (hĕr'mănshtät"), Hung *Nagyszeben* (nŏch'sĕ'bĕn), city (pop 60, 602), central Rumania, in S Transylvania, at the foot of the Transylvanian Alps It manufactures machinery and other metal products, textiles, and food products, and it is an Orthodox metropolitan see Founded in the 12th cent by German colonists, it still preserves much of its German medieval character and has a considerable German minority It has long been a cultural center of Transylvania

Sibley, Henry Hastings, 1811–91, first governor of Minnesota, b Detroit After two years of law study, he was (1829–34) a clerk for the American Fur Company He later became (1834) a partner and engaged in trading in the Wisconsin and Dakota territories He was (1848) delegate to Washington from Wisconsin Territory and promoted (1849) the organization of Minnesota Territory He was then delegate to Washington from Minnesota Territory, and when it became (1858) a state, he was (1858–60) its first governor In the later troubles with the Sioux in and after the Civil War, Sibley commanded expeditions against the Indians See biographies by Nathaniel West (1889) and W. P. Shortridge (1922).

Sibley, town (pop 2,356), co seat of Osceola co, NW Iowa, near the Minn line W of Spirit Lake, named 1872, inc 1875 It is in a livestock, farm, and dairy area and is a center of Iowa cooperatives.

Sibmah (sĭb'mŭ), same as SHEBAM

Sibraim (sĭ'brāĭm, sĭbrā'ĭm), unlocated landmark, extreme N Palestine Ezek 47 16 This is possibly the same as ZIPHRON

sibyl (sĭ'bĭl), in Greek mythology, one of a group of prophetic old women The most famous was the Cumaean Sibyl (kūmē'um) Aeneas consulted her, and she led him down to the underworld She sold Tarquin the prophetic writings about Rome's destiny, the Sibylline Books (sĭ'bĭlĭn) She offered him nine books at a high price He refused to buy She kept burning the books until finally he bought the remaining three at the original price Whatever the origin of these books, they were kept at Rome in the Capitol and were consulted by the state in times of emergency The books were destroyed in 83 B C when the Capitol was burned There are some fragments which are supposed to be parts of the Sibylline Books, but most of them are forgeries

Sibylline Oracles see PSEUDEPIGRAPHA

Siccuth (sĭ'kŭth), in Amos 5 26 RV, a heathen god Many texts regard this as a common noun, thus, AV translates "tabernacle"

Sichem (sĭ'kŭm), variant of SHECHEM

Sicilian Vespers. On Easter Monday, 1282, a rebellion broke out at Palermo against the French domination of Sicily The revolt quickly spread to the whole island, nearly all the French in Sicily were massacred The insurrection was largely a spontaneous outburst against King CHARLES I, who had transferred his capital from Palermo to Naples, leaving Sicily to be governed by arrogant French officials However, its success also was partially due to the intrigues of Emperor MICHAEL VIII, of JOHN OF PROCIDA, and of King PETER III of Aragon Peter was elected king by a federal assembly, and a long war followed for the possession of SICILY between the Angevin kings of Naples and the Aragonese kings of Sicily

Sicily (sĭ'sĭlĭ), Ital *Sicilia* (sēchē'lyä), island and autonomous region (9,928 sq mi, pop 4,000,078, including several adjacent islets), a part of Italy, separated from the mainland by the Strait of Messina The triangular island (sometimes called Trinacria by the ancients) is the largest and most populous in the Mediterranean, it lies between the Ionian and Tyrrhenian seas, c 100 mi N of Africa Capes Lilibeo (or Boeo), Passero, and Peloro (or Punta del Faro) are the vertices of the triangle Sicily is an autonomous region under the Italian constitution of 1947, with Palermo as the capital The region is divided into the provinces of Palermo, Agrigento, Caltanissetta, Catania, Enna, Messina, Ragusa, Syracuse, and Trapani—all named after their chief cities Sicily is almost entirely covered by mountains, a continuation of the Apennines, the active volcano, Mt ETNA, is the highest The only wide valley is the fertile plain of Catania Some malarial areas have been reclaimed Sicily has long been noted for its fertility, pleasant climate, and natural beauties, but agriculture, its main resource, is hampered by absentee ownership, primitive methods of cultivation, and lack of irrigation Land reforms are under way Corn, barley, grapes, olives, citrus fruit, almonds, and some cotton are produced, mules, donkeys, and sheep are raised Tuna and sardine fishing are important industries Sicily has rich sulphur mines and exports sulphur, pumice, salt, wine, citrus fruit and their derivatives, fertilizers, and canned sardines The island has a long and colorful history The oldest known inhabitants were the Elymi, Sicani, and Siculi Phoenicians settled at Panormus (now PALERMO) and other places, the Carthaginians founded LILYBAEUM and Drepanum (now TRAPANI), while on the east and southeast coasts the Greeks founded (8th–6th cent B C) such cities as SYRACUSE, CATANIA, Zancle (now MESSINA), GELA, and SELINUS and settled in older towns such as SEGESTA The Greek cities flourished and in turn founded such cities as Acragas (now AGRIGENTO) and HIMERA Their original democratic governments were gradually usurped by tyrants, those of Syracuse taking the leadership Greek civilization was temporarily saved from Carthaginian expansion by the victory of Himera (480 B C), but later Roman and Carthaginian rivalry in Sicily led to the first of the PUNIC WARS and resulted (241) in Sicily's becoming a Roman colony The resources of the island were squeezed dry by the Romans, who also founded the large landed estates that have been the major economic evil of Sicily ever since Slave revolts were cruelly suppressed (late 3d cent B C) From the Greek and Roman periods there remains a great wealth of monuments, excavations yield ever more objects After the barbarian invasion, Sicily passed to the Byzantines (A D 535) and to the Arabs (9th cent) The Arabs promoted agriculture, commerce, and the arts and sciences They were displaced by the Norman conquest (1060–91), led by ROGER I. ROGER II became (1130) the first king of Sicily, he forced (1139) Pope Innocent II, who claimed suzerainty over Sicily, to invest him with the kingdom, which included the Norman possessions in S Italy His brilliant court did much to introduce Arabic learning to Western Europe His last direct descendant, CONSTANCE, married Emperor Henry VI, their son and heir, Emperor FREDERICK II (1197–1250), was more interested in Sicily, where he resided in splendor, than in the Holy Roman Empire After his death and the failures of the last Hohenstaufen claimants (CONRAD IV, MANFRED, and CONRADIN) Pope Clement IV crowned CHARLES I (Charles of Anjou, a brother of LOUIS IX of France) king of Sicily as his vassal (1266) The unpopular government of the French caused an uprising (see SICILIAN VESPERS), and the Sicilians chose PETER III of Aragon as their king The resulting war between the ANGEVIN line and the Aragonese ended temporarily in 1302 with FREDERICK II (see ARAGON, HOUSE OF) becoming king of Sicily and Charles II of Anjou keeping S Italy (see NAPLES, KINGDOM OF) In 1372 Joanna I of Naples formally renounced Sicily The Sicilian branch of Aragon becoming extinct, Sicily reverted to the main branch in 1409 Ruled by Spanish governors, the island deteriorated and passed into the hands of a few powerful nobles and ecclesiastics In 1713 the Peace of Utrecht gave Sicily to Savoy, which in 1720 exchanged it with the emperor for Sardinia However, as a result of the War of the POLISH SUCCESSION both Sicily and Naples came (1735) under the rule of Don Carlos of Bourbon (later CHARLES III of Spain) The BOURBON kings resided at Naples, except in 1799 and from 1806 to 1815, when Naples was under French domination The two kingdoms were merged, despite Sicilian protests in 1816, when FERDINAND I styled himself officially king of the TWO SICILIES The Sicilian spirit of independence (still manifested in the MAFIA) gave rise in 1820 and in 1848–49 to revolutions, which were mercilessly repressed, the bombardments of Messina (1848) and of Palermo (1849) earned FERDINAND II the name King Bomba GARIBALDI, in 1860, conquered the island, which voted its incorporation into the kingdom of Sardinia In the Second World War an Allied landing was effected from North African bases on July 9–10, 1943 After heavy fighting, the Allied conquest of the island was completed by the fall of Messina on Aug 8, 1943 See A H Allcroft, *A History of Sicily* (1890), E A Freeman, *History of Sicily* (4 vols 1891–94), Ashley Brown, *Sicily, Present and Past* (1928)

Sickingen, Franz von (frants' fŏn zĭ'kĭng-un), 1481–1523, German knight, protector of religious reformers Though he inherited large estates, he served as soldier of fortune under Francis I of France and later Emperor Charles V He came under the influence of Ulrich von HUTTEN, took the side of Reuchlin and Luther, and gave refuge to persecuted reformers at Ebernburg and his other castles Fired by personal ambition, he then set out with a private army to make war against the ecclesiastical princes, aiming at the secularization of their lands He declared war on the archbishop of Trier and in 1522 laid siege to the city, which, however, resisted successfully Sickingen was placed under the ban of the empire Besieged in his castle of Landstuhl by the princes of Trier, Hesse, and the Palatinate, he was forced to capitulate and died of his wounds His defeat symbolized the end of the power of German knighthood Sickingen appears, much romanticized, in Goethe's *Götz von Berlichingen* and Wilhelm Hauff's *Lichtenstein*

sickle, agricultural implement for cutting hay crops or ripe grain It consists of a curved blade with a short handle The cutting edge of the grass sickle is smooth, but the sickle for cutting ripe grain has fine teeth The sickle was one of the earliest agricultural implements, in the early instruments the blade was of wood and the teeth were flint In the Bronze Age, bronze sickles were much like modern sickles in form In the earliest Bible times, the sickle was in general use (Deut 16 9) The sickle and the SCYTHE were the reaping and mowing implements of colonial America, and they are still much used for harvesting As the standard implement for reaping, the sickle was displaced by the CRADLE SCYTHE, or cradle

Sickles, Daniel Edgar, 1819–1914, American politician, Union general in the Civil War, b New York city, educated at the Univ of the City of New York (now New York Univ) Sickles became a lawyer and a Democratic politician A member of Congress (1857–61), he was acquitted in 1859 of the murder of Philip Barton Key, whom he shot and killed in Washington because of attentions to Sickles's wife In the Civil War, Sickles was a brigadier general commanding New York volunteers in the Peninsular campaign (1862) He led a division at Antietam and Fredericksburg (1862) and the 3d Corps at Chancellorsville and in the GETTYSBURG CAMPAIGN At Gettysburg he lost a leg in the fighting at the Peach Orchard General Meade alleged that Sickles disobeyed orders in placing his corps there, a move which nearly caused the loss of the Round Tops He saw no active service for the rest of the war but remained in the army till 1869, when he was retired as a major general His severity as Reconstruction commander in the Carolinas (1865–67) led President Johnson to transfer him to another command. As minister to Spain (1869–73), Sickles sought to precipitate hostilities with that country over the VIRGINIUS affair, but Hamilton Fish intervened and brought about an amicable settlement He later held various political offices in New York and served again (1893–95) in Congress See biography by Edgcumb Pinchon (1945)

Sicyon (sĭ'shēŏn, sĭ'sēŏn), ancient city, Greece, in the Peloponnesus, W of the Asopus river 2 mi S of the Gulf of Corinth, and NW of Corinth It was famous both for its art and for its political history The bronze work of Sicyon was mentioned by Strabo, Pamphilus and Apelles were among the famous artists who studied at the Sicyonian school of painting founded by Eupompus, Canachus and Lysippus were native sculptors CLEISTHENES was a powerful Sicyonian despot of the 6th cent B C After a period of rule by tyrants, ARATUS reintroduced democracy (3d cent B C), and Sicyon joined the Achaean League With the destruction of Corinth by the Romans (146 B C) Sicyon briefly regained power, but subsequently declined.

Siddhartha see BUDDHA

Siddim, locale of the battle of the kings, said to mean the valley of the Dead Sea Gen 14

Siddons, Sarah Kemble, 1755–1831, English actress The most distinguished of the famous KEMBLE family, she had early theatrical experience in her father's traveling company and at 18 married William Siddons an actor In 1774 her portrayal of Belvidera in Otway's *Venice Preserved* attracted the attention of Garrick, who engaged her for Drury Lane in 1775–76, but she failed In 1782 after appearances in the provinces had greatly increased her powers, she played Isabella in Southerne's *Fatal Marriage* at Drury Lane Her success was instant and indisputable, and her fame grew in such roles as Queen Katharine, Desdemona, and Ophelia and as Volumnia to the Coriolanus of John Philip Kemble As Lady Macbeth she was unequaled Her warm, rich voice and majestic presence held audiences in awe, and she won the praise of Hazlitt Leigh Hunt, and Byron Her portrait, *The Tragic Muse*, was painted by Reynolds, and her statue, by Chantrey, is in Westminster Abbey See her *Reminiscences, 1773–1785* (ed by William Van Lennep 1942), James Boaden, *Memoirs of Mrs Siddons* (1827), André Maurois, *Portrait d'une actrice* (1928), Yvonne ffrench, *Mrs Siddons Tragic Actress* (1936)

siderite (sĭ'durĭt) or **chalybite** (kă'lĭbĭt), a mineral, varying in color from brown, green, gray, and black to white and occurring in nature in massive and crystalline form A carbonate of iron, it serves as an ore of the metal especially in the British Isles It is widely distributed, being found also in the United States, Europe, South America, and Australia

Sidgwick, Henry (sĭj'wĭk), 1838–1900, English philosopher He studied at Trinity College, Cambridge Univ, and taught moral philosophy there from 1883 until 1900 The basis of his thought was English utilitarianism Analyzing the intuitionist and utilitarian arguments, he indicated their interrelationship by showing how the doctrine of common sense rests on the principles of utilitarianism In *The Methods of Ethics* (1874) he differentiated between two ethical ideas of utilitarianism one based on self-interest and the other on altruism Sidgwick was active in the administrative affairs of the university, and he was interested in the advancement of woman's rights, aiding in the planning and founding of Newnham College for women He was also a founder of the Society of Psychical Research Other major published works are *Principles of Political Economy* (1883), *Philosophy Its Scope and Relations* (1902), and *The Development of European Polity* (1903)

Sidi-bel-Abbès (sē'dē-bĕl-ăbĕs'), city (pop. 52,881) NW Algeria, in the Tell region It grew up around an old walled town and about a French redoubt built in 1843 It became the headquarters of the Foreign Legion The city is an agricultural market

Sidlaw Hills (sĭd'lô), range, E Scotland, extending NE from near Perth into Angus co The highest hills, including Dunsinane, are over 1,000 ft

Sidmouth, Henry Addington, Viscount, 1757–1844, English statesman. He entered Parliament in 1783 and in 1789 became speaker of the House of Commons Sidmouth subscribed to William Pitt's policies in the French wars, and when Pitt was forced to resign because of his disagreement with George III on the Catholic question, Sidmouth served as prime minister (1801–4) The chief event of his administration was the Treaty of Amiens (1802) with Napoleon On the renewal of war, his incompetence forced him to give way to Pitt He was president of the council under Pitt (1805), Charles James Fox and Lord Grenville (1806–7), and Spencer Perceval (1812) As home secretary (1812–21) under Lord Liverpool he incurred great odium for his reactionary policy of repression in the face of widespread hunger and discontent

Sidney or **Sydney, Algernon,** 1622–83, English republican, son of Robert Sidney, 2d earl of Leicester His early activities included service in the parliamentary forces and in the council of state (1652–53, 1659), but he opposed Oliver Cromwell's dictatorial

rule At the Restoration he went into exile in 1660, returning by permission in 1677 to attend to private affairs Stirred by the threat to constitutional government in the reaction following the Popish plot, he joined Lord William Russell and others in vague plots for an insurrection, perhaps to make James Scott, duke of Monmouth, a constitutional monarch This conspiracy was discovered by the exposure of another one, the Rye House Plot After an unfair trial under Jeffreys of Wem, Sidney was sentenced to death for treason and executed His name was cleared in 1689 His chief work was *Discourses concerning Government* (1698) See biography by A C Ewald (1873)

Sidney or **Sydney, Sir Philip**, 1554–86, English soldier, statesman, and author Educated at Oxford and sent abroad by his father and his uncle the earl of Leicester, he was one of the chief ornaments of Queen Elizabeth's court and a model of his age's ideal of knighthood His literary works were circulated only in manuscript during his lifetime His unfinished *Arcadia* (1590) was a prose romance written for his sister Mary, countess of Pembroke, the original version, simpler and complete, was first printed by Albert Feuillerat in 1926 Sidney's excellent critical work appeared in two slightly different versions, *The Defense of Poesie* and *An Apology for Poetry* (both 1595) *Astrophel and Stella* (1591) is one of the greatest sonnet sequences in English and was inspired by his love for Penelope Devereux, later Lady Rich Sidney himself married Frances Walsingham in 1583 He served in several diplomatic missions on the Continent and in 1585 was made governor of Flushing while England was active against Spain in the Netherlands At the battle of Zutphen (1586) he was fatally wounded See his works (ed by Albert Feuillerat, 4 vols, 1912–26), biographies by M W Wallace (1915) and Mona Wilson (1931), bibliography by S A Tannenbaum (1941)

Sidney, Robert see Leicester, Robert Sidney, earl of

Sidney. **1** Town (pop 1,290), co seat (since 1851) of Fremont co, SW Iowa, near the Missouri S of Council Bluffs, inc 1870 An annual championship rodeo is held in August **2** City (pop 2,978), co seat of Richland co, E Mont, in the Yellowstone valley near the N Dak line, inc 1911 The principal city of the Lower Yellowstone project (est 1906 by the Bureau of Reclamation) it has a sugar refinery for sugar beets grown in the area **3** City (pop 3,388), co seat of Cheyenne co, W Nebr, in the Great Plains region, on Lodgepole Creek between the North Platte and South Platte rivers, founded 1867 by the Union Pacific RR It grew up around Fort Sidney (1867–94) and was an early supply point during the Black Hills gold rush (1876–77) The city is a grain-shipping and farm-trade center **4** Village (pop 3 012), S N Y, NE of Binghamton, inc 1888 There is a large magneto plant, and bluestone is quarried **5** City (pop 9,790), co seat of Shelby co, W Ohio, on the Great Miami and N of Dayton, settled 1820 Its manufactures include machine tools, refrigeration units, washing machines, and steel scrapers

Sidney Sussex College see Cambridge University

Sidon (sī'dun), ancient city, one of the great seaports of the Phoenicians, in the present Lebanon It had extensive trade and also in a later period was known for its purple dyes and for glassware (glass blowing is said to have begun at Sidon) Though eclipsed by its own colony, Tyre, Sidon continued to be a port of prominence under the Persians, in the Hellenistic world, and in the later Roman Empire Saida now occupies the site It is often mentioned in the Bible Gen 10 5,15, 1 Kings 16 31, Mat 15 21, Acts 27 3

Sidonius, Apollinaris. see Apollinaris Sidonius

Sidra, Gulf of (sē'drŭ), arm of the Mediterranean Sea, lying between Misurata and Bengasi, Libya

Siebenbürgen, Rumania see Transylvania

Siebengebirge (zē'bungubĭr"gu) (Ger =seven mountains), small range of the Rhenish Slate Mts, W Germany Of volcanic origin, it extends for c 10 mi S of Bonn along the right bank of the Rhine and rises to 1,509 ft in the Grosser Ölberg One of the most scenic spots of the Rhineland, it is particularly famous for the Drachenfels

Siebold (zē'bôlt), family of German scientists It includes **Karl Kaspar von Siebold** (karl' kas'par fŭn), 1736–1807, anatomist and surgeon, who was professor at the Univ of Würzburg from 1769 He was ennobled in 1801 A son, **Adam Elias von Siebold** (ä'dăm ālē'as), 1775–1828, was noted as an obstetrician He taught at the universities of Würzburg (1799–1816) and Berlin (from 1816), where he founded a noted obstetrical clinic **Eduard Kaspar von Siebold** (ā'dōōart), 1801–61, a son of A E von Siebold, was also a noted obstetrician He was professor at the universities of Marburg (1829–33) and Gottingen (from 1833). Another son, **Karl Theodor Ernst von Siebold** (tā'ōdōr ĕrnst'), 1804–85, also a physician, was noted as one of the foremost biologists of his time He specialized in the comparative anatomy of invertebrates and wrote the first volume (1846) of *Lehrbuch der vergleichenden Anatomie*, this volume appeared in English under the title *Anatomy of the Invertebrata* (1854). Especially noteworthy is his research on intestinal parasites and his work on the classification of invertebrates He taught from 1853 at the Univ of Munich

Siebold, Philipp Franz van (fē'lĭp frants' vän), 1796–1866, German naturalist and physician, noted for his studies of the natural history and ethnography of Japan Sent (1823) by the Dutch East India Company on a scientific mission to Japan, he was expelled (1830) for obtaining maps not issued to foreigners. On a second visit (1859–62) to Japan he served as mediator between Japan and the European powers He was ennobled by Holland in 1845 Chief of his authoritative works is *Nippon Archiv zur Beschreibung von Japan* (20 parts, 1832–51)

Siegbahn, Karl Manne Georg (kärl' mä'nu vä'ôryu sēg'bän), 1886–, Swedish physicist (He was professor at the universities of Lund (1920–23)) and Uppsala (1923–36) and in 1937 became director of the Research Institute for Physics of the Academy of Sciences, Stockholm He worked in electricity and magnetism, then specialized in X-ray spectroscopy, evolving a method for the precise measurement of X-ray wave lengths For this work he received the 1924 Nobel Prize in Physics Some of his later research deals with "ultra-soft" X rays Siegbahn wrote *The Spectroscopy of X-Rays* (Eng. tr, 1924)

siege (sēj), belea guerment of a city or fortress Before the use of gunpowder battering rams were employed to reduce the walls or gates of a fortified place In besieging Carthage the Romans used as many as 6,000 men merely to build a "penthouse" or shelter to protect the wielders of the rams from arrows, stones, and hot oil Huge shields of wicker covered with wood or hide (mantelets) served to protect the artificers Mounds were built by both besieger and besieged in a race to attain heights from which the adversary could be assailed Engines of war were brought into play by both sides to hurl stones, spears, pots of fire, and arrows It was the practice among the ancients for besiegers to build a wall (circumvallation) around their objective and a second wall (contravallation) around their own army as security against relieving forces In the Middle Ages a long pivoted pole weighted with stones (the trébuchet) was used to hurl projectiles into the enemy stronghold Mining was resorted to by the assailants from earliest time, and the besieged dug countermines in defense This tactic greatly increased in effectiveness with the introduction of explosives The history of siegecraft parallels the development of fortification Castles were fortresses as well as dwellings In many of the cities of the Old World there are still vestiges of the walls and gates which once enclosed them Notable sieges of history include those of Syracuse (415–413 B C), Constantinople (1453), Londonderry (1689), Quebec (1759–60), the Alamo in Texas (1836), Richmond (1864–65), Port Arthur (1904), and the Alcazar in Toledo (1936) During the First World War powerful artillery, moved about by tractor and rail and out of range of the defenders sent shells into the cities and strongholds In the Russo-Finnish War and the Second World War cities behind the Mannerheim, Maginot, and Siegfried lines yielded when the enemy breached or flanked the fortifications The failure of the Nazi forces to oust the defenders of besieged Stalingrad in 1942–43 ultimately cost them 22 divisions See Sir Charles W C Oman, *History of the Art of War in the Middle Ages* (1926), J R Newman, *The Tools of War* (1942)

Siegen, Ludwig von (lōōt'vĭkh fŭn zē'gun), c 1609–1680, German engraver, b Holland, educated in Germany He invented (c 1640) the mezzotint process of engraving Among his seven known plates are portraits of Amalia Elisabeth of Hesse and of William II, prince of Orange, and his wife, Mary His new method of engraving, long a secret, was revealed to Prince Rupert of the Palatinate in 1654 Through him it was communicated to the English engravers A collection of Siegen's work is in the British Museum.

Siegen (zē'gun), city (1939 pop 40,269, 1946 pop 29,922), in the former Rhine Prov of Prussia, W Germany, on the Sieg, a tributary of the Rhine, and W of Bonn It lies in an iron-mining region and has iron foundries More than half the city was destroyed in the Second World War Rubens was born here

Siegfried (sēg'frēd, Ger. zēk'frēt) or **Sigurd** (sĭ'gurd), great hero of Germanic mythology Seigfried is the ideal hero, brave and true In the Nibelungenlied, he is the conqueror of Brunhild and the husband of Kriemhild He is murdered by Hagen, a Germanic knight, who was instigated by Brunhild In the Volsungasaga, as Sigurd (the Icelandic form of the name) he plays a role similar to that in the *Nibelungenlied*, he marries Gudrun (Kriemhild) In the opera *Siegfried* by Richard Wagner (the third opera of the Ring cycle, see Nibelungen), Siegfried is son of Sieglinde and Siegmund. He kills the dragon Fafnir, understands the language of the birds, gains the ring, and wins Brünnehilde

Siegfried, André (ädrā' sēgfrēd'), 1875–, French economist and historian. He became professor at the École des Sciences politiques in 1911 and at the Collège de France in 1933 He is the author of many books on economics and political science His translated works include *Post-War Britain* (1925), *America Comes of Age* (1927), *France* (1930), *Impressions of South America* (1933), *England's Crisis* (1935), *Canada* (1937), and *Suez and Panama* (1940)

Siemens, Ernst Werner von (sē'mŭns, Ger ĕrnst' vĕr'nur fŭn zē'muns), 1816–92, German electrical engineer and inventor He was a founder (1847) and director of Siemens and Halske, a firm which made electrical apparatus He invented an electroplating process (1841) and an electric dynamo, laid the first telegraph line and built the first electric railway in Germany, and, with his brother Sir William Siemens, developed (1866) a widely used process of steelmaking The Siemens unit of electrical resistance was proposed by him In 1884 he founded a research laboratory at Charlottenburg See his *Personal Recollections* (1892, Eng tr., 1893) and his *Scientific and Technical Papers* (Eng tr, 1892–95)

Siemens, Sir William (sē'mŭnz), 1823–83, British electrical engineer, b Germany, brother of Ernst Werner von Siemens Originally his name was Carl Wilhelm von Siemens After visiting England to introduce some of his own and his brother Ernst Werner's inventions, he remained there and became a naturalized British subject He was head of the English branch of the Siemens firm, which was founded in Germany by Ernst Werner and J G Halske and made telegraphic and other electrical apparatus and handled electrical engineering projects With his brother Frederick he developed an improved regenerative furnace later of great importance to a number of industries The furnace was used especially by the Siemens brothers in improving the steel made by their process of manufacture, the process and a variation of it introduced by Pierre Martin came to be known as the open-hearth process

Siemering, Rudolf (rōō'dôlf zē'murĭng), 1835–1905, German sculptor His monuments include memorials to Frederick the Great (Marienburg), Luther (Eisleben) and Frederick William I Haydn, Mozart, and Beethoven (all Berlin), *Victory of 1870* (Leipzig), an equestrian statue of Kaiser Wilhelm I (Magdeburg), and the elaborate Washington Memorial, unveiled in 1897 in Fairmount Park, Philadelphia

Siemianowice Slaskie, Pol *Siemianowice Śląskie* (shĕm'yanôvē'tsĕ shlôn'skyĕ), industrial town (pop 32,708), Silesia prov, SW Poland, just N of Katowice

Siena (sē'ĕ'nu, Ital syā'na), city (pop 36,064), capital of Siena prov, Tuscany, central Italy It is one of the richest art cities in Italy Probably of Roman origin, it became a free commune (12th cent) and, gradually extending its territory, developed into a wealthy republic In spite of continuous internal strife between popular and aristocratic factions and frequent wars (particularly with Florence), Siena kept its independence Sienese art reached its zenith in the 13th to 15th cent The local interpretation of the Gothic style produced fine works of architecture and sculpture, but the fame of Siena is due mainly to its school of painting (13th–14th cent), of which Duccio di Buoninsegna, Simone Martini, and the two Lorenzetti were the greatest representatives The university was founded in the 13th cent and still has several faculties The Petrucci family ruled Siena (1487–1523), then the Spanish and the French struggled for the city, which finally fell, after a long siege (1554–55), to the army of Emperor Charles V and passed to Cosimo de' Medici, duke of Tuscany The conch-shaped main square, called the Piazza del Campo, is surrounded by notable buildings—the imposing Gothic Palazzo Pubblico, with frescoes by Ambrogio Lorenzetti and Martini and with the Fonte Gaia (a fine sculptured fountain by Jacopo della Quercia), the slender Mangia Tower, and medieval palaces Here the Palio festival, a horse race of medieval origin, is still held twice a year The cathedral, one of the finest examples of Italian Gothic, has an elaborate façade of polychrome marbles The adjoining Piccolomini Library is adorned with Pinturicchio's famous frescoes. There are also many fine Gothic and Renaissance palaces St Catherine of Siena was born here, her home, a much-visited shrine, has frescoed chapels Siena has fine cultural traditions and has several learned societies, libraries, and archives It is also noted for the wine produced in the surrounding hills and for the Siena marble, a rich orange with purple and black veinings

Sienkiewicz, Henryk (hĕn'rĭk shĕnkyĕ'vĕch), 1846–1916, Polish novelist and short-story writer, educated in Warsaw. He won the 1905 Nobel Prize in Literature Sienkiewicz is probably best known to English readers through his *Quo Vadis?* (1895, Eng tr., 1896), a novel of the time of Nero His trilogy *With Fire and Sword* (1883, Eng. tr., 1890), *The Deluge* (1886, Eng tr, 1891), and *Pan Michael* (1888, Eng tr., 1893) glorified the struggle for Polish national existence in the 17th cent. He

traveled in the United States in 1876, and some of his short stories collected in *Yanko the Musician and Other Stories* (1879, Eng tr, 1893) mirror his impressions Also translated were his historical novel *The Knights of the Cross* (1900, Eng tr, 3 vols, 1897–1900) and the psychological novel *Without Dogma* (1891, Eng tr, 1893) Sienkiewicz died in Switzerland, where he was active in the International Red Cross in the First World War See biography by M M Gardner (1927).

Sierra, Justo (hōō'stō syĕ'rä), 1848–1912, Mexican educator and historian He entered the literary life as a romantic poet but later, fired with zeal to bring light to his nation, he devoted himself to founding schools, lecturing, and seeking in every way to quicken new intellectual life in Mexico He was to a large extent responsible for the intellectual renaissance in Mexico early in the 20th cent He was minister of education under Porfirio Díaz and refounded the National Univ of Mexico His best-known work is a history of Mexico showing the growth of national feeling and culture, *La evolución política del pueblo mexicano* (1900–1902)

Sierra Blanca (sĕĕ'rə blăng'kə, sēr'ə), unincorporated town (pop c 800), co seat of Hudspeth co., extreme W Texas It is a railroad junction in a ranching country

Sierra Blanca (sĕĕ'rə blăng'kə), part of the Sangre de Cristo mts, S Colo The highest summit is Blanca Peak (14,363 ft)

Sierra Leone (sĕĕ'rə lēō'nē, lēōn', sēr'ə lēōn'), British colony and protectorate (27,925 sq mi, pop c 2,087,000), W Africa, on the Atlantic Ocean Freetown is the capital It is bordered on the northwest, north, and northeast by French Guinea and on the southeast by Liberia The colony, a relatively small peninsula, is covered with ranges of hills which rise to c 3,000 ft The protectorate comprises swamps and mangroves in the south, high savannas in the central zone, and in the north an arid plateau rising to c 6,000 ft The chief crops and exports of Sierra Leone are palm oil, cacao, coffee, and ginger The staple food is rice Diamonds, gold, chrome, and iron are mined Sierra Leone was visited (c 1462) by the Portuguese They were followed a century later by English slave traders During the 17th and 18th cent, Sierra Leone became the haunt of pirates In the late 18th cent, through the efforts of the British abolitionists, it was settled by liberated slaves In 1808 the British government took over the administration of the colony, and in 1896 the protectorate was proclaimed Sierra Leone is ruled by an appointed governor with the aid of a nominated executive council and a partly elective legislative council

Sierra Madre (sĕĕ'rə mä'drā), city (1940 pop 4,581, 1947 special census pop 6,669), S Calif, at the foot of Mt Wilson near Pasadena, in an orange-growing region, inc 1907

Sierra Madre (syĕ'rä mä'dhrā), chief mountain system of Mexico, including the Sierra Madre Oriental, the Sierra Madre Occidental, and the Sierra Madre del Sur Lifting their peaks into the cold, high air above deep, hot valleys, blocking passage to man with rough ridges and almost impassable canyons (*barrancas*), and holding an unbelievable store of minerals, these ranges determine climate, crops, roads, and wealth They have been the greatest single geographic force in the lives of the people of Mexico The **Sierra Madre Oriental** (ōryĕntäl'), beginning in barren hills S of the Rio Grande, runs for 1,000 mi roughly parallel to the coast of the Gulf of Mexico, ranging from 10 to 200 mi inland It reaches an elevation of 18,700 ft in Orizaba peak, which belongs also to the volcanic belt, the Cordillera de Anáhuac This belt, which divides Mexico in half at about lat 19° N and includes the peaks Popocatepetl and Ixtaccihuatl, on the other end joins the **Sierra Madre Occidental** (ōk'sēdĕntäl') This range, paralleling the Pacific coast, extends SE from Arizona Its main escarpment is more abrupt than that of the eastern cordillera and averages 7,000 ft in height From c 5,000 ft in the north, elevations reach over 10,000 ft in the south The two ranges and the volcanic belt enclose the vast central region of Mexico, including the plateau of Anáhuac The **Sierra Madre del Sur** (dĕl sōōr') is a tumbled, broken mass of uplifted mountains, which touch the Pacific coast but form into no clearly defined range It spreads over S Mexico between the volcanic belt and the Isthmus of Tehuantepec

Sierra Madre, Rocky Mts see Park Range

Sierra Maestra (syĕ'rä mäĕ'strä), rugged mountain range, SE Cuba, rising abruptly from the coast. Although it consists of connecting ranges with local names, the Sierra Maestra is the dominant system of Cuba, rich in minerals, especially copper, manganese, chromium, and iron. Pico Turquino is the highest point

Sierra Morena (syĕ'rə mōrā'nə), mountain range, SW Spain, extending between the Guadiana and Guadalquivir rivers from the Sierra de Aracena near the Portuguese border eastward to the Sierra de Alcaraz in Murcia. The highest peak is c.4,500 ft. high. The mountains are rich in minerals

Sierra Nevada (syĕ'rä nävä'dhä), chief mountain range of S Spain, in Granada It is c 60 mi long The highest peak of the range and of Spain is Mulhacén (11,411 ft)

Sierra Nevada (sĕĕ'rə nəvă'də), mountain range, E Calif, beginning at Tehachapi Pass, SE of Bakersfield, and running c 430 mi northwest to the gap S of Lassen Peak The eastern front has steep walls and rugged summits, the western face slopes gradually into the Sacramento and San Joaquin valleys Mt Whitney is the highest peak in the range Truckee Pass, just N of Lake Tahoe, is the best known of the few passes through the Sierra Nevada The snow-covered peaks feed the many streams on the western slope used for water power and irrigation in California A small portion of the range is in Nevada The range contains three national parks, Yosemite, Sequoia, and Kings Canyon See Roderick Peattie, ed, *The Sierra Nevada* (1947), George Hinkle and Bliss Hinkle, *Sierra-Nevada Lakes* (1949)

Sierra Nevada de Mérida (syĕ'rä nävä'dhä dā mä'rēdhä), mountain range, NW Venezuela, a spur of the Andes, beginning at the Colombian border and extending 200 mi NE to the Caribbean coastal range From 30 to 50 mi wide, it rises between the Orinoco llanos and Maracaibo lowlands to perpetually snow-capped peaks which are over 15,000 ft high

Sierre (syĕr), Ger *Siders* (zē'dərs), town (pop 6,306), Valais canton, Switzerland There are hydroelectric stations and aluminum works in the area

Sieyès, Emmanuel Joseph (ämanüĕl' zhôzĕf' syāĕs'), 1748–1836, French revolutionary pamphleteer and statesman He was a clergyman before the Revolution and was known as Abbé Sieyès His pamphlet, *Qu'est-ce que le tiers état?* [What is the third estate? (1789), was immensely popular throughout France, and he was elected deputy to the States-General of 1789, in which he played a leading part He edited the tennis court oath, the Declaration of the Rights of Man, and the constitution of 1791 (see French Revolution) As a member of the Convention he voted for the execution of Louis XVI His prudent silence enabled him to live through the Reign of Terror, and after the overthrow of Robespierre on 9 Thermidor (1794) Sieyès was one of the leaders in the Thermidorian reaction In 1795 he took part in the peace negotiations with the Batavian Republic, and in 1799 he entered the Directory He conspired (1799) with Bonaparte in the overthrow of the Directory by the coup d'état of 18 Brumaire Sieyès became, with Bonaparte and Roger Ducos, one of the three provisional consuls, his sketch for the Constitution of the Year VIII was changed in decisive points by Bonaparte, and Sieyès and Ducos were replaced (Dec, 1799) as consuls by Cambacérès and C F Lebrun He later became senator and count of the empire and after the Bourbon restoration lived in exile (1815–30) at Brussels Sieyès prided himself on his logical and systematic constitutional drafts His chief contribution to political thought was his defense of government by representatives unbound by electoral mandate See studies by J H Clapham (1912) and G G Van Deusen (1932)

Sifton, Sir Clifford, 1861–1929, Canadian statesman, b Ontario Removing to Manitoba, he served (1888–96) as a Liberal in the legislative assembly there In 1896 he entered the Canadian House of Commons As minister of the interior (1896–1905) in Laurier's cabinet he pursued a vigorous immigration policy, his aggressive promotion brought hordes of people from the United States and Europe to settle in W Canada In 1905 he resigned his ministry in disagreement with Laurier over the school question in Alberta and Saskatchewan, and in 1911 he withdrew from Parliament and from the Liberal party in opposition to Laurier's reciprocal trade policy Sifton was knighted in 1915 See J W Dafoe, *Clifford Sifton in Relation to His Times* (1931)

Sigbert I (sĭ'gbûrt), d 575, Frankish king of Austrasia (561–75), son of Clotaire I He married Brunhilda, and his brother, Chilperic I of Neustria, married and later murdered her sister Galswintha When Chilperic attacked Austrasia in 573, a desire for vengeance made Sigebert vindictive in the fighting by which he overran Neustria About to be proclaimed king of Neustria, he was assassinated by order of Fredegunde, Chilperic's second wife.

Sigel, Franz (fränts' sē'gul), 1824–1902, Union general in the Civil War, b Sinsheim, Baden, Germany A graduate of the military academy at Karlsruhe (1843), Sigel became an officer in the army of Baden In 1848 and in 1849 he was a leader of revolutionary forces, and after the Baden insurrection of 1849 failed, he fled to Switzerland Sigel came to the United States in 1852, living first in New York city and then in St. Louis There at the beginning of the Civil War he organized the 3d Missouri Volunteers His command was routed at Wilson Creek, but Sigel later distinguished himself in the campaign that rid Missouri of Confederate forces, particularly at the battle of Pea Ridge Promoted major general of volunteers (March, 1862), he led a corps of Pope's Army of Virginia at the second battle of Bull Run (Aug, 1862) In 1864 he was given command of the Dept of West Virginia, but after Breckinridge defeated him at New Market (May), he was replaced by David Hunter In 1867 Sigel removed to New York city, where he held several political offices and was an editor of German periodicals

Siger de Brabant (sēzhĕr' du brəbä'), 13th cent, French philosopher He was at the Univ of Paris in the 1260s and 1270s and was included in the condemnation of Aristotelian teaching in 1270 He was forbidden to teach seven years later Siger's works reveal the Averroism for which he was condemned, it was Siger, indeed, who chiefly supported the Aristotle of Averroës against the triumphant Aristotle of St Thomas Aquinas Siger's philosophy followed Averroës closely He held that all men have one intellectual spirit, that each man is mortal, but mankind is immortal, and that all is determined

Sigerson, Dora see Shorter, Clement King

sight, see vision.

Sigillaria (sĭjĭlā'rēə), genus of club moss allied to Lepidodendron, abundant in the Carboniferous period of geologic time The trunk was thick and rarely branched, and the erect leaves were larger than those of lepidodendron, the leaf scars were in vertical rows The root stocks of Sigillaria, as of Lepidodendron, are known as stigmaria

Sigismund (sĭ'jĭsmund, sĭ'gĭs-), 1368–1437, emperor (crowned 1433) and German king (1410–37), king of Hungary (1387–1437) and of Bohemia (1420–37), elector of Brandenburg (1378–1415), son of Emperor Charles IV Though betrothed to Mary, daughter of Louis I of Hungary, he was excluded from power till 1387, when he was called to Hungary to rescue Mary from prison and to restore order After the Turkish victory of Kossovo (1389) Sigismund issued a call for a crusade, his army, gathered from all parts of Europe, was crushingly defeated by Bajazet I at Nikopol (1396) The same year he forced his brother, Emperor Wenceslaus, to name him vicar of the empire He put down a revolt (1403) in Hungary, where Lancelot of Naples briefly claimed the kingship In the disputed imperial election of 1410 both Sigismund and his cousin Jobst of Moravia claimed success, since Wenceslaus, though deposed in 1400, had never waived his title, there were, for a time, three emperors As a result of the Great Schism, there also were three popes The death of Jobst and the withdrawal of Wenceslaus made possible the unanimous reelection of Sigismund (1411) To heal the schism, Sigismund joined with Antipope John XXIII (see Cossa, Baldassarre) in summoning a council at Constance (see Constance, Council of) He further urged the attendance at the council of John Huss, who arrived with the emperor's guarantee of safe-conduct Huss antagonized Sigismund, who presided over the council, and Sigismund revoked the safe-conduct and approved his death sentence The schism was ended, but the burning of Huss hastened the Reformation in Bohemia and earned Sigismund the lasting hatred of the Czechs At the death (1419) of Wenceslaus, Sigismund's succession to Bohemia was bitterly opposed To secure an army, he persuaded Pope Martin V to proclaim (April, 1420) a crusade against the Hussites, he had himself crowned at Prague, but was defeated by the Hussites under John Zizka and withdrew In 1421 a Czech assembly declared him deposed, the throne being offered to a Polish prince, and in 1423 the Hussites began their incursions into Germany (see Hussite Wars) Disgust with the affairs of Germany and campaigns against the Turks kept Sigismund in Hungary most of this time A new crusade against the Hussites, who were led by Procopius the Great, ended in disaster Negotiations to heal the breach in the Church were resumed at the Council of Basel (see Basel, Council of) and resulted in compromise with the drafting (1433) of the Compactata The moderate wing of the Hussites (see Utraquists) having defeated the radicals at Lipany (1434) and the Compactata having been ratified at Jihlava (1436), the Bohemians accepted Sigismund's return to Prague (1436) Sigismund failed to keep his promises to the Czechs, and disorders broke out again before his death The last emperor of the Luxemburg dynasty, Sigismund arranged for the succession to his titles, including Bohemia and Hungary, of his son-in-law, Albert of Austria (later King Albert II) Brandenburg he had transferred in 1415, in payment of a debt, to Frederick of Hohenzollern (Frederick I, margrave of Brandenburg) See Archibald Main, *The Emperor Sigismund* (1903)

Sigismund I, 1467–1548, king of Poland (1506–48), son of Casimir IV He was elected to succeed his brother, Alexander I The enactment (1505) of the law *Nihil Novi*, which forbade the kings to enact laws without the consent of the diet, seriously handicapped Sigismund in his struggle with the nobility and the gentry Nevertheless, Sigismund established (1527) a regular army and a fiscal system to finance its maintenance He tried to check the progress of the Reformation but took no drastic action. In 1515 Sigismund entered into an alliance

with Emperor Maximilian I and consented to the marriage of the children of his brother, ULADISLAUS II of Bohemia and Hungary, with the grandchildren of Maximilian Through this double marriage contract Bohemia and Hungary passed to the house of Hapsburg on the death (1526) of Sigismund's nephew, Louis II Sigismund warred against Vasily III of Moscow, to whom he lost Smolensk He fought without result against the Teutonic Knights, however, when their grand master, Albert of Brandenburg, secularized the order he did homage (1525) to Sigismund, who invested him with the domains of the order as the first duke of Prussia Sigismund sought peaceful relations with the khans of Crimea, but was nonetheless involved in border warfare with the Crimean Tatars Sigismund and his second wife, Bona Sforza, daughter of Gian Galeazzo Sforza of Milan, were patrons of Renaissance culture, which began to flower in Poland during their reign He was succeeded by his son, Sigismund II

Sigismund II or **Sigismund Augustus,** 1520–72, king of Poland (1548 72), son and successor of Sigismund I His main political accomplishment was the Union of Lublin (1569), by which he transferred his hereditary grand duchy of LITHUANIA to the Polish crown, thus creating the unified Polish-Lithuanian state His great diplomatic skill enabled him to conciliate the extreme nationalist elements both among the Poles and the Lithuanians who opposed the fusion The dissolution (1561) of the Livonian Knights enabled him to acquire Courland, Latgale, and other parts of LIVONIA, but he was drawn into conflict with Ivan IV of Russia, to whom he lost Polotsk (1563) The Reformation reached its height in Poland during Sigismund's reign, and in 1570 nearly all the Protestant sects entered into a union to strengthen their cause An open-minded and tolerant monarch, Sigismund nevertheless was a loyal Catholic and sought to counteract the Reformation by peaceful means He abolished (1562) ecclesiastic courts but introduced (1565) the Society of Jesus, which successfully preached the Catholic Reform The Renaissance flowered at this time (see also POLISH LITERATURE), and Sigismund himself was an accomplished humanist and theologian The last of the JAGIELLO dynasty to rule Poland, Sigismund died childless After an interregnum and the brief rule of Henry of Valois (later Henry III of France), Stephen Bathory was elected king (1575)

Sigismund III, 1566–1632, king of Poland (1587–1632) and king of Sweden (1592 99) He was the son of John III of Sweden and of Catherine, sister of Sigismund II of Poland, and thus united the VASA and JAGIELLO dynasties He was a Catholic, his marriage with Anne of Hapsburg linked him with the Catholic monarchs of Europe After the death (1586) of Stephen Bathory, Sigismund was elected to succeed him as king of Poland, largely through the aid of Jan ZAMOJSKI, who feared the candidacy of Maximilian of Austria Moreover, Sigismund vaguely promised to give Swedish Livonia to Poland In 1592 he succeeded his father on the Swedish throne, but his reluctance to accept Protestantism as the state religion in Sweden involved him in conflict with the Swedes and with his uncle, the regent (see CHARLES IX) Sigismund was defeated (1598) at Stangebro and was formally deposed by the Swedish diet in 1599 He did not renounce his claims to Sweden, and in 1621 war flared up with his nephew, GUSTAVUS II, to whom he lost most of Livonia when peace was made in 1629 Sigismund intervened in Russia in the TIME OF TROUBLES that followed the death of BORIS GODUNOV He supported the pretender DMITRI and hoped to conquer all Russia In 1610 the Russians elected Sigismund's son Ladislaus tsar, but Sigismund continued his military conquest and took MOSCOW In 1612, however, an improvised Russian army under Prince Pozharski expelled the Poles, and Michael Romanov was elected tsar of Russia Peace with Russia was made only under Sigismund's successor, his son Ladislaus IV, in 1634 Poland retained Smolensk and other border towns Sigismund's pro-Catholic policy helped to bring about the union (1596) of the Ruthenian Church in Poland-Lithuania with the Church of Rome His efforts to use Austrian aid in limiting the powers of the diet and the dissatisfaction of the Protestants led to the rebellion (1606-7) led by Nicholas Zebrzydowski, the palatine of Cracow Though the rebels were defeated, they won their cause, for no more attempts were made to change the constitution

Sigismund Augustus see SIGISMUND II

Siglufjord (sĭ'glōsfyôrd'), Icelandic *Siglufjörður* (sĭk'lufyûr''dhûr), town (pop 2,972), NE Iceland It is a port and exports herring

Sigmaringen (zē̆k'mărĭng''un), town (pop 6,158), capital of former Hohenzollern, after 1945 in Württemberg-Hohenzollern, S Germany It lies on the Danube and at the foot of the Swabian Jura First mentioned in 1077, the town was the residence of the HOHENZOLLERN-SIGMARINGEN family Kings Carol I and Ferdinand I of Rumania were born here The town is dominated by the large 16th-century castle, rebuilt after a fire in 1893 The Vichy government of France took refuge here in 1944–45

Signac, Paul (pôl' sēnyak'), 1863–1935, French postimpressionist painter Together with Seurat, he originated pointillism and painted in tiny dots of pure color He is best known for his Parisian street scenes

Signal Hill, city (pop 3,184), S Calif , inc 1924. Although an independent municipality, it is surrounded by the city of Long Beach Oil was discovered here in 1921.

signaling, communication of information by visible or audible means The fall of Troy was signaled to Greece by means of fires lighted on mountain tops Primitive peoples in Africa and elsewhere transmitted messages by drums, with the tone determining the meaning The American Indians employed smoke signals, and in the American Revolution the colonists used combinations of three articles—a barrel, a basket, and a flag placed in different positions atop a post In the early days of railroading, men were posted at places where accidents might occur, e g , at stations and tunnels, and they signaled to the engineer by flag or lamp Modern railroad signaling depends upon electrically operated indicators which constitute a SEMAPHORE system The position of a movable arm swinging from a pivot indicates whether the train can go forward or must wait and whether it should go rapidly or slowly In the interlocking and signaling system used at terminals, freight yards, sidings, and crossovers, coordination of movements of trains is achieved, when one unit is given clearance, all others that may possibly foul the section are signaled not to encroach or are barred from doing so by switching devices In automatic block signaling the line is divided into blocks, and each block is connected with its neighbors by electric circuits which pass either through wires alongside the line or through the rails Thus a signal, generally colored lights, indicates to the engineer whether or not the next block is clear This block-signal system is responsible for the infrequency of rear-end collisions on railroads Most electric trains, including subways, are equipped with automatic devices which turn the power off and the brakes on if the engineer ignores a stop signal Railroads also use light signals to duplicate the positions of a semaphore arm Brightly painted disks on swinging arms are sometimes used to convey information to approaching trains The electricity or compressed air used for actuating a signal system automatically may be further controlled by a signalman in a tower or other control center of a railroad In marine signaling, flags have been used for hundreds of years The International Code of Signals was compiled by the British government in 1857 and, by international agreement, was amended to the present system in 1901 It utilizes a number of flags of various colors and forms, each flag represents a certain letter or number, and the flags are hoisted to convey a message to another vessel or to the shore Blinker lights are much used by naval units At night flash lamps using Morse or another code may be used for signaling Fog signals are commonly used by vessels and lighthouses when visibility conditions make visual warnings ineffective They include bells, gongs, horns, compressed-air or steam whistles and sirens International law requires seagoing vessels to possess and use, in prescribed fashion, fog signals In modern times aerial and marine craft are commonly given directional data through RADIO BEACON signals Radio and telephone appliances have largely superseded other means of communication in military use

Signal Mountain, town (pop 1,308), E Tenn , near Chattanooga, settled 1911, inc 1919 It is on Signal Mt , which figured in the Chattanooga campaign during the Civil War

signature, in music see MUSICAL NOTATION

sign language, substitute for normal language, not including letter for letter signaling Celebrated sign languages have been developed by deaf-mutes, who usually use letter and word substitutes, by Trappist monks, who have a rule of silence, and by Plains Indians, where speakers of mutually unintelligible languages communicate freely Examples from the Plains Indian sign language are for a lie, first two fingers of the right hand spread apart and extended from the lips (i e , two tongues), a dog, same two fingers drawn across the breast (i e , track of a travois), a horse, same two fingers astride the extended fingers of the left hand (i e , something ridden) Many languages have conventionalized body gestures, such as nodding, some of these are highly elaborated to accompany or supplement speech (e g , the Neapolitan gesture language)

Signorelli, Luca (lōō'kä sēnyôrĕl'lē), 1441?-1523, Italian painter of the Umbrian school He had as master Piero della Francesca. Together they worked on the frescoes in San Francesco, Arezzo, forming a group of importance in the period that ushered in the genius of Michelangelo Signorelli's manner is marked by austerity, sadness, and vigorous realism He went to live in Cortona, where some of his paintings are to be seen He painted in the cathedral of Perugia, in Volterra, and at Monte Oliveto before undertaking (1499) the decoration of the Cappella Nuova in the Orvieto cathedral His *End of the World* there anticipates in some ways Michelangelo's *Last Judgment* His paintings in the Vatican, where he went in 1508, were later sacrificed to make way for some of Raphael's work In the Uffizi is a *Madonna and Child* in which Signorelli introduced a powerful treatment of anatomy, a new element in religious pictures Michelangelo admired this and was influenced by it The National Gallery of Art, Washington, D C , has two paintings

Sigourney, Lydia (Huntley) (sĭ'gûrnē), 1791–1865, American poet and author of numerous edifying books for the young, b Norwich, Conn From 1811 until her marriage to Charles Sigourney in 1819 she conducted girls' schools in Norwich and Hartford Conn Her sentimental verses soon won enormous popularity, and the editors of popular magazines competed for her prose and poetry Much of her writing shows a preoccupation with death, in the fashion of the period See her autobiographical *Letters of Life* (1866), G S Haight, *Mrs Sigourney, the Sweet Singer of Hartford* (1930)

Sigourney (sĭ'gurnē), city (pop 2,355), co seat of Keokuk co , SE Iowa, E of Oskaloosa inc 1858

Sigsbee, Charles Dwight, 1845–1923, American naval officer, b Albany, N Y , grad Annapolis, 1863 He saw service in the Gulf of Mexico in the Civil War, was subsequently stationed with the Asiatic squadron, taught at Annapolis, and served in the Hydrographic Office and the Coast Survey In 1897 he achieved the rank of captain and commanded the MAINE until it was destroyed in Havana harbor He was commended for his judicious action in averting trouble pending investigation of the incident While in command of the *St Paul* in the Spanish-American War, he defeated the destroyer *Terror* and the cruiser *Isabella II* Commissioned rear admiral (1903), he commanded the Caribbean squadron and then a squadron of the Atlantic Fleet He invented several marine instruments useful in deep-sea exploration He wrote *Deep-Sea Sounding and Dredging* (1880) and *The "Maine" an Account of Her Destruction in Havana Harbor* (1899)

Sigurd see SIEGFRIED

Sigurdsson, Jon, Icelandic *Jón Sigurðsson* (yōn' sĭ'khurdhsōn), 1811–79, Icelandic statesman and historian He went to Copenhagen in 1833 to study classical languages but soon developed the interest which resulted in his becoming the outstanding authority on Icelandic literature and history He was active in many learned societies, which published his editions of the sagas and other literary works He became secretary (1840), later president (1851) of the Icelandic Literary Society, which under his direction published monumental studies in Icelandic history and literature, he began the series *Diplomatarium Islandicum* in 1857 In 1841 he founded the periodical *Ný félagsrit*, which lasted until 1873, the most influential Icelandic political journal The constitution granted to Iceland in 1874 was largely the result of Sigurdsson's efforts, as were the grant of free trade (1854) and the establishment of a pastoral seminary (1847) and a medical school (1876) During all these years he lived in Copenhagen the leader of the group of Icelandic writers, scholars, and diplomats there

Sihon (sī'hun), king of the Amorites, who attacked Israel He became a figure for the mighty fallen Num 21 22–30, Ps 135 10,11

Sihor (sī'hôr) or **Shihor** (shī'hôr), name for the river Nile 1 Chron 13 5, Isa 23 3, Jer 2 18 In Joshua 13 3 a boundary of Canaan seems indicated

Sihun, river, Turkey see SEYHAN

Sihun, river, USSR see SYR DARYA

Sikang (sē̆'käng', shē̆'käng'), Mandarin *Hsi-kang* province (174,332 sq mi , pop 1,748,458), SW China The capital is Kangting Sikang is bordered by Burma and India on the south and by Tibet on the west The largely mountainous surface is cut by the gorges of several rivers (here unnavigable), including the Yangtze, locally known as the Kinsha [Chinese, =golden sands], the Mekong, the Salween, and the Yalung With no railroads and few highways, communications are very poor and human carriers are generally used to transport goods The main settlements, including Kangting, are on the trade route to Tibet During the warm, rainy summer agriculture is possible in the river valleys, and grains and fruits are grown Livestock raising, hunting, and lumbering support much of the diverse population, which consists of Chinese, Tibetans, and aborigenes

Sikeston (sĭk'stun), city (pop 7,944), SE Mo , in the Mississippi plain WSW of Cairo, Ill , laid out 1860, inc 1874. It is the shipping and processing center of a cotton and grain area Shoes are manufactured here

Sikhote-Alin (sē̆khŭtĕ''ŭlyēn'yu), mountain range, RSFSR, in Far Eastern Siberia, extending in parallel ridges along the Sea of Japan from Vladivostok to the lower Amur river It rises to c 5,200 ft Its dense forests abound in valuable woods There are deposits of gold, silver, coal, iron, and rare metals The range has several game preserves

Sikhs (sēks), religious community of India and Pakistan, numbering some 5,500,000 persons They

are concentrated in the Punjab The religion was founded by Nanak (b 1469), the first guru [Hindustani, =teacher] He taught a monotheistic creed and the fundamental identity of all religions Nanak opposed the maintenance of a priesthood and the CASTE system. Angad, the third guru, separated the ascetics (udasis) from the laity and eliminated most features of Hinduism Under the fourth guru, Ram Das, AMRITSAR was founded as a sacred city By the mid-17th cent the position of guru became hereditary, and the Sikhs split into several divisions (sometimes antagonistic) Govind Singh (b 1666) was installed in 1675 as the 10th and last guru His policy was to raise all Sikhs to the warrior caste This was accomplished by a military ceremony, after which the initiate took the name Singh [lion] He introduced the Sikh practices of wearing a turban, carrying a dagger, and never cutting the hair or beard Under his authority there was made the final recension of the Sikh scriptures, the *Granth* [Sanskrit, =treatise], which contains hymns, hortatory tales, and ritual injunctions, all in verse He welded the Sikhs into a military community which adopted the caste practices and the polytheistic beliefs typical of Hinduism The Sikhs conquered most of the Punjab by the late 18th cent and established a number of feudal states Their greatest leader in the early 19th cent was RANJIT SINGH, who conquered much territory After his death, conflict with the British caused the SIKH WARS and the subjugation of the Punjab Sikh soldiers were a large element of the British armies in India A number of Sikhs immigrated to Canada In 1947 in the partition of India, the Sikhs' territory there was divided despite their protest See J C Archer, *The Sikhs* (1946)

Sikh Wars. With the annexation of Sind in 1843, the only territory in India not under British control was that ruled by the Sikhs By a treaty with the British in 1809, RANJIT SINGH had accepted the Sutlej river as the southern boundary of his domain A successor, the regent Jhindan suspecting that the British might be plotting conquest on Dec 11, 1845, sent troops across the river The British, under Sir Hugh (later Viscount) Gough, Sir Harry Smith, and others, won several preliminary victories and then decisively defeated (Feb 10, 1846) the Sikhs at Sobraon on the Sutlej Dissensions of the Sikh leaders helped the British who occupied Lahore on Feb 20 The Sikhs were forced to cede Kashmir and to pay an indemnity of 55,000,000 rupees The British established a protectorate, which was resented In April, 1848, a riot occurred, two British officers were killed A general uprising followed The British forces won (Jan 13, 1849) a costly battle at Chilianwalla, but at Gujrat, near the Chenab river, they completely routed the Sikhs, who surrendered on March 12 Lord Dalhousie, the governor general annexed all the Sikh territory on March 30

Si-kiang see Si, river

Sikkim (sĭ'kĭm), state (2,818 sq mi , pop 121,520), dependency of India The capital is Gangtok Sikkim is bordered on the south by India on the west by Nepal, on the north and east by Tibet, and on the east by Bhutan Most of Sikkim is in the Himalayas, and on the boundary with Nepal lies KANCHENJUNGA Rivers, including the Tista, flow through deep valleys and intersect the country, making travel difficult The inhabitants are pastoral nomads who speak Tibeto-Burman languages Hinduism is the largest religion, but Buddhism is professed by the ruling maharaja and the official class, and Sikkim is noted for its Buddhist monasteries After the 17th cent Sikkim was ruled by rajas of Tibetan descent There were cessions (1835, 1849) of territories to the British, who assumed a protectorate which China, nominal suzerain of the area, recognized in 1890 In 1947 Sikkim became completely independent, but in 1949 the territory was occupied by India

Sikorski, Wladyslaw. Pol *Władysław Sikorski* (vwädĭ'swaf sēkôr'skē), 1881–1943, Polish general and statesman He fought under Pilsudski in the First World War and later held (1922–25) various cabinet posts Pilsudski dismissed him from the service in 1928, but after the fall of Poland, Sikorski became (1939) premier of the Polish government in exile He also was commander in chief of the Polish forces that continued to fight alongside the Allies throughout the Second World War Sikorski restored (1941) diplomatic relations with the USSR, but after the KATYN incident relations were again broken off (1943) Sikorski was seeking to heal the breach when he was killed in an airplane crash near Gibraltar

Sikorsky, Igor Ivanovich (sĭkôr'skē), 1889–, Russian-American aeronautical engineer, grad Naval Academy, St Petersburg, Russia, 1906 He entered the United States in 1919 and was naturalized in 1928 Sikorsky built and flew the first multimotored plane (1913) and established the world's endurance record for sustained flight in a helicopter of his own design (1941) He organized corporations to manufacture airplanes (in 1923, 1925, and 1928) and became engineering manager of the Vought-Sikorsky Aircraft Division of the United Aircraft Manufacturing Corp He was the author of *The Story of the Winged-S* (1938; rev ed , 1948), an autobiography, and *Invisible encounter* (1947). See biography by R M Bartlett (1947)

Siksika Indians see BLACKFOOT INDIANS

silage see ENSILAGE

Silas (sī'lus), early Christian leader and companion of Paul on two missionary journeys Acts 15 22–18 5 Probably he is the Silvanus of 2 Cor 1 19, 1 Thess 1 1, 2 Thess 1 1, 1 Peter 5 12

Silchester (sĭl'chĭstur), village, Hampshire, England, S of Reading It is noted for the ruins of the Romano-British town Calleva Atrebatum The outside walls (2,760 yd in circumference), forum, amphitheater, and entire plan of the city, including baths and villas, were revealed through excavation The smaller articles were removed to Reading Museum, and the structures were re-covered, with the exception of the ruins of the town hall

silencer, device used to muffle noise The muffler of an automobile is a familiar type When the exhaust valve of an internal-combustion engine opens directly into the atmosphere, at the end of every exhaust stroke there is a report like the firing of a pistol, caused by the passage of the exhaust gases from the high pressure of the cylinder to the normal pressure of the atmosphere To eliminate or tone down the noise, the gases are led through a pipe to a muffler, which consists of an arrangement of pipes through which the gases pass, with gradual reduction in pressure, before they reach the atmosphere The Maxim silencer, which was invented by Hiram Percy Maxim, is a device that renders the explosions of firearms practically noiseless It became popular almost immediately and at one time was adopted by the U S army With the development of the Diesel engine, Maxim silencers were produced and used to eliminate the noise caused by Diesel exhaust Maxim silencers of other forms are widely used in eliminating noises from gasoline engines, compressors, blowers, vacuum pumps, and in high-velocity steam and air discharge As the use of silencers expanded, so did the dimensions of the device There is a 30-inch-pipe-size silencer and spark catcher in use for the exhaust of 3,800 horsepower marine Diesel engines

Silenus (sīlē'nus), in Greek mythology, god of wine and fertility He was the son of Hermes (or Pan) and the teacher and companion of Dionysus, who loved Silenus very much When Midas befriended Silenus, Dionysus gave the king the power to turn everything he touched into gold Silenus was a jolly old man, usually drunk but gifted with powers of song and prophecy He was one of the tribe of sileni and looked like an elderly SATYR or FAUN

Siler City (sī'lur), town (pop 2,197), central N C , SE of Greensboro in a farm area, settled 1855, inc 1885 It has textile mills and woodworking plants

Silesia (sĭlē'zhu, shu, sī-), Czech *Slezsko* (slĕz'kô), Ger *Schlesien* (shlā'zyun), Pol *Śląsk* (shlōsk), region of E central Europe, extending along both banks of the Oder river and bounded in the south by the mountain ranges of the Sudetes—particularly the RIESENGEBIRGE—and the W Carpathians Politically, Silesia fell, as of 1950, into two main divisions The first comprised most of the former Prussian provinces of Upper Silesia (Ger *Oberschlesien*, 3,750 sq mi , 1933 pop 1,482,765) and Lower Silesia (Ger *Niederschlesien*, 10,270 sq mi , 1933 pop 3,204,004), both of which were transferred to Polish administration at the POTSDAM CONFERENCE of 1945, it furthermore included those parts of Upper Silesia that were ceded by Germany to Poland after the First World War and part of the former Austrian principality of TESCHEN Together, Polish Silesia and Polish-administered Silesia form the Polish province of Silesia (c 5,900 sq mi , pop 2,823,351), with Katowice as capital, and the Polish province of BRESLAU The second, and much smaller, division of Silesia has formed a part of Czechoslovakia since 1918, with Troppau as its chief city, it was until 1949 part of the province of MORAVIA and Silesia and after 1949 part of the Czech Lands, one of the two constituent states of Czechoslovakia Except in the south, Silesia is largely an agricultural and forested lowland, drained by the Oder and its tributaries, among them the Lusatian Neisse, the Glatzer Neisse, and the Bober BRESLAU (a major commercial and industrial center), Liegnitz, and Glogau are among the chief cities Along the slopes of the Sudetes there are numerous small industrial centers with traditional textile and glass industries Czech Silesia comprises the rich KARVINNA coal basin The most important part of Silesia is, however, its southern tip, comprising both Upper Silesia and Polish Silesia One of the largest industrial concentrations of Europe, it has extensive coal and lignite deposits and zinc, lead, iron, and other ores The industrial area around KATOWICE comprises such important centers as Beuthen, Gleiwitz, and Hindenburg and has iron and steel mills, coke ovens, and chemical plants OPPELN, the former capital of Upper Silesia, is an important trade center Silesia was settled by Slavic tribes A D c 500 and was an integral part of Poland by the 11th cent King Boleslaus III (reigned 1102–38), of the PIAST dynasty, divided the kingdom into four hereditary duchies (of which Silesia was one) for the benefit of his sons After 1200 the duchy of Silesia fell apart into numerous minor principalities The Silesian Piasts encouraged German colonization of their lands, the larger part of which became thoroughly Germanized, and in the early 14th cent the Silesian princes accepted the king of Bohemia as their suzerain and thus became mediate princes of the Holy Roman Empire During the Hussite Wars of the 15th cent Silesia, with Moravia, was temporarily detached from the Bohemian crown and was ruled by Hungary In 1490, however, both Silesia and Moravia reverted to Bohemia, with which they passed to the house of Hapsburg in 1526 The principality of Sagan, Saxon from 1472, went to Bohemia in 1547 Though administratively Silesia tended to become an Austrian province, the dual title, along with the principalities of Brieg and Liegnitz and other fiefs, remained with the Silesian branch of the Piast dynasty until its extinction in 1675 The margraviate of Jägerndorf was purchased in 1523 by a cadet branch of the Hohenzollern dynasty of Brandenburg, which later also claimed inheritance to other Silesian fiefs Elector Joachim II of Brandenburg moreover concluded (1537) an alliance with the Piast duke, by which Brandenburg would inherit the Piast principalities if the Piast dynasty became extinct This treaty was declared invalid by King Ferdinand I of Bohemia (later Emperor Ferdinand I) In 1621 John George of Jägerndorf, brother of the elector of Brandenburg, lost his fief for having supported Frederick the Winter King The Thirty Years War (1618–48) brought untold misery to Silesia under Saxon, imperial, and Swedish occupation It reverted to Austrian control at the Peace of Westphalia In 1675, on the death of the last Piast, Austria incorporated the Piast territories into the Bohemian crown domain The Catholic Reform had by then made great progress in Silesia, although Lutheranism was tolerated in Breslau and certain other districts It was on the very shaky dynastic grounds indicated above that Frederick II of Prussia, as heir of the house of Brandenburg, claimed a portion of Silesia in 1740 from Maria Theresa, who had just assumed the succession to Austria, Bohemia, and Hungary His claim and his offer to assist Maria Theresa in the impending War of the Austrian Succession were rejected by the queen, while Prussian troops were already invading Silesia The Silesian Wars of 1740–42 and 1744–45 were part of the general War of the AUSTRIAN SUCCESSION By the Treaty of Berlin (1742) Maria Theresa ceded all of Silesia except Teschen and present Czech Silesia to Prussia, this cession was ratified by the Treaty of Dresden (1745) The Industrial Revolution of the late 18th and 19th cent affected Silesia disastrously at first The Silesian weavers became dependent on entrepreneurs who farmed out work, working conditions and unemployment became intolerable, and outbreaks were frequent Landholding conditions also were iniquitous, most of the land being held by owners of large estates, and the expansion of the heavy industries in Upper Silesia brought social problems as well as economic benefits Though these conditions were gradually improved, Silesia even in the 20th cent remained, despite all its productivity, a relatively backward area After the First World War, the Treaty of Versailles (1919) provided for a plebiscite to determine if Upper Silesia was to remain German or to pass to Poland The results of the plebiscite (1921) were favorable to Germany except in the easternmost part of Upper Silesia, where the Polish population predominated After an armed rising of the Poles (1922) the League of Nations accepted a partition of the territory, the larger part of the industrial district, including Katowice, passed to Poland The contested city and district of Teschen were partitioned in 1920 between Poland and Czechoslovakia (to the satisfaction of neither) by the conference of ambassadors The political division of the Silesian industrial district was carried out so arbitrarily that the boundaries often cut through mines, some workers slept in one country and worked in another As a result of the MUNICH PACT of 1938 Czech Silesia was partitioned between Germany and Poland, and after the German conquest of Poland in 1939 all Polish Silesia was annexed to Germany After the Second World War the status quo as of 1922–38 was restored, but—as stated at the beginning of the article—all formerly Prussian Silesia E of the Lusatian Neisse was placed under Polish administration by the Great Powers, who also allowed the expulsion (in an "orderly and humane" manner) of the German population from Czech Silesia, Polish Silesia, and Polish-administered Silesia The mass expulsions were, perforce, neither orderly nor humane, moreover, although the transfer of territories to Polish administration was made subject to revision in a final peace treaty with Germany, the Polish government treated all Silesia as integral Polish territory A small section of Lower Silesia W of the Neisse was separated from the rest and was incorporated with Saxony See W J Rose, *The Drama of Upper Silesia* (1935)

Silesian Wars see AUSTRIAN SUCCESSION, WAR OF THE, and SEVEN YEARS WAR

Silesius, Angelus, see ANGELUS SILESIUS

silhouette (sĭl'ōōĕt'), outline image, especially a profile drawing solidly filled in or a cutout pasted against a lighter background It was named for Étienne de Silhouette (1709–67), who was the French controller general in 1759, it is commonly supposed that his promotion of stringent economies caused his name to be associated with these shadow miniatures Silhouettes probably were originally inspired by the common Asiatic shadow play They became very popular in Europe in the last three decades of the 18th cent and replaced miniature paintings at French and German courts, their popularity was fostered by the interest in Lavater's science of physiognomy In the 19th cent, the popularity of silhouettes decreased until the invention of the daguerreotype pushed them completely out of fashion See E N Jackson, *History of the Silhouette* (1911), Curtiss Sprague, *How to Draw Silhouettes* (1929), and R L Mégroz, *Profile Art through the Ages* (1948)

silica (sĭl'ĭkŭ), common name for silicon dioxide, a compound of silicon and oxygen, widely and abundantly distributed throughout the world It occurs in many forms, e g , in quarts (agate, amethyst, chalcedony, flint, jasper, onyx, and rock crystal), opal, sand, sandstone, clay, granite, and many other rocks, in the skeletal parts of various animals and plants, such as certain Infusoria and diatoms, in infusorial earth (diatomaceous earth or kieselguhr), and in higher plants in the stem and other tissue Silica has many important uses, in making ordinary GLASS and in a special material called fused quartz employed for chemical vessels and for various optical instruments, including lenses and other objects required to transmit ultraviolet light, in ceramics, in abrasives (e g , sandpaper), as a filler in paints, for building, and in the preparation of carborundum (SILICON CARBIDE) Chemically, silica is the anhydride of silicic acid, the salts of which are the silicates It is insoluble in water and ordinary dilute acids with the exception of hydrofluoric acid When pure it is white to colorless **Silica gel** is a colloidal form of silica produced when silicic acid is partially dehydrated Because of its great adsorptive powers it is used to remove impurities from air and various other substances.

silicate (sĭl'ĭkāt, -kĭt), compound containing silicon and oxygen in combination with such metals (either separately or in complex unions of two or three) as aluminum, barium, beryllium, calcium, iron, magnesium, manganese, potassium, sodium, or zirconium These compounds are considered chemically as the salts of various silicic acids, being classified as ortho-, meta-, di-, and trisilicates according to the acid from which (theoretically, since with one exception the silicic acids have not been obtained pure) they have been derived The silicates are widely distributed in nature and include many common substances, e g , ASBESTOS, BERYL, AQUAMARINE, EMERALD, FELDSPAR, GARNET, GRANITE, LAVA, MICA, SERPENTINE, TALC, and WOLLASTONITE Clay consists essentially of a silicate of aluminum (called KAOLIN) with which other substances are mixed From it are made various kinds of bricks and tiles, cement, pottery, and chinaware, enamelware, and porcelainware GLASS is a mixture of silicates WATER GLASS is chiefly a solution of potassium and sodium silicates in water The silicates are formed in nature by the action, going on in the earth's crust (of which they constitute the greater part), between silica and various metallic oxides and carbonates

silicon (sĭl'ĭkŭn), nonmetallic element (symbol=Si, for physical constants, see ELEMENT, table) In the laboratory it is obtained in two allotropic forms—in the amorphous form as a brown powder and in the crystalline form as dark needlelike crystals Chemically, silicon resembles carbon, with which it is grouped in the periodic table With oxygen it forms a dioxide, SILICA, with oxygen and various metals, SILICATE compounds, with carbon, SILICON CARBIDE, for which Carborundum is a common trade name, with chlorine, a chloride used in forming smoke screens in warfare, and with various metals, silicides Silicon is very abundant (second only to carbon), making up a large part of the earth's crust, occurring in silica and the silicates, but never uncombined It is obtained commercially by heating sand and carbon (in the form of coke) in the electric furnace Aside from the wide industrial importance of its compounds, silicon is used in the preparation of low-carbon steel and also to form various alloys (e g , with aluminum, copper, iron, and manganese), since it increases hardness and resistance to corrosion. An alloy of silicon with manganese is employed as a deoxidizing agent in the manufacture of steel, an alloy with iron is used in making acid-resisting fixtures and plumbing The silicones, compounds in which the molecules consist of chains of atoms of silicon and oxygen alternately, were developed during the Second World War These compounds are used in making such products as silicone rubber (resistant to heat and moisture), silicone liquids (useful in hydraulic systems of airplanes at temperatures at which other such fluids are useless), and silicone varnishes having superior insulating value Discovery of the element (1823) is credited to Berzelius.

silicon carbide, extremely hard, dark green to blue-black crystalline substance, a compound of silicon and carbon It was discovered in 1891 by Edward Goodrich Acheson and is used as an artificial ABRASIVE It is an end product in the fusion at high temperatures in the electric furnace of sand and coke, the sand supplying the silicon and the coke the carbon Sawdust is added to make the materials porous, and salt is used as a flux to eliminate the impurities Among the trade names for silicon carbide are Carborundum and Crystolon

silicosis (sĭlĭkō'sĭs), occupational disease caused by excessive inhalation of rock dust (e g , from quartz and granite) or sand particles which contain a high percentage of silica The disease occurs most commonly among miners, sand blasters, and tunnel and quarry workers Silicosis was first given national publicity when a number of the workers engaged in constructing a tunnel (begun 1929) at Gauley Bridge, W Va , contracted the disease and died Efforts have been made to secure protective legislation for workers and to institute preventive and remedial measures The dust settles in the lungs, and the silica causes inflammation and the growth of fibrous tissue, the victims are susceptible to tuberculosis

Silistra (sĭlĭ'strä), town (pop 16,180), NE Bulgaria, in the S Dobruja It is a port on the southern bank of the Danube, opposite the Rumanian town of Calarasi The Roman Durostorum, it was founded in 29 B C and became an important town of Moesia After the Turkish conquest (15th cent), it was strongly fortified It was captured (1877) by the Russians in the Russo-Turkish War of 1877–78 and was Rumanian (1913–40) from the Second Balkan War until the Second World War It is sometimes spelled Silistria

silk, fine, horny, translucent, yellowish fiber produced by the silkworm in making its cocoon and covered with ceresin, a natural gum Many varieties of silk-spinning worms and insects are known, but the silkworm of commerce is the larva of the *Bombyx mori* or mulberry silkworm and other closely related moths Sericulture (the culture of the silkworm) and the weaving of silk have been practiced in China from a remote period Legend dates this back to 2640 B C , to Empress Si Lingchi, who not only encouraged the culture of the silkworm but also developed the process of reeling from the cocoon This was a closely guarded secret for some 3,000 years Silk seems to have been woven very early in the Island of Cos In the 1st and 2d cent A D silk fabrics imported to Greece and Rome were sold for fabulous prices Up to the 6th cent raw silk was brought from China, and death was the penalty for exporting silkworm eggs About A D 550 two former missionaries to China, incited by Emperor Justinian, succeeded (says Procopius) in smuggling to Constantinople, in a hollow staff, both the eggs of the silkworm and the seeds of the mulberry tree Byzantium became famous for splendid silken textiles and embroideries, used throughout medieval Europe for royal and ecclesiastical costume and furnishings In the 8th cent the Moors began to carry the arts of silk culture and weaving across the northern coasts of Africa and to Spain and Sicily, and in the 12th cent Spain and Sicily were weaving silks of exquisite texture and design Italy developed great weaving centers Lucca, in N Italy, had established looms by the 13th cent , and in the 14th cent the city became famous for its materials and designs Florence and Venice followed and wove sumptuous fabrics and velvets enriched with gold thread Genoa's velvets became well known France established looms, and under Louis XIV's minister Colbert it set the fashion with its beautiful silks Lyons in S France became an important weaving center Early attempts were made in England under Henry VI to establish the silk industry, but it was not until the revocation of the Edict of Nantes, when many French refugee weavers fled to England, that the industry received a real impetus The French settled in Canterbury, Norwich, and other places, but it was in Spitalfields, London, that the industry became important Many attempts were made to establish sericulture in the American colonies, inducements such as land grants and bounties being offered, and many mulberry trees were planted In 1759 Georgia sold more than 10,000 lb of cocoons in London Pennsylvania had a silk industry, fostered by Benjamin Franklin, up to the Revolution. The high cost of labor seems to have been the main deterrent to its success in America. Wild silk is the product of the tussah worm of India and China, which feeds on oaks It is now semicultivated, as groves of dwarf trees are provided for its feeding It spins a coarser, flatter, yellower filament than the *Bombyx mori*, and the color does not boil out with the gum. Tussah silk is a rough, durable, washable fabric known as Shantung or pongee In silk manufacture, the first operation is reeling The cocoons, having been sorted for color and texture, are steamed or placed in warm water to soften the natural gum They are then unwound, each cocoon may give from 2,000 to 3,000 ft of filament, from 4 to 18 strands of which are reeled or twisted together to make an even thread strong enough to handle This is called raw silk Formerly a hand process, this work is done now in Europe and some parts of the Orient in factories on simple machines called filatures The next step, called throwing, is preparing the raw silk for the loom by twisting and doubling it to the required strength and thickness This process also is now mostly done in large mills with specialized machinery Silk after throwing has three forms—singles, which are untwisted, used for the warp of very delicate fabrics, tram, two or more singles twisted and doubled, used for the weft of various fabrics, and organzine, made of singles twisted one way, then doubled and twisted in the opposite direction, used for the warp of heavy fabrics For sewing and embroidery thread, more doubles and smoother twists are made In modern factories spinning frames complete the preparation for the loom The silk is boiled off in soapsuds to remove gum and prepare it for dyeing For white and pale tints it must be bleached Scouring or boiling causes loss of weight, sometimes made up by loading with metallic salts, as tin, which has an affinity for silk and can be absorbed to excess, so causing weakening of the fiber Dyeing may be done in the yarn or the piece Finishing processes are varying and important, as in making moires WEAVING is done as with other textiles, but on more delicate and specialized looms Fabrics made are plain weaves (taffeta, pongee), cords (faille, poplin), gauzes (net mallnes), pile fabrics (plush, velvet), crepes, satins, damask, ribbons, and brocade Some of these weaves are ancient, developed on the shuttle looms of China and the hand looms of India, Greece, and Europe In Europe and the Orient the hand loom is still used for the finest fabrics Japan and China lead in the production of raw silk, with India, Italy, and France following America is the largest importer and manufacturer, with the possible exception (as to manufacture) of China, for which no statistics are available For artificial silk, see RAYON See J M Mathews, *The Textile Fibers* (5th ed , 1947), Richard Glazier, *Historic Textile Fabrics* (1923), Shuhro Matsui, *History of the Silk Industry in the United States* (1930)

Silkeborg (sĭl'kubôr"), city (pop 20,955), E central Jutland, Denmark, on the Guden river and W of Aarhus It is a health resort surrounded by beautiful woods and lakes

silkweed see MILKWEED

silkworm, the larva of various species of moths indigenous to Asia and Africa, but now domesticated and raised for silk production throughout most of the Temperate Zone The culture of silkworms is known as sericulture The most widely raised type and the producer of the finest silk is the larva of the species *Bombyx mori* Hatched from an egg so small that about 45,000 weigh only an ounce, this silkworm is immediately quite active and feeds voraciously on the leaves of the mulberry tree At maturation (32 to 38 days after hatching) the larva is about 3 in long Its body is made up of 12 concentric rings of cartilage connected by soft elastic skin Its head is supplied with two very powerful mandibles Three pairs of hooklike feet near the head and five pairs of pads support its weight and supply grasping power and traction to aid its humping locomotion The mature larva attaches itself to a twig and, with a peculiar waving head motion and a slow circular motion of its body, begins to spin its cocoon A moist substance, fibroin, manufactured within the larva's body and mixed with a small amount of wax, is emitted from an orifice in its lip The fibroin dries quickly in the air, hardening into one long thread of silk which makes up the cocoon The various species of silkworms raised today are distinguished by the quality of the silk produced, the type of leaves on which they feed and the number of breedings per year See also SILK

Sill, Edward Rowland, 1841–87, American poet and educator, b Windsor, Conn , grad Yale, 1861 He was professor of English at the Univ of California from 1874 to 1882 Of his slender output, only *The Hermitage and Other Poems* (1868) was published in his lifetime, after his death appeared his collected prose (1900) and collected poems (1902) Best known of his lyrics are "The Fool's Prayer" and "Opportunity" See biography by W B Parker (1915)

Sill, Fort, U S military reservation established in 1869 near Lawton, Okla , under the name of Camp Wichita It was made a permanent garrison and renamed Fort Sill in memory of Gen Joshua W Sill later the same year. Indian tribes were taken in to live on the reservation, and the fort, which underwent extensive construction in the early 1870s, became the base of operations for quelling Indian uprisings and maintaining law and order in SW Oklahoma The Wichita, the Kiowa, the Comanche, and other groups of Indians were trained in agriculture on the reservation; bellicose Indians, e g , Geronimo and Satanta, were imprisoned at the fort from time to time By 1904 the reservation was almost abandoned, but a field artillery school was established there in 1911, and the two world

wars tremendously increased the importance of Fort Sill See W S Nye, *Carbine and Lance* (1937)

Silla (sĭl'lä), locale at Jerusalem, possibly near Mt Zion 2 Kings 12 20

Sillanpää, Frans Eemil (frăns' ā'mĭl sĭl'lampĕ"), 1888–, Finnish novelist As a young man he studied medicine During his student days in Helsinki he came under the influence of the highly cultured Järnefelt family and through them was exposed to the best in European literature and other forms of art He was powerfully influenced by Hamsun, Maeterlinck, and Strindberg His novels are masterpieces of lyrical impressionism, *Fallen Asleep while Young* (1931, Eng tr, 1933, American title, *The Maid Silja*, 1933) and *Meek Heritage* (1919, Eng tr, 1938), both of which are epics of resignation, their scenes laid in the Finnish countryside, are representative of Sillanpää's best work He was awarded the 1939 Nobel Prize in Literature

Silliman, Benjamin, 1779–1864, American chemist, geologist, and physicist, b Trumbull, Conn, grad Yale, 1796 In 1802 he was appointed first professor of chemistry and natural history at Yale, he traveled abroad and then returned to teach at Yale until 1853 He was noted as a teacher, as a popular lecturer on scientific subjects, and as a founder and editor (1818–46) of the *American Journal of Science and Arts* He wrote *Journal of Travels in England, Holland, and Scotland* (1810) and *Elements of Chemistry* (1830) His son, **Benjamin Silliman,** 1816–85, American chemist, b New Haven, Conn, grad Yale, 1837, was professor at Yale (1846–49) and then at the Univ of Louisville (1849–54) In 1854 he returned to Yale, succeeding his father The school of chemistry which he had established there (1847) later developed into the Sheffield Scientific School

silo (sī'lō), watertight and airtight storage tank for ENSILAGE, often cylindrical in shape It may be of wood, brick, concrete, or other materials, or it may be a lined pit in the ground or on a hillside

Siloah (sĭlō'ä), variant of SILOAM

Siloam (sĭlō'um), pool, SE of Jerusalem, Palestine, in the Kidron valley, mentioned in the Old and New Testaments It is connected with the Virgin's Pool by a winding rocky conduit 1,700 ft long, in the mouth of which was discovered in 1880 an undated inscription describing the cutting of the tunnel Shiloah Isa 8 6 Siloah Neh 3 15 See Luke 13 4, John 9 7

Siloam Springs (sī'lŭm) city (pop 2,764), NW Ark, in the Ozarks near the Okla line, laid out and inc 1880 A resort city, with mineral springs, it is also a center for shipping poultry and apples John Brown Univ and Baptist campgrounds are here

Silone, Ignazio (ēnyä'tsyō sēlō'nā), 1900–, Italian novelist and journalist, whose real name is Secondo Tranquilla A Socialist and for a time a Communist, he has devoted his writings to attacking Fascism and promoting Socialism, but he has not sacrificed human and literary values in favor of a thesis He fled Italy in 1931 and, after living in Switzerland, returned to his native country in 1944 as editor of the newspaper *Avanti* His novel *Fontamara* (1933, Eng tr, 1934), a little masterpiece of anti-Fascist satire, was translated into 17 languages Other works are *Pane e vino* (1937, Eng tr, *Bread and Wine*, 1936), which he dramatized as *Egli si nascose* (1945, Eng tr, *And He Hid Himself*, 1946), *The School for Dictators* (1938, in Eng tr only); *The Living Thoughts of Mazzini* (1939, in Eng tr only), and *Il seme sotto la neve* (1940, Eng tr, *The Seed beneath the Snow*, 1942) Silone also contributed critical and political articles to various periodicals

Silsbee (sĭls'bē), city (pop 2,525), E Texas, near the Neches NNW of Beaumont, in a truck and lumber area, founded c 1892, inc as a town 1906, as a city 1938

silt, earth of which the particles are finer than grains of sand but larger than particles of clay Unlike sand, the particles cohere when wet A sedimentary rock, silt is, like clay and sand, a product of the weathering and decomposition of preexisting rock Indurated silt is a SHALE

Silurian period (sĭlōō'rēum, sī-) [from the Silures, ancient tribe of S Wales, a type section, named by R I MURCHISON], third period of the PALEOZOIC ERA of geologic time The continents in the Silurian period were about the same as in the ORDOVICIAN PERIOD, with approximately the same areas subject to flooding by shallow seas The transition between the Ordovician and Silurian rocks is not clearly marked in the United States The Medina sandstone stretching from New York to Alabama has been assigned to both periods, but is generally regarded as Silurian Three main series, based on type sections in New York state, are usually distinguished—the lower Silurian (Medinan or Alexandrian series), the middle Silurian (Niagaran series), and the upper Silurian (Cayugan series) The early Silurian deposits in the East are often sandstone, shale, and conglomerate, derived from EROSION of high-standing mountains, in the West marine limestone predominates The great event of the Silurian period in North America was the flooding of the interior basin by warm waters from the arctic and the deposition of the Niagaran limestone, which can best be seen at Niagara Falls The withdrawal of the Niagaran flood was apparently followed by desert conditions, under which the Salinan "red beds" of the Appalachian area and the salt deposits of New York, Michigan, Ontario, and Ohio were laid down Certain areas were later reflooded, the Cobleskill and Rondout limestone of New York being deposited The Silurian of the Far West is little known In North America, the Silurian ended quietly, however, in the British Isles, Scandinavia, and France, as a result of the Caledonian disturbance, great mountains were thrust up Economic resources of the Silurian strata, besides salt, are iron ore, worked near Birmingham, Ala, and quartz sandstones, used in glass manufacture Plentiful in the life of the Silurian were cruinoids and cystoids, mollusks, some of them the fiercest inhabitants of the sea, and eurypterids, invertebrates related to crabs and insects The Niagaran limestone contains extensive coral reefs Members of the trilobite family were still numerous, primitive fishes increased in number Most notable in the Silurian fauna were scorpions, possibly the first animals to live on land and take their oxygen from the air

Silva, Antonio José da (antō'nyō zhōōzā' dä sĕl'vu), 1705–39, Portuguese playwright, b Rio de Janeiro, Brazil He belonged to a family of "New Christians" (Jews converted by force), suspected of remaining secretly loyal to Judaism The family had to return to Portugal, and he was like his mother, accused, but was released Practicing as a lawyer, he still had time in the years from 1733 to 1737 to write a number of plays Vigorous, satiric, with some elements of the *commedia dell' arte*, these have more vitality than polish Among them were *A vida do grande Dom Quixote* [the life of Don Quixote], *Amphitrião* [Amphitryon], *As variedades de Proteo* [the shapes of Proteus], and *Guerras do alecrim e da mangerona* [wars between the rosemary and the marjoram] In 1737 he was haled before the Inquisition Convicted of practicing Jewish rites, he was in 1739 burned at the stake He is commonly called simply *o Judeu* [the Jew]

Silva, José Asunción (hōsā' äsōōnsyōn' sĭl'vu) 1865–96, Colombian poet, one of the creators of MODERNISMO Wealthy, aristocratic and handsome, he was morbidly sensitive and pessimistic, and he was borne down by misfortune—disappearance of the family wealth, loss of a manuscript by shipwreck, the early death of a beloved sister At 31 he committed suicide, leaving behind him poems marked by technical innovations, haunting musical tones, and a brooding spirit of pessimism, now melancholy now savage They had great influence on Rubén DARIO and other *modernistas* Perhaps the most famous of his poems is the incomparable "Nocturno III," an elegy for his sister, revolutionary in form and evocative in feeling

Silvanus (sĭlvā'nus), in Roman religion, ancient pastoral god of fertility He was protector of field boundaries, flocks, and herds He was conceived of as being an old man, similar in appearance to the Greek Pan

Silvanus (sĭlvā'nus), in the Bible, probably the same as SILAS

silver, important metallic element (symbol=Ag [Latin *argentum*], for physical constants, see ELEMENT, table) It is nearly white when pure, lustrous, soft, very ductile, malleable, and an excellent conductor of heat and electricity Chemically, it is not an active metal, being considerably below hydrogen in the electromotive series (see METAL) It is, however, acted upon by nitric acid (forming the nitrate) and by hot concentrated sulphuric acid At ordinary temperatures it unites with sulphur (tarnishes) to form the sulphide Although it is not affected by the oxygen of the air, it reacts with ozone Two oxides are known The compounds with bromine, chlorine, and iodine (silver bromide, chloride, and iodide respectively) are used in photography because of their sensitivity to light Silver nitrate, a compound of silver, nitrogen, and oxygen, is used in medicine, in fused stick-like form (lunar caustic) or in solution as a caustic to destroy tissue and to treat infections (e g, of the throat and bladder) and burns. Silver set free from some of its salts in solution kills bacteria and is used for this purpose in medicine and in the purification of water Silver nitrate is used also in indelible inks, in silvering mirrors, and as a reagent in chemical analysis Silver occurs uncombined in nature The greater part used today is obtained from its ores Among these most important are argentite or silver glance (silver and sulphur), which is found associated with sulphides of other metals, as in galena, horn silver or cerargyrite (silver and chlorine), two ores both composed of silver, antimony, and sulphur (but in different proportions), called pyrargyrite (or ruby silver ore) and stephanite, and another ore composed of silver, arsenic, and sulphur, called proustite Mexico, the United States (Idaho, Montana, Arizona, Colorado, Utah, Nevada, California, New Mexico, and Texas), and Canada are leading producers, others are Peru, Japan, Germany, Burma, and Bolivia. The metal is prepared in various ways depending upon the nature of its occurrence, the greatest quantity is obtained in connection with the refining of lead and copper It is separated from lead metal by the Parkes process, which is based upon the fact that silver is soluble in molten zinc, whereas lead is not The CYANIDE PROCESS has largely replaced an amalgamation (see AMALGAM) process in which silver, like gold, is dissolved in mercury Alloys of silver with copper, in which the copper adds hardness, are important Silver coins are commonly made only of an alloy consisting of 90 percent silver and 10 percent copper Sterling silver contains 92 5 percent silver with the balance copper Like copper and gold, silver was one of the first metals used by man (see SILVERWORK) Much of the silver produced today is used, as it has been in the past, in making coins (see COIN, MONEY, BIMETALLISM) The greater part of the rest is used in silver plate (see PLATING), silver utensils, and jewelry

Silver Age, see AGE

Silver City, town (pop 5,044), co seat of Grant co, SW N Mex, near the Ariz line and in the foothills of the Pinos Altos Range, founded 1870, inc 1878 It is a trade and shipping point for the near-by mines (mainly copper), stock ranches, and irrigated farms It is also a health resort The town flourished as a silver- and gold-mining camp in the late 19th cent New Mexico State Teachers College is here Near by are Gila Cliff Dwellings National Monument and Fort Bayard U S veterans' hospital

Silver Creek, village (pop 3,067), W N Y, on Lake Erie NE of Dunkirk, in a grape region, inc 1848 Dining cars and milling machinery are made here

Silverius, Saint (sĭlvēr'ēus), d 537, pope (536–37), an Italian, successor of St AGAPETUS I and predecessor of VIGILIUS The son of Pope Hormisdas, who had been married before taking orders, St Silverius was elected pope at the instance of the Gothic king, Theodatus, although Vigilius as Agapetus' deacon, was the logical candidate Failing to gain Silverius over to MONOPHYSITISM, Empress THEODORA intrigued to make Vigilius pope On a trumped-up charge of treason the pope was carried into exile Vigilius was declared pope, and Silverius died shortly afterwards Both Emperor Justinian and the people seemed to believe in the pope's innocence Feast (as a martyr) June 20

Silverman, Joseph, 1860-1930, American rabbi, b Cincinnati, grad Univ of Cincinnati (B A, 1883), D D Hebrew Union College, 1887 He was rabbi at Dallas, Texas (1884–85), at Galveston (1885–88), and at the Temple Emanu-El, New York (1888–1922) He was president (1900–1903) of the Central Conference of American Rabbis and was founder and president of the Emanu-El Brotherhood He wrote *A Catechism on Judaism* (1886) and numerous contributions to periodicals and was active in Zionist work

silver nitrate, see SILVER

Silver Purchase Act see SHERMAN SILVER PURCHASE ACT

Silver Springs, famous spring, N central Fla, 6 mi E of Ocala, forming the Silver River, tributary of the Oklawaha The spring is an ancient one, with a large basin 80 ft deep, the rate of flow, which varies, is about 25,000,000 gal per hour. The aquatic life in the clear waters may be seen through glass-bottomed boats

Silverton. 1 Town (pop 1,127, alt c 9,300 ft), co seat of San Juan co, SW Colo, in the San Juan Mts founded 1874, inc 1885 It is a trade and resort center in a mining area **2** Village (pop 2,907), SW Ohio, residential suburb of Cincinnati **3** City (pop 2,925), NW Oregon just NE of Salem founded c 1853, inc 1891 It has lumber and flour mills

Silvertown, city (pop 3,930), W central Ga, near the Flint river W of Macon, inc 1929 It was founded in 1926 around the tire-cord plant which governs the economic life of the city

silverwork includes ecclesiastical and domestic plate, flatware, jewelry, buttons, buckles, boxes, toilet articles, weapons, furniture, and horse trappings It involves a variety of embellishments such as chasing, *repoussé*, filigree, and inlaying which have engaged the talents of skilled artisans since prehistoric times That it was highly developed among the ancients is evidenced by treasures and funeral objects from Egyptian tombs, Minoan silver cups, seals, and ornaments of c 2000 B C and silver vases and the inlays on bronze blades of Mycenae Work evidently by Phoenicians has been found in Greece, where early native examples are few A Greek bowl (c 400 B C) and Etruscan silverwork of the same period are in the Metropolitan Museum Roman silverwork displays rich, often high, reliefs. It is well represented in the Bosco reale Collection (Louvre) and in pieces preserved in the British Museum Byzantine silverwork and goldwork enrich churches and monasteries Italian silverwork found its way to the melting pot, this was also the case in France during the Revolution, though notable pieces are in the Louvre and collections of the 18th-century French silver are in Lisbon and Leningrad. Early German

Renaissance silverwork is less abundant than that of the 16th cent from the two most prolific centers, Augsburg and Nuremberg, with their numerous Italian artisans German characteristics prevail in Swiss silverwork, and the influence extended to Spain but was overbalanced by the presence of many Italian craftsmen there in the 15th cent Spanish silver of the 16th cent carries elaborate designs, and in the 17th cent silversmiths added filigree and enamel to the decoration and the baroque style found high favor Preserved in the Hyde Museum is much fine 17th and 18th-century Dutch silver, the designs showing French feeling, Poland and Russia produced ecclesiastical plate, domestic ware, and horse trappings Silversmiths of Oriental countries have been expert from early times The British Museum and the Victoria and Albert Museum contain representative pieces of superior workmanship, some from Persia, India, Tibet, and China The Reformation brought destruction to ecclesiastical art expressions of N Europe, and much plate was melted down in England during the Wars of the Roses so that little early English silver is extant The HALLMARK came into use c 1300 Elizabethan pieces display German influence, and work of the period of Charles II is loaded with ornament Cromwellian influence is reflected in English silverwork of extreme simplicity, French tendencies of the Louis XIV regime contributed great enrichment and were followed by the later rococo style, under Adam influence there was a classic reaction SHEFFIELD PLATE was an innovation of the 18th cent , since then plated ware has become the product of important industries in England and America Silverwork is a native craft in MEXICO, among Indian tribes in the W United States, and in Peru, where the abundant metal is used unalloyed In the American colonies silversmithing proved so profitable that it attracted several hundred silverworkers It was highly developed in New England, by such leaders as John Hull, Jeremiah Dummer, John Coney, and Paul Revere in Boston and Samuel Vernon in Newport, R I , and in other American cities including Philadelphia and New York, where the Boelen family and Jacobus van der Spiegel were especially noted Colonial silver, simple and chaste in design, is much sought by collectors Representative pieces are in the Metropolitan Museum The modern revival of hand-wrought silver is exemplified by Danish work See Seymour B Wyler, *The Book of Old Silver* (1937)

Silvester see SYLVESTER

Silvestre de Sacy: see SACY, ANTOINE ISAAC, BARON SILVESTRE DE

Silvis, residential city (pop 2,990), NW Ill , near Moline, inc 1920

Silvretta (silvrĕ'tä), Ger zĭlvrĕ'tä), Alpine group at the border of Tyrol and Vorarlberg (Austria) and the Grisons (Switzerland) Piz Linard (11,200 ft) is in Switzerland, the Fluchthorn (11,165 ft), Piz Buin (10,880 ft), the Silvrettahorn (10,656 ft), and the Dreitanderspitze (c 10,500 ft) straddle the Austro-Swiss frontier

Simancas (sēmang'kas), village, Valladolid prov , NW Spain, in Leon The castle, an old fort rebuilt in the 15th cent , is the seat of the Spanish national archives Begun by Ferdinand V in Valladolid, the collection was transferred here by Emperor Charles V and was greatly enriched by Philip II

Simbirsk, RSFSR see ULYANOVSK

Simcoe, John Graves (sĭm'kō), 1752–1806, British army officer, first governor of Upper Canada He was educated at Oxford, entered the army in 1770, went to New England with British troops at the beginning of the American Revolution, and served throughout the war surrendering with Cornwallis The exploits of the Queen's Rangers, a partisan corps (originally founded by Robert Rogers) of which Simcoe was given command in 1777, he recorded in his *Journal of the Operations of the Queen's Rangers* (1787) Upon the division of the province of Quebec into the two Canadas, he was appointed (1791) lieutenant governor of Upper Canada In 1792 he arrived at Niagara (which he called Newark), his temporary capital, and summoned the first legislative assembly that year, he moved to York (now TORONTO) in 1793 He selected the site for LONDON on the Thames river, which he named Filled with zeal to make the province a strong colony of the British Empire, he encouraged immigration (particularly of the Loyalists), fostered agricultural development, and urged the imperial government to lay plans for a provincial college In 1796 he left for England on a leave of absence, he was sent that year to take part in the ineffective campaign in Haiti He returned (1797) to England and shortly resigned his governorship of Upper Canada In 1806 he accepted appointment as commander in chief in India but died before he could reach his post His correspondence was edited by E A Cruikshank (5 vols , 1923–31), and Mrs Simcoe's diary was edited by J R Robertson (rev ed , 1934) See biographies by W R Riddell (1926) and D C Scott (rev ed , 1926)

Simcoe (sĭm'kō), town (pop 6,037), S Ont , on the Lynn river and SW of Hamilton It is a market center for a region producing meat, dairy products, fruit, and vegetables Simcoe has canneries and woolen and lumber mills

Simcoe, Lake, 28 mi long and 26 mi wide, S Ont , N of Toronto Cook Bay and Kempenfelt Bay are the south and west arms It is connected with Lake Couchiching just north by a channel, the Narrows Orillia and Barrie and several small resorts are popular for boating and fishing The lake drains N through Lake Couchiching and the Severn river to Georgian Bay of Lake Huron and forms part of the TRENT CANAL system

Simeon I, d 927, first tsar of Bulgaria (893–927), son and successor of BORIS I Ambitious to conquer a vast empire, he made the duties levied by the Greeks on Bulgarian trade a pretext for attacking the Byzantine emperor, Leo VI He defeated the Byzantines but was defeated in turn by Leo's allies, the MAGYARS under Arpad However, after securing the help of the Petchenegs, he drove the Magyars into their present abode in Hungary, ravaged the Byzantine Empire, twice threatened Constantinople (913, 924), and temporarily held Adrianople (914) He conquered most of Serbia and took, with papal consent, the title tsar of the Bulgars and autocrat of the Greeks He installed a patriarch at his capital Preslav, where he held a splendid court Under his rule the first Bulgarian empire attained its greatest power and Old Slavonic literature reached its golden age An able Greek scholar himself, Simeon fostered the translation of Greek authors into Old Slavonic

Simeon II, 1937–, tsar of Bulgaria (1943–46) He succeeded his father, Boris III, under a regency After the occupation (1944) of Bulgaria by Russian forces he remained nominal king under a new council of regents until 1946, when a plebiscite abolished the monarchy He went into exile.

Simeon or **Symeon** (both sĭ'mēən). **1** Second son of Jacob and Leah and ancestor of the southernmost tribe of Israel He and his tribe are seldom mentioned individually Gen 29 33, 34, 49 5–7, Joshua 19 **2** Name in the Gospel genealogy Luke 3 30 **3** Devout man who blessed Jesus when He was presented in the Temple He uttered NUNC DIMITTIS Luke 2 21–34 **4** or **Simeon Niger** (nī'jur), early Christian, prominent in Antioch Acts 13 1 In Acts 15 14 Simeon appears for the usual Simon, referring to St Peter

Simeon of Durham (dŭ'rum) or **Symeon of Durham,** d after 1129, English chronicler A monk of Durham, he wrote between 1104 and 1108, the *Historia ecclesiae Dunelmensis*, a history of the church at Durham In 1129 he started a valuable chronicle, *Historia regum Anglorum et Dacorum*, which was to continue that of the Venerable Bede See translation by the Rev Joseph Stevenson (1855)

Simeon Stylites, Saint (stīlī'tēz) [Gr , =of a pillar], d 459?, Syrian hermit He lived more than 35 years on a small platform on top of a high pillar He had many imitators (called stylites) and gained the reverence of the whole Christian world Feast Jan 5

Simferopol (sēmfyĭrō'pul), city (pop 142,678), capital of Crimea, RSFSR, on the Salgir river The region abounds in orchards, vineyards, and tobacco fields, and the city has flour mills, fruit and vegetable canneries, and various manufactures Simferopol occupies the site of an ancient Scythian capital and of the Greek colony Neapolis Named Ak-Mechet under Tatar rule, it was renamed after its annexation (1783) to Russia The old part of the city has retained its Oriental appearance

simile see METAPHOR

Simkhovitch, Mary Kingsbury (sĭmkō'vĭch), 1867–, American social worker, b Chestnut Hill, Mass , grad Boston Univ , 1890 After several years of further study at Radcliffe, Columbia, and the Univ of Berlin, she became active in settlement work and the study of social economy She married Vladimir G Simkhovitch in 1899 In 1902 she and several others founded Greenwich House, in the Greenwich Village district of New York city, which became famous for its activities in social service, music, and handicrafts She was its director from 1902 until 1946, when she retired to become director emeritus Her writings include *Neighborhood* (1938), *Group Life* (1940), *Quicksand* (with Elizabeth Ogg, 1942), and her autobiography, *Here Is God's Plenty* (1949)

Simla (sĭm'lu), town (pop 18,348), capital of Himachal Pradesh, India It is situated on a forested ridge (c 7,100 ft high) in the lower Himalayas Simla is a resort town, and until 1947 it was the summer capital of India

Simmel, Georg (gā'ôrk zĭ'mul), 1858–1918, German philosopher and sociologist At the universities of Berlin and Strasbourg he was an influential lecturer Concerned with problems of human interaction and basing his social philosophy on a broad historical foundation, he did much to establish German sociology as an independent discipline *Soziologie* (1908) is his chief work in sociology, *Lebensanschauung* [philosophy of life] (1918), in philosophy See N J Spykman, *The Social Theory of Georg Simmel* (1925)

Simmesport (sĭmz'pôrt), fishing village (pop 1,215), central La , on the Atchafalaya river near its beginning

Simmons, Edward Emerson, 1852–1931, American mural painter, b Concord, Mass , studied with Boulanger and Lefebvre in Paris His early work in the Criminal Courts Building, New York, won the prize of the Municipal Art Society Subsequent works are in Massachusetts, Minnesota, and South Dakota state capitols, the Library of Congress, and the Vanderbilt and Rockefeller country homes. Most of his decorations for the old Waldorf-Astoria Hotel, New York, have been removed to the new hotel See his autobiography, *From Seven to Seventy* (1922)

Simmons, Franklin, 1839–1913, American sculptor, b Androscoggin Co , Maine, studied in Boston with J A Jackson He opened a studio in Lewiston, Maine, and then became an itinerant artist, executing portraits in oil and in clay In 1866 he went to Washington, where he made portrait busts of Grant, Sherman, Sheridan, Farragut, and other Civil War leaders At Portland, Maine, are a soldiers' monument and a Longfellow monument He went to Rome in 1867 and lived there the rest of his life

Simmons College, at Boston, Mass , nonsectarian, for women, chartered 1899, opened 1902, called Simmons Female College until 1915 It was the first to combine liberal and professional instruction for women It has schools of business and secretarial studies, English, home economics, library science, nursing, preprofessional studies, retailing (Prince), science, and social work (open to Tufts College students) The buildings are on the Fenway and on Beacon Hill

Simms, William Gilmore, 1806–70, American novelist, b Charleston, S C He wrote prolifically, both prose and poetry, but it is as a historical romancer of his own state that he is remembered and often compared with James Fenimore Cooper His tales of the border in the South include *Guy Rivers* (1834) and *Beauchampe* (1842, one part rewritten as *Charlemont*, 1856), those of colonial times are *The Yemassee* (1845) and *The Cassique of Kiawah* (1859), romances of Revolutionary times include a series - *The Partisan* (1845), *Vellchampe* (1836), and *Katharine Walton* (1851)—and *The Foragers* (1855) and its sequel, *Eutaw* (1856) He also wrote less successful novels of Spanish history In 1836 he married the heiress of a South Carolina plantation, "Woodlands." Besides continually writing fiction, he edited (1849–56) the *Southern Quarterly Review* and wrote local history and biographies of Francis Marion (1844), Nathanael Greene (1849) and others His short stories are in *Carl Werner* (1838) and *The Wigwam and the Cabin* (two series, both 1845) His home and fortune were destroyed in the Civil War See biography by W P Trent (1892), bibliography by Oscar Wegelin (3d ed revised, 1941)

Simnel, Lambert (sĭm'nul), fl 1486–1525 English impostor Little is known of his early life, but before 1486 he was taken to Oxford by Robert Simon, a priest, to gain the necessary education so that he might impersonate Edward, earl of Warwick, who was then confined in the Tower and was later (1499) murdered by order of Henry VII Simon took Simnel to Ireland in 1486, claiming that he was the earl of Warwick and that he had escaped from the Tower A number of Yorkist adherents rallied to his cause, and in 1487 at Dublin, Simnel was crowned as Edward VI Simon, Simnel, and their supporters crossed to England and were defeated in battle by the royal forces Simnel was taken prisoner but pardoned and possibly was employed thereafter as a scullion in the royal kitchen

Simois (sĭ'mōĭs), small river, NW Turkey, a tributary of the SCAMANDER It was the scene of many legendary events of Asia Minor, particularly in the siege of TROY

Simon, Saint (sī'mun) [Gr , from SIMEON], one of the Twelve Disciples In the Gospels he is called the Canaanite or Cananaean or Zelotes, synonymous terms referring probably to association with the fanatical sect of ZEALOTS Mat 10 4, Mark 3 18, Luke 6 15, Acts 1 13 Feast (with St JUDE) Oct 28

Simon, in the Bible **1** One of the MACCABEES **2** or **Simon Peter** see PETER, SAINT **3** See SIMON, SAINT **4** Kinsman of Jesus Mat 13 55, Mark 6 3 **5** Leper of Bethany in whose house a woman anointed Jesus' feet He may have been the father of Lazarus Mat 26 6, Mark 14 3 **6** Pharisee in whose house Jesus was entertained Luke 7 36–50 **7** Father of Judas Iscariot John 6 71, 13 2,26 **8** See SIMON OF CYRENE. **9** Tanner of Joppa with whom Peter stayed Acts 9 43 **10** See SIMON MAGUS

Simon, Antoine (ätwän' sēmō'), 1736–94, French revolutionist, often called "the shoemaker," a member of the Commune of Paris He and his wife guarded the dauphin, LOUIS XVII, in the Temple, and the brutality and coarseness they displayed were notorious A friend of Robespierre and Marat, Simon was executed after 9 Thermidor.

Simon, Sir John (sī'mun), 1816–1904, English surgeon and sanitarian Long associated with St Thomas's, London, he agitated successfully for the introduction of public health measures and

served as London's first officer of health He wrote *English Sanitary Institutions* (1890). See his *Personal Recollections* (1898)

Simon, John Allsebrook Simon, 1st Viscount, 1873–, British statesman and jurist Simon was called to the bar in 1899 and entered the House of Commons as a Liberal in 1906 He became Herbert Asquith's solicitor general (1910) and attorney general (1913) He refused the lord chancellorship in the coalition government of 1915 because he preferred a political career in the House of Commons He was home secretary (1915–16), but resigned because of his opposition to the government conscription bill and went to France with a staff appointment in the air force Defeated in the election of 1918, he was returned to Parliament in 1922 In 1926 he was leading counsel for Newfoundland in the Labrador boundary settlement, and he served as chairman (1927–30) of the commission to study the operation of the Montagu-Chelmsford reforms of 1919 in India In the National government he was foreign secretary (1931–35), home secretary (1935–37), and chancellor of the exchequer (1937–40) He gained a reputation as one of the most outspoken advocates of the "appeasement" policy toward Germany From 1940 to 1945 he was lord chancellor

Simon, Jules (Jules François Simon Suisse) (zhül' sōmō', frāswa', süēs'), 1814–96, French statesman and philosopher He taught philosophy at the Sorbonne from 1839 to 1852, during which time he edited the works of other philosophers and wrote his *Histoire de l'école d'Alexandrie* (1844–45) He served (1848) in the national assembly and then entered the council of state His republican opinions led to his retirement, and his subsequent refusal to swear allegiance to Louis Napoleon lost him his professorship (1852) Between that time and 1863 he devoted himself to writing From 1863 to 1875 he served as deputy and then was made senator for life As minister of education (1870–73) he proposed many educational reforms and was successful in liberalizing the secondary school system In his writings and in public service he was devoted to the cause of republicanism and opposed to the monarchy Among his works are *La Liberté civile* (1859) and *L'Ouvrière* (1861)

Simon, Théodore see BINET, ALFRED

Simone Martini see MARTINI, SIMONE

Simonides of Amorgos see SEMONIDES OF AMORGOS

Simonides of Ceos (sīmŏ'nĭdēz, sĭ'ŏs), c 556–468? B C, Greek lyric poet, b Ceos At Athens for a time under the patronage of Hipparchus, he seems then to have gone to Thessaly, returning to Athens at the time of the Persian Wars, he was a friend of most prominent Athenians After the wars he went (with his nephew Bacchylides) to the court of Hieto of Syracuse, where he was a rival of Pindar Simonides was highly honored in both Greece and Sicily There are only fragments left of his work, but some of the finest Greek poetry is in them He wrote, in an epigrammatic manner, verses of many kinds, some of these—encomia, epinicia, and threnes—he brought to a new perfection Two of his finest epitaphs (with the first of which he defeated Aeschylus) are on the fallen at Marathon and at Thermopylae A man of great intellect, Simonides was among the ancients a classic example of moderation in all things; hence his pathos without sentimentality, his dignity without pomposity, his elegance without preciosity

Simon Magus (mā'gŭs), Samaritan sorcerer who attempted to buy spiritual power from the apostles From this comes the term SIMONY Acts 8 9–24 He was said anciently to have founded a Gnostic sect

Simon of Cyrene (sī'rēnē), bystander made to carry Jesus' cross He was probably an African Jew, and since he is identified by his sons' names, they were probably Christians later Mat 27 32, Mark 15 21, Luke 23 26

Simonov, Konstantin (kŭnstuntyēn' sē'munuf), 1915–, Russian dramatist, novelist, and war correspondent He sprang into prominence in the Second World War with his reports from the front, published in book form as *On the Pitsamo Road* (1942), *Stalingrad Fights On* (1942), and *No Quarter* (1943, Eng tr, 1943) His fine novel of the defense of Stalingrad, *Days and Nights* (1945, Eng tr, 1945), gave him international fame Of his plays, *The Russian People* was presented in the United States in 1942 and the comedy *The Whole World Over* in 1947 After a trip to the United States in 1946, he wrote a play of which an American newspaper publisher was the villain, the play, *The Russian Question*, presented in 1947 and filmed in 1948, won the Stalin Prize

Simon Peter: see PETER, SAINT

Simons, Menno. see MENNO SIMONS

Simons, Walter (vä'tur zē'mônz), 1861–1937, German jurist and statesman He served (1919) as commissioner general to the German delegation at Versailles Opposing the terms of the peace treaty, he resigned one week before the signing As foreign minister (1920–21) he attended the reparations conference at London In 1922 he became president of the German supreme court After the death of President Ebert, Simons was acting president of the republic (March–May, 1925) An outstanding authority on international law, Simons wrote several works

Simonson, Lee, 1888–, American scenic artist, b New York city, grad Harvard, 1908 He was associated as designer with the Washington Square Players, 1915–17, and with the Theatre Guild as director, 1919–40 He designed the settings for *The Goat Song*, *The Road to Rome*, *Marco Millions*, *Elizabeth the Queen*, and other plays He wrote *Minor Prophecies* (1927), *The Stage Is Set* (1932), *Theatre Art* (1934), and *Part of a Lifetime* (1943)

Simonstown (sī'munztoun), town (pop 7,307), W Cape Prov, Union of South Africa, founded 1741 It has a good harbor S of Capetown and is headquarters of the British navy in Africa

simony (sī'munē) [from SIMON MAGUS], in CANON LAW, the procuring or disposing of a spiritual thing or something appertaining thereto for a temporal consideration It is a very grave sin, and simoniacal ecclesiastics may be excommunicated The temporal price may be one of many kinds, e g, money or high office The spiritual thing may be the performance of a sacrament or any other spiritual service, it is also simony to sell a benefice or endowment or other temporality to which anything spiritual is attached The desire, intention, or promise to make a simoniacal sale is simony itself Because of the frequency of simony at times in the history of the Roman Catholic Church, the legislation of the Church is very strict, e g, simony in the election of a pope invalidates the election (law of Julius II, 1503), no priest may ask for a baptismal fee in any way, and Mass stipends are fixed by the bishop and are governed by the expense of the Mass and the necessities of the priest The sale of indulgences is prohibited in any form, and no blessed article may be sold as blessed, for blessings are conferred not on things but persons The prevalence of simony was most important in bringing on the reform of Hildebrand (Gregory VII) and the Catholic Reform The sale of indulgences was one of the great abuses cited by Luther

simoom or **simoon** see SANDSTORM

Simplon (sĭm'plŏn), pass, 6,589 ft high, over the Pennine Alps It is crossed by the **Simplon Road** built (1800–1806) by Napoleon Simplon village is on the road The Simplon RR passes through

Simplon Tunnel, the longest (12¼ mi) in the world Opened in 1906, the tunnel crosses the Swiss-Italian border from Brig to Iselle It has a maximum elevation of 2,313 ft, the mountain rises 7,000 ft above it

Simpson, Sir George, 1792–1860, governor of the Hudson's Bay Company in Canada and traveler, b Scotland In 1820 he was sent by the company to Canada, where he took charge of the important Athabaska fur district In 1821 he was appointed governor of the northern department of the Hudson's Bay Company (with which the North West Company was merged that year) and later was made governor of Rupert's Land and of all the interests of the company in N North America Simpson encouraged exploration of his vast realm (Thomas Simpson, explorer of the arctic coast, was his cousin) and himself journeyed constantly (twice crossing the continent) from one wilderness trading post to another Over the territory he held firm control, managing the company's affairs with great astuteness His famous "overland" trip (1841–42) around the world, during which he crossed Siberia to St Petersburg, is described in his *Narrative of an Overland Journey round the World* (1847) Simpson's journal (1824–25), edited by Frederick Merk, was published as *Fur Trade and Empire* (1931) E E Rich edited his *Journal of Occurrences in the Athabasca Department* (1938) and *Part of a Dispatch to the Hudson's Bay Company 1829* (1947) See George Bryce, *Mackenzie, Selkirk, Simpson* (new ed, 1926), biography by A S Morton (1944)

Simpson, Sir James Young, 1811–70, Scottish physician, M D Univ of Edinburgh, 1832 He was made (1839) professor of medicine and midwifery at Edinburgh Although he introduced the use of ether to produce general anesthesia in childbirth, he almost immediately abandoned its use in favor of chloroform, the value of which he reported in 1847 For many years thereafter chloroform was widely used Although known chiefly as an eminent obstetrician, he was also an archaeologist See study by H L Gordon (1897)

Simpson, Sir John William, 1858–1933, English architect, a leading exponent of the classic style in England Specializing in public buildings, he designed hospitals and school buildings and the Corporation Art Galleries at Glasgow He was responsible for the design of the British Empire Exhibition at Wembley Simpson was a fellow of the Royal Institute of British Architects, served (1919–21) as its president, and was associated with other learned societies He was knighted in 1924 He wrote *Essays and Memorials* (1923) and *Some Account of the Old Hall of Lincoln's Inn* (1928)

Simpson, Matthew, 1811–84, American Methodist bishop, b Cadiz, Ohio In 1839 he became the first president of Indiana Asbury Univ (now DePauw Univ) He edited (1848–52) the *Western Christian Advocate* and was consecrated bishop in 1852 His noted oratory was used in behalf of the Union in the Civil War and in eulogizing his personal friend, Abraham Lincoln, at Lincoln's burial services in Springfield, Ill See E M Wood, *The Peerless Orator* (1909), C T Wilson, *Matthew Simpson* (1929)

Simpson, Thomas, 1808–40, British arctic explorer, b Scotland cousin of Sir George Simpson In 1829 he entered the service of the Hudson's Bay Company, by whom he was sent to Canada In journeys (1836–39) with Peter W Dease he traced the coast of the Arctic Ocean from the mouth of the Mackenzie river to Point Barrow and from the mouth of the Coppermine to the Gulf of Boothia In the course of his explorations he discovered Victoria Island On the return from his final trip he was killed, perhaps by members of his own party, or else he committed suicide His *Narrative of the Discoveries on the North Coast of America* appeared in 1843

Simpson, Wallis Warfield see WARFIELD, WALLIS

Simpson College see INDIANOLA, Iowa

Simpson Desert, 13,500 sq mi, SE Northern Territory, Australia Sand dunes and generally dry salt lakes characterize the area It is also called the Arunta Desert With the use of camels, it was crossed by Dr Cecil Madigan in 1939

Simpsonville, town (pop 1,298), NW S C, SE of, and near, Greenville

Simri (sĭm'rī) [Heb, =SHIMRI], head of a Merarite family 1 Chron 26 10

Sims, James Marion, 1813–83, American surgeon, b Lancaster Co, S C, M D Jefferson Medical College, Philadelphia, 1835 He practiced in Mt Meigs, Ala A gynecologist of international reputation he introduced new operations (including one for vesico-vaginal fistula) and new instruments and wrote the important *Clinical Notes on Uterine Surgery* (1866) In 1855 he founded the Woman's Hospital in New York city See his autobiography (1884), Seale Harris, *Woman's Surgeon* (1950)

Sims, William Sowden, 1858–1936, American naval officer, b Port Hope, Upper Canada (now Ontario), of American parents, grad Annapolis, 1880 He served (1882–86) in the Atlantic and Pacific fleets and later he was (1897–1900) naval attaché in Paris and St Petersburg He served (1902–9) with the Bureau of Navigation while performing (1907–09) the duties of naval aide to the President Sims was (1909–11) commanding officer of several U S battleships, and after leading (1913–15) the Atlantic torpedo flotilla he was appointed (1917) rear admiral and president of the Naval War College In the First World War he was in command (1917–18) of American operations in European waters He again became president of the Naval War College in 1919 and served there until 1922, when he retired with the rank of rear admiral He was made a full admiral by act of Congress in 1930 He wrote, with Burton J Hendrick, *The Victory at Sea* (1920) See biography by E E Morison (1942)

Simsbury, town (pop 3,941), N Conn, NW of Hartford, settled 1660, inc 1670 Safety fuses are made in the town Two preparatory schools, Westminster (for boys) and Ethel Walker (for girls), are here Gifford Pinchot was born in Simsbury See J E Ellsworth, *Simsbury* (1935)

Sin 1 Wilderness through which the Israelites wandered when they came up out of Egypt It is probably not the same as Zin Ex 16 1 **2** Same as PELUSIUM Ezek 30 15,16

sin, in religion, unethical act The term implies disobedience to a personal God, as in Judaism, Christianity, and Islam, and is not used so often in systems where there is no personal divinity, as Buddhism In ancient Israel besides personal sin there was national sin, usually idolatry, to regain God's favor the whole people had to be purified Ex 32 34 Crimes of a few might also be visited on all, but punishment of the criminals could avert this Joshua 7 Apart from ORIGINAL SIN Christianity and Islam have no developed idea of collective sin As to what constitutes sin, Christian ideas differ Some Christians divide human acts into good, indifferent, and bad, others regard all acts not positively good as necessarily sinful Thus, some may think card playing is indifferent so long as no obligation is infringed, while others consider card playing wrong as such The traditional view, presupposed by Christian asceticism, is that a major way to perfection lies in performing or in refraining from indifferent acts solely to please God, this is held, for example, by Roman Catholics, The theory that no act is really indifferent is common among conservative "evangelical" Protestants For Christians the effect of sin may be twofold, since a sin is at once a rebellion against the omnipotent Creator, risking punishment (even HELL), and a cruel offense against a Father and friend, The idea that sin is a grief to the loving Friend, shutting him out of one's life, was popularized in the Middle Ages, notably by the Cistercians in the 12th cent and the Franciscans in the 13th It is explicit in Western MYSTICISM and in modern Roman Catholic teaching Among Protestants it was typical of Luther and John Wesley. In Western theology (particularly Roman Catholi-

cism) sins are mortal if committed with knowing and deliberate intent in a serious matter, other sins are venial Roman Catholics are required to confess individually all mortal sins (see PENANCE) The seven deadly, or capital, sins are pride, covetousness, lust, anger, gluttony, envy, and sloth The sins which cry out to heaven for vengeance are willful murder, the sin of Sodom, oppression of the poor, and defrauding the laborer of his wages The sin of the angels (*specifically of* SATAN) is pride New ideas about God introduced with MODERNISM among Protestants and in Judaism entailed changed views of sin, the usual tendency of modernists has been to set up a purely humanitarian ethics without supernatural sanctions See ATONEMENT, BAPTISM, ETHICS, PURGATORY

Sinai (sī'nī, sī'nē), triangular peninsula, extending north into a wide isthmus which fronts on the Mediterranean Sea Sinai extends c 230 mi from north to south and is c 150 mi wide The easternmost part of Egypt, it is usually regarded as belonging to Asia rather than to Africa The peninsula is bounded by the two arms of the Red Sea, i e , on the west by the Gulf of Suez (which is extended north by the Suez Canal) and on the east by the Gulf of Aqaba Level and sandy in the north, in the south Sinai rises in granitic ridges, which attain a height of over 8,500 ft at Jebel Katrun In the south is also Jebel Musa [Arabic,= mount of Moses] or Mt Sinai, some authorities deny that this is the mountain on which Moses received the Ten Commandments and suggest instead the near-by Jebel Serbal At the foot of Jebel Serbal is the famed Greek Orthodox monastery of St Catherine, founded c 250 Here in the 19th cent was found the Codex Sinaiticus, one of the oldest manuscripts of the New Testament This was purchased from the USSR by the British Museum in 1933 In 1950 the task of microfilming the 3,000 volumes of manuscripts in the monastery library was completed In ancient times Sinai was ruled by the Arabs of Petra (Ex 3 1, 19), usually, however, it was under the Egyptian kings, who worked its copper mines Today there are quarrying and oil drilling See Lina Eckenstein, *A History of Sinai* (1921)

Sinaia (sēnī'ä), town (pop 6,531) S central Rumania, in Walachia, NW of Ploesti It is a health and winter sports resort in the Transylvanian Alps, and it was the summer residence of the kings of Rumania until the abdication (1947) of King Michael There are two former royal palaces (built 19th cent) and the former royal hunting lodge The older of the palaces, built in Renaissance style, contains an internationally famous art collection There also is a 17th-century monastery

Sinaloa (sēnälō'ä), *state (22,582 sq mi , 1946 estimated pop 582,761)*, NW Mexico, on the Gulf of California and the Pacific Culiacán is the capital Long and narrow, lying between the ocean and mountain spurs of the Sierra Madre Occidental, Sinaloa has low, hot, humid plains and, especially in the south, numerous marshes Many rivers, fertile valleys, and varying elevation produce a variety of crops—sugar cane, coffee, tobacco, tropical fruits, rice, henequen, and grains of the Temperate Zone More important is the mining of gold, silver, and copper Forest products—fine woods and rubber—are generally unexploited Although the coast has many sheltered harbors, only one port, MAZATLAN, is of major importance During early Spanish exploration, CULIACÁN was the starting point for the northwest and was the northern city of NUEVA GALICIA Later Sinaloa was joined with SONORA and did not become a separate state until 1830

Sinan (sīnän'), Moslem architect, 1489?-1578? He is regarded as the greatest of Islamic builders, his achievement lying in his solutions of spatial problems in the cupola-topped structures He was active in the reigns of Selim I, Suleiman I, and Selim II and was named (1539) court architect His masterpieces are the mosques of Sha Zade and Selim I at Constantinople and the mosque of Suleiman I at Adrianople His autobiography lists over 300 buildings of his design

Sinclair, Sir John, 1754–1835, Scottish agricultural economist and statistician He compiled *A Statistical Account of Scotland* (21 vols , 1791–99), giving information on farming and other industries, with notes on natural history as well as statistics of population He was active in politics and in agricultural organizations, and he corresponded with George Washington A memoir by his son John Sinclair was published in 1837

Sinclair, May, 1865?–1946, English novelist, b Rock Ferry, Cheshire, educated at Ladies' College, Cheltenham Her first and greatest success was *The Divine Fire* (1904) Other novels of distinction are *The Combined Maze* (1913), *The Tree of Heaven* (1917), and *The Allinghams* (1927) In *Mary Olivier* (1919) she was one of the first to employ the stream-of-consciousness technique Other works are *The Three Brontës* (1912) and her *Journal of Impressions in Belgium* (1915) Ill-health prevented her from writing in late life

Sinclair, Upton, 1878–, American novelist and socialist, b. Baltimore, grad. College of the City of New York, 1897 His desire for social and industrial reform underlies most of his writing *The Jungle* (1906), a novel of the Chicago stockyards, aroused great public indignation and led to investigations and improvements With the money from that novel, Sinclair established in 1906 his short-lived socialist community, Helicon Home Colony, at Englewood, N J Further novels exposing social evils were *King Coal* (1917), *Oil* (1927), *Boston* (on the Sacco-Vanzetti Case, 1928), and *Little Steel* (1938) Similar in tone are his social studies, among them *The Brass Check* (1919), on American journalism, and *Mammonart* (1925) Never a true Marxian, Sinclair has been an ardent socialist, in and out of the American Socialist party In 1934 he was defeated as the Democratic candidate for governor of California *World's End* (1940) began a long cycle of books about the fictional and ubiquitous Lanny Budd, which is a history since 1914 in novel form, the third, *Dragon's Teeth* (1942) won a 1943 Pulitzer Prize Sinclair's more than 70 titles have been widely translated, and he is one of the best-known American authors in Europe See his reminiscences, *American Outpost* (1932)

Sind (sĭnd), province (48,136 sq mi , pop 4,535,008) West Pakistan, on the Arabian Sea Karachi is the capital Sind is bordered by India on the east and south It comprises some hilly country and parts of the alluvial plain and delta of the Indus river, which empties through the province The heat is intense in the summer and the rainfall is very scanty, but extensive irrigation permits the raising of crops, including grains, fruit, oilseeds, and cotton Salt is processed and livestock is raised where agriculture is not feasible Sind, which includes the archaeological site of MOHENJO-DARO, may have had the oldest settled civilization in the Indian subcontinent The region was occupied by Alexander the Great and was part of the Mauiya empire Sind was converted to Islam after its conquest by Arabs in the 8th cent The local rulers resisted the early efforts of the British to control the region, but in 1843 Sir Charles Napier conquered it in a short campaign Until 1937 it was administered as part of Bombay

Sindhi (sĭn'dē), *modern language of the Indic group* of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Sinding, Christian (krĭs'tyän sĭn'dĭng), 1856–1941, Norwegian nationalist composer, studied at the Leipzig Conservatory, brother of Stephan Sinding and Otto Sinding His government granted him a yearly stipend from 1890 until his death In 1921–22 he taught at the Eastman School of Music in Rochester N Y He wrote the opera *Der heilige Berg* [the holy mountain] (Dessau, 1914), orchestral music, chamber music, many songs, and piano pieces, of which his *Rustle of Spring* is the most popular

Sinding, Stephan (stā'fan), 1846–1922, Norwegian sculptor, naturalized in Denmark French influence shows strongly in his art, although he turned to Norse mythology and Norse life for many of his themes, such as *The Valkyrie*, the *Valhalla* frieze, and *The Eldest of Her Kin* Other works are the *Barbarian Mother*, *May*, and monuments to Ibsen, Bjornson, and Ole Bull Sinding used wood, as well as bronze, for a medium He was a brother of Christian Sinding, composer, and of **Otto Sinding,** 1842 1909, Norwegian landscape and genre painter

Singapore (sĭng'gupôr, sĭng'u-, sĭng'gupôr'), city (pop 729 296), on Singapore island (217 sq mi , pop 948,303) at the southern tip of the Malay Peninsula Singapore is one of the great commercial centers of the world and the major British naval base in the Far East The city and port lie on the south side of the island, the naval base fronts the Johore Straits to the north The coast is broken by many inlets, and there are extensive mangrove swamps A causeway links the island to the state of JOHORE, of which Singapore formed a part before it was granted (1819) to the British East India Company through T Stamford RAFFLES It was finally ceded to Great Britain in 1824 There was only a small fishing and trading village on the island when it passed under British control, but Chinese and Malay merchants quickly moved in The port grew rapidly, soon overshadowing PENANG and MALACCA in importance The development of Malaya under British rule in the late 19th and early 20th cent made Singapore one of the leading ports of the world for the export of tin and rubber The construction of a railroad through the peninsula to Bangkok in Siam swelled Singapore's trade, and the building of airports made it more than ever a communication center. The naval base, begun in 1924, was completed in 1938, the island, reinforced in the early days of the Second World War, was counted as the key point in the defense of SE Asia and Indonesia against the Japanese After the swift Japanese campaign in Malaya, however, Singapore was successfully attacked across the Johore Straits. Cut off from their water supply, outnumbered, and blockaded, the garrison surrendered to the Japanese on Feb 15, 1942 Singapore was reoccupied by the British Sept. 5, 1945. The city has a cosmopolitan aspect. There are many European-style buildings, including the public offices, the cathedral, Raffles College, and the King Edward VII College of Medicine Most of the people (c 600,000) are Chinese Singapore formed a part of the STRAITS SETTLEMENTS until 1946, when it was erected into Singapore crown colony, including Singapore, Christmas Island, and the Cocos-Keeling Islands.

Singer, Isaac Merritt, 1811–75, American inventor, b Rensselaer co , N Y As a child he lived in Oswego, N Y He patented in 1851 a practical sewing machine which could do continuous stitching Although he lost a suit for infringement brought by Elias Howe, his company was already so well established that it took the lead in a subsequent combination of manufacturers and pooling of patents Between 1851 and 1865 Singer patented 20 improvements, including the yielding presser foot and a continuous wheel feed In 1863 he retired to live abroad

Singhalese (sĭng'gulēz), language of Ceylon It belongs to the Indic group of the Indo-Iranian subfamily of Indo-European languages The name is also spelled Sinhalese See LANGUAGE (table)

single tax, tax derived from economic RENT It is based on the doctrine that land and the natural resources are the source of all wealth, and it corresponds substantially to the *impôt unique* of the 18th-century PHYSIOCRATS Basic to the theory is the belief that the land and its wealth belong to all The most effective advocate of the single tax was Henry George, who held that economic rent tends to enrich the owner at the expense of the community and is thus the cause of poverty, he believed that by appropriating all (or nearly all) economic rent governments could wipe out social distress and even acquire a surplus without recourse to any other taxes George's theories have had some influence on land taxation in Britain, several of the dominions, the W United States, and several continental nations See Henry George, *Progress and Poverty* (1879), J F Muirhead, *Land and Unemployment* (1935)

Singleton, Esther, 1865–1930, American author, b Baltimore She was editor (1923 30) of the *Antiquarian* and wrote articles and books on a large number of topics, e g , antique furniture, the history of New York, opera, musical instruments, famous cities, buildings, and pictures, and great events Her works include *The Furniture of Our Forefathers* (2 vols , 1900), *The Shakespeare Garden* (1922), and *The Collecting of Antiques* (1926)

Singleton, municipality (pop 3,940), New South Wales, Australia on the Hunter river and NW of Newcastle It is in a fruitgrowing and coal-mining area

Sing Sing see OSSINING, N Y.

Singspiel see OPERA

Sinhalese (sĭn'hulēz), language of Ceylon It belongs to the Indic group of the Indo-Iranian subfamily of Indo-European languages The name is also spelled Singhalese See LANGUAGE (table)

Sinim (sī'nĭm), a remote people Isa 49 12 Some identify them with the Chinese

Sining (shē'nĭng'), Mandarin *Hsi-ning*, city (pop 55,564), capital of Tsinghai prov , W China It is in the northeast section of the province, c 50 mi E of Ching lake

Sinites (sī'nīts), unidentified people of ancient Syria Gen 10 17, 1 Chron 1 15

Sinkiang (sĭn'kyäng', shĭn'jyäng'), Mandarin *Hsin-chiang*, province (660,976 sq mi , pop 3,730,051), W China It is also called Chinese Turkistan or Eastern Turkistan The capital is Urumchi Sinkiang is bordered by the Mongolian People's Republic on the east, by the USSR on the north and west, and by India and Tibet on the south Almost half the province is covered by three mountain ranges which extend east and west, from north to south, they are the Tarbagatai, the Tien Shan, and the Altyn Tagh The rivers of Sinkiang, including the Ili, the Kashgar, and the Tarim, rise in the mountains Gold and jade are mined, but large deposits of iron and coal are untouched The level land mainly comprises Dsungaria, a grazing region of the north, and the Taklamakan, a desert in central Sinkiang The province has a continental climate with great extremes of winter and summer temperature Rainfall is scant, averaging less than 15 in annually The bulk of the population lives along the borders of the Taklamakan in oases where barley, maize, melons, and cotton (locally spun and woven) are grown Nomadic sheepherding supplies much of the subsistence requirements Transportation is mainly along two roads which skirt the Taklamakan and connect the cities, of which Kashgar, Khotan, Kuldja, Turfan, and Urumchi are the largest Except for a few trucks, the Bactrian camel is the chief means of transport Most of the trade (chiefly luxury goods) is with the USSR, and India and China are of secondary importance Turkis, who are Moslems, constitute the bulk of the population, indigenous Chinese and nomads, largely Kirghiz and Kazakhs, are the other large elements A great increase in aridity in the 16th cent caused the disappearance of the kingdoms which had earlier flourished in Sinkiang, especially in the TURFAN

region. An anarchic period followed until the mid-19th cent, when Chinese control became effective. The province (ruled virtually as a colony) by its position in the far west was spared most of the civil strife which raged in China after the establishment (1912) of the republic. Early in 1950 Sinkiang capitulated to the Chinese Communists without a struggle See Owen Lattimore, *High Tartary* (1930) and *Pivot of Asia* (1950).

sinking fund, sum set apart periodically from the income of a government or a business and allowed to accumulate in order to pay its debts as they fall due. A preferred investment for a sinking fund is the purchase of the government's or firm's bonds that are to be paid off Usually the fund is administered by a trustee

Sinking Spring, industrial borough (pop 1,861), SE Pa, W of Reading settled 1793, inc. 1913 It has textile mills and a foundry

Sinn Fein (shĭn' fān') [Irish,=we, ourselves], Irish nationalistic movement which triumphed in the establishment of the Irish Free State (see IRELAND) Irish attempts to obtain Home Rule through the British Parliament were severely checked in 1890 by the disgrace of Charles Stewart Parnell and the subsequent break in the ranks of the Irish party Meantime nationalistic spirit in Ireland was growing In 1893 the Gaelic League was founded to advocate the reassertion of a distinctively Irish culture In 1899 Arthur GRIFFITH, the father of the Sinn Fein movement, established the first of his long series of patriotic journals, the *United Irishman*, advocating an "Irish Ireland" [the symbolic meaning of *Sinn Fein*] This ideal called for an economically and politically self-sufficient Ireland The program was not, at first, an overtly political one, nor did it advocate violence Its method was, rather, one of passive resistance to all things British, and included an attempted revival of Irish Gaelic In 1905 Sinn Fein was organized politically, but until the outbreak of the First World War it gained little strength It had no part in the labor movement led by James CONNOLLY and James LARKIN The Home Rule Bill of 1912 and the growing tension between Ulster and Southern Ireland resulted in the establishment of volunteer military organizations in the two sections of the country and the beginning of a period of unrest and violence in which Sinn Fein was eventually to triumph The organization assisted Patrick PEARSE in the unsuccessful Easter Rebellion of 1916 The suppression of that revolt, the execution of its leaders, and the military occupation of Ireland resulted in a great stimulation of the growth of Sinn Fein In 1917 many of its leaders were released from internment in Wales and met to reorganize under the leadership of Eamon DE VALERA Early in 1918 the British Parliament passed a conscription act for Ireland, which was never enforced but, nevertheless, solidified Irish resistance In the "khaki" election of 1918 after the armistice, Sinn Fein put up a candidate for every Irish seat in the British Parliament and elected 73 members These declined to go to Westminster, and set up an Irish assembly, called the DÁIL EIREANN The Dáil declared Ireland independent and undertook to organize the new state Within a few months disorder was rife in Ireland Led by Michael COLLINS, the Irish extremists set about to destroy English rule A small corps of gunmen, by assassination and terrorism, attempted to disorganize British police control For some time the people stood quietly by, the Catholic bishops denounced the guerrilla warfare, and many ardent patriots deplored it The British government undertook, however, to suppress the revolt by sheer violence and sent (1920) a body of military irregulars, popularly known as Black and Tans, to reestablish order by a counterterror It then became increasingly clear that the people were responding by rallying to the support of Sinn Fein Eventually, in 1921, the British government, under David Lloyd George, yielded to British opinion and continued Irish resistance, and negotiations began for establishing the Irish Free State The treaty agreed upon in 1922, however, did not satisfy a minority of Sinn Fein represented by De Valera, and a period of civil war ensued Eventually the great mass of the people were reconciled to the new government. In 1927 De Valera reentered the Dáil, and in 1932 became president of the Irish Free State The Irish Republican Army, an intransigent remnant of Sinn Fein, was outlawed The establishment of the Free State brought the Sinn Fein movement to a virtual end The heirs of the movement, however, continued as the Irish Republican Army to agitate against the partition of Ireland into the republic and Northern Ireland

Sinnott, Edmund Ware (sĭ'nŭt), 1888–, American botanist, b Cambridge, Mass, grad Harvard (B A, 1908, Ph D, 1913) After doing botanical research in Australasia, he served as professor of botany and genetics at Connecticut Agricultural College (1915–28) and as professor of botany at Barnard College (1928–39) and at Columbia (1939–40) In 1940 he became professor of botany at Yale and in 1945 director of the Sheffield Scientific School there He was editor in chief (1926–32) of the *American Journal of Botany* and in 1948 was elected president of the American Association for the Advancement of Science His research has been concerned especially with plant morphology, morphogenesis, and genetics He is the author of *Botany Principles and Problems* (1923, rev ed, 1940) and *Principles of Genetics* (with L C Dunn, 1925, rev ed, 1950)

Sino-Japanese War see CHINO-JAPANESE WAR

Sinope (sĭnō'pē), ancient city and seaport, on the northern coast of Asia Minor and on the Sinope Peninsula, projecting into the Black Sea It is the modern Turkish town of Sinop (pop 4,995), with an excellent harbor, but lacking adequate land communications Ancient Sinope was founded by Milesian colonists in the 8th cent B C, was rebuilt after its destruction (7th cent B C) by the Cimmerians, rose to great commercial and political importance, and established numerous colonies on the Euxine shores One of its chief exports was cinnabar, which derives its name from Sinope The city fell (early 2d cent B C) to the kings of Pontus, whose capital it became The Romans under Lucullus captured it from Mithridates VI in the Third Mithridatic War (74–63 B C) and made it a free city Sinope was occupied and devastated by Pharnaces II but was restored by Julius Caesar Under the Roman Empire the city again reached great prosperity, which continued under the Byzantine Empire When the Byzantine Empire broke up in 1204, Sinope joined the Greek empire of Trebizond, but within a few years it was conquered by the Seljuk Turks, and its decline began Sinope was the birthplace of Diogenes

Sinsinawa (sĭn'sĭnuwu), unincorporated village, SW Wis, across the Mississippi from Dubuque, Iowa Samuel MAZZUCHELLI founded St Clara Academy for girls here c 1848

Sinton (sĭn'tun), town (1940 pop 3,770, 1947 estimated pop 4,700), co seat of San Patricio co, S Texas, N of Corpus Christi, settled c 1892, inc 1916 Long known as a shipping point for cotton and cattle, it has gained from handling oil and from general growth in the Corpus Christi region

Sintra, Portugal see CINTRA

Sinuiju (sēn'wē'jōō), Jap *Shingishu* (shēn-gĭ'shōō), city (1944 pop 118,414), N Korea, on the Yalu river, opposite Antung, China The city's rise dates from the opening in 1910 of a bridge across the Yalu Industries include paper milling and processing of soybeans Sinuiju was formerly called Wiju

Sinus Arabicus see RED SEA

sinus infection (sī'nŭs) Sinuses are spaces within bones of the body The paranasal or accessory sinuses of the nose are known as the ethmoidal, frontal, maxillary, and sphenoidal sinuses Infection in these paranasal sinuses may be caused by trauma (injury), allergy, or dietary deficiencies, the most common cause of infection in the sinuses of the head however, is acute rhinitis (inflammation or infection of the mucous membranes) Infection from teeth in the upper jaw sometimes spreads to the maxillary sinuses and thus to the nose Symptoms of sinus infection include a discharge of thick mucus from the nose and severe headache In addition to general nutritive and tonic measures, local applications of heat and astringents, irrigation, and sometimes surgery to produce drainage are employed in therapy

Sion (sĭ'ŭn), in the Bible **1** Same as Mt HERMON Deut 4 48 **2** Variant of ZION

Sion (syō), Ger *Sitten* (zĭ'tun), town (pop 9,363), capital of VALAIS canton, Switzerland, on the Rhone river It has a large hydroelectric station and many historic remains Sion has been an episcopal see since the 6th cent

Siouan (sōō'un), linguistic family of North America It is one of the most widely distributed of American Indian stocks, in historical times Siouan languages were spoken from the Gulf of Mexico to Saskatchewan, mainly on the Great Plains and the western prairies A relationship has been suggested between Siouan and Natchez-Muskogean and a further relation of both with Iroquoian and Caddoan (see also HOKAN) For members of the Siouan family, see LANGUAGE (table)

Sioux Center (sōō), town (pop 1,680), NW Iowa, between the Floyd and Rock rivers N of Sioux City, inc 1891 It is a farm trade center with several cooperatives There are many people of Dutch descent in the area

Sioux City, city (pop 82,364), co seat of Woodbury co, NW Iowa, at the junction of the Big Sioux and the Floyd with the Missouri, settled 1848, inc 1857 Second largest city in the state, it is a shipping, trade, and industrial center for an extensive agricultural and livestock area (including near-by states) and has railroad shops, foundries, brickworks and tileworks, stockyards, meat-packing plants, and flour mills Morningside College (Methodist, coeducational, 1894) and Briar Cliff College (Catholic, for women) are here A stock show is held annually in March Near by is a monument commemorating the death and burial in 1804 of Sgt Charles Floyd of the Lewis and Clark expedition The U S army maintained an air base here for training bomber pilots and crews during the Second World War

Sioux Falls, city (pop 40,832), co seat of Minnehaha co, SE S Dak, on the Big Sioux river and N of Sioux City, Iowa, founded 1857 Indians forced its abandonment in 1862, but with the establishment here of Fort Dakota in 1865, the city was resettled, it was incorporated as a village in 1877 and chartered as a city in 1883 It was named for the river falls, which furnish power Largest city in the state it is the commercial, industrial, and shipping center for an extensive agricultural area, with factories, warehouses, and meat-packing plants Sandstone ("Sioux Falls granite") is quarried near by Sioux Falls College (Baptist, coeducational, 1883), AUGUSTANA COLLEGE, the state school for the deaf, and the state penitentiary are here

Sioux Indians or **Dakota Indians,** related group of North American Indian tribes of the Siouan linguistic stock The Sioux or Dakota were divided into seven tribes—"the seven council fires" Wahpekute, Mdewakanton (who together with the Wahpekute formed the Santee), Sisseton, Wahpeton, Yankton, Yanktonnai, and Teton The Sioux were first noted historically in the *Jesuit Relation* of 1640 when they were in the general vicinity of Sault Ste Marie Their traditions indicate that they had moved there some time before from the northeast They were noted in 1678 by Duluth and in 1680 by Father Louis Hennepin in the Mille Lacs region in Minnesota Their migration had been in a southwesterly direction in the face of the hostile Ojibwa, who had been equipped with guns by the French In the mid-18th cent, having driven the Cheyenne and the Kiowa out of the Black Hills, the Sioux inhabited the N Great Plains and the western prairies—mainly in Wisconsin, Iowa, Minnesota, North and South Dakota, and up into the bordering provinces of Canada They then numbered at least 30,000 The Teton Dakota numbering some 15 000 were the most populous of the seven tribes, and the Oglala Sioux, the most numerous band of the Teton, numbered some 3,000 In relations with the white man all the divisions of the Sioux have essentially the same history The Sioux became friendly with the British after the fall of the French power and supported the British against the United States in the American Revolution and (with the exception of one chief, Tohamo or Rising Moose) in the War of 1812 The United States concluded peace treaties with the Sioux in 1815, 1825, and 1851 A portion of the Sioux under Little Crow rose in 1862 and horribly massacred more than 800 white settlers and soldiers in Minnesota, this revolt was suppressed but unrest continued In 1867 a treaty was concluded by which the Sioux gave up a large section of territory and agreed to retire to a reservation in SW Dakota before 1876 The discovery of gold in the Black Hills and the subsequent rush of prospectors brought on another outbreak led by such famous chiefs as Sitting Bull, Red Cloud, Rain-in-the-Face, Crazy Horse, American Horse, and Gall In this revolt occurred the famous last stand by Gen George A CUSTER, the Sioux were finally quelled by Gen Nelson A MILES after another outbreak caused by treaty grievances and the excitement incident to the appearance of a reputed Indian messiah (see GHOST DANCE) The Sioux are generally considered to represent one of the highest types of North American Indian, both physically and mentally They had a typical Plains area culture Today living on reservations in Minnesota, Nebraska, North Dakota, South Dakota, and Montana, they number some 46,000 See R H Lowie, *Dance Associations of the Eastern Dakota* (1913), G E Hyde, *Red Cloud's Folk* (1938), B O Nelson, *Land of the Dacotahs* (1946)

Sioux Lookout, town (pop 1,756), W Ont, on Pelican Lake and NW of Fort William It is a gold-mining and lumber center and distributing point for the surrounding area There are creosote works

Sioux Rapids, town (pop 1,056), NW Iowa, on the Little Sioux river and NW of Fort Dodge, platted 1858, replatted 1869

Siphmoth (sĭf'mŏth), unidentified place, S Palestine, associated with David 1 Sam 30 28

Siphnos (sĭf'nus), island (32 sq mi, pop 3,325), off S Greece, in the Aegean Sea W of Paros, one of the Cyclades In ancient times it was famous for its gold, silver, and iron mines

siphon (sī'fun, sī'fŏn), tube through which a liquid is lifted over an elevation by the pressure of the atmosphere and is then emptied at a lower level To start the siphon, air must be removed from it, as may be done by filling it with the liquid The elevation over which a siphon will lift a liquid is limited by the atmospheric pressure At sea level, water may be lifted about 34 ft The siphon must discharge at a lower level than the level of the liquid at the intake

Sippai (sĭ'pāī), variant of SAPH

Sippar (sĭpar'), ancient city of N Babylonia, on the Euphrates in present Iraq It was one of the capitals of Sargon and had a great temple to the sun-god Shamash Excavations begun in 1882 have yielded thousands of inscribed clay tablets It is probably the biblical SEPHARVAIM.

Siqueiros, David Alfaro (dävēdh' alfä'rō sēkä'rōs), 1898–, Mexican painter, b Chihuahua His career as a painter has always been associated with vigorous political and revolutionary activities He enlisted in the Batallón Mamá ("Baby's Brigade") in the Carranza army and at 17 was a staff officer As military attaché (1919–21) at the Mexican legation in Paris, he came into contact with stimulating contemporary artistic movements Upon his return to Mexico in 1922, he became a leader of the Syndicate of Technical Workers, Artists, and Sculptors and a founder of the magazine *Machete*, which expounded the principles of a new national "people's art" After 1924 he visited Moscow, Los Angeles, New York (where he established for a time the Siqueiros Experimental Workshop), Havana, and several South American cities In 1936 he served as an officer in the Spanish republican army Characteristic of the style of Siqueiros is a dynamic swirling brushwork and dramatic contrasts of light and dark His art is one of violent social protest He is famous as a technical innovator Much of his work is executed with pyroxylin paints on masonite Among his best-known works are frescoes in the National Preparatory School, Mexico city (1922–24), murals at the Choumard Art Institute and Plaza Art Center, Los Angeles (1932), murals at the Mexican school, Chillán, Chile (1942), and murals at the National Institute of Fine Arts, Mexico city (1945)

Siquijor (sēkēhôr'), island (130 sq mi , pop 59,507), one of the Visayan Islands, in the Philippine Islands. It is SE of Negros Its products are manganese, tobacco, hemp, and corn

Sirach (sī'rak), father of the author of Ecclesiasticus, which is sometimes called Sirach See the prologue of the book

Sirah (sī'ra) [Heb ,=departure], well, between Hebron and Jerusalem, where Abner was intercepted by Joab's emissaries 2 Sam 3 26

Siren (sī'ran), in Greek mythology, one of three sea nymphs They were the daughters of Phorcus or of Achelous They lived on a pleasant island and sang so sweetly that all who heard would draw near and be shipwrecked on the rocks The Argonaut heroes were saved from them by the music of Orpheus, and Odysseus escaped by tying himself securely to a mast and stopping the ears of his men It is said that the Sirens committed suicide when Odysseus escaped them Sirens are sometimes pictured as birds with the heads of women They resemble the German Lorelei

Siret or Siretul, river see SERETH

Sirion (sī'rēon), Sidonian name of Mt. HERMON Deut 3 9, Ps 29 6

Sirius (sī'rēus) or **Dog Star,** brightest star in the heavens It is a white star in the constellation Canis Major (the Great Dog) To the ancient Egyptians its rising was a sign of the beginning of the Nile flood To the Greeks and Romans it was a token of summer heat In 1844 BESSEL announced his belief that the irregularities in the proper motion of Sirius indicated the existence of an obscure companion star Later, T H SAFFORD designated the position where the companion might be found, and in 1862 Alvan G CLARK detected it in the position predicted It is a star of the 10th magnitude and is classed as a white dwarf star, of which one cubic inch is calculated to weigh about a ton The parallax of Sirius has been measured with considerable precision From this, the Dog Star is estimated to be about 8½ light years distant from the earth

Sirmium (sûr'mēum), ancient city of Pannonia The site is near Mitrovica, Yugoslavia It was unimportant until occupied by the Romans in the conquest of Pannonia, but later as the chief city of Lower Pannonia, a trade center, and a residence of high Roman officials, it was prominent, especially in the 3d and 4th cent A D

sirocco (sirō'kō) [Ital , from Arabic ,=eastern], name applied to an oppressive warm or hot southerly wind in Mediterranean lands, especially Italy The sirocco rises in the Sahara in North Africa, frequently bears with it much dust, causing haze, and gathers moisture as it crosses the ocean

Sir Roger de Coverley see ROGER DE COVERLEY

sisal hemp (sī'sl, sīs'l sēsäl') [from Sisal, former chief port of Yucatán], important cordage fiber obtained from the leaves of the sisal hemp plant, an extensively cultivated tropical AGAVE It is considered next to Manila hemp in strength and value and is used in making lariats The name sisal hemp is frequently given to fibers of various agaves, particularly henequen and the false sisal *Henequen* (hĕn'ukĭn) [from the Mexican name] has come to mean the species *Agave fourcroydes* as distinct from the true sisal, *Agave sisalina* Henequen is grown chiefly in Yucatán, where the production of the fiber, principal source of binder twine, is a major industry Ropes made of henequen were used by pre-Columbian Americans Henequen and sisal plants are typical agaves The false sisal of Florida, *Agave decipiens*, produces an inferior fiber and is distinguished by spiny edges on the leaves

Sisamai (sīsä'māī, sī'sùmā'ī), descendant of Judah. 1 Chron 2 40

Sisera (sī'sùrù). **1** Canaanite captain, defeated by Deborah and Barak and murdered by Jael Judges 4,5 **2** Family in the return to Palestine Ezra 2 53, Neh 7 55

Sisley, Alfred (alfrĕd' sēslā'), 1839–99, French landscape painter, b Paris, of English parents He studied under Corot, Gleyre, and Courbet One of the impressionist group, he knew Renoir, Manet, Degas, Monet, and Pissarro After his father's failure in business in 1870, Sisley lived modestly at Moret-sur-Loing and painted charming landscapes, which were only fully appreciated after his death Less daring than the works of Monet, Sisley's gentle, sunny paintings are often much happier He is well represented in many modern galleries *A River Bank* (Luxembourg Mus , Paris), *First Snow at Louveciennes*, and *The Banks of the Loing* are characteristic

Sismondi, Jean Charles Léonard Simonde de (zhäⁿ' sharl' lāônär' sēmôd' du sēsmôdē'), 1773–1842, Swiss historian, b. Geneva A member of the circle of Mme de Staël, he was a moderate liberal, and his political views colored his writings His most celebrated work is the *History of the Italian Republics in the Middle Ages* (16 vols , 1809–18, Eng tr , abridged and revised, 1906) Although this work is in many ways outdated and although it is marred by Sismondi's Calvinist bias against the Catholic Church, which he considered as chiefly responsible for the loss of liberty in the Italian states, the *History of the Italian Republics* is unique in its scope and has not been fully superseded by any other work Among Sismondi's other writings is a history of France Sismondi was among the first historians to appreciate the influence of economic factors on political and cultural developments

Sisseton (sī'sutun), city (pop 2,513), co seat of Roberts co , NE S Dak , W of Lake Traverse near the N Dak line, in a region of farms and lakes, inc 1892 It is the seat of the Sisseton Indian Reservation, opened to white settlement in 1892 Fort Sisseton to the west, established in 1864 for protection against Indians, was abandoned in 1888

sisterhood see MONASTICISM

Sisters of Charity, in the Roman Catholic Church, many independent communities of women Most of them owe their origin to the institute of St VINCENT DE PAUL, founded (1633) for works of mercy The foundation of Mother SETON in America was affiliated to this The Sisters of Charity are very active in parochial schools, hospitals, orphanages, and colleges They are often called Gray Sisters, where their habit (as in France) is of that color

Sistersville, city (pop 2,702), NW W Va , on the Ohio and NE of Parkersburg, settled 1802 Once a boom oil city, it still has several gasoline refineries

Sistine Chapel (sī'stēn) [for SIXTUS IV], celebrated private chapel of the popes in ROME, one of the principal glories of the Vatican It was built (1473) under Pope Sixtus IV Not especially remarkable for size or architecture, it is world famous for its decorations There are fine marble work and beautiful floor mosaics, but the paintings on walls and ceiling make its renown unique Frescoes by Perugino, Pinturicchio, Botticelli, Ghirlandaio, and other 15th-century painters decorate the side walls On altar wall and ceiling are the almost superhuman achievements of Michelangelo—the *Last Judgment* filling the end wall space and the series of Old Testament scenes, with statuesque figures of prophets and sibyls, spread across the vaulted ceiling They depict the stages of creation, man's temptation and fall, Noah and the Deluge, young David's victory, and other biblical events Another treasure of the chapel is its collection of illuminated music manuscripts in the archives of the choir

Sistova (sī'stuvu), Bulgarian *Svishtov* (svĭsh'tŏf), town (pop 12,949), N Bulgaria, on the Danube Here in 1791 the Austrians, allied with Catherine II of Russia in the second of her RUSSO-TURKISH WARS, made a separate peace with the Ottoman Empire Belgrade was restored to the Turks

Sisyphus (sī'sĭfus), in Greek mythology, king of Corinth He was the son of Aeolus, the husband of Merope, the father of Glaucus, and in some accounts the father of Odysseus Because of his disrespect for Zeus, he was condemned to eternal punishment in Tartarus, where he was required to push a heavy rock up a steep hill The rock, just as it reached the top, would slip from his fingers and fall back again

Sitka (sĭt'ku), town (pop 1,987), SE Alaska, on the west side of Baranof Island, in the Alexander Archipelago It was founded in 1799 as New Archangel by Aleksandr BARANOV and was destroyed by the Indians in 1802 After it was rebuilt, Baranov established his headquarters here, and changed the name to Sitka Here, in 1867, the United States officially took possession of Alaska from Russia, and Sitka remained the capital of Alaska until 1900. It has a fine harbor, which is dominated by Mt Edgecumbe on a near-by island to the west Some trade is carried on, while fishing, canning, and lumbering are the chief industries Here are the Sitka National Monument, the Sheldon Jackson School, the Russian Orthodox Cathedral of St. Michael (built 1844), and the Pioneers' Home for elderly Alaskans Since 1940 it has become a naval station. See C. L. Andrews, *Sitka* (3d ed , 1945)

Sitka National Monument, 57 acres, SE Alaska, est 1910 It preserves an old Indian stockade, where, in 1804, the Indians were decisively defeated by the Russians

Sitnah (sĭt'nù) [Heb ,=strife], one of Isaac's wells. Gen. 26 21

Sitten, Switzerland see SION

Sitter, Willem de (vĭ'lum dù sĭ'tûr), 1872–1934, Dutch astronomer and mathematician From a study of Einstein's general theory of relativity, he deduced (1917) the theory that celestial objects are receding or drawing closer together Further study led him to conclude that the universe is expanding. Although many scientists have accepted the theory of the expanding universe, most of them agree that the De Sitter model of the universe does not represent the present stage of expansion, but may predict a final stage His calculations of the rate of expansion are generally considered not to be in close agreement with experimental results De Sitter is known also for his photometric studies of the distribution of stars and for his research on the satellites of Jupiter He was professor from 1908 at the Univ of Leiden and in 1919 became director of its observatory His works in English include *Kosmos* (1932) and *The Astronomical Aspect of the Theory of Relativity* (1933)

Sittingbourne and Milton (sĭt'ĭngbôrn), urban district (pop 20,177), Kent, England, on the ancient Watling Street and on the old route of pilgrimage to Canterbury It is an agricultural market with paper, paint, and cement works

Sitting Bull, d 1890, Indian chief, Sioux leader in the battle of the Little Bighorn He rose to prominence in the Sioux warfare against the white men, and the resistance of the Indians under his command to being forced to settle on a reservation led to a punitive expedition In the course of this occurred the Indian victory on the Little Bighorn, where George A CUSTER and his men were defeated and killed Sitting Bull and some of his followers escaped to Canada, but returned (1881) on a promise of a pardon and were settled on a reservation In 1885 he appeared in Buffalo Bill's Wild West Show, but his championship of the Indian cause was not at an end He encouraged the Sioux to refuse to sell their lands, and he fostered the religion of the ghost dance He was shot by Indian police on a charge of resisting arrest See biographies by Stanley Vestal (1933) and U L Burdick (1941)

Sitwell, Edith (sĭt'wul), 1887–, English poet and critic Her poetry, strongly influenced by the French symbolists, includes *The Mother and Other Poems* (1915), *Gold Coast Customs* (1929), *Green Song* (1944), and *The Song of the Cold* (1948) *The Canticle of the Rose, 1917–1949* (1949) is a collected edition of her poetry *Façade*, a notable group of her poems set to music by William Walton, was first read by her in London in 1922 Important among her critical works are *Poetry and Criticism* (1925), *Aspects of Modern Poetry* (1934), *A Poet's Notebook* (1943), and a biography of Alexander Pope (1930) Other prose works include *Bath* (1932), *English Eccentrics* (1933), and *I Live under a Black Sun* (1937), a novel about Jonathan Swift See *A Celebration for Edith Sitwell* (ed by J G Villa, 1948) She collaborated on *Twentieth Century Harlequinade* (1916) with her brother Sir **Osbert Sitwell,** 1892–, poet and novelist His best poetry is in *Selected Poems* (1943) Among his other works are short stories in *Triple Fugue* (1924) and *Open the Door!* (1941), novels, including *Before the Bombardment* (1926), and, with Edith and Sacheverell Sitwell, *Trio* (1938) Upon his father's death in 1943, he became 5th baronet, he has written a remarkable family history in autobiographical form—*Left Hand, Right Hand!* (1945) *The Scarlet Tree* (1946), *Great Morning* (1947), and *Laughter in the Next Room* (1948) **Sacheverell Sitwell** (sashē'vurul, 1900–, poet and art critic, is the youngest of the family With Osbert he wrote *All at Sea* (1928) His work on the history of art includes *Southern Baroque Art* (1924), *The Gothick North* (1929), and *British Architects and Craftsmen* (1945) He also wrote biographies of Liszt and Mozart, a study, *Conversation Pieces* (1936), and *The Hunters and the Hunted* (1948) The unfinished *Dr Donne and Gargantua* (1930) is one of his several books of poetry See his *All Summer in a Day an Autobiographical Fantasia* (1926), R L Mégroz, *The Three Sitwells* (1927).

Siva see HINDUISM

Sivaji (sĭva'jē), 1627–80, leader of the MAHRATTAS The son of a Mahratta chieftain, from early childhood he was imbued with hatred of the Mogul empire, which controlled most of India From his capital at Poona and in the field he victoriously carved out a domain in central India In 1674 he was crowned the first Mahratta emperor.

Sivan (sēvän'), in the Jewish CALENDAR, the third (or ninth, depending upon the system of reckoning) month Esther 8 9, Baruch 1 8.

Sivas (sĭväs'), city (pop 44,856), central Turkey, on the Kizil Irmak. It is a trade center and has cement

and rug manufactures. There are copper mines near by Known as Sebaste, Sebastia, or Cabira in ancient times, it was an important city of Asia Minor under the Romans, the Byzantines, and the Seljuks Here in 1919 Kemal ATATURK began the nationalist revolution in Turkey Sivas has preserved many fine relics of medieval Moslem art

Sivash Sea (sēvĭsh') or **Putrid Sea,** Rus *Gniloye More* (gnyē'lŭyu mŏr'yu), salt lagoon, area c.1,000 sq mi, RSFSR, extending along the northeastern coast of the Crimea It is separated—except at the Genichesk Strait—from the Sea of Azov by the narrow land tongue of Arabat The Perekop Isthmus separates it from the Black Sea in the north The water has a salt content of up to 20 percent

Siwa (sē'wə), oasis, area c 35 sq mi, NW Egypt, in the Libyan Desert It was the seat of the temple and oracle of Zeus Amon [Zeus represented with the horns of Amon] Alexander the Great visited (and perhaps consulted) the oracle

Siwalik Hills (sĭwə'lĭk), N India and S Nepal, extending c 900 mi parallel to the S Himalaya range, of which they are foothills The Siwaliks contain vast fossil beds which are chiefly noted for mammalian remains

Siward (sū'ŭrd), d 1055, earl of Northumberland in England A Danish warrior, he probably came to England with King Canute At the behest of King Harthacanute in 1041 he ravaged Worcestershire and perhaps murdered Eadwulf of Northumberland, thereafter he was himself earl of Northumberland He supported Edward the Confessor against Earl Godwin in 1051 and in 1054 defeated Macbeth, king of Scotland, on behalf of Siward's nephew, later Malcolm III

Six Nations see IROQUOIS CONFEDERACY

Sixtus IV (sĭk'stŭs), 1414–84, pope (1471–84), an Italian (b near Savona) named Francesco della Rovere, successor of Paul II and predecessor of Innocent VIII He was made general of his order, the Franciscans (1464), and became (1467) a cardinal Sixtus was expected to be a reformer, but he was too much embroiled in political difficulties The struggle with the French monarchy over the control of the Church in France was complicated by Louis XI's efforts to replace Ferdinand I of Naples with a Frenchman A quarrel with Lorenzo de' MEDICI became critical after the PAZZI CONSPIRACY (1478), since an important instigator was Girolamo Riario, nephew of Sixtus, and the pope seems to have had prior knowledge of the plot (though probably he did not know that it involved an attempt at murder) He waged war on Florence afterward Though a reconciliation was patched up in 1479, Lorenzo joined Louis XI in threatening schism Relations with Italian states other than Florence were also unhappy Sixtus consented (1478) to the establishment of the Spanish Inquisition (see INQUISITION **2**), and then found his rebukes for illegal procedure and jurisdiction and his demands for moderation ignored He welcomed into the Papal States the Jews expelled from Spain The behavior of his favored nephews was disgraceful, a happy exception was Giuliano della Rovere (later Julius II) Sixtus IV's creations of cardinals also had a disastrous effect, as the old reformers died, they were mostly replaced with men named on political grounds, hence the reforming party in the Curia did not again make its influence felt until the election of Adrian VI Sixtus was an excellent administrator of the city and did much to improve and beautify Rome He was an important benefactor of the Vatican Library, and he founded the Sistine Chapel

Sixtus V, 1521–90, pope (1585–90), an Italian (b near Montalto) named Felice Peretti, successor of GREGORY XIII and predecessor of Urban VII He entered the Franciscans in early youth After ordination (1547) he became a famous preacher, and he was patronized by zealous leaders of the Catholic Reform, notably Cardinals Carafa (later Paul IV) and Ghisleri (later St Pius V) and St Philip Neri and St Ignatius of Loyola From 1556 to 1560 he was counselor to the Inquisition in Venice, but his ardor caused trouble and he was recalled In 1565 he went to Spain to look into the alleged heresy of the archbishop of Toledo and so seriously fell out with his companion, Cardinal Buoncompagni (later Gregory XIII), that they were enemies for life He was created cardinal (1570) by St Pius In the pontificate of Gregory, Cardinal Peretti lived in retirement, spending much time on an edition of St Ambrose As pope, he set about to bring order to the Papal States, which were at the mercy of brigands, and his methods, if violent, were successful He spent a vast amount of money on the city, rebuilding countless churches, beautifying streets, and erecting new buildings and monuments Sixtus left a tremendous surplus in the treasury, to do this he nearly ruined commerce in the Papal States. He reorganized the pontifical administration and the sacred college, which he set at the number of 70 Sixtus V is one of the greatest figures of the Catholic Reform

Sixtus of Bourbon-Parma, Prince, 1886–1934, son of Robert, last duke of Parma, and thus brother of ex-Empress Zita of Austria-Hungary. He studied at the Univ. of Paris and then made geographical and archaeological surveys in Africa and Asia On the outbreak of the First World War he enlisted in the Belgian army, after being rejected by France because of his Bourbon ancestry He was the intermediary of his brother-in-law, Emperor CHARLES I of Austria-Hungary, in the latter's effort to effect a separate peace with the Allies in 1917 After negotiations had broken down, the French government, in an effort to produce a rift between Austria and Germany, published a letter written by Charles to Sixtus

Sjaelland, Denmark see ZEALAND

Skagen (skä'gŭn), town (pop 6,446), N Jutland, Denmark, on the northern tip of the Jutland peninsula, between the Kattegat and the Skagerrak It is a port on the Kattegat and a rail terminus, and it has shipyards and fisheries Skagen dates from the 14th cent It is also known in English as the Skaw

Skagerrak (skä'gŭrăk), strait between Norway and Denmark, stretching NE from the North Sea and continued to the southeast by the KATTEGAT toward the Baltic Sea It is shallow on the Danish shore and deepens toward the Norwegian coast, its width is from 80 to 90 mi For the battle of the Skagerrak, see JUTLAND, BATTLE OF

Skagit (skă'jĭt), river rising in the Cascade Range, British Columbia, and flowing c 150 mi SW through Washington into Puget Sound Near the source three large power dams are planned by the city of Seattle, of these, DIABLO DAM is completed

Skagway (skăg'wā"), city (pop 634), SE Alaska, at the head of Lynn Canal and 75 mi NNW of Juneau, founded 1897 Lying in a mountain valley at the foot of White Pass, it was a jumping-off point to the Klondike during the gold rush of 1897–98 It is a port of entry, a trade and tourist center, and the coastal terminus of the White Pass and Yukon Railway

Skanderbeg see SCANDERBEG

Skane, Swed *Skåne* (skō'nu), historic province of extreme S Sweden, now administratively divided between MALMOHUS co and KRISTIANSTAD co Skane, the scene of many battles, was held by Denmark till 1658, when it was conquered by Charles X of Sweden There are prehistoric dolmens and tumuli and many medieval castles and manors

Skaneateles (skĭnēăt'lus, skă–), residential village (pop 1,949), central N Y, in the Finger Lakes region, at the north end of Skaneateles Lake and SW of Syracuse, settled before 1800, inc 1833 The town has a famous restaurant and manufactures containers

Skaneateles Lake, 15 mi long, W central N Y, one of the FINGER LAKES It is a source of water supply for Syracuse

Skaraborg, Swed *Skaraborgs län* (skä'rbôr"vus lĕn"), county (3,269 sq mi, pop 244,737), S central Sweden, between Vanern and Vattern lakes It is formed by the northeastern part of the historic province of Vastergotland Mainly agricultural, it also produces cement lumber, and textiles Chief towns are Mariestad (the county seat), Lidkoping, and **Skara** (pop 7,889), an ancient commercial center Skara is a Lutheran episcopal see, with an 11th-century cathedral

Skara Brae (skä'ru brā), Stone Age village, on the west coast of Pomona, Orkney Islands Scotland

skating, gliding along an ice surface on skates The earliest skates were made of bone, which gave way to wood, probably in the 14th cent These materials frequently proved fragile under strain, and wooden skates shod with iron came into use Skates made entirely of iron were introduced in the 17th cent Steel skates, with straps and clamps to fasten them to the shoes, were first made in the 1850s, and later came the skate permanently attached to the shoe Skating has long been a means of travel in countries with long, cold winters such as Norway, Sweden, Finland and Russia and especially in Holland, with its cold winters and canals There are references to skating in English books as early as the 12th cent By the 17th cent skating was not only a means of travel, but was also well established as a sport It was early introduced into America by European colonists and became a popular sport in the N United States and Canada Skating, besides being the essential skill in the game of ice HOCKEY, developed along two lines as a sport for exhibition—speed skating and figure skating In Europe many skating contests are held at Swiss resorts such as St Moritz, while in North America, Montreal, Lake Placid, and Sun Valley are well known as centers for skating events There are also many indoor skating rinks where ice is artificially frozen Since 1924 figure-skating contests for women and men as well as 500-, 1,500-, 5,000-, and 10,000-meter speed-skating events have become an important part of the Olympic winter sports Sonja HENIE did much to bring skating to wide public notice, and after she turned (1936) professional, the ice carnival became a favorite amusement in the United States See T D Richardson, *The Complete Figure Skater* (1948) and *Ice-Rink Skating* (1949) **Roller skating,** gliding on a hard, smooth, durable surface on skates with rollers or wheels, in recent years has become a popular adult sport Skates mounted on wooden rollers date from the 1860s, and soon wooden wheels replaced the rollers The ball-bearing skate wheel was invented in the 1880s The origin of roller skates is obscure (perhaps they were first used in Holland), but the sport became popular among children throughout the world When figure skating and dance movements were adopted from ice skating, roller skating gained a large adult following Numerous roller-skating rinks were built in the United States in the 20th cent, and today several roller-skating tournaments are held annually See R D Martin, *Roller Skating* (1944)

Skaw, the, Denmark see SKAGEN

Skeat, Walter William, 1835 1912, English scholar and philologist, grad Christ's College, Cambridge (B A, 1858, M A, 1861) He took holy orders in 1860, but illness cut short his church career Returning to Cambridge, he served as a lecturer in mathematics (1864–71), began the study of Old English, and was professor of Anglo-Saxon (1878–1912) In 1873 he founded the English Dialect Society, which brought about the *English Dialect Dictionary,* edited by Joseph Wright (1896–1905) Skeat was the author of a number of textbooks, contributed freely to learned journals, and led the way in the study of English place names Among the many works he edited are *Lancelot of the Lark* (1865), *Piers Plowman* (in several parts, preliminary, 1866, 4 parts, 1867–85), John Barbour's *The Bruce* (4 parts, 1870–89), Ælfric's *Lives of Saints* (2 parts, 1881 1900), and a seven-volume edition of Chaucer (1894–97) His important work, *An Etymological Dictionary of the English Language* (1882), was enlarged and revised in 1910

Skeena (skē'nu), river of W British Columbia, rising in the Stikine Mts and flowing 360 mi S and SW to Hecate Strait of the Pacific, just SE of Prince Rupert It is navigable for c 100 mi The Bulkley river is its chief tributary

skeet see SHOOTING

skeleton, name applied to the bony and cartilaginous supporting framework of humans and other vertebrates and also to certain supporting and protective structures of invertebrate animals In vertebrates it is chiefly an endoskeleton (inner skeleton), while among the invertebrates the skeleton is commonly an exoskeleton (an outer skeleton) In the mollusks it usually takes the form of a calcareous shell of either one valve (e g, in the conch, snail, and whelk) or two valves (e g, in the clam, mollusk, and oyster) Crabs and other crustaceans have an outer skeleton containing chitin Some microscopic forms of life, e g, the DIATOM and certain protozoa, have a skeleton The skeletal material of the coral polyp constitutes the coral used for jewelry and other purposes and contributes to the formation of coral reefs In the human being the skeleton is usually said to consist of about 200 bones (in addition to six small bones within the ears) Some of the bones that are separate in a child become fused in the adult skeleton The human skeleton (composed chiefly of BONE and CARTILAGE) is usually divided into axial and appendicular portions The axial skeleton consists of the bones of the head or SKULL and those of the trunk The bones of the trunk make up the SPINAL COLUMN, the sternum (or breast bone), and the ribs There are 12 pairs of ribs in both sexes, the first 7 pairs are joined at their anterior extremities to the sternum by cartilaginous tissue, the 8th, 9th, and 10th pairs are attached to the cartilage of the rib next above, and the two lowest pairs (sometimes called floating ribs) are unattached in front The appendicular skeleton is made up of the bones of the arms and legs

Skellefte, Swed *Skellefte älv* (shĕlĕf'tu ĕlv'), river of N Sweden, rising in the mountains on the Norwegian border and flowing 255 mi through Norrbotten and Vasterbotten to the Gulf of Bothnia

Skelleftea, Swed *Skellefteå* (shĕlĕf'tuō"), town (pop 12,782), Vasterbotten co, NE Sweden, on the Gulf of Bothnia and at the mouth of the Skellefte river The city owes its growth to the rich deposits of sulphides, pyrites, and copper ore in the vicinity which also contain quantities of arsenic, gold, zinc, silver, antimony, and lead Timber, tar, ores, and Lapp wares are exported, and there are smelting plants Although founded as recently as 1845, Skelleftea has significance as an old cultural center, and many archaeological finds have been made

Skelligs, rocky islands, off SW Ireland, in Co Kerry, comprising Lemon Rock, Little Skellig, and Great Skellig Climbing the rocks to the peaks of Great Skellig was part of an ancient means of penance, the island has ruins of a monastery and a lighthouse visible for 18 mi There is evidence that the Danes visited the isles in the 9th cent

Skelton, John, 1460?–1529, English poet and clergyman Tutor of the princes under Henry VII, he later became rector of Diss, Norfolk He wrote a long allegorical poem, *The Garland of Laurel* (1523), but is remembered for his satires directed largely against the clergy, such as *Bowge of Court* (1499), *Colyn Clout* (1522), *Why Come Ye Not to Court?* (c 1522), and a parody, "Philip Sparrow." He fre-

quently used a form of verse with short lines and insistent rhymes, sometimes repeated through several sets of couplets, these Skeltonics also employ alliteration Skeltonic verse has influenced several modern poets See studies by William Nelson (1939) and Ian Gordon (1943)

skepticism (skĕp'tĭsĭzm) [from Gr ,=to reflect, consider], philosophic position which denies the ability of man to know all and the ability of his reason to penetrate everything It is loosely defined as any questioning attitude Challenging the supremacy of reason, **skepticism** in an extreme form is logically untenable, because in denying the possibility of any truth, the skeptic denies the truth of his statement Manifesting itself early in the history of Western thought, the first important skeptical view was held by DEMOCRITUS, who saw sense perception as no certain guide to objective reality The Sophists (see SOPHIST) were the earliest group of skeptics, some, e g , PROTAGORAS, teaching the relativity of knowledge and others attempting to be absolute skeptics GORGIAS, for instance, held that nothing could be known, or if anything were known, it could not be communicated PYRRHO later held a similarly extreme position, seeing reality as inaccessible ARCESILAUS of the Middle Academy taught that certitude is impossible and only probable knowledge is attainable In the Renaissance skepticism is seen in the writings of Montaigne, CHARRON, and Pascal For Descartes skepticism was a device which allowed him to arrive at certain incontrovertible truths This approach is methodological skepticism and in itself is a refutation of complete skepticism In the 18th cent the philosophers of Enlightenment (Bayle, Voltaire) were not skeptics because they assumed the rule of reason or rationalism, of which skepticism is the especial enemy. HUME is one of the most famous of modern skeptics, though skepticism is not characteristic of his thought In his criticism of basic concepts he sharply limited man's supposed knowledge of substance, causality, and the self The greatest of modern skeptics is Kant, whose antinomies are an actual demonstration of skepticism because they show certain problems to be insoluble by reason As a result, pure modern Kantian AGNOSTICISM is closely linked in basis with skepticism The scientific method demands that all things assumed as facts be questioned and is, therefore, skeptical to a degree, but the positivism of many scientists, whether latent or open, is incompatible with skepticism, for it accepts without question the assumption that material effect is impossible without material cause SEXTUS EMPIRICUS wrote on ancient skepticism See J B Bury, *A History of Freedom of Thought* (1913), George Santayana, *Scepticism and Animal Faith* (1923), Bertrand Russell, *Sceptical Essays* (1928), M M Patrick, *The Greek Sceptics* (1929)

Skerries (skĕ'rēz), town (pop 2,306), Co Dublin, Ireland, on the Irish Sea and NE of Dublin It is a fishing village and a seaside resort

ski see SKIING

Skiatook (skĭtōōk', -tōōk'), town (pop. 1,496), NE Okla , N of Tulsa, settled 1886, inc 1907

Skibbereen (skĭ'burēn, -rēn'), urban district (pop 2,361), Co Cork, Ireland, SW of Cork and on the Ilen near its mouth It is an agricultural market, with farm-implement works, slate quarries are near by Victims of the famine of 1847 are buried near a ruined Cistercian abbey west of the town, which has the cathedral and the bishop's palace of the Roman Catholic diocese of Ross

Skiddaw (skĭd'ô), mountain, 3,054 ft high, Cumberland, England, in the Lake District near Keswick

Skidmore College, at Saratoga Springs, N Y , nonsectarian, chiefly for women, chartered and opened 1911 as Skidmore School of Arts with a gift from Lucy Skidmore Scribner, chartered as a college 1922. It offers liberal arts courses and training in fine and applied art, business and commercial science, home economics, music, nursing, and physical education. Men were admitted in 1946

Skien (shĕ'ĭn, shā'ŭn), city (pop 15,206), co seat of Telemark co , S Norway, SW of Oslo, in an iron- and copper-mining district It exports ores, lumber, and paper The city was incorporated in 1346 It was largely rebuilt after a fire in 1886 Ibsen was born here

Skierniewice (skyĕrnyĕvē'tsĕ), town (pop 17,666), Poland, between Warsaw and Lodz Chiefly a trade center, it has woodworking and electrical industries, glass and ceramics are produced in the vicinity

skiing (skē'ĭng) Skis—long, narrow, flexible runners with the curved front ends turned up and pointed—are used for propulsion (usually downhill) over tightly packed snow surfaces They are usually made of highly polished hickory, ash, or pine wood and the binding, which attaches the boot to the ski, is made of metal or leather To aid him in accelerating and in balancing, the skier uses a pair of poles which have leather strips on the top, sharp metal tips at the bottom, and circular rings about 4 in from the tips to prevent the pole from sinking into the snow Although the origin of skiing is obscure, it is known that skiing was a vital means of transportation in Scandinavia for many centuries Skis are thought to have been originally made from the smoothed-down bones of large animals. In the Middle Ages skiing was used by the Swedes in warfare, and after the 17th cent it was introduced to the countries of Central Europe which had abundant snowfall and slopes Skiing as an organized sport began in Norway in 1877 and was soon adopted by many countries The U S National Ski Association was founded in 1904 The same year Norwegians also helped organize a military school for skiing at Briançon for the French army Skiing as a military technique spread to other countries, and ski troops were widely used by the Finns in the Russo-Finnish War (1939–40) Skiing has been a major event in the winter Olympic sports since 1924 A skiing meet usually includes four types of events· the ski jump (each contestant is given two jumps), in which distance and form are the deciding factors, the flying kilometer, a straight downhill race, the *slalom*, contested on a sharply twisting course marked off by flags on a graded slope, in which the skier who completes the course in the least time wins, and the cross-country run, over a long course (ranging from 18 to 50 kilometers in Olympic games) in which the natural terrain and obstacles test the skier's durability and maneuverability Lake Placid, N Y , and Sun Valley, Idaho, are notable among the many American skiing centers, while in Europe Chamonix (France), Garmisch-Partenkirchen (Germany), St Moritz (Switzerland), and Oslo (Norway) are well known Famous skiers include Alf Engen, Lars Haugen and Anders Haugen, Hannes Schneider, and Torger Tokle See A H M Lunn, *A History of Skiing* (1927) and *Mountains of Youth* (2d ed , 1949), E H Jessup, *Skis and Skiing* (1929), Eddie Huber and Norman Rogers, *Complete Ski Manual* (1940), Frank Harper, *Skiing for the Millions* (1945) and *Night Climb* (1946), E F Little and J A Clark, *Fundamentals of Skiing* (1948)

skin, integument or covering of the body of humans and some other animals It is composed of two distinct layers The outer layer or epidermis consists of a number of layers of similar cells from which dried cells are continually shed Pigment in the epidermis and blood in the capillaries of the dermis give the skin its color The true skin, the dermis, lies beneath the epidermis, and it contains nerve endings, capillaries, sweat glands, hair follicles, and sebaceous glands The general functions of the skin are protection, heat regulation, secretion, excretion, and sensation. Disorders of the skin include birthmarks, e g , moles and small blood tumors (hemangiomas), warts, blackheads, and rashes caused by allergy or infectious disease, other skin conditions include hives, eczema, acne, boils, and ringworm

Skinner, Otis, 1858–1942, American actor, b Cambridge, Mass After his New York debut in 1879, he rose to popularity with Augustin Daly, Lawrence Barrett, and Mme Modjeska He won lasting fame in *Kismet* (1911) and was popular in such plays as *Blood and Sand* (1921) and *Sancho Panza* (1923) as well as in Shakespearian productions *The Last Tragedian*, his selections from Booth's correspondence, was published in 1939 See his *Footlights and Spotlights* (1924) and *Mad Folk of the Theatre* (1928) His daughter, **Cornelia Otis Skinner**, 1901–, American monologist and author, b Chicago, was educated at Bryn Mawr and the Sorbonne Her presentation (1937) of the novel *Edna His Wife* as a monologue displayed great versatility, and in 1946 she achieved success in the title role of *Lady Windermere's Fan* See her *Our Hearts Were Young and Gay* (with Emily Kimbrough, 1942) and *Family Circle* (1948), reminiscences of her early years.

Skobelev, Mikhail Dmitreyevich (mēkhŭvĕl' dumē'trēu vĭch skô'bĭlyĭf), 1843–82, Russian general He took part in the Russian expedition (1873) to Khiva and led the expedition to Kokand in 1875–76 The khanate of Kokand became the Russian province of Fergana, of which Skobelev was the first governor He distinguished himself (1877–78) in the Russo-Turkish War, and in 1881 he led the spectacular march to GEOK-TEPE, which resulted in the conquest of Russian Turkestan

Skobelev, Uzbek SSR see FERGANA

Skokie (skō'kē), residential village (pop 7,172), NE Ill , near Chicago, inc 1888, called Niles Center till 1940 Pharmaceutical supplies are made

Skokloster (skōōklō'stŭr), castle on Malaren lake, E Sweden It was built (1650) by Field Marshal Karl Gustav Wrangel on the site of a suppressed monastery, and it contains a fine collection of furniture, portraits, and tapestries and of arms of the Thirty Years War

Skoplje (skôp'ulyŭ), Macedonian *Skopje* (skôp'yu), city (pop 91,557), capital of Yugoslav Macedonia, S Yugoslavia, on the Vardar It is a manufacturing and trade center, the see of an Orthodox Eastern metropolitan, and the seat of a Macedonian university Dating from Roman times, Skoplje was the scene (1346) of Stephen Dushan's coronation as tsar of Serbia. Among the many ancient landmarks of the city are the Stephen Dushan bridge (said to date from the 15th cent) across the Vardar, the cathedral, the Turkish citadel, the fine mosques of Mustafa Pasha and of Sultan Murad (both 15th cent.), and the Oriental bazaar Under Turkish rule Skoplje was known as Üsküb.

Skovde, Swed. *Skövde* (shûv'dŭ), city (pop 16,237), **Skaraborg** co , S central Sweden, between Vattern and Vanern lakes It has a large military post. Known since pagan times, it was a medieval shrine of St Elin (Helen) of Skovde and received town privileges in 1526

Skowhegan (skouhē'gun), town (pop 7,159), co seat of Somerset co , central Maine, on the Kennebec above Waterville, settled 1771, set off from Canaan as Milburn 1823, renamed 1836 It has varied manufactures and is a supply point for vacationists Five miles north of the village is the resort Lakewood, site since 1901 of a well-known summer theater A boulder commemorates Arnold's passage through Skowhegan in 1775

Skriabin, Aleksandr Nikolayevich, see SCRIABIN.

skull, bony framework of the head, consisting of the cranial bones and the facial bones The bones forming the cranium are the occipital, parietal, temporal, frontal, ethmoid, and sphenoid The bones of the face are the lachrymal, nasal, palatine, inferior turbinates, maxillary (upper jaw), malar (zygoma or cheek bones), vomer, and mandible (lower jaw) The brain is encased in the bones of the cranium and communicates with the spinal cord through an opening, the foramen magnum, at the base of the skull At birth certain areas of the cranial bones are not completely ossified, these soft portions are known as fontanels There are six such areas which close at different ages, but all are normally completely ossified by the second year

skunk, carnivorous, nocturnal mammal of the weasel family The common or striped skunk of the United States, N Mexico, and Canada has thick black fur with two white stripes on the back It is usually a little over 2 ft long including the long, bushy tail Because it destroys many insect pests it is protected in many states Its ability to spray from the vents under the tail an oily liquid with an offensive, persistent odor protects it against most enemies In the North the animals sleep through the winter The small, slender spotted skunk (*Spilogale*) has several white stripes or lines of spots It inhabits parts of the SE and central United States, Mexico, and Central America In the fur trade it is of less value than the striped skunk The hog-nosed skunk (*Conepatus*) ranges from the SW United States through most of South America

skunk cabbage, early-spring-blooming, rank-odored perennial (*Symplocarpus foetidus* or *Spathyema foetida*) of wet places of E North America and Asia A low, cowl-shaped spathe, usually reddish mottled, envelops the dense head of florets A cluster of large leaves appears later The plant is said to contain a poison destroyed in cooking, medicinal use has been made of the root In the West a related plant (*Lysichiton camtschatcense*) is called yellow skunk cabbage

Skutari, Turkey see SCUTARI

sky, apparent dome over the earth, background of the clouds, sun, moon, and stars The blue color of the clear daytime sky is the result of the selective scattering of light waves by the minute particles of dust and vapor in the earth's ATMOSPHERE The longer rays (the reds and yellows) pass through most readily, while the shorter rays (the blues) are scattered The smaller the dust particles, the fewer will be the rays scattered, and therefore the purer will be the blue An excess of dust and especially of large dust particles causes scattering of many rays besides the blue, and the sky "fades" and becomes whitish or hazy The sky is clearest when and where there are the fewest and smallest dust particles—in the morning, in the winter, after a rain, from a mountain, or over the ocean Leonardo da Vinci experimented with light and attempted an explanation of the sky's blue color The work of Sir Isaac Newton, Lord Rayleigh, and other physicists on light and its behavior made it possible to understand rainbows, sky color, mirages, and other atmospheric phenomena.

Skye (skī), island (with surrounding islets 428,998 acres, pop 10,407), off NW Scotland, in Inverness-shire, one of the Inner Hebrides Separated from the mainland by the Sound of Sleat, the Inner Sound, and Loch Alsh, it has an irregular coast line Many of its lochs are overlooked by lofty, sheer precipices Inland the Cuillin Hills rise to 3,309 ft. Only a small part of the island is cultivable Sheep and cattle raising and fishing are the chief industries The climate is mild, and the island is a resort in spite of its heavy rainfall Portree, the capital, on the east coast, is the leading town. At Dunvegan, on the west coast, is the castle of the Macleod clan, close by at Boreraig the MacCrimmons, pipers to the Macleods, once had a bagpiping school At the north end of the island are the ruins of Duntulm Castle, belonging to the rival clan, the Macdonalds. Near here is the grave of Flora Macdonald. The cave which sheltered Prince Charles Edward is near Portree.

Skye terrier: see TERRIER.

skylark, Old World bird famous for its spirited, melodious song delivered as it soars into the air. Its

plumage is protectively colored—the upper parts brown streaked with black and the under parts light with black streaks on the breast In Europe the bird is used for food Several unsuccessful attempts have been made to establish it as a permanent resident in America Often celebrated in English literature, it is the subject of Shelley's "To a Skylark"

Skyros (skĕ'rŏs, skī'rus) or **Scyros** (sī'rus, skĕ'rŏs), island (81 sq mi , pop 3,395), off central Greece, in the Aegean Sea, E of Euboea It is the largest of the Northern Sporades Wheat, figs, and olives are grown here. There are marble, chromite, and iron deposits. Fishing and sponge diving are important sources of livelihood In ancient legend Thetis here concealed her son Achilles (in woman's attire) among the daughters of Lycomedes; here Neoptolemus, son of Achilles by Deidamia, was reared, and here Theseus was killed by Lycomedes Skyros was conquered in 469 B C by the Athenians under Cimon, who discovered what were said to be Theseus' bones and conveyed them to the Theseum in Athens Rupert Brooke, who died in the Gallipoli campaign of 1915, was buried on Skyros

skyscraper, building of great height, constructed on a steel skeleton, a purely modern and almost exclusively American type of structure The many mechanical developments of the last quarter of the 19th cent contributed to its evolution The development of the hydraulic passenger elevator, of which the first installation took place in New York city in 1857, made possible a maximum height of 18 to 20 stories In 1887 the first electric elevator was installed, and with the eventual perfecting of high-speed electric elevators skyscrapers were free to attain any desired height The earliest tall buildings were of solid masonry construction, with the thick walls of the lower stories usurping a disproportionate amount of floor space The elevator, by making greater heights possible, thus revealed the need for a form of construction which would permit thinner walls through the entire height of the building Architects began to use cast iron in conjunction with masonry, and this was followed by cage construction, in which the iron frame supported the floors and the masonry walls bore their own weight The next step was the invention of a system in which the metal framework would support not only the floors but also the walls This appeared in the Home Insurance Building in Chicago, designed (1883) by William Le Baron Jenney, the first building in the world which employed steel skeleton construction and which embodied the general characteristics of a modern skyscraper A number of similar buildings then followed in Chicago, which was thus the birthplace of the early skyscrapers In the 1890s the steel frame was developed into its final form, that of a completely riveted skeleton bearing all the structural loads, with the exterior or thin curtain walls serving merely as an enclosing screen In 1892 the New York Building Law made its first provisions for skeleton constructions There followed a period of numerous experiments in devising efficient floor plans and in seeking a satisfying architectural form The Flatiron Building was constructed in 1902, the Metropolitan Life Insurance Tower in 1909, and the Woolworth Building, 60 stories high, by Cass Gilbert, in 1913 The last, based upon Gothic design, was the first instance of a unified and aesthetically satisfying solution and marks the end of the embryonic period of skyscraper design In 1926 the New York Telephone Company Building, by McKenzie, Voorhees, and Gmelin, achieved a definitive form for a modern tall building freed from all historical motives of design Its emphasis upon simple, expressive mass set a practice followed by practically all subsequent skyscrapers In 1916 New York city adopted the Building Zone Resolution, establishing legal control over the heights and arrangements of buildings and over the elements relating to health, fire hazard, and the assurance of adequate light and air to buildings and streets Height regulations and the progressive setting back of the exterior walls above a determined height gave rise to the setback buildings, whose stepped profiles characterize the contemporary American skyscraper With the complex structural and planning problems solved, there remains the need for satisfactorily integrating skyscrapers with the best interests of the community, including hygiene, transit, and economy The proper placing and regulating of lofty structures has become of prime importance in modern planning of cities Among the highest New York skyscrapers are the Empire State (102 stories, 1,250 ft high), Chrysler (77 stories, 1,046 ft high); Rockefeller Center (70 stories, 850 ft high), 60 Wall Tower at 70 Pine St (67 stories, 950 ft high). See W. A. Starrett, *Skyscrapers and the Men Who Build Them* (1928), A. P. Morgan, *Story of Skyscrapers* (1934).

skywriting, advertising modium in which aircraft, through the controlled emission of thick smoke, spell out trade names and sales slogans in the sky The technique was first developed in 1922 when J. C. Savage, a pioneer English airman, wrote the name of a British newspaper in the sky over Epsom Downs. Patents were secured and skywriting enterprises started in England, France, the United States, and elsewhere Letters a mile high and a mile wide can be formed by the movements of specially built planes equipped with the smoke-emitting apparatus Engine heat is used to turn light paraffin oil into white smoke, which is exhausted under pressure The introduction of other chemicals (the formula of the oil compound is patented) enable the smoke particles to adhere together until the message as a whole can be read by persons looking up from the ground The "writing" is done at heights of from 10,000 to 17,000 ft and is only feasible in cloudless skies in which there is no more than a moderate wind Contracts are frequently written for skywriting over a designated place, e g , a race track, fair, bathing beach, or carnival, and for a specified day and time Should the elements not favor the arrangements, the agreement expires Skytyping, the name given to a more modern form of skywriting, involves the use of from five to seven planes They fly rigidly parallel and equidistant courses as nearly in perfect unison as possible The message to be written in the sky is arranged on a master control panel, and as the planes fly abreast electronic signals cause the smoke-emission control in each plane to release puffs of smoke accordingly Other advertising devices associated with skywriting are the flashing of messages or designs in lights on plane wings and on the sides of lighter-than-air airships during darkness and the towing of signs during daylight

Slade, Felix, 1790–1868, English art collector and philanthropist He endowed the Slade professorships of fine arts at Oxford and Cambridge universities and at University College, London, which also received six scholarships in art His fine collections of glass, books, and engravings were given to the British Museum

Sladek, Joseph Vaclav, Czech *Joseph Václav Sládek* (yō'zĕf vätz'läf slä'dĕk), 1845-1912, Czech poet and translator, studied science at the Univ of Prague He came to the United States in 1868 and lived here for two years Later he taught English in Prague He translated much English and American poetry into Czech, and his translation of Shakspere is still standard Sladek's own lyrics are simple, in the style of folk poetry, and express his personal emotions

slag see BASIC SLAG and METALLURGY.

slaked lime see LIME

slander see LIBEL AND SLANDER

slang, novel, ostensibly careless, more or less humorous language In colloquial standard English, slang has been a constant feature for more than a century, mainly consisting of faddish tricks of vocabulary Some of the expressions pass into the ordinary vocabulary, as "O K" Slang is related to preciosity, which is overelegant where slang is violent, like preciosity it has had literary use, as in the Anglo-American sports pages Contrary to a widespread belief, slang shares the taboos and euphemisms of ordinary speech, thus American slang always provides words for death See studies of H L MENCKEN, especially in his *American Language*

Slankamen (slăng-kä'mĕn), village, Serbia, Yugoslavia, at the confluence of the Danube and the Theiss, c 25 mi NW of Belgrade Here in 1691 the imperial army under Louis of Baden inflicted a decisive defeat on the Turks The Turkish grand vizier, Mustafa Kuprili, was slain in the battle The village was also known as Salem Kemen and Szalankemen

slate, fine-grained rock formed by the metamorphism under pressure of clayey and silty sediments and characterized by the property of splitting into extremely thin layers The direction of this slaty cleavage, which is presumably at right angles to the source of the pressure, is parallel to the longer axis of the mineral particles which have been rearranged under the pressure, and the cleavage planes often cut across the bedding planes Slate is intermediate in hardness between clay rocks (e g , shale) and mica schists Its characteristic color is a gray blue. The better grades are used for roofing

Slater, Samuel (slā'tŭr), 1768–1835, American pioneer in the cotton textile industry, b Derbyshire, England As an apprentice and later a supervisor in the mill of Jedediah Strutt, a partner of Richard ARKWRIGHT, he gained a thorough knowledge of all the cotton-manufacturing machinery then in use Drawn by the bounties offered for the encouragement of the textile industries in America, he left England in disguise, since the emigration of textile workers was forbidden, and reached New York in 1789 In 1790 he went to Providence, R I , where he met Moses Brown and contracted to reproduce Arkwright's complicated machinery for the firm of Almy and Brown, to which his name was soon added This he accomplished by a remarkable feat of memory, because all attempts to obtain English models, by purchase or smuggling, had been in vain The first mill was replaced by another in 1793 which still stands, at near-by Pawtucket In 1798 he formed an additional partnership with his relatives by marriage, called Samuel Slater and Company, and built another mill near Pawtucket. He later established mills at Slatersville (now in the town of North Smithfield), R I , and elsewhere in New England, becoming very prosperous He exercised a strict but paternal supervision over his employees and was a leader in the Sunday-school movement See W R Bagnall, *Samuel Slater and the Early Development of Cotton Manufacture in the United States* (1890), Perry Walton, *The Story of Textiles* (1912, new ed , 1936).

Slater, city (pop 3,070), N central Mo , near the Missouri river E of Kansas City, in a livestock and grain area

Slatersville, R I see NORTH SMITHFIELD

Slatin, Rudolf Carl (rōō'dōlf kärl' slä'tĭn), known as **Slatin Pasha** (pä'shä), 1857–1932, Austrian adventurer in British and Egyptian service Recommended to C G Gordon by Emin Pasha, Slatin became governor of Dara (1879) and governor general of Darfur (1881) He failed to receive adequate support against the rebellious Arabs in S Darfur in the Mahdist War and in 1883 was compelled to surrender to the Arab leader, the Mahdi Mohammed Ahmed He remained a prisoner under degrading conditions until 1895, when he managed to escape to Cairo Slatin then served as inspector general of the Sudan (1900–1914) During the First World War he superintended the prisoners-of-war section of the Austrian Red Cross He wrote *Fire and Sword in the Sudan* (Eng tr , 1897) and was ennobled by the Austrian emperor in 1906

Slatington, industrial borough (pop 4,062), E Pa , on the Lehigh river between Mauch Chunk and Allentown, settled 1737, inc 1864 Slate quarrying on a large scale is done here Potatoes are produced as a staple crop

Slaton (slā'tun), city (pop. 3,587), NW Texas, SE of, and near, Lubbock on the Llano Estacado It is a railroad division point and a processing center in a farm area

slaughterhouse see ABATTOIR and MEAT PACKING

Slaughterhouse Cases. In 1869, the Louisiana legislature, chiefly in order to protect the health of the people of New Orleans, granted a 25-year monopoly to a slaughterhouse concern in that city. Other slaughterhouse operators thus restrained from prosecuting their trade brought suit, principally on the ground that they had been deprived of their property without due process of law in violation of the FOURTEENTH AMENDMENT The U S Supreme Court, with Justice Samuel F Miller rendering the majority decision, decided against the slaughterhouse operators in 1873 It was held that the Fourteenth Amendment must be considered in connection with the original purpose of its framers, i e., to guarantee the freedom of former Negro slaves Though the amendment could not be construed to refer only to Negro slavery, yet its scope as originally planned did not include rights such as those in question A distinction was drawn between citizenship of the United States and citizenship of a state, and it was held that the amendment did not intend to deprive the state of its legal jurisdiction over the civil rights of its citizens The restraint placed by the Louisiana legislators on the slaughterhouse operators was declared not to be depriving them of their property without due process of law The decision was a conservative one, in that it declared the old police power of states intact and did not seize the opportunity to extend Federal power See Conyers Read, ed , *The Constitution Reconsidered* (1938)

Slav. see SLAVS

Slave, river see GREAT SLAVE LAKE.

Slave Coast, coast bordering the Bight of Benin of the Gulf of Guinea, W Africa It was the principal source of slaves from W Africa from the 16th to the 18th cent

Slave dynasty see DELHI SULTANATE

slavery. The vast extent in geography and in time of the human institution of slavery makes general remarks about it dangerous and to a greater or less extent untrue, and the intrusion of the moral element into the social and economic situation makes the problem even more difficult to discuss The institution is known among many groups of low material culture as in the Malay Peninsula and among many of the North American Indian tribes Commonly it is said that primitive pastoral tribes had and have little slavery, which appeared in full form only with the development of agricultural economy, there are numerous exceptions to this theory, and it would seem that domestic slavery and sometimes concubine slavery appeared among the nomadic Arabs, among Indian tribes primarily devoted to hunting, and among the seafaring vikings It is generally agreed that usually the origin of slavery was connected with warlike operations by a tribe and with the subjection of a conquered tribe Slavery as a result of debt is, however, seen in very early times, and African tribes have the custom of putting up wives and children as hostages for an obligation, if the obligation is unfulfilled, the hostages become permanent slaves The institution is of incalculable antiquity, and appears in the laws of Hammurabi Its form and nature varied greatly in ancient society It seems to have been common in the Tigris-Euphrates civilizations and in ancient Persia, but was not so vital a part of early Egyptian

economy The institution was familiar to the ancient Hebrews, as is testified by passages in the Bible Slavery was an established institution in the Greece of Homer's time and a large portion of the population of the Greek city-states in later days were of the servile class There were domestic slaves, agricultural slaves, and artisans and workmen In Greece, though not quite so commonly as in Asia Minor, there were also public slaves, such as those belonging to the temples In general it is thought that slaves in the unified life of the city-state were well treated, though the system was subject to abuses as it has been every where, the economic picture Hesiod paints is not a pleasing one, and the life of the Spartan helots was one of sheer oppression The slaves were in law regarded as property Manumission was common, and the problem of the freedman appeared, his social status and the process of becoming a free man were beset with difficulties Slavery in the early times of Roman history seems to have been of the same type as in Greece, but with the expansion of the Roman state and the victorious wars of Rome a more or less new form of slavery was introduced, the type that may be called "estate" or, anachronistically, "plantation" type, where agriculture was pursued by large numbers of slaves in a sort of impersonal relationship to the landowner, who had practically absolute power over them The growing wealth of Rome led to an increase in domestic slaves and the servile class grew to great numbers They were employed in the theater, in gladiatorial combats, and, to some extent, in prostitution Most of the slaves were foreign and some were highly educated and were employed as instructors Having a large retinue of slaves became one of the prime marks of luxury, and exotic, especially Asiatic, slaves were in great demand The conditions of agricultural and, frequently, of all sorts of slavery were brutal The exploitation of conquered provinces spread and increased the evils of slavery With a continual new supply of slaves, manumission was common and freedmen became a significant factor in the Roman social scheme The slave, of course, had almost no legal status, though custom did restrain the owners somewhat, the slave could testify against his master only in a very limited number of serious crimes (adultery, incest, and later lese majesty) As the Roman expansion approached saturation point, conditions of slavery improved somewhat The introduction of Christianity is generally thought to have had little effect, though it did mitigate conditions by inculcating principles of humanity and it did give hope and courage to the long-oppressed classes A gradual change in economic life set in and resulted in the practical disappearance of the agricultural slaves, who became, to all practical purposes, one with the *colons* Thus process helped prepare the way for the manorial economy in which the agricultural slave became the SERF (see also VILLEIN) The semifreedom of serfdom was the dominant theme in the Middle Ages, though domestic slavery (and, to some extent, other forms) did not disappear The Church in general encouraged manumission, but there were many slaves attached to churchmen and church property Sale into slavery was an extreme punishment for serious crimes Slavery continued to be prevalent in the Byzantine Empire and the pirates of the Mediterranean continued their timeworn if not time-honored custom of enslaving the victims of their raids Somewhat less important was the enslavement resulting from the expeditions of the Norse sea raiders and of the pirates who sporadically appeared about all the coasts of Europe Islam, like Christianity, accepted slavery and it became a standard institution in Moslem lands One of its most bizarre aspects there was in the eunuch guardians of the harems, eunuchs had been widely known in Grecian, Roman, and especially Byzantine times, but it was among the Moslems and in the Orient that they were to survive longest In the Orient, slavery was rooted in the first historical developments, was commonly accepted as fixed until the contemporary era, and is still so, to some extent In Western Europe, outright slavery had largely disappeared by the later Middle Ages though it still remained in such manifestations as the use of slaves on galleys —a custom to be perpetuated in penal servitude until the 20th cent In Russia slavery persisted somewhat more than in the more westerly countries, and indeed the serfs were pushed into the classification of slavery by Peter the Great The Moorish conquests and later the Turkish conquests in Europe tended to swell the number of slaves greatly, and this process was complemented by Christian reconquest of some of the lands A revolution came in the 15th and 16th cent in the institution of slavery The explorations of Portuguese navigators on the African coast resulted in the exploitation of the African Negro as a slave, and for nearly five centuries the visits of slave raiders to the African coasts were to be a lucrative and important business, not the less notable because of its appalling brutality Although shortly after 1440 Negroes were brought back to Portugal and subsequent importations were large enough to change distinctly the ethnography of that country, it was not in Europe that Negro slavery was to be profitable and widespread, but in the New World, where European exploitation began at the end of the 15th cent At first the slaves of the Spanish and the Portuguese in the West Indies and Central and South America were the native Indians, but the aborigines of the West Indian islands were unable to endure the rigors of the system of slavery or of the forced labor in the *repartimiento* and the ENCOMIENDA, which persisted in spite of valiant efforts of religious reformers (notably Bartolomé de Las Casas) The Indians were exterminated, and Negroes were imported to replace them They proved to be profitable laborers in the hot Carribean islands and the lowlands of the South American mainland In the colder highlands Indian slavery or quasi-slavery continued, and long after the first introductions of Negroes the *paulistas* in Brazil continued their slave raids against the Indians of the Brazilian hinterlands, but Negro slavery gradually became dominant In the British settlements on the Atlantic coast Negroes were first introduced in 1619, when the first shipload arrived in Virginia The raising of staple crops—coffee, tobacco, sugar, rice, and much later cotton (in the South of the United States)—and plantation economy made Negro slavery particularly valuable in the Southern colonies of America, in the West Indies, and in Brazil The British, the Dutch, the French, the Spanish, and the Portuguese all engaged in the slave traffic The British traders were the most active and by the *asiento* they gained the right to import slaves into the Spanish colonies The number of Negroes in the colonies increased until in some (notably French Saint-Domingue, the modern Haiti) they constituted a great majority of the population The growth of humanitarian feeling in the "age of enlightenment" in the 18th cent, the spread of the doctrines of Rousseau and others, the increase of democratic sentiment—all led to a growing attack on the slave trade The French Revolution had a great effect not only in the spread of agitation for the "rights of man" but more directly in the risings of Negroes and mulattoes against white dominance in Saint-Domingue and the establishment of Haitian independence There was much humanitarian sentiment for liberation of the slaves in America, and when the Constitution of the United States was drawn up the status of the slave and the prohibition of the slave trade were discussed, stipulations concerning slavery directly were consciously omitted, and Congress was prohibited from abolishing the slave trade for 20 years In the next decade, British humanitarians who had incorporated the abolition of slavery into their conception of Christianity labored successfully to outlaw (1807) the British slave trade These same men, especially William WILBERFORCE, Thomas CLARKSON, Zachary Macaulay, and Baron Brougham (Henry Peter BROUGHAM), continued to work for the abolition of British slavery, which was finally effected in the West Indies in 1833 However, according to a recent study (see Eric Williams, *Capitalism & Slavery*, 1944) the British, in abolishing slavery, were primarily motivated by economic, not humanitarian, interests While the institution produced great wealth under the mercantilist system, it became unprofitable with the rise of industrial capitalism, which displaced mercantilism early in the 19th cent At any rate, the abolition legislation of 1833 was followed by the gradual extermination of slavery in all lands under British control, principally by the device of invalidating the legality of slavery and removing its legal safeguards, sometimes also by recompensing the owners Already several of the South American nations in gaining independence from Spain had broadened their democratic principles to include absolute prohibition of slavery In the United States, slavery had proved unprofitable in the Northern states and early in the 19th cent had disappeared in them Its abolition had been hastened by the work of the Quakers, who, as in England, were in general staunchly opposed to slavery In the South, however, slavery came to be an integral part of the plantation system (especially after the introduction of the cotton gin in 1793), which was dominant in the economic and social fabric It is true that the whole system grew somewhat obsolescent in the less fertile eastern lands, with the exhaustion of the staple crops of tobacco and rice (to a much less extent), and that in the lower South the development of sugar and cotton gave some signs of not being really permanent Some schools also hold that on the whole the slaves were humanely treated and that their position was in many ways much better than that of the Mexican peons (see PEONAGE) and their own condition immediately after emancipation There was, however, another important factor, which existed only to a much less degree in Latin-American countries the feeling of race solidarity on the part of the whites that led to a contempt for the Negro and the classification of all who had any drop of Negro blood with those who were entirely black. In the North humanitarian and social principles led to the appearance of the ABOLITIONISTS They knew little of the actual conditions in the South, but it must be remembered that they were fighting not for economic reform but for a quasi-religious ideal and for democracy The Northern man of culture in general tended to regard slavery as an unmitigated evil The small Northern farmer also feared slavery with an unreasoning fear The South, anxious to conserve its system, drifted into a bellicose defense, which was hardened by such things as the Southampton insurrection of 1831 (see TURNER, NAT), the troubles over fugitive slaves, and the very active propaganda against the South The question, involving the very existence of the Southern society as then organized, was the dominant one in U S. history from 1830 to 1860 The political expression of the struggle was largely an attempt on the part of the South to maintain legislative guarantees of the system against its enemies in the North —not only the abolitionists but the less passionate antislavery forces, men who merely wished to prevent any threat of proslavery dominance and wished to guarantee freedom as far as was feasible The chief question was a theoretical one, the right of extension of slavery in the Western territories This first became important in 1820 and it continued so All the statesmen of the day sought an answer Henry CLAY, the great compromiser, Daniel WEBSTER, John C CALHOUN, Stephen A DOUGLAS, who proposed SQUATTER SOVEREIGNTY to decide the free or slave status of territories, and the uncompromising antislavery men such as Charles SUMNER and William H SEWARD. The great compromises—the MISSOURI COMPROMISE, the COMPROMISE OF 1850, and the KANSAS-NEBRASKA BILL—were ultimately ineffective Sectional opposition, which involved much broader questions than slavery, including the constitutional issue of STATES' RIGHTS, grew more passionate and the two sections became more and more hostile The OSTEND MANIFESTO and the proposed annexation of Cuba, the FUGITIVE SLAVE LAWS, the operations of the UNDERGROUND RAILROAD, the furor caused by the DRED SCOTT CASE, the WILMOT PROVISO—all showed the temper of the time Sporadic armed conflict in "bleeding" Kansas and in the Harpers Ferry raid of John BROWN boded ill The struggle became clear-cut as the REPUBLICAN PARTY was formed with a definite antislavery platform In the victory of the Republican presidential candidate, Abraham LINCOLN (1860), the South saw a threat to Southern institutions, and the Southern states in an effort to secure independence turned to SECESSION and formed the CONFEDERACY The CIVIL WAR followed, and the victory of the North meant the end of slavery in the United States Lincoln's EMANCIPATION PROCLAMATION was followed by much effective legislation, especially the Thirteenth Amendment to the Constitution In other countries also emancipation of slaves was a serious problem, but never to such an extent as in the United States, chiefly because the question of race and "white supremacy" was nowhere else so important In Brazil the opposition of the planters was strong and it was only after a long series of rather ineffective measures that the slaves were emancipated in 1888 Revulsion to that action helped to bring on the revolution of 1889 The slave trade on the African coasts was a serious problem in the 19th cent, though the prohibition of the foreign slave trade of the British possessions, of the United States (1808), and elsewhere helped to do away with the horrors of the "middle passage" (the Africa to America leg of the old "triangular" trade route) In later years the trade, now mostly surreptitious, was prosecuted on the east coast of Africa, the market being in Moslem lands The Berlin Conference in 1885 produced the Berlin Act which bound the more important Moslem potentates to act against the slave traffic This was supplemented by the Brussels Act of 1890, to which 18 states were signatory The emperor of Abyssinia (Ethiopia) was unable to prevent traffic from that land to Arabia and a rather brisk trade went on over the Red Sea International scandals occurred from time to time with regard to forced labor; two notable ones concerned the Belgian Congo and the Putumayo region of Peru (Indian servitude) The League of Nations undertook a world-wide study of slavery with a view to its abolition and accomplished much good, especially by the convention of 1926 Slavery continued to exist in Central Asia and, apparently, though usually in disguised forms, in parts of China It remained also in Arabia and, despite increasingly successful efforts to abolish it, in various parts of Africa, especially Liberia and Ethiopia, where its existence provided grist for Mussolini's propaganda mill when he invaded that country in 1935 In recent years, the USSR has been denounced by the Western powers for its forced labor camps (also used by the Nazi Germans) in which unknown numbers of workers are held in virtual slavery See also NEGRO and the bibliography to that article See W. 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Slavic (slä'vïk, sla'), subfamily of Indo-European languages See LANGUAGE (table)

Slavkov u Brna, Czechoslovakia see AUSTERLITZ

Slavonia (sluvō'nēu), Serbo-Croatian *Slavonija* (sluvō'nēa), region, E Croatia, N Yugoslavia It is a fertile agricultural and forested lowland bounded, in part, by the Drava river in the north and the Sava in the south OSIJEK is the chief city The history of Slavonia is closely linked with that of CROATIA With Croatia, Slavonia was recovered by Hungary from the Turks through the Treaty of Karlowitz (1699) As a result of the Revolution of 1848 Hungary lost Slavonia, which was made an Austrian crownland, but in 1868 Slavonia was restored to the Hungarian crown and it was united with Croatia It has been part of Yugoslavia since 1918

Slavonic (sluvō'nïk), subfamily of Indo-European languages See LANGUAGE (table)

Slavs (slävz, slavz), large ethnic and linguistic group of peoples belonging to the Indo-European linguistic family (see LANGUAGE, table) They are usually classified in three main divisions The West Slavs include the Poles, the Czechs, the Slovaks, and the WENDS and other small groups in E Germany The South Slavs include the Serbs, the Croats, the Slovenes, the Macedonians, and the Bulgarians The East Slavs, which are by far the largest group, include the Great Russians, Ukrainians (or Little Russians), and White Russians (or Belorussians) Culturally, the Slavs fall into two major groups—those who have been traditionally associated with the Orthodox Eastern Church (the Great Russians, most of the Ukrainians, the Bulgarians, the Serbs, and the Macedonians), and those who have been historically affiliated with the Roman Catholic Church (the West Slavs, most of the White Russians, part of the Ukrainians, and the Croats and Slovenes) By the mid-20th cent , however, the White Russians and Ukrainians had been largely, but not completely, absorbed into the Great Russian cultural pattern The cleavage into Eastern Church and Western Church is symbolized by the use of the Roman alphabet by the one group and of the Cyrillic alphabet by the other Ethnically, the Slavs possess little unity, for they have mixed for centuries with other peoples, including Turko-Tatars, Finnic peoples, Mongols, Germans, Greeks and various Illyrian tribes The Bulgarians are not of Slavic descent (see BULGARS, EASTERN) The origin of the Slavs is obscure and has given rise to several theories Slavs were presumably settled in S central Russia and in E Poland at the opening of the Christian era They probably were tributary, in succession, to the Sarmatians, to the Goths, to the Huns, and to the Avars, in whose westward expansion they shared At any rate, by the 6th cent A D the Slavs had settled in Germany E of the Elbe (where they were called Wends, a name probably derived from that of the Celtic Veneti, with whom the Slavs had mixed and who also gave their name to Venice), they were pressing hard in the Balkan Peninsula on the Byzantine Empire, and they formed principalities in Poland, Bohemia, Moravia, and Slovakia They were a sedentary, agricultural people and possessed no political unity Charlemagne in the 8th cent temporarily subdued the Slavs E of the Elbe, but the German eastward expansion, which permanently pushed the Slavs beyond the Oder, came only in the 12th cent with Henry the Lion of Saxony, the Wendish Crusade, Albert the Bear of Brandenburg, and the Teutonic Knights It was here that the Slavs resisted Christianization longest. The Bohemian, Moravian, and Slovak tribes were converted in the 9th cent by SS CYRIL AND METHODIUS A large Slavic empire emerged at that time under the leadership of MORAVIA, but it soon fell apart under the pressure of the Magyars The duchies (later kingdoms) of POLAND and BOHEMIA, most powerful among the West Slavic medieval states, became unified in the 10th cent In the south the kingdoms of BULGARIA, SERBIA, CROATIA, and Bosnia each had its time of glory before the Ottoman Empire absorbed them all (14th-15th cent) Most important of all was the Russian state, which grew up around KIEV in the 10th cent Kievan RUSSIA was destroyed (13th cent) by the Mongol invasion, but it was succeeded by the grand duchy of Moscow, which freed itself from the Tatar yoke in the 15th cent and expanded until it reached almost the extent of the present USSR In the 19th and 20th cent PAN-SLAVISM was a powerful instrument of Russian expansion Much of the history of the West Slavs and the South Slavs in the past three centuries was taken up with their struggle for liberation from Turkish, German, and Magyar domination

Slavyansk (slïvyansk'), city (1926 pop 28,771, 1939 pop 75,542), SE Ukraine, in the Donets Basin An industrial center, it has soda, salt, porcelain, and limestone works There is a health resort with mud baths near by

Slayton, village (pop 1,587), co seat of Murray co , SW Minn , E of Pipestone, in a grain and stock-raising area, settled 1881

sledge Evidence indicates that the sledge was used in the Neolithic period, before man knew any use of the wheel or had any draft animal but the dog Probably it was first drawn by man The Eskimo used dog sledges in pre-Columbian America Whether the sledge originated in the Old World or the New or independently in each is not known In ancient Egypt blocks of stone were hauled on sledges The simplest form of the sledge is a board turned up in front, as in the toboggan Developments include the addition of runners, the coupling of two sledges tandem (the bobsled), and the light and graceful horse-drawn passenger sledge (called sleigh in America) The sledge is still commonly used in northern regions

sleep, periodically recurring state in which conscious life is minimal, muscles are relaxed, and the nervous system is depressed It is essential for the continued functioning of body and mind in higher animals The duration and periodicity of sleep varies, with some older persons apparently needing as few as 5 hr out of each 24 of the daily span and children requiring as many as 12 or 13 hr Most adults sleep from 6 to 8 hr daily Complex physiological and chemical changes ensue in the human body when sleep occurs, but their integration is not yet well understood During the state of slumber the breathing is slow and deep, the blood pressure is low, and the pulse slow Anxiety, discomfort, noise, and unfamiliar surroundings may inhibit sleep or may affect unfavorably its quality Sleep may be induced by drugs (soporifics), but the benefits of natural sleep are only meagerly realized when it is brought about by these means Dreaming is habitual with some persons and is a sign of disturbed sleep in others See also INSOMNIA See D A Laird and C G Miller, *Sleep* (1930), Nathaniel Kleitman, *Sleep and Wakefulness* (1939), J F. Bender, *How to Sleep* (1949)

sleeping sickness Two diseases are popularly known by this name One, known also as *encephalitis lethargica* (ënsĕf"ulī'tïs lĕthär'jïku) and epidemic encephalitis, is an infectious disease, believed to be caused by a virus Symptoms include apathy, drowsiness, and lethargy A progressive muscular weakness occurs, and usually there is damage to the brain and other nerve tissue The other condition referred to as sleeping sickness is trypanosomiasis (trĭ"pănō-sōmī'usïs, trī"–), a disease of tropical Africa, caused by a protozoan transmitted by the tsetse fly Diagnosis is made by microscopic examination of the blood in order to identify the parasite Compounds of arsenic and of antimony are used in treatment

sleeplessness see INSOMNIA

sleepwalking or **somnambulism** (sŏmnăm'byulïzm), state between waking and sleeping, usually regarded as a hysterical symptom, in which complex movements may be executed with ease Psychiatrists believe somnambulistic episodes are symbolic representations of unconscious wishes that cannot be fully inhibited Occurrence is most common in childhood and puberty and is considered a symptom of a personality disturbance

Sleepy Eye, city (pop 2,923), S Minn , W of New Ulm, platted 1872 In a farm area, it has food-processing plants

Sleepy Hollow, locality at North Tarrytown, SE N Y Washington Irving's "Legend of Sleepy Hollow" is laid here Irving is buried in the graveyard of the Dutch Reformed Church (c 1697) here

sleet, name applied to several forms of wintertime precipitation It is used to refer to small, hard, globular grains of ice produced by the freezing of raindrops They are distinguished from hail in their method of formation and in their season of occurrence Sleet is also used synonymously with glaze —an icy coating formed by the freezing of rain on tree branches, sidewalks, and all exposed surfaces Sometimes a mixture of rain and snow falling together is termed sleet

sleigh see SLEDGE

Slesvig see SCHLESWIG

Slezak, Leo (slā'zak), 1875?–1946, Czech tenor. He made his debut as Lohengrin in 1895 at Brunn, after which he sang opera in Berlin and Vienna In 1908 he was a pupil of Jean de Reszke He sang (1909–12) with the Metropolitan Opera Company, afterward returning to Europe His son, **Walter Slezak,** 1902–, is a distinguished actor of the stage and moving pictures

Slick, Sam see HALIBURTON, THOMAS CHANDLER

Slidell, John (slïdl', slī'dul), 1793–1871, American politician and diplomat, b New York city, grad Columbia, 1810 In 1819 he moved to New Orleans, where he became a prominent lawyer and politician He was a Democrat in Congress (1843–45) Slidell was appointed minister to Mexico in 1845, but that country, which had broken off diplomatic relations after the U S Congress had provided for the annexation of Texas, declined to receive him (see MEXICAN WAR) Senator from Louisiana (1853–61), he was influential in securing the nomination and election of James Buchanan to the presidency (1856) and was a power in the administration till he went with the Confederacy early in 1861 Jefferson Davis appointed him commissioner to France the same year With James M MASON, Slidell figured in the TRENT AFFAIR Though cordially received in Paris, Slidell was unable to get official recognition or any material aid for the Confederacy, since Napoleon III refused to act without England's support See L M SEARS, *John Slidell* (1925) Beckles Willson, *John Slidell and the Confederates in Paris* (1931), B J Hendrick, *Statesmen of the Lost Cause* (1939)

Slidell (slïdl'), town (pop 2,864), SE La , near Lake Pontchartrain, here crossed by a bridge to New Orleans, settled after the Civil War, inc 1888 It has sawmills, shipyards, and brick, tile, and creosote plants

Slide Mountain, peak, 4,204 ft high, SE N Y , highest of the Catskills

slide rule, instrument for making numerical computations and readings, the results of which may be read easily and quickly after performing simple mechanical manipulations Based on John Napier's principle of the logarithm, it came into use after Edmund Gunter created a logarithmic scale in 1620 Gunter's rule consisted of a straight line on which numbers were spaced at intervals proportional to their common logarithms Though not a slide rule as it is known today (there were no sliding parts), Gunter's invention was the forerunner of the modern slide rule of Amédée Mannheim, a French army officer, in 1850 This modern, 10-inch type of slide rule has three parts, the stock, the slide, and the cursor (indicator) The stock consists of two fixed parallel rules, each with a scale on its inner edge The slide is a single rule, moving between them It has two scales on its outer edge, each scale corresponding to the fixed scale to which it is adjacent The cursor is a square of glass, with a hair line, which may be moved the length of the rule to aid in reading it On the reverse side of the slide rule are tables which, when used in conjunction with the scales, determine sines, tangents, and logarithms Special slide rules are made with scales for special calculations Other instruments, based on the same principle, by which more complicated calculations may be made, are the calculating circle and the calculating cylinder Most manufacturers of slide rules publish manuals of instructions

Slieve Bloom (slēv), mountain range, 15 mi long, central Ireland, on the border of Counties Laoighis and Offaly It rises to 1,733 ft, at Arderin

Slieve Donard (dŏ'nurd), peak, 2,796 ft high, Co Down, Northern Ireland, in the Mourne Mts

Sligo (slï'gō), maritime county (694 sq mi , pop 62,375), NW Ireland, in Connaught The county town is Sligo, a trading center and port of some consequence The irregular coastline is deeply indented by Killala and Sligo bays The interior is mountainous, with the Slieve Gamph range in the south and the Benbulben range rising to 2,000 ft , in the northeast Cattle-raising and farming are the chief occupations A round tower at Drumcliffe is part of a monastery founded by St Columba in 575 Sligo was organized as a shire in 1579

Sligo, urban district (pop 12,906), county town of Co Sligo, Ireland, at the head of Sligo Bay It is a seaport and fishing center, with a woolen trade and other industries The town is well situated, has a long quayage, and carries on an extensive trade with Glasgow and Liverpool There are remains of a Dominican monastery and a castle, built in the 13th cent by Maurice Fitzgerald, earl of Kildare The abbey was burned in 1414, rebuilt, and again burned in 1641 by the parliamentarians Other interesting features are the Church of St John and the Roman Catholic cathedral, college, and bishop's palace

slime mold or **slime fungus,** primitive form of life usually considered a fungus of the class Myxomycetes, although there is disagreement about its

classification Some scientists consider it an animal form Most slime molds are saprophytic on decaying vegetation—fallen trees, stumps, and leaves There are two phases in their life history In the vegetative phase naked amoebalike cells exist either independently or fused in a mass called a plasmodium The fungus creeps about in damp, dark places in an amoeboid fashion In the reproductive stage it inhabits a drier place, assumes a shape characteristic of the species, and forms a sporangium from which the spores are discharged after a winter (sometimes longer) of dormancy Slime molds are of practically no economic importance

slip, propagation by see CUTTING

Slipher, Vesto Melvin (slī'fur), 1875–, American astronomer, b Mulberry, Ind, grad Indiana Univ, 1901 From 1901 he was at the Lowell Observatory, Flagstaff, Ariz, where he served as director from 1917 He was at the head of the Lowell solar eclipse expeditions of 1918 and 1923 In 1919 he was awarded the Lalande Prize and the gold medal of the Paris Academy of Sciences Much of his attention has been devoted to the investigation of astronomical spectroscopy, and particular study given to the rotations and atmospheres of planets, nebulae, etc He has made discoveries regarding the rapid rotation of nebulae and the high velocities of star clusters

slipperwort see CALCEOLARIA.

Slippery Rock, borough (pop 1,269), W Pa, N of Pittsburgh, inc 1851 It is a farming center. A state teachers college is here

slip ware, pottery decorated with various colors of slip, a thin mixture of clay and water. Slip may form a design on a contrasting background, or lines may be scratched through a coating of slip to show the color beneath, in the style called graffito The decorated plates of the Pennsylvania Germans are good examples of slip ware

Sliven (slē'vĕn), city (pop 35,553), E Bulgaria It produces woolen goods, carpets, embroideries, and wine and has several Turkish mosques and ruins of a medieval fortress It is also known as Slivno

Slivnitsa (slĭv'nētsə), village, Bulgaria, NW of Sofia. Here in 1885 the Bulgarians defeated the Serbs, who had invaded Bulgaria as a result of the Bulgarian annexation of Eastern Rumelia

Sloan, John, 1871–, American painter and etcher, b Lock Haven, Pa He studied at the Pennsylvania Academy of the Fine Arts and worked for 12 years as an illustrator on the Philadelphia *Inquirer* and Philadelphia *Press* In 1905 he went to New York, where he worked as an illustrator A member of THE EIGHT, he was active in organizing the Society of Independent Artists and was its president from 1918 Long a popular teacher at the Art Students League of New York, he was elected president in 1930. His paintings of intimate scenes of city life are in leading museums throughout the United States. Characteristic are *Hotel Lafayette* and *Dust Storm, Fifth Avenue* (Metropolitan Mus), *McSorley's Bar* (Detroit Inst of Arts), *Renaneschi's, Saturday Night* (Art Inst, Chicago), and *Wake of the Ferry* (Phillips Memorial Gall, Washington, D C) Sloan's painting owes its distinction to a natural love of plain people, whose life he portrays simply and succinctly with poetic realism As an etcher he is equally gifted See his *Gist of Art* (1939), studies by A E Gallatin (1925) and Guy Pène du Bois (1931)

Sloan, village (pop 3,836), W N.Y, near Buffalo, inc 1896

Sloane, Sir Hans (slōn), 1660–1753, British physician and naturalist He was president of the Royal College of Physicians (1719–35) and of the Royal Society (1727–40) His collection of botanical specimens (some of which he gathered in the West Indies), as well as collections of books and manuscripts, formed a beginning of the British Museum He wrote, in Latin, a catalogue of the plants of Jamaica and published an account of his stay there.

Sloat, John Drake, 1781–1867, American naval officer, b near Goshen, N Y He entered the navy as a midshipman in 1800 and resigned after a year's service, but reentered the navy for service in the War of 1812 He was aboard the *United States* when she captured the *Macedonian* After the war he served against the pirates in the West Indies, notably taking part in the capture (1823) of the pirate brig *Palmyra* and in the destruction of the pirate nest at Fajardo on Puerto Rico He was commander of the Pacific squadron from 1844 to 1846, and in 1846, when war with Mexico was threatening, he occupied Monterey, Calif, on the grounds that the British were about to do so In the war he took San Francisco and held it until relieved by Robert F Stockton He retired in 1861, but was promoted commodore (1862) and rear admiral (1866) on the retired list. See biography by C E Slocum (1913)

Sloatsburg, village (pop 1,771), SE N Y, in the Ramapos near the N J line, settled before 1775, inc 1929.

Slocomb, town (pop 1,041), SE Ala, SW of Dothan near the Fla. line, in a farm area, settled 1884, inc. 1900

Slocum, Henry Warner (slō'kŭm), b 1826 or 1827, d 1894, Union general in the Civil War, b. Delphi, Onondaga co, N Y, grad West Point, 1852 He resigned from the army in 1856 and practiced law in Syracuse, N Y, until war broke out Slocum, rising to a major generalcy of volunteers (1862), fought in all the Eastern campaigns through Gettysburg (1863), where he commanded the right wing In 1864 he led the 20th Corps at the end of Sherman's Atlanta campaign His troops constituted Sherman's left wing in the march through Georgia and the Carolinas (1864–65) After the war, Slocum settled in Brooklyn, where he practiced law He was a Democratic Representative in Congress (1869–73, 1883–85)

sloe, name applied to the BLACKTHORN and also to various American wild plums

sloop (slōōp), fore-and-aft-rigged sailing vessel differing from a CUTTER in that it has a jibstay—a support leading from the end of the bowsprit to the mast on which the jibsail is set A sloop also has greater beam in proportion to keel depth than a cutter and carries a center board and a fixed bowsprit A sloop-of-war was a fast sailing vessel used in the British navy about the middle of the 19th cent and carrying 12 to 18 guns, not unlike the later SCHOONER

Slosson, Edwin Emery, 1865–1929, American scientist, b Albany (now Sabetha), Kansas He was professor of chemistry at the Univ. of Wyoming (1891–1903), later literary editor of the *Independent* (1903–20), and from 1921 director of Science Service, Washington, D C His many works on scientific subjects include *Creative Chemistry* (1919) and *A Number of Things* (1930), which contains a biographical memoir by his son

sloth (slōth, slŏth), arboreal mammal of tropical America Sloths sleep, eat, and travel through the forest suspended upside down and clinging to the branches with the curved claws of their fore and hind limbs. Algae which grow on the long hair make the animal blend with the foliage The three-toed sloth or ai (*Bradypus*) feeds almost exclusively on leaves, buds, and stems of a species of cecropia The two-toed sloth or unau (*Choloepus*) has a less restricted vegetarian diet Huge ground sloths are extinct forms

slot machine, see VENDING MACHINE

Slough (slou), municipal borough (1931 pop 33,530, 1947 estimated pop 64,690), Buckinghamshire England, W of London It is the site of the British Orphan Asylum Slough was the home of the Herschels, Sir William, Caroline Lucretia, and Sir John Slough is now an industrial city Stoke Poges and Burnham Beeches, associated with the poet Gray, are near

Slovakia (slōvä'kēə, slōvä'kēu), Slovak *Slovensko* (slō'vĕnskô), province (18,902 sq mi, pop 3,434,369), E Czechoslovakia. BRATISLAVA is the capital Slovakia is bordered by Moravia and Silesia in the west, by Austria in the southwest, by Hungary in the south, by Ruthenia (part of the Ukraine) in the east, and by Poland in the north Slovakia, by the Czechoslovak constitution of 1948, is one of the two constituent states of Czechoslovakia, the other being composed of Bohemia, Moravia, and Silesia It has its own legislature and its own government (which, however, is appointed by the central government at Prague) Most of Slovakia is mountainous, being traversed by the CARPATHIANS, including the TATRA and the BESKIDS S Slovakia, however, is a part of the great Hungarian plain Its fertile soil is drained by the Danube and its tributaries, notably the Vah The mountainous part of Slovakia has vast forests and pastures, used for intensive sheep grazing, and is rich in mineral resources, including high-grade iron ore, copper, mercury, gold, silver, lead, and lignite There also are numerous mineral springs, notably at Piestany, and many popular resorts Farms, vineyards, orchards, and pastures for stock are the main sources of wealth in S Slovakia Aside from mining, agricultural processing is the chief industry The most important cities are Bratislava, KOMARNO, KOSICE, TRNAVA, and NITRA Although the Slovaks and the Czechs are ethnically and linguistically closely related, they have been politically and culturally separate for 1,000 years, a fact which had grave consequences for the stability of the Czechoslovak state after its creation in 1918 The region was settled (5th–6th cent) by Slavic tribes It was conquered (9th cent) by the empire of MORAVIA, and under its Moravian rulers Christianity was introduced by SS Cyril and Methodius. The Magyars conquered Slovakia early in the 10th cent, and from that time until 1918 Slovakia was an integral part of Hungary It escaped Turkish occupation and as a result became a stronghold of the great Hungarian nobles, who owned most of the land German and Jewish settlements in the cities date from the Middle Ages In the 18th cent Maria Theresa and Joseph II intensified the Germanization of Slovakia, but at the same time began the Slovak national revival, which grew steadily in the 19th cent. Large-scale immigration (1900–1910) of the landless Slovak peasants to America gave the movement for Slovak independence considerable backing in the United States during the First World War. Agreement was reached between the Czech and the Slovak leaders, and in 1918 the union of the Czech and Slovak lands as CZECHOSLOVAKIA was proclaimed The Treaty of Trianon (1920) established the present boundaries, by which a minority of more than 1,000,000 Hungarians was included in Slovakia Hungary never ceased to claim the return of at least part of Slovakia, while a large Slovak nationalist party, led by a priest, Mgr Andreas Hlinka, agitated against the Czechoslovak government, which it accused of having denied Slovakia the autonomous rights promised. Indeed, from 1918 until 1938, Slovakia held the status of a simple province, although the Slovak language was official within its boundaries The minority problem was complicated by a religious problem, the majority of Slovaks being intensely Catholic, while the Prague government was distinctly anticlerical The archbishop of Esztergom, who as primate of Hungary had had spiritual authority over Slovakia, continued to claim jurisdiction over the Slovak dioceses until 1937, and as a result only one of the five Catholic bishops of Slovakia was acknowledged in full exercise of his authority Monsignor Hlinka and his successor as leader of the nationalist party, Father Joseph Tiso, exploited both nationalist and religious feeling and inclined to a pro-fascist and strongly anti-Semitic policy As a result of the MUNICH PACT of 1938, Slovakia became an autonomous state within reorganized Czecho-Slovakia, with Father Tiso as Slovak premier At the same time a large part of S Slovakia was ceded to Hungary, and some districts in the north to Poland When the Prague government dismissed (March, 1939) Tiso as premier, Tiso appealed to Chancellor Hitler of Germany, who used this appeal as a pretext for seizing Bohemia, Moravia, and Silesia as a German protectorate Slovakia became a nominally independent state, actually a German puppet, under Tiso's totalitarian rule Tiso allowed German troops to occupy Slovakia in Aug., 1939, and entered the Second World War as an ally of Germany His regime was particularly cruel to the large Jewish minority A pro-Allied underground movement gained strength, however, and powerfully aided the Russian troops who drove the Germans out of Slovakia late in 1944 The Allied victory in 1945 restored Slovakia to its territorial status before the Munich Pact, and the new constitution of 1948 increased its autonomous rights Provision was made at the Potsdam Conference of 1945 for the exchange of Magyar and Slovak minorities in Slovakia and Hungary respectively The accession in 1948 of a Communist government in Czechoslovakia again brought the old antagonism between Czechs and Slovaks into focus The Catholic clergy in Slovakia, militantly opposed to Communism, was persecuted, and the autonomous Slovak government was entirely controlled by the Communist party and thus in effect lost its autonomy

Slovenia (slōvē'nēə), Slovene *Slovenija* (slōvĕ'nēə), autonomous republic (7,796 sq mi, pop 1,389,084), NW Yugoslavia, bordering on Austria in the north and on Italy in the west LJUBLJANA, the capital, and MARIBOR are the chief cities Most of Slovenia is situated in the Julian Alps, which here reach their highest point in the TRIGLAV and in the KARST It is drained by the Drava and Sava rivers The majority of the population are Slovenes Until 1918 the region was largely comprised in the Austrian crownlands CARNIOLA, STYRIA, and CARINTHIA The kingdom of the Serbs, Croats, and Slovenes (later called Yugoslavia) was proclaimed in 1918, and in 1919 Austria formally ceded the region by the Treaty of Saint-Germain Of the elements composing the Yugoslav nation, the traditionally Roman Catholic Slovenes are most distinctly oriented toward Western culture, but unlike the Croats they did not agitate for an autonomous status between the two world wars In the Second World War, Slovenia was divided (1941) among Germany, Italy, and Hungary The Slovenes were very active in the underground warfare led by Marshal Tito After the war, Slovenia received (1945) autonomous status and received part of formerly Italian VENEZIA GIULIA.

Slowacki, Julius, Pol *Juliusz Slowacki* (yōō'lyōōsh swôväts'kē), 1809–49, Polish poet, educated in Vilna He traveled in Europe and the Middle East and died in Paris One of the chief Polish romantic poets, he was a revolutionist, and his works were burned in Poland His tragedies, largely based on Polish history and in part influenced by Shakspere, include *Kordjan* (1833), *Balladina* (1834), and *Lilla Veneda* (1839) Among translated works are the prose epic *Anhelli* (1838, Eng tr, 1930), the tragedy *Mazeppa* (1834; Eng tr, 1929), and the romantic drama *Mary Stuart* (1830, Eng. tr, 1937) His *King Spirit* is a philosophical essay.

slug, name used for a terrestrial mollusk similar to the land snail and for the marine sea slug of another order of molluscs The terrestrial slug is a garden pest The shell is lacking or represented only by a small plate. A slimy path is laid down by the animal. Adult sea slugs lack the shell entirely. See *Land Slugs and Snails and Their Control* (U S. Dept. of Agriculture, Farmers' Bul. 1895).

Sluis (slois), municipality (pop. 2,183), Zeeland prov., SW Netherlands, on the Scheldt estuary and on the Belgian border. It is also known under the former spelling, Sluys, and under its French name, L'Ecluse. Sluis was founded in the 13th cent. as an additional port of Bruges, and it accorded trading privileges to the Hanseatic League. In 1340 Edward III of England defeated, off Sluis, the fleet of Philip VI of France, which had tried to prevent an English landing. The naval battle of Sluis was the first important engagement in the Hundred Years War. During the Dutch struggle for independence, Sluis fell to the Spanish in 1587 and was recovered by the Dutch in 1604. It subsequently lost its importance as a port.

slum, term applied to substandard HOUSING, especially in cities.

Slupsk, Pomerania: see STOLP.

Sluter, Claus (klous' slü'tur), d. c.1406, Flemish sculptor, probably of Dutch extraction, chief master of the Early Burgundian school. Under Philip the Bold of Burgundy, he had charge of the sculptural works for the porch of the Chartreuse of Champmol, near Dijon, there is his pedestal of a Calvary—the *Well of Moses*—with its strongly individualized figures of Moses and the Prophets, a masterpiece of admirable realism, dignity, and power. Another magnificent work at Dijon is the tomb of Philip the Bold, with a recumbent effigy upon the sarcophagus and 40 small alabaster figures of mourners set in niches in its sides. The tomb was finished by Claus de Werve, nephew and pupil of Sluter and also his assistant on the *Well of Moses*.

Sluys, Netherlands: see SLUIS.

Slye, Maud (slī), 1879–, American pathologist, b. Minneapolis, grad. Brown, 1899. A member of the staff of the Sprague Memorial Institute, Univ. of Chicago, from 1911 to 1943, she also taught pathology at the Univ. of Chicago, becoming professor emeritus in 1945. She is known for her work on cancer, which includes studies of the relationship of heredity to the disease.

Sm, chemical symbol of the element SAMARIUM.

Smackover (smăk'kōvur), oil city (pop. 2,235), S. Ark., N. of El Dorado, inc. 1922. A Negro vocational school is near by.

Smaland, Swed. *Småland* (smō'land), historic province of S. central Sweden, now administratively divided among KRONOBERG, JONKOPING, and KALMAR counties. Although fertile along the coast, most of the soil is poor. Large numbers of Swedish immigrants to America came from this region.

Small, Albion Woodbury, 1854–1926, American sociologist, b. Buckfield, Maine, grad. Colby, 1876, and studied in Germany. He was made president of Colby in 1889, but left Colby in 1892 to found at the Univ. of Chicago the first department of sociology in any university. This he made a leading center of sociological study and research. He also established (1895) and edited the *American Journal of Sociology*, the first sociological journal in America. He did much to establish sociology as a valid field for academic study, and he occupied a leading place as a historian of sociological thought. *General Sociology* (1905) is the chief of his several works. His "Fifty Years of Sociology in the United States" appeared in the *American Journal of Sociology* in 1915–16.

small holding, term used in England for a tract of agricultural land larger than a cottage garden (three acres or less), but not too large to be cultivated by the owner or tenant and his family with only occasional hired labor. The maximum size was fixed by law at 50 acres. The farming of the small holding is meant to be a business capable of supporting the family engaged in it. In general, attempts of the government in behalf of small holdings have had disappointing results. Cottage holdings differ fundamentally from small holdings in providing food for a family which secures its money income from some source other than the marketing of farm produce. In America, the term "one-family farm" is sometimes used of farms often more than 50 acres in size but otherwise cultivated under conditions similar to those of the English small holdings.

smallpox, infectious, contagious disease caused by a virus. About 8 to 12 days after contact with a case there is fever, aching, and prostration for about three days. Then a skin eruption starts on the face and wrists and spreads. At first there are red spots which become raised, later these form blisters which soon contain pus. There may be a rise in temperature and enlargement of glands of the lymphatic system at this time. After about 12 days a crust forms and later falls off, sometimes leaving a deep scar, the pock. Scarring often follows scratching of the sores. Pneumonia and infection of the eye are serious complications. Immunity usually follows one attack of the disease. This disease, formerly a scourge and still a lurking menace, can be wiped out by universal VACCINATION. Edward JENNER introduced the method of vaccination with cowpox virus.

Smaltite (smôl'tīt), opaque tin-white to steel-gray mineral of the pyrite group, a compound of cobalt and arsenic. It occurs in massive form, occasionally in crystals (cubes) of the isometric system. It is an important ore of cobalt and is found in Saxony, Cornwall, Sweden, and Ontario.

Smart, Christopher, 1722–71, English poet. His best poem, the fine *Song to David* (1763), follows biblical language closely, it was written while he was confined as mad in an asylum. See Laurence Binyon, *The Case of Christopher Smart* (1934).

smartweed, name for species of *Persicaria* (or *Polygonum*) having an acrid juice which causes smarting. The common smartweed (*Persicaria hydropiper*), called also water pepper, is an annual with drooping catkinlike clusters of small pinkish flowers. It is widely distributed in moist places. A related cultivated species is the prince's-feather.

Smeaton, John (smē'tn), 1724–92, English civil engineer. He became an instrument maker, improved navigation instruments, and carried out many experiments on mechanical apparatus. He rebuilt (1756–59) the Eddystone lighthouse and worked on the Forth and Clyde Canal, Ramsgate Harbour, and many important bridges.

Smederevo (smĕ'dĕrĕvô), town (pop. 15,455), Serbia, Yugoslavia, on the Danube and SE of Belgrade, in a wine-producing region. Dating from Roman times, it was in the 15th cent. the capital of Serbia. There remains a fortress, built in 1429 and surrendered to the Turks in 1456. It was formerly known as Semendria.

Smedley, William Thomas, 1858–1920, American painter and illustrator, b. Chester co., Pa., studied at the Pennsylvania Academy of the Fine Arts and in Paris. His illustrations, appearing in the best magazines of the country, made his name familiar. In 1882 he accompanied the marquess of Lorne on a tour through Canada, contributing many sketches toward the illustration of Lorne's *Picturesque Canada*. Smedley traveled around the world in 1890. In 1905 he became a member of the National Academy of Design. Besides landscapes he painted portraits and figure compositions. His work is represented in the Metropolitan Museum, the National Gallery of Art, Washington, D.C., and elsewhere.

smell, that one of the five senses by means of which the odors of substances are perceived. In man the organs of smell, called the olfactory cells, are situated in the upper portion of the nasal cavity and are partly embedded in the epithelial tissue. The free end of the cells, however, projects outward from the epithelial tissue in the form of hairlike processes that are stimulated by odors and scents entering the nasal cavity. The other end of the cell is extended inward in the form of nerve fibers which serve to connect the cell with the higher centers of the brain. Smell has long been considered a chemical sense in that it is concerned with the reception of stimuli which are chemical in nature. The difference in structure of the molecules of different odoriferous substances constitutes a difference in stimulus and consequently the distinction of a different odor by the individual. Some evidence indicates, however, that smell may not be chemical in nature but that it involves the emission of infrared radiation by an olfactory organ and the absorption and emission of different wave lengths of infrared radiation by different odoriferous substances. Taste and smell are often confused, and in many cases substances supposedly tasted are actually smelled and are without taste. The sense of smell is apparently not as well developed in man as in a number of other vertebrates, e.g., the dog. In many vertebrates and invertebrates (especially the insects), smell is important in food getting and also in reproduction. In the moths, for example, the male is attracted to the female through the agency of smell. In insects the antennae are apparently the organs of smell. Many of the lower vertebrates show strikingly their dependence upon smell in obtaining food. This same connection is seen in man, in the increase in the flow of saliva and of other digestive fluids, upon perception of the odor of food. The use of perfumes indicates in some degree the part which smell plays in social intercourse. See R. D. Bienfang, *The Subtle Sense* (1946); C. P. McCord and W. N. Witheridge, *Odors* (1949).

smelt, small slender fish of north temperate waters of both hemispheres, related to the salmon. Smelts are chiefly marine, but many enter fresh waters to spawn and some are landlocked in lakes. Adults average about 8 in. in length, sometimes reaching 14 in. The flesh is rich and delicate and often fragrant. The common American smelt (*Osmerus mordax*) of the Atlantic coast and inland lakes is greenish along the back and silver on the sides and has a large mouth with strong teeth. On the Pacific coast at spawning time some species approach the shore in thousands and are carried up the beaches in the surf of high tide. The adhesive eggs cling to the gravel and withstand the pounding waters during their development. The pond smelt inhabits Japan, Kamchatka, and Alaska.

smelting, in METALLURGY, any heat process for the preparation of a metal from its ores. The processes vary in details according to the metal involved, but are typified in the use of the BLAST FURNACE and the REVERBERATORY FURNACE.

Smerdis (smûr'dĭs), d. c.528 B.C., second son of CYRUS THE GREAT, king of Persia. He was strangled by his brother Cambyses II, who kept the murder a secret. Patizithes, the Magian custodian of Cambyses' palace, deposed Cambyses (who was campaigning in Egypt), put forward his own brother Gaumata to impersonate Smerdis, and proclaimed him king. After a reign of seven months the false Smerdis was overthrown (521 B.C.) and slain, together with his brother. DARIUS I ascended the throne.

Smet, Pierre Jean de : see DE SMET, PIERRE JEAN.

Smetana, Friedrich, Czech *Bedřich Smetana* (smĕt'ănə), 1824–84, Czech composer, creator of a national style in Czech music. His materials are often drawn from the rich source of Czech folk music. Smetana was a friend of Liszt and Schumann. Of his eight operas, only *The Bartered Bride* (1863–66) has been successful outside his native land, although several others—*Dalibor* (1867), based on legend, *Libuse* (1871–72), and *The Kiss* (1876)—have been much performed in Czechoslovakia. He was conductor of the National Theater in Prague from 1866 until 1874, when total deafness compelled him to resign. Some of his finest works were composed after this time, including the symphonic cycle *My Fatherland* (1876–79), which contains the popular *Vltava* (*The Moldau*). Almost all his works are program music, even two string quartets, *From My Life* (1876, 1882), the earlier of which is considered one of his finest works. He suffered a mental breakdown in 1882 and died in an asylum. See Rosa Newmarch, *The Music of Czechoslovakia* (1942).

Smethport, borough (pop. 1,840), co. seat of McKean co., NW Pa., SE of Bradford near the N.Y. boundary, laid out 1807, inc. 1853. It produces oil and gas.

Smethwick (smĕdh'ĭk), county borough (1931 pop. 84,406, 1947 estimated pop. 76,700), Staffordshire, England, just W of Birmingham. Its manufactures include railroad equipment, glass, electric generators, paint, soap, and metal products.

Smetona, Antanas (antə'nəs smĕ'tônä), 1874–1944, Lithuanian dictator. A lawyer, he became a leader of the Lithuanian autonomists under the tsarist regime. He was (1919–20) provisional president of Lithuania when it gained independence. In 1926 he led a coup d'état against the Socialist government and became president, with Augustin Voldemaras as premier. Parliamentary government was suspended, and in 1929 Smetona forced the resignation of Voldemaras, assuming full dictatorial powers. A new parliament, constituted along fascist lines, was elected in 1936 on a single-party basis. One-party government was slightly relaxed early in 1939. After Lithuania was joined (1940) to the USSR, Smetona fled to Germany, then (1941) to the United States, where he died.

Smibert or Smybert, John (both smĭ'bûrt), 1688–1751, American portrait painter, b. Scotland, the first skillful painter in New England. Apprenticed to an Edinburgh house painter, he went to London when his apprenticeship was over, managed to study art, made a trip to Italy, then returned to London, where he had a small success. He came (1729) to America with Dean (later Bishop) Berkeley, who had persuaded him to teach art at his college in Bermuda, though this did not materialize. After a sojourn in Newport, R.I., Smibert went to Boston. There he married an heiress, became a successful portrait painter, and won social standing. Among his works are portraits of Jonathan Edwards and Judge Edmund Quincy (Mus. of Fine Arts, Boston) and Governor Endicott and Peter Faneuil (Mass. Historical Society, Boston). Harvard, Bowdoin, and other institutions possess examples of his faithful formal portraiture. To Yale belongs the first important portrait group painted in America, Smibert's *Bishop Berkeley and His Entourage* (1731), including a self-portrait. The artist's influence was a factor in the painting of such early Americans as Copley, Washington Allston, and John Trumbull.

Smigly-Rydz, Edward : see RYDZ-SMIGLY, EDWARD.

smilax (smī'lăks), South African twining vine (*Asparagus asparagoides*), commonly grown by florists for greenery. The true leaves are reduced to small scales, while flattened branches (cladophylls) simulate and function like leaves in shape resembling those of the common greenbrier but smaller. Greenbriers, prickly vines often weedy in North America, belong to the genus *Smilax*, distinct from the florists' smilax. Other species of the genus *Smilax* yield SARSAPARILLA.

Smiles, Samuel, 1812–1904, Scottish author, a physician. His very popular books, devoted to moral education and illustrated with biographical material, include *Self-Help* (1859), *Character* (1871), *Thrift* (1875), and *Duty* (1880). He also wrote a biography of George Stephenson (1857) and *Lives of the Engineers* (3 vols., 1861–62). See his autobiography (1905).

Smillie, James David (smĭl'ē), 1833–1909, American landscape painter, etcher, and engraver, b. New York city. His early work was chiefly in association with his father, James Smillie (1807–85), a well-known engraver, born in Scotland, who came

to the United States c 1829 James David engraved a series of illustrations for Cooper's novels and was an engraver of landscapes before he began to paint them, working ably in both water color and oil In the various methods of etching he displayed unusual skill He was active in founding the American Water Color Society and the New York Etching Club, and he was made a member of the National Academy in 1876 His brother **George Henry Smillie,** 1840–1921, American landscape painter, was born in New York city He became a member of the National Academy in 1882 His lively landscapes, modern in manner, are represented in the Metropolitan Museum, the Corcoran Gallery, and various other collections

Smillie, Robert (smil'ĭe), 1857–1940, British labor official, b Belfast, Ireland, of Scottish parents He left school at an early age to work as an apprentice in a shipyard, later becoming a coal miner and trade-union worker He was president of the Scottish Miners' Federation from 1894 to 1918 and from 1921 until his death, and as president (1912–21) of the Miners' Federation of Great Britain he led the coal miners' strike of 1912 For many years he advocated the nationalization of mines He served as a Labour member of Parliament from 1923 to 1929 See his autobiography, *My Life for Labour* (1924)

Smirke, Sir Robert, 1781–1867, English architect, one of the most noted exponents of the classic revival His best-known design is the main façade of the British Museum (1823–47) Other buildings in London are the General Post Office and the Royal College of Physicians Smirke's influence resulted in a more accurate interpretation of Greek forms in the English work of the time Upon his retirement (1847), his brother, **Sydney Smirke,** 1798–1877, took up the work at the British Museum, where he erected the western side of the quadrangle and the new reading room (1854–57) In 1857 he rebuilt the Carlton Club, London, on a design adopted from the Library of St Mark's at Venice, he also built the exhibition galleries for the Royal Academy at Burlington House (1866) He became a member (1859) and was professor of architecture (1861–65) of the Royal Academy of Arts

Smith, Adam, 1723–90, Scottish economist, educated at Glasgow and Oxford He became professor of moral philosophy at the Univ of Glasgow in 1752 His *Theory of Moral Sentiments* (1759) gave him the beginnings of an international reputation He traveled on the Continent from 1764 to 1766 as tutor to the duke of Buccleuch and while in France met some of the PHYSIOCRATS and began to write *An Inquiry into the Nature and Causes of the Wealth of Nations,* finally published in 1776 Smith postulated the theory of the division of labor and emphasized that value arises from the labor expended in the process of production He was led by the rationalist current of the century, as well as by the more direct influence of Hume and others, to believe that in a laissez-faire economy the impulse of self-interest would bring about the public welfare, but he was capable of appreciating that private groups such as manufacturers might at times oppose the public interest Smith was opposed to monopolies and the concepts of mercantilism in general but admitted restrictions to free trade, such as the NAVIGATION ACTS, as sometimes necessary national economic weapons in the existing state of the world Smith wrote before the Industrial Revolution was well launched, and some of his theories were voided by its development, but as an analyst of institutions and an influence on later economists he has never been surpassed His pragmatism, as well as the leaven of ethical content and social insight in his thought, differentiates him from the rigidity of Ricardo and the school of early 19th-century utilitarianism In 1778 Smith was appointed commissioner of customs for Scotland His *Essays on Philosophical Subjects* (1795) appeared posthumously See biography by John Rae (1895), Eli Ginzberg, *The House of Adam Smith* (1934)

Smith, Alexander, 1865–1922, Scottish-American chemist, b Edinburgh, grad Univ of Edinburgh (B A , 1888), Ph D Univ of Munich, 1889 He came to the United States in 1890 and was professor at the Univ of Chicago (1904–11) and at Columbia (1911–19) Besides conducting important research on the different forms of sulphur and on vapor-pressure measurements, he wrote a number of texts, including the widely used works *The Teaching of Chemistry and Physics* (with E H Hall, 1902), *Introduction to General Inorganic Chemistry* (1906, rev ed *Introduction to Inorganic Chemistry,* 1917), and *General Chemistry for Colleges* (1908, 6th ed , *Smith's College Chemistry,* 1946).

Smith, Alfred Emanuel, 1873–1944, American political leader, b New York city Reared in poor surroundings, he took various jobs—truckman's helper, fish peddler, shipping clerk—to help support his family He joined Tammany Hall and was appointed (1895) a clerk in the office of the commissioner of jurors in New York city As a member (1903–15) of the New York state assembly, he took a prominent role in state Democratic politics, became (1913) speaker of the assembly, and gained a reputation for his progressive policies He was (1915–17) sheriff of New York co and then was elected (1917) president of the New York city board of aldermen Despite bitter opposition from the Republican party and from William Randolph Hearst, Smith was elected governor of New York state four times (1918, 1922, 1924, 1926) He proved to be a forceful and well-liked governor and led in the enactment of much reform legislation In 1928 Smith, helped by Franklin D Roosevelt, won the Democratic nomination for President His opposition to prohibition, his affiliation with Tammany Hall, and the fact that he was a Roman Catholic all contributed to his defeat by Herbert Hoover in the 1928 election After he was badly defeated for the Democratic presidential nomination by Roosevelt in 1932, he retired from politics He then served (1932–34) as editor of the magazine *New Outlook* and devoted himself to various business enterprises He was president of the firm that owned and operated the Empire State Building in New York Smith bitterly opposed President Roosevelt's policies until the U S entry into the Second World War He wrote *Up to Now* (1929) See F D Roosevelt, *The Happy Warrior* (1928), biographies by Henry F Pringle (1928) and Frank Graham (1945)

Smith, Andrew Jackson, 1815–97, Union general in the Civil War, b Bucksco , Pa , grad West Point, 1838 His service before the Civil War was mostly in the West As chief of cavalry under H W Halleck (Feb -July, 1862), he took part in the move on Corinth Smith, made a brigadier general of volunteers (March, 1862), fought in the Vicksburg and Red River campaigns (1863 and 1864) and opposed N B FORREST at Tupelo, Miss (July, 1864) For his service at the battle of Nashville (Dec , 1864) he was brevetted major general in the regular army He resigned in 1869, when he became postmaster of St Louis

Smith, David Eugene, 1860–1944, American mathematician, b Cortland N Y , grad Syracuse Univ (Ph B , 1881) He was professor at Teachers College, Columbia (1901–26, professor emeritus from 1926) In 1935 he gave the university his valuable collection of mathematics books and early calculating instruments He was mathematics editor of the 14th edition of *The Encyclopaedia Britannica* and wrote numerous books, including *The Teaching of Arithmetic* (1909, rev ed , 1913), *Number Stories of Long Ago* (1919), *History of Mathematics* (1924–25), and *The Wonderful Wonders of One-Two-Three* (1937)

Smith, David Stanley, 1877–1949, American composer, b Toledo, Ohio, grad Yale (B A , 1900, B Mus , 1903, M A , 1916) He joined the faculty of Yale in 1903 and in 1916 became professor of music In 1920 he succeeded his teacher, Horatio Parker, as dean of the school of music and conductor of the New Haven Symphony Orchestra In 1940 he resigned as dean, he became professor emeritus in 1946 His works, showing a polished technique and a fine intellectual background, include his Fourth Symphony (1937, Boston, 1939), *1929—a Satire* (1933), an orchestral work, *Epic Poem* (1926, Boston, 1935), chamber music, and choral works, including *Daybreak* (1945)

Smith, Donald Alexander see STRATHCONA AND MOUNT ROYAL, DONALD ALEXANDER SMITH, 1ST BARON

Smith, Edgar Fahs, 1854–1928, American chemist, b York, Pa , grad Pennsylvania College, Gettysburg (B S , 1874) After serving as assistant in chemistry at the Univ of Pennsylvania (1876–81), he taught abroad and then returned to the Univ of Pennsylvania—as professor of chemistry (1888–1920), as vice provost (1898–1911), and as provost (1911–20) He did important work on electrochemical analysis and wrote numerous texts in chemistry, several volumes on the history of chemistry, and biographies of Robert Hare and Joseph Priestley

Smith, Edmund Kirby, or **Edmund Kirby-Smith,** 1824–93, Confederate general, b St Augustine, Fla , grad West Point, 1845 He was cited for gallantry at Cerro Gordo and Contreras in the Mexican War Smith was a major when he resigned from the U S army (March, 1861) to fight for the Confederacy He served first in the Shenandoah under J E Johnston, was made a brigadier general (June), and fought at BULL RUN (July) In the invasion of Kentucky under Braxton BRAGG, Smith led the advance and defeated a Union force at Richmond, Ky (Aug , 1862) He ably commanded the isolated Trans-Mississippi Dept (1863–65) and was promoted general in Feb , 1864 The unsuccessful Red River campaign of N P BANKS was directed against his forces Smith was the last Confederate general to surrender (May 26, 1865) After the war he was chancellor of the Univ of Nashville (now George Peabody College for Teachers) from 1870 to 1875 and professor at the Univ of the South, Sewanee, Tenn , from 1875 to 1893 See biography by A H Noll (1907).

Smith, Elizabeth Oakes (Prince), 1806–93, American author, b North Yarmouth, Maine The wife of Seba Smith, she lived after 1840 in New York, where she wrote for magazines Some of her novels, popular in her day, were about the American Indian, such as *The Western Captive* (1842) and *Bald Eagle* (1867, one of Beadle's dime novels) *The Newsboy* (1854), a sentimental novel, aroused concern over New York child labor Her active interest in woman suffrage is reflected in her lectures, *Woman and Her Needs* (1851) See selections from her autobiography (ed by M A Wyman, 1924), M A. Wyman, *Two American Pioneers* (1927)

Smith, Elmer Boyd, 1860–, American author and artist, b Canada He wrote and illustrated *My Village* (1896), *The Story of Pocahontas and Captain John Smith* (1906), *The Farm Book* (1910), *In the Land of Make Believe* (1915), *The Story of Our Country* (1920), and *The Country Book* (1924).

Smith, Ermunnie Adelle (Platt), 1836–86, American ethnologist, b Marcellus, N Y , grad Troy Female Seminary (now Emma Willard School), Troy, N Y , 1853 In 1855 she married Simeon H Smith of Jersey City After studying in Germany, she returned to the United States, where she became (1880) a scientific explorer for the Smithsonian Institution to study Iroquois life and habits She perfected her knowledge of Indian languages and compiled valuable dictionaries of these languages She was the first woman fellow of the New York Academy of Sciences and was an officer of the American Association for the Advancement of Science

Smith, Francis Hopkinson, 1838–1915, American author, artist, and engineer, b Baltimore Though known chiefly as an author of Southern novels, notably *Colonel Carter of Cartersville* (1891), he also wrote short stories, travel sketches, and essays on art, very popular in their time Some of his books are *A White Umbrella in Mexico* (1892) and *Gondola Days* (1897), travel sketches, *A Day at Laguerre's* (1892) and *The Wood Fire in No 3* (1905), volumes of short stories, and *The Fortunes of Oliver Horn* (1902) and *The Tides of Barnegat* (1906), novels

Smith, Frederick Edwin see BIRKENHEAD, FREDERICK EDWIN SMITH, 1ST EARL OF

Smith, George, 1840–76, English Orientalist His paper on the Chaldean account of the Deluge brought him wide fame and resulted in an excavation trip to Nineveh (1873), sponsored by the *Daily Telegraph,* to locate missing fragments While on another undertaking of excavation he died at Aleppo His works include *Ancient History from the Monuments Assyria* (1875) and *Ancient History from the Monuments, the History of Babylonia* (1877), *Assyrian Discoveries* (1875), and *The Chaldean Account of Genesis* (1876, new ed , 1880)

Smith, Sir George Adam, 1856–1942, eminent Scottish biblical scholar and Hebraist He was professor of Old Testament language, literature, and theology in the United Free Church College of Glasgow from 1892 to 1909 and thereafter, until 1935, principal and vice chancellor of the Univ of Aberdeen He frequently traveled and lectured in the United States, where some of his many books were well known to churchmen and college students, especially his *Historical Geography of the Holy Land,* which in 1932 went into its 25th edition See biographies by Stanley A Cook (1943) and Lilian B A. Smith (1943)

Smith, Gerrit, 1797–1874, American philanthropist and reformer, b Utica, N Y , grad Hamilton College, 1818 He spent a good part of the large fortune he inherited from his wealthy, landholding father in promoting various reforms, especially temperance and the abolition of slavery Unlike his friend William Lloyd Garrison he favored political action in the abolitionist cause and was an organizer of the Liberty party, which nominated him for governor of New York in 1840 He served in Congress as an independent from March, 1853, to Aug , 1854, when he resigned, and again sought the governorship on a third-party ticket in 1858 A devoted friend of John BROWN, whose Harpers Ferry plans were discussed at Smith's home in Peterboro, N Y , he denied having backed the raid, but there is strong evidence that he was an accessory before the fact In the Civil War he spoke and wrote widely for the Union cause, but at its close urged moderation towards the South and in 1867 was one of the signers of the bail bond for Jefferson Davis *Speeches of Gerrit Smith in Congress* (1854), *Sermons and Speeches* (1861), *Religion of Reason* (1864), and *Speeches on the Rebellion* (2 vols , 1864–65) are his most important published works See biography by R V Harlow (1939)

Smith, Gipsy Rodney, 1860–1947, British evangelist The son of a gypsy, he started his work as a member of General Booth's Christian Mission of London, which became the Salvation Army This connection was later severed From 1883 Smith's evangelistic labors gradually extended throughout England, to Scotland, the United States, and Australia, until he was known in all parts of the world He was a special missioner (1897–1912) of the National Free Church Council His published works include *Gipsy Smith. His Life and Work* (rev ed , 1925)

Smith, Goldwin, 1823–1910, British educator, historian, and journalist He was educated at Oxford and was associated with that university until 1866, taking a prominent part in the passage (1854) and execution of the reform act, which liberalized en-

trance qualifications In 1858 he was made professor of modern history He was ardently democratic, anti-imperialist, and antimilitaristic, and expounded his convictions in speeches, pamphlets, newspapers, and journals throughout his life Having supported the Union cause in the American Civil War, he visited the United States in 1864, and in 1868 he returned to the United States as professor of English literature and constitutional history at the newly founded Cornell Univ He moved to Toronto in 1871, but continued to interest himself in Cornell and left the bulk of his considerable estate to it at his death He started a number of short-lived journals, including the *Nation*, the *Bystander*, the *Leader*, and the *Week*, and earned a position of great respect in the United States, Canada, and Great Britain for his educational and social work Some of his writings were collected as *Lectures and Essays* (1881) and *Essays on Questions of the Day* (1893) He also wrote many works on history, literature, biography, current politics, religion, and social problems See his reminiscences (1910) and correspondence (1913), both ed by Arnold Haultain, biography by Haultain (1913)

Smith, Sir Harry George Wakelyn, 1787–1860, British general and administrator He entered the army in 1805, served in the Peninsular War and in the War of 1812 and was a brigade major at Waterloo He commanded a division in the Kafir War (1834–36), in which he made his famous ride of 700 mi from Capetown to Grahamstown in less than six days His policies as governor (1835 37) of Queen Adelaide prov , although hailed by both the Kafirs and the Dutch, were repudiated by the British government, and Smith was transferred to India as deputy adjutant general He distinguished himself in the Sikh Wars and was created baronet for the victory at Aliwal (1846) Returned as governor of the Cape Colony (1847–52), he resumed his policy of expansion and carried on war with the Boers, accelerating their movement northward His association with South Africa is commemorated in a number of place names—Ladysmith, Harrismith, Aliwal North, and Whittlesey (his English birthplace) See his autobiography (ed by G C Moore Smith, 1901)

Smith, Henry John Stephen, 1826–83, British mathematician He was a lecturer in mathematics (1850–73) and, from 1860 to 1883, Savilian professor of geometry at Oxford Univ He is especially noted for his work on the theory of numbers and on elliptic functions His scientific papers were collected and edited by J W L Glaisher (1894)

Smith, Hoke, 1855–1931, American political leader, b Newton, N C He moved to Georgia, became a successful lawyer in Atlanta, and in 1887 acquired the Atlanta *Journal* He served (1893–96) in Grover Cleveland's cabinet as Secretary of the Interior, but resigned to support William J Bryan for President He later was governor of Georgia (1907–9, 1911) and advocated railroad regulation and other reforms He served (1911–21) as U S Senator, but was defeated (1920) for reelection by Thomas E Watson and returned to law practice

Smith, Holland McTyeire, 1882–, general of the U S marines, b Seale, Russell co , Ala , grad Alabama Polytechnic Institute, 1901, and Univ of Alabama law school, 1903 He was commissioned in the marines in 1905 and saw much action in France in the First World War In the Second World War he pioneered in developing amphibious tactics He commanded troops in actions in the Gilbert, Marshall, and Marianas Islands and at Iwo Jima He commanded the Fleet Marine Force in the Pacific (1944–45) and retired (1946) from the marines as a general He is the author of *Coral and Brass* (1949)

Smith, Horatio or **Horace,** 1779–1849, and **James Smith,** 1775–1839, English parodists, brothers They wrote the famous *Rejected Addresses* (1812) Suggested by a contest celebrating the reopening of the Drury Lane Theatre, the collection was supposedly made up of those verses rejected by the theater It burlesqued such contemporary poets as Wordsworth, Scott, Coleridge, and Byron James Smith, who produced the better pieces, never wrote anything of value afterwards *Horace in London* (1813) was a collection of their earlier work Horatio Smith was the author of several novels, including *Brambletye House* (1826), an imitation of Scott See A H Beavan, *James and Horace Smith* (1899)

Smith, James, c 1719–1806, American Revolutionary patriot, signer of the Declaration of Independence, b Ireland He settled in Pennsylvania in his youth and practiced law at York He served in provincial assemblies and conventions and advocated independence early He was (1776–78) a member of the Continental Congress

Smith, James, 1775–1839 see SMITH, HORATIO

Smith, Jedediah Strong, 1799–1831, American explorer, one of the greatest of the mountain men, b not far from Binghamton, N Y He seems to have arrived in St Louis in 1822 and to have joined the expedition of William H ASHLEY, but little is known of his part on that first expedition On the 1823 expedition he was prominent. A young man more than 6 ft. tall and devoted to Bible reading, he was a superb rifleman and dauntless in trouble When the expedition was stopped by attack of the Arikara Indians, he headed the party sent to notify Andrew Henry and to ask his help After returning he went down to St Louis and back up the river to join the expedition Early in 1824 he and Thomas Fitzpatrick took a party through South Pass and thus started regular use of that route, which had been used by Robert STUART and his party from ASTORIA in 1812 Smith and a few men then went north, aided (and took the furs from) a group of Iroquois in the employ of the Hudson's Bay Company and with Alexander Ross went to the country of the Flathead Indians in present Montana He went as far north as the present Canadian line, then came back to Great Salt Lake In 1825 he set out on his most famous venture From the Great Salt Lake he set out to the southwest and with a small band of men pushed across the Colorado river and the Mojave Desert to arrive in San Diego, Calif , the Spanish of the western settlements were startled and not too pleased to see them They were relieved when Smith and two of his men went east, the first white men, as far as is known, to cross the Sierra Nevada and the fearsome Great Salt Desert They arrived at the rendezvous in the summer of 1827 Smith and a party went again on the southwest route to California They were set upon by the Mohave Indians, but the survivors reached California and the men who had been left there After some troubles with the Mexican authorities, Smith and his men went north toward the Columbia Only he and three of his men escaped an Indian attack and arrived at the Hudson's Bay Company post, Fort Vancouver, where John McLoughlin befriended them The Hudson's Bay Company recovered Smith's furs from the Indians and bought them In 1829 he rejoined his partners in the company of Smith, Jackson, and Sublette, which had succeeded the Ashley firm when Ashley retired from the fur trade This was broken up in 1830, and the Rocky Mountain Fur Company was formed Smith returned to St Louis In 1831 he set out with a company, including two of his brothers, on the Santa Fe Trail On the Cimarron river he was killed by Comanche Indians His extraordinarily wide travels revealed not only the rich fur trapping and trading country he sought but also trails and territory that were soon frequented by westward-going American pioneers He more than any other was the breaker of trails to California and the Pacific Northwest His journal was edited by Maurice Sullivan (1934) See H C Dale, *The Ashley-Smith Explorations* (1918), biography by Maurice Sullivan (1936)

Smith, Jessie Willcox, d 1935, American illustrator, portraitist of children, and poster artist, b Philadelphia She studied at the Pennsylvania Academy of the Fine Arts and the Drexel Institute of Technology Her work included drawings for *Mother Goose Rhymes*, Kingsley's *Water Babies*, Stevenson's *Child's Garden of Verses*, and several series, of which the *Seven Ages of Childhood* appeared in 1909 She received the silver medal at the Panama-Pacific Exposition, San Francisco, 1915, and many other awards

Smith, John, d 1612, English nonconformist see SMYTH, JOHN

Smith, John, 1580 1631, English colonist in America, b Willoughby, Lincolnshire, England A merchant's apprentice until his father's death in 1596, he then lived a roving and adventurous life, traveling, fighting in wars against the Turks in Transylvania and Hungary, and surviving a period of slavery in Turkey His own account of these adventure has been denied by some investigators but has been substantiated in a number of particulars Returning to England, he invested in the new Virginia Company (see LONDON COMPANY) and in 1606 sailed from London for America On arrival Smith was named a member of the governing council of the Jamestown settlement, though not permitted to serve immediately, and began his explorations of the surrounding territory He established trade relations with the Indians, drew up a map of Virginia, and finally fell into the hands of the Indian chief POWHATAN The famous incident of Smith's being saved from death by Powhatan's daughter POCAHONTAS, though controversial and lacking definite proof, is held to be quite probable and perfectly possible After his return to Jamestown, Smith became president of the council and energetically rebuked the peremptory demands of the home company to find gold or the South Sea Maintaining his leadership in spite of John Ratcliffe, a former president, Smith carried the colony through periods of intense suffering, hunger, and want (the "starving time"), remaining firm, tactful, and resourceful Injured in an explosion, he returned to England in 1609 In 1614 he was sent to NEW ENGLAND by a group of London merchants, returning with a valuable cargo of fish and furs He emphasized the importance of fishing and upheld the prospects for settlement in New England On another voyage he was captured by pirates and then by the French, but eventually returned to England He wrote *A True Relation of Virginia* (1608), *A Map of Virginia* (1612), *A Description of New England* (1616), *New England's Trials* (1620, 2d ed , 1622), *The Generall Historie of Virginia, New-England, and the Summer Isles* (1624), *An Accidence, or, The Path-Way to Experience* (1626, enlarged and republished as *A Sea Grammar*, 1627), *The True Travels, Adventures, and Observations of Captaine John Smith* (1630), and *Advertisements for the Unexperienced Planters of New England, or Anywhere* (1631) See Wilberforce Eames, *A Bibliography of Captain John Smith* (1927), edition of his works by Edward Arber (1884, reprinted and ed by A G Bradley, 2 vols , 1910), biographies by A G Bradley (1905), E Keble Chatterton (1927), and J G Fletcher (1928)

Smith, John Raphael, 1752–1812, English engraver and portraitist He is best known for his reproductions in mezzotint of paintings by famous contemporaries, including some 40 plates after Reynolds His original portraits in chalk, crayon, and oil are also prized The Victoria and Albert Museum contains six examples

Smith, Joseph, 1805–44, American religious leader, founder of the Church of Jesus Christ of the Latter-Day Saints b Sharon, Vt While he was a boy his family moved to Palmyra, N Y , where he experienced the poverty and hardships of life on a rough frontier He had visions when he was still young and later recorded that he was first told in a vision in 1823 of the existence of secret records, but it was not until 1827 that the hiding place of the records was revealed to him According to his account, he in 1827 unearthed the golden tablets inscribed with sacred writings that he translated Oliver Cowdery, Martin Harris, and others transcribed these records from his dictation, and the *Book of Mormon* was published in 1829 Further revelations led him to found a new religion after priesthood had been conferred upon him and Oliver Cowdery As prophet and seer he founded (1830) his church in Forsyth, N Y (see LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST, OF, and MORMONS) Hostility of his neighbors led him to move his headquarters to Kirtland, Ohio, where with the help of Sidney Rigdon and others he embarked on extensive business affairs The Panic of 1837 was one of the reasons for removal farther west to Missouri Here the industrious and self-contained members of his faith again ran into difficulties with their neighbors Smith and others were arrested but escaped, and his faithful followers were driven from Missouri Having obtained a favorable charter from Illinois, Smith founded the settlement of NAUVOO, which, thanks to the concerted efforts of the members of his Church, was soon flourishing Disaffection grew, and some of the dissident members of the Church founded a newspaper, the *Expositor*, in which they bitterly criticized him He put down the opposition, thereby giving the hostile non-Mormons a pretext for attacking him When in 1844 he announced himself as candidate for the presidency of the United States, his enemies set upon him He and his brother Hyrum were arrested on charges of treason and conspiracy They were lodged in the jail at Carthage, Ill , and there on June 27, 1844, they were murdered by a mob The revelations made by Smith—including one enjoining plural marriage, which he obeyed by taking many wives and which later caused the Mormons much trouble—were the foundation stones of a faith that grew after his death to be one of the great religions of America Because he was a highly controversial figure, the literature on him is also controversial See H M Beardsley, *Joseph Smith and His Mormon Empire* (1931), J H Evans, *Joseph Smith, an American Prophet* (1933), Fawn Brodie, *No Man Knows My History* (1945)

Smith, Joseph Russell, 1874–, American geographer, b near Lincoln, Loudoun co , Va , grad Univ of Pennsylvania (B S , 1898, Ph D , 1903) He taught at the Univ of Pennsylvania (1903–19) and was professor of economic geography at Columbia Univ (1919–44) and president of the Association of American Geographers (1941–42) His works include *Tree Crops* (1929, revised 1937, condensed 1945) and many geography textbooks, including *Our Neighbor* geographies, *Human Use Geography* (9th ed , 1945), *North America* (1925, rev ed with M O Phillips, 1940), and *Industrial and Commercial Geography* (1913, 3d ed with M O Phillips, 1946)

Smith, Kirby see SMITH, EDMUND KIRBY

Smith, Logan Pearsall, 1865–1946, Anglo-American author, b Millville, N J After 1888 he lived in England, studied at Oxford, and became a man of letters His brief and exquisite essays beginning with *Trivia* (1902) were collected as *All Trivia* (1933) Other works include writings on the English language, a biography of Sir Henry Wotton (1907), *On Reading Shakespeare* (1933), *Reperusals and Re-collections* (1936), and *Milton and His Modern Critics* (1940) See his autobiography, *Unforgotten Years* (1939), Robert Gathorne-Hardy, *Recollections of Logan Pearsall Smith* (1949)

Smith, Nathan, 1762–1829, American physician, b Rehoboth, Mass , M B, Harvard, 1790, M D Dartmouth, 1801. He practiced in Cornish, N H

He was a founder of the medical schools of Dartmouth, Bowdoin, the Univ. of Vermont, and Yale (where he taught from 1813) In 1821 he accomplished an excision of the ovary, the operation had earlier been performed by Ephraim McDowell although Smith did not know of McDowell's work See biography by E A Smith (1914)

Smith, Preserved, 1880–1941, American historian, b Cincinnati, Ohio, grad Amherst, 1901, and Columbia (M A , 1902, Ph D , 1907) He taught history at Williams, Amherst, and Harvard before becoming (1922) professor of history at Cornell, where he remained until his death He was an editor of the *Journal of Modern History* (1929 32) and of the *American Historical Review* (1936–41) Among his books are *The Life and Letters of Martin Luther* (1911, 2d ed , 1914), *The Age of the Reformation* (1920) *Erasmus* (1923), and *A History of Modern Culture* (2 vols , 1930–34)

Smith, Richmond Mayo- see MAYO-SMITH

Smith, Samuel Francis, 1808–95, American Baptist clergyman and poet b Boston, grad Harvard, 1829, and Andover Theological Seminary, 1832 He is remembered as the author of the national hymn AMERICA, written while he was at Andover Among his many other hymns is *The Morning Light Is Breaking*

Smith, Seba, 1792–1868, American editor and humorist, b Buckfield, Maine, grad Bowdoin, 1818 He founded the Portland *Courier* in 1829 and in it began in 1830 humorous letters on politics signed "Major Jack Downing" The shrewd comments were so popular and so widely imitated that he collected them in *The Life and Writings of Major Jack Downing of Downingville* (1833), *My Thirty Years Out of the Senate* (1859), and other volumes After 1840 he was a writer and editor in New York, and his *'Way Down East, or, Portraitures of Yankee Life* (1854) was best known of his works Elizabeth Oakes Smith was his wife

Smith, Sydney, 1771–1845, English clergyman, writer, and wit, ordained in the Church of England in 1794 In 1798 he went as a tutor to Edinburgh, where he occasionally preached, studied medicine, and with Jeffrey and others founded (1802) the *Edinburgh Review* His brilliant contributions were a strong factor in the periodical's success Moving to London in 1803, Smith lectured with great success upon moral philosophy at the Royal Institution and made a host of friends His well-known "Peter Plymley" letters (published anonymously in 1807–8) in defense of Catholic Emancipation were the first of his many services to the cause of religious toleration In 1809 he moved to Yorkshire, where he had been given a living of £500 a year There he also acted as magistrate and village doctor He went to a parish in Somerset in 1829 in 1831 he was given a residentiary canonry at St Paul's Smith's religion, though strong, was of a practical nature A lover of justice and truth, he was a lifelong defender of the oppressed His failure to rise higher in the Church is attributed to his wide reputation as a master of wit and satire Smith has been compared to Swift and to Voltaire See his works (4 vols , 1839–40), memoir by his daughter, Lady Holland (2d ed , 1855), biographies by G W E Russell (1905) and Hesketh Pearson (1934).

Smith, Theobald, 1859–1934, American pathologist, b Albany, N Y , M D Albany Medical College, 1883. He was professor of bacteriology at Columbian (now George Washington) Univ (1886–95) and of pathology at Harvard (1896–1915) and served as pathologist with the Dept of Agriculture (1884–95), the Massachusetts state board of health (1895–1915), and Rockefeller Institute (1915–29) He discovered the parasite causing Texas cattle fever and its transmission by the cattle tick, differentiated between human and bovine tuberculosis, and contributed greatly to preventive medicine He wrote *Studies in Vaccinal Immunity* (with R B Little, 1923) and *Parasitism and Disease* (1934).

Smith, Walter Bedell, 1895–, American general, b Indianapolis He enlisted (1910) in the Indiana National Guard, won a commission in the U S army (1918) and advanced to the rank of lieutenant general (1943) Secretary (1940–41) to the general staff, he became (1942) the U S secretary to the combined chiefs of staff, and as Dwight Eisenhower's chief of staff (1942–45), he signed (1945) the surrender terms with Germany Smith served (1946–49) as ambassador to the USSR and assumed command of the U S 1st Army in March, 1949 He wrote *My Three Years in Moscow* (1950)

Smith, William, 1769–1839, English geologist He made a systematic study of the geological strata of England and identified the fossils peculiar to each layer, thereby introducing the method of estimating, from the fossils present, the age of geological formations. His *Geological Map of England* (1815), one of the first of its kind, was followed by similar maps of English counties Smith was known as a founder of English stratigraphic geology.

Smith, Sir William, 1813–93, English editor and lexicographer, grad University College, London He was editor of the *Quarterly Review* from 1867 until his death and also edited reference works esteemed for their accuracy and comprehensiveness These included dictionaries of Greek and Roman antiquities (1842), biography and mythology (1844–49), and geography (1854–57) and a dictionary of the Bible (1860–63)

Smith, William Farrar, 1824–1903, Union general in the Civil War, b St Albans, Vt , grad West Point, 1845 Before the Civil War he saw much service with the corps of topographical engineers Smith, made a brigadier general of volunteers in Aug , 1861, commanded a division of the Army of the Potomac in the Peninsular and Antietam campaigns and a corps in the battle of Fredericksburg (Dec , 1862) He led a division of militia in the Gettysburg campaign As chief engineer of the Army of the Cumberland he directed operations at Brown's Ferry (Oct , 1863), which restored the connection of the army in Chattanooga with its base of supplies This work, essential to the Union victory in the CHATTANOOGA CAMPAIGN, brought him (1864) a major generalcy (his appointment as major general in 1862 had not been confirmed) In 1864 Smith had a subordinate command in Virginia and fought at Cold Harbor and Petersburg He was relieved of command in June, 1864, while on leave He resigned from the army in 1867

Smith, William Robertson, 1846–94, Scottish biblical scholar and encyclopedist, grad Univ of Aberdeen, and studied for the ministry of the Free Church of Scotland From 1870 he was professor of Oriental languages and Old Testament exegesis in the Free Church college, Aberdeen Certain articles on biblical subjects which he wrote for *The Encyclopaedia Britannica* (9th ed) roused a storm in his church In 1881 he was removed from his professorship This *cause célèbre* is said to have been an important factor in the modernizing of Scottish theology, it certainly made Professor Smith very popular He was soon made an editor of *The Encyclopaedia Britannica* and in 1887 became editor in chief He was professor of Arabic at Cambridge (from 1883) and chief librarian there (1886) Among his best works are *The Old Testament in the Jewish Church* (1881), *The Prophets o Israel* (1882), and *The Religion of the Semites* (1889) His study *Kinship and Marriage in Early Arabia* (1885) is authoritative

Smith, Sir William Sidney, 1764–1840, English admiral A distinguished commander throughout the French Revolutionary and Napoleonic Wars, he is especially remembered for his relief of St Jean d'Acre against Napoleon in 1799 He had earlier been knighted after serving the Swedish king against Russia (1790–92) See biography by John Barrow (2 vols , 1848)

Smith Center, city (pop 1,686), co seat of Smith co , N central Kansas, near the Nebr line, in a corn and dairying area, founded 1871, inc 1886

Smith College, at Northampton, Mass , nonsectarian, for women, chartered 1871, opened 1875 through the bequest of Sophia Smith The first president, Laurenus Clark SEELYE, was influential in establishing high ideals of scholarship Among later presidents was William Allan Neilson (1917–39) Smith has graduate courses in education, a school for social work, and a school of architecture and landscape architecture (at Cambridge) It had pioneer music courses Honors work is emphasized The buildings include Sessions House (1700) and an art museum (Tryon and Hillyer galleries) A training school for women naval officers was held here in the Second World War

Smithers, city (pop 2,232), S W Va , SE of Charleston and on the Kanawha, in a farming and stock-raising area, inc 1938

Smithfield, district of central London, England From the 12th cent it was in use for fairs, markets, jousts, and executions In 1381 Wat Tyler was killed here The Central Meat Market is at Smithfield

Smithfield 1 Town (pop 3,678), co seat of Johnston co , E central N C , SE of Raleigh and on the Neuse, settled before 1746, inc 1861 It has textile mills and a tobacco market **2** Village (pop 1,169), E Ohio, SW of Steubenville **3** Town (pop 4,611), N R I , NW of Providence, set off from Providence and inc 1731 It was settled early in the 18th cent , mainly by Friends Georgiaville (administrative center) and Esmond are among its villages **4** City (pop 2,461), extreme N Utah, in Cache Valley N of Logan, settled 1859 A pea cannery and other processing plants serve the farm and dairying area At near-by Newton is Newton Dam, commenced in 1871 by the Mormons as Utah's first irrigation storage dam and replaced by the Bureau of Reclamation with a dam completed in 1946 **5** Town (pop 1,178), SE Va , NW of Portsmouth, settled c 1633, inc 1752 It is noted for its hams St. Luke's Church near by was built in either 1632 or 1682 and is one of the oldest Protestant churches in America Also near by is Bacon's Castle (1655), a house seized and fortified by the followers of Nathaniel Bacon in Bacon's Rebellion

smithing, see FORGING

Smiths Falls, town (pop 7,159), SE Ont , SW of Ottawa and on the Rideau river and canal. It is a railroad and industrial center, manufacturing electrical appliances, agricultural implements, clothing, and wood products.

Smithson, James, 1765?–1829, English founder of the Smithsonian Institution, b France He was the illegitimate son of Sir Hugh Smithson and Elisabeth Macie and the half brother of Hugh Percy, 2d duke of Northumberland. He was graduated in 1876 from Oxford, where he made a brilliant record in chemistry and mineralogy He wrote valuable scientific papers for the Royal Society publications and the *Annals of Philosophy* His fortune was willed to the United States for the establishment of the SMITHSONIAN INSTITUTION for the "increase and diffusion of knowledge among men " See studies by W J Rhees in Smithsonian Institution, *Miscellaneous Collections*, Vol. XXI (1879), biographical sketch by S P Langley in *The Smithsonian Institution, 1846–96* (1897), P H Oehser, *Sons of Science the Story of the Smithsonian Institution and Its Leaders* (1949)

Smithsonian Institution (smĭthsō'nēun), established (1846) at Washington, D C , by congressional act The question of acceptance of the endowment by James Smithson had been debated 10 years, John Quincy Adams was instrumental in securing the favorable vote The governing board of regents consists of the Vice President of the United States, the Chief Justice, three Senators, three Representatives, and six citizens, two to live in the District of Columbia The secretary of the board is the executive officer of the Smithsonian and the keeper of the U S National Museum The first secretary was Joseph HENRY, who organized the activities, which include all branches of science in their relation to the United States, with special emphasis on scientific research He inaugurated (1867) the international exchange of foreign scientific publications The publications include *Contributions to Knowledge, Miscellaneous Collections, and Annual Reports* The Bureau of American Ethnology from 1879 has been under the auspices of the Smithsonian, other bureaus are the U S National Museum, the National Zoological Park (1890), the Astrophysical Observatory (1891), the Canal Zone Biological Area (est 1940), and the National Air Museum (1946) The Smithsonian Institution is also the repository for the material collected by the American Historical Association (1889) and the National Society of the Daughters of the American Revolution The National Collection of Fine Arts (1906) is connected with the National Museum The Freer Gallery of Art, though separate, forms a part of this collection as a gift from Charles L Freer In 1937 the NATIONAL GALLERY OF ART was established, housed in a new building opened in 1941 This name had formerly been given to the National Collection of Fine Arts See W P True, *The First Hundred Years of the Smithsonian Institution* (1946)

Smithtown, unincorporated village, middle Long Island, SE N Y , in a truck-gardening area

Smithville, city (pop 3,100), S central Texas, on the Colorado and SE of Austin, settled 1827, inc 1895 It has railroad workshops and sawmills

Smohalla (smōhă'lu), d 1907, American Indian prophet, chief of a small tribe (the Wanapun) of the Columbia river valley He preached a religion based on a vision (a "dream") of Indian supremacy, and his followers, called the Dreamers, though they did not advocate force, were influential in causing much difficulty to the government in its policy of settling Indians on reservations

smoke, visible gaseous product of incomplete combustion Smoke varies with its source, but usually consists mainly of particles of carbon and tarry substances, or soot. To reduce the amount of smoke entering the atmosphere, anthracite coal, charcoal, coke, gas, fuel oil, and electricity may be used in place of fuels producing heavy smoke, such as bituminous or soft coal Proper firing techniques and equipment can eliminate or greatly reduce the smoke production of any fuel Wood gives little smoke if burned when dry and if given a good supply of air Where it is necessary to use soft coal because of its lower cost or because other fuel is not available, the grate and flue must be built correctly, the coal must be fed in right quantities and manner, and adequate air must be supplied to the fire When smoke is produced, there are various means of reducing the amount escaping into the air. Some methods utilize electricity or sound waves for precipitation, others employ chemicals, the Cottrell method (see COTTRELL, FREDERICK GARDNER) is perhaps best known The soot may be collected and utilized, and trapped gases sometimes yield valuable by-products Among the evils of smoke are its interference with sunlight (it shuts out the most healthful rays of the sun and also necessitates the use of artificial light), the disfiguring effect of its deposits upon buildings, the destructive chemical effect of the acids of its deposits on stone and metal work; the increased labor and cost of cleaning, its ill effect upon plant life, both through shutting off sunlight and through clogging the stomata of the leaves with its oily deposits; and the damaging effect of its tars and acids to the respiratory systems of humans and livestock. In addition to the cost of its damages, smoke also represents a

waste, for imperfect combustion dissipates potential heat into the atmosphere Moisture condenses about smoke particles (see DUST), and therefore a smoky city often is wrapped in a damp, dark cloud (often called smog) impenetrable by sunlight and almost completely resistant to dissipation by the sun, the cloud usually remains until there is a change of wind. English cities, particularly London and the industrial and mining centers of the Midlands, long suffered from the nuisance, London early tried to lessen it, in part by passing laws against the production of unnecessary smoke Paris has passed stringent laws in an effort to preserve her architectural and sculptural monuments Most American cities have smoke-nuisance laws, designed especially to prevent industrial establishments from interfering with the town's health, beauty, and economic welfare Trains are often, as in New York city, required to use only electric engines in urban areas The laws are often difficult to administer and usually are not applicable to smoke from residential heating units, although these are important contributors to the nuisance Smoke-abatement societies now seek further education of industry in the savings accruing from complete combustion and smoke control, and they sponsor building codes which require in all new buildings the use of heating units designed for efficient combustion Skywriting and smoke screens employ specially produced smoke

smokeball. see PUFFBALL

smokeless powder. see POWDER

Smoky, river of W Alberta, rising in Jasper National Park and flowing 245 mi generally NNE to the Peace, just S of the town of Peace River It receives the Wapiti and Little Smoky rivers It was discovered (1792) by Sir Alexander Mackenzie

Smoky Hill River, rising in E Colorado and flowing c 500 mi E across Kansas to join the Republican and form the Kansas at Junction City The Smoky Hill basin is included in the MISSOURI RIVER BASIN PROJECT U S army engineers in 1948 completed Kanopolis Dam, c 15,400 ft long, and 131 ft high, for flood control on the Smoky Hill, and the Bureau of Reclamation planned Cedar Bluff Dam (and also Kirwin Dam on a tributary, the North Fork of the Solomon) for irrigation

Smoky Mountains see GREAT SMOKY MOUNTAINS

Smolensk (smōlĕnsk', smō-, Rus smŭlyĕnsk'), city (1926 pop 78,520, 1939 pop 156,677), capital of Smolensk oblast, W European RSFSR, on the Dniepr It is an important rail junction and an industrial center with linen mills, manufactures of textile and other machinery, flour mills, sawmills, distilleries, and breweries It was founded in 882 and early developed into a great commercial center, connected with the Black Sea by the Dniepr and with the Hanseatic cities of the Baltic Sea and with Moscow and Nizhni Novgorod by some of the most important medieval trade routes It was the capital of a Russian principality which fell (14th cent) to Lithuania The westward expansion of the grand duchy of Moscow made Smolensk a prize in the long struggles between Moscow and Poland-Lithuania The city was definitely ceded to Russia by the Treaty of Andrusov (1667) Smolensk was captured (Aug, 1812) by Napoleon I after a brief but heroic resistance After the burning of Moscow, Napoleon retreated (Nov, 1812) to Smolensk with the remains of the Grande Armée, but was soon obliged by the Russians under Kutuzov to continue his retreat In the Second World War, Smolensk was captured (Aug, 1941) by the Germans after three weeks of heavy fighting It was recaptured (Sept, 1943) by the Russians after another heavy battle, which left the city virtually razed The ancient and famous kremlin of Smolensk and its cathedral were largely destroyed

Smollett, Tobias George (smŏl'ĭt), 1721-71, Scottish novelist As a youth he went to London, failing to get his tragedy, *The Regicide*, accepted, he shipped as a surgeon's mate in the British navy (1740) He returned to London (c 1743) and set up as a surgeon, but later turned to fiction, writing *The Adventures of Roderick Random* (1748), the first English novel of the sea, *The Adventures of Peregrine Pickle* (1751), and *The Adventures of Ferdinand Count Fathom* (1753) Having given up medicine, Smollett began an active publishing career, editing periodicals, translating, and compiling. His next novel, *The Adventures of Sir Launcelot Greaves*, appeared serially in the *British Magazine* (1760–61) In 1763–65 he made a continental tour, recorded in his entertaining but splenetic *Travels through France and Italy* (1766) Overwork compelled his retirement near Leghorn (1769), where he died. His most vitriolic satire, *The History and Adventures of an Atom* (1769), was followed by his most pleasant novel, *The Expedition of Humphry Clinker* (1771) Written in the formless style of picaresque fiction, rich in incident and in realistic detail, Smollett's novels were drawn from his own wide experience. He had a vigorous and fluent style and an inexhaustible taste for farce and horseplay. See Lewis Melville, *The Life and Letters of Tobias Smollett* (1926), studies by H S Buck (1925, 1927) and G. M. Kahrl (1945), biography by L. M Knapp (1949).

Smoot, Reed (smōōt), 1862-1941, U S Senator (1903–33), b. Salt Lake City, Utah, grad Brigham Young Univ., 1879 He became successful as a banker and was prominent in the affairs of the Church of the Latter-Day Saints He was the first Mormon to be elected (1902) to the U S Senate Efforts were made to bar him from his seat because he was a Mormon, but he was seated after a Senate investigation Smoot, a conservative Republican, joined the "irreconcilables" in opposing the League of Nations and was one of the group which worked for Warren G Harding's nomination (1920) In his later years in the Senate he was chairman of the finance committee, he helped write the HAWLEY-SMOOT TARIFF ACT (1930)

smuggling, illegal import or export of goods or persons liable to an impost or to prohibition Smuggling has been carried on in nearly all nations and has occasionally been adopted as an instrument of national policy, as by Great Britain against Spain and France in the 18th to 19th cent and by the Western powers and later Japan against China The restrictive economic policies of mercantilism in the 17th to 18th cent gave rise to the practice in France following the attempted reforms of Colbert, in the Spanish colonies, and in North America British attempts to halt the practice by stringent enforcement of the NAVIGATION ACTS were a contributory cause of the American Revolution Napoleon's decrees attempting to seal off the European continent from British commerce gave rise to widespread smuggling in the early 19th cent Smuggling in England shifted from export, especially of wool, to the importation of luxury articles, such as silks and brandy, during the recurrent wars with France from 1689 to 1815 Britain, source of free-trade philosophy, has been more liberal in her anti-smuggling laws than others, and the practice was condoned in a famous passage by Adam Smith Smuggling into the United States revived on a large scale in the prohibition era and was carried on practically with impunity by boat from overseas and overland from Canada Illegal entry of immigrants also presented a problem after the drastic curtailment of immigration at the end of the First World War Luxury articles and specifically prohibited goods such as narcotics are also smuggled The U S coast guard has the suppression of smuggling as one of its chief activities U S law declares the article smuggled to be forfeit and the smuggler, on conviction, liable to a fine of $5,000, or imprisonment, or both Examples of the smuggling of persons contrary to law are the slave trade to the United States and Latin America following its outlawry by the powers in the early 19th cent, the more recent slave trade in countries bordering the Red Sea, and the traffic in women for immoral purposes, contrary to international convention See J J Farjeon, *The Compleat Smuggler* (1938)

smut, name for various diseases of cereal plants caused by parasitic fungi which produce soothlike masses of spores on the host The smuts lower the vitality of the host plant and often cause deformities Among those which cause severe annual losses to crops are corn smut, oat smut, bunt or stinking smut, and loose smut of wheat Bunt is probably the most serious disease which attacks wheat at the young or seedling stage and spoils the grain It has the odor of sour herring and is caused by either of two smut fungi The fungus may be present on the wheat seed or in the soil in which the seed is sown, or it may be blown into a field by the wind Methods of control include treating the seeds (to which the spores of some smuts adhere) with poisons or with hot water, rotating crops, and removing and burning infected parts before the spores form

Smuts, Jan Christiaan (yän' krĭs'tyän smŭts'), 1870–, South African statesman and soldier, b Cape Prov He was of Dutch stock and a British subject by birth He was educated at Victoria College (at Stellenbosch) and at Cambridge Univ, where he won highest honors in law In 1895 he was admitted to the Cape Colony bar The Jameson raid (see JAMESON, SIR LEANDER STARR) persuaded him that Great Britain intended to conquer the South African Republic (TRANSVAAL), and he renounced his British citizenship and moved to the republic, where he became (1898) state attorney In the South African War, Smuts commanded (1901-2) Boer guerrilla forces in the Cape Colony By 1904 he concluded that the cooperation of the Boer and British elements was essential to the greatness of South Africa, and he joined with Louis BOTHA to carry out this policy Smuts was instrumental in the creation (1910) of the Union of South Africa In the first elections, Botha's United South African, or Unionist, party won Smuts continuously held office in Botha's cabinet, serving as minister of defense (1910–19), of interior and mines (1910–12), and of finance (1912–13) His use of military force and of admittedly illegal deportations in breaking (1914) a miners' strike on the Witwatersrand lost him the support of labor Early in the First World War, Smuts smashed a Boer uprising, and in 1916 he served successfully as a general against German East Africa. He was a member (1917–18) of the imperial war cabinet in London, and he signed the Treaty of Versailles although he protested that its terms would outrage Germany and prevent the harmonious world order which he believed could best be served by the League of Nations With Botha's death (1919), Smuts headed the Unionists, and from 1919 to 1924 he was prime minister and minister for native affairs His party lost the election of 1924 and Smuts in retirement wrote *Holism and Evolution* (1926, 3d ed, 1936), in which he developed the view that evolution is a sequence of ever more comprehensive integrations, in the political sphere the British Empire and the developing world community provided the highest examples Smuts was (1933–39) minister of justice in a coalition cabinet, but when J B M Hertzog, the prime minister, opposed entering the Second World War, Parliament revolted and made Smuts prime minister In 1941 he was created field marshal He spent most of the war in London, where he had a high place in the British war councils, and he was very active in organizing the United Nations The esteem he enjoyed was shown by his appointment (1948) as chancellor of Cambridge Univ In South Africa, however, Smuts's party lost the election of 1948 and he was himself defeated, a constituency was then vacated for him and he ran successfully Smuts wrote *Africa and Some World Problems* (1930) His speeches are collected in *Plans for a Better World* (1942) See biographies by Sarah Millin (1936), F S Crafford (1943), and René Kraus (1944), Basil Williams, *Botha, Smuts, and South Africa* (1946)

Smybert, John see SMIBERT, JOHN

Smyrna (smûr'nə), Turkish *Izmir* (ĭzmēr', ĭz'mĭr), city (pop 198,396), W Turkey, a port on the Bay of Smyrna of the Aegean Sea It is a manufacturing center for soap, dyes, hides, and tobacco Smyrna province is rich in mineral resources, including antimony, copper, silver, emery, iron, manganese, mercury, and zinc An early Ionian colony, Smyrna was destroyed in 627 B C by the Lydians, it was rebuilt, on a different site, three centuries later, by Antigonus I, was enlarged and beautified by Lysimachus, and became one of the largest and most prosperous cities of Asia Minor Its wealth and splendor increased under Roman rule Smyrna was an early center of Christianity, one of the Seven Churches in Asia (Rev 2–8) It fell to the Seljuks in the 11th cent, was recaptured by Byzantium by Emperor Alexius I during the First Crusade, and formed part of the empire of Nicaea from 1204 to 1261, when the Byzantine Empire was restored In 1261 also the Genoese obtained trading privileges at Smyrna, which they retained until it fell (c 1300) to the Seljuks The Byzantines regained it in 1344 and the Genoese privileges were restored In 1402 Tamerlane took Smyrna, which had been defended by the Knights Hospitalers, and sacked the city The Mongols were succeeded in 1424 by the Ottoman Turks, who kept it until 1919 A Greek Orthodox archiepiscopal see, Smyrna remained a center of Greek culture and the chief Mediterranean port of Asia Minor, and it retained its large Greek population After the collapse of the Ottoman Empire in the First World War, the city was occupied (1919) by Greek forces The Treaty of Sèvres (1920) assigned Smyrna and its hinterland to Greek administration and provided for a plebiscite to be held in 1925 to determine the permanent status of the area Six weeks after the signing of the treaty Greek forces, with the consent of the Allies, undertook (July, 1920) their campaign against the Turkish nationalists under Kemal Ataturk, who had refused to recognize the treaty The Greeks were generally successful until Aug, 1922, when the Turks crushed them in a swift counteroffensive Smyrna fell to the Turks in Sept, 1922, and a few days later was nearly destroyed by fire The plight of the thousands of Greek civilian refugees was pathetic The Treaty of Lausanne (1923) restored Smyrna to Turkey A separate convention between Greece and Turkey provided for the exchange of their minorities, which was carried out under League of Nations supervision The population of Smyrna thus became predominantly Turkish With the loss of most of its Greek inhabitants, Smyrna declined considerably as a trade center It suffered further from severe earthquakes in 1928 and 1939 Among the cities that claim to have given birth to Homer, Smyrna has the likeliest claim

Smyrna. **1** Town (pop 1,870), N central Del, NNW of Dover, in a farming area, inc 1859 It has canning and packing industries **2** Town (pop 1,440), NW Ga, just NW of Atlanta

Smyth, Dame Ethel Mary (smith), 1858-1944, English composer, studied at the Leipzig Conservatory. Besides her many songs and chamber music she wrote operas, including *The Wreckers* (Leipzig, 1906) and *The Boatswain's Mate* (London, 1916), and a Mass in D (London, 1893) In 1922 she was made Dame of the British Empire Her autobiographical writings include *Impressions That Remain* (1919), *Streaks of Life* (1921), and *As Time Went On* (1936)

Smyth or Smith, John, d 1612, English nonconformist clergyman, often called the founder of the General Baptists Influenced by the Brownists, he

left the Church of England and became minister of an independent congregation at Gainsborough in 1606 Soon thereafter, Smyth and his followers went to Holland to escape persecution There, under Mennonite influence, he became convinced that the Scriptures did not authorize infant baptism, he baptized himself (for which he is called se-baptist or self-baptizer), then some of his followers In 1611 certain members of his congregation returned to London and established a church See biography in Smyth's works (ed by W T Whitley, 1915), W H. Burgess, *John Smith the Se-Baptist* (1911)

Smythe, Francis Sydney, 1901–49, English mountaineer, b Maidstone, England He climbed Kamet (25,447 ft) in the Garhwal Himalayas in 1931 and took part in the Everest expeditions of 1933, 1936, and 1938, on one occasion reaching a point 1,100 feet short of the summit His books include *The Kangchenjunga Adventure* (1931), *Kamet Conquered* (1932), a biography of Edward Whymper (1940), *The Rocky Mountains* (1949), and *The Valley of Flowers* (1949)

Sn, chemical symbol of the element TIN

snail, name commonly used for a gastropod mollusk with a spiral shell Included in the thousands of species are terrestrial, fresh-water, and marine forms Some eat both plant and animal matter, the diet of others is limited to one type of food Breathing is carried on by gills or by a pulmonary sac or lung in the mantle cavity Eyes are borne on the tips of tentacles Both sexes are represented in each individual The snail secretes a slimy path over which it progresses slowly by contractions of the broad foot Snails are used for food especially in Europe. They were eaten by primitive man and were raised by the early Romans Some species can be successfully used as scavengers in aquariums Although some destroy vegetation, more harm is done to gardens by the slug

Snake, river, c 1,000 mi long, NW United States, the chief tributary of the Columbia, formerly called the Lewis river or the Lewis Fork of the Columbia It rises in NW Wyoming, in Yellowstone National Park S of Yellowstone Lake, is early joined by the small Lewis river (from Shoshone Lake), flows through Jackson Lake, then S and W into Idaho and northwest to its junction with the Henrys Fork river The combined stream runs southwest, then northwest, crossing Idaho through the Snake river plain and having several notable falls in the east It makes a bend into Oregon and turns north to form the Idaho-Oregon and Idaho-Washington boundaries (receiving several tributaries, including the Boise and the Salmon), then turns at Lewiston, Idaho (at the mouth of the Clearwater), and flows generally west to join the Columbia near Pasco, Wash The Snake was discovered by the Lewis and Clark expedition and was of major importance in U S expansion into the Pacific Northwest Most of the cities of Idaho are in the Snake river valley The Snake in its upper and middle courses and its tributaries are much used for irrigation by private projects (one of the most notable being at TWIN FALLS) and by the Bureau of Reclamation, which has many dams, reservoirs, and projects, including the MINIDOKA PROJECT, the King Hill irrigation project, and the BOISE PROJECT

snake, REPTILE with an elongated scaly body, limbless or with traces of hind limbs, with a forked retractile tongue and recurved teeth, and with clear scales instead of movable eyelids The skin is shed, usually several times a year There are often enlarged scales or shields on the head No ears are present Only one lung is developed A snake moves by means of the body muscles aided by the ventral plates (elongated scales on the abdomen) and the ends of the ribs Most snakes live on or under the ground, but some are arboreal, and others aquatic Many hibernate in winter Small snakes feed on insects and larger ones on proportionately larger animals The construction of the jaws and ribs and the expansible skin enable a snake to swallow large prey The majority lay eggs, others produce live young Most snakes are protectively colored There are about 2,500 species, of which about four fifths are nonvenomous Among the harmless snakes of North America are the GARTER SNAKE, KING SNAKE, ribbon snake, green or grass snake, pilot black snake, BLACK SNAKE, De Kay snake, and the milk, bull, water, hog-nosed, worm, rat, coachwhip, and pine snakes The boa family includes the largest snakes, the ANACONDA and the reticulated PYTHON, the smaller BOA CONSTRICTOR, and the tree and sand boas. Poisonous snakes of North America are the coral snake and the pit vipers, e.g., the COPPERHEAD, WATER MOCCASIN, RATTLESNAKE, and *massasauga*. Other pit vipers are the deadly FER-DE-LANCE and the BUSHMASTER Also highly venomous are the Old World vipers, the COBRA, the African mamba, and the sea snakes of tropical oceans Only by familiarity with their appearance or by examination of their fangs can the venomous kinds be distinguished from the harmless ones Venom is produced by modified salivary glands, from which it passes through either a groove or a hollow bore in the snake's fangs into the victim Venom is removed from snakes for use in treating certain diseases and to make antivenin for snake bites See C H. Curran and Carl Kauffeld, *Snakes and Their Ways* (1937), C H Pope, *Snakes Alive and How They Live* (1937), R L Ditmars, *Snakes of the World* (1937 ed) and *Field Book of North American Snakes* (1939)

snake bite. Poisonous snakes of the United States are the rattlesnake, the copperhead, the water moccasin, and the coral snake Other poisonous snakes are the cobra and the South American rattlesnake The venom of the coral snake, cobra, and South American rattlesnake causes injury chiefly to the nerves, but also damages blood cells and blood vessels That of the copperhead, rattlesnake, and water moccasin causes hemorrhage When in snake country it is advisable to wear heavy clothing not easily penetrated by the snake's fangs and to protect the ankles and legs with boots or leggings After a bite a TOURNIQUET should be instantly applied to the limb between the wound and the heart An antitoxin effective against all types of snakes (polyvalent antitoxin) should be given by INJECTION into a vein and then beneath the skin around the bite The wound should be cut to encourage bleeding ARTIFICIAL RESPIRATION may be required

snake charming, art of fascinating, capturing, and controlling serpents It was known and practiced in the East from ancient times either as amusement or as a means of luring dangerous reptiles from the vicinity of men and cattle The cobra, usually displayed by Indian jugglers, is controlled by monotonous music, and the asp is fascinated by the rhythmic movements of a bright object Sometimes the jugglers extract the fangs, but more often they rely, for their safety, on their power to charm, which is reputedly hereditary

Snake Indians, name given to certain North American Indian tribes in S Idaho, N Nevada, and N Utah These Indians are now classified as the SHOSHONE INDIANS, the BANNOCK INDIANS, and the PAIUTE INDIANS

snakeroot, name for several plants, among them SENEGA SNAKEROOT, button snakeroot or BLAZING STAR, WHITE SNAKEROOT, and BLACK SNAKEROOT

snapdragon, Old World perennial (*Antirrhinum majus*), cultivated, usually as an annual, in greenhouses and gardens for cut flowers The showy blossoms, likened to a dragon's snout, are of various colors There are dwarf snapdragons suitable for rockeries Other species of the genus, many of which grow wild in the W United States, are also called snapdragon and are sometimes cultivated The related butter-and-eggs is often called snapdragon

snapper, member of a family of food fishes of warm and tropical seas Best known of the group is the red snapper, found along the Atlantic coast from Long Island to Brazil and most abundant in the Gulf of Mexico It is shipped in quantities to many parts of the United States The body and fins are deep red and it reaches a length of from 2 to 3 ft Game fish of the family include the gray or mangrove snapper, muttonfish, and dog snapper of Atlantic waters Some species are common in tropical Pacific regions

snapweed see TOUCH-ME-NOT

snare drum, small drum having a drumhead at either end One head is struck with wooden drumsticks, and on the other are stretched several strings, called snares, which cause a rattling against the head The snare drum was used only in military bands until the 19th cent, when it became an orchestral instrument

Snead, Sam (Samuel Jackson Snead) (snēd), 1912–, American golfer, b Hot Springs, Va He worked on his father's farm, began golfing as a caddie when he was 15, and excelled at athletics while in high school In 1935 he moved to White Sulphur Springs, W Va., and began playing professional golf From the start Snead was a large money winner, and after three times (1938, 1940–41) winning the Canadian Open tournament, Snead won (1942) the Professional Golfers Association crown After service (1942–44) in the U S navy in the Second World War, he returned to the game and won (1946) the British Open title In 1949 Snead—noted for his perfect golf form—again won the P G A crown and was the biggest tournament money winner He wrote *How to Play Golf* (1946)

sneezing, sudden violent expiration of air through the nose and mouth without the person's control, resulting from a stimulus from the nervous system which causes contraction of the muscles of expiration Any irritation in the nose may produce the stimulus—inflammation due to infection (as in colds) and to irritants (as in HAY FEVER or in using snuff) and the presence of foreign bodies It was considered of some significance as an omen by the ancients There is no benefit in preventing a sneeze under ordinary conditions, but the nose and mouth should be covered to prevent exposing others to possible infection.

Sneffels, Mount, peak, 14,143 ft. high, SW Colo., in the San Juan Mts of the Rockies and W of Ouray

Snefru (snĕ'frōō), d c.2900 B C , king of ancient Egypt (c.2930–c 2900 B.C.), of the III dynasty; predecessor of Khufu Snefru began commerce across the open sea with Phoenicia, for the cedar logs of Lebanon, and built ships nearly 170 ft long for use on the Nile He was successful against Nubia in the south and permanently established Egypt's power in the copper-producing Sinai peninsula His tomb was the largest up to that time

Snell or **Snellius, Willebrord** (vĭl'lŭbrôrt snĕl', snĕl'ĭŭs), 1591–1626, Dutch mathematician He is generally credited with the discovery (1621) of the law of the refraction of light In 1613 he became professor of mathematics at the Univ of Leiden His two chief works are *Eratosthenes Batavus* (1617) and *Cyclometricus* (1621)

Snelling, Fort, established in 1819 on a bluff above the Mississippi at the confluence of the Minnesota It served not only as protection against Indians but as a nucleus of settlement A sawmill was built at the Falls of St Anthony here in 1821, and later MINNEAPOLIS grew on the fort reservation

Snellius, Willebrord see SNELL, WILLEBRORD

snipe, small or medium-sized wading bird related to the woodcock and native to the Old and New Worlds The plumage is generally variegated brown, chestnut, and buff Like the woodcock it probes in soft earth for food—insects, chiefly harmful ones, and worms The Wilson's snipe, also called common snipe, English snipe, or jacksnipe, a game bird of marshes and wet meadows, is about 11¼ in long It breeds in the N United States and Canada and migrates as far as Brazil In its unusual breeding-season performance it circles and dives in the air The eastern dowitcher or red-breasted snipe is an easy prey to hunters The long-billed dowitcher of W North America and South America is rare on the Atlantic coast Very similar to the Wilson's snipe is the common snipe of Europe, Asia, and Africa

Snohetta, Norway see DOVREFJELL

Snohomish (snōhō'mĭsh), farm trading city (pop 2,794), NW Wash., on the Snohomish river and NE of Seattle, settled in the 1850s

snoring, rough, vibratory sounds accompanying breathing during sleep or coma The noisy breathing is associated with the relaxation of the palate and an open mouth In some individuals, snoring is avoided by sleeping on the side Any obstruction interfering with normal breathing through the nose may produce such sounds during sleep Sometimes snoring indicates the need for removal of adenoids

Snorri Sturluson (snô'rē sturt'lŭsŏn) or **Snorri Sturleson** (-lāsŏn) 1179–1241, Icelandic chieftain and historian He was the author of the invaluable prose EDDA, which is at once a treatise on the art of poetry and a compendium of Norse mythology, and of the *Heimskringla*, biographies of Norse kings, a source for medieval Norwegian history Snorri loved intrigue, money, and power, he held high office in the Icelandic commonwealth, but lost favor when he seconded the plan of Haakon IV for the annexation of Iceland to Norway He was killed on his own land by a relative and rival

Snow, Francis Huntington, 1840-1908, American educator and entomologist, b Fitchburg, Mass., grad Williams, 1862 He was associated with the Univ of Kansas from its inception—as professor of mathematics and natural science (1866–70), of natural history (1870–89) and of organic evolution, meteorology, and entomology (1901-8) and as chancellor (1890–1901) His insect collection, gathered on 26 expeditions and housed in Snow Hall, is one of the largest in the country

Snow, Lorenzo, 1814–1901, Mormon church leader, b Mantua, Ohio He studied at Oberlin College Entering the Mormon church (1836), Snow became an apostle in 1849 Upon his return from missionary work abroad, he settled in Utah, where, at Brigham, he established a cooperative plan (1864) He was for 30 years in the legislature In 1889 he was made president of the Twelve Apostles and in 1898 president of the Mormon church His works include an Italian translation of the *Book of Mormon* and *The Only Way to Be Saved* (1851)

snow, precipitation formed by the condensation of vapor in temperatures below freezing Condensation resulting in the formation of snow (as in the formation of raindrops) takes place about a dust particle, and snowflakes form symmetrical (hexagonal) crystals, sometimes matted together if they descend through an warmer than that of the cloud in which they originated Snowfall, reduced to its liquid equivalent, is usually included in statistics on rainfall, the factors determining snowfall are similar to those affecting rainfall On an average, 10 in of snow is equivalent to 1 in of rain The functions of snow are varied It is the source of the AVALANCHE and the GLACIER It serves as an insulating blanket, lessening to some extent the extremes of temperature fluctuation to which the soil is subjected Snow lessens loss of water by dormant plants The sudden melting of snow is a primary cause of floods Snow necessitates the building of snowsheds over rail lines and highways in certain mountain localities where the heavy fall is likely to impede travel, the use of snowplows to clear sidewalks, streets, and roads; the use of snow fences to prevent drifting over roads; and the use of skis, snowshoes, toboggans, and sleds for travel. It

is a primary factor in the location of winter sports centers and so has great economic value to certain areas Snowfall also affects architecture, e g , in countries where the snowfall is heavy, roofs are built with a steep pitch so that the snow will slide off See W A Bentley and W. J Humphreys, *Snow Crystals* (1931).

snowball see HIGH-BUSH CRANBERRY

snowberry, any of the white-fruited species of *Symphoricarpos*, a genus of ornamental shrubs, chiefly American The common snowberry (*Symphoricarpos racemosus* or *albus*) is cultivated for the many compact clusters of waxy berries which are persistent into the winter, they were eaten by some of the western Indians The pinkish flowers are small and bell shaped A pink-fruited species is called coralberry and Indian currant Other plants are sometimes called snowberry

snowbird see JUNCO

snow blindness, impaired vision or temporary blindness caused by a burn of the cornea of the eye resulting from prolonged exposure to sunlight reflected from water or snow. Healing occurs within 48 hr Treatment includes use of a local anesthetic to reduce the intense pain and application of a dressing until healing is completed

Snowden, Philip Snowden, 1st **Viscount** (snō'dun), 1864–1937, British statesman Born to poverty and crippled for life by a bicycle accident, Snowden became, at the age of 27, interested in the socialist movement and joined the Independent Labour party in 1893, the year of its organization He was twice chairman of the party (1903–6, 1917–20), but resigned in 1927 in favor of the Labour party proper as a protest against what he considered the revolutionary tendencies of the parent organization He served in the House of Commons from 1906 to 1918 and from 1922 until 1931, when he was elevated to the peerage as Viscount Snowden of Ickornshaw He belonged to the pacifist minority of the socialist group in the First World War As an acknowledged specialist in finance, he became chancellor of the exchequer in the ministries formed by Ramsay MacDONALD in 1924 and 1929 He attempted to relieve poverty and unemployment, advocated free trade, and at the Hague Convention of 1929 demanded increased German war reparations He entered the National government of 1931 with MacDonald, but retired the following year when free trade was abandoned See his autobiography (2 vols , 1934)

Snowdon, Welsh *Eryri* (ĕrŭ'rē), mountain, 3,560 ft high, Caernarvonshire, Wales, SE of Caernarvon, highest in Wales It has five peaks, separated by Llanberis, Aberglaslyn, and other passes There is a rack and pinion railway from Llanberis to the summit Other towns in the vicinity are Beddgelert and Capel Curig The Snowdon district, or Snowdonia, is noted for the beauty of its scenery

snowdrop, any species of the genus *Galanthus*, hardy, low bulbous plants of the Old World, with a single, small, nodding, bell-shaped white blossom appearing in the early spring, sometimes while there is still snow The flower is emblematic of consolation and of promise The plants are popular for naturalizing *Galanthus nivalis* is the common snowdrop, there are also giant and double kinds

Snow Hill, town (pop 1,926), co seat of Worcester co , Eastern Shore, Md , on the Pocomoke river and SE of Salisbury, founded 1686 It has several small industries At All Hallows Church (1756) is a Bible, a gift of Queen Anne, dated "London, 1701"

snow line, altitude above which or latitude beyond which there is perpetual snow In arctic and antarctic regions it is at sea level, near the equator, at an altitude of c 3 mi Other factors affecting the location of the snow line are the quantity of snowfall, the steepness of the slope and exposure with reference to the sun and prevailing winds, the type and velocity of the winds, and the presence or absence of large bodies of water In the Alps the snow line is at c 9,000 ft above sea level, in the Andes it is at c 16,000 ft.

snow-on-the-mountain see SPURGE

snowshoes, footgear enabling the wearer to walk on soft snow without sinking A snowshoe consists of a light frame of tough wood, roughly the shape of a large tennis racket, which is strung with caribou skin or other material and is attached to the shoe back of a central crossbar in the frame A primitive form of snowshoe is that used by the Eskimo and North American Indians, but the designs differ considerably The Eskimo uses one shape which is triangular, about 18 in in length, and another which is nearly circular The Cree Indians, farther south, use a long narrow hunting shoe, about 6 ft in length, in open country and for speed this type is the best The toes are slightly turned up to prevent catching if there is a crust on the snow The shoes worn by lumbermen are about 3½ ft long and proportionately broad, while a tracker's shoe is at least 5 ft long and very narrow Manufactured snowshoes are often made with the moccasin attached. The correct method of walking on snowshoes is to raise them slightly with each step and slip the edge of one over the other Snowshoe races are now one of the popular sports at winter carnivals, and the sport is governed in the United States and Canada by the International Snow-Shoe Congress. See D. S Davidson, *Snowshoes* (1937)

snowy heron. see EGRET.

snuff. In pre-Columbian time, snuff taking was practiced in the West Indies, in Mexico, and in parts of South America The adoption of the practice in Europe was encouraged by belief in its medicinal virtue From Europe the practice was carried to the Orient The highest status of snuff taking was attained in the 18th cent , when it was practiced by both men and women The richly ornamented snuffboxes of the time are now esteemed by collectors A ritual of taking snuff developed, with prescribed ways of tapping and opening the box and offering it to others In preparing snuff, blended tobacco is aged, often for two or three years, undergoes a number of fermentations, and is ground , usually flavoring and scenting materials are added More recently the practice of dipping snuff into the mouth with a stick or brush or of inserting it between the cheek and gums largely replaced sniffing it into the nostrils See M M Curtis, *The Story of Snuff and Snuff Boxes* (1935)

Snyder, John Wesley, 1896–, U S Secretary of the Treasury (1946), b Jonesboro, Ark After study at Vanderbilt Univ (1914–15) and fighting in the First World War, he was an executive in various Arkansas and Missouri banks and became national bank receiver in the Office of the Comptroller of the Currency (1930–37) Later serving in the RFC (1937–45), he followed Fred M VINSON as Federal loan administrator (1945), as Office of War Mobilization and Reconversion administrator (1945–46), and as Secretary of the Treasury

Snyder, 1 Town (pop 1,278), SW Okla , SW of the Wichita Mts , in a farming and granite-mining section, inc 1903 A wildlife refuge is near by 2 Town (pop 3,815), co seat of Scurry co , NW Texas, NW of Sweetwater, inc 1907 It grew as a cow town about a trading post established in 1876 Cattle ranches, oil fields, and dairy, chicken, and cotton farms in the region support the small industries of the town

Snyders, Frans (frans' snī'durs), 1579–1657, most celebrated Flemish still-life and animal painter, b Antwerp He studied with "Hell" Bruegel and Hendrik van Balen but was principally influenced by Rubens After traveling in Italy he settled in Antwerp, where he enjoyed a flourishing practice He often collaborated with Rubens and Jordaens, in whose pictures he sometimes painted the animals while they in turn did figures for some of his paintings of the hunt The early work of Snyders was largely still life, but he is best known for his spirited animal compositions, often depicting hunting scenes or struggles between wild animals, a field in which he has never been excelled He enjoyed the patronage of Archduke Albert, governor of the Low Countries, and of Philip III of Spain Many of his finest works are still in the Prado His paintings are fresh and luminous in color and admirable in composition Among his noted works are *Stag Hunt* (The Hague), *Hippopotamus Hunt* (Rijks Mus), *Lioness Attacking a Boar, Dogs in the Kitchen* (Louvre), *Lions Chasing a Deer* (Metropolitan Mus), and *Boar Hunt* (Mus of Fine Arts, Boston)

So, king of Egypt to whom Hoshea of Israel sent messengers (c 726 B C) He is mentioned only in 2 Kings 17 4 Identification of So is difficult in the confused state of the time in Egypt

Soane, Sir John (sōn), 1753–1837, English architect He won a fellowship to Rome and after his Italian travels returned in 1780 to begin his practice in England In 1788 he was chosen to succeed Sir Robert Taylor as architect for the Bank of England, his largest and most important work Among Soane's other works are the Dulwich Picture Gallery, Pitzhanger Manor at Ealing, and his own residence at Lincoln's Inn Fields, which he bequeathed as a museum for his collections, now known as the Soane Museum He devoted his later years to teaching architecture and delivering lectures Though one of the leaders of the classic revival in England, he went beyond the mere imitativeness of classic models generally prevalent and evolved a highly individual style through an imaginative and flexible use of Greek and Roman motives He became a member of the Royal Academy of Arts in 1802 and was knighted in 1831

soap. Ancient peoples are believed to have employed wood ashes and water for washing and to have relieved the resulting irritation with grease or oil In the 1st cent. A D , Pliny described a soap of tallow and wood ashes used by Germanic tribes to brighten their hair A soap factory and bars of scented soap were excavated at Pompeii Soap fell into disuse after the fall of Rome but was revived in Italy probably in the 8th cent and reached France c 1200, Marseilles became noted as a soap-making center Although soap was known in England in the 14th cent., the first English patent to a soapmaker was issued in the 17th cent The industry was handicapped in England from 1712 to 1853 by a heavy tax on soap In the American colonies soap factories appeared at an early date, and many housewives made soap from waste fats and lye (obtained by leaching wood ashes). The manufacture of soap was stimulated by Chevreul's discovery of oleic and stearic acids in the early 19th cent and by Leblanc's method (1791) of preparing soda from salt Chemically, soaps are metallic salts of fatty acids, i e , compound substances composed of a metal such as sodium or potassium and of carbon, hydrogen, and oxygen combined as in the fat from which the soap was derived The manufacture of soap is based on a chemical reaction (saponification) in which an alkali acts upon a fat to form a metallic acid (soap) and an alcohol (glycerin) A number of methods may be employed to make soap, but all are based on the same principle of operation Fats and oils (often blended) are heated in a large vessel, then enough alkali to react with all the fat is stirred in When salt is added, the soap forms a light curd which floats to the surface Glycerin, a valuable by-product, can be distilled from the liquid residue To produce a purer soap, the curds are washed with salt solution, water is later added, and the solution is allowed to settle, the upper of the two layers thus formed is the pure soap, called settled soap It is thoroughly churned, poured into huge frames, cut with wires, shaped, and stamped Hard-milled soap is run over chilled rollers and is scraped off as chips which are rolled into ribbons, cut, and shaped Soap is marketed also as chips, flakes, and beads and in powdered form Soap powders, as distinguished from powdered soap, contain builders which assist in rough cleaning Soaps differ according to the lathering properties of the fat or oils and according to the alkali employed When sodium hydroxide is used as the alkali, hard soaps are formed, potassium hydroxide yields soft soaps Aluminum, calcium, magnesium, lead, or other metals are used in place of sodium or potassium for soaps used in industry as paint driers, ointments, and lubricating greases and in waterproofing Fillers are added to many soaps to increase lathering, cleansing, and water-softening properties, rosin is commonly used in yellow laundry soap to increase lathering Soap substitutes include saponin-containing plants such as soapwort and shagbark and the modern soapless detergents (usually sulfonated alcohols), which may be used in hard water and even in salt water without forming curds Soap cleanses by lowering the surface tension of water, by emulsifying grease, and by adsorbing dirt into the foam See E A B McGowan, *A Comparative Study of Detergents* (1930), W A Poucher, *Perfumes, Cosmetics, and Soaps*, Vol I (5th ed , 1941), Vols II–III (6th ed , 1942)

soap plant, any of various plants containing cleansing properties A few are of commercial importance, but most soap plants are used locally, as in early times, for toilet and laundry purposes The soapbark (now often included in hair tonics) and the soapberry have been particularly valued for shampooing, and the California soap plant, the soapbark, and the soapwort for washing delicate fabrics Soap plants contain no alkali and are considered mild and beneficial for cleansing purposes, with the exception of the soapberry, which is thought to deteriorate some materials The lather-producing substance is saponin, often poisonous if taken internally This poisonous quality was utilized by the Indians, who caught fish by first stupefying them with bits of the plants thrown into pools There are many plants that are saponaceous, but only a few are known to contain appreciable amounts, as in the rootstock of species of YUCCA (e g , *Yucca baccata*), the bulb of the California soap plant (*Chlorogalum pomeridianum*), the roots and fruit of the red BUCKEYE (*Aesculus pavia*), the roots, stems, and leaves of the SOAPWORT, the dried inner bark of the soapbark tree (*Quillaja saponaria*), the fruit of the soapberry (*Sapindus*), the pods of an ACACIA (*Acacia concinna*), and the roots of the California pigweed (*Chenopodium californicum*) Other plants with lather-producing parts are species of *Zygadenus*, *Veratrum*, and AGAVE, the SENEGA SNAKEROOT, and the cowherb (*Saponaria vaccaria*) The name *amole* (ämō'lā) is sometimes given soap plants, particularly those of the Southwest, where they are still in common use

soapstone or **steatite** (stē'ŭtīt), massive rock of which the characteristic, and usually the chief, mineral is TALC, but which also contains varying parts of chlorite, mica, tremolite, quartz, magnetite, and iron compounds It is gray to green in color, with a soapy feel, and is notable for its high degree of resistance to acids and heat It is so soft as to be easily cut with a knife or other sharp tool The chief deposits of commercial importance are in the United States, Norway, and Canada It is used in the manufacture of laboratory equipment, kitchen sinks, laundry tubs, furnace linings, and electrical apparatus

soapwort or **bouncing Bet,** perennial plant (*Saponaria officinalis*), cultivated in gardens in colonial America and now naturalized and common along roads and railroads It has opposite leaves and pink or white clusters of flowers that may be single or double The roots, stem, and leaves yield a lather which cleanses and is considered particularly

fine for delicate fabrics and laces, although the bark of the root is apt to give white materials a reddish tinge The soapwort is the most widely known American SOAP PLANT; it has been used medicinally as an alterative Other species of the genus *Saponaria* are also called soapworts

Sobat (sō'bät'), river, c 460 mi long, rising in SW Ethiopia and flowing generally NW through the Anglo-Egyptian Sudan to the White Nile It is navigable most of the year In its upper course it is called the Baro

Sobieski, John: see JOHN III, king of Poland

socage: see TENURE

soccer (sŏ'kŭr), game played on a grassy field preferably measuring 120 yd by 75 yd It is also called association football A line parallel to the goal lines divides the field in half, and in the direct center of the field is a circle with a radius of 10 yd Centered on each goal line is a goal, 8 yd wide and 8 ft high, backed with netting In front of each goal is the goal area (20 by 6 yd), which is enclosed by a penalty area (44 by 18 yd) A soccer team comprises 11 men—a goalkeeper, two fullbacks, three halfbacks, and five forwards—and limited substitution is allowed At the beginning of each 45-minute half, after a goal has been scored, and at the beginning of the overtime period in case of a tie, there is a kickoff from the center circle Play is directed toward advancing the round inflated leather ball (about 28 in in circumference) to the goal guarded by the opposing team The ball is kicked (often dribbled with short kicks) or may be advanced by other parts of the body such as the head and chest, but only the goalkeeper may use his hands Each goal counts one point Penalties meted out by a referee, who is assisted by linesmen, are awarded the offended team, e g , free kicks from various parts of the field In England soccer for many centuries was undifferentiated in name and character from football After the advent (1823) of rugby football, a passing and kicking game, the London Soccer Association was formed (1863) to further that type of football which emphasized only the kicking of the ball The name soccer was derived by usage from an abbreviation of the word *association* The game gained tremendous popularity in Great Britain and was rapidly adopted by the continental countries, where it still generally goes under the name football Although soccer is a secondary sport in the United States (largely because of the tremendous popularity of the American brand of football), it is doubtless the most popular sport played internationally See F N S Creek, *Association Football* (1937); A E Witcher, *Soccer Calling* (5th ed , 1945), G J S King, *Popular History of Association Football* (1949), R T Hesford, *Association Football* (1950)

Sochi (sô'chĭ), city (1939 estimated pop 50,000), S Krasnodar Territory, SE European RSFSR It is a port and subtropical resort on the Black Sea Beautifully situated at the foot of the Greater Caucasus, it has many hotels, sanatoriums, and rest homes and receives c 100,000 visitors yearly

Socho or Sochoh (both sô'chō), variants of SOCOH

Social Circle, city (pop 1,735), N central Ga , ESE of Atlanta, inc 1831

social contract, agreement or covenant by which men are said to have abandoned the "state of nature" to form the society in which they now live The theory of such a contract, first formulated by the English philosophers Thomas Hobbes and John Locke, assumes that men at first lived in a state of anarchy where there was no society, no government, and no organized coercion of the individual by the group Hobbes maintained that by the social contract men had surrendered their natural liberties in order to enjoy the order and safety of the organized state Locke made the social contract the basis of his advocacy of popular sovereignty, the idea that the monarch or government must reflect the will of the people Like Locke, the French philosopher Rousseau, in *Le Contrat social* (1762), found the general will or will of the majority a means of establishing reciprocal rights and duties, privileges, and responsibilities as a basis of the state, These ideas were used as a justification of both the American and the French revolutions in the 18th cent Thomas Jefferson held that the preservation of certain natural rights was an essential part of the social contract and that "consent of the governed" was fundamental to any exercise of governmental power Though historically important, the theory as a basis of society and the state has been discarded by social and political scientists

Social Credit, economic plan, based on the theories of Clifford Hugh Douglas The central idea is that the difficulties fundamental to economic depression are those of distribution due to lack of purchasing power. To solve them he proposed a system of issuing dividends to every citizen in order to redistribute purchasing power This became a matter of great political importance when the scheme was adopted by a political party in Alberta, and the party, led by William ABERHART, won a resounding victory in provincial elections of 1935 The program included distribution of a social dividend of $25 a month, but it proved impossible to put this scheme into actual practice Attempts to tax banks and to enter on currency schemes were disallowed by the confederation government and declared unconstitutional in the courts Nevertheless, the party continued to win elections after Aberhart's death and after the Second World War entered upon much social welfare legislation, while the province prospered

social hygiene In its broadest sense this term refers to any problem of sex behavior that in any way concerns health, including social health It is, however, often used in a narrower sense to mean the control of the genito-infectious diseases (see VENEREAL DISEASE) Until recent years attention was given more to moral issues than to disease control Emphasis has now shifted from social control to public health control as a specialized field of communicable disease work The more comprehensive view of social hygiene stresses the relationship between the genito-infectious diseases and poor sexual adjustment according to current standards of social behavior Case finding and treatment must recognize the need for concurrent adjustment in sexual habits Social hygienists also recognize that there are other important problems of poor social hygiene, e g , the unmarried mother, the prostitute, sex crimes, and poor sexual relationships within the family The social hygiene program aims not only to correct the social ills which give rise to such problems but also to promote better sex education to prevent their occurrence The increasing attention in schools, colleges, youth groups, church groups, and premarital clinics to education for family living is considered an important foundation for good social hygiene See W B Long and J A Goldberg, *Handbook on Social Hygiene* (1938), John Levy and R L Munroe, *The Happy Family* (1938), F B Strain, *Sex Guidance in Family Life Education* (1942)

socialism, general term for any economic doctrine that challenges belief in the sanctity of private property and favors use of property for the public welfare In this broad sense it embraces a great variety of economic theories from those holding that only certain public utilities and natural resources should be owned by the community or the state with remaining property still private to thoroughgoing Marxian socialism and, farther, to the edges of ANARCHISM The term is sometimes used to describe all the various types of belief in communal property stretching back to the Greeks and beyond, but this usage is somewhat anachronistic, and those utopian schemes may be properly called communistic (for a brief review, see COMMUNISM) The Industrial Revolution profoundly changed the basic economic patterns of Western Europe, first in the British Isles in the 18th cent and later on the Continent This, in its totally unregulated beginnings, brought rapid wealth to the owners of the new factories but created sordid and brutal living conditions for the workers Forward-looking intellectuals turned their thoughts toward working out new plans for social reorganization The French Revolution had cleared the air by violence, and though the extreme theories of Babeuf were rejected, some of his ideas and his movement (Babouvism) persisted in secret societies, where radical social reforms were discussed and plotted It was in this ferment that *socialism* and *communism* emerged as terms They were used more or less interchangeably at that time The leading intellectual spokesmen of the reform in France generally took up the strain of idealistic and utopian communism that had motivated the comte de Saint-Simon Thus Étienne CABET and Charles FOURIER planned COMMUNISTIC SETTLEMENTS Others who were not of socialistic stripe also aided in advancement of schemes for a new society, among these Pierre Joseph Proudhon was outstanding The movement was international from the start, and the French thinkers were much influenced by the Englishman Robert OWEN, who was in turn an intellectual successor to Thomas SPENCE In the young United States, where hopeful communistic colonies were planted by these European dreamers, leading intellectuals such as the transcendentalists were also scheming for social reform Albert BRISBANE, a Fourierist, and Bronson ALCOTT were particularly vocal There was an atmosphere of unreality about most of this high-minded reform, but more practical and more political-minded reformers were not lacking Louis BLANC in his *Organisation du travail* (1840) put forward a scheme for workshops that would be under the state and would revolutionize working conditions, the scheme was allegedly tried and definitely betrayed after the Revolution of 1848 It was Louis Blanc who set forth the socialist principle, "From each according to his abilities, to each according to his needs" More radical was Louis BLANQUI, who founded a revolutionary society in 1847 and influenced the Revolution of 1848 Before that revolution, which was a nodal point in socialism, the man who was to revolutionize socialism had gained prominence This was Karl MARX. He attacked the utopians as futile and foolish and with Friedrich ENGELS issued *The Communist Manifesto* (1848), setting forth the principles of a practical socialism based on a scientific philosophical method Marxian ideas prevailed, and socialism came to be dominated by his arguments and methods (see MARXISM). To be sure, other varieties of socialism persisted and appeared, such as the CHRISTIAN SOCIALISM of F. D. MAURICE and Charles KINGSLEY and the later Catholic socialist parties. The notable Ferdinand LASSALLE, who founded (1863) the first workingmen's party in Germany, stressed the role of the state and nationalism as opposed to the Marxian emphasis on the community (with the state to "wither away") and internationalism But through the efforts of Wilhelm LIEBKNECHT and August BEBEL, founders of the Social Democratic party in Germany in 1869, the Lassallian group was brought into the main stream of Marxian socialism, later the combined party discarded all of Lassalle's theories by the Erfurt Program of 1891 Socialism was flowing strong by the 1870s Under the guidance of the INTERNATIONAL, Social Democratic parties sprang up over Europe and flourished in some spots The movement was generally known as socialism in this period, although the term *communism* by no means disappeared The bourgeois-dominated society did not receive the Socialists (with a capital S for members of the Social Democratic parties) with open arms, and there were sharp contests between the state and the party in several countries The struggle with the government of Bismarck in Germany was bitter, and the chancellor put the party down but himself instituted social insurance and social welfare laws Later, after PLEKHANOV had founded a Social Democratic party in Russia, the Socialist revolutionaries were hunted down with fervor by the tsarist police In some instances, however, the Socialists fought more fiercely among themselves than they did against their conservative enemies The International covered a multitude of opinions, including even anarchism and SYNDICALISM, and various small groups fought for their ideas against the majority Schisms abounded The first really important split was the defection of Eduard BERNSTEIN, who in 1898 denied some of Marx's doctrines—notably the increasing intensification of the class struggle and the inevitability of world revolution—and argued for revision of Marxian theories In 1901 he headed the "revisionist" group in a direct split with the majority His chief opponent was Karl KAUTSKY, who was later to be the opponent of the Russian or Leninist form of socialism The fateful division between the Russian group and the remainder of the socialists had its origin in the struggle between BOLSHEVISM AND MENSHEVISM within the Russian party The chief issue was "gradualism," the achievement of the socialist state through intermediate democratic reforms rather than by revolution and the immediate establishment of the dictatorship of the proletariat The opponents of "gradualism," the Bolsheviki, won out and ultimately became the Communist party, under the leadership of Lenin and later of Stalin Thus came the chasm between Communism (with a capital C) and Socialism In some cases the enmity between the two has reached extremes of bitterness greater than the feeling of either against the proponents of capitalism Communism was crystallized as a result of the First World War That war had placed heavy strain on the Social Democratic parties of the nations at war, for their avowed aim was internationalism There were severe struggles between those Socialists who refused to cooperate with the war measures of their governments and those who favored cooperation The noncooperators were assailed violently by patriots with a hatred most glaringly displayed in the murder of a leading French Socialist, Jean JAURÈS Most of the Socialists in the various countries ended by supporting their governments After the war the Social Democrats established the new government in Germany, putting down Communist revolution and the reactionary Kapp putsch They were to remain an important force throughout the Weimar Republic and remained powerful until suppressed by Adolf Hitler After the Second World War the party reemerged in the western part of Germany in the British, American, and French zones, in the eastern part under Russian occupation it was merged with other parties into a single Communist-dominated group Socialist governments also functioned ably in other countries, notably in Scandinavia In France (where there are several parties, notably the Radical Socialist party, with the word Socialist in the name but no socialism in the program), the Socialists were the dominant group in the Popular Front government under Léon BLUM, who instituted some vigorous reform measures In Great Britain the course of socialism diverged sharply from that on the Continent in method if not in theory The reform movement of CHARTISM had contributed something to radical thought, as had the later writings of John Stuart MILL In the late 19th cent the FABIAN SOCIETY was founded, its able leaders, including George Bernard SHAW and Beatrice WEBB and Sidney Webb, did much to spread the socialist doctrine Out of it was to grow the LABOUR PARTY, the organ of British socialism. Other forms of socialism also appeared to flank the old Christian socialism. The principles of William

MORRIS dictated by aesthetic and ethical aims and the small but able group who forwarded GUILD SOCIALISM also had influence on British thought The Labour party, however, with its policy of "gradualism" has represented the chief strain of socialism It triumphed in the elections of 1924 and again in 1929, but in 1931 the Labour government of Ramsay MACDONALD was transformed into a coalition government, and it was not until after the Second World War that the Labour party emerged into full power with the elections of 1945 and the formation of a government with Clement ATTLEE as prime minister and Ernest BEVIN as foreign secretary In the United States, after the group of idealists in the mid-19th cent. there were other men who put forward reform ideas of socialist stamp, notable among them Edward BELLAMY The organized socialist movement, however, came into the country with German refugees and immigrants after the Revolution of 1848, and the German tone long persisted The SOCIALIST PARTY was founded in 1900 Outstanding figures in American Socialism have been Daniel DE LEON, Eugene V DEBS, Morris HILLQUIT, and Norman THOMAS Socialism has been strong in Australia and New Zealand and has exerted some influence in all the countries of Western culture, including Latin America (notably in Mexico and Chile) See George Bernard Shaw, *The Intelligent Woman's Guide to Socialism and Capitalism* (1928), Sally Graves, *A History of Socialism* (1939), H W Laidler, *Social-Economic Movements* (1944), Harold J Laski, *Faith, Reason, and Civilization* (1944), Paul M Sweezy, *Socialism* (1949), J A Schumpeter, *Capitalism, Socialism, and Democracy* (3d ed , 1950)

Socialist Labor party, in U S. history In 1874 a workingmen's party was formed by New York city socialists, and by the end of that decade, having established a national organization, it was named the Socialist Labor party In 1880 the Socialist Labor party temporarily allied itself with the Greenback party Under the leadership of Daniel DE LEON in the 1890s the party—which called for a syndicalist type of socialism—gained strength After many members who were opposed to the leadership of De Leon withdrew (1899) and joined the less militant Social Democratic party (see SOCIALIST PARTY), the Socialist Labor party met with a sharp decline

Socialist party, in U S history In 1898 the Social Democratic party was formed by a group led by Eugene V DEBS and Victor BERGER That same year Social Democratic party candidates were elected to local offices, notably in Massachusetts In 1900 Debs ran for President and polled over 95,000 votes After dissident members (led by Morris HILLQUIT) of the SOCIALIST LABOR PARTY joined the Social Democrats, the party was redesignated (1901) the Socialist party Debs ran as the Socialist party candidate for President at each election until 1912, Morris Hillquit, however, remained the dominant figure of the party During the First World War, the Socialist party pronounced against participation, and Debs, convicted (1918) of speaking in violation of the Espionage Act, ran for President on the Socialist ticket while still in prison The withdrawal (1919) of the revolutionary element, which later formed the Communist party of America, left the Socialist party with reformist objectives, calling for evolutionary socialism in America After 1928 Norman THOMAS led the party and repeatedly ran for President on the Socialist party ticket By 1936 the Socialist party lost much of its right-wing support, which had come to back the New Deal In municipal elections, however, the Socialist party continued to win victories, notably under Daniel W Hoan of Milwaukee and under Jasper McLevy of Bridgeport, Conn.

socialization of medicine · see HEALTH INSURANCE

social psychology, study of the relationships between one individual and another, between the individual and the group, and between one group and another As such it is sometimes said to be the scientific common ground on which experimental psychology, sociology, anthropology, and psychiatry meet In its concern with individual behavior and social institutions it uses the studies of sociology and anthropology. But the field is extended by its concern, also, with the problems of the economist, the political scientist, the jurist, and the educator—since these, too, deal with the adjustment of the individual to social institution and group Typical research subjects in social psychology include the influence of family, school, church, economic status, and political background on the development of the individual and on his adaptation to his milieu, the study of patterns of behavior such as aggression, sympathy, competition, and cooperation, the nature of attitudes, their development, and ways of measuring and changing them, the study of imitation and suggestion and their effect upon such phenomena as fashions and fads, and interracial and international relations as they affect the individual in his society. Historically, social psychology developed out of the work of Moritz Lazarus, Heymann Steinthal, and Wilhelm Wundt (folk psychology), of Gabriel de Tarde (imitation), of Gustave Le Bon (crowd behavior), and the general work of Sigmund FREUD and William MCDOUGALL In the 1920s there was increasing use of the behaviorism of John B Watson as method and precept In more recent times much research has been done in attempts to perfect scientific methods of measuring quantitatively and of describing qualitatively the social behavior of men While the technics of the physical and biological laboratory are not always easy to apply to human relationships, some progress in adapting them has been made in the work of Kurt Lewin and his students Attempts are made to find the underlying dynamics of a particular situation, these may then be generalized into scientific law which can be applied to other relationships that show similar tensions

social science, term for any or all of the branches of study that deal with man in his social relations More commonly these studies are referred to in the plural as the social sciences No single categorical list of them can be made, for any portion of any discipline that deals with the nature of man's group life must be counted among the social sciences Thus, ecology would necessarily be included, though biology as a whole would not The more all embracing of the group are sociology and anthropology, which might be considered "central," though properly all the disciplines should overlap and do The oldest established—coming from the time of the Greeks—are political science (or government), economics, and history Linguistics, as distinguished from the earlier study of philology, is to be counted among the social sciences More practical is the study of social work and penology Jurisprudence (notably developed by the Romans) is fundamentally a science of society Psychology has played an increasingly prominent role and has been a source of materials for all the social sciences in the 20th cent Social psychology is young but very active Though physical geography is a natural science, human geography is a basic social science Philosophy, ethics, education, and all other studies concerned with analyzing the past and present social behavior of man and endeavoring to discover the principles of that behavior are social sciences

social security, program of social insurance, brought about or reinforced by government legislation, to protect wage earners and their dependents against major economic hazards A social-security program was adopted first in Germany in the 1880s, when Chancellor Otto von Bismarck advocated social legislation not only for the benefit of the workingmen, but also to forestall the program of the Socialists and to attach the workers to his own party Compulsory sickness insurance, of which the worker contributed two thirds and the employer one third of the funds, was passed in Germany in 1883, compulsory old-age insurance (see PENSION), of which the worker, employer, and government shared the payment, was adopted there in 1889 Germany, however, did not accept unemployment insurance until 1927 As economic insecurity among workers spread within the highly industrialized countries, social-security programs began to be embraced more and more In 1911 the National Insurance Act, fathered by David Lloyd George, was passed in England, and a compulsory unemployment insurance program as well as old-age insurance and sickness insurance programs were established The British unemployment insurance system excludes many categories of workers, notably government employees, nurses, casual workers, those who earn over £250 per annum Great Britain also adopted (1925) a survivors' insurance program, and in 1942 Parliament was given a blueprint for a thoroughgoing social-security program by Sir William H Beveridge France adopted in 1905 a program of voluntary unemployment insurance and established compulsory old-age insurance and compulsory sickness insurance plans in 1928 Meanwhile social-security programs spread throughout Europe in a patchwork pattern, differing from country to country as to the kinds of social insurance accepted, the categories of workers eligible, the proportions paid by the workers, employers, and governments, the conditions of receipt of benefits, the amounts of the benefits, and the effects of the programs In 1922 the USSR adopted comprehensive social-insurance plans as part of the controlled economy Chile became (1924) the first Latin American country with a social-security program Social security did not reach the United States until 1935, when the Social Security Act was passed as part of President F D Roosevelt's New Deal program It set up a system of compulsory old-age insurance, paying benefits proportionate to prior earnings to persons over 65 A reserve fund is accumulated through payroll taxes on employers and employees By congressional action the tax rate was frozen at one percent, although the act called for a gradual increase in the rate Approved state unemployment-insurance systems receive Federal subsidies paid from the proceeds of a payroll tax on employers. The act also provides Federal grants matching state aid to the needy aged (old-age assistance), dependent children, and the blind Amendments extended old-age benefits to workers' families, bank employees, seamen, and door-to-door salesmen The U S House of Representatives passed (1949) a measure to extend social security to 11,000,000 more persons, including self-employed persons and employees of state and local governments, thus would bring the total number of persons covered in the United States to approximately 46,000 000 Many proposals have been made to increase benefits in the United States to farm workers, domestic servants, Federal government employees, and those working in nonprofit organizations and to add new features such as HEALTH INSURANCE See M S Stewart, *Social Security* (1939), William Haber and W J Cohen, eds , *Readings in Social Security* (1948), E M Burns, *The American Social Security System* (1949)

social settlement, institution in a poor and overcrowded area in a large city where resident workers help to improve social conditions, particularly by promoting community services and the increase of neighborly cooperation The idea was developed in the mid-19th cent when such men as Thomas Hill Green, John Ruskin, and Arnold Toynbee urged university men to live in poor neighborhoods where, as bona fide residents, they could study and work for improvement of conditions Toynbee Hall, founded in 1884 in London under the leadership of Samuel Augustus BARNETT, was the first organization for this purpose Similar settlements were established in many cities of Great Britain, the United States, and Europe Examples of long-established settlement houses in the United States are Hull House and Chicago Commons, Chicago, South End House, Boston, and the University Settlement, Henry Street Settlement, and Greenwich House, New York city Settlements serve as community education and recreation centers and provide medical and other services Their specific programs vary with the needs of their neighborhoods In the United States they have rendered important services in work with immigrants and racial minority groups and in civic affairs See works of Jane Addams, Lillian Wald, and Graham Taylor, R A Woods and A J Kennedy, *The Settlement Horizon* (1922), A J Kennedy and others, *Social Settlements in New York City* (1935)

Social War or **Marsic War,** 90 B C –88 B C , struggle brought on by demands of the Italian allies (Latin *socii*) for the privileges of Roman citizenship The allies had fought on the side of Rome and by money and blood had helped establish Roman hegemony but did not have the rights of the Romans and were subject to the autocratic decisions of Roman magistrates The senate was greatly averse to sharing the rule, but M Livius Drusus in 91 B C proposed laws granting the allies citizenship He was murdered, and a coalition of the allies, chief among them the people called the Marsians, arose in desperation, waged war against Rome, and planned an Italian federation Led by Q Pompaedius Silo and C Papius Mutilus, they gained some success but could not overcome the power of Rome The Roman armies, on the other hand, even under MARIUS and SULLA, were unable to crush the revolt, which died down only after L Julius Caesar secured passage of a law granting citizenship to allies who had not joined the revolt and to those who laid down their arms immediately The allies were divided, and the revolt ceased Citizenship was soon given not only to all of them but also to the people of Cisalpine Gaul

social work, term used to describe the organized effort to help unadjusted persons and families to adjust themselves to the community, as well as to adapt the community to the needs of such persons and families Social work has grown by gradual steps out of the early efforts of churches and philanthropic groups to relieve the effects of poverty, to bring the comforts of religion to the poor, to promote temperance and encourage thrift, to care for children, the sick, and the aged, and to correct the delinquent Orphanages and old people's homes were typical results of these activities Worthiness was the principal criterion in determining aid to families, while the emphasis in modern social work is on restoring individuals to normal life both for their own sake and for the sake of the community The word *charity* best describes the early activities, which were aimed at piecemeal alleviation of special maladjustments The first attempt to deal with the problem in a scientific way was made by P G F Le Play, who in the 1850s made a detailed study of the budgets of hundreds of French workingmen's families Forty years later Charles Booth made an investigation of wages and prices, working conditions, housing and health, standards of living, and leisure activities among the poor of London that revealed the extreme poverty of a third of the population The social survey introduced by Booth became a method for determining the extent of social maladjustment, and through surveys in other cities in Europe and America a vast number of facts was accumulated, and methods were developed that pointed the way to modern social work In 1874 the National Conference of Charities and Correction (a name changed later to

National Conference of Social Work) was organized in the United States; but public relief and private philanthropic effort remained largely matters of local and state concern until after 1930, when the Federal government entered the field of social work on a large scale to cope with the effects of the economic depression Large resources became available, the number of social workers was greatly increased, and it became necessary to coordinate public and private activities Modern social work may be divided into case work, group work, and administration work Case work is concerned with assisting individual persons and families The needy or unadjusted person may be physically handicapped (blind, crippled, sick), mentally handicapped (defective, unbalanced, neurasthenic), or socially handicapped (member of a broken family, homeless, alcoholic, a neglected or a problem child) To determine the cause of maladjustment, the social worker must understand individual psychology as well as the sociology of the community Physicians, psychiatrists, and other specialists may be required to help diagnose the difficulty Social group work is exemplified by the social settlement, the supervised playground and gymnasium, and the classroom where handicrafts may be learned The community may be called upon to provide the buildings and grounds for such activities An important part of social work administration is to direct the welfare work of single agencies as well as whole communities, to secure cooperation between public and private agencies, and to raise and administer welfare funds The funds required by private agencies are often pooled in a COMMUNITY CHEST, from which each agency receives a share Community welfare councils are organized to map programs of rehabilitation, to eliminate duplication of services, and to discover and meet overlooked needs Social work has been steadily professionalized, and special schools as well as departments in universities have been established to train the needed workers See the annual *Proceedings of the National Conference of Social Work*, Gordon Hamilton, *The Theory and Practice of Social Case Work* (1940), Francis Merrill, *Social Problems of the Home Front* (1948), B Y Landis, *Rural Welfare Services* (1949)

societies, learned and literary, associations of individuals with a common professional interest, intended to promote learning Many societies publish the proceedings of their meetings, journals, reports, and outstanding investigations by their members, award prizes, encourage or subsidize research, and maintain libraries A forerunner of the modern society was the Museum, founded c 300 B C in Alexandria by Ptolemy I The earliest outstanding medieval society was established by Charlemagne under the guidance of Alcuin Learned societies of the modern type originated in Italy, during the revival of classical learning, as literary academies The short-lived Accademia Platonica, founded in the 15th cent by Cosimo de' Medici, served as a model The most widely known extant society of the early period is the Accademia della Crusca, founded (1582) in Florence and several times reorganized It published an authoritative Italian dictionary in 1612 The Accademia Secretorum Naturae (Naples, c 1560) is believed to have been the earliest scientific society Outstanding among European societies are the FRENCH ACADEMY (1635), now a section of the INSTITUT DE FRANCE, the ROYAL SOCIETY (1662), the Prussian Academy of Sciences founded by Frederick I in 1700 as the Societas Regia Scientarum, and the Academy of Sciences founded at St Petersburg in 1725 Many countries have national academies, and local and regional societies have flourished Although many societies, e g , the British Association for the Advancement of Science (1831), the American ASSOCIATION for the Advancement of Science (1847), the National Academy of Sciences established in 1863 by the U S Congress, the AMERICAN PHILOSOPHICAL SOCIETY (incorporated under its present name in 1769), and the American Academy of Arts and Sciences (chartered in 1780 in Boston), cover a broad field, the specialization of knowledge has resulted in the establishment of literary, historical, archaeological, and scientific societies covering very restricted fields The specialization of fields and the geographical distribution of societies has necessitated methods of coordination including informal cooperation and formal affiliations, as in the American Medical Association (1847), in which local medical organizations are represented An important coordinating agency in the United States is the National Research Council (1916) See R S Bates, *Scientific Societies in the United States* (1945)

Society for the Prevention of Cruelty to Animals (S P C A) The English organization, the Royal Society for the Prevention of Cruelty to Animals, was founded in 1824, through the efforts of Richard Martin (1754–1834), an Irish member of Parliament The American society was founded (1866) by Henry BERGH It cares for homeless animals, assists farmers in caring for the health of their stock, and cooperates with state governments in enforcing game laws.

Society Islands (c 650 sq mi ; pop. 42,129), S Pacific, part of the FRENCH ESTABLISHMENTS IN OCEANIA They comprise the Windward Islands and the Leeward Islands, two clusters of volcanic and coral islands lying in a 450-mile chain The Windward Islands include TAHITI (seat of Papeete, the capital of the colony, and largest and most important island of French Oceania), Moorea, Mehetia, and Tetiaroa, the Leeward Islands include RAIATEA (largest island of the Leeward group), Huahine, Bora-Bora, Maupiti, Tahaa, Maupo, Mopihan, Motu-iti, Scilly Island, and Bellingshausen Island The islands are mountainous, the highest peak (Mt Orohena) is on Tahiti There are breadfruit, pandanus, and coconut trees, the limited fauna includes wild pigs, rats, and small lizards The islands produce copra, sugar, rum, mother-of-pearl, vanilla, and phosphate Tahiti was discovered in 1767 by the British and was visited (1769) by Captain James Cook and members of the Royal Society, in whose honor the group was named English missionaries arrived in 1797 and were soon followed by the French, who set up a protectorate in 1844 In 1880 the group became a French colony The natives are Polynesians

Socinianism (sōsĭn'ēănĭzəm), anti-Trinitarian religious system initiated in the 16th cent by Laelius Socinus and developed by Faustus Socinus Socinianism contains elements of both humanist rationalism and the Reformation It combined faith in the goodness and rationality of man with an acceptance of the literal authority of the Scriptures The doctrine of the Holy Trinity was rejected, Christ was accepted as a Messiah but his essential deity was denied, and the sacraments were viewed as spiritual symbols Although Socinianism held many doctrinal differences with other reform churches, it sometimes lightened the rigidity of dogma and gained strength with the growth of rationalism Under Faustus, Socinianism achieved its greatest success in Poland, centering at Rakow There the groundwork of anti-Trinitarianism had already been laid Faustus welded the unitarians into a sect known as the Polish Brethren, which promoted educational and social institutions until banned by the Catholics in 1638 Its members were forced into exile in Transylvania and Holland Socinian ideas are best expressed in the correspondence of Faustus and in the Racovian Catechism of 1605 Socinianism is sometimes called Old Unitarianism

Socinus, Faustus (fô'stŭs sō'sĭnŭs), originally **Fausto Sozzini** (fou'stō sôt-tsĕ'nē), 1539–1604, Italian religious reformer Faustus left Italy for Basel in 1575, and in 1579 he went to Poland, where he spent the remainder of his life He gradually organized the **anti-Trinitarian** groups into the sect of Polish **Brethren** and through his writings developed the doctrinal bases of Socinianism

Socinus, Laelius (lē'lēŭs sō'sĭnŭs), originally **Lelio Sozzini** (lā'lyō sôt-tsĕ'nē), 1525–62, Italian religious reformer In 1544 Socinus left Italy for the Swiss cantons to escape the newly established Inquisition He had been attracted by the writings of Luther and during his wide travels met many leaders of the Reformation In Switzerland, Heinrich Bullinger became his good friend Calvin, however, suspected Socinus of doctrinal differences, and to allay these suspicions Socinus signed a confession of faith in 1555 At no time did Socinus actually deny or affirm the doctrine of the Trinity although there seems reason to believe that the burning of the anti-Trinitarian SERVETUS in 1553 and Socinus's friendship with Ochino had stimulated his thinking in this direction The writings of Socinus, left to his nephew Faustus, were used in the development of Socinianism

sociology (sōsēŏ'lŭjē), the science of human groups or societies As such it is a study of man in his collective aspect, of groups of men engaged in a more or less cooperative pursuit of certain major interests, primarily those of self-maintenance and self-perpetuation The phenomena arising from this life of men together are the subject matter of sociology Because sociology is concerned with all group activities—economic, political, religious—and because it tries to determine the laws governing human behavior in groups, it is distinguished as a general social science from the special social sciences, such as economics and jurisprudence, which confine themselves to a special class of social facts Thought about the relations of man to his fellows is as old as human knowledge Confucius discerned five fundamental social relationships and considered reciprocity and benevolence as the essence of sociality Aristotle spoke of man as a "political" (i e , social) animal, and his *Politics*, like Plato's *Republic* and *Laws* before him, is in large part a treatise on sociology The so-called Laws of Manu and certain maxims about domestic and public economy, social justice, and statecraft current among ancient peoples embody much sound sociology. The writings of Thomas Aquinas, Machiavelli, Montaigne, Spinoza, Vico, David Hume, John Locke, J. J Rousseau, and Hegel contain many of the elements of what later came to be called the social sciences The Arabian philosopher Ibn Khaldun in the 14th cent gave an account of the societies of his time that entitles him to be considered one of the founders of modern sociology The term *sociology* was coined (1838) by Auguste Comte, the philosopher of positivism, and Comte was the first to treat the subject in a systematic way Next to him stands Herbert Spencer, who in his *Principles of Sociology* (1876–80) applied the principles of evolution to the development of human society and gave an impetus to social studies that has never abated Early American sociologists were Lester F Ward, Franklin P Giddings, William G Sumner, and Edward A Ross Departments of sociology have been established in all universities, and courses in the subject rank near the top in the number of enrolled students See P A Sorokin, *Contemporary Sociological Theories* (1928), C A Ellwood, *A History of Social Philosophy* (1938), H E Barnes and Howard Becker, *Social Thought from Lore to Science* (1938), E A Ross, *Principles of Sociology* (1938); L L Bernard and J S Bernard, *Origins of American Sociology* (1943), R H Lowie, *Social Organization* (1948)

Socoh (sō'kō) [Heb , =branches], town, SW Palestine It has been identified with a ruin c 15 mi W of Bethlehem It was an outpost against passage from Philistia to Judah Joshua 15 35 Shochoh 1 Sam 17 1 Sochoh 1 Kings 4 10 Shoco 2 Chron 11 7 Shocho 2 Chron. 28 18 The Socoh of Joshua 15 48 is probably another place, between Hebron and Beersheba The Socho of 1 Chron 4 18 may refer to either one

Socorro (sōkô'rō), city (pop 3,712), co seat of Socorro co , W central N Mex , on the Rio Grande and S of Albuquerque, in a livestock, farm, and mine area It is on the site of Piro pueblo, an Indian village visited (1598) by Oñate A portion of the Church of San Miguel dates from this early period The New Mexico School of Mines is in Socorro Gran Quivira National Monument and Gran Quivira State Monument lie to the northeast

Socotra (sŭkō'trŭ, sō), island (c 1,400 sq mi , pop c 5,000), in the Arabian Sea near the Gulf of Aden It is a part of the British protectorate of Aden It was (8th–16th cent) a flourishing shipping center, and the population at times may have reached 50,000 Today its inhabitants raise livestock and farm Dragon's blood, aloes, and ghee are exported

Socrates (sŏ'krătēz), 469–399 B C , Greek philosopher of Athens He wrote nothing himself His life and teachings have been recorded in certain of the dialogues of his disciple PLATO and in the *Memorabilia* of XENOPHON In spite of some conflicting interpretations, the accounts of these two writers are largely supplementary Socrates was the son of Sophroniscus, a sculptor, and Phaenarete, a midwife It is said that in early life he practiced his father's art The stories about the shrewishness of his wife, XANTHIPPE, are doubtless largely apocryphal It is not certain who were Socrates' teachers in philosophy, but he seems to have been acquainted with the doctrines of Parmenides, Heraclitus, Anaxagoras, and the atomists At about 30 he became convinced that he had a religious mission to devote himself to the intellectual and moral improvement of the Athenians The oracle at Delphi pronounced him the wisest man in Greece This he said he could not understand until he discovered that, while others professed knowledge without realizing their ignorance, he alone knew nothing and knew that he knew nothing Neglecting, therefore, his own affairs, he spent his time in the arcades, in the market place, in the gymnasiums, wherever men congregated, talking about virtue, justice, piety, and the like The effect of his extraordinary eloquence is described in Plato's *Symposium* In strange contrast to his intellectual and spiritual dignity was his somewhat ludicrous personal appearance He never sought office, but he performed public duties willingly when required He served twice in military campaigns Although Socrates baited the sophists (professional teachers of rhetoric) continually, he was apparently considered by most Athenians a sort of super-sophist An excellent (and execrable) display of the attitude of the conservatives toward him is the *Clouds* of Aristophanes Socrates' constant association with young men and their devotion to him earned him great enmity and hatred from many Athenians, who probably considered him a shining example of the sophists—it was claimed that they demoralized the city's youth Alcibiades' behavior seemed to give proof of this, for the intimate relationship of Alcibiades and Socrates was widely known The ruin of the city by the Peloponnesian War probably contributed to the feeling that the new ideas were responsible for the collapse of the Athenian virtues, and Socrates was sacrificed to the bigotry and chagrin of the fallen city In 399 B C he was brought to trial for corrupting the youth and introducing strange divinities, he was convicted and condemned to drink the poison hemlock The latter part of the charge derived some color from the fact that Socrates believed in a demon, or genius, whose voice warned him whenever he was about to make a wrong decision In point of fact he never attacked belief in the gods, though he was himself essentially a monotheist The trial and death of Socrates are

described in the *Apology*, the *Crito*, and the *Phaedo* of Plato with a dramatic truth and power second to none in the world's literature The sublimity of Socrates in his martyrdom remains among the spiritual triumphs of the human race The aim of Socrates was to combat the skepticism of the sophists by arousing a love of truth and virtue and by demonstrating a right method of attaining truth The Socratic method was by skillful cross-examination to expose the inadequacy of the supposed knowledge of his interlocutor and then by masterly guidance to show the way to sounder knowledge In his own modest disclaimer of final knowledge lay the famed Socratic irony Technically, the Socratic method was an inductive process resulting in a definition It was a contribution of Socrates to philosophy to establish the conceptual basis of scientific knowledge He was not greatly interested in the speculations of the natural philosophers but regarded ethical questions as the highest concern of man He taught that knowledge is virtue and held that no man intentionally does wrong Socrates did not, like some of his successors, carry his rationalism to the extreme of asceticism Great as is the importance of Socrates' technical contribution to philosophy, he will always be remembered as one of the greatest of those spiritual leaders to whom philosophy has been a way of life See Eduard Zeller, *Socrates and the Socratic Schools* (Eng tr , 1885), W E Leonard, *Socrates, Master of Life* (1915), A E Taylor, *Socrates* (1932), A D Winspear and Tom Silverberg, *Who Was Socrates?* (1939), René Kraus, *The Private and Public Life of Socrates* (Eng tr , 1940)

Socrates Scholasticus (skŏlăˈstĭkŭs), fl 439, Byzantine historian His *Ecclesiastical History*, (7 vols in Greek) continues the work of Eusebius for the years 305–439 The work is unusual for objectivity, careful dependence on original primary sources (e g , acts of councils, the chronicle of Constantinople, letters of kings and bishops), and impartial descriptions of heresies

soda, chemically, sodium carbonate, a compound of sodium and the carbonate radical (CO_3) Occurring in the ash of seaweeds, it was named originally soda ash It appears also in large crystals as the decahydrate (washing soda), in which each molecule contains 10 molecules of water in addition to the sodium carbonate molecule Upon hydrolysis, soda forms an alkaline solution Although found native in large deposits called soda lakes, as in Africa and the W United States, much the greater part employed in industry is obtained by the Leblanc process and the Solvay process Soda is used in the manufacture of glass, soap, and caustic soda, for cleaning purposes, for softening water, and as a constituent of enamel Baking soda (bicarbonate of soda or saleratus) is, chemically, sodium bicarbonate or sodium acid carbonate, a compound of sodium, hydrogen, carbon, and oxygen It is a constituent of BAKING POWDER It is used commonly in medicine and in the laboratory for neutralizing acids The pure compound appears as a white, crystalline substance Caustic soda, or sodium hydroxide, a compound of sodium and the hydroxyl radical, is a crystalline solid commonly sold in the form of white sticks, pellets, and flakes It also appears commercially in the form of LYE and is known as soda lye Soda water is a solution of carbon dioxide in water Baking soda was used originally in its preparation, hence its name

Soda Springs, village (pop 1,087, alt 5,779 ft), co seat of Caribou co , SE Idaho, near the Bear river The mineral springs here, particularly Steamboat Spring, were well known to travelers on the Oregon Trail, they continue to attract interest, though some are now lost in a reservoir The village was founded in 1863 by a dissenting Mormon sect, abandoned, and refounded in 1870 by the Mormons The area, which has farming and grazing lands, also has large phosphate deposits

Soddy, Frederick (sŏˈdē), 1877–, English chemist He worked under Lord Rutherford at McGill Univ and with Sir William Ramsay at the Univ of London After serving (1910–14) as lecturer in physical chemistry and radioactivity at the Univ of Glasgow, he was professor of chemistry at the Univ of Aberdeen (1914–19) and at Oxford (1919–36) He is especially noted for his research in radioactivity. With others he discovered a relationship between radioactive elements and the parent compound, which led to his theory of isotopes, for this work he won the 1921 Nobel Prize in Chemistry His scientific books have become classics and include *The Interpretation of Radium* (1909, rev ed , 1922), *Matter and Energy* (1912), *The Chemistry of the Radio-Elements* (2 parts, 1911–14), and *The Interpretation of the Atom* (1932) His originality and independence of mind are also shown in his political and economic views as set forth in *Cartesian Economics* (1922), *Wealth, Virtual Wealth, and Debt* (1926, rev ed , 1933), and *Money versus Man* (1931, rev ed , 1933)

Soderberg, Hjalmar, Swed *Söderberg* (välˈmär sōˈdərbĕrʺyu), 1869–1941, Swedish dramatist and novelist. He won recognition with his first novel, *Martin Birck's Youth* (1901, Eng tr., 1930). His novels of Stockholm life at the turn of the century, such as *Doctor Glas* (1905) and *The Serious Game* (1912), are classics of their kind As a short story writer he was unsurpassed A selection of his short stories was translated into English by C W Stork (1936).

Soderblom, Nathan, Swed *Söderblom* (nāˈtän sōˈdərblōomʺ), 1866–1931, primate of the Lutheran Church of Sweden, archbishop of Uppsala He was professor of the history of religion and from 1914 to 1931 vice chancellor at the Univ of Uppsala Soderblom was a leader in the movement for the unification of churches For his labors for international peace he was awarded the 1930 Nobel Peace Prize Among English translations of his works are *Christian Fellowship* (1923), *The Living God* (1933), and *The Nature of Revelation* (1934)

Soderhamn, Swed *Söderhamn* (sōdərhäˈmən), seaport (pop 10,306), Gavleborg co , E central Sweden, on the Gulf of Bothnia Incorporated in 1620 and burned by the Russians in 1721, the city has become an important coastwise trade center, exporting fish, timber, wood pulp, and ore

Sodermanland, Swed *Södermanland* (sōˈdərmänlandʺ), historic province of E central Sweden, on the Baltic coast Administratively, it is divided, roughly, between Stockholm co , of which it forms the southern section, and **Sodermanland,** Swed *Södermanlands län* (-s lĕnʺ), county (2,634 sq mi , pop 201,051) The chief occupation in the county is truck farming and dairying Nyköping is the county seat Wood pulp is manufactured at Mariefred, furniture at Katrineholm, and iron and steel at Eskilstuna

Sodertalje, Swed *Södertälje* (sōdərtĕlʹyə), town (pop 22 080), E Sweden It is a suburb of Stockholm, important for its distilleries and the manufacture of textiles, machines, and matches The **Sodertalje Canal,** connecting Malaren lake with an arm of the Baltic, was built in the years 1807–19 and enlarged in 1917–24

sod house, structure with walls made from layers of strips of sod turned by the plow This form of construction was commonly used by pioneers in the Great Plains of the W United States where stone and wood were scarce The sods, held together by roots, were lifted in long strips, usually cut into 3-foot lengths, and laid in courses like bricks The walls were hewed smooth with a spade and often plastered with clay and ashes Although frame roofs were sometimes used, roofs were more commonly thatched or covered with sods which had to be replaced after heavy rains Sod walls were good insulators and were proof against fire and wind, but they permitted only small window openings were seldom entirely rainproof, and made the house dirty Fences also were built of sods but after rainstorms they became unsightly lines of mud and tangled roots, they probably suggested the expression "homely as a mud fence" For other earth houses, see ADOBE and RAMMED EARTH See Everett Dick, *The Sod-House Frontier* (1937)

Sodi (sōˈdī) [Heb ,=a confidant], father of Gaddiel, a spy sent into Canaan Num 13 10

sodium (sōˈdēŭm), soft, silver-white, lustrous metallic element (symbol=Na [New Latin *natrium*, ultimately from Hebrew], for physical constants, see ELEMENT, table) Chemically, it is an extremely active metal and is included in the group of ALKALI METALS Like potassium, which it closely resembles, it oxidizes rapidly in the air and must, therefore, be kept under an oil, such as kerosene It combines violently with water, displacing the hydrogen and forming the hydroxide, and combines directly with the halogens, forming the fluoride, the chloride, the bromide, and the iodide With oxygen it forms two oxides, sodium oxide and sodium peroxide Sodium peroxide reacts with water, yielding oxygen and sodium hydroxide, and with acids it gives hydrogen peroxide Metallic sodium is of little commercial value, but compounds of the element are extremely important They are numerous, are widely and abundantly distributed in nature, and find extensive use in industry in various chemical processes and in the commercial preparation of other important substances Among these compounds are borax, sodium bromide, sodium carbonate or washing soda and the bicarbonate or baking soda, both of which are produced in the Solvay process, sodium chlorate, sodium chloride or common salt, sodium cyanide, sodium aluminum fluoride, which appears in nature as cryolite, sodium nitrate or Chile saltpeter, sodium phosphate, sodium silicate, which is a component of glass, sodium sulphate, known in medicine as Glauber's salt, and sodium sulphide Sodium hydroxide, called commonly caustic soda or lye, is employed extensively instead of potassium hydroxide whenever a cheap alkali is needed. It is used, for example, in making soap, it reacts with a fat such as palmitin or stearin to form glycerin and the soap Sodium vapor lamps are used for lighting highways Because of its activity sodium is not found free, i e , uncombined, in nature It occurs abundantly, however, in its compounds These substances are present in rocks and soil Salt is found in the ocean and in deposits in various parts of the world Sodium compounds occur also in animal and plant tissue in the protoplasm of the cells The metal is usually prepared by electrolysis of the fused chloride (the Downs process), formerly its preparation by electrolysis of the fused hydroxide (the Castner process) was the important one used It was first prepared from sodium hydroxide in 1807 by Sir Humphry Davy, to whom its discovery is credited

sodium benzoate (bĕnʹzōāt) or **benzoate of soda,** colorless salt of BENZOIC ACID It is a compound of sodium, carbon, hydrogen, and oxygen Its use as a preservative in foods is dangerous except in small quantities

Sodom (sŏˈdŭm) or **Sodoma** (sōˈdōmŭ), in the Bible, the principal of the Cities of the Plain (the others being Gomorrah, Admah, Zeboim, and Zoar, which was spared) destroyed by fire from heaven because of their unnatural carnal wickedness Gen 10 19, 13, 14, 18, 19, Deut 29 23, Hosea 11 8, Amos 4 11, Mat 10 15, Mark 6 11, Rom 9 29, 2 Peter 2 6, Jude 7 These cities lay probably in the Jordan valley near the Dead Sea or, less likely, in the depression of the Dead Sea now submerged

Sodoma, Il (ēl sōˈdōmä), c 1477–1549, Sienese painter, whose real name was Giovanni Antonio Bazzi A Lombard by birth, he retained in his work the traits of the Lombard school and they show the influence of Leonardo da Vinci, whose most gifted follower he was For a time, c 1508, he worked in Rome, where under commission from Pope Julius II, he painted frescoes in the Camera della Segnatura in the Vatican Raphael's frescoes afterward replaced almost all of his work there For Agostino Chigi, in the Farnesina villa, Sodoma executed two notable frescoes, the *Marriage of Alexander with Roxana* and *Alexander in the Tent of Darius* In Siena and its vicinity he executed many frescoes, among them the *Flagellation of Christ* (Church of San Francisco) and two scenes from the life of St Catherine of Siena, the *Ecstasy* and the *Swooning* (San Domenico) These show the painter's tenderness in the representation of uplifted, spiritual suffering In the convent of Monte Oliveto are his scenes from the life of St Benedict Examples of his work aside from frescoes are the *Ascension* (Naples), *St Sebastian* (Uffizi), *Leda and the Swan*, *Madonna and Child with the Infant St John*, and *Three Saints* (National Gall of Art, Washington, D C), *Mars and Venus Trapped by Vulcan* (Metropolitan Mus) See R H H Cust, *Giovanni Antonio Bazzi* (1906)

Sodus (sōˈdŭs), village (pop 1,513), W central N Y , near Sodus Bay of Lake Ontario and NE of Rochester, in a fruit region, inc 1918 Gears, baskets, and cement products are made The lotuses in the bay are famous Sodus Point on the bay is a port of entry

Soekarno see SUKARNO

Soemba, Indonesia see SUMBA

Soembawa, Indonesia see SUMBAWA.

Soerabaja, Indonesia see SURABAYA

Soerakarta, Indonesia see SURAKARTA.

Soest (zōst), town (pop 25,454), Westphalia, W Germany, E of Dortmund It is an agricultural market center and has several manufactures First mentioned in the 7th cent , it is one of the oldest places in Westphalia, of which it was the leading town in the later Middle Ages It also was a flourishing member of the Hanseatic League Soest was comprised in the archbishopric of Cologne and later in the county of Mark (under the dukes of Cleves), but it enjoyed virtual independence under its charter It passed to Brandenburg in 1613 In the Second World War, Soest suffered heavy destruction, and many of the buildings that had made it one of the most interesting architecturally of German towns were damaged Among them are the Romanesque cathedral (the Patroklikirche, 10th cent), several Gothic churches, the 18th-century town hall, and many medieval and Renaissance houses

Soffici, Ardengo (ärdĕngʹ gō sôfʹ fēchē), 1879–, Italian artist, novelist, and critic He lived in Paris from 1900 to 1907 On his return to Italy he contributed to the Florentine weekly, *Voce* He fought in the First World War and described his experiences in *Kobilek* (1918) His literary work is colored by a philosophical pessimism and a love of nature, his painting is based on the technical principles of the old Italian masters Three sketches are translated in F M Guercio, *Anthology of Contemporary Italian Prose* (1931).

Sofia (sōfēʹə, sōʹfēə), Bulgarian *Sofiya* (sōʹfēä), city (pop 434,888), capital of Bulgaria, in W central Bulgaria, on a high plain at the foot of the Balkans It is an important railroad center and has varied industries, notably machinery, chemical, rubber, textile, and tobacco manufactures Sofia is the seat of a university (founded 1889), of a polytechnic school, and of other educational institutions and is the see of an Orthodox metropolitan bishop and of a Roman Catholic bishop The ancient Sardica, it was destroyed (447) by the Huns and restored (6th cent) by Emperor Justinian I Sofia formed part of the first Bulgarian empire (9th–11th cent), reverted to the Byzantines, and was again included in the second Bulgarian empire (13th–14th cent). It passed to the Ottoman Empire in 1386 and became the residence of Turkish

governors of RUMELIA In 1878 it became the capital of Bulgaria Although Sofia has undergone considerable modernization since then, it has retained many old churches, mosques, and synagogues Among the outstanding buildings are the parliament building, the state opera house, the former royal palace, the Orthodox cathedral, and the chief mosque In the Second World War, Sofia suffered some damage

softball · see BASEBALL

Sogdiana (sŏgdēā'nu) part of the ancient Persian Empire in central Asia between the Oxus and Jaxartes rivers, corresponding to the later emirate of Bukhara and region of Samarkand

Sogne Fjord (sông'nufyōr"), inlet of the Norwegian Sea, on the western coast of Norway, in Sogne og Fjordane co Extending 112 mi inland and reaching a depth of c 4,000 ft, it is the longest and deepest fjord of SW Norway It has several branches, cutting into the mountains and ice fields, notably into the JOTUNHEIM and the JOSTEDALSBREEN In some places the mountains drop a sheer 3,000 ft to the water on both sides of the fjord. The region is rich in viking tradition and is celebrated for its wild beauty

Sogn og Fjordane (sông'nu ô fyô'rānû), county (7,142 sq mi, pop 96,849), W Norway Floro (Nor *Florø*) is the county seat Comprising the Sogne Fjord, the Nord Fjord, and the JOSTEDALSBREEN, the county is a region of mountains, glaciers, and lakes which attract many tourists Agriculture and fishing are the main occupations

Soho (sōhō', sū-), district of W London, England, known for its French and Italian restaurants Earlier a fashionable quarter, it was in the 19th cent popular with writers and artists Among its residents have been Dryden, Hazlitt, William Blake, De Quincey, and Ernest Dowson

soil, substance in which most of the plants on the surface of the earth grow It is made up of disintegrated rock, in the form of sand or clay, and HUMUS, the disintegrated remains of past vegetation On the basis of physical characteristics, the chief kinds of soil are sandy, clayey, and loamy On the basis of chemical reaction, soils are either acid or alkali Fertility depends on various factors including the texture of the soil, its chemical composition, its supply of water, its warmth, and the nature of the subsoil The fertility of a given soil can be fairly accurately determined by testing samples with chemicals Often soils can be made more productive by the correct use of FERTILIZER, without the addition of organic matter the soil will not be capable of producing good crops indefinitely The frequency and the kind of cultivation also affect fertility The quality of vegetation, as well as its quantity, varies with the soil in which it grows For advice and information on soils, consult state agricultural experiment stations and their publications See T L Lyon and H O Buckman, *Nature and Properties of Soils* (1937), W W Weir, *Productive Soils* (5th ed , 1946)

soiling, agricultural practice of feeding green fodder to livestock in the barn or dry lot It is followed in the United States mostly in the dairy industry in seasons when pastures are short, but in Europe more generally For best results, the fodder must be cut daily Among the crops used for soiling are clovers, alfalfa, cowpeas, soybeans, corn, and rye

soilless gardening, growing of plants without soil in a medium (e g , water, sand, gravel, and sawdust) to which nutrients have been added Soilless gardening has been known to scientists for over a century as an aid in the study of plant life processes, but not until 1929 were experiments conducted solely to determine its feasibility for the growing of commercial crops There are now chemical garden installations scattered throughout the United States and on some Pacific islands Under soilless gardening, plants can be grown closer together than in the field, thereby increasing yields, and multiple cropping (the growing of several crops in the same tank) can be practiced The cost of equipment is high, and the personnel must be specially trained Soilless gardening is still in the experimental stage The technique used depends on the crop to be grown, the length of its growing period, and for what purpose it is being grown The nutrient solutions must supply, in optimum concentrations and in correct balance, the elements such as nitrogen, phosphorus, potassium and other essentials to plant growth normally found in soil Sunshine is necessary, artificial light alone does not produce satisfactory growth Commercially, crops are generally grown in tanks or basins through which the nutrient solutions are circulated The plants are held upright by wire supports The most successful crop has been tomatoes, but good results have been obtained with squash, potatoes, carrots, beets, lettuce, and cabbage and such ornamentals as carnations, roses, gardenias, and dahlias. Other names for soilless gardening are soilless culture, chemiculture, and water gardening (hydroponics). See W F. Gericke, *Complete Guide to Soilless Gardening* (1940), Carleton Ellis and M W Swaney, *Soilless Growth of Plants* (2d ed , revised by Tom Eastman, 1947), bulletins of New Jersey and California state agriculture experiment stations

Soissons (swäsôN'), city (pop 17,136), Aisne dept., N France, on the Aisne river. An important town of the Roman province of Belgica and an early episcopal see, Soissons was the scene of the decisive victory (486) of CLOVIS I over Syagrius and became the capital of several Merovingian kings Here Pepin the Short dethroned Childeric III (751), here Robert I lost his life in battle (923) in defeating Charles III (Charles the Simple) Throughout its history Soissons has been often besieged and has changed hands many times In the First World War it suffered considerable destruction The cathedral (13th cent) and the Abbey of Saint-Jean-des-Vignes, where Thomas à Becket lived for several years, were damaged in both world wars In the suburb of Saint-Vaast there are ruins of the Abbey of St Médard, a burial place of Merovingian kings

soja bean. see SOYBEAN

Sojaro, Il. see GATTI, BERNARDINO

Sojourner Truth: see TRUTH, SOJOURNER

Sokoloff, Nicolai Aleksandrovich (nyĭkŭlī' ŭlyĭksän'druvĭch sô'kulôf"), 1886–, American conductor and violinist, b near Kiev, Russia He studied at Yale Univ under Charles Martin Loeffler and later toured France and England as a violinist He was the first conductor of the Cleveland Symphony Orchestra, 1918–32, and has served as guest conductor of major orchestras throughout the country He directed the Federal Music Project, 1935–39

Sokolow, Nahum (nä'um sô'kŭlō), 1859–1936, Jewish scholar and Zionist, b Poland After serving (1906–9) as general secretary of the Zionist Organization, editing its various publications, he became (1911) a member of its executive committee and was chairman from 1921 to 1931 With Chaim Weizmann he participated in the London meetings during the First World War which led to the Balfour Declaration and the Palestinian mandate He succeeded Weizmann as president (1931–35) of the World Zionist Organization Sokolow was an accomplished linguist From 1873 he contributed articles to various Hebrew newspapers, and he wrote *History of Zionism, 1600–1918* (1919)

Sokoto (sōkō'tō, sō'kutō), town (pop 20,084), NW Nigeria, founded 1809 In the early 19th cent it was the capital of the native state of Sokoto and had a population of c 50,000 Cotton, hides, and skins are exported

solan goose · see GANNET

Solari or **Solario, Cristoforo** (krĭstô'fôrō sôlä'rē, sôlä'rēō), b before c 1460, d c 1527, Italian sculptor and architect, called Il Gobbo [the hunchback] About 1498 he made the tomb of Beatrice d'Este and her husband, Ludovico Sforza of Milan, the effigies of Beatrice and Ludovico were saved and are now in the Certosa, Pavia They were finely executed in the manner of the early Renaissance Solari was engaged from time to time on decorative sculptures for the Certosa His brother **Andrea Solari** (andrā'a), c 1460–c 1520, Italian painter of the Milanese school, was influenced by Cristoforo and by Leonardo da Vinci In some respects Andrea approached more nearly to the workmanship of Leonardo than did any other of the disciples of the great Florentine He spent (c 1507) some time on fresco decoration in the castle of the Cardinal Georges d'Amboise at Gaillon, France Examples of his vigorous portraits are those of a Venetian senator and of Cristoforo Longoni (both National Gall , London) and of Charles d'Amboise (Louvre) Many of his works, including an *Ecce Homo* and *Flight into Egypt*, are in the Poldi-Pezzoli Collection, Milan, some are in the Brera Gallery, Milan Other noted paintings are the *Madonna of the Green Cushion* and *Crucifixion* (Louvre), *Christ at the Column* and *Procession to Calvary* (Borghese Gall , Rome), *Salome with the Head of St John the Baptist* and *Christ Blessing* (Metropolitan Mus)

solar system, the SUN and its family of celestial bodies which are held in their orbits by its power of gravitation The group of attendants revolving around the sun include, besides the earth, the planets, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto, some 1,000 or more minor planets (see ASTEROID), the satellites of the planets, and a number of comets and meteors The mass of the sun is about 700 times greater than that of all its attendant bodies together Among the attempts to account for the origin of the solar system are the NEBULAR HYPOTHESIS, the PLANETESIMAL HYPOTHESIS, the TIDAL THEORY, the theory of its origin from a double star, the theory based on the growth of the planets and sun by condensation of cosmic dust or gas, and that based on the formation of planets by shrinkage and condensation of small whirlpools of gas and dust which developed within a large rotating sphere of such material See H N Russell, *The Solar System and Its Origin* (1935), W T Skilling and R S Richardson, *Astronomy* (rev ed., 1947), W L. Kennon, *Astronomy* (1948)

Solbad Hall in Tirol (sôl'bät häl' ĭn tērōl'), formerly **Hall,** mineral spa (pop 10,535), Tyrol, W Austria, on the Inn and near Innsbruck. The large salt mines near by have been worked from antiquity.

solder (sŏ'dûr), metal alloy used as a metallic cement. The type of solder to be used is determined by the metals to be united Soft solders are basically lead and tin and have low melting points. Hard solders have high melting points and are of metal compounds which are suited for amalgamation with the metals to be joined Areas to be soldered are cleaned and coated with a flux such as hydrochloric acid or borax to prevent oxides from separating the solder and the surface When brass is used in the solder or when brass surfaces are to be joined, the process is known as brazing, though the name is sometimes applied also to other hard soldering See H R Lewis, *Notes on Soldering* (1948).

sole, name applied to several food fish of the flatfish order It is most correctly used to refer to the European sole (*Solea vulgaris*), a choice food fish which inhabits waters from the Mediterranean to the North Sea By day it usually hides in the sand and at night it hunts worms, shellfish, and other food It grows to a length of 2 ft In the United States fillets of flounder, haddock, cod, and other fish are frequently marketed and served in restaurants as sole The American soles, e g , the hogchoker (*Achirus*) and the tonguefish (*Symphurus*), are small and bony and have no market value

Sole Bay, battle of see SOUTHWOLD, England

Solemn League and Covenant: see COVENANTERS

Solent, the (sō'lŭnt), western part of the channel between the Isle of Wight and Hampshire, England, extending from the Needles northeastward to the mouth of Southampton Water and the Spithead It is 15 mi long and ¾ to 5 mi wide, being narrowest where the mainland promontory occupied by Hurst Castle (built in the reign of Henry VIII) juts into the channel

Solesmes (sôlĕm'), famous Benedictine abbey, in Solesmes village, Sarthe dept , W France, on the Sarthe and SSW of Le Mans Founded in 1010 and enlarged in the 19th cent , the abbey led in the revival of pure Gregorian chant (see PLAIN SONG) The abbatial church (15th–16th cent) contains fine sculptures The abbey and village should not be confused with another Solesmes, a manufacturing town (pop 4,884) in Nord dept , N France, near Cambrai

Soleure, Switzerland see SOLOTHURN

solfège (sôlfĕzh') [Fr] or **solfeggio** (sôlfĕd'jō) [Ital], in music, systems of vocal exercises employing the solmisation syllables of Guido d'Arezzo Thus solfège has the dual purpose of vocalization and practice in sight reading The term has often been used loosely to cover training in the various fundamentals of music

Solferino (sôlfārē'nō), village (pop 936), Lombardy N Italy, NW of Mantua Here in the Italian War of 1859 the French and Sardinians fought (June 24) a bloody battle with the Austrians The combined casualties amounted to more than 30,000 dead and wounded Although the battle brought no clear decision, the Austrians withdrew to their strategic fortresses Napoleon III, shocked by the huge losses and aware of the difficulties of continuing the war, soon afterward met Emperor Francis Joseph of Austria at VILLAFRANCA DI VERONA, where a preliminary peace was arranged By a coincidence, J Henry DUNANT was present at the battle, which he described eloquently in *Un Souvenir de Solfé rino*, it was this experience that inspired him in promoting the Red Cross

Soli (sō'lī), ancient city of Cilicia, SW of Tarsus, now in Turkey At least some of the colonists were from Rhodes The port was important at the time of Alexander the Great, was destroyed by Tigranes, and was rebuilt by Pompey, who called it Pompeiopolis The word *solecism* is derived from the poor opinion that other Greeks had of the way of speaking in Soli

solicitor, in English law, a person duly admitted to practice before the supreme court of judicature He is the agent of the person whose suit he handles and is distinguished from a barrister, who argues the case before the judge (see BAR, THE), the solicitor, however, has the right of audience in the minor courts Before the Judicature Act of 1873, solicitors were officers of the courts of CHANCERY only An attorney could practice in cases at common law, while a proctor had similar practice in the admiralty courts The act of 1873 generally abolished this distinction, all such agents are now solicitors They are officers of the court, they have a monopoly of certain legal business and are subject to court regulation The training required of a solicitor, set by the Law Society (earlier called the Incorporated Law Society) includes several years of clerkship under a practicing solicitor and attendance at a law school See ATTORNEY

solid, one of the three states in which matter occurs, i e , that state, as distinguished from liquid and gas, in which a substance has a definite shape and a definite volume Solids resemble liquids in that they have a definite volume, but differ from both liquids and gases in that they maintain their shape under constant pressure without respect to the shape of containing vessels According to the kinetic molecular theory of matter, the molecules of a substance in the solid state are relatively closer together than in either the gas or liquid state; the force of cohesion between them is relatively greater; and they are moving more slowly (i.e , they

possess less kinetic energy or heat energy). A solid changes to a liquid when its temperature is raised to its melting point, a definite quantity of heat (called the heat of fusion) being needed in liquefaction to change each gram of the substance from solid to liquid Some substances change directly from solid to gas without passing through the liquid state (see SUBLIMATION), but in general they change from solid to liquid before becoming gaseous Solids are of various kinds Metals, their alloys, some nonmetals, and many chemical compounds are crystalline in form Solids which are not crystalline but cellular in structure include wood, cotton, silk, ivory, and many others of plant and animal origin Some, e g , chalk and clay, have no regular structure and are called amorphous Substances such as pitch and resin are called semisolids, these are truly very viscid liquids, but their flow or change of shape is so slow at ordinary temperatures as to be scarcely discernible by the human eye Properties in which solids differ from one another include density, hardness, malleability, ductility, elasticity, brittleness, and tensile strength

soliloquy (sŭlĭ'lŭkwē), the speech by a character in a literary composition, usually a play, delivered while the speaker is alone In its most effective use it not only reveals to the audience or reader what is passing through the mind of the speaker, but also enhances the effectiveness of the work by presenting the drama of internal conflict Good examples are the soliloquies of *Hamlet* The soliloquy may also act simply as an economical expository device to give the audience information about other characters or about events which have occurred previously or elsewhere One of Ibsen's innovations for greater realism was the abandonment of the soliloquy and the aside, and contemporary dramatists have tended to follow him Some experiments in modern drama such as expressionism, however, are reintroducing the soliloquy along with other devices In the hands of a good dramatist such a convention as the soliloquy is still effective because its value depends upon its expressiveness rather than upon its realism

Soliman. For Ottoman sultans thus named, see SULEIMAN

Solimões: see AMAZON

Solingen (zō'lĭng-un), city (pop 133,001), in the former Rhine Prov of Prussia, W Germany, on the Wupper and E of Düsseldorf, adjoining Wuppertal and Remscheid It is the center of the German cutlery industry Solingen steel, used for knives, scissors, razors, and surgical instruments, is world famous for its excellence Chartered in 1374, Solingen has been known for its fine blades since the Middle Ages It shared the history of the duchy of Berg

Solís, Juan Díaz de (hwän' dē'ăth dä sōlēs'), d 1516, Spanish navigator, discoverer of the Río de la Plata He first became prominent in the service of Portugal Returning to Spain, he joined Vicente Yáñez PINZÓN in a voyage of exploration to the coasts of Yucatán, Honduras, and Venezuela (1508–9) In 1512, upon the death of Amerigo Vespucci, he was named pilot major An expedition to the new continent was projected the same year but was postponed, and most authorities agree this voyage was never carried out Discovery of the South Sea (Pacific Ocean) by Balboa (1513) greatly stimulated interest in a western route to Asia Solís, in 1514, was commissioned to explore the coast of South America and seek a passage between the two seas He sailed from Sanlúcar de Barrameda Oct 8, 1515, and in Feb , 1516, entered the estuary of the Río de la Plata, which he called the Mar Dulce [fresh sea] Landing on the coast of the present Uruguay, he and several companions were killed by Indians

Solís y Rivadeneyra, Antonio de (äntō'nyō dā sōlēs' ē rē"vädhānā'rä), 1610–86, Spanish historian and dramatic poet His most famous book is the popular *Historia de la conquista de México* (1684), divided into five books, written with passionate admiration of Cortés Solís's best poetry is found in his sonnets Among his comedies the two best known are *El amor al uso* and *La gitanilla en Madrid*, based on Cervantes' novel *La gitanilla*

solitaire or **patience,** card game for one player, in which one or two decks of cards are used Essential elements in the various forms of solitaire include the tableau (a distinctive pattern of cards laid out on the table), the foundation (on which cards are built by arrangement of rank or suit), the stock (from which cards are drawn), and the talon (cards which are turned up from stock and which are to be used in building foundations) The layout in some forms of solitaire comprises not only the tableau and the foundation but also the stock and talon. Various solitaire games are popular, probably the best-known forms are Canfield, named for Richard A CANFIELD, and Klondike Other popular forms are named accordion, clock, golf, pyramid, and spider For complete details of solitaire play, see R L. Frey, ed , *The New Complete Hoyle* (1947).

Solikhat, RSFSR: see STARY KRYM.

Solna (sōl'nä"), city (pop. 33,373), Stockholm co , E Sweden, NNW of Stockholm. Incorporated in 1944, it has mechanical and electrical works, paper mills, and chocolate manufactures and is the seat of the Swedish moving-picture industry There is a large institute for the blind.

Solnhofen (sō'lunhō"fŭn), village (pop 1,514), Middle Franconia, W central Bavaria It is known for the large quarries of lithographic stone near by, where fossils of the ARCHAEOPTERIX have been found

Sologub, Feodor (fyô'dŭr sŭlugōp'), pseud of **Feodor Kuzmich Teternikov** (kōōzmēch' tyĭtyĕr'nēkŭf), 1863–1927, Russian poet and prose writer By profession a schoolteacher and as a poet one of the older symbolists, he began his literary career in 1896 with a volume of verse and a novel, *Bad Dreams*, based in part on his teaching experiences He is known chiefly for the novel *The Little Demon* (1907, Eng tr , 1916), in which the perverted schoolteacher Peredonov is an expression of human inclination toward evil His novel *The Created Legend* (1908–12, Eng tr , 1916) and the drama *The Triumph of Death* (Eng tr , 1916) are available in English For translations of his poems, see Paul Selver, *Modern Russian Poetry* (1917), and Babette Deutsch, *Modern Russian Poetry* (1921)

Solo man: see MAN, PRIMITIVE

Solomon [Heb , =peaceful], d c 932 B C , king of the ancient Hebrews (c 972–c 932 B C), son and successor of David His mother was Bath-sheba His accession probably took place c 970 B C , when he was still quite young The reign of Solomon was eminently peaceful, marked by foreign alliances, notably with Egypt and with Phoenicia (he was on especially good terms with Hiram of Tyre), he maintained a large harem As he grew old his despotism became worse His exactions caused the alienation of N Israel and led to the revolt of Jeroboam I Solomon's wisdom is proverbial, and in the East he has been a popular subject of legend He built the first Hebrew temple at Jerusalem The biblical account of Solomon is preserved, according to the critics, comparatively intact Proverbs and Ecclesiastes were ascribed to him, and the SONG OF SOLOMON bears his name WISDOM was also anciently ascribed to him In the PSEUDEPIGRAPHA are the Psalms of Solomon Solomon's name was at first Jedidiah 2 Sam 12 24 , 1 Kings 1–11, 2 Chron 1–9

Solomon, city (pop 872), E central Kansas, at the confluence of the Solomon with the Smoky Hill ENE of Salina, laid out 1865, inc 1871 It is a wheat-shipping point on the railroad

Solomon Islands, volcanic group (11,500 sq mi , 1947 estimated pop 94,965), S Pacific, 1,500 mi N of Sydney, Australia The 900-mile chain includes BOUGAINVILLE, GUADALCANAL, NEW GEORGIA, SANTA CRUZ ISLANDS, Buka, Choiseul, Santa Isabel, Malaita, San Cristobal, and the Shortland Islands The natives are Melanesians and Polynesians Copra and ivory nuts are produced The islands were discovered in 1567 by a Spanish explorer, Álvaro de Mendaña de Neira In 1893 the South Solomons were placed under a British protectorate, to which was added the eastern islands in 1898 The North Solomons (Santa Isabel, Choiseul, and Ontong Java) were transferred by treaty from Germany to Great Britain in 1900 The Solomon Islands are governed by the high commissioner of the Western Pacific at Suva, Fiji, the capital of the group is Honiara on Guadalcanal Buka and Bougainville are governed separately by Australia as part of the former mandated Territory of New Guinea In the Second World War, Choiseul, New Georgia, Santa Isabel, and Guadalcanal were occupied in 1942 by the Japanese and taken by U S forces in 1943 The battle of Savo Island was the only naval action lost by the United States The capture of the Solomons completed the encirclement and neutralization of the key Japanese base of Rabaul, on New Britain

Solomons, town (pop 266) on Solomons Island, Calvert co , S Md , in the Patuxent river near Chesapeake Bay The town has a fine harbor and is a fishing and yachting center The Chesapeake Biological Laboratory is here

Solomon's-seal, any plant of the genus *Polygonatum*, perennial herbs of the North Temperate Zone The hairy Solomon's-seal and the smooth Solomon's-seal are well-known wild flowers in most of North America They have small, tubular greenish flowers and dark blue berries (often in pairs) which droop under the usually arching stalk from the axils of the leaves The name has been attributed to leaf scars on the rhizome which resemble seals Species of Solomon's-seal were formerly used in applications for the skin, and the roots and young shoots have been used for food They are often grown in wild-flower gardens False Solomon's-seal (*Smilacina*) is a similar plant with small white flowers and red berries in a terminal cluster

Solon (sō'lŭn), c 639–c 559 B C , Athenian statesman, the first Greek clearly known to history He was a poet, and some of his patriotic verse in the Ionic dialect is extant. He also at some time (perhaps before 600 B C) led the Athenians in the recapture of Salamis from the Megarians He is, however, known as a giver of laws and a reformer Elected ARCHON in 594 B C , he found social conditions critical with nobles all-powerful in Athens, new capitalists holding mortgages on all small farms in Attica, and the peasants losing their lands and even their personal freedom Solon acted. He annulled all mortgages and debts, limited the amount of land anyone might add to his holdings, outlawed contracts in which a person's liberty might be pledged, and regulated the expenses for funerals and other functions He then reformed the constitution The assembly was thrown open to all freemen, the AREOPAGUS was continued with some new powers, and the Council of Four Hundred was created to represent the propertied classes and to prepare the business for the popular assembly In general his reforms were a move toward moderate democracy The law code that bears his name and reforms the code of DRACO shows the same tendency to democratization

Solon (sō'lun), village (pop 1,508), NE Ohio, SE of Cleveland, inc 1927

Solothurn (zō'lōtōōrn), Fr *Soleure* (sôlûr'), canton (306 sq mi , pop 154,944), Switzerland. Very irregular in shape, it lies mostly in the Jura and has fertile land The population is mainly German-speaking and Catholic Its history is that of the capital, **Solothurn** (pop 15,414), the Roman Salodurum, situated on the Aar river A free imperial city since 1218, it was admitted into the Swiss Confederation in 1481 It was, until the French Revolution, the residence of the French ambassadors to the Swiss diet Solothurn has some medieval architecture Its cathedral is the see of the bishop of Basel and Lugano The city produces electrical apparatus and watches and processes metals

Solovetski Islands (sŭluvyĕt'skē), archipelago area c 150 sq mi , N European RSFSR, in the White Sea at the entrance of Onega Bay On the largest island is a monastery, built in the 15th cent , which was used as a military fortress against Sweden in the 16th and 17th cent The island later became a dreaded place of exile for political prisoners under both the tsarist and the Communist regimes

Soloviev, Sergei Mikhailovich (sĭrgā' mēkhī'lŭvĭch sŭlŭvyôf'), 1820–79, Russian historian, father of Vladimir S Soloviev He taught at the Univ of Moscow and wrote the monumental *History of Russia* (29 vols , 1851–79, in Russian), still considered the greatest work of Russian historiography In his outlook Soloviev was oriented toward the West, and he hailed the movement of Westernization by Peter I

Soloviev, Vladimir Sergeyevich (vlŭdyē'mĭr sĭrgā'ŭvĭch sŭluvyôf'), 1853–1900, Russian religious philosopher and poet, son of Sergei Mikhailovich Soloviev His philosophical writings urge the synthesis of the Eastern and Western churches into a Church of the Universe His best-known work is *War, Progress, and the End of History* (1899, Eng. tr , 1915) As a poet his influence was great, especially on the younger symbolist poets, Bely, Blok, and others See biography by Michel d'Herbigny (1918)

solstice (sōl'stĭs) [Latin, =sun's stance], astronomical term applied to each of two points in the ecliptic at which the sun reaches its position farthest from the equator, in other words, its greatest declination, north or south Each solstice is 90° from the equinoxes, lying halfway between them In this position the sun seems to 'stand still" for several days, i e , its noontime elevation appears not to change in that time From this is derived the name which is also used to indicate the time when the sun attains either of these positions In the Northern Hemisphere the summer and winter solstices are about June 22 and about Dec 22 respectively

soluble glass see WATER GLASS

solution. A true solution is a homogeneous mixture of the substance doing the dissolving, the SOLVENT, and the substance being dissolved, or solute In solutions of substances miscible in all proportions, as alcohol and water, it is customary to call that substance the solvent which is present in larger quantity at the time In addition to solutions of solids and liquids in liquids, there are also those of gases in liquids, gases in gases, gases and liquids in solids, and solids in solids The particles into which substances separate in forming a true solution are held to be of molecular fineness (i e , are of the size of a molecule), and those of the solute are evenly dispersed throughout the solvent These particles in a true solution are smaller than those in a COLLOID or a SUSPENSION They are invisible even under the ultramicroscope, and those of the solute do not collect to cause "settling out " Solvent and solute in a true solution cannot be separated by filtration Although a solution is homogeneous (chemical tests of samples taken from any part of a true solution show the presence of the components in constant proportions), its composition is not, however, definite (like that of a COMPOUND) and can be varied within certain limits For example, water will dissolve various amounts of sugar at a given temperature, but there is a definite limit as to the total amount it will dissolve at any given temperature Substances differ widely in solubility with respect to the specific solvents in which they

are soluble, in degree of solubility in those solvents, and in the amount of increase or decrease of solubility with an increase in temperature of the solvent In general, however, in solutions of solids in liquids an increase in temperature (in some cases a decrease) will permit a greater amount of solute to be dissolved. When a solvent has dissolved all of a solute that it can at a given temperature, the mixture is called a saturated solution (see SATURATION) In a dilute solution there is a relatively small amount of the solute, in a concentrated solution, a relatively large amount Certain of the physical properties of the solvent are affected by the presence in it of the solute In general, its boiling point is raised and its melting point lowered, its VAPOR PRESSURE is affected also A number of substances (acids, bases, and salts) exhibit characteristic behavior in aqueous solution (see ELECTROLYTE) Their molecules are held to undergo DISSOCIATION, forming negative and positive ions Aqueous solutions of these substances are classed for convenience as molar solutions or normal solutions depending upon the concentration of the solute in the solution A molar solution is one in which the gram-molecular weight or mol of the solute in grams is present in 1,000 c c of solution For example, since the molecular weight of sulphuric acid is 98, a molar solution consists of 98 grams of the acid in 1,000 c c of solution A normal solution (a 1N solution) contains one gram of replaceable hydrogen or its equivalent in 1,000 c c of solution. For example, a normal solution of nitric acid contains 63 g of the acid, the quantity necessary to furnish one gram of replaceable hydrogen A normal solution of a base contains 17 g of the hydroxyl (OH) radical, which is the equivalent for the one gram of replaceable hydrogen. Normal solutions are used in determining the concentration of other solutions of acids and bases (see NEUTRALIZATION)

Solutré (sôlütrā'), village, E central France, near Mâcon It is the site of a rock shelter, camp, and burial place of prehistoric man (discovered in 1867) and gives its name to the Solutrean period (see PALEOLITHIC PERIOD) A human skeleton of the Aurignacian age was discovered here in 1923

Solvay, Ernest (sôl'vā, Fr ĕrnĕst' sôlvā'), 1838–1922, Belgian industrial chemist and philanthropist He originated the SOLVAY PROCESS and established (1863) near Charleroi, Belgium, the first plant for making soda by this process, later plants were set up in many countries He founded at Brussels the Solvay institutes of physiology (1893) and sociology (1901) and made large gifts to European universities

Solvay (sŏl'vā), village (pop 8,201), central N Y, near Syracuse, inc 1894 The Solvay Process Company (from which the town is named) manufactures soda ash

Solvay process (sŏl'vā) [for Ernest Solvay], commercial process for the preparation of washing soda (sodium carbonate) Chemically, it involves three steps carried out in large towers A saturated salt solution is treated with ammonia and then with carbon dioxide, these react to form ammonium bicarbonate The ammonium bicarbonate reacts with the salt (sodium chloride), sodium bicarbonate and ammonium chloride are formed The sodium carbonate is obtained by heating the bicarbonate

solvent (sŏl'vunt), any substance in the liquid state in which another substance is dissolved Water is the commonest substance used to dissolve, or take into SOLUTION, other substances There are a number of other compounds valuable as solvents, because they will dissolve many materials which are insoluble, or nearly so, in water Some solvents are ACETONE, ALCOHOL, BENZENE (or benzol), BENZINE, carbon disulphide, carbon tetrachloride, CHLOROFORM, ETHER, ethyl acetate, FURFURAL, GASOLINE, TOLUENE, TURPENTINE, and XYLENE (or xylol)

Solway Firth (sŏl'wā), inlet of the Irish Sea at the estuary of the Esk river, separating NW England (Cumberland) from SW Scotland (Wigtown, Kirkcudbright, and Dumfries counties) It is c 40 mi long and receives the Esk, Annan, Dee, Nith, Urr, Eden, and Derwent rivers Near Annan the firth is crossed by a railway bridge The tide rises rapidly and forms a bore Hadrian's Wall terminated at Bowness, on the south shore The firth figures in Scott's *Guy Mannering* and *Redgauntlet*

Solway Moss, district, Cumberland, England, near the border of Scotland NW of the Esk river Formerly a bogland, it has been drained and brought under cultivation In 1542 it was the scene of the defeat by the English of the Scots under Oliver Sinclair, in one of the border struggles

Solyman. For Ottoman sultans thus named, see SULEIMAN

Somaliland (sōmä'lēländ"), **Somalia** (sōmä'lēə), or **Somali Coast**, coastal region of the most easterly section of Africa, that lying directly S of Arabia. It comprises the entire African coast of the Gulf of Aden and a longer stretch on the Indian Ocean The name is derived from the Somali, the dominant native people They are Moslems and speak a Hamitic language They subsist by farming (in the uplands), by sedentary or nomadic herding, and by pearl fishing or other maritime activities. Somaliland, with a hot, dry climate, is relatively unproductive as a whole In most areas a barren coastal lowland (widest in the south) is abruptly succeeded by a rise to the great interior plateau Exports include salt, hides, cotton, pearls, and mother-of-pearl. Politically the area is divided into four parts, of which one is the easternmost section of Ethiopia, the others are British Somaliland, French Somaliland, and Italian Somaliland, all bordered by Ethiopia In the Second World War, Somaliland was the scene of much action Italy which entered the conflict on June 10, 1940, conquered all British Somaliland by August Early in 1941 the British in E Africa rallied and began an attack on the Italian holdings Troops from Kenya completed the conquest of Italian Somaliland by the end of February, and in March sea-borne forces landed and retook British Somaliland French Somaliland maintained loyalty to the Vichy government until the Allied invasion of French North Africa in Dec, 1942, forced it to join the Free French

British Somaliland, also called Somaliland protectorate (c 68,000 sq mi, pop c 700,000), is on the Gulf of Aden Berbera is the capital Most of the area was occupied by Egyptian forces in the 1870s When they withdrew in 1884 to fight the MAHDI, British troops took their place and established the protectorate Another self-proclaimed messiah, the "Mad Mullah," harassed the British forces from 1901 to 1920 **French Somaliland,** is an overseas territory (9,073 sq mi, pop 44,195) on the Gulf of Aden, the northernmost part of Somaliland The capital is Jibuti It is important for its strategic location opposite Aden protectorate and on the Bab el Mandeb (the strait connecting the Gulf of Aden and the Red Sea) There is considerable transit trade through Jibuti, the terminus of the only railroad in Ethiopia France first obtained a foothold in 1862, its power was consolidated in 1884, and substantially the present area was organized as a colony in 1896 **Italian Somaliland** is a former colony (c 194,000 sq mi, pop c 1,020,000), comprising the section of Somaliland on the Indian Ocean The capital is Mogadishu Italy first asserted its authority here in 1889 by creating a small protectorate in the central region Later other protectorates were established in the north, and much territory was ceded in the south by Zanzibar In 1925 Jubaland or the Trans-Juba (E of the Juba river) was detached from Kenya to become the westernmost part of the colony In 1936 Italian Somaliland was combined with Somali-speaking districts of Ethiopia into a province of the newly formed Italian East Africa The British, following their conquest (1941), governed by military rule In 1950, pursuant to a decision of the United Nations General Assembly, Italy assumed control of the former colony until 1959, the provisional date for giving it independence Ethiopia, which claims the territory, protested bitterly

Sombart, Werner (vĕr'nur zôm'burt), 1863–1941, German economist In 1917 he became professor of economics at the Univ of Berlin Influenced by Marx's historical approach to economics, he produced several analyses of capitalism, including *Der moderne Kapitalismus* (Vols I and II, 1902, Vol III, 1928) and *Der Bourgeois* (1913, Eng tr, *The Quintessence of Capitalism*, 1915) He later turned toward German romanticism, becoming eventually, in *Deutscher Sozialismus* (1934, Eng tr, *A New Social Philosophy*, 1937), an exponent of the authoritarian state, accepting German National Socialism See study by M J Plotnik (1937)

Sombor (sôm'bôr), Hung *Zombor* (zôm'bôr), city (pop 34,321), Serbia, Yugoslavia, on the Danube-Theiss canal and c 90 mi NW of Belgrade. It is a trading center of the fertile Vojvodina

Somerdale (sŭ'murdāl), borough (pop 1,170), SW N J, southeastern suburb of Camden, inc 1929

Somers, John Somers or **Sommers, Baron** (sŭ'murz), 1651–1716, English jurist and statesman He presided at the framing of the Declaration of Rights (1688) and was knighted and appointed solicitor general for his services in establishing the legality of the accession of William and Mary He advanced to the office of attorney general (1692), lord keeper (1693), and lord chancellor (1697) and was created (1697) Baron Somers of Evesham He was politically influential throughout the reign of William, but was forced to resign as lord chancellor in 1700 after repeated attacks directed against him, in part for his support of Capt William Kidd's ventures He was a leader of the Whig Junto under Queen Anne, supported the Act of Union with Scotland, and was made (1708) president of the council, but lost office (1710) when the Tories came to power A friend of such writers as John Locke, Isaac Newton, and Jonathan Swift, Somers himself wrote political tracts His collection of papers and manuscripts was edited by Sir Walter Scott as the *Somers Tracts* (13 vols, 1809–15).

Somers, town (pop 2,114), N Conn, at the Mass. line NE of Hartford It was organized as a Massachusetts town in 1734 and transferred to Connecticut in 1749 Woolen goods are produced.

Somersby (sŭ'mursbē), village, in the Parts of Lindsey, Lincolnshire, England, S of Louth. The rectory here was the birthplace of Tennyson.

Somerset, Charles Seymour, 6th duke of (sŭ'mûrsĕt", -sĭt), 1662-1748, English nobleman He succeeded to the dukedom while studying at Cambridge and married (1682) an enormously wealthy heiress, Elizabeth Percy, countess of Ogle He supported William of Orange in 1688, became a favorite of Princess Anne, and received several honorary posts after her coronation (1702) as queen His wife was an intimate of the queen, despite Tory attempts to have her removed from the court Known as "the proud duke," Somerset used his influence in favor of the succession of George I

Somerset, Edmund Beaufort, 2d duke of, d 1455, English statesman and general He fought in France in the Hundred Years War, receiving his first command in 1431, recapturing Harfleur in 1440, and relieving Calais in 1442 For this last feat he was made (1442) earl of Dorset In 1444 he succeeded his brother John as earl of Somerset In 1447 he replaced Richard, duke of YORK, as lieutenant of France and in 1448 was created duke of Somerset The truce of 1444 between France and England was repeatedly violated, and war was resumed in 1449 Somerset's army was consistently defeated and by 1453 all of England's French possessions except Calais had been lost Since the duke of Suffolk's murder (1450), Somerset had been the head of the Lancastrian faction and was protected by HENRY VI against popular resentment and the attacks of the Yorkists Upon Henry's insanity (1453), Somerset was imprisoned and York became protector When the king recovered (1454), Somerset was returned to power York failed to get Somerset tried for treason and raised an army in the Yorkist cause Somerset was killed at St Albans in the first battle of the Wars of the Roses

Somerset, Edward Seymour, duke of, 1506?–1552, protector of England He may have studied at Oxford and Cambridge, and he did serve in the army and in diplomatic affairs He steadily rose in the favor of Henry VIII and, after the marriage of his sister Jane Seymour to the king, was created Viscount Beauchamp and earl of Hertford in 1536 In 1545 he led the army in a brilliant victory against the French at Boulogne On the death of Henry VIII he gained possession of the king's will and of the young heir, EDWARD VI (who was Seymour's nephew), and was named by the council protector of the realm, shortly thereafter taking the posts of lord treasurer and earl marshal and the title duke of Somerset He managed to free himself from the restrictions of the council and wielded almost royal authority in major Protestant reforms in the Church and in relaxing such measures as the heresy and treason laws He was ably seconded by Archbishop Thomas Cranmer, and their efforts resulted in the use of the Book of Common Prayer, required by an Act of Uniformity in 1549 Meanwhile Somerset tried to enforce a marriage treaty arranged by Henry VIII between the young Edward VI and Mary Queen of Scots He invaded Scotland, crushed his opponents at Pinkie (1547), and completely alienated the Scots when he laid SE Scotland waste Mary was hastily sent to France, and hope of the union of the two countries was lost The fall and execution (1549) of his brother Thomas Seymour, lord high admiral, was a strong blow to the protector's authority and power, which was further undermined by his religious innovations, his unsuccessful attempts to prevent the enclosure of land, and the poor condition of the exchequer John Dudley, earl of Warwick (later duke of NORTHUMBERLAND) took advantage of these misfortunes and, joining Thomas Wriothesley, earl of Southampton and others he ousted Somerset, placed him in the Tower (1549), and deprived him of the protectorate Somerset was released in 1550, but a revival of his influence led Warwick to cause his arrest (1551) He was convicted (1552) on a charge of felony and beheaded Though personally ambitious, Somerset was a man of firm beliefs and excellent military ability His name is among the foremost of the practical leaders of the English Reformation See A F Pollard, *England under Protector Somerset* (1900)

Somerset, Fitzroy James Henry see RAGLAN, FITZROY JAMES HENRY SOMERSET, 1st BARON

Somerset, Robert Carr, earl of, c 1589–1645, lord chamberlain of England His family name also appears as Ker and Kerr Born in Scotland, Carr spent some time in France before he attended the court of James I in England. He soon became the favorite of James, was knighted (1607), and in 1609 he was granted lands which had been forfeited by Sir Walter Ralegh He was created Viscount Rochester in 1611, served James as personal secretary, and became earl of Somerset in 1613 In the same year he married the countess of Essex (who had her marriage to Essex annulled in a highly sensational trial) and was probably implicated with her in the murder of his former friend, Sir Thomas OVERBURY Somerset became an important counselor to the king, but his jealous and arrogant nature alienated James's affections On the discovery of Overbury's murder, Somerset and his wife were tried and found guilty (1616) of perpetrating it, although the husband's guilt was not definitely established. They were both pardoned but not re-

leased until 1622, after which they lived in comparative obscurity See Philip Gibbs, *The King's Favourite* (1929)

Somerset, William Seymour, 2d duke of: see HERTFORD, WILLIAM SEYMOUR, 1ST MARQUESS AND 2D EARL OF

Somerset, county (1,616 sq mi , 1931 pop 475,142, 1948 estimated pop 541,600), SW England, bordering, on the north, the Bristol Channel The county town is Taunton The terrain is level in the center, with the Mendip Hills to the east and the Exmoor and Quantock Hills to the west The principal rivers are the Bristol Avon, the Exe, and the Parrett, whose fertile valleys are devoted to agriculture Dairy farming (Cheddar cheese) and fruit-growing are important, and much of the land is devoted to pasturage of cattle There is some manufacture of woolens At Bath, which reached its greatest importance as a fashionable watering place in the 18th cent , are found some of the most important Roman remains in Britain As a resort town modern Bath is rivaled by Weston-super-Mare In the Middle Ages the region became a part of the Anglo-Saxon kingdom of Wessex The county has associations with King Alfred and the legend of King Arthur, and Glastonbury is important in England's religious legend and history The churches of the county are famous, notably the Cathedral of Bath and Wells See *Victoria History of Somerset* (2 vols , 1906–11)

Somerset 1 City (pop 6,154), co seat of Pulaski co , S Ky , S of Lexington and in the Cumberland foothills It is a railroad and industrial city in a farm, coal, and timber area A national cemetery and Zollicoffer Memorial Park are near by **2** Town (pop 5,873), SE Mass , on the Taunton above Fall River, settled 1677, set off from Swansea 1790 **3** Village (pop 1,352), S central Ohio, SW of Zanesville, laid out 1810 It was the boyhood home of Gen Philip H Sheridan **4** Borough (pop 5,430), co seat of Somerset co , SW Pa , ESE of Pittsburgh, settled 1771, laid out 1795, inc 1804 Its products include maple sugar, lumber, limestone, and coal

Somers Point (sŭ'murz), city (pop 1,992), SE N J , on Great Egg Bay NW of Ocean City, settled c 1695, inc 1886

Somersworth (sŭ'murzwûrth), textile city (pop 6,136), SE N H , on the Salmon Falls River opposite Berwick, Maine, set off from Dover as a separate parish 1729, inc as a town 1754, as a city 1893 Stuart Chase was born here There are many fine old houses

Somerton, city (pop 1,247), extreme SW Ariz , on the Colorado and near Yuma

Somervile or **Somerville, William** (both sŭ'murvĭl), 1675–1742, English poet His best-known work, *The Chase* (1734), is a description of the art of hunting with hounds and reflects his life as a country squire

Somerville, Mary Fairfax (sŭ'murvĭl), 1780–1872, Scottish mathematician In 1804 she was married to a cousin, Samuel Grieg, an officer in the Russian navy and Russian consul in London, after his death she married (1812) another cousin, William Somerville, a physician In 1826 she presented a paper before the Royal Society, *Magnetic Properties of the Violet Rays of the Solar Spectrum* This created such a sensation that she was deputed by Lord Brougham to translate and popularize for English readers Laplace's *Mécanique céleste*, which she presented to the Royal Society in 1831 Others of her works are *The Connection of the Physical Sciences* (1834), *Physical Geography* (1848), and *On Molecular and Microscopic Science* (1869) A bust of her was placed in the great hall of the Royal Society, Somerville Hall (later Somerville College), Oxford, and the Mary Somerville scholarship in mathematics for women at Oxford were given in her memory See *Personal Recollections*, by her daughter, Martha Somerville (1873)

Somerville, William see SOMERVILE, WILLIAM

Somerville 1 City (pop 102,177), E Mass , residential and industrial suburb of Boston, settled 1630, set off from Charlestown 1842, inc as a city 1871 In the Revolution it had an important colonial magazine and fortress Food products and paper boxes are among its manufactures, automobile assembling is an industry **2** Borough (pop 8,720), co seat of Somerset co , N central N J , on the Raritan and SW of Plainfield, settled 1683, inc as a town 1864, as a borough 1909 Somerville is a residential town and a farm trade center The Wallace House was a residence of the Washingtons, 1778–79 Of interest also is the old Dutch parsonage (1751, now a D A R museum) The Duke estate (over 2,000 acres) is near by **3** Town (pop 1,570), co seat of Fayette co , SW Tenn , E of Memphis, in a cotton and timber area, founded 1825 **4** City (pop 1,621), S central Texas, ESE of Austin It has railroad shops and some lumber industry.

Somerville College see OXFORD UNIVERSITY.

Somme (sôm), department (2,424 sq mi , pop. 441,368), N France, in PICARDY It is traversed by the Somme river Amiens (the departmental capital) and Abbeville are the principal centers

Somme, river, 152 mi. long, N France, in Picardy It flows past Saint-Quentin, Péronne, Amiens, and Abbeville into the English Channel A battle line for centuries, it was throughout the First World War the scene of heavy fighting between the British and the Germans, especially in the so-called battles of the Somme (1916, 1917)

somnambulism see SLEEPWALKING

Somov, Konstantin Andreyevich (kŭnstuntyēn' ŭndrā'uvĭch sô'môf), 1869–, Russian painter His work, concerned with psychological principles of interpretation, is delicate and sensitive Among his paintings are *The Woman in the Blue Dress*, *Women Bathing*, and *The Harlequin and the Lady*

Somoza, Anastasio (ănästä' syō sōmō'sä), 1896–, president of Nicaragua After the withdrawal of the U S forces from Nicaragua, he rose to power as head of the national guard Though himself a member of the Liberal party, he by a coup in 1936 overthrew the incumbent Liberal party regime He thereby became the virtual ruler of Nicaragua, and in 1937 he formally became president He withdrew from that office in 1947, but his successor was in office less than a month before Somoza overthrew him His uncle, Víctor Manuel Román y Reyes, was made president in Aug , 1947, but Somoza was still head of the army and held the actual power In 1949 he announced his candidacy for the presidential elections of May, 1950 His chief opponent in Nicaragua has been the head of the Conservative party, Emiliano CHAMORRO Somoza has been very bitterly criticized as a dictator by liberals the world over The international Caribbean League had as one of its objects the overthrow of Somoza The accusation (Dec , 1948) by Costa Ricans that Somoza had fostered a group of Costa Rican rebels led to a formal investigation by the Council of the Organization of American States

sonar (sō'när), naval device employing sound waves for navigation and ranging It was first used in the Second World War principally for detecting enemy submarines, torpedoes, and mines In detecting these, sonar may listen for the sounds they generate, but usually emits its own sound waves which, when they strike something are reflected back as in an echo The heart of sonar equipment is an electroacoustic transducer, mounted in a watertight housing and suspended in the water from the hull of a ship The transducer converts electric energy into acoustic energy (thus acting as a projector) much as does a loudspeaker and converts acoustic energy into electric energy (serving as a hydrophone) as does a microphone A pulse of electric energy vibrates the diaphragm of the projector, sending sound waves through the water These waves are concentrated into a sound beam which scans the water when the projector is rotated After the sound wave is emitted the projector is converted into a hydrophone and listens for an echo The cycle is repeated periodically A returning echo is converted into an electric current by the transducer and may be interpreted (for range, speed, bearing, and nature of the target) aurally or by a cathode-ray tube, as is done with RADAR signals

sonata (sunä'tu), in music, form of instrumental composition which arose in the baroque period in Italy The two prevailing types in the 17th cent were *sonata da chiesa*, or church sonata, and *sonata da camera*, or chamber sonata The four movements of the former were derived from the four sections of the *canzone* and were largely of contrapuntal texture The *sonata da camera* was in the form of a dance suite, whose first movement was similar to the *canzone* In the late 17th cent these two types merged into what became the outstanding baroque chamber music form, the trio sonata, for two instruments plus *basso continuo* The form was brought to perfection in the works of Arcangelo Corelli and Evaristo dall' Abaco (1675–1742) and adopted in the sonatas of Bach and Handel Overlapping this development was the keyboard sonata of the rococo Italian composers, such as Galuppi, G B Sammartini (1700?–1755), and P D Paradies (1710–92) While the baroque trio sonata was a polyphonic form, having three melodically equal parts, the rococo sonata was homophonic, having one outstanding melodic line with accompanying harmonic background A popular type of accompaniment was the Alberti bass The sonatas of the sons of Bach, particularly those of Karl Philipp Emmanuel Bach, contribute an expressive quality and a pianistic style to the classical sonata, perfected by Haydn and Mozart While the movements of the baroque sonata alternated slow-fast-slow-fast, the classical sonata's movements are fast-slow-minuet or scherzo-fast, one or other of the middle movements might be left out, however The first movement—and possibly one or more of the others—was in what is called **sonata form.** This is essentially a binary form, the first part being an exposition, in which two contrasting themes are presented The second part consists of a development of these themes and a recapitulation. Sonata form is employed in the string quartet, in the symphony, and to some extent in the concerto, as well as in the solo sonata It reached its consummation in Beethoven's works, after which it may be said to have declined.

Sonderborg, Dan *Sønderborg* (sō'nûrbôr), Ger. *Sonderburg* (zōn'dûrbôrk), town (pop 14,125) SE Jutland, Denmark, a Baltic port on both sides of the Als Sound The older section of the town is on Als island There are textile mills, machine shops, and other manufactures The town grew around a 13th-century castle, now a museum Sonderborg (generally known historically in English as Sonderburg) was a city of the duchy of SCHLESWIG Christian III of Denmark created (16th cent) the duchy of Sonderburg for his younger son John, from whom the branch of Schleswig-Holstein-Sonderburg-Glücksburg (which has occupied the Danish throne since 1863) is descended With Schleswig, the city was annexed to Prussia in 1866, but it was restored (1920) to Denmark after a plebiscite

Sonderbund (zōn'dûrbōnt) [Ger , = separate league], 1845–47, league of seven Catholic cantons of Switzerland The rise of the Radical party in the majority of cantons had resulted in anti-Catholic measures such as the closing (1841) of all convents in Aargau When Lucerne retaliated (1844) by recalling the Jesuits armed bands of Radicals invaded this canton Under this provocation and in defense against the added threat of the Radicals' program of a more unified federalization (which imperiled the position of the predominantly rural, reactionary, and sparsely populated Catholic cantons), the cantons of Lucerne, Fribourg, Valais, Uri, Schwyz, Unterwalden and Zug formed what they considered a legitimate defensive alliance (1845) The Radical majority in the federal diet declared the Sonderbund dissolved (1847) and shortly afterward sent an army, under Gen Guillaume Henri Dufour, against the separatist forces In an almost bloodless campaign the Sonderbund was defeated at Gisikon (Nov 1847) Federal victory led to the adoption (1848) of a federal constitution and ended the almost complete sovereignty of the individual cantons The Society of Jesus, held responsible for the war by the Radicals, was (and still is) banned from Switzerland, and the establishment of new religious houses was forbidden

Sondershausen (zōn"dürs-hou'zun), town (pop 13,118), Thuringia, central Germany, near the foot of the KYFFHÄUSER and c 30 mi NNW of Erfurt It is a potash-mining center and has various manufactures Until 1918 it was the capital of the principality of SCHWARZBURG-SONDERSHAUSEN Among the notable buildings are the palace (16th cent) and the house where Brahms lived for some time

song The song literature of Western music embodies two broad classifications—FOLK SONG and art song The outstanding examples of art song before the baroque period are those of the TROUBADOUR, TROUVÈRE MINNESINGER, and MEISTERSINGER The refined lyrical *air de cour* of late 16th-century France, in two-part form and accompanied by the lute provided the inspiration for the *ayre* of the early 17th-century English lutanists, among whom were John Dowland, Thomas Campion, and Thomas Morley Italy has contributed little to the art-song literature, having centered her attention upon opera and the aria The principle of accompanied monody however, which is inseparable from the early development of opera, also marked the beginning of modern accompanied song A direct influence is shown in the German lied of the 17th cent , a monodic song with a *basso continuo* accompaniment Outstanding among earlier examples are the *Arien* (1638–50) of Heinrich Albert (1604–51), while the *Arien* (1656–67) of Adam Krieger (1634–66), which contain five-voice instrumental ritornellos, brought the style to perfection Perhaps the greatest of all art songs in the German romantic lied of the 19th cent , in which the vocal line and the piano accompaniment are of equal musical significance The style was brought to flower by Schubert, and after him the most distinguished composers were Schumann Brahms, and Hugo Wolf Among the poets whose lyrics they used were Goethe Chamisso, Eichendorff, Rückert, Wilhelm Müller, Heine, and Mörike Outstanding among modern German songs are those of Hindemith and of Schonberg, which require the technique of *Sprechstimme*, a sort of musical speech In France a renewed interest in song composition began in the 19th cent with Berlioz and was continued in the works of Franck, Fauré, Debussy Ravel, and Poulenc In Russia the realistic songs of Moussorgsky are most significant In the United States the songs of Stephen Foster had such a national appeal as to become thought of by many as folk songs Striking originality was brought to the American art song by Charles Ives See also BALLAD, CAROL, CHANTEY, HYMN, PLAIN SONG, SPIRITUAL See H T Finck, *Songs and Song-Writers* (1900), Peter Warlock, *The English Ayre* (1926), H C Colles, *Voice and Verse* (1928), W T Upton, *The Art-Song in America* (1930), Elisabeth Schumann, *German Song* (1948), Sergius Kagen, *Music for the Voice* (1949).

song, bird. Songs, call notes, and certain mechanical sounds are means of communication among birds Song is usually confined to the male and is at its height during the breeding season It serves as a means of announcing his selection of a territory in

which the nest is to be built, of warning away other males of his species, and of helping to attract females Song is produced in the syrinx at the base of the windpipe and is modified by the larynx and the tongue The syrinx contains membranes similar to vocal cords and controlled by muscles which are most numerous in the Oscines or singing birds Among the Oscines are such superior singers as the southern mockingbird, the hermit thrush, the wood thrush, the canyon wren the purple and house finches, and the European nightingale and skylark The crows, jays, and house sparrow have little singing ability but belong to the Oscines because of the structure of the syrinx Some birds deliver their songs from tree tops, some from bushes or fence posts, some on the wing, others sing while on the ground Mimics among birds include the mockingbird, brown thrasher, catbird starling, and blue jay The song of each species is recognizable by humans and by birds, although there are individual and seasonal variations There is evidence that songs are learned and that certain calls are inherited Easily identifiable are the hunger cry of the young, calls to brood, notes of alarm, and sounds which help to keep migrating flocks together Familiar mechanical sounds are the drumming of the sage grouse and the tattooing of the woodpecker See F Schuyler Mathews, *Field Book of Wild Birds and Their Music* (1921), A R Brand, *Songs of Wild Birds* (1934) and *More Songs of Wild Birds* (1936), both with phonograph records

Songdo, Korea see KAESONG

Song of Solomon, Song of Songs, or **Canticles,** book of the Old Testament, 22d in the order of AV It is in form a love poem or epithalamium and has been ascribed since ancient times to Solomon Many critics date it as late as the 3d cent B C Its preservation in the Jewish and Christian canon is due not to its universally admitted poetic beauty but to the acceptance of it as an allegory or parable of God's love for Israel, or for the Church, or for the soul that loves Him Famous among such interpretations are St Bernard's 86 sermons on the book (Eng tr , 1920) and St Francis of Sales's explanation (Eng tr , 1908) See Morris Jastrow, *The Song of Songs* (1921)

Sonneberg (sŏn'nurbĕrk), town (pop 21,534), Thuringia, central Germany It is the center of the Thuringian toy industry

Sonneck, Oscar George Theodore (sŭ'nĕk), 1873–1928, American musicologist, b Jersey City, N J , educated in Germany As chief (1902–17) of the music division of the Library of Congress, he developed one of the outstanding music libraries of the world He edited the *Musical Quarterly* from the time it was founded in 1915 until his death In 1917 he became director of publications, and in 1921 vice president, of G Schirmer, Inc His writings rank him as one of the foremost as well as one of the first, American musicologists, particularly in the field of early American music They include *A Bibliography of Early Secular American Music* (1905, revised and enlarged by W T Upton, 1945), *Early Concert-Life in America* (1907), *Report on "The Star-spangled Banner," "Hail Columbia," "America," and "Yankee Doodle"* (1909), *Early Opera in America* (1915), and *The Riddle of the Immortal Beloved a Supplement to Thayer's "Life of Beethoven"* (1927)

sonnet, poem of 14 lines, usually in iambic pentameter, restricted to a definite rhyme scheme There are two prominent types the Italian or Petrarchan sonnet is composed of an octave and a sestet, rhyming *abbaabba cdecde*, and the Elizabethan or Shakspearian sonnet has three quatrains and a couplet, rhyming *abab cded efef gg* Variations of these schemes occur The essence of the sonnet is unity of thought or idea Its origin is obscure, but it is generally believed to have developed from medieval songs and in Italy, where it was cultivated during the Renaissance and achieved its greatest examples in the work of PETRARCH, DANTE, TASSO, MICHELANGELO, and others The vogue of the sonnet spread from Italy throughout Europe In Spain it was introduced by Juan Boscán Almogáver, in Portugal by Luís de Camões, in France by Mellin de Saint-Gelays and Marot, and in England by Wyatt and Surrey, who established the form there by the publication of their sonnets in Richard Tottel's miscellany (1557) In France the chief cultivators of this form were the Pléiade, in Germany the sonnet first gained prominence in the romantic period in the hands of Goethe, Schlegel, Heyse, and others Sidney, Spenser, and Shakspere were early masters of the form in England, and they revised and simplified it Innumerable sonnets and sonnet sequences appeared in Elizabethan England, fewer around the time of Milton's great sonnets, and not many in the 18th cent The sonnet was revived in the romantic period, and some of the best examples were written by Wordsworth, Keats, and later by Mrs Browning, the Rossettis, and others. Lesser poets, too, have sometimes achieved a single excellent sonnet The form continues to be popular with 20th-century poets, as innumerable anthologies testify See A T Quiller-Couch, *English Sonnets* (1897); L C John, *Elizabethan Sonnet Sequences* (1938); general histories of English, French, Italian, and other literatures

Sonnino, Sidney, Baron (bärō'nä sōn-nē'nō), 1847–1922, Italian statesman A member of the diplomatic corps (1867–73), he later became interested in social and economic problems, particularly in the conditions of the peasantry, and founded an economic review, later converted into a political daily After entering parliament in 1880, Sonnino specialized in financial questions, and as minister of finance under Crispi (1893–96) he took drastic measures and succeeded in balancing the budget He was twice briefly prime minister (1906, 1909–10) As foreign minister during the First World War, he negotiated (1915) the secret Treaty of London, by which Italy entered the war on the Allied side in exchange for promises of vast territorial gains The opposition of President Wilson to the fulfillment of the secret treaty caused major difficulties at the Paris Peace Conference of 1919, where Sonnino represented Italy with V E ORLANDO Sonnino retired from politics in 1919

Sonoma (sunō'mŭ), city (pop 1,158), W Calif , N of San Francisco, founded 1835, inc 1850 The Bear Flag of the California republic under J C FRÉMONT was raised here in 1846 San Francisco de Solano Mission (1823) and the home of Gen Mariano G Vallejo (1852) here are now state historic monuments, and another landmark is the first hotel (early 1840s) operated N of San Francisco Wine is bottled in Sonoma

Sonora (sŏnō'rä), state (70,484 sq mi , 1946 estimated pop 449,026), NW MEXICO The capital is Hermosillo Sonora is on the Gulf of California, S of Arizona The general aspect of the state except for the low, broad coastlands along the gulf, is similar to Arizona—mountainous with vast desert stretches Reclamation projects on the Yaqui, Sonora, Mayo, and other rivers have opened large areas to agriculture, quantities of tomatoes, rice, wheat, flax, sesame corn, alfalfa, and beans are produced Cattle raising is also important, but the principal wealth of the state lies in its mines of gold, silver, copper, and other metals The modern development of Sonora in agriculture and in textile manufacture and the appearance of power and food-processing plants at HERMOSILLO and GUAYMAS have recently increased both population and wealth NOGALES is the chief point of entry from the United States Systematic Spanish exploration of Sonora, principally by Cristóbal de Oñate, began after Coronado's expedition in 1540 Active in colonizing the territory during the 17th cent and in establishing some control over savage Indian tribes were the Spanish missionaries, notably Eusebio Francisco KINO However, even as late as the 20th cent punitive expeditions had to be sent against the YAQUI Originally part of Nueva Viscaya, which included Chihuahua and Durango, Sonora was later united with Sinaloa in one province in the 17th and 18th cent and one intendancy after the viceregal reforms of 1786 In 1830 they were made separate states In the revolution that began in 1910 Sonora took a leading part in the activities of Venustiano CARRANZA, Francisco VILLA, Álvaro OBREGÓN, and Plutarco E CALLES

Sonora (sunō'ru) **1** City (pop 2,257), co seat of Tuolumne co , central Calif , E of Stockton, founded 1848, inc 1851 It is in the famous Mother Lode mining country, where lumbering, quarrying, and farming are also carried on **2** Town (pop 2,528), co seat of Sutton co , W Texas, SSW of San Angelo and on an intermittent stream called the Dry Fork of Devils river, settled 1888, inc 1917 Ranches here support sheep, goats, and cattle, and quarter horses are bred A ranch experiment station is some 30 mi away

Sons of Liberty. In protest against the Stamp Act (1765), secret organizations sprang up in the American colonies, they called themselves Sons of Liberty after a phrase used by Isaac Barré in a speech in the Parliament in 1765 Leaders were John LAMB and Alexander McDOUGALL in New York and Samuel ADAMS and Paul REVERE in New England The societies kept in touch with each other through committees of correspondence, fomented the spirit of freedom, supported the nonimportation agreement, and participated in calling the Continental Congress of 1774 In the Civil War, the KNIGHTS OF THE GOLDEN CIRCLE adopted the name Sons of Liberty in 1864

Sons of the American Revolution, national patriotic organization, founded in New York in 1889 by a union of the Sons of Revolutionary Sires and certain members of the Society of the Sons of the Revolution Membership is open to those whose ancestors saw active service in the Revolutionary forces In 1906 it was incorporated nationally by congressional act. A similar but unconnected organization is the Sons of the Revolution

Sonsonate (sŏnsōnā'tā), town (1946 estimated pop 18,184), SW Salvador Sonsonate was founded by Pedro de Alvarado in 1524 On the railroad between San Salvador and ACAJUTLA, it is a commercial center for coffee, sugar, corn, tobacco, rice, dairy products, and Peruvian balsam. Still surviving is an ancient and dilapidated mule-drawn trolley connecting Sonsonate with Isalco.

Sontag, Henriette, Contessa Rossi (hĕnrĕt'tŭ sōn'tăk kōntĕs'sä rō'sē), 1806–54, German operatic soprano, studied at the Prague Conservatory. In Vienna in 1823 she created the leading role in Weber's *Euryanthe* and in 1824 was soprano soloist in the premières of Beethoven's Ninth Symphony and *Missa Solemnis*. She made triumphant debuts in Berlin (1825), Paris (1826), and London (1828), but having married Conte Rossi, who was in the diplomatic service of Sardinia, and having been ennobled by the king of Prussia, she left the stage in 1830 at the height of her success In 1849 she resumed her career and in 1852 sang in the United States She died of cholera in 1854 after appearances in Mexico city.

Soochow (sōō'chou', sōō'jō'), Mandarin *Su-chou*, now officially **Wuhsien** (wōō'shĕn'), city and county (pop 1,099,717), SE Kiangsu prov , China The city, on the Grand Canal near Tai lake, was founded about the beginning of the 5th cent Arched bridges cross its many canals and contribute much to Soochow's proverbial beauty. A nine-storied pagoda, c 250 ft high, may be the tallest in China Soochow is a major rail center and is very important for its silk and cotton weaving It was almost destroyed during the Taiping Rebellion but was later rebuilt Until the abolition of exterritoriality it was a treaty port After a bitter two-month struggle Soochow was captured by the Japanese on May 20, 1938, in their drive up the Yangtze valley and was held till the end of the Second World War Soochow fell to the Communists in 1949

Soong (sōōng), Mandarin *Sung*, Chinese family, prominent in public affairs **Soong Yao-ju** (you'jō', -rō') or **Charles Jones Soong,** d 1924, was graduated from Vanderbilt Univ and after returning to China was a Methodist missionary in Shanghai He made his fortune as a merchant **Soong Tse-vung** (tsŭ'-wŭn'), better known as **T. V Soong,** 1894–, Chinese statesman, his most distinguished son, was educated at Harvard Univ and later (1916–24) engaged in private business in China He raised funds for the Kuomintang in 1925 and occupied several official positions, including the vice presidency of the Executive Yuan (1928–31, 1932–33) and the chairmanship of the National Bank of China (1935–44) In 1945 he was simultaneously president of the Executive Yuan, foreign minister, and premier Soong resigned all his positions early in 1949 and came to the United States, apparently to escape the Communists The three daughters of Soong Yao-ju are well known **Soong Ai-ling** (ī'-lĭng'), 1888–, was graduated from Wesleyan College in Macon, Ga She was married to H H KUNG and engaged in child welfare work **Soong Ching-ling** (chĭng'-lĭng'), 1890–, was also graduated from Wesleyan College She early became prominent in revolutionary politics, and in 1915 she married SUN YAT-SEN in Japan After Sun's death (1925) she was a member of the central executive committee of the Kuomintang, but after the party's expulsion (1927) of the Communists she resigned in protest and went abroad Later she was reconciled, became (1939) a state councilor of the national government, and rejoined (1945) the central executive committee Mme Sun left the government when civil war broke out between the Kuomintang and the Communists In 1949, in Peiping, she became a non-Communist member of the central executive committee of the People's Republic of China **Soong Mei-ling** (mā'-lĭng'), 1896–, was graduated from Wellesley College She married CHIANG KAI-SHEK in 1927 She was a member of the Executive Yuan (1929–32) and commander of the Chinese air force in the Second Chino-Japanese War In 1945 she became a member of the central executive committee of the Kuomintang In 1943 she addressed the U S Congress Mme Chiang again visited the United States in 1948 in a fruitless quest for aid to the central government against the Communist advance Early in 1950 she flew to Formosa to rejoin her embattled husband See Emily Hahn, *The Soong Sisters* (1941)

soot, black or dull brown deposit resulting from imperfect combustion of fuel of high carbon content, e g , coal, wood, and oil. It consists chiefly of amorphous carbon and of tarry substances which cause it to adhere to surfaces Soot obtained from coal contains also sulphur and ammonia The fine soot known as lampblack is commonly obtained by burning oils and resins especially to produce it. It is an excellent pigment and is used, for example, in making printer's ink and India ink

Sopater (sŏ'pŭtûr), companion of St Paul Acts 20 4 He is possibly the same as SOSIPATER.

Soperton (sō'pûrtŭn), city (pop 1,339), co seat of Treutlen co , central Ga., WNW of Savannah, in the coastal plain It has a fertilizer-mixing plant

Sopherеth (sō'fē-) [Heb ,=scribe], family returned from exile Ezra 2 55; Neh 7 57

Sophia (sōfī'ŭ, Ger sōfē'ä), 1630–1714, electress of Hanover, consort of Elector Ernest Augustus, She was the daughter of FREDERICK THE WINTER KING and ELIZABETH of Bohemia and a granddaughter (through her mother) of James I of England. In 1701 Parliament settled on her and her issue the

succession to the English throne (see SETTLEMENT, ACT OF), and in 1714 her son, GEORGE I, became king of England

Sophia (sŭfī'ŭ), town (pop 1,160), S W Va , SW of Beckley, in a coal-mining area, inc 1912

Sophia, Santa: see HAGIA, SOPHIA

Sophia Alekseyevna (sō'fyŭ ŭlyĭksyā'lyvnŭ), 1657–1704, regent of Russia (1682–89), daughter of Tsar Alexis by his first wife Supported by the Moscow garrison, the Streltsi, and by her lover, Vasily V Galitsin, she ruled autocratically during the minority of her feeble-minded brother, Ivan V, and of her half brother, PETER I Sophia fostered peaceful relations with Poland By the Treaty of Nerchinsk (1689) with China, Russia retreated from the Amur region However, Galitzin's two unsuccessful campaigns against the khan of Crimea helped to undermine her power She lacked the support of the clergy and nobility in her ambition to be crowned tsaritsa When it was rumored that she intended to kill Peter, he summoned the boyars and his loyal guards, overthrew the regency, deposed Ivan, exiled Galitzin, and had Sophia confined in a convent After an attempted revolt of the Streltsi, Peter forced her (1698) to take the veil

Sophia Charlotte (zōfē'ŭ shärlō'tŭ), 1668–1705, queen of Prussia, wife of Frederick I, daughter of Electress Sophia of Hanover, and sister of George I of England She was noted for her literary and philosophical tastes and for her friendship with Leibniz

Sophia Dorothea (sōfī'ŭ dŏruthē'ŭ), 1666–1726, electress of Hanover, wife of Elector George Louis (later GEORGE I of England), sometimes called Sophia Dorothea of Celle Her alleged lover, Count KÖNIGSMARK, was probably murdered, and she herself was divorced in 1694 and thereafter imprisoned at Ahlden Her harsh fate was one major cause of the unpopularity of George I in England Her children were George II of England and Sophia Dorothea, wife of Frederick William I of Prussia

sophist (sŏ'fĭst) The word *sophist*, taken over from Greek into English, has come to refer to an individual who willingly employs fallacious arguments in order to deceive In ancient Greece the term originally meant a wise and skillful man, but it soon lost its respectability owing to the teachings of those who called themselves Sophists They denied the possibility of objective and universal truth, thus truth, for them, became subjective and relative This notion implied that all moral codes were conventional formulations and could be disregarded with impunity The Sophists were, for the most part the paid teachers of the rich and the powerful, their function was to instruct their pupils in the methods of achieving wordly success Socrates, Plato, and Aristotle judged them especially harshly for accepting payment for instruction Among the more distinguished Sophists were Gorgias and PROTAGORAS

Sophocles (sŏ'fŭklēz), c 496 B C –c 406 B C , Greek tragic poet, younger contemporary of AESCHYLUS and older contemporary of EURIPIDES, b Colonus, near Athens A man of wealth, charm, and genius, Sophocles was given posts of responsibility in peace and in war by the Athenians He was a general and a priest, after his death he was worshiped as a hero At the age of 16 he led the chorus in a paean on the victory of Salamis He gained his first dramatic triumph in 468 B C , over Aeschylus, and thenceforth wrote copiously (he composed about 123 dramas), winning first place about 20 times and never falling lower than second A definitive innovator in the drama, he added a third actor—thereby tremendously increasing the dramatic possibilities of the medium—increased the size of the chorus, abandoned the trilogy of plays for the self-contained tragedy, and introduced scene painting Seven complete tragedies (difficult to date), part of a satyr play, and over 1,000 fragments survive *The Ajax* is perhaps the earliest tragedy, three actors are used but the form is handled imperfectly Thenceforth, whether with two or three actors, the dialogue is polished and easy *Antigone* (c 441 B C), with extraordinarily fine characterization, has often been called Sophocles' most interesting play The most famous of his tragedies (cited by Aristotle as a perfect example of tragedy) is *Oedipus Rex* or *Oedipus Tyrannus* (c 429? B C), in which the strength of Greek dramatic irony reaches an apex The dialogues are stately, the lyrics beautiful, the technique and construction masterly The plot is based on the OEDIPUS legend *Electra* (c 411? B C), the *Trachiniae* (on the death of Hercules by the blood of Nessus), and *Philoctetes* (409 B C) followed *Oedipus at Colonus* was written shortly before Sophocles' death and was produced by his son in 401 B C Sequel to *Oedipus Rex*, it tells of the last days and death of Oedipus, it is a quiet, simple play, with choral odes extraordinary for their depth of thought and detachment from the action There is also extant about half of a satyr play by Sophocles (*Ichneutae* or *The Trackers*, written perhaps c 460 B.C), on the story of Hermes' theft of Apollo's cattle The characters in Sophocles—on a more human level than those in Aeschylus—are governed in their fate more by their own faults than by the actions of the Aeschylean gods. Of the relation of his art to that of his great contemporaries, Sophocles said that Aeschylus composed correctly without knowing it, Euripides portrayed men as they were, and he painted men as they ought to be There are many English translations See T B L Webster, *An Introduction to Sophocles* (1936), W N Bates, *Sophocles, Poet and Dramatist* (1940), C M Bowra, *Sophoclean Tragedy* (1945)

Sophonias (sŏfŭnī'ŭs), Greek form of ZEPHANIAH

Sophonisba (sōfunĭz'bŭ, sŏ–), 3d cent B C , daughter of HASDRUBAL, brother of Hannibal She was the Carthaginian wife of Syphax of Numidia, who after the marriage fought for Carthage When he was defeated (203 B C) by Masinissa and the Romans, Sophonisba took poison The old story—which is probably at least partially true—says that she was betrothed to Masinissa before her father married her to Syphax out of policy When Syphax was slain, Masinissa married her, and to thwart the demand of the Romans to have her grace a triumph he sent her a bowl of poison to drink This tragedy was the subject of plays by Alfieri, Trissino, Corneille, Voltaire, and others The play by James Thomson contains the line "O, Sophonisba! Sophonisba, O!"—much ridiculed by Henry Fielding

Sopot, Poland see ZOPPOT

soprano (suprä'nō, sūprä'nō) [Ital , =above], female voice of highest pitch The three basic types of solo soprano are coloratura, lyric, and dramatic The voices of boys who have not reached puberty generally have the range of a soprano and replace women's voices in some church choirs In the *castrato* of the 18th cent (see EUNUCH) the quality of a boy's voice combined with the lung power of a man made for vocal powers of great brilliance The highest-pitched member of various families of instruments is designated soprano, e g , soprano saxophone

Sopron (shō'prōn), Ger *Ödenburg* (ū'dunbŏŏrk), city (pop 42,255), W Hungary, SSE of Vienna One of the oldest cultural centers in Hungary, it has three 13th-century churches, a 15th-century palace, and a university Part of the BURGENLAND, it was transferred to Austria after the First World War but was returned to Hungary after a plebiscite (1921) Franz Liszt was born at near-by Doborjan

Sopwith, Thomas Octave Murdoch, 1888–, English aviator and aircraft manufacturer In 1910 he won the Baron de Forest Prize for flying from England to the Continent He founded the Sopwith Aviation Company

Sorabji, Cornelia (sōrab'jē), c 1870–, Indian lawyer and author, grad Somerville College, Oxford She took a law degree at Oxford in 1893 She served as legal adviser to the Court of Wards at Bengal, in Bihar and Orissa, and at Assam, later (1904–23) she was consulting adviser—an office created through her efforts—and acted in the interests of women property holders who lived in purdah In 1923 she was called to the English bar, but continued to practice in India Her writings include *Love and Life behind the Purdah* (1902), *Sun Babies* (1904, 2d series, 1909), *Indian Tales of the Great Ones* (1916), *Purdahnashin* (1917), *Therefore* (1924), and *India Recalled* (1936)

Soracte (sōrăk'tē), isolated mountain, 2,267 ft high central Italy, 25 mi N of Rome It was celebrated in the poetry of Vergil and Horace In ancient times it was crowned with a temple of Apollo, there is now a convent near the summit

Soranus (surā'nŭs), fl 1st–2d cent , Greek physician, probably b Ephesus He is believed to have practiced in Alexandria and in Rome and was an authority on obstetrics, gynecology, and pediatrics His treatise *On Midwifery and the Diseases of Women* (Eng tr , 1882) remained an influential work until the 16th cent

Sorata, peak, Bolivia see ILLAMPÚ

Sorbonne (sôrbŏn'), first endowed college in the Univ of Paris, founded by Robert de Sorbon (1201–74), chaplain of Louis IX, and opened c 1257 for the purpose of providing quarters for theology students who were not friars Gaining academic and theological distinction in the late Middle Ages and early modern times, the Sorbonne took preponderance over its early mendicant college rivals, and Sorbonne doctors were frequently called upon to render opinions on important ecclesiastical and theological issues In the 16th cent , because it became the place for the deliberations of the faculty of theology, this faculty came to be called the Sorbonne, although all its members did not belong to this college After the suppression (1792) in the French Revolution the Univ of Paris took over (1808) the Sorbonne grounds, so that for the years 1808–85 the Sorbonne existed as the seat of the three faculties of theology and of the Académie de Paris In 1885 a general council of faculties, presided over by the rector of the university, was created Sorbonne is frequently used as a name for the Univ of Paris The Univ of Paris was again closed in 1940 by the Germans and was not reopened until 1945

Sorbs: see WENDS

sorcery: see MAGIC, SPELL; WITCHCRAFT.

Sordello (sôrdĕl'lō), 13th cent , Italian troubadour, b Provence Some critics believe him to be the same as Sordello da Goito, podesta of Mantua Which Sordello is meant (if they are not identical) by the reference of Dante (*Purgatorio*, VI, 73) is not known Sordello wrote Provencal verse, his most famous poem being a lament on the death of his patron, Blacas Sordello is the title and subject of a long poem by Browning

Sorek (sō'rĕk), valley, SW Palestine, the home of Delilah It is often identified with the Wadi es-Surar, which enters the sea NW of Jamnia Judges 16 4

Sorel, Agnès (ănyĕs' sôrĕl'), c 1422–1450, mistress (1444–50) of Charles VII of France, the first mistress of a French king to be officially recognized as such Noted for her beauty and wit, she had considerable influence over the king and his policies The rumor that she died of poison was invented by the enemies of Jacques COEUR

Sorel, Albert (ălbĕr'), 1842–1906, French historian He held posts in the foreign ministry and in the diplomatic service and later taught at the École libre des Sciences politiques at Paris One of the greatest authorities on diplomatic history, Sorel wrote the monumental study, *L'Europe et la Révolution française* (8 vols , 1895–1904), in which he analyzed international relations in the French Revolution and the Napoleonic era The introductory section was translated as *Europe under the Old Regime* (1947) Other translated works include *The Eastern Question in the Eighteenth Century* (Eng tr , 1898) and biographies of Montesquieu (Eng tr , 1888) and Mme de Staël (Eng tr , 1891)

Sorel, Georges (zhôrzh'), 1847–1922, French social philosopher He was an engineer by profession but, becoming interested in social problems, he eventually resigned his position and devoted himself to study and writing He found in the political and social life of democracy the triumph of mediocrity and espoused various forms of socialism, chiefly SYNDICALISM Concerned like Proudhon, with the moral and cultural development of the people, he looked further to the creation of a revolutionary elite His views had some influence on Mussolini and the Fascists *Reflections on Violence* (1908, Eng tr , 1914) is his best-known book

Sorel (sôrĕl'), city (pop 12,251), S Que , on the St Lawrence at the mouth of the Richelieu, between Montreal and Trois Rivières It is a grain-shipping center, with shipbuilding, iron and steel foundries, and tanneries, and is a market for fruit and butter from the surrounding area The site of the city was visited (1609) by Champlain Fort Richelieu was built here in 1665 and in 1670 a French mission was established The growth of the city began after the arrival (1783) of United Empire Loyalists It is headquarters of the St Lawrence dredging fleet

sore throat. Inflammation of the structures in the upper part of the respiratory tract or throat, including the tonsils, is usually caused by local infection, as in colds, it also occurs at the onset of diseases such as SCARLET FEVER There is irritation and difficulty in swallowing, and there may be fever The treatment of an acute attack consists of rest in bed, hot irrigations of the throat, and application of ice bags to the outside QUINSY sore throat is caused by abscess and requires surgical treatment Some sore throats, caused by irritants such as smoke and gases, cause a chronic cough

Sorge, Reinhard Johannes (rīn'härt yōhä'nŭs sôr'gŭ), 1892–1916, German dramatist, b Switzerland He was killed in the First World War His play *Der Bettler* [the beggar] (1912) was the first example of expressionism After his conversion to Roman Catholicism he wrote several mysteries His verse was posthumously published

sorghum, tall, coarse annual grass (*Sorghum vulgare, Andropogon sorghum,* or *Holcus sorghum*), widely cultivated in many varieties and resembling corn, though the grain is in a panicle rather than in an ear as in corn Sorghum is native to tropical regions of the Old World, where it has been cultivated since early times As a warm-climate plant with drought-resistant qualities, sorghum is well adapted for cultivation in parts of the W United States It will grow on a variety of soils Most sorghums are classed either as sweet or saccharine sorghum or sorgo or as nonsaccharine or grain sorghum The sweet sorghums contain a juice extracted for use as a MOLASSES and called sorghum, they are also used for forage The grain sorghum varieties include milo (called also milo maize), kaffir (called also kaffir corn), durra, feterita, and hegari, they are cultivated for forage and fodder and for the grain for livestock feed Other sorghums are the Sudan grass, used for hay and forage and as a soil binder, and the broomcorn, with grains borne in long-stalked panicles which are made into brooms Some of the sorghums under certain conditions may cause poisoning of stock by HYDROCYANIC ACID JOHNSON GRASS belongs to the genus *Sorghum* See publications of the U S Dept of Agriculture

Soria (sōr'yä), city (pop 12,470), capital of Soria prov , E central Spain, in Old Castile, on the Duero river The Church of San Pedro and the palace of the counts of Gómara are the chief landmarks Near by are the ruins of NUMANTIA

Sorin, Savely (sä'vē'lē sō'rĭn), 1883–, Russian portrait painter, living in England He won the Prix de Rome He is represented in the Luxembourg Museum, Paris, by his *Pavlova* His sitters include the duchess of York, Chaliapin, and Barbara Hutton

Sorocaba (sōrōōkh'bù), city (pop 48,111), SE São Paulo state, Brazil, 50 mi W of São Paulo city It is a textile-milling center and has important trade in cattle, cotton, citrus fruit, and coffee

Sorokin, Pitirim Alexandrovitch (sō'rō'kĭn), 1889–, Russian-American historian and sociologist He studied (1910–14) at the Univ of St Petersburg and taught sociology in Russia after 1914 A Socialist, he was imprisoned three times Sorokin was a member of the Kerensky government, serving (1917) as secretary to the prime minister He was later (1922) condemned to death by the Bolshevik government and then banished He emigrated (1923) to the United States and was naturalized in 1930 Sorokin was professor of sociology at the Univ of Minnesota (1924–30) and at Harvard (after 1930) He wrote several books expounding new theories of social process Among his works are *Sociology of Revolution* (1925), *Social and Cultural Dynamics* (4 vols, 1937–41), *Crisis of Our Age* (1941), *Man and Society in Calamity* (1942), and *Russia and the United States* (1944) See his autobiography, *Leaves from a Russian Diary—and Thirty Years After* (enl ed, 1950)

Sorolla y Bastida, Joaquín (hwäkēn' sōrō'lya ē bästä'dha), 1863–1923, Spanish painter, b Valencia He is noted for his large figure compositions in full, glowing sunlight, painted directly in strong color and in a bold, fluent style He achieved early recognition in Madrid and won the Grand Prix at the Paris Salon in 1900 Subsequently he exhibited in Paris, London, and New York He painted portraits of the Spanish royal family, but is best known for such works as *Beaching the Boat* and *After the Bath* (both Hispanic Society, New York) and *The Summers* (Metropolitan Mus) He is represented in many important museums, the City Art Museum of St Louis being the first in this country to acquire (1892) one of his paintings See Hispanic Society of America, *Eight Essays on Sorolla y Bastida* (1909)

sorority see FRATERNITY

sorrel, name for several plants, particularly species of DOCK and OXALIS

Sorrento (surĕn'tō, Ital sōr-rĕn'tō), town (pop 7,031), Campania, S Italy It stands on high cliffs on the south shore of the Bay of Naples A popular resort, it is also celebrated for its wine Tasso was born here

Sor-Trondelag, Nor *Sør-Trøndelag* (sûr'-trûn'du-lg), county (7,267 sq mi, pop 193,912), central Norway. TRONDHEIM is the county seat There are important copper mines at Roros

S O S, international distress code signal Expressed in the dot and dash code, the signal is ··· − − − ··· (three dots, three dashes, three dots) This combination of letters was selected by the International Radiotelegraphic Convention at London in 1912 The letters (S O S) do not refer to any words, but were selected because they are easy to transmit For airplanes the distress code, by radio telephony, is MAY DAY, which corresponds to the French "m'aider" The signal P A N, not followed by a message, also has the same meaning

Sosen (sōsän'), 1747–1821, Japanese painter He is noted for his rendering of the fur and characteristic movements of monkeys, and the name given him—Sosen—literally means "monkey saint" Deriving his knowledge directly from nature, he painted the cat, dog, fox, deer, rat, birds, and fowl and sometimes figures and landscapes He is represented in many museum and private collections, including the Freer Gallery of Art, Washington, D C, and the Museum of Fine Arts, Boston He is also called Mori, Morikata, and Shikuga

Sosigenes (sōsĭ'junēz), fl 1st cent B C, Greek astronomer and mathematician, probably of Alexandria He is noted as the adviser of Julius Caesar in the reform of the CALENDAR He wrote treatises on astronomy, including a work on revolving spheres

Sosipater (sōsĭ'putur), Christian at Corinth Rom 16 21 He is possibly the same as SOPATER

Sosnowiec (sôsnô'vyĕts), Ger *Sosnowitz* (sôsnô'-vĭts), city (pop 77,853), Silesia prov, SW Poland It is a center of the KATOWICE mining and industrial region Sosnowiec passed to Prussia (1795) and the Russian Empire (1815) It reverted to Poland in 1919

Sosthenes (sŏs'thunēz) [Gr, =preserver of strength] **1** Prominent Jew at Corinth, beaten by the crowd when Gallio refused to try Paul for heresy Acts 18 17 **2** Early Christian 1 Cor 1 1.

Sotai (sō'tāī, sōtā'ī) [Heb, =one who turns aside], family returned from exile Ezra 2 55, Neh 7 57.

Sothern, Edward Askew (sŭ'dhûrn), 1826–81, English actor He came to the United States in 1852 and, under the name Douglas Stewart, made a debut at Boston in *The Heir at Law* by Colman the younger In 1854, using his own name, he joined the company of James W. Wallack and in 1857 played Armand Duval in *Camille* to enthusiastic audiences In 1858 at the Laura Keene's Theater, New York, he rose to fame as Lord Dundreary in Tom Taylor's *Our American Cousin*, making the part the central figure in the play, he repeated its American success in London in 1861 Other notable roles were in *David Garrick* (1864) and as Sam Slingsby in Oxenford's *Brother Sam* (1865)

Sothern, Edward Hugh, 1859–1933, American actor, b New Orleans The son of Edward A Sothern, he appeared first in his father's company in New York in 1879 He worked with John McCullough in London and in 1886 joined Daniel Frohman's Lyceum company, remaining for 13 years During this time he appeared in *Lord Chumley* and *The Prisoner of Zenda* and in 1901 appeared in another of his famous roles, *If I Were King* In 1900 he played in *Hamlet*, thereafter he was seen almost exclusively in Shakspere, co-starring with Julia Marlowe in 1904 in the first of a long series of Shaksperian revivals They were married in 1911 Sothern and Marlowe, through the following years, were the greatest exponents of Shaksperian drama in the United States

Soto, Hernando de see DE SOTO, HERNANDO

Soubise, Benjamin de Rohan, seigneur de (bäzhä-mē' du rōä' sānyûr' du sōōbēz'), 1583–1642, French Protestant general He fought under Maurice of Nassau in the Netherlands and subsequently shared the leadership of the Huguenots with his brother Henri de ROHAN He directed the defense of La Rochelle (1627–28) and after the city's fall retired to England

Soubise, Charles de Rohan, prince de (sharl' dù rōä' prĕs' du sōōbēz'), 1715–87, marshal of France Having obtained a command through the favor of Mme de Pompadour, he was defeated (1757) at ROSSBACH in the Seven Years War His Paris house, the Hôtel de Soubise, houses part of the French national archives

Soudan see SUDAN, FRENCH

Souderton (sou'durtun), industrial borough (pop 4,036), SE Pa, N of Philadelphia settled 1860, inc 1887 Textiles, furniture, and shoes are manufactured here

Soufflot, Jacques Germain (zhäk' zhĕrmĕ' sōōflō'), 1713–80, French architect, chiefly noted as the designer of the Panthéon in Paris He won the commission in an open competition Begun in 1764, the building contains a remarkable masonry dome, and because of its classical features it is considered the forerunner of the eclecticism which prevailed in the architecture of the 19th cent The dome was uncompleted at Soufflot's death and the work was continued by others and completed by his pupil J P Rondelet Soufflot's other works include the theater and the Hôtel-Dieu, Lyons, and the École de Droit, Paris

Soufrière (sōōfrĭĕr'), dormant volcano, 4,869 ft high, on Guadeloupe, French West Indies Called also La Grande Soufrière, it is the highest mountain of the West Indies

Soufrière, volcano, 3,145 ft high, on St Lucia, British West Indies, highest point on the island

Soufrière, volcano, 4,048 ft high, on St Vincent, British West Indies On May 7, 1902, just before the great eruption of Pelée on Martinique, Soufrière erupted, laying waste a third of St Vincent, killing more than 1,000 people, and scattering a heavy fall of ash on Barbados, c 75 mi to the east

soul, the vital principle of a body, conceived as existing with it The origin and end of the soul have been as much disputed as its nature The religions and philosophies of all time have been occupied with the soul, because they have always for one of their first problems the nature of existence and of living Some religions, specifically types of animatism and spiritism, are chiefly concerned with the soul Pantheism denies the individuation of human souls, and materialism declares the soul nonexistent One of the most widely accepted concepts in the world is IMMORTALITY, and this almost always postulates the existence of a soul to live apart from the body after death In Christianity the soul is all important Christian definitions vary greatly, but one widely adopted concept deems the soul to be the thinking life of man The soul often comes, then, to be set over against the body, in a kind of hostility, this idea of body vs soul is conventional in language and in thought Scholasticism (specifically St Thomas Aquinas) studied the soul in great elaboration, and the scholastic definition of the soul as "substantial form of the body" obviates many philosophical difficulties The nature of man is involved in the whole consideration of the soul, hence the term rational soul for the distinctive soul of man The soul of beasts is called the animal soul, and that of plants the vegetative soul The scholastics considered the rational soul alone as immortal and capable of union with God The origin of the soul was a burning question at several points in Christian history. Two points of view may be distinguished creationism, that God creates each individual soul in a special act of creation (at the time of conception according to some or of birth according to others), and traducianism, that the parents in begetting the child beget the soul too The creationist principle has been generally triumphant in Christianity. No distinction between the rational soul and others is made in many systems, such a distinction is quite impossible in most forms of REINCARNATION and of TRANSMIGRATION OF SOULS The soul of humanity when conceived as being one is called the world soul or anima mundi Psychology receives its name from being the "science of the soul"

Soulé, Pierre (pyĕr' sōōlā'), 1801–70, American political leader and diplomat, b Castillon, France A lawyer, he was arrested and imprisoned for republican activities, but escaped and came to the United States in 1825 He ultimately became a prominent citizen of New Orleans and a power in the Democratic party in Louisiana Soulé served in the U S Senate in 1847 and from 1849 to 1853, when he resigned to become minister to Spain Instructed to try to secure Cuba from Spain, he overreached himself, especially in drawing up, with James Buchanan and John Y Mason, the notorious OSTEND MANIFESTO After its repudiation by the United States, he resigned (Dec, 1854) In the Civil War, after New Orleans fell (April, 1862) to the Union, Soulé was captured and imprisoned briefly Released on parole, he escaped to Havana, ran the blockade to New Orleans and served in the Confederate government at Richmond in 1863–64 See A A Ettinger, *The Mission to Spain of Pierre Soulé, 1853–55* (1932)

Soule (sōōl), small historic region, SW France, in the Basque country and in the Pyrenees, bordering on Spain Wedged between French Navarre and Béarn, it is comprised in Basses-Pyrénées dept

Souli, Greece see SULI

Soulouque, Faustin Élie (fōstĕ' ālē' sōōlōōk'), c 1785–1867, Negro emperor of Haiti (1849–59) An illiterate ex-slave, he became president in 1847 and then declared himself emperor as Faustin I His reign was corrupt, sanguinary, and terror-ridden, his court was a caricature of Napoleon's Although he failed in his attempt to conquer Santo Domingo, he held Haiti under stern control until overthrown by a revolution led by GEFFRARD

Soult, Nicolas Jean de Dieu (nēkôlä' zhäⁿ' du dyu' sōōlt'), 1769–1851, marshal of France Having played a conspicuous part in the Napoleonic War of the Second Coalition (1804–7), he was created duke of Dalmatia (1808), and from 1808 to 1813 held command in the PENINSULAR WAR Louis XVIII made him minister of war in 1814, but he joined Napoleon in the Hundred Days (1815) Soult returned from exile in Russia in 1820, was restored to his rank, and was later made a peer by Charles X Under Louis Philippe he served as minister of war (1830–34) and nominally headed (1840–44) the conservative government in which Guizot was the chief figure In 1848 he changed color once more and became a republican

Sound, the see ORESUND

sound When a body vibrates, i e, moves to and fro within a limited distance, in air or in some other medium, it sets up a form of vibratory motion (see VIBRATION) which radiates outward from it in straight lines through the molecules of the medium The effect these waves of vibration produce upon the ear covers the common definition of sound From the point of view of physics, sound is considered to be the waves of vibratory motion themselves, whether or not they are heard by the human ear When a violin string vibrates upon being bowed or plucked, its movement in one direction pushes the molecules of the air before it, crowding them together in its path When it moves back again past its original position and on to the other side, it leaves behind it a nearly empty space, i e, a space with relatively few molecules in it In the meantime, however, the molecules which were at first crowded together have transmitted some of their energy of motion to other molecules still farther on and are returning to fill again the space originally occupied and now left empty by the retreating violin string In other words, the vibratory motion set up by the violin string causes alternately in a given space a crowding together of the molecules of air, i e, a condensation, and a thinning out of the molecules, i e, a rarefaction Taken together a condensation and a rarefaction make up a sound WAVE, such a wave of vibratory motion being called longitudinal (as distinguished from the transverse wave of light) because the vibratory motion is forward and backward along the direction that the wave is following A sound wave is usually represented graphically by a wavy, horizontal line, the upper part of the wave (the crest) indicating a condensation and the lower part (the trough) indicating a rarefaction This graph, however, is merely a representation and is not an actual picture of a wave The length of a sound wave, or the wave length, is measured as the distance from one point of greatest condensation to the next following it or from any point on one wave to the corresponding point on the next in a train of waves The wave length depends upon the velocity of sound in a given medium at a given temperature and upon the frequency of vibration, i e., the number of vibrations per second of the body causing the sound. Sounds

are generally considered audible to the human ear if their frequency lies between 20 vibrations and 20,000 vibrations per second, but the range varies considerably with the individual The wave length of a sound can be determined by dividing the numerical value for the velocity of sound in the given medium at the given temperature by the frequency of vibration For example, if the velocity of sound in air is 1,130 ft per second and the frequency of vibration is 256, then the wave length is approximately 4 4 ft The velocity of sound is not constant, however, for it varies in different media and in the same medium at different temperatures For example, in air at 0°C it is approximately 1,089 ft per second, but at 20°C it is increased to about 1,130 ft per second, or an increase of about 2 ft per second for every centigrade degree rise in temperature Sound travels more slowly in gases than in liquids, and more slowly in liquids than in solids Since the ability to conduct sound is dependent on the density of the medium, solids are better conductors than liquids, liquids are better conductors than gases Sound will not pass through a vacuum at all Sound waves can be reflected, refracted (or bent), and absorbed as light waves can be The reflection of sound waves can result in an ECHO—an important factor in the ACOUSTICS of theaters and auditoriums A sound wave can be reinforced with waves from a body having the same frequency of vibration, but the combination of waves of different frequencies of vibration may produce so-called "beats" or pulsations or may result in other forms of INTERFERENCE Musical sounds are distinguished from noises in that they are composed of regular, uniform vibrations, while noises are irregular and disordered vibrations One musical tone is distinguished from another on the basis of pitch, intensity or loudness, and quality or timbre Pitch describes how high or low a tone is and depends upon the rapidity with which a sounding body vibrates, i e , upon the frequency of vibration The higher the frequency of vibration, the higher is the tone, the pitch of a siren gets higher and higher as the frequency of vibration increases The difference in the pitch of a sound as a source approaches or moves away from an observer is described as the DOPPLER EFFECT The intensity or loudness of a sound depends upon the extent to which the sounding body vibrates, i e , the amplitude of vibration A sound is louder as the amplitude of vibration is greater, and the intensity decreases as the distance from the source increases The sound waves given off by different vibrating bodies differ in quality or timbre A note from a saxophone, for instance, differs from a note of the same pitch and intensity produced by a violin or a xylophone, similarly vibrating reeds, columns of air, and strings all differ Quality is dependent on the number of overtones produced by the vibrating body (see HARMONIC), and this number and their relative intensity depend upon the nature of the vibrating body

sounding, determination of water depth as practiced in navigation and piloting A device employed for this purpose since earliest times and still much used is the lead A block of the metal is hollowed at one end and is "armed" by placing wax in the cavity When the lead is lowered to the water's bottom by a line, particles of whatever exists there adhere to the wax Hand leads of 7 to 14 lb suffice for shallow waters, and their lines are generally marked to 25 fathoms (150 ft), while deep-sea leads weigh from 40 to 100 lb and use lines marked to 1,000 fathoms or less The line winds about a mechanically operated reel, and its length registers on a meter connected to the line More modern methods are employed to avoid slowing or halting the vessel One of them employs a pressure-recording device attached to the lead The highest pressure corresponds to the greatest depth, and the line need not be perpendicular or nearly perpendicular as it must be in lead sounding The sonic depth recorder is an electronic device which operates on the measurement of the velocity of sound through water A signal is sent down from an instrument attached to the ship's keel, another records the moment of arrival of its echo after the sound has traveled to the bottom and been reflected back The interval of time is the means of depth determination A fathometer is a completely automatic device located in the pilot house to give continuous depth readings on a dial

sound recording, process of converting the acoustic energy of sound waves into electromechanical energy for inscription on various substances In 1876 Thomas A Edison made the first mechanical system capable of recording and reproducing sound, but the greatest advances were made after the adoption in 1925 of electromechanical systems utilizing vacuum-tube amplifiers In recording, a microphone converts sound-wave frequencies into alternating electrical voltages which are then amplified and sent on to actuate the recording mechanism In disk recording the voltages cause disturbances in a magnetic field, vibrating a stylus mounted in that field The stylus cuts into a soft disk revolving beneath it, the cuts (groovings) varying with the amplitude and frequency of the actuating voltage The soft disk serves as the model or mold for making a metal stamp with which more durable disks are impressed In reproduction the disk vibrates a needle which in turn vibrates a diaphragm, the vibrations of this diaphragm produce a voltage which is, in turn, passed on to a loudspeaker In magnetic wire and tape systems disturbances in a magnetic field cause varying realignments of magnetic particles in the recording medium passing through the field In reproduction the tape or wire is played back through the field, the realignments redisturbing it and producing a voltage Sound recordings for use with moving pictures are commonly made on film The process utilizes a photosensitive strip of moving film (usually at the edge of the standard photographic film) which is exposed to a beam of light focused on it through a narrow slit Here microphone voltages interpret the acoustic characteristics of sound into photo characteristics by controlling either the intensity of the light beam or (by actuating a shutter mechanism) the time and area of film exposure In reproduction a beam of constant intensity is focused on a photoelectric cell (or phototube) When the developed film is passed between the beam and the cell the variations of film exposure vary the amount of light passed through to the cell, causing a fluctuation in its current output which activates a loudspeaker

soup, liquid food, made usually by boiling meat or vegetables or both in water, with seasoning Many soups are peculiar to certain localities, as the *pot-au-feu* of France, the borsch of Russia, the mutton broth of Scotland, and the chowders of various seacoast places Broth is a thin soup of meat or shellfish liquor, sometimes with cereals added, as barley broth Clear soups, made from a rich meat stock, include consommé (beef, veal, or fowl) and bouillon (beef) A clear soup with strips of vegetables added is a julienne soup Thick soups include vegetable soups made with stock and vegetables (as in *pot-au-feu*) or with milk and flour (cream soups) or by cooking fish and vegetables in water as for a CHOWDER A purée differs from a cream soup by being thickened with pulp, usually of a vegetable, sometimes, particularly when made of fish, it is called a bisque Gumbo is either vegetable or meat soup thickened with okra Stock, the basis of a great many soups is made by placing lean meat, bones, fowl, fish, or vegetables in cold water, simmering in a covered pot, skimming, straining, and removing the fat Any meat except pork may be used Many low-priced cuts are rich in juices and extractives Bones supply marrow and gelatin The flesh of old animals is much richer in marrow and gelatin than that of young ones Stock is either white or brown, for white, chickens, turkeys, and veal are used, for brown, beef and beef bones or beef combined with veal Jellied soups, served as appetizers in hot weather, may be made from stock or from strained vegetable juices with the addition of gelatin Soups vary widely as to dietary value The clear, delicately seasoned ones are important as appetizers and stimulants, while the more substantial ones, like chowders, form, with the addition of bread, a one-dish meal

sour gum see BLACK GUM

Souris, 1 (sōō'rĭs) Town (pop 1,517), SW Man , on the Souris river and SW of Brandon It has railroad shops, foundries, grain elevators, and dairying **2** (sōō'ĭ-rĭs) Town (pop 1,114), on NE Prince Edward Island, on the Gulf of St Lawrence and ENE of Charlottetown, settled 1748 by Acadians It is a fishing port

Souris (sōō'rĭs), river, c 435 mi long, rising in S Saskatchewan, making a long loop into North Dakota (passing Minot), and entering the Assiniboine in SW Manitoba

Sour Lake, city (pop 1,504), E Texas, NW of Beaumont, in an oil area, settled 1836, inc 1939

Sousa, John Philip (sōō'zu,-sə), 1854–1932, American bandmaster and composer, b Washington, D C He studied violin and harmony in his native city and learned band instruments as an apprentice to the U S Marine Band, of which his father was a member He began early to conduct theater orchestras, and he played in Offenbach's orchestra in its American tour (1876–77) He was leader of the U S Marine Band from 1880 until 1892, when he formed his own band With great success he toured the United States, Canada, and, beginning in 1900, Europe In the season 1910–11 he and his band toured the world He composed about 100 marches, including *Semper fidelis* (1882), *The Washington Post March* (1889), *The Stars and Stripes Forever* (1897), and *Hands across the Sea* (1899), comic operas, such as *El capitan* (1896), *The Bride Elect* (1898), and *The Free Lance* (1906), and some orchestral music In the development of the concert band he was the successor of Gilmore and did much to improve the instrumentation and quality of band music See his autobiography, *Marching Along* (1928)

Sousa, Martim Afonso de (märtēn' afō'zō du sō'zu), 1500?–1571?, Portuguese colonial administrator An admiral, he was commissioned in 1530 to drive the French corsairs from the Brazilian coasts and to establish colonies He succeeded in clearing the coasts, founded the colony of São Vicente, established sugar-cane growing and introduced other crops and cattle He was the true founder of Brazil, for only with settlement did the colony properly begin His work was continued by Tomé de Sousa, the Jesuit Manuel de Nobrega, and Mem de Sá

Sousse (sōōs') or **Susa** (sōō'sə) city (pop 36,566), E Tunisia, a port on the Mediterranean Sea It exports cereals, olive oil, and phosphates, and it is a fishing port Founded (about the 9th cent B C) by Phoenicians, it became subject to Carthage Under Rome it was a busy port of NW Africa It was destroyed (434) by Vandals and rebuilt by Justinian Ancient remains include extensive early Christian catacombs

South, Sir James, 1785–1867, English astronomer His interest in astronomy led him to erect (1816) an observatory in London, which he later moved to Kensington, and finally (1835) to Passy, near Paris With Sir John F W Herschel he made observations and measurements of hundreds of double stars and discovered many new ones South was the founder (1829) and the first president of the Astronomical Society and was knighted in 1830

South, Robert, 1634–1716, English clergyman and preacher of great distinction He was ordained in 1658 After the Restoration he was appointed public orator (1660) at Oxford Univ , a prebendary (1663) of Westminster, a canon (1670) of Christ Church, Oxford, and rector (1678) of Islip In his vigorous defense of the Church of England, he firmly opposed both dissenters and Roman Catholics In 1693 he entered into a controversy with William Sherlock, publishing *Animadversions upon Dr Sherlock's Book Entitled a Vindication of the Holy and Ever-Blessed Trinity* (1693) The king put an end to the disputation that followed South is chiefly remembered for his pithy, vigorous sermons, his *Sermons Preached upon Several Occasions* (1679) has passed through a number of editions

South, the, region of the United States embracing all of the southeast and part of the southwest It includes, at the most, 14 states—Maryland, Virginia North Carolina, South Carolina, Georgia Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas Traditionally, all states S of the MASON-DIXON LINE and the Ohio river (except West Virginia) make up the South, but to many the region is restricted to the 11 states below the Potomac which comprised the short-lived CONFEDERACY—those named above minus Maryland and Kentucky, border slave states which were held for the Union in the CIVIL WAR, and Oklahoma, which did not become a state until much later Missouri and Delaware were two other border slave states in which the Southern tradition was strong The South has long been a section apart, even though it is not isolated by any formidable natural barriers and is itself divided into many distinctive regions the coastal plains along the Atlantic and the Gulf of Mexico, the piedmont, the ridges, valleys, and high mountains bordering the piedmont, especially the Great Smoky Mts in North Carolina and Tennessee, areas of bluegrass, black-soiled prairies, and clay hills west of the mountains, bluffs, flood plains, bayous, and delta lands along the Mississippi, and beyond that great river, more plains, the Ozark Mts , and large stretches of arid lands The climate, however, is one unifying factor Over the year the region has greater humidity, more sunshine, and less wind than other sections Winters are neither long nor very cold, and the rainfall is heavy at certain periods The long, hot growing season (nine months at its peak along the Gulf) and the fertile soil (much of it overworked or ruined by erosion) make the South a predominantly agricultural region where such staples as tobacco, cotton, corn, and, to a lesser extent, rice and sugar cane have long flourished The basic agricultural economy determined by the climate and the soil led to the introduction of the NEGRO as a source of cheap labor under the twin institutions of the plantation and of SLAVERY Slavery might well have expired had not the invention of the cotton gin (1793) given it a firmer hold, but even so there would have remained, as there still does, the problem of the Negro The "central theme" in the history of the South- and as Rupert B Vance says, "history, not geography, made the solid South"—is, the historian Ulrich B Phillips concluded "white supremacy," which, until the defeat of the Civil War, was almost completely identified with the perpetuation of slavery Although Southerners had taken care to have their "peculiar institution" protected by the Constitution of the United States, it was not until the period beginning with the MISSOURI COMPROMISE that the South definitely became "a conscious minority" in the nation That event marked the rise of Southern sectionalism, rooted in the political doctrine of STATES' RIGHTS, with John C CALHOUN as its greatest advocate When differences with the North, especially over the issue of the extension of slavery into the federal territories, ultimately appeared insoluble, it was a short step for the South from states' rights to SECESSION (or independence) and to war The Old South died in the war and was buried in the RECONSTRUCTION period that followed Since then the

South has been forced to adjust its standards to those of the victorious North Out of these adjustments, often painful, came the increased industrialization, the almost complete acceptance of Northern ideas of business success, and the conversion to the New England ideal of universal education that distinguish the New South Even the character of local government was changed when the "Bourbons" (conservative Democrats) were turned out in the agrarian revolt of the late 19th cent, somewhat reminiscent of the earlier struggles of the frontier against the aristocratic TIDEWATER The "Bourbons" had long remained in power because they had at least restored "white supremacy" at the end of the hated Reconstruction rule of the Republicans (which made the Democratic solid South of national politics) Under their successors "white supremacy" was even further entrenched through the suffrage provisions of new state constitutions and Jim Crow laws Once he resigned himself to the two essential facts of "white supremacy" —political impotence and social inequality—the Negro was, however, permitted to improve his lot Since the agrarian revolt political and economic life in the South has often been reflected in the activities of various demagogues, at least one of whom, Huey LONG, achieved national stature, as had the latter-day KU KLUX KLAN A happier measure of the South's reintegration with the nation, however, was the wholehearted support the region gave to three national wars From William Byrd (1674–1744) to William Faulkner the South has always had a strong regional literature Its principal subject has been the Civil War, reflected in song from Paul Hamilton Hayne to Allen Tate and novels from Thomas Nelson Page to Margaret Mitchell See *The South in the Building of the Nation* (13 vols , 1909–13), W E Dodd, *The Cotton Kingdom* ("Chronicles of America" series, Vol XXVII, 1919) and *The Old South Struggles for Democracy* (1937), V W Crane, *The Southern Frontier, 1670–1732* (1928), U B Phillips, *Life and Labor in the Old South* (1929), J T Carpenter, *The South as a Conscious Minority, 1789–1861* (1930), Broadus Mitchell and G S Mitchell, *The Industrial Revolution in the South* (1930), W T Couch, *Culture in the South* (1934), R S Cotterill, *The Old South* (1936), H W Odum, *Southern Regions of the United States* (1936), D S Freeman, *The South to Posterity* (1939), Allison Davis, B B Gardner, and M. R. Gardner, *Deep South a Social Anthropological Study of Caste and Class* (1941), Virginius Dabney, *Below the Potomac a Book about the New South* (1942), T J Wertenbaker, *The Old South the Founding of American Civilization* (1942), W B Hesseltine, *The South in American History* (1943, first published as *A History of the South, 1607–1936*, 1936), R B Vance and Nadia Danilevsky, *All These People the Nation's Human Resources in the South* (1945), F M Coulter, *The South during Reconstruction, 1865–1877* (Vol VIII, 1947) and *The Confederate States of America, 1861–1865* (Vol VII, 1950), both in the "History of the South" series, Everett Dick, *The Dixie Frontier* (1948), F B Simkins, *The South, Old and New a History, 1820–1947* (1948), C S Sydnor, *The Development of Southern Sectionalism, 1819–1848* ("History of the South" series, Vol V, 1948), W F Craven, *The Southern Colonies in the Seventeenth Century, 1607–1689* ("History of the South" series, Vol I, 1949), C. B Hoover and B U Ratchford, *Economy of the South* (1949), V O Key, Jr., *Southern Politics* (1949), F L Owsley, *Plain Folk of the Old South* (1949), R P Vance, J E Ivey, Jr , and M N Bond, *Exploring the South* (1949), J L Fulmer, *Agricultural Progress in the Cotton Belt since 1920* (1950)

South, University of the, called **Sewanee,** at Sewanee, Tenn , on the Cumberland Plateau and E of Winchester, Episcopal, for men, chartered 1858 by Bishop Polk, opened 1868 It has a college of arts and sciences, a theological school, and a military academy The university publishes the *Sewanee Review*, an influential literary magazine

South Africa, Union of, Afrikaans *Unie van Suid Afrika*, country (472,494 sq mi , pop 11,418,349), dominion of the British Commonwealth of Nations The capital is Pretoria The country is on the Atlantic Ocean and the Indian Ocean, it is otherwise bounded by South-West Africa, Bechuanaland, and Southern Rhodesia on the north and by Swaziland and Mozambique on the east Basutoland is an enclave The Union comprises four provinces, Cape of Good Hope (usually called Cape Prov), Natal, Orange Free State, and Transvaal, and it administers SOUTH-WEST AFRICA Parliament meets at Capetown, members (several representing the nonwhite population) must be white persons. Most of the union is a plateau (2,000–5,000 ft high), but there are some mountain ranges, notably the Drakensberg in the east, and the land along the coast (c 1,800 mi long) is low. The climate is mild and dry, and rainfall often must be supplemented by irrigation (largely using the Orange and the Vaal rivers) Maize and sorghum are the main crops, and fruits, sugar, potatoes, peanuts, and tobacco are important Where crops cannot be grown, livestock (especially cattle and sheep) is raised Most of the population farms, but the yield is low, and food must be imported with the foreign exchange gained from the sale of the country's minerals The gold produced (mostly in the WITWATERSRAND) has about four times the value of the remaining mineral production Diamonds (at Kimberley), coal, copper, asbestos, chromium, and manganese are important South Africa's commerce, largely developed by C J RHODES, centers on Johannesburg The country is integrated by an extensive railroad system (c 14,500 mi long). Most of the foreign trade is handled by the ports (all with artificial harbors) of Capetown, Port Elizabeth, East London, and Durban The first European to visit South Africa was the Portuguese Bartholomew Diaz who rounded the Cape of Good Hope in 1488 The cape, about midway on the shipping route to India, was an ideal supply station, and in 1652, at Capetown, the Dutch East India Company established the first permanent white settlement and expelled the native Hottentot and Bushman inhabitants After several earlier invasions, the prosperous colony became British in 1841 To escape foreign rule and the pressure of migration, much of the Boer (Dutch) population migrated from the cape in the 1830s (see TREK) to found the republics of Transvaal, the Orange Free State, and Natal The Boers defeated the Bantu inhabitants (including the ZULU) who were forced into relatively small reservations and forbidden to acquire land outside Great Britain annexed Natal in 1843, but the other republics were allowed independence until diamonds were discovered (1867) in the Orange Free State and gold was discovered (1886) in Transvaal The influx of prospectors, mainly British, alarmed the Boer governments, which undertook steps to repress the *Uitlanders* [foreigners] The hostility exploded (1899) in the SOUTH AFRICAN WAR British victory was followed in 1910 by the establishment of the Union of South Africa The position of the Boer population was recognized by continuing the Roman-Dutch law (common law of Holland) and by making Afrikaans an official language along with English The antipathy of the Boer and British elements was reflected in South Africa's politics Two main parties developed, the Unionist or United South African party (headed by J C SMUTS, an outstanding advocate of cooperation between the two national strains) and the Nationalists, who espoused Boer supremacy and at times advocated secession from the British Commonwealth The Nationalists vainly opposed South Africa's entry into the Second World War, with Smuts as premier the country contributed its full resources to the war After the war race relations became a major issue, and in 1946 India ended diplomatic relations because of the treatment of the Indian minority (c 280,000) In the elections of 1948, the Nationalists, headed by Daniel Malan, and allied groups, won a parliamentary majority (while losing the popular vote), apparently because they promised further to restrict the liberty of the nonwhite population (9,045,659) which includes 7,831,915 Negroes and 928,484 "colored" (i e , part-white) persons There were indications, however, that the nonwhite peoples, kept in poverty and ignorance and subject to continual police surveillance, were becoming increasingly restive See Sir George Cory, *Rise of South Africa* (5 vols., 1910–30), A W Wells, *South Africa* (1940), Sarah Millin, *South Africa* (1941), E A Walker, *History of South Africa* (2d ed , 1949)

South African literature. Until the late 1940s there was little encouragement to English-speaking South Africans to write and publish Afrikaans, a Dutch dialect, had been officially recognized only in 1925 and was for the next 20 years the prevailing literary language of an acutely nationalistic country The availability, through representatives of English publishers in South Africa, of the entire body of English-language literature retarded not only the development of English language writing but caused a great deal of the Afrikaans literary energy to be expended in translations of English classics The lack of South African publishing houses for English books caused young writers to emigrate and publish either in England or America The establishment, in 1948, of a local publishing firm devoted entirely to books in English began a new literary era The agreement discussed in 1950 on reciprocal royalties between the United States and South Africa is another step in the encouragement of African literature in English Several South African authors have, however, already made their names famous by publishing abroad Best-known local novelists are Olive Schreiner, author of *The Story of an African Farm* (1883), Sarah G. Millin, whose major work is *God's Stepchildren* (1924), Alan Paton, whose novel *Cry, the Beloved Country* (1948) was widely acclaimed in America, and Elizabeth Webster, who won an English prize for *Ceremony of Innocence* (1949). Although English by birth, the novelist Rider Haggard is chiefly remembered for his works set in South Africa. Roy Campbell is known as a South African poet, though he lived in England after 1926 Letters by Lady Anne Barnard (1750–1825) and Lady Duff Gordon (1821–69) are an excellent commentary on South African life A family chronicle which at the same time chronicles the history of the country is *In God's Good Time* (1949) by Herbert Watkins-Pitchford In *Face to Face* (1949), by Nadine Gordimer, the South African short story is represented

South African Republic see TRANSVAAL

South African War or **Boer War,** 1899–1902, war of the South African Republic (Transvaal) and the Orange Free State against Great Britain Beginning with the acquisition in 1814 of the Dutch colony at the Cape of Good Hope, Great Britain gradually increased its territorial holdings in South Africa and by 1894 held, in addition, Natal, Basutoland, Swaziland, and Rhodesia The Boers (Dutch), who resented British advance into these territories, had long felt strong hostility to Great Britain This was especially marked in the Transvaal (headed by the strongly anti-British S. J P Kruger) which had actually been annexed (1879–84) to Great Britain The antipathy was inflamed after the discovery (1886) of gold in the Witwatersrand brought a great influx of prospectors (mainly British) into the Transvaal The Boer government denied these *Uitlanders* [foreigners] citizenship and taxed them heavily, despite British objections. In 1895 the Jameson raid (see JAMESON, SIR LEANDER STARR), which Kruger interpreted as an officially sponsored plot to seize his country, aggravated the situation, and in 1896 the Transvaal and the Orange Free State formed a military alliance to protect their independence The British, after the appointment (1897) of Sir Alfred Milner as governor of the South African territories, determined upon a showdown in defense of what they considered their commercial rights Troops were dispatched from England, and when their withdrawal was refused, the Transvaal and the Orange Free State declared war (Oct 12, 1899) The well-equipped Boer forces were larger than those immediately available to the British, and they scored impressive victories in the areas adjacent to the Boer territories In the Cape Colony, Mafeking was captured and Kimberley besieged, and in Natal, Ladysmith was placed under siege Additional troops were sent by the British, and Sir Redvers Buller was placed in command His failure to dislodge the Boers led to the appointment of F S Roberts as commander in chief, with Lord Kitchener as chief of staff They landed in 1900 with heavy reinforcements and soon won victories Kimberley and Ladysmith were relieved, and Gen P A Cronje was forced to surrender Roberts advanced into the Orange Free State, capturing the capital, Bloemfontein, in March and investing all its territory by May In May, Mafeking was relieved and the Transvaal invaded Johannesburg fell in May and Pretoria in June The Boer states were formally annexed, and Kruger, a fugitive, appealed in vain for help in Europe Roberts, believing the war to be over, left South Africa and delegated the mopping-up to Kitchener The Boers, however, continued resistance by extensive and coordinated guerrilla warfare Under their leaders in the field, including Botha, De Wet, and Smuts, they disrupted communications and attacked outlying detachments, and they used their superior knowledge of the country to elude capture Kitchener soon realized that the country had to be swept systematically bare of the enemy The Boer women and children were herded into concentration camps (where many died of disease) and chains of blockhouses were erected, so disposed as to cut off large areas Dragnets of troops went through the guerrilla country section by section, and by 1902 the British force (c 350,000) had reduced to submission the Boer force (c 60,000) The Treaty of Vereeniging (May 31, 1902) ended hostilities The Boers accepted British sovereignty in exchange for a promise of responsible government in the near future Great Britain agreed to grant £3,000,000 to compensate for destruction of farms and promised not to assess taxes to meet the expenses of the war Amnesty was granted to all who had not violated the rules of war and repatriation to those who accepted the British king The British loss in life was over 5,000, the Dutch c 3,700, and the war left much bitterness, which has continued to affect the political life of the Union of South Africa (organized 1910). See Leopold Amery, ed , *The Times History of the War in South Africa* (7 vols , 1900–1909), F H E Cunliffe, *History of the Boer War* (1904), Sir John Maurice and Maurice Grant, ed , *History of the War in South Africa* (8 vols , 1906–10), Deneys Reitz, *Commando a Boer Journal of the Boer War* (new ed , 1945)

South Amboy (ăm'boi), city (pop 7,802), E N J , with a harbor at the mouth of the Raritan opposite Perth Amboy, settled 1651, inc. as a borough 1888, as a city 1908 It was the terminal (1832) of the Camden and Amboy, the state's first railroad, and became an important coal port

South America, continent (c.6,850,000 sq. mi , pop c.95,000,000), the southern of the two continents of the Western Hemisphere. It is divided politically into 10 republics—ARGENTINA, BOLIVIA, BRAZIL, CHILE, COLOMBIA, ECUADOR, PARAGUAY,

PERU, URUGUAY, and VENEZUELA—and the three colonies of GUIANA Broad in the north where the equator crosses it, the continent narrows to a point in the south at TIERRA DEL FUEGO and embraces every climatic zone between tropical and subantarctic The mighty cordillera of the ANDES, like a continental backbone, parallels the Pacific shore. The great river systems from north to south are the MAGDALENA, the ORINOCO with its LLANOS, the AMAZON with its SELVAS, and the basin of the Río de la PLATA with its PAMPA Between the Orinoco and the Amazon is the little-known GUIANA HIGHLANDS region and S of the Amazon are the tablelands of MATO GROSSO and the uplands of central and S Brazil Again to the south, below the Río de la Plata, lie the Argentina Pampa and windy, semiarid PATAGONIA On the Pacific coast the land between Andes and sea widens northward from the islands of S Chile N of the garden spot of central Chile is the great desert of ATACAMA Most of Peru, Bolivia, and Ecuador are largely dominated by the Andes and high intermontane valleys and plateaus The western coastal plain varies in width Excluding Lake MARACAIBO, which is connected to the Caribbean, high Lake TITICACA is the largest of the continent's lakes While sometimes considered part of South America, the isthmus of Panama is properly a separate geographical unit See C F Jones, *South America* (1930), J L Rich, *The Face of South America* (1942), Preston E James, *Latin America* (1942)

Southampton, Henry Wriothesley, 3d **earl of** (rŏt'slē, sou"thămp'tun), 1573–1624, English nobleman and patron of letters He succeeded to his title in 1581, was educated at Cambridge, and gained favor at the court of Queen Elizabeth A generous patron of such writers as Barnabe Barnes, Thomas Nash, and John Florio, he is best known as the patron of William Shakspere, who dedicated *Venus and Adonis* (1593) and *The Rape of Lucrece* (1594) to him Many scholars hold that Southampton is the patron and friend described in Shakspere's *Sonnets* A friend of Robert Devereux, earl of ESSEX, Southampton accompanied him on military and naval expeditions in 1596 and 1597 His secret marriage in 1598 to Elizabeth Vernon, one of Elizabeth's ladies in waiting, angered the queen greatly, and she never forgave him Southampton accompanied Essex to Ireland in 1599 as general of the horse, but Elizabeth revoked his appointment He was deeply involved in Essex's rebellion (1601) and was sentenced to death, but this sentence was changed to life imprisonment Upon the accession of James I (1603), he was released and restored to favor He became interested in colonial explorations and supported the Virginia Company, the British East India Company, and Henry Hudson Although his impetuosity involved him in a number of court brawls, Southampton became a privy councilor (1619), joined the opposition to the duke of Buckingham, and pressed the charges against Francis Bacon In 1624 he volunteered, with his son James, to lead a troop of English volunteers to fight for the Netherlands against Spain Shortly after arriving in the Netherlands, both Southampton and his son died of fever See the memoirs in the Edmund Malone edition of Shakspere ed by James Boswell (1821), Sidney Lee, *Life of Shakspere* (new ed, 1916), Charlotte Stopes, *Henry, Third Earl of Southampton Shakespeare's Patron* (1922)

Southampton, Thomas Wriothesley, 1st **earl of,** 1505–50, lord chancellor of England He was educated at Cambridge, found employment at the court of Henry VIII, and was admitted a student of Gray's Inn, London He grew in favor with Thomas Cromwell and with the king, who granted him many of the lands of confiscated monasteries He entered Parliament and was knighted in 1540 For his efforts in negotiating an alliance with Emperor Charles V, he was created (1544) Baron Wriothesley and made lord chancellor—an office in which he became notorious for his severity He was appointed one of the executors of the will of Henry VIII and was created earl of Southampton (1547) He delegated four civilians to care for a large part of his legal duties, and this action gave a sound reason for his dismissal from office by Edward Seymour, duke of Somerset, the protector His consequent grievance against Somerset led him to support John Dudley, earl of Warwick (later duke of Northumberland), in overthrowing the protector in 1549

Southampton, Thomas Wriothesley (rŏt'slē), 4th **earl of,** 1607–67, English nobleman, a moderating influence upon both CHARLES I and CHARLES II, son and successor of the 3d earl He was educated at Oxford After early declaring against the court party in the events leading up to the PURITAN REVOLUTION, he later joined the royalists, served as the king's intimate adviser, and opposed the extreme policies of STRAFFORD He negotiated for Charles with Parliament in 1643 and 1645 After the king's death (1649), he retired At the Restoration (1660) Southampton was lord high treasurer, he counseled leniency toward the REGICIDES He disapproved of the immorality and ostentation of Charles II and his court and retired from politics.

Southampton, administrative county of England: see HAMPSHIRE

Southampton, town (pop. 1,600), S Ont., on Lake Huron at the mouth of the Saugeen and N of Goderich It has lumbering and furniture making

Southampton, county borough (1931 pop 176,007, 1947 estimated pop 170,360), Hampshire, England, at the head of Southampton Water and on a peninsula between the Itchen and Test rivers SW of London There are extensive dockyards with graving and floating docks, and the city is a port for transatlantic and European passenger and merchant ships The site was early occupied, the Roman station Clausentum was near, and the town is the site of the Saxon Hamtunscir Suth-Hamtun Remains of the ancient town walls, Norman towers, and gates (Bar Gate has a guild chamber) remain King John's Palace dates from the 12th cent, and there are a number of ancient domestic buildings St Michael's Church (Norman), Holy Rood (14th cent), St Mary's, the chapel once part of God's House (a hospital since the 12th cent) and now used for French Protestant services, Watts Memorial Hall, and University College are noteworthy The Crusaders under Richard I, Henry V in 1415 for his expedition to France, and the Pilgrim Fathers (commemorated by a monument) embarked at Southampton Sir J E Millais was born here It was one of the chief British military transport stations in both world wars Besides its great trade, the city carries on shipbuilding (especially yachts, it is headquarters of several yacht clubs) and manufactures marine engines, boilers, paints, chemicals, and asbestos It has an airport Southampton was subjected to heavy and concentrated air attacks in Nov, 1940, the center of the city, consisting of business and residential buildings, was almost completely destroyed, about 20 percent of the population was rendered homeless, and there were many casualties The administrative county of Southampton is the mainland part of HAMPSHIRE

Southampton (south"hămp'tun, sou"thămp'tun), village (pop 3,818), on SE Long Island, SE N Y, settled 1640, inc 1894 It is a summer resort with many fine estates The Parrish Memorial Art Museum is here, and the Shinnecock Indian Reservation is near by Several old houses remain See Abigail F Halsey, *In Old Southampton* (1940)

Southampton Insurrection, 1831, slave uprising in Virginia, led by Nat TURNER

Southampton Island, 210 mi long and 20 to 200 mi wide, E Keewatin dist, Northwest Territories, at the entrance to Hudson Bay It is separated from the mainland on the west by Roes Welcome Sound and from the Melville Peninsula on the north by Frozen Strait and Repulse Bay Foxe Channel lies to the northeast Coral Harbour, a trading post, with a near-by air base, is at the head of South Bay, on the south shore of the island

South Australia, state (380,070 sq mi, pop 646,216), S Australia Adelaide is the capital, its port (Port Adelaide) is on Gulf St Vincent The Northern Territory is on the north, Queensland on the northeast, New South Wales and Victoria on the east, the Indian Ocean on the south, and Western Australia on the west Kangaroo Island and many smaller islands off the south coast are included in the state The coastal area was visited by the Dutch in 1627 In 1836 South Australia became a British crown colony, and in 1901 it was federated as a state of the commonwealth The Northern Territory, which had been included in the state in 1863, was transferred in 1911 to the commonwealth government Much of South Australia is wasteland—desert, mountain, large areas covered with salt lakes, and swamplands The heavily populated southeastern area has a mild and healthful climate and produces a large amount of wheat, wine, and wool There is an opal field in the Stuarts Range, and various mineral pigments (barite, ocher, malachite, and azurite) are obtained in the other small ranges Granite, marble, and soapstone are quarried Exports consist principally of pig lead, silver, wheat, wool, wine, and meat

South Bass Island see PUT-IN-BAY

South Beloit (bĕloit'), industrial city (pop 2,825), N Ill, across the state line from Beloit, Wis, inc 1917

South Bend. 1 City (pop 101,268), co seat of St Joseph co, N Ind, on the great bend of the St Joseph river and ESE of Chicago, settled 1820, laid out 1831 In a farming and dairying area, it manufactures lathes, automobiles, farm equipment, airplanes, asphalt insulation, and beer The Univ of Notre Dame (see NOTRE DAME, UNIVERSITY OF) and SAINT MARY'S COLLEGE are near by The city has a monument to La Salle, and a marker commemorates his first portage in the district There is a historical museum in the old courthouse South Bend was the site of a Miami Indian village, then of a French mission and trading post An American Fur Company post was here in 1820 **2** City (pop 1,771), co seat of Pacific co, SW Wash, on Willapa Bay, settled before 1860 It is a port of entry and a lumber and oyster-canning center

South Berwick (bûr'wĭk), town (pop 2,546), SW Maine, on the Salmon Falls River and N of Kittery; settled 1623, inc 1814 Woolens and shoes are made Sarah Orne Jewett's birthplace and home (pre-1780) is preserved Berwick Academy was founded in 1791

Southboro (south'burŭ), town (pop 2,231), E Mass, E of Worcester, settled 1660, set off from Marlboro 1727 Meat processing is important St Mark's School for boys is here

South Boston, tobacco town (pop 5,252), S Va, on the Dan river and ENE of Danville, chartered 1796, inc 1884 A state park is near by

South Bound Brook, industrial borough (pop 1,928), N central N J, on the Raritan opposite Bound Brook, inc 1907 Asbestos products are made Von Steuben had headquarters here, 1778–79

Southbridge, industrial town (pop 16,825), S Mass, on the Quinebaug and SW of Worcester, settled 1730, inc 1816 Textiles were its first products the optical-goods industry began later

South Bristol, town (pop 582), S Maine, S of Damariscotta It includes the resort villages of South Bristol, on an island, Walpole, with a church built in 1772, and Christmas Cove, which has a harbor used by coastal steamers

South Burlington, town (pop 1,736), NW Vt, adjacent to Burlington

Southbury, town (pop 1,532), SW Conn, settled 1673, set off from Woodbury 1787 The town has many country and summer homes

South Canon (kăn'yun), suburban town (pop 1,729), S central Colo, on the Arkansas and near Canon City, inc 1891

South Carolina, state (31 055 sq mi, including 461 sq mi of water surface, 910 pop 1,899,804, 1949 estimated pop 2,001,000), SE United States, one of the Thirteen Colonies COLUMBIA is the capital CHARLESTON is the largest city and port GREENVILLE and SPARTANBURG are other large cities South Carolina is bounded on the north and west by North Carolina, on the west and south by Georgia (the SAVANNAH river and its extensions form the line), and on the east by the Atlantic Ocean The fall line sets off the coastal plain of the low country from the rolling piedmont plateau of the upcountry There is a third topographical region, mountainous, but the Blue Ridge occupies only c 500 sq mi in the extreme northwest, Sassafras Mt (3,560 ft) here is the highest elevation in the state The PEE DEE, SANTEE, EDISTO, and Savannah river systems drain the state and provide it with plentiful hydroelectric power, which is being increasingly developed Rainfall is abundant and well distributed, and the climate is of the humid, subtropical type, with long, hot summers and short, mild winters Cotton, corn, tobacco, wheat and other grains, Irish potatoes, sweet potatoes, peaches, pecans, peanuts, and truck are the most important of some 30 commercial crops Clays (especially kaolin), granite, gravel, and limestone are the principal mineral resources The manufacture of cotton textiles is by far the chief industry, with lumbering (forests, especially of longleaf and loblolly pine, still cover large areas) next in importance From the commercial fisheries along the coast come oysters, shrimps, clams, shad, and sturgeon At some unknown coastal site the first (and impermanent) white settlement was made (1526) under Lucas Vásquez de AYLLÓN Later Hernando De Soto penetrated (1540) the Savannah river region The Frenchman Jean RIBAUT established (1562) a short-lived Huguenot settlement on one of the SEA ISLANDS, but Pedro Menendez de Aviles thoroughly thwarted French colonizing ambitions Missions in Guale, as the Spanish called the area, soon extended N from Florida almost to the site of Charleston and flourished handsomely until the English came In 1663 eight courtier-promoters pried from Charles II the grant his father had originally made to Sir Robert Heath in 1629, and a second charter (1665) extended the bounds of the grant The northern and southern sections of Carolina (named for Charles I) had separate developments In 1670 the first settlement in South Carolina was made at Albermarle Point on the Ashley river, just above the site of Charleston, to which the settlers removed in 1680 The first English settlers were from the mother country and Barbados Most active of the proprietors was Sir Anthony Ashley Cooper (later 1st earl of Shaftesbury) His philosopher friend, John Locke, is credited with having written the Fundamental Constitutions (1669), which the proprietors hoped to make the law of the land Though it provided for a local lawmaking assembly elected by ballot, this constitution was essentially aristocratic At the top of the hierarchy came the proprietors, the landgraves, and the caciques, followed by the commoners The extent of a man's land holdings depended on his rank, a freeholder had to own at least 50 acres in order to cast a ballot As the system evolved the assembly sat as two houses, one consisting of the proprietor's deputies (one for each proprietor), the landgraves, and the caciques, the other of representatives of the commoners The supreme authority, however, was in England, where the eight proprietors formed the palatine court, presided over by the eldest proprietor, who

was called the lord palatine Much to the annoyance of the proprietors, the assembly never adopted the Fundamental Constitutions (abolished in 1693) as a whole On their plantations, worked by Negro and Indian slaves and indentured servants, the colonists raised dairy products, corn, and livestock, and the surrounding forests yielded timber and naval stores Rice, introduced c 1680, proved ideal for the low, marshy tidewater area, and slaves were imported in increasing numbers to cultivate it After the 1740s indigo was the colony's second staple until the British bounty for its cultivation was cut off with independence The fur trade prospered from the beginning but brought more difficulties for the already exposed frontier colony, almost "in the very chops of the Spaniards," as one leader described its situation As the fur traders pushed west they encountered the French from Louisiana Resenting the conduct of the Carolina traders, the hitherto friendly Yamassee fell upon (1715) the colonists The uprising, finally quelled after the loss of much life and property, revealed the weakness of proprietary rule and, combined with other grievances, led the colonists to rebel in 1719 The crown sent over Francis NICHOLSON as governor in 1720, but South Carolina did not formally become a royal colony until 1729, when the proprietors finally accepted terms Affairs now became much improved Pirates such as BLACKBEARD who had infested the coast had been hanged or dispersed, and the founding of Georgia to the south considerably eased the Spanish danger The population, still centered in the low country, was predominantly English but divided in religion French Huguenots, who first arrived c 1680, intermarried with the Anglicans (the Church of England was the state church, but other Christian faiths, except the Roman Catholic, were tolerated) and generally supported them in their political differences with the dissenters Ready for expansion, the colony encouraged the immigration of white Protestants from Europe, providing land according to the size of a newcomer's family By 1740, German Swiss, Scotch-Irish, and Welshmen from Delaware had arrived As the Indians were constantly pushed back, the upcountry, with its small, self-sufficient farms and dissenting churches, was increasingly developed There was constant friction between the two sections, and in the late 1760s upcountrymen took the law into their own hands On the eve of the American Revolution, its estimated population was 140,000, with four Negroes (mostly in the tidewater) to every three whites South Carolinians—Christopher GADSDEN, Henry LAURENS, William H DRAYTON, and Arthur MIDDLETON—were among the leaders in the movement for independence In March, 1776, a government was set up under a temporary constitution, with John RUTLEDGE as president The British failed to take Charleston in June, 1776 (see MOULTRIE, FORT), but Sir Henry CLINTON successfully besieged the town in March–May, 1780 In the ensuing CAROLINA CAMPAIGN, Nathanael GREENE replaced Horatio GATES and, greatly aided by the partisan leaders Francis MARION, Thomas SUMTER, and Andrew PICKENS, ultimately forced the British to retreat The British, however, held on to Charleston until Dec, 1782 In 1786 the site of Columbia was chosen for a more centrally located capital, a choice which mollified the men of the upcountry South Carolina ratified the Federal Constitution in May, 1788, and adopted a new state charter in 1790 Eli Whitney's cotton gin (1793) spurred cotton growing, but in the early 19th cent there was a brief economic decline resulting from overproduction and the migration of many planters to more fertile lands farther west Successive raises in the tariff were violently denounced, and in 1832 South Carolina passed its NULLIFICATION act President Andrew Jackson, whom the state claims as a native son, acted firmly for the Union in this crisis A less objectionable tariff was accepted in 1833, but the possibility of SECESSION had been made less remote John C CALHOUN, supported by Robert Y HAYNES, became the acknowledged leader of the whole South in his defense of the STATES' RIGHTS doctrine, and some of the state's apologists for slavery, notably Robert B RHETT, equaled the most radical abolitionists in their fanaticism After Lincoln's election South Carolina was (Dec 20, 1860) the first Southern state to secede Gov Francis W PICKENS immediately demanded all Federal property within the state (see SUMTER, FORT), and the firing on Sumter four months later opened the Civil War In Nov, 1861, a Union naval force under Samuel F DU PONT took the forts of Port Royal Sound and Charleston's forts withstood heavy bombardments in the spring and summer of 1863, but the state was little touched by the war until early in 1865 Then, Gen William T SHERMAN, commanding the army which had marched through Georgia and was, as he said, "burning with an insatiable desire to wreak vengeance upon South Carolina," crossed the Savannah The resulting destruction, culminating in the burning of Columbia, was appalling The RECONSTRUCTION period that followed was no less disastrous President Andrew Johnson's moderate program had only a brief trial before the radical Republicans took over The charter, produced by a constitutional convention in which Negroes outnumbered whites almost two to one, was ratified in April, 1868, and, since it fulfilled congressional requirements, South Carolina was readmitted to the Union in June The period 1868–74 is known as the "rule of the robbers" The last Republican governor in the state's history, Daniel H Chamberlain (1874–76), corrected many of the abuses, but he was a carpetbagger, and in 1876 he was defeated by the state's great war hero, Wade HAMPTON (1818–1902) Chamberlain, however, refused to yield office and there existed two state governments until in April, 1877, President Rutherford B Hayes (who had received South Carolina's disputed electoral votes) withdrew all Federal troops in the South, thus leaving Chamberlain without support The physical destruction of war and the abolition of slavery had nearly wrecked the state's basic agricultural economy The rice plantations, which had begun to decline after 1850, when it was found that the staple could be produced more cheaply in the Gulf states, were hardest hit, though they lingered on for years, by 1914 rice growing had practically ceased Farm tenancy, replacing the old plantation institution, held most of the state's farmers, white and black, in another, economic, kind of bondage, as it still does Agrarian unrest infected the upcountry especially, and there in 1886 the farmers organized a movement to improve their lot In Benjamin TILLMAN, elected governor in 1890, they had a colorful, able leader The Tillmanites wrested control of the Democratic party from the conservative "Bourbon" element and adopted many agricultural and educational reforms Agriculture received another jolt in 1920 when the boll weevil ended forever the growing of Sea Island cotton in South Carolina and the continued overcultivation of the one-crop system increased the area of wasted, eroded land These repeated setbacks have led South Carolina, with the support of the Federal government, to encourage agricultural diversification and the use of new farming methods Greenville, the first of the many cotton-mill villages which now dot the piedmont, was established by William GREGG in 1846, and the textile industry has grown steadily since the 1870s, with the help of Northern capital Although the paternalistic character of the mill villages may have helped the workers through the depression, the textile industry is now generally unionized and there were serious strikes, with some violence, in 1935–36 The 1920s saw a large migration of Negroes to the North (repeated in the Second World War) and the 1930 census showed that for the first time since 1810, whites outnumbered Negroes Because this exodus included many of the most intelligent Negroes, the state's illiteracy rate, one of the highest in the nation, increased, but has since been whittled down by application of the state's excellent education law of 1924 There were many military training camps in the state during the Second World War In July, 1947, Federal Judge J Waties Waring, a native Charlestonian, remarking that "it was time for South Carolina to rejoin the Union," held that Negroes were entitled to vote in the Democratic primary (originally set up by the constitution of 1895) and later nullified the special rules for Negro enrollment by which the party attempted to maintain its "lily white" status The U S Supreme Court, by refusing to review his decision, sustained him, and an estimated 30,000 Negroes voted in the Senatorial primary of 1948 without incident The upholders of "white supremacy" were, however, still strong, and South Carolina's governor, J Strom THURMOND, ran for President in 1948 in opposition to the civil-rights program James F BYRNES, the state's most prominent national figure in recent years, broke with the national Democratic administration, probably on the same issue Prohibition, first enacted in 1915, repealed in 1934, and favored by the voters again in 1941 was not approved by the legislature, which, however, sanctioned (March, 1949) the amendment ratified in 1948 permitting divorce, formerly forbidden The Univ of South Carolina at Columbia is the state's leading educational institution See Edward McCrady, *The History of South Carolina under the Proprietary Government, 1670–1719* (1897), *The History of South Carolina under the Royal Government, 1719–1776* (1899), and *The History of South Carolina in the Revolution* (2 vols, 1901–2), Yates Snowden, ed, *History of South Carolina* (5 vols, 1920), A H Hirsch, *The Huguenots of Colonial South Carolina* (1928), J G Van Deusen, *Economic Bases of Disunion in South Carolina* (1928), F B Simkins and R W Woody, *South Carolina during 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Economic and Social Conditions in 1944* (Univ. of South Carolina publications, 1945), G C Williams, *A Social Interpretation of South Carolina* (1946)

South Carolina, University of, at Columbia, state supported, coeducational, chartered 1801, opened as a college 1805, became a university 1906 It includes a college of arts and sciences and schools of business administration, education, engineering, journalism, law, pharmacy, and social work A new library was opened in 1941, the old building (1840) being dedicated to collections of South Carolinana

South Carolina State Agricultural and Mechanical College, at Orangeburg, Negro, with land-grant support, coeducational, chartered and opened 1896 It has divisions of agriculture, arts and sciences, home economics, and mechanical industries A law school was added in 1947

South Charleston. **1** Rural village (pop 1,198), W central Ohio, SE of Springfield **2** Town (pop 10,377), W W Va, on the Kanawha river and near Charleston, settled c 1900 It is an important chemical-manufacturing center and has a U S naval ordnance plant There is an Indian burial mound here

South Chicago Heights, residential village (pop 1,837), NE Ill, S of Chicago, inc 1907

South China Sea, western arm of the Pacific Ocean It is bounded by China (including Formosa), Indo-China, the Malay Archipelago, Indonesia, and the Philippine Islands Its chief extensions are the Gulf of Siam and the Gulf of Tonkin The sea, a region of violent storms, in places is almost 18,000 ft deep

South Coatesville, borough (pop 1,601), Chester Co, SE Pa, W of Philadelphia, inc 1921

South Connellsville, borough (pop 2,628), SW Pa, c 35 mi SE of Pittsburgh

Southcott, Joanna (south'kut), 1750–1814, English religious visionary Uneducated, even illiterate, she spent her earlier years in domestic service She began c 1792 to claim the gift of prophecy, her "revelations" attracted many followers Later she announced that, as the woman in Revelation 12, she would be the mother of the coming Messiah Soon after the time she had set for the birth of the "second Shiloh," she died of brain disease, at the age of 64 Her followers continued to study the 60 or more tracts and books of her writing, the sect has not yet completely died out A locked box which she left with instructions that it should be opened in the presence of all the bishops at some time of national crisis revealed nothing of interest when, in 1928, one bishop agreed to be present at its opening Among Joanna's books is *The Strange Effects of Faith* (2 vols, 1801 2)

South Dakota (dukō'tu) (77,047 sq mi, 1940 pop 642,961, 1949 estimated pop 649,000), N central United States, admitted 1889 as the 40th state PIERRE is the capital South Dakota is bounded on the north by North Dakota, on the east by Minnesota and Iowa, on the south by Nebraska, and on the west by Wyoming and Montana The state, young in settlement, shows some of the geologic history of the continent in the rock formations of the ancient BLACK HILLS, and the BADLANDS, at their extreme between White River and the south fork of the Cheyenne, display in their deeply eroded clay gullies not only colorful, fantastic shapes but also a wealth of easily accessible land and marine fossils (the Badlands National Monument preserves the area for startling scenery and archaeological interest) The whole of South Dakota has a continental climate, in the summer it has sunshine with cloudless days, and in the winter there are blizzards with deep snows filling the coulees and sweeping across bare hillsides The average annual rainfall is low (c 25 in), and in years of drought summer winds blow away acres of top soil in "black blizzards" From east to west the state rises some 6,000 ft to Harney Peak (7,242 ft) in the Black Hills, highest point E of the Rockies Through the center of the state, the rolling Missouri river cuts southward The section E of the Missouri has grazing country that supports sheep and cattle as well as farming country in the watered sections the chief rivers are the James and the Big Sioux) Harvest season finds the northern country bronze with ripened wheat, while great fields of tasseled corn cover much of the central and southern areas A broad agricultural program, promoted by the state agricultural college, the Grange, the Farmers' Union, and the Farm Bureau, has brought diversified crops, supported by poultry raising and the breeding of sheep and cattle Droughts have created a major problem and have pointed up the need for water conservation In the region social life is centered in small towns, with a few large towns serving as retail centers—Sioux Falls, Mitchell, Huron, Watertown, and Aberdeen In these cities there are industries processing grain, dairy products, and meat The only sizeable settlement W of the Missouri is Rapid City The countryside is generally desolate, with deserted sod shanties and shacks to show the failure of farmers who settled in this semiarid, rough country Ranches pasture large herds, and cattle occupy the country except for a semicircle of irrigated farming land around the Black Hills The Black Hills themselves—upheavals of bare rocks in sharp contrast to

stretches of ponderosa pine, now attract many tourists Mt Rushmore, with its gigantic carvings of American heroes is a sort of national shrine The gold mining at LEAD recalls the earlier period of the gold rush at neighboring DEADWOOD in 1876, when Wild Bill Hickock and Calamity Jane created frontier myths The region did not achieve real importance until the mining days though it was explored by the sons of the sieur de la VÉRENDRYE in the middle of the 18th cent Explorers on the Missouri went through South Dakota and became well acquainted with the warlike SIOUX INDIANS (the Dakota Indians), who continued to dominate the region during the period of the fur trade down to the middle of the 19th cent. Individual traders from the time of Pierre Dorion in the late 18th cent made the region their home, and the posts founded by Pierre Chouteau and the American Fur Company were the first bases for settlement In the 1850s land speculators and farmers moved westward from Minnesota and Iowa Two land companies settled at Sioux Falls in 1856, and in 1859 Yankton, Bon Homme, and Vermillion were laid out A treaty with the Sioux opened the land between the Big Sioux and the Missouri, and in 1861 Dakota Territory was set up, embracing not only North Dakota and South Dakota but also E Wyoming and E Montana Settlers were, however, few, and they were discouraged by droughts, Indian raids, and plagues of insects A railroad pushed to Yankton in 1872 Already the region had received the first of the European immigrants, who were to come later in great numbers and contribute important German, Scandinavian, and Russian elements to the Dakotas Yet national interest was first excited over rumors of gold in the Black Hills and when the military expedition led by George A Custer in 1874 seemed to confirm the news, settlers began to rush out, though the territory belonged to the Sioux Thus South Dakota helped contribute to the warfare with the Sioux, marked so terribly by the massacre of Custer's men in the battle of the Little Bighorn Despite disturbances, the gold fever mounted, and Deadwood had its day of gaudy glory while Lead began its long productive career Gold did not make the fortune of South Dakota It did, however, stimulate cattle ranching Partly to supply food for the gold miners, large companies brought cattle to the grasslands of W South Dakota The gold boom also stimulated settlement in the east that was a prelude to the great Dakota land boom from 1878 to 1886 The population increased threefold then, and prairie sod was broken by the plow The university was opened in 1882, the agricultural college in 1884, and the school of mines in 1887 Movements for statehood developed, in 1888 the Republican party adopted it as a campaign issue, and in 1889 an enabling act was passed South Dakota became a state, with Pierre as capital Disasters, however, rocked its security The unusually severe winter of 1886-87 brought hardship to the farmers and destroyed huge herds of cattle in the west, thus beginning the trend—since dominant—among the ranches to have smaller herds with provisions for winter shelter and feeding Recurrent droughts added to the difficulties of the farmers, who sought relief in the cooperative ventures of the Farmers' Alliance and political action in the POPULIST PARTY, which won a resounding victory in 1896 The initiative and referendum were adopted and other progressive measures of the day enacted, but prosperity returned South Dakota to political conservatism and the Republican party The extension of railroads (particularly the Milwaukee, which is the only transcontinental line passing through South Dakota) caused further expansion of agriculture, and new droughts (particularly that of 1910–11) brought a retraction, with many new farmsteads abandoned and a new turn to the leftward in politics. The Progressive party, led by Peter Norbeck and operating as a branch of the Republicans, entered on experiments in state ownership of business, but these proved unsuccessful and new prosperity-and-depression cycles occurred after the boom of the First World War The combination of droughts and national depression brought widespread calamities in the late 1920s and early 1930s, and by 1935 agricultural production and the population had sunk far below the 1929 level Vigorous measures of relief were instituted under the New Deal, and the Second World War and prosperous years after it brought a new era of hopefulness Irrigation projects, extension of hydroelectric power, and protective measures against wind and water erosion have been forwarded to avoid the threat of new disasters The MISSOURI RIVER BASIN PROJECT, if carried through, would greatly affect South Dakota See George Kingsbury, *The History of Dakota Territory* (1915), Loren G Atherton and Nora M Atherton, *South Dakota Geography* (1928), R C Hunkins and J C Lindsey, *South Dakota Its Past, Present, and Future* (1932), Federal Writers' Project, *A South Dakota Guide* (1938), Harold E Briggs, *Frontiers of the Northwest* (1940), Herbert S Schell, *South Dakota* (1942)

South Dakota, University of, at Vermillion, state supported, coeducational, chartered 1862, opened 1882 as the Univ. of Dakota, renamed 1891 It includes colleges of arts and sciences and fine arts and also schools of business administration, education, law, and medicine (two years) There are state chemical and health laboratories, a state geological survey, business and government research bureaus, and science collections The university heads the state school system

South Dakota School of Mines and Technology, at Rapid City, state supported, mainly for men, chartered 1885, opened 1887, a college of engineering It has a prehistoric fossil collection from the Badlands

South Dakota State College of Agriculture and Mechanic Arts, at Brookings, with land-grant support, coeducational, chartered 1881, opened 1884, called an agricultural college until 1907 It has divisions of agriculture, engineering, home economics, pharmacy, and general science

South Downs, England see DOWNS, THE, chalk hills

Southdown sheep (south'doun), breed of sheep originated on the South Downs of Sussex, England, and now raised in almost every country in the world The Southdown is a small sheep, with compact body bearing medium long, fine grade wool, with brownish or grayish face and legs, and with flesh of excellent quality It has been extensively used in improving other breeds of sheep Its balance of mutton and wool qualities makes it well adapted for raising in small flocks on general farms The first importation of Southdown sheep to America is said to have occurred in 1803

Southend-on-Sea, county borough (1931 pop 120,-115, 1947 estimated pop 147,410), Essex, England, at the mouth of the Thames It is a popular seaside resort for Londoners, and it manufactures aluminum foil, paint, storage batteries, and pharmaceuticals Yachting events are held here annually Westcliff is a residential suburb

Southern Alps, mountain range, on South Island, New Zealand, paralleling the west coast and containing Mt Cook (12,349 ft), highest peak of the dominion There are gorges and glaciers

Southern California, University of, at Los Angeles, nonsectarian, private, coeducational, chartered and opened 1880 by Methodists It has colleges of architecture, commerce and business administration (with merchandising), engineering, letters, arts, and sciences (with journalism, philosophy, music, and speech), and pharmacy It also has schools of education, law, library science, medicine, nursing, public administration, religion, research, and social work, an institute of the arts, and the laboratories of the Allan Hancock Foundation for *Scientific Research* Los Angeles Univ of International Relations and a dental college are affiliated

Southern College see FLORIDA SOUTHERN COLLEGE

Southern Cross, popular name of Crux, a constellation of the Southern Hemisphere It consists of four bright stars that appear to form a rough Latin cross

Southerne, Thomas (sŭdh'ûrn), 1660–1746, English dramatist, b Ireland A friend and collaborator of Dryden, he is remembered chiefly for two tragedies, *The Fatal Marriage* (1694) and *Oroonoko* (1696), the latter taken from a novel by Aphra Behn See J W Dodds, *Thomas Southerne, Dramatist* (1933)

Southern Methodist University, at University Park, Texas, a suburb of Dallas, coeducational, chartered 1911, opened 1915 It has a college of arts and sciences and schools of business administration, engineering, law, music, and theology There are theater (McCord) and history (A V Lane) museums

Southern Morocco (murŏ'kō), Spanish protectorate (c 3,800 sq mi, pop c 12,000), NW Africa, on the Atlantic Ocean Cabo Juby (or Cabo Yubi) is the capital Southern Morocco is bordered by French Morocco on the north, by Algeria on the east, and by Spanish Sahara on the south It is also called the Southern Protectorate of Morocco, but despite its name it is not considered part of the domain of the sultan of Morocco The protectorate is in a gravelly section (*hamada*) of the Sahara There is nomadic livestock raising

Southern Pacific Company, transportation system chartered (1865) in California and later reincorporated in Kentucky (1884) and Delaware (1947) Small railroads—known collectively as the Southern Pacific—were built and merged after 1865 in S California to provide feeder lines to the Central Pacific RR and eventually to provide connections between San Francisco and New Orleans The Southern Pacific RR survived the Panic of 1873 and inadequate financing, and in 1883, after the company had purchased several Texas railroads, Houston, Galveston, and New Orleans were reached In 1884 the Southern Pacific and Central Pacific railroads—which were conceived and constructed as parts of one system—were combined under the leadership of Leland STANFORD and Collis P HUNTINGTON as a unit of interdependent systems Edward H HARRIMAN gained control of Huntington's holdings and expanded the railroads, and the Southern Pacific Company added several smaller railroads in the 20th cent In 1923, after the U S Supreme Court had directed (1922) the company to separate the control of the Southern Pacific and Central Pacific railroads, the Interstate Commerce Commission approved the Southern Pacific RR's leasing of the Central Pacific RR's facilities The Southern Pacific soon gained control of several bus lines in the Far West and in 1938 took over the trucking service previously provided by the Pacific Motor Transport Company. At the end of the Second World War the company failed to resume operation of its steamship services from New York city and Baltimore to Galveston, thus abandoning a service which it had operated for over a half a century At the end of 1948 the Southern Pacific Company operated over 13,400 mi of track in the United States, controlled an additional 1,100 mi of track, and operated trucks on 13,350 mi of highway See Stuart Daggett, *Chapters on the History of the Southern Pacific* (1922), E L King, *Main Lane* (1948)

Southern Pines, winter resort town (pop 3,225), central N C, SW of Raleigh, settled 1885, inc 1887 It is noted for its mild climate and is a center for golf, riding, and other sports Fruit (especially peaches) and truck are grown in the region

Southern Rhodesia (rōdē'zhu), British colony (150,-333 sq mi, pop 1,764,000) SE Africa The capital is Salisbury The colony is bordered on the north by Northern Rhodesia, on the northeast and east by Mozambique, and on the southwest and west by Bechuanaland It is mainly a plateau, crossed from the southwest to the northeast by the high veld (4,000 to 6,000 ft high), which contains valuable mineral resources, including gold, chrome, iron, coal, and asbestos On either side of the high veld lies the middle veld (2,000 to 4,000 ft high), which offers excellent ranching country The southeast contains tropical forests, where hardwoods are felled Cotton, tobacco, peanuts, tea, and fruits are cultivated in Southern Rhodesia Manufactures include agricultural implements and textiles A fairly adequate railroad system serves the principal cities, including Bulawayo and Umtali, and the mining areas and has connections with the neighboring countries Little is known of the history of Southern Rhodesia before the early 19th cent, when the MASHONA tribe were the main inhabitants They were supplanted by the MATABELE, who invaded from the south The British occupied Southern Rhodesia in 1888 In 1923, on the partition of RHODESIA, Southern Rhodesia was constituted a self-governing colony It is ruled by an appointed governor with the aid of an executive council and of a legislative council, which is elected by white British subjects

Southern University and Agricultural and Mechanical College see BATON ROUGE, La

South Euclid (ū'klĭd), city (pop 6,146), NE Ohio It is a suburb of Cleveland Notre Dame College (Catholic, for women, 1922) is here

Southey, Robert (sou'dhē, sŭ'dhē), 1774–1843, English poet and historian During his schooling at Oxford (1792–94) he celebrated the French Revolution with an epic, *Joan of Arc* (1793, pub 1796), but his ardor soon cooled In 1794 Coleridge interested him in the pantisocracy scheme, which involved marriage and emigration to the Susquehanna river Immediately after his wedding to Edith Fricker (1795), however, he went alone to Portugal, but by 1803 he and his wife were settled near Keswick in the Lake District There he supported his family and, for a time, the Coleridges, by his voluminous writings There also he met Wordsworth and himself became one of the Lake poets He was made poet laureate in 1813 His ambitious epics, *Thalaba the Destroyer* (1801), *The Curse of Kehama* (1810), *Madoc* (1805), *Roderick, the Last of the Goths* (1814), and *A Vision of Judgment* (1821), are little read, and he is remembered for his shorter poems—"The Battle of Blenheim," "Inchcape Rock," "The Cataract at Lodore," and "The Holly Tree," among others Probably his best work was in prose—his histories of Brazil (1810–19) and of the Peninsular War (1823–32), his masterly life of Nelson (1813), biographies of Wesley (1820) and others, and *The Book of the Church* (1824) He also made translations from the French and Spanish See his letters (selected and ed by M H Fitzgerald, 1912), biographies by Edward Dowden (1906), William Haller (1917), and Jack Simmons (1948)

South Fork, borough (pop 3,023), SW Pa, on the Conemaugh and near Johnstown

South Fort Mitchell, residential town (pop 2,393), N Ky, near Covington, inc 1927

South Fulton, city (pop 2,050), W Tenn, at the Ky line, contiguous to FULTON, Ky. Dairy products are made here

Southgate, urban district (1931 pop 55 570, 1947 estimated pop 74,690), Middlesex, England, in the London metropolitan area

South Gate (south' gāt"), city (1940 pop 26,945, 1947 special census pop 45,820), in San Antonio township, S Calif, near Los Angeles, inc 1923 It has many manufactures

Southgate, town (pop 1,841), N Ky, near Newport

South Georgia, island, area c 1,450 sq mi, S Atlantic, c 1,200 mi E of Cape Horn Capt James Cook took possession in 1775, and it is included as a dependency in the British colony of the FALKLAND ISLANDS, but is also claimed by Argentina It is a

center for whalers. The population fluctuates seasonally, never exceeding 700. Here Sir Ernest Shackleton was buried

South Glens Falls, village (pop 3,081), E N Y , on the Hudson opposite Glens Falls, inc 1895

South Greensburg, borough (pop 2,616), Westmoreland co , SW Pa., ESE of Pittsburgh, inc 1891 Metal products are made here

South Hadley, town (pop 6,856), W Mass., on the Connecticut above Springfield, near the Holyoke Range, settled c 1660, set off from Hadley 1753 Its paper industry began early in the 19th cent MOUNT HOLYOKE COLLEGE is here

South Haven, resort city (pop 4,745), SW Mich , on Lake Michigan at the mouth of the Black River and N of Benton Harbor, settled before 1840, inc as a village 1869, as a city 1902 It is a port of entry and a supply center for a resort and fruitgrowing area Pianos and organs are among the city's manufactures Michigan State College has a horticultural experiment station here Indian mounds are found near by

South Hill, town (pop 1,739), S Va , near the N C line SW of Petersburg, inc 1901. It is an important tobacco and cotton market

South Holland, Dutch *Zuidholland* (zoit"hô'länt), province (1,085 sq mi , pop 2,256,186), W Netherlands, bounded by the North Sea in the north The Hague is the capital, and Rotterdam, Dordrecht, Leiden, Schiedam, and Gouda are its other chief cities A fertile lowland, protected by dunes and dikes along the coast, it is similar in character to NORTH HOLLAND, with which it was united until 1840 as HOLLAND

South Holland, village (pop 2,272), NE Ill , just S of Chicago, settled 1840 by Dutch, inc 1894 It is a trade and shipping center for a truck area

Southington (sŭ'dhĭngtun), borough (pop 5,088) in Southington town (pop 9,649), central Conn , SW of Hartford, settled 1696, town inc 1779, borough 1889 Aircraft parts and machine tools are among its products.

South International Falls, village (pop 1,299), extreme N Minn , near International Falls, in deforested country

South Island (58,093 sq mi , pop 556,006), New Zealand, larger of the two principal islands of the dominion It is separated from North Island by Cook Strait and from Stewart Island by Foveaux Strait. The SOUTHERN ALPS extend almost the entire length of the island The Otira Tunnel cuts through the mountains to connect the railroads of the east and west coasts The Fiordland National Park includes a major portion of the southwest area There are beautiful lakes and glaciers in the Arthur Pass and Tasman national parks in the Southern Alps Grain, timber, and sheep are the principal products, some coal and gold are mined The centers are Christchurch, Dunedin, and Invercargill

South Jacksonville, Fla see JACKSONVILLE

South Kensington, London see KENSINGTON.

South Kensington Museum see VICTORIA AND ALBERT MUSEUM

South Kingstown (kĭng'stun, kĭngs'toun"), town (pop 7,282), co seat of Washington co , S R I , between Narragansett and Charlestown, settled 1641, inc 1674 as Kingstown, divided into North Kingstown and South Kingstown 1723 Kingston, West Kingston, Peace Dale, Wakefield, and the resort Matunuck are South Kingstown villages The Narragansett Indians made their final stand in 1675 at the Great Swamp W of Kingston Near Kingston village is the campus of RHODE ISLAND STATE COLLEGE Oliver Hazard Perry's birthplace, at Wakefield, was made a museum

South Lyon, city (pop 1,017), SE Mich , N of Ypsilanti, inc as a village 1873, as a city 1930 Steel tubing is made here

South Manchurian Railroad, Japanese-developed enterprise with a total trackage of 691 mi The line from Changchun to Port Arthur, originally belonging to the Russian-built CHINESE EASTERN RR, was part of Japan's indemnity in the Russo-Japanese War (1904–5) Japan later constructed a line to connect Mukden and Antung Other cities served by the railroad are Talien (Dairen), Anshan, and Fushun The prosperity of Manchuria is in large part attributable to the linking by the railroad of the coastal ports and the hinterland The **South Manchurian Railroad Company,** the largest economic enterprise of Manchuria and the main agency of Japanese penetration, was organized shortly after the Russo-Japanese War It undertook construction of towns, harbor improvements, coal and iron mining, utility development, and agricultural experimentation Manchukuo (1932–45) gave the company control of all state railroads At the end of the Second World War, China expropriated the company's property.

South Miami (mĭă'mē), city (pop 2,408), SE Fla , contiguous to Miami, settled 1899 and called Larkins, inc 1926 as South Miami Garden truck and fruit are packed here

South Milwaukee (mĭlwô'kē), industrial city (pop 11,134), SE Wis , on Lake Michigan near Milwaukee, settled 1835, platted 1891, inc 1897 Electrical equipment and heavy machinery are made.

Southmont, borough (pop 2,146), SW Pa., in the Alleghenies, adjoining SW Johnstown.

South Norfolk (nôr'fuk), suburban city (pop. 8,038), SE Va , near Norfolk on the Elizabeth river; inc 1921 Limestone deposits are near by.

South Norwalk, Conn see NORWALK .

South Nyack (nī'ăk), village (pop 2,093), SE N Y , on the west bank of the Hudson and near Nyack, inc 1878

South Ogden, town(pop 1,407), N Utah, near Ogden, settled 1848 by Mormons, inc. 1936

Southold (south'hōld, sou'thōld), town (pop 12,046), on NE Long Island, SE N Y , on Long Island Sound, settled 1640 It includes near-by islands and Southold and other villages See Epher Whitaker, *Southold* (1931)

South Orange, village (pop 13,742), NE N J , western suburb of Newark and New York, inc 1869 Seton Hall College (Catholic, for men, 1856) is here

South Orkney Islands, group, S Atlantic, c.850 mi ESE of Cape Horn They were claimed by the British in 1821 and are included as dependencies of the colony of the FALKLAND ISLANDS The Argentine government, which claims them, maintains a meteorological and a wireless station on Laurie Island

South Ossetia, Georgian SSR see OSSETIA.

South Paris, Maine see PARIS

South Pasadena (pă"sudē'nŭ), residential city (pop 14,356), S Calif , between Pasadena and Los Angeles, inc 1888 It has varied manufactures

South Pass, broad level valley (alt c 7,550 ft), SW Wyo , cutting across the Rocky Mts It long served as a gateway for immigration to the Far West. See OREGON TRAIL

South Pekin (pē'kĭn), village (pop. 1,044), central Ill , S of Pekin and Peoria, inc 1917

South Pittsburg, industrial town (pop 2,285), S Tenn , on the Tennessee and W of Chattanooga

South Plainfield, residential borough (pop 5,379), NE N J , near Plainfield, inc 1926

South Platte (plăt), river, c 450 mi long, rising in the Rocky Mts in many branches, which join in central Colorado It flows in a narrow canyon E and NE to Denver, where it is joined by Cherry Creek, it then flows generally NE across Colorado to join the North Platte in S central Nebraska and form the Platte The basin has many private irrigation dams The Bureau of Reclamation has undertaken the COLORADO-BIG THOMPSON PROJECT and planned a similar Blue–South Platte project, and the Corps of Engineers began constructing Cherry Creek Dam for flood control in 1947

South Pole, southern end of the earth's axis, lat 90° S and long 0° It is distinguished from the south magnetic pole The South Pole was reached (1911) by Roald AMUNDSEN See also ANTARCTICA

Southport, county borough (1931 pop 78,925, 1947 estimated pop 84,820), Lancashire, England, N of Liverpool A seaside resort, it has a good beach, a promenade, a long pier, Hesketh Park (with an observatory), the Atkinson Art Galleries, several art and technical schools, and one of the finest boulevards in Lancashire—Lord St Flower shows and sports events (golf) are held annually. There is a motor racecourse

Southport, city (pop 1,760), co seat of Brunswick co , SE N C , on the coast S of Wilmington and at the mouth of the Cape Fear River, founded 1792 Fort Johnston here was completed in 1764, destroyed in 1776, and rebuilt after 1794 Fishing and fish products are the town's chief industries

South Portland, city (pop 15,781), SW Maine, across the Fore river from Portland The town was set off from Cape Elizabeth in 1895; the city charter was adopted in 1898 Fort Preble was built here before the War of 1812 and enlarged in the Civil War The U S 5th Infantry Regiment is stationed at Fort Williams, south of the city Portland Head Light, near the fort, is the oldest lighthouse (1791) on the Maine coast. The city has large shipyards

South Renovo (rĭnō'vŭ), borough (pop 1,018), Clinton co , N central Pa , near Renovo, inc 1888

South River, industrial borough (pop 10,714), E N J , SE of New Brunswick, settled 1720, inc 1897 It has a municipal power plant

South Ronaldsay (rŏ'nŭld-sā), island (pop. 1,312), off N Scotland, one of the Orkney Islands

South Saint Paul, city (pop 11,844), SE Minn , near St Paul on the Mississippi It has stockyards, packing plants, tanneries, and foundries

South Salt Lake, town (pop 5,701), N central Utah, near Salt Lake City, inc 1938.

South San Francisco (săn frŭnsĭ'skō), city (1940 pop. 6,629, 1947 special census pop 15,862), W Calif , S of San Francisco, inc. 1908 It has metal-working plants, meat-packing plants, and other industries The municipal airport here is the headquarters for the Pacific-Alaska division of the Pan-American clipper ships.

South Saskatchewan: see SASKATCHEWAN, river.

Southsea see PORTSMOUTH, Hampshire, England.

South Sea Bubble, popular name in England for the speculation in the South Sea Company, which was formed in 1711 by Robert Harley and failed disastrously in 1720. The company assumed the national debt of over £9,000,000 in return for an annual payment by the government equal to 6 percent interest on the stock plus a monopoly of British trade with the islands of the South Seas and South America. In 1717 and again in 1719 its capital was increased when creditors of the government were permitted to exchange their annuities and other claims for its stock. The price of the stock rose out of all proportion to its earnings in trade—from 128½ to 1,000— and many dishonest and imprudent speculative ventures sprang up in imitation The company's attempt to stop these fraudulent schemes burst the bubble, banks failed when they could not collect loans on inflated stock, prices of stock fell, thousands were ruined, and fraud in the South Sea Company was exposed Robert WALPOLE was made chancellor of the exchequer and immediately started a series of measures to restore the credit of the company and reorganize it It continued until 1853 See N A. Brisco, *The Economic Policy of Robert Walpole* (1907)

South Seas, name given in early days to the whole of the Pacific Ocean by the first explorers In recent times it has been used to mean only the central Pacific, the S Pacific, and the SW Pacific. It is more particularly applied to the South Sea Islands and the waters about them These include the islands of OCEANIA, they are in three main divisions, MELANESIA, MICRONESIA, and POLYNESIA

South Shetland Islands, archipelago of Antarctica, off N Palmer Peninsula, in the S Atlantic The barren, snow-covered islands, which include Deception, Greenwich, King George, Elephant, and other islands, saw whaling activity early in the 19th cent and have figured in antarctic exploration Discovered (1819) by William Smith, an English mariner, they are claimed by Great Britain, which includes them as a dependency of the Falkland Islands Argentina and Chile have challenged this claim

South Shields, county borough (1931 pop 113,455, 1947 estimated pop 103,130), Durham, England, at the mouth of the Tyne E of Newcastle North Shields, part of TYNEMOUTH, lies opposite The name is derived from the sheds or shields of the fishermen There are Roman remains and a park on Lawe Hill, above the Tyne, where the Romans had a fort The docks cover an area of 50 acres Glass, chemicals, and paints are made, and fishing is carried on There are two long piers, with a promenade, two marine parks, and a marine school The first lifeboat was launched at South Shields in 1790

South Sioux City (sōō), city (pop 4,556), NE Nebr , on the Missouri opposite Sioux City, Iowa, in a rich agricultural area, founded 1887

South Victoria Land, Antarctica see VICTORIA LAND.

Southwark (sŭdh'ŭrk, south'wurk) metropolitan borough (1931 pop 171,695, 1948 estimated pop 94,630) of S London, England, at the south end of London Bridge It was annexed to London partly or wholly in 1327 and is still known as "the Borough " The Cathedral of St Saviour was part of the 11th-century Augustinian priory of St Mary Overy, it contains the tomb of the poet Gower and a chapel commemorating John Harvard The Pilgrim Fathers Memorial Church (1864) is successor to the oldest Congregational church in London (1616) Situated at the convergence of roads to London, Southwark had a number of famous inns, among them the TABARD INN, the George Inn (17th cent), now owned by the National Trust, is still operated as an inn Southwark was the site of several hospitals, churches, and theaters, including the Globe Theatre of Shakspere fame In Nov , 1940, in air raids, 20 of Southwark's churches were destroyed

South Waverly, borough (pop 1,212), NE Pa , near the Susquehanna S of Waverly, N Y , inc 1878

Southwell, Robert, 1561?–1595, English Jesuit poet, venerated by Roman Catholics as a martyr, b Norfolk He was brought up a Roman Catholic and educated abroad, mainly at Douai While still too young he begged to be admitted to the Society of Jesus, on being refused he composed a passionate lament In 1580 he made his simple vows as a Jesuit, and in 1586 at his own request, desiring martyrdom as he said, he was sent to England with Father Garnett to minister to the oppressed Catholics. For six years he was active in the south of England as their pastor, but in 1592 he was arrested by treachery and imprisoned After terrible tortures he was tried for treason, and on admitting his priesthood he was *ipso facto* convicted He was hanged, drawn, and quartered His poetry was avowedly animated by a desire to show that poetry might well be used for religious purposes His verse is deeply religious but not sentimental, it is passionate but restrained His best-known poems are *St Peter's Complaint* and *The Burning Babe*, much admired by Ben Jonson See study by Pierre Janelle (1935).

Southwell (sŭdh'l, south'l), town and parish (pop 2,991) and, since 1884, cathedral town of Nottinghamshire, England The present cathedral is on the site of a church founded in the 7th cent. by Paulinus. The ruined palace of the archbishops of York (14th cent.) and Burgage Manor House,

occupied by Byron's mother, are noteworthy. Charles I surrendered to the Scottish commissioners at the Saracen's Head (an inn) in 1646

South-West Africa, territory (318,099 sq mi ; pop. 306,927), SW Africa, on the Atlantic Ocean. The capital is Windhoek. It is bordered on the north by Angola, on the east by Bechuanaland, and on the south and southeast by the Union of South Africa It is mainly an arid plateau 3,000 to 4,000 ft high On the coast, there is a desert strip (extending c 60 to c 100 mi inland), which has valuable mineral resources, including diamonds, vanadium, tin, copper, and lead. Near the eastern border are the Kalahari, with large areas of shrub land that support pastoral nomads The chief export is karakul felt Butter and cheese are manufactured There are rail connections to the Union of South Africa and roads running to Angola and Bechuanaland Bartholomew Diaz visited South-West Africa in 1486 Germany annexed the country in 1885, and it was occupied in the First World War by South African forces It is administered (under a mandate from the League of Nations) by the Union of South Africa which refused to sign an agreement making it a trust territory of the United Nations, but expressed the intention of incorporating the territory

Southwestern at Memphis · see MEMPHIS, Tenn

Southwestern College see WINFIELD, Kansas

Southwestern Louisiana Institute see LAFAYETTE

Southwestern University see GEORGETOWN, Texas

Southwest Greensburg, borough (pop 3,002), SW Pa , c 25 mi ESE of Pittsburgh, inc 1890

Southwest Harbor, town (pop 1,260), on S Mt Desert Island, S Maine, set off from Tremont and inc 1905 Boats are made here

South Whitley (hwĭt'lē), town (pop 1,118), Whitley co , NE Ind , W of Fort Wayne

Southwick (sou'thwĭk), rural town (pop 1,579), SW Mass , SW of Springfield, inc 1770

South Williamsport, borough (pop 6,033), N central Pa , on the West Branch of the Susquehanna opposite Williamsport, inc 1886 Its manufactures include furniture, hardware, and textiles

South Windsor (wĭn'zur), town (pop 2,863), N Conn , set off from Windsor 1845 Oliver Wolcott (1726–97) and Jonathan Edwards were born here

Southwold (south'wōld), municipal borough (pop 2,753), Suffolk East, England It is a resort and has a fine 15th-century church The battle of Southwold Bay or Sole Bay between the Dutch under De Ruyter and the English under the duke of York (later James II), aided by the French, took place on May 28, 1672, the result, though not decisive, was in favor of the Dutch

Southworth, Emma Dorothy Eliza Nevitte, 1819–99, American novelist, b Washington, D C Typical of her many romantic and melodramatic novels was *The Hidden Hand* (1859), very popular in its day

South Zanesville, village (pop 1,338), SE central Ohio, near Zanesville

Souvestre, Émile (āmēl' sōōvĕ'stru), 1806–54, French novelist and dramatist He is known for his romances of his native Brittany, including *Les derniers Bretons* (1835) and *Le Foyer breton* (1844) Translated works include *Un philosophe sous les toits* (1853, Eng tr , *The Attic Philosopher*, 1854) and the one-act play, *Mrs Wilbs's Will* (1893)

sovereignty A sovereign state is a free and independent STATE In its external relations it can send and receive ambassadors, make treaties and other international agreements, and declare war and conclude peace Sovereign states are sometimes said to be the only subjects of international law A PROTECTORATE or other subordinate state lacks full international status and in its relations with other governments normally acts through the sovereign protecting state Within the boundaries of a sovereign state, sovereign power may be exercised by an individual (monarchy), by a class (oligarchy), or by all the people, either directly, as in a democracy (e g , a Greek city-state), or through representatives, as in a republic (see LEGISLATURE) Often the form of a government does not accord with the facts. A man may have formal recognition as a monarch, a sovereign, and yet have no authority but that which accrues to him as a symbol of the state, this is the case in Great Britain The form of an aristocracy, a kind of oligarchy, may be retained through sentiment or inertia after the aristocracy has ceased to function politically The form of a democracy or a republic may be retained when the actual sovereignty is in the hands of a few or of one, e g , in Rome just before creation of the empire In its internal relations the sovereign power is that which makes and enforces the supreme law of the land It controls the money and the military power of the state For the special protection of sovereignty the crime of TREASON is established The facts of sovereignty do not agree with the theory as conventionally formulated The absolute freedom of a sovereign state may be abridged by treaties or other obligations In current international practice states are not deemed free to wage war or take other hostile action at will. The chief purpose of the United Nations, like its predecessor the League of Nations, is to restrain such exercises of sovereignty. See Charles E Merriam, *History of the Theory of Sovereignty since Rousseau* (1909); Harold J Laski, *Studies in the Problem of Sovereignty* (1917); Johannes Mattern, *Concepts of State, Sovereignty, and International Law* (1928).

Sovetsk, RSFSR see TILSIT

soviet (sōvĕt', sō'vĕĕt, Rus sŭvyĕt'), primary unit in the political organization of the USSR The term in itself has no political implication, being simply the Russian word for council, and there have been soviets of various kinds in Russia long before the Russian Revolution In the modern political meaning of the word the first soviets were revolutionary committees organized by the Russian Socialists in the Revolution of 1905 among striking factory workers When the RUSSIAN REVOLUTION broke out in March (O S February), 1917, workers', peasants', and soldiers' soviets sprang up all over Russia more or less spontaneously They were led by a central executive committee which was Socialist in composition, but which included—contrary to widespread opinion—not only Bolsheviks, but also Mensheviks (see BOLSHEVISM AND MENSHEVISM) and members of the Socialist Revolutionary party At the first all-Russian soviet congress (June, 1917), the Socialist Revolutionaries had 285 deputies, the Mensheviks 248, and the Bolsheviks only 105 The soviets rather than the provisional government represented the real power in Russia, and when the Bolsheviks under Lenin succeeded in capturing the most important soviets in Petrograd (Leningrad), in Moscow, and in the armed forces, their success was assured The example was imitated by the extreme leftist revolutionists in other countries, notably in Germany and Hungary in 1918–20, where workers', peasants', and soldiers' councils were also formed, but with less success A soviet republic (Ger *Räterepublik*) in BAVARIA was shortlived, and the regime of Bela KUN in Hungary was put down by a counterrevolutionary army and by Rumanian intervention The soviets in the Baltic republics met a similar fate In Russia the soviets remained the basic political units, forming a hierarchy from rural councils to the congress of soviets of the Soviet Union Under the first Soviet constitution only the local soviets were elected by direct suffrage The constitution of 1936 abolished the division of the electorate into occupational classes and instituted elections of all soviets by direct universal suffrage (see *Government, Nationalities, and History* under UNION OF SOVIET SOCIALIST REPUBLICS)

Sovietsk, RSFSR see TILSIT

Sower or **Sauer, Christopher** (both sō'ûr, sou'ur), 1693–1758, American printer, b Germany He came to America in 1724 In 1738 he founded a printing shop in Germantown, Pa , using types imported from Germany A book printed by him in 1739 was the first German book printed in America In the same year he established the first German periodical in America, at first a quarterly, later a monthly In 1743 he printed a German Bible, the second Bible printed in America, the first having been the Bible translated into "the Indian Language" (1663) by John Eliot The second Christopher Sower, son of the first, in 1772 established in Germantown the first type foundry in America The second Sower German Bible was printed by him in 1776 His descendants in Philadelphia continued his work as a publisher See Felix Reichman, *Christopher Sower, Sr , 1694–1758 an Annotated Bibliography* (1943)

Sowerby, Leo (sō'urbē), 1895–, American composer and organist, b Grand Rapids, Mich , grad American Conservatory, Chicago, 1918, and studied composition with Percy Grainger In 1925 he became teacher of composition at the American Conservatory, and in 1927 organist and choirmaster of St James Episcopal Church, Chicago He is a prolific composer whose style is highly individual Important compositions are *A Set of Four* (1917), *From the Northland* (1923), his Second Symphony (1927), and his Third Symphony (1940), for orchestra, his *Medieval Poem* (1926) and a concerto (1938), for organ and orchestra, the oratorios *The Vision of Sir Launfal* (1925), *Forsaken of Man* (1942), and *The Canticle of the Sun* (1944), *Comes Autumn Time* (1916) and his Symphony in G (1932), for organ, anthems and services for the Episcopal church, piano music, and songs

soya bean: see SOYBEAN

Soya Strait see LA PÉROUSE STRAIT

soybean, soya bean, soja bean, or **soy pea,** leguminous plant (*Glycine max, G soja,* or *Soja max*) native to the Orient, where it has been cultivated as a principal crop for probably 5,000 years There are hundreds of varieties in cultivation, producing beans of many sizes, shapes, and colors As a crop, soybeans are high in yield and easy to harvest and grow well wherever corn is cultivated In the Orient they are used in a multitude of forms, e g , as meal, vegetable oil, vegetable cheese and milk, curds or cake, and as a coffee substitute The cake is used as stock feed and as fertilizer, and the green crop for forage and hay In the Occident these and many other products are produced from soybeans Soybean oil is used commercially in the manufacture of glycerin, paints, soaps, linoleum, rubber substitutes, printing ink, and other products. Cultivation of the soybean, long confined chiefly to China and Manchuria, gradually spread to other countries During the Second World War soybeans became important in both North America and Europe chiefly as substitutes for other protein foods and as a source of oil Production in the United States reached its peak during the war See M M Lager, *The Useful Soybean* (1945)

Soyer, Alexis Benoît (ălĕksēs' bunwȧ' swȧyȧ'), 1809–58, French chef and writer on gastronomy and dietary reform After the Revolution of 1830 he went to London and was notable as chef (1837–50) of the Reform Club In 1847 he was commissioned by the government to open kitchens in Dublin for the benefit of Irish famine sufferers In 1855 he went to the Crimea as volunteer cooking adviser to the British army, which was suffering from poor diet After successfully reforming the dietary and cooking arrangements of the army and the military hospitals, he returned to England in 1857, broken in health Soyer invented relishes and sauces, innumerable kitchen utensils, and several stoves of which one, designed (1854) for camps and hospitals, is still used Soyer's publications include *The Pantrophicon, or, History of Food* (1853), *A Shilling Cookery* (1854), and *The Culinary Campaign,* reminiscences of the Crimean War (1857) See Helen Morris, *Portrait of a Chef* (1938).

soy pea see SOYBEAN

Sozomen (sōzō'mĕn), 5th cent , Byzantine church historian, b Gaza A fuller form of his name is Salaminius Hermias Sozomenus His *Ecclesiastical History* was written in 439–50 The nine extant books, covering the years 324–425, are primarily drawn from the history of SOCRATES SCHOLASTICUS, to which Sozomen added some new material His Greek style is elegant

Sozzini, Lelio, and **Fausto Sozzini:** see SOCINUS

Spa (spȧ), town (pop 9,004), Liége prov , SE Belgium, in the Ardennes and near the German border The mineral springs and baths, frequented from the 16th cent , made it one of the most fashionable watering places in the world and made its name so popular that the word *spa* now designates all similar health resorts Spa had its greatest vogue in the 18th and 19th cent , it still is an important resort It was the headquarters of the German army in 1918 In 1920, at the Spa Conference, Germany presented a scheme for reparations payments to the Allies, and the Allies apportioned the payments among themselves

Spaak, Paul Henri (pōl' ărē' spak'), 1899–, Belgian statesman A Socialist, he was elected (1932) a deputy for Brussels and held various cabinet posts after 1935 He served almost continually as foreign minister from 1938 to 1949, sharing in the exile of the Belgian government during the German occupation (1940–44), and he was twice premier (1938–39, 1947–49) His resignation in 1949 was caused chiefly by his intransigent opposition to the return of King Leopold III of the Belgians Spaak acquired international stature as president of the first assembly of the United Nations (1946), as chairman of the Council for European Recovery (1948–49), and as first president of the consultative assembly of the Council of Europe (1949)

Spaatz, Carl Andrew (spôts), 1891–, American general, chief of staff of the U S Air Force (1947–48), b Boyertown, Pa , grad West Point, 1914 An infantry officer, he applied for air training and after 1916 was in aviation He became (1941) chief of the air staff under Henry H Arnold and helped direct American air-force strategy Spaatz served as commander in chief of the U S bombing forces against Germany (1944) and in the Pacific (1945) In 1945 he was promoted general, in 1946 he was made commanding general of the Army Air Forces and in 1947 he began to serve as chief of staff of the U S Air Force

space time, concept in physics holding that time and space are indissolubly united It denies the Newtonian theory that time and space are absolute and independent realities The interdependence of space and time was suggested by H A Lorentz Partly on this concept Albert Einstein based the special theory of relativity describing the universe as a four-dimensional continuum in which events are located by three space (position) coordinates and a time coordinate (the fourth dimension) On this theory Hermann Minkowski based his formulation of a symbolic four-dimensional geometry of space time

Spada, Lionello (lyōnĕl'lō spa'da), 1576 1622, Italian painter His signature was an L placed across a sword [Ital *spada*=sword] Among his works are a number of Holy Family groups, *Aeneas and Anchises, The Concert,* and others (Louvre), *St Dominic Burning the Forbidden Books* (San Domenico, Bologna), the *Miracle of St Benedict* (San Michele in Bosco, Bologna), and the *Vision of St Francis* (Modena) The fresco decorations in the cathedral of Reggio are representative of his style

spade. Before agriculture was practiced, man gathered such foods as the roots of plants and animal foods such as clams In securing these and for other purposes, he assisted his hands with a stick

Men without tools often pry with such a stick, using it as a LEVER and so introducing a mechanical power The spade is a development of the digging stick, which has developed also into such closely related implements as the crowbar, the dibble, the spud, the chisel, and the shovel Since early digging sticks and spades were of wood and have not been preserved, the development of the spade is more conjectural than the development of implements such as the hoe, in which stone and metals were used earlier and more generally Stones were used to weight the digging stick A crossbar was lashed to it, or a forked stick was used, so that a man's foot might apply the weight of his body The point was flattened to a blade After man came to use metals, this blade was sometimes shod with metal and later the blade was made wholly of metal For the development of the digging stick, see H J Peake, *Early Steps in Human Progress* (1933)

Spaeth, Sigmund (spāth), 1885–, American music critic and writer on music, b Philadelphia, grad Haverford College (B A , 1905, M A , 1906), Ph D Princeton, 1910 He was music editor (1914–18) of the New York *Evening Mail* and in 1919 was on the editorial staff of the New York *Times* He was educational director (1920–27) for the American Piano Company and was with Community Concert Service from 1928 to 1931, afterward serving as music critic for several periodicals In 1937 he was appointed dean of the Wurlitzer School of Music He is the compiler of *Read 'em and Weep* (1926) and other anthologies of sentimental songs and is an active popularizer of music, through his radio talks and his books, which include *The Common Sense of Music* (1924), *The Art of Enjoying Music* (1933), *Music for Everybody* (1934), *Fun with Music* (1941), and *A History of Popular Music in America* (1948)

spaghetti, see MACARONI

Spagna, Lo (lō spä'nyä), c 1450–c 1528, Italian painter, b Spain, whence his nickname His real name was Giovanni di Pietro His art belongs to the Umbrian school and reveals his indebtedness to Perugino and Pinturicchio and to Raphael in the Umbrian period The resemblance in manner to these artists is sometimes so close as to have caused confusion regarding the origin of certain works *Marriage of the Virgin* at Caen, now believed to be Lo Spagna's imitation of Raphael's *Sposalizio* in Milan, was long attributed to Perugino and was supposed to have inspired Raphael's picture Of the artist's work good examples are the frescoes *Nine Muses with Apollo* (Capitol, Rome), frescoes and altarpieces (Assisi), *Madonna* (Louvre), *Nativity* (Vatican), and *Pietà* (National Gall of Art, Washington, D C)

Spagnoletto, Lo see RIBERA, JUSEPE

Spahis (spə'hēz), mounted army corps under the Ottoman Empire Unlike the early Janizaries, the Spahis were drawn from the Moslem population They were organized on a basis of personal loyalty, and their officers held feudal fiefs The corps was disbanded (early 19th) by Mahmud II In the French army certain Algerian and Senegalese cavalry units, famous for their flashy dress uniforms, are also known as Spahis

Spain, Span *España* (äspä'nyä), state (194,232 sq mi , pop 25,877,971, including the Canary Islands), SW Europe It consists of the Spanish mainland, which occupies the major part of the Iberian Peninsula, of the BALEARIC ISLANDS in the Mediterranean, and of the CANARY ISLANDS in the Atlantic Ocean Madrid is the capital The Spanish colonies in Africa are Spanish Sahara, Spanish Guinea, and the territory of Ifni, N MOROCCO is a Spanish protectorate Continental Spain extends from the PYRENEES, which separate it from France, and from the Bay of Biscay, an arm of the Atlantic Ocean, southward to the Strait of Gibraltar, which separates it from Africa (Gibraltar itself is a British possession) The eastern and southeastern coast of Spain, from the French border to the Strait of Gibraltar, is washed by the Mediterranean In the west, Spain borders on the Atlantic Ocean both north and south of its frontier with Portugal The small republic of Andorra is wedged between France and Spain in the Pyrenees Administratively, Spain is divided into 50 provinces However, the division into geographic and historic regions, generally corresponding to the old Christian and Moorish kingdoms of Spain, has been maintained for most practical purposes The center of Spain forms a vast plateau (Span *Meseta Central*) extending from the CANTABRIAN MOUNTAINS in the north to the SIERRA MORENA in the south and from the Portuguese border in the west to the low ranges that separate the plateau from the Mediterranean coast in the east It is traversed from west to east by mountain chains—notably the Sierra de GUADARRAMA—and the valleys of the DOURO, the TAGUS, and the GUADIANA rivers Except for some fertile valleys and irrigated lands, the central plateau is an arid and thinly populated region, wheat growing and sheep raising are the principal resources It comprises Old CASTILE and New CASTILE, the heart of Spain, and in the west, LEON and ESTREMADURA The chief cities are MADRID, BURGOS, and TOLEDO in Castile; VALLADOLID, LEON, ZAMORA, and SALAMANCA in Leon, and BADAJOZ in Estremadura To the northeast of the central plateau is the broad valley of the EBRO, which traverses ARAGON and flows into the Mediterranean Aragon extends north to the French border and has SARAGOSSA as chief city, it is historically and geographically connected with CATALONIA, which occupies the Mediterranean coast from the French border to the mouth of the Ebro BARCELONA, the chief Catalan city, is the largest port and the second largest city of Spain The W Pyrenees and the northern coast, paralleled by the Cantabrian Mts , are occupied by NAVARRE, with PAMPLONA, the BASQUE PROVINCES, with the ports of BILBAO, SANTANDER, and SAN SEBASTIÁN, and ASTURIAS, with OVIEDO and the port of GIJÓN The extreme northwestern section, occupied by GALICIA, has a deeply indented coast and the excellent ports of La CORUÑA, El FERROL, and VIGO Galicia, the Basque Provs , Catalonia, and the Madrid region are the most densely populated parts of Spain Along the eastern coast, S of Catalonia, extend the regions of VALENCIA and MURCIA, named after their chief cities The Balearic Islands, with PALMA as capital, are off the coast of Valencia The southernmost part of Spain, S of the Sierra Morena, is ANDALUSIA, it is crossed by the fertile GUADALQUIVIR valley A subtropical region, Andalusia produces abundant crops of olives, fruit, and wheat, horses and cattle are raised extensively The chief cities of Andalusia are SEVILLE, CORDOBA, and GRANADA, the Mediterranean port of MALAGA, and the Atlantic port of CADIZ The SIERRA NEVADA, rising from the Mediterranean coast, has the highest peak (11,411 ft) entirely within Spain Primarily an agricultural country, Spain produces large crops of citrus fruit, olives, grapes, vegetables, and cork, besides cereals Oranges, olive oil, and wines are among its chief export articles The best-known wine regions are those of RIOJA, in the upper Ebro valley, and of Málaga and JÉREZ DE LA FRONIERA, in Andalusia Agriculture is handicapped in many regions by quasi-feudal conditions, insufficient irrigation, soil exhaustion, and erosion Extensive sheep grazing, though it has helped the Spanish textile industry in past ages, has contributed to the soil exhaustion Despite the wealth of the great noble and ecclesiastic landowners, Spain is essentially a poor country, and its population is frugal and hard-working Industries are chiefly concentrated in the Madrid region, in Catalonia, which has large textile manufactures, and in Asturias and the Basque Provs , where the rich mineral resources of the Cantabrian Mts (iron, coal, and zinc) are exploited Copper is mined extensively at RIO TINTO, other mineral resources include lead, silver, tin, and mercury Metals are a major item in Spanish exports Fishing is an important source of livelihood for the coastal population, and fish canning is a major industry Overland communications are generally poor Spanish railroads, unlike those of the rest of Europe outside Russia, use broad-gauge tracks, a fact which hinders trade with France The Spanish people, despite the strongly centralized government and the great religious unity (nearly all Spaniards are Roman Catholics) displays great regional diversity Separatist tendencies remain particularly strong among the Catalans and the Basques The Castilian dialect has become the standard Spanish language, but Catalan (akin to Provençal), Galician (akin to Portuguese), and Basque, totally unrelated to any other language, are still extensively spoken and written in their respective districts The Roman Catholic Church is the established church in Spain, although private worship is permitted to all faiths There are nine archiepiscopal sees, the archbishop of Toledo holding the rank of primate Illiteracy is high among the lower classes despite laws compelling elementary education Among the 12 universities those of Salamanca, Madrid, and Barcelona are the most important For the constitution of Spain, see the end of this article

Spain before the Moslem Conquest Civilization in Spain dates back to the Stone Age The BASQUES may be descended from the prehistoric men whose art has been preserved in the ALTAMIRA caves They antedated the IBERIANS, who mixed with Celtic invaders at an early period Because of its mineral wealth and its position guarding the Strait of Gibraltar (the Pillars of Hercules of the ancients), Spain has been known to the Mediterranean peoples from very early times The Phoenicians passed the strait and established (11th cent B C) colonies in Andalusia, notably at Cádiz and Tartessus (possibly the biblical TARSHISH) Later the Carthaginians settled on the east coast and the Balearic Islands, where Greek colonies also sprang up In the 3d cent B C , the Carthaginians under HAMILCAR BARCA began to conquer most of the Iberian Peninsula and the Balearics and established CARTAGENA as capital However, the Roman victory over Hannibal in the second of the PUNIC WARS (218–201 B C) resulted in the expulsion of the Carthaginians The Romans conquered E and S Spain, but met strong resistance elsewhere, notably in the north The fall (133 B C.) of NUMANTIA marked the end of organized resistance, and by the 1st cent A D Roman control was virtually complete Except for the Basques, the Iberian population became thoroughly Romanized The Iberian Peninsula at the time of Augustus was made up of the provinces of Tarraconensis, Lusitania (including present Portugal and part of Spain), and Baetica (roughly, present Andalusia) Roman rule brought political unity, law, and economic prosperity. Christianity was introduced early, St Paul is supposed to have visited Spain, and St James the Greater is its apostolic patron Natives of Spain contributed increasingly to both pagan and Christian literature in Latin Among them were Seneca, Martial, and Quintilian In A D 409 Spain was overrun by the first wave of Germanic invaders, the Suevi and the VANDALS They were followed by the VISIGOTHS, who forced the Vandals to emigrate into Africa and established (419) their kingdom in Spain and S Gaul, with Toulouse as capital The victory (507) of the Franks under Clovis over ALARIC II at Vouillé resulted in the loss of most of Gaul, in the Iberian Peninsula, Belisarius temporarily reconquered (554) S Spain for the Byzantine Empire, however, the Visigoths soon regained S Spain and in 585 also conquered the kingdom of the Suevi in Galicia The Visigothic capital after the loss of Toulouse was at Toledo The Germanic Visigoths, who adhered to the Arian heresy until the late 6th cent , and the Catholic and Romanized native population lived side by side under two separate codes of law (see GERMANIC LAWS), fusion of the two elements was very slow King RECESWINTH imposed (c 654) a common law on all his subjects His code remained the basis of medieval Spanish law Learning was cultivated almost exclusively by the Roman Catholic clergy, among whom OROSIUS and St ISIDORE OF SEVILLE were outstanding Byzantine cultural influence remained strong, but was probably less important than that of the JEWS, who had settled in Spain in large numbers after their dispersal Politically, the Visigothic kings were weak and dependent on the powerful clergy and nobles When, in 711, a Moslem army under TARIK crossed the Strait of Gibraltar into Spain, the last Visigothic king, RODERICK, was defeated and his kingdom collapsed

Moslem Spain and the Christian Reconquest The Moors, as the Berber conquerors were called, soon conquered the entire peninsula save for Asturias and the Basque country Córdoba became the capital of the emir, who governed in the name of the caliph In 756, however, ABDU-R-RAHMAN I, scion of the OMAYYAD dynasty, overthrew the emirate and set up the Western caliphate, or caliphate of Córdoba This Moslem state, which reached its greatest splendor under ABDU-R-RAHMAN III, included all but northernmost Spain In the northeast, CHARLEMAGNE created (778) the Spanish March, out of which grew the county of Barcelona (i e , Catalonia) In the W Pyrenees, the Basques held out against both Frankish and Moorish attacks and eventually united in the kingdom of Navarre Asturias, the only remnant of Visigothic Spain, became the focus of the Christian reconquest The rulers of Asturias, descended from the semilegendary PELAYO, conquered vast territories in NW Spain and consolidated them with Asturias as the kingdom of Leon Navarre, under a branch of the Asturian line, reached its greatest prominence under SANCHO III (1000–1035), who also controlled Aragon and Castile His state split up at his death into three kingdoms Navarre, which soon lost its importance, Aragon, which united (1137) with Barcelona (see ARAGON, HOUSE OF), and Castile, which eventually was united with Leon (1230) under Ferdinand III and with Aragon (1479) under Isabella I and Ferdinand V This long process of unification was accomplished by marriage and inheritance as well as by warfare among the Christian kings, it was accompanied by the steady expansion of the Christian kingdoms at the expense of the Moors The Omayyad empire had broken up early in the 11th cent into a number of petty kingdoms or emirates The ALMORAVIDES of Córdoba were the most important of these dynasties They called in the ALMORAVIDES from Africa to aid them against Alfonso VI of Castile As a result, the Almoravides took over Moorish Spain, but they in turn were replaced (1176) by the ALMOHADES, another Berber dynasty In the battle of Navas de Tolosa (1212), a turning point in Spanish history, the Almohades were defeated by Alfonso VIII of Castile, who expelled them from Spain Little more than the kingdom of Granada remained in Moorish hands, it held out until its conquest by Ferdinand and Isabella in 1492. Disunity among the Moors probably facilitated the Christian reconquest It must be remembered, however, that the states of Christian Spain also were frequently engaged in bloody rivalry and that the Christian kings were in almost continuous conflict with the powerful nobles Alliances between Moslem and Christian princes were not rare, and the Christian reconquest was a spasmodic, not a continuous, process. A major cause of the Chris-

tian victory was that Christian Spain was in a stage of dynamic expansion and religious enthusiasm while Moorish Spain, having attained a high degree of civilisation and material prosperity, had lost its military vigor and religious zeal The successors of the warlike and fanatic Almoravides and Almohades, a thin ruling class, were unpopular with the rest of the inhabitants of Moorish Spain In the Moorish cities Moslems, Jews, and Christians (see MOZARABS) lived side by side in relative harmony and mutual tolerance Their excellent craftsmen and industries were famous throughout Europe, and their commerce prospered Agriculture, helped by extensive irrigation systems, was more productive under the Moors than it has been ever since To the Christian nobles of N Spain, particularly of Castile and Leon, the flowering cities and countryside to the south were a constant temptation The united state of Aragon and Catalonia, more prosperous than the other Christian kingdoms, was less active in the reconquest and was more concerned with its Mediterranean empire—the Balearics, which for a time formed the separate kingdom of MAJORCA, Sardinia, Sicily, and Greece Portugal also, after winning its independence in the 12th cent , developed as an Atlantic sea power and took part only in local campaigns against the Moors It was thus under Castilian leadership that the reconquest was completed, and it was the Castilian nobility that formed the nucleus of the class of feudal magnates—the grandees—who were the ruling class of Spain for centuries after the reconquest The fall of Granada (1492) made FERDINAND V and ISABELLA I rulers of all Spain, but it did not in itself make Spain a purely Christian state In their zeal to achieve religious unity, the Catholic rulers expelled, in the same year, the Jews from Spain Until 1492 the Jews and the Moslems had been allowed to live in reconquered territory, attempts at conversion were made, but force was generally not used The expulsion of the Jews deprived Spain of a large part of its most useful and active population Many went to the Levant and to the Netherlands, where their skills, capital, and commercial connections benefited their hosts The Mudejares, as the Moslems in reconquered Spain were called, were not immediately expelled, but after an uprising they were forcibly converted (1502) to Christianity Many of the MORISCOS [Christian Moors] secretly adhered to Islam After many persecutions, they were finally expelled in 1609 The Jewish-Moorish legacy to Spain and to Western Europe is immense Moorish architecture (see MOSLEM ART AND ARCHITECTURE) has left a deep imprint on Spain, its most famous example is the ALHAMBRA of Granada Arabic scholars such as AVERROËS and Jewish scholars such as MAIMONIDES had a major share in the development of Christian scholasticism Material legacies of Moorish Spain included the great steel industry of Toledo, the leather industry of Córdoba, and the intensive plantations of olive and fruit trees By fostering the exploitation of central Spain for sheep grazing, Ferdinand and Isabella unwittingly prepared the ruin of much land that had been fruitful under the Moors The major economic revolution that occurred during their reign was, however, the discovery (1492) of America by Columbus By the Treaty of TORDESILLAS (1494) Spain and Portugal divided the world into two spheres of influence Almost all of South America, Central America, S North America, and the Philippines were added to the Spanish world empire in the 16th cent Gold, the primary objective of the conquistadores, flowed into Spain in fabulous quantities The influx of gold contributed to the decline of Spanish industry and trade, and much of the gold soon found its way into other countries These consequences, however, were not foreseen, and Spain, in the 16th cent , was the first power of the world, with an empire "on which the sun never set," with fleets on every sea, and with a brilliant cultural, artistic, and intellectual life In the ITALIAN WARS (1494–1559) Spain triumphed over its chief rival, France, and added Naples (see NAPLES, KINGDOM OF) and the duchy of MILAN to its dependencies The accession in 1516 of Charles I (elected emperor in 1519 as CHARLES V) brought the Spanish monarchy to the height of its glory and completed the unification of Spain

Golden Age and Decline When Charles I, first of the HAPSBURG kings (who ruled Spain from 1516 to 1700), succeeded Ferdinand V, Spain was still divided into separate kingdoms and principalities, united chiefly in the person of a common ruler Each had its separate CORTES and its own customary law The cities, which had retained their individuality since Roman times, enjoyed great privileges and independence Charles had to be acknowledged by each individual cortes at his accession. Castile was nominally ruled jointly by Charles and his mother, JOANNA, until Joanna's death The centralizing policies of Charles's predecessors had curtailed some of the local powers, particularly in Castile, but Charles's efforts to continue the centralising process and his fiscal policies resulted in an uprising of the cities—the war of the *comunidades*—in 1520–21. The rising was suppressed and its leader, PADILLA, was executed. By the time Charles abdicated (1556) in Spain in favor of his son PHILIP II, Spain was on its way to becoming a centralized and absolute monarchy Under Philip II the process was completed, although Catalonia and the Basque Provs continued to manifest their hostility to the central government by frequent uprisings During Philip's reign also the Church acquired its predominant position in all aspects of Spanish life The Spanish INQUISITION was organized by TORQUEMADA in the late 15th cent but reached its greatest power under Philip At the same time the Catholic Reform was forwarded in Spain by St IGNATIUS OF LOYOLA, St THERESA of Ávila, and St JOHN OF THE CROSS With Spain, Philip had also inherited Sicily, Naples, Sardinia, Milan, Franche-Comté, the Netherlands, and all the Spanish colonies His attempt to impose the Inquisition on the NETHERLANDS precipitated the Dutch struggle for independence The northern provinces of the Netherlands shook off the Spanish yoke while the southern provinces (see NETHERLANDS, AUSTRIAN AND SPANISH) were subjugated after years of bloody warfare As the champion of Catholicism in Europe, Spain also unsuccessfully intervened in the French Wars of Religion by sending an army to support the LEAGUE against Henry IV Spanish military power, which had achieved its greatest successes in the Treaty of CATEAU-CAMBRÉSIS (1559) and in the naval victory at LEPANTO over the Turks (1571), was on the decline The rivalry on the seas between Spain and England culminated in the attempted conquest of England by the Spanish ARMADA (1588), its dismal failure was a blow from which Spain never recovered Under Philip II's successors, PHILIP III and PHILIP IV, Spain was drawn into the THIRTY YEARS WAR (1618–48), prolonged by war with France until 1659 The peace treaties (see WESTPHALIA, PEACE OF, PYRENEES, PEACE OF THE) made France the leading continental power of Europe The wars of Louis XIV of France (see DUTCH WARS, DEVOLUTION, WAR OF, GRAND ALLIANCE, WAR OF THE) cost Spain further territories and military prestige PORTUGAL, united with Spain by Philip II in 1580, had regained its independence in 1640 The political weakness of Spain was complicated by the absence of a direct heir to CHARLES II, who succeeded Philip IV in 1665 The chief claimants to the succession were Louis XIV of France and Archduke Charles of Austria (later Emperor CHARLES VI) The pro-French party at the Spanish court ultimately won out when Charles II designated Louis XIV's grandson, Philip (later PHILIP V of Spain) as successor Protracted negotiations among the European powers, regarding a partition of the Spanish empire, preceded the outbreak, on Charles's death, of the War of the SPANISH SUCCESSION (1701–14) The Peace of Utrecht (see UTRECHT, PEACE OF) confirmed Philip V on the Spanish throne, but it transferred the Spanish Netherlands, Milan, Naples, and Sardinia to Austria and Sicily to Savoy Attempts to recover these losses and to revive Spanish prestige were fostered by Philip's ambitious queen, ELIZABETH FARNESE, and his chief minister, ALBERONI, they merely led (1718) to the formation of the QUADRUPLE ALLIANCE, which in 1720 imposed upon Spain a but slightly more favorable settlement in Italy Spain under its BOURBON kings came increasingly under French influence after the FAMILY COMPACT of 1733 and its successors With the aid of France, Spain regained (1735) Naples and Sicily in the War of the POLISH SUCCESSION These two kingdoms, however, no longer were administered by Spanish viceroys but were ruled independently by a cadet branch of the Spanish Bourbons In the Treaty of Paris of 1763 (see PARIS, TREATY OF), Spain lost FLORIDA to England but was compensated with LOUISIANA by France In the American Revolution, Spain sided with the United States and France and recovered Florida in the Treaty of Paris of 1783 These, however, were short-lived successes Of greater benefit to Spain were the internal reforms carried out by ENSENADA and later by FLORIDABLANCA under Philip V's successors, FERDINAND VI and CHARLES III The economy of Spain had steadily deteriorated since the reign of Philip II The large influx of gold had long ceased, though only little of the gold had stayed in Spain, its ill effects remained The colonization of the vast Spanish empire and the many costly wars had depleted the population The peasants lived in misery on the inefficiently run estates of the grandees The court and government had decayed in an atmosphere of bigotry, incompetence, and corruption The Church, exhausted by the struggle between the popes and the kings, had largely ceased its political role as a constructive force and was using its influence for the perpetuation of the existing order The towering artistic, literary, and scholarly achievements of the 16th-cent (the Golden Century) had given place, by the mid-18th cent , to meaningless convention The attempts at reform in the second half of the 18th cent , though sincere, intelligent, and moderately successful, could not restore the nation's economic and political health overnight The expulsion of the Jesuits in 1767, hailed as a liberal measure, had little effect in Spain and generally unfortunate effects in Spanish America CHARLES IV, who succeeded Charles III, was an incompetent monarch, dominated by his wife, MARÍA LUISA, and her favorite, the able but unscrupulous GODOY Drawn into the FRENCH REVOLUTIONARY WARS and the Wars of NAPOLEON I, Spain underwent its greatest humiliation in 1808 with the successive abdications of Charles and his son, FERDINAND VII, the installation of Joseph BONAPARTE on the Spanish throne, and the occupation of Spain by French troops However, the rigor and heroism displayed by the common people of Spain in their struggle against the conqueror (see PENINSULAR WAR) proved that Spain had lost nothing of its basic vitality By 1814 the Spanish resistance forces and the British under Wellington had expelled the French, and Ferdinand VII was restored under a constitution drawn up in 1812 at Cádiz by the first national Cortes of Spain

Monarchists and Republicans The nationalist and liberal upsurge that swept over Spain and its overseas empire during the Peninsular War was focused, somewhat incomprehensibly, on the person of Ferdinand VII After his restoration Ferdinand, through his reactionary measures, channeled the forces that had placed him on the throne into the opposition At home, the liberal and radical forces were to attack the very institution of the monarchy, overseas, they brought about the independence of the Latin American nations By 1825 all Latin America except several territories in the West Indies had gained independence Through the SPANISH-AMERICAN WAR (1898) Cuba, Puerto Rico, and the Philippines were lost In Spain itself, Ferdinand's refusal to honor the constitution resulted in the revolution of 1820, put down in 1823 by French troops acting for the Holy Alliance Shortly before his death (1833), Ferdinand altered the law of succession in favor of his daughter, ISABELLA II, and to the detriment of his brother, Don CARLOS Isabella succeeded under the regency of her mother, MARIA CHRISTINA, but her succession was contested by the CARLISTS in a bitter war that raged until 1839 Her turbulent reign (1833–68), which ended in abdication, was a series of uprisings, military coups d'état, new constitutions, and dictatorships Politics were largely a matter of personalities—among these ESPARTERO, NARVÁEZ, PRIM, and O'DONNELL were outstanding—but factions generally fell into three groups the extreme reactionaries, who included the Carlists, the moderates and progressives, who theoretically favored a constitutional monarchy, but who tended to rule dictatorially when they came into power, and the republicans The Catalan and Basque separatists favored whichever party happened to oppose the central government After the abdication (1868) of Isabella, the Cortes set up a constitutional monarchy and chose AMADEUS, duke of Aosta, as king New disorders broke out, and Amadeus abdicated in 1873 The short-lived Spanish republic (1873–74) was torn by another Carlist War, which continued until 1876 ALFONSO XII, son of Isabella, was placed on the throne by a coalition of moderate parties, and in 1876 a new constitution was adopted By the end of the 19th cent the Socialist and Anarcho-Syndicalist parties began to gain a wide following among the working classes, particularly in industrial Catalonia and in the mining districts of Asturias Strikes and uprisings, usually suppressed with great brutality, became characteristic features of 20th-century Spain Anticlerical- rather than anti-Catholic—feeling was violent among the revolutionary, and even among liberal, elements Spain under ALFONSO XIII (reigned 1885–1931) remained neutral in the First World War In 1923 a new outbreak in Catalonia was repressed and resulted in the establishment of a military dictatorship under PRIMO DE RIVERA Widespread opposition forced Primo de Rivera's resignation in 1930, in 1931, after a great republican victory in municipal elections, Alfonso XIII was deposed and a republic established The first president, ALCALÁ ZAMORA, soon resigned in protest against the extreme anticlerical legislation of the Cortes and was succeeded by AZAÑA There were serious separatist and Anarcho-Syndicalist uprisings in Catalonia The government was shifted to the right, and in 1934 a miners' uprising in the Asturias was drowned in blood However, the Popular Front (republicans, Socialists, Communists, and syndicalists) won an overwhelming victory in the national elections in 1936 Before the new government under Azaña had time to carry out its program, a military rebellion precipitated the great civil war of 1936–39 The Insurgents, who soon came under the leadership of Gen Francisco FRANCO, embraced most conservative groups, notably the monarchists, Carlists, most of the army officers, the clericalists, the landowners and industrialists, and the fascist FALANGE Their forces received the immediate military aid of Germany and Italy The Loyalists were supported by the Popular Front parties and

by the nationalists in Catalonia and the Basque Provs , which had at last been granted autonomy Thanks to the "non-intervention" policy of England and France, the Loyalists received virtually no outside support except for an International Brigade and for some meager aid from the USSR Originating in Spanish Morocco, the rebellion soon spread over all Spain Despite their military inferiority and their internal divisions, the Loyalists made a remarkably determined stand, particularly in central Spain and Catalonia Madrid, defended by General MIAJA, held out until the end of the war Celebrated incidents of the civil war were the resistance of the alcazar of TOLEDO against the siege by the Loyalists (1936), the Loyalist victory (1937) over Italian forces near Guadalajara, and the bombing (1937) of GUERNICA and other undefended cities by German planes By the beginning of 1938 the territories held by the Loyalists had shrunk drastically, and with the fall (Jan , 1939) of Barcelona the war was almost over Madrid surrendered in March, 1939 The Loyalist government and many thousands of refugees fled into France, and the government of Franco was soon recognized by all major powers save the USSR A corporative state was set up under Franco's dictatorship The Church was restored its property and its favored position, though there was much friction between Church and state The Falange was the sole legal party, and the leftist opposition was energetically suppressed Catalan and Basque autonomy was abolished Despite its membership in the AXIS, Spain remained more or less neutral (though friendly to the AXIS powers) throughout the Second World War The dismissal (1942) of SERRANO SUÑER curbed the power of the Falange and inaugurated a more cautious policy toward the Allies After the war the Franco regime succeeded in retaining its power despite internal opposition from leftist and liberal groups as well as from the disappointed monarchists, and despite the hostility of the Allies. The United Nations, refusing to recognise the constitutionality of the Franco regime, excluded Spain from membership In 1947 Franco declared Spain a monarchy, with a regency council and himself as the head of the state, the eventual succession to Franco by a king or a regent was to be determined by the regency council This law of succession was approved in a referendum The Cortes was reestablished, along fascist lines, in 1942, and in 1945 The major problems of Spain remained the explosive political situation and the healing of the deep scars left by the civil war Among recent descriptive works on Spain is S F A Cole, *Spain Everlasting* (1945) The authoritative historian of Spain is Rafaél ALTAMIRA Y CREVEA See also Eduardo Pérez Pujol, *Historia de las instituciones sociales de la España Goda* (4 vols , 1896), M A S Hume, *Spain Its Greatness and Decay* (1898), H B Clarke, *Modern Spain, 1815–1898* (1906), Stanley Lane-Poole and Arthur Gilman, *The Moors in Spain* (new ed , 1911), R B Merriman, *The Rise of the Spanish Empire* (4 vols , 1918–36), Antonio Ballesteros y Beretta, *Sintesis de historia de España* (1920), H D Sedgwick, *Spain* (1925), Sir George Young, *The New Spain* (1933), Louis Bertrand and Sir Charles Alexander, *The History of Spain* (1934), Eladio García and Modesto Medina, *Historia de España* (1934), E Allison Peers, *The Spanish Tragedy, 1930–36* (1936), Frank Jellinek, *The Civil War in Spain* (1938), Robert Sencourt, *Spain's Ordeal* (1940), Salvador de Madariaga, *Spain* (new ed , 1943), Luis Quintanilla, *Franco's Black Spain* (1946)

Spalatin, George (shpä'lätēn), 1484–1545, prominent German reformer His original name was Georg Burckhardt, and he was called Spalatin after his birthplace, Spalt, near Nuremberg Spalatin was devoted to the Lutheran cause, and as secretary and court preacher to Frederick III, elector of Saxony, he served as intermediary between Martin Luther and Frederick Since Luther was frequently dependent upon the sympathy of Frederick, the presence of an ally at court was a factor important to the success of the Reformation After Frederick's death in 1525 Spalatin became canon at Altenburg, although he retained his influence at court as counselor to the two succeeding electors, John the Constant and John Frederick He wrote *Annales reformationis*, a record of events and rulers of the Reformation period

Spalato, Yugoslavia see SPLIT.

Spalding, Albert (spôl'dĭng), 1888–, American violinist, b Chicago, studied in Italy and France He made his debuts in Paris in 1906 and in New York in 1908 and won wide popularity on his extensive tours See his autobiography, *Rise to Follow* (1943)

Spalding, Lyman, 1775–1821, American physician, b Cornish, N H , M B Harvard, 1797 He lectured at Dartmouth medical school and taught anatomy at the College of Physicians and Surgeons, Fairfield, N Y He introduced vaccination for smallpox in Portsmouth (1801) and studied yellow fever and hydrophobia In 1820 he founded the U S Pharmacopoeia

Spalding (spôl'dĭng), urban district (1931 pop. 12,595; 1943 estimated pop. 13,700), in the Parts of Holland, Lincolnshire, England, on the Welland and SW of Boston, in a productive farm region The town has a Dutch aspect, with numerous market and nursery gardens. The parish church dates from 1284 Ascough Fee, or Ascoughfee, Hall (15th cent.), in the vicinity, is now a museum.

Spallanzani, Lazzaro (läd'dzärō spal-läntsä'nē), 1729–99, Italian naturalist He was professor at the universities of Modena (1763–69) and Pavia (from 1769) His important researches included studies of the digestive action of saliva, regeneration of tissue, circulation in embryos, and respiratory changes in cold-blooded and warm-blooded animals He performed experiments disproving J T Needham's theory of spontaneous generation.

Spandau (shpän'dou), former town, since 1920 a western district (pop 159,599) of Berlin, Germany, on the Havel river at its confluence with the Spree. It is an inland port and an industrial center with steel mills and large manufactures of electrical equipment Chartered in 1232, Spandau became one of the main fortress towns in Brandenburg. Its fortress was occupied in the Thirty Years War by the Swedes (1631–34) and in the Napoleonic Wars by the French (1806–13), later it became a dread political prison After 1945 Spandau was included in the British occupation sector of Berlin

Spangenberg, August Gottlieb (ou'gŏst gôt'lēp shpäng'ünbĕrk), 1704–92, a bishop of the MORAVIAN CHURCH and a founder of that church in America, b Prussia At the Univ of Jena, he met Graf von Zinzendorf, in 1730 he paid a visit to the Moravian colony, Herrnhut In 1732 he joined the theological faculty of the Univ of Halle, but disagreement with the views of his superiors led to his dismissal He became assistant to Zinzendorf and was sent by him on a mission to America in 1735 There, for a large portion of his life, Spangenberg was active in establishing settlements, churches, and schools in Georgia, Pennsylvania, and North Carolina In 1744 he was made bishop Zinzendorf died in 1760 and two years later Spangenberg returned to Herrnhut, where he held a place of leadership among the Brethren His *Idea Fidei Fratrum* (1779, Eng tr , 1784) was adopted as the declaration of faith of the Moravian Church Among his other writings is a life of Zinzendorf

Spangler, borough (pop 3,201), Cambria co , SW Pa , NW of Ebensburg, inc 1893

spaniel (spă'nyul), name of a large group of dogs probably the earliest type of sporting dog Spaniels are believed to have originated in Spain, and records of the existence of the spaniel date from the 14th cent In general the spaniels have silky coats, sometimes wavy or curled, relatively short legs, and long ears Spaniels were early differentiated into two main groups, the land spaniels and the water spaniels There are a number of breeds of land spaniels One of the oldest is the *Brittany spaniel*, the only spaniel that points game in hunting It does not very closely resemble the other land spaniels Its shoulder height is from 17 to 19¾ in , although the standards accept males slightly taller The coat is short and either orange and white or liver and white, both combinations preferably speckled with roan The *Clumber spaniel* is rather heavily built, with a long, low-set body It was early developed in England and proved to be an excellent retriever It has a silky, straight coat, of lemon and white or orange and white, with few markings preferred The *cocker spaniel* is the smallest of the sporting spaniels Although it was bred for flushing and retrieving game, it has won wide popularity as a pet The American type cocker spaniel is a compact, muscular dog with a silky coat (other flat or slightly waved), lobular low-set leathery ears covered with long hair, and feathered legs In color it may be solid black or red, liver or cream colored, or parti-colored The American cocker is similar to the original cocker, the English type, which averages a little heavier than the American The *field spaniel* was developed in England from crosses between the cocker and the Sussex spaniels It is larger than the cocker, weighing from 35 to 50 lb , and is commonly solid black in color, although liver, roan, and mahogany red are also acceptable The *springer spaniel* is known in the English and Welsh breeds The English springer spaniel originated in England and was trained in hunting to spring up and flush birds It has become popular as a pet in the United States The coat is glossy and flat or wavy and is usually black and white, liver and white, black and tan, or black, white, and tan The Welsh springer spaniel is smaller than the English and is always red and white (a color combination not acceptable in the standards for the English type). A coat of a rich golden liver color marks the *Sussex spaniel*, favored in England for hunting in rough country It is larger and heavier than the cocker spaniel. Among ancient breeds of the *toy spaniel* are the Japanese spaniel and the Maltese dog. There are two breeds of the *water spaniel*, the American and the Irish The American breed is a sturdy, muscular dog, the males weighing from about 28 to 45 lb., a good swimmer, and useful as a retriever on land and in the water Its tightly curled coat is dark chocolate or liver in color; the ears are long and wide and covered with thick curls. Tallest of the spaniels is the Irish water spaniel; males stand from 22 to 24 in at the shoulder Its tightly curled, water-repellent coat is solid liver in color. It has a curly topknot, and the ears are covered with curls. The tail, beyond its root, has such short hair that it appears bare

Spanish, river of S Ontario, issuing from Spanish Lake, NW of Sudbury, and flowing 153 mi. generally S and SW through Baskotasi and Agnew lakes to Lake Huron opposite Manitoulin island.

Spanish Africa, name for the Spanish possessions in Africa, i e , the Canary Islands, Ifni, Spanish Guinea, Spanish Morocco, and Spanish Sahara

Spanish America, Spanish-speaking countries of LATIN AMERICA Spanish America includes Mexico, Central America (except British Honduras) with Panama, South America (except Brazil and Guiana), Cuba, the Dominican Republic, and Puerto Rico These lands are also collectively called Hispanic America

Spanish American literature. The story of Spanish American literature, in one sense, begins with the letters of Christopher Columbus and the reports of the later Spanish conquistadors, for, though the writing was purely Spanish and by aliens, its subject matter was American Some of the early reports and chronicles had considerable literary merit The conqueror of Mexico, Hernán Cortés, wrote with vigorous narrative style, and the chronicle by his companion, Bernal DÍAZ DEL CASTILLO, is still read today for the crisp prose in which he described the stirring events of the warfare and the wonders of a new land Admiration of things American early gave a less Spanish tone even to writings that were in the strict Spanish mode, as in the notable epic, *La Araucana*, in which Alonso de ERCILLA Y ZÚÑIGA after he had returned to Spain praised the valor of the Araucanian Indians against whom he had fought in Chile Other captains and many missionary priests wrote of the new land, and even before *La Araucana* had appeared late in the 16th cent , the first of the gifted literary sons of the New World, GARCILASO DE LA VEGA (the Inca), who was the son of a Spanish captain and an Inca princess, had written histories of the glory of the Inca empire and of its downfall before the swords of the Spanish He was, however, writing in Spain, not in America Yet with the growth of Spanish colonial society in the New World, small literary circles appeared, notably in the viceregal capitals of Mexico city and Lima, and much writing was done. Most of it was of poor quality and was strictly imitative of the fashions of Spanish literature, making due allowance for the time of transportation across the Atlantic Poetry was written in the overblown and obscure style known as Gongorism (after Luis de Góngora y Argote), and the more accomplished priests contrived sermons suited to the best baroque taste but with little content Yet great artists did appear Juan Ruiz de Alarcón, although he must be counted as a Spanish writer (and one of the greatest in the greatest period of Spain's literature), was Mexican by birth That remarkable nun, Sor JUANA INÉS DE LA CRUZ, was able by her genius to soar above the mannerisms of the late 17th cent , she was a woman of learning, a feminist, and an able writer in prose, though she is best remembered for her poetry, witty and satirical as well as touching and exquisite She was unquestionably the greatest figure of the colonial period When that period was brought to an end by the revolutions of the early 19th cent , it was accompanied by bursts of able patriotic writing The Liberator himself, Simón Bolívar, showed some of the qualities that made him a leader in his clear and well-proportioned prose His victory at Junín was also celebrated in a long poem by one of the three great poets of the period, the Ecuadorean José Joaquín OLMEDO He, with the Cuban José María HEREDIA and the Venezuelan Andrés BELLO, showed a burning interest in the events of the day and demonstrated the linkage of literature with political and social action that has been so much more prominent in Latin America than in the United States Poet-statesman and president-novelists have been common in Spanish American history Antonio NARIÑO and other revolutionists helped to introduce French literary forms as well as ideas on liberty The "Mexican Thinker," José Joaquín FERNÁNDEZ DE LIZARDI, was an ardent revolutionist as well as recorder of Mexican customs in his picaresque novel, *El Periquillo Sarniento* [the Itching Parrot] Olmedo, Bello, and Heredia all wrote poetry in neoclassic form, although it has been pointed out by Arturo Torres-Rioseco that Heredia's "En el teocalli de Cholula" [in the temple-pyramid of Cholula] (1820) is actually the first romantic poem in the Spanish language, and there is strong romantic emotion in his classic ode on Niagara Bello, however, who had stressed the New World scene in his poems on the tropics, was a stern opponent of romanticism, which swept across Latin America like a strong wind from France. In Buenos Aires, where the young intellectuals contended against the dictatorship of Juan Manuel de Rosas in secret

political activity, they expressed themselves in Byronic poetry, such as that of Esteban ECHEVERRÍA, and in romantic novels, such as the celebrated *Amalia* of José MÁRMOL Two of the great leaders against Rosas, both of them later presidents of Argentina, were towering literary figures as well Bartolomé MITRE was an able historian and poet Domingo F. SARMIENTO was the leading champion of romanticism in the struggle against Bello's neoclassicism. He was one of the chief educators of Latin America as well, and a prolific writer of essays and sketches of travels His study of personalism in politics (*caudillismo*) in *Facundo* (1845) is still widely read as a penetrating analysis not only of politics but also of the Latin American temperament The romantic movement with its interest in landscape and local color intensified the urge toward American subjects, and the second half of the 19th cent saw the mastery of the Spanish American subject matter by Spanish American authors The most remarkable achievement, one of the masterpieces of Latin American literature, was outside all schools and fashions, seeming to spring from the very soil of the Argentine Pampa, where the picturesque cowboy, the gaucho, had developed his own mode of life, this was the epic *Martín Fierro* by José HERNÁNDEZ The gaucho, who was soon to disappear before the diligent immigrant farmers on the Pampa, inspired many another Argentine before and after Hernández (such as Echeverría and the later Ricardo GÜIRALDES, with his magnificent *Don Segundo Sombra* in 1926) Much more self-conscious than Hernández but no less original was the Peruvian Ricardo PALMA, who developed from the Spanish *costumbrista* style a new form of historical local-color sketch, which he called the *tradición*, suave and multicolored, these *tradiciones* were Peruvian, individual, and delightful In Colombia, Jorge ISAACS found the material for a romantic idyl, *María* (1867), and the Mexican Indian Ignacio Manuel ALTAMIRANO pictured native life in Mexico. It is, perhaps, remarkable that the first great literary movement arising out of Latin America to take Spain by storm was in the beginning not concerned with the American scene, for MODERNISMO, affected by French literary currents in the late 19th cent, turned to the exotic, to landscapes with swans and peacocks, to words chosen with the most discriminating taste, to rhythms like chords of music and images like the flow of light The movement was heralded by the great Cuban patriot, José MARTÍ, his compatriot Julián del CASAL, the tragic Colombian José Asunción SILVA, and the Mexicans Manuel GUTIÉRREZ NÁJERA and Salvador DÍAZ MIRÓN It reached its zenith in the vaulting genius of Rubén DARÍO, perhaps the best-known figure of Spanish American literature His **Azul** [blue] (1888) marked an epoch, the true coming of age of Spanish American literature Little magazines and literary circles sprang up, and the movement produced a host of highly gifted poets—Guillermo VALENCIA in Colombia, Amado NERVO in Mexico, José Santos CHOCANO in Peru, Leopoldo LUGONES in Argentina, Julio HERRERA Y REISSIG in Uruguay—and prose writers, notably José Enrique RODÓ *Modernismo* demonstrated with force the international character of Spanish American literature and its continuing tie with the literature of Spain The connection with Spain was lessened by the revolt against *modernismo* announced dramatically by Enrique GONZÁLEZ MARTÍNEZ in Mexico, for Spanish American writers turned more and more to dealing with the problems of Latin American peoples The Indian had always been a primary concern in Spanish American literature, reflected according to the mode, with curiosity by the first comers, with sympathetic condescension by the neoclassicists, with sentimental admiration by the romantics Many of the writers of the 20th cent turned with fierce practicality to picturing the life of the Indians and the poor as it was enacted, too often in squalor, misery, and oppression The works of Alcides ARGUEDAS offered a cheerless sociological study of Bolivia, foreshadowing the political activities of Víctor Raúl HAYA DE LA TORRE and his Apristas, centered in Peru The outstanding historical event in Mexico, the revolution that began in 1910, produced a renaissance of Mexican letters The novels of Mariano AZUELA and Gregorio LÓPEZ Y FUENTES presented powerfully the oppression of the Indians and the motive forces of the revolution The highly gifted Alfonso REYES (who also became an authority on Spanish literature of the Renaissance) presented in poetic prose his *Visión de Anahuac* Social problems and realistic studies of Latin American landscape and color brought other notable novels, such as the poetic *Vorágine* [the vortex] of José Eustasio RIVERA, *Doña Bárbara* and the other works of Rómulo GALLEGOS, *Huasipungo* by Jorge ICAZA, and the novels of Manuel GÁLVEZ and Ciro ALEGRÍA. Angry protests against the international activities of the United States (*yanqui* imperialism) in the earlier years of the 20th cent, as in the works of the Venezuelan Rufino BLANCO-FOMBONA and the Argentinian Manuel UGARTE, had only a few lingering echoes in the 1930s and 1940s No single strain was to dominate Spanish American literature after *modernismo*, and there was rich variety in the maturity of literature The poets Gabriela MISTRAL and Pablo NERUDA developed deep-going individual styles, while individuality ran riot in some of the more extreme cultists (such as Vicente HUIDOBRO and Jorge Luis BORGES) Jorge CARRERA ANDRADE with his Indian themes in Ecuador and Nicolás GUILLÉN with his Negro themes in Cuba both turned in later years to more Spanish forms, but the Puerto Rican Luis PALÉS MATOS continued to utilize Negro rhythms and expertly assembled meaningless sounds Nor were all novels of the brutally realistic type Enrique Rodrigues LARRETA and Carlos REYLES, for instance, turned to writing of Spain for escape from the problems and conflicts of their own lands The tapestry has many colors It should be noted that educators have perhaps had more influence in Spanish American literature than in various other world literatures Such figures as Sarmiento, Gabriela Mistral, Eugenio María de HOSTOS, Justo SIERRA, and José VASCONCELOS have been of the utmost importance See Alfred Coester, *The Literary History of Spanish America* (1916), E Herman Hespelt and others, *An Outline of Spanish American Literature* (1941), Pedro Henríquez-Ureña, *Literary Currents in Hispanic America* (1945); Arturo Torres-Rioseco, *The Epic of Latin American Literature* (rev ed , 1946)

Spanish-American War, 1898, struggle of the United States and Cuban revolutionists against Spain with the chief object of liberating CUBA from Spanish control Many U S citizens and statesmen had been interested in the fate of Cuba since the time of the expedition of Narciso López, and plans for annexing the island to the United States had appeared since before the OSTEND MANIFESTO Discontent of many Cubans with Spanish rule grew steadily more intense and led to the TEN YEARS WAR (1868–78) The United States was involved in the warfare by many U S volunteers to the rebel side, and U S feelings were shocked by the VIRGINIUS affair After the war, the Spanish promises of reform were not kept, and feeling grew worse between the royalist upholders of Spanish rule (mostly the wealthy and influential) and the liberal and republican-minded advocates of *Cuba libre* [free Cuba] One of the greatest of all Spanish American poets and patriots, José MARTÍ, lifted his voice clear above all others In 1895 a new revolution broke out Two of the leaders of the Ten Years War, Máximo Gómez y Báez and Calixto García y Iñigez, were back to lead the guerrilla warfare, which succeeded in tying up industry and commerce on the island In retaliation Spanish officials ordered all the rural population herded into the garrisoned towns, where, without adequate food and shelter, many died This shocked many in the United States to deeper sympathy for the rebellious seekers of freedom The U S government was also moved by the heavy losses of American investments in Cuba, an appreciation of the strategic importance of Cuba to Central America and a projected canal there, and a growing sense of U S power in affairs of the Western Hemisphere, there was an unspoken threat of intervention This grew sharper after the insurgents, refusing a Spanish offer of autonomy, determined to fight for full freedom Two incidents occurred to inflame U S feelings against the Spanish authorities William Randolph Hearst published a letter written by the Spanish minister at Washington to a friend in Cuba expressing contempt for U S President McKinley More serious was the sinking of the U S battleship *Maine* in Havana harbor (see MAINE) War sentiment rose McKinley's suggestion of an armistice received no satisfactory reply, and he was won to the war cause Though on April 10, 1898, he was informed that the queen of Spain had ordered hostilities suspended, he barely referred to that fact when he addressed Congress on April 11 He asked authority to intervene in Cuba Congress responded by passing resolutions to demand Spanish withdrawal from Cuba and set terms for U S intervention (including a pledge to withdraw from the island when independence was assured), these were capped on April 22 by an act authorizing enlistment of volunteer troops On April 24 Spain declared war on the United States The next day Congress retorted by declaring that a state of war had existed since April 21, when W T SAMPSON had been ordered to take the main squadron of the Atlantic fleet to Cuban waters The warfare thus commenced was short and very one-sided The first dramatic incident occurred on the other side of the world from Cuba On May 1 a U S squadron under George DEWEY sailed into the harbor of Manila, Philippine Islands, and in a few hours thoroughly defeated the Spanish fleet there Dewey's name was greeted across the United States with almost hysterical praise. On May 19 Admiral Pascual Cervera y Topete took the Spanish fleet into the harbor of Santiago de Cuba Commodore W S SCHLEY established (May 28) a blockade of the harbor, in which Rear Admiral Sampson joined, taking command of the blockading fleet on June 1 When the Spanish fleet attempted to escape on July 3, it was destroyed Meanwhile 17,000 more or less trained, poorly equipped, but enthusiastic U S troops under W S SHAFTER (whose appointment had been much criticized) landed and undertook a campaign to capture Santiago The Spanish forces were weak, but there was some heavy fighting at Siboney, El Caney (July 1), and San Juan Hill (where on foot the Rough Riders, under Leonard WOOD and Theodore ROOSEVELT won a popular reputation) After a week's bombardment Santiago surrendered The war was, in effect, over Troops sent under Nelson A Miles to Puerto Rico were busily investing that island when they received word that an armistice had been signed on Aug 12 Dewey and Wesley Merritt led a successful land and sea attack on Manila on Aug 13, actually after the armistice was signed Peace was arranged by the Treaty of Paris signed Dec 10, 1898 (ratified by the U S Senate Feb 6, 1899). The Spanish Empire was practically dissolved Cuba was freed (but under U S tutelage by the Platt Amendment) Puerto Rico and Guam were ceded to the United States as indemnity, and the Philippines were surrendered to the United States for a payment of $20,000,000 The United States emerged from the war as a power of consequence The United States was entangled in Latin American affairs in a new fashion, while the actions in the Philippines introduced an era characterized by U S liberals as imperialistic, it also tied the United States more closely to the course of events in the Far East See A T Mahan, *Lessons of the War with Spain* (1900), French E Chadwick, *Relations of the United States and Spain Diplomacy* (1909) and *Relations of the United States and Spain The Spanish-American War* (1911), Walter Millis, *The Martial Spirit* (1931), M M Wilkerson, *Public Opinion and the Spanish-American War* (1932), J W Pratt, *Expansionists of 1898* (1936), Gregory Mason, *Remember the Maine* (1939)

Spanish Armada see ARMADA, SPANISH

Spanish art and architecture. In Spain ethnographic and geographic factors encouraged susceptibility to foreign influences which variously affected different regions Because of the heterogeneity of cultural components, it is necessary to consider a variety of parallel and overlapping lines of artistic development Aside from important prehistoric remains uncovered at Altamira and the cave paintings at Cogul (near Lérida), the earliest monuments date from the Roman occupation (3d cent B C.–5th cent A D) Mérida survives as example of a Roman provincial town with remains of an amphitheater, triumphal arch, temples, and reservoirs. The aqueduct at Segovia and the bridge of Alcántara are outstanding examples of Roman engineering genius Roman art does not appear to have significantly influenced works of the Visigothic period (6th–7th cent), although crude classical motifs were used, especially in the decorative sculpture Such monuments as the Church of San Juan de Baños in the province of Palencia (A D 661) suggest a possible Syrian influence in the use of a flattened horseshoe arch which predates the full horseshoe arch introduced by the Moors (8th cent) and extensively employed in the famous mosque at Córdoba (8th–10th cent) and the Alhambra at Granada (13th–14th cent) Moorish architectural features, such as multifoil and intersecting arches, became intrinsic to the Christian buildings of medieval Spain, and the Moorish feeling for repetition and multiplicity of small motifs in luxuriant ornament deeply influenced later taste By 850 the Moors had conquered all Spain except the Asturias region Asturian art (9th cent) continued the Visigothic tradition, but in both minor arts and architecture there is revealed strong Carolingian influence Characteristic of Asturian churches is a basilican plan with square apses, rounded arches, and balustered windows The art of the Mozarabs (9th–11th cent) combined Visigothic, Asturian, and Moorish features During the Romanesque period (11th–12th cent) Christian art in general exhibited characteristics common to the Romanesque style of Europe, but different influences prevailed in the western and eastern regions Catalan art reveals marked Lombard influence Castilian art was under French influence The cathedral at Santiago de Compostela (11th–12th cent), both in its architecture and its sculpture, reveals striking analogies to Burgundian works Outstanding is the sculpture of the main portal, which recalls that of Chartres The unification of Spain and the final expulsion (1492) of the Moors made for increased prosperity and artistic activity during the Gothic period (13th–mid-16th cent) Castilian architecture was basically inspired by French, although a distinctive native taste may be felt in the proportions and decorative feeling Outstanding examples include the cathedrals of Burgos, Toledo, and Leon, that at Leon being remarkable also for its stained glass Catalan Gothic architecture, exemplified in the cathedrals at Barcelona and Palma (Majorca), made distinctive use of wide aisleless naves with heavy interior buttresses and lateral chapels Early Gothic sculpture was predominantly influenced by French models In the 15th and early 16th cent. there were

strong Flemish and German trends Retables and choir stalls were elaborately sculptured and polychromed and were sometimes made of alabaster Remarkable examples are those in the cathedrals of Tarragona, Seville, and Toledo At the end of the 16th cent Gil de Siloé executed the magnificent retable and royal monuments in the church of Miraflores (near Burgos), representative of a late Gothic realism In painting, French influence (c 1250–1350) encouraged tendencies toward naturalism and softening of the stylization which had prevailed during the Romanesque period Typical of this early phase is the *Scenes from the Life of Christ and the Virgin* which was in the Chapel of López de Ayala (now in the Art Inst , Chicago) Between 1350 and 1450 Spanish painting displayed characteristics common to all of Europe At the same time there was strong Italian influence, and extensive trade with the Netherlands in the 15th cent encouraged the emergence of a Hispano-Flemish style exemplified in the paintings of Jaume Huguet Throughout the Gothic period MUDEJAR art carried on the Moorish tradition, and its pervasive effect on the national taste was a factor that conditioned the assimilation of other influences The Renaissance (16th cent) came late and did not take deep root in Spain Italian sculptors working in Spain, such as Pietro Torrigiano, did much to popularize Renaissance motifs, which were combined with Gothic and Mudejar in works of the plateresque style Typical of the plateresque phase in architecture is the façade of the Univ of Salamanca and the Convent of San Marcos (Leon) Fully developed Renaissance form appears late in the century in such works as the unfinished palace of Charles V (Granada) and the Escorial, largely by the principal architect of the period, Juan de Herrera Outstanding native sculptors, such as Alonso Berruguete and Gaspar Becerra, were strongly influenced by Michelangelo Italianate painters, such as Luis de Vargas and Luis de Morales, were eclectic and manneristic It was only toward the end of the century that El Greco translated aspects of Italian form in terms of an entirely personal and distinctly Spanish idiom The baroque period (17th–mid-18th cent) was marked by decisive affirmation of native taste and individual genius in all the arts Polychrome religious sculptures by Juan Martínez Montañés exemplify characteristic effects of extreme realism and emotionalism, expressive of the fervid Catholicism of the time Naturalism was also the keynote of painting Sobriety of color and insistent realism were typical of such masters as Ribalta, Ribera, and Zurbarán, who are sometimes linked with the Italian *tenebrosi* and M A da Caravaggio Velázquez stands with Rubens and Rembrandt as an outstanding genius In Murillo's works naturalism was tempered by a strong tendency to lyricism and decorative effects, and his art exerted considerable influence over 18th-century French and English painting In architecture an extreme reaction against the severity and restraint of Renaissance forms manifested itself in the architecture of José Churriguera and his followers which was characterized by animation of surface, play of light and shade effects, and an exaggeration and sumptuosity of ornament Spanish examples of Churrigueresque architecture include the sacristy of the Cartuja (Granada) and the Palace of the Marques de Dos Aguas (Valencia) The style was imported to the American colonies (see SPANISH COLONIAL ARCHITECTURE) Under the Bourbons there was strong reaction against the individualism and exhuberance of late baroque art In 1752 in the reign of Ferdinand VI, the Academy of San Fernando was founded, within a short time dependent academies were established throughout the country The resulting wave of sterile academism appeared to discourage creativity in all the arts for nearly two centuries Goya stands out as the great exception He emerged at a time when great official commissions were awarded to foreign painters such as Tiepolo and Mengs Goya died when French art was already the dominant influence in Europe Among 19th-century painters José de Madrazo y Agudo belonged with the school of Jacques Louis David, Mariano Fortuny belongs with French romantic and historical painters Painters of the 20th cent include Ignacio Zuloaga, distinguished as a portraitist, and Sorolla y Bastida, whose works fall into the tradition of French impressionism The outstanding modern painter, Pablo Picasso, though born a Spaniard, is linked with the cosmopolitan school of Paris, as are also the cubist painter Juan Gris and the surrealist Joan Miró In general Spanish minor arts exhibited characteristics analogous to those of the major arts in similar periods Rich mineral resources in Spain and later in the colonies made for extensive development of wrought metalwork Characteristically Spanish are luxuriantly decorated iron church screens or *reyerta* Moorish influence encouraged development of filigree and enamel as well as of tooled leather Flemish influence encouraged establishment of tapestry works In the 18th cent Buen Retiro porcelains (named for the palace at Madrid) were among the best produced in Europe. The 19th-century decline in general artistic production is reflected also in the decline of quality in minor and decorative arts See M A Dieulafoy, *Art in Spain and Portugal* (1913), H D Sedgwick, *Spain a Short History of Its Politics, Literature, and Art* (1925), A K Porter, *Spanish Romanesque Sculpture* (2 vols 1929), C R Post, *History of Spanish Painting* (Vols I-IX, 1930–47), Bernard Bevan, *History of Spanish Architecture* (1938)

Spanish bayonet and **Spanish dagger** see YUCCA

Spanish colonial architecture flourished from the 16th to the beginning of the 19th cent It followed the historical development of styles previously established in Spain, but developed original features in different regions, the main centers being Peru and Mexico, where there were skilled native craftsmen and stronger political organization The earliest buildings, of impermanent materials, have disappeared, but by the end of the 16th cent durable monumental architecture had been achieved This was a period of transition from Spanish Gothic to Spanish Renaissance, with many buildings reminiscent of the PLATERESQUE style, contrasting bare walls and ornamental doorways, and others of the austerity of the ESCORIAL Although elaborate, intricate ornament was often employed, particularly in later times, a strong strain of simple, solid construction ran through the colonial period, as exemplified in the Spanish missions of California and the 18th-century Jesuit missions of Paraguay The earliest cathedral in America, in Santo Domingo (1521–41), has a plateresque portal on the west façade In 16th-century Mexico the great builders were the Augustinian, Franciscan, and Dominican orders They invented the open chapel for the Indians, as in the monastery of San Francisco Tlalmanalco, which was built with only three walls in order to speed construction and to accommodate more people The cathedrals of Puebla, Mérida, and Guadalajara were also begun in this period During most of the 17th and 18th cent the baroque style held sway, and in the 18th cent the sumptuous CHURRIGUERESQUE ornament of Spain was exported to the colonies In addition to the big forms and curving lines of the traditional European baroque, Spanish colonial buildings maintained the contrast between decorated and plain surfaces of the earlier period A more conservative trend was manifested in Colombia, where churches and public buildings were simple and severe Baroque features, combined with the inventiveness of native craftsmen, reached a climax in the cathedral in Mexico city It has been called ultra-baroque in view of the strong light-and-shade patterns, richly carved columns and entablatures, and violent alternations of curves and angles In the Puebla region glazed tiles were sometimes placed on the whole façade of a building, as in the Church of San Francisco Acatepec Central American buildings were generally provincial versions of the Mexican, but in Guatemala façades were divided into rectangular compartments In Peru as in Mexico there was richness, inventiveness, scale, and quantity, but Peruvian architecture appeared heavier and more massive Huge curving members projected over doors and windows in many buildings of Lima Columns in Mexico were freely carved with great fantasy, in Peru they were heavy and often spiral Peruvian wall surfaces were divided into a series of large compartments rather than covered with shallow carving as in Mexico The Church of San Agustin (c 1730), with a statue in the central niche dominating the whole façade, illustrates a distinctive type developed in Lima In S Peru and in Bolivia, Indian influence in ornament, in both technique and representation, pervaded the basic European architectural forms On the façade of the Church of San Lorenzo (1728–44) in Potosí richly decorated Indian figures function as caryatids or spiral columns In the last quarter of the 18th cent a current of neoclassicism invaded Latin America, and the great days of Spanish colonial architecture were over

Spanish fly, see CANTHARIDES

Spanish Fork, city (pop 4,167), N central Utah, S of Provo near Spanish Fork river and Utah Lake The area, long irrigated, is now served by the STRAWBERRY VALLEY PROJECT, and the city has beet-sugar refineries and canning plants

Spanish Guinea (gĭ'nē), colony (10,800 sq mi , pop 170,582), W Africa, on the Gulf of Guinea The capital is Santa Isabel The colony is bordered by French Cameroons on the north and by French Equatorial Africa on the south It comprises besides a great number of small islands, the island of Fernando Po or Fernando Póo and Continental Guinea or Río Muni Spanish Guinea is a densely forested region It exports cacao, palm oil, bananas, and coffee Fernando Po was discovered in the 15th cent by the Portuguese They settled it briefly in the 17th and 18th cent , but it was ceded to Spain in 1778 With the consent of the Spanish, the British assumed administration in 1827 and established a naval station for the ships engaged in the suppression of the slave trade. In 1844 Spain reclaimed the island. Continental Guinea was awarded to Spain by the Treaty of Berlin (1885) The colony is ruled by an appointed governor

Spanish language, language of the Romance group of the Italic subfamily of Indo-European languages See LANGUAGE (table)

Spanish literature. The famous early example of Spanish literature, the epic poem *Cantar de Mío Cid*, dates back to the 12th cent and deals with the life and deeds of the national hero, Rodrigo Díaz de Vivar, called the Cid Campeador During the 13th cent many other epic poems and the oldest popular lyrics appeared in the different provinces of the Iberian Peninsula and were transmitted orally from generation to generation The first Spanish poet whose name is known is the priest Gonzalo de Berceo, author of religious poems in the 13th cent King Alfonso X (1221–84), called the Wise, was a poet and prose writer Under his patronage the flow of Oriental culture into Western Europe was greatly accelerated In the 14th cent the most important writers were López de Ayala, author of *Rimado de palacio*, a satirical poem of the customs of his age, Fernán Pérez de Guzmán, author of the historical *Semblanzas*, the prince Don Juan Manuel, nephew of King Alfonso X, famous for *El libro de los enxemplos del conde Lucanor et de Patronio*, the first book of short stories in the Spanish language, and Juan Ruiz, the archpriest of the town of Hita, author of *El libro de buen amor* [the book of good love], one of the masterpieces of Spanish letters During the reign of John II of Aragon in the first half of the 15th cent , two important poets were Juan de Mena, author of a long poem showing Italian influence, called *El laberinto de fortuna* or sometimes *Las trescientas*, and the marqués de Santillana, known for his short lyric poems in the traditional Spanish manner and for his sonnets and other longer poems written under Italian influence At the end of the 15th cent the unification of Spain was achieved by Ferdinand and Isabella, America was discovered, and the Renaissance spirit, represented by the outstanding prose work of the period, the novel *La Celestina* (1499), invaded Spanish letters The first-known novel of chivalry, *Amadís of Gaul*, was printed in Saragossa in 1508 and served as model for the following novels of chivalry which became in the 16th cent the most popular genre in Spain, together with the anonymous ballads (romances) that were sung and recited everywhere In the reign of Emperor Charles V in the 16th cent the first of a type of fiction which became very popular in Spain, the picaresque novel *Lazarillo de Tormes* (1554), was published, also in this period under Italian influence the traditional meter and essence of Spanish poetry was revolutionized This was achieved by Juan Boscán and the "prince of the lyric poets" of the period Garcilaso de la Vega, author of *Églogas* The latter part of the 16th cent and most of the 17th was the great era of Spanish literature, known as the Golden Age Its chief monument was the novel *Don Quixote de la Mancha* by Miguel de Cervantes Saavedra, of which the first part appeared in 1605 and the second part in 1615 Besides being a classic thrust at the novels of chivalry, *Don Quixote* stands out as one of the world's masterpieces, portraying the forces of idealism and realism in man The picaresque novel flourished in the Golden Age, two of the best examples being *Guzmán de Alfarache* by Mateo Alemán and *El Buscón* by Francisco de Quevedo Poetry and drama flourished Lope de Vega was the great national dramatist, author of about 1,800 plays Other important playwrights were Tirso de Molina, Guillén de Castro, Juan Ruiz de Alarcon, and Calderón de la Barca Calderón was the last of the outstanding dramatists of the Golden Age, and he owes his fame to his *Autos sacramentales* and *La vida es sueño* In the poetry of the period the names of Fray Luis de León, San Juan de la Cruz, Fernando de Herrera, and Luis de Góngora are the most famous St Teresa of Ávila was a mystic, author of a spiritual autobiography and many other books widely translated A cultivated and baroque tendency represented by Góngora's poetry and the prose writings of Baltasar Gracián and Francisco de Quevedo dominated Spanish letters in the latter years of the 17th cent During the 18th cent , French influence was evident in Spanish literature The *Poética*, by Ignacio de Luzán, represents the academic principles of this century, in which literature suffered a decline in Spain Leandro Fernández de Moratín, author of two plays, *El sí de las niñas* and *La comedia nueva*, assimilated the neoclassical French standards, while Ramón de la Cruz remained loyal to the traditions of Spanish culture by picturing the colorful life of Madrid in his *Sainetes* The 19th cent brought two important literary movements, romanticism and realism The outstanding literary figures of the first half of the century were the duque de Rivas, poet and dramatist, whose play *Don Álvaro; o, La fuerza del sino* was the first victory of the romantics in the theater; the poet José de Espronceda, author of *El estudiante de Salamanca* and *El diablo mundo*, José Zorrilla, poet and dramatist, best known for his play *Don Juan Tenorio*, the post-romantic poets Gustavo Adolfo Bécquer, author of *Rimas y leyendas*, and Rosalía de Castro, a Galician. Mariano José de Larra is better known for his satirical articles published

under the pen name of Fígaro than for his romantic drama *Macías* and his novel *El doncel de don Enrique el doliente* Benito Pérez Galdós was the dominant figure in the realistic novel of the 19th cent., above all for his series of historical novels called *Episodios nacionales* In the first quarter of the 20th cent the important novelists were Juan Valera, José María de Pereda, Armando Palacio Valdés, Pedro Antonio de Alarcón, the Condesa Emilia Pardo Bazán, Vicente Blasco Ibáñez, Ramón Pérez de Ayala, and Pío Baroja The drama in the late 19th and early 20th cent is represented by José Echegaray, who won the 1904 Nobel Prize in Literature and in the 20th cent by Jacinto Benavente, winner of the 1922 Nobel Prize in Literature From the end of the 19th cent through the first decade of the 20th cent, a period of reconstruction was started in Spanish literature by the so-called writers of the Generation of 1898, most of whom were essayists, such as Miguel de Unamuno and Azorín Parallel to the Generation of 1898 arose the poetic movement known as modernism, headed by the Spanish American poet Rubén Darío, author of *Azul* (1888) and *Prosas profanas* (1905) Modernism was followed by post-modernism and ultramodernism The best examples of Spanish literature during the 20th cent are found in the field of the essay and in poetry The outstanding poets are Juan Ramón Jiménez, Antonio Machado, Pedro Salinas, Jorge Guillén, Federico García Lorca and Rafael Alberti The best-known essayists are Unamuno, Ortego y Gasset, Azorín, and the creator of the "greguería," Ramón Gómez de la Serna See also CATALAN LITERATURE See George Ticknor, *History of Spanish Literature* (3 vols , 1849, rev ed , 1910), G T Northup, *An Introduction to Spanish Literature* (1925), James Fitzmaurice-Kelly, *New History of Spanish Literature* (1926), A F G Bell, *Contemporary Spanish Literature* (1933) and *Castilian Literature* (1938)

Spanish Main, mainland of Spanish America, particularly the coast of South America from the isthmus of Panama to the mouth of the Orinoco Spanish treasure fleets, sailing home from the New World, passed through the Caribbean N of the Main and were attacked by English buccaneers, raiding from the islands and coast Until the 19th cent pirates congregated here, and the words "Spanish Main" have become the symbol of piratic romance Today the term refers to the coast, the Caribbean, and the West Indies—all places familiar in the pirate legends of the Caribbean area

Spanish marriages see ISABELLA II

Spanish Morocco see MOROCCO

Spanish moss, fibrous gray air plant (*Tillandsia,* or *Dendropogon, usneoides*) that hangs on trees of tropical America and the Southern states, called also Florida, southern, or long moss It is not a true moss but belongs to the pineapple family and has inconspicuous flowers It is used for stuffing furniture and as a packing material

Spanish needles see BUR MARIGOLD

Spanish Sahara, colony (102,000 sq mi , pop 37,000), W Africa, on the Atlantic Ocean The capital is Villa Cisneros The colony is bordered on the north by Southern Morocco, on the south by Mauritania, and on the east by Mauritania and Algeria It comprises two territories, Río de Oro (70,000 sq mi , pop 24,000) and Sekia el Hamra (32,000 sq mi , pop 13 000) Spanish Sahara is arid and is mostly inhabited by pastoral nomads There are large fisheries on the coast

Spanish Succession, War of the, 1701–14, last of the general European wars caused by the efforts of LOUIS XIV to extend French power The precarious health of the childless CHARLES II of Spain left the succession open to the claims of three principal pretenders—Louis XIV, in behalf of his eldest son, a grandson of Philip IV of Spain through MARIE THÉRÈSE OF AUSTRIA, the electoral prince of Bavaria, Joseph Ferdinand, a great-grandson of Philip IV, and Emperor Leopold I, who had married a younger daughter of Philip IV, but claimed the succession in behalf of his son by a second marriage, the future Emperor CHARLES VI Of these, the claim of Joseph Ferdinand was legally the soundest England and Holland were opposed to the union of French and Spanish dominions, which would have made France the leading world power and diverted Spanish trade from England and Holland to France On the other hand, England, Holland, and France were all opposed to a reunion of the Spanish and Austrian branches of the Hapsburg Louis XIV, exhausted by the War of the Grand Alliance, sought a peaceful solution and reached an agreement (1698) with WILLIAM III of England This First Partition Treaty designated Joseph Ferdinand as the principal heir, the French dauphin was to receive territory including Naples, Sicily, and Tuscany, Milan was to fall to Archduke Charles (Charles VI) The treaty aroused Spanish nationalism, and Charles II answered by naming Joseph Ferdinand as sole heir to the whole Spanish empire The unexpected death of Joseph Ferdinand (1699) rendered the Anglo-French treaty inoperative and led to the Second Partition Treaty, under the terms of which France was to receive a considerable enlargement of her territory, while the rest of the Spanish dominions were to fall to Archduke Charles. The treaty was accepted by the Dutch (1700) and submitted to the emperor, who rejected it in the hope of gaining the entire inheritance for his son While the diplomats were still seeking a peaceful solution, the pro-French party in Spain gained hold of the dying Charles II and persuaded him to designate as his sole heir the grandson of Louis XIV, Philip, duke of Anjou, who became PHILIP V of Spain Louis XIV now decided to abide by Charles's will and broke the treaty War did not begin immediately, but the reservation of Philip's right of succession to the French crown (Dec , 1700) and French occupation of fortresses on the border between the Dutch and the Spanish Netherlands (Feb , 1701) led to an anti-French alliance among England, the emperor, and the Dutch Hostilities between the French and the imperial forces began in Italy, where the imperial generalissimo, Prince EUGENE OF SAVOY, defeated CATINAT and VILLEROI The general war began in 1702, with England, Holland, and most of the German states opposing France, Spain, Bavaria, Portugal, and Savoy MARLBOROUGH, though ill-supported by the Dutch, captured a number of places in the Low Countries (1702–3), while Eugene held his own against Villeroi and his successor, Louis Joseph, duc de VENDÔME VILLARS, however, defeated Louis of Baden at Friedlingen (1702). The successes of the French in Alsace enabled them to menace Vienna (1703), but the opportunity was lost by dissension among their chiefs In 1704 Marlborough succeeded in moving his troops from the Netherlands into Bavaria, where he joined Eugene and won the great victory of Blenheim over the French under TALLARD, and the French lost Bavaria Meanwhile, Portugal and Savoy had changed sides (1703), and in 1704 the English captured Gibraltar In 1705 Marlborough in the Netherlands and Eugene in Italy won moderate successes, though Vendôme defeated Eugene at Cassano The year 1706 was marked by Eugene's victory at Turin, which resulted in French evacuation of N Italy, and by Marlborough's triumph at Ramillies, which compelled the French to retreat in the Low Countries In the same year, Louis XIV proposed peace to the Dutch, but English interference forced the continuance of the war In 1707 Marlborough made little progress in the north and Eugene's expedition into Provence resulted only in the loss of 10,000 men, but in the following year Marlborough and Eugene won another great victory at Oudenarde, took Lille, and drove the French within their borders Peace negotiations failed, and the allies won (1709) another success, though a costly one, at Malplaquet Meanwhile the indecisive allied campaigns in Spain (1708–10) did little to weaken Philip V The death of Emperor JOSEPH I (1711) and the accession of Charles VI led to the withdrawal of the English, who were as much opposed to the union of Spain and Austria as to that of Spain and France Preliminary negotiations between England and France were pressed forward and a peace conference was opened (Jan , 1712), followed shortly afterward by an Anglo-French armistice In April, 1713, France, England, and Holland signed the Peace of Utrecht Charles VI continued the war, although Eugene had been defeated (1712) at Denain and had been forced to retreat in the Spanish Netherlands Seriously weakened by the defection of his allies, the emperor finally consented in 1714 to the treaties of Rastatt and of Baden, which complemented the general settlement (see UTRECHT, PEACE OF) The conflict in America corresponding to the period of the War of the Spanish Succession was known as Queen Anne's War (see FRENCH AND INDIAN WARS) See Arthur Parnall, *The War of the Succession in Spain* (1905), Frank Taylor, *The War of Marlborough* (1921)

Spanish Town, city (pop 12,030), on S Jamaica, British West Indies Formerly Villa de la Vega, it was the leading city of Jamaica from the destruction of Port Royal by earthquake in 1692 until KINGSTON rose to prominence It is the main rail and highway communications center for traffic to and from the capital and other parts of Jamaica

spar. For dogtooth spar, see CALCITE, for fluor spar, see FLUORITE, for heavy spar, see BARITE, for satin spar, see CALCITE and GYPSUM See also ICELAND SPAR and FELDSPAR

Spargo, John (spär'gō), 1876–, American reformer and author, b England An early socialist, he was active in the Socialist party, but resigned in 1917 because of its anti-war policy With Samuel Gompers he organized (1917) the American Alliance for Labor and Democracy He also founded a social settlement in Yonkers, N Y His many books include *The Bitter Cry of the Children* (1906), a biography of Karl Marx (1909), *Applied Socialism* (1912), *The Psychology of Bolshevism* (1920), and studies in Vermont history.

spark plug see IGNITION

Sparks, Jared (spärkd), 1789–1866, American historian, editor, and educator, b Willington, Conn , grad Harvard, 1815 He taught in a private school (1815–17), studied theology, tutored in mathematics and natural philosophy at Harvard (1817–19), and edited the *North American Review* (1817–18) He was pastor of a Unitarian church in Baltimore (1819–23), founded and edited (1821–22) the *Unitarian Miscellany,* and was chaplain of the U S House of Representatives (1821–23). Returning to Boston, he bought and edited the *North American Review* (1824-30) and founded and edited (1830) *The American Almanac and Repository of Useful Knowledge* From 1838 to 1849 he was McLean professor of history at Harvard and then was president of Harvard (1849–53) Among the many works he wrote or edited are *The Diplomatic Correspondence of the American Revolution* (12 vols , 1829–30), *The Life of Gouverneur Morris* (3 vols , 1832), *The Writings of George Washington* (12 vols , 1834–37), *The Library of American Biography* (25 vols , 1834–48), *The Works of Benjamin Franklin* (10 vols , 1836–40), and *Correspondence of the American Revolution* (4 vols , 1853) See biographies by G E Ellis (1869) and H B Adams (2 vols , 1893)

Sparks, city (pop 5,318), W Nev , on the Truckee river just E of Reno, in an irrigated area, inc 1905 It is a railroad division point

sparrow, name of various small birds of the Old and New Worlds, usually with streaked brown and gray plumage The English or house sparrow, a native of Europe, is not a true sparrow, but belongs to the WEAVER BIRD or weaver finch family Introduced into America c 1850, it spread over most of the continent and in many places drove out more desirable birds Its song is a constant chirp. Among native sparrows of the *finch* family are several birds with a delightful song—the song sparrow of fields and roadsides, identified by its heavily streaked breast, the white-throated sparrow or peabody bird, the white-crowned sparrow, the vesper sparrow, and the less musical but friendly little chipping sparrow Sparrows are of enormous value to farmers in destroying weed seeds The sparrow appears in Greek mythology and in the Scriptures Originally "sparrow" meant any small bird

Spars [from the motto "Semper Paratus"], the Women's Reserve of the U S Coast Guard Reserve, created Nov , 1942 In the Second World War the Spars took over shore duty—clerical work, photography, radio and telephone operations, and the like—in the United States, Hawaii, and Alaska to release men for sea duty Enlistment reached a peak of 10,000 Recruiting was stopped in Aug , 1945, and by June, 1946, demobilization was completed

Sparta (spär'tu), city of ancient Greece, capital of Laconia, on the Eurotas river in the Peloponnesus The narrow, mountain-walled valley attracted invaders by its fertility, and the city-state of Sparta was created by invading Dorian Greeks, who conquered the countryside of Laconia and Messenia The city was difficult to attack, and the Spartans for long had no city walls but trusted to the strength of their army for defense against all comers and against their own Laconian and Messenian subjects Sparta became the strongest city in Greece and in the 7th cent enjoyed a heyday of wealth and culture, the period of the poets Tyrtaeus and Alcman This flowering was commemorated later by the tradition of writing lyrics to be sung by choruses (e g , in Athenian tragedy and in Pindar) in a Doric dialect After 600 B C , Sparta cultivated none but military arts, and the city was an armed camp, founded according to the official legend, by LYCURGUS, in reaction to a revolt of MESSENIA (the city's granary) At any rate by the 5th cent the ruling class, the Spartiates, gave themselves wholly to war At birth a boy was inspected by the elders, and if he promised to be unfit for military service, he was taken into the mountains and abandoned If he was fit, he was taken from his mother at seven to begin his rigorous military training He became a soldier at 20, a citizen at 30, and continued as a soldier until 60, after that time he could hold office Thus his entire life was spent under rigorous discipline Spartiate women, under less severe discipline, were part of the soldierly society and not secluded The Spartiates were the only citizens and the only sharers in the allotment of lands and of the helots, serfs who were bound to the land The helots farmed the land and paid part of the produce to their masters, the Spartiates They could not be sold, but they had no legal or civil rights and they were constantly watched by a sort of Spartiate secret police for fear of insurrection A helot who showed ability alarming to his masters usually disappeared mysteriously. In somewhat less stringent subjection were the perioeci, freemen who were permitted to carry on commerce and handicrafts, by which some of them prospered The perioeci were entirely subordinate to the Spartiates The government was headed by two hereditary kings, titular leaders in battle and in religion Two families furnished the kings, probably a relic of the origin of Sparta from a union of diverse political units Some kings were able (e g., Cleomenes I, Leonidas, and Agis I), but they were held in check There was a council of 30 elders and a general assembly of citizens, but the real rulers were the board of five ephors, annually elected The business of the state was conducted with secrecy

(unlike the open-forum methods of Athens), and it was a matter of religion to keep the institutions unchanged The sole purpose of the state was military power, and Sparta was by 500 B.C. strong enough to weigh in any Greek situation In the PERSIAN WARS, Sparta fought beside Athens, first at THERMOPYLAE (490), where the hero was Leonidas, and later at Salamis (480) and Plataea (won by PAUSANIAS, 479) There were no Spartans at Marathon. Before 500 B C , Sparta formed a confederacy (the Peloponnesian League), this Sparta dominated but never converted into an overt empire, as Athens did the Delian League Through the league and by direct methods Sparta was master of most of the Peloponnesus After the Persian Wars the old rivalries sharpened, and Athens grew stronger An earthquake at Sparta (464 B C), followed by a stubborn Messenian revolt, weakened Sparta badly In the end a contest with Athens came indirectly, provoked by Cornthian fears of Athenian imperialism This was the great PELOPONNESIAN WAR (431–404 B C), which wrecked the Athenian empire Soon afterward the dominant Spartans led by AGESILAUS II were at war with Persia; then the Spartan envoy ANTALCIDAS concluded with Artaxerxes II a treaty by which Sparta surrendered the Greek cities of Asia in return for withdrawal of Persian support to the rebellious Athenians and Thebans. Thebes fought on and by the victory at Leuctra (371 B C) took the ascendancy in Greece Sparta fell an easy prey to Philip II of Macedon and declined In the 3d cent B.C there were determined but futile attempts by Kings AGIS III and CLEOMENES III and by Nabis (d. 192 B C) to restore glory to Sparta by vigorous reforms Under the Romans, Greek centers of art and letters were highly favored, Sparta, with no such distinction, simply disappeared The modern city of Sparta (pop 9,700) dates from the 19th cent only The ruins of old Sparta are near by For bibliography, see *Ancient Greece* under GREECE

Sparta. **1** City (pop 1,872), co seat of Hancock co , N central Ga , NE of Macon, inc 1805 It is a trade, processing, and shipping center for a farm and lumber area There are several fine old houses of classic revival design **2** City (pop 3,664), S Ill , SE of St Louis, in a farm, timber, and coal area, inc. 1873 It has railroad shops, plow works, and a rayon-garment factory **3** Village (pop 1,945), S Mich , N of Grand Rapids, platted 1869, inc 1883 Pasteurizing castings and evaporated milk are made here **4** Town (pop 2,506), co seat of White co , central Tenn , in the Cumberland Plateau NNW of Chattanooga, in a coal, limestone, and timber area, founded 1809 Great Falls Dam in Caney Fork of the Cumberland river is near by **5** City (pop 5,820), co seat of Monroe co , W central Wis , NE of La Crosse and on the La Crosse river, in a farm and dairy area, settled c 1850, inc 1883 There are tobacco warehouses here A state school for dependent and neglected children is in the city Near by is Camp McCoy

Spartacus (spär'tukus), d 71 B C , leader in an ancient Italian slave revolt, b Thrace He broke out of a gladiators' school at Capua (73 B C) and fled to Mt Vesuvius, where many runaways joined him Their army defeated several Roman forces and moved north, devastating S Italy and Campania, Spartacus' aim was a general escape from Italy, but his followers preferred plunder, and in 72 B C they were back in S Italy They took Thuru and got through a cordon M Licinius Crassus stretched across the "toe" of Italy. Spartacus was killed in a battle with Crassus in Lucania Pompey, back from Spain, helped mop up the survivors Of the captured slaves 6,000 were crucified along the Capua-Rome highway In Spartacus' camp after his death 3,000 Roman prisoners were found unharmed The revolt of Spartacus is also called the Third Servile War or the Gladiators' War

Spartacus party or Spartacists, radical group of German Socialists, founded c 1916 and led by Karl LIEBKNECHT and Rosa LUXEMBURG. The name was derived from the pseudonym Spartacus used by Liebknecht in his pamphlets against the First World War, the government, and the majority section of the Social Democratic party, the name was used to typify the modern wage slave in revolt like the Roman gladiator The Spartacists, demanding the establishment of a dictatorship of the proletariat by armed force, gathered many followers among the workingmen The Russian type of socialism was not to the taste of either the Majority Socialists or the Independent Socialists, and after the fall of the empire (Nov., 1918), Friedrich EBERT made no concessions at all to the great strength of the Spartacists, who consequently began a campaign of verbal attack in the press and physical attack by sporadic terrorism. In December, the Spartacists officially transformed themselves into the German Communist party, and on Jan , 5, 1919, a determined drive was begun to gain Berlin and the other large cities In Berlin a huge crowd of laborers gathered (Jan 6, 1920), but the demonstration was incompetently led, and Gustav NOSKE had no trouble in putting down outbreaks of violence Liebknecht and Rosa Luxemburg were arrested and brutally murdered a few days later.

Spartanburg, city (pop. 32,249), co. seat of Spartanburg co , NW S.C., NW of Columbia, in the piedmont near the N C. line. The city, the metropolis of a large area of mill villages, is a noted textile center and an important commercial, transportation, and trade focus in an extensive cotton and diversified farming area There are fertilizer plants and other industries The site was selected as the county seat in 1785, and the city was incorporated in 1831 City and county were named for the "Spartan" regiment of Revolutionary troops recruited in the area In the Civil War it was a busy supply-manufacturing point It is the seat of Wofford College (Methodist, for men, opened 1854) and of Converse College (nonsectarian, mainly for women, 1889), which cooperates with the city in an annual music festival Spartanburg is headquarters of a U S soil conservation project Just outside the city are the state school for the deaf and the blind and Textile Institute (an industrial junior college)

Spartivento, Cape (spärtēvĕn'tō) **1** Southeastern point of the "toe" of Italy **2** Cape on the south coast of the island of Sardinia, Italy

spasm, sudden involuntary rigid contraction caused by muscular action It is sometimes accompanied by pain When the contraction recurs or is confined to a small group of muscles of the face, e.g , in the eyelid or lip, it is called a tic

Spassk-Ryazanski (späsk"-ryĭzän'skē), city (pop 6,324), central European RSFSR, on the left bank of the Oka and c 30 mi SE of RYAZAN Across the river are the well-preserved ruins of Old Ryazan (Rus *Staraya Ryazan*), founded in 1095, the original capital of the Ryazan principality Old Ryazan was destroyed by the Mongols in 1237 Spassk-Ryazanski was chartered in 1778

spastic paralysis (spă'stĭk), condition characterized by rigidity of muscles and exaggerated reflexes, generally resulting from an injury to the motor center of the brain. A stiff gait or shuffling walk, stumbling, stuttering, trembling, grimacing, and writhing are characteristic manifestations of spastic paralysis There is faulty selectivity of muscles for making desired motions, with the result that muscles other than those concerned with the desired action often respond There may also be clonic spasms, i e , involuntary alternation of muscle contraction and relaxation Some spastic conditions occur in multiple sclerosis, a chronic progressive deterioration of the central nervous system. Spastic paralysis sometimes is caused by injury to the brain of an infant at birth.

spatterdock · see POND LILY

spavin (spă'vĭn), permanent deformity due to bony enlargement on the bones of the hock joint in the horse It is believed to be caused by some deformity in the structure of the bones of this joint, encouraged by overweight and various injuries There is lameness and stiffness In early cases the inflammation is treated by several weeks of rest and by blistering

Spe, Friedrich · see SPEE, FRIEDRICH.

Speaker, Tristram E. (Tris Speaker), 1883–, American baseball player, b. Hubbard, Texas. He started (1906) in organized baseball as a left-handed pitcher for the Cleburne team of the North Texas League He then became (1907) an outfielder with the Houston club and in 1909 was purchased by the Boston Red Sox of the American League Traded to the Cleveland Indians of the American League in 1916, Tris was (1919–26) player-manager of the club, leading the Indians to their first pennant and world championship in 1920 He played with the Washington Senators (1927) and the Philadelphia Athletics (1928) One of the outstanding batters in American League history (his major-league lifetime batting average was 344), he was also regarded as one of the best defensive outfielders in the league He managed (1929–30) the Newark Bears of the International League before devoting himself to business interests In 1937 he was elected to the National Baseball Hall of Fame

spear, primitive weapon consisting of a wooden shaft tipped with a sharp point The point was first of flint, later of bronze, and ultimately of steel It has been in use from prehistoric times, originally as a hand weapon or missile and later as a pike or lance Longer by 2 or 3 ft than the 8 or 9-foot spears of early times, lances were standard equipment for the cavalrymen of many European armies as recently as the first quarter of the 20th cent They are still borne in ceremonial military formations in a very few countries, sometimes with a small pennant near the head. Tribal peoples in remote areas still hunt and fight with spears, sometimes putting poison on the tips. The spear is used in modern times in boar hunting.

Spearfish, city (pop. 2,139), W S Dak., on Spearfish Creek in the Black Hills, near the Wyo. line NW of Lead It is a trade center in a mining, timber, lake, and farm area The Black Hills Teachers College and a Federal fish hatchery are here.

Spearman (spēr'mun), town (pop. 1,105), co. seat of Hansford co , extreme N Texas, NNE of Amarillo, in a wheat-growing section of the Panhandle plains; inc. 1921.

spearmint, aromatic perennial mint (*Mentha spicata*) native to the Old World but widely naturalized in the United States and commonly cultivated in gardens for use as a flavoring. Spearmint, although milder, resembles PEPPERMINT (for differentiation, see MINT) but is not as important commercially. Spearmint is a flavoring for chewing gum, medicine, and beverages (as mint julep)

species, in biology, a unit or category of classification lower than a genus and higher than a subspecies or variety In the system of nomenclature (based largely on the system of Linnaeus) by which plants and animals are identified, the species name is the second of the scientific names For example, the scientific name of the white oak is *Quercus alba* The genus name is *Quercus* (oak) and the species is *alba* (white) Species names are sometimes descriptive of some characteristic of the plant or animal, and sometimes they are derived from the name of the discoverer, from geologic periods, or from geographic areas The initial letter of the genus name is capitalized Some authorities capitalize the species name if it is derived from a proper noun This, however, sometimes leads to confusion, and the more usual practice is to use a small initial letter for all species names. Although a species is usually recognized as a basic biological unit, there is no general agreement among biologists as to exactly what constitutes a species The term was early used in the same sense as the word *kind* for the known plants and animals. Until the time of Darwin's promulgation of the theory of evolution, species were regarded as distinct and separately created entities With the general recognition that species were not immutable and static but had undergone and were probably still undergoing evolution and thus were capable of change, many interpretations of the criteria for determining a species arose Nearly all proposed criteria are subject to exception A plant or animal species is, in general, a group possessing in common certain characters that distinguish the members as a group from other similar groups, the members are generally capable of interbreeding with one another but do not commonly interbreed with other species and do not have intermediate forms linking them with another species Some authorities include a geographical criterion, maintaining that the geographical area inhabited by a species is generally distinct from that of the most closely related species Groups distinguished from each other by lesser differences are variously known as sub-species (the term preferred by many), varieties, geographical races, forms, and phases The exact meanings of the terms are not well defined In scientific nomenclature the subspecies name follows as a third name after that of the species

specific gravity, a pure number representing the ratio between the mass or standard weight of a given volume of a substance and the weight of an equal volume of another substance taken as unity Although in the metric system it is identical numerically with DENSITY (if water is taken as the standard), it should be distinguished in that, unlike density, it is an abstract number For example, while the density of copper is 8 93 g per cubic centimeter, its specific gravity is simply 8 93, a number showing that a given volume of copper is 8 93 times "heavier" than an equal volume of water In other words, copper's specific gravity and density are numerically identical in the metric system (in which the gram is the unit of weight), because one cubic centimeter of water weighs one gram and therefore copper, one cubic centimeter of which weighs 8 93 g, is 8 93 times heavier In the English system, however, density and specific gravity are not numerically the same, for the density of water is 62 4 lb per cubic foot For example, although the specific gravity of copper in the English system still remains 8.93, its density becomes approximately 557 2 lb per cubic foot, i.e., 8 93 × 62 4 Methods for determining the specific gravity of a solid differ as the solid is more or less dense than water. If a solid is heavier than water, it is weighed first in air and then immersed in water, if it is less dense than water and therefore floats, a sinker is attached to hold it submerged in the water The specific gravity is calculated by dividing its weight in air by its loss of weight in water, this loss representing the weight of an equal volume of water (see ARCHIMEDES' PRINCIPLE) Two methods are in common use for specific-gravity determination of liquids, the hydrometer method and the bottle method The HYDROMETER is an instrument which gives the specific-gravity reading directly In the bottle method, a "specific-gravity bottle," a flask made to hold a definite quantity of pure water at a specified temperature, is used The bottle is filled with the liquid the specific gravity of which is to be found and is weighed. The weight of the bottle is deducted, and the remaining weight is divided by the weight of the equal volume of water. The specific gravity of a GAS is determined by comparing the weight of one liter (1,000 c.c.) of the gas with the weight of an equal volume of air or of hydrogen as unity. Since the volume of a gas varies with pressure and temperature, the volume is measured at 0°C. and a pressure of 760 mm of mercury.

spectacles for protecting the eyes and improving vision are believed to have been worn in ancient times both in China and in the civilizations about the Mediterranean In the 13th cent Roger Bacon suggested the usefulness of convex lenses in reading, the ancient use of spectacles seems to have been forgotten before his time. Concave lenses, as well as convex, were used in the 14th cent The number of readers increased greatly after the invention of printing in the 15th cent., and the number of wearers of spectacles increased in consequence. Bifocal spectacles, with an upper part for viewing distant objects and a lower part for objects near at hand (as in reading), are one of the many inventions of Benjamin Franklin Spectacles with cylindrical lenses for the correction of astigmatism were devised by the English astronomer Sir George B Airy and were first used by him in 1827 Lenses of prismatic form are now also sometimes used in spectacles All of these forms of lenses are used either singly or in combination Contact lenses, made of glass or plastic or a combination of these, are shaped to fit the eye and are worn under the eyelids in contact with the eyeball Suggested in 1827 by Sir John F W Herschel, English astronomer, for protecting the eyeball from a diseased lid, they were first made for this purpose in 1887 by F. E Müller, German lens maker Contact lenses were first used to correct faulty vision in experiments in 1887 by Dr A E Fick, of Zurich, who gave them their name Contact lenses were from that time made and used to some extent, but difficulties of fitting and grinding and discomfort from wearing them prevented them from being widely used Since the middle 1930s, however, the development of better grinding and fitting techniques, of molded plastic lens, and of efficient buffer solutions for use between the cornea of the eye and the contact lens has increased the length of time they can be worn without discomfort, and their popularity is increasing Many kinds of defective vision may be corrected by the right spectacles, the wrong spectacles may do harm The symptoms of faulty vision may not be limited to inability to see as well as others, often symptoms apparently unrelated to vision disappear if the right spectacles are used Spectacles to protect the eyes from glare or from foreign bodies are made of tinted or polarized glass and of wire mesh The Eskimo make and use wooden spectacles, blackened on the back, with only narrow slits for eyepieces, to protect themselves from glare reflected by ice and snow

Spectator, English daily periodical conducted jointly by Joseph ADDISON and Richard STEELE with occasional contributions from others, from March 1, 1711, to Dec 6, 1712, in London It succeeded the *Tatler*, a periodical begun by Steele on April 12, 1709, under the pseudonym Isaac Bickerstaff, a name borrowed from the attack by SWIFT (1708) upon John Partridge, the astrologer The *Tatler* appeared thrice weekly until it ended Jan 2, 1711 For the most part it consisted of essays dated from various London coffeehouses on such subjects as foreign and theatrical news, current events, and literary questions and discussions Gradually it took on a moral tone, inveighing against current follies and affectations, gambling, and dueling, in the words of Steele "the general purpose is to expose the false arts of life, to pull off the disguises of cunning, vanity, and affectations, and to recommend a general simplicity in our dress, our discourse, and our behaviour" Addison joined Steele in writing the *Tatler* and collaborated with him also in the *Spectator* It supposedly was written by the members of a club, whose roster included the famous Sir Roger de Coverley, Captain Sentry, Sir Andrew Freeport, Will Honeycomb, and Mr Spectator himself, the development of the characters, especially that of Sir Roger by Addison, is of importance in the history of the novel Both periodicals, which included a few contributions from other writers, had a tremendous influence on public opinion and gave great impetus to the growth of journalism and periodical writing The *Spectator*, which was succeeded by the *Guardian*, was revived for a time by Addison in 1714 See edition of the *Spectator* by G A Aitken (1898), G S Streatfeild, *The Mind of the Spectator* (1923)

spectroheliograph. see HELIOGRAPH

spectroscope (spĕk'truskōp), instrument used to produce spectra in SPECTRUM analysis It commonly consists of three hollow tubes mounted horizontally on a disk that is supported by a vertical shaft. One of the hollow tubes has a slit at the outer end and a lens at the inner end, which transforms the light entering through the slit into parallel rays Another tube is a telescope to give the observer a clear view of the spectrum formed The third tube contains a scale and is so constructed that this scale is transposed upon the image of the spectrum produced, direct measurement thus being made possible At the center of the disk and between the three tubes is a prism by means of which the light entering the tube with the slit is dispersed and bent into the telescope for observation.

spectrum. When a narrow beam of white light is passed through a prism, the rays of various colors of which it is composed are bent (see REFRACTION) at different angles, each at a definite angle according to its wave length, and they emerge in the form of a narrow band of color shading from red at one end to violet at the other Such a band is called a spectrum (in this case a prismatic spectrum because it is produced by a prism), and the process of breaking up the white light is DISPERSION A spectrum is also produced by means of reflection from a plate (called a grating) upon which fine lines have been ruled, this kind of spectrum is known as a diffraction spectrum When the band of light extends throughout its length without being broken (as by dark lines), it is called a continuous spectrum Continuous spectra are produced by all incandescent solids Spectra can be produced by light from various sources, and the characteristics which they display depend upon the nature of the source This fact is utilized in chemistry in analysis, for the presence of an element in a substance can be detected by examining, with the aid of the SPECTROSCOPE, the spectrum produced by its incandescent vapor When, for example, sodium chloride (a compound of sodium and chlorine) is heated in a Bunsen flame and its spectrum examined, a brilliant yellow line in a definite position indicates the presence of the sodium Other elements have spectra with lines in other positions and of different colors, but the position and color of these lines is the same for no two elements As a result, the presence of certain elements in a compound can be definitely determined even though a number are present together A spectrum of this kind is known as a line spectrum, since it is not continuous but consists of one or more bright lines placed in various characteristic positions An absorption spectrum is produced when light from one source passes through an incandescent gaseous substance It is characterized by a number of dark lines corresponding in position to the bright lines which appear in the spectrum of the light source The solar spectrum, i e , the spectrum produced by sunlight, is not continuous, but is crossed by a number of dark lines, the so-called Fraunhofer lines The presence of these lines was explained by Kirchhoff as being caused by the presence in the sun's atmosphere of various incandescent elements which absorb from the sunlight passing through them those rays of light producing their characteristic spectra He concluded that, since the dark lines of the solar spectrum corresponded exactly in position to the bright lines characteristic of the spectra of certain elements, these elements were therefore present in the sun's atmosphere Analysis of substances by means of their spectra is known as spectrum analysis See also X RAY

speculation, act of engaging in business with a view to gaining quick profits from price fluctuations, as distinguished from the method of investing in a productive enterprise in order to share in the earnings of its management The term is sometimes applied to investment in a venture involving unusual risks along with the chance to earn unusually large profits, but most speculation consists in the buying and selling of commodities and stocks and bonds with the object of taking advantage of rapid changes in price Speculation of this kind is often compared to gambling, but the speculator differs from the gambler in that he attempts to calculate the risk undertaken The practice is defended as tending to stabilize prices and guide investment, on the other hand, it is criticized as tending to produce financial crisis when prices begin a rapid decline See BULLS AND BEARS, MARGIN, PANIC See R H Mottram, *A History of Financial Speculation* (1932), J. A Ross, *Speculation, Stock Prices, and Industrial Fluctuations* (1938)

Spee or **Spe, Friedrich** (Friedrich Spee von Langenfels) (both frē'drĭkh shpā', fun lang'unfĕls"), 1591–1635, German poet and moral theologian, a Jesuit His religious poetry, especially in the collection *Trutz-Nachtigall* (1639), ardent in expression of mystical yearning for union with God, contributed to the growth of poetry in the vernacular As a preacher of the Catholic Reform, he was successful and earned the bitter hatred of his opponents, and in 1629 he was almost killed in a murderous attack He was confessor to many of the accused in witchcraft trials and turned his attention to attacking the whole furor of the persecution in his *Cautio criminalis* (1631) He died of a fever contracted when caring for the wounded on a battlefield. See H I. D Ryder, *Essays* (1911).

Spee, Maximilian, Graf von (mäk"sēmē'lyän graf' fun shpā'), 1861–1914, German admiral At the outbreak of the First World War he commanded a squadron in the Far East, and while leading it around Cape Horn he met and defeated the English commander Admiral Cradock off CORONEL (Nov. 1, 1914), however, he was defeated by Sir Frederick Sturdee near the Falkland Islands (Dec 8, 1914) and went down with his vessel.

speech see LANGUAGE

speech, freedom of, the right of citizens to voice their opinions on economic, political, religious, and other matters without interference or restraint on the part of government or other persons, subject only to the penalty of laws against slander, profanity, obscenity, and incitement to unlawful acts. In democratic countries this right is usually guaranteed by custom as well as by constitutional and statute law Historically and in most countries the right has been denied or restricted in many ways In the Roman Empire, Christians were persecuted for preaching a faith displeasing to most Romans The INQUISITION was an effort to destroy the expression of beliefs not acceptable to the Church Opinions considered subversive of established government, formerly punishable by death, are now usually punishable by imprisonment Although modern democracies permit greater freedom of expression than was ever known before, such emergencies as war always bring in their train severe curtailment of the right In the United States after the First World War many aliens were deported for expressing radical views, Communists and Socialists were imprisoned, and persons whose opinions were distasteful to their neighbors often suffered mob violence Freedom of speech is explicitly guaranteed in the First Amendment (part of the Bill of Rights) in the Constitution of the United States, and most of the state constitutions contain similar guarantees The Supreme Court by its interpretation of the Fourteenth Amendment has moreover made the right binding upon the states, protecting as well by its decisions the related freedoms of assembly, press (see PRESS, FREEDOM OF THE), and religion In the exercise of its war powers Congress has passed laws that trench upon freedom of speech in wartime The sabotage, espionage, and sedition laws of 1917, 1918, and 1940 forbade the expression of opinions likely to interfere with war production or to stir up disloyalty or disobedience in the armed forces as well as the use of abusive or critical language about American government and institutions and established censorship of news and of private mail addressed to foreign countries In the period after the First World War nearly half of the states, in the exercise of their police powers, outlawed so-called criminal syndicalism, defined as the advocacy of violent overthrow of the government In passing upon such laws the U S Supreme Court has found restriction justifiable at the point where the spoken word creates a "clear and present danger" to peace and safety and has sometimes overruled the state laws The Civil Liberties Union undertakes to defend individuals whose rights of free speech have been curtailed See J B Bury, *History of Freedom of Thought* (1913), Zechariah Chafee, *Free Speech in the United States* (1941)

speech defect, condition of faulty speech which may be the result of improper training or of physical, psychological, or neurological factors Defects of speech include STUTTERING, lisping, nasal speech, monopitch voice, mumbling, and excessive sibilance Such defects may result from faulty structure or function of one of the organs involved in speaking, or the cause may be emotional The mouth may be affected by a harelip, the nose may be obstructed, or a cleft palate or missing teeth may interfere with articulation The larynx, the lungs, and the pharynx are other organs involved in the production of speech When they are congenitally abnormal, diseased, or injured, the speaking voice may be adversely affected Methods for the elimination or reduction of speech defects include surgical correction of malformations, orthodontia, rhythmical and relaxing exercises, psychological aid, and clinical instruction in breathing, phrasing, and enunciation

Speed, James, 1812-87, U S Attorney General (1864–66), b Jefferson co , Ky , grad St Joseph's College, Bardstown, Ky , 1828 He studied law at Transylvania Univ and began to practice at Louisville in 1833 He was elected to the Kentucky house of representatives (1847) and senate (1861). Speed effectively opposed Kentucky's secession and became Lincoln's chief adviser on Kentucky affairs In the cabinet he supported Lincoln's moderate program of Reconstruction, but later favored the radical Republicans opposed to President Andrew Johnson and resigned as Attorney General in July, 1866 He was professor of law at the Univ. of Louisville (1856-58, 1872-79) See biography by his grandson, James Speed (1914)

Speed, John, 1552?–1629, English historian and cartographer He abandoned his trade as a tailor to engage in map making Many of his maps of parts of England and Wales were published in *The Theatre of the Empire of Great Britain* (1611) His major work, *The History of Great Britain*, and his *Genealogies Recorded in Sacred Scripture* were published c 1611. Several of his maps are preserved in the British Museum

speedometer The automobile speedometer is actuated by a flexible cable attached to and driven by the drive gear of the car This cable rotates a permanent magnet which induces magnetic drag on a drum held back by a hairspring, the greater the speed, the greater the magnetic force and the greater the movement of the drum The speed is indicated by numbers on the rim of the drum. Other speedometers use centrifugal force and operate in a manner similar to the flyball GOVERNOR of a steam engine To inform the pilot of the speed

of his craft through the air, an airplane is equipped with an air-speed indicator A dial registers the speed in miles per hour, it is actuated by the wind pressure in a tube so located that it is not affected by the air stream from the propeller

Speedway, town (pop 2,325), central Ind , near Indianapolis; laid out 1912, inc 1926 It is the site of the Indianapolis motor speedway Storage batteries and electrical goods are made here

speedwell or veronica, any species of the genus *Veronica,* herbs and woody plants of wide distribution Some of the herbaceous kinds are popular for gardens, cultivation of the shrubby kinds (native to New Zealand) is limited to warm regions Speedwells have small, commonly blue flowers—the garden kinds usually in showy spikes or elongated clusters Among the species found wild in North America is the common speedwell (*Veronica officinalis*), which is naturalized Veronica has been associated with the legend of the VERONICA, supposedly through a resemblance of the flower to the relic Culver's root (*Veronica,* or *Leptandra, virginica*) has been used as a cathartic but in quantity is poisonous

Speer, Albert (al'bĕrt shpār'), 1905– German architect and National Socialist leader He joined the Nazi party in 1931 and became its official architect after Hitler came into power His grandiose but coldly eclectic designs include the stadium at Nuremberg (1934) A highly efficient organizer, Speer became (1942) minister for armaments, succeeding the engineer Fritz Todt (1891–1942), and in 1943 he also took over part of Goering's responsibilities as planner of the German war economy From Todt, Speer inherited the *Organisation Todt* (OT), an organization built up along military lines from conscripted labor for the construction of the German strategic roads and defenses After the outbreak of the Second World War the OT was extended to all German-occupied Europe and became one of the main features of the German war machine Largely because of its wide use of slave labor, Speer was indicted as a major war criminal at the Nuremberg trial and was sentenced (1946) to imprisonment for 20 years

Speicher, Eugene Edward, (spī'kur), 1883–, American portrait and landscape painter, b Buffalo, N Y He studied at the Albright Art School, Buffalo, and the Art Students League, New York, and with William M Chase and Robert Henri He is known especially for the accuracy, vigor, and effective color of his portraits Many of his landscapes picture the mountains and valleys of the Catskills near his Woodstock, N Y , summer home He is represented in most of the leading galleries of the United States Well known among his portraits are *The Blue Necklace, Pigtails, Jean Bellows, The White Fuchu, The Mountaineer,* and *Red Moore, Hunter*

Speier, Germany see SPEYER

Speiser, Ephraim Avigdor (spī'zur), 1902–, American archaeologist, b Galicia, grad College of Lwow, Galicia, 1918, M A Univ of Pennsylvania, 1923, Ph D Dropsie College, Philadelphia, 1924 He held (1926–28) a Guggenheim fellowship for study in Mesopotamia On the staff of the Univ of Pennsylvania from 1928 (professor of Semitics, 1931) and resident director of the American School of Oriental Research at Baghdad from 1932, he has done field work in Mesopotamia under the joint auspices of both institutions He is noted as the first excavator of Tepe Gawra He wrote *Mesopotamian Origins* (1930) and *Excavations at Tepe Gawra* (Vol I, 1935)

Speke, John Hanning (spēk), 1827–64, English explorer in Africa He joined Sir Richard Burton in his expeditions to Somaliland (1854) and to E central Africa (1857–59) Together they discovered (1858) Lake Tanganyika, then Speke continued alone and discovered Victoria Nyanza, which he believed to be a source of the Nile In 1862 he returned to the lake and proved that the Victoria Nile issues from the north end over Ripon Falls He wrote *Journal of the Discovery of the Source of the Nile* (1863)

spell, word, formula, or INCANTATION believed to produce a magical effect Belief in the spell is based on the idea that by "naming" a vague power one can focus the power on a desired end, consequently there is an intimate connection between the word and the thing denoted by it It is similar to the belief that the name of a man is identical with his self The spell could be used for evil or good ends, if evil, it was a technique of sorcery Many authorities believe that the "word" was the precursor of prayer The spell was a Teutonic form of exercising occult power and was sometimes used to summon the spirits of departed heroes to give prophetic utterances Once cast, the spell was supposed to remain in force until broken by a counter-spell or exorcism

Spellman, Francis Joseph, 1889–, American Roman Catholic prelate, cardinal of the Roman Church, b Whitman, Mass Educated at Fordham Univ and the American College at Rome, he was ordained May 14, 1916 He was a parish priest in Roxbury, Mass , held various offices in the Boston archdiocese, and was the first American assistant to the papal secretariat of state in 1925 He was named (1932) auxiliary bishop of Boston and succeeded (1939) after the death of Cardinal Hayes to the archdiocese of New York In the Second World War he made four tours through the war areas as U S military vicar He was elevated to be a cardinal by Pope Pius XII in 1946 He interested himself particularly in education and in charities His firm advocacy of some state aid to parochial schools involved him in difficulties with distinguished opponents, particularly Eleanor Roosevelt His understanding of the ordinary American has made his writings, in verse and in magazine articles, widely popular with Catholics and non-Catholics alike

Spemann, Hans (hāns' shpā'mān), 1869–1941, German embryologist As professor of zoology at Freiburg im Breisgau (1919–35), he was noted for his researches in embryonic development Using the methods of transplantation and isolation, he sought to discover the agency which governs the growth and differentiation of cells For this work he received the 1935 Nobel Prize in Physiology and Medicine, he described this research in his *Embryonic Development and Induction* (1938)

Spence, Thomas (spĕns), 1750–1814, English agrarian socialist A forerunner of the single taxers, he devised a scheme of land tenure by parish, in which rent, paid to the parish corporation, would be the sole tax He devoted much of his life to agitating for these principles and succeeded in founding a society of Spenceans His ideas appeared in *The Real Rights of Man* (1775) and other pamphlets See study by Olive Rudkin (1927)

Spencer, Anna Garlin, 1851–1931, American educator, feminist, and Unitarian minister, b Attleboro, Mass She married the Rev William H Spencer in 1878 She was a leader in the woman-suffrage and peace movements Ordained in 1891, she held a pastorate in Providence, R I She was associated with the New York Society for Ethical Culture (1903–9) and the New York School of Philanthropy (1903–13) Over a long period she was a popular lecturer and wrote on social problems, especially concerning women and family relations Her writings include *Woman's Share in Social Culture* (1913) and *The Family and Its Members* (1922)

Spencer, George John Spencer, 2d Earl, 1758–1834, English public official In 1780 he entered the House of Commons in the Whig interest and succeeded to the earldom in 1783 He supported the reform policies of Burke and Pitt and was appointed (1794) first lord of the admiralty In his term of office the navy achieved the victories of St Vincent and Camperdown, and Spencer was responsible for the selection of Horatio Nelson to command the fleet which won the famous battle of the Nile He went out of office in 1801 but served as home secretary (1806 7) Afterward he devoted himself to literary and scientific pursuits

Spencer, Herbert, 1820–1903, English philosopher He was trained as an engineer, but his keen interest in social problems led him to reject that field and become a writer In this new work he was self-educated, studying widely in the natural sciences and psychology He contributed a series of letters to the *Nonconformist* in 1842 and from 1848 until 1853 was subeditor of the *Economist,* where he associated with such intellectual leaders as John Stuart Mill, George Henry Lewes, and George Eliot After that time, frequently handicapped by poor health and financial insecurity, he devoted himself to study and writing According to Spencer, philosophy is knowledge unified and organized through a single principle He found this principle in the doctrine of evolution and proceeded to apply it to all phenomena, earning for himself the title of the philosopher of evolution Evolution consists in the harmonious interaction of the processes of differentiation and integration Every structure in nature divides and determines itself by entering into different relationships, but the individual phenomenon, so separated, integrates itself to form a new unity that is more complex and more efficient than the original form This development occurs in history as "alternate eras of evolution and dissolution " Basic to this theory is the principle of the persistence of energy, and in so far as Spencer analyzes the ultimate nature of being, it would be characterized by energy and force The theory of evolution as a unifying philosophical principle was presented in *First Principles* (1862), the beginning of a 10-volume work, *Synthetic Philosophy* The only limit which Spencer placed on the application of the theory of evolution was in the area which he called the unknowable, the ultimate nature of reality The content of the unknowable was not only theological but also included such scientific ideas as matter, space, time, motion, and force He proposed a principle of limitation of knowledge in which human thought was confined to that which could be compared with and related to other things Since the absolute cannot be related to anything else, it cannot be known With the field of philosophy limited to the investigation of phenomena and its relationships, Spencer proceeded to apply the evolutionary principle to all phases of life in the universe. *The Principles of Biology* (2 vols , 1864–67) and *The Principles of Psychology* (1855; rev ed , 2 vols , 1870–72) were devoted to a mechanistic explanation of how life has progressed through a continual adaptation of inner relations to outer ones *The Principles of Sociology* (8 parts in 3 vols , 1876–96) is primarily concerned with the problems of government and economics As society evolves the individual is differentiated from the group and gains increasing freedom It is the function of the state to maintain freedom and justice, justice being defined as "the right of each man to do as he pleases as long as he does not trespass upon the equal freedom of every other man " *The Data of Ethics* (1879) and *Justice* (1891) became, with new material added, *The Principles of Ethics* (2 vols , 1892–93) It develops the evolution of morality and establishes the ideal of the reconciliation of the rights of the individual and of society Spencer's remarkable facility for coordinating facts and his devotion to evolution as a unifying principle for philosophy resulted in an important synthesis of scientific knowledge His writings gave impetus to the studies of biology and sociology He is rated as one of the leading philosophers of the 19th cent Among his other important writings are *Social Statics* (1850), *The Classification of the Sciences* (1864), and *The Factors of Organic Evolution* (1887) See his autobiography (2 vols , 1904), David Duncan, *Life and Letters of Herbert Spencer* (1908), E Asirvatham, *Herbert Spencer's Theory of Social Justice* (1936)

Spencer, John Canfield, 1788–1855, American jurist and statesman, b Hudson, N Y , grad Union College, 1806 He practiced law and then served (1817–19) in Congress, where he was on a committee investigating the United States Bank He was in the state legislature (1820–21), serving as speaker in 1820, and then was (1824–28) in the state senate, where he helped revise the state statutes He again was in the state legislature and later, as a Whig, was secretary of state of New York Under President Tyler he was (1841 43) Secretary of War and then became (1844) Secretary of the Treasury, but resigned because he opposed the annexation of Texas

Spencer, Platt Rogers, 1800–1864, American penman, b East Fishkill, N Y He originated and popularized the style of handwriting known as Spencerian, teaching it in a log house on his farm at Geneva, Ohio, and lecturing to various academies and business colleges Eventually a series of textbooks were issued by Spencer and his associates promoting his system

Spencer, Robert, 1879–1931, American genre and landscape painter, b Harvard, Nebr , studied at the National Academy of Design Among his paintings are *Repairing the Bridge* (Metropolitan Mus), *White Tenement* (Brooklyn, N Y , Mus), *Red Boat* (Corcoran Gal), and *The Tower* (Carnegie Inst , Pittsburgh) He was associated with the art colony in New Hope, Pa

Spencer, Stanley, 1891–, English painter, studied at the Slade School of Art, London He served in the First World War, and two paintings of the wounded first made him known His paintings are delicately realistic, sometimes humorous, and always original A series of murals of war scenes are in the Oratory of All Souls', Burghclere, Hampshire Among his paintings are *Daphne, Terry's Lane, Cookham,* and *Resurrection* (Tate Gall , London), *Self-portrait* (Amsterdam), *Jubilee Tree, Cookham* (Art Gall of Toronto), and *The Nursery* (Mus of Modern Art, New York) He became (1932) an associate of the Royal Academy of Arts but resigned in 1935

Spencer, 1 Town (pop 2 375), co seat of Owen co , SW Ind , on the White River and ESE of Terre Haute, settled c 1815 Coal mining is done here William Vaughn Moody was born in Spencer 2 City (pop 6,599), co seat of Clay co , NW Iowa, on the Little Sioux river and S of Spirit Lake, in a rich farm area, founded 1859, inc 1880 It has a fine airport A Fourth of July fire in 1931 destroyed most of the business section The annual county fair is famous 3 Town (pop 6,641), central Mass , W of Worcester, settled 1721, inc 1775 Its footwear industry was begun early in the 19th cent 4 City (pop 3,072), central N C , just E of Salisbury in the Yadkin valley It is a railroad division point, with shops and roundhouses 5 City (pop 2,497), co seat of Roane co , W central W Va , NE of Charleston, in a stock-raising and gas region, inc 1858 A state hospital for the insane is here

Spencer Gulf, inlet of the Indian Ocean, 200 mi long and 80 mi wide, cutting deeply into South Australia, between Eyre and Yorke peninsulas On its shores are Port Pirie and Port Augusta

Spencerport, village (pop 1,340), W N Y., on the Barge Canal and NW of Rochester, inc 1867 John T Trowbridge's boyhood home is here

Spencerville, village (pop 1,623), NW Ohio, SW of Lima, laid out 1844–45.

Spender, Stephen, 1909–, English poet and critic, educated at Oxford His early poetry, like that of W H. Auden and C. Day Lewis, was inspired by social protest *Twenty Poems* appeared in 1930, followed by *Poems* (1933), *Vienna* (1934), *The Still*

Centre (1939), *Ruine and Visions* (1942), and *The Edge of Being* (1949). His fiction includes the short stories *Burning Cactus* (1936) and a novel, *The Backward Son* (1940). Literary and social criticism appear in *The Destructive Element* (1935), *Forward from Liberalism* (1937), and *Life and the Poet* (1942). *European Witness* (1946) contains his observations on Germany. He collaborated in translating the works of Federico García Lorca, Ernst Toller, and Rainer Maria Rilke.

Spener, Philipp Jakob (fē'lĭp yä'kôp shpā'nur), 1635–1705, German theologian, founder of PIETISM. He was pastor of the Lutheran Church at Frankfurt in 1666, when he began to use new methods for infusing deeper spirituality into the life of the Church. He instituted in 1670 his meetings for fellowship and Bible study, and these *Collegia Pietatis* led to a religious revival in many German states. His book, *Pia desiderea* (1675), contained proposals for the reconstruction of the Church. Spener became court chaplain at Dresden in 1686, but he aroused the opposition of the clergy and the elector and in 1691 accepted the rectorship at St. Nicholas, Berlin. Spener aided in the founding of the Univ. of Halle in 1694, and later, through the activities of his disciple August Hermann Francke, the city of Halle became a center of Pietism. The orthodox Lutheran clergy had continuously resented Spener's criticism and influence, and in 1695 the theological faculty at Wittenberg made formal charges against him. In spite of this opposition Spener's ideas spread to many congregations throughout Germany and in other parts of Europe.

Spengler, Oswald (spĕng'glur, Ger ôs'vält shpĕng'glûr), 1880–1936, German philosopher. His studies covered many fields, including mathematics, science, philosophy, history, and art. His major work, *The Decline of the West* (1918, revised for Eng. tr., 1926–28), brought him world-wide fame. Spengler maintained that every culture passes a life cycle from youth through maturity and old age to death. Our own Western culture, he believed, had proceeded through this same cycle and was now in a period of decline, to be conquered in time by the yellow race. His popularity in Germany ceased when he refused to support Nazi theories of racial superiority.

Spenser, Edmund, *c* 1552–1599, English poet, b. London, educated at Merchant Taylors' School and Cambridge. His early poems, especially *The Shepheardes Calender* (1579), won him recognition as first among the English poets of the time, a time most responsive to poetry. He was the friend of men eminent in literature and at court such as Gabriel Harvey, Sir Philip Sidney, Sir Walter Ralegh, and Robert Sidney, earl of Leicester. Appointed in 1580 secretary to Lord Grey, lord deputy of Ireland, Spenser thereafter made his home in Ireland, holding minor civil offices and receiving the confiscated lands and castle of Kilcolman, Co. Cork. In 1589 Spenser went to London, where he arranged for the publication of *The Faerie Queene* (Books I-III, 1590) and sought court preferment. Disappointed with his reward, he returned to Ireland. His disgust was voiced in *Complaints* (1591), and his London journey is allegorically described in *Colin Clouts Come Home Againe* (1595). *Daphnaida* appeared in 1591, and *Astrophel*, an elegy on Sir Philip Sidney, was published with *Colin Clout*. In 1595 *Amoretti and Epithalamion* also appeared, in *Amoretti*, a SONNET sequence. Spenser commemorates his courtship of Elizabeth Boyle, and in *Epithalamion*, probably the finest wedding poem in English, his marriage to her in 1594. In 1595–96 he was again in London. The year 1596 saw the publication of *The Faerie Queene* (Books I-VI), *Foure Hymnes*, and *Prothalamion*. About 1596 he circulated in manuscript a prose treatise on Ireland, defending Lord Grey's harsh policy and urging the vigorous suppression of the Irish; the tract was published as *A View of the Present State of Ireland* (1633). In the Tyrone rebellion of 1598 Kilcolman Castle was burned, Spenser returned to London, died soon afterward, and was buried in Westminster Abbey. In the six books of the unfinished *Faerie Queene* (1590–96), his masterpiece and one of the greatest poems in English, Spenser gave allegorical expression to his moral, political, and religious opinions in a story of the kingdom of Gloriana, or Elizabeth. He was a consummate artist in words and verse technique, and his most distinctive quality is found in his language and its melody. The Spenserian stanza of *The Faerie Queene* (nine lines, eight of iambic PENTAMETER followed by one of iambic hexameter—an ALEXANDRINE—rhyming *ababbcbcc*) is Spenser's chief contribution to English verse form. He is known as the poet's poet because such men as James Thomson, Shelley, Keats, and Byron and, in our own day, T. S. Eliot acknowledge him as their master, but his poetry has always pleased readers in search of descriptive beauties rather than action. See ONOMATOPOEIA. See Variorum edition of his works (ed. by E. A. Greenlaw, C. G. Osgood, and F. M. Padelford, 1932–) and the good one-volume edition of the poetical works (ed. by J. C. Smith and Ernest de Selincourt, 1912), H. S. V. Jones, *A Spenser Handbook* (1930); Leicester Bradner, *Edmund Spenser and the Faerie Queene* (1948), biography by A. C. Judson (1945).

Speranski, Mikhail Mikhailovich (mĕkhōō'ĭl' mĕkhī'lŏvĭch spyĭrän'skē), 1772–1839, Russian statesman. The son of a village priest, he rose as a civil servant and in 1809 became vice minister of justice and drafted a program of liberal reform, providing for the emancipation of the serfs and for a limited constitution. His influence on Alexander I was paramount in the years 1808–11, and he played an important role in the formation of the Russian alliance with Napoleon I. When in 1812 Napoleon invaded Russia, Speranski was disgraced and exiled. In 1819, however, he was made governor of Siberia, and in 1821 he returned to St. Petersburg, but he never regained his former influence. In the reign of Nicholas I, Speranski accomplished the codification of Russian law.

sperm or **spermatozoon** (spûr"mutuzō'ŭn, -zō'ŏn), in biology, the male gamete or male sexual cell, corresponding to the ovum of the female. It is produced in the testis (testicle or generative gland) of the male in the higher animals, and it is the agent of FERTILIZATION of the ovum. The sperm is much smaller than the ovum and is provided with an elongated process like a whip (the flagellum) by which it is enabled to move through a fluid. It has, like the ovum, a nucleus and contains chromosomes which undergo a reduction to half their number, before fertilization. The POLLEN takes the place of the sperm cells in the process of REPRODUCTION in many flowering plants.

spermaceti (spûrmusē'tē, -sē'tē), white, odorless, tasteless wax obtained from the sperm whale or cachalot and related animals. It is secured with SPERM OIL from a large cavity in the whale's head and from the blubber. Spermaceti is insoluble in water and does not putrefy. It is used in ointments and cosmetics, in waterproofing cloth and paper, and in fine candles.

spermatozoon see SPERM.

sperm oil, chemically a liquid wax and not a true oil, obtained from the sperm whale or cachalot and related animals. It flows readily, is clear, and varies in color from pale yellow to brownish yellow. It is secured from the blubber and from a huge cavity in the whale's head. The oil cavity helps the whale to keep part of his head above water for breathing. A solid WAX, spermaceti, is extracted from the oil by filtration and treatment with potash-lye. The oil is an excellent lubricant (e.g., for watches and other delicate instruments) and is used as a dressing for leather, in tempering steel, in making soap, and to protect plants from insects. Chief ports of whaling ships and markets for sperm oil have included New Bedford and San Francisco and ports in New South Wales and Norway.

Sperry, Elmer Ambrose, 1860–1930, American inventor, b. Cortland, N.Y. Although he is probably best known for his work on the gyroscope, he also invented an automatic steersman for ships (the gyrocompass (which eliminated variations caused by the earth's magnetism), a new system of street lighting, and numerous electrical devices. He founded the American Institute of Electrical Engineers and the American Electrochemical Society.

Speusippus (spūsī'pus), fl. 347–339 B.C., Greek philosopher, disciple and nephew of Plato, whom he succeeded as head of the ACADEMY. Speusippus shows clearly the tendency to elaborate and subdivide his master's work which led to the extremes of the Academics. One of his most significant ideas is that exact definition of something is impossible until all the features by which it is differentiated from everything else are known. A portion of his writings, *On Pythagorean Numbers*, has survived.

Spey (spā), river of Scotland. It rises in the Inverness-shire highlands and flows 110 mi. generally NE into Morayshire, sometimes forming the border with Banffshire on its course to Moray Firth. It is rapid and unnavigable, but the salmon fisheries of its lower course are valuable.

Speyer, John of see JOHN OF SPEYER.

Speyer (shpī'ûr), city (pop. 28,047), Rhenish Palatinate, W Germany, on the left bank of the Rhine. It is sometimes called Spires in English, the spelling Speier also occurs in German. Speyer is a river port and it has some manufactures, but its chief importance is historical. Originally a Celtic settlement, it was known under the Romans as Noviomagus and as Augusta Nemetum, a town of the province of Belgica. It was destroyed (*c* 450) by the Huns, was rebuilt, and became (7th cent.) an episcopal see. Speyer was made a free imperial city in 1111, but its bishops ruled substantial territories on both sides of the Rhine as princes of the Holy Roman Empire until 1801, when the bishopric was secularized. In 1146 the Second Crusade was preached at Speyer by St. Bernard of Clairvaux. Several imperial diets were held at Speyer, notably the diet of 1529, which gave complete toleration to Catholics in Lutheran states, denied toleration to Lutherans in Catholic states, and refused toleration to Zwinglians and Anabaptists altogether. Obtained largely under the pressure of Emperor Charles V, the decision was formally protested by the delegates favoring the Reformation, who from that day were called Protestants. The chief signers of the Protest of Speyer were Elector John of Saxony and Landgrave Philip of Hesse. The imperial chamber of justice (Ger. *Reichskammergericht*) was established at Speyer in 1513, when the city was devastated (1689) by the French in the War of the Grand Alliance, the chamber was moved to Wetzlar. Speyer and the territory of the bishops of Speyer W of the Rhine were occupied by the French in the French Revolutionary Wars and formally ceded to France by the Treaty of Campo Formio (1797). The secularized bishopric E of the Rhine passed (1803) to Baden, with which it has since remained. Speyer and the episcopal lands W of the Rhine were given to Bavaria at the Congress of Vienna (1815), they were incorporated with the Rhenish Palatinate, of which Speyer was the capital until 1945, when Neustadt an der Haardt replaced it. Speyer has retained parts of its medieval walls and gates. Its Romanesque cathedral (10th cent., several times restored), one of the finest in Germany, contains the tombs of eight emperors. The Palatine historical museum at Speyer has a large collection of pre-Roman and Roman antiquities. An early printing center, Speyer was the home of John of Speyer and his brother Wendelin.

Spezia, La (lä spā'tsyä), city (pop. 80,399), capital of La Spezia prov., Liguria, NW Italy, a Mediterranean port on the Gulf of Spezia. The chief Italian naval station and arsenal and the seat of a navigation school, it also has a commercial port, shipyards, steel mills, oil refineries, and other industries. The city was heavily bombed in the Second World War. Near La Spezia are remains of the important Roman town of Luna, which was destroyed in the Middle Ages. Along the gulf are several picturesque villages celebrated for their beauty, notably Portovenere, Lerici, and San Terenzo.

sphagnum (sfăg'nŭm) or **peat moss,** any species of the large and widely distributed genus *Sphagnum*, economically the most valuable of any MOSS. The sphagnums are usually pale green, sometimes reddish, soft, weak-stemmed mosses of wet places, most commonly found in bogs (see BOG). Capable of growing free in water, they have an "indefinite" growth, often attaining several feet in length. They are the principal constituent of PEAT, which can be formed from sphagnum in 24 years, although most of the natural peat bogs are ages old. In horticulture sphagnum is used as a packing material, as a seed bed for such plants as orchids, as a bulb-growing medium, and as a mulch. Because its structural peculiarities enable it to absorb and hold water better than cotton, it is employed as an absorbent dressing, particularly in surgery, but not all species are used.

sphalerite (sfā'lurīt, sfă'-), mineral composed of zinc sulphide, usually containing iron, manganese, cadmium, and mercury. It occurs in crystals of the isometric system, but also and more generally in cleavable, compact masses. It is transparent to translucent and varies greatly in color, pure specimens being white and those with slight impurities yellow, brown, red, black, or green. Sphalerite is a widely distributed mineral, the most important source of ZINC and commonly occurs in association with galena. It is found in Bohemia, Saxony, Cornwall, Japan, and various parts of the United States.

sphere, in geometry, the three-dimensional analogue of a CIRCLE. The term is applied to the spherical surface, every point of which is the same distance (measured by the radius) from a certain fixed point (the center), and also to the volume enclosed by such a surface. Thus rubber balls and oranges are examples of approximate spheres. Any plane cutting a sphere does so in a curve which will be a circle. If the plane goes through the center of the sphere, the circle is said to be a great circle of the sphere. It is the largest circle that can be drawn upon the sphere, and all great circles of one sphere are the same size. The diameter of a sphere is the diameter of one of its great circles. A segment of a sphere is the volume enclosed by a plane cutting the sphere, as well as the portion of the surface of the sphere so cut off. Thus each plane cutting a sphere divides it into two segments. When the circle is a great circle, the two segments are equal and are called hemispheres. A sector of a sphere is the volume enclosed by a cone with its vertex at the center of the sphere and also the portion of the surface of the sphere which lies within this cone.

sphere of influence, term applied to an area preempted by a power with the intention of subsequently acquiring more definite control if circumstances permit. The sphere of influence may be in an undeveloped "backward" area or in part of a civilized though weak nation. The expression came into common use while the partition of Africa was in progress in the 19th cent., and it was also applied to undeveloped Asiatic regions which were parceled among world powers and to China (see OPEN DOOR) and Iran. Nations which had not occupied or established a PROTECTORATE over territory adjoining their existing settlements but which desired to gain control over as large an area as possible entered into agreements defining their spheres of influence. Such conventions bound only the signatories and did not prejudice the rights of other

states which might wish to gain a foothold. Theoretically, the SOVEREIGNTY of a nation was not impaired by the establishment of a sphere of influence within its borders, in actuality, the interested power was able to exercise great authority in the territory it dominated, and if disorders occurred it was in a position to seize control Thus creation of spheres of influence was frequently the prelude to the establishment of a protectorate or to annexation Modern international practice frowns on the creation of spheres of influence as on actual or potential interference with the freedom and territorial integrity of states

Sphinx (sfĭngks), in Greek mythology, a monster borrowed from Egyptian religion She was a winged lion with the head of a woman, said to be the daughter of Typhon and Echidna She lived on a high rock near Thebes in Greece and asked the following riddle of all who came near "What walks on four feet in the morning, on two at noon, and on three in the evening?" She killed all who failed to answer her until OEDIPUS solved the riddle by saying, "Man crawls on all fours as a baby, walks upright in the prime of life, and uses a staff in old age " The Sphinx then leaped from her rock and died, and Oedipus became king of Thebes There were many sphinxes represented in Greek art Later legend made the sphinx simply a messenger of the gods The more important sphinx of Egypt had in most cases a man's head, although some were made with rams' heads and some with hawks' heads The position of the figure is recumbent Sphinxes in Assyria and Phoenicia, evidently adapted from the Egyptian type, had wings added The most widely famed of all is the Great Sphinx of Gizeh, Egypt, a colossal figure sculptured out of a mass of natural rock, near the pyramid of Khafre The paws are of masonry Between them was a shrine to the sun-god Harmachis, represented by the Sphinx The entire length is 189 ft This massive creature is the guardian of the valley of the Nile. Many Egyptian sphinxes bore portrait heads of the rulers Others, in long rows, formed avenues of approach to the temples

spice, aromatic vegetable product used as a flavoring or condiment. The term was formerly applied also to pungent or aromatic foods (e g , gingerbread and currants) and to ingredients of incense or perfume (e g , myrrh). Modern usage tends to limit the term to flavorings used in food or drinks, although many spices have additional commercial uses, e g , as ingredients of medicines, perfumes, incense, and soaps Spices include stimulating condiments, e g , pepper, mustard, and horse-radish, aromatic spices, e.g., cloves, cinnamon, nutmeg, anise, and mace, and sweet herbs, e g , thyme, marjoram, sage, and mint Spices are taken from the part of the plant richest in flavor—bark, stem, flower bud, fruit, seed, or leaf Although spices are very commonly used in the form of a powder, some are used as tinctures obtained by extracting essential oils, and many are used whole Garlic, chives, caraway, mustard, and many herbs grow in temperate regions, and vanilla, allspice, and red pepper are indigenous either in the West Indies or in South America, most of the major spices, however, are produced in the East Indies, in tropical Asia, and in the Malay Archipelago Spices from the Far East were in demand from ancient times, they were carried by caravan across China and India to ports of the Mediterranean Sea or the Persian Gulf and thence to the market places of Athens, Rome, and other cities, where they were sold at exorbitant prices Certain spices were used as medium of exchange, Alaric I is said to have demanded pepper as part of the ransom for raising the siege of Rome in 408 In the early Middle Ages few spices reached the markets of Europe, but trade was slowly resumed in the 9th cent and was later greatly stimulated by the Crusaders In Western Europe the desire for spices arose in part from the monotony of the diet and from poor facilities for the preservation of food, especially of meat When overland trade routes from the Far East were cut off by the Mongols and Turks, the European demand for spices was a major factor in inciting a search for new trade routes around Africa and across the Atlantic and Pacific oceans The high price obtainable for spices was responsible in part for the bitter rivalry of European powers for the control of spice-producing areas and of trade routes Even after adequate supplies of spice were found and means of transportation made available, the cost long remained very high in Europe and in America largely because of the expenses incident to attempts to retain monopoly of markets and because of deliberate limitations of crops in order to secure high prices Although spices today are still important in trade, their per capita use for flavoring food has declined in Western civilizations, and certain spices must compete with synthetic flavorings The demand for spices has remained large in the Orient, where spices have a wider social and ceremonial significance than they ever obtained in the West

spicebush, name for ornamental and spicily fragrant shrubs or trees of the genus *Benzoin*, native to E North America and to Asia The common American spicebush (*Benzoin aestivale*) has small densely clustered yellow flowers appearing early in the spring before the leaves and followed by bright red berries. All parts of the shrub are fragrant The dried and powdered berries have been used as a substitute for allspice, and the leaves for brewing a tea This spicebush, which belongs to the same family as the sassafras, is called also Benjamin bush, wild allspice, and feverbush

Spice Islands, Indonesia see MOLUCCAS

spider, air-breathing arachnid, with the body divided into two parts, with four pairs of legs and usually four pairs of eyes, and without true jaws The spinnerets on the under side of the abdomen produce a liquid which hardens on exposure to the air, forming silk This silk is used by various spiders for encasing egg masses, for lining their retreats, for making webs or snares in which to catch insects, for lines on which to descend and ascend, and for "ballooning" through the air for long distances Man uses the silk for cross hairs in certain optical instruments Spiders eat no plants, and they destroy many harmful insects They are often cannibalistic The venom produced by the spider's poison glands is used to paralyze its prey and seldom causes real harm to humans, though the venom of the female black-widow spider causes pain and is sometimes fatal This spider has a rounded, shiny black abdomen with a red mark shaped like an hourglass on the underside The body of the female is about ½ in long, and that of the male about ¼ in Among the interesting spiders are the TARANTULA, the trap-door spider, the orb weaver, the crab spider, the jumping spider, and the wolf spider See J H Comstock, *The Spider Book* (rev ed , 1948), W J Gertsch, *American Spiders* (1949)

Spieghel, Hendrick Laurenszoon (hĕn'drŭk lou'runszōn" spē'khul), 1549–1612, Dutch poet, author of a long philosophical poem and of shorter pieces adapted from French and Latin He was a leader of the Amsterdam circle that foreran the Golden Age of Dutch literature

Spielberg, Czechoslovakia see BRNO

Spielhagen, Friedrich (frē'drĭkh shpēl'hägun), 1829–1911, German novelist His works, chiefly on social and political themes, include the widely read *Problematic Characters* (1861, Eng tr , 1869), *The Hohensteins* (1864, Eng tr , 1870), *Hammer and Anvil* (1869, Eng tr , 1870), and *The Breaking of the Storm* (1876; Eng tr , 1877)

spikenard (spīk'närd), name for several plants The spikenard mentioned in the Bible was a costly aromatic ointment, preserved in boxes of alabaster, the chief ingredient of which is believed to have been *Nardostachys jatamansi*, a plant of the valerian family Such was the precious box of ointment that Mary Magdalen broke over Jesus' feet The American spikenard, or Indian root, is *Aralia racemosa*, related to the Hercules'-club or spikenard tree and to the wild SARSAPARILLA or small spikenard It has aromatic roots which have been used as a domestic remedy similar to the wild sarsaparilla The false Solomon's-seal is sometimes called wild spikenard

Spillville, town (pop 329), NE Iowa, on Turkey river and SW of Decorah In this Czech community Anton Dvorak spent the summer of 1893 and composed part of his symphony *From the New World* He played the organ in beautiful St Wenceslaus Church here Dvorak's house became a museum of famous clocks

spinach, annual plant (*Spinacia oleracea*) of the same family as the beet, probably of Persian origin and long cultivated as a potherb. It was introduced into Europe in the 15th cent It is valuable for its vitamins and iron content, as well as for roughage The principal varieties are the broad leaved, savoy, crumpled, and prickly (so named from the seeds)

spinal column, backbone, spine, or **vertebral column,** fundamental portion of the SKELETON of humans and other vertebrates, consisting of segments known as vertebrae which are fastened together by disks of cartilage and by ligaments In human beings the spinal column of the child contains 34 vertebrae, in the adult a number of these are fused, forming a total of only 26 separate bony segments The movable vertebrae number 7 in the neck region (cervical vertebrae) and 12 in the region of the chest (thoracic vertebrae), and below these are 5 lumbar vertebrae The fixed or immovable vertebrae form the sacrum (consisting of five fused sacral vertebrae) and the coccyx, the lowest portion of the spinal column (usually composed of four small fused bones) Each vertebra has a somewhat cylindrical bony portion (the body or centrum), a number of spinous processes, and a bony arch The bodies of the vertebrae form the strong, flexible supporting column of the body, and the space enclosed by the arches is the neural canal in which the spinal cord lies Ligaments and muscles are attached to various processes of the vertebrae; in the thoracic region the 12 pairs of ribs are linked to the thoracic vertebrae Disorders of the spinal column include curvature of the spine, tuberculosis, tumor, and arthritis

spinal cord, the part of the nervous system incased in the SPINAL COLUMN It is a whitish cord about 18 in. long, reaching to the first lumbar vertebra and continuous with the medulla oblongata, a part of the brain, at the base of the skull. It consists of a central canal, around which is the gray matter, and outside of this, the white matter. The spinal cord is enclosed in the three membranes continuous with those of the brain. There are 31 pairs of nerves along the spinal cord, which serves as a pathway for impulses to and from the brain (the tracts being located in the white matter) and as a system of reflex centers controlling the activities of glands and organs as well as of muscles.

spinal meningitis: see MENINGITIS

Spinario (spĭnä'rēō), celebrated statue, probably of the 1st cent B C It represents a boy seated on a rock and pulling a thorn from his left foot, which rests upon his right knee There is a bronze statuette of this figure in Rome and a statuette in marble in the British Museum These are possibly copies of a statue made by BOETHUS

Spindale, textile-mill town (pop 3,952), W N C., SE of Asheville, in a farm area, inc 1923.

Spinden, Herbert Joseph, 1879–, American anthropologist, b Huron, S.Dak , grad Harvard (B A , 1906, Ph D , 1909). He became (1929) curator of ethnology and industrial art, and later of American Indian art and primitive cultures, at the Brooklyn Museum One of his many contributions to the knowledge of ancient America is the explanation of the Mayan calendar and chronology. His books include *Ancient Civilizations of Mexico and Central America* (1917, rev ed , 1928), *The Reduction of Mayan Dates* (1924), and *Sun Worship* (1940).

spindle see SPINNING

spindle tree: see EUONYMUS

spine, see SPINAL COLUMN

Spinello di Luca Spinelli (spēnĕl'lō dē lōō'kä spēnĕl'lē), c 1333–1410, Italian fresco painter, usually called Spinello Aretino He was a leading exponent of the late Giotto school Only two of his many frescoes are extant in good condition, scenes from the life of St Benedict (Church of San Miniato, Florence), restored by a later painter, and the history of Pope Alexander III (Palazzo Pubblico, Siena) Other works are *Madonna with Saints* (Florence Acad), *Three Saints, Crucifixion,* and two fragments (National Gall , London), and *St Mary Magdalen* (Metropolitan Mus)

spinet (spĭ'nĭt), musical instrument of the HARPSICHORD family. Although the terms *virginal* and *spinet,* interchangeable until the end of the 17th cent , were sometimes used indiscriminately to designate any harpsichord, they usually designated small instruments having one keyboard, one string to each note, and the keys more or less perpendicular to the strings, similar to the clavichord In fact the first spinet, made in the 15th cent , may have been a clavichord to which a quill mechanism was added In England in the 18th cent the virginal was the instrument with rectangular case, while the spinet had a triangular or wing-shaped case Until the middle of the 18th cent neither had attached legs The earliest extant composition for virginal is by Hugh Aston The Elizabethan virginalists, among them William Byrd, Thomas Morley, and Orlando Gibbons, were the composers of an important body of music, the outstanding collection of which is the *Fitzwilliam Virginal Book* (early 17th cent)

Spingarn, Joel Elias (spĭn'garn), 1875–1939, American educator and literary critic, b New York city, grad Columbia (B A , 1895, Ph D , 1899) He was professor (1899–1911) of comparative literature at Columbia, an officer in the First World War, and a member (1919–32) of the publishing firm of Harcourt, Brace and Company His literary work includes *A History of Literary Criticism in the Renaissance* (1899), *The New Criticism* (1911), *Creative Criticism* (1917, rev ed , 1931), and various books of poems, as well as the editing of many works A prominent officer of the National Association for the Advancement of Colored People from 1913 to his death, he established in 1913 the Spingarn medal, awarded annually to a Negro of outstanding achievement

spinning, the drawing out, twisting, and winding of fibers into a continuous thread or yarn. From remote antiquity until the era of mechanical invention, spinning was a household industry The roughly carded fiber was at first held in the left hand and drawn out and twisted by the right The earliest tools were the distaff, a stick from 1 to 3 ft long on which the fiber was wrapped, and the spindle, a shorter tapering stick notched at one end and weighted by the wharve or whorl (a disk of stone or clay). The spindle was twirled to twist the thread, which was then wound on it With these simple tools were spun yarns of a fineness unsurpassed by modern machines In India the delicate threads for the famed Dacca muslin were produced by revolving needle-thin pieces of bamboo in a coconut shell. The primitive Gurkha wheel was used to spin coarse yarns In Europe during the 14th to the 16th cent. the distaff and spindle were gradually superseded by the spinning wheel. It consisted of a spindle set in a frame and revolved by a driving belt passing over a wheel. The great, or wool, wheel, revolving the spindle directly, then by a pulley, twisted the thread, then was stopped and revolved in the opposite direction to back off

the spun yarn which was then wound on the spindle. The flax, or Saxony, wheel—a more elaborate mechanism operated by a treadle—drew, twisted, and wound the yarn with a continuous motion suited to the strong flax fiber and to long-staple wool or cotton In England improvements of the loom in the 18th cent, increasing the demand for yarn, stimulated inventions which revolutionised spinning John Wyatt suggested the use of rollers to attenuate the yarn, a process patented in 1738 by his partner, Lewis Paul James Hargreaves invented c 1765 the spinning jenny, a frame capable of spinning with an intermittent motion from 8 to 11 threads at once The softly twisted yarns were not suitable for use as warp threads, but in 1769 Richard Arkwright brought out his frame, which by means of successive pairs of rollers, each revolving faster than the preceding pair, attenuated the yarn and twisted and wound it on bobbins in a continuous action Operated at first by horse or mule power, later by water power, and in 1790 by steam, it soon forced spinning into the factory In 1779 Samuel Crompton, combining the best features of the jenny and of Arkwright's frame, invented the mule spinning frame, the forerunner of the modern self-acting mule Because of its intermittent action, the mule is used for fine or delicate yarns For the mass production of coarser yarns, the ring frame, an elaboration of Arkwright's machine, draws, twists, and winds the thread in one rapid, continuous operation See W E Morton, *An Introduction to the Study of Spinning* (1937)

spinning jenny and **spinning wheel** see SPINNING

Spinola, Ambrogio (ämbrō'jō spē'nōlä), Span *Ambrosio, marqués de Espínola* (ämbrō'syō märkās' dā āspē'nōlä), 1569–1630, Spanish general, b Italy, of a noble Genoese family He fought in the NETHERLANDS, taking (1604) Ostend from Maurice of Nassau after a long siege Named commander in chief in the Netherlands by Philip III, he carried the war into the northern provinces (1605) He negotiated the 12-year truce of 1609 and after its expiration resumed the war His most famous accomplishment was the capture of BREDA (1625) Early in the Thirty Years War, Spinola led (1620) an army into the Palatinate against the Protestant Union His conciliatory policy in the Netherlands lost him the favor of Philip IV, who appointed him (1628) governor of Milan Spinola died while trying to take Casale in the war for the succession to Montferrat

Spinoza, Baruch or **Benedict** (spĭnō'zu), 1632–77, Dutch philosopher He belonged to the community of Jews from Spain and Portugal who had fled the Inquisition Educated in the orthodox Jewish manner, he also studied Latin and the works of Descartes and other writers of the period His independence of thought led to his excommunication from the Jewish group in 1656 Until c 1660 he lived in or near Amsterdam, his birthplace, and afterward in Rijnsburg, Voorburg, and The Hague By trade a lens grinder of great skill, he lived modestly, devoting much of his time to the development of his philosophy His learning became known in spite of his retiring mode of life, and he had wide correspondence, was visited by other philosophers, and was offered (1673) a professorship at Heidelberg This he declined, preferring to retain his peaceful life He died of tuberculosis, which was apparently aggravated by the glass dust from his lens grinding His major works, virtually all of which are available in translation, include a rewording (1663) of part of Descartes's work, a *Treatise on Religious and Political Philosophy* (1670), and his important *Ethics*, probably finished in 1665 but published posthumously (1677) His *Opera Posthuma* (1677) also include his *Political Treatise*, *Treatise on the Improvement of Understanding*, *Letters*, and his *Hebrew Grammar* His system of philosophy, developed in his *Ethics*, differed from that of Descartes in being based on a monistic theory in which all existence is embraced in one substance—God Nothing finite is self-sufficient, only the infinite can be truly substantial, and the separate things of existence and life are but aspects of infinite divinity This divinity, sometimes called Nature, includes all existence within its being, mind and matter, time, everything that occurs or appears, all is but manifestation of God—is God Spinoza thus denied absolutely the possibility of immortality of a personal sort He was led to a complete pantheism wherein there can be no free will and no chance The apparent evil of the world exists only from the viewpoint of finite creatures, it does not exist when seen as part of the whole In order to fulfill one's destiny it is necessary to seek understanding of the workings of the universe, to accommodate one's self as best one can to the infinite plan, and to participate in it All persons are naturally self-seeking, since self-preservation is a fundamental motive Where the passions operate in egoistic blindness men are not free; but when, through understanding, men perceive God's order they are free in acknowledgement of it. The "intellectual love of God" is the result of understanding that all things are necessary and of realising the self as part of the unlimited The wise man sees events under the aspect of eternity (*sub specie aeternatatis*), time means nothing, and life is lived with dignity Spinoza was an exponent of democratic government and urged the subordination of the Church to the state He made a ringing defense of freedom of opinion and sought above all to liberate men from fear. His pantheism seemed blasphemous to his time, and some of his works were not allowed to be published during his life Later thinkers thought differently of his work Goethe, Lessing, and Herder found it admirable, and through Fichte, Schelling, and Hegel it became influential in German philosophy Many recent philosophers accord him the highest of praise See his correspondence (tr and ed by Abraham Wolf, 1928), biographies by J A Gunn (1925) and Leon Roth (1929), Lewis Browne, *Blessèd Spinoza* (1932), H A Wolfson, *The Philosophy of Spinoza* (1934)

spiraea (spīrē'u), any plant of the genus *Spiraea*, Northern Hemisphere deciduous shrubs of many species, among the most popular of cultivated shrubs The single or double small white or rose flowers are generally in rounded or spirelike clusters The most common are the Asiatic bridal wreath (*Spiraea prunifolia*), with small rounded clusters of white usually double flowers massed in April or May on arching branches, and the hybrid *Spiraea vanhouttei*, somewhat similar Native North American species include the eastern pink- or white-flowered *Spiraea latifolia* (this and other species are often called MEADOWSWEET) and the HARDHACK

spire, high, tapering structure crowning a tower and having a general pyramidal outline The simplest spires were the steeply pitched timber roofs capping Romanesque towers and campaniles Those of the latter were often conical and always roofed with tiles In later Romanesque this type of spire was commonly octagonal, topping a square tower Transition between the two shapes was effected by a triangular filler or broach at each corner of the tower and later by filling each corner with a decorative PINNACLE or a small turret Such was the common spire of English and continental churches With Gothic development the spire became more elaborate Generally the tower proper was capped by a parapet, behind which rose the stone spire, its edges finished with a molding and adorned with crockets The corner pinnacles, with their niches, gables, and crockets, were often joined to the spire roof by flying arches In France spires sometimes were placed over the two western towers of the cathedrals, at Chartres they are of two different periods, Romanesque and Gothic In England the central tower of a cathedral often had a spire, at Lichfield one crowns each western tower as well The ultimate elaboration in Gothic spires was attained with the addition of openwork tracery, as in the flamboyant examples of Rouen (Tour de Beurre) and Chartres The Germans, particularly, favored intricate openwork compositions, as at the cathedrals of Strasbourg (1015–1439) and Vienna (15th cent) England in the late 17th cent gave the spire new form in the numerous churches which Sir Christopher Wren built for London after the great fire These were either the roof type, with richly curved baroque outlines, or cupola compositions with classical columns, pediments, etc St Martin's-in-the-Fields (1722–26), built by James Gibbs, illustrates the Georgian spire or steeple with its receding stages of classic architecture terminated by a steep pyramidal roof It was an influential prototype for the slender, classical spires of American colonial churches

Spires, Germany see SPEYER

spiritism, belief that human personality survives death The spirit may communicate with the living through the agency of a medium or psychic Communication from the spirit world manifests itself in psychical (or mental) phenomena (e g, clairvoyance, telepathy, trance speaking, and visions or apparitions) and in physical phenomena (e g, levitation, table tipping, automatic writing, musical sounds, and poltergeist and ectoplasmic activities) In various forms the belief is a survival of ancient societies and is closely related to ideas of ghosts, necromancy, demonology, and occultism In its modern development it dates from the activities of the Fox sisters in America in 1848 General interest in hypnotism, then popularly regarded as a supernatural condition, contributed much to the growth of the spiritistic movement In England and America séances became popular, there were many mediums, and the names of Andrew Jackson Davis, William Stainton Moses, Daniel Douglas Home, Mrs Leonora Piper, Helena Petrovona Blavatsky, and many others became familiar to magazine and newspaper readers Much fraud, both conscious and unconscious, has been practiced by mediums HOUDINI proved that he could reproduce séance phenomena However, the committees of the Society of Psychical Research have carried on investigations with some phenomena, mainly in connection with telepathy and apparitions, which may find explanation in the activity in the unconscious mind (see PSYCHICAL RESEARCH) Critical investigations of psychic phenomena were made by many well-known men In some cases infrared moving pictures have been taken at séances. Adherents of spiritism plead for an enlarged psychology, physiology, and even physics to account for the various psychic manifestations The First World War intensified interest in the belief and practices of spiritism See A F Schrenck von Notzing, *Phenomena of Materialization* (1920); Sir Arthur Conan Doyle, *History of Spiritualism* (1926), Sir Oliver Lodge, *Phantom Walls* (1930)

Spirit Lake. 1 City (pop 1,006), N Idaho, near the Wash boundary, N of Coeur d'Alene and on Spirit Lake, settled 1884, inc 1921 It is a resort town, with a lumber mill near by 2 Town (pop 2,161), co seat of Dickinson co, NW Iowa, near the Minn line, settled 1856, inc 1879 The town, a farm trade and tourist center, lies between West Okoboji Lake and Spirit Lake, largest glaciated lake in Iowa In 1857 a near-by white settlement was massacred by Sioux Indians Several state parks are in the vicinity

spirit level, tool or instrument for determining the direction of gravity The position of a bubble within a tube nearly full of alcohol, ether, or a mixture of both indicates whether the instrument is horizontal The spirit level used by carpenters and masons has two tubes at right angles to each other, so that the tool registers a vertical as well as a horizontal position In ancient times the plumb was used, and gravity continued to be determined by this method until the 19th cent, when the spirit level, invented in France in the 17th cent, came into general use

spiritual, in music, religious folk song Beginning in the late 19th cent, wide attention was given to the spirituals of the American Negro, largely owing to the efforts of singers from the various Negro universities This body of song was long thought to be the spontaneous creation of the Negro, and many considered it to be the only real folk music of the United States Research into its origin centered mainly on the question of the nature and extent of its African ancestry After the discovery by Cecil Sharp early in the 20th cent of the extent of the American folk-song literature, much of which he demonstrated to be of British ancestry, it remained for G P Jackson to uncover the extensive body of spiritual folk song of white Americans, the folk-song nature of which Sharp had failed to recognise These were the songs which came out of the camp meetings and revivals of the S United States throughout the 19th cent Many of the songs preserved in collections, such as *The Southern Harmony* (1835), *The Union Harmony* (1837), and *The Sacred Harp* (1844, many subsequent editions), made for the use of the groups some of which still gather today in various parts of the South for singing conventions, are also held by Jackson to be folk songs He presents convincing examples to show that many Negro spirituals are simply the Negro's adaptations of these white spirituals to suit his own temperament and feeling Others represent the Negro's own creations inspired by the same source The distinctive quality and great beauty of the Negro spiritual remains undiminished, however Collections and arrangements have been made by H T Burleigh Rosamond Johnson and J W Johnson, R N Dett, Clarence Cameron White, Roland Hayes, and others See G P Jackson, *White Spirituals in the Southern Uplands* (1933), *Spiritual Folk-Songs of Early America* (1937), and *White and Negro Spirituals* (1943), H W Odum and G B Johnson, *The Negro and His Songs* (1925)

Spiro (spī'rō), town (pop 1,041), extreme E Okla, near the Arkansas river, in an area producing cotton and potatoes, founded c 1895 near the site of Fort Coffee, an old U S military post (1834) Some famous Indian mounds are near by

Spitalfields (spĭt'ulfēldz), manufacturing district of Stepney metropolitan borough, London, England, named for the priory and hospital of St Mary (St Mary Spital) founded here in 1197 Spitalfields was formerly noted for silk manufacture, introduced by Huguenot weavers in the 17th cent

Spithead (spĭt'hĕd), eastern part of the channel between Hampshire, England, and the Isle of Wight In 1545 the English defeated the French in battle here In 1797 one of the most celebrated mutinies of history occurred in the fleet stationed at Spithead, the crews sent the officers ashore, ran the ships by committee, and won their demands

Spitsbergen (spĭts'bûrgun), archipelago, in the Arctic Ocean, c 400 mi N of the Norwegian mainland, between lat 76° and 81° N Spitsbergen and Bear Island, farther south, constitute the Norwegian possession of Svalbard (svăl'bär) (23,979 sq mi, pop 1,539, including 505 citizens of the USSR) The chief island is West Spitsbergen (c 15,000 sq mi), other islands include NORTH EAST LAND, Edge Island, Barents Island, Prince Charles Foreland, King Charles Land, Hope Island, and Giles Land The islands form plateaus intersected by deep fjords The largest of these is the Ice Fjord, in West Spitsbergen, which also has the highest mountain in the group (Mt Newton, c 5,500 ft) The principal settlements (New Ålesund and Longyear City) are on West Spitsbergen. The North Atlantic Drift washes the west coasts and makes navigation possible for more than half

the year Some 130 species of arctic vegetation flourish near the coast and on patches of interior tundra Water fowl, especially the eider duck, abound, but land game (reindeer, blue and white fox, polar bear, and arctic hare) has been rendered nearly extinct by hunting expeditions and is now protected Sealing, whaling, and fishing are important occupations, but the chief wealth of the islands is coal. There also are asbestos, copper, gypsum, iron, marble, mica, zinc, and phosphate deposits Discovered by the vikings in the 12th cent and named Svalbard by them, the islands were again forgotten until their rediscovery by Willem Barentz in 1596 For a decade after Henry Hudson reported (1607) good whaling at Spitsbergen, English and Dutch whalers quarreled over the territory; in 1618 they compromised, the Dutch limiting their operations to N Spitsbergen, leaving the rest to the English, the French, and the Hanseatic League The Danes at the same time claimed Spitsbergen as part of Greenland After the decline of whaling, Spitsbergen became (18th cent) a hunting ground for Russian, and later also Scandinavian, fur traders In the late 19th cent the islands were mapped by many notable explorers and scientists, and important coal deposits were discovered Spitsbergen also served as a base for expeditions by N. A E Nordenskjold, S A Andree, Roald Amundsen, R E Byrd, Sir George H Wilkins, and others For half a century after the discovery of coal, Norway, Russia, and Sweden negotiated for Spitsbergen By a treaty signed at Paris in 1920 and subsequently ratified by the other claimants, Spitsbergen was awarded to Norway The treaty prohibited military installations on the islands and insured recognition of claims of other countries to parts of the coal fields In the Second World War, Spitsbergen was raided (1941) by an Allied party which evacuated the civilian population to England and set fires to the mines A German garrison was expelled in 1942 by a small Norwegian force A German raid (1943) completed the devastation of the mines and mining installations Beginning in 1944, the USSR—which had not signed the 1920 treaty but which had later adhered to it—requested a share with Norway in the administration and defense of Spitsbergen Norway rejected the demand, which was opposed also by other signatories of the 1920 treaty, notably England and the United States

Spitteler, Carl Friedrich Georg (kärl' frē'drĭkh gā'ôrk shpĭt'tulûr), 1845–1924, Swiss poet He won the 1919 Nobel Prize in Literature His chief works, which appeared at long intervals, are the epics *Prometheus und Epimetheus* (1881, Eng tr, 1931) and the tremendous *Olympischer Frühling* [Olympian spring] (1900–1910), the appearance of which in a nonepic age has perhaps interfered with its acceptance Spitteler also wrote a third epic, *Prometheus der Dulder* [suffering Prometheus] (1924) Other works are novels, including *Imago* (1906), and the essays *Lachende Wahrheiten* (1892, Eng tr, *Laughing Truths*, 1927) *Selected Poems* appeared in English translation in 1928

spitz dog: see Pomeranian dog

Spitzka, Edward Charles (spĭts'kŭ), 1852–1914, American physician and psychiatrist, b New York city, studied at the College of the City of New York, M D New York Univ, 1873 He practiced in New York and taught at New York Post-Graduate Hospital (1885–87) A pioneer in anatomical studies of the brain and in the classification of mental disorders, he wrote *Insanity Its Classification, Diagnosis, and Treatment* (1883) His son **Edward Anthony Spitzka**, 1876–1922, b New York city, studied at the College of the City of New York and received his M D from Columbia in 1902 He taught anatomy (1906–14) at Jefferson Medical College, Philadelphia His contributions include important studies of the human brain, especially those of criminals He edited the 18th American edition (1910) of *Gray's Anatomy*

Spitzweg, Karl (kärl' shpĭts'vāk), 1808–85, German genre painter and draughtsman Self-taught, he depicted the daily life of his native Munich in charming little pictures in which realism, fancy, and humor are happily combined Characteristic are *The Poor Poet*, *Two Hermits*, and *Scholar in the Attic* Spitzweg contributed many delightful drawings to the humorous periodical *Fliegende Blätter*

spleen, soft, purplish-red organ which lies in the upper portion of the abdominal cavity to the left of the stomach and close to the diaphragm Its functions are not fully understood. It is active in the destruction of worn-out red blood corpuscles liberating hemoglobin to be used by the liver It holds a reserve supply of blood, which enters the circulation when the need arises Certain white blood cells, the lymphocytes, are formed in the spleen. Sometimes removal of the organ is necessary

splicing, joining two ropes without a knot A splice should be as strong as the rope and but little larger in diameter The rope ends are unraveled or unlaid, the strands are usually divided or halved to prevent bulkiness, and the strands of one rope end are intertwined in any of various fashions with those of the other.

splint, an appliance, either rigid or flexible, for the fixation of displaced or fractured parts. Most commonly used in treating fractures of bones, a splint may be employed both as a first-aid measure to immobilize the parts temporarily and as a means of maintaining fixation of the parts until union of the injured bones occurs Any material which offers the degree of resistance required for immobilization may be used, e g., cloth, gauze, plaster, wood, or metal

Split (splēt), Ital *Spalato* (spä'lätō), city (pop 49,885), S Croatia, Yugoslavia, a major Adriatic seaport The largest city of Dalmatia, it has two fine harbors, extensive shipyards, and varied manufactures Its beautiful situation and its historic monuments make it an important tourist and seaside resort Among the Roman remains in Split the most remarkable is the palace of Diocletian (who died here), begun in A D 295 In the 7th cent the inhabitants of near-by Salona took refuge from the Avars in the palace, which became the nucleus of the city Split soon was made an episcopal, later an archiepiscopal, see of the Roman Catholic Church and became a flourishing port of medieval Dalmatia Long contested (13th–15th cent) between Hungary and Venice, it ultimately passed to Venice in 1420 The Treaty of Campo Formio (1797) transferred it to the house of Austria, to which it was restored (1815) after the Napoleonic Wars at the Congress of Vienna and which kept it until 1918 The archdiocese was reduced to a diocese in 1820 Besides the palace of Diocletian, the ancient monuments of Split include the cathedral and the baptistery, both originally Roman buildings, parts of its old walls and gates, and the city hall in Venetian Gothic style There are an archaeological museum and an oceanographic institute The ruins of Salona are at near-by Solin

Spluegen (shplu'gun), Ital *Spluga* (splōō'gä), Alpine pass, 6,945 ft high, on the Swiss-Italian border, N of Lake Como

Spode, Josiah (spōd), 1754–1827, English potter at Stoke-on-Trent There he first produced (1799) the porcelain known as spode ware, a fine bone china similar to the French soft Sèvres ware, which he sought to equal His formula was subsequently employed in all the Staffordshire potteries, representing the majority of English china manufactories, including those of Derby and Worcester

Spofford, Ainsworth Rand (spô'furd), 1825–1908, librarian of Congress of the United States, b Belknap co, N H In 1861 he became chief assistant librarian of Congress and was appointed librarian by President Lincoln in 1864 He held the office until 1897, when he again became chief assistant librarian He wrote many periodical articles on books and libraries and published or edited a number of books, including *A Book for All Readers* (3d ed, 1909), *The Library of Choice Literature* (1893), and *The Annual American Almanac* (1879–89)

Spofford, Harriet Prescott, 1835–1921, American novelist, b Calais, Maine Her romantic short stories, novels, and poems were popular in magazines and in book form between 1860 and 1910

Spohr, Ludwig or **Louis** (lōōt'vĭkh, lōō'ĭ shpōr'), 1784–1859, German composer, conductor, and violinist, the leading exponent of the German violin school of his day Among his numerous works are operas, including *Jessonda* (1823), symphonies, many of them programmatic, violin concertos, much chamber music, and violin exercises His oratorios, of which *The Last Judgment* (1826) is best known, had great influence in Victorian England A rather mannered chromaticism, imitative of Mozart, is found in his music See his autobiography (Eng tr, 1865, 1878)

spoils system, in U S history, the practice of giving appointive offices to loyal members of the party in power It was first adopted on a large scale by Andrew Jackson, who declared (1829) that the Federal government would be bettered by having civil servants rotate in office, he promptly replaced incumbent officeholders with members of his own party The name supposedly was derived from a speech by William Learned Marcy The dispensation of offices by strict party allegiance was followed in succeeding years and gradually critical opposition grew The corruption and inefficiency that were bred in the system reached a staggering height in the administration of U S Grant The reaction helped bring about civil service reform, which was inaugurated by creation of the Civil Service Commission in 1871 The system has, however, continued for many Federal offices Its apologists argue that the political appointments are essentially democratic rather than bureaucratic and are essentially efficient in assuring that Federal servants will be in accord with the aims of each administration

Spokane (spōkăn'), city (pop 122,001), co seat of Spokane co., E Wash, at the falls of the Spokane river, founded c.1872, inc. as a town 1881, as a city 1890 A great fire in 1889 destroyed most of the town, but regrowth was rapid It is a port of entry and the commercial and railroad center for a rich lumber, mining, wheat, stock, and fruit-growing region known as the "Inland Empire", its diversified industries include flour mills, meat-packing plants, creameries, lumber industries, and machine and railroad shops. Spokane is also the focus of cultural and educational activities in the region An art center, a museum, Roman Catholic and Episcopal cathedrals, and several fine parks are here It is the seat of Gonzaga Univ. (Jesuit, mainly for men, 1887) and Whitworth College Excellent recreational facilities are near by

Spokane, river rising in Coeur d'Alene Lake, N Idaho, and flowing c 100 mi W and NW through Washington to the Columbia.

Spokan Indians (spōkăn'), small tribe of North American Indians of the Salishan linguistic stock In the early 19th cent, according to Lewis and Clark, they lived in the vicinity of the Spokane river in NE Washington They then numbered some 600 Today the Spokan live on a reservation in Washington, where they number some 1,000

Spoleto (spōlā'tō), city (pop 10,579), Umbria, central Italy It is interesting to archaeologists, historians, and lovers of art An Umbrian and later an Etruscan town, it flourished under the Romans It became (A D c 570) the seat of an important autonomous Lombard duchy extending over much of Umbria, the Marches, and the Abruzzi The city was destroyed by Emperor Frederick I (1155) and was later rebuilt Although Spoleto was included in Charlemagne's donation to the Church (8th cent), the dukes were named by the emperors until in 1201 Otto IV renounced the imperial rights, soon afterward the duchy came under direct papal rule In the 14th and 15th cent Spoleto was the seat of a local school of painting, well represented in its art gallery There are Roman remains and several medieval churches with early mosaics and paintings, the most important is the cathedral, which has a fresco by Filippo Lippi

sponge, animal of the phylum Porifera, of which there are about 2,500 species, world-wide in distribution All except one family are marine forms Sponges live at all depths, usually in colonies attached to rocks, shells, or other surfaces They are usually classified according to the kind of skeleton which the simple, jellylike body secretes Some have a framework containing calcium carbonate crystals or glassy spicules Those of commercial value for use as bath sponges and for washing cars, windows, and other articles have a skeleton of spongin, a substance chemically allied to silk, with no hard crystals embedded in it Those with the finest texture come from the Mediterranean region, but sponges of good quality are harvested in the West Indies and the Bahamas, on the Gulf coast of Florida, and on the coast of Central America Farther north they are too hard to be useful Sponges are secured with long-handled curved hooks operated from small boats, by dragnets and dredges, and by divers The living tissue is removed and the skeletons are dried, bleached, and trimmed Remnants are used as packing material and as fertilizer Sponges can be propagated by depositing, in suitable waters, cuttings attached to hard objects The boring sponge damages bivalves

spontaneous combustion see combustion

spoon, implement with which to stir, serve, or eat, consisting of a shallow bowl with a rodlike, curved, or spatulate handle Prehistoric peoples probably first used shells and later fashioned spoons of horn, wood, or flint Wood, slate, and ivory examples from ancient Egypt have been preserved Greek and Roman spoons of bronze and precious metals often had spike handles, Pompeian examples show decorative terminations in baluster and hind's-foot patterns Spoons, often ornately decorated, have been used in religious rites since ancient times The spoon used in England to anoint the monarch at his coronation dates from the 12th cent Early medieval spoons were usually of horn, wood, or tin with knobs at the tip of the handles Later spoons commonly terminated in effigies of the Madonna, saints, or apostles Apostle spoons, relics of Tudor England, were commonly presented at christenings During the Renaissance fig-shaped bowls were usual, pewter and brass were in common use, and silver was employed only for fine ware The modern spoon with a spatulate handle dates from the 18th cent Special sizes and styles of spoons are designed for soup, dessert, coffee, and tea, for serving, and for various other purposes

spoonbill, large wading bird related to the ibis With its long bill, broad at the end like a flattened spoon, it captures small aquatic animals for food The roseate spoonbill, its plumage rosy pink accentuated by the carmine of the lesser wing coverts, is found from S North America southward to Argentina and Chile. In the United States it was almost exterminated for its feathers The common spoonbill of Europe, Asia, and Africa is white and crested. Species are found in Australia, Japan, and tropical Africa The shoveler duck is sometimes called spoonbill, and there is a spoon-billed sandpiper.

Spooner, John Coit, 1843–1919, American political leader, b Lawrenceburg, Ind., grad Univ. of Wisconsin, 1864. He served (1864–65) in the Civil War and became a corporation lawyer, achieving

notice by defending railroad companies. After he was (1872–73) in the Wisconsin legislature and became a power in the state Republican party, he served (1885–91, 1897–1907) in the U S Senate Increasing disapproval of Spooner's political tactics in Wisconsin helped bring about his resignation from the Senate, and he thereafter practiced law in New York city

Spooner, Shearjashub (shĕr"jā'shub), 1809–59, American art historian, b Orwell, Vt He is known for his *Biographical and Critical Dictionary of Painters, Engravers, Sculptors, and Architects* (1853)

Spooner, city (pop 2,639), NW Wis , S of Superior and on the Yellow River, in a lake and woods region, settled 1883, inc 1909 A state fish hatchery and a Univ of Wisconsin branch agricultural experiment station are near

Sporades (spō'rudēz, spō'–), scattered islands in the Aegean Sea, belonging to Greece They have been grouped variously at different periods The Northern Sporades are generally understood to include Skyros and some lesser islands off the coast of Magnesia and Euboea and sometimes also Lemnos and Lesbos, off the coast of NW Asia Minor The Southern Sporades are generally understood to include Icaria, Samos, the Dodecanese, and sometimes Chios

spore, term applied to a reproductive cell of certain plants and protozoa (unicellular animals) and to certain organisms (especially bacteria) in a resting stage A reproductive spore consists usually of a nucleated mass of protoplasm and some reserve food (e g , starch or oil), commonly enclosed by a cell wall Some spores develop independently into new organisms, others (called gametes) first unite with similar or dissimilar (male or female) cells Spores of terrestrial forms are usually disseminated by air currents The spores of many aquatic organisms develop threadlike structures (cilia), such motile spores are called *zoospores* Organisms in a resistant, or spore, stage and reproductive spores that have a resting period develop tough, investing walls that permit them to survive unfavorable conditions, e g , extremes of temperature and of moisture Many organisms (notably fungi) produce both thin-walled spores that germinate in a short time and thick-walled spores Organisms that reproduce by spore formation often reproduce also by other means, e g , by fission or by budding Yeasts, for instance, in most stages reproduce by budding, but older organisms may form spores

sport, in biology see MUTATION

sporting gun, firearm used for hunting animals or birds It includes the SHOTGUN and the sporting or hunting rifle The bullets used in small-game rifles are lighter than those used in military rifles Recoil from a light bullet is comparatively slight, therefore, a large powder charge may be used to obtain high muzzle velocity These high-speed bullets travel in a flat trajectory, permitting great accuracy at the comparatively short ranges for which the rifles are designed In sporting guns soft-nosed or deformed (dumdum) bullets are sometimes used to bring down large or particularly dangerous beasts or for the destruction of vermin If the hunter wants to save the flesh or avoid great injury to the skin of the animal, he uses a steel-jacketed bullet which goes through the body without tearing a jagged hole In hunting big game exploding bullets which usually cause instantly fatal wounds may be used

sports In its most general sense, the term *sports* may be used to mean participation in various pastimes and thus would include such activities as hobbies and card games In its more accepted sense, however, sports specifically connotes those activities which require certain patterns of athletic executions which must be performed with some skill and which often must conform to prescribed rules As such, sports have been one of man's most important modes of recreation and have also served to develop strength and give expression to his emotions Often the different sports are classified according to type, e g , ball games, but actually it is extremely difficult to categorize Thus, although BOATING may be said to be a racing sport (in which space and time are to be conquered), HOCKEY a sport of competition (in which an opposing team is to be defeated), and HUNTING a sport of individual performance (in which a hunter seeks to better his own performance), most sports contain each of these elements in varying proportions Hunting and FISHING go back to prehistoric man's eternal search for food, but the origins of most sports remain obscure It is definitely known that BASKETBALL was invented in the United States in 1891 by James A Naismith, but this is an exception The origins of some sports, notably baseball, are still the subject of much controversy In the ancient world the outstanding organized sports activities were the OLYMPIC GAMES Several sports which developed in medieval Europe were organized by and for the royalty and nobility (e g , COURT TENNIS), while other sports took root among the masses (see FOOTBALL) The disintegration of the feudal structure and the coming of the industrial Revolution brought about profound changes in sports. While court tennis, ARCHERY, FALCONRY, and other pastimes of the nobility went into decline, CROQUET, BOXING, and SHOOTING increased in popularity BULL BAITING and COCKFIGHTING, considered barbarous by many, gradually were banned by legislation as the general desire to do away with crude brutalities in sports became more widespread Equipment was standardized, local and national ruling bodies were set up to govern the sports, and distinctions were made between amateur and professional In the late 19th cent — when the ancient Olympic games were revived— TENNIS, VOLLEY BALL, HANDBALL, BOWLING, RACQUETS, SQUASH RACQUETS, and SQUASH TENNIS came to the fore, while POLO was introduced from Asia to Europe Sports which were traditionally played in various countries became, by legislative act or general acceptance, national sports, BASEBALL in the United States, BULL FIGHTING in Spain, CRICKET in England, LACROSSE in Canada Moves were made to minimize the effects of GAMBLING on sports, particularly in RACING In the 20th cent , colleges led the way in emphasizing sports as an essential portion of man's education ROWING, FENCING, TRACK AND FIELD ATHLETICS, and GYMNASTICS became popular participation sports on the campus as well as in the athletic club College authorities, however, soon were subjected to severe criticism for commercializing spectator sports, especially football, and for the questionable amateur status of some of their athletes Sports, participation and spectator, grew by leaps and bounds in the 20th cent in those sections of the world where a good percentage of the population had leisure time They also took on an international flavor annual events were conducted and trophies given to individuals and teams of competing nations, and winter Olympic games were established Several of the most popular spectator sports are today big businesses There are, in addition to the major sports mentioned here, articles on many of the minor sports For bibliography, see the individual articles See John A Krout, *Annals of American Sport* ("Pageant of America" series, Vol XV, 1929), Frank G Menke, *The New Encyclopedia of Sports* (1947), Parke Cummings, ed , *The Dictionary of Sports* (1949)

spots and stains see STAIN REMOVAL

Spotswood, Alexander, 1676–1740, colonial governor of Virginia (1710–22), b Tangier, Morocco Officially he was lieutenant governor under the nominal governorship of George Hamilton, 1st earl of Orkney One of the ablest of the royal governors, Spotswood encouraged settlement of the frontier by exempting the settlers from taxes and quitrents However, his measure requiring that tobacco to be exported or used as legal tender be inspected was unpopular, and he got into difficulties in maintaining his right to appoint Anglican clergymen After his act fostering a wise Indian policy was repealed, he negotiated a treaty with the Iroquois by which they agreed to keep beyond the Potomac and the Blue Ridge At the end of his governorship, he remained in Virginia, having acquired a vast amount of land in Spotsylvania co , where he also had extensive iron interests In 1730 he was made deputy postmaster general of the American colonies See his *Official Letters* (ed by R A Brock, 1882–85), biography by Leonidas Dodson (1932)

Spotswood, borough (pop 1,201), central N J , SE of New Brunswick, inc 1908 It was the site of ironworks in the Revolution

Spotsylvania (spŏt"sĭlvā'nyu), rural county, NE Va , between the Rappahannock and North Anna rivers, formerly part of the estate of Alexander SPOTSWOOD It was the scene of several major engagements of the Civil War, including the battles of FREDRICKSBURG and CHANCELLORSVILLE and the battles of the Wilderness and Spotsylvania Courthouse in the WILDERNESS CAMPAIGN

Spottiswoode, John (spŏ'tĭswōōd), 1565–1639, Scottish prelate and church historian Under James and Andrew Melville he studied for the ministry but later veered from Presbyterianism to Erastianism James I named him archbishop of Glasgow in 1603, member of the privy council of Scotland in 1605, and archbishop of St Andrews in 1615 As moderator of the General Assembly (1618) of the Church at Perth, Spottiswoode obtained its sanction of the king's plans for introducing episcopacy into Scotland, as embodied in the Articles of Perth Charles I made him (1635) chancellor of Scotland, but Spottiswoode gradually lost his favor by trying to modify the monarch's plan of imposing the Anglican liturgy on the Scottish Church In 1638 he was deprived of his office, excommunicated, and deposed by the general assembly He died in London His *History of the Church of Scotland* (1655) has passed through several editions Spottiswoode's name is also spelled Spottiswood and Spotswood

Spottiswoode, William, 1825–83, English mathematician and physicist Among his contributions to mathematics was an elementary treatise on determinants (1851), probably the first to be published In 1874 he wrote on his studies of polarization of light From 1878 he was president of the Royal Society

Sprague, Frank Julian (sprāg), 1857–1934, American electrical engineer, b Milford, Conn , grad Annapolis, 1878 He contributed greatly to the development of electric railways by inventing the multiple-unit system of automatic control and numerous other devices Sprague also developed the electric elevator

Sprague, Oliver Mitchell Wentworth, 1873–, American economist, b Somerville, Mass , Ph D Harvard, 1897 He taught (1904–5) at the Imperial Univ of Tokyo and from 1908 to 1941 was assistant professor and later professor of banking and finance at Harvard. He served (1930–33) as economic adviser to the Bank of England and for a short time was one of the Brain Trust in the early New Deal His books include *Banking Reform in the United States* (1911) and *Recovery and Common Sense* (1934)

Sprague, town (pop 2,285), E Conn , N of Norwich, crossed by the Shetucket, inc 1861 It includes Baltic, Versailles, and Hanover villages There are textile mills

sprain, severe stretching or wrenching of the ligaments of a joint, causing injury sometimes with partial rupture but without dislocation Sprains occur most commonly in the ankle, knee, and wrist joints Sacroiliac sprain causes severe backache Symptoms of sprain are pain, swelling, and difficulty in moving the joint Treatment consists of soaking the injured part in hot water containing Epsom salts, elevation of the injured limb, and strapping or bandaging to give support Novocaine injected hypodermically into the injured joint has been found in some cases to relieve the pain and other symptoms of sprain and to restore normal function in a short time

sprat, European fish of the herring family In Norway great numbers are canned as sardines or anchovies Some species of herring native to American waters are called sprats in the market The young sprat or herring is the whitebait

spraying, horticultural practice of applying chemical fungicides and insecticides in solution to the exposed parts of growing plants It may be accomplished by means of the watering can, spray gun, power spraying machine, or airplane Sprays are used especially as disease preventatives and insect repellents In many conditions it is important to spray the under as well as the upper sides of the leaves In all cases the spray must be adapted to the plant and the need Incorrectly applied sprays may injure the plant without destroying the pest See J A McClintock and W B Fisher, *Spray Chemicals and Application Equipment* (1945), bulletins of the U S Dept of Agriculture

Spree (shprā), river, c 250 mi long, rising in the Lusatian Mts , Saxony, E Germany, near the Czech border It flows generally N past Bautzen into Brandenburg and continues N, then NW, past Kottbus through the Spree Forest and through Berlin to join the Havel at Spandau Navigable for 110 mi , it is connected with the Oder by the Oder-Spree Canal and with the Havel by the Teltow Canal, which by-passes Berlin The Spree traverses both Upper and Lower Lusatia The **Spree Forest** (Ger *Spreewald*), in Lower Lusatia, is a marshy region crisscrossed by innumerable small waterways which are the only traffic lanes connecting its villages Its population consists almost entirely of Slavic-speaking WENDS, whose isolation has enabled them to keep through the centuries their colorful traditions and local costumes Eel fishing and vegetable gardening are among their main sources of livelihood Because of its picturesque character, the Spree Forest is a favorite excursion ground for the nearby Berliners

Sprengel, Christian Konrad (krĭs'tyan kōn'rat shprĕng'ul), 1750–1816 German botanist Although director of a school at Spandau and tutor in Berlin, he devoted himself chiefly to the study of flowering plants He pointed out the role of insects and of the wind in the cross-pollination of plants, but his observations were neglected until they were brought to public attention by Charles Darwin

Sprengel, Hermann Johann Philipp (hĕr'man yō'han fē'lĭp shprĕng'ul) 1834–1906, German chemist and physicist, later a naturalized British subject He is known for his invention of the Sprengel pump, and he also devised a U tube to determine the specific gravity and the thermal coefficient of expansion of liquids He was a pioneer in the field of high explosives

Sprengel pump [for H J P Sprengel], device in which a partial vacuum is produced by the fall through tubes of a suitable liquid (usually mercury) The pump was important in early experiments requiring the production of a vacuum and especially in the development of X-ray tubes and other vacuum tubes

spring, natural flow of water from the ground or from rocks representing an outlet for the water which has accumulated in permeable rock strata underground When the water, because of the geological structure of the strata, issues under pressure, the spring is called artesian (see ARTESIAN WELL). Another type of spring is the GEYSER Hot springs occur when the water issues from great depths or is heated by vulcanism Mineral springs are those

which have a high chemical content of one kind or another, gathered from the rocks through which the water has passed (see MINERAL WATER) Frequently an ancient city-state (e g , Troy) had its site determined by a spring Pioneer farmhouses often were located in the same way

spring. In mechanics, springs are in general of three types The spring that stores energy in a watch or clock is spiral, wound around a center and continually receding from it The springs used under some railroad cars for reducing concussion are helical or coil springs, wound around a cylinder and advancing like the thread of a screw The springs used for the same purpose in automobiles are laminated or leaf springs, built up of flat bars Springs less frequently used than these three are exemplified by the spring which drives the hammer of a gun—a flat or bar spring, with a single leaf In the material used to make a spring, the essential quality is elasticity

Spring City **1** Borough (pop 3,022), SE Pa., on the Schuylkill between Norristown and Pottstown, inc 1867 **2** Town (pop 1,569), E Tenn , in the Tennessee valley NNE of Chattanooga

Springdale. 1 City (1940 pop 3,319, 1948 special census pop 5,246), NW Ark , in the Ozarks, settled c 1850, inc 1878 It ships quantities of grapes, apples, and other farm products and is a center of the grape-juice and wine industries **2** Residential borough (pop 4,989), Allegheny co , SW Pa , on the Allegheny river and NE of Pittsburgh, inc 1906

Springer, village (pop 1,314), NE N Mex , S of Raton, inc 1910 It is the trade center for a livestock, farm, and lumber area. The state industrial school for boys is here

springer spaniel see SPANIEL

Springfield. 1 Town (pop 1,082), co seat of Baca co., SE Colo , in a gram, stock, and dairy area, inc 1889 **2** Town (pop 1,188), Bay co , NW Fla , near the Gulf, inc 1935 **3** City (pop 75,503), state capital (since 1839), and co seat of Sangamon co , central Ill , on the Sangamon river and SW of Chicago, settled 1818, laid out 1822, inc as a town 1832, as a city 1840 It is in a rich agricultural and coal region, among its manufactures are metal and grain products Abraham Lincoln, who was instrumental in having Springfield made the capital, lived and had his law office here from 1837 to 1861 He is buried here, with his wife and three of their children, in a tomb and monument designed by L G Mead and dedicated in 1874 The Centennial Building contains the state museum and the offices and libraries of the state historical society, with valuable Lincoln collections Lincoln's home is preserved as a shrine Other places of interest include the capitol (1867–87), of Renaissance architecture, the county courthouse (1837), which served as the capitol for many years, the governor's mansion (1853–57), and the state fairgrounds Concordia Theological Seminary, Lincoln College of Law, a junior college, and several preparatory schools are here Vachel Lindsay was born in Springfield Near by are NEW SALEM (now a state park), Camp Butler National Cemetery, and artificial Lake Springfield See Paul M Angle, *"Here I Have Lived" a History of Lincoln's Springfield* (1935) **4** Town (pop 1,767), co seat of Washington co , central Ky , SE of Louisville, in a dairy and tobacco region, founded 1793 Among the records in its courthouse is the marriage certificate of Thomas Lincoln and Nancy Hanks Near by is Lincoln Homestead Park **5** City (pop 149,554), co. seat of Hampden co , SW Mass , on the Connecticut, settled 1636 by Puritans under William PYNCHON, inc as a town 1641, as a city 1852 It was a scene in Shays's Rebellion (1786–87) and a station on the Underground Railroad A port of entry, it is an industrial city, producing chiefly electrical and other machinery, motorcycles, firearms, and plastics The U S armory here was founded by Washington The first American-made planetarium was designed and built (1937) by Frank Korkosz for the city's museum of natural history. Saint-Gaudens's *Puritan* is in Merrick Park Also in the city are art museums, Springfield College (Y M.C.A , 1885), and American International College The Springfield *Republican* has been an influential newspaper The annual Eastern States Fair is held at Storrowton, site of a reconstructed colonial village. For the Springfield plan in education, see J W Wise, *The Springfield Plan* (1945) **6** City (pop. 2,361), SW Minn , W of New Ulm and on the Cottonwood, settled 1857, resettled after the Sioux war of 1862, platted 1877, inc as a village 1881, as a city 1923 It is a farm trade center in a region settled mainly by Germans **7** City (pop 61,238), co seat of Greene co , SW Mo , in a resort area of the Ozarks, laid out c 1835, inc. 1855 It is the industrial, trade, and shipping center of a rich area producing dairy products, poultry, grains, fruits, and minerals The city has railroad shops, its manufactures include processed foods, clothing, lime and cement, and trucks and trailers. Drury College (Congregationalist, coeducational, 1873) and Southwest Missouri State College are here Near by are a U. S. hospital for the criminal insane, a national cemetery, a state fish hatchery, and the battlefield (1861) at WILSON CREEK. **8** Unincorporated village (pop. 8,087), NE N J , W of Newark, settled c 1717 The British, marching on Morristown, burned its church and other buildings, June 23, 1780, Chaplain James Caldwell's aid to the defenders is commemorated in Bret Harte's poem "Caldwell of Springfield" The present church was built in 1791. **9** Industrial city (pop 70,662), co seat of Clark co , W central Ohio, on the Mad River and NE of Dayton, settled 1799, laid out 1801, inc 1850 Farm machinery and electric motors are made here, and there are greenhouses, a fluid-milk plant, and a publishing house The city grew after the building of the National Road (1838), the arrival of the railroads (mid-century), and the establishment of farm-machinery plants (latter half of the 19th cent) Wittenberg College (Lutheran, coeducational, 1844) is here Near by is the George Rogers Clark Memorial State Park **10** City (pop 3,805), W central Oregon, on the Willamette just E of Eugene, in a lumber and grain area, inc 1893 **11** City (pop 6,668), co seat of Robertson co , N Tenn , N of Nashville, founded c 1798 It is an important tobacco market Blankets are made here **12** Industrial town (pop 7,720), SE Vt , on hills near falls of the Black River It includes the industrial Springfield village (pop 5,182) The Crown Point military road crossed this area, where the Abnakis had lived White settlement began before the Revolution Before 1900 its important machinery and machine-tool factories were flourishing James Hartness, inventor, manufacturer, governor of Vermont (1921–23), helped to establish a well-equipped community center, made the village a mecca for amateur astronomers, and gave the town the state's first airport

Spring Grove, borough (pop 1,259), SE Pa , near York, laid out 1747, inc. 1882 It has a pulp and paper mill

Springhill, town (pop. 7,170), N N S , SE of Amherst It is an important coal-mining center, in a region of mixed farming and lumbering

Springhill, town (pop 2,822), NW La , at the Ark line, inc 1922 It has a paper mill

Spring Hill College. see MOBILE, Ala

Spring Hope, town (pop 1,222), E N C , W of Rocky Mount, in a farm area, settled 1886, inc. 1889

Spring Lake. 1 Resort Mivillage (pop 1,329), S ch NE of Grand Haven, inc 1869 It is at the mouth of the Grand River where it enters Spring Lake Several Indian mounds are near by **2** Borough (pop 1,650), E N J , a resort near the Atlantic S of Asbury Park, inc 1892

Spring Lake Heights, borough (pop 1,076), E N J , near Spring Lake, inc 1927.

Spring-Rice, Sir Cecil Arthur, 1859-1918, British diplomat He entered the foreign service in 1882 and held European and Asiatic posts, serving as minister to Persia (1906–8) and to Sweden (1908–12) He succeeded Lord Bryce as ambassador to the United States (1913) and held the position until Jan , 1918 See *The Letters and Friendships of Sir Cecil Spring Rice* (ed by Stephen Gwynn, 1929)

Springs, city (pop 111,155), Transvaal, Union of South Africa After Johannesburg, it is the largest city in the Witwatersrand It is connected by rail to Durban and Johannesburg Springs is in a rich gold-producing area

Spring Valley. 1 Industrial city (pop 5,010), N Ill , on the Illinois river and NNE of Peoria, inc 1886 The area produces coal, commercial sand, and gravel Manufactures include work clothes and cigars **2** Village (pop 2,133), SE Minn , S of Rochester near the Iowa line, settled 1855, inc 1856 It is a farm trade center **3** Residential village (pop 4,308), SE N Y , W of Nyack near the N.J line, inc 1902 It is a summer resort There are stone quarries, and the town's products include rubber stamps, hospital uniforms, and cutlery

Springville. 1 Village (pop 2,849), W N Y , SE of Buffalo, settled 1807, inc 1834 Dental anesthetics are made here **2** City (pop 4,796), N central Utah, S of Provo, settled 1850 by Mormons The irrigated land is served by the STRAWBERRY VALLEY PROJECT A well-known art collection is now housed in an art gallery (1937) The sculptor C E Dallin was born here Near by are fish hatcheries.

Spruance, Raymond Ames (sprōō'ŭns), 1886–, American admiral, b Baltimore, Md , grad. Annapolis, 1906 In the Second World War he distinguished himself at the battle of Midway (1942) and became chief of staff to Admiral Chester W Nimitz As head of the fleet in the central Pacific (later the 5th Fleet), he commanded (1943–44) the forces which invaded the Gilbert and Marshall Islands and was made a full admiral. He was (1945–46) commander in chief of the Pacific fleet and retired from the navy in 1948.

spruce, any plant of the genus *Picea*, evergreen trees or shrubs of the pine family widely distributed in the Northern Hemisphere North American species, except for two West Coast kinds, have four-sided needles commonly radiating in all directions from the plane of the branch (contrast to the flat appearance of hemlock). Many species are cultivated as ornamentals though they become scraggly in age. The Norway spruce (*Picea abies* or *P. excelsa*), an important timber tree of Europe, is one of the most commonly cultivated evergreens. Of North American spruces the more valued for cultivation are the white spruces (*P canadensis* and *P engelmanni*), the Sitka spruce (*P. sitchensis*), and the Colorado spruce (*P pungens*) and its variety the Colorado blue spruce Wood of the various species is usually light, soft, and straight-grained and has been used for interior and exterior construction work, boats, airplanes, pulpwood, and woodenware The bark is sometimes used for tanning, and some species yield a gum resin Spruce beer has been made from the young shoots of the red spruce (*P rubra*) and the black spruce (*P marana*) The Indians in the West have used spruce gum for calking, the inner bark for food, and strips of spruce for weaving watertight mats and baskets The DOUGLAS FIR or Douglas spruce is not a spruce

Spruce Knob, mountain of the Alleghenies, 4,860 ft high, W Va , in the neck of the Eastern Panhandle, highest point in the state

Spruce Pine, town (pop 1,968), W N C , in the Blue Ridge NE of Asheville, settled c 1908 Kaolin and feldspar are mined and processed here, and ceramics are made

Spur, city (pop 2,136), NW Texas, ESE of Lubbock and on a rolling plain below the Cap Rock escarpment, settled 1909, inc 1911 Spur, named for the Spur Ranch, which once included this site, is a processing and market center for cattle ranches and dairy, cotton, and grain farms An agricultural experiment station is here

spurge (spûrj), name for any plant of the large and widely distributed genus *Euphorbia* and for some of the similar and related genera Many spurges are cactuslike and succulent plants, they commonly have a milky juice which is often poisonous and irritating A number of spurges have been used medicinally, some yield dyes, gums, and oils, and experiments to determine the rubber content of others have been made, primitive peoples utilized spurges for arrow and fish poisons A number of spurges, because of their poisonous and weedy nature, are classed as pests by some Other spurges are cultivated in gardens for their attractive foliage, such are the green and white snow-on-the-mountain and the cypress spurge (with groups of small yellowish flowers and narrow inch-long leaves set closely on branching stems) The scarlet plume and crown of thorns are greenhouse spurges with small red-bracted flowers The poinsettia is sometimes included in the genus

Spurgeon, Charles Haddon, 1834–92, noted English Baptist preacher He joined the Baptist communion in 1851 In 1852 he took charge of a small congregation at Waterbeach, Cambridgeshire, and at 20 went to London as pastor of the New Park St Chapel His immediate popularity made necessary larger and larger buildings for his audiences, until the huge Metropolitan Tabernacle, erected for his use, was opened in 1861 Around this developed a pastors' college, an orphanage, and missions Spurgeon's sermons, published weekly from 1854, were collected in 50 volumes His opposition to the doctrine of baptismal regeneration caused his withdrawal in 1864 from the Evangelical Alliance A firm Calvinist, he separated (1887) from the Baptist Union because he considered that modern biblical criticism was threatening orthodoxy Among his numerous publications are *John Ploughman's Talks* (1869) and *The Treasury of David* (7 vols , 1870–85) His autobiography (4 vols , 1897–1900), compiled by his wife from his diary and letters, was edited and condensed (1940) by D O Fuller

Spurn Head, promontory, c 4 mi long, Yorkshire, England, at the mouth of the Humber It has two lighthouses, and near it is a lightship

spurry, annual weedy herb of the genus *Spergula*, native to Europe and naturalized in the United States in the East and on the Pacific coast It has narrow leaves in whorled clusters along the stems and tiny white flowers The seeds are sometimes used as a coffee substitute and made into flour and mixed with wheat, their oil has been used for light A cultivated species is used in Europe as a pasture, hay, and soil-renovating crop In Holland it is sown to hold sands in place, it is sometimes called the clover of sandy soils.

Spurs, Battle of the: see BATTLE OF THE SPURS

Spuyten Duyvil Creek (spī'tŭn dī'vĭl), tidal channel, now a ship canal, c 1 mi. long, SE N Y., within the confines of New York city, separating the northern tip of Manhattan island from the mainland and connecting the Hudson and the Harlem River It is crossed by Henry Hudson Bridge.

spying: see ESPIONAGE.

Spyri, Johanna (yōhä'nä shpē'rē), 1827–1901, Swiss author of many stories of child life in Switzerland These have been among the most popular of all children's books and include the classic *Heidi* (1880; Eng. tr., 1884).

Squanto or Tisquantum, d. 1622, North American Indian of the Pawtuxet tribe. He is sometimes thought to be the Indian taken to England from

the Maine coast by George Waymouth (1605) and returned by John Smith in 1615, but it is certain that he was kidnaped by Capt. Thomas Hunt in 1615, lived in England, and returned (1619) to America with Capt Thomas Dermer In 1621 he acted as interpreter in concluding a treaty between the Pilgrim settlers and Massasoit Squanto became friendly with the Plymouth colonists, aiding them particularly in their planting and fishing While acting as guide and interpreter on William Bradford's expedition around Cape Cod, he became ill and died

Squarcione, Francesco (fränchā'skō skwärchō'nā), 1397–1468, Italian painter, teacher of Mantegna Traditionally he was a tailor and embroiderer who turned to painting c 1429 and established a school of painting in Padua Only two signed works of his exist, *Madonna with Child* (Berlin Mus collection) and an altarpiece in five sections (Padua)

square, in geometry, a figure bounded by four equal straight lines, the sides, which meet at four points, the vertices, to form four right angles The opposite sides are parallel A diagonal of a square is a straight line drawn between two opposite vertices There are two diagonals in a square, and these bisect each other, dividing the square into four equal triangles The perimeter of a square is the sum of its sides The area of a square is the product of one side multiplied by another or, since all the sides are equal, of one side multiplied by itself Hence, in arithmetic, when a number is multiplied by itself the product is called the square of that number For example, the square of 6 is 6 times 6, or 36 The square root of 36 is 6 In algebra, when a quantity is multiplied by itself the product is called the square of that quantity, the process is indicated by an EXPONENT For example, the square of x is x times x and is written x^2 In religion and art, the square symbolizes the earth or life

square, magic see MAGIC SQUARE

square, steel or **carpenter's,** tool consisting of a flat strip of steel cut to form a right angle The standard steel square is composed of the blade (24 in long by 2 in wide) and, forming a right angle to it, the tongue (18 in long by 1½ in wide) On one side of the square, the outer edges are indexed to $^1/_{12}$ in , the inner edges, to $^1/_{32}$ in On the other side, the outer edges are indexed to $^1/_{16}$ in , the inner, to $^1/_{8}$ in The steel square is used to calculate accurately many problems in carpentry, e g , cutting an octagon, laying in beams, finding the radius of an arch, and cutting rafters Steel squares are made in several sizes and with special indexes for special calculations or trades Squares were used in ancient times, as in Egypt, Crete, Greece, and Rome, but the steel square with incised numbers is a 19th-century invention As a symbol, the square is used especially by Freemasons See H C Mercer, *Ancient Carpenters' Tools* (1929), N D Green, *The Steel Square* (1942), D L Stoddard, *Steel Square Pocket Book* (7th ed , 1946)

square root see ROOT, in mathematics

squaring the circle see CIRCLE

squash, edible fruit of a vine of the same genus, *Cucurbita*, as the PUMPKIN The names squash and pumpkin are often used interchangeably There are three main groups The light-colored summer squashes are of either the pattypan or long type, they belong to the same species as the field or pie pumpkins They are used when young, before the rind hardens The winter squashes—chiefly varieties of *Cucurbita maxima*, including the Hubbard and turban, which in Europe are called pumpkins —are hard-shelled and can be kept over the winter in a warm, dry room Their colors range from yellow to deep blue green Their flesh has more flavor than that of summer squashes The third group contains varieties of *C moschata*, e g , the Canada crookneck pumpkin (or winter crookneck pumpkin) and the cheese pumpkin The place of origin of squashes has been a matter of dispute, but they are often considered to be native to America Squashes are much grown as a home-garden and local-market vegetable, frozen squash is marketed as are smaller quantities of the canned product The plant is attacked by the striped cucumber beetle, for which Paris green and slaked lime dust may be applied, the squash bug, which should be picked by hand or sprayed with nicotine sulphate, and the squash-vine borer, best destroyed by deep plowing and crop rotation Squashes, maize, and lima beans were the chief crops cultivated by the North American Indians, even in the pre-Columbian period

squash racquets, game played on a four-walled court, 16 ft high by 18½ ft wide by 32 ft deep The back wall, shorter than the front wall, usually measures 9 ft Horizontal service lines 6½ ft. high are painted on both the front and back walls, while a floor service line is marked off 10 ft. from, and parallel to, the back wall. The court is divided into two service zones by a line running midway between, and parallel to, the side walls The inflated, black, hard rubber ball (1⅝ in in diameter) has a relatively "dead" bounce, and hard running and agility are required of the squash racquets player. From a back corner of the court he serves the ball with a racquet that is 27 in. long, round headed, and gut-strung. The ball must hit the front wall above the service line (with caroms off the side walls permitted) without bouncing on the floor and must hit on the opposite service floor Volleying is permitted (even on the service return), and a point is scored when either player fails to return the ball before it touches the floor twice As in tennis, two services are allowed a player The game may be played by partners In match play, usually 15 points win a game and two out of three games win a match Squash racquets probably originated in the late 19th cent from the older game of RACQUETS and in the 20th cent met with increasing popularity—especially in American colleges and universities See Allison Danzig, *The Racquet Game* (1930), H L Cowles, *The Art of Squash Rackets* (1935), John Skillman, *Squash Racquets* (1937), J T Hankinson, *Squash Rackets* (1949)

squash tennis, game played on a four-walled court, similar in dimensions to the court on which SQUASH RACQUETS is played The two games, however, differ in equipment, rules, and play The squash tennis ball, equal in measurement to the tennis ball, is larger and much livelier than the squash racquets ball, and the squash tennis racquet is shaped like a tennis racquet, though it is a little smaller The rules differ especially concerning the service, e g , in squash tennis a ball may not carom off the side walls before hitting the front wall on the service, the service must bounce in front of the floor service line, volleying is forbidden in returning the service, and only the server may score a point These differences in rules grew out of the basic features of the equipment of both games The livelier ball and heavier racquet in squash tennis put emphasis upon hitting the ball on the carom rather than upon speed of the runner See Allison Danzig, *The Racquet Game* (1930)

squatter sovereignty, in U S history, the doctrine under which slavery was permitted in the territories, the final question of its legal status being left to the territorial settlers themselves when they applied for statehood First proposed in 1847, it was incorporated in the COMPROMISE OF 1850 and four years later was an important feature of the KANSAS-NEBRASKA BILL Sen Stephen A DOUGLAS, chief exponent of the doctrine called it "popular sovereignty," but antislavery men, who wanted slavery totally excluded from the territories, contemptuously called it "squatter sovereignty"

squid, carnivorous marine mollusk with 10 arms or tentacles which bear suction disks The thickened mantle forms a protective covering and the shell is reduced to an internal horny plate shaped like a quill pen The squid has highly developed eyes By ejecting water through the funnel it can move backward rapidly and more slowly in other directions When in danger it emits an inky fluid Squids are used for bait and in some countries, chiefly in the Orient, for food Luminescent forms are found especially in the deep sea The giant squid reaches a total length of about 50 ft

Squier, Ephraim George (skwī'ur), 1821–88, American archaeologist and journalist, b Bethlehem, Albany co , N Y He worked on newspapers in New York and Ohio His lifelong interest in archaeology and his many contributions to the field began with his study of prehistoric remains in the Ohio and Mississippi valleys He was U S chargé d'affaires to the republics of Central America (1849) and subsequently was American commissioner to Peru His works include *Aboriginal Monuments of the State of New York* (1851) and *The States of Central America* (1858)

Squier, George Owen, 1865–1934, American electrical engineer, b Dryden, Mich , grad West Point, 1887 From 1916 to 1919 he was in command of the army air service, and in 1917 he became major general He invented the monophone for broadcasting over telephone wires and conducted researches in telephony and telegraphy, electromagnetism, and photochronography

squill, common name for two genera of Old World bulbous plants of the lily family The horticulturists' squill is any plant of the genus *Scilla*, mostly spring-blooming low herbs with commonly deep blue but also white, rose, or purplish flowers borne along a leafless stem, the leaves are usually narrow Species of *Scilla* are used for naturalizing, rock gardens, and borders. Of these, the Siberian squill is an early rock-garden favorite, the wood or wild hyacinth, called also bluebell or harebell (*Scilla nonscripta*), is the common squill The pharmacists' squill or sea onion (*Urginea scilla* or *maritima*) produces whitish or rose flowers in the autumn before the leaves, the bulbs, collected chiefly from the Mediterranean region, are sold as white or red squill, the white an official drug used as a diuretic, stimulant, and expectorant, the red used mostly as a rat poison.

squinch, in architecture, a piece of construction used for filling in the upper angles of a square room so as to form a proper base to receive an octagonal or spherical dome It was the primitive solution of this problem, the perfected one being eventually provided by the pendentive. Squinches may be formed by masonry built out from the angle in corbeled courses, by filling the corner with a vise placed diagonally, or by building an arch or a number of corbeled arches diagonally across the corner In Moslem architecture the squinch took the form of a succession of corbeled stalactites Some early examples of the squinch can be seen in Roman domical buildings of the 3d cent It was also commonly used in the early churches of Europe and the East

squirrel, small rodent of North and South America, Europe, Asia, and Africa It has soft, thick fur and a bushy tail, is usually diurnal, and is active throughout the year, spending much of its time in trees Many squirrels conceal nuts and other food for winter in the ground or in stumps, locating the buried stores chiefly by smell Gray squirrels, common in the United States, are introduced in Europe Red squirrels are common in Europe and North America Tufted-eared Abert and Kaibab squirrels live in regions of the yellow pine in the W and SW United States Hunters have seriously reduced the population of the fox squirrel of the E United States Black squirrels occur in litters of various species Fur used in the trade is derived chiefly from Russian and Siberian squirrels See also FLYING SQUIRREL and GROUND SQUIRREL

squirrel corn see DUTCHMAN'S-BREECHES

Sr, chemical symbol of the element STRONTIUM

Sremski Karlovci, Yugoslavia see KARLOWITZ, TREATY OF

Srinagar (srēnū'gur) or **Serinagar** (surēnū'gur), city (pop 209,595), capital of Kashmir, on the Jhelum river At an elevation of 5,227 ft , it is one of the most famed and beautiful summer resorts of the East Seven wooden bridges cross the Jhelum and connect the sections of the city lying on either side of the river There are many canals, and transportation is chiefly by boat In place of the hand-woven shawls (cashmeres) for which the city was famed, machine-made silk and woolen textiles now are manufactured The oldest building may be the 7th-century Sankaracharya temple Extensive Buddhist ruins are near the city

Srirangam (srērūng'gum), town (pop 26,676), S Madras state, India, on an island in the Cauvery river It is noted for a group of temples to Vishnu (built c 1600), which attract many pilgrims

Stabat Mater Dolorosa (stä'bät mä'tĕr dō"lōrō'sä) [Latin,=the sorrowful mother was standing], hymn of the Roman Church, probably by JACOPONE DA TODI A prayer meditating on the sorrows of the Virgin in her station at the Cross, it is the sequence for the Seven Sorrows of the Virgin (Sept 15 and the Friday before Palm Sunday) and is often sung at nonliturgical Lenten services It is in 10 stanzas of six trochaic lines, the third and sixth lines of each stanza have seven syllables, the rest eight, the rhyme is *aabccb* Notable musical settings were composed by Josquin des Prés, Palestrina, Pergolesi, Haydn, Schubert, and Verdi

Stabiae, Italy see CASTELLAMMARE DI STABIA.

Stabili, Francesco degli see CECCO D'ASCOLI

Stabroek, Guiana see GEORGETOWN

Stachys (stā'kĭs) [Gr ,=ear of corn], Christian at Rome Rom 16 9

stadium (stā'dēum), race course in Greek cities, where foot races and other athletic contests took place The name is the Latin form of the Greek word for a standard of length and originally referred merely to the measured length of the course Usually the stadia were U shaped, the curve being opposite the starting point Occasionally the curve pointed into a hill slope where seats could be cut in terraces, as at Thebes, Olympia, and Epidaurus The courses were generally 606 ft 9 in (600 Greek feet) long, though the length varied according to the local variations of the measuring unit The stadium at Athens, which was completely restored to serve for the first modern Olympic games in 1896, dates from 330 B C In modern times the great interest in athletic games has caused the evolution of structures suitable to the various sports and seating many thousands of spectators Though many are called stadia, they are only derivative from those of the Greeks and in most features resemble rather the Roman circuses and amphitheaters In America stadia have greatly increased in number and perfection since 1914 Their form varies, being rectangular with curved corners, elliptical, or U shaped In some cases the playing field is beneath the ground level, with the spectator stands partly or wholly submerged in the excavation, as at the Yale Bowl The modern stadium generally is designed for such sports as football, baseball, and track racing But in those of some universities, as at Yale, only football is accommodated The stadia erected in European cities for Olympic games have usually been retained as permanent structures Among American stadia with large seating capacities are the following Chicago, Soldier Field, in Grant Park, 125,000, Philadelphia, Municipal Stadium (built for the Sesquicentennial Exposition), 125,000, New York, Yankee Stadium, 82,000, New Haven, Yale Bowl, 80,000, Philadelphia, Univ of Pennsylvania, Franklin Field, 76,000, New York, Polo Grounds, 55,000

Staël, Germaine de (zhĕrmĕn' dŭ stal'), 1766–1817, French-Swiss woman of letters, whose full name was Anne Louise Germaine Necker, baronne de Staël-Holstein Born in Paris, the daughter of Jacques and Suzanne Necker, she early breathed the intellectual and political air of her mother's salon In 1786 she married Baron Staël-Holstein a Swedish diplomat Though moderately sympathizing with the French Revolution, she left France in 1792 Back in Paris under the Directory, she made her salon a powerful political and intellectual center She separated, amicably, from her husband—then the Swedish ambassador—and became intimately associated with Benjamin CONSTANT Her love life remained, to the end both complicated and unconventional In 1803 her spirited opposition to Bonaparte caused her exile from Paris Mme de Staël retired to her estate at Coppet, on the Lake of Geneva, where she attracted a brilliant circle Already the author of a successful novel, *Delphine* (1802), and of a study of the influence of social conditions on literature (*De la littérature*, 1800), she was inspired by a trip to Italy to write the novel *Corinne* (1807) Her principal work, *De l'Allemagne*, was the result of a tour through Germany Napoleon, who resented the book as an invidious comparison between German and French culture and mores, ordered the destruction of the entire first edition (1811) on the ground that it was 'un-French" Threatened by Napoleon's police, Mme de Staël fled to Russia and England, in 1815 she returned to Coppet Republished, *De l'Allemagne* tremendously influenced European thought and letters, which became imbued with Mme de Staël's enthusiasm for German romanticism Among her other works are *Considérations sur la Révolution française* (1818) and the autobiographical *Dix Années d'exile* (1821) There are English translations of most of her works See Abel Stevens, *Mme de Staël* (2 vols , 1881)

staff, in musical notation, a group of horizontal lines upon and between which notes are written so as to determine their pitch In early attempts at the notation of plain song, a single line was drawn, with neumes placed above and below it, giving a rough idea of the relative pitches of the tones Guido d'Arezzo, in the 11th cent , used several lines and put letters on certain of them to indicate their pitch, thus foreshadowing the use of the CLEF Four-line staves proved adequate for plain-song notation and are still employed for that purpose In 16th-century keyboard music , staves of six or seven lines were often employed, but later the five-line staff, with ledger lines for pitches outside the range provided for by the staff, became conventional

Staffa (stă'fu) [Norse, =pillar], small uninhabited island, off W Scotland, in Argyllshire, one of the Inner Hebrides It is 6 mi NNE of Iona and is noted for FINGAL'S CAVE There are other caves, lofty cliffs, and vestiges of an old chapel

Stafford, Edward, 3d duke of Buckingham (stă'furd), 1478–1521, English nobleman, son of Henry Stafford, 2d duke of Buckingham The attainder of his father (1483) was reversed on the accession of Henry VII (1485) He took a minor place at court until the accession of Henry VIII, when he was made lord high constable, lord high steward, and a privy councilor (1509) He served in the army in France, served on a number of commissions, and attended the king at the Field of the Cloth of Gold Though Buckingham was supposed to be high in the favor of Henry VIII, the king was both jealous and suspicious of him because of his wealth, his lands, and his descent, on the paternal side he was a descendant of Thomas of Woodstock, son of Edward III, and his mother was a sister of Edward IV's queen Buckingham married a daughter of Henry Percy, earl of Northumberland, and through the marriage of his children he was allied to a number of the greatest noble houses of England He came to represent those nobles who resented the power of Cardinal Wolsey and their own exclusion from high offices In 1521 Buckingham was called to London, placed in the Tower, and then brought to trial Witnesses testified that he had countenanced prophecies of his own succession to the throne and had expressed the intention to murder the king He was not allowed to examine the witnesses, and the jury of peers upheld the king's obvious intention to do away with Buckingham He was executed, and in 1523 an act of attainder was passed by Parliament

Stafford, Henry, 2d duke of Buckingham, 1454?–1483, English nobleman He was the grandson of Humphrey Stafford, 1st duke of Buckingham, whom he succeeded in 1460 Although he presided at the trial of the duke of Clarence in 1478, it was not until the death of Edward IV that Buckingham came into political prominence as a supporter of Richard of Gloucester He joined Richard in arresting Lord Rivers and Lord Grey and in taking custody of the young Edward V While Gloucester as protector showered offices upon him, Buckingham figured largely in the political plot which resulted in the coronation of Gloucester as Richard III. Second in power only to the king, he was appointed lord high constable, but soon, for reasons not quite clear, he revolted against Richard and urged a union of the houses of Lancaster and York by the marriage of the earl of Richmond and Elizabeth of York Buckingham gathered an army in Wales and the west but was prevented from advancing by floods in the Wye and Severn rivers, and his army soon dispersed He went into hiding, was betrayed by one of his retainers, tried as a traitor, and beheaded His estates were confiscated

Stafford, Humphrey, 1st duke of Buckingham, 1402–60, English nobleman He succeeded his father as early of Stafford in 1403, as grandson of Thomas of Woodstock, earl of GLOUCESTER, he inherited the title of earl of Buckingham through his mother Anne, countess of Buckingham He served Henry VI in France in the Hundred Years War, as soldier and administrator, much of the time under John of Lancaster Made duke in 1444, he was later granted some of the estates of Humphrey, duke of Gloucester, whose policies he had opposed In the Wars of the Roses he supported Queen Margaret and the Lancastrians at the first battle of St Albans and was killed at the battle of Northampton

Stafford, William Howard, 1st Viscount, 1614–80, English nobleman He was created viscount by Charles I in 1640 He took little part in the Puritan Revolution, and because he felt neglected in the Restoration, he often opposed the court party and gave his support to Shaftesbury At the time of the Popish Plot he was one of the five Catholic lords arrested and the first to be tried Through the false testimony of Titus OATES and others he was declared guilty of an attempt to foster a Catholic revolt He was beheaded and attainted His attainder was reversed in 1824

Stafford, county, England see STAFFORDSHIRE

Stafford, municipal borough (1931 pop 29,485, 1947 estimated pop 36,050), co seat of Staffordshire, England, on the Sow above its junction with the Trent The fortress built by Princess Æthelflæd, on a hill near the town, has been replaced by a great unfinished castle The town has several half-timbered houses and St Chad's Church (Norman) and St Mary's Church, restored by Sir George Gilbert Scott Izaak Walton was born in Stafford, and his cottage at Shallowford near by is now a museum Sheridan, the dramatist, represented the city in Parliament from 1780 to 1806 The chief industry is the manufacture of shoes

Stafford 1 Textile town (pop 5,835), NE Conn , at the Mass line, settled and inc 1719 It includes Stafford Springs borough (pop 3,401, inc 1873), site of mineral springs and a health resort 2 City (pop 2,011), S central Kansas, W of Hutchinson, settled as Sodtown, named Stafford 1879, inc 1885 Oil was struck near by in 1938

Staffordshire (stă'furdshĭr) or **Stafford,** inland county (1,154 sq mi , 1931 pop 1,431,359, 1948 estimated pop 1,585,780), central England The county town is Stafford The terrain is gently undulating except for a district of rugged moorlands in the north The principal river is the Trent, with its various tributaries Much of the land is devoted to cattle pasturage, but the county is primarily industrial In the north the POTTERIES district, centered at Stoke-on-Trent (formerly known as the Five Towns and pictured in novels of Arnold Bennett), is known for its manufacture of fine china (Wedgwood and Spode), glass, bricks, and clay pottery In the south is the BLACK COUNTRY, with its extensive coal fields, foundries, and iron and steel mills Burton-on-Trent is famous for its breweries, and Lichfield for its magnificent cathedral The region was a part of the Anglo-Saxon kingdom of Mercia and was organized as a shire in the 10th cent It played a generally unimportant role in English history until the beginning of its great industrial expansion in the 18th cent The name is abbreviated as Staffs See Arthur Mee, *Staffordshire* (1937)

Staffordshire ware, various products of the POTTERIES district, including earthenware before the 18th cent and later stoneware and porcelain. Among famous Staffordshire potters were Josiah WEDGWOOD, Thomas Minton, and Josiah SPODE

Stafford Springs, Conn see STAFFORD

stage see THEATER

stagecoach. Throughout the Middle Ages and until about the end of the 18th cent , the condition of roads in Europe discouraged the use of wheeled vehicles, and travel by land was regularly on horseback In America until the end of the 18th cent , the traveler often had to make his way on horseback or on foot over an Indian trail Slow and clumsy stagecoaches were operated irregularly in England and America from the early 18th cent Stagecoaches first made their 400-mile journey between London and Edinburgh in 1785, the time required being 10 days in summer and 12 days in winter In the same year stagecoach connection was established between New York and Albany Improved roads had made the stagecoach possible, and in turn the stagecoach encouraged the improvement of roads Stagecoaches varied in design Typically they were drawn by four or six horses, which were changed at the stages or stations along the route, the coach traveling about 12 to 18 hr a day and covering c.40 mi a day in summer and 25 mi in winter Breeds of coach horses, e g , the Cleveland bay and the German coach horse, were developed for strength and speed. The coach had room for eight to fourteen passengers, besides baggage, mail, and the driver Two of the passengers rode in the seat with the driver, each of the other seats had room for three passengers To diminish jolting, the body of the coach was supported by two leather straps (the "thorough braces") lengthwise of the coach Building stagecoaches became an important industry, coachmakers were among the most skilled and highly paid mechanics In America the coachbuilders of Albany and Troy, N Y , and Concord, N H , were famous The fare varied with time and place, averaging in America about five cents a mile Competition from mail coaches, established in England in 1784, brought improvements in the comfort, speed, and schedules of stagecoaches, whose great period was the first half of the 19th cent Stagecoaches were gradually superseded by railroads

stage design. In the Greek open-air theater actors were taken on and off the stage by means of a derrick, a wooden building with a colonnade might form the background. Painted scenery was used as early as 461 B C , in the production of Aeschylus' *Oresteia* The Roman theater, either of the republic or of the empire, required no scenery The medieval mystery play often had a single setting, but mechanical equipment was used for hoisting clouds, heavenly bodies, and sometimes angels The semicircular stage was used through Elizabethan times with the audience on three sides of it The court masques of the time of James I had settings designed by the great architect Inigo Jones The actors of the COMMEDIA DELL' ARTE played at court with an elaborate list of stage properties, but in their itinerant performances they provided their own scenery, which was often only a painted backdrop This introduction of a backdrop moved the spectators to one side only, facing the stage Until the beginning of the 20th cent no drastic improvements were attempted, however, backdrops became more elaborate, meticulously painted, and clear in perspective The large size of theaters permitted flats (flat, movable pieces of scenery) to be raised and lowered on demand, and all acting took place in front of the scenery This proved inadequate for the drama of realism that developed during the late 19th cent What had been an adjunct to a drama of manners was not integrated enough for the attempt at re-creating an actual situation in the realistic or, later, expressionistic theater The modern scenic movement originated in Germany and spread to England, where Gordon Craig agitated for scenic changes that would help to interpret the action, not merely to frame it The Moscow Art Theatre, specializing in highly symbolized acting, also experimented with new stage forms One great change was the introduction of interpretive lighting The use of spotlights to high-light certain parts of the stage, leaving others shadowed, added to the meaning of the drama by emphasizing certain actions above others In addition, lighting could impart to the entire stage, including the background, an illusion of three-dimensionality It was found effective, in some highly symbolic plays, to eliminate scenery entirely and create a setting merely by the play of various lights on gray curtains The introduction of changeable scenery, in box forms, improved the versatility of settings Instead of using flats, the scenery was produced on sides of open boxes which could be shifted on casters to present different facets to the audience for different scenes A great advance in stage versatility was the revolving stage, used notably by Kenneth Macgowan, which could be turned so that one side faced the audience while the other half, hidden behind the backdrop, could be fitted up for the next scene Ingenuity in stage setting led also to the two-level stage Elaborating on the older convention of using a series of raised platforms to impart levels to the stage, scene designers began to build stages on which one part was far higher than the other The use of gauzes was introduced to create the effect of a fade-in A thin, painted curtain could be made to appear absolutely opaque at one moment, transparent and all but nonexistent the next, by judicious lighting This method has proved very effective for smooth and sudden scene changes within one action A revolutionary reform in theater design was introduced in this country by Norman Bel Geddes with the theater-in-the-round A return to the Elizabethan conventions, the arena-style staging allows its audience to surround the actors almost completely, thus eliminating backdrops altogether and bringing the utmost realism to the acting by doing away with the "imaginary fourth wall" against which actors were placed. In the round theater lighting plays an enormous part in creating a set This stage, first operated successfully in Dallas, Texas, was adopted by several experimental New York theaters See Gordon Craig, *On the Art of the Theatre* (new ed , 1926); Kenneth Macgowan, *The Theatre of Tomorrow* (1921), Sam-

uel Selden, *Stage Scenery and Lighting* (1930); H. C Heffner and others, *Modern Theater Practice* (1935), Donald Oenslager, *Scenery Then and Now* (1936), Lee Simonson, *The Art of Scenic Design* (1950).

Stagg, Amos Alonzo, 1862–, American football coach, b West Orange, N J , grad Yale, 1888 He played end on the Yale football team and began his career as a coach (1889–91) at Springfield (Mass) College In 1892 he became athletic director at the Univ of Chicago, coaching football there until 1933 In these 41 years he five times (1899, 1905, 1908, 1913, and 1924) coached undefeated teams An authority on football, Stagg served (1904–32) on the football rules committee Owing to his age, he was compelled to resign his post at the Univ of Chicago, but the "grand old man of football" later coached (1933–46) at the College of the Pacific and became (1947) a coach at Susquehanna Univ He collaborated in writing several books on football. His *Touchdown* (1927), written with W W Stout, is autobiographical.

Stagira (stŭjī'rŭ) or **Stagirus** (stŭjī'rŭs), ancient city, Macedonia, on the peninsula of Chalcidice It was colonized (7th cent B C) by Greeks from Andros and is noted as the birthplace of Aristotle (sometimes called the Stagirite)

Stahl, Georg Ernst (gā'ôrk ĕrnst' shtäl'), 1660–1734, German physician and chemist He taught (1694–1716) at the Univ of Halle, then went to Berlin as court physician He is known for his promotion of the PHLOGISTON THEORY and for his theory—developed in his *Theoria medica vera* (1707)—that the soul controls the function and structure of the body

Stahlberg, Kaarlo Juho (kär'lō yō'hō stal'bĕrg), 1865–, Finnish statesman At the outbreak of the First World War he was professor of law at the Univ of Helsinki and, as president of the Finnish diet, an opponent of Russian oppression He was president of independent Finland (1919–25), but in 1931 was defeated as a Progressive candidate

stained glass, in general, windows made of colored glass To a large extent, the name is a misnomer, for staining is only one of the methods of coloring employed, and the best medieval glass made little use of it Colored glass as window decoration is of great antiquity in the Far East Moslem designers fitted small pieces of it into intricate window traceries of stone, wood, or plaster, and this type of window mosaic still is in use Colored glass was used in windows of Christian churches as early as the 5th cent , and pictorial glass as early as the 10th cent However, no existing church windows are known which date prior to the 12th cent , except for some clerestory figures at Augsburg and windows at Hildesheim and Tegernsee which are ascribed to the 11th cent In Gothic church architecture the small wall spaces offered little opportunity for effective color decoration, while the large window openings, usually subdivided by TRACERY, gave ideal accommodation for glass used as polychromatic adornment for the interiors Small pieces of glass held together with lead strips not only admitted the light but transformed it into a medium of beauty In these transparent mosaics biblical history and church dogmas could be portrayed for the populace with great effectiveness The material employed by the Gothic glaziers was colored pot metal, i e , glass colored with metallic oxides while in the melting pot, resulting in colors of clear transparency Other materials were clear white glass and flashed glass, namely, glass to which a thin film of colored glass had been fused For forming outlines and defining details, a brownish paint grisaille, formed of powdered glass and iron oxide, was applied and then fired so as to fuse with the glass surface In the 14th cent yellow stain, based on a compound of silver and sometimes called silver stain, was widely used On clear glass this produced yellow and orange tones, and on blue glass it formed a brilliant green In the 15th cent a process of abrasion was introduced by which, in flashed glass, the surface layer could be ground off in places, thus making it possible to produce several colors and shades on a single piece of glass The early glaziers, following a sketched cartoon for their window design, used a red-hot iron for cutting the glass to the required pieces, afterwards firing in the kiln those which had received painted lines and shadings The pieces were then fitted into the channeled lead strips, the leads soldered together at junction points, and the whole installed in a bracing framework of iron The leads were adjusted to the articulation of the design and formed an integral part of it In the 13th and 14th cent the art of stained glass was at its height, aided, moreover, by the prevailing technical limitations of the medium The metallic ores, though crude and limited, produced admirable color variations, the glass, though available only in small pieces, gave thereby a jewellike quality to the colors, the pieces, by their uneven surface and varying thickness, gave the advantage of irregular and scintillating refractions of light. With improved glassmaking many of these assets vanished By the 16th cent, the material was smoother and in larger pieces, towards the middle of this century the use of enamel paints permitted the designs to be entirely painted on the glass and then fired This technique thenceforward replaced that of the medieval mosaic windows, and the true art of stained glass had become extinct Glass of the 12th cent , of which relatively little remains, is seen in the windows at Chartres, Le Mans, and elsewhere in France, as well as at Canterbury cathedral and York Minster in England The windows of this period were characterized by rich, dark colors, single figures, and scrollwork A recurrent design, that of the Jesse tree, continued in use up to the 16th cent By the beginning of the 13th cent figures were abundantly used and grouped together in pictorial subjects, the scenes being enclosed in geometrical medallions, such as circles, lozenges, or quatrefoils A window was composed of many of these medallions Color became more detailed and varied, and the prevailing scheme of red, blue, green, and purple, with small amounts of white, created tense and vibrant harmonies In France the cathedral at Chartres is an unrivaled treasury of 13th-century glass, in England fine examples are in York, Lincoln, and Salisbury In the 14th cent medallion compositions were replaced by a single figure framed in canopied shrines Many windows showed clear areas designed in grisaille In the 15th cent glass artists achieved a fine silvery tone by the use of large proportions of white glass, and their figures of saints and apostles were surmounted by canopies of elaborate and often extravagant design The leads and mullions began to be ignored, and the picture no longer limited itself to a single light but extended its composition over an entire large window The simple architectural discipline of the 13th and 14th cent disappeared, and with the 16th cent the designers emulated the purely pictorial effects of Renaissance oil painting, with perspectives, large scale, and elaborate realism Nineteenth-century romanticism and the Gothic revival brought fresh study and emulation of glass as well as of other medieval arts The arts and crafts movement under William Morris was especially productive He and Burne-Jones designed windows of true medieval technique and spirit, as in their fine work at Birmingham Cathedral and at Christ Church, Oxford A great contribution to American stained glass was made by John LA FARGE, whose many windows include those in the Church of the Paulists, in New York See Alfred Werck, *Stained Glass* (1922), C J Connick, *Adventures in Light and Color* (1937)

Stainer, Sir John (stā'nur), 1840–1901, English composer and organist, grad Oxford (B Mus , 1859, D Mus , 1865) Having earlier held several organ positions, he became organist in 1872 at St Paul's Cathedral, London, where as a boy he had been a chorister In 1876 he joined the faculty of the National Training School for Musicians, he was made its principal in 1881 and was a professor there when the school became (1883) the Royal College of Musicians He was knighted in 1888, the year he left St Paul's He wrote much church music in the form of services, canticles, anthems, and songs, his cantatas *The Daughter of Jairus* (1878) and *The Crucifixion* (1887) are outstanding He also wrote theoretical treatises and *A Dictionary of Musical Terms* (with W A Barrett, 1876)

Staines, urban district (pop 21 213), Middlesex, England, on the Thames above London It manufactures automobiles The river is crossed by a granite bridge built by George Rennie in 1831

stainless steel see STEEL

stain removal, from fabrics Prompt treatment may often prevent stains from penetrating fibers and may make the use of strong chemicals unnecessary Certain fresh stains especially grease spots, can be removed by applying an absorbent, e g , chalk, whiting, or corn meal Many spots can be removed from fabrics which water does not injure by placing the fabric on a blotter or absorbent cloth, then sponging it with a damp cloth Certain stains are removed only by the application of chemicals, which should be first tested on an inconspicuous part of the fabric (*Caution* Chemical cleaning fluids should not be used in a room where there is any open flame) In rubbing spots, use a clean cloth and work toward the center of the spot using a circular motion Solvents used for removing spots include alcohol, benzene, carbon tetrachloride, gasoline, naphtha, and turpentine Bleaches include hydrogen peroxide (a mild agent that may be used on many colored fabrics), commercial chlorine bleaches (not advisable for silk or wool), Javelle water, oxalic acid, and potassium permanganate (this sometimes leaves a brownish spot removable with lemon juice, oxalic acid, or hydrogen peroxide, it is not safe for use on rayon) Bleaches are often applied with a medicine dropper to fabric stretched over a bowl of steaming water

Note Common causes of stains and methods of removing them from washable fabrics are listed below, certain of the methods suggested may be applied with care to non-washable fabrics

Blood. Rinse in cold water, for stubborn stains add soap or ammonia to water and soak

Chocolate and *cocoa.* Wash with soap or with borax and cold water

Coffee (clear) Launder with soap or borax, remove remaining stain with potassium permanganate

Coffee with cream Wash with soap and cold water, then treat as for clear coffee

Cream and *milk* Rinse in cold water, adding a little ammonia if needed, then launder in hot, soapy water

Egg Scrape off excess, then use cold water, followed by hot soapy water

Fruit juice Pour boiling water over stain immediately, then use lemon juice and expose to sunlight

Grass and *green foliage* If not removed by laundering, use alcohol or a bleach, then rinse

Gravy Rinse in cold water, for stubborn stains add soap or ammonia to water and soak If oily, follow with method for grease

Grease, oil, and *wax* Scrape off excess, then use one or more of the following methods cover spot with chalk or other adsorbent, place blotting paper on both sides and apply hot iron, rinse in a grease solvent, e g , gasoline or carbon tetrachloride, wash in hot, soapy water

Gum Remove excess with dull knife, soak in gasoline, kerosene, or carbon tetrachloride, then launder

Ice Cream Rinse in cool water, then follow with methods for removing chocolate, coffee, grease, fruit, or other stains

Ink Use commercial ink remover (consult directions on label), certain inks can be removed by soaking in cold water or milk, then laundering, bleaches are often effective

Iodine Soak in cold water or in very dilute ammonia solution, then launder

Iron rust See rust

Lipstick Rub lard into stain, scrape off excess, launder, then use bleach on remaining stain, or pour carbon tetrachloride on stain and blot

Mildew Launder, expose to sunlight, soak stubborn stains in milk or use bleach

Milk See cream

Nail polish Sponge with banana oil, then launder

Oil See grease

Paint and *varnish* Scrape off excess, many paint and varnish spots can be softened with turpentine or with lard, then laundered, alcohol is effective for certain paints

Perspiration Launder, then bleach and rinse or expose to sunlight

Pitch, soot, and *tar* Rub with lard, then launder, use gasoline, turpentine, or other solvent, if necessary

Rust Sprinkle with salt and lemon juice, expose to sunlight, or apply oxalic acid or very dilute hydrochloric acid with a dropper, rinse in hot water, using ammonia or borax to neutralize acid, or use commercial iron rust soap

Scorch Dampen and expose to sunlight

Shoe polish If polish contains turpentine, soak spot in turpentine, then launder, certain black liquid polishes can be removed with a bleach

Soot See pitch

Stove polish Rinse in gasoline or other solvent, launder

Tar See pitch

Tea (clear) Rinse in boiling water, if stain remains, soak in borax, or apply potassium permanganate or oxalic acid, or use lemon juice and expose to sunlight

Tea with milk Wash with soap and cold water, then treat as for clear tea

Varnish See paint

Vaseline Remove with turpentine, then launder

Water spots Moisten evenly, then press while damp, or steam

Wax See grease

Wine Rinse in boiling water, then use bleach

Stair, James Dalrymple, 1st Viscount (dălrĭm'pul, dăl'rĭmpul), 1619–95, Scottish jurist A student and then a regent of the Univ of Glasgow, he was admitted to the bar in 1648 He favored the exiled Charles II and refused to swear allegiance to the Commonwealth, but he was nevertheless appointed (1657) a judge After the Restoration he was prominent until his sympathy with the Covenanters at the time of the Scottish Test Act caused him to lose (1681) his appointment as judge He then finished his *Institutions of the Law of Scotland* (1681), a great treatise on Scottish law An exile in the Netherlands ended when he came (1688) to Great Britain with William III, who made him lord advocate and Viscount Stair

Stair, John Dalrymple, 1st earl of, 1648–1707, Scottish statesman, son of Viscount Stair He served under James II, but sponsored the accession of William III and became (1691) that monarch's joint secretary of state His political skill and eloquence enabled him to dominate the Scottish Parliament, and he conciliated the Presbyterian faction in Scotland He was, however, implicated in the massacre committed at GLENCOE (1692) by soldiers under the orders of John CAMPBELL, earl of Breadalbane, and was forced to resign (1695) He reentered Parliament in 1700 and became a privy councilor (1702) and earl of Stair (1703) Stair actively promoted the union of Scotland and England.

Stair, John Dalrymple, 2d earl of, 1673–1747, Scottish general and diplomat, son of the 1st earl of Stair. As a boy he killed his elder brother by accident and was exiled to the Netherlands by his parents. He fought under WILLIAM III at Steenkerke (1792), was prominent in the War of the Spanish Succession as friend and lieutenant of Marlborough, and was made a general in 1712. He was in 1709 sent as envoy to the court of Augustus II of Poland at Dresden, and he served George I as British ambassador in Paris (1715–20). After retiring he became the foremost agriculturist of Scotland. He reentered politics, secured the overthrow of Walpole (1741), was created field marshal and governor of Minorca, and later served in various military campaigns. See J. M. Graham, *Annals of the Viscount and the First and Second Earls of Stair* (1873).

stair or **stairway,** succession of steps giving access from one level to another. The simplest arrangement is a straight, unbroken flight. However, the available space in the building, the height of its ceilings, and its appearance usually require more complicated layouts with landings and turns and arrangements that involve varying geometrical shapes. The known examples of stairs prior to Roman architecture are mostly confined to the monumental exterior flights, such as led up to the Acropolis at Athens and up to the great platform at Persepolis (5th cent. B.C.). In the rare cases where buildings were more than one story high, interior stairs no doubt existed, as in the example found at Cnossus. The interior stairs of the Middle Ages, seldom emphasized, were chiefly of the spiral type, in stone or wood, built within a small space around a central supporting post. Not until the Renaissance did the interior stair achieve its full architectural effect, chiefly in palaces, civic buildings, and mansions. In the French châteaux it was sometimes enclosed within a special tower marked with special emphasis on the exterior, e.g., at Chambord with its celebrated double stairs built in two separate spirals one above another. While the monumental stairways of Italy and France were of stone or marble, with marble balusters or railings of bronze or wrought iron, the English Renaissance manor house of Elisabethan and Jacobean periods used oak for all parts of its broad staircase, built around a rectangular well, it had easy flights, broad landings, and carved newels and balusters. Graceful curved stairs, circular or elliptical, were a special development of English Georgian and American Colonial architecture. The Renaissance period also produced superb exterior stairs, notably at Versailles and in the Piazza di Spagna at Rome. Among commonly used stair terms, a tread or run is the horizontal surface of each step, and a rise is the height from one tread to the next. Ordinarily a tread of 10 in. to 10½ in. and a rise of 7 in. to 7½ in. has been found comfortable in interior flights. Such dimensions, as well as minimum stairway widths, are regulated by most city building codes. The handrail is supported by balusters or by various types of ornamental railing and is strengthened at landings and floor levels by more substantial vertical supports, termed newels. A stair well is the open space around which the stair either curves or makes a succession of turns at landings. At its top a skylight sometimes is placed. In a dog-legged stair there is no well at all, one flight connects directly with another at a platform or landing, and space is thus saved. The usual form of fireproof stair for utilitarian use is made with a supporting framework of steel (assembled by bolting together the various stock members), upon which are fitted the finish surfaces of risers and treads in whatever material they may be (e.g., marble or concrete). A construction entirely of reinforced concrete is also common. See Gilbert Townsend, *Stair Building: Design and Construction* (1940).

Staked Plain: see LLANO ESTACADO.

Stakhanovism (stäkh'nuvĭzm, stu-), movement begun in the USSR in 1935 and aimed at speeding up industrial production by the use of more rational working techniques. It was named for Alekscy Stakhanov (ülyĭksyā' stükhä'nuf), a coal miner in the Donets Basin, whose team succeeded in increasing its daily output sevenfold. The Soviet government, anxious to speed up the fulfillment of the Five-Year Plan, encouraged the Stakhanov movement, and Stakhanovite workers received higher pay and other privileges. Whether it was spontaneous or not, the Stakhanov movement gained wide following and undoubtedly contributed much to the success of the government's industrial program. It has been widely criticized outside the USSR as another form of the speed-up system, fought by labor unions throughout the world, but apologists pointed out that the aim of Stakhanovism was not to increase the physical effort of the worker but to encourage him to use his ingenuity and technical knowledge to best advantage. It must be pointed out in fairness to the latter theory that the Stakhanovite technical methods, hailed as innovations in the USSR, had been largely used as a matter of course in Western industrial countries and that the output achieved by them still often falls short of the average output of the American worker. The stated aim of Stakhanovism is not more work, but greater efficiency.

Stakhr, Iran. see ISTAKR.

stalactite (stulăk'tīt) and **stalagmite** (stŭlăg'mīt). A stalactite is an icicle-shaped mass of calcium carbonate pendent from the roof of a limestone cavern. Ground water trickling through cracks in the roofs of such caverns contains calcium bicarbonate in solution, but when a drop of water comes in contact with the air of the cavern, the escape of carbon dioxide causes the replacement of the calcium bicarbonate by the less soluble calcium carbonate, which is precipitated out of solution and forms a ring of calcite on the roof of the cavern. By repetition of this process the length and thickness of the stalactite is increased; by alteration of the volume and path of the trickle of water, fluting is produced. A stalagmite is a cone of calcium carbonate rising from the floor of a cavern. Stalagmites and stalactites are often found in pairs, the stalagmite being formed as a result of further evaporation and precipitation from solution after the trickle of water falls from the stalactite. Stalactites and stalagmites often meet each other to form solid pillars. The many colors often seen in these formations are caused by the presence of impurities. Celebrated caverns that owe much of their beauty to their stalactites and stalagmites are Mammoth Cave, Ky., the Luray Caverns, Va., and the Carlsbad Caverns, N.Mex. Onyx marble (Mexican onyx, Egyptian alabaster, or Oriental alabaster), used as a decorative stone, is derived from stalagmites and stalactites, as well as from similar deposits.

stalactite ornament, type of ornament characteristic of Moslem architecture. Generally executed in wood or in plaster over a wood or brick base, it consists of little vertical polygonal or curved niches rising and projecting in rows above one another in such a way as to create a general prismatic, corbeled form. An infinite number of ingenious and intricate compositions of these elements is possible, and such purely geometric decoration was particularly acceptable to the Moslems in view of the Koran's prohibition of the use of natural forms. The primary use of stalactites was to form pendentives in the corners of a square room to receive the base of a circular dome, though this use was relatively infrequent in Spanish Moslem. Absent from the earlier Moslem buildings, they came everywhere into general use early in the 12th cent., forming cornices and the caps of posts and columns, decorating the heads of niches, and supporting the projecting balconies of minarets. In the interior of the Alhambra at Granada, Spain (13th–14th cent.), stalactites appear in particularly beautiful arrangements, especially in the decoration of arches and in the fantastic honeycombed ceiling vaults.

stalagmite: see STALACTITE AND STALAGMITE.

Stalin, Joseph Vissarionovich (stä'lĭn, Rus vĭsŭryô'nuvĭch stä'lyĭn), 1879–, Russian statesman and Communist leader, b. Gori, Georgian SSR. His real name was Dzhugashvili (also spelled Dzugashvili or Djugashvili), he adopted the name Stalin ("made of steel") after joining the revolutionary movement. The son of a shoemaker, Stalin studied (1894–99) for the priesthood at the theological seminary at Tiflis, from which he was expelled for political activities. While still a divinity student, he became a convert to Marxism and began organizing the Social Democratic party in Caucasian Russia. He embraced the Bolshevik cause after the split (1903) in the Social Democratic party of BOLSHEVISM AND MENSHEVISM. Between 1902 and 1913 Stalin was five times arrested by the tsarist police and escaped five times. He allegedly took part (1906) in a bank robbery at Tiflis in order to replenish the funds of the revolutionists. Although Stalin attended party congresses abroad (at Stockholm in 1906 and at London in 1907), he did not, like Lenin, Trotsky, and other revolutionists, choose prolonged exile abroad, but waged battle with the Russian secret police under a number of aliases. His later enemies, notably Leon TROTSKY, represented Stalin as an obscure nonentity until his rise to power after the Revolution of 1917. While Stalin's importance in the years before 1922 has been exaggerated by official biographies, it nevertheless is obvious that Stalin had to operate in the most self-effacing secrecy in order to avoid arrest. The facts are that he did found (1911) *Pravda* [truth], later the official daily of the Communist party of the USSR, and that from 1911 to 1913 he played an important secret role in guiding the Bolshevik deputies in the Duma and in directing the party press. In 1913 he was arrested and exiled for life to N Siberia, where he remained till an amnesty after the February Revolution of 1917. Back in Petrograd (Leningrad), he edited *Pravda* jointly with LENIN, and after the October Revolution of 1917 he entered the Soviet cabinet as people's commissar for nationalities. His part in the civil war of 1918–20 has been described as vital by his admirers and as negligible by his enemies. A close collaborator of Lenin, Stalin was elected (1922) general secretary of the Communist party of the USSR, and on Lenin's death (1924) he assumed Lenin's succession jointly with KAMENEV and ZINOVIEV. According to Trotsky's later claims, Lenin in his testament had expressed unfavorable views of Stalin (as well as of Trotsky), but Stalinists vigorously denied this. Stalin's program, as expressed at a party conference in 1925, was to conciliate the peasantry with the Soviet regime and to continue and extend Lenin's NEW ECONOMIC POLICY (NEP). This program was attacked as counterrevolutionary by an opposition group led by Trotsky and soon joined by Kamenev and Zinoviev. However, Stalin was sustained by a majority of his party. The expulsion (1927) of Trotsky and Zinoviev from the party assured Stalin sole leadership. Although he held no formal government office before 1941, he dictated Soviet policy as head of the Politburo of the Communist party, which had become the actual government of the USSR. In 1928, after the NEP had achieved considerable success, the party, on Stalin's initiative, reversed its position toward the agrarian problem and inaugurated the collectivization of the farms. Ruthless measures were taken against the kulak class—the farmers who had risen to prosperity under the NEP and who represented a "reactionary element." At the same time the first FIVE-YEAR PLAN was adopted. Although nearly all Communist leaders had—on the surface, at least—rallied to Stalin by that time, Trotsky, who was deported from the USSR in 1929, continued his bitter opposition, accusing Stalin of sacrificing socialism and the world revolution to his personal dictatorial ambitions. Stalin, on the other hand, said that he was repudiating, for the time being, the role of Russia as the torchbearer of world revolution and emphasized the need for consolidating "socialism in one country" (i.e., Russia), he maintained that the success of the Russian experiment, which demanded immense sacrifice and unreserved discipline, would achieve the double effect of rendering the USSR immune to possible attacks by capitalist nations and of demonstrating the superiority of the Communist system over capitalism. The world economic crisis that shook the capitalist nations after 1929 and the simultaneous and spectacular development of Soviet economy won many converts to Communism and appeared to justify Stalin's view. In the field of economy, Stalin's successive Five-Year Plans represented, on the whole, a shift to the left from Lenin's policy. In the political and cultural fields, the USSR under Stalin moved definitely to the right. The ultimate aim of MARXISM—the "withering away" of the state—was indefinitely postponed, though not officially abandoned. Instead, Stalin made his dictatorship absolute by liquidating all opposition within the party in the celebrated "purge" trials of the 1930s. The "purge" was touched off by the murder (1934) of Stalin's lieutenant, S. M. KIROV, which led to the prosecutions for an alleged plot—vast, Trotsky-inspired, and aided by Nazi Germany—to overthrow Stalin's government. Among those accused and sentenced (all of whom pleaded guilty) were many old Bolsheviks, including Kamenev, Zinoviev, Rykov, and Bukharin. The purge extended even to the head of the SECRET POLICE, G. G. Yagoda, and to some of the highest army officers, notably Marshal Tukhachevsky. Thousands of lesser officials were removed. At that price "monolithic unity" was obtained by the time the purge was officially ended in 1938. For the old revolutionists, who despite their ideologies had been formed in the school of 19th-century individualism, a new class of Communist-trained and docile bureaucrats was substituted. The shift to the right (or toward stability, depending on the viewpoint) was equally manifest in the reorganization of the armed forces along disciplinarian lines reminiscent of the reign of Nicholas I, in the official return to conservative divorce and birth-control laws, in the gradual replacement of the intransigent measures against the Russian Orthodox Church by a policy which made the Church an instrument of the state, in the official hostility toward experimentation in the arts, and most important of all, in the rebirth of nationalism and in the mounting distrust of the West and of internationalism. Though Stalin's followers never ceased to take a stand as champions of the working class of all countries, they were led to identify the interests of the international proletariat with the national interests of Russia, Russia being the sole country where the proletariat had seized power. While logical in theory, the argument had to be strained to the utmost in its practical application, notably after Stalin's conclusion of a nonaggression pact with Nazi Germany in Aug., 1939. In his internal policy, Stalin created the framework for a potentially more democratic government through the new constitution of the USSR, promulgated in 1936 (see UNION OF SOVIET SOCIALIST REPUBLICS). An admirable draft, the constitution actually changed little in the totalitarian structure of the state, for it left the ultimate power to the Communist party. With regard to Soviet policy towards the non-Russian nationalities, Stalin, himself a non-Russian, showed keen understanding. The constitution of 1936 reaffirmed and broadened the

Soviet principle of autonomy for the various nationalities, at the same time taking into consideration the great variety of cultural levels. Paradoxically, the encouragement Stalin gave to the full development of local cultures probably did more for the general acceptance of Russian culture and speech among the minorities than the Russification policy of the tsars With some notable exceptions (e.g , in the cases of the Volga Germans, the Tatars of CRIMEA, and the CHECHEN in the Caucasus), the Soviet government followed the spirit of the 1936 constitution in its nationality policy It is doubtful that, before 1939, Stalin had a definite program of foreign policy other than a general aim to keep the USSR at peace Under the guidance of LITVINOV, Russian foreign policy strove for international cooperation. The decision to enter on a pact with Germany was probably largely that of Stalin (who, however, never ceased to act in consultation with the other members of the Politburo) When Germany broke the pact and attacked Russia in June, 1941, Stalin—who in the preceding month had taken over the premiership from Molotov—also assumed military leadership. If Stalin was the chief planner of Russian strategy in the Second WORLD WAR, he must be reckoned among the great generals of all time He was voted the rank of marshal of the Soviet Union (1943) and of generalissimo (1945) At the TEHERAN CONFERENCE (1943) and YALTA CONFERENCE (1945) with President Roosevelt and Churchill and at the POTSDAM CONFERENCE (1945) Stalin proved himself a consummate diplomat After the war Stalin's public appearances, which had always been rare, became ever less frequent While Molotov and Vishinsky, as foreign ministers, were in the limelight as the rift between Russia and the Western powers was widening, Stalin affected an attitude of conciliatory aloofness and after 1949 refrained from public comment altogether, thus giving rise to rumors of illness and even of death In fact, Stalin, unlike contemporary dictators such as Hitler and Mussolini, had always been retiring and was seldom seen outside the Kremlin His remoteness only stimulated the public worship bestowed on him His portraits had replaced, or were hung beside, the old icons in every Russian home, and the fulsomeness of the praise and adulation reached its climax in 1949 on his 70th birthday, which came near to being an apotheosis Almost nothing authoritative is known of Stalin's private life except that he married twice, that both his wives died (the second, Nadezhda Sergeyevna Alleluyeva, in 1932), and that he had one son by each wife His younger son, Vasily, was, as of 1950, a general in the Soviet air force Stalin has given his name to the largest present branch of Marxist communism The term *Stalinism* is used chiefly to distinguish the majority Communists, who look to the USSR for guidance, from Trotskyites and other splinter groups Both Trotskyism and Stalinism are interpretations of the Leninist version of Marxism, while each group claims to represent in its purity Unlike Trotskyism, however, Stalinism can be judged not only by the light of written theory, but also by its concrete accomplishments, as outlined earlier in this article Stalin himself is the author of many volumes, which are being published as his collected works in Russian Among his writings translated into English are *Leninism* (Eng tr , 2 vols , 1928 33), *Problems of Leninism* (Eng tr , 1934), *The Great Patriotic War of the Soviet Union* (1945), and other collections of speeches, articles, and reports There are numerous biographies of Stalin, some adulatory, such as that of Henri Barbusse (Eng tr , 1935), some clearly prejudiced, such as that by Leon Trotsky (1946) See Boris Souvarine, *Stalin a Political Survey of Bolshevism* (1939), Isaac Deutscher, *Stalin a Political Biography* (1949)

Stalin, Bulgaria see VARNA

Stalinabad (stä"lyĭnŭbät'), city (1926 pop. 5,607, 1939 pop 82,540, 1948 estimated pop 110,000), capital of Stalinabad oblast and of Tadzhik SSR It is the center of an agricultural region and has cotton and silk mills, tanneries, machinery plants, distilleries, and tobacco manufactures An important transportation center, it is the hub of a narrow-gauge railroad net Stalinabad developed after 1929 on the site of the old Tadzhik village of Dyushambe, it is a modern city with broad, tree-lined thoroughfares and is the seat of the Tadzhik state university

Stalingrad (stälyĭngrät'), city (1926 pop. 151,490, 1939 pop 445,476), capital of Stalingrad oblast, SE European RSFSR, a port on the lower Volga, at the mouth of the small Tsaritsa river. Until 1925 it was named Tsaritsyn Here the Volga makes a westward bend, only 40 mi distant from eastern bend of the Don, a canal is projected to link Stalingrad still more closely with the Don and thus with the Donets Basin. Stalingrad is a leading commercial and industrial center of the Volga region and is connected by major railroads with Moscow, the Ukraine, and the Caucasus. Its port, which handles petroleum, fish, lumber, and coal, is an important transfer point. The industries, which developed chiefly under the Soviet regime, produce quality steels, tractors, oil-drilling machinery, machine tools, ball bearings, and canned goods, there also are oil refineries (for oil from Baku), lumber mills, and shipyards Stalingrad has several medical, agricultural, and technical schools. The city, which is served by a circular railroad belt, is an amalgamation of separate industrial settlements and extends for c 30 mi along the right (western) bank of the Volga Founded in 1589 on the site of a Tatar settlement as a Russian stronghold, it fell to the rebels under Stenka Razin (1670) and under Pugachev (1774) In the 19th cent Tsaritsyn became an important commercial center During the Russian civil war it was defended (1918) by Soviet troops under Stalin and Voroshilov, but in 1919–20 it was held by the Whites under Denikin Stalingrad was virtually destroyed in one of the decisive battles of the Second World War In Sept , 1942, a German army (consisting of 22 divisions, including Italian, Hungarian, and Rumanian forces), commanded by Gen Friedrich von Paulus, began the all-out attack on Stalingrad, which was defended by 16 divisions under Gen Vasily I Chuikov Stalin ordered the city held at all costs After two months of house-to-house fighting the Germans had conquered most of the city, yet the defenders, joined by the remaining civilian population, continued their desperate stand, thus giving Grigori Zhukov time to prepare a counteroffensive In Nov , 1942, two Russian columns, advancing from the north and from the south, joined between the Volga and Don bends and cut off the Germans A German relief force was routed (Dec , 1942) On Feb 2, 1943, Paulus surrendered with the remnants of his army In the battle of Stalingrad, the Axis forces lost some 330,000 men The Russians followed up their victory with a mighty westward drive and generally remained on the offensive for the remainder of the war Rebuilding of Stalingrad was begun immediately after its liberation, and by 1950 its pre-war population figure had again been reached There are numerous accounts of the battle of Stalingrad See Alexander Werth, *The Year of Stalingrad* (1947), and the novel by Theodor Plievier, *Stalingrad* (Eng tr , 1948)

Stalinir (stälyĭnyĭr'), city (1939 pop 15,000), capital of South Ossetian Autonomous Oblast, Georgian SSR It is in an orchard region It was named Tskhinvali until 1936

Stalino (stä'lyĭnŏ), city (1926 pop 174,230, 1939 pop 462,395), capital of Stalino oblast, SE Ukraine It is a major center of the industrial DONETS BASIN There are iron and steel mills, machinery works, a nitrate plant, and clothing and food industries It was founded in the 1870s by a Scottish industrialist named Hughes and called Yuzovka for him The name was later changed to Stalin and (c 1935) to Stalino

Stalinogorsk (stŭ"lyĭnŭgôrsk'), city (pop 76,207), central European RSFSR, S of Moscow It is a lignite-mining center and an industrial city, with machine-building and chemical plants Founded in 1930, it was briefly held (1941) by the Germans during their drive to capture Moscow in the Second World War

Stalin Peak, Czechoslovakia see TATRA

Stalin Peak, 24,590 ft high, Tadzhik SSR, in the Pamir, highest point in the USSR Its former name was Garmo Peak

Stalinsk (stä'lyĭnsk), city (1926 pop 3,894, 1939 pop 169,538, 1945 estimated pop 223,000), RSFSR, in S central Siberia, on the Tom river, which becomes navigable here It is an industrial center of the Kuznetsk Basin, with metallurgical, chemical, and machinery plants The city consists of the old town of Kuznetsk (founded in 1618 as a Russian fortress) and of a new industrial section, joined with Kuznetsk in 1932 to form Stalinsk

stall, small division of a larger space, sometimes partly partitioned The term is used for a booth for display and selling at an exhibition, for a compartment in a stable or kennel, or, in England, for the forward seats in a theater orchestra In a church or cathedral the stalls are the fixed seats built in rows along the sides of the CHANCEL and used by the clergy and choir They formed part of the church furniture at an early period when the officiating clergy had increased in number At first movable seats, they later became an architectural feature. The choir stalls may be arranged in a single tier or in several tiers, one behind another The prayer rest for each stall is formed by the back of the one preceding it Each seat folds back to give space for kneeling or standing, and the miserere or projecting corbel upon its under surface then furnishes a rest for the priest in the long periods of standing In the medieval stalls the miserere was carved with scenes from everyday life or with fabulous animal forms. From the 14th cent onward the stalls became objects of the wood carver's limitless skill, with high traceried backs and sculptured arms. The uppermost tier was often crowned by high gables or by canopies of richest tabernacle work, supported on colonnettes and terminating in spires Such are the magnificent stalls (c.1530) in St George's Chapel, Windsor, assigned to the use of the Knights of the Garter In Italy are the handsomest of the Renaissance stalls, many 16th-century examples having both carved and intarsia adornment, as at Siena cathedral.

Stallings, Laurence (stô'lĭngz), 1894–, American dramatist, b. Macon, Ga , grad Wake Forest College (B A , 1915) and Georgetown Univ (M S , 1922) After some journalistic experience he became assistant dramatic critic, and later literary editor, of the New York *World* His experiences as a captain of Marines in the First World War, in which he lost a leg, contributed to the realism of *What Price Glory* (produced 1924), a sensationally successful war play written with MAXWELL ANDERSON, and *Plumes* (1924), a popular novel Stallings has also written many moving-picture scenarios

Stambaugh (stăm'bô), city (pop 2,081), W Upper Peninsula, N Mich , on the Menominee iron range near Iron River, settled c 1878, inc as a village 1895, as a city 1923.

Stamboliski, Aleksandr. see STAMBULISKI, ALEXANDER.

Stambul, Turkey see ISTANBUL

Stambulski, Alexander, Bulgarian *Aleksandr Stambolĭski* (ălĕksän'dur stambōlē'skē), 1879–1923, Bulgarian statesman He founded (1908) the radical Peasant party By 1911 he had become the leader of the opposition to Tsar Ferdinand, and from 1915 to 1918 he was jailed for opposing the entry of Bulgaria into the First World War on the side of the Central Powers After Ferdinand's deposition and the accession of Boris III, Stambulski became premier (1919) and virtual dictator (1920) Supported by his peasant Orange Guard, he used his powers to carry out agrarian reforms and founded the Green Peasant International He sought to conciliate the neighbors of Bulgaria and to carry out the provisions of the Treaty of Neuilly, which he had helped to negotiate in 1919 In 1923 a coup d'état, supported by army officers and by Macedonian nationalists and led by TSANKOV, overthrew his government Stambulski fled but was shot dead by his pursuers

Stambulov, Stefan (stĕ'fan stambōō'lŏf), 1854–95, Bulgarian statesman He led the unsuccessful revolt of 1875, which was ruthlessly suppressed by the Turks in the "Bulgarian atrocities" Stambulov fought (1877–78) on the side of the Russians in the Russo-Turkish War and after the creation of the Bulgarian state became parliamentary leader of the National Liberal party He opposed the pro-Russian faction that deposed Prince Alexander in 1886 and organized a counterrevolution that placed Ferdinand of Saxe-Coburg-Gotha on the throne in 1887 Ferdinand made him premier, and Stambulov wielded dictatorial power He consolidated Bulgarian independence but did not secure Ferdinand's recognition by the European powers After having resigned in 1894, he was fatally wounded (1895) by an assassin

Stamford, municipal borough (pop. 9,947), in the Parts of Kesteven, Lincolnshire, England, on the Welland It is the supposed site of a defeat of the Picts and Scots by the Saxons in 449 and was one of the Five Boroughs of the Danes Many of its historic buildings have been destroyed (some of them when the town was sacked by the Lancastrians in 1461), but remaining are several old churches (including St Mary's, All Saints, St John's, and St George's), part of an ancient Benedictine priory of St Leonard, a gate of Brasenose College (founded by a group from Oxford in 1333, when Stamford vied with Oxford as a seat of learning), and several almshouses (called "callises," since they were founded by Calais merchants), including Browne's Hospital East of town, in Northamptonshire, is Burghley House (16th cent), containing collections of pictures and tapestry and built by Lord Burghley who is buried in St Martin's, near by

Stamford. 1 City, now coextensive with Stamford town (pop 61,215), SW Conn , on Long Island Sound, settled 1641, chartered as a city 1893 A referendum in Nov , 1947, brought long-delayed consolidation of town and city governments City of manufactures (locks, hardware, machinery, chemicals, plastics, and clothing), it is also a city of commuters to New York and has fine residential sections at Shippan Point and in the hills to the north The large Cummings Park (for Homer S Cummings) is on the Sound A five-month strike (1945–1946) at the Yale & Towne factory had notable repercussions See H F Sherwood, *The Story of Stamford* (1930) **2** Resort village (pop 1,088), E central N Y , in the Catskills, on the West Branch of the Delaware and SW of Albany, inc 1870 **3** City (1940 pop 4,810; 1947 estimated pop 6,200), W central Texas, NNW of Abilene, founded 1900, inc 1901 Though it still has large ranches about it and has an annual Texas Cowboy Reunion, it is mostly a settled farm market with cotton gins and a compress, mattress factories, and other processing plants

Stamford Bridge, village, East Riding of Yorkshire, England, on the Derwent and NE of York King Harold here defeated Harold Hardrada (Harold III) and Tostig in 1066

stammering: see STUTTERING

Stamp, Josiah Charles, 1st Baron Stamp of Shortlands, 1880–1941, English economist and financier

Active in many national and international economic commissions, he played an important part in the framing of the Dawes and Young plans for German reparations and was economic adviser to the British government after 1939 He was raised to the peerage in 1938 He died in an air raid on London His books include *Fundamental Principles of Taxation in the Light of Modern Developments* (1921, rev ed, 1936), *Financial Aftermath of the War* (1930), and *Christianity and Economics* (1939)

stamp. see POSTAGE STAMP and SEAL

Stampa, Gaspara (gä'spärä stämˈpä), c 1523–1554, Italian poet She was a student of the classics, ancient and Italian Her verse celebrates her unhappy romance and is characterized by depth of feeling and a passionate tenderness See Lorna de' Lucchi, *An Anthology of Italian Poems* (1922)

Stamp Act, 1765, revenue law passed by the English Parliament (upon the insistence of George GRENVILLE) which extended the British stamp tax to America by requiring all publications and legal documents issued in the colonies to bear a stamp This law continued the policy of obtaining part of the cost of colonial defense and administration from the colonials begun in 1673 The Stamp Act was vehemently attacked in the colonial press and denounced by Samuel Adams and other colonial spokesmen, such as Christopher Gadsden, Patrick Henry, John Dickinson, John Lamb, Joseph Warren, and Paul Revere Organizations known as the SONS OF LIBERTY were formed to protect colonial freedom, merchants boycotted English goods, and the Massachusetts legislature, following the suggestion of James OTIS, issued a call for a general congress to find means of resisting the law At the *Stamp Act Congress*, which met Oct 7, 1765, in New York city, delegates from New York, New Jersey, Rhode Island, Massachusetts, Pennsylvania, Delaware, South Carolina, Maryland, and Connecticut listened to Christopher GADSDEN plead for colonial cooperation The delegates then adopted a Declaration of Rights, a Petition to the King, and a Memorial to Both Houses of Parliament These documents declared that freeborn Englishmen could not be taxed without their consent and since the colonists were not represented in Parliament any tax imposed on them without the consent of their colonial legislatures was unconstitutional Fearing a loss of trade, Parliament repealed the Stamp Act in 1766

Stamps, city (pop 2,405), SW Ark, near the Red River, in a cotton and lumber area Oil has become the most important product

stamp tax, method of collecting duties on certain transactions by means of a validating stamp attached to the taxable instrument, which may be a judicial act, a commercial document, a transfer of property, or law proceedings This stamp is to be distinguished from a postage stamp, which is not a duty, but a simple method of paying the government for a service rendered Stamp taxes, apparently originating in the Netherlands, were introduced into England in 1694 and extended to the American colonies in 1765 The English stamp tax was levied on the writing material upon which the instrument was written until 1797, when Pitt changed the tax so that it would apply to the value of the transaction rather than to the number of words used In the United States, stamp taxes, applying not only to legal and commercial acts but also to goods, were used to finance the Civil War and the Spanish-American War

Stanberry, city (pop 1,893), NW Mo, NE of St. Joseph, in a stock, poultry, and grain area

standard of living, the average status of a nation or a group measured in terms of the food, clothing, shelter, and the like used by the individuals of the group The determination of a standard of living is relative, depending upon the individual judgment of the observer as to what constitutes a high or a low scale A relative index to the standard of living of a certain economic group can be gathered from a comparison of the cost of living and the wage scale or personal income The items which make up a standard of living include not only the material articles of consumption, but also the number of dependents in a family, the geographical location of their abode (environment), the educational facilities, and the financial amount spent for health, recreation, and social services The standard of living in different countries varies, depending upon what items, services, and other factors are taken into consideration What is a necessity for one nation might be considered a luxury for another, and vice versa In general the term is used for comparisons involving the amount of goods that can be enjoyed by a particular economic class Unemployment, low wages, crowded living conditions, and physical calamities, such as drought, flood, or war, may bring a drop in the standard of living, and conversely an increase in social benefits and higher wages may bring about a rise Nations enjoying a high standard of living are the United States, England, Australia, New Zealand, Sweden, Denmark, and Switzerland Discontent with the standard of living has often caused political upheavals which have resulted in the overthrow of the existing regime, as in the French Revolution of 1789 and the Russian revolutions of 1905 and 1917 In the United States the standard of living as determined by the amount of savings and the purchasing power of goods and services has steadily increased The lower economic classes have reached, and in many cases have surpassed, the standard attained by the lower middle class in the 19th cent With the introduction of mass standardization, the cost of production of such items as telephones, radios, and automobiles has been considerably lowered, so that the prices of these articles have fallen within the reach of those economic classes to whom earlier they were unobtainable luxuries See G R Tugwell, *Our Economic Society and Its Problems* (1934), J S Bain, *Pricing, Distribution, and Employment* (1948)

Standards, National Bureau of, bureau of the U S Dept of Commerce, established in 1901 for research in physics, mathematics, chemistry, and engineering It determines the national standards of weights and measures and carries on research toward the improvement of such standards and methods of measurement One of its responsibilities is the development of improved methods for testing materials and equipment It acts as an advisory service for government agencies on scientific and technical matters and develops specifications for the purchase of government supplies It cooperates with state governments and with industries and national organizations in specifications and in safety codes The bureau has research associates whose salaries are paid by certain technical groups It publishes the *Journal of Research*

standing stones, monoliths or great stones, unhewn, set up as primitive monuments in isolated positions or in groups, commemorating events public or personal or serving as boundary marks or as memorials of prehistoric burials Such a MEGALITHIC MONUMENT standing alone is called a MENHIR When several are grouped together in a circle, the formation is in some regions known as a CROMLECH In France, the British Isles, and other parts of Europe, in South America, and in other widely scattered regions they are found in large numbers

Standish, Miles or **Myles,** c 1584–1656, American colonist, b Lancashire, England After serving as a soldier for a number of years, Standish accompanied the PILGRIMS to America on the *Mayflower* (1620) and was recognized at once as the military leader of Plymouth Colony He was probably not a Puritan or an Independent Several times he saved the colony from the Indians, and in 1623 he saved the settlement at Weymouth In 1625 he was sent to England as a colonial agent, particularly concerned with the money advanced to the colonists by the merchants adventurers of London In 1628 he arrested Thomas MORTON of Merry Mount Standish was treasurer of the colony (1644–49), held other posts, and was a founder of Duxbury, Mass, where there is a monument to him Henry W Longfellow, in *The Courtship of Miles Standish*, and James R Lowell, in his *Interview with Miles Standish*, drew wholly from fiction See biographies by J S C Abbott (1872), Tudor Jenks (1905), and T C Porteus (1920)

Standish, town (pop 1,472), SW Maine, near Sebago Lake, settled 1754, inc 1785

Standley, William Harrison, 1872–, American admiral and diplomat, b Ukiah, Calif, grad Annapolis, 1895 Commissioned (1899) ensign in the U S navy, he rose through the grades to become rear admiral in 1927 After serving (1933–37) as chief of naval operations, he retired (1937) He served on many diplomatic missions before he was (1942–43) U S ambassador to the USSR

standpatters, in U S history, term which was widely used early in the 20th cent to designate the conservatives in the Republican party as against the INSURGENTS or progressive Republicans The term is said to have originated in Mark Hanna's remark concerning an election—all that was necessary for Republican success was, in poker parlance, to "stand pat"

standpipe, tank or pipe placed in an elevated position to furnish a required pressure head It may serve to lead water into a boiler despite steam pressure, or it may be used on the eduction pipes of steam pumps to absorb concussions resulting from uneven flow In hydraulic engineering a standpipe finds use as a part of the water main to supply elevated points or to equalize the force against which an engine has to act

Stanfield, Clarkson, 1793–1867, English marine painter He was first a sailor, then a scene painter From 1827 he became known for his easel pictures, for the most part dramatic marines His *Entrance to Zuyder Zee* and *Lake Como* (National Gall, London) and *Sands near Boulogne* and *A Rocky Bay* (Victoria and Albert Mus) are good examples

Stanford, Sir Charles Villiers, 1852–1924, English composer and teacher, b. Dublin, studied at Queens' College, Cambridge, and with Reinecke in Leipsig He was organist (1873–93) at Trinity College, Cambridge. In 1883 he became professor of music at the Royal College of Music, and in 1887 at Cambridge, he held both positions until his death. He conducted (1885–1902) the Bach Choir of London and (from 1897) the Leeds Philharmonic Society He was knighted in 1902. His compositions include seven operas, of which the comic opera *Shamus O'Brien* (1896) was most popular, seven symphonies, choral works, and chamber music. He edited and arranged collections of Irish songs and wrote a textbook of composition and several autobiographical works See J A. Fuller-Maitland, *The Music of Parry and Stanford* (1934), biography by H P Greene (1935)

Stanford, Leland (lē'lund stăn'furd), 1824–93, American railroad builder, politician, and philanthropist, b Watervliet, N Y After a stay in Wisconsin practicing law, he went to California, where he became a successful merchant As Republican governor (1861–63), he helped hold California in the Union He was one of the four founders of the Central Pacific RR, of which he was president until his death, and he personally superintended part of its construction. He was also president (1885–90) of the Southern Pacific Company. From 1885 to his death he was a U S Senator. He founded and endowed STANFORD UNIVERSITY as a memorial to his son, Leland Stanford, Jr His wife, **Jane Lathrop Stanford,** 1825–1905, b Albany, N Y, shared in founding the university and continued to aid it after his death See biography by G T. Clark (1931), Oscar Lewis, *The Big Four* (1938), Bertha Berner, *Mrs Leland Stanford* (1935)

Stanford, city (pop 1,940), co seat of Lincoln co, central Ky, SSW of Lexington, founded 1786 In 1775 Benjamin LOGAN built a fort here

Stanford University, mainly at Palo Alto, Calif, nonsectarian, coeducational, chartered 1885, opened 1891 as the Leland Stanford Junior University, still the legal name (see STANFORD, LELAND, and STANFORD, JANE L) It has schools of business (graduate), education, engineering, humanities and sciences (with journalism), law, medicine (in San Francisco), and mineral sciences There are important art, history, and natural history museums, a food research institute, the Ryan high-voltage laboratory, the Dudley herbarium, an aeronautic laboratory, a university press, and the Hopkins marine station (at Pacific Grove) The library collections include the Hoover Library on War, Revolution, and Peace Stanford is noted for research and graduate work and for leadership in the curriculum plans for major subjects and for independent study David Starr JORDAN was the first president

Stanhope, Charles Stanhope, 3d **Earl** (stă'nup), 1753–1816, English scientist and political figure He was a friend of the younger William Pitt, married Pitt's sister, Hester, and, upon entering Parliament in 1780, opposed the war with the American colonies and supported parliamentary reform and other measures advocated by Pitt Stanhope opposed Pitt's sinking fund, however, and became estranged from him after the outbreak of the French Revolution, declaring against the policy of repression at home and intervention abroad A vigorous supporter of the French republican ideal, he became known as "Citizen" Stanhope and absented himself from the House of Lords (1795–1800) His indefatigable scientific experiments produced a fireproof stucco, calculating machines, lenses, and, most important, machines for printing and stereotyping Others, less successful, included experiments on steam navigation The Stanhope lens and the Stanhope press are named for him Lady Hester STANHOPE, famous eccentric, was his daughter See biography by G P Gooch (1914)

Stanhope, Lady Hester Lucy, 1776–1839, English traveler She was private secretary and hostess for her uncle, William Pitt Leaving England in 1810, she traveled in the Levant, adopting Eastern male dress and a religion which was a composite of Christianity and Mohammedanism She finally settled among the Druses of the Lebanon mts in an abandoned convent that she rebuilt and fortified The half-civilized tribes regarded her as a prophetess, as, in time, she came to regard herself, she incited them to resist an Egyptian invasion (1831) of Syria European travelers, including Lamartine and Kinglake, wrote accounts of their visits to her Her personal physician, C L Meryon, recorded her life in *Memoirs of the Lady Hester Stanhope* (1845) and in *Travels of Lady Hester Stanhope* (1846) See biography by Joan Haslip (1934)

Stanhope, James Stanhope, 1st **Earl,** 1673–1721, English general and statesman, studied at Eton and Oxford He served in the army in the War of the Spanish Succession, becoming one of Marlborough's trusted lieutenants. Stanhope was appointed (1706) minister to Spain, and in 1708 he was made commander in chief of the British forces there He soon captured Minorca, taking Port Mahon and making it a winter base for the fleet, later he used as his second title Viscount Stanhope of Mahon He won the battle of Almenara (1710), but lost his army to the French at Brihuega (1710) and was himself imprisoned for a year in Spain. As a secretary of state (1714–17, 1718–21), he ably conducted the complicated British foreign affairs which followed the war, and he continued to hold high office under George I As chancellor of the exchequer (1717–18), he carried through the plans originated by Robert Walpole to fund the national

debt, but was never implicated in the SOUTH SEA BUBBLE He was elevated to the earldom in 1718. See Basil Williams, *Stanhope* (1932)

Stanhope, Philip Dormer: see CHESTERFIELD, PHILIP DORMER STANHOPE, 4TH EARL OF

Stanhope, Philip Henry Stanhope, 5th **Earl,** 1805–75, English historian He achieved some political importance as undersecretary for foreign affairs (1834–35) under the duke of Wellington in Robert Peel's first ministry and secretary of the Indian board of control (1845–46) in Peel's second ministry In Parliament he favored repeal of the corn laws and secured passage of the Copyright Act of 1842 Stanhope founded the National Portrait Gallery (1859) and was prime mover in organizing (1869) the Historical Manuscripts Commission He wrote standard histories of the reign of Queen Anne (1870) and of the period from 1713 to 1783 (7 vols , 1836–54) He also wrote *History of the War of Succession in Spain* (1832) and an authoritative biography of William Pitt (1861–62)

Stanhope (stăn'hōp", stā'nup), borough (pop 1,100), NW N J , on the old Morris Canal near Lake Hopatcong, settled 1714, inc 1904 It produced iron in the Revolution

Stanislaus I (Stanislaus Leszczynski) (lĕshchĭn'yūskē), 1677–1766, king of Poland and duke of Lorraine Early in the NORTHERN WAR (1700–1721) Charles XII of Sweden overran Poland and expelled King AUGUSTUS II In 1704 Charles secured the election of Leszczynski, a Polish nobleman Entirely dependent on the success of Swedish arms, Stanislaus had to go into exile when Charles was routed (1709) by Peter I of Russia at Poltava He settled in France, where he emerged from oblivion when his daughter, MARIE LESZCZYNSKA, became the wife of Louis XV On the death (1733) of Augustus II, Stanislaus returned to Poland and was once more elected king A minority of the Polish diet, however, chose AUGUSTUS III and thus precipitated the War of the POLISH SUCCESSION Stanislaus, besieged at Danzig, received only moral support from France, while his rival had full military aid from Russia He was obliged to flee from Danzig in 1734, and in 1736 he accepted the terms of the preliminary Treaty of Vienna He retained the royal title but renounced his actual rights in favor of Augustus III In exchange, he received Lorraine and Bar, with the provision that they were to pass directly to the French crown upon his death The former duke of Lorraine (later Emperor Francis I) was compensated with the promise of Tuscany Stanislaus, with an enlightened, humane, and cultured disposition, held a small but distinguished court at Lunéville He was partly responsible for the embellishment of NANCY, where the celebrated Place Stanislas remains a monument to his generosity and good taste While he displayed continued interest in Polish affairs, he proved an able administrator in Lorraine He corresponded with the men of the best minds of his time, notably with J J Rousseau, who on his request drew up a draft for a new constitution of Poland

Stanislaus II (Stanislaus Augustus Poniatowski) (pônyatôf'skē), 1732–98, last king of Poland (1764–95) His father, of a relatively undistinguished family, married into the powerful CZARTORYSKI family, which furthered Stanislaus's career He was (1757–59) Polish ambassador to St Petersburg, where he became a lover of Empress Catherine II Catherine, together with Frederick II of Prussia, secured his election to the Polish throne after the death of Augustus III Russian influence in Poland thus became paramount, and the Russian ambassador at Warsaw virtually ruled the country In 1768 the anti-Russian members of the Polish nobility formed the Confederation of BAR, which in 1770 declared Stanislaus deposed The rebellion was crushed by the Russians, and in 1772 Russia, Prussia, and Austria took vast territories from Poland in the first of the Polish partitions (see POLAND, PARTITIONS OF) Though Stanislaus largely owed his throne to foreign powers, he sincerely sought to strengthen the decaying Polish state by constitutional and educational reforms In 1791 the diet accepted his new constitution, which abolished the *liberum veto* (see POLAND), strengthened the central administration, and opened public offices to the burgher class Serfdom, however, was not abolished The throne, after the death of Stanislaus, was to be hereditary in the electoral branch of the house of Saxony Russia, seeing its hold on Poland threatened, fostered the creation (1792) of the Confederation of Targovica, which sought the restoration of the old constitution Russian—and soon afterward also Prussian—troops again invaded Poland Stanislaus halted military resistance and, seeking a reconciliation with Russia, himself joined the Confederation of Targovica The second partition (1793) was the result It left Stanislaus a truncated kingdom and made him a vassal of Russia The national uprising of 1794, led by KOSCIUSKO, was defeated by Russian and Prussian troops, and in 1795 the third Polish partition ended the existence of Poland Stanislaus, who had taken no firm stand in the events of 1794, abdicated at Grodno and went to live in Russia. A weak character in politics, he redeemed himself by his generous patronage of the arts, sciences, and—especially—literature See A N Bain, *The Last King of Poland and His Contemporaries* (1909)

Stanislav (stŭnyĭslăf'), Pol *Stanislawów* (stänēswa'vōōf), city (1931 pop 61,256), capital of Stanislav oblast, W Ukraine A Polish town repeatedly subjected to Tatar and Turkish attacks, it passed to Austria in 1772 Poland, to which it reverted in 1919, ceded it to the USSR in 1945 The population is largely Ukrainian Stanislav has railroad shops, oil refineries, and carpet manufactures

Stanislavsky, Constantin (kŏnstuntyēn' stŭnyĭslăf'skē), 1863–1938, stage name of Constantin Sergeyevich Alekseyev (sĭrgā'uvĭch ŭlyĭksyā'uf), Russian actor, director, and theatrical producer He was cofounder (1898) with Vladimir Ivanovich Nemirovich-Danchenko of the Moscow ART THEATRE As director of this theater, he not only eliminated stale and mechanical theatrical techniques but trained actors to strive for inner interpretation of their roles and to analyze and use their emotions in a natural and simple manner Among his productions which had a great effect on the theater in Europe, England, and the United States were A K Tolstoy's *Tsar Fyodor Ivanovich*, Dostoyevsky's *Brothers Karamazov*, Chekhov's *Sea Gull* (and his other important works), and Gorki's *Lower Depths* See his autobiographical *My Life in Art* (Eng tr , 1924) and *An Actor Prepares* (Eng tr , 1936)

Stanislawow, Ukraine see STANISLAV

Stanley, Albert Augustus, 1851–1932, American music teacher and composer, b Manville, R I , studied music in Leipzig He was organist (1876–88) at Grace Church, Providence, R I , and was professor of music (1888–1921) at the Univ of Michigan He was one of the founders of the American Guild of Organists, and his compositions include a symphony, a symphonic poem, incidental music for several dramas, songs, and choral music

Stanley, Arthur Penrhyn, 1815–81, English clergyman and author In 1838 he was elected a fellow of University College, Oxford He became tutor and select preacher at Oxford and a recognized leader of Broad Church theology He was strongly opposed to the agitation in the university against R D Hampden, although he urged leniency toward the Tractarians who were attacking Hampden Stanley was made canon of Canterbury (1851), regius professor of ecclesiastical history at Oxford (1856), and canon of Christ Church (1858) Installed as dean of Westminster in 1864, he strove for the adoption of Broad Church policies His inclusion of Christian ministers of all faiths among speakers from his pulpit and especially an invitation to some nonconformists to partake in the Holy Communion brought him into disfavor in circles of strict conformity His voluminous writings include several volumes of ecclesiastical history, *The Life and Correspondence of Thomas Arnold* (1844), *Historical Memorials of Canterbury* (1855), and *Historical Memorials of Westminster Abbey* (1868) See R E Prothero and G G Bradley, *The Life and Correspondence of Arthur Penrhyn Stanley* (1893), A V Baillie and Hector Bolitho, *A Victorian Dean* (1930)

Stanley, Edward George Geoffrey Smith. see DERBY, EDWARD GEORGE GEOFFREY SMITH, 14TH EARL OF

Stanley, Sir Henry Morton, 1841–1904, British explorer in Africa and journalist, b Denbigh, Wales He was originally named John Rowlands, but as a youth he went to New Orleans and assumed the name of his adoptive father, an American merchant In the Civil War he was first with the Confederate army He was captured (April, 1862) at the battle of Shiloh and later served briefly in the Union army Stanley early won journalistic fame for his descriptions of naval fighting in the war, of campaigns against Indians in the West, and of a tour in Asia Minor The New York *Herald*, under James Gordon Bennett, Jr , sent Stanley on his first great expedition to Africa, primarily to find David LIVINGSTONE Stanley reached the sick explorer at Ujiji on Lake Tanganyika on Nov 10, 1871, and casually greeted him, "Dr Livingstone, I presume " Together they explored the north shore of the lake Stanley wrote his account in *How I Found Livingstone* (1872) On his second major African expedition (described in *Through the Dark Continent*, 1878) Stanley explored (1874–77) equatorial Africa, discovering some sources of the Nile and tracing the course of the Congo His revelation that the Congo afforded a waterway through most of central Africa and made its riches accessible much impressed King Leopold II of Belgium, who sponsored another exploration On this expedition (1879–84) Stanley further clarified the geography of Africa, and he obtained territorial concessions which led to the international recognition of the Congo Free State under Leopold's rule Stanley's last great African journey (reported in his *In Darkest Africa*, 1890) was undertaken (1887–88) to rescue Emin Pasha (the German governor of an Egyptian province in the Sudan) from the Mahdists The pasha was rescued, and Stanley, besides, explored the Ruwenzori mts and obtained land concessions in favor of Great Britain from native tribes Stanley was elected (1895) to Parliament See his autobiography (ed by Dorothy Stanley, 1909); biography by A J Brice (1930)

Stanley, Wendell Meredith, 1904–, American biochemist, b Ridgeville, Ind , grad Earlham College, Richmond, Ind (B S , 1926), Ph D Univ of Illinois, 1929 He was with the Rockefeller Institute for Medical Research, Princeton, N J , from 1931 (member from 1940) to 1948, when he went to the Univ of California to organize and direct a laboratory for virus research He shared the 1946 Nobel Prize in Chemistry with J B Northrop and J B Sumner for his isolation of crystalline forms of viruses

Stanley, William, 1858–1916, American electrical engineer and inventor, b Brooklyn For a short time he studied at Yale, but his knowledge of electrical engineering was self-acquired He worked for electric lighting concerns, assisted H S Maxim and Edward Weston, and invented numerous electric devices, but his great contribution was the invention of a multiple system of alternating-current transmission This he set up at Great Barrington, Mass , in 1886, out of it grew the modern system of light and power transmission

Stanley, town (pop 1,252), on East Falkland It is the capital of the FALKLAND ISLANDS The name sometimes appears as Port Stanley

Stanley. 1 Cotton-mill town (pop 1,036), W central N C , NW of Charlotte, settled 1840, inc 1879 **2** City (pop 1,058), co seat of Mountrail co , NW N Dak , W of Minot, in a farm area, inc 1910 There are coal mines near by **3** City (pop 2,021), central Wis , E of Chippewa Falls and on the Wolf, settled 1881, inc 1898 Dairy products are made

Stanley Falls, cataracts of the Lualaba river, NE Belgian Congo, extending c 60 mi Beyond the falls the Lualaba becomes the Congo The interruption of river traffic is overcome by a short railroad which connects Ponthierville and Stanleyville

Stanley Pool, lakelike expanse, area 320 sq mi , of the Congo river, c 350 mi from its mouth It lies between Belgian Congo and French Equatorial Africa It was discovered by Henry Stanley in 1877 Leopoldville is on its southern shore, and Brazzaville on its northern shore

Stanleyville, town (pop c 25,000), N Belgian Congo, a port on the Congo It is on a short railline which skirts the STANLEY FALLS Cotton and peanuts are exported

Stanovoi Range (stănŭvoi'), mountain chain, RSFSR, in SE Siberia It extends E from the Olekma river for c 450 mi and rises to 8,143 ft The Stanovoi Range is continued by the Dzhugdzhur Range, which swings north parallel to the coast of the Sea of Okhotsk and links up with the Kolyma and Anadyr ranges It forms the watershed between the Lena and Amur river basins

Stans (stans), town (pop 3,446), capital of Nidwalden half-canton, Unterwalden, Switzerland

Stanton, Edwin McMasters (stăn'tun), 1814–69, American cabinet officer, b Steubenville, Ohio He attended Kenyon College, studied law, was admitted to the Ohio bar in 1836, and began practice in Cadiz As his reputation grew, he moved to more fertile fields, to Steubenville (1839), Pittsburgh (1847), and Washington, D C (1856), becoming ever more prominent in his profession In Dec , 1860, Stanton, a Democrat but a strong Unionist, succeeded Jeremiah S Black as U S Attorney General Although he publicly favored most of Buchanan's policies, he privately denounced them to radical Republicans with whom he was in secret contact Then, when he became legal adviser to Lincoln's Secretary of War, Simon CAMERON, he just as readily arraigned the new administration in personal letters to the now retired Buchanan Recommended by several men of opposing political views (none of whom were aware of what the others were doing), he took Cameron's place in Jan , 1862 He proved to be an extremely forceful and able Secretary of War The contracts of the department ceased being opportunities for graft, the railroads were placed under military control, and Union generals in the field were now supplied with necessary men and matériel At the same time Secretary of the Treasury Salmon P CHASE and Stanton were the leading radicals in the Lincoln administration and generally conspired with the President's enemies in Congress It has been claimed that Stanton could have prevented Lincoln's assassination because he had intelligence of the plot, but recent intimations that he was involved in the conspiracy are without foundation He did, however, suppress much of the evidence presented at the military tribunal which convicted the conspirators, one of whom, Mrs Mary E SURRATT, hanged, was probably innocent Other members of Lincoln's cabinet, which was retained by President Andrew JOHNSON, resigned when they came to disagree with Johnson's Reconstruction policy, but not Stanton Although he well knew and approved of the fact that the radicals had passed the TENURE OF OFFICE ACT mainly to assure his hold on the War Dept , he supported and even made suggestions for the President's message vetoing that measure When Johnson finally did seek to force

him out he stubbornly held on until the President was acquitted of the impeachment charges in May, 1868, when he resigned. He died shortly after President Ulysses S GRANT appointed him to the U S Supreme Court See biographies by G. C. Gorham (1899) and F A Flower (1905); W D Kelley, *Lincoln and Stanton* (1885), Ben Ames Williams, Jr , "*Mr Secretary*" (1940); B J Hendrick, *Lincoln's War Cabinet* (1946)

Stanton, Elizabeth Cady, 1815–1902, American reformer, a leader of the woman-suffrage movement, b Johnstown, N Y , daughter of Judge Daniel Cady. She was educated at the Troy Female Seminary (now Emma Willard School) in Troy, N Y In 1840 she married Henry Brewster Stanton, a journalist and abolitionist, and attended with him the international slavery convention in London The women delegates were excluded from the floor of the convention, the indignation this aroused in Mrs Stanton and Lucretia Mott was an important factor in their efforts to organize women to win greater equality With several others they called the first woman's rights convention in the United States, at Seneca Falls, N Y , in 1848 Mrs Stanton insisted that a suffrage clause be included in the bill of rights for women that was drawn up at the convention From 1852 Mrs Stanton was intimately associated with Susan B ANTHONY in leading the woman's movement She was president of the National Woman Suffrage Association (1869–90) and of the National American Woman Suffrage Association (1890–92) With Miss Anthony and Parker Pillsbury she edited (1868–70) the *Revolution*, a militant feminist magazine. Mrs Stanton was a brilliant orator and able journalist, and as writer and lecturer she strove for legal, political, and industrial equality of women, for liberal divorce laws, and for religious tolerance She compiled with Susan B Anthony and Matilda Joslyn Gage the first three volumes of *History of Woman Suffrage* (1881–86) and wrote *Eighty Years and More* (1898) See biography by Theodore Stanton and Harriot Stanton Blatch (1922)

Stanton. 1 City (pop 1,526), co seat of Stanton co , NE Nebr , on the Elkhorn and NW of Omaha; settled 1869, inc. 1871 It is a farm center 2 City (pop 1,245), co seat of Martin co , W Texas, SW of Sweetwater, inc 1925 In a region producing small grains and cattle, Stanton is not far from oil fields and manufactures glycerin

Stanwix, Fort, colonial outpost in New York, near the site of the present city of Rome Here a short portage led from the Mohawk to Lake Oneida, which through the Oswego river connects with Lake Ontario The point thus controls a principal route from the Hudson to Lake Ontario It was a trading center, and the French had a fortified post here This had fallen into disuse when it fell to the English and was rebuilt by Gen John Stanwix in 1758 Here Sir William Johnson signed (1768) an important treaty with the Iroquois The fort was allowed to sink into disrepair, but early in the American Revolution it was rebuilt by the patriots and for a time was called Fort Schuyler In 1777 (see SARATOGA CAMPAIGN) it was held by Peter Gansevoort and Marinus Willett against the siege of British and Loyalist forces under Barry ST LEGER Nicholas Herkimer was ambushed and killed when trying to bring reinforcements to the fort but when new reinforcements under Benedict Arnold approached St Leger lifted the siege The treaty of the United States with the Iroquois was signed here in 1784

Staples, city (pop 2,952), central Minn , W of Brainerd, in a dairy and farm area; settled 1881, platted 1885, inc 1906

Staples, the: see FARNE ISLANDS

Stapleton, locality, on E Staten Island, SE N Y. It is the site of the first U S FREE PORT.

Stappen, Charles van der (vän' dĕr stä'pün), 1843–1910, Belgian sculptor He studied in Paris, where he was influenced by the realism of Rude and Carpeaux He won early recognition with his *Faun's Toilet* (1869) and later executed many public statues and groups in Brussels, including one of William the Silent, *Teaching of Art*, and *Chimera Fountain* In 1898 he was made director of the Brussels Academy His vigorous work contributed to the revival of sculpture in Belgium

star, in astronomy, a luminous globular mass of intensely hot gases Man has made observations of the stars from the time of his first presence on the earth Astrology was an early outgrowth of study of the stars. Man distinguished, in early times, between the "fixed" stars and the planets (or "wanderers"), and he identified groups of stars with the figures of mythological creatures (see CONSTELLATION) All of the stars visible to the naked eye and the millions of faint stars visible only through optical instruments are contained in the MILKY WAY SYSTEM The star nearest the earth is the SUN, and compared with others it is a medium-sized star Although all stars are probably quite similar in chemical composition, they differ in appearance (i.e , their luminosity and surface brightness), temperature, volume, and density Ptolemy followed the system of Hipparchus and divided the visible stars into six classes according to their brightness or magnitude, the brightest were designated as first magnitude, and those barely visible to the unaided eye were assigned to sixth magnitude In the 19th cent. the scale of magnitudes was adjusted so that the designation first-magnitude star now indicates that the star is 100 times brighter than a sixth-magnitude star The scale has been extended to include stars brighter than first magnitude (the brightest being indicated by negative numbers) and also many stars fainter than sixth magnitude which have been recorded in photographs taken through telescopes Classifications of stars have been made on the basis of their color, the classes include bluish-white stars, white stars, yellowish-white stars, yellow stars, and red stars The bluish-white stars are generally divided into those having temperatures near 20,000°C and those with temperatures up to 50,000°C Temperature and color bear a close relationship. Our sun is an example of a yellow star, and its surface temperature is believed to be about 6,000°C The temperature of stars is determined with the aid of an extremely sensitive instrument called a thermocouple The photoelectric cell is one of the most reliable methods of determining the luminosity or brightness of stars Stars vary greatly in size, they range from those about the size of the earth to those with diameters hundreds of times that of the sun The interferometer, an instrument that increases the resolving power of the telescope, is an aid in determining the size of stars The size can be roughly computed when the surface temperature and luminosity of a star are known Stars vary greatly in density Certain huge red stars are known as supergiants Antares is one of these, and although its volume is many millions of times greater than that of the sun, its density is estimated to average less than a millionth that of the sun On the other hand, certain dwarf white stars have a density of more than a ton per cubic inch The distances of stars from the earth are so great that they are indicated in terms of light-years (the distance light, traveling at the rate of 186,000 mi per second can travel in one year) Other than the sun, the nearest stars (about 4 3 light years away) are in the constellation CENTAURUS. Many stars that appear to be single have been discovered to consist actually of double, triple, quadruple, and other multiple star systems There are many thousands that are revealed through the telescope to be double stars, if they revolve about the same center of gravity the pair is called a binary star or binary system Some, called optical doubles, merely appear from the observer's point of view to be close to each other and therefore are not true binary stars. Spectroscopic binaries are those whose binary nature is detectable only through the use of the spectroscope. An eclipsing binary is a double star of which the two components are usually of unequal brightness and each masks or eclipses the other once during every revolution, thereby causing a difference in the appearance of the star as observed from the earth A well-known eclipsing binary is Algol in the constellation Perseus Star clusters are groups of many stars having certain common characteristics, e g , the members are about equally distant from the earth and their rate and direction of motion are the same Some are open clusters with the components rather scattered, they lie chiefly in the Milky Way and are also called galactic clusters Globular clusters are more compact symmetrical clusters The Pleiades, Hyades, Coma Berenices, and a cluster in Orion are visible to the naked eye A large globular cluster in Hercules can be seen only with a telescope Because the stars, in contrast to the planets, appear to the naked eye to keep their relative positions unchanged, they are sometimes called "fixed stars" Actually they are in rapid motion, but the motion in the course of a human lifetime is detectable only through exacting observations The relative position of the stars forming the constellations remains almost unchanged for thousands of years See also VARIABLE STAR. See H. M. Neely, *Star Finder* (1943) and *Primer for Star-Gazers* (1946), Louis Sutherland, *Book of the Stars* (1944), W. H. Barton, Jr., and J. M. Joseph, *Starcraft* (2d ed , 1946), J. S. Pickering, *The Stars are Yours* (1948).

Staraya Russa (stä'rĭŭ rōō'sŭ), city (1926 pop 22,487), W European RSFSR, near Lake Ilmen. It is one of the oldest Russian settlements Held (1941–44) by the Germans in the Second World War, it was severely damaged Several salt springs and mud baths make Staraya Russa a health resort

Stara Zagora (stä'rä zä'gôrä), city (pop 37,057), central Bulgaria. It is an agricultural and railway center, with textile, machinery, and tobacco manufactures It dates from Roman times, and there are ancient remains. Here the Goths defeated and killed (A.D. 251) Emperor Decius, Emperor John II of Byzantium defeated (1122) the Petchenegs, and the Turks defeated (1877) the Russians.

Starbuck, Edwin Diller, 1866–1947, American psychologist, b Bridgeport, Ind., grad Indiana Univ., 1890, Ph.D. Clark Univ., 1897.. Professor of philosophy (1906–30) at the State Univ. of Iowa, he founded there the Institute of Character Research and continued (1930–39) its work at the Univ. of Southern California. His writings include *Psychology of Religion* (1899), *Moral Education in the Public Schools* (1904). and *Guide to Literature for Character Training* (2 vols., 1927–29).

starch, white, odorless, tasteless powder. It is a CARBOHYDRATE which plays a vital role in the functions of both plants and animals and is a source of important commercial products In green plants starch is produced in the process of PHOTOSYNTHESIS, and it is one of the chief forms in which plants store food It is stored most abundantly in tubers (e g , the white potato), roots (e g , the sweet potato), seeds, and fruits, the starch appears in the form of grains which differ in size, shape, and markings in various plants The source of the grains can usually be identified by microscopic examination—e g , those of the potato and bean are rounded and are among the largest known, those of corn are generally hexagonal and smaller, and those of rice are extremely small and angular Animals obtain their starch from plants, in the animal body starch is stored in the form of GLYCOGEN. Digestive processes in both plants and animals convert starch to glucose, a source of energy Starch is one of the major nutrients in the human diet Its presence in foods and other substances can be detected by the blue-black color produced when iodine solution is added to a sample of the material to be tested. By treatment with hot water, starch granules have been shown to consist of at least two components known as amylopectin and amylose Commercially starch is prepared chiefly from corn and potatoes (both sweet and white) Starch is widely used for sizing paper, for stiffening laundered fabrics, for sizing textiles, in the manufacture of food products, and in making DEXTRIN In addition to its other uses, CORNSTARCH is a source of corn syrup, large quantities of which are used in making table syrup, preserves, ice cream, and other confections Corn sugar (or glucose) is also derived from cornstarch See also ARROWROOT

Star Chamber, ancient meeting place of the king's councilors in the palace of Westminster in London, so called from stars painted on the ceiling The court of the Star Chamber developed from the judicial proceedings carried out by the king and his council, plus royal judges, in the 14th and 15th cent Under the Tudors the council was more and more regarded as a criminal court Arbitrary in its powers, the tribunal was useful originally to curb nobles too powerful for ordinary law It functioned publicly, without a jury, and countenanced torture to obtain evidence Abuses of its power under James I and Charles I, when the court met in secret and meted out severe punishments—even mutilation—to the opponents of the king, led to its abolition by the Long Parliament in 1641 "Star Chamber proceedings" has come, by implication, to signify the acts of an arbitrary and oppressive tribunal See C L Scofield, *Court of Star Chamber* (1900), *Select Cases before the Court of Star Chamber* (ed by I S Leadam, 2 vols , 1903–11)

Star City. 1 Town (pop 1,090), co seat of Lincoln co , SE Ark , near the Arkansas river 2 Industrial town (pop. 1,175), N W Va , on the Monongahela and near Morgantown, inc 1907 Glass is manufactured here

starfish, common marine echinoderm typically shaped like a star, with five or more arms or rays radiating from a central disk. The surface is spiny, and calcareous plates are embedded in the skin Locomotion is accomplished by tube feet which are controlled by a water vascular system The mouth and stomach are in the center of the under surface About 1,000 species are found in the world, usually in shallow water and tide pools Starfish can regenerate new rays and sometimes disks when parts have been torn away They eat aquatic animals, especially mollusks and crabs, and are very destructive to oyster beds They cling to the shells of mollusks with their tube feet and exert suction until the shells open Then the starfish extrudes its stomach and envelops the soft body of the mollusk

Stargard (shtär'gärt), city (1939 pop. 39,760, 1946 pop. 9,733), Pomerania, SE of Stettin It was transferred to Polish administration at the Potsdam Conference of 1945. A trade center, Stargard also has metal, chemical, and food industries. Mentioned as a fortress since the 12th cent , it was a member of the Hanseatic League In 1648, as the capital of Farther Pomerania, it passed to Brandenburg. There are many remains of medieval architecture.

Starhemberg, Ernst Rüdiger, Graf von (ĕrnst' rü'dĭgur gräf' fän shtä'rümbĕrk"), 1638–1701, Austrian field marshal He served against the Turks in Hungary under Montecuculi and was made (1680) military commander of Vienna From July to Sept., 1683, he held Vienna with a small garrison against a large Turkish army under the grand vizier Kara MUSTAFA. Vienna was about to succumb to the siege, which had reduced it to starvation, when it was relieved by an army under John III of Poland. As a reward for his heroic role Starhemberg was made a field marshal, minister of state, and president of the war council. His

cousin Guidobald, Graf von Starhemberg (gwē'dōbält"), 1657–1737, also took part in the defense of Vienna. He was appointed field marshal and served with distinction in the War of the Spanish Succession.

Starhemberg, Ernst Rüdiger von (ĕrnst' rü'dĭgûr fŭn shtä'rümbĕrk), 1899–, Austrian political leader, a descendant of the defender of Vienna. Originally a National Socialist, he took part in Hitler's Munich putsch of 1923, but he later opposed Hitler and, in 1930, became leader of the Heimwehr, an Austrian fascistic militia, and was briefly minister of the interior. He supported DOLLFUSS in 1932, his aim being an Austrian system of fascism after the Italian pattern. After participating in the stern suppression of the Social Democrats in Feb., 1934, he became vice chancellor and later also minister of security in the Schuschnigg cabinet. He was forced to resign in 1936 after publicly congratulating Mussolini on his victory in Ethiopia. During the Second World War, Starhemberg served for a time in the British and the Free French air forces. See his memoirs, *Between Hitler and Mussolini* (1942).

Starhemberg, Guidobald, Graf von see STARHEMBERG, ERNST RÜDIGER, GRAF VON (1638–1701).

Stari Krim, RSFSR see STARY KRYM.

Stark, Freya Madeline (frä'u), English writer and traveler. She studied Arabic and after 1927 made several journeys into remote parts of the Middle East. From 1939 to 1945 she was in the British government service, chiefly in Aden, Cairo, and Baghdad, and in 1947 married S. H. Perowne. Her works, many of them accounts of her travels, include *The Valleys of the Assassins* (1934), *The Southern Gates of Arabia* (1936), *A Winter in Arabia* (1940), *The Arab Island* (1945), and *Perseus in the Wind* (1948).

Stark, Harold Raynsford, 1880–, American admiral, b. Wilkes-Barre, Pa., grad. Annapolis, 1903. He was commissioned (1905) an ensign in the U.S. navy and was promoted through the grades. After service in the First World War, he filled several important naval administrative posts. In 1939 he was appointed chief of naval operations and was made admiral. He commanded (1942–45) U.S. naval forces in Europe in the Second World War and retired from active duty in 1946.

Stark, James, 1794–1859, English landscape painter of the Norwich school, pupil and follower of John Crome. His fine *Valley of the Yare* is in the National Gallery, London. He is also represented in the National Gallery, Edinburgh, and in the Victoria and Albert Museum.

Stark, Johannes (shtärk, Ger. yōhä'nŭs shtärk'), 1874–, German physicist. He was professor at the polytechnic school at Aachen (1909–17) and at the universities of Greifswald (1917–20) and Würzburg (1920–22). A noted experimentalist, he discovered (1905) the DOPPLER EFFECT in canal rays (positive particles produced in a vacuum tube which pass through perforations in the cathode) and the broadening or splitting of spectrum lines in an electric field (Stark effect, 1913) which confirmed the new quantum theory. For this work he received the 1919 Nobel Prize in Physics.

Stark, John, 1728–1822, American Revolutionary commander, b. Londonderry, N.H. He fought in the French and Indian Wars. In the Revolution he led at Bunker Hill a regiment he had raised himself, and he served in the Quebec campaign and with Washington in New Jersey. He also fought at Princeton and Trenton (1776–77). He went home in 1777, disgruntled over some promotions, but later in the year took the field as major general of New Hampshire militia. In the QUEBEC CAMPAIGN, when General Burgoyne sent a detachment to take the colonial stores at Bennington (now in Vermont), General Stark met and repulsed it. This failure (the battle of Bennington) was a contributing factor in Burgoyne's discomfiture at Saratoga. For this service General Stark received appointment as brigadier general from the Congress.

Starke (stärk), town (pop. 1,480), co. seat of Bradford co., N. Fla., SW of Jacksonville, in a farm, timber, and naval-stores area. Camp Blanding, an infantry training station, was built here in 1941.

Starkville, city (pop. 4,900), co. seat of Oktibbeha co., E. Miss., W of Columbus, in a livestock, dairy, and farm area, founded c. 1834, inc. 1884. MISSISSIPPI STATE COLLEGE is near by.

Starling, Ernest Henry, 1866–1927, English physiologist, b. India. He was professor (1899–1923) at University College, London. He was an authority on the nervous regulation of heart action and circulation. With Sir William M. BAYLISS, he evolved the concept of hormones and studied the movements of the intestines, describing (1899) peristalsis as a ganglionic reflex. His works include *Principles of Human Physiology* (1912, rev. ed., 1936).

starling, European bird introduced into the United States in 1890 and now very common in some parts of the East. It has iridescent blackish plumage and a long bill which is yellow in spring and summer. It is useful in destroying insects but tends to drive away smaller birds and often congregates in such numbers as to become a nuisance. It mimics bird songs and other sounds.

Star of Bethlehem, name for the star in the east which, as related in the Gospel, led the Wise Men to Bethlehem (Mat. 2:1–10). According to astronomers the appearance of the star may have been caused by the conjunction of the planets Jupiter, Saturn, and Mars or by a nova, a comet, or a meteor.

star-of-Bethlehem, low, spring-blooming bulbous plant (*Ornithogalum umbellatum*) of the lily family, native to the Mediterranean region but naturalized in North America and cultivated in gardens. The plant has rather stiff grasslike leaves and a cluster of white star-shaped flowers marked on the back with green. It spreads easily and tends to become weedy. Although the plant is poisonous, the bulbs have been prepared and used as food in the Old World. The flower has been associated with the star that guided the Wise Men to the manger. Other plants are sometimes called star-of-Bethlehem.

Starr, Belle, 1848–89, American outlaw, consort of notorious bandits of the SW United States, b. near Carthage, Mo. Her original name was Myra Belle Shirley, and her father was a farmer and then operated a tavern in Carthage, where she spent her childhood. The Shirleys later (1864) moved to Dallas, Texas. Soon Belle met Cole Younger and had a child by him. Subsequently she met the gang headed by Jesse James and the rest of the Younger gang. She later married (1880) Sam Starr, an Indian, and went to live in the Indian Territory (in Oklahoma). Her home there became a retreat for outlaws, for whom she operated mainly as a "fixer." Belle Starr's reputation as a notorious horse thief and murderess was greatly magnified in the book *Bella Starr, the Bandit Queen, or, the Female Jesse James* (1889) by Richard K. Fox. It was written after she was shot to death by an unknown person. See biography by Burton Rascoe (1941).

Starrett, Paul (stä'rĭt), 1866–, American builder, b. Lawrence, Kansas. After serving (1903–22) as president of the George A. Fuller Company in Chicago, he opened and headed the construction firm of Starrett Brothers, Inc., in New York. Starrett was responsible for the erection of the Flatiron Building, the Empire State Building, the Pennsylvania RR. station, and the Plaza, Biltmore, and Commodore hotels, all in New York. The Bellevue-Stratford Hotel in Philadelphia and the Lincoln Memorial in Washington were erected by the Fuller Company. See his autobiography, *Changing the Skyline* (1938).

star route, in the U.S. postal service, a surface route to post offices not accessible by railroad or steamboat. The U.S. Postal Guide and maps formerly designated such an office by an asterisk, hence the name. Private contracts to carry the mail over these routes are made with bonded bidders, and in the days before rural free delivery, when star routes (by stage or rider) were important, particularly in the West, the law permitted easy readjustment of the contracts because of shifting population. In April, 1881, President James A. Garfield dismissed Second Assistant Postmaster General Thomas W. Brady, who was suspected of having fraudulently increased the compensation of numerous star-route contractors, among them a former Senator, Stephen W. Dorsey of Arkansas. Both narrowly escaped conviction in President Chester A. Arthur's administration. The frauds, amounting to nearly half a million dollars, hastened civil service reform.

Star-spangled Banner, The, American national anthem, beginning, "Oh, say, can you see, by the dawn's early light." The words were written by Francis Scott Key, a young Washington attorney sent to the British fleet to obtain the release of Dr. Beanes of Upper Marlborough, Md., who had recently been taken captive. Key was detained by the British and was forced to witness from his ship the bombardment of Fort McHenry during the night of Sept. 13–14, 1814. Defended under the command of George Armistead, it withstood the attack, and the sight of the American flag still floating at dawn inspired Key's verses, which were written on the way ashore in the morning. The tune, composed by John Stafford Smith (1750–1836), was taken from the popular English song *To Anacreon in Heaven*. Although the army and the navy had for some years regarded *The Star-spangled Banner* as the national anthem, its designation became official by an executive order of President Wilson in 1916. This order was confirmed by act of Congress in 1931. See O. G. Sonneck, *The Star-spangled Banner* (1914), Victor Weybright, *The Star-spangled Banner* (1935).

starvation. When an individual is deprived of food over a long period of time, the body uses up its carbohydrate and fat reserves and the body protein is utilized for energy. The resulting loss of weight is unevenly distributed. In the early stages subcutaneous tissues and fat depots, as well as large quantities of water, are lost. The glands, e.g., the liver and spleen, and also muscle tissue later suffer the greatest loss in weight, whereas the heart and brain show very little loss proportionately. Incomplete combustion of fat results in *acidosis*. Basal metabolism, body temperature, pulse rate, and blood pressure continue to fall throughout the starvation period.

Starved Rock, cliff, 140 ft. high, overlooking the Illinois river between La Salle and Ottawa, Ill. It was visited by Louis Jolliet and Father Marquette (1673) and by La Salle and his lieutenant, Henri de Tonti (1679). Tonti began building (1680) a fort completed (1682–83) by him and La Salle. Legend says that in the 18th cent. the Ottawa Indians drove a band of Illinois on the cliff, where they died of thirst and starvation. In the early 19th cent. brigands and outlaws found refuge hereabout in canyons and caves that have been since 1912 included in Starved Rock State Park.

Stary Krym (stä'rē krĭm') [Rus. =Old Crimea], city (pop. 4,790), E. Crimea, RSFSR, W of Feodosiya. Named Solkhat in the 13th and 14th cent., it was a major caravan center on the route to India and the original capital of the khans of Crimea. It declined after the capital was removed (15th cent.) to Bakhchisarai and is today a health resort. The city was formerly named Eski Krym or Eski Krim (yĭskē" krĭm'). The spelling Starii Krim also occurs.

Stas, Jean Servais (zhäⁿ' sĕrvā' stas'), 1813–91, Belgian chemist. He was assistant to J. B. A. Dumas and professor (1840–65) at the École royale militaire, Brussels. He is noted for his accurate determinations of atomic weights.

Stassen, Harold Edward (stă'sun), 1907–, American statesman and university president, b. Dakota co., Minn., grad. Univ. of Minnesota (B.A., 1927; LL.B., 1929). He was, at the age of 31, elected governor of Minnesota in 1938 and was twice (1940, 1942) reelected. In the Second World War, Stassen resigned (1943) as governor to enter the navy and saw active duty in the Pacific before he was discharged (1945) as captain. He was a delegate (1945) to the San Francisco Conference called to create the United Nations, and in 1948 he was an unsuccessful candidate for the Republican presidential nomination. In July, 1948, Stassen was named president of the Univ. of Pennsylvania. He wrote *Where I Stand* (1947).

Stassfurt (shtäs'fōrt), city (pop. 29,762), in the former Saxony prov. of Prussia, after 1945 in Saxony-Anhalt, E. central Germany, S. of Magdeburg. It is the center of one of the world's chief potash-mining areas and has chemical and machine-building plants.

state, political association having SOVEREIGNTY over the political, economic, and social relations of the members of a particular society. Its sovereignty, considered by most modern political theorists as based on the common will of its members, is vested in a GOVERNMENT and is exercised by means of LAW; the principal limitation placed upon it is a territorial one. No matter what its aim, power is of the essence of the state, the possession of sovereign power distinguishes the state from other associations. In the United States, sovereignty would appear to be divided between the several states and the Federal government, since it has been steadily held that all rights not specifically given the Federal government are reserved to the states. It is notable, however, that the claim of the states to the right or power to withdraw from the Union was ended by the Civil War. Although the authority for the power of the state resides in the common will of its CITIZENS, it must be noted that not all those subject to the state's sovereignty are always reckoned as citizens. The common will of the citizens is made common by community of purpose, and the reasons for the citizens' willingness to grant sovereignty to the state may arise out of tradition, religion, or belief that the common good is best served by surrendering power to the state. The beginning of a historical study of the state is the CITY-STATE of ancient Greece. Both the actuality of the Spartan state and common beliefs about it influenced the political philosophies of Plato and Aristotle. Both held that the function of the state was to promote the good life, and both advocated a class society condoning slavery. Plato, however, believed that the good life was best achieved by surrendering everything—family, property, and education—to the state, while Aristotle sharply criticized these views, accepting the family as the natural unit of society and arguing that private property made possible the virtues of benevolence and generosity, in which the people should be trained. The modern state, excluding those which have been created in the 20th cent., has been in theory and in actuality the result of evolutionary processes going on since the Renaissance. Italy in the Renaissance, with the emergence of princely states and the resultant contest for power, provided the background for Machiavelli's high regard for power. Political thought has generally regarded the state as primarily a welfare association, however, rather than a power association. An important basic theory of the state is the SOCIAL CONTRACT theory. Hobbes held that the state resulted from a contract among men whose natural condition was war, they by the contract surrendered their individual liberties to a sovereign, who was no party to the contract and thus not limited in his powers. John LOCKE regarded the sovereign as a party to the contract and possessing power limited by the terms of the contract. J. J. ROUSSEAU

further developed the idea of the social contract, maintaining that the original stateless condition of man was naturally good and that the growth of the state had created evil For this reason he thought that the social contract necessarily underlying any state should recognize the inalienable sovereignty of the people—an argument much used by later proponents of democracy In general the dominant theory in 19th-century Europe was that of Hegel, who viewed the state as the divine idea in process on earth and regarded the highest duty of the individual as that to his state The fact that there are many states, each of which is sovereign in its own territory, leads to the question of relations between states Hegel rejected the idea of a world state, preferring to regard each state as an individual in a state of nature in its relation to other states, war being the only solution to the conflict between states and a thing of positive value to the citizens in upholding the independence and sovereignty of their own state The political doctrine of Hegel, brilliantly refuted by Ernst Cassirer in *The Myth of the State* (1946), has retained tremendous influence Hegel's dialectic provided the method for Karl MARX, whose political doctrine has been the most influential since Hegel Marx saw the principal source of conflict not as between states but as between classes The state to him was but an instrument of class struggle, and he prophesied a classless society in which the state would ultimately become obsolete As of 1950, however, the largest Marxist state is the one in which the concentration and centralization of power is greatest, the "withering away" of the state having been delayed In fact, the tendency since the age of the benevolent despots has been toward ever-greater regulatory functions, as evidenced by the high degree of government planning in modern states See ANARCHISM, COMMUNISM, DEMOCRACY, SOCIALISM, MARXISM See J K Bluntschli, *Theory of the State* (3d ed , 1892), Paul Carus, *The Nature of the State* (1894), Bernard Bosanquet, *Philosophical Theory of the State* (3d ed , 1920), R M MacIver, *The Modern State* (1926), H H Lowie, *Origin of the State* (1927), H J Laski, *Authority in the Modern State* (1919) and *The State in Theory and Practice* (1935), Lionel Curtis, *Civitas Dei* (3 vols , 1934–1937), Hans Kelsen, *General Theory of the State* (Eng tr , 1945), R H Murray, *The Individual and the State* (1946)

State, United States Department of, executive department of the federal government responsible for the determination and execution, under the President's direction, of American foreign policy The first governmental body in America to deal with foreign affairs was the Committee of Secret Correspondence—a committee of five instituted (1775) by the Continental Congress and headed by Benjamin Franklin In 1777 it was redesignated the Committee of Foreign Affairs, but this body after a time became so ineffective that it ceased to have jurisdiction This committee was superseded in 1781 by the Dept of Foreign Affairs, which, operating under the Articles of Confederation, also became ineffective After the new government was organized under the Constitution of the United States, an act was passed (July, 1789) creating a new Dept of Foreign Affairs The organization of this department proved wholly inadequate, and in Sept , 1789, the Dept of State was established with added functions Besides being charged with foreign negotiations and correspondence, the department was given sundry duties such as keeping the Great Seal of the United States and receiving the bills and resolutions of Congress The Dept of State is the oldest of the federal departments, and thus the Secretary of State, at the head of the department, became the first ranking cabinet officer Thomas Jefferson, the first Secretary of State (1790–93), quickly brought prestige to the department, which was soon given added functions—supervision of the U S Mint, the issuing of patents and to some extent copyrights, and the printing of the U S census The responsibilities of the mint were soon transferred (1795) to the U S Treasury Dept Some of the other miscellaneous functions were taken away in the middle of the 19th cent The affairs of the territories were supervised by the department until 1873, when they were given to the Dept of the Interior In the field of foreign affairs, the department did not expand much in the 18th cent but thereafter grew in ever-widening circles Under the direction of Secretary John Quincy Adams (1817–25) the organization of the department was clarified and improved, but the first major reorganization was effected by Secretary Louis McLane (1833–34) and Secretary John Forsyth (1834–41) Later, salaries were generally increased, more personnel was added to meet the growing needs, and in 1853 the position of First Assistant Secretary of State was created Three additional assistant secretaryships were later created in the department, and in 1919 the office of Undersecretary of State was established. After 1849 many of the domestic responsibilities of the Dept of State were transferred to the U S Dept of the Interior In 1855 Congress passed a law formulating grades, posts, and salaries in both the diplomatic and the consular service attached to the department, and 50 years later diplomatic and consular positions, except for the posts of ambassador and minister, were put on a civil service basis Largely through the efforts of Secretary Hamilton Fish (1808–93), a sweeping reorganization of the Dept of State was effected in 1870 To meet the demands of an economy-minded Congress, Fish made 31 officials the nucleus of the department and divided its activities among nine bureaus and two agencies The First Diplomatic Bureau was set up to supervise correspondence with European and Far Eastern countries, and the Second Diplomatic Bureau was given jurisdiction over American diplomacy in Latin America, the Near East, and Africa The consular activities were similarly organized in 1870 Very few changes occurred in the department's organization in the later years of the 19th cent , but when the United States became a world power after the end of the Spanish-American War, there was a distinct need to adjust the department's facilities Several important steps were taken during the secretaryships of John Hay (1898–1905) and Elihu Root (1905–9), but it was not until 1909, in the administration of Philander C Knox, that the department was reorganized with the essentials of its present-day structure Several new posts, notably those of counselor and resident diplomatic officer, were set up, the duties assigned to the Assistant Secretaries of State were altered, and foreign policy and relations were reorganized along new geographical divisions—Western European, Near Eastern, Far Eastern, and Latin American Before and during the First World War several new responsibilities were assumed, but, largely because of increasing friction between President Woodrow Wilson and Secretary Robert Lansing, the Dept of State suffered temporary decline In the early 1920s the department under the leadership (1921–25) of Charles Evans Hughes was widely criticized for ignoring the League of Nations The Rogers Act of 1924 abolished the separate diplomatic and consular bureaus in favor of the Division of Foreign Service Information, and under the administrations of Frank B Kellogg (1925–29) and Henry L Stimson (1929–33), several new agencies were created In 1931 the office of the solicitor—given charge through the years of such matters as extradition, naturalization, expatriation, passport problems, neutrality, and extraterritoriality—was superseded by the office of legal adviser During the long administration (1933–44) of Cordell Hull a variety of changes were effected, at first to meet the needs of recovery from economic depression, but later to face the rising tide of the Second World War In 1938 the Division of Cultural Relations—soon to undergo several changes—was begun to stimulate cooperation with other nations through the various media of mass communication, the same year the Division of International Communication was started to meet problems concerned with world-wide telecommunications Two reorganizations within the Dept of State occurred in 1943 and 1944, and with the close of the Second World War the department's machinery was geared to dispense information to foreign nations (e g , the radio program "The Voice of America"), to establish strict secrecy concerning its operations, to integrate foreign policy with the economic-aid programs, and to bring about effective liaison between the United States and the United Nations Today the Secretary of State, aided by an Undersecretary and four Assistant Secretaries, is charged not only with determining foreign policy and executing the manifold functions within the Dept of State, but also with supervising and coordinating the activities of some 45 U S embassies and 15 legations on foreign soil See G H Stuart, *The Department of State* (1949)

State Center, town (pop 1,033), central Iowa, W of Marshalltown, laid out 1865, inc 1867

State College, borough (pop 6,226), central Pa , NW of Harrisburg and near Bellefonte, settled 1859, inc 1896 Between Bald Eagle Ridge northwest and the Seven Mts southeast, it lies near the geographical center of the state The borough is the seat of PENNSYLVANIA STATE COLLEGE

state flowers. Each state of the United States has designated, usually by legislative action, some one flower as its floral emblem. Occasionally changes have been made There has been no flower chosen as emblematic of the United States (for those of some other nations, see FLOWER) The floral emblem of the District of Columbia is the American Beauty rose, the state flowers are (see the various flower articles for the exact species if this has been specified) Alabama, goldenrod, Arizona, saguaro, Arkansas, apple blossom, California, California poppy, Colorado, blue-and-white columbine, Connecticut, mountain laurel; Delaware, peach blossom, Florida, orange blossom, Georgia, Cherokee rose, Idaho, mock orange, Illinois, violet, Indiana, zinnia, Iowa, wild rose, Kansas, sunflower, Kentucky, goldenrod, Louisiana, magnolia; Maine, pine cone and tassel, Maryland, black-eyed Susan; Massachusetts, trailing arbutus; Michigan, apple blossom, Minnesota, lady's-slipper; Mississippi, magnolia, Missouri, hawthorn; Montana, bitterroot; Nebraska, goldenrod; Nevada, sagebrush; New Hampshire, lilac, New Jersey, violet; New Mexico, yucca; New York, rose, North Carolina, daisy, North Dakota, wild rose, Ohio, red carnation, Oklahoma, mistletoe, Oregon, Oregon grape, Pennsylvania, mountain laurel, Rhode Island, violet, South Carolina, Carolina jasmine, South Dakota, pasqueflower, Tennessee, iris, Texas, bluebonnet, Utah, sego lily; Vermont, red clover, Virginia, dogwood, Washington, rhododendron, West Virginia, rhododendron, Wisconsin, violet, Wyoming, Indian paintbrush

Staten Island (stă'tun), c 40 mi long, separated from SE Tierra del Fuego, Argentina, by Le Maire Strait It is rocky and uninhabited

Staten Island (57 sq mi , pop 174,441), SE N Y , in New York Bay SW of Manhattan, forming Richmond borough of NEW YORK city and Richmond co of New York state It is separated from New Jersey by KILL VAN KULL and Arthur Kill, which are crossed by large bridges Ferries connect the island with Manhattan and Brooklyn Although an area of residential communities and in part semirural, Staten Island has an industrial section along its northern shores Shipbuilding and shipping were accelerated during the Second World War There are beaches on the southeast coast of the island Centers of trade include St George (with the borough hall), STAPLETON, and Port Richmond Staten Island, which was consolidated with New York city in 1898, is the site of marine and army hospitals, Sailors' Snug Harbor (for retired sailors), and Wagner Memorial Lutheran College Visited by Henry Hudson in 1609, it was called Staaten Eylandt by the Dutch Indians wiped out the first settlement, but there was a permanent community by 1661 Among the extant buildings of the 17th and 18th cent is the Billopp, or Conference, House (built before 1688), where an unsuccessful peace conference was held (1776) by Richard and William Howe and Continental patriots Other points of interest include the church of St Andrew (founded 1708), a Moravian church and cemetery, a Huguenot church, and Garibaldi House, where the Italian liberator lived for several years in the 1850s.

Statesboro, city (pop 5,028), co seat of Bulloch co , E Ga , NW of Savannah, laid out 1803 Farm products of the area are processed here It is in a good hunting region Georgia Teachers College is near by

States-General or **Estates-General,** diet or national assembly in which the chief estates (see ESTATE) of the nation —usually clergy, nobles, and cities or commons—were represented as separate bodies The name has survived only in the Netherlands, where the two houses of parliament are known as States-General, actually, however, only the name and not the institution itself has been preserved there, for the lower house represents, and is directly elected by, the entire nation, and the upper house represents the provincial estates, which are also elected on a modern democratic basis The only large nation where there exists a separate representation of a privileged class is in England, but the House of Lords, which represents the privileged class, has lost virtually its entire authority to the House of Commons Like the English PARLIAMENT, the States-General of France and other European assemblies had their origin in the king's council, or Curia Regis The CORTES of the Spanish kingdoms, the DIET of the Holy Roman Empire, and the diets of Bohemia, Hungary, Poland, and the Scandinavian countries all originated as royal councils and all represented, in varying degrees, the principal estates of the realm They are generally said to have grown out of the earlier Germanic assemblies Whatever their origin, they developed along entirely different lines in the various countries, and by the 16th cent there was little or no resemblance among the English Parliament, the States-General of France, and the States-General of the United Provs of the NETHERLANDS The French States-General, to which the remainder of this article is devoted, owes its fame less to its importance than to the manner in which it was created and in which it went out of existence The first French assembly known by that name was summoned in 1302 at Paris, by PHILIP IV, in order to obtain national approval for his anticlerical policy Philip may be said to have created the body only in the sense that he assembled a larger and more regular council than had before been assembled Its constitution from 1302 to 1797 retained the same division into the first, second, and third estates, i e , the clergy, nobles, and commons, respectively. Its powers were never clearly defined, and they varied in inverse ratio to those of the royal authority. The States-General of 1302 and 1308 approved Philip's measures against Pope BONIFACE VIII and the KNIGHTS TEMPLARS, which was all they were expected to do, that of 1314 granted the king subsidies, but even in this case the grant was more or less nominal, with the king dictating his orders. The French States-General never obtained the financial control which made the English Parliament the powerful institution it became It did not even always meet as a single body, but

often sat separately as the States-General of Langue d'Oïl (N France), which was the more important, and the States-General of Langue d'Oc (S France, see LANGUE D'OC AND LANGUE D'OÏL) The States-General of Langue d'Oïl made a strong bid for power in 1355–57, during the captivity of King John II in England Under the leadership of Étienne MARCEL it forced the dauphin (later Charles V) to promulgate the *Grande Ordonnance*, which would have made it the virtual legislature of France However, the dauphin revoked his concessions almost as soon as he had made them and called a rival assembly at Compiègne Although later States-General often opposed the king and even won temporary concessions, the continuous process of consolidation of the royal power prevented the emergence of a truly parliamentary body The States-General regained some importance in the chaotic period of the Wars of Religion (16th cent) However, the opposing factions used it merely as an instrument for their own aims At the States-General of Blois (1588) the Catholic League was in complete control, and King Henry III, in self-defense, resorted to the murder of Henri and Louis de Guise The States-General of Paris of 1614 was a thorough failure, the three estates indulging in mutual recriminations and accomplishing nothing Cardinal Richelieu, Cardinal Mazarin, and Louis XIV made the French monarchy absolute in the 17th cent , and the States-General was no longer convoked until 1789 The only serious check to the royal power was the Parlement of Paris (see PARLEMENT), which was a judicial and not a representative body Provincial estates, however, continued in the so-called *pays d'états*, i e , the provinces of Brittany, Flanders, Artois, Lorraine, Alsace, Burgundy, Franche-Comté, Burgundy, Dauphiné, Provence, Languedoc, Béarn and Navarre, and several others These, constituted like the States-General, voted the subsidies necessary for the administration of the respective provinces The remaining (and major) part of France consisted of *pays d'élections*, which were more directly subject to the central administration When in 1788 the Assembly of Notables (a meeting of the chief nobles, clerics, and magistrates) failed to solve the financial crisis of the French government, elections for the States-General were ordered as a last resort by Louis XVI Although no official pronouncement indicated that the assembly was to act as a truly deliberative body, its convocation was thus interpreted by the third estate and by the liberals among the nobles and clergy, who hoped to introduce English parliamentary government into France At the same time, the government ordered the compilation of lists of grievances (*cahiers de doléances*) in the various provinces, these were to serve as a basis for discussing the necessary reforms The preparation of the *cahiers* contributed to the impression that a general reform was impending and that the States-General was to act as a national assembly representing the sovereign will of the people and not merely as a forum for petitions and debates On May 5, 1789, the States-General assembled at Versailles Almost immediately the crucial issue of voting procedure was under debate If, as had been customary, the three estates voted as separate bodies, the third estate was bound to be continually outvoted If voting was by head, the third estate (whose deputies equaled in number the deputies of the combined clergy and nobility) was bound to win on most points, for many clerics and nobles sympathized with its aspirations In June, 1789, the third estate and a number of deputies from the clergy forced the issue and declared themselves the National Assembly With this act of defiance the FRENCH REVOLUTION may be said to have begun, and with Louis XVI's acceptance of the *fait accompli* the States-General ceased to exist

States of the Church see PAPAL STATES

states' rights, in U S history, an issue which has existed since the beginnings of national government In the American Revolution the Thirteen Colonies formed a loose union (see CONFEDERATION, ARTICLES OF), which proved unsatisfactory, and in 1789 the CONSTITUTION OF THE UNITED STATES was adopted and the new Federal government inaugurated The Tenth Amendment, which went into effect on Nov 3, 1791, says "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people " Immediately there arose the controversy as to how to interpret the enumerated powers granted the Federal government, which are not at all specific Alexander HAMILTON and the FEDERALIST PARTY favored a broad interpretation, which meant a strong central government deriving its authority from implied as well as express powers contained in the Constitution Thomas JEFFERSON and his followers, "strict constructionists," insisted that all powers not specifically granted the Federal government be reserved to the states. The KENTUCKY AND VIRGINIA RESOLUTIONS, written by Jefferson and James Madison, represent the first formulation of the doctrine of the states' rights school The second important manifestation of states' rights occurred in New England among the Federalists in opposition, curiously enough, to Jefferson His party, now in power, accomplished the LOUISIANA PURCHASE, passed the EMBARGO ACT OF 1807, and, later, declared war against England, all in defiance of the wishes of New England, which officially expressed its resentment in the resolutions of the HARTFORD CONVENTION of 1814 The fight over the constitutionality of the Bank of the United States made the central states, Pennsylvania, Maryland, and Ohio in particular, the next defenders of the doctrine The point at issue here was settled in McCULLOCH VS MARYLAND by decision of the U S Supreme Court, dominated by John MARSHALL, who more than any other man was responsible for placing the blessings of the Constitution on a strong central government The doctrine was again involved in the conflict between the Federal government and Georgia as to which had jurisdiction over Indian tribes within Georgia's boundaries, and Georgia for a time defied the Federal administration Even more acute was the situation which developed in South Carolina in opposition to the tariff acts of 1828 and 1832, when, under the leadership of John C CALHOUN, South Carolina passed its ordinance of NULLIFICATION Calhoun's doctrine of absolute state sovereignty was the most extreme of states' rights theories Proslavery forces soon afterward were expounding a strong states' rights doctrine, ultimately backed by SECESSION Eleven Southern states seceded in 1860–61 and formed the CONFEDERACY, in which, fittingly, the doctrine of states' rights was carried to its logical extreme by such governors as Joseph E BROWN and Zebulon B VANCE This undoubtedly contributed to the Confederate defeat in the Civil War, just as the disposition of some of the Thirteen Colonies to act in complete independence of the Continental Congress hampered the patriot cause in the American Revolution Although the Union victory in the Civil War definitively ended the possibility of nullification and secession, the states' rights doctrine did not die Most recently it has been vigorously revived by Southern opponents of the Federal civil rights program, the States Rights Democrats In the presidential election of 1948 their candidate for President, J Strom THURMOND, carried four Southern states Although states' rights doctrine is usually associated with the Southern wing of the Democratic party, actually the doctrine is not exclusive with any particular section or political party All sections of the country and both Democrats and Republicans (traditionally upholders of a strong central government) have at different times and for different reasons espoused it That the powers of the Federal government have increased greatly at the expense of the states is not denied But, as President Herbert Hoover's Committee on Recent Social Trends reported in 1933, this process has resulted from the incapacity of the states to deal with the complex problems of the nation's modern industrial civilization States' rights is fundamentally a defense doctrine of the minority, and the issue will continue to arise so long as the proper representation and expression of minority opinion is a concern of our government See C E Merriam, *A History of American Political Theories* (1903), Charles Warren, *The Supreme Court and Sovereign States* (1924), F L Owsley, *State Rights in the Confederacy* (1925), E S Corwin, *Commerce Power Versus States' Rights* (1936)

Statesville, city (pop 11,440), co seat of Iredell co , W central N C , SW of Winston-Salem, in the piedmont, founded 1789 A commercial and industrial center, it produces textiles, flour, and furniture A junior college is here, and an agricultural experiment station is near by

static, noises in radio reception, resulting usually from electric discharges unrelated to the desired signal It is caused by atmospheric disturbances and by many electrical appliances, such as neon signs, fluorescent lamps, dial telephones, automotive ignition systems, and a wide variety of motor-driven devices Interferences from these sources may be reduced by inexpensive power-line filters and by improved antenna schemes See also FREQUENCY MODULATION

statics see MECHANICS

statistics, the science of determining certain values which represent the tendencies indicated in a large collection of observations or measurements The most familiar statistical measure is the arithmetic MEAN, which is an average value for a group of observations A second important statistic or statistical measure is the standard deviation, which is a measure of how much the individual observations are scattered about the mean Other statistics indicate other characteristics of the group of observations In addition to the problem of computing certain statistics for a particular group of observations, there is the problem of sampling This is an attempt to determine for what larger group (called the population) of individuals or characteristics the statistics for this particular group (called the sample) would be a representative figure and how representative a figure it would be for a given larger group This second problem of sampling can be solved only by resorting to the theory of probability and higher mathematics In most applications of statistics to scientific and social research, insurance, and finance, the statistician is interested not only in the characteristics of the sample but also in those of some much larger population Consequently, the theory of sampling is the most important part of statistical theory See Rudolf Modley, *How to Use Pictorial Statistics* (1937), F E Croxton and D J Cowden, *Applied General Statistics* (1939), P R Rider, *An Introduction to Modern Statistical Methods* (1939), Harald Cramer, *Mathematical Methods of Statistics* (1946), T E Kelley, *Fundamentals of Statistics* (1947), J R Stockton, *Introduction to Business Statistics* (2d ed , 1947), R G Allen, *Statistics for Economists* (1949), A L Boddington, *Statistics and Their Application to Commerce* (9th ed , 1949), Quinn McNemar, *Psychological Statistics* (1949), Kenneth Mather, *Statistical Analysis in Biology* (1949)

Statius, Publius Papinius (pŭ'blĭŭs pup'ĭnē'ŭs stā'shus), A D c 40–A D c 96, Latin poet, b Naples He had the favor of Emperor Domitian, and he won the poetry prize at an annual festival under Domitian's auspices but was an unsuccessful competitor at the Capitoline contest in Rome His last years were spent in Naples Surviving works are two epics in the manner of Vergil—the *Thebaid*, on the SEVEN AGAINST THEBES, and the *Achilleid* (incomplete), on the early life of Achilles—and the *Silvae*, a collection of hasty but pleasing poems, mostly occasional Statius was much esteemed in his own time and through the Middle Ages

Statuary Hall, National, in the Capitol, Washington, D C , the chamber of U S Representatives from 1807 to 1857 In 1864 it was made a gallery for statues of distinguished Americans, each state being invited to present two Many of the statues have since been removed, those remaining are Gen Joe Wheeler (Alabama), Gen John C Greenway (Arizona), Uriah M Rose (Arkansas), Junipero Serra (California), Roger Sherman (Connecticut), Caesar Rodney (Delaware), John W Gorrie (Florida), Alexander H Stephens (Georgia), George L Shoup (Idaho), Frances E Willard (Illinois), Lew Wallace (Indiana), Samuel J Kirkwood (Iowa), John J Ingalls (Kansas), Henry Clay (Kentucky), Hannibal Hamlin (Maine), Charles Carroll (Maryland), Samuel Adams (Massachusetts), Lewis Cass (Michigan), Henry Mower Rice (Minnesota), Jefferson Davis (Mississippi), Thomas H Benton (Missouri), Daniel Webster (New Hampshire), Richard Stockton (New Jersey), Robert R Livingston (New York), Zebulon B Vance (North Carolina), William Allen (Ohio), Sequoyah (Oklahoma), Robert Fulton (Pennsylvania), Roger Williams (Rhode Island), J C Calhoun (South Carolina), John Sevier (Tennessee), Sam Houston (Texas), Ethan Allen (Vermont), Robert E Lee (Virginia), F H Pierpont (West Virginia), and Robert M La Follette (Wisconsin)

Statue of Liberty National Monument see LIBERTY, STATUE OF

statute (stă'chōōt), in law, a formal, written enactment by the authorized powers of a state The term usually is not applied to a written CONSTITUTION, but is restricted to the enactments of a legislature Statute law is chiefly to be distinguished from COMMON LAW, which may be defined as the body of legal rules derived from judicial decisions and from custom On most of the European continent all (or nearly all) the law is statutory and each field is subsumed by a CODE In England and the United States, however, common law retains great importance but with the expansion of government regulation there has been an immense growth in the statute law of those countries In order to guide the courts many important statutes contain (usually in a preamble) a statement of the abuses which the legislation is intended to cure or of the general legislative intent Great care must be taken in drafting statutes, since the usual (but not invariable) practice of the courts is to read the provisions in an extremely literal sense Statutes are classified in various ways Public statutes (e g , those establishing crimes) are universal in application, while private statutes (e g , one compensating a named person for injury) are limited Public statutes may be local, i e affecting only part of the area over which the legislature has authority, or general Statutes which explain or clarify previous enactments or which adopt rules of common law are sometimes called declaratory statutes

Statute of Frauds see CONTRACT

Staubbach, Switzerland see LAUTERBRUNNEN

Staunton. 1 (stŏn'tun, stŏn'–) City (pop 4,212), SW Ill , NE of St Louis, settled 1817, laid out 1835, inc 1859 It is a trade center for a coal and farm area **2** (stăn'tŭn) City (pop 13,337), western Va , in the Shenandoah Valley WNW of Charlottesville, settled c 1738, inc as a town 1801, as a city 1871 Staunton was the first city to adopt (1908) city-manager government Trade and industrial center for a rich farm area, it manufactures clothing and dairy products The courthouse of Augusta co is here Woodrow Wilson's birthplace was dedicated as a national shrine in 1941 Staunton Military Academy, Mary Baldwin College (for

women; 1842), the state school for the deaf and the blind, Western State Hospital, and many fine old houses are here Staunton was the capital of the Northwest Territory from 1738 to 1770

Stavanger (stävăng'ûr), city (pop 50,320), co seat of Rogaland co., SW Norway, on Stavanger Fjord, a southern branch of Bokn Fjord It is an important seaport and has large shipbuilding and fish-canning industries Dating from the 8th cent, Stavanger became an episcopal see in the 11th cent The Cathedral of St Swithin, in English Gothic style, dates from the 11th cent Much of the city was destroyed by fire in 1684 Stavanger was seized by the Germans on the first day (April 9, 1940) of their invasion of Norway in the Second World War There is a museum with notable ethnological and archaeological collections

Stavelot (stavlō'), town (pop 4,755), Liége prov, SE Belgium, in the Ardennes It grew around an abbey, founded in 651 The abbots later were princes of the Holy Roman Empire until their land was secularized in the French Revolutionary Wars In the Second World War the Germans captured (Dec, 1944) Stavelot early in the BATTLE OF THE BULGE and massacred a number of American prisoners near by

Stavisky Affair (stavēskē'), financial and political scandal that shook France in 1934 Serge Alexandre Stavisky was a swindler who operated the municipal pawnshop of Bayonne and sold huge amounts of worthless bonds Despite his shady past he was regarded as a respectable financier with excellent political connections until Dec, 1933, when, faced with exposition, he fled Discovered by the police at Chamonix (Jan, 1934), he either committed suicide or was murdered by the police Extremists of the right and left seized the occasion to accuse the Radical Socialist government of Camille CHAUTEMPS of corrupt deals with Stavisky and forced its resignation The new premier, DALADIER, used force to repress the riots staged (Feb 6-7, 1934) in Paris by extremists—chiefly royalists—but he had to resign and was replaced by Doumergue and a national unity cabinet The case was further complicated by the death of Councilor Albert Prince, who knew much of the affair Whether his death was murder or suicide has never been clearly determined After a long trial (1935-36) of 20 defendants, none of them of political importance, 11 of the defendants, including Stavisky's widow, were acquitted Some of the names of the politicians wildly accused of corruption—notably that of Chautemps—have been cleared The Stavisky Affair was important as a symptom rather than as a cause of the decay of the Third Republic It had the unfortunate effect of discrediting not only the Radical Socialist party, which never had been regarded as a banner bearer of political morality, but of parliamentary democracy in general.

stavkirke (stäf'kēr"kē) [Nor], medieval wooden church building of Scandinavian countries Of hundreds erected in the 11th, 12th, and 13th cent, only a score survive, and these are all in Norway Their architecture is unique, upturned dragon heads terminate gables, elaborate wood carvings illustrate saga myths as well as biblical stories, pagodalike shingled roofs, small surrounding cloisters, and leper windows (small openings through a chancel arch or wall) are other features Architectural inspiration was probably drawn from the pagan temples which were being demolished at the time the *stavkirker* were being erected Examples are Hitterdal in Telemark, Fantoft near Bergen, and Borgund near Sogne Fjord

Stavropol (sta'vrupul), city (pop 85,100), capital of Stavropol Territory, SE European RSFSR, on the Stavropol Plateau It is a major agricultural center Founded in 1777 as a Russian fortress, it was an important base for the subsequent Russian conquest of the Caucasus In the Second World War it was held (1941-43) by the Germans

Stavropol Territory, administrative division (2,950 sq. mi; 1946 estimated pop 1,500,000), S European RSFSR, extending northward from the main Caucasus range. It includes the CHERKESS AUTONOMOUS OBLAST. Stavropol is the capital The central part of the territory occupies the Stavropol Plateau, a hilly region (rising to 2,713 ft), drained by the Kuma and Kuban rivers In the north is the MANYCH DEPRESSION. The once drought-ridden territory is watered, since c 1945, by an irrigation system. It produces winter wheat, corn, sunflowers, and cotton, along the Kuma river wine, fruit, and vegetables are grown Sheep raising is an important occupation The PYATIGORSK region has numerous mineral spas and is a major resort area Except for some seminomadic Turkmen and Nogai Tatar herdsmen, the population is Russian and Ukrainian.

Stavros, Greece see STAGIRA.

Stayner, town (pop. 1,085), S Ont., near Georgian Bay and SE of Collingwood It has cider mills and a stockyard

Stayton, town (pop. 1,085), NW Oregon, SE of Salem, platted 1872, inc. 1891. It has wool and flour mills and sawmills

Stead, William Thomas (stĕd), 1849-1912, English journalist. He was editor (1883-89) of the *Pall Mall Gazette* and in 1890 founded the *Review of Reviews*, establishing similar publications in the United States (1891) and Australia (1892). He pioneered in modern journalistic methods in England, was an advocate of reform in the British navy, and championed child welfare and social legislation He was briefly imprisoned in 1885 for his attacks on government policy toward white slavery In later years he was deeply interested in psychical research He lost his life on the *Titanic* Among his numerous works are *If Christ Came to Chicago* (1892), *The Americanization of the World* (1902), and *Peers or People* (1907)

steamboat: see STEAMSHIP

Steamboat Springs, resort town (pop 1,613, alt c 6,700 ft), co seat of Routt co, NW Colo, NW of Denver and on the Yampa river, founded 1875, inc 1907 It has mineral springs and is the headquarters of the Routt National Forest.

steam engine, machine to convert heat energy into mechanical energy Steam requires about 1,600 times the amount of space as the water from which it is formed The force of this expansion is the basis of all steam engines The expanding steam issuing out of the boiler moves a piston within a cylinder in one direction A reciprocal action occurs when the expansive force ceases within the cylinder and commences pressing the piston back from without A crank and flywheel convert the back and forth action of the piston into rotational motion capable of doing of work From a simple device of Heron of Alexandria to the 18th-century engine of Thomas Savery, many minds contributed to the task of harnessing steam Not until 1769, however, when James Watt patented his engine, was there a practical solution Earlier engines depended upon atmospheric pressure to push the piston into the cylinder, where a vacuum was created by sudden cooling of its steam content Watt's use of a separate condenser resulted in a 75 percent saving in fuel It also made possible the use of steam pressure to force back the piston once steam pressure had sent it forward, thus achieving reciprocal action His continuing efforts produced a governor, a mercury steam gauge, and a crank-flywheel mechanism, all of which substantially prepared the steam engine for its role as catalyst of the Industrial Revolution The use of a connecting rod from the piston to a crank made possible changing the reciprocal action into rotational motion The flywheel made the rotation smooth and steady. Sailing vessels gave way to steamboats and stagecoaches yielded to railroad trains as the steam engines were perfected Transmitted by belts, ropes, shafts, pulleys, and gears, the energy from steam engines enabled machines in factories and mills to perform useful work. Until the advent of large-scale electric generation, steam engines bore the industrial burden The STEAM TURBINE now provides most of the electrical power used See H W Dickinson, *A Short History of the Steam Engine* (1939), R H Thurston, *A History of the Growth of the Steam-Engine* (1939)

steamship, watercraft propelled by a steam engine or a steam turbine In 1787 a steamboat built by James Rumsey of Maryland was demonstrated on the Potomac Propelled by a stream of water forced out of the stern by steam pressure, the vessel attained a speed of 4 mi per hour Rumsey received a grant to navigate the waters of New York, Maryland, and Virginia, and his scheme was taken up by an organization known as the Rumsey Society, of which Benjamin Franklin was a member In 1790 John Fitch, who had previously built several successful steamboats, one of which operated in 1787, built a vessel capable of 8 mi per hour It carried passengers between Philadelphia and Burlington William Symington in 1788 also built and ran a steam-propelled vessel, though only experimentally in a pond Other inventors and craftsmen who made steamboats were the Americans Samuel Morey, Nathan Read, and John Stevens Stevens built a vessel 68 ft long, fitted with a tubular boiler and driven by a screw propeller, and ran several successful steamboats on the Hudson river In 1803 Robert Fulton built an unsuccessful steamboat in France, and in 1807 he launched the boat that became famous as the *Clermont*, 150 ft long, 13 ft wide, and 9 ft in depth. The *Clermont* ran from New York to Albany (150 mi) in 32 hr. and made the return trip in 30 hr Pine wood was used as fuel. In 1803 the *Charlotte Dundas* was launched on the Forth and Clyde Canal. She was fitted with a stern paddlewheel and was used for towing Henry Bell was chief builder of the *Comet* put into service in 1812, it had paddlewheels on each side, traveled at 5 mi. per hour, and was used for passenger service on the Clyde By 1814 the *Marjory* was one of five steamships operating on the Thames. The *Savannah* in 1819 voyaged from Savannah to Liverpool in 29 days 11 hr. She was a full-rigged sailing ship fitted with engines and side paddlewheels. During the trip the engines were utilized for from 80 to 90 hr. The next crossing of note was that of the Quebec-built *Royal William* in 1833, accomplished in 19 days. Under I K Brunel's supervision the *Great Western* was built, and in 1838 she made the trip to New York from England in 15 days, arriving a few hours later than her rival the *Sirius*, which had left England 4 days before the *Great Western* The first seagoing vessel to be fitted with a screw propeller was the *Archimedes* (1840), while the *Great Britain* (1845) was the first large iron steamship driven by a screw propeller to cross the Atlantic In 1858 the *Great Eastern* was launched, designed by Brunel. Thereafter the screw propeller was conceded to be superior to paddlewheels, and the steamship began finally to supplant the sailing ship In 1881 the *Servia*, a merchant steamer capable of crossing the Atlantic in 7 days, was the first vessel to be constructed of steel. Seven years later the same builders in Glasgow turned out the first twin-screw steamship, the *Philadelphia* By the end of the 19th cent great liners were plying the Atlantic on regular schedules propelled by machinery which produced 28,000 or more horsepower Sir Charles A. Parsons and C G P de Laval developed the steam turbine during the next to the last decade of the 19th cent The *Turbinia*, the first vessel to be driven by a turbine, was first seen in 1897, and within 10 years several turbine-driven liners were in the Atlantic service The modern leviathans of the sea such as the *Queen Elizabeth* and the *Queen Mary* are turbine-powered steamships, as are most of the larger passenger vessels and many of the heavier cargo craft See also SHIP See F C Bowen, *A Century of Atlantic Travel* (1935), P J Cowan, *A Short History of Naval and Marine Engineering* (1938), D B Tyler, *Steam Conquers the Atlantic* (1939), J T. Flexner, *Steamboats Come True* (1944)

stearin (stē'ûrĭn, stēr'ĭn), white, crystalline fat It is a complex compound of carbon, hydrogen, and oxygen, insoluble in water, very slightly soluble in alcohol. It is an ester of stearic acid Upon hydrolysis, it yields stearic acid and glycerin (glycerol) It is found in many hard fats and oils, e.g., in tallow, suet, butter fat, cottonseed oil, and olive oil It is used in soapmaking and candlemaking, in the tanning trade, and in making polishes With palmitin, another fat, it gives hardness to those substances in which it occurs

Stearns, unincorporated town (pop 1,548), S Ky., W of Middlesboro near the Tenn line It is a shipping point for the area's lumber and coal

steatite see SOAPSTONE

Stecchetti, Lorenzo see GUERRINI, OLINDO

Stedman, Edmund Clarence, 1833-1908, American banker, poet, and critic, b Hartford, Conn., attended Yale A successful Wall St broker, he was also one of the leading poets of his time, although his somewhat derivative poetry is little read today As critic he wrote *Victorian Poets* (1876) and *The Poets of America* (1885) and compiled the excellent collections *A Victorian Anthology* (1895) and *An American Anthology* (1900) See his *Poems* (1908), biography by Laura Stedman and G M Gould (1910)

steel, compound of iron and carbon, with varying small proportions of other minerals It was first made by cementation, a process of heating two bars of iron with charcoal in a closed furnace for a considerable period so that the surface of the iron acquired a high carbon content The iron bars were then fused together to yield a metal harder and stronger than either of the pieces of iron, but not uniformly so throughout The famous blades of Damascus and steels of Toledo, Spain, were made by the cementation and crucible techniques Originally developed to remove the slag or impurities from cementation steel, the crucible method consists of charging with iron and charcoal a fireclay or graphite receptacle and firing it By the addition of other components in small quantities, various grades of fine steel are obtained through the crucible process, however, it is one of the more costly steel-manufacturing processes The BESSEMER PROCESS and the open-hearth process are more widely used in steelmaking The open-hearth uses a type of reverberatory furnace called a regenerative furnace, instead of having firebox at one end and flue at the other, each end is fitted for the intake and outlet of both gas and air The fuel used is gaseous, and both fuel and air are preheated by a system of reversal of currents of air and gas through the ports in order to attain very high temperatures This process, developed by Sir William Siemens c 1866, uses pig iron and fresh ore In a variation of the process developed by Pierre Martin with Siemens, scrap steel replaces the ore and accomplishes the refinement The difficulty of procuring ore free from sulphur and phosphorus, a requirement in the Siemens open-hearth method, resulted in greater use of the Siemens-Martin process The electric furnace provided a means of making large quantities of high-grade steel, with the advantages of providing positive temperature control, freedom from contamination of the product by the fuel, and simultaneous deoxidation and desulphurization action. Most high-grade alloy steels are manufactured in the electric furnace Steel is shaped for commercial use in rolling mills, where successive passages of the red-hot ingot between variously shaped rollers cause it to take a desired form Pittsburgh, one of the world's great steel centers, built its first rolling mill in 1811; Bessemer

steel rails were rolled in Chicago as early as 1865.
Steel is sometimes classified by its carbon content; a high-carbon steel is serviceable for cutting tools and dies by reason of its great hardness, brittleness, and inability to be easily machined; low- or medium-carbon steel is used for sheeting and structural forms because of its susceptibility to welding and tooling. Alloy steels, now most widely used, contain one or more other minerals to give them special qualities Aluminum steel is smooth and close-grained and has a high tensile strength Chromium steel finds wide use in automobile and plane parts by reason of its hardness, strength, and elasticity, as does the chromium-vanadium variety. Nickel steel is the most widely used of the alloys; it is nonmagnetic and has the tensile properties of high-carbon steel without the brittleness Nickel-chromium steel possesses a shock resistant quality which suits it for armor plate. Wolfram (tungsten), molybdenum, and high-manganese steel are other alloys. Stainless steel, which was developed in England, has a high tensile strength and resists abrasion and corrosion through its high chromium content. The United States, the USSR, and Great Britain are leading producers of steel
See J M Camp and C B Francis, *The Making, Shaping, and Treating of Steel* (5th ed , 1940)

Steele, Joel Dorman (stēl), 1836–86, American educator and textbook writer, b Lima, N Y , grad Genesee College (now Syracuse Univ), 1858 After teaching in Mexico, N Y , for three years, he served in the Civil War He later taught in Newark, N Y , and was principal of the Elmira (N Y) Free Academy from 1866 until 1872, when he resigned to devote his time to writing In 1867 he wrote *Fourteen Weeks in Chemistry*, the first of a series of science texts which did much to popularize the subject In collaboration with his wife he also wrote a number of unusually successful history texts, including *Barnes' Brief History of the United States* (1871)
See biography by A C Palmer (1900)

Steele, Sir Richard, 1672–1729, English essayist and playwright, b Dublin, Ireland He studied at Charterhouse and Oxford, entered the army (1694), and by the time he had risen to a captaincy (1700) had begun to write for publication *The Christian Hero*, a moral tract, appeared in 1701, followed by his first play, *The Funeral* (1702), an early example of sentimental comedy Other plays of Steele's were *The Lying Lover* (1703), *The Tender Husband* (1705), and the most popular of all, *The Conscious Lovers* (1722) Steele secured several minor government positions before he began the famous periodical the *Tatler* (1709–11), in the writing of which he was soon joined by Joseph Addison This was followed by the Spectator (1711–12), the *Guardian* (1713), and later periodicals of lesser importance Steele, a Whig partisan, carried on a celebrated controversy with Swift in 1713, in the course of which Steele wrote his pamphlet *The Crisis* In 1714 he became patentee and manager of Drury Lane Theatre and entered Parliament, from which he was expelled by political enemies, however, he returned in 1715 and was knighted His opposition to the Peerage Bill in his weekly, the *Plebeian* (1719), involved him in a quarrel with Addison just before the latter's death Steele began his last periodical, the *Theatre*, in 1720 Not long after *The Conscious Lovers* was performed, he became involved in financial difficulties and retired to Wales (1724), where he spent his remaining years in obscurity Although impulsive and improvident, Steele was a man of engaging personality and charm, these qualities are reflected in his prose, which, if it lacks some of the polished grace of Addison's prose, yet has the virtues of spontaneity, keen wit, and fertile invention, as may be seen especially in his periodical writing See his plays (ed by G A Aitken, 1894) and letters (ed by R B Johnson, 1927), biographies by Austin Dobson (1886), G A Aitken (1889), and Willard Connely (1934)

Steele, Wilbur Daniel, 1886–, American author, b Greensboro, N C , grad Univ of Denver, 1907, and studied art in Boston, Paris, and New York Collections of his distinguished short stories include *Urkey Island* (1926), *The Man Who Saw through Heaven* (1927), and *Best Stories* (1946) He has also written novels, including *Taboo* (1925) and *That Girl from Memphis* (1945), and collaborated in two plays, *Post Road* (1934) and *How Beautiful with Shoes* (1935),

Steele, city (pop 1,585), extreme SE Mo., near the Mississippi, in a farm area, inc. 1901. It has railroad shops and cotton gins.

steel engraving. see ENGRAVING.

Steeleville, village (pop 1,212), S Ill , SE of St Louis, in a farm and coal area, inc. 1851. Shoes and flour are made here.

steel square see SQUARE, STEEL.

Steelton, industrial borough (pop. 13,115), SE Pa , on the Susquehanna below Harrisburg, settled 1865. It produces steel, pig iron, and limestone The first practical production of Bessemer steel in America was begun here (1867).

Steelville, city (pop. 1,013), co. seat of Crawford co., S central Mo , near the Meramec E of Rolla, in a farm and resort area, founded 1835

steel wool, abrasive material composed of sharp steel shavings of varying degrees of fineness, whose ends curl up and mat together like excelsior or wool. It is used to polish wood or metal work in various manufacturing processes, such as plating or japanning metals, and in finishing furniture It is much used in kitchens for cleaning and polishing metals, especially aluminum utensils

steelyard. see BALANCE.

Steelyard, Merchants of the, German hanse or guild merchants (see Hanseatic League) residing at the Steelyard or German House on the Thames near the present Ironbridge Wharf at London, England. The first Hanseatic merchants in London were licensed (1157) by Henry II, who granted them extensive privileges which were widened (1194) by Richard I These merchants, who belonged to the hanse of Cologne, were granted freedom from all tolls and customs in the city of London and the right to trade at fairs throughout England The Steelyard Merchants of Lübeck and Hamburg were chartered in 1266 by Henry III and became the most powerful Hanseatic colony in London, with affiliated houses at many other English ports Their privileges drew them wide unpopularity, and after riots in 1492, during which the populace attacked the Steelyard, their privileges were temporarily curtailed However, it was only in 1597 that Queen Elizabeth expelled the German merchants from England and closed the Steelyard The Steelyard was a separate walled community, with its own warehouses, weighhouse, church, offices, and residential quarters

Steen, Jan (yän' stān'), 1626–79, Dutch genre painter, b Leiden, son of a brewer He studied in Utrecht and in Haarlem under Van Ostade and Van Goyen, whose daughter he married in 1649 He was admitted to the painters' guild of Haarlem in 1648 Steen appears to have alternated painting with brewing and in 1672 opened a tavern in Delft His huge production of paintings (over 400) would indicate that most of his life was devoted to his true calling and would seem to contradict the legend of drunkenness and dissipation His painting offers a composite picture of the social life of his day, almost every phase of which he penetrated Much of it is humorous or moralistic His favorite themes were scenes of revelry, whether in the tavern or in the home He was a superb draughtsman, and despite his love of the incidental, he handled his large groups of figures effectively and spontaneously His work is uneven, but there is life in it all Among his many notable works are *The Feast of St Nicolas*, *The Happy Family*, and *The Prince's Birthday* (Rijks Mus), *The Menagerie* and *The Painter's Family* (The Hague), and *Skittle Players* (National Gall , London). The Metropolitan and Brooklyn museums and the Art Institute of Chicago have fine examples

Steenkerke (stān'kĕr"kŭ), Fr *Steenkerque* (stān-kĕrk'), village (pop 432), Hainaut prov , Belgium, NE of Mons Here in 1692 the French under Marshal Luxembourg defeated William III of England in the War of the Grand Alliance

steeplebush. see HARDHACK

Steer, Philip Wilson, 1860–1942, English landscape painter, studied with Cabanel in Paris He exerted a strong influence on English art Examples of his paintings are *Richmond Castle, Yorkshire* (Metropolitan Mus), *Chepstow Castle, Music Room* (Tate Gall , London), self-portrait (Uffizi) See biography by D S MacColl (1945)

Steevens, George, 1736–1800, English scholar The Samuel Johnson-Steevens edition (1773) of Shakspere's plays is largely Steevens's work A later edition by Steevens, reissued with his additional notes by Isaac Reed in 1821, is the so-called first variorum Shakspere

Stefansson, Vilhjalmur (vĭl'hyoulmŭr stĕ'fŭnsŭn), 1879–, arctic explorer, b Canada, of Icelandic parents, educated at the Univ of North Dakota, the State Univ of Iowa, and Harvard He has led several expeditions of exploration and of ethnological and archaeological investigation in the arctic regions For supplies he relied much on local resources, and he adopted the Eskimo way of living, thus successfully demonstrating his theory that the rigors of existence in the arctic are much reduced by the use of such techniques He made two expeditions (1906–7, 1908–12) to the delta of the Mackenzie river and later (1913–18) widely explored the Canadian and Alaskan sectors of the arctic regions, making valuable contributions to knowledge of them His many books include *My Life with the Eskimo* (1913), *The Friendly Arctic* (1915, new enl ed , 1943), *Iceland* (1939), and *Greenland* (1942) He edited *Great Adventures and Explorations* (1947)

Steffe, William, American composer, reputedly the author of the tune to which the poem *Battle Hymn of the Republic*, by Julia Ward Howe, is sung

Steffens, Lincoln (Joseph Lincoln Steffens), (stĕ'fŭnz), 1866–1936, American editor and author, b San Francisco, grad Univ of California, 1889, and studied three years in Europe While he held (1902–11) successive editorial positions on *McClure's*, the *American*, and *Everybody's* magazines, he became a leading muckraker, writing sensational articles exposing municipal corruption; these were later collected in *The Shame of the Cities* (1904), *The Struggle for Self-Government* (1906), *Upbuilders* (1909), and other volumes His autobiography (1931) is an interesting account of his place in the American radical movement and of its leading personalities and events It is supplemented by his selected articles in *Lincoln Steffens Speaking* (1936) and by his letters (ed by Ella Winters and Granville Hicks, 2 vols , 1938)

Steger (stē'gur), village (pop 3,369), NE Ill , S of Chicago, inc 1896

Stegosaurus (stĕgŭsô'rŭs) [Gr , =roof lizard], quadruped vegetarian DINOSAUR It was about 20 ft long and weighed about 10 tons and had short fore-legs, two rows of upright bony plates on the back and spines on the tail The brain weighed about 2½ oz Complete skeletons were found in the Jurassic of Colorado and Wyoming

Steichen, Edward (stī'kun), 1879–, American photographer and painter, b Luxembourg, resident in the United States since 1882 His early paintings are in various museums, including the Metropolitan His pioneering work in photography has been widely acclaimed He was head photographer (1923–38) for the Condé Nast Publications, during the Second World War he served as captain and commanded the U S navy photographic department

Steilacoom (stī'lukŭm"), town (pop 832), W Wash , on Puget Sound S of Tacoma, founded c 1850, inc. 1854 It is the oldest incorporated settlement in the state and retains many historic landmarks A state hospital is here

Stein, Sir Aurel (Sir Mark Aurel Stein) (stīn), 1862–1943, English archaeologist and Orientalist, b Budapest. He went (1888) to India as principal of the Oriental College, Lahore In 1899 he entered the Indian Educational Service and from 1910 to 1929 was special officer of the Indian Archaeological Survey After 1899 he conducted scientific expeditions in Persia, central Asia, and W China and on India's northwest frontier He was knighted in 1912 His writings include *Innermost Asia* (1928), *On Alexander's Track to the Indus* (1929), *On Asian Central-Asian Tracks* (1933), and *Old Routes of Western Iran* (1940)

Stein, Charlotte von (sharlô'tu fŭn shtīn'), 1742–1827, German noblewoman, maid of honor to the duchess Anna Amalia of Saxe-Weimar She is noted for her friendship with Goethe After a separation from him, she wrote a tragedy, *Dido* (1794)

Stein, Gertrude (stīn), 1874–1946, American author, b Allegheny (now part of Pittsburgh), studied at Radcliffe (1893–97) and studied medicine at Johns Hopkins After 1903 she lived chiefly in Paris, and her influence through her salon and her criticisms on the development of subjective realism in the arts, especially in American letters, was probably as important as her own writing She attempted to use words to express the immediate present in a revitalized style, the result, in her own work, is a repetitious, colloquial impressionism—"a rose is a rose is a rose"—denounced by her critics as obscure Her works include *Three Lives* (1909), short stories, *Tender Buttons* (1914), poems, *The Making of Americans* (1925), a novel, *Portraits and Prayers* (1934), art criticism, and *Four Saints in Three Acts* (1934) and *The Mother of Us All* (1947), operas, both with music by Virgil Thomson Her books of memories are *The Autobiography of Alice B Toklas* (1933), written as if by her secretary-companion, *Everybody's Autobiography* (1937), *Paris France* (1940), and *Wars I Have Seen* (1945)
See W G. Rogers, *When This You See Remember Me* (1948)

Stein, Karl, Freiherr vom und zum (karl' frī'hĕr fŭm" ōnt tsōm" shtīn'), 1757–1831, Prussian statesman and reformer He was minister of commerce (1804–7), was dismissed by King Frederick William III for his attempts to increase the power of the cabinet, and was recalled (1807) as prime minister only to be dismissed again (1808) on pressure by Napoleon I An exile in Russia, Stein helped to bring about the Russo-Prussian alliance of 1813 and returned to prominence as chief administrator of the reconquered and newly conquered Prussian provinces His hopes for a united Germany were disappointed at the Congress of Vienna, and his role after 1815, when Prussia turned to reaction, was not prominent Few men have achieved as many radical and successful reforms in as peaceful a manner and in as difficult circumstances as did Baron Stein His chief reforms were carried out in 1807–8, when Prussia was a defeated nation and a virtual dependency of France They were continued by K A von Hardenberg after Stein's exile, and they were forwarded by such men as Scharnhorst in the military field and Karl Wilhelm von Humboldt in the educational system Before Stein's reforms Prussia was still a semifeudal state Stein caused the king to abolish serfdom (1807) and the class system His agrarian reform ended the restrictions against the sale to burghers of land owned by nobles, these restrictions had had disastrous effects on Prussian economy, for the nobles lacked the capital to till their land properly The Edict of Emancipation of 1807

not only freed the serfs, but also opened all trades and professions to all classes The emancipation of the Jews was begun in 1808 and carried further in 1812 Stein furthermore abolished internal customs barriers and instituted local self-government in towns, cities, and provinces His administration transformed Prussia into a modern state and enabled it to play its leading role in the eventual unification of Germany See biographies by Sir John A Seeley (2 vols, 1879), Max Lehmann (3 vols, 1902-5, in German), and Constantin de Grunwald (Eng tr, 1936), G S Ford, *Stein and the Era of Reform in Prussia* (1922)

Stein, Lorenz von (lō'rĕnts fŭn shtīn'), 1815–90, German economist and sociologist He studied jurisprudence at the Univ of Kiel and at Paris and taught (1846–51) at the Univ of Kiel, but his advocacy of independence for his native Schleswig caused his dismissal From 1855 until his death he taught at the Univ of Vienna He influenced the practice of public finance but is perhaps best known for his history of the social movement in France (3 vols, 1850), which in its first edition (1842) was a study of French socialism and communism

Steinach, Eugen (oigān' shtī'nakh), 1861–1944, Austrian physiologist He was professor (1907–18) at the Univ of Prague, then director of the biological institute of the Academy of Sciences, Vienna, until 1938 He studied the influence of sex glands in vertebrates and experimented in retarding senility by several methods including transplantation of, or operations upon, the sex glands and injections of sex hormones He wrote *Sex and Life* (1940)

Steinamanger, Hungary see SZOMBATHELY

Steinbeck, John Ernst (stīn'bĕk), 1902–, American author, b Salinas, Calif, studied at Stanford His first three novels, *Cup of Gold a Life of Henry Morgan, Buccaneer* (1929), *Pastures of Heaven* (related short stories, 1932), and *To a God Unknown* (1933), attracted little attention, but after *Tortilla Flat* (1935) and *In Dubious Battle* (1936) his work—largely about the tragicomedy of the proletariat—was widely read *Of Mice and Men* (1937) was successfully dramatized It was followed by short stories collected in *The Long Valley* (1938) His best-known novel is *The Grapes of Wrath* (1939), a sympathetic story of American migrant workers, victims of the Dust Bowl, which was awarded the 1940 Pulitzer Prize and was later made into a successful moving picture *The Forgotten Village* (1941) is the text for a film of Mexican life, and *Sea of Cortez* (with E F Ricketts, 1941) is a journal of a trip His wartime novel *The Moon Is Down* (1942) was also made into a play and a film Later works have been *Cannery Row* (1944), *The Wayward Bus* (1947), *The Pearl* (1947), and *Russian Journal* (with photographs by Robert Capa, 1948)

Steiner, Edward Alfred (stī'nur), 1866–, American educator, clergyman, and writer, grad Univ of Heidelberg, 1885, B D Oberlin, 1891 After holding several pastorates he became professor of applied Christianity at Iowa College (now Grinnell College), Grinnell, Iowa His writings, chiefly on the social problems of the immigrant, include *The Immigrant Tide* (1909) and the autobiographical *From Alien to Citizen* (1914)

Steiner, Jakob (yä'kôp shtī'nŭr), 1796–1863, Swiss mathematician He was professor of geometry at the Univ of Berlin from 1834 and a pioneer in the development of synthetic geometry

Steiner, Rudolf (rōō'dôlf shtī'nur), 1861–1925, German philosopher and occultist When the German Theosophic Association was founded in 1902, he was one of its leaders In time he abandoned theosophy and developed a "spiritual science" of his own, which he called anthroposophy His works are concerned with an explanation of the world in terms of the nature of man Translations include *Investigations in Occultism* (1920) and *Philosophy of Spiritual Activity* (1922) He also wrote many works on Goethe See his *Story of My Life* (1928)

Steinitz, Wilhelm (vĭl'hĕlm shtī'nĭts), 1836–1900, German chess player In 1886 he won a match from Andersson, the leading player after Morphy's retirement, and became world champion, although the title did not officially exist Until 1892, when he lost to Harry Nelson Pillsbury, he defeated all the leading players In 1894 he lost the world championship to Emanuel Lasker The closed position, characterized by fixed pawns on both sides and the establishment of lasting positional values, was his forte He edited (1885–91) the *International Chess Magazine* in New York city and wrote *The Modern Chess Instructor* (1889)

Steinmetz, Charles Proteus (stīn'mĕts), 1865–1923, American electrical engineer, b Breslau, Germany, studied at the Univ of Breslau Forced to flee Germany because of his socialist activities, he came to the United States in 1889 Rudolf Eickemeyer, who had just begun to build electrical apparatus in his factory in Yonkers, N Y, gave him his start in electrical engineering research When the General Electric Company bought out Eickemeyer in 1892, Steinmetz went with the new owners He discovered the law of hysteresis, which made it possible to reduce the loss of efficiency in electrical apparatus resulting from alternating magnetism; developed a practical method of making calculations of alternating current, and did valuable research on transient electrical phenomena (lightning) He built a generator which produced artificial lightning Professor (1902–23) at Union College, Schenectady, Steinmetz wrote numerous technical works He remained a socialist and was president of the Schenectady board of education (1912–23) and of the common council (1910–23) See biographies by J W Hammond (1924) and J. N. Leonard (1929)

stele (stē'lē), slab, usually oblong, not forming part of a structure but set up in a vertical position, for votive purposes or as a memorial of some person or event Upon the slabs were carved inscriptions accompanied by ornamental designs or reliefs of particular significance In ancient Egypt frequent use was made of this form of commemorative stone, and some examples of early Chaldean workmanship are in museums The marble funerary steles of Greece, especially of Athens, are among the most beautiful monuments of classic art Upon them, as a rule, were likenesses of the departed, sculptured in relief and painted Other notable steles of great age are found in China and among the cultural remains of the Maya in Mexico and Central America

Stella, poetical name used by several writers for the loved ones they celebrated Most famous in English literature are the Stella of the sonnets of Sir Philip SIDNEY, who was Penelope Devereux, daughter of the 1st earl of Essex, and the Stella of Jonathan SWIFT, who was Esther Johnson, perhaps the natural daughter of Sir William Temple

Stellarton (stē'lŭrtun), town (pop 5,351), N N S, just S of New Glasgow It is a coal-mining center and has railroad repair shops and steel-products plants Originally named Albion Mines, it was renamed and incorporated in 1889

Stellenbosch (stē'lunbŏsh, -bōs), town (pop 15,392), W Cape Prov, Union of South Africa, founded 1679 It is on a railroad to Capetown Here are Stellenbosch Univ and other institutions of higher learning

Steller, Georg Wilhelm (gā'ôrk vĭl'hĕlm shtē'lŭr), 1709–46, German naturalist, whose name was originally Stöhler An adjunct of the St Petersburg Academy of Sciences, he was assigned to the scientific staff of Vitus Bering's second expedition He made extensive observations and collections on his journey through Siberia (1738–40) and in Kamchatka (1740–41, 1742–44) He discovered several species, especially of fish and of plants Accompanying Bering as surgeon on the *St Peter* (1741–42), he was the first naturalist in Alaska, where he was the first white man to visit Kayak Island, while wintering on Bering Island he made the first exhaustive descriptions of the N Pacific sea cow, sea lion, and fur seal His journal (Eng tr, 1925) is a valuable source on Bering's second voyage See biography by Leonhard Stejneger (1936)

stellite, steel alloy consisting of cobalt, chromium, wolfram (tungsten), and small quantities of carbon and iron Its outstanding property is high retention of hardness and strength when hot Stellite is highly resistant to corrosion and is fitted for use in instruments where the reflecting power of polished surfaces must be good Developed c 1913 by Elwood Haynes, it finds wide use in machine parts, cutlery, and high-speed tools

Stelvio Pass (stĕl'vyō), Ger *Stilfser Joch* (shtĭlf' sur yŏkh'), 9,050 ft high, Italy, in the central Alps near the Swiss border It is crossed by the highest road in the Alps, connecting the Valtellina with the upper Adige valley Near the pass a road branches off, leading northwest into the lower Engadine, Switzerland

stem, that part of a plant to which all the other parts are attached, i e, leaves, roots, and floral parts The region at which a leaf is attached to the stem is called a node, and the segment between adjacent nodes is termed an internode Corn and bamboo stems have very prominent nodes whereas others, such as trees, show nodes only on the young branch tips The stem transports food downward from the leaves to the roots and carries water and minerals upward to the branches and leaves In woody plants it also serves to store food and water Some plants, e g, most cacti, bear no leaves—the stems being modified into enlarged, fleshy green structures well adapted for retaining moisture in desert conditions Some plants have underground stems that are differentiated as bulbs, corms, tubers, or rhizomes These enable the plant to survive the winter season, since herbaceous plant stems die back each year Woody plant stems remain alive from year to year and increase in girth It is by the stems (trunks) of trees that their age is reckoned, each ring in a cross section of the wood usually representing a year's growth In many plants the growing tip weaves in a circle as it grows forward because of the rotation of the region of elongation around the stem It is this phenomenon which enables many climbing plants to twine around a support In some plants the stem may be prostrate.

Stenbock, Count Magnus (māng'nŭs stän'bŏk), 1665–1717, Swedish field marshal. One of the ablest lieutenants of Charles XII in the Northern War, he helped to defeat Peter I of Russia at Narva (1700), crushed a Danish expedition at Halsingborg (1710), and invaded Holstein (1713) Outnumbered, he was forced to surrender in the same year and died in Danish captivity

stencil, cut-out device of oiled or shellacked tough and resistant paper, thin metal, or other material used in applying paint, dye, or ink to reproduce its design or lettering upon a surface Designing an art stencil differs from ordinary drawing, since the design itself must be cut away, and ties must be arranged to hold the background together for workability and to give definition to the pattern, somewhat in the manner of lines in mosaic or leaded glass In a border or design having a repeat, registers are cut to coincide with some small detail or dot to enable the user to place the stencil accurately for each repetition It is held securely upon the surface, while the stencil brush (with square-cut stiff bristles) is manipulated to work the medium over it (in a circular movement for fabrics) until every detail is evenly colored The technique has been employed since ancient times for the decoration of walls and ceilings, pottery, furniture, textiles, leather, and small objects It is used also in mimeographing, addressing, and lettering cases or cartons for shipping The Chinese and Japanese are adept at designing, making, and using the stencil, employing a tough mulberry paper and, for ties in fine patterns, human hair that will not show in the finished work So intricate and exquisite are many of their stencils that they are collected for their beauty of design and drawing Silk-screen printing is a stencil process used in the 20th cent for posters, wallpapers, and textiles Silk fabric stretched on a frame is coated with glue or other impervious material, a stencil paste, rubbed on with a squeegee, passes through the uncoated portions The method has been adapted by artists to make prints known as serigraphs See F N Vanderwalker, *New Stencils and Their Use* (1948)

Stendal (shtĕn'dal), town (pop 40,325), in the former Saxony prov of Prussia, after 1945 in Saxony-Anhalt, N central Germany, NNE of Magdeburg and near the Elbe It is a food-processing and sugar-refining center Founded in 1151 by Albert the Bear, it was (1258–1309) the seat of the elder line of the Ascanian margraves of Brandenburg and joined the Hanseatic League c 1350 Among the numerous ancient buildings of Stendal are the basilica (founded 1188), the city gates (13th-15th cent), and the city hall (15th cent) Winckelmann was born here and Beyle took his pen name Stendhal from the city

Stendhal (städal'), pseud of **Marie Henri Beyle** (märē' ārē' bāl'), 1783–1842, French novelist and miscellaneous writer, b Grenoble He grew up hating his father and went to Paris at his earliest opportunity There influential relatives obtained a place for him at the ministry of war In 1800 he became a dragoon in Napoleon's army, and the invasion of Italy took him to Milan, a city which he continued always to love A courageous soldier, he went through the Prussian campaign In 1802 he was back in Paris, where he pursued the amorous adventures which continued all his life to interest him He read widely at this time and kept notes and journals which have been published He was again with Napoleon's army in the disastrous Russian campaign (1812) One curious result of his army career was his use of military terms to describe his pursuit of love With Napoleon's fall in 1814, Stendhal lost his official status He went to Milan, remaining there until 1820 There he began his literary career In *Haydn, Mozart, et Métastase* (1814) and *Rome, Naples, et Florence* (1817), he borrowed facts freely from other writers, but the point of view and wit were his own. His books were better known in England than in France, and from c 1817 he wrote for British journals In this period, when he was suffering from his most genuine and most unhappy love affair (the object of his suit was the Countess Metilda Dembowski), he wrote his searching study of love, *De l'amour* (1822), a psychological analysis that predates Freud Stendhal's first novel, *Armance* (1827), was scorned by the critics In 1830 appeared the first of his two greatest novels, *Le Rouge et le noir* (Eng tr *The Red and the Black*) It is, baldly, the story of a youth, Julien Sorel, guillotined for shooting his mistress, but its sympathetic and acute character analysis and its picture of the period make it one of the world's great novels After the accession of Louis Philippe in 1830, Stendhal was appointed consul at Trieste, Metternich, however, objected to his appointment both because of his books and because of his liberal ideas, he was therefore shifted to Civitavecchia in 1831 He wrote constantly here, but did not publish, among these works are *Souvenirs d'egotisme* and *La Vie d'Henri Brulard*, both autobiographical, and *Lucien Leuwen*, a novel In 1836 he obtained a three-year leave of absence, which he spent in Paris or in traveling about France In this period he wrote what many consider his greatest novel, *La Chartreuse de Parme* (1839), translated as *The Charterhouse of Parma*, with a plot from the Renaissance but laid in Italy

of the 1830s He went back to Civitavecchia in 1839, there to write part of another novel, *Samel*. He returned to Paris a few months before his death. In the late 1880s, nearly 50 years after his death, his unprinted works were discovered and published. With the revival of interest in him, his reputation was established as one of the great French novelists His major works have appeared in various English translations See translations of his autobiographies, *The Life of Henri Brulard* (1939) and *Memoirs of Egotism* (1949), biographies by A. A Paton (1874), Paul Hazard (Eng tr, 1929), F C Green (1939), and Matthew Josephson (1946)

Stenness (stĕnĕs'), locality on Pomona, Orkney Islands, Scotland, near Kirkwall. Here are the megalithic Standing Stones of Stenness, comprising two circles One was originally of 12 stones, of which 4 remain, the larger (the Ring of Brogar) probably had 60 stones originally, of which 36 remain

Steno, Nicolaus (nĭkōlā'ŭs stē'nō), Latinized form of **Niels Stensen** (nēls' stăn'sun), 1638–86, Danish scientist and Roman Catholic prelate He lived principally in Copenhagen, Paris, and Florence He investigated the muscular and glandular systems and discovered (1661) the excretory duct (duct of Steno) of the parotid gland (one of the pairs of salivary glands) In *The Prodromus* (1669, Eng tr, 1916) he recorded his studies of crystallization and his theories on the origin of geological strata and of fossils Converted from Lutheranism to Roman Catholicism (1667), he became a priest (1675) and virtually abandoned scientific work As vicar apostolic (from 1677) in N Europe, he devoted himself to missionary work

stenography see SHORTHAND

Stensen, Niels. see STENO, NICOLAUS

Stentor (stĕn'tôr), Greek herald in the Trojan War His voice was as loud as the voices of 50 men.

Stepanakert (styĕ'punŭkyĕrt'), city (1944 pop over 10,000), capital of Mountain-Karabakh Autonomous Oblast, Azerbaijan SSR Silk, wine, and food are processed here The city developed in the 1930s and replaced the older Shusha, which is near by

Stephan, Heinrich von (hīn'rĭkh fŭn stē'făn), 1831–97, German statesman He entered postal service at 16 and became the first postmaster general of the German Empire His innovations included post cards, parcel post, and money orders He was the chief founder of the Universal Postal Union

Stephanas (stē'funus), Corinthian Christian, companion of Paul 1 Cor 1 16, 16 15–17

Stephanus, family of printers see ESTIENNE

Stephen, Saint (stē'vŭn) [Gr, =garland], d A D 36?, first Christian martyr, stoned at Jerusalem He was one of the seven deacons Acts 6, 7 The Vatican contains frescoes on St Stephen by Fra Angelico Feasts Martyrdom on Dec 26, probably chosen to honor the first martyr the day after Christmas, Finding of St Stephen's Body (4th cent) on Aug 3

Stephen, Saint, or **Stephen I,** 969-1038, duke (997–1001) and first king (1001–38) of Hungary, called the Apostle of Hungary The Hungarian state may be said to date from his reign He continued the Christianization policy of his father, Duke Geza, and put down revolts by pagan nobles, who also opposed his pro-German policy Married to a German princess, Stephen favored German immigration and modeled his administration on that of the German kings He divided Hungary into counties, governed by royal officials, to prevent abuses by the nobles He was named by the pope apostolic king, a title his successors bore His crown, sent to him by Pope Sylvester II, remained through the centuries the sacred symbol of Hungarian national existence Although in the Roman calendar his feast is Sept 2, it is Aug 20, anniversary of the removal of his remains to a shrine, that is celebrated in Hungary as a great national holiday

Stephen, 1097?–1154, king of England (1135–54) The son of Stephen Henry, count of Blois and Chartres, and of Adela, daughter of William the Conqueror, Stephen was brought up by his uncle, HENRY I of England, who knighted him, presented him with estates in England and France, and arranged his marriage to Matilda of Boulogne In 1126 Stephen headed the group of English barons who swore fealty to Henry's daughter, also named MATILDA, as Henry's successor to the throne This oath was renewed in 1131 and 1133, but on Henry's death (1135) Stephen hastened to London, secured support, and was proclaimed king He was able to secure papal ratification and announced generous terms, but his reign was a long and constant struggle to maintain his throne He was continually forced to lead in the suppression of revolts in the west and the south In the Battle of the Standard (1138) a royal army defeated the invading force of David I of Scotland, but the ensuing treaty (1139) was entirely favorable to Scotland Stephen's acquiescence in the excessive demands of the high clergy and the great barons and his desire to create a royalist party led him to confiscate lands of unfriendly barons in order to bestow them on other and friendlier lords When the powerful bishops of Salisbury, Ely, and Lincoln refused to surrender their castles, he arrested them and offered them personal violence He further alienated the clergy by threatening them The leader of Matilda's party was her half brother Robert, earl of GLOUCESTER, the greatest of the barons In 1139 Matilda and Robert landed in England, and an era of internal strife began, it was to last until 1153 While besieging Lincoln Castle in 1141 Stephen was captured and Matilda reigned for a short time as "Lady of the English" Matilda's arrogance soon lost her support, and after Earl Robert's capture she was forced to exchange Stephen for him Stephen regained his throne and drove Matilda back into the western shires (1142) Virtual anarchy followed for five years, W and central England was devastated, while in France Matilda's husband, GEOFFREY IV (Geoffrey Plantagenet), conquered Normandy In 1147, however, Earl Robert died and Matilda soon left England (1148) In 1149 Henry of Anjou (later HENRY II), Matilda's son, crossed to England and attempted unsuccessfully to further his mother's (and his own) cause Stephen had again offended the clergy by quarreling with Archbishop Theobald, and the clerics refused to confirm his son Eustace as successor to the throne When Eustace died, Stephen bowed to the inevitable and concluded a treaty (1153) by which Henry was named as his heir Stephen exhibited great courage in battle but little tactical skill His diplomatic efforts generally ended in failure, and his policy of concessions to gain supporters proved to be ruinous His personal character was generous, open, and frank, but he lacked the strength to face successfully the turmoil of his reign See Kate Norgate, *England under the Angevin Kings* (1887), G B Adams, *History of England, 1066–1216* (1905), H W C DAVIS, *England under the Normans and Angevins* (1930)

Stephen, I, king of Hungary see STEPHEN, SAINT (969–1038)

Stephen V, 1239–72, king of Hungary (1270–72), son and successor of Bela IV He ruled part of the duchy of Styria, contested between Bela and Ottocar II of Bohemia, from 1254 to 1259 After the Hungarian defeat (1260) on the Marchfeld, where Stephen was wounded, all of Styria passed to Ottocar Stephen rebelled against his father and in 1262 forced him to share the kingdom After an invasion (1268) of Bulgaria, Stephen took the title king of Bulgaria He secured alliances by marrying his children into the ruling families of Naples, Byzantium, and other powers, and in 1271 he repulsed an invasion by Ottocar He was succeeded by his son, Ladislaus IV

Stephen, George see MOUNT STEPHEN, GEORGE STEPHEN, 1ST BARON

Stephen, Sir James Fitzjames, 1829–94, English jurist and journalist, brother of Sir Leslie Stephen He was educated at Eton and Cambridge and was admitted to the bar in 1854 After 1855 he wrote many articles on ethics, literature, and current topics for periodicals, and he was (1865–70) an important contributor to the *Pall Mall Gazette* The study of jurisprudence, however, was his chief interest He wrote *A General View of the Criminal Law* (1863) to expose certain legal anomalies He served (1869–72) as the legal member of the viceroy's council in India, preparing codifications (which were adopted) of the law relating to contracts, crimes, and evidence Parliament, however, never enacted his proposed codifications of English criminal law Stephen contrasted what he considered the efficient British rule of India with the inept government at home, and in *Liberty, Equality, Fraternity* (2d ed, 1874) he deplored the expansion of democracy in place of autocratic government Stephen was (1879–91) a criminal judge His greatest work is his *History of the Criminal Law of England* (1883) See biography by Leslie Stephen (1895)

Stephen, Sir Leslie, 1832–1904, English man of letters and philosopher He was educated at Eton, King's College (London), and Cambridge and took holy orders His interest in mountain climbing is shown by his many ascents and his numerous writings on the subject, many of which were collected in *The Playground of Europe* (1871) As a tutor at Cambridge his philosophical readings led him to skepticism In 1864 he moved from Cambridge to London and in 1867 married Harriet Marian, younger daughter of Thackeray Some of the essays and sketches Stephen wrote for the *Saturday Review, Pall Mall Gazette, Fraser's Magazine, Fortnightly Review,* and *Cornhill Magazine* were collected in *Hours in a Library* (1874–79) From 1871 to 1882 he edited the *Cornhill* Stephen was editor of the great *Dictionary of National Biography* from its beginning in 1882 until 1891, when he was succeeded by Sidney LEE His major works include *History of English Thought in the Eighteenth Century* (1876), biographies of Johnson (1878), Pope (1880), Swift (1882), George Eliot (1902), and Hobbes (1904), all written for the "English Men of Letters" series, *Studies of a Biographer* (1898–1902), and *The English Utilitarians* (1900) Stephen's friends included Hardy, Henley, Stevenson, Henry James, James Russell Lowell, Oliver Wendell Holmes, and many others His youngest daughter by his second wife was Virginia Woolf. See biography by F. W. Maitland (1906).

Stephen Bathory (bā'tôrĭ), Hung *Báthory István* (ĭst'vän), Pol *Stefan Batory* (stĕ'făn bā-tôrĭ), 1533–86, king of Poland (1575–86), prince of Transylvania (1571–75), son of Stephen BATHORY (1477–1534) He was elected to succeed John II (John Sigismund Zapolya) as prince of Transylvania In Poland, he was elected by a majority to succeed Henry of Valois (Henry III of France), who had left Poland in 1574 A minority voted for Emperor Maximilian II, who died before he could make good his claim As had been stipulated by the Polish diet, Stephen married Anna, daughter of Sigismund II, the last Jagello king of Poland Transylvania he made over to his brother Christopher Bathory With his chancellor, Jan ZAMOJSKI, Stephen fought several successful campaigns against Ivan IV of Russia in the long-drawn war for the succession to LIVONIA. Peace was made in 1582 through papal mediation, and Poland retained Polotsk and its part of Livonia Toward the end of his reign Stephen Bathory planned a Christian alliance against the Turks He also schemed to make Russia a vassal state of Poland—a project which he considered a necessary step for his anti-Turkish crusade He introduced the Society of Jesus into Poland in order to foster the Catholic Reform, and he effected useful judiciary reforms After his death Sigismund III, a Swede, was elected king

Stephen Dushan, Serbo-Croatian *Stefan Dušan* (stĕ'făn dōō'shan), c 1308–1355, king (1331–46) and tsar (1346–55) of Serbia, son of Stephen UROS III He is also known as Stephen Uros IV He was proclaimed king after rebelling against his father, whom he had imprisoned and strangled He reduced Bulgaria to dependency, gained the support of the prince of Walachia, and, taking advantage of the war between the rival Byzantine emperors, JOHN V and JOHN VI, conquered Macedonia (except Salonica), Thessaly, and Epirus After raising the archbishop of Serbia to the rank of patriarch, with his seat at Pec, he had himself crowned (1346), at Skoplje, "tsar and autocrat of the Serbs, Greeks, Bulgarians, and Albanians" by the patriarch of Ipek and by the Bulgarian patriarch of Trnovo He introduced Byzantine titles and ceremony into his court and published (1349) a law code for his empire He later was involved in indecisive warfare against Bosnia and Louis I of Hungary, but in 1355, on the news of the fall of Emperor John VI, he decided to march on Constantinople He died of fever on the march Stephen Dushan was one of the great conquerors in European history His ambitions had no limits, his methods were ruthless, and his appearance is said to have been imposing and terrible Under his rule Serbia attained its greatest extent and glory However, his empire lacked unity and fell apart soon after his death

Stephen Harding, Saint, d 1134, English monastic reformer He entered the abbey at Sherborne in his youth, later (c 1077) he went to the Molesme abbey (near Chatillon-sur-Seine) in Burgundy In 1098 he joined his abbot, St Robert (d 1111), in founding at Cîteaux a new abbey, where the Rule of St Benedict might be observed in primitive rigor Stephen was abbot there from c 1109 and from his abbacy date the CISTERCIANS, the spirit and organization of that order reflect St Stephen's ideas These are embodied in the Chart of Charity (c 1119), this, the main Cistercian constitutional paper, is a landmark in the course of Western monasticism He supported with paternal affection the work of St BERNARD OF CLAIRVAUX Feast April 17, among Cistercians, July 16 See Father Raymond, *Saga of Cîteaux First Epoch* (3d ed, 1945)

Stephens, Alexander Hamilton (stē'vunz), 1812–83, American statesman, vice president of the Confederacy (1861–65), b Taliaferro co, Ga (then part of Wilkes co), grad Univ of Georgia, 1832 He was admitted to the bar in 1834, served six terms in the Georgia legislature, and was in Congress from 1843 to 1859 Stephens, a Whig, favored the annexation of Texas but, unlike most Southerners, opposed the Mexican War Howell COBB, Robert TOOMBS, and Stephens were influential in having Georgia accept the Compromise of 1850, and with them he organized in Georgia the short-lived Constitutional Union party After the disappearance of the Whigs as a party he became a Democrat He voted against secession in the Georgia convention of 1861, but accepted his state's decision and was a delegate to the convention in Montgomery, where the Confederacy was born As vice president, Stephens consistently opposed the policies of Jefferson DAVIS, objecting, among other things, to conscription and the suspension of the writ of habeas corpus An early advocate of peace, he was one of three Confederate commissioners to the HAMPTON ROADS PEACE CONFERENCE After the Civil War he was arrested and interned in Fort Warren, Boston Released early in 1866, he was elected to the U S Senate but was not allowed to take his seat He then applied himself to the writing of his *Constitutional View of the War between the States* (2 vols; 1868–70), considered the ablest defense of the right of secession He was in Congress again from 1873 to 1882, when he was

elected governor of Georgia. See biographies by Louis Pendleton (1908) and Rudolph Von Abele (1946), B J Hendrick, *Statesmen of the Lost Cause* (1939)

Stephens, James, 1882–, Irish poet and novelist. Stephens was discovered and brought forward by G W Russell (A. E.) into a leading place in the Irish renaissance Stephens's fanciful poetry includes *Insurrections* (1909), *Songs from the Clay* (1915), and *Kings and the Moon* (1938) His best-known novels, which combine fairy lore or Irish legend and everyday life, are *The Crock of Gold* (1912), *The Demi-Gods* (1914), *Deirdre* (1923), and *In the Land of Youth* (1924) His *Irish Fairy Tales* (1920) are charming stories told ostensibly for children

Stephens, John Lloyd, 1805–52, American author and traveler, b Shrewsbury, N J , grad. Columbia, 1822 From 1825 to 1834 he practiced law in New York city He traveled (1834–36) in Europe and the Near East, writing a series of descriptive letters which appeared in the *American Monthly Magazine* He later wrote his popular *Incidents of Travel in Egypt, Arabia, Petraea, and the Holy Land* (1837) and *Incidents of Travel in Greece, Turkey, Russia, and Poland* (1838) His two important amateur archaeological trips to Central America are reported in *Incidents of Travel in Central America, Chiapas, and Yucatan* (1841) and *Incidents of Travel in Yucatan* (1843) The last seven years of his life he devoted to organising and laying out the Panama RR, and he chose the Chagres river as the best route for a transisthmian canal See V W von Hagen, *Maya Explorer* (1947).

Stephens, William, 1671–1753, president of Georgia (1743–50), b Bowcombe, Isle of Wight He was educated at Cambridge and served in Parliament (1720–22) The Georgia trustees appointed him secretary of the colony in 1737, and on Oglethorpe's recall to England he became president See his *Journal of the Proceedings of Georgia* (1906)

Stephens College, at Columbia, Mo , Baptist, for women, chartered and opened 1833 as Columbia Female Academy, called Stephens Female College 1870–1917 It became a junior college in 1911 and added two secondary years in 1927 Its curriculum, experimental and individualised, is organised around required survey courses The college has an institute for consumer research and a noted drama department.

Stephenson, George (stē'vənsŭn), 1781–1848, English engineer, noted as a locomotive builder He learned to read and write in night school at the age of 18, while working in a colliery He constructed (1814) a traveling engine or locomotive to haul coal from mines and in 1815 built the first locomotive to use the steam blast He also devised (c 1815) a miner's safety lamp at about the same time as did Sir Humphry Davy, whose lamp was adopted in 1816, it embodied some features of the Davy lamp and is considered by some to have antedated Davy's invention His locomotive the *Rocket* bested the others in a contest in 1829 and was used on the Liverpool-Manchester Railway He became engineer for several of the railroads that rapidly grew up and was consulted in the building of railroads and bridges in England and in other countries His son *Robert Stephenson*, 1803–59, and a nephew, *George Robert Stephenson*, 1819–1905, were also railroad engineers

Stephen the Great, d 1504, prince of Moldavia (1457–1504) Although he had been helped to his throne by Vlad the Impaler, prince of Walachia, he attacked and defeated Vlad in 1462, while Vlad was fighting the Turks, and made Walachia a dependency of Moldavia He later waged war on the Turks, whom he routed (1475) at Racova by the device of confusing the enemy with a dummy army, made of wood His victory won him wide acclaim throughout Christendom, but at the end of his reign Stephen realized that Moldavia could not resist Turkish pressure indefinitely It was probably on Stephen's deathbed advice that his son and successor, Bogdan, purchased (1513) the continued existence of his principality by paying tribute to the sultan. Despite the ephemeral glory of his reign, Stephen, through his rivalry with Walachia, helped to bring about the subjugation of the two sister principalities by the Turks

Stephenville, city (1940 pop 4,768, 1947 estimated pop 6,500), co seat of Erath co , N central Texas, on the Bosque and SW of Fort Worth, founded 1856, inc 1888 It processes the produce of the region's farms, orchards, dairies, and pecan groves John Tarleton Agricultural College, a junior branch of the Agricultural and Mechanical College of Texas, is here

Stepney (stĕp'nē), metropolitan borough (1931 pop 225,238, 1948 estimated pop. 99,470) of E London, England. It is mainly an industrial district and suffered much air-raid damage in 1940–41 The borough includes Whitechapel, the Jewish section, Limehouse, Wapping, the Tower of London; Toynbee Hall, the first university settlement in London, London Hospital (founded 1740); the People's Palace (1887); and Queen Mary College (Univ. of London). At Mile End, Richard II parleyed with Wat Tyler.

Stepniak, S. (styĭpnyäk'), 1852–95, Russian revolutionist and writer, whose real name was Sergei Mikhailovich Kravchinski (sĭrgā' mĭkhī'lŭvĭch krŭfchĭn'skē). He fled Russia after taking part in the assassination of the tsarist chief of police and spent most of his life abroad. He wrote a great many propaganda stories in the guise of fairy tales, but is best known for his *Underground Russia* (written in Italian) and *The Career of a Nihilist, or, Andrei Kozhukhov* (1889), which he wrote in English He was killed in London by a locomotive

steppe (stĕp), level, treeless plain of the S and SE European USSR and of the SW Asiatic USSR Though it was originally grassland used almost exclusively for grazing, it is now almost entirely under cultivation The climate is dry and continental, although parts of the Russian steppe—e.g., the S Ukraine—have very fertile soil, crops are often destroyed by drought The former Puszta of Hungary is similar to the Russian steppe, as are the prairies in the United States, the Pampa in Argentina, and other regions in middle latitudes Some of the world's most productive agricultural districts, such as the Ukraine and the U S wheat belt, are situated in steppe country.

stereopticon (stĕrēŏp'tĭkun), improved form of the magic lantern, for throwing upon a wall or screen a magnified image of an object, e g , a drawing, a microscopic slide, a photograph, or a page of a book Moving pictures utilize principles applied in the stereopticon

stereoscope (stĕ'rēuskōp"), optical instrument that unites two similar but suitably differing pictures so as to give one using the instrument the impression of the third dimension, depth One looking directly at objects is given the impression of depth because the mental image is a composite of what the two eyes see separately, from slightly different positions A photograph shows no more than what one eye sees In the familiar stereoscopic view, two photographs, taken from positions related approximately as the positions of a person's two eyes, are placed side by side The stereoscope combines these two photographs into a composite that has depth Scientists, among them Sir Charles Wheatstone, in 1838, and James Eliot, in 1839, constructed stereoscopes for use with drawings, but suitable views were not generally available until the development of photography In 1849 Sir David Brewster improved the stereoscope and invented the double camera for taking stereoscopic views Dr Oliver Wendell Holmes invented the kind of stereoscope that became popular in America From that time until the phonograph and the radio offered successful competition in home entertainment, a stereoscope with a collection of stereoscopic views was a usual part of the equipment of a home The principle of the stereoscope is applied in binocular field glasses and microscopes

stereotype (stĕ'rēutīp", stĕr'ĕ-) [Gr *stereo*=solid], plate from which printing is done, made by casting metal in a mold, usually of paper pulp The process was patented in 1725 by the Scottish inventor William Ged Firmin Didot improved the process, named it, and extended its use Cylinder presses, by which newspapers are printed, use curved stereotype plates that fit the cylinders

sterility, inability to reproduce In the male, sterility may be caused by impotence, gonorrhea, defective sperm, or endocrine imbalance In the female, it may result from defective Fallopian tubes (often caused by gonorrhea), defective ova, failure of the ova to remain implanted on the uterine wall, or glandular imbalance

sterilization, term applied to the destruction of bacteria and other germs by heat and other methods In hospitals and in bacteriological and other laboratories where instruments and other equipment must be made sterile, the process is of particular importance A device called an autoclave, which employs steam at high pressure, is commonly used in such places to accomplish sterilization The term *sterilization* is applied also to an operation that prevents the production of offspring A few states in the United States have laws providing for the sterilization of persons having certain mental defects and criminal tendencies.

Sterling, John, 1806–44, British author and critic. Educated at Trinity College, Cambridge, he was greatly influenced by Coleridge's writing Sterling and J F D. Maurice purchased the *Athenaeum* in 1828 and conducted it unsuccessfully for six months Sterling then wrote a novel, *Arthur Coningsby*, published in 1833 He spent some time (1830–31) in the West Indies because of ill-health and later studied German philosophy on the Continent. Ordained in 1834, he served as curate to his former tutor, Julius Hare, until 1835 In spite of failing health, he published his volume of miscellaneous poems (1839), wrote sketches, tales, and reviews for *Blackwood's Magazine* and other periodicals, and finished his tragedy *Strafford* (1843) Sterling is best known through Carlyle's famous biography of him (1851) See his works (ed. by Julius Hare, 1848); A. K. Tuell, *John Sterling, a Representative Victorian* (1941).

Sterling, 1 City (pop. 7,411), co. seat of Logan co., NE Colo., on the South Platte river; platted 1881, inc. 1884. It is the trade, shipping, and processing center of a sugar-beet, grain, dairy, and livestock area. 2 Town (pop 1,251), E Conn., at the R.I line; set off from Voluntown 1794. Its quarries yielded widely used pink granite 3 Industrial city (pop. 11,363), NW Ill., on the Rock River opposite Rock Falls, in a farm and dairy area, inc. 1841 Steel is made and oil is refined 4 City (pop. 2,215), S central Kansas, on the Arkansas and NW of Hutchinson; founded 1872, inc 1876. Sterling College (coeducational) is here 5 Town (pop. 1,713), central Mass., N of Worcester; settled 1720, set off from Lancaster 1781

Sterlitamak (styĭrlyĭtŭmäk'), city (1946 estimated pop 55,000), Bashkir ASSR, E European RSFSR, a port on the Belaya river, c 80 mi S of Ufa It has machine-building and agricultural-processing industries There are phosphorite deposits near by.

Stern, Daniel see Agoult, comtesse d'

Stern, Gladys Bronwyn, 1890–, English novelist. She is well known for her novels of a Jewish family, the trilogy collected as *The Rakonitz Chronicles* (1932), plus *Shining and Free* (1935), were published as *The Matriarch Chronicles* (1936) with a preface by the author. *The Young Matriarch* (1942) is another part of the series She has written other novels, short stories, plays, and discursive autobiography in *Monogram* (1936), *Another Part of the Forest* (1941), *Trumpet Voluntary* (1944), and *Benefits Forgot* (1949). With Sheila Kaye-Smith she wrote *Talking of Jane Austen* (1943, American title, *Speaking of Jane Austen*, 1944) and *More about Jane Austen* (1949)

Stern, Otto (stûrn, Ger ō'tō shtĕrn'), 1888–, American physicist, b Germany, Ph D. Univ. of Breslau, 1912. After resigning from his post at the Univ. of Hamburg in 1933, he became research professor of physics at the Carnegie Institute of Technology The 1943 Nobel Prize in Physics was awarded him for his contributions to the atomic-ray method and his discovery of the magnetic moment (force) of the proton

Sternberg, Constantin Ivanovich von (kŭnstuntyĕn' ēvä'nuvĭch fŭn shtĕrn'bĕrk), 1852–1924, Russian-American pianist and conductor, b St Petersburg, studied in Leipzig and Berlin After appearances both as pianist and as conductor in Germany, he toured in the United States from 1880 to 1885 He was director (1885–89) of the College of Music, Atlanta, and in 1890 founded the Sternberg School of Music in Philadelphia He composed many piano pieces and wrote *Modern Russian Piano Music* (1915) and *The Ethics and Esthetics of Piano-Playing* (1917)

Sternberg, George Miller (stûrn'bûrg), 1838–1915, American bacteriologist, b Hartwick Seminary, N Y , M D College of Physicians and Surgeons, 1860 He was assistant surgeon in the U S army during the Civil War and became surgeon general in 1893 His studies were concerned with bacteriology, his demonstration of the diplococcus of pneumonia coinciding with that of Pasteur He also contributed valuable work in the control of infectious disease His published works include *Textbook of Bacteriology* (1895) and *Infection and Immunity* (1903)

Sterne, Laurence (stûrn), 1713–68, British author, b Clonmel, Ireland, educated at Cambridge His father was an English army officer, and his mother was Irish Sterne entered the Anglican church and held livings near York He led a half-dissolute life, the latter part of it a brave and losing battle with tuberculosis Although he wrote seven published volumes of sermons, Sterne is famous for his curious and discursive novel, *The Life and Opinions of Tristram Shandy* (9 vols., 1759–67), which combines sentiment, humor, whimsy, indecency, and novelty with comic effect Designed to be continued through even more volumes, it is unfinished, as is *A Sentimental Journey through France and Italy* (1768) by "Yorick"—Sterne's name for himself in *Tristram Shandy*—written after two tours in Europe His work, popular at the time, also greatly influenced later novelists See his letters (ed. by L. P Curtis, 1935) and the Shakespeare Head Press edition of his works (7 vols , 1926–27), biographies by W L. Cross (new ed , 1925) and L. C Hartley (1943)

Sterne, Maurice, 1877–, American painter and sculptor, b. Libau, Russia (Liepaja, Latvia) He came to New York at the age of 12 There he studied with Eakins at the National Academy of Design In 1904 he won a traveling scholarship and after that time visited many parts of the world Cézanne and Piero della Francesca are said to have been the formative influences on his painting, which has a consistent purity and an almost sculpturesque insistence on structure He painted in Italy, Bali, and the SW United States, receiving numerous awards on his still lifes, landscapes, and figure compositions His best-known sculpture is the monumental Rogers-Kennedy Memorial at Worcester, Mass. His bronze *Bomb-Thrower* is in the Metropolitan Museum. Twenty murals for the library of the Dept. of Justice Building, Washington, D.C., were exhibited in 1939. As a painter he is better known than as a sculptor and is represented in most of the leading American galleries.

Sterner, Albert Edward (stûr'nûr), 1883–1946, American painter, etcher, lithographer, and writer on art topics, b London, of American parents He painted portraits of Anne Lindbergh, A A Berle, Jr., Thomas W. Lamont, and many others His *Blue Stocking* is in the Metropolitan Museum. He founded the Painters and Gravers of America and was its president in 1918.

Sternheim, Carl (kärl' shtĕrn' hĭm), 1878–1943, German dramatist His first success was the comedy *Die Hose* [a pair of drawers] (1911), which, like his later works, satirized the complacence and Philistinism of the wealthy middle class His other works include the plays *Bürger Schippel* (1913) and *Die Marquise von Arcos* (1920, Eng tr, *The Mask of Virtue*, 1935), the novel *Fairfax* (1921, Eng tr, 1923), which satirized American life, stories, and critical essays Long an irritant to the *Junkers*, he returned to Germany after a long absence, but in the Nazi era went to Switzerland, where he died

Stesichorus (stĕsĭk'kurus) [Gr, =founder of the chorus], fl c 600 B C, Greek lyric poet He lived at Himera and seems to have been originally named Tisias or Teisias Legend says he invented the choral "heroic hymn" and the triad structure—strophe, antistrophe, epode—thenceforth much used (e g, by the tragedians and by PINDAR and IBYCUS) Fragments of his verse remain

stethoscope (stĕ'thuskōp") [Gr, =chest viewer], medical instrument composed of a hollow metal or hard rubber cone connected by tubing to one or two earpieces It enables physicians to hear the sounds made by the heart and lungs. The earliest form of this simple device, invented by R T H Laennec, was a slender wooden tube about a foot long, one end of which had a broad flange or bell-shaped opening When the opening is placed against the chest of the patient, the doctor, by placing his ear against the slightly flanged opposite end of the tube, can hear the sounds of breathing and heart action The stethoscope changed little during the 19th cent, but by the early 20th cent the binaural instrument had begun to make obsolete the rigid tube type which is now rarely used G P Cammann a New York physician, developed the binaural stethoscope by using two earpieces with flexible rubber tubing leading to them from a two-branched opening of the cone or bell Thus the sound was made to pass from the cone through both lengths of tube and into both earpieces simultaneously. Without changing his position the doctor is able to auscultate (listen to) all areas of the upper torso Auscultation performed alone or together with percussion (light tapping) is a primary diagnostic measure in medical practice The qualities of sound emitted by the functioning heart and lungs denote the soundness or malignancy of those organs. Many descriptive expressions are used to fit the sounds arising from various conditions of disease within the thorax They make up the language of stethoscopy and are universally recognized by medical practitioners Bronchitis, pleurisy, pneumonia, and empyema are frequently first determined by skillful use of the stethoscope A difficult but rewarding technique, stethoscopy continues to be an important element in medical diagnosis

Stetson, John Batterson, 1830–1906, American hat manufacturer, b Orange, N J. Stetson, who had learned hatmaking, traveled to the West in the 1860s to improve his health He returned to Philadelphia and began manufacturing hats suited to the needs of the Western cowboy These hats soon became the popular headgear of the West The John B Stetson Company, formed in 1885, became, under his direction, one of the largest hat firms in the world He generously donated to De Land Univ which was renamed (1889) John B Stetson Univ (at De Land, Fla.)

Stettin (shtĕtēn') or **Szczecin** (shchō'tsĕn), city (1939 pop 382,984, 1946 pop 72,948), capital of the former Prussian province of POMERANIA, on the Oder near its influx into the Stettiner Haff It was transferred to Polish administration after the Potsdam Conference of 1945 One of the chief Baltic ports, Stettin is also an industrial center with shipyards and iron and coke works A fortress and the largest Pomeranian town as early as the 12th cent, it was until 1637 the residence of the dukes of Pomerania and was an important member (from the 13th cent) of the Hanseatic League. At the Peace of Westphalia (1648), Stettin passed, with Hither Pomerania, to Sweden, but at the end of the Northern War, Sweden ceded it (1720) to Prussia Stettin had a French garrison (1806–13) during the Napoleonic Wars The construction (1914) of the Berlin-Stettin Canal greatly enhanced Stettin as a commercial port, and its present harbor installations are very extensive. During the Second World War the city suffered heavy damage from repeated bombings. Although four fifths of Stettin, including the old section, are on the left (western) bank of the Oder, the Potsdam agreement of 1945 transferring Pomerania E of the Oder to Polish administration was interpreted to include Stettin in the transfer. The German population was expelled and replaced by Poles. It became the capital of Szczecin prov. (c.11,700 sq. mi.; pop. 892,567), created by the Polish administration from a part of Pomerania The Stettiner Haff (shtĕtē'nûr häf"), Pol. *Zatoka Szczecińska*, is a body of water separated from the Baltic Sea by the islands of Usedom and Wollin. It receives the Oder and connects with the Baltic through the SWINE

Stettinius, Edward Reilly, Jr. (stĭtĭ'nēŭs), 1900–1949, American industrialist and statesman, b Chicago He held (1926–34) several executive posts in the General Motors Corp, and in 1928 he became chairman of the board of the U S Steel Corp He resigned (1940) as business executive to serve on the National Defense Advisory Commission He was priorities director in the Office of Production Management and lend-lease administrator (1941–43) before he served (1943–44) as Undersecretary of State He succeeded (Dec 1944) Cordell Hull as U S Secretary of State and took part in numerous international conferences He was chairman of the U S delegation to the San Francisco Conference before he resigned (June, 1945) his cabinet post and served (1945–46) as U S representative to the United Nations He wrote *Roosevelt and the Russians* (1949)

Stettler, town (pop 1,499), S central Alta, E of Red Deer, in wheat-growing country. It has grain elevators, flour mills, gristmills, dairies, and plants manufacturing cereals and chemicals. There are coal mines near by

Steuart, alternate form of the name STUART

Steuben, Friedrich Wilhelm, Baron von (stū'bun, Ger frē'dĭkh vĭl'hĕlm barōn' fŭn shtoi'bun), 1730–94, Prussian officer, general in the American Revolution, b Magdeburg He served in the Seven Years War and in 1762 became an aide to Frederick the Great Steuben was important in reforms and training in the Prussian army before he lost royal favor In 1777 in Paris he was persuaded to undertake instructing the Continental army in America Congress accepted his services and made him inspector general At Valley Forge in the winter of 1777–78 he shared the sufferings of the ill-fed and ill-tended men as he organized and disciplined them into a powerful striking force The effect was seen at the battle of Monmouth (1778), when he rallied his men after the retreat was begun by Charles Lee He commanded in the trenches at Yorktown He spent his fortune in the service of the young United States and was finally repaid by a pension voted by Congress and large tracts of land granted by various states See biography by J M Palmer (1937)

Steubenville (stōō'bunvĭl, stū'–), city (pop 37,651), co seat of Jefferson co, E Ohio, on the Ohio river and near Wheeling, W Va, laid out c 1797, inc 1805 Situated in a coal and clay region, it is an industrial and steel center with numerous factories The canalization of the Ohio river (completed 1929) spurred the city's industrial growth Edwin M Stanton was born here

Stevens, Abel (stē'vunz), 1815–97, American clergyman, noted as the historian of Methodism, b Philadelphia, studied at Wesleyan Univ He became (1834) a member of the New England Methodist Conference and filled pastorates in Boston, Providence, and New York His works include *The History of the Religious Movement of the Eighteenth Century Called Methodism* (3 vols, 1858–61), *The History of the Methodist Episcopal Church in the United States* (4 vols, 1864–67), and *A Compendious History of American Methodism* (1867)

Stevens, Alfred, 1818–75, British sculptor, influenced by nine years of study in Italy His works are few, but in breadth and freedom of conception and in composition he surpassed his contemporaries The mausoleum of the duke of Wellington, in St Paul's Cathedral, and caryatids for a mantelpiece in Dorchester House, London, are examples of his art In 1850 he became head artist of a Sheffield firm working in bronze and metal

Stevens, Alfred, 1828–1906, Belgian genre painter. He lived in Paris after 1849 His chief subjects, painted with admirable technique and color, were society women and fashionable interiors Among them are *The Japanese Robe* and *Preparing for the Ball* (Metropolitan Mus) He is represented in museums in Brussels, Marseilles, and other cities

Stevens, Edwin Augustus, see STEVENS, JOHN

Stevens, Henry, 1819–86, American bookdealer and bibliographer, b Barnet, Vt, brother of Benjamin Franklin Stevens After studying at Middlebury College, at Yale, and at the Harvard Law School, he went to Europe as agent for several important libraries of the United States and remained in England to collect Americana for the British Museum. While there he made catalogues of the museum's collections on the United States, Mexico, and Canada and lists of its famous Bibles

Stevens, Isaac Ingalls, 1818–62, American army engineer, territorial governor, and Union general in the Civil War, b. North Andover (then a part of Andover), Mass, grad West Point, 1839 He won two brevets as adjutant of engineers on Scott's staff in the Mexican War and was later in the U S Coast Survey In 1853 Stevens resigned from the army to become governor of the newly established Washington Territory. At the same time he was placed in charge of the survey for a northern railroad to the Pacific. His report of the survey was published by the government Stevens, as superintendent of Indian affairs for the Territory, negotiated treaties with the various tribes, securing their lands and setting aside reservations for them However, in 1855 hostilities broke out Steven's conduct of the war was severely criticized in some quarters A Democrat, he was territorial delegate in Congress (1857–61) In the Civil War he rose to be a major general of volunteers He died in action at Chantilly in Sept, 1862 See biography by his son, Hazard Stevens (1901)

Stevens, John, 1749–1838, American inventor, b New York city, grad King's College (now Columbia Univ), 1768 He studied law (1768–71) and soon joined his father, a wealthy landowner and merchant, in New Jersey politics During the American Revolution he served as treasurer of New Jersey and later (1782–83) was surveyor general of the state In 1784 he bought an extensive tract of land in what is now Hoboken, N J., and in 1792 he inherited a large estate when his father died In the late 1780s, however, he had turned his attention to steamboat transportation, and having played a major role in the establishment of the first U S patent laws, he procured patents for various steam boilers and auxiliary devices With the aid of Nicholas J Roosevelt, Stevens built (1806–8) the *Phoenix*, a seagoing steamboat, which, however, after 1809 shuttled between Philadelphia and Trenton. Stevens operated (1811) the first steam ferry between New York and Hoboken, but because of the monopoly of Robert FULTON, he soon desisted After 1810 he devoted himself to railroad activities In 1815 he received from New Jersey the first railroad charter in the United States, and a decade later he built a pioneer locomotive See biography by A D Turnbull (1928) Stevens's shipbuilding and railroad interests were carried forward by his sons The elder son, **Robert Livingston Stevens**, 1787–1856, b Hoboken, N J, was a mechanical engineer and inventor He made numerous improvements in the design and construction of steamboats and designed a spring piling generally used in ferry-slip construction He was chief engineer of the Camden and Amboy RR and imported from England the famous locomotive *John Bull*, now exhibited in the Smithsonian Institution He also designed a rail (the American or Stevens rail) which came into wide use in railroad track construction His brother, **Edwin Augustus Stevens**, 1795–1868, b Hoboken, N J, was closely associated with his brother and father in all these enterprises He was also noted for initiating the construction of a railroad from New York to Philadelphia, as the inventor of the Stevens plow, and as a pioneer builder of ironclad warships He founded the STEVENS INSTITUTE OF TECHNOLOGY

Stevens, Phineas, 1707–56, American colonial soldier, b Sudbury, Mass He moved with his family to Rutland (now Rutland, Vt) and in 1723 was captured and imprisoned by the St Francis Indians Upon his release he settled in Township No 4 (now Charlestown, N H) and defended it (1746–47) against French and Indian attacks in King George's War Gov William Shirley sent him twice (1749, 1753) to Canada to arrange exchanges of prisoners He left journals of both trips

Stevens, Robert Livingston see STEVENS, JOHN

Stevens, Thaddeus, 1792–1868, U S Representative from Pennsylvania (1849–53, 1859–68), b Danville, Vt, grad Dartmouth, 1814 He became a teacher in an academy at York, Pa, studied law, and was admitted to the bar in Maryland He practiced his profession with great success, first in Gettysburg (1816–42) and then in Lancaster, Pa He also entered the iron business Stevens first achieved political prominence as an Anti-Mason and from 1833 to 1841 served in the Pennsylvania legislature An aggressive, uncompromising man possessing a formidable, sardonic wit, he made a brilliant speech (1835) which led to the defeat of a bill abolishing the state's common school system In his first two terms in Congress, Stevens was a Whig but also a forthright abolitionist, and he quit in disgust at his party's moderate stand on the slavery issue A leading organizer of the Republican party in Pennsylvania, he returned to Congress in 1859 As chairman of the House Committee on Ways and Means, he was a powerful figure throughout the Civil War Stevens secured huge appropriations for the Union forces and succeeded in having paper money authorized as legal tender His hatred of the South has been attributed by some to the destruction of his ironworks near Chambersburg in the Confederate invasion of 1863, but it seems also to have rested on principle After Henry W DAVIS was defeated for reelection in 1864, Stevens in the House and Charles SUMNER in the Senate were the leaders of the radical Republicans in Congress opposed to Lincoln's moderate plan of RECONSTRUCTION In Stevens's view, the Southern states defeated in the Civil War were "conquered provinces" and as chairman of the joint committee on Reconstruction he intended that they be treated as such Victorious in the Congressional elections of 1866, the radicals nullified the lenient Reconstruction program of Presi-

dent Andrew JOHNSON, placed the South under military occupation, proscribed most ex-Confederates, and enfranchised the Negro Stevens himself proposed the FOURTEENTH AMENDMENT. Sincere in his devotion to Negro betterment, Stevens nevertheless frankly admitted that the legislation guaranteeing Negro suffrage was designed to keep the Republican party in power He dominated the committee that drew up the impeachment charges against Johnson and was one of the House managers in the subsequent trial before the Senate Until his death a believer in racial equality, Stevens requested that he be interred in a private cemetery, rather than in a burying ground closed to Negroes See biographies by S W McCall (1899), J A Woodburn (1913), T F Woodley (1934, rev ed, 1937), A B Miller (1939), and R N Current (1942), T H Williams, *Lincoln and the Radicals* (1941), Elsie Singmaster, *I Speak for Thaddeus Stevens* (1947)

Stevens, Wallace, 1879–, American poet, b Reading, Pa, educated at Harvard and at New York Law School After 1916 he was associated with the Hartford Accident and Indemnity Company and in 1934 became its vice president His poems first appeared in 1914 in Harriet Monroe's magazine *Poetry*, but his first book of poetry, *Harmonium* (3d ed, 1947), was not published until 1923 Witty, elegant, and philosophical, Stevens's impressionistic verse reflects strong French influence He has attracted an increasing number of appreciative readers as successive volumes of poetry have appeared—*Ideas of Order* (1935), *Owl's Clover* (1936), *The Man with the Blue Guitar and Other Poems* (1937), *Parts of a World* (1942), *Notes toward a Supreme Fiction* (1942), *Esthétique du Mal* (1945), *Transport to Summer* (1947), and *Three Academic Pieces* (1947)

Stevens Institute of Technology, at Hoboken, N J, nonsectarian, mainly for men, chartered 1870, opened 1871, an engineering college founded with a bequest from Edwin Augustus Stevens Henry Morton was its first president It gave the first U S mechanical engineering degrees and still gives no others, although it has general engineering training of university grade It has ship model and theater laboratories, an automotive and power museum, and an engineering camp

Stevenson, Adlai Ewing (stē'vənsun), 1835–1914, Vice President of the United States (1893–97), b Christian co, Ky He practiced law at Bloomington, Ill, and was twice (1874, 1878) elected to the U S Congress as a Democrat He was First Assistant Postmaster General during Grover Cleveland's first term (1885–89) and Vice President during his second He was defeated for Vice President in 1900 and for governor of Illinois in 1908

Stevenson, Burton Egbert, 1872–, American author and compiler, b Chillicothe, Ohio, studied (1890–93) at Princeton He became head of the Chillicothe Public Library in 1899 and was founder (1918) of the American Library in Paris and director (1918–20, 1925–30) Besides his well-known compilations, which include *The Home Book of Verse* (1912, many later editions) and *The Home Book of Quotations* (1934, rev ed, 1946), he has written travel books, children's books, novels, and mystery stories, among them the popular *Mystery of the Boule Cabinet* (1912), which was both dramatized and filmed as *In the Next Room*

Stevenson, Robert, 1772–1850, Scottish engineer A noted builder of lighthouses, he made many improvements in the lighthouse system of Scotland His most widely known construction is the Bell Rock lighthouse (1807–12), off the east coast of Scotland His son, **Thomas Stevenson,** 1818–87, was also an engineer He served as joint engineer (1853–85) to the board of northern lighthouses, he extended his father's experiments on methods of illumination for lighthouses and also made contributions to meteorology Robert Louis Stevenson was his son

Stevenson, Robert Louis, 1850–94, British novelist, poet, and essayist, b Edinburgh He was handicapped from youth by delicate health and struggled all his life against tuberculosis He studied engineering at Edinburgh Univ, changed to the law, and was called to the bar in 1875, but never practiced At an early age he had begun to write, and gradually he devoted himself to literature, at first as a contributor to magazines The essays which later were published as *Virginibus Puerisque* (1881) and *Familiar Studies of Men and Books* (1882) began to appear in the *Cornhill Magazine* in 1876, soon he was contributing to periodicals such famous stories as "A Lodging for the Night" and "The Sire de Malétroit's Door" and the tales later published as *New Arabian Nights* (1882) *An Inland Voyage* (1878), an account of a canoe trip in Belgium and France, was his first published book In 1879 he went to California (he later described the trip in *The Amateur Emigrant*, 1895), where he married Mrs Osbourne, whom he had met in France, as soon as her divorce made it possible They returned to Europe in 1880 in search of a healthful climate With W E Henley he wrote four plays, only moderately successful, though some of Stevenson's stories were to be 20th-century stage and screen triumphs. His first popular books were *Treasure Island* (1883) and the fantasy *Prince Otto* (1885) *A Child's Garden of Verses* appeared in 1885, and in 1886 came two of his best-known works, *Kidnapped* and *The Strange Case of Dr Jekyll and Mr Hyde* Still in search of health, he went in 1887 to Saranac Lake in New York, where he began *The Master of Ballantrae* (1889) In 1889 Stevenson and his family set out for the South Seas on an excursion financed by letters he was to write for an American publisher After an extensive tour he settled down in Samoa, where he gained influence over the natives, who knew him as Tusitala (teller of tales) At his estate there ("Vailima") he finished (with Lloyd Osbourne) his novel *The Wrecker* (1892), laboriously fulfilled his contract for the letters, and wrote or planned numerous tales and essays He died in Samoa and, by his own request, was buried high on Mt Vaea "under the wide and starry sky" he described in his famous "Requiem" Among his other published works are *Travels with a Donkey in the Cévennes* (1879), *The Merry Men* (1887), *The Black Arrow* (1888), *A Footnote to History* (1893), a defense of Father DAMIEN, an uncompleted novel, *The Weir of Hermiston* (1896), and *St Ives* (completed by A Quiller-Couch, 1897) The best collected editions of his works include his letters See biographies by Walter Raleigh (1895), Graham Balfour (1901), Lloyd Osbourne, his stepson and collaborator (1924), J A Steuart (1924), and Stephen Gwynne (1939), study by David Daiches (1947)

Stevenson, William see GAMMER GURTON'S NEEDLE

Stevens Point, city (pop 15,777), co seat of Portage co, central Wis, on the Wisconsin and W of Green Bay, founded 1839, inc 1858 Paper, fishing equipment, and furniture are made A state teachers college is here

Stewart, alternate form of the name STUART

Stewart, Alexander Turney, 1803–76, American merchant, b Lisburn, Co Antrim, Ireland Arriving in New York c 1820, he started in business in 1823 by selling Irish laces In 1846 he established a wholesale and retail dry-goods business which, by 1850, was the largest in the city, his new store (later sold to John Wanamaker), opened in 1862, was the largest retail store in the world Owner of hotels and other enterprises in New York city, he maintained a controlling interest in mills in New England, New York, and New Jersey and built the planned community of Garden City, Long Island He was appointed U S Secretary of the Treasury by President Ulysses S Grant in 1869, but was prevented by law from taking office because of his business connections His mansion on Fifth Ave was regarded as one of the finest in America

Stewart, Charles, 1778–1869, American naval officer, b Philadelphia He was commissioned a lieutenant in 1798 after having served in the merchant marine and was a brilliant commander of the CONSTITUTION in the War of 1812 After a long and varied career Stewart was promoted rear admiral on the retired list in 1862 He was the grandfather of Charles Stewart PARNELL

Stewart, Dugald, 1753–1828, Scottish philosopher He studied at the Univ of Edinburgh, later becoming professor of mathematics (1775–85) and of moral philosophy (1785–1810) After retiring he devoted himself to writing A student of Thomas Reid and strongly influenced by him, Stewart is credited with aiding in the forming of the Scottish school of philosophy His work was largely an exposition of Reid's philosophy, accepting the existence of the external world and applying the principle of common sense to the problems of philosophy An eloquent lecturer and a brilliant writer, he is noted for these abilities rather than any original philosophical development Among his works are *Outlines of Moral Philosophy* (1793), *Elements of the Philosophy of the Human Mind* (3 vols, 1792–1827), and *Philosophical Essays* (1810) See his collected works (ed by Sir William Hamilton, 1854–58, with a biography by John Vietch)

Stewart, William Morris, 1827–1909, American lawyer and politician, b Wayne co, N Y In 1852 he moved with his family to a farm in Ohio and attended local schools Returning to the East, he attended Yale College in 1849 and 1850, also teaching school and reading law In May, 1850, he went to California to mine gold near Nevada City, where he began the practice of law upon being admitted to the bar in 1852 Later he was district attorney, then attorney general of California In 1860 he moved to Nevada, practicing law both in Virginia City and in Carson City He was influential in making Carson City the state capital Upon Nevada's admission to the union (1864) he became one of its first two Senators, serving until 1875 (Mark Twain was, briefly, his secretary) and again from 1887 until 1905, when he retired His reelections in 1893 and 1899 were as the candidate of the Silver party, and in 1896 he supported the candidacy of William Jennings Bryan, he was also editor and publisher (1892–98) of a Washington newspaper, the *Silver Knight*, later the *Silver Knight-Watchman* The discovery of new sources of gold convinced him that the silver question was settled, however, and he returned to the Republican party, supporting McKinley in 1900. He wrote the Fifteenth Amendment to the Constitution in the form which was finally passed and was one of the first legislators to urge reclamation of land by irrigation See G R Brown, ed, *Reminiscences of William Morris Stewart* (1908)

Stewart, river of central Yukon, rising in the Mackenzie Mts and flowing 320 mi generally W to the Yukon S of Dawson, at the village of Stewart River It is navigable for most of its length and is a transportation route for lead ore from its upper reaches It was discovered (1850) by Robert Campbell, of the Hudson's Bay Company

Stewart Island, volcanic island (c 660 sq mi, pop 343), New Zealand, 20 mi S of South Island across Foveaux Strait, Mountainous and scenic, it is a summer resort It was discovered in 1808 by the British, who bought it in 1864 from the Maori natives Frozen fish and granite are exported The Maori name for the island is Rakiura

Stewart Manor, village (pop 1,625), on W Long Island, SE N Y, laid out 1926, inc 1927

Stewartstown, rural town (pop 1,203), NW N H, near the Connecticut and near the Canadian line, granted 1770, inc 1795, reinc 1799

Stewartville, village (pop 1,025), SE Minn, S of Rochester and on the North Branch of the Root, in a dairy and farm area, settled 1858

Steyn, Martinus Theunis (martē'nus tû'nis stīn'), 1857–1916, last president (1896–1900) of the Orange Free State, educated in the Netherlands and in England He was admitted to the bar in 1882 and served as a judge As president he made an alliance with the Transvaal He led troops against British forces in the South African War, and he participated in the peace conference

Steyr (shtīr'ur), city (pop 38,091), Upper Austria, on the Enns and Steyr rivers An industrial center, it is the seat of the Daimler-Puch and Steyr automobile factories It has a 10th-century castle and a 15th-century church

stibnite (stīb'nīt), antimony trisulfide, gray in color, with a metallic luster It crystallizes in the orthorhombic system Found in China, Japan, Europe, Mexico, and the United States, it is the most important source of antimony It is associated with quartz, calcite, sulphides of the base metals, arsenic, gold, and silver Known in ancient times, stibnite was used in powdered form by women to darken their eyebrows and eyelashes

stick insect see WALKING STICK

stickleback, fresh-water and marine fish of the temperate and subarctic waters of the Northern Hemisphere It is seldom more than 3 in long, and the body is without true scales but often has plates along the side In front of the dorsal fin are spines, the number varying with the species, and each ventral fin bears a spine These weapons are used offensively and defensively It eats small animal food, often the fry and eggs of fish In all species the male constructs a nest of vegetation cemented with a sticky material secreted by glandular cells near the kidneys He persuades a number of females to lay eggs in the nest, and these he fertilizes He fiercely guards both eggs and newly hatched young

Stickney, village (pop 2,446), NE Ill, west suburb of Chicago, inc 1913

sticktight see BUR MARIGOLD

Stiegel, Henry William (stē'gul), 1729–85, American iron and glass manufacturer, b Germany He emigrated to America, arriving (1750) in Philadelphia In 1758 he purchased his father-in-law's ironworks near Brickerville, Lancaster co, Pa, renaming it Elizabeth Furnace, and manufactured iron stoves, developing the type known as the tenplate, which served as a standard for many generations About 1760 Stiegel bought a half interest in the ironworks of Charming Forge, near Womelsdorf, Berks co, Pa, and in 1762 formed a partnership with Charles and Alexander Stedman for the purchase and development of land in Lancaster co, Pa Here he laid out a town which he named Manheim, and here he erected an elaborate home in which was incorporated a chapel, where he preached In the years from 1765 to 1767 he made trips to Europe, bringing back trained glassworkers, and built a plant at Manheim which in 1768 was operating as probably the first manufactory of flint glass in America Stiegel is best known today for the famous Stiegel glass which has become a collector's item It is in varied colors, light green to deep emerald, wine, amethyst, and blue, and in the form of bottles, decanters, drinking glasses, and other wares Stiegel met with financial reverses and in 1774 sold his property, earning a meager living after that as caretaker and later schoolmaster

Stieglitz, Alfred (stēg'lits), 1864–1946, American photographer, editor, and art exhibitor, b Hoboken, N J, son of a prosperous wool merchant In 1881 he went to Berlin to study engineering at the Polytechnic, but soon abandoned engineering for photography In 1890 he returned to America and for three years helped to direct the Heliochrome Engraving Company Then he edited a series of photography magazines, the *American Amateur Photographer* (1892–96), *Camera Notes* (1897–1902),

and *Camera Work* (1902–17), the organ of the photo-secessionists In 1905 he established the famous gallery "291" at 291 Fifth Ave , New York, for the exhibition of photography as a fine art Soon the gallery broadened its scope to include the works of the modern French art movement and introduced to America the work of Cézanne, Picasso, Braque, Brancusi, and many other masters It also made known the work of such American artists as John Marin, Charles Demuth, Max Weber, and Georgia O'Keeffe Stieglitz married Miss O'Keeffe in 1924 From 1917 to 1925 he concentrated on photography and then opened the Intimate Gallery (1925–30) and An American Place (1930–46), which continued the work of "291." More than any other man Stieglitz has compelled the recognition of photography as a fine art. Through his own inspired work and generous championship of others, he has promoted the symbolic and spiritually significant in American art, as opposed to the merely technically proficient See *America and Alfred Stieglitz* (ed by W D Frank and others, 1934)

Stieler, Adolf (a'dōlf shtē'lur), 1775–1836, German cartographer He worked most of his life in the Justus Perthes Geographical Institution, Gotha, which published his general atlas (1817–23, Eng tr , 10th ed , 1936)

Stifter, Adalbert (ä'dalbĕrt shtĭf'tur), 1805–68, Austrian author, b Bohemia Widely read in his time, his novels and poetic tales of the Bohemian Forest, with their power in describing nature, entitle him in the opinion of later critics to a high place Nietzsche considered him one of the great German stylists Most of his tales were collected in *Studien* (6 vols , 1840–45), of which six were retitled and published in *Bunte Steine* [colored stones] (1853) One of the stories in this collection was translated as *Rock Crystal* (1945) Stifter's novels include *Nachsommer* (1857) and *Witiko* (1867)

Stigand (stĭ'gund), d 1072, English prelate He held simultaneously the sees of Winchester and Canterbury (from 1052), although of contemporary popes only Benedict X recognized him He was an opportunist, useful to Harold and Edward the Confessor He welcomed William I and continued in his offices until a papal commission replaced him with Lanfranc

Stigler (stĭg'lur), city (pop 1,861), co seat of Haskell co , E Okla , near the Canadian river It is in a region producing farm products, fruit trees, livestock, and coal

stigmaria (stĭgmā'rēu), fossil rhizomes or rootstocks of *Lepidodendron* and *Sigillaria*, trees of the Carboniferous period related to the present-day club mosses The rhizomes were named stigmaria because their true nature was not understood and they were thought to be distinct plants The stigmaria served to support the trees and to produce new ones

stigmata (stĭg'mutu, stĭgma'tu) [plural of *stigma*, from Gr , =brand] St Francis of Assisi, according to contemporary biographers, had in his later life wounds in his hands, his feet, and his sides, which bled profusely and were intensely painful They had no mechanical or apparent cause, but were thought to be reproductions of the wounds of Jesus in his passion Since then some 300 Roman Catholics (all but 40 being women) have allegedly received similar wounds or stigmata, the existence of most of them being fully attested Some of the 29 cases of the stigmata in the 19th cent were carefully investigated by physicians, who were convinced of their objective reality and of the honesty of the stigmatized This is also true of Theresa Neumann (of Konnersreuth, Upper Palatinate, Germany), first stigmatized in 1926 The phenomena of stigmatization have been studied but not adequately explained by non-Catholic scientists, they generally incline to believe the stigmata to be connected with nervous or cataleptic hysteria The Roman Catholic Church takes no position on the nature or cause of the stigmata. See J J von Görres, *The Stigmata* (1883)

Stikine (stĭkēn'), river rising in NW British Columbia in the Stikine Mts and flowing 335 mi in a wide arc W and SW, crossing SE Alaska, to the Pacific N of Wrangell Island The river is navigable for 130 mi above its mouth It is the chief route to the Cassiar mining region of N British Columbia and is a noted salmon stream

Stikine Mountains, range of the Rocky Mts , NW British Columbia, extending 250 mi northwest-southeast and rising to 8,200 ft in Mt Witt The Stikine, Skeena, and Finlay rivers rise here

Stiklestad (stĭ'klŭsta"), site of a battle (1030), on Trondheim Fjord, W Norway Here OLAF II (St Olaf) was slain in an attempt to regain the crown

Stiles, Charles Wardell (stīlz), 1867–1941, American medical zoologist, b Spring Valley, N Y , educated at Wesleyan Univ and in various European universities. He was zoologist with the U S government (1891–1904), professor at Georgetown Univ. (1892–1906), and lecturer at the Army Medical School (1894–1902), at Johns Hopkins (1897–1937), and at the Navy Medical School (from 1902) His contributions to the knowledge of parasitic diseases in the United States include a study of hookworm in the South; he identified and named the American species of the parasite and was active in the campaign to eradicate the disease

Stiles, Ezra, 1727–95, American theologian and educator, b North Haven, Conn , grad Yale, 1746 He studied theology, was ordained in 1749, and tutored (1749–55) at Yale Resigning from the ministry, he studied law and practiced in New Haven from 1753 to 1755, when he returned to the ministry for 22 years He was pastor at Newport, R I , and Portsmouth, N H , and from 1778 until his death was president of Yale While holding his pastorates, he studied sciences and European and Oriental languages and literature and corresponded with many scholars At Yale he also was professor of ecclesiastical history and divinity and lectured on philosophy and astronomy His more important writings are *History of Three of the Judges of King Charles I* (1794), *Literary Diary* (ed by F B Dexter, 1901), *Extracts from the Itineraries and Other Miscellanies, 1755–1794* (ed by F B Dexter, 1916), and his *Letters and Papers* (ed by I M Calder, 1933) See biography by his son-in-law, Abiel Holmes (1798), Francis Parsons, *Six Men of Yale* (1939)

Stilicho, Flavius (flā'vēŭs stĭ'lĭkō), d 408, Roman general, a Vandal He was the chief general of Theodosius I, whose niece he married, and he was selected by Theodosius to act after Theodosius' death (395) as the guardian of HONORIUS and regent of the West In 395 he was summoned from Italy to defend the Eastern Empire against the raids of the Visigoths under ALARIC I, after his arrival in Greece, however, he withdrew without fighting, under orders from ARCADIUS, who was influenced by RUFINUS The next year (396) he returned and drove Alaric into the mountains, but permitted him to escape into Illyricum, and retired to Italy He subsequently campaigned in Rhaetia against the barbarians (401–2), fought Alaric at Pollentia (402) and Verona (403?), and crushed Radagaisus near Fiesole (405) In 408 Honorius, acting on false and malicious accusations, had Stilicho suddenly arrested and executed for high treason Stilicho made no attempt to resist, although it was in his power to do so He has been accused of procuring the assassination of Rufinus, of plotting to make his son emperor, of maintaining a secret understanding with Alaric which accounted for the indecisiveness of their battles, and of inviting the barbarians into Gaul (406), but his integrity in all these matters has been defended, and he is generally regarded as one of the greatest statesmen and generals of the late empire

Still, Andrew Taylor, 1828–1917, founder of OSTEOPATHY, b Jonesboro, Va A boyhood interest in science led him to the study of anatomy During the Civil War he served as a surgeon He evolved a theory of the cause of disease and its treatment without drugs, and in 1874 he began to practice and to make known his system, which was called osteopathy He founded a school of osteopathy in Kirksville, Mo , in 1892 and wrote a number of works on osteopathy See his autobiography (1897, rev ed , 1908), Emmons R Booth, *History of Osteopathy and Twentieth-Century Medical Practice* (1924)

Still, John · see GAMMER GURTON'S NEEDLE

still see DISTILLATION

Stillingfleet, Edward, 1635–99, English prelate and author A fellow of St John's College, Cambridge, he became (1657) rector of Sutton, Bedfordshire In 1661 he published *Irenicum*, a treatise on church government which sought to establish a compromise between Episcopacy and the Presbyterian polity In 1663 he issued *Origines Sacrae* and in 1664 *A Rational Account of the Grounds of the Protestant Religion* In 1677 he became archdean of London, and in 1678 dean of St Paul's He was consecrated (1689) bishop of Worcester Among his later works are *Origines Britannicae, or, Antiquities of the British Church* (1685) and *The Bishop of Worcester's Answer to Mr Locke's Letter* (1697) An edition of his works, with a life by Richard Bentley, was published in six volumes in 1710

still life, picture of inanimate things, such as flowers, fruit, or familiar objects The term is not usually applied to pictures representing an entire room, which are called interiors, or to landscapes But still life clearly may border on either of these other categories Long a favorite subject for Chinese painting, pure still life was hardly recognized as a separate category in the West until the works of the 17th-century Dutch and Flemish masters gave it prestige. Since then it has been a favorite subject of countless artists Sometimes the term is applied to fragments of other types of painting in which inanimate objects are represented See J B Charles, *Flowers and Still-Life* (1938), Wolfgang Born, *Still-Life Painting in America* (1947)

Stillwater. **1** City (pop 7,013), co seat of Washington co , E Minn , on the St Croix and NE of St Paul, settled 1840, inc 1854 In 1848 a convention here drew up a petition to Congress for Minnesota's territorial organization. Stillwater, long a lumber center is now a manufacturing city In 1889 the state's first electric railroad was built here **2** City (pop. 10,097), co seat of Payne co , N central Okla , N of the Cimarron river and W of Tulsa; settled 1889, inc 1899 It is the industrial center of an area producing grains, cotton, livestock, and poultry and is the seat of the OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE Several lakes are in the vicinity

Stilton cheese, semihard, unpressed rennet cheese, veined, when well matured, by a blue-green penicillium mold It is made in the region around Stilton, Huntingdonshire, England, which was formerly noted for its cheese market

Stilwell, Joseph Warren, 1883–1946, American general b Palatka, Fla , grad West Point, 1904 Stilwell fought in the First World War and later served for 13 years in China In Feb , 1942, he went back to China, where he led elements of Chiang Kai-shek's army, became (1942) Chiang's chief of staff, and was made commander of U S troops in the China-Burma-India area Forced out (1942) of Burma by Japanese troops, he retreated through the jungles to India, where he built up forces for the successful counterattack (1943–44) in Burma In Oct , 1944, Stilwell was recalled to the United States because of friction with Chiang His experiences in the Far East are recorded in the *Stilwell Papers* (ed by T H White, 1948) He later headed (1945) the Army Ground Forces and took command of the 10th Army on Okinawa See Fred Eldridge, *Wrath in Burma* (1946)

Stilwell, town (pop 1,717), co seat of Adair co , E Okla , near the Ark boundary, in a hilly farming, fruitgrowing, and lumbering region

Stimson, Frederic Jesup, pseud **J S. of Dale,** 1855–1943, American lawyer and author, b Dedham, Mass , grad Harvard, 1876, and Harvard Law School, 1878 A professor of law at Harvard, he was the first U S ambassador to Argentina (1914–21) and special envoy to Brazil (1919) Besides a number of law books, he wrote novels and essays, including *The Crime of Henry Vane* (1884) and *Mrs Knollys and Other Stories* (1894)

Stimson, Henry Lewis, 1867–, American statesman, b New York city, grad Yale, 1888, and Harvard (M A , 1889, LL B , 1890) He became associated with Elihu Root in law practice in New York city Stimson was (1906–9) U S attorney for the southern district of New York, and in 1910 he ran unsuccessfully on the Republican ticket for governor of New York He was (1911–13) Secretary of War under President W H Taft and in the First World War served as colonel of the 31st Field Artillery His success as President Coolidge's representative in bringing about a peaceful and constitutional solution of the problems in Nicaragua (then occupied by U S marines), although it was not complete, led to his appointment (1927) as governor general of the Philippine Islands, where he continued the policy of Gen Leonard WOOD As Secretary of State (1929–33) in the Hoover administration, Stimson was chairman of the American delegation to the London Naval Conference (1930–31) and of the delegation to the disarmament conference of 1932 American nonrecognition of territories and agreements achieved by aggression came to be called the Stimson Doctrine after he led in repudiating the Japanese invasion of Manchuria In 1933 Stimson resumed law practice, but retained his interest in the international scene After the Second World War began in Europe, he advocated a firm attitude toward Hitler and Mussolini, aid to Great Britain, and compulsory military training When President Franklin D Roosevelt appointed him Secretary of War in 1940, Stimson was read out of the Republican party In 1944 he urged the unification of the U S armed forces He resigned in 1945 and was succeeded by Undersecretary Robert P Patterson He wrote *American Policy in Nicaragua* (1927) and *The Far Eastern Crisis* (1936) See his autobiography, *On Active Service in Peace and War* (1948)

Stimson, Lewis Atterbury, 1844–1917, American surgeon, b Paterson, N J , grad Yale (B A , 1863), M D Bellevue Hospital Medical College, 1874, father of Henry L Stimson He served (1864–65) as an officer in the Union army A professor at Cornell Univ medical school from 1883 to 1898, he taught physiology, anatomy, and surgery

stimulant, agent which temporarily increases general vital activity or the vital activity of some part of the body Stimulants make possible the use of energy that the body already has, they do not add to the supply of energy, as does food For this reason, depression follows stimulation, to a greater or less extent, and the more marked the stimulation and consequent use of energy, the greater the subsequent depression, unless the supply of energy is somehow increased before depression begins Among the stimulants used are electric current, heat and cold (especially sudden change from heat to cold, and vice versa), fresh air, and exercise, many drugs are internal stimulants, e g , strychnine, ammonia, caffeine, adrenalin, and alcohol. Some stimulants, such as condiments, act upon the parts of the body involved in digestion. Coffee, tea, and cocoa, all of which contain caffeine, act as general nerve stimulants, especially if taken hot.

sting, organ found in insects of the order Hymenoptera (bees, many wasps, and some ants) and in

scorpions and used chiefly to kill or paralyze prey and as a defense. In the hymenopterous insects the sting is a slender, piercing structure, a modification of the ovipositor. It is therefore found only in the females and, among social insects, in the workers Venom is secreted by glands and injected into the victim. The venom produces the pain of the sting, and in small prey it causes paralysis or death Members of the jellyfish group have nettle cells or nematocysts which discharge, through hollow threads, poison capable of paralysing prey and of stinging humans See also BEE, SCORPION, WASP

Stinnes, Hugo (hōō'gō shtī'nəs), 1870–1924, German industrialist The son of a Westphalian mine owner, he founded his own company in 1892 and rapidly expanded his interests to build a huge "vertical trust" controlling mines, foundries, shipping, paper mills, and other industries He owned vast tracts of land in South America, including the largest oil concession in Argentina, controlled part of the press, and exercised financial power through his banks. The first World War helped to expand his enterprises, after the war, Stinnes took advantage of the German currency inflation to buy up businesses with worthless money At the time of his death he reputedly had an interest in some 1,300 firms

Stip, Serbo-Croatian *Štip* (shtēp), town (pop 11,519), Macedonia, S Yugoslavia, SE of Skoplje It is a processing center for opium poppies and has mineral waters Stip was an important center of the medieval Bulgarian and Serbian empires, and it has preserved a 14th-century monastery and the ruins of its old castle

Stirbey, Barbu see BIBESCU, BARBU

Stirling, James Hutchison, 1820–1909, Scottish philosopher. His most influential works are *The Secret of Hegel* (1865) and *Text Book to Kant* (1881), in which Stirling attempts to connect closely the theories of Kant and Hegel See biography by A H. Stirling (1912)

Stirling, Lord. see ALEXANDER, WILLIAM

Stirling, William Alexander, earl of, 1567?–1640, British poet, b. Scotland He was tutor to Prince Henry of Scotland and came to England on the accession of James I Alexander held various offices, was granted (1621) tracts of Canadian land, which were, however, later ceded to France, and was made Viscount Stirling in 1630 and earl of Stirling in 1633. Alexander's work includes *Aurora* (1604), love poems; *Doomsday* (1614), an 11,000-line epic, *An Encouragement to Colonies* (1624), and *Four Monarchicke Tragedies* (1664–67), on Croesus, Darius, Alexander, and Julius Caesar See his poetical works (ed by L E Kastner and H B Charlton, 1921–29), biography by T H McGrail (1940).

Stirling, county, Scotland see STIRLINGSHIRE.

Stirling, burgh (1931 pop 22,593, 1948 estimated pop. 28,501), county town of Stirlingshire, Scotland, on the south shore of the Forth river and NW of Edinburgh. Its castle, on the summit of a basaltic hill above the burgh, long rivaled Edinburgh as a royal residence It was the birthplace of James II and other rulers, and the infants Mary Stuart and James VI were crowned at Stirling The castle was taken by Edward I in 1304, after a three-month siege, but was retaken by the Scots after the battle of Bannockburn (1314) 2 mi to the south There are many ancient buildings and monuments in Stirling—the stone bridge, the scene of a battle in 1297 when the English were defeated by Sir William Wallace, the parish church, dating partly from the 13th cent., Cowane's Hospital (1639), Mar's Work (16th cent.), and Argyll's Lodging, a military hospital since 1799 The Stirling of today has varied industries, including the production of bacon and ham, feed cakes, chemicals, carpets, and farm machinery.

Stirlingshire (stûr'lĭngshĭr) or **Stirling,** inland county (451 sq mi; 1931 pop 166,447, 1948 estimated pop 187,242), central Scotland The county town is Stirling. The region has a varied terrain of farm lands, peat bogs, pasture, and moorland, embracing parts of both the Highlands (in the west) and the Lowlands (in the east) The chief river is the Forth, which forms most of the northern boundary Loch Lomond is on the western border. Falkirk is the industrial center of the county, producing iron and steel, textiles, and coal Grangemouth is the chief port. Its central position has made Stirlingshire important in Scottish history, and many important battles have been fought within its territory—Stirling Bridge (1297), the first battle of Falkirk (1298), Bannockburn (1314), Kilsyth (1645), and the second battle of Falkirk (1746). The Roman Wall of Antoninus crossed the county

Stirner, Max (maks' shtĭr'nûr), pseud. of **Kaspar Schmidt** (käs'pär shmĭt'), 1806–56, German anarchist philosopher. His philosophy of complete individualism, influential only after his death, is embodied in *Der Einzige und sein Eigenthum* [the ego and his own] (1845)

stirrup. There is some evidence that stirrups were used in Assyria c.850 B C. and in China as early as the Han dynasty, 202 B.C.–A.D. 220. They are not known to have been used in Europe before the raids of the Huns under Attila from A.D. 441 to 453. Probably they had their origin in central Asia. Medieval European riders regularly used saddles with stirrups To avoid the danger of having a foot caught in a stirrup if the rider is thrown, large stirrups are often used, one of the uses of the stirrup cover or stirrup hood is to prevent the foot from getting caught in the stirrup The same purpose is served by the high heels of the cowboy's boots In times when travel was commonly on horseback, a health drunk on the departure of a guest was called a "stirrup cup" See also RIDING and SADDLE See Rudolf P. Hommel, *China at Work* (1937)

stoa (stō'ə), plural **stoae** (stō'ē), in ancient Greek architecture, an extended, roofed colonnade on a street or square, with its floor raised above the level of the roadway Stoae surrounded the agora, or public meeting place, and gave sheltered access between its various public edifices A wall, sometimes decorated with paintings, enclosed the back of a stoa, while the front, facing the agora, was formed by a single or a double row of columns Sometimes the stoae had colonnades on both faces, the wider ones having an additional row of columns down the center Noted examples included the Stoa Poecile at Olympia, the two-storied stoa of King Attalus II at Athens, and those at Epidaurus which sheltered the ailing pilgrims at the shrine of Asclepius The Stoa Poecile on the north side of the agora of Athens was the favorite spot of the philosopher ZENO OF CITIUM, hence his followers are called STOICS and his system STOICISM

stoat, European weasel (*Mustela erminea*) The male is about 16 in long including the 5-inch tail In its summer coat it is brown above with white under parts In winter in the northerly parts of its range it turns white except for the black tip of the tail It is then known as ERMINE

Stobaeus, Joannes (jō'ə'nēs stōbē'ŭs), 5th cent A D, Greek anthologist He made a large collection of excerpts from poets and prose writers on a variety of subjects, originally for the education of his son It is valuable because it preserves fragments from many lost works of early Greek authors It came to be divided into two parts, called *Eclogues* and *Anthology*

Stock, Frederick (Friedrich Wilhelm August Stock) (stŏk), 1872–1942, German-American conductor and composer He came to the United States in 1895 as a violist in the Chicago Orchestra and was later assistant conductor. He became permanent conductor at the death of Theodore Thomas in 1905, the orchestra was then called the Theodore Thomas Orchestra In 1912 it became the Chicago Symphony Orchestra Stock's term as conductor, which lasted until his death, was notable for the number of new works given their premières under his direction His compositions include two symphonies, three overtures, a cello concerto (1929) and a violin concerto (1915)

stock, in horticulture, any species of the genus *Matthiola*, Old World plants widely cultivated, both in greenhouses and gardens, for the fragrant single or double blossoms of various colors, often in shades of purple The only species commonly cultivated are the evening stock (night blooming) and the Brompton stock or gillyflower, the latter is usually grown as a biennial, but an early-blooming variety, known as ten-weeks stock or cut-and-come-again, is cultivated as an annual, sometimes as a house plant Virginia stock belongs to another genus See also WALLFLOWER

stock, in finance, an instrument certifying to shares of the ownership of a corporation Bonds are similar evidences of shares in a loan to a corporation Stock yields no dividends until claims of bondholders have been met Preferred stock is entitled to dividends of a specified percent per annum before common stock is entitled to any dividends, the common stock is then usually entitled to all the rest of the profits, though preferred stock is sometimes participating, i.e., entitled to share with common stock after fixed dividends have been paid on the common stock Holders of common stock usually have voting rights in the management of the corporation, bondholders and, usually, holders of preferred stock have no voting rights Since the value of common stock depends largely on its earnings, it is often issued as of "no par value" The term *stock* is used in England as well as in the United States, but in England the term *share* also is used See Hiram Jome, *Corporation Finance* (1948)

Stockbridge, resort town (pop 1,815), SW Mass., on the Housatonic, in the Berkshires S of Pittsfield, inc. 1739 John Sergeant founded the place as a model village for Mahican Indians in 1736, the Mission House, restored as a museum, was built in 1739. Jonathan Edwards taught here (1750-57) David Dudley Field, a minister, settled in Stockbridge in 1818, and here his son Cyrus W Field was born. Mark Hopkins was also born in Stockbridge The town is the site of the Berkshire Playhouse, a leading summer theater, and there is a large art colony Monument Mt. Reservation is near by. Tanglewood estate is largely in Stockbridge town though near the center of LENOX See S. C. Sedgwick and C. S. Marquand, *Stockbridge, 1739–1939* (1939).

Stockbridge Indians, tribe of North American Indians of the Algonquian linguistic stock. In the early 17th cent. they were known as the Housatonic Indians and were part of the Mahican confederacy. They then occupied part of the valley of the Housatonic river in SW Massachusetts Their principal village, Westenhuck, was for a long time the Mahican capital after the removal of the council fire from Schodac. In 1734 John Sergeant began missionary work among them, and two years later the Indians were collected on a tract reserved for them by the colonial government After the village of Stockbridge was established, they became known as the Stockbridge Indians They suffered terribly in the French and Indian War, at the close of which they numbered 200. Accepting an invitation from the Oneida, the remnants of the Stockbridge moved to New York, where they established New Stockbridge In 1833 they moved to a reservation at Green Bay, Wis., where they were incorporated with the Munsee Today the two tribes number some 500

stock exchange, organized market for stocks and bonds (see BOND and STOCK) Such markets were originally open to all, but now only members of the owning association may buy and sell directly The members buy and sell for themselves or for others, charging commissions A security may be bought or sold on an exchange only if it is listed, and it may not be listed unless it meets certain requirements There are stock exchanges in all financially important centers of the world, the largest being that in New York On the continent of Europe a stock exchange is called a BOURSE Stock exchanges are an important cog in the machinery of corporate capitalism. By providing a centralized, ready market for securities, they greatly facilitate the financing of business through flotation of stocks and bonds But the speculative and gambling aspects of stock exchanges also accentuate the instability of the modern economy The interstate sale of securities and certain practices of stock exchanges in the United States are now regulated by federal laws administered by the SECURITIES AND EXCHANGE COMMISSION See CURB MARKET, BROKER, BULLS AND BEARS, MARGIN See J. E. Meeker, *The Work of the Stock Exchange* (1930), C. A Dice and W. J Eiteman, *Stock Market* (2d ed., 1941), Raymond Vernon, *Regulation of Stock Exchange Members* (1941)

Stockholm (stŏk'hōlm, -hōm, Swed stōk'hōlm'), county (2,851 sq mi, pop 321,989), central Sweden It extends along the Baltic Sea north and south of the city of Stockholm, which is the county seat although it is not included in the county Comprising parts of the historic provinces of Södermanland and Uppland, it is a fertile lowland, dotted by many lakes SÖDERTÄLJE and SOLNA are the chief industrial centers

Stockholm, city (1945 pop 657,904, 1949 estimated pop 725,714), capital of Sweden, in central Sweden, beautifully situated on the eastern shore of a lake (Mälaren) and on its outlet to the near-by Baltic Sea It is a large port and shipbuilding center Among industrial products are machinery, textiles, chemicals, and rubber The cultural as well as the political capital of Sweden, Stockholm is the seat of a university (*Stockholms Högskola*, founded 1877) and of royal academies of music, science, art, and medicine It has a noted opera house and an active musical, theatrical, and literary life. Founded in 1255, the city was an important medieval trade center under the domination of the Hanseatic League In 1520 King CHRISTIAN II of Denmark and Norway proclaimed himself also king of Sweden at Stockholm, a large number of Swedish nobles having gathered to attend the coronation, Christian instigated a general massacre of the anti-Danish nobility This Stockholm massacre led to the successful uprising of Swedes under Gustavus Vasa, who became king of Sweden as Gustavus I Gustavus ended the privileges of the Hanseatic merchants In the 17th cent Stockholm became a European intellectual center under Queen Christina, who attracted such men as Descartes to her court, and a period of great building activity began Modern Stockholm is, architecturally, one of the finest cities in the world. Often called the Venice of the North, it is built on several peninsulas and islands, and the vast bodies of water contribute to the feeling of its spaciousness Its most celebrated landmark is probably the new city hall (1923), facing Mälaren; built by the Swedish architect Ragnor Ostberg, it is an impressive modern interpretation of the characteristic Scandinavian Renaissance style Hardly less famous are the cooperative residential housing districts, which have made Stockholm a slumless city Except for the old historic section on Staden island, the city is a model of modern urban planning, with wide avenues, spacious squares, and fine parks On Staden, which has retained much of its medieval character, are the Church of St. Nicholas or Storkyrka [great church], dating from the 13th cent., the Ridderhuset [assembly hall of the nobility], a 17th-century structure in Dutch Renaissance style, several old Hanseatic houses; the market square, where the Stockholm massacre

began; and the royal palace, built (1754) in Italian Renaissance style. Other important buildings in Stockholm include the Riksdag (parliament) building, the Nobel Institute; the Riddarkyrka, originally a 13th-century Franciscan church, restored by Gustavus II, containing tombs of Swedish kings and of great men of Sweden; and several museums. Stockholm city has a separate county administration but is also the seat of Stockholm co.

stocking: see HOSE

Stockmar, Christian Friedrich, Baron (Kris'tyän frē'drĭkh bärōn' shtōk'mar), 1787–1863, Anglo-Belgian diplomat and courtier, b Coburg, Germany, of Swedish parents A physician, Stockmar became (1816) adviser of Prince Leopold of Saxe-Coburg, who in 1831 became King Leopold I of the Belgians At Leopold's request Stockmar, created baron in 1831, became (1837) an unofficial adviser to Leopold's niece, Queen Victoria of England Stockmar, whose chief aim was to improve the moral tone of the English court and to restore the popularity of the royal family, succeeded evidently in at least the first point of his program. Wielding an increasing influence over the young queen, he helped to wean her away from Lord Melbourne and was instrumental in bringing about the marriage (1840) of Victoria with Prince Albert, another nephew of Leopold I. His influence continued after Albert's arrival, and he was regarded as something of a mystery man In 1848 Stockmar represented Saxe-Coburg-Gotha at the Frankfurt Parliament, but he subsequently returned to England and continued his role as unofficial adviser to Victoria and Albert See Pierre Crabitès, *Victoria's Guardian Angel* (1937)

Stockport, county borough (1931 pop 125,490, 1943 estimated pop 134,800), partly in Cheshire, partly in Lancashire, England, SE of Manchester It is on the slopes of a narrow valley at the head of the Mersey The London and Northwestern RR crosses the ravine by a high viaduct, built in the early part of the 19th cent Stockport was the site of Roman and Norman stations It has developed into an important cotton-manufacturing center, and there are also manufactures of woolen goods, chocolate, metal products, and paper The Church of St Mary dates from the 14th cent Vernon Park has a museum and gallery There is a statue of Richard Cobden, who was a member of Parliament for Stockport

Stockton, Francis Richard (Frank R Stockton), 1834–1902, American humorist and story writer, b Philadelphia He was a wood engraver until writing became his career He wrote several children's books, including *Ting-a-Ling* (1870) and *The Floating Prince and Other Fairy Tales* (1881), and was assistant editor (1873–81) of *St Nicholas* Most notable of his many humorous books for adults were *Rudder Grange* (1879) and its sequels *The Rudder Grangers Abroad* (1891) and *Pomona's Travels* (1894), the famous title story of *The Lady or the Tiger?* (1884), and *The Casting Away of Mrs Lecks and Mrs Aleshine* (1886) His novels and stories were collected in 23 volumes (1899–1904) See biography by M I J Griffin (1939)

Stockton, Richard, 1730–81, American Revolutionary patriot, signer of the Declaration of Independence, b near Princeton, N J , grad College of New Jersey (now Princeton Univ), 1748 He was admitted to the bar (1754) and practiced law in New Jersey. At first he tried to find means of reconciliation with England, but after his election (1776) to the Continental Congress he sought independence Stockton was captured (1777) by the British while on an inspection tour, and the effects of harsh treatment as a prisoner caused his death.

Stockton, Robert Field, 1795–1866, American naval officer, b Princeton, N J He left the College of New Jersey (now Princeton Univ) to enter the U S navy at 16 and served in the War of 1812 and the campaigns against the Barbary pirates He negotiated (1821), for the American Colonization Society, a territorial concession on the west coast of Africa, which later became Liberia While on leave (1826–38) he became interested in the Delaware and Raritan Canal In the Mexican War he commanded the Pacific squadron, took Los Angeles and San Diego, and installed John C Frémont as governor of the newly organized civil government of California He left the navy in 1850 As U S Senator (1851–53) he introduced a bill to stop flogging in the navy. Stockton resigned in 1853 and became president of the Delaware and Raritan Canal Company,

Stockton, 1 City (1940 pop. 54,714; 1948 special census pop 65,924), co seat of San Joaquin co., central Calif., E of San Francisco and on the San Joaquin river, founded 1847, inc. 1852 It was an outfitting center in the gold-rush days and is now an inland seaport (its harbor has been developed to accommodate ocean-going vessels), a port of entry (since 1935), a railroad center, and a distributing point for the San Joaquin Valley's farm products Its manufactures include lumber products, farm machinery, flour and feeds, canned goods, fertiliser, and boats. It has a historical museum, an art gallery, and an impressive civic auditorium. The College of the Pacific (coeducational; 1851), a junior college (coeducational), and a state hospital for the insane are here. 2 Village (pop. 1,440), NW Ill., W of Freeport; inc 1890 It is a farm trade center. 3 City (pop. 1,418), co seat of Rooks co., N Kansas, on the South Fork of the Solomon and NW of Salina, in a cattle region, settled 1872, inc 1880 An annual Kansas-Nebraska fair is held here in August

Stockton-on-Tees (-tēs), municipal borough (1931 pop 67,722; 1947 estimated pop 72,610), Durham, England, near the head of the Tees estuary It developed after the opening of the Stockton-Darlington Railway (the first important railroad in the United Kingdom) in 1825, and now has a considerable shipbuilding industry and trade in machinery and construction materials There are no remains of the castle built in the 13th cent and taken by the parliamentarians in 1652 Races are held on a course near Stockton

Stoddard, Charles Warren, 1843–1909, American author and traveler, b Rochester, N Y. His travels are reflected in *South-Sea Idyls* (1873), *The Lepers of Molokai* (1885), and many other books He was once secretary to Mark Twain and later was professor of English at Notre Dame (1885–86) and at the Catholic Univ of America (1889–1902) His poems, first edited (1867) by Bret Harte, were collected in 1917 by Ina Coolbrith

Stoddard, Richard Henry, 1825–1903, American poet, editor, and critic, b Hingham, Mass Brought up in poverty, he educated himself in New York and made friendships with men of letters He was literary editor of the New York *World* (1860–80) and of the *Mail and Express* (1880–96) More important than his once-popular poetry was his influence through his literary friends and his criticism See his *Recollections, Personal and Literary* (1903)

Stoessel, Albert (stō'sul), 1894–1943, American violinist, conductor, and composer, b St Louis, studied there and in Berlin He made his debut (1913) as a violinist in Berlin and in 1921 became conductor of the Oratorio Society of New York He was head of the music department of New York Univ from 1923 until 1930, when he became director of the orchestra and opera departments at the Juilliard Graduate School Beginning in 1925 he was active as conductor of various music festivals His compositions include an opera, *Garrick* (1937), *Concerto Grosso* for strings (1936), and other orchestral works

stogie: see CIGAR AND CIGARETTE

Stoicism (stō'ĭsĭzm), school of philosophy founded by ZENO OF CITIUM (in Cyprus) about the beginning of the 3d cent B C The first Stoics were so called because they met in the Stoa Poecile [Gr ,= painted porch], at Athens, a colonnade near the Agora, to hear their master Zeno lecture He had studied with Crates the Cynic, and his own teaching included the Cynic adaptation of the Socratic ideals of virtue, endurance and self-sufficiency He added to them the explanation of the physical universe given by Heraclitus and something of the logic of Aristotle The development and organization of Zeno's doctrines into a great system of metaphysics was the work of Chrysippus (280–207 B C), successor to Cleanthes Among the acknowledged leaders of the Stoics in the following period was Panaetius of Rhodes, who in the 2d cent B C introduced Stoicism into Rome He and his pupil Posidonius sought to lessen the attacks of critics by mingling with the Stoic doctrines some of Plato's psychological views Cicero, a pupil of Posidonius, was indebted to a work of Panaetius for the basis of his own treatise *De officiis* The Romans, who received Stoicism more cordially than they did any other Greek philosophy, can claim the third period as their own To it belong the philosophers SENECA and EPICTETUS of Phrygia and MARCUS AURELIUS, the emperor Stoicism, with its roots in earlier doctrines and theories of man and the universe, built up an ideal virtuous, wise man. Regarding philosophy as divided into physics, logic, and ethics, Zeno in his plan made of the physics and logic a foundation to serve as the best support he could contrive for the ethical portion of his system His logic was based upon Aristotle's *Organon*; but he held that all knowledge is ultimately founded on sense perception The physical theory underlying Stoicism is materialistic. All that has reality is material Force, which is the shaping principle, is joined with matter This universal working force, God, pervades all and becomes the reason and soul in the animate creation The ethical creed of the Stoics accepted virtue as the highest good in life "To live consistently with nature" was a familiar maxim among them Human conduct should be brought into agreement with the law of nature Only by putting aside passion, unjust thoughts, and indulgence and performing duty with the right disposition can man attain true freedom and rule as lord over his own life The writings of Epictetus best set forth the ethical truths of Stoicism See R D Hicks, *Stoics and Epicureans* (1910), R M Wenley, *Stoicism and Its Influence* (1927), *Stoic and Epicurean Philosophers* (ed. by W J Oates, 1940)

Stoke, East, village, Nottinghamshire, England, SW of Newark. It was the scene of a victory of Henry VII in 1487 over forces supporting Lambert Simnel as claimant to the throne.

Stoke-on-Trent, county borough (1931 pop 276,639; 1947 estimated pop. 273,510) and city, Staffordshire, England. The borough was formed in 1910 of Hanley, Burslem, Tunstall, Longton, Fenton, and Stoke-upon-Trent and made a city in 1925 It is the center of the Staffordshire pottery-making industry The Trent to Mersey canal passes through the region. There are several museums and collections of pottery, Minton Memorial (museum and library) and the Wedgwood Institute are noteworthy Josiah Wedgwood, Josiah Spode, William Copeland, and Herbert Minton are among noted men of this district The town with the surrounding area of the upper Trent valley is known as the Potteries or the "Five Towns."

Stoke Poges (pōj'ĭz), village, Buckinghamshire, England, near Slough The churchyard of St Giles is generally held to be the scene of **Gray's** "Elegy"

Stoker, Bram (Abraham Stoker), 1847–1912, British author, b Ireland *Dracula* (1897), the most sensational of his many novels, was dramatized by John Balderston and Hamilton Deane and produced in 1927 Stoker's *Personal Reminiscences of Henry Irving* (1906) records his association with Irving in managing the Lyceum Theatre

Stokes, Adrian (stōks), 1887–1927, Irish physician and bacteriologist, b Lausanne, M D Univ of Dublin, 1911 He performed invaluable medical services in the First World War He organized a mobile laboratory to help prevent typhoid and other epidemic diseases among the soldiers His studies of the bacteriology of infectious jaundice (or Weil's disease) were significant In 1922 he became professor of pathology at the Univ. of London He secured a leave of absence to study yellow fever in W Africa, where he worked with Hideyo Noguchi and William Young While carrying on the experiments he contracted the disease and died

Stokes, Sir Frederick Wilfrid Scott, 1860–1927, British inventor An engineer who worked on important bridges and dams (including the Aswan and Sennar dams), he patented new machines of various sorts, but he is best known for the Stokes gun (1915), a simple muzzle-loading trench mortar much used in the First World War

Stokes, Sir George Gabriel, 1819–1903, British mathematician and physicist, b Ireland, studied at Cambridge From 1849 he was a professor of mathematics at Cambridge, he served as secretary (1854–85) and as president (1885–92) of the Royal Society His researches, done in many fields, developed the modern theory of viscous fluids, revealed the nature of fluorescence, and shed light on the composition of chlorophyll The important work he did on the undulatory theory of light led to publication of his *Dynamical Theory of Diffraction* (1849)

Stokes, Isaac Newton Phelps, 1867–1944, American architect, housing expert, and historian, b New York city, grad Harvard, 1891, studied architecture at Columbia Univ and the École des Beaux-Arts His special achievement was the compilation of *The Iconography of Manhattan Island* (6 vols , 1915–28), with pictures and reproductions of old maps As a member (1897–1917) of the firm of Howells & Stokes he designed St Paul's Chapel at Columbia Univ , the Baltimore Stock Exchange, Woodbridge Hall at Yale, and other buildings He was most interested in housing and designed a number of model tenements and apartments He was appointed (1900) a member of the New York state tenement housing commission, which passed (1901) a law for better housing He was also secretary (1911–39) of the Phelps-Stokes Fund for housing and education

Stokes, Whitley, 1830–1909, Irish Celtic scholar, grad Trinity College, Dublin, 1851 Going to India in 1862, he became a member of the viceroy's council (1877–82) and drafted the Anglo-Indian civil and criminal codes A prominent scholar in the field of Irish literature, he is known for his translations and glossaries of Irish, Celtic, Cornish, and Breton works

Stokesay Castle, Shropshire, England, near Ludlow It is the oldest and best example in England of a fortified, moated manor house The stone tower and the banqueting hall date from the 13th cent , the gatehouse from the 17th

Stokowski, Leopold (stukŏf'skē), 1882–, American conductor, b London, of Polish-Irish parentage, studied at Oxford, the Paris Conservatoire, and the Royal College of Music, London He was organist and choirmaster (1905–8) at St Bartholomew's Church, New York, and was conductor (1909–12) of the Cincinnati Symphony Orchestra As conductor (1912–36) of the Philadelphia Orchestra he introduced much unfamiliar music and with his own transcriptions popularized many of the compositions of Bach, he continued to conduct for part of each season until 1941 In 1940 he organized the All-American Youth Orchestra, which toured South America that year He was co-conductor (1941–44), with Toscanini, of the NBC Symphony Orchestra He conducted in Walt Disney's moving picture *Fantasia* (1940) and is the

author of *Music for All of Us* (1943) In Dec., 1948, he was appointed co-conductor, with Dimitri Mitropoulos, of the New York Philharmonic. In 1911 he married Olga Samaroff, they were divorced in 1923 He became a U S citizen in 1915.

stola · see TUNIC

Stolberg (shtōl'bĕrk), town (pop 27,921), in the former Rhine Prov of Prussia, W Germany, E of Aachen It is a center of the German brass industry, introduced in the 16th cent by Protestant settlers from Aachen

stolen goods. The chief legal problem connected with stolen goods is that of title A thief cannot acquire title to goods which he has stolen, and therefore he cannot transfer title even by sale to an innocent purchaser Hence the rightful owner of the goods may take them without compensation from anyone who has their possession The innocent purchaser, however, may sue the seller of the goods (even if he is the thief) for breach of his implied warranty of good title These rules invariably apply to goods procured by LARCENY, in certain jurisdictions they obtain also when goods are acquired by EMBEZZLEMENT The law respecting the sale of a stolen NEGOTIABLE INSTRUMENT differs somewhat Here, if the owner is a bona fide purchaser for value he takes an absolute title. To be such a purchaser he must pay for the instrument with some thing of value (usually money) and must not be aware of anything suspicious in the ownership The person from whom the instrument was stolen may recover it (without payment) from a holder who is not a bona fide purchaser for value Such holder—e g , one who received the instrument as a gift—may sue the prior indorsers of the instrument for breaching their implied warranty of good title unless they had protected themselves by writing the words "without recourse" The person who knowingly receives stolen goods to make a profit—the *fence*—is guilty of a felony in most jurisdictions At common law, however, the fence was an accessory after the fact and hence committed merely a misdemeanor That the accused knew the goods were stolen usually must be proved from circumstances and his previous conduct Thus, if he is in possession of recently stolen goods brought to him at dead of night there is a strong probability of his guilty knowledge. This probability is enhanced if he had previously been convicted of the crime of receiving stolen goods

Stolp (shtōlp) or **Slupsk,** Pol *Słupsk* (swôōpsk), city (pop 33,948), NE Pomerania, on the Stolpe river, transferred to Polish administration in 1945 (see POMERANIA) Chiefly a commercial and administrative center, it has metal and electrical industries, and there are several resorts in the vicinity

Stolpmünde (shtōlp'mun"dŭ) or **Ustka** (ōōst'kŭ), a commercial seaport (pop 2,807), lies on the Baltic coast, 10 mi NW of Stolp

Stolypin, Piotr Arkadevich (pyô'tŭr ŭrkä'dyĭvĭch stŭl'ĭpĭn), 1863–1911, Russian statesman As premier and minister of the interior (1906–11) he sought to fight the revolutionary movement both by negative and positive measures He instituted a regime of courts-martial to suppress revolutionary terrorism, and thousands were exiled and executed between 1906 and 1911 On the other hand, Stolypin's keen intelligence had recognized that no negative measures were sufficient without the creation of a class of peasant landowners who would form a large conservative popular element The Edict of Emancipation of 1861 (see EMANCIPATION, EDICT OF) had created not a landowning peasant class but communal peasant holdings, and its provisions for the redemption of communal land had tied down the peasants to their villages without giving them the means to subsist on their land Stolypin's agrarian legislation of 1906 gave the peasant communes the right to dissolve themselves, entitled each peasant to his share of the former common land in full ownership, and gave financial aid to peasants who wished to buy crown land This reform was designed to transform the peasants into landowners by a gradual process without hurting the interests of the large landowners At the same time it enabled peasants who wished to leave the land and seek industrial employment in the cities—a feature favorable to the industrialists, whose labor supply was hampered by the legislation of 1861 It was opposed by the leftist majority in the first DUMA, which favored extensive expropriation of the large landowners Stolypin, whose methods were highhanded, dissolved both the first and second Dumas and made sure of a conservative majority in the third Duma by altering (1907) the election laws His policies often cut across party lines, and his moderate constitutionalism was opposed by the extreme reactionaries. His agrarian reform came too late to conciliate the peasantry as a body. When the Revolution of 1917 broke out, the number of small holdings had increased, but not at a sufficient rate to have created a conservative peasant class His attempt to extend the government's policy of Russification to Finland, where he restricted (1910) the authority of the diet, met wide opposition. While his courts-martial and secret police continued their sinister work, the government took no action against the anti-Jewish pogroms organized by extreme reactionary societies. Stolypin's attempt to put down terrorism by terrorism was a failure demonstrated by his own assassination by a revolutionist

stomach, organ of the digestive system, serving primarily as a temporary storage place for food, found in humans and in many of the lower as well as the higher animals In humans it is a somewhat pear-shaped organ lying in the abdominal cavity just below the diaphragm and continuous in its cardiac or upper portion with the esophagus and in its pyloric or lower region with the small intestine The size and shape of the stomach depend upon the degree of distention produced by the food within it It is between 10 and 12 in long and 6 to 8 in wide Food enters the stomach from the esophagus by passing through the cardiac orifice, where a ring of muscles, the cardiac sphincter, normally prevents the return of the food into the esophagus, at the pyloric end is a pyloric sphincter, which remains closed until the food is in condition to enter the small intestine The walls of the stomach consist of four layers—an outer fibrous or serous coat, a muscular coat, a submucous coat, and, forming the lining of the stomach, a mucous layer the surface of which is honeycombed with glands Food is held in the stomach until the mechanical action of the movements of the muscular walls and the chemical action of the digestive fluid (see GASTRIC JUICE) have converted the food into a semiliquid known as chyme, this is gradually sent by muscular action into the small intestine

Stone, Barton Warren, 1772–1844, American clergyman of Kentucky With four other ministers he withdrew from the Presbyterian Church and in 1804 began to form new churches that called themselves simply CHRISTIANS Similar groups, whose members were also known as Christians, separated from the Methodist and Baptist churches See C C Ware, *Barton Warren Stone, Pathfinder of Christian Union* (1932)

Stone, Harlan Fiske, 1872–1946, American jurist, Chief Justice of the Supreme Court (1942–46), b Chesterfield, N H , grad Amherst, 1894, and Columbia School of Law, 1898 He was admitted (1899) to the bar, practiced law in New York city, and lectured at the Columbia School of Law, where he became professor (1902) and dean (1910) In the First World War he helped the Wilson administration deal with conscientious objectors He resigned his deanship in 1923, and as U S Attorney General (1924–25) under President Calvin Coolidge, Stone led in restoring faith in the Dept of Justice after the Teapot Dome scandals Appointed (1925) Associate Justice of the Supreme Court, he established a reputation for his vigorous minority opinions, after 1933 he generally supported New Deal legislation. He succeeded Charles E Hughes as Chief Justice of the Supreme Court *Public Control of Business* (1940) is a selection of Stone's opinions as Associate Justice See biography by S J Konefsky (1946)

Stone, Lucy, 1818–93, American reformer, b near West Brookfield, Mass , grad Oberlin, 1847 In 1847 she gave her first lecture on woman's rights, a movement in which she was a leader until her death The following year she was engaged by the Anti-Slavery Society as one of their regular lecturers As a speaker she had great eloquence and was often able to sway an unruly and antagonistic audience She married Henry Brown BLACKWELL in 1855, but continued, as a matter of principle, to use her own name and was known as Mrs Stone In 1870 she founded the *Woman's Journal*, which was for nearly 50 years the official organ of the National American Woman Suffrage Association After her death it was edited by her daughter, Alice Stone Blackwell See biography by her daughter (1930).

Stone, Melville Elijah, 1848–1929, American journalist, b Hudson, Ill , brother of Ormond Stone With others he founded (1876) the first Chicago penny paper, the *Daily News*, and in 1881 the *Morning News* (later the *Record*) Stone became general manager of the reorganized Associated Press in 1893, and under his direction it became one of the great news agencies He retired in 1921 See his *Fifty Years a Journalist* (1921)

Stone, Nicholas, 1586–1647, English sculptor and architect. He rose to a position of highest importance as a decorative sculptor, working in association with Inigo Jones His independent productions include *Virgin and Child* (St Mary's, Oxford) and numerous tombs, the best of which are in Westminster Abbey and Charterhouse Chapel, London Stone executed various works (e g., York Gate) after the designs of Jones.

Stone, Ormond, 1847–1933, American astronomer, b. Pekin, Ill , grad. Univ of Chicago, 1870; brother of M E. Stone. He was an assistant (1870–75) in the U S. Naval Observatory and director (1875–82) of the Cincinnati Observatory. While professor of astronomy (1882–1912) at the Univ. of Virginia, he was also director of the Leander McCormick Observatory. He founded (1884) the *Annals of Mathematics* and edited it for many years Stone observed the 1869 solar eclipse in Iowa and headed eclipse expeditions in 1878 and 1900. Numerous papers for astronomical and mathematical journals resulted from his observations of variable and double stars and of nebulae and from his distinguished work on problems of celestial mechanics

Stone, Thomas, 1743–87, American Revolutionary patriot, signer of the Declaration of Independence, b Charles co , Md Stone, a lawyer, was a delegate (1775–78, 1783–84) to the Continental Congress and urged adoption of the Articles of Confederation

stone, in medicine see CALCULUS.

Stone Age. For the Stone Age in anthropology, see NEOLITHIC PERIOD and PALEOLITHIC PERIOD.

Stoneboro, borough (pop. 1,194), Mercer co , NW Pa., SE of Greenville, inc 1866.

stonecrop see SEDUM

Stoneham (stō'nŭm), town (pop. 10,765), NE Mass , N of Boston, settled 1645, set off from Charlestown 1725.

Stonehenge (stōn'hĕnj"), group of standing stones on SALISBURY PLAIN, Wiltshire, England, preeminent among MEGALITHIC MONUMENTS in the British Isles In 1918 Stonehenge was presented by Sir Cecil Chubb, of Salisbury, to the nation. The great prehistoric structure is enclosed within a circular ditch 300 ft in diameter, with a bank on the inner side, and is approached from the northeast by a broad roadway, called the Avenue, slightly embanked and flanked by ditches Within the circular trench the stones are arranged in four series, the two outermost series forming circles, the third following the shape of a horseshoe, and the innermost proved by recent excavations to have been of an ovoid form The outer circle, in diameter slightly more than 100 ft , is of sarsen stones found near by. Of the original 30 uprights, in height about 13½ ft above the ground, 16 are now in place Connecting these was a continuous line of dovetailed lintels, held by mortise-and-tenon fastening to two uprights The second circle, 76½ ft in diameter, consists of MENHIRS, of diabase bluestone for the most part Of these comparatively small stones it is claimed there were originally over 40, 9 are still upright and 11 lie overturned The horseshoe-shaped group was made up of five huge sarsen trilithons; the one in the middle of the curve, holding a place on the southwest, opposite the opening of the horseshoe, has uprights each 22 ft high The capstone is 15 ft long Two of the trilithons still stand The number of menhirs originally composing the inner ovoid is not known Only 12 remain in sight Within the ovoid lies the so-called Altar Stone, over 16 ft long, now in two parts The Friar's Heel is a great sarsen standing upright in the Avenue, northeast of the circle Another sarsen slab, the Slaughter Stone, lies near the edge of the causeway over the ditch, northeast of the circle The purpose of the structure has not yet been definitely established From the time of Henry of Huntingdon (d. 1155) various explanations have been given It has been described as a monument to the slain in the strife with Hengist, as the tomb of Boadicea, and as a druid or a Roman temple At the beginning of the 20th cent Sir J Norman Lockyer advanced the theory that when the present structure was erected the axis through the Altar Stone and Friar's Heel pointed directly to the rising of the sun on midsummer day (June 24), as it approximately does now This would date the monument at c 1680 B C and imply sun worship Excavations carried on since 1920 seem to indicate that the purpose was sepulchral and that the present structure dates from the Bronze Age, superseding a less elaborate one of the late Neolithic period, although some authorities believe that the existing groups are of different periods Excavations in the surrounding district have disclosed relics of premetallic civilization and burial mounds of the Bronze Age There is a similar larger and older stone monument at AVEBURY. See studies by Sir W F Petrie (1880), Sir J N. Lockyer (1906), Frank Stevens (1938 ed), E H Stone (1924), and R H. Cunnington (1935)

Stoneman, George, 1822–94, Union general in the Civil War, b Lakewood, N.Y., grad West Point, 1846 Commander of Fort Brown, Texas, in Feb., 1861, he refused to obey the order of Gen. D E Twiggs to surrender to Texas authorities, but evacuated the fort and with part of his command sailed for the North He was made a brigadier general of volunteers in Aug., 1861, was chief of cavalry in McClellan's Peninsular campaign (1862), and commanded an infantry corps at Fredericksburg As commander of the cavalry corps under Hooker, Stoneman made (1863) a spectacular but unsuccessful raid to Lee's rear just before the battle of Chancellorsville In the Atlanta campaign (1864) he commanded the cavalry of the Army of the Ohio. While making a raid on Andersonville, Ga., he was captured After a three-month imprisonment he resumed cavalry operations in E Tennessee, W Virginia, and W North Carolina He retired from the army in 1871 and was governor of California from 1883 to 1887.

Stone Mountain, city (pop. 1,408), NW Ga , near Atlanta Near it is an exposed large granite dome, over 650 ft high. The **Stone Mountain Memorial** to the Confederacy and its heroes is to be cut into

the mountain It was conceived (1916) and partly executed by Gutzon BORGLUM, and in 1924 the head of Robert E. Lee was unveiled. Shortly thereafter occurred a disagreement between Borglum and the association financing the project The work was turned over to Henry Augustus LUKEMAN, who abandoned the first design He completed another head of Lee, and the earlier one was destroyed Procedure has been suspended until further funds become available See Gerald W Johnson, *The Undefeated* (1927).

stones, precious: see GEM

Stones River National Military Park: see MURFREESBORO, Tenn.

Stonewall, town (pop 1,071), SE Man , NNW of Winnipeg, in a dairying and grain-farming region. Dolomitic limestone is quarried near by

stoneware, hard POTTERY made from siliceous paste, fired at high temperature to vitrify the body It is impervious even to acids Stoneware differs from porcelain in being heavier and opaque and from terra cotta in being nonporous and nonabsorbent It has been produced in China since the early years of the Ming dynasty (1368–1644), when a porcelainlike stoneware was created at Shekwan, near Canton, and remarkable red and celadon green glazes were employed In the 16th cent it was extensively manufactured in Yi-hsing, in Kiangsu prov , notable for its unusual teapots of red, buff, or gray and glazed or enameled stoneware Dutch, Flemish, and German potteries of the late 14th cent were making a distinctive gray stoneware, known as Cologne ware or *grès de Flandres*, with stamped or profusely modeled decoration, most of the examples exhibiting lead glaze, though a cream-colored variety was usually left unglazed Korean potters (17th-19th cent) produced crackled stoneware closely related to porcelain and also a blue underglaze painted variety and a kind with buff glaze John Dwight started to make stoneware jugs and mugs in 1671 and climaxed his work with remarkable figurines and portrait busts of porcelaneous stoneware In the American colonies containers were commonly made of gray salt-glazed stoneware, often decorated with blue floral motifs and incised patterns

stonework. The term applies to various types of work—that of the lapidary who shapes, cuts, and polishes gem stones or engraves them for seals and ornaments, of the jeweler or craftsman who mounts or encrusts them in gold, silver, or other metal, of the stonemason who executes the plan of architect or engineer for wall, pier, vault, bridge, or dam, of the carver who chisels bas-relief, intaglio, or free-standing figure, using a pointing machine for accuracy, and of the printer at his imposing stone The most important stonework is masonry, as old as civilization and still widely used Of Roman masonry buildings, some aqueducts, arches, basilicas, and baths still remain Masonry is classified according to finish, rubble being of rough-quarried or field stone and ashlar of dressed stone It may be laid without mortar and is then called dry or Cyclopean or with mortar to bind the stones closely together, the outside finish of such joints being called pointing A thin joint has greater strength, that in first-class work is up to ¼ in in thickness, while in second-class work it may be ½ in Stone-masonry may be of hard materials, such as granite, bluestone, or marble, requiring full finish before laying, or of softer varieties, such as brownstone, laid with rough exterior, the decoration being carved afterward The pyramids (see PYRAMID) and the SPHINX of Egypt are the world's greatest stonework.

Stoney Creek, village (pop 1,007), S Ont , just ESE of Hamilton, in a fruitgrowing region It has canneries and wineries It is the site of a battle (1813) in which American forces, attempting to invade Upper Canada, were defeated

Stonington (stō'nĭngtun) **1** Borough (pop 1,826) in Stonington town (pop 11,002), extreme SE Conn , on a peninsula jutting into Long Island Sound, settled 1649 from Plymouth, town inc. 1662, borough 1801 The town includes also Mystic and part of Old Mystic and several shore resorts Machinery, tools, and airplane parts are made here, but the town was early important for fishing and shipping Many fine old houses survive It was the home of Whistler and the birthplace of Edmund Fanning **2** Village (pop 1,103), central Ill , SW of Decatur; inc 1885 **3** Town (pop 1,493), on S Deer Island, S Maine, inc 1897 It has a small port. Quarries of pink granite are in the town.

Stony Brook, unincorporated village (pop 768), on the north shore of Long Island, SE N Y , near Port Jefferson It is a resort and residential community. In 1941 it was restored to resemble an 18th-century village. William Mount lived and painted here.

Stony Point, unincorporated village (pop. 2,001), SE N Y , on the west bank of the Hudson and N of Nyack It is the seat of a state orthopedic hospital for children. Near by is the Stony Point Museum (1936) memorializing the storming of Stony Point by Anthony Wayne's forces during the Revolution.

stop: see PUNCTUATION.

Stopes, Marie Carmichael (stōps), 1880–, English paleobotanist and eugenist, b Edinburgh, D Sc, Univ of London, Ph D Univ of Munich She lectured in the universities of London and Manchester In 1921, with her second husband, Humphrey Verdon Roe, she founded the first birth-control clinic in the British Empire Her activities in this field gave impetus to similar movements elsewhere. Her works include a number of books on eugenics, birth control, and paleobotany See biography by Aylmer Maude (1933)

storage battery see BATTERY, ELECTRIC

store, commonly a shop or stall for the retail sale of commodities, but also a place where supplies for wholesale are kept, exhibited, or sold Retailing—the sale of merchandise to the consumer—is the oldest business in the world It was practiced by the ancients, even in prehistoric times, and it has been the custom of all primitive peoples The earliest form of retail merchandising was probably the exchange of food and weapons, later came traders and peddlers, and by 3000 B C shops had become common In these barter and sharp practice were the rule Developing through the Greek and Roman period, gay stores—many of them specialty shops—in the form of open booths attracted large crowds, among them strangers from distant lands After the decline of the Roman Empire, the older practice of barter in the market places was resorted to, but by the 14th cent retail trade again assumed importance Merchants, who in early times were rated with thieves and pirates, rose in the social scale Small stores, each carrying its special line of goods, reached their peak in the 18th cent The wholesale business developed, and traveling salesmen and standard prices came into being In America the general store preceded the single-line store and is still common in rural communities, these are effectively supplemented by mail-order houses In the late 19th cent the department store came into being—a large-scale general store or a combination of single-line stores in which each line is operated as a separate department These stores usually carry goods of high standard and provide many conveniences for the shopper, such as accessibility, quick free delivery, rest rooms, restaurants, and various shopping aids Retail concerns which do business principally through the mails are called mail-order houses In the United States the two oldest and largest of these organizations are Montgomery Ward (founded 1872) and Sears, Roebuck, and Company (founded 1886), these have showrooms and retail stores in many parts of the country, but rural residents continue to purchase by means of their huge catalogues While chain stores, like every other form of merchandising, had their origin in antiquity, they were first developed in their modern form in 1859, by the Great Atlantic and Pacific Tea Company Through central management, quantity purchasing, the elimination of the middleman, standardization of business methods, and the limited service extended, the chains are able to sell goods below the prices charged by the independent stores, most common among chain stores are five-and-ten-cent stores, bakeries, tobacco stores, drugstores, and groceries Since the independent retailer finds it impossible to meet the prices of the chain stores, considerable antagonism has been engendered Some independent grocers have combined to form a voluntary chain, purchasing their supplies from one wholesaler The Robinson-Patman price discrimination act of 1936 was designed to prevent price differences on goods of the same quality. Several states have imposed special taxes on chain stores, which have been upheld by the Supreme Court Consumers' cooperative stores (see COOPERATION) have been established in Europe and America, these are profit-sharing organizations, benefiting the consumer by eliminating the cost of the middleman See Benjamin Werne, ed , *Business and the Robinson-Patman Law* (1938).

Storey, Moorfield, 1845–1929, American lawyer, b Roxbury, Mass , grad Harvard, 1866 He attended Harvard Law School and was admitted (1869) to the bar He was (1867–69) secretary to Charles Sumner and thereafter practiced law in Boston Noted for his reform leanings, he fought political corruption, opposed American colonial expansion, and sought the advancement of Negroes and Indians in the United States He was president of the National Association for the Advancement of Colored People from 1910 until his death His writings include a biography of Charles Sumner (1900) and *Problems of Today* (1920) See biography by M A De Wolfe Howe (1932)

Stor Fjord (stôr' fyôr"), inlet of the Norwegian Sea, on the coast of SW Norway It extends c 70 mi. inland from its mouth, where Alesund is located Of wild and imposing aspect, it branches into several fjords, most famous of which is the Geiranger Fjord. Some of the farms on its sheer cliffs are accessible only by ladder Rockslides are frequent and destructive.

stork, large migratory bird related to the HERON. The only species found in the United States is the wood ibis, a white bird with a black tail and a bare, black head and neck. In Europe the white stork, common in the Netherlands and Germany, a useful bird which eats insects, is considered to bring good luck and is encouraged to nest on roofs It is over 3 ft tall, white and black of plumage, and has a bright red bill and long, red legs The smaller black stork is found in swamps in parts of Europe and Asia and in Africa Largest of the family are the adjutant and the MARABOU of Africa and India and the saddle-billed stork of Africa

Storm, Theodor (tā'ōdōr shtôrm'), 1817-88, German poet and novelist He practiced law in his native Husum, served the Prussian government, and retired to his country place in Holstein, which became a literary mecca, here much of his work was written Both as a poet and as a writer of *Novellen*, he holds a distinguished place in German literature Beginning with the popular story *Immensee* (1851, Eng tr , 1858) he wrote numerous novels and tales, many historical, imbued with melancholy and poetic realism Among his works are *Gedichte* [poems] (1852), the stories *Im Schloss* [in the castle] (1861), *Aquis Submersus* (1876, Eng. tr , 1910), perhaps his best work, a children's story, *Pole Poppenspäler* [Paul the puppet player] (1874), and the novels *Hans und Heinz Kirch* (1883) and *Der Schimmelreiter* (1888, Eng tr , *The Rider of the White Horse*, 1915)

storm, disturbance of the ordinary conditions of the atmosphere attended by wind, rain, snow, sleet, hail, or thunder and lightning Types of storms include the extratropical CYCLONE, the common, large-scale storm of temperate latitudes, the tropical cyclone or HURRICANE, somewhat smaller in area than the former and accompanied by high winds and heavy rains, the TORNADO or "twister," a small but intense storm with very high winds, usually of limited existence, and the THUNDERSTORM, local in nature and accompanied by brief but heavy rain showers and often by hail In popular usage the term *storm* also includes disturbances such as the blizzard, sandstorm, and dust storm, in which high wind is the dominant meteorological element

Storm and Stress see STURM UND DRANG

Storm King, mountain, 1,355 ft high, SE N Y , on the west shore of the Hudson near West Point The highway around the mountain presents fine views The area is included in the Palisades Interstate Park

Storm Lake, city (pop 5,274), co seat of Buena Vista co , NW Iowa, on Storm Lake W of Fort Dodge, inc 1873 It has a meat-packing plant Buena Vista College (coeducational) and a state park are here

Stornoway (stôr'nuwā), burgh (1931 pop 3,770; 1948 estimated pop 5,323), on the east coast of Lewis with Harris island, Ross and Cromarty co , Scotland It is a seaport and a fishing station and the site of an old castle

Storrowton, Mass see SPRINGFIELD

Storrs, Richard Salter, 1821–1900, American Congregational minister, b Braintree, Mass From 1846 he was pastor of the Church of the Pilgrims, Brooklyn, N Y From 1848 to 1861 he was an editor of the *Independent*, of which he was a founder Storrs was noted for his eloquence in the pulpit and on the lecture platform

Storrs (stôrz), village in Mansfield town, NE Conn. It is the seat of the Univ of Connecticut (see CONNECTICUT, UNIVERSITY OF)

Storting (stōr'tĭng), national parliament of Norway Dating from the constitution of 1814, it is an assembly of representatives elected by direct universal suffrage for a four-year term It elects one fourth of its members to form the Lagting or upper house, the remainder constituting the lower, or Odelsting, in which all bills must originate

Story, Joseph, 1779–1845, American jurist, b Marblehead, Mass , grad Harvard, 1798 He was admitted to the bar of Massachusetts in 1801 and practiced law in Salem Politically Story was a Federalist He was several times Salem's representative in the Massachusetts General Court, and in 1808 he was elected to Congress Story's legal scholarship quickly earned him great prominence, and in 1811 (at the age of 32) he was appointed an Associate Justice of the U S Supreme Court, the youngest person ever to hold that position In the early period of his judicial tenure he was also a circuit justice in New England, and in deciding cases which arose out of the War of 1812 he helped to frame American prize law Story's judicial views nearly always agreed with those of John MARSHALL, and Story was distressed by the appointment (1836) of Roger B Taney, a Democrat, as Chief Justice One of the most important opinions Story wrote for the Supreme Court—and one which aided the Federalist position—was in *Martin vs Hunter's Lessee* (1816), this established the power of the court to review issues of constitutional law raised in state cases Story expressed his strong antislavery sentiments in several judgments which ordered the repatriation to Africa of Negroes brought into American ports by slavers. In 1829 Story became first Dane Professor of Law at Harvard For the remainder of his life he sat on the Supreme Court, taught at Harvard, and, in connection with his teaching, wrote many legal textbooks. These were systematic summaries of

bodies of case law (mostly British), so treated as to elucidate the legal and philosophical bases Story's texts must be ranked with James Kent's *Commentaries on the American Law* as formative influences on American jurisprudence and legal education They include commentaries on bailments (1832), the U S Constitution (3 vols , 1833), conflict of laws (1834), equity jurisprudence (1836), equity pleading (1838), agency (1839), partnership (1841), bills of exchange (1843), and promissory notes (1845) All his books appeared in several editions, that on equity jurisprudence (14th ed , 1918) perhaps retained its utility longest. See William Wetmore Story, ed , *Life and Letters of Joseph Story* (1851)

Story, William Wetmore, 1819–95, American sculptor and writer, b Salem, Mass , grad Harvard, 1838, and Harvard Law School, 1840, son of Supreme Court Justice Joseph Story In 1847 he published a volume of poetry Chosen in that year to make a statue of his father (Mt Auburn Chapel, Cambridge, Mass), he went to Italy to study sculpture In Rome, from 1856, Story devoted his time to sculpture His brilliant personal gifts made his studio a social and artistic center and enhanced the fame of his works—formal draped classic figures of women and portrait statues of eminent contemporaries, also stiffly draped They were the most admired sculptures of his time *Cleopatra* had sensational success in London in 1862 His works include also *Semiramis*, *Medea*, *Salome*, and others (Metropolitan Mus), *Jerusalem in Her Desolation* (Pa Acad of the Fine Arts), George Peabody (London, replica, Baltimore), Edward Everett (Boston), and Chief Justice Marshall and Professor Henry (Washington, D C)

Story City, town (pop 1,479), central Iowa, N of Ames, on the Skunk river, inc 1881. A pioneer schoolhouse is preserved

Stoss, Veit (fit' shtŏs'), c 1445–1533, German sculptor and the foremost wood carver of his country His active career was spent in Cracow (1477–86, 1488–96) and in Nuremberg, his native place. His genius found dramatic and realistic expression in works for the churches of these two cities Characteristic examples are *Death of the Virgin* and *Assumption of the Virgin* which he executed for the high altar of the Marienkirche, Cracow, and his best-known wood carving, the *Annunciation*, set in a great wreath of carved roses, for the Church of St. Lorens, Nuremberg Occasionally he worked in stone, as in the case of the tomb of King Casimir IV in Cracow

Stothard, Thomas (stŏ'dhurd), 1755–1834, English genre painter, illustrator of the works of Goldsmith, Pope, Defoe, Richardson, and others The National Gallery, London, has 16 of his small paintings, including the popular *Canterbury Pilgrims* He also painted many decorations, including those for the Advocates' Library, Parliament House, Edinburgh See study by A C Coxhead (1906)

Stotsenburg, Fort (stŏt'sŭnbûrg), central Luzon, Philippine Islands It is the principal U S military establishment in the Philippines Clark Field is near by

Stouffville (stō'vĭl), village (pop. 1,253), S Ont., NNE of Toronto, in a farm area.

Stoughton, William (stō'tŭn), 1631–1701, American colonial statesman He was probably born in England but studied at Harvard, (grad 1650) before attending New College, Oxford (M A , 1653) With the Restoration (1660) he was ejected from his fellowship at Oxford In 1662 he returned to Massachusetts Bay colony, where he became active in public life, serving as colonial assistant (1671–86). Between 1676 and 1679 he represented the colony in England in regard to the claims of John Mason. Stoughton was a member of the council of Gov. Edmund Andros, but eventually joined the opposition From 1692 to his death he was lieutenant governor of the colony, for about five years of that time being acting governor. He presided with great severity at the Salem witchcraft trials Stoughton was one of the principal early benefactors of Harvard College, Stoughton Hall being named for him.

Stoughton (stō'tun). **1** Town (pop 8,632), E Mass , S of Boston, settled c 1713, inc 1743 Its shoe industry began early in the 19th cent **2** City (pop 4,743), S Wis , SE of Madison and on the Yahara, in a farm and dairy area, settled 1847, inc 1882 Trailers and automobile bodies are made

Stourbridge (stŏŏr'brĭj, stour'–), municipal borough (1931 pop 19,904, 1947 estimated pop 36,530), Worcestershire, England, at the Staffordshire border and on the Stour river, a tributary of the Severn. Glassmaking began here in the 16th cent. Production of steel, bricks, leather, and machinery is also carried on. The Church of St. Mary has a 14th-century tower.

stout, alcoholic beverage see BEER.

Stout Institute: see MENOMONIE, Wis.

stove [Old Eng., =heated room, hence, by synecdoche, =heater] Stoves made of clay, tile, or earthenware have been used in central and N Europe since Roman times. In the second half of the 15th cent. iron stoves began to be cast in N Europe. They were made of iron plates, grooved to fit together into a box There is a probability that the very first iron stoves were earthen ones enclosed in iron plates These early rectangular castings were highly decorated with Bible scenes and armorial and arabesque designs, and they often bore inscriptions in Norse, German, Dutch, French, and sometimes Latin, some were dated Many were highly artistic specimens of handicraft. A typical early iron stove is the wall-jamb or five-plate stove, which was fueled from an adjoining room Probably the oldest iron stove standing in its original position is in the castle at Coburg, Germany Records indicate that it was set up c 1485. Some tile stoves, dating from the 16th and 17th cent , exquisitely colored and glazed, show traces of Moorish influence Early Swiss stoves of clay or brick without chimneys were built against the outer house wall, with an opening to the outside through which they were fueled and through which the smoke might escape Scarcity of fuel made necessary an economical heat-retaining device, and these primitive stoves, built of clay, brick, tiles, or plastered masonry, were common in the Scandinavian countries, Holland, Germany, and N France In Russia large brick stoves were often built to form a partition between two rooms Because of the very long flue which wound back and forth inside the structure, these could be heated for some hours with a small amount of light fuel The Dutch, Swedish, and German settlers of the American colonies, especially those of Delaware, Pennsylvania, and New Jersey, brought with them the five-plate stoves, or the original molds for casting them In 1720–28 iron founding began in America, and old forges or foundries made records of five-plate stoves sold in 1728 and called Dutch stoves or, less commonly, carved stoves These continued to be made till Revolutionary times, when they were superseded by the English or 10-plate stove which stood free of the wall and had a draft or fuel door These 10-plate inventions could cook and warm at the same time and soon came to replace, at least partially, the large masonry bread oven, usually built out of doors The stove was regarded as a cooking device supplementary to the fireplace, near which it stood with its stovepipe let into the fireplace chimney Not until the coalburning range with removable lids came into general use about the middle of the 19th cent was the fireplace finally supplanted as the chief cooking agency For heating, the Franklin stove, invented in 1743, was the lineal descendant of the fireplace, being at first only a portable down-draft iron fireplace which could be set into, or before, the chimney It was soon elaborated into what was known as the Pennsylvania fireplace, with a grate and sliding doors This was in common use for a period after the Revolution and was then followed by a miscellaneous variety of heaters burning wood and coal The base burner, or magazine coal heater, was widely used before the general adoption of central heating Since gas and electricity have become generally available, the range burning wood or coal has been largely superseded by a wide variety of cooking apparatus, using as fuel natural or manufactured gas, oil, acetylene, gasoline, or electricity

Stow, John, 1525?–1605, English chronicler and antiquarian He followed the tailor's trade in his early years, but after 1560 devoted himself, under the patronage of Archbishop Matthew Parker whose Society of Antiquaries he joined, to the collection of historical documents and manuscripts His edition of Chaucer appeared in 1561, and in 1565 he produced a *Summarie of Englyshe Chronicles*. His work was periodically examined by the government, since Stow was suspected of Roman Catholic inclinations His *Chronicles of England* (1580) was first called *Annales of England* (its best-known title) in the edition of 1592 He produced editions of the work of Raphael Holinshed and other English chroniclers In 1598 there appeared his *Survay of London*, an immensely valuable account of the city in Elisabethan times Stow is one of the most trustworthy of 16th-century chroniclers.

Stow (stō), town (pop 1,243), E Mass , WNW of Boston, settled 1681, inc 1683

Stowe, Calvin Ellis (stō), 1802–86, American educator, b. Natick, Mass , grad Bowdoin, 1824, and Andover Theological Seminary, 1828, husband of Harriet Beecher Stowe He was professor of Greek (1831–33) at Dartmouth and of sacred literature (1833–50) at Lane Theological Seminary, of which Lyman Beecher was president. He married Harriet Beecher in 1836. He was also professor of religion (1850–52) at Bowdoin and of sacred literature (1852–64) at Andover Theological Seminary His works include *Introduction to the Criticism and Interpretation of the Bible* (1835), *Report on Elementary Instruction in Europe* (1837, reprinted by E R Knight, 1930), and *The Origin and History of the Books of the Bible* (1867).

Stowe, Harriet Beecher, 1811–96, American novelist, author of *Uncle Tom's Cabin*, b Litchfield, Conn. Her father, Lyman Beecher, was pastor of the Congregational Church in Litchfield, and, like all the Beechers, Harriet early developed an interest in religious problems and in schemes for improving humanity. In 1824 she went to Hartford to study and teach in her sister Catherine's school When in 1832 her father became head of Lane Theological Seminary in Cincinnati, Harriet began teaching in Catherine's Cincinnati school. In 1836 she married Professor Calvin Ellis Stowe Her husband became a professor at Bowdoin College in 1850, and it was in Brunswick, Maine, that *Uncle Tom's Cabin* was written She had seen slavery in Kentucky and helped fugitive slaves in Ohio, her brother Charles had told her of New Orleans slaveowners and overseers, and her brother Edward had fanned her hatred of slavery to a white heat. Encouraged by her husband, she wrote *Uncle Tom's Cabin; or, Life among the Lowly* to be published serially in an abolitionist paper, the *National Era* It ran from June 5, 1851, to April 1, 1852, and was published as a two-volume book by John P Jewett of Boston in 1852 Although abolitionists criticized her for presenting some of the favorable aspects of slavery and the slaveholders condemned her book as unfair, the effect of *Uncle Tom's Cabin* was an incalculable factor in preparing for the American Civil War In one year over 300,000 copies were sold, and the dramatization by G L AIKEN held the stage over a long period The book was translated into many foreign languages, and when its author visited Europe in 1853, she was overwhelmed with honors In 1856 Mrs Stowe's second novel of slavery, *Dred*, was published Her writing was accomplished under stress of manifold domestic cares, she was the mother of six children (one son died in Cincinnati) She was always harassed by financial worries, for in spite of the great popularity of her books, her earnings from them were never great, and both she and her husband were unbusinesslike and generous Later novels, all set in New England, were *The Minister's Wooing* (1859), *The Pearl of Orr's Island* (1862), and *Old Town Folks* (1869) *Religious Poems* (1867) contains her famous hymn, *Still, Still with Thee* In 1869 the *Atlantic Monthly* published her *Lady Byron Vindicated*, which by its accusations against Lord Byron aroused much criticism both of Mrs Stowe and of the *Atlantic* Mrs Stowe was interested in such reform movements as temperance and woman suffrage in addition to the antislavery cause, she never allied herself with the abolitionists, whom she considered extremists Her life was saddened by the drowning of one son and by the wounding at Gettysburg and later disappearance of another See her *Life and Letters* (ed by Annie Fields, 1897), biography by her son and her grandson (1911), Forrest Wilson, *Crusader in Crinoline* (1941)

Stowe (stō), town (pop 1,741), N central Vt , in a valley between Mt Mansfield and Hogback, chartered 1763, first settled 1794 It includes Stowe village (pop 540), resort and winter sports center In heavily timbered country, the village has a woodenware industry

strabismus see CROSS-EYE

Strabo (strā'bō), b c 63 B C., d after A D 21, Greek geographer and historian, b Amasia, Pontus He studied in Asia Minor, Greece, Rome, and Alexandria and traveled in Europe, North Africa, and W Asia Primarily a historian, he wrote a group of historical sketches (47 books) quoted by later authors but almost entirely lost His geography, written subsequently, is based on his own observations and on the works of his predecessors, including Homer, Eratosthenes, Polybius, and Posidonius, it contains historical material as well as descriptions of places and peoples and is a rich source of ancient knowledge of the world Its value is uneven, in great part because Strabo attributed to Homer an accurate knowledge of places and peoples mentioned in his epics and because he virtually disregarded Herodotus' information, which was often firsthand The geography (extant except for part of the seventh book) is divided into 17 books, two introductory, eight on Europe, six on Asia, and one on Africa, mainly Egypt. Although a Latin translation appeared in 1472, the first printed edition in the original Greek was the Aldine (1516) There are numerous modern editions and translations into several languages See the Loeb Classical Library edition, *The Geography of Strabo* (ed by H L Jones, 8 vols , 1917–32), consisting of the Greek text with an English translation and an introduction on Strabo's life and works

Strachan, John (strŏn), 1778–1867, Canadian prelate, first Anglican bishop (1839–67) of Toronto. Emigrating (1799) from Scotland, he opened a boys' school at Kingston, Ont , and later opened one at Cornwall which became widely known. In 1803 he took orders in the Church of England and was made rector of Cornwall and later (1812) of York (Toronto). As a member of the executive council of Upper Canada (1815–36) and of the legislative council (1820–41), he was an influential leader on the Conservative side. A man of tremendous energy and will, Strachan worked earnestly in the cause of education, but always firmly advocated control by the Anglican church of all institutions of learning. He was influential in obtaining (1827) a charter for King's College (of which he was appointed first president); to be es-

tablished under full church direction. Before the college was finally founded (1843), under a somewhat modified charter, Strachan had become archdean of York (1825) and bishop of Toronto (1839) In the long struggle to settle the matter of the Clergy Reserves, he unequivocally maintained that the Anglican church had the sole claim to their enjoyment. Before King's College was reorganized (1850) as the nonsectarian Univ. of Toronto, he had resigned (1848) in protest over the impending change and had undertaken the establishment of Trinity College (now part of the Univ of Toronto), which was opened in 1852 under church control, although soon secularized See C. H Mockridge, *The Bishops of the Church of England in Canada* (1896), W B Heeney, ed , *Leaders of the Canadian Church* (1918), T B Roberton, *The Fighting Bishop* (1926)

Strachey, John (Evelyn John St Loe Strachey) (strā'chē, ēv'lĭn, sānt lōō'), 1901–, English statesman and writer Son of the journalist John St Loe Strachey, he attended Oxford, where he was interested in socialism He became editor of the *Miner*, the organ of the British Miners' Federation, and served as a Labour member of Parliament from 1929 to 1931, but withdrew from the party with Oswald Mosley in 1931 He soon became alienated from Mosley, however, and moved in the direction of Marxism *The Coming Struggle for Power* (1932), his best-known work, was followed by other books on political and economic theory— *The Nature of Capitalist Crisis* (1935), *The Theory and Practice of Socialism* (1936), and *A Programme for Progress* (1939) Strachey served in the Royal Air Force in the Second World War In 1945 he rejoined the Labour party, and on his election to Commons in 1945 he was made undersecretary of state for air in Clement Attlee's cabinet From 1946 to 1950 he served as food minister, after his reelection in 1950 he was appointed war minister

Strachey, John St. Loe (sānt lōō'), 1860–1927, English journalist He was editor of *Cornhill Magazine* and later publisher and editor of the London *Spectator* Among his works are *The Manufacture of Paupers* (1907), *The Adventure of Living* (1922), and *American Soundings* (1926) See biography by his wife (1931)

Strachey, Lytton (Giles Lytton Strachey) 1880–1932, English biographer Educated at Cambridge, he began his literary career with *Landmarks in French Literature* (1912) *Eminent Victorians* (1918), a volume of short biographies which marked a departure in the genre, had wit, insight, and a brilliant style Thus series of miniatures was followed by *Queen Victoria* (1921), *Books and Characters* (1922), *Pope* (1925), *Elizabeth and Essex* (1928), and *Portraits in Miniature* (1931) See Max Beerbohm, *Lytton Strachey* (1943)

Strachey, William, fl 1606–18, English colonial historian In 1609 he sailed for Virginia in the expedition commanded by Sir George Somers, but was wrecked in the Bermudas with Sir Thomas Gates On his arrival at Virginia (1610) he was made secretary of the colony He returned to England in 1611 His writings, which are prime sources of American history, include an account of the shipwreck (which is reflected in Shakspere's *Tempest*) and of Virginia (in Samuel Purchas's *Hakluytus Posthumus; or, Purchas His Pilgrims*, 1625, reprinted 1906) and *The Historie of Travaile into Virginia Britannia* (first pub. from the manuscript by the Hakluyt Society, R H Major, ed , 1849) He also drafted a code of laws for the colony (1612)

Stradella, Alessandro (älĕs-sän'drō strädĕl'lä), c 1645–1682, Italian composer of the baroque period Outstanding are his six extant oratorios, including *San Giovanni Battista*, said to have been regarded by him as his masterpiece He also composed operas, cantatas, and other vocal works and *concerti grossi* Handel borrowed certain of his musical ideas Few facts but many legends exist concerning his life, he is said to have been assassinated at the behest of a Venetian nobleman with whose mistress Stradella had eloped His life is the subject of an opera by Flotow

Stradivari, Antonio (äntō'nyō strädēva'rē) or **Antonius Stradivarius** (äntō'nēŭs strädĭvā'rēŭs), 1644–1737, Italian violinmaker of Cremona, pupil of Niccolò Amati He was apprenticed to Amati c.1658 and may have remained with him until Amati's death in 1684 Stradivari's earliest extant label is dated 1666, and his last 1737. His finest instruments were made after 1700 Careful research by the Hills (W H , A F , and A E) of London revealed that he produced at least 1,116 instruments, of which 540 violins, 12 violas, and 50 cellos were known to them He also made viols, guitars, and mandolins His workmanship brought the violin to perfection, and later craftsmen have tried to imitate his instruments He was recognized in his time, and his commissions included those from James II of England and Charles III of Spain Two of his sons, Francesco Stradivari (1671–1743) and Omobono Stradivari (1679–1742), worked with him and continued the craft after his death, producing a number of fine instruments. See W H Hill, A. F. Hill, and A. E. Hill, *Antonio Stradivari. His Life and Work* (1902); E. N. Doring, *How Many Stradst* (1945).

Strafford, Thomas Wentworth, 1st earl of, 1593–1641, English statesman, studied at Cambridge and the Inner Temple Entering Parliament in 1614, he took little active part until 1625, when he opposed possible war with Spain Thereupon he was excluded from Parliament by being made sheriff of Yorkshire In 1627 he refused to pay a forced loan to the king, and when in 1628 he supported a moderate form of the Petition of Right he was leader of Parliament against Charles I When Sir John Eliot and Sir Edward Coke succeeded in carrying their more severe form of the petition, he lost that leadership. Created baron and viscount in 1628 and made president of the council of the north, he aligned himself in favor of the king's prerogative on condition of proper curbs He was lord deputy of Ireland (1632–39), and there his hated policy of "Thorough" was his method of enforcing autocratically the king's rule and the king's peace He cleared the sea of pirates and bolstered trade and industry, always with an eye to England's profit He had counseled severe measures against the Scots, and his extension of the plantation of Ulster (see Ireland) and enforcement of adherence to the Thirty-nine Articles of episcopacy were designed to aid the king in the Bishops' Wars in Scotland In England in 1639 he was, with Archbishop Laud, Charles's chief adviser In 1640 he raised an army in Ireland to use against Scotland, but was forced to leave it in Ireland When the Long Parliament assembled (1640), it was declared that he meant to use the Irish soldiers against English subjects, and mainly for that reason impeachment proceedings against him began Treason not being proved, a bill of attainder was finally passed, which Charles after long hesitation signed, and Strafford was beheaded See biographies by W A H C Burghclere (1931), C V Wedgwood (1935), and F W F S Birkenhead (1938)

strain, in engineering: see STRENGTH OF MATERIALS

Straits: see Dardanelles and Bosporus

Straits Settlements, former British crown colony in Malaya A joint administration for Penang, Malacca, and Singapore was established by the British East India Company in 1826 After the dissolution of the company (1858), the Straits Settlements were for nine years under the control of the India Office The crown colony was established in 1867 and dissolved in 1946 Christmas Island, the Cocos or Keeling Islands, and Labuan (in Borneo) were at various times parts of the colony

Stralsund (shtral'zōōnt"), city (pop 50,389), Pomerania, NE Germany, after 1945 included in Mecklenburg It is a seaport on an inlet of the Baltic Sea opposite the island of Rügen, and it has shipyards, machine-building plants, sugar refineries, and a food-processing industry Founded in 1209, Stralsund became a leading member of the Hanseatic League By the Treaty of Stralsund (1370) the league imposed on Waldemar IV of Denmark a humiliating peace which made the league supreme in the Baltic Stralsund was virtually independent of the dukes of Pomerania, and in the Thirty Years War the city withstood (1628) a siege by Wallenstein It was aided by Danish, then by Swedish, troops, and at the Peace of Westphalia (1648) it passed to Sweden It was taken by the French in 1807 and passed to Denmark by the Treaty of Kiel (1814) and to Prussia at the Congress of Vienna (1815) In the Second World War, Stralsund, which was rich in medieval architecture, suffered heavy damage Its city hall and several churches date from the 13th and 14th cent

stramonium: see Jimson weed

Strand, street in London, running roughly parallel with the Thames from the Temple to Trafalgar Square It is a street of hotels, theaters, and office buildings, the main artery between the City and the West End

Strang, James Jesse (străng), 1813–56, American Mormon leader, b Cayuga co , N Y A successful lawyer and teacher, he migrated in 1843 to Wisconsin, was converted to Mormonism, and at the death of Joseph Smith (1844) claimed the succession, saying that he had had a vision in which God had proclaimed him prophet Excommunicated, Strang organized a colony in Walworth co , Wis , calling it Voree Many Mormons unwilling to accept the leadership of Brigham Young were attracted to Strang's colony In 1846 a conference of the church in Michigan proclaimed Strang prophet and first president Aware of the difficulty of founding his ideal community in a Gentile neighborhood, he sought a more suitable site In 1847 he selected Beaver Island in Lake Michigan, then sparsely peopled by trappers and fishermen There he established a colony, driving out other settlers and setting up a despotic rule. The inhabitants of the mainland were violently opposed to the Mormon colony, and public opinion finally forced the Federal government to bring numerous charges against Strang, but he successfully defended himself His power over the Mormons increased, in 1850 he was crowned King James, and he was later elected to the Michigan house of representatives His harsh rule had made him bitter enemies, however, and in 1856 he was assassinated The colony was soon dispersed and the land and property seized by inhabitants of the mainland See M M Quaife, *Kingdom of St James* (1930), O W Riegel, *Crown of Glory* (1935)

Strang, William, 1859-1921, British engraver and painter, studied under Alphonse Legros at the Slade School of Art, London He later became instructor there He produced over 700 plates, including etchings, burin and wood engravings, mezzotints, and lithographs. He is best known, perhaps, for his portrait etchings, including those of Stevenson, Hardy, and Kipling His self-portrait in oil is in the Tate Gallery, London

Strange, Sir Robert, 1721–92, British engraver The outstanding line engraver of his day, he became a member of the academies of Rome, Florence, Bologna, and France and is the only English engraver whose portrait was painted on the ceiling of the Vatican print room A Jacobite who had fought for the Stuarts, he was out of favor at court through his early career His most distinguished works were Van Dyck's *Charles I with His Horse* and *Charles I in His Robes* For his engraving of West's *Apotheosis of the Royal Children* he was knighted in 1787

Strangford Lough (străng'furd lŏkh'), inlet of the Irish Sea, 17 mi long and 4 mi wide, Co Down, Northern Ireland, entered through a 5-mile strait

Stranraer (strunrar', strän-), burgh (1931 pop 6,527, 1948 estimated pop 8,394), Wigtownshire, Scotland, at the head of Loch Ryan It is a seaport, the run to Larne, in Northern Ireland, is but a short one Stranraer's 16th-century castle was occupied in 1682 by Bonnie Dundee The chief industry is fishing

Straparola, Giovanni Francesco (jōvän'nē franchä'skō sträpärō'lä), b near end of 15th cent , d c 1557, Italian novelist and poet He wrote lyric verse and a collection of tales, *Le piacevoli notti* (1550–54, Eng tr , *The Nights of Straparola*, 1894), notable for their inclusion in artistic form of stories from folklore

Strasbourg (sträs'bûrg, Fr strasbōōr'), Ger *Strassburg* (shträs'bōōrk), city (pop 167,149), capital of Bas-Rhin dept , E France, on the Ill near its junction with the Rhine The intellectual and commercial capital of Alsace, it also has various manufactures, notably tanneries and breweries, and a river port on the Rhine Strasbourg goose-liver *pâté* is justly famous The ancient Argentoratum, an important Roman city in the province of Upper Germany, it became an episcopal see in the 4th cent Destroyed (455) by the Huns, it rose again as Strateburgum After it became part (870) of Germany, Strasbourg, with a considerable rural area around it, came under the temporal rule of its bishops However, in the Middle Ages, the burghers secured, after some struggles, the status of a free imperial city for the city proper (13th cent) A revolution in the 14th cent established a corporative government, in which the guilds played an important part Here medieval German literature reached its flower in Gottfried von Strassburg, and here Gutenberg may have invented the printing press Strasbourg accepted the Reformation, played an important part in the efforts to reconcile the doctrines of Zwingli with those of Luther (see Bucer, Martin), and in 1608 joined the Protestant Union Calvin came here in 1538 after his first sojourn in Geneva, a Protestant university was founded in 1538 In 1681 Louis XIV, on a slight pretext, seized the free city, which was confirmed in French possession by the Treaty of Ryswick (1697) The persecutions of French Protestants after 1685 were not carried into Strasbourg, which raised little objection to the annexation Strasbourg enthusiastically embraced the French Revolution and from that time increasingly adopted French customs and French speech It was severely bombarded by the Prussians in 1870 and passed to Germany by the Treaty of Frankfurt (1871) It was recovered by France in 1919 Occupied by Germans from 1940 to 1944, the city suffered considerable destruction in the Second World War Most historical monuments, however, were saved Chief among these is the Roman Catholic cathedral, begun in 1015 and completed in 1439, a masterpiece of Rhenish architecture, with a single spire 466 ft high and with a famous astronomic clock installed in 1574

Strasbourg, Oath of, 842, oath sworn by Charles the Bald (later Emperor Charles II) and Louis the German in solemnizing their alliance against their brother, Emperor Lothair I The chief political result of this alliance was the Treaty of Verdun (843, see Verdun, Treaty of) The oath was spoken by each brother in the language of the other's followers, so that they could understand it The version used by Louis is the oldest known specimen of French.

Strasburg. **1** (sträs'bûrg, sträs'-) Village (pop 1,297), E Ohio, SW of Canton, settled 1810, laid out 1827, inc 1893 Firebrick is made here Beach City Dam is 2 mi north **2** (sträs'bûrg) Residential borough (pop. 1,048), SE Pa., SE of Lancaster, settled c.1733, inc 1816 **3** (sträs'bûrg) Town (pop. 1,968), N Va., in the Shenandoah Valley

SSW of Winchester, in a lumber, dairy, and farm area, founded c 1761, inc 1922 Crystal Caverns, Hupp's Fort (c 1755) and Harmony Hall or Fort Bowman (c.1753) are near by

Strassburg, France see STRASBOURG.

strategy and tactics, in warfare, the general scheme for the attainment of an objective and the elements of action which the scheme coordinates To Pliny the Elder military strategy was generalship, and 19 centuries later it is still defined by some as the science (by others, as the art) of generalship One of the foremost military theoreticians, Karl von Clausewitz, described strategy as the planning of a whole campaign and tactics as the planning of a single battle A contradiction developed when he also introduced the idea that war is merely a continuation of political intercourse Clearly, if military action is an adjunct to politics, the strategy of the general is not the dominant scheme, it is only part of a larger pattern Clausewitz's theory of "total warfare" subordinated all of a nation's resources to the task of attaining an objective (notably, winning the war) To this he gave the name "grand strategy," making military strategy, in effect, tactics A H Jomini, a staff officer of Napoleon and a contemporary of Clausewitz, regarded strategy as the art of getting forces on the field of battle and tactics as the conduct of the forces on the battlefield This view was developed by the Prussian general C F von der Goltz, who associated strategy with the large-scale measures which serve to bring forces into play at the decisive point under the most favorable conditions possible, while assigning to tactics all that is done in the engagement itself Another approach looks upon strategy as a means of bringing the enemy to battle, with tactics as the means of defeating him in battle Despite the dearth of source material concerning the conduct of his campaigns, Cyrus the Great has come to occupy in military history a place as the first accomplished strategist It was, however, the destroyer of the Persian Empire that Cyrus built who was the towering figure in early military science—Alexander the Great He converted into principles of warfare the ideas of reserves, pursuit of the enemy, building up supplies (stockpiling), and elaborate scouting (intelligence) In the Punic Wars (between Rome and Carthage) Hannibal emerged as a superlative commander His victory at Cannae, in which he defeated (216 B C) the Roman armies of Aemilius Paullus and Terentius Varro, became the classic of encirclement Hannibal's reputation is more that of a tactician, since faulty strategy was subsequently his undoing SCIPIO AFRICANUS MAJOR, though victorious, was rated lower than defeated Hannibal The study of military theory captured the imagination of the later Byzantine emperors, who hoped to restore the glory of the Roman Empire at its height They analyzed the operations of the Roman legions and reduced the studies to what may be called the foundations of military science *Strategicon* (c 578) compiled by the later Emperor Maurice and *Tactics* (c 900) issued by Emperor Leo VI (Leo the Wise) are exhaustive treatises on the subject In the Middle Ages in the West military science declined, though siegecraft was deeply studied The Crusaders conducted themselves either in total ignorance or in conspicuous violation of the most elementary principles of military functioning Scientific warfare in the West began with Jan Zizka, the leader of the Czech Hussites, in the first quarter of the 15th cent He adopted the wagon-fort as the unit of tactics, made artillery a maneuverable arm, and was the first commander to handle cavalry, infantry, and artillery in efficient tactical combination. The belief that mobility is a better protection than armor (a lesson that brings to mind the Maginot, Siegfried, and Mannerheim lines) was evolved by Zizka. The strategists and tacticians who developed further the practice of warfare include the duke of Marlborough, Prince Eugene of Savoy, Frederick II of Prussia, Napoleon, the duke of Wellington, H K B von Moltke, and Alfred von Schlieffen Among outstanding American generals who developed the science were W T Sherman and T J (Stonewall) Jackson Some of the classic works of theoretical military science are those of Niccolò Machiavelli, A H Jomini, and Karl von Clausewitz Machiavelli in his *Dell' arte della guerra* [on the art of war] (1521) advocated a marriage of weapons of gunpowder with the ancient tactics of the Roman legion or Greek phalanx Jomini, of Swiss origin but a general in Napoleon's army, wrote *Précis de l'art de la guerre* [summary of the art of war] (1836), setting forth a system of warfare that largely governed the strategy and tactics of 19th-century wars The introduction of new weapons swiftly outmoded his concepts Clausewitz's *On War* (1832) is a philosophy of war, and it rooted itself in the thinking of the German general staffs Clausewitz strongly influenced Erich Ludendorff, the German chief of staff in the First World War who in turn put his ideas in a book entitled *Der totale Krieg* [the total war] (1921) The volume *Lectures on F S R III* (1932) by the British authority on military science, J. F. C. Fuller, was intended for the British army, but the contents exerted greater influence on other European armies The Czech forces were organized on the lines suggested by Fuller, and Heinz Guderian, Germany's foremost tank expert during Hitler's rule, was also indoctrinated with Fuller's theories S K Timoshenko, a marshal of the USSR, insisted that his officers use three books for constant reference Clausewitz's *On War*, Giulio Douhet's *Command of the Air* (1942), and J F C Fuller's *Lectures on F S R III*. It is known that the lessons in strategy taught by the general staff and command school of the U S army were strongly influenced by the thinking of Marshal Foch of France The American experts reduced their lessons in strategy to eight principles—offensive action, combat power concentration, economy of force, mobility, surprise, security, cooperation, and maintenance of the objective They stressed at every turn the maxim, "Be strongest at the decisive point" The Second World War saw revolutionary changes in strategic doctrine Both the conviction that the subjugation of an enemy power was best accomplished by defeating its armed forces in battle and its corollary that the concentration of all available weapons should be directed against them yielded to new concepts The new view held that by means of concentrated attacks on centers of production, on key communication areas, and on centers of population the enemy could be deprived of weapons and other needs, that the economic and physical life of his country would be so dislocated as to induce him to sue for peace Also present in the thinking was the expectation that a sufficiently terrorized population would lose the will to continue the war Military aircraft were the chief basis for this departure The proponents of the idea that the war could be won through air power alone proved to be wrong in their underestimation of the other arms (e g infantry, artillery, and naval vessels), but they did succeed in establishing the importance of aircraft The strategic considerations that developed with air power led to the division of air strength into two groups—strategic bombing and tactical support This duality represented a violation of a cardinal rule of total war, exclusive concentration of every part of all arms against the enemy's battle array The wisdom or lack of wisdom in departing from this traditional strategic concept is still uncertain The problem is being debated by military theoreticians and practitioners The availability of the detailed results of the large-scale bombardment of the enemy homelands and industrial concentrations, practiced by day, by night, and to the degree of saturation, have not settled the questions In fact, they have intensified the partisanship The same data is used to support opposing sides in the dispute between various service arms In the course of the Second World War responsibilities were placed on three general levels, and the division epitomized the changes in strategic concepts The supreme strategy (or, as it is called, war planning) was done at the highest level—by F D Roosevelt, Joseph Stalin, Winston Churchill, and others) They determined policy, consulted the military advisers, and generally charted the larger pattern for the conduct of the war Their decisions then became the subject of strategic planning on the military level (combined chiefs of staff with a supreme commander) The third level, the field commanders, took responsibility for the tactical action Naval strategy and tactics, like military strategy and tactics, reflect the continuing changes in weapons, mobility, and speed Strategy determines the disposition of the naval resources, the manner in which the naval forces should be dispersed is conditioned by the strategic role which the war policy gives to the navy It is determined that certain parts of certain waters shall be kept clear of the enemy Several elements of the fleet may be sent to destroy, harass, or pin down enemy craft in other waters Convoy duties for the protection of merchant or troop ships are another function to which units of the navy are assigned In modern times the naval forces play strategic roles in ground action, as carriers in amphibious operations, as suppliers of aid to land forces through shelling, and as mobile bases for naval aircraft acting in support of ground troops either by supplying aerial cover or by aiding in tactical air operations In the earliest naval battles—the Athenian wars of the 5th cent B C—the vessels were used to ram the enemy vessels, and the crews attacked each other with oars These methods were supported by boarding enemy craft, either to complete the destruction of ship and crew or to capture them as booty and prisoners Most of the engines of war developed for ground warfare ultimately came into use on ships Catapults for stones, blowers of Greek fire, and flaming arrows are a few of the early shipboard weapons Hand-to-hand fighting when ships were boarded yielded to gunfire of vessel against vessel The Spanish Armada in 1588 was vanquished when its pike-armed marines were annihilated by fire from the English naval guns Ramming remained a naval war measure for many centuries. In the early 20th cent. British warships were still supplied with special equipment for ramming. Jomini's dictum that new weapons alter the practice but not the principles of warfare was tested five times, first with the steam warship, with the iron-hulled warship, with armorclad ships having heavy ordnance, with the submarine, and lastly with naval aircraft Changing concepts of strategy and tactics accompanied the new weapons. The advent of the steam warship brought changes in the strategy of maritime war These changes were occasioned by the increased speeds, freedom from reliance on the wind, the introduction of the fuel problem, and the modification of maritime geography in terms of days of voyage A host of differences in tactics ensued Despite recurrent upheavals in strategic and tactical conceptions, the fundamental purpose of sea power, which is to retain sea-borne communications and to deny communications to the enemy, is still the objective. The development of new weapons of sea warfare made ships more rather than less dependent upon bases Fuel and ammunition needs point up this dependence In the last decade of the 19th cent Alfred T MAHAN wrote on the importance of SEA POWER and naval strategy His thinking has had and still has an important bearing on the development of navies A theme to which he referred again and again was that a navy justifies its existence to the extent that it is capable of protecting merchant shipping Thus it is apparent that his concepts of strategy for the naval establishment fitted into a framework of grand strategy or war planning Economic-political considerations were paramount in his conception of naval function. Wireless communication in naval combat operations began with the Russo-Japanese War of 1904–5 The one great naval engagement of the First World War, that of the battle of Jutland (1916), ended indecisively. The SUBMARINE altered many naval patterns after the beginning of the First World War The development of air power also led to a host of changes, including the emergence of aircraft carriers, naval air fleets, and new protective measures for all other sea-borne craft The first aircraft carrier designed as such was the British *Argus* built in 1918 In 1925 the U S navy converted the battle cruisers *Saratoga* and *Lexington* into carriers In the Second World War the activities of dive-bombers, torpedo-carrying planes, and suicide fighters (KAMIKAZE) in assaulting large surface craft brought into focus many problems concerning the relative values of air and sea power These matters are far from resolved, and proponents of air superiority on the one hand are still vehemently opposing the partisans of naval superiority on the other In the Second World War the battle of the Coral Sea (1942) was in one sense more an engagement of aircraft than of capital ships In the battle of Midway shortly thereafter the opposing warships did not exchange a single salvo However, the problems of strategy and tactics, military and naval, in this connection and in connection with all other rivalry between the arms of service have all been transcended by the development of the atomic weapon The role of each arm in relation to atomic warfare is not yet clearly determined Undoubtedly there have been no considerable authorizations for aircraft or naval vessels by any of the major powers since 1945 without due regard for their potential role in atomic defense or attack The strategy and tactics of armed forces once again respond to changes imposed by new weapons, just as do the war plans in reacting to new ideological and international alignments See J F C Fuller, *The Foundations of the Science of War* (1926) and *Armored Warfare* (1943), Max Werner, *Military Strength of the Powers* (1939), Hermann Foertsch, *The Art of Modern Warfare* (1940), A P de Seversky, *Victory through Air Power* (1942), Tom Wintringham, *The Story of Weapons and Tactics* (1943), Bernard Brodie, *Sea Power in the Machine Age* (1943), *A Layman's Guide to Naval Strategy* (1944), A H Burne, *Strategy as Exemplified in the Second World War* (1946), B H Liddell Hart, *The Revolution in Warfare* (1947), Gerald Dickens, *Bombing and Strategy* (1949); S T Possony, *Strategic Air Power* (1949), E. J. Kingston-McCloughry, *War in Three Dimensions* (1950)

Stratford, city (pop. 17,038), S Ont., on the Avon, a tributary of the Thames, and WSW of Toronto It is an industrial center, with locomotive repair shops, woolen and knitting mills, and plants manufacturing cigars, leather and rubber products, furniture, clothing, felt shoes, and agricultural machinery. Food products from the surrounding farm area are processed here.

Stratford, 1 Town (pop 22,580), SW Conn., at the mouth of the Housatonic, near Bridgeport, settled 1639 Asbestos products are made here. It was the home of David Wooster 2 Town (pop. 1,049), NW N.H., on the Connecticut above Lancaster, granted and inc as Woodbury 1762, settled 1772, regranted 1773, inc as Stratford 1779 It was an outpost against the St. Francis Indians

Stratford, home of the Lees, Westmoreland co., E Va., overlooking the Potomac ESE of Fredericksburg. A national shrine (dedicated 1935), it was

purchased (1716) by Thomas Lee, who built the mansion, Stratford Hall, in 1729–30. It was the birthplace of Richard Henry Lee and Francis L. Lee, the home of Light-Horse Harry Lee, and the birthplace of his son, Robert E Lee The activities of an ante-bellum plantation are carried on—spinning, weaving, curing hams, grinding meal

Stratford de Redcliffe, Stratford Canning, Viscount, 1786–1880, British diplomat He entered the foreign office (1807) under the aegis of his cousin, George Canning, the secretary for foreign affairs In 1808 he was sent to Turkey, and he became chargé d'affaires at Constantinople in 1810 In 1812 he helped negotiate the Russo-Turkish Treaty of Bucharest His career in Turkey was interrupted by diplomatic service in Switzerland (1814–18), at the Congress of Vienna, and in Washington (1819–23), where he negotiated concerning disputes arising from the War of 1812 He returned to Turkey in 1825 (staying until 1829) and again in 1831 He gained the favor of Sultan Mahmud II, but Lord Palmerston refused to follow Canning's advice to make an alliance between Great Britain and Turkey After a period of service in Parliament, Canning returned to Constantinople (1842), where he remained, with interruptions, until 1858 He remarkably influenced Turkish internal reform through Sultan Abdu-l-Mejid, and he greatly helped to bring on the CRIMEAN WAR by encouraging the sultan (probably with Lord Palmerston's knowledge) to resist (1853) the demands of Prince Menshikov for Russian protection of Greek Orthodox Christians in Turkey. Canning was raised to the peerage in 1852 Some of his political essays were collected in *Eastern Question* (1881) See biography by Stanley Lane-Poole (1888)

Stratford le Bow, London, England see Bow

Stratford-on-Avon or **Stratford-upon-Avon,** municipal borough (pop 11,605), Warwickshire, England, on the west bank of the Upper Avon and NW of London. The Avon is here crossed by an arched 16th-century bridge A market town in pleasant farm and woodland country, Stratford owes its great fame to its connection with Shakspere A room in a gabled building on Henley St is shown as the poet's birthplace The site of his home he purchased in 1597 is marked (the building having been torn down by a local vicar in 1759), to this "New Place" Shakspere retired in 1610, and here he died six years later His grave is beside that of his wife, Anne Hathaway (whose home was in SHOTTERY, near Stratford), in the fine old Church of the Holy Trinity This church, built partly in the 14th cent, is said to be on the site of a 7th-century monastery, probably Stratford's earliest building, it has also a bust and memorial to the poet and a stained-glass window (given by Americans) depicting Shakspere's "seven ages of man" The town's principal memorial was a theater, built in the late 19th cent and thereafter the scene of annual Shakspere festivals In 1926 fire destroyed the theater, but the attached gallery, library, and museum were saved, and in 1932 a new theater was dedicated Most of the various structures and places connected with the life of Shakspere were acquired by the nation in the 19th cent The grammar school of Edward VI, which Shakspere may have attended, is also now national property See J H Bloom, *Medieval Stratford* (1915), H E Forrest, *Old Houses of Stratford-upon-Avon* (1925), E I Fripp, *Shakespeare Studies* (1930), Muriel C Day and J C Trewin, *The Shakespeare Memorial Theatre* (1932)

Strathclyde, (sträth"klīd') [Gaelic,=Clyde valley] and **Cumbria** (kŭm'brēŭ) [cognate with Welsh *Cymry*=Welsh], early medieval British kingdom of Great Britain in the territory now in S Scotland and N England There were, of course, no definite boundaries, except in the southern portion, where the Grampians separated the kingdom from Northumbria Strathclyde and Cumbria made up one of the four great British units after the Anglo-Saxon invasion, the others being Wales, Cornwall, and Brittany. Little is known of the history of these Britons, except that they remained independent into the 9th cent, and that their country became a bone of contention between Scots and English later Eventually the Solway was taken as dividing the country into two parts The causes for the vanishing of the British language and culture in Strathclyde and Cumbria are not known, but there was probably increasing settlement from their neighbors, the Danes and English of Northumbria, the mixed Gaels and Picts of Galloway, and the Gaels of the Western Isles and the western highlands. The principal towns of Strathclyde and Cumbria were Dumbarton and Carlisle See John Rhys, *Celtic Britain* (1882), F. M. Stenton, *Anglo-Saxon England* (1947).

Strathcona and Mount Royal, Donald Alexander Smith, 1st **Baron** (sträthkō'nu), 1820–1914, Canadian fur trader, financier, railroad builder, and high commissioner for Canada in England, b Scotland. Coming to Canada in 1838, he entered the employ of the Hudson's Bay Company, with which he was associated for 76 years—for some 20 years as fur trader on the Labrador coast, for 25 years (1889–1914) as governor of the company Smith's skill in finance was early apparent; he had begun to invest money for fellow employees and to acquire shares in the Hudson's Bay Company and the Bank of Montreal before he was transferred from Labrador and appointed head of the company's Montreal department in 1869 It was not until that year, however, that he came into public notice, he was sent by the government to treat with Louis RIEL, leader of the Red River Rebellion In 1871 Smith was elected to the dominion Parliament His stand on the PACIFIC SCANDAL (1873) was in part responsible for the downfall of Macdonald's administration Turning his attention to railroads, he acquired control (with his cousin, George Stephen, James J Hill, and others) of the Great Northern lines in 1878 and later was a leading member of the company that completed (1885) the Canadian Pacific Railway In 1886 he was knighted, and while serving (1896–1914) as Canadian high commissioner in England he was created baron (1897) Out of the great fortune which he amassed, he gave large sums to charitable and educational enterprises, and at his own expense raised a cavalry regiment for service in the South African War A highly controversial figure, Strathcona was much vituperated by his enemies as a conniving self-seeker, much praised by his admirers as a vigorous empire builder See biography by John Macnaughton (1926)

Strathcona Provincial Park, 828 sq mi, on central Vancouver Island, SW British Columbia It is a game sanctuary in a forested, mountainous region, rising to 7,219 ft in Golden Hinde Mt Its streams and lakes afford excellent fishing, and it is a popular recreation area

Strathmore (sträthmōr'), the "great valley" of Scotland, a plain c 100 mi long and 5 to 10 mi wide, largely in Perthshire and Angus, S of the Grampians and N of the Lennox, Ochil, and Sidlaw hills

Strathroy (sträth"roi'), town (pop 3,016), S Ont, on the Sydenham river and W of London It produces wool, flour, canned fruit, and furniture

Strathspey (sträthspā'), valley of the Spey, Inverness, Moray, and Banff counties, Scotland It is supposed to be the place of origin of the strathspey

strathspey (sträthspā', sträth'spā"), Scottish national dance which originated in the 18th cent and derived its name from the strath or valley of the Spey In duple rhythm and characterized by the Scotch snap (a succession of sixteenth notes alternating with dotted eighths), it is slower but asks more exertion than the REEL

stratification (strā"tĭfĭkā'shun) [Latin,=made in layers], division into parallel layers—a structure characteristic of sedimentary rocks Just as in still water the heavier sediments tend to settle to the bottom more rapidly than the lighter ones, so in running water, when its velocity is checked, coarser sediments are deposited before the finer The sediments are thus graded horizontally Alteration in the character of the sediments, in the velocity of the water, or in the relative levels of land and sea causes the new layer of sediments to differ in fineness from that vertically beneath it Each layer is a stratum or bed, and the plane of separation is a bedding plane Strata are frequently divided into finer layers, or laminae, which perhaps represent minor changes in conditions The length of the period of deposition of a single stratum is in general proportional to its thickness Strata are classified vertically into assemblages, such as series, laid down during epochs of geologic time, and systems, laid down during periods of geologic time These assemblages are frequently separated by unconformities, areas where the contiguous strata show a lack of continuity indicating an interruption in the rock-forming process, such as an intervening period of erosion or of non-deposition A nonconformity or angular unconformity occurs when the strata of the lower assemblage are inclined to those of the upper assemblage, it is generally taken by geologists to indicate that the erosion of the lower assemblage was preceded by continent-making or mountain-making movement A nonconformity also occurs between igneous rocks and sedimentary rocks A disconformity occurs when the strata of the two assemblages are parallel, but the surface of the topmost stratum of the lower assemblage is dissected by erosion, or the fossils of the upper assemblage differ markedly from those of the lower assemblage, it probably indicates erosion unaccompanied by major earth movements The time represented by an unconformity is often very great See W. H Twenhofel, *Treatise on Sedimentation* (2d ed, 1932)

stratosphere (strā'tŭsfēr), outer layer of the earth's ATMOSPHERE The level at which it begins varies with latitude, it extends upward from a height of c 5½ mi at the poles, from c 6 or 7 mi in the middle latitudes, and c 10 mi. at the equator Balloon flights into the stratosphere have been made by scientists since the ascent of Auguste PICCARD in 1931 A world's record was established on Nov 11, 1935, when A W. Stevens and O A Anderson reached an official height of 72,395 ft over South Dakota in their instrument-laden balloon Analysis of samples of stratospheric air and spectrographic studies of the aurora borealis indicate that the composition of the air at high altitudes is very similar to that of the troposphere

Stratton, Cornwall, England see BUDE-STRATTON.

stratus: see CLOUD

Straubing (shtrou'bĭng), city (pop 34,271), Lower Bavaria, on the Danube and SE of Regensburg It manufactures machinery, precision instruments, and textiles, and it is an agricultural market center An ancient place, Straubing was (1353–1425) the capital of the duchy of Bavaria-Straubing under a branch of the Wittelsbach dynasty It has kept Romanesque and Gothic churches, a Gothic city hall, and a 14th-century tower Agnes Bernauer, the barber's daughter who married Albert III of Bavaria, lived in the castle here for a time

Straus (strous), family of American merchants, public officials, and philanthropists **Isidor Straus,** 1845–1912, b Rhenish Bavaria, emigrated with his brothers to the United States and joined (1854) his father in Talbotton, Ga Isidor went (1863) to England to purchase supplies for the Confederacy The family moved (1865) to New York city, and there Isidor took a large part (1866) in forming and directing the importing firm of L Straus & Sons Isidor, with his brother Nathan, became associated with R H Macy & Company in 1888 and by 1896 had acquired ownership of the firm As a Representative (1894–95) in the U S Congress, Isidor aided in drafting tariff legislation He declined to serve as Postmaster General in Grover Cleveland's cabinet He later devoted his attention to philanthropy and reform He and his wife were lost when the *Titanic* sank His brother, **Nathan Straus,** 1848–1931, b Rhenish Bavaria, joined his brother in business and was also outstanding for his philanthropy He established pasteurization stations to supply sanitary milk to the poor, made his milk stations relief depots in the Panic of 1893, and continued them until 1920 He was a prominent Zionist leader and contributed generously to the general improvement of conditions in Palestine Another brother, **Oscar Solomon Straus,** 1850–1926, b Rhenish Bavaria, grad Columbia (B A, 1871, LL B, 1873), was a diplomat and author He practiced law in New York city until 1881 and then went in business with his brothers He was minister to Turkey (1887–89) under Grover Cleveland and again (1898–1900) under William McKinley and was ambassador to Turkey (1909–10) under William H Taft He was appointed (1902) to the Permanent Court of Arbitration (the Hague Tribunal) and was (1906–9) Secretary of Commerce and Labor under Theodore Roosevelt He was candidate for governor of New York on the Progressive party ticket in 1912 He wrote several books, including *Roger Williams* (1894), *The American Spirit* (1913), and *Under Four Administrations* (1922) A son of Isidor Straus, **Jesse Isidor Straus,** 1872–1936, b New York city, grad Harvard, 1893, became president of R H Macy & Company in 1919 and served (1933–36) as ambassador to France **Nathan Straus,** 1889–, b New York city, son of Nathan Straus (1848–1931), engaged in journalism and served in the First World War He was (1921–26) in the New York state legislature and headed (1937–42) the U S Housing Authority He wrote *Seven Myths of Housing* (1944)

Straus, Oscar (strous, Ger ōs'kär shtrous'), 1870–, Austrian composer, studied in Vienna and with Max Bruch in Berlin After a brief career conducting in theaters he devoted himself entirely to composition Although a few operas and some instrumental works are among his compositions, his outstanding works are his operettas, particularly *A Waltz Dream* (1907) and *The Chocolate Soldier* (1908, based on G B Shaw's *Arms and the Man*) These have been performed in Vienna, Berlin, Paris, London, and New York In the early 1930s Straus was in Hollywood, writing scores for moving pictures In 1939 he became a French citizen and in 1940 moved to the United States

Strauss (strous, Ger shtrous), family of Viennese musicians **Johann Strauss** (yō'hän), 1804–49, learned to play the violin against his parents' wishes In 1823 he joined the quartet of Josef Lanner (1801–43), who later became his rival In 1826 Strauss organized his own orchestra, with which he played in various places of entertainment His waltzes won him fame, which was extended over all Europe when he toured Austria (1833) and played in Berlin (1834) and in Paris and London (1837–38) His son, **Johann Strauss,** 1825–99, followed a musical career opposed by his father In 1844 he formed an orchestra which was immediately successful and became the rival of his father's After the elder Johann's death, the son combined the two orchestras He composed more than 400 waltzes, on which his fame largely rests and which include *The Blue Danube* (1866) and *Tales from the Vienna Woods* (1868) He also composed a number of operettas, of which *Die Fledermaus* [the bat] (1873) is outstanding Of the others, hampered by inadequate librettos, *Der Zigeunerbaron* (1885) may be mentioned Two of his brothers, **Josef Strauss** (yō'zĕf), 1827–70, and **Eduard Strauss** (ā'dōōärt), 1835–1916, were also successful composers and conductors See H E Jacob, *Johann Strauss, Father and Son* (Eng. tr., 1940).

Strauss, David Friedrich (dä'vēt frē'drĭkh shtrous), 1808–74, German theologian and philosopher In Berlin he studied (1831–32) Hegelian philosophy. As tutor at Tübingen he lectured on Hegelianism, modern philosophy, and Plato His *Das Leben Jesu* (2 vols , 1835–36), which showed fine theological scholarship, aroused much interest because it treated the Gospel narrative like any other historical work and applied a "mythical" theory to Bible history It was translated into English in 1846 by George Eliot When in 1839 Strauss was appointed to a post in the Univ of Zurich, clerical opposition prevented his entering upon his duties His other theological writings include *Die Christliche Glaubenslehre* (2 vols , 1840–41) and *Der alte und der neue Glaube* (1872) His writings mark a turning point in the critical study of the life of Jesus Strauss was also the author of a number of critical biographies

Strauss, Eduard · see STRAUSS, family

Strauss, Emil (ā'mĭl shtrous'), 1866–, German novelist His first success was the psychological novel of childhood and adolescence *Freund Hein* (1902), later a short-story volume similar in theme was *Hans und Grete* (1909). The title story of the collection *Der Schleier* [the veil] (1930) is notable, as are the historical drama *Vaterland* [the fatherland] (1923) and the novel *Das Riesenspielzeug* [the giant toy] (1934), which is about an experimental farm

Strauss, Johann: see STRAUSS, family

Strauss, Josef see STRAUSS, family

Strauss, Joseph Baermann (strous), 1870–1938, American engineer, grad Univ of Cincinnati, 1892 Specializing in building long-span bridges, he became (1904) president and chief engineer of the Strauss Engineering Corp , which designed the Golden Gate Bridge in San Francisco Others among the nearly 500 bridges for which he served as engineer are the George Washington Bridge in New York city and a bridge over the Columbia river at Longview, Wash He invented the Strauss trunnion bascule for bridges and the bascule-door hanger

Strauss, Richard Georg (rĭkh'ärt gā'ôrk shtrous), 1864–1949, German composer He succeeded Hans von Bülow as conductor at Meiningen and as conductor of the Berlin Philharmonic concerts, 1894–95 In 1894 he conducted the first BAYREUTH Festival performance of *Tannhäuser* His early works are written in classical forms, but he later took Wagner and Liszt as his models and produced the operas and orchestral tone poems by which he is known today Of his tone poems, frequently heard are *Don Juan* (1888), *Tod und Verklärung* (1889), *Till Eulenspiegel* (1894), *Also sprach Zarathustra* (1895), *Don Quixote* (1897), and *Ein Heldenleben*, in which the composer himself is the hero (1898). *Salomé* (Dresden, 1905), *Elektra* (Dresden, 1909), and *Der Rosenkavalier* (1910) have been widely acclaimed. Of his songs, about a dozen have established their place in the lieder repertoire His correspondence with his librettist, Hofmannsthal, has been published (1927) See biography by Ernest Newman (1908), David Ewen, *The Book of Modern Composers* (1942)

Stravinsky, Igor Feodorovich (ē'gur fyô'durŭ"vĭch strŭvĭn'skē), 1882–, Russian composer, pupil of Rimsky-Korsakov. At the première, in Paris, of his ballet *Le Sacre du printemps* (1913), in which Nijinsky danced, its dissonances aroused the audience to violent demonstration, although the music later found its place in the orchestral repertoire Other ballets—*L'Oiseau de feu* (*The Fire Bird*, Paris, 1910; reorchestrated as a suite for medium orchestra, 1919), *Petrouchka* (Paris, 1911), *Les Noces* (1917, instrumentation finished, 1923, produced, Paris, 1923), *Histoire du soldat*, to be read, played, and danced (Lausanne, 1918)—and the symphonic poem, *Le Chant du rossignol* (Geneva, 1919, from the unsuccessful opera, *Le Rossignol*, 1909–14, after Hans Christian Andersen) are representative of his earlier, romantic style, wherein Scriabin's influence is felt The ballet *Le Baiser de la fée* (1928), which he acknowledges to have been "inspired by the muse of Tchaikovsky," shows also influences of Chopin and Liszt With *Pulcinella* (1919–20), a ballet after Pergolesi, begins his later, neoclassical style, which is exemplified in the ballets *Apollon musagète* (1927), *Perséphone* (Paris, 1934), with spoken text by André Gide, and *Jeu de cartes* (1937), the opera-oratorio, *Oedipus Rex* (1926–27), text by Jean Cocteau, after Sophocles, the capriccio (1929) for piano and orchestra, and the *Symphonie de psaumes* (1930), for chorus and orchestra without violins or violas. As a conductor, Stravinsky is objective, opposing overexpressive interpretations Lectures delivered (1939) at Harvard were published as *Poétique musicale* (1942) In 1934 he became a French citizen, in 1945 a U S citizen. See his autobiography (Eng. tr., 1936), E W. White, *Stravinsky's Sacrifice to Apollo* (1930), *Igor Stravinsky*, a collection of studies (ed. by Merle Armitage, 1936).

straw, dried stalks of threshed grains, especially wheat, barley, oats, and rye. It has been used from antiquity for bedding, covering floors, and thatching roofs, as fodder and litter for animals, and in weaving such articles as mats, baskets, ornaments, hats, and armor. It is widely used in the Far East for mats, screens, hangings, fans, and hats. Straw hats and hat braids are exported chiefly by China, Japan, Italy, and England Hats are woven in one piece or made from braids sewn together. Braids have been made in Europe from medieval times and probably originated in Tuscany. They are usually made from straw selected for color, length, and lightness and grown under special conditions of soil and climate Fine braids, such as Leghorn, are commonly of wheat stalks, often cut before they are fully ripe. Hats made of other fibers, such as the leaf fiber of the screw pine used for Panama hats, are also known as straw hats Straw is widely used today as a packing material and in the manufacture of strawboard (a cheap cardboard) and, in combination with less brittle materials, of paper

strawberry, *low*, herbaceous perennial of the genus *Fragaria*, having trifoliate leaves, white blossoms, and a fleshy, red fruit, globular or somewhat cone shaped, in which are partially imbedded many green seeds The strawberry was first cultivated in the 14th cent and since has been much improved in size and bearing qualities, modern varieties are derived chiefly from *Fragaria chiloensis*, native to the West Coast of the Americas Various species of wild strawberries are found throughout the North Temperate Zone See S W. Fletcher, *Strawberry-Growing* (1917) and *The Strawberry in North America* (1917)

strawberry geranium: see SAXIFRAGE

Strawberry Hill, western suburb of London, England, near Twickenham, named for Horace Walpole's estate, where he built a small "Gothic" castle (1747) Literary works printed on his private printing press here are now much valued

Strawberry Point, town (pop. 1,223), NE Iowa, WNW of Dubuque, inc 1887 It has a large creamery Near by is Backbone State Park, largest in the state, with an extensive trout hatchery.

Strawberry valley project, N central Utah, developed by the Bureau of Reclamation for irrigating lands S of Utah Lake, constructed 1906–13 The water of Strawberry river (a tributary of the Duchesne in the Green River system) and its tributaries is carried by a tunnel through the Wasatch Range to a tributary of the Spanish Fork and is used for lands about Spanish Fork, Springville, Payson, and Santaquin

strawflower, garden annual (*Helichrysum bracteatum*), a favorite as an EVERLASTING, but also grown for the fresh flowers The flower heads are made up of papery petallike parts and are of various colors For drying, the stems should be cut when the heads are half open or less Other everlastings and the bellwort (*Uvularia*) are often called strawflower.

Strawn, city (pop 1,107), N Texas, WSW of Fort Worth, settled 1880, inc. 1915. The region has coal deposits and natural-gas fields as well as ranches and farms

streamline, in the planning of bodies of airplanes, boats, automobiles, and railroad cars, a design which will result in uninterrupted flow of the air or water about the body, instead of an eddying or turbulent motion A streamlined body offers the least possible resistance to air or water, or other fluid and permits the current which it breaks simply to reunite in its wake, without the retarding or dragging eddies and turbulence created by partial vacuum in the wake of a nonstreamlined body. The streamline design is typically a long ellipse, tapering to a point; it is illustrated in the cross section of an airplane wing, and in a bird's and a fish's body.

Streator (strē'tur), city (pop 14,930), N central Ill , on the Vermilion river and NE of Peoria, laid out 1868, inc 1882 An industrial and railroad center with railroad shops, it manufactures glass, bricks, tiles, and milk and farm machinery

Street, George Edmund, 1824–81, English architect One of the foremost champions of the Gothic revival, he did much church work, including St Mary Magdalene, Paddington, London, St James the Less, Westminster, and restorations to the Bristol Cathedral and to Christchurch, Dublin His most notable work, the Royal Courts of Justice (1874–81) in London, was the last great attempt to apply the Gothic revival to a public building. Street was professor of architecture at the Royal Academy of Arts and was president (1881) of the Royal Institute of British Architects. The results of his study of medieval Gothic buildings in England and on the Continent were published in *The Brick and Marble Architecture in the Middle Ages* (1855) and *Some Account of Gothic Architecture of Spain* (1865). He was buried in Westminster Abbey

street cleaning, removal of litter of all kinds and of snow from the areas between sidewalks. Most of the matter to be removed from streets consists of paper, cigarette ends, fruit skins, loose soil, debris from construction operations, and occasional dead animals. Where there is heavy traffic, small handcarts are used, manned by men with brooms and shovels Rotary sweeping machines are used in some communities to loosen the dirt and push it to the edges of the street near the curb, where broom and shovel squads gather it in heaps and transfer it to dump trucks for disposal. One of the most widely used methods of cleaning is street flushing. It may be done by opening a hydrant or by the more effective means of flushing machines. These are essentially tanks mounted on motor trucks, with the water sprayed through specially shaped nozzles The pressure required to expel the water with sufficient force is generally obtained from the truck motor. Streets are sprinkled to reduce dust or to prepare them for sweeping Three factors influence greatly the effectiveness of street-cleaning operations the condition of the pavement (asphalt in smooth condition is preferable to cobbled streets); freedom from parked cars during cleaning (parked vehicles prevent the most advantageous use of motorized equipment such as sweepers and flush trucks), and the community spirit, which in response to enforced sanitary regulations, posted reminders, and widely distributed trash receptacles may reduce the cleaning problem considerably. Removal of snow is accomplished by large emergency crews and the regular street-cleaning personnel working with shovels, picks, scrapers, and machine equipment Snowplows, attached to the front end of rubbish removal and flushing trucks, push the snow toward the sides of the street, where either mechanical loaders or shoveling squads load it on trucks. Where a single system of SEWAGE is used for rain water and waste, the snow may be dumped into the manholes Small, powerful tractors equipped with snow-pushing blades are also used Their maneuverability makes them well suited for snow-removal tasks Where the temperature is high enough, water from the hydrants may be used to melt the snow. See American Public Works Association, *Street Cleaning Practice* (1938).

street cries. The imaginative, musical cries of ragpickers, scissors grinders, menders, and vendors of various sorts form a distinctive type of folk song The earliest literary record of them is the poem *London Lackpenny* by John Lydgate Remarkably little variation is to be found usually in the music or tune of a given cry, and one English cry of 1393 was used until the end of the 18th cent The London cry "Who'll buy my sweet lavender?" provided a theme for Vaughan Williams's *London Symphony*, while Charpentier made effective use of Parisian cries in his opera *Louise* Few cries survive in such cities as London and New York, a notable survival being the ragpicker's "I cash clo'," but many picturesque cries exist among Negroes in the S United States, e g , those of fish vendors and flower sellers, Gershwin introduced the cry of the strawberry vendor into his opera *Porgy and Bess* See Sir Frederick Bridge, *The Old Cryes of London* (1921), Raphael Nelson, *Cries and Criers of Old London* (1942)

Strehlenau, Nikolaus Niembsch von: see LENAU, NIKOLAUS

Streicher, Julius (yōō'lyōōs shtrī'khur), 1885–1946, German National Socialist leader An early party member, originally a schoolteacher, he aired his sadistic and anti-Semitic mania and his diseased and pornographic imagination in his periodical, the *Stürmer* Streicher also was the founder of the yearly Nazi party congresses at Nuremberg and, after 1933, was gauleiter of Franconia Captured (1945) by U S troops, he was convicted of crimes against humanity at the Nuremberg war-crimes trial and was hanged

Strelitz, Germany see NEUSTRELITZ

strength of materials, measurement in engineering of the capacity of steel, wood, concrete, and other materials to withstand stress and strain Stress is the internal force exerted by one part of a body upon the adjoining part, while strain is the deformation or change in dimension occasioned by stress. When a body is subjected to pull, it is said to be under tension, and when it is being pushed, i e , is supporting a weight, it is under compressive stress. Shearing stress results from a force tending to make part of the body or one side of a plane slide past the other Torsional stress occurs when external forces tend to twist a body around an axis. Materials are considered elastic in relation to applied stress if the strain disappears after the force is removed. The elastic limit is the stretch point beyond which the material will not return to its original form In calculating the dimensions of materials required for given functions, the engineer uses working stresses that are ultimate strengths, or elastic limits, divided by a quantity called factor of safety In laboratories materials are frequently "tested to destruction" They are deliberately overloaded with the particular force that acts against the property or strength to be measured Changes in form are measured to the millionth of an inch. Static tests are run to determine a material's elastic limit, ductility, hardness, reaction to temperature change, and other qualities Dynamic tests are those in which the material is exposed to a combination of expected operating circumstances including impact (e.g , a shell against a steel tank), vibration, fluctuating loads, and fatigue. Polarised light, X rays, and microscopic examination are some of the means of testing materials. See A. P. Poorman, *Strength of Materials* (4th ed., 1945); J. P. Den Hartog, *Strength of Materials* (1949);

Stephen Timoshenko, and G. H. MacCullough, *Elements of Strength of Materials* (3d ed , 1949).

streptococcus (strĕp"tŭkŏ'kŭs), genus of bacteria (of the family Coccaceae), spherical in shape, which grow in beadlike chains as a result of dividing by fission and remaining connected. The streptococci have been classified according to their ability to produce fermentation and to their action on blood media. Two of the most important types are the green-colony or viridans streptococci and the hemolytic streptococci. Those of the viridans type often cause tooth abscesses and infections of the ear, sinus, appendix, gall bladder, and valves of the heart. Virulent hemolytic streptococci usually produce hemolysin, a substance which dissolves red blood corpuscles. Other toxic substances formed by these streptococci destroy white blood cells and dissolve fibrin clots of normal human blood. Hemolytic streptococci cause scarlet fever, erysipelas, and puerperal fever and frequently are responsible for acute sore throat, tonsilitis, septic sore throat, inflammation of the middle ear, mastoiditis, bronchopneumonia, wound infections, and osteomyelitis. Sulfa drugs are effective in treating many streptococcal infections

streptomycin: see ANTIBIOTIC SUBSTANCES

Stresa (strä'zä), village, Piedmont, N Italy, on the western shore of Lake Maggiore. Its beautiful scenery makes it one of the most popular pleasure resorts in the Italian lake country. In 1935 a conference was held here by Great Britain, France, and Italy as a result of Germany's decision to rearm in violation of the Treaty of Versailles. The agreement reached was never put to practice.

Stresemann, Gustav (gōōs'tŭf shträ'zŭman), 1878–1929, German statesman. A founder (1902) and director (till 1918) of the Association of Saxon Industrialists, Stresemann entered the Reichstag in 1907 as a deputy of the National Liberal party and represented the interests of big business. In the revolution of 1918 he founded the conservative German People's party. Though originally he sympathized with nationalism, big business, and the monarchist cause, he soon became concerned for the welfare of his nation as a whole and with the preservation of world peace. As chancellor (1923) and as foreign minister from 1923 till his death, he made it his task to reconcile the former enemy nations to Germany, to remove the harsh clauses of the Treaty of Versailles by a policy of conscientious fulfillment rather than by threats and protestations, and to regain for Germany a respected place in the world. His policy, though it alienated from him the nationalist and monarchist elements in Germany, was remarkably successful. He ended (1923) the passive resistance in the RUHR district against French and Belgian occupation and obtained the evacuation of the Ruhr in 1924, he accepted the DAWES PLAN (1924) and the YOUNG PLAN (1929) for reparations, he raised the hope for peace by his part in the LOCARNO PACT (1925), he renewed the Rapallo treaty with the USSR (1926), and he had Germany admitted (1926) into the League of Nations with the rank of a great power. His harmonious relation with Aristide BRIAND became one of personal friendship. In 1928 Stresemann signed the KELLOGG-BRIAND PACT. Soon after obtaining his last success, the evacuation of the Rhineland, Stresemann died of the consequences of overwork. His death was, prophetically, considered a calamity by all but the extremist elements in Germany. Stresemann shared the 1926 Nobel Peace Prize with Briand. See his *Essays and Speeches* (Eng tr , 1930), Eric Sutton, ed , *Gustav Stresemann. His Diaries, Letters, and Papers* (3 vols , 1935–40)

stress and strain: see STRENGTH OF MATERIALS.

Stretford, municipal borough (1931 pop 56,791, 1947 estimated pop 61,440), Lancashire, England, in the industrial region

Streuvels, Stijn (stĭn strû'vŭls), pseud. of **Frank Lateur** (frängk' lätûr'), 1871–, Flemish novelist and short-story writer, one of the chief artists in his language, nephew of Guido Gezelle. His works are realistic, moving portrayals of everyday life. Some of his work appears in English translation in the short-story collection *The Path of Life* (1899, Eng tr , 1915) and in the novel *Old Jan* (1902, Eng tr., 1936).

Streymoy, Faeroe Islands: see STROMO

Stribling, Thomas Sigismund, 1881–, American novelist, b Clifton, Tenn , grad Univ. of Alabama (LL B , 1904). After writing for Sunday-school and pulp magazines, he produced successful realistic novels of the South, which include *Birthright* (1921), *Teeftallow* (1926, dramatized as *Rope*, 1928), and a trilogy of three generations, *The Forge* (1931), *The Store* (1932, awarded a Pulitzer Prize, 1933), and *Unfinished Cathedral* (1934). *The Sound Wagon* (1935) and *These Bars of Flesh* (1938) are social satires.

Strickland, Agnes, 1796–1874, English historian. Collaborating with her sister Elizabeth (1794–1875), she wrote *The Lives of the Queens of England* (12 vols., 1840–48), *Letters of Mary, Queen of Scots* (1843), and *Lives of the Queens of Scotland* (1850–59).

Strickland, William, 1787–1854, American architect of the classic revival, b. Philadelphia, studied under B. H. Latrobe. He worked mostly in Philadelphia, where he superintended the construction (1819–24) of Latrobe's Bank of the United States (later the customhouse, now a historical site), bringing it to completion after Latrobe's death. Strickland also built the Naval Asylum and the Mint (1829–33, since demolished). His most distinctive work is the Merchants' Exchange (1834), an unusual and monumental classical work. In 1828 he restored Independence Hall. His last work was the state capitol at Nashville, Tenn. Strickland was a founder (1836) and first president of the American Institute of Architects. His book *Reports on Canals, Railways, Roads, and Other Subjects* (1826) shows his engraving and engineering capacities.

strike, concerted stoppage of work by a group of employees, the chief weapon of labor in industrial disputes. A suspension of work on the employer's part is called a LOCKOUT. Organized strikes, i e , not just a work stoppage by a few employees, date from c 1880, when labor unions began to gain some power. To be successful a strike must have the support of a powerful labor union. A strike results from conflict of interests between the employer, who seeks as much profit as possible, and the employees, who seek higher wages (or in times of depression try to stop wage decreases), shorter hours, better working conditions, and union recognition. Both sides in such a conflict seek to win public support. Employers usually attempt to continue operations without the striking employees, and in such cases violence is likely to occur. Violence may result from the use of armed guards hired by the employer or the calling out of police or state militia against pickets (see PICKETING) or to protect strike-breakers. A notorious example of the importation of strikebreakers was in 1892 in the strike at HOMESTEAD, Pa. The first example of the use of the INJUNCTION against strikers was at PULLMAN, Ill , in 1894. The technique of the sit-down strike (used successfully by rubber workers in Akron in 1936 and by automobile workers in 1937) was designed to prevent strikebreaking because the workers remained on the job while ceasing to work. Some of the most important strikes in the United States have been waged by coal miners, industrially organized as the UNITED MINE WORKERS, who have in general bettered their condition through strikes in 1897, 1919–20, 1939, 1941, 1945, 1946–47, 1948, and 1950. Steelworkers, chiefly unskilled labor and badly organized, lost a strike in 1919, but after the formation of the Steel Workers' Organizing Committee in 1936, they won concessions by strikes in 1937, 1941, and 1946. A strike of maritime workers in 1936–37 crippled ports on both coasts. Automobile workers struck in large numbers in 1937 and 1946. At the beginning of the depression of the 1930s strikes were few since labor's position was weak, but with the passage of the National Labor Relations Act (1935), the gradual recovery of business, and especially the foundation of the C I O (see CONGRESS OF INDUSTRIAL ORGANIZATIONS) to organize mass-production workers, union activities expanded rapidly and many strikes were called to win union recognition. Jurisdictional strikes, to determine which organization should be the bargaining agent, were numerous. Strikes rose to a peak in defense industries in 1940–41. With the entry of the United States into the Second World War (Dec , 1941), a "no-strike, no-lockout" pledge was given by management and labor, and the National War Labor Board was created to mediate disputes. With the end of the war and with postwar inflation, strikes rose sharply, delaying the supply to consumers of articles, e g , automobiles, which had been unavailable in the war years. The TAFT-HARTLEY LABOR ACT, passed in 1947 over the President's veto, forbids jurisdictional and some other strikes. Strikes have been frequent in all industrialized countries. In England crippling strikes of coal miners occurred in 1898 and again in 1926. The GENERAL STRIKE, more successful in highly centralized countries such as France than in the United States, has nevertheless been occasionally tried in cities here. Strikes against foreign owners of mines and oil fields have occurred in Mexico, Bolivia, and Chile. The right of government employees to strike has in general not been conceded, examples of such strikes in the United States are the policemen's strike in Boston in 1919, the strike of WPA workers in New York city in 1939, and a teachers' strike in Buffalo in 1947. See E T Hiller, *The Strike* (1928), Florence Peterson, *Strikes in the United States, 1880–1936* (1937), Edward Levinson, *Labor on the March* (1938), J J Senturia, *Strikes* (2d ed., 1940), David Ziskind, *One Thousand Strikes of Government Employees* (1940), H A. Millis and R. E Montgomery, *Organized Labor* (1945)

Strindberg, Johan August (strĭnd'bûrg, Swed yōō'hän ou'gŭst strĭnd'bĕr"yŭ), 1849–1912, Swedish dramatist and novelist. He was a master of the Swedish language and an innovator in literary styles. The fourth child of a snobbish father and a mother who had been a barmaid, he grew up in a poor, crowded, and unhappy home in Stockholm. At the Stockholm lyceum he was intensively interested in natural science, an interest he always retained. He was a teacher and then a doctor's assistant before his naturalistic novel, *The Red Room* (1879; Eng tr., 1913), won him a grant of money from the crown. His historical drama *Master Olof* (1881; Eng tr., 1915) had been written in 1871–72. Strindberg married three times and was thrice divorced. The tortured misery of his marriages—in large part the fault of his own highly charged temperament, which led him several times into actual madness—is the subject of many of his plays and novels. His chief autobiographical fiction includes the short stories in *Married* (2 vols., 1884–85, Eng. tr in one volume, 1913), *The Son of a Servant* (Vols I-III, 1886-87, Vol IV, 1909, Eng tr of Vol I, 1913), *The Inferno* (1897, Eng tr , 1913), and *Legends* (1898, Eng tr., 1912), of the last two Strindberg made the dramatic trilogy *To Damascus* (1898–1904, Eng tr , 1933–35). Of some 70 dramas, perhaps the best known to English-speaking readers are *The Father* (1887, Eng tr , 1907), which has several times been presented on the American stage, but its bleak horror is hard for American audiences to endure, *Comrades* (1888, Eng tr , 1912), *Julie* (1888, Eng tr , 1911, also tr as *Miss Julia* and *Countess Julia*); *The Link* (1893, Eng tr , 1912), *The Dance of Death* (1901, Eng tr , 1912), *The Dream Play* (1902, Eng. tr., 1912), and *After the Fire* (1907, Eng tr , 1913). Strindberg cannot be classified in any one school; he was by turns a naturalist, an iconoclast, and a mystic, but his work—and his total output was enormous—bears always the stamp of his individuality. His influence continues to be a living force, particularly in the theater. Translations of his plays have been collected as *Plays* (tr by Edith and Warner Oland, 3 vols , 1912–14), *Plays* (4 series, tr. by Edwin Bjorkman, 1912–16), *Easter and Other Plays* (tr by C D Locock and others, 1929), *Lucky Peter's Travels and Other Plays* (tr by C. D Locock and others, 1930), and *Master Olof and Other Plays* (tr by C D Locock and Joan Bulman, 1931). See biographies by Elizabeth Sprigge (1949) and Brita Mortensen and B W Downes (1949), C E W L Dahlstrom, *Strindberg's Dramatic Expressionism* (1930), Joan Bulman, *Strindberg and Shakespeare* (1933), Frida Uhle Strindberg (his second wife), *Marriage with Genius* (1937)

stringed instrument, any musical instrument whose tone is produced by vibrating strings. Those whose strings are plucked with the finger or a plectrum include the BALALAIKA, BANJO, GUITAR, HARP, LUTE, MANDOLIN, and ZITHER. Those played with the bow are principally of the VIOL and VIOLIN families. Instruments whose strings are struck include the DULCIMER and several key board instruments, among them the PIANO, HARPSICHORD, and CLAVICHORD.

Stritch, Samuel Alphonsus, 1887–, American Roman Catholic prelate, cardinal of the Roman Church, b Nashville, Tenn. After study at the American College at Rome, he was ordained a priest in 1910. He was successively secretary and chancellor in the diocese of Nashville (1915–21), bishop of Toledo (1921–30), archbishop of Milwaukee (1930–40), and, in succession to Cardinal Mundelein, archbishop of Chicago (1940–). He was made cardinal in 1946.

Strode, Ralph, fl. 1350–1400, English schoolman. He taught logic and philosophy at Oxford and wrote books on these subjects. Chaucer's *Troilus and Criseyde* was dedicated to Gower and to "the philosophical Strode."

Stroheim, Erich von (ā'rĭkh fŭn shtrō'hīm), 1885–, German moving-picture actor and director. He had numerous occupations before he came to the United States in 1914 and entered moving pictures as an actor and assistant. Of his many films, *Greed*, which he directed in 1923, is a landmark for its realism and attention to minute detail. He acted in many French films, but his greatest role was in *La Grande Illusion*.

stroke: see APOPLEXY.

Stromberg, Gustaf Benjamin (strŏm'bûrg), 1882–, American astronomer, b Sweden, Ph D Univ. of Lund, Sweden, 1916. He came to the United States in 1917 and was astronomer (1917–46) at Mt Wilson Observatory. Working especially in the field of stellar motions and stellar luminosities, he wrote many technical papers as well as *The Soul of the Universe* (1940, 2d ed , 1948) and *The Searchers* (1948)

Stromboli, island, Italy: see LIPARI ISLANDS

Stromness (strŏm'nĕs'), burgh (pop 1,592), on SW Pomona, Orkneys, Scotland. It is a seaport.

Stromo, Dan *Strømø* (strûm'ū"), Faeroese *Streymoy* (străm'oi"), largest island (144 sq. mi , pop 7,865) of the FAEROE ISLANDS. On the southeast coast is Thorshavn, capital of the Faeroes.

Stromsburg, city (pop 1,127), E Nebr , NW of Lincoln, in a prairie region S of the Platte, settled 1872 by Swedes, inc 1883. It is a farm trade center.

Strong, Eugénie Sellers, d. 1943, English classical scholar. She was educated at Girton College, Cambridge, of which she became fellow in 1910. She lectured on Greek art and archaeology at the British Museum and the Victoria and Albert Museum and in Rome and was librarian (1904–9) to the duke of Devonshire and assistant director (1909–

25) of the British School of Archaeology, Rome. In 1913 she was Norton lecturer at the Archaeological Institute of America She wrote *Roman Sculpture* (1907), *Art in Rome* (1912), and *Art in Ancient Rome* (1928) In 1927 she was made Commander of the Order of the British Empire

Strong, Sir Samuel Henry, 1825–1909, Canadian jurist, b England In 1836 he went to Canada with his parents. Called (1849) to the bar of Upper Canada, he served (1856) on a committee to consolidate the statutes of Canada and Upper Canada and in 1875 was appointed puisne judge of the Supreme Court of Canada, he was chief justice from 1892 to 1902

Strong, Theodore, 1790–1869, American mathematician, b South Hadley, Mass, grad Yale, 1812 He was tutor in mathematics at Hamilton College (1812–16) and professor there (1816–27) and at Rutgers (1827–61), where he was also vice president for many years He was famous among mathematicians for solving Cardan's irreducible case of the cubic equation His works include treatises on algebra (1859) and calculus (1869)

Strong, town (pop 1,007), W Maine, N of Farmington, settled 1784, inc 1801 The Republican party of Maine was organized here in 1854

Strongbow, Richard see PEMBROKE, RICHARD DE CLARE, 2D EARL OF

Strongsville, village (pop 2,216), NE Ohio, SW of Cleveland, inc 1927

Stronsay (strŏn'sā), island (8,736 acres, pop. 975), off N Scotland, one of the Orkney Islands

strontium (strŏn'shum, -shēum), soft, white metallic element (symbol=Sr, for physical constants, see ELEMENT, table) It is grouped with calcium and barium in the periodic system and resembles these elements in its properties, being a metal of the ALKALINE EARTHS With other elements it forms various compounds, e g , with oxygen, two oxides, the monoxide being the mineral strontia, with oxygen and hydrogen, a hydroxide, with oxygen and nitrogen, a nitrate, with chlorine, a chloride, with carbon and oxygen, a carbonate which occurs in nature and is known as strontianite, and with sulphur and oxygen, a sulphate also occurring in nature and known as CELESTITE or celestine Both the carbonate and the sulphate serve as sources of the element Strontium metal is prepared by electrolysis of the fused chloride Its compounds (usually the nitrate) are used in making fireworks and signal flares because they add a bright red or crimson coloration to a flame The hydroxide is used in the purification of beet sugar In the laboratory, the hydroxide serves as a strong base Although it was recognized first in its carbonate, strontianite, by Crawford of Edinburgh in 1790 and later by T C Hope, M H Klaproth, and others, strontium was not isolated until 1808 by Sir Humphry Davy

Strother, David Hunter (strŏ'dhur), 1816–88, American author and illustrator, b Martinsburg, Va (now W Va), grad Jefferson College, Canonsburg, Pa, 1839 He studied art in Philadelphia, France, and Italy Under the name Porte Crayon he contributed short sketches of life in the South with illustrations to *Harper's New Monthly Magazine* Some of them were collected in *Virginia Illustrated* (1857) After his service in the topographical corps of the Union army, his valuable "Personal Recollections of the War" by "A Virginian" appeared (1866–68) in *Harper's* He was consul general of the United States in Mexico from 1879 to 1885

Stroud, urban district (1931 pop 8,364, 1943 pop 14,100), Gloucestershire, England, in a valley of the Cotswolds It is a center of woolen cloth manufacture and has long been noted for its red dyes.

Stroud, city (pop 1,917), central Okla, between Oklahoma City and Tulsa, in a farm and oil region, settled and inc 1898.

Stroudsburg, borough (pop 6,186), co seat of Monroe co, E Pa, near the Delaware Water Gap N of Easton, settled 1738, laid out 1806, inc 1815 In the Pocono Mt region, it is a popular resort. A fort was located at Stroudsburg (c 1760).

Strozzi (strôt'tsē), noble Florentine family It took after the 13th cent an active part in the government of the city and later strongly opposed the Medici There were among the Strozzi several eminent soldiers, scholars, and men of letters The Strozzi early divided into several branches, some of them still existing **Palla Strozzi** (päl'lä), 1372–1462, a politician and ardent humanist, furthered Greek studies in Florence and Padua **Filippo Strozzi** (fēlēp'pō), 1426–91, was banished by the Medici, gained great wealth and influence in Naples, and after his return to Florence began to build the celebrated Strozzi Palace. His son **Filippo Strozzi**, 1488–1538, married a granddaughter of Lorenzo de' Medici, he was first friendly to the Medici, then became a staunch opponent He led Florentine exiles against Cosimo I, was captured, and died in prison His son **Leone Strozzi** (lāō'nā), 1515–54, first entered the Order of Malta and later became an admiral in the French service He distinguished himself in wars against Spain and England. Another son of Filippo, **Piero Strozzi** (pyā'rō), d. 1558, a violent enemy of the Medici, fought for the French in the Italian Wars and was made a marshal of France. He took part in the French capture of **Calais** (1558). **Filippo Strozzi**, 1541–82, also was in the French service He was captured and killed by the Spanish in a naval battle off the Azores

Strozzi, Bernardo (bĕrnär'dō), 1581–1644, Italian portraitist and fresco painter A Franciscan monk, he was called Il Cappucino or Il Prete Genovese He deserted the order and later became a secular priest His works in Genoa and Venice testify to the brilliance and vigor of his style, as do his pictures *Beggar* (Rome) and *Christ and the Pharisees* (Uffizi) A St Catherine is in the Avery Memorial Art Museum, Hartford, Conn

Struensee, Johann Friedrich (yō'hän frē'drĭkh shtrōō'unzā, strōō'-), 1737–72, Danish statesman, b Germany As physician to CHRISTIAN VII he gained complete mastery over the insane king and became the favorite of the young queen, Caroline Matilda With her support he became minister of state (1771), was created a count, and suppressed the privy council, which had limited the royal power A virtual dictator, he accomplished industrial, commercial, and educational reforms, he attempted to free Denmark from Russian influence and to improve the condition of the peasantry However, his ruthless methods provoked the enmity of the nobles, who terrorized the king into arresting him He was accused of adultery with the queen and executed

Struma (strōō'ma), Gr *Strymon* (strē'mŏn'), river, 216 mi long, rising S of Sofia, Bulgaria It flows S through Macedonia, out of Bulgaria, and through Greece to the Aegean Sea

Strumica (strōō'mĭtsa), town (pop 10,649), Macedonia, S Yugoslavia, SE of Skoplje It is an agricultural center An ancient place, Strumica has the ruins of a castle built by Emperor Tiberius There also are remains of the castle of the 14th-century Serbian hero Marko Kraljevich Strumica was ceded (1913) by Turkey to Bulgaria after the First Balkan War and was awarded to Yugoslavia by the Treaty of Neuilly (1919)

Struthers (strōō'dhurz), city (pop 11,739), NE Ohio, on the Mahoning river, inc as a city 1922 It is an industrial suburb of Youngstown, iron and steel are made here

Strutt, Jedediah, 1726–97, English inventor and manufacturer In 1759 he patented the Derby ribbing machine, a stocking frame that could knit ribbed fabric In 1768 he became a partner of Richard ARKWRIGHT, the inventor of the water frame, and with him established some of the first cotton mills in England, the one at Leeds being the first to use horse power In 1797 he established the great Derby knitting mills See Percy Walton, *The Story of Textiles* (2d ed , 1925)

Struve, Friedrich Georg Wilhelm von (frē'drĭkh gā'ôrk vĭl'hĕlm fŭn shtrōō'vu), 1793–1864, German-Russian astronomer, b Germany As director of Dorpat Observatory (1817–39), he discovered many double stars He was also engaged in notable geodetic operations, including the triangulation of Livonia and the measurement of an arc of the meridian Beginning (1822 27), with the portion in the Baltic provinces, this measurement was extended under his direction until, in 1855, it was completed from the North Cape to Ismail on the Danube In 1839 he became director of the new Pulkovo Observatory, the erection of which he had superintended One of the first three astronomers who almost simultaneously obtained a stellar parallax, he measured (1838) the parallax of Vega (Alpha Lyrae) Among his writings on his star research is *Études d'astronomie stellaire* (1847). His son, **Otto Wilhelm von Struve** (ō'tō), 1819–1905, succeeded him as director (1862–82) of the Pulkovo Observatory He discovered about 500 new double stars and a satellite of Uranus, estimated the sun's velocity, made micrometrical measurements of Saturn's ring system, and studied nebulae and comets **Otto Struve** (ō'tō strōō'vē), 1897–, son of Otto Wilhelm and also an astronomer, was born in Russia and came to the United States in 1921 (he was naturalized in 1927). He received a Ph D (1923) from the Univ of Chicago, in 1921 he had joined the staff of its Yerkes Observatory From 1932 to 1947 he was professor of astrophysics at the Univ of Chicago and director of Yerkes Observatory and of McDonald Observatory (of the universities of Texas and Chicago)

Stry (strē), Pol *Stryj* (strē), city (1931 pop 30,682), W Ukraine, in Galicia, on the Stry river, a tributary of the Dniester It is a center of the Drogobych oil district and has varied manufactures In 1664 it was the scene of a Russian victory over the Turks Stry passed to Austria in 1772, to Poland in 1919, and to the USSR in 1945

strychnine (strĭk'nĭn), alkaloid derived from the seeds of a tree native to India (*Strychnos nux vomica*) It has been used as a rat poison since the 16th cent; "rat biscuits" still remain a cause of accidental poisoning (for antidote, see strychnine under POISONING, table) Strychnine is a stimulant of the central nervous system, especially of the spinal cord It also acts as a respiratory stimulant It is used in medicine in small dosages

Strycker, Jacobus (strī'kŭr), 1619–87, early American painter, b. Holland. He had various trades besides portrait painting. Few facts about his life or work are known. That he painted a portrait of Peter Stuyvesant is only traditional.

Strymon, river see STRUMA.

Strymonic Gulf (strĭmŏ'nĭk), inlet of the Aegean Sea, SE Macedonia, Greece It receives the Struma (Gr. *Strymon*) river. An alternate name is Gulf of Rendina

Strype, John (strīp), 1643–1737, English ecclesiastical historian and biographer. A graduate of Cambridge, he took holy orders and received a number of church livings Much of his early life was spent in collecting old charters, letters, and miscellaneous documents, mostly of the Tudor period He used these in his cumbersome but valuable works These include the *Annals of the Reformation* (1709) and biographies of Thomas Cranmer (1694), John Aylmer (1701), Sir John Cheke (1705), Edmund Grindal (1710), Matthew Parker (1711), and John Whitgift (1718). He edited the works of Dr John Lightfoot (1684) and issued a new edition (1720) of Stow's *Survey of London*. See biography by A P. Wire (1902)

Stuart, Stewart, or **Steuart**, royal family which ruled Scotland and England The Stuart lineage began in a family of hereditary stewards of Scotland, the earliest of whom was Walter (fl c 1160), grandson of a Norman adventurer. Several early Stuarts were regents of Scotland, and after Robert, seventh in the hereditary line of stewards, became king as ROBERT II (1371), the royal power remained in the family thereafter The marriage of JAMES IV of Scotland to Margaret Tudor, daughter of Henry VII, king of England, made his granddaughter MARY QUEEN OF SCOTS a claimant of the English throne Her tragic death was partly the outcome of a dynastic struggle with her cousin, Queen Elizabeth of England, and Mary's claim was recognized when her son, James VI of Scotland, became JAMES I of England in 1603 At the time of the PURITAN REVOLUTION, Charles I, son of James I, was beheaded (1649), and after the interregnum of the Commonwealth and the Protectorate, his son CHARLES II was restored to the throne in 1660 With the deposition of Charles II's brother and successor, James II (1688), the crown passed to James's daughter MARY II and her husband, William III, and after them to Anne, also daughter of James II The Protestant succession to the English throne was determined in 1701 by the Act of Settlement (see SETTLEMENT, ACT OF) In the reign of Anne, the last of the Stuarts to rule England, the crowns of Scotland and England, united by the Stuarts, were permanently joined by the Act of Union (1707) After the death of Anne the crown passed to GEORGE I of the house of Hanover, son of the Electress SOPHIA Sophia was the granddaughter of James I of England, thus making the Hanoverian also a Stuart claim The parliamentary rule of succession was adopted because the claim to the throne of James II and his descendants, James Francis Edward (the Old Pretender), Charles Edward (the Young Pretender), and Henry Stuart (Cardinal York) was upheld by the JACOBITES After 1807 this claim passed to the descendants of Henrietta, daughter of Charles I, through her grandson, King Charles Emmanuel III of Sardinia, to the 20th-century Prince Rupert of Bavaria See studies of the house of Stuart by Samuel Cowan (1908) and T F Henderson (1914), various histories of England, particularly Godfrey Davies, *The Early Stuarts, 1603–1660* (1937) and G N. Clark, *The Later Stuarts, 1660–1714* (1934), and histories of Scotland. See also bibliography under JACOBITES

Stuart or **Stewart, Alexander, duke of Albany,** 1454?–1485, Scottish nobleman, son of JAMES II of Scotland He was captured at sea by the English (1463) while he was en route to Gelderland, in the Low Countries, but was released shortly and made high admiral of Scotland, warden of the marches, and lieutenant of the kingdom His brother, JAMES III, suspecting Albany of plotting against the throne, had him imprisoned at Edinburgh (1479), but Albany escaped, fled to France, and thence went to England, where he concluded a treaty at Fotheringay (1482) with EDWARD IV, agreeing to rule Scotland as England's vassal. Returning to Scotland, with an English army, he became reconciled with the nobles who had possession of James III. For his plots with England, Albany was in 1483 sentenced to death in Scotland while he was still in England Two years later he was accidentally killed at a tournament in France.

Stuart or **Stewart, Alexander, earl of Buchan,** (bū'khun, bŭ'kun), 1343?–1405?, Scottish noble, fourth son of Robert II He held various offices under the crown, and was made lord of Badenoch in 1371 and earl of Buchan in 1382 He was often in difficulties with the Church, especially after he repudiated his wife. In his rage against the bishops he burned the town of Forres and the cathedral at Elgin (1390). For this violence he was excommunicated and popularly called the Wolf of Badenoch

Stuart or **Stewart, Arabella,** 1575–1615, cousin of James I of England, daughter of Charles Stuart, earl of Lennox She was (by her descent from a sister of Henry VIII) next to James VI of Scotland in line of succession to the English throne. Many

argued that her title was preferable to that of James because she was born on English soil Her marriage was prevented during Elizabeth's reign, but after the accession of James as James I of England, Arabella secretly married William Seymour (later marquess of Hertford), heir to the throne by the will of Henry VIII They were arrested, imprisoned, and escaped, but Arabella was recaptured (1611) and died insane in the Tower. See biography by E T Bradley (1889).

Stuart or Stewart, Charles Edward, 1720–88, claimant to the English throne, b Rome The son of James Francis Edward STUART (the Old Pretender) and of the Princess Clementina, he was known as Bonnie Prince Charlie and as the Young Pretender When the failures and irregular life of the Old Pretender had alienated his followers, Charles Edward, a charming young man, magnanimous and brave, became the hope of the Jacobites He led them in the Rising of 1745, but all his enthusiasm could not avert the defeat at Culloden Moor in 1746 (see JACOBITES) Charles fled to a Highland refuge, then escaped abroad (see MACDONALD, FLORA), was expelled from France after the Treaty of Aix-la-Chapelle, and roamed about Europe, a broken and unregarded drunkard After his father's death (1766) he lived in Rome as the duke of Albany and in 1772 married Princess Louise of Stolberg-Gedern (see ALBANY, LOUISA, COUNTESS OF). They separated in 1780, and Charles Edward was attended in his later years by his natural daughter, Charlotte He died in Rome There is much English and Scottish poetry about Bonnie Prince Charlie, e g , the songs *Charlie Is My Darling* and *The Skye Boat Song* For bibliography, see JACOBITES See biographies by A C Ewald (1883), Andrew Lang (1900), and Clennell Wilkinson (1932)

Stuart or Stewart, David, duke of Rothesay (rō*th*'sē), c 1378–1402, Scottish prince, son and heir apparent of Robert III On his father's accession to the throne, David became earl of Carrick and in 1398 duke of Rothesay In 1399 he ousted his uncle, Robert Stuart, duke of Albany, from his virtual regency, and became the invalid king's lieutenant in Scotland His administration was irresponsible, and in 1402, at the recommendation of the council and the king's brother, he was arrested and imprisoned by his uncle, the duke of Albany, and by Archibald Douglas, 4th earl of Douglas, his brother-in-law He died under doubtful circumstances Rothesay appears in Sir Walter Scott's novel, *The Fair Maid of Perth*

Stuart or Stewart, Esmé, 1st **duke of Lennox** (ĕz'mē), 1542?–1583, Scottish nobleman, cousin of James VI of Scotland Born and reared in France, he succeeded his father as seigneur of Aubigny in 1567 In 1579 he was sent to Scotland to restore French influence and weaken Protestantism He quickly assumed an important position and was made lord chancellor and successively earl (1580) and duke (1581) of Lennox Although Lennox publicly proclaimed his conversion to Protestantism in 1580 and maintained this position even on his deathbed, he was suspected of complicity in a projected invasion of England by Philip II of Spain to release Mary Queen of Scots This, with Lennox's part in the arrest and execution of the earl of Morton, led to the Protestant nobles' seizure of James at the raid of Ruthven (1582) Against both his own and the king's wishes, Lennox was forced to leave Scotland and died shortly thereafter His son, Ludovick STUART, was recalled by James, and his descendants were prominent at court throughout the reign of the Stuarts

Stuart or Stewart, Frances Teresa, duchess of Richmond and Lennox, 1648–1702, mistress of Charles II of England The daughter of an exiled English physician, she was educated in France and in 1663 came to England as maid of honor to Catherine of Braganza Her beauty attracted the attention of Charles, and she became the king's mistress In 1667 she declined Charles's offer to make her a duchess and eloped with and married Charles Stuart, duke of Richmond and Lennox, much to the king's displeasure Charles II suspected that Clarendon had engineered the elopement to foil his plan to divorce the queen and marry Frances Stuart However, the duchess (known as La Belle Stuart) shortly returned to court and became a lady of the bedchamber to the queen Charles renewed his attentions and dispatched her husband to Scotland (1670) and to Denmark (1671), where he died

Stuart, Gilbert, 1755–1828, American portrait painter, b North Kingstown, R I., best known for his portraits of George Washington. He was the greatest American painter of his day. Having begun to draw at an early age, he became (c 1769) the pupil of Cosmo Alexander, a Scottish artist who was visiting in America. With him he went to Edinburgh but returned (c.1773) to America after Alexander's death Still poor and unsuccessful, he went in 1775 to London, where he supported himself as an organist and with an occasional portrait commission Having brought his plight to the attention of Benjamin West, he became (c.1777) a member of that painter's household as his pupil and remained there for five years. He exhibited at the Royal Academy of Arts in 1777, 1779, 1781–82, and 1785 It was his *Portrait of a Gentleman Skating* (1782) which won him renown and a large clientele Although he was then eminently successful, his extravagant mode of living kept him in constant debt This may have been the reason for his removal (1787) to Dublin, where he again became very popular Conceiving the idea that by painting the portrait of George Washington and making replicas of it he might at last become solvent, he returned (c 1792) to America and settled (1794) in Philadelphia, where he painted many of his portraits of women as well as two of Washington In 1805 he moved to Boston, where the rest of his life was spent He painted three portraits of Washington from life His first, the so-called Vaughan Type (1795), is a bust with the right side of the face shown, the original has disappeared, but at least 15 replicas are in existence The second, the Lawnsdowne Type (1796), painted for the marquess of Lansdowne, shows the President standing, full length, his left hand outstretched, the original is in the Pennsylvania Academy of the Fine Arts The third, unfinished, the Athenaeum Head, remained in the artist's possession until after his death, when it was acquired first by the Boston Athenaeum and later by the Museum of Fine Arts, Boston, of this there are 75 replicas. Stuart's other works are represented in Boston, Philadelphia, and New York for the greater part The Metropolitan Museum owns portraits of Matthew Clarkson, James Monroe, Albert Gallatin, Joseph de Jaudenes y Nebot and his wife, and two Washington replicas, among others Some of Stuart's well-known sitters were Jefferson, Madison, Monroe, William Branch Giles, William Ellery Channing, Judge Story, Jacob Astor, John Jay, Edward Everett, and Jerome Bonaparte He also painted portraits of his fellow artists John Singleton Copley, Benjamin West, Sir Joshua Reynolds, and Washington Allston See G C Mason, *The Life and Works of Gilbert Stuart* (1879), biography by W T Whitley (1932)

Stuart or Stewart, Henry see DARNLEY, HENRY STUART OR STEWART, LORD

Stuart or Stewart, Henry Benedict Maria Clement, known as **Cardinal York,** 1725–1807, Jacobite pretender to the British throne, b Rome Second son of James Edward Stuart (the Old Pretender), he was the Jacobite duke of York until his brother Charles Edward Stuart (the Young Pretender) died in 1788, when he became royal claimant as Henry IX He was the last of the direct male line of James II and the last pretender to press a claim to the throne (see STUART, family) He probably was in France in 1745, ready to help in the Scottish Jacobite rebellion, and on his return to Italy was made a cardinal of the Roman Church (1747) In 1761 he was also made bishop of Frascati, where he lived and worked for years Ruined by confiscations in the French Revolution, he fled to Padua, later to Venice George III of England granted him a pension, and in gratitude Cardinal York bequeathed to George IV (then prince of Wales) the crown jewels of the Stuarts See biographies by B W Kelly (1899), H M Vaughan (1906), and Alice Shield (1908), Charles Petrie, *The Jacobite Movement* (1932)

Stuart or Stewart, James, earl of Arran (ăr'un), d. 1596, Scottish nobleman He spent his early years as a soldier of fortune in the service of Holland against Spain, returned to Scotland in 1579, and ingratiated himself at the court of James VI. As a reward for his services in accusing the earl of Morton of the murder of Lord Darnley, Stuart was made a member of the council and granted the earldom of Arran, then in the possession of his insane cousin, James HAMILTON By reason of his descent Stuart claimed a rank second only to the king and became a rival of the powerful duke of Lennox The king's arrest by the Protestant lords in the Raid of Ruthven (1582) led to Arran's imprisonment He was released to rejoin the king, however, after the king's escape and was appointed lord chancellor to succeed the earl of Argyll He served on the jury that condemned the earl of Gowrie and gained control of Edinburgh Castle. He negotiated with Elizabeth of England and staved off for a time her support of the banished Protestant lords Arran set out to crush his opponents in Scotland and seized the properties of the banished lords, alienating by his reckless use of power the few supporters remaining to him His English agent treacherously undermined what influence he had with Elizabeth A plan to assassinate Arran was under way when Elizabeth rendered it unnecessary by claiming that Arran had been responsible for the murder of Lord Francis Russell in a border fray (1585) James was compelled to imprison Arran With the return of the banished lords, Arran himself was banished (1586). He returned to live in Scotland as Capt James Stuart and intrigued unsuccessfully to return to power He was slain in 1596 by Sir James Douglas, nephew of the earl of Morton, Douglas was determined to avenge the death of his uncle, in which Arran's actions had played a decisive part.

Stuart or Stewart, James: see MURRAY, JAMES STUART OR STEWART, 1st EARL OF.

Stuart, James, 1713–88, English architect, archaeologist, and painter About 1741 he was sent to Italy by the Society of Dilettanti of London to study ancient Greek architectural remains with Nicholas Revett In Athens (1751) they made accurate measurements of the ruins, particularly those of the Acropolis, and published their findings in *Classical Antiquities of Athens*, the first volume of which appeared in 1762 Its fine illustrations depicted for the first time the great achievements of Greek architecture Their work aroused wide attention and acted as a prime influence for the CLASSIC REVIVAL

Stuart, James Ewell Brown (Jeb Stuart), 1833–64, Confederate cavalry commander, b Patrick co , Va , grad West Point, 1854 Most of his U S army service was with the 1st Cavalry in Kansas He was aide to R E LEE when John Brown was captured at Harpers Ferry in Oct , 1859 On Virginia's secession, Stuart resigned (May, 1861) and became a captain of cavalry in the Confederate army He distinguished himself at the first battle of Bull Run (July, 1861) and in September was made a brigadier general In June, 1862, Jeb conducted the first of his celebrated cavalry raids, he made a complete circuit of G B McClellan's army on the Virginia peninsula, noting the Federal dispositions Lee used this information to advantage in the SEVEN DAYS BATTLES of the Peninsular campaign Stuart was promoted major general in July and given command of all the cavalry of the Army of Northern Virginia After another bold and successful raid, this time to John Pope's rear, he covered the last stage of Stonewall Jackson's flanking movement before the second battle of Bull Run (Aug , 1862) He was actively engaged in that battle and in the subsequent Antietam campaign Jeb rode completely around McClellan's army again in Oct , 1862, ranging as far as S Pennsylvania and capturing 2,000 horses He made effective use of his famous horse artillery in the battle of Fredericksburg (Dec , 1862) In the battle of CHANCELLORSVILLE, he moved with Stonewall Jackson in the brilliant flank attack When both Stonewall and A P Hill were wounded, Stuart took command and continued the blistering assault on Joseph Hooker In June, 1863, he fought his greatest cavalry battle at BRANDY STATION For knowledge of the enemy Lee depended on Stuart, who, he said, never brought him a piece of false information But in the GETTYSBURG CAMPAIGN Jeb was absent from the army on a raid and Lee was not apprised soon enough of the Federal concentration N of the Potomac By 1864 his corps had decreased in size and was deficient in equipment, while the Union cavalry, now under P H SHERIDAN, was vastly improved In the Wilderness campaign the forces met at YELLOW TAVERN (May 11, 1864), and Jeb Stuart was mortally wounded Not since the death of Stonewall Jackson had the South sustained so great a personal loss His rollicking, infectious gaiety, and hard fighting were sorely missed in the gloomy last days of Lee's army See J W Thomason, Jr , *Jeb Stuart* (1934), D S Freeman, *Lee's Lieutenants* (3 vols , 1942–44) W W. Blackford, *War Years with Jeb Stuart* (1945)

Stuart or Stewart, James Francis Edward, 1688–1766, claimant of the English throne, b London; son of JAMES II and MARY OF MODENA He is called the Old Pretender because he asserted his right to the throne against that of the house of Hanover At the time of his birth anti-Catholic feeling was so high that the prospect of another Catholic king was undesirable to many, and as a result it was rumored that the boy was not the son of the royal couple The Glorious Revolution of 1688 deposed his father in favor of William III and Mary, and the family fled to France Shortly before his father's death (1701) the English Act of Settlement excluded the male line of Stuarts from the succession, and in 1702 young James was attainted His restoration as James III was the object of numerous plots and rebellions by the JACOBITES between 1708 and 1745, and Louis XIV's recognition of him as king was a minor factor drawing England into war against France in the War of the Spanish Succession Louis fitted out an expedition for James (1708) to restore him in England, but it was turned back at the Firth of Forth As the chevalier de St George, James distinguished himself in the French army at Oudenarde and Malplaquet, but the Treaty of Utrecht forced him to leave France, and his hopes of succeeding Queen Anne were dashed by the peaceful succession of George I (1714) A rising in his favor (1715) under the earl of MAR brought him to Scotland, where he was hailed as James VIII of Scotland and James III of England by the Jacobites. On the failure of the movement, James retired to France, then Avignon, and finally Rome James's marriage (1719) to Maria Clementina Sobieski, a Polish princess commonly called Princess Clementina, was followed (1724) by her retirement to a convent for two years, a reconciliation, and her death in 1735 Various later attempts to restore James were unsuccessful, notably the Rising of

1745, led by his son, Charles Edward STUART, the Young Pretender. See biographies by Alice Shield and Andrew Lang (1907), Martin Haile (1907), and A N. Tayler and H. A. H. Tayler (1934)

Stuart or **Stewart, John,** 4th **duke of Albany** (ŏl'bŭnē), 1481–1536, regent of Scotland The son of Alexander, duke of Albany, and grandson of James II of Scotland, he was brought up on his estates in France by his mother, Anne de la Tour d'Auvergne, and always considered himself French The Scottish council, shortly after the death of James IV (1513), asked Albany to assume the government for the infant James V, but his own lack of enthusiasm and the influence of Henry VIII of England prevented his departure from France until 1516 Upon arrival in Scotland, he assumed the regency forfeited by MARGARET (the queen dowager and sister of Henry VIII) upon her marriage to the earl of Angus He gained possession of Margaret's children and crushed a rebellion led by Lord Home and the earls of Arran and Angus Margaret fled to England and accused Albany of poisoning her infant son, the earl of Ross Henry's request to the Scottish Parliament for his dismissal was emphatically refused, Albany being declared (1516) second in succession to the Scottish throne. Conditions in Scotland seeming comparatively stable, Albany returned temporarily to France (1517), where he negotiated the Treaty of Rouen (allying France and Scotland and providing for the marriage of James V to a French princess) and promoted the interests of Scottish merchants Margaret returned from England a week after his departure, and strife soon broke out between Arran and Angus By a secret agreement between France and England, Albany was prevented from returning to Scotland until 1521 Margaret, who had broken with Angus, enlisted Albany's aid in securing a divorce, and false rumors (possibly started by Cardinal Wolsey) were circulated of their intimacy and projected marriage These were used by Henry and the English party, led by Angus The English-Scottish truce expired in 1522, and English forces raided the Scottish border Albany led an army towards Carlisle, but the Scots refused to fight outside their own country and the force disbanded Albany returned to France, and Margaret in his absence used her influence in the interests of England Albany returned in 1523 with French troops and gold, but a subsequent lack of military success on the border destroyed his prestige While on a visit to France in 1524, Albany's regency was annulled, and he never returned to Scotland He later served in Francis I's campaign against Charles V (1524–25) and acted as French ambassador to Rome (1530–33)

Stuart, John. see BUTE, JOHN STUART, 3D EARL OF

Stuart or **Stewart, John,** 4th **earl of Atholl** (ăth'ul), d. 1579, Scottish nobleman He supported the regency of Mary of Guise, and in 1559 he voted in Parliament against the Protestant confession of faith and expressed his adherence to Catholicism He became a member of the young Queen Mary's council in 1561, supported her marriage to Lord Darnley, and became a chief counselor to the queen and the leader of the Catholic nobles in Scotland. He was not involved in the plots against David Rizzio and Darnley After Darnley's murder and the rise of James Hepburn, earl of Bothwell, to power, Atholl joined the Protestant lords against Mary They subsequently captured her at Carberry Hill (1567). He was a member of the council of regency for James VI, but his sympathies gradually switched back to the queen, he voted for her divorce from Bothwell and joined the opposition to the king's party He was unsuccessful in preventing the election of James Douglas, earl of Morton, to the regency in 1572 In 1574 proceedings were taken against Atholl as a Roman Catholic, and he probably recanted With Archibald Campbell, 5th earl of Argyll, he succeeded in ousting Morton as regent (1578) The three were uneasily reconciled the following year, shortly before Atholl's death, which was possibly from poisoning by Morton.

Stuart, John McDouall, 1815–66, Scottish explorer in Australia. He emigrated (1838) to S Australia, there, as a draughtsman, he joined Charles Sturt's expedition (1844–45) to central Australia. Between 1858 and 1862 he led six expeditions from Adelaide and proved that there was much habitable country in areas about which discouraging reports had come from Sturt and other explorers. He was the first (1860) to reach the center of Australia, he climbed and named Mt. Sturt (later renamed Stuart) From 1860 he tried to cross the continent, and he achieved his objective by reaching Van Diemen Gulf in 1862. He wrote *Explorations in Australia* (1864).

Stuart or **Stewart, Ludovick,** 2d **duke of Lennox** and **duke of Richmond** (lōd'dŭvĭk), 1574–1624, Scottish nobleman; cousin of James VI of Scotland. He became duke of Lennox in 1583 on the death of his father, Esmé STUART, was brought from Paris to Scotland, and received the favor of the king He was named president of the council during James's absence in 1588. Despite the king's opposition to Ludovick's marriage to Lady Jane Ruthven (1591), James appointed him lord high admiral. He accompanied the king to England to be crowned James I (1603) and was appointed to the English privy council. Lennox served as ambassador to Paris (1604–5) and was appointed high commissioner to the Scottish Parliament (1607). In 1623 he was created duke of Richmond He left no children and was succeeded as duke of Lennox by his brother, Esmé.

Stuart or Stewart, Mary: see MARY QUEEN OF SCOTS

Stuart or Stewart, Matthew. see LENNOX, MATTHEW STUART OR STEWART, 4TH EARL OF

Stuart or **Stewart, Robert,** 1st **duke of Albany** (ŏl'bŭnē), d 1420, regent of Scotland, son of Robert II. As earl of Fife and Monteith, he held commands under his father and more than once harried Cumberland Because of Robert II's old age Fife was given the power of government in 1388, he continued it during the reign of Robert III, his infirm brother In 1398 he was made duke of Albany and in 1399 was forced to give up the regency to his nephew, David Stewart, duke of Rothesay Rothesay proved incompetent, was arrested, and died (1402) in the custody of Albany and Archibald Douglas, 4th earl of Douglas both of whom were declared guiltless of his death Albany continued as governor or warden from 1402 until his own death because Robert III's successor, JAMES I, was a prisoner in England During Albany's rule the struggle with England went on The Scots were badly defeated at Homildon Hill in 1502 Albany continued the Scottish alliance with France At home he allowed the nobles much power, but did put down (1411) a rebellion of Donald Mac Donald, lord of the Isles Apparently Albany tried to make his sovereignty in all but name hereditary, but his son Murdoch proved a weak ruler and after the return of James I to Scotland (1424) Murdoch was executed

Stuart or **Stewart, Robert, seigneur d'Aubigny** see AUBIGNY, ROBERT STUART OF STEWART, SEIGNEUR D'.

Stuart, Robert, 1785–1848, American fur trader, b Scotland In 1807 he emigrated to Canada, where his uncle was a North West Company agent He became a clerk in that company, but in 1810 joined John Jacob Astor's Pacific Fur Company for the venture of founding ASTORIA He was one of the sea party on board the *Tonquin* and showed his boldness by forcing the captain at pistol's point to wait for a party that had gone ashore on the Falkland Islands They arrived at Astoria in 1811, and in 1812 Robert Stuart headed the party that was sent back overland to carry messages to Astor This journey was difficult and filled with hardship It was, however, notable because it included the first known passage by white men through South Pass, and in large part it followed the later Oregon Trail. He arrived in St. Louis in May, 1813, and went on to New York In 1817 he and Ramsay CROOKS became the partners of Astor in the AMERICAN FUR COMPANY. Stuart became the commander of the trade about the post at Mackinac, supervising all the affairs of the company in the north until 1834, when Astor withdrew from the trade He then retired and, living in Detroit, became interested in land development and in canal building He was also Federal superintendent of Indian affairs in Michigan from 1841 to 1845 and was in 1840 state treasurer See P A Rollins, ed., *The Discovery of the Oregon Trail* (1935)

Stuart, Ruth McEnery, 1849–1917, American author, b Marksville, La In 1879 she married A O Stuart, who died in 1883, and she spent the latter part of her life in New York city The collections of her amusing stories of the South present faithfully the habitual speech of the people of her native area Her works include *A Golden Wedding and Other Tales* (1893), *Sonny* (1896), and *In Simpkinsville Character Tales* (1897)

Stuart, Australia see ALICE SPRINGS.

Stuart. 1 City (pop 2,438), co seat of Martin co, SE Fla, on the St Lucie river and at the southern end of Indian River. Stuart is the eastern terminus of the St Lucie Canal to Lake Okeechobee. It ships the county's pineapple production and is a yachting resort and fishing center, especially for sharks **2** City (pop 1,611), S central Iowa, W of Des Moines, founded 1869, inc 1877. It holds a stock show annually in August.

Stuart Lake, area 138 sq mi, central British Columbia, NW of Prince George It was discovered and named (1806) by Simon Fraser It is drained SE by the Stuart river to the Nechako W of Prince George

Stubbs or **Stubbes, Philip,** fl. 1583, English Puritan pamphleteer, who wrote a number of moralistic broadsides and pamphlets. He gained wide popularity in Puritan circles, but is remembered solely for the *Anatomie of Abuse* (1583), valuable today as a source on social history of Tudor times. He died in, or just after, the first decade of the 17th cent

Stubbs, William, 1825–1901, English historian. Educated at Oxford, he became a fellow there in 1848 and was ordained in 1850. For his calendar of episcopal succession, *Registrum Sacrum Anglicanum* (1858), he received the position of librarian at Lambeth Palace. From 1866 to 1884, when he was appointed bishop of Chester, he served as professor of modern history at Oxford. His most famous work was his *Constitutional History of England* (3 vols, 1874–78). He edited (with A. W. Haddon) *Councils and Ecclesiastical Documents* (1869–73) and 19 volumes of early chronicles for the Rolls series. His lectures appear in several volumes, including *Seventeen Lectures on the Study of Mediaeval and Modern History* (1886). See W. H. Hutton, *Letters of William Stubbs* (1904)

stucco (stŭ'kō), in architecture, a term applied loosely to various kinds of plasterwork, both exterior and interior. It now commonly refers to a plaster or cement used for the external coating of buildings, most frequently employed in the Mediterranean countries It usually consists of a mixture of cement or lime and sand, applied in one or more coats over a rough masonry or frame structure, the finish is either troweled, floated, or rough textured The finish called roughcast or rock cast, formerly common in England and the United States, consists of small gravel or other pebbles mixed with a plaster and thrown or dashed forcibly against a freshly plastered wall. In Italy a form of decoration known as GRAFFITO is often applied to a stucco wall, a damp final coat of stucco is scratched away in ornamental patterns, exposing a different colored layer beneath In ancient Greece a form of stucco was often used over coarse stonework to give a fine surface suitable for receiving detail The Romans employed stucco similarly on external surfaces and, with notable success, as an interior finish, for indoor work they used a mixture of plaster of Paris or powdered marble, capable of receiving a high finish The term *stucco* is also applied indiscriminately to various forms of interior decoration in relief, which more properly should be considered as PLASTERING

Stuck, Franz von (frants' fŭn shtŏk'), 1863-1928, German painter and illustrator, a leader of the German secessionists He was for many years artist on the staff of *Fliegende Blätter* His unconventional allegorical paintings gained him international popularity Typical are *Wilde Jagd* (Carnegie Inst, Pittsburgh), *Sphinx* (Budapest), and *Sin, War, Crucifixion* Stuck was a professor at the Munich Academy

Stuck, Hudson (stŭk), 1863–1920, American missionary and explorer, b England He emigrated to the United States in 1885, graduated from the Univ of the South (1892), and was dean (1894–1904) of the Protestant Episcopal cathedral at Dallas, Texas In 1905 he became archdeacon of the Yukon and spent the remainder of his life in Alaska With three companions he accomplished the first ascent (1913) of Mt McKinley, and he traveled extensively in N Alaska Alaskan geography and Eskimo customs are accurately described in his books, some of which are *The Ascent of Denali (Mount McKinley)* (1914), *Ten Thousand Miles with a Dog Sled* (1914), *Voyages on the Yukon and Its Tributaries* (1917), and *A Winter Circuit of Our Arctic Coast* (1920)

Stucley or **Stukely, Thomas** (both stū'klē), 1525?–1578, English adventurer, possibly an illegitimate son of Henry VIII. He served under the duke of Somerset and fled to France after Somerset's arrest There he gained the favor of Henry II of France, who sent him (1552) on a mission to Edward VI Stucley betrayed the projected French invasion of Calais but was imprisoned for his pains Released in 1553, he fled England to escape prosecution for debt and joined the army of the duke of Savoy He returned to England with Savoy and married an heiress but in 1555 again fled the country to escape a counterfeiting charge About 1558 he took up piracy In 1559 his wife came into her fortune, and Stucley settled down for several years. In 1563 he organized a privateering expedition with Jean RIBAUT under the cover of helping to colonize Florida and with surreptitious aid from Queen Elizabeth This caused such a scandal that he was arrested in 1565, but was soon released Stucley then went to Ireland to serve Sir Henry Sidney, the lord deputy, and in 1566 purchased the title of marshal of Ireland Elizabeth, who distrusted him, refused to recognize this title, and in 1569 he was accused of treason but later released Stucley fled to Spain (1570), where he was received at court, knighted, and generally recognized as duke of Ireland He planned a Spanish invasion of Ireland but fell from favor at Madrid His conduct at the battle of Lepanto (1571), where he commanded three ships, brought Stucley back into favor with the Spanish, and he continued plotting against England In 1577 he received aid from Pope Gregory XIII for an invasion of Ireland. He set sail, but at Lisbon was persuaded to join the Portuguese expedition of King Sebastian against Morocco and was killed at the battle of Alcasarquivir. His adventures have been the subject of ballads and plays.

Stuhlweissenburg, Hungary: see SZEKESFEHERVAR

Stumpf, Carl (kärl' shtŏmpf'), 1848–1936, German psychologist, philosopher, and writer on the psychology of music. He was a professor at Berlin from 1894 to 1921. Interested in philosophy and music, Stumpf widened the areas of psychology by creating a psychology of sound (*Tonpsychologie*, 2

vols', 1883–90) and by founding an institute to advance the phonographic method for the comparative study of primitive music In 1901 he wrote a study of Siamese music. He founded the Berlin Association for Child Psychology, wrote on the evolution concept and on Spinoza, and developed original theories of space perception and sensation.

stupa (stōō'pŭ), monument, generally Buddhist, of tumulus form, named from the Sanskrit word for mound Tope is another term for stupa. Stupas exist in India, Japan, China, Tibet, and Ceylon. A temple and cells for pilgrims generally arose near by The earliest were mounds of earth, marking the remains of a chief or religious leader When they contained also a temple or a chamber for sacred relics they were called dagoba The oldest existing stupas are hemispherical masses raised upon a base, the whole faced with brick or stone over an earthen core A narrow processional path around the structure was enclosed within a stone railing. Most notable are the group known as the Bhilsa topes in N India, the great Sanchi tope (5th or 4th cent B C) of this group is about 105 ft in diameter and rises 42 ft above its platform Later stupas were built higher to form generally conical towers In India these stood upon molded bases and were ornamented with tiers of pilasters, decorative string courses, and niches containing images of the Buddha Stupas were also erected in places where Buddha supposedly halted

Sturbridge (stûr'-), town (pop 2,227), S Mass, SW of Worcester, settled c 1730, inc 1738

Sturdee, Sir Frederick Charles Doveton (stûr'dē), 1859–1925, English admiral He entered the navy in 1871 and rose to the command of the British forces in Samoa in 1899. He became a rear admiral in 1908, a vice admiral in 1913, and in the First World War he decisively defeated the German squadron under Admiral von Spee at the battle of the Falkland Islands (1914), for which he was made a baronet (1916) Sturdee commanded a squadron at the battle of Jutland (1916), became an admiral in 1918, and was made admiral of the fleet in 1921.

Sturdza, Demeter: see STURZA, DEMETER

Sture (stŭr'ru), noble Swedish family which played a leading role in the 15th and 16th cent **Sten Sture** (stān'), the elder, c 1440–1503, was chosen regent in 1470 In the battle of Brunkeberg (1471) he defeated a Danish force sent by King Christian I, who asserted his rights to Sweden under the Kalmar Union The Swedish victory gave hope for permanent Swedish independence, but in 1497 Sture was forced to recognize the union with Denmark He took an active part in founding the Univ of Uppsala His kinsman, **Svante Sture** (svän'tă"), d 1512, succeeded him as regent His rule was a period of continual warfare His son and successor as regent was **Sten Sture,** the younger, c 1492–1520 He vigorously asserted the principle of the superiority of the state over the Church, notably by securing (1517) from the Riksdag the deposition of Archbishop Gustaf Trolle, a member of a rival family He furthermore declared that he would not recognize Christian II of Denmark as king of Sweden Christian sent a force to relieve the archbishop, who was besieged in his castle, but Sture defeated the Danish army and imprisoned Trolle Warfare continued, and Sture was killed in battle shortly before Stockholm fell to Christian

sturgeon, large fish found in fresh and salt water in the northern regions of Europe, Asia, and North America It is a primitive fish with a cartilaginous internal skeleton, bony plates in the skin, an elongated snout, and a small mouth with toothless jaws and fleshy lips used to suck in food In front of the mouth are usually four barbels or feelers The common sturgeon is found in coastal waters and rivers of Europe and E North America Other American species are the Pacific or white sturgeon, said to reach 1,000 lb in weight, the green sturgeon, a smaller form of the Pacific coast, and the lake or rock sturgeon of the Great Lakes and Mississippi valley region The Russian sturgeon or beluga of the Caspian and Black seas and the Sea of Azov reaches a weight of 2,000 lb or more and is the largest species In England, according to an unrepealed law of Edward II, sturgeons are the property of the king The flesh, although rather coarse, is used as food in many regions and smoked sturgeon is highly regarded by many peoples The roe is the source of the better grades of CAVIAR, and isinglass is made from the lining of the air bladder

Sturgeon Bay, city (pop 5,439), co seat of Door co, NE Wis, at the head of Sturgeon Bay, inlet of Green Bay; inc 1883 A ship canal here cuts across DOOR PENINSULA to Lake Michigan The city is a summer resort, has cherry orchards, and engages in shipping, shipbuilding, and limestone quarrying A state fish hatchery, an agricultural experiment station, and a state park are near.

Sturgeon Falls, town (pop. 4,576), S Ont., on the Sturgeon river near its mouth on Lake Nipissing and W of North Bay. It has pulp, paper, lumber, and flour mills and a garnet-grinding industry

Sturgis, Russell (stûr'jĭs), 1836–1909, American architect and writer, b. Baltimore co, Md., grad. College of the City of New York, 1856 He practiced architecture until 1880, the buildings which he designed including the Flower Hospital in New York and a chapel and several dormitories at Yale Univ He was professor of architecture and design (1878–80) at the College of the City of New York A leading authority on the history of architecture and art, he published many articles and gave lectures at universities and museums He was first president (1895–97) of the Fine Arts Federation and president (1899–93) of the Architectural League of New York His writings include *European Architecture* (1896), *A Dictionary of Architecture and Building* (2 vols, 1901–2), *How to Judge Architecture* (1903), *A Study of the Artist's Way of Working in the Various Handicrafts and Arts of Design* (1905), and *History of Architecture* (4 vols, 1906–15, Vols III-IV completed after his death by A. L Frothingham, Jr)

Sturgis (stûr'jĭs) **1** City (pop 2,321), W Ky, near the confluence of the Tradewater with the Ohio NE of Paducah, in a coal, grain, and livestock area **2** City (pop 7,214), S Mich, SE of Kalamazoo, settled 1827, inc as a village 1855, as a city 1895 It is a trade and industrial center, manufactures include Venetian blinds, furniture, and paper products **3** City (pop 3,008), co seat of Meade co, W S Dak, NNW of Rapid City, near the Black Hills, laid out c 1878 near Fort Meade It is a trade and distributing center in an agricultural region

Stürgkh, Karl, Graf von (kärl' gräf' fŭn shtürk'), 1859–1916, premier of Austria (1911–16) During the First World War he governed without the unruly parliament and was strongly opposed by liberals and radicals He was assassinated by the Socialist Friedrich ADLER

Sturluson or **Sturleson, Snorri:** see SNORRI STURLUSON

Sturm, Jacques Charles François (zhäk' shärl' frăswä' stürm'), 1803–55, French mathematician, b Switzerland Serving as professor at the Collège Rollin (1830–40) and at the École polytechnique, Paris (from 1840), he wrote on optics, mechanics, differential equations, and mathematical analysis He originated a theorem (Sturm's theorem) for the determination of the number of real roots of an equation (algebraic or numerical) within given limits

Sturm, Johannes (yōhä'nŭs shtōōrm'), 1507–89, German scholar and educator He founded (1537) and directed for more than 40 years the Strasbourg Gymnasium His system of graded readings and classes shaped the course of studies of European secondary schools He wrote a number of Latin textbooks and works on education

Stürmer, Boris Vladimirovich (bŭrĕs' vlŭdyĕ'mĭrŭvĭch shtyōōr'mĭr), 1848–1917, Russian politician He became premier early in 1916 and shortly afterward also replaced Sazonov as foreign minister Linked with Rasputin and the Germanophile element in the court, he was violently attacked in the Duma and was obliged to resign in Nov, 1916 He was arrested after the February Revolution of 1917 and died in prison

Sturm und Drang (shtōōrm' ōōnt drang') or **Storm and Stress.** The term is applied to a period of German literature, though its characteristics—youthful genius in rebellion against accepted standards—were felt in other countries The influence of Rousseau and of Lessing gave inspiration to the movement The period takes its name from a play by F M von Klinger, *Die Wirrwarr, oder, Sturm und Drang* (1776), it falls roughly in the 20 years between Herder's *Fragmente uber die neuere deutsche Literatur* (1767) and J F von Schiller's *Don Carlos* (1787) Goethe and Schiller were leading figures in the movement, lesser names were Klopstock and J. M R Leng Within the period fall Goethe's *Götz von Berlichingen* and *The Sorrows of Werther* and Schiller's *Robbers* See Goethe's autobiography and histories of German literature.

Sturza, Jan, *Czech* Štursa (yän' shtōōr'sh), 1880–1925, Czech sculptor of the modern school In 1916 he became professor at the Prague Academy. Some of his works are *The Melancholy Girl; Primavera, Eve,* a monument to Hana Kvapilova, a Czech actress, and portrait busts and some decorative sculptures

Sturt, Charles (stûrt), 1795–1869, English explorer and administrator in Australia, b India He received (1813) a commission in the British army and became (1825) a captain In 1827 he arrived in Sydney with a detachment of his regiment While in command of an expedition (1828–29) to find the source of the Macquarie, he discovered (1828) the Darling river On a second journey (1829) he explored the Murrumbidgee and found its junction with the Murray, which he followed by boat to its mouth in Lake Alexandrina He resigned his commission (1833) because of impaired eyesight and settled in Australia (1834) In 1844 he continued his exploration of the river system of S Australia, traveling up the Murray and Darling rivers and penetrating (1845) almost to the center of the continent He was colonial treasurer (1845) and colonial secretary (1849–51) In 1853 he returned to England He wrote *Two Expeditions into the Interior of Southern Australia* (1833) and *Narrative of an Expedition into Central Australia* (1849).

Sturza or Sturdza, Demeter (both· dĕmĕ'tĕr stōōr'-dzŭ), 1833–1914, Rumanian statesman, of a prominent Moldavian family With John Bratianu and Rosetti he took a leading part in the revolution of 1866, which overthrew Prince John Alexander Cusa and established Carol I on the throne of Moldavia and Walachia After Bratianu's death (1891) Sturza was repeatedly premier of Rumania. He forwarded the economic and intellectual progress of his nation, and as secretary of the Rumanian Academy of Sciences he directed the publication of a great collection of sources for Rumanian history

stuttering or **stammering,** speech disorder marked by hesitation and inability to enunciate consonants without spasmodic repetition Known technically as dysphemia, it is generally attributed to an underlying personality disorder About half of all those who have speech and voice defects suffer from stuttering or stammering (the terms are used interchangeably) Many cases of stuttering begin in childhood A constitutional susceptibility or predisposition may be implied from the evidence that 65 percent of the cases of stuttering have a family history of the affliction In many instances the speech disturbance appears to be precipitated by some emotional shock (e g, a fright, a radical change of environment, the advent of a younger child in the family, or the accumulated impact of a neurotic environment) Stuttering or stammering sometimes engenders feelings of inadequacy and morbid anxiety which in turn intensify the condition A cycle of this nature may sometimes lead to neurosis In treatment a distinction is drawn between the primary phase of stuttering—before a child has become aware of it—and the secondary stage, where personality deviations are already manifest as a result of the stutterer's awareness In the earlier state elimination of environmental stress and a regimen of rest, relaxation, and counseling may suffice to correct the condition Intensive and prolonged psychiatric treatment is often needed for the developed condition of stuttering Group psychotherapy has been found to be helpful in a number of cases

Stuttgart (stŭt'gärt, Ger shtōōt'gärt), city (pop 413,528), capital of the American-occupied state of Wurttemberg-Baden, SW Germany, on the Neckar Until 1945 it was capital of all Wurttemberg It is an important communications point and one of the chief centers of German book publishing Its industries, concentrated mostly in the suburbs of Bad Canstatt, Feuerbach, Untertürckheim, and Zuffenhausen, produce vehicles, machinery, precision instruments, chemicals, and textiles Frequent industrial fairs are held here Stuttgart has a technological institute, an academy of fine arts, and a conservatory of music It is a Lutheran episcopal see Chartered in the 13th cent, Stuttgart became in 1320 a residence of the counts (later dukes, from 1806 kings) of Württemberg, who made it their capital in 1482 The city expanded rapidly in the 19th and 20th cent, and it became famous after the First World War for its many pioneering modern buildings Particularly remarkable are the housing developments in the outer residential districts, where contemporary theories of home building were applied on a large scale The center of the city, which formed its oldest part, was almost completely destroyed in the Second World War Among the destroyed or heavily damaged buildings were several medieval churches, the academy (until 1734 the Karlsschule, where Schiller studied medicine), the old and new royal palaces, several museums, and the famous modern city hall and railroad station Stuttgart was captured in 1945 by French troops

Stuttgart (stŭt'gart, -gurt), city (pop 5,628), a co seat of Arkansas co, E Ark, inc 1889 It is the trade center of a rich farm area especially noted for rice The state university has a rice experiment station near by

Stuyvesant, Peter (stī'vusănt), 1592–1672, director general of New Netherland Before coming to New Amsterdam he had served as governor of Curaçao and had lost a leg in the colonial warfare His artificial leg added to his fierce appearance Arriving in New Amsterdam (1647) to replace Willem KIEFT, he immediately informed the colonists of his autocratic intentions He set up a board of nine men to advise him but dissolved it (1651) when they asked for redress of their grievances in a remonstrance to the Dutch government. As a result of this petition, however, Holland granted (1653) municipal government to New Amsterdam Nevertheless, Stuyvesant continued his harsh rule and was intolerant of religious dissenters, especially Quakers While he lost territory to Connecticut (1650), he gained a good deal by conquering NEW SWEDEN (1655) Overwhelmed by a surprise English attack, he surrendered New Netherland to England in 1664 Spending the rest of his life on his Manhattan farm, he was buried there under his chapel, now the site of the Church St Mark's-in-the-Bouwerie See Ellis L Raesly, *Portrait of New Netherland* (1945).

sty, acute inflammation of the sebaceous glands on the free edge of the eyelids, usually caused by staphylococcus infection. Symptoms include red-

ness and swelling of the area, the discharge of tears, intolerance of light, and pain Treatment consists of the application of heat or the use of surgery When such inflammation recurs, the general body resistance to infection needs building up

style, in printing, is an arbitrary rule or a collection of arbitrary rules governing the practice of a printer or a publisher in doubtful or disputed matters to obtain consistency Correct spelling is a matter of literacy, but a rule prescribing the use of one of two correct spellings is a matter of style The stylebook of a printer or a publisher is a collection of rules governing office usage in matters of style It is not a substitute for grammars and reference works Examples of stylebooks are *A Manual of Style*, published by the Univ of Chicago Press, and the *Style Manual of the United States Government Printing Office*

stylites see SIMEON STYLITES.

stylus. see PEN

Stymphalian birds (stĭmfā'lēun), in Greek mythology, man-eating birds with brazen feathers Killing them was one of the 12 labors of HERCULES The name comes from their supposed dwelling place, Lake Stymphalus, in Arcadia

styptic (stĭp'tĭk), drug or other substance used to check bleeding by application to the wound or by injection near it Applications of cold or hot water serve as styptics, as do certain drugs (e g , adrenalin) and especially ASTRINGENT substances

Styria (stĭ'rēu), Ger *Steiermark* (shtī'ûrmärk), autonomous province or *Bundesland* (6,326 sq mi , pop 1,105,170), SE and central Austria, bordering on Yugoslavia Graz is the capital Predominantly mountainous, except for the plain in which Graz is located, Styria is the chief Austrian mining district (iron, lignite, and magnesite) and has a well-developed metal industry It is drained by the Enns, Mur, and Raab rivers There are numerous mountain resorts Styria was detached from the duchy of Carinthia and was made a duchy in 1180, in 1192 it passed to the Austrian house of Babenberg Ottocar II of Bohemia successfully contested it with Bela IV of Hungary, but in 1276 had to cede it to Rudolf I of Hapsburg along with the rest of Austria After 1919 Styria lost its southern portion to Yugoslavia

Styx (stĭks), in Greek religion, river in the underworld (see HELL), which the souls of the dead must cross on their journey from the earth It was the greatest of all rivers, so sacred that even the gods took their most binding oaths in its name The river was personified as a nymph, daughter of Oceanus and Tethys, and mother of Nike There is an actual Styx river in the N Peloponnesus (in ancient Arcadia)

Suah (sū'ä) [Heb ,=filth], Asherite 1 Chron 7.36

Suardi, Bartolomeo. see BRAMANTINO

Suárez, Francisco (sōōä'rĕz, Span franthē'skō swä'räth), 1548–1617, Spanish Jesuit theologian, b. Granada. He studied at Salamanca and was ordained in 1572 He taught successively at Ávila, Segovia, Valladolid, Rome, Alcalá, and Salamanca and in 1597 was appointed to the Univ of Coimbra, Portugal (then under Spanish dominion) He may be called the last of the old scholastic philosophers His system is mild and characteristic of the Jesuit theologians His "congruism" is a successful middle course between the teachings of MOLINA and the Dominican predestinarian teachings Suárez taught that one may hold the same doctrine by science and faith His teaching on the divine right of kings that earthly power is properly held by the body of men and that kingly power is derived from them so enraged James I of England that the king had Suárez's *De defensione fidei* burned by the hangman This political doctrine, based on the Catholic doctrine of the equality before God of all men, is a basis of subsequent Catholic teachings on democracy Suárez was highly esteemed by Grotius and his followers In his *Tractatus de legibus* he made an important distinction between natural law and international law, which he saw as based on custom. See Joseph H Fichter, *Man of Spain* (1940).

Subbi. see MANDAEANS

subconscious: see UNCONSCIOUS

Subiaco (sōōbyä'kō), village, Latium, central Italy, in the valley of the Aniene in the Apennines St Benedict of Nursia retired here c 497 and lived with his disciples until in 529 he moved to Monte Cassino The Benedictine abbey, which grew out of the monastic communities founded here by the saint, rose to great wealth and political power in the Middle Ages. Here, in 1464, were established the first printing presses in Italy St Scholastica, St. Benedict's sister, established in Subiaco the first monastic community for women.

subjectivism, in philosophy, the doctrine that the mind in knowing is aware only of what is presented to consciousness It is also called subjective idealism This type of subjectivism leads without difficulty to materialism and to the denial of the supernatural. In another sense, subjectivism is the doctrine that the individual self is all that exists and that truth is only the opinion of each individual The opposite point of view is called objectivism. The pragmatism of William James and the humanism of F. C. S. Schiller are apparently subjective in this sense. The classic philosopher of this type of subjectivism is Bishop Berkeley, but the origin of it may be traced rather to Kant.

subjunctive see MOOD.

sublimation (sŭblĭmā'shŭn), in chemistry, a process in which a solid substance changes directly to a vapor without first passing through the liquid state and then reverts directly to the solid again upon sudden cooling An example of sublimation is seen when iodine on being heated changes from a dark solid to a purplish vapor which condenses directly to a crystalline solid upon striking a cool surface In this way pure crystals of iodine are prepared Some other substances, e g , corrosive sublimate, can also be prepared by sublimation Solid carbon dioxide, commonly known as dry ice, sublimes at −78 5°C (or −109 3°F)

sublimation, in psychology see DEFENSE MECHANISM

submachine gun, light, portable, automatic weapon that can be fired from the shoulder, used in warfare and by police and other law-enforcement agencies The possession of a submachine gun by an individual is illegal in the United States Invented (1921) by John Taliaferro Thompson in cooperation with John N Blish, it was nicknamed tommy gun after its inventor Firing a 45 calibre cartridge at some 800 shots per minute, the Thompson gun was used extensively in the Second World War, as were more recently developed submachine weapons such as the British Sten gun and the U S army all-metal weapon, known as the grease gun because of its resemblance to the air-pressure devices used in automobile lubrication

submarine (sŭb"murēn') [from Latin,=undersea], naval craft capable of submerging and proceeding under water and of attacking ships, principally with torpedoes Experimented with and used across three centuries, undersea vessels have become an established part of modern navies The first practical submarine is generally conceded to have been that built (c 1620) by C J Drebbel, a Dutchman living in England It consisted of a rowboat completely covered with leather and propelled by 12 oarsmen, the oars protruding through flexible leather seals on both sides of the boat Drebbel's method of renewing the air in the submerged craft with oxygen enabled the vessel to remain underwater for as many as 15 hr A submarine was built in 1653 at Rotterdam designed for use against the British fleet, but was never in action The first submarine actually used in warfare was invented by the American David Bushnell in 1776 This vessel, the *Turtle*, was a small egg-shaped affair constructed of oak planks and was operated by one man, who turned a propeller Water was admitted to submerge the vessel, and it was surfaced by forcing out the water with a hand pump Lead ballast kept the vessel upright Its attempt to blow up a British warship in New York harbor by boring a hole in its hull and placing a charge to be ignited by clockwork failed because the boring tool, operated from inside the *Turtle*, could not penetrate the copper sheathing of the warship The *Nautilus*, Robert Fulton's submarine, successfully operated (1800–1801) on the Seine and at Le Havre On one occasion the inventor remained submerged for 6 hr , receiving air through a tube extending up through the water Later he devised and used a spherical tank of compressed air to replenish the air in the submarine This innovation and several other aspects of Fulton's submersible vessel made it a real forerunner of the modern submarine In the Civil War the Confederates used several submersible craft all named *David*, fitted with a mine protruding from the bow at the end of a spar In 1864 one of these vessels blew up a new Union vessel, the *Housatonic*, in Charleston harbor, but was herself lost with her crew The development of the modern submarine was advanced considerably by the work of two Americans, J P Holland and Simon Lake One of Holland's submarines was propelled on the surface by a gasoline engine and when submerged by electric motors powered by storage batteries She was 54 ft long, had a speed of 7 knots and a crew of six, and was completed for the U S government in 1900 Lake's *Argonaut*, built in 1897, was not accepted by the U S navy Not until several European governments had made use of his talents did the U S government engage him Early in the First World War the Germans used 200-ton submarines, and later they employed 21,000-ton craft armed with as many as 19 torpedoes To halt the heavy destruction of shipping by these U-boats (from the German *Unterseeboot*) the Allied powers developed depth charges, armed vessels disguised as merchantmen, and convoy shipping. With various improvements these means also served in the Second World War. A typical U S navy submarine in 1940 consisted of a 300-foot steel craft of 1,450 tons displacement A crew of 55 operated Diesel engines (while surfaced) for a speed of 17 knots, electric motors (while submerged) for a speed of 8 knots The submarine possessed one 3-inch dual-purpose gun, two anti-aircraft machine guns, and 10 21-inch torpedo tubes. Her cruising range was 18,000 mi. As protection against an adversary's submarines the United States had developed "sub chasers," vessels of 100 to 170 ft , armed with 3-inch guns, depth charges, and machine guns. In the Second World War, when the Allies and neutrals lost a total of 4,770 ships of more than 21,000,000 gross tons to underseas raiders, airplanes were used extensively against the undersea craft. Aided by the radar equipment on the submarines, the U S. navy sank some 550 Japanese ships by 1944. A periscope is an integral part of every submarine, it extends up through the water and by a mirror arrangement provides the observer below with a view of the surface of the sea. Similar in appearance but totally different in purpose is the *Schnörkel* apparatus first utilized by the Germans and now in general use It admits air but bars descent of water, and by supplying a flow of fresh air and a means of egress for foul air makes it possible for a submarine to stay submerged for as much as nine tenths of a voyage. With this device and engines using hydrogen peroxide as fuel, German submarines in the Second World War attained speeds of 18 knots under water and were enabled to remain submerged for several days Many experiments with midget submarines were launched during the 1939–45 hostilities, one of the best known being the so-called "human torpedo" of the Japanese. Only 41 ft. long, this carried two 18-inch torpedoes and a 300-pound charge of high explosives Operation often involved the self-sacrifice of the crew of two. See F T Cable, *The Birth and Development of the American Submarine* (1924), D. O. Woodbury, *What the Citizen Should Know about Submarine Warfare* (1942), L R. Newman, *The Tools of War* (1942), Bernard Brodie, *Sea Power in the Machine Age* (1943), R L. Casey, *Battle Below* (1945).

Subotica (sōō"bō'tĭtsa), Ger. *Maria Theresiopel* (marē"ä tārā"zēō'pul) or *Theresiopel*, Hung *Szabadka* (sō'bŏtkŏ), city (pop 112,551), N Serbia, Yugoslavia, near the Hungarian border It is the largest city of the Vojvodina and is an important rail junction The center of a rich agricultural lowland, it has meat-packing plants and flour mills and it exports fattened poultry It also has electrotechnical, chemical, and other industries, and it is the seat of a law school (founded 1920) Settled since prehistoric times, it was a city of Hungary until its transfer to Yugoslavia by the Treaty of Trianon (1920) In the Second World War it was again incorporated (1941–45) into Hungary

subpoena (supē'nu) [Latin,=under penalty], in law, an order to a witness to appear before a court A special type of subpoena is needed to compel the production of documents. Disobedience of a subpoena constitutes CONTEMPT OF COURT

subsidence (sŭb'sĭdŭns, subsī'dŭns), lowering of a portion of the earth's crust, usually resulting from readjustments in the interior of the earth The subsidence of land areas accessible to the ocean is followed by submergence by shallow seas One attempt to account for the origin of coral reefs is the subsidence theory (see CORAL)

subsidy (sŭb'sĭdē), financial assistance granted by a government to a private person or association for the purpose of promoting some enterprise considered to be for the good of the country or its people In England in the later Middle Ages, Parliament granted so-called subsidies to the king to augment or replace the customs and other taxes collected by royal prerogative, these became the means by which the power of taxation was taken from the king and lodged in Parliament The subsidy was a nation-wide levy, and when parliamentary supremacy was established, it was replaced (in the reign of Charles II) by a land tax levied annually without the intervention of a parliamentary vote This form of subsidy has been used in many other states, but was never so important as in England In France the king was able to retain his control and to acquire financial powers that made him independent of any subsidy granted by the States-General Subsidies have also been granted by one country to another country to aid it in prosecuting a war, and sometimes merely to gain its good will, a practice generally regarded as reprehensible England granted subsidies to Denmark in the Thirty Years War and to the enemies of Napoleon in the Napoleonic Wars In the present day subsidies are most important as grants to private corporations for performing some service to the public, such as shipping companies and air lines for carrying the mails Technically the subsidy is merely the amount paid the company over and above its legitimate charge for services and is granted only to provide revenue to enable it to remain in operation and to continue to give regular public service. The United States also grants subsidies to shipping lines in order to encourage and increase commerce on the seas in American vessels. As in other countries, this policy is dictated by the desire to have available a national merchant marine in case of war American cities have frequently subsidized transit companies to induce them to provide public transportation facilities for the community Very similar to a subsidy is a bounty, except that it usually takes the form of a premium or reward for a service already performed. In the North American Indian

wars bounties were paid by the English and French for the scalps of fallen enemies. In the 17th and 18th cent. several European governments paid a bounty on manufactured articles in order to encourage their production and build up a manufacturing industry. The same practice has been followed in more recent times to stimulate the growing of certain favored crops, such as sugar beets

subsistence homestead. The cottage holding, as it is called in England, or subsistence homestead, as it is called in the United States, is not intended as a source of money income, but as giving security to a household. Supplementing a money income from wages or some other source, a small piece of fertile land does much to meet the requirements of a household for wholesome food That it would do more if need came is seen in the experience of many American pioneers whose fuel and clothing also at times came from their subsistence homesteads A community of homes with a subsistence farm for each home has been the usual environment of man throughout historic time Before the brief period of centralization, Greek city-states were such communities The homes of such communities are occupied typically by married people with children Metropolitan populations have been recruited from these communities and would decline without them This condition, being of a biological nature, persists under various forms of national government Governments are encouraging communities of subsistence homesteads, which may become what their people make them, as in ancient Greece, in America, and also in places where life has been less rewarding Local building materials have been found advantageous to such communities Where wood, stone, and burned bricks have not been available, such materials as ADOBE and RAMMED EARTH have proved no less satisfactory

subsoil, material that immediately underlies a SOIL The soil above it may be only a few inches deep or several feet deep Subsoils are commonly of clay, sand, gravel, or rock Usually they contain little or no humus and are consequently lighter in color than the soil Often they are gray or yellow While many plants derive *nourishment from* the subsoil, its physical condition is more important than its fertility A hardpan near the surface cannot be penetrated by plant roots and prevents drainage and the rise of soil water A sandy subsoil permits the escape of water needed by roots Defects in a subsoil are hard to remedy They may usually be recognized by the nature and the lack of thriftiness of the vegetation on the land

substance, in philosophy, a term used to denote that permanent and unchangeable substratum presumed in some philosophies to be present in all being Less precise usage identifies substance with object or being The meaning of substance is always correlative with quality or attribute (accident) Every substance has attributes, every attribute belongs to a substance Some philosophers, seeking one generating, all-inclusive principle of the world, have established monisms Frequently the monist has identified substance with God, an absolute existing within itself and creating all other forms (Spinoza, Fichte) Monistic attributes are infinite, including all the manifestations of mind and matter The dualist generally considers both mind and matter as independent substances, not as attributes of a more fundamental substance (Plato, Kant, Bergson) The pluralist may believe that the world consists of many separate realities (Aristotle) or of a multiplicity of self-contained forces (Leibniz) Another aspect of Leibniz's philosophy indicated a dynamic substance or force within all being This may be compared with the flux of Heraclitus or the energy of Spencer Modern scientific speculation hypothesizes a basic energy, although it tends to reject the term *substance* Hume, representing a skeptical position, maintained that we have no evidence of an underlying substratum and need not assume it The theological development of substance is contained in the idea of transubstantiation

subtraction, one of the four fundamental operations of ARITHMETIC. The symbol for this operation is the minus sign (−) The result of subtracting one number from another is called the difference, the number subtracted is the subtrahend, and the minuend is the number from which the subtrahend is subtracted Subtraction is the inverse of ADDITION, i e , it is the process of finding what number must be added to the subtrahend to give as a sum the minuend. As in adding, only like quantities can be subtracted The operation does not have the properties of associativity and commutivity but it does have distributivity, i e , the result of multiplying the difference of two numbers by a third is the same as the result of multiplying each of the first two numbers by the third and then subtracting these products.

subtreasury. After President Andrew JACKSON vetoed the bill to recharter the Second BANK OF THE UNITED STATES (July 10, 1832), the deposits were removed and placed in banks which came to be called Jackson's "pets." This process the President accomplished only with great difficulty, there being grave doubt as to its constitutionality (see MCLANE, LOUIS; DUANE, WILLIAM JOHN; TANEY, ROGER BROOKE) The situation remained somewhat in suspension and debate until a subtreasury system, as such, was established July 4, 1840, a measure being passed to establish the INDEPENDENT TREASURY SYSTEM This act, never strictly carried out, was repealed by the Whigs Aug 13, 1841 In 1846 the Independent Treasury was finally and rigidly established and with it, of course, the subtreasury system Public funds were not to be deposited in any bank, but must be kept in coin in the Treasury or subtreasuries or retained by the public officers receiving them until paid out on proper authority, and no banknotes were to be received in payments to the government The subtreasuries were maintained, chiefly through political influence, until the passage of the General Appropriation Act, May 29, 1920, and the transfer of their functions to the Treasury, the mints and assay offices, and the Federal reserve banks, which was completed in 1921

Subutai (sŭbō'tī'), c 1195–c 1275, Mongol commander He led many armies for Jenghiz Khan and Ogadai Khan and was the chief commander for BATU KHAN His name also appears Sabutai or Subotai

subway, railway system partially or wholly underground, sections of which may pass through underwater tubes and tunnels In a broader sense the term may include any underground passage London's subway, opened in 1863, is the oldest Other cities with subway service include Boston (1895), Paris (1900), New York (1904), Madrid (1919), Tokyo (1927), Moscow (1935), and Chicago (1943) Some subways consist of only a single line, while others, such as the *métropolitain* in Paris and the Interborough Rapid Transit in New York city, are networks By far the largest underground transportation system in the world is that of New York city It comprises more than 240 mi of lines In 1940 New York city purchased the privately owned Interborough Rapid Transit (IRT) and the Brooklyn-Manhattan Transit (BMT) system combining them with the Independent Subway System which it built and operated More than 7,200 cars, connected in trains of from 3 to 10 units, operate day and night on headways from 1½ to 15 minutes The lines use 12 bridges and 11 underwater tunnels and carry as many as 100,000 people at hours of peak operation Moscow has an elaborate subway system with tunnels 15 to 20 ft high as compared with the usual 10 ft Marble was lavishly used in constructing the stations, and Russia's best-known artists participated in their decoration Subways in general are considered the best means of urban transportation, as well as the safest See Conklin Groff, *All about Subways* (1938)

succession, apostolic: see APOSTOLIC SUCCESSION

Succession Act see SETTLEMENT, ACT OF

succory see CHICORY

Succoth (sŭ'kŏth) [Heb , =booths] **1** Unidentified place, E of the Jordan by the Jabbok, where Jacob paused on his return to his native land It was included in Gad Through it Gideon passed in his pursuit of the Midianites Gen 33 17, Joshua 13 27, Judges 8 5, 1 Kings 7 46 **2** Place, Egypt, where the Israelites made their first camp at their exodus Ex 12 37, 13 20 A valley of Succoth is mentioned in Ps 60 6

Succoth-benoth (-bĕ'nŏth), deity worshipped by Babylonian captives in Samaria 2 Kings 17 30

succubus (sŭ'kyōōbŭs), in demonology, the feminine counterpart of the INCUBUS

succulents (sŭ'kyulunts), fleshy plants of a horticultural group to which belong plants of many diverse families, among them species of cactus, stonecrop, houseleek, agave, and yucca Many are grown for their interesting, often grotesque, forms, although a few have very ornamental flowers Their cultivation is a growing branch of horticulture See S E Haselton, ed , *Succulents for the Amateur* (1939)

Suchathites (sōō'kŭthīts), family of scribes 1 Chron. 2 55

Suchet, Louis Gabriel (lwē' gabrēĕl' sūshā'), 1770–1826, marshal of France He commanded an army in the Peninsular War and took Valencia in 1812 Napoleon made him duke of Albufera (1811)

sucker, sluggish fresh-water fish related to the carp It ranges from 6 in to 3 ft in length and has a fleshy, sucking mouth with toothless jaws and a row of teeth in the throat Chiefly a bottom feeder, it eats small aquatic animals and plants The common sucker occurs widely over North America Its flesh is bony but palatable.

Suckert, Curzio. see MALAPARTE

Suckling, Sir John, 1609–1642?, one of the CAVALIER POETS at the court of Charles I of England He was a model of the courtier and the gallant, handsome, rich, talented, well bred, given to all the pleasures of the court He was noted as a gamester and a card player and is credited with inventing the game of cribbage In 1631–32 he was apparently a gentleman soldier in the Thirty Years War Suckling raised a troop for the Scottish campaign of 1639, in which, according to John Aubrey, he was driven back in humiliating fashion The next year he was elected to Parliament. Strongly royalist in his sympathies, he took part in the first army plot. On its failure, Suckling fled to the Continent where, it is said, he was driven to suicide by want After his death appeared *Fragmenta Aurea* (1646), a collection of his fugitive and occasional poems, together with plays, letters, and the essay "An Account of Religion by Reason " He is best known for his "Ballad upon a Wedding" and for his lyrics, two of the most familiar being "Constancy" ("Out upon it, I have loved") and the song beginning, "Why so pale and wan, fond lover?" from the play *Aglaura* (presented 1637) Other dramas were *The Goblins* (presented 1638) and *The Discontented Colonell* (1640, expanded to become *Brennoralt*) Suckling's works were edited by A Hamilton Thompson (1910) See biographical sketch in edition by W. Carew Hazlitt (2d ed , 2 vols , 1892)

Sucre, Antonio José de (äntō'nyō hōsā' dā sōō'krā), 1795–1830, South American revolutionist, b Cumaná, Venezuela He joined (1811) the forces fighting for independence from Spain and rose to be the chief lieutenant of Simon BOLÍVAR After Colombia had been liberated from the Spanish, Bolívar sent Sucre to the Quito region (now Ecuador), where he won (1822) the brilliant victory of Pichincha Accompanying Bolívar to Peru, he fought well in the revolutionary victory of Junín (Aug , 1824) Bolívar was absent and Sucre was the chief commander when the battle of Ayacucho was fought (Dec , 1824) Sucre's military genius was splendidly displayed in this victory, which assured the independence of South America The terms he granted to the defeated were generous, and Sucre was known for his great heart as well as his honesty and self-effacing modesty It was against his own will that he became president of the newly created state of Bolivia, and he was not happy in the post Despite the conciliatory spirit of his rule, an attempt was made on his life In 1828 he resigned and returned to Quito A few months later he led the forces that repelled a Peruvian invasion He was elected president of the constitutional convention which met in 1830 in an effort to prevent Bolívar's large republic of Colombia from disintegrating Sucre's efforts to prevent Venezuela from seceding and becoming a separate state failed In June, 1830, when he was riding back from the congress to his home in Quito, he was waylaid by unknown men in a wild mountainous region and killed

Sucre (sōō'krā'), city (1948 estimated pop 35,000), S central Bolivia, legal capital of Bolivia and capital of Chuquisaca dept Founded as La Plata in 1538 but also in early days called Chuquisaca and sometimes CHARCAS, Sucre was given its present name in 1839 in honor of Antonio José de SUCRE. During the colonial era it was capital of the captaincy general of Charcas Today Sucre is designated the *de jure* capital and is the seat of the archbishopric, the national university (San Francisco Xavier, founded c 1624, and specializing in law), and imposing government buildings The *de facto* capital is, however, LA PAZ Sucre is in a mountain valley on the eastern slope of the Andes at an altitude of c 8,500 ft The climate is moderate, and the city is a major agricultural center, shipping grains and cattle to the mining communities of the barren altiplano The first revolt in the wars of independence in South America broke out in Sucre May 25, 1809

sucrose (sōō'krōs, sū'-), the commonest and commercially the most important of the sugars It is a white, crystalline solid, melting at 160°C. and when heated above this temperature yielding CARAMEL It is known commonly as cane sugar, beet sugar, or maple sugar, depending upon its natural source Chemically, it is a CARBOHYDRATE Its molecule is composed of 12 atoms of carbon, 22 of hydrogen, and 11 of oxygen, the atoms probably being arranged as one molecule of GLUCOSE and one of FRUCTOSE with the loss of a molecule of water Upon HYDROLYSIS, sucrose yields glucose and fructose In this case, the process is called inversion and the sugar mixture produced is known as invert sugar, because, although sucrose itself rotates the plane of polarized light to the right, the mixture "inverts" this procedure and rotates it to the left Sucrose is obtained from the "juice" of SUGAR CANE or the sugar BEET and sap of the sugar MAPLE The cane or beets are crushed and the juice, after treatment with lime to neutralize acids, is evaporated in so-called vacuum pans which permit much lower temperatures for carrying out the process than would be possible otherwise and cause a decrease in hydrolysis. The brownish liquid obtained is called MOLASSES The sugar, brownish in color, is dissolved in water, treated with animal charcoal to remove the color resulting from the presence of impurities, and recrystallized

Sudak (sōōdäk'), town (1932 estimated pop 2,140), E Crimea, RSFSR, SW of Feodosiya A port and resort on the Black Sea, it dates from ancient Greek times and was a major medieval trade center on the route from Europe to Asia It passed (1365) to Genoa and (1475) to the Crimean Tatars.

Sudan (sōōdän'), region, E Africa, S of the **Sahara** A geographical region of uncertain extent, it is generally considered to include NE French Equatorial Africa, N and central ANGLO-EGYPTIAN SUDAN

(ancient NUBIA), and Eritrea. It comprises mainly desert and grassy steppes and plains The economy is characteristically pastoral The Sudanese are for the most part Moslem Negroes The name Sudan is applied also to the entire semiarid belt stretching east-west across Africa. Within this larger area is FRENCH SUDAN

Sudan grass: see SORGHUM

Sudbury, city (pop 32,203), S Ont , E of Sault Ste Marie and 200 mi N of Toronto It is the center of a great nickel-mining region and has smelters and refineries Gold, silver, lead, zinc, copper, and platinum are also mined in the area, and there are lumber mills, machine shops, brickworks, and woodworking plants

Sudbury, municipal borough (pop 7,007), Suffolk West, England, on the Stour at the Essex boundary and S of Bury St Edmunds There are many old houses and three mainly Perpendicular churches—St Gregory's, St Peter's, and All Saints' The town hall dates from 1491 Flemish weavers were introduced in the 14th cent , but the making of woolen goods has now ceased, rayon and silk goods are manufactured Thomas Gainsborough was born here

Sudbury, town (pop 1,754), E Mass , W of Boston, settled 1638, inc 1639 The old Howe or Red Horse tavern (built 1686, restored) was the scene of Longfellow's *Tales of a Wayside Inn*

Sudermann, Hermann (hĕr'män zōō'dûrmän,) 1857–1928, German dramatist and novelist, b East Prussia His works show the influence of various schools and of Ibsen and Nietzsche The great success of his play *Die Ehre* (1889, Eng trs , *Honor*, 1906, 1915), produced in the same year as Gerhart Hauptmann's epoch-making *Before Dawn*, called public attention to his novel *Frau Sorge* (1887, Eng. tr , *Dame Care*, 1891) This became immensely popular, as did the play *Heimat* (1893, Eng tr , *Magda*, 1896). When his plays lost critical favor, Sudermann returned to novel writing and continued to write fiction until his death Among his numerous other works are the play *Sodoms Ende* (1891, Eng tr , *The Man and His Picture*, 1903); the novels *Regine* (1889, Eng tr , 1894), *Das hohe Lied* (1908, Eng tr , *The Song of Songs*, 1909), *Der tolle Professor* (1926; Eng tr , *The Mad Professor*, 1928), and *Purzelchen* (1928, Eng tr , *The Dance of Youth*, 1930), the autobiographical *Das Bilderbuch meiner Jugend* (1922, Eng tr , *Book of My Youth*, 1923); and the short-story volume *Der Rosenstock* (1917, Eng tr , *The Excursion to Tilsit*, 1930), perhaps his best work

Sudetes (sōōdē'tēz), Czech *Sudety* (sōō'dĕtyĭ), Ger *Sudeten* (zōōdā'tûn), mountain range, extending for c 180 mi along the northern border of Czechoslovakia, between the Elbe and the Oder rivers It is continued on the west by the Erzgebirge and on the east by the Carpathians The Sudetes are divided into several groups Farthest west, bordering on Saxony, are the Lusatian Mts , along the border with Silesia are, from west to east, the Isergebirge, the RIESENGEBIRGE, the Adlergebirge, and the Jesenìky mts The Riesengebirge rises to 5,258 ft in the Schneekoppe The mineral deposits of the Sudetes include coal, lignite, peat, iron, nickel, silver, graphite, kaolin, and pyrites There are numerous mineral springs and resorts Lumber products, glass and porcelain, and textiles are the chief industrial products Liberec and Jablonec nad Nisou are the chief manufacturing centers for, respectively, textiles and glass Home industries have long held an important place in the Sudetes The region was largely German-speaking until 1945 However, the term "Sudete Germans" was not limited to the Sudete Mts but designated all the German-speaking population in the regions of Czechoslovakia bordering on Germany These Germans had been settled in Bohemia for centuries, and their country, known as Sudetenland, has always been a part of Bohemia. The Sudete German party, founded by Konrad Henlein in 1934, was an offshoot of the German National Socialist party It protested that the government discriminated against the German minority, a charge which it vastly exaggerated but which contained some truth The party grew steadily in power, and in 1938 it was Hitler's chief instrument in the events leading to the MUNICH PACT and the annexation of the Sudetenland to Germany The districts were recovered by Czechoslovakia in 1945, and the major part of the German population (except those believed loyal to Czechoslovakia) was expelled

Sue, Eugène (ûzhĕn' sü'), 1804–57, French novelist, whose name was originally Marie Joseph Sue He served as a surgeon in the French navy, but when Napoleon III came into power he went into exile He is remembered for two books, widely translated—*Les Mystères de Paris* (pub. serially, 1842–43; 1st Eng tr , *The Mysteries of Paris*, 1844) and *Le Juif errant* (1844–45; 1st Eng. tr., *The Wandering Jew*, 1845).

Suebi see GERMANS

Suess, Eduard (ä'dōōärt süs'), 1831–1914, Austrian geologist, b. London He was professor (1857–1901) at the Univ. of Vienna and served for more than 20 years in the Austrian parliament. His great work, *Das Antlitz der Erde* (5 vols., 1883–1901), was translated as *The Face of the Earth* (1904–24).

Suetonius (Caius Suetonius Tranquillus), (swētō'nēŭs), fl. c 120, Roman biographer He was briefly the private secretary of Emperor Hadrian. His *De vita Caesarum* [concerning the lives of the Caesars] survives almost in full, and there are fragments of a much larger collection of biographies, *De viris illustribus* [concerning illustrious men] Like a magpie, he gathered together all sorts of items, and the resultant biographies are lively and informative Suetonius was taken as a model by many later biographers

Suetonius Paulinus see PAULINUS,

Suevi see GERMANS

Suez (sōōĕz'), city (pop 49,669), Egypt, near the southern terminus of the Suez Canal at the northern extremity of the Gulf of Suez In the near-by oasis, the Springs of Moses, is a spring which Moses is supposed to have miraculously made sweet. Ex 15 25

Suez Canal, waterway of Egypt extending from Port Said to Port Tewfik (near Suez) and connecting the Mediterranean Sea with the Gulf of Suez and thence with the Red Sea The canal is somewhat more than 100 mi long Proceeding S from Port Said, it runs in an almost undeviating straight line to the small Lake Timsah From there a cutting leads to the Bitter Lakes (now one body of water), and a final cutting then attains the Gulf of Suez The cuttings are a minimum of 196 ft wide at bottom and are over 42 ft deep The Suez Canal is without locks and can accommodate ships of any draft The desirability of a water connection between the Mediterranean and the Red Sea was long appreciated in antiquity A canal was built in the 20th or 19th cent B C to Lake Timsah (then the northern end of the Red Sea) When the Red Sea receded, Xerxes I had the canal extended It was restored several times (notably by Ptolemy II and Trajan) until the 8th cent A D , when it was closed and fell into disrepair The modern canal was planned by Ferdinand de Lesseps, who also supervised construction (1859–69) Great Britain soon acquired control by purchasing the interest of the Egyptian khedive in 1875 Management is in the hands of the Suez Canal Company, the stock of which is owned by various European governments Great Britain is the guarantor of the neutrality of the canal and of its accessibility to merchant and naval vessels in peace and war In fact Great Britain has excluded enemy shipping It is estimated that half the commerce between Europe and the Far East passes through the canal, in most years there are some 6,000 ships which make the transit See Charles Hallberg, *The Suez Canal* (1931), Sir Arnold T Wilson, *The Suez Canal Its Past, Present, and Future* (2d ed , 1939)

Suffern, village (pop 3,768), SE N Y , NW of New York city, in the Ramapos and at the N J line, inc 1896 A suburb and a trading center for summer residents, it has small industries

Suffield, town (pop 4,475), N Conn , on the Connecticut at the Mass line, in a tobacco-raising area, settled c 1670 Cigar making began in 1810 Suffield Academy for boys (preparatory) is here

suffocation see ASPHYXIA.

Suffolk, dukes and earls of see also POLE, family.

Suffolk, Charles Brandon, 1st **duke of** (sŭ'fuk), d. 1545, English nobleman He entered the service of Henry VIII and gained favor, receiving many preferments He was created Viscount Lisle (1513) on his betrothal to his ward, Elizabeth Gray, but the title was cancelled when Elizabeth, on coming of age, refused to marry him He was created duke of Suffolk in 1514, perhaps to aid him in his suit of Margaret of Austria, regent of the Netherlands In 1515, while on an embassy to the new king of France, Francis I, Suffolk married MARY OF ENGLAND, widow of LOUIS XII and sister of Henry VIII This ambitious marriage, complicated by the fact that one of Brandon's two former wives was still living, angered Henry considerably, and it was only by the payment of jewels and large sums of money that the couple regained favor Suffolk accompanied Henry to the Field of the Cloth of Gold (1520) and led an invading army into France (1523) By his firm support of all of Henry's policies, Suffolk achieved a position second only to that of the duke of Norfolk He supported the king's divorce from Katharine of Aragon, received confiscated monastery lands, led troops against the rebels in the Pilgrimage of Grace (1536), and led an invasion of France (1544).

Suffolk, Henry Grey, duke of, d. 1554, English nobleman. He became 3d marquess of Dorset upon his father's death (1530) and in 1534 married Frances Brandon, daughter of the duke of Suffolk and niece of Henry VIII During Henry's reign he was active at court. Upon the accession of Edward VI (1547), Grey at first supported the duke of Somerset but soon shifted to the rising earl of Warwick He received favors at court and was created duke of Suffolk (1551) through his wife's claim. Lady Jane GREY was his daughter, and upon the death of Edward (1553) Suffolk joined the plot to place her on the throne, but through fear of his life deserted her and proclaimed Mary I queen. Suffolk was released, largely because of his wife's friendship with Mary, but joined the rebellion of Sir Thomas WYATT (1554), was captured, convicted of treason, and executed.

Suffolk, Thomas Howard, 1st **earl of,** 1561–1626, English nobleman. The son of the 4th duke of Norfolk and member of the powerful HOWARD family, he was attainted at the time of his father's execution, but his rights were restored in 1584. He volunteered for naval duty against the Spanish Armada (1588), was knighted at sea, and rose quickly to high rank Howard commanded the squadron that attacked the Spanish treasure fleet off the AZORES in 1591 Recalled from naval duty in 1597 to enter Parliament, he was made Baron Howard de Walden In 1601 he was commander of the forces which besieged the earl of Essex in his house and was a member of the jury which tried him Upon the accession of James I (1603), he was created earl of Suffolk and later held a number of official posts In 1614 he became lord high treasurer His daughter, Frances Howard, and her husband, Robert Carr, earl of Somerset, were tried (1615) and convicted of the murder of Sir Thomas OVERBURY Suffolk was accused (1618) of embezzlement and fraud as treasurer, tried (1619), convicted, and heavily fined Although both he and his wife, who was thought to have influenced him, were soon released, he did not regain influence

Suffolk (sŭ'fuk), maritime county, E England, divided for administrative purposes into Suffolk East (871 sq mi ; 1931 pop 294,977, 1948 estimated pop 312,876) and Suffolk West (611 sq mi , 1931 pop 106,137, 1948 estimated pop 111,984). The terrain is low and undulating The coastline, broken by sandstone cliffs, has been encroached upon in places by the sea The chief streams as the Waveney, the Stour, the Deben, the Orwell, and the Alde It is mainly an agricultural region and is one of the chief grain-producing counties of England Breeds of horses, hogs, sheep, and cattle have been developed, and stock raising is a leading occupation Along the coast fishing is important There are numerous Roman remains in the county In Anglo-Saxon times Suffolk was a part of the kingdom of East Anglia, inhabited by the "south folk" of that kingdom, whence the name of the county The Danes ravaged Suffolk in the 9th cent It was organized as a shire about the time of the Norman Conquest Ipswich, in Suffolk East, and Bury St Edmunds, in Suffolk West, are the chief towns See *Victoria History of Suffolk* (2 vols , 1907–11)

Suffolk, city (pop 11,343), SE Va , on the Nansemond river and near the Dismal Swamp, settled 1720, inc as a town 1808, as a city 1910 It is the rail, commercial, and industrial center for a farm and lumber area, is a great peanut market and processing center, and has woodworking, chemical and machinery manufactures The courthouse of Nansemond co is here Suffolk was burned by the British in 1779, occupied by Union troops on May 12, 1862, and besieged by Longstreet in April, 1863

suffrage see BALLOT, ELECTION; FRANCHISE, VOTING, WOMAN SUFFRAGE

Suffren de Saint-Tropez, Pierre André de (pyĕr' ädrā' dŭ sufrĕn' du sĕ-trōpā'), 1726–88, French admiral He participated in naval warfare on the Atlantic in the War of the Austrian Succession and in an expedition (1756) to Minorca in the Seven Years War In 1779 he was sent with ESTAING to aid the American revolutionists, and two years later he began his famous cruise to the East Indies He attacked the English at the Cape Verde Islands, saved the Dutch colony at Capetown from English capture, and then began his campaign against the British in India under Sir Edward Hughes With the help of HYDER ALI he seriously crippled British operations, forcing Hughes to retire to Madras Suffren was recalled upon the conclusion of peace and was created vice admiral. An account of his life is found in A T. Mahan, *The Influence of Sea Power upon History, 1660–1783* (1890)

Sufi (sōō'fē), member of a Mohammedan mystic order. The Sufis included the greatest of the Persian poets—Abu Said ibn Abi-l-Khair, Ferid ed-Din Attar, Hafiz, Jami, Omar Khayyam, and Jalal ed-Din Rumi. The highly developed symbolism of the soul's union with God is expressed in exquisite lyric style The movement of **Sufism** (sōō'fĭzĭm), which emerged among the Shiites in the late 10th and early 11th cent , was, however, a broad philosophy, not simply a literary movement. It borrowed ideas from Neoplatonism, Buddhism, and Christianity. The semimonastic order arose, with variant ideas and practices. Some members stressed ascetic practices, some stressed quietism. All were united in emphasis on the immediate personal union of the soul with God. In some variations the beliefs of Sufism verge sharply toward pantheism, thus almost leaving Islam altogether. The movement was strongest in Persia, and its greatest purely philosophical exponent was AL-GAZEL. A great many of the modern dervish orders also profess Sufism.

sugar, compound of carbon, hydrogen, and oxygen belonging to a class of substances called carbo-

hydrates Sugars fall into three groups, the monosaccharides, disaccharides, and trisaccharides The monosaccharides are the simplest sugars, they include FRUCTOSE and GLUCOSE. The disaccharides are formed by the union of two monosaccharides with the loss of one molecule of water Disaccharides include LACTOSE, MALTOSE, and SUCROSE. Less well known are the trisaccharides, raffinose is a trisaccharide present in cottonseed and in sugar beets The letters d- and l- written before the name of a sugar do not stand for dextro and levo referring to its optical effect on the rotation of plane polarized light The letter indicates rather the position (to the right or left) of a certain hydroxyl group in the molecule and thus indicates that the sugar is a member of the d- or l- family of sugars, the d-sugars are related to d-glyceraldehyde (or d-glyceric aldehyde) and the l- sugars to l-glyceraldehyde. The letter is written in various ways, e g , as d-glucose, *d*-glucose, or D-glucose.

sugar, maple: see MAPLE.

sugar cane, tall perennial grass (*Saccharum officinarum*), probably cultivated in Asia from prehistoric times and now widely cultivated in tropical and subtropical regions Besides a warm climate the plant requires considerable moisture and a fertile soil, in the United States it is grown chiefly in Louisiana Sugar cane somewhat resembles corn and sorghum and has a large terminal panicle but does not often produce fertile seed It is ordinarily planted from cuttings and under the best conditions in the tropics may be harvested a number of times from the one planting The methods of cultivation in a large part of the world's fields are still very primitive The sugar (see SUCROSE) obtained from the plant was long a luxury and was a crude sugar compared with the highly refined, white, granulated sugar that has been a fairly recent development By-products obtained from sugar cane include MOLASSES, RUM, alcohol, fuel, paper, wallboard, and livestock food There are several kinds of sugar cane, sometimes called simply cane, in cultivation See F S. Earle, *Sugar Cane and Its Culture* (1928)

Sugar Creek, city (pop 1,638), W Mo , on the Missouri and near Kansas City, inc 1920 It refines oil, which is produced in the area, and makes cement

Sugar Land, unincorporated town (pop c 1,500), S TEXAS, SW of Houston An industrial town, originally built around a sugar refinery, it now has plants to process figs, vegetables, and oil and to make chemicals There are oil wells near by Several prison farms are in the neighborhood

sugar maple: see MAPLE

Sugar Notch, borough (pop 2,505), NE Pa , near Wilkes-Barre, inc 1867

sugar of lead, common name for lead acetate, a white, crystalline substance with a sweetish taste, soluble in water and, like other compounds of lead, very poisonous (for antidote, see lead under POISONING, table) Chemically it is a salt of acetic acid, composed of lead, carbon, hydrogen, and oxygen and prepared by treating litharge with acetic acid. In textile printing and dyeing it is used as a mordant, and in paints as a drier It is also a component of various medicated lotions and ointments.

Suger (sŭzhĕr'), 1081–1151, French cleric and statesman, abbot of Saint-Denis, and minister of Louis VI and Louis VII He was noted for his financial ability and his genius for conciliation At Louis VII's departure on crusade (1147), he appointed a council of regency, of which Suger was the most prominent member, during his administration (1147–49) Suger succeeded in maintaining peace at home and in raising funds to meet the king's expenses He liberated the abbey at Saint-Denis from the tribute formerly paid to robber barons, recovered alienated properties, rebuilt the church, and enriched it with works of art At the same time he introduced a more severe discipline. He was the author of a life of Louis VI and of fragments of a life of Louis VII and probably also of an account of his administration of Saint-Denis

Suhl (zōōl), town (pop 24,598), Thuringia, central Germany, S of Gotha It manufactures small arms, automobiles, precision instruments, chemicals, and toys It became a center of the German arms industry in the Thirty Years War

Sui (swē), dynasty of China, which ruled from A D. 581 to 618 From his capital at Changan, and later at Anyang, Yang Chien (541–604), the first Sui emperor (he had been a northern Chou official who usurped the throne), ruled an empire extending from the Great Wall to the Pescadores and as far south as Annam The Sui armies used barbarian cavalry tactics to conquer large areas, and they built canals to give their administrators mobility. They made the Grand Canal into a trunk system connecting the Wei, Fen, Yellow, Hwai, and Yangtse rivers. Yang Chien's son, following his father's example of usurpation, killed him, and then carried on his work He himself was murdered by the founder of the T'ang dynasty.

suicide [Latin, =self-killing] The attitude toward suicide in all societies is dependent upon the emphasis placed on individuality. Where there is little competition and desire to obtain personal recognition, suicide is rare But when rivalry between individuals is intense and personal ambition is exalted, suicide is more frequent While it was not approved in ancient Greece, there were no official sanctions against suicide, and it was sometimes offered as an alternative to execution, as in the case of Socrates The Romans considered suicide a proper way of saving one's honor, and when the Stoic doctrine of the unity of all the universe became popular, the attitude toward suicide as a release from an unwelcome individuality became even more favorable Buddhist and Hindu doctrine considers individuality an illusion Suicide is, therefore, considered most desirable and has been institutionalized (e g , SUTTEE and HARA-KIRI) The Moslems, on the other hand, consider suicide worse than homicide, while the Jews consider it a sin Christianity has always stressed the sacredness of all life and at least since the time of St. Augustine, the Church has regarded suicide as murder The first civil laws against suicide in England date from the 11th cent It was classified as a FELONY in English common law because the self-murderer illegally broke his bond of fealty, and his property was thereby forfeited to the king Suicides could not be buried in sacred ground, they were usually interred on public highways, with a stake driven through the heart Other European countries had similar policies toward suicide, and it is still considered a crime in England With the abolition of feudal concepts it became futile to regard suicide as felonious, and the crime no longer exists in the United States However, those who advise or abet suicide are subject to severe punishment Most life-insurance policies contain clauses that if the insured commits suicide within two years after the policy takes effect, the beneficiary will receive only the accrued premiums, not the face value of the policy In the West in modern times suicide is most common in cities and predominant at both ends of the social scale It is more frequent among men than women Suicide may be brought on by a sudden calamity, but for it to occur there must already be serious emotional conflict with feelings of fear, anxiety, or guilt Thus suicide may generally be described as a psychotic reaction Some schools of psychiatry regard suicide as a turning inward of destructive impulses or as self-murder in atonement for guilt feelings Suicides are often suggested by other suicides, so that epidemics of self-destruction develop See publications of the National Save-a-Life League, L I Dublin and Bessie Bunzel, *To Be or Not to Be* (1933), Karl A Menninger, *Man against Himself* (1938)

suicide plane see KAMIKAZE

Suidas (sōō'ĭdus), name of a Greek lexicon-encyclopedia, also applied to its compiler, who seems to have lived in the 10th cent A D The texts from classic Greek works and the commentaries, though mostly derived from late and corrupt sources, preserve much information about Greek literature that would otherwise be lost

Suifu, China see IPIN

Suir (shōōr), navigable river, 85 mi long, rising in Co Tipperary, Ireland, in the Devilsbit Mts It flows south, then runs east with Co Waterford on the south, Tipperary and Kilkenny on the north. With the Barrow it forms Waterford Harbour.

suit, in law see PROCEDURE

suite (swēt), in music, instrumental composition in cyclic form The germ was provided in the 16th-century practice of playing in sequence two dances of contrasting meter, e g , pavan and galliard The 16th-century lute composers and the French composers for the harpsichord in the early 17th cent composed suites of dances having no organic connection beyond the fact that they were all in the same key Froberger made an organic whole of the suite, his suites consisting of *allemande*, courante, saraband, and gigue To these were often added a minuet, *bourrée*, gavotte, *passepied*, or other dance, and in the keyboard suites of J S Bach the initial movement is often not in dance form and is called by various names, e g , prelude, sinfonia, overture Bach's orchestral suites, which consisted of a French overture followed by an air, a gavotte, a *bourrée*, and a gigue, were originally called overtures The Italian suite, which developed in the late 17th cent , was rather free and was called *sonata da camera* (see SONATA) Until the end of the baroque period all the movements of the suite were in simple binary form. In the classical period the instrumental SERENADE was a kind of suite. In the 19th cent the suite as a collection of pieces drawn from incidental music for plays or from the score of a ballet came into being, e g., Grieg's *Peer Gynt Suite* and Tchaikovsky's *Nutcracker Suite*

Suiyuan (swā'yōō'ăn', -yüăn'), Mandarin *Sui-yüan*, province (126,180 sq mi ; pop 1,718,089), N China, bordered on the north by the Mongolian People's Republic The capital is Kweisui Suiyuan, a part of Mongolia, is chiefly a high arid plateau; it comprises the ORDOS desert region in the southwest, grazing areas in the north, and a fertile belt along the Yellow River, which crosses the province from west to east Livestock raising and the growing of grains, chiefly millet, support most of the people The few cities are important only as stations on the caravan routes to Sinkiang and the Mongolian People's Republic Several finished roads and a railroad to Peiping provide communications with E China. In 1949 N Suiyuan was made part of the Inner Mongolian Autonomous Region

Suk, Josef (yō'zĕf shōōk'), 1874–1935, Czech composer and violinist, grad Prague Conservatory, 1891, pupil and son-in-law of Dvorak While still at the Prague Conservatory, Suk and three of his fellow students founded the Bohemian String Quartet, of which Suk was second violinist As a composer, he began as a disciple of the neoromanticism of Dvorak, but in his later works he developed a rich and chromatic polyphony which approached atonality A highly subjective composer, he nevertheless did not write literal program music His second symphony, *Asrael* (1907), reflects the profound inner grief which he felt after the death of Dvorak and the death soon after of his wife, Dvorak's daughter Suk joined the faculty of the Prague Conservatory in 1922 and later became its rector See Rosa Newmarch, *The Music of Czechoslovakia* (1942)

Sukarno or **Soekarno** (both sōōkär'nō), 1902–, Indonesian statesman, first president of the United States of Indonesia and of the republic of Indonesia One of the leaders of the radical nationalist movement in 1927, he was jailed and exiled by the Dutch at various times in the 1930s During the Second World War when Indonesia was occupied by the Japanese, Sukarno cooperated with them, while continuing his agitation for Indonesian independence After the war he played a crucial part in the establishment (Aug , 1945) of the republic of Indonesia, of which he became the first president Subsequently he was twice held by the Dutch during the intermittently violent period of warfare between the Dutch and the republican forces When the United States of Indonesia was created in Dec , 1949, Sukarno became its first president Like many other Indonesians, he has no first name

Sukhona (sōōkhô'nŭ), river, 350 mi long, N European RSFSR It issues from Kubeno lake, N of Vologda, and flows ENE into the Yug at Veliki Ustyug, the two rivers form the Northern Dvina

Sukhum (sōōkhōōm') **or Sukhumi** (sōōkhōō'mē), city (pop 44,350), capital of Abkhas ASSR, Georgian SSR, a port on the Black Sea An important subtropical resort, it has sulphur baths frequented since Roman times North of the city was the ancient Greek colony of Dioscurias, later the Roman and Byzantine Sebastopolis The Turkish fortress of Sukhum-Kale fell to Russia in 1810 Sukhum has a famous botanic garden and an agricultural experimental station The **Sukhum Military Road** crosses the Caucasus at the Khikhori Pass (9,235 ft high), where it is a trail, and continues SW to Sukhum It is c 120 mi long

Sukkertoppen (sōō'kurtô"pun), district (pop 1,831), SW Greenland The chief settlement, Sukkertoppen (pop 933), is a harbor N of Godthaab It is a fishing and hunting base and has a hospital and a radio station

Sukkims (sŭ'kĭms), nation, presumably African, which contributed to the army of Pharaoh Shoshonk in invading Palestine 2 Chron. 12 3

Sukkoth: see TABERNACLES, FEAST OF

Sulaimaniya (sōō"lämänē'ù), town (pop c 20,000), NE Iraq, near the Iranian border, founded c 1789 It manufactures rifles and is a military post.

Sulaiman Mountains (sōōlīmän'), range along the Baluchistan-Punjab border. It rises to Kaisargarh (11,295 ft) and Takht-i-Sulaiman (11,070 ft)

Suleiman I (sōō'lĭman", -lā-, sōō"lämän') **or Suleiman the Magnificent,** 1494–1566, Ottoman sultan (1520–66), son and successor of Selim I He is sometimes erroneously called Suleiman II With him the Ottoman Empire reached the height of its power and prestige He continued his father's conquests in the Balkans and the Mediterranean, conquering Belgrade in 1521, expelling the Knights Hospitalers from Rhodes in 1522, and inflicting a crushing defeat on the Hungarians at MOHACS in 1526 He unsuccessfully besieged Vienna in 1529 and supported John Zapolya (JOHN I of Hungary) against FERDINAND I. John's death and the accession of JOHN II were pretexts for the outright annexation of Hungary (except Transylvania and the section held by Ferdinand) to the Ottoman Empire In 1536 Suleiman entered a formal alliance with Francis I of France against the house of Hapsburg, this alliance remained the basis of Turkish foreign policy for more than three centuries Although Suleiman's vassal, BARBAROSSA, made the Turkish fleet the terror of the Mediterranean, Suleiman was, on the whole, unsuccessful in his naval warfare against Emperor Charles V and Venice, he lost (1535) Tunis to Charles V and failed to take Malta in 1565 Suleiman undertook several successful campaigns against Persia. A Turkish naval expedition to the Red Sea resulted in the conquest of the Arabian coast lands Having resumed (1566) warfare in Hungary, Suleiman died during the siege of Szigetvar From 1523 until 1536 Suleiman's grand vizier Ibrahim held powers almost equal to the

sultan's, and much of the credit for Ottoman greatness belonged to him Yet, without any previous sign of displeasure, Suleiman had Ibrahim strangled in 1536. A still blacker spot on Suleiman's career was the murder (1553) of his own son, Mustafa, instigated by his favorite wife, Roxelana, who thus secured the succession to her offspring Warfare resulted between Roxelana's two sons, Selim and Bajazet, and in 1559 Selim defeated Bajazet, who took refuge in Persia. Suleiman paid the shah of Persia a large sum as price for the execution of Bajazet and his four sons, and it was Selim who on Suleiman's death succeeded him as Selim II Thus the fatal influence the harem was to exert on later Turkish rulers made itself first manifested in Suleiman's reign In his government, however, Suleiman was generally distinguished for his mildness and justice His military, educational, and legal reforms earned him the name Suleiman the Lawgiver among Moslems Suleiman was fond of pomp and splendor He was a lavish patron of the arts and of literature, and Sinan, greatest Turkish architect, worked under his orders (see MOSLEM ART AND ARCHITECTURE) See R B Merriman, *Suleiman the Magnificent* (1944).

Suleiman II, 1642–91, Ottoman sultan (1687–91), brother and successor of Mohammed IV His grand vizier, Mustafa KUPRILI, was at first successful in taking the offensive against the Austrians, but was slain, shortly after Suleiman's death, in the battle of SLANKAMEN (1691) Suleiman was succeeded by his brother, Ahmed II

Suleiman the Magnificent see SULEIMAN I

sulfa drugs (sŭl'fu), synthetic drugs derived from sulfanilamide (or para-aminobenzenesulfonamide). Sulfanilamide itself was first synthesized in Germany by Gelmo in 1908 In 1932 Gerhard DOMAGK while testing certain dyes discovered the bactericidal properties of prontosil, clinical use of prontosil began c 1934 in Germany Experiments conducted in France revealed the active curative agent in prontosil to be sulfanilamide In the United States the therapeutic value of sulfanilamide was confirmed (1936) at Johns Hopkins Univ by P. H Long, E A Bliss, E K Marshall, and others. The sulfa drugs are used in treating a variety of bacterial infections, and they have been the means of saving countless lives Among the many compounds used medically are (in addition to sulfanilamide) sulfapyridine, sulfathiazole, sulfadiazine, and succinylsulfathiazole It is believed that the action of the sulfa drugs is bacteriostatic, i e , the drug checks the growth and reproduction of the bacteria, thereby making it possible for the natural body defenses to conquer the germs Various sulfa drugs are used effectively against infections caused by hemolytic streptococci (e g , abscesses, streptococcal meningitis, osteomyelitis, peritonitis, and septicemia), by meningococci (e g , meningococcal meningitis and septicemia), by pneumococci (e g , pneumonia, pneumococcal meningitis, and peritonitis), by gonococci (e g , arthritis and gonorrhea), and by staphylococci (e g , carbuncle and septicemia) and in treating infections of the urinary tract caused by various bacteria Sulfa drugs sometimes produce toxic effects, they should be administered only by a physician.

Sulgrave Manor, Tudor house in Sulgrave village, Northamptonshire, England, home of ancestors of George WASHINGTON from 1539 until 1610 In 1914 it was presented to the George Washington–Sulgrave Institution, it has been restored, refurnished, and made a Washington museum and is a shrine for American visitors to England.

Suli or **Souli** (both sōō'lē), small mountainous district, W Epirus, N Greece, NE of Parga Its inhabitants, the Suliotes, fought successfully (1790–1802) for their independence against Ali Pasha, the Turkish governor of Ioannina In 1803, however, Ali Pasha massacred many of them after concluding a false truce They were again decimated in a new rebellion in 1820, when many fled to the Ionian Islands

Sulitelma or **Sulitjelma** (both sōōlĭtyĕl'ma), mountain, 6,178 ft high, Nordland co , N Norway, on the Swedish border Its very rich copper mines are worked by a Swedish company, and the ore is exported at Bodo

Sulla, Lucius Cornelius (lōō'shŭs kôrnē'lyus sŭ'lŭ), 138 B C –78 B C , Roman general His name is also spelled Sylla At the height of his career he assumed the name Felix He served under MARIUS in Africa and became consul in 88 B C , when Mithridates VI of Pontus was overrunning Roman territory Sulla and Marius both wanted the command against him—Marius as a popular leader, Sulla as a senatorial favorite Sulla got the office by marching his soldiers on Rome (88 B C). By 85 B C he had driven Mithridates' armies back to Asia; Sulla's exploits had included a bloody sack of Athens (86 B C) Meanwhile Marius's party (led by CINNA) sent another army to Greece, designed to supplant Sulla's, but the other commander, Fimbria, fought independently Mithridates was defeated (84 B C), then Sulla defeated Fimbria Sulla came back to Italy (83 B C) with 40,000 men The ensuing civil war lasted about a year in Italy (Sertorius continued it in Spain); Sulla's chief opponent was Cn Papirius CARBO The war ended just after the battle of the Colline Gate, a last desperate foray by Marians from Samnium, Sulla captured and massacred 8,000 prisoners. Sulla had himself named dictator (82 B C) and began the systematic butchery of his enemies, this proscription (done with public lists) soon surpassed all Roman precedents As the murders were legalized, the property of the victims (naturally including many very rich men) easily went to Sulla's friends The dictator reorganized the government with measures, suggested by the METELLUS faction, which would remove any popular check on the senate Sulla also founded a number of colonies for his veterans In 79 B C he retired His "reforms" did not last No Roman before the most notorious emperors equaled Sulla in the union of cruelty with carelessness toward legality See A H Beesly, *The Gracchi, Marius, and Sulla* (1898)

Sullana (sōōyä'na), city (pop 22,344), NW Peru. In the coastal Peruvian desert, Sullana is the commercial center for an irrigated cotton-growing district Cinchona bark, source of quinine, is still gathered in the region

Sulligent (sŭ'lĭjĕnt), town (pop 1,287), NW Ala , near the Miss line WNW of Birmingham, in a farm area, settled 1887, inc. 1888 It processes cottonseed and lumber

Sullivan, Anne: see MACY, ANNE S

Sullivan, Sir Arthur Seymour, 1842–1900, English composer As a boy he sang in the choir of the Chapel Royal He was the first holder of the Mendelssohn scholarship at the Royal Academy of Music, entitling him to study at the Leipzig Conservatory He became organist at St Michael's, London, in 1861 and professor of composition at the Royal Academy of Music in 1866, the following year he accompanied Sir George Grove to Vienna, where they unearthed the manuscript of Schubert's *Rosamunde* Sullivan became known as a composer through his incidental music to Shakspere's *Tempest* (1862) His first comic opera, *Cox and Box*, was produced in 1867 In 1871 began his long and successful collaboration with W S GILBERT Despite the success of the Gilbert and Sullivan comic operas, Sullivan felt that his best work was his serious music, chiefly his oratorios—which include *Kenilworth* (1864), *The Prodigal Son* (1869), *The Light of the World* (1873), and *The Golden Legend* (1886)—and his serious opera *Ivanhoe* (1891) He composed many songs, among which *The Lost Chord* (1878) became tremendously popular, hymns, including *Onward, Christian Soldiers* (1871), anthems, ballets, and dramatic music He was also noted as a conductor In addition to performances of the operettas, he conducted the London Philharmonic Orchestra, 1885–87, and the Leeds Festivals, 1880–98 When the National Training School for Music was organized (1876), he became its principal, remaining in that position until 1881. Although he and Gilbert were a perfect collaboration, their widely diverse temperaments resulted in quarrels and eventual separation See biographies by H S Wyndham (1926) and Herbert Sullivan and W N Flower (1927), Isaac Goldberg, *The Story of Gilbert and Sullivan* (1928), Hesketh Pearson, *Gilbert and Sullivan* (1935)

Sullivan, Harry Stack, 1892–1949, American psychiatrist, b Norwich, N Y , M D Chicago College of Medicine and Surgery, 1917 He later taught at the Univ of Maryland and at Georgetown Univ. In the understanding of mental disorders Sullivan believed that psychoanalysis, although essentially valid, needed to be supplemented by a thoroughgoing study of the impact of cultural forces upon the personality In his dual role as head of the William Alanson White Foundation (1934–43) and of the Washington School of Psychiatry (1936–47), he had the collaboration of like-minded psychologists and sociologists in bringing this view to public and professional attention Sullivan also contributed to the understanding of schizophrenia and obsessional states A number of his papers published originally in the periodical *Psychiatry*, of which he was an editor, were gathered together to make up *Conceptions of Modern Psychiatry* (1940).

Sullivan, John, 1740–95, American Revolutionary general, b Somersworth, N H He was a lawyer and a delegate (1774–75, 1780–81) to the Continental Congress but is better remembered as a military leader He was at the patriot siege of Boston, and in 1776, when fighting under Washington at the battle of Long Island, he was captured by the British He was exchanged in time to fight at Trenton and Princeton and later at Brandywine and Germantown In 1778 he was sent to cooperate with the French fleet in an attack on Newport Sullivan was successful in the field, but the naval attack had to be given up. The next year he conducted his most famous campaign The Iroquois Indians had sided with the British and had raided the New York frontier The massacres that followed the attacks by Butler's Rangers (see BUTLER, JOHN, BUTLER, WALTER; BRANT, JOSEPH) in 1778 called forth a punitive expedition. Sullivan led the campaign, joined his forces with those of James CLINTON, fought in the Chemung valley, and in the battle of Newtown (near Elmira) soundly defeated the Butlers Much of the Iroquois country was laid waste In the same year Goose Van Schaick led a campaign against the Onondaga Indians and Daniel Brodhead subdued the Indians in Pennsylvania This fighting, with the victory of George Rogers Clark in the West, protected the frontier Sullivan was later chief executive (1786–88, 1789–90) of New Hampshire. He also helped to put down Shays's Rebellion and was influential in getting the Constitution ratified

Sullivan, John Lawrence, 1858–1918, American pugilist, b Boston After gaining a local reputation in amateur boxing, the Boston Strong Boy, as Sullivan came to be called, made a tour of New England cities and thereafter boxed professionally Sullivan, with a devastating right punch, was successful from the start and in 1882 won the bare-knuckles heavyweight championship by knocking out Paddy Ryan in nine rounds in Mississippi City, Miss The "Great John L " met all comers, having defeated Charlie Mitchell in New York in 1883, he fought him to a draw in Chantilly, France, five years later Sullivan's prowess in the ring and his swashbuckling personality won him many friends and made him the idol of American sports fans He fought and won his final bare-knuckles bout (1889) by subduing Jake Kilrain in 75 rounds at Richburg, Miss Fighting with gloves under the Queensberry rules for BOXING, Sullivan was defeated (1892) by James J Corbett in New Orleans He retired from the ring in 1896, still in possession of the bare-knuckles crown In 1905 Sullivan, dramatically renouncing his old way of life, became a temperance advocate and later, at the age of 52, settled down on a Massachusetts farm See D B Chidsey, *John the Great* (1942)

Sullivan, John Lawrence, 1899–, U S government official, b Manchester, N H , grad Dartmouth, 1921, and Harvard Law School, 1924 He was admitted (1923) to the bar and practiced in New Hampshire After he was (1940–44) Assistant Secretary of the Treasury, he was Assistant Secretary of the Navy (1945–46) and then, Undersecretary of the Navy (1946–47) He became (1947) Secretary of the Navy in the U S Dept of Defense, but resigned (1949) because of friction with Louis A Johnson, U S Secretary of Defense, over the production of navy aircraft carriers

Sullivan, Louis Henry, 1856–1924, American architect, b Boston, studied at the Massachusetts Institute of Technology and the École des Beaux-Arts He was of great importance in the evolution of modern architecture in the United States His principle, demonstrated in his writings and in his executed buildings, was that outward form should faithfully express the function beneath This doctrine, the accepted and guiding one of modern architecture throughout the world, gained for Sullivan, however, few contemporary adherents In the face of the powerful revival of traditional classicism led by C F McKim in the final years of the 19th cent , little interest was focused upon Sullivan's plea for the establishment of an architecture that should be functional and also truly American Sullivan was employed in the Chicago office of William Le Baron Jenney, author of the first steel-skeleton skyscraper, and later entered the office of Dankmar Adler, where he became chief draughtsman and in 1880 was made a member of the firm Adler and Sullivan rapidly became prominent In Sullivan's Wainwright Building in St. Louis (1890), a tall steel-frame building was for the first time so designed as not to belie the structural skeleton His Transportation Building at the World's Columbian Exposition, Chicago (1893), shared nothing of the traditional classicism dominating the rest of the fair and has become renowned for its originality and for heralding a new viewpoint. Sullivan's work all bore his stamp in the highly individual ornament which he had built up into a complete style, now identified with his name The *Autobiography of an Idea* (1924), which he wrote in his last years, contains the philosophy of his life and work His executed designs include the Auditorium Building, the Gage Building, and the Stock Exchange Building, all in Chicago, a series of small banks, and a number of memorials, including the Getty Tomb in Chicago Sullivan's pupils and followers include Claude Bragdon and Frank Lloyd Wright. See biography by Hugh Morrison (1935)

Sullivan, Robert Baldwin, 1802–53, Canadian politician and judge, b. Ireland. He went to Canada in 1819, was called to the bar of Upper Canada in 1828, and in 1836 was appointed to the executive council by Sir Francis Head In 1839 he was made a member of the legislative council. Sullivan played a prominent role in effecting the union of Upper Canada and Lower Canada. With the Act of Union (1841) he became a member and subsequently president of the legislative council of united Canada Although a Conservative, he sided with the Reform party in its struggle with Sir Charles Metcalfe over the issue of responsible government and resigned (1843) with others in protest over Metcalfe's policy In a newspaper controversy with Egerton Ryerson, Sullivan, under the signature "Legion" published a series of letters

(1844) in which he ably defended the cause of parliamentary government. In the second Baldwin-LaFontaine administration, he was made provincial secretary in 1848, but later that year he was appointed a puisne judge of the court of Queen's Bench.

Sullivan. 1 City (pop 3,101), co seat (since 1845) of Moultrie co, central Ill, SE of Decatur, in a farm area; inc. 1869 It manufactures shoes, dairy products, and concrete products 2 City (pop. 5,077), co seat of Sullivan co, SW Ind, near the Wabash S of Terre Haute, platted 1842 Coal is mined here William H Hays was born in the city 3 City (pop. 2,517), E Mo, SW of St Louis; laid out c 1860 It lies in a farm and resort area in the Ozarks, with numerous caves and caverns. Shoes are made here

Sullivans Island: see MOULTRIE, FORT

Sullivant, William Starling (sŭ'lĭvunt), 1803–73, American botanist, b Franklinton (now part of Columbus), Ohio, grad Yale, 1823 He was a pioneer in the study of American mosses His chief work was *Musci Boreali-Americani* (with Leo Lesquereux, 1856).

Sully, James, 1842–1923, English psychologist He was (1892–1903) Grote professor of mind and logic at University College, London An associationist, he studied psychology in the light of physiological facts and wrote *Outlines of Psychology* (1884) and *Studies of Childhood* (1895) In 1893 he founded the British Association for Child Study See his *My Life and Friends* (1918)

Sully, Maurice de (sŭ'lē, Fr mōrēs' dŭ sülē'), c 1100–1196, French bishop After studying theology in Paris he was named (1160) bishop of that city. While serving in this position he instigated the building of Notre Dame de Paris

Sully, Maximilien de Béthune, duc de (sŭ'lē, Fr mäksēmēlyĕ' dŭ bātun' dük' dŭ sülē'), 1560–1641, French statesman Born and reared a Protestant, he fought in the Netherlands under Francis of Alençon and subsequently served under Henry of Navarre (later Henry IV of France) Before 1606 he was known as baron de Rosny (barō' dŭ rōsnē') Appointed to the finance commission in 1596, he became sole superintendent of finances in 1598 To restore the finances, which Henry III's extravagance and the Wars of Religion had plunged into disorder, he canceled portions of the public debt, recovered alienated sources of revenue, granted proprietary rights in judicial offices, and strictly controlled all expenditures As a result, there was a large surplus in the treasury at the end of Henry's reign Sully restored French prosperity by encouraging agriculture and industry, given control of communications in 1599, he set about building a network of roads and canals He was Henry IV's closest adviser and had gained his personal friendship, after Henry's assassination (1610), he resigned his office (1611) Besides being an admirable administrator, Sully was a man of remarkable vision, as is shown in his Great Design, a plan for a federation of all Christian nations, which he attributed to Henry IV His extensive memoirs, written during his retirement, were first published in 1638 See E C. Lodge, *Sully, Colbert, and Turgot* (1931)

Sully, Thomas (sŭ'lē), 1783–1872, American portraitist, b England Having come (1792) to America with his actor parents, he became while still young the pupil of his brother Lawrence, a miniaturist, until Lawrence's death in 1803 After moving to New York in 1806 he met (1807) Gilbert Stuart, whose technique he was allowed to watch. During a year (1809–10) in London he met Benjamin West, who advised him to study anatomy, and Sir Thomas Lawrence, whose style he much admired and to some extent imitated During that time he painted Fanny Kemble (Pa Acad. of the Fine Arts) and achieved some popularity. Settling (1810) in Philadelphia, he became a sought-after portraitist Among works of that period are *Capture of Major André*, a portrait of Lafayette (1824, Independence Hall), and *George Cook as Richard III* (Pa Acad of the Fine Arts) He decided (1837) on a second trip to England and was commissioned by the Sons of St. George of Philadelphia to paint the young Queen Victoria The painting (1838) was made mostly from sketches, one study of the head is now in the Metropolitan Museum Among his other works are portraits of his wife, his daughter, and himself, Major and Mrs John Biddle, and John Finley (Metropolitan Mus), Commodore Stephen Decatur (city hall, New York), President Jefferson and President Monroe (U S Military Acad., West Point, N Y), President Madison and President Jackson (Corcoran Gall). See C. H Hart, ed., *Register of Portraits Painted by Thomas Sully* (1909); Edward Biddle and Mantle Fielding, *Life and Works of Thomas Sully* (1921)

Sully-Prudhomme, René François Armand (rünā' frāswä' ärmä' sülē'-prüdôm'), 1839–1907, French poet, member of the Parnassians. He was awarded the 1901 Nobel Prize in Literature. His poetic works include *Stances et poèmes* (1865), *Les Épreuves* [the tests] (1866), *Les Solitudes* (1869), and *Les Vaines Tendresses* (1875). Two long philosophical poems, *La Justice* (1878) and *Le Bonheur* [happiness] (1888), are considered his finest work His *Que sais-je?* [what do I know?] (1896), in prose, is also philosophical

Sulmona (sōōlmō'nä), city (pop. 16,854), Abruzzi e Molise, S central Italy It lies in a small fertile plain enclosed by Apennine peaks. It has several fine churches and palaces. Ovid was born here

sulphate, a salt or an ester of SULPHURIC ACID It is a compound consisting in general of a metal or a radical (such as the ammonium radical) united with the sulphate radical (which consists of one sulphur and four oxygen atoms) In addition to the normal sulphates (for which the term *sulphate* is commonly used) there are also acid sulphates or bisulphates, compounds containing the sulphate radical but having also in their molecule a hydrogen atom The metallic sulphates are soluble in water with a few exceptions (the sulphates of barium, lead, strontium, and monovalent mercury) The sulphates of calcium and divalent mercury are slightly soluble in water A test for the sulphate ion, in chemical analysis, involves the precipitation of the insoluble barium sulphate To a solution made acid by hydrochloric acid, a solution of barium chloride is added, the presence of the sulphate ion is shown by a white precipitate (barium sulphate), formed when the metal originally united with the sulphate is driven out by the more active barium Some important sulphates are ALUM, barium sulphate, which appears as BARITE, calcium sulphate, found as GYPSUM, anhydrite (the dehydrated form), ALABASTER, SELENITE, and plaster of Paris, magnesium sulphate or EPSOM SALTS, the vitriols, including copper sulphate called BLUE VITRIOL, ferrous (iron) sulphate known as green vitriol or COPPERAS, and zinc sulphate or WHITE VITRIOL, and strontium sulphate, which appears in nature as CELESTITE Lead sulphate is used in various pigments Potassium sulphate is present in potash alum and is employed in its preparation, it is used as a fertilizer and also in medicine Sodium sulphate, of which the decahydrate is GLAUBER'S SALT, is obtained chiefly as a by-product in the preparation of hydrochloric acid and is then known as salt cake It is employed sometimes in preparing sodium sulphide and in making window glass Sodium thiosulphate is a compound in which one of the oxygen atoms of the sulphate radical has been replaced by a sulphur atom Its hydrate is the "hypo" used commonly in photography in preparing negatives It is also a bleaching agent

sulphide, compound of sulphur with one other element or radical Sulphides are salts of hydrosulphuric acid, which is a water solution of hydrogen sulphide Hydrogen sulphide is a colorless gas with an unpleasant odor (that of rotten eggs), heavier than air, and somewhat soluble in water forming the acid It burns in air to form water and sulphur dioxide, but when insufficient oxygen is present yields water and sulphur Hydrogen sulphide is used extensively in the laboratory, since, when added to metallic solutions, it causes the formation of metallic sulphides which exhibit colors characteristic for the metal present Most metals combine with sulphur directly upon heating The tarnishing of silver is the result of the formation of silver sulphide A number of metals occur in nature combined with sulphur in sulphides, these compounds being important as ores of the metals When the ore is roasted, the metal usually combines with oxygen to form its oxide and the sulphur unites with oxygen to form sulphur dioxide The sulphides of COPPER, ZINC, MERCURY, LEAD, SILVER, ANTIMONY, and some other metals serve as important ores In general, the sulphides are practically insoluble in water, those of the alkali metals and ammonium are exceptions Carbon disulphide is an important organic solvent

Sulphur. 1 Town (pop 3,504), SW La, near Lake Charles It was named for a now-abandoned sulphur dome In 1924 oil was discovered near by. 2 Resort city (pop 4,970), co seat of Murray co, S Okla, near the Washita river and the Arbuckle Mts, settled 1895 Near by are Platt National Park and several quarries A state school for the deaf and a state veterans' hospital are in the city

sulphur, important nonmetallic element (symbol=S, for physical constants, see ELEMENT, table) The element exhibits ALLOTROPY, i e, it appears in a number of forms One of its forms is rhombic sulphur, a yellow, crystalline solid (its crystals belonging to the orthorhombic system), which is stable below 96°C and which includes the common roll sulphur or brimstone, flowers of sulphur, and much of the natural sulphur. Another form is monoclinic sulphur or prismatic sulphur, also a pale yellow, crystalline variety, its crystals being long, needlelike, and nearly transparent, it is stable between 96°C and 119°C, but reverts to the rhombic form when held under the lower temperature. A third form is amorphous sulphur, a dark, noncrystalline, gumlike substance (considered as a supercooled liquid), formed when molten sulphur is cooled suddenly by pouring it into cold water and allowing it to stand. The crystalline and amorphous forms can be distinguished in that the crystalline forms are soluble in carbon disulphide and the amorphous are not Sulphur is active chemically, forming many compounds Burning in the air with a blue flame, it combines with oxygen to form the dioxide A trioxide is known which reacts with water to form SULPHURIC ACID, the salts of which are SULPHATE compounds Sulphur, when heated, combines with most metals (except gold and platinum) to form sulphides It unites with hydrogen to form hydrogen sulphide, a gas, important in chemical analysis Sulphur is combined also with several nonmetallic elements, e g, with carbon in carbon disulphide, used extensively as a solvent and also as an insecticide, and with chlorine in sulphur chloride The element is widely and abundantly distributed in nature It is present in ores of many metals, e g, of iron (pyrite), lead (galena), mercury (cinnabar), and zinc (blende or sphalerite), and in various minerals, such as gypsum, a sulphate It is a constituent of organic matter, being one of the elements making up protoplasm. Most proteins contain sulphur. It is present in the sulfa drugs and in many other useful compounds The element occurs uncombined in volcanic regions in various parts of the world and in large deposits beneath the surface of the earth in Sicily and in the United States in Texas and Louisiana Because of the depth of these deposits in the United States and the difficulties of access, a method called the FRASCH PROCESS is widely employed for extraction of the sulphur Some is also obtained from sulphides The uses of sulphur are many, e g, in the preparation of black GUNPOWDER, sulphur dioxide (important as a bleaching agent and disinfectant), and sulphuric acid It is employed in insecticides and fungicides, in pulp paper manufacture, in the manufacture of rubber, in the vulcanization of rubber, and in making matches Sulphur, along with carbon, was known to the ancients, and to it were attributed many strange properties, it is the brimstone of the Bible.

sulphuric acid, colorless, heavy, oily substance, extremely corrosive It boils at 338°C. and has a density of about 1 83 A compound of hydrogen, sulphur, and oxygen, it is a very strong acid and ionizes readily The concentrated acid is sometimes called oil of vitriol It mixes easily with water in all proportions, and much heat is evolved in the process of mixing Concentrated sulphuric acid serves as a valuable dehydrating or drying agent When heated with metals, nonmetals, and other compounds, it acts as an oxidizing agent producing sulphur dioxide, hydrogen sulphide, or sulphur The dilute acid reacts with many hydroxides and oxides, with some carbonates and sulphides, with solutions of some salts, and with many metals (e g, with ZINC), forming the sulphate of the metal and liberating hydrogen It is a dibasic acid (i e, it has two replaceable hydrogen atoms), which forms acid salts and normal salts Since it is a stable acid, it is used in the preparation of such volatile acids as hydrochloric acid Commercial sulphuric acid is prepared chiefly by the contact process and the lead-chamber process In the contact process, sulphur is burned to form sulphur dioxide (a compound of one sulphur atom and two of oxygen), the gas is purified, washed and dried, and then oxidized to produce a trioxide (having one sulphur and three oxygen atoms) in the presence of a catalyst, commonly either vanadium pentoxide or platinum Finally, the trioxide is absorbed in concentrated sulphuric acid (since it is not readily absorbed by water) Part of the acid is returned to the absorbers and the rest is prepared and sold as fuming sulphuric acid (or oleum) or is diluted with water or weaker acid to form a solution of the desired strength Acid which is nearly 100 percent pure can be produced by the contact process The operation must be carried out at a temperature of about 450°C. for effective oxidation. The lead-chamber process was so named because some of the chemical reactions take place in large lead chambers and towers In this process sulphur or sulphur compounds are converted to sulphur dioxide, which is oxidized (with oxides of nitrogen employed as catalysts) to form sulphur trioxide Because of the value of the oxides they must be recovered and reused In the United States the sulphur dioxide used in the process is commonly obtained by burning sulphur The hot gases (containing sulphur dioxide) are led into the Glover tower (a rectangular sheet-lead box usually filled with quartz), where they meet the oxides of nitrogen The mixed gases are then guided into the lead-coated chambers, where steam is introduced and the sulphuric acid is formed Various modifications of the process have been developed by industrial companies. "Chamber sulphuric acid" is about 65 or 70 percent pure It can be used in this crude form for some purposes, but for others it is further concentrated Sometimes chamber and contact acids are mixed to obtain the desired strength Sulphuric acid is one of the most important chemicals to industry. It is used, for example, in making dyes, drugs, explosives, fertilizers, and lead storage batteries and in metallurgical processes and the refining of petroleum. The sulphates—the salts of sulphuric acid—have many uses (see SULPHATE).

Sulphur Island, Volcano Islands· see IWO JIMA.

Sulphur Springs, city (pop. 6,742), co seat of Hopkins co , E Texas, WSW of Texarkana, in a dairying region in the northeast corner of the state.

Sultanabad, Iran. see ARAK

Sultan Husein: see HUSEIN (d 1720)

Sulte, Benjamin (sült), 1841–1923, French Canadian writer, historian of the French in Canada, b Trois Rivieres, Que. A journalist from 1800 to 1867, he was in the Canadian civil service from 1867 to 1902 Of his many historical works, probably the best known is his *Histoire des Canadiens-Français* (8 vols., 1882–84), others include *Histoire de St François-du-Lac* (1886) and *Pages d'histoire du Canada* (1891) He also published two volumes of verse—*Les Laurentiennes* (1870) and *Les Chants nouveaux* (1876)—and wrote a vast number of historical articles for magazines and newspapers, some of which were collected as *Mélanges historiques* (21 vols , 1918–34)

Sulu Archipelago (sōō'lōō), island group (c 1,600 sq mi , pop c 295,000), SW of Mindanao, in the Philippine Islands Lying between the Celebes and Sulu seas, it includes several hundred volcanic islands and coral islets, of which BASILAN is the largest The chief industries of the group are pearl fishing and cattle raising The islands are inhabited largely by the Mohammedan Moros who came under Indonesian influence in the late 15th cent Formerly notorious as pirates, they violently resisted Spanish rule until the 19th cent The Moro sultanate was reduced to U S control in 1899 and continued to flourish until 1940, when jurisdiction over the area was transferred to the Commonwealth of the Philippines Sulu prov (1,086 sq mi., pop 247,117) is coextensive with the Sulu Archipelago except for the Basilan group Jolo, the provincial capital, is on the island of Jolo (344 sq. mi , pop. 130,870)

Sulzbach (zōōlts'bākh), city (pop 22,130), Saar Territory, NE of Saarbrücken. It is an industrial center of the Saar Basin

Sulzer, William (sŭl'zur), 1863–1941, American public official, b Elisabeth, N J After running away from home at the age of 11 and going to sea, Sulzer settled in New York city, read law, and was admitted (1884) to the bar He served (1890–94) in the New York state assembly, becoming speaker in 1893. As a member (1895–1913) of Congress, he worked for industrial and social reforms He was elected (1912) governor of New York, and after defying TAMMANY politicians, he was impeached and removed from office in 1913 on charges of having falsified his campaign expenses In 1914 he was elected to the state assembly as an independent, and in 1916 he declined the presidential nomination of the American party See J A Friedman, *The Impeachment of Governor Sulzer* (1939)

sumac or **sumach** (shōō'măk, sōō'–, sū'–) name for shrubs or trees of the large and widely distributed genus *Rhus*, closely related to poison ivy Sumacs have large pinnate leaves, which turn brilliant colors in the autumn, and conical fruit clusters usually of deep red From the Asiatic *Rhus verniciflua* is produced LACQUER. The poison sumac (*R. vernix*), found only in swampy places and identified by clusters of white berrylike fruits, is regarded as one of the most poisonous plants of North America. It has a juice that can be used as laoquer Most sumacs are rich in tannin, and some are used commercially for tanning certain leathers Fruits of several species yield a lemonadelike drink, and some kinds have been used medicinally and as a dye

Sumarokov, Aleksandr Petrovich (ŭlyĭksän'dur pĕtrô'vĭch sōōmŭrô'kŏf), 1718–77, Russian dramatist. He was a pioneer in several fields of Russian literature, especially the fable and classical tragedy His *Khorev* (1747) was the first in the latter genre in Russian From 1756 to 1761 he was director of the first imperial Russian theater One of his tragedies, *Dmitri the Impostor* (1771), is available in a curious English translation (1806)

Sumatra (sōōmä'trù), island (166,632 sq mi ; pop 7,430,723), Indonesia, in the Indian Ocean, S and W of the Malay Peninsula and NW of Java, across Sunda Strait Fringed with islands on the western and eastern coasts, Sumatra is 1,110 mi long and 270 mi wide (in Indonesia only Borneo is larger) The Barisan, a volcanic mountain range, traverses the length of the island, rising to 12,484 ft at Mt. Kerinchi (Korinchi) Rising in the Barisan Mts. are several large rivers, among which are the Hari, Indragiri, and Musi and in the north is Lake Toba, a great salt lake Because of the hot, moist climate and the heavy rainfall, the vegetation is luxuriant, and much of the interior is impenetrable forest The tropical flora generally resembles that of Java Among the animals are elephants, rhinoceroses, panthers, tapirs, tigers, and snakes The Malayan inhabitants include the Batak, who engage in agriculture, and the Menangkabau, known for their skill in handicraft The religion is predominantly Mohammedan, only the Batak are Christians. There are many Chinese, Arabs, and Hindus on the coast Although Sumatra was exposed to civilizing influences earlier than Java, its culture is not so highly developed as that of the smaller island. Sumatra's economy also is comparatively limited, although there are extensive oil and coal fields, the latter the most important in Indonesia. Other mineral resources are gold and silver, forest and agricultural products include camphor, ebony, rattan, tea, coffee, rubber, pepper, copra, and palm oil. The principal centers are MEDAN and PALEMBANG The Hindu-Sumatran kingdom of Sri Vijaya flourished in the 8th cent under the house of Sailendra, which extended its control over a large part of Indonesia and also over the Malay Peninsula By the 14th cent. Sumatran supremacy had waned and the island fell under Javanese rule The first European to visit Sumatra was Marco Polo, who was here for a brief period in 1292. Following the Portuguese who came in 1509, the Dutch arrived in 1596 and gradually gained control of all the native states including Achin in the north, which resisted the Dutch until 1904 The British had brief control over parts of the island in the late 18th and early 19th cent In 1945 parts of Sumatra were included in the republic of Indonesia.

Sumava. see BOHEMIAN FOREST

Sumay (sōōmī'), town (pop 1,388), on W Guam It includes Apra Harbor, with a U S naval base and a marine corps reservation The chief products of the region are rice and coconuts

Sumba or **Soemba** (both sōōm'bä), island (4,305 sq mi , pop 182,326), Indonesia, one of the Lesser Sundas It lies in the Indian Ocean, S of Flores and W of Timor. Horse breeding is important Sumba was formerly known as Sandalwood Island because of its large exports of sandalwood

Sumbawa or **Soembawa** (both sōōmbä'wä), island (5,964 sq mi , pop 314,843), Indonesia, one of the Lesser Sundas It is between the Flores Sea and the Indian Ocean, just E of Lombok Sumbawa is mountainous, with many volcanic peaks. Cattle raising is important, teak, rice, and cattle are exported. Bima is the port for Raba, the chief town

Sumer (sōō'mur) and **Sumerian civilization** (sōōmēr'ē-ăn) The term *Sumer* is used today to designate the southern part of ancient Mesopotamia From the earliest date of which there is any record, Mesopotamia was occupied by a non-Semitic speaking people known as Sumerians The questions concerning their origin cannot be answered with certainty Some evidence suggests that they may have come as conquerors from central Asia or India at a date long before recorded history According to their own legends, they had possessed the land since the creation. At any rate, as recent excavations have shown, a flourishing Sumerian civilization existed by 3500 B C., and its beginnings were much earlier, at least in the 5th millennium Sumerian civilization was predominately agricultural, and the Sumerians were adept at building canals and developing effective systems of irrigation Objects, such as pottery, jewelry, and weapons, found by excavation, show that the Sumerians were skilled in the use of such metals as copper, gold, and silver and had developed considerable artistry The Sumerians are credited with inventing the CUNEIFORM system of writing The kings of important Sumerian cities, such as Kish, Erech, and Ur, were able from time to time to extend their control over large areas, forming various Sumerian dynasties However, Mesopotamia was also the home of a group of people speaking Semitic languages and with a culture different from that of the Sumerians (see SEMITE) From the earliest times the Semites were in contact with Sumerian culture, and increasing Semitic strength, especially in the north, culminated in the conquests of Sargon of Agade (c 2600 B C), who brought Mesopotamia under Semitic rule This conquest gave impetus to the blending, already long in progress, of Sumerian and Semitic cultures From this period dates the use of the word AKKAD to denote N Mesopotamia Sumerian rule had a final revival under the third dynasty at Ur (c 2300 B C) This dynasty fell to ELAM, a country with which Sumer and Akkad had been engaged in intermittent warfare from an early date With the rise of HAMMURABI and the founding of BABYLONIA, the control of the country passed to the Semitic Babylonian dynasty and Sumerians, as a nation, disappeared See L W King, *A History of Sumer and Akkad* (1910), C L Woolley, *The Sumerians* (1928), C J Gadd, *History and Monuments of Ur* (1930); C L Woolley, *The Development of Sumerian Art* (1935)

Sumer Is Icumen In (sōō'mŭr ĭs ĭkōō'mŭn ĭn) [mid Eng ,=summer has (literally is) come in], an English rota or round It has four voices in canon, supported by a short two-voice ground bass. Its secular text is in Wessex dialect A sacred text in Latin exists, but is ill-adapted to the music The manuscript was discovered in 1709 in the same folio with a calendar which was made at Reading Abbey between 1239 and 1260. Assumption that the round was inscribed there at the same time led to the conclusion that the piece was composed c 1240 This assumption has been questioned by M F. Bukofzer in *Sumer Is Icumen In: a Revision* (1944), wherein he places the composition c 1310. Whether it was a work of the 13th cent or of the 14th, it is one of the earliest English attempts at six-part vocal writing.

Summerside, town (pop. 5,034), on SW Prince Edward Island, on Bedeque Bay of Northumberland Strait and WNW of Charlottetown. It is a tourist center, has an airport, and ships dairy products and seed potatoes. A dominion fox experimental station is here, and fox farms are in the region

Summerville. **1** Town (pop. 1,358), co. seat of Chattooga co., extreme NW Ga , on the Chattooga river and NNW of Rome, inc. 1839. Textiles are manufactured A state fish hatchery is near by. **2** Borough (pop 1,009), W Pa., SW of Brookville, settled c 1812, inc. 1887. Ceramics are made here **3** Winter resort town (pop 3,023), SE S C , NW of Charleston, settled c 1795, inc 1847

Summit. **1** Village (pop 7,043), NE Ill , near Chicago, inc 1890 It manufactures corn products Near by is a large limestone quarry. **2** Town (pop 1,254), SW Miss , just N of McComb, in a farm, cotton, and timber area, founded 1857 A district junior college is here **3** Residential city (pop 16,165), NE N J , western suburb of Newark and New York, inc 1899

Summit Hill, borough (pop 5,406), E Pa , SW of Mauch Chunk It is a resort center with a fine view of the surrounding mountains and the Burning Mine, smoldering since 1859.

summons· see PROCEDURE

Sumner, Charles, 1811–74, U S Senator from Massachusetts (1851–74), b Boston, grad. Harvard, 1830 He attended (1831–33) and was later a lecturer at Harvard Law School, was admitted (1834) to the bar, and practiced in Boston The years 1837–40 he spent in Europe Sumner was defeated as a Free-Soil candidate for Congress in 1848, but in 1851 a combination of Free-Soilers and Democrats sent him to the Senate An aggressive abolitionist, Sumner attacked the fugitive slave laws, denounced the Kansas-Nebraska Bill of 1854, and on May 19–20, 1856, delivered his notable antislavery speech called "The Crime against Kansas " A master of invective, he singled out as his special victim Senator Andrew Pickens Butler of South Carolina, who was not there to reply Two days later he was assaulted in the Senate chamber by Preston S BROOKS, Butler's nephew It took Sumner more than three years to recover from the attack, but Massachusetts reelected him anyway, and he resumed his seat in Dec , 1859 He had been important in organizing the new Republican party and in 1861 was made chairman of the foreign affairs committee In the TRENT AFFAIR he favored the release of the captured Confederate commissioners Sumner highly approved Lincoln's Emancipation Proclamation, indeed he had been exceedingly impatient that it was so long in coming However, to some his abolitionism seemed to carry more hatred for the slaveholder than humanitarian concern for the Negro Sumner and Thaddeus STEVENS in the House led the radical Republicans in their vindictive RECONSTRUCTION program for the South He held that the Southern states had "committed suicide" and thus had lost any rights under the Constitution Reconstruction he considered the function of Congress alone and he was most active in trying to secure the conviction of President Andrew Johnson on the impeachment charges Sumner hampered the negotiations concerning Civil War claims against Great Britain, but it was his violent denunciation of President Ulysses S Grant's scheme to annex Santo Domingo that led to his removal (March, 1871) from the chairmanship of the committee on foreign relations This was a great blow to his pride, and in 1872 he helped organize the short-lived LIBERAL REPUBLICAN PARTY, but subsequently returned to the party fold Sumner wrote and spoke widely, and there are two editions of his works (15 vols , 1870–83, 20 vols , 1900) See also E L. Pierce, *Memoir and Letters of Charles Sumner* (4 vols , 1877–93); biographies by Moorfield Storey (1900) and G H. Haynes (1909); T. H Williams, *Lincoln and the Radicals* (1941)

Sumner, Edwin Vose, 1797–1863, American general, b Boston. He was commissioned in the infantry in 1819 and later fought in the Black Hawk War In the Mexican War he distinguished himself as a cavalry commander under Winfield Scott, being twice brevetted He was made colonel of the 1st Cavalry in 1855, was commander of Fort Leavenworth in the Kansas disturbances of 1856, campaigned against the Cheyenne in Kansas in 1857, and was commander of the Dept of the West from 1858 to 1861 At the beginning of the Civil War he was promoted brigadier general in the regular army. Sumner ably led the 2d Corps of G B. McClellan's army in the PENINSULAR CAMPAIGN, particularly at Fair Oaks, and later in the ANTIETAM CAMPAIGN In the battle of FREDERICKSBURG his "grand division" of Ambrose Burnside's army bore the brunt of the futile assault on Marye's Heights Made commander of the Dept. of the Missouri early in 1863, Sumner died on his way there.

Sumner, James Batcheller, 1887–, American biochemist, b. Canton, Mass., grad. Harvard (B.A., 1910; Ph.D., 1914). A teacher at Cornell Univ medical school from 1914, he became professor in 1929. After years of research he isolated (1926) the

enzyme urease in microscopic crystalline form For his pioneer work in enzymes he shared with J. H Northrop and W. M. Stanley the 1946 Nobel Prize in Chemistry. His writings include *Textbook of Biological Chemistry* (1927) and, with G F. Somers, *Chemistry and Methods of Enzymes* (1943; rev ed , 1947).

Sumner, William Graham, 1840–1910, American sociologist and economist, b Paterson, N J , grad Yale, 1863, and studied in Germany and at Oxford He became an Episcopal minister, but from 1872 was professor of political and social science at Yale, where his brilliant lectures were renowned In economics he advocated an extreme laissez-faire policy, violently opposing any measures which he thought interfered with the normal, unchecked flow of business As a sociologist he did valuable work in charting the course of human customs—FOLKWAYS and mores—concluding that the power of these natural forces rendered useless attempts at social reform Important among his works are *What Social Classes Owe Each Other* (1883) and *Folkways* (1907) A G Keller, a student, edited many of Sumner's essays, among them *The Forgotten Man and Other Essays* (1918) The monumental *Science of Society* by Sumner and Keller was not completed and published until 1927 (4 vols , vol IV by Sumner, Keller, and M R Davie) See A G Keller, *Reminiscences (Mainly Personal) of William Graham Sumner* (1933)

Sumner. 1 City (pop 1,070), Lawrence co , SE Ill , W of Vincennes, Ind , inc 1887 2 Town (pop 1,752), NE Iowa, NNE of Waterloo, inc 1892 3 City (pop 2,140), W Wash , E of Tacoma, settled 1855, inc 1891 It is an industrial and a commercial center for the Puyallup valley

sumptuary laws (sŭmp'chōōĕ"rē), regulations directed against overindulgence in luxurious diet and drink and extravagance in dress and mode of living Such laws existed in Rome, and in Japan they were applied against the peasants and commercial classes until the mid-19th cent In the 14th and 15th cent. several statutes were passed in England which regulated ornateness of dress and limited the extremes on such articles of dress as long coats and short doublets Statutes were also enforced which regulated the diet of the people These regulations varied according to the rank of the persons, peasants being subject to rules different from those of the gentry The main purpose of the legislation was to mark class distinctions clearly and to prevent any person from assuming the appearance of his superiors Sumptuary laws are not to be confused with rationing of commodities in short supply during wartime or other periods of emergency See F E Baldwin, *Sumptuary Legislation and Personal Regulation in England* (1926)

Sumter, Thomas, 1734–1832, American partisan leader in the Revolution, b near Charlottesville, Va. He served with Edward Braddock (1755) and John Forbes (1758) in their expeditions against Fort Duquesne in the French and Indian War, and later he fought against the Cherokee He settled (1762) as a planter on the Santee river in South Carolina Like Andrew Pickens and Francis Marion, he formed a guerrilla patriot band in the Revolution and harassed the British (see CAROLINA CAMPAIGN) He and the British leader, Banastre Tarleton, struck at each other through 1780 The Gamecock, as Sumter was called, was successful at Hanging Rock, barely escaped with his life at Fishing Creek, raided the British post at Rocky Mount, and won again at Blackstock After the war, he was U S Congressman (1789–93, 1797–1801), Senator (1801–10), and ambassador to Brazil (1810–11) Fort Sumter in Charleston harbor is named for him. See biography by A K Gregorie (1931).

Sumter, city (pop 15,874), co seat of Sumter co , central S C , ESE of Columbia, laid out 1800, inc as a town 1845, as a city 1887 It is the trade, processing, and shipping center of an important lumber, livestock, and farm area and has furniture factories and other woodworking plants It was the first city to employ a city manager under a commission form of government (1912) A U S tree nursery and Morris College (Negro) are here

Sumter, Fort [named for Gen. Thomas Sumter], fortification on a sand bar at the mouth of the harbor of Charleston, S C , scene of the opening engagement of the Civil War (April 12–14, 1861) Upon passing the ordinance of secession (Dec. 20, 1860), SOUTH CAROLINA demanded all Federal property within the state, particularly the forts of Charleston harbor, namely, Fort Sumter, Fort MOULTRIE, and Castle Pinckney On Dec 26 Major Robert ANDERSON removed his U S army command of 128 men from Fort Moultrie to the stronger defensive site of Fort Sumter Gov. F. W. PICKENS of South Carolina seized the other two forts and the Charleston arsenal and, upon the refusal of President James BUCHANAN to order Anderson's evacuation, had guns trained on Fort Sumter. On Jan. 9, 1861, the unarmed merchant vessel, *Star of the West*, sent to reinforce the Fort Sumter garrison, was driven back by the fire of the South Carolina guns. Pickens's subsequent formal demand for the fort's surrender was declined. South Carolina prepared to reduce Anderson's stronghold. Pickens was anxious to secure the fort before Abraham Lincoln took office, but in February the newly organized Confederate government assumed the state's part in the controversy and, on March 3, Gen P G T. BEAUREGARD arrived in Charleston to take command On April 8 Pickens received Lincoln's notice that a naval expedition would be sent to provision the beleaguered garrison. Beauregard then demanded Anderson's surrender (April 11) It was again refused At 4 30 A M on April 12 the Confederates opened fire After a 34-hour bombardment, which was gallantly resisted by the defenders, Anderson accepted terms, and on April 14 the garrison marched out with the honors of war. Although no one was killed, the action realized the belligerent spirit in both the North and the South The Civil War had begun In 1863 Union naval attacks on the fort were thoroughly repulsed After Sherman forced the evacuation of Charleston, the U S flag was again raised over the fort by Anderson, April 14, 1865 Fort Sumter was made a national monument (2 40 acres) in 1948 See S W Crawford, *The History of the Fall of Fort Sumter* (1898)

Sun, river rising in NW Montana near the Continental Divide and flowing c 130 mi SE and E to the Missouri at Great Falls The Sun river project uses the Sun and its tributaries to water some 100,000 acres The largest dam of the project is the Gibson (est 1929) in the North Fork of the Sun Great Falls is the shipping center on the project

sun, intensely hot, self-luminous body of gases which is the center of our solar system The sun is actually a star of about medium size, it appears larger than the other stars because of its relative nearness to the earth Its gravitational attraction maintains the planets, comets, and other bodies of the solar system in their orbits Without the heat and light of the sun, life as we know it could not exist on the earth Sunlight is also the ultimate source of the energy stored in food and coal, since its energy is used by green plants in the process of photosynthesis It is the source of the energy of moving air through the setting up of convection currents by the sun's heat, and falling water owes its energy to the sun because of its relation to the water cycle The mean distance of the sun from the earth is 93,004,000 mi , this is taken as the astronomical unit of distance to which most celestial distances are compared In diameter the sun is 865,400 mi , and its volume is about 1,300,000 times that of the earth Its mass is almost 700 times the total mass of all the bodies in the solar system and 332,000 times that of the earth Its gravitational force on the surface is almost 28 times that of the earth, i e , a body on the sun would weigh about 28 times its weight on earth The density of the material composing the sun is about one fourth that of the earth, compared with water, the sun's density is 1 41 Observations of sunspots and studies of the solar spectrum indicate that the sun rotates on its axis from east to west, because of its gaseous nature its rate of rotation varies somewhat with latitude, the speed being greatest (a period of almost 25 days) in the equatorial region and least at the poles (a period of about 35 days) The axis of the sun is inclined at an angle of about 7° to the plane of the ecliptic The bright surface of the sun is called the PHOTOSPHERE Its temperature is about 6000°C Patches brighter than the photosphere are seen near the edges of the sun, these are called faculae Spectrohelıograms reveal irregular markings known as flocculi, some of these are believed to be composed of calcium vapor and others of hydrogen They float above the photosphere and often occur near sunspots During an eclipse of the sun the CHROMOSPHERE and the CORONA are observed By means of the spectroscope much has been learned about the composition of the sun In the solar SPECTRUM (the visible part of which is a band of colors from red to violet) as observed with the spectroscope are numerous dark lines of varying widths These were first intensively studied by Joseph Fraunhofer and are commonly known by his name From a study of the lines the chemical composition of the sun is determined on the basis of the discovery by Kirchhoff that the dark lines correspond in position to the bright lines characteristic of the spectra produced by elements in the laboratory The darkness of the lines in the sun's spectrum is attributed to the presence of a slightly cooler layer of gases above the photosphere known as the reversing layer, which absorbs selectively the light of the photosphere and thus causes dark lines instead of bright ones to be observed through the spectroscope By comparison of the sun's spectrum with laboratory spectra of incandescent elements, more than two thirds of the elements known on earth have been identified in the sun's atmosphere Beyond the visible red portion of the solar spectrum is the infrared spectrum, for the study of these heat rays S P. Langley invented the bolometer, a highly sensitive electrical device for measuring temperature Solar radiation is measured by an instrument called the pyrheliometer The source of the sun's energy has long been a subject of investigation The vast and continual production of solar energy cannot be attributed merely to combustion, to the gradual cooling of a hot body, to the fall of meteorites into the sun, or to gradual shrinkage with transformation of potential energy into heat (a theory proposed by Helmholtz). The theory of relativity with its enunciation of the equivalence of mass and energy led to the assumption that energy stored in the atoms comprising the sun's gases is constantly being released by disintegration of the atoms H A Bethe proposed a cycle known as the carbon cycle to account for the nuclear changes In this cycle hydrogen, acting somewhat in the role of a fuel, takes part in a series of reactions with carbon and nitrogen with the release of much energy, the hydrogen is finally transformed into helium and the carbon remains unchanged, its role apparently being that of a catalyst See also ECLIPSE and SUNSPOTS See C G Abbot, *The Sun* (2d ed , 1929), George Gamow *The Birth and Death of the Sun* (1940), D H Menzel, *Our Sun* (1949)

Sunapee (sŭ'nupē), town (pop 1,071), SW N H , NW of Concord, on the west shore of Lake Sunapee, granted 1768, inc as Wendell town, named Sunapee 1850 The lake, 9 mi long and 3 mi wide, with Mt Sunapee to the south and Mt Kearsarge to the east, is a boating and fishing resort

sunburn, a burn which varies in severity with the amount of exposure and the amount of protection to the skin Dark skins are better protected by pigment than are light skins Light skins usually deposit pigment as a reaction to the ultraviolet rays, which are the chief factor in sunburn However, if exposure lasts too long before the skin has opportunity to deposit the pigment, a burn results Sunburn can cause serious injury and is sometimes fatal See also BURNS AND SCALDS.

Sunbury, city (pop 15,462), co seat of Northumberland co , E Pa , near the confluence of the north and west branches of the Susquehanna N of Harrisburg, laid out 1772, inc as a borough 1797, as a city 1921 It is an important railroad center and manufactures various textile products Thomas A Edison worked in Sunbury At the junction of Indian trails, it was occupied by an Indian village early in the 18th cent In 1742 a mission was established here, and in 1756 Fort Augusta was built, remains of the fort still stand

Sunda Islands (sŭn'du), Indonesia, between the South China Sea and the Indian Ocean, comprising the western part of the Malay Archipelago The largest islands, sometimes called the Greater Sundas, are Borneo, Sumatra, Java, and Celebes The Lesser Sundas lie between Java (on the west) and Timor (on the east), of this group Sumbawa, Flores, and Sumba are the largest, whereas Bali and Lombok, though smaller, are the most important Sunda Strait, 20 to 65 mi wide, is between Java and Sumatra and connects the Java Sea with the Indian Ocean

Sundarbans see BENGAL

Sunday, William Ashley, 1863–1935, American evangelist, popularly called Billy Sunday, b. Ames Iowa He was a professional baseball player from 1883 to 1890 and was employed in Y M C A work in Chicago from 1891 to 1895 In 1896 he became an evangelist, drawing large crowds to his revivals Sunday was ordained in 1903 in the Presbyterian ministry

Sunday: see LORD'S DAY, SABBATH, WEEK

Sunday school, institution for instruction in religion and morals, usually conducted in churches as part of the church organization but sometimes maintained by other religious or philanthropic bodies In the 18th cent in England, occasional efforts were made by charitable individuals to give opportunity for some education in religious matters as well as secular instruction to children of the poor, whose development was deplorably neglected under the economic conditions of the times Probably the first to be called Sunday school was that started (1780) by Robert RAIKES for factory children in Gloucester Simple lessons in reading and spelling, in preparation for reading the Bible, and memorizing Scripture passages and hymns largely constituted the curriculum The plan was copied in other places, sometimes a Saturday meeting, when instruction in writing and arithmetic was given, was added to that on Sunday An important educational movement was thus started, by 1795 the Sunday School Society (1785) had helped found more than 1,000 schools In 1803 the Sunday School Union was founded in London to provide mutual help among teachers. This organization published simple lesson plans, catechisms, spellers, and other aids Unions were developed in Ireland and Scotland In 1862 a general Sunday-school convention was held in London, at which was begun propaganda for extending the movement on the Continent In the United States there is evidence that instruction in the Scriptures was given to children on Sunday at Plymouth in 1669 and at Roxbury, Mass., in 1674, but it was not until 1786 that a Sunday school patterned on Raikes's plan was founded in Hanover co , Va , by Francis Asbury The American Sunday-School Union, formed (1824) among various churches of the East, determined to establish Sunday schools as rapidly as possible in the pioneer communities of the Mis-

sissippi valley. This project met with wide support and considerable success. In 1832 a national convention of Sunday-school workers was held, at the convention of 1872 a plan of uniform lessons was adopted in cooperation with the British Sunday School Union From that time the movement has been definitely international The first World Sunday School Convention met (1889) in London; in 1907 its name was changed to the World's Sunday School Association, and in 1947 to the World Council of Christian Education It has units in 55 countries, the North American unit is the International Council of Religious Education. The arrangement of world Sunday-school conventions (of which 12 have been held since 1889) and aid in leadership training and curriculum are among the chief concerns of the council See M C Brown, *Sunday-School Movements in America* (1901), G H. Archibald, *The Modern Sunday-School* (1926), A M French and D J Fant, *All about the Sunday School* (2d ed , revised, 1947)

Sunderland, Charles Spencer, 3d **earl of** (sŭn'-durlund), 1674–1722, English statesman and bibliophile, son and successor of the 2d earl His marriage to a daughter of MARLBOROUGH brought him a secretaryship of state, and he was powerful in the Whig Junto which controlled affairs from 1708 to 1710. He fell with the Whigs in 1710, but went on to hold high offices under George I, being virtually prime minister from 1718 to 1721 He was so involved with the development of the SOUTH SEA BUBBLE that its collapse forced him out of office Sunderland was an important collector of books and manuscripts

Sunderland, Robert Spencer, 2d **earl of,** 1640–1702, English politician He succeeded to the earldom in 1643, studied at Oxford and abroad, and served in the reign of Charles II on missions to Madrid (1671), Paris (1672) and Cologne (1673) He was made a member of the privy council in 1674 and secretary of state for the northern department in 1679 His support of the bill to exclude the duke of York (later James II) from the succession resulted in his dismissal (1680), but he quickly regained his position through the influence of the king's mistress, the duchess of Portsmouth Under James II he gained favor by his support of the abolition of the religious tests, and he was made lord president of the council (1685), although he was secretly corresponding with William of Orange and was receiving a pension from the French government By intrigue he supplanted the earl of Rochester as chief minister, and in 1688 he declared himself a Roman Catholic He counseled a cautious religious policy, however, and was dismissed (1688) by James Sunderland fled to Holland, convinced William that he had supported his interests, and was allowed to return to England (1691) He renounced his Catholicism and became an influential adviser of William III It was Sunderland who persuaded the king to abandon a mixed cabinet and employ only Whigs—a significant step in English constitutional development He was appointed lord chamberlain in 1697, but was forced out of office by Parliament

Sunderland, county borough (1931 pop 185,824, 1947 estimated pop 180,130), Durham, England, at the mouth of the Wear It is a seaport, it includes Bishopwearmouth and Sunderland proper on the south bank and Monkwearmouth on the north bank. The north bank was the site of a great Benedictine monastery which was founded by Benedict Biscop in 674 and at which Bede studied The Church of St Peter incorporates some of the remnants of the ancient abbey, which was destroyed by the Danes A great bridge built in 1796 and widened by Robert Stephenson in 1858 crosses the Wear There is a harbor of more than 150 acres, protected by two piers The town became established as a shipbuilding center and coal-shipping port very early and developed as a rail center as well Coal is still the chief export. Engineering, fishing, coal mining, and the making of ship fittings, chemicals, paper, and pottery are industries There are technical and other colleges, art museums and galleries, and four libraries Roker to the north is a seaside suburb

Sunderland, agricultural town (pop 1,085), W Mass , on the Connecticut and N of Northampton, settled c 1673 but abandoned in King Philip's War, resettled c 1713, inc 1718.

sundial, an instrument that indicates the time of day by the shadow, cast on a surface marked to show hours or fractions of hours, of an object on which the sun's rays fall. Although any object whose shadow is used to determine time is called a gnomon, the term is usually applied to a style, pin, metal plate, or other shadow-casting object that is an integral part of a sundial Forerunners of the sundial include poles or upright stones used as gnomons by early man. Pyramids and obelisks were used in Egypt True sundials, both stationary and portable, were probably developed in Egypt or in Mesopotamia The earliest extant sundial, an Egyptian instrument of c 1500 B C , is a flat stone on which is fixed an L-shaped bar whose short vertical limb casts a shadow measured by markings on the longer horizontal limb. As knowledge of astronomy and mathematics increased, the markings on sundials were improved, and many varieties of such instruments were devised A Chaldean priest, Berosus, is credited with inventing the hemispherium (a concave hemisphere from which arises a perpendicular pin pointing to the zenith) and the hemicyclium (a concave hemisphere with the south portion cut away and with a horizontal gnomon fastened to the north side) The accuracy of sundials was greatly improved (about the 1st cent A D) by setting gnomons parallel to the earth's axis of rotation so that the apparent east-to-west motion of the sun governs the swing of the shadow The development of trigonometry permitted precise calculations for the marking of dials and stimulated the advance of gnomonics (dial marking) During the Renaissance sundials in a great number of forms and surfaces were devised Between 1500 and 1800 formulas were simplified so that laymen could lay out hour lines Although watches and clocks came into popular use in the 18th cent , sundials were long employed for setting and checking them An instrument of great accuracy, the heliochronometer, in which the shadow is cast by a fine wire, was used until c 1900 to set the watches of French railwaymen The difference between solar (or apparent) time indicated by sundials and clock (or mean) time must be correlated by the use of tables showing daily variations in sun time A correction must also be made for the difference in longitude between the position of a sundial and the standard time meridian of a given locality. Although sundials are still used in many areas, including Japan and China, they are regarded today chiefly as garden adornments The largest sundial in the world, constructed c 1724 in Jaipur, India, covers almost one acre and has a gnomon over 100 ft high surmounted by an observatory Notable collections of sundials are at the Adler Planetarium, Chicago, the Metropolitan Museum of Art, and the Harvard College Observatory See R. N. Mayall and M L Mayall, *Sundials* (1938)

Sundsvall (sŭnts'vəl'), city (pop 20,690), Vasternorrland co , E Sweden, a port on the Gulf of Bothnia and between the mouths of the Indal and Ljungan Logs are brought down the rivers, and Sundsvall is a world lumber center, exporting boards, cellulose, and wood pulp It is also a trade center for N Sweden It was incorporated in 1624

sunfish, member of a group of small perch-like fishes of the family Centrarchidae, abundant in the fresh waters of North America The body is deep and flattened from side to side and often brightly colored The bluegill and the pumpkinseed sunfish are common forms The salt-water sunfish belongs to the family Molidae, some members of which grow to a length of from 8 to 10 ft and weigh more than a ton The body is deep and oval and does not taper, so that it looks somewhat like a huge fish head with small fins

sunflower, any plant of the genus *Helianthus*, annual or perennial herbs native to the New World and common throughout the United States They have composite heads of flowers, commonly with yellow rays, that sometimes in cultivation reach a foot in diameter The common sunflower (*Helianthus annuus*) is an annual, native from Minnesota and Texas to California, perhaps also in Central and South America, often an escape from gardens The Indians cultivated this plant and found many uses for it the nutritious seeds were eaten raw, made into a meal, or used as a source of hair oil, a yellow dye was obtained from the flower heads and a fiber from the stalks, the roots of certain other species were eaten Today the common sunflower is widely cultivated It is particularly valued in Russia, where the seeds are made into bread, but the seeds are almost universally used as a poultry food and as the source of an oil utilized for such purposes as cooking and soapmaking, the oil cake is fed to stock The flowers are good honey producers and the leaves have been used for fodder The common sunflower is the state flower of Kansas, and a sunflower is regarded as the floral emblem of Peru, where it was revered by the ancient sun worshipers Several other species are in cultivation, some as garden flowers, the JERUSALEM ARTICHOKE as a food plant Other plants are often called sunflower

Sung (sŏŏng), dynasty of China, which ruled from A D 960 to 1279 The first emperor, Chao K'uang-yin, consolidated several warring states and established a domain that, at its maximum, extended from the Great Wall to Hainan Most of the early Sung emperors were ardent agricultural reformers. They established granaries to store surplus food, and farmers were given short-term loans Internal trade was facilitated by building canal systems There was much overseas commerce, especially with India and Persia, and voyages were made safer by advances in naval architecture and by the use of the magnetic compass In the early, relatively stable period of the dynasty many scholarly works were produced, including encyclopedic compilations, critical histories, and scientific treatises. The main literary forms were the drama (however, no plays have survived without later alterations) and the picaresque novel (most notably *All Men Are Brothers*). The fine arts (except sculpture) flourished, and connoisseurs consider Sung landscape the greatest achievement in Chinese painting The Sung were always hard pressed by northern barbarians, and in 1127 the Jurchen seized much territory. The dynasty maintained an enfeebled life until the Mongols conquered (1273–79) the entire country and established the Yuan dynasty.

Sungari (sŏŏng'gŭrē', sŏŏn'gä'rē'), Mandarin *Sunghwa*, river of NE China, rising in the Changpai Mts in Antung prov. and flowing c 700 mi to the Amur river on the China-USSR border The Sungari flows NW through Kirin prov. to the border with Sungkiang prov , where it is joined by the Nonni river Turning east, the Sungari forms part of the Kirin-Sungkiang border and crosses Sunkiang It then flows NE through Hokiang prov to join the Amur The Sungari, which passes Kirin city and Harbin, is navigable for most of its length, and it is an important trade artery in a rich agricultural region

Sungaris, China see DZUNGARIA

Sungkiang (sŏŏng'jĕäng', –kyäng'), Mandarin *Sungchiang*, province (32,648 sq. mi , pop 2,542,256), NE China Mutankiang is the capital It is bordered on the east by the USSR, and along part of the southern border run the Nonni river and the Sungari river (which flows E through Sungkiang) The province, a part of Manchuria, was included in Manchukuo It was created in 1945, largely out of the eastern section of the former province of Kirin The chief range of Sungkiang, which is predominantly hilly and mountainous, is the Changpai Soybeans and grains are grown, and there is extensive lumbering Sungkiang is served by the Chinese Eastern RR and by branch lines connecting with Korea

sun-god. The sun has been worshiped as a god in many times and in many places and still is worshiped among certain peoples The sun-god was found among the American Indians (e g , the Iroquois, the Plains Indians, the Aztec, and the Inca), the Babylonians, the Persians, the Egyptians, and the Greeks He is found among the Hindu, the aboriginal Australians, and some African tribes Generally the sun is regarded as the male generative principle in nature The two aspects, heat and light, have often been separately personified The Egyptians had several sun deities (Amon, Re, and Horus), as did the Greeks (Apollo and Helios) The sun-god, in keeping with his procreative powers, is often represented as a bull or horse

sunlight. The healing power of sunlight was known to the ancient Egyptians, its therapeutic value was neglected for centuries until in the late 19th cent it was recognized by N R Finsen in Copenhagen, Auguste Rollier in Switzerland, and others The beneficial effect of sunlight depends especially upon ULTRAVIOLET RAYS Sunlight kills bacteria, improves general health, prevents and cures RICKETS, and is beneficial in certain types of TUBERCULOSIS and in certain skin diseases See R C Macfie, *Sunshine and Health* (1928), C W Saleeby, *Sunlight and Health* (1929)

Sunnites (sŏŏ'nīts) [Arabic *Sunna*=tradition], in ISLAM, adherents of the branch of the Moslems called traditionalist or orthodox The Sunnites comprise more than half of all Moslems They differ from other Moslems in accepting as authoritative certain traditions (Sunna) of Mohammed. From the SHIITES, the branch second to the Sunnites in numerical importance, they differ in approving the historic order of succession of the first four successors of Mohammed, the Shiites maintaining that the fourth of them, Ali, should have been the first Claims to sovereign political rights in later times have been based on one side or the other of this dispute Most of the Moslems of Turkey, Arabia, and Africa are Sunnites, the Moslems of Persia and India being mostly Shiite Differences in ritual and law divide the Sunnites into the four orthodox rites, the Hanafites, the Malikites, the Shafites, and the Hanbalites

Sunny Brae, town (pop 1,368), SE N B , a north suburb of Moncton

Sunnyside, city (pop 2,368), S Wash , SE of Yakima, in an irrigated farm area, inc 1902

Sunnyvale, city (1940 pop 4,373, 1948 special census pop 9,369), W Calif , SE of San Francisco, inc 1912 It is a farm trading and processing point and residential city

Sun Prairie, village (pop 1,625), S Wis , NE of Madison, in a farm area, settled after 1837, inc. 1868 Georgia O'Keeffe was born here

Sunset Crater National Monument: see NATIONAL PARKS AND MONUMENTS (table)

sunspots appear to be dark spots on the sun's surface, but it is believed that they are actually solar storms similar to tornadoes on earth. Since the introduction of the telescope c 1610 they have been objects of study They are usually irregular in shape and are seen in groups rather than singly. All but the smallest show a darker portion, the umbra, in the center with a lighter outer area, the penumbra. The temperature of the spots is lower than that of the surrounding photosphere. Studies made at the Mt Wilson Observatory demonstrated the presence of a magnetic field in sunspots. Sun-

spots appear usually only between latitudes from 5° to 35° north and south of the solar equator Their duration usually averages about two weeks, but in 1840–41 they lasted for 18 months Since about the middle of the 19th cent, it has been recognized that periods of great sunspot activity come in cycles, a period of about 11 years has for some time been accepted, however, it is believed by some investigators that the 11-year period is only half of an actual 22-year cycle Sunspots were especially active in periods beginning in 1934 and 1945 During periods of sunspot activity various disturbances are produced on earth—these include magnetic storms, increased rainfall, interference with radio reception, and disturbances of the magnetic compass

sunstroke or heatstroke, illness caused by exposure to excessive heat The term *sunstroke* is often limited to illness resulting from exposure to the sun's rays It is believed that when the body is exposed to excessive heat, especially if dissipation of heat is inhibited by high environmental temperature, the heat-regulating mechanism of the body is disturbed, this disturbance is probably aggravated by loss of sodium chloride through perspiration The onset of heatstroke may be accompanied by headache, dizziness, nausea, and visual disturbances and is commonly followed by unconsciousness, hot, dry skin, red face, rapid pulse, and labored breathing, the body temperature may rise to over 109°F Delirium, convulsions, and coma sometimes occur Since the illness requires prompt treatment, a physician should be called immediately The patient should rest in a cool spot with head slightly elevated, and the body temperature should be brought down by application of ice or wet cloths to the head and by wrapping the body in wet sheets or immersing it in a cool bath The body should not be cooled too rapidly, the patient should be rubbed to stimulate circulation Excessive exposure to heat may cause milder disturbances, e g , heat exhaustion (or heat prostration) and heat cramps Symptoms of heat exhaustion are moist, cool skin, pallor, profuse perspiration, and, frequently, dizziness, nausea, and vomiting The patient should be made to lie down, be kept warm, and be given stimulants and sips of salt water Heat cramps of the muscles of the abdomen and limbs may be accompanied by symptoms of heat exhaustion and should receive the same treatment

Sun Valley, resort, S central Idaho, N of Hailey and SW of Mt Hyndman The resort, built in 1936 by the Union Pacific RR, is primarily for winter sports but also attracts summer visitors

sun worship see SUN-GOD

Sun Yat-sen (sŏn′ yät′-sĕn′), Mandarin *Sun Wen-shu*, 1866–1925, Chinese revolutionary He was born near Canton of a Christian family Sun attended an Anglican school in Honolulu, and in 1892 he received a medical diploma from a Hong Kong hospital Thereafter all his activities were devoted to overthrowing the Ch'ing dynasty and establishing a stable Chinese republic He fled China in 1895 and toured the world several times to enlist the aid of overseas Chinese in financing his activities In that period he studied omnivorously Chinese and Western literature, he also perfected his political conceptions (see KUOMINTANG) and organized a party through which he hoped to achieve them Sun was elected the first president of the Chinese republic on Dec 28, 1911, but four months later he resigned in favor of YUAN SHIH-KAI The remainder of his life was spent in a struggle for political and military supremacy, in which his chief aides were CHIANG KAI-SHEK and WANG CHING-WEI Sun's center of power was in the south, and in 1921 he was elected president of a self-proclaimed national government at Canton In 1924, to hasten the conquest of China, he began a policy of active cooperation with the Chinese Communists and he accepted the help of the USSR After his death, when the Communists and the Kuomintang split (1927), each group claimed to be his true heirs The official veneration of Sun's memory (especially in the Kuomintang) is a virtual cult which centers, normally, around his tomb in Nanking His widow, the former Soong Ching-ling (see SOONG, family), whom he married in 1915, commands great respect as his representative He wrote *San Min Chu I* (Eng tr , 1927) and *Fundamentals of National Reconstruction* (Eng tr , 1945) See biographies by H B Restarick (1931) and A B Sharman (1934), L S Hsü, *Sun Yat-sen, His Political and Social Ideals a Sourcebook* (1933)

Suomenlinna (sōō′ômĕnlĭn″nä), Swed *Sveaborg* (svā″äbôr′yŭ), fortress, S Finland, at the entrance to Helsinki harbor Built by the Swedes in 1749, it was later enlarged to cover seven small islands and was known as the Gibraltar of the North It was taken by the Russians in 1808, was bombarded (1855) by an Anglo-French fleet in the Crimean War, and was captured (1918) by the Finns, with German assistance, from the Finnish Bolsheviks.

superego: see PSYCHOANALYSIS.

superheterodyne (syōō″purhĕ′tûrûdīn), in radio receivers, the most efficient and most common circuit for radio-frequency selection and amplification In this system incoming signals are mixed with a voltage from a built-in oscillator to produce an intermediate voltage whose frequency is equal to the arithmetical difference of the mixed voltages The oscillator frequency is controlled usually by a variable condenser mounted on the same shaft as the station-selecting condenser This permits equal increase or decrease in the signal and oscillator frequencies and maintains the necessary constant intermediate frequency for all dial settings These frequencies are, of course, beyond the audio range and must undergo detection (separation and extraction of the audio from the carrier-radio frequency) before the broadcast can be heard Heterodyne oscillators generate audio voltages by combining (heterodyning) two radio voltages of slightly different frequencies, so that beats or pulsations occur at regular intervals, these are used for frequency measurement in research and test equipment

Superior. **1** City (pop 2,650), SE Nebr , on the Republican at the Kansas line, SE of Hastings, founded 1876 It is the trade center of an agricultural region Cement and dairy products are made here **2** City (pop 35,136), co seat of Douglas co , NW Wis , on Superior Bay of W Lake Superior, where the St Louis and Nemadji rivers enter, platted 1852, inc 1858 Radisson explored (1661) the region, and the sieur Duluth visited (1679) the site It grew after iron ore was discovered (1880s) in the Gogebic range The city is a port of entry, and from its extensive harbor, shared with Duluth, Minn , is shipped much iron ore and grain It manufactures coal briquettes and other products and is the seat of a state teachers college Superior's cooperative movement is long established **3** Coal-mining town (pop 1,240, alt c 7,100 ft), SW Wyo , NE of Rock Springs

Superior, Lake, 350 mi long and 160 mi at its greatest width, largest of the Great Lakes and largest fresh-water lake in the world Lying 602 21 ft above sea level, it has a maximum depth of 1,290 ft and an area of 31,820 sq mi It is bounded on the northwest by Minnesota, on the north and northeast by Ontario, and on the south by Wisconsin and Michigan It is connected with Lake Huron by the St Marys river The lake's basin is primarily rock, scooped out by glacial action, and the shore line is frequently high and rocky, the Pictured Rocks, of red sandstone which waves and wind have carved into caverns and fantastic shapes, near Munising Mich , are famous Lake Superior receives the waters of many rivers, including the Nipigon and the Kaministikwia from Canada, the Pigeon (part of the international boundary), and the St Louis river at the extreme western end of the lake Among the many islands are Isle Royale (a national park), Michipicoten, Caribou, Grand, and the Apostle group Great deposits of iron are in the Lake Superior region, copper, silver, and nickel are also found Iron ore is shipped from Marquette, Mich , from Ashland and Superior, Wis , and from Duluth and Two Harbors, Minn Fort William and Port Arthur, Ont , are grain-shipping ports The lake's fish are of economic value The first white man to see the lake was possibly Étienne Brulé, Pierre Radisson and his brother-in-law, the sieur des Groseilliers, traveled on Lake Superior in their expedition of 1659–60, Father Allouez established a mission (1665) near Ashland, Wis , and the sieur Duluth visited the lake (1678–79) See G L Nute, *Lake Superior* (1944)

superman, term used by NIETZSCHE to represent a supreme genius who towers above the mediocrity of the group He is freed from the ethical and social restraints and obligations of society This term, borrowed from Goethe (Ger *Übermensch*), was used by George Bernard Shaw in his play *Man and Superman*

supernova. see VARIABLE STAR

superphosphate of lime, fertilizer which provides soluble phosphate for plant use It is prepared by treating phosphate rock—ground bone was once commonly used—with sulphuric acid Chemically, the fertilizer is a mixture of calcium acid phosphate and calcium sulphate, it is made in various concentrations

superstition, false belief which survives among certain people from a time when it was thought to be true To a large extent modern superstition is the residue of ancient MAGIC and WITCHCRAFT Some survivals include the beliefs that the number 13, the breaking of a mirror, or walking under a ladder are unlucky, while finding a horseshoe or a four-leaf clover is lucky See T S Knowlson, *Origins of Popular Superstitions, Customs, and Ceremonies* (1929), E W Budge, *Amulets and Superstitions* (1930), Bergen Evans, *Natural History of Nonsense* (1947)

Supilo, Frano (frä′nō sōō′pē′lō), 1870–1917, Croat patriot He was engaged in journalism in Croatia before the First World War, fostering opposition to Hungarian rule. Supilo toured the Allied capitals during the war, developing his conception of the coming Yugoslavia. On the eve of his death he approved the Pact of Corfu, which was the basis of the new state of Yugoslavia

Suppé, Franz von (fränts′ fŭn sōō′pā), 1819–95, Austrian composer, b Split, Dalmatia His operettas, very popular in their time, were among the best of the Viennese adaptations of Offenbach's style He wrote numerous orchestral works, including overtures, of which *Poet and Peasant* has remained most popular

supply and demand, the factors that, in classical economics, are said to determine price and that, widely interpreted, may be thought of as the motive forces creating economic life Since there is only one price at which supply and demand would be equal, the familiar equation supply = demand under modern conditions is imperfect Growth of wealth, population increase, new inventions which increase production, upset the flow of goods which constitutes supply, and this in turn reacts upon demand Supply is generally figured in terms of one commodity, and schedules of supply and demand can be drawn for it at various prices See H D. Henderson, *Supply and Demand* (1922)

suprarenal gland see ADRENAL GLAND

Supreme Court, United States, highest court of the United States, established by Article 3 of the Constitution of the United States Section 1 of Article 3 provides for vesting the judicial power of the United States in one supreme court and in such inferior courts as Congress establishes Furthermore all Federal judges retain their office during "good behavior" (only in one instance—that of Justice Samuel Chase—were impeachment proceedings ever brought against a member of the Supreme Court) A judge's compensation may not be reduced during his term of office Section 2 defines the scope of U S judicial power and establishes the jurisdiction of the Supreme Court The judicial power extends to all cases arising under the Constitution, laws, and treaties of the United States, to cases concerning foreign diplomats and admiralty practice, and to diversity cases (those between citizens of different states) and cases in which the United States or a state is a party (however, the Eleventh Amendment, adopted in 1798, forbids Federal cognizance of cases brought against a state by a private party) The cases in which the Supreme Court has original jurisdiction—i e , where another court need not first consider the controversy—are those in which diplomats or a state is a party, even here, it has been held, inferior courts may enjoy concomitant jurisdiction. In all other Federal cases the Supreme Court exercises appellate jurisdiction, but subject to all limitations and regulations made by Congress Members of the court are appointed by the President with the advice and consent of the Senate The size of the Supreme Court is not prescribed by the Constitution and is set by statute It began in 1789 with 6 members and was increased to 7 in 1807, to 9 in 1837, and to 10 in 1863 In 1866 the membership was reduced to 8 to prevent President Andrew Johnson from filling any vacancies Since 1869 the court has comprised 9 members By May, 1950, a total of 87 men had sat on the bench Four served both as Associate Justice and Chief Justice, they were John Rutledge (appointed Chief Justice, but never confirmed by the Senate), Edward D White, Charles E Hughes, and Harlan F Stone The other Chief Justices have been John Jay, Oliver Ellsworth, John Marshall, Roger B Taney, Salmon P Chase, Morrison R Waite, Melville W. Fuller, William H Taft, and Fred M Vinson There are regularly two annual terms of court, the October and March terms Five justices constitute a quorum to hear a case, and decision is rendered by majority vote In the event of a tie the previous judgment is affirmed Under the Judiciary Law as amended in 1934 cases are usually brought to the court by appeal or by writ of certiorari The appeal procedure is used when the highest state court has declared that a U S statute is unconstitutional or that a state statute does not violate the U S Constitution, laws, or treaties If a lower Federal court rules that a U S statute is unconstitutional, the government may prosecute an immediate appeal Certiorari is granted at the court's discretion, with most applications refused It may be used to review constitutional decisions of state courts of last resort and Federal decisions on any important matter, especially when the inferior courts are in disagreement The Supreme Court has basically a dual function On the one hand it must interpret and expound all congressional enactments brought before it in proper cases, in this respect its role parallels that of the state courts of final resort in making the decisive interpretation of state law On the other hand the Supreme Court has power (superseding that of all other courts) to examine Federal and state statutes and executive actions to determine whether they conform to the U S Constitution When the court rules against the constitutionality of a statute or an executive action, its decision can be overcome only if the Constitution is amended or the court later overrules itself or modifies its previous opinion Thus, in the American governmental system, which now maintains the supremacy of the judicial branch over the executive and legislative branches, the Supreme Court potentially wields the highest power The decisions, of course, are not confined to the specific cases but also are intended to guide legislatures and the exec-

utive authority; thereby they mold the development of law. In no other country does the highest court possess such far-reaching power, for all other national legislatures may enact statutes without fear that the judiciary will refuse to enforce them on the grounds of unconstitutionality The Supreme Court, however, has found many constitutional limitations on its powers and has voluntarily adopted others so as not to interfere unduly with the other branches of government or with the states Thus, the court eschews "political questions," i.e., disputes over the form of government or the right of a particular person to enjoy governmental authority It also refuses to confine in any way the power of the President over foreign affairs or of the states over the usual subjects of criminal law Self-imposed restraints include consideration of a constitutional issue only if the case cannot be considered on other grounds and formulation of the constitutional decision in the narrowest terms The court prefers even a strained interpretation of a statute if it may thereby be found constitutional. The history of the Supreme Court reflects the development of the American economy, the alteration of political views, and the evolution of the Federal structure In its earliest years the court had little business to transact Much of the time of the justices was consumed in appearing on the Federal courts of appeal in the judicial circuits assigned to them This obligation of circuit riding was later to interfere seriously with the performance of the court's more important business For the most part the full bench—sitting first in New York city, then in Philadelphia, finally in Washington—was a court of last resort in admiralty cases and in cases arising out of diversity of citizenship The court somewhat later decided (in 1842 in *Swift* vs. *Tyson*) that in diversity suits it would follow not state law but a presumed Federal common law The status of the Supreme Court was somewhat uncertain until the tenure (1801–35) of John MARSHALL, the "great Chief Justice." Marshall, a strong Federalist, in MARBURY VS MADISON established the right of all courts to refuse enforcement to unconstitutional enactments of Congress. The same power in regard to state laws was asserted in the opinion of *Martin* vs. *Hunter's Lessee* (1816) delivered by Justice Joseph STORY In other opinions, Marshall further strengthened the Federalist position as against those who espoused STATES' RIGHTS This is seen notably in GIBBONS VS OGDEN, which interpreted the interstate commerce clause of the Constitution so as substantially to increase the power of Congress Marshall's successor as Chief Justice, Roger B TANEY, initiated a reaction. Taney helped to increase the strength of the states by advancing the concept of POLICE POWER as overriding apparent constitutional limitations on their right to make laws. In the DRED SCOTT CASE he made what many persons considered an unwarranted limitation of Federal authority in forbidding Congress to prohibit slavery in the U S territories Lincoln's opposition to Taney's views (see MERRYMAN, EX PARTE) was but one instance of hostility between the Supreme Court and various Presidents. After the adoption (1868) of the Fourteenth Amendment the character of litigation before the court was altered, and there were many cases alleging that state legislation took liberty or property without due process of law or denied equal protection of the laws (see FOURTEENTH AMENDMENT) In the late 19th cent the flood of litigation arising from all causes was delaying the disposition of cases up to three years. Relief was imperative, and finally, in 1891, Congress created the circuit courts of appeals to give a final hearing to most appeals and excused the justices from riding circuit However, each justice still heads one or more circuits) In the early 20th cent to many the court seemed highly conservative in its views It showed in general a rigid adherence to *stare decisis* (the rule that precedents are to be followed), a tendency to prevent the states from adopting laws which restricted business in its employment practices and other activities, and little disposition to restrain the states from restricting civil liberties Justices Louis D Brandeis and Oliver W. Holmes were commonly thought to stand out as exponents of a minority liberal view The court's conservatism apparently suited the country as a whole until President Franklin D Roosevelt came to office and Congress passed economic legislation of a far-reaching and novel character Soon the new laws were attacked on various constitutional grounds, e g , that they were unwarranted delegations of legislative power to the President and interfered in the exclusive power of the states over intrastate commerce. From 1935 to 1937 the court struck down such major pieces of NEW DEAL legislation as the National Industrial Recovery Act (in the famous Schechter Poultry Case), the Agricultural Adjustment Act, and the Bituminous Coal Act. Some of the laws were condemned by five-to-four decisions. Unalterably in the conservative camp were Pierce Butler, James McReynolds, George Sutherland, and Willis Van Devanter. The liberals (and supporters for the most part of New Deal legislation) were Benjamin N. Cardozo, Brandeis, and Harlan F. Stone. In the center were Chief Justice Hughes and Owen J. Roberts. Roosevelt, who had not had the appointment of a single justice, was determined to change the composition of the court and proposed (Feb , 1937) a measure designed to displace the "nine old men" and to infuse the bench with "new blood" of his choosing His plan—which even his opponents conceded was probably constitutional—was to provide retirement at full pay for all members of the court over 70, if a justice refused to retire, an "assistant" with full voting rights was to be appointed In no case might there be more than 15 justices The majority in Congress which characterized the scheme as "packing the court" prevented it from ever coming up for a vote, and it was abandoned in July In April, however, Hughes and Roberts joined the liberal group, thus giving the New Deal a precarious majority of one By five-to-four votes the National Labor Relations Act and the Social Security Act were upheld The majority justified these and other decisions by pointing out that the scope of Federal legislation had to expand because the growing interdependence of the country made local economic legislation of little value. The court also enunciated the novel view that in acting under the "general welfare" clause of the Preamble to the Constitution, Congress was not limited to carrying out its express powers as listed in Article 1 but might pursue any objective. Congress was thus given a vast new range of legislative power free of Supreme Court censure In 1938 the court took another drastic step in overruling *Swift* vs *Tyson* The doctrine of a Federal common law was repudiated, and in handling diversity suits the Federal courts were directed to use state law While in this case the Supreme Court limited the scope of Federal activity, it took certain steps in the opposite direction In the CONFLICT OF LAWS (juristic relations between the states) it announced many new principles, and it forbade even limited state taxation of Federal facilities but offered Congress fairly wide scope to tax various state-supported activities The court of the '40s, with seven appointments by Roosevelt, was not more unified than its predecessor of the '30s On the contrary, the percentage of dissents and of special opinions was greater than at any previous time There was less public concern, however, since the court did not invalidate major legislation, while the diverse views of its members on technical subjects—antitrust and patent law, conflict of laws, taxation—mainly concerned lawyers and business In the field of civil rights, as protected by the Fourteenth Amendment, the views of the court did continue to attract popular attention In May, 1950, the members of the court appointed by President Roosevelt were Hugo Black, Stanley Reed, Robert H. Jackson, Felix Frankfurter, and William O Douglas. Members appointed by President Truman were Harold Burton, Tom Clark, Sherman Minton, and the Chief Justice, Fred Vinson There is a very large literature on the Supreme Court, however, much which was written during the controversy of the late '30s is ephemeral Scholarly studies include Charles Warren, *The Supreme Court in United States History* (rev ed , 1926) and *Congress, the Constitution, and the Supreme Court* (enl. ed., 1935), Felix Frankfurter and James M Landis, *The Business of the Supreme Court* (1928), Charles G Haines, *The American Doctrine of Judicial Supremacy* (2d ed , 1932), Louis Boudin, *Government by Judiciary* (1932); Andrew C McLaughlin, *Constitutional History of the United States* (1935), Mitchell Wendell, *Relations between the Federal and State Courts* (1950) More popular works are Charles E Hughes, *The Supreme Court of the United States* (1928), Ernest S Bates, *The Story of the Supreme Court* (1936), K B. Umbreit, *Our Eleven Chief Justices* (1938), Wesley McCune, *The Nine Young Men* (1947).

Sur, Lebanon see TYRE

Sura (sōōrä'), river, 540 mi long, rising E of Penza, E central RSFSR It flows first W, then NE, then N to the Volga, which it joins W of Cheboksary. Except in winter, it is navigable for 400 mi

Surabaya or **Soerabaja** (both sōōrŭbī'u, Dutch sōōrăbā'yă), city (pop 341,675), on NE Java, Indonesia, on the Kali Mas river just above its mouth at the western end of Madura Strait North of the city proper is its port, Tanjungperak, which ships sugar, tobacco, coffee, teak, rubber, petroleum products, spices, and vegetable oils Indonesia's chief naval base is at Ujung, near Tanjungperak, it is retained by the Dutch but supervised by Indonesian officials Chief rival of Batavia in size and commercial importance, Surabaya has important industries, including shipbuilding, textile milling, metalworking, and the manufacture of machinery, chemicals, and rubber products. An oil refinery is near

Surakarta or **Soerakarta** (both: sōōrăkär'tă), town (pop. 165,484), on central Java, Indonesia, on the Solo river and WSW of Surabaya. Here is a vast walled palace, virtually a city in itself, belonging to the prince of Surakarta. The European section, with a Dutch fort built in 1779, resembles an old Dutch town. The town is the trade center for an area producing rice, rubber, and sugar and has textile mills, tanneries, and machine shops.

Surat (sōō'rŭt, sōōrät'), city (pop 171,443), NW Bombay state, India, a port on the Gulf of Cambay The Portuguese opened trade here in the 16th cent , and they were joined in the 17th cent. by the Dutch, French, and British. Here was one of the main trading centers of the British East India Company. Surat, today a railroad junction, has declined from its position during the 17th and 18th cent when it was one of India's most populous cities and its busiest port

Surbiton, urban district (1931 pop 29,401; 1947 estimated pop. 58,920), Surrey, England, SW of London It is a residential suburb of Kingston-on-Thames and is the scene of boating events

surface, in geometry, the boundary between two volumes Examples are the surface of a sphere, which is the boundary between the inside and the outside of the sphere, and a plane, which is the boundary between the two regions of space on the two sides of the plane A surface may be curved or flat It has no thickness and yet separates two regions in space. Thus it may be a closed surface of finite extent, like a sphere, or of infinite extent, like a plane.

surface tension, property exhibited by liquids in which the surface exposed tends to be reduced to the smallest possible area. A drop of water, for example, tends to assume the shape of a sphere The phenomenon is attributed to the attractive forces acting between the molecules of the liquid (cohesion) Those molecules at the surface are drawn with greater force toward the center by the other molecules within the liquid mass The surface then appears to act like an extremely thin membrane, and the small volume of water making up a drop assumes the shape of a sphere, held constant when an equilibrium between the internal pressure and that due to surface tension is reached Because of surface tension, various small insects are able to "skate" across the surface of a pond, objects of greater density than water can be made to float, and molten lead when dropped into a cool liquid forms suddenly into shot

surgery, branch of MEDICINE concerned with the diagnosis and treatment of injuries and pathological conditions requiring operations by manual or instrumental methods. Successful surgery demands all the skill and resources of the physician Through its long history surgery underwent several changes in status, emerging finally as one of the most respected of professions In prehistoric times sharpened flints and other sharp-edged devices were used to perform various surgical operations Such operations included trephining (removing circular pieces of the skull in cases of epilepsy and certain other disorders), letting blood, opening abscesses, and scarifying the flesh. Circumcision and other ritualistic operations were later performed with similar instruments There are indications that in Neolithic times saws of stone and bone were used to perform amputations Nearly all major operations were performed by the ancient Hindus Knowledge of the use of soporific potions to allay suffering can be traced to remote antiquity Surgery was skillfully practiced by the early Greeks and Romans Hippocrates was a competent surgeon as well as a keenly observant diagnostician Infection or sepsis accompanying surgical and other wounds was not common among the Greeks and Romans Undoubtedly this was to a large extent the result of the use, recommended by Hippocrates, of only pure or boiled water or wine for irrigating wounds and the avoidance of greasy dressings Clean materials were employed for bandaging, and cleanliness of the hands and fingernails of the surgeon were stressed ERASISTRATUS and HEROPHILUS were notable early surgeons of the famous medical school at Alexandria GALEN contributed largely to the founding of experimental physiology; his numerous works were widely disseminated and were long influential Among the Arabs, Jews, and Nestorian Christians much that was valuable in early surgery was preserved However, in Europe there followed a marked regression in surgical practice and knowledge. Asclepiades of Bithynia introduced the physician and the surgeon developed, and surgical practice fell into the hands of unskilled, untutored itinerants, many of them charlatans and ruffians The barber-surgeon who performed the usual functions of a barber as well as surgical operations became a common figure especially in England and France Guilds of barber-surgeons were organized in England, and gradually their status rose, not until the 18th cent , however, did surgery begin to be placed on a professional level There were, nevertheless, notable figures in early surgery, among them Guy of CHAULIAC Ambroise PARÉ, trained as a barber-surgeon, became a leading figure in medical history; he contributed notably to the use of more humane surgical methods. After the decline of Greek and Roman civilization the great scourge of surgery was the almost inevitable onset of infection. The lack of sanitary facilities and the crowded, dirty conditions of dwellings and hospitals that prevailed during and after the Middle Ages were obviously contributing factors. A few physicians championed

cleanliness in medical practice, but their advice was largely ignored, even though marked reduction in infection was evident in their own practice Until after about the mid-19th cent ,surgery was practiced only in desperate cases, so high was the mortality rate. Not until the introduction of antiseptic methods did surgery enter its modern phase. Louis Pasteur established the fact that microbes are responsible for infection and disease Sir Joseph Lister studied Pasteur's work and attributed surgical infection to the same cause, he introduced the use of carbolic acid as a cleansing and disinfecting agent in an attempt to avoid sepsis His results in reducing infection were dramatic It was found later that the carbolic acid spray which Lister used to cleanse the air about the patient was unnecessary, but the antiseptic treatment of instruments and other articles in contact with the patient continued until antisepsis was gradually replaced by the aseptic methods employed in modern hospitals Ernst von BERGMANN is credited with introducing steam sterilization under pressure for treating instruments and all other medical equipment used for a surgical patient In the late 19th cent rubber gloves that could, like the instruments, be sterilized came into use and thus prevented infection through the hands of the physician. Because some methods of sedation had been known from early times, the development of methods of ANESTHESIA was perhaps less revolutionary than the introduction of antisepsis However, the discovery of the value of ether and other anesthetics and of improved modern methods of administration has been of immeasurable value. Because of the knowledge and skill of modern anesthetists, surgical feats of great complexity and requiring either long or short periods of anesthesia are facilitated From the time of Ephraim McDOWELL, when the accomplishment of a successful abdominal operation made history, surgery has progressed to the point where operations are ably performed on the heart, brain, and delicate tissues of the eye, as well as on every other part of the body Among the many who contributed to the growth of modern surgery with its many fields of specialization are Harvey William CUSHING, William Stewart HALSTED, Sir Victor A HORSLEY, Emil Theodor KOCHER, Sir William MacEWEN, Charles Horace MAYO and William James Mayo, Valentine MOTT, John Benjamin MURPHY, Philip Syng PHYSICK, and James Marion SIMS Surgery in recent years has benefited by discoveries in many fields of science Surgical instruments have evolved from the crude earlier tools to meticulously designed devices With the development of X-ray techniques and of the fluoroscope, surgery gained probably its most valuable instruments of diagnosis Studies resulting in an understanding of the causes and treatment of shock, helped to reduce postsurgical mortality Knowledge of the techniques of blood transfusion and of the use of anticlotting agents also reduced mortality The sulfa drugs and penicillin and other antibiotic substances are among recent aids to the conquering of surgical and other infections PLASTIC SURGERY is a special field marked by great progress in recent times See I H Flack (pseud Harvey Graham), *The Story of Surgery* (1939), F G Slaughter, *The New Science of Surgery* (1946)

Surinam (sŏŏr'năm', -năm'), Dutch *Suriname* (sŭrĭ-nä'mŭ), much-used name for Dutch Guiana, also called Netherland Guiana and Netherlands Guiana See GUIANA

Surma (sûr'mŭ, sŏŏr'mä), river rising in Manipur state, India, and flowing c 265 mi to the Meghna river in East Bengal prov , Pakistan In India the Surma forms part of the border of Manipur and Assam states and flows E-W across Assam. The Surma valley is a rich agricultural zone.

Surratt, Mary Eugenia (sŭrăt'), 1820–65, alleged conspirator in the assassination of Abraham Lincoln, hanged on July 7, 1865 A widow (her maiden name was Jenkins) who had moved from Surrattsville (now Clinton), Md., to Washington, D C , she kept the boardinghouse where John Wilkes BOOTH hatched his original plot to abduct the President, which failed Booth had made (Dec , 1864) the acquaintance of her son, John Harrison Surratt (1844–1916), a secret dispatch rider for the Confederacy in the Civil War. After Lincoln's assassination eight alleged accomplices in Booth's crime were tried (May 10–June 29, 1865) before a special military tribunal Unquestionably guilty and also hanged were Lewis Thornton Powell (or Payne), a half-mad, Confederate ex-soldier, David E Herold, a feeble-minded youth of 19, who had fled with Booth but had surrendered, and George A Atzerodt, a middle-aged coachmaker Samuel Arnold and Michael O'Laughlin, Confederate ex-soldiers from Maryland who had taken part in the attempted abduction but not in the assassination, were sentenced to life imprisonment, as was Dr. Samuel A. MUDD, who had set Booth's broken leg. Edward Spangler, a sceneshifter at Ford's Theater, charged with abetting Booth's escape, was given six years. O'Laughlin died (1867) of yellow fever in the Dry Tortugas, but President Andrew Johnson pardoned the other three in 1869. After his capture, young Surratt, who had fled when the abduction plot failed, was tried (June 10–Aug 10, 1867) before a civil court Although the jury stood eight to four for acquittal, he was not released from prison until June, 1868 Later that year the government nol-prossed the indictment against him The hanging of his mother is generally considered to have been a gross miscarriage of justice Legally, the military tribunal doubtless lacked jurisdiction in the case, but this argument of defense counsel Reverdy Johnson and Gen Thomas Ewing was unsuccessful, as were most of their other pleas during the course of the highly irregular proceedings The prosecution, headed by Judge Advocate General Joseph HOLT, never did establish that Mrs Surratt even knew (although she might have known) of the abduction plot, and it now seems certain that she was not a party to the assassination plans Secretary of War Edwin M STANTON suppressed, among other evidence, Booth's captured diary, which completely refuted the charge in the indictment that the defendants had conspired with Jefferson Davis and other Confederate leaders in a general plot to kill Lincoln When, in the course of the impeachment proceedings against President Johnson, Stanton was forced to produce the hitherto unknown diary, even some radical Republicans condemned the prosecution for having perverted justice in the case of Mrs Surratt. Her son's subsequent release confirmed the impression of her innocence Bravely accepting her fate, she became an appealing character, the subject of several plays, e g , John Patrick's *Story of Mary Surratt* (1947). See D M. De Witt, *The Judicial Murder of Mary E. Surratt* (1895), H J Campbell, *The Case for Mrs Surratt* (1943)

surrealism (surĕ'ŭlĭzm), literary and art movement, influenced by Freudianism and dedicated to the expression of imagination as revealed in dreams, free of conscious control It was founded (1924) in Paris by André Breton, with his *Manifeste du surréalisme*, but its ancestry is traced to Baudelaire and Rimbaud, and many of its adherents had belonged to Dadaism In literature surrealism was confined almost exclusively to France, besides Breton a major exponents included Louis Aragon and Paul Eluard In art the movement became extremely dominant in the 1920s and 1930s and was internationally practiced with many and varied forms of expression. Salvador Dali and Yves Tanguy used symbolic dreamlike objects, such as melting watches and huge metronomes, meticulously painted and arranged in a recognizable composition, others, such as Marc Chagall and Giorgio de Chirico, set their figures in a composition of fantasy and free imagination to create a dreamlike atmosphere, another school, represented by such artists as Joan Miró and Marcel Duchamp, attempted to represent spontaneous thought, or psychic automatism, using abstract, or so-called automatic, form and composition to achieve this purpose In an artist such as Max Ernst these theories are found in combination Surrealism has also been employed in moving pictures by Man Ray, the poet Jean Cocteau, and others See David Gascoyne, *A Survey of Surrealism* (1935), H. E. Read, ed , *Surrealism* (1936), G E Lemaitre, *From Cubism to Surrealism in French Literature* (1941), A E Balakian, *Literary Origins of Surrealism* (1947)

Surrey, Henry Howard, earl of, c 1517–1547, English poet and soldier, son of the duke of Norfolk He was arrested by his enemies on a questionable charge of treason, convicted, and beheaded Strongly influenced by his friend Sir Thomas Wyatt, Surrey introduced into English poetry new verse forms, chief among them blank verse, which he used in his translation of Books II and IV of Vergil's *Aeneid* Forty of Surrey's poems appeared in Richard Tottel's miscellany (1557), and he was the only poet mentioned on the title page.

Surrey, inland county (722 sq mi , 1931 pop 1,180,878; 1948 estimated pop 1,571,900), S England. The county town is Guildford The terrain is marked by the North Downs, which cross the county from east to west To the north the land slopes gently downward to the Thames, into which flow the Wey and the Mole, Surrey's principal streams The southern slopes of the Downs, descending to the Weald, are more rugged It is one of the "Home Counties" around London, and the urbanization of the northern portions has been steadily increasing, but there are still attractive woodland areas to the south. Outside the residential areas it is primarily an agricultural county, its main occupations are dairy farming and sheep raising, with some manufacture of woolen goods and drugs. The city of Croydon is the site of one of the world's great airports, Wimbledon is famous as the locale of international tennis matches, Epsom is famous for its horse racing, and Kew for its botanical gardens At Runnymede, on the Thames, King John signed the Magna Carta in 1215. In Anglo-Saxon times Surrey was variously under the dominion of Mercia and Wessex and was overrun in the 9th cent. by the Danes The boundaries of the shire were established about the time of the Norman Conquest. See *Victoria History of Surrey* (4 vols., 1902–12).

Surtees, Robert Smith (sûr'tĭz), 1803–64, English novelist He created John Jorrocks, the sporting grocer, who appears in *Jorrocks' Jaunts and Jollities* (1838), a series of humorous sketches first published in the *New Sporting Magazine* which Surtees had helped to found in 1831 *Handley Cross* (1843) continued the career of Jorrocks Later works of Surtees, all published anonymously, include *Hawbuck Grange* (1847), *Hillingdon Hall* (1845), *Mr Sponge's Sporting Tour* (1853), "*Ask Mamma*" (1858), *Plain or Ringlets?* (1860), and *Mr Facey Romford's Hounds* (1865) Surtees knew English hunting life, his books have a tone of lusty humor and hearty satire The spirited illustrations of John LEECH increased the popularity of Jorrocks Surtees wrote *The Horseman's Manual* (1831), *The Analysis of the Hunting Field* (1846), and numerous fugitive papers on sport See E D Cuming, *Robert Smith Surtees* (1924), H S Gladstone, *Shooting with Surtees* (1928)

surveying, the science of finding the relative position of points on or near the earth's surface Boundaries, areas, elevations, construction lines, and geographical or artificial features are determined by the measurement of horizontal and vertical distances and angles and by computations based in part on the principles of geometry and trigonometry Field work consists in obtaining data for delineation on maps, charts, and profiles or in fixing points from predetermined data Hydrographic surveying deals with bodies of water and coast lines, is recorded on charts, and shows such features as bottom contours, channels, buoys, and shoals Land surveying includes both geodetic surveying, used for large areas and taking into account the curvature of the earth's surface (see GEODESY), and plane surveying, in which the earth is regarded as a horizontal plane. Plane surveying dates from ancient times and was highly developed in Egypt in order to reestablish boundaries obliterated by the overflow of the Nile It played an important role in American history in marking boundaries for settlements, surveying was a profession of distinction—both Washington and Jefferson worked for a time as surveyors Branches of surveying are named according to the purpose of surveys, e g , topographic surveying, used to determine relief (see CONTOUR), route surveying, mine surveying, construction surveying, or according to the method used, e g , transit surveying, plane-table surveying, photogrammetic surveying (securing data by photographs) Surveys based on photographs are especially useful in rugged or inaccessible country and for reconnaissance surveys for construction, mapping, or military purposes In air photographs, errors resulting from tilt of the airplane or arising from distortion of ground relief may be corrected in part by checking against control points fixed by ground surveys and by taking overlapping photographs and matching and assembling the relatively undistorted central portions into a mosaic. In surveying, measurements may be made directly, by the use of optical instruments, by computations from known lines and angles, or by combination methods Instruments used for direct linear measurements include the Gunter's chain (known also as the surveyor's chain), which is 66 ft long and divided into 100 links, the engineer's chain, 100 ft long and also consisting of 100 links, the tape, usually of steel, which has largely superseded chains, and the rod Tapes and rods made of Invar metal (an alloy of steel and nickel) are used for very precise work because of their low coefficient of thermal expansion The height of points in relation to a datum line (usually mean sea level) is measured with a leveling instrument consisting of a telescope fitted with a spirit level and usually mounted on a tripod It is used in conjunction with a leveling rod placed at the point to be measured and sighted through the telescope The transit is used to measure vertical and horizontal angles and may be used also for leveling It consists of over 400 parts, the chief elements are a telescope which can be rotated (transited) about a horizontal and about a vertical axis, spirit levels, and graduated circles supplemented by vernier scales Known also as a transit theodolite, it is a modification of the theodolite, an earlier instrument which, in its original form, could not be rotated in a vertical axis A plane table consists of a drawing board fixed on a tripod and equipped with an alidade (a rule combined with a telescope), used for direct plotting of data on a chart, it is suitable for rapid work not requiring a high degree of precision The stadia method, a rapid system useful in surveying inaccessible terrain and in checking more precise measurements, consists in observing through a telescope equipped with two horizontal cross hairs or wires (stadia hairs) the interval delimited by the hairs on a calibrated stadia rod, the interval depends on the distance between the rod and the telescope See R E Davis and F S Foote, *Surveying Theory and Practice* (3d ed , 1940), C. B. Breed and G L Hosmer, *Principles and Practice of Surveying* (Vol I, 8th ed , 1945, Vol II, 6th ed., 1947), J. C. Tracy, *Surveying* (rev. ed., 1947); E. F Church and A. O. Quinn, *Elements of Photogrammetry* (1948).

Susa (sōō'zŭ, sōō'sŭ), ancient city, capital of ELAM. The site is SW of Disful, Iran. The "city of lilies" is called Shushan in the Bible, Neh. 1 1, Esther 1 2, Dan 8 2. Its inhabitants were called Susanchites. Destroyed (7th cent B C) by Assur-banipal, Susa was revived in the empire of the Achaemenid rulers of PERSIA. Darius I and Artaxerxes I built magnificent winter palaces here. It was later thoroughly Hellenized and continued prominent in the Roman Empire. The ruins were excavated by M A. Dieulafoy and others. J J M de Morgan discovered a stele of the Code of Hammurabi, and Susa has yielded many inscriptions in the undeciphered Elamite language.

Susa, Tunisia: see SOUSSE.

Susak, Yugoslavia: see FIUME.

Susanchites (sōō'zăkīts), inhabitants of SUSA in Elam. Ezra 4 9.

Susanna (-zăn'-) [Gr from Heb, =lily] **1** Heroine of a story told in Dan 13, a chapter placed in the Apocrypha in AV (see DANIEL). Two elders attempt to seduce Susanna and are repulsed, they accuse her of soliciting them, but she is saved from punishment by the young Daniel, who traps the false accusers in discrepancies in their testimony. Susanna has been a favorite subject of Christian iconography. **2** Woman who ministered to Jesus. Luke 8 3.

Susanville, city (1940 pop 1,575, 1948 special census pop 5,358), co seat of Lassen co, NE Calif. It is in a well-populated timber, dairy, and grain area. Lassen Junior College (coeducational) is here. Lassen Volcanic National Park and Honey Lake are near by.

Susi (sōō'sī), father of Gaddi, a spy sent into Canaan by Moses. Num 13 11.

Susiana: see ELAM.

Suso, Heinrich (hīn'rĭkh zōō'zō), c.1295–1366, German mystic. He was a Dominican. In studying at Cologne he came under the influence of Meister ECKHART, whose writings he defended against charges of heresy. He became a popular preacher and was associated with Johannes TAULER. He was at first harshly ascetic, but gradually emphasized detachment rather than mortification as central in the Christian discipline. His mysticism was expressed characteristically in terms of the contemporary literary romantic cult of the minnesingers. This gave him the epithet Sweet Suso. His writings include *Das Büchlein der ewigen Weisheit* [the little book of eternal wisdom], an autobiography and a guide to beginners in the spirit life, *Das Minnebüchlein* [the little book of love], a scholarly defense of Eckhart and an attack on the BEGHARDS and Brethren of the Free Spirit, and miscellaneous sermons. He was beatified in 1831. His autobiography is not of sure authenticity, it purports to be made from notes taken from his oral accounts and then edited by him. See T F Knox, *The Life of Blessed Henrich Suso by Himself* (1913), James M Clark, *The Great German Mystics* (1949).

suspension, in chemistry, a mixture of a finely divided solid and a liquid or a gas in which the solid does not enter into solution but remains dispersed and suspended for some time before finally settling out. The size of the solid particles of suspensions are larger than those of a colloid. Fine sand or finely ground chalk shaken up in water forms a suspension. Muddy water is another example. In any case, the product resulting is not homogeneous as is the case in a true solution. Mixtures of liquids in which one is suspended in another and gradually collects in a layer either above or beneath are also known as emulsions. Fine soot, dust, or other finely divided solids can form suspensions in air.

suspension bridge, a bridge the footwalk or roadway of which is suspended on chains or cables fixed between towers, piers, or other anchors. This is the type of bridge most suited for constructions of large span. Primitive peoples often build suspension bridges in the form of vines woven together and fastened to posts or trees on each side of the crossing. From the vines a footwalk is suspended. Early suspension bridges were built in America by James Finley. J A Roebling improved suspension bridges through his development of wire cables and the adoption of stiffening trusses. He completed the first bridge over the Niagara in 1854. There are fewer suspension bridges than either truss or arch bridges, but the most famous are of this type. The Brooklyn Bridge across the East River (completed 1883) was the world's longest suspension bridge at the time of its construction, with its main span of 1,595.5 ft. Examples of modern suspension-bridge engineering are the GEORGE WASHINGTON BRIDGE, linking New York and New Jersey, the GOLDEN GATE BRIDGE, San Francisco, and the San Francisco–Oakland Bay Bridge. The San Francisco–Oakland Bay Bridge combines suspension with other forms of construction, the west bay crossing (from San Francisco to Yerba Buena Island) consisting of two equal suspension bridges, with a common anchorage between them, each with a main span of 2,310 ft.

Susquehanna (sŭskwĭhā'nə), river, 450 mi long, which rises in two branches. The northern branch (commonly referred to as the Susquehanna) has its source in Otsego Lake, SE N.Y., and flows southwest and southeast to a point near Pittston, Pa., where it is joined by the Lackawanna river. Then it turns SW to Sunbury, where it is joined by the West Branch, which rises in the Alleghenies and follows a circuitous course east and southeast. The united stream, joined by the Juniata a few miles above Harrisburg, flows S and SE into Maryland and finally enters the northern part of Chesapeake Bay at Havre de Grace, Md. As the river traverses the anthracite region, there are many mining and industrial cities on its banks—Binghamton and Owego, N.Y., Pittston, Wilkes-Barre, Nanticoke, and Harrisburg, Pa., among them. Much of the Susquehanna valley is very beautiful. The Federal government's plan for flood control (approved 1936) embraces the building of levees, flood walls, and reservoirs at points along the river and on certain of its tributaries.

Susquehanna Company or **Susquehannah Company,** a land company formed in Connecticut (1753) for the purpose of developing the WYOMING VALLEY in Pennsylvania. A tract of land was purchased from the Indians in 1754, and preparations were made for development. Aid was sought in England, where Elphalet DYER was sent in an unsuccessful attempt to secure confirmation of the land grant (1763–64). Colonization from Connecticut was first attempted in 1762–63, but it was 1769 before any definite settlement was made. Soon the settlers were embroiled in troubles with the rival settlers from Pennsylvania, leading to the PENNAMITE WARS, in which Zebulon BUTLER led the Connecticut forces. See J P Boyd, ed., *The Susquehannah Company Papers* (3 vols, 1930–31).

Susquehanna Depot, borough (pop 2,740), Susquehanna co, NE Pa., NE of Montrose, inc 1853.

Susquehannah Company: see SUSQUEHANNA COMPANY.

Susquehanna University: see SELINSGROVE, Pa.

Süss, Hans see KULMBACH, HANS VON.

Sussex, Thomas Radcliffe, 3d **earl of,** 1526?–1583, English nobleman. Styled Viscount Fitzwalter after his father became the 2d earl of Sussex (1542), he served in the army in France and on diplomatic missions abroad. In 1554 he was made Baron Fitzwalter, and in 1557 he succeeded his father as earl of Sussex. He served as lord deputy of Ireland under Mary I (1556–58) and again (1559–64) under Elizabeth, who gave him the title of lord lieutenant. Sussex was a vigorous general, although he never succeeded in subduing Shane O'Neill, and it was during his administration that English influence was first extended outside the Pale. Sussex's desire for Elizabeth to marry outside England brought him into sharp conflict with the earl of Leicester. His attempts to negotiate a marriage between the queen and Archduke Charles of Styria, brother of Emperor Maximilian II, collapsed in 1567. In 1568 Sussex became lord lieutenant of the north, and he aided in the suppression of the revolt (1569–70) of the earls of Northumberland and Westmorland. He became lord chamberlain in 1572.

Sussex, maritime county, S England, divided for administrative purposes into Sussex East (829 sq. mi; 1931 pop 546,864, 1948 estimated pop 608,800) and Sussex West (628 sq. mi, 1931 pop. 222,995, 1948 estimated pop 310,300). The county town is Lewes. The South Downs, low, rolling hills, which cross the county from east to west and terminate at Beachy Head on the coast, are Sussex's most notable geographical feature. The principal streams are the Arun, the Ouse, the Rother, and the Adur. The long coast line along the English Channel is famous for its resorts, such as Brighton and Eastbourne. It is almost exclusively an agricultural and pastoral region (dairy farming and sheep grazing). In Sussex were found remnants of the primitive "Piltdown man." There are remains of Celtic, Roman, Saxon, and Norman occupation. The old kingdom of the South Saxons (Sussex) was, traditionally, founded by King Ælla in 477. Later the region was incorporated into Wessex. William I (William the Conqueror) landed at Pevensey in 1066 and defeated Harold's Saxons at Hastings. At Arundel is the seat of the dukes of Norfolk. Chichester is famous for its cathedral. See Arthur Mee, *Sussex* (1937).

Sussex, town (pop 3,027), S N.B., on the Kennebecasis river and NE of St. John. It is a trade center for a dairy region and manufactures refrigerators, furniture, and agricultural implements. Gypsum and salt are mined near by.

Sussex, borough (pop 1,478), NW N.J.; settled 1734, inc 1902. It is a farm trade center.

Sussex, kingdom of, in ENGLAND. It was settled, according to tradition, in 477 by Saxons under Aelle, who defeated the Celts in several battles and established toward the close of the century a brief military supremacy. After this time Sussex existed only as a subkingdom of one of its more powerful neighbors or as a group of petty states. Little is known of its history for almost two centuries, but the region came to include the modern Sussex, E Hampshire, and the Isle of Wight. The South Saxons persisted in heathenism generally until St. Wilfrid of York led (681–86) the general conversion of the people. Conquered (685–88) by Caedwalla of Wessex, Sussex remained subject to his successor, Ine (688–725). By 771 Offa of Mercia had conquered all the petty kingdoms into which the South Saxons were divided, and they remained under Mercia until they joined other eastern states in submitting to Egbert of Wessex in 825. Sussex thereafter existed as an earldom.

Sutherland, George, 1862–1942, Associate Justice of the U.S. Supreme Court (1922–38), b Buckinghamshire, England. He was taken (1864) by his family to Springville, Utah. After studying law at the Univ of Michigan, he was admitted (1883) to the bar, practiced law in Utah, and was (1896–1900) a member of the state senate. Sutherland became important in Republican party politics and served in the House of Representatives (1901–2) and then in the Senate (1905–17). As Associate Justice of the Supreme Court, Sutherland was known through the years as a staunch conservative. He retired from the Supreme Court in 1938. He is the author of *Constitutional Power and World Affairs* (1919).

Sutherland, county, Scotland: see SUTHERLANDSHIRE.

Sutherland, town (pop 1,046), S central Sask., across the South Saskatchewan from Saskatoon, of which it is a suburb. Sutherland is a railroad division point and has a dominion forestry farm.

Sutherland Falls, waterfall, 1,904 ft high, SW South Island, New Zealand, near Milford Sound in Fiordland National Park.

Sutherlandshire (sŭ'dhurlăndshĭr) or **Sutherland,** maritime county (2,028 sq mi, 1931 pop 16,101, 1948 estimated pop 14,393), N Scotland. The county town is Dornoch. The Atlantic coast line is extremely irregular and deeply indented by sea lochs. Dornoch Firth forms part of the southern end of the North Sea. The area is almost entirely mountainous, largely covered with moors and forests. The poor soil, heavy rainfall, and low temperature make farming difficult. The chief occupation of the sparsely populated region is sheep grazing. The deer forests, grouse moors, and excellent fishing make the district a popular one with sportsmen. The 1st duke of Sutherland attempted, early in the 19th cent., to remove the poverty-stricken crofters from the interior to the coast and to America. The county was the "Southern Land" of the Norsemen, who occupied it in the 11th cent. and held it for about 100 years.

Sutlej (sŭt'lĕj), river rising in SW Tibet at an elevation of c 15,200 ft and flowing c 900 mi to the Indus river in Pakistan. In India the Sutlej flows W through Himachal Pradesh and Bilaspur state. Turning southwest, it receives the Beas river and forms part of the border of Punjab state, India, and West Punjab prov., Pakistan. In Pakistan (where its course marks the boundary of West Punjab and Bahawalpur) it receives the Chenab, which has already been joined by the Jhelum and Ravi rivers. The resultant stream, which collects the waters of all the five rivers of the PUNJAB, is often called the Panjnad [five rivers]. The Sutlej accommodates small vessels and furnishes water for irrigation.

sutra see SANSKRIT LITERATURE.

Sutro, Adolph Heinrich Joseph (sōō'trō), 1830–98, German-American engineer, b Aachen, Germany. In 1850 he emigrated to America, settling in California. His most important engineering achievement was the famous Sutro Tunnel, extending several miles into Mt. Davidson to the COMSTOCK LODE and providing ventilation, drainage, and transportation. Returning (1879) to San Francisco, he invested in real estate, laid out Sutro Heights, and was elected mayor for the years 1894–96 on the Populist ticket. He wrote *The Mineral Resources of the United States* (1868).

suttee (sŭ'tē', sŭ'tē') [Sanskrit *sati*=wife], funeral practice of Hindus, formerly found in India, according to which the widow sacrificed herself on her husband's pyre. The purpose was to help her soul and his in the world to come, but the practice was encouraged by the treatment accorded widows by Hindus. Practices similar to suttee are found in many parts of the world, and suttee may have been taken over by Hinduism from a more ancient source. At any rate, the Vedic texts used by Hindus to support the practice are probably properly to be read in no such sense. Suttee was abolished by law in British India in 1829.

Sutter, John Augustus, 1803–80, American frontiersman, b Kandern, Baden, of Swiss parents. His original name was Johann August Suter. He came to America in 1834, went to St. Louis, then to Santa Fe. Fired with a desire to go to the Pacific coast, he went to the Oregon country and entered the coastwise trade in the Northwest, going to the Hawaiian Islands, to Sitka, and finally (1839) to California. He settled in the Sacramento valley, became the proprietor of a large and rich colony, known as New Helvetia, and built Sutter's Fort (see SACRAMENTO). He was rich and powerful and helped newcomers to California, such as the survivors of the Donner Party. In 1848 his partner in a sawmill venture, James W. MARSHALL, found gold at Sutter's Mill (see COLOMA). The news

spread, and gold-mad crowds poured across the continent in the rush of '49 They killed Sutter's cattle and swarmed over his lands hunting for gold His struggle against them was vain, and General Sutter moved back to Pennsylvania, a ruined man, in 1873. He had a pension from California, and to the end he hoped vainly that the U S. Congress would reimburse him for his services and for the lands to which he had had a claim that was disallowed by the U S Supreme Court Original materials are to be found in Erwin G Gudde, *Sutter's Own Story* (1936), in *New Helvetia Diary* (1939), and in Sutter's *Statement regarding Early California Experiences* (ed by Allan R Ottley, 1943) See biographies by Julian Dana (1934), J. P. Zollinger (1939), and M K Wilbur (1949)

Sutter Creek, city (pop 1,134), central Calif , ESE of Sacramento, in a gold-mining region, inc. 1874 Leland Stanford made his fortune here

Suttner, Bertha (Kinsky), Baroness von (bĕr'tä, fŭn zŏōt'nur), 1843–1914, Austrian novelist, chiefly known as an ardent pacifist Through the medium of novels she struggled for the abolition of war and was awarded the 1905 Nobel Peace Prize Her best-known work is the novel *Lay Down Your Arms* (1889, Eng tr , 1906) Her memoirs (1909) appeared in English translation in 1910

Sutton. 1 Village (pop 1,051), S Ont , just S of Lake Simcoe, in a dairying and mixed farming area **2** Village (pop 1,118), S Que , on the Missisquoi river and SSE of Granby, in a lumbering and dairying region

Sutton 1 Town (pop 2,749), S Mass , S of Worcester, settled c 1715 Woolen goods are produced. A state park and forest are here **2** City (pop 1,403), SE Nebr , E of Hastings, in a prairie region, settled 1869 **3** Trading town (pop 1,083), co seat of Braxton co , central W Va , on the Elk river and SSW of Clarksburg, in a farm section, inc 1826

Sutton Coldfield, municipal borough (1931 pop 29,928, 1947 estimated pop 45,870), Warwickshire, England, NE of Birmingham, of which it is a residential suburb and vacation resort Sutton Park (over 2,000 acres) is a public recreation ground The moated New Hall dates from the 13th cent

Sutton-in-Ashfield, urban district (1931 pop 25,153, 1947 estimated pop 39,790), Nottinghamshire, England, SW of Mansfield It has coal mines, lime works, and lace and hosiery factories The Church of St Mary Magdalene dates partly from the 12th and 14th cent Stone Age burial grounds have been found here

Su Tung-po or **Su T'ung-po** (both sōō' tōōng'-pō'), 1036-1101, Chinese poet He was born in present-day Szechwan prov of a family which had made notable contributions to literature His outstanding performance on the imperial civil service examinations early aroused the emperor's interest in him Su occupied many official posts, rising to president of the board of rites (which regulated imperial ceremonies and worship) for a few months in 1091 Another of his achievements was designing the parks which surround Lake Si in Hangchow Often he lost his position and was subjected to terms of exile for his satiric verses and for his opposition to official policy Su is generally considered the greatest poet of the T'ang dynasty Through the strict forms of his work there frequently breathes a spirit of regret for the evanescence of beauty and the limited span of life Habitually, even in youth, he described himself as an old, disappointed man Yet counteracting this melancholy is a vivid intuition of identity with all being Su is also noted for his *fu*, satiric poems in a rough meter approaching free verse, and for letters, essays, and official reports See translations by Cyril D Le Gros Clark (1931, 1936), Lin Yutang, *Gay Genius the Life and Times of Su Tungpo* (1947)

Suva (sōō'vä), town (pop 11,398, Greater Suva pop 23,513), on Viti Levu, capital of the British colony of Fiji A port of call for British and American steamship lines on the south coast of the island, it also has plane service It has coconut-oil and soap factories and exports sugar, copra, gold, and tropical fruits The Central Medical School (1928) for training native doctors is here

Suvarov, Aleksandr Vasilyevich (ŭlyĭksän'dur vŭsē'lyuvĭch sōōvō'ruf), 1729–1800, Russian field marshal He entered the army as a boy and rose from the ranks He fought in the Russo-Turkish War of 1768–74, suppressed the rebellion of Pugachev in 1775, and was created count for his victories in the Russo-Turkish War of 1787–92, notably at Focsani, on the Rimnik, and at Izmail, which he captured in 1790 In 1794 Suvarov commanded the Russian army of intervention in Poland. In a swift campaign, culminating in the battle of Praga and the capture of Warsaw, he crushed the Polish resistance led by Kosciusko Suvarov's reputation reached its peak in the war of the second coalition (see FRENCH REVOLUTIONARY WARS) in 1798–99. Commanding the Austro-Russian forces in Italy, he defeated the French at Cassano, took Milan and Turin, and routed the French on the Trebbia and at Novi. Having driven the French out of N Italy, Suvarov crossed into Switzerland over the St Gotthard in order to join the forces of General Korsakov and Archduke Charles and to drive Masséna out of Switzerland The plan miscarried completely because of the interference—due to political motives —of the Austrian government with the allied strategy Before Suvarov could join Korsakov, Archduke Charles and his Austrian forces had been ordered to the Rhine Korsakov's Russians were outnumbered and were defeated by Masséna at Zurich (Sept , 1799) Suvarov was still struggling through the almost impassable terrain of central Switzerland when news of Korsakov's disaster reached him Harassed by the French, he succeeded in leading his half-starved and ragged troops into the Grisons and from there to Lindau He refused to participate in further action with the Austrians, and shortly afterward Russia withdrew from the war For his exploits in Italy he was created Prince Italiski Suvarov was idolized by his men, and he was able to mold them into a unified fighting body He demanded discipline and sacrifice, but his willingness to let his soldiers reap the fruit of victory gave Russian troops a bad reputation throughout Europe He was never defeated in battle, and he ascribed his success to the simple principle of "intuition, rapidity, impact" One of the great generals of modern times, Suvarov is particularly revered in Soviet Russia, where one of the highest military decorations was named after him

Suwalki Pol *Suwałki* (sōōvä'ōōkē), Rus *Suvalki* (sōōval'kē), Ger *Sudauen* (zōōdou'un), town (pop 13,670), NE Poland It originated (15th cent) as a Lithuanian settlement Situated where Poland, East Prussia, Lithuania, and Belorussia meet, Suwalki often changed hands It passed to Prussia in 1795 and to the Russian Empire in 1815 The town reverted to Poland in 1921 During the Second World War it was incorporated into the USSR (1939) and East Prussia (1941) An agreement granting Vilna to the Lithuanians was signed here (1920) by the Poles, but did not take effect Chiefly a trade center, Suwalki also has electrical and food industries

Suwannee (swŏ'nē, swä'–), river, c 250 mi long, rising in Okefenokee Swamp, SE Ga , and winding generally S through N Florida to the Gulf of Mexico Its name was used by chance in Stephen Foster's famous song *Old Folks at Home* or *Swanee River*

Suzdal (sōōz'dŭl), city (pop 6,904), central European RSFSR, ENE of Moscow and c 20 mi N of Vladimir Founded in 1028, it became (12th cent) an important city of the grand duchy of Vladimir-Suzdal (see VLADIMIR) and a religious center of NE Russia It was destroyed in 1328 by the Tatars and never recovered its importance In 1451 it passed to the grand duchy of Moscow Suzdal has an ancient kremlin containing a cathedral and a monastery, both from the 13th cent , and there are two walled monasteries north of the city There is a textile industry (flax production and clothing)

suzerainty (sōō'zurŭntē, sōō'zurān'tē), in international law, a relationship between states analogous to that between lord and vassal under FEUDALISM A vassal state arises when an area formerly under central authority is accorded a considerable degree of autonomy It is thus to be distinguished from a PROTECTORATE, which is a formerly independent state brought to some degree under the control of a more powerful state In their international position, however, vassal states and protectorates are nearly indistinguishable The creation of vassal states usually follows the partial disruption of a large country, e g , the Ottoman Empire If the disruption proceeds, however, as it did in the Ottoman Empire the vassal states eventually attain complete independence There are probably today no clear examples of international suzerainty

Suzuki, Bunji (bōōn' jē sōō'zōōkē), 1885–, Japanese labor leader. He founded the Yuaikai (Friendly Society) an early labor union, in 1912, and later he was president of the Japan federation of labor He was an adviser to the Social Mass party and served several terms in the diet

Suzuki, Kantaro, Baron (känthrō'), 1867–1948, Japanese admiral An opponent of any peace terms in the Second World War, he served briefly as prime minister after April, 1945, resigning on Aug 15, the day after announcement of Japan's surrender

Suzzallo, Henry (sōō'zulō), 1875–1933, American educator, b San Jose, Calif , grad Stanford, 1899, and Columbia (M A , 1902, Ph D , 1905) He taught at Stanford and at Teachers College, Columbia, where he was professor of the philosophy of education (1909–15) From 1915 to 1926 he was president of the Univ of Washington and after serving for three years as specialist in higher education of the Carnegie Foundation for the Advancement of Teaching was its president from 1930 until his death He wrote *Our Faith in Education* (1924), from 1909 he edited the "Riverside Educational Monographs"

Svalbard : see SPITSBERGEN.

Svanetia (svanē'shŭ), mountainous region, NW Georgian SSR, on the southern slopes of the Greater Caucasus It is very difficult of access, and its inhabitants, the Svans, have been little touched by modern civilization. They speak a South Caucasian language, like the Georgians. The Svanetian Range, a spur of the central Greater Caucasus, extends c 50 mi west from the main range near the Dykh-Tau and rises to 13,120 ft

Svea borg, Finland see SUOMENLINNA.

Sveal and or Svearike see SWEDEN

Svedberg, Theodor (tā'ōdôr svād'bĕryŭ), **1884–**, Swedish chemist He is known also as The Svedberg In 1912 he became professor at the Univ of Uppsala For his fundamental research on colloid chemistry he received the 1926 Nobel Prize in Chemistry He has studied especially the giant protein molecules, evolving for this work an ultracentrifuge He wrote *Colloid Chemistry* (1924; 2d ed , 1928) and is co-author of *The Ultracentrifuge* (1940)

Svein see SWEYN

Svendborg (svĕn'bôr), city (pop 21,356), S Fyn island, Denmark It is an important shipping center and has shipyards, breweries, machinery plants, and textile manufactures Svendborg grew around a 13th-century castle and has two churches dating from the 14th cent

Sverdlovsk (svyĭrdlôfsk'), city (1926 pop 136,421; 1939 pop 425,544, 1946 estimated pop 600,000), capital of Sverdlovsk oblast, RSFSR, in the eastern foothills of the central Urals Until 1924 it was named Ekaterinburg or Yekaterinburg Sverdlovsk is the leading industrial city of the Urals and a major machine-building center of the USSR. It also is the western terminus of the Trans-Siberian RR and the seat of a university and of numerous medical, technical, and scientific institutes and schools There are two cathedrals dating from the 18th cent , several museums and art galleries, and an opera house The city was founded in 1722 as a fortress and was originally named for Empress Catherine I Its earliest ironworks were built in 1725 Later in the 18th cent it developed as a gold-mining town and as a resettlement center for Siberia-bound colonists Its metallurgical industries grew in the 19th cent and gained importance after the construction of the Trans-Siberian RR Here in 1918 Emperor Nicholas II and his family were shot by the Bolsheviks Later in the Russian civil war the city was occupied by the Whites under Kolchak It was renamed in memory of the Bolshevik leader Yakov Sverdlov and grew in industrial importance under the Soviet regime The transfer of much Russian industry to the Urals during the Second World War resulted in further expansion Its largest plant is the Uralmash works, constructed in 1933, which produces heavy metallurgical and mining equipment

Sverdrup, Harald Ulrik (hä'ral ōōl'rĭk svĕr'drŏōp), 1888–, Norwegian oceanographer and meteorologist He was in charge of the scientific work on the *Maud* for Amundsen's arctic expeditions (1917–25) and on the *Nautilus* for the Wilkins-Ellsworth submarine arctic expedition (1931) He was professor in Bergen at the Geophysical Institute (1926–30) and at the Christian Michelsen Institute (1931–36) and was professor (1936–48) at the Univ of California and director of the Scripps Institution of Oceanography In 1948 he became professor of geophysics and director of the Norwegian Polar Institute, Oslo He wrote *Oceanography for Meteorologists* (1942) and is co-author of *The Oceans* (1942)

Sverdrup, Johan (yō'hän'), 1816–92, Norwegian statesman As member of the Storting (1851–84) and as prime minister (1884–89) he successfully advocated parliamentary government with ministerial responsibility, trial by jury, and the political and social advancement of the farmers His party, the Left, founded in 1869, united the various opposition groups into a single powerful majority In 1880, when Sverdrup's bill for seating the ministers in the Storting, though carried by an overwhelming majority, was vetoed by King Oscar II, Sverdrup submitted a resolution waiving the royal veto. The Storting approved the resolution The constitutional struggle over the veto question continued until 1884, when the opposition succeeded in having the Conservative cabinet impeached by a special tribunal Sverdrup became premier, and the cabinet was seated in the Storting Sverdrup failed to satisfy the extremist wing of his party and resigned in 1889

Sverdrup, Otto (ō'tō), 1855–1930, Norwegian arctic explorer A companion of Fridtjof Nansen on the voyage across Greenland in 1888 and on Nansen's later (1893–96) polar expedition, Sverdrup was leader of an arctic expedition (1898–1902) in the *Fram* Valuable topographical observations were made in N Greenland, the unknown western part of Ellesmere Island was explored and charted, and Axel Heiberg Island and other new land was discovered His *New Land* (Eng tr , 1904) described this expedition Later arctic expeditions included a voyage to the Kara Sea in 1920 and a searching trip for Umberto Nobile's *Italia* in 1928

Sverre (svĕ'rŭ), d 1202, king of Norway (1177–1202) He claimed to be the illegitimate son of King Sigurd; the question of his paternity is still hotly disputed He spent his childhood in the Faeroe Islands and came to Norway in 1176. The Birkebeiner party, who were opposing Erling

Skakke and the puppet king, Magnus, adopted the cause of Sverre. They took (1177) Trondheim, and a bitter civil war began Sverre secured control of Norway in 1178, but Magnus with foreign aid continued to attack Sverre until Magnus's death in battle (1184) Civil war went on, and from 1196 to 1201 the Baglar, an aristocratic and clerical party, fought vigorously with the Birkebeiner, but were defeated. The victory of the party of the common people led to the destruction of the power of the aristocracy and increased the power of the king Sverre prepared the way for an absolute monarchy Sverre was also involved in trouble with the Church in the time of Pope Innocent III

Svevo, Italo (ē'tälō svā'vō), 1864–1928, Italian novelist, whose real name was Ettore Schmitz A business man of Trieste, he wrote several works of fiction which remained practically unknown until James Joyce discovered him His fiction is psychological and introspective, his characters mainly narcissists, but convincing and human, and his style witty His best-known work is *La coscienza di Zeno* (1923, Eng tr., *The Confessions of Zeno*, 1930), also translated as *Una burla riuscita* (1928, Eng. tr , *The Hoax*, 1929)

Sviatoslav (svyä'tüslŭf), 920–72, duke of Kiev (964–72); son of Igor and of St Olga. His reign, spent in conquests, ushered in the most glorious period of Kievan Russia He overthrew the empire of the KHAZARS in S Russia and conquered the Bulgarians, thus creating an empire reaching from the Volga to the Danube Some of his conquests were lost before his death, however Defeated by Emperor John I of Byzantium he was forced to leave Bulgaria in 971 On his way back to Kiev he was attacked and slain by the Petchenegs His succession was contested by his sons until 980, when Vladimir I (St Vladimir) defeated his brothers

Svinhufvud, Pehr Evind (pär' ā'vĭnd svēn'hu"vūd, svĭn'hōvōd), 1861-1944, Finnish statesman A judge under the tsarist regime, he played a major part in the Finnish movement for national independence and was banished (1914–17) to Siberia On his return he became head of the provisional government and proclaimed the independence of Finland. In alliance with Germany, he directed the war against the Finnish Bolsheviks, who were aided by Russia, but he retired in 1918 A conservative and a "strong man," Svinhufvud became premier in 1930, and in 1931 he succeeded K J Ståhlberg as president of Finland He took strong measures against the Communists, but he also suppressed the fascistic Lapua movement, which had helped him to office In 1937 he was succeeded as president by Kyosti Kallio, of the Agrarian party Svinhufvud went into retirement

Svir (svēr), river, 140 mi long, NW European RSFSR It issues from Lake Onega and flows W into Lake Ladoga Entirely navigable, it is part of the MARIINSK SYSTEM of inland waterways There are hydroelectric stations at Svirstroi and Lodenoye Pole

Swabia (swā'bēə), Ger *Schwaben* (shvä'bŭn), region, SW Germany It is now understood to comprise SW BAVARIA, S WÜRTTEMBERG, HOHENZOLLERN, and S BADEN Its main physical features are the BLACK FOREST, the valley of the upper Danube, which rises here, the Swabian Jura, a range which extends parallel to and N of the Danube, and the valley of the upper Neckar The Rhine and the Lake of Constance (also called the Swabian Sea) form the western and southern borders The easternmost part of Swabia is part of the Danubian plateau of Bavaria and is a Bavarian province (3,818 sq mi , pop 1,196,274), with Augsburg as capital All Swabia is predominantly agricultural or forested country famous for the loveliness of its landscape Settled by the Germanic Suevi and ALEMANNI during the great migrations, the region was also known as Alamannia It became one of the stem duchies of Germany in the 9th cent , when it far exceeded its present boundaries, including also Alsace and Switzerland E of the Reuss river In 1079 the duchy was bestowed on the house of HOHENSTAUFEN, which in 1138 also obtained the imperial dignity. On the extinction (1268) of the dynasty, Swabia broke up into small temporal and ecclesiastic lordships and lost its political identity Territories in Alsace, S Baden, and Switzerland had already passed under the control of the house of Hapsburg The Swiss part became independent in 1291 and Alsace passed to France in 1648, but Breisgau and the other Hapsburg domains in S Baden remained Austrian until 1803–6, except in 1469–77, when they were seized by Charles the Bold of Burgundy. The rest of Swabia was held in large part by the counts (later dukes) of Württemberg, by the margraves of Baden-Durlach, by the landgraves of Fürstenberg, by the princes of Hohenzollern, by the bishops of Strasbourg, Constance, and Augsburg, by several powerful abbeys, and by a multitude of petty princes, counts, and knights. The numerous and prosperous towns of Swabia were not slow in taking advantage of the political divisions of the feudal lords Most of them had obtained the status of free imperial cities (i.e , virtually independent republics) by 1300. Among them were AUGSBURG, ULM, Schwäbisch Gmünd, Reutlingen, Ravensburg, and Rottweil. Their wealth, due mainly to commerce and industry, made them the most powerful element of the country, and they made their superior power felt by forming a series of leagues. The Swabian League of 1376–89 defeated Emperor Charles IV and the count of Württemberg. The most important Swabian League was that of 1488–1534 (see separate article). The chief Swabian cities accepted the Reformation in the 16th cent , but the countryside has remained divided between Catholics and Protestants to the present day With the commercial revolution of the 15th and 16th cent, the Swabian cities lost most of their importance When the Holy Roman Empire was organised in circles in the 16th cent., the Swabian Circle, corresponding to the present region, was created The elimination of the small ecclesiastic and feudal holdings in favor of Baden, Württemberg, and Bavaria was largely the work of Napoleon I and was effected at the diet of Regensburg of 1801–3 Swabia in its largest sense has remained a linguistic unit, the Alamannic or Swabian dialects of its various regions being closely related.

Swabian League, association of Swabian cities and other powers in SW Germany for the protection of trade and for regional peace Though associations were formed in Swabia as early as the 14th cent the Swabian League of 1488–1534 is the best known of the long series Strengthened by the end of 1488 through the association of over 26 cities with many abbots, prelates, nobles, and knights and supported by the emperor, the Swabian League had a court, a powerful army, and a formal constitution (renewed in 1496, 1500, 1512, and 1522) By its resistance to powerful territorial principalities, the league was aligned, in effect, with the cause of imperial reform The league's military power strengthened Emperor MAXIMILIAN I and his reforms, it backed the election (1519) of Charles V and used its power against Ulrich I of WÜRTTEMBERG, against Franz von SICKINGEN, and against the peasants in the PEASANTS WAR The dissolution of the league resulted from the opposition of interests between its feudal members and its cities and from the religious split caused by the Reformation The Protestant members in 1531 joined the SCHMALKALDIC LEAGUE

Swahili (swähē'lē) [Arabic, =coast people], generic name for the native population of the coast of Kenya, Tanganyika, and Zanzibar These people are descendants of Bantu Negroes and Arab traders and show great variety of racial type The **Swahili language** is a Bantu tongue, with large Arabic admixtures It is the lingua franca of much of E Africa and has had great commercial importance in the past

Swainsboro, city (pop 3,575), co seat of Emanuel co , E Ga , NW of Savannah, founded 1814, inc 1853 It processes the area's timber and cotton and ships livestock

Swains Island, islet (pop 147), American Samoa, c 200 mi N of Tutuila It is a ring of sand and coral, c 20 ft high, with luxuriant vegetation It was annexed to American Samoa in 1925.

swallow, small passerine bird of both hemispheres, of which there are about 100 species (including the MARTIN) Swallows are graceful in flight and have long, narrow wings, forked or notched tails, and weak feet They have short bills and wide mouths. Insects, which constitute their diet, are caught on the wing Their plumage is usually an iridescent black or blue Unlike most birds, swallows migrate by day The most common species in America is the barn swallow, which has a deeply forked tail The male has steel-blue plumage above, a chestnut-brown forehead and throat, and pinkish under parts Other American swallows, in all of which the tail is shallowly forked, are the tree, the bank, the cliff, the rough-winged, and the violet-green swallows The chimney swallow is a SWIFT

swallowing or **deglutition** (dē"glōōt'ĭshun), voluntary act by which food is passed from the oral cavity to the pharynx In swallowing, the bolus of food is forced against the palate by the action of the tongue The soft palate is elevated, closing off the nasopharynx as the food passes through the isthmus of the fauces (passage between the mouth and pharynx) The involuntary action of the muscles of the pharynx carries the food into the esophagus and thence to the stomach

Swammerdam, Jan (yän' svä'murdăm), 1637–80, Dutch naturalist. A pioneer in the use of the microscope, he made valuable observations on human anatomy and was probably the first to detect red blood corpuscles (1658) and the valves of the lymphatics (1664) He investigated the life histories of frogs and of insects, which he classified on the basis of their metamorphic development His study of the honeybee promoted scientific beekeeping His chief collection of descriptions and of accurate and finely executed drawings, based on expert dissection and microscopic observations, were first published in the original Dutch accompanied by a Latin translation (2 vols., 1737–38) and appeared in English as *The Book of Nature* (1758). He wrote a life history of the May fly (1675)

swamp, area where the soil, saturated with water, is spongy and in places inundated. Moisture accumulates where normal drainage is prevented by the flatness of the land, by impervious subsoil, or by luxuriant vegetation. Swamps are commonly formed in lake basins (especially of oxbow lakes), on coastal plains, flood plains, and deltas, and in glaciated areas; tidal swamps are found in estuaries and along low coasts. Soil-covered areas of arctic tundras become swamps when the snow melts, in arid regions, swamps exist as alkali flats or as saline marshes. In the United States swamplands are concentrated chiefly in the Great Lakes region, in S Louisiana, and on the Atlantic coastal plain (e.g., Dismal Swamp and the Everglades). Undrained swamps are suitable for rice culture; swamps reclaimed by drainage or by chemical treatment constitute rich agricultural lands because of the high humus content Swamp vegetation varies with the climate. Types of swamps include the BOG, the fen, inundated lowland typified by the Fens (see FENS, THE) in England, the marsh, covered with water and treeless, and moorland, overlaid with peat and in N Europe characterized by heather.

swamp mallow : see HIBISCUS.

Swampscott (swŏmp'skŭt), town (pop. 10,761), E Mass., a coast resort NE of Boston; settled 1629, set off from Lynn 1852 The Humphrey House dates from the 1630s.

Swan, John Macallan, 1847–1910, English sculptor and painter, best known for his spirited studies of animals He is represented in the British Museum and in the Tate Gallery, London, and in the Frick Collection, New York The lions at the Rhodes Memorial (Capetown, South Africa) are his work

Swan, Sir Joseph Wilson, 1828–1914, English electrician. He made the first practical incandescent lamp with a carbon filament and devised improvements in connection with photography, including the carbon process of printing. He was knighted in 1904.

swan, large aquatic bird of both hemispheres, related to the ducks and geese. It has a long, gracefully curved neck The extremely long, convoluted trachea makes possible the far-carrying calls The orange-billed white swan of ornamental ponds is the mute swan of Old World origin It breeds in the wild state in parts of Europe, Asia, and the United States. During the breeding season it has a trumpetlike note, softer in the tame birds The whistling swan migrates from the arctic to Mexico Conservation measures saved the almost extinct trumpeter swan of North America, the largest species Wild species in Europe include the whooper (or whooping) and the Bewick swans The black swan is native to Australia, and the black-necked swan to South America

Swann, William Francis Gray, 1884–, American physicist, b. England, grad Univ of London (B Sc , 1905, D Sc , 1910) He came to the United States in 1913, served (1913–18) at Carnegie Institution, and then taught successively at the universities of Minnesota and Chicago and at Yale In 1927 he became director of the Bartol Research Foundation of Franklin Institute His research includes studies of atmospheric electricity, cosmic rays, electrodynamics, and relativity His works include *Architecture of the Universe* (1934)

Swan River, town (pop 1,175), W Man , on the Swan river and NW of Dauphin It is a distributing center for a lumber, grain, and stock-raising region

Swansea (swŏn'sē, -zē), village (pop 6,988), S Ont , just W of Toronto. It is a residential and industrial suburb.

Swansea. 1 (swŏn'sē) Village (pop 1,156), SW Ill , near East St Louis, inc 1895 **2** (swŏn'zē) Town (pop 4,684), SE Mass , NW of Fall River, settled 1632, set off from Rehoboth 1668 Textile products are made here

Swansea (swŏn'zē, -sē) or **Abertawe** (ăburtou'ē), county borough (1931 pop 164,797, 1947 estimated pop. 154,220), Glamorganshire, Wales, at the mouth of the Tawe It is a metallurgical center, having long manufactured tin plate; there are sheet-metal mills and foundries for smelting many ores—copper, iron, zinc, nickel, silver, and gold Other industries are engineering, shipbuilding, oil refining (at the suburb Llandarcy), and the export of anthracite The Royal Institute of South Wales and the University College of Swansea are here A point of interest is the ruined Norman castle Heavy air raids in 1941 damaged the city Swansea ware, of rich blue coloring with decorative painting, was made at the Swansea potteries in the first half of the 19th cent.

Swanson, Claude Augustus, 1862–1939, U S government official, Secretary of the Navy (1933–39), b Pittsylvania co., Va , grad Randolph-Macon College, 1885, and Univ. of Virginia law school, 1886 He practiced law in Chatham, Va., and after serving (1893–1905) in the U.S. House of Representatives, he was (1906–10) governor of Virginia In the Senate (1910–33) Claude A Swanson became recognised as one of America's foremost authorities on naval and foreign affairs: he was a delegate to the London Naval Conference in 1931 and the Geneva Disarmament Conference in 1932. As U.S. Secretary of the Navy, Swanson directed a vast naval

expansion program On his death he was succeeded by Charles Edison

Swanton, John Reed, 1873–, American ethnologist, b Gardiner, Maine, grad Harvard (B A , 1896, Ph D , 1900) An authority on American Indians, he was (1900–1944) an ethnologist with the Bureau of American Ethnology His numerous works include studies of Chickasaw, Creek, Choctaw, Haida, Tlingit, and other Indian groups

Swanton. 1 Village (pop 1,594), NW Ohio, SW of Toledo Machinery and furniture are made here 2 Town (pop 3,543), NW Vt , on the Missisquoi and N of St. Albans The Jesuits established a mission among the St Francis Indians in the region c 1700; English settlement began in 1765 Iron was made at Swanton at intervals, 1800–1868, of local bog ore, the first marble mill was built in 1812. Smuggling brought considerable wealth to Swanton after the embargo of 1807 and in the War of 1812 Barracks built here in the War of 1812 were burned by the British Missisquoi Airport, near Swanton village, is a port of entry for airplanes

Swanzey (swān'zĭ), town (pop 2,262), SW N H , S of Keene, granted 1733, inc 1753 The first settlement was destroyed by Indians in 1747 Denman Thompson was born here, the "Old Homestead" of his play is preserved

Swarthmore (swôrth'môr, swŏth'–), residential borough (pop. 4,061), SE Pa , near Philadelphia It is the seat of **Swarthmore College** (nonsectarian, coeducational), a leading small college, chartered in 1864 and opened in 1869 by Friends There is an engineering division On the beautiful campus is the birthplace of Benjamin West Under Frank Aydelotte (1921–40), Swarthmore introduced a plan since copied by many colleges exceptional upperclassmen replace the usual schedule by reading for honors, with comprehensive examinations Creative activities and athletics are planned for all students See Swarthmore College Faculty, *An Adventure in Education* (1941)

Swasey, Ambrose, 1846–1937, American engineer and manufacturer, b Exeter, N H While an apprentice toolmaker in Exeter, he met Worcester Reed Warner, a fellow apprentice Later they worked in a machine shop in Hartford, Conn , and in 1880 went to Chicago, where they established a machine-tool factory The firm moved (c 1881) to Cleveland, Ohio, and was incorporated (1900) as the Warner and Swasey Company The firm produced an epicycloidal milling machine, an accurate dividing machine, a gear-cutting machine, and the Swasey range and position finder, adopted by the U S government However, it is known especially for the manufacture of telescope mountings, notably the mountings of the 40-inch refracting telescope at Yerkes Observatory and of the 36-inch refractor at Lick Observatory

Swat (swät), state, part of the transborder area of North-West Frontier Prov , Pakistan The ruler is called the wali

Swatow (swä'tou'), Mandarin *Shan-t'ou*, city (pop 214,990), Kwangtung prov , China, a port on the South China Sea, near the mouth of the Han river When it was opened to foreign trade in 1860, it was a minor fishing village Today sugar is its chief export

Swaziland (swä'zēländ), British protectorate (6,704 sq mi , pop 186,880), SE Africa The capital is Mbabane Swaziland is bordered on the south, west, and north by the Union of South Africa and on the east by Mozambique It is mainly a plateau (500–5,000 ft high) which offers much excellent farming and ranching country The chief export is live cattle Cotton and tobacco are grown, asbestos is mined, and there is lumbering Some gold is also mined, and there are large untapped coal deposits Roads connect with railheads in the neighboring countries Europeans first settled in Swaziland in the 1880s, and in 1888 the Swazi king allowed them self-government Since 1906 Swaziland has been a protectorate ruled by a commissioner

swearing, in law see OATH

sweat or **perspiration,** secretion of the sebaceous glands of the skin, containing water, urea, salts, and other substances Sweat performs the function of excretion, ridding the body of waste products, and it also aids in the control of body temperature Emotional stress and muscular exercise increase the rate and amount of the excretion

sweating system, method of exploiting labor by supplying materials to workers and paying by the piece for work done on these materials in the workers' homes or in small workshops The system has been applied especially to work that does not require expensive machinery, as in making garments and artificial flowers Employees are found among women with small children, children whom factories could not legally employ, and the aged and invalids who could not secure work in a factory. The evils associated with this system have been long hours (sometimes 15–18 hr a day), very low wages, and unsanitary conditions Reducing the rate of pay speeds up the work and prolongs the working day. The term has also been applied to the subcontracting of work to a middleman who has the work done in his home by persons hired by him The system is a minor manifestation in the process of centralising the profits of industry that has gone on since the Industrial Revolution In England it first appeared early in the 19th cent In the United States it began in the Civil War period, when the wives and children of soldiers were employed in making uniforms Before the Industrial Revolution, household industries had been customary, but were quite different in nature and effect The household had supplied its own materials, had marketed the finished product in the neighborhood, and had combined its industry with subsistence farming With the introduction of mass standardization in industry, the advantages of the low cost of production of the sweating system have been practically eliminated See Beatrice Webb, *How Best to Do Away with the Sweating System* (1892), J R Commons, *Trade Unionism and Labor Problems* (1905), publications of the Consumers' League

swede see TURNIP

Sweden, Swed *Sverige* (svĕr'yē), kingdom (173,423 sq mi , including 14,937 sq. mi covered by lakes, pop 6,763,685), N Europe, occupying the eastern and larger part of the Scandinavian Peninsula STOCKHOLM is the capital Sweden borders on Norway in the west, on Finland in the northeast, on the Baltic Sea (including the Gulf of Bothnia) in the east and south, and on the Sound, the Kattegat, and the Skagerrak in the southwest It includes several islands, notably GOTLAND and ÖLAND in the Baltic Reaching from lat 69° 4′ N to lat 55° 20′ N, Sweden extends for c 970 mi from north to south and averages only c 200 mi from west to east Its long western frontier is mountainous, reaching its highest peak (6,965 ft) in the Kebnekaise The terrain slopes down to the eastern and southern coasts, and the many rivers—notably the GÖTA, the DAL, the ANGERMAN, the UME, and the LULE—run generally southeast The country is divided into three large regions, the southern tip of the peninsula, called Gotaland or Götarike, includes the historic provinces of Skane, Blekinge, Halland, Smaland, Ostergotland, Vastergotland, Dalsland, and Bohuslan To the north of Gotaland, but still in the southern third of Sweden, is Svealand or Svearike, with the historic provinces of Sodermanland, Uppland, Vastmanland, Narke, Varmland, and Dalarne Norrland, occupying the northern two thirds of the country, consists of the historic provinces of Gastrikland, Halsingland, Harjedalen, Jamtland, Medelpad, Angermanland, Vasterbotten, Norrbotten and Lapland The largest cities of Sweden—STOCKHOLM, GOTEBORG, MALMO, NORRKOPING, and HALSINGBORG—are all in Svealand and Gotaland and are coastal cities In the south also are the largest lakes—VANERN, VATTERN, and MALAREN Agriculture is concentrated mainly in the south. Less than 10 percent of the total area of Sweden is under cultivation, but the yield is rich and farming methods are highly efficient Most farmers are small landowners, living in villages rather than on isolated farms Their prosperity has been greatly furthered by farmers' cooperatives, of which most are members Wheat and other cereals are the main crops, dairying is an essential part of Swedish economy The three great natural resources of Sweden are forests, which cover more than half the land, high-grade iron ore (especially at KIRUNA in Lapland), and hydroelectric power Its main industries are based on these Timber, floated down the rapid rivers, is utilized in sawmills and furniture, match, and paper factories, which are powered by the same rivers Swedish steel has long been famous for its excellence FALUN, in KOPPARBERG CO , central Sweden, has the oldest Swedish mining concern The development of electrometallurgy has greatly benefited Sweden, which lacks sufficient coal Other mineral resources include silver, lead, zinc, copper, and manganese Lumber and lumber products, iron ores, and machinery are the chief exports Swedish decorative art and folk art also enjoy world-wide reputation, as does its fine glassware, manufactured at ORREFORS Fishing, shipping, and shipbuilding also are important occupations Though not favored by its situation as a tourist country, Sweden attracts many visitors through the beauty and variety of its handsome old towns and its modern model cities The exemplary manner in which Sweden has solved its economic and social problems and its plentiful and cultured way of life greatly add to the attraction Administratively, Sweden is divided into counties, the boundaries of which only occasionally coincide with those of the historic provinces. The Swedish constitution vests executive power in the king, who acts on the advice of his cabinet The legislative power rests in the bicameral parliament (see RIKSDAG) and the king, whose consent is necessary to validate legislation. Suffrage is universal Though enjoying wide power under the constitution, the king in practice rarely makes use of his full prerogatives, and the government is one of parliamentary democracy The nobility possesses no political privileges The Lutheran Church is the established church of Sweden, and almost the entire population is Lutheran There are 13 dioceses UPPSALA is the metropolitan see and has the older of the two Swedish state universities, the other being at LUND Stockholm and Goteborg have private universities The educational and cultural level is very high, and the school system exemplary Social legislation is very advanced in social welfare, it provides for a universal old-age and disablement pension system, for maternity benefits, workmen's compensation insurance, and allowances for children, regardless of their parents' financial status Unemployment insurance is voluntary; health insurance was made compulsory by a law (1946) to take effect in 1951 Sweden pioneered in the field of liquor legislation with the Bratt system (see LIQUOR LAWS) Except for c 30,000 Finns and c 7,000 Lapps in N Sweden, the population is of Swedish stock, largely descended from Scandinavian tribes (see GERMANS) who probably were settled in Sweden by the Neolithic period In early historic times Svealand was inhabited by the Svear (mentioned as Suiones by Tacitus), from whom the Swedes derive their name They were engaged in wars with their southern neighbors, the Gotar (Swed *Gotar*) of Gotaland, who according to an unproved tradition were the ancestors of the Goths Later Swedish kings took the title *Rex Gothorum et Vandalorum*, and Sweden was known as the Gothic North By the 6th cent A D the Svear had conquered the Gotar, with whom they merged The early Swedes were combined and confused with other Scandinavians as the piratical VIKINGS and NORSEMEN The Swedes alone, known as VARANGIANS in Russia, extended (10th cent) their influence to the Black Sea The Swedish kings warred for centuries with their neighbors, the Danes and Norwegians St Ansgar introduced Christianity c 829, but paganism was fully stamped out only in the 12th cent by ERIC IX, who also conquered Finland The royal authority was weakened before the 13th cent by the rise of an independent feudal class The Swedish cities also began to acquire wide rights at that period, and were strongly influenced by German merchants of the HANSEATIC LEAGUE In 1319 Sweden and Norway were united under MAGNUS VII, and in 1397 Queen MARGARET effected the personal union of Sweden, Norway, and Denmark through the KALMAR UNION However, Margaret's successors were unable to control the Swedes, who would not submit to being governed from Copenhagen The actual power was held for long periods by regents (notably those of the STURE family), chosen by the Swedish diet CHRISTIAN II, who asserted his claim to Sweden by force of arms, ordered a massacre (1520) of Swedish nobles at Stockholm This "Stockholm Blood Bath" stirred the Swedes to new resistance, and in 1523 they made Gustavus Vasa their king as GUSTAVUS I He was the founder of the modern Swedish state The southern provinces of Bohuslan, Halland, Blekinge, and Skane and the islands of Gotland and Oland remained in Danish hands, but Gustavus prepared their eventual recovery by building up Swedish military and naval power He rid Sweden of the grip of the Hanseatic League, strengthened the central authority, made the kingship hereditary in his dynasty (see VASA), and made Lutheranism the state religion His successor, ERIC XIV, began the Swedish conquest of LIVONIA by taking (1561) its northern section (Estonia) Swedish interests in E Europe were further enhanced by the marriage of John III, Eric's successor, to the sister of Sigismund II of Poland Their son, SIGISMUND III of Poland, was a Catholic, and his accession (1592) to the Swedish throne was deeply resented He was deposed in 1599, and his uncle, CHARLES IX was regent, then king Charles's son, GUSTAVUS II (Gustavus Adolphus) made Sweden a great European power In war with Russia he acquired (1617) Ingermanland and Karelia, from Poland, with which he resumed hostilities in 1621, he obtained (1629) nearly all Livonia With his entry (1630) into the THIRTY YEARS WAR, Sweden became the dominant Protestant power of continental Europe After the death of Gustavus II, his chancellor, OXENSTIERNA, directed the destinies of Sweden during the reign of Queen CHRISTINA The Peace of Westphalia (see WESTPHALIA, PEACE OF) in 1648 gave POMERANIA and the archbishopric of BREMEN to Sweden, thus making the Swedish kings princes of the Holy Roman Empire CHARLES X, who became king on the abdication (1654) of Christina, successfully warred against Poland and Denmark The southern provinces of Sweden were definitively recovered from Denmark in 1660 Under CHARLES XI, Sweden became an absolute monarchy, and the great nobles lost their independence In the NORTHERN WAR (1700–1721), which broke out on the accession of CHARLES XII, Sweden was crushed after celebrating its greatest military triumphs The treaties of Stockholm (1720) and Nystad (1721) forced Sweden to cede the archbishopric of Bremen to Hanover, part of Pomerania to Prussia, and Livonia, Ingermanland, and Karelia to Russia, Sweden was reduced to a secondary power. Internally, Sweden was torn in the 18th cent by political intrigue and civil discord Ulrica Eleonora (d. 1741) succeeded her brother, Charles XII, in

1718 and ruled jointly with her husband, Frederick I (d 1751), a prince of Hesse-Cassel A new constitution gave increased powers to the Riksdag, but the political scene was dominated by the two factions of nobles, the Hats, who favored an aggressive anti-Russian policy in alliance with France, and the Caps, who sought peaceful relations with Russia In 1751 the house of Oldenburg-Holstein-Gottorp ascended the Swedish throne in the person of Adolphus Frederick His son, GUSTAVUS III, restored absolutism in 1772, but was assassinated (1792) by a conspiracy of nobles GUSTAVUS IV was a thoroughly despotic and reactionary ruler He involved (1803) Sweden in war against NAPOLEON I and in 1808 had to cede Finland to Russia A liberal revolution overthrew him and placed his uncle, CHARLES XIII, on the throne From 1810, however, Swedish policy was in the hands of Charles's adopted heir, Marshal Bernadotte (later CHARLES XIV) Sweden again joined the allies against Napoleon in 1813, the Congress of Vienna, though it did not restore Pomerania and Finland to Sweden, compensated Sweden (1814) with NORWAY, which remained a separate kingdom in personal union with Sweden This was the last war in which Sweden participated The history of 19th-century Sweden, under the reigns of Charles XIV, OSCAR I, CHARLES XV, and OSCAR II, was one of progressive liberalization in government and of industrial development The basis of the present constitution was laid in 1864 The industrial development of the late 19th cent was accompanied by the rise of the Social Democratic party, which was to play the major role in Swedish politics after 1920 Relations with Norway were strained throughout the 19th cent and in 1905 the union of Norway and Sweden was peacefully terminated Under GUSTAVUS V, who acceded in 1907, Sweden averted involvement in two world wars, making neutrality the basis of its foreign policy, and achieved economic prosperity and social progress Sweden entered (1946) the United Nations It joined the European Recovery Program but not the North Atlantic Treaty Sweden in the 17th cent had displayed some short-lived colonial aspirations in North America (see NEW SWEDEN), but its main contribution to the New World was the immigration of some 1,500,000 Swedes to the United States (mostly to the Middle West) between 1870 and 1914 See R N Bain, *Scandinavia* (1905), Carl Hallendorf and Adolf Schuck, *History of Sweden* (1929); Agnes Rothery, *Sweden The Land and the People* (1934), Ragnar Svanstrom and C F Palmstierna, *A Short History of Sweden* (1934), Margaret Cole and Charles Smith, *Democracy in Sweden* (1939); Marquis W Childs, *Sweden The Middle Way* (rev ed , 1947), Hudson Strode, *Sweden Model for the World* (1949), David Hinshaw, *Sweden Champion of Peace* (1949), F C. Nano, *Land and People of Sweden* (1949)

Swedenborg, Emanuel (swē'dənbôrg, Swed āmā'-nüĕl'' svā'dunbôry''), 1688–1772, Swedish scientist, philosopher, and theologian His surname was originally Swedberg After study at the Univ. of Uppsala ending in 1709, he went to London and then to Germany for further work in scientific subjects Swedenborg returned to Sweden in 1715 with numerous scientific treatises which he had written during his five years of research He gave most careful study to almost every scientific field and wrote copiously, often anticipating later discoveries In 1716 he was appointed assessor of the Royal College of Mines, a position he held until 1747 His family was ennobled in 1719 as a result of Swedenborg's invention of machines for transporting boats overland during the siege of Fredriksten He took a seat in the house of peers, where he showed himself an ardent reformer In the years immediately following he devoted himself to scientific research and writing Among his books of this period were *The Economy of the Animal Kingdom* (1740–41) and *The Animal Kingdom* (1744–45) In 1747 he resigned his post as assessor of mines, abandoned all material sciences, and devoted himself completely to spiritual matters By his own account he had been preoccupied with thoughts of God since early childhood Several experiences of what he considered divine revelation convinced him that he was the direct instrument of God Everything relating to the doctrines of the church he claimed to have received personally from the Lord Himself, and to him alone had the true sense of the Scriptures been opened by the immediate vision of God Swedenborg regarded his teachings as the basis of the New Church, the inauguration of which he believed to represent the second coming of the Lord It was not Swedenborg's intention to establish a new sect, in his mind the New Church might include members of any Christian churches. Some time after his death the followers of Swedenborg organized the Church of the New Jerusalem (see NEW JERUSALEM, CHURCH OF THE) and most of the established doctrines of this church are based on the insights of Swedenborg Among his writings are *Arcana Coelestia* (1749–56), *Heaven and Hell* (1758), and *Divine Love and Wisdom* (1763) See studies by Herbert Dingle (1938) and W. P Swainson (1940), biography by Signe Toksvig (1948).

Swedesboro, borough (pop 2,268), SW N J , on Raccoon Creek and SW of Camden, settled c 1670, inc 1902. It is a farm trade center Swedes bought this area from the Indians in 1641, built a fort, and planted settlements Swedesboro was partly burned by the British, 1778. Trinity Church was built in 1784

Swedish clover: see ALSIKE.

Swedish language, North Germanic language of the Indo-European family. See LANGUAGE (table)

Swedish literature. Modern Swedish literature begins with the translation (1540) of the Bible by Olaus Petri The first Swedish poet, Jorge Stiernhuelm (1598–1672), was followed by the poet Gunno Dahlstjerna and the historian and poet Olof von Dalin In the next generation appeared the greater poet Carl Michael Bellman and the poet and critic Johan Henrik Kellgren, who was the chief figure of the advance in Swedish letters stimulated by GUSTAVUS III, founder of the Swedish academy and author of numerous works Swedenborg published his works on science, philosophy, and religion and laid the foundation of the Swedenborgian sect in the middle of the 18th cent At the beginning of the 19th cent the leading writers were the poets Erik Johan Stagnelius (1793–1823), J. O Wallin (who wrote many hymns), F M Franzen, K F C Dahlgren (1791–1844), and Per Henrik Ling, the Finnish poet who wrote in Swedish, J L Runeberg, and the author of *Frithjof's Saga*, Esaias Tegner Fiction had a later flowering C J L Almquist published a famous collection of romances in *The Book of the Thorn Rose* (14 vols , 1832–51), A J Rydberg (1828–95), M J Crusenstolpe (1795–1865), Fredrika Bremer, Zakarias Topelius (a Finn), and Gustaf af Geijerstam were well-known novelists of the 19th cent A A Afzelius was a historian and folklorist The chief poet of the latter part of the century was Gustav Froding Selma Lagerlof is probably the most widely read Swedish writer, as her novels and stories have been translated into many languages The greatest Swedish dramatist (he was also a great novelist) is Strindberg In the early 20th cent Verner von Heidenstam, poet laureate, was a Nobel Prize winner Another poet of importance is the lyricist E A Karlfeldt Hjalmar Soderberg, Hjalmar Bergman (1883–1930), and Sigfrid Siwertz are novelists, and the first two are playwrights as well After 1910 Swedish authors were influenced by the social reform movement, and their books describe realistically working-class life in both town and country Among the most popular of these proletarian writers are Gustav Hellstrom (1882–), Elin Wagner, (1882–), Albert Engstrom (1869–1940), Karl Gustav Ossiannilsson (1875–), Dan Andersson (1888–1920), Eyvind Johnson (1900–), Ivar Lo-Johansson (1901–), Vilhelm Moberg (1898–), and Harry Martinson (1904–) See Frederika Blankner, ed. and tr , *History of the Scandinavian Literatures* (1938), Alrik Gustafson, *Six Scandinavian Novelists* (1940), *Scandinavian Plays of the Twentieth Century* (1st and 2d series, 1944), W G Allen, *Renaissance in the North* (1946), H G Leach, ed., *Pageant of Old Scandinavia* (1946)

Swedish turnip. see TURNIP

Sweelinck, Jan Pieterszoon (yan' pē'tûrsŏn swā'-lĭngk), 1562–1621, Dutch organist and composer, called the "maker of German organists" because the line of his pupils descended directly to J S Bach In his fugues he was the first to give an independent part to the pedals

sweepstakes, the total amount of money contributed by a number of persons on any contest, usually a horse race, from which prizes are awarded to the holder of winning tickets In the case of a horse race, the draw is made from the names of all the horses entered in the race and huge numbers of blanks. Thus most ticket holders draw blanks, while only a few draw the name of a horse In some sweepstakes, prizes are awarded to persons holding tickets bearing the name of horses that win, place, and show, while in others prizes are given also to those whose tickets bear the names of all the horses that started in the race In still another form of sweepstakes, the tickets sold bear numbers, some of which are to be assigned to the horses that will run in the race The Irish Hospitals Sweepstakes is probably the most popular in existence today. Although in the United States it is unlawful to import, to send through the mails, or to ship in interstate commerce any sweepstakes tickets, they nevertheless continue to be distributed

Sweet, Henry, 1845–1912, English philologist and phonetician An authority on Anglo-Saxon and the history of the English language, he was also a pioneer in modern scientific phonetics His *History of English Sounds* (1874, rev ed., 1888) was a landmark in that study In 1901 he was made a reader in phonetics at Oxford Among his other writings are *A Handbook of Phonetics* (1877), *A New English Grammar* (2 parts, 1892–95), *The History of Language* (1900), *The Sounds of English* (1908), and works on Anglo-Saxon, Middle English, and Icelandic.

sweet alyssum: see ALYSSUM.

sweet bay: see LAUREL and MAGNOLIA.

sweetbread. The thymus gland (known as thfoat sweetbread) and the pancreas (stomach sweetbread), especially of the calf and lamb, are considered delicacies and are believed to be rich in mineral elements and vitamins The pancreas is generally preferred to the thymus, which has more connective tissue. Sweetbreads are highly perishable and immediately after removal from refrigeration should be soaked and parboiled, then creamed, curried, braised, or otherwise prepared for serving

sweetbriar: see SWEETBRIER

Sweet Briar College (swēt' brī"ur), at Sweet Briar, Va , NNE of Lynchburg, nonsectarian, for women, chartered 1901, opened 1906 Individualized education and honors work are stressed, with interdepartmental majors In 1948 Sweet Briar began sponsoring the junior-year-in-France plan, open to students in other colleges

sweetbrier, sweetbriar, or **eglantine** (ĕg'lŭntĭn, -tēn) [O Fr. from Latin, =needle], wild rose of Europe (*Rosa eglanteria* or *rubiginosa*), cultivated and now naturalized in the United States The bush has fragrant foliage and, in the spring, pink, usually single blossoms, which are followed by rose hips sometimes used in preserves Eglantine has been a favorite of English poets, but this name is occasionally used for other roses and for a honeysuckle (*Lonicera periclymenum*)

sweet cicely (sĭs'ulē), name for the European plant *Myrrhis odorata* and for closely allied American and Asiatic plants of the genus *Osmorhiza* Both sweet cicelies are fragrant perennials having fernlike leaves, terminal clusters of small usually white flowers, and licorice-flavored roots, once considered medicinal They resemble the poison and water hemlocks but are usually distinguishable by their elongated, rather than rounded, seedlike fruits The European sweet cicely, sometimes called myrrh, was formerly used for salads and greens, and an oil to polish oak was extracted from the seeds

sweet clover or **melilot,** the sweet-smelling annual and biennial herbs of the genus *Melilotus* They are legumes, with pinnate leaves composed usually of three narrow leaflets and with white or yellow flowers in long, slender clusters Sweet clovers are used as forage, cover, and seeding crops They are attractive to bees, and the nectar is thus a source of honey Both white and yellow sweet clover are natives of the Old World, widely naturalized in America

sweet fern, small North American shrub (*Comptonia,* or *Myrica, asplenifolia*), in the United States it is found chiefly in the East, but is cultivated elsewhere in dry sandy places It is related to the bayberry and has fragrant, fernlike foliage that has been used medicinally and for tea. Sweet fern is also a name for a true fern

sweet flag or **calamus** (kăl'umus), perennial herb (*Acorus calamus*), widely distributed in moist places of the Northern Hemisphere and sometimes cultivated in herb gardens and by pools It has a fleshy rootstalk and long, narrow irislike leaves The club-shaped inflorescence, densely set with tiny yellowish blossoms, is produced at the side of what appears to be another leaf but is in reality the flower stalk and its spathe, not showy as in the related jack-in-the-pulpit The rootstalk is pungent and aromatic and has been used as a medicine (for which it was prized by American Indians) and to flavor beverages, it is candied as a confection and powdered for aromatic purposes An oil is sometimes distilled out for perfumery

sweet gum, deciduous tree (*Liquidambar styraciflua*), native to the E United States, Mexico, and Guatemala The leaves are palmately lobed, nearly star shaped, and their coloring in the fall ranges from deep yellow to rich crimson The fruits are round with hornlike projections, the twigs and bark are corky Its hard wood is commercially valuable for furniture (sometimes as a substitute for Circassian walnut and mahogany), interior finishing, dishes, and boxes. In the warmer parts of its range the sweet gum yields a fragrant balsam called American storax or copalm, used like liquid storax as an expectorant and in perfumes and sometimes as a chewing gum Liquid storax is obtained from *L. orsentalis*

Sweet Home, town (pop 1,090), W central Oregon, SE of Albany, in a timber area; settled in the 1840s, inc 1893

sweet marjoram (mär'jurum), Old World aromatic downy herb (*Majorana hortensis* or *Origanum majorana*), related to the mints and cultivated in gardens for flavoring The tops yield origanum oil, once used medicinally but more recently for perfuming soaps. The plant, although a perennial, is usually treated as an annual, since it is not hardy The closely related European pot or wild marjoram has similar uses

sweet pea, annual climbing plant (*Lathyrus odoratus*), a legume native to S Europe but, since its introduction to horticulture about 1700, widely cultivated for its fragrant flowers There are three main types dwarf, summer flowering (garden sweet peas), and winter flowering (florists' sweet peas) As cut flowers sweet peas are one of the more important of florists' plants and are available in a wide range of shades. They succeed best in cool weather and should be given an early start; if seed

are allowed to form, blossoming will cease The vines climb by tendrils and require a support

sweet potato, trailing vinelike herb (*Ipomoea batatas*) of the morning-glory family It is native to the tropics of the New World and is widely cultivated in warm and temperate regions for the edible tuberous roots The sweet potato was probably first cultivated by pre-Columbian Indians, the Virginia Indians are known to have grown two varieties Large crops are now grown annually in the United States—mostly in the South Sweet potatoes are eaten both fresh (baked, boiled, and prepared in various other ways) and canned They are a valuable source of vitamin A and relatively good sources of thiamine, riboflavin, and vitamin C Starch, syrup, and alcohol can be derived from sweet potatoes They have also been used in making breakfast foods, candy, and other products and for feeding stock The sweet potato is easily damaged by frost and bruised in handling It is propagated from sprouts The name YAM is often used, though incorrectly, for sweet potato in general For cultivation, see publications of the U S Dept of Agriculture and of state experiment stations

Sweet Springs, city (pop 1,413), W central Mo , on Blackwater river and NW of Sedalia, in a farm area, settled 1826

Sweetwater. 1 Town (pop 2,593), E Tenn , SW of Knoxville, on Sweetwater Creek between the Tennessee and Little Tennessee rivers, in an area of farms, timber, and barite mines, settled c 1850, inc 1875 Craighead Caverns are near by, as is Tennessee Military Institute **2** City (1940 pop 10,397, 1947 estimated pop 14,500), co seat of Nolan co , W Texas, W of Abilene Founded c 1876 and moved in 1881 to be on the railroad, it developed as a shipping center for cattle ranches of the rolling plains Today it ships wool and mohair, sheep and steers, and grain and feedstuffs, processes dairy products and cotton, and has an industrial tone, with a gypsum-products plant, an oil refinery, and railroad shops Near-by reservoirs, Lake Sweetwater on Bitter Creek and Lake Trammel on Sweetwater Creek, offer sports opportunities

sweet William, a species of PINK (*Dianthus barbatus*) native to the Old World and long popular as a garden flower It bears a densely set terminal cluster of fragrant flowers, commonly white and shades of red Although sweet Williams are usually cultivated as biennials, there are some, called annual sweet William, that bloom the first year from seed The wild sweet William is a PHLOX

Swellendam (swĕ'lundăm), town (pop 4,004), W Cape Prov , Union of South Africa One of the early settlements in Cape Colony, it was founded in 1746 It is on a railroad to Capetown, and it exports wool and grains

Swetchine, Anne Sophie Soymonoff (ăn' sŏft' soimônŏf' svuchĕn', svyĕchĕn'), 1782 1857, Russian author and mystic, who wrote in French She was the daughter of one of the founders of the Russian Academy Under the influence of Joseph de Maistre she became a Catholic in 1815 and a year later settled in Paris Her writings are available in English See B P Belloc, *Vignettes* (1866)

Sweyn (swān), c 960–1014, king of Denmark (986–1014), son of Harold Bluetooth Though baptized, he reverted to paganism and rebelled against his father, who was slain in battle Sweyn was expelled shortly after his accession by the Swedish king Eric the Victorious, but his subsequent marriage to Eric's widow led to his restoration to the Danish throne and to an alliance with Sweden At the battle of Svolder (1000) the Swedes and Danes defeated and slew King Olaf I of Norway and divided his kingdom Sweyn, who had already previously invaded England and exacted Danegeld from King ÆTHELRED, returned in 1003–4 and again in 1013, when the English submitted and accepted him as king He died before his coronation and was succeeded in Denmark and England by his son Canute The name also appears as Svein

Sweynheym, Conrad (kŏn'rät svīn'hīm), fl 15th cent , early printer Originally from near Mainz, Germany, Sweynheym with Arnold Pannartz c 1464 established in the monastery of Subiaco the first known printing press in Italy Greek type was used first in 1465 by Sweynheym and Pannartz at Subiaco They removed to Rome in 1467 Their type faces, though not truly roman, had capitals which were distinctly roman

Swidnica, Lower Silesia see SCHWEIDNITZ

Swift, Jonathan, 1667–1745, English author, b Dublin The posthumous and poor son of a Dublin steward of English origin, Swift was educated by his uncle at Kilkenny School and Trinity College, Dublin In 1689 he became secretary to Sir William Temple at "Moor Park," in Surrey, England Swift's poetry, largely Pindaric and largely bad, written there drew the scorn of his cousin, John Dryden He interrupted his service with Sir William in 1692 to become M A at Hart Hall, Oxford Disappointed of church preferment in England, Swift went to Ireland, where he was ordained an Anglican priest and in 1695 was made prebend of Kilroot In 1696 he returned to "Moor Park," and with *The Battle of the Books* (written 1697) he defended Temple's contention that the ancients were superior to the moderns in literature and learning It was published only in 1704, with *A Tale of a Tub*, Swift's satire on religious excesses Upon Temple's death in 1699, Swift became secretary and chaplain to the 2d earl of Berkeley in Ireland, here he wrote his delightfully absurd "Meditation upon a Broomstick," and in 1708–9 wrote the amusing series of papers signed Isaac Bickerstaff, in which he lampooned a quack astrologer, John Partridge After 1708 he was frequently in London, where he met Addison, Pope, Steele, and Arbuthnot Swift's early Whig sympathies were dashed in 1708 when that party demonstrated its unfriendliness to the Church of Ireland, and upon the defeat of the Whigs in 1710 he edited the Tory *Examiner* for a year His ironic *Argument* (1711) against abolishing Christianity continued his war on his ecclesiastical enemies He rapidly became important in politics, writing a spate of pamphlets which included *The Conduct of the Allies* (1711), *Remarks on the Barrier Treaty* (1712), and *The Public Spirit of the Whigs* (1714) and a number of satirical poems For diversion he and Arbuthnot founded the Scriblerus Club, among the members were Parnell, Gay, and Pope The letters which comprise Swift's *Journal to Stella* reveal his love for Esther Johnson (Stella), whom he had tutored at "Moor Park," and they also give a detailed account of his years in London Despite his love for Stella, Swift became involved with Esther Vanhomrigh (Vanessa), but he established his feelings as nothing more than friendly in the poem *Cadenus and Vanessa* (written c 1713) Swift was appointed dean of St Patrick's, Dublin, in 1713, and upon the downfall of the Tory ministry in 1714, he reluctantly returned to Ireland With his *Drapier Letters* (1724) Swift appeared as a champion of Irish rights, and *A Modest Proposal* (1729), a bitter exposé of the miserable condition of the poor in Ireland, made him a hero to the Irish His most famous work, the broad and often savage satire on human nature, GULLIVER'S TRAVELS, appeared in 1726 Swift had been partially deaf since early life from what is thought to have been labyrinthine vertigo In 1740 the disease became worse, and from 1742 until his death Swift was insane He was buried beside Stella in St Patrick's Cathedral, Dublin, and his fortune was left to build a hospital for the insane Swift remains today one of the great masters of English prose His range of interest was extreme, his touch at once light and powerful, and his insight keen and discerning—a proud and bitter genius See his *Prose Works* (ed by Herbert Davis, 14 vols , 1939–) and his *Poetical Works* (ed by Harold Williams, 3 vols , 1937), his *Journal to Stella* (ed by Harold Williams, 1948), biographies by Carl Van Doren (1930), Bertram Newman (1937), and R W Jackson (1939), Ricardo Quintana, *The Mind and Art of Jonathan Swift* (1936)

Swift, Lewis, 1820–1913, American astronomer, b Clarkson, N Y He discovered (1862) a comet of importance In 1882, when he was director of the Warner Observatory in Rochester, N Y , he received as a gift from the citizens of Rochester a 16-inch refractor, with the aid of which he made observations resulting in the discovery of more than 1,000 new nebulae and a number of comets This telescope was transferred to Lowe Observatory, California, when he went there as director For his discoveries he was awarded prizes and medals by astronomical societies in Europe and America

swift, bird related to the hummingbird and found in most parts of the world, especially in the tropics Superficially it resembles the swallow Swifts have long wings and small feet and can perch only on vertical surfaces They catch insects in their wide mouths while on the wing Among the swifts are the most rapid fliers known In the United States the commonest species is the chimney swift, incorrectly called chimney swallow It is sooty black above and lighter below Its spiny tail acts as a prop when it clings to the chimneys, in which it makes its nest of twigs cemented with saliva It winters in South America Some Oriental swifts make their entire nest of a salivary secretion These nests are used, especially in China, for food

Swift Current, city (pop 6,379), SW Sask , on Swift Current Creek and W of Moose Jaw It is a distributing center for SW Saskatchewan, with grain elevators, lumber- and coalyards, an oil refinery, tanneries, and dairies and is the site of a dominion experiment station

Swilly, Lough (lŏkh swĭl'ē), long, narrow, irregular, islanded inlet of the Atlantic, Co Donegal, Ireland Fanad Point, at the entrance, has a lighthouse There was a British naval base here in the First World War The fort was evacuated by the British in 1938, under an agreement with the Irish government

swimming, self-propulsion through water without artificial aid Swimming probably calls more muscles into play with exact coordination than most other sports Swimming strokes should be accomplished with the least possible resistance to water, there should be a minimum of splashing so that the forward motion is smooth and not jerky The stroke most commonly used today to attain speed in swimming is the crawl stroke, standardized in Australia (hence usually called the Australian crawl) and perfected in the United States In the crawl stroke the body is prone, alternating overarm strokes and the flutter kick are used, and the head alternates from side to side at water level The trudgen stroke (named for the man whose speed in using it gained fame), popular in Spain, Latin America, and then England, also involves alternate overarm strokes from a prone position, but a scissors kick is used and the head remains on one side The backstroke is done in supine position and in racing requires alternate over-the-head strokes and a flutter kick For endurance swimming, the backstroke involves alternation of the frog kick with simultaneous strokes of the arms, extended at shoulder level and moving in an arc toward the hips The sidestroke, a relaxing movement, entails a forward underwater stroke with the body on one side and a scissor kick The breaststroke is also a restful means of propulsion and is accomplished in a prone position, frog kicking alternates with a simultaneous movement of the arms from a point in front of the head to shoulder level The dog paddle, taking its name from the way a dog swims, is done by reaching forward with the arms under water and by a modified flutter kick In free-style swimming any desired stroke may be used, but the crawl, considered the speediest, is more generally used No matter what the stroke, however, the breathing should be easy and natural, since the specific gravity of the human body, although it varies with the individual, is almost always such that the body floats if the lungs are functioning normally In swimming races, facility in diving from a firm surface is essential Fancy diving from springboards of specified heights, however, also forms a separate event at most swimming meets Swimming, a universal practice which claims many participants in all sections of the world, became organized as an amateur sport in the late 19th cent in several countries Its popularity was increased with the development and improvement of the swimming pool, and at the first modern Olympic games (1896) swimming became part of the meet Olympic swimming meets for women were included in 1912 Today Olympic swimming events comprise 100-, 400-, and 1,500-meter free-style races, the 800-meter relay race, the 100-meter backstroke and 200-meter breaststroke races, springboard and high diving events, and WATER POLO For many decades swimming the English Channel has been highly publicized The first successful attempt was made (1875) by Matthew Webb, while Gertrude Ederle was the first woman to perform (1926) this feat See Matt Mann and C C Fries, *Swimming Fundamentals* (1940), S G Hedges, *Swimming and Diving* (rev ed , 1949); J A Torney, *Swimming* (1950)

Swinburne, Algernon Charles, 1837–1909, English poet Throughout his life, Swinburne retained the impressions and enthusiasms of his childhood and youth the scenery of the Northumbrian and Hampshire coasts, the Greek dramatists, Sappho, the Elizabethan and Jacobean playwrights, French and Italian literature, and the writings of Hugo and Landor His careers at Eton (1849–53) and Oxford (1856–60) were both cut short by his unfitness for academic discipline, and in 1860 he settled in London on an allowance from his father His two blank-verse plays *The Queen Mother and Rosamond* (1860) attracted little attention, but his reputation grew among the admirers of the Pre-Raphaelites *Atalanta in Calydon* (1865), a poetic drama classic in form but modern in temper, brought him general notice His *Poems and Ballads* (1866) were savagely attacked for their sensuality and pessimism, but almost as excessively praised in other quarters for their infusion of fresh vitality into Victorian poetry and for their technical facility Swinburne's enthusiasm for the republican dreams of Mazzini found expression in *A Song of Italy* (1867) and in *Songs before Sunrise* (1871) Dissipations and repeated epileptiform attacks brought him near death in 1878 and 1879, but he was restored to health under the supervision of Theodore WATTS-DUNTON, with whom he lived after 1879 To Watts-Dunton's influence have been attributed many of Swinburne's later opinions and the comparative inferiority of much of his later verse Over 25 volumes of Swinburne's poetry and poetic drama and at least half as many of his criticism were published in his lifetime and posthumously His three closet dramas on Mary Queen of Scots—*Chastelard* (1865), *Bothwell* (1874), and *Mary Stuart* (1881)—suffer from lack of compression and overfidelity to historical incident, but contain some striking scenes *Tristram of Lyonesse* (1882) bodies forth an intensely passionate version of the medieval legend in rich imagery and eloquent verse that sometimes approaches sublimity Many of Swinburne's lyrics are weakened by verbosity and by excessive use of stylistic tricks—alliteration, assonance, internal rhyme, intricate metrical patterns These weaknesses do not mar such successes as the choruses from *Atalanta* ("When the hounds of spring," "Before the beginning of years," and "We have seen thee, O Love"), "The Garden of

Proserpine," "The Triumph of Time," "A Forsaken Garden," "Ave atque Vale" (the elegy on Baudelaire), and "Hertha." His blank verse in *Atalanta, Erechtheus* (1876), and elsewhere is often of a restrained dignity. Swinburne's criticism is marred by exaggerated vituperation and praise, by digressiveness, and by an often flamboyant and involved style, but he performed useful services in stimulating juster appreciation of older English dramatists (Shakspere, Webster, Ford, Chapman, and others) and of William Blake. His complete works, incorporating the biography by his friend Sir Edmund Gosse (1917), were edited by Gosse and T. J. Wise (*20* vols., 1925–27). See also studies by G. E. Woodberry (1905), Harold Nicolson (1926), T. E. Welby (1926), S. C. Chew (1929), and Georges Lafourcade (1932).

Swindon, municipal borough (1931 pop. 62,401; 1947 estimated pop. 67,140), Wiltshire, England. The old part is on a hill, the new part grew up about extensive locomotive and car works. Furniture and aircraft are also made.

Swine (svē'nŭ), short channel, leading from the Stettiner Haff to the Baltic Sea. It passes between the islands of Wollin and Usedom. Swinemünde, on Usedom, lies at its mouth.

swine, cloven-hoofed mammal of the family Suidae. It has a rather long mobile snout, a heavy, relatively short-legged body, thick, bristly hide, and a small tail. The name swine is applied especially to the domestic breeds, which are also known as hogs. Sometimes these are called pigs, a term more correctly reserved for the young animals. There are no true swine of the genus *Sus* native to North America. The wild hogs found in the mountains of Tennessee, North Carolina, and a few other states are descendants of the European wild boar (*Sus scrofa*), introduced in recent years by sportsmen for hunting. This wild boar was formerly common in the forests of Europe and was a favorite game of sportsmen. It was domesticated early in N Europe, and it is believed that the modern domesticated pigs are descended chiefly from this European boar and a smaller Asiatic species domesticated in China. Hogs were introduced into America by Spanish explorers in the 16th cent. and were early shipped to the American colonies from England. Swine are valuable for their flesh, prepared as ham, bacon, and pork, and for their fat (lard), they provide also many other products, e.g., leather for gloves, footballs, and numerous other articles and bristles for brushes. When raising swine it is important that the animals have clean, well-ventilated barns and pens and that they are exposed to some sunlight and allowed to exercise by grazing in pastures. Hogs will eat almost any food. Considered especially good for fattening hogs is a diet of corn and alfalfa supplemented by a protein food in the form of shorts or middlings. Peanuts, soybeans, barley, and wheat also furnish good feed; milk is much used in dairying regions. Hogs are raised in nearly all parts of the United States, but the corn belt of the Middle West is the chief hog-raising area. Hogs are commonly grouped as lard-type hogs and bacon-type hogs. The lard-type is larger and more fleshy than the bacon type. Although the demand for lard has somewhat decreased, the lard-type is the most widely raised for meat. Lard-type breeds include the Chester white, Poland China, Hampshire, Hereford, Duroc-Jersey, Berkshire, and Large Black. Bacon-type swine are fed on little corn and chiefly on such foods as alfalfa, barley, and skim milk. They are the chief type raised in Canada. Breeds include the Tamworth, Yorkshire, and Landrace. See C. W. Towne and E. N. Wentworth, *Pigs from Cave to Corn Belt* (1950).

Swinemünde (svē"numün'dŭ) or **Świnoujście,** Pol. *Świnoujście* (shfēnŏōō'shchĕ), city (pop. 5,771), Pomerania, a Baltic port on the island of Usedom, transferred to Polish administration in 1945 (see Pomerania). A trade center, it was also a German naval base in the Second World War.

swing music, type of American popular music, an offshoot of jazz which developed in the 1930s. It eliminated much of the syncopation of jazz and sacrificed most of the improvisation characteristic of jazz in favor of large orchestras and highly stylized arrangements. The arranger, at least as important as the composer, came into being, and a swing band could be recognized by its arrangements. The jazz musician Benny Goodman is the outstanding name in connection with swing, among others are the brothers Jimmy and Tommy Dorsey. See bibliography under jazz.

Swinoujscie, Pomerania: see Świnemünde.

Swinton, urban district (1931 pop. 13,821, 1943 estimated pop. 11,500), West Riding of Yorkshire, England, NE of Sheffield, in a coal and iron region.

Swinton and Pendlebury (–bur'ē), urban district (1931 pop. 32,761, 1947 estimated pop. 40,580), Lancashire, England, NW of Manchester near Salford. It has cotton mills and other industries.

Swiss Confederation: see Switzerland.

Swiss Family Robinson, tale of a family shipwrecked on a desert island. Written by a Swiss author, J. D. Wyss, and based on *Robinson Crusoe,* it became a juvenile classic.

Swiss Guards. Swiss mercenaries fought in various European armies from the 15th cent. until the 19th cent. These mercenaries, who were not volunteers, were put at the disposal of the foreign powers by treaties (called capitulations) between the Swiss diet and the foreign power concerned, in return for money payments. As a result of the traditional alliance between Switzerland and France—dating from the Everlasting Peace of 1516—the Swiss played a more important part in French military history than in that of other nations. Francis I alone used some 120,000 Swiss levies in his wars, and in the battle of Pavia (1525) his entire personal guard, the Hundred Swiss, was slain before Francis was captured by the Spanish. As organized under Louis XIV, the Swiss troops fell into two categories: the king's military household—including the Hundred Swiss (a palace guard) and the regiment of the Swiss Guards—and a number of ordinary Swiss regiments. The most famous episode in the history of the Swiss Guards was their defense (Aug. 10, 1792) of the Tuileries palace in Paris in the French Revolution. Louis XVI, threatened by a mob, had taken refuge with his family in the Legislative Assembly, leaving the Swiss in charge of the palace. The mob invaded the palace and the Swiss resisted, but they obeyed the king when he sent word to cease fighting. Some 500 men of the regiment were massacred in the ensuing confusion. The heroic stand of the Swiss Guard is commemorated by the Lion of Lucerne, the impressive monument by Thorvaldsen at Lucerne, Switzerland. The French revolutionists abolished all Swiss troops, but in 1803 Napoleon I obtained several Swiss regiments, which were virtually annihilated in the Russian campaign of 1812. Swiss troops were again used under the Bourbon restoration, and many of them were massacred in the July Revolution of 1830, after which they were permanently abolished. The Swiss constitution of 1874 forbade all military capitulations and recruitment of Swiss by foreign powers. The only exception is the Swiss Guard of the Vatican, founded in 1505 by Pope Julius II, which is not a military body but the personal guard of the pope. Its members are recruited from the Catholic cantons of central Switzerland. The Swiss Guard at the Vatican is famous for its colorful costume, designed in the Renaissance.

Swiss literature. Of the four languages spoken and written in Switzerland (German, French, Italian, and Romansh), German is used by 71 percent of the population, it follows that the preponderance of Swiss literature is in German. Romansh, a language spoken since Roman times, has an extensive literature little known outside Switzerland. The Italian-speaking Swiss form only 5 percent of the population. An early book in German was a collection of fables written (c 1340) by a Swiss Ulrich Boner. Much of the early writing is religious (as in the case of Zwingli). In the 18th cent. Swiss-German writers included Zschokke, historian and writer of historical novels; the critics Johann Jakob Bodmer and Johann Jakob Breitinger, who founded the periodical the *Diskurse der Mahlern* [the painters' discourses], influential in its day; Salomon Gessner, popular both as poet and as painter, and the great educator, Pestalozzi. A Bern aristocrat, Béat Louis de Muralt (1665–1749), won a posthumous fame by the publication of his letters (in French). One of the most influential of all French writers, Jean Jacques Rousseau, was born in Switzerland. A 19th-century writer in French was H. F. Amiel, a critic, but best known for his *Journal intime.* Of the German writers of the 19th cent. the most famous are the novelist Gottfried Keller, author of *Der grüne Heinrich,* and Conrad Ferdinand Meyer, poet and novelist. *The Swiss Family Robinson,* of the *Robinson Crusoe* genre, was written by a Swiss, J. D. Wyss. Johanna Spyri was the author of the much-loved children's classic *Heidi.* Later writers in German include the poet C. F. G. Spitteler, a Nobel Prize winner, the novelists Heinrich Federer (1866–1928), a Catholic priest, and Jakob Schaffner (1875–1944), and Albert Steffen (1884–), novelist, poet, dramatist, and philosopher, who became the leader of the anthroposophical movement after Rudolph Steiner's death. The novels in French of C. F. Ramuz have as their background his native canton, Vaud.

Swissvale, industrial borough (pop. 15,919), SW Pa., near Pittsburgh, settled c 1760, inc. 1898. It has a switch and signal plant and a glass-products factory.

Swithin or **Swithun, Saint** (both swĭ'dhun), fl. 860, English bishop of Winchester. He was buried, according to his wishes, outside his church. His relics were removed to the new cathedral. According to a hardy tradition, this translation so enraged the saint that it rained for 40 days, and if it rains on the anniversary of the translation (July 15), it will rain daily thereafter for 40 days, if it is fair on St. Swithin's day, it will not rain for 40 days.

Switzerland (swĭ'tsurlŭnd), Fr. *Suisse* (süēs'), Ger. *Schweiz* (shvīts'), Ital. *Svizzera* (svēt'tsärä), more properly **Swiss Confederation,** republic (15,944 sq. mi., pop. 4,265,703), central Europe. The federal capital is Bern. Switzerland borders on France in the west and southwest, with the Jura mts. and the Lake of Geneva (traversed by the Rhone) forming the frontier, in the north, it is separated from Germany by the Rhine and the Lake of Constance, its eastern neighbors are Austria and Liechtenstein, in the southeast and south it is divided from Italy by the Alpine crests, the Lake of Lugano, and Lago Maggiore. Between the Jura and the Central Alps, which occupy the southern section (more than half) of the country, there is a long, narrow plateau, crossed by the Aar and containing the lakes of Neuchâtel and Zurich. Alpine communications are assured by numerous passes (see pass) and by railroad tunnels (the Simplon being the longest in the world). International transit freight is an important source of revenue. Though poor in natural resources except forests and water power, Switzerland has attained prosperity through export of its manufactures and through its technological achievements. The industries, which employ the larger part of the population, are concentrated mainly in the north, they produce textiles, machinery, instruments, watches and watch movements (in which Switzerland leads the world), foodstuffs (notably chocolate), and chemicals. Lack of coal is largely made good by the exploitation of an almost unlimited hydroelectric potential, the railroads, which are government-owned, use electric power on all main lines. The Alpine regions are used for dairying, with cheese as the principal export. The agricultural yield is supplemented by imports, other main imports are coal, raw materials, and automobiles. Imports exceed exports, but Switzerland is favored by the huge profits of its tourist industry, its natural beauty attracts hundreds of thousands of visitors yearly to its resorts, and their expenditures constitute "invisible" exports. The resorts, all through the Alpine regions (e.g., the Engadine), offer highly developed facilities for vacation, health, and sports (notably mountain climbing and winter sports). The stability of Swiss politics and Swiss currency (the Swiss franc is backed by a large gold reserve) has, moreover, made Switzerland a world banking center. Politically, Switzerland consists of 22 cantons, or rather of 25 federated states of which 19 are called cantons and 6 are called half-cantons. The cantons are Zurich, Bern, Lucerne, Uri, Schwyz, Glarus, Zug, Fribourg, Solothurn, Schaffhausen, Saint Gall, the Grisons, Aargau, Thurgau, Ticino, Vaud, Valais, Neuchâtel, and Geneva. The half-cantons Obwalden and Nidwalden together form Unterwalden, Basel-Land and Basel-Stadt form Basel, and Ausser-Rhoden and Inner-Rhoden form Appenzell. The federal constitution, dating from 1874, assigns specified functions, notably foreign relations and tariffs, to the confederation, leaving the cantons sovereign in other respects. A council of the states (two members from each canton, one from each half-canton), and a national council (one deputy per 22,000 inhabitants, elected by universal male suffrage and proportional representation) together form the federal assembly. The chief executive, or federal council (seven members elected for four years by the Federal assembly), includes the president of the confederation (elected annually). In practice, the importance of the legislative chambers is minimal, because Switzerland has adopted the popular initiative and referendum, thus achieving a measure of direct democracy. The constitution provides for religious equality, compulsory education, and universal military training, all able-bodied men being in the army reserve until aged 60. Cantonal constitutions differ widely. In Unterwalden, Glarus, and Appenzell the entire male electorate legislates directly in yearly outdoor meetings called *Landsgemeinden* (länts'gumĭn'dun), elsewhere there usually is a unicameral legislative and an elected executive council. Important cities are Zurich, Basel, Geneva, and Bern. German, French, and Italian are the official and national languages of Switzerland, Romansh, a Rhaeto-Romance dialect spoken in parts of the Grisons, was declared the fourth national language in 1938. German dialects (*Schwyzer-dütsch*) are spoken by c 72 percent of the inhabitants, French, spoken by c 20 percent, predominates in the southwest, Ticino is Italian-speaking. In religion, Protestantism prevails in 11½ cantons and is the faith of 57 percent of the population, 41 percent are Roman Catholic. The country was inhabited by the Helvetii (see Helvetia) when it was conquered (58 B.C.) by the Romans. Invaded (5th cent. A.D.) by the Alemanni and (in the west) by the Burgundii, it passed to the Franks in the 6th cent. Split again in the 9th cent. between Swabia and Transjurane Burgundy, the area was united (1033) under the Holy Roman Empire. The expanding feudal houses of Zähringen, Kyburg, and others, were supplanted (13th cent.) by the counts of Hapsburg and of Savoy. Hapsburg encroachments on the rights of Uri, Schwyz, and Unterwalden resulted (1291) in the conclusion of a defensive league among the three communities. The legendary hero of this event was William Tell. They defended their liberties in the victory of Morgarten (1315) and, joined by Lu-

cerne, Zurich, Zug, Glarus, and Bern, they again decisively defeated the Austrians at SEMPACH (1386) and Näfels (1388). In the 15th cent Switzerland rose to the first rank as a military power The conquest of Aargau, Thurgau, and the valleys of Ticino, which were ruled as subject territories until 1798, was followed by Swiss victories over CHARLES THE BOLD of Burgundy (1476–77) and over Emperor Maximilian I, who in 1499 granted Switzerland virtual independence By 1513, the admission of Fribourg, Solothurn, Basel, Schaffhausen, and Appenzell had raised the number of cantons to 13, maintained till 1798. The conquest by Bern of Vaud from Savoy (1536), and close alliances with the Grisons, Geneva, St Gall, and other towns and lands, further increased the Swiss orbit, but Switzerland's importance as a European power was broken in 1515 when the French defeated the Swiss at MARIGNANO (see also ITALIAN WARS) A "perpetual alliance" with France (1516) and neutrality henceforth became the basis of Swiss policy Tens of thousands of Swiss mercenaries, however, continued to serve abroad for three centuries (see Swiss GUARDS) The cantons, only loosely bound by a federal diet and by individual treaties and often rent by internal feuds, were seriously split by the REFORMATION, preached by ZWINGLI at Zurich and by CALVIN at Geneva The Catholics, led by the FOUR FOREST CANTONS, defeated the Protestants in battle, and the Treaty of Kappel (1531) arrested the spread of the Reformation in the seven Catholic cantons. Although national unity almost disappeared for more than two centuries, religious passion did not prevent the Swiss (except the GRISONS) from remaining neutral throughout the Thirty Years War; Switzerland was an island of prosperity when, in 1648, its formal independence was recognized in the Peace of Westphalia In the following century and a half, all Switzerland underwent a process of limiting citizenship rights to the wealthier classes, government became the exclusive business of a small oligarchy While Switzerland became insignificant politically in the 18th cent, its wealth steadily increased, and its scientists and writers made it an intellectual center The French Revolution, resulting in the creation of the HELVETIC REPUBLIC (1798–1803) and in invasions by French, Russian, and Austrian armies, was generally ill received Napoleon's Act of Mediation (1803) somewhat restored the old confederation, and the Pact of Restoration (1815) substantially reestablished the old regime, except that the confirmation of nine new cantons brought the total to its present number By the Treaty of Paris (1815) Swiss neutrality was guaranteed for all time The subsequent economic depression, which caused large-scale emigration to North and South America, and the generally reactionary rule contributed to the rise of the Radical party, which favored greater centralization Opposition to Radicalism centered in the Catholic rural cantons, which in 1845 formed a defensive alliance called the SONDERBUND After a brief and almost bloodless civil war (1847) the victorious Radicals transformed the former federation of states into one federal state, under the constitution of 1848 (recast in 1874) National unity and political conservatism grew along with the economic and industrial development of the country Armed neutrality was maintained throughout both the First and the Second World War Switzerland was a member of the League of Nations, the charter of the United Nations, however, makes Swiss membership in that body impossible without some modification of the strict Swiss interpretation of neutrality. See guidebooks to Switzerland, W MacCrackan, *The Rise of the Swiss Republic* (2d ed, 1901); Wilhelm Oechsli, *History of Switzerland, 1499–1914* (1922), W E Rappard, *The Government of Switzerland* (1937), Denis de Rougemont and Charlotte Muret, *The Heart of Europe* (1941), J C Herold, *The Swiss without Halos* (1948).

Swope, Herbert Bayard, 1882–, American journalist and public official, b St Louis, Mo He did newspaper work in St Louis and gained (1912) national notice for his reporting of crime in New York city As a foreign correspondent of the New York *Herald*, Swope received a Pulitzer Prize in 1917 for his war reporting in Germany After the U.S entry in the First World War, he was appointed to the War Industries Board, and after the war he was the first journalist to gain access to the secret League of Nations covenant As executive editor (1920–29) of the *World*, he directed exposés of the Ku Klux Klan and of working conditions in Florida. He was (1942–46) a consultant to the U S Secretary of War and was appointed (1946) alternate representative to the United Nations Atomic Energy Commission

sword, weapon of offense and defense in personal combat, consisting of a blade with a sharp point and one or two cutting edges, set in a hilt with a handle protected by a metal case or cross guard Swords were originally made of bronze, the Romans introduced the more durable iron sword, the *gladius*, 20 in long. Medieval knights used very heavy swords that had to be lifted with two hands; these had rounded ends and were used only for hacking at the enemy. During the Middle Ages the best blades were those made by the Arabs in Damascus and those made at Toledo. As a highly personal weapon the sword attained symbolic importance; surrendering one's sword became a token of submission, and the custom arose of taking an officer's sword away from him and breaking the blade when he was dismissed from service in disgrace. During the Crusades the sword, because of its shape, frequently was used to symbolise the Cross. The sword is now obsolete as a weapon and is carried in some military units only for decorative purposes in times of peace. Special types of swords are the rapier, with a long, narrow, finely pointed blade with cutting edges, the épée, like the rapier but without cutting edges and used only for thrusting, and the saber, slightly curved, pointed, with cutting edges along the front and the first third of the back of the blade, which was used primarily by cavalry. See FENCING

sword fern: see BOSTON FERN.

swordfish, fish of the warmer waters of the Atlantic and Pacific oceans, known in only one species (*Xiphias gladius*) It often weighs from 250 to 400 lb. Including the elongated upper jaw, which is shaped like a sword blade, it may be from 16 to 20 ft long It is one of the swiftest swimmers. It pursues even to northern waters schools of mackerel, herring, and others on which it feeds, slashing them with its sword Much used as a food fish, it is harpooned in large numbers There are fisheries in the Mediterranean as well as in American and European Atlantic waters Oil from the liver is rich in vitamins

Swoyersville (swoi'ursvĭl), industrial borough (pop 9,234), NE Pa, near Wilkes-Barre, inc 1888 Its manufactures include textiles and ornamental iron and steel products Anthracite mining is done here

Sybaris (sĭ'bŭrĭs), ancient city of Magna Graecia, in the present S Italy, in Bruttium on the Gulf of Tarentum (now Taranto) It was founded by Achaeans and people from Argolis (the Troezenians) in 720 B C It became a wealthy Greek city, and its inhabitants were reputed to live voluptuous lives (hence the word *sybarite*) The Troezenians, ejected by the Achaeans, got the help of neighboring Crotona and destroyed the city in 510 B C Thurii was later built on or near the site

Sybel, Heinrich von (hĭn'rĭkh fŭn zō'bŭl), 1817–95, German historian He was appointed professor of history at Bonn (1844), Marburg (1846), Munich (1856), and again at Bonn (1861) He also took an active part in politics and sought to promote the nationalist and Protestant cause in his speeches and writings After 1875 he was director of the Prussian state archives, of which he made extensive use for his chief work, *Founding of the German Empire by Wilhelm I* (Eng tr, 7 vols, 1890–98) He also wrote a celebrated history of the First Crusade (*Geschichte des ersten Kreuzzugs*, 1841) and a history of the revolutionary period 1789–1800, part of which was translated as *History of the French Revolution* (4 vols, 1867–79) Several of his lectures and his introduction to the history of the First Crusade were translated as *Historical Literature of the Crusades* (1861)

Sycamore, city (pop 4,702), co seat of De Kalb co, N Ill, W of Chicago, founded c 1840, inc 1859 It is a trade and industrial center in a farm area Copper wire is made here

sycamore see PLANE TREE

Sychar (sĭ'kŭr), unidentified city, central Samaria, near Jacob's well where Jesus talked with the Samaritan woman John 4

Sychem (sĭ'kŭm), variant of SHECHEM

Sydenham, Charles Edward Poulett Thomson, Baron (sĭ'dŭnŭm), 1799–1841, British statesman Entering Parliament with the aid of Jeremy Bentham (1826), he became a proponent of free trade and financial reform He was made president of the Board of Trade in 1834, and in 1839 he was appointed governor general of CANADA, where he followed with great success the policy of unification of the provinces recommended by his predecessor, the earl of Durham He was instrumental in securing the adoption of the constitution of 1841 See Adam Shortt, *Lord Sydenham* (1925)

Sydenham, Thomas, 1624–89, English physician He studied at Oxford and Montpellier and practiced in London. His studies of epidemics and his description of diseases—ague, smallpox, scarlatina, and gout—established him as a founder of modern clinical medicine and of epidemiology. See studies by J F. Payne (1900) and David Riesman (1926)

Sydney, Algernon. see SIDNEY, ALGERNON

Sydney, Sir Philip see SIDNEY, SIR PHILIP

Sydney, city (pop 95,952, metropolitan pop 1,484,434), capital of New South Wales, Australia, on the south shore of Port Jackson (see JACKSON, PORT) The cultural center of the commonwealth, it is the seat of the Univ of Sydney (1852), St Paul's College (1854), St John's College (1857), Wesley College (1910), and Women's College (1889) Roman Catholic and Anglican cathedrals are here The National Art Gallery was founded in 1904, and the Australian Museum in 1830 An important industrial center, Sydney has textile mills, automobile plants, brass foundries, and chemical plants Its port is equipped for bulk loading of grain, coal, and timber The city was founded in 1788 as the first penal settlement of Australia and became the capital of the colony of New South Wales Because Botany Bay (just S of Sydney) had been inspected a year earlier as a possible site for a colony, the Sydney settlement came to be erroneously called the Botany Bay colony In the Second World War, Sydney was the site of an Allied naval and army base

Sydney, city (pop 28,305), on Cape Breton Island, N S, on the northeast coast at the head of the South Arm of Sydney Harbour It is the commercial, trade, and industrial center of an important coal-mining and agricultural area It has steel mills, plants manufacturing wood and food products and chemicals, and shipbuilding The city was founded (1783) by United Empire Loyalists and was the capital (1784–1820) of Cape Breton prov St George's Church (1786) is one of the oldest Anglican churches in Canada

Sydney Harbour, Australia see JACKSON, PORT

Sydney Mines, town (pop 8,198), on Cape Breton Island, N S, on the northeast coast, on Sydney Harbour and NNW of Sydney It is a coal-mining center, coal having been mined here since 1766, and has steel mills, foundries, and machine shops. Coal is shipped from near-by NORTH SYDNEY

Syene, biblical name see ASWAN

syenite (sī'ənīt) [from ancient quarries at Aswan (Syene)], coarse-grained igneous rock, similar in appearance and composition to granite It differs from granite, however, in being without quartz. The chief minerals are the feldspars, with mica, hornblende, and pyroxene Varieties are distinguished (according to the ferromagnesian minerals contained) as augite syenite, hornblende syenite, mica syenite, and nepheline syenite. Syenites are comparatively rare rocks, being found chiefly in a few areas of the United States and of Germany They are occasionally substituted for granites as building stones

Sykesville, borough (pop 2,044), W Pa., NE of Indiana, Pa, settled 1861, inc 1907 It produces brick, textiles, and bituminous coal

Syktyrkar (sĭlktĭkar'), city (pop. 25,285), capital of Komi ASSR, NE European RSFSR, on the Vychegda river It is a lumbering center and has sawmills, paper and pulp mills, and wood processing Founded in 1780 as a center of Russian colonization, it was named Ust-Sysolsk until 1930

Sylacauga (sĭlukô'gu), city (pop 6,269), central Ala, SE of Birmingham, inc 1886 It processes cotton, cottonseed, and other products Near by are Talladega National Forest, Weogufka State Park, and marble quarries

Sylla, Lucius Cornelius see SULLA, LUCIUS CORNELIUS

syllogism (sĭl'ujĭzəm) [Gr.], mode of argumentation in LOGIC The syllogism is defined by Aristotle, who formulated the doctrine which has held in logic for over 2,000 years, as an argument in which certain things being laid down, something else follows from the being of these An example of the simple or categorical syllogism is All animals are bodies (major premise) All men are animals (minor premise) Therefore all men are bodies (conclusion) Every syllogism contains three terms the major term, which is the predicate of the conclusion, the minor term, which is the subject of the conclusion, the middle term, which appears twice in the premises but not in the conclusion. Syllogisms differ in figure and mode Figure refers simply to the relation of the three terms making up the syllogism A fourth figure, introduced by Galen, is really only an irregular case of the first figure The mode of the syllogism refers to the order of the premises with respect to quantity and quality, i e, whether they assert all or some of a given subject and whether they affirm or deny There are five rules governing valid modes, as follows The middle term must be distributed at least once (a term is distributed when reference is made to all the individuals denoted by it). No term may be distributed in the conclusion which is not distributed in the premises If both premises are negative, there is no conclusion. If one premise is negative, the conclusion must be negative If neither premise is negative, the conclusion must be affirmative After Aristotle the doctrine of the syllogism was complicated by the introduction of the hypothetical (expressing the conditional relation of "if, then" between propositions) and the disjunctive syllogism (which expresses the mutual exclusion of two propositions) But these can be reduced to the categorical form and to the principles of the categorical form, and the reason for introducing them as separate forms concerns the manner of expression of arguments rather than anything properly logical

Sylt (zĭlt), island (36 sq mi, pop 26,346), N Germany, in the North Sea off the coast of Schleswig-Holstein, with which it is connected by a dam. It is one of the North Frisian Islands Except in its cultivated western tip, the island is covered by dunes and heath land Fortified in the 1930s, Sylt was bombed in the Second World War. It is a popular seaside resort

Sylva, Carmen · see ELIZABETH, queen of Rumania

Sylva, town (pop 1,409), co seat of Jackson co, W N C., in the mountains WSW of Asheville. It has a tannery and saw- and gristmills A state teachers college is near by

Sylvania (sĭlvā'nēŭ). 1 City (pop 2,531), co seat of Screven co, E Ga, NNW of Savannah and near the Savannah river, founded 1847, inc. 1854 It is a processing center for a productive cotton and lumber area. 2 Village (pop 2,199), NW Ohio, NW of Toledo at the Mich line Cement and fertiliser are made here There are stone quarries

Sylvan Lake, village (pop 1,041), SE Mich., near Pontiac, inc 1921

Sylvester I, Saint (sĭlvĕ'stur), pope (314–35), a Roman, successor of St Miltiades (St Melchiades) and predecessor of St Marcus He was contemporary with Constantine I, who built for him the Lateran and other churches St Sylvester sent legates to the First Council of Nicæa and took strong interest in the controversy over ARIANISM The spurious Donation of Constantine was supposedly given to St Sylvester The name is also spelled Silvester Feast Dec 31

Sylvester II, d 1003, pope (999–1003), a Frenchman (b Auvergne) named Gerbert, successor of Gregory V and predecessor of John XVII He studied in Spain in youth and became learned in mathematics Later he was made a teacher in the bishop's school at Rheims In 991 Gerbert, now widely celebrated as a teacher, was elected archbishop of Rheims, but his predecessor had been deposed, and eventually (995) Gerbert's election was nullified He now joined Emperor OTTO III as his teacher and went with him to Italy, where Gregory V made him archbishop of Ravenna He was made pope by Otto Sylvester forced Robert II of France to retain his lawful wife He aided energetically in the Christianization of Poland and Hungary In the later Middle Ages, Sylvester's learning became legendary and was in popular belief transformed into skill at sorcery He wrote on theology, mathematics, and the natural sciences Sylvester was the first French pope, of the popes of the 10th cent he was the only one of distinction

Sylvester, James Joseph, 1814–97, English mathematician He studied at Cambridge for four years after 1831, but because degrees were limited to members of the Church of England and he was a Jew, he was not granted a degree until 1872 He was professor of mathematics at the Univ of Virginia (1841–45) and at the Royal Military Academy, Woolwich, England (1855–70) Returning to the United States in 1877, he became the first professor of mathematics at Johns Hopkins, where in the following year he founded the *American Journal of Mathematics* He was Savilian professor of geometry at Oxford (1883–94) He is known especially for his work on invariant algebra and on the theory of numbers

Sylvester, city (pop 2,191), co seat of Worth co, SW Ga, E of Albany, inc 1898.

symbiosis (sĭmbēō'sĭs), the habitual living together of organisms of different species The term is usually restricted to a relationship beneficial to at least one of the participants and harmful to none In parasitism, the PARASITE lives at the expense of its host In helotism, organisms of one species enslave organisms of another species In commensalism, dissimilar organisms living in close association share the same food A symbiotic relationship of great importance to man is that between leguminous plants and NITROGEN-FIXING BACTERIA Mycorhiza is a root-fungus association in which filaments of the mycelium of the fungus surround the fine roots, especially of certain forest trees, heaths, and orchids, and sometimes penetrate the outer root tissues. The fungus draws its food from the plant root and often aids the plant in absorbing water and nutrients from the soil

symbol (sĭm'bŭl), sign representing something having an independent existence The most important use of symbols is in LANGUAGE To say so, however, does not solve the perennial philosophical questions as to the nature of the linguistic sign We are left with the question whether the word *chair* stands for any chair, for a particular chair, or for the idea of a chair This is the problem of nominalism and realism A secondary linguistic symbolism is WRITING Another, still connected with language, appears in systems of LOGIC and MATHEMATICS (see also NUMBER) Modern science has in its development profited from the conciseness provided by many symbols In chemical symbols, for example, each ELEMENT is represented by one or two letters (e g, carbon, C, zinc, Zn) Some symbols are derived from non-English names, e g, Ag for silver [Latin *argentum*] A chemical FORMULA is written in chemical symbols In art a distinction of terms is introduced which modifies the term *symbol* Although the drawings at Altamira are symbolic in one sense (i e, a drawn reindeer is the symbol for a live reindeer), they are said not to be symbols in another more common sense, since the artist represented a reindeer by copying its appearance If he had drawn two horns and considered that to represent a reindeer adequately, the two horns might be said to be a symbol for a reindeer. Such symbolism is all-pervasive in every kind of art, especially because it lends itself to rapid, comprehensive, and compact use Religious symbolism is best known in its more ancient form from the discoveries of archaeologists; this is especially important in the study of EGYPTIAN RELIGION, in which the symbol of the god often appeared more frequently than the likeness of the god himself. GREEK RELIGION, on the contrary, seemed to eliminate symbols of gods in favor of actual images In Judaism and Christianity religious symbolism is important, notably in the prophetic passages in the Bible and in the uses of public worship (see, for example, CANDLE, INCENSE, LITURGY, SACRAMENT; see also ICONOGRAPHY) Modern patriotism, particularly in the United States, has found a revered symbol in the FLAG, which began, like all HERALDRY, as a means of recognition Trade symbols are sometimes quite widespread, though the wooden Indian signifying the tobacco shop has disappeared, barber poles are still very common, and the mortar and pestle and the show bowl still appear in many drug stores The investigations of Sir James FRAZER in comparative religion and those of Sigmund FREUD in psychology, extreme though they may be, have shown that human beings tend always to use a wide symbolism, even in thinking itself, to cover ideas they avoid out of fear, propriety, or some other motive

symbolists (sĭm'bŭlĭsts), in literature, a school originating in France toward the end of the 19th cent in reaction to the naturalism and realism of the preceding period Designed to convey impressions by suggestion rather than by direct statement, symbolism found its first expression in poetry but was later extended to the other arts The early symbolists experimented with form, revolting against the rigidity of the PARNASSIANS with a free verse (vers libre) which has outlived the movement itself The precursors of the school, all influenced by Baudelaire, included Verlaine, Mallarmé, and Rimbaud They were accused of writing with a decadent morbidity, partially as the result of their utilization of imagination as a reality The movement was continued in poetry by LAFORGUE, MORÉAS, and RÉGNIER, in drama by MAETERLINCK, in criticism by Remy de GOURMONT, and in music by Debussy Among the later symbolists are Claudel, Valéry, JAMMES, Paul Fort, and the critic Camille Mauclair The influence of the French symbolists not only gave rise to similar schools in England, Germany, and other countries, but also may be traced in the development of the IMAGISTS and DECADENTS, it is likewise evident in extreme form in the work of T S Eliot, Proust, James Joyce, and Gertrude Stein See Arthur Symons, *The Symbolist Movement in Literature* (1919), Holbrook Jackson, *The Eighteen Nineties* (1914), Edmund Wilson, *Axel's Castle* (1931), C M Bowra, *The Heritage of Symbolism* (1943)

Syme, James (sīm), 1799–1870, Scottish surgeon, studied at the Univ of Edinburgh He lectured (1823–33) on surgery at the Univ of Edinburgh, where he became professor of clinical surgery in 1833 In 1829 he started Minto House, a private surgical hospital, where he instituted a system of clinical instruction. He is noted especially for his work on amputations and excisions Syme advocated and accomplished important changes in medical education See study by Robert Paterson (1874)

Syme (sē'mē, sī'mē), island (22 sq mi, pop 4,083), off SW Asia Minor, in the Aegean Sea, between the coast and Rhodes but belonging to Greece It is one of the DODECANESE The chief town, Syme (pop 3,756), is on the northeastern shore

Symeon · see SIMEON

Symington, William (sī'mĭngtun), 1763–1831, Scottish engineer and inventor He built a marine steam engine in 1788 In 1801 he built a steam engine for the tugboat *Charlotte Dundas*, which was operated for towing on the Clyde Canal Robert Fulton visited him to make notes on the boat and its operation

Symington, William Stuart (sī'mĭngtŭn), 1901–, U S government official, b. Amherst, Mass He studied (1919–23) at Yale and for many years was a business executive W Stuart Symington served as surplus property administrator (1945–46) and Assistant Secretary of War (1946–47) before he was appointed (1948) by President Harry S Truman as the first Secretary of the AIR FORCE in the U S Dept of Defense In 1950 he became chairman of the National Security Resources Board

symmetry (sĭ'mĭtrē), pleasing balance of parts or their uniform arrangement It may consist either in exact repetition, in counterpart, or in having the same values as to mass and space in composition Good examples are the façade of St. Peter's, Rome, and the sculptured pediment of the Parthenon, Athens The simplest architectural symmetry begins with the orders of architecture and the arch. Most of the world's fauna and flora exhibit symmetry, and it prevails in the decorative arts, heraldic design, and the composition of wall panels and medallions, whether with natural or the so-called artificial motifs.

Symonds, John Addington (sĭm'ŭndz), 1840–93, English author He was educated at Harrow and Oxford After ill-health forced him to abandon the study of law, he lived in Italy and Switzerland His many publications include travel books, *Sketches in Italy and Greece* (1874) and *Italian Byways* (1883), literary essays, *Introduction to the Study of Dante* (1872) and *Studies of the Greek Poets* (1873–76), biographies of Shelley (1878), Sir Philip Sidney (1886), Ben Jonson (1886), and Michelangelo (1893), a study of Walt Whitman (1893), a masterly translation of the autobiography of Benvenuto Cellini (1888), and several volumes of verse, notably *Many Moods* (1878) and *Animi Figura* (1882) Symonds's major work, *The Renaissance in Italy* (7 vols, 1875–86), is a classic of cultural history. See study by Van Wyck Brooks (1914).

Symons, Arthur (sĭm'ŭnz), 1865–1945, English poet and critic A leader of the symbolists in England, Symons interpreted French decadent poets to the English through translations, criticism, and his own imitative poems He was on the staff of the *Athenaeum* and *Saturday Review* and editor of the *Savoy* (1896) until a period of insanity, 1908–10, described in his *Confessions* (1930) His chief critical work is *The Symbolist Movement in Literature* (1899), others are *The Romantic Movement in English Poetry* (1909), *Dramatis Personæ* (1923), and studies of Baudelaire, Blake, and Rossetti His poetry includes *Days and Nights* (1889), *Poems* (1902), and *Love's Cruelty* (1923). See study by T E Welby (1925)

Symons, Gardner (George Gardner Symonds) (sĭ'mŭnz), 1865–1930, American landscape painter, b Chicago, studied at the Art Institute there before completing his training in London, Munich, and Paris He is best known for his New England snow scenes Among characteristic works are *The Winter Sun* (Art Inst., Chicago), *The Opalescent River* (Metropolitan Mus.), and *Snow Clouds* (Corcoran Gall.)

sympathetic nervous system · see NERVOUS SYSTEM

symphonic poem, type of orchestral composition created by Liszt, also called tone poem Discarding classical principles of form, it begins with a poetic or other literary inspiration Although it is usually considered program music, no literal following of a program was intended by Liszt While the symphonic poem better expressed the spirit of romanticism than did the symphony, it did not supersede the symphony, many composers, e g, Tchaikovsky, Saint-Saens, Sibelius, Franck, and Dvorak, wrote in both forms In the symphonic poems of Smetana and Sibelius an element of nationalism is added Richard Strauss carried the programmatic possibilities to an extreme of realism, in contrast to the impressionistic tone poems of Debussy, which are closer to the Lisztian aim

symphony (sĭm'fŭnē), a SONATA for orchestra. The Italian operatic overture, called *sinfonia*, as its form was established by Alessandro Scarlatti at the end of the 17th cent was in three sections in fast-slow-fast alternation Its dissociation from the opera for concert performance was the first step in the development of the classical symphony Johann Stamitz (1717–57), who became concertmeister to the elector of Mannheim in 1745 and who was leader of the Mannheim group of composers, inserted the minuet as the third movement of the symphony and approached sonata form in his first movements C P E Bach, the founder of the keyboard sonata, wrote important symphonies, but it is with Haydn and Mozart that the form reached maturity Beethoven wrote fewer symphonies than his predecessors, intensifying the individual character of each and bringing the form to perfection After the symphonies of Beethoven and Schubert the form began to decline The symphony of the romantic period usually exhibited profusion of themes rather than the economy of material characteristic of the classical symphony and tended to substitute repetition for actual thematic development Berlioz attempted to adapt the form to program music in his *Symphonie fantastique* Brahms, however, attempted to revive the classical form Post-romantic decadence is represented in the huge dimensions of the symphonies of Gustav Mahler The freedom with which the term is applied in the 20th cent may be illustrated by Roy Harris's *Folksong Symphony* and *Symphony for Voices* and Stravinsky's *Symphony of Psalms*, while works of these same composers exhibit a return to classical principles of construction See D F Tovey, *Essays in Musical Analysis: Symphonies* (2 vols, 1935); B. H Haggin, *A Book of the Symphony* (1937)

Symplegades (sĭmplĕ'gădēz) [Gr, =dashing together], in Greek mythology, two floating cliffs They swung together and crushed anything going between them, until the ship ARGO passed them safely. They remained still forever after, forming the entrance to the Black Sea

synagogue (sĭ'nŭgŏg) [from Gr, =assembly], building where Jews gather for worship As early as the days of Moses, the term was used to denote any gathering of Jews, usually for religious purposes The institution of the synagogue as a place of worship, although it existed contemporaneously with the Temple, did not assume any great im-

portance until after the destruction of the first Temple and the Babylonian exile As the Jews became more dispersed, the synagogue became more important until it was, particularly in the Middle Ages, not only the religious, but the intellectual, and even social, center of Jewish life It was used both as a court of law and as a place for study. Services in the synagogue were conducted in a less grandiose manner than in the Temple There was no officially appointed priest, the services being conducted by a chazan (reader) The role the synagogue played in preserving Judaism intact through the centuries cannot be overestimated, nor can its influence as an intellectual and cultural force The subsequent partial assimilation of the Jews, the widening of their intellectual and cultural interests, and particularly the reform movement, have now restricted its use to almost purely religious purposes, although among the orthodox Jews of Eastern Europe and the Orient its scope has not diminished The oldest synagogue in the United States is at Newport, R I (1763) For the use of music in the synagogue, see JEWISH MUSIC

syncopation (sĭng"kupā'shun, sĭn"-) [New Gr , =cut off], in music, the accentuation of a beat which normally would be weak according to the rhythmic division of the measure Although the normally strong beat is not usually effaced by the process, there are occasions (e g , the second theme in the final movement of Schumann's Piano Concerto in A Minor) when the natural rhythmic structure is entirely altered, the syncopation being so elaborate and persistent that the actual metrical structure is obliterated aurally Occasional syncopation is present in music of all types and in all periods It is carried to its extreme in RAGTIME

syncope, see FAINTING

syndicalism (sĭn'dĭkulizm) includes both a plan for reorganizing society and a strategy of revolutionary action for the overthrow of the existing one Like anarchists, syndicalists believe that any form of state is an instrument of oppression and that the state should be abolished They stress the function of productive labor and regard the trade union as the essential unit of production and of government In motive, the work of the unions would be socialistic —for use, not for profit The GENERAL STRIKE SABOTAGE, slowdowns, and other means of disrupting ordinary production are advocated by some syndicalists as a prelude to assuming control of the manufacturing process, seen as essential to their aims The writings of P J Proudhon, with his attacks on property, and of Georges Sorel who espoused violence, and the mythical as well as practical efficacy of the general strike have influenced syndicalist doctrine Syndicalism, like ANARCHISM, has flourished largely in Latin countries, especially in France, where trade unionism was for years strongly influenced by syndicalist programs In the United States the chief syndicalist organization was the INDUSTRIAL WORKERS OF THE WORLD, which flourished early in the 20th cent but was virtually extinguished after the First World War by government suppression and internal rifts

Synesius (sĭnē'shus, -shēus), c 365- c 414, Christian Neoplatonic philosopher of Cyrene, educated by Hypatia in Alexandria In his manhood he lived in Cyrene, where he was an owner of much property He went on a mission to Constantinople (c 400) At some time in his career he became a Christian and married a Christian woman In 409 he was elected bishop of Ptolemais, against his will and in spite of his marriage His principal works are *De providentia* [on providence], a political treatise, *De regno* [on kingship], an oration before Emperor Arcadius, *Dio*, on the life of the philosopher versus that of the ascetic, *De insomniis* [on dreams], *Encomium calvitii* [in praise of baldness], a literary joke His chief philosophical efforts were towards synthesizing Christianity with Neoplatonism His letters are invaluable sources for his life and times See W S Crawford, *Synesius, the Hellene* (1901)

Synge, John Millington (sĭng), 1871–1909, Irish poet and dramatist, b near Dublin, of Protestant parents He received his degree from Trinity College, Dublin, and went to Germany to study music and later to Paris, where he lived for several years working at literary criticism Here he met his compatriot William Butler Yeats, who persuaded Synge to live for a while in the Aran Islands and then return to Dublin and devote himself to creative work *The Aran Islands* (1907) is the journal of Synge's retreat among these primitive people The plays of Irish peasant life on which his fame rests were written in the last six years of his life The first two one-act plays, *In the Shadow of the Glen* (1903), a comedy, and *Riders to the Sea* (1904), considered one of the finest tragedies ever written, were produced by the Irish National Theatre Society This group, with Synge, Yeats, and Lady Gregory as codirectors, organized, in 1904, the famous Abbey Theatre Two comedies, *The Well of the Saints* (1905) and *The Playboy of the Western World* (1907), were presented by the Abbey players The latter play created a furor of resentment among Irish patriots, stung by Synge's bitter humor. His later works were *The Tinker's Wedding*, published in 1908 but not produced for fear of further riots, and *Deirdre of the Sorrows*, a tragedy unfinished at the time of his death but presented by the Abbey players in 1910 See studies by W B Yeats (1911), Maurice Bourgeois (1913), Daniel Corkery (1931), and L A G Strong (1941).

synonym (sĭ'nunĭm) [Gr , =having the same name], word the meaning of which is the same as or very like the meaning of another Some are alike in some meanings only, as *live* and *dwell* Words taken into English from French and Latin have created many synonyms, e g , *wax* (taken from Old English), *increase* (taken from Old French), and *augment* (taken from Latin) The classic English collections are George Crabb's *Synonymes* and P M Roget's *Thesaurus*

Synoptic Gospels (sĭnŏp'tĭk) [Gr *synopsis*=view together], the first three GOSPELS (MATTHEW, MARK, and LUKE), considered together as being much more similar to each other than either is to JOHN, which differs also from them in purpose The question of the relations between the three is called the Synoptic problem In brief, most of the higher critics agree that Matthew and Luke were written later than Mark, which they followed closely Matthew then divided Mark into five portions and used them in order, separating them by other material Luke divided it only in two, nine chapters (9 51–18 14) being inserted between Mark can only account for half of the other two Gospels, especially since a central portion of Mark (6 45–8 26) is not reproduced in them About 100 verses each Matthew and Luke have in common, most of them sayings (notably the BEATITUDES), the critics assume to explain this agreement a primitive document which they call Q This consisted largely of sayings of Jesus and was circulated in forms varying from place to place Matthew and Luke are said to have used different versions of Q This leaves a good third each in Matthew and Luke that cannot be explained by a common origin, there is no one widely held explanation of these portions The versions of the Passion present separate problems Many critics and large bodies of Christians reject the solution of the higher critics, notable among these are fundamentalist Protestants and Roman Catholics Roman Catholics hold that Matthew (in an Aramaic version) preceded Mark and Luke, but that Matthew's Greek translation of his Aramaic Gospel may be posterior to Mark and Luke See E F Scott, *The Literature of the New Testament* (1932)

syntax see GRAMMAR

synthesis (sĭn'thusĭs) [Gr , =putting together], type of chemical reaction in which two or more substances combine to form a third In the synthesis of a compound definite quantities (by weight and often by volume) of each constituent are found to be required to form any given quantity of the compound For this reason synthesis often serves as a valuable check of the accuracy of an analysis of a compound Many valuable organic and inorganic substances can now be prepared synthetically because analysis has determined their constituents and their composition by weight, and the conditions under which the constituents will combine are known

Syntyche (sĭn'tĭkē) [Gr , =accident], Philippian Christian in disharmony with EUODIAS

syphilis (sĭ'fĭlĭs), contagious VENEREAL DISEASE caused by infection with a spirochete (*Treponema pallidum* or *Spirochaeta pallida*) described by F R Schaudinn and Eric Hoffmann in 1905 Some cases are the result of infection before birth (congenital), but it is most commonly the result of infection in sexual intercourse There is usually an initial sore or chancre on the genital organs, lips, or elsewhere Determination of the nature of this sore by microscopic examination makes possible early specific treatment and prevents the ravages of the dread later stages of the disease The first sore may not appear until three weeks after infection A second stage follows in which the spirochetes spread through the tissues, causing changes which lead in several years to degeneration In the second stage there may be headaches, fever, very infectious sore throat, and often a skin rash which gives warning A Wassermann test at this time gives proof of infection The flocculation tests of Kline and Kahn give accurate results in a large percentage of cases No organ of the body escapes infection, and although the disease is not fatal in its early stages, it leads to a third stage in which lesions known as gummata occur in the heart, brain, bones, eye, ear, and digestive system In the later stage those cases in which the nervous system is affected have *tabes dorsalis* (locomotor ataxia) or a type of insanity called paresis EHRLICH used arsenic derivatives in treatment Today arsenic, mercury, and bismuth derivatives and penicillin are used Inoculation of malaria parasites under control with quinine is sometimes used in nervous-system infection, the beneficial effects possibly being the result of the long high fever Early persistent treatment by a physician over a period of time with frequent tests to check progress is essential to prevent the later stages. Where syphilis originated is unknown, some authorities say that it appeared first in the Old World, and others maintain that it was carried to Europe (c 1493) by returning voyagers from the New World An epidemic of a disease generally identified as syphilis broke out in 1495 during the brief siege of Naples in the Italian Wars and spread rapidly through much of Europe, persisting well into the 16th cent It is uncertain whether the disease was known before that time

Syra see SYROS

Syracuse (sĭ'rukūs, -kūz), Ital *Siracusa* (sē'rakōō'za), city (pop 43,639), capital of Syracuse prov., SE Sicily, Italy, a port on the Ionian Sea The old town is on the small island of Ortygia, a bridge connects it with the mainland, where the modern districts are laid out Founded by Greek colonists in 743 B C , Syracuse grew rapidly and soon founded colonies of its own Its democratic government was suppressed by GELON, tyrant of Gela, who took possession of Syracuse in 485 B C Under his rule, marked by his great victory (480) over the Carthaginians at Himera, Syracuse took the lead among the Greek cities of Sicily His successor, HIERO I, made it one of the greatest centers of Greek culture PINDAR and AESCHYLUS lived at his court Soon after Hiero's death, a democracy was established (466–406) During that period Syracuse extended its power over E Sicily and defeated an Athenian expedition (begun in 415 by ALCIBIADES) in a great land and sea battle (413). In 406 B C DIONYSIUS THE ELDER became tyrant. Under his long rule Syracuse reached the limits of its power and extension After his death there followed a period of bitter internal struggle in which DIONYSIUS THE YOUNGER, DION OF SYRACUSE, and TIMOLEON were the chief protagonists, after several decades of democratic government, tyranny returned once more in the persons of AGATHOCLES (317–289) and HIERO II (270–c 215) Hiero's reign was relatively peaceful and prosperous, but after his death doom came to Syracuse for having abandoned its traditional ally, Rome, in favor of Carthage in the second of the PUNIC WARS After a long siege by the Roman consul Marcellus the city fell in 212 B C and was sacked, after that date Syracuse was reduced to the role of a provincial town The period from Dionysius the Elder to the fall of Syracuse was a brilliant one from the cultural point of view PLATO visited Syracuse several times, Theocritus probably lived at the court of Hiero II, ARCHIMEDES, who directed the defense against the Romans, was killed in the sack of Syracuse Numerous remains testify to the city's past greatness On Ortygia are the cathedral, built on remains of a Greek temple, with 12 Doric columns, the remarkable archaeological museum; the fountain of ARETHUSA, ruins of a temple of Apollo, and a castle built by Emperor Frederick II. Among the remains on the mainland are the celebrated Greek theater (5th cent B C), still used for classical performances, a Roman amphitheater, the castle of Euryelus (a Greek fortress), and extensive catacombs

Syracuse. **1** (sĭ'rukūz, -kūs) Town (pop 1,346), N Ind , on Wawasee Lake SE of South Bend It is a summer resort **2** (sĭ'rukūz, -kūs) City (pop. 1,226), co seat of Hamilton co , SW Kansas, on the Arkansas river near the Colo line, inc 1887 **3** (sĭ'rukūs, sē') City (pop 205,967), co seat of Onondaga co , central N Y , on Onondaga Lake and the Barge Canal and SE of Rochester, settled 1805, inc as a village 1825, as a city 1847, when the village of Salina was joined Salt making, the city's chief industry from its settlement until after the Civil War, declined under competition But favorable location on the Erie Canal (opened here 1819) and on railroads stimulated industrial development The city is today a port of entry and makes typewriters, farm machinery, iron products, candles, chinaware, and air-conditioning equipment An annual state fair has been held here since 1841 Syracuse has a state school for mental defectives and a state psychopathic hospital, near by are an Indian reservation and a state park Of interest are the Museum of Fine Arts, known especially for ceramic exhibits, the Mills Rose Garden, and Syracuse Univ In 1936 railroad tracks which coursed through its main street for nearly a century were removed to elevated lanes

Syracuse University, at Syracuse, N Y , coeducational, chartered as Genesee College, at Lima, N Y , 1849, moved to Syracuse 1869, rechartered as Syracuse University 1870 It includes colleges of applied science, business administration, fine arts (with music and architecture), home economics, law, liberal arts, and medicine (formerly Geneva Medical College, founded 1834) It also has schools of citizenship and public affairs (Maxwell), education, journalism, library science, public speech and dramatic art, and nursing There are branches at Endicott and Utica The New York State College of Forestry (1911, with the Ranger School at Wanakena and forest and wildlife experiment stations) is affiliated A natural science museum and the Goudy typographical laboratory are at Syracuse Notable buildings are the "Castle," designed by James Renwick, and the large chapel

Syr Darya (sĭr" dar'yə), anc. *Jaxartes* or *Yaxartes*, Persian *Sihun*, river, c 1,300 mi long, USSR One of the main rivers of central Asia, it is formed in the FERGANA VALLEY (Uzbek SSR) by the junction of the NARYN and Kara Darya rivers, which rise in the Tien Shan mts It flows generally W through the Uzbek SSR, Tadzhik SSR, and Kazakh SSR into the northern end of the Aral Sea Its shallowness makes it unfit for navigation, but its waters are used for irrigating the important cotton-growing areas along its course and for hydroelectric power The Syr Darya forms the northern and eastern limits of the Kizil Kum desert It is paralleled in its lower course by the Trans-Caspian RR Alexander the Great in his conquest of Persia reached the river c 329 B C and may have founded the chief city on its course—Leninabad (formerly Khodzhent)—on the site of an older city.

Syria (sĭr'ēə), Arabic *Esh Sham*, republic (66,046 sq mi, pop 3,006,028), SW Asia The capital is DAMASCUS Syria is bounded on the west by the Mediterranean Sea, Lebanon, and N Israel, on the north by Turkey, on the east and southeast by Iraq, and on the south by Jordan The country has a diversified topography, from the mountain ranges and valleys in the northwest to the arid wastelands of the Syrian Desert in the center and southeast. In the north and east is the comparatively fertile Euphrates river valley, in the south are the mountains of the Jebel Druse and the plain of HAURAN, which extends westward to the Sea of Galilee and the Jordan river valley; along the Lebanese border is the Anti-Lebanon range, rising to over 9,000 ft in Mt Hermon The Orontes river, in the west, flows N into S Turkey Syria lies partly in the Fertile Crescent, the relatively well-watered region which stretches northward along the E Mediterranean coast, then inland to the mountains of S Turkey and southeast to the Persian Gulf along the Tigris-Euphrates river basin The climate varies from the generally mild Mediterranean type on the coast to the prevailing desert conditions of the southeast, where there are fairly cold winters and very hot summers Although rainfall is adequate in the mountain areas in the west, the annual precipitation in most parts is extremely small Syria is primarily a pastoral and agricultural country Large numbers of sheep, goats, cattle, and camels are raised, while the main crops are wheat, barley, millet, maize, figs, olives, apricots, and vegetables Cotton is becoming an important cash crop, and in the northwest (notably near Latakia) tobacco is grown extensively Manufactures are on a small scale—chiefly cotton and silk textiles, leather goods, cement, and olive oil—and are mostly confined to the cities of ALEP and Damascus Other than bitumen and salt, there are few mineral resources, although oil drilling has been undertaken recently on an exploratory basis Railroads link the major cities (Alep, HAMA, HOMS, and Damascus), but because Syria has no deep-water harbor on the Mediterranean, the bulk of Syrian exports are shipped from the Lebanese ports of Beyrouth and Tripoli The population is largely of Arab origin, and Arabic is the chief language About three quarters of the people are Moslems (predominantly Sunnites), while the rest are Syrian Christians (Catholics and Orthodox) and Jews The DRUSES, of a separatist Moslem sect, dwell in the south, and the Syrian Desert is inhabited by several nomadic Bedouin tribes Literacy is on a low level. Historically, the name Syria has comprised those lands of the Levant, or eastern littoral of the Mediterranean, which correspond to modern Syria and Lebanon, most of Israel and Jordan, and parts of N Arabia Three geographic factors have played a major part in determining the history of Syria—its location on the trade and military routes between the Mediterranean and Mesopotamia, its varied topography, which has made political unity difficult; and the encroaching desert, from which many of its peoples and cultural movements have come From the dawn of history Syria was an object of conquest; it has through most of its long history been held by foreign powers From the 19th to 13th cent B C the area probably was part of the empire of the HITTITES, although it fell under Egyptian rule for many years during that time The first great indigenous culture was the PHOENICIAN CIVILIZATION, (mostly in present Lebanon), which flourished after 1250 B C in a group of trading cities along the coast, later, in PALESTINE, appeared the Hebrew kingdoms Syria suffered long invasions and intermittent control by the Assyrians Babylonian conquerors also came, and Egypt perpetually sought to reestablish power The people were subjected to massacres, plundering, and forced deportations Under the Persian Empire, with its efficient administrative system, Syria flourished, and the standard of living improved After the conquest (332–331 B C.) by Alexander the Great, his brief empire was followed by that of the Seleucidae, who are usually called kings of Syria, though they did not always have a secure grip on much of Syria and they had many other possessions Their control of Syria was constantly threatened from Egypt, where the Ptolemies then held sway. The Egyptians generally held the south until Antiochus III conquered the section (generally called Coele Syria, a name earlier vaguely applied to all W Syria). The Seleucidae founded colonies and strove successfully to introduce Hellenistic civilization Syria long showed the revivifying effects of this new culture Many of the cities were cultural centers, but the change did not reach the lower levels of the population, and when invasions began again with the Armenians under Tigranes and then the Parthians—both in the 1st cent B.C—the Hellenistic sheen was soon dulled. The Romans under Pompey conquered the region by 63 B C but continued to war against the Parthians there, and Syria did not advance There were many changes in administration, and Rome drew from Syria many soldiers and many slaves. The old pagan gods of Syria were also exported to Rome. More significant for the future, Christianity was born in Palestine and soon exerted some influence over all Syria, St. Paul was converted on the road to Damascus In central Syria PALMYRA was allowed to grow to considerable power as an autonomous state after the 1st cent A D but was cut down when it threatened the power of Rome After the division of the Roman Empire into the Western Empire and the Eastern, Syria was under Byzantine rule, but control grew somewhat lax long before the Arabs appeared (633–36). Syria was largely converted to Islam. Damascus became the usual capital of the OMAYYAD caliph (661–750) and had a period of great splendor Now the bonds between Moslem Syria and the predominantly Christian south (the later Lebanon) began to sever There were, however, groups of Christians who persisted in Syria They generally rendered aid to the Christian hosts of the CRUSADES, who came into Syria at the end of the 11th cent Already the Seljuk Turks had conquered most of the land, and the Christians warred against them, as well as against the conquering SALADIN, who was triumphant over both the Christians and his fellow Moslems By the end of the 12th cent he was dominant. His rule was followed by that of the Mamelukes, and Syria was visited again with furious invasions—this time by the Mongols—before the Ottoman Empire established its control by 1516 In that empire Syria suffered a little relief from the recurrent devastations of invasions, and the Syrians were allowed a fair amount of self-rule But lax central control did allow for trouble, and the fierce Druses grew very strong in their mountain fastnesses and threatened the Christian Maronites France early began to protest as the protector of the Christians The adventure of Napoleon I in Egypt took the French also into Syria in 1799, but the occupation was ephemeral The power of MOHAMMED ALI in Egypt in the early 19th cent threatened Turkish control, and IBRAHIM PASHA actually seized Syria from the Turks in a campaign in 1832–33 and held power there, reinforced by new campaigns in 1838–39, but the Egyptians were forced to withdraw under pressure from the European powers The intermittent massacres of the Christians took place principally in present Lebanon, but all Syria was thrown into an uproar. Arab nationalism also began to take shape, speeded somewhat by the rise of Zionism In the First World War, the British encouraged nationalist ambitions in the warfare against the Turks These ambitions were scarcely satisfied when in the peace settlement France was given a mandate over the Levant States (roughly present Syria and Lebanon). This rule went into effect in 1920 The region was parceled out into districts on the ground that political decentralization would safeguard the rights of minorities. The Arab nationalists angrily pointed out that it also was a means of perpetuating French control by a divide-and-rule policy Some concessions were made, particularly after serious disturbances in 1925, resulting in a rebellion by the Druses and a French siege and bombardment of Damascus Lebanon was made a separate state in 1926, and there were long and rather unfruitful negotiations that resulted in agreements to set up a Syrian state with some autonomy in 1930 and 1933 Latakia and the Jebel ed Druse were made separate territories Nationalist agitation for independence continued and grew more bitter Anti-French feeling ran particularly high after the troubles that resulted in the cession of the sanjak of Alexandretta (see ALEXANDRETTA, SANJAK OF) to Turkey, completed in 1939 In that year the French suspended the constitution, and, in the Second World War they garrisoned Syria with a large number of troops, most of whom, after the fall of France in June, 1940, declared loyalty to the Vichy government, while others left to join Free French forces Relations with Great Britain deteriorated, and when it was discovered that Syrian airfields had been used by German planes en route to Iraq, British and Free French forces invaded and occupied Syria in June, 1941 In accordance with previous promises, the French proclaimed the creation of an independent Syrian republic in Sept., 1941, and an independent Lebanese republic in Nov., 1941 In Jan., 1942, the territories of Latakia and Jebel ed Druse were incorporated into the new Syrian state, and on Jan., 1, 1944, complete independence was achieved. However, the continued presence of French troops in Syria caused increasing friction and bloodshed, as well as strained Anglo-French relations, not until April, 1946, were all foreign troops finally withdrawn from the country. Syria was still prey to internal disturbances A member of the Arab League, the republic joined the other Arab states in the unsuccessful war (1948) against Israel, an armistice was signed in July, 1949 Three coups d'état by different groups of army officers took place in 1949. Syria became a member of the United Nations. Plans for a federation of the Arab states in a Greater Syria are supported by many Syrians, but mutual suspicions among the Arab rulers have so far thwarted any steps in this direction See Gertrude Bell, *Syria. the Desert and the Town* (1907), George Antonius, *The Arab Awakening* (1939), H. C Gordon, *Syria as It Is* (1939), P. W Ireland, *The Near East Problems and Prospects* (1942), Freya Stark, *Letters from Syria* (1942), A. H. Hourani, *Syria and Lebanon* (1946), W T Castle, *Syrian Pageant* (1948), E. E. Abouchdid, *Thirty Years of Syria and Lebanon, 1917–1947* (1948)

Syriac language, Aramaic language of the Semitic family See LANGUAGE (table)

Syrian Desert, Arabic *Badiet Esh Sham*, arid wasteland, SW Asia, between the cultivated lands along the E Mediterranean coast and the fertile Euphrates river valley. It extends N from the Arabian Desert and comprises W Iraq, E Jordan, and SE Syria The famous Arabian horses are raised along the edges, and in the north it is crossed by two oil pipe lines and a motor route from Damascus to Baghdad It is the home of several nomadic tribes

syringa · see MOCK ORANGE For the genus *Syringa*, see LILAC

syrinx, see PANPIPES

Syros (sĭ'rŏs), island (33 sq mi, pop 25,918), off S Greece, in the Aegean Sea, one of the Cyclades HERMOPOLIS is its capital and chief port In the Greek War of Independence, thousands of Greeks flocked to Syros, and in the mid-19th cent the island had considerable commercial importance It is also known as SYRA

Syrus, Ephraem, see EPHRAEM, SAINT

Syzran (sĭzrän'ŭ, sĭz'rŭnyŭ), city (1939 pop. 77,679, 1946 estimated pop 150,000), RSFSR, on the right bank of the Volga, c 70 mi W of Kuibyshev It is a major river port, rail junction, and industrial center The city extends for c 20 mi along the Volga and includes mines and quarries (oil shale, asphalt, phosphorite, potassium nitrate, slate, clay, quartz sand, and limestone) There are oil refineries and a great variety of manufactures Within the city limits is a rail bridge (c 1 mi long) spanning the Volga Syzran was founded in 1684 as a Russian military settlement It developed as a grain market in the 19th cent Its industrial expansion began after the development of the local oil reserves in 1936 and was speeded by the Second World War

Szabadka, Yugoslavia see SUBOTICA

Szalankemen, Yugoslavia see SLANKAMEN

Szatmar, Peace of see RAKOCZY, FRANCIS II

Szatmarnemeti or **Szatmar**, Rumania, see SATU-MARE

Szava, river, Yugoslavia see SAVA.

Szczecin, Pomerania, see STETTIN.

Sze, Alfred Sao-ke (sou'-kē' zĕ', sŏŏ'), Mandarin *Shih Chao-yi*, 1877–, Chinese diplomat, grad Cornell Univ He was (1914–21, 1929–32) Chinese minister to Great Britain and represented (1921–29, 1933–35) China in the United States He was the Chinese delegate to the Paris Peace Conference (1918–19) and to the council of the League of Nations (1931)

Szechenyi, Count Stephen (sā'chĕnyē), Hung *Széchenyi István* (ĭsh'tvän), 1791–1860, Hungarian statesman Influenced by his studies in England, he championed the modernization of Hungarian economic, social, and intellectual life and was the leader of the moderate liberal group in the Hungarian diet He was (1848) minister of transportation in the first revolutionary government of Hungary, but he resigned when an open break with Austria impended, and he opposed the nationalism of Louis Kossuth In 1859 Szechenyi wrote a satire against the absolute rule of the Austrian minister Bach, incurring serious difficulties with the authorities Szechenyi, who had suffered a mental breakdown once before, committed suicide.

Szechwan (sĕ'chwän', sū'-), Mandarin *Szu-ch'uan*, province (117,111 sq mi, pop. 47,515,876), SW China The capital is Chengtu Completely surrounded by mountains, Szechwan is accessible to the rest of China by the Yangtze river, which flows through the south and receives several large tributaries, notably the Min, the Lu, and the Kialing The spectacular gorges found along the eastern part of the Yangtze's course through Szechwan make it hard to navigate to Chungking, the chief provincial port. Transportation, mostly limited to the turbulent rivers, is poor. Central Szechwan is a generally rough plateau which is called the Red Basin because of its sandstone formation. The basin includes the Chengtu Plain, the only large level area in the province; however, extensive ter-

racing adds much cultivated land, and with a mild climate, adequate rainfall, and fertile soil, two harvests a year are usual Rice is the main staple, and wheat, kaoliang, corn, sugar cane, and tobacco are important A food surplus is raised, and Szechwan is the most densely populated of China's provinces Cloth is woven from locally raised silk and hemp Coal and iron, although widely distributed, are little utilized Salt is the most-exploited mineral resource, and a large surplus is exported to neighboring provinces In the Second Chino-Japanese War much of China's industry and government were moved to Szechwan

Szeged (sĕ'gĕd), formerly **Szegedin** (-ēn), city (pop 136,752), S Hungary, on the Tisza and Maros rivers. Partly destroyed (1879) by a flood and rebuilt in modern style, it has a university, two museums, and a library containing 150,000 volumes and an ethnographic collection The chief landmark of Szeged is a 13th-century Romanesque tower In 1919 the counterrevolutionary government of Admiral Horthy was formed here

Szekely, Hung *Székely* (sā'kā), ethnic group of TRANSYLVANIA and neighboring areas. They are Magyar-speaking, and about 80 percent of the Hungarian population of Transylvania, it is estimated, are of Szekely origin Except in a few isolated communities, however, where the ancient customs of the Szekely have survived, there is no longer any difference between Szekely and Magyars The Szekely (also known as Szeklers and as Siculi) came into Transylvania either with or before the MAGYARS Their organization was of the Turkic type, and they were probably of Turkic (possibly Avar) stock By the 11th cent , however, they had adopted Magyar speech They later formed one of the three privileged "nations" of Transylvania (the others were Magyars and Saxons) With their own military and civil organization, they enjoyed autonomy under the Hungarian crown and were, without exception, regarded as of noble birth, they were exempt from taxation In the 16th cent the Szekely accepted, for the most part, Unitarianism as their religion Their privileges declined in the 18th cent under the rule of Maria Theresa and Joseph II The Austrian attempt to impress the Szekely into service as a border militia met with widespread resistance In 1763 a large number of Szekely who sought to escape the Austrian recruiting agents were massacred at Madefalva. Many subsequently emigrated to Bukovina and Moldavia The last remnants of Szekely autonomy were suppressed by Austria after the Revolution of 1848

Szekesfehervar, Hung *Székesfehérvár* (sā'kĕshfĕ"-hârvar), Ger. *Stuhlweissenburg* (shtōōl"vī'sŭn-bōōrk), city (pop 47,968), W central Hungary It dates from the Roman period, and the museum contains Roman antiquities From 1027 to 1527 the Hungarian kings were crowned here

Szell, Koloman (kō'lōmän sāl'), Hung *Széll Kálmán* (kāl'män), 1845–1915, Hungarian statesman A close associate of DEAK, he was a deputy from 1867, minister of finance (1875–78), and premier (1899–1903) In 1878 he was able to procure a favorable tariff agreement between Austria and Hungary

Szentgotthard (sĕnt'gôt'hârd), town (pop 3,548), W Hungary, on the Raab and near the Austrian border. Here in 1664 Montecuculi defeated the Turks The place is known in English also as St Gotthard

Szent-Gyorgyi, Albert von, Hung *Szent-Györgyi* (al'bĕrt fŭn sĕnt"-dyûr'dyĭ), 1893–, Hungarian biochemist He served as professor at the universities of Szeged (1930–44) and Budapest (after 1946) and then came to the United States, where he became (1948) a research fellow at the National Institute of Health at Bethesda, Md He received the 1937 Nobel Prize in Physiology and Medicine for his studies of biological oxidation, for discovering ascorbic acid in adrenal glands and identifying it as vitamin C, and for extracting it in large quantities from Hungarian paprika (*Capsicum annuum*) His later researches are chiefly on muscle chemistry He wrote *On Oxidation, Fermentation, Vitamins, Health, and Disease* (1939), *Chemistry of Muscular Contraction* (1947), and *Nature of Life* (1948)

Szigeti, Joseph (sĭgĕ'tē, Hung sĭ'gĕtĭ), 1892–, Hungarian violinist, pupil of Hubay He made his first tour in 1912 in Europe, afterward becoming internationally known for his excellent musicianship He taught (1917 24) at the Geneva Conservatory and in 1925 made his American debut See his autobiography, *With Strings Attached* (1947)

Szigetvar, Hung *Szigetvár* (sĭ'gĕtvār), town (pop 6,270), SW Hungary, W of Pecs It was defended in 1566 by Nicholas Zrinyi against Sultan Suleiman I, who died during the siege Zrinyi was killed during a sortie, and the fortress eventually fell to the Turks Szigetvar is sometimes called Sziget or Szigeth, but it is not to be confused with the city of Szeged on the Tisza or with the Rumanian town of Sighetu (Hung *Maramarossziget* or *Sziget*) in the Carpathians

Szold, Henrietta (zōld), 1860 1945, American Jewish leader, b Baltimore After graduating from high school in 1877 she taught (1878–92) in private schools, organizing many Americanization classes for immigrants From 1892 to 1916 she was a member of the editorial staff of the Jewish Publication Society of America In 1909 she visited Palestine, and her concern over the inadequate medical service in that country led her to devote her life to the cause of ZIONISM In 1912 she founded the American women's organization HADASSAH, of which she was president from 1912 to 1926 After 1920 she lived in Palestine, directing the organization's medical service and relief work She translated works from French, German, and Hebrew, including *The Legends of the Jews* by Louis Ginzberg (Eng tr , 7 vols , 1909–38) and *The Ethics of Judaism* by Moritz Lazarus (Eng tr , 2 vols , 1900) See biography by Marvin Lowenthal (1942), E. E Levinger, *Fighting Angel* (1946)

Szolnok (sōl'nōk), city (pop 42,011), E central Hungary, on the Tisza and Zagyva rivers. It is a trading and manufacturing center. There is a large Franciscan convent

Szombathely (sōm'bōt-hā"), Ger. *Steinamanger* (shtīn'ŭm-ang'ur), city (pop 42,872), W Hungary It was founded in A D 48 by Emperor Claudius An episcopal see since the 17th cent it has an 18th-century cathedral and an episcopal palace with a museum of antiquities. Ruins of a triumphal arch, an amphitheater, and an aqueduct have been excavated near by

Szondi Test see MENTAL TESTS

Szymanowski, Karol (kä'rōl shĭmänôf'skē), 1883–1937, Polish nationalist composer German influence on his early works is exemplified in his opera *Hagith* (1912), his later works, however, are strongly nationalistic, especially his ballet *Harnasie* (1928), his best-known work, which deals with Polish mountain people Other works are three symphonies, the opera *King Roger* (1928), mazurkas and other Polish dances for piano, chamber music, and the violin piece *The Fountain of Arethusa*, one of a set called *Myths* (1915)

T

T, 20th letter of the ALPHABET It corresponds to the Greek tau It represents the unvoiced dental or, as in English, alveolar stop The digraph *th* represents the characteristic English interdental fricative, voiced in *this*, voiceless in *thing* For modern misapprehensions concerning older signs for the fricative, see Y

Ta, chemical symbol of the element TANTALUM.

Taaffe, Eduard, Graf von (ä'dōōärt grĭf' fŭn tä'fŭ), 1833–95, Austrian statesman of Irish descent A childhood friend of Emperor Francis Joseph, he was briefly premier in 1868–69 and again from 1879 to 1893. Taaffe sought by a series of compromises to "muddle through" the tempestuous crises brought about by the conflict of nationalities within the Austro-Hungarian Empire A conservative, he relied on an alliance of the Slav and German conservatives against a liberal and nationalist German opposition. In 1880 he sought to conciliate the Czechs by granting limited recognition to the Czech language as a national language in Bohemia and Moravia However, he antagonized the liberal "Young Czechs," who were rapidly gaining the upper hand in Bohemia. Taaffe was forced to resign by a coalition of widely opposed interests when he presented an electoral reform bill which provided for a general and equal franchise

Taal, Lake (tä'äl'), area 94 sq mi , on SW Luzon, Philippine Islands, S of Manila. It contains Volcano Island, with Mt. Taal, an active volcano, rising to 984 ft.

Taanach (tā'nāk, tā'năk), royal city of Canaan, where Sisera was defeated by Deborah and Barak It lay on the great road running along the side of the Vale of Esdraelon, c 5 mi. SE of Megiddo Joshua 12.21, 17 11, Judges 1 27, 5 19, 1 Kings 4.12, 1 Chron. 7.29. Tanach, Joshua 12 25.

Taanath-shiloh (tā'nāth"shī'lō), unlocated town, E central Palestine Joshua 16 6

Tabard Inn (tă'bûrd), in Southwark, London, in Borough High St It was the traditional starting place of the Canterbury pilgrims, as described by Chaucer in the Prologue of the *Canterbury Tales*.

Tabari (Abu Jafar Muhammad ibn Jarir at-Tabari) (tăbä'rē), c 839–c.923, Arab historian and commentator. His name Tabari was given him because he was born in Tabaristan, Persia. He traveled widely in Syria and Egypt, settling finally in Baghdad. He was admired for his erudition, his memory, and his industry. He wrote two great works, a commentary on the Koran and *Annals of the Apostles and the Kings* The commentary has one of the largest collections of the traditions of Mohammed The annals are an attempt at universal history from the creation to 915 It was condensed from an even longer work, it is not a continuous narrative but contains differing versions of the same story and is thus a prime collection of Arabic sources

Tabasco (tŭbă'skō, Span tabä'skō), state (9,783 sq mi., 1946 estimated pop 327,459), SE Mexico, on the Gulf of Campeche The capital is VILLAHERMOSA Lying N of Chiapas and E of Guatemala and of the states of Campeche and Veracruz, Tabasco is predominantly a jungle plain broken by rivers, swamps, and lagoons and is subject to heavy rainfall (c 10 ft yearly) The rivers, notably the GRIJALVA and the USUMACINTA, provide practically the only means of communication, there are few roads, and the railroad between Campeche and Veracruz is uncompleted Cortés crossed Tabasco on his historic march (1524–25) to Honduras, and Francisco de MONTEJO conquered (1530) the region Agriculture is the main livelihood, with cacao, sugar cane, coffee, vanilla, rice, rubber, corn, tropical fruits, and valuable woods exported

Tabb, John Banister, 1845–1909, American poet, b Amelia co., Va Va Serving as a Confederate blockade-runner in the Civil War, he was captured and imprisoned (1864) He was converted to Roman Catholicism (1872), entered the priesthood (1884), and thereafter taught in St Charles College, Ellicott City, Md His poems of nature and religion are simple and, at their best, reminiscent of the 17th-century English devotional poets Among the published volumes are *An Octave to Mary* (1893), *Poems* (1894), and *The Rosary in Rhyme* (1904). F A Litz wrote a biography (1924) and edited *The Poetry of Father Tabb* (1928). See study by Gordon Blair (1940)

Tabbaoth (tă'bāōth, tŭbā'ŏth), family returned from exile Ezra 2 43, Neh 7 46

Tabbath (tă'băth), unlocated place, NW Palestine. Judges 7.22.

Tabeal (tă'bēăl, tŭbē'ul) [Heb., =God is good], father of the proposed usurper of Ahaz's throne Isa 7 6

Tabeel (tă'bēēl, tubē'ĕl) [Heb , =God is good], Persian official in Samaria Ezra 4 7

Taber (tā'bûr), town (pop 1,760), S Alta , near the Oldman river and ENE of Lethbridge, in an irrigated ranch area. There are adjacent coal mines and oil and natural-gas fields

Taberah (tă'bĕ-ru) [Heb , =burning], unlocated camp in the wanderings. Num 11 3, Deut 9 22

Tabernacle (tă'bŭrnă"kul) [Latin, =tent, hut], in the Bible, the portable holy place of the Jews in their wanderings in the wilderness It was apparently a tent to house the Ark of the Covenant when that was set down It was considered, like the Holy of Holies in the Temple later, in a peculiar sense the dwelling of God Himself It was set up in the center of the camp at every halt. For the directions for the making of the Tabernacle and its appointments, see Ex 25–27, 30–31; 35–40. The Tabernacle was finally placed at Shiloh. Joshua 18. The term is applied also to the small receptacle, used in the Roman Catholic Church, in which the Host is reserved on the altar These tabernacles are often elaborately worked, especially as to the doors They are usually cubical in shape, and they are large enough to hold a large ciborium

Tabernacles, Feast of, one of the oldest and most joyous of Jewish holidays, called in the Bible the Feast of Ingathering and today often called by its Hebrew name, Sukkoth (sōōkōth') [Heb , =booth] The holiday begins on the 15th day of the Tishri, the seventh month in the Jewish calendar, and lasts for nine days, ending in another holiday, Simhath Torah [Heb , =rejoicing of the law] The Feast of Tabernacles, which marked the closing of the harvest season for the Jews of ancient Palestine, is today celebrated by the erection of lightly constructed booths covered with thatch in memory of the wanderings in the wilderness The palm branch (lulab) and fruit (ethrog) procession performed in conjunction with prayers of the Feast of Tabernacles possibly goes back to the harvest festival associated with the holiday Lev. 23.33-44, Num 29 12–40, Ezek. 45 25

tabes dorsalis see LOCOMOTOR ATAXIA.

Tabitha (tă'bĭthu), same as DORCAS.

tablature (tă'blŭchûr), in music, name for various systems of musical notation in use in the 15th, 16th, and 17th cent for keyboard and lute music German keyboard tablatures before 1550 used a mixed system employing letters for the lower parts and staff notation for the upper parts Later, letters were employed exclusively Above the letters were symbols indicating the duration of the tones. In Spanish keyboard tablatures there is a line to represent each voice of the music, with a number representing the scale degree of the tone. Lute tablatures have lines representing the strings of the

lute. Spanish and Italian lute tablatures used numbers to indicate the position for stopping the string The French system, which superseded all others in the 17th cent, used letters for this purpose A German system also existed, more complicated than these Tablatures are used today to notate music for guitar and ukulele These have vertical lines representing strings of the instrument, horizontal lines for the frets, and dots to show the position of the fingers See Willi Apel, *The Notation of Polyphonic Music, 900–1600* (2d ed , 1944)

table, article of furniture employed for household or ecclesiastical purposes Elaborately decorated tables of wood or metal were known in ancient Egypt and Assyria, and the Greeks used small tables of low construction to be set beside a couch The table became more common during the Roman Empire and included massive rectangular pieces made of marble and supported by carved end slabs and square or circular forms of bronze supported on a pedestal or on legs often representing wild beasts, sphinxes, or other figures Although small tables of various shapes, some covered with precious metals, were used during the Middle Ages, the commonest form was the long trestle table taken apart and removed after meals—hence the expression "festive board " Tables of the Italian and Spanish Renaissance were rectangular with end supports braced by stretchers, they often had an arcade of columns through the center Tables of the Elizabethan Age were supported on bulbous legs and included the draw table, forerunner of the extension dining table By the end of the 17th cent a variety of occasional tables, the console, and the gate-leg had come into use Tables vary in size with their purpose from the smallest candlestand to the great banquet table They are named according to the place for which they are intended (center, library, side, sofa, tavern), their use (tea, china, drawing, writing, sewing, billiard, dining), their form (folding, console, extension, trestle or sawhorse, piecrust, gate-leg, butterfly, drop-leaf, tilt-top, nest), period or style (Gothic, Queen Anne, Empire), or the names of designers who created distinctive types (Adam, Chippendale, Hepplewhite, Sheraton, or Phyfe)

Table Bay, inlet of the Atlantic, 6 mi wide, lying off W Cape Prov , Union of South Africa Table Mt overlooks the bay, which was discovered in the late 15th cent by Portuguese voyagers to India and used as an anchorage The shore of Table Bay was settled by the Dutch in 1652 with the founding of Capetown The open anchorage is protected by large breakwaters

Table Mountain, 3,549 ft high, W Cape Prov , Union of South Africa It overlooks Capetown and Table Bay The summit is flat, and the dense white mist which often covers it is called the "Tablecloth " A cable way (built 1929) carries visitors to the summit

table tennis, game played, usually indoors, by two or four players, more or less a miniature form of lawn TENNIS It is also called Ping-pong after the trade name for a kind of table tennis It is played on a table which should measure 9 ft by 5 ft, and which should stand 2½ ft above floor level A net 6 in high divides the surface, which is generally dark in color, edged with light stripes, and marked off longitudinally into halves by another light stripe The celluloid ball is hollow, seamless, about 1½ in in diameter, and it weighs $^1/_{10}$ oz , the racket is a wooden paddle with a handle 3 in long and a round blade about 6½ in long, often covered with rubber or sandpaper In the service (unlike tennis) the ball must bounce once before clearing the net and again bounce once on the far surface After the service (only one is allowed, not two as in tennis), the returns are to go over the net without the bounce on the near surface A point is scored when a service goes foul or when a player fails to return the ball properly Each player in turn serves consecutively five times until the winning score of 21 is reached In doubles matches partners rotate in units of five consecutive services, and the server must deliver the ball into the diagonally opposite box Table tennis probably originated in the 19th cent It first became popular in England and spread to several European countries and to the United States in the early 20th cent In 1926 the International Table Tennis Federation was founded to standardize the rules and the equipment of the game See Coleman Clark, *Table Tennis* (1938), Sol Schiff, *Table Tennis Comes of Age* (1939), P G S Montague, *Table Tennis* (2d ed , 1947)

taboo or **tabu** (both tăbo͞o′, tu–), prohibition of an act or of the use of an object or a word under pain of supernatural punishment The name originated in Polynesia, where systems of taboo are highly developed, but the use of taboos is found among primitive peoples everywhere Among the commonest taboos are those on incest and on eating one's totem animal Some taboos seem designed to prevent pollution, e g , the taboo on touching a corpse, but the reason for a taboo can seldom be determined It seems usually to be connected with belief in magic or with the operations of a spirit or mana, and the consequences of a violation are magical or supernatural, not natural. Thus, if a hunting party fails to bag game, the failure is ascribed to some hunter's neglect to observe the taboos governing hunting See Sigmund Freud, *Totem and Taboo* (1927), E E Burriss, *Taboo, Magic, Spirits a Study of Primitive Elements in Roman Religion* (1931), A R R Brown, *Taboo* (1939); Hutton Webster, *Taboo. a Sociological Study* (1942)

Tabor, Horace Austin Warner (tā′bur), 1830–99, American prospector, known as Silver Dollar Tabor, b Holland, Orleans co , Vt From the Matchless Mine at Leadville, Colo , he gained tremendous wealth by mining silver, and he spent money lavishly in Leadville and Denver He became (1878) the first mayor of Leadville, served as lieutenant governor of Colorado (1878–83), and sat in the U S Senate for about 30 days to complete an unexpired term (1883) He lost most of his fortune and at his death begged his second wife, **Elizabeth McCourt Tabor,** 1862–1935, to hold the Matchless Mine, which he believed would again yield wealth She was found frozen to death in a shack near the mine, where she had lived alone for many years See G F Willison, *Here They Dug the Gold* (1931, 3d ed , 1946), L C Gandy, *The Tabors* (1934)

Tabor, in the Bible **1** Mt TABOR **2** Levitical city 1 Chron 6 77. **3** Oak (AV mistranslates "plain") on Saul's way home after his anointing 1 Sam 10 3 **4** Unidentified place Judges 8 18

Tabor, Czech *Tábor* (tä′bôr), town (pop 17,596), S Bohemia, Czechoslovakia. It was founded (1420) by John ZIZKA on a hill near the castle where John Huss had retired in 1412 Named after Mt Tabor in Palestine, it became the stronghold of the Taborites, the extreme wing of the Hussites Tabor retains the round tower of a 13th-century castle, many old houses, and a 16th-century town hall with a large collection of Hussite relics Outside the town hall are stone tables where the Taborites received communion in both kinds

Tabor (tā′bur), town (pop 391), SE S Dak , near the Nebr line and between Yankton and Tyndall It was founded c 1870 by a colony of Czechs, who were followed in 1874 by Russian Mennonites and the HUTTERISCHE COMMUNITY The town, incorporated in 1901, is the trade center for a farm area in which Czechs predominate

Tabor, Mount, mountain, N Palestine, rising abruptly from the northeastern side of the plain of Esdraelon c 6 mi E of Nazareth Ruins of an ancient stronghold crown its summit, on its slopes Barak assembled the army which defeated Sisera Joshua 19 22, Judges 4, Jer 47 18

Tabora (tăbō′rə, tubō′ru), town (pop 6,565), central Tanganyika, founded c 1820 by Arab slave traders It is connected by rail with Dar-es-Salaam on the coast Cotton and peanuts are produced in the region

Tabor City, city (pop 1,552), SE N C , at the S C line WSW of Wilmington It is a shipping and trade center in a farm area

Taborites (tă′burīts), radical branch of the HUSSITES in 15th-century Bohemia They were named after their religious center and stronghold at Tabor, Bohemia The Taborites went further than the moderate Hussites (see UTRAQUISTS) in accepting the doctrines of Wyclif, they rejected belief in purgatory and did away with all sacraments except baptism and communion Like all Hussites, they took communion in both kinds, but they did not believe in the material presence of Christ in the Eucharist Puritanical and monoclastic, they abolished veneration of saints, holy images, and the religious rites of the Catholic Church, and their religious services consisted merely in communion, the singing of Czech hymns, prayer, and Bible readings Their priests wore lay garb Their bishops were elected by the priests The Taborites and several lesser radical sects were the most militant elements in the HUSSITE WARS, from among the radicals came such leaders as ZIZKA and PROCOPIUS THE GREAT Their incentive was nationalist as well as religious When the Taborites refused (1434) to accept the Compactata with the Roman Catholic Church, they were attacked and routed by the Utraquists and Catholics at Lipany It is likely that the churches of the Bohemian and Moravian Brethren (see MORAVIAN CHURCH) grew out of the suppressed Taborite movement

Tabrimon (tă′brĭmun) [Heb ,=Rimmon is good], father of King Benhadad 1 Kings 15 18

Tabriz (tăbrēz′), city (pop 213,542), NW Iran, in Azerbaijan Among Iranian cities it is second in size only to Teheran and has many Turkic-speaking inhabitants The climate, very cold in winter and cool in the summer, has made the city a summer resort Its importance has lain in its strategic position for trade to the north (now Russia) and to the west (now Turkey) The city has a number of manufactures and handicrafts—including rugmaking—and there are extensive bazaars The city is old and may possibly have been the ancient Gazaca It was a commercial center of some importance in the 9th cent , and later in the wars between Persia it was often the object of attack by the Turks, who held it continuously from 1585 to 1603 It later became an object of attack by the Russians, who took it in 1827 and again in 1909. The city has suffered greatly from earthquakes, the most severe being those of 1721 and 1780. Nevertheless some of the old mosques, notably the Blue Mosque, survive, as does the medieval citadel called the Ark. The city as a whole is modern and has a radio station and an incomplete university. In the Kajar or Qajar dynasty the crown prince lived here In the joint Anglo-Russian occupation (1941) in the Second World War, Tabriz was occupied by the Russians After the war there was in 1946 a revolution led by the leftist Tudeh party and a Tudeh regime, which had Russian sympathy, lasted a few months

tabu · see TABOO

tacamahac · see BALM OF GILEAD.

Tacaná (täkänä′), volcano, 13,333 ft high, W Guatemala On the Mexico-Guatemala boundary, this inactive volcano is in Central America second in height only to Tajumulco

Taché, Alexandre Antonin (älĕksäⁿdrə ätônäⁿ′ tashā′), 1823–94, Canadian Catholic missionary and prelate, b Rivière du Loup, Que , nephew of Sir E P Taché In 1844 he became a novice in the Oblate order and the following year went as a missionary to the Red River district, he became bishop coadjutor of St Boniface in 1851, bishop in 1853, and archbishop in 1871 Absent in Rome at the outbreak (1869) of the Red River Rebellion, he hurried back to Canada and at the request of the government used his influence in restoring order and in paving the way for a settlement of the rebels' grievances His *Sketch of the North-West of America* (1869, Eng tr , 1870) and other books on the Manitoba area awakened interest in that then-little-known region

Taché, Sir Étienne Paschal (ātyĕn′ päshal′), 1795–1865, Canadian statesman, b Quebec prov He practiced medicine for many years In 1841 he was elected to the legislative assembly, in 1848 he became a member of the legislative council and commissioner of public works in the Baldwin-LaFontaine administration For eight years (1849–57) he was receiver general In 1856 he became premier with John A Macdonald, but retired in 1857 Knighted in 1858, he was summoned from retirement to become prime minister in 1864 in the second Taché-Macdonald administration A respected and experienced statesman, he presided over the Quebec conference (1864) on confederation but died before confederation had been achieved

Tachmonite (täk′mō–, täkmō′–) see HACHMONI

Tacitus (Marcus Claudius Tacitus) (tă′sĭtus), d 276, Roman emperor (275–76) An elderly senator with a reputation for honesty and vigor, he was chosen by the senate to succeed the murdered AURELIAN He failed to restore the glory of the senate and died after a few months when on campaign in Asia—almost certainly murdered PROBUS succeeded him

Tacitus (tă′sĭtus), A D c 55 A D c 117, Roman historian Little is certainly known of his life His family name was Cornelius, and his praenomen may have been Publius (i e , in full, Publius Cornelius Tacitus) He was a friend of Pliny the Younger, married the daughter of Cn Julius Agricola, and himself occupied public office, in A D 97 he was appointed substitute consul under Nerva, and later he was proconsul of Asia The first of his works was the *Dialogus* [dialogue], a discussion of oratory after Cicero, demonstrating to some degree the celebrity of Tacitus as an eloquent speaker, this work was long disputed, but his authorship is now generally accepted Tacitus then wrote a biography of Agricola, expressing his admiration for his father-in-law as a good and able man Perhaps most widely known of his works is the small treatise, *De origine et situ Germanorum* [concerning the origin and location of the Germans], commonly called the *Germania* or *Germany* It supplies (along with the earlier account of Julius Caesar) the principal written material on the Germanic tribes Archaeology bears out the accuracy of Tacitus, but the work is not objective, it is a picture of the rude and simple Germans glorified by an almost unstated comparison with the corruption, sloth, and luxurious immorality of the Romans This moral purpose and severe criticism of the Rome of his day—steeply fallen from the pristine and virtuous vigor of the old republic—also underlies his two long works, commonly called in English the *Histories* (of which four books and a part of a fifth survive) and the *Annals* (of which twelve books—Books I–VI, XI–XVI—survive) The extant books of the *Histories* cover only the reign of Galba (A D 68–69) and the beginning of the reign of Vespasian (to A D 70) but give a view of Roman life—persons, places and events—that is both wide and deep The surviving books of the *Annals* tell of the reign of Tiberius, of the last years of Claudius, and of the first years of Nero The account is studded with incisive character sketches, ironic passages, and eloquent moral conclusions The declamatory writing of the *Dialogus* gives place in the historical works to a polished and highly individual style, stripped clean of verbiage and marked by a wide range of vocabulary, intricate and startling syntax, and a consistent nobility of tone

Tacloban (täklō′bän), town (pop 19,048), on NE Leyte, Philippine Islands, on an inlet of Leyte Gulf.

It is a port, shipping rice and sugar In the Second World War, Tacloban was captured (1942) by the Japanese, U.S. forces regained it in Oct , 1944, and made it the temporary capital of the Philippines

Tacna-Arica Controversy (täk'nä-ärē'kä), 1883–1929, dispute between Chile and Peru. It arose from provisions of the Treaty of Ancón (1883), which ended the War of the Pacific (see PACIFIC, WAR OF THE). Victorious Chile was ceded the southern provinces of Peru, Tacna and Arica, but only for 10 years, a plebiscite was then to determine the ownership The plebiscite was not held because negotiations between the countries failed Chile in 1909 began colonizing the provinces—a course that led in 1911 to a diplomatic break between Peru and Chile The United States watched with concern while relations grew worse In 1922 representatives of Chile and Peru, meeting in Washington, agreed upon arbitration by the President of the United States Calvin Coolidge in 1925 sent as plebiscitary commissioner Gen John J Pershing, who was replaced (1926) by Gen William Lassiter Neither commissioner achieved anything of note, but at the suggestion of Frank B Kellogg diplomatic relations between Peru and Chile were resumed in 1928 The next year President Herbert Hoover made a proposal to settle the dispute This was accepted by both Peru and Chile It provided that Chile should retain Arica but return Tacna to Peru, construct a free port for Peru at Arica, with port and rail installations, transfer all state-owned real estate and buildings in Tacna to Peru, and pay an indemnity of $6,000,000 See William J Dennis, ed , *Documentary History of the Tacna-Arica Dispute* (Univ of Iowa Studies in Social Sciences, 1927), *Tacna and Arica an Account of the Chile-Peru Boundary Dispute and of the Arbitrations by the United States* (1931), Sarah Wambaugh, *Plebiscites since the World War* (1933)

Tacoma (tukō'mu), city (pop 109,408), co seat of Pierce co, W Wash , on Commencement Bay and Puget Sound, beautifully situated between bay and mountains, in sight of Mt Rainier, settled 1852, laid out 1868 In 1940 the narrow strait between Tacoma and the Olympic Peninsula was spanned by a bridge which collapsed the same year Tacoma is an important port and railroad terminus, a port of entry, and one of the chief industrial cities of the Northwest, with lumber and flour mills, electrochemical plants, food-processing plants, smelters, and foundries An army air base and Fort Lewis are near by Points of interest include historical and Chinese museums, Point Defiance Park—wherein Fort Nisqually, historic trading post, has been reconstructed—the College of Puget Sound (Methodist, coeducational, 1888), and an Indian sanatorium

Taconic Mountains (tukŏ'nĭk), range of the Appalachian Mts , extending c 150 mi southward from a point in Vermont NW of Rutland and W of the Green Mts and in the south lying E of the Hudson on New York's border with Massachusetts and Connecticut Mt Equinox (4,816 ft) near Manchester, Vt , is the highest point The range includes the BERKSHIRE HILLS Taconic State Park, comprising parts of New York, Massachusetts, and Connecticut, is a recreational area

tactics see STRATEGY AND TACTICS

Tadema, Alma, see ALMA-TADEMA, SIR LAWRENCE

Tadjiks see TADZHIK SOVIET SOCIALIST REPUBLIC

Tadmor, ancient city see PALMYRA

Tadoussac (tă'dōōsăk, Fr tädōōsăk'), village (pop 766), S Que , at the mouth of the Saguenay on the St Lawrence and NNE of Quebec It is a summer resort in a dairying and lumbering region and has fish hatcheries The site was visited by Jacques Cartier in 1535 An unsuccessful attempt was made (1600–1601) to establish a French colony here It later became an important French furtrading post and the site of a Jesuit mission (1640).

tadpole, larval, aquatic form of any of the amphibian animals from the time of hatching from the egg to the development of the lungs, legs, and other organs of the adult and the loss of the tail

Tadzhik Soviet Socialist Republic (tŭjĭk', tŭjēk', Rus tŭjĭk') or **Tadzhikistan** (tŭjĭkĭstän", -stăn", tăjĭ-, Rus. tŭjĭkĭstän'), constituent republic (c 55,000 sq mi ; 1946 estimated pop 1,500,000) of the USSR, in central Asia STALINABAD, the capital, and LENINABAD, are the chief cities The Tadzhik SSR borders on China in the east, on Afghanistan in the south, on the Kirghiz SSR in the north, and on the Uzbek USSR in the west It contains part of the PAMIR mountain system and the highest peaks of the USSR (STALIN PEAK and LENIN PEAK) The southeast is occupied by an arid plateau 12,000 to 15,000 ft high The only extensive low districts are the Tadzhik section of the FERGANA VALLEY, in the north, and the hot and dry Gissar and Vakhsh valleys, in the southwest The Amu Darya (which forms part of the Afghan border), the Syr Darya, and the Zeravshan are the chief rivers and are used for irrigating the country The easternmost section of the country, MOUNTAIN-BADAKHSHAN, is an autonomous oblast. Most of the population (78 percent) are Tadzhiks (also spelled Tadjiks or Tajiks), an Iranian people of Sunni Moslem religion, the rest are Uzbeks (18 percent), Kirghiz, and Russians. Agriculture is carried on mostly under irrigation Cotton is the chief agricultural product, other crops include rice, wheat, barley, lucerne, and vegetables Stock raising (sheep, horses, and yaks), vineyards, and growing fruit and mulberry trees (for silkworms) are important occupations The traditional industries of Tadzhikistan are the processing of cotton and silk The country is rich in mineral resources (lead-zinc-silver ores, uranium, arsenic, antimony, bismuth, molybdenum, tungsten, petroleum, coal, salt, and gold), lead-zinc ores constitute the chief mineral export The Tadzhiks probably descend from the inhabitants of ancient SOGDIANA who migrated into their present mountainous abode under the pressure of conquerors Except for Mountain-Badakhshan (annexed by Russia in the late 19th cent), Tadzhikistan was ruled until the Russian Revolution by the emirs of Bukhara (see BUKHARA, EMIRATE OF) It became a constituent republic in 1929

Taegu (tī'gōō'), Jap *Taiku*, city (1949 pop 313,705), S Korea It is a railroad junction and commercial center There are silk-spinning and cotton-ginning mills The name also appears as Taeku Taiku, and Taikyu

Tafari, Ras see HAILE SELASSIE

Tafilelt (tăfē'lĭlt) or **Tafilet** (-lĕt), oasis region, area c 530 sq mi , SE French Morocco It comprises a number of date groves and small trading settlements For two centuries after c 760 it was an independent kingdom ruled from Sijilmassa (now in ruins) Since the Middle Ages it has been noted for its dates and leather It is the seat of the ruling dynasty of Morocco, which came to power in 1649

Taft, Lorado (lurā'dō), 1860–1936, American sculptor, lecturer, and writer on art, b Elmwood, Ill , grad Univ of Illinois, 1879, and studied at the École des Beaux-Arts In 1886 he became instructor in the Art Institute of Chicago, exerting a strong influence over the young sculptors of the West By his lectures and writings he spread a knowledge of art and aesthetics After decorative sculptures for the Horticultural Building of the World's Columbian Exposition, Chicago, 1893, he produced portrait work, military monuments, and groups such as *Solitude of the Soul* and *The Blind* (Art Inst , Chicago) Large memorials and fountains occupied his later years, among them the colossal *Black Hawk* overlooking Rock River, Ill , the Washington monument, Seattle, Wash , Columbus Memorial Fountain, Washington, D C , and *Fountain of the Great Lakes* and *Fountain of Time*, Chicago He presented to Elmwood, Ill , a memorial to the *Pioneers of the Prairies* and to the Univ of Illinois an *Alma Mater* His chief literary works are *The History of American Sculpture* (1903) and *Recent Tendencies in Sculpture* (1921)

Taft, Robert Alphonso, 1889–, U S Senator (1939–), b Cincinnati, grad Yale, 1910, and Harvard Law School, 1913, son of William Howard Taft He practiced law in Ohio and served (1921–26, 1931–32) in the state legislature Twice elected (1938, 1944) to the U S Senate, Robert A Taft became known as an expert in financial affairs A leading advocate of isolationism before the Second World War, Taft later backed U S participation in the United Nations In 1947 he helped write the TAFT-HARTLEY LABOR ACT As candidate (1936, 1940, 1948) for the Republican presidential nomination, Taft attacked the fiscal policy of the New Deal

Taft, William Howard, 1857–1930, 26th President of the United States (1909–13) and Chief Justice of the Supreme Court (1921–30), b Cincinnati, grad Yale, 1878, and Cincinnati Law School, 1880 He became a Cincinnati lawyer and soon had political posts as assistant prosecuting attorney for Hamilton co (1881–83), assistant county solicitor (1885–87), and judge of the superior court in Cincinnati (1887–90) He became nationally prominent as a figure in Republican politics in 1890, when President Benjamin Harrison chose him as U S Solicitor General After service as a circuit court judge (1892–1900) and as dean of the Cincinnati Law School (1898–1900), he was appointed (1900) head of the commission sent to organize civil government in the Philippines, and he was named first civil governor of the Philippine Islands, he did much to better relations between Filipinos and Americans In 1904 his friend Theodore ROOSEVELT appointed Taft the successor of Elihu ROOT as Secretary of War Taft was prominent in Latin American affairs, conducting the delicate negotiations attending U S intervention in Cuba in 1906 Roosevelt chose Taft as his successor, and the Republican party named him as presidential candidate in the election of 1908, in which he defeated William Jennings Bryan He was expected to continue the Roosevelt policies, and to a large extent he did Trusts were vigorously prosecuted under the Sherman ANTI-TRUST ACT, the INTERSTATE COMMERCE COMMISSION was strengthened by the Mann-Elkins Act (1910); and Taft's Latin American policy—the "dollar diplomacy" much criticised by U S and Latin American liberals as imperialistic—was to a large extent only an enlargement of Roosevelt's Panama policy and the Roosevelt Corollary to the Monroe Doctrine The emphasis in all these policies had, however, become more conservative In Latin America, for instance, the accent was on protection of property and interests of Americans abroad rather than on national interest Members of the Republican party who favored dynamic and progressive policies were increasingly restive, and the insurgent movement grew strong The administration saw positive achievements in the inauguration of the postal savings bank (1910) and the parcel-post system (1912), the creation of the Dept of Labor (1911), and the passage of the Sixteenth Amendment (1909) and the Seventeenth Amendment (1910) Yet the critics of the administration quarreled with what they regarded as undue favoritism toward individual enterprisers, and there was a serious struggle over granting privileges to the coal lands in Alaska (see BALLINGER, RICHARD ACHILLES, and PINCHOT, GIFFORD) There was also great dissatisfaction over the PAYNE-ALDRICH TARIFF ACT, and when Theodore Roosevelt returned from an African hunting trip, he joined the opposition In 1912 he fought vigorously for the Republican presidential nomination When he failed and Taft got the nomination, Roosevelt headed the PROGRESSIVE PARTY and ran in the election as the Progressive (popularly called the Bull Moose) candidate The Democratic candidate, Woodrow Wilson, won Taft retired from public life and taught law (1912–21) at Yale He was co-chairman (1918–19) of the War Labor Conference Board in the First World War In 1921 he accepted the appointment as Chief Justice His writings include *The United States and Peace* (1914) and *Our Chief Magistrate and His Powers* (1916) See *Taft and Roosevelt the Intimate Letters of Archie Butt* (1930), biographies by H S Duffy (1930) and H F Pringle (1939)

Taft. 1 City (pop 4,205), S central Calif , NW of Los Angeles and SW of Bakersfield, in an oil region, inc 1910 A junior college (coeducational) is here **2** City (1940 pop 2,686), S Texas, N of Corpus Christi, inc 1929 Named for the formerly huge Taft ranch, the city has grown as a center for cotton and other farm produce and has taken part in the development of the Corpus Christi region Oil fields are near by

Taft-Hartley Labor Act, 1947, passed by the U S Congress, also known as the Labor-Management Relations Act It was sponsored by Sen Robert A Taft and Representative Fred A Hartley Qualifying or amending much of the National Labor Relations Act of 1935 and nullifying parts of the Federal Anti-Injunction Act of 1932, the act established control of labor disputes on a new basis The NATIONAL LABOR RELATIONS BOARD was enlarged The act provided that the union or the employer must, before terminating a collective-bargaining agreement, serve notice on the other party and on a government mediation service The government was empowered to obtain an 80-day injunction against any strike that endangers national health or safety The act also prohibited jurisdictional strikes and secondary boycotts, declared that it did not extend protection to workers on "wildcat" strikes, outlawed the closed shop, limited the union-shop agreement to one year, and permitted the union dues checkoff" to continue only with the written consent of the employer Most of the collective-bargaining provisions were retained with the extra provision that a union before using the facilities of the National Labor Relations Board must file with the U S Dept of Labor financial reports and affidavits that union officers are not Communists The act also forbade unions to contribute to political campaigns President Harry S Truman vetoed the act but it was passed over his veto Attempts to repeal the act in 1949 were blocked by a coalition of Republican and Southern Democrats Federal courts upheld major provisions of the act, but not the clauses about political expenditures

Tagalog (tugä'lug, tägä'lŏg) or **Tagal** (tägäl'), dominant people of Luzon, Philippine Islands. They are second in population of the Philippine peoples They are Christians Tagalog is a Malayo-Polynesian language and had a written standard form before the coming of the Spanish An act of 1940 made Tagalog official as a language

Taganrog (tăgunrôk'), city (1926 pop 86,444, 1939 pop 188,808), S European RSFSR, a port on the Taganrog Gulf of the Sea of Azov It is a metallurgical and machine-building center and has important fish-processing plants Coal and grain are its major exports The imperial palace in which ALEXANDER I is supposed to have died is now a historical museum, there also is a memorial museum to Chekhov, who was born at Taganrog The city was founded (1698) as a fortress by Peter I on the site of a former Genoese colony The Turks destroyed and recaptured it twice, but ceded it definitively in the Treaty of Kuchuk Kainarji (1772) It was chartered in 1775, and its fortress was razed in 1788 It developed in the 19th cent as an industrial center and as a port for the Donets Basin It was briefly held (1918) by the Germans and was (1919) Denikin's headquarters in the civil war. In

the Second World War, Taganrog was the center of heavy fighting and was twice (1941, 1942–43) held by the Germans

Taggard, Genevieve (tă'gûrd), 1894–1948, American poet, b Waitsburg, Wash, grad. Univ. of California, 1919. Her early years were spent in Hawaii She taught English at Mt Holyoke (1929–31), at Bennington College (1932–35), and at Sarah Lawrence College (1935–46). Among her volumes of lyric poetry are *Hawaiian Hilltop* (1923), *Collected Poems, 1918–1938* (1938), *Long View* (1942), and *I Part of Vermont* (1945) She also compiled several anthologies

Taglioni, Filippo (fēlēp'pō tälyō'nē), 1777–1871, Italian ballet master and composer of ballets. He trained his daughter, **Maria Taglioni**, 1804–84, who had great success when she made her debut (1822) at Vienna in his ballet, *The Reception of a Young Nymph at the Court of Terpsichore* Another of his ballets, *La Sylphide*, which she first danced at the Paris Opéra in 1832, became a landmark of romantic ballet and made her the idol of Paris In the same year she married Gilbert, comte de Voisins After the death of her father and the loss of her fortune, she supported herself in London by teaching dancing and deportment She was not a great beauty, but her grace was incomparable, and she was considered the greatest dancer of her time Thackeray mentions her in *Pendennis*

Tagore, Sir Rabindranath (rubĭn'drunät tûgôr', täkôôr'), 1861–1941, Indian author, b Calcutta He came of a wealthy Bengali family noted for its effort to combine Western practicality with the idealism and aestheticism of India Tagore first went abroad in 1877 to study law in England, but he soon abandoned his course and returned to India For a time he managed his father's estates (with over 100,000 tenants) and threw himself into the Indian nationalist movement, writing many propaganda songs and poems Gradually he abandoned the perfervid work of his youth and adopted his characteristic later manner, in which delicate natural descriptions are combined with religious and philosophical speculations However, he always retained a strong interest in politics Tagore drew on all the classic literature of India, especially the ancient Sanskrit scriptures and the writings of Kalidasa He was extremely prolific and wrote approximately 50 dramas, 100 books of verse (he set many of the poems to music), 40 volumes of novels and shorter fiction, and books of essays and philosophy His appeal in India was nearly universal, for while his more abstruse speculations appealed to intellectuals, peasants and simple workmen were able to appreciate his stories, songs, and plays To the Indian mind Tagore in time seemed like one of the ancient teachers, an impression enhanced by his striking appearance. He dressed in voluminous white robes and was over six feet tall, with handsome, dignified features and flowing hair and beard Tagore wrote in Bengali but translated much of his work into English It attracted attention in the West, and he was awarded the 1913 Nobel Prize in Literature, especially for his poem *Gitanjali* (1912), he is the only Oriental to have received this honor. In 1915 he was knighted His travels and lectures took him to many parts of the world, including Europe, China, Japan, and the United States (which he first visited in 1916) He was impressed with the capacity of the West for accomplishing its practical goals, but he deprecated what he considered its spiritual emptiness and waste In line with his views he had earlier (1901) founded a school at Santiniketan [abode of peace] in Bengal In 1922 it was expanded into the internationally attended Visva-Bharati Univ Its branches include a school of Sino-Indian studies and one of fine arts and crafts and institutes of rural reconstruction The prevailing view of the university is that social reform takes precedence over political reform and that rural reconstruction is best accomplished by reviving the ancient cottage arts and crafts of India His novels and poetry include *The Gardener* (1913), *The Crescent Moon* (1913), *Songs of Kabir* (1915), *Cycle of Spring* (1917), *Fireflies* (1928), and *Sheaves* (1932) Among his plays are *The Post Office* (1914), *Chitra* (1917), and *Red Oleanders* (1924) Philosophical works include *Sadhana the Realization of Life* (1913), *Personality* (1917), *Nationalism* (1917), *The Home and the World* (1919), *The Religion of Man* (1931), and *Man* (1932) See studies by B K Roy (1916), Sarvepalli Radhakrishnan (1918), John E Thompson (1948), and B G. Ray (1949), biographies by Krishnalal Shridharani (1941) and Marjorie Sykes (1943)

tagua (tä'gwa), fruit of the ivory-nut palm (*Phytelephas macrocarpa*), which flourishes in tropical South America and in Central America. The regions of chief commercial production are Ecuador, Colombia, Panama, and N Peru The tagua is said to bear when six years old and to live for 100 years It is usually under 20 ft. high, and the male and female flowers are borne on separate trees. The fruit is a burr or pod containing from several to 40 or more nuts about 1½ to 2 in. in diameter. The very hard nuts are white or cream color, and the content is used as a substitute for ivory, being known in the trade as vegetable ivory. The use of tagua as a commercial product originated in the middle of the 19th cent, it has become an item of considerable importance, great quantities of the material being shipped to the United States and Europe for the manufacture of buttons and other small articles. The fruit is imported in its original state, broken open, dried, sawed into pieces, again dried, and turned by machinery to the required form Tagua may be distinguished from true ivory by testing the surface with a solution of concentrated sulphuric acid which turns tagua to a reddish color but leaves ivory unaffected Tagua is known also as corozo

Tagus (tā'gəs), Span *Tajo* (tä'hō), Port *Tejo* (tā'zhō), river rising in Teruel prov, E Spain It flows southwest through the mountains and then W through NW Castile and Estremadura, follows the border of Portugal for a time, and finally flows SW through Portugal to reach the Atlantic in one of the finest of European harbors, that of Lisbon It is navigable in much of the Portuguese section It is more than 550 and less than 630 mi long and is usually said to be the longest river of the Iberian Peninsula

Tahan (tä'hän) [Heb, =camp], descendant of Ephraim Num. 26 35, 1 Chron 7 25

Tahapanes (tăhā'punēz), **Tahpanhes** (tä'pünhēz), or **Tehaphnehes** (tēhāf'nĭhēz), ancient city, NE Egypt, on Lake Manzala The site is now on the Suez Canal Herodotus says that the city (called by the Greeks Daphnae) had a garrison of Psamtik I and, in the early 5th cent B C, a Persian garrison It was superseded as a port by Naucratis A colony of Jews settled here, and the city is mentioned in the Bible Jer 2 16, 43 7, 46 14, Ezek 30 18.

Taharka see TIRHAKAH

Tahath (tā'hăth) [Heb, =under] **1** Ancestor of Samuel 1 Chron 6 24 **2, 3** Two Ephraimites 1 Chron. 7 20 **4** Unlocated desert resting place of the Jews Num 33 26

Tahiti (tähē'tē), island and district (402 sq mi, pop 24,820), S Pacific, in the Windward group of the SOCIETY ISLANDS Its capital is Papeete, which is also the capital of the French Establishments in Oceania Tahiti, c 30 mi long, is the largest and most important island of French Oceania The peninsula of Taiarapu, which forms E Tahiti, is joined to the western part of the island by the isthmus of Taravao The island is mountainous, with four prominent peaks, of which the highest is Mt Orohena (7 618 ft) The chief products are fruits, copra, vanilla, sugar cane, and phosphates, there are pearl fisheries off the coast The inhabitants are Polynesians The island was discovered in 1767 by the English navigator Samuel Wallis and was visited (1788) by the *Bounty*, the Spanish unsuccessfully attempted (1774) to colonize Tahiti English and French missionaries arrived in the latter part of the 18th cent In 1843 Queen Pomare was forced to agree to the establishment of a French protectorate, Pomare V abdicated in 1880, and the island was ceded outright to France During the Second World War the Tahitians voted in a plebiscite (1940) to support the Free French The first printing press in the South Sea Islands was set up on Tahiti by William ELLIS Paul GAUGUIN did many of his paintings here Tahiti was formerly called Otaheite and King George III Island See Teuira Henry, *Ancient Tahiti* (1928), I D Andrews, *Latitude 18° South* (1940), J N Hall, *Under a Thatched Roof* (1942)

Tahlequah (tä'lukwō), city (pop 3,027), co seat of Cherokee co, NE Okla, SE of Tulsa It was settled by Cherokees in 1839 and made their capital. It is now the business center of an agricultural, fruitgrowing, and livestock-raising area A state teachers college and a historical museum containing many Indian relics are here

Tahmasp (tä'masp), 1514?–1576, shah of Persia (1524–76), son and successor of Ismail and thus second of the Safavid dynasty He waged war successfully against the Uzbeks, whose invasions of Persia were beaten back Suleiman I also invaded Persia, continuing the wars between Ottomans and Persians commenced by Selim I One stage of these wars ended with a peace treaty of 1555 In 1561 an Englishman, Anthony Jenkinson, attempted to open commercial relations with Persia across Russia Continual warfare helped to bring internal decline

Tahmasp Kuli Khan: see NADIR SHAH

Tahoe, Lake (tä'hō, tă'–), 21 6 mi long and 12 mi wide, on the Calif.-Nev line, beautifully situated among mountains at an elevation of 6,225 ft The lake was discovered in 1844 by J C. Frémont It is a widely known summer resort The official California name is Bigler Lake

Tahoka (tuhō'ku), city (1940 pop. 2,129, 1947 estimated pop 3,800), co seat of Lynn co, NW Texas, S of Lubbock on the Llano Estacado, settled 1903, inc. 1915. It ships cattle, cotton, black-eyed peas, dairy products, and eggs To the northeast is Tahoka Lake, well known to early travelers.

Tahpanhes, ancient city see TAHAPANES.

Tahpenes (tä'pēnēz), queen of a Pharaoh, 1 Kings 11.19,20

Tahquamenon (tukwä'munun, –munŏn), river rising in the E Upper Peninsula, N Mich., and flowing east and northeast through a forested countryside to Whitefish Bay of Lake Superior. It was once a well-known logging river It is noted for its waterfalls and is celebrated in Longfellow's *Hiawatha*

Tahrea (tŭrē'ŭ), descendant of Saul 1 Chron 9,41. Tarea. 1 Chron. 8,35

Tahtim-hodshi (tä'tĭm-hŏd'shī), region, E of the Jordan, mentioned in the textually difficult account of the census of David 2 Sam 2,6

Tai or T'ai (both. tī), peak, c 5,000 ft high, W central Shantung prov, China It is a sacred mountain with many temples and shrines The Chinese name is Tai-shan [great mountain]

Tai or T'ai, lake, area c 440 sq mi, China, between Kiangsu and Chekiang provs It is dotted with islands The Chinese name is Tai-hu [great lake]

Taif (tīf), town (pop c 5,000), Hejaz, Saudi Arabia, 75 mi E of Mecca At the edge of an oasis and on a plateau 5,000 ft high, it is the summer administrative center of the Hejaz The town is walled, it is surrounded by gardens and famed vineyards

taiga (tīgä'), coniferous-forest belt of the USSR, immediately south of the tundra region It has a continental climate, with long, severe winters Its sparse, mainly primitive population is occupied chiefly in lumbering and stock raising There is a similar but smaller area in the high middle latitudes of interior North America, in Canada and Alaska

Taihoku, China see TAIPEH

Taiku or **Taikyu,** Korea see TAEGU.

Taillefer: see TALLAGE

Taillefer (tŭfĕr'), fl 1066, Norman trouvère He led the Norman army at Hastings into battle, singing of ROLAND at Roncesvalles.

Taima, Saudi Arabia see TEMA

Taimyra or **Taymyra** (both tīmē'ru), river, 330 mi long, Krasnoyarsk Territory, RSFSR, in N Siberia Rising in the center of the Taimyr Peninsula, it flows NE through Lake Taimyr (2,700 sq mi) and into the Taimyr Gulf of the Kara Sea Near its mouth is Taimyr Island There are coal deposits near Lake Taimyr

Taimyr Peninsula or **Taymyr Peninsula** (both tīmĭr'), northernmost projection of Siberia, RSFSR, on the Kara and Laptev seas and between the mouths of the Yenisei and Khatanga rivers Its northern extremity is Cape Chelyuskin The peninsula, which is covered by tundra, occupies the larger part of the Taimyr National Okrug (316,700 sq mi, pop c 25,000), a division of Krasnoyarsk Territory, with Dudinka as its administrative center The Taimyr National Okrug is forested in the south Its population, mainly nomadic Nentsy (formerly called Samoyedes or Samoyeds) and Dolgans, subsists on reindeer raising, hunting, and fishing

Tainan, Tai-nan (tī'nan'), or **Dainan** (dī'–), city (pop 142,133), on Formosa, China, a port on the Formosa Strait There are remains of a 17th-century Dutch port Exports include tea and cotton goods

Taine, Hippolyte Adolphe (tān, Fr ēpôlēt' ädôlf' tĕn'), 1828–93, French critic and historian A brilliant student interested in philosophy, he became famous with the publication of his doctoral thesis, *Essai sur les fables de La Fontaine* (1853). His deterministic theories, which held that man was the product of his heredity and environment, formed the basis for the naturalistic schools of the late 19th and 20th cent His best-known works are *Histoire de la littérature anglaise* (1864, Eng tr, *History of English Literature*, 1871–72), begun in 1856 and containing descriptions which expressed his love of nature, *Vie et opinions de Graindorge* (1867), *De l'intelligence* (1870, Eng Tr, *On Intelligence*, 1871), and *Les Origines de la France contemporaine* (6 vols, 1876–93, Eng tr, *The Origins of Contemporary France*, 6 vols, 1876–94) By his studies of the *ancien régime*, the French Revolution, and contemporary France he spread the idea of history as concerned with the whole social life of nations Though he asserted the importance of significant facts in the lives of his literary subjects, he was reticent about his own life and discontinued an autobiographical novel, *Étienne Mayran* (1909) Written c 1861, it is important for the information it gives about his childhood In 1864 he began a 20-year career as professor of aesthetics and history of art at the École des Beaux-Arts He was elected to the French Academy in 1878 Unlike his contemporary Ernest Renan, Taine tried to reduce analyses immediately into formulas, which resulted sometimes in overgeneralizations, sometimes in outstanding evaluations

Tainter, Charles Sumner, 1854–1940, American electrician, b Watertown, Mass He is credited with inventing the dictaphone, was convenor of the radiophone, and with Alexander Graham Bell developed the graphophone and the hard-wax recording disk

Taipeh or **Taipei** (both· tī'pā), Jap *Taihoku*, city (pop. 326,407), on Formosa, capital of Formosa prov., China. It is mainly a modern city built by the Japanese It includes a botanical garden and a museum. Taipeh is a major communications and industrial city with manufactures of processed foods, rubber, and steel It was much bombed in the Second World War. In 1949, when the Communists

forced the government of Chiang Kai-shek to flee from the mainland of China, Taipeh became the headquarters of the Nationalists.

Taiping Rebellion (tī'pĭng'), 1850–65, revolt against the Ch'ing (Manchu) dynasty of China It was led by Hung Hsiu-ch'üan, a visionary scholar who evolved a political creed including derived elements of Protestantism His object was to found a new dynasty, the Taiping [great peace] Strong discontent with the Chinese government brought him many adherents, and the movement spread with great violence through the eastern valley of the Yangtze river The rebels captured Nanking in 1853 and made it their capital The Western powers quickly realized that the Ch'ing dynasty might collapse, and they offered it military help Charles George ("Chinese") GORDON, a British soldier, was the commander of the "ever-victorious army," which recovered Nanking in 1864 and crushed the revolt. The damage wrought by the rebels and the unrest they incited were large factors in the fall of the Ch'ing dynasty in 1912

Taisha (tī'shä), town, Shimane prefecture, SW Honshu, Japan, on the Sea of Japan It is the site of Izumo Taisha (the great shrine of Izumo), which legend holds to be the oldest shrine in Japan Twenty acres of pine-covered grounds enclose the great shrine and 68 smaller ones

Tai-shan: see TAI, peak

Tait, Archibald Campbell, 1811–82, Anglican prelate, b Edinburgh He grew up a Presbyterian, but while he was a student at the Univ of Glasgow decided to enter the ministry of the Church of England In 1834 he was elected a fellow of Balliol College, Oxford, in 1836 he was ordained priest The OXFORD MOVEMENT never won his favor, and when *Tract 90* appeared (1841), he was one of the "Four Tutors" who issued a formal protest Tait succeeded Dr Arnold as headmaster at Rugby in 1842 He became dean of Carlisle (1849), bishop of London (1856), and archbishop of Canterbury (1869) His sympathies were with Low Church views, and he attempted to solve questions of ritualism by the Public Worship Regulation Act (1874) His practical judgment made him valuable in framing parliamentary measures

Tait, Peter Guthrie, 1831–1901, Scottish physicist and mathematician He was professor of natural philosophy at Edinburgh from 1860 and conducted important investigations in thermodynamics and the kinetic theory of gases His writings include *A Treatise on the Dynamics of a Particle* (with W J Steele, 1856), *An Elementary Treatise on Quaternions* (1867, 3d ed , 1890), *Treatise on Natural Philosophy* (with Lord Kelvin, 1867), and *Heat* (1884)

Taiwan see FORMOSA

Taiyüan or **T'ai-yüan** (both tī'yüän'), formerly **Yangku**, city (pop 251,566), capital of Shansi prov , China It is on the Fen river and is connected by rail with Peiping Cotton cloth and finished steel are manufactured

Tajiks see TADZHIK SOVIET SOCIALIST REPUBLIC

Taj Mahal (täjh' mŭhäl', täj' muhŭl'), mausoleum, Agra, United Provs , India It is deemed one of the most beautiful buildings in the world and the greatest example of the late, highly ornamented style of Indian Moslem architecture The Mogul emperor, Shah Jehan, ordered the structure in 1630 for his wife Mumtaz Mahal (d 1629) and for himself The work seems to have been completed in 1648 The Taj Mahal is in a walled garden, which is adorned with fountains and marble pavements The building is reflected in an oblong pool, and dark cypresses surround it on three sides It rises from a platform (313 sq ft) which bears a minaret at each corner, and it encloses 186 sq ft , with deeply truncated corners and a high portal on each side The white marble exterior is inlaid with semiprecious stones arranged in Arabic inscriptions, floral designs, and arabesques, and the salient features of the interior are accented with agate, jasper, and colored marbles The roofing dome, on the inside, is 80 ft high and 50 ft in diameter, outside, it forms a bulb, which tapers to a spire topped by a crescent The tomb chamber, with its two sarcophagi, is an octagonal room in the center of the edifice (the royal couple, however, are buried in a vault beneath the floor) The chamber is softly illuminated by the light which passes through double screens of intricately carved marble set high in the walls

Tajo, river: see TAGUS

Tajumulco (tähōōmōōl'kō), inactive volcano, 13,816 ft high, W Guatemala It is the highest mountain in Central America. The name also appears as Tajamulco.

Takahashi, Korekiyo, Viscount (kōrā'kēō tä"käähä'shē), 1854–1936, Japanese statesman and financier. Long an official of the Yokohama Specie Bank, he became its president in 1906, and from 1911 to 1913 he was president of the Bank of Japan In 1921 he became prime minister and head of the Seiyukai party, but his cabinet fell in 1922. He resigned his title in 1924 to enter the diet He was one of Japan's greatest finance ministers, serving in that capacity in 1913–14, 1918–22, 1924–25, 1927, and 1931–36 An advocate of sound government finance, supported by the business interests, he opposed army demands for larger military appropriations and warned against overexpansion of the national debt. For this he was assassinated by the "barrack" uprising of army extremists on Feb 26, 1936.

Takamatsu (täkä'mä'tsōō), city (1947 pop. 101,403), capital of Kagawa prefecture, N Shikoku, Japan, a port on the Inland Sea A manufacturing center, it is also known for its landscape gardens, on the site of a 14th-century castle, and for its Buddhist temple. Kagawa prefecture yields agricultural products; there are forested mountains inland, fishing ports and salt-producing centers along its coast.

Takamine, Jokichi (jō'kächē täkä'mēnā"), 1854–1922, Japanese chemist. He served (1881–84) as chemist in the employ of the Japanese government and (1887) organized a fertilizer manufacturing company In 1890 he settled in the United States, where he did research in applied chemistry He isolated adrenaline (1901) and Takadiastase (an enzyme of rice malt) and devised methods of using the diastase as a starch digestant in manufacturing

Takasaki (täkä'sä'kē), city (1947 pop 88,483), Gumma prefecture, central Honshu, Japan It is a railroad junction and an industrial center, with flour mills and silk textile factories

Takht-i-Sulaiman (täkht'-ē-sōōlīmän') [Persian,=throne of Solomon], twin peaks, 10,085 and 11,290 ft high, North-West Frontier Prov , West Pakistan, at the northern end of the Sulaiman Mts Here is a Moslem shrine attracting many pilgrims

Taklamakan (täklämäkän'), Mandarin *Ta-k'e-lama*, sandy desert, c 125,000 sq mi , central Sinkiang prov , China There is a small population of pastoral nomads Khotan and Yarkand are the chief cities of the bordering oases

Takoma Park (täkō'mä), town (pop 8,938), W central Md , a northeastern suburb of Washington, D C

Takoradi, Gold Coast see SEKONDI-TAKORADI

Talass Ala-Tau see ALA-TAU

Talavera de la Reina (tälävā'rä dā lä rā'nä), city (pop 16,509), Toledo prov , central Spain, in New Castile, on the Tagus It is an agricultural center and has a large ceramics industry Here in 1809, in the Peninsular War, the English and Spanish under Wellington repulsed the French under Joseph Bonaparte, the battle had no decisive result Juan de Mariana was born here

Talbot, Richard: see TYRCONNEL, RICHARD TALBOT, DUKE AND EARL OF

Talbot, Silas, 1751–1813, American military and naval officer, b Dighton, Mass He joined the colonial army at the beginning of the American Revolution and took part in the siege of Boston (1775–76) In 1776 he tried to destroy the British fleet at New York with a fireship, and in 1778 in the attack on Newport (R I) he captured a British floating battery Talbot was transferred (1779) to the navy defended the coast of Long Island, and was captured and held prisoner (1780–81) After the war he supervised the construction of the *Constitution* and commanded her (1799) See biography by H G Tuckerman (1850)

Talbot, Thomas, 1771–1853, founder of the Talbot settlement in Upper Canada, b Ireland Entering the British army in 1782, he went (1790) to Canada with his regiment While secretary (1792–94) to J G Simcoe, lieutenant governor of Upper Canada, Talbot visited with him the western part of the province and determined to settle there He returned to England in 1794 and saw several years of active service on the Continent, but with the Peace of Amiens (1802) he sold his commission and went back to Upper Canada On the understanding that he would found a settlement, he obtained grants of many thousands of acres on the north shore of Lake Erie To this vast domain flocked thousands of land-hungry settlers whom the eccentric Talbot governed in dictatorial style for nearly 50 years Although for 10 years (1822–32) a member of the legislative council of Upper Canada, he never attended its meetings See C O Ermatinger, *The Talbot Regime* (1904)

Talbot, William Henry Fox, 1800–1877, English inventor of photographic processes (see PHOTOGRAPHY) He wrote *The Pencil of Nature* (1844), one of the first books illustrated with photographs Interested also in archaeology, Talbot was one of the first to decipher cuneiform inscriptions at Nineveh.

Talbotton (tôl'bŭtŭn), town (pop 1,060), co seat of Talbot co , W Ga , NE of Columbus, founded 1828 Franklin D Roosevelt (formerly Pine Mountain) State Park is near

talc, mineral ranging in color from white through various shades of gray and green to the red and brown of impure specimens, translucent to opaque, and having a greasy, soapy feel A test for talc is the white streak that it produces on dark material It is a hydrous silicate of magnesium and usually contains small quantities of nickel, iron, and aluminum as impurities It occurs commonly in folia (thin layers), but is also found in coarsely granular, finely granular, or cryptocrystalline masses. Soapstone or steatite is a massive, granular form of talc French chalk is a fine-grained variety Talc is usually associated with chlorite schists, serpentine, dolomite, and other metamorphic rocks, it is apparently a secondary mineral formed by the alteration of other magnesium silicates There are important deposits of talc in Austria, Italy, France, Germany, and Canada and in the United States in Vermont, New York, North Carolina, Virginia, Pennsylvania, New Jersey, Georgia, Maryland, and California Talc is used in making paper (as a filler), paints, cosmetics, soap, fireproof roofing, foundry facings, lubricants, linoleum and oilcloth, electrical insulation, and pottery

Talca (tal'kä), city (pop. 50,464), S central Chile Founded in 1692 at another site, it was prominent in colonial days and is now the most important city in the central valley of Chile between Santiago and Concepción Agricultural produce, particularly wheat, is raised in the region, and the zone is the greatest wine-producing area in the republic; industries include Chile's largest match factory, distilleries, foundries, a tannery, and plants making shoes, tobacco products, paper, and flour Leveled by earthquake in 1928, Talca was rebuilt and is today modern and progressive Here on Feb. 12, 1818, Bernardo O'Higgins formally proclaimed Chile's independence

Talcahuano (tälkäwä'nō), city (pop 35,774), S central Chile, a port just N of CONCEPCIÓN It became the port for Concepción after the earthquake of 1730 On the best harbor along the Chilean coast, Talcahuano is the republic's foremost naval base. It has a large fishing industry, and fish are canned and exported It also has extensive drydock facilities and metallurgical plants, and it handles the exporting of the agricultural products of the interior

Talien or **Ta-lien** (both dä'lĭĕn'), Rus. *Dalny* (dal'nyĭ), Jap *Dairen* (dī'rĕn'), city (pop 44,394), Liaoning prov , China, a port of the Liaotung peninsula on the Bay of Korea The city first became important when Russia occupied it as a part of the Kwantung territory (leased 1898) When Japan acquired the territory after the Russo-Japanese War (1904–5), Talien was enlarged and made a southern terminus of the South Manchurian RR The northernmost year-round port of China, Talien exports soybean products, flour, and coal and imports cloth and machinery There are food-processing plants and railroad maintenance Talien is a Chinese enclave in the Sino-Soviet Naval District (see LIAONING)

Taliesin or **Taliessin** (both tälĕĕ'sĭn), 6th cent ?, Welsh bard, whose *Book of Taliesin* is one of the greatest of the monuments of Welsh poetry The book exists only in a 13th-century form, but tradition unanimously puts Taliesin in the 6th cent , as contemporary of the battles his poems celebrate One thing is certain of his poems, that the book includes poems of different dates There are three well-founded and reputable opinions about Taliesin that he lived in the 6th cent , that he lived in the Middle Ages and celebrated contemporary events allusively by referring to ancient events, and that he is an ancient Celtic mythical character, about whose name have collected a series of traditional poems Many of these poems are highly allusive and difficult See W F Skene, *Four Ancient Books of Wales* (1868)

Talihina (tälŭhē'nŭ), town (pop 1,057), E Okla , in the Ouachita Mts , in a lumbering and resort area, founded 1888, inc 1905 A state tuberculosis sanatorium and an Indian hospital are near by

talipes see CLUBFOOT

talisman, see AMULET and CHARM

Talitha cumi (tă'lĭthu kū'mī) [Aramaic,=maiden, arise], in Mark 5 41, the words said by Jesus to the daughter of the ruler of the synagogue as He raised her from the dead The words are left, and a translation is given, in all the European versions of this Gospel.

Talladega (tăludē'gŭ), city (pop 9,298), co seat of Talladega co , NE central Ala , E of Birmingham, in the Blue Ridge foothills, settled in the 1830s It processes cotton, cottonseed, and metals In Nov , 1813, Andrew Jackson defeated the Creek Indians in a battle here There are Indian mounds in the region State schools for the blind, deaf, and mute are here Talladega College (Negro, coeducational) opened in 1867 as an industrial training school, became a college in 1890

tallage (tă'lĭj), a feudal impost in medieval England, collected from the demesne lands of a lord It is important chiefly because the king collected it from his demesne lands, with which the chartered towns were included. So far as it can be traced, the collection of an aid like tallage was instituted by Henry I to replace the Danegeld It was thereafter collected from time to time and grew to be a common source of revenue in the reigns of Richard I and John There is much argument about the nature of the tallage, but the principal historical problem concerning it arises out of the resistance of the towns, especially London, to payment The word does not appear in the MAGNA CARTA (1215), though the demands by the barons had contained a provision concerning the imposi-

tion of tallage on London. The question of legality in the tallage collection in that city involves the much-disputed question as to whether or not London was a commune In Henry III's reign, London protested against the collection of a tallage and in a suit maintained that the city was not tallageable; the suit was lost, but the exact meaning of the claims is in debate. In the midst of the Scottish wars of Edward I, the barons and burgesses sought to force the king to make new grants, and in 1297 a petition, known today as the *statutum de tallagio non concedendo*, prohibited tallage collection without assent of barons, knights, and burgesses, this was never a statute as it was once thought, and the king did not grant away his right to tallage at the time In 1312 more trouble with London occurred because of a tallage, in 1332 Parliament resisted imposition of a tallage, and in 1340 Edward III, in return for a subsidy, made an agreement that is usually interpreted as a promise not to collect tallage This interpretation does not seem to be accurate, the king apparently promised only that he would not violate old customs Formerly it was thought by many that the imposition of tallage by Edward II and Edward III was illegal and tyrannical, but this position seems now to be untenable The cities usually compounded for the tallage by a lump sum As other means of raising money grew common, tallage disappeared in the reign of Edward III The French *taille* was originally comparable to tallage and was the arbitrary due imposed by a lord on his tenants, though it was early fixed by custom The royal *taille* was collected until the French Revolution, it was partially a capitation, partly a land tax bearing little resemblance to English tallage See S K Mitchell, *Studies in Taxation under John and Henry III* (1914).

Tallahassee (tălŭhă'sē), city (pop 16,240), state capital, and co seat of Leon co, NW Fla In a hilly agricultural area, surrounded by lakes and springs, it is a shipping point for farm produce When De Soto arrived in 1539, there was a settlement of Apalachee Indians here The region was entered by Spanish missionaries and settled by the Spanish soon afterward The city was founded in 1824 as capital of the Florida Territory, the ordinance of secession was adopted here in 1861 The city successfully resisted Union attempts to capture it, a state monument near by marks the site of the battle of Natural Bridge (March, 1865), where Tallahassee cadets helped repel a Federal attack The FLORIDA STATE UNIVERSITY and the FLORIDA AGRICULTURAL AND MECHANICAL COLLEGE are here Notable places include the capitol, with the state library, the Walker Memorial Library, and the museum of the state geological survey Prince Achille Murat and his wife are buried here

Tallapoosa (tălupōō'sŭ), city (pop 2,338), NW Ga., near the Ala line and the Tallapoosa river W of Atlanta, in a farm, mine, and timber area, settled c.1856, inc 1860 It enjoyed a boom, 1884–91, when its gold, silver, and copper were exploited and the town flourished as a resort with mineral springs

Tallapoosa, river rising in two headstreams in Georgia and flowing south and west c 250 mi through Alabama to the Coosa, with which it forms the Alabama just above Montgomery In Tallapoosa co, Ala, NE of Montgomery, it is dammed, forming the irregular Martin Lake

Tallard, Camille, marquis de la Baume-d'Hostun, baron d'Arlanc, comte de (kamē'yŭ märkē' du lă bōm"-dôstŭ' barō' darlă' kōt' du talär'), 1652–1728, French diplomat, marshal of France He negotiated the partition treaties that preceded the War of the SPANISH SUCCESSION Though victorious at Speyer (1703), he was partly responsible for the defeat of Blenheim (1704)

Tallassee (tă'lŭsē), town (pop 1,011), E central Ala, ENE of Montgomery and on the Tallapoosa just below Thurlow Dam The territory belonged to the Creek Indians, there are many Indian mounds in the region, and to the south is the site of the once-proud Creek town of Tukabatchee

tallboy see CHEST

Tallemant des Réaux, Gédéon (shădăō tulumă' dā rāō'), 1619–92, French memoir writer He was in 1653 made seigneur des Réaux His one great work is a series of brief anecdotal portraits of persons prominent in the Paris of his day He worked on these *Historiettes* from 1657 to 1659, but they remained unpublished until 1833 They present a vivid, faithful, and acute picture of the manners of the period, which the author knew well, for he frequented the salons, especially those of Rambouillet and of Mlle de Scudéry The *Historiettes* have appeared in English as *Miniature Portraits* (1926)

Talleyrand or **Talleyrand-Périgord, Charles Maurice de** (tă'lĕrănd", Fr shärl' mōrēs' du talärā', -pārēgôr'), 1754–1838, French statesman. Born into the high nobility, he was early destined for the Church because of a childhood accident which left him partially lame Despite his notorious impiety, Louis XVI nominated him bishop of Autun (1788). A representative of the clergy in the States-General of 1789, he sided with the revolutionists. He officiated at the Fete of the Federation, endorsed the civil constitution of the clergy, and was excommunicated by the pope (1791). In 1792 he went on mission to London to secure England's neutrality, but the radical turn of the French Revolution nullified his success A lifelong advocate of constitutional monarchy and peace, Talleyrand fled to England after the fall of the monarchy (Sept, 1793) In 1794 he took refuge in the United States, where he lived in poverty until the establishment of the Directory in France (Nov, 1795). Made foreign minister (1797), he hitched his career to the rising fortune of Napoleon Bonaparte His part in the XYZ AFFAIR (1797) and his endorsement of Napoleon's plan for seizing Egypt (1798) had unfortunate consequences for France. In July, 1799, he resigned his post, only to resume it under the Consulate (Nov, 1799) He helped to bring about the Concordat of 1801 and the Peace of Amiens (1802), but failed in his opposition to the Louisiana Purchase Napoleon, who created him prince of Benevento in 1806, tended more and more to ignore his cautious advice Talleyrand resigned in 1807 and was assigned the distasteful duty of keeping the three princes of Spain captive in his château. Convinced of the necessity of a strong Austria to maintain European stability, Talleyrand, who accompanied Napoleon to the Congress of Erfurt (1808) secretly worked in Austria's rather than Napoleon's interest. He also had a hand in bringing about Napoleon's marriage to Marie Louise Napoleon's attack on Russia (1812) completed his alienation from the emperor When the allies entered Paris in 1814, Talleyrand persuaded them to restore the Bourbons For this Louis XVIII made him foreign minister He negotiated the Treaty of Paris of 1814, by which France, despite the defeat, was granted the French borders of 1792, and he represented France at the Congress of Vienna (see VIENNA, CONGRESS OF), where he scored his greatest diplomatic triumphs Winning the European powers to his principle of "legitimacy," namely, the restoration of Europe to its prerevolutionary status, and shrewdly exploiting the dissension among the allies, he succeeded in taking part in the negotiations on equal terms with the principal victorious powers He remained in Vienna during the Hundred Days, but resigned shortly after the second Bourbon restoration because of his opposition to the Treaty of Paris of 1815 In 1830 Louis Philippe, whom he helped to power, made him ambassador to London He resigned in 1834, after having achieved the recognition of Belgium (1831) and signed the QUADRUPLE ALLIANCE of 1834 Talleyrand had married (1803) his mistress, Mme Grand, from whom he separated in 1815 He was readmitted into the Church in 1802 The prototype of the witty, cynical diplomat, Talleyrand has been either exalted as the savior of Europe in 1815 or damned as an opportunist or even a traitor His corruption was undeniable, and his pliability enabled him to hold power under the *ancien régime*, the Revolution, Napoleon, the Restoration, and the July Monarchy Yet Talleyrand was a good European, and his policy was aimed consistently—and often courageously—at the peace and stability of Europe as a whole See his memoirs (1891–92, Eng tr, 5 vols, 1891–92) The standard biography is by Georges Lacour-Gayet (4 vols, 1928–30, in French) See also biographies by A B Dodd (1927), Alfred Duff Cooper (1932), Crane Brinton (1936), and Émile Dard (1935, Eng tr, 1937)

Tallien, Jean Lambert (zhă'läbĕr' tälyĕ'), 1767–1820, French revolutionist A lawyer's clerk and later a printer, Tallien became known through his Jacobin journal, *Ami des citoyens* One of the leaders in the attack on the Tuileries (Aug 10, 1792), he became secretary of the Commune of Paris As such, he sent circulars to the departments urging the spread of the September massacres As a deputy to the Convention and a member of the committee of general security, he aided in overthrowing the Girondists On his mission to Bordeaux (Sept, 1793), he won a reputation as an extremist in spreading the Terror He began the attack on Robespierre (9 Thermidor) which led to his fall (July 28, 1794) A leader of the Thermidorian reaction, Tallien suppressed the Revolutionary Tribunal and the Jacobin clubs His importance then decreased Accompanying Bonaparte to Egypt, he was captured by the English, and he lived in England until 1802

Tallien, Thérésa Cabarrus (tărāsa' kabarŭs' tälyĕ'), 1773–1835, French woman of fashion, of Spanish parentage The divorced wife of a marquis de Fontenay, she married the revolutionist Tallien, on whose policies she exerted a strong influence She was nicknamed Notre Dame de Septembre and Notre Dame de Thermidor in allusion to her husband's part in the September massacres of 1792 and in the coup d'état of the 9 Thermidor (1794) Mme Tallien's salon was famous, she originated the neo-Greek feminine fashions of the Directoire period Having divorced Tallien in 1805, she married the banker Caraman, later created prince de Chimay

Tallinn (tă'lĭn). Ger *Reval* (rā'väl), city (1934 pop 137,792, 1947 estimated pop 168,000), capital of Estonia, a major Baltic port on the southern coast of the Gulf of Finland. It has shipyards and manufactures of cotton textiles, machinery, plastics, paper, plywood, and furniture The port, which is frozen some 45 days a year, exports textiles, paper, and timber There are a polytechnical college, a conservatory of music, and other professional schools The city was founded in 1219 by Waldemar II of Denmark on the site of an Estonian settlement A member of the Hanseatic League from 1285, it was sold (1346) with the rest of Estonia by Waldemar IV to the Livonian Knights and passed (1561) to Sweden. Peter I of Russia captured it (1710) in the Northern War, and in 1721 Sweden formally ceded it to Russia Tallinn became the capital of independent Estonia in 1919 and of the Estonian SSR in 1940 It was occupied (1941–44) by the Germans in the Second World War and suffered considerable damage The historic center of Tallinn consists of an upper town, on a steep hill topped by a medieval cathedral, and of an adjoining lower town, dating from Hanseatic times The picturesque lower town is surrounded by a medieval wall with massive round towers It contains the Danish Toompea castle (13th cent, reconstructed in 1935 as a government building), the 13th-century Gothic Church of St Olai, with a steeple 456 ft high, the 14th-century city hall, and other medieval buildings

Tallis or **Tallys, Thomas,** c 1510–1585, English composer In 1575 a royal license for the exclusive printing of music and music paper was granted to William Byrd and Tallis, and in the same year they published their *Cantiones Sacrae*, containing 18 Latin motets by Byrd and 16 by Tallis The two men also shared the post of organist of the Chapel Royal. Though Tallis wrote a few madrigals and some instrumental music, he is remembered almost entirely for his hymn tunes, services, and anthems

Tallmadge, Benjamin (tăl'mĭj), 1754–1835, American Revolutionary soldier, b Brookhaven, N Y, grad Yale, 1773 Joining a Connecticut regiment, he served throughout the Revolution, fighting at Brandywine, Germantown, and Monmouth In 1780 he commanded in the successful attack against Fort St George and in the destruction of British supplies on Long Island A confidential agent (1778–83), he corresponded with George Washington and had the custody of Major John Andre until André's execution After the war Tallmadge retired to Litchfield, Conn, became a merchant, and sat (1801–17) in the U S Congress as a Federalist See *Memoir of Colonel Benjamin Tallmadge, Prepared by Himself* (1858, reprinted and ed by H P Johnston, 1904), biography by C S Hall (1943)

Tallmadge, village (pop 3,452), NE Ohio, NE of Akron, settled 1808, inc 1936

tallow, solid fat extracted from the tissues and fatty deposits of animals, especially from suet (the fat of beef and sheep) Pure tallow is white, odorless, and tasteless, it consists chiefly of the esters stearin, palmitin, and olein It is usually obtained commercially by heating suet under pressure in closed vessels Tallow is used to make soap, candles, and butter substitutes It was formerly in common use as a lubricant

tallow tree, popular name usually applied to trees of the spurge family that yield vegetable tallow or thick oil The Chinese tallow trees (*Sapium sebiferum*), native to China and Japan and cultivated in the S United States, grows to a height of about 40 ft The seed covering yields a white, greasy substance used for making candles and soap and for dressing cloth The candlenut tree (*Aleurites moluccana*) is a tropical tree widely distributed in the Pacific islands, Madagascar, and S Asia Its nuts are used by natives as candles and yield an oil (kekuna oil) valuable as a drying oil, a lamp oil, and a food

Talluiah (tulōō'lu), village (pop 5,712), parish seat of Madison parish, NE La, near the Mississippi river and W of Vicksburg, Miss It is in the heart of the delta cotton region, but also has commercial fishing and frog raising

Tallys, Thomas see TALLIS, THOMAS

Talma, François Joseph (frāswa' zhôzĕf' talma'), 1763–1826, French actor In 1787 he made his debut at the Comédie Française in Voltaire's *Mahomet* and in 1789 gained fame in Chenier's *Charles IX* The beginning of the Revolution brought sharp political disruption at the Comédie Française, and Talma left and set up his own theater, first known as the Théâtre de la République Here he excelled in such roles as Henry VIII, Othello, Macbeth, and Hamlet. Greatest tragedian of his time, he made important reforms in costuming and technique and was admired by Napoleon and Louis XVIII

Talmadge, Eugene, 1884–1946, governor of Georgia (1933–37, 1941–43), b Forsyth, Ga After receiving (1907) his law degree from the Univ of Georgia, he practiced at McRae, Ga. He was (1927–33) state commissioner of agriculture. In his second term as governor (1935–37), his staff was forbidden by Harry Hopkins to disburse Federal relief funds, and Talmadge became violently opposed to the New Deal. Twice defeated (1936, 1938) for the Democratic nomination for the U.S. Senate, he won the

governorship again in 1940 His interference with the state university system in 1941 (see GEORGIA) aroused much resentment, and in 1942 Ellis G ARNALL defeated him for the Democratic gubernatorial nomination. Talmadge, however, had strong support among the "wool-hat boys" of the rural counties and became governor-elect again in 1946. His death, before he took office, caused a crisis over the question of a successor. M E Thompson, the lieutenant governor-elect, who was legally declared chief executive in March, 1947, was subsequently defeated in a special primary by Talmadge's son Herman Talmadge (1913–), who immediately assumed office

Talmage, Thomas De Witt (tăl'mĭj), 1832–1902, American Presbyterian clergyman, b near Bound Brook, N J, grad New Brunswick Theological Seminary, 1856 His work in Brooklyn, N Y, began in 1869 in the Central Presbyterian Church The Tabernacle, built in 1870 to accommodate the great audiences attracted by his often somewhat melodramatic preaching, was burned in 1872, as were two other large buildings erected by his congregation during the next 20 years Between 1873 and 1902 Talmage edited in turn the *Christian at Work*, the *Advance*, *Frank Leslie's Sunday Magazine*, and the *Christian Herald* He made popular lecture tours in America and England

Talmai (tăl'mī) [Heb ,=furrowed] **1** King of Geshur and grandfather of **Absalom**, who took refuge with him 2 Sam 3 3, 13 37,38 **2** One of the three sons of ANAK

Talmon (tăl'mŏn) [Heb ,=oppressed], family of temple doorkeepers 1 Chron. 9 17, Ezra 2 42, Neh 7 45 The Talmon of Neh. 12 25 is probably the same as TELEM.

Talmud (tăl'mŭd) [Aramaic from Heb ,=learning], vast compilation of the Oral Law of the Jews, with rabbinical elucidations, elaborations, and commentaries, in contradistinction to the Scriptures or Written Laws The Talmud is the accepted authority for orthodox Jews everywhere Its two divisions are the Mishna or text of the Oral Law (in Hebrew) and the Gemara (in Aramaic), a sort of commentary upon the Mishna, which it supplements The Mishna is divided into six Orders (Sedarim) and comprises 63 tractates (Massektoth), only 36½ of which have a Gemara The compilation of the present Mishna is practically the work of Judah I (ha-Nassi), who collected and codified the legal material which had already accumulated through the exposition of the Law by the Soferim, particularly Hillel and Shammai, and its elaboration by the Tannaim Subsequently scholars and teachers busied themselves about the interpretation of the Mishna Out of their work developed the Gemara Although the mission of the Gemara was merely to expound and interpret the text of the Mishna, the scholars engaged in the work were led away by their zeal and their love of hair-splitting dialectical arguments into so many extraneous channels that the work became an amazing mass of unsystematized information and comment on a variety of subjects, such as astronomy, geography, historical gossip, domestic relations, and folklore The legal sections of the Gemara are known as the HALAKAH, the poetical digressions, illustrating the application of religious and ethical principles through parables, legends, allegories, tales, and anecdotes, constitute the haggada In the Middle Ages arose a vast literature of commentaries on the Gemara, commentaries on these commentaries, and responsas (questions and answers), among the commentators is Rashi Both the Palestinian school and the Babylonian produced Talmuds The first is known as the Talmud Yerushalmi (Jerusalem), the second as the Talmud Babli (Babylonian) The Palestinian Talmud was finished about the beginning of the 5th cent, the Babylonian at the beginning of the 6th cent The text of the first was not well preserved, and the second became the authoritative work, through its ramifications can be traced the changing social currents of the time In the Middle Ages the Talmud was several times censored or burned by Christians The term *Talmud* is sometimes used with reference to the Gemara alone See M L Rodkinson's English translation of the Babylonian Talmud (1896–1904), Moses Mielziner, *Introduction to the Talmud* (1902), M L Rodkinson, *History of the Talmud* (1903), Arsène Darmesteter, *The Talmud* (1897, in French, Eng tr, 1919)

Talon, Jean Baptiste (zhä bätĕst' talôN'), c 1625–1694, intendant of New France, b. Châlons-sur-Marne, France, educated by the Jesuits in Paris Entering (c 1653) the administrative service, he was appointed intendant of New France in 1665 In his short residence (1665–68, 1670–72) in the colony, his accomplishments were striking He encouraged agriculture, sent prospectors to hunt for minerals and to explore little-known territory, made energetic efforts to found brewing, lumbering, and shipbuilding industries, planned for trade with the West Indies and France, and so successfully fostered immigration that when he left New France in 1672 its population was almost doubled since his arrival. See Thomas Chapais, *The Great Intendant* (1914)

talus (tā'lus), fragmentary mantle rock detached from cliffs by WEATHERING (chiefly by the mechanical action of frost) and piled up at the bases of the cliffs or mountain slopes A talus is a common geologic feature in regions of high cliffs The angle of slope of the talus is commonly the angle of repose of the rock fragments of which it is composed, but the constant weathering to which it is subjected, which breaks the fragments into finer pieces, and the impact of new material being added from above give the base of the talus pile a tendency to creep and slide The structure of talus formations frequently causes erroneous conclusions as to the age of human bones found in talus

Tama (tă'mŭ), city (pop 2,832), central Iowa, on the Iowa river below Marshalltown, platted 1862, inc 1869. A paperboard mill is here The Sac and Fox Indians own a large area near by

Tamah (tā'mu), family returned from exile. Neh 7 55 Thamah Ezra 2 53

Tamale (tŭmä'lē), town (pop 17,372), capital of Northern Territories, Gold Coast It is a road center and a cotton and cattle mart

tamale (tumä'lē), Mexican dish of which the chief ingredients are corn meal or crushed maize, minced meat, chilies, and seasonings It is usually folded in a thick dough, wrapped in cornhusks, and steamed

Tamalpais, Mount (tă'mŭlpīs"), peak, 2,604 ft. high, W Calif, near San Francisco The mountain is a game preserve and a resort Mill Valley lies at its base.

Taman Peninsula (tŭmä'nyu), c 20 mi long, 8 mi wide, Krasnodar Territory, SE European RSFSR, projecting westward between the Sea of Azov and the Black Sea It is separated from the Crimea by the KERCH STRAIT There are small mud volcanoes and gas and petroleum deposits

Tamaqua (tumō'kwu), industrial borough (pop 12,486), E Pa, near Pottsville, settled 1799, laid out 1829, inc 1832 It is an anthracite-mining borough with a large residential section

Tamar (tā'mär) **1** Mother of Judah's twin sons Pharez and Zerah Gen 38, Ruth 4 12, 1 Chron 2 4 Thamar Mat 1 3 **2** Daughter of David and Maachah She was the victim of her half brother Amnon's passion 2 Sam 13 **3** Daughter of Absalom 2 Sam 14 27 **4** Unlocated boundary site, S Palestine Ezek 47 19, 48 28

tamarack see LARCH

tamarind (tă'murĭnd), tropical ornamental leguminous evergreen tree (*Tamarindus indica*), native to Africa and probably to Asia The fruit, a brown pod from 3 to 8 in long, has been an article of commerce since medieval times Within the pod is a juicy, acid pulp used as an ingredient in chutneys and curries and in medicines and for preserving fish A refreshing drink is made by adding sugar and water to the pulp A dye is obtained from the leaves The tamarind is grown in the West Indies and S Florida

tamarisk (tă'murĭsk), small ornamental tree or shrub of the genus *Tamarix*, native to S Europe and Asia It has wandlike branches covered with very fine, graceful leaves and bearing small white or pink flowers The reddish wood is hard and tough The bark and galls (produced on some Oriental species) are used in tanning and dyeing Tamarisks thrive in dry soils and on seacoasts, even in salt-water spray Of those cultivated in the United States only a few species are fairly hardy as far north as Massachusetts The tamarisk makes a good hedge plant Some species bloom in late summer One species (*Tamarix mannifera*) yields a manna when punctured by a certain insect

Tamatave (tamatăv'), city (pop 30,411), on Madagascar, a port on the Indian Ocean It is a terminus of the island's rail system Coffee, rice, hardwoods, and hides are exported

Tamaulipas (tamoulē'pas), state (30,734 sq mi, 1946 estimated pop 556,494), NE Mexico, on the Gulf of Mexico VICTORIA is the capital The central and western sections of the state are in the mountains of the Sierra Madre Oriental, but the southern and northern parts have arable plains, particularly in the long panhandle beginning at NUEVO LAREDO and following the RIO GRANDE opposite Texas to Matamoros The coast is low, sandy, fringed with lagoons, and (except for MATAMOROS and TAMPICO) virtually uninhabited The extreme southwestern portion, where there is some mining, borders on the vast semiarid basins of central Mexico Except in the elevated interior, the climate is hot and humid Sugar, cereals, cotton, tobacco, and corn are the chief agricultural products, and cattle raising is important Hides are exported from Tampico along with the important asphalt and petroleum products In the region around Victoria citrus fruits are a major crop First explored by the Spanish in 1519, the territory, inhabited by Tamaulipan Indians, was conquered by Gonzalo de Sandoval, then abandoned In 1747 colonization was begun by José de ESCANDÓN, who changed the name of the province from Pánuco to Nuevo Santander It was renamed Tamaulipas shortly after independence was won (1821) from Spain

Tamayo y Baus, Manuel (manwēl' tämä'yō ē bous'), 1829–98, Spanish dramatist He belonged to a family of actors and became one of the most popular of 19th-century Spanish playwrights In 1870 he abandoned the theater and became secretary of the Royal Academy and director of the National Library Among his many successful plays are *Locura de amor* [the madness of love] (1855) and *Un drama nuevo* (1867, Eng tr, *A New Drama*, 1915).

tambourine (tăm"burēn'), percussion musical instrument, having a circular frame and a single drumhead, with metal plates or jingles in the frame In the Middle Ages and the Renaissance it was used by traveling musicians and entertainers, in the 19th cent it became a military band instrument It is now used occasionally in the orchestra The timbrel of the Bible was probably similar to the tambourine

Tambov (tŭmbôf'), city (pop 121,285), capital of Tambov oblast, central European RSFSR In a rich agricultural district, it is a rail junction and a manufacturing center (notably of synthetic rubber, aircraft, and electric motors), and it has flour mills, distilleries, and tobacco plants Founded in the 17th cent, it early became an important grain and wool market

Tamerlane (tă'murlān) or **Timur** (tĭmōōr'), c 1336–1405, Mongol conqueror, b near Samarkand He is also called Timur Leng [Timur the lame] He was the son of a tribal leader, and he claimed (apparently for the first time in 1370) to be a descendant of Jenghiz Khan Tamerlane's early military career was spent in subduing his rivals in what is now Russian Turkistan, and by 1369 he firmly controlled the entire area from his capital at SAMARKAND Campaigns against Persia occupied him until 1387 By that time he had in his possession the lands stretching E from the Euphrates river He advanced (1392) across the Euphrates, conquered the territory between the Caspian and the Black Sea, and invaded several of the south Russian states Tamerlane abandoned some of his Russian conquests to return to Samarkand and invade (1398) India along the route of the Indus river He took Delhi and advanced to the Ganges river, but he withdrew with little addition to his domain In 1400 Tamerlane ravaged Georgia and proceeded to the Levant, where he took Aleppo and Baghdad His next war was fought in Asia Minor against the Ottoman Turks, and in 1402, at Angora, he captured their sultan, Bajazet I, who, contrary to popular belief, was well treated Tamerlane died while conducting an invasion of China His tomb at Samarkand was long known to archaeologists, but it is only recently that his skeleton, buried in a deep crypt, was found Tamerlane's reputation is that of a cruel conqueror After capturing certain cities he slaughtered thousands of the defenders (perhaps 80,000 at Delhi) and built pyramids of their skulls Although a Moslem, he was scarcely more merciful to his coreligionists than to infidels His positive achievements were encouragement of art, literature, and science and the construction of vast public works He had little hope that his vast conquests would remain intact, and before his death he arranged for them to be divided among his sons The TIMURIDS are the line of rulers descended from him Christopher Marlowe's play *Tamburlaine* luridly recounts his conquests See biography by Harold Lamb (1928), J H Sanders, tr, *Tamerlane* (Eng tr of late 14th-century Arabic work by Ahmed Ibn Arabshah, 1936)

Tamesis see THAMES, river of England.

Tamil (tă'mĭl), language of the Dravidian family It is grouped with Malayalam See LANGUAGE (table)

Tammany (tă'munē) After the American Revolution several patriotic societies sprang up in America to promote various political causes and economic interests It was in this period that Tammany societies were founded in New York, Philadelphia, and other cities The Tammany societies took the name of an Indian chief said to have welcomed William Penn and to have signed with him the Treaty of Shakamaxon The Tammany Society or Columbian Order of New York city, the only Tammany society to have a long life, was formed in 1786 and was incorporated in 1789 by William Mooney It was divided into 13 tribes, corresponding to the 13 states, and its motto was "Freedom Our Rock", its rites and ceremonials were based on pseudo-Indian forms, and the titles of its officials were also pseudo-Indian Although its activities were at first mostly social, ceremonial, and patriotic, the society gradually became the principal upholder of Jeffersonian politics in New York city After 1798 Tammany fell under the control of Aaron BURR. While Tammany was fighting the political forces of De Witt CLINTON, it consolidated its position in New York city Tammany backed Andrew Jackson for President and after his victories in 1828 and 1832 became a dominant force, fighting for democratic suffrage and the abolition of imprisonment for debt in New York state Though it thus stood for reforms in behalf of the common man, it was, nevertheless, increasingly controlled by men of the privileged classes The hostility of mechanics and workingmen to the "aristocratic" control promoted the splits within the Democratic party in

New York city and state which were marked by the revolt of the Locofocos and the contest between the BARNBURNERS and the HUNKERS. The society meanwhile triumphed over the KNOW-NOTHING MOVEMENT and the local Whig party alike and steadily gained strength by bringing the immigrant groups into its fold From the election (1854) of Fernando WOOD as mayor of New York dates Tammany's domination of New York city politics Flagrant abuses under the reign of William M TWEED led to reforms instituted (1872) by Samuel J TILDEN, Tammany returned to power under John KELLY, and the "boss" system was firmly entrenched in New York city Corruption under Richard CROKER brought forth new investigations (see PARKHURST, CHARLES), and when Seth Low became (1901) mayor, Tammany was eclipsed for a time Charles MURPHY succeeded Croker as boss His reign was interrupted by the brief administration of John P MITCHEL, who, like Gov. William SULZER, was a Democrat but an opponent of Tammany Alfred E SMITH became strong enough to create a so-called "new" Tammany, in which he was an important figure. City politics, however, continued corrupt, and investigations (1930–31) of the city magistrates' courts completely discredited Tammany Hall and ultimately brought about the resignation (1932) of Mayor James J. WALKER. Tammany suffered a telling defeat in the election of 1932 and did not regain its former strength in succeeding elections See Gustavus Myers, *The History of Tammany Hall* (2d ed, 1917), M R Werner, *Tammany Hall* (1928), Gene Fowler, *Beau James: The Life and Times of Jimmy Walker* (1949)

Tammerfors, Finland see TAMPERE

Tammuz (tă'mŭz), in Babylonian religion, young god loved by ISHTAR She killed him, but restored him to life His festival, symbolizing the yearly death and rebirth of vegetation, corresponds to the festivals of the Phoenician and Greek ADONIS and of the Phrygian ATTIS See Ezek 8 14.

Tampa (tăm'pŭ), city (pop 108,391), co seat of Hillsborough co, W Fla, a port of entry with a magnificent harbor on Tampa Bay, at the mouth of the Hillsboro river It is a popular resort, with fishing and boating activities, and a commercial and shipping center handling packed and processed fruit (especially grapefruit), lumber, naval stores, phosphate rock, and, notably, cigars The bay was probably visited by Narváez in 1528 and by De Soto in 1539 Fort Brooke was built in 1823 by an American force, and the town grew up around it. It was taken by Union forces in the Civil War Development of the city dates from the construction of railroads and the introduction of cigar making in the late 1880s. Ybor City is the headquarters of the cigar industry and the home of its Spanish and Cuban workers During the Spanish-American War, Tampa was a military base, troops were encamped, and Theodore Roosevelt trained his Rough Riders here In Plant Park are the Univ of Tampa (coeducational), the municipal museum, De Soto Oak, the municipal auditorium, and the state fairgrounds The Davis Islands are artificially made The city has a fine airport Gandy Bridge extends across Old Tampa Bay to the Pinellas peninsula

Tampa Bay, inlet of the Gulf of Mexico, W Fla It is a double-necked bay, forming a western peninsula (Pinellas), with St Petersburg at the tip, and an eastern peninsula, with Port Tampa City at the tip. The eastern neck has been dredged up to Tampa.

Tampere (tăm'pĕrā), Swed *Tammerfors* (tă'mûrfôrs'), city (pop 80,995), SW Finland, on the rapids which descend 60 ft between lakes Näsijärvi and Pyhäjärvi The use of water power instead of coal makes Tampere a smokeless, clean, manufacturing city Incorporated in 1779, it is the center of textile and footwear industries and has locomotive and ironworks and pulp mills. A decisive victory in the Finnish war of independence was won here (April, 1918) by General Mannerheim and the White forces over the Reds

Tampico (tămpē'kō, Span, tämpē'kō), city (pop. 82,475), Tamaulipas, NE MEXICO Rivaling Veracruz as Mexico's most important seaport, Tampico (founded c 1554) is a few miles inland from the Gulf of Mexico on a water-threaded alluvial plain on the north bank of the PÁNUCO river, which separates it from Veracruz state To avoid inundation, part of the land has been raised 8 ft above sea level The climate is hot and humid in summer—and also in winter except when cold winds sweep down the coast from Texas In 1823 SANTA ANNA decreed the creation of the town, and near it in 1829 he defeated a Spanish army under Isidro de Barras Tampico was occupied (1846) in the Mexican War by an American force under David Conner, and it was taken by the French in 1862 With the discovery of oil (c 1900) by English and American geologists, rapid expansion and development of petroleum industries began, before Mexico expropriated foreign-owned property, about one third of the landowners were American and a large element of the population was foreign There is considerable export trade in cattle and hides, chicle, rubber, sarsaparilla, vanilla, beeswax, honey, fruits (especially bananas), vegetables, cocoanuts, and coffee Railroads connect Tampico with the inland cities Monterrey and San Luis Potosí

Tampico hemp, fiber of various tropical American plants, among them the AGAVE

Tamworth (tăm'wûrth), municipal borough (1931 pop 7,509, 1943 estimated pop 11,171), Staffordshire, England, on the Warwickshire border at the confluence of the Tame and Anker rivers. It was burned by the Danes in the 9th cent and rebuilt by Æthelfled in the 10th. The castle which she built on an artificial mound now contains a museum. The Roman Watling Street passed near Tamworth The Church of St. Editha, built in the 8th cent. and rebuilt in 1345, has an unusual double spiral staircase Thomas Guy, the founder of Guy's Hospital in London, built an almshouse in 1678 and the town hall in 1701 There is a statue of Sir Robert Peel, member of Parliament for Tamworth The town gives its name to a widely known breed of hog originally raised in the vicinity.

Tamworth, town (pop 1,056), E central N.H., including Chocorua and Tamworth villages, in a region of lakes and mountains There is a summer theater

Tana (tä'nä) or **Tsana** (tsä'nä), lake, area c.1,400 sq. mi., NE Ethiopia. It is the largest lake in Ethiopia, and it receives some 60 affluents. The Blue Nile rises from Tana.

Tanach (tä'näk), variant of TAANACH

tanager (tă'nŭjûr), migratory perching bird of the New World. There are about 550 species and subspecies, chiefly tropical Only five migrate to North America Of these the scarlet tanager has the widest range in the United States As in most tanagers, only the male has brilliant plumage. It is scarlet with black wings, tail, and beak, the female is olive green and yellow. Its song is less melodious than that of the rosy-red summer tanager of the South The western or Louisiana tanager is yellow, black, and red.

Tanagra (tă'nŭgrŭ), ancient town, E Boeotia, Greece. Here the Athenians were defeated (457 B C) by the Spartans and their allies The city is best known for the **Tanagra figurines,** delicate little statuettes, mostly of women in the costumes and attitudes of daily life These were made in profusion in the Hellenistic period and were sold widely to other cities for use as household ornaments.

Tanais, see DON, river, and AZOV, city

Tanaka, Giichi, Baron (gē-ē'chē tä'näkä) 1863–1929, Japanese general He is most famous as the alleged author of the so-called Tanaka Memorial (1927), purporting to set forth Japan's plans for foreign conquest Its authenticity is open to question, though its contents in general agree with Tanaka's known views He was war minister (1918–21, 1923-24) and backed the Siberian expedition He became president of the Seiyukai party in 1925 As prime minister (1927–29) he pursued a "positive" policy in China, including military intervention in Shantung At home, his cabinet suppressed radicals and manipulated an election, but failed to win a majority Its downfall was hastened by accusations of Japanese connivance in the death of Chang Tso-Lin, Manchurian war lord, and by the charge that signing the KELLOGG-BRIAND PACT "in the name of the people" infringed the sovereignty of the emperor.

Tanana (tă'nuna), river, c 600 *mi long,* rising in W Yukon near the Alaskan border. It flows NW across Alaska, N of the Alaska Range, to Fairbanks, which is on Chena Slough, a northern branch of the river, and on to join the Yukon at the village of Tanana Discovered (c 1860) by Russian traders, it later became an important route to the Yukon gold fields Some agriculture has been developed in the valley.

Tananarive (tänänärēv'), city (pop 163,079), on central Madagascar, capital of Madagascar. It is a railroad junction Cotton cloth and cigarettes are manufactured, and there is meat canning

Tanaquil (tă'nukwĭl), wife of the legendary early king of Rome, Lucius Tarquinius Priscus (see TARQUIN). She was a prophetess, and it was at her bidding that he went to Rome

tanbark, any bark rich in tannin. In common usage the term is applied to spent bark from which most of the tannin has been extracted Spent tanbark is used as a cover for circus rings and riding tracks Although sometimes used as a manure in hotbeds, it is usually combined with other manures, since it decays slowly and gives little heat.

Tancred (Tancred of Lecce) (tăng'krĭd, lē'chā), d. 1194, king of Sicily (1190–94), illegitimate son of Roger of Apulia, grandson of Roger II of Sicily. Tancred's uncle, William II, had left the crown to his aunt, CONSTANCE, wife of Emperor Henry VI, but the Sicilian barons crowned the popular Tancred (1190) Henry made two unsuccessful expeditions against him (1190, 1191) and soon after Tancred's death deposed Tancred's infant son, William III (1194)

Tancred, d. 1112, Crusader. He took the cross with his relative BOHEMOND I (1096). After distinguishing himself at Nicaea, he struck out into Cilicia and besieged Tarsus, but was deprived of the city, after its fall, by Baldwin (BALDWIN I of Jerusalem) and was forced to rejoin the main army. He took part in the capture of Antioch (1098) and Jerusalem (1099) and was for a short time prince of Galilee, with his capital at Tiberias. While acting as regent of Antioch for Bohemond (1100–1103), he recaptured Laodicea and other towns and imprisoned RAYMOND IV of Toulouse. In 1104, after the capture of BALDWIN II of Jerusalem at Harran, he took over the government of Edessa and, after the departure of Bohemond for the West, that of Antioch. He subsequently made extensive conquests in Cilicia and N Syria Although Bohemond submitted (1108) to Emperor ALEXIUS I, Tancred refused to surrender his conquests to the emperor or to do him the least homage.

Tandil (tändēl'), city (pop. 39,084), E Argentina Founded in 1823 as Fuerte Independencia, it was a military outpost against raiding Indians Tandil is today an attractive resort city with handsome plazas and gardens In the surrounding hills some of Argentina's best granite is quarried

Tandy, James Napper, 1740–1803, Irish rebel He was a small tradesman in Dublin when he became interested in politics He gained notoriety by his attacks on municipal corruption and his proposal to boycott English goods as a reprisal for the restrictions placed on Irish commerce. He supported the Irish volunteer movement, but his influence waned with the decline of the movement He aided Wolfe TONE in founding (1791) the Dublin branch of the United Irish Society. He was arrested in 1792 for challenging Attorney General Toler, but was released When faced with a sedition charge in 1793, Tandy fled to America and then to France (1798), where he was given a corvette and the title of general He set out for Ireland, but when he discovered that the proposed French expedition had failed, he fled to Hamburg, where he was arrested. He was returned to Ireland (1800), sentenced to execution, but reprieved through French influence His fame is perpetuated in the Irish ballad *The Wearing of the Green.*

Tanega-shima (tänä'gä-shēmä), island, 35 mi long and 7 mi. wide, off S Kyushu, Japan. Several Portuguese voyagers to China landed here (c 1543) and introduced firearms to Japan.

Taneiev, Sergei Ivanovich (syĭrgā' ēvu'nûvĭch tŭnyā'uf), 1856–1915, Russian pianist and composer He studied at the Moscow Conservatory under Nicholas Rubinstein and Tchaikovsky, succeeding Rubinstein as professor of piano He later became professor of composition and was director of the conservatory, 1885–89 He composed an opera on Aeschylus' *Orestes* (1894), two cantatas, four symphonies, chamber music, and songs He was a severely intellectual, classically minded musician and wrote several theoretical works His uncle **Aleksandr Sergeyevich Taneiev** (ŭlyĭksaan'dur syĭrgā'ŭvĭch), 1850–1918, pupil of Rimsky-Korsakov, was also a composer. See M. D Calvocoressi and Gerald Abraham, *Masters of Russian Music* (1936).

Taney, Roger Brooke (tô'nē), 1777–1864, Chief Justice of the U S. Supreme Court (1836–64), b Calvert co, Md, grad. Dickinson College, 1795 Taney was born of a wealthy slave-owning family of tobacco farmers. He was admitted to the bar in 1799 and, a Federalist, served (1799) one term in the Maryland house of delegates. He temporarily broke with the Federalist leadership over the party's opposition to the War of 1812, but he gained control of the Federalists in Maryland and in 1816 was elected to a five-year term in the state senate. Having built up a large practice, he moved (1823) from Frederick to Baltimore In 1824 he permanently abandoned the Federalists to support Andrew Jackson and the Democrats President JACKSON appointed (1831) Taney to the post of Attorney General in his cabinet to assist in the struggle with the BANK OF THE UNITED STATES Taney wrote much of Jackson's message vetoing (1832) the act which rechartered the bank, and when Louis McLane and William J DUANE refused to withdraw Federal funds from the bank, Taney was appointed (1833) Secretary of the Treasury and effected the withdrawal The Senate was incensed and refused in 1835 to ratify Taney's nomination as an Associate Justice of the Supreme Court, but the following year, somewhat changed in membership, the Senate ratified his appointment as Chief Justice. Conservatives, fearing for the work of Taney's predecessor, John MARSHALL, were outraged by his opinion in the Charles River Bridge Case (1837), this limited Marshall's ruling in the DARTMOUTH COLLEGE CASE that charters issued by states were inviolable by holding that a state charter of a private business did not imply any privileges greater than those expressly granted. Taney felt that the POLICE POWER of a state entitled it to make reasonable regulatory laws even if they appeared to override provisions of the U S. Constitution; thus, he held that, although Congress alone had the power to regulate interstate commerce, a state might exclude a corporation organized elsewhere. In sustaining FUGITIVE SLAVE LAWS, however, Taney denied to free states the power of refusing obedience to Federal statutes

which required the surrender of escaped slaves. Taney's support of the slavery laws was most clearly expressed in the DRED SCOTT CASE (1857). Here he held that slaves (and even the free descendants of slaves) were not citizens and might not sue in the Federal courts and that Congress could not forbid slavery in the territories of the United States. Opposition to the second holding was furiously expressed by the Republicans, and when Lincoln became President he considered Taney an archfoe. In the Civil War, Taney, in vain ruled against Lincoln's suspension of the writ of habeas corpus (see MERRYMAN, EX PARTE). There was much antipathy to Taney at his death, but it has gradually been appreciated that his contribution to constitutional law makes him a great jurist. See biographies by B. C. Steiner (1922) and C. B. Swisher (1935), study by Charles W. Smith (1936).

Taneycomo, Lake (tā"nēkō'mō, -kŭm'ō'), c 25 mi. long, SW Mo., S of Springfield and near the Ark. line. It is formed by the impounding of the White River waters by Forsyth Dam. It is a resort in the Ozarks.

Taneytown (tā'nētoun), city (pop. 1,208), N Md., NW of Westminster, settled c 1740. It produces clothing and rubber shoes.

T'ang (täng), dynasty of China, which ruled from 618 to 906. It was founded by Li Yüan, who killed the last Sui emperor. The early strength of the T'ang was built directly on the excellent system of communications and administration established by the Sui. At first the neighboring peoples, barbarian and civilized, were held in check, and at its height (mid-7th cent.) the T'ang occupied or controlled Korea, Manchuria, Mongolia, and Turkistan. A tremendous cultural efflorescence (which powerfully influenced Japan and Annam) accompanied this territorial expansion. Sculpture flourished (T'ang horses are especially noted) and the painting (of which few examples have survived) was considered superior. In literature poetry was the most highly developed form, of more than 2,000 poets Po Chü-i and Li Po were perhaps the most distinguished. The classics of Confucianism were closely studied and provided the basis for reforming the system of civil service examinations, and Confucianism was made the state religion. Although religious toleration was usually practiced, foreign cults were sometimes proscribed, and on several occasions Buddhist monasteries were dissolved. The vigor of the early T'ang administration quickly declined, and by the mid-8th cent. control over border regions was lost, especially to the Uigurs, who became dominant in Mongolia. In the 9th cent. local maladministration became widespread, and revolts broke out in the south. Following the T'ang collapse there was great disorder until the establishment of the Sung dynasty. See Woodbridge Bingham, *The Founding of the T'ang Dynasty* (1941).

Tanga (täng'gŭ, täng'gä), town (pop. 34,658), NE Tanganyika, a port on the Indian Ocean. It is connected by rail with the agricultural interior. Sisal, cotton, and coffee are exported.

Tanganyika (täng"gunyē'ku, täng"gän-), United Nations trust territory (343,000 sq. mi., pop. c 7,000,000), E Africa, on the Indian Ocean. It is under British administration. The capital is Dar-es-Salaam. Tanganyika is bordered by Kenya and Uganda on the north, by Ruanda-Urundi on the west, and by Northern Rhodesia and Mozambique on the south. Victoria Nyanza, Lake Tanganyika, and Lake Nyasa lie on the northern, western, and southern borders respectively. Zanzibar is off the coast. Tanganyika comprises three natural regions —the coastal lowlands, the high plateau of the north, rising to Mt. Kilimanjaro (19,565 ft.), the greatest elevation in Africa, and the southern highlands, which are climatically suited for white settlement. Mineral resources are distributed throughout the country, especially in the area which is adjacent to Victoria Nyanza and extends to the southern border. Diamonds, gold, tin, and mica are economically most important. The chief crops (raised along the coast and in the south) are sisal, cotton, coffee, tobacco, and peanuts. A railroad (with a branch to Mwanza on Victoria Nyanza) follows the old caravan route from Dar-es-Salaam to Kigoma on Lake Tanganyika. Another railroad runs from Tanga to Kenya. The coast, which had been previously ruled from Zanzibar, was explored (c.1500) by the Portuguese. They held it loosely until the 17th cent., when they were supplanted by the Arab sultans of Muscat. Under Arab rule there was much trade in ivory and slaves. German influence became dominant in the late 19th cent., and in 1884 the colony of German East Africa was created. The Germans built railroads and introduced new crops, notably sisal. In the First World War there was almost continual military action in Tanganyika, and great economic disruption resulted. Tanganyika became a British mandate under the League of Nations in 1920, and in 1945 it was made a trust territory of the United Nations. It is ruled by an appointed governor with the aid of an executive and a legislative council. Most of the natives are Bantu, many of them Moslems in religion. The lingua franca, Swahili, is much used.

Tanganyika, Lake, area 12,700 sq. mi., E central Africa. It is c 450 mi. long and at its maximum only c 50 mi. wide. The lake forms the entire boundary of Belgian Congo and Tanganyika. It is otherwise bordered by Ruanda-Urundi on the east and Northern Rhodesia on the south. The lake lies in the Great Rift Valley at an altitude of c.2,500 ft. It is c 4,700 ft. deep, and it is believed to be the deepest fresh-water lake in the world except for Lake Baikal. Part of Lake Tanganyika's overflow eventually reaches the Nile. The lake was discovered in 1858 by John Speke and Sir Richard Burton. David Livingstone and Henry Stanley explored the region in 1871. Today there is steamer service on the lake, with the chief route between Albertville, Belgian Congo, and Kigoma, Tanganyika.

tangelo: see TANGERINE.

tangerine (tăn"jŭrēn') [from Tangier], small, thin-skinned variety of orange (*Citrus nobilis deliciosa*). Because the skin can be removed very easily, it is said to belong to the kid-glove group of oranges, of which it is the most important member. It has a sweet, dry pulp and is less hardy than the orange. The tangelo is a hybrid obtained by crossing the tangerine and the grapefruit. It is of good flavor, color, and size but is too tender to ship well.

Tangier (tănjēr'), international zone (147 sq. mi., pop. c 150,000), North Africa, on the Strait of Gibraltar. It is part of the domain of the sultan of Morocco. The zone is named for the city of Tangier, the ancient Tingis, where most of the population lives. The city is almost wholly without industry, and most activity is concentrated in the busy harbor districts. The walled Moorish town adjoins a modern European garden suburb. Tangier was probably founded by the Phoenicians. It was a free city under the Romans and the chief port and commercial center of Morocco until the founding (808) of Fez. It was captured by Portugal from the Arabs in 1471 and came under Spanish control with all of Portugal in 1580. It reverted to Portugal in 1640, but in 1662 it was transferred to England as part of the dowry which Catherine of Braganza brought to Charles II. Tangier was abandoned to the Moors in 1684 and became a base for Barbary pirates. In the mid-19th cent. it became the diplomatic center of Morocco. Later it was a focus of the dispute among the European powers over Morocco. Its status was not defined until 1925, when the international zone was created. During the Second World War the zone was incorporated into Spanish Morocco with the consent of the Allies, it was returned to international rule in Oct., 1945. It is governed by the consuls of the major European countries constituting the committee of control and by a legislative assembly headed by the sultan's representative. See G. H. Stuart, *The International City of Tangier* (1931).

Tangier (tănjēr'), town (pop. 1,020), on Tangier Island, E Va., in Chesapeake Bay near the Eastern Shore of Maryland, inc. 1915. The island was discovered by Capt. John Smith in 1608 and was settled in the latter part of the 17th cent. Fishing is the only industry. Isolated from the mainland, the people of Tangier developed a distinct culture. See S. W. Hall, *Tangier Island a Study of an Isolated Group* (1939).

Tangla (tang'lä, dang'lä), mountain range, c 20,000 ft. high, E central Tibet. It lies athwart the main route connecting China and Tibet and is crossed by a pass c 15,000 ft. high. The name also appears as Dangla.

Tanglewood: see LENOX, Mass.

tango (täng'gō), Argentine dance, introduced into the United States as an exhibition dance. It has had some vogue as a ballroom dance, but possibly because of the space required for its performance it has been in the United States considered impractical for general dancing. It is spirited and graceful and is marked by gliding and sweeping steps, turning within a gradually narrowing compass. The music is in 4–4 rhythm.

Tanhumeth (-hū'-) [Heb., =comfort], father of the captain Seraiah. 2 Kings 25:23, Jer. 40:8.

Tanimbar Islands (tănĭm'bär, tə-) or **Teninbar Islands** (tĕnĭm'bär, tə-), group of about 30 islands (2,172 sq. mi., pop. 31,847), East Indonesia, in the Banda Sea NE of Timor, in the Moluccas. The largest of the group is Yamdena (pop. 15,685), 70 mi. long and 28 mi. wide. Chief products are copra, tortoise shell, and sago. The group is also called Timorlaut (tē'mōrlout).

Tanis (tā'nĭs), ancient city, NE Egypt, capital of the XXI (Tanite) dynasty. It is possibly to be identified with the Hyksos capital, Avaris, and has remains from other dynasties. On the Asian frontier, Tanis was important in strategy and commerce until threatened inundation by Lake Mansala caused it to be abandoned after the 6th cent. A.D. for Tennis. The site, excavated since 1940, has yielded statues and inscriptions. Tanis is the biblical Zoan (zō'ăn). Num. 13:22, Ps. 78, Isa. 19, Ezek. 30:14.

Tanit (tā'nĭt), Semitic goddess of love. She is related to Astarte.

Tanjore (tănjôr'), town (pop. 68,702), S Madras state, India. The Brahadeswara Temple here, one of the greatest examples of Dravidian architecture, is the chief monument which survives from the 11th cent., when Tanjore was the capital of the Chola kingdom. Long a center of craftsmanship, the town is noted for silks, carpets, jewelry, and copperware.

tank, military, armored vehicle having caterpillar traction and armed with machine guns, cannon, or both. It was first used in warfare by the British at Flers, on the Somme, in Sept., 1916. The new weapon was not greatly understood, was used incorrectly, and seemed a failure. It was not until Nov., 1917, that tanks achieved a major success, in an attack near Cambrai. In the final months of the war they proved a valuable and efficient weapon in the hands of the Allies. In the Second World War the tank played a major role in land warfare. The tide of battle on the Eastern and Western fronts and especially in Africa often swung to the side with the best tanks. Tanks with heavier armor, with more accurate and bigger guns, were developed in a seesaw race between opposing sides. The Germans developed a 75-ton vehicle mounting a high-velocity 88-millimeter gun, the Americans a 45-ton tank mounting a 90-millimeter gun, and the Russians were successful with a tank armed with a 122-millimeter gun. As tank design progressed, better antitank weapons were developed. Tank destroyers, highly mobile, swift, wheeled vehicles carrying cannon up to 155 mm. were built in the United States, all combatants developed infantry rocket weapons and special armor-piercing shells and used planes armed with cannon and bombs to destroy enemy tanks.

Tannaim. see SEDER.

Tannenberg (tä'nənbĕrk"), Pol. *Sztynbark* (shtĭm'bärk), village, former East Prussia, SW of Allenstein, after 1945 in Polish-administered territory. Two important battles were fought here. In the first, fought in 1410 between Tannenberg and the near-by village of Grunwald, the Polish and Lithuanian forces under Ladislaus II (Ladislaus Jagiello) defeated the Teutonic Knights and halted their eastward expansion. The second and better-known battle was fought early in the First World War (Aug. 26–30, 1914). Two Russian armies, commanded by Samsonov and Rennenkampf, had invaded East Prussia from the south and the east, respectively. The German counterplan was devised by Hindenburg and his chief of staff Ludendorff. It consisted in concentrating against Samsonov's army, which was surrounded and overwhelmed. More than 100,000 Russian prisoners were taken, and Samsonov committed suicide. Rennenkampf, whose unwillingness to come to Samsonov's aid had greatly helped the German victory, was defeated shortly afterward in the battle of the MASURIAN LAKES. This double victory enabled Germany to increase its forces on the Western Front. However, the Russian advance into East Prussia, though it was ill-fated, had greatly helped in relieving German pressure against the West during the first critical weeks of the war. An impressive monument commemorating the victory of Tannenberg was destroyed (1945) in the Second World War by the advancing Russian forces. The body of Hindenburg, who was buried in the monument, had previously been moved by the Germans and is now at Marburg.

Tanner, Henry Ossawa, 1859–1937, American painter of religious subjects, b. Pittsburgh, son of a bishop of the African Methodist Episcopal Church. He studied with Eakins in Philadelphia and with J. P. Laurens and Benjamin Constant in Paris. Tanner made many trips to Palestine to obtain background for his religious paintings. His work is naturalistic, and the religious subjects especially are rendered with intense feeling. Among his paintings are *The Raising of Lazarus* (Luxembourg Mus., Paris), *Sodom and Gomorrah* (Metropolitan Mus.), *Christ and Nicodemus* (Pa. Acad. of the Fine Arts), *Christ at the House of Mary and Martha* (Carnegie Inst., Pittsburgh), and *The Two Disciples at the Tomb* (Art Inst., Chicago). He became a member of the National Academy in 1927.

Tannhäuser (tän'hoisur), 13th cent., German minnesinger at the court of Frederick II, duke of Austria. His fame rests not on his indifferent poetry, but on the legends clustered about his name. He escaped from the Venusberg, the place of fleshly temptation, with the help of Our Lady, but was refused the papal absolution until the miraculous budding of his staff indicated divine grace. The most celebrated use of the legend is Wagner's three-act opera *Tannhäuser*. Swinburne's *Laus Veneris* varies the story. See Sabine Baring-Gould, *Curious Myths of the Middle Ages* (1906).

tannin and tannic acid, amorphous, astringent compounds, soluble in water and found associated in many plants. The terms are commonly used as synonyms. Tannin transforms certain insoluble proteins of animal tissue into compounds that resist decomposition, it is therefore used to convert animal skins into leather. It reacts with ferric salts to produce blue-black or greenish compounds used in making inks and is employed also in medicine (e.g., as an astringent), as a mordant in dyeing, and as a means of clarifying solutions. It is a constitu-

ent of tea, coffee, and walnuts For commercial use, it is commonly extracted by immersing in hot water the crushed and dried tannin-bearing parts of certain plants Tannin was formerly extracted chiefly from oak and hemlock bark and from galls When these proved insufficient to supply the market in the United States, the supply was augmented by using chestnut bark However, this source was curtailed by a widespread chestnut blight, and more recently tannin has been derived principally from quebracho wood, mangrove bark, and myrobalan (a fruit native to India) Other sources include the bark of certain Australian acacias (known as wattles), pods of the divi-divi tree of tropical America, and leaves of certain sumacs Tannins have also been synthesized, these are known as syntans

tanning, process by which skins and hides are converted into LEATHER Vegetable tanning, a method requiring more than a month even with modern machinery and tanning liquors, employs tannic acid, or tannin; its use is shown in Egyptian tomb paintings dating from 3000 B C Mineral tanning includes tawing, or alum tanning, another ancient method, and chrome tanning, the process most common today, based on the use of chrome salts and requiring only a few hours Known as early as 1856, chrome tanning was made practical by Augustus Schultz in 1884 In oil tanning, or chamoising, the pelts are treated with fats and are often smoked, the leather is commonly napped on both sides and is very absorbent The most recently developed tanning process employs artificial agents (syntans) Most heavy leathers, such as sole leather, are vegetable tanned, many light leathers are chrome tanned The American Indians used the chamois method, employing the fat, livers, and brains of animals Indian-tanned white buckskin was highly esteemed, especially for clothing, both by Indians and by colonial pioneers In the tanyards of white settlements tanners used oak and hemlock bark, gallnuts, the wood, nuts, and leaves of the chestnut tree, and the leaves of sumac See M N Rawson, *Handwrought Ancestors* (1936), J A Wilson, *Modern Practice in Leather Manufacture* (1941)

Tannu-Tuva, RSFSR see TUVA AUTONOMOUS OBLAST

tansy (tăn'zē), perennial herb (*Tanacetum vulgare*) of the composite family, native to Europe and commonly naturalized in America It was long cultivated for its ornamental foliage and clusters of yellow, buttonlike flowers, it was much used in old-fashioned dishes, such as tansy cakes and puddings, which were eaten in the spring, especially at Easter time, either in memory of the bitter herbs of the Jewish Passover or as a sort of tonic after the Lenten season Tansy tea was formerly a household medicine and is still used as an anthelmintic and in the treatment of external bruises and inflammations

Tanta (tan'tä), city (pop 95,260), N Egypt, in the Nile delta It is a rail and highway center with extensive cotton ginning At Tanta is the tomb of the noted 13th-century saint, Ahmed el-Bedawi The three annual festivals at the tomb attract many visitors

tantalum (tăn'tulum), rare, lustrous, silvery-white metallic element (symbol=Ta, for physical constants, see ELEMENT, table) Because it has great ductility, i e , it can be drawn into very thin wires, and at high temperatures exhibits incandescence, it was used in the filaments of electric-light bulbs and in vacuum tubes until tungsten took its place Because of its high resistances to acids and to corrosion and its malleability, it is used for making laboratory utensils and apparatus, surgical instruments, and spinnerets employed in the manufacture of rayon It is sometimes alloyed with other metals Its hardness depends upon its metallurgical treatment, tempering by heating in air and the addition of silicon harden the metal Tantalum occurs in tantalite, samarskite, and some other rare minerals Important sources are Brazil, Russia, Australia, South Dakota, and New Mexico Discovery (1802) of the element is credited to A G Ekeberg

Tantalus (tăn'tulus), in Greek legend, a king, son of Zeus and father of Pelops and Niobe He was admitted to the table and council of the gods, but his insolent behavior aroused the ire of Zeus, who condemned the offender to Tartarus One legend says that he divulged divine secrets, another that he served his son's body to the gods In Tartarus, plagued with thirst and hunger, he was placed near water which receded and fruit which vanished at his approach

Tantum ergo, hymn see PANGE LINGUA.

Taoism (tou'ĭzm, dou'-, tä'ŏĭzm), philosophy and religion of China The philosophical system chiefly derives from the book *Tao-teh-king*, traditionally ascribed to LAO-TZE, but probably written in the mid-3d cent B C This brief work is cryptic and paradoxical, and its meaning is hard to elucidate, however, much of its doctrine is clarified by the later work of Chuang-tze The *Tao*, in the broadest sense, is the way the universe functions, the path [Chinese *tao*=path] which natural events take It is characterised by spontaneous creativity and by regular alternations of phenomena (e g , day following night) which proceed without effort Effortless action may be illustrated by the conduct of water, which unresistingly accepts the lowest level and yet wears away the hardest substance Man, following the *Tao*, must abjure all striving His ideal state of being, fully attainable by mystical contemplation alone, is freedom from desire and from sensory experience, which is illusion The political doctrines developed by the Taoists reflect their quietistic philosophy The duty of a ruler is to protect his people from experiencing material wants or strong passions and to impose a minimum of government The social virtues expounded by CONFUCIUS were condemned as symptoms of excessive government and disregard of effortless action Later Taoism emphasized the techniques [Chinese *teh*=power] for realizing the effects supposed to flow from the *Tao*, especially long life, or even immortality The search for the *elixir vitae* and the philosopher's stone led to much study of ALCHEMY By the 5th cent A D , Taoism was a fully developed religious system with many features adopted from Mahayana BUDDHISM It offered emotional religious satisfactions for those who found the largely ethical system of Confucianism inadequate Taoism developed a large pantheon (probably incorporating many local gods), monastic orders, and lay masters In the 8th cent there was founded a secular hierarchy, headed by the T'ien Shih [master of heaven], he claimed succession from Chang Tao-lin, an alchemist of the 2d cent who was reputed to have discovered the drug of immortality after receiving magical power from Lao-tze In modern China, Taoism is practiced to some degree by most of the population Heading the commonly worshiped deities is the Jade Emperor Directly under him, ruling from Mt Tai, is the Emperor of the Eastern Mountain, who weighs merits and faults and assigns reward and punishment in this and future existences See Richard Wilhelm, tr , *Secret of the Golden Flower* (1932), E S Bonsall, *Confucianism and Taoism* (1934), Arthur Waley, *The Way and Its Power* (1935), Lin Yutang, tr , *The Wisdom of Laotse* (1948)

Taormina (tăôrmē'nä), town (pop. 4,294), E Sicily, Italy, beautifully situated on a terrace 750 ft above the Ionian Sea, at the foot of Mt Etna It is a world-famous winter resort, celebrated for its climate, natural beauties, and ancient remains It flourished as a Greek colony, then under the Romans, and again under the Normans, but it declined after the 15th cent Its Greek theater, the second largest of Sicily, was rebuilt by the Romans Important remains are extant, as are those of a smaller theater, of Roman baths, and of water reservoirs There are also several churches and fine medieval palaces The Convent of San Domenico, with its cloister, is now a fashionable hotel

Taos (tous), village (pop 965, alt c 7,000 ft), co seat of Taos co , N N Mex , between the Rio Grande and the Sangre de Cristo Mts , inc 1934 It was founded in the early 17th cent by Spaniards, and its official name is Don Fernando de Taos For many years Taos was an important Indian and Spanish trade center It was the center of the Pueblo revolt (1680) and of an anti-American revolt (1847) Situated in a region of great beauty and variety, it developed as an art colony (principally after 1898) and attracted many painters and writers, notably D H Lawrence Today there are artists' organizations and galleries and the Harwood Foundation (gallery, studios, and school, owned by the Univ of New Mexico) Other places of interest are Kit Carson's house (where he lived, 1858–66) and the town plaza Taos is headquarters for Carson National Forest Just south is the adobe farming village of Ranchos de Taos (pop c 1,050), with the fine old St Francis of Assisi Mission (present building dating from 1772) Just N of Don Fernando de Taos is the noted Taos pueblo or San Gerónimo de Taos See Blanche C Grant, *When Old Trails Were New* (1934), Mabel Dodge Luhan, *Taos and Its Artists* (1947)

Taos (tous), North American Indian pueblo, N N Mex , on a branch of the Rio Grande and 55 mi NE of Santa Fe The 921 inhabitants are Pueblo Indians of the Tanoan linguistic family In the early 17th cent. it became the seat of the Spanish mission of San Gerónimo, but in the Pueblo revolt of 1680 the Indians destroyed the mission A second revolt occurred in 1847, when the Indians, incited by the Mexicans, killed Gov Charles Bent. Today the Indians farm grain and raise livestock Their ceremonies include the corn dance and the sundown dance

Tapachula (täpächōō'lä), town (pop. 15,187), Chiapas, S Mexico, just west of the Guatemalan border On a coastal plain at the foot of the Chiapas highlands, Tapachula is the commercial center of a coffeegrowing region and has a hot, sultry climate This frontier town is linked by rail and air to the northern cities and to the capitals of Central America. It is on one of the projected routes of the INTER-AMERICAN HIGHWAY.

tapa cloth: see BARK CLOTH.

Tapajós (täpäzhōsh'), river formed at the border of Mato Grosso, Pará, and Amazon states, N Brazil, by the confluence of two large headstreams which rise in central Mato Grosso. It flows c 500 mi. NNE across W Pará into the Amazon at Santarém. Navigation is possible in its lower course, where it passes several rubber plantations

tap dancing, exhibition dance, performed in light shoes with metal plates attached to the toes and heels It evolved from step and clog dancing, and its effect is similar to the sound of castanets Among the celebrated U S tap dancers Fred Astaire and Bill Robinson may be named as outstanding

tapestry, hand-woven fabric of plain weave made without shuttle or drawboy, the design of weft threads being threaded into the warp with fingers or a bobbin The name has been extended to cover a variety of heavy materials, such as imitation tapestries woven on Jacquard looms, tapestry carpets, and upholstery and drapery stuffs True tapestries include various primitive textiles woven on the rudest of early looms, as well as the famous pictorial hangings of the Middle Ages. Antique specimens include a few surviving from Egypt of 1500 B C. and Coptic tapestries made from the 4th to 8th cent A D. On the American continent Peru produced beautiful specimens, some of which date back to the pre-Columbian era Ancient Chinese tapestries, *k'o ssu*, were made of light, thin silks, often interwoven with gold thread Beautiful specimens of both early and late *k'o ssu* are preserved Allusions in early Greek poetry and paintings on Greek vases show that tapestry weaving was an important household industry The history of tapestry weaving is continuous In the 5th cent and the centuries immediately following, monasteries and convents were the centers Woolen tapestries appeared early in Europe A few fragments woven in this material in the 10th or 11th cent are still preserved, they formerly belonged to the Church of St Gereon, Cologne, and are now in Lyons, France, and in the Victoria and Albert Museum, London The design, large circular medallions enclosing a winged griffin attacking a human-faced bull, is Byzantine It was derived from Sassanian silks and translated with some crudities of drawing into a woolen tapestry, probably woven in Germany The cathedral at Halberstadt has some tapestries of the 12th cent The famous set (14th cent) of the Apocalypse was woven in Paris on the looms of Nicolas Bataille and is owned by the cathedral of Angers, Normandy At Arras, early in the 14th cent , the first great French weaving was done, in wool Soon Brussels rose to prominence and remained important through the 17th cent , until the rise of the GOBELINS works at Paris By the 15th cent tapestry weaving had reached a high degree of perfection, and from this century date many great Gothic sets rich with gold thread A fine specimen is the *Burgundian Sacraments* in the Metropolitan Museum of Art A late 15th-century example of a verdure background is the *Lady and the Unicorn* set of the Cluny Museum, Paris An example of the Renaissance period is the widely proclaimed set, the *Acts of the Apostles*, from the cartoons of Raphael The design has become pictorial and is framed by wide borders with arabesques, grotesques, and balcony and garden scenes Fine weaving was done at Beauvais in the mid-17th cent Weavers at Aubusson, France, began in the 16th cent to make an inferior textile which was gradually improved The baroque style dominated the 17th cent when, under the influence of Rubens, many tapestries portrayed figures of heroic size and had wide borders of heavy, twisted columns The rococo and classical styles appeared in the 18th cent Fine examples were woven from the cartoons of François Boucher, who worked both for the Beauvais and the Gobelins looms The *Flute Player*, signed and dated 1755 by Boucher, one of a series of six tapestries, hangs in the Cleveland Museum of Art In England much tapestry, known as Arras, was used before any was manufactured there In the 16th cent William Sheldon set up works in Warwickshire An establishment in imitation of the Gobelins was opened at Mortlake in 1619 and employed Flemish weavers In 1881 William Morris began weaving at Merton, Burne-Jones designed some of the series In 1893 tapestry looms were set up in New York city, but were soon moved to Williamsbridge (now in New York city) Another tapestry works is situated at Edgewater, N J Some interesting 20th-century tapestries are woven in France from cartoons by Rouault, Braque, and Picasso The most important public collections in the United States are those in the Metropolitan Museum and in the Museum of Fine Arts, Boston Both high- and low-warp work (*haute-lisse* and *basse-lisse*) were used in the 14th cent. In a high-warp loom the threads are stretched vertically in front of the weaver, and the *lisses* or loops which raise the alternate threads to make the shed are lifted by hand; in low-warp work, the warp threads are horizontal, and the *lisses* are moved by means of a foot treadle The strong warp threads of wool or linen may vary from 10 to 30 in an inch, but are ordinarily less than 20. The soft, full weft threads of

wool, silk, or metal entirely cover the warp, which remains apparent in the form of ribs In true tapestry, the front and back surfaces are alike, except that portions of the design of the same color are connected by a loose thread that is left hanging at the back The different colors of the design, being worked in separately in blocks or patches, leave little slits between, which are afterward sewn up All are woven with the back to the weaver, who sees nothing of his work until it is finished, unless he uses a mirror to reflect it A CARTOON or painting on linen or paper, often by a noted artist, is provided for the weaver to copy Themes for medieval hangings were drawn from ancient legends, mythology, history, religion, chivalry, and sport The so-called BAYEUX TAPESTRY was actually embroidered See G L Hunter, *Practical Book of Tapestry* (1925), W G Thomson, *A History of Tapestry* (2d ed , 1931), Phyllis Ackerman, *Tapestry, the Mirror of Civilization* (1933)

tapeworm, parasite belonging to a class (Cestoda) of flat worms A number of species live during one stage of their life cycle in the muscle tissue of various mammals and fish, and when such tissue is eaten without having been properly cooked, the parasites enter the human digestive tract There they develop into the adult form, consisting typically of a head region by which it becomes attached to the intestinal wall of the host and a body composed of a series of segments containing reproductive organs The tapeworm absorbs its nourishment from the host and often grows to a length of many feet Sometimes the parasite causes digestive disturbances, anemia, and malnutrition Among those that most commonly infest man are *Taenia solium*, found chiefly in the muscles of the pig, *T saginata*, which occurs in the muscles of cattle, and *Bothriocephalus latus*, a parasite of fresh-water fish (especially pike) which is most prevalent among humans in the Orient In addition to thorough cooking of the food, proper inspection of meats is essential to prevent the spread of tapeworms

Taphath (tā'făth), Solomon's daughter who married one of his officers 1 Kings 4 11

tapioca (tăpēō'kŭ), widely used starchy food, obtained by heating the root of the bitter CASSAVA Tapioca is sold in flake, pellet, or flour form and as the fine-grained pearl tapioca When cooked it becomes transparent and increases in size It is used to thicken puddings and soups

tapir (tā'pur), nocturnal, herbivorous ungulate animal of the jungles of Central and South America and SE Asia The South American tapir is dark brown, and the tapir of SE Asia is black and white, the animals have a thick skin and a long, flexible snout The adult is about 3 ft high and 6 or 8 ft long It seldom travels far from water and plunges in when pursued Its flesh is palatable

Tappahannock (tăpuhă'nuk), town (pop 783), E Va , on the Rappahannock and NE of Richmond, founded 1680, inc 1914 Among its interesting old buildings is the courthouse of Essex co

Tappan, Arthur (tă'pun), 1786–1865, American abolitionist, b Northampton, Mass He made a fortune in the dry-goods business in New York city and with his brother and partner Lewis Tappan gave generously of time and money to various causes, especially to the antislavery movement He contributed to the establishment of Kenyon and Oberlin colleges in Ohio, was elected (1833) the first president of the American Anti-Slavery Society, and, after splitting with William Lloyd Garrison, helped organize (1840) and became president of the American and Foreign Anti-Slavery Society See G H Barnes, *The Antislavery Impulse, 1830–1844* (1933)

Tappan, Lewis, 1788–1873, American abolitionist, b Northampton, Mass He became a partner in his brother Arthur's New York mercantile house in 1828 and in 1841 founded the first agency for rating commercial credit in the United States Lewis held important offices in several antislavery societies and was a delegate to the World Anti-Slavery Convention in London in 1843 He retired from business in 1849 to devote himself exclusively to humanitarian work, mostly for the Negro He wrote a biography of his brother (1870) See C W Bowen, *Arthur and Lewis Tappan* (1883), G H Barnes, *The Antislavery Impulse, 1830–1844* (1933)

Tappan (tăpăn', tă'păn), unincorporated residential village (pop, 1,249), SE N Y , near the N J line SW of Nyack The De Wint Mansion, Washington's headquarters in 1780 and 1783, is here John André, British spy, was tried and hanged at Tappan

Tappan Zee (tă'pŭn zē'), a widening of the Hudson, c 10 mi long, SE N Y , between Croton Point and Irvington It is from 2 to 3 mi wide between Nyack and Tarrytown. Early Dutch settlers gave it its name

Tappuah (tăpū'ŭ). **1** Son of Hebron and eponym of BETH-TAPPUAH. 1 Chron 2 43 **2** Border town of Manasseh, probably c 5 mi NW of Shiloh Joshua 16 8, 17.8. En-tappuah Joshua 17.7 **3** Unidentified town, perhaps the same as Beth-tappuah or as **2.** Joshua 12 17 See also TIPHSAH.

Taprobane: see CEYLON

Tar, river rising in N North Carolina and flowing 217 mi SE to Pamlico Sound. Below Washington, N C , it is called the Pamlico

tar see TAR AND PITCH

Tara (tă'rŭ), Irish *Teamhair Breagh*, agricultural village, Co Meath, Ireland, SE of Navan and NW of Dublin. The Hill of Tara (501 ft high) was from very ancient times until the 6th cent the seat of Irish kings, there are earthworks, and a statue of St Patrick, who preached here, is supposed to mark the location of the LIA FAIL, CORONATION STONE of the ancient high kings There are six raths, the largest of which is 850 ft in diameter. The hill was the scene of a defeat of the Danes in 980 and of the Irish insurgents in 1798, and in the 19th cent it was a rallying place of political factions See R A S Macalister, *Tara, a Pagan Sanctuary of Ancient Ireland* (1931)

Tarah (tā'rŭ), unlocated desert resting place Num. 33 27

Taralah (tă'rŭlu, tură'lu), unidentified town, N of Jerusalem Joshua 18 27

tar and pitch, viscous, black or near black substances obtained from the destructive distillation of coal, wood, petroleum, peat, and certain other materials The heating or partial burning of wood to make charcoal yields tar as a by-product, and is an ancient method for the production of both tar and pitch Coal tar is a residue in the manufacture of coal gas and coke Continued application of heat after tar has accumulated serves to separate it into several materials, one of which is pitch The terms *tar* and *pitch* are loosely applied to the many varieties of the two substances, sometimes interchangeably For example, asphalt, which is naturally occurring pitch, is called mineral tar and mineral pitch Tar is more or less fluid depending upon its origin and the temperature to which it is exposed Pitch tends to be more solid When ships were made of wood, tar had numerous uses, and an available supply of tar was an important factor in maritime growth It made vessels watertight and protected their rope from deterioration All but small quantities of the tar produced now is fractioned to give naphtha, creosote, carbolic oil, and other equally important crude products Among the substances produced by refining the various crude materials are benzol, toluol, carbolic acid, cresol, and phenol Tar from pine wood is used in making soap and medicinal preparations Pitch is used in the manufacture of roofing paper, as a lubricant, in varnishes, and as a binder for coal dust in the making of briquettes used as fuel

tarantella (tărunte'lu), Neapolitan folk dance which first appeared in Taranto, Italy, in the 17th cent It had rapid 6-8 meter with an increasing tempo and was thought to cure the bite of the tarantula, which supposedly caused the disease tarantism Chopin, Liszt, Weber, and others used the dance in the form of a *perpetuum mobile*

Taranto (turän'tō, Ital ta'rantō), Latin *Tarentum* city (pop 103,306), capital of Ionio prov , Apulia, S Italy, on the Gulf of Taranto, an arm of the Ionian Sea It is, after La Spezia, the chief military port of Italy and an important agricultural, commercial, and fishing center A town of MAGNA GRAECIA, it was powerful enough to resist the Romans until 272 B C Destroyed by the Arabs (A D 927), Taranto was rebuilt by the Byzantines As a part of the kingdom of Naples, it was strongly fortified and held as a principality by various lords There are a cathedral (11th cent , restored), a Byzantine castle restored in 1480, and a museum of antiquities

tarantula (turän'chŭlu, -tulu), a wolf spider, *Lycosa tarantula*, of Italy It is also a name for some Asiatic spiders and for various species of large, dark, hairy spiders of the family Aviculariidae found in the warm parts of the Americas Some of the largest, which are found in South America, have bodies from 2 to 3½ in long Tarantulas eat insects but occasionally the larger ones capture small birds Their venom paralyzes their prey but is seldom seriously harmful to man The closely related trapdoor spider makes a cylindrical burrow lined with silk and covered by a hinged lid *Tarantula* is the genus name of certain tailless whip scorpions

Tarascan (tură'skŭn, tŭrä'-, tärä'-), Indian people of Michoacán, Mexico Their language comprises its own linguistic stock Although little is known of their ancient history, they had developed a fairly high civilization by the time the Spanish arrived The Aztec were unable to conquer the Tarascan warriors, and the Spanish had difficulty in subjugating them. On the shore of Lake PÁTZCUARO was their capital and chief stronghold, Tzintzuntzan (tsĭntsōōntsän') [place of the hummingbirds] In the chapel of the present village of Tzintzuntzan is Titian's *Entombment*, presented to the Tarascan by the emperor of Spain in recognition of their loyalty Peculiar to their culture were T-shaped tombs, rising in terraces and faced with stone slabs without mortar When the Spanish arrived, the Tarascan were skilled in weaving and famous for their feathered mosaics made from hummingbird plumage The Tarascan still are noted for weaving, embroidery, and especially lacquer ware, and their music has had an important influence on folk song Agriculture and fishing are the chief means of livelihood

Tarascon (tăräskō'), town (pop 4,919), Bouches-du-Rhône dept , SE France, in Provence, on the Rhone Now chiefly an agricultural market, it was (15th cent) the residence of Good King RENÉ. It has preserved its medieval castle and the partly Romanesque, partly Gothic Church of St Martha (damaged in the Second World War). Tarascon has been immortalized by Alphonse DAUDET in his *Tartarin de Tarascon*

Tarawa (tŭrä'wŭ, tă'ruwă), atoll (7 7 sq mi , pop 3,582), central Pacific, one of the N Gilbert Islands, capital of the British colony of the Gilbert and Ellice Islands Tarawa is a port of entry and the commercial center of the group, exporting copra and pearl shell It is the site of a government hospital and a leper station. An air field is on the southwestern islet of Betio During the Second World War the colony headquarters were moved here from Ocean Island Tarawa was occupied (Dec , 1941) by the Japanese and fell (Nov , 1943) after hard and bloody fighting to U S marines who landed on Betio beach

Tarawera Mountain (ta"rawă'rŭ), volcanic peak, c.1,000 ft high, on N central North Island, New Zealand, in the Hot Springs District Its eruption in 1886 destroyed Lake Rotomahana, which contained unusual sinter terraces

Tarbagatai (tärbagatī'), mountain range, central Asia, on the border of the Kazakh SSR and Sinkiang prov , China It rises to 9,500 ft

Tarbell, Edmund Charles, 1862–1938, American figure and landscape painter, b West Groton, Mass , studied at the School of the Museum of Fine Arts, Boston, and with Boulanger and Lefebvre in Paris He taught (1889–1912) at the museum school in Boston and was principal (1918–26) of the Corcoran School of Art, Washington, D C He adopted an impressionist technique and acquired many subtleties in the handling of light and color and a facile rendering of textures His work includes *Girl Reading* and others (Mus of Fine Arts, Boston), *Josephine and Mercié* (Corcoran Gall), and *Golden Screen* (Pa Acad of the Fine Arts) He is also represented in the museums of Cincinnati, St Louis, Buffalo, N Y , and Worcester, Mass Tarbell became a member of the National Academy of Design in 1906

Tarbell, Ida Minerva, 1857–1944, American author, b Erie co , Pa , grad Allegheny College (B A , 1880, M A , 1883) She is remembered for her investigations of industry published in *McClure's*, some of which were collected in her *History of the Standard Oil Company* (2 vols , 1904) She also wrote *Life of Abraham Lincoln* (2 vols , 1900), other books on Lincoln, and biographies of Elbert H Gary (1925) and Owen D Young (1932) Her economic studies culminated in *The Nationalizing of Business, 1878–1898* (1936) See her autobiography, *All in the Day's Work* (1939)

Tarbert (tär'burt), isthmus at the north end of Kintyre peninsula, Argyllshire, Scotland, between the inlets West Loch Tarbert and East Loch Tarbert A fishing village called Tarbert is on the east inlet

Tarbes (tarb), city (pop 42,778), capital of Hautes-Pyrénées dept , SW France, on the Adour, the historic capital of the Gascon countship of Bigorre Of Gallo-Roman origin, Tarbes became an episcopal see in the 6th cent Its cathedral (11th–13th cent) is largely Romanesque It is now an important tourist center for voyages to the Pyrenees Théophile Gautier and Marshal Foch were born here

Tarboro (tär'buru), town (pop 7,148), co seat of Edgecombe co , E N C , E of Rocky Mount and on the Tar river, laid out 1760 It is the trade and processing center for an area producing cotton, tobacco, peanuts, and corn

Tarde, Gabriel de (gabrēĕl' du tard'), 1843–1904, French sociologist and criminologist During his years of public service as a magistrate, he became interested in the psychosocial bases of crime In *Penal Philosophy* (1890, Eng tr , 1912) and other early works he criticized Lombroso Later he formulated a general social theory, distinguishing between inventive and imitative persons *The Laws of Imitation* (1890, Eng tr , 1903) is his best-known book

Tardieu, André (ädrā' tardyû'), 1876–1945, French statesman and journalist He became (1905) chief political editor of the *Temps*, entered the chamber of deputies in 1914, was minister of the liberated regions (Alsace and Lorraine) in 1919–20, and as French plenipotentiary at the Paris Peace Conference (1919) took an important part in elaborating the Treaty of Versailles Between 1920 and 1934 he held several cabinet posts and was twice premier (1929–30, 1932), during his second term as premier he also was foreign minister A conservative and a nationalist, Tardieu championed the French demand for security from German aggression, thus helping to wreck the DISARMAMENT CONFERENCE of 1932 He resigned as deputy in 1936 and agitated for vigorous action against German aggression, for rearmament, and for a strong government Though Tardieu never was in office long, he was a great power behind the scenes and greatly influenced the policies of the rightist

parties He was ill from 1939 until his death. In his numerous political writings Tardieu displayed an acute intelligence, his conservatism was dynamic rather than complacent

tare (târ), name popularly applied to several species of VETCH, especially to common vetch, *Vicia sativa* The tare of the Scriptures, a weed of grainfields, is thought to have been darnel (see RYE GRASS).

Tarea (târē'ŭ), variant of TARNEA.

Tarentum, Italy, see TARANTO

Tarentum (târĕn'tŭm), industrial borough (pop 9,846), SW Pa , on the Allegheny river and NE of Pittsburgh; laid out 1829, inc 1842 Its manufactures include metal products, wood products, and wrapping paper Coal is mined here.

Targoviste (târ"gôvēsh'tĕ), town (pop 26,038), S central Rumania, in Walachia, NW of Bucharest It is a commercial center and has industries including oil refining, distilling, and flour milling. The capital of Walachia from 1383 to 1698, it has a remarkable 16th-century cathedral with nine towers, a 14th-century palace, and a 15th-century monastery (now a military school)

Targul-Mures (târ'gōōl-mōō'rĕsh) or **Targu-Mures** (târ'gōō-), Hung *Maros Vásárhely* (mō'rôsh vä'-shärhä"), city (pop 47,043), central Rumania, in Transylvania, on the Mures river. It is an agricultural-processing center and has an oil refinery Dating from the 12th cent , the city is an old cultural center Here in 1704 Francis II Rakoczy was proclaimed "ruling prince" of Hungary Most of Targul-Mures was rebuilt after a great fire in 1876 It has retained its 17th-century citadel, several old churches, and the baroque mansions formerly belonging to the Teleki and the Banffy families, magnates of Hungary. The Telekiana library, founded in the 13th cent , has valuable manuscripts, and the imposing modern "cultural palace" contains an art gallery, an ethnographic museum, a library, and a conservatory of music From 1940 to 1945 Targul-Mures was reunited to Hungary.

Targum (târ'gŭm) [Aramaic, =translation], Aramaic paraphrase of the Old Testament When Aramaic replaced the Hebrew tongue among the Jews of Palestine and Babylon, interpreters were called to translate and explain the scriptural passages which were read aloud during synagogue services These oral Aramaic paraphrases were, in the course of time, put down in writing under the name Targum One of the best-known Targums extant is the Targum Onkelos The Targum is printed in the margin of corresponding parts of the Bible

Targu-Mures, Rumania see TARGUL-MURES

Tarifa (tärē'fä), city (pop. 6,362), Cádiz prov , S Spain, in Andalusia, a fortified seaport on the Strait of Gibraltar It is the southernmost city of the European mainland It is named after the Berber leader Tarik, who took the place in 711

tariff, system of customs duties on exports or imports, but usually on imports The purpose of a tariff may be to provide revenue, or it may be levied for the protection of domestic industries against foreign competition Protective tariffs are opposed by advocates of free trade See also FREE TRADE and PROTECTION See F W Taussig, *Tariff History of the United States* (8th ed , 1931), R A Hodgson, *An Introduction to International Trade and Tariffs* (1932), A R Upgren *Reciprocal Trade Agreements* (1937)

Tariff Commission, United States, created (1916) by act of the U S Congress. The Fordney-McCumber Tariff Act of 1922 empowered the commission to suggest to the President such adjustments of tariff rates—within a range of 50 percent upward or downward—as its investigations might prove to be desirable. The Hawley-Smoot Tariff Act of 1930 provided for a reorganization of the U S Tariff Commission and reinvested it substantially with all its previous powers The U S Tariff Commission, consisting of six members appointed by the President and confirmed by the Senate for terms of six years, was given additional responsibilities by New Deal legislation and played a cardinal role in the advising on tariff legislation after the passage (1934) of the Trade Agreements Act An executive order of President Harry S Truman provided (1949) the commission with further functions in the administration of the program of reciprocal trade agreements

Tarija (tärē'ha), city (estimated pop 18,500), capital of Tarija dept , S Bolivia Founded in 1574, Tarija (altitude c 6,300 ft) is in a fertile valley in the eastern watershed of the Andes not far from the oil fields of the Chaco Lack of communication has retarded commercial growth, but the rich soil and moderate climate have made Tarija famous for vineyards and orchards (olives, pears, peaches, and apples).

Tarik (tä'rĭk), fl 711, Berber leader of the Moslem invaders of Spain When the heirs of the Visigothic king, Witiza, asked the African Moors for help against the usurper RODERICK, Tarik crossed (711) from Africa to Gibraltar (originally named for him, in Arabic, Jebel-al-Tarik, i.e., Tarik's mountain) Tarik defeated Roderick in the same year in the battle of Guadalete, but instead of restoring Witiza's heirs, he sent for reinforcements from Africa and conquered most of the Iberian Peninsula within a few years. Thus began the Moorish domination of Spain, which was not fully ended until 1492

Tarim (därēm'), *Mandarin Ta-yeu*, river, c.1,300 mi long, Sinkiang prov., China. The Tarim on its easterly course receives many streams which rise in the Tien Shan, principally the Kashgar. The Tarim is often intermittent, and it terminates in marshes near Lob Nor

Tarkington, Booth (Newton Booth Tarkington), 1869–1946, American novelist and dramatist, b. Indianapolis, educated at Philips Exeter Academy and at Purdue and Princeton universities His first successful novel, *The Gentleman from Indiana* (1899), is typical of his cheerful, realistic stories of Middle Western life Others are *The Conquest of Canaan* (1905), *Alice Adams* (1921; Pulitzer Prize, 1922), *The Plutocrat* (1927), and the trilogy *Growth* (1927), made up of *The Turmoil* (1915), *The Magnificent Ambersons* (1918, Pulitzer Prize, 1919), and *The Midlander* (1923) His amusing stories of boyhood and adolescence include *Penrod* (1914), *Penrod and Sam* (1916), *Seventeen* (1916), *Gentle Julia* (1922), and *Little Orvie* (1934) He dramatized many of his novels, among them *Monsieur Beaucaire* (novel, 1900, play, 1901), and wrote other plays, such as *The Man from Home* (with Harry Leon Wilson, 1908), and *Clarence* (1921) See his reminiscences, *The World Does Move* (1928), and *Your Amiable Uncle Letters to His Nephew* (1949), biography by A. D Dickinson (1926)

Tarkio (tär'kēō), city (pop. 2,114), extreme NW Mo., on the Tarkio river and NW of St Joseph, in the Corn Belt, laid out 1880. It is the seat of Tarkio College (United Presbyterian, coeducational, 1883).

Tarleton Sir Banastre (bă'nustur tärl'tun), 1754–1833, British army officer in the American Revolution, educated at Oxford. He arrived (1775) in America with Cornwallis and was a member of the patrol that captured Gen. Charles Lee at Basking Ridge, N.J. He served with William Howe at Brandywine, Germantown, and Philadelphia Tarleton went to Carolina, formed a mixed force of cavalry and infantry and distinguished himself at Charleston and in the CAROLINA CAMPAIGN before he was overwhelmed by Daniel Morgan at Cowpens After the battle of Guilford Courthouse, he retreated into Virginia and was active in the Yorktown campaign Tarleton returned (1782) to England and served (1790–1806, 1807-12) in Parliament He was the author of *A History of the Campaigns of 1780 and 1781 in the Southern Provinces of North America* (1787)

Tarlton, Richard, d 1588, English actor and wit One of Queen Elizabeth's players, he achieved an immense reputation for his jests, jigs, and doggerel *Tarlton's Jests* (pub 1592?–1611?) is a collection of anecdotes attributed to him He is believed to be the Yorick of *Hamlet*

Tarn (tarn), department (2,232 sq mi , pop. 298,117), S France, in LANGUEDOC, traversed by the Tarn river Albi is the capital

Tarn, river, 233 mi long, S France, in Languedoc. It flows SW from the Cévennes mts past Albi and Montauban and is joined by the Aveyron before emptying into the Garonne

Tarn-et-Garonne (tärn'-ā-gärôn'), department (1,440 sq mi , pop 167,664), SW France, in Guienne and Languedoc. MONTAUBAN is the capital

Tarnopol (tärnô'pôl), Rus *Ternopol* (tyĭrnô'pŭl), city (1931 pop 35,831), capital of Ternopol oblast, W Ukraine, on the Seret river Founded in 1540 and once fortified, it declined after it passed (1772) to Austria Here the Russians resisted the Austrian offensive of 1915. Tarnopol reverted to Poland in 1919 but was ceded to the USSR in 1945. The city is a farm trade center

Tarnow, Pol *Tarnów* (tärnōōf), city (pop. 33,108), S Poland, E of Cracow Dating from the 12th cent., Tarnow is noted for its partly medieval character and for its cathedral (built c 1400). From 1772 to 1919 Tarnow was under Austrian rule Chiefly a trade center, it also has chemical, clothing, and food industries

Tarnowskie Gory, Pol *Tarnowskie Góry* (tärnôf'-skyĕ gōō'rĭ), formerly Pol. *Tarnowice* (tärnôvē'tsĕ), Ger. *Tarnowitz* (tär'nôvĭts), town (pop 18,427), Silesia prov , SW Poland, 15 mi. N of Katowice It manufactures mainly metal products It passed from Germany to Poland in 1921.

taro (tä'rō, tă'rō), general name for several coarse, perennial herbs (genus *Colocasia*) of the arum family. Certain species are known also as cocoa, DASHEEN, eddo, and elephant's-ear. Taro is related to the caladium, and some forms, especially elephant's-ear, are mistaken for caladiums. The plant has heart-shaped or arrow-shaped leaves, often brilliantly colored, the flowers are borne on spadices almost enclosed by spathes. The plant is probably native to the Pacific islands, but is cultivated in many tropical and subtropical regions. It was introduced in the S United States as an ornamental and for its edible rootstocks and its sprouts, which are eaten like asparagus. The rootstocks are a major food on many Pacific islands and in parts of the Far East. The flesh, white or variously tinted, is suggestive of the potato and has an easily assimilated starch. The cooked tuber is served as a vegetable or a pudding or is made into flour. It is used in the preparation of POI, formerly a staple food of the Hawaiians.

tarpan (tär'pän) or **Przhevalsky's horse** (pŭrzhĕvăl'-skēĭ), wild horse of central Asia, the only extant wild horse that is not descended from tame horses. *Przhevalsky's horse* is a translation of the scientific name, given in honor of the Russian explorer The tarpan is found over a large steppe region in herds of five or more, each herd led by a stallion. It is smaller than most of the domestic horses and is dun in color, with brown mane and tail The mane is short and erect. The head is large, with a bulging forehead Many zoological gardens have tarpans They breed freely in captivity, and colts have been tamed The tarpan resembles horses in cave pictures of the Paleolithic period.

Tarpeia (tärpē'vŭ), in Roman legend, a Roman woman who betrayed her city to the Sabines for what they wore on their left arms (their gold bracelets). As they entered they crushed her under a mound of shields, which they also wore on their left arms. The **Tarpeian rock** at Rome, from which criminals were thrown to death, bears her name

Tarpelites (tar'pĕlīts), people of Samaria Ezra 4 9.

tarpon (tar'pŏn), large herringlike game fish most abundant in the Gulf of Mexico and the Caribbean Sea, but known to range from Long Island to Brazil and to the west coast of Africa It sometimes enters rivers The covering of large, silvery scales gives it the name silver king Swift and strong, it tirelessly pursues the shoals of fish on which it feeds It is usually from 6 to 8 ft. in length and averages about 60 lb but may reach 300 lb Its fighting power makes it a favorite with anglers. The scales are sometimes used in ornament.

Tarpon Springs, resort city (pop 3,402), W Fla , on the Gulf coast NW of Tampa, near the mouth of the Anclote, founded 1882. It is one of the largest sponge centers in the world Greek fishermen take out the sponging fleet, and colorful Greek religious festivals draw many visitors. George Inness, with his son, lived here for a time.

Tarquin (tär'kwĭn) [probably from Etruscan, =lord], in Roman tradition, an Etruscan family which ruled Rome Their story is mostly legendary, though there is a core of historic fact. It is said that Demaratus, a Corinthian merchant, settled at Tarquinii, Etruria, where he married an Etruscan woman. He had two sons, Lucumo and Aruns Lucumo, urged by his wife, Tanaquil, a prophetess, went to Rome, where he became a citizen, being called later **Lucius Tarquinius Priscus** (lū'shŭs tärkwĭn'ĕŭs prĭs'kŭs) His ability and patriotism were so signal that he was made king (616 B C) to succeed Ancus Marcius He made Rome the lord of Latium and subdued the Sabines He laid out the Circus Maximus, built the great sewers and the Forum, and held the first games Tarquin's eldest daughter married Servius Tullius, his second married Marcus Brutus After a splendid reign of 38 years Tarquin was murdered by Ancus Marcius' sons, and the throne passed through the influence of Tanaquil to Servius Tullius, whose daughters had married **Lucius Tarquinius Superbus** (Tarquin the Proud) (sūpûr'bŭs) and Aruns, sons of Tarquin Priscus After Servius Tullius had reigned 44 years, Tarquin the Proud murdered him and seized the throne He became a despot and tyrant and repealed all democratic legislation He was successful in war and made Rome the ruler of central Italy W of the Apennines In the vaults of the Capitol he placed the sacred books he had bought in Sicily Tarquin the Proud made his family generally hated by his cruelty, which extended to murdering his nephew, Marcus Brutus, son of the Marcus Brutus who had married Tarquin Priscus' daughter Tarquinia The elder Brutus had two more children, Lucius Brutus and LUCRECE Lucrece was married to **Tarquinius Collatinus** (kŏl'-ătī'nŭs), grandson of Aruns, brother of Tarquin Priscus. Collatinus and his wife lived quietly at Collatia, a town near Tibur, and were in close bonds of friendship with the Brutus family. When Tarquin the Proud's son **Sextus Tarquinius** outraged Lucrece and his victim stabbed herself, her husband and the Brutus family raised a rebellion, and Tarquin lost his throne (510 B C). Collatinus and Lucius Brutus became consuls, but Collatinus soon resigned and went to live at Lavinium in honorable retirement The rest of the Tarquins did not lose hope of regaining the throne, and two great attempts were made to replace them on it, that of LARS PORSENA of Clusium and the fatal expedition ending at Lake REGILLUS These details of the history of the Tarquins are very famous, but they are certainly unhistorical. The truth is probably that the Tarquins are a popular recollection of the Etruscan overlords whom Rome certainly had in the 8th, 7th, and 6th cent. B C., who made the villages of the seven hills into one city-state, the mistress of Latium, and who started Rome on the journey to greatness.

Tarquinii (tärkwĭ'nĭī), ancient Etruscan city, central Italy, NW of Rome. It was the head of the Etruscan League, was defeated in wars with Rome

in the 4th cent B.C., and later lost its independence. The town continued to exist far into the Christian era, was sacked by the Arabs, and was after the 9th cent replaced by near-by Corneto, which is now called Tarquinia and has a museum with Etruscan antiquities Much knowledge of Etruscan life has been gleaned from the paintings in the necropolis of Tarquinii

tarragon (tăr'ŭgŏn), perennial aromatic Old World herb (*Artemisia dracunculus*), related to wormwood and sagebrush. It has long been cultivated in Europe for the leaves, used for flavoring vinegar, salads, sauces, soups, and pickles An essential oil, sometimes called estragon, is occasionally used in perfume Tarragon rarely produces good seed and is usually propagated by division or cuttings.

Tarragona (tărăgō'nă), city (pop 33,708), capital of Tarragona prov., NE Spain, in Catalonia, a Mediterranean port It is an archiepiscopal see and a commercial center with a large wine export. An Iberian town, ancient Tarraco was captured (218 B.C.) by the Romans in the Second Punic War, and it was fortified by them against Carthage Augustus made it the capital of the vast Spanish province of Tarraconensis. It became a flourishing commercial center, among the important Roman remains are ruins of its ancient walls and a well-preserved aqueduct Having fallen to the Visigoths (5th cent) and to the Moors (8th cent), it was recovered (1089) for Christian Spain by the count of Barcelona, but it declined when its trade was captured by Barcelona and Valencia. Tarragona was sacked (1811) by the French in the Peninsular War The construction of a modern port gave it new importance Besides its Roman ruins, Tarragona has remnants of pre-Roman walls. The imposing Romanesque-Gothic cathedral has one of the finest cloisters (13th cent) in Spain Near the cathedral are the archiepiscopal palace and the archaeological museum The Carthusian monks expelled (1903) from the Grande Chartreuse in France settled here and continue to produce their famous liqueur

Tarrant (tă'runt) or **Tarrant City**, city (pop 6,833), N central Ala., near Birmingham

Tarrytown (tă'rētoun), residential village (pop 6,874), SE N Y., in Westchester co., on the east bank of the Hudson and N of New York city, settled in the 17th cent by Dutch, inc 1870 There is an automobile assembly plant here Marymount College (Catholic, for women, 1918) is in the village Washington Irving's home is at adjoining IRVINGTON, and Castle Philipse (see PHILIPSE MANOR) is at North Tarrytown

Tarshish (tar'shĭsh) 1 Eponym of a country distant from Palestine It is traditional to identify the country Tarshish with Spain, especially with the region and city of Tartessus, a Phoenician settlement of S Spain Gen 10 4, 1 Chron 1 7, Ps 48 7, Jonah 1 3 Tharshish 1 Kings 22 48 2 Counselor of Ahasuerus. Esther. 1 14

tarsia. see INTARSIA.

tarsier. see LEMUR

Tarsus (tär'sus), city (pop. 28,829), SE Turkey, in Cilicia, NE of Mersin, on the Tarsus (anc **Cydnus**) river and near the Mediterranean Ancient Tarsus was the capital of Cilicia and one of the most important cities in Asia Minor It was called "no mean city" by Saul, who later became the apostle Paul and who was born there It reached the height of its prosperity and culture under Roman rule Ruins remain of its ancient greatness Modern Tarsus is mainly an agricultural center. Copper, zinc, chromium, and coal are mined in the region

Tartaglia, Niccolò (nēk-kôlō'tärtalyä), c.1500–1577, Italian engineer and mathematician Although largely self-educated, he taught at Verona, Brescia, and Venice He studied fortifications, the raising of sunken ships, and the curves of projectiles. A pioneer in applying mathematics to artillery, he recorded his results in *Della nova scientia* (1537) He developed a solution for cubic equations which Geronimo Cardano (with his pupil Ludovico Ferrari) completed and published in his *Ars magna* (1545), thereby precipitating a bitter dispute. Tartaglia published his version as *Quesiti et inventioni diverse* (1546). He wrote also a treatise on pure and applied mathematics, *General trattato di numeri et misure* (6 parts, 1556–60) and made Italian translations of works of Euclid and Archimedes.

Tartak (tär'tăk), heathen god 2 *Kings* 17 31.

Tartan (tär'tăn), official title of two Assyrians sent to Hezekiah by Sennacherib and Sargon. 2 Kings 18.17, Isa. 20.1.

tartan: see PLAID.

tartar (tär'tŭr) or **argol** (är'gul), impure acid potassium tartrate deposited as a crust in vessels containing fermented wine When purified, it forms white crystals and is known as CREAM OF TARTAR. Tartar is the chief source of tartaric acid, from which ROCHELLE SALT is obtained

tartar emetic, white crystalline salt, soluble in water, chemically a compound of potassium, antimony, oxygen, carbon, and hydrogen. It is prepared by the interaction of an antimony oxide and a solution of cream of tartar (potassium bitartrate) It is used in medicine as an emetic, as an expectorant, and as a diaphoretic. It is widely used in dyeing and calico printing as a mordant.

Tartars: see TATARS

Tartarus: see HELL

Tartary: see TATARS.

Tartini, Giuseppe (jōōsĕp'pā tärtē'nē), 1692–1770, Italian violinist, the greatest violin master of his day In 1728 he founded at Padua a school of violin playing which became known throughout Europe. He altered the shape of the bow, revised bowing technique, and discovered the difference tone (see TONE) which became a means of securing just intonation He wrote a number of theoretical works and composed many violin concertos, trios, and sonatas, among which *The Devil's Trill*, supposedly played to him by the devil in a dream, is the most famous

Tartu (tär'tōō, Ger and Swed *Dorpat* (dôr'pät), city (1934 pop 58,876, 1947 estimated pop 71,000), E Estonia In Estonia it is second in size only to Tallinn and is the seat of a famous university founded in 1632 by Gustavus II of Sweden as well as the commercial and manufacturing center of an agricultural region. The city was founded (1030) as Yuryev by Yaroslav I of Kiev Named Dorpat after its capture (1224) by the Livonian Knights, it developed as a leading trade center and joined (14th cent) the Hanseatic League After the dissolution (1561) of the Livonian Order, the city was contested by Russia, Sweden, and Poland Gustavus II secured its formal cession (1629) at the end of his war with Poland In the Northern War it was captured (1704) by Peter I, and in 1721 Sweden formally ceded it to Russia Its original name, Yuryev, was revived in 1893 only to be changed (1918) to Tartu when Estonia became independent In the Second World War, Tartu was occupied (1941–44) by the Germans A handsome city, Tartu is built around a hill topped by an old fortified castle and a restored 13th-century cathedral (the site of the present university library) Most of the rest of Tartu dates from the 18th and 19th cent

Taschereau, Elzéar Alexandre (ĕlzĕär' ălĕksä'drŭ täshŭrō'), 1820–98, Canadian prelate, cardinal of the Roman Church, b Quebec prov He was educated at the Quebec seminary and ordained a priest in 1842. He served the Quebec seminary for nearly 30 years, first as professor, then as director, and finally as superior In 1871 he was made archbishop of Quebec, in 1886 he was created cardinal, the first Canadian to receive this honor

Taschereau, Sir Henri Elzéar (ärē'), 1836–1911, Canadian jurist, b Quebec prov, educated at the Quebec seminary, nephew of Elzéar Alexandre Cardinal Taschereau He was in the Canadian legislative assembly (1861–67) and later became a judge of the Quebec superior court (1871) and a judge of the Supreme Court of Canada (1878) He was chief justice (1902–6) He was created knight (1902) and made a member of the privy council (1904) He wrote several books on Canadian law His cousin, **Sir Henri Thomas Taschereau** (tōmä'), 1841–1909, was also a jurist He was a judge of the superior court of Quebec (1878–1907), and chief justice of King's Bench in Quebec (1907–9) He was created knight in 1908 Sir Henri Thomas Taschereau's brother, **Louis Alexandre Taschereau** (lwĕ'), 1867–, was minister of public works and labor in the province of Quebec (1907–19), attorney general (1919–20), and prime minister of the province (1920–36)

Tascosa (tăskō'sŭ), ghost town, extreme N Texas, on the Canadian river Founded as a sheep camp in the 1870s, it was in the '80s a "six-gun" town of cowboys, saloonkeepers, prostitutes, and desperadoes See John L McCarty, *Maverick Town* (1946)

Tashkent (tăshkĕnt', täsh-, Rus tŭshkyĕnt'), city (1926 pop. 323,613, 1939 pop 585,005), capital of Uzbek SSR and of Tashkent oblast, in the Tashkent oasis and on the Trans-Caspian RR. The largest and one of the oldest cities of central Asia, it has a large cotton textile industry, food-processing plants, and many light manufactures It is the seat of the Central Asian state university, of several professional and trade schools, and of the Uzbek Academy of Sciences, and it has libraries, museums, and theaters Founded in the 7th cent, Tashkent was under Arabic rule until the 12th cent., when it passed to the shahs of KHOREZM A flourishing commercial center on the historic trade route from Samarkand to Peking, it was conquered (13th cent) by Jenghiz Khan and (1361) by Tamerlane It passed to the khans of KOKAND after the breakup of the Timurid empire, fell (1865) to Russian troops under TCHERNAIEV, and became the capital of Russian Turkistan. It was (1918–24) the capital of the former Turkistan ASSR and replaced (1931) Samarkand as capital of the Uzbek SSR. Tashkent consists of the modern Russian section and of the tortuous old Oriental city Old Tashkent, though picturesque, has few buildings of historic or artistic interest and is in process of modernization Modern Tashkent covers a wide area and consists mostly of small houses with shady gardens that afford relief from the torrid daytime heat The Tashkent oasis produces fruit, vegetables, cotton, and silk Irrigation canals of the Chirchik river, on which Tashkent is located, supply power for several hydroelectric plants

Tashkurgan or **Tash-Kurgan** (täsh'kōōrgän"), town (pop c 20,000), N Afghanistan, E of Balkh and near ruined Khulm

Tasiussak (täsyōō'sak), settlement (pop 223), NW Greenland, N of Upernivik, on Tasiussak Island It is a sealing and whaling station

Tasman, Abel Janszoon (tăz'măn, Dutch a'bul yan'sōn tä'smän), 1603?–1659, Dutch navigator In the service of the Dutch East India Company from c 1632 to 1653, he made several trading and exploring voyages in the Pacific and Indian oceans On a voyage (1639–42) in the N Pacific he visited the Philippines and Formosa, followed the coast of Japan, and discovered several small islands In 1642 he sailed from Batavia in command of the *Heemskerck* and *Zeehaen*, he discovered Tasmania (which he named Van Diemen's Land) and New Zealand, touched the Tonga islands, and returned to Batavia (1643), having circumnavigated Australia and thus demonstrated that no connection exists between it and a polar continent In 1644 he was dispatched to discover the relationship between New Guinea, Tasmania, and the known ports of Australia, he established the continuity of land from the Gulf of Carpentaria to the northwest coast of Australia at the Tropic of Capricorn

Tasman Glacier, largest of New Zealand, 18 mi long and from 1 to 2 mi wide, on W South Island, in the Southern Alps Ski meets are held here

Tasmania (tăzmā'nēŭ), island, area c 24,450 sq. mi., S of SE Australia, between the Indian Ocean and the Tasman Sea and separated from Victoria by Bass Strait It is 190 mi. long and 180 mi. wide, geologically it is a continuation of the Australian continent Mountainous and partly forested, most of Tasmania is rich in natural resources. There are scattered mines producing copper, coal, zinc, tin, lead, gold, and silver The chief exports are canned fruit, metals, wool, grain, and dairy products. The climate is equable and the rainfall moderate Legge Tor (5,160 ft) is the highest peak of the island, Great Lake in the interior is the largest lake and the reservoir of an important hydroelectric plant There is much unexplored territory in the southwest area The Tasmanian tiger or wolf (*Thylacynus*) and the Tasmanian devil (*Sarcophilus*) are animals found only in Tasmania The island was discovered in 1642 by Tasman, who named it Van Diemen's Land Capt James Cook visited it in 1777, and in 1803 Great Britain took possession of the island with the establishment of a penal colony The island was given its present name in 1853, with the last shipment of convicts **Tasmania** state (26,215 sq mi, pop 257,117), with its capital at Hobart, is part of the Commonwealth of Australia The state includes many offshore islands, among which are Bruny, Hunter Islands, Furneaux Islands, and King Island Macquarie Island (850 mi SE of Tasmania) also belongs to the state The penal colony established in 1803 was dependent on the colony of New South Wales until 1825, when Tasmania became a separate British colony In 1901 it was federated with the other colonies to form the Commonwealth of Australia The chief ports are Launceston, Burnie, Devonport, and Franklin The Univ of Tasmania is at Hobart In 1936 underwater telephone lines, 268 mi from shore to shore, were laid between the Australian mainland and the island state

Tasman Sea, arm of the S Pacific, with SE Australia and Tasmania on the west and New Zealand on the east

Tassaert, Jan Pieter Anton (yän' pē'tûr än'tôn tä'särt), 1729–88, Belgian sculptor. Summoned by Frederick the Great, he went to Berlin to become court sculptor His decorative work was in the manner of the French rococo. The best known of his statues are those of the Prussian generals Seydlitz and Keith (both cadet school, Gross-Lichterfelde) Contrary to the custom of the time, they are represented in their own uniforms instead of in antique draperies

Tassie, James, 1735–99, Scottish gem engraver and modeler Abandoning his early trade of stonemason, he went to Dublin, where he became laboratory assistant to Dr Henry Quin and with him invented an especially hard and fine-textured white enamel, an exceptional medium for making replicas of gems In 1766 he went to London, where he executed numerous commissions to duplicate famous collections, notably many thousands of specimens for Catherine of Russia. He did much work for Wedgwood and made the first plaster cast of the Portland vase A collection of his portrait medallions of eminent contemporaries is now in the Scottish National Portrait Gallery, Edinburgh A catalogue of Tassie's work was edited by R. E Raspe in 1791

Tasso, Torquato (tôrkwä'tō täs'sō), 1544–95, great Italian epic poet, author of *Jerusalem Delivered;* son of Bernardo Tasso (1493–1569), a poet of merit Torquato was educated by the Jesuits at Naples, served Luigi and Alfonso d'Este, and was twice confined as insane Released, he wandered from court to court, dying a short time before he was to

have been crowned poet laureate He wrote lyrics, dialogues, prose miscellany, the pastoral drama *Aminta*, and his epic, *Rinaldo*, but his masterpiece is the epic *Jerusalem Delivered* (Ital. *Gerusalemme liberata*), which celebrates the First Crusade It is a majestic work filled with striking episodes and impressive characterizations Tasso's poetry was immediately hailed as greatest of his period, and its faultless elegance surely places him among the first of Italian poets, but many critics now hold Ariosto to be his superior The story used by Goethe in his *Torquato Tasso* is based on legend There are several good English translations of Tasso

Tassoni, Alessandro (älĕs-sän'drō täs-sō'nē), 1565–1635, Italian poet and critic He spent much of his life in the service of Charles Emmanuel I of Savoy and Francesco I of Modena He is best known for his mock-heroic poem, *Secchia rapita* [the rape of the bucket] (1622), which preceded Pope's *Rape of the Lock* and which ridiculed the Italian civil wars Among his other works are an attack on the Petrarchian sonneteers and the philippics against Spain

taste, one of the five senses of the body produced by the stimulation of taste buds which are most abundant on the tongue but are found also in some other portions of the mouth cavity Although the number of different "tastes" is large and is dependent in part on the association of other senses such as smell and touch, only four fundamental "tastes" are detected by the taste buds—bitter, sweet, salt, and acid or sour The buds consist of a mass of supporting cells surrounding the taste cells which bear hairs at their tips, substances in solution stimulate these hairs and the sensation is carried from the taste cells by nerve fibers to the brain

Tatar Autonomous Soviet Socialist Republic (tä'tûr, Rus tŭtär'), autonomous republic (26,100 sq mi; pop 2,919,423), E central European RSFSR, in the middle Volga and lower Kama valleys KAZAN is the capital A predominantly agricultural area, with black earth in the south and podsol in the north, it produces wheat and other cereals, vegetables, fruit, sunflowers, and flax Its industries are largely based on its agricultural produce and on its timber The population is mainly Turco-Tatar (49 percent) and Russian (43 percent), the rest being Chuvash, Udmurt, and Mordvinian Islam of the Sunnite branch is the chief religion The region was dominated (8th–13th cent) by the Eastern BULGARS and was conquered (1236) by the GOLDEN HORDE The khanate of Kazan was the most powerful of the Tatar states that emerged from the empire of the Golden Horde, it was conquered for Russia in 1552 by Ivan IV The Tatar ASSR was organized in 1920

Tatars (tä'turz) or **Tartars** (tär'turz), collective name applied to the peoples that overran parts of Asia and Europe under Mongol leadership in the 13th cent It is now the accepted theory that the name Tatar was first given them in Persia and that the spelling Tartar is due either to an erroneous association with the word *Tartarus* or to a pun (attributed to Pope Innocent IV) on the same word The original Tatars probably came from E central Asia or central Siberia, unlike the MONGOLS, they spoke a Turkic language and were possibly akin to their predecessors in S Russia and SE Europe, the CUMANS or Kipchaks and the PECHENEGS However, after the conquests of the Mongol JENGHIZ KHAN, the Mongol and Turkic elements of the invading hordes gradually merged and became known to the peoples of Europe collectively as Tatars The Mongol invasion, led by BATU KHAN, into Hungary and Germany in 1241 is also known as the Tatar invasion After the wave of invasion receded eastward, the Tatars continued to dominate nearly all of RUSSIA and Siberia They were originally nomads, moving across the vast Asiatic and Russian steppes with their families and their herds of cattle and sheep Extremely frugal, the Tatar warriors on their fast ponies carried out long and spectacular raids, in the course of which they gathered an enormous amount of loot The gorgeous tents of Batu Khan made his successors known as the GOLDEN HORDE The empire of the Golden Horde—also known as the Kipchak khanate—controlled most of Russia either directly or through exacting tribute from the Russian princes The Golden Horde adopted Islam as its religion in the 14th cent Internal divisions, the expansion of Moscow, the invasion by TAMERLANE, and the appearance of the Ottoman Turks contributed to the disintegration of the Tatar empire in the late 15th cent The independent khanates of KAZAN, ASTRAKHAN, SIBIR, and CRIMEA emerged Tsar Ivan IV conquered (16th cent) those of Kazan, Astrakhan, and Sibir (Siberia), and the khans of Crimea became (1478) vassals of the Ottoman Empire Nevertheless Siberia long continued to be known as Tartary and the Crimean domains as Little Tartary The Crimean Tatars continued to harass Russia and Poland and to exact tribute from the tsars They raided Moscow as late as 1572 The majority of the Tatars in Russia had by that time reached a relatively high degree of civilization. They were generally settled, were skillful in agriculture and crafts, and had great centers of Moslem learning Only minorities, such as the Nogais, who were subject to the Crimean khans, remained nomadic Tatar influence on the whole course of Russian history was very great Many Russian noble families were of partly Tatar origin The social and military organization of the Muscovite state was influenced by those of the Tatars, and many Russian customs are traceable to them Along the expanding borders of the Russian state, settled by COSSACKS (who imitated the Tatars in many ways), the Tatars played a role somewhat similar to that of the Indians on the American frontier In 1783 the last Tatar state, Crimea, was annexed to Russia The Nogais were gradually pushed eastward into the Caucasus by the Russian settlers The Crimean Tatars themselves—except for the large numbers that emigrated to Turkey—remained until the Second World War, when they were largely resettled elsewhere in the USSR because they were accused of collaborating with the German invaders In 1939 there were c 4,300,000 Tatars in the USSR They speak a Turkic language akin to Osmanli and are—except for a few Christians and shamanists—Sunnite Moslems They predominate in the Tatar ASSR (see separate article), but the majority live dispersed in the E European RSFSR and in W Siberia Under the tsarist regime the term Tatar had a broader official meaning, including the Azerbaijani Turks and several tribes of the Caucasus See René Grousset, *L'Empire des steppes* (1939), D. S Mirsky, *Russia a Social History* (1931)

Tatar Strait (tä'tûr), arm of the Pacific Ocean, between the island of Sakhalin and the Asiatic mainland It is c 350 mi long and 5 to 80 mi wide and connects the Sea of Japan in the south with the Sea of Okhotsk in the north It is sometimes also called the Gulf of Tatary.

Tate, Allen, 1899–, American poet and critic, b Winchester, Ky, grad Vanderbilt Univ, 1922 A member of the Southern agrarian group of writers, he helped found the magazine *Fugitive* and contributed to it Among his early works are biographies of Stonewall Jackson (1928) and Jefferson Davis (1929) His only novel is *The Fathers* (1938) He has taught English literature in several colleges, was the resident fellow of poetry at Princeton (1939–42), held the chair of poetry at the Library of Congress (1943–44), edited the *Sewanee Review* (1944–46), and in 1946 became an editor of books His poetry, highly intellectual, often obscure, has been published in many collections, a selection, *Poems, 1922-1947* appeared in 1948 A keen and sensitive critic, he has written, among other essays, *On the Limits of Poetry* (1948)

Tate, Sir Henry (tāt), 1819–99, English merchant and patron of art, founder of the TATE GALLERY His prosperity as a sugar merchant, first in Liverpool and later in London, was in part owing to his invention of a method of cutting sugar into small cubes He had the device patented, and Tate's Cube Sugar became a widely demanded commodity His wealth was distributed in benefactions to Liverpool's University College and hospitals and in the form of free libraries in London Having selected with discrimination a group of contemporary paintings for his private gallery, he offered them, with a building, to the nation if a site could be found by the government He was created baronet in 1898

Tate, Nahum (nā'hum), 1652–1715, British poet, b Dublin, grad Trinity College, Dublin, 1672 He made (1681) a popular adaptation of *King Lear*, in which Cordelia lives to marry Edgar, and with Dryden he wrote the second part of *Absalom and Achitophel* (1682) In 1692 he became poet laureate With Nicholas Brady he wrote a well-known metrical version (1696) of the Psalms

Tate Gallery, Millbank, London, originally the National Gallery of British Art The building, on the former site of Millbank Prison, and a collection of 65 modern British paintings was given by Sir Henry Tate and was opened in 1897 It was extended by another gift of Tate's in 1899, and in 1910 was completed the Turner wing, the gift of Sir Joseph Duveen A gallery of modern foreign art was added in 1916, and three new galleries for foreign art and one for the works of John Singer Sargent were opened in 1926 The museum was damaged in the Second World War. In 1946 an exhibition of American art was held

Tati (tä'tē), region, area 2,069 sq mi, NE Bechuanaland protectorate. It is a mining concession Here, in 1864, gold was discovered, and profitable mining operations were soon begun

Tatian (tā'shŭn), 2d cent, Christian apologist Probably born in Syria, he was a pupil of JUSTIN MARTYR After his master's death, he left Christianity, becoming an Encratitic Gnostic—i e, he regarded all matter as evil and denied the salvation of Adam While a Christian, he wrote *Oratio ad Graecos* [address to the Greeks] (152–55), a defense of Christianity bolstered by a bitter attack on Greek arts and institutions, and the *Diatessaron*, a harmony of the four Gospels which was long the only life of Christ available in Syria.

Tatius, Achilles: see ACHILLES TATIUS.

Tatler, periodical: see SPECTATOR

Tatnai (tāt'nāī), Persian satrap of the province W of the Euphrates at the time of Zerubbabel Ezra 5 3,6, 6 6,13

Tatra (tä'trŭ) or **Tatras** (tä'trŭz), Pol and Slovak *Tatry* (tä'trĭ), highest mountain group of the Carpathians, in E central Europe The High Tatra extends along the Polish-Czechoslovak frontier; its highest point, the Stalin Peak (8,737 ft), is in Slovakia and was formerly known as Franz Joseph Spitze and as Gerlachovka (Ger *Gerlsdorfer Spitze*) The Low Tatra lies entirely in Czechoslovakia, it rises to 6,708 ft in the Dumbier, W of Kosice The scenic beauty of the Tatras and their excellent ski slopes have made them a favorite mountaineering and winter sports area Several resorts in Slovakia were incorporated in 1949 into the single commune of Vysoke Tatry On the Polish side, Zakopane is the best-known resort

Tatti, Jacopo: see SANSOVINO, JACOPO.

Tattnall, Josiah 1795–1871, American naval officer, b near Savannah, Ga Appointed a midshipman in 1812, he served in the War of 1812, the war against Algiers, and the Mexican War and was promoted captain in 1850 As flag officer of the Asiatic squadron he aided (1850) the French and British fleets in their attack on Chinese forts He declared that "blood is thicker than water," and public opinion supported his breach of neutrality In 1861 Tattnall became a captain in the Confederate navy He commanded the *Virginia* after its fight with the *Monitor* (see MONITOR AND MERRIMAC) and destroyed the ship to avoid capture He commanded at Savannah, Ga, until Gen W T Sherman took the city in Dec, 1864 See biography by C C Jones (1878)

tattoo, custom of marking the skin, practiced in many parts of the world The three known methods are puncture, exemplified by needle tattoo, done in modern times with an electric needle, incision or scarring, and sewing, an exclusively Eskimo technique Saltpeter, ashes, resin, or herbs are sometimes rubbed into the broken skin to create a broad, swollen scar or cicatrix, such as those characteristic of Sudanese tattoos Pigment in tattooing allows finer and more precise patterns The Japanese perfected the use of color, among primitive peoples, certain Oceanic groups excel in dyed tattoos Although often skillfully developed and aesthetically elaborated, as among the Maoris, tattooing primarily serves utilitarian needs The practice may be associated in some areas with the sacrification required for mourning observances It may be fetishistic, as its use among the Mohammedans to ward off the evil eye, or it may provide socially distinguishing marks of caste, tribal, or status affiliation Tattooing has also been employed together with the less humane practice of branding, to identify criminals or political prisoners Tattoo was practiced by the Egyptians during the Middle Empire (c 2000 B C) The Old Testament enjoins the Israelites against the practice In modern Western cultures it has lost most of its significance and is commonly regarded as a somewhat vulgar practice See W D Hambly, *The History of Tattooing and Its Significance* (1927)

Tau (tou), island (14 sq mi, pop 754), Manua dist, American SAMOA, c 70 mi E of Tutuila Tau is cone shaped, with steep, forested slopes, its highest point is 3,056 ft

Tauber, Richard (tou'bur), 1892–1948, Austrian tenor He made his debut (1913) in Chemnitz, Germany, as Tamino in Mozart's *Magic Flute* Later he sang in opera and concert all over Europe and made his American debut in 1931 Although he was noted in opera and as a lieder singer, he was best known for his work in operettas, particularly those of Lehar, and in 1946 appeared in New York in *Yours Is My Heart*, an adaptation of Lehar's *Land of Smiles* In 1938 he fled Austria, sang at Covent Garden in 1939, and in 1940 became a British subject

Tauler, Johannes (yōhä'nus tou'lur), c 1300–1361, German mystic, b Strasbourg He was a Dominican He met Meister ECKHART, either at Strasbourg or in Cologne, where he went to study and was one of Eckhart's disciples He also knew SUSO When Strasbourg was put under interdict, Tauler went to Basel (1338–39), where he became closely associated with the leaders of the Friends of God, a popular mystical movement which spread Eckhart's teachings He was one of the greatest of medieval preachers, and his sermons were widely disseminated These are intellectual appeals to strengthen the spiritual life, and they abound in striking analogies and keen observations. In spite of their orthodox and scholastic Catholicism, they have been much admired by Protestants Collections of Tauler's work often include sermons falsely attributed to him See A W Hutton, ed, *The Inner Way* (1905), A G. Sseshols, *Friends of God* (1934), Rufus M Jones, *The Flowering of Mysticism* (1939)

Taunton (tôn'tun, tän'–), municipal borough (1931 pop 25,178; 1947 estimated pop 32,010), co seat of Somerset, England, on the Tone and SW of Bristol, in the valley of Taunton Deane It is a trade center. King Ine of Wessex built a castle

here, probably early in the 8th cent William Giffard, bishop of Winchester, founded a priory and built the castle, part of which is now a museum. Perkin Warbeck occupied the castle in 1497, and in the civil wars Admiral Blake held it (1644–45) for the parliamentarians, in 1685, after Monmouth's Rebellion, Lord JEFFREYS held in the castle the "Bloody Assizes" Richard Foxe, bishop of Winchester and benefactor of Taunton, founded Taunton School in 1522 St. James's Church dates from the 15th cent., and St. Mary Magdalene's from the 16th.

Taunton (tän'tən, tôn'–), city (pop 37,395), a co. seat of Bristol co, SE Mass, on the Taunton river and E of Providence, R I, inc as a town 1639, as a city 1864 This area, called Cohannet and frequented by the Indians for fish, was settled in 1638. Its industries include cotton mills, stove works, and britannia and silverware factories

Taunus (tou'nōōs), range, Hesse, W Germany, a part of the Rhenish Slate Mts It extends c 50 mi ENE from the Rhine and N of the Rhine and rises to 2,887 ft in the Grosser Feldberg The Taunus is covered by beautiful forests Its southern slopes, the Rheingau region, has famous vineyards, notably at Rüdesheim, Johannisberg, Biebrich, and Kastel Wiesbaden, Bad Nauheim, and Bad Homburg, the best known of the many mineral spas in the Taunus, are favored because of their idyllic surroundings as well as their curative waters

Taupo, Lake (tou'pō), largest lake of New Zealand, area 241 sq mi, 25 mi long and 17 mi wide, on central North Island More than 20 rivers feed the lake, the Waikato river is its outlet It is in a volcanic area known as the Hot Springs District The lake is known for rainbow trout

Taurage (tourägä'), Ger *Tauroggen* (tou'rôgün), city (pop 10,561), SW Lithuania Its industries include meat packing, wool, cotton and leather manufactures, and flour milling Taurage dates from the 13th cent The Convention of Tauroggen was concluded here in Dec, 1812, by the Prussian general YORK VON WARTENBURG with Russia Acting on his own authority, York, whose troops were a contingent of Napoleon I's defeated *Grande Armée*, declared his corps neutral and thus permitted the Russians to push their pursuit of the French This step prepared the alliance of Prussia with England and Russia against Napoleon

Taurida, RSFSR see CRIMEA

Tauriscus see FARNESE BULL

Tauroggen, Convention of see TAURAGE

Taurus (tô'rus), Turkish *Toros* (tôrôs'), mountain chain, S Turkey, extending roughly parallel to the Mediterranean coast of S Asia Minor Its northeastern extension across the Sevhan river is called the Anti-Taurus The highest peak of the Taurus proper is the Ala Dag (12,251 ft), at its eastern end However, Erciyas Dag (anc *Mount Argaeus*), reaching 12,848 ft, is sometimes considered part of the Taurus although it rises in central Anatolia, in an outlier of the Taurus proper The Amanos Mts, along the eastern shore of the Gulf of Iskenderun, are also considered an offshoot of the main Taurus The Taurus is crossed, N of Tarsus, by the CILICIAN GATES The range has important chromium deposits and other minerals (notably copper, silver, lignite, zinc, iron, and arsenic)

Taurus (tô'rus) [Latin,=the bull], in astronomy, a zodiacal constellation, represented pictorially as the fore part of a bull In Greek legend Zeus either assumed the form of the bull himself or sent the bull to carry Europa over the sea to Crete Aldebaran, a first-magnitude giant red star in the constellation, has long been used in navigation Two notable star clusters, the PLEIADES and the HYADES, are found in Taurus The constellation also includes a number of double stars (observable with small telescopes) and the Crab nebula Taurus is the second sign of the zodiac

Taussig, Frank William (tou'sig), 1859–1940, American economist, b St Louis, Ph D Harvard, 1883 At Harvard, where he taught from 1882 to 1935, he helped found the school of business administration An authority on international trade, he served (1917–19) as chairman of the U S Tariff Commission *Wages and Capital* (1896) and *International Trade* (1927) were among his important works, which also included the influential *Principles of Economics* (1911, 4th ed, 1939), written from the classical point of view

Tavares (tùvä'rĭs), town (pop 1,119), co seat of Lake co, central Fla, between Eustis and Dora lakes, in a citrus-fruit and resort area

Tavastehus, Finland see HAMEENLINNA.

tavern: see INN

Tavernier, Jean Baptiste (zhä' bätēst' tävĕrnyā'), 1605–89, French traveler in Asia He undertook six voyages, which took him as far as the East Indies and Java, and he acquired a fortune in the trade of precious stones Ennobled (1669) by Louis XIV, he took the title baron d'Aubonne after an estate he bought near Geneva. A Protestant, he left France after the Revocation of the Edict of Nantes and died on a seventh journey, which was to take him to the Orient by way of Russia His *Six Voyages en Turquie, en Perse et aux Indes* (1676–77) is a mine of information and has been frequently reprinted It has been translated into English by Valentine Ball as *Travels in India* (2 vols, 2d ed, 1925)

Tavistock (tă'vĭstŏk), village (pop 1,066), S Ont, ESE of Stratford It has flour mills

Tavistock urban district (1931 pop 4,471, 1943 estimated pop 6,056), Devonshire, England, in the valley of the Tavy and on the west border of Dartmoor. It is in a district formerly important for its mines There are ruins of a Benedictine abbey It was founded here in 901, destroyed by the Danes, rebuilt much later (the church in the 13th cent, most of the rest in the 15th cent), and disused after the Reformation Another church (1318) has an unusual tower supported by four arches There is a monument to Sir Francis Drake, who was born near Tavistock

Tawas City (tô'wus, tä'–), city (pop 1,075), co seat of Iosco co, N Mich, on Tawas Bay, an inlet of Saginaw Bay, settled c 1853, inc as a village 1885, as a city 1895 It is a resort and fishing center There are gypsum quarries here

Tawney, Richard Henry (tô'nē), 1880–, English economist, b Calcutta, educated at Rugby and at Oxford He is professor of economic history at the Univ of London Among his works are *The Acquisitive Society* (1920), *Religion and the Rise of Capitalism* (1926), *Equality* (1931, 3d ed, 1938), and *Land and Labour in China* (1932) He also edited, with A F Bland and P A Brown, *English Economic History Select Documents* (1914)

taxation, usual means of providing the revenue of a government An enforced levy to meet an emergency is distinguished from taxation, as not a part of a system, and fees for special services, as postage, are not taxes A government may secure its revenue without taxation, as from natural resources, manufactured products, or services Taxes are sometimes resisted when those who must pay them consider them too onerous, such resistance was one of the causes of the American Revolution Ease of collection is accounted a merit in a tax, and ability to pay is one test of the amount that an individual should contribute A general property tax formerly met requirements in the United States satisfactorily, but as property increasingly assumed forms that escape taxation, the burden on farms, once the usual form of property, became more than they could carry A POLL TAX, disregarding difference in ability to pay, was satisfactory when such differences were negligible A general sales tax likewise tends to disregard ability to pay, a poor man may require as much salt, for example, as a rich man A tax on luxuries is free in part from this objection, though the luxury of one may be necessary to another, an automobile and the gasoline it requires are not luxuries to a country doctor CUSTOMS duties have occasioned great debates on PROTECTION and FREE TRADE. Use has been made increasingly of graduated income and inheritance taxes (see INCOME TAX and INHERITANCE TAX) Internal revenue taxes, as on tobacco and alcoholic beverages, encounter little resistance, when too high, they encourage bootlegging A SINGLE TAX on economic rent is advocated by the followers of Henry George See E R A Seligman, *The Shifting and Incidence of Taxation* (5th ed, 1927), Carl Shoup, *Facing the Tax Problem* (1937), R F Magill, *Impact of Federal Taxes* (1943)

Taxco (tä'skō), city (pop 4,963), Guerrero, SW Mexico Founded in 1529 as a silver-mining community, Taxco was also an important stop between Mexico City and ACAPULCO in Spanish colonial trade with the Philippines It achieved real prominence as a mining center under José de la Borda, who after 1717 constructed roads and built the superb colonial church Clinging to the side of a mountain, Taxco is a good example of the Spanish colonial town, with steep cobbled streets, overhanging grilled balconies, red-tile roofs, and fine glazed tiles set in white or pastel adobe walls New building is restricted, and colonial monuments are protected by the Mexican government A famous center of silver smithing, Taxco attracts artists, writers, and tourists

taxidermy (tăk'sĭdûr"mē), process of skinning, preserving, and mounting vertebrate animals so they appear lifelike The fur or feathers are cleaned, and the skin is treated with a cleansing and preserving preparation and is mounted on a manmade skeleton At first, animals were literally stuffed, they were hung downward and filled with straw. Animals were later mounted on manikins of tow and excelsior, a further improvement was the manikin of wire netting and papier mâché. A method of mounting which preserved the true contours of a specimen was devised by Carl E Akeley. In this method animals are first modeled in clay, then a plaster mold is made, from which is produced a light, durable frame that holds the skin deftly in position The introduction into museums of groups of animals in their natural environment began in the latter part of the 19th cent Sir William Flower, director (1884–98) of the British Museum, made museums both attractive and instructive by placing stuffed animals in their natural habitat. Groups were introduced into the American Museum of Natural History largely through the efforts of William T Hornaday The use of habitats combined with the new methods in taxidermy gave a greater illusion of reality to the museum exhibits

Tay (tā), largest river of Scotland, 118 mi long It rises on Ben Lui (3,708 ft high), Argyllshire, and is called the Fillan for a few miles until it enters Loch Dochart, whence it is called the Dochart until it enters Loch Tay (14½ mi long and 1 mi wide) It enters the North Sea through the tidal Firth of Tay (25 mi long) Its drainage area includes most of Perthshire and parts of Angus and Argyllshire The chief economic value of the stream lies in its salmon fisheries Tay Bridge crosses the firth at Dundee Dunkeld and Perth are on the river

Taygetus (tăj'ĭtŭs), mountain range of the Peloponnesus, S Greece It extends 65 mi from NW Laconia S to Cape Matapan and rises to 7,895 ft at Mt Hagios Ilias, SW of Sparta

Taylor, Bayard, 1825–78, American journalist, traveler, and author, b Kennett Square, Pa His romantic verse in *Ximena and Other Poems* (1844) secured him a long-standing assignment as correspondent for the New York *Tribune* In *Views Afoot* (1846) are his European sketches, a trip to California and Mexico resulted in *Eldorado* (1850), a description of the gold rush in the West which helped stimulate Western migration His travels continued—to the Far East, to Japan with Commodore Perry, to Russia, to Africa as one of the first white men to penetrate the interior, to Egypt, and often to Europe His once famous lectures travel books, and novels have proved ephemeral, perhaps the best of his poetry is *Poems of the Orient* (1854) and in his verse drama *Prince Deukalion* (1878) His most ambitious work was his metrical translation into English (1870–71) of Goethe's *Faust*, which earned him the appointment as U S minister to Germany in 1878 He died in Berlin See his letters (ed by J R Schultz, 1937), biographies by Marie Hansen-Taylor and H E Scudder (1884) and R C Beatty (1936)

Taylor, Bert Leston, 1866–1921, American newspaper columnist, b Goshen, Mass He worked for a number of newspapers before establishing his column, "A Line o' Type or Two," signed B L T, in the Chicago *Tribune* in 1909 Until Taylor's death this was the most famous daily column in America It contained editorial comment, highly polished satiric verse, and humorous contributions sent in by readers Taylor was also the author of a novel, a libretto for a musical comedy, and numerous short stories

Taylor, Brook, 1685–1731 English mathematician He is known for Taylor's theorem, a complex mathematical formula concerning functions, first set forth in his *Methodus incrementorum directa et inversa* (1715), it forms the basis of differential calculus In his work *Linear Perspective* (1715) he first expounded the principle of vanishing points which has been of value to artists His solution of the problem of the center of oscillation led to a translation into mathematical terms of the physical principles governing the vibration of a string

Taylor, Deems (Joseph Deems Taylor), 1885–, American composer and music critic, b New York city, grad New York Univ, 1906 After other journalistic posts he was music critic (1921–25) of the New York *World* and editor (1927–29) of *Musical America* In 1933 he began appearing in sponsored radio programs and in the same year was appointed music consultant for CBS He was intermission commentator (1936–43) for the New York Philharmonic broadcasts His first widely recognized composition was the orchestral suite *Through the Looking Glass* (1919, revised 1922) Two of his operas were commissioned by the Metropolitan Opera Company—*The King's Henchman* (1927), with libretto by Edna St Vincent Millay, and *Peter Ibbetson* (1931), based on George Du Maurier's novel He has composed several other orchestral works and incidental music for a number of plays He appeared as commentator in Walt Disney's moving picture *Fantasia* (1940) His books include *Of Men and Music* (1937), *The Well-tempered Listener* (1940), and *Music to My Ears* (1949)

Taylor, Edward, c 1645–1729, American poet and clergyman, b England, grad Harvard, 1671 He became Congregational minister at Westfield, Mass, in 1671 and remained there the rest of his life, acting also as a physician. It was known that he wrote poetry, but by his request no volume was published by him or his family. *The Poetical Works of Edward Taylor* (ed by T H Johnson, 1939) contains most of his best work and reveals Taylor as a Puritan who wrote in the metaphysical tradition of George Herbert, Donne, and Crashaw Some of his best poems are the short "Sacramental Meditations" on biblical texts

Taylor, Edward Thompson, 1793–1871, American Methodist missionary preacher, known as Father Taylor, b Richmond, Va As an orphan of seven he began a life at sea, and in the War of 1812 he was captured and imprisoned in Nova Scotia. Returning to Boston, where he had earlier been converted in a Methodist meeting, Taylor was licensed (1814) to preach, and in 1819 he was ordained in

the Methodist ministry. In 1830 he became the missionary in charge of the Seamen's Bethel in Boston His knowledge of life at sea and his effective use of nautical language were factors in his successful work among sailors, he was widely known and much beloved Walt Whitman wrote an article about him, and the sermon of Father Mapple in Melville's *Moby Dick* reflects Taylor's language and manner He is mentioned in Dickens's *American Notes* and in Emerson's journals and by other writers of the period

Taylor, Francis Henry, 1903–, American museum director, b Philadelphia, grad Univ of Pennsylvania, 1924, studied in Paris, Florence, Rome, and Barcelona He began his museum career as assistant curator (1927–28) and then curator of medieval art (1928–31) of the Philadelphia Museum of Art. As director (1931–40) of the Worcester (Mass) Art Museum he did much to stimulate public interest in the museum He became director of the Metropolitan Museum in 1940 and has further developed his theory of the museum as an institution of active public service, not simply a repository of art His writings on this subject include *Babel's Tower* (1945), *The Taste of Angels* (1948) is a history of art collecting

Taylor, Frederick Winslow, 1856–1915, American industrial engineer, called the father of SCIENTIFIC MANAGEMENT, b Germantown, Pa , grad Stevens Institute of Technology, 1883 His management methods for shops, offices, and industrial plants were successfully introduced in many industries, notably in steel mills He was the author of *Principles of Scientific Management* (1911), *Shop Management* (1911), *Concrete Costs* (with S E Thompson, 1912), and *Scientific Management* (ed by C B Thompson, 1914) See biography by F B Copley (1923)

Taylor, George, 1716–81, American Revolutionary patriot, signer of the Declaration of Independence, b. Ireland He settled in Pennsylvania (1736) and engaged in iron manufacture Taylor was a member of the Pennsylvania assembly (1764–69, 1775), a county judge, an officer of the Pennsylvania militia, and a delegate to the Continental Congress (1776–77)

Taylor, Glen Hearst, 1904–, U S Senator (1945–), b Portland, Oregon He joined (1919) a dramatic stock company and after 1926 became a business manager in various entertainment enterprises He was elected (1944) U S Senator from Idaho on the Democratic ticket, and in 1948 he bolted the Democratic party to run as Vice President along with Henry A WALLACE for the Progressive party After his defeat he returned (1948) to the Democratic party

Taylor, Graham, 1851–1938, American social worker and clergyman, b Schenectady, N Y , grad Rutgers, 1870 Ordained as a minister in the Dutch Reformed Church, he served several pastorates before 1892, when he began teaching social economics at the Chicago Theological Seminary In 1894 he founded Chicago Commons, one of the first social settlements in the country, and was resident warden until his death He was president (1903–20) of the Chicago School of Civics and Philanthropy and was associate editor of the *Survey* See his two autobiographical volumes, *Pioneering on Social Frontiers* (1930) and *Chicago Commons through Forty Years* (1936)

Taylor, Henry Osborn, 1856–1941, American scholar and author, b New York city, grad Harvard, 1878 His lifework was the study of ancient and medieval civilization Among his books are *Ancient Ideals* (1896), his masterpiece, *The Medieval Mind* (1911), *Thought and Expression in the Sixteenth Century* (2d ed , 1930), and *A Historian's Creed* (1939)

Taylor, Isaac, 1829–1901, English clergyman, antiquarian, and author chiefly noted for researches in philology In 1885 he became canon of York His inclination towards controversy led to the writing of several theological pamphlets, among them *The Liturgy and the Dissenters* (1860) His study of Islam resulted in *Leaves from an Egyptian Notebook* (1888) Early philological investigations were incorporated in *Words and Places* (1864), *Etruscan Researches* (1874), in which he questions whether the language was Indo-European or Altaic, and *Greeks and Goths* (1879), dealing with the origin of the runes His most celebrated work, *The Alphabet*, was published in 1883 *The Origin of the Aryans* (1890) challenged the theory of Max Müller, generally accepted, that central Asia was the cradle of the Indo-European peoples

Taylor, Jeremy, 1613–67, English bishop and theological and devotional writer, b Cambridge He was distinguished as a preacher and as the author of some of the most noted religious works in English Soon after he had completed his studies at Cambridge Univ and had taken (1633) holy orders, he was appointed (1635) by Archbishop Laud to a fellowship at All Souls College, Oxford He became chaplain to Laud and rector (1638) of Uppingham, Rutlandshire, but as chaplain in ordinary to Charles I, Taylor left his country church to serve the king at the outbreak (1642) of the Puritan Revolution In a royalist defeat (1645) before Cardigan Castle, in Wales, he was briefly imprisoned In 1645 he became principal of a school in Caermarthenshire, Wales, and served as private chaplain to the 2d earl of Carbery, at whose home, Golden Grove, Taylor wrote some of his most distinguished works His period of greatest literary production lies between 1646 and 1660 *The Liberty of Prophesying* (1647) was a noteworthy call for toleration His *Great Exemplar the Life and Death of Jesus Christ* (1649) was followed by other books of devotion—*Holy Living* (1650), *Holy Dying* (1651), *The Golden Grove* (1655), and *The Worthy Communicant* (1660) His learned *Ductor Dubitantium, or, The Rule of Conscience* (1660) was dedicated to Charles II Upon the Restoration (1660) he was given the bishopric of Down and Connor, in Ireland, to which was shortly added the supervision of the see of Dromore At Dromore, Taylor built (1661) the church in which he lies buried His tenure (1660–67) as bishop was a period of turbulent dispute between him and the Presbyterian ministers who refused to acknowledge episcopal jurisdiction Taylor has been called the Shakspere and the Spenser of the pulpit A number of his sermons were published, many critics consider that in them his mastery of fine metaphor and his poetic imagination are best revealed Taylor's *Whole Works* (ed with an admirable biography by Reginald Heber, 15 vols , 1822) were edited and revised by C P Eden (10 vols , 1847–52) *The Golden Grove*, with selected passages from Jeremy Taylor's sermons and writings, was edited in 1930 by Logan Pearsall Smith and contains a bibliography of Taylor's works by Robert Gathorne-Hardy. See biographies by Edmund Gosse (1904) and George Worley (1904)

Taylor, John, 1578–1653, English writer He was a Thames waterman and hence is often called the Water Poet A traveler throughout England and the Continent, he recorded his observations in both poetry and prose The edition of his works in 1630 contained his writings to that date, but the only complete edition was published by the Spenserian Society in 1868–78

Taylor, John, 1753–1824, American political philosopher Known as "John Taylor of Caroline," he was born in Virginia, probably in Caroline co , where he later lived at "Hazlewood " Orphaned at 10, he was adopted by his maternal uncle, Edmund Pendleton, who sent him to the College of William and Mary and under whom he studied law Taylor fought in the American Revolution, rising to the rank of major and was a member of the Virginia house of delegates (1779–81, 1783–85, 1796–1800) and of the U S Senate (1792–94, 1803, 1822–24) The STATES' RIGHTS doctrine (see KENTUCKY AND VIRGINIA RESOLUTIONS) was introduced in the Virginia house by Taylor, who became the foremost publicist of Jeffersonian democracy *A Definition of Parties* (1794) and *An Enquiry into the Principles and Tendency of Certain Public Measures* (1794) attacked Federalist financial policies Although a strict constructionist, he defended the constitutionality of the Louisiana Purchase in *A Defense of the Measures of the Administration of Thomas Jefferson* (1804) In Jefferson's second term Taylor was a leader of the "Quids," who, disliking James Madison, supported James Monroe for President, but he became a peacemaker between the factions His greatest work, *An Inquiry into the Principles and Policy of the Government of the United States* (1814), has been called one of the few notable contributions to political science produced in the United States In *Construction Construed and Constitutions Vindicated* (1820), *Tyranny Unmasked* (1822), and *New Views of the Constitution* (1823), he opposed John Marshall and the growing power of the Federal government An agrarian liberal, he was naturally much concerned with the land, and his *Arator* (1813) was one of the first analytical treatises on American agriculture and its peculiar problems But he is best known as one of the first formulators of the states' rights doctrine See biography by Henry Simms (1932), C A Beard, *The Economic Origins of Jeffersonian Democracy* (1915)

Taylor, John, 1808–87, American leader of the Mormon church, b England He emigrated in 1832 to Canada and there was converted (1836) to the Mormon faith Moving to the United States, he became (1838) an apostle in the Mormon church and was active in missionary work He made many converts abroad and arranged for German and French translations of *The Book of Mormon* While a newspaper editor (1842–46) at Nauvoo, Ill , he was wounded by the mob which assassinated Joseph Smith in Carthage In the controversy over Smith's successor, Taylor supported Brigham Young and assisted in the Utah colonization. In New York he established (1854) a newspaper, the *Mormon* In Utah he served in the territorial legislature (1857–76) and as probate judge (1868–70) Upon the death of Young, he became acting president (1877) and official president (1880) of the Mormon church From 1884 until his death he directed the affairs of the church while in hiding to avoid arrest for his practice of polygamy.

Taylor, Myron Charles, 1874–, American industrialist and diplomat, b Lyons, N Y., grad. Cornell Univ (LL.B , 1894). He practiced law and then ran a group of textile mills in New England. In 1932 he succeeded J P Morgan, Jr., as chairman of the board of the U S. Steel Corp After meetings with John L. Lewis, then president of the Committee for Industrial Organization, Taylor brought (1937) his board to agree to collective bargaining with the Steel Workers Organizing Committee, thus averting a serious strike. He retired from business in 1938 and served on several diplomatic and charitable committees Taylor was (1939–50) the President's personal diplomatic representative to the Vatican

Taylor, Richard, 1826–79, Confederate general, b near Louisville, Ky , grad Yale, 1845, son of Zachary TAYLOR Dick Taylor became a Louisiana planter and attained some political prominence He was a member of the Louisiana secession convention In the Civil War he was made a brigadier general (Aug , 1861) and fought under T J (Stonewall) JACKSON in the Shenandoah Valley and in the SEVEN DAYS BATTLES of the Peninsular campaign. He was made commander in W Louisiana (July, 1862) His victory over Gen N P BANKS at SABINE CROSSROADS (April 8, 1864), although followed by a repulse at Pleasant Hill the next day, induced that general to abandon his Red River expedition. In Aug , 1864, Taylor was promoted lieutenant general and made commander in the Lower South The collapse of the armies of Lee and Johnston in the East led him to surrender to E R S CANBY, May 8, 1865 He wrote *Destruction and Reconstruction* (1879) See D S Freeman, *Lee's Lieutenants*, Vol I (1942)

Taylor, Sir Robert, 1714–88, English architect The son of a stonemason, he began his career as a sculptor's apprentice and was later employed to carve the pediment of Mansion House in London He then turned to architecture and built up a successful practice He designed the bridge at Maidenhead and many country houses and worked on various bank buildings in London, including the Bank of England, to which he added two wings Taylor was knighted in 1782 The greater part of his estate was left as a legacy for founding the Taylorian Institution at Oxford for the study of European languages

Taylor, Robert Love, 1850–1912, governor of Tennessee (1887–91, 1897–99), b Carter co , Tenn A lawyer, he was a Democrat in Congress (1879–81) and in 1886 defeated his brother Alfred Alexander Taylor (1848–1931), a Republican, for the governorship The brothers toured the state together in that campaign, called the "war of the roses " As governor Bob Taylor's greatest contribution was as a conciliator between the old-line states' rights Democrats, the rising industrialist class, and the forces of agrarian unrest which brought him to power The farmer's revolt in Tennessee was thus not so bitter as in other Southern states He was a U S Senator (1907–12) and, beloved by the common people, a popular lecturer His brother Alf finally got to be governor in 1921–23 See D M. Robison, *Bob Taylor and the Agrarian Revolt in Tennessee* (1935)

Taylor, Tom, 1817–80, English dramatist and editor His most famous play is *Our American Cousin* (1858), given at Ford's Theater in Washington when Lincoln was assassinated Of his more than 100 plays, others are *The Ticket of Leave Man* (1863) and, written with his friend Charles Reade, *Masks and Faces* (1852) He edited B R Haydon's autobiography (1853, new ed , 1926) and was editor of *Punch* from 1874 to 1880 See Winton Tolles, *Tom Taylor and the Victorian Drama* (1940)

Taylor, Zachary (zăk'kurē), 1784–1850, 12th President of the United States, b Orange co , Va He joined the army in 1808, became a captain in 1810, and was promoted to the rank of major for his defense of Fort Harrison (1812) in the War of 1812 Continuing his army career he became a colonel (1832) and served in the Black Hawk War and in the campaigns against the Seminole Indians in Florida, winning the nickname of "Old Rough and Ready " In 1845 Taylor was sent to command the army at the Texas border. He pushed into the disputed territory S of the Nueces river and, in the MEXICAN WAR, defeated the Mexicans at PALO ALTO and RESACA DE LA PALMA, drove them across the Rio Grande, and took Matamoros Later he forced the surrender of the Mexican stronghold at Monterey. In 1847 he won the decisive victory at BUENA VISTA in the face of great odds Because of the resultant enthusiasm of the public, Taylor was nominated for President on the Whig ticket, was elected, and assumed office in 1849. His nonpartisan tendencies were changed by the political astuteness of Senator William H Seward, and Taylor was soon a strong supporter of the Whig party. Taylor met opposition to his recommendation of California's admission as a state After charges of corruption were lodged against members of his cabinet, he determined on a reorganization, but he was stricken with cholera morbus and died on July 9, 1850. He was succeeded by Millard Fillmore. See biographies by O. O. Howard (1892), Holman Hamilton (1941), Brain-

erd Dyer (1946), and S. B. McKinley and Silas Bent (1946)

Taylor. 1 Industrial borough (pop. 9,002), NE Pa., on the Lackawanna river and near Scranton, settled c 1800. 2 City (pop 7,875), central Texas, NNE of Austin; platted 1876, inc 1877. The blackland prairie here was long famous for its vast cotton yield, and the prosperity of the city was increased by some oil production, by dairying, by poultry raising, and by processing plants and factories that include a well-known mattress factory and a meat-packing plant

Taylorsville, town (pop 1,122), co seat of Alexander co., W central N C. WSW of Winston-Salem, in a farm area, inc. 1887.

Taylorville, city (pop 8,313), co seat of Christian co., central Ill., SE of Springfield, founded c 1840, inc 1882. It is an industrial and trade center in a farm and coal area. Among its manufactures are paper, feed, and tools

Taymyra, river, RSFSR: see TAIMYRA

Taymyr Peninsula, RSFSR: see TAIMYR PENINSULA

Tazewell, Littleton Waller (tăz'wul), 1774–1860, American political leader, b Williamsburg, Va., grad. College of William and Mary, 1792. He was admitted (1796) to the bar, practiced law in Virginia, was in the state legislature, and served (1801–3) in Congress. In the Senate (1824–33) Tazewell headed the committee on foreign relations. He strongly opposed President Andrew Jackson's policies, especially his removal of government deposits from the Bank of the United States. He became (1834) governor of Virginia but retired from politics in 1836

Tazewell (tăz'wĕl), town (pop 1,374) extreme SW Va., SW of Bluefield, W Va., in a mountainous coal and farm region, settled 1769, inc 1866. The courthouse of Tazewell co. is here

Tb, chemical symbol of the element TERBIUM

Tbilisi, Georgian SSR: see TIFLIS

Tc, chemical symbol of the element TECHNETIUM

Tch-. For Russian names beginning thus and not listed here, see Ch-, e.g., for Tchekhoff, see CHEKHOV, for Tchicherin, see CHICHERIN

Tchaikovsky, Piotr Ilich (pyô'tur ĭlyĕch' chīkôf'skĭ), 1840–93, Russian composer, grad St Petersburg Conservatory, where he studied composition with Anton Rubinstein. He taught theory and composition at Nicholas Rubinstein's Moscow Conservatory from 1865 to 1878. An annuity from his wealthy patroness, Mme von Meck (whom he never met though he corresponded with her for 14 years), allowed him to resign his teaching for composition. His Fourth Symphony (Moscow, 1878) is dedicated to her. He was opposed to the aims of the nationalist composers and used Western European forms and idioms, but his best compositions are unmistakably Slavic in character. His orchestration is rich, often bombastic, and his music is melodious and intensely emotional. Most successful are his orchestral works, notably his last three symphonies, the fantasies *Romeo and Juliet* (1870) and *Francesca da Rimini* (1876), *Marche slave* (1876), the Manfred Symphony (1885), the ballets *Swan Lake* (1876), *The Sleeping Beauty* (1889), and *The Nutcracker* (1891, also arranged as a suite for orchestra), and the Piano Concerto in B Flat Minor (1875) and the Violin Concerto in D (1878). Of his 11 operas, notable are *Vakula, the Smith* (St Petersburg, 1876), *Eugene Onegin* (Moscow, 1879) and *Pique Dame* (*The Queen of Spades*, 1890), both from stories by Pushkin, and *The Maid of Orleans* (1879, also known as *Jeanne d'Arc*). None of the operas, however, has achieved the popularity of his symphonies and concertos. His music adapts itself well to the dance, and many of his works not originally written for that medium have been used as ballet music, such as the suite *Mozartiana* (1887) and the Fifth Symphony (1888). Tchaikovsky toured Europe as a conductor and was present to conduct his *Marche solennelle* at the opening concert in Carnegie Hall in 1891. His last appearance as a conductor, a few days before he died of cholera, was at the première of his Sixth Symphony, or *Symphonie pathétique* (St. Petersburg, 1893). He wrote a harmony textbook (1871) and translated Gevaert's *Traité général de l'instrumentation* into Russian. Tschaikowsky is another spelling of the name. See his diaries (tr. by Wladimir Lakond, 1945), biographies by Edwin Evans (rev. ed., 1935) and Herbert Weinstock (1943), C. D. Bowen and Barbara von Meck, *Beloved Friend* (1937), Gerald Abraham, ed., *The Music of Tchaikovsky* (1946)

Tchelitchew, Pavel (chĕl'ĭchĕf, Rus. pä'vĭl chĭlyĕ'chĭf), 1898–, Russian-American painter. His first commissions, ballet designs, were given him while he was living (1921–23) in Berlin, whence he had fled from the Russian Revolution. Moving (1923) to Paris, he became associated with Diaghilev; he exhibited (1925) for the first time and had his first one-man show in 1928. In 1926 he developed his technique of multiple image on a single canvas, which he later combined (1934) with triple perspective; his paintings in this manner juxtapose objects in such a way as to reveal another object formed by the juxtaposition of the evident forms; his best-known work in this manner is *Hide and Seek* (Mus. of Modern Art, New York). Most of his works are in private collections. He is also known as a portraitist, Edith Sitwell being among his sitters

Tchernaiev or **Chernyaiev, Mikhail Grigoryevich** (mĭkhŭvĕl' grĭgôr'yuvĭch chĭrnyĭ'ûf), 1828–98, Russian general. With only 2,000 soldiers he captured Tashkent in 1865 after a spectacular march across the steppes of Turkistan. He retired from the army in 1867 and, as the owner of a periodical, became an ardent exponent of Pan-Slavism. Tchernaiev commanded the Serbian forces in the Serbo-Turkish war of 1876, but was defeated. He was governor general of Russian Turkistan (1882–84) and afterward was a member of the Russian imperial war council.

Tczew (chĕf), Ger. *Dirschau* (dĭr'shou), town (pop 20,934), N Poland, S of Danzig. Founded in 1200, it was included in Poland (1466), transferred (1772) to Prussia, and returned (1919) to Poland. Tczew lies on the Vistula, which connects it with the Baltic, since 1928 it has been recognized as a seaport. Chiefly a trade center, it also has clothing, food, and metal industries

Te, chemical symbol of the element TELLURIUM

tea (tē, formerly tā) '[Chinese], a tree or bush, its leaves, and the beverage made from the leaves. The plant (*Thea sinensis* or *Camellia thea*) is an evergreen, related to the camellia, indigenous to E Asia and in its native state growing to a height of about 30 ft, but in cultivation pruned to a shrub of from 3 to 5 ft. The lanceolate leaves are dark green, the blossom is cream-colored and fragrant. Tea is mentioned in Chinese literature in the 3d cent. A.D. as a substitute for strong drink, and by the 8th cent. it was cultivated on a commercial scale. It was imported into Europe by the Dutch East India Company c 1600 and was used in England c 1660. The British East India Company held until 1834 the British import monopoly. Tea reached the American colonies c 1680 and was the leading beverage until it was superseded by coffee following the Boston Tea Party. Today tea is used by more people and in greater quantity than any beverage but water. The leading producers are India, China, Ceylon, Indonesia, Japan, and Formosa, the chief importers, Great Britain, the United States, Australia, Russia, Canada, and the Netherlands. The culture requires a rich, light soil, a warm climate, moist air, and plentiful rainfall. Higher elevations produce a delicately flavored leaf. The shrubs, propagated from seed, are ready for picking in about three years and may yield for 50 years. The leaves are picked by hand during flushes (periods of active growth), the most desirable being the tender leaves near the growing tip. The leaves are withered, rolled, and fired (or heated). For green tea, the leaves are fired soon after picking, for black, they are first fermented for about 24 hours, for oolong, intermediate in flavor and color, the leaves are partially fermented. Teas are classified according to size of leaf, beginning with the smallest, under two systems of nomenclature—the Chinese, as gunpowder, young hyson, hyson, and imperial, and the English (for teas from India, Ceylon, and Java), as flowery orange pekoe, orange pekoe, pekoe, and souchong. Many teas are named also for the district where they are grown, e.g., Darjeeling, Lapsang Keemun. China produces mainly green tea, Formosa, oolong, and Japan, formerly green only, now black also. The flavor of tea is due to volatile oils, the stimulating properties, to CAFFEINE, and the astringency, to the tannin content, reduced in black tea by fermentation. The dried blossoms of jasmine or other fragrant plants are added to certain fancy teas. The tea ceremony of Japan was introduced from China in the 15th cent. by Buddhists as a semireligious social custom. See Agnes Repplier, *To Think of Tea!* (1932), W. H. Ukers, *The Romance of Tea* (1936), Yasunosuke Fukakita, *The Tea Cult of Japan* (1937)

Teach, Edward: see BLACKBEARD

teachers colleges: see TEACHING

teaching, methods employed to accomplish the purposes of formal EDUCATION. In the colonial period in the United States requirements for teaching in the lower schools were a modicum of learning and willingness to work in an ill-paid, harassed occupation. Requirements for college-level work were then, as now, primarily scholarship, a requirement also of such higher secondary institutions as the Latin grammar schools. Specific training for teachers was originated in France (1685) by St. JOHN BAPTIST DE LA SALLE. Teacher training spread rapidly in Europe as a result of the work of August Hermann FRANCKE and PESTALOZZI and the MONITORIAL SYSTEM. In the United States by 1810 monitorial training had begun in the Lancasterian model schools, and in 1823 Samuel R. Hall opened a tuition school for teacher training. In the 1820s and 1830s teacher training became common in the academies, and in 1839 Massachusetts opened the first state normal school. Henry Barnard and Horace Mann were active in the development of normal schools, which increased rapidly in number after 1850. New concepts of child development focused attention on psychology, which became the basic science of the normal school. After 1880 trained women teachers steadily displaced men in all parts of the country, especially in elementary schools. Training for secondary school teaching was largely a function of liberal arts colleges which had introduced pedagogical courses into their curriculums, but the need for additional teachers led the normal schools to expand into four-year degree-granting teachers colleges. These teachers colleges, generally supported by the public, soon trained the bulk of all public school teachers. Graduate study in education was established at New York Univ. in 1887. In 1889 Nicholas Murray Butler was made president of a teacher-training school which became Teachers College, Columbia Univ. John DEWEY, who formulated basic concepts of teaching method, profoundly influenced the development of teacher training in the 20th cent. Certification requirements for teaching have advanced with educational opportunity, though they are still not uniformly high. The trend in certification has been steadily toward requiring more complete training, with practice teaching and extensive graduate work for specialized positions. In many states extension or summer graduate work is required of teachers or made a prerequisite for advancement. The professional requirements for teaching in the United States primarily stress method and psychology, but are still not so stringent as those in some European countries which emphasize scholarship. Successful developments through teacher training for elementary and secondary education have influenced some college administrations to consider requiring training for college teaching also. See A. V. Overn, *The Teacher and Modern Education* (1935), W. S. Elsbree, *The American Teacher* (1939), American Council on Education, *The Improvement of Teacher Education* (1946)

Teague (tēg), city (pop 3,157), NE central Texas, WSW of Palestine, founded 1906 with the coming of the railroad. It has railroad shops and industries centered around cotton

teak (tēk), tall deciduous tree (*Tectona grandis*) of the verbena family, native to India, Burma, and Siam. Its 10- to 20-inch leaves are rough enough to be used like sandpaper. The moderately hard, easily worked wood is yellow to brown when cut, darkening on exposure, and sometimes has dark streaks. It is one of the most durable of woods, beams said to be over 1,000 years old exist. Teakwood contains an essential oil which is resistant to the action of water and prevents the rusting of iron in contact with it. The heartwood is resistant to termites. It is superior to all other woods for shipbuilding and is also used for railway carriages, agricultural implements, and flooring. There are no extensive teak forests, and in India the cutting of the timber is under government supervision. Trees to be cut are girdled through the bark and sapwood and are allowed to stand for at least three years before being felled. It is said that fire protection has helped to deplete the supply of teak, as the tree naturally grows to maturity best when two or three fires have destroyed the undergrowth and the roots of the saplings have become strong enough to send up a sturdy shoot

teal: see DUCK

Teamhair Breagh, Co. Meath, Ireland: see TARA

Teaneck (tē'nĕk"), township (pop 25,275), NE N.J., residential suburb of New York, inc. 1895. Teaneck developed rapidly after the building of the George Washington Bridge

Teapot Dome, area near Casper, Wyo., set aside by President Woodrow Wilson in 1915 as an oil reserve for the U.S. navy. In 1921, by executive order of President Warren G. HARDING, control was transferred from the Navy Dept. to the Dept. of the Interior. In 1922 Albert B. FALL, U.S. Secretary of the Interior, leased, without competitive bidding, the Teapot Dome fields to Harry F. Sinclair and leased another government-owned oil field at Elk Hills, Calif., to Edward L. Doheny. These transactions became (1923) the subject of a Senate investigation conducted by Sen. Thomas J. WALSH. Fall resigned his cabinet post, and the investigation led to criminal prosecutions. Great notoriety attended the affair, which involved a number of prominent individuals. Fall was convicted (1929) of accepting bribes and was sentenced to a year in prison and fined $100,000. In another trial, Doheny and Sinclair were acquitted, though Sinclair was subsequently sentenced to prison for contempt of the Senate and for employing detectives to shadow members of the jury in his case. The oil fields were restored to the Government by a Supreme Court decision in 1927

tear gas, a gas which causes temporary blindness through the excessive flow of tears resulting from irritation to the eyes. It is used in CHEMICAL WARFARE and as a means for dispersing mobs. Bromoacetone, benzyl bromide, chloroacetophenone, ethyl iodoacetate, and chloropicrin (which also causes vomiting) cause watering of the eyes. In the First World War tear gas was usually dispersed by means of bombs or shells loaded with the liquid. When the vehicle exploded, the liquid was widely dispersed in the air.

Teasdale, Sara (tēs'dāl), 1884–1933, American poet, b St Louis She wrote several volumes of sensitive and musical lyrics, including *Helen of Troy and Other Poems* (1911), *Rivers to the Sea* (1915), *Flame and Shadow* (1920), and *Strange Victory* (1933), and compiled two anthologies of poetry She was married to Ernst B. Filsinger in 1914, they were divorced in 1929. See her *Collected Poems* (1937).

teasel (tē'z'l), any plant of the genus *Dipsacus*, Old World herbs some of which are naturalized in America The best known are the common and fuller's teasels (*Dipsacus sylvestris* and *fullonum*), which are biennials with cone-shaped or cylindric heads of small lilac flowers The heads bear sharp prongs —straight in the common teasel and hooked in the fuller's teasel Fuller's teasel has long been used for teasing or raising a nap on wool, for which purpose it has been cultivated in textile centers Only recently has machinery taken the place of teasel Teasels are often used in EVERLASTING bouquets

Tebah (tē'bu), son of Nahor, perhaps eponym of Tibhath Gen 22 24

Tebaliah (tĕ"bulī'u), doorkeeper 1 Chron 26 11

Tebessa (tūbĕ'su), Fr *Tébessa* (tābĕsä'), anc *Theveste*, town (pop 18,293), NE Algeria, in the Atlas Mts It is in an important phosphate- and iron-mining region The town is noted for its silk embroidery and carpets Extensive ancient remains include the Roman Arch of Caracalla, a Christian basilica (about the 4th cent A D), and restored Byzantine walls In the Second World War, Tebessa was an important American base in the battle for Tunisia

Tecchi, Bonaventura (bō"nävăntōō'ra tĕk'kē), 1896–, Italian novelist, short-story writer, and teacher Among his novels are *Il nome sulla sabbia* [name on the sand] (1924), *L'isola appassionata* [passionate island] (1945), and *Giovani amici* [young friends] (1940), some of his stories are collected in *Il vento tra le case* [wind between the houses] (1928) He has been professor of language in Brno.

Teche, Bayou (bī'ō tĕsh', bī'ōō), S La , flowing from E of Lafayette southeastward between the Atchafalaya basin and the Gulf of Mexico to the Atchafalaya above Morgan City It flows through a fertile sugar area and is navigable for over 100 mi It was the setting for Longfellow's *Evangeline*

technetium (tĕknē'shum), silvery metallic element (symbol = Tc), similar in its physical and chemical properties to manganese and rhenium. Its existence as an element (of atomic number 43) was reported in 1925, when the name *masurium* was proposed but the discovery of the naturally occurring element was not confirmed In 1937 radioactive isotopes of the element were artificially produced This was accomplished in Italy by Emilio Segrè and his co-workers with molybdenum which had earlier been subjected to bombardment with deuterons (in the cyclotron at the Univ of California) They reported that the element resembled rhenium in its properties more closely than it resembled manganese Some years later they suggested the name technetium for the element, and this name was accepted (1949) by the International Union of Chemistry

Technicolor, see MOVING PICTURES

Tecumseh (tĭkŭm'sĕ), 1768?–1813, chief of the SHAWNEE INDIANS, b probably in Clark co , Ohio In his tribe he became distinguished for his prowess in battle but opposed the tribal practice of torturing prisoners When the United States refused to recognize his principle that all the Indian land was the common possession of all the Indian tribes and that land could not rightly be ceded by, or purchased from, an individual tribe, Tecumseh set out to band together the tribes of the Old Northwest, the South, and the eastern Mississippi valley His plan failed with the defeat of his brother Tenskwatawa, the SHAWNEE PROPHET, at TIPPECANOE (1811) Though Tippecanoe was, properly speaking, a drawn battle, it marked the collapse of the Indian military movement In the War of 1812 Tecumseh allied himself with the British and was created by them a brigadier general He led a large force of Indians in the siege of Fort Meigs, covered Gen Henry A Proctor's retreat after Oliver H. Perry's victory on Lake Erie, and lost his life in the battle of the THAMES, in which Gen William H HARRISON overwhelmed Proctor and his Indian allies Col Richard M Johnson is usually given credit for killing him Tecumseh had great ability as an organizer and a leader and is considered one of the outstanding Indians in American history See biographies by E T Raymond (1915) and J M Oskison (1938)

Tecumseh, residential town (pop 2,412), S Ont , on Lake St Clair and E of Windsor

Tecumseh. **1** Village (pop 2,921), S Mich , on the Jackson Branch of the Raisin and S of Ann Arbor, settled 1824, inc 1837 Refrigeration equipment is made Tecumseh is a shipping point for sand, gravel, and celery. Several Indian village sites and earthworks are here **2** City (pop 2,104), co seat of Johnson co , SE Nebr , SE of Lincoln, in an orchard area, founded 1859 **3** City (pop 2,042), central Okla , SE of Oklahoma City A state school for girls is here.

Tedder, Arthur William Tedder, 1st Baron, 1890–, British air chief marshal A Cambridge graduate, he saw service in the infantry and the Royal Flying Corps in the First World War After 1919 he held important positions in the Royal Air Force and the air ministry Sent to the Middle East in 1940, Tedder, as air chief there (1941–43), helped sweep the Germans from Libya He was deputy to Eisenhower in the last of the campaigns in North Africa and deputy commander in Sicily and late in 1943 was made deputy supreme commander of the Allied invasion forces In Oct , 1944, he took on the additional post of chief of Allied air operations in Western Europe In 1946 he succeeded Lord Portal as air chief of staff and was created Baron Tedder of Glengum See his *Air Power in War* (1948)

Teddington, former urban district (1931 pop 23,369), since 1937 part of Twickenham, Middlesex, England, on the Thames and SW of London, of which it is a residential suburb The Port of London begins officially at Teddington lock The National Physical Laboratory, founded in 1902, is in Bushey Park Stephen Hales was perpetual curate at St Mary's for more than 50 years

Te Deum laudamus (tē dē'um lôdā'mus, tā dā'ōōm loudä'mōōs) [Latin, = we praise Thee, O God], ancient hymn of the Western Church beginning, "We praise Thee, O God, we acknowledge Thee to be the Lord" Legend ascribes it to an ecstatic outburst of St Ambrose when he baptized St Augustine It is now attributed to Bishop Nicetas of Dacia (c 335–414) or, by some scholars, is thought to be a composite of Greek sources from the 5th cent or earlier It is sung at morning prayer in Anglican churches and at matins in the Roman office, it is the chief hymn of rejoicing in the Roman Catholic Church

Tees, river rising on Cross Fell, Cumberland, England, and flowing c 70 mi generally E between Durham and York to the North Sea Its upper valley is picturesque, the falls of Caldron Snout and High Force are notable The lower reaches pass through the industrial area of Darlington, Stockton, and Middlesbrough

teeth, structures embedded in the bone of the jaws which perform the function of mastication In man a deciduous or temporary set of teeth, often called milk teeth, numbering 10 in each jaw, is shed and replaced by the permanent dentition, totaling 16 teeth in each jaw The deciduous dentition consists of two central incisors, two lateral incisors, two canines, and four premolars in each jaw The incisors and canines of the deciduous dentition are replaced by a similar number of permanent incisors and canines The four deciduous premolars are replaced by four permanent bicuspids In addition to the permanent successors of the deciduous teeth in each jaw, the permanent dentition includes also first, second, and third permanent molar teeth, six in each jaw The third are sometimes called wisdom teeth, these do not always develop The deciduous teeth usually begin to erupt after the age of six months, the permanent set after the age of six years Each tooth consists of a crown portion, visible in the mouth, and a root or roots fastened to the alveolus of the jaw by means of a membrane, the peridontal membrane The entire body of the tooth is composed of dentine, a bonelike substance, the crown is covered by enamel, the hardest substance in the body, and the root by cementum The body of the tooth surrounds a soft inner core, consisting of blood vessels and nerves, known as the dental pulp Proper diet, including sufficient calcium, phosphorus, and vitamin D, as well as vitamin C (for the health of the gums), is necessary for the formation and maintenance of sound teeth Regular cleaning of the teeth and semiannual examination by a dentist are important

teething. In the human being this process begins at about the sixth month of life (when the lower central incisors appear) and continues to about the end of the second year Although it usually occurs without difficulty, sometimes fever and digestive disturbances are associated with teething See also TEETH

Tegea (tē'jēu), ancient city of SE Arcadia, Peloponnesus, Greece From the middle of the 6th cent B C until the battle of Leuctra (371 B C) it was under the sway of Sparta Tegea allied itself with its great rival, Mantinea, against Sparta in 362 B C , but later opposed Mantinea again Remains of Tegea's great temple of Athena Alea (rebuilt by Scopas c 394 B C) have been discovered

Tegnér, Esaias, Swed *Tegnér* (tĕgn'ar tĕng-nâr'), 1782–1846, Swedish poet and bishop of Vaxjo He was a member of a literary society, the Gothic League His poetry was romantic and national, influenced by the German romanticists of the period *Svea* (1811) and *Axel* (1821, Eng. tr , 1870) preceded his masterpiece, *Frithjof's Saga* (1825), based on the Icelandic saga of Frithjof. His sermons and official speeches are classics of the Swedish language Selections of his poetry were translated by Longfellow

Tegucigalpa (tugōō"sēgäl'pu, Span. tägōō"sēgäl'pä), city (pop 86,462, including COMAYAGÜELA), capital and largest city of Honduras, in a small valley in the mountains of S central Honduras. Founded late in the 16th cent , Tegucigalpa was a colonial center of silver and gold mining With independence from Spain (1821), it became the stronghold of the liberals under MORAZÁN The city vied with COMAYAGUA as the republic's capital, not securing the title permanently until 1880 It has no railroad, but is reached by a road from the railhead near SAN PEDRO SULA and another from SAN LORENZO Air transport has recently improved commercial development Never destroyed by earthquake, Tegucigalpa retains many quaint, colonial aspects, with narrow streets and sidewalks, overhanging balconies, and stair-stepped streets It is connected by two bridges over the Choluteca river to its more modern counterpart, Comayagüela

Tehachapi (tuhä'chupē), town (pop 1,264), S central Calif , SE of Bakersfield, inc 1909 It is in an area producing clay, limestone, and fruit

Tehama or **Tihama** (both tĭhä'mu), lowland region, SW Arabia, including the Red Sea coast of Yemen

Tehaphnehes, ancient city see TAHAPANES

Teheran (tĕ"hŭrän', tē"uran') or **Tehran** (tĕrän'), city (1940 estimated pop 540,087, 1949 estimated pop 750,000), capital of Iran, in N Iran, within sight of Mt Demavend and c 70 mi S of the Caspian It is a commercial and intellectual center as well as the seat of government The Trans-Iranian RR connects it with Bandar Shahpur on the Persian Gulf and Bandar Shah on the Caspian Rail lines to Meshed and Tabriz are partly built, and there are highways connecting the capital with many of the chief cities of Iran Besides the university (founded 1934), there are various technical schools and some Moslem religious colleges Most of the ornamented gates of its 19th century walls were demolished in 1934, and, indeed, in the reign of Raza Shah Pahlavi the whole city was much modernized Narrow streets were broadened, and many new large buildings were erected The city is near the ancient Rages (Rhagae or Rey) and was itself a medieval town and featured somewhat in the long Persian wars Its importance, however dates from 1788, when Aga Mohammad Khan made it the capital Other settled areas (Karaj, Kolhak or Qolhak, and Tajrish) cluster about the city Its importance and its population have grown steadily in recent years In the Second World War, when the Allies occupied (1941) Iran, Soviet and British troops entered the suburbs One of the important war conferences was held here in 1943

Teheran Conference, Nov 28–Dec 1, 1943, meeting of President F D Roosevelt, Premier Stalin, and Prime Minister Winston Churchill at Teheran, Iran, held to strengthen the cooperation of the United States, Great Britain, and the USSR in the Second World War It was the first of the Roosevelt-Stalin meetings and followed the CAIRO CONFERENCE with Chiang Kai-shek Agreement was reached on the scope and timing of operations against Germany, and the plans for the Allied invasion of France were submitted to, and approved by, Stalin The final communiqué also stressed cooperation of the United Nations for the problems of peace In an impressive pageant, Churchill handed to Stalin a ceremonial sword presented by George VI to the defenders of Stalingrad A separate protocol pledged the United States, Great Britain, and Russia to maintain the independence, the sovereignty, and the territorial integrity of Iran

Tehinnah (tēhĭn'u) [Heb , = cry for mercy], founder of the city of Nahash 1 Chron 4 12

Tehran, Iran see TEHERAN

Tehuantepec (tuwōn'tupĕk, Span tāwantāpĕk') [Nahuatl, = jaguar hill], town (pop 6,731), Oaxaca, S Mexico, on a wide bend of the Tehuantepec river not far from the Gulf of Tehuantepec, an arm of the Pacific The town is on the Isthmus of Tehuantepec The climate is hot and tropical The population is largely Zapotec Tehuantepec, the commercial and social rival of JUCHITÁN, is celebrated for its beautiful, industrious, and strikingly clothed women (called *tehuanas*), who travel by train from Veracruz to Tapachula to sell or barter the products of the region The society is matriarchal

Tehuantepec, Isthmus of, c 125 mi wide at its narrowest, S Mexico, between the Gulf of Campeche and the Gulf of Tehuantepec It is mostly a rolling plain Building of an interoceanic canal here was long considered, but estimated costs proved prohibitive A transisthmian railroad between COATZACOALCOS and Salina Cruz was opened in 1907

Teignmouth (tĭn'muth), urban district (pop 10,017), Devonshire, England, at the mouth of the Teign (tĭn, tēn) on the English Channel It is a seaport and watering place The harbor, once important, is now used chiefly by yachtsmen and fishermen There is an old wooden bridge across the river The town was partly destroyed by the French early in the 14th cent and again in 1690

Teima, Saudi Arabia see TEMA

Teisserenc de Bort, Léon Philippe (lāō' fēlēp' tāsurĕ' dù bôr'), 1855–1913, French meteorologist He is known for his pioneer investigations of the stratosphere or isothermal layer, carried on by means of balloon ascensions from his observatory at Trappes

(near Versailles) and by observations in the Atlantic from his vessel, the *Otaria*

Teixeira, Pedro (pā'drō tā'shārù), d 1640, Portuguese explorer, one of the early voyagers on the Amazon He commanded the expedition sent by the governor of Maranhão up the Amazon in the autumn of 1637 He reached the upper Amazon early in 1638, discovering the Rio Negro, and in July he met an expedition under Pedro de Costa Favilla on the Napo Later he reached Quito, then returned down the Amazon He was accompanied on this return journey by the Jesuit priest Cristóbal de Acuña, who wrote an account of the voyage He claimed the Napo for Portugal (then united with Spain through the king Philip IV of Spain (Philip III of Portugal).

Tejend, river see HARI RUD

Tejo, river see TAGUS

Tekakwitha, Catherine see CATHERINE TEKAKWITHA

Tekamah (tŭkā'mu), city (pop 1,925), co seat of Burt co, E Nebr, NNW of Omaha, settled 1854, inc 1855 It is a farm trade center Reservoir Hill near by gives a broad view of the Missouri valley

Tekirdag (tĕkĕr'dă), town (pop 14,780), European Turkey, a port on the Sea of Marmara It is an agricultural and commercial center It was known in ancient times as Bisanthe and as Rhaedestus and later as Rodosto Founded by Greek colonists from Samos, it later was an important city of the Thracian kingdom In the Middle Ages it was long a Byzantine stronghold The town was briefly held (1913) by the Bulgarians in the Balkan Wars

Tekoa or **Tekoah** (both tĕkō'u), ancient ruined town, S Palestine, c 5 mi S of Bethlehem It was on the edge of a desolate country, to the east the land drops off precipitously to the Dead Sea This wilderness of Tekoa was the home of Amos 2 Sam 14 2, 23 26; 1 Chron 2 24, 4 5, 2 Chron 11 6, Neh 3 5,27, Jer 6 1, Amos 1 1

Tekoa, city (pop 1,383), E Wash near the Idaho border SE of Spokane

Tela (tā'la), town (pop 10,454), N Honduras, a Caribbean port A station of the United Fruit Company, Tela is a well-equipped banana port and is headquarters for a large plantation area

Tel-abib (tĕl'ă'bĭb) [Aramaic,=corn-hill], city of Mesopotamia, where Ezekiel preached Ezek 3 15

Telah (tē'lu), ancestor of Joshua 1 Chron 7 25

Telaim (tĕ'lā'ĭm, tĕlā'ĭm) [Heb,=lambs], unlocated place, S Palestine, where Saul's army gathered 1 Sam 15 4

Telamon (tĕ'lumŏn), in Greek mythology, son of AEACUS, brother of PELEUS, and father of Telamonian AJAX and of TEUCER He went on the CALYDONIAN HUNT, the ARGONAUT expedition, and that of HERCULES against the Amazon women He fought in the Trojan War

telamones see ATLANTES

Telassar (tĕlăs'ur), city, E Syria, probably in the hill country N of the Euphrates Isa 37 12 Thelasar 2 Kings 19 12

Telav (tyĭlăf') or **Telavi** (tyĭl'vĕ), city (pop 13,100), E Georgian SSR, NE of Tiflis It is the center of the Kakhetian wine district First mentioned in the 13th cent, it was the capital of Kakhetia until the 17th cent There are ruins of its medieval fortifications

Tel-Aviv (tĕl''uvēv') [Heb,=hill of spring], city (pop c 250,000), central Israel, on the Mediterranean Sea It is the largest city of Israel Since 1949 it has formed a joint municipality with adjoining JAFFA TEL-AVIV was founded in 1909 by Jews from Jaffa who wished to build a modern suburb At first it grew slowly, but there were tremendous spurts in population in the late '20s, after Hitler came to power in Germany, and after the Second World War In the disorders after the war there was much sporadic fighting between this all-Jewish city and Jaffa, then predominantly Arab On the day (May 14, 1948) that the mandate of Palestine ended, the state of Israel was proclaimed here, and Jaffa was subjugated In the fighting between Israel and the Arab states Tel-Aviv, in most of 1948 the temporary national capital, was several times lightly shelled and bombed The city is the financial center of Israel, and except for heavy industry, the bulk of the nation's manufacturing, especially of textiles, clothing, and processed foods, is concentrated here and in the environs Road and rail communications are excellent, but as there is no natural harbor Jaffa serves as the port Cultural institutions include Herzliah Hebrew College, the municipal art museum, and the world-famed Habima theatre Many tourists are attracted to Tel-Aviv by its wide, tree-shaded streets, its neat white stucco buildings, and its large, attractive beaches

Telegonus (tĭlĕ'gunŭs), in post-Homeric Greek legend, son of Odysseus by Circe He unwittingly killed his father

telegraph. The name is now regularly restricted to the electric telegraph, but earlier it was used for methods of signaling, by sound or by sight, beyond the range of the human voice Man's efforts to conquer distance through systems of rapid communication are thousands of years old (see SIGNALING). As knowledge of electricity progressed, various methods of signaling were suggested; some were demonstrated experimentally, and practical use was made of others The method that has come into general use throughout most of the world is based on the invention of S F B MORSE. In Morse telegraphy an electric circuit is set up generally by using only a single overhead wire and employing the earth as the other conductor to complete the circuit Signals are sent by making and breaking the current in this circuit The receiving instrument, actuated by an electromagnet, may respond to the current in various ways Reception by sound, in which the MORSE CODE signals are received as audible clicks, has proved the swiftest and most reliable method The first permanently successful telegraphic cable crossing the Atlantic Ocean was laid in 1866 In 1872 J B Stearns, of Massachusetts, succeeded in making "duplex" telegraphing practical, so that two messages might be sent over the same wire at the same time This system, improved by others was used (1878) on the Atlantic cable In 1874 Thomas A Edison invented the "quadruplex" method, by which four messages are sent over the same wire at the same time Telegraph instruments have been devised by which messages are received in printed form In the method usually employed, as the message is sent holes are punched in a strip of paper by an instrument which resembles a typewriter and is sometimes called a teletypewriter The punched strip fluctuates the electric current, causing the receiving instrument to punch out an identical strip Thus strip then guides the instrument which prints the message The telautograph transmits messages in the handwriting of the sender Photographs and other pictures are transmitted as lines that are properly assembled to form an image by the receiving instrument For wireless telegraphy, see RADIO See A F Harlow, *Old Wires and New Waves* (1936), R L Thompson, *Wiring a Continent* (1947)

Teleki, Count Paul (tĕ'lĕkĭ), Hung *Teleki Pál* (pal'), 1879–1941, Hungarian statesman, geographer, and political writer He studied law, political science, and geography at the Univ of Budapest, where he later held a chair A member of the Hungarian parliament from 1905, he was the official geographic expert in the Hungarian delegation at the Paris Peace Conference (1919–20) and was foreign minister in the counterrevolutionary government at Szeged Appointed (1920) premier by Admiral Horthy, he secured the ratification of the Treaty of Trianon by the Hungarian parliament He retired from politics in 1921 and was replaced as premier by Stephen Bethlen Called again to the premiership in 1939, he signed (1940) the Berlin Pact (see AXIS) and concluded a mutual-assistance treaty with Yugoslavia When, early in 1941, it became evident that Hungary would be forced by Germany to invade Yugoslavia, Teleki committed suicide Teleki's best-known work is *The Evolution of Hungary and Its Place in European History* (1923, in English)

Tel-el-Amarna or **Tell-el-Amarna** (tĕl''-el-ămär'na), locality, Egypt, near the Nile and c 60 mi N of Asyut Here were found (1887–88) tablets with inscriptions—letters to and from Amenophis III and Ikhnaton (1411–1358 B C), which shed much light on this period Ikhnaton had his capital, Akhetaton, here The tablets, about 400 in number, are mostly in the Berlin, British, and Cairo museums, the Metropolitan Museum, New York, has two All were translated into English by Samuel A B Mercer See J D S Pendlebury, *Tell el-Amarna* (1935)

Telem (tē'lĕm) [Heb,=oppression] **1** Gatekeeper who had married a foreigner Ezra 10 24 The Talmon of Neh 12 25 is probably the same **2** Unidentified place, S Palestine Joshua 15 24

Telemachus (tĭlĕ'mukus), in Greek legend, son of PENELOPE and ODYSSEUS He protected his mother and tried to find news of his absent father When Odysseus returned, Telemachus helped him to kill Penelope's unwelcome suitors He is the central figure of the first four books of the ODYSSEY

Telemark (tĕ'lumärk), county (5,875 sq mi, pop 131,879), S Norway, extending from the Hardanger plateau eastward to the shores of the Skagerrak Skien is the county seat Remarkable for its lake and mountain scenery, the county attracts many tourists Lumbering, lumber and paper milling, iron and copper mining, and agriculture are important occupations Among the industrial centers on the eastern seaboard are Porsgrunn and Rjukan The population has preserved its individual dialect, customs, and handicrafts, among which are wood carving, silversmith work, and weaving It was in Telemark that skiing as a sport first became popular in the late 19th cent

teleology (tĕ''lĕŏ'lujē, tē''-), in philosophy, the belief that the cosmos is dominated by purpose This may apply to a particular event or may refer to the design of the universe It is opposed to mechanism, the theory that the principles of mechanics explain all phenomena Aristotle argued that all nature reflects the purpose of an immanent Final Cause Some philosophers admit the partial validity of mechanism (Leibniz, Kant) In general, teleologists tend to identify purpose in the universe with God's will or with the experience of the Absolute Self or perhaps as the very essence of God The teleological argument for the existence of God submits that order in the world could not be accident and that since there is design there must be a designer (Voltaire) Others, e g, Hume, believe that order may be explained by natural causes The emergent evolutionist finds purpose operating on the higher levels of organic life but holds that it is not necessarily based in any transcendent being See E S Russell, *Directiveness of Organic Activities* (1945), Pierre Lecomte du Noüy, *Human Destiny* (1947)

telepathy (tŭlĕ'puthē), word invented in 1882 by F W H Myers to indicate the communication of impressions from one (living) mind to another without recourse to physical (sensory) channels The Society for Psychical Research, working over a long period of time, has studied such communication, which is sometimes known as thought or mind reading See also PSYCHICAL RESEARCH

telephone The telephones now in general use throughout the civilized world are developments of the device invented by Alexander Graham Bell and patented by him in 1876 and 1877 While Bell is rightly recognized as the inventor, his telephone was preceded by many attempts to produce such an instrument, and the true principles and effective instruments were finally developed by different men at so nearly the same time that there are disputes about priority Earlier telephones were based upon principles that precluded development to satisfactory transmission of speech The best that was or could be attained was the transmission of musical pitch, without variation in intensity or quality Bell's instrument employed an electric current of fluctuating intensity and frequency generated by mirroring the acoustic characteristics of sound waves A thin plate of soft iron, called the diaphragm, vibrated to sound waves just as does the tympanum, or eardrum, of the human ear The vibrations disturbed the magnetic field of a bar magnet placed near the diaphragm, and this disturbance induced an electric current in a thin copper wire wound about the magnet This current when transmitted to a distant instrument caused its diaphragm to vibrate in response to the fluctuations induced in the near-by magnetic field Bell's instrument, therefore, was both transmitter and receiver, one alternately spoke into and listened to it The first notable improvement of the Bell telephone differentiated the transmitting instrument from the receiving instrument The new transmitter abandoned the use of the bar magnet, derived its current from batteries, and was called a microphone Many other inventions have improved the telephone and microphone and have adapted them to new uses The problems attendant upon long-distance and intercity telephone service have been handled with increasing success The telephone lines used include the ordinary open wire lines, lead-sheathed cables consisting of many lines, and coaxial cables Coaxial cables are placed underground, but other cables may be either overhead or underground Wireless transmission of vocal and musical sounds over long distances and across bodies of water is accomplished by radio telephony See F L Rhodes, *Beginnings of Telephony* (1929), J H Roberts on *The Story of the Telephone* (1947)

telescope, optical instrument for the viewing of distant objects It functions chiefly by collecting light and by focusing and magnifying the image of the object observed The invention (1608) of the telescope is usually attributed to a Dutch optician Hans Lippershey, but it was developed as an astronomical instrument by Galileo, who made his first telescope in 1609 and achieved in 1610 a refracting instrument having a magnifying power of 33 diameters and consisting of a tube with a convex object glass and a concave eyepiece The two fundamental forms of telescope are the refracting and the reflecting In a refracting telescope light is collected by a lens set at the far end of a tube or other support and the image is magnified by a smaller lens, the ocular or eyepiece Improvements in lens combinations, in figuring the lens surface, and in the manufacture of optical glass have corrected the chief defects of early instruments—chromatic and spherical aberration (see LENS) In the reflecting telescope light is gathered by a mirror of paraboloidal surface and the image is magnified by the eyepiece, secondary mirrors may be inserted between the mirror and eyepiece to permit viewing from the side of the tube The use of a mirror to replace the objective of the refracting telescope was suggested by James Gregory and developed by Newton, William Herschel, and others Until after the mid-19th cent the telescope mirror (speculum) was made of metal, which tarnished rapidly and when polished lost its parabolic form and had to be reshaped The use of the glass mirror followed the discovery of chemical methods for depositing a silver coating on the reflecting surface, although this coating must be renewed when tarnished, the surface does not require refiguring. Many recent reflectors are coated

with aluminum, which is less tarnishable Successive improvements in refractors or reflectors resulted in waves of popularity for one type over the other, but today both are considered indispensable The refractor is considered superior for detailed observation of relatively close celestial bodies, the reflector, for observation of more distant bodies The size of refractors is limited by possible distortion of the objective by its own weight, it is thought that the practicable limit has been attained in the 40-inch aperture of the great refractor at Yerkes Observatory The largest reflector (200 in) is at the Mt Palomar Observatory Although larger reflectors are theoretically achievable, the possibility of constructing a new form of telescope, the photoelectric or electron telescope, is being studied Telescope mountings are usually of the alt-azimuth type (allowing movement in a vertical direction) for transit instruments or of the equatorial type (permitting horizontal motion also) for instruments used to follow the apparent motion of celestial bodies Clock-driven mechanisms assure uniform motion of the instrument. The development of photography has led to the adjusting of visual telescopes for photographic work and to the construction of exclusively photographic telescopes Spectrographic telescopes, used in astrophysics, combine in one instrument the telescope, camera, and spectroscope Astronomical telescopes are commonly designed to serve specific needs, a recent form is the coronagraph, a telescope for photographing the sun's corona when the sun is not eclipsed The telescope is used also in instruments for surveying A spyglass is a small telescope, and the opera glass and the field glass consist of two telescopes mounted together See A F Collins, *The Greatest Eye in the World* (1942), G Z Dimitroff and J G Baker, *Telescopes and Accessories* (1945), G F Pendray, *Men, Mirrors, and Stars* (rev ed , 1946), A J Thompson, *Making Your Own Telescope* (1947)

Telesio, Bernardino (bĕrnärdē'nō tälā'zyō), 1509–88, Italian philosopher, one of the leaders in the attack on that part of Aristotelian philosophy which furnished the foundation for scholasticism With Bruno and Campanella, he opened the way to a new naturalism, putting aside the theories of metaphysics and urging the importance of knowledge based upon experience and experiment, of science resting upon facts gained through the experience of the senses He was born into a noble family and studied first with a scholarly uncle in Milan Further study followed at Rome and in Padua At Naples he lectured and afterward established his Academia Cosentina in the interest of more scientific methods of thought, more experimental study of the natural sciences While he produced many works on science and philosophy, the outstanding achievement is his *De natura rerum juxta propria principia* (1565, new ed , 1910–13) In this he regarded matter as a positive reality that has no need to look outside itself for its sufficient explanation Out of two opposing fundamental forces (the dry-warm and the moist-cold) in conflict, he sought to produce the reason for all forms of life, great and small

teletypewriter see TYPEWRITER

television, the transmission of moving pictures by electrical impulses, either over wires or by the more usual method of radio waves The idea of "seeing by telegraph" engrossed the minds of many inventors after the discovery in 1873 that there was a variation in the electrical conductivity of selenium when exposed to light Selenium cells were used in early television devices, but the results were unsatisfactory chiefly because the response of selenium to variations in the intensity of light was not rapid enough, and until the development of the electron tubes known as phototubes, there was no way of amplifying the current sufficiently. These limitations precluded the success of a television method for which Paul Nipkow in Germany received (1884) a patent, his system employed selenium and a *scanning* disk and embodied the essential features of later successful devices A scanning disk has a single row of holes arranged so that they spiral inward toward the center from a point near the edge The disk revolves in front of a *light-sensitive* plate on which a lens forms an image; each hole passes across, or "scans," an area of the image slightly below the area covered by the hole above it. Thus in one revolution of the disk all of the holes sweep over the entire plate. When the light-sensitive cell is connected in an electric circuit, the variations in light cause corresponding fluctuations in the electric current By using a receiver having a luminous area scanned by a similar disk synchronized with the disk of the transmitter, an image can be reproduced Although selenium cells proved inadequate, the development of the phototube made the mechanical disk scanning method practicable. In 1926 J L Baird in England and C. F Jenkins in the United States successfully demonstrated television using mechanical *scanning* disks However, these were soon superseded by electronic scanning methods In 1928 V. K. Zworykin received a patent on a television system employing electronic *scanning* Historically, real progress toward television had not begun until Sir Joseph John Thomson demonstrated the nature of electrons in 1897 Experimentation was carried forward with the development of Albert Einstein's theory of the photoelectric effect (1905), Lee de Forest's three-element vacuum tube (1906), and E H Armstrong's regenerative circuit (1912) The decade of 1930–40 saw the laboratory perfection of television equipment which began to reach the market in 1945 at the end of the Second World War Scarcely five years later the annual production of television receivers throughout the world was estimated at 5,000,000 To give the effect of motion, it is necessary to transmit about 30 pictures every second V K Zworykin's Iconoscope is one of the successful camera tubes in wide use Its functioning involves many fundamental principles common to all television broadcasting The face of the iconoscope consists of a thin sheet of mica upon which thousands of microscopic globules of a silver-caesium compound have been deposited Backed with a metallic conductor, this expanse of mica, which is called the "mosaic," becomes a myriad of tiny photoelectric cells and condensers The differing light intensities of various points of a scene cause the cells of the mosaic to emit varying quantities of electrons The cells remain with positive charges in strengths proportionate to the electrons lost An electron gun or "scanner," operating behind the mosaic, passes its beam across the metal back As it passes across each cell, the charge is released and a current passes through the external circuit of the camera tube After amplification the stream of varying electrical impulses is sent out on carrier waves Further research produced other tubes, including the Orthicon and the image dissector tube (developed by P T Farnsworth) The scanning process, which is the essence of television accomplishment, operates as do the eyes when they read a page of printed matter, from left to right, down, again left to right, and so on A complex circuit of horizontal and vertical deflection coils controls this movement and causes the electronic beam to scan the back of the mosaic in a 525-line zigzag, 30 times each second The development of "interlinear scanning" results in every other line being scanned each $\frac{1}{60}$ of a second with the other 262½ lines being covered in the next $\frac{1}{60}$ of a second The waves carrying the succession of impulses are intercepted by antennae and are thus fed into television receivers Here the process is reversed, and the dissected images are reconstructed The electrical impulses by which they have been communicated are changed back into light values This process takes place in a cathode-ray tube, where a beam is made to scan the fluorescent face known as the "screen" The fluorescence is produced by a deposit, on the inside of the tube's face, of a substance having the property of glowing when exposed to radiation As the tiny particles of the sensitive material are brushed by the beam they glow, and their glowing describes the pattern of the image transmitted A complexity of auxiliary devices function in conjunction with the process, these establish the crucial synchronization, the modulation, and the filtering or other counteraction of undesirable visual and audio effects From 30 to 50 tubes of all kinds are required in a single receiving unit A much larger number are involved in the sending equipment Several systems of color television have been developed In one of these a motor-driven disk with segments in three primary colors, red, blue, and green, rotates behind the camera lens The disk filters the light from the subject so that the colors pass through in succession The receiving unit of this system forms monochrome (black and white) images through the usual cathode-ray tube, but a color wheel, identical with that affixed to the camera and synchronized with it, transforms the images back to their original appearance This method is said to be "field-sequential" because the monochrome image is "painted" first in one color, then another, and finally in the third, in succession Though the coloring is done in sequence, the retentive capacities of the eye synthesize the red, blue, and green so that in effect 30 multicolored images are seen each second Another color television system is called "field-simultaneous" because all three colors arrive at the same time as the image is formed In this method, red, blue, and green light from the subject pass into separate lenses through the work of a series of "dichroic" mirrors Individual scanning tubes then change the images on the three lenses into broadcast signals which are rotated by an electronic switching device When they arrive at the receiver, the signals are sorted by another switching device and relayed, in order, to red, green, and blue picture tubes The resulting single-color images are reflected by more dichroic mirrors onto the viewing screen to produce the final multicolor image. A third color system begins with the focusing of three camera lenses on a subject Behind the lenses are color filters which produce red, blue, and green images side by side as a single picture. The electrical impulses that result from the scanning are divided by the receiver unit into three kinds, according to the colors they represent. They then pass to three electron guns which spray the screen The screen in this case consists of tiny mounds which are three-sided in the sense that three phosphor compounds went into their formation, with the effect that a red glow is produced if one aspect is radiated, a blue glow and a green glow when the other sides are exposed The three beams coming as they do from positions corresponding to the three angles of an equilateral triangle strike the aspects of the mounds coated with the appropriate color producers All three of the described systems of color television leave unresolved certain problems connected with their adoption, in that they are not compatible one with the other It seems not to be feasible to construct a receiver for the reception of all three types of color telecasts The predominant objective in the standardization of color television broadcasting is to utilize the best developed methods and at the same time subject existing monochrome receivers to the least obsolescence See C J Hylander and Robert Harding, *Introducton to Television* (1941); Lee De Forest, *Television Today and Tomorrow* (1942); R W. Hubbell, *4000 Years of Television* (1942); W C Eddy, *Television* (1945), K S Tyler, *Telecasting and Color* (1946), O E Dunlap, *Understanding Television* (1948), Stanley Kempner, ed , *Television Encyclopedia* (1948), Jeanne Bendick and Robert Bendick, *Television Works Like This* (1949).

Telford, Thomas, 1757-1834, Scottish civil engineer He greatly improved road building in England and introduced the use of a base of large stones usually surfaced with compacted layers of small stones His engineering works include harbors and docks at Aberdeen, Dundee, and London, as well as many notable bridges (including bridges across the Tay and Menai Strait) and an aqueduct across the Dee, he was engineer in chief of the Caledonian Canal He is buried in Westminster Abbey

Telford, borough (pop 1,747), Bucks and Montgomery counties, SE Pa , W of Doylestown, settled 1860, inc 1897 West Telford was incorporated with Telford in 1935

Tel-haresha (tĕl'hurē'shŭ) or **Tel-harsa** (-här'sŭ), unlocated Babylonian town Ezra 2 59, Neh 7 61

Tell, William, legendary figure of Swiss patriotism Early versions of his story were reconciled by the chronicler, Aegidius Tschudi, whose account was adopted by Johannes von Müller and furnished the substance of Schiller's popular drama (1804) According to this version Tell, a native of Burglen in Uri, was a follower of Werner Stauffacher of Schwyz, Walter Fürst of Uri, and Arnold von Melchtal of Unterwalden, but was not a participant in the Rütli Oath, sworn by these three in preparation for an uprising against the Austrian bailiffs. The familiar story, relating how Tell refused obeisance to Gessler, the bailiff, was forced in punishment to shoot an apple off his son's head, and succeeded, has close parallels in the folklore of other nations After this feat, according to legend, Tell escaped from Gessler and shot him from an ambush at Küssnacht, thus setting off the revolt which ousted the bailiffs on Jan 1, 1308 While there is no valid proof of Tell's having ever existed, the legend represents a distorted account of the actual events which, in 1291, resulted in the formation of the Everlasting League between Schwyz, Uri, and Unterwalden Rossini's opera, *William Tell*, is based on Schiller's drama

Tell (tĕl), region, NE Algeria and N Tunisia. It rises, often abruptly, from the Mediterranean coastal plain and extends from c 50 to c.100 mi inland Plains and valleys run east and west through the Tell Atlas, which covers most of the region Because of its fertile grainfields the Tell has known the dominion of Rome, the Vandals, the Byzantine Empire, and Arabian and Turkish dynasties. It attained great productivity under French rule Exports include cereals, wine, olive oil, fruits, vegetables, tobacco, and cork. Tiaret and Sidi-bel-Abbès are important cities of the Tell.

Tell ad-Duweir (tĕl-dōōwār'), mound, S Palestine, midway between Gaza and Beersheba. Here in 1935 a British expedition under J L Starkey discovered evidence establishing it as the site of ancient Lachish Archives of the kingdom of Judah were found engraved on porcelain in ancient Hebrew script (the most important Hebrew inscriptions ever found), they are considered of the greatest linguistic as well as historic value.

Tell City, city (pop. 5,395), S Ind., on the Ohio and NW of Cannelton, settled 1857 by Swiss. Furniture is made here

Tell-el-Amarna, Egypt see Tel-el-Amarna.

Teller, Henry Moore, 1830-1914, American statesman, b. Allegany co., N.Y. He was admitted (1851) to the bar and in 1861 moved to Colorado. He commanded a militia district in the Civil War period. When Colorado became (1876) a state, Teller was elected U.S. Senator as a Republican He resigned in 1882 to become Secretary of the Interior under President Chester A. Arthur. Teller returned (1885) to the Senate, to which he was reelected in 1891. Teller supported William J. Bryan

for President in 1896 and was returned to the Senate as an independent silver Republican In 1902 he was reelected on the Democratic ticket. See biography by Elmer Ellis (1941).

Téllez, Gabriel: see TIRSO DE MOLINA

Telluride (tĕl'yəərīd), city (pop 1,337; alt c 8,500 ft), co seat of San Miguel co, SW Colo, SW of Ouray; inc 1887 In the late 19th cent it was one of the liveliest gold camps in Colorado; some mining is still carried on in the area, along with ranching and farming Bridal Veil Falls are near by

tellurium (tĕlōō'rēəm, tĕlyōō'-), element with some metallic properties, appearing in a white, crystalline form or as a dark gray, amorphous powder (symbol=Te, for physical constants, see ELEMENT, table) It resembles sulphur and selenium, with which it is classed in the periodic system With oxygen it forms two oxides, the dioxide being formed when the element is burned With metals it forms tellurides; with sulphur and oxygen, a sulphate, and with hydrogen and oxygen, two acids It is present in the mineral sylvanite (a compound of gold, silver, and tellurium) and is sometimes found uncombined in nature Discovered by Franz Müller von Reichenstein (1782), it was named by M H Klaproth in 1798 It has as yet little commercial value

Tellus (tĕ'lus), in Roman religion, earth-goddess, identified with GAEA Also called Terra Mater (tĕ'rə mā'tur), she was often worshiped with CERES

Tel-melah (tĕl-mē'lə) [Heb, =hill of salt], unlocated Babylonian town Ezra 2 59, Neh 7 61

Telpos-Iz (tyĭlpŏs'-ēz'), peak, 5,558 ft high, RSF SR, in the N Urals It was thought to be the highest in the Urals until the discovery of the NARODA peak.

Telugu (tĕ'lŭgōō), one of the divisions of the Dravidian family of languages See LANGUAGE (table)

Tema (tā'mu), **Taima**, or **Teima** (both tā'mə, tī'mu), large oasis (pop c 10,000), SW Saudi Arabia Inscriptions possibly dating from the 6th cent B C have been recovered The place is mentioned several times in the Bible Job 6 19, Isa. 21 14, Jer 25 23 The biblical eponym is apparently Tema, one of the sons of Ishmael Gen 25 15 1 Chron 1 30

Teman (tē'mun) or **Temani** (tĕ'munī, tēmā'-) [Heb, =on the right hand, south], grandson of Esau and eponym of a tribe living SE of the Dead Sea Gen 36 11,15,34,42, 1 Chron 1 36,53, Job 2 11, Jer 49 7,20, Ezek 25 13, Amos 1 12, Obad 9, Hab 3 3

Tembuland see TRANSKEIAN TERRITORIES

Temeni (tĕ'mənī, tēmē'nī, tĕ'mənī), son of Ashur and Naarah 1 Chron 4 6

Temesvar, Banat of see BANAT

Témiscamingue, Que see TIMISKAMING

Temora (tĭmō'rə), palace of the kings of Ulster in the Ossian poems It is used as the name of one of the epics

Tempe (tĕm'pē'), city (pop 2,906), S central Ariz, in the SALT RIVER VALLEY, on the river, founded 1872, inc 1894 Arizona State College at Tempe (coeducational) was established in 1885 Some Indian ruins are near, and across Salt river is Papago State Park

Tempe (tĕm'pē), valley, NE Thessaly, Greece, between Mt Olympus and Mt Ossa It is traversed by the Peneus river The Vale of Tempe was sacred to Apollo, and laurel for the wreaths of victors of the Pythian games was gathered here Its beauty was celebrated by ancient poets, as by Vergil in the *Georgics* Strategically important, the valley was fortified by the Romans and the Byzantines Among the ruins is a temple of Apollo

Tempelhof (tĕm'pulhōf), district (pop 110,882), S central Berlin, Germany, after 1945 in the American occupation sector A workers' residential quarter, it includes the chief airfield of Berlin During the Russian blockade (1948–49) of the Western occupation sectors of Berlin, the Tempelhof airfield was the main terminal of the American "air lift" and was considerably enlarged

tempera (tĕm'purə), painting method in which finely ground pigment is mixed with a solidifying base such as albumen, fig sap, or thin glue When used in mural painting it is also known as *fresco secco* (dry fresco) to distinguish it from the *buono fresco* (proper fresco) applied on damp walls The name distemper is given to it when a glue base is involved When used on wood panels, as it most frequently was for altarpieces and other easel pictures, it was applied on a gesso underpainting Its particular advantage is the clear, pure colors produced, which are not subject to oxidation as are oils Although not so durable as fresco when applied to walls, the tempera panel paintings have to this day retained their original coloring and have not appreciably flaked off Well known from antiquity (the Roman catacombs offer an early example), tempera was the exclusive panel medium in the Middle Ages and the early Renaissance, and in Italy it was not supplanted by oil until c.1500 In the north oil superseded tempera about a century earlier Tempera was also much used in combination with oils Some attempt was made also to use tempera on canvas, as in the case of Mantegna's work at Hampton Court Palace Michelangelo and Pinturicchio experimented with combining true fresco with tempera In modern times there has been a revival of tempera painting Boecklin and Hodler in the 19th cent experimented with it, and some contemporary American artists have renewed an interest in the old medium Pigment mixed with egg yolk applied to a sized panel is the common method. In industrial art, notably for posters, a simplified distemper is much in use An excellent account of the early Renaissance use of tempera is found in Cennino Cennini's *Treatise on Painting* (written 1437, Eng tr, 1899).

temperament, in music, the altering of certain intervals from their acoustically correct values to provide a system of tuning whereby any instrument may be played in all keys Pythagoras set down the frequency ratios of the pure or acoustically correct intervals (see INTERVAL), namely 2 1 for the octave, 3 2 for the pure fifth, and 5 4 for the pure third If a set of resonators is tuned to a cycle of pure fifths, e g, tuning C to 256 vibrations per second, G a pure fifth higher, and so on, it will be found upon reaching B sharp, which is the same note as C on the modern piano, that it is slightly higher than C A downward cycle from C, i e, tuning F a pure fifth below C, and so on, will yield a B flat, for example, which is lower than A sharp, although one note suffices for both on the piano By tuning to a fifth which is slightly flat, one arrives at EQUAL TEMPERAMENT

temperance movements, organized efforts to induce people to abstain—partially or completely—from drinking alcoholic beverages Such movements occurred in ancient times, but died out until the wide use of strong distilled liquors in the modern period resulted in increasing drunkenness The stirrings of temperance activity began in the 19th cent in America, Great Britain, and the countries of N Europe, where heavy drinking was most serious Relying at first upon personal appeal, such individuals as Father Theobald MATHEW in Great Britain and John Bartholomew GOUGH in America secured pledges by preaching that moral degradation, ill-health, poverty, and crime were the results of alcoholism In 1808 a temperance group was formed in Saratoga, N Y, and in the next few decades societies sprang up in other states and in the British Isles, Norway, and Sweden International cooperation was begun in the latter half of the century, one of the most effective groups being the WOMAN'S CHRISTIAN TEMPERANCE UNION (W C T U) founded in 1874 in the United States The W C T U and the strong ANTI-SALOON LEAGUE (1893) wielded real political power in the United States and, turning from moral appeals for moderation and abstinence, demanded government control of liquor Backed by church groups and some industrialists, they influenced the passage of many LIQUOR LAWS and eventually succeeded in securing Federal PROHIBITION (1919–33) Among the outstanding women temperance workers of the period were the W C T U leader, Frances Elizabeth WILLARD, the vigorous Susan B Anthony, and the flamboyant Carry NATION Among the effects of the temperance agitation were the stimulation of interest in the scientific study of ALCOHOLISM, general instruction in the schools on the effects of alcohol, and provision of reasonable government regulation See Joseph Rowntree and Arthur Sherwell, *The Temperance Problem and Social Reform* (9th ed, 1901), Arthur Shadwell, *Drink, Temperance, and Legislation* (3d ed, 1915), J A Krout, *The Origins of Prohibition* (1925)

temperature (tĕm'prəchōōr, -chur), measurement of the relative "hotness" or "coldness" of a body, but not, however, a measurement of the quantity of heat contained in that body For example, a piece of iron and a piece of lead each weighing 100 g may be heated to the same "hotness," or temperature, and yet the quantity of heat necessary to raise the temperature of the iron one point is about three times that needed to raise the temperature of the lead the same number of degrees A temperature is, therefore, merely a statement of comparative "hotness" or "coldness" The substance used as a basis for comparison is water The comparison is made by means of a scale which is so devised that temperature can be given in definite points or degrees There are several different temperature scales, e g, centigrade, Fahrenheit, Kelvin or absolute, and Reaumur, on each of these there are two fixed points, the melting point of ice and the boiling point of water under standard pressure A THERMOMETER is named for the scale with which it is marked or calibrated On the centigrade scale, the freezing point of water is marked as 0°C and the boiling point as 100°C Between these two points there are 100 equal spaces or degrees On the Fahrenheit scale, the freezing point of water is 32°F and the boiling point is 212°F, there being 180 equal spaces or degrees between these two points A Fahrenheit degree is therefore smaller than a centigrade degree, one Fahrenheit degree being $^5/_9$ of a centigrade degree On the Kelvin scale, known also as the absolute scale, the freezing point of water is 273°K and the boiling point 373°K. Since the distance between these two points is 100 degrees, as it is on the centigrade scale, the degree marking on Kelvin and centigrade is the same Absolute temperatures are used in the formulas derived from the gas laws The zero point on this scale is called absolute zero, and the point 273°K was chosen to correspond to 0°C because gases cooled below 0°C were thought by Kelvin to decrease $^1/_{273}$ of their volume for each degree their temperature fell below that point According to the kinetic molecular theory, however, absolute zero is held to be that point at which the molecules of substances have no kinetic energy, i e, no heat energy On the Reaumur scale, the freezing point of water is 0°R and the boiling point 80°R Because the fixed points on the several different scales are the same, i e, they indicate the freezing and boiling points of water under standard pressure, temperature readings can be translated from one to another without difficulty For changes between centigrade, Fahrenheit, and Reaumur, the values may be found by working out the formula $\frac{F-32}{9} = \frac{C}{5} = \frac{R}{4}$ The conversion formula for the absolute or Kelvin scale is K (or T_a or absolute temperature) =C+273°, or C=K−273° The phenomenon of critical temperature was discovered by Thomas Andrews in 1869 It is defined as that temperature below which a gas must be cooled before it can be liquefied by pressure Each gas has a definite critical temperature of its own, and it cannot be liquefied (no matter what pressure is exerted upon it) until first it has been cooled below that point For example, carbon dioxide must be cooled below 31 1°C, its critical temperature, and oxygen below −118 8°C, its critical temperature, before either will liquefy under pressure (see LIQUEFACTION) The kindling temperature of a substance is that temperature at which it bursts into flame or begins to undergo COMBUSTION.

temperature of the atmosphere see CLIMATE.

temperature of the body see ANIMAL HEAT and FEVER

tempering, process of heating and then cooling a metal after it has already been subjected to heat treatment at much higher temperatures followed by rapid cooling The physical properties of various metals, such as hardness and toughness, are controlled by processes of tempering Steel is notably responsive to such processes, and makers of tools, weapons, armor, and other articles of steel have long had great skill in tempering In some products, e g, razors and files, hardness is sought, and brittleness is not a serious disadvantage In other products, e g, swords and saws, toughness cannot be sacrificed The desired condition is secured by heating and cooling the steel In the handicraft process, the condition of the steel is judged by its color, caused by an oxide film A desired hardness can be secured by plunging the steel into a bath when it has cooled to the right shade of yellow or brown or blue More uniform results are obtained by controlling the temperature with special instruments than by using the color method To secure a bath of the right temperature, various liquids are used, e g, pure water, salt water, oil, and molten metal The process of softening steel that is harder than desired is called annealing Various steels require treatments in tempering, and other metals are tempered in other ways In modern mass production, the processes of tempering are guided by scientific tests in place of the craftsman's skill Comparable to tempering is the process of hastening the cooling of a surface of a casting, to increase the hardness of the part so "chilled"

Templars see KNIGHTS TEMPLARS

Temple, Frederick, 1821–1902, Anglican prelate, b Santa Maura, one of the Ionian Islands He was a fellow of Balliol College, Oxford, and was ordained priest in 1846 In 1858 he entered upon his duties as headmaster of Rugby An essay published in *Essays and Reviews* (1860) awakened suspicions that Temple leaned towards rationalism and caused a protest against his appointment as bishop of Exeter when Gladstone nominated him in 1869 His conduct of the bishopric soon quieted all opposition of this kind In 1885 he was made bishop of London His just and able leadership won him such esteem that in 1896 he was created archbishop of Canterbury In 1897 Temple promulgated the reply to the encyclical of the pope in which the validity of Anglican orders was denied. His published works include *The Relations between Religion and Science* (1884) See *Memoirs of Archbishop Temple by Seven Friends* (ed by E G Sandford, 2 vols, 1906)

Temple, Richard Grenville-Temple, Earl, 1711–79, English statesman The brother of George Grenville and the brother-in-law of William Pitt, earl of Chatham, he was elected to Parliament in 1734, but gained little distinction until he succeeded to the earldom in 1752 Appointed first lord of the admiralty in 1756, Temple was forced to resign the next year because of George II's dislike of him but was made lord privy seal in the duke of Newcastle's administration (1757–61) An opponent of his brother and a supporter of Pitt, Temple had considerable influence over the latter, supported his war policy in 1761, and caused him to decline

the ministry in 1765. When Pitt did form a government (1766), Temple quarreled with him and was reconciled to Grenville After his brother's death in 1770, Temple retired from politics He bore the expenses for the defense of John WILKES, assisted Pitt financially, and attacked Lord North's American policy Authorship of the Junius letters has been attributed to him

Temple, Sir William, 1628–99, English statesman and author He left Cambridge in 1648 and traveled abroad, where he met Dorothy OSBORNE, whom he married, despite parental objections, in 1655 They settled in Ireland, and in 1661 Temple entered the Irish Parliament He moved to England (1663), served on diplomatic missions to the prince-bishop of Münster (1665) and to Brussels (1666–68) and was made a baronet (1666) In 1668 he negotiated with great skill and speed a triple alliance with the Netherlands and Sweden to check the power of France, but this was counteracted by Charles II's secret Treaty of Dover (1670) Temple became ambassador to The Hague (1668), was secretly recalled (1670), and was reappointed at the conclusion of the unpopular English-Dutch war (1674) There he negotiated the marriage of William of Orange to Princess Mary of England (1677) Temple several times refused to become secretary of state and, after his reform of the privy council was a failure, retired to his estate, "Moor Park" (in Surrey), in 1681 and devoted his time to writing He produced a number of political works and essays Johnathan SWIFT, who was Temple's secretary for various periods in the 1690s, helped prepare his letters (1700–1703) and memoirs (1692, 1709) for publication (parts of both had earlier unauthorized publication) Temple's essay, *Of Ancient and Modern Learning* (1690), precipitated the famous ancients versus moderns controversy, which caused Swift to write *The Battle of the Books* (1697) Temple's style in his personal essays was long considered a model of balanced and polished prose See his life and works (4 vols, 1814), biographies by Clara Marburg (1932) and Homer Woodbridge (1940)

Temple, William, 1881–1944, archbishop of York (1929–42) and archbishop of Canterbury (1942–44), son of Frederick Temple He studied at Balliol College, Oxford, he became president of the Oxford Union in 1904 He was fellow and lecturer in philosophy (1904–10) at Queen's College, Oxford, and in 1909 was ordained priest Temple served as headmaster (1910–14) of Repton School, as rector (1914–18) of St James, Piccadilly, as canon (1919–21) of Westminster, and as bishop (1921–29) of Manchester He was made archbishop of York in 1929, and in 1942 he became archbishop of Canterbury He was editor of the *Challenge* (1915–18) and of the *Pilgrim* (1920–27) Keenly interested in social and economic reform, he was a friend of labor and the first president (1908–24) of the Workers' Educational Association His leadership in the movement to form a world council of churches was outstanding Among his numerous publications are *Essays in Christian Politics* (1927), *Christianity and the State* (1928), *Nature, Man, and God* (1934), and *The Church Looks Forward* (1944) See Sydney Dark, *The People's Archbishop* (1942), F A Iremonger, *William Temple, Archbishop of Canterbury* (1948)

Temple. **1** Farm trading town (pop 1,313), SW Okla, near the Red River, settled 1902 **2** Borough (pop 1,408), Berks co, SE Pa, near Reading Limestone quarrying is done here **3** City (1940 pop 15,344, 1947 estimated pop 23,000), central Texas, SSW of Waco, founded 1881 by the Santa Fe RR, inc 1882 In the rich blackland region, Temple has cotton processing, textile mills, a mattress factory, railroad shops, and plants making varied goods such as rock wool, tools, and granite products Notable as a medical center, it has private hospitals and a veterans' hospital There is a municipal junior college and an agricultural experiment station Near by is an old cooperative project for soil conservation

Temple, the, district of central London, England, between Fleet St and the Thames Here are the Inner Temple and the Middle Temple, belonging to the INNS OF COURT The name derives from the Knights Templars, who once owned these buildings Air raids in 1940–44 resulted in the destruction of the Temple Church (incorporating the Norman round church dedicated in 1185) and the Inner Temple library and hall The Temple Bar is the gate built by Wren c 1672 on the site of the bar or chain that marked one of the entrances to the City of London The Bar was removed in 1878 and is now in Theobalds Park near Waltham, there is a monument on the London site, at the junction of Fleet St and the Strand. Here the lord mayor officially receives personages from without the city In the 17th and 18th cent heads of traitors were displayed here See J B Williamson, *The History of the Temple, London* (1924)

temple, edifice or sometimes merely an enclosed area dedicated to the worship of a deity and the enshrinement of holy objects connected with such worship The word was employed in practically all religions except Christianity and Mohammedanism; modern Jews use it frequently to designate their synagogue Though remains of Egyptian temples of c 2000 B C show well-defined architectural forms, it seems likely that temples were hewn in living rock at a still earlier age the cave temples of Egypt, India, China, and the Mediterranean basin may be viewed as later developments of such primitive shrines In Egypt in the New Empire impressive rock temples were hewn from cliffsides, the finest being the great temple of ABU-SIMBEL constructed by Ramses II In the developed structural temples of Egypt a doorway, flanked by monumental towers or pylons, led to an unroofed open court, generally surrounded on three sides by a colonnaded passage Beyond the court lay the majestic hypostyle hall and a variety of chambers preceding and surrounding the holy of holies From the entrance to this innermost sanctuary the various units diminished progressively in size and height, while the direct outside light was also reduced The average temple later accumulated additional pylons, courts, and rooms, the entire group being enclosed by a massive wall Only monarch and priests had access to the chambers beyond the hypostyle hall The New Empire was the most active period of temple construction, although the grandest temple, that of Amon at Karnak, was commenced much earlier In the ancient Babylonian and Assyrian periods of W Asia the temple or ziggurat was a square pyramidal structure about 300 ft high built up in successive, inclined terraces, sometimes as many as seven, with accessory buildings it was enclosed by walls At its summit was a chamber which served both as shrine and for astronomical observations Glazed colored bricks faced the walls The Temple of Solomon at Jerusalem, the only monumental structure of the ancient Hebrews, consisted, according to biblical descriptions, of entrance pylons, courts, and a naos giving entrance to the holy of holies which housed the Ark of the Covenant Its several destructions and reconstructions (one by Herod in 20 B C) have rendered unrecognizable any remains of the original edifice The workmanship, characteristically Phoenician, was of stone, timber, and metal The Temple of Herod, to which Jesus went, was destroyed A D 70, its ruins have symbolized to the Jews their dispersion The Dorian immigration (before 1000 B C) was a prelude to the building of Greek temples, at first made of timber and sun-dried brick The superb stone and marble buildings on a defined floor plan were achieved in the middle of the 6th cent B C, although the most perfect examples, like the Parthenon (5th cent B C), came later The Greek temple customarily stood in a temenos, or sacred enclosure, along with accessory shrines, colonnades, and buildings housing the temple treasures It was built not as a place for assembled worship, but as the dwelling for the deity, his colossal sculptured representation being placed in a large rectangular chamber or naos and illuminated by the daylight entering through the tall entrance portal The absence of windows in the temples has led to theories of openings in the roof or of light filtering through transparent roof slabs of marble In larger temples, to support the roof lintels, two interior rows of columns divided the naos into nave and side aisles The chief terms descriptive of temple arrangement, applying also to Roman temples and to modern classic adaptations, are prostyle, simple shrine cell, with a portico in front, amphiprostyle, the same, with portico also at rear, peripteral, columns completely surrounding the naos, dipteral, same, with double row of columns, distyle, tetrastyle, hexastyle, octastyle, etc, according to the number of columns (2, 4, 6, or 8) forming the width of the colonnade The Roman temple, while based upon the Greek type, retained elements from Etruscan architecture, as in its deep front portico and its elevation upon a high base or podium whose wings extended forward to flank the broad entrance steps The usual type was the pseudoperipteral temple, in which the colonnade appeared only at the front, to form the portico, behind which the cella occupied the full width of the building with engaged columns or pilasters attached to its walls Of this type is the Maison Carrée at Nîmes, France (1st or 2d cent A D), the best preserved Roman temple Unlike the long narrow Greek naos, the Roman cella was nearly square in plan The interior had walls veneered with marble slabs and adorned with engaged orders and with niches containing sculptures, while the floor was of marble mosaic and the flat or vaulted ceiling was enriched with coffers Of the polygonal and circular temples the circular Pantheon at Rome (A D c 120) with its magnificent dome is the most remarkable Many temples, particularly those of the Eastern colonies, as at Baalbek (A D 131–61) in Syria, had magnificent settings of entrance courts enclosed by colonnades In India the most ancient remaining temples are the rock-hewn monuments of the Buddhist period (c 255 B C–A D c 300), important groups exist in W India, E of Bombay The typical interior is a vast cave divided by lavishly sculptured rock piers into nave and aisles, the sculptured façade, hewn from the cliff face, has a single huge opening to admit light. The typical Jain temple is an idol cell over which is a towering pyramidal superstructure A generally similar type has prevailed in the Hindu (or Brahmanical) architecture since A D. c 600, with pyramidal towers of inward curving outline, but with many local variations. The principal Indian temples are gradual accretions around a sacred site, forming a religious center comprising shrines, cells for priests, and accommodations for pilgrims The expression of symbolism is of paramount importance in both structure and ornaments In China the characteristic temple differs from the form of a dwelling only in its size and richness Besides the temple a Buddhist monastery includes a relic shrine, a pagoda, a library, and quarters for the monks In Japan the temple harmonizes with the picturesque landscape in which it is set, with architectural emphasis upon an unsymmetrical grouping of torii or sacred gateways, shrines, pagodas, and terraces

Temple, Knights of the see KNIGHTS TEMPLARS

Temple of Heaven see CHINESE ARCHITECTURE

Templeton, town (pop 4,601), N central Mass, E of Athol, settled 1751, inc 1762

Temple University, in Philadelphia, nonsectarian, coeducational, opened 1884 by Russell H CONWELL, chartered 1888, became a university 1907 It includes a college of liberal arts and sciences, a teachers college, schools of business and public administration, chiropody, dentistry (formerly Philadelphia Dental College), fine arts (Tyler), law, medicine, music, nursing, oral hygiene, pharmacy, and theology, and lower schools

Templewood, Samuel John Gurney Hoare, 1st Viscount, 1880–, English public official He began his career in the colonial office in 1905 and entered Parliament in 1910 His interest in aviation led to his appointment as secretary of state for air (1922–29) He served as a member of the Indian Round Table Conferences, and in 1931 he was made secretary of state for India He piloted the India Bill (see INDIA) through Parliament In June, 1935, he replaced Sir John Simon as foreign secretary and was given the task, with Anthony EDEN, of forestalling the Italian conquest of ETHIOPIA In September, as Great Britain took the lead in advocating sanctions against Italy, Hoare made an able speech before the LEAGUE OF NATIONS in favor of collective security, but later Hoare and Pierre Laval of France arrived (Dec 8, 1935) at a proposed settlement, by its terms a large portion of Ethiopia would have been surrendered to Italian control Liberal and Labour elements in Great Britain raised a storm of protest, and Hoare resigned The plan was laid aside, but the British view of it was tempered later by the easy Italian conquest In June, 1936, Hoare reentered the cabinet as first lord of the admiralty After Neville Chamberlain became premier, Hoare was home secretary (1937–39) He was made secretary for air (1940) and served as special ambassador to Spain (1940–44) with the task of keeping that country neutral in the Second World War He was raised to the peerage in 1944 His writings include *A Flying Visit to the Middle East* (1925), *India by Air* (1927), *The Fourth Seal* (1930), and *Complacent Dictator* (1947)

tempo [Ital,=time], in music, the speed of a composition The composer's intentions as to tempo are conventionally indicated by a set of Italian terms, of which the principal ones are *presto* (very fast), *vivace* (lively), *allegro* (fast), *moderato* (moderate), *andante* (moderate, literally a "walking" tempo), *adagio* (slow), *lento* (slower than *adagio*), and *largo* (very slow), *accelerando* (increasing the speed) and *ritardando* (slowing down) are directions to alter the tempo momentarily and are canceled by *a tempo* Since Beethoven's time many composers have given metronomic indications, which, despite their seeming infallibility, are often misleading, and tempo remains a point of subjective interpretation Acoustical factors influence the choice of a tempo but account for less of the divergence between different performances than does the performer's idea as to the essential character of the work

Temuco (tāmōō'kō), city (pop 42,035), S central Chile Founded in 1881, Temuco is at the northern limit of the Chilean lake district It was a point from which colonization of S Chile was begun, chiefly by German immigrants On a near-by hill was signed (1881) the treaty ending the last serious uprising of the Araucanian Indians Indians still constitute an important and colorful element in the life of the city Commercial activity in Temuco is based on the agricultural produce of the region—wheat, barley, oats, timber, and apples

Ten, Council of, in the republic of VENICE, a board set up in 1310 after the Tiepolo conspiracy against the government Made up of the doge, 10 elected members, and the 6 members of the Lesser Council, it was at first only an extraordinary tribunal to deal with matters of public safety. Its competence gradually extended to foreign affairs and to financial matters, and it became the most powerful organ of the republic An attempt (1582) by the Grand Council to reduce its authority did not pre-

vent it from remaining the supreme power until the fall of the republic. It acted largely through an allied body, the Venetian Inquisition (which had nothing to do with the Catholic Inquisition and was opposed by the popes), consisting of three inquisitors of state These by means of an efficient secret police investigated all crimes (common, political, religious, and moral) and reported their findings to the Council of Ten, which judged the cases in secrecy and from which there was no appeal The mystery that surrounded the Ten and the inquisitors resulted in exaggerated accounts of their dread activities

Tenafly (tĕn'ŭflĭ), residential borough (pop 7,413), NE N J, near the Hudson and N of Englewood; settled 1640, inc 1894 Liqueurs are distilled here

tenancy (tĕ'nunsē) The legal relation of landlord and tenant comprises economic relationships differing in nature and effect The growth of a city creates site values and enables the owner of land to lease it for a long term to a tenant who will construct office buildings, dwellings, or other improvements The landlord who owns the site may function only as a receiver of ground rent except as he pays taxes Some economists, notably Henry GEORGE, believed that taxes should absorb the whole of the ground rent The tenant who builds on the site becomes in turn the landlord of those who rent from him Unlike the receiver of ground rent, he has obligations to meet, such as the costs of depreciation, insurance, upkeep, and services The division in ownership of the land and of the improvements is typical in the United States but by no means universal Farm tenancy in America is typically associated with business farming, not with subsistence farming. Subsistence farms are typically homesteads owned by those who use them The system of SHARE CROPPING prevalent in parts of the United States has certain distinctive features, it combines a cash crop which is the property of the landlord with subsistence crops belonging to the tenant.

Tenasserim (tĕnă'surĭm), region (c 37,000 sq. mi, pop 2,110,420), S Burma A narrow strip of coast between Thailand on the east and the Andaman Sea on the west, it extends south for 400 mi from the Gulf of Martaban to the Isthmus of Kra The rainfall is heavy (about 200 in a year), rice and garden vegetables are produced, and rubber is grown Tin and wolfram are extracted, and teak is cut The people speak a distinct dialect of Burmese, and their culture shows many Siamese and Malay influences Tenasserim was long subject in turn to Siam and Burma, but remained in Burmese hands when the long wars of the Thai and Burmese ended late in the 18th cent As a result of the first Anglo-Burmese war (1824–26), Tenasserim passed under British rule

Tenby (tĕn'bē), municipal borough (1931 pop 4,108, 1943 estimated pop 4,383), Pembrokeshire, Wales, on a promontory extending into Caermarthen Bay It is a seaside resort and fishing center Near the town is Caermarthen Hill, with ruins of a castle, and on either side are sandy beaches There are remains of the town walls, built before 1588 St Mary's Church dates partly from the 13th cent First a fishing station, the town developed as a resort because of its climate, coast scenery, and beaches It has also a woolen industry

Ten Commandments or **Decalogue** (dĕk'-) [Gr, = ten words], in the Bible, the cardinal summary of divine law, given by God to Moses on Mt Sinai They have a paramount place in the ethical system in Judaism, Christianity, and Islam Ex 20 2–17, Deut 5 6–21, Ex 31 18, 32 15–19, 34, Deut 9–10 There are two ancient traditions, both of Hebrew origin, concerning the division of the commandments, one survives in the Roman Catholic and Lutheran churches, the other in the Orthodox and in most Protestant churches For Protestants the command to worship no gods before God is the first, the prohibition of graven images, the second These two Roman Catholics combine as the first. Hence, the Protestant third to ninth answer to the Roman Catholic second to eighth, respectively For Roman Catholics the ninth forbids coveting one's neighbor's wife, the tenth his property Protestants combine these two as the tenth

Tenda or **Tende** · see BRIGUE AND TENDE

tendril, slender, sensitive structure of many climbing plants which by a response to contact supports the plant The most common kind (pea, grape) coils about a slender support, then contracts spirally, becoming springy and drawing the plant to the support The disk-tipped tendril (Virginia creeper, Boston ivy) adheres firmly to brick, stone, or wood, after which it too contracts Leaf petioles sometimes serve as tendrils (clematis, nasturtium) and curl about a slender support Most young tendrils revolve slowly, increasing the possibility of a contact, they will react to the weight of ⅛ of a grain. Tendrils—considered modified branches, leaves, flower stalks, or stipules—are not the only means of climbing (see CLIMBING PLANT)

Tenebrae (tĕ'nĕbrē) [Latin, = darkness], ceremony of the Roman office appointed for Wednesday and other evenings of HOLY WEEK. As the choir chants, a number of candles set on a hearse are put out one by one, except for the last, which is hidden and then replaced still alight The traditional plain song for the ceremony is much esteemed.

Tenedos (tĕ'nudŏs), island (15 sq mi, pop 1,765), off NW Asia Minor, in the Aegean Sea It belongs to Turkey, and its modern name is Bozca Tenedos was a station of the Greek fleet during the Trojan War Xerxes used it as a naval base for the Persian fleet in the 5th cent B C

tenement house: see APARTMENT HOUSE, HOUSING.

Tenerani, Pietro (pyĕ'trō tănărā'nē), c 1789–1869, Italian sculptor He studied with both Canova and Thorvaldsen Of his many works covering classical and Christian subjects, some of the best known are *Psyche with Pandora's Box*, *Cupid and Venus*, and *Deposition from the Cross*, a large relief in the Lateran, Rome He made the tomb of Pius VIII, in St Peter's, Rome, and a statue of Bolívar for Colombia

Teneriffe or **Tenerife** (tĕ'nurĭf, tĕnurē'fā, Span tănărē'fā), island (794 sq mi), in the Atlantic off NW Spain, the largest of the CANARY ISLANDS It is dominated by Mt Teide, a volcanic peak (c 12,200 ft) Santa Cruz, capital of Santa Cruz de Tenerife prov, Spain, is on the island.

Tengri Khan see TIEN SHAN

Tengri Nor (tĕng'grē nôr'), salt lake, area c 1,000 sq. mi, Tibet, N of Lhasa The largest lake in Tibet, it is at an altitude of c 15,200 ft

Teniers, David (tunērz', tĕn'vurz, Flemish tĕnērs'), the elder, 1582–1649, Flemish landscape and genre painter, pupil of Rubens Much of his life was spent in Rome He is best known for his little scenes of peasant life which are often confused with the early work of his famous son and pupil **David Teniers**, the younger, 1610–90, noted Flemish genre painter, worked with his father in Antwerp, where he was admitted to the painters' guild c 1632 In 1637 he married Velvet (Jan) Bruegel's daughter, by whom he had seven children A protégé of Rubens, Teniers became court painter to the governor of the Netherlands and also worked for Philip IV of Spain He was overwhelmed with commissions, painted a prodigious number of small but very finished pictures, and had a long and prosperous life His favorite subjects were rather quiet scenes from peasant life His early work was brown, but later he achieved a sparkling silvery tone His subtle color and brilliant technique are unexcelled among the genre painters of his period Among his hundreds of well-known pictures are several versions of *Flemish Kermess* in the museums of Brussels, Antwerp, and Vienna, a version of *The Alchemist* in The Hague, and versions of *The Temptation of St Anthony* in Brussels and in the Metropolitan Museum. The Prado has 52 of his paintings

Tenimber Islands, Indonesia see TANIMBAR ISLANDS.

Tenison, Thomas (tĕ'nĭsun), 1636–1715, English archbishop, educated at Cambridge He took holy orders and served in various parishes In 1680 he became rector of St Martin's-in-the-Fields, London, here he came into prominence as a preacher and as an author of theological pamphlets, and he founded a free library He was made bishop of Lincoln (1691) and archbishop of Canterbury (1694) He administered at their deathbeds to both William and Mary, but was not popular with Queen Anne He served (1706) on the commission for the union with Scotland, supported the Hanoverian succession, and was a founder of the Society for the Propagation of the Gospel

Tennant, Smithson (tĕ'nunt), 1761–1815, English chemist In 1796 he proved, by burning a diamond, that the diamond consists solely of carbon In 1804 he announced his discovery of osmium and iridium

Tennent, Gilbert (tĕ'nunt), 1703–64, American Presbyterian clergyman, a leading preacher of the GREAT AWAKENING, b Ireland, son of William Tennent. He went with his parents to Pennsylvania c 1718 Installed as pastor at New Brunswick, N J, in 1726, he soon became the leader of a revival movement among the Presbyterians in New Jersey, New York, and Pennsylvania A friend of George Whitefield, Tennent made (1740–41) an evangelistic tour in New England Opposition to the revival from conservatives in the Presbyterian Church led to a schism (1741–58), with Tennent leading the "New Side" but later using his influence to heal the breach He was interested in the College of New Jersey (now Princeton Univ), and in 1753 he went to Great Britain with Samuel DAVIES to secure funds for the college

Tennent, William, 1673–1745, American Presbyterian clergyman and educator, b Ireland, grad. Univ of Edinburgh, 1695 He was ordained in the Church of Ireland in 1706 He came to America c 1718, in 1726 he was called to a pastorate in Neshaminy, Pa, where he stayed the remainder of his life Here, in a log cabin on his premises, Tennent established a school which became famous as the **Log College.** He drilled his pupils in the languages and the Bible and so filled them with an evangelical zeal that a number became revivalist preachers in the GREAT AWAKENING The educational influence of the Log College was of importance since many of its graduates founded schools along the frontier which were modeled upon it Princeton Univ. is regarded as a successor to the Log College. See Thomas Murphy, *The Presbytery of the Log College* (1889)

Tennessee (tĕ'nusē', tĕ'nûsē', tĕ'nûsē") state (41,961 sq mi, 1940 pop 2,915,841; 1949 estimated pop 3,234,000), S central United States, admitted 1796 as the 16th state (a slaveholding state). NASHVILLE is the capital The state is bounded on the north by Kentucky and Virginia, on the east by NORTH CAROLINA, on the south by Georgia, Alabama, and Mississippi, and on the west by the MISSISSIPPI river, which separates it from Missouri and Arkansas Although industry has long since outdistanced agriculture in value of products, most Tennesseans still earn their livelihood from the land of the state's three sharply defined regions The GREAT SMOKY MOUNTAINS, CUMBERLAND PLATEAU, narrow river valleys, and heavily forested foothills of E Tennessee generally restrict farming to the subsistence level, but this section has the two most industrialized of the largest cities, CHATTANOOGA and KNOXVILLE The TENNESSEE river, in its circuitous route to the Ohio, hems in Middle Tennessee, a gently rolling, fertile, bluegrass country, ideal for livestock raising and dairy farming and, indeed, still noted for its fine horses and mules, e g, the Tennessee walking horse Here, on the CUMBERLAND river, is Nashville W Tennessee, with its rich river bottom lands on which most of the state's cotton (the chief money crop) is grown, lies between the Tennessee and Mississippi rivers and has the state's largest city, MEMPHIS The annual average rainfall ranges from 40 to 50 in, and the climate is generally mild, the rigors of a Northern winter usually affecting only the most mountainous parts of E Tennessee Other leading crops are corn (always the largest), hay and other forages, wheat, oats, tobacco, potatoes, and sweet potatoes. Coal, limestone, marble, zinc, clay, barite, and phosphate rock, all found mostly in E Tennessee, are the chief mineral resources Lumber products and textiles lead in industry, which has become increasingly diversified E Tennessee was the first part of the state to be visited by white men, De Soto's band, in 1540 However, it was in W Tennessee, which abounds in artifacts of the MOUND BUILDERS, that Europeans made their first mark—La Salle built (c. 1682) Fort Prudhomme, probably on the site of Memphis The French claimed the area as part of Louisiana, but even Bienville failed to bring into line the recalcitrant CHICKASAW INDIANS The steady penetration of fur traders and "long hunters" from the Carolinas and Virginia, who won over the CHEROKEE INDIANS in the east, made ineffectual the French claim, which was completely lost (1763) by the British victory in the French and Indian Wars In that fighting British regulars and South Carolina militiamen established (1756) Fort Loudoun on the Little Tennessee river, only to have it destroyed and the settlers it protected massacred by the Cherokee in 1760 The Cherokee were pacified by a royal proclamation (1763) guaranteeing them their lands W of the Appalachians, which was promptly ignored by land-hungry colonials The first settlement that took hold was made (1769) in the Watauga river valley of E Tennessee by Virginians, who were soon joined by refugees of the REGULATOR MOVEMENT in North Carolina In 1772 these hardy people, living beyond the frontier, formed the WATAUGA ASSOCIATION, first attempt at government in Tennessee, and in 1777, at their request, North Carolina created Washington co for the Watauga settlements, JONESBORO, the county seat and oldest town in the state, was founded two years later In 1777 also the Cherokee ceded a large area to Virginia and North Carolina and agreed to remain neutral in the American Revolution However, one element of the tribe (called the Chickamauga) refused to accede to the treaty and, joined by other Indians and renegade whites, warred upon the new settlements In the struggle for independence itself the frontiersmen, led by noted fighters such as John SEVIER, later first governor of the state, won an important victory over the British at KINGS MOUNTAIN (Oct, 1780) in the CAROLINA CAMPAIGN The year 1780 also saw the founding of Nashville by James ROBERTSON, agent of Richard HENDERSON and the TRANSYLVANIA COMPANY When, after the American Revolution, North Carolina ceded its western lands to the United States, the settlers in E Tennessee formed an independent government of brief duration (1784–88) under John Sevier (see FRANKLIN, STATE OF) Retracted almost immediately, the cession was reenacted in 1789, and in 1790 the Federal government created "The Territory of the United States South of the River Ohio" (the Southwest Territory), with William BLOUNT as governor This act brought to an end various schemes to place the area under the control of Spanish Louisiana, and in 1796 Tennessee, with substantially its present boundaries, was admitted to the Union, the first state to be carved out of national territory At Knoxville, the first capital, was adopted (1796) the constitution which Thomas Jefferson called "the least imperfect and most

republican" of any state Armed with land grants awarded for service in the American Revolution or bought from veterans and speculators (some of them frauds), settlers had swarmed in via the WILDERNESS ROAD and CUMBERLAND GAP and less famous overland routes from the Carolinas, Virginia, Pennsylvania, and even New England Others poled keelboats from the Ohio up the Cumberland and Tennessee rivers For the most part a rough and ready people, numbering over 100,000 by 1800, they were nevertheless strongly influenced by the Great Revival which swept the state in that year The virtues and vices of their strongly equalitarian society are best exemplified in the character of Andrew JACKSON, who completely dominated Tennessee's early history By the time he became (1829) President, Tennessee was prospering The first steamboat had reached Nashville in 1819, the year in which Memphis, soon to become the metropolis of the fast-growing cotton kingdom of the delta, was platted. Internal improvements —canals and then railroads—were pushed, and a new, smaller wave of immigrants, especially Irish and Germans, came after the Cherokee and Chickasaw were forced to move West in the late 1830s Insatiable land hunger, the spirit of adventure, and various personal considerations also carried many white Tennesseans beyond the state An unhappy marriage probably led Gov Samuel HOUSTON to resign and ultimately settle in TEXAS There too went David CROCKETT These two men were most conspicuous among the host of Tennesseans who fought for Texas independence, and a decade later the state's response to the call for volunteers in the MEXICAN WAR was so overwhelming that it has since been known as the "volunteer state" Tennessee's James K POLK, a Jackson protégé, was the able President of the United States during that war Although Negro slaves were thick in W Tennessee and somewhat less numerous in Middle Tennessee, the state of Andrew Jackson was pro-Union, and in the election of 1860 voted for its own John BELL, candidate of the moderate CONSTITUTIONAL UNION PARTY Secession was voted down in a popular referendum held on Feb 9, 1861, but after the firing on Fort Sumter and Lincoln's call for troops, the pro-Confederate element, led by Gov Isham G HARRIS, thoroughly canvassed the state, and on June 8, 1861, a second referendum approved secession by a two-thirds majority The other third mostly represented E Tennessee, where slavery was a negligible factor and where U S Senator Andrew JOHNSON and William G BROWNLOW strengthened the natural Union loyalties of the people Tennessee's excellent rivers were a curse in the CIVIL WAR since they made ideal invasion routes for Union forces. Nashville was occupied by Gen D C BUELL in Feb, 1862, after the victories of Gen U S. GRANT on the lower Tennessee and Cumberland rivers (see HENRY, FORT, and DONELSON, FORT) In April the Union won again, if not decisively, near the Mississippi state line (see SHILOH, BATTLE OF), and Memphis fell to a Union fleet in June Confederate Gen Braxton BRAGG, defeated at PERRYVILLE, Ky, (Oct, 1862), retreated further in Jan, 1863, after the battle of MURFREESBORO, and Grant, successful in the VICKSBURG CAMPAIGN, completely routed him (Nov, 1863) in the CHATTANOOGA CAMPAIGN The Confederates did manage to hold on to KNOXVILLE until Sept, 1863, and their cavalry, particularly the forces of Gen N B FORREST and Gen J. H MORGAN, remained active An Army under Gen J B HOOD made a last desperate attempt to regain the state late in 1864 but was defeated at FRANKLIN (Nov 30) and annihilated at Nashville (Dec 15-16) by Federals under Gen. G. H THOMAS Next to Virginia, Tennessee had been the biggest and bloodiest battleground of the war. The Union military regime which had been set up under Andrew Johnson in 1862 was succeeded in April, 1865, by a civil government headed by Brownlow An amendment (Feb, 1865) to the constitution of 1834 freed the slaves, and with ex-Confederates disfranchised and radical Republicans in control, the state was readmitted to the Union in March, 1866 Tennessee was thus spared the evils of Congressional RECONSTRUCTION, but the post-war years were no less bitter here That effective instrument for reestablishing "white supremacy" in the South, the KU KLUX KLAN, was founded (1865) in Tennessee, at Pulaski Affairs improved gradually, especially after Brownlow left (1869) the governorship for the U S Senate, to which the state also returned (1875) Andrew Johnson in well-deserved vindication of his record as President In 1886, after the Democrats had regained control, occurred the "war of the roses," a unique political contest in which the Democratic candidate for governor, Robert L TAYLOR, defeated his Republican brother, Alfred A. Taylor, who had to wait until 1921 before realizing his ambition. Bob Taylor, leader of the Tennessee forces in the nationwide agrarian revolt, served three terms (1887-91, 1897-99) before going to the U S Senate. Farmers had good reason to rebel. The farm-tenancy system fastened on the agricultural economy in place of the plantation was responsible for much of their misery, as it still is Industry, on the other hand, made advances in the years after the Civil War. The iron and steelworks of E Tennessee were not able to meet the competition of Birmingham, Ala, but coal mining held on and textile production increased The use of convict labor in the mines precipitated the state's first major labor disturbance (1891-92), but not until 1936 was the convict-leasing system abolished Malcolm R Patterson won the Democratic primary of 1908 His "bone dry" opponent, Edward W Carmack, was later killed by Patterson's friends, one of whom was convicted of murder but was promptly pardoned by the governor An aroused legislature then passed (1909) a prohibition bill (repealed in 1939) over Patterson's veto, and the affair so divided the Democratic party that in 1910 Ben W Hoover was elected governor, the first Republican to be chosen for that office since 1880 Adhering to its proud tradition, Tennessee sent thousands of volunteers to the U S army in the First World War, and in Sergeant Alvin C YORK, a mountain boy from E Tennessee, had one of the nation's most highly publicized heroes The state attracted international attention in 1925 with the famous SCOPES TRIAL at Dayton, and the fact that the law banning the teaching of evolution in the public schools has never been repealed indicates the strong hold that Protestant fundamentalism still has on the people. Most important event in Tennessee history since the Civil War was the establishment in 1933 of the TENNESSEE VALLEY AUTHORITY In providing abundant hydroelectric power cheaply for the whole state, it has brought the creature comforts of modern civilization to thousands who lacked them before and, more important, has been chiefly responsible for the rise of many and varied new industries, especially during the Second World War TVA became a bitter issue in state and national politics, opposed as it was by the private power companies and by "pork-barrel" politicians who were denied control of the wide Federal patronage it dispensed TVA is also associated with the mixed blessing of atomic energy, for it provides the power that runs OAK RIDGE, revealed to the world in July, 1945, as one of the places producing the ingredients of atomic bombs Wartime tensions broke out in racial troubles at COLUMBIA (Feb, 1946), and in Aug, 1946, the successful attempt of war veterans to assure honest balloting in ATHENS was marked by violence A more important political development occurred in 1948, when Tennesseans returned Gordon Browning to the governorship and sent Estes Kefauver to the U S Senate, giving Edward H CRUMP, long the boss of Shelby co (Memphis), his first thorough defeat Recently there has developed a strong movement for reform of the state's constitution of 1870, to which not a single amendment has been added The state supreme court's decision (1943) declaring repeal of the poll tax unconstitutional would seem to bear out the need for constitutional revision The state's leading institutions of higher education are the Univ of Tennessee, at Knoxville, Vanderbilt Univ, George Peabody College for Teachers, and Fisk Univ, all at Nashville, and the Univ of the South, at Sewanee See James Phelan, *History of Tennessee* (1888), Archibald Henderson, *The Conquest of the Old Southwest* (1920), J T Moore, ed., *Tennessee, the Volunteer State, 1769–1923* (4 vols, 1923), T P Abernethy, *From Frontier to Plantation in Tennessee* (1932), P M Hamer, ed, *Tennessee a History, 1673–1932* (4 vols, 1933), J. W. Patton, *Unionism and Reconstruction in Tennessee, 1860–1869* (1934), S C Williams, *Dawn of Tennessee Valley and Tennessee History* (1937) and *Tennessee during the Revolutionary War* (1944), Federal Writers Project, *Tennessee a Guide to the State* (1939), W H Combs, *Tennessee a Political Study* (1940), *Tennessee Old and New Sesquicentennial Edition, 1796–1946* (2 vols, 1946)

Tennessee, river, the principal tributary of the Ohio river, formed by the junction of the Holston and French Broad rivers near Knoxville, Tenn It flows 650 mi. SW, W, and N through E Tennessee, N Alabama, W Tennessee, and SW Kentucky to the Ohio at Paducah It receives the Clinch, the Little Tennessee, the Hiwassee, the Elk, and the Duck and has a total drainage basin of c 41,000 sq. mi Navigation in the past was impeded by variations in channel depth and by rapids, such as Muscle Shoals, but since the construction of dam projects by the TENNESSEE VALLEY AUTHORITY, the river runs through a chain of artificial lakes and is an open waterway During the Civil War the river was an excellent approach for a Federal invasion of the South, and several great battles leading to the ultimate defeat of the western Confederate armies were fought on or near its banks (see HENRY, FORT; SHILOH, BATTLE OF, CHATTANOOGA CAMPAIGN).

Tennessee, University of, mainly at Knoxville; land-grant and state supported, coeducational, chartered 1794, opened 1795 as Blount College (Presbyterian), closed 1807–20, called East Tennessee College 1807, eventually became Univ. of Tennessee 1879 Women were admitted to Blount, but were later barred until 1893. The university has colleges of agriculture, education, engineering, law, and liberal arts and schools of business administration and home economics. At Memphis are colleges of dentistry and medicine; schools of biological sciences (graduate), nursing, and pharmacy; and a public health division. There are also a junior college (at Martin) and a child center. The university heads state education.

Tennessee Valley Authority (TVA), independent corporate agency, created May 18, 1933, by act of Congress. The statute empowered the agency to take over and operate Wilson Dam and other installations, which had been built by the government during the First World War, at MUSCLE SHOALS, Ala., for purposes of national defense and fertilizer production It further provided for the integrated development of the whole Tennessee river basin—an area of c 41,000 sq mi with a population of 3,000,000. Specifically, TVA was authorized to build dams on the Tennessee and its tributaries for the improvement of navigation and flood control and the generation of hydroelectric power, to assist in soil and forest conservation, to promote agricultural and industrial expansion, and to conduct surveys on the economic and social conditions of the area. TVA is a government corporation, financed by congressional appropriations and governed by a three-man board of directors, whose first appointees were Arthur E MORGAN, chairman, David E LILIENTHAL, and Harcourt A MORGAN The fact that its main offices are located in the region, rather than in Washington, makes TVA unique among Federal agencies. The history of the project began in the early 1920s, when Sen George W. Norris sponsored a plan to have the government take over and utilize the properties at Muscle Shoals for fertilizer and power production However, legislation to this effect was vetoed in 1928 by President Coolidge and in 1931 by President Hoover The 1933 TVA act, redrafted by President Franklin D Roosevelt, went far beyond the earlier proposals and launched the Federal government into a vast scheme of regional planning and development—an undertaking which has since proved remarkably successful and has become a model for similar river projects in the United States and other countries In 1936 the Supreme Court found the building of Wilson Dam (completed 1925) by the government constitutional and validated TVA's contract for purchasing power transmission lines from a private company The most noteworthy feature of TVA is the system of multipurpose dams and reservoirs which dominate the economic life of the valley Chief among these are Wilson and Wheeler (completed 1936), which submerged the rapids of Muscle Shoals, Pickwick (completed 1938), Chickamauga (completed 1940), Watts Bar (completed 1942), Fort Loudon (completed 1943), and Kentucky (8,422 ft long and 206 ft high, completed 1944), all in the Tennessee river, Norris (completed 1936), in the Clinch river, Cherokee (completed 1942), in the Holston river, Douglas (completed 1943), in the French Broad River, and Fontana (2,365 ft. long and 480 ft high, completed 1945), in the Little Tennessee river. In all there are 27 dams in the TVA system, 17 built by the authority, 5 acquired from private companies, and 5 operated by contractors TVA hydroelectric plants in 1949 had an installed capacity of 2,000,000 kilowatts The power is sold to distributors to promote the widest possible use of electricity throughout the area TVA is also authorized to market power from three generating plants along the near-by CUMBERLAND river. A 630-mile navigation channel of 9-foot draft, which extends from the mouth of the Tennessee to Knoxville, has been responsible for an enormous increase in river traffic, chiefly in petroleum, grain, automobiles, and steel The chemical works at the town of Muscle Shoals produce phosphate fertilizers, which are supplied to demonstration farms for experimental purposes Other TVA activities, which are carried out in cooperation with local authorities, include land conservation, tree planting, malaria control, development of pisciculture, wildlife, and mineral resources, social and educational programs, and the establishment of recreational facilities along the banks of the reservoirs. The authority is directed to hold its properties available for national defense, and in the Second World War it produced nitrates, phosphorus, and calcium carbide, as well as supplying power to important aluminum plants and to the atomic-energy project at Oak Ridge, Tenn There was steadily much opposition to the authority as a "socialistic" and costly scheme, and the opposition of private power companies grew very bitter The activities of TVA were declared constitutional, but the glare of publicity and violent controversy among the directors themselves caused continual congressional questioning The administration was accused of extravagance, inefficiency, duplicity, and neglect of the interests of the people in the Tennessee valley itself. The authority rode through the storms, but even in 1950 acid criticism continued See C H. Pritchett, *The Tennessee Valley Authority* (1943), Julian S Huxley, *T V A. Adventure in Planning* (1943); David E. Lilienthal, *T V A: Democracy on*

the March (1944); R. L. Duffus, *The Valley and Its People: a Portrait of T.V.A.* (1944); Herman Finer, *The T. V. A.: Lessons for International Application* (1944); Donald Davidson, *The Tennessee*, Vol. II (1948)

Tenniel, Sir John (tĕn'yul), 1820–1914, English caricaturist and illustrator, well known for his original and good-humored political cartoons in *Punch*, with which he was associated from 1851 to 1901. Characteristic of these is *Dropping the Pilot*, which depicts Bismarck leaving the ship of state. Tenniel is also known for his illustrations of Thomas Moore's *Lalla Rookh*, *Aesop's Fables*, *The Ingoldsby Legends*, and, above all, Lewis Carroll's *Alice in Wonderland* and *Through the Looking-Glass*. See study by Cosmo Monkhouse (1901).

Tennille (tĕ'nĭl), city (pop. 1,758), E central Ga., ENE of Macon; inc. 1875.

Tennis, ruins of a medieval city, Egypt, SW of Port Said, on an island in Lake Manzala. Tennis, founded when TANIS was abandoned, was also called Tinnis. Supposedly *tennis* cloth made here was used to cover the balls in an earlier form of the game and supplied the name of tennis.

tennis, game played indoors or outdoors by two or four players on a level, hard court. Lawn tennis is played on grass or lawn courts and is the accepted game of big tennis matches. But since these courts are expensive to maintain (for the most part only private clubs have them), they are not so numerous as the outdoor courts of clay or asphalt which the general tennis-playing public uses. When a player is said to have won the national singles, it is the grass-court game that is understood. Clay-court tournaments are specifically designated as such. Play on one type of court naturally differs somewhat from that on another type, but the rules of the game are the same for all kinds of courts. In singles play the court measures 78 ft. by 27 ft. and in doubles play 78 ft. by 36 ft. The court is divided in half by a net 3 ft. high (roughly, the length plus the width of a racket) in the middle and $3\frac{1}{2}$ ft. high at the end posts. On either side of the net lie the forecourts, each of which comprises two adjacent service courts of equal size (21 by $13\frac{1}{2}$ ft.). Behind each forecourt lies a backcourt (27 by 18 ft.), each of which terminates in a base line parallel to net. The areas (78 ft. by $4\frac{1}{2}$ ft. each) of the alleys, which flank either side of the court perpendicular to the net, are used only in doubles play. Tennis play is directed toward hitting the inflated-rubber, felt-covered, unstitched ball (about $2\frac{1}{2}$ in. in diameter) with the tennis racket—oval headed, usually 27 in. long, and with a hitting surface strung with resilient fiber—into the opponent's court out of his reach or so that he returns the ball out of bounds, or into the net. One player serves an entire game and is given two service tries each time the ball is put in play. He serves the ball diagonally from behind the base line so that it bounces into the opposite serving court beyond the net. A let ball, which caroms off the top of the net into the proper service court, warrants another try (not counting as a faulty service). A foot fault (commonly, stepping on or over the base line on the serve) is penalized by forfeiture of the service try. Service is alternated from right- and left-hand courts. After the first game, the players change sides, thereafter, they change every two games. Once the serve is completed, the ball may be hit into the whole area of the opponent's court until a point is scored. A point may be won by either the server or the receiver, and points are scored in the progression of 15, 30, 40, and game. The term "love" in scoring tennis means 0. When the game goes to "deuce" (tied at 40–40) the first player to win two consecutive points takes the game. The first player to win six games takes the set, provided his opponent has won no more than four games. If the players are tied at four games all or five games all, the first to win two consecutive games wins the set. The best two out of three sets wins a match in women's play, while the best three out of five sets wins a match in men's play. The plays of the game are called by an umpire, and in important matches a net umpire, a referee, foot-fault judges, and linesmen often assist. The game is probably a descendant of COURT TENNIS, but was introduced as a new game in Wales in 1873 by Walter C. Wingfield. In 1874 several lawn-tennis courts were built in England, where its popularity mounted rapidly. In 1877 the first championship match was held at Wimbledon, England, still one of the great shrines of tennis, and singles matches for women have been held there since 1884. Soon the game was popular in many parts of the British Empire and became especially well known in Australia. Meanwhile tennis had taken root in the United States in the 1870s and rapidly gained ground in New England, New York city, and California. In 1881 the United States Lawn Tennis Association was formed, and the same year the first U. S. singles tournament was conducted. Six years later the first national women's championship was held in the United States. New techniques and added speed to the game—reflected in the play of Malcolm D. Whitman, Maurice C. McLoughlin, the Doherty brothers, William A. Larned, Richard D. Sears, William Renshaw, Blanche Bingley, and Norman E. Brookes—helped make it internationally famous, and in 1900 competition for the cup offered by Dwight F. Davis began. School, college, and private clubs were formed, and when public courts were opened, tennis added thousands of participants. Play for the Davis Cup was discontinued during the First World War, but in the "golden age of sports," in the 1920s, tennis reached new heights. The Forest Hills stadium in New York city became the American counterpart of Wimbledon, the Wightman Cup—offered (1923) by Mrs. Hazel Hotchkiss Wightman of the United States—gave women international trophy competition, and the United States Professional Lawn Tennis Association was organized in 1927. Star players, such as William T. Tilden, Jr. (regarded by many as the greatest tennis player), William Johnston, Henry Cochet, René Lacoste, Jean Borotra, Helen Wills, and Suzanne Lenglen did much to publicize the game. While "Big Bill" Tilden and Vincent Richards dominated professional tennis in the 1930s, H. Ellsworth Vines, Frederick J. Perry, John H. (Jack) Crawford, and Helen Jacobs won the laurels in amateur tennis. For outstanding tennis amateurs to turn professional became more and more an accepted practice. In 1938 J. Donald Budge won all four major championships in men's singles in lawn tennis England, United States, Australia, and France. Having completed this sweep, Budge joined Perry, the leading player of the preceding years, in the professional ranks. Alice Marble soon followed suit. Play for the Davis Cup—won by Australia in 1939 for the first time in 20 years largely through the performance of Jack Bromwich—was again discontinued during the Second World War. After 1945 a new set of tennis stars was seen in the headlines. Some of these new stars, notably Jack Kramer and Richard Alonzo ("Pancho") Gonzales, who had excelled at amateur tournament play, joined Bobby Riggs in the professional ranks and became great money-winning attractions. See E. B. Noel and J. O. M. Clark, *The History of Tennis* (1924), United States Lawn Tennis Association, *Fifty Years of Lawn Tennis in the United States* (1931) and *Official Tennis Guide and Yearbook* (latest ed.), J. H. Doeg and Allison Danzig, *Elements of Lawn Tennis* (1931), N. H. Patterson, *The Complete Lawn Tennis Player* (1948).

tennis court, oath of the: see FRENCH REVOLUTION.

Tennyson, Alfred Tennyson, 1st Baron (tĕ'nĭsun), 1809–92, English poet, son of the rector at Somersby. His early literary attempts included a play, *The Devil and the Lady* (ed. by Charles Tennyson, 1930), and poems written with his brothers Frederick and Charles but entitled *Poems by Two Brothers* (1827). In his three years at Cambridge Tennyson wrote a prize-winning poem, *Timbuctoo*, and *Poems, Chiefly Lyrical* (1830) and began his happy friendship with Arthur Henry HALLAM. Upon the death of his father in 1831 Tennyson became responsible for the family and its precarious finances. *Poems* (1832, copyright 1833), which included "A Dream of Fair Women," "Œnone," and "The Lady of Shalott," was scathingly attacked by critics. The sudden death abroad of his intimate friend Hallam in 1833 was an overwhelming grief. *Poems* (2 vols., 1842) changed some of the work published in 1830 and 1832 and presented new and powerful poems which expressed both his philosophic doubts in a materialistic, increasingly scientific age and his longing for a mystic faith. The new poems included "Locksley Hall," "Ulysses," "Morte d'Arthur," and "Break, Break, Break." With this book he was acclaimed a great poet, and in addition, in 1845, he was given a government pension of £200 yearly. *The Princess* (1847) was reissued in 1850 with the interspersed songs which are its chief beauty. *In Memoriam* (1850) is a series of elegies written in the years after Hallam's death, it is a record of agonizing doubt and despair and of a groping faith in immortality and contains some of Tennyson's best poetry. Immediately and immensely popular, the poem is said to have influenced his appointment as poet laureate in 1850. His new prosperity enabled him to marry Emily Sellwood, whom he had courted since 1830. Occasional poems, such as the *Ode on the Death of the Duke of Wellington* (1852) and *The Charge of the Light Brigade* (1855) were part of his duties as laureate. The "monodrama" *Maud* (1855) shows more command of poetic technique than of material. Tennyson's *Idylls of the King* appeared first in 1859 with only four of the poems—"Enid," "Vivien," "Elaine," and "Guinevere", another edition in 1869 added "The Holy Grail" and other poems, and in 1872 still others were added, including "The Last Tournament," making up the series of 12 beautifully wrought poems on traditional material but with contemporaneous morality. In an age much interested in King Arthur the *Idylls* were the epitome of the story in English. Among Tennyson's other poems, *Enoch Arden* (1864) was popular but censured in some quarters. Of several poetic dramas he wrote, *Becket* (1879) was the most successfully played, but could hardly be called great drama. *Ballads and Other Poems* appeared in 1880, and *Demeter and Other Poems*, which contained "Crossing the Bar," in 1889. Tennyson is a master of lyric perfection. His technique is flawless, sometimes boldly experimental, his descriptive powers unique. Strangely ignored early in this century, Tennyson has later again been recognized as a great poet. See his works (ed. by his son Hallam Tennyson, 9 vols., 1907–8, one-volume ed., 1913), *Unpublished Early Poems* (ed. by Charles Tennyson, 1931), and *A Selection* (introduction by W. H. Auden, 1944), biographies by Hallam Tennyson (1897), T. R. Lounsbury (ed. by W. L. Cross, 1915), Harold Nicolson (1923), and Charles Tennyson (1949), studies by Arthur Waugh (1892), H. I'A. Fausset (1923), and T. S. Eliot (in *Essays Ancient and Modern*, 1936).

Tenochtitlán (tānōchtētlän'), ancient city, central MEXICO, in the valley of Mexico. The capital of the AZTEC, it was founded (c. 1325) on a marshy island in Lake Texcoco, in the area now occupied by Mexico city. It was a flourishing city, protected against floods by well-built dikes and connected with the mainland by three causeways. Canals served traffic all over the city, which had some rich buildings and a great pyramid sacred to HUITZILOPOCHTLI. It was to Tenochtitlán and the court of MONTEZUMA that Hernán Cortés came, and it was from Tenochtitlán that the Spanish retreated under the Aztec attack on June 30, 1520—the *noche triste* of Spanish loss. Cortés returned in 1521, took the city after a three-month siege, razed it, and captured the ruler, CUAUHTÉMOC. He founded MEXICO city on the ruins.

tenor (tĕ'nur), highest natural male voice. In medieval polyphony, tenor was the name given to the voice which had the *cantus firmus*, a preexisting melody, often a fragment of plain song, to which other voices in counterpoint were added. The cantus was arranged in notes of long duration, hence the term *tenor*, from the Latin *tenere*, to hold. In about the 12th cent., when this practice arose, the various parts in polyphonic music were roughly equal in range, and it was some centuries later that tenor came to denote a voice of any certain range. In certain families of instruments the member whose register corresponds to that of the tenor voice is called tenor, e.g., tenor horn and tenor trombone.

Tenos or **Tinos** (both tē'nŏs), island (75 sq. mi., pop. 11,380), off S Greece, in the Aegean Sea, between Naxos and Andros. It is one of the CYCLADES. It produces wine, figs, wheat, and silk and has marble quarries. Tenos was a Venetian colony from 1390 until its fall to the Turks in 1715.

tenpins: see BOWLING.

tense [O.Fr., from Latin, = time], in the grammar of many languages, category of forms referring to the time of an action. In Latin INFLECTION the tenses are usually sets of personal verb forms and are themselves members of moods. English tenses are classified as simple (e.g., *look* and *looked*) or compound (e.g., *have looked*, *am looking*, and *will look*). A tenselike distinction found in many languages (e.g., Russian and Hebrew) is that of aspect, by which verbs refer not to the time but to the completeness of the action, thus, *he is dead* might be translated by a verb in a perfective aspect, and *he is dying* by the same verb in an imperfective aspect. Some terms borrowed from Greek grammar into English suggest aspectlike differences of meaning, these are imperfect (translating *I was reading when . .*), perfect (*I've read the book*), aorist (*I read it last year*), and pluperfect (*I had read it already*).

tent, portable shelter of canvas, skins, felt, matting, or other material usually supported by poles and used chiefly by nomads and hunters. Tents have been used by pastoral peoples since ancient times and are mentioned in the Old Testament and by Homer. Persian tents, usually circular, were early noted for rich hangings and rugs. Army tents developed by ancient peoples include the small, skin-covered tents of the Greeks and the Roman tents of canvas supported by two upright poles and a ridgepole. Medieval military tents were round or oval and were often lavishly hung with silks or furs. Army tents were widely used in Europe in the 17th and 18th cent. but are employed today chiefly for training purposes. Modern types include bell tents with a central pole, the A tents with sides sloping from a ridgepole, and the marquee type used for mess or hospital shelters. The vurt, a circular felt-covered structure of lattice work surmounted by curved poles fitted at the top into a ring forming a smoke hole, has long been used by nomads of the Asiatic steppes. Desert tribesmen of W. Asia and North Africa generally use a ridgepole tent. See also TEPEE.

tent caterpillar, destructive larva of a native American moth. The larvae of the apple-tree tent caterpillar live in broods of 150 or more in a tent of white silk woven in the fork of a tree, usually apple or wild cherry. Attempting to eliminate the insects by clearing away the wild cherry merely drives them to other trees. By day the larvae feed on leaves, spinning a silken path as they go, they return to the nest at night. Soaking the tent with kerosene kills the larvae. Destruction of the

smooth brown egg masses which band the twigs of trees over the winter reduces their numbers but kills useful parasites which may be inside The forest tent caterpillar found in most parts of the United States makes no real tent See *Eastern Tent Caterpillar* (U S Dept of Agriculture, Leaflet 161).

Ten Thousand, March of the see ANABASIS

Ten Thousand Smokes, Valley of: see KATMAI NATIONAL MONUMENT

ten tribes see LOST TRIBES

tenure (tĕ'nyûr, tĕ'nyo͝or), in law, manner in which property in land is held The term *tenure* may refer to landholding of any type, it usually implies, however, that the landholder does not have absolute possession but derives his right from some other person This meaning of the word originates from its sense in feudalism, so used, tenure is the antithesis of ALOD, absolute ownership without obligation to others The modern Anglo-American law of land developed out of the institutions of English feudalism established after the Norman Conquest (1066) Theoretically the king was the ultimate owner of all the land, in practice, however, certain land was held according to earlier custom Those who were feudal tenants always held land of another (the lord or landlord) to whom obligations were owed The tenant's type of tenure essentially established his social status, the term *estate* (deriving from status) thus came to be applied to the various tenures The early tenures were classified basically as free or unfree Unfree, or servile, tenure was generally that of the VILLEIN, who performed menial services and was a tenant at the will of the lord (see MANORIAL SYSTEM) The uncertain status of the villein disappeared when, in time, such tenures were recorded in the copy rolls (parchment records) of the manorial court, and the villein became a copyhold tenant The various types of free tenure are sometimes described as means for insuring performance of all the services required by the state Military needs were guaranteed by knight tenure (see KNIGHT, **2**) Spiritual welfare was assured by frankalmoign tenure, ie, granting lands in charity to religious bodies SERJEANTY tenure furnished the king with needed officials and with personal services Finally the vital cultivation of the land was accomplished by socage tenure wherever villeinage was not in use Socage tenure is especially important because it is the basis of all modern estates, while the other classes of tenure have all disappeared The socage tenant, or socager, held his land in return for performing duties to the lord These incidents of socage were essentially like the AIDS and SCUTAGE exacted of knights, like those, they were also eventually commuted to fixed money payments In the development of the law of land perhaps the most important incident was the fine for alienation This was the payment of a sum to the lord for permission to alien (or alienate) the estate, i e, to grant it (sell or make a gift of it) to another The right of free alienation, a cornerstone of modern property law, was partly guaranteed in 1290 by the statute *Quia emptores*, which abolished the fine However, freedom to dispose of land by will on the tenant's death was not established until passage of the Statute of Wills (1540) In inheritance of land PRIMOGENITURE was usually observed, different local customs, notably BOROUGH-ENGLISH and GAVELKIND, were, however, also observed If the tenant had no heir the estate went back to the lord, such reversion was called escheat Socage tenure eventually developed many varieties, commonly called fees (The word *fee* stems directly from *fief* and ultimately from *feud*, both terms of feudal law) Fees are divided into freehold and non-freehold The freehold fees are fee simple, fee tail, and life fee A fee simple is essentially absolute ownership of land, it includes, therefore, complete freedom of alienation and (since 1540) of devising (bestowing by will) At common law it was created by a grant of land to a tenant "and his heirs" Unless the words quoted—the so-called "words of inheritance"—were used in the grant, an estate in fee simple would not arise An estate in fee tail was one given to the donee and to his issue (children) or a class of his issue Thus there might be an estate in tail male or an estate in tail female Read literally, the terms of the grant prevented alienation of the land out of the prescribed line of succession A life fee or a life estate was one which would endure for the lifetime of the grantee and after his death would go to some other person The life tenant had no power of alienation Non-freehold estates include estates for years, periodic estates, estates at will, and estates at sufferance. An estate for years is one which will expire at the end of a fixed period, it may exceed a life fee in duration and the tenant may devise his remaining interest A periodic estate is one for a set term which is automatically renewed if neither party takes steps to terminate it. Most modern leases of real property and buildings establish periodic estates A tenancy at will is one established by agreement but which the landlord may terminate when he wishes An estate at sufferance arises out of the occupation of real property without the landlord's agreement, the tenancy subsists only so long as the landlord does not object. In the evolution of English land law two opposing tendencies were continually at work; the grantors of estates, wishing to establish the family position, sought to prevent alienation, while the grantees, chafing under restrictions which prevented realization of the value of land, wanted to convert more limited estates into fees simple In time the interests of the grantees won out; and by the 18th cent the alienation of land could not be restricted beyond a limited period Thus, the fee tail was made inefficacious after two generations The ultimate effect of this tendency was to assimilate the law of real property in most important respects to that governing personal property (see PROPERTY). At the time of the American colonization this development to free alienation was already well advanced, hence, few of the typically feudal features of land law were adopted in America Today some of the states provide that landownership shall be in free and common socage, and others that it shall be alodial In practice there is little difference See Frederick Pollock, *The Land Laws* (3d ed, 1896); William S Holdsworth, *An Historical Introduction to the Land Law* (1927)

Tenure of Office Act, in U S history, the measure passed on March 2, 1867, by Congress over the veto of President Andrew JOHNSON which forbade the President to remove any Federal officeholder "appointed by and with the advice and consent of the Senate" without the further approval of the Senate It also provided that members of the President's cabinet should hold office for the full term of the President who appointed them and one month thereafter, subject to removal by the Senate With this measure the radical Republicans in Congress hoped to assure the continuance in office of Secretary of War Edwin M. STANTON and thus prevent any interference with the military occupation of the South in their RECONSTRUCTION plan In order to bring about a court test of the constitutionality of the act, Johnson dismissed Stanton, but the U S Supreme Court, intimidated by the radicals, refused to pass on the case Gen Ulysses S GRANT, whom Johnson appointed Secretary ad interim, turned the office back to Stanton when the Senate refused to approve his dismissal, the President claimed that this action violated an agreement Grant made with him Johnson then appointed Gen Lorenzo Thomas Secretary of War, but Stanton, barricading himself in the department, refused to yield Johnson's alleged violation of the Tenure of Office Act was the principal charge in the impeachment proceedings against him When this move failed (May, 1867), Stanton finally gave up The act, considerably modified in Grant's administration, was in large part repealed in 1887, and in 1926 the Supreme Court declared it unconstitutional

Ten Years War, 1868-78, struggle for Cuban independence from Spain Discontent was caused in Cuba by excessive taxation, trade restrictions, and virtual exclusion of native Cubans from governmental posts It grew until 1868, when Carlos Manuel de CÉSPEDES and other patriots raised the standard of revolt On April 20, 1869, the revolutionary republic of Cuba was established, with BAYAMO as provisional capital The capital was burned later in the year, and the republican government was forced to change its seat frequently The warfare was purely guerrilla fighting without real battles, but it raged furiously in the eastern provinces Chief field commanders were Máximo GÓMEZ Y BÁEZ, Antonio Maceo, and Calixto García Iñeguez, late in the war the government was headed by Tomás ESTRADA PALMA Under orders of the Spanish commandant, Gen Valeriano WEYLER Y NICOLAU carried out reprisals against the patriots so bloody and ruthless that he was called the Butcher The Cubans retaliated by attacking all upholders of the Spanish cause U S sympathy for the rebels was intensified by the destruction of U S properties, while the activities of American mercenaries and soldiers of fortune made Spain indignant In 1873 the VIRGINIUS affair brought Spanish-American relations to a crisis It was resolved by Spain's undertaking to pay an indemnity, but bad feeling lingered The war dragged on without decisive incident When internal affairs in Spain settled somewhat, greater attention was given the war in Cuba General MARTÍNEZ DE CAMPOS managed to conclude the Treaty of Zanjón, which nominally granted reforms and gave the Cubans governmental representation, the promises were not kept, and conditions were no better The costly and bitter war was seemingly without result, but actually it foreshadowed the Cuban war of independence that broke out in 1895 and the subsequent Spanish-American War.

Teodoro, Rio. see ROOSEVELT, river.

Teos (tē'ŏs), ancient Greek city, a port on the west coast of Asia Minor, in the present Turkey, not far from Smyrna. It was an Ionian foundation, had a famous temple of Dionysus, and was the birthplace of Anacreon.

teosinte (tēōsĭn'tē), tall, broad-leaved, annual grass (*Euchlaena mexicana*), native to Central America and Mexico. It is related to Indian corn and differs from it chiefly in that the seeds are borne on jointed spikes and are not united into a cob The plant is grown for fodder and in the S United States also as a cover crop. The seed seldom matures N of the Gulf states

Teotihuacán (tāōtēwäkän'), ruins, central Mexico, c 30 mi NE of Mexico city Once the great religious center of the TOLTEC, Teotihuacán flourished from about the 6th cent to the 11th cent A D The valley was then paved with red stucco and graced with the great pyramids that still stand The greatest, the Pyramid of the Sun, is the tallest pyramid in Mexico, 216 ft high, it covers about 10½ acres at its base, and it is so built that the top cannot be seen from the base The Pyramid of the Moon is smaller, and there are also pyramids for the god of agriculture and for QUETZALCOATL The ground plan is symmetrical, and the massive structures supposedly were designed to suggest infinity The motif of the feathered serpent recurs on the sculptured stones The reason for the abandonment of Teotihuacán is not clear Suggested explanations are crop failures, revolts, and religious conflicts The village of Teotihuacán or San Juan Teotihuacán is near by

tepee or **tipi** (both tē'pē), typical dwelling of North American Indians living on the Great Plains It is usually made by arranging tent poles into a conical frame and spreading skins, usually buffalo hide tightly over it An aperture is generally left at the top for smoke The tepee is sometimes very elaborately decorated It is highly mobile and is a stout shelter against the weather, it was thus an ideal dwelling for the nomadic Plains area tribes such as the Sioux and the Blackfoot Because of the adaptability of the tepee to prairie life, Gen Henry Sibley used it as a model for the tent which bears his name

Tepe Gawra (tĕ'pā gourä') [Kurdish, =great mound], locality in Iraq, on the Tigris river and 15 mi N of Mosul In 1927 E A Speiser discovered it to be the site of ancient settlements The work of excavation was directed by Speiser and Charles Bache over a 12-year period In all 26 levels were unearthed, they are numbered from top to bottom The upper levels were not very distinctive, they showed a type of civilization inferior to that found in the lower levels At the sixth level (c 3000–2900 B C) temples and copper implements were found At the ninth level (c 3800 B C) there were tombs containing ornaments of gold and electrum A temple fortress and musical instruments were found between the 11th and the 12th levels The 12th level (c 4000 B C) disclosed a complex architectural layout of buildings with courtyards and interconnecting structures The architecture surpasses that of all the later levels The buildings are whitewashed, this is the earliest known use of lime Most of the implements are stone, hair combs, cosmetics, and beads were also found There are also evidences that the people spun An acropolis built of mud bricks was found at the 13th level (c 4300 B C) A figurine of a mother goddess was found at the 16th level See E A Speiser, *Excavations at Tepe Gawra* (1935)

Tepic (tāpēk'), city (pop 17,547), capital of Nayarit W Mexico, on the Tepic river A commercial center on the coastal line of the Mexican National Railways, the city is in a rich agricultural region that produces grains, coffee, rice, and sugar It retains much of its former colonial charm because of long isolation before the railroad was built Near by is Sanganguey volcano (7,716 ft)

Teplice-Sanov, Czech *Teplice-Šanov* (tĕ'plĭtsĕ-shä'nôf), Ger *Teplitz-Schönau* (tĕ'plĭts-shō'nou), city (pop 22,783), N Bohemia, Czechoslovakia, in the Erzgebirge It is a famous mineral spa known since before Roman times Its slightly radioactive springs are particularly effective against chronic rheumatic diseases Here in 1812 took place the famous encounter between Beethoven and Goethe

Teplitz-Schönau, Czechoslovakia see TEPLICE-SANOV.

Terah (tē'rŭ), father of Abraham. Gen 11.24, Joshua 24 2 Thara Luke 3 34

Teramo (tĕ'rämō), town (pop 16,229), capital of Teramo prov, Abruzzi e Molise, central Italy It is an agricultural center Of pre-Roman origin, Teramo was included in the medieval duchy of Spoleto and later in Naples The Romanesque cathedral was restored in the 14th cent

teraphim (tĕr'ŭfĭm) [Heb, =idols], ancient household idols of the Jews, probably similar to the LARES AND PENATES of Rome They were used for divination Concerning their form not much is known, except that they were sometimes of a man's size Judges 17 3-5, 18 17,18,20 See also Gen 31 30, 1 Sam 15 22, 19 13,16, 2 Kings 23 24.

terbium (tûr'bēum), rare metallic element (symbol =Tb, for physical constants, see ELEMENT, table) It is a member of the RARE EARTHS group of elements, being classed with europium and gadolinium. C. G. Mosander discovered it in 1843

Ter Borch or **Terburg, Gerard** (gä'rärt tur bôrkh', turbûrkh'), 1617–81, Dutch genre and portrait painter, one of the greatest of the Dutch Little Masters He studied with his father and in Haarlem. In his youth he traveled, visiting Germany, France, England, and Italy. In 1648 he attended

the congress at Münster and painted portraits of the delegates which he incorporated in his celebrated group *The Peace of Münster* (National Gall, London) Soon after this he was invited to Spain, where he worked for Philip IV He returned to Holland in 1650 and spent the rest of his life in Deventer Ter Borch portrayed the life and customs of the wealthy burgher class with rare distinction His tiny portraits and interiors are painted with atmosphere and with consummate craftsmanship Their exquisite color, quiet light, and fine reserve make them masterpieces in miniature A pensive serenity seems their characteristic mood The pictures of Ter Borch are rather rare and highly prized. Among the most famous are *Self-Portrait* and *The Toilet* (The Hague), *The Visit* (Rijks Mus), and *The Guitar Lesson* (National Gall, London) Ter Borch is represented in the National Gallery of Art, Washington, D C, the Metropolitan Museum, the Art Institute of Chicago, and the Frick Collection, New York

Terceira (tĕrsā'rŭ), island (c 230 sq mi), in the N Atlantic, one of the central group of the AZORES The chief town is Angra do Heroísmo, which gives its name to the district Cattle are exported A U S air base was established on Terceira in the Second World War

terebinth (tĕr'rubĭnth) or **turpentine tree,** small, deciduous tree (*Pistacia terebinthus*) of the sumac family, native to the Mediterranean region It yielded probably the earliest-known form of turpentine, it is said to have been used in medicine by the ancient Greeks It is now called Chian, Scio, or Cyprian, turpentine

teredo see SHIPWORM

Terek (tyĕ'rĭk), river, 360 mi long, USSR, rising in the N Caucasus on the Georgian side of the central Greater Caucasus in glaciers W of Mt Kazbek It flows NNW through the DARYAL gorge past Dzaudzhikau, then E and NE into the Caspian Sea, forming the northern limit of Dagestan Below Kizlyar it forms a swampy delta c 60 mi wide In its lower course the Terek is used for irrigation The upper valley is paralleled by the Georgian Military Road Under the tsarist regime the Cossacks of the Terek valley formed an autonomous community

Terence (Publius Terentius Afer) (tĕ'rŭns), b c 185 or c 195 B C, d c 159 B C, Roman writer of comedies, b Carthage As a boy he was a slave of Terentius Lucanus, a Roman senator, who brought him to Rome, educated him, and gave him his freedom Six comedies by him survive—*Andria, Heautontimorumenos, Eunuchus, Phormio, Adelphi,* and *Hecyra* All are adapted (with considerable liberty) from Greek plays by Menander and others The writing is skillful, the humor broad, the characters realistic

Teresa, Saint see THERESA, SAINT

Teresh (tĕ'rĕsh), conspirator with BIGTHAN

Teresina (tĕruzē'nu), city (pop 34,695), capital of Piauí state, NE Brazil, on the Parnaíba river It is linked by rail with São Luís (to the northwest) It has cotton and sugar mills and trades in cattle, hides, and rice The name was formerly spelled Therezina

Tereus see PHILOMELA

Terhune, Mary Virginia Hawes* see HARLAND, MARION

Terman, Lewis Madison (tûr'mun), 1877–, American psychologist, b Johnson co Ind, grad Indiana Univ, 1902, Ph D Clark Univ, 1905 He joined the faculty of Stanford Univ in 1910 and was head of the psychology department from 1922 to 1942, when he retired In the First World War he served as a major and helped to deal with psychological testing He is especially known for his application of intelligence tests to school children, and his chief work is the Stanford Revision of the Binet-Simon Intelligence Tests (1916, 2d revision, 1937) He wrote also *The Intelligence of School Children* (1919), *The Terman Group Test of Mental Ability* (1920), *Genetic Studies of Genius* (with others, 3 vols, 1925-30), and *Measuring Intelligence* (with M A Merrill, 1937)

Termez (tyĭrmyĕz'), city (1933 estimated pop 25,000), capital of Surkhan-Darya oblast, S Uzbek SSR, near the Amu Darya river and the Afghan border, on the Kagan-Stalinabad railroad It has textile manufactures (cotton ginning and rug weaving) Termez is one of the hottest cities in the USSR, the temperature rising to 132°F It flourished in antiquity and is the site of several ancient tombs, a 9th-century mausoleum, and a Buddhist monastery

Termini Imerese (tĕr'mēnē ēmārē'zā), city (pop 20,467), N Sicily, Italy A seaport, it has been also noted since ancient times for its warm mineral springs It became important after the destruction (c 408 B C) of the more ancient HIMERA near by. There are some Roman remains

Terminus (tûr'mĭnŭs) [Latin,=boundary], in Roman religion, aspect of JUPITER as god of boundaries The ceremonies of setting up boundary stones were elaborate, and none dared tamper with the boundary for fear of divine retribution The religious feast of boundaries, Terminalia, was on the seventh and sixth days of the kalends of March (Feb 23 and 24, with Feb 25 in leap years) It was the immobility of this feast that forced the peculiar system of counting the days in bissextile years in the CALENDAR

termite (tûr'mīt), social insect of the order Isoptera It is sometimes called white ant, although it is not an ant and is more closely related to the roaches It is not constricted at the waist as ants are A community is made up of dark bodied, winged reproductive individuals from which come the king and queen, the founders of each new colony, pale-bodied, short-winged, or wingless supplementary reproductive forms, and pale-bodied, wingless, sterile workers and soldiers of both sexes In some genera there are no workers and the nymphs do the work There is no pupal stage Termites are divided into soil dwellers and wood dwellers, some of which attack dry wood and others only damp, decaying wood Some termites have protozoa in the alimentary tract which probably digest the cellulose in wood Those which do the most damage in the United States are the subterranean type of earth dwellers They attack only wood which is in contact with the ground or close enough to be reached by making enclosed runways from their underground galleries To prevent the entrance of these termites concrete should be used in the foundation and basement and no wood should be near the soil Treated wood and metal shields are also used In the SW United States are found some species which eat decaying vegetation and do not destroy sound wood Some tropical, earth-dwelling species extend their nests or termitaria above ground, forming mounds which vary from a few feet to 15 to 30 ft in height See *Preventing Damage to Buildings by Subterranean Termites and Their Control* (U S Dept of Agriculture, Farmers' Bul 1911), *Effectiveness of Wood Preservatives in Preventing Attack by Termites* (U S Dept of Agriculture, Circular 683)

Termonde (tĕrmōd'), Flemish *Dendermonde* (dĕndurmōn'du), town (pop 9,306), East Flanders prov, Belgium, at the confluence of the Dender and Scheldt rivers It manufactures carpets and cotton textiles An old place, it has a 14th-century town hall and a 15th-century church, but it suffered considerable damage in the First World War

tern, bird of the Old and New Worlds, smaller than the related GULL Because of their graceful flight, their long pointed wings, and forked tails some terns are called sea swallows They feed on fish The arctic tern migrates from the arctic to the antarctic

Ternate (tĕrnā'tā), volcanic island (41 sq mi, pop 13,022), East Indonesia, in the Molucca Sea W of Halmahera Despite its relatively small size, Ternate has been for centuries one of the most important islands of the Moluccas Ruled by a powerful sultan, it became an important Moslem center in the 15th cent A fort was built here by the Portuguese in 1522, and another by the Dutch in 1607 The principal town is Ternate (pop 7,126), an important transit port for New Guinea and Halmahera Its exports are teak, ebony, rattan, copra, spices, and bird skins

Terni (tĕr'nē), city (pop 37,295), capital of Terni prov, Umbria, central Italy It has iron and steel plants and manufactures of arms, munitions, machinery, and chemicals The waterfalls (the famous Cascata delle Marmore) 4 mi away furnish industrial power The falls were first formed when the Romans connected (272 B C) the Velino with the Nera river Terni is an old Umbrian town, with Roman remains and medieval churches and palaces

Ternopol, Ukraine see TARNOPOL

Terpander (tûrpăn'dur), fl c 675 B C, musician of Lesbos, the earliest definite figure to appear in the history of Greek music He is ascribed as the one who completed the octave and in doing so added the sixth and seventh strings to the kithara Certain poems are also attributed to him

Terpsichore see MUSES

Terra, Gabriel (gbrĕĕl' tĕ'rä), 1873–1942, president of Uruguay (1931–38) In his early career a member of the Colorado party under the leadership of BATLLE Y ORDÓÑEZ, Terra served in several political and diplomatic posts In 1933 he suspended congress, disbanded the council of administration (a body created by the constitution of 1919 as a check on executive power), and abolished the constitution After a new constitution, promulgated in 1934, restored presidential authority, Terra was reelected and ruled largely by dictatorial decree He suppressed a serious revolt in 1935 During his administration, however, the socialization of the republic, begun by Batlle, was continued Terra was succeeded by an elected president, Alfredo Baldomir

Terra Alta, town (pop 1,471), N W Va, near the Md border E of Fairmont, inc 1890 Many cranberry bogs are near here

terra cotta (tĕ'rŭ kŏ'tŭ), form of hard-baked pottery, of wide use in the decorative arts, especially as an architectural material, either in its natural red-brown color, or painted, or with a baked glaze Its prevalence as a medium of artistic expression since the earliest periods of history is indicated by statuettes and vases from predynastic Egypt, polychrome tiles from Assyria and Persia, vases and figures from the Maya, and Chinese vases dating probably from 3000 B C As an architectural material terra cotta first found important use in classic Greece where, beginning about the 7th cent B C, temples and other structures were often enriched with roof tiles, metopes, and various other ornamental features of terra cotta, modeled and painted, similar roof tiles and ornaments are found in Roman and Pompeian work But the golden age of terra cotta was the Renaissance, even while Gothic forms were still predominating in the 14th cent, it was widely used in N Italy and in N Germany, both districts where there is a scarcity of good building stone The towns of Lombardy, Emilia, and Venetia are rich in brick buildings, such as the Certosa di Pavia (begun 1396), which are decorated with a profusion of molded terra-cotta detail—cornices, string courses, window frames, and other exterior ornament Similarly, the 14th- and 15th-century brick Gothic buildings of N Germany, especially of the district around Brandenburg had lavish displays of molded terra cotta the delicate tracery and other Gothic details of the Church of St Catherine at Brandenburg (1400) testify to the high technical skill of the terra-cotta worker of that period As the Renaissance progressed in Italy terra cotta was established not only as an architectural but as a sculptural material, used with consummate skill by the masters Della Quercia and Donatello In its decorative application, it reached high distinction in the 15th cent when the Della Robbia family uniting rare artistic ability with superb technical skill, developed their characteristic and celebrated polychrome enameled terra-cotta reliefs Besides unsurpassed doorway tympanums and decorative medallions, especially the series of Madonna compositions, they used terra cotta as a material for tombs, fountains, and altars From Italy the art spread to other countries, largely through the activities of migrant Italian artisans The Château Madrid, now destroyed, designed by Girolamo della Robbia and built for Francis I, was richly decorated with terra-cotta details It was introduced into Tudor England, probably by the Florentine sculptor Torrigiano, c 1510 In the districts of SE England, where good stone is lacking, important country mansions, such as Layer Marney and Sutton Place, had ornamental detail of molded terra cotta, on Hampton Court, Wolsey employed Italian workmen who produced portrait medallions and other decoration of great merit The use of terra cotta in England ceased, in general, when, after the death of Henry VIII, the Italian artists returned home In modern times terra cotta has been used to some extent in the Victorian Gothic revival, notably by Alfred Waterhouse, and has received widespread application in the United States as an exterior covering for the skeleton steel structure Although often molded into the forms of the classic and other styles, with textures closely simulating various kinds of stone, it has been most successfully used, not imitatively, but frankly on its merits as a lightweight, nonbearing material, perfectly adapted to the task of sheathing a steel frame Hollow blocks or tile of rough terra cotta are used extensively as a structural material for walls and partitions, for floor arches, and for fireproofing In modern practice terra cotta is manufactured from carefully selected clays, which, combined with water and vitrifying ingredients are put through a pugmill or other device to reduce the mass to homogeneity In cakes of convenient size the clay passes to the molding room Individual pieces are modeled by hand, in the case of repetitive pieces the clay is pressed into plaster molds to form a shell about an inch thick, interior webs being added where needed to give strength After partial drying, the molded pieces are finished by hand and then are ready for the most important process, the baking, which is done in a kiln or reverberatory furnace at temperatures which reach 2,300°F The heat is applied and increased gradually, to prevent undue warping, usually over a period of about a week, the time and the temperature depending, of course, upon the size and form of the pieces Allowance must be made for shrinkage in baking, which usually amounts to as much as 1 in in 12 See I C Hill, *Decorated Architectural Terracottas* (1929)

Terra Mater see TELLUS

Terranova di Sicilia, Italy see GELA

terrapin (tĕ'rupĭn), name applied to an edible freshwater TURTLE The diamondback terrapin found in the brackish waters of the S United States is the one most highly prized for food It is raised on farms

Terrebonne (tĕrbŭn'), town (pop 2,209), S Que, on the Mille Iles river and N of Montreal, inc 1860 It has tobacco processing and woodworking and manufactures shoes, fiber products, and agricultural implements

Terre Haute (tĕ'ru hōt', tĕ'rē hŭt'), city (pop 62,693), co seat of Vigo co, W Ind, on the Wabash and c 75 mi WSW of Indianapolis, settled c 1811, platted 1816, inc 1853 It is a commercial and banking center for a farming and mining area and

manufactures paint, coke by-products, iron castings, dairy products, and liquor. The city is the birthplace of Eugene V Debs and Theodore Dreiser, and Paul Dresser is commemorated in Dresser Memorial Park Terre Haute is the seat of Rose Polytechnic Institute (for men, 1874) and a state teachers college Near by are St Mary-of-the-Woods College (for women) and a Federal penitentiary The city has a large stadium, a memorial to soldiers of the First World War A general strike occurred here in 1935 Indian burial mounds have been found near by

Terrell (tĕ'rŭl), city (pop 10,481), N Texas, E of Dallas; settled *c* 1860, laid out 1872, inc 1881 A prosperous old cotton town on the rich blackland prairie, Terrell has small industries and plants processing cotton, lumber, and wheat, milk, and other foods Texas Military College is here Terrell has a state mental hospital

Terrell Hills, city (pop 1,236), S central Texas, a suburb of San Antonio, inc 1939

terrier, any of a number of rather small, alert, lively dogs originally bred chiefly for hunting but now raised mostly for pets One of the well-known terriers is the *Airedale*, a teachable, courageous dog Its wiry coat is marked with a black or dark grizzled saddle nearly covering the back, most of the rest of the body is tan The standard weight of the male is 40 to 45 lb Airedales have been successfully used as dispatch bearers in war, for police duty, and for hunting game The *Bedlington terrier* originated in Northumberland, where it has been known since the early 19th cent The short, thick, hard coat is dark blue, liver, or sandy or a combination of one of these colors with tan Its head somewhat resembles that of a sheep, the skull is narrow, deep, and rounded, and the jaw tapering The legs are moderately long The *Border terrier*, probably one of the oldest breeds of terriers in Great Britain, originated in the Border country It is a working terrier with a thick, coarse coat of red, wheaten, grizzle and tan, or blue and tan, it has a thick undercoat The head somewhat resembles that of an otter, and the males should weigh between 13 and 15½ lb. Breeding a bull dog to a white English terrier (a now extinct breed) is said to have established a dog known as the bull and terrier, which was later crossed with the Spanish terrier to produce the *bull terrier* Present standards demand an all white dog with a dense flat, glossy coat Males may weigh from 12 to 60 lb , the majority weigh more than 35 lb The *cairn terrier*, a hardy short-legged dog, originated in Scotland, where it was useful for routing game and vermin out of rocky hiding places To conform to the standard, males should weigh 14 lb Any color but white is acceptable, and the abundant outer coat should overlie a soft, furry undercoat Bred in the Cheviot Hills of the Border country, the *Dandie Dinmont terrier* is believed to have been first recorded as a distinct type *c* 1700 Immortalized in Sir Walter Scott's *Guy Mannering*, which was published in 1815, the breed became known by the name of Dandie Dinmont, the Scottish farmer in the novel The forelegs are shorter than the hind legs, the hair is about 2 in long, and the coat is either some shade of pepper or of mustard *Fox terriers* are of two kinds, the smooth and the wire-haired, both well known in most parts of the world The smooth-haired fox terrier appeared first, sometime in the 18th cent., and its ancestors are believed to be different from those of the wire-haired Breeding produced two very similar types, the chief contrast is between the smooth flat coat of the smooth breed and the hard, wiry texture of the wire-haired terrier The *Irish terrier* is one of the oldest breeds of terriers and is known as a spirited companion, a good hunter and retriever, and a dog that has served well in wartime The height at the shoulder should be about 18 in , and the weight of the male about 27 lb The thick, wiry coat is of a solid color, usually red, red wheaten, or golden red The *Kerry blue terrier* originated in Co Kerry It is a good sporting and working dog, possessing high intelligence, endurance, and tenacity The soft wavy coat is blue, the shade varying from light to dark in individual dogs Males weigh from about 33 to 38 lb Among the oldest of working terrier breeds is the *Lakeland terrier*, native to Cumberland co , England The dense, wiry coat is frequently black and tan, though it may be blue and tan, blue, red, mustard, wheaten, or grizzle and black The males should not exceed 17 lb. in weight Native to Tibet, where it has been known from about the 12th cent , is the *Lhasa terrier*, much used in its native land as a watchdog indoors Its coat is rather long, straight, dense, and hard, and the hair falls over the eyes Gold or lionlike colors are preferred, but many shades are permissible, from sandy to black, either solid or parti-colored The males stand about 10 in high at the shoulder The *Manchester terrier*, native to England, has been known also as the black-and-tan terrier It is an excellent house dog and a good hunter of small animals, it was originally bred to hunt rabbits and rats. Resembling the much larger Doberman pinscher, its black-and-tan coat is short and glossy. It weighs from about 14 to 22 lb. There are three distinct registered breeds of *schnauzers*, the miniature (averaging about 12 in. in shoulder height), the standard (about 18 in. at the shoulder), and the giant (about 24 in at the shoulder). All have wiry coats of pepper-and-salt mixtures or pure black or black and tan Originally bred in Germany, schnauzers are there considered working dogs. They are especially valued as guard dogs, and they make excellent house dogs The *Scottish terrier* originated in the Highlands of Scotland. The standards of the breed were established *c* 1880 Recognizable by its low-slung silhouette, it has short, strong legs, a broad, deep chest, a shoulder height of about 10 in , a rather broad muzzle, and erect ears. The tail, about 7 in long, is carried high and never cut. The standard weight is between 18 and 20 lb for both sexes In color the coat may be black, steel or iron gray, brindled or grizzled, sandy, or wheaten The wiry outer coat, about 2 in long, overlies a dense undercoat The *Sealyham terrier* was developed in Wales after the mid-19th cent for pursuing prey underground. It may be all white or white with lemon, tan, or badger markings on the head and ears A dense undercoat is overlaid with a wiry topcoat The body length from shoulder to the base of the tail should be about the same as the shoulder height (about 10½ in), and the weight about 20 or 21 lb The *Skye terrier* originated on the Isle of Skye NW of Scotland, where it was used to hunt animals in their rocky haunts It is said to have been a court pet by the mid-16th cent Its coat may be blue or gray or fawn with black-tipped hairs, the undercoat is dense, and the outer coat is about 5½ in long The shoulder height is about 9 in , and the total body length is about 40 in including the approximately 8½-inch head and 9-inch tail The legs are short and straight Males average about 18 lb in weight Sometimes said to be the oldest of the terrier breeds is the *Welsh terrier*, a sporting dog used in Wales especially for hunting the badger, fox, and otter and noted for its good disposition It is black and tan or black, grizzled, and tan, stands about 15 in high at the shoulder, and weighs about 20 lb In early times it was sometimes called the black-and-tan wire-haired terrier and the Old English terrier The *West Highland white terrier* resembles the Scottish terrier in form and size, but its rather long coat is always white It is a hardy dog with a good disposition The *Yorkshire terrier* is a toy breed developed in Lancashire and Yorkshire It is believed that it is most closely related to the Skye terrier but that it includes also among its ancestors the Dandie Dinmont and Manchester terriers and the Maltese spaniel The hair on the body is moderately long, straight, glossy, silky, and dark steel blue, and on the head and chest it is long and tan See also BOSTON TERRIER See American Kennel Club, *Terriers* (1935), A C Smith, ed , *Terriers* (1937), Dan Russell, *Working Terriers* (1948)

territorial waters · see WATERS, TERRITORIAL

territory, in U S history, a portion of the national domain which is given limited self-government, usually in preparation for statehood Territorial governments have been similar in form to those of the states, but have been subject to greater authority of the federal government The ORDINANCE OF 1787, adopted by the Congress of the Confederation of the United States to create the NORTHWEST TERRITORY, furnished the basis upon which territorial governments were later organized under the Constitution of the United States The LOUISIANA PURCHASE of 1803 brought forth the problem of relationship of the United States to newly acquired domains a topic vaguely stated in the Constitution of the United States. The Supreme Court, however, established the right of Congress to establish territorial governments and to admit territories to the Union With the rapid westward expansion of the United States in the 19th cent. and the acquisition of large portions of land through treaty and purchase, Congress shaped territorial boundaries and prescribed government Territorial governments usually have consisted of a governor, a bicameral legislature, a secretary to keep records, and a system of courts A territory may be admitted to the Union as a state after its officers petition Congress for an enabling act, establish a constitution, and meet certain requirements (often regarding population) as set forth by the U S Congress Congress itself may initiate such action A majority of the 48 states of the United States—excluding the Thirteen Colonies, California, Kentucky, Maine, Texas, Vermont, and West Virginia—underwent a territorial stage before they were admitted to the Union The affairs of territories were under the Dept of State until 1873, when their supervision was given to the Dept of the Interior Today, Hawaii, Puerto Rico, and Alaska remain as U S territories and each sends a delegate to Congress without the power to vote In Canada and Australia, a similarly organized portion of the country not yet formed as part of the dominion is known as a territory.

Terror, Reign of: see REIGN OF TERROR.

Terry, Alfred Howe, 1827–90, American general, b Hartford, Conn He studied law at Yale and was admitted to the Connecticut bar in 1849. In the Civil War he led a regiment of Connecticut volunteers at the first battle of Bull Run Terry was made a brigadier general of volunteers in 1862 and took part in various operations along the S Atlantic coast in 1862–63. In 1864 he fought in the Army of the James around Petersburg and Richmond. For his capture of Fort FISHER in Jan., 1865, he was promoted major general of volunteers and made a brigadier general in the regular army In 1876 he directed the campaign against the Sioux and personally led the column converging on the Indians from Dakota The cavalry under Gen George CUSTER, massacred at the Little Bighorn, comprised part of Terry's force He was promoted major general in 1886 and retired in 1888.

Terry, Dame Ellen Alicia, 1848–1928, English actress Of a prominent theatrical family, she made her debut at eight, under the management of Charles Kean, as Mamillius in *The Winter's Tale* and played juvenile roles until her marriage, at 16, to G F Watts, the painter In 1867 she made her first appearance with Sir Henry IRVING, acting Katherina to his Petruchio in *The Taming of the Shrew* After more than 10 years of triumphs in such roles as Portia in *The Merchant of Venice* and Olivia in W G. Wills's adaptation of Goldsmith's *Vicar of Wakefield*, she joined Irving at the Lyceum Theatre to form (1878) their historical partnership, which lasted more than 20 years She had great charm and a picturesque grace, and in the Shakesperian roles of Beatrice, Imogen, Viola, Lady Macbeth, and Juliet she was unrivaled Three times married, she bore two children, Edith Craig and Edward Gordon Craig Her jubilee was celebrated in 1906, and in 1925 she was made Dame of the British Empire See her autobiography, *The Story of My Life* (1908), correspondence with George Bernard Shaw (ed by Christopher St John, 1931), and memoirs (ed by Edith Craig and Christopher St John, 1932), E. G Craig, *Ellen Terry and Her Secret Self* (1931)

Terry, Sir Richard Runciman, 1865–1938, English organist and musicologist He was organist and choir director (1901–24) of Westminster Cathedral He studied and made collections of early English church music and edited the *Westminster Hymnal* (1912), the official hymnal for Roman Catholic use in England He is author of *Catholic Church Music* (1907) and *The Music of the Roman Rite* (1931)

Terry, town (pop 1,012), co seat of Prairie co , E Mont , on the Yellowstone river and NE of Miles City, settled 1884, inc 1912

Tersanctus see SANCTUS

Terschelling (tûrs'khĕl'lĭng), island (37 sq mi , pop 3,514, Friesland prov , NW Netherlands, in the North Sea, one of the West Frisian Islands Its chief resources are agriculture, fishing, and cattle raising

Terskei Ala-Tau see ALA-TAU

tertiary (tûr'shēărē), in the Roman Catholic Church, member of a third order The third orders are chiefly annexes of the FRIARS—Franciscans (the most numerous), Dominicans, and Carmelites They have rules reflecting the spirit of the corresponding order, but adapted to life in the world, hence, the offices to be read are short and the fasts are mild The promises made on joining are not vows, their purpose is the sanctification of the members Secular members of third orders may be priests or laymen, there are also regular tertiaries, e g , many communities of women The name tertiary recalls their origin among the Franciscans, for St Francis founded his order for laymen only after he had instituted his order for men (the friars) and after St Clare had founded the nuns (second order, the Poor Clares) See MONASTICISM

Tertiary period (tûr'shēĕ"rē), name for the major portion of the Cenozoic era, the most recent of the geologic eras The name Tertiary was first applied about the middle of the 18th cent to a layer of deposits, largely sedimentary and unconsolidated, geologically younger than, and overlying, certain other deposits then known as Primary and Secondary Later (*c* 1830) a fourth division, the Quaternary (of glacial, fluvial, and lacustrine deposits) was added Although the recognition of the several divisions of the earth's crust was justifiable for the region to which the designations were originally applied (parts of the Alps and plains of Italy), when the same system was later extended to other parts of Europe and to America it proved inadequate It was realized that the same scheme of classification could not be applied universally since all mountain ranges were not of the same age and did not have the same history The terms Primary and Secondary were generally abandoned, but Tertiary and Quaternary were firmly entrenched in geologic literature and are still used by many. Some authorities recommend that the use of Tertiary and Quaternary also be abandoned. The main divisions of the Tertiary are the Paleocene, Eocene, Oligocene, Miocene, and Pliocene. Sometimes the Paleocene is included in the Eocene At the beginning of the Tertiary, the outlines of the North American continent were very similar to its outlines in historic times; by the close of the period, Europe also had emerged substantially in its historic form. Marine submergences in Europe were moderately extensive, but in North America they

never went beyond the Atlantic, Gulf, and Pacific coasts and the lower Mississippi valley These floods took place chiefly in the Eocene, Oligocene, and Miocene epochs, the continents being generally emergent in the Pliocene epoch Deposits laid down as a result of erosion cover much territory. The Tertiary formations are either loose, earthy materials or quite soft rocks Throughout the Tertiary there was extensive mountain making in both continents, the previously existing mountain ranges of North America being reelevated and the Alps, Pyrenees, Carpathians, and other ranges being formed in Europe. In Asia the Himalayas arose Volcanic activity was almost continuous At the beginning of the period the mammals replaced the reptiles as the dominant animals, each epoch was marked by striking developments in mammalian life Modern types of birds, reptiles, amphibians, fishes, and invertebrates were either already numerous at the beginning of the period or appeared early in its history.

Tertius (tûr'shus) [Latin, =third], amanuensis of the epistle to the Romans Rom 16 22

Tertullian (Quintus Septimius Florens Tertullianus) (tûrtŭl'yun), c 150–c 230, Roman theologian, b Carthage. He was the son of a centurion, was a pagan in his youth, and was thoroughly educated His Latin is vigorous and effective Sentences of Tertullian that have become proverbial are "The blood of martyrs is the seed of the Church" and "It is certain because it is impossible" (often quoted incorrectly as "I believe it because it is impossible") Some of Tertullian's opinions departed from the main course of Christian thought A moderate branch of the ephemeral sect called Montanists (see MONTANISM) was known as Tertullianist Tertullian's writings (especially the *Apologeticus*, one of the chief patristic works) have been published in many editions.

Tertullus (turtŭl'ŭs), accuser of Paul before Felix Acts 24 1,2

Teruel (tĕrwĕl'), city (pop 14,377), capital of Teruel prov, E central Spain, in Aragon, on the Guadalaviar river The city is an agricultural trade center, the province has iron and coal mines and sulphur, zinc, and manganese deposits The center of bitter fighting in the Spanish civil war of 1936–39, Teruel early fell to the Insurgents, was retaken (Jan, 1938) by the Loyalists, and fell again to the Insurgents a few weeks later It was rebuilt after its almost complete destruction in the fighting There are a Renaissance cathedral, a Gothic church, and an imposing two-storied aqueduct (16th cent)

Teschen (tā'shĕn), Czech *Těšín* (tyĕ'shēn), Pol *Cieszyn* (chĕ'shĭn), city and former principality (c 850 sq mi), now divided between Czechoslovakia and Poland A part of Silesia, the principality passed to the house of Austria in 1526 and remained in Austrian hands until 1918 Its important coal mines (the Karvinna basin) and iron deposits and its strategic concentration of several major rail lines made it an object of dispute between Poland and Czechoslovakia, each of which claimed Teschen on ethnical grounds The Conference of Ambassadors divided (1920) the territory, giving the western section, including the Karvinna coal basin, to Czechoslovakia and the eastern agricultural section to Poland The city of Teschen also was divided into a Polish city, Cieszyn (pop 19,536), and a Czech city, Cesky Tesin (Czech *Český Těšín*) (pop 9,986) Poland, however, continued to claim the western section and seized it (Oct, 1938) after the Munich Pact During the Second World War the entire territory was annexed to Germany, but in 1945 the status quo as of 1920 was restored despite Polish claims

Tesla, Nikola (tĕs'lŭ), 1856–1943, American electrician and inventor, b Croatia (then in Austria-Hungary) He emigrated to the United States in 1884, worked for a short period for Edison, and became a naturalized American citizen A pioneer in the field of high-tension electricity, he made many discoveries and inventions of great value to the development of radio transmission and to the field of electricity. These include a system of arc lighting, the Tesla induction motor and system of alternating-current transmission, the Tesla coil, generators of high-frequency currents, a transformer to increase oscillating currents to high potentials, a system of wireless communication, and a system of transmitting electric power without wires He designed the great power system at Niagara He wrote *Experiments with Alternate Currents of High Potential and High Frequency* (1904)

Teslin Lake (tĕs'lĭn, tĕz'–), narrow lake, 80 mi. long, NW British Columbia and S Yukon, ESE of Whitehorse It receives the Nisutlin river near Teslin village, on the east shore. It is drained N by the Teslin river 120 mi. to the Lewes.

tessera: see MOSAIC.

Tessin, Switzerland. see TICINO.

Test Act, 1673, passed by the British Parliament to exclude from public office (both military and civil) all those who refused to take the oaths of allegiance and supremacy, to receive the communion according to the rites of the Church of England, or to renounce belief in transubstantiation. Although directed primarily against Catholics, it theoretically excluded all non-Anglicans In 1678 it was extended to members of Parliament It was modified in 1689 so that most non-Catholics were able to qualify, although some refused to conform and were disqualified until the repeal of the act at the time of CATHOLIC EMANCIPATION.

testament: see NEW TESTAMENT, OLD TESTAMENT, WILL.

testis (tĕ'stĭs) or **testicle** (tĕ'stĭkŭl), paired glandular organ belonging to the male reproductive system In early fetal life the two testes lie in the abdomen and normally descend through the inguinal canal to reach the sac called the scrotum before birth The spermatozoa are formed in the testes, and these organs also have an endocrine function, secreting the male hormone testosterone The secondary male characteristics, e g, growth of hair on the face and chest and the deepening of the voice, are dependent upon the normal secretion of testosterone.

Tesuque (tā-sōō'kā), North American Indian pueblo, central N Mex, in the Sangre de Cristo Mts, c 7 mi N of Santa Fe Its 162 inhabitants are Pueblo Indians of the Tanoan linguistic stock A village of this name was discovered in 1540 by Francisco Coronado, but the present village was settled in the early 18th cent The annual feast day in honor of San Diego is held on Nov 12

tetanus (tĕ'tŭnus) or **lockjaw,** infectious disease caused by the tetanus bacillus (*Clostridium tetani*) The disease is characterized by muscular spasms, hyperactive reflexes, and convulsions Symptoms include a feeling of tension in the jaws, difficulty in opening the mouth, and spasms of the jaw muscle (trismus or lockjaw) Fatalities result from the effect of the toxin on the heart and breathing muscles The germs exist in street dust, earth, and manure, cuts and wounds caused by injuries from gunpowder, firecrackers, rusted or dirty metal, or splinters may become infected by the bacillus or its spore Injection of tetanus antitoxin is an early preventive measure after a wound Immunity is generally produced by a series of injections of tetanus toxoid followed about a year later by a "booster" injection

Tete (tā'tā, tā'tā), town, N Mozambique, on the Zambezi river, founded 1531 by the Portuguese There is a cathedral built in 1563 Cotton, hides, and skins are exported

Teterboro (tē'tur–), borough (pop 40), NE N J, 5 mi E of Passaic, named Bendix 1937, renamed Teterboro 1943 It has large airplane works

Teternikov, Feodor Kuzmich: see SOLOGUB, FEODOR

Tethys (tē'thĭs), in Greek religion, TITANESS, daughter of GAEA and URANUS, wife of the sea-god OCEANUS, and mother of the Oceanids

Teton (tē'tŏn') **1** River rising in several branches in NW Montana about the Continental Divide and flowing 143 mi E to the Marias **2** River, 60 mi long, rising in W Wyoming, in forks which unite in SE Idaho The Teton flows N and W to Henrys Fork river, near Rexburg In its early course it runs through Teton Basin, formerly Pierre's Hole, famous haunt of trappers, here in 1832 was fought a battle with the Gros Ventres

Teton Indians: see SIOUX INDIANS

Teton Range, part of the Rocky Mts, NW Wyo and SE Idaho, just S of Yellowstone National Park and W of Jackson Lake and the Snake river The highest peaks are within GRAND TETON NATIONAL PARK Teton Pass (8,429 ft) and Phillips Pass (10,700 ft) are just south of the park The Teton Range includes part of Targhee National Forest The first white man to see the range is said to have been John Colter c 1807 In 1811 the Astorians, led by Wilson Price Hunt, crossed Teton Pass Fur trappers and traders (the mountain men) frequented the mountains in the first half of the 19th cent See Fritiof Fryxell, *The Tetons: Interpretations of a Mountain Landscape* (1938)

Tetrazzini, Luisa (tĕträtsē'nē, Ital lwē'zä täträttsē'nē), 1871–1940, Italian coloratura soprano She made her debut in Florence in 1895 After appearances in Spain, Portugal, Russia, and Latin America, she made her debut in the United States at San Francisco in 1904, and her London debut in 1907 She sang (1908–10) with the Manhattan Opera Company, afterward appearing with the Metropolitan Opera Company (1911–12) and the Chicago Opera Company. She continued her concert career until 1931 Her sensational success was due to her brilliant high tones and her agility in coloratura work. She wrote two books, *My Life of Song* (1922) and *How to Sing* (1923).

Tetschen, Czechoslovakia: see DECIN.

Tetuán (tätwän'), city (pop. 93,658), capital of Spanish Morocco, founded in the 14th cent. It is situated at the foot of a high hill a few miles from the Mediterranean Sea. Its port is Río Martín Tetuán has extensive light manufacturing and is the industrial center of Spanish Morocco. There is a large trade in livestock and food crops The city was an early corsair stronghold It was rebuilt in 1492 by Jewish refugees from Portugal and became an important commercial settlement It fell to a Spanish general, Leopoldo O'Donnell, in 1860 and was permanently occupied by Spain in 1915 Tetuán, overlooked by its ancient casbah and with many parks, mosques, and fountains, is a tourist center

Tetzel, Johann (yō'hän tĕt's[ĕ]l), 1465–1519, German preacher, b Pirna He joined the Dominicans, He became a well-known preacher and was made inquisitor general of Poland at the instance of CAJETAN In 1503 he preached an INDULGENCE mission for the Teutonic Knights and in 1506 another along the Rhine In 1516 his promotion of the indulgence for the erection of the Church of St. Peter's aroused the indignation of Martin LUTHER, whose theses were in part prompted by Tetzel's preaching In 1518 Tetzel replied to Luther's theses, and their dispute became famous throughout Germany He soon retired, in bad health, to his monastery at Leipzig, where he was overwhelmed with attacks of his enemies and the censures of the papal legate Tetzel has been greatly overrated in importance He had no thought of personal gain from his preaching of the indulgence His teaching on indulgences was not in accord with the doctrine of the Church, the *sine qua non* in gaining an indulgence is to feel contrition for all sins, but Tetzel did not require this for indulgences gained on behalf of the dead, only for those gained for oneself.

Teucer (tū'sur), in Greek mythology **1** Eponymous king of the Trojans, who are also called the Teucri Teucer was the father-in-law of Dardanus **2** Son of Telamon and Hesione and half brother of Telamonian Ajax He was the greatest archer in the Trojan War and a faithful comrade of Ajax He was absent when his brother committed suicide, but when he returned he took a leading part in the struggle to secure Ajax's body. When Teucer returned home he was banished by his father, who mistakenly thought that Teucer was the cause of Ajax's death Teucer went to Cyprus, where he founded the town of Salamis and ruled as king

Teutoburg Forest, Ger *Teutoburger Wald* (toi'tō-bōōr"gur vält'), hilly range, Westphalia, NW Germany, largely in the former state of Lippe It is forested, and it rises to 1,465 ft S of Detmold Near Detmold is a monument commemorating the victory (A D 9) of the Germans under ARMINIUS over the Roman legions under VARUS The three Roman legions were annihilated, Rome never again made a determined attempt to conquer Germany The exact location of the battlefield in the Teutoburg Forest has not been determined.

Teutones or **Teutons:** see GERMANS

Teutonic Knights (tōō-tŏ'nĭk, tū–) or **Teutonic Order,** German military religious order founded (1190–91) as a hospital order during the siege of Acre in the Third Crusade The order was one of nobles and was modeled on that of the Knights Templars and the Knights Hospitalers, with the knights taking the three monastic vows of poverty, chastity, and obedience Under Hermann von SALZA, its grand master early in the 13th cent, the order moved to E Europe and rose into prominence After a brief period (1221–24) in Transylvania, where it fought for Andrew II of Hungary against the Cumans, the order responded to a call (1226) of Duke Conrad of Masovia for a crusade against the heathen Prussians Emperor Frederick II granted it (1226) vast privileges, and Conrad invested it with the lands they conquered from the pagans However, Hermann von Salza placed (1234) his conquests under papal suzerainty and set about to organize them as a separate German state The Poles were long unsuccessful in asserting their claim to suzerainty over the order After some 50 years of successful campaigning the knights had subdued PRUSSIA (q v, the lands later known as EAST PRUSSIA and West Prussia) and founded numerous towns and fortresses Further east took place the expansion of the LIVONIAN KNIGHTS, with whom the Teutonic order was united from 1237 until 1525 The Prussians, who had risen in revolt, were virtually exterminated (13th cent) and replaced by German and Polish settlers The knights administered their lands from Marienburg, but they granted considerable freedom to the cities, many of which joined the HANSEATIC LEAGUE In 1263 the pope allowed the knights to engage in trading, a privilege which they increasingly abused Their seizure (1309) of Pomerelia (see POMERANIA) from Brandenburg brought on intermittent warfare with Poland, which claimed the province In 1410 the Poles and Lithuanians routed the order at TANNENBERG, and by the second Treaty of Torun (1466) the knights ceded West Prussia and Pomerelia to Poland, retaining only East Prussia as a Polish fief Their capital was transferred to Königsberg The fatal blow to the order was delivered in 1525 by its own grand master, ALBERT OF BRANDENBURG, who accepted the Reformation, declared Prussia a secular duchy, and was invested as duke by Sigismund I of Poland Stripped of all importance, the Teutonic Order continued in Catholic Germany until 1805 It was later revived in Austria, but merely as an honorary body The habit of the order was a white robe with a black cross embroidered in gold

Teutonic religion: see GERMANIC RELIGION.

Tevere: see TIBER.

Teviot (tē'vĕŭt, tĕ'-), river, principally in Roxburghshire, Scotland Flowing northeast for 40 mi , it enters the Tweed at Kelso Hawick is the leading town on the Teviot

Tewfik Pasha (Mohammed Tewfik) (tū'fĭk pä'shŭ, päshä'), 1852–92, khedive of Egypt (1879–92) He acceded to office when his father, Ismail Pasha, was deposed In 1880 Tewfik accepted joint French-British control over the nation's finances This act provoked a nationalist uprising, which forced Tewfik to appoint a cabinet hostile to the European powers The British and the French, however, quickly compelled the cabinet to resign Later, in 1882, Great Britain, alarmed by renewed agitation, bombarded Alexandria and landed troops France had refused to support this action and ended participation in Egyptian affairs, thus leaving Great Britain in sole control As further concession to British demands Tewfik abandoned Egypt's claim to sovereignty over the Sudan and agreed to a condominium there with Great Britain Tewfik, who was generally Western in his outlook, devoted much attention to educational and legal reforms He was succeeded as khedive by his son Abbas Hilmi

Tewkesbury (tūks'burē), municipal borough (1931 pop 4,352, 1943 estimated pop 4,667), Gloucestershire, England It is on the Upper Avon near its junction with the Severn, which is here crossed by an iron bridge built by Telford The site was occupied c 715 by a monastery, refounded in the 12th cent , it became one of the richest and most widely renowned Benedictine abbeys in England The church, built in 1123, is an impressive ruin, with a noteworthy west front Dramatic festivals are held here, a survival from the Tewkesbury festival plays which began in the 17th cent Tewkesbury has many old timbered houses It was once noted for mustard production and now has minor manufactures. At "Bloody Meadow," south of the town, Edward IV in 1471 defeated the Lancastrians in the Wars of the Roses

Tewksbury, town (pop 6,261), NE Mass , ESE of Lowell, settled 1637, set off from Billerica 1734. It was the site of an Indian colony.

Texarkana (tĕk"särkă'nu), city (pop in Texas, 17,019, in Ark , 11,821) on the Texas-Ark border The part in Arkansas is the county seat of Miller Co Texarkana was settled in 1873 A rail center, shipping cotton, livestock, and dairy stuff from the area, it also has cotton-oil mills, woodworking factories, and fertilizer, feed, and clay-products plants

Texas (tĕk'sus), state (267,339 sq mi , 1940 pop 6,414,824, 1949 estimated pop 7,532,000), SW United States, admitted 1845 as the 28th state (a slaveholding state) Austin is the capital The largest state in the Union, Texas is roughly spade-shaped The handle is the Panhandle of Texas, thrusting in the extreme north into Oklahoma, with New Mexico on the west The eastern shoulder is separated from Oklahoma on the north by the Red River. The western shoulder has New Mexico on the north From the western tip of Texas at El Paso, the Rio Grande runs SW to the Gulf of Mexico as the international boundary between Texas and Mexico, with El Paso, Del Rio, Laredo, and Brownsville as important Texas border towns From the mouth of the Rio Grande the Gulf Coast sweeps in a curve northeast to the mouth of the Sabine river, which forms much of the eastern boundary with Louisiana In the northeast, Texas has a short border with Arkansas and the two-state city of Texarkana What is generally called E Texas is the land between the Sabine and the Trinity river, a land of pine-covered hills and cypress swamps The remnants of great cotton plantations founded before the Civil War still have a faded glory, and the pines still supply a lumbering industry that formerly made Longview one of the big sawmill towns in the United States The wealth of E Texas, however, is drawn from the large and rich oil fields discovered in the 1920s and dramatically shown to the visitor by the wells that crowd the very houses in Kilgore Basically more important, perhaps, are the many truck farms in the red hills about Palestine and Tyler. The low plains of the Gulf Coast, perpetually wet with heavy rains in the east, grow drier to the south and become semiarid as they near the Rio Grande The greatest of the ports and the largest of Texas cities is Houston with its variegated industries, originally based largely on the oil from the seemingly inexhaustible coastal wells Galveston is the older port and not only has its share of industrial development but also is, with its lovely island setting, something of a winter playground, Beaumont grew rapidly after the first big oil strike in Texas, and Corpus Christi, long established, boomed in the Second World War as a naval base Huge sulphur deposits are only partially exploited, but sulphur (together with oil) was the first wealth of the area around Freeport that has in recent years been the scene of great industrial development. Great cotton farms in sections along the coast have been superseded somewhat by diversified agriculture, but rice growing, long established, has even expanded in recent years as vegetable and truck farms have also increased. The rest of the coast is, however, not equal in intensified farming to the irrigated section along the lower Rio Grande called the Rio Grande Valley, there winter vegetables as well as citrus fruits and other crops are grown in profusion. Between these developed areas on the coast are wide undeveloped areas largely given over to cattle ranching Though the farmlands first occupied fully when Americans came to Texas in the early 19th cent were the bottomlands of the lower Brazos and the Colorado, it was only when settlers moved into the rolling blackland prairies of central and N central Texas that the agricultural wealth of Texas was realized in one of the most fertile regions of the world It is by far the most heavily populated part of the state, the small town predominates, but there are thriving cities San Antonio is just beyond the western edge, smaller Waco is at its heart Fort Worth (still a stock-shipping and packing center as well as a farm trade center and industrial city) lies to the north, not far from the commercial, industrial and cultural metropolis on an area that stretches far beyond the limits of central Texas—Dallas Austin, long little more than the capital and an overgrown farm-market town, developed in the 1930s and 1940s into a sizable industrial city It lies almost on the Balcones Escarpment, a fault line that, curving NE from the Rio Grande near Del Rio to the Red River, more or less marks the western edge of the central plains, in central Texas the line is visible to the casual traveler in a series of waterfalls and rough, tree-covered hills To the west is the Edwards Plateau and the north central plains, which are essentially extensions of the Great Plains area but are sharply divided from the high, wind-swept, and canyon-cut Llano Estacado (Staked Plains) by the Cap Rock, which runs from northeast to southwest in the Panhandle There are here no traces of the subtropical lushness of the coastal plain, the climate is strictly continental with blizzards blowing strong across the flat land in winter Even the Red River area, which is not on the high prairies, has a climate like that of the central United States and the farming and oil center of Wichita Falls has some sharp cold in winter, though it does not know the severity that visits the flourishing metropolis of the Panhandle plains, Amarillo, or the center of dry-land farming, Lubbock Settlers were late in coming to the high plains Cattle ranching began in the late 1870s and huge ranches persisted after the wheat farmers began to cultivate sections of the treeless land and, though reduced, persist even today Grain and oil have, however, revolutionized the economy and have built industries The Panhandle is semiarid like all of W Texas (all of the state west of long 100°W) There the land, rising to the western mountains with high sweeping plains and rough uplands, offers the finest scenery of the state, the region beyond the Pecos river has the celebrated Davis Mts and the wilderness of the Big Bend of the Rio Grande as well as the highest point in Texas, in the Guadalupe Mts Fort Stockton and Fort Davis are yearly visited by thousands of vacationers The dry fields of W Texas are still given over to ranches and, except for small irrigated areas, yield principally beef and wool and mohair The newest of the big Texas oil fields is that of W Texas, and in the 1940s Odessa and Midland rocketed to wealth and size The cities of the area are few and generally small (San Angelo, Abilene, Sweetwater, and Big Spring), except, of course, for the booming industrial center of El Paso It was in the El Paso area that the first white settlement was made at Ysleta by settlers driven forth from the present New Mexico by the Pueblo revolt of 1680 There were also missions in that area connected with the New Mexican missions and some a little farther down the Rio Grande. The Comanche, the Apache, and the other Indians did not welcome the white newcomers, and the settlements within Texas did not flourish Already the region was long known to the Spanish That curious figure, whose life seems almost a fantasy—Álvar Núñez Cabeza de Vaca—had been shipwrecked on the coast in 1528 and had wandered across the present state The expedition of Francisco Vásquez de Coronado probably crossed extreme N Texas in 1541, and the survivors of the unhappy expedition of De Soto certainly visited the Red River country the next year. Still more unhappy was the expedition that brought the French to Texas La Salle, searching in vain for the mouth of the Mississippi along the sandy Gulf shore, disembarked with his colonists in 1685 and founded a melancholy little settlement, attempts to reach the Mississippi overland were futile, mutinous followers murdered their leader, and disease and the Indians wiped out the post so unintentionally founded. Fear of French rivalry, however, stirred the Spanish to make the first moves to hold the region, even though it yielded no precious metals. The first Spanish missions in E Texas were founded in 1690 on the Neches, the first of them being San Francisco de los Tejas (after the Tejas or Texas Indians). The Indians resisted the appeal of the gospel, and the missionaries were soon withdrawn (1693). New attempts were made later, again under the spur of the French threat from Louisiana, but Spanish occupation was desultory and by the beginning of the 19th cent. there was little settlement in Texas except about San Antonio (founded 1718), Nacogdoches (mission established temporarily 1716, permanently founded 1779), Goliad (presidio established 1749), Laredo, and some scattered colonists along the lower Rio Grande. Americans were already looking at Texas with covetous eyes, and the filibustering expedition of Philip Nolan (1800–1801) preceded the Louisiana Purchase, after the United States had become a neighbor, new filibusters appeared in the Gutiérrez and Magee expeditions (1812–13) and the adventure of James Long (1819) Untenanted Galveston Island had also attracted the pirate Jean Laffite as well as Mexican revolutionists bent on winning independence from Spain The Mexican revolution was already in process, and though the first grant to bring American settlers into Texas was made to Moses Austin by the Spanish government, his son, Stephen F Austin had to get the grant confirmed by the newly independent Mexican government in 1821 before he could bring his settlers into the region between the Brazos and the Colorado river It was this colony of farmers and plantation owners that began the history of Texas as a social unit, and the gentle Austin is justly called the father of Texas. The American settlements grew rapidly and other *empresarios* were allowed, like Austin, to bring in settlers, in a decade a considerable American colony was established with Brazoria, Washington (or Washington on the Brazos), San Felipe de Austin, Anahuac, Gonzales, and other towns as settlements. There was conflict between the Anglo-American and the Mexican officials, which grew worse Mexico itself was undergoing a period of confused politics attending the birth of a republic, and sporadically attempts were made to tighten control over Texas and guard against the Anglo-American seizure that the Mexicans understandably feared Such incidents as the Fredonian Rebellion served to heighten those fears. The settlers in Texas, drawn from all parts of the United States with a predominance of men from the slaveholding South, were forming a compact society and sturdily resisted any arbitrary action and all real Mexican control Tension mounted, and a complex series of rebellious moves (as viewed by the Mexicans) and unredressed grievances (as viewed by the Texans) led to open revolt in 1835 and a declaration of independence on March 2, 1836 The Texas Revolution was in full swing A large Mexican force was sent to subdue the rebels The heroic defense of the Alamo, and the Mexican massacre of Texans captured at Goliad stiffened Texans against surrender And though the war went badly for them for a brief time, as the commander in chief, Samuel Houston, retreated with his men and settlers abandoned their homes in haste, Houston proved his ability by his surprise attack and victory over Santa Anna in the battle of San Jacinto (April 21, 1836) With this stroke Texas was freed It became an independent republic and remained under its Lone Star flag for nearly 10 years Houston, the hero of the revolution, was the leading figure of the republic, serving twice as president (others were Provisional President David G Burnet, Mirabeau B Lamar, and Anson Jones) There was in Texas a strong movement from the beginning for annexation to the United States, and it was strengthened by the economic difficulties of the republic, but negotiations dragged on and the antislavery forces in the United States opposed annexation The intrigues of British and French diplomats in Texas aroused the United States, and the question was an important issue in the election of 1844 Texas was annexed in 1845, and the annexation was the principal cause of the Mexican War Texas was thus brought under the fifth of its six flags (Spanish, French, Mexican, Lone Star, United States, Confederate). It came under the sixth in 1861 when the state seceded from the Union and joined the Confederacy The planter class was strong and carried the state for the South despite the opposition of Sam Houston and his followers The chief contributions of Texas to the Confederacy in the Civil War were in many hard-fighting men and in provisions Reconstruction brought great lawlessness, aggravated by the appearance of roving desperadoes. The legacy of Reconstruction was, as in the rest of the South, the breakdown of the plantation system, the rise of tenant farming, the unsolved problem of white-Negro relations, and a solid hold of the Democratic party on state politics These results were, however, not so marked as elsewhere partly because much of the land was still unsettled, more perhaps because the Texas tradition is only partly Southern. The Western elements were strengthened greatly immediately after the Civil War, when stockraising became the dominant strain in Texas life From the open range and then from great fenced ranches Texas cowboys drove the cattle north over the long trails to the railheads in Kansas and even farther to the grasslands of Montana Even today the symbols of Texas are more the "ten-gallon" hat, the cattle brand, and spurs and saddles than any reminiscence of the Old South As the railroads pushed through, the farmlands

were rapidly settled from the 1870s on, and the small farmers (the "nesters") came into violent and even bloody conflict with the men of the great ranchers Many European immigrants—especially Germans and Bohemians (Czechs)—took part in the peopling of the plains and continued to come to Texas in the 20th cent , when many Mexicans also entered the rapidly industrializing state The transformation of Texas into a partly urban and industrial society was greatly hastened by the quick wealth of oil Though petroleum had been found around Nacogdoches by the time of the Civil War and commercial production began at Corsicana in the '90s, the first of the spectacular oil discoveries was Spindletop near Beaumont in 1901 Others came in more or less rapid succession over the years, on the Gulf Coast, in N Texas, in central Texas, in E Texas, and finally in W Texas Agriculture, cattle, oil, and varied chemical and manufacturing interests (greatly quickened in the Second World War) continued to feed the wealth and the growth of the state, which suffered less than most of the nation in the great depression of the 1930s Though the decline of cotton caused serious trouble, the shift to diversified agriculture and the introduction of many new crops (e g , peanuts and soybeans) prevented any wholesale suffering, and it is symptomatic that there has never been any sizable radical agricultural party in Texas Except for a small Republican stronghold in the Rio Grande Valley, all politics are conducted within the Democratic party, this fact does not prevent great variety Among the several distinguished governors, for example, John IRELAND was strictly conservative, and James S HOGG a liberal There has been more than a touch of flamboyance about many political careers, notably the flaming ups and downs of James E FERGUSON and his wife, Miriam A Ferguson, and the later campaigns of W Lee O'Daniel Chief institutions of higher learning are the Univ of Texas, Texas Agricultural and Mechanical College, Southern Methodist Univ , Baylor Univ , Texas Christian Univ , and the Rice Institute The state flower is the distinctive bluebonnet The early "classic" history of Texas is that by Henderson Yoakum (1856), and the old history by John Henry Brown (2 vols , 1892–93) as well as his *Indian Wars and Pioneers of Texas* (1896?) are still read See C W Ramsdell, *Reconstruction in Texas* (1910), J H Smith, *The Annexation of Texas* (1911), E C Barker, *Mexico and Texas* (1928), Federal Writers' Project, *Texas a Guide to the Lone Star State* (1940), George Sessions Perry, *Texas* (1942), L W Newton and H P Gambrell, *A Social and Political History of Texas* (latest ed), I M Steward and J L Clark, *The Constitution and Government of Texas* (latest ed), *Texas Almanac* (latest ed)

Texas, Agricultural and Mechanical College of, at College Station, land-grant and state supported, for men, chartered 1871, opened 1876 It has schools of agriculture, arts and sciences, engineering, and veterinary medicine It is organized on a military plan. The college has a firemen's training school, a museum, a radio station, and state research offices (entomology, fertilizer, forest, and wildlife)

Texas, University of, mainly at Austin, state supported, coeducational, chartered 1881, opened 1883 It has colleges of arts and sciences (with journalism), engineering (with architecture), fine arts (with music), and pharmacy, schools of commerce, dentistry (at Houston), education, law, and medicine (with a nursing college, at Galveston), and an institute of Latin American studies There are bureaus of research in anthropology, municipal government, radio education, social science, biochemistry, industrial chemistry, ceramics, brucellosis, zoology, economic geology, cotton, and Texas history, an industrial and commercial research council, museums of anthropology and geology, Texas Memorial Museum, and McDonald Observatory The library is especially rich in English literature and in Latin American and Texas history, there is a noted rare-books collection, including the Wrenn and Stark libraries The school owns valuable oil lands

Texas Christian University, at Fort Worth, coeducational, opened 1873, chartered 1874 by the Disciples of Christ, at Thorp Springs It moved to Waco in 1895 and to Fort Worth in 1910 Founded by Addison and Randolph Clark, it was called Add-Ran College or Add-Ran Christian Univ until 1902 It has a college of arts and sciences, schools of business, education, fine arts, and nursing, and Brite College of the Bible

Texas City, city (1940 pop 5,748, 1947 estimated pop 14,000), S Texas, on Galveston Bay and NW of Galveston, inc 1912 This industrial city and port expanded in the Second World War with a huge tin smelter (built 1941–42), chemical plants, and refineries Water-front buildings were leveled, about 500 lives were lost, and property worth millions was destroyed when the explosion of a nitrate-laden ship set off (April 16, 1947) a series of blasts and fires Rebuilding was rapid

Texas College of Mines and Metallurgy: see EL PASO

Texas Rangers, mounted fighting force organized (1835) in the midst of the Texas Revolution In the time of the republic they became established as the guardians of the Texas frontier, particularly against marauding Indians The Texas Rangers at first consisted of three companies of 25 men each Said to "ride like Mexicans, shoot like Tennesseans, and fight like the very devil," the rangers were unique as a picked police force in that they never drilled, were not required to salute officers, and had as their only standardized feature the six-shooter In their first decade of operation, the rangers effectively quelled lawlessness in Texas on frequent occasions, and in the Mexican War (1846–48) these ununiformed men served as scouts and guerrilla fighters, gaining a wide reputation for their valor and effectiveness In the late 1850s the rangers fought various battles with the Comanche, and in the Civil War, Terry's Texas Rangers gained renown In the Reconstruction era the Texas Rangers were continually engaged in controlling outlaws, feuding groups, and Mexican marauders and were responsible for keeping law and order along the Rio Grande In 1874 the Texas Rangers were organized for the first time on a permanent basis, six companies of 75 men each were constituted to defend the frontiers and act as peace officers The heyday of the great cattle business, with its feuds and shootings, its outlaws and "rustlers," was also the heyday of the The Texas Rangers In the 20th cent the police responsibilities of the rangers, around whom much lore had built up, decreased, and by 1935 their forces diminished considerably By act (1935) of the Texas legislature, the rangers were merged with the state highway patrol under the jurisdiction of the state department of public safety See W P Webb, *The Texas Rangers* (1935)

Texas State College for Women: see DENTON

Texas Technological College see LUBBOCK

Texas Western College: see EL PASO

Texcoco, Lake see MEXICO, city, and TENOCHTITLÁN

Texel (tĕk'sul, tĕ'sul), island (64 sq mi , pop 9,254) North Holland prov , NW Netherlands, in the North Sea The largest and southernmost of the West Frisian Islands, it is a breeding ground for sea birds and has grazing land for sheep raising

Texoma, Lake see DENISON DAM

textiles, all fabrics made by weaving, felting, knitting, braiding, or netting, from the various textile fibers (see FIBER) Yarns, fabrics, and tools for spinning and weaving have been found among the earliest relics of human habitations COTTON fiber has been spun and woven in India for some 30 centuries, and cotton fabrics of exquisite fineness were known there by the 5th cent B C American aborigines also wove both cotton and woolen cloth of fine texture from antiquity LINEN cloth has been used in the Nile valley since the 15th cent B C and silk in China for perhaps an equal span, DAMASK, SATIN, and other fine weaves developing early on primitive hand looms Early Greek graves have disclosed wool garments with borders woven and embroidered with colored threads India's ancient cashmere shawls are among the finest woolen textiles ever woven About the 4th cent , Constantinople began to weave the raw silk imported from China A century later silk culture spread to the Western countries, and textile making developed rapidly By the 14th cent splendid silks, wools, and linens were being woven on the hand looms of the Mediterranean countries in practically all the basic structures known to modern craftsmen, and there has been no change in fundamental processes since that time, although methods and equipment are radically altered Textiles are classified according to their component fibers into silk, wool, linen, and cotton, such synthetic fibers as rayon, nylon, and paper, and some inorganic substances, as CLOTH OF GOLD and glass and asbestos cloth They are also classified as to their structure or weave, according to the manner in which warp and weft cross each other in the loom (see WEAVING) Value or quality in textiles depends on several factors, such as the quality of the raw material used and the character of the yarn spun from the fibers, whether clean, smooth, fine, or coarse and whether hard, soft, or medium twisted Fineness of yarn is a most important factor, as in the ancient Indian shawls and muslins Density of weave and finishing processes are also important elements in determining the quality of fabrics TAPESTRY, sometimes classed as EMBROIDERY, is a modified form of plain cloth weaving The making of CARPET AND RUGS belongs to a special branch of textile industry Other specially prepared fabrics not woven are felt and bark (or tapa) cloth, which are beaten or matted together, and a few in which a single thread is looped or plaited, as in crochet and netting work and various laces. Modern textile manufacture is mostly carried on in factories, with highly specialized power looms, but many of the finest velvets, brocades, and table linens are still made by hand See Richard Glazier, *Historic Textile Fabrics* (1923), Perry Walton *The Story of Textiles* (new ed , 1936); Ethel Lewis, *The Romance of Textiles* (1937), M D Potter, *Fiber to Fabric* (1945). For books for the consumer, see G G Denny, *Fabrics* (5th ed , 1942), I B Wingate, *Textile Fabrics and Their Selection* (rev ed , 1942), Mary Woolman and E A McGowan, *Textiles* (3d ed , 1943), Lucy Rathbone and Elizabeth Tarpley, *Fabrics and Dress* (new ed , 1948)

Th, chemical symbol of the element THORIUM

Thackeray, William Makepeace (thă'kurē), 1811–63, English novelist He was born in Calcutta, India, where his father was in the service of the East India Company In 1817, after the death of his father, he was sent to relatives in England He attended Charterhouse from 1822 to 1828, but his school days there were very unhappy In 1829 he entered Trinity College, Cambridge, where he and Edward FitzGerald became intimate friends In 1830 Thackeray left Cambridge without a degree and traveled in France and Germany Upon his return to England, he entered the Middle Temple to study law, this venture provided him with little save experiences which he later used in *Pendennis* In 1833 he became editor of a periodical, the *National Standard*, but in the following year he settled in Paris to study art He had by this time lost all of his patrimony, partly through gambling and partly through the failure of a Calcutta bank In Paris he met Isabella Shawe, whom he married in 1836 He returned to England in 1837, supporting himself and his wife by literary hack work and by illustrating Four years later occurred the tragedy of his life his wife became hopelessly insane at the birth of their third daughter In 1837–38 in *Fraser's Magazine* had appeared his "Yellowplush Correspondence," satiric thrusts at the popular writer of fiction, Bulwer-Lytton Bulwer-Lytton was also ridiculed in *Catherine* (1839–40) and *Barry Lyndon* (1844) and, with Disraeli and others, in *Novels by Eminent Hands* (1847) Throughout the 1830s and '40s Thackeray's novels were appearing serially together with miscellaneous writings in several magazines, chief among them being *Fraser's* and *Punch* Between 1842 and 1846 Thackeray became involved in a relationship with the wife of his old friend, Rev William Brookfield, the affair was probably innocent, but it was terminated at the protest of the husband In 1848 Thackeray achieved real popularity with his satirical *Book of Snobs* and in the same year rose to major rank among English novelists with *Vanity Fair*, with its famous description of the battle of Waterloo His reputation was increased in 1850 with the completion of the partly autobiographical *Pendennis* In 1851 he delivered a series of lectures, *English Humorists of the Eighteenth Century*, which he repeated in a tour of the United States in 1852–53 In 1852 had appeared his novel of 18th-century life, *Henry Esmond* *The Newcomes*, in which some of the characters of *Pendennis* reappear, came out serially in 1853–55 In 1855–56 he delivered in the United States another series of lectures, entitled *The Four Georges* (pub 1860) His next novel, *The Virginians* (1857–59), is a continuation of the Esmond story and contains material based on his American tour In 1860 Thackeray became editor of the newly founded *Cornhill Magazine*, but he soon resigned His last novels, however, appeared in its pages—*Lovel the Widower* (1860), *The Adventures of Philip* (1861–62), and the unfinished historical romance, *Denis Duval* (1864) Thackeray's parodies of and satires against romantic sentiment probably represent the recognition and distrust of sentimentality in himself A man of satirical, if not cynical nature, he expressed the futility and vanity of human life He had been disillusioned by life, and this disillusionment is reflected in his work A man of genius, he wrote only under financial pressure and hated the necessity of making a living The most complete edition of his works includes introductions by his daughter Anne, Lady Ritchie (26 vols , 1910–11) His *Letters and Private Papers* (4 vols , 1945–46) were edited by G N Ray Some of the more recent biographies and studies are G E B Saintsbury, *A Consideration of Thackeray* (1931), H N Wethered, *On the Art of Thackeray* (1938), John W Dodds, *Thackeray a Critical Portrait* (1941), Lionel Stevenson, *The Showman of Vanity Fair* (1947), Laura Benét, *Thackeray of the Great Heart and Humorous Pen* (1947)

Thaddaeus (thădē'us), apostle see JUDE, SAINT

Thahash (thā'hăsh), son of Nahor Gen 22 24

Thailand (tī'lănd, –lund), kingdom (198,242 sq mi , pop 17,324,291, SE Asia, before 1939 and during 1945–49 known officially in English-speaking countries as Siam Bangkok is the capital Thailand lies between Burma and Indo-China, and a southward extension into the Malay Peninsula gives it a long coast line on the Gulf of Siam The heart of the country, the central plain, is given over almost entirely to rice culture and is watered by the Menam and lesser rivers In this thickly populated basin are Bangkok and the old capital, Ayuthia In the northwest, Thailand is mountainous, teak is cut in the extensive forests, hauled to the rivers by elephants, and floated to market The principal city is Chiang Mai The mountains stretch south along the boundary with Burma on the west Most of E Thailand is occupied by the Korat plateau, a region of pastures and forests where (as in the mountain areas) livestock raising is dominant in the

agricultural economy. Peninsular Thailand (which includes PHUKET and other offshore islands) is largely jungle, tin, tungsten, and rubber are produced and exported, but in far less quantity than from the states of Malaya to the south. Besides rice, of which a surplus is normally available for export, crops include tobacco, pepper, coconuts, betel nuts, and sesamum. Second in importance to Thailand's farms are its marine and fresh-water fisheries. Mineral resources other than tin (gold, lead, gems) are exploited on a small scale, salt is an important product of the Korat plateau, lac is cultivated in some sections. Apart from rice mills and sawmills, industrial plants are few and are clustered in and around Bangkok. Trade is chiefly in the hands of the large Chinese minority, and as a consequence there is tension between Thais and Chinese. Like other countries of SE Asia, Thailand was peopled through successive migrations from central Asia into territory inhabited by primitive Negrito tribes. Groups of low material culture still survive in the mountains and jungles, while in the more settled areas Malays, Annamese, Khmers or Cambodians, and Mons can still be distinguished from the dominant Thai or Siamese. Most of the people are Buddhists. When the migrants from central Asia reached the central plain of Siam, they came into contact with Indian culture, and Hinduized city-states were founded. These in turn had to struggle against new incursions from the north and from Burma, as well as against the rising power of the KHMER EMPIRE, which became dominant A.D. c 1000 in the Menam valley and on the Korat plateau. In the 13th cent. the Khmers were expelled by the Thai king of Sukhothai, on the upper Menam. The power of Sukhothai extended briefly over all of S Siam, Luang Prabang, and the Malay Peninsula. Its decline was hastened by the rise of a new line of Thai kings, they founded Ayuthia (c 1350), and the history of modern Siam was begun. After consolidating their power in S Siam and the Malay Peninsula, the lords of Ayuthia launched the long series of indecisive wars against the Lao state of Chiang Mai and against Cambodia which were to end only in the 19th cent. The 16th cent. saw the beginnings of warfare with the Burmese and the first contacts with Europeans. For nearly a century after 1511, Portuguese traders and missionaries dominated Siam's relations with the West. In the early 17th cent. the Dutch and British broke Portugal's monopoly. Later the French (aided by the Greek adventurer Constantine Phaulkon, who had risen to power at the Siamese court) launched a bid for dominance in Siam that called forth an antiforeign coup d'état (1688). Phaulkon was killed, and Siam was closed to most foreigners for over a century. The Burmese destroyed Ayuthia (1767), the Siamese rallied and restored their state, but the capital was shifted to Bangkok. In 1782 the Chakkri dynasty, thereafter the ruling house, came to the throne. In the 19th cent., the authority of Bangkok was at last established over N Siam, but the independence of the kingdom was threatened when Great Britain extended her sway to Malaya and Burma, while France carved out an empire in Indo-China. By opening their ports to European trade, by bringing in Western advisers, by strengthening the central administration as against the hereditary provincial chieftains, and by playing off British against French interests, the Siamese managed to stay free. Even so, the establishment of Siam's boundaries meant the surrender of its claims to Laos (1893) and parts of Cambodia (1907) and of its suzerainty over Kedah, Perlis, Kelantan, and Trengganu (1909). The modernization of Siam took place under an absolute monarchy and was chiefly the work of Mongkut (reigned 1851–68) and CHULALONGKORN (reigned 1868–1910). In 1932 a coup d'état forced PRAJADHIPOK (reigned 1925–35) to grant a constitution, but the movement towards democratization was checked in 1938 by the accession to power under Ananda (reigned 1935–46) of Luang Pibul Songgram, leader of the military party. Thailand took advantage (1940) of the French defeat in the Second World War to renew its claims in Cambodia and Laos. Japanese "mediation" resulted (1941) in concessions to Thailand. Thailand was occupied by Japanese troops in Dec., 1941, and in 1942 the government of Luang Pibul declared war against Great Britain and the United States. In 1943 Japan "granted" to Thailand territory in N Malaya and in the Shan States. In 1944 Luang Pibul was replaced. The existence of an anti-Japanese underground won Siam moderate treatment at the end of the war, though it was forced to return the territories acquired in 1941 and 1943 to French and British control. Inflation, corruption in government, and the mysterious death of King Ananda (1946) all contributed to the overthrow of the post-war ministerial government by a new coup (1947) under the leadership of the former dictator, now known as Phibun Songgram, who became premier again in 1948. After 1946 the limited royal power was exercised by a regency for King Phumiphon, who succeeded to the throne while at school in Switzerland; in March, 1950, Phumiphon returned to Thailand to prepare for his coronation. See W. A. Graham, *Siam* (2d ed., 1924); Virginia Thompson, *Thailand* (1941), Ralph Linton, ed., *Most of the World* (1949)

Thaïs (thā'ĭs), 4th cent. B.C., Athenian courtesan. At best semihistoric, she is said in romantic story to have been the mistress of Alexander the Great and later the mistress of the king of Egypt. Legend also says that she persuaded Alexander to burn Persepolis, this story is patently false.

Thaïs, fl. 4th cent. A.D., legendary Alexandrian courtesan. She was beautiful, wealthy, and licentious but was converted to a life of Christian piety and penitence by St. Paphnutius. Other stories make Bessarion her opponent. The story probably has no basis in fact. It supplied a framework for a novel by Anatole France, about which Massenet composed his opera *Thaïs*.

Thales (thā'lēz), c 636–c 546 B.C., Greek Milesian philosopher, one of the Seven Wise Men of Greece. He was said to have predicted the eclipse of May 28, 585 B.C. Thales, generally conceded to be the first Greek philosopher, substituted scientific for mythological interpretations in his study of the nature of the physical world. He believed that water was the origin of all things—the basic stuff of all matter out of which everything arose and into which everything resolved itself. This assumption implied the unified character of all things, carrying with it the idea that nature could be understood on rational grounds without reference to the supernatural. Thales was renowned in his day as an astronomer, a statesman, and a mathematician.

Thalia (thul'ĭə), name of one of the MUSES, also name of one of the GRACES.

thallium (thă'lēum), rare metallic element, soft and malleable (symbol=Tl, for physical constants, see ELEMENT, table). It tarnishes in air, forming an oxide, and it combines with various elements to form salts. All of these are poisonous. Some were formerly employed in depilatories, but their use is now prohibited. The element is present in pyrites and is found in the ores of a few metals. It is obtained from flue dust produced by certain ores. The metal is used in alloys, as with lead. Small quantities are used in making optical glass and some other products. Discovered spectroscopically in 1861 by Sir William Crookes, thallium was isolated independently by Crookes and by C. A. Lamy in 1862.

Thamah (thā'mu), variant of TAMAH.

Thamar (thā'mar), variant of TAMAR 1.

Thame (tām), river rising in Buckinghamshire, England, just N of Aylesbury and flowing 40 mi. SW across Oxfordshire to the Thames near Dorchester.

Thames (tĕmz), river in S Ontario, rising NNW of Woodstock and flowing 163 mi. SW past London and Chatham to Lake St. Clair WSW of Chatham. It is navigable to Chatham, near which was fought (1813) the battle of the Thames (see THAMES, BATTLE OF THE) in the War of 1812.

Thames (tĕmz), and *Tamesis*, principal river of England. It rises in Gloucestershire on the east slope of the Cotswold Hills in four headstreams: the Thames or Isis, rising near Cirencester, the Churn, rising SSE of Cheltenham, the Coln, rising ESE of Cheltenham, and the Leach, rising ENE of Cirencester. The stream bounds part of Gloucestershire, Oxfordshire, Buckinghamshire, Middlesex, Essex, Wiltshire, Berkshire, Surrey, and Kent and flows through London co. In its upper course—about and above Oxford—it is often called Isis. The tributaries include the Kennet, Loddon, Wey, Mole, Darent, Medway, Windrush, Cherwell, Thame, Lea, and Roding. It is joined by canals (including the Oxford, Thames and Severn, and Grand Junction) with a wide area and is navigable by barges to Lechlade, Gloucestershire, below which there are a number of locks, it is tidal to Teddington. The part of the stream near London Bridge is known as the Pool. The port of London stretches from London Bridge to Blackwall. The Thames Conservancy Board was established in 1857, the docks and tidal part of the river have been administered by the Port of London Authority since 1909. Part of the river is of great beauty, is much used for boating, and is still popular for fishing. The total length, Thames Head to the Nore, is 210 mi., the width at London Bridge is about 900 ft., at Gravesend 2,700 ft. The upper valley of the Thames is a broad, flat basin of alluvial clay soil, through which the river winds and turns in constantly different directions. At Goring Gap the valley narrows, dividing the Chiltern Hills from the Berkshire Downs. The lower valley forms a second broad basin. The land around the river was formerly marshy fen, and the ancient roads were far from the river banks. In the Middle Ages the valley was very prosperous, with many famous religious houses and several large towns, including Oxford, Reading, and Windsor. The absence of coal has militated against the growth of industrial towns, and, up to London, the valley is predominantly agricultural, with scattered villages. Among many interesting archaeological discoveries made in the valley are fossils of sea shells and a human skull of the Paleolithic period. In London the river is crossed by 15 bridges, including LONDON BRIDGE, Westminster Bridge (built 1739–50; rebuilt 1862), Waterloo Bridge (built 1811–17; rebuilt 1935–44), and Tower Bridge (built 1894). See F. V. Morley, *River Thames* (1926), H. M. Tomlinson, *Below London Bridge* (1934), E. Arnot Robertson, *Thames Portrait* (1937), Robert Gibbings, *Sweet Thames Run Softly* (1940).

Thames, battle of the, engagement fought on the Thames river near Chatham, Ont. (Oct. 5, 1813), in the War of 1812. Gen. William H. HARRISON led an American force of about 3,000 against a British army of about 800 regulars commanded by Gen. Henry A. Proctor, reinforced by 1,200 Indians under TECUMSEH. After driving the British from Detroit, Harrison followed their retreating army into Ontario and up the Thames river until General Proctor was forced to give battle. A cavalry charge, led by Col. Richard M. Johnson, broke the British ranks, and the Indians offered the only real resistance. Tecumseh was slain in battle, thus completely destroying the Indian confederacy he had raised against the United States. By the battle of the Thames, U.S. control in the Northwest was restored.

Thanet, Octave: see FRENCH, ALICE.

Thanet, Isle of (thă'nĭt), island forming the northeast portion of Kent, England, bounded by the sea and branches of the Stour river. It terminates in North Foreland, which has a lighthouse. The isle was occupied by the Romans, who had a fort guarding the Wantsume, the channel of which has long since dried up. The surface is generally low, but cliffs form part of the shores. Most of the towns, which include Ramsgate, Margate, and Broadstairs, are seaside resorts.

Thanksgiving Day, national holiday in the United States commemorating the harvest reaped by the Plymouth Colony in 1621, after a winter of great starvation and privation. In that year Gov. William Bradford proclaimed a day of thanksgiving, and the feast was shared by all the colonists and the neighboring Indians. Although similar observances were held locally, they were sporadic and at no set time. The first national Thanksgiving Day, proclaimed by Washington, was not until Nov. 26, 1789. Lincoln, urged by Mrs. Sarah J. Hale, revived the custom in 1863, appointing as the date the last Thursday of November, thus stabilizing the month. Until Franklin D. Roosevelt, who in 1939, 1940, and 1941 proclaimed Thanksgiving the third Thursday in November, succeeding presidents have set apart the same day. Because of contradiction between Roosevelt's proclamation and some of those of state governors, Congress passed a joint resolution in 1941 decreeing that Thanksgiving should fall on the fourth Thursday of November. The day is observed by church services and family reunions, the customary turkey is a reminder of the four wild turkeys served at the Pilgrims' first thanksgiving feast. See Ralph Linton and Adelin Linton, *We Gather Together* (1949)

Thapsacus (thăp'sukus), ancient city, N central Syria, on the Euphrates. It was at a ford, which was the chief river crossing for many hundreds of miles and was used by various conquerors, including Alexander the Great. It is the Tiphsah of 1 Kings 4:24.

Thapsus (thăp'sus), ancient town, on the coast of Tunisia, c 100 mi. SSE of Carthage. In 46 B.C., Julius Caesar was besieging the town, the last stronghold of Pompey's party, when Metellus Pius SCIPIO and the Numidians offered battle and were defeated, with a tremendous loss of men. This ended opposition to Caesar in Africa.

Thara (thā'ru), variant of TERAH.

Tharshish (thar'shĭsh) **1** Benjamite. 1 Chron. 7:10. **2** Variant of TARSHISH 1.

Thasos (thā'sŏs), island (170 sq. mi., pop. 13,829), off Macedonia, in the N Aegean Sea, belonging to Greece. Olive oil, wine, timber, and lead-zinc ores are its chief products; stock raising and fishing are important occupations. In legend its earliest colonists were led by Thasus, son of Poseidon. It was famous in ancient times for its gold mines, which were exploited by the Phoenicians. In 708 B.C., Thasos was colonized by Parians, among them the poet Archilochus. It was subdued by the Persians and later fell to Athens. A revolt was put down by Cimon in 463 B.C. In the 14th and 15th cent. Thasos was held by the Genoese, then by the Venetians.

Thatch, Edward: see BLACKBEARD.

Thatcher, town (pop. 1,106), SE Ariz., NE of Tucson, in an irrigated farming area in the Gila valley, founded 1881 by Mormons. It has a junior college.

Thaulow, Fritz (tou'lō), 1847–1906, Norwegian landscape painter, studied in Paris and was influenced by impressionism. He painted canals, riverbanks, and snow scenes in a style at once bold and true to nature. His *Winter in Normandie* (Luxembourg Mus., Paris) is characteristic. Thaulow is represented in various Swedish galleries and in the Walters Art Gallery, Baltimore.

Thaxter, Celia Laighton, 1835–94, American poet, b. Portsmouth, N H. Her successive homes on the Isles of Shoals off New Hampshire gave the background for her poems in *Drift-Weed* (1879) and other volumes and for the prose *Among the Isles of Shoals* (1873) See her letters (ed by Annie Fields and Rose Lamb, 1895).

Thaxter, Roland, 1858–1932, American botanist, b Newton, Mass , grad Harvard (B A , 1882, Ph D , 1888); son of Celia Thaxter He became assistant professor (1891), then professor (1901, professor emeritus from 1919) of cryptogamic botany at Harvard From 1888 to 1891 he was mycologist at the Connecticut Agricultural Experiment Station He wrote numerous scientific papers and monographs and after 1907 was the American editor of the English *Annals of Botany*

Thayer, Abbott Handerson (thâr), 1849–1921, American painter, b Boston, studied in Paris with Gérôme and at the École des Beaux-Arts Known first as a painter of animals and of landscapes, he became noted for his idealized figures of women, among these *The Virgin* (Freer Gall of Art, Washington, D C), *Caritas* (Mus of Fine Arts, Boston), and *Young Woman* (Metropolitan Mus) He also did some excellent work in portraiture—*The Artist's Son* and *The Artist's Daughter* (Freer Gall) and a portrait of Alice Freeman Palmer (Wellesley College) His landscape *Monadnock* is in the Metropolitan Museum, and a fine still life, *Roses*, is in the Worcester (Mass) Art Museum With his son Gerald Thayer, he wrote *Protective Coloration of the Animal Kingdom* (1909), which was used in camouflaging in the First World War Thayer became a member of the National Academy of Design in 1901

Thayer, Eli, 1819–99, American abolitionist, b Mendon, Mass , grad Brown, 1845 He was a Free-Soiler in the Massachusetts legislature (1853–54), organized the New England EMIGRANT AID COMPANY for sending antislavery settlers to Kansas, and was a Republican member of the House of Representatives (1857–61) He wrote *A History of the Kansas Crusade* (1889)

Thayer, Joseph Henry, 1828–1901, American clergyman and New Testament lexicographer, b Boston, grad Harvard, 1850, and Andover Theological Seminary, 1857 He was professor of sacred literature (1864–82) at Andover Theological Seminary and from 1884 was professor of New Testament criticism and interpretation at Harvard Divinity School He translated German grammars of the Greek New Testament—that of Winer in 1869 and that of Buttmann in 1873 In 1887 appeared the scholarly *Greek-English Lexicon of the New Testament* (a revised and enlarged translation by Thayer of Grimm's edition of Wilke's *Clavis Novi Testamenti*)

Thayer, Sylvanus, 1785–1872, American soldier and educator, b Braintree, Mass , grad Dartmouth, 1807, and West Point, 1808 During the War of 1812 he served as an engineer, and afterwards he was sent to Europe to study military schools and fortifications From 1817 to 1833 he served as superintendent at West Point, which he so thoroughly reorganized, placing it on a sound basis, that he is known as the "father of the Military Academy " He endowed an academy at Braintree and established and endowed (1867) the Thayer School of Civil Engineering at Dartmouth

Thayer, William Sydney, 1864–1932, American physician, b Milton, Mass., M D Harvard, 1889 Affiliated with Johns Hopkins from 1891, he was associate and later successor of Osler A noted diagnostician and an authority on internal medicine, he made special studies of malaria, typhoid fever, and endocarditis His works include books on medicine and a biography of Osler See biography by E G Reid (1936)

Thayer, city (pop. 1,692), S Mo , at the Ark line, in a timber and farm area, settled 1882, inc 1890.

theater, term which includes almost everything connected with dramatic art, e g , the drama itself, the building in which it is performed, the acting, and the scenery Although it takes various forms, the theater, as some form of dramatic expression, can be found in every historical period and in every part of the world In nearly all cultures drama can be traced to ceremonies connected with religious rites. There is a record of an Egyptian passion play, written before 2000 B C , which is based on the death and resurrection of the god Osiris Greek drama, to which all Western drama owes its character, originated in the ceremonial worship of the god Dionysus, in whose honor at certain times of the year the people put on masks and danced and sang Thespis is said to have stepped out from the group c 534 B C and recited certain passages alone When Aeschylus added a second actor, the theater as we know it was born The Greek theater, which reached its height in 5th-century Athens, made use of traditional stories, a chorus which commented on the action, and highly conventionalized acting. The theater was open air, and the performance took place in the bottom of a natural bowl (the orchestra or dancing place), with the seats in horizontal rows on the sides of the hills, as in a modern stadium The annual dramatic festival, in which dramatists competed for the prize, was an important part of the religious and communal life of ancient Greeks After Aeschylus the great writers of tragedies were Sophocles and Euripides; the best-known writer of comedies was Aristophanes Although the cultural traditions were similar, the theater in Rome never achieved the same importance that it did in Greece Neither the tragedies of Seneca nor the comedies of Plautus and Terence were on the same level as Greek drama at its best Under the Roman Empire the theater degenerated and later, in the face of the opposition of the Christian Church, virtually disappeared. Meanwhile in the Orient the theater, as in early Greece, was evolving from religious ritual into a secular drama The classic period of the Hindu theater was approximately from A D 300 to 800 Limited to the higher castes, Hindu drama was presented at royal courts without any stage or scenery It was governed by very complicated rules, and Hindu traditions did not allow violence, sharp conflicts, or strong emotions to be presented The most famous Hindu plays are *Sakuntala* by Kalidasa and *The Little Clay Cart*, both of which have been frequently translated into English In Burma, Cambodia, and Java the theater has always remained closely attached to religion, and the drama in those countries is dependent mainly on singing, dancing, and pantomime In Java the shadow play, first with puppets and later with human actors, was highly developed and has survived into modern times In China symbolic dances go back to earliest history, but the theater as it survives today was founded, according to tradition, by Emperor Ming Huang A D c 700 Unlike that of India, the Chinese theater is popular rather than aristocratic and literary The story is stereotyped and unimportant The drama depends on the music, the costumes, and the highly conventionalized gestures of the actors Every movement and pose of the actors represents a definite emotion In modern times the Chinese actor Mei Lan-fang has been acclaimed throughout the world In Japan there are two types of theater, the *no* play (see JAPANESE DRAMA) and the *kabuki*, the popular drama In medieval Europe, Greek and Roman dramas were almost forgotten, and another form of theater evolved out of the rituals of the Church. In the 10th cent HROSWITHA, a Benedictine nun, wrote six comedies somewhat in the style of Terence but on religious themes By the 13th cent the MIRACLE PLAY was popular throughout Western Europe The plays gradually became more secular, and farcical situations were introduced, as in the *Second Shepherds' Play* The first wholly secular play in English was *Ralph Roister Doister* (pub 1566) by Nicholas Udall In the Renaissance the Roman plays of Seneca and Plautus were revived, especially in Italy Also in Italy, sometime in the 16th cent , the COMMEDIA DELL' ARTE, a thoroughly professional theater, arose This type of comedy had no fixed script, but depended on stock situations, stock characters, and improvised dialogue It had an important influence on Shakspere and Molière The PUPPET plays, which go back to ancient times, were also popular in Western Europe throughout the Middle Ages and reached their best-known form in Italy in the 16th and 17th cent The Italian *Punchinello* became Punch in English, and Punch-and-Judy characters have continued to our own time In 17th-century Italy modern OPERA was born In Spain the great dramas of this period were written by Lope de Vega Carpio and Pedro Calderón de la Barca In England in the late 16th and early 17th cent the great Elizabethan dramatists were rising to fame Shakspere, Marlowe, Ben Jonson, John Webster, Thomas Dekker, Massinger, Thomas Middleton, and John Ford In London, theater buildings sprang up—the Theatre (1576), probably the first playhouse with which Shakspere was connected, the famous Globe (1599), the Rose (1587), and the Swan (1594)—and throughout England comedies and tragedies, plays in prose and verse, as well as masques, were extremely popular Chief among the actors of the period were Richard Burbage and Philip Henslowe In theater architecture and settings the great name was Inigo Jones During the Puritan ascendancy (1642–60) theaters were officially closed William D'Avenant, however, presented his opera *The Siege of Rhodes* before a small audience at Rutland House in 1656 This performance saw the introduction of women to the English stage in the person of Mrs Colman In Shakspere's time women's parts had been taken by boys The Restoration period was a time of great theatrical activity There were two licensed theaters, D'Avenant's and Thomas Killigrew's. Among the famous actors of the time were Thomas Betterton and his wife (Mary Saunderson), Mrs Bracegirdle, and Nell Gwyn. Dryden, Wycherley, Congreve, Otway, Farquhar, Etherege, Vanbrugh, and Aphra Behn were leading Restoration dramatists The 17th cent was the most important period of the French theater. Until 1629 the only theater in Paris was the Hôtel de Bourgogne, but in that year a rival theater, the Théâtre du Marais, was opened; its chief dramatist was Pierre Corneille, whose *Cid*, first played in 1637, was the first great French tragedy Molière, both writer and actor of comedies, played first in the provinces, in 1658 he was summoned to Paris to play before the king. The third great French dramatist, Jean Racine, made his debut in 1664. The interest of Louis XIV in the theater led to the founding of the state theater, the Comédie Française, in 1680, its influence was toward a strict classicism The chief figure of the French theater in the 18th cent was Voltaire, who strove to make acting an honored profession The greatest actor of the period was Talma Among the actresses were Adrienne Lecouvreur and Marguerite Montansier Italy produced two dramatists in this century, Goldoni and Gozzi In England it was a period of great actors—Colley Cibber, David Garrick, Peg Woffington, and the Kembles (including Mrs Siddons) John Gay's *Beggar's Opera* (the first English comic opera) opened in 1728 After 1737 only two theaters were licensed, Drury Lane and Covent Garden The latter was the scene of two great comedies, Oliver Goldsmith's *She Stoops to Conquer* (1773) and Richard Sheridan's *Rivals* (1775) The German theater was of comparatively late development Before the 18th cent the only important name in German drama was that of the Nuremberg meistersinger Hans Sachs, who in the 16th cent produced over 200 plays When Johann Christoph Gottsched undertook to reform the German stage in the early 18th cent , there were no great native dramas, and all theatrical performances were dominated by the buffoonery of the HANSWURST For some time Gottsched and the talented actress and producer Karoline Neuber worked together, but in 1739 they quarreled and Gottsched established his own company in Leipzig Until c 1775 most of the plays presented in Germany were translations from the French At that time Shakesperian drama began to be popular, and with the plays of Lessing, Goethe, and Schiller a great native drama was born Weimar became the literary and theatrical center. The romantic movement in the early 19th cent brought many changes into the European theater In France, Hugo, Dumas fils, and others wrote plays which violated the classic rules, and in England almost all the famous poets, including Shelley and Byron, attempted to restore poetic drama to the English theater But the 19th-century theater as a whole belonged to the actors rather than the playwrights The number of theaters increased tremendously, especially in London, Paris, and Berlin The most popular plays, however, were revivals The audiences went to see great actors, such as Edmund Kean, the Kembles, Macready, and Mme Vestris, and later Ellen Terry, Beerbohm Tree and Henry Irving, rather than to see a new, significant play On the Continent great actors such as Salvini, Coquelin, Rachel, and later Sarah Bernhardt and Eleonora Duse dominated the stage Toward the close of the century, however, important new plays appeared Under the influence of Henrik Ibsen, a realistic drama which dealt with social problems and was often close to the speech of ordinary people spread throughout Europe Its influence can be seen in the plays of George Bernard Shaw and, in a very different manner, in the plays of Tolstoy, Anton Chekhov, Johan Strindberg, Arthur Schnitzler, and Gerhart Hauptmann The tendency away from conventionality to realism can also be seen in the more realistic scenery and the more natural acting Technological advances made possible the illusion of greater reality on the stage Improvement in lighting, for example, enabled the actors to make use of facial expressions rather than having to depend on sweeping gestures In the United States the theater had been popular from colonial days But there were few American playwrights of any note in the 19th cent , and the theater depended on revivals and on great actors, the most famous of which was Edwin Booth Other famous actors included the much-loved Joseph Jefferson, Edwin Forrest, Modjeska, Ada Rehan, and, in the 20th cent , the Barrymores, Maude Adams, Richard Mansfield, and Mrs Fiske Augustin Daly and Steele MacKaye were important producers, and Bronson Howard and Clyde Fitch were realistic playwrights. In theater building itself, the 19th cent saw the disappearance of the forestage or apron which had extended into the orchestra, the removal from the stage of boxes for spectators, and the lengthening of the auditorium from a semicircular to its present ovoid form Many experiments in theater design were undertaken in the early 20th cent , especially in Germany Among notable stage designers of the modern theater are Max Reinhardt, Max Littman, and the Americans Robert Jones, Lee Simonson, and Norman Bel Geddes. The chief innovation in Western drama in the early 20th cent was the growth of the Little Theater movement Dissatisfied with the established commercial theater, André Antoine in the late 19th cent established a Théâtre Libre in Paris The idea of a theater free from tradition and the demands of immediate commercial success spread throughout Europe. The most famous were the Moscow ART THEATRE and the ABBEY THEATRE in Dublin, which produced

plays by W B Yeats and J. M. Synge In the United States three important Little Theaters were formed in 1915· the Provincetown Players, which produced the early plays of Eugene O'Neill; the Neighborhood Playhouse, and the Washington Square Players, which later developed into the Theatre Guild These new groups, stimulated by George Pierce Baker's 47 Workshop at Harvard, influenced the establishment of Little Theaters throughout the country Among the most notable are those in Pasadena, Cleveland, Detroit, and Dallas In recent years important theater groups have been organized by many colleges In 1935–39 the U S government sponsored the Federal Theatre Project, which brought the theater into many communities where it had been almost forgotten since the advent of MOVING PICTURES The project also provided jobs in the theater for thousands of actors, writers, designers, and directors In recent years many new experiments have taken place in both the American and European theater, and the years since 1920 have witnessed expressionist plays by Ernst Toller (in Germany), Luigi Pirandello (Italy), and Eugene O'Neill and poetic drama by T S Eliot and Maxwell Anderson, as well as prose dramas by Jean Giraudoux, Jean Cocteau, and André Gide in France and Sidney Howard, S N Behrman, Philip Barry, Clifford Odets, William Saroyan, Lillian Hellman, Tennessee Williams, and Arthur Miller in the United States Popular musical comedies have been written by Richard Rodgers and Oscar Hammerstein 2d and others, and music dramas by Gian-Carlo Menotti In these musical plays, dancing (especially ballet) has become prominent once again As a whole, however, the theater today, as distinct from the early forms in Greece, emphasizes the importance of the original play and naturalness and simplicity in acting, scenery, and costume See COMEDY, DANCE, MASQUE, MOVING PICTURES, PANTOMIME, STAGE DESIGN, TRAGEDY, articles on individual actors and dramatists See Glenn Hughes, *History of the Theatre* (1928), Sheldon Cheney, *The Theatre* (1929), Oscar Cargill, *Drama and Ritual* (1930), Allardyce Nicoll, *The Development of the Theatre* (new ed , 1937), Margarete Bieber, *The History of the Greek and Roman Theater* (1939), Edmund Fuller, *A Pageant of the Theater* (1941), Thomas Parrott and R H Ball, *A Short View of Elizabethan Drama* (1943), Barrett Clark and George Freedley, ed , *A History of Modern Drama* (1947), Barrett Clark, ed , *European Theories of the Drama* (rev ed , 1947), E M Gagey, *Revolution in American Drama* (1947)

Théâtre Français see COMÉDIE FRANÇAISE

Theatre Guild, organization formed in 1919 by members of the Washington Square Players, New York city, and financed at first by Otto H Kahn, later largely by subscription It had as its directors Philip Moeller, Lawrence Langner, Rollo Peters, Maurice Wertheim, Lee Simonson, Theresa Helburn, and Helen Westley The group rented the Garrick Theater and opened with Benavente's *Bonds of Interest* In 1925 the Guild opened the theater which it had built on 52d St Its success was continuous, and in 1927 it began to present plays outside New York city and in several New York theaters Among the Guild's productions have been *John Ferguson, R U R , Marco Millions, Strange Interlude, Heartbreak House, Saint Joan, The Adding Machine, Goat Song, Porgy, Mourning Becomes Electra, The Time of Your Life, Oklahoma!* and *The Iceman Cometh* The Guild dramatists include Shaw, Eugene O'Neill, Molnar, Sidney Howard, S N Behrman, Elmer Rice, Franz Werfel, Maxwell Anderson, and William Saroyan Among those who have appeared in Guild plays are Pauline Lord, Alice Brady, Ina Claire, Joseph Schildkraut, Alfred Lunt, Lynne Fontanne Helen Hayes, Philip Merivale, Otto Kruger, and George M Cohan See W P Eaton, *The Theatre Guild the First Ten Years* (1929), Harold Clurman, *Fervent Years* (1945); E M Gagey, *Revolution in American Drama* (1947).

Thebes (thēbz), city of ancient Egypt LUXOR and KARNAK now occupy parts of its site, which is famous for its magnificent ruins of temples, statues, obelisks, and tombs, including that of TUTANKH-AMEN. The city developed at a very early date from a number of small villages, particularly one around modern Luxor (then called Epet), but remained relatively obscure until the rise of a Theban family which established the XI Dynasty (c 2160 B C) The city rapidly became prominent as the royal residence and as a seat of the worship of the god AMON At Thebes, also, was the necropolis where the kings and nobles were entombed in great splendor in crypts cut into the cliffs on the west bank of the Nile The city's greatest period was that of the empire, during which it served as a reservoir for the immense wealth which poured in from the conquered countries The temples built to Amon at this time are still among the most impressive sights at Thebes As the empire began to decay and the locus of power to shift to the Nile delta, Thebes went into decline For a time in the 11th cent B C., it was a separate political entity under sacerdotal rule. Thebes was sacked by the Assyrians in 661 B.C., an event referred to in the Bible (Nah 3 8–10), where the city is called No [city]. The Romans sacked it in 29 B C , and by 20 B C. a Greek visitor to the site reported only a few scattered villages Though great damage has been done to the ruins at Thebes, they are still among the most splendid in the world, and the site of the ancient city has been the scene of much important archaeological work See J H. Breasted, *A History of Egypt* (1929), James Baikie, *A History of Egypt* (1929)

Thebes (thēbz), chief city of Boeotia, in ancient Greece. It was traditionally founded by CADMUS, for whom its strong fortress or acropolis (the Cadmeia) was named Thebes is rich in associations with Greek legend and religion, as such names as LAIUS, OEDIPUS, the SEVEN AGAINST THEBES, EPIGONI, and SPHINX, all involved with the city, attest In Greek history the city played an important part Sometime before 1000 B C , it was settled by Boeotians and rapidly became their leading city At the end of the 6th cent B C began its opposition to Athens and its struggle to maintain its position in Boeotia and in Greece In the Persian Wars, Thebes, motivated by hostility to Athens, sided with the Persians Upon the defeat of the Persians, Thebes was punished, and only the intervention of Sparta, which saw in the city a balance to the power of Athens, saved it from destruction Thebes supported Sparta against Athens in the Peloponnesian War but, fearing Spartan territorial ambitions, withdrew this support and joined the confederation against Sparta in 394 B C Sparta was able to place a garrison in Thebes in 382 B C , but the city was freed by one of its great generals, Pelopidas, three years later This freedom was insured by the Spartan defeat at Leuctra (371 B C) by Theban forces under Epaminondas, another famous military leader of the city Thebes joined Athens against Philip II of Macedon and shared in the defeat at Chaeronea (338 B C) A revolt at Thebes caused Alexander the Great to attack and destroy the city (336 B C) Cassander rebuilt Thebes in 315 B C , but it never regained its former greatness, though for a time in the Middle Ages it enjoyed some commercial prosperity The modern Thevai or Thivai (pop 12,428) occupies the site of the Theban acropolis, of which, as of the walls, there are some remains Thebes was the home of the poet Pindar and the painter Aristides See J B Bury, *A History of Greece* (rev. ed., 1913).

Thebez (thē'bĕz) [Heb , =brightness], fortified town where Abimelech was killed, probably NE of Shechem Judges 9 50, 2 Sam 11 21

The Dalles (dălz), city (pop 6,266), co seat of Wasco co , N Oregon, on the Columbia and E of Portland A mission, founded in 1838 and abandoned in 1847, was replaced by a fort around which a settlement grew up c 1852, it was incorporated in 1857 as Dalles City, but custom labeled it The Dalles A gorge and rapids, rendering the river nonnavigable at this point, were by-passed by a canal with several locks, built (1908–15) from The Dalles to Celilo, near the Deschutes The city is now an inland port, since ships pass through the locks (completed 1937) at Bonneville Dam and tie up at The Dalles It processes and ships grain, wool, livestock, salmon, and fruit The dam has fish ladders and an elevator for salmon Eastern Oregon State Tuberculosis Hospital is here

The Dells. see DELLS OF THE WISCONSIN

Thea (thē'ə, thī'ə), in Greek religion, TITANESS, daughter of URANUS and GAEA and sister and wife of HYPERION Regarded as a deity of light, she was the mother of Helios, Selene, and Eos

theine see CAFFEINE

theism (thē'ĭzm), in theology and philosophy, the belief in a personal God It is, of course, opposed to atheism and agnosticism and is to be distinguished from PANTHEISM and deism Theism is distinguished from pantheism in that, while it holds to the immanence of God, it refuses to identify God and the cosmos Theism differs from the deism of the 18th-century thinkers in that it rejects the deists' insistence on the purely transcendent nature of God, holding that God is at once immanent and transcendent Theism has been traditionally supported by a number of arguments For a summary of these, see GOD

Theiss (tīs), Hung *Tisza* (tē'sŏ), Serbo-Croatian *Tisa* (tē'sə), Rus *Tissa* (tĭ'sə), river, c 600 mi long, rising in the W Ukraine, in the Carpathians It flows S across Hungary and past Szeged into Yugoslavia, where it joins the Danube between Novi Sad and Belgrade It is navigable in part

Thelasar (thēlā'sər), variant of TELASSAR

Thematic Apperception Test see MENTAL TESTS

Themis (thē'mĭs) [Gr , =law and order], in Greek religion, TITANESS, daughter of URANUS and GAEA Her children by ZEUS were the HORAE and the *Moerae* (the FATES) PROMETHEUS has been called her son. She was a goddess of law, order, and justice, and according to one story she received the Delphian oracle from Gaea

Themistocles (thəmĭ'stəklēz), c 525 B C.–c 460 B C , Athenian statesman and naval commander As leader of the democratic party in Athens, he caused Aristides to be exiled (483 B.C.) and became the chief figure of Athenian politics He persuaded the Athenians to devote the revenue from the silver mines at Laurium to building a navy, foreseeing that the Persians, defeated at Marathon, would send another stronger force against Greece (see PERSIAN WARS) Xerxes invaded Greece in 480 B C., and military defense of Athens was impossible Before Athens was burned, Themistocles had removed the women and children to the island of Salamis and assigned the men to the ships, which were supported by ships from other Greek states The Greek fleet was entrusted to a Spartan, but Themistocles determined its strategy, which resulted in the decisive victory of Salamis (480 B C) and the retreat of Xerxes to Persia Thereafter he was dominant in Athens, devoting himself to strengthening the navy and the fortifications, especially those of Piraeus He was exiled c 471 B C. Ultimately he made his home in Persia, where King Artaxerxes received him royally and made generous provision for him

Thénard, Louis Jacques (lwē' shăk' tānar'), 1777–1857, French chemist He became professor at the Collège de France (1802), dean of the Faculty of Sciences, Paris (1821), and chancellor of the Univ of Paris (1832) He was made a baron in 1825 He collaborated with Gay-Lussac in studies of boron, chlorine, iodine, and potassium, worked on esters, and discovered (1799) hydrogen peroxide and Thénard's blue, an ultramarine coloring used for porcelain He wrote many scientific papers and a standard textbook, *Traité de chimie élémentaire* (4 vols , 1813–16)

Theobald, Lewis (tĭb'ld, thē'ōbôld), 1688–1744, English poet and critic He is remembered for his *Shakespeare Restored* (1726), an edition in which he pointed out errors in Pope's edition, Pope angrily lampooned Theobald in *The Dunciad* (1728) See biography by R F Jones (1919)

Theocritus (thēŏ'krĭtəs), fl c 270 B C , Alexandrian Greek poet, b Syracuse The history of the PASTORAL begins with him, and in him the form seems to have reached its height His poetic art is finished and masterly, but his bucolic characters are realistic and alive, his sensitivity to nature shows itself in his idyls Imitators have been many (e g , Vergil and Spenser)

theodolite see SURVEYING

Theodora (thēədō'rə), d 548, Byzantine empress Information about her early career comes from the *Secret History* of PROCOPIUS and is probably spitefully colored It appears that she was the daughter of an animal trainer in the circus and that she was an actress and dancing girl before her marriage (523) to JUSTINIAN I, who on his accession in 527 made her joint empress, sharing his authority with her A much stronger character than her husband, she saved the throne through her energetic action in the Nika sedition (532, see BLUES AND GREENS) In her youth Theodora came under the influence of the Monophysite sect, Justinian's efforts to reconcile the Monophysites to orthodoxy were probably inspired by her See Charles Diehl, *Byzantine Portraits* (1927)

Theodore I (Theodore Lascaris), d 1222, Byzantine emperor of Nicaea (1206–22), son-in-law of the Byzantine emperor, Alexius III He escaped from Constantinople after its capture (1204) by the host of the Fourth Crusade and founded a succession state at Nicaea (see NICAEA, EMPIRE OF) Uniting nearly all of W Asia Minor, he kept his state intact against the attacks of Henry of Flanders, Latin emperor of Constantinople, and against the Seljuk Turks His son-in-law, John III, succeeded him

Theodore II (Theodore Lascaris), d 1258, Byzantine emperor of Nicaea (1254–58), son and successor of John III He fought the Bulgarians and temporarily recovered Thrace He was succeeded by his son, John IV

Theodore II, 1818-68, emperor of Ethiopia (1855–68), originally named Kasa or Lij Kasa He was a commoner and a bold and clever warrior He seized control of his native province, Kawara (in NW Ethiopia), in 1842 and steadily fought his way to the throne At first he attempted to abolish slavery and to encourage trade In his last years he became unrestrainedly cruel After the rescue of the Englishmen whom he had imprisoned at MAGDALA, he committed suicide

Theodore For Russian rulers thus named, see FEODOR

Theodore of Mopsuestia (mŏp"sŭĕs'chu), c 350–428, Syrian theologian, bishop of Mopsuestia (from 392) Together with his lifelong friend, St JOHN CHRYSOSTOM, he studied at the school of Antioch, adopted its exegetical methods, and became a diligent writer and preacher. His commentaries on the various books of the Bible were historical and rationalistic, e g , he was one of the first Christians to consider the Song of Songs a marriage poem rather than an allegory, and he was opposed to a Messianic interpretation of the Psalms Many of his theological treatises are lost or fragmentary. He seems to have been influenced by dynamistic MONARCHIANISM to emphasize the manhood of Christ, he said that Christ progressively received the Logos and the Holy Ghost and that the union became com-

plete only at the Ascension and was never essential and hypostatic Much of his work was orthodox, and he was considered orthodox for many years, although his pupil, Nestorius, directly derived his heresy from Theodore, and the Pelagians drew from his works He was condemned in 544 in the *Three Chapters* of Justinian (see MONOPHYSITISM) Pope VIGILIUS, under pressure, reluctantly concurred

Theodore of Studium, Saint (stŭ'dēŭm), 759–826, Byzantine Greek monastic reformer, also called St Theodore the Studite As an abbot he was early exiled for opposing the marriage of Emperor Constantine VI In 799 he entered the Studium monastery, which he reformed and made the model monastery of the Byzantine rite He was exiled again (809–11) after long quarrels with Nicephorus I When Leo V began his iconoclastic campaign, St Theodore boldly opposed him and was exiled again (814) He never returned to his monastery His influence was critical in the history of the BASILIAN MONKS His writings deal with the monastic life and with iconoclasm St Theodore wrote many hymns, and his letters are extant Feast Nov 12

Theodore Roosevelt National Memorial Park: see NATIONAL PARKS AND MONUMENTS (table)

Theodoret (thēŏ'dŭrĕt), c 393–c 458, Syrian churchman and theologian He was a monk of Apamaea and a lifelong friend of Nestorius In 423 he went unwillingly to be bishop of Cyrus, Syria, where he furthered the work of the Church in a difficult see At the time of the Nestorian controversy, Theodoret felt that Nestorius was misunderstood He had a bitter controversy with St CYRIL of Alexandria concerning NESTORIANISM At the Council of Ephesus (431), Theodoret voted to depose Cyril In 449 the Robber Synod of Ephesus led by EUTYCHES declared Theodoret deposed, but Pope Leo I invalidated this decree At the Council of Chalcedon (451), Theodoret joined in the condemnation of Nestorianism, still holding that it misrepresented his friend His writings against St Cyril were condemned in Justinian's *Three Chapters* (see MONOPHYSITISM), but the Church has not condemned him A theologian of the Antiochene school, he was much less extreme than THEODORE OF MOPSUESTIA Some of his writings are translated in *A Select Library of Nicene and Post-Nicene Fathers*

Theodoric I (thēŏd'ərĭk) or **Thierry I** (tēr'ē', tĕr'ē'), d 534, Frankish king of Austrasia (511–34), son of CLOVIS I He divided his brother Clodomer's kingdom of Orléans with his brothers CHILDEBERT I and CLOTAIRE I With Clotaire he subjugated the Thuringians

Theodoric the Great, c 454–526, king of the OSTROGOTHS, b Pannonia He spent part of his youth as a hostage in Constantinople Elected to share in his father's kingship (c 471), he reigned alone after his father's death (c 474), and became involved in intrigues in which he was by turns the ally and the enemy of the Emperor ZENO In 483 he was appointed imperial master of soldiers, and in 484 was consul It was probably to be rid of him that Zeno commissioned him to lead a campaign against ODOACER in Italy Theodoric with his Gothic army entered Italy in 488 He won battles at the Isonzo (489), at Milan (489), and at the Adda (490), and besieged and took Ravenna (493) Shortly after Odoacer's surrender Theodoric murdered him Theodoric was now master in Italy and added the title "governor of the Romans" to that of "king of the Goths" His long rule in Italy was extremely beneficent He showed respect for Roman institutions, preserving the Roman laws and appointing Romans to the civil offices, at the same time keeping the army Gothic and settling Goths on the land He improved the harbors and repaired the roads and public buildings An Arian, he was impartial in religious matters He allied himself by marriage with Clovis the Frank and the kings of the Visigoths, Vandals, and Burgundians, and used his influence in favor of peace The end of his reign was clouded by a quarrel with his Roman subjects and Pope John I over the Emperor Justin I's edicts against Arianism, and by his hasty execution of BOETHIUS and Symmachus Theodoric appears in the *Nibelung-enlied* as Dietrich von Bern His tomb is one of the finest monuments of Ravenna He was succeeded by his grandson Athalaric, under the regency of Theodoric's daughter Amalasuntha See Thomas Hodgkin, *Theodoric the Goth* (1891), J B BURY, *The Invasion of Europe by the Barbarians* (1928)

Theodosia, RSFSR, see FEODOSIYA

Theodosian Code (thē"ədō'shun), Latin *Codex Theodosianus,* Roman legal code, issued in A D 438 by THEODOSIUS II, emperor of the East It was at once adopted by Valentinian III, emperor of the West The code was intended to reduce and systematize the complex mass of law which had been issued since the reign of Constantine I To a large extent it was based upon two private compilations, the Gregorian (*Codex Gregorianus*) and the Hermogenian (*Codex Hermogenianus*) The Theodosian Code was used in shaping the CORPUS JURIS CIVILIS.

Theodosiopolis: see ERZERUM, Turkey.

Theodosius I or **Theodosius the Great,** 346?–395, Roman emperor of the East (379–95) and of the West (392–95), son of THEODOSIUS, the general of Valentinian I He became (375) military governor of Moesia, but following the execution (376) of his father he retired to Spain, where he lived until chosen by Emperor GRATIAN to rule the East after the defeat and death (378) of Valens in the battle of Adrianople Theodosius, whom Gratian made co-Augustus in 379, took up arms against the victorious VISIGOTHS, who were plundering the Balkan Peninsula By military might and by diplomacy he achieved an advantageous peace, permitting the Visigoths to settle in certain designated areas of the empire, and in return securing their services as soldiers In 383 Gratian was murdered, Theodosius was forced to recognize the murderer, MAXIMUS, as emperor in the West outside Italy, where Gratian's brother and legal successor, VALENTINIAN II, held authority When Maximus seized Italy, Theodosius attacked him, put him to death (388), and restored Valentinian But Valentinian's tribulations were not ended His Frankish general, Arbogast, assumed the power in Gaul, and in 392 Valentinian, who had sought to unseat him, was strangled, presumably on the order of Arbogast, who installed the puppet emperor Eugenius Once more Theodosius went to Italy In 394 he met a large army, commanded by Arbogast and Eugenius and consisting mostly of pagan barbarians Defeated on the first day of battle, he refused to retreat, and on the following day, with the battle cry, "Where is the God of Theodosius," carried a resounding victory Eugenius and Arbogast were slain Having previously named his son Arcadius as his colleague in the East, he now proclaimed his younger son, Honorius, as his colleague in the West Theodosius died in the following year, exhausted by his campaigns, and the Roman Empire remained forever divided into West and East The reign of Theodosius is most notable for its prominence in the history of the Christian Church Baptized in 380, Theodosius soon afterward issued the edict *De fide catholica,* condemning ARIANISM and making communion with the Holy See the test of orthodoxy, subsequent edicts practically extinguished Arianism and paganism Under his direction the First Council of Constantinople (see CONSTANTINOPLE, FIRST COUNCIL OF) cast the Nicene Creed practically in its present form The most eminent church figure of his reign was Saint AMBROSE, bishop of Milan When Theodosius ordered a massacre in Salonica to punish the citizens for a rebellion against the garrison, Ambrose ordered (390) the emperor to make an act of contrition for his crime, Theodosius, whose repentance seems to have been sincere, had to humble himself in the cathedral of Milan before Ambrose lifted the excommunication

Theodosius II, 401–50, Roman emperor of the East (408–50), son and successor of Arcadius He preferred the study of theology and astronomy to public affairs, which he left to the guidance of his sister PULCHERIA—and, at times, of his wife EUDOCIA The chief political events of his reign were the establishment of VALENTINIAN III as emperor in the West (425), the raids into the empire by the Huns under ATTILA, and the conferences held with Attila in regard to the ever-increasing tribute which he demanded In 431 Theodosius summoned the Council of Ephesus, which condemned NESTORIANISM, and in 449 he convoked and upheld the Robber Synod, which declared Eutychianism (see EUTYCHES) orthodox Among his other activities were the establishment, or at least the reorganization, of the higher school of Constantinople (425) and the publication (438) of the THEODOSIAN CODE His brother-in-law Marcian succeeded him

Theodosius, d A D 376, Roman general under VALENTINIAN I He defeated the Picts and Scots when they invaded Britain (368–69) and suppressed a Moorish uprising in Africa in 372 He was executed at Carthage by order of Gratian, Valentinian's successor, on probably unjust charges His son became emperor as Theodosius I

Theodosius the Great see THEODOSIUS I

Theodotians, small heretical sect, formed c 190 by Theodotus, a Byzantine It lasted until the end of the 4th cent The Theodotians taught that Jesus was a man, who became the Christ only after his baptism (a concept basic to MONARCHIANISM and ADOPTIONISM)

Théodule, Switzerland see MATTERHORN

Theognis (thēŏg'nĭs), fl late 6th cent B C, Greek didactic poet of Megara An aristocrat with fierce partisan feelings, he wrote for his young friend Cyrnus a series of elegies, often passionate in hate and in love, counseling moderation, faithfulness, and duty Among the 1,400 surviving lines attributed to him are some known to be by other writers

theology (thēŏl'ŭjē) [Gr ,=discussion of God], systematic study of the intellectual aspects of a particular religion Christian theology has received, naturally, by far the greatest attention in the Western world, but JUDAISM and ISLAM have theologies similar to Christian theology The development of theology in Christendom arose from the need for educated Christians of the ancient world to express their ideas in terminology familiar in current thought Hence arose the close relation of Greek philosophy with Christian theology St AUGUSTINE, one of the greatest of theologians, introduced and standardized in his writings what became the official theology of the Church. The great theological problems of ancient times were the relation of Jesus with God and with man and the relation of God with man The struggle over ARIANISM (on the nature of Jesus) was probably the most serious theological quarrel Christianity has known, and the problem of GRACE has not ceased to arouse theologians The thought of NEOPLATONISM has some connection with Christian theology, especially in the early Middle Ages In reaction to it SCHOLASTICISM arose to vindicate reason and to criticize the whole theological system Scholasticism differentiated carefully between theology and philosophy by confining theology to the field of the systematization and investigation of revealed truths, in this distinction philosophy is to proceed always from reason and does not investigate the truths that transcend reason The distinction is maintained explicitly by the Roman Catholic thinkers and implicitly by conservative Protestants According to this differentiation CALVINISM and LUTHERANISM are theologies, not philosophies As a result of the 18th-century Enlightenment, especially of the work of Kant, a new rational theology arose in the 19th cent This must be carefully distinguished from the "rationalism" of scholasticism, because 19th-century rational theology assumes as axiomatic the ability of reason to criticize adequately every truth The theological school of Tubingen was the center for the extreme "rationalistic theologians," and there the "higher criticism" of the Bible which revolutionized much of Protestant thought was brought to its first fruition The most profound of 19th-century Protestant German theologians, and perhaps the most influential of the new rationalists, was SCHLEIERMACHER, he was not of Tubingen The new rationalistic theology developed very rapidly, and hardly any two theologians of it agree in detail, there are various systems of MODERNISM Those who distinguish between theology and philosophy call the 19th-century rationalistic theology philosophy rather than theology

Theophanes, Saint (thēŏf'ənēz), d 817?, Byzantine historian He was abbot of Mt Sigriana (near Cyzicus), which he founded His *Chronographia* (c 811–815), based on official records and on his observations, is a chief source for the history of ICONOCLASM to the reign of LEO V For opposing Leo's iconoclasm, he was imprisoned and was exiled to Samothrace, where he died Feast March 12

Theophilus (thēŏ'fĭlŭs) [Gr ,=beloved of God], person to whom St Luke's Gospel and the Acts of the Apostles are addressed Luke 1 3, Acts 1 1

Theophrastus (thē"ōfrā'stŭs) [Gr ,=divinely speaking], c 372–c 287 B C, Greek philosopher, Aristotle's successor as head of the PERIPATETICS The school flourished under his leadership He was befriended by Philip II of Macedon, Cassander, and Ptolemy I and was honored by a public funeral after his death He wrote on almost all subjects, but his works on plants were perhaps the most important of his technical writings His *Characters,* a series of sketches of various ethical types, is especially valuable as giving a picture of his time It is the forerunner of the descriptions of characters of such writers as Sir Thomas Overbury, John Earle, and La Bruyère

theorbo (thēŏr'bō), large LUTE of the baroque period It had an extra set of bass strings, not stopped as the regular set are, which made it more suitable for playing baroque music than was the lute Its origin was in the 16th cent, and in the 18th cent it was given double strings Its name was also spelled theorbe, theorboe, or torba

theosophy (thēŏ'sŭfē) [Gr ,=divine wisdom], philosophical system having affinities with MYSTICISM and claiming insight into the nature of God and the world either through direct knowledge, through philosophical speculation, or through some physical process Theosophy generally arises in connection with religious needs, as an expression of religious conviction This system of thought differs from many other philosophical positions in that it begins with an assumption of the essence of God, from which it deduces the essentially spiritual nature of the universe Other assumptions frequently found in theosophical doctrine are that God is the transcendent source of all being and all good, that evil exists in the world because of man's desire for finite goods and that evil may be overcome by complete absorption in the infinite, and that sacred writings and doctrines are interpreted through allegory This is the general position of much speculative mysticism However, mysticism generally confines itself to the soul's relation to God while the theosophist uses his theories to formulate a complete philosophy of man and nature The Neoplatonists, the Gnostics, and the Cabalists are generally considered types of theosophists Paracelsus is an example of the Renaissance philosopher who combined scientific ideas with theosophical speculation. More recent theos-

ophists include Jacob Boehme, Schelling, and Swedenborg Boehme is regarded as the father of modern theosophy, and he developed a complete theosophical system attempting to reconcile the existence of an all-powerful and all-good God with the presence of evil in the world The philosophy and theology of the Orient, especially of India, contain a vast body of theosophical doctrine Vedic, Buddhist, and Brahminist literature are all charged with a mystical idea of a universal, eternal principle, basic to all life (see HINDUISM and BUDDHISM). Unity of living may be achieved by man through proper attitudes and exercises Modern theosophy draws much of its vocabulary from Indian sources The universe is viewed as existing on seven different levels, and human action is graded according to those levels, ranging from gross physical life to the complete perfection of the Universal Self The latent spiritual power of man, realized in great spiritual leaders (as the mahatmas), is considered almost boundless To gain real spiritual knowledge and power the soul must pass through several existences (see TRANSMIGRATION OF SOULS) and gain much occult knowledge (stored in the soul, not the mind) The Theosophical Society of America was founded in 1875 by Mme Helena Petrovna BLAVATSKY, associated with her were Col H S Olcott and W Q Judge In 1895 Judge was the leader of a secession movement, and other divisions and schisms took place afterward The objects of the society are to form a nucleus of a universal brotherhood of humanity, to give encouragement to the study of comparative religions, philosophies, and sciences, and to carry on investigations of the laws of nature and of man's latent powers An active exponent of theosophy in Europe, America, and the East was Mrs Annie BESANT, who added many works to the literature of the subject Among other authoritative writings are those of Mme Blavatsky, including *Key to Theosophy* (1931) See also G N Drinkwater, *Theosophy and the Western Mysteries* (1944), C W Leadbeater, *Textbook of Theosophy* (6th ed, 1946)

Theotocopoulos, Domenicos. see GRECO, EL

The Pas (thŭ pās', pa'), town (pop 3,102), W Man, on the Saskatchewan and 420 mi NW of Winnipeg Founded as a fur-trading post, it grew after 1920 as the starting point and headquarters for the Hudson Bay Railway to Churchill and as an outfitting point for prospecting and mining expeditions into the northern mineral belt of Manitoba and Saskatchewan It has an airfield and branch lines of the Manitoba Northern Railway to Flin Flon and Sherridon

Thera (thēr'ŭ), volcanic island (31 sq mi, pop 9,704), off S Greece, in the Aegean Sea, S of Naxos It is one of the CYCLADES It is noted for its wine, and it exports pumice stone According to tradition it was first settled by Phoenicians and later by Laconian colonists In 631 B C colonists from Thera founded Cyrene in Libya From medieval times until recently Thera was known as Santorin Prehistoric remains and ruins from the classical period have been excavated.

Theramenes (thŭrăˈmŭnēz), d 404? B C, Athenian statesman, b Chios He helped to establish (411 B C) the oligarchical Four Hundred, but opposed them later He fought in the Peloponnesian War, notably in the battle of Cyzicus, at the siege of Chalcedon, and in the capture of Byzantium In the great battle of ARGINUSAE (406 B C) he failed to rescue the men in the wrecked ships, but was exonerated He was sent to negotiate peace with Sparta, and he was accused of treachery because of long delays while Athens was under siege He became one of the THIRTY TYRANTS Critias denounced him and caused him to be put to death There was great difference of opinion among the Greeks about Theramenes' motives in his frequent changes of side and his delay in negotiating

Therapeutae (thĕrupūˈtē), non-Christian recluses living on the shore of Lake Mareotis, Egypt, about the 1st cent A D They have been supposed by some to give a connection between the Essenes and Christian MONASTICISM They are mentioned in one ancient source only

Theresa or Teresa, Saint (Theresa of Jesus) (both trēˈsu, -zŭ), Span *Teresa de Ávila*, 1515–82, Spanish Carmelite nun, one of the principal saints of the Roman Catholic Church, one of the greatest mystics, and a leading figure in the Catholic REFORM Her original name was Teresa de Cepeda y Ahumada, and her name in religion was Theresa of Jesus She came of a well-to-do noble family She entered the Carmelite order (possibly in 1536), suffered a serious illness, went through an arid period, and underwent (c 1555) a "second conversion," after which she experienced inner visions and went far in the path of mysticism She had entertained a desire to found a house of reformed Carmelites (the Discalced, or Barefoot, Carmelites living in strict observance of the rule) long before in 1562 she had the opportunity to found the Convent of St. Joseph in Ávila Other foundations were made, and in the busy years that followed she traveled much to the various houses She also founded convents of friars, having as her collaborator that other toweringly great mystic, St. JOHN OF THE CROSS One of the most remarkable women of all time, St Theresa combined intense practicality with the most rarefied spirituality. Astute, shrewd, sometimes blunt, she yet kept the simplicity of water (water was one of her favorite metaphors) and had the same life-giving effect on those around her She was an excellent and tireless manager Her personal charm and tact helped her and the reform in the long years of persecution—mostly at the hands of the unreformed clergy—and she triumphed in the end The Discalced Carmelites were finally separated from the older order The reawakening of religious fervor that she brought about in Spain was astonishing Her abounding energy and her good nature communicated themselves to her associates, who worked as if inspired Soon after her death the movement spread beyond Spain and across Christendom, having a profound effect on the Catholic Reform She brought mysticism and its fruits to the common man, and her works have gained a steadily widening audience from the 16th cent to the present They are celebrated as literary masterpieces The Castilian in which they are written stems from common speech, and the imagery is rich and yet simple Candor and overflowing spiritual strength lend a greater beauty to the sometimes terse, sometimes discursive expressions Her works, like herself, were dominated by love of God and characterized by humor, intelligence, and common sense They are great literature but are far more important as founts of modern mysticism The *Life* (written 1562–65) is a spiritual autobiography written for her confessors and containing not only the record of her progress in mysticism but also short treatises on prayer and vision, usually in editions of it are included the supplementary *Relations*, short pieces written for the same purpose as the *Life* Her *Way of Perfection* was written after 1565 to supply her nuns worthy instruction on prayer, it is still found very useful by the religious and by laymen In *Interior Castle* (written in 1577) she gives a glowing and powerful picture of the contemplative life, it is considered by many even finer than the *Life* The *Foundations* (written 1573–82) is an account of the launching of her order. Her letters, brisk, vigorous, shot through with wisdom and humor, are much loved by many readers She also wrote shorter pieces—*Exclamations of the Soul to God* (1569), rhapsodic meditations, a commentary on the mystic significance of the Canticle of Canticles, the *Constitutions*, for the Discalced Carmelite nuns, and *Method for the Visitation of Convents of Discalced Nuns* She also wrote poems, many not rising above the level of serviceable verse There have been several translations of her writings, the most recent by E Allison Peers (3 vols, 1949) See H J Coleridge, *Life and Letters of St Teresa* (1872), H H Colvill *Saint Teresa of Spain* (1909), E Allison Peers, *Mother of Carmel a Portrait of St Teresa* (1946)

Theresa or Teresa, Saint (Theresa of the Child Jesus), Fr *Thérèse de Lisieux*, 1873–97, French Carmelite nun, one of the most widely loved saints of the Roman Catholic Church, b Alençon Her original name was Thérèse Martin and her name in religion was Theresa of the Child Jesus Her brief life was outwardly unremarkable She was born the daughter of a watchmaker At the age of 15 she insisted upon being admitted to the Carmelite convent at Lisieux There she spent the remaining nine years of her life and died of tuberculosis Many miracles are attributed to her, but perhaps the greatest miracle connected with her is the fact that she came to be known at all A simple nun in an obscure convent, she was remarkable only for her complete and shining goodness The sweet holiness of her life so impressed her superior that Theresa was asked to write her spiritual autobiography Thus has been one of the most widely read of all autobiographies It is filled, as are her letters, with her message of seeking good with the simplicity of a child St Theresa is known as the Little Flower of Jesus, a fitting name for the little saint with flowerlike appeal She taught the Little Way—how to achieve goodness in performing the humblest task and carrying out the most trivial action Thus she carried holiness to millions in the workaday world and won their veneration and devotion She was canonized in 1925, just 28 years after her death Lisieux has become a major place of pilgrimage There are churches dedicated in her honor across the whole of the Roman Catholic world, and meditations from her writings are read by many of the devout with the frequency of a manual of prayer She is frequently represented in art with an armful of roses because of her cryptic promise "After my death, I will let fall a shower of roses." Of the many biographies of her, one of the most recent is Frances Parkinson Keyes, *Written in Heaven* (1937).

Theresiopel, Yugoslavia: see SUBOTICA.

Therezina, Brasil. see TERESINA.

Therma: see SALONICA, Greece

Thermal Springs District, New Zealand: see HOT SPRINGS DISTRICT.

thermal unit: see BRITISH THERMAL UNIT; CALORIE.

Thermidor (thûrˈmĭdôr, Fr. tĕrmēdôrˈ), 11th month of the FRENCH REVOLUTIONARY CALENDAR. The coup d'état of 9 Thermidor (July 27, 1794) marked the downfall of ROBESPIERRE and the end of the Great Terror The Thermidorians who came into power, though no less antiroyalist and even more antireligious than their predecessors, initiated a period of economic reaction (notably by repealing the maximum-price laws), executed reprisals against the Terrorists, concluded a truce with the counterrevolutionists of the VENDÉE, and established some measure of freedom of worship The principal figures in the so-called Thermidorian reaction were BARRAS, CAMBACÉRÈS, SIEYÈS, and TALLIEN The period ended with the establishment of the DIRECTORY (1795). See Albert Mathiez, *The Thermidorian Reaction* (1929, Eng tr, 1930)

thermionic valve: see TUBE, VACUUM

thermite (thûrˈmīt) mixture of powdered aluminum and iron oxide, or some other metallic oxide, used in WELDING because of the great quantity of heat produced when the mixture is ignited In wartime thermite has been used in incendiary bombs Welding by means of thermite is called the thermite process (aluminothermic process or Goldschmidt process) The thermite in a crucible is ignited usually either by a strip of burning magnesium ribbon or by a mixture of burning magnesium and oxide of barium The use of a kindling mixture to ignite the thermite is also necessary because when thermite is heated to its kindling temperature directly, it ignites with explosive violence The aluminum reduces the metallic oxide, giving pure iron and aluminum oxide So much heat is generated in the reaction that the iron is melted and a temperature of about 3000°C is reached The molten metal is poured from the crucible upon the joint to be welded, melting the edges of the joint so that they may be united The slag of the thermite, which floats on the surface of the molten metal in the crucible and thus is poured off first on the joint, prevents the iron from adhering to the joint thus making it possible to remove the iron when it has hardened and the joint is fused In certain cases, the thermite is placed in a kind of crucible which permits the pure molten metal to be poured off from the bottom The thermite is ignited and the molten iron poured from the bottom of the crucible upon the part to be joined or mended After cooling, excess metal which has not entered the joint is finished off The process was invented by Johann Goldschmidt, who first discovered the method for igniting thermite without explosion Goldschmidt used this method in the preparation of various metals—e g, chromium, manganese, and uranium—from their oxides The process is used in the welding of broken castings or of shafts, pipes, and steel rails

thermometer, instrument for measuring TEMPERATURE Galileo and Santorius devised thermometers consisting essentially of a bulb with a tubular projection, the open end of which was immersed in a liquid Heating or cooling the bulb affected the height of the column of liquid in the tube, on which a scale was marked Over a century later appeared the three thermometers now most widely used—the Fahrenheit, the centigrade, and the Reaumur (used to some extent in parts of Europe) The first, invented by Fahrenheit c 1714 in Danzig, initiated the use of mercury as a heat-measuring medium, the thermometer of Réaumur, invented c 1730, used alcohol, the centigrade, invented by Anders Celsius at Uppsala probably in 1742, is now most used in laboratory work The clinical thermometer is a small tubular instrument of rather thick glass. It consists essentially of a small vacuum tube of uniform bore closed at one end and connected at the other with a mercury chamber (either a bulb or a short tube of larger bore) A centigrade or a Fahrenheit scale (or both) is etched on the front of the thermometer, opposite this the glass is milky or semiopaque, to facilitate reading the temperature When heat is applied, the mercury expands and rises from the chamber past a narrowed point and up the small tube This narrowed point prevents the mercury from sinking back until shaking forces it down Weather thermometers do not have this structure except in the case of special instruments Maximum and minimum thermometers are contrived to indicate respectively the highest and the lowest temperature attained during the period of exposure Alcohol, ether, and toluol are used in measuring low temperatures, since mercury solidifies at about −39°C For very high temperatures, there are various special measuring devices, these work on the principle of some measurable change varying with temperature, such as electrical resistance and expansion of a gas, a liquid, or a solid

Thermopolis (thûrmŏˈpŭlĭs), resort town (pop. 2,422), co. seat of Hot Springs co., N central Wyo., on the Bighorn river, founded 1897 It is a trade center for a livestock and oil area. Famous are its hot springs, which are included in Hot Springs State Park Beautiful Wind River Canyon is near.

Thermopylae (thûrmŏˈpĭlē) [Greek,=hot gates, from hot mineral springs near the pass], pass in Greece, 9 mi SSE of Lamia, between the cliffs of Mt. Oeta and the impassable morass on the shore of the Malic Gulf. In ancient times it was narrower than it is now and was the only gate for ingress into Greece from the north. Here (480 B.C.)

Leonidas with his Spartans and their allies gained immortality by their heroism (see PERSIAN WARS). Here in 279 B.C., the Greeks held back the Gauls under Brennus, who ultimately broke through. Here in 191 B.C., Antiochus III of Syria was defeated by the Romans

thermostat, device for automatically regulating the temperature. It is commonly connected to heating systems which it turns on or off, according to the need, in order to maintain a predetermined temperature. Its principle of operation is based on the expansion of metals, liquids, and gases when heated. The movement of the component substances as it takes an expanded or contracted position actuates a control on a furnace, cooling system, or a piece of machinery. The mechanism sometimes utilizes mercury, which expands when warm and rises in a glass tube until, at a predetermined point, it touches an electrical contact to complete a circuit, conversely, during lowering of temperature the mercury descends in the tube and breaks the circuit. Bimetallic combinations (employing metals with different coefficients of expansion) are often used in thermostats, on exposure to heat or cold the two metals respond to a different degree, thus temporarily changing the shape of the metal device and causing it to make or break a circuit

Thersander (thûrsăn'dûr), in Greek legend, one of the EPIGONI. He was the son of POLYNICES and was made king of Thebes

Thersites (thûrsī'tēz), in Greek legend, member of the Greek army in the Trojan War, famous for his ugliness, his unpleasant temper, and his love of argument. Achilles killed him.

Theseus (thē'sūs, thē'sēus), in Greek mythology, great hero of Athens. He was the son of AEGEUS, king of Athens, and Aethra of Troezen. When Aegeus left Troezen, he put his sandals and his sword under a huge rock and told Aethra that as soon as Theseus was strong enough to lift the rock he should come to Athens. At the age of 16 Theseus lifted the rock and started on his journey to Athens. On the way he participated in many adventures, including the slaying of PROCRUSTES. When he arrived, MEDEA, the wife of Aegeus, tried to poison him, but Aegeus recognized Theseus in the nick of time. Theseus, to help his father, killed the wild bull of Marathon and the MINOTAUR of Crete (with the help of ARIADNE). After Aegeus killed himself, thinking that Theseus was slain by the Minotaur, Theseus became king. He took part with Hercules in the expedition against the Amazons. In this adventure, one legend says he carried off ANTIOPE, another that it was her sister HIPPOLYTE whom he loved. Later, after he returned from the Calydonian hunt, he married PHAEDRA, who eventually caused the death of HIPPOLYTUS, her stepson. When Phaedra died, Theseus abducted Helen, and it is said that IPHIGENIA was their child. Theseus was treacherously slain by King Lycomedes of Scyros

Thespiae (thĕ'spĭē"), ancient city, S Boeotia, Greece, near Mt. Helicon and SW of Thebes. The Thespians fought against the Persians at Thermopylae and Platsea. They generally opposed Thebes and joined the Spartans against the Thebans. The famous statue of Eros by Praxiteles was a showpiece of Thespiae, it was ultimately taken to Rome

Thespis (thĕ'spĭs), fl. 534 B.C., in Greek tradition, the inventor of tragedy. He modified the dithyramb (which had been, in effect, exchanges between the leader and the chorus), putting set speeches in the mouth of one of the chorus. This second actor was called technically the *hypocrite* (or "responder"). Thus there developed a spoken dialogue. This innovation has been considered by critics definitive in dramatic history

Thessalon (thĕ'sŭlŏn), town (pop. 1,316), S Ont., on the North Channel of Lake Huron, ESE of Sault Ste. Marie and opposite Drummond Island, in a farming, fishing, and lumbering region

Thessalonians (thĕ"sulō'nēunz), epistles of the New Testament, occupying the 13th and the 14th place in the usual order. They were written by ST. PAUL from Corinth, A.D. c. 52, addressed to the newly founded church at Thessalonica. First Thessalonians opens with a reminiscence of the founding of the Christian Church there, all in a rather congratulatory tone. The second part (4–5) is taken up with advice on moral behavior and correction (4.13–5.5) of one doctrinal point on which apparently his converts had gone astray, the imminence and manner of the general resurrection. Second Thessalonians, a shorter letter, written soon after, is stronger in condemning false notions that the Second Coming is at hand, in an apocalyptic passage St. Paul gives signs that will precede the Judgment (2.1–12, 1.6–10). This epistle also contains an exhortation to work and condemnation of idleness (3.6–12). A few higher critics question the authenticity of the apocalyptic passage

Thessalonica, Thessalonike, or Thessaloniki, Greece: see SALONICA

Thessaly (thĕ'sŭlē), largest ancient division of Greece. It corresponded roughly to the modern nomes of Larissa and Trikkala, which, together, are still called Thessaly. Ancient Thessaly was almost completely walled in by mountains, including Pindus and Oeta. The plains of Thessaly were extremely fertile, and the region was rich in grain, horses and cattle. The Thessalians were a tribe who entered the area from the northwest before 1000 B.C. The chief Thessalian cities, Larissa, Crannon, and Pherae, were oligarchical. The greatest families were the Aleuadae (at Larissa) and the Scopadae (at Crannon). Jason, the able tyrant of Pherae, succeeded in uniting Thessaly (374 B.C.), but it did not remain powerful for a long period. It was subjugated by Philip II of Macedon in 344 B.C. Under the Roman emperors it was joined to Macedonia, but after Constantine it became a separate province. It passed to the Venetians (1204) and to the Turks (1355) from whom it was ceded to Greece in 1881. Many places in Thessaly are connected with ancient Greek myths, such as that of Hercules, whose death pyre was upon Mt. Oeta

Thetford, municipal borough (pop. 4,098), Norfolk, England, on the Thet river and bordering Suffolk, in a farming region. The site was very early occupied, Castle Hill (100 ft. high, 1,000 ft. in circumference) is one of the largest earthworks in Great Britain. There are a ruined Cluniac priory founded in 1104, three old churches, and numerous old houses. The museum is housed in a 15th-century building. The town was important under the Saxons and Danes, it was the seat of the kings and bishops of East Anglia for a time, and under Edward III it had eight monasteries and 20 churches. Thomas Paine was born near here

Thetford, town (pop. 1,043), E Vt., on the Connecticut above Hartford, chartered 1761, settled 1764. Part of the town was badly flooded in 1936

Thetford Mines, city (pop. 12,716), SE Que., NE of Sherbrooke and S of Quebec, inc. 1905. It is an important asbestos-mining center, developed after the discovery (1876) of large asbestos deposits. Chromium and feldspar are also mined here

Thetis (thē'tĭs), in Greek legend, a Nereid, mother of ACHILLES. She was loved by ZEUS and POSEIDON, but because of a prophecy that her son would be greater than his father, the gods gave her in marriage to a mortal, PELEUS. All the gods brought gifts to her wedding except ERIS, who sent the APPLE OF DISCORD. Thetis appears several times in the ILIAD, comforting and helping her son

Theudas (thū'dăs), leader of insurgents mentioned by Gamaliel (Acts 5.36). Nothing is known of him, he is not the magician Theudas (fl. A.D. 45) mentioned by Josephus

Theus, Jeremiah (thūs, tōs), c. 1719–1744, American portrait painter. b. Switzerland. He came as a child to South Carolina. By 1740, according to newspaper notices, he was painting portraits and teaching art in Charleston. His portraits were good likenesses but stiff and ill-composed. The Brooklyn (N.Y.) Museum has a portrait of Elizabeth Rothmaler

Thevai, Greece: see THEBES

Theveste: see TEBESSA, Algeria

thiamine: see VITAMINS

Thiaucourt (tyōkōōr'), village (pop. 995), Meurthe-et-Moselle dept., NE France, in Lorraine, NW of Nancy. It was captured (Sept., 1918) by American troops in the First World War and is the site of the Saint-Mihiel American cemetery

Thibault, Jacques Anatole: see FRANCE, ANATOLE

Thibaut IV (tĕbō'), 1201–53, French trouvère, count of Champagne. He became Thibaut I, king of Navarre, in 1234, in succession to his uncle, Sancho VII. In 1239, against the wishes of the pope, he led a Crusade, he was, however, defeated and was unable to forestall the later fall of Jerusalem. His courtly verses and songs rank high in troubadour literature, some are addressed to Blanche of Castile. His name appears also as Thibaud or Theobald

Thibodaux (tĭ'budō), town (pop. 5,851), parish seat of Lafourche parish, SE La., on Bayou Lafourche and SW of New Orleans, laid out c. 1820, inc. 1838. It is the commercial center of an oil, sugar, and farm area. Chief Justice White was born near by

Thief River Falls, city (pop. 6,019), co. seat of Pennington co., NW Minn., N of Red Lake Falls at the confluence of the Thief and Red Lake rivers. It is the commercial and distributing center for a farm region. Near-by tracts were used in a Federal project for the resettlement of farm families

Thierry I. see THEODORIC I

Thierry, Augustin (ōgŭstĕ' tyĕrē'), 1795–1856, French historian. He sought to prove, by the example of English and French history, that the development of a nation was the process of the struggle between two races, the invaders and the invaded, thus the progressive liberation of the Gauls, representing the French people, from their Frankish conquerors, who supposedly became the ruling class, culminated in the July Revolution of 1830. The theory is, of course, utterly untenable, its very premises being false. However, the absurdity and aridity of the theory are eclipsed by the great literary value of his work. "Loving history for its own sake," he strove to bring the past back to life, and although his accuracy is questionable, he succeeded in that purpose as few historians have done. In his masterwork, *Récits des temps mérovingiens* [narratives of the Merovingian era] (1870), he painted the classic picture of that barbarous period. He also wrote a history of the Norman Conquest of England (1825), which shows the influence of Sir Walter Scott. Discredited as a historian, Thierry remains one of the great writers of French romanticism

Thiers, Adolphe (ădôlf' tyĕr'), 1797–1877, French statesman, journalist, and historian. After studying law at Aix-en-Provence, he went (1821) to Paris and joined the little group of writers that centered about the bourgeois salons and attacked the government of CHARLES X. Thiers reflected the views of the middle-of-the-road *Doctrinaires* and of the capitalist bourgeoisie. His *History of the French Revolution* (10 vols., 1823–27, Eng. tr., 5 vols., 1895) illustrated his moderate liberal views and thus was an attack on the reactionary government. With Mignet and others he began in 1830 to put out the journal *National*, which had an important part in bringing about the JULY REVOLUTION of 1830. He was prominent under LOUIS PHILIPPE but never enjoyed the king's confidence. As minister of the interior (1832–34) in the first Soult cabinet, he was instrumental in the French intervention in favor of Belgium and suppressed, with brutality, the workers' insurrection of April, 1834, in Paris and Lyons. He was premier in 1836, but his projected intervention against the Carlists in Spain caused his replacement by Guizot. In 1840 he again headed a cabinet, once more his aggressive foreign policy—this time he sought to intervene in favor of Mohammed Ali of Egypt—lacked royal support and caused his fall. He now became a liberal opponent of the July Monarchy and again turned to writing, beginning his *History of the Consulate and the Empire* (20 vols., 1840–55, Eng. tr., 1845–62). One day before the outbreak of the FEBRUARY REVOLUTION of 1848, Louis Philippe called on Thiers to replace Guizot as premier, but both king and premier were swept aside by the revolutionary tide. Elected to the constituent assembly, Thiers was a leader of the right-wing liberals and bitterly opposed the Socialists. Though he favored the restoration of the Orleanist monarchy, he did not oppose the election of Prince Louis Napoleon (later NAPOLEON III). He did, however, oppose Napoleon's coup d'état of Dec., 1851, was arrested, and later went into exile. After being allowed to return he entered (1863) the *corps législatif*, where he opposed the emperor and in a measure helped to bring about the "Liberal Empire." He was among the few deputies who voted against declaring war (1870) on Prussia. Vindicated in the disastrous defeats of France in the FRANCO-PRUSSIAN WAR, he was chosen chief executive of the provisional government of Bordeaux in 1871, negotiated the preliminary Peace of Versailles with Bismarck, and ordered his troops to suppress the COMMUNE OF PARIS of 1871—an order carried out with ferocious severity. In Aug., 1871, his title became president of the republic. The credit for the astonishingly quick payment by France of its war indemnity to Germany and the consequent evacuation (1873) of France by German troops belongs largely to Thiers's efficient economic policy. Himself an Orleanist at heart, he was supported by the monarchist majority in the national assembly. However, his conciliatory attitude toward the republicans was condemned by the national assembly, and in 1873 he was forced to resign and was succeeded by Marshal MacMahon, only the disunity of Orleanists and legitimists prevented the restoration of the monarchy. Though immensely popular in their time, Thiers's historical works are today generally regarded as superficial and inaccurate eulogies of the French Revolution and of Napoleon, written from the bourgeois point of view. See his memoirs (1903, Eng. tr., 1915), J. M. S. Allison, *Thiers and the French Monarchy* (1926) and *Monsieur Thiers* (1932)

Thiers, town (pop. 11,180), Puy-de-Dôme dept., SE central France, in Auvergne. It is a picturesque place with an old cutlery industry. The Romanesque Church of St. Genès has fragments of mosaics dating from Merovingian days

Thiess, Frank (frängk' tēs'), 1890–, German novelist, b. Livonia. His best work is concerned with the people of his native province. Among his novels are *Der Lebkaftige* (1924, Eng. tr., *The Devil's Shadow*, 1928), *Das Tor zur Welt* (1926; Eng. tr., *Gateway to Life*, 1927), *Abschied vom Paradies* (1927, Eng. tr., *Farewell to Paradise*, 1929), and *Frauenraub* (1928, Eng. tr., *Interlude*, 1929)

thimble, originally the thumb part of a glove, in modern usage a sheath of metal or other hard material used to push the needle in sewing. The various types include the leather palm of the sailor and the open thimble of the tailor and upholsterer. Prehistoric finger shields and needle pushers gave way to bronze and brass rings. The leather thimble of the Middle Ages is still found occasionally in the south of Ireland. Metal, wood, ivory, bone, china, glass, and enamel have all been used. Many modern thimbles are made of celluloid and other compositions.

thimbleweed: see ANEMONE.

Thimnathah (thĭm'nŭthŭ): see TIMNAH 3.

Thingvallavatn, Icelandic *þingvallavatn* (thĕng'gvät"lävä"tün), lake, area 46 sq mi, SW Iceland, c 25 mi NE of Reykjavik It is the largest lake of Iceland Near by, at Thingvellir, is the ancient assembly place of the Althing, the Icelandic parliament

Thingvellir, Icelandic *þingvellir* (thĕng'gvĕt"lĭr), ancient place of assembly of the Icelandic Althing, c 28 mi NE of Reykjavik

Thionville (tyôvēl'), Ger *Diedenhofen*, town (pop 15,195), Moselle dept, NE France, in Lorraine It is a processing center of a rich iron district and also a garrison town An ancient place, it was seized (1643) from its Spanish garrison by Louis II de Condé, was defended (1815) by General Hugo (Victor Hugo's father), and in 1870 was the scene of a Prussian victory over Marshal Bazaine.

Third Republic: see France

Thirkell, Angela (thûr'kul), 1890–, English novelist, daughter of J. W Mackail Her first book, *Three Houses*, a family record, was published in 1930 With her second novel, *High Rising* (1933), she struck the vein of light, witty novels of English country-house living which have delighted readers through a long series The same characters, slightly absurd but always likable, flit in and out of different stories, and for her setting she has borrowed Trollope's Barsetshire The series includes *Pomfret Towers* (1938), *The Brandons* (1939), *Before Lunch* (1940), *Cheerfulness Breaks In* (1940), *Northbridge Rectory* (1941), *Love among the Ruins* (1948), and *The Old Bank House* (1949)

Thirlmere, narrow lake, c 3 mi long, Cumberland, England, near Derwentwater NW of Helvellyn In 1894, through the construction of a high dam and an aqueduct c 100 mi long, it became a source of water supply for Manchester

Thirlwall, Connop (kŏ'nup thûrl'wôl), 1797–1875, English historian He studied at Cambridge and later taught at the university until he was forced to resign for his defense of religious dissenters He was bishop of St David's, Wales, from 1840 His chief work is his *History of Greece* (8 vols, 1835–44), it rivaled the similar work by George Grote, which appeared at about the same time

thirst, desire for water Dry or salty food and dry or dusty air cause a drying of the membranes lining the throat and produce a sensation of thirst which may be relieved by moistening the membranes with a small amount of water Deprivation of water for a long period of time may affect the water requirements of the entire body and may result not only in the sensation of simple thirst but also in pain and suffering Because water makes up a large part of the body weight and normal metabolism depends upon a sufficient amount of water in the tissues, a lack of water over a long period affects the physiological functions of the body including the metabolism of the nervous system

Thirteen Colonies, the, term used for the colonies of British North America that joined together in the American Revolution against the mother country, adopted the Declaration of Independence in 1776, and became the United States They were New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia Virginia was the earliest founded (1607) They are also called the Thirteen Original States, but to call them the Thirteen Original Colonies is an error.

Thirty-nine Articles: see Creed

Thirty Tyrants, oligarchy of ancient Athens (404–403 B C) created by Lysander, under Spartan auspices, after the Peloponnesian War Critias and Theramenes were prominent members of it It was overthrown by Thrasybulus, who headed the exiles from Phyle

Thirty Years War, 1618–48, general European war, fought mainly in Germany There were many issues, territorial, dynastic, and religious, and it is recognized today that the accent placed by 19th-century historians on the religious aspects is misleading Throughout the war there were shifting alliances and local peace treaties, and the whole conflict can be understood only as a conflict of petty German princes and foreign powers—France, Sweden, Denmark, England—against the unity and power of the Holy Roman Empire as represented by the Hapsburgs and against the Hapsburgs themselves in Austria and Germany, in Italy, in the Netherlands, and in Spain The outbreak of the war came with the resistance of Protestant Bohemian nobles to the Catholic king Ferdinand (later Emperor Ferdinand II) The revolt began with violence against the royal officers in Prague—the "defenestration of Prague" (May, 1618). Ferdinand was declared deposed and the Bohemian throne was offered to Frederick V, the elector palatine Revolt also appeared in other Hapsburg dominions, especially under Gabriel Bethlen in Transylvania Maximilian I of Bavaria aided the imperialist forces under Tilly to defeat the Bohemians at the White Mt. near Prague (Nov., 1620) Frederick, ever afterward called the Winter King, had lost his brief hold on Bohemia. The war continued in the Palatinate, and severe repression began in Bohemia. In the Palatinate Mansfeld and Christian of Brunswick led the revolutionary forces Frederick expected aid from his father-in-law, James I of England, but got no effectual help The Palatinate was taken by the imperial general, Tilly, he won at Wimpfen and Höchst (1622) Frederick's lands were confiscated by the emperor, and the Upper Palatinate and the electorate were conferred on Maximilian of Bavaria The imperialist victory at Stadtlohn (1623) practically ended one phase of the war Frederick was forced to sign an armistice with the emperor The new phase saw the German war expanded into an international conflict Christian IV of Denmark came into the fighting, principally because of his fear of the rise of Hapsburg power in N Germany, he openly avowed religious motives but hoped also to enlarge his German possessions England gave a subsidy to aid the opponents of the Hapsburgs and sent a few thousand soldiers Christian IV advanced into Germany The emperor's cause was advanced by the work of Wallenstein, who gathered an effective army and defeated Mansfeld at Dessau (1626) A little later the Danish king was soundly defeated by Tilly at Lutter The imperialist armies swept through most of Germany Wallenstein went into Jutland and vanquished the Danes but failed before Stralsund (1628) In 1629 Denmark by the Treaty of Lubeck withdrew from the war and surrendered the north German bishoprics A new period of the war opened The Edict of Restitution (1629), issued by Ferdinand II, attempted to enforce the ecclesiastical reservation of the Peace of Augsburg and declared void Protestant titles to lands secularized after 1552, its full application would have had a disastrous effect on German Protestantism and naturally aroused the Protestant states to determined, though at the moment latent, hostility Gustavus II (Gustavus Adolphus) of Sweden now came into the war His territorial ambitions had embroiled him in wars with Poland, and now he feared that Ferdinand's maritime designs might threaten Sweden's mastery of the Baltic He declared against the emperor and was supported by an understanding with Catholic France, then under the leadership of Cardinal Richelieu Swedish troops marched into Germany Meanwhile Ferdinand had been prevailed upon (1630) to dismiss Wallenstein, who had powerful enemies in the empire Tilly now headed the imperialist forces He was able to take the city of Magdeburg while the Protestant princes hesitated to join the Swedes Only John George of Saxony, caught between Tilly and the Swedish king, joined Gustavus Adolphus, who offered him better terms The combined forces crushed Tilly at Breitenfeld (1631), thus winning N Germany Gustavus Adolphus triumphantly advanced and Tilly was defeated and fatally wounded in the battle of the Lech (1632) Wallenstein, recalled with some pleading by the emperor, took the field He defeated the Saxon forces and later met the Swedish forces at Lutzen (Nov., 1632), there the imperialists were defeated, but Gustavus Adolphus was killed and the anti-Hapsburg troops were disorganized Wallenstein after his great defeat remained inactive and entered into long negotiations with the enemy Meanwhile the able anti-imperialist general, Bernhard of Saxe-Weimar, stormed Regensburg (1633) Wallenstein was in 1634 murdered by imperialist conspirators Soon afterward the imperialist forces under Gallas defeated Bernhard at Nordlingen (Feb, 1634) Germany was in economic ruin, her fields devastated and bloodsoaked There was some feeling in Germany against the foreign soldiers that overran the land A general desire for peace led to the Peace of Prague (1635) This agreement drastically modified the Edict of Restitution, thus helping to reconcile Catholic and Protestant It was accepted by almost all the German princes and free cities A united imperial army was to move against the Swedish troops in Germany A general peace seemed to be in train, but Richelieu was unwilling to see the Hapsburgs retain power France entered openly into war (1635) Oxenstierna (the Swedish chancellor), anxious to preserve Sweden's hold in Germany, supported Richelieu The final stage of the Thirty Years War began The war now occupied most of Europe, with fighting in the Low Countries, where the United Provinces and France opposed Spain, in Italy, where France and Spain struggled for power, in France, in Germany, in the Iberian peninsula, where Portugal revolted against, and France attacked, Spain, and in the North, where Denmark opposed Sweden The Austrian forces went into France and achieved some success, but this was temporary For the most part this period of the war was disastrous for the empire Bernhard of Saxe-Weimar and the Swedish general, Baner, were victorious in Germany In 1636 Baner won a notable victory at Wittstock Bernhard conducted a series of brilliant campaigns, culminating in the capture of Breisach (1638) Bernhard died in 1639, Baner in 1641. Meanwhile Emperor Ferdinand II was succeeded by Ferdinand III (1637) In 1642 Richelieu died, his successor, Cardinal Mazarin, continued the established French policy. Germany was exhausted. Peace negotiations were begun before 1640, but the intricate diplomacy proceeded slowly and haltingly Meanwhile the empire was reduced by the armies of the Swedish Torstenson, Louis II de Condé, and Turenne. Torstenson defeated the imperialists at Breitenfeld (1642), after going north to subdue Danish opposition defeated Gallas, then won a climactic victory over Hatsfeldt at Jankau (1645). Meanwhile Condé had won a victory at Rocroi (1643), in 1645 he and Turenne (after a severe defeat) were victorious near Nordlingen Austria had been stripped of all conquests and her enemies were at the very door of Vienna Austria's strongest ally, Bavaria, was overrun The Swede Wrangel and the French Turenne were carrying on a successful campaign when the long-delayed peace was obtained (see Westphalia, Peace of) The general results of the war may be said to have been tremendous decrease in German population, devastation of the German fields, ruin of German commerce and industry, the breakup of the Holy Roman Empire, which was a mere shell in the succeeding centuries, and the decline of Hapsburg greatness Though generally considered a religious war, its effects on religion were bad, it was succeeded by a period of debased morality and religious decline The incredible sufferings of the German peasantry were remembered for centuries The political settlements of the peace were to the disadvantage of Germany as well as the Hapsburgs The estrangement of N Germany from Austria, then begun, was to continue for more than two centuries Many of the songs and writings of the war have been collected Old histories of the Thirty Years War are those of Anton Gindely (4 vols, 1869–80 Eng tr, 2 vols, 1884), Moritz Ritter (3 vols, 1889–1908, in German), and S R Gardiner (1874) See C V Wedgewood, *The Thirty Years War* (1939)

Thisbe see Pyramus and Thisbe

Thisbe, town whence Tobit was carried away, evidently c 90 mi N of Jerusalem Tobit 1 2

Thiselton-Dyer, Sir William Turner (thĭ'sultun-dī'ur), 1843–1928, English botanist As assistant director (1875–85) and director (1885–1905) of the botanical gardens at Kew, he enlarged its field of research, edited several of its publications, and founded (1887) the Kew Bulletin

thistle, popular name for many spiny and usually weedy plants, but especially applied to the composite-flowered genera *Carduus*, *Cirsium*, *Cnicus* and *Onopordon*, which have spiny leaves and often showy heads of purple, rose, white, or yellow flowers followed by the thistledown seeds that are so loved by the goldfinch The Scotch thistle (variously identified) is the badge of the Scottish Order of the Thistle and the national emblem of Scotland, reputed to have betrayed the presence of a band of Danish invaders by the howl of one stepping upon the plant The blessed thistle or St -Benedict's-thistle (*Cnicus benedictus*, the *Carduus benedictus* of Shakspere's *Much Ado about Nothing*, iii 4) was a heal-all of old and is still sometimes used medicinally The common or bull thistle (*Cirsium lanceolatum*) and the pasture thistle (*Cirsium odoratum*) are attractive weeds not to be confused with the Canada thistle (*Cirsium arvense*), which has a creeping rootstock and has probably been more legislated against than any other weed because of its very persistent nature (it is an offense in most states to allow the seeds to mature) The Russian thistle is a tumbleweed

Thistlewood, Arthur, 1770–1820, English conspirator Trained as a land surveyor, he traveled in France and America and acquired revolutionary views He returned to England (1794), joined the Spencean Society (a revolutionary group in London), and became known to the police as a dangerous character With James Watson, he organized a public meeting at Spa Fields (1816) at which a revolution was to be started, but the meeting was easily dispersed Thistlewood was arrested and narrowly escaped conviction for treason A challenge to a duel which he sent in 1817 to the home secretary, Lord Sidmouth, led to a prison term Upon his release (1819) Thistlewood, dissatisfied with the milder efforts of his colleagues, plotted the assassination of cabinet members at a cabinet dinner The government, apprised of the conspiracy by an informer among the plotters, allowed it to mature and then surprised the conspirators at their arsenal in a Cato Street loft. Thistlewood escaped, but was captured the next day He was convicted of treason and executed for his part in what is known as the Cato Street Conspiracy.

Thivai, Greece see Thebes.

Thokoly or **Tokoly, Emeric** (both tô'kûē), Hung *Thököly Imre* (ĭm'rĕ), 1656–1705, Hungarian rebel, of a noble family of N Hungary His father, Stephen Thokoly, took an important part in the unsuccessful conspiracy of Francis I Rakoczy and Peter Zrinyi against Emperor Leopold I and died (1670) while defending his castle against imperial troops Thokoly fled to Poland The severe reprisals meted out by the Austrian governor of Hungary led to a general uprising, supported after 1674 by Louis XIV of France Thokoly took command (1678) of the rebel army and in 1680 made a truce with Leo-

pold. The emperor restored (1681) religious and political freedom in Hungary, but Thokoly rejected his concessions as insufficient and began to plot with Turkey to make himself master of his country. In 1682 he married Helen Zrinyi, daughter of Stephen Zrinyi and widow of Francis I Rakoczy, and late in the same year he was recognized by the sultan as "king of Upper Hungary" under Turkish suzerainty It was largely at his instigation that Mohammed IV undertook his expedition against VIENNA, and in 1683 Thokoly joined the Turkish forces under Kara MUSTAFA in the siege of that city The Turks blamed their rout on Thokoly and imprisoned him briefly (1688) at Adrianople, but in 1690 they appointed him prince of Transylvania From Transylvania he was driven (1691) by the imperial force under Louis of Baden The Treaty of Karlowitz (1699), by which the whole of Hungary passed to Leopold, also stipulated that Thokoly was to be interned by the Turks in Asia Minor He spent the rest of his life near Constantinople

Thoma, Hans (hāns' tō'mä), 1839–1924, German painter and lithographer, influenced by Courbet His later, individual style, modeled on that of old German woodcuts, shows rich coloring and depth of imaginative feeling In 1899 he became director of the Karlsruhe Gallery and professor at the academy Among his paintings are *At Lake of Garda* and *Eventide* (both Metropolitan Mus) and *Solitude*, *Spring Idyl*, and *Scenes from Life of Christ*

Thomas, Saint, one of the Twelve Disciples, called Didymus (did'imus) [Gr, =twin] He doubted the Resurrection until he saw Jesus and touched His side John 11 16, 14 5, 20 24–29, 21 2 By universal tradition he is said to have gone as missionary to India The Christians of Malabar call themselves Christians of St Thomas Among the PSEUDEPIGRAPHA are a Gospel of Thomas and Acts of Thomas

Thomas, Albert (älbĕr' tômä'), 1878–1932, French statesman Becoming a Socialist, he worked with Jaurès on the journal *Humanité* and took part in local politics In 1910 he was elected to the chamber of deputies and during the First World War held cabinet positions, notably as minister of munitions (1916) Thomas was sent to Russia in 1917 to help Kerensky He was director (1919–32) of the International Labor Office Among his historical works are *Le Syndicalisme allemand* (1903) and *Le Second Empire* (1907)

Thomas, Ambroise (tômä' äbrwäz'), 1811–96, French operatic composer, studied at the Paris Conservatoire, taking the Prix de Rome in 1832 He later taught composition there and became its director in 1871 He wrote a number of ballets and 20 operas, of which *Le Caïd* (1849 a satire on Italian opera), *Mignon* (1866), and *Hamlet* (1868) were the most successful

Thomas, Augustus (tō'mŭs), 1857-1934, American dramatist, b St Louis He worked as a journalist, an actor, and an advance agent for theatrical troupes His first big success was *The Burglar* (1889), which he first adapted (1887) as a one-act play from Frances Hodgson Burnett's story *Editha's Burglar* It was not until *Alabama* (1891), however, that Thomas was able to support himself as a dramatist The first of a series of excellent regional plays, *Alabama* was followed by *In Mizzoura* (1893), *Arizona* (1897), and *The Copperhead* (1918) Among his plays on topical themes was the successful *The Witching Hour* (1907) His autobiography, *The Print of My Remembrance*, appeared in 1922

Thomas, Cyrus, 1825–1910, American ethnologist and entomologist, b Kingsport, Tenn He was a lawyer, then a minister of the Evangelical Lutheran Church (1865–69) In 1869 he joined the U S Geological and Geographical Survey of the Territories and from 1873 to 1875 he taught natural science at Southern Illinois Normal Univ He was state entomologist of Illinois from 1874 to 1876 and was with the U S Entomological Commission from 1876 to 1877 In 1882 he left natural for social science, becoming archaeologist to the U S Bureau of Ethnology His work on the Indians of North America especially on the early civilizations of Mexico and on the mound builders of the United States, was valuable Besides many monographs in ethnology he wrote *Introduction to the Study of North American Archaeology* (1898) and a general work, *The Indians of North America* (1903)

Thomas, David Alfred: see RHONDDA, DAVID ALFRED THOMAS, 1ST VISCOUNT.

Thomas, Dylan (Dylan Marlais Thomas) (dil'lŭn), 1914–, British poet, b Caermarthenshire, Wales, educated at the Swansea Grammar School His first volume, *Eighteen Poems* (1934), brought the young Welshman an instant reputation, which was deepened by later books—*Twenty-five Poems* (1936), *The Map of Love* (1939), and *Deaths and Entrances* (1946) His introspective poems are built on a correlation of symbols, showing the strong influence of Freud, diction and meter are startlingly fresh. He also has written short stories, some of these are included with poetry in *The World I Breathe* (1940) His *Portrait of the Artist as a Young Dog* (1940)—a title reminiscent of James Joyce—is a series of anecdotes based on autobiography. A small volume of selected works appeared in 1946.

Thomas, Edith Matilda 1854–1925, American poet, b. Medina co, Ohio She lived in New York city after 1887 Her verse was collected from periodicals in *The Inverted Torch* (1890), *The Flowers from the Ashes* (1915), and other volumes See her *Selected Poems* (with memoir by Jessie B. Rittenhouse, 1926)

Thomas, Edward, 1878–1917, English poet and critic, b London, educated at Lincoln College, Oxford When he had long earned his living by writing essays, travel books, and critical studies of Maeterlinck, Borrow, Swinburne, Pater, and others, his friendship with Robert Frost, which began in 1912, turned him to writing poetry *Six Poems* (1916) by "Edward Eastaway" appeared before Thomas was killed in the First World War *Poems* (1917), *Last Poems* (1918), and *Collected Poems*](1920), new ed, 1936) revealed him as a true English nature poet See biography by R P Eckert (1937)

Thomas, George Henry, 1816–70, Union general in the Civil War, b Southampton co, Va, grad West Point, 1840 He served against the Seminoles and distinguished himself at Monterrey and Buena Vista in the Mexican War Later he taught at West Point and served in Texas In the Civil War, Thomas remained in the U S army and, in Aug, 1861, was made brigadier general of volunteers After service in the Shenandoah Valley, he was sent to Kentucky, where he defeated the Confederates at MILL SPRINGS (Jan, 1862) Thomas commanded a wing of the Army of the Ohio about Corinth, was second in command to Buell at Perryville, and commanded the Union center at Murfreesboro In the CHATTANOOGA CAMPAIGN, his stand on Sept 20, 1863, in saving the Union army from complete rout, won for him the sobriquet Rock of Chickamauga He succeeded Rosecrans in command of the Army of the Cumberland (Oct, 1863) and served under U S GRANT around Chattanooga and under W T SHERMAN in the ATLANTA CAMPAIGN With the fall of Atlanta (Sept, 1864), Thomas returned to Tennessee and at Nashville thoroughly defeated Gen J B HOOD (Dec, 1864) This victory brought him a major generalcy in the regular army He was commander of the Military Division of the Pacific at the time of his death See biographies by Henry Coppée (1893), Freeman Cleaves (1948), and Richard O'Connor (1948)

Thomas, Isaiah, 1749–1831, American printer, of Worcester, Mass He published in 1785 *A Specimen of Isaiah Thomas's Printing Types*, valued as evidence of the equipment of a leading American printer of the time The types were "Chiefly Manufactured by that great Artist, William Caslon, Esq, of London" Thomas was the author of a *History of Printing in America* (1810)

Thomas, James Henry, 1874–1949, English labor leader and public official He early became a labor organizer and in 1910 was named president of the Amalgamated Society of Railway Servants which he helped to reorganize on an industrial basis as the National Union of Railwaymen after the strike of 1911 He served in the House of Commons from 1910 to 1936 He was colonial secretary in the 1924 Labour government and in 1929 was made lord privy seal and special minister for employment In 1931 he entered the National government under Ramsay MacDonald and was, as a result, expelled from the Labour party and the railwaymen's union He was dominion secretary (1930–35) and colonial secretary (1935–36) In 1936 he resigned as a result of a scandal, he was convicted of revealing budget secrets to insurance speculators See his *My Story* (1937)

Thomas, John Charles, 1891?–, American baritone, b Meyersdale, Pa, studied at the Peabody Conservatory, Baltimore After a successful career in musical comedy he made his operatic debut in Washington, D C, in 1924, after which he sang with the Royal Opera, Brussels At the Metropolitan Opera House he made his debut in 1934 in Verdi's *La Traviata*, joining the company in 1935 Well known as a concert and radio singer, he also appeared in a few moving pictures

Thomas, Martha Carey, 1857–1935, American educator and feminist, b Baltimore, Md, grad Cornell Univ, 1877, studied at Johns Hopkins and at Leipzig, the Sorbonne, and Zurich (Ph D, 1882) In 1884 she was appointed to organize Bryn Mawr College for women, serving as dean and professor of English until 1894 and as president from 1894 to 1922 She also established the summer school for women in industry at Bryn Mawr in 1921 A leader in the woman-suffrage movement, she was president of the National Collegiate Equal Suffrage League from 1906 to 1913 Her works include *The Higher Education of Women* (1900)

Thomas, Norman Mattoon, 1884–, American Socialist leader, b Marion, Ohio, grad Princeton, 1905 He did settlement work, and after he graduated (1911) from the Union Theological Seminary he served as pastor of Presbyterian churches in New York city until 1918. He formally left the ministry in 1931 In the First World War he advocated pacifism and joined the Socialist party He led in several strikes, founded (1918) the journal the *World Tomorrow*, and was (1921–22) an editor of the *Nation*. He helped found what is now the American Civil Liberties Union, and after the death (1924) of Eugene V DEBS, he became the guiding spirit of the SOCIALIST PARTY in America He sought election as governor of New York (1924, 1938) and as mayor of New York city (1925, 1929) Norman Thomas, advocating evolutionary socialism in America, was repeatedly the Socialist party candidate for President after 1928, polling his highest vote of 190,000 in 1932 His following diminished after a split within the Socialist party He was a constant critic of the American economic system and of both major parties and an insistent advocate of reform; he strongly opposed American entry in the Second World War while bitterly denouncing fascism and the dictatorship of the proletariat He wrote several books, including *The Conscientious Objector in America* (1923), *What Is Industrial Democracy?* (1927), *Socialism of Our Time* (1929), *Human Exploitation* (1934), *We Have a Future* (1941), *What Is Our Destiny* (1944), and *Appeal to the Nations* (1947)

Thomas, Robert Baily, 1766–1846, American editor, b Grafton, Mass He compiled his famous *Farmer's Almanac* (later the *Old Farmer's Almanack*) annually from 1793 to 1846, and it reached a circulation of over 200,000 copies His heirs continued it into the 20th cent See G L Kittredge, *The Old Farmer and His Almanack* (1920)

Thomas, Seth, 1785–1859, American clock manufacturer, b Wolcott, Conn In 1812 he sold his partnership in a clock business established by Eli Terry and set up a factory to make metal-movement clocks at Plymouth Hollow, Conn (renamed Thomaston in his honor c 1860) He also built and operated a mill to roll brass and make wire for his clock factory His son, **Seth Thomas,** 1816–88, b Plymouth Hollow, Conn, greatly enlarged the business

Thomas, Sidney Gilchrist, 1850–85, English metallurgist In 1875 he invented a method, known as the basic Bessemer process, for the removal of phosphorus from iron With the aid of his cousin, Percy Gilchrist, he proved its practicability, patented it, and succeeded in introducing it in the steel industry This invention met a basic need and became widely used especially on the Continent where there was a larger proportion of phosphoric ores

Thomas, Theodore, 1835–1905, American violinist and conductor, b Germany He came to the United States in 1845 and in 1851 went on the first of his self-sponsored concert tours In 1854 he became a member of the New York Philharmonic Orchestra, which he conducted in the season 1877–78 With William Mason he founded (1855) the Mason-Thomas quintet In 1862 he founded his own orchestra, with which he toured the United States and gave outdoor summer concerts in New York city He was appointed (1878) director of the newly founded Cincinnati College of Music, but he returned to New York in 1880 to conduct again the New York Philharmonic, his own orchestra, and the Brooklyn orchestra He disbanded his own orchestra in 1888 and in 1891 went to Chicago as permanent conductor of the Chicago Orchestra, the post he held until his death As a result of his tours many cities throughout the country developed orchestras He introduced major works of Brahms, Wagner, Anton Bruckner, and Richard Strauss to American audiences See his autobiography (ed by G P Upton, 1905), C E Russell, *The American Orchestra and Theodore Thomas* (1927)

Thomas. 1 Town (pop 1,220), W Okla, near the Canadian river, in an agricultural (especially wheat) area, platted 1902 Amish and Dunkard communities are in the area **2** Trading city (pop 1,449), N W Va, NE of Elkins, in a mining region, founded 1884 Blackwater Falls State Park is near

Thomas à Becket, Saint, or **Saint Thomas Becket,** 1117–70, English martyr, archbishop of Canterbury, b London He is called St Thomas of Canterbury and occasionally St Thomas of London He came of a good Norman family He was well educated, ending his studies at the Univ of Paris The straitened circumstances of his family forced him to act as a "notary" until he was taken into the household of Theobald, archbishop of Canterbury (1142) In the archbishop's service Thomas distinguished himself and was given several delicate missions to perform Theobald sent him to Bologna to study law under Gratian In 1154 he was ordained deacon and appointed archdeacon of Canterbury The next year the young King Henry II appointed him chancellor Thomas became an intimate friend and adviser of the king and was considered second most powerful man in the kingdom It would seem that he did not oppose the taxation on churchmen so vigorously opposed by some ecclesiastics, but on the other hand the statement that he injured the Church is based on unsupportable evidence of Thomas's enemies Though he lived with magnificence and took an undistinguished part on the battlefield in the Toulouse campaign, his personal life and character were above reproach He was, moreover, not invariably compliant to the will of the king When Henry wanted to secure for him the primacy of Canterbury left vacant by Theobald's death (1161), Thomas was reluctant, explicitly because it would involve him in a struggle

with the king Henry insisted, and Thomas was ordained priest and consecrated bishop in 1162 The merry chancellor became an ascetic archbishop Trouble was not long in arriving Thomas attempted to resign the chancellorship, and he angered the king by efforts to recover properties of which the archdiocese of Canterbury had been illegally deprived Thomas insisted that clerks be tried in ecclesiastical courts, even for secular offenses He maintained his right to assign priests to parishes without consulting the local lord He successfully opposed Henry's attempt to collect the tax of the Danegeld A little later, actual conflict arose when Henry summoned the bishops to Westminster (1163) and endeavored to confirm his "grandfather's customs" of unreserved obedience to the king Thomas refused unless an exception be made "saving his order," but was induced by letters from the pope to submit Henry, wishing to codify this concession, had the Constitutions of Clarendon drawn up (1164), these Thomas refused to sign, declaring them contrary to canon law The most important provision was that which provided for the trial of "criminous clerks" (i e , clerics accused of a crime at common, rather than canon, law) in the king's courts, with the secular power determining the legal jurisdiction of the accused cleric Appeals in ecclesiastical law were to proceed from bishop to archbishop to the king, rather than the pope Thomas resisted these and other innovations because they challenged the supranational authority of the Church Representing the conservative opponents of the growing royal power, he was very jealous of the privileges and of the free autonomy of the Church That he was also opposing the course of constitutional development there can be no doubt Fearing persecution, Thomas fled to the Continent (Nov , 1164), and laid his cause before Pope Alexander III, who was too enmeshed in his own difficulties to aid Thomas at the time The quarrel dragged on, and both sides took extreme stands Finally in 1170 a sort of peace was patched up, after Henry had had his son crowned by the archbishop of York in direct violation of precedent and customary constitutional law The peace did not really settle the issue, and after Thomas's return to England (Dec , 1170), trouble immediately recurred Thomas published the pope's letters suspending the bishops who had taken part in the coronation, the king demanded that the bishops be immediately absolved Although he himself had asked the pope to soften the terms of suspension and knew that they would be softened, Thomas said nothing of this and took a firm stand He was further involved in trouble concerning the restoration of property taken from him by the De Broc family Feeling between king and archbishop ran high On Dec 29 a band of armed men came to Canterbury and murdered Thomas À Becket in the cathedral itself He showed himself almost incredibly courageous at the end Though it is generally agreed that the king was not directly responsible for Thomas's death, there can be no doubt that he was indirectly responsible That Thomas was a martyr is indisputable, whatever the estimate of the cause in which he died Thomas's death shocked the whole of the Christian world, and his tomb in Canterbury became an immediate shrine He was canonized in 1173, and in 1174 Henry was forced by the revulsion of public opinion to do penance at the tomb of St Thomas The popularity of Thomas's cult continued through the Middle Ages, Canterbury's preeminence as a place of pilgrimage (immortalized in Chaucer's *Canterbury Tales*) continued until it was destroyed (probably along with the martyr's remains) under Henry VIII in 1538. The conventional view among English historians was through several centuries marred by an erroneous impression that St Thomas was seeking to extend Church power against the state Feast Dec 29 T S Eliot's *Murder in the Cathedral* is a poetic dramatization of St Thomas's martyrdom See J C Robertson, *Materials for the History of Thomas à Becket* (1875–85), Robert Speaight, *St Thomas of Canterbury* (1938)

Thomas à Kempis (kĕm'pĭs), b 1379 or 1380, d. 1471, German monk, b Kempen, Germany He was schooled at Deventer, in the Netherlands, the center of the Brothers of the Common Life founded by Gerard GROOTE He joined the Augustinian canons (1399) and was ordained a priest (c.1413) His convent was Mt St Agnes, near Zwolle, in the Netherlands Thomas worked principally at writing and copying and was very proficient Of his treatises on monastic life and little devotional essays many have been translated into English The great devotional work, *The Following of Christ* or *The Imitation of Christ*, was long attributed without question to Thomas, whose name appears as copyist or author of the standard Latin version The matter of authorship is still open, but it is claimed with good evidence that the author is Groote and that Thomas rearranged the work and inserted interpolations in establishing an official Latin version.

Thomas Aquinas, Saint (ukwī'nŭs) [Latin,=from Aquino], 1225–74, Italian philosopher and Doctor of the Church, known as the Angelic Doctor, b Rocca Secca (near Naples), Italy. He was the greatest figure of SCHOLASTICISM, one of the principal saints of the Roman Catholic Church, and founder of the system declared by Leo XIII (in the encyclical *Aeterni Patris*, 1879) to be the official Catholic philosophy. He came of the ruling family of Aquino, was educated as a child at Monte Cassino, and studied in his late teens at Naples To his family's disappointment he entered the new Dominican order in 1244. In 1245 he began to study in Paris with Albertus Magnus, whose favorite pupil he became, and in 1248 he accompanied Albert to Cologne From there, Thomas went again (1252) to Paris, where he gained a great reputation and became professor of theology He was leader of the friars in the controversy which occurred when the seculars sought to limit the friars, privileges at the university After 1259 he spent several years in Italy as professor and adviser at the papal court His return to Paris (1269) was probably precipitated by the furor over SIGER DE BRABANT and his Averroistic reading of Aristotle The doctrinal struggle with Siger was the most celebrated event of his life, and Thomas's victory meant the triumph of his position In 1272 he left Paris for good and went to Naples to organize a house of studies Two years later when he and his constant companion, Brother Reginald, were at Fossanuova, on the way to the Council of Lyons, where he was to be a papal consultant, St Thomas died St Thomas's classic nickname was the Dumb Ox, because he was slow in manner and quite stout He was, however, a brilliant lecturer and clear, sharp thinker, as his works show They reveal this not only in their rigid application of reason, but also in their Latin, which is admirably exact and simple His spiritual character can be seen in the humility and charity of his conduct and the use to which he put his theories in his devotional works, notably in the Mass and office for Corpus Christi, which Urban IV requested him to write (1264) The four hymns of this Mass and office, *Lauda Sion Salvatorem*, PANGE LINGUA, *Sacris solemniis*, and *Verbum supernum* (ending with *O Salutaris Hostia*), are classed among the greatest of Christian hymns No one work of St Thomas can be said fully to reveal his philosophy His works may be classified according to their form and purpose The principal ones are *Commentary in the Sentences* (1254–56), his earliest great work, a series of public lectures, seven *quaestiones disputatae* (public debates, 1256–72), philosophical commentaries on Aristotle's *Physics*, *Metaphysics*, *De anima*, *Ethics*, part of the *De interpretatione*, and the *Posterior Analytics*, treatises on many subjects, including the *Summa contra Gentiles* (1258–60), and most important of all, *Summa theologica* (1267–73), an incomplete but a systematic exposition of theology on philosophical principles St Thomas's philosophy is avowedly Aristotelian, the methods and distinctions of the Greek are adapted to revelation The 13th cent was a critical point in Christian thought, which was torn between the claims of the Averroists and the extreme Augustinians Thomas opposed both schools, the Averroists led by Siger de Brabant who would separate faith and truth absolutely and the Augustinians who would make truth a matter of faith St Thomas held that reason and faith constitute two harmonious realms in which the truths of faith complement those of reason, both are gifts of God, but reason has an autonomy of her own Thus he vindicated the rights of reason against the fearful who wished to suppress Aristotle as the father of Averroës and heresy The first principle of philosophy according to St Thomas is the affirmation of being From this he proceeded to a consideration of the manner in which the intellect knows that which is For man, all knowledge begins by way of the senses, which are the medium by which he grasps the intelligible world, the universal According to the position of Thomas, which is known as moderate REALISM, the form or the universal may be said to exist in three ways, in God, in things, and in the mind It is by the knowledge of things that we come to know of God's existence In the natural order what God is can be known only by analogy and negation. Thomas's conviction that the existence of God can be discovered by reason is shown by his proofs of the existence of God Thomas's analysis of that which is proceeds by way of the Aristotelian concepts of potency and act, matter and form, being and essence Any thing which requires completion by another is said to be in potency to that other; the realization of potency is called actuality. The universe is conceived of as a series of things arranged in an ascending order or potency and act at once crowned and created by God, who alone is pure act God is changeless because change means passage from potency to act, and so he is without beginning and end, since these demand change Matter and form are necessary to the understanding of change, for change requires the union of that which becomes and that which it becomes. Matter is the first and form the second. All physical things are composed of matter and form. The difference between a thing as form or character and the actual existence of it is denoted by the terms *essence* and *being*. It is only in God that there is no distinction between the two Both pairs—matter and form, essence and being—are special cases of potency and act The system of St. Thomas rests upon these three distinctions. Being may also be characterized according to modes. Modes do not add anything to the idea of being, but are ways of making explicit what is implicit in it In one sense, mode means the division of being into categories In another sense, it expresses certain distinctions of being as it is common to all kinds In this sense, modes are known as transcendentals; along with *being* these are principally unity, truth, and goodness These terms are convertible, one to another Since the opposite of being does not exist, and the good is identical with being, it is obvious that for St Thomas evil is but the absence of good. For a long time, Thomas was either ignored or misunderstood by even the greatest philosophers, but his teachings ultimately triumphed. That they are official in the Roman Catholic Church does not mean that Catholics may not adhere to other philosophies, notably the Scotist teachings, developed from the doctrines of Duns Scotus St Thomas's magnificent synthesis is now recognized generally as one of the greatest works of human thought. His wide-embracing philosophy is applied to every realm of human life Thomism is a complete structure in itself, not simply a collection of theories The terms *New Thomism*, *Neo-Thomism*, and *Neoscholasticism* are used for a school of philosophy of the 20th cent The Catholic leaders of this school are Étienne Gilson and Jacques Maritain, who seek to apply Thomistic principles to modern economic, political, and social conditions. Non-Catholics also have adapted Thomistic principles to modern life, they are also called Neo-Thomists A leader among them is Mortimer Adler In art St Thomas is usually associated with a sacramental cup (representing his devotion to the sacrament), a dove (representing the inspiration of the Holy Ghost), or a sun on his breast He was canonized in 1323 His tomb is in the Basilica of St Sernin at Toulouse Feast March 7 His works have all been translated, the more important ones in various versions Volumes of selections are also available See Francesco Olgiati, *Key to the Study of St Thomas* (tr by John S Zybura, 2d ed , 1929), G K. Chesterton, *St Thomas Aquinas* (1933), Étienne Gilson, *The Philosophy of St Thomas Aquinas* (Eng tr , 1937), Gerald Vann, *Saint Thomas Aquinas* (1941), R E Brennan, ed , *Essays in Thomism* (1942), M C D'Arcy, *Thomas Aquinas* (1944)

Thomasius, Christian (krĭs'tyan tōmā'zē-ŏŏs), 1655–1728, German jurist and philosopher A lawyer and lecturer upon natural law at Leipzig, he broke with the traditional school of lecturing in Latin and from 1687 taught in German This and other liberal stands forced him to move to Halle in 1690, where he helped establish (1694) the Univ of Halle, in which he became a professor In the practical philosophy of Thomasius every question must be considered without prejudice and submitted to the judgment of common sense He was a reformer who desired to liberate politics from religious domination, and within religion he strove for freedom and toleration He firmly and courageously pointed the way to the philosophy known as the Enlightenment His chief work is *Institutiones jurisprudentiae divinae* (1688)

Thomas Jefferson Memorial, monument, Washington, D C , in East Potomac Park, on the Tidal Basin, dedicated 1943 The building is of white marble in modified Pantheon form—a circular structure with a domed ceiling, surrounded by 26 columns The design was adapted from the plans of John Russell Pope Inside is a statue of Jefferson by Rudulph Evans

Thomas More, Saint. see MORE, SIR THOMAS

Thomas of Bayeux (bāyō'), d 1100, Anglo-Norman ecclesiastic, archbishop of York (1070–1100) On his succession to the see of York he refused to profess his submission to the archbishop of Canterbury, at that time Lanfranc Lanfranc refused to consecrate him, and it took the personal influence of the king to settle the quarrel. After his consecration Thomas went to Rome to appeal his case, and the pope referred it to a council of English bishops The final decision was in Lanfranc's favor, but Thomas gained theoretical sovereignty over Scotland The see of York never exercised this, however.

Thomas of Canterbury, Saint: see THOMAS À BECKET, SAINT

Thomas of Celano (chälä'nō), 13th cent , Italian Franciscan friar One of the first companions of St FRANCIS, he wrote the two principal lives of St Francis, one for Gregory IX and the other for the minister general of the order. He was an early Franciscan missionary to Germany. He probably composed the sequence DIES IRAE and its celebrated plain song.

Thomas of Erceldoune (ûr'ĕldōn'), fl. 1220?–1297?, Scottish seer and poet, also known as Thomas the Rhymer and Thomas Learmont He occupies in Scottish lore a position similar to that of Merlin in English lore, but with some historical foundation. Evidence of his real existence is founded on the mention of his name in documents of the 13th cent. His reputation as a prophet became proverbial soon

after his death, and in succeeding centuries "to fabricate a prophecy in the name of Thomas the Rhymer appears to have been found a stroke of policy on many occasions." His reputed sayings were consulted as late as the Jacobite risings of 1715 and 1745. The poetical romance of Thomas and the Elf-Queen, attributed to his pen but actually composed about 1400, describes the events surrounding his receipt of the gift of prophecy Modern critics are inclined to doubt that Thomas was the author, as he was reputed to be, of the Arthurian poem first printed in 1804 by Sir Walter Scott as *Sir Tristrem*

Thomaston (tŏ'məstən) **1** Town (pop 4,238), W Conn, settled 1728, set off from Plymouth 1875 Eli Terry and Seth Thomas (for whom the town was named) made clocks here Clocks and hardware are still made **2** City (pop 6,396), co seat of Upson co, W central Ga, W of Macon near the Flint river, inc 1825 Thomaston is an industrial center in an area growing cotton and peaches Its first textile mill was established in 1833 **3** Town (pop 2,533), S Maine, SW of Rockland, inc 1777 It has a small port at the head of St George inlet A trading post was established c 1630 and a fort in 1719 The state prison (1824) is near by "Montpelier," home of Henry Knox, was restored as a memorial The town has a cement plant **4** Residential village (pop 1,159), on NW Long Island, SE N Y, near Great Neck, inc 1931

Thomasville. 1 Town (pop 2,000), SW Ala, SW of Selma in a farm and timber area, founded 1887 **2** City (pop 12,683), co seat of Thomas co, SW Ga, near the Fla line and the Ochlockonee river, founded 1826 This residential and industrial city is also a tobacco and cotton market and has farm-product processing plants Neighboring large estates and gardens are many and beautiful The climate is mild, and resort activities include hunting and fishing **3** Industrial city (pop 11,041), central N C, SE of Winston-Salem It produces furniture (chiefly chairs) and textiles It has city-manager government

Thomond, Ireland see CLARE

Thompson, Benjamin. see RUMFORD, BENJAMIN THOMPSON, COUNT

Thompson, Daniel Pierce, 1795–1868, American novelist, b Charlestown, Mass, grad Middlebury College, 1820 A lawyer in Montpelier, Vt, he edited a political journal and wrote adventure novels, the most famous of which, *The Green Mountain Boys* (1839), has value for its local color

Thompson, David, 1770–1857, Canadian geographer, fur trader, and explorer, b London, England In 1784 he came to Fort Churchill as an apprentice of the Hudson's Bay Company, and until 1797 he was a fur trader on Hudson Bay and W to the Athabaska country Though he had little scientific training, he developed great skill in geodetic and astronomical observations, and after 1797, when he joined the North West Company, he methodically located points in W Canada and made surveys of astonishing exactitude In 1797–98 he traveled far south to the Mandan villages on the Missouri and then surveyed the source of the Mississippi His most notable exploring expeditions were, however, those across the Rocky Mts and on the Columbia river In 1807 he was the first to cross the Howse Pass to the source of the Columbia river and travel its length, he then explored the Kootenai, Pend Oreille, and Clark Fork region In 1810, prevented by the Piegan Indians from using Howse Pass, he went north to the head of the Athabaska river and across the mountains and explored all of the Columbia river system, visiting (1811) the American post at Astoria He then went to Montreal, where he made a large and invaluable map of W Canada for the North West Company, parts of which are still incorporated in the maps of Canada Thompson, however, received little open recognition except an appointment (1816–26) to the commission for surveying the U S–Canada boundary It was not until the 20th cent that his importance as a geographer was recognized In the quartercles of the Washington and Oregon historical societies T C Elliot has done much to trace his voyages See his narrative (ed by J B Tyrrell, 1916), E C Coues, *New Light on the Early History of the Greater Northwest* (3 vols, 1897), containing material from his notebooks, C N Cochrane, *David Thompson, the Explorer* (1924)

Thompson, Denman, 1833–1911, American actor and dramatist, b Girard, Pa His classic play of rural New England, *The Old Homestead* (1886), was based on his early life in Swanzey, N H At 17 he ran away to join a circus and, drifting to the theater, played character parts in stock companies In 1875 in Pittsburgh he produced and acted in a skit called *Joshua Whitcomb*, which he expanded in 1876 Its success, with Thompson in the title role, led him to develop it into the four-act *The Old Homestead*, with which he toured the country for more than 20 years. The play continued to be presented long after his death and has been frequently revived

Thompson, Ernest Seton: see SETON, ERNEST THOMPSON.

Thompson, Francis, 1859–1907, English poet. He was educated at the Roman Catholic Ushaw College, but his health was too poor for the priesthood He studied medicine at Owens College, Manchester In 1885 he quarreled with his father, abandoned medicine, and went to London, here he lived in poverty, ill and an opium addict In 1888 he sent a manuscript to Wilfrid Meynell who, with his wife Alice, recognized Thompson's genius and took him under their care. *Poems* (1893), which attracted much attention, contained "The Hound of Heaven," generally recognized as one of the finest poetic productions of Thompson's time Two more volumes appeared, *Sister Songs* (1895) and *New Poems* (1897), both supplemented by the publication of a few more poems after his death His genius found full development in these slender volumes of verse A Catholic, he had a deep religious sense, expressed mystically in brilliant imagery and sonorous language which more than compensated for his lack of originality in thought Thompson also wrote a number of essays, including a notable study of Shelley (1909) Many of his last years were spent in monasteries, recuperating from sickness See his *Literary Criticisms* (ed by T L Connolly, 1948), biographies by Everard Meynell (1913) and R L Mégroz (1927)

Thompson, Sir Henry, 1820–1904, English surgeon, famous for his surgery in genitourinary disease He performed a successful lithotomy on King Leopold I of Belgium in 1863 He was an advocate of cremation The installation of valuable instruments at Greenwich Observatory was made possible through his aid In 1867 he was knighted and in 1899 was created baronet His works include *Pathology and Treatment of Stricture of the Urethra* (1854)

Thompson, Jacob, 1810–85, U S Representative (1839–51) and Secretary of the Interior (1857–61), b Caswell co, N C, grad Univ of North Carolina, 1831 A prosperous lawyer and prominent Democrat of Oxford, Miss, he was six times elected to Congress Thompson was a member of President James Buchanan's cabinet until the Fort Sumter crisis and Mississippi's secession led him to resign in Jan, 1861 In the Civil War he served in the Confederate army, being inspector general under Gen John C Pemberton in the Vicksburg campaign He was made (1864) Confederate agent in Canada in order to stir up trouble for the Union among Copperhead elements in the North In April, 1865, he was captured at Portland, Maine, but was released at Lincoln's word Falsely accused of complicity in the President's assassination, he fled to Europe for several years and later lived in Memphis

Thompson, James Westfall, 1869–1941, American historian, b Pella, Iowa, grad Rutgers, 1892, Ph D Univ of Chicago, 1895 From 1895 to 1932 he taught history at the Univ of Chicago, becoming a professor in 1913, and from 1932 to 1939 he was professor of European history at the Univ of California An eminent scholar in medieval history, he wrote *The Development of the French Monarchy under Louis VI, le Gros, 1108–1137* (1895), *The Wars of Religion in France, 1559–1576* (1909), *Feudal Germany* (1928), *An Economic and Social History of the Middle Ages (300–1300)* (1928), *Economic and Social History of Europe in the Later Middle Ages (1300–1530)* (1931) *The Middle Ages, 300–1500* (1931), *The Medieval Library* (1939), *Ancient Libraries* (1940), and, with Bernard J Holm, *A History of Historical Writing* (1942)

Thompson, Sir John Sparrow David, 1844–94, Canadian statesman, b Halifax, N S He was briefly premier (1882) of Nova Scotia and a judge (1882–85) of the provincial supreme court In 1885 Sir John Macdonald appointed him minister of justice for Canada In this post Thompson was noted for the masterly skill with which he stated the government's position in the debates on the execution (1885) of Louis Riel and the Jesuit Estates Act (1888) In 1892 he became prime minister of Canada He died suddenly in England, shortly after having been sworn in as a privy councilor. See biography by J C Hopkins (1895)

Thompson, Joseph Parrish, 1819–79, American Congregationalist clergyman, b Philadelphia, grad Yale, 1838 He was pastor of the Broadway Tabernacle, New York city, from 1845 to 1871 He was a founder of the *New Englander* (1843) and one of the founders of the *Independent* (1848), long serving as associate editor

Thompson, Launt, 1833–94, American sculptor, b Ireland. In 1847 he settled in the United States An assistant in the studio of Erastus Dow Palmer for nine years, he opened his own studio in New York city in 1857 From 1875 to 1881 he lived in Florence His works include medallions, such as *Morning Glory* and one of John A Dix, portrait busts, e g, *Edwin Booth as Hamlet* (Metropolitan Mus), statues and monuments, such as Napoleon I (Metropolitan Mus), Abraham Pierson (New Haven, Conn), Gen Ambrose Burnside (Providence, R I), and Gen. John Sedgwick (West Point, N Y). He became a member of the National Academy of Design in 1862

Thompson, Mortimer Neal see THOMSON, MORTIMER NEAL.

Thompson, Richard Wigginton, 1809–1900, American politician, b Culpeper co, Va He settled in Lawrence co, Ind, began to practice law (1834), served in both branches of the legislature, and was a Whig Congressman (1841–43, 1847–49) He opposed antislavery legislation, helped organize the Constitutional Union party, and became a Republican only after the outbreak of the Civil War President Rutherford B Hayes appointed him Secretary of the Navy in 1877 but removed him in 1880 after Thompson became chairman of the American Committee of the (French) Panama Canal Company Thompson wrote *Recollections of Sixteen Presidents* (1884) and several partisan books, including polemics on the papacy and the Jesuits

Thompson, Smith, 1768–1843, American jurist, b Amenia, N Y, grad College of New Jersey (now Princeton Univ), 1788 He was admitted to the bar in 1792 In the supreme court of New York he was (1802–14) an associate justice and was later (1814–18) chief justice He was Secretary of the Navy from 1819 to 1823, when he was appointed an Associate Justice of the U S Supreme Court He was a Jeffersonian Republican in politics and while on the bench opposed the federalism of John Marshall

Thompson, William Boyce, 1869–1930, American financier and philanthropist, b Virginia City, Mont He operated silver and copper mines in Montana before he moved to New York city He was (1914–19) a director of the Federal reserve bank of New York and twice served as a delegate to the Republican national convention In the First World War he helped finance and accompanied (1917–18) a Red Cross mission to Russia He contributed money to the Kerensky government, and after the Bolsheviki seized power he also advocated U S recognition of the Soviet government He is, however, best remembered for founding the Boyce Thompson Institute for Plant Research in Yonkers, N Y See Hermann Hagedorn, *The Magnate* (1935)

Thompson, William Hale, 1869–1944, American political leader, b Boston His family moved to Chicago when he was nine years old, and there he later entered politics as an alderman (1900–1902) Later he was (1902–4) commissioner of Cook co and served (1915–24, 1927–31) three terms as mayor of Chicago A flamboyant figure, he attracted much attention during the 1927 mayoralty campaign with his tirades against England In 1936 he ran for governor of Illinois but was defeated

Thompson, William Tappan, 1812–82, American editor and humorist, b Ravenna, Ohio Thompson contributed amusing sketches to Georgia newspapers, later published in book form The best known is *Major Jones's Courtship* (1843)

Thompson, textile town (pop 5,577), extreme NE Conn, settled 1707, set off from Killingly 1785

Thompson, river of S British Columbia, formed by the junction of the North Thompson and the South Thompson at Kamloops and flowing W and S to the Fraser at Lytton The North Thompson rises in the Rocky Mts. in Thompson ice field on Mt Sir John Thompson and flows S and SW to Kamloops The South Thompson issues from Shuswap Lake and flows SW to Kamloops The Thompson is 304 mi long from the headwaters of the North Thompson It was discovered (1808) by Simon Fraser and named by him for David Thompson

Thomsen, Vilhelm (vil'hĕlm tōm'sĕn), 1842–1927 Danish philologist For many years he was professor of comparative philology at the Univ of Copenhagen A brilliant scholar with a scientific point of view, he did important work in Indo-European linguistics Probably his principal achievement was the decipherment of the bilingual Turkish-Chinese inscription found on the Orkhon river in Mongolia The inscription, published in 1894, is in the most ancient form of Turkish yet found

Thomson, Charles, 1729–1824, American patriot, b Co Londonderry, Ireland Emigrating to America in 1739, he later taught school and became a merchant His reputation for integrity and veracity made him influential, and his pre-Revolutionary activities led John Adams to call him "the Sam Adams of Philadelphia" As secretary of the Continental Congress (1774–89), Thomson kept careful records of all proceedings, and full notes of the debates He later made this material the basis of a history of the American Revolution, but destroyed the manuscript lest his description of the unpatriotic behavior of some of the colonists give offense to their descendants Thomson was the moving spirit in the committee that obtained the design for the Great Seal of the United States He wrote *An Enquiry into the Causes of the Alienation of the Delaware and Shawanese Indians from the British Interest* (1759), translated the Septuagint and the New Testament (4 vols, 1808), and published *A Synopse of the Four Evangelists* (1815) See biography by L R Harley (1900)

Thomson, Charles Edward Poulett. see SYDENHAM, CHARLES EDWARD POULETT THOMSON, BARON

Thomson, Sir Charles Wyville, 1830–82, Scottish naturalist, noted as a marine biologist and deep-sea explorer He participated in three deep-sea dredging expeditions (1868–70) and obtained evidence that animal life abounded in depths previously believed to be azoic, he recorded the results of his

studies in *The Depths of the Sea* (1873), a classic in oceanography He was director of the scientific work of the *Challenger* expedition (1872–76) and on his return was knighted and appointed director of a commission to distribute and study the collections of the expedition and to publish its results He wrote an account of the cruise *The Voyage of the "Challenger"* (1877). Thomson taught at several universities and was professor of natural history at the Univ of Edinburgh from 1870

Thomson, Elihu, 1853–1937, American electrical engineer and inventor, b Manchester, England Brought as a child to the United States, he graduated from the Central High School, Philadelphia, taught chemistry there for several years, and organized the Thomson-Houston Electrical Company, which was later absorbed by the General Electric Company From 1920 to 1923 he was acting president of Massachusetts Institute of Technology Internationally honored for his achievements in the field of electricity, Thomson invented the resistance method of electric welding, the repulsion type of induction motor, a three-phase electric dynamo, a watt meter, and the centrifugal cream separator In 1875 he demonstrated the transmission of signals without wires

Thomson, Sir George Paget, 1892–, English physicist, son of Sir Joseph John Thomson He was professor of natural philosophy at the Univ of Aberdeen (1922–30) and in 1930 became professor of physics at Imperial College, Univ of London He shared with C J. Davisson the 1937 Nobel Prize in Physics for their simultaneous, independent discovery of diffraction phenomena in the electron In 1943 he was knighted His works include *The Atom* (1930, 3d ed , 1947), *The Wave Mechanics of the Free Electron* (1930), and *Theory and Practice of Electron Diffraction* (with William Cochrane, 1939)

Thomson, James, 1700–1748, British poet, b Scotland He studied at Edinburgh Univ , and went to London in 1725 He found a post as a tutor and met such literary celebrities as Gay, Arbuthnot, and also Pope, from whose pastorals he may have derived the idea for his blank-verse poem *The Seasons*, the first book of this, "Winter," was published in 1726 and achieved an immediate success The second book, "Summer," appeared in 1727, followed by "Spring" (1728) and, in 1730, the collected work, *The Seasons*, which included "Autumn," a prefatory "Hymn," and a patriotic poem entitled "Britannia " His first play, *Sophonisba* (1730), was a poor imitation of Otway Thomson traveled through Europe in 1730–31 as tutor to Charles Talbot and in 1733 received the office of secretary of briefs His poem *Liberty*, which appeared in five parts from 1735 to 1736, was dedicated to Frederick, prince of Wales, but excited little interest *Agamemnon*, a second play, was performed in 1738, but the play *Edward and Eleanora* was banned by the censor, who feared its political implications In 1740 the famous ode "Rule Britannia" appeared in the masque *Alfred*, the joint work of Thomson and his friend David Mallet Mallet later claimed authorship of the ode but his claim is not sustained From 1738 to 1744 Thomson worked on a revision of *The Seasons* He wrote two other plays, *Tancred and Sigismunda* (1745) and *Coriolanus*, which was performed (1749) after the author's death *The Castle of Indolence* (1748) was written in imitation of Spenser *The Seasons*, however, remains his most important poem It was the first major work to challenge, by its truthful and romantic treatment of nature, the classical ideal of 18th-century poetry Its popularity endured into the succeeding century and influenced the later precursors of romanticism, such as Gray and Cowper See edition of Thomson's works by J L Robertson (1908), A D McKillop, *Background of Thomson's Seasons* (1942), biographies prefixed to the many editions of *The Seasons* and those by William Bayne (1898) and G C Macaulay (1907)

Thomson, James, 1822–92, British engineer and physicist, b Ireland, educated at the Univ of Glasgow, older brother of Lord Kelvin He was professor of civil engineering at Queen's College, Belfast (1857–73), and at the Univ of Glasgow (1873–89) He worked on problems of thermodynamics, including the relationship between pressure and the freezing point of water and other substances He is also known for improving the design of various types of hydraulic machinery

Thomson, James, 1834–82, British poet and essayist, b. near Glasgow. He was reared at the Royal Caledonian Asylum and became (1851) an army teacher at Ballincollig, Ireland There he met Matilda Weller, whose death in 1853 was the cause of much of his later pessimism There also he formed his friendship with Charles Bradlaugh Thomson was dismissed from the service in 1862, became a clerk in London, and contributed to the *National Reformer*, using the signature B V or Bysshe Vanolis, in memory of Shelley and Novalis (Hardenberg) He was subject to periodic attacks of dipsomania, which was aggravated by poverty, insomnia, and loneliness Under these conditions he produced his greatest poetical work, *The City of Dreadful Night* (1880, first published in the *National Reformer*, 1874), a darkly pessimistic work in which he gives brilliant, haunting expression to his hopeless despair. The poem "Sunday up the River" is an example of his genuine lyric gift Besides a great number of essays and criticisms, he wrote *Vane's Story* (1881) and *A Voice from the Nile* (1884) His collected poems appeared in 1895 and a volume of prose in 1896 See biography by H S Salt (1914)

Thomson, Sir John Arthur, 1861–1933, Scottish scientist and writer From 1899 to 1930 he was regius professor of natural history at the Univ of Aberdeen In 1924 he lectured at Union Theological Seminary, New York city, and at Yale He was knighted in 1930. He wrote many popular works on science and on the reconciliation of science and religion, scholarly in content and of good literary style These include *What Is Man?* (1923), *Science and Religion* (1925), *Modern Science* (1929), *Life* (with Patrick Geddes, 1931), and *The Outline of Natural History* (1931) He edited *The Outline of Science* (4 vols , 1922, reissued 1937)

Thomson, Joseph, 1858–95, Scottish explorer in Africa At the Univ of Edinburgh he studied geology and botany On his first expedition (1879) he reached Lake Tanganyika and then explored the relations of the lakes in the Great Rift Valley to the drainage system of Africa On another trip (1892–93) he traveled through Kenya and Uganda and ascended Kilimanjaro Thomson explored (1885) the Sudan and forestalled German designs on the area by concluding many treaties with native chiefs on behalf of Great Britain His last expedition (1890) was in SE Africa, he explored the Zambesi river and obtained extensive concessions for the British South Africa Company Thomson's work as an explorer ranks in importance only below that of Henry Stanley and David Livingstone His books include *To the African Lakes and Back* (1881) and *Through Masai Land* (rev ed , 1887) See biography by James B Thomson (1896)

Thomson, Sir Joseph John, 1856–1940, English physicist From 1884 to 1919 he was Cavendish professor of experimental physics at Cambridge Winner of the 1906 Nobel Prize in Physics for his study of conduction of electricity through gases, he is known also for his discovery of the electron and his investigation of its charge and mass, his development of the mathematical theory of electricity and magnetism, and his work in radioactivity He was knighted (1908) and served (1915–20) as president of the Royal Society He is buried in Westminster Abbey His works include *Elements of the Mathematical Theory of Electricity and Magnetism* (1895, 5th ed , 1921), *Conduction of Electricity through Gases* (1903, 3d ed , with George Paget Thomson, 2 vols , 1928–33), *Rays of Positive Electricity* (1913, 2d ed , 1921), *The Electron in Chemistry* (1923), and an autobiography, *Recollections and Reflections* (1936). See biography by R J S Rayleigh (1942)

Thomson or **Thompson, Mortimer Neal,** 1831-75, American journalist and humorist, who used the pseudonym Q K Philander Doesticks, P B , b Riga, Monroe co , N Y , studied at the Univ of Michigan He joined the staff of the New York *Tribune* in 1855 His contributions in verse and prose, especially those against slavery, attracted wide attention His best-known works include *Doesticks What He Says* (1855) and a parody of Hiawatha, *Plu-ri-bus-tah* (1856)

Thomson, Tom, 1877–1917, Canadian painter of typically Canadian outdoor scenes, b Claremont, Ont , self-taught Most of the year he served as a ranger at Algonquin Provincial Park, gaining inspiration for pictures which he executed during the winters in Toronto His first picture to be exhibited, *A Northern Lake*, was purchased by the Canadian government, and *A Moonlight Scene* was purchased by the National Art Gallery at Ottawa In his lifetime the critics were divided in their judgment of his work, but he has come to be regarded as an outstanding colorist

Thomson, Virgil, 1896–, American composer and critic, an organist, b Kansas City, Mo , grad Harvard, 1922 He later went to Paris and studied with Nadia Boulanger Until c 1926 he wrote in a dissonant, neoclassic style, but after his *Sonata da chiesa* (1926) he began to employ a highly simplified style which shows the influence of Erik Satie He wrote two operas—*Four Saints in Three Acts* (1928, Hartford, Conn , 1934) and *The Mother of Us All* (1947)—with librettos by Gertrude Stein, music for the moving pictures *The Plough That Broke the Plains* (1936), *The River* (1937), and *Louisiana Story* (1948), the ballet *Filling Station* (1937), his *Symphony on a Hymn Tune* (1928), *The Seine at Night* (1947), for orchestra, and organ pieces, piano pieces, chamber music, songs, and a number of "musical portraits" including *Canons for Dorothy Thompson* and *The Mayor LaGuardia Waltzes* (both 1942) Thomson returned to New York in 1939, having lived mostly in Paris for many years, and in 1940 became music critic for the New York *Herald Tribune* He wrote *The State of Music* (1939), *The Musical Scene* (1945), and *The Art of Judging Music* (1948)

Thomson, William: see KELVIN, WILLIAM THOMSON, 1ST BARON

Thomson, industrial city (pop 3,088), co. seat of McDuffie co , E Ga., W of Augusta; inc. 1854. Thomson is on the fall line, in a farm area.

Thor (thôr) [Norse,—connected with *thunder*], in Germanic religion, Norse god of thunder, hence of might and war He was the eldest and strongest son of Odin Armed with his magical hammer, which returned when thrown, with his belt of strength, and with his iron gloves he was the implacable enemy of the giants His chariot wheels made the thunder Although Icelandic literature pictures Thor as slow-thinking and burly, he was kind to humanity and protected marriage Thor's cult was the chief religious interest of the Norse, but of his worship among other Germans we know little Thor's identification with Jupiter caused the translation of *Jove's day*, the name of the fifth day of the week, into *Thursday*

thorax, body division found in certain animals In man and other vertebrates it lies between the neck and the abdomen It is also called the chest The ribs and sternum form the supporting skeletal structures of the thorax In mammals the thoracic cavity or chest cavity is separated from the abdominal cavity by a muscular diaphragm Within the thoracic cavity lie the heart, the lungs, some of the respiratory or breathing passages, and the esophagus In insects and other arthropods, the thorax is a body division consisting of several segments lying between the head and abdomen, certain appendages are attached to the thorax

Thorbecke, Jan Rudolf (vän' rōō'dôlf tôr'bĕkŭ), 1798–1872, Dutch statesman An eminent jurist and a liberal leader, he was appointed (1848) by King William II to revise the constitution of 1844 The power of the king was reduced and that of the parliament increased Thorbecke served (1849–52) as the first constitutional premier of the Netherlands and was twice again premier (1862–66, 1871–72) He gave Catholics equal rights with the Protestants, removed trade restrictions, and initiated many projects for the construction of canals and for reclaiming land from the sea

Thoreau, Henry David (thō'rō, thurō'), 1817–62, American poet, naturalist, and essayist, b Concord, Mass , grad Harvard, 1837 One of the group called transcendentalists, Thoreau lived in Emerson's household at two different times and wrote for and helped edit the *Dial*, the transcendentalist journal Living for two years (1845–47) in a small cabin which he built on the shores of Walden Pond, near Concord, Thoreau was primarily acting as an individualist seeking a way of life at once logical and satisfactory In line with his theory that one should work only enough to be independent, he rejected full-time occupation in his family's pencil-making business as well as the life of a schoolteacher and earned what little money his simplified life required by surveying and by working as handyman for Emerson His best-known book is the classic *Walden* (1854), an account of his life at Walden Pond He kept a journal of his thoughts and observations, and bits culled from the journal were rewritten in *Walden* and in *A Week on the Concord and Merrimack Rivers* (1849), it was also the source of the posthumous books, *The Maine Woods* (1863), *Excursions* (1863), *Cape Cod* (1865), and *A Yankee in Canada* (1866) Thoreau lectured on the lyceum platform, but was not well known in his day Since his death he has been recognized as a devoted nonscientific naturalist and a powerful social critic who championed the individual against social organization and materialistic civilization His essay "Civil Disobedience" has inspired such men as Gandhi and the leaders of the British Labour party, and his quiet one-man revolution in living at Walden and refusing to pay a poll-tax to a government whose actions he deplored have heartened and fascinated countless men See the standard Walden edition of his writings (20 vols , 1906), which includes the journal and *Familiar Letters*, and his *Collected Poems* (ed by Carl Bode, 1943), biographies by Ellery Channing (1873), H S Salt (1890), F B Sanborn (1917), and H S Canby (1943), critical studies by Mark Van Doren (1916), George F Whicher (1945), and J W Krutch (1948), Reginald Lansing Cook, *Passage to Walden* (1949)

Thorez, Maurice (mōrēs' tôrĕz'), 1900–, French Communist leader The son of a coal miner of N France, Thorez himself worked in the mines He early joined the Socialist party and in 1920 became one of the original members of the French Communist party Largely self-taught, Thorez acquired a thorough knowledge of Marxist theories as well as a considerable general culture He rose in the ranks and became party secretary in 1930 and leader of the Communists in the chamber of deputies in 1936 Conscripted when the Second World War broke out, Thorez deserted, refusing to serve in an imperialist war (as the Communists designated the conflict between 1939 and 1941), and went to Moscow Though sentenced *in absentia*, he was amnestied (1944) after the liberation of France and was reelected a deputy Under his leadership, the Communists became the largest single party in the elections of 1945 and 1946 He was vice premier in 1946–47, but then returned to the opposition against the moderate government.

Thorfinn Karlsefni (thôr'fĭn kärl'sĕvnē), fl 1002-10, Icelandic leader of an attempt to colonize North America He appeared in Greenland in 1002 and married Gudrid, widow of one of the sons of ERIC THE RED He then set out with an expedition consisting of three ships and 160 men to settle in that VINLAND which LEIF ERICSSON had discovered a few years before There are two sources for this event, the "Saga of Eric the Red" in the collection of sagas known as *Hauksbok*, and a narrative interpolated in the "Saga of Olaf Tryggvason" in the *Flateyjarbok* According to the former, which has been favored by most scholars, the expedition came first to a region they called Helluland from the large flat stones all about Then they passed on to a wooded country which they named Markland, sailed by sandy, desolate beaches called Furdustrands, and settled for the winter in a bay called Straumfjord Still seeking the land of grapes, they proceeded southward the next spring until they reached a place called Hop Here they found vines, and here they settled for the next winter, selecting a spot up a river which widened into a lake Several encounters with the natives, however, in which two of their number were killed, induced them to abandon Hop in the spring and return to Straumfjord, where they spent the third winter One of the ships, commanded by Thorhall, had deserted the first year after a disagreement and had met disaster in Ireland With the prospect of attack, plus growing dissension, it was decided to abandon the whole attempt Returning by Markland Thorfinn's ship reached Greenland safely, the other was wrecked in the Irish Sea and part of its crew saved Much effort has been spent in attempts to identify the lands visited by Thorfinn and to discover his wintering sites, but no theory has won general acceptance Places from Labrador to New England have been suggested, but such identifications are little more than guesses There is also divergence on the dates assigned to Thorfinn's expedition For bibliography, see LEIF ERICSSON and VINLAND

thorium (thō'rēum), gray, metallic, radioactive element (symbol=Th, for physical constants, see ELEMENT, table) Like radium, thorium undergoes disintegration (see RADIOACTIVITY), giving a series of substances, the final product being thorium D, an isotope of lead It forms various compounds, e g , with oxygen, a dioxide commonly called thoria, sometimes included in the RARE EARTHS, with nitrogen and oxygen, a nitrate used in the WELSBACH MANTLE The element is not found uncombined in nature, but is present in a number of minerals, e g , thorite (a compound of thorium, silicon, and oxygen) and monazite, from which it is usually obtained The metal itself is isolated with difficulty and has little commercial use Some of its salts are employed in medicine, their emanations having therapeutic value Thorium can also be used as a source of atomic energy Thorium was discovered (1828) by Berzelius

Thorn, Poland see TORUN

thorn, sharp-pointed projection on some plants Common thorn-bearing plants include the HAWTHORN (often called thorn) and the honey locust Spiny projections of plants are sometimes botanically distinguished as thorns (modified branches, as in the hawthorn), spines (modified leaves, as in the barberry), and prickles (produced from the bark, as in the rose and blackberry) Cacti have both thorns and spines Thorns have become symbolic of sorrow, adversity, difficulties

Thornaby-on-Tees, municipal borough (pop 21,233), North Riding of Yorkshire, England, opposite Stockton It has shipyards and steel mills

Thorndike, Ashley Horace (thôrn'dīk"), 1871-1933, American educator and scholar, b Houlton, Maine, grad Wesleyan Univ , 1893, Ph D Harvard, 1898 He was professor of English at Columbia Univ from 1906 until his death, and besides editing several series of texts, he wrote distinguished studies, including *Tragedy* (1908), *Shakespeare's Theater* (1916), *Literature in a Changing Age* (1920), *English Comedy* (1929), and, with W A Neilson, *The Facts about Shakespeare* (rev ed , 1931)

Thorndike, Edward Lee, 1874-1949, American educator and psychologist, b Williamsburg, Mass , grad Wesleyan Univ , 1895, and Harvard, 1896, Ph D Columbia, 1898 Appointed instructor in genetic psychology at Teachers College, Columbia, in 1899, he served there until 1940 (as professor from 1904 and as director of the division of psychology of the Institute of Educational Research from 1922) His great contributions to educational psychology were largely in the methods he devised to test and measure intelligence and the ability to learn He conducted studies in animal psychology; in the psychology of learning; in vocabulary, compiling dictionaries for children (1935) and for young adults (1941), and in the qualities of the good city The great number of his writings includes *Educational Psychology* (1903), *Mental and Social Measurements* (1904), *Animal Intelligence* (1911), *A Teacher's Word Book* (1921), *Your City* (1939), and *Human Nature and the Social Order* (1940)

Thorndike, Lynn, 1882-, American historian, b Lynn, Mass , grad Wesleyan Univ , 1902, and Columbia (M A , 1903; Ph D , 1905). He taught history at Northwestern Univ (1907-9) and at Western Reserve Univ (1909-24) and has been a professor at Columbia since 1924 Among his books on magic and the beginnings of science in the Middle Ages are *The Place of Magic in the Intellectual History of Europe* (1905), *A History of Magic and Experimental Science* (6 vols , 1923-41), and *Science and Thought in the Fifteenth Century* (1929) He also wrote *The History of Medieval Europe* (1917, 3d ed , 1949), which is widely used in American colleges, *A Short History of Civilization* (1926, 2d ed , 1948), and *University Records and Life in the Middle Ages* (1944)

Thorndike, Dame Sybil, 1882-, English actress She made her debut with the Ben Greet Players and toured (1903-7) the United States with them Her Shakspearian portrayals brought her fame, and she added to her stature as Hecuba in *The Trojan Women*, in the title roles of *Medea* and *Candida*, in Irvine's *Jane Clegg*, and in Shaw's *Saint Joan* She was made Dame of the British Empire in 1931 See biography by Russell Thorndike (1929)

Thornhill, Sir James, 1676-1734, English decorative artist George I made him court painter and later knighted him He executed decorations in Hampton Court and the cupola of St Paul's, London, the hall of Greenwich Hospital, Chatham, England, the great hall of Blenheim Palace, and various chapels at Oxford, where he also painted altarpieces for All Souls and Queen's colleges As a teacher, he found a rare pupil in HOGARTH, who became his son-in-law The limited number of Thornhill's etchings include *Adam and Eve*

Thornton, Matthew, 1714-1803, American Revolutionary patriot signer of the Declaration of Independence, b Ireland He was brought to America as a child He studied medicine and in 1740 began practice at Londonderry, N H Thornton served as an army surgeon in the French and Indian War and held several political posts in New Hampshire before and after his term in the Continental Congress (1776-77)

Thornton, William, 1759-1828, American architect, b Tortola, British Virgin Islands, of English Quaker parents He studied (1781-84) medicine at Edinburgh but received his medical degree (1784) at the Univ of Aberdeen He traveled widely and gained architectural knowledge In 1787 he came to the United States and became a citizen in 1788 His plan for the Library Company in Philadelphia won a competition in 1789 Through Trumbull, the painter, he gained permission to submit a plan for the proposed Capitol at Washington in an official competition opened in 1792 Thornton's designs, submitted in 1793, were approved by President Washington, and their execution was entrusted to the supervision of E S HALLET and James Hoban In 1794, however, Thornton himself, being appointed a commissioner of the District of Columbia, became supervisor and remained in charge until 1802 Notwithstanding changes in detail and later additions, the central portion of the Capitol exterior remains substantially as Thornton designed it In Washington he also designed a number of residences, including the Tayloe house, known as the Octagon, later the headquarters of the American Institute of Architects Thornton was the first to hold the post of clerk in charge of the Patent Office, and he served as commissioner of patents from 1802 until his death

Thornton 1 Village (pop 1,101), NE Ill , a suburb of Chicago, in 1900 Limestone products are made **2** Village, R I see JOHNSTON

Thorntown, town (pop 1,226), W central Ind , NW of Indianapolis, settled 1830

Thornycroft, Sir John Isaac, 1843-1928, English naval architect, brother of Sir William Hamo Thornycroft He founded a shipyard at Chiswick, which was later moved to Woolsten, Southampton His experiments promoted the development of high speeds at sea The first torpedo boat for the British navy was built at his shipyards He was knighted in 1902

Thornycroft, Sir William Hamo, 1850-1925, English sculptor His *Teucer* (Tate Gall , London) and *The Mower* (Liverpool Gall) are well known He executed numerous public monuments, including General Gordon (Trafalgar Square, London), Cromwell (Westminster Abbey), and King Alfred (Winchester, England)

Thoroddsen, Jon, Icelandic *Jón Thóroddsen* (yōn' thō'rôthsĕn), 1819-68, Icelandic novelist and poet He studied law in Copenhagen intermittently from 1841 to 1850, fought in the Danish army in the Schleswig-Holstein rebellion, and after his return to Iceland was prefect of various districts until his death He was a member of the Althing and contributed to several political and literary periodicals, his chief importance, however, was as a novelist His *Lad and Lass* (1850, Eng tr., 1890) was the first published novel in Icelandic In a vigorous, concise style, showing the influence of the sagas and of Sir Walter Scott, he depicted rural life in Iceland and created highly individual characters In his last novel, *Man and Wife* (pub. posthumously, 1876), his characters are often drawn from real life, and there is much folklore and superstition His poems, of lesser importance, were published in 1871 by the Icelandic Literary Society, with a biographical sketch by Jon Sigurdsson

Thorold (thō'rōld, -rŭld, thô'-), town (pop 5,305), S Ont , on the Welland Ship Canal and SE of St Catharines It has pulp, paper, and lumber mills and abrasive works

thorough bass see FIGURED BASS

thoroughwort see BONESET

Thorp, city (pop 1,052), central Wis , E of Chippewa Falls, in a dairy area, inc 1893

Thorpe, James, 1888-, American athlete, b near Prague, Okla His mother, a Sac Indian, named him Bright Path, and in 1907 he entered the Carlisle Indian School at Carlisle, Pa He joined (1908) the Carlisle football team, coached by Glenn ("Pop") Warner, and in 1911 12 Thorpe, playing left halfback, led Carlisle in startling upsets over such highly rated teams as Harvard, Army, and the Univ of Pennsylvania In 1912 Thorpe took part in the Olympic games held at Stockholm, Sweden, and performed magnificently He won the broad jump and the 200- and 1,500-meter runs of the pentathlon, won the shot put, the 1,500-meter run, and the hurdle race of the decathlon, and was the runner-up in the other events of the pentathlon and decathlon In 1913, however, Thorpe surrendered his awards, at the request of the Amateur Athletic Union and the insistence of Glenn Warner, to the Olympic headquarters in Switzerland, it was discovered that Thorpe had played (1909-10) semi-professional baseball with the Rocky Mountain, N C , team of the North Carolina Eastern League Thorpe afterwards played professional football with the Canton (Ohio) Bulldogs and the Chicago Cardinals and later became supervisor of recreation for the Chicago parks With T F Collison, he wrote *Jim Thorpe's History of the Olympics* (1932)

Thorpe, Sir Thomas Edward, 1845-1925, English chemist He was professor (1885-94, 1909-12) at the Royal College of Science (now Imperial College, Univ of London) and director (1894-1909) of the government chemistry laboratories, which he organized In 1909 he was knighted He is known for his researches in organic chemistry, notably his study of the relation of molecular weight and specific gravity in fluids His works include *Essays in Historical Chemistry* (1894, 3d ed , 1914) and *A Dictionary of Applied Chemistry* (3 vols , 1890-93, 4th ed , 9 vols , 1937-49)

Thorshavn (tôrs"houn'), Faeroese *Torshavn*, city (pop 4,390), capital of the Faeroe Islands, a port on SE Stromo island It is a fishing base and the commercial center of the Faeroes The settlement probably dates from the 10th cent

Thorvaldsen or **Thorwaldsen, Albert Bertel** (al'bĕrt bĕr'tul tō'rvalsun), 1770-1844, Danish sculptor, son of an Icelandic wood carver who had settled in Copenhagen In 1797 he went to Rome, where he won the praise of Canova and with him early shared the leadership of the neoclassicists His adherence to Greek art is shown in his *Jason*, *Cupid and Psyche*, *Venus*, *Hebe*, and *Ganymede* In anticipation of a visit of Napoleon in 1812, Thorvaldsen modeled a frieze in relief, *The Triumph of Alexander*, for a hall in the Quirinal, Rome His most familiar works are the bas-reliefs *Night* and *Morning* Under the patronage of Prince Louis of Bavaria, he made restorations of the ancient Aeginetan marbles In 1819 he designed the famous *Lion of Lucerne*, carved from the native rock at Lucerne by his pupils—a memorial to the devotion of the Swiss Guard in the French Revolution The works executed for Copenhagen are chiefly religious, e g , statues of Christ and the apostles for the Church of Our Lady Among his portrait and historical statues are Pope Pius VII (St Peter's, Rome) and *Conradin, Last of the Hohenstaufen* (Naples) A marble bust, *Vestal*, is in the Metropolitan Museum The Thorvaldsen Museum, Copenhagen, contains in originals and models a complete collection of the sculptor's work He is buried in its courtyard Many of the American sculptors of the period studied with Thorvaldsen

Thoth (thōth, tōt), god of ancient EGYPTIAN RELIGION Since he is represented with the moon symbol, he was probably originally a moon-god He also was the secretary god, who kept the records of the dead and thus was the patron of learning and of the arts He was supposedly possessed of all secret wisdom He was equated with the Greek Hermes, and he is intended by the name HERMES TRISMEGISTUS In Egypt the ibis and the baboon were sacred to him, and he was often represented as an ibis, a baboon, or a man with features of either of those animals

Thothmes see THUTMOSE

Thou, Jacques Auguste de (zhak' ōgust' du tōō'), 1553-1617, French historian and magistrate He was a member of the Parlement of Paris and rendered signal service to Henry IV The first four volumes of his great work, the *History of His Own Times* (1604-8, in Latin), covering the Wars of Religion of the 16th cent , aroused opposition in the Catholic Church because of his strictures against the Catholic League and because of his Gallican leanings The complete work was published at Ge-

neva in 1620 (Eng tr., 2 vols, 1724–34) His son, **François Auguste de Thou** (frăswä'), 1607–42, played a minor role in the conspiracy of his friend CINQ MARS, but was executed for his failure to reveal it to the authorities.

thought reading: see TELEPATHY.

Thousand and One Nights or **Arabian Nights, a** series of Eastern stories in the Arabic language strung together by the story of Scheherasade, or Sheherazade, who kept her husband, Schariar, from killing her by telling these stories over 1,001 nights, until he relinquished his purpose The best known of these stories are those of Ali Baba, Sinbad the Sailor, and Aladdin Nothing is known clearly of the origin of this collection as such, although many of the stories are plainly from India The present form of the *Thousand and One Nights* is completely Moslem in spirit and must be native to Persia or one of the Arabic-speaking countries The European editions began with the free translation by Antoine Galland into French (1704–17) Most subsequent French, German, and English versions lean heavily upon Galland Among the English translations are the expurgated edition of E W. Lane (1840), with excellent and copious notes, the unexpurgated edition by Sir Richard Burton in 16 volumes (1885–88), that of John Payne in 9 volumes (1882–84), and that translated by Powys Mathers from the French text of J C Mardrus (rev ed, 4 vols, 1937)

Thousand Islands, N N Y and S Ont, a group of more than 1,500 islands in the St Lawrence where it issues from Lake Ontario The islands are on both sides of the international boundary, some of them belong to the United States, some to Canada, and many are privately owned The area is a popular summer resort, noted especially for boating and fishing Island steamers make regular summer trips, and a motor highway with an international bridge and viaducts (built 1937–38), crossing several islands and channels, connects the New York and Ontario mainlands

Thrace (thrās), region, SE Europe, occupying the southeastern tip of the Balkan Peninsula and comprising NE Greece, S Bulgaria, and Turkey in Europe Its boundaries varied at different periods It is washed by the Black Sea in the northeast and by the Sea of Marmara and the Aegean Sea in the south The RHODOPE mts separate Greek from Bulgarian Thrace, and the Maritsa river separates Greek from Turkish Thrace The chief cities are Istanbul, Adrianople, and Gallipoli (all in Turkey), but Istanbul (Constantinople) is generally considered as a separate entity All Thrace except the mountainous Bulgarian section is largely agricultural, producing tobacco, wheat, silk, cotton, olive oil, and fruit At the dawn of history the ancient Thracians—a group of tribes speaking an Indo-European language—extended as far west as the Adriatic Sea, but they were pushed east (c 1300 B C) by the Illyrians, and in the 5th cent B C they lost their land W of the Struma to Macedon In the north, however, Thrace at that period still extended to the Danube Unlike the Macedonians, the Thracians did not absorb Greek culture, and their tribes formed separate petty kingdoms Greek colonies—e g, BYZANTIUM on the Hellespont and Tomi (modern Constanta) on the Black Sea—were founded at an early time The Greeks exploited Thracian gold and silver mines, and they recruited Thracians for their infantry Thrace was reduced to vassalage by Persia from c 512 B C to 479 B C It was united as a kingdom under the chieftain Sitalces, who aided Athens during the Peloponnesian War, but after his death (428 B C) the state again broke up S Thrace was subdued in 342 B C by Philip II of Macedon, and after 323 B C most of the country was in the hands of LYSIMACHUS It fell apart once more after Lysimachus' death, and it was conquered by the Romans late in the 1st cent B.C Emperor Claudius created (A D 46) the province of Thrace, comprising the territory S of the Balkans, the remainder was incorporated into Moesia The chief centers of Roman Thrace were Sardica (modern Sofia), Philippopolis (Plovdiv), and Adrianople The region benefited greatly from Roman rule, but from the barbarian invasions of the 3d cent A D until modern times it was almost continuously a battleground The northern section passed (7th cent) to the Bulgarians, the southern section remained with the Byzantine Empire, but it was largely conquered (13th cent) by the second Bulgarian empire after a brief period under the Latin Empire of Constantinople In 1361 the Ottoman Turks took Adrianople, and in 1453 Constantinople itself fell After the annexation (1685) of Eastern RUMELIA by Bulgaria (which had gained independence in 1878), the political meaning of the term *Thrace* became restricted to its southernmost part, which was still in Turkish hands The terms *Eastern Thrace* and *Western Thrace* were used for the territories E and W of the Maritsa In the first of the BALKAN WARS (1912–13) Turkey ceded to Bulgaria all Western Thrace and the inland half of Eastern Thrace, including Adrianople, but after its defeat in the Second Balkan War (1913), Bulgaria retroceded all Thrace E of the Maritsa to Turkey. After the First World War, Bulgaria ceded by the Treaty of Neuilly (1919) the southern part of its share of Thrace to Greece, thus losing its only outlet to the Aegean. By the Treaty of Sèvres (1920) Greece also obtained most of Eastern Thrace except the zone of the Straits and Constantinople, the treaty, however, was superseded by the Treaty of Lausanne (1923), which restored all Thrace E of the Maritsa to Turkey As a result of the subsequent exchange of the Greek, Turkish, and Bulgarian minorities, the ethnic composition of the various parts of Thrace now corresponds largely to the national divisions The Greek-Bulgarian frontier of 1919 and the Turkish-Greek frontier of 1923 were left unchanged after the Second World War, during which Bulgaria had occupied (1941–44) Greek Thrace. The Greek-Bulgarian boundary remains a point of dispute between the two countries

Thrale, Hester Lynch, later **Madame Piozzi** (pŏz'ē, pē̆t'sē), 1741–1821, English woman, noted for her friendship with Dr Johnson Daughter of John Salusbury, she was married at an early age to Henry Thrale, a wealthy brewer, whose home at Streatham Park became a second home to Johnson from 1766 until 1783 Mrs Thrale's second marriage in 1784 to Gabriel PIOZZI, an Italian music master, estranged her from Dr Johnson, who died that same year She later published *Anecdotes of the Late Samuel Johnson* (1786) and his correspondence with her (1788) See her diary, *Thraliana* (ed. by K C Balderston 1942), J L Clifford, *Hester Lynch Piozzi* (1941)

Thrasea Paetus (Publius Clodius Thrasea Paetus) (thrā̆sē'ŭ pē'tŭs), d 65, Roman senator and Stoic philosopher He criticized NERO, who commanded the senate to condemn him to death When he heard the news he opened the veins in his arm.

thrasher, bird of the mockingbird and catbird family The brown thrasher of the E United States is often called the brown thrush although it is not a true thrush Larger than a robin, it is reddish brown above, and its under parts are pale buff with brown streaks It eats many harmful insects and is a tuneful singer The name thrasher probably refers to its habit of vigorously twitching its long tail A number of species are found in the West and the Southwest

thrashing: see THRESHING

Thrasybulus (thrā̆'sĭbū'lŭs), d c 389 B C, Greek statesman A strong supporter of the democratic and anti-Spartan party, he successfully opposed (411 B C) the oligarchical Four Hundred and later had ALCIBIADES recalled In the Peloponnesian War he fought at CYZICUS (410) and Arginusae (406) Banished by the THIRTY TYRANTS, he obtained Theban help, marched with a force from Phyle, and overthrew (404) the Thirty He aided Thebes against Sparta He was leading a campaign in Pamphylia when the excesses of his troops outraged the citizens of Aspendus, who murdered him

thread, a fine twist of fibrous material, distinguished from YARN in general by being smoother, stronger, and more pliable and better suited to sewing, embroidery, and lacemaking Sewing or spool COTTON is made by twisting several fine strands into 3-cord or 6-cord thread, the latter being three 2-ply strands twisted together. The size is controlled by the twisting process The fine linen thread used in making expensive "real" laces is spun by hand and is very costly Much heavy linen thread is used for carpet, shoe, and button sewing A great deal of cotton is used for crochet, spool, and darning cotton, much of it being mercerized

threat, in law, a declaration of intent to injure another by doing an unlawful act, with a view to restraining his freedom of action A threat is distinguishable from an ASSAULT, for an assault requires some physical act which appears likely to eventuate in violence, whereas a threat may consist of words only or of an act that is not violent, e g, unlawful prosecution Threats made to obtain money or property wrongfully are crimes (see BLACKMAIL and EXTORTION), and under some statutes, the mere sending of nonextortionate letters which announce an intent to injure the person or property of another is criminal Any contract concluded while one party is deprived of freedom of the will by a threat (see DURESS) is invalid and may be set aside

three-color process: see PRINTING

Three Emperors' League, informal alliance among Austria-Hungary, Germany, and Russia, announced officially in 1872 on the occasion of the meeting of Emperors Francis Joseph, William I, and Alexander II The chief architects of the alliance were Julius Andrassy, Bismarck, and Gorchakov The aim of the league was to insure peace among the three powers in case any of them became involved in war The Russo-Turkish War of 1877–78 shook the alliance (see BERLIN, CONGRESS OF). Although the agreement was secretly renewed in 1881 and remained in force until 1887, it was eclipsed by the German-Austrian alliance of 1879, which after the adherence of Italy (1882) became the Triple Alliance From 1887 to 1890 all there remained of the Three Emperors' League was a Russo-German reinsurance treaty The German chancellor, Caprivi, refused to renew even this in 1890, thus opening the way for the Franco-Russian rapprochement and the creation of the Triple Entente (see TRIPLE ALLIANCE AND TRIPLE ENTENTE).

Three Holy Children, the three men cast by Nebuchadnezzar into the fiery furnace and delivered by an angel Their names are Shadrach, Meshach, and Abed-nego, in Babylonian, Azariah, Hananiah, and Mishael, in Hebrew; and Azarias, Ananias, and Misael, in Greek Dan 1 7; 3 The Song of the Three Holy Children is one of the portions of DANIEL which appear in the Greek texts but not in the Hebrew-Aramaic versions Hence it is relegated in AV to the Apocrypha; in the fuller version (as in Douay) it is numbered 3 24–90. It recounts the actions of the three men in the furnace, first a prayer by Azarias for the victory of God, then a hymn by all three in praise of God (3 52–90, the portion from verse 57 is called Benedicite, from the first line in Latin)

Three Kingdoms, period of Chinese history from 220 to 265, following the collapse of the Han dynasty The period takes its name from the three states into which China was divided Wei occupied the north and included most of Korea S of Wei were Shu in the west and Wu in the east Each of the states steadily expanded, especially Shu, which moved into modern Yünnan and Burma Wei, however, later steadily increased its strength and crushed Shu in 264, when a usurper seized the Wei throne in 265 and founded the TSIN dynasty, the Three Kingdoms period officially came to an end Wei did not, however, conquer Wu until 680 Disorders during the Three Kingdoms period included not only warfare between the Chinese states but also incursions into the north by the Hsiung-nu (Huns) The era is fondly regarded in China as exemplifying the highest ideals of chivalry and has been depicted in the adventurous novel *San Kuo* [three kingdoms] The violence of the time did not prevent the growth of Chinese culture but seemed rather to open it to new influences, such as the native Taoism From India came Buddhism and many advances in scientific learning As knowledge of the outside world grew, maps were improved and a grid system of coordinates was invented Art was predominantly Buddhistic in inspiration and showed many central Asiatic traits

Three Kings see WISE MEN OF THE EAST

Three Oaks, village (pop 1,451), extreme SW Mich, inc 1867 The Chamberlain Memorial Museum here contains historical and Indian relics.

Three Rivers, Que see TROIS RIVIÈRES

Three Rivers 1 City (pop. 6,710), SW Mich., S of Kalamazoo, on the St Joseph at the confluence of the Portage and Rocky rivers, settled 1829, inc as a village 1855, as a city 1895 It is a farm trade and industrial city, manufacturing railroad equipment, stokers, and jute board Evidences of Indian villages and large garden beds have been found, and Indian trails crossed the St Joseph at this point Later a French trading post and a Jesuit mission were here **2** Town (pop 1,337), S Texas, SSE of San Antonio, on the Frio river, which receives the Atascosa to the north and flows into Nueces river, inc 1927 It is in a farming, ranching, and oil area and has an oil refinery

Three Taverns see TRES TABERNAE

threshing or **thrashing,** separation of seed from the stalk of crop plants on which they grow The first known method was striking the ear with a stick Ancient as is this final threshing, it is still sometimes practiced Having horses or oxen tread on the grain which was spread on a threshing floor was another early method In 1784, a Scotsman, Andrew Meikle, invented a drum threshing machine, its essential operation is implicit in the highly developed, manifold-operation thresher of today. Steam engines followed horses in supplying motive force for the machines that came into general use in the United States about the middle of the 19th cent Tractors powered by gasoline or kerosene are commonly used to operate threshing equipment The machines feed in the grain, thresh the grain from the head, separate the grain from the straw, and deliver the grain (after it is cleaned) to a weigher and the straw and chaff to their stack A combination machine that first reaps and then threshes is known as a combine. The larger threshers and the combines are profitably used in large-scale farming See H P Smith, *Farm Machinery and Equipment* (2d ed, 1937), A W. Turner and E J Johnson, *Machines for the Farm, Ranch, and Plantation* (1948)

thrift: see SEA PINK

thrips, agile, minute, black, yellowish, or reddish-brown sapsucking insect found in the flower or on other parts of many plants. Some species are wingless, but many have four narrow wings closely fringed with hairs. The foot has no claw but ends in a cuplike depression which surrounds a protrusible bladder. Metamorphosis is gradual, and parthenogenesis is common. Among the species destructive to a variety of plants are the onion, the pear, the greenhouse, and the grass thrips.

throat, region behind the mouth or oral cavity, known also as the oral pharynx The pillars of the fauces, paired lateral, arching tissues which bound the opening of the throat, enclose the palatine ton-

sils. Disorders of the throat include sore throat, quinsy, diphtheria, and other infections Inflammations of the throat commonly result from mouth breathing, adenoids, and tonsillar infections.

Throckmorton or Throgmorton, Francis (thrŏkmôr'tŭn, thrŏg–), 1554–84, English conspirator A nephew of Sir Nicholas Throckmorton, he was educated at Oxford, entered (1576) the Inner Temple, and began (1580) a tour of Europe, spent largely in discussing cooperative measures between French and English Catholics In 1583 he returned to England and organized means of communication between the imprisoned Mary Queen of Scots and the French and Spanish courts His frequent visits to the house of the Spanish ambassador aroused suspicion, and he was arrested (1583) A search of his house revealed a list of English Catholics willing to assist a rebellion against Queen Elizabeth and other incriminating documents Throckmorton was tortured and confessed treasonable plots Although he later retracted his confession, he was convicted and executed

Throckmorton or Throgmorton, Sir Nicholas, 1515–71, English diplomat A relative of Catherine Parr, the last queen of Henry VIII, he became a staunch Protestant and gained the favor of Edward VI, who knighted him in 1547 He supported, for a time, the claims of Lady Jane Grey to the throne, and in 1554 he was tried for complicity in the rebellion of Sir Thomas WYATT Although acquitted, he was kept in the Tower until 1555 Upon Elizabeth's accession, he was made (1559) ambassador to France, where he championed the cause of the Huguenots While in France he negotiated with Mary Queen of Scots and, despite religious differences, became her personal friend In 1565 Throckmorton was sent to Scotland to attempt to prevent Mary's marriage to Lord Darnley, and in 1567 he tried to secure the release of the imprisoned Scottish queen A supporter of the proposed match between the duke of Norfolk and Mary, he came under Elizabeth's suspicions He was imprisoned in 1569 for his supposed complicity in the rebellion of the northern English Catholics, but he was soon released

Throckmorton, town (pop 1,133), co seat of Throckmorton co, N Texas, SW of Wichita Falls, settled before 1880, inc 1917 The rolling hills, once all ranch lands, still support many cattle and also yield grain, cotton, poultry, and some oil

Throgmorton, Francis see THROCKMORTON, FRANCIS

Throgmorton, Sir Nicholas see THROCKMORTON, SIR NICHOLAS

thrombosis (thrŏmbō'sĭs), formation of a clot of blood (called a thrombus) in the blood vessels or the heart If a fragment of a blood clot lodges in a blood vessel or in the heart it may block the circulation, causing instant death Heparin and dicoumarin are used in treating thrombosis See also EMBOLUS

throne, chair of state or the seat of a high dignitary Probably the ancestor of all chairs, the throne was at first a stool or bench and became an ornate armchair, often raised on a dais and surmounted by a canopy Thrones have been made of a variety of materials, including wood, stone, ivory, and precious metals, lavishly decorated, and often flanked by figures of lions or slaves, symbols of supremacy An ancient Egyptian throne displays a vulture with outspread wings, signifying protection, another aspect of empire Descriptions and remains of antique Oriental thrones reveal monumental, even barbaric, splendor Byzantine and medieval examples imitated the grandeur of Solomon's throne, resplendent with gold, and the Renaissance saw the multiplication of precious stones An example of a jeweled throne is Shah Jehan's Peacock Throne at Delhi which displayed two spreading peacocks with jeweled tails Napoleon's choice of throne was a gilded chair displaying eagles, lions, and other symbols, and he used also the supposed bronze replica of Dagobert's golden throne The throne of Great Britain is an oaken Gothic chair in the House of Lords At St Peter's in Rome is the bronze papal throne At the election of a pope the cardinals, each potential sovereigns, occupy thrones surmounted by canopies which, excepting that of the elected pontiff, are lowered when the election is completed The cathedra is the throne of a bishop in his cathedral church.

Throop (trōōp, thrōōp), anthracite-mining borough (pop 7,382), NE Pa, on the Lackawanna river and NE of Scranton

Throop Polytechnic Institute: see CALIFORNIA INSTITUTE OF TECHNOLOGY

thrush (thrŭsh), member of a family of about 700 species and subspecies of birds found in almost every part of the world and noted for their beautiful songs. Although some have bright plumage, the majority are modestly colored, and the under parts are spotted in either the young or the adult stage Among the North American thrushes are the ROBIN; the BLUEBIRD, the solitaire, the hermit, the wood, the olive-backed, and the gray-cheeked thrushes; and the Wilson's thrush or veery The finest singer, the hermit thrush, a shy forest dweller, has brown body feathers above and a ruddier brown tail. The European nightingale, the missel thrush, and the "blackbird" are members of the thrush family. The water thrushes belong to the WARBLER family.

thrush (thrŭsh), infectious disease of the mouth caused by a fungus, *Candida albicans* (formerly called *Monilia albicans*), and characterised by diffuse white patches on the mucous membrane. It occurs chiefly in malnourished children, but also sometimes affects adults.

Thucydides (thōōsĭ'dĭdēz), c.460–c.400 B.C., Greek historian of Athens, one of the greatest of ancient historians His family was partly Thracian As a general in 424 B C he failed to prevent the surrender of the city of Amphipolis to the Spartan commander Brasidas and was exiled until the end of the war He thus had opportunity to acquaint himself with both sides and acquire first-hand information on his subject, the Peloponnesian War His one work is an incomplete history of this, ending in 411 B C His book, for which he began collecting material at the outbreak of the war in 431 B C, marked the beginnings of a new style of history by reason of its generic character Preeminently a military history, chronicling events by the seasons, it completely avoids any reference to social conditions or state policy, unless they have to deal with the progress of the war, and interprets the succession of events in view of the general nature and behavior of man rather than as the result of a fate outside man's influence The outstanding feature of his writing, which is marked by accuracy and a studied impartiality, is his speeches, these he puts into the mouths of important persons to display their motives and beliefs as affecting the war and war in general The most splendid of these is Pericles' funeral oration Thucydides' account of the plague, through which he lived, displays his clinical and descriptive attitude and is a standard of its type There are many good translations of Thucydides

Thugga, Tunisia: see DOUGGA

Thugs (thŭgz), former religious organization of robbers and murderers in India, also called Phansigars (pan'sēgărz, fan'–) [stranglers] They were devotees of the goddess Kali, the consort of Siva (see HINDUISM), and committed their murders as sacrifices to her A pickax (representing the tooth of Kali, which she had bestowed upon the organization) was consecrated after the victim's grave had been dug with it For most of the year Thugs followed ordinary occupations, but in the fall they went about in bands, disguised as merchants or religious mendicants When they encountered wealthy travelers, they would ingratiate themselves and await an opportunity to slay The killing was effected by strangling the victim with a scarf tied in a slipknot Women and members of certain low castes, such as sweepers, washermen, and musicians, were usually exempted from attack The Thugs, whose activities are known as far back as the 13th cent, were protected by their strong organization and by local officials with whom they would divide their spoils Early in the period of British rule in India the decision was made to destroy the Thugs Lord William Cavendish Bentinck accomplished the repression (1829–36) by apprehending more than 1,000 Thugs and executing some 300

Thule (thū'lē, thōō'lē), name given by the ancients to the most northerly land of Europe It was an island discovered and described (c.310 B C.) by Pytheas and variously identified with Jutland, Iceland, Norway, and the Shetland Islands The phrase "Ultima Thule" is used figuratively to denote the most distant goal of human endeavor or a land remote beyond all reckoning

Thule (thōō'lē, tōō'lu), settlement and colony district (pop 322), NW Greenland, N of Cape York It was founded (1910) by Knud Rasmussen in the Etah Eskimo area There are a radio station, a hospital, and a trading post

thulium (thū'lēum, thōō'–), metal of the RARE EARTHS (symbol=Tm, for physical constants, see ELEMENT, table) It forms a number of compounds, characteristically light green in color It is extremely rare and in nature occurs with other metals of the rare-earths group in a few minerals, e.g., gadolinite and euxenite It has no commercial use Discovery of the element (1879) is accredited to P T Cleve

Thummim (thŭ'mĭm) see URIM AND THUMMIM

Thun (tōōn), town (pop 20,249), Bern canton, Switzerland, on the Aar river and the Lake of Thun It is a tourist resort and has manufactures of machinery and munitions The imposing castle of the counts of Zähringen and Kyburg dates from c.1190 The Lake of Thun, area c.18 sq mi, is scenically situated at the foot of the Bernese Oberland

thunder, sound produced when a flash of lightning passes through air, heating the adjacent air and causing it to expand and send out a wave This wave is heard as the crash of thunder Rolling thunder occurs when there is a long flash of lightning, sound waves from the farther parts of which are heard later than waves from the nearer parts, and when clouds, mountains, differing layers of air, or other obstructions cause echoes and reverberations Since sound travels about a mile in five seconds, the distance between a lightning flash and an observer may be reckoned by counting the seconds between the sight of the flash and the sound of the thunder Some lightning is so far distant that no thunder reaches the observer

thunderstorm, violent, local atmospheric disturbance accompanied by LIGHTNING, THUNDER, and heavy rain, often by strong gusts of wind, and sometimes by HAIL The typical thunderstorm caused by convection occurs on a hot summer afternoon when the sun's warmth has heated a large body of moist air near the ground This air rises, is cooled by expansion, condenses, and forms a cumulus cloud If the process continues and is violent, the cloud becomes immense, the summit often attaining a height of 4 mi above the base and the top spreading out in the shape of an anvil as the transition to cumulo-nimbus takes place The turbulent air currents within the cloud cause a continual breaking up and reuniting of the raindrops, building up the strong electrical charges which result in lightning, it is also these violent currents that cause the formation of hail As the storm approaches a given area, the gentle flow of warm air that has been "feeding" the cloud gives way to a strong chilly gust of wind from the opposite direction—blowing outward from its base, the rain begins with an intensity which gradually diminishes as the storm passes Thunderstorms occurring at night are caused by the cooling of the upper layers of air by radiation, resulting in atmospheric instability. Another cause of thunderstorms is the approach of a cold air mass which advances as a "wedge" near the ground, forcing the warmer air in its path to rise Even a forest fire or a volcanic eruption may create a condition of instability conducive to thunderstorm formation The general direction of thunderstorms in the United States is from west to east, and the path, which broadens as the storm proceeds across the country, is usually relatively short—100 mi or less Thunderstorms occur most frequently over land areas in the equatorial zone (some localities having as many as 200 a year) and very seldom in the polar regions In the United States, they are most frequent along the E Gulf Coast (averaging more than 70 a year) and least frequent on the Pacific coast (less than 4 a year)

Thurber, James (thûr'bûr), 1894–, American humorist, b Columbus, Ohio, studied at Ohio State Univ A code clerk for the Dept of State and later a newspaperman, he joined the staff of the *New Yorker* in 1927 His drawings in a few lines of sad, wise hounds and frustrated, wide-mouthed humans and his hilariously funny accounts of his own misadventures soon became widely known Among his most famous early drawings are "The Seal in the Bedroom" and the series "The War between the Sexes" With E B White he wrote and illustrated *Is Sex Necessary?* (1931), a satire on the books of popular psychoanalysis which were prevalent at the time A comedy, *The Male Animal*, written with Elliott Nugent and successfully presented in New York in 1940, was a typically Thurber mixture of slightly mad happenings with an eminently sane approach to them Most of Thurber's drawings and essays have appeared in collections—*The Owl in the Attic* (1931), *The Seal in the Bedroom* (1932), *The Middle-aged Man on the Flying Trapeze* (1935), *My World—and Welcome to It* (1942), *The Thurber Carnival* (1945), and *The Beast in Me and Other Animals* (1948) *My Life and Hard Times* (1934) recounts the troubles of a humorist, and *The Last Flower* (1939) is an effective anti-war fable

Thuret, Gustave Adolphe (gustäv' ädôlf' turā'), 1817–75, French botanist, authority on the marine algae of the French coast With Édouard Bornet he made the notable discovery of the method of propagation of seaweed His celebrated botanic garden at Antibes was given to the state

Thurgau (tōōr'gou), canton (388 sq mi; pop 138,122), NE Switzerland, on the Lake of Constance Watered by the Thur river, it is fertile and cultivated There are several industrial towns, notably Arbon and Frauenfeld, its capital Thurgau passed (1264) from the counts of KYBURG to the Hapsburgs and was conquered (1460) by the Swiss cantons, which ruled it jointly till 1798 In 1803 it became a canton of Switzerland The population is mainly Protestant and German-speaking

Thuri (thū'rē), ancient city of Magna Graecia, S Italy, on the Gulf of Taranto It was founded in 452 B C to replace ruined Sybaris New Greek colonists came later, among them the city planner Hippodamus and possibly Herodotus and Lysias Thurii became an ally of Rome and was pillaged by Hannibal in 204 B C Rome renewed the colony, but it did not thrive

Thuringia (thyōōrĭn'ju), Ger *Thüringen* (tü'rĭngun), state (6,022 sq mi, pop 2,927,497), central Germany Weimar is the capital Thuringia borders on Bavaria in the south, Hesse in the west, Saxony-Anhalt in the north, and Saxony in the east Incorporated after the Second World War into the Russian zone of occupation in Germany, Thuringia was considerably increased from its prewar size (4,541 sq mi, 1939 pop 1,743,624) by the

addition of formerly Prussian enclaves and border areas, notably Erfurt and Mühlhausen The population increase was also due in part to the influx of refugees from devastated areas Thuringia is crossed by the Thuringian Forest (Ger *Thüringer Wald*) (tü'ring-ur vält") a forested range extending from the Werra river in the west to the Thuringian Saale river in the southeast and rising to 3,222 ft in the Grosser Beerberg In the north, Thuringia extends to the foot of the Harz mts The cultivated land is very fertile, and the forested hills are a favorite resort area Some very good wine is also grown here Thuringia has very active industries, producing textiles, precision and optical instruments, machinery, glass, porcelain, and processed foods JENA, GOTHA, EISENACH, GERA, ALTENBURG, ERFURT, MÜHLHAUSEN, and SUHL are among the chief centers Potash, gypsum, and some iron are mined The ancient Thuringians, a Germanic tribe occupying central Germany between the Elbe and the Danube, were conquered by the Franks between the 6th and 8th cent A D and were converted to Christianity by St Boniface Thuringia was made a march (frontier country) against the Slavs in the 9th cent, but it passed under the control of the Saxon dukes in the 10th cent In the 11th cent the landgraves of Thuringia, with their seat at the celebrated WARTBURG, emerged as immediate princes of the Holy Roman Empire and ruled over much the same territory as present Thuringia After the death (1227) of Landgrave Louis II, on a crusade, his widow, St ELIZABETH of Hungary, was expelled by Louis's successor, Henry Raspe, who later was antiking to Conrad IV After Henry's death (1247) the succession to Thuringia was long contested, but the major part eventually fell to the house of WETTIN, i e , to the margraves of Meissen, who in 1423 became electors of Saxony The division (1485) of the Wettin lands left most of the Thuringian territories to the Ernestine branch of the family which also received the electoral title When Elector JOHN FREDERICK I was deprived of his lands in 1547, the Ernestine branch lost the electoral title and all their lands save Thuringia to the Albertine branch Under the Ernestines, Thuringia was split into several duchies (see SAXE-ALTENBURG, SAXE-COBURG, SAXE-GOTHA, SAXE-MEININGEN, SAXE-WEIMAR) Principalities situated in Thuringia but not ruled by any of the branches of the Ernestine line were those of REUSS and Schwarzburg (see SCHWARZBURG-RUDOLSTADT and SCHWARZBURG-SONDERSHAUSEN) Thuringia in the 16th cent had been a center of the Lutheran Reformation, and its population remains thoroughly Protestant Among the Ernestine duchies (which underwent several redivisions in the 17th, 18th, and 19th cent) the most important both politically and culturally, was that of SAXE-WEIMAR-EISENACH Duke CHARLES AUGUSTUS, the patron of Goethe, was raised (1815) to grand ducal rank by the Congress of Vienna As a result of the territorial redistribution of 1826, Duke Ernest III of Saxe-Coburg received Gotha and became ERNEST I of SAXE-COBURG-GOTHA, through his dynastic connections with several major houses of Europe (notably England and Belgium), he and his successors also acquired considerable prominence All the Thuringian duchies except Saxe-Meiningen sided with Prussia in the Austro-Prussian War of 1866 Members of the German Confederation from 1815, the Thuringian states joined the North German Confederation in 1866 and the German Empire in 1871 Their rulers were expelled in 1918, and in 1920 the state of Thuringia was founded under the Weimar Republic by the union of Saxe-Coburg-Gotha (less the city of Coburg, which went to Bavaria), Saxe-Weimar-Eisenach Saxe-Altenburg Saxe-Meiningen, the two sister principalities of Reuss, and the principalities of Schwarzburg-Rudolstadt and Schwarzburg-Sondershausen

Thurles (thûr'lus), urban district (pop 6,012), Co Tipperary, Ireland, on the Suir and NNW of Clonmel It is an agricultural market with beet-sugar refineries Thurles is the seat of the Roman Catholic archbishop of Cashel, who administers the bishopric of Emly as well The town was the scene of Richard Strongbow's defeat (1174) The ruins of Holy Cross Abbey are near by

Thurloe, John, 1616–68, English statesman. He studied law and in 1647 was admitted to Lincoln's Inn Prior to 1652 he held several minor offices in the state department In that year he became secretary to the council of state, and in 1653 he was given charge of the intelligence department, which included foreign and domestic espionage and the post office Through the post office Thurloe was able to intercept information of plots against the government He entered Parliament in 1654, supporting Oliver Cromwell (who was his personal friend) and, later, Richard Cromwell He was deprived of office (1659) by the Long Parliament, reappointed a secretary of state (1660), removed again, and nearly tried for treason (also in 1660) by the Restoration government Thurloe then retired from public life, but remained a valuable authority on foreign affairs and was consulted by various officials. His vast correspondence, an important authority for the history of the Protectorate, is preserved in the Bodleian Library, Oxford, and in the British Museum Part of it was published in 1742 by Thomas Birch

Thurlow, Edward Thurlow, 1st Baron, 1731–1806, lord chancellor of England He was removed (1751) without a degree from Cambridge and articled to a solicitor Called to the bar in 1754, he enjoyed considerable success in practice, gaining fame by his handling of *Douglas* vs *Hamilton* before the House of Lords He was made a king's counsel in 1762 and entered Parliament in 1765 In 1770 he was appointed solicitor general, and in 1771 he was made attorney general He supported the policies of George III and Lord North with respect to the American colonies His support of the king brought him a barony and the lord chancellorship (1778) He held the latter office until Charles Fox insisted upon his dismissal (1783) William Pitt reappointed him, and he retained office until 1792, when Pitt and Lord Grenville demanded his retirement He presided ably over the first part of the trial of Warren Hastings Thurlow consistently opposed parliamentary reform, abolition of the slave trade, and other reforms His manner inspired Fox's remark, "No man ever was so wise as Thurlow looks"

Thurman, Allen Granberry, 1813–95, U S Senator from Ohio (1869–81), b Lynchburg, Va In 1819 his family moved to Chillicothe, Ohio, where, admitted to the bar in 1835, he began to practice law He was a Democratic Congressman (1845–47) and a member of the Ohio supreme court (1851–56), being its chief justice in 1854–56 In the Civil War, Thurman, who had supported Stephen A. Douglas for President in 1860, was a leading "Peace Democrat" Rutherford B Hayes narrowly defeated him for the governorship of Ohio in 1867, but the Democratic legislature chosen that same year later sent him to the Senate He was reelected once, but defeated for a third term Thurman served on the presidential Electoral Commission of 1876, sponsored (1878) the Thurman Act, which forced transcontinental railroads aided by government bonds to fulfill their debts to the Federal authority, and was Grover Cleveland's running mate in the Democratic defeat of 1888

Thurmond, James Strom (thûr'mund), 1902–, American political leader, b Edgefield, S C , grad Clemson College, 1923 He read law while teaching (1923–29) in South Carolina schools and was admitted to the bar in 1930 J Strom Thurmond was elected (1933) to the state senate and became (1938) a circuit-court judge In the Second World War he served (1942–46) in the U S army and was elected (1946) governor of South Carolina Thurmond was chosen presidential candidate by the States' Rights Democrats, Southerners who bolted the Democratic party in 1948 in opposition to President Harry S Truman's civil-rights program Thurmond won 38 electoral votes

Thurmont (thûr'mŏnt), town (pop 1,307), N Md , E of Hagerstown At near-by Sabillasville is the state tuberculosis sanatorium

Thurrock, Essex, England see GRAYS THURROCK and TILBURY

Thursby, Emma (thûrz'bē), 1845–1931, American soprano, b Williamsburg (now part of Brooklyn), N Y , studied in the United States and Italy She was soloist (1868–71) at Plymouth Church, Brooklyn, of which Henry Ward Beecher was pastor, and in other New York and Brooklyn churches until 1877 A coloratura soprano of unusual range and purity of tone, she was highly lauded in concerts both in Europe and the United States, but never sang in opera In the 1890s she ceased concertizing and devoted herself entirely to teaching See biography by R G Gipson (1940)

Thursday see WEEK

Thursday Island (pop 944), N of Cape York Peninsula, Australia, in Torres Strait Partly wooded, the islet is 1½ mi long There are pearl and trepang fisheries In 1912 the islet became a municipality of Queensland

Thurso (thûr'sō), village (pop 1,295), S Que , on the Ottawa river and E of Ottawa, in an area of lumbering, dairying, and stock raising

Thurso (thûr'sō), burgh (pop 2,946), Caithness, Scotland, a seaport at the mouth of the Thurso river It is the most northerly burgh on the Scottish mainland Its industry is wool weaving

Thurstan, d 1140, Anglo-Norman ecclesiastic, archbishop of York (elected 1114, consecrated 1119) He was involved in a lengthy controversy with the archbishop of Canterbury, who would not consecrate him unless Thurstan allowed the jurisdiction of Canterbury over York, and with King Henry I, who would not allow him to appeal to the pope to settle the matter He became reconciled with the king, but never with the archbishop

Thurston, Howard, 1869–1936, American magician, b. Columbus, Ohio He made (1904–7) a tour of the world, performing before many kings and notables He wrote *My Life of Magic* (1929) and a mystery drama called *The Demon.*

Thurston, Robert Henry, 1839–1903, American engineer and educator, b Providence, R I., grad Brown, 1859 He taught at Annapolis (1865–70), at Stevens Institute of Technology (1871–85), where he organized the course in mechanical engineering; and at Cornell, where from 1885 he directed the Sibley College (later Sibley School) of Mechanical Engineering He was a founder and first president of the American Society of Mechanical Engineers His works include *History of the Growth of the Steam Engine* (1878, centennial ed., 1939), *Materials of Engineering* (1883–84), and *Manual of Steam Boilers* (1888). See biography by W F Durand (1929)

Thutmose I (thōōt'mōs, tōōt'–) or **Thothmes I** (thŏth'mēs, tŏthmēs), fl 1540 B C , third king of the XVIII dynasty of ancient EGYPT and successor of AMENHOTEP I, to whom he was perhaps related by marriage He became king c 1540 In a great campaign he subjugated the valley of the Nile up to the third cataract (below the present Dongola) Syria occupied his attention, and he at least temporarily subdued the country as far as the Euphrates Of his three children to succeed —Hatshepsut, **Thutmose II,** and **Thutmose III**—only Hatshepsut, a daughter, had a royal mother, the queen through whom Thutmose I claimed the throne Hatshepsut, heir in spite of her sex, married Thutmose III, who seized the throne (1501 B C) from his aged father Before long Hatshepsut gained equal power with her husband and brother, only to relegate him to the background and call herself "king" Thutmose II's reign was simply a three-year interruption in Hatshepsut's Her reign was peaceful, and she developed the resources of Egypt variously, thus, she revived the mining in Sinai She put up obelisks at Karnak itself, and much building was done in her reign She neglected the old imperialism of her family, and at her death (c 1481) the Syrians conquered by her predecessor had risen in revolt In 1479 Thutmose III advanced into Syria, where a powerful confederation waited to oppose him He was victor at Megiddo and consolidated all Syria, except Phoenicia, in his empire In successive campaigns he reduced every ruler N to the Euphrates to the grade of autonomous tributary and eventually brought low even powerful Kadesh His empire (the zenith of the New Empire), extending from the third cataract to the Euphrates, was used to enrich Egypt with wealth and man power Up and down the Nile he built temples He founded the wealth of the priesthood of Amon, to which he belonged Thutmose, having made his son AMENHOTEP II coregent, died the next year (1447) and was buried in the Valley of the Kings His mummy is at Cairo He is one of the earliest conquering imperialists known clearly to history

Thutmose IV (reign, c 1420–c 1411 B C), son and successor of Amenhotep II, like his father invaded Asia and Nubia, he formed alliances with independent kings neighboring his Syrian tributaries and married a princess of Mitanni, who was mother of his son and successor, AMENHOTEP III

Thwaites, Reuben Gold (thwāts), 1853–1913, American historian, b Dorchester, Mass He was managing editor of the *Wisconsin State Journal* and later superintendent of the Wisconsin Historical Society He was deeply interested in the history of the Old Northwest, and he and a staff of assistants edited some of the most valuable early accounts of Western history in *The Jesuits Relations* (73 vols , 1896–1901) and *Early Western Travels, 1748–1846* (32 vols , 1904 7) He also edited many other early accounts in separate issues and wrote biographies (e g , of Marquette) and special studies (e g , of the Black Hawk War) related to the Old Northwest He also contributed *France in America* to the "American Nation" series and wrote a school history of the United States

Thwing, Charles Franklin (twing), 1853–1937, American educator and congregational clergyman, b New Sharon, Maine, grad Harvard, 1876, and Andover Theological Seminary, 1879 Until 1890 he served parishes in Cambridge, Mass , and Minneapolis He was president of Western Reserve Univ and Adelbert College from 1890 to his retirement in 1921 and a trustee of the Carnegie Foundation after 1905 He wrote many books on religion and education, including *The College President* (1920), *Education and Religion* (1929), and *The American College and University* (1935)

Thyatira (thī"ut'ī'rū), ancient city of Lydia, now Akhisar, near Smyrna, Turkey It was one of the SEVEN CHURCHES IN ASIA and was known for its purple dye (Acts 16 14)

Thyestes (thīĕs'tēz), in Greek legend, son of PELOPS and brother of ATREUS He seduced his own daughter unknowingly and had by her a son, AEGISTHUS When Atreus, in revenge for Thyestes' seduction of Atreus' wife, served all the sons of Thyestes, except Aegisthus, to him at a feast, the horrified father pronounced the curse which brought misfortune to the house of Atreus.

thyme (tīm), any species of the genus *Thymus*, aromatic herbs or shrubby plants of the mint family. The common thyme, which is used as a seasoning herb and yields an essential oil containing THYMOL, is the Old World *Thymus vulgaris*, an erect plant with grayish branches The wild or creeping thyme or mother-of-thyme (*T serpyllum*), occasionally used for seasoning, is an Old World evergreen naturalized in North America and popular as a ground cover, edging, and rock plant; the

small flowers are purplish or, in its varieties, of other colors This was the wild thyme of Shakspere's *Midsummer Night's Dream* The Greeks used thyme as a temple incense, and it was prized even in ancient times as a honey plant

thymol (thī'mŏl, -mōl, -mōl), colorless, crystalline, organic compound (of carbon, hydrogen, and oxygen) with an odor like that of thyme It is prepared from the oil of thyme obtained by distillation from thyme and various other related plants, e g , ajowan Thymol is employed as an antiseptic for the skin, mucous membrane, and intestinal tract It is used in the elimination of the hookworm parasite from the human system and in the treatment of trichinosis In too large or too frequent doses, it is poisonous '

thymus gland (thī'mus), mass of glandular tissue found in humans and some other vertebrate animals In humans it lies in the upper part of the chest cavity and consists of lymphoid tissue resembling the tissue of the adenoids Usually it has two lobes, although these are, in some cases, united to form a single mass The thymus is relatively large in the human fetus and infant and enlarges up to the age of puberty, when it gradually diminishes in size Its function is not definitely known There is some evidence that it functions as an endocrine gland and that its secretion plays a part in the control of growth

thyroid gland (thī'roid), ductless gland found in the neck It consists of two lateral lobes and a connecting isthmus, the lobes lie on either side of the trachea, the connecting isthmus in front of it It is the only organ in the body which stores iodine It secretes thyroxin, a compound with a high iodine content (about 65 percent), directly into the blood stream The primary function of the thyroid gland is the control of the rate of metabolism Enlargement of the thyroid gland is known as goiter, of which there are a number of varieties Simple or endemic goiter, resulting from deficiency of iodine in food or water, is common in certain inland regions, e g , parts of Switzerland and the Great Lakes region of the United States The condition can be prevented or cured by the addition of iodine to the diet A type known as exophthalmic goiter (Graves's disease or hyperthyroidism) is caused by an oversecretion of thyroxin Among the symptoms are protruding eyeballs loss of weight, moist skin, tremor of tongue and hand, great irritability, and increase in the basal metabolic rate Myxedema is a condition produced by thyroid insufficiency in the adult See also CRETINISM

thyrsus (thûr'sus), in Greek religion wand carried by participants in Dionysiac rites It was a staff topped by a pine cone or by a bunch of grapes It probably represented a phallus and as such symbolized Dionysus as a god of fertility

Ti, chemical symbol of the element TITANIUM

Tiahuanaco (tyä'wänä'kō), ancient Indian ruin, W Bolivia, 34 mi S of Lake TITICACA, near the Peruvian border Nearly 13,000 ft above sea level, Tiahuanaco was probably a religious center and is thought to have been built by the AYMARA Much of the construction is unfinished At some time prior to the Classic period (A D c 600–900) building was begun, and there is evidence of additional construction during the decadent period (c 1100–1300) At the end of the Classic period Tiahuanaco influenced several of the cultures of coastal Peru Built of massive blocks weighing up to 100 tons and brought from several miles away, the structures of Tiahuanaco are superb examples of masonry Without mortar the stones were fitted to a precision and exactness in cutting, squaring, dressing, and notching equaled in no other aboriginal South American civilization, not even the Inca Construction is largely of the platform or monolithic type decorated by conventional incised carving or heads in low relief See Arthur Posnansky, *Tihuanacu the Cradle of American Man* (1945).

Tia Juana, MEXICO see TIJUANA

Tian Shan: see TIEN SHAN

Tiaret (tyärĕt'), city (pop 22,344), N Algeria, in the Tell region Since Roman times it has been the center of a prosperous agricultural area It was completely rebuilt after its capture by the French in 1843

Tibaldi, Pellegrino (pāl-lägrē'nō tēbäl'dē), 1527–96, Italian painter and architect, whose real name was Pellegrino di Tibaldo de' Pellegrini He studied in Bologna, and his early painting of the *Marriage of St Catherine* attests the influence of Bagnacavallo, who may have been his first master A trip to Rome in 1547, however, afforded a study of Michelangelo's art which was decisive for the formation of Tibaldi's style He returned to Bologna in 1550 to supervise the completion of Cardinal Poggio's palace (now the Univ of Bologna) Besides designing the façade, he decorated the interior with a vast series of scenes from the *Odyssey* Later he executed decorative frescoes in the Ferretti Palace (Ancona) After 1565 he devoted himself principally to architecture Under the patronage of Charles Borromeo, he was named architect of the city of Milan Characteristic of his work is the courtyard of the archiepiscopal palace and the churches of San Fedele and San Sebastiano in Milan In 1585 Philip II summoned him to Spain, where he worked on frescoes at the Escorial He returned to Milan in 1596 to continue work on the remodeling of the cathedral until his death

Tibbett, Lawrence (tĭ'bĭt), 1896–, American baritone, b Bakersfield, Calif He made his debut at the Metropolitan Opera House in 1923 After a successful appearance as Ford in Verdi's *Falstaff*, he was given leading roles and became especially noted for those he created in American operas, particularly Louis Gruenberg's *Emperor Jones* (1933) and the operas of Deems Taylor He was outstanding in the revival (1932) of Verdi's *Simon Boccanegra* Beginning with *The Rogue Song* (1930) he appeared in a number of moving pictures and was long popular as a radio singer He helped found (1936) the American Guild of Musical Artists, of which he became president

Tiber (tī'bur), Ital *Tevere* (tā'vārā), Latin *Tiberis*, river, 251 mi long, central Italy It rises in the Tuscan Apennines and flows generally S across Tuscany, Umbria, and part of Latium, then SW through Rome, to empty into the Tyrrhenian Sea by two mouths It is connected with the Arno by the Chiana canal, its chief tributaries are the Nera and the Aniene

Tiberias (tībēr'ĭus), town (pop c 12,000), NE Israel, on the west shore of the Sea of Galilee It is a center for agricultural settlements, and near by there are hot springs The town was built by Herod Antipas and named for Emperor Tiberius After the destruction of Jerusalem it became a center for Jews and always had an important Jewish colony There was a destructive earthquake in 1927 and a flood in 1934 Arabic forms of the name are Tabariya and Tubariya The lake is often called the Lake, or Sea, of Tiberias

Tiberius (Tiberius Julius Caesar Augustus) (tībēr'-ĭus), 42 B C A D 37, second Roman emperor (A D 14 A D 37) He was the son of Ti Claudius Nero and LIVIA DRUSILLA and was originally named Tiberius Claudius Nero He campaigned in Armenia (20 B C), became governor of Transalpine Gaul (19 B C), and aided his brother DRUSUS on the Rhine and the Danube (12 B C) AUGUSTUS, his stepfather, compelled him (12 B C) to divorce his wife, Vipsania Agrippina, and to marry Julia, the widow of Agrippa and daughter of Augustus After the death of Drusus (9 B C) he campaigned in Germany, and following a second consulship (7 B C) he retired to Rhodes for seven years On his return he was adopted as heir of the emperor and was sent (A D 4) into Germany Five years later he subjugated Illyricum Tiberius succeeded without difficulty on the death of Augustus He spent his efforts in continuing the policies of Augustus, with one exception, he cut drastically on "luxury" expenses, including public shows By so doing and by reforming the tax situation in the provinces he greatly improved the financial state of the government and made himself extremely unpopular in Rome For years SEJANUS was his chief aid and confidant Tiberius retired to Capri in A D 26 and ruled thereafter by correspondence He grew abnormally suspicious and even had Sejanus killed (A D 31) His unpopularity is mirrored by the Roman historians and much they write of Tiberius has to be carefully checked He is the Tiberius of Luke 3 1 He was succeeded by Caligula See F. B Marsh, *The Reign of Tiberius* (1931)

Tibet (tĭbĕt'), country (c 470,000 sq mi , pop c 4,000,000), central Asia The capital is Lhasa Tibet is bordered by China on the north and east, by Bhutan, Nepal, and India on the south, and by India on the west The country, almost completely surrounded by mountain ranges (including the Himalaya and the Kunlun), is largely a plateau averaging c 13,000 ft high Tibet is perhaps at a loftier elevation than any other country in the world The only important river is the Tsangpo (the Tibetan name for the Brahmaputra), which follows an easterly course through S Tibet North of the river there are many salt lakes, the largest being Tengri Nor in the east In this land of scant rainfall and a short growing season the only extensive agricultural region is the Tsangpo valley, where grains, chiefly barley, and fruits and vegetables are raised. In the valley are nearly all the large permanent settlements, including Lhasa, Shigatse, and Gyangtse Most areas of Tibet are suited only to grazing, yaks, which can withstand the intense cold, are the principal domestic animals, and there are also large herds of goats and sheep. Except for vast salt deposits, much gold, and radioactive ores, it is not known whether Tibet possesses mineral wealth, and mining is prohibited for religious reasons Surfaced roads provide the only commercial routes within Tibet, and they are limited to the Tsangpo area Goods for foreign trade are carried by pack trains (yaks and horses) over difficult mountain passes In exchange for hides, wool, and salt there are imports of brick tea (an important item of Tibetan diet) from China and of cotton cloth from India. The inhabitants of central and N Tibet are nomadic Many of the dwellers in the cities are Lamaist monks, who may comprise as much as one sixth of the country's male population The chief figures of Lamaism, the Dalai Lama and the Tashi (or Panchen) Lama, are at least the nominal heads of the Tibetan government There are several executive bodies and an appointive assembly, the Tsongdu In general, administration is equally divided between lamas and laymen belonging to the feudal aristocracy After adopting Buddhism from India in the 8th cent A D , Tibet, except for minor trade relations, isolated itself from the rest of the world, and even to the present few Westerners have succeeded in visiting this remote land China conquered Tibet in 1720 and thereafter claimed suzerainty —often merely nominal This was disputed by Great Britain, which, in 1904, dispatched to Lhasa Sir Francis Younghusband, who secured valuable trading rights Encouraged by the British, Tibet declared its independence of China in 1913, but the Chinese-Tibetan boundary was not set until 1928 Even today China claims Tibet as a 'special territory " For the early history of Tibet, see LAMAISM See Sir Francis Younghusband, *India and Tibet* (1912), Charles Bell, *Tibet, Past and Present* (1925), Sven Hedin, *The Conquest of Tibet* (1934), Marco Pallis, *Peaks and Lamas* (rev ed 1949) Amaury de Riencourt, *Roof of the World* (1950)

Tibetan art (tĭbĕ'tun) in all its phases, reveals its several origins, India, China, and Persia, not in composite but in parallel expressions, prior to these only such remote beginnings as rock drawings, including the swastika motif, were existent The Tibetans first came under the cultural influence of art in the 8th cent with the introduction of Buddhism from India They accepted the sculptures and paintings accompanying and illustrating Buddhistic teachings, copying the forms and while they developed clever artisans who gave a native interpretation to their work, they failed to produce original, creative artists The architecture, though influenced by local conditions, is reminiscent of India and China, the Chinese roofs being generally adopted The Tibetan tope rises above a masonry base, which frequently encloses a shrine, and its bulbous dome is crowned with a gilded copper parasol and crescent Sculpture was imported in the 8th cent , but native wood carvers acquired excellent technique in low relief, and superior craftsmanship was developed in the cire-perdue process of casting bronze and brass figures The Bon (pre-Buddhistic religion) statues exhibit Chinese feeling, and Buddhist sculptures usually show a strong Indian influence, sometimes these are more truly Tibetan than other expressions Portraiture was sometimes employed in the statuettes of saints, but the grotesque and demonic were in ascendancy, exaggerating or violating the natural human form Tibet holds two of the three most renowned early Buddhist sculptures, said to have come from China One of the figures is the Jokang of Lhasa, another is at the Kumbum monastery, the third remains in China at Peiping Colossal bronze statues of the bodhisattva Avalokiteshvara of many heads demonstrate the skill of Tibetan metalworkers, and an occasional one shows a distinctly Tibetan gesture of the hands not duplicated in Buddhist sculptures elsewhere Tibetan painting usually in tempera but sometimes encaustic, appears most frequently as a temple banner (tanka) It is characterized by crude colors especially vermilion, vivid green, and blue, and a tapestrylike composition, sometimes with a dominant central figure of Buddha or some divinity or with many such figures repeated in balanced order The tanka is of cotton or silk, sized with a coat of glue and chalk and smoothed with a shell previous to having the design traced upon it for painting only the most skilled artisans being able to copy directly from the model So unvarying was the rendering of the restricted subjects, controlled or executed by the lamas, that examples of the 10th cent (British Mus) and modern interpretations confuse their critics In illustrating the life of Buddha or the cult of Siva the traditions of India prevail in decorative detail the Chinese forms are plainly observable The paintings, mounted to roll or hang in Oriental fashion, are provided with soft protecting curtains of bright color which are draped to one side for exhibition of the work Tibetan craftsmen excel in metalwork such as jewelry, silver and gold *repoussé* for reliquaries and other objects, and damascening Even iron is manipulated into lacy and intricate patterns for decorating saddles or quivers The Musée Guimet, Paris, has a rich collection of Tibetan art, and there are examples in the Museum of Fine Arts, Boston, and in the Newark (N.J.) Museum

Tibetan language, Tibeto-Burman language of the Indo-Chinese family See LANGUAGE (table)

Tibhath (tĭb'hăth), unidentified Syrian city. **1** Chron 18 8 Betah 2 Sam 8 8. See TEBAH

Tibni (tĭb'nī), d c 885 B C , unsuccessful contender with OMRI **1** for the throne of Israel after the death of Zimri 1 Kings 16 21, 22

Tibullus (Albius Tibullus) (tĭbŭ'lus), c 55 B C –19 B C , Roman elegiac poet, b Pedum, near Praeneste Probably of the equestrian order, he was a

friend of MESSALA, whom he accompanied on campaign. Two books of verse (concerned, respectively, mostly with "Delia" and "Nemesis"—names symbolic of his loves) were published during his lifetime, some doubtfully attributed posthumous pieces plus works by other poets constitute a third book A master of the Latin love elegy, Tibullus wrote tenderly and sincerely of a love unusually delicate and ingenuous

Tibur, Italy see TIVOLI

tic: see SPASM

Tichborne, Henrietta, Lady see ORTON, ARTHUR.

Ticino (tēchē'nō), Fr and Ger *Tessin* (fr tĕsăN', ger tĕsēn'), canton (1,086 sq mi , pop. 161,882), SE Switzerland, on the southern slope of the central Alps, bordering on Italy Bellinzona is the capital The canton is named after the Ticino river (Latin *Ticinus*), which rises in the northwest and flows through Lago MAGGIORE into Italy, joining the Po below Pavia There are numerous hydroelectric stations along its course The larger part of Ticino is mountainous and has a pastoral economy, in the valleys wine is extensively produced, and there is some agriculture Lago Maggiore and the Lake of LUGANO, both partly in Switzerland, are important resort areas The population is mostly Catholic and Italian-speaking The Ticino river was the scene (218 B C) of Hannibal's victory over SCIPIO A part of Transpadane Gaul under the Roman Empire, the region later shared the history of Lombardy until its conquest (15th–16th cent) by the Swiss confederates from the duchy of Milan It was ruled until 1798 as subject territory by Schwyz and Uri cantons and became a Swiss canton in 1803

tick, an arachnid, almost identical with the mite but larger than most species All ticks are parasitic The majority live on the blood of mammals, some on birds Rocky Mountain spotted fever and tularemia are transmitted by the American dog tick and the wood tick Relapsing fever is carried by certain ticks Texas fever or cattle fever is spread by the cattle tick, as demonstrated by Theobald SMITH Ear ticks attack domestic animals, causing serious injury or death The sheep "tick" is a degenerate fly See *Cattle-Fever Ticks and Methods of Eradication* (U S Dept of Agriculture, Farmers' Bul 1057), *Story of Cattle-Fever Tick* (U S Dept of Agriculture, Miscellaneous Publication 2)

Tickell, Thomas (tĭk'əl), 1685–1740, English poet and translator He contributed to the *Spectator* and was a friend of Addison, to whom he wrote a fine elegy His translation of the first book of the *Iliad*, appearing simultaneously with Pope's (1715), caused a quarrel between Pope and Addison, who praised Tickell's work See R E Tickell's collection of family papers, *Thomas Tickell and the Eighteenth-Century Poets* (1931)

Ticknor, George (tĭk'nur), 1791–1871, American author and teacher, b Boston, grad Dartmouth, 1807 He was admitted to the bar in 1813 With Edward Everett he went to Gottingen, Germany, in 1815 to study and in 1816 was appointed, while abroad, the first Smith professor of French and Spanish at Harvard He continued his studies in Italy, Spain, Portugal, and England and in 1819 returned to Harvard There he improved elementary instruction in languages, introduced thorough German methods of study, and tried to establish a system of electives, but failed except in his own department He resigned in 1835 to collect, abroad, more material for his great *History of Spanish Literature* (1849) At his death he left his valuable Spanish collection to the Boston Public Library, which he had helped found

Ticknor, William Davis, 1810–64, American publisher. In 1832 he went into partnership with a Boston publisher, John Allen, who retired in 1833 John Reed and James T FIELDS later became his partners, and the firm is best known as Ticknor and Fields They published the works of many of the famous Americans of the day, including H W Longfellow, O W Holmes, and J R Lowell, and their offices were the meeting place of literary men. From 1854 to 1864 the firm published the *Atlantic Monthly* and the *North American Review* Ticknor was the first American publisher to pay foreign authors for the rights to their works

tickseed: see BUR MARIGOLD, CORLOPSIS, TREFOIL.

Ticonderoga (tī"kŏndərō'gu), resort village (pop. 3,402), NE N Y , between Lakes George and Champlain; settled in the 17th cent , inc 1889. The falls of Lake George furnish power for its paper mill Graphite from mines here is used in the local pencil industry. At Ticonderoga and near-by CROWN POINT several battles of the French and Indian War took place. Fort Carillon, built here by the French in 1755, was successfully defended by MONTCALM against James Abercromby in 1758 but fell to Jeffrey Amherst in 1759. Early in the American Revolution, Fort Ticonderoga was captured (May 10, 1775) by a detachment of Green Mountain Boys under Ethan ALLEN and troops commanded by Benedict Arnold. In the Saratoga campaign it was abandoned (1777) without a fight by Arthur ST. CLAIR to John Burgoyne. The British gave up the fort after the campaign but reoccupied it for a short time in 1780. The headquarters of the New York State Historical Association is here; the building is a reproduction of John Hancock's house and contains collections of historical material and paintings.

Tidal (tī'dl). see CHEDORLAOMER.

tidal theory, concerning the origin of the solar system, formulated in 1918 by James JEANS and afterwards developed and modified by Harold Jeffreys Based on the PLANETESIMAL HYPOTHESIS, it also assumes that the approach of a second star was the cause of the separation of matter from the great nebulous mass of gas which was the sun. But according to the tidal theory, the separation of the smaller body of gas from the sun was the result of the vast tides that were raised on the surface of the sun by the attraction of the visiting star. When this gravitational pull became great enough to overcome the attraction of the sun itself, the crest of the tidal wave was drawn away and became detached from the principal mass As the stream of gaseous material condensed, it separated into masses of various sizes, which, by further condensation, took the form of our earth and the other planets The earth, first a fiery gaseous mass, liquefied at the center as it cooled, and finally acquired a solid crust over its surface See F R Moulton, *Astronomy* (1932), James Jeans, *The Stars in Their Courses* (1931, reissue, 1947) and *Through Space and Time* (1934)

tidal wave. Although the term is properly applied to the crest of the tide as it moves around the earth, in popular usage it is applied to a destructive wave or to high water not related to tidal phenomena Tidal waves are of two types, seismic sea waves and storm or wind waves Seismic sea waves are caused by submarine earthquakes or volcanic explosions that displace water and result in surface waves usually radiating from the epicenter of the disturbance Such waves may inundate low coastal areas A notable example is the tidal wave that hit the Hawaiian Islands and caused havoc to the town of Hilo in April, 1946 It was caused by an underwater landslide off the Aleutian Islands The wave was felt in the Japanese islands and with greatly diminished force even in Chile Seismic sea waves commonly travel at c 300 mi an hour Tidal waves caused by severe storms may be waves of extra height or sheets of water swept up the coast They occur chiefly in areas subject to tropical storms and bordering on shallow waters In the destructive inundation of Galveston in 1900, a wind velocity of over 100 mi an hour, combined with a very low barometric pressure, brought high water 15 ft above the mean level

tide, alternate rise and fall of waters in oceans and other large bodies of water It is caused by the gravitational effect of the moon and sun and, to a slight degree, of other planets and stars Although the mass of the sun is far larger than that of the moon, the moon, being much closer to the earth, has a tide-producing force about 2¼ times greater, the sun only increases or decreases the effect of the lunar tides The solidity and rigidity of the earth cause it to respond to gravitational attraction as a unit mass in inverse proportion to the square of the distance between its center and that of the moon, but the water on its surface responds as individual particles At a given time there are two high tides on the globe, one (direct tide) on the side facing the moon and the other (indirect tide) on the opposite side, the indirect tide is caused by the greater pull of the moon on the earth, whose center of attraction is c 4,000 mi closer to it than is the water on the far side The earth's rotation and the moon's revolution around the earth, both in the same direction, bring each point on the earth directly opposite the moon once in about 24 hr and 50 min Therefore the average interval between direct and indirect high tides is about 12 hr and 25 min High tide generally does not occur when the moon is directly overhead, a lag or an acceleration (lunar interval) may be caused by other tide-producing forces or by the distribution of land masses or the configuration of the coast or of the ocean floor. Irregularities caused by tide-producing forces other than the moon, e g , by the earth's rotation, by the inclination toward the equator of the orbits of moon and earth, and by other factors, result in three main types of tide semidaily, two high and two low water in a lunar day, daily, one tidal cycle in a lunar day; and mixed, two tidal cycles showing a marked difference in height and duration between both high and low morning and afternoon tides or only between the two high or the two low tides The range of the tide is the difference in level between successive high and low waters The maximum range (spring tide) occurs when the earth, moon, and sun are in line (at the time of the full moon and of the new moon); the minimum range (neap tide) occurs when the sun and the moon are at right angles (first and third quarters of the moon's phases). The tidal range varies also because of coastal configuration and barometric pressure; it may be less than 2 ft. off oceanic islands or may attain a maximum of about 50 ft. in parts of the Bay of Fundy. Tidal currents are caused by the ebb and flow of the tide and are perceptible chiefly in offshore waters and in bays, estuaries, or harbors; they are usually rapid in narrowing estuaries, where they may cause a tidal BORE. Although a relation between moon and tides was early recognized, the first adequate scientific explanation was given by Sir Isaac Newton and was based on his theory of gravitation. Complex mathematical analysis is required to calculate the gravitational effects of celestial bodies and to correlate them with the centrifugal force of the earth's rotation and with other factors The importance of tides for shipping has led to the compilation of tide tables for ports, these predict the time and height of high and low waters and are based on observations corrected for the varying positions of celestial bodies Various contrivances to utilize the power of the tides have been devised, but as yet none has proved widely practicable The plentiful life in tidal waters is an important field of biological study. See H A Marmer, *The Tide* (1926)

tidewater, in U S history, that part of the Atlantic coastal plain extending inland to the area reached by oceanic tides or to the fall line The tidewater or seaboard was naturally settled first and in the Southern colonies became the region of the large plantations and of the important commercial towns The slaveholding tidewater aristocracy, allied with the British colonial officialdom, so completely dominated local government to the detriment of the expanding frontier that the frontier people were several times driven to insurrection, notably in *Bacon's Rebellion* in 17th-century Virginia and in the *Regulator movement* in 18th-century North Carolina This dominance even continued for some time after the American Revolution in certain Southern states, but eventually the well-settled areas beyond the tidewater curbed the practice, and, in the case of West Virginia, used the Civil War as an opportunity to form a new state See Paul Wilstach, *Tidewater Virginia* (1929) and *Tidewater Maryland* (1931)

Tieck, Christian Friedrich (krĭs'tyän frē'drĭkh tēk'), 1776–1851, German sculptor, remembered chiefly for the decorative mythological reliefs in the royal theater, Berlin

Tieck, Ludwig (lōōt'vĭkh), 1773–1853, German romantic poet, dramatist, and novelist In a long career outlasting the romantic school of which he was a leader, he produced a varied list of works, poetic, fantastic, and satirical, made the classic German version (1799–1801) of *Don Quixote*, and completed, with the important help of his daughter Dorothea and her husband Graf Baudissin, the Shakspere translations begun by A W von Schlegel Among Tieck's works are *Der blonde Eckbert* (1796), the *Volksmärchen* [folk tales] (1797) which include *Die schone Magelone*, with interspersed lyrics later set to music by Brahms, the satirical comedy *Der gestiefelte Kater* (1797, Eng tr , *Puss in Boots*, 1913), the verse drama *Genoveva* (1799), the basis of Schumann's opera, the connected stories in *Phantasus* (1812–16, Eng tr , *Tales from the Phantasus*, 1845), numerous *Novellen*, and the historical novel *Vittoria Accorombona* (1840, Eng tr , *The Roman Matron*, 1845) His criticism and satires were a powerful encouragement to the romanticists, but afterwards, especially in his later *Novellen*, he adopted a more realistic standpoint See O F Walzel, *German Romanticism* (1932), study by E H Zeydel (1935)

Tiehling or **T'ieh-ling** (both tyĕ'lĭng'), city (pop 55,656), NE Liaoning prov , China The city has a Buddhist temple (built 890) There is processing of wheat and soybeans

Tiele, Cornelis Petrus (kôrnā'lĭs pā'trŭs tē'lu), 1830–1902, Dutch theologian and author of a number of valuable works on the history of religion. Important is his *Outlines of the History of Religion* (1876, Eng tr , 1878)

Tien Shan (tyĕn' shän') [Chinese, = celestial mountains], mountain system of central Asia, adjoining the Pamirs on the northeast The Tien Shan lie along the northern rim of the Tarim basin in Sinkiang prov , China, and in Russian Turkistan The loftiest peaks are Mt Pobieda (24,406 ft) and Khan Tengri or Tengri Khan (22,945 ft), both on the China-USSR border In the east there are relatively low parallel ranges which extend toward the Gobi Trade is conducted between China and the USSR by several passes, notably the Terek Pass (12,730 ft. high) on the route connecting Kashgar and Samarkand Some of the ALA-TAU ranges are extensions of the Tien Shan. The name formerly appeared as Tian Shan

Tientsin (tĭn"tsĭn', tēn-, tyĕn"-, tĭn"sĭn'), Mandarin *T'ien-ching*, city (pop 1,707,670), in, but independent of, Hopeh prov , China, a port at the junction of the Pei river and the Grand Canal. Although its harbor is poor, Tientsin (which has rail connections with much of China) is the leading port of the N China plain. It is an important manufacturing center, producing glass, porcelain, leather goods, and processed foods Tientsin is strategically situated on the overland route to Manchuria, and it has been a frequent military objective ever since it rose to importance in the late 18th cent. The British and the French occupied it in 1858 and in 1860 and exacted agreements with China which

made Tientsin a treaty port and conceded parts of the city for foreign settlements and garrisons In the Boxer Rebellion (1900) there was a joint foreign occupation. In the Second World War, Japan seized the entire city and held it until the end of hostilities. With the abolition of the last foreign concessions in 1946, Tientsin was completely restored to Chinese sovereignty It fell to the Chinese Communists in 1949.

Tiepolo, Giovanni Battista (jōvän'nē bät-tē'stä tyā'pōlō), 1696–1770, Venetian painter and decorator Born over a century after the death of Veronese, he succeeded in reviving something of the grand manner of the Venetian baroque. His early frescoes in the Labia Palace and the doge's palace won him international fame In 1750 he was summoned to Würzburg, where he decorated the palace of the archbishop with frescoes illustrating the life of Emperor Frederick I and altarpieces depicting the *Ascension of the Virgin* and *Fall of the Angels* In 1763 he went to Madrid, where he passed the remainder of his life and decorated the royal palace with frescoes representing *Spain and Her Provinces* and *The Apotheosis of Spain* In oil he was also prolific Tiepolo's workshare in many European galleries Among them are *Christ in the Garden of Olives* (Vienna), *Holy Family with St Gaetano* (Academy, Venice), and *Madonna in Glory* (Church of the Jesuits, Venice) The Metropolitan Museum has five, and the National Gallery of Art, Washington, D C , has six As pure virtuosity the art of Tiepolo is unsurpassed Lightness and clarity of color, superb draughtsmanship, and scintillating brush work mark his style Particularly in his fresco decorations, where he delighted to send foreshortened deities floating on clouds through sunny skies, his mastery and audacity are amazing It is an art derived from Veronese but with less concern for solid structure and even more surface brilliance Two of Tiepelo's sons, Domenico and Lorenzo, continued his tradition Tiepolo was famous also as a draughtsman and etcher Technically, Goya learned much from him See *Paintings, Drawings, and Prints by the Two Tiepolos*, published by the Art Institute of Chicago (1938)

Tierra del Fuego (tyĕ'rä dĕl fwā'gō), archipelago, area c 18,500 sq mi , off S South America, consisting of one large and several small islands separated from the mainland by the Strait of Magellan (see MAGELLAN, STRAIT OF) A boundary divides it into two sections, the eastern part belonging to Argentina (territory of Tierra del Fuego, capital, Ushuaia) and the larger western part to Chile (see MAGALLANES) The Andes extend through the western part, and the plateau of PATAGONIA continues into the eastern section The coastal plains are bleak, and it grows very cold inland and in the mountains Sheep are raised, timber is exported, and there is some mining The aborigines (called Fuegians) are the Onas, Alakalufs, and Yahgans, their material culture is low The languages of the three tribes probably belong to different families The archipelago was discovered by MAGELLAN in 1520

Tietê (tyĕtā'), river rising in the Serra do Mar, São Paulo state, SE Brazil It flows NW past São Paulo city to the Paraná It has been used for hydroelectric power and canal irrigation, but falls and rapids prevent navigation throughout most of its course

Tietjens, Eunice (Hammond) (tē'junz), 1884–1944, American poet and novelist, b Chicago, educated in Europe She was after 1913 an associate of Harriet Monroe on the magazine *Poetry* Volumes of her own poetry include *Profiles from China* (1917) and *Body and Raiment* (1919), and she also wrote novels and books for children She was married to Paul Tietjens from 1904 to 1914, in 1920 she married Cloyd Head See her autobiographical *The World at My Shoulder* (1938)

Tiffany, Charles Lewis (tĭ'funē), 1812–1902, American merchant, b Killingly, Conn He founded the famous jewelry firm of Tiffany and Company, New York city His improvements in styles of silverware won wide recognition, and when in 1851 he introduced the English standard of sterling silver, the leading silversmiths in America followed his example. Much of his later life was devoted to studying and encouraging the fine arts

Tiffany, Louis Comfort, 1848–1933, American artist and art patron, b New York city, son of Charles Lewis Tiffany After painting in Europe and Morocco, he established an interior-decorating firm in New York, eventually under the name of Tiffany Studios. In this he maintained a large staff of expert designers and specialized in church work, including stained glass windows and mosaics. He established the Tiffany Furnaces, Corona, N Y , for manufacturing stained glass and with a German chemist developed a new expression in iridescent glass, called *favrile* Of this, the Tiffany Furnaces produced lamp shades, vases, and other small forms, as well as glass for mosaics and windows, which won many awards for beauty and craftsmanship. In 1919 Tiffany instituted and endowed the Louis Comfort Tiffany Foundation, deeding to it his rich art library and museum and his summer residence, Laurelton Hall, at Oyster Bay, N.Y., for the resident study of art students. In 1946 the foundation was reorganized, the property liquidated, and provision made for study and travel grants to art students Tiffany is represented in the Metropolitan Museum by a painting, *Snake Charmer at Tangiers*

Tiffin, city (pop. 16,102), co. seat of Seneca co , N Ohio, on the Sandusky river and SE of Toledo Founded c 1820, it was united in 1850 with the village of Fort Ball Glassware, pottery, electrical equipment, dolomite products, and tool-making machinery are made Heidelberg College (Evangelical-Reformed, coeducational, 1850) and an orphanage are here

Tiflis (tĭflĭs, Rus tĭflyēs'), Georgian *Tbilisi* (tublĭ''lēsē', ŭtbŭlyē'sē), city (pop 519,175), capital of Georgian SSR, on the Kura river and at the southern end of the Georgian Military Road It is an important communications center and the economic and cultural capital of Transcaucasia Among its chief industrial products are machinery and silk and cotton textiles Tobacco, food, and wine are processed here Tiflis has a university (founded 1918), a polytechnic school, a medical school, an academy of fine arts, an opera, and several theaters, and is the seat of the Georgian Academy of Sciences The city, first mentioned in the 4th cent , became the capital of Georgia in the 5th cent Its situation on the natural trade route between the Caspian and the Black Sea early gave it commercial prominence but also exposed it to numerous raids by the Huns, Khazars, Persians, Byzantines, Arabs, Mongols, and Seljuk and Ottoman Turks It flourished (12th–13th cent) during the height of Georgian power Last sacked (1795) by the Persians, it passed (1800-1801) to Russia From 1917 to 1921 Tiflis was the capital of an independent Georgia, and from 1921 to 1936 it was the capital of the former Transcaucasian Soviet Federated Socialist Republic It underwent reconstruction and modernization in the late 1930s Hemmed in by spurs of the Greater and Lesser Caucasus, Tiflis rises in terraces from both banks of the Kura In its old section, with picturesque streets and bazaars, are the hot sulphur springs that gave Tiflis its name (*Tbilisi* meaning "warm springs" in Georgian) Old Tiflis, however, is becoming gradually absorbed by the modern city, which has wide thoroughfares (notably Rustaveli Boulevard), fine parks, and handsome modern buildings Among the many churches are the Zion Cathedral, first built in the 7th cent , the 6th-century church of St David, and the 13th-century Metskh Church (now an art museum) There also are ruins of an old fortress Mt David, a favorite excursion point, dominates the city and is accessible by funicular railway It was at Tiflis that Stalin studied theology and entered the revolutionary movement

Tifton, city (pop 5,228), co seat of Tift co , S central Ga , ESE of Albany, settled 1872, inc 1890 Tobacco, cotton, and truck are marketed, and meat is packed Tifton has a state junior college and a state agricultural experiment station

tiger, mammal of the cat family, confined to Asia. Its coat is orange yellow striped with black, and it has no mane Occasionally black and albino specimens occur Male tigers range from about 8 ft to over 10 ft in total length, and some weigh more than 500 lb Tigers are chiefly forest and jungle animals, they hunt their prey (deer, wild pigs, cattle, and smaller animals) mostly at night Man-eating tigers are usually old and unable to capture wild animals The tiger is less gregarious than the lion It seldom breeds in captivity, although it has produced sterile offspring when crossed with the lion The Indian or Bengal tiger is the most numerous. Found in smaller numbers are the Manchurian or Mongolian, Korean, Caspian or Persian, Javan, and Bali tigers See R G. Burton, *The Book of the Tiger* (1933)

tiger lily: see LILY

Tighina, Moldavian SSR see BENDER

Tiglath-pileser I (tĭ'glăth-pūlē'zur, -pĭ), d c 1102 B C , king of ancient Assyria He subdued revolted provinces and conquered tribes in N Syria, Commagene, Cappadocia, Armenia, and Kurdistan He was a great hunter, rebuilt temples and palaces, and records that he repaired all the irrigation works throughout the land In retaliation for an invasion of Assyria he invaded Babylonia and captured the two Sippars and Babylon

Tiglath-pileser III, d 728 B C , king of ancient Assyria He seems to have usurped the throne in 745 B C. He bore the alternative name of Pul, by which he was known in biblical history (2 Kings 15 19) He subdued the Aramaean tribes in Babylonia, and constituted a new Assyrian province on his own borders His general Ashur-danani campaigned against the Medes (farther east) and took forces as far as the Caspian Sea. The king defeated Ararat and became master of Syria He was appealed to by Ahaz, king of Judah, for assistance against Pekah of Israel and Resin of Damascus and responded by defeating his enemies and capturing Damascus. A revolt in Babylonia was crushed by Tiglath-pileser, who became king of Babylon in name as well as in deed He proved himself a great administrator and may justly be considered the most remarkable figure in Assyrian history He is referred to in the Bible as Pul or Tilgath-pilneser See 2 Kings 15; 16, 1 Chron 5 6,26, 2 Chron. 28 20

Tigranes (tĭgrā'nēz), c 140 B C –55 B C , king of Armenia (c.96 B C –55 B C), called also Tigranes I and Tigranes the Great By an alliance with his father-in-law, MITHRIDATES of Pontus, he was able to extend his conquests across Asia Minor He founded Tigranocerta as the capital of his large empire He and Mithridates were, however, at war with Rome, and in 69 B C LUCULLUS captured Tigranocerta POMPEY with the aid of the king's son vanquished Tigranes, who lost all his conquests and had to pay tribute to Rome for Armenia itself

Tigré: see ETHIOPIA

Tigre Island (tē'grā), small island, off Central America, in the Gulf of Fonseca On it is AMAPALA, the Pacific port of Honduras

Tigris (tī'grĭs), river, SW Asia, rising in the Taurus mts in E Turkey and flowing c 1,150 mi , mostly in Iraq, to join the EUPHRATES river, with which it forms the SHATT EL ARAB In the Bible the Tigris is called the Hiddekil (hĭ'dĕkĭl) Gen 2.14; Dan 10 4 On its southeast course through Iraq it flows past Mosul, Tikrit, and Baghdad In antiquity there were on its banks some of the great cities of Mesopotamia, including Nineveh, Ctesiphon, and Seleucia The Tigris is of greater volume than the Euphrates, and it is of considerable use for commerce Rafts, floated by inflated skins, carry much of the trade above Mosul, while between Mosul and Baghdad small steamers ply It is connected by ancient canals with the Euphrates, and it furnishes much of the water for irrigation between the two rivers The tributaries of the Tigris, notably the Great Zab and the Little Zab, all flow in from the east, most of them arise in Iran

Tihama: see TEHAMA

Tihwa, China see URUMCHI

Tijou, Jean (zhä' tēzhōō'), fl 1689–c 1711, French designer of ironwork, known exclusively by his works in England The dates of his birth and death are unrecorded, as are the facts of his training and career He seems to have come to England in 1689 when William and Mary, his lifelong patrons, commenced their reign The purely French Renaissance type of design which he introduced greatly influenced English smithcraft and was perpetuated by his apprenticed artisans and by his *New Book of Drawings* (1693), reproduced in 1896 by J S Gardner with an account of Tijou's life His notable creations are various gates and railings adorning the grounds of Hampton Court Palace and the screens and grilles of St Paul's Cathedral executed under Sir Christopher Wren His choir aisle gates and altar rails in St Paul's rank among England's finest specimens of ironcraft They show his characteristic and lavish use of rosettes, figures, and embossed leafage

Tijuana (tēhwa'nä), city (pop 16,486), Lower California, NW Mexico Just south of the U S border, Tijuana became famous in the prohibition era as a wide-open town It is a popular resort on a semi-arid plain and is noted for the race tracks and gambling casinos at Agua Caliente The name formerly occurred as Tia Juana

Tikal (tēkäl'), ruins of a city of the MAYA, N central Petén, Guatemala The largest and probably the oldest of the Maya cities, it has the tallest Mayan structure (229 ft) Tikal, belonging to the era of the Old Empire, produced some of the best examples of wood carving

Tikvah (tĭk'vu) [Heb ,=expectation] or **Tikvath** (-vāth) [Heb ,=obedience or expectation] **1** Huldah's father-in-law 2 Kings 22 14, 2 Chron 34 22 **2** Jahaziah's father, Ezra 10 15

Tilburg (tĭl'bûrg), municipality (pop 113,090), North Brabant prov , S Netherlands A textile center, it also manufactures clothing, dyes, textile machinery, and leather

Tilbury (tĭl'bĕrĭ, tĭl'burē), town (pop 2,155), S Ont , SW of Chatham Automobile bodies, bricks, and tiles are manufactured here

Tilbury (tĭl'bĕrĭ), former urban district (1931 pop 16,825), since 1936 part of Thurrock, Essex, England, on the north bank of the Thames opposite Gravesend Tilbury Fort originated under Henry VIII, it was later rebuilt and strengthened, Queen Elizabeth, in 1588, reviewed troops here when the Spanish Armada threatened England The Tilbury docks, begun in 1886, are included in the Port of London and are the terminus of several passenger steamship lines The town and docks were heavily bombed in 1940–41

Tilden, Samuel Jones, 1814–86, American presidential candidate in 1876, b New Lebanon, Columbia co , N Y He attended Yale, was graduated from the law school of the Univ of the City of New York (later New York Univ.) in 1841, and was admitted to the bar the same year Tilden was an eminently successful lawyer, with many railroad companies as clients He became a strong partisan of Martin Van Buren and the BARNBURNERS in New York Democratic politics Unlike other "free-soil" Democrats of the 1850s, he did not join the new Republican party and later disapproved of the Civil War As state Democratic chairman after 1866 he sought

reform and gathered much of the convincing evidence of corruption which broke the notorious TWEED RING in New York city Elected governor of New York (1874), he further enhanced his reputation for reform by his successful attack on the corrupt "Canal ring" Tilden thus became the outstanding Democrat in the nation, and in 1876 his party nominated him for President. Rutherford B. HAYES was his Republican opponent The campaign resulted in the most famous election dispute in American history Tilden, it seems clear now, actually won, but there were double and conflicting returns from Florida, Louisiana, and South Carolina and a contest over one Oregon elector To settle the unusual question, not covered by the Constitution, Congress created an electoral commission of five Senators, five Representatives, and five Supreme Court Justices Eight were Republicans and seven were Democrats, as plans for one independent failed The commission, by partisan division, awarded (March 2, 1877) Hayes all the disputed votes, making his total a majority of one (185 to 184) Tilden, a high-minded though not a particularly warm-hearted man, discouraged further contest and gracefully retired from public life, but, quite justifiably, always held that he had been robbed of the presidency The settlement was followed by the return of local government to the Southern states and the end of RECONSTRUCTION Tilden left a large sum toward establishing a free public library in New York city, and in 1895 this trust was joined with the Astor and Lenox Libraries to form the New York Public Library See biographies by John Bigelow (1895) and A C Fluck (1939), P L Haworth, *The Hayes-Tilden Disputed Presidential Election of 1876* (1906, new ed , 1927)

Tilden, Sir William Augustus, 1842–1926, English chemist He was professor (1894–1909) at the Royal College of Science (now Imperial College, Univ of London) and is known for his researches in organic chemistry and especially for his study of the relation of specific heat to atomic weight His works include texts in chemistry and *Chemical Discovery and Invention in the Twentieth Century* (1917, 6th ed , 1936)

Tilden, William Tatem, Jr., 1893–, American tennis player, b Philadelphia, grad Univ of Pennsylvania, 1922 He developed into a brilliant, versatile tennis player, and from 1913 he won several doubles titles in the United States He became one of the foremost tennis players of the world by winning the U S singles championship eight times (1920–26, 1929) and the British singles crown three times (1920–21, 1930) while taking several other national tennis crowns throughout the world "Big Bill," as he was called, was the leading member of the American team that won the Davis Cup and was chiefly responsible for U S retention of the cup until 1926 After turning professional in 1931, Tilden won the professional singles championship in 1931 and 1935 In 1945, at the age of 52, Tilden, along with Vincent Richards, won the professional doubles championship He wrote numerous books on tennis *Aces, Places, and Faults* (1938) and *My Story* (1948) are autobiographical

Tilden, village (pop 1,040), S Ill , SE of St Louis, inc 1901

tile, one of the ceramic products used in building, to which group brick and terra cotta also belong The term designates the finished baked clay—the material of a wide variety of units used in architecture and engineering, such as wall slabs or blocks, floor pavings, coverings for roofs, and drainage pipes In these products the distinction between terra cotta and tile is often vague Also, any small flat slab of ceramic material used for the veneering of wall, floor, or other surfaces is called a tile The making of tiles, an evolution from the primitive uses of clay for pottery, has existed from the earliest times of which there are any architectural traces at all As soon as the art of glazing had been discovered, it became possible to use the thin slabs of hard-burnt clay, decorated in colors, as a polychromatic adjunct in architecture Their purely decorative use as a facing for walls distinguishes them from other ceramic products, such as brick, terra cotta, and roofing units, which are essentially structural Colored glazed tiles assigned to 4700 B C have been found in Egypt However, for lack of fuel, the Egyptians produced no extensive architectural ceramics It was in the Tigris-Euphrates basin of W Asia that ancient ceramics were furthest perfected Large wall surfaces were faced with bas-relief decorations executed in enameled tiles, resembling modern bricks in shape, the most noted discoveries being those of the palace at Khorsabad (722–705 B C) in Assyria, near ancient Nineveh, and the Ishtar Gate (about the 7th cent B C) in Babylon From these regions ancient Persia acquired ceramic techniques which bore fruit in the fine bas-reliefs of animals and archers in the palaces of Susa and Persepolis (5th cent B C) The Persians still remain masters in the making and use of tile decoration Unsurpassed masterpieces of design were produced from the 12th to the 16th cent Among noted examples are the 15th-century Blue Mosque at Tabriz and many structures at Isfahan and Shiraz The earliest tile sewer pipes are those excavated at Crete, in the palace of Cnossus (c 1800 B C). The Greeks also employed tile drains and conduits and tiles for roofing Their architectural ceramics were mostly confined to cornices and cornice adornments and are customarily classed as terra cotta The Romans made wide use of floor tiles of various shapes and of floor mosaics, as well as a variety of wall tiles, including a type similar to modern hollow tiles, which were used in bathing establishments for the passage of warm air and smoke and as insulation But their tiles received no colored and glazed decoration It is in the hands of the Moslem peoples that tile was brought to its greatest splendor as a decorative medium, and in the countries which came under their influence the tradition of a brilliant ceramic art is still active today Developed to the highest opulence of color ornament and surface, tiles peculiarly suited the Eastern love of decoration, and Moslem architecture is distinguished by the lavish tile incrustations upon the exterior surfaces of walls, domes, and minarets, as well as in rooms, mosques, and patios In Spain ceramics, firmly established by the 11th cent , became an integral element of architectural decoration, chiefly for floors and wainscots, their richness notably exemplified in the Alhambra at Granada From Spain the art was transmitted not only to Italy and Holland and from there to England, but also into Mexico by the Spanish conquerors, who developed (16th–18th cent) a distinctive style, especially applied in the external decoration of domes At Delft, Holland, tile manufacturing began early in the 16th cent , and by 1670 numbers of factories were making the celebrated blue-and-white Delft tiles, which enjoyed great popularity in N Europe and were exported to the American colonies for fireplace facings In Holland tiles were used to cover large wall spaces in rooms, being often arranged to form complete pictorial murals In Germany, Austria, and Switzerland tiles were used in building heating stoves as early as the Gothic period and into the 19th cent , and numbers of these, decorated and beautifully executed, still remain In modern times the vastly increased use for tiles, as in bathrooms, kitchens, and swimming pools and in industrial buildings has created an extensive tile industry Great technical advances have been made in composition and manufacture, while the variety of types is without number There has been a revival of handmade tiles, but commercial tiles are made by machine processes, the clay being dried and ground to a powder and then packed into steel dies, submitted to heavy pressure, and thoroughly vitrified

Tilgner, Viktor (vĭk'tôr tĭlg'nur), 1844–96, Austrian sculptor His portrait busts—including those of Emperor Francis Joseph and his wife—won him a reputation in Vienna Later Tilgner turned to decorative sculpture of a baroque tendency He made decorations for the natural history museum and the Hofburg Theater, Vienna, fountains for Pressburg and Vienna, and several monuments, including those to Mozart at Vienna and to Joseph Werndl at Steyr

Tillamook (tĭl'umōōk), city (pop 2,751), co seat of Tillamook co , NW Oregon, near the coast and the head of Tillamook Bay and W of Portland, inc 1891 It is the trade center of a fishing, lumber, and dairy region The Tillamook County Pioneers' Museum, with historical material on the Oregon country, is here

Tillamook Indians, tribe of North American Indians of the Salishan linguistic stock In the early 19th cent they lived on Tillamook Bay in NW Oregon They then numbered some 2,200 By 1849, however, they had been reduced to some 200 Their culture was of the California area but with some Pacific Northwest Coast area traits

Tillett, Benjamin (tĭl'ĭt), 1860–1943, English labor organizer With Tom Mann and John Burns, he led the dock strike of 1889 Tillett helped found several labor organizations, including the Dockers' Union and the General Federation of Trade Unions He was a Labour party member of Parliament (1917–24, 1929–31) He was the author of *Trade Unions and Socialism* (1894) and *Memories and Reflections* (1931)

Till Eulenspiegel see EULENSPIEGEL, TILL

Tilley, Sir Samuel Leonard, 1818–96, Canadian statesman, b New Brunswick He started his own business in St John after serving as clerk to an apothecary He entered the New Brunswick legislature in 1850 as a Liberal and became premier of the province in 1861 Deeply interested in a united Canada, Tilley was an important figure at the conferences (1864) to discuss confederation and carried the project in the New Brunswick elections of 1866 He attended (1866) the Westminster Conference at which the provisions of the British North America Act (1867) were drafted, and in 1867 he was invited by John A Macdonald to join the dominion cabinet, which he entered as minister of customs He was briefly in 1873 minister of finance, but with the downfall of Macdonald's government, Tilley again assumed the lieutenant governorship of New Brunswick As minister of finance (1878–85) in the second Macdonald government, he formulated the protective tariff plan known as the National Policy. Ill-health forced his resignation from the cabinet in 1885 He was again lieutenant governor of New Brunswick, a post he held until his death See biography by James Hannay (new ed , 1926)

Tillier, Claude (klōd' tēlyā'), 1801–44, French novelist He is known for one satirical novel, *Mon Oncle Benjamin* (1842), more read in Germany than in France Written with wit, the novel satirizes the social life of a small French town at the end of the 18th cent

Tillman, Benjamin Ryan, 1847–1918, U S Senator from South Carolina (1895–1918), b. Edgefield co , S C A farmer in the hard years of Reconstruction, he became the leader of the upcountry whites in South Carolina and fostered their discontent with the ruling tidewater "Bourbon aristocracy" Supported by the Farmers' Alliance, he was triumphantly elected governor in 1890 and served two terms (1890–94) His victory meant the downfall of Wade HAMPTON (1818–1902) Tillman supported agricultural education (Clemson and Winthrop colleges were opened) and legislation regulating railroads He dominated the state constitutional convention of 1895, which drastically restricted the suffrage with specific clauses aimed at the Negro Although many of his measures reflected the influence of the POPULIST PARTY, the reactionism of the "Bourbons" made him seem more radical than he actually was In 1894 Tillman defeated Matthew C BUTLER for the U S Senate, where he allied himself with the Populists against the currency program of President Grover CLEVELAND He vigorously attacked Cleveland in the Democratic convention of 1896 and gave support to William Jennings Bryan and free silver The violence of his opinions earned him the nickname of Pitchfork Ben He usually opposed Theodore Roosevelt, but championed the Hepburn Rate Bill for railroads In general he supported Woodrow Wilson's administration, particularly Josephus Daniels's naval expansion program. See biography by F B Simkins (1944)

Tillotson, John (tĭl'utsun), 1630–94, archbishop of Canterbury (1691–94) He was ordained in 1661 At the Savoy Conference (1661) he was present as an auditor on the side of the Presbyterians, but upon the passing of the Act of Uniformity (1662) he yielded to its requirements In 1663 he became rector of Kedington, Suffolk, and preacher at Lincoln's Inn in 1664 In 1670 he was made a prebendary of Canterbury, and in 1672 dean He was chaplain to Charles II and was admitted to the special favor of William and Mary He became (1689) dean of St Paul's and was persuaded in 1691 to accept the archbishopric of Canterbury, left vacant when the nonjuror Sancroft was deposed *The Rule of Faith* (1666), an answer to an English clergyman who had seceded to the Church of Rome, was published with Tillotson's *Sermons* in an edition by Ralph Barker (14 vols , 1695–1704) A biography by Thomas Birch accompanied his *Works* (3 vols , 1752)

Tillsonburg (tĭl'sunbûrg), town (pop 4,002), S Ont ENE of St Thomas, in a tobacco, dairy, and fruit-growing area Agricultural implements, bricks, and shoes are made here

Tilly, Johannes Tserklaes, count of (yōhä'nus tsĕr'klās' tĭl'ē), 1559–1632, imperialist general in the THIRTY YEARS WAR A younger son of a noble family of Brabant, he served under Alessandro FARNESE and against the Turks before entering the service of MAXIMILIAN I of Bavaria After the outbreak of the Thirty Years War, he commanded the army of the Catholic League in putting down the Bohemian forces at the White Mountain (1620) In the next phase of the war, centering about the Palatinate, Tilly was chief commander against MANSFELD, CHRISTIAN OF BRUNSWICK, and others He won battles at Wimpfen and Höchst (1622), and also won at Stadtlohn (1623) After Christian IV of Denmark entered the war, Tilly and WALLENSTEIN were the chief generals to oppose him In 1626, aided by some of Wallenstein's troops, Tilly was victorious at Lutter When Wallenstein was removed from command of the imperialist army in 1630, Tilly was given command of that army also, but against Gustavus II (Gustavus Adolphus) of Sweden he was not successful On May 20, 1631, Tilly and Pappenheim stormed Magdeburg For the resultant long-remembered massacre Tilly was not actually responsible Later in 1631 Tilly was thoroughly defeated by Gustavus Adolphus at Breitenfeld The next year he was again defeated by Gustavus Adolphus at the crossing of the Lech, where Tilly was mortally wounded

Tilman, Harold William, 1898–, English mountaineer. Between periods of service in both world wars he did farming in Kenya In 1936 he participated in the successful expedition to the top of Nanda Devi, the highest summit yet reached, and he led the Everest expedition of 1938 He wrote *The Ascent of Nanda Devi* (1937), *Snow on the Equator* (1938), *When Men and Mountains Meet* (1947), and *Mount Everest, 1938* (1948).

Tilon (tī'lŏn), descendant of Judah. 1 Chron 4.20.

Tilsit (tĭl'sĭt), city (1939 pop 58,468), former East Prussia, a port on the Niemen, NE of Königsberg It was transferred (1945) to Russian administration and was renamed Sovetsk or Sovietsk (both sŭvyĕtsk') It produces leather, a well-known cheese, and lumber Tilsit developed around a castle built (1408) by the Teutonic Knights Here, after having won the battle of Friedland, Napoleon I met Emperor Alexander I of Russia on June 25, 1807, on a raft in the Niemen, and agreed on the general terms of a peace treaty King Frederick William III of Prussia, Alexander's ally, was only later drawn into negotiations, which led to the treaties of Tilsit of July 7 and July 9, 1807 By the first treaty, France made peace with Russia, which recognized the grand duchy of Warsaw and which secretly promised to mediate between France and England, if England should reject the mediation, Russia was to ally itself with France At the same time France gave Russia a free hand in its design on Finland, then a Swedish possession The Russo-French alliance proved tenuous and collapsed altogether in 1812 In the second treaty Napoleon drastically reduced Prussia, which lost all its territory W of the Elbe to France and most of its Polish provinces to the grand duchy of Warsaw Danzig was made a free city, the Prussian army was reduced to 42,000 men, several of the chief Prussian fortresses were to be garrisoned by French troops, and Prussia was to join in the Continental System against England Prussia thus was reduced to virtual vassalage to France, from which it freed itself only in 1813

Tilton, Theodore, 1835–1907, American journalist b New York city After he worked for the New York *Observer* he was (1863–71) editor in chief of the *Independent*, a Congregationalist weekly He later managed (1872–74) his own weekly, the *Golden Age* A popular lyceum speaker, Tilton supported various social reforms such as woman suffrage He and his wife were active parishioners of Henry Ward BEECHER, whom Tilton sued (1874) for alleged adultery with Mrs Tilton The suit lasted for months and ended in the jury's disagreement In 1883 Tilton went to Europe, where he lived for the remainder of his life His publications include a romantic novel, *Tempest Tossed* (1873), and several volumes of poetry

Tilton 1 Village (pop 1,486), E Ill, near Danville, inc 1884 **2** Town (pop 1,748), S central N H, on the Winnipesaukee river and E of Franklin, settled 1768, set off from Sanbornton and inc 1869 Tilton School for boys is here Northfield, across the river, is allied economically with Tilton There are textile mills

Tiltonville or **Tiltonsville,** village (pop 2,360), E Ohio, on the Ohio and S of Steubenville, named Grover until 1930

Timaeus (tĭmē'ŭs), fl 400? B C, Greek Pythagorean philosopher and astronomer of Epizephyrian Locris, Italy, said to have been a teacher of Plato A cosmological treatise in Dorian Greek is ascribed to him He owes his fame to Plato, who gave him the title role in one of the dialogues

Timaeus, c 346–c 250 B C, Greek historian of Tauromenium (Taormina), Sicily Son of the tyrant of the city, he was banished by Agathocles c 312 and lived for 50 years in Athens, where he wrote a history of his native land This history, now lost except for fragments which have survived as quotations in other works, covered the period from earliest times to the events of his own lifetime The work was severely criticized by Polybius, but highly regarded by later historians See J B Bury, *Ancient Greek Historians* (1909)

Timaeus, in the Bible, father of BARTIMAEUS

Timan (tyĭmän'), mountain ridge, c 350 mi long, Komi ASSR, N European RSFSR, separating the basin of the Vychegda and Mezen rivers in the west from that of the Pechora in the east It extends from the upper Vychegda NNW to Chesha Bay and is continued on Kanin Peninsula Consisting of an old sedimentary formation, it rises to 2,020 ft

Timanthes (tĭmăn'thēz), c 400 B C, Greek painter of Sicyon, a contemporary of Parrhasius and Zeuxis His masterpiece, *Sacrifice of Iphigenia*, was considered one of the great ancient paintings Pliny speaks of his skill in depicting emotions

Timaru (tĭ'mŭrōō), borough (pop 18,305, metropolitan pop 19,596), South Island, New Zealand, on the east coast Primarily a grain center, it is also a port, shipping frozen foods

timber: see LUMBER and WOOD

timber line, line beyond which trees do not grow It depends upon conditions affecting temperature —altitude, latitude, winds, and exposure—and is believed to be limited by an isotherm of 50°F for the warmest month The line is at allower altitude in high latitudes, e g, lower in the Temperate Zone than in the Tropical Zone and lower on the shady side of mountains.

timbrel: see TAMBOURINE

Timbuktu (tĭm'bŭktōō', tĭmbŭk'tōō), Fr. *Tombouctou*, city (pop. c.7,000), French Sudan near the Niger It is important in the caravan trade with the cities bordering the Sahara on the north. It was settled in 1087, and it flourished as a commercial mart for Negro tribes over a wide area and as a center of Moslem culture The fame of its gold and slave market spread to Europe Its prosperity was destroyed by a Moroccan army that took Timbuktu in 1591 In the 19th cent it changed hands frequently, and it was little more than a vast ruin when the French seized it in 1893

time, a concept that has been variously defined at different periods and from different aspects, e g, philosophical, physical, psychological, and biological Although no agreement has been reached, a distinction is commonly made between measurable time, determined by the motion of bodies through space, and experienced duration Unresolved problems regarding time include its reality or unreality (associated with its objectivity or subjectivity), the distinction between time and eternity, and the nature of time (whether continuous or atomistic) In the popular view, time is commonly regarded as a real entity that flows uniformly, a distinction is made between past, present, and future and between before and after, and the possibility of absolute simultaneity of events is recognized However, most physicists today regard simultaneity in different moving systems as relative to the motion of the systems and of the observer The intuitive view of time as an independent entity has been superseded in physics by the concept that time and space are inseparable aspects of a four-dimensional universe (see SPACE—TIME) Although methods of measuring time have varied through the ages, all are based on some recurring phenomenon, e g, the apparent daily motion of the sun, the recurrence of the seasons, or the phases of the moon The accuracy of the measurement depends on the constancy of the interval or period of recurrence The most uniformly constant interval is believed to be the apparent daily period of a fixed star (the interval between successive passages of the star across the meridian at the point of observation), this is the basis of sidereal time which is used by astronomers for many calculations However, because the activities of man are geared to the succession of day and night, the time unit most commonly employed since prehistoric times is the apparent daily circuit of the sun, from which solar time is reckoned Both the sidereal and the solar day are based on the rotation of the earth on its axis One complete rotation of the earth taken about 4 min longer in reference to the sun than to a fixed star, there is about one more of the shorter sidereal days in the sidereal year than of solar days in the solar, or tropical, year Because of the precession of the equinoxes, the sidereal year is about 20 min longer than the solar year Divisions of the day are arbitrarily selected units—hours, minutes, and seconds These are reckoned by artificial timekeepers based on some device such as the swing of a pendulum, the gradual release of a spring (see CLOCK), or the passage of sand or water through an orifice The setting and synchronization of mechanical timekeepers depend ultimately on observations of celestial bodies Solar days are not uniform in length, differences are caused by the inclination of the earth's axis and by variations in the speed of the earth's motion in its orbit around the sun Since the rhythm of mechanical timekeepers is constant, modern time reckoning is based on the average (mean) solar day Solar noon may be about 15 min later than mean solar noon in February, or about 16 min earlier in October Since the sun apparently travels toward the west, noon is later at a given place on the earth's surface than it is at more easterly points, local time varies 4 min for each degree of longitude To lessen the inconvenience, especially to railroads, resulting from local time variations, standard time was accepted by most nations at an international conference held in Washington, D C, in 1884 Standard time is based on the mean solar day as reckoned by the Royal Observatory of Greenwich, England, the meridian of longitude at Greenwich is accepted as the prime (0°) meridian The earth's 360° circumference is divided into 24 time belts or zones of 15°, each belt differing from Greenwich time by an integral number of hours Although theoretically the belts are delimited by meridians of longitude, in practice the boundaries are modified for local convenience The continental United States falls into four standard belts known as Eastern, Central, Mountain, and Pacific, the day in these belts starts respectively 5, 6, 7, and 8 hr later than at Greenwich It follows, therefore, that a radio program originating in New York at 8 o'clock Eastern Standard Time will be received in San Francisco at 5 o'clock Pacific Standard Time To avoid confusion in dates, the calendar day is accepted as beginning at an arbitrary line (see DATE LINE, INTERNATIONAL) in the Pacific Ocean See also CALENDAR and HOROLOGY

time, in music see TEMPO, METER, RHYTHM See also METRONOME and MUSICAL NOTATION

time space: see SPACE TIME

Timgad (tĭm'găd), anc *Thamugadi*, ruined city, Algeria, S of Constantine It is called the Pompeii of North Africa because of the extensive remains of the Roman city founded here by Trajan in A.D 100. This was destroyed by Berbers in the 7th cent. and was unknown until excavations were made in 1881 Ruins include a triumphal arch, a theater, a library, and a forum

Timiskaming (tĭmĭ'skŭmĭng) or **Témiscamingue** (tāmēskämĕg'), town (pop 2,168), SW Que, at the south end of Lake Timiskaming and NE of North Bay, Ont, inc 1920 It is a trade center for a dairy and cattle area, with gold, silver, cobalt, and arsenic mining near by The town was originally called Kipawa

Timiskaming, Lake, SW Que and E Ont., an expansion of the Ottawa river extending 62 mi NSE from New Liskeard to Timiskaming There are several islands in the north part of the lake, and Haileybury is on its northwest shore The surrounding area is rich in minerals

Timisoara (tĭmēshwä'rä), Hung *Temesvár* (tĕ'meshvär), city (pop 111,987), W Rumania, chief city of the Banat (the former BANAT OF TEMESVAR) A major commercial and industrial center and a railroad hub, it produces woolen and cotton textiles, electric appliances, rolling stock, and a number of other manufactured articles It is a Roman Catholic and an Orthodox episcopal see, and it has a university (founded 1945), a polytechnical school, and other institutes of higher education The population includes a large Hungarian and a German minority An ancient Roman settlement, Timisoara came under Magyar domination in 896 and was attached (1010) to Hungary Here in the 15th cent John Hunyadi had his castle (now a barracks) An important frontier fortress, Timisoara was held by the Turks from 1552 until its deliverance in 1716 by Eugene of Savoy The Treaty of Passarowitz (1718) formally restored it to Hungary It passed to Rumania in the Treaty of Trianon (1920) The inner city is surrounded by boulevards, which have taken the place of the former ramparts The Roman Catholic cathedral and episcopal palace, the city hall, and other important buildings date from the 18th cent

Timmermans, Felix (fā'lĭks tĭ'murmans), 1886–, Flemish novelist Among his most successful works are *Pallieter* (1916, Eng tr, 1924), the story of a lusty Fleming of gigantic appetites, and *Pieter Breughel* (1928, Eng tr, *Droll Peter*, 1930), a novel about the elder Pieter Bruegel

Timmins, town (pop 28,790), E Ont, on the Mattagami river and NNW of Sudbury It is the commercial center of the rich Porcupine gold-mining district (gold was discovered here in 1909), where are the Dome, Hollinger, and McIntyre mines The town's industries include pulp, paper, and lumber mills and breweries

Timmonsville, town (pop 1,979), NE S C, just SW of Florence, in a tobacco, cotton, and dairy area

Timna or **Timnah** (both tĭm'nu) [Heb, =portion] **1** Concubine of Esau's son Eliphaz Gen 36 12 **2** Daughter of Seir Gen 36 22, 1 Chron 1 39 She may be the same as **1** **3** Duke of Edom Gen 36 40, 1 Chron 1 51

Timnah (tĭm'nu) or **Timnath** (tĭm'năth) [Heb, =portion] 1 Hill town, S Palestine Joshua 15 57 **2** Place associated with Judah Gen. 38 12 It may be the same as **1** or **3** **3** Town associated with Samson's "Timnite" wife and also with Ahaz Joshua 15 10 19 43 Judges 14 1,2,5, 15 6. Thimnathah 2 Chron 28 18 This may be the same as TIMNATH-HERES

Timnath-heres(tĭm'năth-hē'rēs) or **Timnath-sereh** (-sē'rĕh) [Heb, =portion of abundance], city, central Palestine, where Joshua was buried Joshua 19 50, 24 30, Judges 2 9 This may be the same place as TIMNAH **3**

Timoleon (tĭmō'lēun), d after 337 B C, Greek statesman and general, noted as the scourge of tyrants A Corinthian, he heard the appeal of the citizens of Syracuse to the mother city, Corinth, for aid against DIONYSIUS THE YOUNGER Timoleon went (344 B C) with a force to fight Dionysius and his allies, Hicetas, the tyrant of Leontini, and the Carthaginians He drove Dionysius and Hicetas from Syracuse, set up a democratic government, and brought new Greek colonists He defeated Hicetas and a large Carthaginian force, but made peace with Carthage c 338 B C He also ousted the tyrants from the other Sicilian cities before, as he was going blind, he retired to private life in 337

Timon (tī'mun), one of the seven deacons Acts 6 5

Timon of Athens, fl after 450 B C, semilegendary Greek misanthrope Disgusted when friends abandoned him after he lost his wealth, he retired from the society of all except ALCIBIADES, who would, he thought, be the ruin of Athens Plutarch and Lucian portray his character, which is also portrayed in the play *Timon of Athens*, by most scholars attributed to Shakspere

Timon of Phlius (flī'us), c 320–c 230 B C, Greek skeptic philosopher He was a disciple of Pyrrho of Elis and became a rhetor at Chalcedon and Athens After Timon's death the skeptics lost their identity, as they tended to be absorbed into the Academy

Timor (tē'môr), island, area 13,071 sq mi, Indonesia, largest and easternmost of the Lesser Sundas It is long, narrow, and almost wholly mountainous The natives, who are of Malay and Papuan stock, are predominantly Christian. The Portuguese were the first Europeans to establish themselves in

Timor; their claim to the island was disputed by the Dutch, who arrived in 1613. The border between the Dutch and Portuguese territories was settled by treaty in 1859 and finally made effective in 1914 In the Second World War, Timor was occupied in early 1942 by the Japanese With the creation of the United States of Indonesia in Dec., 1949, Dutch Timor became Indonesian territory The colony of Portuguese Timor (7,383 sq mi; 1940 pop. 438,350) comprises the eastern half of the island and the small territory of Oe-Cusse (or Okusi Ambeno) in the western Indonesian section The capital and chief port is Dili Copra, tobacco, coffee, and sandalwood are the principal products Indonesian Timor (5,765 sq mi, 1930 pop 350,064) comprises the western half of the island, with the capital at Kupang The chief products are fish, sandalwood, copra, cattle, and hides

Timorlaut, Indonesia see TANIMBAR ISLANDS

Timoshenko, Semyon Konstantinovich (sēmyôn' kŭnstăntē'nŭvĭch tyĭmushĕn'kō), 1895–, Russian marshal He rose in the civil war of 1917–20 as a brilliant cavalry commander, took much of the credit for the Russian victory over Finland in 1940, and achieved great renown in the Second World War Having replaced BUDENNY on the southern front, he recaptured (Nov, 1941) Rostov from the Germans—their first serious defeat in Russia—and helped to relieve Moscow Later in the war he held commands on the northwest front (1942), in the Caucasus (1943), and in Bessarabia (1944)

Timotheus (tĭmō'thēŭs) see TIMOTHY, SAINT

Timotheus (tĭmō'thēŭs), c 450–357? B C, Greek poet and musician of Miletus He was an innovator in music, generally in the direction of elaboration and complexity He added a string to the cithara His dithyrambs and nomes, fragments of which remain, were redundant and prolix

Timotheus, fl c 376 B C, Athenian statesman and commander He reorganized the Athenian maritime federation, helped bring on a new war with Sparta, and was given command He had no funds and therefore failed and was superseded He went (372 B C) into Persian service, but returned to power after the fall of Callistratus When he was again in Athens his policies brought on war among the confederates Fined (356) because of his conduct as commander, he died in exile

Timotheus, 4th cent B C, Greek sculptor of Athens, recorded as one of the sculptors who worked with Scopas on the Mausoleum at Halicarnassus. About 375 B C, according to an inscription, he furnished models for sculptures on the temple of Asclepius at Epidaurus and executed acroteria (decorative figures placed above the pediments) for this building

Timothy, Saint (tĭ'mŭthē), d c 100, early Christian He was the friend and companion of St Paul Timothy was the son of a Greek father and a Jewish mother He became first bishop of Ephesus and, according to tradition, was martyred there Two epistles bear his name He is also called Timotheus Feast Jan 24 Acts 16 1–3, Rom 16 21; 1 Cor 4 17; 2 Cor 1 1, Philip 2 19, 1 Thes 3 2, 2 Thes 1 1, Philemon 1, Heb 13 23

Timothy, two epistles of the New Testament, occupying the 15th and the 16th place in the usual order With Titus they comprise the Pastoral Epistles, in which Timothy or Titus is addressed by St Paul, with advice on governing his church The authorship and destination of all three are much questioned by critics, who put the composition of the letters late in the 1st cent A D, though seeing in each portions by St Paul First Timothy, after an introduction (1), treats lengthily public prayer (2) and the qualifications of the clergy (3) Then come many details of advice, including admonitions on personal life (4 6–16) and the behavior of widows (5 1–16) and of the clergy (5 17–25) Second Timothy is much more a personal letter The emphasis is on courage and fidelity (1 6–2 26), there are warnings of suffering to come and allusions to Paul's own trials (3 1–4 8) Paul speaks of his impending death (4 6–8,16–18).

timothy or **herd's-grass,** most widely cultivated North American hay grass, introduced from Europe It is a perennial, bunchy grass, with deep roots and a spiked or panicled head It is grown separately and in mixtures and often in crop rotation, producing, on good soil, two tons to the acre the first two years For permanent pastures it is not so good as BLUEGRASS or REDTOP, as it does not live long under continuous grazing It is a late grass—usually sown in the fall with grain—and can be stored soon after cutting In the northeastern states, where it is much planted, it is often called herd's-grass, after John Herd, who was supposed to have found it wild in New Hampshire, c 1700, and to have cultivated it. The name timothy comes from Timothy Hanson or Hanso, who probably introduced the seed into Maryland c.1720. The oldest name is meadow cat's-tail grass

timpani: see KETTLEDRUM

Timpanogos Cave National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Timpson, city (pop, 1,494), E Texas, NE of Nacogdoches and near the Sabine. The red hills around the city produce pine, truck (chiefly tomatoes), lignite, and natural gas.

Timrod, Henry, 1828–67, American poet, b. Charleston, S C., studied at the Univ. of Georgia. Though too frail to be a soldier, he was one of the chief Southern poets of the Civil War. He became editor of the Columbia *South Carolinian* in 1864, but, ruined by the war, died in poverty of tuberculosis, with but one volume of poems (1860) in print. His works were posthumously edited (1873) by his friend P. H. Hayne Timrod's finest poems are his "Ode to the Confederate Dead at Magnolia Cemetery," "The Cotton Boll," "Carolina," and "Ethnogenesis," an ode to the proposed nation of the South See the memorial edition of his *Poems* (1899) and critical editions of his *Last Years* (ed by J B Hubbell, 1941), *Uncollected Poems* (ed by G. A Cardwell, Jr, 1942), and *Essays* (ed by E. W. Parker, 1942)

Timur, see TAMERLANE.

Timurids (tĭmōō'rĭdz), dynasty founded by TAMERLANE (or Timur) After the death of Tamerlane (1405) there was a struggle for power over his empire, which then extended from the Euphrates river to the Jaxartes (Syr Darya) and Indus rivers The western empire, which included Tabriz and Baghdad, lasted only a few years because of internal wars. The "Black Sheep" Turkoman horde brought it to an end when they took (1410) Baghdad Shah Rukh, Tamerlane's son, ruled (1409–46) the eastern empire, including Khurasan and Transoxiana (region E of the Amu Darya or Oxus) He fought the "Black Sheep" and succeeded in recapturing Tabriz and much of W Persia His domain was the focal point of trade between the East and the West, and it attained an unheard-of prosperity Because all the Persian cities were desolated by previous wars, the seat of Persian culture was now in Samarkand and Herat, these cities became the center of the Timurid renaissance This cultural rebirth had a double character, on one hand, there was a renewal of Persian civilization and art (distinguished by extensive borrowings from the Chinese), and on the other, an original national literature in the Turk-Jagatai language, which borrowed from the Persian Ulugh Beg (ruled 1447–49), son of Shah Rukh, was (1409–47) viceroy of Transoxiana He constructed many public buildings and was a patron of Persian art and literature, he made Samarkand a center of Moslem civilization After his succession to the throne the Timurid empire fell into anarchy, the "White Sheep" horde of Turkomans conquered much territory, while the Uzbeks looted Samarkand Petty princes took over the rule, and local dynasties sprang up One of these princes, and the last of the Timurids, was BABER

tin, lustrous, silver-white, crystalline metallic element (symbol=Sn [Latin *stannum*], for physical constants, see ELEMENT, table) The silver-white metal is not stable below 18°C and at the lower temperatures tends to turn into a gray powder, a change commonly designated as "tin pest" or "tin disease" Tin is very soft, being only slightly harder than lead It is malleable and can be rolled, pressed, or hammered into extremely thin sheets known as tin foil When thin sheets of iron or steel are dipped into molten tin upon which is floated a substance such as palm oil to prevent oxidation, a layer of the metal is deposited upon the surface of the sheet The coating can also be applied by an electrolytic method, which requires less tin The iron or steel thus coated is known as tin plate and is used in tin cans, the tin serves to prevent rusting, being itself barely affected by moisture or moist air It is used also for protecting other metals, e g, copper It is a constituent of a number of alloys, e g, antifriction metal, bell metal, Britannia metal, bronze, gun metal, pewter, and solder Chemically the element is relatively active It forms two groups of compounds—stannous, in which it has a valence of 2, and stannic, in which it has a valence of 4 Stannous chloride (one atom of tin and two of chlorine in a molecule) is used as a reducing agent In the air it changes to stannic chloride (one atom of tin to four of chlorine), which is employed as a mordant in dyeing Tin is combined with oxygen as *stannous oxide* (the monoxide) and stannic oxide (the dioxide) and with the hydroxyl radical as stannous hydroxide The dioxide occurs in nature as cassiterite, or tinstone, serves as the chief ore of the metal and as a source of stannic acid (used in the dyeing industry), and is employed also in white enamels Salts of the element are used in weighting or loading silk, in fireproofing various materials, and in medicine Tin very rarely occurs uncombined in nature, but is found in compounds in various parts of the world It is obtained chiefly from Bolivia, Indonesia, the Malay Peninsula, Belgian Congo, and Nigeria The tin mines of Cornwall, England, were formerly the principal source The metal is prepared from its chief ore, cassiterite, by heating in the reverberatory furnace. The ore from the mines is first given special treatment, and the "concentrates" thus obtained are mixed with coal in the furnaces. The coal (carbon), having strong affinity for oxygen, combines chemically with the oxygen of the cassiterite and thus sets the metal free. Tin was known to the ancients at least from the time of the Bronze Age.

tinamou (tĭ'nămōō), South American game bird which resembles the partridge, although it is more closely related to the ostrich It has dark, usually barred plumage; a long, slender bill; short wings, and a rudimentary tail. All species can fly to some extent. They are hunted for their delicious flesh In size they vary from 6 to 18 in.

Tinchebrai, officially **Tinchebray** (both: tănshbrā'), town (pop 1,949), Orne dept., NW France, in Normandy Here in 1106 Henry I of England defeated his brother ROBERT II of Normandy.

Tindal, Matthew (tĭn'dăl), 1653–1733, English deist. For a short time in the reign of James II he was a Roman Catholic, but in 1688 he returned to the Church of England The first of his published writings to excite attention was *The Rights of the Christian Church Asserted against the Romish and All Other Priests Who Claim an Independent Power over It* (1706), which was proscribed His *Defence of the Rights of the Christian Church* (1707) reiterated his position Condemnation of these treatises was violent in England Tindal's *Christianity as Old as the Creation* (1730), in which he set forth his rationalistic views, has been called the bible of deism See Leslie Stephen, *History of English Thought in the Eighteenth Century* (3d ed, 1902)

Tindal or **Tindale, William:** see TYNDALE, WILLIAM

tinea see RINGWORM

Tinian (tĭnē'ăn', tēnēän'), island, area 39 sq. mi, W Pacific, one of the Marianas Islands It is c 3 mi SW of Saipan Composed of madrepore limestone, the island has deposits of phosphate worked by transient laborers In the Second World War, it was taken in 1944 by U.S forces and naval and air bases were established In 1948 it became the site of a leper colony under U S supervision

Tinicum Island (tĭn'kŭm), area in the Delaware river, SW of Philadelphia, near Glenolden, separated from the mainland by creeks and marshes It was the capital (1643-55) of NEW SWEDEN

Tinley Park, residential village (pop. 1,136), NE Ill, near Chicago, inc 1892

Tinnevelly (tĭnuvĕ'lē), town (pop 66,676), S Madras state, India St Francis Xavier conducted missionary activity in this area. There is sugar refining

Tinos: see TENOS.

tinstone see TIN

Tintagel Head (tĭntă'jŭl), cape, Cornwall, England, nearly detached from the mainland by a chasm across a narrow neck It is the site of Tintagel village and of the ruined Tintagel Castle (Norman), the reputed birthplace of King Arthur A partly Norman church is here, and there are traces of British and Saxon forts

Tintern Abbey, ruins of an abbey, Monmouthshire, England, N of Chepstow It was founded in 1131 by Walter de Clare for Cistercians and now consists mainly of 13th- and 14th-century English work It is the subject of a poem by Wordsworth

Tinto, Río, Spain see RÍO TINTO

Tintoretto (tĭntŭrĕ'tō, Ital tēntōrāt'tō), 1518–94, Venetian painter, whose real name was Jacopo Robusti He was called Il Tintoretto [little dyer] from his father's trade According to tradition he studied for a brief time under Titian On stylistic grounds it has been suggested that he trained under Bonifazio Veronese or Paris Bordone and that he was influenced in his youth by Lotto and Parmigiano He is said to have aspired to combine the drawing of Michelangelo with the color of Titian, and it was certainly these masters who most influenced his highly individual genius In 1548 Tintoretto painted the famous *Miracle of St Mark* (Academy, Venice) for the Scuola di San Marco, a work which involves Michelangelesque elements in the treatment of the figures, but which already reveals essentials of Tintoretto's developed style in space and light effects These features are even more marked in the celebrated paintings of c 1560 in the Church of the Madonna dell' Orto—the *Worship of the Golden Calf*, the *Last Judgment*, and the *Presentation of the Virgin*—and in the famous *Marriage at Cana* of 1561, in the sacristy of Santa Maria della Salute Between 1562 and 1566 he executed three more paintings for the Scuola di San Marco, the *Stealing of St Mark's Body from Alexandria* and *St Mark Rescuing the Saracen* (both Academy, Venice) and *St Mark Directing the Search for His Body* (Milan). In 1564 he began a great cycle of paintings in the Scuola di San Rocco (Venice), the execution of which occupied him intermittently until c 1587 The series comprises more than 60 paintings devoted to the glorification of Venetian patron saints and scenes from the Passion It includes the enormous canvas of the *Crucifixion* (1565), in which the master integrated over 80 figures in a poignant representation of the tragedy The works in San Rocco rank with the ceiling in the Sistine Chapel by Michelangelo and the Vatican Stanze of Raphael among the great monuments of the Renaissance In 1568 Tintoretto painted the *Crucifixion* and *Descent into Limbo* in the Church of San Cassiano (Venice) After the fire of 1577 in the ducal palace he and Paolo Veronese were the chief artists employed in reconstruction Tintoretto's work included the *Bacchus and Ariadne* and the *Forge of Vulcan* (ducal palace) and the

Origin of the Milky Way (National Gall , London). Also for the ducal palace he executed with the aid of assistants the great *Paradise*, reputed to be the largest oil canvas in the world (30 ft x 74 ft) and including over 500 figures In Tintoretto's late work he tended to employ an almost phosphorescent lighting and broad impressionistic brushwork exemplified in such works as the *Annunciation*, *Mary Magdalen*, and *St Mary of Egypt* (c 1581–1587, in the Scuola di San Rocco) and in the *Last Supper* and the *Fall of the Manna* (c 1594, in San Giorgio Maggiore, Venice). Tintoretto pursued his art with febrile intensity He won most of his great commissions in open competition with outstanding artists of his time and was famed for the speed with which he executed his canvases Few external events mark his career He married in 1550, and three of his six children, Domenico, Marco, and Marietta, were painters One of the greatest and most original of the Italian decorative painters, he painted for his native city, and most of his work remains there The works in American collections include the *Baptism of Clorinda* (Art Inst , Chicago), the *Miracle of the Loaves and Fishes* and the *Finding of Moses* (Metropolitan Mus), *Portrait of a Lady with Her Daughter* (Walters Art Gall , Baltimore), *Portrait of Alessandro Farnese* (Mus of Fine Arts, Boston), portrait of a Venetian senator (Frick Coll , New York), six paintings in the National Gallery of Art, Washington, D C See study by Hans Tietze (with 300 reproductions of Tintoretto's works, 1949)

Tioga (tī-ō'gu), village (pop 1,300), central La , near Alexandria It was founded as a lumber town, but since 1930 has been a trading center for the near-by U.S veterans' hospital

Tiphsah (tĭf'sŭ) [Heb ,=ford] **1** See THAPSACUS **2** Unidentified place, perhaps the same as one of the places named TAPPUAH **2** Kings 15 16

tipi · see TEPEE

Tipp City, village (pop 2,879), W Ohio, on the Great Miami and N of Dayton, formerly called Tippecanoe City

Tippecanoe (tĭp"ŭkŭnōō'), river rising in the lake district of NE Indiana and flowing 200 mi generally SW to the Wabash river above Lafayette Gen William Henry HARRISON fought the Indians in the battle of Tippecanoe, Nov 7, 1811, on the site of the present village of Battle Ground, after the Indians, urged on by the British and TECUMSEH, had become incensed at the continued advance of the Americans At the time of Harrison's expedition, Tecumseh was in the South, and his brother Tenskwatawa, the SHAWNEE PROPHET, led the Indians After an early morning attack the Indians were beaten back and their town razed Claimed as a victory by the Americans, the battle was at best indecisive, although the power of the Indians was broken in spite of the American retreat.

Tippecanoe City, Ohio see TIPP CITY

Tipperary (tĭp"ŭrā'rē), inland county (1,643 sq mi , pop 136,014), S Ireland, in Munster The county town is Tipperary Administratively, the county is divided into North Riding and South Riding The region is part of the central plain of Ireland, but the terrain is diversified by several mountain ranges, notably the Knockmealdowns and the Galtees The southern portion of the county is drained by the Suir, the northern by tributaries of the Shannon, which widens into Lough Derg on the northern border There is much fertile land, the region known as the Golden Vale being the richest, agriculturally, in Ireland Dairy farming is the chief occupation There are some lead mining and slate quarrying and manufacture of meal and flour The county was organized as a shire shortly after the Anglo-Norman conquest of Ireland and was long under the domination of the powerful Butler family (the earls of Ormonde) Tipperary is rich in antiquarian remains, particularly in the vicinity of Cashel

Tipperary, urban district (pop 5,266), Co Tipperary, Ireland, WNW of Clonmel A market center in a dairying region, it processes dairy products A castle built by King John is gone, but there are ruins of an 11th-century gateway

Tippermuir · see PERTH, Scotland.

Tippoo Sahib (tĭ'pōō sa'hĭb), 1753–99, maharajah of Mysore, India (1782–99) in succession to his father HYDER ALI. For most of his career he was to some degree allied with the French against the British Tippoo (continuing his father's war) defeated the British in 1782 but made peace (1784) on the basis of the *status quo* His invasion (1790) of Travancore, a state under British protection, provoked war anew, and in 1792 he was defeated by Cornwallis and forced to cede territory In 1798 Tippoo rejected a British demand to disarm, and his territory was invaded by a force composed of British, Mahratta, and Hyderabad troops Tippoo was killed in the defense of his magnificent capital at SERINGAPATAM. His name also appears as Tipu Sahib (or Tipu Sultan) See L. B. Bowring, *Haidar Ali and Tipu Sultan* (1893).

Tiptoft, John: see WORCESTER, JOHN TIPTOFT, EARL OF.

Tipton, urban district (1931 pop. 35,814; 1947 estimated pop. 38,760), Staffordshire, England, in the Black Country. It has steel works and other industries.

Tipton. 1 City (pop 5,101), co seat of Tipton co , central Ind., W of Elwood, laid out 1845 Machinery is made here **2** City (pop 2,518), co seat of Cedar co., E Iowa, NE of Iowa City, inc 1857 **3** City (pop 1,219), central Mo , W of Jefferson City, laid out 1858 A state industrial home for Negro girls is here **4** Town (pop 1,470), SW Okla , near the North Fork of the Red River, organized 1910 A cotton sub-experiment station is near by.

Tiptonville, town (pop 1,503), co seat of Lake co , W Tenn , at the southern end of Reelfoot Lake, in a cotton-producing and resort region

Tiraboschi, Girolamo (jĕrō'lumō tĕrábō'skē), 1731–94, Italian historian and scholar, a Jesuit One of the most erudite men of his time, he is noted for his elaborate and comprehensive study of historical subjects and for his great history of Italian literature (13 vols , 1772–81), still a standard work

Tirach Mir. see HINDU KUSH

Tirana (tĕrá'nä) or **Tirane** (tĕra'nu), city (pop 59,887), capital of Albania, E of Durazzo, in a fertile plain of central Albania It is the largest city and the chief industrial and educational center of Albania, with manufactures of cotton textiles, soap, alcohol, cigarettes, and flour and dairy products Tirana is linked by railroad and highway with Durazzo, which acts as its port The city was founded in the early 17th cent by the Turkish general Suleiman Pasha, who is buried in its 17th-century mosque It was originally named Teheran, for a Turkish victory in Persia The larger part of Tirana was built after 1920, when it was selected as the capital of Albania A new residential city was built under Italian rule (1939–43), and an industrial sector was developed after the Second World War The center of the city is Scanderbeg Square, with the government buildings and the 18th-century mosque of Etchem Bey The bazaar and the mosque of Suleiman Pasha are near by

Tirano (tĕra'nō), town (pop 3,867), N Italy, in the VALTELLINA, near the Swiss border The Bernina railroad, the highest in the Alps, runs from Tirano to the Engadine

Tiras (tī'rus), Japheth's son Gen 10 2, 1 Chron 1 5

Tiraspol (tyĭrŭspôl'), city (1939 pop c 43,000), SE Moldavian SSR, on the left bank of the Dniester It is a major agricultural processing center, producing canned fruit and vegetables, wine, flour, and vegetable oil Founded in 1793, it was (1930–40) the capital of the Moldavian ASSR

Tirathites (tī'ruthīts), family of scribes living at Jabez 1 Chron 2 55

tire. Iron or steel tires were early used to hold together and protect from wear the wheels of carriages and wagons The tire was usually heated, placed on the wheel, then quenched with water to shrink it into place Hard steel tires are used on railway equipment Rubber tires are of two main types—the solid, in which the resiliency of rubber reduces vibration, and the pneumatic, in which both the rubber and the enclosed air reduce road shock Solid tires were in limited use before 1850 and are still employed on some heavy trucks Although the pneumatic tire was patented in England in 1845, it was first manufactured commercially, for bicycles, c 1889 by John Dunlop in Belfast The development of the automobile gave great impetus to tire manufacture, which has been extended to tires for airplanes and tractors The pneumatic tire in common use today has an inner tube, with a valve to admit air, and an outer casing The casing is built up largely by hand on metal cylinders and consists of alternate plies of rubber-coated diagonal cords of cotton, rayon, or nylon and of sheets of rubber, topped with rubber padding tapering off at the sides and with breaker strips of heavy fabric to prevent penetration by any sharp object Bead wire is used to support the edges, then side walls are added, and finally a tough, wear-resistant rubber tread is applied The tires are vulcanized in steam-jacketed molds which form the nonskid tread pattern Most tires are of the balloon type with a large cross section and thin side walls. Their large size permits a low inflation pressure, and the increased tread area gives better traction and braking qualities A pneumatic tire requiring no inner tube has been developed Certain synthetic rubbers, especially when made by low-temperature processes, give increased mileage and are resistant to oil and sunlight Excessive tire wear is caused by faulty inflation or wheel alignment, sudden braking, and high speed. The United States is the largest consumer and exporter of tires.

Tirebolu (tĭrĕ'bôlōō), anc. *Tripolis*, village (pop. 4,923), NE Turkey, a port on the Black Sea. It exports copper, manganese, and zinc

Tiresias (tīrē'shŭs,-sēŭs), in Greek mythology, celebrated blind prophet of Thebes According to one legend he was blinded when he saw Athena bathing, feeling sorry for him she granted him prophetic powers. Another story has it that Hera blinded him when Tiresias said that women enjoy love more than men; Zeus gave him prophetic powers in compensation Tiresias is mentioned throughout Greek literature and is said to have foretold most great events of Greek mythology

Tirhakah (tĭr'ŭku, tĕrha'ku) or **Taharka** (tuhar'ku), d 663B C , last king of the XXV (Nubian) dynasty of ancient Egypt (688–663 B C), son of Piankhi and nephew of Shabaka, founder of the dynasty Before he was Pharaoh, he led the Egyptians against Sennacherib, who disastrously defeated him He seized the throne by force and established a residence at Tanis He defeated the Assyrians under ESAR-HADDON (673 B C), but later lost Memphis and Lower Egypt to them On the withdrawal of the Assyrians, Tirhakah again entered Lower Egypt, only to be expelled by ASSUR-BANI-PAL He restored the temples at Napata and made the city his capital See also 2 Kings 19 9, Isa 37 9

Tirhanah (tûr'hunu), son of Caleb. 1 Chron 2 48

Tiria (tī'rēu), descendant of Judah 1 Chron 4 16

Tiridates (tĭ"rĭdā'tēz), d 211 B C , king of Parthia (c 248–211 B C), second of the dynasty of the ARSACIDAE He absorbed Hyrcania and, with the ruler of Bactria, successfully resisted the attacks of Seleucus II of Syria

Tiridates, fl A D c 63, king of Armenia He was put on the throne by his brother Vologeses I, king of Parthia, and he was driven from it when the Romans under Corbulo won the Parthian campaign of A D 59 Later he went to Rome and had his crown restored (A D 63?)

Tirlemont (tērlumō'), Flemish *Tienen* (tē'nun), town (pop 22,348), Brabant prov , Belgium, SE of Louvain It has beet-sugar refineries and breweries It suffered numerous sieges and captures in the course of its history Here in 1831 the last fighting in the struggle for Belgian independence took place The Church of Notre Dame du Lac dates from the 13th to 15th cent

Tirnovo, Bulgaria see TRNOVO

Tirol, Austria see Tyrol.

Tirpitz, Alfred von (al'frāt fŭn tĭr'pĭts), 1849–1930, German admiral His influence on German naval policy began with his study of the recently invented torpedo and his subsequent appointment (1871) as chief of the torpedo division of the navy ministry Appointed secretary of state for naval affairs in 1897, he began to build a powerful fleet However, he apparently had no intention then of challenging the naval supremacy of Great Britain and agreed to the establishment of a 10 6 ratio between the two fleets Upon the outbreak of the First World War, Tirpitz began the construction of submarines and advocated unrestricted submarine warfare to destroy Allied commerce He retired in 1916, supposedly because of Chancellor Bethmann-Hollweg's opposition to his submarine policy Tirpitz returned to active political life as a member of the nationalist group in the Reichstag (1924–28) See his memoirs (Eng tr , 1919)

Tirshatha (tĭr'shuthu), Persian title of a governor Ezra 2 63, Neh 7 65–70, 8 9, 10 1

Tirso de Molina (tĕr'sō dā mōlē'nä), pseud of **Gabriel Téllez** (gabrēĕl' tĕl'yāth), 1571–1648, Spanish dramatist, one of the outstanding playwrights of the Golden Age Generally ascribed to him is the famous *El burlador de Sevilla* [the seducer of Seville] (1630, Eng tr by Harry Kemp, *The Love Rogue*, 1924), the first literary version of the Don Juan legend Among the three or four hundred plays by Tirso de Molina are *El vergonzoso en palacio* [the bashful man in the palace], *La prudencia en la mujer* [prudence in a woman], *El condenado por desconfiado* [the man damned by jealousy] *Marta la piadosa* [pious Martha], and *El castigo del pense que* (tr by James Shirley as *The Opportunitie* 1640) He also wrote short novels, included in his prose collection *Los cigarrales de Toledo* (1621) He was a Mercedarian monk and for his order visited the West Indies. He wrote the history of this religious order As a dramatist he excels in wit and sympathetic characterization See A H Bushee, *Three Centuries of Tirso de Molina* (1939)

Tiryns (tī'rĭnz), ancient city, NE Peloponnesus, Greece, 2½ mi N of Nauplia and near Argos The site seems to have been inhabited since the 3d millennium B C It was a city of splendor from c 1400 to c 900 B C Excavations begun by Heinrich Schliemann and Wilhelm Dörpfeld in 1884–85 have revealed not only extensive pre-Homeric palaces but also remains going far back in prehistory The old city was prominent in Greek legend

Tirzah (tûr'zŭ) [Heb ,=delight] **1** Daughter and coheiress of Zelophehad Num 27 1–11 **2** City, Palestine Joshua 12 24, 1 Kings 14 17, 15 21, 16

Tisa, river see THEISS

Tisbury, Mass see VINEYARD HAVEN

Tischbein, Johann Heinrich Wilhelm (yō'hän hĭn'rĭkh vĭl'hĕlm tĭsh'bīn), 1751–1829, German classical painter and etcher He was a popular portrait painter of the German royalty In 1787 he accompanied Goethe to Naples, where he became director of the academy There he painted Lady Hamilton and made engravings from the Greek vases of the Hamilton collection The French invasion occasioned his return to Germany, where he was known as a painter of portraits and animals. Many of his etchings are illustrations for Homer.

Tischendorf, Lobegott Friedrich Konstantin von (lō'bùgôt frē'drĭkh kôn'stäntēn fŭn tĭ'shundôrf), 1815–74, German biblical critic In 1844 he discovered in the monastery of St Catherine on Mt Sinai a few pages of one of the oldest Greek manuscripts of the Bible, and in 1859, with the cooperation of the Russian government, he obtained the remainder of the manuscript, the Codex Sinaticus, of which a facsimile was published at St Petersburg in 1862. He made several critical editions of the Bible, his eighth edition of the New Testament (3 vols , 1869–94) being the most important

Tisdale (tĭs'dāl, -dul), town (pop 1,469), E Sask , ESE of Prince Albert It has grain elevators and flour and lumber mills

Tiselius, Arne (ar'nu tēsā'lyŭs), 1902–, Swedish biochemist He received the 1948 Nobel Prize in Chemistry for developing new methods of separating and detecting colloids One system (electrophoresis) employs an electrical apparatus (Tiselius apparatus) for the separation of heavy molecules in solution, the other is a method of adsorption analysis which permits the differentiation and separation of substances, e g , of proteins, sugars, salts, and acids Tiselius isolated the virus of mouse paralysis and developed synthetic blood plasma In 1925 he joined the faculty of the Univ of Uppsala, he did research at the Rockefeller Institute, New York, in 1939

Tishbite, epithet of Elijah, presumably referring to his place of origin or his family 1 Kings 17 1

Tishomingo (tĭshumĭng'gō), city (pop 1,951), co seat of Johnston co , S Okla , NE of Ardmore, on the Washita river and Lake Texoma, first settled 1850 It was long the chief city of the Chickasaw Indians A state junior college is here

Tisi, Benvenuto see GAROFALO, IL

Tisiphone see ERINYES

Tisquantum, see SQUANTO

Tissaphernes (tĭ"sufûr'nēz), d 395 B C , Persian satrap of coastal Asia Minor (c 414–395 B C) He was out of favor with CYRUS THE YOUNGER and rebuilt his fortunes by siding with Artaxerxes II and helping him to defeat Cyrus in the battle of CUNAXA (401 B C) He pursued the retreating Greek allies (the Ten Thousand) and treacherously murdered CLEARCHUS and four other Greek leaders (see ANABASIS and XENOPHON) Tissaphernes and Pharnabazus were the chief figures in Artaxerxes' reign After Tissaphernes asserted supremacy over the Ionian cities, he was involved in war with the Spartans, and AGESILAUS II defeated him in 395 He was removed from office and assassinated

Tisserand, François Félix (frāswȧ' fālēks' tēsrā'), 1845–96, French astronomer In 1873 he became director of the observatory at Toulouse He was a member of expeditions to Malacca for the observation of a solar eclipse in 1868 and to Japan in 1874 and Santo Domingo in 1882 to observe transits of Venus He became professor of celestial mechanics at the Sorbonne in 1883 and director of the Paris Observatory in 1892 He founded (1884) and edited the *Bulletin astronomique* His most memorable work is the *Traité de mécanique céleste* (4 vols , 1889–96), in which he published the results of his research on planetary theories It includes a review of knowledge of celestial mechanics

Tissot, James Joseph Jacques (zhămz' zhōzĕf' zhak' tēsō'), 1836–1902, French painter and etcher, student of Flandrin and Ingres His first exhibit, *Faust and Marguerite* (Luxembourg Mus , Paris), was purchased by the state After taking part in the Franco-Prussian War he stayed for 10 years in London, where he was highly esteemed In 1882 he went to Palestine and devoted the rest of his life to a series of water-color drawings illustrating the Bible Many originals of these illustrations are in the Brooklyn Museum

tissue, in biology, aggregation of cells (similar in form and function) and of the intercellular substances and structures produced by and associated with the cells The term is applied also to dissimilar cells working as a unit The fundamental tissues in animals are epithelial, nerve, connective, and muscle tissue; blood and lymph are commonly classed separately as vascular tissue In the higher plants, the simple (or primary) tissues of which complex tissues are composed are parenchyma (composed of thin-walled cells still capable of division after maturity), collenchyma (made up of elongated, thick-walled cells which retain after maturity the capacity to divide), and sclerenchyma (chiefly for support and protection and composed of cells that form thick walls and usually lose the living protoplasm when mature) Organs are usually composed of several tissues In many diseases there are apparent changes in tissue (see PATHOLOGY) Histology is the study of the structure of tissues

Tisza, Koloman (kō'lōmän tĭ'sô), Hung *Tisza Kálmán* (käl'män), 1830–1902, Hungarian statesman, of an old Calvinist family He entered politics in the Revolution of 1848 Elected (1861) to the Hungarian parliament, he led the radical group that later opposed the *Ausgleich* of 1867 He was influential in maintaining Austro-Hungarian neutrality in the Franco-Prussian War Having become (1875) premier of Hungary, he reversed his stand on the *Ausgleich* and formed the Liberal party, which dominated Hungarian politics during the following decades His close support of the policies of Julius Andrassy, the Austro-Hungarian foreign minister, enabled Tisza to make Hungary an equal partner in the Dual Monarchy During his long premiership (1875–90), Tisza rehabilitated Hungarian finances, introduced compulsory education, and strengthened the economic ties with Austria His policy toward the Slavic and Rumanian minorities was one of Magyarization

Tisza, Count Stephen, Hung *Tisza István* (ĭst'vän), 1861–1918, Hungarian statesman, son of Koloman Tisza He was premier from 1903 to 1905 and again from 1913 to 1917 His government was authoritarian and strongly nationalistic He sought to make Hungary the dominant partner in the Austro-Hungarian Monarchy and took repressive measures against the Serbian and Rumanian minorities of Hungary, seeking to perpetuate the rule of the Magyar oligarchy He strongly opposed the aggressive policy of Count Berchtold, the Austro-Hungarian foreign minister at the outbreak (1914) of the First World War, fearing that the subjugation of Serbia would result in the creation of a Slavic third partner in the Hapsburg monarchy and thus reduce Hungarian influence He at last consented to declaring war on Serbia after being assured that no Serbian territory was to be annexed Tisza's influence waned after the death of Emperor Francis Joseph and the accession of Charles I His ministry was overthrown in 1917, and Tisza took a military command on the Italian front He was assassinated at Budapest by soldiers who believed him a chief instigator of the war

Tisza, river see THEISS

Titan (tī'tun), in Greek mythology, one of 12 male and female giants The females are also called Titanesses They were the children of Uranus and Gaea and the ancestors of the Olympian gods The Titans were Cronus, Iapetus, Hyperion, Oceanus, Coeus, Creus, Theia, Rhea, Mnemosyne, Phoebe, Tethys, and Themis The name, Titan, was sometimes applied to their descendants and other divine beings, such as Prometheus, Epimetheus, Atlas, Dione, Demeter, Ophion, Hecate, Selene, and Helios The Titans deposed their father Uranus, putting Cronus in his stead, and were themselves overthrown by the Olympians, led by Zeus, in the battle called the TITANOMACHY

Titanic (tītă'nĭk), White Star liner sunk on the night of April 14–15, 1912, after crashing into an iceberg in the N Atlantic S of Newfoundland It was one of the greatest of sea disasters, with a loss of 1,517 lives The *Titanic* was the fastest ship afloat and was on her maiden voyage She was thought to be almost unsinkable and was carrying many notables among her more than 2,000 passengers These circumstances made the loss seem the more appalling to the public in England and the United States Official investigations were carried out, private discussions continued long afterward, and as late as 1939 fresh evidence was still being revealed Messages of warning had been sent but had either not been received by the commanding officers or had been ignored by them The ship was trying to make a speed record and had continued at full speed even after the warnings were sent She did not carry sufficient lifeboats, and the handling of the lifeboats was not efficient Other vessels in the vicinity were slow in responding to distress signals All these facts were established, and the disaster did have some good effects in bringing about measures to promote safety at sea, particularly the establishment of a patrol to make known the location of icebergs and stringent regulations about the proper number and proper equipment of lifeboats to be carried by vessels

titanium (tītā'nēum, tĭ-), silver-white, lustrous metallic element (symbol=Ti, for physical constants, see ELEMENT, table) It is about as hard as iron, and the metal itself, when added to various steel alloys, adds to the hardness and increases the toughness or tensile strength Chemically, titanium is active and somewhat like silicon in its behavior It is combined with other elements in a number of compounds e g , with nitrogen it unites readily to form a nitride, with carbon it forms a carbide, with chlorine it gives a tetrachloride which is used in warfare in making smoke screens, and with oxygen it appears as a white pigment, titanium dioxide, employed as a pigment in making paint, rubber, paper, cosmetics, and other products and in the manufacture of textiles to produce a dull finish Other compounds are used as pigments (yellow) and mordants and also as electrodes for the electric arc Titanium is widely distributed in nature, but always in combination with other elements and never then in large quantities Rutile, the native dioxide, and ilmenite, which contains, besides titanium, iron and oxygen, are its chief sources although it is present in a number of other minerals The element was discovered (1791) by William Gregor and rediscovered later (1795) by M H. Klaproth, who gave it its present name

Titanomachy (tī"tunŏ'mŭkē) [Gr ,=battle of Titans], in Greek mythology, battle between the Titans and the Olympians, in Thessaly. The Titans, led by Cronus, held Mt. Othrys, and the Olympians, led by Zeus, Mt. Olympus. The war lasted 10 years and was finally won by Zeus when he released the Hecatoncheires, or the hundred-handed giants, and the Cyclopes, from Tartarus The Cyclopes forged the thunderbolt for Zeus with which victory was assured After the struggle Cronus went to rule the Isles of the Blessed, Atlas was condemned to bear the sky on his shoulders, and Oceanus and Promethus, because they had aided the Olympians, were allowed to remain on Olympus All the other Titans were condemned to Tartarus

Titchener, Edward Bradford (tĭ'chunûr), 1867–1927, American psychologist, b Chichester, England, grad Oxford, 1890 He studied in Leipzig (Ph D , 1892) under Wundt (whose *Principles of Physiological Psychology* he translated), and in 1892 he became head of the new psychological laboratory at Cornell Univ , where he was research professor from 1910 His works include *Experimental Psychology* (2 vols , 1901–5), *Lectures on the Elementary Psychology of Feeling and Attention* (1908), and *Systematic Psychology* (1929)

Tithonus (tĭthō'nus), in Greek mythology, handsome prince of Troy He was the son of Laomedon and the brother of Priam The goddess Eos fell in love with him and bore him Memnon Eos won for Tithonus the gift of immortality but not of eternal youth When Tithonus became old Eos cared for him, but finally changed him into a grasshopper

Titian (tĭ'shun), 1477–1576, Venetian painter, whose name was Tiziano Vecellio (tētsyä'nō vāchĕl'lyō), b Pieve di Cadore in the Dolomites According to tradition, he began his training at nine years under Sebastiano Zuccati, a mosaicist, and then entered the shop of Gentile and Giovanni Bellini His early work was also strongly influenced by Giorgione, with whom he was definitely in contact in 1507 and 1508 when both artists worked on frescoes (now destroyed) on the façade of the Fondaco dei Tedeschi, Venice In 1511 he executed for the Scuola del Santo, Padua, three frescoes of scenes from the life of St Anthony After the death of Giorgione and of Giovanni Bellini, Titian was established as foremost painter in Venice In 1518 he completed the celebrated altarpiece of the *Assumption of the Virgin* (Church of Santa Maria Gloriosa dei Frari, Venice) and a famous fresco, now destroyed, of the *Battle of Cadore*, in the ducal palace Throughout the rest of his career he was showered with commissions and honors His work was eagerly sought by the ducal families of Ferrara, Mantua, and Urbino In 1530 he was introduced to Emperor Charles V, who subsequently made him a count of the Palatinate, Knight of the Golden Spur, and member of the imperial household Both Charles V and his son Philip II were among Titian's most enthusiastic patrons In 1545 he went to Rome, where he was quartered in the Belvedere, visited by Michelangelo, and shown about the city by Vasari and Sebastiano del Piombo At this time he painted the famous portrait of Pope Paul III with his nephews Ottavio and Cardinal Alessandro Farnese (Naples) He returned to Venice in 1546 after a brief visit at the Medici court In 1548 and again in 1550 he was invited to Augsburg by Charles V Here he executed many portraits of dignitaries assembled for the Reichstag and probably, in the course of his conversations with the emperor, first conceived the idea of the magnificent *Trinity*, "La Gloria" (Prado), painted in 1554 for Charles V, who upon his abdication took it with him to the monastery at Yuste In 1553 Titian began work on a cycle of mythological paintings for Philip II which included the *Diana and Callisto* and the *Diana Surprised by Acteon* (Bridgewater Coll , London), the *Rape of Europa* (Gardner Mus , Boston), and the *Perseus and Andromeda* (Wallace Coll , London) Also for Philip II he executed a large number of religious works intended for the Monastery of San Lorenzo del Escorial Among these were the *Adam and Eve* (Prado) and the *Last Supper* (Escorial) After 1550 Titian remained in Venice, living in princely splendor and surrounded by friends who included Pietro Aretino and the architect Jacopo Sansovino He was close to his three surviving children, especially Orazio, who assisted him as a painter, and his daughter Lavinia, who has, probably erroneously, been identified as the model in many of his paintings Titian ranks as one of the great geniuses of all time Throughout his long and prolific career he triumphed over every type of pictorial problem and achieved consummate expression of the coloristic tendencies intrinsic to the Venetian temperament and aesthetic His work may be divided into three phases The first is marked by the strong influence of Giovanni Bellini and Giorgione, exemplified in the so-called *Sacred and Profane Love* (Borghese Gall , Rome) During the second phase (c 1518–c 1550) there is a full development of the dramatic monumentality characteristic of High Renaissance composition and a greater sumptuousness and intensity of color Typical of this phase is the *Pesaro Altarpiece* (1526, Church of Santa Maria Gloriosa dei Frari, Venice), the *Presentation of the Virgin* (1530–34, Academy, Venice), the famous *Venus d'Urbino* (1538, Uffizi),

and the *Christ Crowned with Thorns* (early 1540s; Louvre). Many of Titian's most famous portraits were painted during this period, including the so-called *La Bella* and the *Ippolito Rinaldi*, "the Young Englishman" (both Pitti Palace, Florence), and the equestrian portrait of *Charles V at the Battle of Mühlberg* (Prado). In Titian's last phase (c 1550–1576) there is an intensification of emotional expression. A deeply personal and mystical spirit makes itself felt, especially in terms of an increased unity and luminosity of color, above all in Titian's last work, the magnificent *Pietà* (Academy, Venice), finished after his death by Jacopo Palma Il Giovane and intended for the artist's own tomb. Although the bulk of Titian's work remains in European museums, examples of his painting may be seen in American collections, including the Gardner Museum and the Museum of Fine Arts, Boston, the Metropolitan Museum and the Frick Collection, New York, the National Gallery of Art, Washington, D.C., the Detroit and Kansas City museums. See biographies by Sir Claude Phillips (2 vols., 1897–98) and Charles Ricketts (1910), Hans Tietze, ed., *Paintings and Drawings* (1937, 350 reproductions), A. S. Riggs, *Titian the Magnificent and the Venice of His Day* (1946).

Titicaca, Lake (tēt'ēkä'kä), area 3,205 sq. mi., divided between Bolivia and Peru. The lake, c 12,500 ft. above sea level, has a maximum depth of c 900 ft. and is the largest fresh-water lake in South America as well as the highest large lake in the world. It is an important avenue of communication, with steamer service between Guaqui, Bolivia, and Puno, Peru. A center of Indian life from pre-Incan times, the shores of Titicaca, today crowded with Indian villages and the patchwork patterns of terraced fields, are a major source of subsistence crops for an extensive highland region otherwise largely barren. The almost constant temperature of the water (51°F.) modifies the climate and makes the growing of maize and wheat possible at so high an altitude. Indian balsas, small flat-bottomed reed boats with reed sails, ply back and forth from village to village. Toward the center of the lake is an island that is the legendary birthplace of the first Inca, and near the south shore is the pre-Incan ruin Tiahuanaco. Titicaca is drained by the Desaguadero.

title, in law: see ABSTRACT OF TITLE.

titles of sovereignty, nobility, and honor. The highest-ranking title, that of emperor, derived from the Latin *imperator*, was originally a military title, the leader of a victorious army was saluted *imperator* by his soldiers. It was assumed by Augustus Caesar and the sovereigns of the Roman and Byzantine empires who followed him. The title received its modern meaning when it was conferred on Charlemagne in 800 and was revived when Otto I was crowned (962) Holy Roman Emperor. In Russia it was used from the time of Peter I until the dissolution of imperial Russia. It is the equivalent of the titles of the sovereigns of China, Japan, Persia, the Ottoman Empire, Ethiopia, and India. Napoleon assumed the title of emperor of the French in 1804, and Queen Victoria was proclaimed empress of India in 1877. Continental titles of nobility have evolved since the time of feudalism, when knights came to be regarded as noble and titles became hereditary. Under the Holy Roman Empire a complex nobility, not confined to the territories of the empire, developed, titles were conferred upon many persons outside the imperial boundaries. The title count [Fr. *comte*, Ger. *Graf*, Ital. *conte*] descends from the Latin *comes*, a noble attached to a kingly court and serving as an adviser to the king. The title *Graf* (feminine form, *Gräfin*) was taken over into the Holy Roman Empire from Carolingian and Merovingian times as a noble appointed by the king and having military and legal authority over a certain territory. The creation of border territories (see MARCH) gave rise to the title of *Markgraf* (in English, margrave, the corresponding French title is *marquis*, from which the English title marquess is derived, the feminine is *Markgräfin*). A *Landgraf* (in English, landgrave, the feminine is *Landgräfin*) was a count whose territory included a number of fiefs. There was also the title of *Pfalzgraf* (in English, count palatine, see PALATINATE, the feminine is *Pfalzgräfin*). *Herzog* (in English, duke, the feminine is *Herzogin*) was a title denoting sovereignty over a large territory such as Bavaria or Saxony. After 1806 the title *Grossherzog* (in English, grand duke, the feminine is *Grossherzogin*) was also used. The title *Fürst* (in English, prince, the feminine is *Fürstin*) was below that of duke; there existed also the title *Prinz* (in English, prince, the feminine is *Prinzessin*), which was a courtesy title extended to various persons, notably the sons of a duke or a king. Titles in descending order below emperor and king were *Herzog; Pfalzgraf, Markgraf,* and *Landgraf,* all of about equal rank; *Graf; Baron, Freiherr* or *Freier* (all baron in English); the feminine forms are *Baronin, Freiherrin,* and *Freierin*), and *Ritter* (in English, knight). The prefix *Reichs-* before any of these titles meant that the holder of the title held directly from the emperor, i.e., he was not the vassal of any other lord. At the dissolution of the Holy Roman Empire, the German and Austrian nobility retained the titles they had held under the empire. In addition, the male members of the Austrian imperial family were called archdukes, i.e., dukes of the blood royal. This corresponded to the title of grand duke in the Russian imperial family and to *infante* in Spain. French titles of nobility in descending order are *duc* (in English, duke, the feminine is *duchesse*), *prince* (in English, prince, a prince of the blood royal was above a duke, while an ordinary prince was often the son of a duke and was below a duke, the feminine is *princesse*), *marquis* (the feminine is *marquise*), *comte* (the feminine is *comtesse*), *vicomte* (in English, viscount, the feminine is *vicomtesse*); *baron* (the feminine is *baronne*), *seigneur* or *sire,* and *chevalier* (in English, knight). Other usages are discussed under DAUPHIN and MADAME. Although members of the French nobility have no more privileges, they retain their titles under the law. Titles in England are *prince, duke* (the feminine is *duchess*), *marquess* (the feminine is *marchioness*), *earl* (the feminine is *countess*), *viscount* (the feminine is *viscountess*), *baron* (the feminine is *baroness*), *baronet,* and *knight* (the feminine is *dame*). All have evolved since the Norman Conquest except earl, which is a title of the same descent as the continental titles translated as count. The title of earl was long the highest-ranking hereditary title under that of king, and English earls under the Norman kings enjoyed great power. The title of duke was in use on the Continent long before its introduction into England by Edward III, who created his son, the Black Prince, duke of Cornwall, a title now belonging automatically to the sovereign's eldest son from his birth. The Norman kings were themselves dukes of Normandy, a very high-ranking title, and may have been reluctant to confer similar titles upon their subjects. Originally, in fact, the only English dukes were dukes of the blood royal, and the sons of the sovereign are generally created dukes soon after coming of age. The title of marquess came into English use in 1385 as a title between those of earl and duke. The title of viscount, formerly that of a county sheriff, became a degree of honor and was made hereditary in the reign of Henry VI. Baron, originally a title denoting the chief tenants of the land, subject to summons to the king's court, is the most general title of nobility, and since 1387 the title has usually been created by letters patent (occasionally by writ of summons) and has nothing to do with land tenure. The existing baronetage (below the peerage) dates from 1611, when James I revived the title. The title of baronet is not in the peerage but is heritable, that of KNIGHT is a title of honor rather than nobility. The title of prince of Wales, at first the only prince in England, is reserved for the eldest son of the sovereign, though not invariably conferred upon him, and there is no succession to the title. In the reign of James I, all the sons of the sovereign came to be called prince. Queen Victoria extended the title, along with that of princess, to the royal grandchildren who are children of sons. In Italy, titles of nobility, in descending order, are *duca* (in English, duke, the feminine is *duchessa*), *principe* (in English, prince, the feminine is *principessa*), *marchese* (in English, marquis or marquess, the feminine is *marchesa*), *conte* (in English, count, the feminine is *contessa*), *visconte* (in English, viscount, the feminine is *viscontessa*), and *barone* (in English, baron, the feminine is *baronessa*). In Spain they are *duque* (in English, duke, the feminine is *duquesa*), *príncipe* (in English, prince, the feminine is *princípesa*), *marqués* (in English, marquis or marquess, the feminine is *marquesa*), *conde* (in English, count, the feminine is *condesa*), *vizconde* (in English, viscount, the feminine is *vizcondesa*), and *barón* (in English, baron, the feminine is *baronesa*).

Tito, Josip Broz (yô'sĭp brôz' tē'tô), 1892–, Yugoslav Communist leader and statesman, marshal of Yugoslavia. He was originally Josip Broz, the son of a blacksmith in a Croatian village. He fought in Russia with the Austro-Hungarian army in the First World War and was captured by (or surrendered to) the Russians. In the Russian civil war of 1918–20, Josip Broz volunteered for service in the Red Army and fought with distinction. He returned to Croatia several years later, reportedly as a Comintern agent, and, as a metalworker, was prominent as a union organizer. From 1929 to 1934 he served a jail sentence as a political agitator. There are several conflicting accounts of Tito's activities between 1934 and 1941, when he emerged as a leader of Yugoslav partisan resistance forces after the defeat and occupation of Yugoslavia by the Axis Powers. It was then that he first adopted the name Tito. Though the core of his partisan army was undoubtedly Communist, Tito's rapidly growing forces included many non-Communists. Despite the opposition of the Yugoslav government in exile, which supported the Serbian resistance leader Draja MIKHAILOVICH, Tito's army and its successes soon eclipsed Mikhailovich's *chetniks*. Among the causes of his success were his swift guerrilla tactics, against which the German and Italian occupation forces were almost powerless, his own magnetic personality, and the appeal of his political program—a federated Yugoslavia—to the non-Serbian elements of the population. Though they briefly collaborated at first, Tito and Mikhailovich soon clashed. Tito accused Mikhailovich of collaboration with the Axis, while the charge was never convincingly proved, it seems certain that Mikhailovich no longer fought the Axis with his earlier vigor, apparently trying to save his strength for a showdown with the partisans when the moment was ripe. The initiative thus passed to Tito, who by 1943 headed an army of more than 200,000 and controlled a sizable part of Yugoslavia, centered in Bosnia. His territory was governed by a Council for National Liberation. Tito was supported from the first by the USSR, but in 1944 he also received the full support of England and the United States. In Nov., 1944, after the liberation of Belgrade, he negotiated, with Allied backing, a merger of the royal Yugoslav government and his council, and in March, 1945, he became head of the newly created federal Yugoslav government. Already the virtual dictator of Yugoslavia, he won a major electoral victory in Nov., 1945, at the head of the Communist-dominated National Liberation Front, whose candidates were the only ones permitted to run in the election. With the opposition abstaining, Tito won almost 80 percent of the total electorate. King Peter II was deposed, and a "Federal People's Republic" was proclaimed (see YUGOSLAVIA). As premier and minister of defense from 1945 Marshal Tito ruled Yugoslavia dictatorially. Although Yugoslavia broadly followed the pattern of the other Communist people's republics of E Europe, Tito's position differed considerably from that of other Soviet "satellites," for he enjoyed and encouraged immense personal popularity, especially among the youth, and both his internal and external policies showed signs of a strong and independent spirit of nationalism. Tito's militarist program made Yugoslavia the strongest Balkan power. He suppressed internal opposition by such measures as the execution of Mikhailovich and the jailing of Archbishop Stepinac of Zagreb in 1946, he nationalized Yugoslav industry and undertook a planned economy on the Soviet pattern. He did not attempt to collectivize the land of the Yugoslav small farmers, but he forced them, under severe penalties, to furnish large quotas of their produce to the state. Although Yugoslavia was, next to the USSR, the leading member of the COMINFORM, Tito did not hesitate to curtail the activities of Russian agents, whom he accused of espionage and of plotting his overthrow. The rift with the Cominform came into the open in June, 1948, when the Cominform accused Tito of having deviated from the correct Communist line, of siding with the Western "imperialist" powers, and of exercising a reign of terror against critics in the Yugoslav Communist party. Tito denied the charges but refused to make submission to the Cominform, from which Yugoslavia was expelled. Having transformed Yugoslavia into an armed camp, built up a highly efficient secret police, and purged dissident elements in the Communist party, Tito succeeded in maintaining his position despite the hostility of the USSR and his neighbors. Although he accepted loans from the Western powers to strengthen Yugoslavia against a potential Soviet attack, he refused to give up any part of his Communist internal program. Titoism, the brand of independent and nationalist Communism adopted by Yugoslavia, became a major threat to Russian-dominated Stalinist Communism throughout the world. See Stephen Clissold, *Whirlwind: Tito's Rise to Power* (1949).

Titograd (tē'tōgrad), formerly **Podgorica** (pôd' gô'rĭtsə), town (pop. 12,206), capital of Montenegro, Yugoslavia, 20 mi. from the Adriatic Sea and near the Albanian border. It is a trade center. There are ruins of a Roman castle.

Titov Veles (tē'tôf vĕ'lĕs), town (pop. 14,866), central Macedonia, S Yugoslavia, on the Vardar and SE of Skoplje. It is a rail and road junction and the market center for an agricultural and silk-producing region. An ancient place, it has Roman and medieval ruins. It was known as Kopruhi under the Turks and later (until c. 1945) as Veles.

Tittoni, Tommaso (tōm-mä'zō tēt-tō'nē), 1855–1931, Italian statesman. As minister of foreign affairs (1903–5, 1906–9) he sought closer ties with the Western Powers, though working within the frame of the Triple Alliance. He also tried to improve the position of Italy in the Balkans. He was ambassador to France (1910–16), foreign minister in the Nitti cabinet (1919–20), and president of the senate (1920–29). A Fascist sympathizer, he was named by Mussolini president of the Italian Academy (1929–30). He wrote several books on political economy.

Titulescu, Nicholas (tēt'ōōlĕ'skō), 1883–1941, Rumanian statesman. Educated in Paris, he taught law at the universities of Jassy and Bucharest before entering politics in 1912. He was finance minister (1917, 1920–22) and served as foreign minister from 1927 to 1936. A champion of the

French-sponsored policy of collective security, he was one of the architects of the LITTLE ENTENTE with Czechoslovakia and Yugoslavia He was detested by the Fascist Iron Guard and by the extreme reactionary elements; his resignation was forced in 1936 In 1940 he was compelled to flee to France, where he died One of the principal figures in the League of Nations, Titulescu was known as an excellent and witty speaker

Titus (Titus Flavius Sabinus Vespasianus), (tī'tŭs), A D c 40–81, Roman emperor (A D 79–81) Son of Emperor VESPASIAN, Titus was closely associated with his father in military campaigns and after A D 71 acted as coruler with the emperor He served in Britain and Germany and captured and destroyed Jerusalem in the Jewish War On succeeding his father he pursued a policy of conciliation and sought popular favor He stopped prosecutions for treason and was lavish with gifts to his subjects, a practice which caused financial difficulties for his successor He completed the Colosseum and built a luxurious bath During his reign occurred a great fire at Rome and the eruption of Vesuvius, which overwhelmed Pompeii and Herculaneum On both occasions Titus was active in lending aid to the distressed Though Titus was not friendly with his brother and successor, DOMITIAN, there is no reason to believe the rumor that it was Domitian who arranged his death The **Arch of Titus**, now restored and standing outside the ancient entrance to the Palatine, was erected by Domitian to memorialize the Jewish War

Titus, d c 100, early Christian, a missionary and friend of St Paul According to tradition he was a bishop in Crete Feast Jan 4 2 Cor 2 13, 7 6,7, 8 16–24; Gal 2 3

Titus, epistle of the New Testament, the 17th book in the usual order According to its opening it is addressed by St Paul to Titus, bishop in Crete It is one of the Pastoral Epistles and resembles I TIMOTHY in detail, being made up of points of regulation in governing the church There are two notable passages on Christian motives (2.11–14, 3 4–7)

Titus, Arch of see TITUS, Roman emperor

Titus Andronicus (tī'tŭs ăndrŏ'nĭkŭs), title of a tragedy of revenge ascribed to Shakspere It was written c 1590–1592, early in his career His precise connection with the play remains uncertain Francis Meres in *Palladis Tamia* (1598) refers directly to Shakspere as the author, and some scholars accept this as accurate Others, however, believing Shakspere incapable of so bloody and horrible a drama, either deny him any part or grant only that he collaborated in the composition

Titus Justus, in the Bible see JUSTUS 2

Titusville (tī'tŭsvĭl) 1 City (pop 2,220), co seat of Brevard co , E Fla , on Indian River and ENE of Orlando It is a center for shipping citrus fruit Across Indian River are Canaveral Peninsula and Merritt Island 2 City (pop 8,126), NW Pa , N of Oil City; settled 1796, laid out 1809, inc as a borough 1847, as a city 1866 Its manufactures include steel, tools, and metal products There are deposits of oil and gas here Near by is a state park where the drilling of the first oil well in the United States was completed successfully in 1859

Tiumen, RSFSR see TYUMEN

Tiverton (tĭ'vûrtŭn), municipal borough (pop 9,610), Devonshire, England, at the junction of the Exe and Loman rivers and N of Exeter Blundell's Grammar School (1604), a 15th-century church, and remains of a castle built in 1106 are points of interest John Heathcoat (1783–1861), who invented the bobbin net frame for lacemaking, lived here, and the town has long been a lacemaking center

Tiverton (tĭ'vurtŭn), town (pop 5,018), SE R I , settled 1680, included in Massachusetts until 1746 Its villages are Tiverton, Tiverton Four Corners, and North Tiverton The town has farm, fishing, textile-manufacturing, and resort activities Robert Gray was born in the town The Revolutionary Fort Barton was near Tiverton village

Tivoli (tĭ'vulē, Ital. tē'vōlē), Latin *Tibur*, town (pop 16,886), Latium, central Italy, 16 mi NE of Rome It is beautifully situated on a terrace which is surrounded by olive groves and dominates Rome and the plain to the sea It is celebrated for the waterfalls formed here by the Aniene and for the Villa d'Este There are ruins of several ancient Roman villas, notably that of Emperor Hadrian (see VILLA), and a well-preserved temple, called the Temple of Vesta, which is now a church The cathedral has a fine Romanesque campanile (12th cent) Most of the churches in Tivoli were damaged in the Second World War Near Tivoli there are several hydroelectric plants.

Tiw (tē'ōō), in Germanic religion, god of battle He was called Tyr by the Norse, who placed him in Asgard. Tiw was the courageous wrestler among the gods, and he lost his hand to Fenris the wolf. Tiw's identification with Mars caused the Latin *Mars' day* to be translated into *Tiw's day*, now *Tuesday*, the name of the third day of the week.

Tixtla (tēkst'lä), city (pop 6,130), Guerrero, SW Mexico, ENE of Chilpancingo. It formerly was the state capital and was the birthplace of the revolutionary leader, Vicente GUERRERO. Here in the war against Spain a Spanish force was defeated (1811) by the Mexican patriot MORELOS Y PAVÓN

Tiy (tē), fl 1400 B C , queen of ancient Egypt, wife of AMENHOTEP III (XVIII dynasty). She was remarkable for her influence in state affairs in the reigns of her husband and of IKHNATON, her son She was of humble origin The occurrence of her name with that of Amenhotep III shows a most unusual official recognition of a queen. Her tomb (in the Valley of Tombs) contained when opened (1907) the mummy of a later queen.

Tiy, fl 1167 B C , queen of ancient Egypt, wife of RAMSES III (XX dynasty) She was leader of a palace conspiracy to displace her aging husband by her son, Pentewere At the last minute the plot was discovered, and 32 important courtiers were executed for complicity Tiy's fate is not known

Tiziano Vecellio see TITIAN

Tizite (tĭ'zīt), epithet of unknown meaning given Joha, one of David's mighty men 1 Chron 11.45

Tl, chemical symbol of the element THALLIUM

Tlaxcala (tläskä'lä), state (1,555 sq mi , 1946 estimated pop 260,365), E central Mexico Tlaxcala is the smallest Mexican state Tlaxcala is the capital Except for short boundaries with Hidalgo and Mexico state in the north and west, the state is surrounded by Puebla The western part lies within the central plateau, but the remainder is extremely mountainous, with a climate that is temperate to cold Maguey, cereals, and subsistence crops are grown in the valleys In the mountains of Tlaxcala are the sources of the Río de las BALSAS Never subjugated by the Aztec, although encircled by their tributary tribes, the Tlaxcaltec Indians fiercely resisted Cortés but, when defeated, became invaluable allies against the Aztec In the town of **Tlaxcala** (pop 3,261) is the oldest church in America, founded (1521) by Cortés before he marched on Tenochtitlán, and near by is a famous Mexican shrine, the Santuario y Colegiata de Ocotlán

Tlemcen (tlĕmsĕn'), town (pop 50,272), NW Algeria, in the Tell region Its location on a crossroads between the Mediterranean coast and the Sahara and between Algeria and Morocco has made it a commercial center since ancient times Its prime importance was as a trade center during the Middle Ages It flourished (13th–15th cent) as the capital of a Moslem Berber dynasty, which ruled over much of what is now Algeria Tlemcen has numerous splendid mosques and retains the atmosphere of medieval Moslem life It still exports the carpets, woolens, and leather goods for which it has long been noted

Tlingit Indians (tlĭng'gĭt), group of related North American Indian tribes, speaking a language which forms its own isolated stock (formerly called Koluschan, for a possible relationship, see ATHAPASCAN) The 14 divisions of the Tlingit may reflect a former era when they were entirely independent tribes Important among the divisions are the Chilkat, the Yakutat, the Stikine, the Sitka, the Auk, and the Huna In 1741, when visited by Aleksey Chirikov and Vitus Bering, the Tlingit Indians lived in SE Alaska, along the coast and on the islands that fringe the coast about Sitka, S to Prince of Wales Island and N to the Copper river The Russians built (1799) a fort near the site of Sitka, but the Indians rebelled from the harsh Russian rule and drove them out Aleksandr Baranov, however, later captured the fort, killing many Indians He established a trading post there, which grew into Sitka There was constant trouble between the warlike Tlingit and their Russian masters The Tlingit numbered more than 5,800 in 1835, but today, on reservations in British Columbia and Alaska, they number some 1,000 Tlingit culture, like the Haida and the Tsimshian, was typical of the Pacific Northwest Coast area The name is also spelled Tlinget, Tinkit, and Thinket See Livingston Jones, *A Study of the Tlingets of Alaska* (1914), Theresa Durlach, *The Relationship Systems of the Tlingit, Haida, and Tsimshian* (1928)

Tm, chemical symbol for the element THULIUM.

Tmolus (tŭmō'lŭs), mountain range, W Asia Minor, just S of the Gediz river (anc *Hermus*). Several of its peaks are over 6,000 ft high The present Turkish name is Boz Dagh (bōz'dag')

T.N.T. or **TNT.** see TRINITROTOLUENE

toad, an amphibian, more terrestrial than the related frog Its dry, warty skin is often dull reddish or yellowish brown with a gray median stripe and darker markings. The toad usually lives in a cool, moist place and absorbs moisture through its skin It destroys harmful insects and grubs The eggs are usually laid in water in strings of jelly. The common American toad, Fowler's toad, the western, southern, and red-spotted toads, and the spadefoot toad, a burrowing form, are found in the United States. The HORNED TOAD is a lizard. Contact with toads does not produce warts on the human skin.

toadflax: see BUTTER-AND-EGGS.

toadstool: see MUSHROOM.

Toah (tō'ä), variant reading for NAHATH 3.

Tob (tŏb) or **Ishtob** (Heb ,=men of Tob), petty Syrian kingdom, probably NE of Palestine. Judges 11.3,5; 2 Sam. 10.6,8.

tobacco, plant of the genus *Nicotiana* and the product manufactured from its leaf and used in the CIGAR AND CIGARETTE, SNUFF, and pipe and chewing tobacco. The plant grows best in regions having a mean temperature of at least 40°F. and in rich, well-drained soils. The chief commercial species, *Nicotiana tabacum*, is native to America It is usually grown from seed as an annual Flower heads are pinched off to increase leaf development Most cigar-wrapper leaf is shade-grown The species *N rustica*, a mild-flavored, fast-burning form, was the tobacco originally raised in Virginia, but it is now grown chiefly in Turkey and the Levant, *N persica*, a slow-burning tobacco suitable for the hookah, or water pipe, is grown in the Orient Tobacco leaves may be picked as they mature or harvested all together with the stalk They are cured, fermented, and aged to develop aroma and reduce the harsh pungency of the smoke from fresh leaves. Fire-curing, dating from pre-Columbian times, is done by drying the leaves in smoke, air-curing requires that the tobacco be hung in well-ventilated structures; in flue-curing, used for over half the total crop, the leaves are dried by radiant heat from flues or pipes connected with a furnace The cured tobacco is graded, bunched, and stacked in piles called bulks or in closed containers for active fermentation and aging The United States produces an average annual yield of about 1,400,000,000 lb., of which about one third is exported, it imports tobacco for special purposes, e g , Oriental cigarette leaf for blending, Cuban and Puerto Rican tobacco for cigar filler, and cigar-wrapper leaf from Sumatra and Java In the United States about 60 percent of the crop is grown in North Carolina and Kentucky The possible harmful effects of nicotine, tarry compounds, and carbon monoxide in tobacco smoke vary with the individual limit of tolerance The use of tobacco originated among aborigines in the Western Hemisphere in pre-Columbian times Tobacco was introduced into Spain and Portugal in the mid-16th cent and spread to other European countries, then to Asia and Africa, where its use became general in the 17th cent It probably reached England from Virginia By 1619 tobacco had become a leading export of Virginia, where it was later used as a basis of currency See W W Garner, *The Production of Tobacco* (1946), publications of the U S Dept of Agriculture

Tobacco Nation, North American Indian tribe of the Iroquoian linguistic stock, called also the Tionontati In 1616, when visited by the French, they lived S of Nottawasaga Bay, in Ontario The French called them the Tobacco Nation because the Indians had large fields of tobacco After the dispersion (1648–49) of the Huron tribe by the Iroquois, many of the Huron refugees fled to the Tobacco Nation This brought down the wrath of the Iroquois upon the Tobacco Nation, and in 1649 the Iroquois attacked The remnants of the Tobacco Nation, with the Huron, were forced to flee to a region SW of Lake Superior About 1670 the two tribes were at Mackinac, and soon after they blended into one tribe—known to history as the Wyandot

Tob-adonijah (tŏb'-ădŏnī'jä) [Heb ,=Adonijah is good], Levite 2 Chron. 17 8

Tobago. see TRINIDAD AND TOBAGO.

Tobermory, Argyllshire, Scotland see MULL.

Tobiah (tōbī'ä) [Heb ,=God's goodness] 1 Ammonite opposed to Nehemiah Neh 2 10,19, 4 3, 6 17,19, 13 4,7,8 2 Family returned from exile Ezra 2 60, Neh 7 62.

Tobias see TOBIT

Tobijah (tōbī'jä) [Heb ,=God's goodness]. 1 Teacher of the Law 2 Chron 17.8 2 Emissary to Jerusalem from the Jews in Babylon Zech 6 10

Tobin, Maurice Joseph, 1901–, U S Secretary of Labor (1948–), b Boston, studied at Boston College law school The son of Irish immigrants, he found his fortune in politics and was a member of the General Court (1927–28), mayor of Boston (1938–44), and governor of Massachusetts (1945 46) His sponsorship as governor of liberal labor legislation opened the way for his appointment to succeed Lewis B SCHWELLENBACH as head of the Dept. of Labor in the midst of storms over the Taft-Hartley Act

Tobit (tō'-) or **Tobias** (-bī'-) [Gr from Heb TOBIJAH], book of the Old Testament, placed in the Apocrypha in AV and after Nehemiah in the Western canon It tells of Tobit (Vulgate Tobias), a devout Jew in exile, and of his son Tobias Sent by his father on business to a distant city, the young Tobias and his dog are guided by the archangel Raphael in the form of a young man They come to the house of a Jew whose daughter, Sara, is afflicted by a demon (Asmodeus) who has killed her seven husbands on their wedding day. The young Tobias under the guidance of Raphael exorcises the demon and marries Sara They return to his home, and the young man cures his father's blindness. The book ends with a prophecy by the father of the restoration of Jerusalem. The story inculcates ideals of benevolence, chastity, and prayer. The easy style and the homely realism of the book have made it a favorite. The ancient texts are of great

diversity; hence the two main English versions, the AV-RV translation and the Douay translation, differ materially in detail; thus in AV-RV the story is told partly in the first person (by Tobit), in the Douay wholly in the third The original language of the book is not known; it probably must be dated before 200 B C The young Tobias and his dog with the angel have been a favorite subject of Christian iconography For bibliography, see OLD TESTAMENT

tobogganing (tŭbā'gŭning, tŭbŏ'-), sport of coasting down snowy hillsides on a toboggan, a flat-bottomed vehicle made of hard wood The toboggan, often measuring 3 ft by 8 ft, is curled up at the front end in order to slide over irregularities of surface The bottom is waxed, and sometimes very low, broad, steel runners are added to facilitate speed The toboggan is a development of the simple bark-and-skin runnerless sled of the Indians Steering is accomplished by shifting weight and the use of trailing feet In winter resorts special slides are constructed They are iced to increase speed and have elevated sides so that practically no steering is necessary

Tobol (tŭbŏl'), river, 1,042 mi long, W Siberia, rising in the Mugodzhar Hills, Kazakh SSR It flows NNE past Kustanai, into RSFSR, and past Kurgan to join the Irtysh at Tobolsk and is navigable in its lower course

Tobolsk (tŭbŏlsk'), city (pop 32,200), RSFSR, in W Siberia, on the Irtysh river and at the mouth of the Tobol river It is a market center for furs and fish and has shipyards and sawmills Founded (1587) by the Russians near the former Tatar capital of SIBIR, it was the administrative and commercial center of W Siberia until 1824, when the seat of the government was transferred to Omsk. It declined after the construction of the Trans-Siberian RR, which by-passes it Emperor Nicholas II and his family were exiled here (1917–18) before they were taken to Ekaterinburg (now Sverdlovsk) to be executed Tobolsk has a kremlin, now a museum There is a monument (erected 1839) to Yermak, the Russian conqueror of Siberia. Mendeleyeff was born here

Toboso, El (ĕl tōbō'sō), town (pop 2,714), Toledo prov., central Spain, in New Castile It is an agricultural center of La Mancha Contrary to an unpardonably widespread opinion, El Toboso was not the residence of Dulcinea del Toboso in Cervantes's *Don Quixote* The truth of the matter is that Dulcinea (whose real name was Aldonza Lorenzo) was born at Toboso, but she resided "at a village near his own," i e, "a certain village in La Mancha," never identified by Cid Hamet Benengeli

Tobruk (tōbrŏōk'), town (pop 4,130), Cyrenaica, Libya A strategically located supply port on the Mediterranean Sea, it was a hotly contested objective in the Second World War (see NORTH AFRICA, CAMPAIGNS IN) In the first British invasion of Libya, Tobruk was taken on Jan 22, 1941 When the German commander, Erwin Rommel, drove the British out of Libya (March–April), the Tobruk garrison was isolated Provisioned by sea and ensconced behind strong and flexible defenses, the defenders withstood a violent siege of more than eight months Auchinleck's drive late in 1941 relieved the siege (Dec 10) In Rommel's second great offensive (begun May 26, 1942) Tobruk fell (June 21) after one day of assault, with some 25,000 troops capitulating It remained in Axis hands until the final victorious British drive from Alamein late in 1942

toby jug (tō'bē), small pottery pitcher or mug modeled in the form of a jolly, rotund man wearing a cocked hat, a corner of which serves as pourer. The jug is also called fillpot, both names taken from Toby Fillpot, inebriate character in the 18th-century song, *Little Brown Jug* Popular in England and America of that day, the toby jug has become a collector's piece

Tocantins (tōkăntēnsh'), river, c 1,560 mi long, rising in S central Goiás state, Brazil It flows N to the Pará river, the southern arm of the Amazon, SW of Belém It is only partly navigable because of rapids The main tributary is the Araguaia

toccata (tukā'tu, tō-), type of musical composition which originated about the beginning of the 17th cent Free in form, it was one of the first attempts at idiomatic writing for keyboard instruments, in contrast to the strictly contrapuntal pieces of the Renaissance The toccata was usually rhapsodic, often interspersing passages of brilliant figuration with fugal sections Andrea Gabrieli, Frescobaldi, Sweelinck, Froberger, Buxtehude, and Bach were outstanding early masters of the toccata style. Schumann wrote a toccata for piano. As a brilliant showpiece the toccata persists today in organ composition.

Toccoa (tŏ'kō), city (pop. 5,494), co. seat of Stephens co., NE Ga., in the Appalachian foothills and near the Tugaloo river; inc. 1875 It is an industrial center (with textile mills) in a farm, orchard, and timber area. Near by is Toccoa Falls Institute, a work-and-study-plan high school.

Tochea (tŏ'kēă) [Heb.,=measure], unidentified town, S Palestine. 1 Chron. 4.32

Tochigi, prefecture, central Honshu, Japan: see UTSUNOMIYA.

Tocqueville, Alexis de (älĕksēs' dŭ tôkvēl'), 1805–59, French liberal politician and writer He was prominent in politics, particularly just before and just after the Revolution of 1848, becoming minister of foreign affairs for a short time in 1849 A government mission to the United States, ostensibly to study the penal system, resulted in a book, *De la democratie en Amérique* (2 vols, 1835; Eng tr, *Democracy in America*, 4 vols, 1835–40, further corrections by Phillips Bradley, 2 vols, 1945), one of the classics of liberal literature Still relevant because of its original insight and vision, it discusses the shortcomings and advantages of the political and social system, justifying democracy and predicting its ultimate triumph Other important works are *L'Ancien Régime et la révolution* (1856, Eng tr, 1856) and his recollections (1893, Eng tr, by Alexander Teixeira de Mattos, 1896, complete ed by J P Mayer, 1949) See his correspondence with Nassau Williams Senior (2 vols, 1872), G W Pierson, *Tocqueville and Beaumont in America* (1938)

Todd, David, 1855–1939, American astronomer, b. near Ithaca, N Y, grad Amherst, 1875 He was for three years assistant on the U S Transit of Venus Commission at the naval observatory, Washington, D C, and was chief assistant on the *United States Nautical Almanac* (1878–81) From 1881 to 1920 he taught astronomy and navigation at Amherst In 1882 he was in charge of the transit of Venus observations at the Lick Observatory He conducted astronomical expeditions in many parts of the world While at the head of the Lowell expedition to the Andes in 1907 for the observation of Mars, he made 12,000 photographs of the planet, and in 1925 at Mitchel Field, Long Island, N Y, cooperating with the U S army air service, he obtained the first photograph of the sun's corona taken from an airplane Mabel Loomis Todd was his wife His book *A New Astronomy* (1897) was translated into Hungarian, Turkish, and Chinese He also wrote *Stars and Telescopes* (1899), *Lessons in Astronomy* (1902), and *Astronomy To-Day* (1924)

Todd, Mabel Loomis, 1858–1932, American author, b Cambridge, Mass The wife of David Todd, professor of astronomy at Amherst, she became the friend of Emily DICKINSON Later she edited much of the Dickinson material in her possession in *Poems* (with T W Higginson, Ser 1 and Ser 2, 1890–91), *Letters of Emily Dickinson* (2 vols, 1894), and *Poems* (Ser 3, 1896) Mrs Todd wrote poetry as well as a textbook, *Total Eclipses of the Sun* (1894) See M. T Bingham, *Ancestors' Brocades* (1945)

toddy, sweetened mixture of spirits, water, and flavoring ingredients It is said to have originated as a beverage, generally fermented, made by South Sea Islanders from the buds of flowers of trees identified by the early explorers, Capt James Cook and William Dampier, as fan and date palms It is still made in the Far East and in the Pacific islands

Todhunter, Isaac, 1820–84, English mathematician. From 1849 he was a fellow of St John's College, Cambridge He was noted for his textbooks of mathematics, for his work on equations and calculus, and for his research and writings on the history of mathematics

Todi (tō'dē), town (pop 3,820), Umbria, central Italy, on a hill in the Apennines Important Etruscan remains were found here The impressive main square of the town is surrounded by early medieval buildings The Renaissance Church of the Consolation was probably designed by Bramante. Todi is the birthplace of JACOPONE DA TODI

Todleben, Eduard Ivanovich see TOTLEBEN

Todmorden (tŏd'mûrdŭn, -môr-), municipal borough (1931 pop 22,222, 1943 estimated pop. 21,410), West Riding of Yorkshire, England, on the Rochdale Canal near the Calder river and NNE of Manchester It is a center of cotton spinning and weaving

Todos os Santos Bay (tō'dōōs ōōs sän'tōōsh) [Port., = All Saints Bay], inlet of the Atlantic, 25 mi long and 20 mi wide, Bahia, E Brazil It has a very irregular shore line On the north side of its entrance is the city of Salvador It was discovered in 1501 by Amerigo Vespucci

toga (tō'gu), the distinguishing garment of Roman dress, antique in origin, worn in early days by men and women of all classes, later by men alone Originally a small square or oblong wrap, it later became semicircular in form, about seven feet wide, and three times the wearer's height in length. Worn over the tunic, elaborately draped about the body in prescribed and graceful folds, it expressed the dignity of citizenship and was forbidden to foreigners, subjects, and exiles It was worn by patricians as the ceremonial state dress until the later days of Roman splendor, and became, with variations, the model of European court dress for centuries. It was made generally of wool or linen, and the colors used were significant, pure white (*toga candida*) being worn by the candidate, black by the mourner, and the purple border (*toga praetexta*) by priests, magistrates, and aristocratic boys before they assumed the *toga virilis* of full citizenship. The *toga picta*, richly bordered with emblematic embroidery, was the official garb of emperors and victorious generals The Gauls who became Roman citizens adopted, with some modification, the tunic and toga, but after the first century these garments began to disappear from the everyday costume of the West See M. G Houston, *Ancient Greek, Roman, and Byzantine Costume* (2d ed., 1947)

Togarmah (tōgär'mŭ), unidentified region. Gen. 10 3, Ezek 27 14, 38 6

Toggenburg (tō'gunbŏōrk), district in the Thur valley, St Gall canton, Switzerland Dairying and cotton textiles are its main industries After the death (1436) of the last count of Toggenburg, the territory was claimed by Zurich, and a civil war between Zurich and the rest of the Swiss Confederation resulted (1443–50) The territory was purchased (1468) by the abbot of St Gall. In 1712 the quarrels between the abbot and the Protestant communities of the Toggenburg served as pretext for the **War of the Toggenburg**, between the Catholic and the Protestant cantons of the Swiss Confederation The Catholics were defeated, and religious equality established.

Toggenburg goat see GOAT

Togliatti, Palmiro (palmē'rō tōlyät'tē), 1893–, Italian Communist leader A lawyer, he became a Communist in 1921, and in 1926 he fled from Fascism to Paris and later to Moscow Under the pseudonym Ercole Ercoli he wrote and worked for the Comintern, in which he became a prominent figure He was chief of the Comintern in Spain during the civil war Returning from Moscow to Italy in 1944, he took the leadership of the Italian Communist party, which rose to be the second-largest in Italy Togliatti held several cabinet posts in 1944–45, but later led the Communist opposition to the De Gasperi government He was wounded in an attempt on his life in 1948.

Togo, Heihachiro, Count (hā'hachirō' tō'gō) 1847–1934, Japanese admiral, Japan's greatest naval hero He studied naval science in England, served in the First Chino-Japanese War, and contributed greatly to the development of Japanese sea power In the Russo-Japanese War he defeated the Russian fleet at Port Arthur in 1904 and destroyed the main Russian fleet in 1905 at the battle of Tsushima Later he was chief of the naval general staff and member of the supreme war council See Edwin A Falk, *Togo and the Rise of Japanese Sea Power* (1936)

Togoland (tō'gōlănd') or **Togo** (tō'gō), former German protectorate (34,934 sq mi), W Africa, on the Gulf of Guinea By 1886 Great Britain and France had formally recognized German influence in the area Togoland was occupied by the British and French in the First World War In 1922 the League of Nations divided the territory into two mandates —British Togoland (13,041 sq mi, pop. 378,666) in the west and inland and French Togoland (21,893 sq mi, pop 944,446), with the capital at Lomé, in the east on the coast. The mandates became trust territories of the United Nations in 1946 British Togoland is administered as part of the Gold Coast Togoland's coast (c 30 mi long), entirely in French territory, is flat and has no good harbors The country produces cattle, cacao, and cotton The Ewe are the largest native tribe in both territories

Tohu (tō'hū), variant reading for NAHATH 3.

Toi (tō'ī), king of Hamath, father of JORAM 3. 2 Sam 8 10 Tou 1 Chron. 18 9

Tojo, Hideki (hēdā'kē tō'jō), 1884–1948, Japanese general, originally named Eichi Tojo (ā'chē) He became chief of staff of the Kwantung army in 1937, was vice war minister in 1938, and later served as director general of military aviation and as minister of war in the second Konoye cabinet. His accession to the premiership in Oct, 1941, marked the final triumph of the military party which advocated war with the United States and Britain Under Tojo's leadership Japan won control of most of E Asia, only to lose it as initial victories were followed by a succession of defeats in the Second World War At home, Japanese government and economy were completely totalitarianized Tojo resigned in July, 1944, after the loss of the Marianas In Sept., 1945, he unsuccessfully attempted suicide, but he was arrested as a war criminal, his trial resulted in conviction, and he was executed

Tokaj (tō'koi), town (pop 5,903), NE Hungary, on the Bodrog and Tisza rivers The rich sweet Tokay wine is grown in the region.

Tokat (tōkät'), town (pop 20,078), N central Turkey It is a center for copper refining and an agricultural market center.

Tokay (tōkā'), fine golden wine produced near Tokaj, Hungary The *Aszu* type is very sweet, the *Szamorodni* rather dry The very rare Tokay Essence is made from juice oozed from overripe grapes without artificial pressure

Tokelau (tōkulou') or **Union Islands**, group (c.6 sq. mi, pop. 1,170), S Pacific, c 300 mi. N of Western Samoa. It is composed of three atolls, Atafu, Nukunono, and Fakaofo. Discovered in

1765 by the British, the group was made a British protectorate (1889), included (1916-25) in the Gilbert and Ellice Islands colony, and in 1926 placed under the administration of Western Samoa as part of New Zealand's mandate The natives are of Polynesian stock Apia in Western Samoa is Tokelau's port of entry The chief export is copra.

Tokio, Japan see TOKYO

Tokoly, Emeric: see THOKOLY, EMERIC

Tokugawa (tō"kōōgn'wa), family that held the shogunate (see SHOGUN) and controlled Japan from 1603 to 1867. Founded by IEYASU, the Tokugawa regime was a centralized feudalism The Tokugawa themselves held about one fourth of the country in strategically located parcels, which they governed directly through a feudal bureaucracy The daimyo [barons] owed allegiance to the Tokugawa, but were permitted to rule their own domains Care was taken to see that none of them became strong enough to challenge the Tokugawa They were required to maintain residence at the shogun's capital and to leave hostages there during their absence Travel was closely regulated, and officials called *metsuke* [censors] acted as a sort of secret police Despite its efficient organization, the Tokugawa regime collapsed before a combination of internal and external forces in 1867, and the MEIJI restoration came about

Tokushima (tōkōō'shĭma), city (1947 pop 103,320), capital of Tokushima prefecture, E Shikoku, Japan It is a port and a center of industry and manufacture Mountainous Tokushima prefecture rises to 6,414 ft at Mt Tsurugi There are many farms, and raw silk, charcoal, fish, and salt are produced

Tokyo or **Tokio** (both tō'kō), city (1940 pop 6,778,804, 1947 pop 4,177,548), capital of Japan Tokyo is on central Honshu on the shore of Tokyo Bay The city is intersected by the Sumida river and by many canals The trade of Tokyo's busy port is chiefly domestic, while the near-by port of Yokohama handles foreign trade Tokyo was founded in the 12th cent as the small village of Yedo (called also Yeddo or Edo) It was fortified in 1457 and in 1590 was made the capital of a province It became of great importance in 1603, when Ieyasu, founder of the Tokugawa shogunate, made it his capital The population was increased by the retainers of the shogun (estimated at 80,000) and by the large retinues of the daimyos, whose attendance at the capital was compulsory. In 1868, with the destruction of the shogunate and the imperial restoration, the city became the emperor's capital, succeeding Kyoto It was renamed Tokyo [Jap ,=eastern capital] and was built up rapidly In the earthquake of 1923 fire destroyed nearly half the densely populated city and took c 150,000 lives Tokyo was later rebuilt with a subway system, with many modern buildings of steel and concrete, and with wide streets, which were intended to serve as firebreaks In the Second World War the first air attack (April 18, 1942) was delivered by bombers under Gen *James Doolittle* Bombings were frequent and heavy in 1944 and 1945, and most of the population fled Half the city was totally devastated, many famous landmarks (notably the Meiji shrine) were destroyed or badly damaged Left entirely intact were the imperial palace grounds and the surrounding area where the embassies, the diet building, and the newest office buildings (mostly used as headquarters for Gen Douglas MacArthur and his staff in the American occupation) are situated Bombing destroyed nearly all Tokyo's industrial plant, including shipyards, automobile factories, engineering works, and textile mills, but the city is still preeminent in Japanese finance and education Academic institutions (with dates of establishment) include Keio-Gijuku Univ (1867), Tokyo Univ (founded 1869, for a time it was called Tokyo Imperial Univ.), Rikkyo or St Paul's Univ (1883), Waseda Univ (1882), and Tokyo Women's Medical College (1900). There are great art collections in the Imperial Museum and in the Museum of Arms See K G Samsom, *Living in Tokyo* (1936)

Tola (tō'lə) [Heb ,=worm] **1** Son of Issachar. Gen 46 13 **2** Judge of Israel Judges 10 1,2.

Tolad (tō'-), same as ELTOLAD

Toland, John (tō'lund), 1670–1722, British deist, b. Ireland. While at school he changed his name from Junius Janus Toland He studied at Glasgow, Edinburgh, and Leiden and after 1694 lived at Oxford for several years His important work *Christianity not Mysterious* (1696), in which he contended that God is not necessarily mysterious because He is inscrutable and that the Scriptures are to be accepted as divine only on the basis of reason, was attacked and condemned In Ireland, where Toland went in 1697, the book was burned by the hangman, by order of the Irish Parliament Toland fled back to England and, abandoning religious subjects, wrote a biography of Milton (1698) and *Amyntor; or, A Defence of Milton's Life* (1699). His *Anglia Libera* (1701), in support of the Act of Settlement, brought him favor from the court of Hanover, where he was received by Electress Sophia. To her daughter, Sophia Charlotte, he addressed his *Letters to Serena* (1704), in which is indicated his tendency toward pantheism, which assumed clearer expression in his *Pantheisticon* (1720) A theological work of his later years is *Nazarenus, or, Jewish, Gentile, and Mahometan Christianity* (1718). *A Collection of Several Pieces of Mr John Toland* (with a biography by Pierre Des Maizeaux) appeared in 1726 See Leslie Stephen, *History of English Thought in the Eighteenth Century* (3d ed , 1902)

Tolbukhin, Bulgaria see DOBRICH

Toldy, Francis (tŏl'dĭ), Hung *Toldy Ferenc* (fĕ'rĕnts), 1805–75, Hungarian critic and literary historian He made immense collections of Hungarian poetry and collaborated in various literary journals Among his works are a handbook of Hungarian poetry (1828), written in German, a history of Hungarian poetry (1854), and an excellent history of Hungarian literature (1865)

Toledo, Francisco de (frănthō'skō dā tōlā'dhō), d 1584, Spanish viceroy of Peru (1569–81) He came of one of the noblest families of Spain and had served Charles V and Philip II with distinction before being chosen as viceroy His administration in Peru marked the end of the tumultuous period after the Spanish Conquest He made tours of inspection through the territories, reorganized governmental administration and finance, and made some attempt to reform conditions in the Church Whenever possible, he adopted the ancient Inca laws He broke the power of the *encomenderos* (the owners of the great estates in Peru), reducing them to obedience to the crown and to the viceroy He reorganized the Univ of San Marcos The one great blot on his administration was the unjust execution of the last Inca, Tupac Amaru, after trouble between the Spanish and the Inca. See biography by Arthur F Zimmerman (1929).

Toledo (tulē'dō, Span tōlā'dhō), city (pop 27,427), capital of Toledo prov, central Spain, in New Castile, on a granite hill surrounded on three sides by a gorge of the Tagus Historically and culturally it is one of the most important cities of Spain Of pre-Roman origin, ancient Toletum fell to the Romans in 193 B C It became an early archiepiscopal see, its archbishops, who still wield enormous power, are the primates of Spain Toledo prospered as a capital (after 507 the only capital) of the Visigothic kingdom, and it was the scene of several important church councils (see TOLEDO, COUNCILS OF) Its greatest prosperity began under Moorish rule (712–1085), first as the seat of an emir and after 1031 as the capital of an independent kingdom Under the Moors and later under the kings of Castile, who made it their chief residence, Toledo was a center of the Moorish, Spanish, and Jewish cultures Toledo sword blades were famous throughout the world for their strength, elasticity, and craftsmanship, the art was introduced by Moorish craftsmen, and it is still carried on Other important products were silk and wool textiles In the 15th cent Valladolid superseded Toledo as chief royal residence, but Emperor Charles V again resided here during much of his reign (1516–56) Its commercial decline began in the 16th cent, but at the same time it gained increased importance as the spiritual capital of Spanish Catholicism, in both its best and its worst aspects The somber seat of the Grand Inquisitors, it also was the center of the mysticism symbolized by its citizen by adoption, El GRECO, whose name has become inseparable from that of Toledo Its general aspect has changed little since El Greco painted the famous *View of Toledo* (Metropolitan Mus), although its chief landmark, the alcazar, was largely destroyed (1936) in the Spanish civil war Originally a Moorish structure, the alcazar was restored in the 13th cent and was transformed (1545, 1576) to serve as residence for Charles V and Philip II Its destruction occurred when the Insurgents, with their women and children, shut themselves up in that formidable fortress after Loyalist forces had retaken the rest of the city For more than two months (July–Sept., 1936) the defenders resisted the siege in one of the most extraordinary stands in recent history, and they fought on in the ruins till they were relieved (Sept 28) by Franco's forces Only a fraction of the men, women, and children were still alive The heroism of the action, in consonance with the traditional Toledan spirit, was admired by friend and foe alike The city is surrounded by partly Moorish, partly Gothic walls and gates Of Moorish origin also is the Alcántara bridge across the Tagus The Gothic cathedral, begun in 1227, is one of the finest in Spain It contains El Greco's *Espolio* and other paintings by him, in one of its richly decorated chapels, Mass is still celebrated according to the Mozarabic rite. Among the other many famous buildings are the Church of Santo Tomé, with El Greco's *Burial of the Conde de Orgaz*; the Church of Santa María la Blanca (12th–13th cent.), the Convent of San Juan de los Reyes (15th cent.), with five Gothic cloisters, the Hospital of San Juan Bautista (15th–16th cent), with paintings by El Greco, two former synagogues in Mudéjar style, and the Greco Museum.

Toledo (tŭlē'dō). **1** Town (pop. 2,073), co. seat of Tama co., central Iowa, E of Marshalltown, inc. 1866. The State Juvenile Home is here. Near by is an Indian sanatorium. **2** City (pop 282,349), co. seat of Lucas co , NW Ohio, on the Maumee river near its mouth at the western end of Lake Erie, inc 1837. It was settled in 1817 as Port Lawrence on the site of Fort Industry (1794), in 1833 it was consolidated with Vistula as Toledo A port of entry with a fine natural harbor and a vast system of railroads, it is one of the chief shipping centers on the Great Lakes, exporting coal, oil, farm products, and numerous manufactures and importing principally iron ore. It is also an industrial and commercial center Glassmaking, shipbuilding, and the manufacture of automobiles and parts are important industries, paint, steel, pig iron, coke, Portland cement, fabrics, chemicals, and condiments are produced In 1835–36 occurred the Toledo War, an Ohio-Michigan boundary dispute, settled by Congress in favor of Ohio when Michigan became a state Steps in the development of the city include the opening of the canals in the 1840s, the arrival of numerous railroad lines, the development of the Ohio coal fields, the tapping of gas and oil deposits late in the 19th cent , and the establishment of the Libbey glassworks in the 1880s When Samuel M JONES became mayor in 1897, an era of municipal reform was initiated Jones died in 1904 and was succeeded by Brand WHITLOCK A city-manager plan was installed in 1936 The Toledo plan of labor conciliation (1946) has been adopted by other cities The Univ of Toledo (coeducational), chartered in 1872, was opened in 1875 and became municipal in 1884, it had only polytechnical courses until 1904 It includes colleges of arts and sciences, business administration, education, engineering, law, and pharmacy and a junior college It cooperates with the Toledo Museum of Art Other points of interest are a Catholic cathedral, the Anthony Wayne suspension bridge (1931), a large zoological park, and Bay View Park (with a U S naval armory) There is a state hospital for the insane State memorials on the sites of Fort Meigs and of the battle of Fallen Timbers are south of the city See Brand Whitlock, *Forty Years of It* (1914) **3** City (pop 2,288), co seat of Lincoln co , W Oregon, near Yaquina Bay W of Albany, inc 1905 It has one of the largest spruce-lumber mills in the world and is a shipping point for lumber products

Toledo, Councils of. From the 4th to the 16th cent Toledo was the usual seat for assemblies of the Spanish nation and of the Church in Spain The first known of these councils were held to deal with the Priscillianist heresy (4th cent) and with clerical abuses and clerical jurisdiction In 589 a council was held at which King Recared abjured Arianism and embraced Catholicism, in this his nobles joined him At this council many decrees were passed which reveal that the clergy controlled the kingdom Most of the 7th-century councils deal only with political matters, notably with the power of the king, which the councils naturally tended to restrict (see VISIGOTHS) The principal council at Toledo in the period after the expulsion of the Moslems was that of 1565–66, at which a very important enunciation of ecclesiastical regulations was made, many are embodied in canon law

Toledo, University of see TOLEDO, Ohio

Toledo Osorio, Fadrique de (fadhrē'kā dā tōlā'dhō ōsōr'yō), 1580 1634, Spanish admiral He defeated a superior Dutch squadron off Cape St. Vincent, Portugal, in 1621

Tolentino (tōlăntē'nō), town (pop 5,710), the Marches, central Italy In 1797 Pope Pius VI signed here a humiliating treaty with Bonaparte Near Tolentino, Murat was defeated by the Austrians in 1815 and lost the throne of Naples

Tolland (tŏ'lund), town (pop 1,192), NE Conn , on the Willimantic , settled and inc 1715

Tollens, Hendrik (Hendrik Franciscus Tollens) (hĕn'druk fransĭ'skŭs tŏ'lŭns), 1780–1856, Dutch poet, popular in the Netherlands for his patriotic and homely verse His principal work (1819) was a poetic account of the Barentz expedition (1596–97), translated into English as *The Hollanders in Nova Zembla* (1884) He added a patronymic to his name, calling himself Hendrik Tollens Cornelisszoon

Toller, Ernst (ĕrnst' tō'lûr), 1893–1939, German dramatist and poet of the expressionist school He was imprisoned for five years (1919–24) for participation in the Bavarian revolution. Many of his plays were written in prison In 1932 he left Germany and in 1936 came to New York, where he died by suicide His plays of social protest include *Die Wandlung* (1919, Eng tr., *Transfiguration*, 1935), *Masse Mensch* (1920, Eng tr., *Man and the Masses*, 1924), which was produced in New York by the Theatre Guild, *Die Maschinen-stürmer* (1922, Eng tr , *The Machine-Wreckers*, 1923), based on the Luddite riots in England, *Hinkemann* (1924, Eng. tr , *Brokenbrow*, 1926), also produced in New York, and *Pastor Hall* (Eng tr. only, 1939), which was about Martin Niemoeller. Other works are lyric verse, the autobiography *Eine Jugend in Deutschland* (1933, Eng. tr., *I Was a German*, 1934), and *Briefe aus dem Gefangnis* (1935, Eng. tr., *Look through the Bars*, 1937), an account of his imprisonment. See *Seven Plays*

(1936, in English); W. A. Willibrand, *Ernst Toller, Product of Two Revolutions* (1941)

Tolleson (tŏl'ŭsŭn), town (pop 1,731), S central Ariz., in the Salt River Valley, settled 1911, inc. 1929

Tolosa (tōlō'sä), town (pop 10,114), Guipúzcoa prov., N Spain, in the Basque provs., SSW of Sebastián. It once was the capital of Guipúzcoa, and its old section, with many fine churches, convents, and palaces, has preserved its medieval aspect. The modern section is largely industrial and produces paper, textiles, machinery, and leather goods.

Tolstoy, Aleksey Konstantinovich (tŏl'stoĭ, Rus tŭlyĭksyā' kŏnstäntyē'nŭvĭch tŭlstō'), 1817–75, Russian poet, dramatist, and novelist. He was a distant cousin of Leo Tolstoy. He wrote some of the best humorous and nonsense verse in Russian literature, much of it with two cousins under the pseudonym Kozma Prutkov. He also wrote a number of charming narrative lyrics and epics, one historical novel, *Prince Srebryany* (1863, Eng. tr., *A Prince of Outlawe*, 1927), and a trilogy of historical dramas, *The Death of Ivan the Terrible* (1865, Eng. tr., 1926), *Tsar Fyodor Ivanovitch* (1868, Eng. tr., 1922), and *Tsar Boris* (1870).

Tolstoy, Aleksey Nikolayevich (nyĭkŭlī'ŭvĭch), 1882–1945, Russian novelist and man of letters. He went abroad after the Revolution of 1917, but returned in 1922 to become the outstanding literary figure in the Soviet Union. His early poems and short stories are of slight consequence, and his whole title to fame rests on the historical novels which he produced after the Revolution. These include the trilogy *The Road to Calvary* (1918–23, Eng. tr., 1946), in which he traces the rise of a new society in Russia, *Bread* (1938), a chronicle of the civil war in the region between the Volga and the Don, and his masterpiece, the historical novel *Peter I* (1929–34, Eng. tr., *Peter the Great*, 1936), a rich pageant of one of the great ages of transition in Russian history. In the last years of his life Tolstoy played a leading role in the revival of aggressive Pan-Slavism.

Tolstoy, Leo, Rus. *Lev Nikolayevich Tolstoi* (lyĕf), 1828–1910, Russian novelist and philosopher, one of the world's great writers. Of a noble family, he was born on his parents' estate Yasnaya Polyana, near Tula. Orphaned at nine, he was brought up by his aunts. At 16 he was sent to the Univ. of Kazan, at which he learned little and which he left without a degree. In 1849 he tried to establish a school for peasants at Yasnaya Polyana. This proved abortive, and he devoted himself to pleasure in Moscow and St. Petersburg. In 1851 he saw service in the Caucasus and there wrote *Childhood* (1852), the first part of an autobiographical trilogy which included *Boyhood* (1854) and *Youth* (1857). In 1854 he took part in the defense of Sevastopol, descriptions of which were published in Nekrasov's journal *Contemporary*. His experiences at Sevastopol were part of the raw material out of which grew his greatest novel, *War and Peace*. He left army service in 1855 and for several years divided his time between Yasnaya Polyana and St. Petersburg, where he was one of the *Contemporary* literary group which included also Turgenev. His diary of the period reveals his dissipation and his soul searching and remorse. At Yasnaya Polyana he undertook a project for freeing his serfs and in 1859 tried a second time to found a school for peasants, neither proved practical. In 1857 and 1860 he visited Western Europe and there began to question the very bases of modern civilization. He married Sophia Andreyevna Bers in 1862 and for the next 15 years lived mostly at Yasnaya Polyana, where he raised a large family. He wrote *The Cossacks* (1863), minor pieces, and *War and Peace* (1865–69) and *Anna Karenina* (1875–77). *War and Peace* is a prose epic of the Napoleonic Wars with highly individualized characters and richly evoked incidents, it illustrates the author's view of history as a force proceeding to its own ends, with man but an accidental instrument. *Anna Karenina*, while presenting a vividly realistic picture of St. Petersburg life, also dwells on the inner conflicts of its protagonists. About 1876 the doubts which had beset Tolstoy since youth gathered force, and he passed through a period of intense self-searching, the outcome of which was conversion to the doctrine of Christian love and acceptance of the principle of nonresistance to evil. The steps in his conversion are set forth in his *Confession* (1879). For the rest of his life Tolstoy dedicated himself to the practice and propagation of his new faith, which he expounded in a series of works, among them *A Short Exposition of the Gospels* (1881), *What I Believe In* (1882), *What Then Must We Do?* (1886), and *The Law of Love and the Law of Violence* (1908). He preached not only nonviolence but also a Rousseauistic simplicity of life. A Tolstoyan cult grew up in Russia and abroad, and such was his prestige and influence that the government did not interfere with any of his activities, although the Russian Church excommunicated him in 1901. Moral and social elements play a great role in Tolstoy's works written after his conversion, the best of which are *The Death of Ivan Ilyich* (1884), the drama *The Power of Darkness* (1886), and *The Kreutzer Sonata* (1889). To his last period belong the essay *What Is Art?* (1897–98), in which he argued for the moral responsibility of the artist, denouncing all the accepted masterpieces, including his own earlier works, the novels *Hadji Murad* (1896–1904) and *Resurrection* (1889–1900), and the drama *The Living Corpse* (pub. 1911). Tolstoy's insistence on putting his beliefs into practice and abandoning all earthly goods led to a breach between himself and his wife which was never mended. His children, with the exception of the youngest daughter, Alexandra, sided with their mother. In 1910 Tolstoy left home with Alexandra, but he died on Nov. 8 (N. S.) at the railroad station of Astapovo. Most of his works are available in English translations, among the best of which are those of Louise and Aylmer Maude. For biographical and critical evaluations, see Tolstoy's *Private Diary* (1927), G. R. Noyes, *Tolstoy* (1918), Maxim Gorky, *Reminiscences of Leo Nikolaevich Tolstoy* (1920), A. I. Nazaroff, *Tolstoy, the Inconstant Genius* (1929), Aylmer Maude, *Life of Tolstoy* (1931), Leon Derrick, *Tolstoy, His Life and Work* (1944), Janko Lavrin, *Tolstoy an Approach* (1944), Tikhon Polner, *Tolstoy and His Wife* (1945), E. J. Simmons, *Leo Tolstoy* (1946), Tatiana Kuzminskaya, *Tolstoy as I Knew Him* (1948).

Toltec (tŏl'tĕk), ancient Indian civilization of Mexico. The Toltec language was related to that of the Aztec, but their civilization was earlier. Its history began sometime between the 6th and the 8th cent. A.D. Their capital was Tollán (modern Tula, Hidalgo), and they had centers at Teotihuacan and Cholula. They had the fundamentals of the earlier Olmec culture, and their own civilization was materially far advanced. They knew how to smelt metals, and were the "master builders" of remarkable massive pyramids. Their polytheistic religion in later days seems to have centered about Quetzalcoatl, who may have been a historic chief and hero, later deified. Their ceremonies involved human sacrifice, sun worship, and a sacred ball game, *tlachtli*. They are said to have discovered the making of pulque, and they had considerable astronomical knowledge, shown in their calendar cycle of 52 years of 260 days each. The civilization declined after the destruction of Tollán (c. 1116?) and disappeared. The explanations offered are famine, pestilence, intertribal warfare, and pressure from northern invaders. Many of the Toltec seem to have migrated to Cholula and the south, possibly to Central America. The remainder seems to have merged with northern peoples to create the Chichimec civilization. Archaeological research at sites such as Monte Albán are bringing new facts about the Toltec to light. See G. C. Vaillant, *Aztecs of Mexico* (1941), Miguel Covarrubias, *Mexico South* (1946).

tolu or **tolu balsam** see balsam.

Toluca (tōlōō'kä), city (pop. 43,429), capital of Mexico state, central Mexico. On the southwestern border of the central plateau, Toluca is high (c. 8,760 ft.) and cold. It was established as a settlement in 1530 by Hernán Cortés, who had received the Valle de Toluca as a grant from Emperor Charles V. The surrounding plain is fertile, producing grain, fruits, and vegetables. Cattle raising is important. There are flour, cotton, and woolen mills and a brewery. Toluca is known for its basket weaving. Two small rivers run through the town, and near by is the inactive volcano, the Nevado de Toluca, called also Xinantecatl and Cinantécatl.

Toluca (tulōō'kŭ), city (pop. 1,433), N central Ill., NE of Peoria, in a farm area, inc. 1894.

toluene (tŏl'ūēn), **methylbenzene** (mĕth"thĭlbĕn'zēn), or **toluol** (tŏl'ūŏl, -ōl, -ōl), colorless liquid hydrocarbon of the benzene series or aromatic series, boiling at 110.8°C. and solidifying at −95°C. It is insoluble in water, but very soluble in alcohol, ether, and some other organic solvents. It is obtained from coal and petroleum. Toluene is used as a solvent and in the preparation of various dyes and explosives. When treated with nitric and sulphuric acids (the process is known as nitration or nitrating), the product resulting is trinitrotoluene (T.N.T. or TNT).

Tom (tŏm), river, 440 mi. long, RSFSR, in central Siberia. It rises in the Ala-Tau and flows N through the Kuznetsk Basin past Stalinsk, Kemerovo, and Tomsk into the Ob. It is navigable from Stalinsk.

Tom, Mount, peak, 1,202 ft. high, W Mass., N of Holyoke. It is the highest point of Mt. Tom Range, a state reservation, on the west side of the Connecticut.

Tomah (tō'mŭ), city (pop. 3,817), central Wis., NE of La Crosse, inc. 1883. It has railroad shops.

Tomahawk, city (pop. 3,365), N Wis., N of Wausau and on the Wisconsin, in a lake and woods region, platted 1887, inc. 1891. It is the state headquarters for forest-fire protection.

tomahawk [from an Algonquian dialect of Virginia], war hatchet generally used by North American Indians. It was usually made of stone with an edge or two edges somewhat sharpened (sometimes the stone was globe shaped), the stone was fastened to a wooden handle in various ways, such as putting the stone in a hole bored or burned through the wood, tying the stone to a handle or splitting the handle and tying it about the stone with thongs. The tomahawk was used in battle, but is chiefly spoken of for its use in removing scalps. It was sometimes thrown but more frequently wielded as an axe. After the coming of the white traders, the stone implements were rapidly replaced by European-manufactured tomahawks of steel (trade tomahawks). Some tomahawks were also equipped with a pipe bowl and a hollow stem and could be used for smoking. The ceremonial tomahawk usually was richly decorated with feathers and paint. Some Indians had the custom of ceremonially burying a tomahawk after peace had been reached with an enemy. This custom is supposedly the origin of the colloquial phrase, "to bury the hatchet."

Tomar (tōōmär'), city (pop. 6,246), central Portugal, in old Estremadura, NNE of Santarém. It has paper and textile mills and other industries but is noted chiefly as the center of the Knights Templars and later of the Military Order of Christ. The knights under Gualdim Pais in 1190 resisted the assault of Yakub and his Almohade forces with valor and success—an important event in the reconquest of Portugal. The Templars were suppressed early in the 14th cent., but the Order of Christ was founded (1319–20) immediately afterward. The great convent-castle on the hill overlooking Tomar dates from the most glorious days of the order, just after it was under Prince Henry the Navigator, though there are mementos of the earlier years. There are other churches, principally of this period. The order grew rich from the overseas expansion, and the city flourished. In 1581 it was chosen by Philip II of Spain for the proclamation of his rule. Thereafter it declined.

Tomaszow Mazowiecki, Pol. *Tomaszów Mazowiecki* (tômä'shōōf mäzôvyĕts'kē), city (pop. 30,225), central Poland, SE of Lodz. It has a textile industry.

tomato, plant (*Lycopersicon esculentum*) of the nightshade family, related to the potato and eggplant. It is a rather straggling plant, bearing clusters of very juicy, commonly globular fruits of yellow to deep red color. Though cultivated in Mexico and Peru for centuries before the European invasion, the tomato is one of the newest plants to be used on a large scale for human food. When the Spanish explorers took back seed from South America, the plant was grown merely for ornament, being known as the love apple. Though described as a salad plant before 1600, only within the last century has it become recognized as a valuable food. Now it ranks third among our vegetable crops. It is a popular salad vegetable and is also much used for commercial and home canning and for soups, sauces, and juice. It is the most widely used canned vegetable. The tomato is rich in vitamin content, which is not lost in cooking. The plant grows readily on many soils in practically all parts of the United States, as an annual except in the warmest regions. Many varieties have been developed, ranging in fruit from the small kinds—cherry, grape, and pear—to the very large beefsteak. The currant tomato is *Lycopersicon pimpinellifolium*. Gathered green, the tomato can be ripened in cellars. One of the worst pests is the cutworm. See *Tomatoes as a Truck Crop* (U.S. Dept. of Agriculture, Farmers' Bul. 1338).

tomb, space excavated in the earth or rock for the deposit of a dead body or a vault or chamber constructed either partly or entirely above ground as a place of interment. Of the many forms devised through the ages, none is more imposing than the Egyptian pyramid, probably evolved from the mastaba. Later, rock tombs were cut in cliff sides and sometimes finished with carved façades—in the valley of the Nile near Thebes, near Jerusalem, at Petra (Jordan), and elsewhere in Asia. Early tombs in Greece are of the beehive type, such as the Treasury of Atreus at Mycenae (about the 14th cent. B.C.). In the Greek colonies in Asia Minor, impressive circular tombs were constructed, such as the tomb of Mausolus (see mausoleum) at Halicarnassus (c. 352 B.C.), one of the Seven Wonders of the World. By the sides of the principal roads approaching Greek and Roman cities were rows of tombs, often handsomely ornamented. A form commonly used by the Romans was a circular tower shape, such as the great tomb of Hadrian (now Castel Sant' Angelo), Rome. In the Christian era it became the custom to build a church over the grave of a martyr. From this it followed that kings and other privileged persons were buried within the church buildings. The indoor tomb often took the form of a little shrine or of a sarcophagus bearing an effigy of the deceased and sheltered by a canopy. The custom continued through the Renaissance, resulting in the ornate structures of the 18th cent., with their masses of sculptural decoration. Church tombs sometimes stood so that all four sides could be seen, but more often were placed against a wall or even fastened high upon the wall. The churches and cloisters of Italy, France, Spain, and England are rich in such memorials, many of them perpetuating the names

of the artists who designed them as well as the persons to whom they were erected. The circular tomb surmounted by a dome has been used in many variations, especially by Mohammedans, the supreme example is the TAJ MAHAL at Agra, India (completed c 1648) Notable tombs of recent times are those of Napoleon under the dome of the Invalides, Paris; General Grant, in New York City, Lenin, in Moscow; and the UNKNOWN SOLDIER, Arlington National Cemetery See also BARROW and CATACOMB.

Tombaugh, Clyde William (tŏm'bô), 1906–, American astronomer, b Streator, Ill , grad Univ of Kansas (B A., 1936) From 1929 to 1943 he was affiliated with the Lowell Observatory, Flagstaff, Ariz , and in 1946 he became astronomer at the ballistics laboratories near White Sands, N. Mex In 1930 he discovered the planet PLUTO He also discovered a number of star clusters, variable stars, asteroids, and nebulae

Tombigbee (tŏmbĭg'bē), river, 409 mi long, rising in NE Mississippi and flowing SSE into W Alabama, then generally south, to join the Alabama and form the Mobile river c 30 mi N of Mobile

Tombstone, city (pop 822), SE Ariz , NNW of Bisbee. Ed Schieffelin, a prospector, found (1877) silver here, and named and laid out (1879) the city, which was a large, rich, and very tough mining town until the century's close It was county seat of Cochise co. until 1931, but, despite its attractions to tourists and health seekers and despite some mining, it is interesting chiefly for its past See W N. Burns, *Tombstone* (1927), J M. Myers, *The Last Chance Tombstone's Early Years* (1950)

Tomi: see CONSTANTA, Rumania

Tomlinson, Henry Major, 1873–, English novelist A dock worker, then a journalist and war correspondent, he was (1917–23) literary editor of the *Nation and Athenaeum*. Probably his best-known novel is the sea story *Gallions Reach* (1927) Others include *Pipe All Hands* (1937) and *Morning Light* (1946) *All Our Yesterdays* (1930) is a semifictional history of the First World War Among his other works are *The Sea and the Jungle* (1912), *Norman Douglas* (1931), *South to Cadiz* (1934), and *Below London Bridge* (1935)

Tommaseo, Niccolò (nĕk-kōlô' tōm-mhsā'ō), 1802–74, Italian poet and critic, b Sibenik, Dalmatia He wrote well in almost every field, including history, philosophy, lexicography, and philology, he is perhaps most distinguished in the last, but was an influential critic Besides collecting the popular poetry of Tuscany, Corsica, Illyria, and Greece, he wrote lyric verse. In politics he was a liberal and attacked Austrian rule In 1833 he was forced into exile, but later he returned and played a part in the Revolution of 1848 in Venice The collapse of the revolution forced him again into exile In 1854 he settled at Turin

Tompkins, Daniel D , 1774–1825, American statesman, Vice President of the United States (1817–25), b Westchester co , N Y , grad Columbia, 1795. He was admitted to the bar (1797), went into politics, and became a leader of the Jeffersonian group in New York state Elected to Congress in 1804, he preferred to accept an appointment to the New York supreme court As governor (1807–17) of New York he took active measures for the protection of the Canadian border in the War of 1812 In an effort to prevent the chartering in New York of a banking institution, Tompkins in 1812 took the unique step of proroguing the legislature. In 1816 he was elected Vice President and held that office through both Monroe administrations His college essays were collected in the volume *Columbia College Student in the Eighteenth Century* (ed by R W Irwin and E. L. Jacobsen, 1940)

Tompkinsville, town (pop 1,438), co. seat of Monroe co., S Ky., SE of Bowling Green and near the Tenn. line, in a farm area In a state park near by is the old Mulkey meetinghouse (present structure built 1798).

Tomsk (tômsk, Rus tômsk), city (pop. 141,215), capital of Omsk oblast, RSFSR, in W central Siberia, on the Tom river and on a spur of the Trans-Siberian RR. A cultural center, it has a university (founded 1888), a polytechnic institute, medical and teachers colleges, and various technical schools It has light manufactures and agricultural processing plants, Founded (1604) by Boris Godunov, it early developed into an important trading post and was the leading city of Siberia in the 19th cent By-passed by the Trans-Siberian RR, it lost its commercial importance after 1900.

Toms River, unincorporated village (pop 1,966), co. seat of Ocean co , E N J , on an inlet of Barnegat Bay SE of Lakehurst It is a fishing center The courthouse contains a county museum The village, a privateering center in the Revolution, was burned in 1782 by Loyalists and British.

Tom Thumb, 1838–83, American dwarf and entertainer, whose real name was Charles Sherwood Stratton, b. Bridgeport, Conn. His career as General Tom Thumb began in 1842, when the showman P. T. Barnum gave him the title and arranged with the child's parents for his exhibition as a midget. His height then was less than 2 ft., and at no time did it exceed 33 in. The intense curiosity of people throughout the world, which Barnum aroused through consummately skillful publicity and satisfied through profitable display of the General in many lands, brought Tom Thumb wealth and fame. At the age of 10 he had already been the guest of President Polk, Queen Victoria, Isabella of Spain, and King Louis Philippe of France. His courtship of another of Barnum's dwarfs, Lavinia Warren, 18, led to a fashionable wedding in New York's Grace Church in 1863. In the course of their wedding trip they were received and dined at the White House by President Lincoln The General and his wife continued to entertain audiences in the United States and abroad until their retirement in 1882 Of his enormous earnings Tom Thumb spent tens of thousands of dollars for yachts, horses, and precious stones He died at the age of 45, and Mrs Tom Thumb at 77

tom-tom, name popularly applied to small hand drums, usually barrel-shaped and having either one or two drumheads of skin Supposedly of American Indian or Oriental origin, they are sometimes used in modern dance orchestras for special effects The terms *tom-tom* and *tam-tam* are sometimes used interchangeably, but the latter is usually a name for the gong

tonality (tōnă'lĭtē), in music, the quality by which all tones of a composition are heard in relation to a central tone called the keynote or tonic In music which has HARMONY the terms KEY and *tonality* are practically synonymous, those who make a distinction being unable to state it precisely Some sort of relationship to a tonic is characteristic of all music except that in which it is deliberately avoided (see ATONALITY) The term *tonality* is also used in contrast to *modality* (see MODE).

Tonawanda (tŏnŭwŏn'dŭ), industrial and commercial city (pop 13,008), W N Y., N of Buffalo and on the Niagara at the terminus of the Barge Canal, organized 1836, inc 1903 Chemicals and paper products are made here Near Akron to the east is the Tonawanda Indian Reservation

Tonbridge (tŭn'-), urban district (1931 pop 16,333, 1943 estimated pop 21,000), Kent, England, near the Medway and SE of London It has a ruined ancient moated castle and a grammar school (1553) Its manufactures include the wooden mosaic "Tunbridge ware," chemicals, paper, and agricultural machinery TUNBRIDGE WELLS is south.

Tonder, Dan *Tønder* (tŭ'nur), Ger *Tondern* (tōn'dürn), town (pop 6,778), S Jutland, Denmark, in North Schleswig Brewing, meat packing, and the manufacture of margarine and of automobile bodies are its chief industries Dating from the 13th cent , Tonder belonged (1866-1920) to Prussia Few old buildings remain

Tone, Wolfe (Theobald Wolfe Tone), 1763–98, Irish revolutionary. He studied at Trinity College, Dublin, read law in London and Dublin, and was called to the bar in 1789, but his dislike for the practice of law turned him toward politics He was a founder of the Society of United Irishmen, which labored for the union of Catholics and Protestants in a common cause against English oppression of Ireland He was implicated in the intrigues for a French invasion of Ireland, but was allowed to leave the country for America In Philadelphia in 1795 he negotiated with the French minister concerning French aid in an Irish rebellion. In 1796 he went to Paris and became a *chef de brigade* in the French army He fostered several ill-fated expeditions to Ireland, accompanied one under General Lazare Hoche in 1796, and, after he had been made adjutant general (1798) in the *Armée d'Angleterre*, he joined a new expedition to Ireland, which was defeated by an English squadron off Lough Swilly. Tone was captured, court-martialed, and convicted of treason, he committed suicide before his execution could be carried out He was the author of a number of political pamphlets These, with his autobiography and journals were edited by his son (1826), the work has appeared in a number of editions See his letters (ed. by Bulmer Hobson, 1920), biography by Frank MacDermot (1939).

tone. A musical tone is distinguished from an unmusical noise by its definite pitch, caused by the regularity of the vibrations which produce it. Any tone possesses the attributes of pitch, intensity, and quality. Pitch is determined by the frequency of the vibration, intensity (or loudness) by the amplitude Quality is determined by the overtones (see HARMONIC), the distinctive timbre of any instrument being the result of the number and relative prominence of the overtones it produces. When two fairly loud tones of equal volume but different pitch are sounded together, a fainter resultant tone, representing either the sum of their two rates of vibration (summation tone) or the difference (difference tone), may be heard. The term "whole tone" (also called whole step) refers to the INTERVAL of a major second or its equivalent, a half tone, semitone, or half step being a minor second (see SCALE).

tone poem: see SYMPHONIC POEM.

Tonga (tŏng'gu) or **Friendly Islands,** island group (250 sq mi., pop. 34,130), S Pacific, c.2,000 mi. NE of Sydney, Australia. A British protectorate, the islands comprise three main groups, Tongatabu (the seat of Nukualofa, the capital), Vavau, and Haabai. Most of the islands are coral, but a few are volcanic, with active craters. The natives are Polynesians. The northern islands were discovered in 1616 by the Dutch, and the rest of the group by Tasman in 1643. Visiting the islands in 1773, Capt. James Cook named them the Friendly Islands. English missionaries arrived in 1797 and helped to strengthen English political influence. In 1862 a constitutional monarchy was established, and the group became a British protectorate in 1900 The present ruler is Queen Salote, who is advised by a British agent She is the last hereditary monarch of Polynesia. Because of compulsory primary education, the literacy rate is relatively high Every Tongan is entitled to an allotment of land The chief export is copra

Tonganoxie (tŏng'gunŏk'sē), city (pop 1,114), NE Kansas, E of Topeka, in a farm area, inc. 1871.

Tongareva: see PENRHYN

Tongariro (tŏng"gŭrē'rō), volcanic peak, 6,458 ft high, on central North Island, New Zealand. Hot springs are on its slopes, a lake on the summit.

Tongres (tô'grŭ), Flemish *Tongeren* (tŏng'ürun), town (pop 13,484), Limburg prov , E Belgium, NNW of Liége Dating from Roman times, Tongres was destroyed by the Huns in 451 and by the Norsemen in 881 It long was an important trade center There is a 12th-century church with cloisters dating from the 10th cent

tongue, muscular structure covered with mucous membrane which occupies the floor of the mouth It is about 3½ in. long but varies because of its mobility Small projections called papillae give the normal tongue a rough appearance The tongue is important in speech, chewing, taste, and the swallowing of food. It may be inflamed from irritants, such as mercury, or from infection by bacteria or by fungi (THRUSH) Tumors are not uncommon In fever the tongue becomes coated, and if not kept clean, painful cracks occur In certain anemias the tongue is abnormal Canker sores are associated with lack of vitamins, particularly the vitamin B complex

tonic, in music see HARMONY, KEY, SCALE, TONALITY

tonic sol-fa, in music see MUSICAL NOTATION.

tonka bean (tŏng'kŭ), black-skinned, aromatic, almondlike single seed of the pod of a tall leguminous tree of tropical South America It contains coumarin (whence it is also called coumara nut), a substance which has a vanillalike aroma and is used as a vanilla substitute and in the manufacture of perfumes, sachets, soaps, tobacco, and food It is also sometimes known as tonqua bean and tonquin bean

Tonkawa (tŏng'kuwô), oil city (pop 3,197), N Okla , on the Salt Fork of the Arkansas river, settled 1893, inc 1894 A state junior college is here

Tonkin (tŏn'kĭn', tŏng'-), state (c 44,000 sq mi , pop c 9,800,000), N Indo-China Tonkin in the north and the west is occupied by high mountain masses, continuous with the mountains of the Chinese provinces (Yünnan and Kwangsi) to the north and of Laos to the west and southwest In E Tonkin the mountains give way to an alluvial plain—the delta of the Red River and other streams that empty into the Gulf of Tonkin, an arm of the South China Sea Ranges extending nearly to the gulf separate Tonkin from Annam to the south The lower Red River valley is the heart of Tonkin, here are most of the people, the great rice fields, and the cities of HANOI and HAIPHONG, in which industry and trade are concentrated The mountain regions are sparsely peopled and are given over chiefly to subsistence farming and fishing Besides rice, important crops in Tonkin are maize, garden vegetables, coffee, tea, and indigo. Some cotton and silk are produced Tonkin has the only important coal fields in Indo-China, as well as deposits of zinc, tin, and wolfram. Most of the people are Annamese, but there are also many Chinese, as well as Thais and primitive tribesmen. It was in Tonkin that a state of ANNAM first took form After the division of the Annamese lands in 1558, the northern territories were ruled from the city of Tonkin (modern Hanoi), thus the name of Tonkin came to be applied by Europeans to the whole area. Like the southern Annamese lands ruled from Hué, Tonkin was plunged into disorders in the late 19th cent and was easily brought under the rule of the restored line of Hué as part of the kingdom of Annam To open the Red River to French trade, French expeditions were sent into Tonkin in 1873 and 1882, that of 1882 resulted in a full-scale colonial war, complicated by Chinese intervention against the French. In 1884 Annam accepted a French protectorate, conceding France a separate protectorate over Tonkin, with control more direct than over Annam. In 1887 Tonkin became part of the Union of Indo-China. After the Second World War, Tonkinese and Annamese nationalist leaders joined in demanding independence for the state of VIET NAM, and Tonkin (North Viet Nam) was torn by guerrilla warfare between the French and the nationalists. The name also appears as Tongking and Tonking.

Tonle Sap (tŏn'lē sāp'), lake, Cambodia. It occupies the hollow of the Cambodian plain and is fed

by streams from the north, west, and south; the outlet flows southeast to join the MEKONG at the Quatre Bras near Pnom Penh At low water (Nov.–May), it covers c.1,150 sq mi; in the floods, the waters of the Mekong back up into the Tonle Sap and the lake's area is more than tripled The 2,500 sq. mi. of surrounding forest inundated by the floods provide a breeding ground for fish, of which about 100,000 tons are caught yearly The fisheries of the lake area are an important natural resource of Cambodia

Tönnies, Ferdinand (fĕr'dēnänt tün'yüs), 1855–1936, German sociologist and political scientist He is noted for his analysis of the distinction between the spontaneous community and the secondary groupings of society See his *Gemeinschaft und Gesellschaft* (1887, Eng tr, *Fundamental Concepts of Sociology*, 1940).

Tonopah (tŏnupä'), unincorporated town (pop. 1,703, alt. more than 6,000 ft), co seat of Nye co, S central Nev.; founded 1900 when rich silver mines were discovered

tonqua bean: see TONKA BEAN

Tonsberg, Nor. *Tønsberg* (tûns'bĕr), city (pop 11,883), Vestfold co, SE Norway, a seaport on the Skagerrak near the mouth of the Oslo Fjord It is the oldest city of Norway, and it has been a major whaling base since the 18th cent

tonsils. The palatine tonsils are lymphoid masses of tissue, ovoid in shape, located between the pillars of the fauces (see THROAT) on either side of the soft palate They may become enlarged, thus interfering with breathing Infected tonsils may be a focus of infection and cause disease in other parts of the body Tonsillitis, an acute inflammation of the tonsils, may result in quinsy sore throat Chronically infected or persistently enlarged tonsils should be removed The pharyngeal tonsils are commonly called adenoids

Tonson, Jacob (tŏn'sün), 1656?–1736, English publisher He and his brother Richard were the purchasers and publishers of Milton's *Paradise Lost* In his association with John Dryden he published a series of miscellany volumes (6 vols, 1684–1709), edited by Dryden and often referred to as Dryden's miscellany or Tonson's miscellany Tonson was secretary of a literary club called the Kit-Cat Club which he founded c 1700, was joint publisher of the *Spectator* from 1712, and was publisher of works by Addison, Steele, Pope, and many others The business was carried on by his great-nephew Jacob Tonson (d 1767)

Tonstall, Cuthbert: see TUNSTALL, CUTHBERT

tonsure (tŏn'shur), practice in some Christian churches of cutting some of the hair from the scalp of clerics In the West the tonsure consists of a circular patch on the crown of the head from which the hair is kept cut, some tonsures keep the entire head shaved above the ears, and some retain a broad band of hair around the head Different religious orders have different tonsures In the 6th and 7th cent one of the outstanding questions between the Celtic use and the Roman use was the tonsure, which the Celts made by cutting the hair off the front part of the head

Tonti or **Tonty, Henri de** (both ärē' dŭ tōtē'), c 1650–1704, French explorer in the present Canada and the United States, b Gaeta, Italy, son of Lorenzo Tonti Henri de Tonti served as a cadet in the French army A hand he lost in battle was replaced with an iron substitute, and his skillful use of this appliance was later to lead American Indians to believe him possessed of potent medicine In 1678 Tonti accompanied the explorer LA SALLE to Canada as his lieutenant and was dispatched to Niagara where, among hostile Indians, he constructed the *Griffon*, the first sailboat to ply the Great Lakes W of Ontario. Tonti preceded La Salle westward to Detroit and penetrated into the country of the Illinois Indians, whom he won over to the French interest In 1680, left by La Salle at Starved Rock to construct a fort, he was faced by desertion of his men and the hostility of the Indians and was forced to winter in Wisconsin Meeting La Salle at Mackinac, he voyaged with him down the Mississippi to its mouth, they proclaimed the entire Mississippi watershed the domain of France Tonti returned alone to the Illinois, where he was rejoined by La Salle and together they completed (1682-83) Fort St Louis at Starved Rock When La Salle returned to France, Tonti was left in charge of the fort La Salle did not return, for he failed in his attempt to find the mouth of the Mississippi by sea. Having no word, Tonti in 1686 descended the river in a hopeless search for La Salle The following year he led a band of Illinois in Denonville's raid against the Iroquois Tonti remained at Fort St. Louis, developing the new empire, until 1700, when he joined Iberville's colony at the mouth of the Mississippi Pierre Margry included Tonti's account in *Mémoires et documents pour servir à l'histoire des origines françaises des pays d'outre-mer* (6 vols., 1879–1888; Eng. tr., *Relation of Henri de Tonty*, 1898). See J. C. Parish, *The Man with the Iron Hand* (1913), C. B. Reed, *Masters of the Wilderness* (1913); E. R. Murphy, *Henry de Tonty, Fur Trader of the Mississippi* (1941).

Tonti, Lorenzo (lōrän'tsō tōn'tē), 1630?–1690?, Italian banker. He originated and introduced into France a form of life annuity which was used in French public finances from 1653 to 1762 By the "tontine system" over a million livres were floated in life annuities Borrowing by this method was again resorted to in 1689, 1696, 1733, 1734, 1744, 1759, and 1762 According to the original system, when the last subscriber died, the fund reverted to the state, but the term *tontine* came to be applied to an annuity which increased in value to the survivors as each subscriber died.

Tonto Basin, depression S of the Mogollon Rim, E central Ariz The wild country around Tonto Creek, which flows south from the basin to join the Salt river above Roosevelt Dam, has been much celebrated in cowboy stories

Tonto National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Tonty, Henri de: see TONTI, HENRI DE

Tooele (tōōē'lē), city (pop 5,001), co seat of Tooele co, N central Utah, S of Great Salt Lake and SW of Salt Lake City, settled c 1850 The town depends much on the smelting and reduction of ores, and the region roundabout has grazing The Elton Tunnel (built 1937–42) in the Oquirrh Mts leads from the mining in Bingham Canyon

Tooke, John Horne, 1736–1812, English politician and philologist He entered the Church in 1760, but devoted himself largely to the study of the law and to political agitation He was for a time a strong supporter of John WILKES, but turned against him in 1771 He was a staunch defender of the American colonists in their revolt against England and was fined and imprisoned for attempting to raise funds for the victims of the government "murder" at Lexington and Concord In 1794, with others, he was tried for treason, but acquitted Tooke's radicalism, though erratic, was a forerunner of more serious attempts at reform in the early 19th cent Tooke's later years were devoted to literary pursuits His *Epea Pteroenta; or, The Diversions of Purley* (1786–1805) was an early, though desultory, attempt at scientific language study See biography by Minnie Yarborough (1926)

Tooke, Thomas, 1774–1858, English economist His *History of Prices 1793-1856* (6 vols, 1838–57) is classic He was a free trader, opposing any governmental restriction on foreign trade

tool. Many of the tools used in the various industries are of types known in prehistoric times Before metals were used, there were adzes, awls, axes, hammers, saws, and other tools of stone Polished stone tools are evidence in themselves that fine work in very hard stone was done without metal tools Machine tools (tools operated by machinery) include lathes, drills, planes, and milling and grinding tools The use of power to operate tools makes possible great speed and uniformity of product The metal used for machine tools is subject to much greater strain than that used for most hand tools High-carbon steel has been largely replaced by Mushet steel and other alloys of steel (containing such metals as molybdenum, tungsten, chromium, and vanadium) and by stellite (see STEEL) Such alloys are hard and tough, and they retain their hardness and effectiveness even in the great heat generated by the friction, at high speed, of the tool against the metal machined See also PNEUMATIC APPLIANCES AND TOOLS See Thomas Hibben, *The Carpenter's Tool Chest* (1933), H J Peake, *Early Steps in Human Progress* (1933), W P Turner and H E Owen, *Machine-Tool Work* (2d ed, 1945), A P Morgan, *Tools for Woodworking and Metal Working* (1948)

Toole, John Lawrence (tōōl), c 1830–1906, English comedian He was known for such roles as Samuel Pepys in *The King's Rival*, Weasel in *My Friend the Major*, Caleb Plummer in *Dot* (Boucicault's adaptation of Dickens's novel, *The Cricket on the Hearth*), and the Artful Dodger in *Oliver Twist* See his *Reminiscences* (1889)

Toombs, Robert, 1810–85, American statesman, Confederate leader, b Wilkes co, Ga, grad Union College, 1828 He became a successful lawyer in Georgia and entered politics as a Whig, serving five years in the state legislature and from 1845 to 1853 in Congress He favored the Compromise of 1850 and with Howell COBB and Alexander H STEPHENS canvassed Georgia to have it ratified With them also he organized the moderate Constitutional Union party, which elected him (1852) to the U S Senate, in which he served until 1861 On the dissolution of that party he became a Democrat A brilliant orator, Toombs firmly supported Southern measures, but did not become an avowed secessionist until after the election of Lincoln. He played a leading role in the Georgia secession convention and in the convention in Montgomery at which the Confederacy was organized Made secretary of state in the new government, he soon resigned to become a brigadier general commanding Georgia troops in Virginia. He fought in the Peninsular campaign, the second battle of Bull Run, and the Antietam campaign in the Civil War, resigning when he was refused promotion Toombs, who had coveted the Confederate presidency, was of the faction that opposed the policies of Jefferson DAVIS. After the war he fled to Europe, returning in 1867. He continued to be important in Georgia politics, especially after Reconstruction He himself remained "unreconstructed," refusing to the end to take the oath of allegiance to the United States See biography by U B Phillips (1913), B. J. Hendrick, *Statesmen of the Lost Cause* (1939).

tooth see TEETH

toothache, pain in or associated with a tooth, commonly the result of dental caries Usually there is inflammation of the pulp of the tooth or even exposure of the pulp Abscess occurring at the apex of the root of a tooth may produce severe pain as a result of pressure on or irritation of surrounding sensory nerve filaments Toothache may also be referred from other areas as in such conditions as facial neuralgias Treatment should be administered by a dentist Hot or cold applications to the jaw sometimes give temporary relief

Toowoomba (tuwōōm'bu), city (pop. 33,280), Queensland, Australia, W of Brisbane and on the Darling Downs, 2,000 ft above sea level. It is an agricultural center and a summer resort.

top, toy with a tapering point on which it can be made to spin Tops were known in antiquity and appeared again in Europe during the Middle Ages; they are used by some primitive tribes today. The principle is utilized in the GYROSCOPE.

topaz (tō'păz), aluminum silicate mineral with ether hydroxyl radicals or fluorine, used as a gem. It is commonly colorless or some shade of pale yellow to wine yellow, pale blue and pale green also occur, but natural red stones are uncommon Some natural yellow stones lose their yellow coloring when heated and become permanently pink ("pinked" topaz) The stone is transparent to opaque, with a vitreous luster It possesses a highly perfect basal cleavage, but it is nevertheless hard and durable. The brilliant cut is commonly used Topaz crystals, which are of the orthorhombic class, occur in highly acid igneous rocks, e g, granites and rhyolites, and in metamorphic rocks, e g, gneisses and schists Important sources of topaz are in Russia, Siberia, Brazil, the British Isles, Saxony, Norway, Sweden, Australia, Mexico, and Maine, New Hampshire, Connecticut, Colorado, and Utah in the United States The name topaz is commonly used for various other yellow stones, e g, for citrine QUARTZ The Oriental topaz is actually a yellow sapphire

tope: see STUPA

Topeka (tŭpē'kŭ), city (pop 67,833), state capital, and co seat of Shawnee co, NE Kansas, on the Kansas river between Kansas City and Manhattan, inc 1857 A ferry was established at the site in 1842 On the old Oregon Trail, the city was laid out in 1854 by Free State settlers from Lawrence and from New England and was founded as the center for C K Holliday's projected railroad (the Atchison, Topeka, and Santa Fe) Here the short-lived Free State constitution was framed in 1855 Topeka became the permanent state capital when Kansas was admitted to the Union in 1861 In a rich agricultural region, it has important railway repair shops and offices, insurance offices, flour mills, meat-packing plants, wholesale houses, printing and publishing plants (the CAPPER publications), and other industries It is a favorite convention place Many hospitals (including the Menninger Clinic for psychiatric research and a state hospital for the insane), a reform school, a vocational school for Negroes (1895), several business colleges, Washburn Municipal Univ of Topeka (coeducational, 1865), and a Protestant Episcopal cathedral are here A city of broad, tree-shaded streets, Topeka has the museum and library of the Kansas Historical Society, the Mulvane Art Museum, the state library, a park system which includes a beautiful rose garden, and an airport The capitol is designed after that in Washington Two bridges cross the Kansas here, one, built in 1938, is the longest highway span in the state

Topelius, Zakarias (sükärē'üs tōōpā'lyŭs), 1818–98, Finnish novelist, poet, and playwright His father, also Zakarias Topelius, a physician, had published (1822) the first fragments of the Finnish epic, the *Kalevala*. The younger Topelius is best known for his lyric poetry, his children's stories, and the historical romance *Tales of an Army Surgeon* (6 vols, 1854–66, Eng tr, 1883–87) Many of his stories are available in English, under the titles *Whisperings in the Wood* (1881), *Canute Whistlewinks* (1927), and *Two Times Two Is Four* (1931) He wrote in Swedish

Töpffer, Rodolphe (rôdôlf' tüpfĕr'), 1799–1846, Swiss novelist and artist, b Geneva He wrote charming and humorous novels and stories of Swiss life, including *Nouvelles genevoises* (1835), *Le Presbytère* (1839), *La Bibliothèque de mon oncle* (1843), and *Rose et Gertrude* (1845). His fanciful travel sketches of the Swiss, French, and Italian Alps, *Voyages en zigzag* and *Nouveaux voyages en zigzag* (1853), were illustrated with his own drawings. Töpffer had an immense vogue throughout Europe and is still widely read

Tophel (tō'fĭl) [Heb., =lime], place in Sinai peninsula, near where the Israelites halted. Deut. 1.1.

Tophet (tō'fĭt), place near Jerusalem, part of the vale of HINNOM Tophet became a name for HELL. 2 Kings 23 10; Isa 30,33; Jer 7 31–33

topiary work (tō'pēĕr"rē), artificial shaping of a shrub or tree used in landscape gardening, e g , sheared hedges and clipped shrubs The elaborate formal designs (birds, animals, vases, urns) into which trees and shrubs were popularly clipped for many years are now usually seen only in old gardens. Constant clipping twice a year, or more often, from the time the plant is young is necessary to make it thick and uniform Box, privet, and yews are among the plants most used for topiary gardening

Toplady, Augustus Montague (tŏp'lādē), 1740–78, English clergyman of the Church of England and hymn writer In 1775 he went to London, where he was preacher in a Calvinist chapel His writings include books on religion and philosophy, but he is best known for his hymn *Rock of Ages* (1775)

topography (tŭpŏ'grufē) [Gr ,=the writing of places], the surface physical features and configuration of land. It is indicated on maps usually by means of contour lines, hachures, shading, or coloring to represent elevations, depressions, and bodies of water (see CONTOUR), the location of cities, bridges, tunnels, routes, and other features is also indicated on detailed topographic maps Topography affects temperature, rainfall, soil conditions, and vegetation and is one of the primary elements determining climate

Toppenish (tŏ'punĭsh), farm trading city (pop 3,683), S Wash , S of Yakima, inc 1907 It has food-processing plants

Topsfield, town (pop 1,150), NE Mass , NNW of Salem, settled c 1635, inc 1648 There are sand and gravel deposits The kitchen of the Parson Capen House (1683) is reproduced in the Metropolitan Museum, New York

Topsham (tŏp'sum), town (pop 2,334), SW Maine, on the Androscoggin opposite Brunswick, settled c 1730, inc 1764 A 17th-century settlement here was destroyed by the Indians. There are feldspar and paper mills

Topton, borough (pop. 1,568), SE Pa , NE of Reading, inc 1876.

Torah (tō'ru) [Heb ,=teachings or learning], Hebrew name for the five books of Moses—the Law of Moses or the Pentateuch, the first five books of the Bible The Torah is believed by orthodox Jews to have been handed down to Moses on Mt Sinai and by him transmitted ultimately to the Jews It laid down the fundamental laws of moral and physical conduct The Torah begins with a description of the origin of the universe and ends on the word *Israel*, after the story of the death of Moses, just before the conquest of Canaan by the Israelites

Torcello (tôrchĕl'lō), small island in the Venetian lagoon, NE Italy It has a Byzantine cathedral founded in 641, rebuilt in the 9th and the 11th cent and decorated with fine Byzantine mosaics

Torcy, Jean Baptiste Colbert, marquis de. see COLBERT, JEAN BAPTISTE, MARQUIS DE TORCY

Tordesillas (tôr"dhāsē'lyās), town (pop 3,700), Valladolid prov , N central Spain, in Leon, in a region of vineyards Here in 1494—one year after the discovery of the New World had become known in Europe—Spain and Portugal signed a treaty in which they divided the non-Christian world into two zones of influence In principle the treaty followed the papal bull issued in 1493 by Alexander VI, which fixed the demarcation line along a circle passing 100 leagues W of the Cape Verde Islands and through the two poles This division gave the entire New World to Spain and Africa and India to Portugal However, the Treaty of Tordesillas shifted the demarcation line to a circle passing 270 leagues W of the Cape Verde Islands and thus gave Portugal a claim to Brazil There was little geographic knowledge at the time the treaty was signed, and it remains controversial whether the Portuguese then knew of the existence of Brazil The castle of Tordesillas was the residence (1516–55) of the mad queen of Castile, Joanna

Torgau (tôr'gou), town (pop 18,455), in the former Saxony prov. of Prussia, E Germany, on the Elbe It manufactures chemicals, glass, pottery, and machinery. Chartered in the 13th cent , Torgau was always a strategic crossing place of the Elbe The 16th-century Hartenfels castle was a residence of the electors of Saxony In 1526 the Torgau League of Protestant princes was founded here, the articles of the league were written (1530) by Martin Luther In the Thirty Years War, Torgau was the scene (1631) of an important council of war of Gustavus II of Sweden and his allies In the Seven Years War, Frederick II of Prussia defeated (1760) the Austrians under Daun near Torgau On April 27, 1945, at the end of the Second World War, advance elements of the American and Soviet armies made contact here for the first time.

Torino, Italy see TURIN

tornado (tôrnā'dō), a rotating storm, similar to a HURRICANE in structure, but more violent, considerably smaller in area, of much shorter life, and with much lower barometric pressure at the center It is also known as a "cyclone" or "twister " Tornadoes are caused by violent convection resulting from intense heating of the ground by the sun, aided by opposing winds of greatly different temperatures. A dark, funnel-shaped cloud develops below a heavy cumulo-nimbus cloud mass and extends toward the earth The "funnel" twists about, rises and falls, and where it reaches the earth it causes great destruction. The diameter of a tornado varies from a few feet to a mile, the rotating winds attain velocities of 200 to 300 mi. per hour, while the updraft at the center may reach 200 mi per hour Tornadoes occur most frequently in the central United States, where they travel in a general northeasterly direction with a speed of 20 to 40 mi per hour Their path is short—averaging 300 mi Cyclone cellars are generally constructed near farm dwellings in the tornado belt to afford protection should such a storm approach

Torne (tôr'nu), Finnish *Tornio* (tôr'nēō), Swed *Torne älv* (tôr"nŭ ĕlv'), river, 318 mi long, N Europe It rises in N Sweden, at the Norwegian border, drains Lake Tornetrask (126 sq mi), and flows SW into the Gulf of Bothnia, forming the Swedish-Finnish frontier below its junction with the Muonio, its chief tributary The Muonio forms the Swedish-Finnish frontier from its source at the Norwegian border to its confluence with the Torne. The Torne has several falls and is rich in salmon Haparanda (Sweden) and Tornio (Finland) are located at its mouth

Tornea, Finland see TORNIO

Torngat Mountains, N Labrador, northernmost range of the Laurentian Plateau, between the Atlantic coast and the Que border, extending 120 mi north-south and rising to 5,500 ft in Cirque Mt.

Tornio (tôr'nēō), Swed *Torneå* (tôr'nuō"), town (pop 2,482), W Finland, at the mouth of the Torne (Finnish *Tornio*) river on the Gulf of Bothnia, opposite the Swedish town of Haparanda Incorporated in 1670, it is important for its leather industry and its salmon fisheries

Toronto (turŏn'tō), city (pop 667,457), provincial capital, S Ont , on the north shore of Lake Ontario at the mouth of the Humber and NNW of Buffalo, N Y It is the second largest city in Canada, a port of entry, and an important commercial, financial, and industrial center, with municipally owned power and transportation services and a municipal airport and seaplane base It was an early fur-trading center, and the French here built (1749) Fort Rouillé, to counteract British influence in the Niagara country, but the post was destroyed (1759) and the site occupied by the British as Fort Toronto After the American Revolution it became the home of many United Empire Loyalists It was chosen by John G Simcoe in 1793 as the capital of Upper Canada and named York In the War of 1812 the city was twice taken by the Americans, and many public buildings were destroyed In 3418 it was incorporated as Toronto, and in 1837 it saw the insurrection led by William Lyon Mackenzie The Univ of Toronto (nonsectarian, coeducational) was chartered in 1827 and opened in 1843 by Anglicans as King's College It was renamed in 1850 It has faculties of applied science and engineering (with architecture), arts (with St Michael's, Trinity, University, and Victoria colleges), dentistry, forestry, household science, medicine, and music. Ontario College of Education, schools of Chinese studies, hygiene, law, library science, nursing, physical and health education, and social work, an institute of child study, and Dunlap Observatory Affiliated schools are Knox, Emmanuel, and Wycliffe colleges (theological), Albert College, Ontario College of Art, Ontario College of Pharmacy, and, at Guelph, Ontario Agricultural and Ontario Veterinary colleges The Univ of Toronto Press was established in 1901 The city has many beautiful parks and buildings and is also the seat of the Osgoode Hall Law School, the Royal Ontario Museum, housing a notable collection of Chinese art, the Ontario Museum of Archaeology, and Anglican and Roman Catholic bishoprics See Blodwen Davies, *Storied York* (1931), D C Masters, *The Rise of Toronto* (1947)

Toronto, city (pop 7,426), E Ohio, on the Ohio river and near Steubenville, laid out 1818, successively called Newburg, Sloan's Station, and Toronto (1881) It manufactures clay products, steel sheets, paper, and glass reflectors

Toronto, University of. see TORONTO, Ont

torpedo, in naval warfare, a self-propelled submarine projectile loaded with explosives, used for the destruction of enemy ships In the American Revolution, David Bushnell experimented with a SUBMARINE for attaching underwater explosives to British hulls His attacks were failures, but later Robert Fulton experimented with similar ideas under French, British, and American sponsorship at different times from 1800 to 1810 He, too, had little success, and his work was derided by naval authorities. The Civil War saw the introduction of the spar torpedo, a large bomb attached to a long spar of a boat and rammed against the enemy Ships of both sides were sunk with this contrivance, and the torpedo in various forms has been used in all naval warfare since. The first effective self-propelled torpedo was designed and made in 1866 at Fiume by Robert Whitehead, an Englishman. It was driven by a small reciprocating engine run by compressed air. A hydrostatic valve and pendulum balance controlled the depth at which it ran In 1885 John Adams Howell developed the gyroscope to control the torpedo's direction. The torpedo was widely used in the First World War, and its development and improvement continued Modern torpedoes, such as those used by the U S navy during the Second World War, are 21 in in diameter and from 20 ft to 24 ft long. They may be driven by steam or by electricity actuating coaxial propellers, torpedoes powered by jet engines were developed in the war for use by aircraft The gyroscope and a diaphragm-and-pendulum device control direction and depth Torpedoes carry up to 600 lb. of explosives and have a range of more than 10,000 yd and a speed of 50 knots Modern torpedoes need not hit their target; they can be set to explode under an enemy ship in response to the hull's magnetic field Experiments show this type of underwater explosion to be more devastating than a contact explosion Radio-controlled torpedoes and torpedoes guided by the magnetism of the target's hull have been devised Torpedoes are fired by torpedo boats and larger surface vessels as well as by submarines and airplanes

torpedo boat, type of warship built specially for using the torpedo as a means of attack and defense The first torpedo boat seems to have been simply a fast steam launch built for Norway c 1873 and designed for the towing type of torpedo. The first torpedo boat built for the British navy was the *Lightning* (1877) Torpedo boats were adopted by most of the world's navies, but as they increased in size the DESTROYER was developed as an effective defense against them Torpedo boats diminished in importance after the Russo-Japanese War (1904–5) and were little used until the Second World War In this war small motor-driven boats played an important role American MTB's (motor torpedo boats) were 70 ft long, had top speeds of about 50 knots per hour, and carried four torpedo tubes and two power turrets mounting twin machine guns Relying on their speed and maneuverability for defense, they were credited with sinking ships up to the size of cruisers

Torquay (tôr'kē"), municipal borough (1931 pop 46,165, 1947 estimated pop 50,250), Devonshire, England, on the north shore of Tor Bay The beauty of its site and the unusually equable climate have been factors in the town's development Torquay is now a seaside resort and a yachting center, an annual regatta is held Its industry includes terra-cotta work, pottery making, and marble polishing South Devon Technical College is here There are remains of Tor Abbey, founded in 1196, and, on a near-by hill, the ruins of the 12th-century Chapel of St Michael

Torquemada, Juan de (tôrkwĭmä'du, tôrkĭ–, Span hwän' dā tôrkämä'dha), 1388–1468, Spanish theologian, cardinal of the Roman Church, an uncle of Tomás Torquemada He entered (1403) the Dominican order and later participated in the councils of Constance and Basel, where he strenuously defended the supreme papal authority against the conciliar theory He was made a cardinal by Pope Eugene IV in 1439 and was sent on diplomatic missions He wrote important theological works

Torquemada, Tomás de (tōmäs'), 1420–98, Spanish inquisitor He was a Dominican and was appointed confessor to Ferdinand and Isabella In 1482 he was commissioned an inquisitor by the pope, and in 1483 he became inquisitor general of Castile and Aragon, charged with the centralization of the Spanish INQUISITION In 1492 he was largely instrumental in bringing about the expulsion of the Jews His great authority was several times contested by colleagues, and the pope in some measure diminished it, but he remained preeminent to the end of his life Torquemada owes his reputation for cruelty to the harsh rules of procedure he devised for the Inquisition and the rigor with which he had them enforced The number of executions in his term of office used to be set at 8,800, but is now estimated at less than 2,000

Torrance, city (1940 pop 9,950, 1948 special census pop 17,450), in Inglewood township, S Calif , S of Los Angeles, planned 1911, inc 1921 It has oil wells, railroad shops, steel mills, and metal-products plants

Torre, Carlos de la (kär'lōs dā lä tô'rā), 1858–1950, Cuban zoologist His service as professor (after 1884) of natural history and physiology at the Univ of Havana was interrupted by political exile, and his eminence in science made his political service the more valuable—notably in the revolution against Gerardo Machado and afterward when he was made a member (1934) of the council of state He wrote on paleontology and geology and, particularly, on the marine life of Cuba.

Torre Annunziata (tôr'rā än-nōōntsyä'tä), city (pop 38,606), Campania, S Italy, on the Bay of Naples Arms and macaroni are the chief products.

Torre del Greco (tôr'rā dĕl grā'kō), city (pop 37,052), Campania, S Italy, a port on the Bay of Naples and at the foot of Mt Vesuvius Earthquakes and eruptions damaged it repeatedly The coral industry has been a specialty here since the 16th cent.

Torrence, Ridgely (Frederic Ridgely Torrence) (tŏ'rŭns), 1875–, American poet and dramatist, b Xenia, Ohio, studied at Miami Univ and Princeton He was a librarian in New York, an editor (1905–7) of *Cosmopolitan*, and poetry editor (1920–34) of the *New Republic* Primarily a poet, his poems are in *The House of a Hundred Lights* (1900), *Hesperides* (1925), and *Poems* (1941) He also edited (1940) letters by his friend Edwin Arlington Robinson and wrote *Plays for a Negro Theater* (1917) and a biography of a Negro educator, *The Story of John Hope* (1947)

Torrens, Sir Robert Richard (tŏ'runz), 1814–84, Australian statesman He was born in Ireland and went to South Australia in 1839 There he became collector of customs (1841) and colonial treasurer and registrar general (1852), entered the legislature (1856), and was briefly premier in 1857 He secured the passage (1858) of a landholding reform known as the Torrens Act, which for the old, complicated, and precarious conveyance system substituted public registration (holding by title rather than by deed) The system has since been widely copied Torrens resigned from the assembly to administer the act Pensioned in 1863, he settled in England and served in Parliament from 1868 to 1874

Torrens (tŏ'rŭns), river of SE South Australia, rising in the Mt Lofty Ranges and flowing 50 mi WSW past Adelaide to Gulf St Vincent

Torrens, Lake, shallow salt lake, S central South Australia, N of Port Augusta Partly dry in the summer, it is 120 mi. long, 40 mi wide, and 25 ft below sea level

Torreón (tôrāōn'), city (pop 75,796), Coahuila, N Mexico Across the NAZAS river from GÓMEZ PALACIO, Torreón is the metropolis of the LAGUNA DISTRICT Established in 1893, it is on a broad, flat, alluvial basin broken by scattered ranges of barren mountains The land, under extensive irrigation, is some of the finest in Mexico Cotton and wheat are the major crops Torreón grew rapidly as a modern industrial city, with a rubber factory, foundries, cotton and flour mills, a brewery, and a large smelter Important rail lines, connecting with Chihuahua, Monterrey, Zacatecas, and Durango, help make Torreón one of the leading commercial centers of the north

Torres Strait (tŏ'rĭs, -rēs), channel c 95 mi wide, between New Guinea and Cape York Peninsula of NE Australia, merging with the Arafura Sea to the west and the Coral Sea to the east

Tôrres Vedras (tô'rĕsh vă'drush), town (pop 4,762), W Portugal, in old Estremadura, N of Lisbon It exports much wine and has minor manufactures, but its importance is historical It was captured from the Moors by Alfonso I soon after the fall (1147) of Lisbon, but was reconquered by the Almohades briefly in 1190 Tôrres Vedras was an important fortress and royal residence throughout the Middle Ages and was an important strategic point in the Peninsular War

Torrey, John, 1796–1873, American botanist and chemist, b New York city, M D College of Physicians and Surgeons, 1818 He was professor of chemistry (1827–55) at his alma mater and professor of chemistry and natural history (1830–54) at Princeton From 1853 he was chief assayer in the U S assay office in New York His valuable herbarium was presented (1860) to Columbia, and in 1899 it was transferred to the New York Botanical Garden He was a founder of the New York Academy of Sciences and of the Torrey Botanical Club A genus of evergreen trees, *Torreya*, is named for him Besides numerous reports and papers he wrote *A Flora of the State of New York* (1843) and, with Asa Gray, *A Flora of North America* (2 vols., 1838–43) See study by A D Rodgers (1942)

Torricelli, Evangelista (tôrĭchĕ'lē, Ital āvänjālĕ'sta tôr-rēchĕl'lē), 1608–47, Italian physicist and mathematician. He was Galileo's secretary (1641–42) and his successor as professor of philosophy and mathematics at Florence He invented the BAROMETER (1643), called the Torricelli tube, and a microscope and improved the telescope

Torrid Zone. see TROPICS

Torrigiano, Pietro (pyā'trō tôr-rējä'nō), 1472–1528, Florentine sculptor of the late Renaissance He is said to have broken the nose of Michelangelo in a quarrel when they were fellow students Much of his later life was spent in Spain and England He made the fine tomb of Henry VII and his wife, Elisabeth, and the effigy of the duchess of Richmond, both in Westminster Abbey He spent his last years in Spain, where his best works are a statue of St Jerome and a Madonna, in Seville

Torrington, George Byng, Viscount (bĭng, tŏ'rĭngtun), 1663–1733, British admiral He entered the navy in 1678 and was one of the commanders in the naval battles in the War of the SPANISH SUCCESSION, including the reduction of Gibraltar and the indecisive battle of Malaga (both 1704) In 1708 he drove off the French fleet with which James Edward Stuart (the Old Pretender) had hoped to invade Great Britain, and in 1718 he defeated a Spanish fleet in the Strait of Messina Byng was given a peerage (1721) and made (1727) first lord of the admiralty. See *Byng Papers* (ed. by Brian Tunstall, 1931).

Torrington. **1** City (pop. 26,988), NW Conn., W of Hartford, settled c 1735, inc 1923; coextensive with Torrington town, inc 1740 Machinery and metal products (especially brass) are made here The site of John Brown's birthplace is marked, incidents from his life are depicted in the post office **2** Town (pop 2,344), co seat of Goshen co, SE Wyo, on the North Platte river and NNE of Cheyenne near the Nebr line, in a farming, livestock, oil, and coal area There is a beet-sugar refinery Fossil beds (owned by Harvard Univ) are near by

torsion (tôr'shun). A force can be applied to a solid body—e g, a metal rod, a wire, or a thread—in such a way as to turn or twist one part of it in a plane parallel to an adjoining part Such a stress is known as torsion Because metal shafts employed as rotating parts in machines are required to resist twisting of this kind, materials used in their construction are tested to determine the extent of their capacity to resist without breaking or becoming permanently deformed (see STRENGTH OF MATERIALS) The **torsion balance** is an instrument one type of which is used for measuring small electric or magnetic forces and another type for measuring small weights, like the ordinary balance It is based on the fact that a wire or thread resists twisting with a force that is proportional to the stress The torsion balance consists essentially of a wire or thread attached at one end and arranged in such a way that a force applied at the other, or free, end tends to twist it out of shape The force is measured by the extent to which the wire or thread is so twisted The invention of the torsion balance is commonly accredited to John Michell, who made his instrument c 1750, and to Coulomb, who independently devised such a balance c 1777

Torstensson, Lennart (lĕ'närt tôr'stunsŏn), 1603–51, Swedish general in the Thirty Years War He was one of the generals trained by GUSTAVUS II (Gustavus Adolphus) in the new techniques of war Torstensson was made colonel in 1629 and as commander of the Swedish artillery at Breitenfeld (1631) and the Lech (1632) was responsible for the success of the new mobile, field artillery Taken after an unsuccessful attack on Wallenstein, Torstensson was in captivity in 1632–33 When the war was renewed, he defeated the Saxons at Kyritz in 1635 and fought under Baner at Wittstock (1636) and Chemnitz (1638) and in the invasion of Bohemia (1639) After the death of Baner, Torstensson succeeded to command of the Swedish troops in 1641 He infused new morale into the mutinous army and led the Swedes to numerous victories in Saxony, Moravia, Silesia, and Bohemia, including the second battle of Breitenfeld (1642) In 1643–44 he overran Denmark which was opposed to Sweden but after the indecisive battle of Colberg Heath (1644) he left K G Wrangel in charge of the Danish war and reentered Germany His brilliant victory at Jankau (1645) cleared the way to Prague and Vienna Sickness forced him to resign (1646) command to Wrangel He was made count of Ortola in 1647 and held (1648–51) high civil posts in Sweden He was the military teacher of Charles X

tort. In present-day law civil wrongs are commonly divided into torts and breaches of contract In a breach of CONTRACT the contracting parties, to some extent at least, establish the conditions which result in liability, but in a tort the offense consists in the violation of some duty wholly set by law The duty is imposed equally upon all persons in the jurisdiction, and when it is breached the injured party has the right to institute suit for compensatory DAMAGES Certain torts, e g, nuisance, may be suppressed by INJUNCTION Many crimes are also torts, e g, burglary often constitutes trespass The history of Anglo-American tort law can be traced back to the action for TRESPASS to property or to the person Not until the late 18th cent was the currently observed distinction made between injury willfully inflicted (tortious) and that which was unintentional (nontortious), and both types were punished equally In the early 19th cent negligence was distinguished as a separate tort, and it has come to supply the bulk of tortious litigation The general tendency today is to rule that the breach of any duty constitutes a tort, rather than to rule that an alleged tort must fit into some previously recognized variety, such as assault, false imprisonment, or libel Some courts will treat any willful unjustified injury as tortious (e g, erecting a wall on one's property solely to shut off a neighbor's light), others insist that the act must be tortious, regardless of the perpetrator's motive

tortoise (tôr'tus), reptile of the order Chelonia (or Testudinata), often commonly referred to as a TURTLE In the United States the name tortoise is usually applied only to the terrestrial forms There are numerous species found in S Europe, Africa, Asia, and North and South America North American tortoises which inhabit dry or desert regions are the gopher, desert, and Berlandier's tortoises. The flesh and the eggs of many tortoises are eaten Depredations by man on the giant tortoise once abundant on the Galapagos Islands almost made the species extinct

tortoise shell, horny, translucent, mottled plates covering the carapace of the tropical hawksbill turtle The plates, too thin for most purposes in their original form, are usually built up in layers which are molded or compressed after the surfaces have been liquefied by heat, thus a firm union is effected after resolidification Inlays can be imbedded in the shell with a hot iron Tortoise shell has been used in veneering since ancient times, its chief use today is in the manufacture of toilet articles and small decorative objects It is extensively imitated in products of celluloid and horn, but the laminated structure of most genuine work aids in identifying the real shell

Tortola see VIRGIN ISLANDS, BRITISH

Tortosa (tôrtō'sä), city (pop 11,951), Tarragona prov, NE Spain, in Catalonia, on the Ebro It is connected with the Mediterranean by the Ebro and by a canal, and it is a processing and shipping center for olive oil A Roman colony (then known as Dertosa), the city later fell (8th cent) to the Moors, who held it against repeated Christian onslaughts until its conquest (1148) by Raymond Berenger IV. The women of Tortosa helped to repulse a Moorish attack in the following year The Gothic cathedral dates from the 14th cent Tortosa suffered severe damage (1938) in the Spanish civil war

Tortue, Île de la, Haiti see TORTUGA

Tortuga (tôrtōō'gu) [Span, =turtle], island, c 20 mi. long, off N Haiti It was a notorious rendezvous of pirates in the 17th cent It is called Île de la Tortue by the Haitians

Tortuga, island, off N Venezuela. It is a small island W of Margarita

Tortugas. see DRY TORTUGAS

Torun, Pol *Toruń* (tô'rōōnyu), Ger *Thorn* (tōrn), city (pop 68,085), Pomorze prov, NW Poland, on the Vistula It grew around a castle founded in 1231 by the Teutonic Knights The First Peace of Torun (1411) resulted in a short-lived settlement of the struggle between Poland and the TEUTONIC KNIGHTS The Second Peace of Torun (1466) was more advantageous to Poland, which gained large Prussian territories, access to the sea, and suzerainty over the area left to the Teutonic Knights A synod of Polish and Lithuanian Protestants (1595) and a synod of Polish Protestants and Catholics (1645, known as the Colloquium Charitativum) were held here In the early 17th cent Torun's population (30,000) was equal to that of Warsaw; later the city suffered heavily in the Swedish invasions A religious incident here (1724) caused Russia and Prussia to guarantee each other's right of protecting their respective religious minorities in Poland The city passed to Prussia in 1793 and reverted to Poland in 1919 During the Second World War, in which it suffered relatively little damage, Torun was included in Germany The city has preserved several fine Gothic structures and developed a modern district Chiefly a trade center, Torun has also several industries—food, printing, leather, metal, and chemical It was the birthplace of Copernicus The resort of Ciechocinek is in the vicinity

Tory, Geofroy (tô'rē, Fr zhôfrwä' tôrē'), c 1480–1533, Parisian printer and author, b Bourges After study in Italy, he won distinction as a professor in Paris and became editor to the printer Henri ESTIENNE He took up drawing and engraving and went to Italy to study Interest in printing and related arts led him to leave his other occupations He worked as bookbinder, GROLIER being one of his clients As designer and engraver he produced beautiful initials, borders, and illustrations, his famous printer's mark (the Broken Jar), and that of Robert Estienne (the Olive Tree) His *Book of Hours*, which first appeared in 1525, introduced type design free from dependence on handwriting and established book designing as an art in France His part in earning for French 16th-century printing its high place was recognized by his appointment as printer to the king (Francis I) His writings include *Champfleury* (1529), in French In this book he explains the theory governing his designs of roman capitals and illustrates it by an example of each of the letters, he also, though a humanist, praises the French language and advocates its use, and he introduces accents, the apostrophe, and the cedilla into the printing of French

Tory (tô'rē), English political party name The term was originally applied to certain Irish Roman Catholic outlaws and was adopted as a derogatory name for supporters of the duke of York (later James II) at the time (1680) when the earl of Shaftesbury was proposing York's exclusion from the succession because of his adherence to Roman Catholicism The opposing group came to be known as the Whigs (see WHIG) Thereafter Tory came to designate the party maintaining the doctrine of hereditary right to the throne After the Glorious Revolution (1688) the Tories were the High Church party which favored the landed aristocracy and the restriction of the rights of non-Anglicans and opposed foreign entanglements. The Tory party reached the zenith of its power in the reign of Queen Anne, under the leadership of

Robert HARLEY, earl of Oxford, and Henry ST. JOHN, Viscount Bolingbroke. Their hegemony (1710–14) was broken after the accession of George I, and the party was completely discredited for its Jacobite leanings Leadership for the next 50 years went to the Whigs After the accession of George III (1760) Tory sympathizers supported the power of the sovereign as the "king's friends " Under the younger William PITT, who revitalised the faction although he never identified himself as a Tory, the party became identified with a stronger reliance on popular rule in government. The party again turned reactionary under the impact of the French Revolution, but entrenched itself so firmly in control of the government that it was not dislodged until 1830 In the 1820s the Tories made some attempt to adopt a program of reform, but the great Reform Bill of 1832 demoralised the party and destroyed its strength in the House of Commons The party which grew up thereafter from the remnants of the Tory group came to be known as the CONSERVATIVE PARTY Ultraconservatives to the present day are often referred to as "Tories " In the American colonies during the American Revolution, Tory was used to signify one who adhered to the policies of the mother country, a LOYALIST See Keith Feiling, *History of the Tory Party, 1640–1714* (1924) and *The Second Tory Party, 1714–1832* (1938).

Tory Island (tō'rē), isolated rocky island, 3 mi long and 1 mi wide, 9 mi off the north coast of Ireland, in Co. Donegal According to legend, the island was peopled in ancient times by a race of giants, it retains many ancient laws Fishing is carried on There are ruins of a monastery, a church, and a round tower See T H. Mason, *The Islands of Ireland* (1936).

Toscana, Italy see TUSCANY

Toscanelli, Paolo dal Pozzo (pä'lō dal pôt'tsō tōskänel'lē), 1397–1482, Italian cosmographer and mathematician, a physician It is said that his map of the world was used by Columbus on the 1492 voyage to America.

Toscanini, Arturo (tō"skünē'nē, tü"sku–, Ital ärtōō'rō tōskänē'nē), 1867–, Italian conductor He studied cello at the Parma Conservatory, from which he was graduated in 1885 Having traveled as a cellist with various minor orchestras in Italy, he went to Rio de Janeiro (1886) to play in the opera orchestra Substituting as conductor, he made such a success that he was engaged for the rest of the season, returning to Italy the next season (1886–87) He conducted the premières of Puccini's *La Boheme* (Turin, 1896) and Leoncavallo's *Pagliacci* (Milan, 1892) and the Italian première of Wagner's *Gotterdämmerung* (Turin, 1895) In 1898 Toscanini was appointed chief conductor and artistic director at La Scala, Milan There he presented many new operas and Italian premières of many others, including *Die Meistersinger* (1898) and *Siegfried* (1899) He conducted in Rome, Bologna, Turin, and Buenos Aires from 1903 until 1906, when he returned to La Scala From 1908 to 1914 he conducted at the Metropolitan Opera, where he gave American premières of Puccini's *Girl of the Golden West* (1910), Wolf-Ferrari's *Le donne curiose* (1911), and other works He returned to Italy during the First World War With the newly reorganized La Scala Orchestra he toured Europe and the United States in the season 1920–21. He was artistic director of La Scala until 1929 From 1926 to 1936 he conducted the New York Philharmonic-Symphony, and in 1937 the NBC Symphony Orchestra was formed for him to conduct. Other outstanding engagements include the Bayreuth Festivals (1930, 1931), of which he was the first non-German conductor, the Salzburg Festivals (1934, 1935, 1936), and the Lucerne Festivals (1937–39) Consistently anti-Fascist, he refused several times to play in Fascist-dominated countries. See biography by Paul Stefan (Eng tr., 1936), Lawrence Gilman, *Toscanini and Great Music* (1938).

Tosefta (tōsĕf'tä), plural **Tosefttoth** (–tōth) [Aramaic=additional], collection of elucidated maxims giving the traditional Jewish law more fully than does the Mishna (see TALMUD) The sayings in the Mishna were abbreviated by Akiba ben Joseph to render them easier to learn The expanded sayings of the Tosefta were compiled by Talmudic scholars from the time of Akiba to the 12th or 13th cent.

Tosti, Sir Francesco Paolo (fränchä'skō pa'ōlō tō'stē), 1846–1916, Italian composer and teacher Having been court singing teacher in Rome, he went in 1875 to London, where he became singing master (1880) to the royal family and professor (1894) at the Royal Academy of Music His *Serenade* and *Goodbye* are the best known of his many songs He was knighted in 1908.

Tostig (tŏs'tĭg), d. 1066, son of Earl Godwin of Wessex. In 1051 he and his father were banished to Flanders, returning with an armed invasion in 1052. Made earl of Northumbria in 1055, Tostig jointly invaded (1063) Wales with his brother Harold (later king). The Northumbrians revolted against Tostig's severe rule in 1065 and chose Morcar their earl Tostig fled to Flanders. The next year he harried the English coast, then joined the Norwegian king Harold III in defeating Edwin and Morcar at Fulford. Tostig and his ally were killed by Tostig's brother, Harold of England, at Stamford Bridge.

totalitarianism (tōtă"lĭtă'rēənĭzm, tō"tălĭ–), modern form of absolutist government The intensity of totalitarian rule and the evolution of an appropriate body of doctrine serve to differentiate it from earlier forms of absolutism Totalitarian government is most easily conceived as implying an absolute rejection of the concepts of personal and economic liberty which motivated the democratic revolutions of the 17th to 19th cent. Totalitarianism relies upon the total absorption of social and economic activity into group action, especially state action, and its doctrines stress the duties of the citizen to the state, which becomes an organ distinct from and superior to its components The organization of the totalitarian state is generally "corporative," representing an attempt to amalgamate the political, economic, and social structures into a rigid hierarchy The unifying and directing force in the state is the official party, headed by the dictator, the object of propagandistic glorification assuming the status of a cult The dictator (see DICTATORSHIP) to survive must improvise a program designed to allay or suppress domestic discontent The program of the totalitarian state has tended almost invariably towards foreign aggression based on theories of national or racial hegemony To satisfy the requirements of foreign adventure, the totalitarian economy is concerned with achieving autarchy, reducing public consumption, and increasing armaments through stringent government control of industry and trade Education in a totalitarian state is also aimed at the inculcation of warlike virtues The suppression of elements of the population who prove unamenable to the processes of propaganda and education is carried out by the powerful institution of a secret police Totalitarianism breeds the police state Though much of the policy is of the dictator's own devising, the theoretical background of the system stems from such diverse sources as the philosophy of Plato, Rousseau's doctrine of the general will, the biological findings of Darwin as applied to sociology, and some of the doctrines of Nietzsche and Sorel Disillusionment with democratic processes and social and economic chaos after the First World War allowed the establishment of totalitarian regimes in many European nations, and the efficiency of modern communications and weapons enabled them to extend and consolidate their power Variants of totalitarianism were established as FASCISM in Italy and NAZISM in Germany (see NATIONAL SOCIALISM) COMMUNISM in Russia is also a one-party government in a police state.

totem (tō'tum), an object, usually material, in animistic religion, which a man regards with unusual respect and to which he believes himself to stand in some intimate and special relation, as of kinship or descent By far the commonest object is an animal, less frequently a plant, rarely an inanimate object, and still more seldom an artificial object or artifact. Anthropologists distinguish between the several kinds of totems Clan or sib totems, to which all persons in a clan are related in the same way, are the most common form, sex totems are known in Australia, where the males of a tribe may have one totem, the females another, individual totems are typical of the North American Indians, the totem being thought of as an individual guardian The exact nature of the totem relationship is not clear, it seems to be more or less mystical or supernatural In clan totemism the most objective feature is the totem name, but the name does not stand alone It is associated with a complex of customs and beliefs, some or all of which are present in every case The member of a totemic clan not only bears the totem name, he must marry outside his totem group (exogamy), he believes himself to be descended from the totem, he must not kill, or eat, or touch the totem animal, or call it by its true name, and he looks upon the totem group as a brotherhood. Totemism is largely a phenomenon of Australia, Melanesia, and North America; it is not found in South America, and there is no evidence of it in the culture of Europe Many writers consider totemism as being primarily connected with exogamy, but exogamy is almost universal, while totemism seems to be a late development In Australia descent from the totem is emphasized, it is regarded as the ancestor from whom the soul or spirit of a man emanates Hence some writers find in totemism the earliest form of kinship; but recognition of kinship is universal, while totemism is not The idea of the totem as protector or guardian is prominent in North America. The Indian often represented his individual name by drawing a picture of his totem animal, a custom noted among the Ojibwa, from whose language the word *totem* is derived; among the Indians of British Columbia and Alaska the totem animal took first place in tribal art. It was carved on totem poles to represent characters in clan myths and was pictured also in masks and on household utensils A score of theories have been devised to account for the origin of totemism, but none of them has found general acceptance. See J. G. Fraser, *Totemism and Exogamy* (1910); Clark Wissler, *An Introduction to Social Anthropology* (1929).

Totila (tō'tĭlä) or **Baduila** (bädōō'ĭlä), d 552, last king of the Ostrogoths (541–52) By defeating the Byzantines at Faenza and Mugello (542), and taking Naples (543) and Rome (546), he made himself master of central and S Italy. BELISARIUS, the Byzantine commander, recovered Rome in 547, but requested to be recalled in the following year. Only Ravenna, Ancona, Otranto, and Crotona were left in Byzantine hands Totila sent his fleet against Sicily, Corsica, Sardinia, and Illyria, and made several peace offers to Emperor Justinian I. However, instead of yielding, Justinian sent (552) NARSES to Italy at the head of a well-equipped army Totila was thoroughly routed by Narses at Tagliacozzo, in the Apennines W of Ancona, and perished in the battle Thus Byzantium regained temporary control over Italy.

Totleben or **Todleben, Eduard Ivanovich** (both ĕdwart' ēvä'nŭvĭch tōt'lyĕbyĭn), 1818–84, Russian general and military engineer He won his chief renown in the Crimean War by his defense of SEVASTOPOL (1854–55) Sevastopol was virtually undefended on the land approach when the allied siege began, but Totleben within three weeks converted it into a formidable fortress by a system of improvised earthworks Despite the absence of reinforcements and despite allied bombardments, for nearly a year the garrison held out Totleben is considered the originator of a new technique of fortification He planned the siege of PLEVNA in the later Russo-Turkish War and as reward received the command of the entire Russian army and was created a count

Totnes, George Carew, earl of see CAREW, GEORGE, BARON CAREW OF CLOPTON

Totowa (tō'tuwu), residential borough (pop 5,130), NE N J , western suburb of Paterson, inc 1898

Tottel, Richard (tō'tŭl), c 1530–1594?, London publisher. His chief business was the printing of lawbooks, but his principal claim to fame comes from the fact that he printed the anthology of poetry *The Book of Songs and Sonnets* (1557), known as Tottel's miscellany It is important because it is the only volume which preserves the extant original verse of Sir Thomas Wyatt and Henry Howard, earl of Surrey, and because it inaugurated the long series of poetry anthologies which were popular in Elizabethan England

Totten, Joseph Gilbert (tŏt'tĭn), 1788–1864, American military engineer, b New Haven, Conn , grad West Point, 1805 He assisted in the construction of Fort Clinton and Castle Williams in New York harbor (1808–12), served as chief engineer on the Niagara frontier in 1812 and at Lake Champlain in 1814, and planned the improvement of the U S coast defenses (1819–31) He was appointed colonel and chief engineer of the army in 1838

Tottenham (tŏt'tənəm), urban district (1931 pop 157,772, 1947 estimated pop 130,990), Middlesex, England, N of London, of which it is a residential suburb There are a cross dating from c 1600 and ruins of All Hallows Church. Bruce Castle (16th cent) is on the site of the manor house belonging to the father of Robert the Bruce, it houses a postal museum in memory of Sir Rowland Hill, who once had a school here

Tottori (tōt-tō'rē), city (1947 pop 57,218), capital of Tottori prefecture, S Honshu, Japan, a port on the Sea of Japan It is a manufacturing center, with exports of raw silk and fruit.

Tou (tō'ōō), same as TOI.

Touareg: see TUAREG

toucan (tōōkän', tōō'kän), perching bird of tropical America, with an enormous but thin and light bill, usually brightly colored Some species have dull plumage, but others display bright green, scarlet, and yellow Cries of sentinel birds, warning a feeding flock, can be heard for a mile. The bird is frequently tamed

touch, the one of the senses in man by which the pressure or the motion of a solid or fluid on the body is perceived The stimulus is received in specialised nerve cells or end organs in the skin or membrane and is transmitted (as are other sense stimuli) to the central nervous system. The number of the end organs per unit area, their type, and their sensitivity determine the fineness of the sense of touch possessed by a given part of the body The tongue tip, lips, and finger tips are among the most sensitive parts; the back and massive parts of the limbs are least sensitive It is possible to develop the sense of touch to a remarkable degree; the skill of one who must substitute touch for other senses, as sight and hearing, in the gaining of information is often amazing The Braille system enables the blind to read through use of the touch-sensitiveness of the finger tips.

touch-me-not, impatiens (ĭmpā'shēənz), **or balsam** Touch-me-nots, both wild and garden, belong to the genus *Impatiens*, the name referring to the seed pods, which burst at a touch and catapult the seeds from the plant. The garden touch-me-nots or balsams (*Impatiens balsamina*), also called lady's-slippers, resemble only faintly the wild kind, but

all are characterized by the explosive seed pods and by spurred flowers. The double or camellia-flowered balsam is the one most often cultivated and has been an old-fashioned-garden favorite. Cultivated kinds include greenhouse and pot plants, annuals and perennials. The wild touch-me-nots, also called snapweed and jewelweed, have yellow or orange blossoms that dangle like pendant earrings from the branches. From stem and leaf comes a bright orange juice that has been used as a dye and was applied by Indians to irritations of the skin; other medicinal uses have been found for some species, but at least one (*Impatiens noli-me-tangere*) has been suspected of being poisonous. Touch-me-not flowers are visited by hummingbirds, but are chiefly pollinated by bumblebees, except where these have learned the easier method of boring through the spur to pilfer the nectar without pollinating the flower. In such cases the plant is still able to produce seed by the presence of closed, self-polinating, budlike flowers, called cleistogamous flowers.

Touggourt, Algeria: see TUGGURT.

Toukhachevsky or **Tukhachevski, Mikhail Nikolayevich** (both mĕkhīyĕl' nyĭkŭl'yĭvĭch tōōkhŭchĕf'skē), 1893–1937, Russian marshal. An officer in the tsarist army, he was captured (1915) in the First World War but escaped late in 1917 and after his return to Russia joined the Communist party. He held important commands in the civil war of 1917–20 and in the Russo-Polish war of 1920 and was an important figure in the reorganization (1935–36) of the Red Army. In 1937 he and seven other Soviet generals were accused of taking part in a Trotskyist plot against the Soviet government. They were tried in secret and executed.

Toul (tōōl), city (pop. 8,971), Meurthe-et-Moselle dept., NE France, on the Moselle. An episcopal see from the 5th cent. until 1801, it was in the Middle Ages a free imperial city, its bishops ruled the surrounding lands as vassals of the emperors. Toul was seized by Henry II of France in 1552 along with the bishoprics of Metz and Verdun and was confirmed in French possession by the Peace of Westphalia (1648). Fortified by Vauban, it was long a strategic point in the defense of the French frontier. The city proper is still within the old fortified polygon. The Church of St.-Étienne (13th–15th cent., formerly a cathedral), a splendid structure, and several other old buildings were damaged in the Second World War.

Toulon (tōōlôN'), city (pop. 125,747), Var dept., SE France, a Mediterranean port. It is the chief French naval station. Dating from pre-Roman times, Toulon has been fortified many times, notably (17th cent.) by Vauban. In 1793 royalists surrendered the city to the English under Admiral Hood, but late in that year it was recaptured by the French, young Bonaparte, commanding a battery, won his first fame in that operation, which was followed by a massacre of the Toulon royalists. In Nov., 1942, when German troops proceeded to occupy Toulon after the Allied landings in North Africa, the French fleet (immobilized in Toulon harbor since the Franco-German armistice of 1940), was scuttled to avoid its capture by the Germans. Admiral Jean de Laborde, who gave the order, was sentenced to death in 1947 by a special court for unnecessarily destroying the fleet instead of delivering it to the Allies. Made a submarine base by the Germans, Toulon was heavily bombed in 1944.

Toulon (tōōlôN'), city (pop. 1,230), co. seat of Stark co., N central Ill., NNW of Peoria, in a farm area, inc. 1859.

Toulouse (tōōlōōz'), city (pop. 225,854), capital of Haute-Garonne dept., S France, in LANGUEDOC, on the Garonne. It is one of the great commercial and cultural centers of France. An important city even before the Roman conquest of Gaul, it became an episcopal see in the 4th cent. and later an archdiocese. It was the capital of the Visigoths from 419 until the conquest (507) by Clovis I and of the Carolingian kingdom of AQUITAINE (781–843). Toulouse then became a separate county. At their greatest expansion (late 12th cent.), the counts of Toulouse were suzerains of virtually all Languedoc, their vassals included the lords of FOIX, QUERCY, and ROUERGUE. Ruling with great wisdom and tolerance (particularly toward the Jews, who settled Languedoc in great numbers and contributed to its commercial prosperity), the counts also held a brilliant court, which, attracting the best TROUBADOURS, was the center of southern French literature. Though rival dynastic claims to Aquitaine brought recurrent warfare with England, their domains were little touched. The outbreak of the Catharist heresies of the ALBIGENSES thus offered a temptation to the northern lords to plunder this rich region while stamping out heresy. Within a few years (1208–29) Languedoc was laid waste and the counts fell from power (see RAYMOND VI, RAYMOND VII, Simon de MONTFORT; ALBIGENSIAN CRUSADE; INQUISITION; ALFONSO X). In 1271 the county of Toulouse passed entirely to the French crown; with some smaller territories, the bulk of the county henceforth formed Languedoc province. The counts had granted the city of Toulouse virtual independence. Its prosperous citizens were governed by elected magistrates (*capitouls*) and had their own militia and courts. These privileges, though gradually weakened by the French kings, persisted until 1790. The suppression of Albigensianism was followed by a great cultural rebirth. The famous Univ. of Toulouse was established in 1230. The Académie des Jeux Floraux, founded c.1223, still exists. Among the many outstanding buildings of Toulouse are the large Romanesque Basilica of St.-Sernin (11th-12th cent.), with the tomb of St. Thomas Aquinas, the Gothic Jacobin church (13th cent.), the Gothic Cathedral of St.-Étienne (12th–15th cent.), the Assézat mansion (16th cent.), housing the Académie des Jeux Floraux, the *capitole* [town hall] (18th cent.), several excellent museums, and the whole "old quarter," left intact since the 18th cent. The industrial section of Toulouse suffered damage in the Second World War.

Toulouse-Lautrec Monfa, Henri de (ärē' du tōōlōōz'-lōtrĕk' mōfä'), 1864–1901, French painter and lithographer, son of a wealthy nobleman. He broke both legs when a child and was permanently deformed. After a life of enormous productivity and extreme debauchery in Paris, he was confined to an asylum as mentally deranged. He regained his liberty, however, shortly before his death at the age of 37. He is noted for his studies of music halls, circuses, and low-life types of Paris. His work shows the influence of Degas and the Japanese prints but has a biting, satiric quality quite its own. He was prolific as a painter, poster artist, and illustrator. Today his work is highly prized. He is represented in the museums of Chicago, Washington, D.C., and New York city and in the Luxembourg Museum and the Bibliothèque nationale, Paris. Many of his sketches are in the museum of his native Albi. See studies by Gotthard Jedlicka (1929, in German) and Gerstle Mack (1938).

Toungoo (toung'gōō', toung'ōō'), town (pop. 23,223), S Burma, on the Sittang river and 166 mi. NNE of Rangoon on the Rangoon-Mandalay railroad. From the late 15th cent. it was the center of one of the three chief states of Burma, in the 16th cent. it preceded Pegu as the capital of a unified Burmese kingdom.

Touraine (tōōrān', Fr. tōōrĕn'), region and former province, W central France, centering around TOURS, its capital, and drained by the Loire, Cher, and Vienne rivers. It occupies, roughly, the Indre-et-Loire dept. Touraine, with its fertile valleys, orchards, and vineyards (notably those of VOUVRAY) is known as the "garden of France." Its numerous chateaux (see CHINON, LOCHES, AZAY-LE-RIDEAU, AMBOISE), full of historical associations, attract tourists from the entire world. Descartes, Rabelais, and Balzac were born in Touraine, the latter two have celebrated their rich and easy-living homeland in their writings. Originally the county of Tours, Touraine passed (10th cent.) to the counts of Blois, who ceded it (11th cent.) to the counts of ANJOU. Touraine then passed (1152) under English domination but was retaken (1204) by Philip II of France and incorporated into the royal domain.

Tourane (tōōrän', -rān'), town (pop. c.25,000), central Annam, Indo-China, a port on the South China Sea c.50 mi. SE of Hué.

Tourcoing (tōōrkwĕ'), city (pop. 73,772), Nord dept., N France. With adjacent ROUBAIX, it forms the largest textile center of France.

Tourgée, Albion Winegar (tōōr-zhā'), 1838–1905, American author and lawyer, b. Williamsfield, Ohio, studied at the Univ. of Rochester. After service in the Union army he was for a few years a carpetbagger lawyer and political judge in North Carolina. Of his several novels, the best known are *A Fool's Errand* (1879) and *Figs and Thistles* (1879). They are valuable for their picture of the politics of the Reconstruction period. See biography by R. F. Dibble (1921).

tourmaline (tōōr'mulĭn, -lēn), complex borosilicate mineral with varying amounts of aluminum, iron, magnesium, sodium, lithium, potassium and sometimes other elements used as a gem. It occurs in prismatic crystals, commonly three-sided, six-sided, or nine-sided and striated vertically. Different crystal forms are usually present at opposite ends of the vertical axis. The luster is vitreous. Colors are red and pink (rubellite), blue (indicolite or Brazilian sapphire), green (Brazilian emerald), yellow (Ceylonese peridot), violet red (siberite), and black (schorl). Colorless varieties are called achroite. Two or more colors may occur in the same stone, the colors being arranged in zones or bands with sharp boundaries between. Some Brazilian stones have a red core with a green exterior, separated by a colorless band, stones from California are green within and red outside. The variations in color, are of course, dependent on the variations in chemical composition. Tourmalines are found in pegmatite veins in granites, gneisses, schists, and crystalline limestone. Sources of the gem include Elba, Madagascar, Burma, the Urals, Siberia, Brazil, and Maine, Connecticut, New York, and California in the United States.

Tournai (tōōrnā'), Flemish *Doornik* (dōr'nĭk), city (pop. 31,490), Hainaut prov., W Belgium, on the Scheldt (Escaut). It is an important textile center, producing particularly woolens, linen, and carpets. Dating at least from Roman times, it was a seat of the Merovingian kings of Austrasia. It often changed hands in its long history. Emperor Charles V, who took it (1521) from France, attached it to the Spanish (after 1713, Austrian) Netherlands. It was repeatedly captured by the French in the wars of the 17th and 18th cent. Among the numerous medieval and Renaissance buildings of Tournai are the cathedral (11th cent.), a 15th-century tower, called after Henry VIII of England (who took Tournai in 1513 and who made Cardinal Wolsey bishop of Tournai), and the 17th-century cloth hall. Alternate spellings are Tournay (in French) and Doornijk (in Flemish).

tournament or **tourney**, public contest between armed horsemen in simulation of real battle. In this military game, which flourished from the 12th to the 16th cent., combatants were frequently divided into opposing factions, each led by a champion. In this respect it differed from the joust, which was a single combat, fought with weapons of war. Tournaments perhaps originated in trials by battle (see ORDEAL) or in the earlier gladiatorial combats. The tournament, a typical feature of the Middle Ages, was based on the ideals of chivalry. It was a sport which all could enjoy—the aristocracy as actors and all others as spectators. Tourneys, thought to have originated in France, spread to Germany, England, and S Europe, and laws governing them became more or less universal. Such affairs were usually held at the invitation of kings or nobles and were the occasion of much pageantry. Knights with their entourages camped near the field of combat, and their qualifications were examined by judges of the day. A typical tournament field, or lists, was oval or rectangular and was enclosed by barriers, which kept the knights within bounds and protected the spectators. On the sides were pavilions for important personages, ladies who sponsored the combatants, and judges. Heralds announced the names of the participants, and then, with a fanfare of trumpets, the warriors made their entrance, clad in armor and astride richly caparisoned horses. Their weapons were usually blunted lances or swords. The events of the day normally began with a combat between individuals and ended with a collective contest. Prizes were awarded the victors by the queen of beauty, chosen to preside over the tournament. Knights were often killed or gravely injured at tournaments, and to make the game less dangerous, a tilt or barrier, was stretched along the length of the lists, with the combatants fighting across it. This version of the sport was known as tilting. Rulers of Church and state made attempts to suppress or regulate tournaments, but the practice was not discontinued until changed social conditions caused a decline in its popularity.

Tournefort, Joseph Pitton de (shôzĕf' pētô du tōōrnfôr'), 1656–1708, French botanist. He became professor of botany at the Jardin des Plantes, Paris (1688), and of medicine at the Collège de France (1702) and studied plants in Europe and in Asia Minor. His system of classification, in vogue until it was superseded by that of Linnaeus, based plant genera on similarities in the structure of flowers and fruit and classed plants as herbs, bushes, and trees. He wrote *Éléments de botanique* (3 vols., 1694).

Tourneur, Cyril (tûr'nûr), c.1580–1626, English poet and dramatist. Of his life little is known, and his reputation rests on his two gloomy, violent plays, *The Revenger's Tragedy* (1607) and *The Atheist's Tragedy* (1611). See edition of his complete works by Allardyce Nicoll (1930).

tourney. see TOURNAMENT.

tourniquet (tōōr'nĭkĕt, -kā, tûr'-), device used to control the flow of blood by compression. It may be a special instrument, a rubber tube, cloth, or other flexible material tightened to exert pressure. Such compression should not be employed for more than 20 min. at a time because of the danger of gangrene. In arterial hemorrhage or snake bite compression is applied above the wound, i.e., between the wound and the heart. In hemorrhage from a vein, however, the tourniquet is applied below the wound, i.e., away from the heart.

Tours (tōōr, tōōrs, Fr. tōōr), city (pop. 76,207), capital of Indre-et-Loire dept., NW central France on the Loire. It is a commercial center with numerous specialized industries, notably wine and silk. An old Gallo-Roman town and early diocese, it grew rapidly after the death (397?) of its bishop, Saint MARTIN, whose remains are buried in the Basilica of St. Martin (built 1887–1924). Throughout the Middle Ages, Tours was a center of Christian civilization, which was saved from Mohammedan supremacy by Charles Martel's victory (732) over the Saracens between Tours and Poitiers. GREGORY OF TOURS (6th cent.) and ALCUIN (9th cent.) made Tours a light of learning. It became an archdiocese in 853, its present cathedral was built from 1170 to 1550. Politically, Tours shared the history of TOURAINE, of which it was the capital. Louis XI, who favored Tours as a residence, held several States-General here and introduced the silk industry. His last years were spent, in virtual self-imprisonment, at the near-by castle

of Plessis-lès-Tours. During the Franco-Prussian War (1870–71), Tours was the seat of the government of national defense; in the Second World War it was, briefly (June, 1940) the seat of the French government; among the buildings damaged in the fighting is the house where Balzac was born. Despite the heavy destruction Tours remains, both in its old and its new sections, one of the handsomest cities of France and is the principal tourist center in the Loire valley

Tourville, Anne Hilarion de Cotentin, comte de (ăn' ēlăryō' dŭ kôtät' kôt dŭ tôōrvēl'), 1642–1701, marshal of France As commander of the French fleet in the War of the Grand Alliance, he defeated the English and the Dutch at Beachy Head (1690), was defeated at La Hogue (1692), and in 1693 was victorious at Lagos One of the greatest naval technicians of his time, Tourville also developed new and effective signaling techniques

Toussaint L'Ouverture, François Dominique (frăswä' dōmēnēk' tōōsĕ' lōōvĕrtür'), c 1744–1803, Haitian Negro patriot and martyr A self-educated slave, freed shortly before the uprising in 1791, he joined the Negro rebellion to free the slaves and became its organizational genius Rapidly rising in power, Toussaint joined forces for a brief period in 1793 with the Spanish of Santo Domingo and in a series of fast-moving campaigns became known as L'Ouverture [opening], a name he adopted Though he professed allegiance to France, first to the republic and then Napoleon, he was singleheartedly devoted to the cause of his own people and maintained it in his talks with French commissioners Late in 1793 the British occupied all of Haiti's coastal cities and allied themselves with the Spanish in the eastern part of the island Toussaint was the acknowledged leader against them and, with DESSALINES and CHRISTOPHE, recaptured (1798) several towns from the British and secured their complete withdrawal A revolt in 1799, under the mulatto leader RIGAUD was suppressed after PÉTION, Rigaud's lieutenant, lost the southern port of Jacmel In 1801 Toussaint conquered Santo Domingo, which had been ceded by Spain to France in 1795, and thus he governed the whole island. He reorganized the government and instituted public improvements Napoleon sent (1802) under the command of General LECLERC a large force to subdue Toussaint Haitian resistance was stubborn and a peace treaty was drawn up Toussaint himself was treacherously seized and sent to France, where he died in the dungeon of Fort-de-Joux, in the French Jura His valiant life and pitiful death made him a symbol of the fight for liberty, and he is celebrated in one of Wordsworth's finest sonnets and in a dramatic poem by Lamartine See C L R James, *The Black Jacobins* (1938), Ralph Korngold, *Citizen Toussaint* (1944)

Tout, Thomas Frederick (tout), 1855–1929, English historian Educated at Oxford, he taught at the Univ of Manchester from 1890 to 1925 Considered an outstanding authority on medieval history, Tout emphasized the importance of the administrative aspect of historical development His writings include *Edward the First* (1893), *The Empire and the Papacy* (1898), *The Place of the Reign of Edward II in English History* (1914), and *Chapters in the Administrative History of Medieval England* (6 vols., 1920–33). He wrote numerous textbooks, edited historical works, and contributed to historical journals

Tovey, Sir Donald Francis (tō'vē), 1875–1940, English pianist and musicologist, grad Oxford, 1898, with classical honors As a pianist he concertized in England and on the Continent from 1900 and appeared in the United States in 1925 He was professor of music (1914–40) at the Univ of Edinburgh His outstanding analytical writings on music include *Essays in Musical Analysis* (7 vols., 1935–45), a collection of his program annotations, *Musical Form and Matter* (1934), *A Companion to Beethoven's Pianoforte Sonatas* (1931), and *Beethoven* (1944) He was editorial advisor on music for the 14th edition of *The Encyclopaedia Britannica*, many of his articles for this and previous editions were collected and published in 1945 He edited Bach's *Art of the Fugue* and wrote (1932) a companion essay to it He was knighted in 1935.

Towanda (tŏwŏn'dŭ), agricultural borough (pop. 4,154), co seat of Bradford co, NE Pa, in the Susquehanna valley NW of Scranton, settled 1794, laid out 1812, inc 1828 A trading center for farmers engaged in dairying and wheat crops, it manufactures electrical fixtures. The county historical society has pioneer portraits and Indian and Civil War relics David Wilmot practiced law here.

Tower, Charlemagne, 1848–1923, American industrialist and diplomat, b Philadelphia, grad Harvard, 1872. After travel in Europe and law practice in Philadelphia, he removed (1882) to Minnesota, becoming a railroad president and director of the Minnesota Iron Company He returned (1887) to Philadelphia and expanded his holdings. He was U S minister to Austria-Hungary (1897–99), ambassador to Russia (1899–1902), and ambassador to Germany (1902–8). His writings include *The Marquis de La Fayette in the American Revolution* (1895) and *Essays, Political and Historical* (1914)

tower, structure whose greatest dimension is its height. Towers have belonged to two general classes The first embodies practical uses—as defense and watch, characteristic of the Middle Ages; to carry bells or carillons, as beacons and lighthouses, and to gain maximum floor space on a given area, as in modern skyscraper towers The second class is for symbolic effect—either of religion, as in both Eastern and Western church architecture, or of communal power, as in the town halls of the free cities of medieval Europe The earliest use of tall structures for ritual and symbolism is seen in the Babylonian ZIGGURAT. The temple architecture of India had a variety of pyramidal and highly ornate masonry towers, including the stupas Pagodas in wood, many stories high, were early a part of Chinese and Japanese temple architecture To Mohammedan religious architecture belong the varied minarets, of which at least one is attached to most mosques In the early Middle Ages in Western Europe towers with massive masonry walls and devoid of design served as refuges and lookouts The round towers of the 9th and 10th cent. were probably so used Of these 118 remain in Ireland and a few in Scotland, among them that at Brechin Castles had their donjons or keeps, of which the 11th-century TOWER OF LONDON shows a high development Of the fortified towers which Italian nobles built even for their city dwellings numerous examples remain, notably at San Gimignano The growth of centralized governments made the tower less essential in the great castles of the late Middle Ages But in France the circular tower with steep conical roof lingered in many Renaissance châteaux of the 16th cent, though pierced with large windows and no longer used for defense The earliest existing church towers in Europe, those of Ravenna, Italy, of the 5th and 6th cent, were built as belfries In Italy the tower or CAMPANILE stood detached from the church building itself, the belfries of the town halls had little coordination with the design as a whole In the north, towers became in the 11th cent a common feature of the Romanesque churches and remained an integral element of the design also in the Gothic In English cathedrals of these periods a high tower rises over the crossing of nave and transepts, while the west end generally possesses lower twin towers In France, however, towers are usually restricted to the two rich piles at the west front In some French cathedrals the west towers vary in period and design (e g, Chartres and Bourges) The relatively simple Romanesque towers, generally with square or round shafts enriched by many blind arcades in horizontal tiers and topped by a simple octagonal or conical spire, developed into the higher, elaborate type of the Gothic The shaft surfaces were broken with traceried arches, corners were emphasized by buttresses often rising from the ground to the base of the crocketed spire, decorated with pinnacles and canopied niches Towers of extreme lightness and intricacy resulted in late Gothic, as in the cathedrals at Rouen, Vienna, and Antwerp With the Renaissance the classic orders and other elements of Roman architecture appeared for the first time in vertical compositions, as Greeks and Romans had no towers Particular success was attained in the tapering pyramidal compositions of Sir Christopher Wren's numerous London towers, including those of St Paul's Cathedral In many of these, as in the American colonial churches which they inspired, a single tower rose at the entrance of the building, and its base served as entrance vestibule

Tower City, borough (pop 2,221), E Pa, WSW of Pottsville, laid out 1868, inc 1892. It has textile mills and collieries

Tower of London, ancient fortress and royal residence in London, just east of the City and on the north bank of the Thames, covering about 13 acres Now used mainly as an arsenal, it was for centuries the jail of illustrious prisoners The Tower is enclosed by a dry moat, within which are double castellated walls surrounding the central White Tower Although Roman foundations were discovered as additions and changes were made and tradition makes Julius Caesar the founder, the White Tower was built in the time of William the Conqueror by Gundulf, bishop of Rochester, c 1078, the exterior was restored by Wren Various towers subsequently built were used as prisons; one of them now houses a collection of medieval arms and armor, and another (the Wakefield Tower) contains the crown jewels The Traitors' Gate (giving access by water from the river) and the Bloody Tower are associated with many historically noted persons, including Queen Elizabeth (when still princess), Sir Thomas More, Anne Boleyn, Catherine Howard, Lady Jane Grey, the earl of Essex, Ralegh, and the duke of Monmouth Many persons beheaded within the Tower precincts, or on the neighboring Tower Hill, were buried in the Chapel of St Peter ad Vincula. The Yeomen of the Guard ("Beefeaters"), dressed in Tudor garb, still guard the Tower. The Tower's north bastion was destroyed in air raids in 1940.

towhee (tō'hē, tōhē', tou'hē), North American bird of the FINCH family The red-eyed towhee is found in the United States E of the Great Plains and in parts of Canada, usually in dry thickets. In the male the upper parts are glossy black, and the sides chestnut brown; the breast and abdomen are white, and the tip of the tail and some wing feathers are edged with white It is also known as the chewink, from its call note, and as ground robin because it scratches under dry leaves for insects The southern form is the white-eyed towhee In the West there are a number of subspecies as well as the green-tailed towhee of another genus

town, in the United States In New England states the basic unit of LOCAL GOVERNMENT is the town The states are divided wholly into towns and cities, so that there are no unincorporated areas, as in other states The unique feature is the annual meeting of voters, which elects the town board (selectmen) and decides weighty issues In larger towns representatives attend the meeting The small town meeting is much praised as a nearly pure democracy Elsewhere in the United States the term *town* is little used politically, signifying only a place incorporated as a town or simply a center of population, but *township* has a legal significance—as a geographical division of the COUNTY, established in land surveys and often equal to 16 sections, or square miles. Outside the Middle Atlantic states townships are seldom units of local government

Towneley Plays, 32 plays preserved in a late 15th-century manuscript by the Towneleys, a Lancashire family Intended for production by the crafts of Wakefield, they are sometimes called the Wakefield Plays See MIRACLE PLAY.

town planning: see CITY PLANNING

Townsend, Francis Everett (toun'zund), 1867–, American reformer, leader of an old-age pension movement, b Fairbury, Ill, grad Univ of Nebraska medical school, 1893 He practiced medicine in several Western states before he settled (1919) at Long Beach, Calif In 1933 while America was faced by economic depression, he brought forth the Townsend plan, which called for a pension of $200 per month for citizens of 60 years of age or older, on condition that the $200 be spent in the United States within a month after receipt The funds were to be raised principally by a 2 percent federal sales tax The simplicity of the proposal, the apostolic zeal of Townsend, and the organization of the Townsendites into a formidable pressure group brought increasing support for the plan despite its condemnation by competent economists Bills to establish the Townsend plan were continually defeated in Congress after 1935, and the strength of the movement declined after the economy began to recover and the effects of SOCIAL SECURITY were felt in the United States Townsend modified a few of the provisions of his plan in the 1940s

Townsend. 1 Town (pop 2,065), N Mass, near the N H line, settled 1676, inc 1732 Woolens are produced Part of the town is state forest 2 Town (pop 1,309), co seat of Broadwater co, W central Mont, on the Missouri river, inc 1895 Formerly a mining town, it still has some mines but also has ranching and irrigated farming

Townsend, Mount, 7,260 ft high, SE New South Wales, Australia, in the Australian Alps, near Mt Kosciusko Discovered by Count Strzelecki, a Pole, it was called Mt Kosciusko when it was thought to be the highest Australian peak When a higher peak (now known as Mt Kosciusko) was discovered, the name was shifted to it

Townsend plan. see TOWNSEND, FRANCIS EVERETT

Townshend, Charles Townshend, 2d **Viscount** (toun'zĕnd), 1674–1738, English statesman He succeeded to the peerage in 1687 and studied at Eton and Cambridge In 1697 he entered the House of Lords as a Tory, but soon changed to the Whig interest Townshend served as a negotiator for the union with Scotland and as ambassador (1709–11) to the Netherlands, where he concluded the Barrier Treaty of 1709 guaranteeing the Hanoverian succession He opposed the Tory government of 1710–14 and became a secretary of state and chief minister upon the accession (1714) of George I He crushed the Jacobite Rising of 1715, led the prosecution of the fallen Tory ministers, and concluded (1716) defensive alliances with the emperor and with France In 1716 Townshend's colleagues, James STANHOPE and Charles Spencer (see SUNDERLAND, CHARLES SPENCER, 3D EARL OF), undermined his influence with the king and he was dismissed He served for a short time as lord lieutenant of Ireland (1717), went into opposition, and returned to office after Sunderland's fall in 1720 Townshend shared power with his brother-in-law, Sir Robert WALPOLE, but Walpole's rising influence and the incompatibility of their views on foreign policy led to a series of quarrels. In 1730 he resigned and went into retirement, where he gained fame as an experimental farmer, becoming widely known as "Turnip" Townshend.

Townshend, Charles, 1725–67, English statesman. Educated at Leiden, he entered Parliament in 1747 and rose to the position of secretary at war (1761–62). Although he was opposed to the war with

Spain and the use of general warrants, he accepted the position of paymaster general under George Grenville. Leadership devolved upon him, as chancellor of the exchequer (1766–67) in the earl of Chatham's second administration, during the Chatham's illness To offset the defeat of his proposed land tax, Townshend undertook the ill-starred American import levies, known as the Townshend Acts, on lead, glass, paints, paper, and tea Riots, repressive action, and growing colonial unrest ensued Townshend, however, died shortly after the passage of the measures

Townshend Acts, 1767, originated by Charles Townshend and passed by the English Parliament soon after the repeal of the STAMP ACT. They were designed to collect revenue from the colonists by putting customs duties on imports of glass, lead, paints, paper, and tea The colonials, spurred on by the writings of John DICKINSON and others, again protested taxation without representation The Boston merchants again boycotted English goods, the Massachusetts Assembly was dissolved (1768) for sending a circular letter to other colonies explaining the common plight, and British troops sent to enforce these laws and keep peace were involved in unpleasant incidents, notably the BOSTON MASSACRE. The boycott decreased British trade, and in 1770 most of the Acts were repealed, but retention of the tea tax caused the BOSTON TEA PARTY

township see TOWN

Townsville, town (pop 34,233), Queensland, Australia, on Cleveland Bay and NW of Mackay Founded in 1868 with the gold rush at Ravenswood to the south, it is now the second port of the state Wool, hides, meat, cobalt, copper, and sugar are the chief exports

Towson (tou'sun), unincorporated town (pop 10,606), co seat of Baltimore co , N Md , N of Baltimore, settled c 1750 It is the site of a state tuberculosis hospital and a state teachers college, the new campus of GOUCHER COLLEGE is near by

Towton Field (tou'tun), West Riding of Yorkshire, England, SW of York It was the scene (1461) of a battle in which the forces of Edward IV defeated the Lancastrians

toxin (tŏk'sĭn), poison produced by bacterial action In certain diseases, e g , diphtheria, pneumonia, tonsilitis, and in food poisoning, the toxins liberated by the bacteria are responsible for the symptoms These toxins, circulating in the blood, stimulate the production of antitoxins, which tend to counteract the action of the poison When injected into animals, toxins (e g , diphtheria toxin) stimulate the formation of antitoxins The use of a mixture of toxin and antitoxin to prevent diphtheria has been largely supplanted by the use of toxoid Some plants and snake venom also contain toxinlike substances

toxin-antitoxin, mixture of a toxin with its antitoxin in such proportion that a large percentage of the poison is neutralized by the specific antitoxin It is used to immunize an individual against a specific disease when the use of a toxin alone to stimulate the formation of antibodies is too dangerous Toxin-antitoxin has been largely replaced by use of the specific toxoid as an immunizing agent against diphtheria and certain other diseases The antitoxin alone is used after exposure to, or establishment of, a disease caused by a toxin, since the toxin is assumed already to be in the body

toxoid (tŏk'soid), a toxin treated chemically or physically in such manner that the poisonous property is destroyed but the capacity to stimulate the formation of antitoxins remains Toxoids have virtually superseded toxin-antitoxins as immunizing agents against diphtheria and tetanus since their use does not introduce toxic agents into the body They are sometimes used also in combination with toxin and antitoxins

Toy, Crawford Howell, 1836–1919, American Orientalist and biblical scholar, b Norfolk, Va , M A Univ of Virginia, 1856 He also studied (1859–60) at the Southern Baptist Theological Seminary, Greenville, S C , served as a chaplain in the Confederate army, and continued (1866–68) his studies at Berlin He resigned the professorship he held at the Southern Baptist Theological Seminary (1869–79) because of theological controversy From 1880 until his retirement (1909) he was Hancock professor of Hebrew and other Oriental languages at Harvard, and he was (1880–1903) Dexter lecturer on biblical literature A member (1901–6) of the editorial board of *The Jewish Encyclopedia* and a contributor to learned journals, he wrote *Judaism and Christianity* (1890), *A Critical and Exegetical Commentary on the Book of Proverbs* (1899), and *Introduction to the History of Religions* (1913)

toy. Archaeological research has revealed numerous playthings from prehistoric civilizations, and most remote peoples have used toys Early Egyptian, Greek, and Roman dolls, tops, balls, rattles, hoops, and miniature representations of furniture, carts, and dishes have been preserved Automatons, usually for the amusement of adults, have been popular since the Middle Ages Toys made by individual craftsmen and peasants were early distributed through agents whose chief centers were in Sonneberg and Nuremberg in Germany, they were at first sold chiefly by peddlers at fairs The use of sheet-metal stamping in Nuremberg c 1850 introduced the first large-scale manufacturing methods. The manufacture of toys is an important industry in most countries, but Germany, Japan, and Czechoslovakia lead in exports, although the quantities have been reduced since the United States began to supply its own market after the First World War Although about 100,000 different toys are made, some, especially dolls, balls, art materials, and blocks, retain their popularity year after year among several age groups Educators and psychologists, beginning with Froebel and Maria Montessori, have stressed the role of toys in the mental, emotional, social, and physical development of children See Ethel Kawin, *The Wise Choice of Toys* (2d ed revised, 1938), Ruth Freeman and Larry Freeman, *Cavalcade of Toys* (1942)

Toyama (tōyä'mä), city (1940 pop 127,859, 1947 pop 137,818), capital of Toyama prefecture, central Honshu, Japan, on Toyama Bay It is the main center of Japan's patent-medicine industry and also has other industries

Toynbee, Arnold (tom'bē), 1852–83, English economic historian, philosopher, and reformer A tutor at Balliol College, Oxford, after his graduation in 1878, he was also active in reform work outside the university His influence on his students and contemporaries was great, though he lived to be only 31 He was interested in applying historical method to the study of economics He did not accept Marxism, believing that the best interests of labor and capital lay in cooperation His lectures to workingmen were published as *Lectures on the Industrial Revolution of the 18th Century in England* (1884), a pioneer work in economic history Toynbee Hall, the first social settlement, was named for him See biographies by F C Montague (1889) and Alfred Milner (1901)

Toynbee, Arnold Joseph, 1889 , English historian Educated at Oxford, he remained there as tutor and fellow (1912–15), then served in the British foreign office during the First World War and was a member (1919) of the delegation to the Paris Peace Conference He was professor of Greek language and history (1919–24) at the Univ of London and in 1925 was appointed research professor and director of studies at the Royal Institute of International Affairs From 1920 to 1938 he wrote a distinguished series of yearbooks of current international history entitled *A Survey of International Affairs* During the Second World War he engaged in research for the British foreign office Toynbee achieved his greatest fame for his monumental work, *A Study of History* (6 vols , 1934–39, in 1950 still incomplete), which appeared in a one-volume abridgment by D C Somervell in 1946 In the *Study of History*, an investigation into the growth, development, and decay of civilizations, the problems of history are treated in terms of great cultural and ethical groups rather than in terms of nations The main thesis of the work is that the well-being of a civilization depends upon its ability to respond successfully to its challenges, human and environmental He repudiates any deterministic philosophy and posits the theory that the course of history is controlled by psychic rather than materialistic forces Toynbee has lectured widely and contributed to various English and American publications See his anthologies, *Greek Historical Thought* (1924) and *Greek Civilization and Character* (1924) Among others of his works are *The World after the Peace Conference* (1925), *Turkey* (with K P Kirkwood, "Nations of the Modern World" series, 1926), and *Civilization on Trial* (1948)

Toynbee, Paget, 1855–1932, English critic He wrote many critical works on Dante and edited papers of Horace Walpole His best-known work is a biography of Dante (1900)

Toynbee Hall see BARNETT, SAMUEL AUGUSTUS

Toyohashi (tōyō'hä'shē), city (1940 pop 142,716, 1947 pop 129,355), Aichi prefecture, central Honshu, Japan, on Atsumi Bay A manufacturing center, it was bombed (1945) in the Second World War

Toyokuni (tōyō'kōōnē), 1769–1825, Japanese color-print artist, whose name in full was Toyokuni Utagawa He was one of the leading masters of the period of the popular (*ukiyoye*) school After many failures to appeal to the public taste, he attained great success with portrayals of stage favorites in dramatic situations His work shows vigorous, sweeping lines, and striking color contrasts It attracted numerous imitators and a host of pupils

toyon: see CHRISTMASBERRY

Tozzi, Federigo (fädārē'gō tôt'tsē), 1883–1920, Italian novelist He was a follower of Verga and was influenced by D'Annunzio His work is bitter and dispassionate, and his subjects are presented faithfully Perhaps deficient in psychological analysis, his fiction is powerfully written His best works are probably *Tre crocì* (1920, Eng tr , *Three Crosses*, 1921) and *Il podere* [the farm] (1921) He also wrote short stories, verse, two plays, and miscellaneous prose

Trabzon, Turkey, see TREBIZOND

tracery, bands or bars of stone, wood, or other material, either subdividing an opening or standing in relief against a wall and forming an ornamental pattern of solid members and open spaces The term especially refers to the subdivisions in the arched openings of Gothic architecture. In Romanesque design the enclosing of twin openings within a single arch created a wall space above them, where a circular or quatrefoil opening was pierced as an ornament This plate tracery, reaching high perfection, became more complex in the 12th-century rose windows of the cathedral of Chartres and in English churches of early Gothic Later windows became larger, areas of solid stone smaller, and masonry members more slender, the patterns in the spaces above the arches were created by mere bars of stone rather than by cutting out a design Such bar tracery prevailed in both France and England after 1250, creating circles, trefoils, quatrefoils, and other varied geometrical designs The terminating ends of these shapes, termed *cusps*, were finished in square or sharp points or in ornamental blobs Tracery came gradually to be used also for ornamenting buttresses, gables, and spires, interior walls, and choir screens In France, Rayonnant tracery, so termed from the radiating patterns in the large circular windows of west façades and transepts, prevailed in the 13th and early 14th cent In England, Decorated Gothic brought, late in the 14th cent , a new curvilinear tracery of free, flowing curves The French developed this type into the elaborate flamboyant tracery of the 15th cent It produced windows and architectural adornment of amazing lightness and intricacy, as in the cathedral at Rouen and in the wood choir stalls of Amiens In England, however, the flowing forms were abandoned c 1375, and emphasis passed to perpendicular mullions running the entire height of the windows By the end of the 15th cent the severe tracery of the Perpendicular style, with its closely spaced verticals, was dominant in both windows and wall adornment, as in the Henry VII Chapel in Westminster and King's College Chapel, Cambridge Medieval tracery achieved especial effect in the great French rose windows of stained glass, developing from the simple early wheel windows through examples of the Rayonnant styles, as in Notre Dame de Paris, to rich flamboyant designs as in St Ouen at Rouen

trachea see WINDPIPE

trachoma (trukō'mu), contagious granular inflammation of the lining of the eyelid and eyeball known also as chronic granular conjunctivitis and granular eyelids The disease is caused probably by a virus and is spread by contact with persons having the disease or with contaminated articles Trachoma is common in Egypt and Palestine, in the mountains of Tennessee and Kentucky, among the Indians of South Dakota and Nebraska, and among farmers living near Indian reservations It rarely occurs in large cities The disease, which has an incubation period of 8 to 12 days, passes through a number of stages Symptoms include acute catarrhal conjunctivitis, raspberrylike hypertrophy of the eyelids, formation of scar tissue, which produces an irritating infolding of the eyelid, the formation of ulcers, a drooping of the upper lid, a dry ropy secretion if the ducts of the lachrymal gland are involved, and a reduction in vision Copper in various forms has been used in treatment, but more recently the sulfa drugs have been found effective If therapy is begun in the early stages of the disease, healing occurs with little loss of vision, in later stages, trachoma may be the cause of complete blindness

Trachonitis (trăk"kunī'tĭs) [Gr ,=stony region], region, ancient Palestine It consisted of rough, barren country beginning c 20 mi SE of Damascus Luke 3 1

track and field athletics, athletic events, principally running, jumping, and throwing (as of a javelin), usually conducted on a field comprising an oval track (with cinder surface, for running events) which surrounds an infield equipped for various field events The events are most often contested between two or more teams, though meets held solely on the basis of individual performance are not uncommon In the United States track and field athletics include the following events the 100-, 220-, and 440-yard dashes, the half-mile (880-yard), the mile, and the 2-mile distance runs, the 120-yard high-hurdle and 220-yard low-hurdle races, the mile relay, the broad jump, the high jump, the pole vault, the shot-put, the discus throw, the javelin throw, and the hammer throw The cross-country race, though it is not performed on the field, is usually classed with these events, as is the marathon race In scoring the individual events of a meet, five points are given for first place, three for second place, and one point for third place In the modern OLYMPIC GAMES, track events include the 100-, 200-, 400-, 800-, 1,500-, 5,000- and 10,000-meter runs, a marathon run (over 26 mi), the 110- and 400-meter hurdle races; the 400- and 1,600-meter relay; the 3,000-meter steeplechase, and the 50,000-meter walk The Olympic games include, in addition to the field

events already named, the running hop-step-and-jump. The DECATHLON is the major composite event contested in Olympic track and field competition, while the PENTATHLON is contested in the U S national championships All these events described are primarily men's events. There are also equivalent events for women, and the Olympics include the women's events. In ancient Greece track and field athletics dominated the original Olympic games and the other games, there were also less important and separate games for women These organized contests were also popular in Rome, but lapsed in the early Middle Ages In England they were revived in the 12th cent. and thereafter steadily increased in popularity. The first college track and field meet occurred in England between Oxford and Cambridge in 1864 Other European countries soon turned to the sport Track and field athletics in the United States date from the 1860s, and in 1888 the Amateur Athletic Union held the first championships Under its auspices a number of intercollegiate and preparatory-school track and field meets are held. Famous track and field performers, past and present, are Arne Andersson, Glenn Cunningham, Benjamin B. Eastman, Gunder Haegg, John E Lovelock, Taisto Maki, Ralph Metcalfe, Paavo Nurmi, Jesse Owens, Charles A. Paddock, Mel Patton, James Thorpe, John Torrance, Cornelius A Warmerdam, and Frederick Wolcott See H L Gill, *Track and Field Athletics for Coach and Contestant* (2d ed , 1925); Charles W. Paddock, *Track and Field* (1933), G T Bresnahan and W W. Tuttle, *Track and Field Athletics* (2d ed., 1947); D B. Cromwell, *Championship Technique in Track and Field* (1949).

Tractarian movement: see OXFORD MOVEMENT

tractor, machine used primarily in agriculture to draw such implements as the plow, the cultivator, and harvesting and mowing machines Formerly tractors were driven by steam, they are now generally driven by gasoline The tractor furnishes power for many purposes, e g , for threshing and spraying machines and for sawing firewood Tractors are of two main types, the wheel type and the crawler or caterpillar type The TANK for use in war is an adaptation of the crawler tractor Far more than a mere substitute for draft animals, the tractor initiated profound changes in farm organization and management, it has tended to displace many farm laborers The small tractor adaptable to many types of agriculture was introduced c 1924, and its use has resulted in increasing the number of tractors in the United States to several million Pneumatic tires, used on tractors since c 1933, permit increased speed and greater ease of operation with reduction in fuel consumption and wear See F R Jones, *Farm Gas Engines and Tractors* (2d ed., 1938), A A Stone, *Farm Machinery* (3d ed , 1942), H P Smith, *Farm Machinery and Equipment* (3d ed., 1948)

Tracy, Antoine Louis Claude, Comte Destutt de: see DESTUTT DE TRACY.

Tracy, Benjamin Franklin, 1830–1915, American politician and soldier, b Owego, N Y He was admitted to the bar in 1851 and later served (1853–59) as district attorney of Tioga co , N Y He helped organize (1854) the Republican party in his county and served (1862) in the state assembly In the Civil War he recruited volunteers for the Union army, was wounded in battle, and mustered out as brigadier general As U S district attorney (1866–73) for the eastern district of New York, Tracy defended Henry Ward BEECHER in the suit brought against him by Theodore Tilton. He was (1881–82) judge of the New York court of appeals before he was Secretary of the Navy (1889–93) under President Benjamin Harrison He was (1898) chairman of the commission that drafted the charter for Greater New York and was (1899) counsel for Venezuela in the arbitration of the boundary dispute with England

Tracy, Destutt de: see DESTUTT DE TRACY, ANTOINE LOUIS CLAUDE, COMTE.

Tracy. 1 City (1940 pop 4,056, 1946 special census pop. 7,499), central Calif , E of San Francisco, inc. 1910 It is a shipping, packing, and processing center in the fertile San Joaquin Valley A pumping plant here is part of the CENTRAL VALLEY PROJECT. 2 City (pop. 3,085), SW Minn , SSE of Marshall, settled 1872, inc. as a city 1893 It is a farm trade center

trade, traffic in goods Trade has been historically conducted by GIFT, BARTER, and SALE. Within the family, ownership of goods is often transferred by gift, and this practice has been followed within and between small local communities In the absence of a generally acceptable currency, trade among American Indian groups was largely by exchange of gifts, and in frontier and farm communities it was customary for neighbors to exchange services (especially at busy seasons) and surplus and needed goods for services or goods. Direct barter, as in horse trading, has sometimes been a game rather than a business transaction. Trade is often facilitated by the use of money of account, as in rural stores where a customer may be given a credit for eggs or some other commodity and charged for goods that he receives. International trade is normally on this basis, goods being exchanged for goods and the balances, if any, being paid by shipments of gold. After the early 1930s, when most countries went off the gold standard, they were restricted still further to a careful balancing of imports and exports of commodities. Trade between regions and countries is natural where each produces some commodity that the other needs. Modern industrial countries are especially dependent upon certain metals, which they must obtain by international trade if they do not produce them at home Certain tropical products are equally important to Temperate Zone countries Despite success in developing substitutes, even the largest nations are not self-sufficient, and tariffs, import quotas, and devices for controlling foreign exchange are designed—though they may hamper general trade—to secure for them the commodities that are essential to their economy. The principles of efficient MARKETING have been applied to domestic trade, which has attained enormous volume See P D Converse, *The Elements of Marketing* (1930), H B. Killough, *International Trade* (1938)

trade association, organization of businessmen in the same trade or industry for the advancement of their common interests. The trade association differs from the CHAMBER OF COMMERCE in that membership is by industry rather than by locality The common interests of the trade association may include credit, public relations, relations with employees, sales development, output, and prices Some associations publish official journals, and some maintain bureaus at the national and state capitals The U S Office of Domestic Commerce has a Trade Association Division

trade-mark, distinctive mark placed on or attached to goods by a manufacturer or dealer to identify them as made or sold by him The use of a trade-mark indicates that the maker or dealer believes that the quality of the goods will enhance his standing or good will, and a known trade-mark indicates to a buyer the reputation that is staked on the goods Registration of a trade-mark is necessary in some countries to give exclusive right to it In the United States, Canada, and England, the sufficient use of a trade-mark not previously used establishes exclusive right to it, but registration is provided as an aid in defending this right Imitations of a trade-mark wrong both the owner of the trade-mark and the buyer who is misled as to the source of goods, and such infringements of a trade-mark are punishable at law Registration of trade-marks for use in the United States is in the Patent Office, from which detailed information about requirements may be obtained The ways of securing recognition of trade-marks in other countries are explained in publications of the Bureau of Foreign and Domestic Commerce, U S Dept of Commerce See Milton Wright, *Inventions, Patents, and Trade-Marks* (2d ed , 1933)

trade union: see UNION, LABOR.

trade winds, those winds blowing toward the equator, from the northeast in the Northern Hemisphere and from the southeast in the Southern Hemisphere They are caused by the general motion of the air from the belts of high barometric pressure (the HORSE LATITUDES) to the belt of low barometric pressure (the DOLDRUMS), deflected, in accordance with Ferrel's law, by the rotation of the earth They form part of the system of terrestrial winds and blow with great constancy. The air returning, high over the earth, in the opposite direction and completing the cycle, forms the antitrade winds.

traducianism. see SOUL

Traer (trâr), town (pop 1,493), central Iowa, SSW of Waterloo, inc 1875

Trafalgar, Cape (trufăl'gûr), on the southwest coast of Spain, near the northwest shore of the Strait of Gibraltar The **battle of Trafalgar,** which took place on Oct 21, 1805, off the cape, was the famous naval victory of Nelson over the allied French and Spanish fleets under Villeneuve The strategy successfully employed by Nelson was to divide his own fleet into two sections, one led by himself in the *Victory*, the other led by Collingwood in the *Royal Sovereign*, and to penetrate the enemy line in two places, engaging in separate action the vessels thus detached. This maneuver resulted in the capture of 20 enemy ships (one was blown up) The British lost no ships, 450 men were killed and 1,250 were wounded. Among the dead was Nelson himself, struck by a bullet from the French ship *Redoutable* The English victory, which ended Napoleon's power on the sea, was the most glorious action of the British navy The words signaled by Nelson at the beginning of the battle—"England expects that every man will do his duty"—became immortal See J. S. Corbett, *The Campaign of Trafalgar* (1910).

Trafalgar Square (trŭfăl'gûr), in London, named for Nelson's victory. The statue surmounting the Nelson column here was executed by Edward Hodges Baily The square is the site of the royal mews of the time of Chaucer

traffic regulation. In 1900 there were less than 1,000 motor vehicles registered in the state of New York. About 1903, definite traffic regulation began in New York, a set of *Rules for Driving*, consisting of five short articles, being issued by the police commissioner and a traffic squad of six mounted men being formed. On streets and highways in the United States, the control of traffic at crossings by the traffic light or SEMAPHORE is familiar Traffic lights may be locally operated by a traffic officer, they may be automatic, the lights changing periodically, or they may be remotely controlled In the synchronised block system, a series of lights shows the same color in one direction for a certain period. when the lights are green for north-and-south traffic, they are red for east-and-west traffic Thus system causes delay, and drivers tend to dash forward at as great a speed as possible in order to make the greatest distance before the lights change again In the better but more expensive progressive system, the driver, when starting at the beginning of one traffic block with a green or clear signal, sees at the next traffic block a red light. However, by traveling at a predetermined speed (20 or 25 mi per hour), he arrives at the next block when the red light has turned to green The most serious interferences with traffic flow in any system are slow vehicles, left-hand turns, and parked cars. When slow-moving vehicles keep to the extreme right, much delay is avoided Left-hand turns are forbidden in the main thoroughfares of many large cities, and at very congested corners both right and left turns are forbidden Parking, which lessens the traffic capacity on a street as well as its even flow, is forbidden in certain zones and in others is limited to a stated period between certain hours One-way traffic is necessary where busy streets are narrow and parallel to each other and has done much to facilitate the smoother handling of traffic Rotary one-way traffic around obstructions, such as city monuments and small parks, also diminishes confusion and speeds up traffic The variations in traffic rules in the United States from state to state and from city to city causes confusion, and some moves have been made for greater unity.

Trafford, borough (pop 4,017), Allegheny and Westmoreland counties, SW Pa , near Pittsburgh, inc. 1904 Electrical insulation material is made here

tragacanth (trăg'ukănth), gummy exudation from the shrub *Astragalus gummifer* and related plants of Eastern Europe and Asia It is obtained through incisions in the stem of the plant and is marketed in horny, translucent pieces, the highest quality is whitish, and lower grades are darker in color Tragacanth is almost insoluble in water, but swells in it to form a stiff gel It is used as an emulsifying agent, as a component of pills, hand lotions, and medicinal lubricating jellies, as a demulcent, and as a sizing material

tragedy. The popular idea that the comedy ends happily and the tragedy unhappily is superficial but contains an important element of truth, for tragedy's "unhappy" ending is generally the direct and inevitable result of the conflict or misunderstanding which is tragedy's motivating factor The characters in a tragedy are defeated and usually die, but beyond the outward defeat most critics have seen an inward triumph Both of these elements, the outward calamity and the sense of exultation which the conclusion inspires, are treated in Aristotle's famous discussion of tragedy In his *Poetics* tragedy is said to be an imitation of a painful action (usually resulting in death) which by pity and fear effects a purgation of these emotions Though generally treating serious themes in a serious manner, modern tragedy may contain comic elements or subplots for the purpose of contrast or for relieving emotional intensity Like comedy, tragedy originated in the religious rites of the ancient Greeks, particularly in the Dionysian festivals To the dithyrambic songs of the chorus and the leader spoken dialogue was added, and c 534 B C the actor (said to be Thespis) was introduced He filled in with mimicry and dialogue the intervals between the songs and dances Gradually the ritual nature of tragedy disappeared, and with the plays of Aeschylus, who added a second actor, Greek tragedy became a great literary form. Aeschylus (5th cent B C) was followed by Sophocles, who added a third actor, and Euripides Their tragedies were generally performed in groups of four, with the chorus forming an important and integral part From the conditions of production came the classical unities of time, place, and action which were so important in the Renaissance The outstanding Roman writer of tragedy was Seneca, whose work became a model for dramatists of the Renaissance. During the Middle Ages the classical tragedies were forgotten, but from the liturgies of the Church, such as the tropes in the Easter Mass, a new form of drama developed And from these mystery, miracle, and morality plays, as well as from the rediscovery of Seneca, arose Renaissance tragedy. The first English tragedy is *Gorboduc* (1562). With the works of Christopher Marlowe the tragedy became an important literary form; it reached its greatest heights in the plays of Shakspere. The best-known writers of tragedy in Italy are the marchese di Maffei and Vittorio Alfieri; in Spain, Pedro Calderón de la Barca and Lope de Vega Carpio. In 17th-century France classical tragedy became a distinct modern genre. At its

best, in the plays of Corneille and especially of Racine, it begins the treatment of the theme after the crisis has started, it restricts the action to a few hours and to one scene, and it avoids anything (such as comic relief) which might halt the suspense or lessen the intensity of feeling This unity is in contrast to English tragedy which in Shakspere and John Webster and even in the more classic plays of Ben Jonson was less bound by the classical unities In the Restoration, heroic tragedies, in which heroes were torn by the conflict between love and honor, were written by John Dryden and Thomas Otway. In 18th-century Germany the great writers of tragedy were Lessing, Goethe, and Schiller. In more modern times tragedy in the traditional sense declined In the works of Henrik Ibsen, the most influential dramatist of the late 19th cent, the tragedy is often found in the political and social problems Instead of being great men, the characters are often miserable and weak, and instead of poetry the language of modern tragedy is generally prose. Among the most famous modern writers of tragedy are Hermann Sudermann and Gerhart Hauptmann in Germany, Anton Chekhov in Russia, J. A Strindberg in Sweden, Gabriele D'Annunzio in Italy, J M Synge and Sean O'Casey in Ireland, and Eugene O'Neill and Maxwell Anderson in the United States. In recent years attempts have been made to restore poetry to tragedy, the most successful was T. S Eliot's *Murder in the Cathedral* (1935) See Ashley Thorndike, *Tragedy* (1908); W. M Dixon, *Tragedy* (1924), *Types of World Tragedy* (ed by R M Smith, 1928), Barrett Clark, ed, *European Theories of the Drama* (new rev ed, 1947), M. E Prior, *The Language of Tragedy* (1947); Francis Fergusson, *The Idea of a Theater* (1949)

Traherne, Thomas (trŭhûrn'), b 1637 or 1639, d 1674, English author and clergyman, b Hereford, grad Brasenose College, Oxford (B A, 1656, B D, 1669). His metaphysical poetry is original, his prose is musical, and his work expresses his mystic, enthusiastic faith His prose works include *Roman Forgeries* (1673) and *Christian Ethicks* (1675) His poems were discovered in manuscript in 1896 (pub 1903), together with the partly autobiographical prose *Centuries of Meditation* (1908) See his *Poetical Works* (ed by G I Wade, 1932), biography by G I Wade (1944)

Trail, city (pop 9,392), SE British Columbia, on the Columbia river just N of the Wash border It is a metal-smelting center for a mining area producing silver, lead, zinc, gold, and copper Sulphuric acid and fertilizers are manufactured

trailing arbutus, Mayflower, or **ground laurel,** one of the best loved of American wild flowers, said by Whittier to have been the first blossom seen on these shores by the Pilgrims (introduction to "The Mayflowers") The plant is early-spring blooming, the creeping stems bearing clusters of sweetly fragrant pink or white flowers, sometimes hidden by the hairy evergreen leaves The leaves were once used in making a diuretic tea and were also said to be astringent and tonic Roots of the trailing arbutus live in a partnership arrangement (mycorhiza) with a fungus, each being considered benefited by the association (see SYMBIOSIS). The plant is difficult to cultivate, and its existence is endangered by the zeal of flower pickers In its native habitat, arbutus seems to prefer the acid soil of pinewoods of the eastern part of North America It is the provincial flower of Nova Scotia and the state flower of Massachusetts, where a law protects the plant The botanical genus *Arbutus*, including the strawberry tree and MADROÑA, should not be confused with the trailing arbutus (*Epigaea repens*) The name Mayflower, applied in New England to the trailing arbutus, is used in England for the hawthorn and in some parts of the United States for the hepatica

Traill, Henry Duff (trāl), 1842–1900, English author and journalist He edited *Social England* (1893–97) and wrote *The New Lucian* (1884), two volumes of light verse, three plays, and biographies of Sterne (1882), Coleridge (1884), and William II (1888)

Trainer, borough (pop 1,716), SE Pa, on the Delaware river and SW of Philadelphia It has oil refineries

Trajan (Marcus Ulpius Trajanus) (trā'jŭn), A D. c 53–A D. 117, Roman emperor (A.D 98–A D 117) Born in Spain the son of an illustrious father, Trajan served in the East, in Germany, and in Spain He was adopted in A D 97 by Emperor NERVA, who died shortly afterwards Trajan's accession was unusual in that he was the first non-Italian to become head of the empire A capable man, he set about to bolster his regime by embarking on a vigorous foreign policy. In two wars against Dacia, he brought that area, the parent of modern RUMANIA, under Roman control. This conquest is commemorated by the sculptured Trajan's Column in Rome. Next Trajan annexed Arabia Petraea. In three campaigns he conquered the greater part of the Parthian empire, including Armenia and Upper Mesopotamia. Returning to Italy from this campaign, he died in Cilicia. Trajan's abilities as a military organiser and civic administrator were of a high order. He partially drained the Pontine Marshes, restored the Appian Way, and at Rome built an aqueduct, a theater, and the immense Forum of Trajan, containing basilicas and libraries. See B. W Henderson, *Five Roman Emperors* (1928), Edward T Salmon, *A History of the Roman World* (1944).

Trajan's Wall, name given to each of two walls within what is now Rumania The first ran from the great northward bend in the Danube to Tomi (near Constanta, Rumania) on the sea The second ran from the Pruth river 10 to 20 mi north of its confluence with the Danube to Lake Sasik, a lagoon of the Black Sea. The second was the northern boundary of Lower Moesia

Tralee (trŭlē', trā–), urban district (pop 9,982), county town of Co. Kerry, Ireland, on the Lee river It is a seaport, with a mile-long canal to Blennerville on Tralee Bay Tralee was a seat of the Desmonds and had a Dominican monastery in the 13th cent.

Trelleborg, Sweden see TRELLEBORG.

Tralles (trā'lēz), ancient Carian city, W Asia Minor. It is the modern AYDIN, Turkey.

tramp see VAGRANCY

Trani (trā'nē), city (pop 29,962), Apulia, S Italy, an Adriatic port It is famous for its wine The city reached great prosperity at the time of the Crusades and again in the 15th to 16th cent Its *ordinamenta maris* of 1063 constitute probably the first medieval code of maritime law. There are a famous Romanesque cathedral with fine bronze doors and a lofty campanile, a 13th-century castle, and several fine palaces.

Trans-Alai (trăns"-ălī', trănz"–), mountain range, central Asia, a part of the Pamir system The Trans-Alai extends c 125 mi. W from the China-USSR border into the USSR, where it lies along the boundary of the Kirghiz SSR and the Tadzhik SSR The range rises to Lenin Peak (23,377 ft.) and is separated by a valley from the Alai range

Transandine Railway, between Mendoza, Argentina, and Los Andes, Chile, traversing the Andes at USPALLATA PASS Opened to traffic in 1910, the railroad rises to c 10,500 ft at the long tunnel on the international boundary The distance from the border to Mendoza is c 112 mi., from the border to Los Andes c 44 mi A glacial flood destroyed (1934) 77 mi of the Argentine section

transatlantic flights see AVIATION.

Transbaikalia (trănz"bĭkā'lĭvu, trănz–), Rus *Zabaikalye* (zŭbĭkā'lyĭ), region, RSFSR, in SE Siberia, between Lake Baikal and the upper Amur river It borders on Mongolia in the south and includes the Buryat-Mongol ASSR Chita is the chief city

Trans-Caspian Railroad or **Central Asiatic Railroad,** unofficial names of an important railroad line, linking the central Asiatic republics of the USSR among themselves and with the rest of the Soviet Union It was built in the late 19th and early 20th cent The line describes a wide arc, beginning at Krasnovodsk on the Caspian Sea and passing through (or near) Ashkhabad, Bukhara, Samarkand, Tashkent, Kyzyl-Orda, Aralsk (at the northern tip of the Aral Sea), and Aktyubinsk to end at Chkalov (formerly Orenburg) The line has numerous spurs, notably one to the Fergana Valley, and it connects with the more recent Turkistan-Siberia RR at a point N of Tashkent

Transcaspian Region, USSR see TURKMEN SOVIET SOCIALIST REPUBLIC

Transcaucasia (trănz"kôkā'zhŭ, -shŭ, trănz"–), region of the USSR, extending S from the Greater CAUCASUS to the Turkish and Iranian borders, between the Black Sea and the Caspian Sea It comprises the GEORGIAN SSR, the ARMENIAN SSR, and the AZERBAIJAN SSR From 1922 to 1936 it formed the Transcaucasian Soviet Federated Socialist Republic

transcendentalism (trăn"sĕndĕn'tŭlĭz'ŭm) [from Latin, = overpassing], in literature, a movement which flourished in New England from 1836 to 1860 Stemming largely from the Unitarian reaction against Puritanism, it found confirmation in the ferment of ideas in European philosophy and literature of the period—especially in English and German—and in Oriental religious teachings The New England application of the doctrine of the immanence of God in nature developed a mystical belief in individualism and self-reliance, made famous by EMERSON A group of friends who met occasionally in Boston or Concord to discuss the new ideas was called by outsiders the Transcendental Club, though it had no organisation It included Emerson, F H Hedge, George Ripley, Bronson Alcott, Thoreau, Margaret FULLER, Theodore Parker, and others. A quarterly magazine, the *Dial* (1840–44), was the transcendentalists' journal, and BROOK FARM (1841–47), a cooperative community, was an outgrowth of their ideas on social reform, as were their many individual activities against slavery Their works, especially those of Emerson and Thoreau, exemplify the vitality of American literature which Emerson had proclaimed and reveal the core of the philosophy which was to exert so incalculable an influence on American literature. See O B Frothingham, *Transcendentalism in New England* (1876), H C. Goddard, *Studies in New England Transcendentalism* (1908), Arthur Christy, *The Orient in American Transcendentalism* (1932), Perry G E Miller, ed., *The Transcendentalists: an Anthology* (1950)

transcendentalism, in philosophy, a term descriptive of systems which hold that there are modes of being and principles of existence beyond the reach of mundane experience and manipulation. The term is now closely associated with Kantian theory, though some conception of transcendent being has been common to most forms of philosophical idealism In Kant's work transcendent elements of thought cannot be perceived directly through experience They nevertheless add to empirically derived knowledge These transcendent elements include conception of space and time and categories of judgment For Kant, transcendent objects which cannot be known through the evidence of the senses are the noumena See William Temple, *Nature, Man, and God* (1934)

Transcona (trănskō'nŭ), town (pop. 6,132), SE Man, just E of Winnipeg It is a railroad and industrial center, with railroad shops, grain elevators, tarworks, and a creosote plant.

transcription, in music, an arrangement of a composition for some medium other than that for which it was composed The most common transcriptions are those made for study purposes, in which orchestral scores are transcribed into piano reductions. On the creative level, however, Bach made transcriptions of many of his own works, and four orchestral concertos of Vivaldi are best known in Bach's organ transcriptions. Liszt was a prolific transcriber, outstanding are his transcriptions of some of Schubert's songs

transept (trăn'sĕpt"), term applied to the transverse portion of a building cutting its main axis at right angles or to each arm of such portion Transepts are found chiefly in churches where, extending north and south from the main body, they create a cruciform plan They may consist of a central portion as wide as the church nave, with two side aisles or with only one The rectangular or square space formed by the intersection with the nave is termed the crossing The cross-hall of vaulted Roman basilicas probably inspired the builders of early Christian churches, examples of the elementary form of transept—an unbroken hall passing directly in front of the apse—are seen in early churches, especially in Rome This position of the transept remained unchanged In Romanesque churches the transept became universal, while the development of vaulting unified it organically with the body of the building Its height equaled that of the nave, while the heavy piers of the crossing frequently supported an exterior dome or tower Transepts furnished additional space for altars and chapels In French Gothic cathedrals these were built along the side aisles and at the east end, while transepts projected only slightly from the building Their ends, however, were richly emphasized externally, with sculptured portals and rose windows, as at Chartres and Amiens, or with a tower, as at Le Mans In England the transepts, furnishing practically the only opportunity for altars, were long and of deep projection The need for still more space resulted in the frequent provision of a second and minor transept farther east, behind the choir, as notably at Salisbury

transference: see PSYCHOANALYSIS.

Transfiguration (trăns"fĭgyōrā'shŭn), in the Bible, manifestation wherein Jesus appeared 'shining' before Peter, James, and John Mat 17, Mark 9. The traditional explanation is that in it Jesus' divine glory shone in the earthly body Mt Tabor is usually said to be the mountain where it took place The event has a feast Aug 6.

transformer, in electricity, a device used commonly either to increase the voltage of an alternating current (a "step-up" transformer) or to decrease it (a "step-down" transformer) A transformer consists essentially of two unconnected, insulated coils wound around an iron core It operates on the principle that when an alternating current is led through one of the coils an alternating current is induced in the other coil (see INDUCTION). The coil through which the current is first led is called the primary coil, that in which the current is induced, the secondary coil The difference in voltage (see VOLT) between the two coils depends upon the ratio of the number of turns in the two. If the primary coil has fewer turns than the secondary coil, in the ratio of 1 to 10, for example, then the voltage in the secondary coil is stepped up 10 times that of the primary coil If the number of turns in the primary coil is greater than that of the secondary coil, then voltage in the secondary is less, or stepped down. On the other hand, the current strength or amperage (see AMPERE) in the two coils is in inverse ratio: it is reduced if the number of turns in the secondary coil is more than in the primary coil and increased if the number in the secondary coil is less than in the primary. Because it is cheaper to send alternating current of high voltage over long distances than that of low voltage, transformers are used first to step up the voltage of a current for transmission and then to step it down after transmission

when lower voltage and higher amperage are required for the ordinary needs of towns and cities Because much heat is generated in the magnetic core of the transformer, oil and air are commonly employed for cooling The simplicity and efficiency of the operation of transformers have greatly increased the use of alternating currents Transformers are widely used—in telephones, in radios, and in many other common electrical devices See C. H. Dunlap and others, *Transformers* (1948), W. C. Sealey, *Transformers* (1948)

transfusion of blood: see BLOOD TRANSFUSION.

Trans-Himalaya: see HIMALAYA

Trans-Ili Ala-Tau see ALA-TAU

transit, in astronomy, the term applied to the passing of any of the heavenly bodies across the disk of another heavenly body or across the meridian of any particular place When the moon passes across the face of the sun, the phenomenon is called an eclipse When, under conditions corresponding to those attending an eclipse, a planet, e g , Mercury or Venus, passes directly between the earth and the sun, it is projected against the sun's disk and appears as a small dark dot, too inconspicuous to be observed without optical aid Such a transit of Mercury can take place only in May or November, when the earth crosses the line where the plane of the ecliptic is intersected by the planet's orbit Intervals between the November transits are usually 13 or 7 years, the May transits occur at less frequent intervals Transits of Mercury last occurred in May, 1937, and in Nov , 1940 A transit of Venus can occur only in June or December Usually two of these transits take place within eight years of each other Then an interval of either 105½ years or 121½ years passes before another pair eight years apart The next two transits of Venus are due in June, 2004, and June, 2012 Transits of Venus have been of greater importance astronomically than those of Mercury, because they have been used for determining the earth's distance from the sun

transit instrument, telescope devised to observe stars as they cross the meridian and used for determining time Its viewing tube swings on a rigid horizontal axis restricting its movements to the arc of the meridian In the field of view of the eyepiece are threads of spider web or fine lines ruled on thin glass The threads or lines are parallel in a north-south direction and odd in number Precise adjustment places the middle line exactly on the meridian After the observer has noted the time at which each line is passed by the star, he averages them to learn the instant at which the star was on the meridian In modern transits, known as meridian circles or meridian telescopes, the observer merely presses a button as the star crosses each line Electrical impulses are recorded on a revolving drum at one or two second intervals as they pass through a chronograph. The meridian circle is equipped with precisely graduated circles mounted on the horizontal axis Stationary verniers, or reading microscopes, mounted on the fixed supports of the telescope enable the observer to read the circles The meridian telescope gives the altitude of a star as well as the transit time This information yields the right ascension and declination, or the place of the star in the celestial sphere The meridian circle has largely replaced the transit as the equipment of observatories, although the transit instrument is still used to some extent for determining sidereal time

transit theodolite: see SURVEYING

Trans-Jordan or **Transjordania.** see JORDAN.

Transjuba. see SOMALILAND, ITALIAN

Transkeian Territories (trănskī'un, -kā'un), native reservation (16,554 sq mi , pop 1,246,416), Cape Prov , Union of South Africa, a portion of KAFFRARIA. The capital is Umtata The reservation, bounded on the south by the Great Kei river, comprises Transkei, Tembuland, Pondoland, and Griqualand East The whole area (except for some small settlements with white inhabitants) is ruled by a magistrate and a native council

transmigration of souls or **metempsychosis** (mĭtĕmp'sīk'ə-sĭs) [Gr , =change of soul], passage of the soul from one body to another, either human, animal, or inanimate In higher cultures it becomes a well-developed doctrine with the addition that the condition of the soul in its reincarnation depends upon its record of behavior in previous lives In its simple forms, the doctrine of transmigration is part of the beliefs of many primitive peoples. The term *reincarnation* cannot be properly used in reference to the beliefs of the primitive tribes of Africa, for they have a limited concept of identity or personality In Australia, the aborigines believe that the soul finds its new habitation in an infant born among the dead person's own kindred or that the child is a reincarnation of ancestors with the soul being continually reborn Some Indonesian tribes hold that a sacrosanct animal species is the residence of ancestral souls or that the souls enter the animals in preparation for a new incarnation Metempsychosis is a basic doctrine of the Asiatic Indian religions. The Buddhists do not believe in the soul or in transmigration as such. Their animistic doctrine states that there is an eternal, undifferentiated stream of being (*Samsara*). Out of this, existences are produced and prolonged according to karma which is the matrix and driving force of each being Karma manifests itself in the *bhava* or *dhatu* (characteristics of the individual) The metempsychosis of BUDDHISM stresses the essential solidarity and oneness of the universe The individual is not a separate entity but rather a grouping of elements These revert to the original primal stream when desire, the cause of the transmigratory cycle, ceases Only saints (i e , those who abandon all desire) are able to realize this oneness Metempsychosis is an essential tenet of HINDUISM After death the individual soul enters upon a new existence, karma, in Hindu terminology the sum total of past moral conduct, determines the happiness or misery of this existence The soul has existed eternally, it will continue to exist eternally unless released from the endless cycles of being by knowledge (see VEDANTA) The Celtic version of metempsychosis does not have this ethical aspect. The Druids of Gaul supposedly taught that after death, the soul left one body to enter another, but the second body was not necessarily earthly, little is known of their beliefs There are examples of metempsychosis in pre-Christian Irish legends, but these transmigrations occur only in the lifetime of heroes The belief in transmigration was not very current in Egypt. The forms that intermittently occur are union of the soul with a god; transmigration of the soul into an animal for a lifetime, and voluntary metamorphosis of the person into another form for his own benefit The Greek version was not borrowed from Egypt as many ancient writers thought but was an indigenous product Although it appeared in the ORPHIC MYSTERIES, its best-known proponent was PYTHAGORAS His particular contribution was that souls were reincarnated in various bodily shapes Empedocles, in his poem *Purifications*, took over Orphic and Pythagorean beliefs Plato's views on the subject are derived from the Orphic Mysteries and Pythagoreanism Plotinus believed that future destiny depended on the life of the soul in previous incarnations Jewish treatment of metempsychosis, as found in the CABALA, was limited by the need of having such theories conform to the orthodox scriptures, and the theory of transmigration was tolerated rather than approved The Jewish theories, mostly derived from Gnostic, Manichaean, and Neoplatonic sources, teach that man has an absolute free will but that his soul is tied and sullied by contact with matter Demon (imperfect) souls try to prevent the fulfillment of the finite divine plan To act out this plan, the spotless souls descend from their original abode in heaven and are incarnated Punishment and atonement for sins is achieved by another incarnation, but before this happens, the now impure soul flits about as a disembodied spirit If the pious suffer, it is for sins committed in a previous existence At the end of the cycles, when all the incarnated souls are once again pure, the Messianic period begins No theories of transmigration are admitted into the Christian religion

transmission of power: see POWER

transmutation of elements, conversion of one element into another The transmutation of other metals into gold by means of a substance called the philosopher's stone was one of the two most ambitious quests of the alchemists (see ALCHEMY), the other being the elixir of life that would cure all diseases, restore the old to youth, and make youth eternal The possibility of finding the philosophers' stone harmonized with ideas long generally held, and honest and able men were hopeful of finding it Now and then a charlatan professed to have found it A transmutation from one element to another actually does occur in the process of natural RADIOACTIVITY Transmutation of elements is also achieved by the bombardment of elements with high-speed particles by means of such machines as the CYCLOTRON

Transpadane Republic: see CISALPINE REPUBLIC.

transpiration, in botany, the loss of water by evaporation from the plant Transpiration is an important factor in the rise of SAP in plants Leaves in particular lose water by transpiration because of the presence in the leaf blade of air spaces which are connected with the outside air by means of scattered pores in the leaf surface These pores, or stomata, are usually most abundant on the lower epidermis and are surrounded by two guard cells which are capable of changing their shape to open or close the aperture The pores and intercellular spaces allow the gaseous interchange in the leaf which is essential for photosynthesis Transpiration usually involves considerable quantities of water. It has been estimated that a birch tree on a dry day will lose approximately 500 qts. of water. The rate of transpiration is almost directly correlated with the dryness of the air, although closing of the stomata retards water loss to some extent. Excessive transpiration (i e , when the amount lost exceeds that absorbed by the roots) results in wilting. Many plants, such as grasses and cacti and other desert plants, have modifications of structure which reduce transpiration. Such changes usually include a relatively reduced surface area, sunken stomata, and a thick waxy surface layer Plants may also exude water in liquid form in a process called guttation.

transplanting, in horticulture, the process of removing a plant from the place where it has been growing and replanting it in another. When moving woody plants, except evergreens, it is advisable to prune the top to cut down loss of water. Usually roots need pruning to stimulate new and compact growth, and any injured roots should be cut off Transplanting on cloudy days or in the evening helps to prevent excessive evaporation, and sometimes roots are dipped in thin mud to retain moisture Trees and other perennial plants are commonly transplanted in their dormant season Transplanting is always a shock to a plant and should be done with as little disturbance to it as possible See E. L D Seymour, ed., *The New Garden Encyclopedia* (rev ed , 1946)

transportation, conveyance of goods and people over land, on water, and through the air Nothing is known of the origin of man's two great factors of transportation, the wheel and the boat As long ago as 3000 B C the Egyptians used large cargo boats. Land transportation began with goods carried by men The ancient civilizations of Central America, Mexico, and Peru transported materials in this fashion over long roads and bridges Primitive man used sledges made from a forked tree with crosspieces of wood The North American Indians of the Great Plains made a travois consisting of two poles fastened at one end to the sides of a dog or a horse and the other end dragging on the ground. The first road vehicles were two-wheeled carts, with crude disks fashioned from stone serving as the wheels They were probably used on the roads radiating from Babylon c 2000 B C From these beginnings came the chariot which the Egyptians and Greeks, among others, raised from a lumbering cart to a work of beauty In Asia the camel CARAVAN served to transport goods and people, elsewhere the ox and the ass were the beasts of burden The first great system of transportation by sailing vessels, that of the Phoenicians, connected the caravan routes with seaports, chiefly those about the Mediterranean Goods of high value and little bulk, such as gems, spices, perfumes, and fine handiwork, made up the cargoes, to King Solomon came "ships of Tarshish bringing gold, and silver, ivory, and apes, and peacocks" (2 Chron 9 21) As metropolitan centers developed, the transportation of grain became important Rome made much use of ships and also built a famous network of paved roads throughout the vast empire, primarily for military reasons Leadership in transportation by sea then passed to Spain and Portugal Maritime transportation between Europe and North America began England's dominance of the seas The forests of New England encouraged the building of wooden sailing vessels, and American schooners and clippers came to carry a large share of the world's ocean-borne goods In the Old World four-wheeled carriages were developed toward the end of the 12th cent , they transported only the privileged until the late 18th cent , when Paris licensed omnibuses and stagecoaches began to operate in England In the United States the moving frontier created a need for the CONESTOGA WAGON and the PRAIRIE SCHOONER, so that goods and families could move across the eastern mountains, the Great Plains, and westward The sail gave way to the steam engine, canals were built, and the Hudson and Mississippi river systems flourished with transport The great period of railroad building in the second half of the 19th cent made earlier methods of transportation largely obsolete within the United States Where a self-sufficient settlement might have been established before, a metropolis came into existence, with isolated farms tributary to it The development of paved roads and multi-horsepowered vehicles burning gas and oil has enabled trucks and buses to compete with railroads in carrying goods and passengers In the 20th cent air transport became a reality Regularly scheduled flights now crisscross the nation and convey passengers and freight to and fro across land and sea. See also COMMERCE See Abraham Berglund, *Ocean Transportation* (1931), Vernon Sommerfield, *The Wheel* (1938), Labert St Clair, *Since Time Began Transportation* (rev ed , 1942).

transposing instrument, in music, an instrument whose part in a score is written in one key while the tones produced are in another Such an instrument is usually referred to by the keynote of its natural scale—the clarinet in A, for example, in which case A is sounded when the tone C appears on the score Since A is a minor third below C, the composer or arranger must score the part for this instrument in the key a minor third higher than the key in which the part is to sound. The size in which the instrument is made, determined by technical considerations of intonation and timbre, is responsible for whatever its natural scale is. The alternative to the present method of scoring would be the scoring of all parts of a composition in the same key, thus re-

quiring players of transposing instruments to transpose mentally each time the composition is played. Full scores would then be easier for conductors and listeners to read The CLARINET, the ENGLISH HORN, the FRENCH HORN, the TRUMPET, and the SAXOPHONE are transposing instruments

Trans-Siberian Railroad, rail line, c 4,350 mi long, linking the European RSFSR with the Pacific coast. Its construction began in 1892, on the initiative of Count S Y WITTE, and was completed in 1905 The original line began at CHELYABINSK and ran generally E through Omsk, Novosibirsk, Krasnoyarsk, Irkutsk, and Chita, traversed Manchuria, and reentered Russian territory before ending at VLADIVOSTOK. Until 1906, when the section skirting Lake Baikal was finished, the trains were ferried across the lake The Manchurian section of the line is known as the CHINESE EASTERN RAILROAD. The present Trans-Siberian RR branches off from the original line at Chita to follow, roughly, the Amur and Ussuri rivers and reaches Vladivostok by way of Khabarovsk, it lies entirely in Russian territory The Trans-Siberian RR now has several branch lines, notably the line connecting Omsk with Sverdlovsk, a branch passing N of Lake Baikal is under construction It also is linked with the TURKISTAN-SIBERIA RAILROAD The opening of the railroad was of tremendous consequence in the subsequent history of Russia by opening up SIBERIA to emigration, colonization, and industrialization

transubstantiation · see EUCHARIST

Transvaal (tränsväl') [across the Vaal river], province (110,450 sq mi ; pop 4,271,631), Union of South Africa The capital is Pretoria, the other major city is Johannesburg It is bordered on the north by the Limpopo river, which forms the boundary with Southern Rhodesia and Bechuanaland, on the east by Mozambique and Swaziland, and on the south by the Vaal river, the boundary with Orange Free State Mainly in the veld (3,000 to 6,000 ft high), it has much excellent ranching country and a large European population (1,063,121) Livestock (especially sheep) is raised, and wool, hides, and skins are exported In NE Transvaal is Kruger National Park (c 8,600 sq mi), one of the largest wildlife reservations in the world Grains and citrus and Temperate-Zone fruits are grown where rainfall or irrigation permit agriculture But the wealth has come from the abundant minerals, especially in the Witwatersrand in the west Mines discovered there in 1886 have produced a large share of the world's gold and today earn most of South Africa's foreign exchange The province also furnishes one fourth of the Union's diamonds, two thirds of its coal, and nearly its entire output of asbestos, platinum, and chromium The Transvaal was settled by the Boers (see TREK), who by 1837 had driven out the Matabele, the dominant Negro tribe, and under their leaders, including A W Pretorius and his son, set up a strong government Great Britain recognized (1852) the independence of the Transvaal, which became (1853) the South African Republic It was annexed by Great Britain in 1877 but, after a rebellion (1881), it was restored (1883) to independence and S J P Kruger ("Oom Paul" Kruger) became president The discovery of gold in the Witwatersrand brought a great influx of prospectors (Afrikaans *Uitlanders*=foreigners), most of whom were Englishmen The refusal of political rights to newcomers brought trouble, notably the Jameson Raid (see JAMESON, SIR LEANDER STARR) in 1895. In the ensuing SOUTH AFRICAN WAR, the Transvaal was allied with the Orange Free State against Great Britain When the Boers were defeated and peace had been concluded the Transvaal was made (1902) a British crown colony It became self-governing in 1907 and joined the Union in 1910

Transylvania (trăn"sĭlvā'nēə), Ger *Siebenbürgen* (zē"bənbür'gun), Hung *Erdély* (ĕr'dā), Rumanian *Transilvania* (trăn"sĭlva'nēə) or *Ardeal* (är'dyal), historic province (24,009 sq mi , pop 3,420,829), central Rumania CLUJ (Ger *Klausenburg*, Hung *Kolozsvár*) is the chief city. A high plateau, Transylvania is separated in the south from Walachia by the TRANSYLVANIAN ALPS and in the east from Moldavia and Bukovina by the CARPATHIANS (of which the Transylvanian Alps are a continuation) In the north and west it borders on Crisana-Maramures, in the southwest on the Banat The Transylvanian plateau, 1,000 ft to 1,600 ft high, is drained by the Mures, the Olt, and the Somes, all tributaries of the Danube Its climate is continental Economically and culturally the most advanced part of Rumania, Transylvania is rich in natural resources, including lignite, methane, iron, manganese, lead, and sulphur, and it has the chief metallurgical and chemical industries of Rumania Other industries are textile manufacturing, food processing, and lumbering Stock raising, agriculture, wine production, and fruitgrowing are important occupations Next to Cluj, BRASOV and SIBIU are the principal cities Of the total population, 1,015,947 are Hungarian-speaking and 157,715 are German-speaking. The Rumanian population is largely rural, while the Magyar and German minorities are mostly concentrated in the cities.

The area now constituting Transylvania was part of the province of DACIA under the Roman Empire. It was overrun, between the 3d and 10th cent A D , by the Visigoths, the Huns, the Gepidae, and the Avars, and it was contested in the 10th and 11th cent between the Petchenegs and the Magyars (Hungarians), who finally incorporated it into Hungary It is not known whether the SZEKELY, a Turkic people who adopted the Magyar language, came into Transylvania with or before the Magyars The Szekely were the ancestors of most of the Magyar-speaking population of Transylvania. In the 12th and 13th cent. the kings of Hungary settled large numbers of German colonists in Transylvania, where they were active in building fortified towns. The German settlers and their descendants were (and still are) called Saxons, although they came from various parts of Germany. The German influence became more marked when, early in the 13th cent , King Andrew II of Hungary called on the Teutonic Knights to protect Transylvania from the Cumans, who were followed (1241) by the Mongol invaders under Batu Khan. At that period also began the penetration of Transylvania by the Rumanians, called Vlachs or Walachians, a penetration which continued for centuries The Vlachs were, for the most part, seminomadic shepherds, but most of them soon settled down to agriculture The administration of Transylvania was in the hands of a royal governor, called voivode, who by the mid-13th cent controlled all the seven Transylvanian counties Society was divided into three privileged "nations," the Magyars, the Szekely, and the Saxons These "nations," however, did not correspond to strictly ethnical but rather to social divisions Although the nonprivileged class of serfs consisted mostly of Vlachs, it also included people of Saxon, Szekely, and Magyar origin, while on the other hand many Vlachs had become assimilated with the Magyars and joined the ranks of the nobility Thus John Hunyadi, hero of the Turkish wars of the 15th cent and father of King Matthias Corvinus, was of Rumanian origin After the suppression (1437) of a peasant revolt, the three "nations" solemnly renewed their union, the rebels were cruelly punished and serfdom became more firmly entrenched than ever When the main Hungarian army and King Louis II were slain (1526) in the battle of MOHACS, the troops of John Zapolya, voivode of Transylvania, were saved from destruction through their tardiness Zapolya took advantage of his military strength and put himself at the head of the nationalist Hungarian party, which opposed the succession of Ferdinand of Austria (later Emperor FERDINAND I) to the Hungarian throne As JOHN I, he was elected king of Hungary, while another party recognized Ferdinand In the ensuing struggle Zapolya received the support of Sultan Suleiman I, who after Zapolya's death (1540) overran all central Hungary on the pretext of protecting Zapolya's son, JOHN II Hungary was now divided into three sections—W Hungary, under Austrian rule, central Hungary, under Turkish rule, and semi-independent Transylvania, where Austrian and Turkish influences fought for supremacy for nearly two centuries The Hungarian magnates of Transylvania resorted to a policy of duplicity in order to preserve independence The BATHORY family, which came to power on the death (1571) of John II, ruled Transylvania as princes under Ottoman, and briefly under Hapsburg, suzerainty until 1602, but their rule was interrupted by the incursion of MICHAEL THE BRAVE of Walachia and by Austrian military intervention In 1604 Stephen BOCSKAY led a rebellion against Austrian rule, and in 1606 he was recognized by the emperor as prince of Transylvania He also obtained recognition of religious freedom in Hungary The Reformation had been widely accepted throughout Transylvania except by the Orthodox Rumanians The principality was the chief center of Hungarian culture and humanism, and it was the only country in Europe at that period where Roman Catholics, Orthodox Catholics, Calvinists, Lutherans, and Unitarians lived in mutual tolerance Under Bocskay's successors—among whom the most notable were Sigismund RAKOCZY, Gabriel Bathory, Gabriel BETHLEN, George I and George II RAKOCZY, Emeric THOKOLY, and Francis II RAKOCZY—Transylvania vainly sought to shake off the growing Austrian influence, and its alliance with Turkey under Thokoly and with France under Francis II Rakoczy proved fatal to its independence In 1711 Austrian control was definitely established over all Hungary and Transylvania, and the princes of Transylvania were replaced by Austrian governors The proclamation (1765) of Transylvania as a grand principality was a mere formality. In the revolutionary years 1848–49 the Rumanians rose against the Magyar national state established by the revolutionists, they were aided by Austrian troops, who with the help of Russian intervention put down the Hungarian republic of Louis Kossuth. A period of Austrian military government followed (1849–60), while it was disastrous for the Magyars, it greatly benefited the Rumanian peasants, who were given land and otherwise favored by the Austrian authorities However, in the compromise (*Ausgleich*) of 1867 which established the Austro-Hungarian Monarchy, Transylvania was made an integral part of Hungary, and the Rumanians, after having tasted equality, were once more plunged into subjection to the Magyar magnates. Transylvania was seized by Rumania after the First World War and was formally ceded by Hungary in the Treaty of Trianon (1920) The expropriation of the estates of the magnates and the distribution of the lands to the Rumanian peasants was a major cause of friction between Hungary and Rumania It was now the turn of the Magyar and German nationalists to complain of Rumanian oppression During the Second World War, Hungary annexed (1940) the northern part of Transylvania, which was, however, restored to Rumania after the war A large number of the Transylvanian "Saxons" fled to Germany as displaced persons before the arrival of the Russian armies See Ladislas Makkai, *Histoire de Transylvanie* (1940, in French).

Transylvania College, at Lexington, Ky.; Disciples of Christ, coeducational, chartered 1780 and 1783, opened as a seminary near Danville, Ky , 1785, moved 1789 It was an early institution of higher learning W of the Alleghenies The legal name, given in 1798, is Transylvania University, but after a merger the name Kentucky Univ was used from 1865 to 1908 (see KENTUCKY, UNIVERSITY OF). Since 1915, when its pioneer medical and law schools closed, it has been called a college Among its notable alumni and students were Jefferson Davis and John C Breckinridge The library owns rare medical, law, and scientific books The College of the Bible is affiliated

Transylvania Company, association formed to exploit and colonize the area now comprising much of Kentucky and Tennessee Organized first (Aug , 1774) as the Louisa Company, it was reorganized (Jan , 1775) as the Transylvania Company At Sycamore Shoals on the Watauga river, the Cherokee Indians deeded (March 17, 1775) to Richard HENDERSON and eight other members of the association all the territory embraced by the Ohio, Kentucky, and Cumberland rivers Henderson had already dispatched Daniel BOONE to lead the way to the Kentucky river and, with additional settlers, soon followed Boone over his WILDERNESS ROAD to Boonesboro (or Boonesborough), the first settlement Henderson had grandiose plans for making Transylvania, as the region was called, a proprietary colony similar to Pennsylvania and Maryland, but the project did not have British approval and, more important, was immediately denounced by both Virginia and North Carolina, within whose chartered limits Transylvania lay A provisional, democratic government was organized in May, 1775, but the Continental Congress ignored Transylvania's plea to be recognized as the 14th colony Virginia created (Dec , 1776) Kentucky co in its portion of Transylvania and voided (Nov , 1778) the company's land titles there Henderson then turned to the development of the Cumberland river area, employing James ROBERTSON, founder of Nashville, and John Donelson to lead this project However, North Carolina also voided (1783) this section of the grant Virginia and North Carolina each awarded Henderson and his associates 200,000 acres for their labor and expenses in promoting western colonization See Archibald Henderson, *The Conquest of the Old Southwest* (1920), W S Lester, *The Transylvania Colony* (1935)

Transylvanian Alps, southern branch of the CARPATHIANS, in central and SW Rumania They extend c 170 mi E from the Danube at the Iron Gate, and they separate Transylvania from Walachia to the south Negoiul (8,361 ft) is the highest peak The range is densely forested and is a famous hunting ground Its subalpine meadows are used for extensive sheep raising There are coal, iron, and lignite deposits The range is crossed by several passes, notably the Turnu Rosu

Trapani (tra'panē), city (pop 52,661), capital of Trapani prov , W Sicily, Italy, on a promontory of the west coast The ancient Drepanum, it was an important naval base of the Carthaginians, it fell to Rome after the battle of the Aegates (241 B C) The modern town exports Marsala wine, macaroni, tuna fish, and salt It has several Gothic and baroque churches

Trapezus: see TREBIZOND

trapping, most broadly, use of mechanical or deceptive devices to capture, kill, or injure animals It may be applied to the practice of using birdlime to capture birds, lobster pots to trap lobsters, and seines to catch fish Generally speaking, however, the term usually means the trapping of land animals larger than the rodents (catching a mouse in a spring mousetrap is not called trapping) by means of deadfall, pitfall, and, especially in modern times, spring-snapped, steel-jawed steel traps In societies where hunting and fishing are the staple occupations, trapping is a highly important concern, for it is frequently necessary to supply food and, more essentially in colder climates, furs for clothing It is also used to rid the neighborhood of marauding animals that threaten the lives of humans or domestic animals. As a profession,

trapping has been since unknown antiquity the basis of the fur trade (see FUR) It still occupies a great many people over large sections of the globe, especially in the colder regions, such as N Siberia and N Canada. The cruel results of the usual modern steel trap (the animals frequently suffer greatly) have in recent times caused efforts to bring an end to its use Organizations such as the Anti-Steel Trap League have been formed, and efforts have been made to develop more humane traps

Trappists, Roman Catholic monks, officially the Reformed CISTERCIANS or Cistercians of the Stricter Observance They perpetuate the reform begun at La Trappe, Orne dept , France, by Abbot Jean le Bouthillier de RANCÉ (c 1660) The reformer's aim was to restore primitive Cistercian (hence also primitive Benedictine) life, actually the Trappists outdid both St. Benedict and St. Bernard in austerity The reform was acclaimed in the world, but many Cistercians resisted it The whole order was affected, but some abbeys never accepted the reform as such The life of Trappists is one of strict seclusion from the world Regulated hours are devoted to common and private worship, labor (often manual), and study, there is no recreation, no meat is eaten by the healthy, and silence is observed except under unusual circumstances, but not by vow. Lay brothers do much of the farming, a peculiarly Cistercian interest In the 19th and the 20th cent the Trappists shared in the revival of MONASTICISM and expanded greatly In the United States abbeys were founded at Cumberland, R.I., near Bardstown, Ky., and near Dubuque, Iowa There is also a monastery in Utah The head of the order, the abbot general of Cîteaux, lives in Rome, governing his house through an assistant abbot See Father Raymond, *The Man Who Got Even with God* (1941), Thomas Merton (Father Louis), *The Waters of Siloe* (1949).

trapshooting: see SHOOTING.

Trasimeno (träsēmā'nō), Latin *Trasimenus*, lake, area 50 sq mi., Umbria, central Italy. It is also called Lake of Perugia after the near-by city. The round lake, with a maximum depth of 19 ft., has no natural outlet, but a channel to the Tiber was opened in 1898 In 217 B C. Lake Trasimeno was the scene of Hannibal's great victory over the Romans under Flaminius

Trás-os-Montes (träʹzōsh'mō"tĭsh), former province of NE Portugal, including the districts of Bragança and Vila Real. The capital was Bragança It is now included with other territory in Trás-os-Montes-e-Alto-Douro. The terrain is rough and the winters very cold except in the hilly vineyard district along the Douro and in warm valleys where olives are grown. Many sheep are pastured in the region.

Trastevere. see *Renaissance and Modern Rome* under ROME

Trau, Yugoslavia see TROGIR

Traunsee, Austria see SALZKAMMERGUT

Trautenau, Czechoslovakia see TRUTNOV

Travancore (trăvunkôr'), former princely state (7,622 sq mi , pop 6,070,018), SW India, on the Arabian Sea Travancore comprises coastal lowlands (protected by lagoons) and a rough interior, including the Cardamom Hills Rainfall is heavy, especially in the spring, and two crops are raised a year Rice, sugar cane, coconuts, and cotton are important lowland crops. The coastal sands contain large deposits of thorium The hill region provides half of India's cardamom and much coffee, tea, rubber, and timber Little is known of Travancore's history before the 11th cent Thereafter it was divided into petty states until in the 18th cent. Martanda Varma with a European-trained army gained control Travancore accepted (1788) an alliance with Great Britain for protection against Hyder Ali and Tippoo Sahib In the early 19th cent. there were revolts against British overlordship, which were quickly suppressed. Travancore became noted for its efficient government, its comparatively high rate of literacy (about 50 percent), and its efforts to root out untouchability (see CASTE). In 1949 it merged with Cochin to form the state of Travancore-Cochin.

traveler's-joy: see CLEMATIS.

Travers, Morris William (trăʹvûrs), 1872–, English chemist He directed (1906–14) the Indian Institute of Science, Bangalore, and was honorary professor (1927–37) at the Univ of Bristol With Ramsay he discovered neon, krypton, and xenon He wrote *The Discovery of the Rare Gases* (1928).

Traverse, Lake (trăʹvurs), c. 20 mi. long, on the Minn.–S.Dak. line, drained to the north by the Bois de Sioux, a headstream of the Red River

Traverse City, city (pop 14,455), co. seat of Grand Traverse co , N Mich , N of Cadillac and at the head of the West Arm of Grand Traverse Bay; settled 1847, inc as a village 1881, as a city 1895 In a cherry-growing area, it holds an annual national cherry festival. Manufactures include automobile parts, farm tools, and canned goods. Its lakes attract many summer visitors. Indian trails crossed here, and Indian mounds are in the vicinity

travertine (trăʹvurtĭn,–tēn), form of massive calcium carbonate resulting from deposition by hot springs or rivers. It is often beautifully colored and banded as a result of the presence of iron compounds or other (e.g., organic) impurities. This material is variously known as calc-sinter and calcareous tufa and (when used for decorative purposes) as onyx marble, Mexican onyx, and Egyptian or Oriental alabaster Travertine is generally less coarse-grained and takes a higher polish than stalactite and stalagmite, which are similar in chemical composition and origin.

Traviès de Villers, Charles Joseph (shärl' zhôsĕf' trăvyĕs' dŭ vēlĕr'), 1804–59, French caricaturist and painter. He founded and was a prolific contributor to *Charivari* (1831) and *Carcature* (1838). His witty burlesques of Parisian life were very popular He collaborated in illustrating Balzac's works

Travis, William Barrett (trăv'ĭs), 1811–36, hero of the Texas Revolution, b Edgefield co , S C. He moved to Claiborne, Ala., where he practiced law In 1832 he moved to Texas and soon acquired local prominence. He was ardent in urging the revolt of the American settlers against Mexican rule. In the Texas Revolution he served as a colonel and was chief in command of the forces that settled in the ALAMO The little force was beset by the Mexican army of SANTA ANNA (March, 1836) Heroic resistance was offered and, so far as our scanty knowledge of the tragedy goes, it seems that Travis was especially brave in the defense. The Alamo fell, and all of her defenders, among them Travis, James Bowie, and David Crockett, were massacred

travois (trăvoi'), device used by North American Indians of the Great Plains for transporting their tepees and household goods It consisted of two poles, lashed one on either side of a dog or, later, a horse, with one end of each pole dragging on the ground. It had a net, straps, or wooden crosspieces between the poles near the open end to act as a carrier Like the sledge, the travois was used by Indians before any use of wheels was known to them.

treacle see MOLASSES

treason. This legal term has been used for various acts of disloyalty The English law, first clearly stated in the Statute of Treasons (1350), originally distinguished high treason and petit (or petty) treason Petit treason was the murder of one's lawful superior, e g , an apprentice murdering his master High treason constituted a serious threat to the stability or continuity of the state It included attempts to kill the king, the queen, or the heir apparent or to restrain their liberty, counterfeiting coinage or the royal seal, and waging war against the kingdom Especially cruel methods were used in executing traitors Court decisions developed the English law of treason into an instrument for suppressing resistance to governmental policy Any degree of violence in expressing opposition to parliamentary enactments was held to be a levy of war and a threat to the king's life In the 19th cent the English law was reformed, petit treason was abolished, cruel methods of executing traitors were forbidden, and many types of treason (e g , counterfeiting) were made felonies which involved a lesser penalty than death To avoid the abuses of the English law, treason was specifically defined in the U S Constitution (definitions of other crimes were not deemed necessary). Article 3 of the Constitution thus provides that treason shall consist only in levying war against the United States or in giving aid and comfort to its enemies and that conviction may be had only on the testimony of two witnesses to the same overt act or on confession in open court Most states have similar provisions in their constitutions or statutes There were several convictions for levying war against the United States in connection with the Whisky Rebellion (1794). No other convictions were made under the Federal law until the Second World War, when the provision for giving aid and comfort to the enemy was successfully invoked. The maximum penalty of death for treason has never been inflicted in the United States. See Nathaniel Wehl, *Treason* (1950)

treasure-trove, in English law, buried or concealed money or precious metals without any ascertainable owner. Such property belongs to the crown. The present practice in England is for the crown to pay the finder for the treasure-trove if it is of historic or artistic value In the United States the government does not assert a claim to apparently ownerless property but allows the finder to keep it

Treasury, United States Department of the, executive department of the Federal government, established by act of Congress in 1789. Under the Articles of Confederation the limited financial administration of the United States was taken care of by a superintendent of finance, who was replaced in 1784 by a treasury board. One of the first necessities, after the new government was set up in 1789 under the Constitution, was machinery for the collection of taxes, custody of Federal funds, and keeping of accounts To this end the Dept. of the Treasury was created with the Secretary of the Treasury, the second-ranking cabinet officer, as its head. Alexander Hamilton was the first Secretary. He was charged with the management of national finances and the support of public debt. As the American financial structure expanded, the functions of the department were considerably broadened. Over the years, the offices of the director of the mint (1795), the commissioner of internal revenue (1862), and the comptroller of the currency (1863) as well as the Bureau of Engraving and Printing (1877) were added to the structure of the Dept. of the Treasury. It was also given jurisdiction over many affairs indirectly related to finance Until 1829 the department supervised the U S postal service and until 1849 the General Land Office; before 1903 the department was also charged with many duties pertaining to commerce The Secretary of the Treasury was given charge of the U S. Secret Service (1860), the U S coast guard (1915) during peacetime, the Bureau of the Budget (1921), the Bureau of Customs (1927), the Bureau of Narcotics (1930), and the Bureau of Federal Supply (1933). The Secretary of the Treasury is assisted in his manifold duties by an Undersecretary and two Assistant Secretaries. See also BANK OF THE UNITED STATES; FEDERAL RESERVE SYSTEM; INDEPENDENT TREASURY SYSTEM, SUBTREASURY

Treat, Robert, 1622?–1710, governor of the British colony of Connecticut. Born in England, he came to America when a child; his father was an early settler of Wethersfield, Conn., and a patentee of the royal charter granted in 1662. Robert Treat settled in Milford (1639) and became a prominent citizen, serving in the colonial assembly and on the governor's council. When the colonies of New Haven and Connecticut were united, a group of settlers, discontented with the new arrangement, went to New Jersey, where they founded the city of Newark, Treat was one of their leaders (1666–71) He later returned to Milford, rose to the rank of major in the colonial troops, and was made commander in chief of forces against King Philip He saw some service in the Indian Wars, especially in the fights with the Narragansett. Deputy governor after 1676, he became governor of Connecticut in 1683. When the home government planned to unite the New England colonies, Treat was a leader of the opposition and he fought the surrender of the Connecticut charter. He is supposed to have had some part in concealing the charter in the Charter Oak to prevent its falling into the hands of Governor Andros, but there is excellent reason to believe that the whole Charter Oak story is a myth Treat served on Andros's council, and when that unpopular governor was ousted (1689), he resumed the governorship of Connecticut, retaining it until 1698 He again served (1698–1708) as deputy governor

treaty, in international law, an agreement between sovereign states. A treaty ordinarily deals with the rights and duties of nations, but many treaties also grant specific rights to foreign private persons (e g , the right to engage in business without special licenses) In some countries treaties are a part of the law of the land and are binding upon all persons. In the United States the Supreme Court has held that a treaty automatically abrogates any state or Federal statute in conflict with it Treaties are designed to regularize the intercourse of nations, and, as such, they are the source of most international law The term *treaty* is ordinarily confined to important formal agreements, while relatively minor international accords are called conventions There can be no doubt that treaties have existed ever since states came into existence. Records survive of Mesopotamian treaties dating before 3000 B C , and in the Old Testament many treaties are mentioned The Greeks and the Romans had elaborate ceremonials to emphasize the sanctity of treaties, and many current treaty practices have classical antecedents Although treaties deal with a great variety of subjects, they are commonly classified under a few great heads Political treaties deal (among other things) with alliances, war, cessions of territory, and rectification of boundaries Commercial treaties may govern fisheries, navigation, tariffs, and monetary exchange. Legal treaties concern extradition of criminals, patent and copyright protection, and the like A treaty is negotiated by duly accredited plenipotentiaries, who are the representatives of the executive branch of the government, for the United States negotiations are ordinarily conducted by officials of the Dept of State under the authority of the President. The proceedings are not usually open, but the record of all PROTOCOL (i.e., the minutes) is preserved for use in case the treaty provisions must later be interpreted. Technical experts draft the text, which the plenipotentiaries then sign The treaty is next ratified by the signatory states in accordance with their regular practice. In the United States the Constitution requires that the treaty must be approved by two thirds of the Senate. In Great Britain the king and, ordinarily, Parliament must approve. A treaty comes into effect when the ratifications are formally exchanged. Secret treaties are ratified without publicity. Since the Senate must approve a treaty, this country cannot enter into secret engagements; it has been argued, however, that such wartime agreements as those made by President F. D. Roosevelt

at the Yalta Conference were in effect secret treaties. Members of the United Nations are required to register their treaties with that organization (following the like practice of the League of Nations), and a treaty which was not previously registered may not be the subject of a complaint. The interpretation of treaties, like that of all legal documents, may present great difficulties. There is no tribunal with compulsory and final jurisdiction to interpret a treaty, parties may, however, voluntarily submit a dispute to the International Court of Justice (World Court) or the Permanent Court of Arbitration (Hague Tribunal). Treaties may come to an end in various ways. Most provide for a date of expiration or a time at which notice to terminate must be given if the treaty is not to continue in effect for another specified period. Treaties terminate if one of the signatory states becomes politically extinct or (in the case of political treaties) if the parties are at war with one another; treaties relating to the laws of war, of course, remain in effect during hostilities. A treaty may be terminated by mutual consent, and breach by one party entitles the other to abrogate. See Ralph Arnold, ed., *Treaty-Making Procedure* (1933), Chang I-ting, *Interpretation of Treaties* (1933), A. D. McNair, *The Law of Treaties* (1938)

treaty port, port opened to foreign trade by a treaty. The term is usually confined to ports in those countries which formerly strongly objected to foreign trade or attempted altogether to exclude it. Thus it is used especially in reference to Japan and China. These countries had admitted trade with the West in the 16th cent. but soon reversed themselves, with Japan permitting only a trickle of Dutch commerce through Nagasaki and China shutting off all trade until the opening of Canton in 1834. Great Britain, determined to increase commerce, provoked the OPIUM WAR with China. The Treaty of Nanking (1842), which restored peace, provided for five treaty ports—Amoy, Canton, Foochow, Ningbasi, and Shanghai. As in all the 69 Chinese treaty ports which were finally opened, there were established zones for foreign residence which enjoyed EXTRATERRITORIALITY. Most of the ports were on the seacoast or on large rivers, there were also inland ports. There was a similar system in Japan after the country was reopened to Western trade by Matthew Perry in 1854. With the abolition of extraterritoriality the system of treaty ports also disappeared. This occurred in 1899 in Japan but not until 1946 in China.

Trebbia (trĕb'bya), river, 62 mi. long, N Italy, rising in the Ligurian Apennines and flowing northeast to join the Po near Piacenza. Near that city in 218 B.C. HANNIBAL won a decisive victory over the Romans. In 1799 the Trebbia was the scene of a Russo-Austrian victory over the French.

Trebizond (trĕ'bĭzŏnd", Turkish *Trabzon* (träb"zŏn'), city (pop. 29,824), NE Turkey, in Turkish Armenia, a port on the Black Sea. Food products and tobacco are its chief exports. The ancient Trapezus (trăp'ĭzŭs), the city was founded in the 8th cent. B.C. by colonists from Sinope. It grew in importance after its conquest (1st cent. B.C.) by Mithridates VI and after its incorporation (1st cent. A.D.) into the Roman Empire. Though it suffered from the barbarian invasions after the 3d cent., it again became a prosperous port under the Byzantine Empire, and it reached its greatest splendor after the establishment (1204) of the Greek empire of Trebizond (see separate article), which was to last until 1461, when it was annexed to the Ottoman Empire. Under the rule of Alexius III (1349–90), the city was one of the world's great trade centers and was renowned for its fabulous wealth and beauty. It declined under Turkish rule to the status of a minor provincial port. Trebizond was included (1920) in the ephemeral independent state of Armenia. The large Greek population of Trebizond was deported in 1923. In the old sections of the city there are churches and other mementos dating from the imperial period and from earlier times.

Trebizond, empire of, 1204–1461. When the host of the Fourth Crusade overthrew (1204) the Byzantine Empire and established the Latin Empire of Constantinople, several Greek successor states sprang up. These were the empire of Nicaea, the despotat of Epirus, and the empire of Trebizond. The last of these was founded by a member of the former imperial Comnenus family, Alexius I of Trebizond, and originally comprised the entire southern littoral of the Black Sea, except its westernmost section, which belonged to Nicaea. Trebizond, its capital, and Sinope were the chief cities. The western part of the empire was the conquest of David Comnenus, Alexius' brother, who soon lost his dominions to Nicaea. The Trapezuntine empire was further diminished when Sinope fell (c. 1215) to the Seljuk Turks, and for the remainder of its existence it was restricted to the SE Black Sea littoral. Alexius I (1204–22) took the sonorous titles of Grand Comnenus and emperor, which were carried by all his successors. When the Byzantine Empire was restored (1261) under Nicaean leadership, Trebizond remained separate. Although it was a vassal, for long periods, to the Seljuk Turks and later to the Mongols and to the Ottoman Turks, it experienced tremendous economic prosperity. This was due, in part, to its fertile hinterland, but chiefly to its position on the trade routes from Russia and from the Middle East to Europe. The carrying trade from Trebizond to Europe was largely a monopoly of Genoa. The empire reached its greatest prosperity under Alexius II (1297–1330) and Alexius III (1349–90). The court of the Grand Comneni, though quite Oriental in character, was the last refuge of Hellenistic civilization and was a center of the arts and letters. Byzantine court ceremony probably reached its apex here. Many princesses of the Comnenus dynasty were sought in marriage by European and by Moslem princes and nobles. Relations between Trebizond and the Moslems were generally friendly, but after the Turkish conquest of Constantinople (1453) David Comnenus, last of the Trapezuntine emperors, promoted an alliance of the non-Ottoman Asiatic states against Sultan Mohammed II. In 1461 Mohammed forced David to surrender, had him put to death, and annexed Trebizond to the Ottoman Empire. See William Miller, *Trebizond, the Last Greek Empire* (1926)

treble (trĕ'bul), highest part in choral music, hence synonymous with soprano. The term appeared in 15th-century English polyphony, probably as an Anglicization of the Latin *triplum*, the name given in medieval polyphony to the part which was often the highest (see MOTET). The treble clef, however, is the G clef, one of the two clefs commonly used today for vocal music and for most instrumental music. The soprano clef is a C clef placing middle C on the bottom line of the staff; it was used in vocal music as late as Bach's time but is now nearly obsolete for voice.

Treblinka, Poland. see CONCENTRATION CAMP.

Trebonius, Caius (trēbō'nēus), d. 43 B.C., Roman politician. When tribune of the plebs (55 B.C.) he proposed the *Lex Trebonia* by which Pompey obtained Spain, Crassus obtained Syria, and Caesar obtained Gaul and Illyricum. As Caesar's protégé he became praetor (48 B.C.), propraetor in Spain (47 B.C.), and consul (45 B.C.). Notwithstanding the promise by Caesar of the province of Asia, he was a leading conspirator against his patron. He was later slain in Smyrna.

Tredegar (trĕdĕ'gär), urban district (pop. 23,192), Monmouthshire, England, ENE of Merthyr Tydfil. It has coal mines, ironworks, and steelworks.

Tredyakovsky, Vasily Kirilovich (vŭsē'lyĕ kĭrē'lŭvĭch trĕdyŭkôf'skĭ), 1703–69, Russian poet and translator. The son of a poor priest, he rose through education at home and abroad to full membership (1745) in the Academy of Sciences, only to die in poverty and oblivion. He is remembered chiefly for his treatise *A Brief New Method of Composing Russian Verse* (1735), with which he initiated the reform of Russian prosody that was finally completed by Lomonosov.

Tree, Ellen. see KEAN, CHARLES JOHN.

Tree, Sir Herbert Beerbohm, 1853–1917, English actor-manager, whose original name was Herbert Beerbohm. He was a half brother of Max Beerbohm. First successful (1884) as the curate in *The Private Secretary*, he was lessee and manager (1887–97) of the Haymarket theater, there he produced and acted leading roles in Shakspere, Ibsen, Wilde, and Maeterlinck and such dramas as *Jim the Penman*, Du Maurier's *Trilby*, and Jones's *Dancing Girl*. He built and opened Her Majesty's Theatre in 1897 and for 20 years offered elaborate Shakesperian productions and other plays. He was knighted in 1909. See his *Thoughts and Afterthoughts* (1913), Max Beerbohm, *Herbert Beerbohm Tree* (1920)

tree, perennial plant with a single trunk or stem branching some distance from the ground. A tree reaches a greater height at maturity than a shrub, it usually branches higher on the stem and while a shrub increases in size chiefly by the growth of new shoots, trees increase the number and size of the branches on the main stem; the diameter of the stem characteristically exceeds that of shrubs. Trees and shrubs are known either as deciduous forms (those with broad leaves which are shed regularly at the end of the growing season) or evergreens (those that remain green all year). Most evergreens have needlelike or scalelike leaves which are shed gradually at intervals ranging from 2 to 10 years. However, there are some broad-leaved shrubs which shed their leaves gradually and remain green throughout the year even in relatively cold climates and a few trees with needlelike leaves (e.g., the larch) which are shed at the end of the growing season. Shedding the leaves is chiefly a means of conserving water during the winter when the ground is frozen. The green coloring of leaves is produced by the presence of chlorophyll. Autumn coloration is believed to be caused partly by the destruction of chlorophyll resulting in the unmasking of pigments ordinarily hidden by the chlorophyll and also by chemical changes which produce new pigments. Trees serve many useful purposes—nuts and fruits of numerous trees provide food for man and animals, and the wood furnishes fuel, building materials, and cellulose for use in making paper, rayon, and other products. Turpentine, resins, maple sugar, rubber, quinine, and other useful substances are obtained from trees. See also BARK, CAMBIUM; FOREST, WOOD. See H. L. Edlin, *British Woodland Trees* (2d ed., 1945), R. B. Hough, *Handbook of the Trees of the Northern States and Canada* (1947), R. J. Preston, *Rocky Mountain Trees* (2d ed., 1947) and *North American Trees* (1948); G. C. Taylor and F. P. Knight, *Propagation of Hardy Trees and Shrubs* (new ed., 1947); W. G. Sheat, *Propagation of Trees, Shrubs, and Conifers* (1948), J. J. Levison, *Home Book of Trees & Shrubs* (2d ed., 1949), F. K. Makins, *Identification of Trees and Shrubs* (3d ed., 1949); U.S. Dept. of Agriculture, *Trees the Yearbook of Agriculture* (1949).

tree fern, any FERN having a treelike trunk, chiefly native to tropical regions but cultivated in conservatories elsewhere. In general appearance tree ferns resemble palms (they are sometimes 60 to 70 ft. high), but the large leaves typically are finely divided fern fronds. Predecessors of the tree ferns were a conspicuous part of the vegetation of the Carboniferous period and had a much wider distribution than at present.

tree frog, small arboreal frog with an adhesive disk on each digit. Most tree frogs can change the skin color to harmonize with their background. Among the New World species are the common tree frog, often called the tree toad, the slender, smooth, green tree frog and the squirrel tree frog of the S United States, the pine-woods tree frog; the barking tree frog, about 3 in. long, the largest species native to the United States, the least swamp frog, about ½ in. long, the smallest of the group in North America, found in the coastal region of the SE United States, the cricket frog, which is not arboreal, and the familiar little spring peeper, which inflates a large throat sac when delivering its loud "peeping."

tree of heaven: see AILANTHUS.

tree surgery, practice of repairing cut or injured trees to preserve their appearance and prevent disease. Diseased or injured parts are first removed (even small cavities in the bark may harbor injurious fungi and insects), the surfaces are treated with antiseptics and healing aids, and the cavity may be filled with cement, rubber, or other material to prevent moisture from entering and to improve the appearance of the treated wounds over which the bark later grows. Fresh wounds can be simply treated with shellac, special tree paint or a liquid grafting wax but extensive repair work should always be done by a qualified tree surgeon. See R. R. Fenska, *Tree Experts Manual* (1943).

tree toad: see TREE FROG.

trefoil (trē'foil) [O.Fr., =three-leaf], name for several plants, chiefly legumes, having trifoliate leaves. Best known of the trefoils is clover. The tick trefoil or tickseed (*Desmodium*) has flat scalloped pods that separate into clinging segments particularly troublesome for the woolgrower. The bird's-foot trefoil (*Lotus corniculatus*) is an Old World forage plant and weed, naturalized in North America. The shrubby trefoil is the HOP TREE.

Treitschke, Heinrich von (hĭn'rĭkh fŭn trĭch'kŭ), 1834–96, German historian. Educated chiefly at Leipzig and Bonn, he lectured at Leipzig (1859–63) and was appointed (1863) to a chair of history at Freiburg im Breisgau. A fervid partisan of Prussia, he left Baden at the outbreak of the Austro-Prussian War (1866) and became professor of history at Kiel (1866), Heidelberg (1867), and Berlin (1874). He edited (1866–89) the monthly *Preussische Jahrbücher* and became (1886) Prussian state historiographer. As a young man, he was strongly nationalistic and liberal, as he grew older his political views became more and more nationalistic, less and less liberal. He was a member of the Reichstag, but acquired little fame as a practical politician. All his writings, however, reflected his political views, his deep hope for the unity and greatness of Germany under Prussian leadership, and his admiration of Bismarck and the Hohenzollern dynasty, and he exerted tremendous influence, particularly on the younger generation. Treitschke's histories, stirring and graphic, excellent in workmanship and deep in thought, nevertheless leave much to be desired because his prepossessions and his theories distort his factual narratives. His masterpiece is his *History of Germany in the Nineteenth Century* (Eng. tr., 7 vols., 1915–19). Among his other works are *Zehn Jahre deutscher Kämpfe* [ten years of German strife] (1874), *Politics* (Eng. tr., 1916), and *Origins of Prussianism* (Eng. tr., 1942). See A. Hausrath, ed., *Treitschke: His Life and Works* (Eng. tr., 1914).

trek (trĕk) [Dutch, =draft], South African term, originally meaning merely a journey by ox wagon. In English usage it generally signifies an organized migration, especially of farmers. The best-known trek is the Great Trek (1835–36), Boer farmers left the Cape of Good Hope to escape British domination and founded Natal, Transvaal, and the Orange Free State. A more recent trek was that of some 700 Boers who, after British victory in the South African War, left their homes in Transvaal to settle in S central Kenya. See Eric Walker, *The Great Trek* (3d ed., 1948).

Trelawny, Edward John, 1792–1881, English adventurer; friend of Byron and Shelley He was at Leghorn when Shelley was drowned and later served with Byron in the Greek war of independence He wrote *Recollections of the Last Days of Shelley and Byron* (1858, additions, 1878) and a partly autobiographical novel, *The Adventures of a Younger Son* (1831). See M. N Armstrong, *Trelawny* (1940).

Trelease, William (trĭlēs'), 1857–1945, American botanist, b Mt. Vernon, N Y., grad Cornell Univ (B.S., 1880) He was professor of botany at the Univ of Wisconsin (1883–85), at Washington Univ., St Louis (1885–1913), and at the Univ of Illinois (1913–26) From 1889 to 1912 he was director of the Missouri Botanical Garden in St Louis He made a special study of the genus *Agave* His writings include *Agave in the West Indies* (1913), *Plant Materials of Decorative Gardening* (1917), and *Winter Botany* (1918) His son, **Sam Farlow Trelease,** 1892–, b St Louis, grad Washington Univ (B A., 1914), Ph D Johns Hopkins, 1917, was associated with Columbia Univ from 1925 He became head of the department of botany in 1930 and Torrey professor of botany in 1937 His work in plant physiology includes studies of photosynthesis, plant respiration, and selenium poisoning With O A Beath he wrote *Selenium* (1949)

Trelleborg (trĕlŭbôr'yŭ), city (pop 16,148), Malmohus co., S Sweden, a Baltic port at the southern tip of Sweden From Trelleborg to Gdynia there is a ferry connecting the railroads of Sweden and Poland Normally there also is a connection with Sassnitz, the German ferry terminal on the island of Rügen The city, which dates from the 11th cent., also has sugar refineries and rubber, machinery, and cement factories The name sometimes appears as Tralleborg (Swed *Trälleborg*)

Tremont, 1 (trĭ'mŏnt, trē'munt) Town (pop 1,118), on S Mt Desert Island, S Maine, inc 1848 **2** (trē'mŏnt) Borough (pop 2,314), E Pa., SW of Pottsville, laid out 1844, inc 1866 Anthracite is mined here

Tremonton (trē'mŭntŭn), city (pop 1,443), N Utah, W of Logan, laid out 1903, inc 1906 With near-by Garland, it is the processing center of a poultry-, sugar-beet, and alfalfa area

Trench, Richard Chenevix, 1807–86, British clergyman and author, b Dublin, grad Trinity College, Cambridge He was dean of Westminster, 1856–63, and Protestant archbishop of Dublin, 1863–84, his writings include *The Study of Words* (1851) and *English, Past and Present* (1855) *Collected Poems* (1865) show his skill as a poet

trench mouth, common name for Vincent's stomatitis, an inflammation of the soft tissue of the mouth It is also known as Vincent's infection and is limited in some cases to a gingivitis, or inflammation of the gums Some authorities believe the causative agents to be two associated microorganisms, a fusiform bacillus and a species of spirochete, acting either by themselves or with other microbes Both organisms are generally present (in smaller numbers than occur in the disease) in healthy mouths, but the conditions which induce them to attack the tissue have not been determined Trench mouth has a heavy incidence among soldiers in the field and in camp, a fact to which the condition owes its name Among the predisposing factors cited in the occurrence of the disease are vitamin deficiencies, diseases of the blood and blood-forming organs, allergies, the effects of certain drugs, and several diseases which are characterized by fever and debilitation

trench warfare. Though trenches were used in ancient and medieval warfare, in the Civil War, and in the Russo-Japanese War (1904–5), they did not gain importance until the First World War The introduction of the MACHINE GUN made the infantry charges of earlier wars virtually impossible, and the war bogged down, with the contenders digging thousands of miles of opposing trenches on the Eastern and Western fronts. The trenches were fronted by miles of barbed wire to impede and snare attacking enemy troops Between opposing trench systems was a no man's land To break the stalemate, various methods and new weapons were employed, tremendous artillery barrages sought to devastate the enemy and blow a gap in his trenches, trench mortars, hand grenades, rifle grenades, and poison gas were used The British introduced the tank, but their lack of understanding of the tactics of the new armored warfare minimized its effectiveness. Without a decisive weapon to end the stalemate the war of attrition continued to the end, with artillery duels and infantry attacks behind creeping artillery barrages The idea of an uninterrupted line of defense with the exclusion of flanking held the imagination of the French and German general staffs between the two world wars, and they built lines of field fortifications known as the Maginot Line and the Siegfried Line The increased speed, armor, and firepower of armored and motorized divisions and air-borne troops, however, made such defense illusory In the Second World War trench warfare was reduced to a small scale, whenever an offensive stalled, attacking troops "dug in" until the enemy strong points were destroyed or weakened by air or artillery assault. The fox hole (giving improvised, individual protection) became more common than the trench. See Tom Wintringham, *The Story of Weapons and Tactics* (1943).

Trenck, Franz, Freiherr von der (frănts' frī'hĕr fŭn dĕr trĕngk'), 1711–49, Austrian officer and adventurer, b Reggio di Calabria, Italy He was notorious for his bravery, his disorderly love affairs, and his duels, for which he was cashiered from the Austrian army After service in the Russian army he was imprisoned at Kiev for insubordination Released, he returned to his estates on the Slavonian border, where he took command of a regiment of Pandours (Croatian infantry) He fought for Maria Theresa in the War of the Austrian Succession, but his deeds of violence led to his court-martial (1747) and to his imprisonment in the notorious Spielberg fortress at Brno (Brünn), where he died His memoirs were published in 1770.

Trenck, Friedrich, Freiherr von der (frē'drĭkh), Prussian officer and adventurer, b Königsberg, cousin of Franz von der Trenck He was imprisoned on the order of Frederick II because of a supposed love affair with Frederick's sister, Princess Amalia He escaped, but was later rearrested and spent 10 years in captivity at Magdeburg under the most cruel treatment Released (1763) on the intercession of Maria Theresa, he lived for many years at Aachen, where he published a newspaper and entered the wine business He later retired to his estate in S Hungary, where he wrote his celebrated autobiography (1786–87, Eng tr, 1788) He went to Paris in 1791 and took part in the French Revolution as a member of the extreme left, but he was arrested on suspicion of espionage for Austria and was guillotined

Trendelenburg, Friedrich Adolf (frē'drĭkh ä'dôlf trĕn'dulunbŏrk"), 1802–72, German philosopher His spiritualistic philosophy of movement is best remembered for its then heretical opposition to Hegel His most important work is *Logische Untersuchungen* (1840)

Trengganu (trung-gä'nōō, trĕng), state (c 5,000 sq mi, pop 226,426), NE Malaya, on the South China Sea The capital is Kuala Trengganu The state is bordered on the west by Kelantan and Pahang Tin, iron, and wolfram are mined, rice and rubber are grown Fishing is a major occupation Before the 16th cent, Trengganu was the vassal state of the powers that in turn dominated the Malay Peninsula After the fall of Malacca (1511), it passed under the suzerainty of Siam In 1909 it became a protectorate of Great Britain Before the establishment of the federation of Malaya, Trengganu was classed as one of the Unfederated Malay States

Trent, William Peterfield, 1862–1939, American educator and critic, b Richmond, Va., grad Univ of Virginia (M A., 1884) In 1888 he became professor of English and in 1894 dean at the Univ of the South From 1900 to 1929 he was professor of English at Columbia Among his numerous biographies and critical studies are *William Gilmore Simms* (1892), *Robert E Lee* (1899), and *Daniel Defoe* (1916) An exhaustive 10-volume biography and bibliography of Defoe was left unpublished at Trent's death He was also an editor of *The Cambridge History of American Literature* (4 vols., 1917–21) and of the Columbia Univ edition of Milton (18 vols in 21, 1931–38) as well as of numerous other volumes

Trent, Ital *Trento* (trĕn'tō), Latin *Trudentum,* city (pop 37,290), capital of Trentino-Alto Adige and of Trento prov., N Italy, on the Adige and on the Brenner road It was the seat of a Lombard duchy (6th cent.) and of a Frankish march (8th cent.) To safeguard their road into Italy the emperors invested (12th cent.) the bishops of Trent with temporal powers over a sizable territory The prince-bishops ruled, except for a few short intervals, until 1802, when the bishopric was secularized and became a part of TYROL Trent having always been Italian in language and culture there developed a strong movement for its union with Italy (see IRREDENTISM) This was achieved in 1919 by the Treaty of Saint-Germain Among the landmarks of Trent are the Castello del Buon Consiglio, once the episcopal residence and later a political prison, the Romanesque cathedral, and a famous bronze statue of Dante The Council of Trent met here in the 16th cent

Trent, river, 170 mi long, England. It is the third longest of England, the Thames and the Severn being longer. The Trent rises on Biddulph Moor in Staffordshire, traverses or borders Staffordshire, Derbyshire, Leicestershire, Nottinghamshire, and Lincolnshire, passes the Potteries district, Burton-on-Trent, Nottingham, Axholme Isle, and Gainsborough, and joins the Ouse W of Hull to form the Humber. Its chief tributaries are the Sow, Tame, Dove, Soar, Devon and Idle rivers. There is a high tidal bore in its lower course It is navigable for barges to Nottingham and is connected with other streams and areas by canals

Trent, Council of, 1545–47, 1551–52, 1562–63, the 19th ecumenical COUNCIL of the Roman Catholic Church From the 14th cent. the need for widespread reform in the Church was well known, and there was a general opinion that a council would be the best instrument; a precedent was the Fourth Lateran Council. The Great Schism (1378–1417) of the PAPACY produced councils, but it delayed reform by preoccupying churchmen with politics and vagaries of reorganization of the Church (see SCHISM, GREAT; PISA, COUNCIL OF; CONSTANCE, COUNCIL OF, BASEL, COUNCIL OF, FERRARA-FLORENCE, COUNCIL OF) The prevalence of theories of conciliar supremacy prevented any 15th-century pope from wanting a council, and it was reforming cardinals who forced the convocation of the Fifth LATERAN COUNCIL (1512–17), this was ineffectual. Martin Luther's appeal (1518) to a council was a revival of the conciliar theory, and within a few years the Protestants had gone too far in doctrinal development (e.g., with respect to grace and good works) to meet with Catholics, and a council of conciliation was clearly futile Meanwhile the reforming party within the Church, which was strongly anti-Lutheran, still hoped for a council, and when PAUL III was elected (1534), a council was assured (see REFORM, CATHOLIC). The difficulties took 10 years to overcome, for now that a known reformer was pope, no one outside the papal court was eager for a meeting. The Protestants at first set as a price of attending that it be held in Germany, while the pope insisted on an Italian city Mantua was chosen, but its duke refused, then Venice prevented a meeting at Vicenza Finally Trent, an imperial city, almost in Italy, was a compromise between the papal party and that of Emperor Charles V There was an abortive start in 1542 In 1544 the pope convened the council definitively There were no Protestant delegates The work of the council embraced dogmatic definition and correction of abuses, and it was so planned that discussion of doctrine and of reforms of practices could be carried on at the same time The 10 years of delay bore good fruit, for the reformers arrived at the council intensively prepared in every question likely to be studied The chief functions of the council were occasional solemn one-day sessions (25 in all, of which 10 dealt with formalities only) for the purpose of making the final decisions and declarations, the hard work of the council was done, of course, at informal, sometimes private, meetings, for which purpose the council met at first in three great committees, later as a whole As at every ecumenical council, the presence of the papal legates was necessary to conduct it, and at Trent they drew up the agenda The sessions of the council fell into three periods 1–10 (1545–47), under Paul III, 11–16 (1551–52), under JULIUS III, and 17–25 (1562–63), under PIUS IV The two great interruptions were chiefly occasioned, first, by an impasse over the place of meeting after most of the bishops had left Trent for fear of the plague (1547), and, second, by the lack of interest of Paul IV (1555–59). The kaleidoscope of German politics often made delays seem wise The numbers attending the council varied, in the first group of sessions there were less than 200, in the second group somewhat less, and in the third considerably more The work of the council was confirmed by Pius IV (bull *Benedictus Deus,* 1564), and its most important prescription, the issuance of an explicit account of the beliefs of the Church, was fulfilled by the publication (1566) of the *Catechism of the Council of Trent* or *Roman Catechism,* not catechetical but descriptive in form The dogmatic definitions and the reform decrees of the first group of sessions (at sessions 4–7 from April, 1546, to March, 1547) treated the Scriptures (canon, text, interpretation, and function), original sin, justification, the sacraments in general, baptism, and confirmation, and also the regulation of education, preaching, and alms collecting and the duties and obligations of bishops and beneficiaries, the canons on justification (6th session), the product of seven months of discussion, are among the chief work of the council The second period of the council was notable for the work of the Jesuits, especially LAINEZ The subjects treated were (at sessions 13 and 14, Oct.–Nov., 1551) the Eucharist, penance, and extreme unction and episcopal jurisdiction and office, clerical discipline, and benefices The third period was dominated by St. CHARLES BORROMEO, its definitions and regulations covered (at sessions 18 and 21–25, Feb., 1562, to Dec., 1563) communion in both kinds, the Mass, the sacraments of orders and matrimony, the veneration and invocation of the saints, and the cult of relics and images and the list of forbidden books, the priesthood in all its phases, ecclesiastical foundations, education, marriage, religious orders, feasts and fasts, and the service books of the Church The doctrinal canons of the Council of Trent cover most of the controverted points in Catholic dogma, and the definitions are so clear and lucid that the language of the council is often quoted in definitions. The reform measures of the council were tremendously far reaching and their enforcement was probably the most thoroughgoing reform in the history of the Church. The post-Tridentine Catholic Reform was to a great extent occupied with carrying out the principles and requirements of the council. The modern Roman Catholic Church can be understood

only in the light of the work of the Council of Trent. There is no unprejudiced account of the council in English The most complete history is found in Ludwig Pastor's history of the popes, there is an English translation of the dogmatic canons and decrees and of the *Roman Catechism*, which includes much from the conciliar canons Books on Catholic dogma nearly always quote the Tridentine canons at length and histories of the Church give summaries of the decrees and their consequences

Trent Affair, incident in the diplomatic relations between the United States and Great Britain in the Civil War. On Nov 8, 1861, the British mail packet *Trent*, carrying James M Mason and John Slidell, Confederate commissioners to London and Paris respectively, was halted in the Old Bahama Channel by the U S warship *San Jacinto*, commanded by Capt Charles Wilkes The commissioners and their secretaries were forcibly removed from the *Trent* and taken to Boston, where they were interned in Fort Warren This act was strictly opposed to the laws of the sea as they had been previously upheld by the United States, since Wilkes did not seize the vessel and bring it in for admiralty adjudication but merely exercised search and seizure of the men Nevertheless, Wilkes was greeted with wild acclaim and was even congratulated and thanked by Secretary of the Navy Gideon Welles and the House of Representatives In England the act aroused great popular indignation The British drafted a sharp note to the American government, the terms of which were softened by Prince Albert, they demanded the release of the commissioners and an explanation A seven-day limit was set for reply It seemed for a time that Great Britain would not only recognize the Confederacy but also go to war against the United States However, Lord Lyons, the British ambassador to the United States, delayed presentation of the note for several days, meanwhile notifying Secretary of State William H Seward of its contents The note was presented Dec 23, 1861 By that time popular feeling in the United States had died down, and the threat of war with England was anything but desirable A cabinet meeting on Dec 26 led to a final decision to send to England a note by Seward disavowing Wilkes's act and promising to release the prisoners They were released in Jan , 1862, and trouble with Great Britain was averted See E D Adams, *Great Britain and the American Civil War* (1925)

Trent Canal, waterways system, S Ont , connecting Lake Ontario, from the Bay of Quinte, with Lake Huron, at Georgian Bay It utilizes the Trent river to Rice Lake, the Otonabee river through Peterborough, the Kawartha Lakes and artificial channels to Lake Simcoe and Lake Couchiching, and the Severn river to Georgian Bay The system, 240 mi long, with dams and locks, has only 20 mi of artificial channels It was designed primarily for navigation purposes, to shorten the shipping route between Lakes Ontario and Huron, but has proved more valuable as a source of water power

Trentino–Alto Adige (trăntē'nō-ăl'tō ä'dējā), autonomous region (5,252 sq mi , pop 669,029), N Italy, bordering on Switzerland and Austria From 1919 to 1947 it was called Venezia Tridentina It includes the Tyrolean Alps S of the Brenner Pass and part of the Dolomites and is cut by the upper Adige valley There are many large forests and pastures Cereals, grapes, and fruit are grown, and tourists are an important source of revenue New hydroelectric plants have furthered the development of some industries, particularly chemicals The region is divided into the provinces of Trento (q v , the Trentino), and Bolzano (q v , the Alto Adige) Trent (Ital *Trento*) is the capital Most of the region was comprised from the 11th cent until 1802–3 in the episcopal principalities of Trent and Bressanone, in 1815 it was incorporated with the Austrian Tyrol After 1866 Italian irredentism resulted in agitation for the transfer of the Italian-speaking Trentino to Italy, the Treaty of Saint-Germain (1919) gave not only the Trentino, but also the predominantly German Alto Adige to Italy The roles were reversed, for now Austrian and German nationalists began to agitate for the return of S Tyrol The Fascist Italian government provoked violent opposition by closing all German schools, ruthlessly enforcing Italian as the sole language, and persecuting all recalcitrants In 1938 an agreement between Hitler and Mussolini provided for extensive forced migration of the German population to Germany or to other parts of Italy (according to their choice). This extremely unpopular program soon collapsed After a friendly agreement (1946) between the Italian and Austrian governments, the republican constitution of Italy granted (1947) the region autonomous rights. Both German and Italian were made official languages, German schools were permitted in Bolzano prov.

Trento, Italy. see Trent.

Trenton. **1** Town (pop 2,699), N N.S., on the East River and just N of New Glasgow. Railroad cars and steel products are made here. **2** Town (pop. 8,323), S Ont., on the Bay of Quinte at the mouth of the Trent river and at the south end of the Trent Canal, W8W of Belleville. It has wool, paper, and flour mills, and machinery, silverware, and clothing are manufactured.

Trenton. **1** City (pop 1,316), SW Ill , E of St Louis, in a farm area, inc 1865 **2** Village (pop 5,284), SE Mich , on the Detroit river, settled 1816, inc 1855 It is a farm trade center and port, manufactures phosphate salts, and has an oil refinery, limestone is quarried near by. **3** City (pop 7,046), co seat of Grundy co , N Mo., on the Thompson river and NE of Kansas City, laid out 1841 It is a farm and shipping center, with railroad shops and food-processing plants A group of socialists tried out a cooperative venture in business and education here from 1897 to 1905 Enoch H Crowder State Park is near **4** City (pop 124,697), state capital (since 1790), co seat (since 1719) of Mercer co , W N J , at the head of navigation on the Delaware c 30 mi above Camden, inc 1792 Trenton adopted commission government in 1911 and again in 1939, it was under a municipal manager, 1935–39 Settled by Friends in 1679, it was first called the Falls, then Stacy's Mills, for Mahlon Stacy, and finally Trenton, for William Trent, who bought land here in 1714 The village grew as a commercial center and became the site of many industries, notably the making of wire rope (Roebling works, 1848), pottery (c 1850), cigars, rubber products, and airplane equipment Trenton was (Dec 26, 1776) the scene of a battle in the American Revolution when Washington crossed the Delaware and surprised and captured some 900 Hessians The Americans, avoiding a British relief force led by Cornwallis, then struck at Princeton A 155-foot granite monument topped by a statue of Washington, designed (1893) by John Duncan, commemorates the battle, and the place where the Americans crossed the Delaware is marked in a state park Trenton's noteworthy buildings include the golden-domed capitol (1792), much remodeled and enlarged, the capitol annex (1931), with the state library and museum, the First World War memorial building (1932), the barracks built in 1758 and restored as a museum, Bloomsbury Court (c 1719), Trent's home, and a Friends' meetinghouse (1739) Joseph Bonaparte's mistress, Annette Savage, lived at "Bow Hill" A stone commemorates Fitch's operation of a steamboat on the Delaware at Trenton Zebulon M. Pike was born in Lamberton, now part of Trenton. Controversy has arisen among archaeologists over the age of discoveries made near Trenton since Dr C C Abbott in 1872 claimed to have found evidences of Glacial man Trenton is the seat of an annual farm show in January and of the state fair in September A state teachers college (1855), the state prison, and other state institutions are here See Trenton Historical Society, *A History of Trenton, 1679–1929* (1929) **5** Cotton city (pop 3,400), co seat of Gibson co , W Tenn , on the North Fork of the Forked Deer and NNW of Jackson The site of David Crockett's home is near by

Tresca, Carlo (kär'lō trĕ'ska), c 1877–1943, Italian-American anti-Fascist leader and syndicalist writer, b Italy The son of a wealthy landowner, he nevertheless organized a branch of the Socialist party in his native town and there published a revolutionary newspaper As secretary of the Italian Railroad Workers Union, Tresca was convicted of libel He fled to Switzerland—where he met, and came to dislike, Benito Mussolini—and eventually reached (1904) the United States At first he was attached to Socialist groups, but after 1907 avoided party affiliation He later led numerous strikes throughout the country, attempted to start a syndicalist movement among Pennsylvania coal miners, and was arrested many times He edited the *Martello*, an anti-Fascist publication which was directed at Italian-American workers, and several attempts on his life were made, presumably by agents of Mussolini His trimmed beard, pince-nez, big black hat, and flowing cloak were often portrayed in newspaper cartoons In 1943 he was shot to death in the streets of New York city by an undiscovered assassin.

Tresco: see Scilly Islands

Tresguerras, Francisco Eduardo de (frănsĕ'skō ä"dhwar'dhō dā trăsgĕ'ras), 1759–1833, Mexican architect, painter, and sculptor He made his name in the field of architecture, in which he is noted for his neoclassic buildings Among his best-known works are the Church of Nuestra Señora del Carmen and the Bridge of La Laya, both in Celaya, and a fountain and a church in Querétaro

Tres Marías, Las (las trās' mărē'ăs), archipelago, W Mexico, in the Pacific off the coast of Nayarit Of the four islands, two—Maria Madre, which is the largest (c 11 mi long and 4 mi wide) and is also a federal penal colony, and María Magdalena—produce maguey, salt, and lumber (especially cedar and lignum vitae) which are sent to the mainland.

trespass (trĕ'spus), in law, any physical injury to the person or to property. In English common law the action of trespass first developed (13th cent) to afford a civil remedy for injuries to property where the estate of the owner was not in dispute. The two early forms were trespass *quare clausum fregit*, used in instances of breaking into real property, and trespass *de bonis asportatis*, used when personal property was removed without consent. Although the offense of trespass required the use of force, the courts quickly decided that the mere act of breaking in or of taking goods was in itself forceful. Trespass in time was applied to injuries to the person involving force, such as assault, battery, and unlawful imprisonment. Out of the law of trespass developed many of the torts which are now commonly recognized Today the term *trespass* is usually applied only to unlawful entry into private property If a trespasser refuses a request to leave the premises, he may be removed by any degree of force which appears reasonably necessary. Contrary to common belief, trespassers (e g., poachers) may not be fired upon without warning or be exposed to the dangers of spring guns or of traps

Tres Tabernae (trēs tubûr'nē) [Latin, probably = three shops], ancient town of Latium, Italy, on the Appian Way It is mentioned in Acts 28 15 as the place where St. Paul was met by his friends on his journey to Rome. AV translates as Three Taverns

Trevelyan, Sir Charles Edward (trĭvĕl'yŭn), 1807–86, British administrator in India. As a writer for the East India Company (1826), as assistant (1827) to the commissioner in Delhi, and as deputy secretary at Calcutta (1831–38), he favored public works and education Returning to England (1838), he was (1840–59) assistant secretary of the treasury and was knighted (1848) for his administration of Irish famine relief *The Organization of the Permanent Civil Service* (1853), which he wrote with Sir Stafford Northcote, was the basis of England's later organization of the civil service He was governor of Madras (1859–60) and finance minister in India (1862–65), again promoting public works Trevelyan was father of the historian George Otto Trevelyan and brother-in-law of Lord Macaulay. He wrote on manners, language, military affairs, and Indian policies

Trevelyan, George Macaulay, 1876–, English historian, son of Sir George Otto Trevelyan. He was educated at Harrow and at Cambridge, where he became professor of modern history in 1927 and master of Trinity College in 1940 His writing represents a revolt of the "literary" as against the "scientific" historian. His most ambitious works are an extended study of Garibaldi (3 vols , 1907–11) and a history of *England under Queen Anne* (3 vols , 1930–34). He is perhaps better known for his one-volume *History of England* (1926) and his *British History in the Nineteenth Century* (1922) and *England under the Stuarts* (1907). Other works include biographies of John Bright (1913), Lord Grey (1920), and Grey of Fallodon (1937), *The English Revolution, 1688–1689* (1938), *English Social History* (1942), and *An Autobiography and Other Essays* (1949)

Trevelyan, Sir George Otto, 1838–1928, English historian and politician After study at Cambridge (1857–61) and a year in India (1862–63), he served as a Whig member of the House of Commons from 1865 to 1897 He held posts under William Ewart Gladstone as civil lord of the admiralty (1868–70), secretary to the admiralty (1880–82), chief secretary for Ireland (1882–84), and chancellor of the duchy of Lancaster (1884–85) In 1876 Trevelyan produced a biography of his uncle, Lord Macaulay His *Early History of Charles James Fox* (1880) firmly established his reputation as a historian His study of the times of Fox was continued in the *American Revolution* (4 vols , 1899–1907) and completed with *George the Third and Charles Fox* (2 vols , 1912). Trevelyan's Whig sympathies led to his condemnation of George III and praise for the American revolutionary leaders, an attitude that contributed to the great popularity of his work in the United States See biography by his son, G M Trevelyan (1932)

Treves or **Trèves,** Germany see Trier.

Trevisa, John of (truvē'su) c 1326–c 1402, English writer. He translated into English in 1387 Ranulph Higden's *Polychronicon*, a history of the world, and in 1398 Bartholomew de Glanville's *De proprietatibus rerum*, an encyclopedia of natural science. Both translations became standard authorities of the later Middle Ages and were printed by the early presses

Treviso (trăvē'zō), city (pop 43,949), capital of Treviso prov , Venetia, NE Italy, in the center of the fertile Venetian plain In the early Middle Ages it was the seat of a Lombard duchy, then of a march It later became a free commune, fell under various lords, and in 1339 submitted to Venice Its narrow winding streets, its canals, and its ancient houses (15th–16th cent) give it a mellow charm. The museum and the churches contain valuable paintings, including several by Bordone, who was born here

Trevithick, Richard (trĕ'vĭthĭk), 1771–1833, English engineer and inventor He invented a high-pressure steam engine (1800) and completed and operated a locomotive (1801), which he patented in 1802 A steam-operated carriage which he built was run (1803) in London Later in 1803 he built a steam locomotive, which was operated (1804) on a tram road in Wales, the trips were made with passengers and goods wagons. Trevithick also made steam engines for use in mines and developed

a steam threshing machine. See biography by H. W. Dickinson and Arthur Titley (1934)

trial: see PROCEDURE.

trial by battle: see ORDEAL.

triangle, in mathematics, a plane figure bounded by three straight lines. The three points in which various pairs of these lines intersect are called the vertices of the triangle. The lengths of the lines joining the vertices are called the sides of the triangle. The three sides and three angles are referred to as the six parts of the triangle. Any one of the sides may be considered as the base. The perpendicular distance from one of the bases to the opposite vertex is called an altitude The area of a triangle is equal to one half the product of the base and the corresponding altitude The line segment joining the midpoint of a side to the opposite vertex is called a median. Each triangle has three altitudes and three medians. All three altitudes of a triangle go through a single point, and all three medians go through a single (usually different) point Triangles are usually classified according to the sizes of their angles An equilateral triangle has all three angles the same. An isosceles triangle has two of its angles equal. A scalene triangle is one in which all the angles are different. A right triangle has one right angle Since the sum of the angles of a triangle is exactly equal to two right angles, a triangle can have at most one right or one obtuse angle In geometry it is shown that two triangles are congruent (i.e., are the same shape and size) if, in general, any three independent parts of one are the same as the corresponding three parts of the other This fact makes it possible, in trigonometry, to compute the sides and the angles of a triangle whenever three of its independent parts are known The triangle is a fundamentally important shape in geometry It is the simplest of the polygons (i e., it has the least possible number of sides), and any other polygon can be broken up into a number of triangles by drawing various diagonals. Consequently a complete theory of the measurement of triangles provides also a complete theory of the measurement of all polygons.

triangle, in music, a percussion instrument, consisting of a steel rod bent into an equilateral triangle and struck with a small steel stick. Only since the end of the 18th cent has it been an orchestral instrument although it appeared in Europe much earlier.

triangulation: see GEODESY.

Trianon (trēänô'), two small châteaux in the park of Versailles, Seine-et-Oise dept., N France The Grand Trianon was built by J H Mansart in 1687 as a retreat for Louis XIV, Napoleon I occasionally resided here. The Petit Trianon was built for Louis XV by J A. Gabriel, and was the favorite residence of Marie Antoinette, who had rustic cottages built near by to indulge her pastoral fancies

Trianon, Treaty of, 1920 The internal chaos in HUNGARY that followed the dissolution (1918) of the Austro-Hungarian Monarchy delayed the signing of a peace treaty with the Allies of the First World War (excluding the United States and Russia) until June 4, 1920 The treaty, signed at the Grand Trianon Palace at Versailles, France, reduced the size and population of Hungary by about one third, divesting it of virtually all areas that were not purely Magyar Rumania received Transylvania, part of the adjoining plain, and part of the Banat, including Timisoara Czechoslovakia was confirmed in possession of Slovakia and Ruthenia. Yugoslavia (then the kingdom of the Serbs, Croats, and Slovenes) obtained Croatia, Slavonia, and the western section of the Banat Austria was awarded the Burgenland, but the city of Sopron and its vicinity were returned to Hungary after a plebiscite (1921) Thus Hungary was deprived of access to the sea and of some of its most valuable natural resources The military establishment of the country was reduced to an army of 35,000 The Hungarian delegation signed the treaty under protest Hungarian agitation for revision began immediately and was supported by the majority of the more than 3,000,000 Magyars transferred to Rumania, Yugoslavia, and Czechoslovakia Although Hungary recovered part of its lost territories in 1939–40, it was again reduced to its 1920 boundaries by the peace treaty signed in 1946 at Paris.

Triassic period (trīă'sĭk), first period of the MESOZOIC ERA of geologic time. Throughout the Triassic, E North America, as a result of the mountain making of the late Paleozoic era, was elevated above sea level. California and Nevada, however, were submerged In the Lower Triassic the sea extended E to Idaho, Colorado, and Wyoming, in the Middle Triassic it submerged British Columbia, in the Upper Triassic it extended into Alaska. In Lower and Upper Triassic time the west coast, from Alaska to British Columbia, was disturbed by violent and widespread volcanic activity. The Triassic formations of W North America are chiefly marine shale and limestone, with considerable igneous rock. In the Cordilleran region the Triassic deposits are NONMARINE, with red beds similar to those of the Permian period very much in evidence Near the end of the period, the only Triassic formation of E North America was deposited in downfaulted troughs, parallel to the Appalachians, from Nova Scotia to North Carolina Composed of shale, conglomerate, and sandstone, this Newark series is the product of erosion from the Appalachians It is quite generally interrupted by trap-rock—igneous material in sheets, dikes, and sills—which forms ridges and cliffs, such as the Palisades of the Hudson near New York city The end of the Triassic in North America was marked by extensive faulting and tilting of the Newark series, called the Palisade disturbance, and by the emergence of W North America The Triassic deposits of Germany form three series In the Bunter series, the land was emergent, and red sandstone and sandy shale, with some salt and gypsum, were deposited as the result of erosion from the Central European mountains The Muschelkalk series saw the transgression of the land by the sea and the deposition of marine shale and limestone, the Keuper series saw the land again emergent and shale, sandstone, and gypsum being laid down In England there was no marine phase corresponding to the Muschelkalk, the Triassic of England is commonly called the New Red Sandstone. In the Alps the greater Mediterranean formed limestone and dolomite, the Dolomite Alps are of Triassic age. The climate of the Triassic was semiarid to arid In the plant life, marine algae were abundant, ferns and tree ferns less important than in the Paleozoic, conifers dominant among the trees, and a new group, the cycads, just appearing. Many Paleozoic invertebrates appeared for the last time in the Triassic The ammonites became very important, then were reduced at the end of the Triassic to one species, but were destined to be numerous again in the succeeding Jurassic period Amphibians were apparently not as numerous as in the Paleozoic, but some types were more highly developed The dominant animals of the Triassic were the reptiles, although the Triassic reptiles were less specialized than those of the Jurassic, there were already a number of types of dinosaurs, pterosaurs, and marine reptiles The Triassic rocks contain the fossils of the earliest known mammals

tribe, an aggregate of peoples sharing common descent, dialect, and culture, whose members, except within proscribed relationship groups, may intermarry Tribes always form a territorial unit, even nomad groups follow definite geographical orbits The term lacks precise application. Political and economic autonomy are not always tribal attributes, nor is it in some instances plain whether a single community or a cluster of communities forms the tribal group. Remnants of earlier tribal organization appear to have persisted in such complex societies as those of ancient Greece and Rome

Tribonian (Tribonianus) (trĭbō'nēăn), d 545?, Roman jurist Under the command of JUSTINIAN I he directed the compilation of the CORPUS JURIS CIVILIS. It is not possible to determine exactly what Tribonian himself contributed, in all likelihood he wrote a large part out of his encyclopedic knowledge of Roman law It is possible that Tribonian was also the author of several treatises on astronomy

tribune (trĭ'būn), in ancient Rome, one of various officers The history of the office of tribune is closely associated with the struggle of the plebs against the PATRICIANS to achieve a more equitable position in the state In the republican army, the military tribunes (*tribuni militum*) were the senior officers of the legions, elected by the people and with the rank of magistrate In 444 B C the office of military tribune with the power of consul (*tribuni militum consulari potestate*) was established The office meant that certain of the military tribunes were invested with the political power of the consul, and since a plebeian was eligible to be a military tribune, it represented a gain for the plebs. The office was abolished in 367 B C However, in 494 B C. the plebs had achieved a more permanent gain by effecting the creation of the office of tribune of the plebs (*tribuni plebis*) designed to protect plebeian rights, especially against abuse by magistrates. The original number of such tribunes is uncertain, but by 457 B C. there were 10. These tribunes were plebeians elected by an assembly of plebs. The power of the tribune increased as the plebs grew more influential in the state, and it derived from two basic prerogatives, the right of the tribune to inflict punishment upon a magistrate who disregarded his injunction and the inviolability (*sacrosanctitas*) of his person. Gradually the tribune gained the *intercessio* or the right to veto a decision of a magistrate—which in effect was a veto over any official act of administration—and the right to prosecute corrupt magistrates before a public body He further acquired the power to attend and convene the senate and to lay before it matters for consideration. As the plebeians came to occupy more and more public offices, the tribune became less the champion of a class and more the representative of the individual over the state. With the reforms of the GRACCHI in the late 2d cent B.C., the office of tribune acquired wider significance, but later SULLA, combating these reforms, tried to remove the tribuneship as a factor in Roman government. Pompey restored the tribunes to their old power. Under the empire the tribuneship was held by the emperors This gave to the emperors few powers which they did not otherwise possess, but the tradition of the office as a defender of popular rights and its inviolability was useful to them. Because the directives of a tribune had to be delivered in person and at the time when the action involved was contemplated, the tradition developed that a tribune must remain within close distance of the city and must not close the doors of his house, assuring his easy availability. See F F. Abbott, *A History and Description of Roman Political Institutions* (1911).

Tricca: see TRIKKALA, Greece.

Triceratops (trĭsĕ'rătŏps), herbivorous quadrupedal DINOSAUR of the Cretaceous period of geologic time, characterized by the possession of three horns, one on the nose and one over each eye. A bony shield projecting backward from the skull served as a protection to the neck and fore part of the body The head was large (about 8 ft. long), the body (about 20 ft long), bulky and barrel shaped, the limbs massive and of equal length Bones of *Protoceratops*, a related hornless form, and eggs probably belonging to it were found in Mongolia.

Trichinopoly (trĭchĭnŏ'pulē), town (pop 159,566), SE Madras state, India, on the Cauvery river. The most notable feature is an enormous rock, elaborately carved and topped by a temple of Siva In the 15th and 16th cent Trichinopoly was a capital of the Chola kingdom Today it is a railroad junction, and it manufactures silk cloth and tobacco products

trichinosis (trĭ"kĭnō'sĭs) or **trichiniasis** (trĭ"kĭnī'ŭsĭs), parasitic disease resulting from eating insufficiently cooked pork from pigs infected with larvae of *Trichinella spiralis*, one of the round worms They grow into adults in the intestine and produce young which migrate to various muscles, where they coil up and encyst During their migration, the patient has fever, muscle tenderness, and diarrhea, which may last from one to six weeks and in cases with severe infection may be fatal The early use of purgatives and enemas to evacuate the young as they are produced in the intestine is useful The disease is prevented by cooking pork thoroughly It has been found that the presence of trichinae in swine fed on garbage is more frequent than in grain-fed swine Prohibition of the use of uncooked garbage for feeding the animals and proper meat inspection can reduce the prevalence of the disease

trickle charger, device for use with radio A batteries of the storage type It is plugged into the electric-light socket and automatically charges the battery when the set is not working

trident (trī'dunt) [Latin,=three-tooth], in Greek legend, the three-pronged fork borne by POSEIDON It was probably a representation of a fishing spear (because he was god of the sea), a goad (because he was god of horses and bulls were sacrificed to him), and forked lightning (because he was a god of might)

Tridentum: see TRENT, Italy

Trier (trēr), Latin *Augusta Treverorum*, city (1939 pop 88,150; 1946 pop. 63,420), in the former Rhine Prov of Prussia, W Germany, after 1945 in Rhineland-Palatinate, on the Moselle and near the border of Luxembourg It is also known as Treves (trēvz) in English and as Trèves (trĕv) in French The main center of the Moselle wine region, Trier also has textile manufactures and steel rolling mills It has played an important part in history since Roman times, and it has retained more Roman monuments than any other German city. Founded by Augustus, Trier was the capital of the Roman province of Belgica and later of the prefecture of Gaul It was named for the Treveri, a people of E Gaul Under the Roman Empire, Trier reached a population of c 50,000 and was a major commercial center with a large wine trade It was a frequent residence of the Western emperors from c.295 until its capture (early 5th cent.) by the Franks An episcopal see since the 4th cent., it was made an archiepiscopal see in 815 The archbishops of Trier became powerful temporal princes, whose territories extended along both sides of the Saar and Moselle and across the Rhine They ranked second among the spiritual ELECTORS of the Holy Roman Empire and were, ex officio, archchancellors for Gaul and Burgundy (largely a titular honor). Under the rule of the archbishop-electors Trier flourished as a commercial and cultural center It was the seat of a university from 1473 until its occupation by the French in 1797 The archbishopric of Trier was secularized and was formally ceded to France in 1801 under the Treaty of Lunéville The Congress of Vienna awarded (1815) Trier and the former archbishopric to Prussia (except the territory E of the Rhine, which went to Nassau and with it passed to Prussia in 1866). Trier again became a Roman Catholic episcopal see in 1821; the population is predominantly Catholic. It was occupied by the French after the First World War and suffered considerable damage in the Second World War. The chief Roman monuments escaped war damage. These are the

Porta Nigra (an imposing and well-preserved fortified gate), the amphitheater, and the imperial baths. Among the destroyed buildings were a Romanesque chapel, several Gothic houses, and several museums; the museum collections, including many invaluable relics of Roman civilization, were all saved. The baroque electoral palace was heavily damaged, as was the Gothic Church of Our Lady (Ger. *Liebfrauenkirche*), a gem of 13th-century German architecture. The celebrated Romanesque cathedral, also heavily damaged, embodies part of a 4th-century basilica; its chief treasure is the Holy Coat of Treves, supposed to be the seamless coat of Jesus. The rare exhibitions (e.g., in 1844, 1891, and 1933) of the relic have been the occasions of huge pilgrimages. Trier has a theological seminary (founded 1773) and a school of viticulture. It is the birthplace of Karl Marx.

Trieste (trēĕst', Ital trēā'stā), Serbo-Croatian *Trst* (tûrst), city (pop 234,800), capital of the Free Territory of Trieste, beautifully situated on the Gulf of Trieste at the head of the Adriatic Sea. It is a major seaport, with a fine natural harbor, and is a commercial and industrial center (ironworks, shipyards, and oil refineries). Trieste prospered under the Romans; in the 12th cent. it developed into a free commune. After two centuries of struggle with its rival, Venice, it placed itself (1382) under the control of the duke of Austria—preserving, however, its administrative autonomy until the 18th cent. In 1719 it was made a free port. As the only Austrian port and a natural outlet of Central Europe, Trieste flourished. In spite of its ties with Austria, it preserved its Italian language and culture. A center of IRREDENTISM, it was annexed to Italy in 1919, but its economic prosperity then declined. After the Second World War, the city and the adjoining coast were set up as the Free Territory of Trieste, a free port was also established in the city. There are some Roman remains. On a hill commanding a fine view are the Cathedral of San Giusto (part of it dating from the 6th cent.) and an imposing castle (14th–17th cent.). On a small promontory west of the city is the castle of Miramar, built for Archduke Maximilian of Austria; from here he sailed for his ill-fated Mexican adventure.

Trieste, Free Territory of, free state (287 sq. mi.; pop. c. 340,000), under the protection of the Security Council of the United Nations, S central Europe, on the NE Adriatic. It includes the city of Trieste and a coastal zone of ISTRIA, running from Duino along the Gulf of Trieste to Cittanova. The area belonged to Austria from 1382 to 1919 and to Italy from 1919 to 1947. Outside the city of Trieste the population is predominantly Slovenian; on this and other grounds the area was claimed by Yugoslavia after the Second World War, but the Western powers opposed the claim, and a compromise solution was worked out to end the state of tension. By the annexes to the Italian peace treaty, the Free Territory was set up. On Jan. 7, 1947, these annexes and a provisional and permanent statute for Trieste were approved by the Security Council. The new state came officially into being on Sept. 15, 1947. Both Slovene and Italian are official languages. In the spring of 1950 the governor of the territory, to be appointed by the Security Council, had not been selected and the state was still occupied and administered by the Allied Military Command (British, American, and Yugoslav). Tension remained chronic.

trifoliate orange (trīˈfōˈlēĭt, -lēāt), small spiny tree (*Poncirus trifoliata*), native to China, having white flowers in spring followed by small, aromatic orangelike fruit. The tree is used as an understock for orange and greatly increases its hardiness. It is grown as a hedge plant and ornamental in the S United States and as far north as Philadelphia. The citrange is a hybrid between the sweet and the trifoliate oranges and is hardy enough to be grown in the southern part of the Cotton Belt. The fruit is from 2 to 3 in. in diameter.

triforium (trīfōˈrēŭm). In the interiors of medieval churches each bay of the nave wall had customarily three divisions in its height—arcade, triforium, and clerestory. The triforium thus came beneath the clerestory windows and above the side-aisle vaults and corresponded on the exterior to the lean-to roof over the aisle. In Italian basilical churches this surface was generally decorated with paintings or mosaics. In the north the triforium had arched openings with apertures in the wall behind it to ventilate the roof space over the aisle. In most Romanesque churches it appeared as a second-story vaulted gallery over the aisle and was equal to it in depth and sometimes also in height. In Gothic churches, behind the triforium arcades, the depth was generally limited to the thickness of the nave wall, a narrow passageway built in it to furnish a second-story circulation around the church. Developed French Gothic flattened the pitch of the aisle roofs, thus leaving the outside wall of the triforia exposed and free for glazing. The inside face retained its rich open tracery arcades. Late Gothic subordinated the triforium between the higher main arcades and clerestory and sometimes omitted it entirely.

Triglav (trēˈglăv), peak, 9,394 ft. high, NW Yugoslavia, in the Julian Alps, near the point where Yugoslavia, Italy, and Austria meet. It is the highest peak in the Julian Alps and in Yugoslavia.

trigonometry, literally, the science of the measurement of a TRIANGLE, i.e., the measurement of its sides and angles and, in particular, the ratios of certain pairs of sides. For all right triangles containing a given acute angle, the ratio of a certain pair of sides (e.g., the side opposite the given angle divided by the hypotenuse) is the same. Hence the value of this ratio is a function of the given acute angle only. Six such ratios may be obtained by using various pairs of sides. They are called the trigonometric functions of the given angle. The one mentioned above is called the sine. The others are the cosine, tangent, cotangent, secant, and cosecant. The values of the six functions have been tabulated for acute angles of all sizes. From these values the lengths of all the sides and the sizes of all the angles and the altitudes and area of any triangle can be computed if, in general, any three (independent) parts are known. For example, the height of a vertical cliff arising out of a plain can be found by measuring the angle between the horizontal and a line of sight to the top of the cliff (called the angle of elevation of the top) from some point in the plain at a known distance from the base of the cliff. Furthermore, if these six functions are defined properly for angles of all sizes including negative angles and angles larger than one complete revolution, the functions have certain important properties. They are periodic—after a certain interval or period of angle sizes, their values repeat the previous sequence of values for the next interval of angle sizes. Since many of the phenomena of the physical world, such as light, color, sound, electricity, and the movement of planets and electrons, are also of periodic character, the periodicity of the trigonometric functions makes them indispensable in the application of mathematics to the study of these phenomena. Another application of trigonometry is to the measurement of triangles in such fields as surveying, architecture, and navigation. In navigation spherical trigonometry (i.e., the trigonometry of triangles drawn on the surface of a sphere instead of upon a plane) is sometimes necessary when very large distances are involved. See A. M. Harding and G. W. Mullins, *Plane Trigonometry* (rev. ed., 1937), J. A. Northcott, *Plane and Spherical Trigonometry* (rev. ed., 1950), Moses Richardson, *Plane and Spherical Trigonometry* (1950).

Trikkala (trēˈkälä), anc. *Tricca*, town (pop. 22,852), N Greece, in NW Thessaly. It is the center of an agricultural and pastoral region. Although Tricca shared with other ancient cities the claim to having been the birthplace of Asclepius, it certainly was one of the chief centers of the Asclepian cult. Trikkala was heavily damaged in the Second World War.

Trilby: see DU MAURIER, GEORGE.

trill, in music, an ORNAMENT consisting of the alternation, more or less rapid, of two adjacent notes. Indicated by any of several conventional symbols, it varies in speed and duration and in the manner of its beginning and ending according to context. Originating in the Renaissance, the trill became the most important of ornaments during the baroque period. In British usage the term *shake* is more common.

trillium or **wake-robin** (trĭlˈēŭm), any plant of the genus *Trillium*, attractive spring wild flowers of North America and Asia. The leaves, petals, and sepals are in threes, the single flower (white, pink, dark red, yellow, or green) borne erect or nodding from the center of the whorl of leaves. The plants have a perennial rootstock that in *Trillium erectum* (called also birthroot) was used medicinally by both the Indian and white man.

trilobite (trīˈlōbīt), primitive arthropod having the body divided into three regions (head, thorax, and abdomen). The thorax was divided into segments, each one of which bore a pair of legs. Head and tail shields were formed of several fused segments. The trilobites were the most numerous inhabitants of the seas of the Cambrian period of geological time and were even more abundant in the Ordovician period. Types were more complex and less numerous in the Silurian period, and the process of decline, becoming marked in the Devonian period, continued through the Carboniferous period. The trilobites became extinct in the Permian period.

Trim, urban district (pop. 1,378), co. seat of Co. Meath, Ireland, on the Boyne and NW of Dublin, in a farming district. It has ruins of a castle founded in 1173 by Hugh de Lacy, the Yellow Steeple, a ruined tower supposedly on the site of an abbey founded by St. Patrick; and parts of the ancient town walls. The ruins of a priory of St. John the Baptist, of Newtown Abbey, and of Bective Abbey are in the vicinity.

Trincomalee (trĭngˈkŭmŭlēˈ), town (pop. 29,146), Ceylon, on the northeast coast, a port on the Indian Ocean. It has one of the finest natural harbors in the world. The Hindu Temple of a Thousand Columns, built by early settlers from S India, was destroyed (1622) by the Portuguese. Lying off the main world-trade routes, its harbor ordinarily is not much used, in the Second World War, however, it was the chief British naval base in the Far East after the fall of Singapore.

Trinidad (trĭˈnĭdăd, Span. trēnēdhädhˈ), city (pop. 15,453), S central Cuba. Founded in 1514 by Diego de Velásquez, it is a picturesque old town that flourished as a port in colonial days and was attacked several times by the British. Exports include sugar, coffee, cacao, lumber, honey, and wax.

Trinidad (trĭˈnĭdăd), city (pop. 13,223, alt. c. 6,000 ft.), co. seat of Las Animas co., S Colo., on the Purgatoire river near the N. Mex. line; settled 1859 on the old Santa Fe Trail near Raton Pass, inc. 1876. It is the trade, shipping, and industrial center of a farm, livestock, and coal area. There is a Kit Carson museum, and an annual rodeo is held.

Trinidad and Tobago (trĭˈnĭdăd, tōbāˈgō, tō-), crown colony (1,980 sq. mi.; pop. 557,970), British West Indies. The capital is PORT OF SPAIN. The large island of Trinidad (1,864 sq. mi.) and the small island of Tobago (116 sq. mi.) comprise the colony. Just north of the mouths of the Orinoco in Venezuela, Trinidad is largely flat or undulating except for a range of low mountains (the highest point is Mt. Aripo, 3,085 ft. high) in the north. Mangrove swamps line much of the coast. The climate is warm and humid, and rainfall (from June to Dec.) abundant, particularly where the trade winds sweep in over the eastern coast. Pitch Lake (about 212 acres), on Trinidad, is a seepage of natural asphalt, viscous toward the center but solidified around the edges. The market center for petroleum is SAN FERNANDO. Other island exports include sugar, cacao, grapefruit, rum and bitters, asphalt, lime oil, and tonka beans. In the population, Negroes predominate, but about one third of the people are East Indians, brought in after the emancipation of the slaves, and the remainder is of French, British, and Spanish descent or birth. Discovered by Columbus in 1498, the island did not attract many Spanish colonists because of the lack of precious metals. It was raided by the Dutch (1640) and the French (1677, 1690) and by British buccaneers. In 1783 Spain encouraged immigration of Haitian sugar planters, refugees from the revolution in Haiti. During the war between England and France, Trinidad was captured (1797) by the British and was formally ceded to England in 1802. In 1940 the United States acquired a 99-year lease to military and naval bases. The island of Tobago, just N of Trinidad, is a mountain ridge reaching no more than 2,000 ft. high, densely forested, and with considerable reserves of hardwoods. Exports include copra, cacao, livestock and poultry, and vegetables. Both Trinidad and Tobago are increasing in popularity as winter resorts. See M. J. Herskovits and F. S. Herskovits, *Trinidad Village* (1947).

trinitrotoluene (T.N.T., TNT) (trīˌnīˌtrōtŏlˈūēn), an explosive, pale yellow, crystalline compound of carbon, hydrogen, nitrogen, and oxygen, prepared from TOLUENE. It is a stable compound unaffected by ordinary jarring and shock and can be exploded only by the use of a detonator. It resembles picric acid in this respect and in the violence of its explosion. It is classed with picric acid as a high explosive. Unlike the acid, however, it does not attack metals and can be used consequently in filling metal shells. It is used both by itself and in explosive mixtures (e.g., amatol, a mixture of trinitrotoluene and ammonium nitrate).

Trinity (trĭˈnĭtē) [Latin, =three-foldness], in Christianity, the name of GOD, considered as existing in three persons. The doctrine was defined very early, but received much amplification at the first ecumenical councils. For systems denying the Trinity, see UNITARIANISM. The usual statement of the doctrine is that God exists in three persons, all coequal, coeternal, and indivisible, of the same substance—God the Father, God the Son (who became incarnate as JESUS), begotten of the Father, and God the HOLY GHOST, proceeding from the Father and the Son (see CREED). By most Christian teachers the Trinity is considered a mystery, i.e., its nature cannot be fully understood or known by human intelligence. It is therefore called a truth of revelation. This mystery is commemorated in the Western Church on TRINITY SUNDAY.

Trinity, city (pop. 2,217), E Texas, N of Houston, in a farming and lumbering region about the Trinity river, settled c. 1873, inc. 1903.

Trinity, river rising in N Texas in three forks: the Clear Fork runs into the West Fork at Fort Worth, and the Elm Fork joins the West Fork at Dallas. The Trinity then flows c. 500 mi. SSE to Trinity Bay, an arm of Galveston Bay. The waters of upper tributaries and the main stream are impounded in several reservoirs, notably those supplying FORT WORTH and DALLAS. Extensive projects have been planned to improve soil conservation and river control. Under construction by the U.S. Corps of Engineers in early 1949 were Benbrook Reservoir (on the Clear Fork, near Fort Worth), Lavon Reservoir (on the East Fork, near McKinney), Grapevine Reservoir (near Grapevine), and the Garza-Little Elm Reservoir (which will engulf Lake Dallas).

Trinity Bay, inlet of the Atlantic, 80 mi long, SE N.F., between the Avalon Peninsula and the mainland, WNW of St John's There are small fishing settlements and canneries on its shores Trinity, a small port on the west shore, was the western terminal of the first permanent transatlantic cable laid (1866) by Cyrus West Field

Trinity College: see CAMBRIDGE UNIVERSITY and OXFORD UNIVERSITY

Trinity College: see DUBLIN, Ireland

Trinity College: see DUKE UNIVERSITY, HARTFORD, Conn ; WASHINGTON, D C

Trinity Hall: see CAMBRIDGE UNIVERSITY.

Trinity Peninsula: see PALMER PENINSULA.

Trinity Sunday, first Sunday after PENTECOST, observed as a feast of the Trinity It was an innovation in medieval England and spread through the West in the 14th cent. In the Anglican calendar the Sundays until Advent are counted from Trinity Sunday, this is a survival of the use of Sarum The older practice, as in the Roman rite, is to count from Pentecost The Dominican use counts from the octave of Trinity

Trinity University: see SAN ANTONIO, TEXAS

Trion (trī'ŏn), town (pop 3,800), extreme NW Ga., N of Rome; settled 1847, inc 1863 It has textile mills

Triple Alliance, in European history, name applied to several coalitions The Triple Alliance of **1668** was formed by the Netherlands, England, and Sweden against France after Louis XIV had invaded the Spanish Netherlands in the War of DEVOLUTION Due largely to the initiative of Jan de Witt, the Dutch statesman, the alliance represented a sufficient threat to Louis XIV to induce him to negotiate the Treaty of AIX-LA-CHAPELLE The Triple Alliance of **1717** was a treaty signed by England, France, and the Netherlands Designed to strengthen the terms of the Peace of Utrecht, it was joined in 1718 by the emperor and became the QUADRUPLE ALLIANCE For the Triple Alliance of **1873,** see THREE EMPERORS' LEAGUE For that of **1883,** see TRIPLE ALLIANCE AND TRIPLE ENTENTE

Triple Alliance, War of the, 1865–70, fought between Paraguay on one side and an alliance of Argentina, Brazil, and Uruguay on the other Brazil's military reprisals for injuries to Brazilian subjects in Uruguay's civil war brought a declaration of war from Francisco Solano LÓPEZ, Paraguayan dictator, who favored the Blanco regime in Uruguay War was also declared on Argentina after Bartolomé Mitre refused to allow Paraguayan troops to cross Argentine territory An alliance, made by Brazil and Argentina with Gen Venancio Flores of the Colorado faction, brought Uruguay into the war The heroic defense of Paraguay against powerful invaders lasted until the final stand at Cerro Corá, where even women and children rallied around López By the end of the war Paraguay was devastated and its population reduced by one half

Triple Alliance and Triple Entente, two international combinations of states that dominated the diplomatic history of Western Europe after 1882 until they came into armed conflict in the First WORLD WAR A complete survey of the causes that motivated the alliances would be a detailed study of all the policies of the major European powers, a complete history of their relations would be a survey of all the diplomatic incidents and trends in the period 1870–1914 A short summary is necessarily somewhat misleading In 1871 two new major states of Europe had been formed—the German Empire and the kingdom of Italy The new German Empire, under the hand of BISMARCK, was steered carefully always with an eye upon France, for the Franco-Prussian War (1870–71) had left France thirsting for revenge and for the regaining of the lost provinces of Alsace and Lorraine Germany had allied itself with Russia and Austria-Hungary in the THREE EMPERORS' LEAGUE, but Austria-Hungary and Russia were not the best of friends, partly because Russia represented the Pan-Slavic movement and Pan-Slavism threatened the very existence of Austria-Hungary The Treaty of SAN STEFANO (1878), following the Russo-Turkish War, furthered the cause of Pan-Slavism through the creation of a large Bulgarian state and offended Austria-Hungary as well as England A European conference (see BERLIN, CONGRESS OF), called to revise the treaty, caused a sharp decline in the friendship between Russia on the one hand and Austria-Hungary and Germany on the other, Bismarck formed (1879) a secret defensive alliance—the Dual Alliance—with Austria-Hungary In 1882 Italy, angry at France chiefly because France had forestalled an Italian advance by occupying Tunis, signed another secret treaty, which bound it with Germany and Austria-Hungary Thus was the Triple Alliance formed It was periodically renewed until 1913 Rumania joined the group in 1883, and thus a powerful Central European bloc was created Italy was from the first not so solidly bound to either of its allies as Germany and Austria-Hungary were to each other Instead, Italy was in fact a rival of Austria-Hungary in the Balkans and particularly for control of the Adriatic, and moreover there remained unsettled territorial problems (see IRREDENTISM). The Triple Alliance, however, turned diplomatic history into new channels The Three Emperors' League died a slow death; in 1890 Germany refused to renew its reinsurance treaty with Russia, and Russia as a consequence sought a rapprochement with France. At the same time France, face to face with a hostile Central European combination, felt great need of an ally, and French diplomats began to make overtures to Russia for an agreement to counterbalance the Triple Alliance French capital aided Russian projects, especially the Trans-Siberian RR, friendly diplomatic visits were exchanged In 1891 there was a definite understanding between the powers, this was strengthened by a military convention in 1893, and by 1894 the Dual Alliance between Russia and France was in existence, it was publicly acknowledged as existing in 1895 Meanwhile, the fall of Bismarck, after the accession of WILLIAM II to the throne of the German Empire, was followed by the appearance of new and vigorous foreign policies Germany committed itself to colonial and commercial expansion The German plan for a BAGHDAD RAILWAY was viewed with alarm by the powers having interests in the Near East. The German commercial rivalry with Great Britain not only brought direct trouble but nourished German desire for sea power and a large navy Great Britain, long in "splendid isolation" from the other European nations, was being propelled by its interests to make some move toward protective international alliance There had been some measures with the object of Franco-German rapprochement, but these ultimately had no effect In 1898 Théophile DELCASSÉ took control of French foreign policy, he was opposed to Germany and hoped for a rapprochement with Great Britain, his object being the isolation of Germany Friendship between England and France did not seem possible because of their traditional enmity and, more important, their colonial quarrels in Africa, especially as to Egypt, the Sudan, and Indo-China Friendship between Great Britain and Germany was also traditional, and the two countries were bound by dynastic and cultural ties There had been and continued to be active expressions of Anglo-German amity, but Delcassé's diplomacy, aided by the accession of Francophile Edward VII to the British throne (1901), ultimately bore fruit Although Great Britain and France had been on the very verge of war over the FASHODA incident in 1898, the matter was settled and the way was opened for further agreements between the two powers Though there was no alliance, the Entente Cordiale — a friendly understanding—was arrived at Colonial rivalries of Russia and England had in the late 19th cent made those powers hostile, the field of contest was Asia—Turkish affairs, Persia, Afghanistan, China, and England But after the abasement of Russia by the Russo-Japanese War, and particularly after Sir Edward Grey gained influence in the British foreign office, there was a tendency toward friendly settlement in England This advanced, and in 1907 an understanding was reached between Russia and Great Britain This agreement created the international group opposing the Triple Alliance, France, Great Britain, and Russia had finally completed the Triple Entente Conflict between the two combinations had already begun The two principal problems that caused outright struggles involved MOROCCO and the Balkans The militarism of the chief countries of Europe was prompted by a growing sense of international hysteria, which was, in turn, increased by military preparations The stage was being set for a war between the two alliances The crisis in Morocco almost precipitated the war More serious still were the Balkan crises brought about by the annexation of BOSNIA AND HERCEGOVINA by Austria-Hungary in 1908, the Italo-Turkish War (1911–12), and the BALKAN WARS (1913–14) The trouble between Austria and Serbia reached a peak after the assassination of Archduke Francis Ferdinand (1914) The First World War resulted Italy's interests had long been more or less divorced from the Triple Alliance, as early as 1902 a Franco-Italian accord on North Africa had been reached in a secret treaty With the outbreak of the war, both Italy and Rumania refused to join the Central Powers After much secret negotiation, Italy in 1915 formally renounced the Triple Alliance and joined the Allies, the next year Rumania did likewise Germany and Austria-Hungary gained new support in Turkey and Bulgaria, the war ushered in a new diplomatic period, with new diplomatic alignments See G P Gooch, *History of Modern Europe, 1878-1919* (1923), Charles Seymour, *The Diplomatic Background of the World War* (1918), S B Fay, *The Origins of the World War* (rev ed., 1930); B E. Schmitt, *The Coming of the World War* (1930).

tripod (trī'pŏd) [Gr., =three-foot], three-legged stool, stand, table, or vessel, one of the early standard pieces of furniture Tripods were especially widely used in ancient Greece, in the home and as altars At Delphi was a famous tripod altar at which the Pythian priestess sat to deliver an oracle It was imitated throughout Greece, and small models were awarded the winners in the Pythian games. Later the tripod, like the modern cup, became a standard prize. In the Hippodrome at Constantinople is the base of a noted tripod made from one tenth of the spoils from the battle of Plataea It originally supported a huge golden bowl held by three serpents

Tripoli (trĭ'pŭlē), anc *Tripolis,* Arabic *Tarabulus,* city (pop 59,001, including suburbs 86,371), N Lebanon, a port on the Mediterranean Sea NNE of Beyrouth It was probably founded after 700 B.C., as there is no mention of it until Persian times, when it was the capital of the Phoenician federation of Tyre, Sidon, and Aradus and was divided into three sections The city flourished under the Seleucid and Roman empires and in A D. 638 was captured by the Arabs After a long siege it was taken (1109) by the Crusaders, and in the siege its great library was destroyed It was sacked by the sultan of Egypt in 1289 and was later rebuilt The old part of the city, around the harbor, contains the remains of fortified towers and walls. Tripoli is connected by rail with Beyrouth and with Homs in Syria and exports silk, soap, oil, lemons, oranges, and wool It is the terminus of an oil pipe line from Iraq and has an oil refinery.

Tripoli (trĭ'pŭlē), anc *Oea,* city (pop. 125,541), Libya, a port on the Mediterranean Sea, in Tripolitania It is a tourist, commercial, and manufacturing center There are tobacco and carpet industries, food processing, and sponge and tuna fishing On the edge of a large oasis, Tripoli was the site of a Tyrian colony (7th cent.? B.C.) It was occupied by Rome, the Vandals, Arabs, and Turkey (1551–1911), and in 1911 it passed to Italy and was made the capital of Libya. It was a base of the Barbary corsairs, whom the United States fought in the TRIPOLITAN WAR An important Axis base in the Second World War, Tripoli fell to the British in 1943 Parts of the Roman walls and an arch of Marcus Aurelius remain

Tripoli (trĭpō'lē), town (pop 1,001), NE Iowa, N of Waterloo, settled 1850, inc 1894

tripoli, siliceous material used as an abrasive, as a filler, and as a facing for foundry molds It is found in Arkansas, Illinois, Missouri, Oklahoma, and Pennsylvania

Tripolis (trĭ'pulis), town (pop 14,961), S Greece, in the Peloponnesus, SE of Patras It is a road and rail center, an agricultural center, and a summer resort, and it produces textiles, leather, and cheese Founded c 1467 near the site of the ancient cities of Mantinea, Pallantium, and Tegea, it was the seat of the Turkish pashas of Morea It was devastated (1825) in the Greek War of Independence A former spelling is Tripolitza

Tripolis, Lebanon see TRIPOLI

Tripolitania (trĭ'pŏlĭtā'nēŭ), region, W Libya, along the Mediterranean coast The chief city is Tripoli The coastal strip (c 500 mi. long), with many fertile oases, is backed by a sandy plain which rises to a hilly plateau, the Jebel Nefusa. Beyond the Jebel Nefusa is the Sahara The coast was colonized by the Phoenicians in the 7th cent B.C. and subsequently passed under the control of Carthage, of Rome, of the Vandals, of the Byzantines, of the Arabs (7th cent.), of the Normans, and of the Knights Hospitalers It fell to Turkey in 1553 and was long a stronghold of Barbary pirates Tripolitania was acquired from Turkey by Italy in 1912 It was captured by the British in 1943

Tripolitan War, (trĭpŏ'lĭtŭm) In the BARBARY STATES piracy had become a normal source of income long before the United States came into existence, and the system adopted by European nations of buying immunity from raids by tribute and gifts was accepted by the new republic Thomas Jefferson had objected to it when he was in George Washington's cabinet, and after he became President events led to trouble. In 1800 William Bainbridge, the officer who took the tribute to the dey of Algiers, was compelled to go under the Turkish flag to Constantinople; this humiliation rankled When the ruler of Tripoli in 1800 demanded more tribute than had been agreed upon in a treaty of 1799 the United States refused to agree, and a state of hostility resulted in 1801 Commodore Richard Dale, sent to hold the pirates in check, was not successful, and the whole American attitude was one of reluctant force Richard Valentine Morris, sent out to reach an agreement and at the same time to threaten, accomplished nothing. The port of Tripoli continued under blockade, and Tunis was more or less drawn into the struggle through troubles with William Eaton, the U.S. consul there Eaton and Morris quarreled, and a raid on Tripoli failed The blockade was lifted, and the U.S. government decided to buy peace by paying tribute to Tripoli and Tunis, but Morris was recalled and Edward Preble was sent out with a squadron to the Mediterranean. One of the ships was the frigate *Philadelphia,* under command of the unlucky William Bainbridge She was sent to resume the blockade, but was driven aground by storm in the outer harbor. She was captured, and Bainbridge and all his men were taken and held This prepared the way for the most daring exploit of the war. Stephen Decatur and a small group of men in Feb., 1804, went into the harbor, set fire to the *Philadelphia,* and destroyed her Some attacks were made by Preble on Tripoli, but the city,

though bombarded, was not taken. Preble was in Sept., 1804, succeeded by Samuel Barron, who continued the blockade of Tripoli Meanwhile William Eaton had persuaded the U.S government to back his scheme of supporting a rival claimant for the rule of Tripoli by a land expedition. As "navy agent," he gathered a force in Egypt and after a spectacular march took the port of Derna. Before he could undertake any more important action, the war was ended. John Rodgers, sent out with a good-sized force in May, 1805, negotiated a settlement in June. The U S prisoners were ransomed, and Tripoli agreed to ask no more tribute and to molest American ships no more Though the most favorable agreement yet made with a Barbary power, the treaty was not a diplomatic triumph. The war had, however, served to train many young men, such as Decatur and Thomas Macdonough, for excellent later service in the War of 1812 During the later Napoleonic Wars and the War of 1812 the Barbary pirates increased their raids on commerce. Algiers actually declared war on the United States In 1815 Stephen Decatur was sent out with a squadron, having the famous *Guerrière* as its flagship Almost without a blow he forced the dey of Algiers to sign a treaty renouncing U S tribute, and the so-called Algerine War was ended. The United States no longer paid tribute to Algiers, Tunis, or Tripoli, but the depredations of the Barbary corsairs were by no means over. Nor did the larger and successful British and Dutch force under Edward Pellew, Lord Exmouth, in 1816 do away with the piracy, which continued until the French conquered Algeria

Triptolemus (trĭptŏ'lĭmus), in Greek religion, one of the principal figures of the ELEUSINIAN MYSTERIES Associated, therefore, with DEMETER, his symbol was an ear of wheat He was said to be the inventor of the plow and of agriculture, hence the father of civilization

trireme (trī'rēm) [Latin, =three-oared], ancient warship, a GALLEY, propelled by oars but also having sails It is conventionally said that the oarsmen were arranged in three banks, but there is much question on the subject; the oarsmen may have sat three on a bench The light vessels, some 125 ft long, were easily maneuverable and were after the 6th cent B C used in warfare by Greeks, Egyptians, Carthaginians, and Romans The trireme was steered with large paddles over the stern and fought principally by ramming, until the Romans introduced the *corvus*, or crow, a combination grappling hook and gangway used for boarding enemy vessels Heavier vessels (notably the quinquireme) were used, but were not so manageable in battle

Trissino, Gian Giorgio (jän' jôr'jō trēs-sē'nō), 1478–1550, Italian diplomat and poet He was papal nuncio under Leo X and Clement VII His best-known works are *Sofonisba* (1515), a drama written according to the classical rules in which he imitates Euripides, and an epic poem, *Italia liberata dai Goti* (1547–48)

Trist, Nicholas Philip, 1800–1874, American diplomat, b Charlottesville, Va He attended West Point, studied law under Thomas Jefferson, married Jefferson's granddaughter, and was private secretary to Andrew Jackson He served as consul (1834 36) in Havana and was chief clerk of the Dept of State when he was sent (1847) to Mexico as a special agent to conduct negotiations to end the MEXICAN WAR Touchy Gen Winfield Scott and lofty Trist at first quarreled but later became friendly A short armistice was reached after the battles of CONTRERAS and Churubusco (Aug, 1847), but the Mexican commander, Santa Anna, violated this, and war was resumed President James K Polk, thinking that Trist had been duped, had him recalled Trist had reopened negotiations before his recall arrived and, fearing the collapse of Mexico into chaos, decided to ignore the recall He succeeded in negotiating the Treaty of GUADALUPE HIDALGO Polk supported the treaty but plunged Trist into disgrace Trist did not recover his unpaid salary and expenses until 1871 In his last years he was postmaster of Alexandria, Va

Tristan. see TRISTRAM AND ISOLDE

Tristan da Cunha (trĭs'tän dä kōōn'yù), isolated volcanic group (1945 pop 230), in the S Atlantic, about midway between South Africa and South America The only habitable island of the group is Tristan da Cunha, an extinct volcano rising to c 8,000 ft The inhabitants subsist by potato growing, stock raising, and fishing An important meteorological and radio station is here The other islands of the group are Gough, Nightingale, and Inaccessible, the last being the home of the flightless rail, an almost extinct bird The group was discovered by the Portuguese in 1506 and was visited by whalers, seal hunters, and explorers. In 1816 it was annexed by Great Britain and in 1938 became a dependency of St Helena. See Jan Brander, *Tristan da Cunha* (1940)

Tristan l'Hermite, Louis (lwē' trēstäⁿ' lĕrmēt'), d c 1477, French soldier, provost of the marshals of France under Charles VII and Louis XI His position gave him charge of the execution of many rebels against the royal authority.

Tristram and Isolde (trĭs'trŭm, ĭsōl'dù, ĭsōl'dù), medieval romance that has had a distinguished history. The names of the two chief characters appear in various forms, such as Tristran, Tristrem or Tristan and Isolt, Yseult, or Iseult The earliest extant version (incomplete) in Anglo-Norman French verse was written (c.1185) by Thomas of Britain The treatment in English is a mediocre poem, *Sir Tristram*, of the late 13th cent About 1210 Gottfried von Strassburg wrote in German verse a magnificent version based on that of Thomas The legend, originally independent of the ARTHURIAN LEGEND, became incorporated with it In the 15th cent Sir Thomas Malory included Tristram and Isolde in his *Morte d'Arthur* The scenes of the action are Celtic, chiefly Ireland, Cornwall, and Brittany The story is mainly Irish in origin with details from other sources Sir Tristram is sent to Ireland to bring Isolde to Cornwall to be the bride of King Mark A potion that Tristram and Isolde take unknowingly makes their love irresistible After many trysts and separations, each dies of love for the other Isolde is called Isolde the Fair Tristram's wife, another Isolde, is called Isolde of the White Hand She is of Brittany Modern versions are Matthew Arnold, *Tristram and Iseult*, A C Swinburne, *Tristram of Lyonesse;* Alfred Tennyson, *The Last Tournament*, and E A Robinson, *Tristram* Wagner's opera *Tristan und Isolde* is based on the version of Gottfried von Strassburg For translation of the version by Thomas of Britain, see R S Loomis, *The Romance of Tristram and Ysolt* (rev ed , 1931), for version by Gottfried von Strassburg, see J L Weston, *The Story of Tristan and Iseult* (1899)

Triton (trī'tun), in Greek myth, son of POSEIDON He was a sea being like a merman, the upper half of his body being human, the lower fishlike Later Greek literature speaks of many Tritons, sometimes described as riding over the sea on horses Tritons characteristically blew trumpets of conch shells

triumphal arch, monumental structure embodying one or more arched passages, frequently built to span a road and designed to honor a king or general or to commemorate a military triumph This form of monument was probably invented by the Romans, who built them throughout the empire Examples exist in Italy, France, Spain, Asia Minor, and North Africa, dating from the empire The typical Roman triumphal arch had a single arched opening in the earliest examples, as in the Arch of Titus, Rome (A.D 81), after the 2d cent a large arch flanked by two smaller ones became common The piers were faced with columns and enriched with sculptures or bas-reliefs relating to the events commemorated, while above the entablature was an attic story for dedicatory inscriptions supporting a quadriga, a sculptured four-horse chariot group Among the Roman arches remaining are that of Trajan, at Benevento, Italy (114), relating the story of the emperor's life, and those of Septimius Severus (203) and of Constantine (c 315), at Rome, honoring the military victories of the two emperors In modern times, after the revival of triumphal arches of the Roman type, the most noted examples have been memorials or civic adornments rather than triumphal monuments in the Roman sense Among them are the Porte Saint-Denis and the Porte Saint-Martin, in Paris, both built by Louis XIV to commemorate the military triumphs of his reign, the Brandenburg Gate in Berlin, the Victory Gate in Munich, the Marble Arch in London, and the Washington Arch in New York The term "triumphal arch" designates also in early Christian basilican churches the great arch separating the sanctuary from the body of the church, richly ornamented with mosaics

Triumvirate (trīŭm'vĭrĭt, -vīrāt" [Latin, =groups of three men], in ancient Rome, a board or commission of three men Triumvirates were common in the Roman republic, e g , the *tresviri coloniae deducendae*, a committee for the establishment of a colony, and the *tresviri reficiendis aedibus*, a standing committee on temples The **First Triumvirate** is the familiar but misleading name given the alliance of Julius CAESAR, POMPEY, and CRASSUS formed in 60 B C This was not strictly a triumvirate, since the alliance had no official sanction The three men were able to control Rome, and the alliance aided Caesar's rise to power by giving him the opportunity to pursue the GALLIC WARS The **Second Triumvirate** was legally established as the *tresviri reipublicae constituendae* [triumvirate for reestablishing the public welfare] in 43 B C for five years, it was renewed in 37 B C The members of this triumvirate were Octavian (AUGUSTUS), Marc ANTONY, and LEPIDUS This group was granted enormous power by the senate Lepidus was deposed in 36 B.C , and Antony was defeated at Actium in 31 B C , leaving Octavian at the head of the Roman Empire See F F Abbott, *A History and Description of Roman Political Institutions* (1911),

Trivandrum (trĭvăn'drŭm), city (pop 128,365), capital of Travancore-Cochin state, India The fort contains several palaces and an old temple of Vishnu. The cultural institutions of Trivandrum include two museums of art and a university

trivium: see LIBERAL ARTS

Trivulzio, Gian Giacomo (jän' jä'kōmō trēvōōl'tsēō), or **Jean Jacques Trivulce** (zhäⁿ' zhäk' trēvülś'), 1441?–1518, marshal of France The most illustrious member of an old Milanese family, Trivulzio left the service of his country after the accession (1480) of Lodovico Sforza, who eventually outlawed him Serving Alfonso II, king of Naples, against CHARLES VIII in 1494, Trivulzio suddenly went over to the French. In 1499 he headed the French forces that took Milan, and he was made marshal of France by Louis XII In the subsequent campaigns of the ITALIAN WARS he participated in the victory of Agnadello, was French commander in chief in 1511, and shared responsibility for the rout at Novara (1513) and the victory of Marignano (1515) The jealousy of his colleague, Lautrec, caused Trivulzio's disgrace with Francis I, and the aged marshal died in resentful retirement.

Trnava (tûr'nävä), Ger *Tyrnau* (tür'nou), Hung *Nagyszombat* (nŏj'sōm"bŏt), town (pop 24,226), SW Slovakia, Czechoslovakia, NE of Bratislava It is the center of a fertile agricultural region and is a Roman Catholic episcopal see Founded in the 6th or 7th cent , it was in the Middle Ages a center of Slovak Catholicism, and it is called the Slovak Rome because of its many churches and monasteries Among these the fine Gothic cathedral is outstanding

Trnovo or **Tirnovo** (both tûr'nōvō), town (pop 16,182), N central Bulgaria Here the second Bulgarian empire came into existence when Ivan I was proclaimed tsar in 1186 Trnovo reached its height as the capital of old Bulgaria under Ivan II, who built (1230) the Church of the Forty Martyrs It fell to the Turks in 1393 The full independence of Bulgaria was proclaimed here in 1908

Troas (trō'ăs) or **the Troad** (trō'ăd), region about ancient TROY on the northwest coast of Asia Minor It was traversed by Mt Ida and its branches and watered by the Scamander and Simois rivers Scene of the events of the *Iliad* and an ancient center of Aegean civilization, the Troad has yielded to modern archaeologists a wealth of antiquities For the Troas of the Bible, see ALEXANDRIA TROAS.

Trobriand Islands (trō"brēänd", trō"brēänd'), small volcanic group, off SE New Guinea, part of the Territory of Papua Kiriwina, the largest island, is c 30 mi long The group produces yams, pearl shell, and trepang In the Second World War the islands were occupied in 1943 by Allied forces and used as a base for attacking Japanese-held New Britain

Trochu, Louis Jules (lwē' zhül' trōshü'), 1815–96, French general He fought in Algeria, in the Crimean War, and in the Italian War of 1859 In his *L'Armée française en 1867* he rightly criticized the French army He was military governor of Paris when the Franco-Prussian War broke out (1870) Although he had pledged his life to defend the Napoleonic dynasty, he did nothing to prevent the overthrow, at Paris, of the Second Empire after the French rout at Sedan (Sept , 1870), and he accepted the presidency of the government of national defense Trochu's conduct of the war was severely criticized, although there was little he could have done to save the desperate situation He resigned after the capitulation of Paris in Jan , 1871 Trochu wrote several books to exculpate himself

Troelstra, Pieter Jelles (pē'tur yĕ'lĕs trōōl'strä), 1860–1930, Dutch Socialist In 1893 he founded what later became the *Sociaaldemocrata*, official Socialist paper, and in 1900 he assumed editorship of his party's daily, the *Volk* Opposing the ultra-radical wing of the Socialists, Troelstra organized the Dutch Social Democratic Labor party in 1894 As a member of parliament (1897–1900) he was responsible for some social legislation He wrote several books in Dutch, including his memoirs, *Gedenkschriften* (1927)

Trogir (trō'gĭr), Ger *Trau* (trou), small port, Croatia, Yugoslavia, on an Adriatic island 8 mi W of Split Long contested between Hungary and Venice in the Middle Ages, it eventually was kept by Venice until 1797 Now a seaside resort, the town is of great architectural interest, having kept a splendid 13th-century cathedral, two 15th-century castles, and several medieval and Renaissance palaces

troglodyte: see CAVE DWELLER

Trogus (Cnaeus Pompeius Trogus) (trō'gus; nē'ùs pŏmpē'ùs), fl A D 5, Roman historian of Gallic origin His history of the world, which survives only in excerpts by JUSTIN, treated of the Orient, Greece, Macedon and the other Hellenistic kingdoms, Rome, Gaul, and Spain. His sources were different from those used by other Roman historians

Trogyllium (trōjĭl'ĭum), promontory, W Asia Minor, jutting out into the Aegean Sea just S of Samos St Paul stopped here Acts 20 15

Troilus and Cressida (trō'ĭlus, troi'lus, krĕ'sĭdù), medieval romance distantly related to characters in Greek legend Troilus, a Trojan prince (son of Priam and Hecuba), fell in love with Cressida (Chryseis), daughter of Calchas She was faithless to him with Diomed, and Troilus was killed by Achilles This story appeared first in Benoît de

Sainte-More, from whom Boccaccio drew for his *Filostrato* In this tradition Chaucer and Shakspere followed. See R. K. Gordon, tr. and ed., *The Story of Troilus* (1934)

Trois Pistoles (trōōä" pēstôl'), town (pop. 2,176), E Que., on the St. Lawrence and NE of Rivière du Loup. It is a market center for a dairy and lumber region and has pulp mills

Trois Rivières (trōōä" rēvyĕr') or **Three Rivers,** city (pop. 42,007), S Que., on the St. Lawrence at the mouth of the St. Maurice river and between Montreal and Quebec. It is an industrial center with pulp, paper, cotton, and lumber mills, foundries, grain elevators, and woodworking. Power for its industries is supplied by the hydroelectric station at Shawinigan Falls. It has a Roman Catholic cathedral and bishop's palace. The city was founded (1634) by Champlain and took its name from the three channels through which the St. Maurice enters the St. Lawrence. It became a major French trading post and fortified port and the starting point of many explorers and missionaries. In 1737 the first iron forges in Quebec were built here

Troitskosavsk, RSFSR: see KYAKHTA.

Troitsko-Sergiyevskaya Lavra, RSFSR: see ZAGORSK

Trojan War (trō'jŭn), in Greek mythology, war between the Greeks and the people of Troy. It serves as the setting for the *Iliad* and the background of the *Odyssey*. The strife began when PARIS (son of PRIAM), after the affair of the APPLE OF DISCORD, eloped with Helen, wife of Menelaus. The Greeks, led by AGAMEMNON, who had sacrificed his daughter IPHIGENIA, set sail for Troy. They besieged Troy for 10 years. The Trojan army was much less powerful, but Troy was well fortified, and the Greeks won at last by deceit. They pretended to abandon their camp, but left a large wooden horse, in which warriors were hidden. The Trojans heedless of the prophecies of CASSANDRA and the warning of the priest LAOCOON, carried the horse into the city as an offering to Athena. The warriors secretly left the horse, opened the city gates, and admitted the Greek army. Troy was sacked. Among the Greek heroes who participated in the war were ACHILLES, PATROCLUS, DIOMED, ODYSSEUS, NESTOR, two warriors named AJAX, and PROTESILAUS, husband of LAODAMIA. CALCHAS, a priest, aided the Greeks. The Trojan army was led by Hector, aided by PARIS, AENEAS, SARPEDON, Deiphobus, Troilus, GLAUCUS, MEMNON, and PENTHESILEA, Amazon queen. The gods took a great interest in the war. Poseidon, Hera, and Athena helped the Greeks, while Aphrodite and Ares favored the Trojans. Zeus and Apollo remained impartial. The Trojan War in reality was probably a war (c 1200 B.C.) between the invading Greeks and the people of the Troad, over control of trade through the Dardanelles

troll (trōl), in Scandinavian folklore, a dwarfish or gigantic inhabitant of caves in the mountains. They are sometimes friendly to human beings. In Ibsen's *Peer Gynt* and Grieg's *Peer Gynt Suite*, the mountain king is a troll

Trollhattan, Swed. *Trollhättan* (trōl'hĕ"tän), city (pop. 22,108), Alvsborg co., SW Sweden, on the Göta river and near Vänern lake. The river at this point falls 108 ft. in six falls and rapids, and the water power is utilized by the largest hydroelectric plant in Sweden (state owned), which supplies power and light to the surrounding cities and factories

Trollope, Anthony (trŏ'lŭp), 1815–82, English novelist, b. London, son of Frances Trollope. Trollope was an unpopular schoolboy at Harrow and Winchester and an unhappy clerk at the general post office; it was not until he became post-office inspector in Ireland that he showed his ability. In Ireland, too, he learned to like country life and especially fox hunting. He married in 1844 and about the same time began writing novels. His stories of Irish life, *The Macdermots of Ballycloran* (1847) and *The Kellys and the O'Kellys* (1848), were failures, as was his historical novel *La Vendée* (1850). In his travels over S England as an inspector of rural mail deliveries, he acquired the background for the imaginary county of Barset, in which some of his most successful novels are laid. The *Barsetshire Chronicles* are *The Warden* (1855), *Barchester Towers* (1857), *Doctor Thorne* (1858), *Framley Parsonage* (1861), *The Small House at Allington* (1864), and *The Last Chronicle of Barset* (1867). The clerical life of the cathedral town of Barchester (probably Winchester) and the characters who recur in these novels have seemed so real that at least two later novelists have written about them. A later group of stories are those which share a common reference to parliamentary background—*Can You Forgive Her?* (1864), *Phineas Finn: the Irish Member* (1869), *The Eustace Diamonds* (1873), *Phineas Redux* (1874), *The Prime Minister* (1876), and *The Duke's Children* (1880). Others of his popular novels are *Orley Farm* (1862), *The Belton Estate* (1866), *The Claverings* (1867), *He Knew He Was Right* (1869), *The Vicar of Bullhampton* (1870), *Sir Harry Hotspur of Humblethwaite* (1871), *The American Senator* (1877), and *Is He Popenjoy?* (1878); *John Caldigate* (1879) and *Mr. Scarborough's Family* (1883); a satire, *The Way We Live Now* (1875); and a short book, *Dr. Wortle's School* (1881). His extensive journeys in the service of the post office resulted in several travel books, and after a visit on his own account to the United States he wrote *North America* (1862). Trollope retired from the post office in 1867 and for a time edited *St. Paul's Magazine*. His autobiography, published posthumously in 1883 (ed. by Michael Sadleir, 1923), pictured him as a man who worked at literature as a trade and whose relentless schedule called for so many pages a day. His output was tremendous, more than 60 novels as well as many travel books and biographies resulted from his careful apportionment of his time. In the recent revival of interest in Trollope, he is hailed for his peculiar genius in building up character by the use of commonplace scenes. His people have a comforting normality in their ordinary and often humorous activities. See study by Michael Sadleir (1927, rev. ed., 1947), L. P. Stebbins and R. P. Stebbins, *The Trollopes* (1945)

Trollope, Frances, 1780–1863, English novelist, whose maiden name was Milton. She married (1809) a lawyer, Thomas Anthony Trollope, and was the mother of six children, including Anthony and Thomas Adolphus Trollope. To recoup the family fortunes, she went (1827) with three of her children to the United States. A "bazaar" in Cincinnati was a disastrous failure, and in 1831 she returned to England with the manuscript of *The Domestic Manners of the Americans* (pub. 1832). The book was very offensive to Americans but sold well in England and was the beginning of her career as a successful writer. She continued to write travel books and began a steady stream of novels, of which the best are *The Vicar of Wrexhill* (1837) and *The Widow Barnaby* (1839) and its sequels. See biography by F. E. Trollope (1895), L. P. Stebbins and R. P. Stebbins, *The Trollopes* (1945).

Trollope, Thomas Adolphus, 1810–92, English author, studied at Oxford; son of Frances Trollope and brother of Anthony Trollope. His home in Florence, Italy, after 1843 was a gathering place for literary people. His literary output was tremendous, it included novels and, among several historical works, *History of the Commonwealth of Florence to 1531* (4 vols., 1865). See his reminiscences, *What I Remember* (3 vols., 1887–89), L. C. Stebbins and R. P. Stebbins, *The Trollopes* (1945)

trombone [Ital., =large trumpet], brass wind musical instrument of cylindrical bore, twice bent on itself, having a sliding section which lengthens or shortens it, thus regulating the pitch. It was developed in the 15th cent. from the trumpet; representations of the instrument soon afterward show it in almost its present form. In the 16th cent. it became popular for ceremonial use and was used in church music. In the 18th cent. its use was extended to opera, and Beethoven introduced trombones in his Fifth Symphony (1805–7). With the development of orchestration by Wagner and Berlioz the trombone became an important orchestral instrument, valued for its wide range, both of pitch and dynamics, three or four trombones are used with a bass trombone, which is slightly larger and pitched a fourth lower. It is also commonly used in the modern dance band

Tromp, Cornelis (kôrnā'lĭs trômp'), 1629–91, Dutch admiral in the second and third of the Dutch Wars, son of Maarten Tromp. In 1665 he was made commander of the Dutch fleet, but he was replaced by M. A. de RUYTER in the same year. In June, 1666, he commanded the rear squadron of the fleet in the Four Days battle with Monck, but in Aug., 1666, he lost his command because of De Ruyter's complaints. Tromp was reinstated in 1672, in operations against Sweden he was successful at Gotland and Rügen (1676), and he received the title of lieutenant admiral general

Tromp, Maarten Harpertszoon (mär'tun här'purtsōn), 1597–1653, Dutch admiral. A sailor from childhood, he joined the navy and rose to the rank of lieutenant admiral in 1637. In 1639, by remarkable tactics, he was able to blockade and crush a Spanish fleet in the lee of the Downs, this defeat marked the passing of Spanish sea power. In the first of the DUTCH WARS, he won control of the Channel by his victory (1652) over the English off Dungeness, but he was later forced to withdraw because of superior forces. The inferiority of his fleet caused the loss (June, 1653) of 20 ships near the Gobbard. Effecting a union with De Witt's squadron, Tromp took part in the attack on the English off Scheveningen, this action broke the blockade of the Dutch coast and was the last major conflict of the war. Tromp was killed in the battle. See his *Journal Anno 1639* (Eng. tr. by C. R. Boxer, 1930).

Troms (trōms, trŏ̄ms), county (10,071 sq. mi., pop. 113,722), N Norway, in Lapland. Tromsø is the county seat. Troms co. includes the Vesteralen Islands (see LOFOTEN AND VESTERALEN) and other large islands in the Norwegian Sea. Half of the population lives by fishing; stock raising also is an important source of livelihood. There are copper and iron deposits.

Tromsø (trōm'sö), Nor. *Tromsø* (trōmsœ'û", trŏ̄msœ'û"), city (pop. 10,990), co. seat of Troms co., N Norway. A port on the Norwegian Sea, it was founded c.1870 as a center for herring fishing. It is the chief city of arctic Norway, exporting fish, fish products, and furs. There is a Lapp encampment near by.

Trondheim (trŏn'hām), city (pop. 57,128), capital of Sor-Trondelag co., central Norway, a fortified seaport on Trondheim Fjord. It is also known by its original name, Nidaros, and by the variant spellings Drontheim, Trondhjem, and Throndjem. One of the largest cities of Norway, Trondheim is the commercial center of a fertile agricultural region. It has a hydroelectric power plant and shipyards, and it exports fish, lumber, copper ore, and wood pulp. It is a Lutheran episcopal see and the seat of a polytechnical school. Founded in 997 by Olaf I, first Christian king of Norway, Nidaros was the political and religious capital of medieval Norway. In 1152 Nicholas Breakspear (later Pope Adrian IV), in his reorganization of the Scandinavian hierarchy, made Nidaros an archiepiscopal see. Medieval Nidaros also was an important trade center until the Hanseatic period, when its trade was largely diverted to Bergen. Olaf Engelbrektsson, archbishop of Bergen, strongly resisted the attempt of King Christian III to force the Reformation on Norway and defended the rights of Norway as a separate kingdom. In 1537, however, he was obliged to flee, and in the same year the Reformation was introduced and the Norwegian bishoprics were abolished. Nidaros, renamed Trondheim, declined considerably after this blow to its spiritual supremacy. The treasures of its churches and monasteries were seized by the crown. Its historical role was reaffirmed when, in 1906, Haakon VII was crowned first king of modern independent Norway in the Trondheim cathedral. In the Second World War, Trondheim was seized by the Germans on the first day (April 3, 1940) of their invasion of Norway. It was used as a major German naval base and as a result was severely bombed. The city had suffered much damage in many great fires in previous centuries, and it has retained few old buildings. Its celebrated cathedral, originally a church erected over the tomb of Olaf II (St. Olaf) in the 11th cent., was rebuilt as a Gothic cathedral in the 12th and 13th cent., but it was ravaged by repeated fires and was reduced to an empty, roofless ruin by 1869, when its restoration was begun. The reconstructed edifice, built of native blue soapstone and white marble, is considered by many the finest Gothic cathedral in Scandinavia

Trondheim Fjord (trŏn'hām"), inlet of the Norwegian Sea, on the west coast of Norway. Extending c.81 mi. inland, it is considered a natural boundary between N and S Norway. Trondheim is on a peninsula in the fjord. The valleys draining into the fjord comprise one of the most fertile agricultural regions of Norway

Trophimus (trŏ'fĭmus), Ephesian companion of Paul. Acts 20:4, 21:29, 2 Tim. 4:20

Trophonius (trŭfō'nēŭs), in Greek legend, famous architect. He and his brother Agamedes (ăgămē'dēz) built the temple of Apollo at Delphi. After the death of Trophonius, a famous oracle, in a cave, was sacred to him

tropical medicine, branch of medicine concerned with the study, diagnosis, treatment, and prevention of diseases that occur most frequently in warmer climates. The causative organisms of several diseases breed best in the warmth, humidity, and primitive conditions of life of the tropics. Great advances have been made in the past few decades in understanding and, to a lesser degree, in combating such typical diseases as MALARIA, YELLOW FEVER, amoebiasis (amoebic dysentery), and hookworm. Latin American scientists have pioneered in the work, with some 20 schools or departments of tropical medicine now in existence. The Univ. of Puerto Rico has a noted school of tropical medicine (it was for some time connected with Columbia Univ.). The economic and, on occasion, military involvement of the United States with nations nearer the equator helped to draw the scientific resources of North America to their health problems. In more recent times the "good neighbor" policy and private benefactions have to some extent financed and otherwise aided research and field work in tropical diseases. A number of universities in the United States maintain schools or departments devoted to this branch of medicine. Care of the armed forces in warm climates during the Second World War furthered the development of better means of tropical-disease control and therapy. Atabrine, a synthetic drug, and some other substances replaced scarce quinine in malaria control. Earlier work done by Carlos Finlay, Walter Reed, W. C. Gorgas, and Hideyo Noguchi made it possible for their successors virtually to eliminate from most of the world the common form of yellow fever. A vaccine against dengue fever was developed and some progress made against the ravages of filariasis, which sometimes results in elephantiasis. See C. M. Wilson, *Ambassadors in White: the Story of American Tropical Medicine* (1942); T. T. Mackie and others, *A Manual of Tropical Medicine* (1945).

tropics, in geography, two parallels of latitude (the Tropic of Cancer at 23½° N and the Tropic of Capricorn at 23½° S) marking the outer limits of the tropical or torrid zone, every point within this belt 45° lat. wide, flanking the equator, receives the perpendicular rays of the sun at noon on at least one day of the year. The sun is directly overhead at lat 23½° N about June 22, the summer solstice, and at lat 23½° S about Dec. 22, the winter solstice. Since the entire tropical zone receives more of the direct rays of the sun than areas in higher latitudes and since there is never too much difference in the angle with which these rays strike a point within this belt, the average annual temperature of the tropics is higher and the seasonal change of temperature is less than that of other zones. The SEASONS, in fact, are determined by some climatic element—such as WIND or rainfall (as in the monsoon areas)—other than temperature. Though uniformity of high temperatures is a basic characteristic of torrid zone climates, several different climate types can be distinguished within the tropical belt, for latitude is only one of the factors determining the climate of a given area. The nearness to or distance from the ocean, the prevailing wind conditions, and the elevation are all contributing elements Thus, while the tropics contain the world's largest regions of monotonous tropical rain-forest climate (Amazon and Congo basins), low-latitude savanna, steppe, and desert climates (with decreasing seasonal rainfall) and tropical highland climates (having the characteristics of temperate climates) also occur The world's true rainy tropical regions, despite their enormous potential economic value, notably in their forest and vegetable products (lumber, oils, fibers, fruits, and gum), have remained relatively undeveloped. The evil effect of the climate upon the white man, the lack of energetic native labor, and the cost of exploiting an area in which transportation and settlement are made difficult by the lush natural vegetation have all been advanced as reasons for their backwardness However, recent spectacular developments in tropical medicine, advancing technology, and the need for more foodstuffs are encouraging the large-scale colonization by nonnative farmers (rather than plantation agriculture) Rubber, tea, coffee, cacao, spices, bananas, pineapples, oils and nuts, and lumber are the leading agricultural exports of the countries in the tropical zone

tropism (trō'pĭzm), involuntary response of an organism or part of an organism, involving orientation toward (positive tropism) or away from (negative tropism) one or more external stimuli Tropistic stimuli include heat, light, moisture, gravity, electricity, and chemical agents The sunflower, for example, is heliotropic, i e , the blossom turns toward the sun Response to gravity (geotropism) is common among plants, in many forms the roots are positively geotropic, the stems negatively geotropic The downward growth of the root and upward growth of the stem of certain plants sometimes result also from phototropism The term *taxis* is commonly applied to movement resulting in a change of position of a whole organism, e g , the negative phototaxis or phototropism of certain protozoans that move away from light The mechanism of tropistic responses is not well understood Some investigators have attributed plant tropisms involving unequal growth of tissues to the action of growth-regulating hormones called auxins.

troposphere see ATMOSPHERE

Troppau (trôp'ou), Czech *Opava* (ô'pävä), city (pop 30,191), Silesia, Czechoslovakia, W NW of Morava Ostrava, in a fertile agricultural district It manufactures knit ware, textiles, processed foods, and leather. The capital of former Austrian Silesia, Troppau was the scene (1820) of the Congress of Troppau (see separate article)

Troppau, Congress of, 1820, international conference called by Metternich under the provisions of the Quadruple Alliance to consider means of suppressing the liberal uprisings against FERDINAND I of the Two Sicilies and FERDINAND VII of Spain The Congress met at Troppau, in Austrian Silesia; the Austrian and Russian emperors represented their countries in person but were accompanied by Metternich and Capodistria. Prussia was represented by the crown prince and by K. A. von Hardenberg England, shifting away from European commitments, merely sent the British ambassador at Vienna, and the French representatives also were of secondary rank. No decisions were taken on the problems under consideration, which were referred to later meetings (see LAIBACH, CONGRESS OF, and VERONA, CONGRESS OF) However, at the behest of Tsar Alexander I, who announced his unreserved conversion to Metternich's reactionary principles, Austria, Russia, and Prussia signed a protocol which stipulated that states undergoing a change in government by revolution were to be excluded from the European Concert. If such a change in the status quo were to endanger members of the European alliance, the powers bound themselves to bring back, if necessary by arms, "the guilty state into the bosom of the Great Alliance," i.e., the Holy Alliance. England did not adhere to the protocol, and France adhered with reservations.

Trossachs (trŏs'ăks, -ăuks), wooded valley, about a mile long, Perthshire, Scotland. Between Loch Katrine and Loch Achray, it is overlooked by Ben A'an and Ben Venue It is associated with Scott's *Lady of the Lake* and *Rob Roy*.

Trotsky, Leon (trŏt'skē, Rus lĕ'ŏn trôt'skē), 1879–1940, Russian revolutionist, one of the principal leaders in the founding of the USSR He was born of Jewish parents in S Russia; his original name was Lev Davidovich Bronstein. Largely self-taught, he early became a convert to Marxism and joined the revolutionary movement in 1896. In 1898 he was arrested for the first of many times Exiled to Siberia in 1900, he escaped in 1902 and continued to work for the revolutionary cause in France, Belgium, and Germany. In London he collaborated with Lenin on the revolutionary paper *Iskra* [spark]. After the split (1903) in the Russian Social Democratic party he wavered for many years between BOLSHEVISM AND MENSHEVISM Returning to Russia in 1905, he took part in the revolution of that year. At that time he developed the theory of permanent revolution which declared that in Russia the bourgeois revolution would pass over to a socialist one and that a proletarian revolution in one country must develop into a world proletarian revolution Banished again to Siberia, he escaped to Vienna, where he engaged in journalism; he later went to Switzerland and to Paris, where he was active in pacifist and radical propaganda during the First World War Expelled from France, he moved (Jan , 1917) to New York city, where he edited the radical paper *Novy Mir* [New World] He returned (March, 1917) to Russia after the overthrow of Nicholas II, and after his arrival at Petrograd (now Leningrad) joined the Bolshevik wing and took part with Lenin in the unsuccessful Bolshevik uprising of July, 1917. He was imprisoned by the Kerensky government, but was again released in September One of the chief organizers of the October Revolution, which brought the Bolsheviks into power, Trotsky became (Nov , 1917) people's commissar for foreign affairs under Lenin He was a principal figure in the negotiation of the Treaty of BREST-LITOVSK (1918), by which Russia submitted to humiliating conditions to obtain peace with the Central Powers Trotsky's most important service to the Bolshevik cause was his organization of the Red Army in the civil war that followed the revolution Having taken over as commissar for war, he accomplished the monumental task of welding together an efficient fighting force out of the tattered remnants of the tsarist army and various disparate elements After 1919, however, differences developed between Trotsky and Lenin, whose right-hand man he had been Trotsky remained a member of the Politburo, the highest echelon of the Communist party, but in 1922 it was STALIN, not Trotsky, who was chosen general secretary of the party On Lenin's death (1924) the supreme power passed to a triumvirate consisting of Stalin, KAMENEV (Trotsky's brother-in-law), and ZINOVIEV Trotsky, who later charged that Lenin in his last will had advised the removal of Stalin as general secretary, immediately began to oppose Stalin's policy as rightist Stalin, however, obtained the support of the majority of the Communist party for his policy of compromise with the farmers—a point on which Trotsky was particularly uncompromising Trotsky lost most of his power in 1925 but continued to occupy secondary posts and to oppose Stalin until 1927, when he was expelled from the party and exiled to Alma-Ata In 1929 he was ordered to leave the USSR Refused admission by most countries, he was granted asylum by Turkey, where he lived on the Princes' Islands near Istanbul In 1933 he was allowed to move to France, and in 1935 he found refuge in Norway In the public treason trials held at Moscow in 1936, 1937, and 1938, he was charged with heading a plot against the Stalinist regime Supposedly with the connivance of Nazi Germany, Trotsky, according to the accusations, had directed the alleged treasonable activities of Kamenev, Zinoviev, Rykov, Bukharin, Yagoda, Toukhachevsky, and other high Soviet personalities Trotsky denied these charges as absurd and hurled countercharges at Stalin, whom he accused of manufacturing the evidence in order to rule Russia as an Oriental despot The Soviet government obtained (1937) the expulsion of Trotsky from Norway, and he settled with his family near Mexico city. There he continued to defy the Stalin regime in his writings He also founded the Fourth International, a minor but highly articulate group, recruited mostly from intellectuals, which advocates Trotsky's program of world revolution and the establishment of pure communism. Trotskyites consider Stalinist communism as a betrayal of the revolutionary cause, and their efforts so far have been concentrated on denouncing Stalinism rather than on promoting revolution. An unsuccessful attack on Trotsky's life was made in May, 1940 In Aug , 1940, he was found murdered His assassin, Jacques van den Dresched, *alias* Jacques Mornard, *alias* Frank Jackson, a Belgian born in Iran, had enjoyed Trotsky's confidence for several months before he killed him with an axe. It was alleged that he was a Stalinist agent, but the allegation was not proved in the trial The court sentenced him (1943) to imprisonment for 20 years Trotsky was a prolific writer. All his books, pamphlets, and articles are marked by his superlative intelligence, which was never questioned even by his enemies, his indomitable aggressiveness, and his incisive, always polemical, and sometimes poisonous style; they did immeasurable damage to the Stalinist cause outside the Soviet Union Among his translated writings are *The Defense of Terrorism* (1921), *Literature and Revolution* (1925), *Lenin* (1925), *Whither Russia?* (1926), *The Real Situation in Russia* (1928), *My Life* (1930), *History of the Russian Revolution* (3 vols , 1932), *The Revolution Betrayed* (1937), *The Stalin School of Falsification* (1937), and *Stalin* (1946)

trotting races: see RACING

troubadour (trōō'budôr), medieval poet of S France whose songs were composed in *langue d'oc*, while those of the TROUVÈRE of N France were in *langue d'oïl* Troubadours were often of the nobility —Richard Cœur de Lion, Alfonso II, king of Aragon, and many famous nobles and crusader knights were numbered among them—and their poetry was essentially aristocratic The verse forms included sonnets, pastorals, and chansons of high metrical and poetic skill Although the troubadours wrote on war and politics, their chief subject was romantic love, at that time a new doctrine for whose spread they were largely responsible Custom required that troubadours be able to play six or seven instruments Frequently attached to troubadours were the jongleurs who traveled about to perform their masters' works at different courts Of the 400 or more names of troubadours living between 1090 and 1292, some of the more famous are Jaufre Rudel, Bernard de Ventadour, Peire Vidal, Raimbaut of Vaqueiras, Folquet de Marseille (who became bishop of Toulouse), Bertrand de Born, Arnaud Daniel, Gaucelm Faidit, Raymond de Miravals, Peire Cardinal, Arnaut de Maruelh, Aimeric de Peguilha, the Monk of Montauban, and Thibaut IV The troubadours, many of whom were involved in the Albigensian Crusade, declined after 1216, though an attempt was made to revive the Provençal literary glory through the Jeux Floraux, held at Toulouse After their dispersion in Provence, a number of the troubadours went to Spain and Italy, where they had an important influence on the development of poetry during the 13th cent See H J Chaytour, *Troubadours* (1912), Pierre Aubry, *Trouvères and Troubadours* (Eng tr , 1914), *Oxford Provençal Chansonnier* (ed by W P Shepard, 1927)

Troubetzkoy, Paul, Prince (trōōbĕtskoĭ', trōōbĕts'koĭ, Rus trōōbyĭtskoĭ'), 1866–1938, Russian sculptor, b Italy His father was a Russian nobleman, his mother an American He worked in Russia, France, Italy, and the United States His work, impressionistic and realistic in manner, includes a wide range—bronze statuettes, for which he is particularly noted, portrait busts; and an equestrian monument to Alexander III, in Leningrad Among the subjects of his portrait works are Tolstoy, Rodin, Anatole France, George Bernard Shaw, Paul Helleu, Count Witte, Prince Leon Gallitzin, W K Vanderbilt, and the artist's wife A bust of Tolstoy is in the Luxembourg Museum, Paris, an equestrian portrait in the Detroit Institute of Arts The sculptor is represented in many galleries of Europe and in the museums of New York, Chicago, Buffalo, N Y , and Toledo, Ohio.

Troubetzkoy, Princess. see RIVES, AMÉLIE

Troup, George Michael, 1780–1856, governor of Georgia (1823–27), b McIntosh Bluff, on the Tombigbee river, Ala (then a part of Georgia) He was graduated from the College of New Jersey (now Princeton Univ) in 1797, studied law, and practiced at Savannah In Georgia politics Troup and William H Crawford led the conservative party opposed to the upcountry forces of John Clark As governor, he was an extreme states' rights man The final removal of the Creek Indians from Georgia was due in great part to his belligerent and uncompromising attitude towards both the Indians and the federal government. He was a U S Representative (1807–15) and Senator (1816–18, 1829–33) See biography by E. J. Harden (1859)

Troup (trōōp), city (pop. 1,526), E Texas, SE of Tyler With oil land and truck farms around it, Troup refines oil, ships tomatoes, and makes firebrick from local clay.

trout, game fish of the salmon family, of commercial value as food Of the numerous species and subspecies the majority are found in clear, cold, fresh waters Those of the genus *Salmo* include the brown trout, a brownish fish spotted with red and black, introduced into the United States from Europe (c.1883), which can live in warmer waters than most native forms, the cutthroat trout, marked with red under the lower jaw, which is native to fresh-water streams from California to S

Alaska; and the colorful rainbow trout, a fighter when hooked, native to W North America and introduced in other parts of the continent and in Chile and New Zealand. The steelhead trout is, by some authorities, considered to be the silver-colored salt-water phase of the rainbow trout The European sea trout (*S trutta*) lives in salt water and ascends rivers to spawn The chars, genus *Salvelinus* of the same family, include the common brook or speckled trout, a favorite game fish native to E North America and introduced in the West In some regions it enters the sea and becomes silver-colored The Dolly Varden trout is a similar western form There are a number of varieties of the common European char (*S alpinus*) The lake trout (*Cristwomer*) found in deep lakes of N North America as far south as the Great Lakes and New England, the largest American trout, is said to reach a record weight of over 100 lb

trouvère (trōōvâr'), medieval poet and singer of N and central France, flourishing during the later 12th and the 13th cent The trouvère corresponds to the TROUBADOUR of the south Composed in the *langue d'oïl*, their poetry is of a more courtly and less spontaneous nature and includes the great group of CHANSONS DE GESTE Chief among the trouvères were Conon de Béthune, Le Châtelain de Coucy, Colin Muset, Jacques Betel, and Adam de la Halle See Pierre Aubry, *Trouvères and Troubadours* (Eng tr, 1914)

Trouville (trōōvēl'), town (pop 6,781), Calvados dept, N France, on the English Channel It is a popular bathing resort

Trowbridge, John Townsend (trō'brĭj), 1827–1916, American novelist and writer of juvenile stories, b Ogden township, N Y, largely self-taught His very popular boys' books, some written under the pseudonym Paul Creyton, include *The Drummer Boy* (1863) and *Cudyo's Cave* (1864), perhaps his best *Neighbor Jackwood* (1857) is an antislavery novel From 1870 to 1873 he was editor of *Our Young Folks* (later *St Nicholas*) His *Complete Poetical Works* appeared in 1903, and "Darius Green and his Flying Machine" is often included in anthologies See his autobiography, *My Own Story* (1903)

Trowbridge (trō'brĭj, trou'–), urban district (1931 pop. 12,011, 1943 estimated pop 14,338), Wiltshire, England It is a market town and a long-established center of the manufacture of woolen goods, other industries are brewing and leather manufacture The 13th-century parish church contains the tomb of George Crabbe, the poet, who was rector here from 1814 until his death

Troy, ancient city made famous by the TROJAN WAR It is also called Ilion or, in Latin Ilium Its site is almost universally accepted as the mound now named Hissarlik, in Asiatic Turkey, c 4 mi from the mouth of the Dardanelles Accepting as reliable Greek tradition and details in the Homeric poems, Heinrich Schliemann identified the site and conducted excavations there from 1871 to 1882 Nine successive cities or villages have occupied the site, the earliest dating from the Neolithic period Attempting to determine which stratum of the mound was the Troy of the Trojan War, Schliemann gave this distinction first to the third stratum, then to the second Later excavations conducted by Wilhelm Dorpfeld indicated that the sixth stratum, representing the sixth settlement of the city, was the Homeric Troy However, discoveries of the expedition of the Univ of Cincinnati headed by C W Blegen proved that the seventh level was the Troy of Homer's poem The Troy of the Trojan War was a Phrygian city, it was the center of a region known as TROAS Like the Greeks described by Homer, the Trojans were of the Bronze Age The Romans, believing that they were descendents of Aeneas and other Trojans, favored the city, and the ninth of the settlements on the site was of some importance in Roman times See Walter Leaf, *Troy* (1912), A R Burn, *Minoans, Philistines and Greeks* (1930), H J E Peake and H J Fleure, *The Horse and the Sword* (1931)

Troy. 1 City (pop 7,055), co. seat of Pike co, SE Ala, on the Conecuh and SE of Montgomery, in a diversified farm section of the Black Belt, settled 1824, inc 1843 A state teachers college is here 2 City (pop 1,154), S Ill., near the Mississippi E of St Louis, in a coal and farm area, settled 1814, inc. as a city 1892 3 City (pop 1,049), co seat of Doniphan co, extreme NE Kansas, near the Missouri, founded 1855, inc 1860 It is the shipping center of an apple-growing region. Indian mounds have been excavated NW of Troy 4 City (pop. 1,493), co seat of Lincoln co, E Mo, NW of St Louis, laid out c 1819 The Cuivre river recreational area is near 5 Town (pop 1,321), SW N H, SE of Keene and SW of Mt Monadnock The area was settled in 1762. Troy was formed in 1815 from parts of Swansey, Richmond, Fitzwilliam, and other towns 6 City (pop 70,304), co. seat of Rensselaer co, E N Y, on the east bank of the Hudson and NE of Albany, laid out 1786, inc. 1816. Henry Hudson explored (1609) the territory near present Troy, and the site was included in the patroonship given to Kiliaen Van Rensselaer by the Dutch West India Company. Troy is known especially for its manufacture of collars and shirts Other important products are valves and fire hydrants. Samuel Wilson of Troy, who was concerned with army beef supply in the War of 1812, is said to have been the original of the national figure "Uncle Sam" The city is the seat of RENSSELAER POLYTECHNIC INSTITUTE, RUSSELL SAGE COLLEGE, and the Emma Willard School for girls 7 Town (pop 1,861), co seat (since c 1842) of Montgomery co, central N C, S of Greensboro It is a trade center with textile and furniture plants 8 City (pop 9,697), co seat of Miami co, W Ohio, on the Great Miami river and N of Dayton; settled c 1807, inc 1818 Airplanes are made here 9 Borough (pop 1,228), NE Pa, W of Towanda, settled 1793, inc c 1844 A dairying center, it breeds and auctions pedigreed Holstein cattle 10 Town (pop 1,869) N Vt, W of Newport near the Missisquoi and the Canadian line, in a farm, dairy, and lumber region, granted 1792, organized 1802 It includes North Troy village (pop. 1,077), a port of entry In the War of 1812, when smuggling flourished, fortifications were put up in Troy

Troyes (trwä'), city (pop 53,531), capital of Aube dept., NE France, on the Seine. It is a grain and textile center A Roman town, Troyes became an episcopal see in the 4th cent and the capital of CHAMPAGNE in the 11th cent The counts of Champagne encouraged its two annual fairs, where merchandise from the whole known world was exchanged The fairs brought the town immense prosperity and were of such importance until the 14th cent that they set standards for the rest of Europe, the troy weight having survived to the present day There are several fine Gothic buildings, including the Cathedral of St Pierre (13th-16th cent), the Church of St Urban (13th cent) contains some of the best sculpture of the Champenoise school, which flourished at Troyes in the Renaissance The museum contains exceptionally fine collections Some damage was inflicted on the town in the Second World War

Troyes, Treaty of, 1420, agreement between HENRY V of England, CHARLES VI of France, and PHILIP THE GOOD of Burgundy, intended to settle the issues of the Hundred Years War Henry, who was to marry Charles's daughter Catherine, was recognized as "heir of France," while Charles was permitted to retain the royal title till his death The dauphin, later CHARLES VII, who was disowned for his "great crimes," subsequently repudiated the treaty

Troyon, Constant (kôstäⁿ' trwäⁿyôⁿ'), 1810–65, French painter of the Barbizon school, famous for his pictures of animals, particularly cows, in landscape Among his well-known paintings are *Watering Cattle* (Wallace Coll., London), *Oxen at Work* (Louvre), and *Holland Cattle* and *Road in the Woods* (Metropolitan Mus)

troy weight. see WEIGHTS AND MEASURES

truce of God, in the Middle Ages, an attempt by the Church to limit private warfare Fighting was prohibited from Wednesday or Thursday evening until Monday morning and on certain religious holidays Violators were punished by excommunication It began in France in the early 11th cent and had spread to Flanders, Germany, and Italy by the next century The increasing power of kings and the subsequent rise of strong national governments rendered the truce of God unnecessary and ineffective as a means for enforcing internal peace

Truchas (trōō'chus), three peaks, N N Mex, in the Sangre de Cristo Mts The highest peak is over 13,000 ft

Trucial Oman (trōō'shul ōman'), region (pop c 95,000), E Arabia, occupying the Persian Gulf coast from Qatar to Oman The term *trucial* refers to the fact that the sheiks ruling the seven constituent petty states are bound by truces concluded with Great Britain in 1820 and by an agreement made in 1892 not to engage in relations with other countries Before British intervention the area was notorious for its piracy and was called the Pirate Coast The population is supported by pearl diving, grazing, and some agriculture

truck. Trucks may be powered by gasoline internal-combustion engines, by Diesel-electric engines, or, for short-radius deliveries, by electric storage batteries Carrying capacity ranges from a half ton to 15 tons or more Although constructed on the same general lines as the automobile, trucks use larger and heavier parts and generally have a worm drive or a chain drive Trucks of over two tons are usually fitted with at least four forward speeds, some have a four-wheel drive, and most have doubled rear wheels. Tractors with semi-trailers are commonly used for intercity haulage of heavy loads. As common carriers, motor vehicles have made inroads into the earnings of railroads They are used today in most parts of the world and are replacing in Asia and Africa the camel caravan and human carriers Trucks adapted for special purposes include the fire truck, the tank truck, unlined for oil and glass-lined for milk; and the concrete truck whose circular body slowly revolves during transit to keep the concrete mixed.

Truckee (trŭ'kē), unincorporated town (pop. 696), E Calif., on the Truckee river and SW of Reno, Nev., in a mountain resort area. A state historic monument is at near-by Donner Lake. Lake Tahoe lies a short distance to the south.

Truckee, river, c.100 mi long, rising in NE California in Lake Tahoe and flowing N and E into W Nevada, past Reno to Pyramid Lake Lake Tahoe Dam of the NEWLANDS PROJECT is on the Truckee, and Boca Dam is on a tributary

truck farming, horticultural practice of growing one or a few kinds of crops on a large scale at some distance from the market It is usually not so intensive or so diversified as MARKET GARDENING It was carried on at first in regions with water transportation to markets, but with improved land transportation and refrigeration, truck farms have been opened up on the cheaper lands of the West and South to produce fruits and vegetables out of the regular season Bermuda onions, for example, are grown on truck farms in Texas, muskmelons in Colorado, celery and lettuce in Indiana and Michigan Other truck crops are beets, carrots, radishes, cabbages, and cauliflowers See R L Watts and G S Watts, *The Vegetable Growing Business* (rev ed, 1940).

Trudeau, Edward Livingston (trōō'dō), 1848–1915, American physician, b New York city, M D Columbia, 1871 As a result of taking care of his brother who had tuberculosis of the lungs he developed the disease He went to live in the Adirondacks, spending much time in the open, and regained his health Seeking to aid others suffering from tuberculosis, he founded (1884) at Saranac Lake a sanatorium, where he employed the open-air treatment of the disease and in 1894 organized the first laboratory for the study of tuberculosis See his autobiography (1915), study by G T Hallock and C E Turner (1929), *Edward Livingston Trudeau a Symposium* (1935)

True, Alfred Charles, 1853–1929, American agricultural expert and educator, b Middletown, Conn, grad Wesleyan Univ (B A, 1873) Associated with the U S Dept of Agriculture from 1889, he was director of its Office of Experiment Stations (1893–1915) and of its States Relations Service (1915–23) He was noted for his work in agricultural education and became dean of the graduate school of agriculture of Ohio State Univ in 1923 His writings include *A History of Agricultural Education in the United States* (1929)

True, Rodney Howard, 1866–1940, American botanist, b Sauk co, Wis, grad Univ of Wisconsin (B S, 1890), Ph D Univ of Leipzig, 1895 Known especially for his work in plant physiology, he contributed original research on such problems as growth rate, electrolytic dissociation in, and toxic action of, solutions, the functions of mineral plant foods, and fermentations of tea and tobacco After serving (1901–20) as plant physiologist with the U S Dept of Agriculture, he became professor of botany and director of the botanic garden of the Univ of Pennsylvania In 1937 he became professor emeritus

truffle (trŭ'fŭl) [Fr], subterranean edible fungus, found chiefly in France, Italy, Spain, Germany, and England They are solid, fleshy, and globular, ranging in diameter from about 1 in to about 4 in and growing usually in groups of from 10 to 20, often a foot or more below the surface of the ground They grow in woodlands close to the roots of trees (usually oaks, chestnuts, beech, and birch) There are several species, varying in color from gray or brown to nearly black Their flavor is piquant and aromatic, and they have been esteemed a delicacy from ancient times, recipes for their use are found in Greek and Roman writings The truffles found in the forests of Périgord, France, have been highly regarded since the 15th cent, and their collection is an important industry Some are canned for export Truffles have not been successfully cultivated They thrive best in light, moist, well-drained soil Stirring the soil seems to increase their growth Since they are hard to find, they are usually hunted with dogs or, as in Périgord, with hogs In the United States truffles are occasionally found in small numbers chiefly on the Pacific coast and in scattered sections of the eastern half of the country

Trujillo (Ciudad Trujillo) (trōōhē'yō, svōōdhädh'), city (pop 120,380), S Dominican Republic, capital and largest city of the republic Founded as SANTO DOMINGO, the city, after the almost complete destruction wrought by the hurricane of 1930, was rebuilt and renamed in 1936 for Rafael TRUJILLO MOLINA Of the colonial survivals, the most notable is the cathedral, begun in 1514, the oldest in the Western Hemisphere The ruins of Diego Columbus's house, the Hospital of San Nicolás, and the Torre de Homenaje [tower of homage] can still be seen, but Trujillo is largely a city of broad avenues and modern buildings. With improved harbor facilities, it is the nation's leading port. The Pan American Conference of 1923 authorized the construction near by of a huge lighthouse as a memorial to Christopher Columbus; it was begun in 1948

Trujillo, town (pop. 2,957), N Honduras, a Caribbean port. Founded early in the 16th cent, Trujillo was subjected in that and the succeeding

century to frequent raids from English and Dutch buccaneers, and in 1860 it was captured briefly by the American filibuster, William WALKER. Trujillo's early importance has diminished with the development of PUERTO CORTÉS, but it still exports bananas and hardwoods

Trujillo, city (pop 38,961), NW Peru. It was founded by Diego de Almagro in 1534 Trujillo, a thriving commercial city, is one of the oases in the coastal desert of Peru and is important for sugar cane grown by irrigation in the surrounding region. Industries include the making of cocaine, textile milling, tanning, and rice milling Near by are the pre-Incan ruins of CHANCHAN The Pacific port of Salaverry (pop c 5,000) is 9 mi away

Trujillo (trōōhē'lyō), city (pop 5,771), Cáceres prov, W Spain, in Estremadura Now an agricultural center, it was the birthplace of Francisco Pizarro and of other conquistadores

Trujillo (trōōhē'yō), city (pop 6,954), capital of Trujillo state, W Venezuela, on a branch of the Pan-American Highway It is an agricultural market It was here, in 1813, that Simón Bolívar proclaimed his "war to the death" against the Spanish.

Trujillo Molina, Rafael Leonidas (räfäĕl' läōnē'dhäs trōōhē'yō mōlē'nä), 1891–, president of the Dominican Republic (1930–38, 1942–) Trained by U S marines in the time of U S occupation of the country, he was army chief in the presidency of Horacio VÁSQUEZ, whom he ousted in 1930 He became absolute dictator and retained power even when not in the presidency His autocratic, efficient, and ruthless regime accomplished considerable material progress Terroristic methods were used, however, not only to repress Dominican opposition, but also against neighboring Haiti, in 1937, to stop Haitian infiltration across the border, Dominican troops crossed the boundary and massacred between 10,000 and 15,000 Haitians Generalissimo Trujillo has been constantly embroiled in difficulties with other Caribbean countries, charging that plots were being hatched against him abroad Countercharges were directed at him

Truk (trŭk, trōōk), island group (39 sq mi, pop 9,510), W Pacific, in the E Caroline Islands It is 1,175 mi E of Palau Truk consists of about 55 volcanic islands surrounded by an atoll reef and many islets Kuop atoll, 2 mi south, is generally considered one of the Truk islands The chief products are copra and dried fish In the Second World War, Truk was the site of a Japanese naval base and was heavily bombed

Trullan synod see CONSTANTINOPLE, THIRD COUNCIL OF

Truman, Harry S., 1884–, 32d President of the United States, b Lamar, Mo He was reared on a farm near Independence, Mo, worked at various jobs, and tended the family farm He served as a captain of field artillery in France in the First World War After a brief period as a retail merchant, Truman turned to politics With the backing of Thomas J PENDERGAST, Democratic party boss, he was elected judge (1922–24) and presiding judge (1926–34) of Jackson co, Mo He attended (1923–25) the Kansas City School of Law In 1934 he was elected U S Senator and in 1940 was reelected Truman achieved national prominence through the reports of his Senate committee to investigate government expenditures in the Second World War His vigorous investigations revealed startling inefficiency and bunghing on war contracts and saved the U S government over $1,000,000,000 Largely through the efforts of Robert HANNEGAN, Truman was nominated as Democratic candidate for Vice President in 1944 and was elected to office along with President F D Roosevelt On the death (April, 1945) of Roosevelt, Truman assumed the presidency at a critical time in U S history He at once announced his intentions of following Roosevelt's domestic and foreign policies but gradually the incumbent cabinet officers were replaced In July, 1945, Truman attended the POTSDAM CONFERENCE After the cessation of hostilities (Aug, 1945), however, the relations of the United States with the USSR became increasingly strained and created a major problem for the administration A settlement could not be reached for a peace treaty for Germany, and diplomatic relations became very tense during the Russian blockade (1948–49) of BERLIN Truman, meanwhile, had laid down (March, 1947) the "Truman Doctrine," aimed at aiding Communist-threatened nations to curb the spread of Soviet influence Aid was immediately given to Greece and Turkey in 1948, when the UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION expired, the Truman administration brought forth the EUROPEAN RECOVERY PROGRAM Truman's domestic policy, which came to be popularly called the Fair Deal, was largely thwarted by a Republican majority in the 80th Congress (1946–48) Many of the articles of his program—including civil rights, universal military training, increase of minimum wages, price controls, extended Federal housing, and health insurance—were rejected by Congress, and a special session (July-Aug, 1948) accomplished little. Nominated for the presidency at the Democratic National Convention of 1948, Truman was thought to have little chance to return to office. In protest against his civil-rights program, a bloc of Southern Democrats bolted the party and sponsored J Strom THURMOND for President and mainly in protest against Truman's foreign policy, Henry A. WALLACE ran for President on the Progressive party ticket Truman, after campaigning vigorously, swept the Democratic party into office and surprisingly defeated the Republican presidential candidate, Thomas E DEWEY, by winning over 23,600,000 popular votes and 304 electoral votes In 1949 President Truman promoted the NORTH ATLANTIC TREATY, but his efforts to have the TAFT-HARTLEY LABOR ACT repealed were defeated Truman's addresses are found in *The Truman Program* (ed by M B Schnapper, 1949) See biography by Frank McNaughton and Walter Hehmeyer (1948).

Trumann, city (pop 3,381), NE Ark It has a large woodworking plant and a sewing-machine factory

Trumansburg, village (pop 1,130), W central N Y, in the Finger Lakes region, NW of Ithaca, settled 1792, inc 1865

Trumbull, John, 1750–1831, American poet and jurist, b Westbury (now Watertown), Conn, grad Yale, 1767 A leader of the CONNECTICUT WITS, he satirized educational follies in the *Progress of Dulness* (1772–73) and the Tories in his burlesque epic *M'Fingal* (1775–82) He later became a judge in Connecticut and a Federalist See his collected works (1935) with memoir by himself, biography by Alexander Cowie (1936)

Trumbull, John, 1756–1843, American painter, b Lebanon, Conn, grad Harvard, 1773, son of Gov Jonathan Trumbull (1710–85) He served in the Continental army as an early aide to Washington and later as adjutant to General Gates, with rank of colonel He resigned his commission in 1777 and devoted himself to painting In 1780 he went to London, intending to study under Benjamin West There he was imprisoned as an American officer and finally deported In 1784 he returned to London, where, at the suggestion of West and with the encouragement of Thomas Jefferson, he began his famous national history, which occupied most of his life His small paintings (for the engraver), at Yale Univ, such as the *Battle of Bunker's Hill* and *Death of Montgomery at Quebec* (both finished in 1786), are superior to the large *Signing of the Declaration of Independence, Surrender of Burgoyne at Saratoga, Surrender of Cornwallis at Yorktown,* and *Resignation of Washington* (all four Capitol, Washington, D C), completed 38 years later Trumbull excelled in small-scale painting, especially oil miniatures (studies for the historical series), the best of which were done in America between 1789 and 1793 In the latter year he returned to London as secretary to John Jay and remained for 10 years as one of the commissioners to carry out provisions of the Jay Treaty He returned to America in 1804 with a collection of old masters These failed to recoup his fortunes, but in 1808 he again visited London and was obliged to remain there until after the War of 1812 He was back in New York in 1815 and there remained, with the exception of three years in New Haven, Conn, until his death In 1831 he founded the Trumbull Gallery at Yale, one of the earliest art museums in the English-speaking colonies, depositing much of his work in exchange for an annuity He was president (1816–25) of the American Academy, New York He is well represented in the Museum of Fine Arts, Boston, the Wadsworth Athenaeum, Hartford, Conn., Yale Univ, and the Metropolitan Museum, New York city hall, and New York Historical Society. See his autobiography (1841), William Dunlap, *Arts of Design* (1834), J H Morgan, *Paintings of John Trumbull at Yale University* (1926)

Trumbull, Jonathan (trŭm'bul), 1710–85, colonial governor of Connecticut, b Lebanon, Conn, grad Harvard, 1727 He was prominent in the colony after 1736, serving in the assembly, of which he became speaker, and on the governor's council as well as acting as judge of the county court of Windham (1746–60) and probate judge of a district court (1747–67) He was chief justice of the superior court and deputy governor before becoming governor in 1769 He served until 1784 and rendered great services to the patriot cause in the American Revolution There is a tradition that the name Brother Jonathan, for an American, arose from a remark of Washington about Trumbull See biography by a descendant, Jonathan Trumbull (1919).

Trumbull, Jonathan, 1740–1809, governor of Connecticut, b. Lebanon, Conn, grad Harvard, 1759, son of Jonathan Trumbull (1710–85). In the American Revolution he acted as paymaster of the northern patriot troops (1775–78) and later was on George Washington's staff He served as a Federalist in the U S House of Representatives (1789–95), acting as speaker part of the time, and in the U.S. Senate (1795–96), from which he resigned to become lieutenant governor of Connecticut (1796–97) He succeeded to the governorship in 1797 and held that post until his death.

Trumbull, Lyman, 1813–96, U S. Senator from Illinois (1855–73), b Colchester, Conn He taught school (1833–36) in Georgia, where he was admitted to the bar, and in 1837 he moved to Illinois He was elected to the state legislature (1840), served as Illinois secretary of state (1841–43), and was a justice of the state supreme court (1848–53) Trumbull was elected to the House of Representatives as an anti-Nebraska Democrat in 1854, but was advanced to the Senate before Congress convened He became a Republican leader and a staunch supporter of Abraham Lincoln Often allied with the radical Republicans on Reconstruction measures (he helped draft the Thirteenth Amendment and introduced the Civil Rights Bill), he nevertheless refused to follow them in their unsuccessful attempt to remove Andrew Johnson from office, and in the impeachment trial was one of the handful of Republican Senators who supported the President In 1872 he was a leader of the LIBERAL REPUBLICAN PARTY, but eventually returned to the Democratic fold, being one of Samuel J Tilden's counsel in the disputed election of 1876, and was the unsuccessful Democratic candidate for governor of Illinois in 1880. See biography by Horace White (1913)

Trumbull, town (pop 5,294), SW Conn., adjoining N Bridgeport, settled c 1690, inc 1797.

Trümmelbach, Switzerland see LAUTERBRUNNEN.

trumpet, brass wind musical instrument of cylindrical bore, having the shape of a flattened loop and having three piston valves to regulate the pitch Its origin is ancient, records of a type of simple trumpet are found in Chinese history from as early as 2000 B C, and the trumpet is mentioned in the Bible and in Greek and Roman history The modern trumpet was developed in the early 19th cent, when valves were added to the bugle It is a transposing instrument, its natural scale is usually B flat, but it often has an adjustable slide capable of making a B flat trumpet into an A trumpet Of brilliant tone, the trumpet was an important member of the orchestra even before the addition of valves

trumpet creeper or **trumpet vine,** woody climbing plant of the genus *Campsis* (or *Bignonia* or *Tecoma*), often cultivated for the clusters of large trumpet-shaped flowers, attractive to hummingbirds The trumpets are orange red in the native North American species *Campsis radicans*—tall-climbing on stone or wood and quite hardy—and scarlet in the less hardy Chinese trumpet creeper, both are occasionally shrubby

Trumpler, Robert Julius, 1886–, American astronomer, b Zurich, Switzerland, Ph D Univ of Gottingen, 1910 From 1911 to 1915 he was astronomer of the Swiss Geodetic Survey He then came to the United States and for four years was an assistant at the Allegheny Observatory, Pittsburgh From 1919 to 1938 he was at Lick Observatory (as astronomer from 1929), and in 1938 he became professor of astronomy at the Univ of California His researches include determinations of stellar parallaxes, interstellar light absorption, and investigations of Mars

Truro, Thomas Wilde, 1st **Baron** (trōō'rō), 1782–1855, lord chancellor of England He was called to the bar in 1817 and first gained prominence by his defense (1820) of Queen CAROLINE. He entered Parliament (1831) as a Whig, having been made king's sergeant in 1827 He became solicitor general in 1830, was knighted in 1840, and was made attorney general in 1841 Wilde served as chief justice of the court of common pleas from 1846 until he became lord chancellor and Baron Truro in 1850

Truro (trōō'rō), town (pop 10,272), N N S, near the head of Cobequid Bay of the Bay of Fundy, inc 1765 It is a railroad and industrial center, with lumber mills, printing plants, metalworks, and manufactures of clothing and machinery. The Nova Scotia Agricultural College is here and is headquarters of the provincial agricultural extension service An early Acadian settlement, called Cobequid, it was destroyed (1755) when the Acadians were expelled After 1759 it received settlers from New England and Northern Ireland, who named the town for Truro, England

Truro (trōō'rō), municipal borough (1931 pop 11,064, 1943 estimated pop 12,640) and city, Cornwall, England, NNE of Falmouth, at the confluence of the Kenwyn and Allen rivers, which form the Truro river, an inlet at the head of Falmouth Harbour. In 1876 it became the see of a Cornish bishopric The cathedral is of modern construction in Early English style The city was an important tin-mining center There is a museum of Cornish exhibits

Truro (trōō'rō, trŭ'rō), resort town (pop 585), SE Mass, on N Cape Cod, settled 1700, inc 1709. The Highland Light here is one of the most powerful on the Atlantic coast, the first light was installed in 1797 There are also naval radio and coast guard stations

truss, in architecture and engineering, a supporting structure composed of beams, girders, or rods commonly of steel or wood It usually takes the form of a triangle or combination of triangles, since this

design insures the greatest rigidity Trusses are employed when the space is too large to be spanned by a single beam or girder, they are used especially in the construction of roofs and bridges The members are known as ties and struts, their complete upper and lower lines as chords, the distance over which the truss extends is called the span The upper and lower chords are connected by web members

ust, in law, arrangement whereby property legally owned by one person is administered for the benefit of another Three parties are ordinarily needed for the relation to arise the settlor, who bequeaths or deeds his property for another's benefit, the trustee, in whose hands the control of the property is vested and who receives a fee fixed by law, and the beneficiary, for whose use the proceeds of the property are to be applied In some cases the settlor may name himself trustee or beneficiary, but it is indispensable that the trustee (legal owner) and the beneficiary (equitable owner) be different persons The trustee's duty is to make the capital or earnings available to the beneficiary in the manner prescribed by the settlor and to manage the property prudently and honestly The beneficiary may bring suit if this duty is breached In recent years banks and trust companies, with their special facilities for handling investments, are usually named the trustees of substantial properties The arrangement at which the SHERMAN ANTI-TRUST ACT was directed was a business application of the trust form The Standard Oil Company, for example, induced stockholders in various enterprises to assign their stock to a board of trustees and to receive dividend-bearing trust certificates in return The board was thus enabled to manage simultaneously enterprises which many believed should have been in active competition Soon most business combinations in restraint of trade came to be called trusts, whether in the legal form of a trust or otherwise A horizontal trust is a combination of corporations engaged in the same line of business A vertical trust is an organization that controls all or part of a series of operations extending from the procuring of the raw materials to the retailing of the finished product In Europe the term CARTEL is applied to a monopoly or trust, but the term is broader in that it may have international scope, and there, as here, it may be either vertical or horizontal Trusts have been opposed as monopolies, and laws have been enacted to prohibit or control them They have been defended as reducing costs through large-scale operations and avoiding the expenses of competition In the United States trusts grew rapidly from 1880, and by 1905 most of the important mergers in American industry had been formed The Sherman Anti-Trust Act, passed by Congress in 1891, made illegal all "agreements in restraint of trade" and all attempts to monopolize" industry, but the law was not vigorously enforced The Clayton Anti-Trust Act (1914) was designed to stop various practices of "unfair" competition, and the Federal Trade Commission was given power to issue "cease and desist" orders when violations were found To protect small retailers the states in the 1920s began to regulate chain stores by means of heavy taxation In 1936 the Robinson-Patman Act made it legal for sellers to discriminate as to price between large and small buyers in the wholesale market This was followed by the Miller-Tydings Act 1937), which permits manufacturers to fix the price at which retailers may sell their product and prevents large retailers from unfairly underselling smaller ones The effect of much of this legislation was to limit competition and thus favor monopoly, while it tended to equalize the conditions under which large and small retailers do business See A. A. Berle, Jr., and G. C. Means, *The Modern Corporation and Private Property* (1932), Thurman Arnold, *The Bottlenecks of Business* (1940), Wendell Berge, *Cartels* (1944)

isteeship, territorial, system for the control of territories that are not self-governing The system is administered by the United Nations It replaced the MANDATES of the League of Nations Territorial trusteeship, regulated by chapters 12 and 13 of the Charter of the United Nations, is intended to promote the welfare of the native inhabitants and to advance them toward self-government The system is supervised by the Trusteeship Council, which consists of the members of the United Nations administering trust territories and an equal number of other member nations (including always the permanent members of the Security Council) which do not administer such territories Each territory is governed by the provisions of a trusteeship agreement Agreements which cover nonstrategic areas are approved by the General Assembly, and agreements concerning strategic areas are approved by the Security Council Unlike territories under mandate, all territories may be fortified The powers of the administering state usually include all legislative, administrative, and judicial authority and, in certain cases, the right to treat the territory as if it were part of the administering state Equal treatment in social, economic, and commercial matters is to be granted all members of the United Nations Each year the Trusteeship Council submits to the responsible state a detailed questionnaire concerning each territory, with special emphasis on measures taken to increase self-government and educational opportunities The council considers petitions from inhabitants of the territories and periodically makes inspection tours It meets at least twice a year and by majority vote (not subject to veto) adopts recommendations Possessions of the Axis Powers may be placed under trusteeship by act of the General Assembly, but any member of the United Nations must agree to placing territory in its control under trusteeship In 1950 the trust territories were all either former mandates of the League of Nations or former possessions of Italy and Japan Former mandates (all continuing under the control of the original mandatory power) were British Cameroons, British Togoland, French Cameroons, French Togoland, Nauru, Ruanda-Urundi Tanganyika, Western Samoa, and the former German holdings in New Guinea The Union of South Africa refused to surrender its mandate over South-West Africa for a trusteeship The only strategic territory, comprising Japanese islands in the Pacific, was administered by the United States In 1949 the General Assembly, by virtue of the League mandate over Palestine, perhaps ineffectually declared Jerusalem a trust territory under the administration of the whole United Nations In 1950 Italian Somaliland was placed under the administration of Italy (not a member of the United Nations) for 10 years, pending the attainment of independence

Truth, Sojourner, c 1797–1883, American abolitionist, a freed slave, originally called Isabella, b Ulster co, N Y Convinced that she heard heavenly voices, she left (1843) domestic employment in New York city, adopted the name Sojourner Truth, and traveled throughout the North preaching emancipation and woman's rights A remarkable personality, she spoke with much effectiveness even though she remained illiterate See biography by A. H. Fauset (1938)

Trutnov (trōōt'nôf), Ger *Trautenau* (trou'tunou), city (pop 12,201), N Bohemia, Czechoslovakia It is a center of the Bohemian linen industry

Truxtun, Thomas, 1755–1822, American naval officer, b near Hempstead, L I, N Y He went to sea early and is said to have been impressed by a British man-of-war In the American Revolution he served the patriots as a privateer and took many British prizes He was in command until the U S navy was organized (1794–95) He then became master of the *Constellation* and was important in the naval troubles with France and England after 1798 The *Constellation* captured the French frigate *L'Insurgente* in Feb, 1799, and defeated *La Vengeance* in battle in Jan, 1800, though the French vessel escaped capture because a storm injured the *Constellation* In 1802 he resigned the command of the Mediterranean squadron in some anger and was retired. The name is also spelled Truxton

Tryon, Dwight William (trī'un), 1849–1925, American landscape painter, b Hartford, Conn, studied in Paris under C F Daubigny and Jacquesson de la Chevreuse On his return to America he became (1882) director of the Hartford School of Art Later he was professor of art at Smith College and finally established himself in New York, becoming a member of the National Academy in 1891 His poetic landscapes with their delicate color and misty effects reflect the influence of Daubigny Recipient of many honors and awards, Tryon is best represented in the Freer Gallery, Washington, D C, which contains 27 oils His *Moonlight* (Metropolitan Mus) is characteristic

Tryon, William, 1725–88, British colonial governor After a distinguished army career, he was appointed (1764) lieutenant governor of North Carolina and succeeded (1765) Arthur Dobbs as governor Tryon was an able administrator but became unpopular with the colonists because of his rigorous suppression (1771) of the REGULATOR MOVEMENT In 1771 he was appointed governor of New York, and at the outbreak of the American Revolution he was forced to spend nearly a year on a British ship in the harbor Tryon returned to power when William Howe took the city (1776) and later (1777, 1779) led Tory raids in Connecticut

Tryon, resort town (pop 2,043), W N C, in the Blue Ridge SE of Asheville at the S C line, inc 1885. Tryon is a center for handcrafts and weaving

Tryphena (trīfē'nu) and **Tryphosa** (trīfō'su) [both from Gr, =luxurious], two Christian women at Rome Rom 16 12

Tsaidam (tsī'dam'), Mandarin *Ch'i-ta*, swampy region, central Tsinghai prov, China It lies W of Tsing lake and between two branches of the Kunlun range

Tsaldaris, Panayoti (pänäyō'tē tsäl-dhä'rēs), 1868–1936, Greek politician A leader of the Populist (royalist) party, he succeeded VENIZELOS as premier in 1932 and again, after a brief return to power by Venizelos, in 1933 In 1935 the Venizelists rose against the royalist policy of Tsaldaris, but they were crushed by General KONDYLIS Tsaldaris's government won a victory in the election of 1935, from which the republicans abstained. He was, however, accused of excessive leniency toward the rebels by Kondylis, who ousted him by a coup d'état late in 1935 and who secured the recall of George II His relative, **Constantine Tsaldaris,** 1884–, leader of the Populist party, was premier (1946) when King George II was once more recalled to Greece

Tsana, lake see TANA

Tsangpo see BRAHMAPUTRA.

Tsankov, Alexander (tsän'kôf), 1879–, Bulgarian statesman While professor of political economy at the Univ of Sofia, he was instrumental in the overthrow (1923) of the Agrarian dictatorship of Stamboliski, and in the White government which followed, he became prime minister He mercilessly fought the Agrarians and the Communists, who staged an unsuccessful revolt in 1923 and who blew up the cathedral at Sofia during Easter Mass in 1925. During his administration Bulgarian relations with Greece and Yugoslavia were strained He resigned in 1926 and was succeeded by Liaptchev The name is also spelled Tsankoff, Zankoff, or Zankov

Tsankov, Dragan (dra'gän tsän'kôf), 1828–1911, Bulgarian statesman As journalist and later as professor he played an important part in achieving the autonomy of the Bulgarian Church from the patriarchate of Constantinople and in establishing the Bulgarian state He was vice president of the constituent assembly, founded the Russophile Liberal party, and became (1879) diplomatic agent at Constantinople Made premier in 1880, he disagreed with Prince Alexander and was imprisoned (1882–83), but he was reappointed president of the council and eventually compelled the prince to abdicate The name is also spelled Tsankoff, Zankoff, or Zankov

Tsaritsyn, RSFSR see STALINGRAD

Tsarskoye Selo, RSFSR see PUSHKIN

Tschaikovsky, Nikolai Vasilyevich see CHAYKOVSKY, NIKOLAI VASILYEVICH

Tschaikowsky, Piotr Ilich see TCHAIKOVSKY

Tschermak-Seysenegg, Erich (ā'rĭkh chĕr'mak-sī'zunĕk), 1871–, Austrian botanist, a specialist in plant breeding He became professor at the agricultural school in Vienna in 1909 He was one of several scientists who simultaneously in 1900 confirmed Mendel's laws of heredity

Tschudi, Aegidius or **Gilg** (ĕj'dēus chōō'dē, gĭlk'), 1505–72, early Swiss historian He was *Landammann* of Glarus canton His *Chronicon Helveticum* [Swiss chronicle], published long after his death, is inaccurate and legend-filled, but is invaluable because of the copies of early documents in it Tschudi integrated the various conflicting versions of the William Tell legend, later retold by Johannes von Muller and extensively used by Schiller

Tse Hsi see TZU HSI

Tsesis, Latvia see CESIS

tsetse fly (tsē'tsē), African insect of the genus *Glossina*, slightly larger than the housefly Both male and female suck blood A number of the 21 species can transmit to humans the trypanosomes which cause the Gambian and Rhodesian forms of African sleeping sickness The tsetse fly also carries the trypanosomes which cause nagana and other diseases of wild and domestic animals Clearing the brush which the flies inhabit and spraying the area with DDT help to destroy them

Tsientang or Chientang (both chyĕn'tang'), river, Chekiang prov, China, flowing c 250 mi NE to Hangchow Bay It is an important commercial artery The tide rushing into the river from the bay causes a bore from 5 to 15 ft high, which sweeps past the city of Hangchow and menaces shipping in the harbor

Tsimshian Indians (tsĭm'shēun), group of North American Indian tribes, speaking a common language (see PENUTIAN) They live about the Skeena and Nass rivers and southward along the coast of British Columbia and northward into Alaska Their culture is much like that of the Haida and the Tlingit, with whom they form the northernmost group of Pacific Northwest culture They depend largely on fishing for subsistence, on the codfish and halibut of the deep sea as well as the salmon and candlefish (eulachon) that come upstream in spring They hunt seals and sea lions and, in the interior, bear, mountain goat, and deer. They also use hemlock bark, berries, and kelp for food Chimmesyan is another name for Tsimshian Much has been written of the Tsimshian—and especially about the Episcopalian missionary William Duncan He established (1857) a mission at the Tsimshian village of Metlakahtta, which is 15 mi S of Port Simpson, British Columbia Duncan moved, however, in 1887 to Port Chester, or New Metlakahtta, on Annette island, and most of the Indians followed him Today the Tsimshian live on reservations in British Columbia, where they number some 6,100. See Henry S Wellcome, *The Story of Metlakahtta* (1887), Franz Boas, *Tsimshian Mythology* (1916), Theresa Durlach, *The Relationship Systems of the Tlingit, Haida, and Tsimshian* (1928)

Tsin (dzĭn) or **Chin** (chĭn), dynasty of China which ruled from 265 to 420, after the period of the

Three Kingdoms. Tsin was the dynastic name assumed by the Wei, who by 280 had completed the conquest of China (see THREE KINGDOMS) Almost immediately after its official founding the Tsin empire began to contract A revolt deprived it of Szechwan from 302 to 347, and there were extensive losses to the Hsiung-nu (Huns) in the north A series of dynasties, mainly of barbaric origin, ruled N China After the Tsin regained Szechwan, they became stronger and occupied many areas in the southeast, where Chinese culture had not previously penetrated. The population of the Tsin state was greatly increased, and its cultural level was raised by the heavy influx of Chinese refugees from the north The Tsin saw the continued growth of Buddhism and of specialized types of learning, notably regional gazetteers, which were produced in abundance An important material advance was the extensive use of coal In the period between the collapse of the Tsin and the founding of the Sui dynasty, China was never united The most notable of the many local dynasties was the Northern Wei (it had no connection with the Tsin), which conquered most of N China by 439 The Northern Wei were originally a Turkic tribe, the T'oba (or T'opa) They have left many colossal rock carvings, monuments of a mixed Indian and Alexandrian Greek character

Tsinan (tsĭn'än'), Mandarin *Chi-nan*, city (pop 591,490), capital of Shantung prov, China It lies just S of the Yellow River, and it is a railroad junction with connections to many parts of China Silk cloth is manufactured

Tsing (chĭng), Mandarin *Ch'ing*, salt lake, c 65 mi long, NE Tsinghai prov, China It is at an altitude of c 10,000 ft From c 800 until 1928 it marked the China-Tibet boundary The lake is sometimes called Koko Nor [Tibetan,=blue lake] The name is sometimes spelled Ching

Tsinghai (chĭng'hī'), Mandarin *Ch'ing-hai*, province (257,620 sq mi, pop 1,123,219), W China, bordered by Tibet on the west The capital is Sining Until 1928 Tsinghai was the Tibetan province of Koko Nor Tsinghai is mainly a high plateau frozen eight months of the year The swampy Tsaidam occupies much of the central area, and in the east there are many lakes, notably Tsing (Koko Nor) The Yellow, Yangtze, and Mekong rivers rise in Tsinghai A little grain is grown, but the inhabitants are mostly pastoral nomads, both Tibetan and Mongol There is some trade with Tibet, but without railroads, motor roads, or navigable streams Tsinghai is isolated from the rest of China The name is sometimes spelled Chinghai

Tsingling (tsĭng'lĭng') or **Tsinling** (chĭn'lĭng'), Mandarin *Ts'in-ling*, mountain range, NW China, rising to c 20,000 ft It extends east and west across S Kansu and S Shensi provs

Tsingtao (tsĭng'tou', chĭng'dou'), Mandarin *Ch'ing-tao*, city (pop c,60,000), Shantung prov, China, a port on the Yellow Sea It is the terminus of a railroad to Tientsin and a port of entrance for foreign goods As the administrative center of the former German territory of KIAOCHOW, Tsingtao was developed into a modern city From 1914 to 1922 it was held by Japan After the Second World War, Tsingtao was a marine and naval base for the United States until 1949, when it was abandoned and fell to the Communists

Tsingyuan, China see PAOTING

Tsinling, mountain range see TSINGLING

Tsitsihar (tsē'tsō'här', chī'chē'här'), Mandarin *Ch'i-ch'i-ha-erh*, city (pop 113,495), capital of Heilung prov, NE China, on the Nonni river Tsitsihar is connected by rail with Harbin, Mukden, and Talien (Dairen) It is a distributing center for cattle, furs, and rugs

Tskhinval, Georgian SSR see STALINIR

Tsu (tsōō), city (1947 pop 68,662), capital of Mie prefecture, S Honshu, Japan, on Ise Bay It is a commercial and manufacturing center Mie prefecture, with textile, ceramics, woodworking, agricultural, and fishing industries, embraces Yokkaichi and Uji-yamada (a major Shintoist center)

Tsugaru Strait (tsōō'gä'rōō), channel, separating Honshu and Hokkaido islands, Japan, and connecting the Sea of Japan on the west with the Pacific on the east

Tsu Hsi see TZU HSI

Tsunetaka (tsōō'nä'tä'kä), fl 13th cent, Japanese painter He worked also in black and white and is best known for landscapes of distinctive and vigorous drawing He later changed his name to Tosa Tsunetaka, giving the name Tosa to a school of art

Tsuruga (tsōō'rōō'gä), city (1947 pop 28,268), Fukui prefecture, central Honshu, Japan, a port on the Sea of Japan It has steamer connection with Vladivostok

Tsushima (tsōō'shēmä), Japanese island in Korea Strait Near by, in May, 1905, occurred the major naval battle of the RUSSO-JAPANESE WAR The Russian Baltic fleet, under the command of Admiral Rozhdestvenski, set sail (Sept, 1904) for Vladivostok In its encounter with the Japanese fleet under Count Togo it suffered nearly total disaster Only a few of the Russian ships escaped to neutral ports or reached their destination, the majority were sunk or captured. The defeat convinced Russia that further struggle was hopeless, and in August a treaty of peace was signed at Portsmouth, N H

Tsz (dsŭ), Mandarin *Tzu*, river, Hunan prov, China, flowing 350 mi NE to Tungting lake

Tuam (tōō'ŭm), town (pop 3,873), Co Galway, Ireland, NNE of Galway It is a farm market and is the seat of a Roman Catholic archbishop and an Anglican bishop St Jarlath's College is here

Tuamotu Islands (tōōämō'tōō) or **Low Archipelago,** coral group, area c 330 sq mi, S Pacific, part of the FRENCH ESTABLISHMENTS IN OCEANIA They are 300 mi S of the Marquesas Islands and comprise 80 atolls in a 1,300-mile chain The seat of government is at Papeete on Tahiti, Society Islands Hangiroa is the largest island, Fakarava the most important The islands have coconut, pandanus, and breadfruit trees and produce pearl shell and copra MAKATEA is the only phosphate island of the group They were discovered in 1606 by the Spanish and were annexed by France in 1881 A small part of the group is governed with the GAMBIER ISLANDS The group was formerly called Paumotu or Dangerous Archipelago

Tuan Ch'i-jui (dwän'chē'rōōā'), 1864–1936, Chinese general and political leader He studied military science in Germany and held high positions in the army under the Ch'ing dynasty Tuan, a consistent supporter of YUAN SHIH-KAI, served as prime minister and minister of war several times between 1912 and 1918 He was provisional president of China in 1924 and 1925

Tuapse (tōōäpsā'), city (1939 estimated pop 9,600), S Krasnodar Territory, SE European RSFSR, on the Black Sea It is a major petroleum port, connected by pipe lines with the Grozny and Maikop oil fields

Tuareg or **Touareg** (both twä'rĕg), Moslem Berber people, nomads of the Sahara Among the most highly civilized peoples of Africa, they have preserved their ancient alphabet Their social organization is one of hereditary classes The upper classes, organized in tribes, convoy caravans and, until subdued by France, were feared as raiders They maintain a feudal relationship with the partly agricultural lower tribes Menial labor is performed by non-Tuareg servants, formerly by captive slaves Tuareg men go veiled, while the women are unveiled Women enjoy respect and freedom, and descent and inheritance are through the female line The fiercely independent Tuareg resented European hegemony in Africa and long resisted conquest See F J Rodd, *People of the Veil* (1926)

Tuasivi (tōō'äsē'vē), town, on the east coast of Savaii, Western Samoa, headquarters of the resident commissioner and site of a government hospital

Tuatha De Danann (tōō'ŭhu dā' dē'nan, tōō'ŭthu), in Irish tradition, as in the *Book of Invasions*, the last invaders of Ireland before the MILESIANS They were endowed with great supernatural powers, and by means of these they defeated their predecessors, the Firbolgs and the Fomors, in battle They were defeated by the Milesians and retired into the *sidhe* [fairy-mounds] or went to Tir na nOg (the land of eternal youth) and became the gods of pagan Ireland They have become confused in Irish folklore with the fairies

tuba (tōō'bŭ, tōō'bu) [Latin,=trumpet], brass wind musical instrument, resembling a trumpet but larger and therefore lower pitched The term *tuba* is applied rather loosely to that group of instruments which play the lowest brass parts in band and orchestra, these instruments vary slightly in size and in bore and are known by various names, including helicon (of which an American variety is called sousaphone), euphonium, *Flugelhorn*, baryton, saxhorn, and Wagner tuba All of them were developed in the 19th cent, their predecessors were the 16th-century serpent and the ophicleide, invented in 1817 Tubas are regular members of the band and the orchestra They are transposing instruments, made in various keys

Tubal (tōō'bŭl), *son of Japheth* Gen 10 2

Tubal-cain (kān'), in the Bible, son of Lamech He first worked brass and iron Gen 4 22

tube, vacuum or electron, device used in electronics as a rectifier, amplifier, mixer, and detector of audio and radio frequencies and for electrical measurements The simplest form of a vacuum tube consists of a glass tube in which a low vacuum has been produced and which contains, fused in its walls, two electrodes Between these, electricity is discharged, the vacuum making the discharge more readily accomplished Electron tubes known as gas-filled tubes actually enclose only a small amount of the gas so that they, too, contain a relatively high vacuum Under certain conditions during current flow, light appears, its color varying with the gas making up the rarefied atmosphere in the tube Vacuum tubes (also called thermionic valves) employ chiefly the principle of thermionic emission heating the filament (cathode) releases electrons which flow to the positive electrode (anode or plate), the magnitude of current varying with the plate voltage Rays given off from the cathode of a vacuum tube are called cathode rays When these rays are focused upon a metal plate placed directly in their path in a vacuum tube, X rays are produced In radio, diode tubes are essentially of the simple vacuum type In triodes a control grid is inserted between cathode and plate By making the grid positive or negative in respect to the cathode the flow of electrons to the plate may be encouraged or impeded, thus achieving effective control and amplification of the plate current with little or no power expended in circuit Tetrode and pentode tubes have a similar action basically, screen and suppressor grids are added to increase the tube's efficiency Klystron and magnetrons are types used in ultra-high frequency service See also PHOTOELECTRIC CELL

tuber, enlarged underground plant stem, such as the edible part of the potato plant and the Jerusalem artichoke Although it is much modified in structure, it shows all the usual stem parts—bark, wood, pith, and even the nodes and internodes The eyes of the potato are nodes where buds appear The tuber contains a large amount of stored food, commonly starch

tubercle (tōō'bŭrkul) [Latin,=little swelling], small, and usually solid, swelling or nodule, especially in animals and plants In anatomy the term is applied to natural prominences in certain muscles, to nerve nuclei of the central nervous system, and to eminences on bones, especially regions for the attachment of muscles or ligaments In dentistry it refers to the cusp of a tooth In pathology it describes small, morbid growths particularly the lesions of TUBERCULOSIS In botany it applies especially to the nodules on the roots of leguminous plants that result from the activities of NITROGEN-FIXING BACTERIA

tuberculosis, contagious, infectious disease caused by a bacterium (*Mycobacterium tuberculosis*) discovered by Robert KOCH There are several types of the germ, commonly called the tubercle bacillus, including those that cause the human, the bovine, and the avian forms of the disease, as well as those that produce a similar disease in some of the lower vertebrates, e g, fish, amphibians, and reptiles The germs causing the human and the bovine forms of the disease are similar and are usually considered varieties of the same species Formerly children who drank raw milk from tuberculous cows often became victims of the disease Since the movement begun in 1918 by the national and state governments to eradicate the disease through testing cattle and destroying those having tuberculosis this source of infection of humans has been greatly reduced Some cases in children can still be traced to the drinking of milk from tuberculous cows The commonest mode of infection by humans, however is through germs present in the sputum of a person suffering from pulmonary tuberculosis (also called consumption and phthisis) As the bacteria attack and destroy body tissue, small rounded masses called tubercles or nodules are formed, these contain the bacteria, white blood cells, and pus From such lesions formed in the lung tissue in pulmonary tuberculosis the germs enter the sputum, and thereby the infection may be spread to other people As healing takes place the tubercles become surrounded by fibrous or calcified material, and if they remain in this healed condition the sputum does not contain the germs The use of X-ray photographs makes possible early diagnosis of pulmonary tuberculosis Such X rays reveal also that a large percentage of adults, especially those living in cities, have overcome attacks of the disease of which they were not aware Other forms of tuberculosis include tuberculosis of the bones, the intestines, the lymph glands (a form of which was early known as scrofula and the king's evil), and the skin (*lupus vulgaris*) The disease attacks man at any age but is especially prevalent during youth and middle age A normally healthy person has considerable resistance to the disease, however, there is danger to those living in close contact with a tubercular person Overwork, fatigue, insufficient fresh air, and an inadequate diet reduce natural resistance Treatment includes (in addition to medication) rest, fresh air, and a well-balanced and nourishing diet Many sanatoriums for providing such care are maintained by both private and public agencies These follow, in general, the plan of treatment introduced in the United States at Saranac Lake, N Y, by Edward Livingston TRUDEAU The use of skin tests and X rays for early detection of the disease, of vaccines to prevent its development, and of certain sulfa drugs and antibiotic substances has helped to reduce the mortality rates Nevertheless its prevalence still presents a serious problem See H A Pattison, *Rehabilitation of the Tuberculous* (1942), H D Chadwick and A S Pope, *Modern Attack on Tuberculosis* (rev ed, 1946), R G Lovell, *Taking the Cure* (1948), J B McDougall, *Tuberculosis a Global Study in Social Pathology* (1949), publications of the National Tuberculosis Association, New York city

tuberose (tōō'brōz -brōs, tū'-) tuberous-rooted tender plant (*Polianthes tuberosa*), native to Mexico, cultivated in Europe and America chiefly as a garden plant It has waxy white, heavily fragrant flowers blooming in summer or fall, of which the double variety is most popular The tubers, planted

in the spring, are dug and stored over winter or replaced annually.

Tübingen (tü'bing-ŭn), city (pop 34,345), S Württemberg, SW Germany, on the Neckar and SSW of Stuttgart After 1945 it became the capital of the French-occupied state of Württemberg-Hohenzollern. Its industries include manufactures of textiles, machinery, and precision instruments Tübingen is famous for its university (founded 1477), where Melanchthon taught The theological faculty was famous in the 19th cent as the Tübingen School, founded by F C BAUR. The university now has many scientific institutes Chartered c 1200, Tübingen became the second capital of Württemberg in the mid-15th cent. The old center of the city has retained its medieval character It is dominated by the late Gothic Church of St George Other landmarks include the castle, first mentioned in the 11th cent and renovated in Renaissance style, and the city hall (15th–16th cent.). Ludwig Uhland was born and lived here

Tübingen School see BAUR, FERDINAND CHRISTIAN

Tubman, Harriet, c 1820–1913, American abolitionist, b Dorchester co, Md She escaped from slavery in 1849 and became one of the most successful "conductors" on the Underground Railroad, leading over 300 slaves to freedom, forcing the timid ahead with a loaded revolver She was a friend of the principal abolitionists, and John Brown almost certainly confided his Harpers Ferry plan to her In the Civil War, Harriet Tubman attached herself to the Union forces in coastal South Carolina, serving as a nurse, laundress, and spy At Auburn, N.Y., her home for many years, the Cayuga co courthouse contains a tablet in her honor See biographies by Sarah Bradford (1869, 1886) and Earl Conrad (1943), Anne Parrish, *A Clouded Star* (1948)

Tubuai Islands (tōōbōō'ī') or **Austral Islands,** volcanic group, S Pacific, part of the FRENCH ESTABLISHMENTS IN OCEANIA They are S of the Society Islands The group comprises five islands (Rimatara, Rurutu, Raivavae, Tubuai, and uninhabited Maria Island). Tubuai (17 sq mi, pop 1,006), the largest, was discovered in 1777 by Capt James Cook and was annexed by France in 1880 The health and racial purity of the Polynesians of Rurutu and Rimatara are protected by an edict (1938) forbidding nonnatives to visit these islands Coffee, arrowroot, and copra are produced Rapa (16 sq mi, pop 298), a volcanic island 325 mi SE of the Tubuai group, is a dependency

Tuckahoe (tŭ'kuhō), suburban village (pop 6,563), SE N.Y., in Westchester co, S of White Plains, settled 1684, inc 1903 There are marble quarries, and stucco is made.

tuckahoe (tŭ'kuhō) [from Algonquian], name applied to two Indian foods that are known also as Indian bread One of these foods is the rootstock of certain plants of the arum family, especially golden club and arrow arum Although acrid and poisonous when raw, the rootstock when cooked is a nutritious food The other form of tuckahoe is a compacted mass of mycelium (called sclerotium) of certain fungi It is a firm, whitish substance with a hard, brown, barklike surface A commonly used form is sclerotium from a subterranean fungus (*Poria cocos*) found on the roots of trees in the S United States

Tucker, Abraham, 1705–74, English philosopher He studied at Oxford and later devoted himself to writing and study In the field of ethics he advanced the position that each man seeks his own satisfactions and that the will of God blends these into a public good This is similar to the later utilitarian ethics Tucker's major work, *The Nature of Light Pursued* (7 vols, 1768–78), was published in part under the pseudonym Edward Search

Tucker, John Randolph, 1812–83, American naval officer, b Alexandria, Va (then part of the District of Columbia) Appointed a midshipman in 1826, he had seen varied service, including duty in the Mexican War, when he resigned (April, 1861) as commander to take the same rank in the Confederate navy In the Civil War he commanded the *Patrick Henry* in the battle of Hampton Roads (March, 1862), fought at Drewry's Bluff in 1862 and 1864, and was captain in charge (1862–64) of Confederate naval forces at Charleston, S C In 1866 Tucker was rear admiral commanding the naval forces of Peru and Chile in their war against Spain, and as president of the Peruvian hydrographic commission he conducted (1873) an expedition which explored the upper Amazon See biography by J. H Rochelle (1903)

Tucker, Josiah, 1713–99, English economist, b. Wales A clergyman, he was a prolific pamphleteer in a wide range of subjects He maintained that war is a loss even to a victorious nation and that England's colonies could not be held against their will Adam Smith is believed to have been influenced by him For selected writings and an account of the man and his work, see R L. Schuyler, *Josiah Tucker* (1931)

Tuckerman, Edward, 1817–86, American botanist, b Boston, grad Union College, Schenectady (B A, 1837) He is known for his work on lichens Among his writings are *An Enumeration of North American Lichens* (1845), *Genera Lichenum: an Arrangement of the North American Lichens* (1872), and *A Synopsis of the North American Lichens* (Vol. I, 1882; Vol II, ed by Henry Willey, 1888).

Tuckerton, borough (pop. 1,320), SE N.J., near Little Egg Harbor N of Atlantic City, settled c 1700, inc. 1901. Near it is a radio station for marine transmitting Tuckerton was once an important port Ships in its harbor were burned by the British in 1778

Tucson (tōō'sŏn'), city (pop 36,818), co. seat of Pima co, SE Ariz, SE of Phoenix The "Old Pueblo" drew its first Spanish settlers in the late 17th cent, and Father Eusebio Kino founded Mission San Xavier del Bac (9 mi S of Tucson, present building erected by Franciscans in the late 18th cent.) in 1700. Father F. T H Garcés reestablished the village, and the presidio was moved in 1776 to Tucson, which was a military border post of New Spain, of Mexico, and, after its transfer under the Gadsden Purchase, of the United States (Fort Lowell) It became also a trade center for mining, ranching, and some agriculture, territorial capital (1867–77), and later a railroad point, with some industries, among them an airplane-parts plant Sunny Tucson is best known as a winter and a health resort The desert growths of the Saguaro National Monument near by contrast with the cool heights of the easily accessible Santa Catalina Mts, notably Mt Lemmon A fiesta and rodeo is held each February The Univ of Arizona (see ARIZONA, UNIVERSITY OF) and botanical and agricultural experiment stations are in Tucson

Tucumán (tōōkōōmän'), city (estimated pop 169,566), capital of Tucumán prov, NW Argentina The original name was San Miguel de Tucumán It is the metropolis of a large irrigated area which produces sugar Corn, alfalfa, rice, tobacco, and fruit are also grown Lumbering is carried on, and the province is rich in minerals Tucumán was founded in 1565 and was moved to its present site in 1685 Here in Sept, 1812, Manuel Belgrano defeated the Spanish royalists Meeting in the city, a congress proclaimed (July 9, 1816) the independence from Spain of the United Provs of La Plata Tucumán is the seat of a university, and there is a popular shrine of Our Lady of Mercy

Tucumcari (tōō'kumkâ"rē), city (pop 6,194), co seat of Quay co, E N Mex, just S of the Canadian river, E of Albuquerque and near the Texas line, inc 1908 It is a railroad division point and trade center for a farm and stock area Conchas Dam (235 ft high and 6,230 ft long) and Recreational Area is near by

Tudela (tōōthā'lä), city (pop 12,873), Navarre, N Spain, on the Ebro The surrounding fertile region produces fruit, grapes, and olives There are sugar refineries and varied manufactures. Tudela flourished under the Moors and was later the second city of the kingdom of Navarre and a notable fortress In a battle near here, also called the battle of the Ebro, the French won a major victory (1808) in the Peninsular War There is a fine 12th-century cathedral The Ebro is crossed here by an old Roman bridge

Tudor, royal family that ruled England from 1485 to 1603 Its founder was Owen Tudor, of a Welsh family of great antiquity, who was a squire at the court of Henry VI and who married Catherine (of Valois), the widow of Henry V Of their five children, the eldest son, Edmund, was created earl of Richmond (1453), married Margaret Beaufort, a descendant of John of Gaunt, and had one son, Henry, who ascended the throne as HENRY VII after defeating Richard III at Bosworth Field (1585) and ending the Wars of the Roses By his marriage to Elizabeth Woodville, daughter of Edward IV, Henry united the Lancastrian and Yorkist claims to the throne Of his children, his daughter MARGARET TUDOR married James IV of Scotland, his daughter Mary (see MARY OF ENGLAND) married Louis XII of France, and his surviving son succeeded him (1509) on the throne as HENRY VIII All three of Henry VIII's children, EDWARD VI, MARY I, and ELIZABETH, were rulers of England Following the death of Edward VI, there was an attempt to place Mary of England's granddaughter, Lady Jane GREY, upon the throne but this was soon crushed, and she was beheaded The reign of the Tudors marks the emergence of England from feudalism and was distinguished by a vast increase in the power of the monarchy, the rise of England as a naval power and a corresponding sense of national pride, an increase in trade, and considerable religious strife It was a period of a remarkable flowering of English literature and scholarship Upon the death of Elizabeth (1603), the Tudor dynasty was succeeded by the house of Stuart, whose claim to the throne derived from Margaret Tudor.

Tudor, Owen (ō'ĭn), d 1461, founder of the TUDOR dynasty. He belonged to an ancient Welsh family. Presumably for valor at Agincourt, he was made squire to the body of Henry V. In 1429 (?) he married the widowed queen, Catherine of Valois, who had five children by him. Twice imprisoned by Humphrey, duke of Gloucester, during Henry VI's infancy, he finally escaped to Wales, but later Henry made provision for him in England. Owen, a faithful Lancastrian in the Wars of the Roses, was killed by Yorkists at the battle of Mortimer's Cross (1461).

Tudor, William, 1779–1830, American writer, b Boston, grad Harvard, 1796. An influential member of the Anthology Club in Boston, he contributed to its magazine and later was the first editor of the *North American Review* (founded 1815). His writings are *Letters on the Eastern States* (1820), essays in *Miscellanies* (1821), and a biography of James Otis (1823). He was U S consul in Peru from 1823 to 1827 and in Brazil from 1827 to 1830.

Tudor style, descriptive of the English architecture and decoration of the first half of the 16th cent, prevailing during the reigns (1485–1558) of Henry VII, Henry VIII, Edward VI, and Mary I It is the first of the transitional styles between Gothic Perpendicular and Palladian architecture, the other two being Elizabethan and Jacobean The rise of new trading families to wealth and the enrichment of court favorites by Henry VIII with lands and wealth derived from his suppression of monasteries resulted in the building of many manor houses In these the fortified character of earlier times gave way to increased domesticity and privacy Though the great hall still remained the focus of the establishment, its importance now decreased with the introduction of other rooms such as parlors, studies, bedrooms in greater number, and quarters for dining Rooms frequently were fitted with oak paneling, often of linen-fold type, walls and ceilings received rich plaster relief ornament, and articles of furniture came into greater use Exteriors in domestic work exhibited Perpendicular features in modified form, notably square-headed, mullioned windows and arched openings of the four-centered or so-called Tudor type Other characteristics were the use of brickwork combined with half-timber, high pinnacled gables, bay or oriel windows, and numerous chimneys of decorative form Principal Tudor examples are parts of Hampton Court Palace, begun in 1515, and many colleges of Oxford and Cambridge Noted country manors include Sutton Place, Surrey, Layer Marney, Essex, and the splendid Compton Wynyates, Warwick.

Tuesday see WEEK

tufa see TRAVERTINE

Tufts College, at Medford and Boston, Mass; nonsectarian, for men and women, chartered 1852, opened 1855 by Hosea Ballou 2d and other Universalists It cooperates with Harvard in Crane (theological) and Fletcher (law and diplomacy) schools and with Simmons College school of social work It has its own schools of dentistry, engineering (with Bromfield-Pearson School), liberal arts (with Jackson College for women), and medicine (part of New England Medical Center) The P T Barnum natural history museum and the Edwin Ginn international affairs library are at Medford.

Tu Fu (dōō' fōō', tōō'), 713?–770, Chinese poet. Although he began writing at an early age, his first work showed little literary promise He never passed the imperial civil service examinations and spent many poverty-stricken years wandering through nearly all the provinces of China. Whenever Tu Fu did occupy an official position, it was not long before he was dismissed His poetry embodies much of the bitterness of his life An ardent patriot and intensely loyal to the ruling T'ang dynasty, he nevertheless beheld with loathing the corruption and cruelty which prevailed He sympathized intensely with the common people of China, whose sufferings he had himself endured His power is strong in rendering the stark images of war, but in some of his work there is a calmer mood, a delight in nature or in court ceremonial

tugboat, strongly built steam or power vessel. They are used to warp large steamers into and out of port and to tow barges, dredging and salvage equipment, and disabled vessels. Tugboats range in size from 93 ft overall length to 210 ft for the "seagoing" type, with engines generating from 750 hp to 3,000 hp Most harbor tugboats are about 100 ft. long, with engines of about 1,000 hp Steam power long dominated tugboat design, but in recent years Diesel drive and Diesel and electric drive have been adopted Most tugs are built of wood or metal-sheathed wood, the resiliency of a wooden hull preventing damage to both tug boat and vessel in warping operations A modern port cannot operate without tugboats When the tugboat crews went on strike in New York in the winter of 1945–46, the city was deprived of virtually all incoming coal and fuel oil, and harbor traffic was stalled. The modern tugboat is equipped with radio telephone, and some have radar to aid navigation in fog and storm

Tug Fork, river rising in S West Virginia and flowing northwest to make a part of the Ky–W Va. boundary It joins the Levisa Fork to form the Big Sandy River at Louisa, Ky.

Tugurt (tōōgōōrt'), Fr. *Touggourt,* oasis, E Algeria, in the Sahara. It is noted for dates, which have been especially abundant since artesian wells were dug in the late 19th cent

Tugwell, Rexford Guy, 1891–, American economist, b. Chautauqua co., N.Y., grad. Wharton School;

Univ. of Pennsylvania (B.S., 1915, Ph.D., 1922). He taught economics at the Univ. of Pennsylvania (1915–17), the Univ. of Washington (1917–18), and Columbia (1920–37) He was Assistant Secretary (1933) and Undersecretary (1934–37) of Agriculture and a member of the BRAIN TRUST Rexford G Tugwell helped draw up the Agricultural Adjustment Act He was appointed (1938) chairman of the New York city planning commission and later (1941) governor of Puerto Rico After 1946 he was attached to the Univ of Chicago He wrote numerous books on economics and government

Tuileries (twē'lurēz, Fr. tüēlrē'), former palace in Paris Planned by Catherine de' Medici and begun in 1564 by Philibert Delorme, it occupied part of the present Tuileries gardens, between the Louvre and the Place de la Concorde The palace was rarely used as a royal residence before the French Revolution Late in 1789 Louis XVI was forced by the revolutionists to move his court from Versailles to the Tuileries, where he was more easily controlled by the Parisian mob He and his family were brought back here after their attempted flight (1792) to Varennes A few weeks later (Aug 10, 1792), a mob attacked the palace and the royal family took refuge in the Legislative Assembly while the SWISS GUARDS were massacred by the assailants, the royal family was from then on imprisoned in the Temple Napoleon I made the Tuileries his chief residence, and after his fall the palace was the chief residence of Louis XVIII, Charles X, Louis Philippe, and Napoleon III During the Commune of Paris of 1871 a mob, after placing gunpowder at various points of the palace and pouring petroleum into it, set it on fire and burned it down completely Architecturally, this was not a major loss, for Delorme's original design had been much altered in the course of time The gardens, laid out by Lenôtre, are famous for their formal beauty.

Tuke, William, 1732–1822, English merchant and philanthropist He succeeded at an early age to the family business at York in wholesale tea and coffee, in which he was engaged the greater part of his life He is remembered as the chief founder of the York Retreat (opened 1796), an early institution for the care of the insane in an intelligent and humane manner The York Retreat had an important influence on subsequent treatment of the insane His son **Henry Tuke**, 1755–1814, followed his father in the tea and coffee business, became a minister of the Society of Friends, and wrote a number of works on religion Henry Tuke's son **Samuel Tuke**, 1784–1857, continued in the family business and interested himself in the conditions of the insane He wrote *Description of the Retreat* (1813), a work which had great influence in reforming abuses in the treatment of insanity Samuel Tuke's son **James Hack Tuke**, 1819–96, also entered the family business and aided in the management of the York Retreat In the Irish famine years of 1846–47 and 1880, he assisted in the distribution of relief funds raised by the Society of Friends in England and labored for the betterment of Irish conditions His brother **Daniel Hack Tuke**, 1827–95, was an eminent physician who devoted himself to the study of insanity. He produced a valuable treatise, *A Manual of Psychological Medicine* (with J C Bucknill, 1858), and wrote other medical works

Tukhachevski, Mikhail Nikolayevich. see TOUKHACHEVSKY, MIKHAIL NIKOLAYEVICH

Tula (tōō'lù), city (pop 272,404), capital of Tula oblast, central European RSFSR, S of Moscow It is a railroad and manufacturing center in the Moscow lignite basin It produces metalware, machinery, and arms and has flour mills, tanneries, and sugar refineries Founded in the 12th cent, it was repeatedly attacked by the Tatars and Lithuanians in the 14th and 15th cent It became (16th cent) a key fortress of the grand duchy of Moscow, developed (17th cent) its armament manufactures, and became an administrative center In the Second World War, Tula withstood a close siege (1941) during the German drive on Moscow Tula has a 16th-century kremlin, surrounded by a quadrangular turreted wall, which forms the center of the city Yasnaya Polyana, the home of Tolstoy, is near by

Tulane University of Louisiana (tōōlān', tū–), at New Orleans; nonsectarian, private, for men and women, opened 1834, chartered as a state medical college 1835, became the Univ. of Louisiana 1847 It was renamed in 1884 when it was endowed by Paul Tulane The medical school has been noted from its early days The women's division, Newcomb College (chartered 1886, opened 1887 with a gift from Josephine L Newcomb), has art and music schools The university also includes colleges of arts and sciences, commerce and business administration, engineering (with architecture), and law, a school of social work, and a teacher's division It has natural history, medical, and art museums and the Middle American Research Institute (with a Mayan library collection and a museum).

Tulare (tùlâr', tōōlâ'rē), city (1940 pop. 8,259; 1949 special census pop. 12,153), S central Calif., SE of Fresno; founded 1872; inc 1888 It is a processing and shipping center for a rich agricultural and dairying region in the San Joaquin Valley

Tulare Lake, S central Calif., S of Hanford The Kings river brings water, as do the Kaweah and the Kern in unusually wet seasons In dry seasons the lake is almost without water It is connected by a slough with Buena Vista Lake and Kern Lake to the south, but it has no drainage outlet to the ocean It was discovered by the Spanish c 1772, before its waters were put to use for irrigation, Tulare Lake had a length of c 50 mi and a width of c 35 mi

tularemia (tōōlùrē'mēu) or **rabbit fever,** infectious disease of small mammals (particularly rabbits and hares) and of birds, caused by a nonsporebearing aerobic bacillus (*Pasteurella tularensis*) It is transmitted to man in handling, skinning, and dressing diseased animals, infection occurring by way of the skin and mucous membranes Tularemia is also transmitted to humans by the bite of ticks, deer flies, fleas, and lice and has been produced by eating insufficiently cooked infected meats The incubation period varies from three to five days Symptoms of the disease include ulcer at the site of inoculation, regional inflammation of lymph nodes, severe headache, chills, fever, sweats, prostration, and vomiting Streptomycin has been found effective in treatment.

Tularosa (tōōlùrō'su, -zù), village (pop 1,446), S central N Mex, near Alamogordo, laid out 1862 It is a trade, processing, and shipping point for a farming, grazing, and lumber area

Tulchin (tōōl'chĭn), city (pop 17,391), W Ukraine, SE of Vinnitsa It was (1825) the stronghold of the Decembrists in S Russia Today it is a farm center The name is also spelled Tultchin

Tulia (tōō'lēu), city (pop 2,055), co seat of Swisher co, extreme N Texas, S of Amarillo on the plains of the Panhandle, settled 1890, inc 1909 The town, on one of the "draws" that drain into Tule Canyon, is the center of a grain-growing, milk-producing, and ranching area

tulip, any plant of the genus *Tulipa*, hardy, bulbous-rooted Old World plants popular as garden and cut flowers and as potted plants The blossoms are deeply cup shaped and of various rich colors Tulip seeds are said to have been introduced into Europe in 1554 from Turkey, where they were possibly first cultivated In Holland in the 17th cent the wild speculation on tulip bulbs became known as tulipomania single bulbs sometimes brought several thousand dollars until the government was forced to interfere Dumas has told the story in his *Black Tulip* Holland is still an important center of tulip culture In gardens tulips are sometimes allowed to naturalize, but the bulbs are usually either separated and transplanted after maturing their leaves (to avoid diseased conditions and make room for other flowers) or are discarded for new bulbs Tulips having a peculiar color flecking or striping known as "breaking" were formerly very popular and were thought to be different varieties but now are thought to be caused by a virus disease carried by aphids The tulip was so commonly used in the designs of the early Pennsylvania Dutch potters that their ware is often called tulip ware Holland, Mich., a center of tulip growing in the United States, holds an annual tulip festival See *Tulips* (U S Dept of Agriculture, Circular 372)

tulip tree, yellow poplar, or **whitewood,** handsome, deciduous tree of the magnolia family (*Liriodendron tulipifera*), native to the United States E of the Mississippi It is one of the tallest trees of its area, and its towering trunk is free of branches to a great height Because of the value of the soft, straight-grained wood, the larger trees are becoming scarce The wood (sometimes called canary wood) is highly prized for interiors, construction, cabinetmaking, plywood, woodworking, and many other purposes The leaves are often square-tipped The yellow and orange tuliplike flowers were formerly the state flower of Indiana

Tull, Jethro, 1674–1741, English agriculturist and inventor He studied methods of agriculture in England, France, and Italy and influenced British agriculture through his writings, which include *The Horse-Hoeing Husbandry* (1733) Tull advocated pulverizing the soil, planting in drills, and thorough tilling with plough and hoe during the growing period He invented (c 1701) a machine drill

Tullahoma (tŭlùhō'mu), town (pop 4,549), central Tenn, SE of Nashville, settled 1850, inc 1852 It is an industrial town in a timber and farm area In the Civil War it fell (July, 1863) to Federals under Gen W. S Rosecrans, who outmaneuvered Gen Braxton Bragg in the operations preliminary to the CHATTANOOGA CAMPAIGN

Tullamore (tŭ"lumôr'), urban district (pop 5,894), co seat of Co. Offaly, Ireland Durrow Abbey, 4 mi north, was founded (553) by St Columba The town has distilling and woolen milling.

Tulle (tōōl, Fr tül), city (pop 14,744), capital of Corrèze dept, S central France, in Limousin. Today Tulle manufactures arms and textiles It gave its name to tulle material, first manufactured here There are many medieval and Renaissance houses and a cathedral (12th–14th cent.).

Tulloch, John (tŭ'lukh, -luk), 1823–86, Scottish liberal theologian and educator Ordained in 1845, he was a minister of the Church of Scotland until 1854, when he became principal and professor of theology of St. Mary's College, St Andrews In 1859 he was appointed a chaplain to Queen Victoria He was of influence in matters of education and in the affairs of his church In 1878 he was moderator of the General Assembly of the Church of Scotland Among his works is *Rational Theology and Christian Philosophy in England in the Seventeenth Century* (1872). See memoir by M O W Oliphant (1888)

Tully see CICERO

Tulsa (tŭl'su), city (pop 142,157), co seat of Tulsa co, NE Okla, on the Arkansas river east of its junction with the Cimarron First settled by Indian exiles c 1860, the present town was founded in 1880 as a railroad depot, the greatest period of growth came with the discovery of oil in 1901 The city, with its large refineries and company headquarters, is known as the "oil capital of the world" It is also the commercial center of a rich area producing oil, cotton, lead, zinc, farm products, and livestock, its industries include the manufacture of textiles, glass, chemicals, furniture, steel, and machinery In 1941 an important aircraft industry was established here The Univ of Tulsa (coeducational, 1894), Spartan College of Aeronautical Engineering, and an art gallery are here, nearby lakes and park provide recreation

Tultchin, Ukraine see TULCHIN

Tumacacori National Monument see NATIONAL PARKS AND MONUMENTS (table)

Tumaco (tōōmä'kō), city (pop 9,671), SW Colombia, a port on the Pacific, 180 mi SW of Buenaventura It stands on a small island just off the coast and has a very hot climate It exports coffee, cacao, tobacco, vegetables, and other products of the interior The city was partly destroyed by fire in Oct, 1947

Tumbes (tōōm'bās), city (pop 6,355), capital of Tumbes prov, NW Peru Francisco Pizarro landed here in his conquest of Peru

tumblebug or **dung beetle,** name for a number of dark, bronzed, or brightly colored beetles of various genera, e g, *Scarabaeus, Canthon, Copris,* and *Phanaeus* Like the sacred scarab of Egypt, the beetles make balls of dung which they roll with their hind feet, sometimes for long distances, and bury An egg is laid in the ball, which then provides the larva with food, or the maker may use it for its own food supply See also SCARAB

tumbleweed, any of several plants, particularly abundant in prairie regions, that commonly break from their roots at maturity and, drying into a rounded tangle of light, stiff branches, roll before the wind, covering long distances and scattering seed as they go The Russian thistle (*Salsola pestifer*, not a thistle) is one of the most frequent of the tumbleweeds Recently naturalized, it has become a troublesome pest on Western prairies, although in drought years it may serve as forage Russian thistle may be used for range early in the spring, but later, when the spines form, it must be chopped and ensiled and should not be fed alone Some other common tumbleweeds are AMARANTH, winged pigweed, bugseed, and witch grass

tumor, mass of tissue produced by an abnormal growth of cells In some tumors the growth is progressive, in others the process sometimes ceases or diminishes spontaneously The tumor may be enclosed in a capsule or membrane, or it may be infiltrative, the cells of the tumor extending into the surrounding tissue Tumors are either benign or malignant See also CANCER

Tumwater (tŭm'wôtur), historic town (pop 955), W Wash, near Puget Sound just S of Olympia, founded 1845 It is sometimes considered the end of the OREGON TRAIL It was the first American settlement in the Sound area

tuna (tōō'nu) or **tunny** (tŭ'nē), largest game fish of the mackerel family, with a swift, powerful, streamlined body The tuna (*Thunnus thynnus*), also called bluefin and horse mackerel, of warm waters of the Atlantic and Pacific and the Mediterranean travels in schools, often leaping and thrashing about In various localities it may average from 60 to 200 lb in weight and is said to reach an extreme of 14 ft in length and over 1,500 lb in weight The related albacore or long-finned tuna rarely exceeds 65 lb, and its flesh is white and palatable For centuries the tuna fisheries of the Mediterranean and near-by Atlantic coasts have been important The fish is often eaten fresh in Europe but in America it is canned on a large scale

Tunbridge Wells, municipal borough (1931 pop 35,365, 1947 estimated pop 38,350), Kent, England, S of Tonbridge A "royal borough," it is also called Royal Tunbridge Wells Chalybeate springs were discovered here in 1606 by Lord North, and the town developed as a fashionable inland resort Noted visitors included Henrietta Maria, Catherine of Braganza, Queen Anne, Dr Johnson, Garrick, Samuel Richardson, Beau Nash, and Thackeray. There are reminders of Puritan visitors in Mt Ephraim, Mt Sion, and other names. The Pantiles is a parade Toad Rock on Rusthall

Common, to the west, and High Rocks, southwest, are curious sandstone formations Tunbridge wood mosaics are sold.

tundras (tŭn'druz) [Finnish, =marshy plain], arctic lowlands of the N USSR, north of the limit of the growth of trees. The annual precipitation is under 10 in., the warmest month has an average temperature of less than 50°F., and the subsoil is perpetually frozen The region about the Gulf of Ob and the lower Ob river is typical When the surface thaws, extensive swamps and shallow lakes are formed (since drainage is very poor), plants grow suddenly and profusely in the long hours of sunshine, and swarms of mosquitoes and other insects appear During most of the year, the tundras are a frozen desert. The inhabitants (less than two per square mile) are mainly nomadic Samoyedes, Chukchi, Koryaks, and Eskimo, they are hunters, trappers, and fishermen Their herds of reindeer feed upon mosses and lichens Alaska, Canada, the islands N of Canada, Greenland, and Iceland have tundra areas In North America the inhabitants are the Eskimo.

Tung (dōōng) or **East River**, eastern tributary of the Canton river, Kwangtung prov , China The river is called in Chinese Tung-kiang or Tung-chiang [both=east river]

Tunghwa (dōōng'hwa'), Mandarin *T'ung-hua*, city (pop. 81,993), capital of Antung prov , NE China It is a junction of railroads which connect with Korea and with other lines in Manchuria. Soybean products are manufactured.

Tung-kiang, see TUNG.

tung oil, product of the seeds of a tropical tree, the tung tree (*Aleurites fordii*), and of some related species It is known also as China wood oil and nut oil It is amber-colored and contains a high proportion of elaeostearic acid Because of its wide use as a dryer in varnishes and paints, the oil has great commercial importance China has long been the chief producer of the oil, but the tree has been introduced in other areas The U S Dept of Agriculture experimented with tung tree growing early in the 20th cent and afterward encouraged Southern farmers to cultivate it. In recent years an increasing portion of the commercial supply has been obtained from trees grown in Alabama, Georgia, Florida, Louisiana, Mississippi, and Texas While the bulk of the product is utilized by the paint and varnish industry, tung oil has additional uses, e g , as a component of insulating compounds, brake linings, and gaskets and in the manufacture of linoleum and oilcloth The oil itself is expressed from the poisonous seeds found in the heart of the tung fruit, which is the size of a small apple The seeds contain more than 50 percent of tung oil, which is readily obtained when they are heated, ground, and pressed Although propagated chiefly for their oil, tung trees are ornamental and are sometimes grown as shade trees They grow to a height of from 10 to about 25 ft , the flowers hang in loose clusters and have reddish-white petals about an inch or more in length Tung trees can grow on rather poor, dry soil Related species include the candlenut tree (*A moluccana*) and the Japanese wood oil tree (*A cordata*)

tungsten: see WOLFRAM

Tungting or **Tung-t'ing** (both dōōng'tĭng'), lake, NE Hunan prov , China Tungting is fed by many rivers, notably the Siang During the heavy summer rains the lake receives the overflow from the Yangtse and attains its maximum extent of c 4,000 sq mi. The lake area is shrinking

tung tree: see TUNG OIL

Tungus (tōōn-gōōs'), Siberian ethnic group, numbering some 40,000, called also Evenki The majority inhabit the EVENKI NATIONAL OKRUG The Tungus are closely related to the Manchus Certain cultural traits indicate that part of the Japanese population may be descended from this people. Before they were brought under Soviet control the Tungus practiced a shamanistic religion The Tungus or Tungusic languages are a family which includes the Manchu literary language they may be related to the Mongolic and Turkic families The family is sometimes classified as Ural-Altaic

Tunguska (tōōn-gōōs'kŭ), name of three eastern tributaries of the Yenisei river, RSFSR, in E central Siberia Furthest north is the **Lower Tunguska** (Rus *Nizhnyaya Tunguska*) (nyĕzh'nyŭ), 2,175 mi long It rises in the Central Siberian Plateau NW of Lake Baikal and flows N, then WNW past Tura to join the Yenisei at Turukhansk It is navigable (May–Oct) for 1,100 mi The **Stony Tunguska** (Rus *Podkamennaya Tunguska*) (pŭtkă'myĭnĭtŭ), also known as Middle Tunguska (Rus *Srednaya Tunguska*) (srĕd'nyĭtŭ), 980 mi long, rises west of the upper course of the Lower Tunguska and flows generally northwest It is navigable below the rapids in its lower course. **Upper Tunguska** (Rus *Verkhnyaya Tunguska*) is the name given to the lower course of the Angara river (see ANGARA)

Tunguska Basin, large, unexploited coal basin, area c 400,000 sq mi., RSFSR, in E central Siberia, between the Yenisei and Lena rivers. It is drained by the three Tunguska rivers. Its reserves are estimated at 440,000,000,000 tons.

tunic (tū'nĭk, tōō'–), probably the earliest form of shaped garment Made at first of two skins laced together, it was later cut from cloth, seamed at the sides and top, and usually worn with sleeves and girded The Romans used tunics as undergarments and for outer wear. During the empire, as the toga became outmoded, tunics were worn long and were often elaborately decorated. The stola, a long, full tunic, often fastened at the shoulders with brooches, was the characteristic dress of the Roman matron, it usually had long sleeves and was girded. Adaptations of the Roman tunic and stola were worn during the Middle Ages In modern usage the word *tunic* designates a woman's long blouse, usually confined at the waist, and sometimes the jackets of men's uniforms.

Tunica (tū'nĭkŭ, tōō'–), town (pop. 1,322), co seat of Tunica co , NW Miss , near the Mississippi below Memphis, Tenn , in a farm area.

tuning, in music, adjusting the mechanism of an instrument so that its tones will conform to recognised standards of pitch or to the pitch of other instruments with which it is to be played. Stringed instruments are tuned by increasing or decreasing the tension of the strings, and those which are plucked or bowed can be tuned by the player with comparative ease except in the case of the harp The tuning of a piano or an organ is an elaborate procedure requiring a skilled technician The system of tuning usually used today is EQUAL TEMPERAMENT See John Redfield, *Music, a Science and an Art* (1928), W B White, *Piano Tuning and Allied Arts* (rev ed , 1946).

tuning fork, steel instrument in the shape of a U with a short handle When struck it produces an almost pure tone, i e , only a few faint upper partials (see HARMONIC) are heard, and it retains its pitch over a long period of time, thus it is a valuable aid in tuning musical instruments It was invented in 1711 by John Shore, a trumpeter for whom parts were written by Handel and Purcell

Tunis (tū'nĭs), city (pop 364,593), capital of Tunisia, a port on the Lake of Tunis Access to the Gulf of Tunis (an arm of the Mediterranean) is by a canal terminating at a subsidiary port, La Goulette Tunis exports phosphates, iron ore, salt, cereals, and wine It is also a tourist center and a base for fishing fleets There are notable mosques, a Moslem university, and a national museum The ruins of CARTHAGE are near, to the northeast Tunis is probably pre-Carthaginian Surviving from the Middle Ages are walls, an aqueduct, and a mosque Tunis became the capital of Tunisia under the powerful Hafsid dynasty (13th–16th cent) and was a leading center for trade with Europe and the Levant Turks under Barbarossa took it in 1534 but were temporarily (1535–69, 1573–74) dislodged by the Spanish After 1591 the Turkish governors (the beys) were practically independent, and the city throve as a center of piracy and trade After the French occupation (1881) a modern European quarter was built, and the port was improved In the Second World War, Tunis, held by AXIS forces from Nov , 1942, to May 7, 1943, was the base for their final stand in Africa

Tunisia (tūnē'zhŭ, tūnĭ'shŭ), Fr *Tunisie*, protectorate (48,362 sq. mi , pop 3,230,952), North Africa, since 1946 an associated state of the French Union The capital is TUNIS Tunisia, occupying the eastern portion of the great bulge of North Africa, is bounded on the west by Algeria and on the east by Libya It is washed by the Mediterranean on the north and east It has a highly irregular coast line, which affords many bays and several fine harbors, notably BIZERTA, GABÈS, SFAX, and SOUSSE There is extensive fishing N Tunisia is covered by the Atlas Mts , while in the south, below the Chott el Djerid (a great salt lake), stretches the Sahara In the north typical oasis crops are raised, including cereals, olives, grapes, and dates There is, moreover, a large mineral production, especially of phosphates, much iron, lead, and zinc are also dug The south yields hides and meat Roads and railroads link Tunisia with N Algeria and to a less extent with Libya. The region of Tunisia, early settled by the Phoenicians, passed to Carthage in the 6th cent B C Later it was one of the granaries of Rome It was held by Vandals (5th cent) and Byzantines (6th cent.) In the 7th cent it was conquered by Arabs, who founded Kairouan The Berber population was converted to Islam, and in a second wave of Arab conquest (11th cent) it received a large admixture of Arab stock and culture The coasts were briefly held by the Normans of Sicily in the 12th cent. Tunisia attained its greatest power under the Berber Hafsid dynasty (1228–1574). In the last years of the Hafsids, Spain seized many of the coastal cities, but was ousted (1574–79) by the Turks. Under its Turkish governors, the beys, Tunisia attained virtual independence. After 1591 it became a pirate stronghold (see BARBARY STATES) The present Hussein dynasty of hereditary beys was established in 1705 In the 19th cent. the heavy debts which the beys had contracted gave European powers, especially Italy and France, openings for economic intervention A number of incidents, including attacks on Algeria by Tunisian tribes, led to a French invasion of Tunisia. The bey was forced to sign the Treaty of Bardo (1881), establishing a protectorate under a French resident general. The protectorate was opposed by Italy, which has economic stakes and a sizable group of its nationals in Tunisia. In the years immediately preceding the Second World War the attitude of Italy grew more belligerent, and threats of annexation were freely made. After the fall of France (June, 1940) Tunisia remained loyal to the Vichy government. Late in 1942, with the Germans driven W across Egypt and Libya and with Allied forces landing in Algeria, Tunisia became the focus of the war in North Africa (see NORTH AFRICA, CAMPAIGNS IN). On May 12, 1943, the Axis forces in Africa completely capitulated General Giraud, who assumed control of the protectorate, deposed the pro-Axis bey of Tunis on May 15 After the war nationalist agitation for ending the protectorate was intensified, with the Destour (constitutional) and neo-Destour (radical) parties in the lead. There was also much hostility between Arabs and Jews over the establishment of Israel See Sir Reginald Rankin, *Tunisia* (1930); W. B Worsfield, *France in Tunis and Algeria* (1930).

Tunja (tōōn'hă), city (pop 16,597), central Colombia Founded in 1539 on the site of the Zaque CHIBCHA capital, Hunsa, it is today a rail and highway shipping point for products of the region and for cattle from the eastern llanos In the war against Spain, Tunja supported the revolutionists, Bolívar held it and prepared for the victory at BOYACÁ.

Tunkers see DUNKARDS

Tunkhannock (tŭngk-hă'nuk), residential borough (pop 2,161), co seat of Wyoming co , NE Pa , on the Susquehanna and NW of Scranton; settled 1775, laid out 1790, inc 1841 It has many colonial buildings.

tunnel, a more or less horizontal underground passage usually made without removing the overlying rock or soil The origin of tunnel building is disputed The Egyptians built tunnels as entrances to tombs, the Babylonians built a tunnel, c 2180 B C , under the Euphrates They used what is now called the "cut-and-cover" method, the river was diverted, a wide trench dug across its bed, and a brick tube constructed in it and covered up. The ancient Greeks and Romans built tunnels for carrying water and for mining purposes, some of the Roman tunnels are still in use The first tunnel of importance in England was part of the Grand Trunk Canal It was nearly 2 mi long and was completed in 1777. Methods of cutting tunnels vary with the nature of the material to be cut through When soft earth is encountered, the excavation is timbered for support as the work advances, the timbers are sometimes left as a permanent lining for the tunnel Another method is to cut two parallel headings in which the side walls are first built Arches are then built between them, portions of the unexcavated center being left to the last for support A tunnel cut through rocks frequently requires no lining Hard rock is removed by blasting Tunnels must be built with sufficient gradient for proper drainage The Mont Cenis Tunnel, nearly 8 mi long, opened in 1871, and passing through the Alps, was probably the first tunnel built with the use of compressed-air drills The SIMPLON TUNNEL, more than 12 mi long, also through the Alps, is the longest of its type in the world It consists of two single-line tunnels parallel with each other, with connecting tunnels at short intervals. Great difficulty was experienced during its building because of the presence of hot spring water In constructing tunnels under rivers, the ordinary methods can be used as long as a stratum of impermeable earth lies between the tunnel and the river bed In all cases, however, pumping equipment must be installed Where mud, quicksand, or permeable earth is present in underwater tunneling, it becomes necessary to provide some means of holding back the water while the enclosing sections of the tunnel are placed in position. For this purpose the shield was devised and first used in 1825 by M I. BRUNEL when boring between Wapping and Rotherhithe This shield was not considered very successful, and the device was not employed again until 1869, when J. H Greathead, of London, and A E. Beach, of New York, developed improvements at about the same time. Their shields were metal cylinders fitting around the outside of the tunnel, with the forward end closed by a diaphragm plate This shield was shoved forward into the earth, headings being cut through openings in the forward end, while the tunnel walls were being extended within the cylinder Greathead introduced the use of compressed air in conjunction with the shield to keep out water and substituted cast-iron ring sections for brick and mortar as a tunnel lining. Beach introduced the use of hydraulic rams to push the shield forward Tunnels may be ventilated by shafts leading to the surface or by exhaust fans at the ends The first tunnel of importance in the United States was the tunnel through the HOOSAC RANGE in Massachusetts. There are hundreds of miles of tunnels in New York city and its vicinity, e.g., for subways, water systems, and rail-

roads. The Pennsylvania RR tunnel system is noted for its unusual size and for the difficulties encountered in its construction in avoiding disturbance of existing buildings. The Holland Tunnel and the Lincoln Tunnel connect New York city with New Jersey, and the Brooklyn-Battery Tunnel connects Manhattan with Brooklyn. The use of the pneumatic shield is now universal in tunneling under rivers, the pressure used varying with depth and the permeability of the earth being bored. In recent years precast concrete blocks and welded steel plates have been introduced for tunnel lining. See Archibald Black, *The Story of Tunnels* (1937)

Tunney, James Joseph, 1898–, American boxer, known as Gene Tunney, b New York city. He began boxing in neighborhood clubs. In the First World War he served in the U S Marine Corps and won (1919) in Paris the light-heavyweight championship of the American Expeditionary Forces. In 1922 he defeated Battling Levinsky for the American light-heavyweight title, but lost it the same year to Harry Greb—the only fighter to defeat Tunney in the professional ring. Tunney regained this title in 1923. In 1926 Tunney, who regarded boxing as a science, defeated William Harrison (**Jack**) Dempsey in a 10-round decision in Philadelphia and became the world heavyweight champion. In Chicago a year later, Tunney repeated this performance in a return bout with Dempsey; the decision was the subject of much controversy because of the famous "long count" after Tunney was knocked down in the seventh round. Tunney—well proportioned, handsome, and intellectually inclined—retired from the ring as heavyweight champion in 1928 and later successfully engaged in business. In the Second World War he served (1940–45) in the U.S. navy, directing the program to keep navy personnel physically fit. He wrote *A Man Must Fight* (1932) and *Arms for Living* (1942)

tunny. see TUNA.

Tunstall or **Tonstall, Cuthbert** (both tŭn'stul), 1474–1559, English bishop. After studying at Oxford, Cambridge, and Padua, he entered the church and was rapidly advanced. A friend of Thomas More and of Erasmus, Tunstall served Henry VIII on many diplomatic missions, held numerous positions in the church, and in 1530 succeeded Thomas Wolsey as bishop of Durham. Although Tunstall never gave up his belief in Catholic dogma and although he wrote numerous tracts in Latin defending his beliefs, he adopted a policy of passive obedience to the ecclesiastical revolution of Henry VIII. He opposed the Protestant reforms, but after they had already passed he helped carry them out. He supported Henry's oath of supremacy, and in 1537 was made president of the Council of the North. In Edward VI's reign he supported the protectorate of Edward Seymour, duke of Somerset, and was imprisoned and unfrocked after Somerset's fall (1551). Restored to his bishopric at the accession of Mary (1553), he refrained from the persecution of Protestants, and none were executed in his diocese. Tunstall refused to take the oath of supremacy when Elizabeth came to the throne and was placed in the custody of the archbishop of Canterbury

Tunstall, part (since 1910) of STOKE-ON-TRENT, Staffordshire, England, in the Potteries district

Tuolumne (twŏ'lumnē), unincorporated town (pop 1,530), central Calif, E of Stockton. It is a lumber center in the Mother Lode gold region

Tupac Amaru (tōō'päk ämä'rōō), 1742?–1781, Indian leader in Peru, baptized José Gabriel Condorcanqui. A man of some education and of sterling character, he saw with pity the degradation of his people and sought to alleviate their lot. Unable to persuade the government to better conditions in the *obrajes*, the mines, and the villages, Condorcanqui, under the name of his ancestor, the Inca Tupac Amaru, led a rebellion in 1780. The Indians, regarding him with reverence, flocked to support him, and at first Tupac Amaru was successful. He was later captured and executed with incredible brutality. The revolt continued, notably with the siege of La Paz in 1781, but was finally crushed. All of Tupac Amaru's family were executed or imprisoned, but many of the reforms for which he died were granted

Tupelo (tōō'pĭlō, tū'–), city (1940 pop 8,212, 1947 special census pop 10,926), co seat of Lee co, NE Miss, NNW of Columbus, founded 1859, inc 1870. It is the trade, processing, and shipping center for a cotton area and produces dairy and fertilizer products. In 1936 a tornado severely damaged the city. A U.S. fish hatchery is here. On the Civil War battlefield of Tupelo, now a national battlefield site (one acre; est. 1929), Union troops repulsed an attack by Gen. N. B. Forrest (July 14, 1864), but nevertheless retreated. Near by are Ackia Battleground National Monument (49.15 acres; est 1938), scene of a victory of Chickasaw and British over Choctaw and French (May 26, 1736), and Tombigbee State Park.

tupelo: see BLACK GUM.

Tupí Indians; see GUARANÍ INDIANS.

Tupper, Sir Charles, 1821–1915, Canadian statesman, b. Amherst, N S. After studying medicine at the Univ. of Edinburgh (M.D., 1843), he practiced medicine for a time in Amherst. Entering (1855) the Nova Scotia assembly, he became premier of the province in 1864. He played a leading role in the confederation movement, and despite the opposition of Joseph Howe, he eventually succeeded in bringing Nova Scotia into the dominion of Canada. To Sir John Macdonald he gave unswerving friendship and support, and in Macdonald's administrations he held a number of posts, first entering the cabinet as president of the council (1870). As minister of railways and canals (1879–84), it was his responsibility to achieve the completion of the Canadian Pacific Railway. From 1884 to 1896 he was Canadian high commissioner in London, except for an interval (1887–88) when he served as minister of finance in Macdonald's government. In 1896 he became prime minister of Canada and urged the adoption of a preferential tariff with Great Britain and the colonies, but the Conservative party was defeated in the elections of that year, and he yielded his premiership to Laurier. Shortly before his death in England, Tupper's *Recollections of Sixty Years* appeared (1914). See E. M. Saunders, *Life and Letters* (1916), with a supplement by Sir C. H. Tupper (1926), biography by J. W. Longley (new ed., 1926)

Tupper, Martin Farquhar, 1810–89, English author. He is remembered for his *Proverbial Philosophy* (1838–76), a popular collection of moralizations in blank verse. See his autobiography (1886)

Tupper Lake, resort village (pop 5,451), N N.Y., in the Adirondacks near Big Tupper Lake, settled 1890, inc. 1902. Wooden dishes and hardwood flooring are made. Near by is a U.S. veterans' tuberculosis hospital

Tupungato (tōōpōōng-gä'tō), peak, 21,490 ft. high, on the Argentine-Chilean boundary, in the Andes S of USPALLATA PASS. It was first climbed in 1897

Tura, Cosmè or **Cosimo** (kōsmā' tōō'ra, kō'zēmō), c 1430–1495, Italian mural artist. He was a leading master of the Ferrarese school of painting and court painter to Borso d'Este and Ercole d'Este. His work, usually realistic but often symbolic, is characterized by vigorous draughtsmanship and modeling and by clashing colors. It is found in leading European collections and sometimes in its original location, as is the case with two organ panels, *Annunciation* and *St George Slaying the Dragon* (cathedral, Ferrara). Important examples include *Pietà* (Venice), *Christ on the Cross* (Milan), *Madonna* (Bergamo), *St Christopher* and *St Sebastian* (Berlin Mus. collection), *St Jerome* (National Gall., London), and *Portrait of a Man* (National Gall. of Art, Washington, D.C.). Attributed to him is a portrait of Borso d'Este in the Metropolitan Museum

Turan (tōōran'), desert lowland, central Asiatic USSR, S and E of the Aral Sea. The Amu Darya and Syr Darya rivers divide it into the KARA KUM desert in the south, the KIZIL KUM desert in the center, and the Aral Kara Kum desert in the north. The region has very little precipitation and is sparsely populated, except in the fertile irrigated oases along the Amu Darya and Syr Darya, where cotton, fruit, and rice are grown. Part of the region is used for sheep grazing

Turanian (–rā'–), obsolete classification of languages not of Indo-European family. It was applied primarily to the languages of central Asia

turban (tûr'bŭn), headdress worn by most Moslem men and by other men of Eastern nations which varies according to taste, religion, and rank. It consists of a skull cap or tarboosh around which are wound many folds of linen, silk, or cotton, often fastened, in the case of dignitaries, with gems or other insignia. By resemblance, a modern headdress for women is also called a turban, as is a close-fitting hat with no brim or with a tightly upturned brim

turbine (tûr'bĭn, tûr'bēn), an engine which converts the force of moving air, water, or steam into mechanical energy capable of doing work. Its principle, known from ancient times, was not put to practical use until c 1880. A water turbine employs fixed guide vanes to give direction to the stream, curved blades or buckets to receive the water, and a shaft which the wheel turns. The turbine may be of the impulse type actuated by the force of water falling on the buckets or of the reaction type where the impact of expanding pressure and the kinetic energy of the flow provide the movement of a bladed wheel. The smooth continuity of rotation and the more efficient use of the energy of moving water result in wider use of the reaction turbine. Toward the end of the 19th cent. Sir Charles A. Parsons and Gustav de Laval were pioneers in the building of steam turbines. Continual improvements of their basic machines have caused steam turbines to become the prime movers of the largest part of all electric generation equipment. Coal and oil are the two fuels most used to provide steam for the turbines. Jets of steam are directed into and through a series, or a stage, of curved vanes on a rotating wheel and through similar ones on a stationary wheel. Large increases in efficiency at certain speeds result from multistaging or increasing the number of vaned wheels. The steam leaving a revolving wheel is directed by the stationary one onto a second revolving wheel and then by a second stationary wheel against a third revolving one and so on. Maximum propulsion is obtained from the decreasing steam pressure by having it act upon larger buckets. See L. E. Newman, ed., *Modern Turbines* (1944)

turbot (tûr'bŭt), large FLATFISH of European coastal waters. It sometimes reaches a weight of more than 30 lb. and is highly valued as a food fish. In the United States some flounders are incorrectly called turbots

Turckheim (türkĕm'), Ger. *Türkheim* (türk'hīm), town (pop. 2,431), Haut-Rhin dept., E France, in Alsace, W of Colmar. It is noted for its white wine. Here in 1675 the French under Turenne defeated the imperial troops in the Third Dutch War

Turcoman. see TURKMEN SOVIET SOCIALIST REPUBLIC

Turenne, Henri de la Tour d'Auvergne, vicomte de (ärē'du lä tōōr' dōvĕr'nyu vēkōt' du türĕn'), marshal of France, one of the greatest of French commanders. Of high family, he was the son of the duc de BOUILLON and was brought up as a Protestant. He commenced his military career in the Dutch army but soon was serving for France and showing his great capabilities in the Thirty Years War. He distinguished himself under Bernhard of Saxe-Weimar in the victory (1638) over the imperial forces at Breisach. In the successful battles of Freiburg in Breisgau (1644) and Nordlingen (1645) he served with that other great French commander of his day, the brilliant Louis II de Bourbon, prince de Condé, called the Great Condé. The lives of the two were to be intertwined. Turenne, who had been made a marshal in 1643, was—with the Swedish Torstenson—the dominant figure in the last years of the war, and he was driving on from victory to victory when long negotiations finally brought about the Peace of Westphalia (1648). In the war of the FRONDE OR THE PRINCES he was persuaded by Mme de Longueville to take the part of the rebels led by Condé and was defeated (1650) by government forces at Rethel. When the princes of the Fronde had been reconciled with Mazarin, Turenne again became a government commander, and he refused to join Condé in a new revolt, but defeated (1652) him roundly at the Faubourg Saint-Antoine. One of his greatest victories was won later (1658), when in the battle of the Dunes he used a French and English force to defeat the Spanish troops under Condé and Don John of Austria. In the War of DEVOLUTION he commanded (1667) in Flanders, but had no part in the campaign (1669) of Condé (now reconciled to the government) in Franche-Conté. In the third of the DUTCH WARS he and the troops of Louis XIV were checked before Amsterdam by the opening of the dikes, but on the Rhine he won (1674) at Sinzheim, while Condé was winning at Seneffe. Turenne was killed when attacking the troops of Montecuccoli. His emphasis on mobility and surprise and his patient calculation matched by his personal courage and his popularity with his men, won him the admiration of many French generations. Serious almost to fault, he desired the religious unity of France and late in life, after much soul searching, he was converted to Catholicism. See biography by Maxime Weygand (Eng. tr., 1930)

turf: see LAWN

Turfan (tōōr'fan') Mandarin *Tu-lu-fan*, depression, area c 5,000 sq. mi., N central Sinkiang prov., China. At its lowest point it is 300 ft. below sea level. In the 1st millennium A.D., Turfan was the center of a flourishing civilization in which Indian and Persian elements were combined. There are remains of many cities. Archaeological finds include much Nestorian literature and the bulk of the extant Manichaean literature. See Albert von Le Coq, *Buried Treasures of Chinese Turkestan* (1929)

Turgenev, Ivan Sergeyevich (ēvän' sĭrgā'ŭvĭch tōōrgā'nyĭf), 1818–83, Russian novelist, dramatist, and short-story writer. He came of a landowning family of the central province of Orel and was educated in the universities of Moscow, St Petersburg, and Berlin. His early efforts at writing were published in Nekrasov's journal *Contemporary*, as were Leo Tolstoy's. As a writer he won his first success in 1847 with "Khor and Kalinich," a story of peasant life. Later, with other similar stories, it was published in *A Sportsman's Sketches* (1852, 1st Eng. tr., *Russian Life in the Interior, or, The Experiences of a Sportsman*, 1855). With this book he dealt a telling blow to serfdom, after the emancipation he was one of the first landlords to come to terms with his serfs, whom he had inherited from his mother in 1850. Turgenev's most fruitful period was the decade 1850–60, the latter half of which he spent in Western Europe. It was in this period that his best novels appeared, beginning with *Rudin* (1855, Eng. tr., *Dmitri Roudine*, 1873) and *A Nest of Gentlefolk* (1850, 1st Eng. tr., *Liza, or, A Nest of Nobles*, 1873) and followed by *On the Eve* (1860, Eng. tr., 1871). In *Fathers and Sons*

(1861; Eng. tr , 1867), his masterpiece, Turgenev created an immortal figure in Basarov, the young radical The novel was severely criticized by the progressives, and its reception served to fix Turgenev's resolve to remain outside Russia, where his best writing was done and where he could enjoy the company of the singer Pauline Viardot-Garcia, whom he loved Turgenev's last long works were *Smoke* (1867, Eng tr , 1868) and *Virgin Soil* (1876, Eng tr , 1877). He also wrote several plays, the best known of which are the Chekhovian *A Month in the Country* (1850, Eng tr , 1924) and the pleasant comedy *A Provincial Lady* (1851, Eng tr , *The Country Woman*, 1924) As a stylist he is at his best in his short stories, which are not concerned with social problems, outstanding are "First Love" (1870), "A Lear of the Steppe" (1870), "Torrents of Spring" (1871), and "Clara Milich" (1881) Turgenev saw life realistically and depicted it with precision, clarity, and grace Almost all his works are available in English See biographies by Avram Yarmolinsky (1926) and J A T. Lloyd (1942)

Turgot, Anne Robert Jacques (än' rôbĕr' zhäk' türgō'), 1727–81, French economist, controller general of finances (1774–76) He was created baron de l'Aulne The son of a rich merchant, he showed precocious ability at school and at the Sorbonne He early abandoned plans to enter the priesthood, in 1752–53 he held state offices, and from 1761 to 1774 he was intendant of LIMOGES After writing his *Lettres sur la tolérance* (1753–54), Turgot wrote on economic subjects, especially *Réflections sur la formation et la distribution des richesses* (1766) Favoring the free-trade and free-competition principles of Vincent de GOURNAY and a disciple of the PHYSIOCRATS, Turgot considered agriculture the sole source of wealth and advocated complete freedom (including freedom from taxation) for commerce and industry In Limoges, then one of the poorest provinces of France, he applied some of his theories He founded agricultural and veterinary schools, introduced the potato, developed tanneries and paper works, aided cotton and silk industries, built roads, introduced local free trade, instituted public works and public assistance, and removed some tax abuses At the end of his administration, Limoges had attained prosperity This success won him the acclaim of the *philosophes*, with whom he collaborated in the writing of the ENCYCLOPÉDIE In 1774 MAUREPAS made him controller general in his cabinet, thus hoping to propitiate the *philosophes* Turgot's program—"No bankruptcy, no increase in taxes, no borrowing, but economy"—necessitated stringent reforms He abolished sinecures and monopolies, tried to undermine the system of FARMING the taxes, drastically cut government expenses, and redeemed part of the public debt His edict (1774) restoring free circulation of grain inside France, which antagonized the grain speculators, was unfortunately followed by a crop failure In the resulting bread riots, which he firmly suppressed, Turgot lost much of his popularity He aroused the clergy by favoring toleration of the Protestants and provoked a storm of protest from nearly all quarters by his six edicts of Jan , 1776 In those revolutionary measures, Turgot abolished all guilds, established absolute freedom of work and occupation, abolished the CORVÉE, and proposed taxation of the nobles Marie Antoinette, whose enmity he had incurred when he refused favors to her protégés, allied herself with Maurepas and persuaded Louis XVI to ask Turgot's resignation (May, 1776) Refusing the offer of a pension, Turgot retired to a life of scientific, historical, and literary study He was succeeded by NECKER, and his edicts were repealed Subsequently events vindicated Turgot's conviction—expressed as early as 1750—that the only alternative to radical reform was still more radical revolution There is a five-volume edition of his works by Gustave Schelle (1913–23, in French) See Léon Say, *Turgot* (1888, Eng tr , 1888), Douglas Dakin, *Turgot and the Ancien Régime in France* (1939)

Turgutlu, Turkey see KASSABA

Turin (tōō'rĭn, tyōō'-, tyōōrĭn'), Ital *Torino* (tôrē'nō), city (pop 608,211), capital of Torino prov , chief city of Piedmont, NW Italy, on the Po near its junction with the Dora Riparia The most important Roman town of the W Po valley, Turin was a Lombard duchy, then a Frankish county, and succeeded, in spite of the claims of the house of Savoy, in remaining a free commune in the 12th and 13th cent About 1280 it passed definitively to the house of Savoy (see SAVOY, HOUSE OF) Occupied (1536–62) by the French, it was restored to the dukes of Savoy and became the capital of their duchy and, after 1720, of the kingdom of Sardinia During the War of the SPANISH SUCCESSION it suffered a long siege, which ended with the victory of Eugene of Savoy over the French (1706) In 1798 Charles Emmanuel IV of Savoy was obliged by the French to abdicate and to abandon Turin, but Victor Emmanuel I returned in 1814, and the city soon became the center of Italian national aspirations From 1861 to 1864 it was the capital of the new Italian kingdom The wide avenues and open squares of the city were carefully planned and give the impression of great regularity There are few Roman and medieval remains, most of the important buildings dating from the 17th to the 19th cent. The royal palace houses many works of art, the armor collection is one of Europe's best Turin has a Renaissance cathedral, there is preserved the shroud in which, it is said, the body of Jesus was wrapped There are other notable churches, palaces, and museums, one housing an important Egyptian collection The university was founded in 1404 On a hill overlooking the city is the basilica of Superga, containing the tombs of many dukes of Savoy Turin is the center of the Italian automobile industry (Fiat and Lancia) and manufactures airplanes and machinery It is also the headquarters of the vermouth industry Because of its industrial importance Turin suffered severe air raids in the Second World War Many churches and palaces were damaged

Turk see TURKS

Turkamanchai (tōōrkämänchī') or **Turkmanchai** (tōōrkmänchī'), village, NW Iran, in Azerbaijan, 70 mi SE of Tabriz Here, in 1828, a treaty was signed between Persia and Russia, whereby Persia was forced to cede part of Persian Armenia and grant extraterritorial rights

Turkestan see TURKISTAN

Turkey, republic (296,185 sq mi ; pop 18,790,174), Asia Minor and SE Europe Ankara is the capital Asiatic Turkey or Anatolia, which occupies 97 percent of the total area, is bounded by the Black Sea, the BOSPORUS, the Sea of MARMARA, and the DARDANELLES on the north, by the Aegean Sea (a part of the Mediterranean) on the west, by the E Mediterranean, Syria, and Iraq on the south, by Iran on the east, and by the Armenian SSR and Georgian SSR on the northeast Turkey in Europe comprises Eastern Thrace and is bounded by the Black Sea in the northeast, by Bulgaria in the north, and by Greece and the Aegean Sea in the west In the south, it is separated from Asiatic Turkey by the Bosporus, the Sea of Marmara, and the Dardanelles Almost all the islands off the deeply indented Aegean coast of Asia Minor belong to Greece Turkey is administratively divided into provinces, usually named after their chief cities Some of the older regional names have, however, persisted, thus NE Asiatic Turkey forms part of ARMENIA, and SE Asiatic Turkey part of KURDISTAN Turkey in Europe, with ISTANBUL (formerly Constantinople) and ADRIANOPLE, is a rolling agricultural land (see THRACE) Asiatic Turkey has fertile coastal strips, its center is occupied by the vast, semiarid Anatolian plateau (1,500–1,900 ft high), which is surrounded by a fringe of hills and mountains Highest are the TAURUS range and its spurs, in the south of the Anatolian peninsula, and the Transcaucasian ranges in the northeast, culminating in Mt ARARAT on the Soviet border There are several large lakes, notably Lake VAN in the east Turkey has numerous rivers, but none of them is navigable SE Turkey is drained by the upper courses of the TIGRIS and the Euphrates central Turkey by the Kizil Irmak and the Seyhan and W Turkey by the Macander (the Buyuk Menderes) The chief means of communication are roads, coastwise shipping, and a relatively sparse railroad net, which originated with the BAGHDAD RAILWAY The chief ports are Istanbul (which is also the largest city), SMYRNA, TREBIZOND, SINOPE, and MERSIN Other important cities are ANKARA, BURSA, ADANA, KONYA, KAYSERI, and ANTIOCH The climate of Turkey is generally temperate, except in the east, where it is continental Turkey is a predominantly agricultural and pastoral country More than half of its area consists of pastures, used for the raising of cattle, sheep, goats, and water buffaloes The arable land (c 20 percent) produces wheat, barley, oats, rye, maize, tobacco, cotton, flax, hemp, and opium poppies (notably around Afyonkarahisar) Grapes, olives, raisins, figs, apples, hazelnuts, and walnuts are extensively cultivated Only 14 percent of the land is forested Except for the manufactures of tobacco, carpets, mohair, pottery, and articles of copper and brass, Turkish industries are of recent origin and are still in the initial stage of development The most important industry is mining, chiefly of coal (near Zohguldak), lignite and chrome (in the southwest), and copper (in the east) Turkey is one of the world's chief exporters of chrome and of meerschaum (worked in the Eskisehir region) Large iron and steel plants have been established at Karabuk, but Turkey still depends largely on imports of machinery and manufactured goods. Owing to the large-scale massacres and emigration of the Armenians in the late 19th and early 20th cent., and owing to the forced emigration of the Greeks and Bulgarians after 1923, 86 percent of the population is now Turkish-speaking. There is complete separation of Church and state, the vast majority of Turks are nominally Sunnite Moslems. The Kurds are the largest ethnic minority, the Jews and Greek Orthodox and Armenian Christians are the chief religious minorities. The Turks themselves, although they regard the Osmanlis or Ottomans as their ancestors, are a highly composite ethnic mixture, with only a thin strain of Osmanli "blood." Turkey has compulsory primary schooling; there are numerous technical and professional schools, and there are universities at Istanbul and Ankara Though Anatolia is one of the oldest inhabited regions in the world, the history of Turkey as a national state began only with the collapse of the Ottoman Empire in 1918 For the earlier history of the region now constituting Turkey, see (for the ancient period) ASIA MINOR; IONIA, PONTUS, THRACE, BYZANTIUM, (for the medieval period) BYZANTINE EMPIRE; ARMENIA, TURKS, KONYA, KARAMAN, NICAEA, EMPIRE OF, TREBIZOND, EMPIRE OF, (for the modern period before 1918) OTTOMAN EMPIRE and EASTERN QUESTION The Ottoman Empire, which had been agonizing since 1774, was dealt its death blow in the First World War By the Treaty of Sèvres (1920, see SÈVRES, TREATY OF) the victorious Allies reduced the once mighty empire, one of the great universal states of modern times, to a small state comprising the northern half of the Anatolian peninsula and a narrow neutralized and Allied-occupied zone of the Straits Sultan MOHAMMED VI accepted the treaty, but the nationalist elements among the Turks rallied under the leadership of Kemal Pasha, later known as Kemal ATATÜRK, and organized their forces for resistance In April, 1920, even before the signature of the Treaty of Sèvres, a Turkish national government and national assembly began to function at Ankara The nationalists defied the authority of the sultan, took the offensive against the Allies in Anatolia, and concluded (1921) a treaty of friendship with Soviet Russia, which restored the KARS and Ardahan regions to Turkey in exchange for Batum In the meantime the Greeks, encouraged by the Allies, had launched an offensive against the nationalists from their base at SMYRNA The Turkish counteroffensive, beginning in Aug 1922, ended with the complete rout of the Greeks and with the Turkish capture of Smyrna (Sept , 1922) On Nov 1, 1922, the Ankara government declared the sultan deposed, but they allowed his brother, Abdul-l-Mejid, to succeed in the spiritual office of caliph Shortly afterward, a conference opened at Lausanne (see LAUSANNE, CONFERENCE OF) to revise the Treaty of Sèvres The Treaty of Lausanne (1923) established the present boundaries of Turkey, except for the disputed region of Alexandretta (see ALEXANDRETTA, SANJAK OF), which was acquired by Turkey only in 1939 Turkey was to exercise full sovereign rights over its entire territory, except the zone of the Straits (see DARDANELLES), which was to remain demilitarized, this last restriction was lifted in 1936 Turkey was formally proclaimed a republic in Oct , 1923, with Kemal Ataturk its president The caliphate was abolished in 1924, and in the same year a constitution was promulgated The constitution provided for a parliament, called the Grand National Assembly, elected by universal manhood suffrage (extended to women in 1934), and for a cabinet responsible to parliament, but Kemal governed as virtual dictator, and his Republican People's party was the only legal party Within the 14 years of Kemal's rule, Turkey underwent an unparalleled revolutionary transformation Kemal's Westernization of Turkey was more successful than that of Russia under Peter the Great, and it went further than the Meiji reform in Japan, for it changed the religious, social, and cultural bases of Turkish society as well as its political and economic structure. In 1925, after the suppression of a religious rebellion in Kurdistan, the government intensified its antireligious policy, abolished religious orders, forbade polygamy, and prohibited the wearing of the traditional fez In 1926 the Swiss code of civil law, the Italian code of criminal law, and the German code of commercial law were adopted virtually unchanged, and civil marriage was made compulsory In 1928, Islam ceased to be the state religion, and the Latin alphabet was substituted for the Arabic script, all Turks under 40 were compelled to attend schools to learn it In 1930, Constantinople, which had ceased to be the capital, was even deprived of its historic name and renamed Istanbul, a dervish rebellion was put down and further antireligious measures were taken In 1934 women, who under the old Ottoman regime had been little more than chattels, were given the suffrage and were fully emancipated, and in 1935 every Turkish citizen had to adopt a family name. At the death (1938) of Ataturk, Turkey had ceased to be an Oriental state and was well on its way to becoming a state on the standard Western model In the economic field, Turkish policy under Kemal aimed at obtaining economic self-sufficiency without the aid of foreign capital Foreign capital had virtually taken over the finances of the Ottoman Empire, and one of the major problems of the Turkish republic was to pay off the old Ottoman debt; the refusal of foreign loans thus was a basic point in Kemal's nationalist program. The difficulties of building up heavy industries from the bottom without foreign investments and in the absence of domestic capital made a large amount of government control inevitable, and state ownership became the rule for the new industries. In 1934 a Five-

Year Plan was adopted Two major economic problems arose from the compulsory population exchanges among Turkey, Greece, and Bulgaria after 1923 Large numbers of Turks, mostly peasants, from Greece and Bulgaria had to be fitted into the Turkish economy, while Turkish commerce was dealt a severe blow by the departure of the experienced Greek merchants In foreign policy, Turkey sought friendly relations with all its neighbors. It entered the League of Nations in 1932, guaranteed its European borders by joining (1934) in the BALKAN ENTENTE, and concluded (1936) a nonaggression pact with Iraq, Iran, and Afghanistan Although Communism was severely suppressed at home, relations with the USSR were extremely cordial until the Second World War Having gained new international prestige, Turkey was able to obtain a revision of the Straits Convention by the MONTREUX CONVENTION of 1936 and obtained a satisfactory solution of the Alexandretta dispute in 1939 Ismet INONU, who succeeded Ataturk as president in 1938, warily steered a neutral course through the first five years of the Second World War, although Turkey received lend-lease aid from the United States after 1941 The inflation caused by the Turkish mobilization program was checked by the imposition of a capital levy, which hit the Christian and Jewish minorities particularly hard Despite considerable Allied pressure, Turkey declared war on Germany and Japan only in Jan , 1945, and joined the United Nations in Feb , 1945 Relations with Russia became acrimonious after the USSR denounced (1945) its friendship pact with Turkey and demanded a thorough revision of the Montreux Convention and joint control of the Straits Turkey rejected all Russian demands, and in 1947 it became, with Greece, one of the two recipients of American assistance under the Truman Doctrine (see TRUMAN, HARRY S) American influence may have been partly responsible for the relaxation of the Turkish system of state capitalism in favor of free enterprise as well as for the lifting of the ban on opposition parties The sincerity of the government's move toward political democracy was demonstrated in the elections of 1950, when the government party was defeated and Celal Bayar, leader of the Democratic party, succeeded Inonu as president Religious instruction in schools, which had been prohibited was authorized in 1948 See H E Allen, *The Turkish Transformation* (1935), Bernard Lewis, *Turkey Today* (1940), Emil Lengyel, *Turkey* (1941), Selma Ekrem, *Turkey, Old and New* (1947), M W Thornburg and others, *Turkey an Economic Appraisal* (1949)

turkey, large game and POULTRY bird, allied to the pheasant and native to North America In the early days the abundant wild turkey provided food for the colonists Indian tribes obtained food and feathers from wild and domestic flocks Spanish explorers in Central America and in Mexico during the early 16th cent found that turkeys had long been domesticated there Later the birds were successfully introduced into Europe The eastern wild turkey is exterminated in Canada and the NE United States but is found S of Pennsylvania and westward to beyond the Mississippi Similar birds are found in Florida, in the SW United States, and in Mexico The colorful ocellated turkey is found in Central America Turkeys are polygamous During courtship when the male eats little, a fatty breast appendage provides some nourishment Both wild and domesticated turkeys are chiefly greenish bronze and copper in color with black margins on the feathers Turkeys are raised especially for Thanksgiving Day, of which they are a traditional symbol, and for Christmas During recent years the aim of experimental breeding has been to produce smaller, broad-breasted varieties The Beltsville small white turkey introduced in 1941 averages 15 lb for a dressed male and 8 lb for the hen See *Turkey Raising* (U. S Dept of Agriculture, Farmers' Bul 1409).

turkey buzzard. see VULTURE

Türkheim, France] see TURCKHEIM

Turki (tōōr'kē) or **Turkic,** family of languages, to which Turkish belongs See LANGUAGE (table)

Turkish, name given to several languages of the Turkic family See LANGUAGE (table)

Turkistan or **Turkestan** (both türkistän', -stän'), region, USSR, comprising the TURKMEN SSR, the UZBEK SSR, the TADHZIK SSR, the KIRGHIZ SSR, and the S KAZAKH SSR This region is sometimes called Western Turkistan or Russian Turkistan in distinction to Eastern Turkistan or Chinese Turkistan, now in SINKIANG prov , China Much of the western part of the Russian territory is comprised in two deserts, the KARA KUM and the Kizil Kum The east, rough and hilly, rises to include the mountains of part of the Pamir highland and of the Tien Shan system Athwart the eastern section extends the FERGANA VALLEY, one of the most fertile regions of the continent Turkistan is Persian for "land of the Turks," but although nearly all the population speaks Turkic languages, the region is not the oldest known home of the Turks, nor are the majority of Turkish peoples dwellers here Turkistan may be regarded as a single region, however, because a combination of geographical and historical factors made it the bridge connecting the Eastern and the Western worlds and the route taken by many of the great conquerors and migrating peoples The Caspian Sea, the western boundary of Turkistan, presents an obstacle to invasion from the Caucasus region By skirting the southern shores of the Caspian, however, forces from Asia Minor, Arabia, S Europe (e g , the Balkan Peninsula), and Africa have an easier route Invaders from the East (especially from Mongolia) had to cross Turkistan if they were to pass between the marshes of central Siberia on the north and the great mountain barriers of the Tien Shan, the Pamirs, and the Hindu Kush on the south Except in the case of the White Huns, such invaders avoided the only other route into Europe, that going N of the Caspian Sea, perhaps because pasturage for their large cavalry forces was lacking there Moreover, Turkistan, as the focus of trade between Europe and Asia, had great wealth and large cities—BUKHARA, SAMARKAND, and MERV are notable—which could be plundered Perhaps the earliest empire to bring Turkistan under one sway was that of the Persians, who, by 500 B C , had cleared the Lydian empire from the region around the Caspian Sea Persia was destroyed by the march of Alexander the Great through S Turkistan After Alexander's death Turkistan fell to the portion of Seleucus, but by the mid-2d cent B C it was divided between Parthia on the west and Bactria on the east Parthia continued to grow eastward at the expense of Bactria In c 130 B C , Bactria was bordered on the east by China, which controlled much of the area extending from Lake Balkash S to the Hindu Kush In the late 1st cent A D the Kushan domain had taken Bactria's holdings and the Huns were disputing the region near Lake Balkhash with China With the fall of the Han dynasty (220), China lost control of E Turkistan, and when China was reestablished there in the mid-7th cent it came into contact with Persia, which, under the Sassanids, occupied nearly all the rest of Turkistan except the central zone The Persian holdings were swept away by the Arab invasion in the 8th cent , and first the Omayyad caliphate and then the Abbasid caliphate held in their grasp all of Turkistan Zoroastrianism, the religion of the country, was suppressed, and Islam, which today remains its great faith, was imposed upon the populace At the time (mid-9th cent) that the Abbasid caliphate weakened, China also lost its holdings in the east, and many states, notably KHORIZM, occupied parts of Turkistan All Turkistan fell to the Mongols in the late 13th cent , and the territory was mostly bestowed upon the khan Jagatai Tamerlane conquered Turkistan in the late 14th cent , and after his death (1405) his successors, the Timurids, controlled much of the territory for about a century The later internal history of Turkistan is mainly one of prolonged struggle involving the khanates of KHIVA, BUKHARA, and KOKAND and the nomadic peoples of the region, most notably Kirghiz, Kazakh, and Turkmen In the international sphere the region saw a struggle for dominance between Russia and China In the late 17th and the early 18th cent the vigorous young Ch'ing dynasty of China controlled E Turkistan, but gradually it lost more and more territory to Russia until by 1858 Russia had nearly all its present holdings (the final territorial limits were set in 1912) Russian subjugation of the khanates was completed by 1868 when peace was concluded with Bukhara In the previous year the governor generalship of Turkistan had been established with its capital at Tashkent This administrative arrangement persisted until the Russian Revolution of 1917

Turkistan-Siberia Railroad, abbreviated as **Turk-Sib,** important railroad in the SW Asiatic USSR, providing the shortest link between Siberia and central Asia Built from 1926 to 1930, it runs from the Trans-Siberian RR at Novosibirsk SW to the Trans-Caspian RR, which it joins N of Tashkent Its principal stations are Semipalatinsk, Barnaul, Alma-Ata, Dzhambul, and Chimkent The railroad is of vital economic importance, for it carries Siberian grain to central Asia and central Asiatic cotton to the mills of W Siberia

Turkmanchai, see TURKAMANCHAI

Turkmen Soviet Socialist Republic or **Turkmenistan** (türk"mĕnĭstän', -stän', Rus tōōrkmyĕ"nyĭstän'), constituent republic (187,200 sq mi , 1946 estimated pop 1,200,000), central Asiatic USSR It borders on Afghanistan and Iran in the south, on the Uzbek SSR and the Kazakh SSR in the east and the northeast, and on the Caspian Sea in the west ASHKABAD, its capital, and CHARDZHOU, Mary (see MERV), and KRASNOVODSK are the chief cities, they all lie on the Trans-Caspian RR The desert lands of KARA KUM occupy 90 percent of the total area, and the population is concentrated in oases at the foot of the Kopet Dagh mts , in the south, and along the AMU DARYA, MURGAB, and Tedzhen rivers The Turkmen inhabitants (also called Turcomans or Turkomans), who form 72 percent of the total, are a Turkic-speaking Moslem (Sunnite) people, the remaining inhabitants are mostly Uzbeks and Russians In the desert karakul sheep and camels are raised The irrigated oases yield cotton, guavule, sesame, millet, sweet potatoes, dates, palms, figs, and sugar cane Silk, wine, and fruit are produced in the Chardzhou region. There are important fisheries along the Caspian Sea Mineral resources, which furnish the basis for the industries, include petroleum, ozocerite, iodine, bromine, Glauber's salt, sulphur, lignite, and potash The inhabited part of Turkmenistan formed part of the province of Margiana (see MERV) of ancient Persia It was under Arab rule in the 8th and 9th cent , then passed to the Seljuk Turks, who ruled the powerful kingdom of KHOREZM, from them the Turkmen are probably descended Jenghiz Khan conquered the region in the 13th cent , and Tamerlane in the 14th cent After the breakup (late 15th cent) of the Timurid empire, the Turkmen came under Uzbek domination, and c 1800 became subject to the khan of Khiva (see KHIVA, KHANATE OF) The Turkmen also played an important part in the history of Iran and Afghanistan, where large numbers of them live today Until the Russian conquest (1869–95) of Turkmenistan they were feared as brigands. The most spectacular exploit in the Russian conquest was the capture of GEOK-TEPE Incorporated at first into the Transcaspian Region of Russian Turkistan, Turkmenistan became (1924) a constituent republic

Turkoman see TURKMEN SOVIET SOCIALIST REPUBLIC

Turks, term applied in its wider meaning to the Turkic-speaking peoples of Turkey, the USSR, Chinese Turkistan, and E Iran (see LANGUAGE, table) They total c 25,000,000, and they are distributed from E Siberia to the Dardanelles The wide difference of physical appearance and culture among the Uigurs of China, the Uzbeks of central Asia, and the Osmanlis of Turkey (to name random instances) make it impossible to speak of Turks as an ethnic or racial family The only unifying links are Islam, the religion of nearly all Turks, and their very closely related languages In the USSR, all the nationalities classified as Tatars are Turkic-speaking It is probable that many peoples that were unrelated to the original Turks adopted either wholly or in part their speech and their social organization The AVARS were probably Turkic, and the MAGYARS certainly had adopted the Turkic tribal organization when they appeared in Europe, and many Hungarian words are of Turkic origin The original Turks most probably lived in the regions N and W of China, i e , in S Siberia and in TURKISTAN Here the oldest Turkic inscriptions (see ORKHON INSCRIPTIONS) have been found A nomadic and pastoral people, the Turks, for reasons not fully known, repeatedly made excursions into territories to the south and west, and they established several powerful empires The Uigur empire of central Asia, with its capital at Karakorum flourished in the 8th and 9th cent A D The KHAZARS, CUMANS, and PECHENEGS played important roles in the medieval history of S Russia and SE Europe In the history of Europe and W Asia two Turkish groups played dominant parts—the Seljuks and the Osmanli or Ottoman Turks The Seljuks appeared in Iran in the 10th cent , embraced Islam, made themselves masters (11th cent) of Khorezm and Iran, and entered Baghdad in 1055 under their leader ALP ARSLAN they conquered Georgia, Armenia, and much of Asia Minor, overran Syria, and defeated (1071) the Byzantine emperor Romanus IV at MANZIKERT Their irruption was a major factor in bringing about the CRUSADES, during which a three-cornered struggle among Christians, Seljuks, and Egyptian Mamelukes developed Alp Arslan's son, Malik Shah, ably administered his huge empire, he was a protector of OMAR KHAYYAM, who reformed the calendar on his behest The Seljuk empire fell apart in the 12th cent Among the successor states were the Zangid sultanate of Baghdad, whose ruler NUR UDDIN was famous for his victories over the CRUSADERS, the empire of KHOREZM, which at one time nearly attained the limits of the earlier Seljuk empire, and the sultanate of Rum or Iconium (see KONIA), which comprised a large part of Asia Minor All the Seljuk states were overrun in the 13th cent by Genghiz Khan and his successors, whose hordes comprised both Mongols and Turks and became generally known as TATARS The Turco-Tatars now living in the USSR are largely descended from the GOLDEN HORDE of Batu Khan, as are the UZBEKS (see UZBEK SOVIET SOCIALIST REPUBLIC), who ruled a vast empire in the 16th cent In Asia Minor, the sultanate of Konya was taken over, after the Mongol wave had receded, by the emirate of Karamania (see KARAMAN), but it was left for the Osmanli Turks to complete the overthrow of the Byzantine Empire A minor tribe and the last of the Turkish invading peoples, the Osmanli latecomers had been assigned (13th cent) to the border area of the Byzantine Empire by their Seljuk overlords It was largely their undesirable position as guards of a constantly con-

tested frontier that made them keep alive and improve their highly disciplined organisation, which in turn enabled them in the 14th cent to make themselves masters of the ruins of the Seljuk empire in Anatolia. Their first historic ruler, OSMAN I, gave his name both to the nation and to the dynasty that ruled an empire extending, at one period, from the gates of Vienna to the Indian Ocean and from Tunis to the Caucasus (see OTTOMAN EMPIRE). The people of modern Turkey, which was founded after the collapse of the Ottoman Empire in 1918, are called Osmanli Turks. The original Osmanlis had merged at an early stage with the Seljuks, and their descendants mixed extensively with Moslem converts from the many dozens of nationalities that made up their empire.

Turks and Caicos Islands (kī'kŏs), islands (c 224 sq mi, estimated pop 8,920), British West Indies. Geographically the southeastern continuation of the Bahama Islands, the Turks and Caicos are a dependency of Jamaica. They are of low limestone and coral formation and produce salt, sponges, and fibers.

Turk-Sib: see TURKISTAN-SIBERIA RAILROAD.

Turku (tōōr'kōō), Swed *Abo* (ō'bōō), city (pop 75,419), SW Finland, a Baltic seaport at the mouth of the Aura river. Shipyards, sawmills, textile mills, and an excellent harbor kept open during winter make Turku important commercially, it is the second largest and the oldest city of Finland. Growing up around a 13th-century castle, Turku was the capital of Finland until 1812, and sections of it retain a medieval atmosphere. Turku is known as the "cradle of Finnish culture," and it was the seat of the national university from 1640 to 1827, when a fire destroyed almost the entire city, and the university was moved to Helsinki (1828). Turku has a Swedish university (founded 1918), a Finnish university (founded 1922), and a 13th-century cathedral. By the Treaty of Abo (1743) Sweden ceded a section of SE Finland to Russia. Considerable property destruction was caused by Russian bombings of Turku during the Finnish-Russian War (1939–1940) and during the Second World War. Near by is Naantali, one of the oldest towns in Finland, founded in 1445 around a monastery and now a popular bathing resort.

Turlock (tûr'lŏk), city (pop 4,839), central Calif., SE of Stockton, inc 1908. It is the center of the Turlock irrigation district, which uses the waters of the Tuolumne river for a rich and diversified farm area.

turmeric (tûr'murĭk), perennial herb (*Curcuma longa*), related to ginger and cultivated in the tropics for its rootstalk. It has large leaves and a spike of yellow flowers. The yellow rootstalks make a deep yellow, resinous powder of a peculiar gingerlike odor and aromatic taste. In India it is an ingredient of curries and is used medicinally. It is also used as a coloring matter or dye, as an indicator (it changes color in acid and alkali), and in pickles.

Turner, Charles, 1774–1857, English mezzotint and stipple engraver. He was noted for his engravings of the work of the English portraitists—including Reynolds, Raeburn, and Lawrence—and of the landscapes of J. M. W. Turner, many of whose *Liber studiorum* series he engraved. Charles Turner was made engraver to George III.

Turner, Charles Yardley, 1850–1918, American historical and mural painter, b. Baltimore, studied at the National Academy of Design and at the Art Students League and in Paris. He became an instructor (1881) at the Art Students League, which he had helped organize, and a member (1886) of the National Academy. His mural works for New York city include the panels *Equity* and *Law* (Appellate Courthouse) and *Marriage of the Waters* and *Opening of the Erie Canal* (Haaren Cooperative High School), for Jersey City, N.J. *Washington Watching the Assault on Fort Lee* and *Fulton's Clermont Making Its First Trip up the Hudson* (Hudson co. courthouse), and for Baltimore, *The Burning of the Peggy Stuart* and *The Barter with the Indians* (courthouse). Among his genre paintings is the *Bridal Procession* (Metropolitan Mus.). Turner was appointed director of the Maryland Institute, Baltimore, in 1912.

Turner, Frederick Jackson, 1861–1932, American historian, b. Portage, Wis., grad. Univ. of Wisconsin (B.A., 1884, M.A., 1888), Ph.D. Johns Hopkins, 1890. He taught at the Univ. of Wisconsin from 1885 to 1910, except for the year 1888–89, spent in graduate study at Johns Hopkins. Univ. From 1910 to 1924 he taught at Harvard, and later he was research associate at the Henry E. Huntington Library. He at first taught rhetoric and oratory, then shifted to U.S. history, and soon centered on Western history. His doctoral dissertation, *The Character and Influence of the Indian Trade in Wisconsin* (1891, an enlargement of his master's essay), showed the trend of his interest. In 1893 at the meeting of the American Historical Association in Chicago he delivered an address, "The Significance of the Frontier in American History." This outlined brilliantly the history of the receding frontier and its effect in creating American democracy, it was to prove epoch-making in American history writing. Although not much noticed at the moment, it was to supply a large part of a generation of historians with a theme to investigate. Turner's ideas are now incorporated in all the American history texts. The address and various short papers were reprinted in *The Frontier in American History* (1920). He collaborated with Edward Channing and Albert B. Hart in the revision of *Guide to the Study and Reading of American History* (1912). Though he produced few books—*The Rise of the New West* ("American Nation" series, 1906) and two studies in sectionalism, *The Significance of Sections in American History* (1932) and the posthumously published *The United States, 1830–1850 the Nation and Its Sections* (1935)—his influence as a teacher and an opener of a new and important path made him one of the most renowned of all American historians. See *The Early Writings of Frederick Jackson Turner* (with a bibliography by Everett E. Edwards and an introduction by Fulmer Mood, 1938).

Turner, Joseph Mallord William, 1775–1851, English landscape painter, son of a London barber. He received almost no general education but at 14 was already a student at the Royal Academy of Arts and three years later was making topographical drawings for magazines. In 1793 for the first time he exhibited an oil painting at the Royal Academy. In the following 10 years he exhibited regularly, was elected a member (1803), and was made professor of perspective (1808). By 1799 the sale of his work had freed him from the drudgery of topographical drawing, and he devoted himself to the poetic and visionary interpretations of landscape for which he became famous. In 1802 he made a trip to the Continent, where he painted his famous *Calais Pier*. From then on he traveled constantly in England or abroad, making innumerable direct drawings and sketches from which he drew material for his studio paintings in oil and water color. Despite his early and continued success Turner lived the life of a recluse. As his fame grew he maintained a large studio in London for exhibition of his work, but continued to live an obscure existence with his old father. Toward the end of his life his painting became increasingly abstract in an endeavor to depict not so much the surface aspect of landscape as light and space and the elements. He then encountered violent criticism but was passionately defended by the youthful Ruskin. His will, which was under litigation for many years, left over 19,000 water colors, drawings, and oils to the nation. Most of these works are in the National Gallery and the Tate Gallery, London. Turner's early work rivals that of the great classical landscape painters. He knew this and produced the *Liber Studiorum* (1806–19) in emulation of Claude Lorrain's *Liber Veritatis*. These drawings were reproduced by leading engravers under Turner's supervision. To this period belong his *Dido Building Carthage* and *Sun Rising in Mist* (National Gall., London). In his second period (1820–35), however, his work became more individual. *Bay of Baiae* and *Ulysses Deriding Polyphemus* (both National Gall., London) and *Staffa, Fingal's Cave* (N.Y. Public Library) belong to this period, as do many of his finest water colors. In his last period his color became stronger and his style extremely free and personal. Most of the Venetian paintings, e.g., *The Slave Ship* (Mus. of Fine Arts, Boston), *The Fighting Téméraire* and *Snow Storm* (both National Gall., London), *The Whale Ship* (Metropolitan Mus.), and *Approach to Venice* (National Gall. of Art, Washington, D.C.), belong to this period. Many of Turner's oils have faded badly, but they are still treasured as masterpieces of British painting. In water color he is unsurpassed. See studies by W. L. Wyllie (1905) and W. G. Rawlinson (1908), biography by P. G. Hamerton (1882), John Ruskin, *Modern Painters*.

Turner, Nat, 1800–1831, American Negro, leader of the Southampton Insurrection (Aug., 1831), b. Southampton co., Va. Believing himself divinely appointed to lead his fellow slaves to freedom, he incited several other Negroes to revolt. Before the small band of blacks (about 60 eventually) were captured, 55 whites were killed. Turner escaped to the woods and was not taken for six weeks. He and 16 others were hanged. The uprising led to more stringent slave laws in the South and to the demise of manumission societies there. See W. S. Drewry, *The Southampton Insurrection* (1900).

Turner, town (pop 1,415), SW Maine, just N of Auburn, settled c 1773, inc. 1786.

Turners Falls, Mass.: see MONTAGUE.

Turner Valley, village (pop 1,157), SW Alta., at the foot of the Rocky Mts., on the Sheep river and SSW of Calgary. It is the center of a major oil and natural-gas producing area, opened in 1914, it has oil refineries and gas pipe lines to Calgary and Lethbridge.

Turnhout (tûrn'hout), town (pop. 31,806), Antwerp prov., N Belgium, at the junction of two canals and near the Dutch border. It is a market center. The former castle of the dukes of Brabant now is the palace of justice.

turnip, garden vegetable of the same genus as the cabbage, a native of Europe, where it has been long cultivated. The two principal kinds are the white (*Brassica rapa*) and the yellow (*Brassica napobrassica*), which is known as the rutabaga (rōō'tŭbā'gŭ) or Swedish turnip (or swede). The turnip is one of the ROOT CROPS used as a stock feed as well as for human food. The green leaves are often cooked like spinach. The turnip is a biennial cool-weather crop, grown mostly in cool climates. The worst turnip pests are the root maggot and the flea beetle, it is also attacked by clubroot.

Turnor, Philip, 1752?–1800?, British surveyor for the Hudson's Bay Company. He was sent (1778) to Canada by the company to help map out part of their vast and largely unknown territory of Rupert's Land. He traveled up many of the rivers emptying into Hudson Bay and made maps showing routes to various fur-trading posts. From 1790 to 1792 he was engaged in the project of surveying and mapping Lake Athabaska, his journal, edited by J. B. Tyrrell in 1934, describes this undertaking. David Thompson received surveying instruction from Turnor, who returned to England in 1792 and completed there his fine maps of Rupert's Land.

turnpike, road paid for partly or wholly by fees collected at tollgates. The hinged bar that prevented passage through such a gate until toll was paid was the original turnpike from which the road derived its name. In England tollgates were first authorized by law in 1346. American colonists from Scotland and Ireland, as well as from England, knew the turnpike system. It was not introduced in America, however, until after the American Revolution. The business interests of growing cities then required through roads, and these could not be built and maintained by local funds in unsettled and sparsely settled regions. The tollgate, like the later gasoline tax, was a device to make the traffic pay for the road. The first American turnpike road was a state enterprise, authorized by a Virginia act of 1785. The first American authorization of a turnpike to be made and operated by a private corporation was in Pennsylvania (the Lancaster Turnpike) in 1792. Thereafter turnpikes were regularly private enterprises, and turnpike corporations held the leadership in the development of the American corporation system. The making of turnpikes proceeded rapidly, and by 1825 a map of the Eastern states showing the turnpikes would have looked much like a present-day map showing the railroads. Famous turnpikes included the post road from New York to Boston, the two roads from New York to Albany (on the two sides of the Hudson river), and the roads from Albany to Buffalo, main lines of communication with the developing West. The labor of making the road began with felling trees and grubbing stumps. Swamps were crossed by corduroy, made of many layers of logs across the road. The surface of the turnpike was sometimes of earth, but often of broken stone or of planks. The total costs were sometimes as much as $10,000 a mile and were often from $5,000 to $7,000. The great period of American turnpikes was from c 1800 to c 1840, and this was also the great period of the passenger STAGECOACH and the Conestoga wagon. The coach had places for 8 to 14 passengers and was drawn by four or six horses, the wagon, for freight, was drawn by six or eight horses. The traffic over the turnpikes included droves of horses, cattle, and sheep. Settlers going west often made turnpikes the first part of their route. Tollgates were 6 to 10 mi apart, and tolls were commonly from 10 to 25 cents for a vehicle, depending on its type. Turnpikes that were not profitable were abandoned to the states. After the coming of canals and railroads, such abandonment became general.

Turnus (tûr'nus), in Roman legend, and notably in the *Aeneid*, Italian chief, king of the Rutulians. He fought AENEAS for the hand of Lavinia, daughter of Latinus, and was killed. Lavinia had been promised to Turnus, but was given to Aeneas.

Turnu-Severin (tōōr'nōō-sĕvĕrēn'), city (pop 31,296), SW Rumania, in Walachia, on the left bank of the Danube below the Iron Gate and opposite Yugoslavia. It is a river port with large shipyards and it is an agricultural trade center. The surrounding area is known for its extensive rose gardens and for its white wine. Near by are the ruins of a bridge across the Danube, erected (A.D. 103) by Emperor Trajan.

Turnverein (tōōrn'fərīn), society of a type originated in Prussia by Friedrich Ludwig JAHN. The first hall of such a society was built in 1811 on the Hasenheide, near Berlin. The organization emphasized gymnastic exercises, but it had also important social and patriotic functions. In the beginning it was an effective instrument in organizing opposition to French domination of Germany, and it had official approval and support. Similar societies were at once organized throughout Germany. After the fall of Napoleon, German governments disapproved the *Turnvereins* as centers from which liberal ideas might be disseminated. The *Turnvereins* were supported loyally by their members, and new groups were organized in other countries, as in America, by members who migrated to those countries. The example of the *Turnvereins* has encouraged organizations under other names to

combine gymnastic exercises with discussion and social pleasures

turpentine (tûr'puntĭn), in nature, a resinous semi-fluid substance, pale yellow to brown, exuded from the sapwood of various conifers (e g , the pine and fir) Chemically, this substance is principally a mixture of an oil (oil of turpentine) and a resin (see ROSIN) When subjected to steam distillation, the essential oil, a hydrocarbon, passes off and the resin is left The oil of turpentine is the common turpentine or turps of commerce When pure, this substance is a colorless, transparent, oily liquid with a penetrating odor and characteristic taste, but its physical properties are modified by its source In the United States it is obtained chiefly from several species of pines of the southeastern states, not only from the sap of tapped trees but also from the stumps and fallen branches (the product then being known usually as wood turpentine) Norway and France also produce turpentine It is widely used chiefly as a solvent and drying agent in paints and varnishes The purest grades are used in medicines See also CANADA BALSAM

turpentine tree see TEREBINTH.

Turpin, Richard (Dick Turpin), 1706–39, English robber He scarcely deserves, from his short and brutal career of horse stealing and general crime, the notoriety he later achieved—mainly from Harrison Ainsworth's romance, *Rookwood* (1834), based upon his life His famous ride from London to York on his mare, Black Bess, is fiction, and his actual exploits were not of a romantic character

Turquino (tôôrkē'nō), peak, 6,560 ft high, SE Cuba, in the Sierra Maestra range It is the highest point on the island It is also called Pico Turquino

turquoise (tûr'kwoiz, -koiz), a hydrous phosphate of aluminum and copper, used as a gem It occurs rarely in crystal form, but is usually amorphous or cryptocrystalline Turquoise is opaque and has a waxy luster, the color varies from greenish gray to sky blue The sky-blue varieties are the most valued as gems, but because of their porosity they easily absorb dirt and grease and change in color to an unattractive green Exposure to heat or sunlight is also injurious to the color of the turquoise The finest specimens come from PERSIA, other sources are the Sinai peninsula and the SW United States, especially New MEXICO, Nevada, ARIZONA, and Colorado Turquoise matrix is a rock including fragments of turquoise, cut as a gem stone Variscite, the hydrated phosphate of aluminum, is sometimes used as a substitute for turquoise It occurs in crystals of the orthorhombic system and in massive form, large deposits are found in Utah.

Turrialba (tôôrēül'bä), inactive volcano, 11,224 ft high, E central Costa Rica Probably extinct, it is, unlike neighboring IRAZÚ, difficult to ascend The small town of Turrialba on its lower slopes is the seat of the Inter American Institute of Agricultural Sciences for experiments in tropical agriculture

Turtkul (tôôrtkōōl'), city (pop 19,600), S Karakalpak ASSR, Uzbek SSR, on the Amu Darya river It has cotton gins and food-processing plants It was until 1939 the capital of the Karakalpak ASSR

turtle, reptile of the order Chelonia (or Testudinata) In the United States the name turtle is commonly used for any chelonian. TORTOISE is often reserved for the land forms and TERRAPIN for the edible fresh-water species Turtles have strong, sharp, toothless jaws, and the body is encased in an armorlike shell which usually consists of bony plates fused with the ribs and vertebrae and overlaid with horny shields The carapace or upper portion and the plastron or lower part are joined at the sides In most sea turtles the shell is reduced The terrestrial species have stumplike feet, the fresh-water turtles have webbed toes, and the marine species have paddlelike limbs with no distinct toes All turtles lay eggs Marine species return to the shore at egg-laying time Among the common small turtles of the United States are the painted, spotted, and musk turtles The young turtles sold for pets are usually map and Troost's turtles They should be fed bits of raw chopped beef, fish, or worms Painting the shells is harmful Several species of the box turtle or box tortoise are found in North America and in MEXICO They can withdraw into the shell and close the openings The common snapping turtle lives in fresh water or salt marshes from SE Canada to N South America On land it is aggressive and vicious The alligator snapping turtle of the Mississippi valley and the SE United States is the largest fresh-water turtle in the country The largest of all living species is the marine leatherback turtle The average adult weighs over 1,000 lb TORTOISE SHELL is secured from the horny covering of the shell of the marine hawksbill turtle The marine green turtle is the source of turtle soup and of much canned turtle meat See C. H Pope, *Turtles of the United States and Canada* (1939), P. A. Morris, *They Hop and Crawl* (1944)

Turtle Creek, industrial borough (pop 9,805), SW Pa , near the Monongahela ESE of Pittsburgh; settled c 1765, inc. 1892 It has coal mines and factories producing electrical equipment. There was a trading post near here, c.1750, and the region has considerable historic interest.

turtledove, name of several species of wild DOVE native to Europe and Asia, with plaintive song and affectionate ways It is referred to in the Bible—"the voice of the turtle is heard in our land" (Cant 2 12) In America the name is sometimes applied to the mourning dove

Tuscaloosa (tŭskŭlōō'sŭ), city (pop 27,493), co seat of Tuscaloosa co , W central Ala , on the Black Warrior river and SW of Birmingham, settled on the site of an Indian village after the Creek revolt of 1813 It was state capital from 1826 to 1846 It is a farm trade center, industries center around iron, coal, railroads, brick, farm produce, and lumber The Univ of Alabama (see ALABAMA, UNIVERSITY OF) and a state hospital for the insane are near by, a Negro junior college is in the city There are a number of fine ante-bellum houses

Tuscan order see DORIC ORDER

Tuscany (tŭs'kŭnĭ), Ital *Toscana* (tôskä'nä), region (8,876 sq mi ; pop 2,978,013), central Italy, extending along the Tyrrhenian Sea It includes several islands, of which Elba is the largest, and it comprises the provinces of Arezzo, Firenze (Florence), Grosseto, Livorno (Leghorn), Lucca, Massa e Carrara, Pisa, Pistoia, and Siena, all named after their chief cities FLORENCE is the capital, Leghorn the chief port Along the northern coast, which is low and sandy, there are fine pine woods The region is mostly hilly and, except for the MAREMMA, very fertile, producing fine wines, olive oil, and cereals The Arno has the widest of the river valleys Besides the Apennines in E Tuscany, there are two other mountain groups —the Alpi Apuane, where the famous Carrara marble is quarried, and a group in the south where iron, magnesium, and quicksilver are mined The Maremma yields boric acid The most important manufactures are wool and cotton textiles, chemicals, glass, ceramics, and straw hats Modern Tuscany corresponds to the larger part of ancient ETRURIA and most of our knowledge of ETRUSCAN CIVILIZATION is derived from findings here The Romans conquered the region in the 3d cent B C It was a Lombard duchy, with Lucca its capital, and later a powerful march under the Franks MATILDA (d 1115), its last ruler, bequeathed her lands to the church, a fact which caused long wars between popes and emperors In spite of the dual claims, most cities became in the 11th–12th cent free communes, some of them (Pisa, Lucca, Siena, and Florence) developed into strong republics Commerce, industry, and the arts flourished Guelph and Ghibelline strife, however, was particularly ruthless here, both within and among the various cities After the decline of PISA, Florence gained hegemony over most cities in the 14th–15th cent Siena was the last to fall (1555) Under the ruling family of Florence (see MEDICI), Tuscany became (1569) a grand duchy, and thus again a political entity, only the republic of Lucca and the duchy of Massa and Carrara remained independent After the extinction of the Medici line it passed (1737) to the ex-duke Francis of Lorraine (later Emperor FRANCIS I), who was succeeded by Grand Duke Leopold I (later Emperor LEOPOLD II) The French Revolutionary armies invaded Tuscany in 1799, and briefly it was included in the kingdom of Etruria (1801–7) and was ruled under the duchy of Parma before it was annexed to France by Napoleon I In 1814 it again became a grand duchy, under the grand dukes Ferdinand III, LEOPOLD II, and Ferdinand IV of the house of Hapsburg-Lorraine In 1860 it voted its union with the kingdom of Sardinia In the late Middle Ages and throughout the Renaissance, Tuscany was a center of the arts and learning The Tuscan spoken language became the literary language throughout Italy after Dante, Petrarch, and Boccaccio used it Schools of architecture, sculpture, and painting developed after the 11th cent in many cities, particularly Florence, Pisa, Siena, and Arezzo, which were enriched with unsurpassed works of art After the 16th cent , however, intellectual and artistic life was almost wholly concentrated in Florence

Tuscarora Indians see IROQUOIS CONFEDERACY

Tuscola (tŭskō'lŭ), city (pop 2,838), co seat of Douglas co , E central Ill , E of Decatur, in a farm area, platted 1857, inc 1861 Brooms and wood products are made

Tusculum (tŭ'skyōōlum), city of ancient Latium The ruins of this city are near Frascati, 15 mi SE of Rome, Italy Traditionally founded by Telegonus, son of Ulysses, Tusculum was early an important city It was a favorite summer residence of Roman nobles, Pliny the Younger, Cicero, Nero, and Titus being among those who built villas there In 1191 the city was razed by the Romans Ruins include those of villas, an amphitheater, and a theater

Tusculum College see GREENEVILLE, Tenn

Tuscumbia (tŭskŭm'bēŭ), city (pop 5,515), co seat of Colbert co , NW Ala , on the Tennessee near MUSCLE SHOALS, settled c 1815 on the site of a Chickasaw village Helen Keller's birthplace is here

Tuskegee (tŭskē'gē), city (pop 3,937), co seat of Macon co , SE Ala , c 40 mi E of Montgomery, in a cotton, corn, and dairy area, settled in the early 19th cent , inc 1843 A U S Negro veterans' hospital is here **Tuskegee Institute** (Negro; nonsectarian, coeducational), chartered and opened in 1881 as a normal school, was called a normal and industrial institute from 1893 to 1937 • A college department was added in 1927 It has schools of agriculture (with a research department and extension service, the "School on Wheels"), education, home economics and commercial dietetics, mechanical industries, and nurse training (with a hospital) and also departments of business, music, and physical education An aviation school was established in 1941 Booker T WASHINGTON was principal until his death in 1915, when he was succeeded by Robert R MOTON George Washington CARVER taught here Many students contribute labor toward tuition See A P Stokes, *Tuskegee Institute* (1931)

Tussaud, Marie (tōō-sō'), 1760–1850, Swiss modeler in wax, whose maiden name was Gresholtz She learned her art from her uncle, J C Curtius, proprietor of wax museums in Paris from 1762 Mme Tussaud was imprisoned during the Reign of Terror, and many heads of famous persons were brought to her for modeling In 1802 she inherited the museums of her uncle and emigrated to London, where she established Madame Tussaud's Exhibition Her museum soon became a London landmark In 1833 it was moved to Baker St and, after Mme Tussaud's death, to a larger building in Marylebone Road In 1925 fire destroyed the building, but many of the casts were saved, and in 1928 the exhibition was reopened It received only minor damage during the Second World War See J T Tussaud, *The Romance of Madame Tussaud's* (1920)

Tusser, Thomas (tŭs'ur), 1524?–1580, English author He is known for his popular rhymed compendium of advice on farming and housekeeping called *Hundred Points of Good Husbandry* (1557), enlarged in later editions to *Five Hundred Points of Good Husbandry* (1573)

Tut-ankh-amen (tōōt"ăngk-ä'mun) or **Tutenkhamon** (tōōt"ĕngk-amun) (Egyptian, =living image of Amon), fl c 1355 B C , king of ancient Egypt, of the XVIII dynasty He was the son-in-law of Ikhnaton, whose ephemeral successor he succeeded The reaction in favor of the god Amon, replaced by Aton under Ikhnaton, completed its course under Tut-ankh-amen, thus, the king, who had been known as Tut-ankh-aton, changed his name He also abandoned Ikhnaton's new capital, Akhetaton (Tel-el-Amarna), to return to Thebes, sacred to Amon, and he restored the name of Amon, deleted from the monuments by Ikhnaton The chief officer of state, Harmhab (Horemheb), controlled affairs, successfully stemming the tide of dissolution which had threatened to engulf the kingdom under Ikhnaton Later (1350 B C), Harmhab was to become king and founder of the XIX dynasty. The tomb of Tut-ankh-amen was found (1922) by Howard Carter and the earl of Carnarvon in the Valley of the Tombs near Luxor Its great wealth of objects afforded a new store of knowledge on Egyptian sculpture and life of the XVIII dynasty The contents of the tomb, including the mummy and the gold sarcophagus, are in Cairo See Howard Carter and A C Mace, *The Tomb of Tut ankh amen* (1923–33), G R Tabouis, *The Private Life of Tutankhamen* (tr by M R Dobie, 1929, new ed , 1931)

Tuticorin (tōō"tĭkôrĭn'), town (pop 75,614), Madras state, India, a port on the Bay of Bengal It was founded by the Portuguese (c 1540) and captured (1658) by the Dutch, who ceded it (1825) to the British Cotton thread is manufactured, and cotton, coffee, and tea are exported Near by are pearl and conch fisheries

Tuttle, Daniel Sylvester, 1837–1923, American Episcopal bishop, b Windham, N Y In 1867 he was consecrated bishop of Montana, with jurisdiction in Utah and Idaho He became (1886) bishop of Missouri and from 1903 was presiding bishop of his denomination in the United States

Tutuila (tōōtōōē'lä), island (c 40 sq mi , pop 9,842), Samoa, the largest in American SAMOA It has a harbor at PAGOPAGO The island has a rugged eastern area, with a fertile plain in the southwest Near the center is Matafao Peak (2,141 ft), the highest point on the island Tutuila was ceded to the United States in 1900 and placed under the Dept of the Navy as a naval station As in all of American Samoa, the land in Tutuila is privately owned Copra is the chief product

Tuva Autonomous Oblast (tōō'vu, Rus tōōvä') or **Tuvinian Autonomous Oblast,** administrative division (66,100 sq mi , 1946 estimated pop 150,000), RSFSR, in S Siberia, bordering on Mongolia in the south Kizil is the capital Extending between the Savan Mts in the north and the Tannu-Ola Range in the south, it includes the upper course of the Yenisei river It has a dry continental climate Grain is grown in the irrigated lowlands, cattle, sheep, and horses are raised in the central steppes Natural resources include the forests in the mountains and gold, coal, salt, asbestos, and copper Sawmilling and tanning are the main industries The Tuvinians, a Turkic-speaking group, form 75

percent of the population, the rest being mainly Russians. Formerly known as the Uriankhai Territory, the region was part of the Chinese Empire It was a Russian protectorate from 1912 to 1921, was declared independent in 1921 as the Tannu-Tuva (after 1934, simply Tuva) People's Republic, and was incorporated (1944) into the USSR

Tuwim, Julian (yōōl'yan tōō'vēm), 1894–, Polish poet and translator He is regarded as the founder of Polish futurism and one of the chief Polish contemporary figures He has translated Pushkin and other Russian poetry into Polish *Locomotive* (1938; Eng tr , 1940) is a collection of children's verse

Tuxedo Park (tŭksē'dō), unincorporated residential and resort village (pop 1,651), SE N Y , on Tuxedo Lake, in the Ramapos and near the N J line Pierre Lorillard, wealthy sportsman, developed (1886) here an exclusive colony, known for its sports and social functions, and his family has controlled it since In 1941 plans were made to reconstruct the colony with inexpensive homes for professional and business people The tailless dress coat, named for the colony, is said to have originated here

Túxpam or **Tuxpan** (both tōōs'pän), city (pop 13,381), Veracruz, E Mexico, a port on the Gulf of Mexico Túxpam as an oil-pumping and loading station There are also considerable exports of chicle, rubber, vanilla, dyewoods, and hides The climate is hot, and the region tropical

Tuxtla (tōōs'tla) or **Tuxtla Gutiérrez** (gōōtyĕ'rās), city (pop 15,883), capital of Chiapas, S Mexico Made the state capital in 1891, it is a clean, pleasant, and not unhealthful city in the fertile Grijalva valley and at the foot of the Chiapas highlands The rich soil produces food crops, and cattle are raised There is some timber trade The principal industry is a cigar factory Tuxtla is on the Inter-American Highway

Túy (tōō'ē), city (pop 2,871), Pontevedra prov , NW Spain, in Galicia, near the Miño river and on the Portuguese frontier The capital of the Visigothic King Witiza (early 8th cent), Túy played later an important role in the wars between Castile and Portugal There is an imposing fortress like Romanesque cathedral (12th cent , later restored)

Tuzigoot National Monument see National parks and monuments (table)

Tuzla (tōōz'la), city (pop 28,916), Bosnia, central Yugoslavia, N of Sarajevo It has large salt mines, and it is an Orthodox episcopal see Its salt springs were known in Roman times, and the city dates at least from the 10th cent

TVA: see Tennessee Valley Authority.

Tver, RSFSR see Kalinin

Twachtman, John Henry (twakt'mun), 1853–1902, American landscape painter and etcher, b Cincinnati He studied in Cincinnati under Duveneck and in Munich and Paris, but was influenced principally by the impressionist movement, of which he became an outstanding exponent Many of his exquisite and atmospheric landscapes in oil and pastel were inspired by the countryside near his home in Greenwich, Conn He also painted a series of landscapes at Yellowstone Park and at Niagara Falls Twachtman exhibited with liberal groups and exercised a wholesome influence on many painters of the younger generation, notably Ernest Lawson He did not live to enjoy the high reputation his work now holds Twachtman is represented in most of the principal American galleries His *Waterfall* (Metropolitan Mus) is characteristic Comprehensive exhibits of his work were given in New York (1913) and at the Panama-Pacific Exposition (1915)

Twain, Mark, pseud of **Samuel Langhorne Clemens** (klĕ'munz), 1835–1910, American humorist, b Florida, Mo He spent his childhood in Hannibal, Mo , in surroundings which he was later to immortalize in *Tom Sawyer* and *Huckleberry Finn* After the death of his father in 1847, Clemens worked for his brother's Hannibal newspaper for a few years, lived in Eastern cities as a printer, and in 1857 went to New Orleans on his way to make his fortune in South America Instead, he became a pilot on the Mississippi and remained one until the Civil War closed the river In 1859 he first used the pseudonym Mark Twain—from the call of the leadsmen on the river boats when a depth of two fathoms was sounded—to satirize a Capt Isaiah Sellers who had written under that name in St Louis and New Orleans journals Clemens went in 1862 to Carson City, Nev , where his brother had been appointed territorial secretary Failure of various get-rich-quick schemes led him to write for the Virginia City *Enterprise*, under the name Mark Twain Artemus Ward encouraged him, as did Bret Harte later when Clemens became a reporter in San Francisco The story which first made him famous was "The Celebrated Jumping Frog of Calaveras County," published in 1865 in the New York *Saturday Press* and in 1867 as the title piece of a collection When he returned from a trip to the Sandwich Islands for the Sacramento *Union* in 1866, he scored the first success in his long career as a humorous lecturer. The articles he wrote on a journey to the Holy Land were published in 1869 as *Innocents Abroad* and were immediately popular. He married Olivia Langdon of Elmira, N.Y., in 1870 and settled down, as he thought, to the life of a journalist There is disagreement among critics as to whether his wife and his New England friends suppressed or only guided his talents At any rate, some of his best work followed his removal to Hartford, Conn , in 1872—*The Gilded Age* (1873), a satirical novel written with Charles Dudley Warner and later successfully dramatized, *Mark Twain's Sketches, New and Old* (1875), and his masterly recreations of his boyhood, *The Adventures of Tom Sawyer* (1876), *Life on the Mississippi* (1883), and *The Adventures of Huckleberry Finn* (1884) Meanwhile he had written another travel book, *A Tramp Abroad* (1879), and a historical novel, *The Prince and the Pauper* (1880) His second venture into history, *A Connecticut Yankee in King Arthur's Court* (1889), revealed his power as a social satirist *The American Claimant* (1892), *The Tragedy of Pudd'nhead Wilson*, and *In Defense of Harriet Shelley* (both 1894) followed, two sequels to *Tom Sawyer* were forced and humorless In 1893 he was plunged into debt by the failure of the publishing firm of Charles L Webster and Company, in which he was a partner, and by his unsuccessful attempt to manufacture typesetting machines Twain wearily lectured his way around the world to make good his losses and wrote his experiences in *Following the Equator* (1897) An idealistic study, *The Personal Recollections of Joan of Arc*, appeared in 1896 His later life was saddened by the deaths of two of his daughters and the long illness and death in 1904 of his wife Out of his pessimism and sorrow he wrote his later, bitter works, *The Man That Corrupted Hadleyburg* (1899), *What Is Man?* (1906), and *The Mysterious Stranger* (1916) Mark Twain, beginning as a journalist, had become a popular novelist, lecturer, and travel writer in the idiomatic speech of his America An irreverent satirist, a comic artist, and a disturbed equalitarian, he was more a debunker than a constructive thinker, but he has left a vivid record of his era and some timeless, exuberant stories See his autobiography (ed by A B Paine, 2 vols , 1924, with a third volume, *Mark Twain in Eruption*, ed by Bernard De Voto, 1940), his letters (1917) and notebook (1935), both ed by A B Paine, his love letters (ed by Dixon Wecter, 1949), biographies by Paine (1912) and Twain's daughter, Clara Clemens Gabrilowitsch (1931), studies by W D Howells (1910), Bernard De Voto (1932, 1942), Van Wyck Brooks (rev ed 1933), S C Webster (1946), and W F Fear (1948)

Tweed, William Marcy, 1823–78, American politician and Tammany leader, b New York city The son of a chairmaker, he worked at bookkeeping, and after he became (1848) a volunteer fireman, he acquired influence in his ward In 1851 he became alderman and in 1852 was elected to Congress By 1857 he was a power in Tammany As chairman of the Tammany general committee and later as grand sachem, "Boss" Tweed gained absolute power in the city Democratic party, controlling party nominations and party patronage He also became a state senator in 1868 and extended his influence into state politics He engaged in various business deals, and through political services to Jay Gould and James Fisk he became a director of the Erie RR But it was chiefly from the rich plums plucked through the control of New York city expenditures that Tweed made his great fortune For a time the **Tweed Ring,** consisting of Tweed and his henchmen—Peter Sweeny, city chamberlain, Richard B Connolly, city comptroller, and A Oakey Hall, mayor—seemed to have the city completely under control with little fear of interference They defrauded the city at least to the extent of $30,000,000 through padded and fictitious charges and also profited extravagantly from tax favors Votes were openly bought and other nefarious vote-getting methods were employed City judges became notoriously corrupt Attempts within Tammany to oust the Tweed Ring failed, and in 1870 Tweed forced through the state legislature a charter greatly increasing the powers of the ring Tweed maintained personal popularity because of his open-handedness and charity to the poor The immediate cause of Tweed's downfall was the publication in the New York *Times* of evidence of wholesale graft revealed by M J O'Rourke, a new county bookkeeper The effective cartoons of Thomas Nast aroused public indignation A committee of 70, organized to fight Tammany, elected most of their candidates in 1871, though Tweed himself was returned to the state senate. Largely through the efforts of S J Tilden, Tweed was tried for felony, but the jury could not reach a verdict In a second trial he was convicted and was given a 12-year prison sentence, this, however, was reduced by a higher court, and he served one year Arrested once more on different charges, he escaped and went to Cuba and then to Spain, but was extradited (1876) to the United States He died in prison. See D T. Lynch, *"Boss" Tweed* (1927).

Tweed, village (pop. 1,343), S Ont., on the Moira river and N of Belleville. It has flour and lumber mills and makes steel products, leather, and bricks.

Tweed, river, 90 mi. long, mainly in SE Scotland, but partly in England. It rises at Tweed's Well, in Peeblesshire, in the uplands which are also the source of the Clyde and the Annan and flows through or bounds the counties of Peebles, Selkirk, Roxburgh, Berwick, and Northumberland (England) The river passes Innerleithen, Melrose, Dryburgh Abbey, Kelso, and Coldstream, receives the Gala, Ettrick Water, the Leader, and the Teviot, and enters the North Sea at Berwick Peeblesshire is often called Tweeddale.

tweed, rough, unfinished woolen fabric, of a soft, open, flexible texture resembling cheviot or homespun, but closer It is made in either plain or twill weave and may have a check, twill, or herringbone pattern Subdued, interesting color effects (heather mixtures) are obtained by twisting together different-colored woolen strands into a two- or three-ply yarn Genuine tweeds, such as Harris, Lewis, Bannockburn, or Donegal, are desirable for outer wear, being moisture resisting and very durable Many modern so-called tweeds are made from cotton-mixed yarns and are inferior

Tweeddale, John Hay, 2d earl and 1st marquess of, 1626-97, Scottish statesman In the civil war of the Puritan Revolution he turned from support of Charles I and fought for the Parliament at Marston Moor (1644), but turned again when Charles promised to support Presbyterianism and fought for the king at Preston With the Restoration he was made a privy councilor for Scotland in 1660 and advanced to president of the council in 1663 He defended the Covenanters, and John Maitland, duke of Lauderdale, had him dismissed (1674) from office, but he later served Charles II as commissioner of the treasury (1680) and privy councilor. These posts he also held under James II Supporting the Glorious Revolution and the accession of William III, he was again made privy councilor (1689), a lord of the treasury (1689), high chancellor of Scotland (1692), and marquess (1694) In 1695 he conducted the inquiry into the massacre at Glencoe The next year he was dismissed from the chancellorship for approving in the king's name the Darien Scheme

Tweeddale, county, Scotland see Peeblesshire

Tweed Ring see Tweed, William Marcy

Tweedsmuir, John Buchan, 1st **Baron** see Buchan

Tweedsmuir Park (twēdz'myōōr), provincial reserve, 5,400 sq mi , W central British Columbia, W of Prince George, est 1936, and named for Lord Tweedsmuir It lies on the east slope of the Coast Range in a wilderness region of forests, lakes, and streams, with several peaks over 7,000 ft high The largest lakes are Eutsuk, Whitesail, Tahtsa, and Tetachuck Ootsa Lake is on the north boundary of the park

Twelfth Night, Jan 5, the vigil or eve of Epiphany, so called because it is the 12th night from Christmas, counting Christmas as the first In England, Twelfth Night has been a great festival marking the end of the Christmas season and popular masquerading parties are the typical entertainment It was also one of the chief times of conviviality

Twelve Apostles or **Twelve Disciples** see Apostle

Twelve Tables, early code of Roman law Most modern authorities accept the traditional date of 450 B C , but several place the work later The tables were supposedly written in response to the plebeians' protest that the patrician judges were able to discriminate against them with impunity because the principles governing legal disputes were only known orally Decemvirs were appointed to state the law in writing, and they first produced 10 wooden tablets of material and in the next year two more Exact quotations of the Twelve Tables are exceedingly rare, but from references in later Latin writers their content has been approximately reconstructed They appear to have been an exceedingly formalistic statement of the customary law In later times the Twelve Tables were regarded with reverence as a prime legal source

Twenty-one Demands. Japan used its declaration of war against Germany (Aug , 1914) as grounds for invading Kiaochow, the German leasehold in Shantung prov , China Disregarding the Chinese request to withdraw, Japan secretly presented (1915) President Yüan Shih-kai with an ultimatum comprising 21 demands divided into five sections These provided that Japan assume Germany's position in Kiaochow, that Manchuria and Mongolia be reserved to Japan for exploitation and colonization, that Japan control the main coal deposits of China; that the other powers be excluded from further territorial concessions, and that Japan guide China's military, commercial, and financial affairs The demands for control of Chinese policy were dropped, partly at the insistence of the United States. Treaties were signed (May 15) extending Japan's lease of the Liaotung peninsula (see Liaoning) and of the Manchurian railroads and granting Kiaochow to Japan. The demands, setting a pattern for Japanese domination, were thus partially forced on China, but the treaties were not ratified by the Chinese legislature, nor did Japan insist upon their implementation.

Twickenham (twĭk'ənŭm), municipal borough (1931 pop. 39,906; 1947 estimated pop. 107,610), Middle-

sex, England, on the Thames and WSW of London, of which it is a residential suburb Alexander Pope had a house here, and Horace Walpole's "Strawberry Hill" estate was a few miles up the river At Twickenham the Rugby football matches between Oxford and Cambridge are played The manufactures of Twickenham include electric switchgear, chemicals, pharmaceuticals, and asphalt In 1937 Twickenham absorbed near-by areas, including Hampton and Teddington

Twiggs, David Emanuel, 1790–1862, American general, b Richmond co , Ga He was a captain serving in minor capacities in the War of 1812 and later fought in campaigns against the Seminole and in the Black Hawk War In the Mexican War, Twiggs first served under Gen Zachary Taylor, so distinguishing himself at Palo Alto and Resaca de la Palma that he was promoted (June, 1846) brigadier general Transferred to Gen Winfield Scott's army, he fought at Veracruz and led the van in the advance on Mexico city, at Cerro Gordo, Contreras, and Churubusco In Feb , 1861, Twiggs, commander of the Dept of Texas, surrendered his troops and stores to Confederate commander Ben McCulloch, and was thereupon dismissed from the U S army He was made (May) a major general in the Confederate army

twilight sleep, method of anesthetizing during childbirth with the purpose of abolishing memory and pain, but retaining muscular power Various drugs have been used to bring about the condition e g , morphine followed by small doses of scopolamine administered at intervals Although at one time widely popular, the method has since met with much adverse criticism

Twin City, city (pop 1,019), E central Ga , NW of Savannah, inc 1924 as a consolidation of Graymont and Summit

twine see CORDAGE

Twin Falls, city (pop 11,851), co seat of Twin Falls co , S Idaho, in the Snake river valley, laid out 1904, inc as a village 1905, as a city 1907 The city was begun as the center of a private irrigation project, which has been lauded as a model of reclamation Irrigated lands (some 360,000 acres) are in two areas, one north and one south of the river, and the water from the river is used, with support from tributary waters One of the falls of Twin Falls in the near-by gorge is now harnessed for hydroelectric power Fruits, vegetables, sugar beets, and grains are chief among the crops grown and processed

Twins, the see GEMINI

twins, two infants born of one pregnancy They are of two types identical twins result from the division of a single fertilized egg, fraternal twins are of biovular (two-egg) origin, each egg being separately fertilized by a sperm Identical twins are always of the same sex, i e , either two boys or two girls, and in appearance they are physical counterparts one of the other Fraternal twins may be of the same or of opposite sex They resemble each other only to the same degree as do any two offspring of the same parents Twinning (with the meaning restricted to the division of the embryo to form one-egg twins) may take place very early in the pregnancy In such instances each twin has its own placenta When the twinning takes place later, the twins may have a common placenta If considerable development has taken place before the twinning occurs, there is an incomplete separation of the two embryos These are known as conjoined twins, of which the SIAMESE TWINS are the best-known type Only rarely do they survive In the United States twins occur once in approximately every 86 births Of each four sets of twins, one pair is of the one-egg type See H H Newman and others, *Twins* (1937), H H Newman, *Multiple Human Births* (1940)

Two Harbors, city (pop 4,046), co seat of Lake co , NE Minn , on Lake Superior NE of Duluth, settled 1882, inc as a village 1888, as a city 1907 An early shipping point for lumber, since 1884 it has shipped much ore from the iron range A U S coast guard base is here

Two Rivers, industrial city (pop 10,302), E Wis , on Lake Michigan at the mouth of the Twin river and NE of Manitowoc, inc 1878 Its industries include commercial fishing (from the 1830s) and the manufacture of aluminum ware

Two Sicilies, kingdom of the. The name Two Sicilies was used in the Middle Ages to mean the kingdoms of Sicily and of Naples (see SICILY and NAPLES, KINGDOM OF) ALFONSO V of Aragon, who in 1442 reunited the two kingdoms, styled himself king of the Two Sicilies Under his successors the kingdoms were again separate, but the title was revived during the Spanish domination of the two kingdoms (1504–1713) and after the accession of a cadet branch of the Spanish line of BOURBON to Naples and Sicily (1759) Ferdinand IV of Naples (Ferdinand III of Sicily) officially merged the two kingdoms in 1816 and called himself FERDINAND I of the Two Sicilies The Sicilians, who thus lost their autonomy, and the pope, who saw his theoretical suzerainty over the two kingdoms ignored, both protested the change. Secret revolutionary societies were formed (see CARBONARI). The reactionary and terroristic regime of FERDINAND II was continued by FRANCIS II but fell before the forces of GARIBALDI in 1860 In 1861 Gaeta, Francis's last fortress, capitulated to Victor Emmanuel II of Sardinia, who soon afterward proclaimed the kingdom of Italy

two-step, slow dance in 2-4 time It was popular in the United States for several decades prior to 1910 The fox trot succeeded it.

Tyana (tī'unu), town of ancient Cappadocia, at the northern foot of the Taurus, in present S central Turkey It was a powerful military fortress and a prosperous commercial center It was incorporated into the Roman Empire in A D 272 and was for a time the capital of the province of Cappadocia Secunda The city was the birthplace of Apollonius of Tyana There are considerable ruins

Tyard, Pontus de (pôNtüs' dü tēär'), 1521?–1605, French poet of the PLÉIADE, author of a collection of sonnets, *Les Erreurs amoureuses* (1st ed , 1549) He was bishop of Châlons, 1578–92

Tyburn (tī'burn), underground river of London, England It gave its name to the gallows that once stood near the west end of Oxford St After 1783, executions took place at Newgate instead of at Tyburn Perkin Warbeck and Jack Sheppard were hanged at Tyburn

Tyche (tī'kē) [Gr , =chance], in Greek religion, personification of luck, corresponding to the Roman Fortuna She was represented with a rudder, with a wheel, or with a cornucopia

Tychicus (tĭ'kĭkŭs) [Latin from Gr , =fortuitous], companion of Paul Acts 20 4, Eph 6 21, Col. 4 7, 2 Tim 4 12, Titus 3 12

Tycho Brahe see BRAHE, TYCHO

Tydeus (tī'dēŭs), Greek legendary hero, son of OENEUS and brother of MELEAGER He was one of the SEVEN AGAINST THEBES DIOMED was his son

Tydings, Millard Evelyn (tī'dĭngz), 1890–, U S Senator (1927–), b Havre de Grace, Md , grad Univ of Maryland (LL B , 1913) He was admitted (1913) to the bar and soon was successful practicing law, and in 1916 he became a member of the Maryland legislature In the First World War he served in the U S army and saw action in France He again served (1920–23) in the Maryland legislature before becoming a Democratic member (1923–27) of the U S House of Representatives In the U S Senate after 1927 Millard E Tydings opposed much New Deal legislation and on several occasions opposed President F D Roosevelt's foreign policy He became well known for his work on Senate committees He wrote *Before and After Prohibition* (1933) and *Counter-Attack. a Battle Plan to Defeat the Depression* (1933)

Tygart (tī'gurt), river rising in E West Virginia and flowing north to join the West Fork and form the Monongahela at Fairmont Tygart Reservoir Dam, near Grafton, was completed in 1938

Tyldesley (tĭldz'lē), urban district (1931 pop 14,846, 1943 estimated pop 19,423), Lancashire, England, NW of Manchester It has cotton factories and collieries It was formerly Tyldesley with Shakerley

Tyler, John, 1790–1862, 10th President of the United States, b Charles City co , Va , grad College of William and Mary, 1807 He studied law under his father, John Tyler (1747–1813), governor of Virginia from 1808 to 1811, and was admitted (1809) to the bar A state legislator (1811–16, 1823–25) and U S Representative (1817–21), Tyler was an unswerving states' rights Democrat He joined the condemnation of Andrew Jackson's actions in Florida and voted against the Missouri Compromise Governor of Virginia (1825–27) and a U S Senator (1827–36), Tyler reluctantly supported Jackson as the least objectionable of the presidential candidates in 1828 and 1832 Although he did not approve South Carolina's NULLIFICATION act, he violently opposed Jackson's measures against it (see FORCE BILL) The President's fiscal policies further alienated him, so that he was eventually drawn to the new WHIG PARTY He resigned from the Senate rather than abide by the instructions of the Virginia legislature to vote for the motion to expunge Henry Clay's censure of Jackson from the records Because the Whigs felt that this cultured Virginia gentleman would attract Southern votes, they made Tyler running mate to William Henry Harrison in their victorious "Tippecanoe and Tyler too" campaign of 1840 One month after his inauguration Harrison died, and on April 4, 1841, Tyler became the first Vice President to succeed to the presidency His antipathy toward many Whig policies soon became apparent (he had never concealed it), and a rift developed between him and Henry CLAY, the party leader After his second veto of a measure creating a national bank with branches in the states, on the grounds that it violated the constitutional rights of the states, his cabinet, except for Daniel WEBSTER, resigned (Sept , 1841) Webster stayed on as Secretary of State until the negotiations for the Webster-Ashburton Treaty with the British were completed (May, 1843). Bitterly denounced by the Whigs and with few friends among the Democrats, Tyler became a President without a party. Nevertheless he accomplished much towards the annexation of Texas. Abel P. UPSHUR, Webster's successor, was killed when a gun on the U S S. *Princeton* blew up, and John C CALHOUN continued Upshur's negotiations for a treaty with Texas The treaty was rejected by the Senate. Tyler then supported a plan for a joint resolution to annex Texas and had the satisfaction of seeing it accepted by Texas just before he left office in 1845 The completion of annexation was brought about under James K POLK, Tyler's Democratic successor Tyler, nominated by a small faction, had been persuaded to withdraw in the 1844 election In Feb , 1861, he presided over the unsuccessful conference at Washington which attempted to find some last-minute solution to avert the Civil War Elected to the "permanent" Confederate Congress in Jan , 1862, he died before he could take his seat See Lyon Gardiner Tyler (his son), *Letters and Times of the Tylers* (3 vols , 1884 96), P A Bruce, *The Virginia Plutarch* (1929), biography by O P Chitwood (1939)

Tyler, Moses Coit, 1835–1900, American writer on intellectual history, b Griswold, Conn He moved to Michigan as a boy Graduated from Yale (1857) and from Andover Theological Seminary, he entered the Congregational ministry, but remained in it only two years He was professor of English (1867–1881) at the Univ of Michigan and of American history (1881–1900) at Cornell and was an organizer of the American Historical Association. The two books upon which his fame chiefly rests are *A History of American Literature, 1607–1765* (1878) and *The Literary History of the American Revolution* (1897) His life of Patrick Henry for the 'American Statesmen" series and his *Three Men of Letters* (1895) also added to his reputation as a sympathetic and accurate biographer His wide knowledge of both history and literature enabled him to write authoritatively of both. See biography by H M Jones (1933)

Tyler, Royall, 1757-1826, American jurist, author, and playwright, b Boston, grad Harvard, 1776 He served in the Revolution and in Shays's Rebellion Tyler practiced law in Massachusetts and after 1790 in Vermont, where he was chief justice of the supreme court (1807–13) and professor of jurisprudence (1811–14) at the Univ of Vermont He is remembered for his play *The Contrast* (produced 1787), in which "Jonathan" was the first of many stage Yankees and which was the first American comedy produced by a professional company Other plays by him (now lost) and a novel, the *Algerine Captive* (1797), were successes With Joseph Dennie he wrote witty Federalist verse and essays for the *New Hampshire Journal*

Tyler, Wat, d 1381, English rebel His given name also appears in full as Walter, and he is called Tyler, Tegheler, and Helier—all surnames signifying the trade of roof tiler Little is known of his early life or origins He came into prominence as the leader of the great peasant rebellion of 1381, which had its ultimate origins in the Black Death of 1348-49, a plague that had swept away nearly a third of the population of England and left a scarcity of labor The Statute of Laborers (1351) decreed that laborers could not demand, nor employers offer, higher rates of pay than had prevailed before the plague This statute was violated by employers and laborers alike, and the workers enjoyed comparative prosperity Popular hostility to the numerous restrictions was joined in the towns with a desire for municipal liberty and in the country with resentment toward the rigidity of the manorial system This unrest flamed into rebellion when the capital tax was increased The first outbreak came at Dartford, and on June 10, 1381, Tyler led in the seizure of Canterbury Joined by John BALL and an ever-increasing mob, he proceeded toward London In the outskirts of the city they sacked the archbishop's palace, broke open prisons, and created terror in the hearts of the burghers After an unsuccessful attempt to interview RICHARD II, Tyler led the mob into the city, pillaged the houses of government leaders, and burned some public buildings, the Fleet and Newgate prisons, and the documents in the Temple On June 14 Tyler met the king at Mile End and extracted promises that the king would abolish serfdom, all feudal service, all market monopolies, and all restrictions on buying and selling The rebels were to receive free pardons Immediately afterwards Tyler entered the Tower fortress and executed several officials Disorder and crime were rampant Tyler again met the king the following day, this time at Smithfield, where he presented new demands Overhearing a derogatory remark from an onlooker, Tyler drew his dagger to seek revenge Walworth, the mayor, who barred the way, responded to a blow from Tyler with a quick slash of his cutlass Tyler was mortally wounded and died soon afterward The king, with admirable courage, cowed the mob and held them at bay until the mayor brought up armed support The course of the uprising thus turned, the rebels dispersed, and the revolt, which had raged over all England, was put down with severe force King Richard immediately revoked the Mile End grants See Charles Oman, *The Great Revolt of 1381* (1906), A. B. Steel, *Richard II* (1941).

Tyler. 1 Village (pop. 1,005), SW Minn., NE of Pipestone, settled 1879 by Danish followers of Grundtvig It is a dairy and farm trade center There is a Danish folk school here 2 City (pop 28,279), co seat of Smith co, E Texas, ESE of Dallas, founded 1846. On the edge of the rich East Texas oil field, Tyler has lively oil business and refines oil It also has railroad shops and many small industries, but it is to the visitor primarily a land of roses Nurseries grow rose bushes for the national market, and every street and yard is in season colored with blooms The city has a large municipal rose garden The region also has much truck growing and rich diversified farming Tyler Junior College and two colleges for Negroes—Texas College and Butler College—are in Tyler Near by is a state fish hatchery

Tylertown, town (pop 1,376), co seat of Walthall co, S Miss, SE of McComb near the La line, in a farm area

Tylor, Sir Edward Burnett, 1832-1917, English anthropologist His extensive researches helped to develop interest in anthropological science in England Tylor became (1883) keeper of the University Museum and was professor of anthropology (1896–1909) at Oxford Univ His writings include *Researches into the Early History of Mankind* (1865), *Primitive Culture* (1871, rev ed, 1924), and *Anthropology* (1881, rev ed, 1904)

Tyl Ulenspiegel: see EULENSPIEGEL, TIL

tympanum (tĭm'punum) In architecture the term designates the triangular space of a pediment bounded by the horizontal cornice at its base and the two sloping cornices which meet at its apex and also the solid wall space above the spring line of an arch when the portion below that line is occupied by a door or window opening In Greek temples the tympanums of the two end façades were usually filled with sculpture e g, the east pediment of the Parthenon, which has a sculpture representing the birth of Athena Sculptured tympanums of the second type, within round or pointed arches, occurred above the doors of the recessed portals in the medieval churches They were universal in both Romanesque and Gothic periods, and were especially fine in France The usual subjects are biblical and symbolic, often arranged in horizontal tiers with numerous figures to illustrate a complete legend. Over the central doorway of Notre Dame de Paris is a depiction of the Last Judgment In Italy tympanums were sometimes decorated with mosaic or fresco

Tynan, Katharine (tĭ'nun), 1861–1931, Irish poet and novelist She was married (1893) to Henry Hinkson and is often known as Katharine Tynan Hinkson She was a member of the Irish Renaissance and a friend of the leading literary and political figures of Ireland Her poetry reflects her devout Catholicism Besides volumes of verse, including *Ballads and Lyrics* (1890), *Irish Poems* (1913), *Flower of Youth* (1915) and *Collected Poems* (1930), she wrote numerous novels of Irish life, children's books, and miracle plays See her reminiscences in five volumes, including *Twenty-five Years* (1913) and *Memories* (1924)

Tyndale, Tindal, or **Tindale, William** (all tĭn'dul), d 1536, English biblical translator (see BIBLE) and Protestant martyr He was probably ordained shortly before entering (c 1521) the household of Sir John Walsh of Gloucestershire as chaplain and tutor His sympathy with the New Learning led to disputes with the clergy, and he moved to London, determined to translate the New Testament into English Finding that publication could not be accomplished in England, Tyndale went to Hamburg in 1524, visited Luther in Wittenberg, and at Cologne began (1525) the printing of the New Testament Interrupted by an injunction, he had the edition completed at Worms When copies entered England, they were denounced by the bishops and suppressed (1526), Cardinal Wolsey ordered Tyndale seized at Worms A hunted man, living in concealment, Tyndale pursued his labor of translating the Scriptures His tracts in defense of the principles of the English Reformation, *The Obedience of a Christian Man* (1528) and *The Parable of the Wicked Mammon* (1528), evoked denunciation from Sir Thomas More *The Practice of Prelates* (1530), condemning the king's divorce, drew the wrath of Henry VIII In Antwerp, occupied with revising his translations, Tyndale was seized (1535) and confined in Vilvorde Castle, the state prison of the Low Countries His trial ended in condemnation for heresy, and he was strangled at the stake before his body was burned, although Thomas Cromwell interceded for him See biographies by Robert Demaus (1871, rev ed by Richard Lovett, 1886), Henry Guppy (1926), and J F Mozley (1937)

Tyndall, John (tĭn'dul), 1820–93, British physicist, b Ireland He became (1853) professor of natural philosophy at the Royal Institution and in 1867 succeeded Michael Faraday, his friend and colleague, as superintendent there His chief researches were in the fields of light, sound, and radiant heat He made significant studies of Alpine glaciers He was known as a lecturer and writer, and his gifted expositions of science for the layman were widely translated. His books include *Glaciers of the Alps* (1860; rev. ed., 1896), *Sound* (1867; rev ed, 1903), and *Fragments of Science for Unscientific People* (1871).

Tyndall, city (pop 1,289), co seat of Bon Homme co, SE S Dak, NW of Yankton near the Nebr. line, founded 1879 It is a farm trade center.

Tyndareus: see LEDA.

Tyndaris (tĭn'durĭs), ancient Greek colony on the northern coast of Sicily It was founded by Dionysius the Elder in 396 B C As an ally of Timoleon, it aided the Romans in the Punic Wars

Tyne (tīn), river of Northumberland, England. The North Tyne rises in the southwestern part of the Cheviots 80 mi from the mouth of the Tyne and is joined near Hexham by the South Tyne, which rises near Cross Fell, the Tyne proper flows thence c 30 mi partly between Northumberland and Durham to the North Sea It is an important waterway, the lower course is lined with docks, shipbuilding yards, engineering plants, and coal-mining and ironworking towns The Tyne river ports include Newcastle, North and South Shields, Tynemouth, Gateshead, Jarrow, Wallsend, and Newburn

Tynemouth (tīn'mŭth, tĭn'-), county borough (1931 pop 64,922, 1947 estimated pop 65,850), Northumberland, England, on the Tyne and E of Newcastle The borough includes Tynemouth proper, Cullercoats (to which there is a marine parade), Chirton, North Shields (which has the municipal buildings), Preston, and other villages Long piers protect the harbor The peninsula on which the borough stands was very early occupied King Edwin of Northumbria here founded a priory, of which there are remains, early in the 7th cent, it was rebuilt in the middle of the century by King Oswin of Deira and again in the 12th cent A gate remains of an ancient castle Tynemouth is a shipbuilding center and a coal and fishing port

Tyngsboro (tĭngz'burō), town (pop 1,634), NE Mass, on the Merrimack and NW of Lowell, settled c 1660, set off from Dunstable as a district 1789, inc as a town 1809 It has old buildings and is the seat of a Marist (Catholic) school

type, for PRINTING, was invented in China Related devices, as seals and stamps for making impressions in clay, had been used earlier in Babylon and elsewhere Movable types made from molds were used in Korea a half century before they were used in Europe, but there is no evidence that the European invention attributed to Johann GUTENBERG was not independent The first dated printing from movable types in Europe is a papal indulgence, printed at Mainz in 1454 The first dated book printed from movable type was a Psalter printed by Fust and Schoeffer at Mainz in 1457 The MAZARIN BIBLE, completed at Mainz not later than 1456, is believed to be the first book printed in Europe from movable type Gutenberg is believed to have been the printer The type used in these beginnings of European printing was of the kind known as "black letter" or "gothic," represented now by such types as "Old English" and "German" The forms of the letters were derived from the handwriting of the time and place Other styles of handwriting suggested the letter forms of "roman" and "italic" type Roman type was used by several printers before Nicolas JENSON so improved it as to make its triumph as the standard type inevitable Italic type was first used by ALDUS MANUTIUS, who introduced small capitals also Roman type is of two classes, "old style" and "modern" The modern type emphasizes the contrast between light and heavy lines and has conspicuous level serifs, the old-style type keeps its lines of nearly the same weight and has inconspicuous serifs, some of them sloping Qualities of old-style and modern types are often combined Famous designers of types include, in addition to those named above, Geofroy TORY, Claude GARAMOND, Robert GRANJON, Christopher van DYCK, William CASLON, John BASKERVILLE, Giambattista BODONI, François Ambroise DIDOT, William MORRIS, Bruce ROGERS, and F W GOUDY See D B Updike, *Printing Types* (2d ed, 1937), Hellmut Lehmann-Haupt, *One Hundred Books about Bookmaking* (1949)

type metal, alloy of lead with antimony, tin, and sometimes copper, so named because of its extensive use for making type of various kinds The alloy expands upon solidification, for this reason taking a fine and clear impression of the mold in which it is hardening It has a low melting point In addition to its use for type, it is employed also in making the metal parts of various musical instruments and for ornaments of intricate design and pattern The percentages of the metals vary, according to the use to which the alloy is to be put

typesetting machine: see INTERTYPE; LINOTYPE, MONOTYPE

typewriter. The first recorded patent for a typewriter was taken out in England by Henry Mill in 1714 In the United States the typographer of William Austin Burt, patented in 1829, was the first practical writing machine. An improved French machine appeared in 1833 The early models were chiefly for the blind and produced embossed writing A practical commercial machine invented in the United States in 1867 by Christopher Latham Sholes and his associates, Carlos Glidden and Samuel Soulé, was manufactured by the firm of E. Remington and placed on the market in 1874 This early model had only capital letters, A shift-key model permitting change of case appeared in 1878 An electric typewriter requiring less effort than the ordinary manual machine came into use c.1935. The stock ticker, suggested as early as 1867, records on a narrow strip a telegraphed message. The teletypewriter, invented in 1904, transmits typing over an electric circuit such as the telephone or telegraph, an electric impulse actuates the proper key in the receiving typewriter.

Typhoeus. see TYPHON.

typhoid fever, infectious disease and intestinal fever It is caused by a bacterium, the typhoid bacillus (*Eberthella typhosa* or *Salmonella typhosa*), taken into the body in food or water contaminated with feces from a case of the disease or by a carrier From 5 to 14 days after infection there is fever, aching, nosebleed, prostration. Later a rash, known as rose spots, appears on the abdomen The bacteria lodge especially in the small intestine and gall bladder and also pass through the kidneys The course extends over several weeks and relapses are not uncommon There are many complications, the most serious being hemorrhage and perforation of the intestine (often causing fatal peritonitis). Recovery is slow in most cases, as there is a tendency to wasting. Careful nursing, a special diet high in calories, and care in destroying all excreta from the patient are important The patient should be screened to prevent flies from picking up the bacteria and thus spreading the disease Personal hygiene in the case of carriers, protection of water supply, milk supply, and oyster beds, and control of food handlers are important Vaccination against typhoid and paratyphoid is useful Under ordinary conditions it must be repeated every two or three years

Typhon (tī'fŏn), in Greek legend, a fierce and forceful being He is sometimes identified with (and sometimes called the son of) Typhoeus (tĭfē'us) When Typhon and Typhoeus are differentiated, Typhon is the personification of a violent hurricane and father, by ECHIDNA, of Orthus, Cerberus, Chimera, Hydra, and the Sphinx, Typhoeus is a many-headed monster and father of the Harpies

typhoon see HURRICANE

typhus (tī'fus), infectious disease, carried by the body louse and common in crowded, dirty places Epidemic typhus formerly occurred in jails, on ships, and under war conditions where lice were plentiful Only lice infected from biting diseased persons carry the disease It is thought to be caused by a living agent (*Rickettsia prowazeki*) From 8 to 12 days after the bite there are chills, fever, pains, prostration, and later a purplish rash In 14 days the fever falls if pneumonia does not occur A milder type has occurred in the United States and is known as Brill's disease Typhus can be wiped out by eradication of lice A vaccine affords some protection See Hans Zinsser, *Rats, Lice, and History* (1935).

typography (tīpŏ'grufē) The art of PRINTING from movable types was preceded by many centuries of development in related arts. The inscriptions in capital letters on a Roman wall or arch are sometimes stately in the highest degree, in the Middle Ages the making of illuminated manuscripts was for a time the dominant art, and for the period as a whole it rivals architecture as an instrument of artistic expression. Printing began by imitating written manuscripts, but the crisp and uncompromising metal types soon asserted their qualities and made their own requirements As with inscriptions and writing, legibility cannot safely be neglected Words tend to lose in legibility if they depart from the forms in which one is accustomed to see them Typography has special reasons for conservatism, the title page and dedication of a modern book are often reminiscent of a Roman inscription, and in the text the two facing pages of the open book are obviously in a line of development from the medieval manuscript From Gutenberg to our time, typography has interested its practitioners, who have usually been intelligent, some of them have been geniuses The printer's tasks range from the circus poster to the book that will be a treasured heirloom Each task has its own requirements One interested in the subject may well use his own library or a public library as a museum of typography. A good metropolitan newspaper is in its way a masterpiece of typography The advertisements in a good magazine are as effective as experts could make them. Every page of a book from a good publishing house has had the attention of masters If they have been successful, the typography of the book will be found appropriate to its subject matter, and the book will be a unit, with the details rightly related to one another A standard work is D B Updike, *Printing Types* (2d ed, 1937). For bibliography, see Hellmut Lehmann-Haupt, *One Hundred Books about Bookmaking* (1949).

Tyr: see TIW

Tyrannosaurus (tĭrăn"nōsō'rŭs, tī-) [Gr, =tyrant lizard], genus name of a biped carnivorous dinosaur, about 45 ft. in length and about 19 ft. tall,

with an elongated skull and large, sharp, projecting teeth. The short forelimbs had three fingers armed, like the three digits of the powerful hindlimbs, with sharp, recurved claws, on the foot was a spurred toe not reaching to the ground Probably the greatest of the terrestrial carnivores, tyrannosaurs are believed to have existed only for a short time in the late Cretaceous period, parts of a few skeletons have been found in Montana and South Dakota Only one species (*Tyrannosaurus rex*) is known.

Tyrannus (tĭrā'nus) [Gr ,=tyrant], teacher of Ephesus at whose school Paul preached Acts 19 9.

tyrant, in ancient history, ruler exercising absolute authority without legal warrant The word is perhaps of Lydian origin and carried with it at first no connotation of moral censure With the growth of the constitutional, democratic form of government, especially at Athens, the word took on its bad sense Many tyrants ruled well and with benefit to their subjects Greek tyranny was in the main an outgrowth of the struggle of the rising popular classes against the aristocracy or plutocracy The usual procedure was for a leader to win popular support, overthrow the existing government, and seize power for himself Ionia seems to have given rise to the first tyrants, notably Thrasybulus of Miletus About the middle of the 7th cent B C , central Greece was the scene of three important tyrannies, those of PERIANDER of Corinth, Theagenes of Megara, and CLEISTHENES of Sicyon The first quarter of the 6th cent B C saw the rise at Athens of the tyranny of PISISTRATUS, followed by his sons HIPPARCHUS and HIPPIAS, which proved of great value to the city The tyrants of Sicily were the products of more or less the same causes as those in Greece, but tyranny was prolonged by the threat of Carthaginian attack, which facilitated the rise of military leaders having the people united behind them Such Sicilian tyrants as GELON, HIERO I, HIERO II, DIONYSIUS THE ELDER, and DIONYSIUS THE YOUNGER maintained lavish courts and were patrons of culture Some of the poems of Pindar celebrate the rule of Hiero I The THIRTY TYRANTS were not tyrants in the usual sense See P N Ure, *The Origin of Tyranny* (1922)

Tyrconnel, Richard Talbot, duke and earl of (tŏl'bŭt, turkŏ'nul), 1630–91, Irish royalist He escaped from Ireland after Cromwell's punitive campaign there (1649), attached himself to James, duke of York (later James II), and was party to various intrigues to restore the monarchy After the Restoration (1660) he used his influence at court to promote his own interests For his supposed connections with the alleged Popish Plot (see OATES, TITUS) he was exiled (1678), but he returned at the accession of James II Talbot was created earl (1685) and sent as commander in chief of the forces in Ireland In this capacity and as lord deputy (1687–88) he supplanted Protestants with Catholics in many key positions After the Glorious Revolution of 1688, James crossed to Ireland and created Tyrconnel a duke—a title recognized only by the Jacobites Tyrconnel fought for James and fled to France after the battle of the Boyne (1690), but returned in 1691 Kept from further active fighting by illness, he died of apoplexy just before the fall of Limerick

Tyrconnel, Rory O'Donnell, earl of, 1575–1608, Irish chieftain He was the brother of Hugh Roe O'Donnell, lord of Tyrconnel, whom he succeeded as chief of the clan in 1602 After the rebellion in which his brother had been a leading figure, Rory went to London (1603) to submit to King James I He was knighted, created earl, and made sheriff of Donegal However, fearing the effect of the recusancy laws upon the power of the Catholic lords, he apparently engaged in a conspiracy with Spain to seize Dublin Castle and the government and to start a general rising His flight, with Hugh O'Neill, 2d earl of Tyrone, after the discovery of the plot, is significant as the end of political power of the tribal chieftains After going to several continental cities, Tyrconnel died at Rome He was posthumously attainted (1613) by the Irish Parliament

Tyrconnell, ancient kingdom in NW Ireland in what is the modern Co Donegal The kingdom was founded by Conall Gulban in the 5th cent , kings of Tyrconnell reigned until 1071.

Tyre (tīr), one of the great cities of the ancient world and an important center of PHOENICIAN CIVILIZATION It is today Sur (sōōr) in Lebanon, a small town on a peninsula jutting into the Mediterranean from the mainland of Syria S of Beirut and of ancient Sidon It was built on an island just off the mainland, but the accretion of sand around a mole built by Alexander the Great to facilitate his siege of the city (333–332 B C) has formed a causeway half a mile wide The date of the founding of the city is extremely uncertain Some scholars believe that the Phoenicians migrated from around the Persian Gulf c 2800 B.C. and that Tyre was founded shortly afterwards At any rate, by 1400 B.C it was a flourishing city The maritime supremacy of Tyre was established by 1100 B C , and by that date its seamen seem to have sailed past the Gates of Hercules and to have planted colonies at Utica and Gades. Tyrians founded the city of Carthage in the 9th cent. B C. Tyre was famous for its industries, such as textile manufactures, and particularly for the purple Tyrian dye Throughout its long history Tyre frequently came under foreign rule In many cases, however, the stability which resulted from the establishment of a large empire, such as that of the Romans, was advantageous to the trade and commerce of the city, and under these rules, Tyre retained varying degrees of autonomy Tyre fell to the Assyrians, the Babylonians, and the Persians. It was sacked by Alexander the Great but recovered quickly In 64 B C it became a part of the Roman Empire, under which, in spite of competition offered by newer cities, such as Alexandria, it prospered. Christianity was introduced early into Tyre and a splendid cathedral, of which there are remains, was built in the 4th cent A D After the rise of Islam, Tyre came under Moslem rule and later under that of the Crusaders It was destroyed by the Moslems in 1291 and never recovered its former greatness The principal ruins of the city today are those of buildings by the Crusaders There are some Greco-Roman remains, but any left by the Phoenicians lie underneath the present town Tyre is mentioned frequently in the Bible See Wallace B. Fleming, *The History of Tyre* (1915)

Tyrnau, Czechoslovakia see TRNAVA

Tyrol (tĭ'rul, tĭrōl'), Ger *Tirol* (tērōl'), autonomous province or *Bundesland* (4,584 sq mi , pop 429,933), W Austria Almost wholly Alpine, it is traversed by the Inn river, on which the capital, Innsbruck, is located The main part of the province is separated from East Tyrol (Ger *Osttirol*) by a corridor belonging partly to Italy, partly to Salzburg prov. The Tyrolean Alps, which culminate in the ÖTZTAL ALPS, are famed for their idyllic beauty and attract many tourists, thus supplementing the limited natural resources of the country Subsistence farming and cattle raising are the main occupations The saltworks at Solbad Hall are an important source of revenue The now little-worked silver mines of Tyrol, known since antiquity, and its strategic situation commanding the BRENNER PASS, gave the region a fairly important role in European history Tyrol was inhabited by Rhaetic tribes when it was conquered (15 B C) by the Romans in the time of Augustus It was invaded (6th cent A D) by Teutonic tribes, the Alemanni and the Lombards, and later by the Franks, who held all Tyrol by the 8th cent Large parts of S Tyrol (now in Italy) were ruled from the 11th cent to 1802–3 by the bishops of TRENT and by the bishops of BRIXEN (see BRESSANONE) The two bishoprics were secularized and fell to Austria in consequence of the Peace of Lunéville (1801) between France and Austria The northern section (constituting the present Tyrol), first divided into petty counties, was united under the counts of Tyrol and passed, with the abdication (1363) of MARGARET MAULTASCH, to Austria In 1805 the Treaty of Pressburg awarded all the Tyrol to Napoleon's ally, Bavaria, but when war broke out in 1809 between France and Austria the Tyrolean peasants, led heroically by Andreas HOFER, rose in revolt and defied the French and Bavarian troops till they were crushed by the immense numbers of the soldiers French reprisals were ruthless In 1810 Napoleon, at variance with Maximilian I of Bavaria, attached most of S Tyrol to Italy Both parts were restored to Austria by the Congress of Vienna (1815) The Treaty of Saint-Germain (1919) awarded S Tyrol (the predominantly German-speaking province of Bolzano and the predominantly Italian province of Trento) to Italy The ruthless Italianization policy of the Fascist government created much unrest and friction between the two world wars (see TRENTINO–ALTO ADIGE), but the Italian constitution of 1947 gave S Tyrol the status of an autonomous region, with full protection of minority rights

Tyrone, Hugh O'Neill, 2d **earl of** (tĭrōn'), 1547?–1616, Irish chieftain, son of Matthew O'Neill, the illegitimate son of the 1st earl (see also O'NEILL, SHANE) Hugh succeeded his murdered brother, Brian, as Baron Dungannon in 1562 and was reared in England He returned to Ulster in 1568, served with the English against the rebel earl of Desmond in 1580, and in 1585 was made earl of Tyrone In 1593 he was recognized by the Irish as the O'Neill and was the most powerful chief in Ulster Dissatisfied with the English government's persistent policy of playing the chiefs against one another, Tyrone was angered also by the English refusal to restore the lands granted to his grandfather At last he sided with the Irish chiefs, especially Hugh Roe O'Donnell, and sought aid against Protestant England from Catholic Spain He achieved something like unity among his allies, after 1595 defeated some of Queen Elizabeth's best commanders in Ireland, and made a short-lived truce with the earl of Essex in 1599 In 1601 his Spanish allies landed in the south of Ireland Going to meet them, Tyrone attacked Lord Mountjoy at Kinsale (1601) and was defeated, as were the Spanish later O'Donnell fled to Spain, Tyrone retreated to Ulster and in 1603 made peace with the English, surrendering his tribal authority His friend James I pardoned him, but his power in Ireland never returned. In 1607 Tyrone suspected that a summons to London to settle a quarrel was a pretext to obtain his imprisonment, and he fled to Flanders with Rory O'Donnell, earl of TYRCONNEL, and a boatload of other Irish nobility The "flight of the earls" marked the end of tribalism in Ireland Eventually Tyrone lived in Rome, pensioned by Spain and the pope. He was attainted in Ireland in 1613 See Seán O'Faolain, *The Great O'Neill* (1942)

Tyrone (tĭrōn'), inland county (1,218 sq mi , 1937 pop 127,586, 1948 estimated pop 130,058), Northern Ireland, in Ulster The capital is Omagh It is a large, hilly county, drained chiefly by the tributaries of the Mourne and the Blackwater The district is pastoral and agricultural Linen, woolens, and whisky are manufactured The region was dominated from the 5th cent by the descendants of Eogan, from whose line rose the O'Neill family Tyrone was organized as a shire at the end of the 16th cent , when the O'Neills were crushed by Queen Elizabeth

Tyrone (tĭrōn'), industrial borough (pop. 8,845), central Pa , NE of Altoona in the Alleghenies, laid out c 1850, inc 1857 Limestone and lumber are produced here It is an important outlet for bituminous-coal products

Tyrrell, Joseph Burr (tĭ'rul), 1858–, Canadian explorer, geologist, and engineer, b Weston, Ont., grad Univ of Toronto, 1880 In 1881 he joined the Canadian Geological Survey as an explorer and in 1883 accompanied G M Dawson on his expedition to the Canadian Rockies He made other explorations in W and N Canada, but his best-known feat was his crossing (1893) the BARREN GROUNDS from Lake Athabaska to Chesterfield Inlet; his total journey, largely by canoe, covered some 3,200 mi In 1898 Tyrrell left the survey and went as a mining engineer to the Klondike His knowledge fitted him admirably for editing some of the most important narratives of early explorers—*David Thompson's Narrative of His Explorations in Western America* (1916), *Documents Relating to the Early History of Hudson Bay* (1931), and the *Journals of Samuel Hearne and Philip Turnor* (1931) See W J Loudon, *A Canadian Geologist* (1931) Tyrrell's brother, **James Williams Tyrrell,** 1863–1945, accompanied him on the expedition across the barren grounds and wrote an account of it in *Across the Sub-Arctics of Canada* (1897)

Tyrrhenian Sea (tĭrē'nēun), part of the W Mediterranean Its limits are the west coast of Italy, the north coast of Sicily, and the east coast of Sardinia and Corsica

Tyrtaeus (tûrtē'us), fl 7th cent B C at Sparta, one of the earliest lyrists known by name Extant are fragments of his martial elegies in Dorian Greek written to spur on Spartan soldiers An Athenian legend relates that Athens sent him, a lame schoolmaster, to Sparta when Sparta needed help in war

Tyrwhitt, Thomas (tĭr'ĭt), 1730–86, English antiquarian and classical scholar He was noted for his studies (1766) of Shakspere and his edition (1775–78) of Chaucer's *Canterbury Tales* He discovered and exposed (1777) the fraudulent authorship of the "Rowley Poems" by Thomas CHATTERTON His chief classical work was an edition (1794) of Aristotle's *Poetics*

Tyumen (tyōōmän'yu), city (pop 75,537), capital of Tyumen oblast, RSFSR, in W Siberia, on the Tura river and the Trans-Siberian RR Founded in 1586, it is the oldest Russian town in Siberia It has sawmills and various manufactures and is an important transfer point for river and rail traffic The name is sometimes spelled Tumen

Tyutchev, Feodor Ivanovich (fyô'dur ēva'nuvĭch tyōō'chĭf), 1803–73, Russian poet Most of his adult life was spent abroad in the diplomatic service, and his poetry is West European rather than strictly Russian He was not fully appreciated until the rise of symbolism, which he foreshadowed Besides love lyrics and philosophical poems, he wrote strongly nationalistic and venomously anti-Western verses Many of Tyutchev's lyrics have been set to music See Vladimir Nabokov, *Three Russian Poets* (1944)

Tzintzuntzan see TARASCAN

Tz'u Hsi, Tsu Hsi, or **Tse Hsi** (all tsŭ' shē'), 1834–1908, dowager empress of China Her energetic rule is credited with prolonging the Ch'ing dynasty She was a consort of Emperor Hsien Feng (d 1861) and bore his successor, T'ung Chih On her child's death (1875) she appointed her nephew KWANG HSÜ to the throne, although he was not in the direct line of succession In 1898 she forced him to abdicate after he had attempted to institute political reforms against her wishes, and she ruled directly She resisted foreign encroachment by encouraging the unsuccessful BOXER REBELLION (1899–1900) In her last years Tz'u Hsi abandoned her conservatism to some extent and consented to several modernizing measures, schools were established, railroad building was encouraged, and opium cultivation was suppressed Her last official act was the appointment of Pu Yi, a remote claimant, as emperor See biographies by Princess Der Ling (1929) and Harry Hussey (1949).

U

U, 21st letter of the ALPHABET, corresponding to the Greek upsilon (ū′psĭlun) [Gr , -u, without the aspirate] Until the late Middle Ages the capital was V, the minuscule u, no distinction being made between consonantal and vocalic uses of the letter The fixing of modern orthography, however, has restricted u to the vowel, v to the consonant In phonetics u usually represents a high back rounded vowel, rather like o͝o in *foot*, English û is a triphthong of y, o͝o, and w, o͝o is a diphthong of o͝o and w In chemistry U is the symbol of the element URANIUM

Uaxactún see MAYA.

Ubangi (o͞obäng′gē, o͞obăng′gē), Fr *Oubangui* (o͞obägē′), river, c 700 mi long, formed on the border of Belgian Congo and French Equatorial Africa by the confluence of the Uele and Bomu rivers It flows west and south to form part of the international boundary and to empty into the Congo river, of which it is the chief northern tributary The upper course of the Ubangi is navigable

Ubangi-Shari, see FRENCH EQUATORIAL AFRICA.

Ube (o͞o′bā), city (1947 pop 108,728), Yamaguchi prefecture, SW Honshu, Japan, on the Inland Sea It is a coal-mining and industrial center

Ubico, Jorge (hôr′hā o͞obē′kō), 1878–1946, president of Guatemala (1931–44) An army general, Ubico as president established financial stability and political order He built an extensive network of roads, and by arbitrary decisions on the spot modernized local administrations to include increased health and school facilities He put down opposition and twice engineered constitutional changes to extend his term of office His efficient and honest but tyrannical rule ended when he was driven into exile by a democratic revolution following a similar revolution in Salvador

Ucal (ū′kăl), name appearing with Ithiel in translations of Prov 30 I Modern critics agree with the Vulgate in regarding these as mistranslations of common nouns, see the translations in the margin of RV and in Douay

Ucayali (o͞okäyä′lē), river, c 1,000 mi long, E Peru, formed by the confluence of the APURÍMAC and URUBAMBA It flows generally north through a mountain and jungle wilderness to the MARAÑÓN, another headstream of the Amazon The Ucayali is navigable for about half of its lower course

Uccello, Paolo (pä′ōlō o͞ot-chĕl′lō), c 1396–1475, Florentine painter His real name was Paolo di Dono, but he was nicknamed Uccello because of his love for birds Although apprenticed to Lorenzo Ghiberti, he shows rather the influence of his friend Donatello One of the so-called realists of the 15th cent, he helped lay the foundations for the great painting of the late Renaissance He was an important pioneer in linear perspective Uccello is perhaps best known for his highly decorative series of battle scenes depicting the *Battle of San Romano* Of these, three panels have survived, in the National Gallery, London, in the Uffizi, and in the Louvre A group portrait of five Florentine artists (Louvre) is accredited to Uccello Other surviving works include an equestrian portrait of Sir John de Hawkwood (cathedral, Florence) and some badly preserved frescoes in the Church of Santa Maria Novella, Florence

Uccialli, Treaty of, see MENELIK II

Udaipur (o͞odīpo͝or′, o͞odī′po͝or) or **Mewar** (māwär′), former princely state (13,170 sq mi, pop 1,926,698), NW India a part of Rajputana There are thickly wooded hills in the south and the west, but the rest of the country is an alluvial plain watered by numerous intermittent streams Grains and cotton are grown Udaipur was probably founded in the early 8th cent It was a center of resistance to the Moslem invaders of India, who never accomplished its complete subjugation Udaipur accepted British overlordship in 1818 In 1948 it joined Rajasthan Udaipur town (pop 59,648), the former capital of the state, was founded c 1560 The town is surrounded by a battlemented wall, and it is especially noted for the maharaja's palace, which overlooks scenic Pichola lake

Udall, Udal (both ŭ′dul), or **Uvedale, John** (ū′dul, ūv′dāl), 1560?–1592, English clergyman, educated at Cambridge He adopted Puritan sympathies and aided John PENRY in issuing the anticlerical pamphlets published under the pseudonym Martin Marprelate Udall was responsible for two tracts (1588) denouncing the episcopacy, *The State of the Church of England* and *A Demonstration of the Truth* In 1590 he was arrested, charged with the authorship of the pamphlets, and sentenced to death He was pardoned but died shortly thereafter Several volumes of his sermons were published

Udall, Udal, or **Uvedale, Nicholas**, 1505–56, English schoolmaster and comic playwright, b. Hampshire, educated at Oxford (B A , 1524, M A., 1534) He was headmaster of Eton (1534–41) and of Westminster School (from 1554) He made various translations from the Latin, and the influence of classical drama, especially the plays of Plautus and Terence, is shown in his play, *Ralph Roister Doister* (pub 1566 but written between 1545 and 1552) It is generally regarded as the first complete English comedy

Uddevalla (ŭ′dŭvăl″lä), city (pop 21,437), Goteborg and Bohus co , SW Sweden, on the Byfjord, inc. 1498 The city makes textiles, matches, and articles of wood.

Udet, Ernst (ĕrnst′ o͞o′dĕt), 1896–1941, German aviator In the First World War he served with the RICHTHOFEN squadron and is credited with 62 victories In the post-war years he was a stunt flyer, but after 1933 he rose in the ranks of the German air force and became chief of its technical division He developed the dive-bombing technique which was effectively used by the Germans in the Second World War, and in 1940 he was promoted quartermaster general Udet was killed in 1941 while testing a new type of plane

Udine (o͞o′dēnā), city (pop 54,638), capital of Friuli-Venezia Giulia and of Udine prov , NE Italy It is the chief city of FRIULI In the 10th cent Emperor Otto II gave the town to the patriarchs of Aquileia, who made it their capital (13th cent) It passed to Venice in 1420 and to Austria in 1797 and 1814, and it was annexed to Italy in 1866 In the First World War it was the headquarters of the Italian army (1915–17) and was occupied by Austria (1917–18) In the main square are the Gothic town hall, a Renaissance loggia, a clock tower, and a fine fountain The castle (rebuilt in the 16th cent), overlooking the city, was the seat of the patriarchs and of the Venetian governors, it now contains the municipal museum The archiepiscopal palace has frescoes by Tiepolo

Udmurt Autonomous Soviet Socialist Republic (o͞od′mo͝ort, Rus o͞odmo͝ort′), autonomous republic (16,300 sq mi , pop 1,220,007), E central European RSFSR, in the highlands between the Kama and Vyatka rivers Izhevsk is the capital Subject to a humid continental climate, it is a predominantly agricultural region, growing flax, rye, oats, potatoes, and wheat Its main industries are flax processing, food processing, and tanning Natural resources include timber, quartz sand, and limestone, and there are sawmills and glass and brick manufactures Heavy manufactures are concentrated at IZHEVSK and VOTKINSK The Udmurts—formerly called Votiaks or Votyaks—are members of the Finno-Permian linguistic group (see LANGUAGE, table), they constitute 52 percent of the population, the rest being mainly Russians (43 percent) and Tatars (2 percent) Dominated (13th–15th cent) by the Golden Horde, the area was colonized in the 16th cent by the Russians It became the Votyak Autonomous Oblast in 1920, was renamed Udmurt in 1932, and became an autonomous republic in 1934

Uel (ū′ul), one who had a foreign wife Ezra 10 34

Uele or **Welle** (both wĕ′lā), river, rising in NE Belgian Congo and flowing c 600 mi west to join the Bomu and form the Ubangi river on the border of French Equatorial Africa The Uele is navigable

Ufa (o͞ofä′), city (pop 245,863), capital of Bashkir ASSR, E European RSFSR, a port on the Belaya river at its confluence with the Ufa Ufa ships grain and lumber and is also an industrial center, producing airplanes, mining machinery, cotton textiles, and processed foods There are several technical, medical, pedagogical, and scientific institutes and a noted old cathedral Ufa was founded in 1586 as a Russian stronghold on the trade route to Siberia It figured prominently in the Russian civil war, falling to Kolchak's army in 1919

Uffizi (o͞ofē′tsē), palace in Florence, Italy, built in the 16th cent by Giorgio Vasari for Cosimo I de' Medici as public offices It houses the Italian National Library (1,500,000 volumes), the state archives of Tuscany, and the **Uffizi Gallery**, one of the richest art collections in the world Besides the Florentine, all the Italian as well as the Dutch and Flemish schools are well represented, with works by Botticelli, Raphael, Leonardo, Michelangelo, Titian, Rubens, to name only a few The world-famous statue of the Venus of the Medici (Greek, 3d cent B C) is also here with other Greek, Roman, and Renaissance sculpture The palace was damaged in the Second World War but all collections were saved

Ugaki, Kazushige (käzo͞o′shĭgä o͞ogä′kē), 1869–, Japanese general He was war minister (1924–27, 1929–31) and governor of Korea (1931–36). A moderate, nonpolitical general, he attempted to form a cabinet in Jan , 1937, but was prevented by the army high command, which refused to let any general accept the war ministry He served briefly as foreign minister and as overseas minister in the second Konoye cabinet, but retired in Sept , 1938

Uganda (ūgăn′dä), British protectorate (93,981 sq mi , pop c 4,045,200), E central Africa The capital is Entebbe Uganda is bordered on the north by the Anglo-Egyptian Sudan, on the west by the Belgian Congo, on the south by Ruanda-Urundi and Tanganyika, and on the east by Kenya Its natural boundaries include the Ruwenzori mts , Albert Nyanza, and Edward Nyanza on the west and Victoria Nyanza on the south Uganda is largely a fertile plateau (3,300–3,700 ft high) with well-forested hills containing deposits of metallic and nonmetallic minerals. There are swampy lowlands and a desert region. Farming is the livelihood of most of the people, and stock raising is minor. The chief export is cotton, coffee and sugar are also shipped out Communications are mainly by road and by waterways, but in the south there are two rail lines, which connect with Kenya. The majority of the people are Bantu Arabs from Zanzibar attempted to control the land in the 19th cent Among the first Europeans to explore Uganda were John Speke (1862) and Henry Stanley (1875) Anglican missionaries, responding to Stanley's appeal, arrived in 1877 and were followed in 1879 by French Catholic missionaries In 1888 Arab traders and native Moslems destroyed the mission settlements and briefly held the native kingdom of Buganda, with its capital at Kampala British power was reasserted shortly after 1890, when Lord Lugard brought Buganda under the control of the British East Africa Company Great Britain proclaimed a protectorate over Buganda in 1894, and to it were added (1896) several neighboring regions Uganda is ruled by an appointed governor with the aid of an executive council and a legislative council See H B Thomas and Robert Scott, *Uganda* (1935)

Ugarit (o͞ogurēt′), ancient city, capital of the Ugarit kingdom, W Syria The location and history of this city were completely unknown until 1931 The accidental discovery of an ancient tomb at the small Arab village of Ras Shamra near modern Latakia led to an expedition which established the identity of the mound as the site of ancient Ugarit The site has been particularly rich in finds, which have yielded much valuable historical information and from which a partial account of the city may be constructed Ugarit was probably occupied from the first appearance of man in Syria The lowest level of the mound dates from the Neolithic period, the 5th millennium B C It developed as a great center of commerce, having important connections with Mesopotamia By the 4th millennium, Ugarit had reached a high stage of development and was part of the general civilization of ancient Syria Between 3000 and 2000 B C , important ethnic changes took place at Ugarit, brought about by the northward migrations of Amorites and Semitic Canaanites Early in the 2d millennium, because of invasions from the north and east, Ugarit turned to an alliance with Egypt, and from this period Egyptian influence was strong in the city The city was also the most important center of Minoan trade in Syria The 15th and 14th cent B C were the period of highest prosperity for Ugarit Trade developed tremendously, and the city expanded in size The rich and abundant art of this period shows that an important Mycenaean colony existed in the city Foreign invasions and economic change in the 12th cent B C caused Ugarit to decline By the end of the century, though it was not completely abandoned, it had ceased to exist as an important town Among the more important discoveries at Ugarit are tablets from the 14th cent B C Written in a cuneiform script, in a hitherto unknown language, Ugaritic, they record the poetic works and myths of the ancient Canaanites They are written in an alphabet that is one of the earliest known Ugaritic has been identified as a Semitic language, related to classical Hebrew, the language of the Old Testament, and these tablets, the first authentic specimens of pagan Canaanite literature, have been of great importance to students of language and of the Bible See C F A Schaeffer, *The Cuneiform Texts of Ras Shamra–Ugarit* (1939), Julian Obermann, *Ugaritic Mythology* (1948)

Ugarte, Manuel (mänwĕl′ o͞ogär′tā), 1878–, Argentine writer A Socialist, he became a militant propagandist against "Yankee imperialism " He advocates solidarity of the peoples of Iberian descent in his works *El porvenir de la América Latina* [the future of Latin America] (1911), *Mi campaña hispanoamericana* (1922), and *El destino de un continente* (1923, Eng tr , 1925) He is noted for his short stories, especially those in *Cuentos de la pampa* (1903) and *Cuentos argentinos* (1908) These and his poetry are in the *modernista* manner

Uglich (o͞o′glyĭch), city (1939 pop over 10,000), N central European RSFSR, on the Volga Founded in 1148, it was the center of a Russian principality in the 13th and 14th cent In its 15th-century fortress, which has been preserved, the tsarevich Dmitri was allegedly murdered in 1591 Uglich had a population of c 40,000 until its destruction (1609) by the Poles. The city now has food-processing plants, woolen factories, paper mills, and sawmills A large hydroelectric station was completed in 1941

Ugolino della Gherardesca (o͞ogōlē′nō dĕl′lä gārärdä′skä), d. 1289, Italian nobleman. He was made

podesta of Pisa in 1284 Thought to have betrayed his city by negligence in battle, he fell victim to a conspiracy headed by Archbishop Ruggeri, who had him arrested for treason He was shut up in a tower and left to starve to death with his sons and grandsons Dante relates the episode in the Canto 33 of the *Inferno*

Ugrian (ū'grē-ŭn, ōō'–) or **Ugric** (ū'grĭk, ōō'–), group of the Finno-Ugric languages See LANGUAGE (table)

Uhde, Fritz von (frĭts' fŭn ōō'du), 1848–1911, German genre painter, best known for his popular pictures of scriptural subjects in modern costume and setting Well-known works include *Going Home* (Metropolitan Mus), *Suffer Little Children to Come unto Me, Nativity,* and *The Walk to Bethlehem*

Uhland, Johann Ludwig (yō'hän lōōt'vĭkh ōō'länt), 1787–1862, German poet, leader of the Swabian group He studied law at Tübingen and later practiced there, held various official posts, and taught German literature His lyrics and ballads, written almost entirely in his youth, made him one of the most popular German poets of the romantic period, and their polished style won critical admiration His ballads include *The Minstrel's Curse, The Good Comrade,* and *Taxtlefer* Uhland was intimately acquainted with the works of the Middle High German poets, his critical studies of which are excellent His works include *Gedichte* [poems] (1815), *Vaterländische Gedichte* [songs of the Fatherland] (1816), and the drama *Ludwig der Bayer* (1819), which, though not successful as a play, included some of his best verse A nearly complete English translation of his poems by Alexander Platt appeared in 1848, and W W Skeat's English version of *Songs and Ballads* in 1864

Uhler, Horace Scudder (ū'lur), 1872–, American physicist, b Baltimore, grad Johns Hopkins (B A , 1894) Associated with Yale from 1906 to 1925 and from 1926, he became professor emeritus in 1941 He is known for his work in spectroscopy, X rays, and geometrical optics He wrote *Atlas of Absorption Spectra* (with R W Wood, 1907)

Uhrichsville (ū'rĭksvĭl), city (pop 6,435), E Ohio, S of Canton, settled 1804, platted 1833, inc as a city 1921 Clay products (especially sewer tiles) are made

Uigurs or **Uighurs** (both wē'go͝orz), people of Asia, of Turkic stock The Uigurs first rose to prominence in the 7th cent , when they were established along the Orkhon river Unlike other peoples of the region, they were not exclusively nomadic, but practiced some agriculture and founded several cities, including Karakorum The Uigurs rapidly expanded, and in the early 8th cent they seized control of all Mongolia from the T'ang dynasty of China and founded an empire which lasted from 745 to 856, when they migrated to E Turkistan and to the western part of what is now Sinkiang prov , China There they established another empire, which was swept away by the Mongols in the 13th cent Today a large percentage of the inhabitants of Sinkiang speak the Uigur language and may be of Uigur descent

Uinta Mountains (ūĭn'tu), range of the Rocky Mts , running E from NE Utah to SW Wyoming The highest point is Kings Peak (13,498 ft) The High Uintas Primitive Area (243,957 acres) was reserved in 1931

Uist, North (ū'ĭst, ōō'ĭst), and **South Uist,** islands, off NW Scotland, in Inverness-shire, two of the Outer Hebrides North Uist (pop 2,349), SW of Lewis with Harris, is 18 mi long and 13 mi wide, with a much-indented coast (Lochs Maddy, Eport, and others) The east is hilly and boggy, but the west has some fertile land Lochmaddy is the chief town Most of the inhabitants are crofters South Uist (pop 2,810) is c 22 mi long and 7 mi wide, with Lochs Boisdale, Eynort, and Skiport indenting the east coast, the best soil is in the west Lochboisdale is the leading town, and the village of Milton is Flora Macdonald's birthplace Benbecula and smaller islands lie between North Uist and South Uist

Uitenhage (ū'tunhāg", oi'tunhā"gŭ), town (pop, 26,502), S Cape Prov , Union of South Africa, founded 1804 Automobiles are assembled, and woolen textiles milled

Uitlander see SOUTH AFRICAN WAR

Ujhely, Hungary see SATORALJAUJHELY.

Uji (ōō'jē), town, Kyoto prefecture, S Honshu, Japan Here is the noted 11th-century monastery, Byodo-in, with its beautiful pavilion known as the Phoenix Hall The town is also a resort and is noted for its tea

Ujiji (ōō-jē'jē), town (pop c 10,000), Tanganyika, a port on Lake Tanganyika It is a center for native trade Here, on Nov 10, 1871, Henry Stanley successfully ended his search for David Livingstone

Uji-yamada (ōō'jē-yä'mädä), city (1947 pop 65,970), Mie prefecture, S Honshu, Japan, on Ise Bay An ancient city, it is one of the foremost religious centers of Shinto, the site of the shrines of Ise, one of which is dedicated to Amaterasu-o-mikami, "divine ancestress" of the imperial family. The city is the seat of a university and a museum of antiquities.

Ujjain (ōōjīn', ōō'jĭn), town (pop 72,729), Madhya Bharat, India To Hindus, Ujjain is one of the holiest places in India, and it is visited by many pilgrims The town is comparatively new, but two miles north is a ruined ancient city, which may have been inhabited in the late 2d millennium B C This city has been identified as the capital of the semilegendary kingdom of Avanti, described in Buddhist chronicles as one of the greatest Indian states Moslems captured the city in 1235 and destroyed all the Hindu temples It fell to Akbar in 1562, and not until it became a part of Gwalior (c 1750) was Ujjain restored to Hindu control

Ujpest, Hung *Újpest* (o͞o'ĭpĕsht), city (pop 76,001), N central Hungary It is an industrial suburb of Budapest

Ujvidek, Yugoslavia see NOVI SAD

Ukiah (ūkī'u), city (pop 3,731), co seat of Mendocino co , W Calif , NNW of San Francisco, in an area producing fruit and hops, inc 1876 An international latitude observatory is here, and there are hot mineral and carbonated springs

Ukraine (ū'krān, ūkrān') or **Ukrainian Soviet Socialist Republic,** Rus *Ukraina* (o͞okrŭē'nŭ, o͞okrī'nŭ), constituent republic (222,600 sq mi ; 1946 estimated pop 40,800,000), SW European USSR, in Eastern Europe, sometimes called Little Russia KIEV is the capital The Ukraine borders on the Black Sea, the Crimea, and the Sea of Azov in the south, on the RSFSR in the east and the northeast, on Belorussia in the northwest, on Poland, Czechoslovakia, Hungary, and Rumania in the west, and on the Moldavian SSR in the southwest In population, economic value, and historic importance, it ranks second after the RSFSR among the constituent republics of the Soviet Union Drained by the Southern BUG, the DNIEPER, and the DONETS, the Ukraine consists largely of fertile steppes, extending from the Carpathians and the Volhynian-Podolian uplands in the west to the Donets Ridge in the southeast The PRIPET MARSHES extend into the NW Ukraine, wooded steppes occupy the center, and a fertile black-earth steppe covers the south Long called the granary of Russia, the Ukraine is one of the chief wheat-producing regions of Europe, frequent droughts, however, have caused crop failures and periodic famines The W Ukraine is predominantly agricultural, LVOV, DROHOBYCH (a petroleum center), and ODESSA (the chief grain port on the Black Sea) are the only major industrial cities, ZHITOMIR and VINNITSA are the main agricultural centers The central and eastern sections, however, form one of the densest industrial concentrations of the world The heavy metallurgical and machine-building industries and the chemical industry are based on the iron mines of KRIVOI ROG, the manganese ores of NIKOPOL, and the coking coal and anthracite of the DONETS BASIN The DNIPROGES dam powers one of the world's greatest hydroelectric stations and has made the Dnieper navigable in nearly its entire length Among the many industrial centers of this area the greatest are KHARKOV, DNEPROPETROVSK, STALINO, ZAPOROZHE, MAKEYEVKA, ZHDANOV, and VOROSHILOVGRAD Besides Odessa, NIKOLAYEV, KHERSON, and Zhdanov are the main seaports A dense railnet serves the entire Ukraine The majority of the population (c 80 percent) are Ukrainians, a Slavic group speaking a language closely akin to Russian Russians and Poles form the rest of the population The majority of those belonging to a religious faith are Russian Orthodox There is a considerable Jewish minority In the west, where Polish cultural influence has long been paramount, the religious situation is complicated by the historic struggle between the Russian Orthodox and the Roman churches for the allegiance of the Ruthenian Church In ancient times the Ukraine—or, at least, its southern part—was inhabited by the Scythians (see SCYTHIA), later displaced by the Sarmatians (see SARMATIA), and was in contact with the Greek and Roman world Early in the Christian era a series of invaders overran the Ukrainian steppes, the Goths, the Huns, and the AVARS succeeded each other, and in the 7th cent the KHAZARS included most of the present Ukraine in their empire The date when the Slavs first settled here is controversial By the 9th cent , when they definitely entered history, they were a well-developed agricultural nation The dukes of KIEV, rulers of the first Russian state, expanded southward in the 9th and 10th cent (see RUSSIA), though they continually had to fight the PECHENEGS and CUMANS The Kievan state split into principalities in the following centuries Among them were the western principalities of GALICH (see also GALICIA) and Vladimir (see VLADIMIR-VOLYNSKI and VOLHYNIA), these and the western region of PODOLIA, though now part of the Ukraine, had separate histories after the conquest (13th cent) of Kievan Russia by the GOLDEN HORDE In the 14th cent the dukes of Lithuania conquered the major part of the Ukraine, which after the union (1569) of Poland and Lithuania came under Polish rule The Black Sea shore, ruled by the khans of CRIMEA, was absorbed into the Ottomah Empire when the khans became (1478) vassals of the sultan. Russian reconquest of the Ukraine began (late 15th cent) in the east under Grand Duke Ivan III of Moscow Thus torn among Poland, Lithuania, Russia, and Turkey, the Ukraine was, as its name signifies in Russian, a border land, subject to continuous disputes, devastating raids, and exhausting wars After the Polish-Lithuanian union of 1569 the Ukrainian peasants were reduced to serfdom by the Polish nobles, and in 1596 King Sigismund III united the Ruthenian Church to Rome, outlawing the Orthodox Church These measures provoked violent opposition among the ZAPOROZHE COSSACKS, who had formed a virtually independent republic under Polish suzerainty In 1648 the Cossacks rose under the leadership of CHMIELNICKI, and in 1654 they proclaimed their union with Moscow By the Treaty of Andrusov (1667) Poland was obliged to cede the NE Ukraine, including Kiev, to Russia The insurrection of MAZEPPA led to the abolition of Cossack autonomy under Peter I, and the Ukraine became an integral part of Russia The annexation (1783) of the khanate of Crimea completed the Russian conquest of the S Ukraine The Polish partition treaties of 1772, 1793, and 1795 (see POLAND, PARTITIONS OF) awarded Podolia and Volhynia to Russia and Galicia to Austria The emergence of Ukrainian nationalism in the 19th cent brought on agitation for autonomy or independence and for the union of all Ukrainians—including those of Austrian Galicia and BUKOVINA and of Hungarian RUTHENIA—under a single state As a result of the Ukrainian nationalist movement and of the Russian Revolution of 1917 a complex situation arose at the end of the First World War An independent Ukraine having been proclaimed (Jan , 1918) by the nationalists and recognized by the Central Powers, Soviet troops entered the Ukraine The Germans and Austrians then proceeded to overrun the Ukraine and forced the Soviets, in the Treaty of Brest-Litovsk (March, 1918), to withdraw their troops The armistice of Nov , 1918, forced the Central Powers to withdraw their troops in turn, and a four-cornered struggle followed among the Ukrainian nationalists, the counterrevolutionary army of DENIKIN, the Red Army, and, in 1920, the Poles Excesses were committed by all sides, but the nationalists under the leadership of Colonel Petlura perhaps outdid the others by their pogroms of Jews The struggle was not limited to Russia but extended to Polish Galicia The Soviets having regained control late in 1920, the Ukraine became one of the original constituent republics of the USSR In the Second World War the Ukraine was devastated by heavy fighting and by three years (1941–44) of German and Rumanian occupation Several major territorial changes occurred in the Ukraine after 1940 S BESSARABIA, recovered from Rumania in 1940, was incorporated with the Ukraine, while the former Moldavian ASSR was detached from the Ukraine and merged with central Bessarabia as the MOLDAVIAN SSR The northern parts of Bukovina and Bessarabia were added to the Ukraine, as was E Galicia, including LVOV, formally ceded by Poland in 1945 The Carpatho-Ukraine (see RUTHENIA), a part of Czechoslovakia from 1919, was also ceded in 1945 Thus the entire Ukrainian people was united under the Soviet regime The Ukraine was admitted to the United Nations in 1945 The termination (1946) of the union with Rome of the Ruthenian Church in the newly acquired territories was denounced by the Holy See See W E D Allen, *The Ukraine* (1941), Michael Hrushevsky, *A History of the Ukraine* (1941), W H Chamberlin, *The Ukraine* (1944), C A Manning *The Story of the Ukraine* (1947)

Ukrainian literature A written Ukrainian language did not emerge until the 16th cent , the first book printed in it being a translation of the Gospels Early books were usually religious, but a grammar appeared in 1619 and a dictionary in 1625 In the 18th cent in accordance with Russia's policy of Russification, Ukrainian was superseded by Russian in the schools The Ukrainian writers of the period—e g , Ippolit Bogdanovich (1743–1803)—wrote in Russian About the beginning of the 19th cent , however, a renaissance of Ukrainian culture occurred Ivan Kotlyarevsky (1769–1838) was the leading figure in the literary revival, his *Natalka of Poltava* reflected the life of the people Most of the work of the novelist Gregory Kvitka (1779–1843) was in Ukrainian Vasil Gogol, father of Nikolai Vasilyevich Gogol who wrote in Russian, was a follower of Kotlyarevsky With the founding in the 1830s of a university at Kiev, the capital became the cultural center, as it had been earlier The leading scholar of the period was Nikolai Ivanovich Kostomarov (1817–85), who wrote the history of the Ukraine Markian Shashkevich (1811–44) collected the songs and stories of his people The great figure of Ukrainian literature, the poet Taras SHEVCHENKO, persecuted by the Russian government during his lifetime, was revered by his own people Second to Shevchenko was another poet, Ivan Franko (1856–1916), author of an epic, *Moses* (1905), and of novels and folk tales Among prose writers of the late 19th and early 20th cent, were the scholar Michael Hrushevsky (1866–1934), the

teller of moral tales **Maria Alexandrovna Markovich** (1834–1907), and the dramatist **Marko Kropivnitsky** (1841–1910). After the Bolshevist Revolution, Ukrainian nationalism became a political offense and many Ukrainian writers were imprisoned, killed, or driven into exile

ukulele (ūkulā'lē), musical instrument of the guitar family having four strings. Derived from the small Portuguese guitar and brought from the Hawaiian Islands to the United States in the 20th cent., it was especially popular in the 1920s

Uladislaus I, king of Hungary: see **Ladislaus III,** king of Poland

Uladislaus II (o͞o"la'dĭslous), Hung. *Uládzló II* (o͞o'lászlō), c 1456–1516, king of Hungary (1490–1516) and, as Ladislaus II, king of Bohemia (1471–1516), son of Casimir IV of Poland. Designated by George of Podebrad as his successor, he was elected to the Bohemian throne. Matthias Corvinus, king of Hungary, invaded his territories and in 1478 acquired Moravia, Silesia, and Lusatia from him. In Bohemia, Uladislaus openly favored the Roman Church against the Hussites. His weak rule enabled the nobles to pass laws in the diets of 1487 and 1497 which made the peasants virtual serfs. On the death of Matthias Corvinus (1490), the Hungarian magnates elected Uladislaus king in preference to Maximilian of Hapsburg (later Emperor Maximilian I). In Hungary also the nobles exploited the king's weakness, abolishing the reforms of Matthias Corvinus and worsening the lot of the peasants. When Cardinal Bakocz issued the call for a crusade against the Turks, the peasants revolted and were cruelly repressed by John Zapolya (later John I). In 1515 Uladislaus concluded with Maximilian I a treaty which eventually brought Hungary and Bohemia under Hapsburg rule—his daughter Anna was promised to Archduke Ferdinand (later Emperor Ferdinand I), his son and successor, Louis II, was to marry Ferdinand's sister, Mary, if Louis died childless (as he did). Hungary and Bohemia were to pass to the Hapsburgs

Ulai (u'lā), biblical name of the Karun, river in Iran. Dan. 8 2,16

Ulala, RSFSR: see Mountain-Altai

Ulam (u'-) **1** Manassite. 1 Chron. 7.16.17. **2** Family of archers. 1 Chron. 8 39,40

Ulan Bator (o͞olan' ba'tôr, o͞o'lən), city (pop. c 100,000), capital of the Mongolian People's Republic. It is connected by motor roads with Siberia and Manchuria, and it is the chief commercial center of the country. Situated in a stock-raising region, it has a large slaughtering and dairy industry. There is a university partly staffed by Russians. Ulan Bator was formerly called Urga

Ulan-Ude (o͞olan"-o͞odā'), city (1926 pop. 28,918; 1939 pop. 129,417, 1946 estimated pop. 150,000), capital of Buryat-Mongol ASSR, RSFSR, in S Siberia, on the Selenga river and on the Trans-Siberian RR, c 50 mi. E of Lake Baikal. An industrial city and an important rail, river, and road transportation center, it produces locomotives and railroad cars, lumber, woolen textiles, glass, meat products, and sugar. It has an agricultural college, a teachers college, and a tuberculosis sanatorium. Founded in 1666, it was a place of exile until c 1780, when it became a city. It was named first Udinsk, then Verkhneudinsk, and finally (c 1935) Ulan-Ude. Developing rapidly into a commercial center, it experienced a gold boom in the mid-19th cent. and grew further after the construction of the Trans-Siberian RR. It became the capital of the Buryat-Mongol SSR in 1923. The population is 80 percent Russian and only 20 percent Mongol

ulcer (ŭl'sur), open sore which tends not to heal and usually occurs on skin and mucous membranes. It may develop as a result of an injury, especially if the tissue is poorly nourished, e.g., in conditions such as varicose veins of the leg, syphilis, tuberculosis, and leprosy. Some ulcers develop into cancer. The underlying cause must be treated as well as the ulcer. One type of ulcer occurs in the stomach and upper intestine, causing pain, especially after eating solid food. Such ulcers may be serious because of hemorrhage and perforation, followed by peritonitis. Some cases are cured by special diets, whereas others require surgical treatment.

Uleaborg, Finland: see Oulu

Ulenspiegel, Tyl. see Eulenspiegel, Till

Ulfilas (ŭl'fĭlus) or **Wulfila** (wo͝ol'fĭlu) [Gothic,=little wolf], c 311–383, Gothic bishop, translator of the Bible into Gothic. He was converted to Christianity at Constantinople and was ordained (341) by the Arian bishop Eusebius of Nicomedia. Ulfilas then returned to his people as missionary, it was partly as a result of Ulfilas's work that the Goths became and remained Arians for so long in the face of triumphant Catholicism. Of Ulfilas's Bible only fragments remain—parts of Genesis, Nehemiah, most of the Gospels, and the whole of 2 Corinthians, with several more fragments. Ulfilas is said to have invented the alphabet he used. His principal manuscript is the Codex argenteus (Uppsala, Sweden), of purple parchment with silver letters.

Ulithi (o͞olē'thē, ūlē'-), atoll (pop. 402), W Pacific, in the W Caroline Islands. It is ENE of Yap. In the Second World War the island was the site of a Japanese seaplane base. Taken in 1944 without opposition, it became a large U.S. naval base. Ulithi is sometimes spelled Uluthi.

Ulla (ŭ'lù) [Heb.,=yoke], Asherite. 1 Chron. 7.39.

Ulloa, Antonio de (äntō'nyō dā o͞olyō'ä), 1716–95, Spanish scientist and naval officer. As a young man he went to Peru with a scientific expedition, remaining in the country from 1736 to 1744; the result was an account of the people and the country published in 1748. The book was translated into English as *A Voyage to South America* (1758; 5th ed., 1807). Sent to New Orleans (1766) as governor or commissioner of Louisiana after that province had been ceded by France to Spain, he was harassed in his administration by the rebellious attitude of the French colonists and by inadequate military and financial support. After an uprising in 1768 he was forced to leave

Ulloa, Francisco de (franthē'skō dā o͞olyō'ä), d. c 1540, Spanish explorer in Mexico. Against the orders of Viceroy Antonio de Mendoza, Hernán Cortés sent Ulloa to explore the Gulf of California. In 1538 he sailed to the head of the gulf, thus proving that lower California was a peninsula

Ullswater, lake, 7½ mi. long and ¼ to ¾ mi. wide, on the Cumberland-Westmorland co. boundary, England, second largest in the country. It is divided into three reaches. The waterfall of Aira Force and Helvellyn mt. are in the vicinity, the scenery, like that of the rest of the Lake District, has inspired many writers. Gowbarrow, a national park, is west of the lake

Ulm (o͞olm), city (1939 pop. 74,387, 1946 pop. 58,087), Württemberg, SW Germany, after 1945 in Wurttemberg-Baden. It is a port on the Danube, which becomes navigable here, and it has many diverse industries, including iron and brass foundries, machine-building plants, breweries, metal manufactures, manufactures of precision instruments, textile mills, and food-processing plants. A canal to join the Danube at Ulm with the Neckar is projected. First mentioned in 854, Ulm became (14th cent.) a free imperial city and ruled a considerable territory N of the Danube. It was one of the greatest commercial centers and one of the most powerful cities of the medieval empire, reaching its zenith in the 15th cent. The commercial revolution of the 15th to 16th cent. and the religious wars in Germany caused its decline. Ulm accepted the Reformation c 1530 and was a member of the Schmalkaldic League. The city and its territory were awarded to Bavaria in 1802 at the Diet of Regensburg, but were transferred to Württemberg in 1810. Bavaria built Neu-Ulm on the opposite side of the Danube, which forms the state boundary here. The industrial development of Ulm dates from the 19th cent. In the Second World War more than half of the city, including most of its oldest district and its historic buildings, was destroyed. The famous Gothic minster, begun in 1377, escaped damage, it is the largest Gothic church in Germany after the cathedral of Cologne. Ulm is the birthplace of Albert Einstein

Ulpian (Domitius Ulpianus) (ŭlpē'un), d. 228, Roman jurist. He was a member of the council of the jurist Papinian, and he occupied the post of Praetorian prefect from 222 to his death. Despite the favor of the emperor Alexander Severus, he was murdered by the Praetorian guard. Ulpian's *Libri ad edictum* [edicts], a statement of the policy he would follow while in office, survives only in excerpts. Much of the *Corpus Juris Civilis* is extracted from Ulpian's writings

Ulreich, Nura (Woodson) (nō͝o'ru, ŭl'rĭk), American painter, illustrator, and writer, known as Nura, b. Kansas City, Mo. She studied at the Kansas City Art Institute, the Art Students League of New York, the Chicago Academy of Fine Arts, and under John Sloan. She is particularly successful in pictures of children, e.g., *Law and Order*. She is also known as a lithographer, and her lithographs illustrate such children's books as her *Buttermilk Tree* (1934), *Nura's Children Go Visiting* (1943), and *The Milly Children Fix Things* (1946)

Ulrich von Lichtenstein or **Ulrich von Liechtenstein** (both o͞ol'rĭkh fən lĭkh'tunshtīn), c 1200–1276, Middle High German poet, a Styrian knight. His chief work was a long chivalric poem, *Frauendienst* [service of his lady] (1255). His skillfully written songs recall Walther von der Vogelweide and represent the work of the later minnesingers

Ulster, northernmost of the historic four provinces of Ireland. Modern Ulster consists of nine counties. Six (Antrim, Armagh, Down, Fermanagh, Londonderry, and Tyrone) now make up Northern Ireland, which is often referred to as Ulster, the remaining three (Cavan, Donegal, and Monaghan) are in the Irish republic.

Ultima Thule: see Thule.

ultimatum (ŭltĭmā'tum), in international law, **final,** definitive terms submitted by one disputant nation to the other for immediate acceptance or rejection. Since refusal to accept the terms may lead to war or hostile measures, an ultimatum usually constitutes a conditional declaration of war. An ultimatum is written and indicates how its nonacceptance will be regarded. When a brief time limit is imposed, the crisis may be more intense, for there is naturally less opportunity for mediation or arbitration. An evasive or delayed answer may be accepted or rejected at the pleasure of the nation which presented the ultimatum. The contracting powers at the Second Hague Conference (1907) agreed to begin hostilities only after giving warning. Thus the presentation of an ultimatum is now usually recognized as a necessary conventionality preceded to the outbreak of war. A famous ultimatum, the immediate cause of the First World War, was that presented by Austria to Serbia on July 23, 1914. Hitler also presented several ultimatums (to Czechoslovakia and Poland) in the year before the outbreak of the Second World War. Japan, however, began its war with the United States with an attack rather than an ultimatum

ultramarine, blue pigment used chiefly as a coloring material and as a bluing agent. A double silicate of sodium and aluminum with some sulphur, it is prepared commercially from kaolin, sulphur, soda ash, and other inexpensive ingredients. It was formerly produced by grinding lapis lasuli and was very costly

ultramontanism (ŭl"trumŏn'tunĭzm) [Latin,=beyond the mountains, i.e., the Alps], formerly, point of view of Roman Catholics who supported the pope as supreme head of the Church, as distinct from those who professed Gallicanism or other tendencies opposing the papal jurisdiction. The term was used principally in France by Gallicans, especially before the French Revolution, but it was revived in 19th-century Germany by the group which left the Church as Old Catholics after the Vatican Council. The term is now obsolete, since all those in communion with the pope (i.e., Roman Catholics) are agreed in their unconditional submission to him. See papacy

ultraviolet ray, invisible component of the sun's radiation. Ultraviolet radiation can be produced artificially by electrode arc lamps, including mercury arc lamps. Much of the sun's ultraviolet radiation is absorbed by the atmosphere before it reaches the earth, that which does reach the earth is unable to penetrate thick clothing, ordinary window glass, or air heavily laden with impurities. Its wave lengths range from approximately 4,000 to 400 angstrom units, and they lie between those of visible violet light and those of X rays. The rays can be seen when the spectrum of an arc light falls on a fluorescent screen, and they may be detected by their photographic and ionizing effects. Exposure to ultraviolet light induces fluorescence in certain substances. Vitamin D is produced by the action of ultraviolet rays on ergosterol, a substance present in human skin and in some of the lower plants (e.g., yeast). Cod-liver oil and irradiated ergosterol are valuable sources of vitamin D. By exposure to ultraviolet radiation certain foods, e.g., milk, become enriched with vitamin D. In certain diseases, especially in rickets, the treatment includes exposure of the patient's body to ultraviolet radiation (this should be done only under a physician's direction). Methods have been developed for using ultraviolet radiation to destroy germs in the air and in infected body tissues. Ultraviolet light has also been used to treat germs employed in the preparation of vaccines. See F. H. Humphris, *Artificial Sunlight and Its Therapeutic Uses* (rev. ed., 1929), H. C. Dake and J. A. De Ment, *Ultra-violet Light and Its Applications* (1942)

Ulúa (o͞olo͞o'ä), river, W Honduras. Flowing north to the Caribbean, the Ulúa, with its tributaries (the Sulaco, the Comayagua, and the Jicatuyo), drains almost the entire western half of the country. In its lower reaches it parallels the Chamelecón. The valley, once a center of the Chorotega civilization, is one of the most productive in Honduras

Ulugh-Beg or **Ulug Beg** (both o͞o'lo͞og bāg'), 1394–1449, Timurid ruler and astronomer. The grandson of Tamerlane, he succeeded to the Timurid domain in 1447. He established an astronomical observatory at Samarkand and is said to have been the first to compile a star catalogue since Ptolemy's compilation. His work, written in Arabic, was translated into Persian, and a Latin version appeared in England in the 17th cent.

Uluthi, Caroline Islands: see Ulithi

Ulverston (ŭl'vurstun, o͞os'tun), urban district (pop. 9,234), Lancashire, England, in the Furness district NE of Barrow-in-Furness. It is a market and steel-producing town. There is a canal to Morecambe Bay. The Church of St. Mary dates partly from the 12th cent. George Fox established a Quaker meetinghouse near Ulverston.

Ulyanov, Vladimir Ilyich: see Lenin.

Ulyanovsk (o͞olyä'nufsk), city (pop. 102,106), capital of Ulyanovsk oblast, RSFSR, on the right bank of the middle Volga. It is a major river port and a commercial and industrial center. Founded in 1648 as Simbirsk, it was renamed in 1924 for Lenin (whose real name was Vladimir Ilyanov), because he was born here. Ulyanovsk manufactures trucks, lathes, and precision instruments and processes agricultural products (grain, meat, potatoes, fruit, and hops). A funicular railway is planned to facilitate access from the water front to the city, which is built on the high riverbank. Lenin's

former home is now a museum. Another museum is devoted to the novelist Goncharov, who was also born here

Ulysses: see ODYSSEUS.

Uman (ōōmän′), city (pop. 44,812), central Ukraine. Founded in the 17th cent., it became a seat of the wealthy and noble Potocki family and was in the 18th cent. the leading commercial center of the Ukraine. During a bloody Cossack rebellion (1768) 18,000 of its Polish and Jewish inhabitants were massacred. The city passed (1793) to Russia in the second Polish partition. In the Second World War it was held (1941–43) by the Germans. It is today a farm center.

Umanak (ōō′mənäk), settlement (pop. 470) and colony district (pop. 1,477), W Greenland, on an inlet of Baffin Bay. A hunting and fishing base, it has a radio station and a hospital.

Umatilla (ūmətĭl′ə), town (pop. 1,149), Lake co., central Fla., N of Lake Apopka, in a citrus-fruit area, settled 1862. A home for crippled children is in Umatilla.

Umatilla (ū″mətĭl′ə), river, 80 mi. long, rising in NE Oregon in the Blue Mts. It flows W past Pendleton and NW to the Columbia river at the town of Umatilla. Its waters are tapped for irrigation purposes.

umber see OCHER.

umbilical cord (ŭmbĭl′ĭkul). A cordlike structure about 22 in. long extends from the abdominal wall of the FETUS to the PLACENTA. It consists of a continuation of the membrane covering the fetus and encloses a mucoid jelly in which lie two arteries and one vein. The arteries carry unoxygenated blood and the vein carries oxygenated blood. After birth the cord is tied off and cut. Sometimes the cord is abnormal in length, and sometimes it breaks or forms loops and knots which may cause asphyxia. It is subject to infection, e.g., by syphilis.

umbrella, used as a protection against the sun in China, Egypt, and elsewhere in remote antiquity. In many places it has been an emblem of rank, and as such it appears in sculpture, as at Nineveh. Its use in Europe as a protection from rain did not become general until the 18th cent., when it is said to have been introduced in England by Jonas Hanway.

umbrella tree see MAGNOLIA.

Umbria (ŭm′brēə, Ital. ōōm′brēä), region (3,281 sq. mi., pop. 722,544), central Italy, crossed by the Apennines and the upper valley of the Tiber. It is divided into the provinces of Perugia and Terni. PERUGIA is the capital. Mainly agricultural, Umbria produces cereals, wine, olive oil, and fruit. There are several hydroelectric plants, centered mostly around TERNI. The limits of the region varied at different times. Our knowledge of the ancient Umbrians is derived from inscriptions found here. The IGUVINE TABLES are the most important. There also are many Etruscan remains of a later period. Umbria was conquered by the Romans (3d cent. B.C.), and in the early Middle Ages it was usually included in the powerful duchy of Spoleto. Free communes developed in most cities (12th cent.) and local autonomy and petty tyrants prevailed until the fall of Perugia (1540), when practically all Umbria (except GUBBIO) passed under direct papal rule. Umbria was the home of St. FRANCIS. Art flourished in Umbria from ancient times. Its school of painting, founded by Niccolò da Foligno, flourished in the 15th and 16th cent., with such masters as Pinturicchio and Perugino.

Umbrian (ŭm′brēun), language belonging to the Italic subfamily of Indo-European languages. See LANGUAGE (table).

Ume, Swed. *Umeälv* (ū′məĕlv′), river, 270 mi. long, NE Sweden. At its mouth on the Gulf of Bothnia lies **Umea,** Swed. *Umeå* (ū′məō″), a city (pop. 15,898) of Vasterbotten co. Exporting chiefly tar, Umea has important pulp mills, machine shops, and furniture factories. It was incorporated in 1622 and burned by the Russians in 1720.

umlaut (ōōm′lout) [Ger., = transformed sound], in INFLECTION, variation of vowels of the type of English *man* to *men*. In this instance it is the end product of the effect of a *-y-* (long since disappeared) which was present in the plural, the *-y-* caused the vowel before the *-n-* to be pronounced higher and more forward in the mouth in the plural than in the singular, eventually there was replacement of the vowel in the plural. Other examples are *mouse, mice, tooth, teeth, to fall, to fell, doom, deem.* Umlaut is called also mutation and infection. For the variation of *ring, rang,* see ABLAUT.

Ummah (ŭ′mə) [Heb., = yoke], unidentified city, NW Palestine. Joshua 19:30.

Umnak (ōōm′näk), island, 83 mi. long, off W Alaska, one of the ALEUTIAN ISLANDS. Sheep, introduced here in 1923, produced superior wool. The herdsmen were evacuated and flocks destroyed when a U.S. base was established in the Second World War, but the island was restocked in 1944. There are also reindeer.

Umpqua (ŭmp′kwə), river rising in two forks in SW Oregon, in the Cascade Range N of Crater Lake. The united stream flows N, then W, to the Pacific.

Umpqua Indians (ŭmp′kwə), North American Indian tribe of Athapascan linguistic stock. In the mid-19th cent. the Umpqua were settled on the upper Umpqua river in SW Oregon. They then numbered some 400. They lived in houses of boards and mats and subsisted by fishing in the Umpqua river. Part of the Umpqua, the Nahankhuotana, lived along Cow Creek. The Lower Umpqua are distinct from the others, they are part of the Siuslaw linguistic stock. Today the Umpqua live on a reservation in Oregon, where they number some 80.

Umtali (ōōmtä′lē), town (pop. 9,737), E Southern Rhodesia. It is on a railroad to Beira in Mozambique. Industries include hardwood milling and cotton spinning. Gold is mined near by.

Umtata (ōōmtä′tə), town (pop. 7,351), capital of Transkeian Territories and of Tembuland, Union of South Africa. It is the terminus of a railroad to East London. There is trade in wheat and cattle.

Unadilla (ūnədĭl′ə) **1** Town (pop. 1,137), central Ga., SSW of Macon. **2** Village (pop. 1,079), E central N.Y., on the Susquehanna and NE of Binghamton, in a dairy region, settled 1790, inc. 1827. Silos and road machinery are made here.

Unaka Mountains (ū′nukə), range of the Appalachians, forming part of the N.C.–Tenn. border, NE of the Great Smoky Mts.

Unalaska (ū″nälä′skə, ōō″nu–), island, 30 mi. long, off W Alaska, one of the ALEUTIAN ISLANDS. The rough island was discovered by Vitus Bering in 1741 and later was a center of Russian fur trade until Kodiak rose in importance. An Aleut uprising here brought bloody reprisals in 1762. The Russians planted spruce here, some of the few trees in the Aleutians. The village of Unalaska on Unalaska Bay still has its Russian church. On Amaknak island in the bay is Dutch Harbor.

Unamuno, Miguel de (mēgĕl′ dä ōōnämōō′nō), 1864–1930, Spanish writer and scholar, the chief Spanish philosopher of his period, b. Bilbao, of Basque descent. He was professor of Greek at the Univ. of Salamanca and later rector of the university, but his criticism of the monarchy and especially of the dictator, Primo de Rivera, caused his removal in 1920 and his exile from 1924 to 1930. With the establishment of the republic (1931) he was reinstated as rector. At first a supporter of the republic, Unamuno became critical of it and in 1936, not long before his death, declared himself in favor of the rebels. His masterpiece is *Del sentimiento trágico de la vida en los hombres y los pueblos* (1913, Eng. tr., *The Tragic Sense of Life in Men and in Peoples,* 1921), a philosophical work in which he expresses his highly individualistic philosophy—one of faith only in faith, not in any affirmation or negation of faith. Other important volumes are *La vida de don Quixote y Sancho* (1905) and *La Agonía del cristianismo* (1925, Eng. tr., *The Agony of Christianity,* 1928). His poetry, as profound as his essays, includes *Poesías* (1907), *Rosario de sonetos líricos* (1911), and *El Cristo de Velázquez* (1920). He wrote several novels, which also express his impassioned concern with life and death; they are *Niebla* (1914, Eng. tr., *Mist,* 1928), *Tres novelas ejemplares y un prólogo* (1920, Eng. tr., *Three Exemplary Novels and a Prologue,* 1930), and *La tía Tula* (1921). His collected essays were published (in Spanish) in eight volumes (1916–18).

Uncas (ŭng′kus), c.1588–c.1683, chief of the MOHEGAN INDIANS. Uncas was a subchief of the PEQUOT INDIANS, but because of trouble with the chief, Sassacus, he withdrew with his followers and formed a separate tribe, the Mohegan. This tribe flourished under Uncas's leadership, absorbing most of the remaining Pequot after that tribe was defeated by the English in the Pequot War. Uncas was ambitious and sought British support. He was constantly at war with MIANTONOMO, the Narragansett chief. Both sided with the British in the Pequot War, but despite a treaty of peace (1638) signed between them through the instrumentality of the British, trouble continued. Uncas finally captured Miantonomo in 1643 and murdered him, with British acquiescence. Through the rest of his life Uncas was involved in various troubles with the British and other Indians.

uncial see PALEOGRAPHY.

Uncle Remus. see HARRIS, JOEL CHANDLER.

Uncle Sam, name used to designate the U.S. government. The term arose in the War of 1812 and seems at first to have been used derisively by those opposed to the war. Possibly it was an expansion of the letters "U.S." on uniforms and government property, but some sources attribute the origin of the term to Samuel Wilson of Troy, N.Y. Wilson, known as Uncle Sam to many friends and townspeople, inspected army supplies with his brother. The "U.S." stamped on supplies was jokingly referred to as "Uncle Sam" by the workmen, and this identification spread rapidly. Regardless of its origin, the term found wide application and became permanent.

Uncompahgre (ŭn-kumpä′grē), river rising in SW Colorado in the San Juan Mts., S of Ouray, and flowing c.75 mi. NNW past Montrose to the Gunnison river at Delta. Its waters are used for irrigation. Gunnison Tunnel diverts water from the Gunnison river to the Uncompahgre.

Uncompahgre Peak, 14,306 ft. high, SW Colo., in the San Juan Mts. of the Rockies and ENE of Ouray.

unconscious, in psychology, term generally defined as meaning that aspect of mental life which is apart from immediate consciousness and which is not subject to recall at will. It is also called the subconscious. Although J. F. Herbart had given the unconscious an important role in his psychological investigations, it was not until Freud and his work in PSYCHOANALYSIS that the concept took a dominant position in the explanation of mental activity and of neurosis. Freud regarded the unconscious as forming a submerged but vast portion of the mind and as acting as the motivating force in human behavior. It is composed of instinctual drives and contains the residue of unacceptable experiences and desires which the individual hides or represses from conscious recognition. The majority of psychoanalysts, believing that the emotional conflicts underlying neurosis are to be found in the conceptual area of the unconscious, direct their attention towards bringing this material to the surface or consciousness. The strongest empirical evidence for the existence of the unconscious was found by Freud to be the fact that under hypnosis the individual is able to remember experiences which he is unable to recall in a normal state. To the Freudian concept of the unconscious C. G. Jung added an inherited one, the collective experience of man in his total existence as a race. The concept of the unconscious is rejected by some psychological schools and is disregarded by others. See also HARTMANN, EDUARD VON.

unction, extreme see EXTREME UNCTION.

underground, term used during the Second World War to designate secret resistance against enemy occupation. It applied especially to organized opposition to German occupation, although underground movements existed also in Italy, in the Axis satellite countries (notably Bulgaria) and in the countries invaded by Japan. Underground forces came into existence in the order in which European countries were absorbed by the Axis, but their strength, organization, and effectiveness varied widely. Underground operations fell into five categories: military operations, industrial sabotage, espionage, propaganda, and the organization of escape routes for Allied prisoners of war. Military operations ranged from full-scale warfare, as in YUGOSLAVIA, to individual assassinations of German soldiers, as in Denmark. In France, Belgium, the Netherlands, Italy, and the Balkans the underground joined with the Allied forces after the liberation of their countries had begun. In the USSR they continued to harass the Germans from the rear, while in Poland they rose prematurely and were crushed. Arms were supplied through caches prepared before final surrender, through weapons dropped by Allied airplanes, through raids on Axis warehouses and supply convoys, and even through black-market deals with the Axis troops themselves. Military operations also included the sabotaging of bridges, railroads, and public utilities. In France where the resistance movement was particularly effective, the guerrilla groups were known as the MAQUIS, they later became French Forces of the Interior. Industrial sabotage ranged from bomb plots to deliberate mistakes or willful slowdowns in factories. Espionage was conducted with great effectiveness in Western Europe, especially in France, and in close contact with Allied Intelligence Headquarters in London. Propaganda activities, particularly in France, were carried out boldly through secret publishing houses (such as Les Editions de Minuit), newspapers, handbills, and radio stations. The "underground railroad" in France for the return of Allied war prisoners also served for the conveyance of Allied agents—often old underground members who had escaped to England to be trained there—into German-held territory. The composition of the underground was generally leftist. In several countries underground activities continued after the war. In Yugoslavia the *chetniks* were put down with force by the government. In Poland the government also put down an underground movement. In Greece guerrilla warfare swelled to full civil war. Underground forces were also prominent in the formation of ISRAEL.

Underground Railroad, in U.S. history, the irregular, secret system of helping fugitive slaves from the South reach freedom in the free states and Canada. It may have existed as early as 1804 or soon after the War of 1812, when Negro slaves supposedly first heard of Canada from veterans and were told by friendly whites to follow the North Star as a guide. One source has it that the slaveholders, puzzled and frustrated by the number of successful escapes, began saying (c.1831) that the Negro slaves "must have gone on an underground railroad" and that antislavery workers happily took up the metaphor and adopted railroad terminology for their operations. The slaves were guided, usually at night, over generally fixed routes by "conductors" from one "depot" or "station" to another, most often the home of an abolitionist, a "station master," who was ever on the lookout for the next "train." At first mostly a hit-or-miss

affair, the "U.G" had to function more smoothly after professional slave catchers were hired by the masters to recover their human property But it was not, nor could it have been, a thoroughly organized activity, since its operations were illegal, and secrecy was absolutely essential Most workers rarely knew of any but the near-by stations The Quakers, who believed simply that SLAVERY was evil and any effort to end it good, were doubtless first active in the work, which soon attracted other sects and individual humanitarians Levi COFFIN was probably the movement's most prominent figure John BROWN kept a station, and Negroes themselves, notably Harriet TUBMAN, were very important in the operations, which were naturally more dangerous for them than for whites The Underground Railroad existed in every state north of the border slave states, and there were particularly extensive networks throughout Ohio, Indiana, and Illinois Philadelphia was an important Eastern center The more stringent FUGITIVE SLAVE LAWS enacted as part of the COMPROMISE OF 1850 were aimed at the system, but had the opposite effect of increasing antislavery sentiment in the North Although comparatively few of the South's slaves were delivered to freedom (75,000 by the beginning of the Civil War is one estimate), the Underground Railroad was of great value as an active outlet for the bursting moral energy of the ABOLITIONISTS See W H Siebert, *The Underground Railroad from Slavery to Freedom* (1898), Henrietta Buckmaster, *Let My People Go* (1941)

Underhill, John, c 1597-1672, military commander in the American colonies, b Warwickshire, England His varied and stormy career commenced with army service in Spain In 1630 he accompanied John Winthrop to Massachusetts Bay, and in 1637 he distinguished himself as a commander with John MASON (c 1600–1672) in the Pequot War, of which he wrote an account in *News from America* (1638) Because of his ardent support of Anne HUTCHINSON in the antinomian controversy, he had to flee from Massachusetts Bay Later in New Netherland he commanded (1644) for the Dutch against the Algonquin Indians, he opposed Peter Stuyvesant and had to leave the colony but returned after the British conquest of 1664 See biography by H C Shelley (1942)

Underwood, Lucien Marcus, 1854–1907, American botanist and educator, b New Woodstock, N Y, grad. Syracuse Univ, 1877 He is the author of *Our Native Ferns and How to Study Them* (1881), *Descriptive Catalogue of North American Hepaticae North of Mexico* (1884), *Moulds, Mildews, and Mushrooms* (1899), and several books on genealogy

Underwood, Oscar Wilder, 1862–1929, American political leader, b Louisville, Ky He attended (1881–84) the Univ of Virginia, was admitted (1884) to the bar, practiced law in Birmingham, Ala, and became important in Democratic party politics In the House of Representatives (1895–1915), he introduced the Underwood Tariff Act of 1913, which drastically reduced tariff schedules and transferred many articles to the free list The Underwood Tariff, however, was not put in force because of the outbreak (1914) of the First World War As a U S Senator (1915–27), Underwood became the Democratic leader and a leading exponent of President Woodrow Wilson's foreign policy He was a delegate to the Washington Conference on naval limitation (1921–22) and to the Pan American Conference of 1928 Underwood was a prominent contender for the Democratic presidential nomination in 1920 and 1924 He wrote *Drifting Sands of Party Politics* (1928)

Undset, Sigrid (sĭ'grĭd ōōn'sĕt), 1882–1949, Norwegian novelist, daughter of an archaeologist Most of her early novels, such as *Jenny* (1911, Eng tr, 1921), are contemporary in background and theme, but the first of the historical novels for which she is chiefly famous, *Gunnar's Daughter*, appeared in 1909 (Eng tr, 1936) Her great trilogy of medieval Norway, *Kristin Lavransdatter* (1920–22), appeared in translation (1923–27) as *The Bridal Wreath*, *The Mistress of Husaby*, and *The Cross* It was followed in 1925–27 by the tetralogy *Olav Audunsson* (Eng tr, *The Master of Hestviken*, 1928–30, it includes *The Axe*, *The Snake Pit*, *In the Wilderness*, and *The Son Avenger*) The details of period and locale form an unobtrusively authentic background for the play of character and emotions She was awarded the 1928 Nobel Prize in Literature Her writing, always concerned with questions of ethics, deepened in religious intensity after Mme Undset became a Roman Catholic convert in 1924 Her later novels include *Ida Elisabeth* (1932, Eng tr, 1933), *The Faithful Wife* (1936, Eng tr, 1937), and *Madame Dorthea* (1939, Eng tr, 1940) *The Longest Years* (1934, Eng tr, 1935) is autobiographical Driven from Norway in 1940 by the Nazi invasion (in which her oldest son was killed), Mme Undset came to the United States In 1945 she returned to Norway See Alrik Gustafson, *Six Scandinavian Novelists* (1940)

undulant fever (ŭn'dyōōlunt), **brucellosis** (brōōsulō'sĭs), or **Malta fever,** disease of man and animals caused by the brucella organisms (*Brucella melitensis*, *B. abortus*, or *B. suis*). The bacteria and their toxic products circulate in the blood stream. The organisms are nonmotile and nonsporeforming and cause abortion in animals Goats are affected by the *B melitensis*, cattle by *B abortus*, and hogs by *B suis* The disease is transmitted to man through the ingestion of infected food or liquids or by direct contact with infected animal tissues or discharges Farmers, meat handlers, and veterinarians are particularly subject to infection In humans the course of the disease varies, there is usually a long period of disability marked by disturbances of the digestive and other systems, a remittant type of fever of varying lengths (alternating with periods of absence of fever), and other symptoms Diagnosis is made by culture of the blood, guinea-pig inoculation, the agglutination reaction, and skin tests The use of certain antibiotic substances and also autogenous vaccines have been used in the treatment of the disease A protected water supply and the pasteurization of milk and milk products are important factors in prevention

unearned increment, gain in the value of property not due to any act of the owner The progress of a community may enhance the value of land Unearned increment of this kind Henry George proposed to secure for the community by a SINGLE TAX There may be unearned increment also in the value of securities, rarities, and objects of art

unemployment was formerly assumed to be voluntary, and idleness was punishable at law It is now generally recognized that it arises from various factors—e g, cyclical changes in business activity, seasonal fluctuations, technological progress—which are beyond the control of the individual worker It is also maintained that a certain amount of unemployment is inevitable in a free economy Unemployment became a major problem in all countries in the economic crisis which followed the First World War and again in the depression of the 1930s In addition to attempts to stimulate business recovery and thus increase employment opportunities, governments have taken different measures to deal with the problem In the United States, emphasis has been laid on public works, and in 1935 unemployment insurance was introduced, in Great Britain, employment exchanges were set up and a contributory unemployment insurance scheme established In Soviet Russia it is claimed that unemployment has been eliminated by socializing the means of production and distribution and channelizing labor into more productive industries Besides the poverty and ill-health involved in periods of unemployment one of the serious aspects is that unemployed workers lose their skill in specialized work and that there is thus created an increasing number of "unemployables" See VAGRANCY See W H Beveridge, *Unemployment a Problem of Industry* (rev ed, 1930), A C Pigou, *The Theory of Unemployment* (1933), Corrington Gill, *Wasted Manpower* (1939)

unemployment insurance The chief object of such insurance is to stabilize employment or to maintain unemployed workers until they are reabsorbed into industry Compulsory unemployment insurance makes this protection legally obligatory for certain classes of workers under prescribed conditions Voluntary unemployment insurance is maintained by private organizations—sanctioned, encouraged, or subsidized by the state The first attempts to establish unemployment insurance schemes began toward the end of the 19th cent in Germany, Italy, and Switzerland In 1901 Ghent, Belgium, established a public commission to regulate and supervise the payment of public subsidies to unemployed workers Following this pattern most Central and Western European states adopted the scheme in the next 20 years France, 1905, Great Britain, 1911, the Netherlands, 1916 Italy, 1919, and Germany, 1927 In the United States, allocation of unemployment insurance is under the administration of both state and Federal governments The Social Security Act of 1935 provides for a sliding scale of payroll taxes upon industry, based upon the index of production of the Federal Reserve Board (see SOCIAL SECURITY) The Bureau of Employment Security under the Federal Security Agency is responsible for administering the law Exempt from the tax are employers having less than eight workers or those in the following industries shipping, domestic service, agriculture, hotels, laundries, and restaurants, Federal, state, or local services, and nonprofit organizations (charitable, religious, educational, and scientific) See P H Douglas, *Standards of Unemployment Insurance* (1932) and *Social Security in the United States* (1939)

UNESCO. see UNITED NATIONS EDUCATIONAL, SCIENTIFIC, AND CULTURAL ORGANIZATION.

Unfederated Malay States: see MALAYA.

Ungava Bay (ŭng-gā'vŭ, -gā'vŭ), N Que, extending 200 mi S from Hudson Strait, between the N Quebec mainland and the north tip of the Labrador peninsula It is 160 mi wide at its mouth, contains Akpatok Island, and receives the Payne, Leaf, Koksoak, Whale, and George rivers The **Ungava** region (239,780 sq mi), south of the bay, originally a possession of the Hudson's Bay Company, was made a part of the Northwest Territories in 1869 and became in 1895 a separate district. In 1912 it was added to the province of Quebec, and in 1927 its boundary with Labrador was established The region is drained by the Koksoak, with its headstreams, the Kaniapiskau and the Larch, and by the Whale river. It contains valuable minerals and iron deposits, largely unexploited

Ungvar, Ukraine see UZHGOROD

Uni (ōō'nē), c 2635–c 2565 B C, Egyptian official of the Old Kingdom His career is known through his private inscription Rising steadily from an obscure court position, he was at length chosen over men of higher rank to command against the Bedouins, whom he defeated on five successive punitive expeditions and finally pursued, by sea and land, as far as the highlands of Palestine, the farthest point reached by the Egyptians of the Old Kingdom Under the next king, as governor of the south, he established water connections with the quarries just above the First Cataract by a series of five canals cut through granite, built boats of Nubian timber, and shipped granite blocks down river for the royal pyramid

Uniates or **Uniats** see ROMAN CATHOLIC CHURCH

unicorn (ū'nĭ-) [Latin, =one-horned], in fable, an equine beast of India with a long horn jutting from the middle of its forehead It was often considered as a composite monster, having the features of various animals It is usually pure white in color It has been used to represent virginity, and the hunting of the unicorn was a favorite subject in tapestries of the late Middle Ages and the Renaissance The unicorn, representing the Scottish arms, appears in the royal arms of Great Britain The biblical unicorn is probably a wild ox

uniformism or **uniformitarianism,** in geology, the doctrine that changes in the earth's surface occurring in past geologic time are referable to the same causes as changes now being produced upon the earth's surface This doctrine, the basic concept of which was first advanced by James Hutton in his *Theory of the Earth* (1785, 1795), was further expounded by John Playfair in his *Illustrations of the Huttonian Theory* (1802) It made little progress, however, against the teachings of the school of Abraham Gottlob WERNER and as a theory of dynamic geology was overshadowed by the doctrine of CATASTROPHISM of which the prophet was G L Cuvier This was in large measure because of the fact that uniformism, requiring an immensely long period of time for the consummation of geological process (thus disturbing the accepted chronology) and setting aside all remarkable catastrophies (thus, it would seem, denying the Flood), appeared to be contrary to religion Uniformism had its day, however, in the 19th cent, when it was widely accepted as a result of the efforts of Sir Charles LYELL The more recent tendency has been to effect somewhat of a synthesis of the two theories, based mainly upon Lyell's conception of the slow operation, over extremely long periods of time, of forces at work in historic time, but admitting the existence in earth history of periods when such activity was accelerated and intensified

Unimak (ōō'nĭmăk, ū'-), island, 70 mi long, off W Alaska, one of the ALEUTIAN ISLANDS, nearest of the chain to the Alaska Peninsula It is volcanic

Union. **1** Town (pop 1,150), S Maine, between Augusta and Rockland, settled 1774, inc 1786 **2** Town (pop 1,543), E central Miss, NW of Meridian, in a farm area, settled c 1830 on the site of an Indian village **3** City (pop 2,125), co seat of Franklin co, E Mo, near the Missouri and W of St Louis, laid out 1826 It lies in a farm area with lead and coal deposits **4** Township (pop 24,730), Union co, NE N J, SW of Newark, settled from Connecticut as Connecticut Farms in 1749, inc 1808 Machinery is made here Its church and other buildings were burned in the Revolution **5** City (pop 1,398), NE Oregon, SE of La Grande, founded 1862, inc 1878 It is the trade center of a farming and stock-raising area A livestock experiment station of Oregon State College is here **6** Textile city (pop 8,478), co seat of Union co, N S C, near the Broad River NNW of Columbia, in a farm area, settled 1791 Many fine antebellum houses remain

Unión, La (lä ōōnyōn'), city (1946 estimated pop 6,423), SE Salvador, a port on the Gulf of Fonseca With the subsidiary port, Cutuco, La Unión is the southern terminus of the International Railways of Central America and principal port of the republic, handling nearly two thirds of its exports and one third of its imports, though loading must be done by lighter The chief exports are coffee, hides, henequen, and Peruvian balsam In 1947 La Unión was greatly damaged by earthquake and the eruption of near-by Conchagua volcano

Unión, La, city (pop 7,207), Murcia prov, SE Spain, E of Cartagena It is a center for the rich lead, silver, iron, and zinc mines of the vicinity, which have been worked since Carthaginian times

Union, Act of. For the union of England and Scotland (1707), see GREAT BRITAIN; for the union of Ireland (1800) with Great Britain, see IRELAND For both, see UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

Union, Fort, trading post of the American Fur Company. It was erected in 1828 near the confluence of the Yellowstone and Missouri rivers and controlled converging routes of travel from the mountain region For almost 40 years it was the most important establishment in the U S fur country Kenneth McKENZIE here ruled over a vast extent of territory for years The U S army assumed control in 1867, when Fort Union was torn down and Fort Buford, a military post, erected near by

union, labor, organization of workers for the purpose of improving their economic status, particularly through collective bargaining with employers In present-day parlance there are two chief types of union the horizontal or craft union, in which all the members are skilled in a certain craft (e g , the International Brotherhood of Carpenters and Joiners), and the vertical or industrial union, composed of workers in the same industry whatever their special skill or trade (e g , the United Automobile Workers of America) A company union is an employer-controlled union which has no affiliation with other organizations Although there were associations of journeymen under the guild system, trade unions had their real beginnings with the INDUSTRIAL REVOLUTION, and they are a concomitant of industrialization in all parts of the world In England after the French Revolution fear of uprisings by the working classes led to repressive laws against industrial combinations Their repeal (1824) brought a period of rapid growth of labor unions With the organization in the 1860s of miners and textile workers union membership was greatly increased, and the struggle for legal recognition was waged with vigor After the Reform Act of 1867 British labor became increasingly effective politically, although it required the laws of 1913 and 1915 to free it completely The Labour party was formed at the 1899 meeting of the Trades Union Congress In the '80s and '90s the socialist movement made headway among trade unionists Since 1875 the British trade unions have been federated in the Trades Union Congress On the Continent, countries such as Germany which were early industrialized developed strong trade unions in the 19th cent In Germany the printers' and cigar makers' unions were started after the Revolution of 1848 and continued to be important, unions there until the First World War were responsible for much social legislation In most European countries labor organizations are political parties, usually left wing In the United States, on the other hand, until recent years unions have avoided political affiliation There were associations of journeymen in colonial America, the Federal Society of Journeymen Cordwainers (Philadelphia, 1794) is sometimes considered the first trade union in the country This trade society and societies of printers, carpenters, tailors, weavers, and others were closely restricted craft unions, whose purpose was to keep up their standards and prevent the hiring by employers of untrained workers and the importation of foreigners From 1806 there were numerous prosecutions by employers of unions as combinations in restraint of trade The early 1830s, a period of industrial prosperity and inflation, was a time of union development, however, the financial Panic of 1837 halted this growth After the Civil War, in 1866, the first national labor organization was formed, the National Labor Union, it had such objectives as the abolition of convict labor and the restriction of immigration, but it collapsed with its entry into politics in 1872 Of the early national organizations the KNIGHTS OF LABOR (1869–1917) was the most important, however, with the rise of the AMERICAN FEDERATION OF LABOR in the 1890s under Samuel Gompers, it dwindled in numbers and effectiveness The leaders of the A F of L have always been craft unionists and have opposed the entry of the federation into politics In 1905 a huge, unwieldy, but militant industrial body arose —the INDUSTRIAL WORKERS OF THE WORLD It organized all kinds of unskilled workers—lumbermen, migratory workers, miners With the harrying of left-wing bodies during and after the First World War, the I W W membership shrank, and the organization was dissolved in 1925 In the depression of the 1930s another industrial organization arose, made up at first of dissident unions of the American Federation of Labor, this was the CONGRESS OF INDUSTRIAL ORGANIZATIONS, led at first by John L. Lewis, president of the UNITED MINE WORKERS OF AMERICA The C I O. supported President Roosevelt's New Deal measures, but in the election of 1942 Lewis refused to support the President and led his union back to the A F of L. Such major industries as steel and automobile manufacture were organized by the C I O in the 1930s. Under the NATIONAL LABOR RELATIONS BOARD workers in all plants are enabled to choose by majority the union and therefore the federation to which they wish to belong, this has in some cases led to jurisdictional strikes. The World Federation of Trade Unions was from 1945 to 1949 the international trade-union body. Claiming that it was an agent for Communist propaganda, the American, British, and Dutch delegates withdrew in Jan , 1949 In Dec , 1949, representatives of 53 countries, meeting in London, set up a new federation, the International Confederation of Free Trade Unions, with headquarters in Brussels See CLOSED SHOP AND OPEN SHOP, COLLECTIVE BARGAINING, LABOR, STRIKE For British unions, see Sidney and Beatrice Webb, *The History of Trade Unionism* (new ed , 1920), G D H Cole, *Organized Labour* (1924) For American unions, see J R Commons and others, *History of Labor in the United States* (1921), R. R R Brooks, *When Labor Organizes* (1937), M R Clark and S F Simon, *The Labor Movement in America* (1938); Florence Peterson, *The American Labor Unions* (1945), Van Dusen Kennedy, *Union Policy and Incentive Methods* (1945), H A Millis and R E Montgomery, *Organized Labor* (1945), F R Dulles, *Labor in America* (1949), Elias Lieberman, *Labor before the Bar* (1950) For European unions, see M W. Childs, *This Is Democracy* (1938), Adolf Sturmthal, *The Tragedy of European Labor* (1943)

Union Beach, borough (pop 2,076), E N J , on Raritan Bay SE of Perth Amboy, inc 1925 It has an airport

Union City 1 City (pop 3,535), E Ind , NW of Greenville, Ohio A shipping point for farm produce, it manufactures automobile parts **2** Village (pop 1,339), S Mich , on the St Joseph at its confluence with the Coldwater and S of Battle Creek, in a farm and dairy area, settled 1830, inc 1866 Several Indian trails crossed here, and Indian mounds are in the vicinity **3** City (pop 56,173), NE N J , N of Hoboken, inc 1925 Since 1914 the Passion play *Veronica's Veil* has been presented here annually in Lent under the auspices of Holy Family Church **4** Village (pop 1,497), W Ohio, adjoining Union City, Ind , NW of Greenville, platted 1852 **5** Borough (pop 3,843), NW Pa , SE of Erie, settled c 1785, inc 1863 The opening of oil refineries (1862) stimulated its growth It has furniture factories and woodworking plants **6** City (pop 7,256), co seat of Obion co , W Tenn , near the Ky line, laid out 1854, inc 1861 It is a trade, processing, and shipping center in a livestock, grain, cotton, and dairy region

Union College see BARBOURVILLE, Ky , and LINCOLN, Nebr

Union College, at Schenectady, N Y , nonsectarian, for men, chartered and opened 1795 Under President Eliphalet NOTT (1804–66) Union achieved prominence, it pioneered in its engineering course (1845) It has divisions of engineering, humanities, science, and social studies The Mohawk Drama Festival is held here in summer The college is associated in Union Univ (partly coeducational, formed 1873) with Albany Medical College (founded 1839), Albany Law School (1851), Albany College of Pharmacy (1881), Union Univ School of Nursing (1944), and Dudley Observatory (1852), at Albany, N Y

Union Islands see TOKELAU

Union League Clubs, formed throughout the North in the Civil War after the military defeats and Republican election losses of 1862 A convention at Cleveland (May, 1863) provided for national headquarters of the Union League at Washington The clubs distributed war literature raised money for soldier relief, and recruited both white and Negro volunteers for the army In the South after the war, the league, led by officials of the Freedmen's Bureau, carpetbaggers, and scalawags, developed into a strong Republican political organization that controlled the Negro vote Its influence was curtailed by the rise of the Ku Klux Klan and vanished with the end of RECONSTRUCTION The Union League Clubs of New York, Philadelphia, and Chicago have survived as archconservative social organizations

Union of South Africa see SOUTH AFRICA, UNION OF

Union of Soviet Socialist Republics (USSR), federal state (c 8,570,600 sq mi , 1950 estimated pop 201,300,000), E Europe and N Asia MOSCOW is the capital Covering more than one seventh of the earth's land surface, it is the world's largest state and ranks third (after China and India) in population The USSR stretches from the Baltic and Black seas to the Pacific Ocean, and from the Arctic Ocean to the borders of China, Mongolia, Afghanistan, Iran, and Turkey Its western land frontier touches on Norway, Finland, Poland, Czechoslovakia, Hungary, and Rumania Soviet Russia—as the USSR is commonly called—is the successor of the Russian Empire that ended with the Revolution of 1917, its borders underwent changes between 1918 and 1921 and again between 1939 and 1945 The conventional geographic boundary between the European and the Asiatic USSR follows the Ural mts and the Ural river, the Caspian Sea, and the Greater Caucasus For statistical purposes Transcaucasia and the Ural Region are included in the European USSR, thus, in Soviet statistics, the USSR in Europe has an area of c 2,110,600 sq mi and an estimated population of 162,900,000, the USSR in Asia, an area of c 6,460,000 sq mi and an estimated population of 38,400,000 As of March, 1950, the USSR consisted of 16 constituent republics. The largest and most important of these is the RUSSIAN SOVIET FEDERATED SOCIALIST REPUBLIC (RSFSR), both in Europe and in Asia The Asiatic part of the RSFSR is commonly known as SIBERIA Along the western border of the European USSR are the KARELO-FINNISH SOVIET SOCIALIST REPUBLIC (Karelo-Finnish SSR), ESTONIA, LATVIA, LITHUANIA, BELORUSSIA or White Russia, the UKRAINE, and the MOLDAVIAN SSR In Transcaucasia, between the Black Sea and the Caspian Sea, are the GEORGIAN SSR, the ARMENIAN SSR, and the AZERBAIJAN SSR In Central Asia are the KAZAKH SSR, the TURKMEN SSR, the UZBEK SSR, the TADZHIK SSR, and the KIRGHIZ SSR The incorporation (1940) of Estonia, Latvia, and Lithuania into the USSR was, as of March, 1950, not recognized by the U S government The chief geographic features of the Soviet Union as a whole are the East European Plain, which occupies nearly all of the European USSR W of the Urals and N of the Caucasus, the URALS and the CAUCASUS, the West Siberian Plain, the Central Siberian Plateau, and the great mountain chains of Far Eastern Siberia, and the central Asiatic steppes and deserts, bordering in the south on the TIEN SHAN PAMIR, and ALTAI mountain systems The highest point, Stalin Peak (24,590 ft) is in the Pamir system, in the Caucasus, Mt Elbrus is the highest (18,481 ft) The lowest part (c 425 ft below sea level) of the USSR is in the depression of the CASPIAN SEA, a huge inland saltwater lake Among the many large lakes, Lake LADOGA and Lake ONEGA are the largest in all Europe, and the ARAL SEA, Lake BALKHASH, and Lake BAIKAL the largest in all Asia The East European Plain is drained by the DNIESTER, the Southern BUG, the DNIEPER, and the DON into the Black Sea, by the VOLGA into the Caspian Sea, by the Western DVINA and the NIEMEN into the Baltic, and by the ONEGA, Northern DVINA, and PECHORA into the Arctic Ocean The chief of the mighty Siberian rivers are the OB, the YENISEI, the LENA, and the AMUR The Central Asiatic republics are irrigated by the SYR DARYA and AMU DARYA In a very broad sense, the USSR falls into four distinct latitudinal zones of climate and vegetation The arctic zone is a tundra region, extending from the KOLA PENINSULA to EAST CAPE The central zone is, for the most part, densely forested and has a humid continental climate The southern zone, with a generally dry continental climate, consists mostly of fertile steppes, with rich black-earth soils, this zone is shaped like a huge triangle with its broad base in the west, and its apex in central Siberia The Central Asiatic republics have vast deserts—the KIZIL KUM and KARA KUM—with fertile irrigated oases The USSR possesses a narrow subtropical strip along the Black Sea littoral of the S CRIMEA and of the Caucasus The tremendous natural resources of the USSR make it virtually self-sufficient Chief among these are its forests, which covers about one third of the total area, coal, in the DONETS BASIN (Ukraine), in the MOSCOW BASIN, in the KUZNETSK BASIN (Siberia), and in the unexploited TUNGUSKA BASIN (Siberia), iron, copper, and other ores in the Urals, at KRIVOI ROG (Ukraine), and in many other areas, manganese at NIKOPOL (Ukraine) and CHIATURA (Georgian SSR), petroleum at BAKU, GROZNY, and MAIKOP in the Caucasus, and in the KUIBYSHEV area—the "second Baku"—E of the middle Volga, and gold in Siberia, notably in the KOLYMA and at ALDAN The chief deficiencies are tin, rubber, and tropical crops The main exports are furs (trapped in huge quantities in the northern zone), timber, fish and caviar (the main fisheries being in the Caspian Sea and in the N Pacific), manganese, and chromium The Soviet regime has transformed the USSR from a primarily agricultural into a primarily industrial state, industrial production in 1940 represented 85 percent of the total The main wheat-growing areas are in the Ukraine, in the KUBAN steppe, in the steppes E of the middle Volga, and in SW Siberia Central Asia supplies the major part of the cotton used in the Soviet textile industry The largest cities of the USSR are also its largest industrial concentrations, they are MOSCOW, LENINGRAD, GORKI, KUIBYSHEV, ROSTOV, and STALINGRAD in the European RSFSR, KIEV, KHARKOV, ODESSA, DNEPROPETROVSK, and STALINO in the Ukraine, Baku and TIFLIS in the Transcaucasus, SVERDLOVSK in the Urals, TASHKENT in Central Asia, and NOVOSIBIRSK in Siberia Although the Soviet Union has access to several seas, most of its ports are ice-bound in winter Its only ice-free ports are those on the Black Sea (notably Odessa), KONIGSBERG (since 1945 officially Kaliningrad) on the Baltic, and MURMANSK on the Arctic Ocean Other large ports include Archangel Leningrad, and Riga in Europe, and VLADIVOSTOK on the Pacific The Soviet Union possesses a dense railway net in its European section In Asia, rail traffic is largely limited to the TRANS-SIBERIAN RAILROAD, the TRANS-CASPIAN RAILROAD, and the TURKISTAN-SIBERIA RAILROAD All major rail lines use broad-gauge tracks, unlike those of other European countries The roads are generally poor The great rivers, linked by canal systems (e g., the MARIINSK SYSTEM) provide communications.

Government, Nationalities, and History. Soviet Russia was the first country to adopt MARXISM (see also COMMUNISM) as the basis of its social, political and economic constitution Under the leadership of LENIN it emerged from the RUSSIAN REVOLUTION of 1917 and the ensuing civil war, which was complicated by foreign intervention and by war (1920) with Poland (For earlier history, see RUSSIA) The peace treaty (1921) with Poland (see RIGA, TREATY OF), the independence of Finland, Estonia, Latvia, and Lithuania, and the seizure by Rumania of BESSARABIA greatly reduced the size of the former Russian Empire and established what the governments of Western Europe called a *cordon sanitaire* [quarantine belt] separating Communist Russia from the rest of Europe Temporarily accepting this quarantine, the Communist leaders of Russia set about extricating their state from the devastation into which the revolution and war had plunged it The basis of the constitution of 1922, by which the USSR officially came into existence, remained the dictatorship of the proletariat and public ownership of the land and of the means of production, such as they had been proclaimed in 1917 The underlying features of the 1922 constitution have been preserved in the constitution of 1936, which has remained in force Soviet Russia is ruled and administered by three distinct hierarchies The legislative power is vested in soviets [councils], ranging from local soviets to the supreme council of the USSR The supreme council elects a permanent committee, or presidium, whose chairman acts as president of the republic, his functions are purely representative N M Shvernik was elected (1946) to succeed the late M I Kalinin as chairman of the presidium The supreme council is divided into the council of the Union, elected by universal suffrage on the basis of one deputy for every 300,000 of the population, and the council of nationalities, also elected by universal suffrage, representing the more important of the 140 ethnic groups of the Union The "nationality ladder" is the second of the three hierarchies mentioned above Each ethnic group is entitled to a measure of self-government and cultural autonomy, however, as the groups vary in size and civilization from a few thousand nomads to the more than 100,000,000 Russians that constitute the majority of the population, not every group is entitled to the same representation in the council of nationalities and to the same degree of autonomy At the bottom of the ladder are the national okrugs [areas], each entitled to 1 representative in the council of nationalities , above them are the autonomous oblasts [regions], with 5 representatives each, the autonomous soviet socialist republics, with 11 representatives each, and, at the top, the 16 constituent republics, with 25 representatives each The RSFSR, itself a federation of nationalities, comprises 12 autonomous soviet socialist republics, 6 autonomous oblasts, and 10 national okrugs Provisions have been made allowing each national group, according to its growth and cultural and political development, to climb the rungs of the ladder The four original constituent republics that formed the USSR in 1922 were the RSFSR, the Ukraine, Belorussia, and Transcaucasia The last-named split (1936) into the Georgian, Armenian, and Azerbaijan republics The Turkmen and Usbek republics came into existence in 1924, the Tadzhik republic in 1929, the Kazakh and Kirghiz republics in 1936 Each constituent republic has its own government, and by a constitutional amendment (1944) is entitled to maintain a separate army and to have its own foreign representation The Ukraine and Belorussia were, as a consequence, admitted (1945) as sovereign states into the United Nations. For administrative purposes the larger constituent republics are divided into oblasts, designed to create integrated economic regions The third, and politically the most important, of the hierarchies is that of the Communist party It is the only legal party, and all candidates for elected offices are either chosen from its ranks or must be approved by it The actual policy decisions are reached by the central committee of the party J V STALIN, as the secretary of the party, is the actual head of the state Among the subcommittees of the central committee the most powerful is the political bureau (Politburo) At the bottom of the party hierarchy are the Communist cells, which are responsible for the carrying out of the party policy The executive power in the USSR is vested in a council of ministers (called people's commissars until 1946) appointed by the supreme council Stalin has been premier since 1941 The fundamental policy of the Russian Communist party has been, from its beginning, the complete socialization of the Soviet Union However, initial difficulties forced Lenin to institute (1921) the NEW ECONOMIC POLICY (NEP) in order to put Russian economy back on its feet. This mildly capitalist program was, however, a temporary expedient. After Lenin's death (1924) a struggle for leadership broke out. Of the two main protagonists—Stalin and TROTSKY—Stalin emerged victorious. His program called for a more gradual transformation of society than Trotsky's and had as its primary objective the consolidation of Communism in Soviet Russia rather than Trotsky's plan for immediate world revolution Nevertheless, Soviet Russia continued to guide the Communist parties abroad through the COMINTERN, while at home it replaced the NEP by full governmental planning of economy The first FIVE-YEAR PLAN was inaugurated in 1928 The *kulak* class—the land-owning farmers who had grown prosperous during the NEP—was "liquidated" by drastic means Collective farms (Rus *kolkhoz*) and state-owned farms (Rus *sovkhoz*) were multiplied, until by 1950 they comprised nearly all the farmland of the Union Industrialization was sped up to a spectacular degree The production of desperately needed basic machinery and capital equipment was stressed at the expense of consumer goods One of the major results of the successive Five-Year Plans was the spectacular industrial and agricultural development of the Urals, Siberia, and Central Asia The level of literacy, very low before the Revolution of 1917, was steadily raised in all parts of the Union, and medical and social services, extended to all by the state, penetrated into regions which until then had possessed no such facilities The corollary to those developments was the increasing monopoly of the state over all political, social, and cultural aspects of life All media of education and public information passed under state control All criticism of public policy, once the policy has been adopted, is punished as being disruptive Freedom of movement is severely restricted The SECRET POLICE became a chief organ of political control and much power was given to the civil service Only with regard to religion, severely persecuted in the early years of Communism, was there a measure of relaxation in official policy, especially as antireligious propaganda in schools had taken effect among the younger generation With the restoration (1943) of the patriarchate of Moscow, the ORTHODOX EASTERN CHURCH regained a few of its former rights, but atheism remained official Communist doctrine Toward Islam, the next-largest religious group, the Soviet government proceeded more cautiously The armed forces and the Communist party itself were "purged" of all dissident elements in the years 1935–39 in a series of public and secret trials involving an alleged conspiracy, headed by the exiled Trotsky, against the Stalin regime Among the many thousand victims of the purge were such prominent party leaders as ZINOVIEV, KAMENEV, RADEK, BUKHARIN, and RYKOV, and military figures such as Marshal TOUKHACHEVSKY At this price, "monolithic unity" was achieved by 1939 Soviet foreign policy before 1939 was carried out largely by CHICHERIN and his successor LITVINOV The nations of Europe and America were generally hostile to the Soviet government, and diplomatic recognition came slowly The United States resumed diplomatic relations only in 1933 The USSR sought friendly relations with all its neighbors, declared its renunciation of imperialistic expansion, and advocated total disarmament It was admitted into the League of Nations in 1934 The failure to invite the USSR to take part in the negotiations leading up to the MUNICH PACT (1938) and the imminence of the Second WORLD WAR brought about a radical shift in foreign policy V M MOLOTOV replaced Litvinov as foreign commissar, and on Aug 23, 1939, the USSR concluded a nonaggression pact with Germany, which shortly afterward attacked Poland Soviet troops entered POLAND, which was divided between Germany and Russia Lithuania, Latvia, and Estonia were forced (1939) to allow the establishment of Soviet military bases, and in 1940 were transformed into soviet republics Finland rejected similar demands, the FINNISH-RUSSIAN War of 1939–40 resulted, ending in Russian victory The territories ceded by Finland were incorporated into the newly created Karelo-Finnish SSR Rumania was forced (1940) to restore Bessarabia and to cede N Bukovina, the Moldavian SSR was created At the same time, defense preparations were stepped up in anticipation—despite the nonaggression pact—of a German attack The attack came, without warning, on June 22, 1941 Rumania, Finland, Hungary, Slovakia, and Italy joined in the attack By the end of 1941 the Germans had surrounded LENINGRAD, were converging on Moscow, and had overrun Belorussia and most of the Ukraine A Russian counter-offensive saved Moscow, but in June, 1942, the Germans launched a new drive, directed against Stalingrad and the Caucasus oil fields STALINGRAD held out The surrender (Feb 2, 1943) of 330,000 Axis troops at that city marked the turning point in the war The Russians drove the invaders back in an almost uninterrupted offensive and in the late summer of 1944 entered Poland and the Balkan Peninsula Early in 1945 German resistance in Hungary was overcome while Russian forces entered East Prussia The converging Russian armies closed in on BERLIN in a climactic drive. On May 2 Berlin fell, on May 7 Russia accepted the surrender of Germany jointly with the Western Allies. The Soviet victory was obtained at the price of staggering material and human losses. Much material aid from the United States through LEND-LEASE had contributed to the victory Understandings regarding the conduct of the war and post-war policies had been reached between the USSR and the United States and England at the Moscow CONFERENCES, the TEHERAN CONFERENCE, the YALTA CONFERENCE, and the POTSDAM CONFERENCE In accordance with a secret agreement made at Yalta, Russia declared war on Japan on Aug 8, 1945 A swift campaign had brought Russian forces deep into Manchuria and Korea by the time Japan surrendered (Sept 2) As a result of the war, Soviet Russia received the southern half of Sakhalin and the Kuriles from Japan, the northern part of East Prussia from Germany, and some additional territory from Finland By agreements (1945) with Poland and Czechoslovakia the USSR also vastly increased the area of Belorussia and the Ukraine Wartime cooperation between the USSR and the Western powers unfortunately ceased soon after the armistice, and relations between Soviet Russia and the United States—emerging from the war as the two chief world powers—became increasingly strained Friction became particularly acute in the jointly occupied countries (see GERMANY, AUSTRIA, KOREA) and in the UNITED NATIONS Security Council, preventing the conclusion of peace treaties with Germany, Austria, and Japan and agreement over REPARATIONS and the control of ATOMIC ENERGY Increasing Russian influence over Poland, Czechoslovakia, Hungary, Rumania, Bulgaria, and Communist China created fears in the Western world of unlimited expansion, as did the creation of the COMINFORM The USSR on the other hand, justified its policy with its own fears of encirclement by the capitalist nations Recent guide books to the USSR include Nicholas Mikhailov, *Soviet Russia* (Eng tr , 1948) Two authoritative histories of Russia—Sir Bernard Pares, *A History of Russia* (5th ed , 1947) and George Vernadsky, *A History of Russia* (new ed , 1948)—deal extensively with Soviet Russia A general survey is *USSR A Concise Handbook* (E J Simmons, ed , 1947) See J F Hecker, *Russian Sociology* (1934), Sydney and Beatrice Webb, *Soviet Communism* (1936), Edward Crankshaw, *Russia and the Russians* (1948), S S Balzak and others, *Economic Geography of the USSR* (1949), L S Berg, *Natural Regions of the USSR* (Eng tr , 1950), Theodore Shabad, *Geography of the USSR A Regional Survey* (1950) See also bibliographies under RUSSIA and RUSSIAN REVOLUTION

Union Pacific Railroad In the 1850s, after California had been acquired and the Oregon boundary had been settled, the building of a transcontinental railroad became a pressing political issue Nothing, however, was accomplished because of aggravated sectional interests After the South had seceded from the Union, the Republican members of Congress chartered (1862) the Union Pacific Railway Company to build a line from Omaha, Neb , to the California-Nevada line, where it was to connect with the Central Pacific RR—which was to be built simultaneously from Sacramento, Calif Each railroad company, after completion of an initial 40 mi of track, was to be granted 6,400 acres of public lands and a loan of from $16,000 to $48,000 for each mile of track laid In 1864 Congress doubled the land grant, considerably eased the terms of government loans, and allowed the two railroad companies to borrow private capital, the Central Pacific was authorized to build eastward beyond the Nevada line In 1865 construction of the Union Pacific was begun from Omaha westward, and a long succession of harrowing construction problems, Indian troubles, and delays were encountered Nevertheless, the Union Pacific joined (May 10, 1869) the Central Pacific W of Ogden, Utah, thus connecting the Missouri river and the Pacific Ocean by rail The joining of the roads was marked by the driving of a golden spike Construction of both roads involved tremendous profiteering, and in 1872 the scandal involving the CREDIT MOBILIER OF AMERICA, an ephemeral holding company to which most of the Union Pacific's liquid assets had been transferred (1867), was unearthed This fraud, combined with later mismanagement and overextensions, left the Union Pacific with heavy financial burdens, and in 1893 the Union Pacific went into receivership It was reincorporated (1897) as the Union Pacific Railroad Company in Utah, and under the management of Edward H HARRIMAN the railroad was expanded, vastly improved, and stabilized In 1900 Harriman merged the Union Pacific and the Central Pacific railroads, and his spectacular attempt to control the Northern Pacific led to the formation of the Northern Securities Company—which was dissolved in 1904 Four years later the Supreme Court ordered the Union Pacific Railroad Company to relinquish its control of the Southern Pacific RR, and in 1913 the separation was completed Soon the Union Pacific acquired large holdings in railroads in the East and later gained control over Western motor-coach lines. In 1936 the railroad initiated its development of Sun Valley, Idaho, now a popular winter resort. Today the Union Pacific

operates close to 10,000 mi. of track in the W United States, reaches the Pacific at Los Angeles, and has considerable cross traffic with the Southern Pacific. See G M Dodge, *How We Built the Union Pacific Railway* (1910); Nelson Trottman, *The History of the Union Pacific* (1923); G R Hebard, *Washakie* (1930), W. L Park, *Pioneer Pathways of the Pacific* (1935)

Union Point, town (pop 1,566), NE Ga., near Greensboro, railroad junction, with a fabric plant

Union Springs, city (pop 3,107), co seat of Bullock co., SE Ala., 8E of Montgomery, in the Black Belt, settled 1836

Union Theological Seminary, in New York city, interdenominational, coeducational, opened 1836, chartered 1839 by Presbyterians It has had a reciprocal educational relationship with Columbia Univ since 1928 It includes a school of sacred music (1928) Auburn Theological Seminary (Presbyterian, chartered 1820, opened 1821 at Auburn, N Y.) was associated as an autonomous unit in 1939

Uniontown. **1** Town (pop 1,869), W central Ala., W of Selma, in a farm and dairy area, settled in the early 19th cent **2** City (pop 1,327), W Ky., on the Ohio and W of Henderson, settled c 1810, inc 1840 **3** City (pop 21,819), co seat of Fayette co., SW Pa., between the Monongahela and Youghiogheny rivers 8SE of Pittsburgh, settled c 1767, inc as a borough 1796, as a city 1916 A bituminous-coal center, it also produces iron, glass, lumber, and textiles Gen George C Marshall was born here Near Uniontown, on the old National Road, is Fort Necessity (see NECESSITY, FORT), built by Washington General Braddock is buried near the fort

Union University see UNION COLLEGE, Schenectady, N Y

Unionville. **1** Borough, Conn see FARMINGTON **2** City (pop 2,052), co seat of Putnam co., N Mo., near the Iowa line NW of Kirksville, in a farm, coal, and clay area, inc c 1855

unison, in music, tones identical in pitch produced by two or more parts or voices In popular usage a vocal composition is said to be sung in unison even though some of the voices are separated from others by the interval of an octave

Unitarianism, in general, a form of religious belief based upon the conception of God in one person, in distinction from that of one God in three persons known as Trinitarianism It is claimed that before the orthodox doctrine of the triune nature of God was adopted, an essentially unitarian belief existed in the early Christian Church. Present-day Unitarianism, however, traces its origin to the period of the Protestant Reformation Individual leaders in various places questioned the accepted teachings In Geneva, SERVETUS was burned at the stake (1553) for his antitrinitarian views Under SOCINUS a strong center of Unitarian belief developed in Poland In Transylvania, Francis David laid the foundation (c 1560) for the long history of the Unitarian Church there Socinian influences took root in England in the 17th and 18th cent John BIDDLE is called the father of English Unitarianism The development of a separate Unitarian body came about gradually through the efforts of such men as Joseph Priestley Later James Martineau was a leader of English Unitarian thought In America, Unitarianism had its birth in the Congregational churches of New England At King's Chapel, Boston, in 1785, trinitarian doctrines were removed from the liturgy In 1796 Priestley, who had fled to America to escape persecution, established in Philadelphia a Unitarian church Congregationalists in New England of the liberal order gradually formed themselves into a new denomination, to which the name Unitarian was given (c 1815) by their conservative opponents The final separation was hastened by the choice of Henry WARE, a liberal, for a professorship of divinity at Harvard Univ in 1805 and by the memorable ordination sermon preached (1819) by William Ellery CHANNING at Baltimore Channing's statement of Unitarian beliefs became the platform of the denomination The American Unitarian Association was formed in 1825, and in 1865 a national conference was organized The International Association for Liberal Christianity and Religious Freedom (1930) is the outgrowth of an international council of Unitarian workers, organized in 1900 A congregational form of government prevails in the Unitarian churches, each congregation having control of its own affairs Neither ministers nor members are required to make profession of any particular doctrine No creed has been adopted by the church The covenant in general use is simply, "In the love of truth, and in the spirit of Jesus, we unite for the worship of God and the service of man" One of the characteristics of Unitarianism is tolerance of differing opinions in religion Reason and conscience are considered guides to religious truths In 1949 the Universalist Church in America voted to merge with the Unitarians. See the works of William Ellery Channing, J R Martineau, and Theodore Parker and the *Unitarian Year Book*, G. W. Cooke, *Unitarianism in America* (1903), J F. Clarke, *Manual of Unitarian Belief* (20th ed., revised, 1924); R L. Mondale, *The Unitarian Way of Life* (1943); E. M. Wilbur. *A History of Unitarianism* (1945).

United Brethren in Christ: see EVANGELICAL UNITED BRETHREN CHURCH

United Church of Canada, Protestant denomination formed (1925) by the union of the Methodist, Congregationalist, and Presbyterian churches in Canada The government of the church embraces the session, the presbytery, the conference, and the general council Certain of the Presbyterians have remained outside the United Church

United Colonies of New England: see NEW ENGLAND CONFEDERATION

United Empire Loyalists, name applied to those Canadian settlers who, loyal to the British cause in the American Revolution, migrated from the Thirteen Colonies to Canada Some found their way to Canada during the Revolution, but the greatest number left the colonies in 1783–84, after the Treaty of Paris had failed to make adequate provision for the LOYALISTS Perhaps nearly 50,000 went to British North America—principally to Nova Scotia and Quebec In Nova Scotia so many settled along the St John river that the province of New Brunswick was established in 1784 Others, flocking to the region N of the Great Lakes and the St Lawrence, were numerous enough to cause the creation (1791) of Upper Canada, set off from French Quebec for these English-speaking colonists See W S Wallace, *The United Empire Loyalists* (1914), A G Bradley, *The United Empire Loyalists Founders of British Canada* (1932)

United Fruit Company. Andrew Preston, who headed the Boston Fruit Company which controlled the banana trade in the West Indies, and Minor Cooper KEITH, who dominated the banana-plantation and railroad industries in Central America, combined forces to form (1899) the United Fruit Company The company was incorporated in New Jersey with an authorized capital stock of $20,000,000, and immediately United Fruit became an association of 12 firms with properties in Boston, New York, Philadelphia, Baltimore, New Orleans, Cuba, Jamaica, the Dominican Republic, Costa Rica, Panama, Colombia, and Nicaragua In a short time the company outstripped all competition in growing, transporting, and merchandising bananas At the time of the First World War, United Fruit was experimenting with the growth of other tropical fruit and was shipping to domestic and foreign markets such produce as coconuts, cocoa, sugar, and pineapples United Fruit absorbed several competing organizations and in the Second World War engaged in shipping from the Caribbean several products made scarce by Japanese conquests United Fruit over a period of years came to dominate the communications and transportation facilities in Central America and on frequent occasions played a deciding role in Caribbean politics See C D Kepner, Jr., and J H Soothill, *The Banana Empire* (1935), C M Wilson, *Empire in Green and Gold* (1947)

United Irishmen or **United Irish Society,** Irish political organization Founded at Belfast in 1791 by Wolfe TONE at the suggestion of Thomas Russell, the organization aimed "to obtain a complete reform of the legislature, founded on the principles of civil, political, and religious liberty" Tone, with James Napper TANDY, started a branch at Dublin, this became the center of the movement, which spread rapidly throughout Ireland, especially in the south The society was suppressed in 1794 and became a secret revolutionary organization Aid was sought from the leaders of the French Revolution Tone accompanied an expedition from France under Lazare Hoche in 1796 It proved a failure, as did a number of subsequent expeditions In 1798 a serious rebellion broke out in Ireland French aid failed, the insurrection was suppressed, and the leaders of the United Irish Society were executed or imprisoned See R R Madden, *The United Irishmen* (1858–60), Rosamond Jacob, *The Rise of the United Irishmen* (1937)

United Kingdom of Great Britain and Ireland, political body consisting of ENGLAND, SCOTLAND, and IRELAND It was created by the Act of Union (1800) which united politically GREAT BRITAIN and Ireland The principality of WALES had been joined to England by an Act of Union in 1536 The Act of Union in 1707 had united England with Scotland under the title of Great Britain When the Irish Free State was formed in 1922, no provision was made for a change in the title of the United Kingdom, although frequently on official papers the name **United Kingdom of Great Britain and Northern Ireland** was used This title was officially adopted by an act of Parliament in 1927 In popular speech the United Kingdom is sometimes referred to by its abbreviation, U K

United Methodist Church or **United Methodists,** nonconformist community in England formed by the incorporation in one body, in 1907, of the three branches of METHODISM, the Methodist New Connection, the United Methodist Free Churches, and the Bible Christians The United Methodists, in the still broader reunion of 1932, were merged with the WESLEYAN METHODIST CHURCH and the PRIMITIVE METHODIST CHURCH.

United Mine Workers of America (U.M W.), international labor union formed (1890) by the amalgamation at Columbus, Ohio, of the National Progressive Union (organized 1888) and the mine locals under the Knights of Labor Earlier unions of miners in the United States had been the American Miners' Association (founded 1860), the Miners' National Association of the United States of America (founded 1873), the Ohio Miners' Amalgamated Association (founded 1882), which expanded (1883) to form the Amalgamated Association of Miners of the United States, and the National Federation of Miners and Mine Workers (founded 1885) The newly formed U M W affiliated with the American Federation of Labor It is an industrial union, including all workers in or about the coal mines, it covers both bituminous and anthracite mining and makes no race or color distinctions in its membership The lack of continuity of employment, the prevalence of company-owned towns, and the excessive occupational hazards have led to numerous strikes and constant efforts to improve conditions by collective bargaining It strengthened its position in 1894 and 1897 by successful strikes, and in 1898 under the leadership of John MITCHELL the fight for an eight-hour day was won The years 1900–1914 saw constant breaking off and resumption of conferences between mineworkers and operators A "no-strike" pledge was kept during the First World War, but strikes in 1919–20 led to the establishment by the Federal government of the Bituminous Coal Commission, which awarded the miners a 27-percent increase In 1920 the anthracite operators were forced to recognize the U M W as a bargaining body John L Lewis became president of the union in 1920, and under his militant leadership most of the union's aims have been won, including a health and welfare fund, which assures a pension of $100 per month to all miners over 62 When the C I O was formed in 1935, the U M W was one of its first affiliates, it was expelled from the A F of L in Oct., 1937 However, in 1942 the federation withdrew from the C I O, was readmitted to the A F of L in Jan., 1946, and was again disaffiliated in Dec., 1947, when Lewis refused to sign the non-Communist affidavit required by the Taft-Hartley Act A strike in 1943 for a wage increase and portal-to-portal pay brought about a government seizure of the mines Strikes in 1945, 1946, and 1947, although successful, cost both Lewis and the union heavy fines (1946, 1948) for violation of the injunction barring strikes, and further serious trouble occurred in 1949

United Nations, international organization established immediately after the Second World War to replace the LEAGUE OF NATIONS The name United Nations was coined by President F D Roosevelt in 1941 to describe the countries fighting against the AXIS It was first used officially on Jan 1, 1942, when 26 states joined in the Declaration by the United Nations pledging themselves to continue their joint war effort and not to make peace separately The need for an international organization to replace the League was first stated officially on Oct 30, 1943, in the Moscow Declaration issued by China, Great Britain, the United States, and the USSR At the Dumbarton Oaks Conference (Sept.-Oct., 1944) those four countries drafted specific proposals for a charter for the new organization Not until the YALTA CONFERENCE (Feb 4-11, 1945) of Great Britain, the United States, and the USSR was agreement reached on the "veto" system of voting in the Security Council The Yalta conferees (joined later by France and China) decided to call a founding conference of all the states which had ultimately adhered to the 1942 declaration by the United Nations and which had declared war on Germany or Japan by March 1, 1945 There was a rush of countries to declare war and thus become eligible for the conference, which was held in San Francisco from April 25 to June 26, 1945 There were 46 nations participating at the start, but it was early decided also to admit Argentina, Belorussia, the Ukraine, and Denmark, which had been newly liberated A place among the original members (which thus totaled 51) was reserved for Poland, which could not participate because of a dispute as to the rightful government The remaining original members were Australia, Belgium, Bolivia, Brazil, Canada, Chile, China, Colombia, Costa Rica, Cuba, Czechoslovakia, the Dominican Republic, Ecuador, Egypt, Ethiopia, France, Greece, Guatemala, Haiti, Honduras, India, Iran, Iraq, Lebanon, Liberia, Luxembourg, Mexico, the Netherlands, New Zealand, Nicaragua, Norway, Panama, Paraguay, Peru, the Philippine Islands, El Salvador, Saudi Arabia, Syria, Turkey, the Union of South Africa, the USSR, the United Kingdom (Great Britain), the United States, Uruguay, Venezuela, and Yugoslavia The nations later admitted (up to May, 1950) were Afghanistan, Burma, Iceland, Israel, Pakistan, Sweden, Thailand, and Yemen The San Francisco Conference drafted the governing treaty, the United Nations Charter It was signed on June 26 and ratified by the required number of states on Oct 24 (officially United Nations Day). The General Assembly first met in London on Jan. 10, 1946,

two days later the Security Council held its first meeting. It was decided to place the UN headquarters in the E United States In Dec., 1946, the General Assembly accepted John D Rockefeller's gift of $8,500,000 to buy a tract of land along the East River on Manhattan, New York city, for a permanent headquarters in place of the former temporary accommodations The cornerstone of the first building was laid on Oct 29, 1949.

Organization and Principles UN Charter comprises a preamble and 19 chapters divided into 111 articles. The principal organs of the United Nations, as specified in the Charter, are the General Assembly, the Security Council, the ECONOMIC AND SOCIAL COUNCIL, the Trusteeship Council (see TRUSTEESHIP, TERRITORIAL), the INTERNATIONAL COURT OF JUSTICE, and the Secretariat Other bodies which function as specialized agencies of the United Nations but which are not specifically provided for in the Charter are the FOOD AND AGRICULTURE ORGANIZATION, the INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT, the INTERNATIONAL CIVIL AVIATION ORGANIZATION, the INTERNATIONAL LABOR ORGANIZATION, the INTERNATIONAL MONETARY FUND, the INTERNATIONAL REFUGEE ORGANIZATION, the INTERNATIONAL TELECOMMUNICATION UNION, the UNITED NATIONS EDUCATIONAL, SCIENTIFIC, AND CULTURAL ORGANIZATION, the UNIVERSAL POSTAL UNION, and the WORLD HEALTH ORGANIZATION A temporary agency was the UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION The Charter sets forth the purposes of the United Nations as the maintenance of international peace and security, the development of friendly relations between states, and the achievement of cooperation in solving international economic, social, cultural, and humanitarian problems It expresses a strong hope for the equality of all men and the expansion of basic freedoms All UN administrative functions are handled by the Secretariat, with the secretary general at its head There is no prescribed term for the secretary general, but the first person to occupy the post, Trygve Lie, was appointed for five years (1946–50) and may be reappointed for the same period The secretary general transcends a merely administrative role by his authority to bring situations to the attention of various UN organs and by his position as an impartial party in effecting conciliation The Secretariat staff is recruited on a wide geographic basis and is required to pursue the interests of the organization alone and not to further purely national aims The only UN body provided by the Charter on which all members are represented is the General Assembly Here, as throughout the United Nations, the official languages are Chinese, English, French, Russian, and Spanish The working languages of the General Assembly are English, French, and Spanish (in the Security Council only English and French are working languages) The General Assembly meets in a regular annual session beginning the third Monday in September, special sessions are sometimes held The body may make binding decisions in only a few limited fields, such as setting the budget (nearly 40 percent is borne by the United States) For the most part it is limited to conducting studies and making recommendations, with the restriction that it may not discuss any matter relating to peace which the Security Council is considering However, the Charter provides that the Security Council may request the General Assembly to deal with a specific problem In the assembly decisions on routine matters are taken by a simple majority of members voting, a two-thirds majority of those voting is required for matters of importance While the General Assembly is primarily a deliberative body dealing to a large degree with general questions of a political, social, or economic character, the Security Council is an organ with power to enforce measures to preserve the peace as particular dangers arise Unlike the General Assembly, the Security Council functions continuously at the seat of the United Nations and hence is always ready to consider matters brought before it The council has 11 members Five—China, France, Great Britain, the United States, and the USSR—are permanent The six nonpermanent members are elected for two-year terms by the General Assembly, which by the Charter is required in choosing them to consider the contribution to peace made by the candidates and equitable geographical distribution Typically Western Europe, Eastern Europe, the Arab states, the Far East, and Latin America have representation In the council the presidency is occupied for terms of one month in the alphabetical order of the members' names in English There are two systems of voting in the Security Council On procedural matters the affirmative vote of any seven members is necessary, but on substantive matters the seven affirmative votes required must include those of the five permanent members This requirement of "Big Five" unanimity is the so-called veto. In practice, however, the council has not required the actual and positive concurrence of all the permanent members on substantive matters, and abstention from voting (due to absence from meetings of the council or for other reasons) has not been construed as an exercise of the veto. In two situations, at least, it appears that the actual concurrence of all the "Big Five" is mandatory. These are in recommending applicants for membership to the General Assembly (which may then admit them by a two-thirds majority) and in approving proposed amendments to the charter The veto was perhaps the proposal most strongly opposed at the San Francisco Conference Many of the smaller members objected that UN action might be paralyzed and that the guiding principle of sovereign equality of states was violated The position of the "Big Five" was that since the burden of enforcing peace would chiefly rest upon them none of them should be required to enforce a decision it found repugnant Implicit in this answer was the recognition that the United Nations could not function successfully and preserve peace unless the "Big Five" were united in avoiding aggression As the guardian of world peace the Security Council acts for the entire United Nations, and all members are required to provide the necessary material support to carry out decisions of the council Under the Charter there appear to be no occurrences dangerous to world peace with which the council is not empowered to deal It may act upon complaint of a member or of a nonmember, on notification by the secretary general, or of its own volition In general the council considers matters of two sorts "Disputes" which may endanger peace if continued and "situations" which may give rise to a "dispute" comprise one category "Threats to the peace," "breaches of the peace," and "acts of aggression" make up the other category The council makes its own evaluation of the matters brought before it If it finds that the matter falls in the less serious category it is limited to making recommendations to the parties after they have exhausted other methods of reaching a solution In the case of more serious matters the council may also restrict itself to recommendations or it may take enforcement measures Measures range from full or partial rupture of economic or diplomatic relations to military operations of any scope deemed necessary

Disagreements among the "Big Five" The Charter envisaged some sort of regular military force available to the Security Council and directed the creation of the Military Staff Committee to make appropriate plans The committee—consisting of the chiefs of staff (or their deputies) of the "Big Five"—was unable to reach agreement In general China, France, Great Britain, and the United States proposed that the component national units be kept available in such strategic localities as were determined by the committee, while the USSR wanted them garrisoned in the home countries Thus no regular forces were made available to the Security Council and in the event of a warlike situation it would have to improvise a scheme for calling on the members for aid The same split which existed in the Military Staff Committee operated to frustrate the activities of two special Security Council bodies, the Atomic Energy Commission (see ATOMIC ENERGY) and the Commission on Conventional Armaments Hence no arrangements were concluded for regulating the production of atomic bombs or reducing other types of armaments The Charter also anticipated that regional security agreements would supplement the over-all UN system In fact such defensive alliances as are embodied in the NORTH ATLANTIC TREATY and the Act of Chapultepec and the Rio Treaty (see PAN-AMERICANISM) are the main current reliance for security from attack In most of the important questions facing the United Nations this same opposition of the USSR to the remaining "Big Five" has loomed as a major factor In the Security Council in most controversial matters the USSR has had as an ally only a single nonpermanent member—one of the pro-Soviet bloc of East European countries comprising, besides Belorussia and the Ukraine, Czechoslovakia, Poland, and (until 1948) Yugoslavia The USSR often felt impelled to interpose its veto to prevent the adoption of resolutions which would otherwise have passed The opposing powers in the search for a solution have more and more inclined to take their case to the veto-free General Assembly, where they command a large majority on most issues At their insistence in 1947 the assembly established the Interim Committee ("Little Assembly") to meet in permanent session It consists of one representative of each member, except those belonging to the Soviet bloc, which refuses seats on the grounds that the committee usurps the functions of the Security Council The proponents, on the other hand, argue that the committee is legal because it does not deal with matters which are before the Security Council The General Assembly, despite Soviet opposition, has also established commissions to investigate the hostilities allegedly waged against Greece by Bulgaria, Albania, and Yugoslavia and to help establish a republic in S Korea The breach in the organization has also affected the admission of new members The United States proposed in 1946 that the United Nations should embrace all peace-loving countries (this, however, excluded Spain while Franco retained power). The USSR would not then assent to the pending applications of Jordan, Ireland, and Portugal, insisting that they were profascist. The United States soon altered its views and opposed admission of new states sympathetic to Russia—Albania, Bulgaria, Hungary, the Mongolian People's Republic, N. Korea, and Rumania, it alleged that they were not truly independent and, in certain cases, that they had violated the peace or the spirit of the Charter. After the admission of Israel on May 11, 1949, the USSR announced that unless its nominees were accepted it would veto all other applications for membership. This produced an impasse which seemed to prohibit further growth of the United Nations Other situations in which the USSR was in a minority included the complaint of Iran (1946) that Soviet troops had not evacuated Azerbaijan on schedule. The Soviet delegate walked out of several Security Council sessions when the matter was kept on the agenda after the troops had left and Iran had withdrawn its complaint In the disputes over BERLIN in 1948 the USSR vetoed a resolution calling on the occupying powers to confer, conferences were later held which resulted in lifting the "blockade." There were, however, instances of unity among the "Big Five" which undoubtedly helped to restore or preserve peace The first was the settlement (1946) of the complaint of Syria and Lebanon that France and Great Britain were illegally occupying their territory The acute problem in Palestine was settled by two special sessions of the General Assembly in 1947 and 1948 (see ISRAEL) UN commissions also brought to an end hostilities in Indonesia between the Dutch and the newly formed native governments and in KASHMIR checked the dangerous fighting between India and Pakistan Early in 1950 the United Nations was shaken by the question whether the proper representatives of China were to be appointed by the Nationalist government, which by then was confined to Formosa, or by the rival Communist government, which ruled the mainland The USSR had recognized the Communists and insisted on ouster of the Nationalists When this was refused on Jan 19, 1950, the Soviet delegate left the Security Council, announcing that he would not return until a Chinese Communist had been seated He asserted at the time that the Security Council could not take any legal action, but the remaining "Big Five" disputed this and determined to continue functioning and to consider the Soviet absence as an abstention from voting, not a veto The United Nations publishes a series of yearbooks See Hans T Morgenthau, ed., *Peace, Security, and the United Nations* (1946), *Everyman's United Nations* (1948, an official publication of the UN Dept of Public Information), H V Evatt, *The United Nations* (1949), L M Goodrich and Edvard Hambro, *Charter of the United Nations Commentary and Documents* (2d ed., 1949)

United Nations Atomic Energy Commission: see ATOMIC ENERGY

United Nations Commission for the Investigation of War Crimes see WAR CRIMES.

United Nations Commission on Conventional Armaments: see UNITED NATIONS

United Nations Economic and Social Council: see ECONOMIC AND SOCIAL COUNCIL

United Nations Educational, Scientific, and Cultural Organization (UNESCO), agency of the United Nations, with headquarters in Paris Its counterpart in the League of Nations was the International Committee for Intellectual Cooperation In the Second World War the Allied ministers of education met from time to time in London to draw up plans for an organization more comprehensive in scope than the League organ UNESCO was founded in 1945, and in 1946 it became a specialized agency of the UN Economic and Social Council The membership includes several states which do not belong to the United Nations, the USSR is the only major power not in UNESCO The organization's policies are decided by the general conference, which meets annually, it consists of one representative of each member The executive board, with 18 members elected for three-year terms, carries out the program Commissions or cooperating bodies were set up in member states to act as liaison between UNESCO and the national educational, scientific, and cultural organizations UNESCO seeks to further world peace by removing social, religious, and racial tensions, encouraging free interchange of ideas and of cultural and scientific achievements, and improving and expanding education UNESCO labored for the physical reconstruction of the educational facilities of war-devastated countries by building up library and museum collections A book-coupon arrangement was devised for the purchase of books without regard to currency restrictions, and a project to translate the greatest books into the various important languages was initiated in 1948 Bibliographies of reproductions of paintings and of works dealing with various phases of education have also been issued Extensive field studies in Haiti, the Philippine Islands, and Thailand have developed effective methods of combating adult illiteracy. To

protect natural resources, UNESCO established the International Institute of the Arid Zone to study the problems of the Arabian desert lands and the International Institute of the Hylean Amazon for work in the Amazon basin

United Nations General Assembly: see UNITED NATIONS

United Nations Relief and Rehabilitation Administration (UNRRA), organization founded in 1943 to give aid to areas liberated from the AXIS There were finally 52 participating countries, each of which contributed funds amounting to 2 percent of the national income in 1943 A sum of nearly $4,000,000,000 was expended on various types of emergency aid, including distribution of food and medicine and restoration of public services and agriculture and industry China, Czechoslovakia, Greece, Italy, Poland, the Ukranian SSR, and Yugoslavia were the chief beneficiaries UNRRA returned some 7,000,000 displaced persons to their countries of origin and provided camps for about 1,000,000 refugees who did not wish to return More than half the funds were provided by the United States, and the three directors general—Herbert H Lehman, Fiorello LaGuardia, and Gen Lowell Rooks—were American UNRRA discontinued its operations in Europe on June 30, 1947 Its remaining work, chiefly in China, ended on March 31, 1949 The functions of UNRRA were transferred to other UN agencies, chiefly the Food and Agriculture Organization and the International Refugee Organization See George Woodbridge, ed, *UNRRA The History of the United Nations Relief and Rehabilitation Administration* (3 vols, 1950)

United Nations Security Council: see UNITED NATIONS

United Nations Trusteeship Council see TRUSTEESHIP, TERRITORIAL

United Presbyterian Church, denomination of PRESBYTERIANISM In Scotland it was formed by the union (1847) of the United Secession Church with the majority of the congregations of the Relief Church In 1900 the United Presbyterian Church and the Free Church of Scotland joined as the United Free Church of Scotland This United Free Church in 1929 united with the Church of Scotland The United Presbyterian Church of North America was constituted (1858) by the union of the Associate Presbyterian Church with the Associate Reformed Presbyterian Church

United Provinces see NETHERLANDS

United Provinces, state (112,523 sq mi., pop 56,346,456), N India Lucknow is the capital United Provs is bordered on the north by Nepal The northern area falls within the Himalaya zone, and there is a hilly region along the southern border, but most of the state is a low-lying fertile plain formed by the Jumna, Ganges, and Gogra rivers Rainfall is moderate, but is supplemented by a very extensive system of river irrigation The mild climate generally permits two harvests a year, wheat, rice, millet, sugar cane, and cotton are grown The economy is predominantly agricultural Food processing and cotton spinning and weaving are the great industries, the once important manufacture of art wares, such as brocades and ornamental brasses, is declining Building stone and high-grade sand for the glass industry are abundant Adequate rail and road nets insure efficient distribution This rich state supports five universities Considerable wealth is derived from the many Hindu pilgrims who flock to the holy cities along the Ganges, notably Allahabad and Benares The east, as the scene of Buddha's life, remains sacred to Buddhism, although that religion almost entirely disappeared from India about the beginning of the Christian era Hinduism has since been dominant in this area except during the period of Moslem rule from the 12th cent to the 18th cent Great Britain first acquired territory here in 1764 In 1834 the British established the presidency of Agra, which became (1836) the Northwestern Provs, and in 1856 they assumed the rule of Oudh The annexation of Oudh was one of the factors precipitating the Sepoy Rebellion, during which all the provincial area was occupied by rebels The territories were joined in 1877 and in 1902 were named the United Provs of Agra and Oudh After the partition of India (1947) the territories of some princely states were added, and the present official name was adopted in 1950 The state is also called Uttar Pradesh

United Service Organizations (USO), organization which supplied social, recreational, welfare, and spiritual facilities for the armed services and, to a limited extent, for war production workers in the Second World War and for a few years thereafter. The associated agencies were the YMCA, the YWCA, the National Catholic Community Service, the Salvation Army, the Jewish Welfare Board, and the National Travelers Aid Association. USO was organized in 1941, its services, discontinued at the end of 1947, were resumed early in 1949 at the request of President Truman, but were again discontinued on Feb 1, 1950 It was supported by voluntary contributions, and many thousands of volunteers assisted in its programs. At the peak of its activities it maintained over 3,000 clubs, lounges, and mobile units and through its camp shows reached millions of servicemen overseas

United States, republic (3,022,387 sq mi , 1940 pop 131,669,275, 1949 estimated pop 149,452,000, excluding territories and dependencies), North America The capital is WASHINGTON in the District of Columbia The area and population given above are for the "continental" United States, which consists of 48 states and a Federal District The United States also has various territories and possessions On the continent of North America is large ALASKA (purchased from Russia in 1867) In the West Indies are PUERTO RICO (ceded by Spain in the Treaty of Paris after the Spanish-American War, since 1947 it has had the right to elect its own governor) and the VIRGIN ISLANDS OF THE UNITED STATES (purchased from Denmark in 1917) In the Pacific are the Territory of Hawaii (the HAWAIIAN ISLANDS, annexed in 1898), GUAM (ceded by Spain after the Spanish-American War), American Samoa (see SAMOA), WAKE ISLAND, MIDWAY, CANTON ISLAND, ENDERBURY ISLAND, and several other islands The United States also has trusteeship under the United Nations of the Caroline, Marshall, and Marianas (except Guam) island chains, held by the Japanese before the Second World War U S forces in 1950 still occupied the RYUKYU Islands (chief among them Okinawa) and the Bonin Islands as well as Japan itself The United States long had control of the PHILIPPINE ISLANDS, now an independent republic The PANAMA CANAL ZONE is held under perpetual lease from the government of Panama "Continental" United States stretches across North America from the Atlantic on the east to the Pacific on the west, from Canada on the north to Mexico, the Gulf of Mexico, and the Gulf of California on the south The 48 states may be grouped arbitrarily into several loose divisions NEW ENGLAND, including MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, CONNECTICUT, and RHODE ISLAND, the Middle Atlantic states—NEW YORK, NEW JERSEY, PENNSYLVANIA, DELAWARE, and MARYLAND, the Southeastern states—VIRGINIA, WEST VIRGINIA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, ALABAMA, and FLORIDA, the other states of the SOUTH—KENTUCKY, TENNESSEE, MISSISSIPPI, LOUISIANA, and TEXAS, the states of the Great Lakes region (most of the MIDDLE WEST)—OHIO, INDIANA, ILLINOIS, MICHIGAN, WISCONSIN, and MINNESOTA, the states of the trans-Mississippi West—NORTH DAKOTA, SOUTH DAKOTA, IOWA, MISSOURI, ARKANSAS, OKLAHOMA, the states of the Great Plains and the western mountains—MONTANA, WYOMING, KANSAS, NEBRASKA, COLORADO, NEVADA, UTAH, ARIZONA, NEW MEXICO, the states of the Northwest (Pacific Northwest)—IDAHO, WASHINGTON, and OREGON, and CALIFORNIA The largest state is Texas, the smallest Rhode Island Among the major cities are, in the East, NEW YORK, PHILADELPHIA, BALTIMORE, BOSTON, PITTSBURGH, WASHINGTON, and BUFFALO, in the Middle West, CHICAGO, DETROIT, CLEVELAND, SAINT LOUIS, MILWAUKEE, MINNEAPOLIS, and CINCINNATI, in the Far West, LOS ANGELES, SAN FRANCISCO, and SEATTLE, and in the South and Southwest, HOUSTON, NEW ORLEANS, and DALLAS The easternmost section of the country is an Atlantic lowland area, rising to the eastern mountains Beyond them lies the southern part of the drainage area of the GREAT LAKES and the broad central plains in the valley of the MISSISSIPPI river and its tributaries These prairies rise in the west to the high, treeless plateau of the GREAT PLAINS and, beyond to the ROCKY MOUNTAINS The mountains help to shut in the GREAT BASIN More westerly chains (notably the SIERRA NEVADA and the COAST RANGES) rise high above the deep-cut valleys Beyond them lie the narrow Pacific lowlands The rivers of the Atlantic coastal plains flow east to the Atlantic (among them are the HUDSON, the DELAWARE, the POTOMAC, and the SAVANNAH), they supply little connection between the northern and southern sections, which are connected only by sea and by longitudinal valleys just east of the APPALACHIAN MOUNTAINS The Appalachian Mts is the general name given to the eastern mountains from Maine to Alabama, though not all the chains belong to one system, there are scattered peaks in Maine, and farther to the south such chains as the White Mts, the Green Mts, the Berkshires, the Taconics, the Adirondacks (part of the Laurentian Plateau), the Catskills, the Alleghenies, the Blue Ridge, the Cumberland, the Great Smoky Mts, and the Black Mts (with Mt Mitchell in North Carolina the highest peak in the E United States, 6,684 ft high) The Great Lakes belong to the St Lawrence drainage system The land S and W of the W Great Lakes basin is drained by one of the great river systems of the world—that of the MISSISSIPPI and the MISSOURI rivers The most important affluent apart from the master streams is the OHIO river, among its tributaries are the TENNESSEE, the CUMBERLAND and the WABASH Some of the other streams that feed the great system are the MINNESOTA, the WISCONSIN, the DES MOINES, the YELLOWSTONE (with the BIGHORN and the POWDER as tributaries), the NIOBRARA, the PLATTE, the KANSAS, and the ARKANSAS (with the CIMARRON and the CANADIAN as tributaries) Notable rivers in the S central United States apart from the Mississippi system are the RED RIVER (of the South), the RIO GRANDE, which forms the boundary between Texas and MEXICO, and has a large affluent, the PECOS, and the smaller BRAZOS and COLORADO rivers in Texas The central plain is interrupted by two highland groups, the BLACK HILLS and the complex of the OZARK MOUNTAINS The general name given the master system of rugged and rocky Western mountains is the ROCKY MOUNTAINS, they are much loftier than the older eastern chains, there are numerous complex chains within this system West of the Rocky Mts is the Great Basin, and west of this are the Sierra Nevada (in which is Mt Whitney, the highest peak in the continental United States, alt 14,495 ft), the Coast Ranges, the Cascade Range and the others The Pacific Northwest is the drainage area of the COLUMBIA river with its southern tributary, the Snake There are large arid areas in Montana, Utah, Nevada, New Mexico, Arizona, and California The lowest point in the continental United States is in the desert of Death Valley (see DEATH VALLEY NATIONAL MONUMENT) in California The COLORADO river is remarkable not only because it drains a large area but also, and more, because it is the stream of the GRAND CANYON, one of the most impressive scenic wonders of the United States Other, but less important, streams of the Far West are the HUMBOLDT, which is in an interior drainage system, and the SACRAMENTO and SAN JOAQUIN in California Three of the widely publicized geographical marvels of the United States are NIAGARA FALLS on the Canadian border of New York, the GREAT SALT LAKE in UTAH, and the geysers of the YELLOWSTONE National Park (For some others see the table under NATIONAL PARKS and the articles referred to there) The United States is one of the greatest industrial countries of the world Its mineral and agricultural resources are tremendous, and it has practically all the resources necessary for self-sufficiency The agricultural products include all those of the temperate zone as well as subtropical produce (For accounts of products in detail, see the articles on the states) The industrial development has been spurred by the growth of a complex network of communications not only by railroad, automobile, inland waterways, and air but also by telephone, telegraph, and radio More than half of the population is urban The great majority of the inhabitants are of European descent Something less than 10 percent of the total population is Negro There are smaller groups of Orientals, the Japanese and Chinese on the Pacific coast and in some of the Eastern cities presenting considerable groups There are also, chiefly on reservations, groups of the aboriginal inhabitants, the North American Indians (see INDIANS, NORTH AMERICAN) Until very recent years (it may be said until the immigration law of 1924), the United States was the "melting pot" of nations On the base of the original group of British settlers in the colonies of the Atlantic coast numerous other national groups were imposed by immigration When the United States was developing rapidly with the settlement of the West (where some earlier groups of French and Spanish settlers were absorbed), immigrants from Europe poured into the land One of the early important strains was the Scotch-Irish Just before the middle of the 19th cent Irish and German immigrants were the predominant peoples A little later the Scandinavian nations supplied many settlers After the Civil War, the immigration came mainly from the nations of S and E Europe from Italy, Greece, Asia Minor, Russia, the part of Poland then in Russia, and the variegated peoples of Austria-Hungary and the Balkans There were lesser strains from Portugal and Spain and the Levant, and to some extent the earlier sources continued to supply immigrants There has sometimes been some conflict of cultures between these varied peoples and the older citizens, and there were conscious attempts at AMERICANIZATION, but it may be said in general that the peoples have coalesced into new and roughly homogeneous groups The Negro and the Oriental have offered difficult problems, but even with these groups the tendency has been toward absorption The government of the United States is that of a Federal republic set up by the CONSTITUTION OF THE UNITED STATES, adopted by the FEDERAL CONSTITUTIONAL CONVENTION of 1787 There is a division of powers between the Federal government and the state governments The Federal government has a threefold division of powers into the executive, headed by the PRESIDENT, the Vice President, and the cabinet, which is made up of the Secretaries heading the Departments of State, Treasury, War, Post Office, Navy, Interior, Agriculture, Commerce, and Labor and the Attorney-General, the legislative—the Congress, which is bicameral, being made up of Senate and House of Representatives, and the judicial—the court system headed by the Supreme Court

A Nation Is Born The area now included in the United States was opened to European settlement

after the voyage of discovery by Christopher Columbus in 1492, which was soon followed by the voyages of John Cabot in the English service and Jacques Cartier, a Frenchman These three nations—Spain, England, and France—were the chief nations to establish colonies in the present United States, though others also took part, especially the Netherlands in the establishment of New Netherland, which became New York, and Sweden in a Swedish colony on the Delaware river (see New Sweden) The first permanent settlement in the present United States was St Augustine (Florida), founded in 1565 by Pedro Menéndez de Ávila The Spanish control came to be exercised over Florida, West Florida, Texas, and a large part of the West, including California The chief French stronghold was New France (present Canada), and from there they spread their influence over the Great Lakes country and down the Mississippi to the colony of Louisiana There were also French settlements elsewhere, as in the efforts of Jean Ribaut and René de Laudonnière, to found a French Protestant colony on the Atlantic coast, La Salle's adventure in Texas The British settlements, which were to become the dominant ones, were on the Atlantic coast The first permanent settlement was at Jamestown in Virginia in 1607 The first British settlements were by chartered companies (such as the Virginia Company) The Virginia colony represented one type of colony, in its founding, economic motives were paramount, it early passed from company control to control by the crown and became a characteristic royal colony Another type was initiated by the coming of the Pilgrims to Plymouth in 1620, religious motives played a large part in the founding of this and the other New England colonies, which were governed by theocratic democracies under royal charters these are generally termed corporate colonies Though freedom for a particular religion was a usual goal, only Rhode Island and Maryland had religious toleration A third type of colony was the proprietary, founded by lords proprietors, who had quasi-feudal grants from the king, prime examples are Maryland (under the Calvert family) and Pennsylvania (under William Penn) These colonies became fairly well-settled, compact groups E of the Appalachians—more closely organized than the French and the Spanish settlements in the United States The rivalry of France and England for mastery of the sea and the colonies of the world rose in the later 17th cent and resulted in the French and Indian Wars, which ended in the Treaty of Paris of 1763 with the victory of the English and the expulsion of the French from Canada and the Great Lakes region of the Northwest The tendency in the English colonies was to develop democratic local institutions, especially the colonial assemblies The increasing movement to convert the corporate and proprietary colonies into royal colonies was contested by some of the settlers, but the process of subjecting all colonies to royal control began after the Restoration (1660) in England and went forward relentlessly It is impossible to understand the history of the colonies in the present United States without study of the British colonial system, not only as applied to those colonies but also as applied to the other British colonies "Patriotic" historians formerly condemned the mercantilist system which was at the base of the British colonial policy and cried down the Navigation Acts as harsh repression The later work of such men as Charles M Andrews, Herbert L Osgood, and G L Beer has led to a greater understanding and appreciation of the system. The former wholesale criticism of the administration of the privy council, the Board of Trade, and the colonial governors and administrators has been revised. There were some attempts at union among the colonies, usually temporary and for the purpose of military defense or protection of some general colonial right, among them were the New England Confederation and the Albany Congress After the close of the French and Indian Wars, there was growing alienation of interests and increasing conflict between the colonies and the mother country Such inflammatory quarrels occurred as that over the Stamp Act (the most important), that over the Townshend Acts, and the troubles in Massachusetts (Boston Massacre and the Boston Tea Party) and elsewhere (e g , the burning of the *Gaspee*), and there was vocal discontent over attempts to restrict and regulate settlements in the Western territories and the economic troubles of American debtors The way was paved for the American Revolution The Revolution resulted in the independence of the Thirteen Colonies Massachusetts, New Hampshire, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia. These colonies, become states, united under the Articles of Confederation (see Confederation, Articles of) in a loose federal union The conflicting claims of the states in the West were settled by the cession of the Western territories to the Federal government and by the Northwest Ordinance of 1787, which set up a form of territorial government and a method of admitting new states to the Union. The weakness of the central government helped to forward the movement toward a new form of central government. This was set up in the Constitution, which was drawn up by the Federal Constitutional Convention of 1787 and later became effective on ratification by nine states. The first man to be elected President was appropriately the hero of the Revolution, George Washington In his two terms as chief executive, political parties first appeared in the sharp controversy between the followers of Alexander Hamilton, who represented the conservative property-holding classes, and Thomas Jefferson, who preached a liberal democracy that more or less reflected the desires and ambitions of the frontier farmers In the South this partially reflected the conflict between men of the tidewater and men of the frontier The question arose as to whether the Federal power should be strengthened by liberal interpretation (loose construction) of the Constitution, as Hamilton desired, or the rights of the states jealously guarded by strict construction, as Jefferson wished, this introduced the perennial problem of states' rights into the American complex The Hamilton group, the Federalist party, was generally friendly toward England, the Jefferson group, later the Democratic party, toward France The question of maintaining a neutral attitude toward both of those nations in the French Revolutionary and Napoleonic Wars was the most vexing question of American foreign policy It continued to be so after the political upheaval of 1800 had resulted in a victory for Jeffersonian democracy Jefferson succeeded the Federalist John Adams as President The young nation sought to solve the difficulties created by French and English measures against American shipping by the Embargo Act of 1807, which was not as happy in its results as had been anticipated The United States, which had been little more than a strip of settlements on the Atlantic seaboard in 1783, had been expanding into the West New states had been settled and admitted to the Union (Ohio, Kentucky, and Tennessee, as well as Vermont, which managed to have its independent statehood recognized) A new expanse of territory had been added by the Louisiana Purchase of 1803 The frontier was already a great molding force in American life (its importance was later made manifest in American historical writing by Frederick Jackson Turner and his followers) Westerners drove back the Indians and occupied the land They naturally came into some conflict with both the British in the North and the Spanish in the South The hostility to the British and the desire to take Canada combined with old grievances concerning troubles on the sea helped to bring on the War of 1812 The Treaty of Ghent (1814, see Ghent, Treaty of) guaranteed to the United States the possession of the Old Northwest and the dominant theme of the period that followed is usually considered to the great Western expansion In the South the effects of Eli Whitney's invention (1793) of the cotton gin had brought a new staple crop, and the Deep South (Alabama, Mississippi, Louisiana) was developing chiefly on the basis of cotton The plantation economy of the South with its slavery was becoming more differentiated from the industrial and commercial East and the small-farm agriculture of the northern West In the East the Industrial Revolution had introduced the factories that multiplied and improved as the market expanded with the improvement of transportation and the settlement of the West The Jeffersonian Democrats had little but internal opposition after the downfall of the Federalists as the result of the War of 1812 James Madison was succeeded by James Monroe By the end of Monroe's administration, a new movement had seized upon the country Radical doctrines of frontier democracy had focused on the figure of Andrew Jackson, who advocated much more sweeping democracy than the mild Jeffersonian school He was defeated for the Presidency by John Quincy Adams in 1824, but he triumphed in 1828 Sectional animosities were increasing and played a large part in the changing politics of the Jackson era The Nullification controversy and the quarrel over the Bank of the United States both involved the old question of states' rights as well as sectional interests John C. Calhoun emerged as the principal spokesman of the South The other opponents of Jackson amalgamated to form the Whig party, of which Henry Clay and Daniel Webster were the chief figures Partially because of the financial measures of Jackson, the serious Panic of 1837 occurred The Whig party was able to win the election of 1840 by the "Log Cabin and Hard Cider" campaign of William Henry Harrison, who defeated Van Buren. American expansion had reached the point of contact with Spanish settlement. Florida had been purchased in 1819 A little later American settlement began in Texas, which in 1836 after a successful revolution became an independent republic After a serious struggle, the annexation of Texas was agreed upon (1845). The Mexican War followed, and by the Treaty of Guadalupe Hidalgo (see Guadalupe Hidalgo, Treaty of) the United States acquired California and a large portion of the West. These possessions were rounded out by the Gadsden Purchase. When the question of the annexation of Texas was being hotly disputed, a dispute with Great Britain over the Columbia river country (see Oregon) was also going on, the administration of James K Polk saw this settled in 1846 The settlement of California by Americans increased at one tremendous stride after the discovery of gold in 1848, which led to the great gold rush of '49. Mining also played a part in the development of the West and various other factors influenced frontier development An unusual instance was the settlement of Utah by the Mormons Cattle raising also produced the beginnings of ranching before the Civil War

Disunion and Reunion The territorial gains were inextricably mixed with the sectional quarrel between North and South, the chief point of legislative argument hinging on the question of the extension (or rather the possibility of the extension) of the Southern slavery system into the new territories This had become a serious issue with the debate over the Missouri Compromise in 1820 The rise of the abolitionists in the '30s started a vigorous attack by many groups in the North on slavery, and the question became a more and more difficult one The North had gained the West, which was closely bound to the seaboard North by economic ties—the Erie Canal and later the railroads playing a great part in this process The Western states admitted were for the most part areas of small farmers, and the South lost her hold in the House of Representatives Seeking some guarantee against the ruin that threatened her whole economic and social system, the South was driven to an effort to maintain parity in the Senate The Southern leaders desired substantial assurances in fugitive slave laws and in proslavery representation among the new states of the West All the political leaders sought some decisive action on the question, but matters drifted along and became worse The Compromise of 1850 was the last great compromise between the sections New leaders had now appeared, and the views they held were more extreme The conflict became more and more embittered The slavery question broke down the older political parties The Kansas-Nebraska Bill of 1854 aroused deeper trouble, and "bleeding Kansas" saw bloodshed in the quarrel between proslavery and antislavery factions The Free-Soil party arose to oppose the slavery forces and capture a part of the now shattered Whig party The Free-Soilers were succeeded later by the Republican party The Democratic party was also split over the slavery question, Stephen A Douglas was able to gain only a reasonably large following Neither the Southern "fire-eaters" nor the abolitionists were willing to give any ground The question was made somewhat more serious by the decision in the Dred Scott Case In 1860 the Republican Abraham Lincoln was elected President The Southern states, relying on their doctrine of states' rights and feeling that there was no possibility of fair treatment in the Union, had recourse to secession and formed the Confederacy The most tragic period of American history began The Civil War (1861–65) ended in a victory for the North. Abraham Lincoln, the greatest figure of the war, was assassinated shortly after its close The question of Reconstruction of the South was the cause of the bitter struggle that resulted in the impeachment of President Andrew Johnson in 1868 The period of Reconstruction and of ill-feeling between the North and the South continued through the administrations of U S Grant, which was notable for its corruption The disputed election of 1876, in which the decision was given to Rutherford B Hayes over Samuel J Tilden, was the turning point in the restoration of good relations between the sections The South had, however, been ruined by the war and the postwar difficulties, and rebuilt slowly and on a new basis, industrial development there, begun long before the Civil War, increased and, after the last decade of the 19th cent , became an important factor in American life In the North industrial development went on with increasing speed and the section was generally urbanized The age of steel produced immense industrial projects and the revolution of the "machine age" caused more profound changes than the earlier industrial development had brought about. Fortunes were made rapidly, and the urban social structure was overturned The "Gilded Age" followed. With the development of "big business," gigantic corporations were built up, and a few outstanding figures, as John D Rockefeller in industry and J. Pierpont Morgan (see Morgan, family) in the financial world, attained power undreamed of by the capitalists of the ante-bellum era, who, for the most part, had fortunes that were based on commerce. There were no regulations to govern the new conditions of industry, and the worst sort of abuses appeared, especially in the shameless manipulation of the railroads. The excesses of the new capitalism aroused a good deal of opposition, which was increased by the combina-

tion into larger and larger trusts. These trusts were able to crush out opposition and to develop methods generally considered unfair—e.g., the railroad rebates. The result was agitation by labor and particularly by the agricultural classes against the trusts, thus, the POPULIST PARTY had opposition to the large interests as one of its tenets Widespread hatred of the trusts resulted in the SHERMAN ANTI-TRUST ACT (1890), the moves against the corporations in the administrations of Theodore ROOSEVELT and William Howard TAFT, and the CLAYTON ANTI-TRUST ACT (1914) The industrial changes and the great increase in production of manufactured goods had a great influence on the American foreign policy and the emergence of the United States as a world power The expansion of the country was continued by the purchase of Alaska from RUSSIA (1867) and increasing interest in the Caribbean area, shown by the American attitude in the Cuban TEN YEARS WAR It was through the participation in Cuban affairs that the United States emerged as a first-rate power in the SPANISH-AMERICAN WAR As a result of this war American power in the Caribbean was strengthened by the acquisition of Puerto Rico and a protectorate over Cuba by the Platt Amendment The long-standing interest in Central America and the development of the so-called corollary of the MONROE DOCTRINE both tended to expand American imperialism The extended negotiations for an isthmian canal resulted in American intervention in the PANAMA revolt for independence and the construction of the PANAMA CANAL More directly imperialistic were the interventions in Latin-American countries, particularly NICARAGUA, HAITI, and the DOMINICAN REPUBLIC In the Pacific, the United States developed its hold on the Hawaiian Islands, which were ultimately annexed Control over the Philippine Islands came with the Spanish-American War The United States showed much interest in maintaining the Open Door in China and in the development of opportunities there. The chief men to develop the vigorous American foreign policy were Presidents Benjamin HARRISON, Grover CLEVELAND, William MCKINLEY, Theodore ROOSEVELT, and William Howard TAFT and their Secretaries of State, notably James G BLAINE, Richard OLNEY, Elihu ROOT, and Philander C. KNOX In formal politics from 1876 to the First World War the two parties, Republican and Democratic, dominated the scene In general, in the period before the Spanish-American War, they tended to become almost indistinguishable There were policies, especially the tariff, on which they were theoretically diametrically opposed, but sectionalization of political interests led to the aggregation of numerous mutually opposing groups in each party The Republicans were victorious in electing James A GARFIELD (1880), who was succeeded, after his assassination, by Chester A ARTHUR In the election of 1884 Grover Cleveland was successful, the first Democrat to be elected President after the Civil War He was defeated by Benjamin Harrison in 1888, but returned to the Presidency after the election of 1892 Most of the vital issues were avoided in the election campaigns of these years Thus both parties agreed on civil service reforms and both avoided commitment on the monetary question, which had grown serious The argument over the greenbacks (see GREENBACK PARTY) and over the free coinage of silver (see BLAND-ALLISON ACT and SHERMAN SILVER PURCHASE ACT) involved a real issue between the debtor classes and the capitalist classes that was not only a contest between radical and conservative but also to some extent a contest between the rural classes, especially the Western farmers, and the urban classes The agitation of the farmers found expression in the Granger movement A third party arose from this discontented group who were joined by a labor group, this was the Populist party These demands did not become a major issue in national politics until after the severe business depression of the early '90s, the Democratic party adopted many of the Populist demands in 1896 and under William Jennings BRYAN fought the presidential campaign against the conservative Republican, McKinley, on the FREE SILVER issue. The conservatives won with McKinley

Varieties of Reform in the 20th Century Under McKinley's Republican successor, Theodore Roosevelt, a less conservative Republican policy was adopted with moves against "malefactors of great wealth" and such progressive measures as the Pure Food and Drugs Act of 1906 Roosevelt was succeeded by William Howard Taft, but before the end of Taft's term the two broke, the Republicans split into two factions, the "regular" Republican party and the PROGRESSIVE PARTY (see also INSURGENTS) Both Taft and Roosevelt were candidates for the presidency in 1912, but it was the Democratic candidate, the idealistic, reforming, and very liberal Woodrow WILSON, who was victorious. His administration was one of legislation for social reform. The Adamson Law, the Clayton Anti-Trust Act, and finally the Eighteenth (Prohibition) Amendment were adopted. The Federal Reserve system was also established. He did not radically alter the Caribbean policy of his predecessors. Serious trouble with Mexico occurred when Mexico was torn by the struggle between HUERTA, CARRANZA, VILLA, and ZAPATA. The landing of U S forces in Veracruz and the campaign against Villa were the outstanding incidents of hostility The United States had already taken vigorous part in the movement for peace and arbitration, particularly in the HAGUE CONFERENCES, this tendency was strengthened by Secretary of State William Jennings Bryan and his "cooling-off" treaties. The primary issue in foreign affairs was the maintenance of American neutrality in the First WORLD WAR Wilson made strenuous efforts to prevent the United States from being involved and in 1916 was reelected on a peace platform, but neutrality proved impossible On April 6, 1917, the United States entered the war on the side of the Allies against the Central European powers Wilson at the time that peace negotiations started was the leader of the world He went in person to the Paris Peace Conference and took a leading part in the negotiations But reaction in the United States was strong, and the Senate refused to ratify the treaty (see VERSAILLES, TREATY OF) The question of entrance into the LEAGUE OF NATIONS was hotly debated even after the first refusal to enter Later entrance into the WORLD COURT was also hotly debated The Republicans were victorious in the election of 1920 When Warren G HARDING became President there was much talk of a "return to normalcy" The country increased in prosperity, and in the administrations of Harding and his successor, Calvin COOLIDGE, had the biggest boom in its history The First World War, however, marked a definite period in changing attitudes toward economic, political, and social problems In the administration of Herbert HOOVER a severe business depression began in 1929, this was part of the world-wide depression and it was aggravated by the question of foreign debts (see WAR DEBTS and REPARATIONS) In 1931 Hoover proposed the debt moratorium, which did not, however, have the desired effect He undertook measures to combat the depression, but without striking success In the 1932 election he was overwhelmingly defeated by the Democrat Franklin D ROOSEVELT The new President immediately instituted his NEW DEAL with vigorous measures To meet the critical financial emergency he instituted a "bank holiday" Congress, called into special session, enacted a succession of laws, some of them to meet the economic crisis with relief measures, others to put into operation long-range social and economic reforms Some of the most important agencies created were the NATIONAL RECOVERY ADMINISTRATION, the AGRICULTURAL ADJUSTMENT ADMINISTRATION, the PUBLIC WORKS ADMINISTRATION, the CIVILIAN CONSERVATION CORPS, and the TENNESSEE VALLEY AUTHORITY This program was further broadened in later sessions with other agencies, notably the SECURITIES AND EXCHANGE COMMISSION and the Works Progress Administration (later the WORKS PROJECTS ADMINISTRATION) Laws also created a SOCIAL SECURITY program The program was dynamic and, in a sense, revolutionary, for it was intended to create a vast machinery by which the state could promote economic stability and social welfare With a slight lifting of the cloud of depression, opponents of these new measures became vocal, arguing that the program violated individual rights and was extravagant and wasteful Adverse decisions on several of the measures by the U S Supreme Court tended to slow the pace of reform and caused Roosevelt to attempt unsuccessfully to revise the court (see SUPREME COURT, UNITED STATES) Roosevelt was elected by a stupendous majority in 1936 and won easily in 1940 even though he was breaking the no-third-term precedent, which had held since the time of George Washington He was in 1944 elected for a fourth term Nevertheless, his opponents had grown more intransigently bitter, and his supporters more adulatory Many years before 1944, however, the emphasis had shifted from the now-established reform program to the difficulties of foreign affairs The optimistic and hopeful atmosphere of the 1920s that had been signalized by the NAVAL CONFERENCES and especially by the KELLOGG-BRIAND PACT had begun to fade before Roosevelt came to power The chief hopeful continuance was in the policy of friendship toward the Latin American nations This was expanded in the Roosevelt administration to a full-blown "good neighbor" policy, which was to continue and prove generally fruitful for the United States in the years that followed (see PAN-AMERICANISM) The rise of the fascist nations in Europe and of Japan in the Far East, however, threatened the peace of the world, and as wars began in China and Ethiopia, the United States sought first to bulwark its insular security by the NEUTRALITY ACT Events marched on The Axis powers resorted more to threats of force, and intimidation led to the actual outbreak of the European war in Sept, 1939 The United States still strove to remain out of the war, but after the fall of France before German attack in June, 1940, the sympathies of the United States for a Britain beleaguered by Germany became more overt. In March, 1941, LEND-LEASE aid was extended to the British. The threat of war had already caused the adoption of SELECTIVE SERVICE to build the armed strength of the nation Hemisphere defense was enlarged, and the United States drew closer to Great Britain with the issuance of the ATLANTIC CHARTER It was not, however, the European war that drew the United States into the conflict The Roosevelt government had vigorously protested the moves of Japan in its career of conquest and establishment of the "Greater East Asia Co-Prosperity Sphere" Diplomatic relations grew more taut, but the Japanese ambassador in Washington and a special envoy were still carrying on discussions when on Dec 7, 1941, Japanese bombs fell on PEARL HARBOR and the Philippine Islands The United States promptly declared war, and four days later war with the Axis powers also began The fighting was to be long and hard in the global conflict (for an account of military and naval events, see WORLD WAR, SECOND) The country completed mobilization of its vast resources and expended them The creation of war plants, the moving of population, the draining off of all the young men and some young women to the armed services, and the necessity to turn all essential materials to the actual waging of the war, which used prodigious amounts of raw materials dislocated the economy Government control of materials, transportation, and manpower was achieved by the creation of a great number of war agencies The economy expanded despite dislocation and difficulties The war underscored the importance of U S resources and the prestige and position of the United States in world affairs President Roosevelt had established himself as a world leader with his strong economic program He, Winston Churchill, and Joseph Stalin were the three great war leaders A series of important conferences outlined the policies for the war and the programs for the peace after victory, among these were the MOSCOW CONFERENCES, the CASABLANCA CONFERENCE, the CAIRO CONFERENCE, the TEHERAN CONFERENCE, and most important of all, the YALTA CONFERENCE, at which Roosevelt, Churchill, and Stalin outlined the plans for post-war settlement (most of the provisions were not made public until later) Roosevelt was a key figure in the plans for the peace-keeping organization after the war, which was to be created as the UNITED NATIONS He was still busy laying the basis of the new post-war world when on April 12, 1945, he died suddenly Vice President Harry S TRUMAN became President A month later the European war ended when Germany surrendered on May 7 1945 Truman went to the POTSDAM CONFERENCE (July–August), where various questions such as the method of zoning and occupying Germany and various territorial transfers were settled, many on an ad interim basis, pending the conclusion of peace treaties Before the war ended with the defeat of Japan, the United States had introduced a new weapon of war, the ATOMIC BOMB This use of atomic energy presented new problems, both national and international, and was believed by many to have ushered in a new era In a real sense the bomb was still reverberating in 1950 The Japanese surrender, announced Aug 14, 1945, and formalized less than a month later, brought the war to a close The difficulties of the peace soon became apparent Economic readjustments with rising living costs, fear of inflation, and an outbreak of strikes marked the troubles of transition Wartime controls were gradually relaxed, the veterans of the war were reabsorbed, and the much-feared inflation had not taken place by 1950 There was some return to more conservative thought, and the TAFT-HARTLEY LABOR ACT of 1947 drastically amended the functions of the NATIONAL LABOR RELATIONS BOARD set up under the New Deal President Truman, however, stood for moderate liberal reforms, with emphasis on civil liberties and protection for the small man To the intense surprise of most political forecasters he was victorious over Thomas E DEWEY in the presidential election of 1948 A generally conservative Congress, however, refused to accept many of the measures sponsored by the President Meanwhile the international situation had deteriorated, with the late Allies split into two camps, the Western nations against the USSR and the nations where Communism had been established as dominant after the war The chasm widened and threatened to nullify the security powers of the UNITED NATIONS, in which the United States and the USSR were looked upon as the leading world powers Their opposition grew acrimonious The "Truman doctrine," laid down in 1947, was intended to protect nations threatened by Communist influence, and U S financial aid was tendered Greece to help put down Communist guerrillas The EUROPEAN RECOVERY PROGRAM (called the Marshall Plan after Secretary of State George C Marshall) was bitterly opposed by the USSR No agreement was reached in the United Nations on control of atomic energy, and in the Security Council action tended to move perpetually to stalemate, with the Western powers and the smaller Soviet bloc in constant fric-

tion. Interpretations of the agreement reached at the Potsdam Conference differed, and there was sharp conflict in matters of governing GERMANY, which was now virtually split into two countries. This struggle reached a high point in the Russian blockade (1948–49) of BERLIN. FRICTION also occurred in the other jointly occupied countries, AUSTRIA and KOREA. The Western nations drew closer together, and the NORTH ATLANTIC TREATY was signed on April 4, 1949. The United States viewed with alarm the victory of the Communist forces in China and refused to recognize the new government. Thus May, 1950, saw the world divided into two camps and the settlement of peace with Japan and Germany still postponed and the other problems of the Second World War still unresolved. The reaction in the United States showed in strong anti-Communist and anti-Russian feeling and in moves to rearm and recreate armed forces in the troubled world.

List of Presidents. The Presidents of the United States have been (their native states given in parentheses):

1	George Washington (Virginia)	1789–1797
2	John Adams (Massachusetts)	1797–1801
3	Thomas Jefferson (Virginia)	1801–1809
4	James Madison (Virginia)	1809–1817
5	James Monroe (Virginia)	1817–1825
6	John Quincy Adams (Massachusetts)	1825–1829
7	Andrew Jackson (South Carolina?)	1829–1837
8	Martin Van Buren (New York)	1837–1841
9	William Henry Harrison (Virginia) (died in office)	1841–1841
10	John Tyler (Virginia)	1841–1845
11	James K. Polk (North Carolina)	1845–1849
12	Zachary Taylor (Virginia) (died in office)	1849–1850
13	Millard Fillmore (New York)	1850–1853
14	Franklin Pierce (New Hampshire)	1853–1857
15	James Buchanan (Pennsylvania)	1857–1861
16	Abraham Lincoln (Kentucky) (assassinated)	1861–1865
17	Andrew Johnson (North Carolina)	1865–1869
18	Ulysses S. Grant (Ohio)	1869–1877
19	Rutherford B. Hayes (Ohio)	1877–1881
20	James A. Garfield (Ohio) (assassinated)	1881–1881
21	Chester A. Arthur (Vermont)	1881–1885
22	Grover Cleveland (New Jersey)	1885–1889, 1893–1897
23	Benjamin Harrison (Ohio)	1889–1893
24	William McKinley (Ohio) (assassinated)	1897–1901
25	Theodore Roosevelt (New York)	1901–1909
26	William Howard Taft (Ohio)	1909–1913
27	Woodrow Wilson (Virginia)	1913–1921
28	Warren G. Harding (Ohio) (died in office)	1921–1923
29	Calvin Coolidge (Vermont)	1923–1929
30	Herbert C. Hoover (Iowa)	1929–1933
31	Franklin D. Roosevelt (New York)	1933–1945
32	Harry S. Truman (Missouri)	1945–

There are articles on all Americans of major importance and on numerous topics of American history, such as the WHISKY REBELLION, the OHIO COMPANY, INDEPENDENT TREASURY, and STAR ROUTE. There are articles on the towns and cities of the United States. The state articles supply bibliographies for state history. See AMERICAN ARCHITECTURE, AMERICAN ART, AMERICAN LITERATURE. General articles (e.g., SLAVERY and DIPLOMATIC SERVICE) have much American material and useful bibliographies. The writings on American history are very voluminous. A general bibliography is Edward Channing, Albert B. Hart, and F. J. Turner, *Guide to the Study and Reading of American History* (rev. ed., 1912), see also Josephus N. Larned, *Literature of American History* (1902), Grace G. Griffin, *Writings of American History* (various issues after 1906). Important cooperative undertakings by various authors are the "American Nation" series (ed. by Albert B. Hart, 28 vols., 1904–18), "Chronicles of America" (ed. by Allen Johnson, 50 vols., 1918–21), and "History of American Life" (ed. by Arthur M. Schlesinger and Dixon Ryan Fox, 12 vols., 1927–44). Among the longer histories covering a considerable part of the American story are those by Edward CHANNING, John Bach McMASTER, Ellis Paxson OBERHOLTZER, and James Ford RHODES. Prominent among historians of the colonial period are Charles McLean ANDREWS, George Louis BEER, Lawrence Henry GIPSON, and Herbert Levi OSGOOD. There is a wealth of period histories ranging from Henry Adams's unimpassioned *History of the United States* (covering the administrations of Jefferson and Madison, 9 vols., 1889–91) to the controversial *Age of Jackson* (1945) by Arthur M. Schlesinger, Jr., most of these are included in the bibliographies of articles on the chief men of the period and on great events such as the American Revolution, the Civil War, and the like. Shorter general histories include Charles A. Beard and Mary R. Beard, *The Rise of American Civilization* (1927), *America in Midpassage* (1939), and *The American Spirit* (1943), James Truslow Adams, *The Epic of America* (1931); S. E. Morison and H. S. Commager, *The Growth of the American Republic* (1931; later eds.); S. F. Bemis, *A Diplomatic History of the United States* (1936); J. S. Bassett, *A Short History of the United States* (3d ed., rev. by Richard H. Bassett, 1939), J. H. Latané and D. W. Wainhouse, *A History of American Foreign Policy* (rev. ed., 1940), Allan Nevins and H. S. Commager, *Short History of the United States* (1945), J. D. Hicks, *A Short History of American Democracy* (new ed., 1949). See also Ellen C. Semple, *American History in its Geographical Conditions* (1903); F. A. Ogg and P. O. Ray, *Introduction to American Government* (1923, later eds.), V. L. Parrington, *Main Currents of American Thought* (3 vols., 1927–30), W. E. Binkley, *American Political Parties* (2d ed., 1947), Peter Odegard and E. A. Helms, *American Politics* (2d ed., 1947), D. W. Brogan, *American Themes* (1949), Geoffrey Gorer, *American People* (1948).

United States Government Printing Office: see GOVERNMENT PRINTING OFFICE, UNITED STATES.

United States Military Academy, institution founded (1802) at WEST POINT, N.Y., to prepare young men to be officers of the U.S. army. It is popularly known as West Point or Army. The original act provided that the Corps of Engineers stationed at West Point should constitute a military academy, but an act of 1812 laid the basis for a broader establishment. Changes in curriculum and organization made by Sylvanus THAYER, superintendent from 1817 to 1833, earned him the title "father of the Military Academy." After the excellent records made by West Point graduates in the Mexican War and especially in the Civil War (the chief commanders of the Union and Confederate armies—Ulysses S. Grant and Robert E. Lee, a former superintendent of the academy—were West Point men), control of the academy formally passed to the War Dept. in 1866. The present authorized corps of cadets is 2,496, appointed as follows: 8 from each state at large, 4 from each congressional district and territory and from Puerto Rico, 6 from the District of Columbia, 2 from the Panama Canal Zone, 172 from the United States at large, and 180 from the regular army and the National Guard. An additional number of cadets may be appointed from sons of Medal of Honor winners and from foreign countries. Candidates must be 17 to 22 years of age and must meet certain physical and educational qualifications. Cadets undergo a four-year course of instruction, with summers devoted to practical military training, and are paid $936 a year plus a ration allowance. The U.S. Military Academy Museum, containing ordnance and military trophies of historical interest, is among the most important of college and university museums. George W. CULLUM compiled a valuable biographical register of West Point graduates. See Kendall Banning, *West Point Today* (1937, rev. ed., 1940), R. E. Dupuy, *Where They Have Trod* (1940), John Crane and J. F. Kieley, *West Point* (1947), Sidney Forman, *West Point* (1950).

United States National Museum: see SMITHSONIAN INSTITUTION.

United States Naval Academy, institution at Annapolis, Md., for training officers of the U.S. navy. In 1821 a naval school was founded on board the *Guerrière* at New York. By 1833 others were established at Norfolk and Boston. In 1830 the officers of the *Constitution* and the *Vandalia* drew up a petition protesting against existing conditions and urging the establishment of a naval school. Little was done until George BANCROFT, Secretary of the Navy, founded (1845) the Naval School at Annapolis on the site of Fort Severn. The school was reorganized (1850–51) as the United States Naval Academy. During the Civil War it was moved to Newport, R.I., but was returned to Annapolis in 1865. Candidates must be between 17 and 21 years of age and must meet certain physical and educational qualifications. The midshipman receives $936 a year plus a ration allowance, but he is required to pay for clothing, uniforms, textbooks, and the like. The four-year course includes scientific and general studies as well as technical courses on naval subjects and practical work on cruises. The President is allowed to appoint 75 midshipmen each year from sons of service members. The Vice President and each Senator, Representative, and territorial delegate in the U.S. Congress may send 5 midshipmen to Annapolis, or Navy, as the academy is popularly called. Each year 320 enlisted men from the regular and reserve navy and the Marine Corps may be appointed. A total of 40 appointments is authorized for sons of deceased veterans of the world wars. Honor graduates of naval and military schools receive 20 appointments. Other appointments are reserved for the Canal Zone, Puerto Rico, the District of Columbia, sons of Medal of Honor winners, the Philippines, and Latin American republics. The academy has a notable museum. See Park Benjamin, *The United States Naval Academy* (1900); Kendall Banning, *Annapolis Today* (1938), John Crane and J. F. Kieley, *United States Naval Academy, the First Hundred Years* (1945).

United States Naval Observatory, the government astronomical observatory in Washington, D.C. It is under the supervision of the chief of naval operations; formerly it was administered through the Bureau of Navigation of the Navy Dept. Its main functions include the making of astronomical observations and the publishing of astronomical and navigational information, useful especially to the country's naval vessels and aircraft but often serving also to advance the sciences, and the sending out of time signals based on precise star observations. For the determination of the time, transit telescopes are used, and the standard clocks of the observatory are kept in a vault where temperature and air pressure are constant. From 1894 the observatory has published the *American Ephemeris and Nautical Guide*. The observatory began as a depot of charts and instruments, established by the Navy Dept. in 1830. The first small observatory was built (1834) on Capitol Hill at the personal expense of Lt. Charles Wilkes. In 1842 Congress authorized a more adequate building and fuller equipment. The plans were made and carried out by Lt. J. M. Gilliss, and in 1844 Lt. M. F. Maury, who had been in charge of the depot from 1842, assumed the administration of the just completed naval observatory. In 1873 an equatorial refracting telescope with a 26-inch lens made by Alvan G. Clark was installed. With this instrument, then the largest of its kind in the world, Asaph Hall in 1877 discovered the satellites of Mars. In 1893 the observatory was removed to its present site. The clockhouse, set in lat. 38°55′14″ N., is the center of a group of buildings gathered within a radius of 1,000 ft. There an extensive equipment is housed. The library contains a noteworthy collection of mathematical and astronomical works.

United States Supreme Court. see SUPREME COURT, UNITED STATES.

Unity, religious movement incorporated as the Unity School of Christianity, with headquarters at Lee's Summit, Mo. It has used the name Unity since 1891, but it was founded earlier by Charles and Myrtle Fillmore as a faith-healing cult, with affinities to both Christian Science and New Thought. In time it acquired the characteristics of a Christian denomination, including local "centers" or churches, an ordained ministry, and a statement of faith (1921). In 1922 it withdrew from the International New Thought Alliance. Unity professes to follow closely the "Jesus Christ teaching." The Bible has an inner meaning, hence is interpreted allegorically, not literally, but its revelation is not final, for revelation is a continuing process. Men attain salvation through development of their Christ consciousness, and ultimately all men will be saved. Emphasis is placed on man's ability to "heal" ills of mind and circumstances as well as of body. By prayer and right thinking he can regenerate his body and attain eternal life in it. To permit man to reach this goal Unity accepts the necessity of reincarnation. Other Unity teachings are that thought is omnipotent, that God is principle, not person, that God is immanent in man, that pain or evil is real but fleeting and only the good is permanent. To spread its teachings Unity School publishes a number of magazines and books. Authoritative textbooks are Charles Fillmore's *Christian Healing* and H. E. Cady's *Lessons in Truth*. See Marcus Bach, *They Have Found a Faith* (1946).

universal, in philosophy, a term applied to concepts, or general ideas. In modern thought, universals are commonly regarded as including numbers and relations as well as concepts. PLATO regarded universals as possessing reality independent of the human mind. This was the position of the REALISM of the Middle Ages and is the position of neorealism today. Opposed to realism are nominalism and CONCEPTUALISM.

Universalist Church of America, Protestant denomination originating in the 18th cent. and represented almost entirely in the United States. Universalism is the belief that it is God's purpose to save every individual from sin through divine grace revealed in Jesus Christ. The doctrine is old, but no organized body of believers took it as a distinctive feature of their church until modern times. The Universalist denomination in the United States originated with John MURRAY, a convert to Universalism as taught by James Relly in England. Murray arrived in New Jersey in 1770. After preaching there and in New York and New England, he settled in Gloucester, Mass., where there arose (1780) the first Universalist church in the United States. The movement spread, in 1790 a convention in Philadelphia decided upon a congregational polity and drew up a profession of faith. Until the middle of the 19th cent. little thought was given to organization, as attention was chiefly devoted to settling points of doctrine and disseminating the belief. Murray's Universalism was of the Calvinistic type, under Hosea BALLOU, the most influential force in the denomination from c. 1796 to 1852, the movement was separated from its Calvinistic associations. His doctrine of "Christ's subordination to the Father" gave Universalism a position very similar to that of UNI-

TARIANISM. The doctrinal symbol of the church is the Winchester Profession, adopted in 1803 by the General Convention In 1899 a briefer statement of essential principles was accepted These principles are the universal fatherhood of God, the spiritual authority and leadership of Jesus Christ, his son, the trustworthiness of the Bible as containing a revelation from God, the certainty of just retribution for sin, and the final harmony of all souls with God The organization of the church is built upon the Universalist parish as a unit Annual state conventions, with clergy and lay delegates, have jurisdiction within certain state or provincial limits The supreme legislative body is the General Convention, meeting biennially The name Universalist General Convention (adopted 1866) was changed (1942) to the Universalist Church of America In 1949 the biennial assembly ratified a merger with the American Unitarian Association See Abel C Thomas, *A Century of Universalism* (1870), Richard Eddy, *Universalism in America* (2 vols , 1884–86) , J H Allen and Richard Eddy, *A History of the Unitarians and the Universalists in the United States* ("American Church History" series, Vol X, 1894), the *Universalist Church Year Book*

universal language, invented language intended for auxiliary purposes In the expanding commercial and other horizons of the 19th cent there were several such creations Volapük (c 1880) had some prominence, but Esperanto is the only one even moderately successful This, the creation of L L Zamenhof, is a simplified, regular language with Latin-type grammar and European vocabulary Esperanto enthusiasts have held congresses, conducted campaigns, and got some official recognition in many countries The Esperanto associations have published extensively

Universal Postal Union, agency of the United Nations with headquarters at Bern, Switzerland It was established in 1875 with adoption of the Universal Postal Convention The union was brought into relations with the United Nations in 1947 The Universal Postal Congress, the governing body, usually meets every five years to consider the activities of the Executive and Liaison Committee of 19 members elected on a geographical basis Members of the union comprise a unified postal territory with easy international exchange of mail Accounts are cleared through the International Bureau Nearly all nations and subordinate territories in the world belong to the union

universe, in astronomy, the whole cosmic system, consisting of our Milky Way system and all the many extragalactic or spiral nebulae (or islands of matter) scattered through space It is generally believed that the distance between these nebulae averages about 2,000,000 light-years Man has from earliest times speculated about the universe, but the approach to the many problems involved became truly scientific only after higher mathematics and theoretical physics were employed to supplement, interpret, and extend the findings of the telescope and spectroscope The special and general theories of relativity formulated by Albert Einstein directed physical concepts away from a three-dimensional interpretation of physical space and toward an interpretation of events as against a four-dimensional space-time background Einstein presented a work on cosmology (1917) which greatly stimulated other studies He conceived of space as unlimited by finite in extent, the total volume of the universe was finite in amount, and space was bent back upon itself and therefore was curved Willem de Sitter was led from a consideration of the relativity theory to postulate that remote celestial bodies are receding in space Einstein conceived of the universe as filled with matter but static or devoid of motion, while De Sitter's concept was of an empty universe in which dynamic forces operated Abbé Georges Édouard Lemaître propounded a solution lying between the two extremes, he showed that the Einstein universe was unstable, and he set forth a theory of the "expanding universe" closely suggestive of the theory for which later investigators presented evidence Sir Arthur S Eddington and H P Robertson are among the others who have contributed to an understanding of the theory Considerable controversy has arisen between its opponents and proponents In general, the theory holds that there is a constant recession of the nebulae, they are, however, not receding just from our solar system but all members of the universe are moving farther from each other, i e , the whole universe is expanding Spectroscopic studies reveal that there is a displacement of certain lines toward the red end of the spectrum of the spiral nebulae This characteristic is known as the "red shift " The extent of the red shift increases with the distance of the nebulae from the earth It follows, then, that the external galaxies are moving away from our galaxy with a velocity approximately proportional to their distance from us Some scientists deny the possibility that the red shift is an indication of motion, and various other interpretations have been proposed to explain it. Many scientists agree, however, that the universe is continually expanding and that it is probably a finite rather than an infinite universe Attempts to explain the origin of the members of the universe are the province of COSMOGONY. See Sir Arthur S. Eddington, *The Expanding Universe* (1933), Sir James H Jeans, *The Universe around Us* (4th ed , 1944)

university, corporation for the conservation, dissemination, and advancement of learning, consisting of a group of schools, faculties, or colleges Universities arose in the 12th and 13th cent in response to growing demands in the professions of law, theology, and medicine and to increasing knowledge following the rediscovery of Aristotle and of Arabian commentaries on Aristotle and the study of the liberal arts Of the earliest universities, Salerno (9th cent) and Montpellier (13th cent) specialized in medicine, Bologna (1088) in law, and Paris (12th cent) in theology. The organization at Bologna originated among students, at Paris masters formed guildlike corporations independent of, and frequently in conflict with, the city Students were originally organized according to "nations," but their powers within the university diminished as the faculty machinery took form in connection with the teaching and graduation system The development of colleges as administrative and residence units further modified the earlier forms of organization In the Middle Ages universities originated through migrations of students from other universities—as did Oxford (12th cent), Cambridge (12th cent), and Leipzig (1409)—or through royal or ecclesiastical initiative Leading institutions often had many thousands of students, including boys from 12 to 15 and mature men The medieval universities played an important role in public affairs, and they were represented at the great church councils of the 15th cent Universities have multiplied enormously and spread throughout the world Among the most famous foundations are Salamanca (c 1230), Prague (1348), Vienna (1365), Uppsala (1477), Leiden (1575), and Moscow (1755) The oldest universities in the New World are Mexico (1551) and San Marcos of Lima (1551) Occasionally political purposes influenced the founding of universities, as at Bordeaux, at Caen, and in many German provinces In the 19th cent many governments reorganized and nationalized universities, as in Italy after 1870, in Spain in 1876, and in France, where 17 autonomous regional universities were established after 1896 The earliest colleges in the United States—Harvard (1636), William and Mary (1693), Yale (1701), Princeton (1746), Columbia (1754)—were founded by religious groups, but the movement for free public education led to the establishment of 21 state universities by 1865 By 1900 many universities were secularized in administration and curriculum, and religious tests had been largely eliminated (in England by act of Parliament in 1871) There has also been a growing popularization of university study, stimulated by extension movements originating at Cambridge (1872), at Chicago (1892), and at Columbia (1903) and by the admission of women to the universities, which became a general practice after 1870 In the modern university there have been many innovations in methods of instruction, such as the replacing of the disputation by the use of books and the preparation of theses, the elective system, seminars, graduate schools, and the use of laboratories The role of universities in scientific and technical research has increased in the 20th cent Many institutions have expanded their functions to serve demands arising from modern social and economic life, and they have come to vary considerably in organization and number of faculties Modern cooperation among universities is reflected in the University Bureau of the British Empire and the Association of American Universities In the 1930s a movement to stress the humanities rather than technical training in colleges was stimulated by R M Hutchins's *Higher Learning in America* (1936) The Servicemen's Readjustment Act of 1944 (known as the G I Bill of Rights) enabled American veterans to study for four years at any approved college or university, with a subsistence allowance and books and tuition supplied, this provision has greatly extended the number of young people to whom higher education is available and has been of great advantage to the institutions of learning See Abraham Flexner, *Universities, American, English, and German* (1932), D G Tewksbury, *The Founding of American Colleges and Universities before the Civil War* (1932), H S Canby, *Alma Mater* (1936); Hastings Rashdall, *Universities of Europe in the Middle Ages* (new ed , 3 vols , 1936), Norman Foerster, *The American State University* (1937), Mark Van Doren, *Liberal Education* (1942), Lynn Thorndike, *University Records and Life in the Middle Ages* (1944); Jacques Barzun, *The Teacher in America* (1945), A J Brumbaugh, ed , *American Universities and Colleges* (5th ed , 1948); M M Chambers, ed , *Universities of the World outside U S A* (1950).

University City, suburban city (pop ,33,023), E Mo., near St. Louis, inc 1906

University College · see LONDON, UNIVERSITY OF, and OXFORD UNIVERSITY.

University Heights, residential city (pop 5,981), NE Ohio, near Cleveland, inc 1908 as Idlewood, renamed 1925 John Carroll Univ (Jesuit, for men, 1886) is here

University of the South · see SOUTH, UNIVERSITY OF THE

University Park, city (1940 pop 14,458, 1947 estimated pop 21,000), N Texas, adjoining Dallas, settled 1914, inc 1924 This residential suburb is the seat of SOUTHERN METHODIST UNIVERSITY

university press, publishing house associated with a university and nearly always bearing the university's name in its imprint There is no unanimity of opinion among the American university presses concerning the aims and purposes of the institution Much time and many words have been spent in efforts to define them It is generally agreed that the university press is normally a specialized publishing house emphasizing serious books, monographs, and periodicals which aid in the dissemination of knowledge to scholars and to well-informed laymen The first English-language university presses were those of Oxford and Cambridge, both of which were officially established by the end of the 16th cent These two presses differ basically both in scope and in nature from American university presses Both presses have enjoyed since the 17th cent a monopoly in Great Britain on the publication of the Bible and the Book of Common Prayer granted them by royal charter, giving them a financial resource such as no university press in North America enjoys The younger British university presses (e g , London, Manchester, and Liverpool) are not unlike their American brethren Some American university presses were started in order to centralize the printing and publishing needs of the university They frequently had (as many do now) printing plants to issue the official bulletins of the university and also student and alumni publications Others began with the express aim of publishing the scholarly works of the university's faculty, often arranging for the manufacture and distribution of the books to be handled by commercial publishing houses The first use of the term "university press" in the United States was at Cornell Univ in 1869 This venture, like the one begun at the Univ of Pennsylvania the following year, failed in its early efforts (the presses operating at these universities today were started in 1930 and 1920, respectively), and the oldest American university press in continuous existence is the Johns Hopkins Press (1878), which was followed in 1891 by the Univ of Chicago Press and in 1893 by Columbia Univ Press and the Univ of California Press By 1920 there were recognized presses at the following universities Toronto (1901), Fordham (1907), Yale (1908), Univ of Washington (1909), Princeton (established in its present form 1910), Loyola (1912), Harvard (1913), New York Univ (1916), and Univ of Illinois (1918) In 1935 there were 17 university presses which published five or more books, and they published 6 per cent of all the books produced by publishers in that category By 1940 there were 22 university presses included in the group, and they were responsible for a larger percentage (6 4) of the publications of that group Similarly in 1949, 30 university presses published 7 2 per cent of the books put out, in that year in addition to the presses listed above, university presses included those of Duke Univ , the Univ of Georgia, Iowa State College, Louisiana State Univ , the Univ of Michigan, the Univ of Minnesota, the Univ of Nebraska, the Univ of New Mexico, the Univ of North Carolina, the Univ of Oklahoma, Rutgers Univ , Stanford Univ , and the Univ of Wisconsin and the University Press in Dallas This statistical growth was accompanied, especially in the larger presses, by a broadening of scope University presses undertook more and more to present the results of scholarly research to laymen, to encourage regional literature, and to supply texts for new educational programs of the universities Their growth was phenomenal, and they rapidly expanded into many fields, some even publishing regional novels and juveniles In the early 1920s the American Association of University Presses came into being, and in 1937 it was given formal organization The association conducted (1948–49) a survey of its 35 member presses, upon which was based Chester Kerr's *Report on American University Presses* (1949)

Unknown Soldier A memorial to the American dead of the First World War is in ARLINGTON NATIONAL CEMETERY, Arlington, Va , overlooking the Potomac and, beyond, Washington, D C An unidentified soldier who had been killed in France was buried in a temporary crypt (Nov 11, 1921), over which a marble slab was placed The completed tomb, a sarcophagus of Colorado marble placed on the original base that stands in front of the amphitheater, was dedicated Nov 11, 1932 A tree-lined avenue leads from a balustrade to a flight of steps which approach the tomb Most of the nations that participated in the First World War have memorials to an unknown soldier, the best known are those in Westminster Abbey in London and under the Arc de Triomphe in Paris, where a perpetual flame is kept burning There are innumerable memorials to the war dead more or less associated with the tombs of

unknown soldiers. Especially notable is the cenotaph in Whitehall, London Services honoring the unknown soldiers are usually held on Armistice Day (Nov 11)

unlawful assembly: see RIOT, ROUT, AND UNLAWFUL ASSEMBLY

Unna (ōō'nä), city (pop 23,007), Westphalia, NW Germany, E of Dortmund It is a coalmining center of the Ruhr district and has metallurgical plants. One of the oldest Westphalian cities, Unna was founded by Charlemagne It has a 14th-century castle.

Unni (ŭ'nī) [Heb ,=depressed] **1** Temple musician 1 Chron 15 18,20 **2** Family in the return of Zerubbabel. Neh 12 9

UNRRA: see UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION

Unruh, Fritz von (frĭts' fŭn ōōn'rōō), 1885–, German dramatic poet Son of a Prussian general, he was himself an officer in the First World War His early expressionist plays include *Offiziere* (1912), *Louis Ferdinand prinz von Preussen* (1913), *Ein Geschlecht* [a family] (1916), and its sequel, *Platz* (1920) The prose epic *Opfergang* (written 1916 at Verdun, pub 1918, Eng tr , *The Way of Sacrifice*, 1928) is powerful anti-war propaganda The drama *Bonaparte* (1927, Eng tr , 1928) was a warning against the dictatorship which Unruh foresaw and which led to his departure from Germany, he returned, however, in 1947 at the invitation of the mayor of Frankfurt Other works include *The End Is Not Yet* (Eng tr , 1947), a novel about Nazism Unruh was the recipient of the Kleist and Schiller prizes and, during his stay in New York, of the Wilhelm Raabe Prize

Untermeyer, Louis (ŭn'turmīur), 1885–, American poet and anthologist, b New York city Perhaps unjustly, he is known best for his anthologies, the famous *Modern American Poetry* (1919, 7th ed 1950) and *Modern British Poetry* (1920, 6th ed , 1950), *This Singing World* (1923), which is for children, and many others He is a poet in his own right and as an erudite and clever parodist is best represented in his *Selected Poems and Parodies* (1935) His masterly translation of Heinrich Heine's poems and a biography appeared in 1937 He has also written prose, including *The Donkey of God and Other Stories* (1932), and several volumes of criticism See his autobiography, *From Another World* (1939) His first wife was **Jean Starr Untermeyer**, 1886–, poet, b Zanesville, Ohio Her volumes of poetry include *Steep Ascent* (1927) and *Love and Need* (1940)

Untermyer, Samuel, 1858–1940, American lawyer and civic leader, b Lynchburg, Va , grad Columbia School of Law, 1878 Over a period of years he gained fame as a lawyer and took part in some of the country's most important litigation He served as counsel to the Pujo committee of Congress which investigated (1912) money trusts and to the Lockwood committee of the New York legislature, which probed (1921–22) state-wide housing conditions As special counsel until 1933 in the famous New York city transit suits, he helped maintain the five-cent subway fare Untermyer became a staunch advocate of government ownership of railroads, stock-market regulations, and various legal reforms A leading crusader against anti-Semitic propaganda, he was active in the movement to boycott Germany after Hitler rose to power

Unterwalden (ōōn'turvaldŭn), canton, Switzerland A mountainous, forested, and chiefly pastoral region, it is divided into the half-cantons of Obwalden (190 sq mi , pop. 20,340), in the west, with the capital at Sarnen, and Nidwalden (106 sq mi , pop 17,348), in the east, with the capital at Stans In 1291 Unterwalden formed with the cantons of Uri and Schwyz a league which became the nucleus of the Swiss Confederation (see SWITZERLAND) The inhabitants are German-speaking and Catholic

untouchables: see CASTE

Unwin, Sir Raymond (ŭn'wĭn), 1863–1940, English architect and town planner He designed the first English garden city near Letchworth, the New Earwick development in Yorkshire, and Hampstead Garden suburb near London He lectured on housing and city planning at the Univ of Birmingham (1911–14) and at Columbia Univ (1936–40). After the First World War he served in the ministry of health as housing chief and was president (1931–33) of the Royal Institute of British Architects His *Town Planning in Practice* (1909) is a standard work in its field Unwin was knighted in 1932.

Upanishad: see VEDANTA

upas tree (ū'pus) [from Malay,=poison tree], East Indian tree (*Antiaris toxicaria*) of the mulberry family Although reputed to be so poisonous as to kill men or animals approaching within a wide radius of it, it has been cultivated without harmful results. The poisonous milky juice has been used for tipping arrows, and the fiber of its inner bark for making cloth. The name has been applied also to an East Indian tree or shrub (*Strychnos tieuté*) which yields a milky juice also used as an arrow poison

Updike, Daniel Berkeley (ŭp'dīk"), 1860–1941, American printer and historian of typography, b. Providence, R.I. At the Merrymount Press, which he founded in 1893 in Boston, his stated purpose was "to do common work well" Here, the excellence of his printing inspired and instructed other printers At Harvard Univ he taught the first college course in the United States on the history of type and the practice of printing. To the knowledge of a master printer he added the care and scope of the scholar in his books. *Printing Types Their History, Forms, and Use* (1922, 2d ed , 1937) is the standard work on the subject and a basic book for all interested in the graphic arts Other works include *In the Day's Work* (1924) and *Some Aspects of Printing* (1941) See G P. Winship, *Daniel Berkeley Updike and the Merrymount Press* (1947), *Updike. American Printer and the Merrymount Press* (1948), a symposium

Upernivik (ōōpĕr'nūvĭk), settlement (pop 321) and colony district (pop 1,443), W Greenland, on a small island in Baffin Bay, just off the mainland coast A sealing and whaling base, it has a radio station There are notable bird cliffs and graphite deposits in the vicinity

Uphaz (ū'făz), country known for its gold It is perhaps a variant of OPHIR Jer 10 9, Dan 10 5.

upholstery, general term for household fittings, hangings, curtains, cushions, and covers In particular it refers to stuffed, padded, and spring-cushioned furniture such as chairs and sofas or to the materials and fabrics that compose them The first furniture upholstery was probably leather, stretched on without padding Italian Renaissance chairs are cushioned with leather, velvet, or embroidery, French chairs are ornate with tapestries and embroideries, England used some upholstery in Elizabethan and Jacobean reigns Springs are comparatively modern Such fillings as hair, fiber, flock, down, and kapok are used for padding in modern upholstery, and woven fabrics, tapestries, plastics, and leather for coverings

Upjohn, Richard, 1802 78, American architect, b England He came to the United States in 1829. A skilled cabinetmaker and draughtsman, he lived first in Manlius, N Y , and then in New Bedford, Mass , where he set himself up as an architect His first commission (1833) was a private house (now Symphony House) in Bangor, Maine He had executed St John's Church, Bangor (1836–39), and several smaller commissions when in 1839 he was engaged to rebuild Trinity Church, New York city. He moved to New York at that time and established an office there The new Trinity Church, completed in 1846, was carefully modeled on English examples and inaugurated a new phase in the Gothic revival Upjohn designed the old St. Thomas's Church in New York (later burned), several churches in Brooklyn, the chapel of Bowdoin College, other smaller Gothic churches, and many residences He was a founder of the American Institute of Architects and its first president (1857–76) His son, Richard Michell Upjohn (1828–1903), was associated with his father See E M Upjohn, *Richard Upjohn, Architect and Churchman* (1939)

Upland. 1 City (pop 6,316), S Calif , E of Los Angeles, near San Antonio Peak in the San Gabriel Mts , inc 1906 It is the packing center of a citrus-fruit region **2** Borough (pop 2,431), SE Pa , W of Philadelphia, inc 1869 The house of Caleb Pusey, built in 1683, is said to be the oldest English building in the state

Upolu (ōōpō'lōō), volcanic island (430 sq mi , pop. 42,764), Western SAMOA It is under New Zealand mandate and is the most populous of the Samoan islands Vaasfetu (3,608 ft) is the highest peak, the fertile soil yields cacao, rubber, bananas, and coconuts Apia, the seat of government, is the only port visited by liners Saluafata is a U S naval station and harbor The home of Robert Louis Stevenson, VAILIMA, is on Upolu

Upper Arlington, city (pop 5,370), central Ohio, near Columbus

Upper Austria, Ger *Oberösterreich* (ō'burŭ'sturĭkh), autonomous province of *Bundesland* (4,625 sq mi , pop 1,137,528), N Austria, bordering on Czechoslovakia and Germany Linz is the capital Upper Austria is drained by the Danube and two of its tributaries, the Enns and the Traun, and includes a large part of the SALZKAMMERGUT resort area. Agriculture is the chief occupation It was created a duchy in 1156 and given to the dukes of Austria

Upper Avon. see AVON 3, river, England

Upper Palatinate, Germany see PALATINATE

Upper Sandusky (săndŭs'kē), village (pop 3,907), co seat of Wyandot co , N central Ohio, on the Sandusky and NW of Marion, laid out 1843 Its manufactures include dairy products, steam pumps, and metal and clay products The first Methodist Episcopal mission in Ohio was built here c 1823.

Upper Volta (vōl'tu), Fr *Haute-Volta* (ōt-vôltä'), overseas territory (105,000 sq mi , pop. c 3,000,000), French West Africa The capital is Ouagadougou Upper Volta is bordered on the south by the Gold Coast It is mainly high savanna with good farming and ranching country. Cattle, sheep, and goats are raised, and hides and skins are exported. Peanuts, sisal, cotton, and sesame are the main cash crops There are fine native crafts, including tinsmithing and leatherworking. The area was conquered in 1896, and it was organized as a separate territory in 1919. In 1932 it was partitioned among the Ivory Coast, Sudan, and Niger, but in 1947 it was reconstituted as an overseas territory of France and was given representation in the national parliament.

Uppingham (ŭp'ĭng-um), village, Rutland, England It is the site of Uppingham School, founded in 1587, a public school for boys.

Uppland (ŭp'land), historic province of central Sweden It is now administratively divided among UPPSALA, VASTMANLAND, and STOCKHOLM counties

Uppsala (ŭp'sălu, ōōpsä'lä), county (1,977 sq mi , pop 146,415), E central Sweden, N of Lake Malar It comprises the western part of the historic province of Uppland Uppsala is the county seat. A well-cultivated region, it has a large lumber industry and important iron mines and works

Uppsala, city (pop 46,547), co seat of Uppsala co., E central Sweden, NNW of Stockholm It is the seat of the Lutheran primate of Sweden and of the oldest Swedish university, founded in 1477 during the regency of Sten Sture the Elder The city grew up near Old Uppsala, now a village of some 700 inhabitants, which was the pagan capital of Sweden in the 9th cent The archiepiscopal see was established in 1270, and the cathedral of Uppsala, built in the 13th cent , became the usual coronation place of the Swedish kings King Gustavus I, Linnaeus, and Swedenborg are buried in the cathedral The Univ of Uppsala has ranked among the world's great universities since its reorganization in 1595 Its library contains more than 1,000,000 volumes and invaluable manuscripts, notably the Codex argenteus of ULFILAS Other institutions include the Royal Society of Sciences, the Victoria Museum, and the Linnaean Museum

Upsala College: see EAST ORANGE, N J

Upshur, Abel Parker (ŭp'shur), 1790–1844, American cabinet officer, b Northampton co , Va. After study at Yale and Princeton, he read law, was admitted (1810) to the bar, practiced law in Richmond, Va , and held state offices When most of the Whig cabinet resigned in disagreement with President John Tyler, Upshur was in 1841 appointed U S Secretary of the Navy When Daniel Webster resigned, he succeeded Webster and was Secretary of State (1843–44) Upshur played an important role in the moves for the annexation of Texas He was killed by the explosion of a cannon on the battleship *Princeton* The incident for the first time stressed the need of some law of succession in the event of wholesale death of high U S officials Upshur was succeeded to office by John C Calhoun

Upton, town (pop 2,249), S Mass , SE of Worcester, settled 1728, inc 1735

Ur (ûr), ancient city of Sumer, S Mesopotamia The city is also known as Ur of the Chaldees It was an important center of Sumerian culture (see SUMER) and is identified in the Bible as the home of Abraham This great city, the origin of which dates from an indeterminate period in remotest antiquity, disappeared from historical records sometime in the 4th cent B C , and eventually even its site was covered by sand and forgotten Though the location of the city was rediscovered in the 19th cent , not until the careful and thorough excavations conducted under the leadership of C Leonard Woolley had been made could a partial account of its history be constructed Though any statement about the city's beginnings must be still partly conjecture, there is evidence that Ur existed prior to a great flood, which was probably the flood of the biblical account It was a flourishing place by 3500 B C , and its first dynasty of kings (c 3200), which ruled for 177 years, inherited a rich culture from the past After this dynasty came a long period of which practically nothing is known except that a second dynasty rose and fell Ur was captured (c 2800) by Sargon This marks an important step in the blending of Sumerian and Semitic cultures A new dynasty was established (c 2300) under Ur-Nammu (Ur-Engur), who built the great ziggurat which stood, crumbling and covered with sand, throughout the centuries Known later to the Arabs as Tell al-Muqayyar [mound of pitch], it stood out above the level desert and led to the rediscovery of the city Ur continued to be a great commercial city on the Euphrates, and the kings of the third dynasty ruled a large area It fell to the Elamites and later to Babylon and was destroyed and rebuilt throughout the years by various kings and conquerors, including Nebuchadnezzar in the 6th cent. About the middle of the 6th cent , Ur went into a decline from which it never recovered A record dated 324 B.C mentions it (by another name) as being inhabited by Arabs, but by this date its existence as a great city was forgotten. The Euphrates, which was the source of its wealth, probably also, by changing course, caused the city's final decline. Ur is mentioned often in the Bible Gen. 11.28,31, 15.7; Neh. 9 7. See C. J. Gadd, *History and Monuments of Ur* (1930); C. L Woolley, *Ur of the Chaldees* (1930).

Ural (yōō'rŭl, Rus. ōōräl'), river, 1,523 mi. long, RSFSR and Kazakh SSR, part of the conventional

geographic border between Europe and Asia. It rises in the S Urals and flows south, then west, then south again, passes Magnitogorsk, Chkalov, and Uralsk, and enters the Caspian Sea near Guryev after traversing a dry steppe region. Its mouth forms a small delta. It is navigable up to Uralsk and occasionally up to Chkalov. Northbound shipments include petroleum and fish, southbound shipments include grain and livestock. The river has extensive fisheries and is the chief source of water supply for the W Kazakh steppe

Ural-Altaic (yo͝or'o͞ol-ăltā'ĭk), designation of a hypothetical grouping of certain important language families of Europe and Asia—Finno-Ugric, Samoyede, Turkic (or Turco-Tataric), Tungusic or Tunguzic, and Mongolian. The Finno-Ugric and Samoyede families form the Uralian stock. This is a well-established relationship and is not disputed. While the other three families, the so-called Altaic languages, show resemblances to one another, no clearly convincing evidence of relationship has been adduced. It is even more doubtful that any of them is related to Uralian

Urals or **Ural Mountains**, mountain system, USSR, forming, together with the Ural river, the traditional boundary between Europe and Asia. It extends for c.1,300 mi. north and south from the Arctic Ocean to the westward bend of the Ural river, and it is commonly divided into the N Urals (north of lat. 61° N), the central Urals (between lat. 61° N and lat. 55° N), and the S Urals (south of lat. 55° N). The northern section, a rocky, treeless chain rising from the tundra, has the highest peaks of the entire system—Naroda (6,184 ft.), Telpos-Iz (5,558 ft.), and Sablya (5,407 ft.). The central section has many low passes and is traversed by the Trans-Siberian RR at an altitude of only 1,345 ft. The southern section consists of several parallel ridges and rises to 5,377 ft. in the Yaman-Tau. The Urals form the watershed between the Pechora and Volga basins on the west and the Ob-Irtysh basin on the east; they also are a climatic barrier, barring access into Siberia of the moderating air masses of Atlantic origin and thus contributing to the extreme variability of the continental Siberian climate. They are densely forested (except in the north), and they contain some of the world's richest mineral deposits, particularly iron, manganese, nickel, chrome, copper, platinum, gold, bauxite, asbestos, precious stones, coal, and petroleum. Known to medieval Russia as the Stone Belt, the Urals were reached by fur traders from Novgorod in the 12th cent., and the northern section was made a colony of Novgorod. The original population consisted of Finnic and Turkic tribes, such as the Komi and the Bashkirs, who still survive in adjacent regions to the west. Russian colonization on a large scale began only in the 16th cent. under under Ivan IV. The first ironworks were established in the 17th cent., and metallurgy was greatly encouraged by Peter I in the early 18th cent. By the 19th cent., however, the industrial importance was eclipsed by that of the Ukraine, and it was only with the First Five-Year Plan (1929–34) that the tremendous industrial development of the Urals began. Huge industrial centers were created at SVERDLOVSK (formerly Ekaterinburg), MAGNITOGORSK, NIZHNI TAGIL, MOLOTOV (formerly Perm), and CHELYABINSK. American, English, and other foreign engineers were active in the initial stages of the industrialization program. This was largely made possible by the development of the coal reserves of the KUZNETSK BASIN in Siberia, and later of the KARAGANDA basin, for the Urals lack adequate coking-coal reserves. Coal was shipped by rail over 1,400 mi. from the Kuznetsk Basin, which in turn received ores from the Urals. In more recent years, however, the Kuznetsk Basin became increasingly self-sufficient as a result of the exploitation of its own iron reserves, while the Urals have remained largely dependent on Karaganda coal. Increasing use is made of hydroelectric power and of Ural coal mixed with better grades. In the Second World War entire industries were transplanted from the west to the Urals, where they largely remained. The recent development of the PECHORA coal basin and of oil fields E of the Volga will probably contribute to the continued growth of the Ural industrial region. The strategic situation of the Urals in the heart of the USSR favors that development

Uralsk (yo͝orälsk', Rus. o͝orälsk'), city (pop. 66,201), capital of West Kazakhstan oblast, Kazakh SSR, on the Ural river. It is the center of an agricultural area. Founded in the early 17th cent. as a Cossack settlement, it was named Yaitski Gorodok until 1775. It played an important role in the uprisings under Stenka Razin and Pugachev

Urania (ūrā'nēə) [Gr., =celestial], in Greek religion. 1 See MUSES. 2 Manifestation of APHRODITE as goddess of the heavens, patroness of pure and heavenly love

uraninite: see PITCHBLENDE

uranium (ūrā'nēəm), hard silver-white, radioactive metallic element (symbol=U; for physical constants, see ELEMENT, table). Discovery of the element is commonly credited to M. H. Klaproth. In 1789, while experimenting with pitchblende, he concluded that it contained a new element the name for which he derived from that of the planet Uranus. The substance that Klaproth prepared was not the pure element but was an oxide of uranium. This was not discovered until 1841, when E. M. Péligot isolated pure uranium. In 1896 A. H. Becquerel discovered the property now known as radioactivity which is displayed by uranium. Its isotopes include uranium with atomic weights of 235, 238, and 239. Uranium of atomic weight 238 is the parent substance of the uranium series, the series of elements produced by successive disintegrations, i.e., spontaneous emissions of particles; radium occurs in the series, and the final product is lead of atomic weight 206. Uranium and other radioactive elements disintegrate at a measurable rate, and the lead, which is the end product of the disintegration, accumulates in the rock. Since the rate of change has been determined, the age of the uranium mineral can be calculated after ascertaining, by chemical analysis, the ratio of lead to uranium. Uranium occurs in ores, especially in PITCHBLENDE and carnotite. Carnotite is composed of oxides of vanadium, uranium, and potassium. It usually occurs, often in cavities of rocks, as a lemon-yellow crystalline powder; it crystallizes in the orthorhombic system. Colorado and Utah are among the chief sources of the mineral. Uranium forms two groups of salts known as uranous and uranyl salts. Until the U.S. government limited the use of uranium, its compounds, especially the oxides, were used in making various products. Yellowish-green fluorescent glass and pottery having either a certain shade of red or a yellowish tinge owed their color to uranium. Uranium became a strategic material with the discoveries that the nucleus of the uranium atom of atomic weight 235 can be split to release ATOMIC ENERGY or nuclear energy and that uranium of atomic weight 238 can be used to produce plutonium, also a fissionable material

Uranus (ūrā'nəs, yo͝o'rənəs) [Gr., =sky, heaven], in Greek religion, sky-god, first ruler of the universe, son of GAEA, the earth-goddess. He was father of Gaea's children, the Titans, the Cyclopes, and the Hecatoncheires. Fearing that his children would rebel against him, he imprisoned them, but Cronus, a Titan, wounded him and took away his power. From the blood of Uranus which fell on the earth sprang the Erinyes and the giants, while from the blood which fell in the sea arose Aphrodite

Uranus, in astronomy, the planet next to Saturn in order of distance from the sun, i.e., seventh from the central body of our solar system. It was the first member of that system to be discovered in modern times, as all the planets with orbits lying within its own were known from antiquity. William HERSCHEL, at Bath, England, in 1781, discovered it to be a planet, after having first announced it as a comet. The names Georgium Sidus, given by the discoverer, and Herschel were abandoned for Uranus, suggested by J. E. Bode. The mean distance of the planet from the sun is 1,782,700,000 mi., about 19 times that of the earth. It revolves round the sun in a nearly circular orbit in a period slightly more than 84 years. The diameter is given as approximately 30,878 mi., and the form of the planet is probably considerably flattened at the poles. The period of rotation is about 10 hr. 45 min. The density of Uranus is less than one quarter that of the earth, its mass 14.7 times as great as the earth's. The planet receives from the sun about $^1/_{90}$ of the light and heat that the earth does. In reflecting power it is nearly the same as Jupiter and Saturn, and its spectrum resembles theirs. Uranus is attended by four known satellites, called Titania, Oberon, Ariel, and Umbriel. Discovery of a fifth satellite was reported in 1948. Study of the motion of Uranus revealed irregularities that eventually led to the discovery of the planet NEPTUNE

Urartu (o͝orär'to͞o), ancient kingdom of ARMENIA, centered about VAN and sometimes called the Vannic kingdom. More familiar is the Hebrew form of the name, Ararat. Not too much is known about the large state, which flourished from the 13th cent. to the 8th cent. B.C. The agricultural and commercial civilization was on a high material level, and Urartu was powerful. The Assyrians repeatedly attacked it but never completely subdued it. Sargon's invasions late in the 8th cent., however, prepared the way for the downfall and disappearance of Urartu or Ararat in the late 7th cent. B.C. The so-called Vannic inscriptions were supplemented by archaeological findings in 1939 to supply knowledge of Urartu's history

Urawa (o͝o'rä'wä), city (1940 pop. 59,671, 1947 pop. 106,176), capital of Saitama prefecture, central Honshu, Japan. It is principally a residential city. Other centers in Saitama prefecture include Kawagoe and Kawaguchi

Urban II, c.1042–1099, pope (1088–99), a Frenchman named Odo (or Eudes) of Lagery, successor of VICTOR III and predecessor of PASCHAL II. He studied at Rheims and became a monk at Cluny. He went to Rome, as prior of Cluny, early in the reign of St. GREGORY VII. The pope kept him there, finding in Odo one of his ablest assistants in the great reform, he made him cardinal and bishop of Ostia. Odo worked especially as legate in Germany. When he was elected pope, the cause of reform seemed hopeless, but, undaunted, Urban began work in the lands that recognized him, those of the Normans (S Italy), of the Countess Matilda (Tuscany), and the Lombard cities. He could scarcely live in Rome until 1093, when the antipope (GUIBERT OF RAVENNA) had finally lost out. Urban's method and activity was to travel about, summoning great councils of the whole population, to advertise and gain popularity for the reforms. The principal councils were at Piacenza (March, 1095), Clermont (Nov., 1095), Rome (1097), Bari (1098), and Rome again (1099). At Clermont, Urban preached a sermon which brought forth the First Crusade (see CRUSADES). At Bari the reunion of East and West was the theme, St. Anselm was the apologist for the West. Urban's resolute condemnation of Philip I of France in the matter of Philip's repudiating his wife exemplifies his fearlessness. Without Urban's work most of Gregory's reform movement would probably have been ephemeral. Urban was beatified in 1881

Urban III, d. 1187, pope (1185–87), a Milanese named Uberto Crivelli, successor of LUCIUS III and predecessor of GREGORY VIII. He retained his archdiocese of Milan during his pontificate. Urban continued with vigor the dispute with Emperor FREDERICK I, aggravated and made much more serious for the Church by the marriage of Frederick's son Henry (Henry VI) to Constance, Norman princess of Sicily. The dispute over the estates of Countess MATILDA went on as before

Urban IV, d. 1264, pope (1261–64), a Frenchman (b. Troyes) named Jacques Pantaléon, successor of ALEXANDER IV and predecessor of CLEMENT IV. In the pontifical service he was sent on missions into N Germany, then he was made bishop of Verdun (1253) and Latin patriarch of Jerusalem (1255). On his election he inherited the struggle between the Hohenstaufen and the Church, and in his vigor (and success) he resembled more Innocent IV than he did Alexander. Urban it was who dealt the Hohenstaufen the fatal stroke by renewing definitively the offer of the Sicilian throne to Charles of Anjou, thus striking against MANFRED. Urban restored the papal finances to solvency. He created seven French cardinals, a high number, but the Italians remained in the majority in the sacred college until the creations of Clement V. Urban established the feast of Corpus Christi

Urban V, 1310–70, pope (1362–70), a Provençal named Guillaume de Grimoard, successor of INNOCENT VI and predecessor of GREGORY XI. He was a Benedictine and was renowned for his knowledge of canon law. Under Clement VI and Innocent, Guillaume was papal legate in several missions, and he was in Italy at the time of his election by the cardinals at Avignon, where the popes had been residing for 50 years. The great event of Urban's pontificate was the abortive attempt to return the papacy to Rome. Cardinal ALBORNOZ had succeeded in reconquering the Papal States—as it were to prepare for the return—and agitation by holy people for the restoration of the Holy See was increasing. Urban left Avignon in 1367 and arrived in Rome a month later. The return made a great impression in the world. In 1368 the emperor came to visit. But the city itself was disorderly, and Albornoz's death removed the best incentive to order. In 1370 Urban, disturbed by the new war between France and England and urged by the constant commotion in the city, returned to Avignon to try to end the war. He died shortly afterwards. Urban was devoted to education. He founded universities at Orange, Cracow, and Vienna, helped other universities, and financed 1,400 students. He lived a monk's life always and was beatified in 1870

Urban VI, 1318?–1389, pope (1378–89), a Neapolitan named Bartolomeo Prignano, successor of GREGORY XI and predecessor of BONIFACE IX. He was made archbishop of Acerenza (1364) and of Bari (1377). On the death of Gregory the conclave met under the most unfavorable circumstances. It was divided into factions, and it was intimidated by the threatening Roman mob, which kept shouting for a Roman or an Italian, lest the papacy return to Avignon. A majority of cardinals was French. At the suggestion of Cardinal de LUNA, Prignano was elected. Urban, before his election peaceable and modest, now became upbraiding and harsh and alienated all the cardinals. They went to Anagni, then to Fondi, and declared Urban's election invalid as they had been intimidated. With the consequent election of a new "pope," ROBERT OF GENEVA (antipope Clement VII), began the Great SCHISM. Urban was recognized from the first by most of Italy and Germany, by Flanders, and by England and English territories. Until 1380 St. Catherine of Siena lived at Rome, working for Urban's recognition. Urban alienated his political allies by his behavior, he probably murdered five cardinals (he had created a new sacred college) who plotted against him and thus horrified all Europe. Many hold that he was insane. This election is now generally considered canonical.

Urban VIII, 1568–1644, pope (1623–44), a Florentine named Maffeo Barberini, successor of Gregory XV and predecessor of Innocent X Throughout his pontificate the Thirty Years War raged in Germany Urban gave little help to the Catholics, because a Catholic nation, France, was supporting the other side The old story that Urban rejoiced at Protestant victories because he hated the Hapsburgs is, however, false His policy in Italy was unsuccessful, and he was humiliated by defeat at the hands of the Farnese of Parma Urban was very active in church affairs he published the revised breviary, normalized liturgical practice, canonized many saints, instituted new orders, and continued the reformation of the Church He built and decorated extensively in Rome Urban sanctioned the condemnation of Galileo, and later freed him Urban's strict legislation against easy acceptance of miracles is still in effect

Urban, Joseph Maria (ûr'bun), 1872–1933, American architect and stage designer, b Vienna He won distinction with his architectural work, including the bridge across the Neva at Leningrad, and with his decoration work at the Paris exposition, 1900 At the St Louis exposition, 1904, he decorated the Austrian building He moved to the United States in 1911 and was naturalized in 1917 He was successful as art director and designer of stage sets, among them sets for *Othello*, *Tristan and Isolde*, *Parsifal*, the *Ziegfeld Follies*, and *The Garden of Paradise* Urban was art consultant for the Chicago Century of Progress, held in 1933–34, and created a panorama for the New York state exhibit for that exposition

Urbana (ûrbă'nù) **1** City (pop 14,064), co seat of Champaign co, E central Ill, ENE of Springfield and adjoining CHAMPAIGN, with which it is allied economically, settled 1822, inc 1833 It is a trade center in a rich farm area and is known as the seat of the Univ of Illinois (see ILLINOIS UNIVERSITY OF) A tablet in the courthouse commemorates a speech made by Lincoln in 1854 against the Kansas-Nebraska Bill **2** City (pop 8 135), co seat of Champaign co, W central Ohio, N of Springfield, laid out 1805, inc 1868 It is in a rich farm and livestock area, with factories processing metal, wood, and food products The city is the seat of a junior college The soldiers' monument was done by John Quincy Adams Ward, who was born here Simon Kenton is buried in Oakdale Cemetery Near by are the Ohio Caverns

Urbandale, town (pop 1,083), central Iowa, a suburb of Des Moines, settled 1901, inc 1917

Urbane, Roman Christian Rom 16 9

Urbino (o͝orbē'nō), town (pop 5,459), the Marches, central Italy, 19 mi SW of Pesaro From the 12th to the 16th cent it flourished under the Montefeltro family, then (1508–1626) under the dukes Della Rovere The court of Federigo da Montefeltro, 2d duke of Urbino, was a great artistic center The early Renaissance ducal palace was built and decorated by some of the best artists of the time The city was noted for its school of painting (15th–17th cent) and for the manufacture of majolica ware Raphael was born here

Urchard, Sir Thomas. see URQUHART, SIR THOMAS

Urdu (o͝or'do͞o), language of the Indu group of the Indo-Iranian subfamily of Indo-European languages See LANGUAGE (table)

Ure, Andrew (yo͝or), 1778–1857, Scottish chemist He was professor (1804–30) at Anderson's College, Glasgow, and was first director (1809) of Glasgow Observatory, where he introduced classes for workingmen He wrote the widely used *Dictionary of Chemistry* (1821) and *A Dictionary of Arts, Manufactures, and Mines* (1837)

Urey, Harold Clayton (yo͝o'rē), 1893–, American chemist, b Walkerton, Ind, grad Univ of Montana (B S, 1917), Ph D Univ of California, 1923 He taught at Johns Hopkins (1924–29), at Columbia (1929–45, as head of the department of chemistry from 1939 to 1942), and at the Univ of Chicago (from 1945) For his isolation of heavy hydrogen he received the 1934 Nobel Prize in Chemistry, he later isolated heavy isotopes of oxygen, nitrogen, carbon, and sulphur During the Second World War he took part in the research leading to the production of the atomic bomb, his special work was on methods of separating uranium isotopes and the production of heavy water With A E Ruark he wrote *Atoms, Molecules, and Quanta* (1930)

Urfa (o͝or'fa), city (pop 36,356), SE Turkey It is the center of an agricultural area and has a tobacco industry The ancient EDESSA, it had a long and important history in ancient times and again during the Crusades until its fall (1144) to the Moslems It formed part of the domains of the Circassian Mamelukes, which in 1517 became part of the Ottoman Empire Its once large Christian population—mostly Armenians—suffered terrible massacres in the late 19th cent There are remains of the medieval fortifications A former spelling is Orfa

Urfé, Honoré d' (ônôrā' dürfā'), 1567–1625, French novelist, author of *L'Astree* (5 vols, 1607–10), the principal French PASTORAL novel It deals with the affairs of several couples of shepherds and shepherdesses living in Urfé's own Auvergne in the 5th cent This work, a discriminating analysis of the nobler sentiments, had a great influence in literature in France and abroad, and its vogue shows clearly in many attributes of the 17th-century French preciosity It is penetrating and often delightful, but very long

Urga, Mongolian People's Republic: see ULAN BATOR

Urgench (o͝orgyĕnch'), ancient city of central Asia, on the site of present Kunya-Urgench (1948 pop over 2,000), Turkmen SSR, in the Khiva oasis It was the capital of the kingdom of KHOREZM, but was abandoned in the 16th cent when the Amu Darya, on which it was situated, changed its course. Khiva replaced Urgench as capital There are remains of an 11th-century minaret

Urgench, city (1939 pop over 10,000), capital of Khorezm oblast, Uzbek SSR, in the Khiva oasis It is named for ancient Urgench and was known as Novy Urgench until 1937 It has a cotton-textile industry

Uri (ûr'ī) **1** Father of BEZALEEL **1** **2** Father of GEBER **2** **3** Porter Ezra 10 24

Uri (o͞o'rē), canton (415 sq mi, pop 27,302), Switzerland The capital is Altdorf Uri is an Alpine region of glaciers and pastures, with forests and meadows in the Reuss river valley First mentioned in the 8th cent, it became (9th cent) a fief of the Fraumünster convent at Zurich Under Emperor Frederick II it was granted (1231) the status of immediate dependency on the emperor The scene of the William Tell legend, Uri in 1291 formed with Schwyz and Unterwalden the league which became the nucleus of SWITZERLAND In the 15th cent Uri took from Milan the Val Leventina, now part of Ticino canton It rejected the Reformation and in 1845 joined the Catholic SONDERBUND

Uriah (ūrī'u) [Heb, =light of God], husband of BATH-SHEBA 2 Sam 11 Urias Mat 1 6 For others called Uriah in the Bible, see URIJAH

Urias (ūrī'us), Greek form of URIAH

uric acid (yo͝o'rĭk), white, odorless, tasteless, crystalline substance, formed as a result of protein metabolism in humans and in some other vertebrates It is a very weak organic acid composed of carbon, hydrogen, nitrogen, and oxygen, barely soluble in water and insoluble in alcohol and ether The urates are its salts Uric acid is present in human urine only in extremely small amounts, but constitutes a large part of the body waste matter of birds (as in GUANO) and of reptiles It collects sometimes in the human kidneys or bladder in calculi, or stones, and is responsible, when present in tissues or deposited upon bones in the form of urates, for gouty conditions It occurs also in normal human blood The pure acid is obtained from guano and other similar substances Upon decomposition urea is obtained A common test for the presence of the acid in urine depends upon the formation of murexide (an ammonium salt), which is an intense reddish purple Nitric acid is added to the unknown substance, which is then evaporated The murexide is formed when ammonia is added to the residue, its color indicating the original presence of uric acid

Uriel (ûr'rēul) [Heb, =flame of God] **1**, **2** Two descendants of Kohath 1 Chron 6 24, 15 5 11 **3** Husband of Absalom's daughter Tamar 2 Chron 13 2 The name appears in the pseudepigrapha for an angel He is introduced in Milton's *Paradise Lost* as the angel of the sun

Urijah (ūrī'ju) [Heb, =light of God] **1** High priest under King Ahaz 2 Kings 16 10–16 Uriah Isa 8 2 **2** Prophet killed by King Jehoiakim Jer 26 20 **3** Ancestor of a priestly family Neh 3 4, 21 Uriah Ezra 8 33 **4** Companion of Ezra Neh 8 4

Urim and Thummim (û'rĭm, thû'mĭm), name of two lots mentioned in the Bible Ex 28 30, Lev 8 8, Num 27 21 The meaning of the two names is uncertain, so is the nature of the lots, but they were connected in some way with the ephod

urine, fluid secreted by the KIDNEYS, stored in the BLADDER, and passed out from the urethra. As blood circulates it collects excretory products from tissues, and these are eliminated chiefly through the urine The amount passed in 24 hr depends upon fluid intake and other factors Urine consists of 95 percent water in which are salts, urea, uric acid, coloring matter, and mucus In abnormal urine the amount of these substances may be changed, and there may also be present blood, pus, casts, proteins, sugar, bile, epithelial cells, and bacteria or other microorganisms Analysis of the urine is of great importance in detecting diseases of the kidney and other parts of the urinary tract and also in the diagnosis of DIABETES

Urmia (o͝or'mēu, o͝ormēa') or **Urumiya** (o͝orro͞omē'u), shallow salt lake, c 80 mi long and 25 mi wide, NW Iran, in Azerbaijan, at an elevation of 4,000 ft The largest lake in the country, it has no outlet and receives the drainage of the surrounding mountains Its salt waters support no fish The near-by city of REZAIEH was formerly called Urmia

urn, form of VASE, of varying shape and size, with a pedestal base and made of clay, glass, metal, stone, marble, or cement It was used in ancient civilizations to hold the bodies or ashes (in modern times the ashes) of the dead. Other uses are for architectural ornament, as a container for liquids or plants, and as an electoral vase or a vase from which lots were drawn See Sir Thomas Browne, *Hydriotaphia, Urne-Buriall* (1658)

Urquhart, David (ûr'kûrt), 1805–77, British diplomat and author of diplomatic treatises, b Scotland In 1827 he aided the Greeks in their war for independence, and in 1830 he attracted the notice of William IV and his secretary, Sir Herbert Taylor, by reports on the Greek frontier From 1833 to 1837 Urquhart served as an embassy secretary in Constantinople, advocating the defense of Turkish interests against Russia. Subsequently in Parliament and in the press he attacked Lord Palmerston's Near Eastern policy, deprecating the interference in Turkey's domestic affairs before the Crimean War As vehicles for his views, Urquhart founded the *Portfolio* (1835) and the *Free Press* (1855, called the *Diplomatic Review* after 1866) His very numerous writings include *England, France, and Turkey* (1834) and *The Crisis* (1840) See biography by Gertrude Robinson (1920)

Urquhart or Urchard, Sir Thomas (both ûr'kûrt), 1611–60, Scottish author, who fought on the royal side in the civil war He is noted for his translation of three books (first two, 1653, with third added, 1693) of the *Gargantua* of Rabelais

Urquiza, Justo José de (ho͞o'stō hōsā' dā o͝orkē'sä), 1801–70, Argentine general and politician, president of the confederation (1854–60) As the *caudillo* of Entre Ríos prov, he helped sustain the power of Juan Manuel de ROSAS In 1851, resentful of the economic and political dominance of Buenos Aires, he revolted against his chief Supported by Brazil and the Uruguayan liberals, he forced Manuel ORIBE to capitulate, ending the long siege of Montevideo (Oct 1851), and defeated Rosas at Monte Caseros (Feb 3, 1852) Urquiza immediately began the task of national organization He became provisional director of the Argentine confederation in May, 1852 A constituent assembly adopted (1853) a constitution based primarily on the ideas of J B Alberdi, and Urquiza was inaugurated president in March, 1854 In his administration foreign relations were improved public education was encouraged, colonization was promoted, and plans for railroad construction were initiated His work of national organization was, however, hindered by the opposition of Buenos Aires prov Difficulties continued to arise after Buenos Aires seceded in 1852 Open war broke out in 1859 Urquiza defeated at Cepeda the provincial army led by Bartolomé MITRE (Oct 1859), and Buenos Aires agreed to reenter the confederation Amendments to the constitution proposed by Buenos Aires were adopted in 1860 The settlement was short-lived and further difficulties culminated in civil war Urquiza met the army of Buenos Aires, again led by Mitre, at Pavon (Sept, 1861) The battle was indecisive, but Urquiza withdrew from the field, leaving the victory with Mitre He retired to Entre Ríos, where he ruled with patriarchal autocracy until his assassination

Urraca (o͝orrä'kä), d 1126, Spanish queen of Castile and Leon (1109–26), daughter and successor of Alfonso VI Her first husband, Raymond of Burgundy, died in 1107, and in 1109 she was married to ALFONSO I of Aragon Her reign was disturbed by strife among the powerful nobles and especially by her recurrent warfare with her husband, who had seized her lands and who repudiated her in 1114 Urraca succeeded in recovering her lands, with the help of her son by her first husband, who succeeded her as Alfonso VII

Ursa Major (ûr'su) and **Ursa Minor** [Latin, =great bear, little bear], two constellations conspicuous in the northern celestial hemisphere Both are circumpolar constellations when observed from the middle latitudes of the Northern Hemisphere Known to many peoples from ancient times, these constellations have had various names, the seven most conspicuous stars have been called the Bear, *Septentrions* (the seven plowing oxen), the Plow, Charles's Wain, and the Wagon In the United States the two constellations are commonly called the Big Dipper and the Little Dipper Four of the seven bright stars in the Big Dipper form the bowl and three the handle, five of these stars are of second magnitude The middle star in the handle of the Big Dipper is known as Mizar or Zeta Ursae Majoris A fainter star Alcor which appears to be near it was observed from ancient times These two stars are sometimes called a double star, but since they do not revolve around a common center of gravity they are not in the strict astronomical sense true doubles Mizar itself is, however, a visual double star and was the first to be recognized as such—by G B Riccioli in 1650 It was also the first spectroscopic binary to be discovered, this observation resulted (1899) from E. C. Pickering's studies of the spectrum of the brighter component of Mizar which revealed it as a binary, consisting of a pair of stars of almost equal brightness Later both the fainter component of Mizar and Alcor were found (1908) by E B Frost to be spectroscopic binaries The two end stars in the bowl of the Big Dipper are known as the Pointers, By ex-

tending a line through them to about five times the distance between them the North Star, Polaris, is reached Polaris is a second magnitude star at the extreme end of the Little Dipper Including Polaris there are three stars in the handle of the Little Dipper and four forming the bowl The handles of the two Dippers extend in opposite directions, and when one bowl is upright the other one is inverted Part of the constellation Draco, the Dragon, lies between the Dippers. For the mythological story of Ursa Major, see CALLISTO

Ursins, Marie Anne de la Trémoille, princesse des (mȧrē' an' du là trămwä'yu prĕsĕs'dăzursĕ'), 1642–1722, French noblewoman and unofficial diplomat Born into one of the oldest families of France, she, after the death of her first husband, married (1675) Prince Flavio Orsini, whose name was gallicized into Ursins She soon separated from her husband and lived in Paris from 1677 to 1698, when she undertook a voyage to Rome to solicit papal approval for the choice of a French prince, the later Philip V, to succeed Charles II on the throne of Spain She arranged the marriage of Philip V with María Luisa of Savoy, whose lady in waiting she became in 1701 Until the queen's death (1714) Mme des Ursins exerted virtually dictatorial power at the court of Madrid She defied Philip's grandfather, Louis XIV of France, insisting on a Spanish policy of independence from France It was largely due to her energy that Philip V kept the throne in the War of the SPANISH SUCCESSION despite his enemies and despite his allies When María Luisa died, Mme des Ursins advised Philip's marriage with Elizabeth Farnese, this she soon had cause to regret, for the new queen had her expelled (1715) from Spain Ill received in France, she went to the Netherlands and later (1719) to Rome, where she intrigued for the restoration of the Stuarts in England Her correspondence has been published

Ursinus College see COLLEGEVILLE, Pa

Ursúa, Pedro de (pā'dhrō dā ōōrsōō'ȧ), c 1526–1561, Spanish conquistador and explorer in South America Coming to New Granada in 1545, he was temporary governor at Bogotá, reduced the neighboring Indians to subjection, searched for El Dorado and the legendary kingdom of Omagua, and founded towns A restless adventurer, he joined the Peruvian viceroy, the marqués de Cañete, in Panama when he subdued the *cimarrones* (escaped Negro slaves) before going with Cañete to Peru in 1558 The viceroy sent him (1560) to explore the MARAÑÓN and search for EL DORADO On the voyage Lope de AGUIRRE and a band of ruffians mutinied and murdered Ursúa See Pedro Simon, *The Expedition of Pedro de Ursua and Lope de Aguarre in Search of El Dorado and Omagua* (Eng tr, 1861), A F Bandelier, *The Gilded Man* (1893)

Ursula, Saint (ûr'syŏōlu, ûr'sulu), 4th cent ?, virgin martyr of Cologne Many legends attached to her name, the number of companions murdered with her was raised in popular legend to 11,000 Feast Oct 21

urticaria see HIVES

Uruapan (ōōrwä'pän), city (pop 20,583, alt c 5,500 ft), Michoacán, W Mexico It is in a semitropical, mountainous agricultural region, where coffee, sugar cane, rice, bananas, avocados, and wheat are grown The city, founded in 1540, is the center of the manufacture of gourd lacquerware by the TARASCAN Indians There are fine tropical gardens and parks Not far from Uruapan is the volcano PARICUTÍN

Urubamba (ōōrōōbam'bȧ), river, S Peru, rising in the Andes and flowing generally north to join the Apurímac and form the UCAYALI Cuzco, Peru, lies between the Urubamba and the Apurímac, and high above the gorge of the Urubamba is the ruined city of MACHU PICCHU

Uruguaiana (ōōrōōgwīȧ'nȧ), city (pop 21,365), W Rio Grande do sul state, S Brazil, on the Uruguay river, which here forms the Argentine boundary It is a rail junction and cattle-shipping center, with meat-processing plants In 1865 it was captured and held for a short time by Paraguayan troops

Uruguay (yōō'ȧgwī, -gwĭ, Span ōōrōōgwē', ōōrōōwē'), republic (72,172 sq mi, 1941 estimated pop 2,185,626), SE South America The capital is MONTEVIDEO From a short Atlantic coast line Uruguay extends along the northern side of the Río de la PLATA to the Uruguay river, which separates it on the west from Argentina To the north is Brazil The land thus enclosed is a topographical transition between the humid Argentine Pampa and the uplands of S Brazil North of the alluvial plain, known as the BANDA ORIENTAL [Span, =east bank, i e, of the Uruguay and the Río de la Plata], Uruguay generally has long, sweeping slopes and grasslands, wooded valleys with slow-moving rivers, and long ranges of low hills, with some huge granite blocks against the horizon On the land is a faint purplish hue Although Uruguay is within the Temperate Zone, climatic variations are moderate, generally it is warm, with rainfall evenly distributed through the seasons, but in some years there are severe droughts Though wheat and other grains, wine grapes, tobacco, olives, and other fruits and crops are grown, Uruguay still depends largely on the sheep and cattle feeding on the grasslands Uruguay's position, as an isolated area between Spanish and Portuguese settlement, then as a buffer between contending Argentine and Brazilian nationalism, helped determine the emergence of Uruguay as an independent state The aborigines, the Charrúa Indians, after long resistance, were absorbed into the Spanish and Portuguese populations so that in N Uruguay today is found most of the mestizo element, about 10 percent of the total Most of the people, concentrated in the south, are of European descent, Spanish and Italian predominating, there are almost no Negroes or pure Indians Although the Río de la Plata was explored as early as 1515, it was 1624 before the Spanish established the first permanent settlement at Soriano in SW Uruguay The Portuguese founded (1680) a short-lived settlement at Colonia, and in 1717 they fortified a hill at present Montevideo Fearing encroachment and competition, the Spanish drove them out (1724) and from then until the wars of independence controlled the Banda Oriental On the pampas stockraising spread, and the GAUCHO lived his hardy and rough life Gradually the unbounded range gave way to huge *estancias* and small settlements concentrated about the ranch buildings Although the Uruguayan land is not as well suited for raising alfalfa and consequently fatted cattle as the Argentine, so basic are cattle (largely blooded herds today) and sheep in the economy that public rights of way have been built for driving the herds It was the gaucho who fought for independence, and the tradition of the gaucho, his personal loyalties and rivalries, helped to keep the nation in almost continuous strife for three quarters of a century after independence was won When the revolutionary banner was raised in the Argentine in 1810, the leaders of the Banda Oriental, notably ARTIGAS, accepted the cause, but in 1814 Artigas broke with the military junta of Buenos Aires and began a struggle for Uruguayan independence which lasted until Brazilian occupation of Montevideo in 1820 Five years later a small group known as the Thirty-three Immortals under the guidance of LAVALLEJA declared Uruguay independent, in 1827 at ITUZAINGÓ Brazil was defeated Great Britain, opposing Brazilian expansion S to the Río de la Plata, helped ultimately to create an independent Uruguay as a buffer state between Argentina and Brazil The peace (1828) stipulated that the new Uruguayan constitution should be acceptable to both the larger nations When it was adopted in 1830, Fructuoso RIVERA was chosen president He was promptly faced with revolts led by his old rival, Lavalleja, and when he was succeeded in office by Manuel ORIBE, he himself revolted against Oribe, who was in sympathy with Juan Manuel de ROSAS of Argentina In the long fratricidal struggle which ensued the two dominant political parties of Uruguay emerged, Rivera's known as the Colorados [reds] and Oribe's known as the Blancos [whites] Oribe was driven out in 1838, but later with the aid of Rosas returned to begin the long siege of Montevideo The Italian patriot GARIBALDI fought in the Uruguayan wars from 1836 to 1848 In 1851 the Argentinian, URQUIZA, drove out Rosas and brought an end to the Uruguayan civil war When in 1864 Brazil presented a claim for damages to property and nationals during the civil wars, Uruguay refused to accept it Brazil, acting in concert with Venancio Flores, invaded Since Flores won, Paraguay, which under Francisco Solano LÓPEZ had protested the invasion, succeeded only in giving Brazil an ally in the War of the Triple Alliance (see TRIPLE ALLIANCE, WAR OF THE) Until the rise of BATLLE Y ORDÓÑEZ early in the 20th cent, Uruguay experienced many revolutions and counterrevolutions, but in Batlle's second term as president (1911–15) and under his continuing influence began the socialistic and material progress that has made Uruguay one of the most stable and prosperous nations of Latin America By a coup d'état in 1933 Gabriel TERRA suspended the constitution of 1919, and his rule was strongly personalistic Yet the socialistic measures for public welfare were not reversed but forwarded, the labor code was broadened, social benefits increased, and industry further nationalized The program has affected every aspect of Uruguayan life In spite of the basic pastoral economy of the republic, dependence upon imports for most raw materials, and lack of fuel and power resources, there is considerable industrialization Food-processing plants, notably those packing frozen and canned meats at FRAY BENTOS and PAYSANDÚ, account for a large part of the industrial activity, and public utilities are important Also produced in quantity are beverages, textiles, metallurgical products, paper, chemicals, and leather goods Transportation facilities are extensively developed and per capita wealth is high While wool is the leading export item, mutton, beef and beef extract, wheat, flax, and linseed are also important Around SALTO there are many orchards and vineyards Tourists, chiefly Argentinians, vacation on Uruguay's beaches and provide revenue See W H Hudson, *The Purple Land* (1885; rev ed, 1921), W J Koebel, *Uruguay* (1911), S. G. Hanson, *Utopia in Uruguay* (1938).

Uruguay, river, c 1000 mi long, rising in S Brazil near the Atlantic and flowing in an arc W to Argentina and then SW and S to the Río de la Plata It forms Argentina's boundary with W Uruguay and most of its boundary with Brazil Salto and Paysandú (Uruguay) and Concepción del Uruguay (Argentina) are on the river, which is navigable in its lower course by ocean-going vessels

Uruk see ERECH

Urumchi (ōōrōōm'chē), Mandarin *Ti-hwa*, city and county (pop 97,988), Sinkiang prov, China The city is the provincial capital On the main road skirting Dzungaria, it is a trade and communications center Cotton thread and cloth are manufactured Normally Great Britain, the United States, and the USSR maintain consulates here The name also appears as Urumtsi

Urumiya, lake, Iran see URMIA

Urumtsi, China see URUMCHI

urus see AUROCHS

Usedom (ōō'zudôm) or **Uznam** (ōōs'nām), island, area c 160 sq mi, off Pomerania, in the Baltic Sea It is separated from the mainland by the Stettiner Haff and from the neighboring island of Wollin by the Swine The chief town is Swinemünde There are many popular bathing resorts In 1945 the island was transferred to Polish administration

Ushant (ŭ'shunt), Fr *Ouessant* (wĕsäⁿ'), island, 5 mi long, NW France, in the Atlantic c 10 mi. off the tip of Brittany It is a part of Finistère dept and has a population of some 2,500 There are two lighthouses An indecisive battle between the French and the British took place near here in 1778, in 1794 Lord Howe (Richard Howe) defeated a French fleet off Ushant

Usher, James see USSHER, JAMES

Usk (ŭsk), urban district (pop 1,315), Monmouthshire, England, SW of Monmouth and on the Usk river Usk has remains of a 13th-century castle and the church of a 13th-century convent

Usk, river of Wales and England, rising in Caermarthenshire and flowing c 60 mi past Caerleon and Newport, Monmouthshire, to the estuary of the Severn It is noted for its beauty, its associations with King Arthur, and its excellent fishing

Üsküb, Yugoslavia see SKOPLJE

Uskudar, Turkey, see SCUTARI

Uspallata Pass (ōōspäyä'tȧ), c 12 500 ft high, over the Andes between Mendoza, Argentina, and Santiago, Chile A trail—and later a rough road—for men and beasts of burden was used before the TRANSANDINE RAILWAY was built In 1817 San Martín sent part of his patriot army through the pass to fight the Spanish royalists in Chile The CHRIST OF THE ANDES stands in the pass Mt ACONCAGUA towers north of the pass, and TUPUNGATO south and farther away

Uspenski, Gleb Ivanovich (glyĕp' ēvä'nuvĭch ōōspĕn'skē), 1840–1902, Russian novelist He began his career as an extreme populist but lost faith in the capacity of the peasant to improve his lot through education Uspenski by his realistic novel *The Power of the Soil* (1882) helped to undermine the movement, which had already lost much of its drive The peasant is treated realistically also in *From a Village Diary* (1877)

Ussher or **Usher, James** (both ŭ'shur), 1581–1656, Irish prelate and scholar While a fellow (1599–1605) of Trinity College, Dublin, he was ordained (1601) In 1605 he was made chancellor of St Patrick's Cathedral, Dublin In 1615 a convocation of clergy called upon him to draft the articles of doctrine and discipline of the Irish Protestant church These showed a Calvinistic tendency In 1621 he became bishop of Meath and later (1625) archbishop of Armagh He often went to England, where he enjoyed association with noted scholars and statesmen He was there when the civil war broke out, and he never returned to Ireland Although he refused to sit (1643) in the Westminster Assembly and upheld the doctrine of the divine right of kings, he was in 1647 elected preacher of Lincoln's Inn, by Cromwell's own order he was given an elaborate funeral and interment in Westminster Abbey His vast learning, attested by his numerous works in Latin and English, awakened great admiration In his chronological study, the *Annales Veteris et Novi Testamenti* (2 vols, 1650–54), Ussher worked out a system of dates (setting the creation at 4004 B C) afterward long used in the margin of editions of the Authorized Version of the Bible His works were edited by C R Elrington and J H Todd (17 vols, 1847–64) See W B Wright, *The Ussher Memoirs* (1889)

USSR see UNION OF SOVIET SOCIALIST REPUBLICS

Ussuri (ōōsōō'rē), Mandarin *Wu-shu-li*, river rising in the Maritime Territory, RSFSR, and flowing c 500 mi N to the Amur river On the final 300 mi of its course the river forms the China-USSR boundary The Ussuri abounds in fish, and it is used to transport timber

Usti nad Labem, Czech *Ústí nad Labem* (ōōs'tyē nād lä'bĕm), Ger *Aussig* (ou'sĭkh), city (pop 34,410), N Bohemia, Czechoslovakia A port on the Elbe, it is an export center of a coal-mining region As the leading industrial city of N Bohemia, it produces chiefly chemicals, machinery, and foodstuffs.

It is also a railway center The city, founded in the 13th cent, retains Gothic, late Gothic, and Renaissance churches

Ustka, Pomerania see STOLP

Ust-Sysolsk, RSFSR: see SYKTYVKAR

Ust Urt (ōōst″ ōōrt′), desert plateau, area c 62,000 sq mi, USSR, between the Caspian Sea and the Aral Sea It occupies parts of the Kazakh SSR and of the Karakalpak ASSR Its seminomadic population raises sheep, goats, and camels

Usumacinta (ōō″sōōmäsēn′tä), river formed by the Chixoy, the Pasion, and the Lacantún, all rising in N Guatemala In its early course it marks the boundary between Guatemala and Mexico, then flows northwest through the jungles of Tabasco, where some of its channels merge with the Grijalva It empties into the Gulf of Campeche The Usumacinta is navigable for c 300 mi

usury see INTEREST

Utah (ū′tô″, ū′tä′), state (84,916 sq mi, 1940 pop 550,310, 1949 estimated pop 682,000), W United States, one of the Rocky Mt states, admitted 1896 as the 45th state SALT LAKE CITY is the capital and is also the headquarters of the Church of Jesus Christ of Latter-Day Saints (see LATTER-DAY SAINTS, CHURCH OF JESUS CHRIST OF, and MORMONS), which founded and to a large extent still dominates the state Utah is bounded on the north by Idaho and Wyoming, on the northeast by Wyoming, on the east by Colorado, on the south by Arizona and on the west by California At the Southeast corner is the only spot in the United States where four states (Utah, Colorado, New Mexico, and Arizona) meet The altitude of the state averages about a mile above sea level In the east are massive mountains and deep-cut irregular plateaus, and in the west are the lower lands of the Great Basin Running S from the Idaho border, the Wasatch Range marks the abrupt division between the two dissimilar regions To the eastward rise the Uinta Mts, whose snow-capped peaks reach the state's highest elevations in Kings Peak (13,498 ft) Plateaus stretch southward, rugged and uninhabitable except in isolated river valleys The red shades of sandstone deepen, fade, and deepen again through a fantastic wonderland carved by wind and water Deep and tortuous canyons cut by the Colorado and its tributaries impede travel but provide scenery of remarkable grandeur Artifacts of prehistoric man verified by the coexistence of tune-plated fossils, glyph-carved caves, and cliff dwellings add historical and scientific interest In numerous national monuments and in Bryce Canyon National Park and Zion National Park are preserved some of the more spectacular and accessible sites The western part of the state, in the Great Basin, was once submerged beneath a huge Pleistocene lake, Lake Bonneville During many thousands of years the water fluctuated, then subsided, leaving behind a salt-strewn desert, wide expanses of arid but nonalkaline soil, and a series of lakes Through evaporation GREAT SALT LAKE, the greatest of these, has reached a concentration of mineral salts several times that of the ocean Its level quickly fluctuates with the varying intake of its contributory streams, and its shallow waters, at the mercy of winds, may be driven up into huge waves Gulls, pelicans, and blue herons skim across its surface and return to rookeries built on its islands Much of the lake shore is bordered by mud and salt flats The smoky Oquirrh Mts, rising south of the lake, dip to form pleasant beaches at the water's edge, then erupt into islands within the lake, and rise again in the Promontory Mts above the northern lake shore UTAH LAKE, to the south, is the largest body of fresh water in the state and drains into Great Salt Lake through the Jordan river Between Great Salt Lake and the Wasatch Range and curving southwest toward the Arizona border lies a river-crossed strip, which is the center of the life of Utah On terraces, or benches, left by the ancient Lake Bonneville, are located the major cities, notably Salt Lake City, OGDEN, PROVO and (to the north) LOGAN Streams which tumble down the Wasatch slopes are diverted to irrigate the rich and arid lands Major reclamation projects have been sponsored by the government to assist the numerous private enterprises to store water for distribution and aid in flood control The arduous task of converting deserts into productive areas has confined the tilled land to approximately 3½ percent, including isolated farms in river valleys and a considerable amount of dry farming The usual rural pattern is a group of small, intensively cultivated farms situated close to a general store and a Mormon religious edifice Major crops of hay, wheat, sugar beets, and fruits have been supplemented by expanding poultry, turkey, and dairy industries Sheep may graze on the gray-green forage of the desert, but most of the cattle are permitted to range in national forests and on public domain Abundant sunshine provides some compensation for inadequate rainfall, and the climate is moderate, except in the high altitudes Agrarian life was well suited to the principles of the Mormons when they came to found their Zion here, the very difficulties of agriculture in the dry land were an advantage since they offered little inducement to outsiders. The development of resources other than agricultural was more or less frowned upon by the Mormon Church and, in general, was initiated by non-Mormons (called Gentiles by the Mormons) A wealth of minerals made the exploitation of the resources almost inevitable and, in turn, stimulated the construction of railroads Today over 50 percent of the population is directly or indirectly engaged in mining Copper is the chief metal Bingham Canyon has the largest open-pit copper mine in the country From it the ore is transported to Salt Lake City, where it is smelted Both mining and smelting are controlled by Eastern-owned companies The proximity of high-grade iron, coal, and limestone led to the construction of the Geneva steel plant near Provo to serve the needs of the Second World War Its present operation by the U S Steel Corp is encouraging the construction of steel-fabrication plants Coal, lead, gold, and silver are produced in substantial amounts, and further exploitation of mineral resources will largely depend upon accessibility and available power Four major railroads and many branch lines are the most important transport arteries High freight rates and long distances from markets combine with a Mormon distrust of industrialization to discourage extensive manufacturing Modern Utah has a history unique among the states because of its settlement and development by a new religious group and because of the conflict that ensued between that group and the Federal government The accounts of modern settlement of little more than 100 years are well known, but the history of habitation which preceded it is largely circumstantial. Scientists are gradually disclosing the long history of prehistoric man through the unearthing of evidence left in caves and cliff dwellings Somewhat more is known of the large Indian groups—Ute, Paiute, and Shoshone—who lived here when the first white men came, but knowledge of early Utah is scant, even the activities of the first explorers are darkly seen because their geographical ignorance obscure the sparse records Possibly some of Coronado's men under García López de Cárdenas entered S Utah as early as 1540 For the next centuries nothing is known until the Spanish missionaries Silvestre Vélez de ESCALANTE and Francisco Atanasio Domínguez opened the route for the Old Spanish Trail between Santa Fe and Utah Lake in 1776 Lewis and Clark and the expeditions to and from Astoria went N of Utah, but in the 1820s the MOUNTAIN MEN made their way over the difficult terrain and found rich beaver streams They went over the region thoroughly and possibly had greater knowledge of the physical characteristics of some parts than men do today The discovery of Great Salt Lake is generally credited to James BRIDGER, but Étienne Provot, Jedediah S Smith, and others also have claims The Canadian, Peter Skene OGDEN, led four Snake river expeditions into the area and is commemorated in the name of one of Utah's leading cities Between 1824 and 1830 the riches in furs were exhausted and the country waited for the next transients—westering emigrants In 1841 the first California-bound emigrant train, usually called the Bidwell party, left the Oregon Trail and made its way across the great salt desert Several years later Miles Goodyear became Utah's first settler by setting up a trading post at the site of Ogden, naming it Fort Buenaventura The ill-fated DONNER PARTY broke trail over the difficult mountains E of the Great Salt Lake in 1846 and proceeded across the desert to their calamities farther west In 1847 came the hosts of the persecuted Mormons, seeking a "gathering place for Israel" in some undesired and unsettled spot When Brigham YOUNG, their leader, surmounted the mountains and looked over the green valley of Great Salt Lake, he knew that the place had been found On July 24, 1847, he entered the valley, and July 24 is Pioneer Day—the most important holiday of Utah Young was to prove himself one of the greatest administrators and leaders in 19th-century America Under his direction and in communal fashion the ground was plowed and planted, the Temple foundation was laid, and the city was platted directly on compass lines Gradually the Latter-Day Saints assembled, their ranks swelled by streams of emigrants from this country and abroad More and more of the arid land yielded to their pioneering irrigation In the next 50 years they not only had to learn the techniques of wresting a living from the desert and of warding off Indian attacks, but also had to preserve their integrity in the face of opposition from the Federal government In 1848 at the end of the Mexican War the region passed to the United States, and in 1850 a large area, of which the present state is a part, was constituted Utah Territory. The name Deseret [honey bee], chosen by the Mormons, was discarded, but the beehive is a ubiquitous symbol of Mormon activity throughout the state. Major Indian disturbances were the Walker War (1853–54) and the Black Hawk War (1865–68). The battle with the Federal government was far more serious and of greater duration. Numerous petitions for statehood were denied because of the practice of polygamy, publicly avowed by the Mormons in 1852. There was serious trouble between the Mormons and California-bound immigrants In 1857 a "state of substantial rebellion" was declared, and President Buchanan directed U S army troops to proceed against the Mormons The Mormons prepared for warfare, calling in outlying settlers, and guerrilla bands harassed the supply trains of Albert S Johnston's forces as they made a slow trip westward. The affair was finally settled peacefully, but great ill feeling had developed, most startlingly shown in the affair at Mountain Meadows. Some of the disturbed settlers had made an exodus to land S of the Utah Valley, and while many returned to their former homes, some remained to spread colonization there This episode, known as the "Utah War" or the "Mormon campaign," was succeeded by several difficult decades Congressional acts forbidding polygamy were passed in 1862, 1882, and 1887 In the attempt to enforce these laws civil liberties were infringed and some Mormon church properties were expropriated In 1890 a church edict advising members to abstain from the practice of polygamy was ratified, and civil rights and church properties were restored Long before Utah became a state in 1896 its area had been reduced to its present size by the creation of the territories of Nevada and Colorado in 1861 and Wyoming Territory in 1868 The population, which had grown to 207,905 persons, included many non-Mormon groups, and cultural and economic isolation had been broken by the development of mining and the completion of the Union Pacific Agriculture was handicapped by a court interpretation of water rights in 1880, when the principle of regarding water as public property to be developed through beneficial use was discarded for the concept of water as private property Not until the Reclamation Act of 1902 was the idea of beneficial water use restored, buttressed by the state act of 1903 which vested the ownership of water in the state Education was implemented by the comprehensive school law of 1890 which made all common schools free, although state-wide support of secondary schools was not obtained until 1910 The leading institutions of higher learning—the Univ of Utah, Utah State Agricultural College, and Brigham Young Univ (at first an academy)—were founded before statehood was achieved In political life the violent opposition of Mormons and non-Mormons has disappeared, as citizens have largely learned to ignore religious differences and find common cause and understanding in their mutual problems In general the Mormons tend toward conservatism and have been predominantly Republican, although Utah supported Franklin D Roosevelt in three elections The record of the Mormons in the great depression after 1929 was remarkable, as they strove to attain the goal of "no Mormon on relief" The arid soil and rugged terrain make the possible farming area limited even with all possible irrigation schemes Urbanization has gone on apace, but modern Utah faces many problems, some of which it has been forced to recognize because of the departure from the state of increasing numbers of its young people The enormous army installations of the Second World War brought temporary prosperity but failed to solve the basic economic problems A partial solution may have been found in the enthusiastic promotional campaign to make Utah a great tourist center Perhaps the success of this campaign would hasten the more obvious solution—the intensive and extensive manufacturing within the state of products made from Utah's own abundant raw materials See Harry M Beardsley, *Joseph Smith and His Mormon Empire* (1931), Federal Writers' Project, *Utah a Guide to the State* (1941), Robert J Dwyer, *The Gentile Comes to Utah* (1941), Nels Anderson, *Desert Saints* (1942), Wallace Stegner, *Mormon Country*, (1942), Maurine Whipple, *This Is the Place Utah* (1945), Dale L Morgan, *The Great Salt Lake* (1947)

Utah, University of, at Salt Lake City, state supported, coeducational, opened 1850, chartered 1851 as University of Deseret, closed 1851–67 It was empowered to give degrees in 1884 and renamed in 1892 It has schools of arts and sciences, business, education, engineering, fine arts, law, medicine, mines and mineral industries, pharmacy, and social work There are bureaus of educational and economic research, state engineering and U S Bureau of Mines experiment stations, a biological survey, a psychology clinic, an observatory, and a seismograph Museums include art, archaeology, and dinosaur collections

Utah Indians: see UTE INDIANS

Utah Lake, N central Utah A fresh-water lake, it drains through the Jordan river to Great Salt Lake and was also a part of prehistoric Lake Bonneville Its waters have been much used for irrigation and in the 1930s showed signs of exhaustion The Provo river project now supports the irrigation

Utah State Agricultural College, at Logan, with land-grant support, coeducational, chartered 1888, opened 1890. It has schools of agriculture, arts and sciences, commerce, education, engineering, forestry, and home economics.

Utamaro, Kitagawa (kēta'gäwû ōōtä'märō), 1753–1806, Japanese color-print artist, son of a painter of the Kano school His prints were among the first to become familiar in the Occident, as they were especially popular among the Dutch exporters of Nagasaki. Having first followed the traditions of the classic Kano school by painting in the Chinese manner, Utamaro was early led to color-print designing by the great vogue for the work of Kiyonaga. He is noted not only for his landscapes but also for his pictures of insects and his portraits of women His draughtsmanship and use of color (especially reds and black) show the mastery and striking originality that made him the first of the greater masters of the popular school (*ukiyoye*). The New York Public Library has a collection of 130 of his prints

Ute Indians (ūt), North American Indian tribe of Uto-Aztecan linguistic stock The principal bands of the Ute still in existence are the Uinta, the Uncompahgre, and the Yampa In the early 19th cent the Ute occupied W Colorado and E Utah They were fierce, nomadic warriors, who, after the introduction of the horse, ranged into New Mexico and Arizona, menacing and sometimes destroying the villages of the Pueblo Indians The Ute were bellicose and did not yield readily to reservation life, but the process of reducing them was begun c 1850 They then numbered some 5,000 There was some trouble with them, as in the raids in the San Luis valley of Colorado in 1854 The raids brought on the campaign against the Apache and the Ute in the next year Some of the Ute fought under Kit Carson, because they retained their warlike propensities and their hatred for the Navaho and other traditional enemies In 1879 the Ute killed their Indian agent and seven employees of the agency, but a real battle was avoided mainly through the peaceful attitude of Chief Ouray In 1906 a group of Ute destined to give up their allotted lands and retire to a reservation caused considerable uneasiness by their threatening air, but they were subdued Today the Ute live on reservations in Colorado and Utah, totaling some 2,500 They have not flourished under reservation organization Ute culture was typical of the western part of the Plains culture area, they lived in tepees, which were frequently decorated with brilliantly colored paintings, or in brush or sod shelters They had a bear dance, which was performed every spring to drive evil spirits away from the buffalo herds They are sometimes called the Utah Indians See R M Zingg, *The Ute Indians in Historical Relation to Proto-Aztec-Tanoan Culture* (1938)

uterus (ū'tərus), hollow muscular organ in which the fetus develops and from which it is delivered at the end of PREGNANCY In the human it is pear shaped, about 3 in long (but expanding greatly during pregnancy), and normally lies in the pelvis The body of the organ is supported on a neck (cervix) which opens into the vagina A ligament extends from the uterus to the pelvic wall on each side Paired oviducts (or Fallopian tubes) from 3 to 5 in long, with wide-mouthed openings close to the ovaries, open into the uterus and serve as a passageway for the ova Fertilization is believed to occur in the upper part of the oviduct, and the fertilized egg normally continues down the tube and becomes implanted in the lining of the uterus If fertilization does not occur, the ovum disintegrates and is eliminated from the body The chief disorders are abnormality of position, including prolapse, tumors, infection (see PUERPERAL FEVER), hemorrhage, rupture, and functional disturbances, such as dysmenorrhea

Uthai (ū'thāī, ūthā'ī) [Heb ,=God helps]. **1** See ATHAIAH **2** Returned exile Ezra 8 14

Uther Pendragon, father of King Arthur see ARTHURIAN LEGEND.

Utica (ū'tĭkù), ancient city, c 15 mi N of Carthage in Africa Traditionally founded by Phoenicians from Tyre c 1100 B C , it was second in importance to Carthage It allied itself with Rome against Carthage in the Third Punic War, and upon the destruction of Carthage it was made the capital of the Roman province of Africa In the 3d cent A D the town became an episcopal see It fell to the Vandals (430), was recaptured by the Byzantines (534), and was finally destroyed by the Arabs c 700 Excavations at the site have yielded ruins including an amphitheater, baths, and fortifications

Utica. 1 City (pop. 1,022), SE Mich , on the Clinton river and N of Detroit, in a farm area, settled 1817, inc 1838 It grows and ships rhubarb **2** City (pop 100,518), a co seat of Oneida co , central N Y , on the Mohawk and the Barge Canal and NW of Albany in a rich dairying region, inc 1832 Permanent settlement began after the Revolution, and Utica's location on the Erie and other canals and on railroads stimulated its industrial development, it is today a port of entry Its products are varied, but Utica is known especially for the manufacture of sheets, pillowcases, knit goods, and firearms The oldest New York state mental hospital and the New York Masonic Home and Hospital are here In the Oneida Historical Building is housed the county's historical collections. Utica has an extensive park system, with winter and summer sport facilities Its large Welsh population hold an annual eisteddfod **3** Village (pop 1,376), central Ohio, N of Newark A farm trade center, it has varied manufactures

utilitarianism (ūˌtĭlĭtā'rēənĭzm, ūtĭˌ–), in ethics, the theory that the greatest happiness of the greatest number is the *summum bonum* and the criterion of morality Jeremy BENTHAM measured happiness by the intensity, duration, certainty, propinquity, fecundity, purity, and extent of pleasures John Stuart MILL urged that pleasures differ also in virtue and that the highest good involved qualitative as well as quantitative pleasure Herbert SPENCER developed an evolutionary utilitarian ethics in which the principles of ethical living are based on the evolutionary changes of organic development He held that the doctrine identifying pleasure with happiness as the base of morality could be related to physiological and psychological health and to natural sociological development

utility, public, industry required by law to render adequate service in its field at reasonable prices to all who apply for it Such an industry is said to be "affected with a public interest" (a phrase coined by Chief Justice Waite in 1876) and therefore subject to a degree of government regulation from which other businesses are exempt Opinions differ as to the characteristics that an industry must have in order to be a public utility, since all industries in a sense serve the public By its nature a public utility is often a monopoly and so not prevented by competition from charging exorbitant prices It usually operates under a license or franchise by which it enjoys special privileges, such as the right of eminent domain It may supply an essential service, such as water or light, the unavailability of which would injuriously affect the public health and welfare From an early period there was public regulation of canals, turnpikes, toll roads, and ferries, innkeepers, gristmills, and pawnbrokers Docks, sleeping cars, commodity exchanges, warehouses, insurance companies, banks, housing, milk, coal mines, and (more recently) broadcasting are other types of industries held to be affected with public interest Meat packing is a curious exception Among the important utilities on which large populations depend for supplying vital needs are water, gas, and electric companies, transportation facilities, such as street railways, subways, bus lines, and railroads, and communication facilities, such as telephones and telegraphs Unlike most of these, companies supplying water for irrigation and electricity for rural areas are more than local in scope In the United States public-utility rates and standards of service are established by direct legislation and are administered by state regulatory commissions and by such Federal agencies as the Interstate Commerce Commission, the Federal Power Commission, the Securities and Exchange Commission, and the Federal Communications Commission, the Federal agencies supervise utilities doing interstate business Rates are subject to review by the courts, which have held that they must provide a "fair" return on a "fair" valuation of investment, how valuation is to be determined, whether on the basis of prudent investment, present earning power, or present cost of production, has been the subject of much controversy That a utility may not earn excessive profits is an established principle of regulation in all countries The means of regulation include supervision of accounting and control of security issues Municipalities dissatisfied with the results of public regulation have often acquired ownership of local utilities (see PUBLIC OWNERSHIP) To keep rates down and make utilities available to more people, the United States has formed public corporations or agencies, such as the Rural Electrification Administration, which encourages cooperatives to own and manage local electric projects, and the Tennessee Valley Authority, which has served as a yardstick for measuring the efficiency of privately owned utilities In European countries railways, telegraphs, telephones, and radio have long been state property The Labour party government in England after 1945 nationalized all public utilities See Edward Hungerford, *The Story of Public Utilities* (1928), I R Barnes, *The Economics of Public Utility Regulation* (1942), C E Troxel, *Economics of Public Utilities* (1947)

Uto-Aztecan (ūˌtō-ăztā'kun), linguistic family of North America It includes languages spoken in areas from the NW United States to S Mexico A list of major divisions is given in the table under LANGUAGE There are also less well-known Uto-Aztecan languages in the Mexican states of Aguascalientes, Jalisco, Colima, and Guerrero A probable relation between Uto-Aztecan and Tanoan languages has been observed Further ties have been suggested with Kiowa

Utopia (ūtō'pēu) [Gr ,=no place], title of a book by Sir Thomas MORE, published in Latin in 1516 The work pictures an ideal state where all is ordered for the best for mankind as a whole, and the evils of society, such as poverty and misery, have been done away with. The popularity of the book has given the generic name to all the concepts of ideal states created by social philosophers and visionaries. The description of a utopia enables an author not only to set down criticisms of evils in the contemporary social scene but also to outline vast and revolutionary reforms without the necessity of detailing processes by which the ideal situation may be brought about Thus, the influence of utopian writings has generally been inspirational rather than practical, but such works have had immense force in the history of thought The name utopia is applied retroactively to various ideal states described before More's work, most notably to that of the *Republic* of Plato St Augustine's *City of God* in the 5th cent enunciated the theocratic ideal which was to dominate visionary thinking throughout the Middle Ages With the Renaissance the ideal of a utopia became a more worldly one, but the religious element in utopian thinking is often present thereafter, such as in the politico-religious ideals of 17th-century English social philosophers and political experimenters Among the famous utopias before the 19th cent are *The City of the Sun* (1623) by Tommaso CAMPANELLA, *The New Atlantis* (1627) of Francis BACON, and the *Oceana* (1656) of James HARRINGTON There are numerous other early pictures of types of ideal societies, such as François Rabelais's description of the Abbey of Theleme in *Gargantua* (1532) In the Enlightenment in the 18th cent Jean Jacques Rousseau and others gave impetus to the belief in an ideal society—a Golden Age—that had existed in the primitive days of European society before the development of civilization corrupted it This faith in natural order and the innate goodness of man had a strong influence on the growth of a visionary socialism, a type of thought usually referred to as utopian socialism The end in view of these thinkers was usually an idealistic (and commonly, though not always, a predominantly agricultural) communism based on economic self-sufficiency or interacting ideal communities SAINT-SIMON, Étienne CABET, Charles FOURIER, and Pierre Joseph PROUDHON in France and Robert OWEN in England are typical examples of this sort of thinker Cabet's *Voyage en Icarie* (1840) offered a fully rounded picture of an imaginary state, Icaria Actual experiments in such utopian social living were tried in Europe and in the United States, but for the most part the efforts were neither long-lived nor more than partially successful These humanitarian socialists were largely displaced after the middle of the 19th cent by political and economic theorists, such as Karl MARX and Friedrich Engels and their followers, who preached the achievement of the ideal state through political and revolutionary action Other utopias, however, continued to be depicted by a variety of thinkers, and the utopian romance became an extremely popular literary form In these novels were depicted the glowing, and sometimes frightening, prospects of the new industrialism and social change One of the most important of these works was *Looking Backward* (1888) by Edward BELLAMY, who had a profound influence on economic idealism in America In England *Erewhon* (1872) by Samuel BUTLER and *A Dream of John Ball* (1888) and *News from Nowhere* (1891) by William MORRIS were notable examples of the genre, in Austria an example was Theodor Hertzka's *Freeland* (1890) The 20th cent saw a veritable flood of these literary utopias, most of them "scientific utopias" in which mankind enjoys a blissful leisure while all or most of the work is done for him by docile machines Some of these, such as the novels of H G WELLS, were the expression of serious economic thinking, but most were merely naïve glorifications of mechanical progress The adjective utopian has come into some disrepute and is frequently used contemptuously to mean impractical or impossibly visionary The use of the device of describing a utopia as a vehicle for satire or for the exercise of wit is almost as old as the serious utopia The satiric device goes back to such comic utopias as that of Aristophanes in *The Birds* Bernard MANDEVILLE in *The Fable of the Bees* (1714) and Jonathan SWIFT in parts of *Gulliver's Travels* (1726) are in the same tradition Pseudo-utopian satire has been extensive in modern times in such novels as Aldous Huxley's *Brave New World* (1932). The rise of the modern totalitarian state has brought forth a number of similar works describing the unhappy fate of the individual under the control of a supposedly benevolent despotism Connected with the literary fable of a Utopia has been the belief in an actual ideal state in some remote and undiscovered corner of the world The mythical ATLANTIS, described by Plato, was long sought by Greek and later mariners Similar to this search were the vain expeditions in search of the Isles of the Blest or FORTUNATE ISLES and EL DORADO There are many related legends in the various mythologies of diverse peoples See Lewis Mumford, *The Story of the Utopias* (1922), Joyce Hertzler, *The History of Utopian Thought* (1926); Frances Russell, *Touring Utopia* (1932); Vernon Parrington, Jr., *American Dreams* (1947).

Utraquists (ū'trukwĭsts), moderate wing of the HUSSITES in Bohemia during the 15th and 16th cent. Like the radical TABORITES and all other Hussite groups, they insisted on communion in both kinds (Latin *sub utraque specie*), whence their name, they were also known as Calixtines, after the chalice, which was their symbol They differed from the more radical groups in that they substantially agreed with the Roman Catholic Church on most other points of theology and in that they came mostly from the ranks of the upper nobility and the urban bourgeoisie, while the Taborites and Orphans had a large peasant following The Univ of Prague was the chief center of Utraquism, and Master Jan Rokycana was its leading spirit. In 1424 Zizka commenced the siege of Prague to compel the city to submit to his more radical policies, but the struggle was averted at that time by an armistice In 1429 Rokycana obtained the support of the archbishop of Prague, who had gone over to Hussitism, and in 1433, at the Council of Basel, an agreement was reached by the Catholics and the Utraquists—the so-called Compactata By that agreement, the Utraquists were readmitted into the fold of the Catholic Church, which conceded to them the right to take communion in both kinds, this concession applied only to Bohemia and the Bohemian crown lands. The Compactata were rejected by the Taborites, but after the victory (1434) of the Utraquists and Catholics over the Taborites at Lipany, Rokycana was elected (1435) archbishop of Prague, and in 1436 the Czech delegates formally accepted the Compactata at Jihlava in the presence of Emperor Sigismund The Compactata were successfully defended by GEORGE OF PODEBRAD and remained the law of the land until 1567 By that time Protestantism had made great progress in Bohemia and had split the Utraquists into two parties The Old Utraquists remained Catholic, and the New Utraquists compromised with the Lutherans, with whom they drew up (1575) the *Confessio Bohemica*, the articles of Bohemian Protestantism, which received official status (1609) in the Letter of Majesty (Ger *Majestätsbrief*) of Emperor Rudolf II (see BOHEMIA) Though Utraquism was absorbed by the Protestant Reformation on the one hand and by the Catholic Reform on the other, Hussite sects continued in Bohemia

Utrecht (ū'trĕkt, Dutch ü'trĕkht), province (502 sq. mi pop 544,657), central Netherlands, bounded by the Ijsselmeer (formerly the Zuider Zee) in the north Utrecht, its capital, and Amersfoort are the chief cities A low-lying country, drained by the Lower Rhine it is mainly agricultural, producing vegetables, dairy products, and fruit

Utrecht, municipality (pop 183,251), capital of Utrecht prov, central Netherlands, on a branch of the Lower Rhine It is the see of the Roman Catholic archbishop and primate of the Netherlands, and it has a university (founded 1636) Machinery, textiles, and foods are among its chief industrial products Utrecht is the site of a large industrial fair, held twice yearly Possibly dating from Roman times, Utrecht has a long and venerable history It was made (late 7th cent) an episcopal see for St Willibrord, the Apostle to the Frisians The bishops of Utrecht later ruled, as princes of the Holy Roman Empire, the area around the city and the lordship (now province) of Overijssel In constant struggle with its bishops, the city of Utrecht received a liberal charter in 1122, but its difficulties with the bishops revived sporadically until 1527, when the bishop sold his territorial rights to Emperor Charles V Utrecht was the most important commercial center of the N Netherlands in the Middle Ages Charles V incorporated it with the rest of the Hapsburg-held Netherlands Utrecht joined (1577) in the rebellion against Philip II of Spain, and in 1577 the seven provinces of the N NETHERLANDS, from then on known as the United Provinces, drew together for their common defense in the Union of Utrecht In the early 17th cent Utrecht became a center of JANSENISM In 1713 several treaties forming part of the Peace of Utrecht (see separate article) were signed here A picturesque old city, intersected by numerous sunken canals, Utrecht has retained its 14th-century cathedral

Utrecht, Peace of, series of treaties which concluded the War of the SPANISH SUCCESSION It put an end to French expansion and signalized the rise of the British Empire By the treaty between England and France (April 11, 1713), Louis XIV recognized the English succession as established in the house of Hanover and confirmed the renunciation of the claims to the French throne of Louis's grandson, Philip V of Spain The French fortifications of Dunkirk were to be razed and the harbor filled up, and the Hudson Bay territory, Acadia, St Kitts, and Newfoundland were ceded to England By a commercial treaty England and France granted each other most-favored-nation treatment By a treaty with the Netherlands (April 11, 1713) France agreed to surrender to Austria the parts of the Spanish Netherlands still in French hands; these were to be held in trust by the Netherlands till the conclusion of a treaty between the Netherlands and the emperor A commercial treaty between France and the Netherlands was also signed. France furthermore restored Savoy and Nice to VICTOR AMADEUS II and also signed treaties with Portugal and Prussia The Anglo-Spanish treaty (July 13, 1713) confirmed the clauses of the Anglo-French treaties relative to the English and French successions Spain ceded Gibraltar and Minorca to Great Britain and Sicily (exchanged in 1720 for SARDINIA) to Savoy Britain acquired the sole right to the slave trade with Spanish America The Treaty of Rastatt between Louis XIV and Emperor Charles VI (March 7, 1714) and the Treaty of Baden (Sept 7, 1714), which completed the settlement, restored the right bank of the Rhine to the empire and confirmed Austria in possession of the formerly Spanish Netherlands, of Naples, and of Milan The Third Barrier Treaty (Nov 15, 1715) regulated trade relations between the Dutch and Austrian Netherlands See J W Gerard, *The Peace of Utrecht* (1885)

Utrera (ōōtrā'ra), city (pop 26,654), Seville prov, S Spain, in Andalusia, on a branch of the Guadalquivir It is an agricultural center Horses are bred here, and bulls are raised for the ring There are a Gothic church (17th cent) and ruins of medieval walls and a castle

Utrillo, Maurice (mōrēs' ütrēlō'), 1883–, French painter He was the illegitimate son of the painter Suzanne Valadon and was legally adopted (1891) by the Spanish writer Miguel Utrillo His only instructor was his mother He began to paint in 1903 and won an early celebrity for his vivid pictures of the streets and suburbs of Paris Among his paintings are *Église de Groslay*, *Rue des Abbesses*, *Montmartre*, and *Route de Montmagny*

Utsunomiya (ōōtsōōnō'mēa), city (1947 pop 97,075), capital of Tochigi prefecture, central Honshu, Japan It is a tobacco-processing center and a tourist resort The mountainous western area of the prefecture is included in Nikko National Park

Uttar Pradesh, India see UNITED PROVINCES

Uttoxeter (ŭtŏk'sĭtur, utŏk'-, ŭk'sĭtur), urban district (1931 pop 5,909, 1947 estimated pop 7,374), Staffordshire, England, on the Dove river It is a market town making dairy products and farm machinery Dr Johnson's father had a bookstall in the market

Uusikaupunki (ōō'sēkou"pōōngkē), Swed *Nystad* (nu'stad"), town (pop 3,825), SW Finland, a Baltic port on the Gulf of Bothnia It exports timber and local granite Founded in 1617, the town was the scene (1721) of the signing of the Treaty of Nystad (see NORTHERN WAR)

Uvalde (ūvăl'dē), city (1940 pop 6,679, 1947 estimated pop 8,400), co seat of Uvalde co, SW Texas, WSW of San Antonio founded c 1854, incas a town 1886, as a city 1921 A large plaza and many pecan trees lend grace to this town, which draws wealth from ranches and a small irrigated section of truck farms Cattle, mohair, wool, pecans, honey, and asphalt are shipped John Nance Garner's home is here, and Uvalde is the seat of Southwest Junior College

Uvedale see UPDALL

Uxbridge (ŭks'brĭj), town (pop 1,406), S Ont, on the Black River and NNE of Toronto It has flour- and gristmills and dairying

Uxbridge, urban district (1931 pop 31,880, 1947 estimated pop 51,360), Middlesex, England, on the Colne near the Grand Junction Canal It is a market town Charles I and the parliamentarians negotiated in the "Treaty House" in 1645

Uxbridge, town (pop 6,417), S Mass, on the Blackstone and SE of Worcester, settled 1662, set off from Mendon 1727 It was the site of one of the "praying Indian" villages of John ELIOT Woolens and worsteds are produced

Uxmal (ōōshmäl', ōōxmäl'), ruined city, Yucatan, E Mexico, belonging to the Maya New Empire (see MAYA) Uxmal was founded between 987 and 1007 (according to one system of dating) by the Tutul Xiu family and abandoned in 1441 It is the finest expression of the Mayan architectural renaissance The Mexican influence characteristic of other cities of the period is almost entirely lacking There is homogeneity of style in the stone-mosaic friezes of geometric design alternating rhythmically with masks and intertwining serpents The stones, each weighing several hundred pounds, were almost perfectly cut and fitted

Uz (ŭz) **1** Grandson of Shem Gen 10 23, 1 Chron. 1 17 **2** Grandson of Seir Gen 36 28, 1 Chron 1 42 **3** One or more unidentified places or regions. Job 1 1, Jer 25 20, Lam 4 21

Uzai (ū'zāī), father of PALAL

Uzal (ū'zăl), descendant of Shem whose clan settled in SE Arabia Gen 10 27, 1 Chron 1 21.

Uzbek Soviet Socialist Republic (ŏŏz'bĕk, ŏŏzbĕk', Rus ŏŏzbyĕk') or **Uzbekistan** (ŏŏz"bĕkĭstän', -stan', Rus ŏŏzbyĕkĭstän'), constituent republic (157,300 sq mi, 1946 estimated pop 6,000,000), central Asian USSR Tashkent is the capital. The republic borders on Afghanistan in the south, on the Turkmen SSR in the southwest, on the Kazakh SSR in the west and the north, and on the Kirghis SSR and the Tadzhik SSR in the east. The KARAKALPAK ASSR is included in the Uzbek SSR. The western section of the country is part of the desert of the KIZIL KUM, the east has fertile loess soil and touches on the TIEN SHAN mountain system The two chief rivers of Central Asia—the AMU DARYA and the SYR DARYA—pass through Uzbek territory The KHIVA oasis is irrigated by the Amu Darya (ancient Oxus), the fertile FERGANA VALLEY, by tributaries of the Syr Darya; the TASHKENT oasis, by the Chirchik and Angren rivers, and the SAMARKAND and BUKHARA oases, by the ZERAVSHAN Uzbekistan has a dry continental climate It is the most thoroughly irrigated agricultural region of the Soviet Union and is its chief producer of cotton, rice, and silk Other crops are sesame, tobacco, sugar beets, and fruits (including grapes) Livestock—karakul sheep, goats, camels, mules, and donkeys—is extensively raised Mineral resources include petroleum near ANDIZHAN and FERGANA, coal at Angren, and copper, sulphur, ozocerite, tungsten, molybdenum, and marble. Tashkent and Fergana have large cotton textile industries, MARGELAN is the center of the wool industry There also are hydroelectric and metallurgical plants, machinery manufactures, and food-processing plants About three quarters of the population are Uzbeks, a Turkic-speaking group of Persian culture and Sunnite Moslem religion, the rest are Karakalpaks, Tadzhiks, Russians, Kazakhs, Kirghis, Armenians, and Bukhara Jews—a Jewish community distinct in history and tradition from the rest of the Jews Uzbekistan is one of the oldest civilized regions of the world The ancient Persian province of SOGDIANA, it was conquered (c 329 B C) by Alexander the Great It was taken (8th cent A D) by the Arabs, who introduced Islam, and in the 12th cent fell to the Seljuk shahs of KHOREZM Jenghiz Khan took it in the 13th cent, and in the 14th cent TAMERLANE made his native Samarkand the center of his immense conquests Under his successors, the TIMURIDS, the empire was much reduced and by the end of the 15th cent began to fall apart Throughout these turbulent events the cities of Samarkand, Bukhara, and Tashkent, situated on major trade routes to China, India, Persia, and Europe, were centers of prosperity, culture, and nearly fabulous luxury In the early 16th cent the Uzbeks, formerly called Sarts, invaded the region from the northwest A remnant of the GOLDEN HORDE, they took their name from Uzbeg (fl 14th cent), from whom their dynasty claimed descent Later in the 10th cent the Uzbek leader Abdullah extended his rule over parts of Persia, Afghanistan, and Chinese Turkistan, but the empire soon broke up into separate principalities Chief among these were Khiva (see KHIVA, KHANATE OF), KOKAND and Bukhara (see BUKHARA, EMIRATE OF) Long closed to all foreigners, these states were conquered by Russia between 1865 and 1876 Kokand was annexed outright, but Khiva and Bukhara remained under their native rulers as vassal states of Russia until 1920 As constituted in 1924, the Uzbek SSR included also Tadzhikistan, which in 1929 became a separate constituent republic The industrialization policy of the Soviet regime and the linking up of the Trans-Caspian and Turkistan-Siberia railroads have made Uzbekistan one of the most valuable territories of the Soviet Union

Uzhgorod (ōōzh'gurōt, Czech *Užhorod* (ōōzh'hôrôt), Hung *Ungvar* (ōōng'vär), city (1941 pop 45,250), capital of the Transcarpathian oblast, W Ukraine, near the Czechoslovak border It manufactures margarine and alcohol, and it is an agricultural market center The Univ of Uzhgorod was founded in 1945 Dating from the 13th cent, the city was long an important center of Hungarian RUTHENIA, which passed to Czechoslovakia in 1920 and to the USSR in 1945 There are a 13th-century castle and an 18th-century cathedral

Uznam, Pomerania see USEDOM

Uzza or **Uzzah** (ŭ'zu) **1** Israelite who met sudden death after touching the ark 2 Sam 6 3-8 1 Chron 13 7–11 **2** Benjamite 1 Chron 8 7 **3** Descendant of Merari 1 Chron 6 29 **4** One who returned with Zerubbabel Ezra 2 49

Uzzen-sherah (ŭ'zun-shĭ'ru), foundation of SHERAH 1 Chron 7 24

Uzzi (ŭ'zī) [Heb, =God is my strength] **1** High priest 1 Chron 6 5,6,51, Ezra 7 4 **2** Son of Tola 1 Chron 7 2,3 **3** Levitical overseer in Jerusalem Neh 11 22 **4,5** Benjamites 1 Chron 7 7, 9 8 **6** Priest Neh 12 19,42

Uzzia (ŭzī'u), hero of David 1 Chron 11 44

Uzziah (ŭzī'u) [Heb, =strength of God] **1** Died c 735 B C, king of Judah (c 775–c 735 B C), son and successor of Amaziah He rebuilt Elath, port on the Gulf of Aqaba His attack of leprosy and miraculous cure are a famous incident He was succeeded by Jotham 2 Chron 26 He is called Azariah in 2 Kings 15 Ozias Mat 1 8,9 **2** Levite see AZARIAH **5** **3** Father of one of David's officers 1 Chron 27 25 **4** Man with a foreign wife Ezra 10 21 **5** Judahite Neh 11 4

Uzziel (ŭ'zēĭl, ŭzī'ul) [Heb, =God is my strength] **1** Kohathite Levite mentioned often Ex 6 18 **2** Captain of David's 1 Chron. 4 42. **3** See AZAREEL **2** **4** Head of a Benjamite family. 1 Chron 7 7 **5** Levite 2 Chron. 29 14. **6** Goldsmith Neh 3 8

V

V, 22d letter of the ALPHABET (see U) It is a usual symbol for a voiced labiodental spirant, as in *vat* In Roman numerals it symbolizes Arabic 5, in chemistry the element VANADIUM

Vaago, Dan. *Vaagø* (vô′wû), Faeroese *Vágar*, island (69 sq mi , pop 2,256), W Faeroe Islands Fishing and sheep raising are the chief occupations

Vaal (vāl), river, Union of South Africa, rising in SE Transvaal and flowing c 700 mi to the Orange River in Cape Prov On its predominantly southwesterly course it forms most of the boundary between Transvaal and the Orange Free State

Vaasa or **Vasa** (both vä′sä), city (pop 34,083), W Finland, a Baltic port on the Gulf of Bothnia It is a shipping center for timber, and it produces textiles and motors Half the population is Swedish-speaking Founded in 1606, Vaasa was rebuilt closer to the sea after a devastating fire in 1852 It was named Nikolaunkapunki or Nikolaistad (after Tsar Nicholas I) from 1855 to 1918 During the Finnish war of independence Vaasa was the capital of White Finland

Vac, Hung *Vác* (vats), Ger *Waitzen* (vī′tsun), city (pop 22,130), N central Hungary, on the Danube and N of Budapest It is a favorite summer resort of Budapest residents and has an 18th-century cathedral and an episcopal palace It was formerly Vacz or Vacs.

Vaca, Cabeza de see CABEZA DE VACA, ÁLVAR NÚÑEZ

Vaca de Castro, Cristóbal (krēstō′vəl vä′kä dā kä′strō), fl 1540–45, Spanish colonial administrator in Peru A judge of the royal *audiencia* at Valladolid, he was chosen by Charles V to restore order between the Pizarro and the Almagro factions He was a man of integrity, sagacity, and courage Arriving in 1541 and learning of the assassination of Francisco PIZARRO, he assumed the governorship and put down the uprising headed by Almagro the younger (son of Diego de ALMAGRO), who was defeated in 1542 Vaca de Castro was succeeded by the first viceroy of Peru, NÚÑEZ VELA, in 1544 The viceroy, suspecting Vaca de Castro of sympathizing with the rebellion of Gonzalo Pizarro, had him arrested Returning to Spain in disgrace, Vaca de Castro was imprisoned for 12 years before he was cleared of all charges and restored to his honors He probably died at some time after 1571

Vacaville (vā′kəvĭl, vă′–), town (pop 1,614), central Calif , between Sacramento and San Francisco, in a fertile valley, founded 1850, inc 1892

vaccination, means of producing active IMMUNITY to disease by inoculation with a vaccine It was introduced by Edward JENNER to produce immunity against smallpox He injected the smallpox virus into cattle, thus producing cowpox, the cowpox virus procured from pustules was then injected under the skin of man This modified smallpox virus produces a local lesion, but renders the individual immune to smallpox for 5 to 7 years or longer Later the term *vaccination* was extended to similar methods of producing immunity against other diseases Vaccines are usually prepared from the killed or weakened organisms causing the specific disease or from their toxic products, live organisms are sometimes used Vaccination is employed to prevent typhoid fever, diphtheria, hydrophobia, cholera, typhus fever, yellow fever, and recurrence of boils

Vaclav, Saint see WENCESLAUS, SAINT

Vacs, Hungary see VAC

vacuum, theoretically, a space without matter in it In practice, a perfect vacuum has not as yet been obtained although an extremely high vacuum is produced in many of the vacuum tubes in common use Among the ancients, the belief that "nature abhors a vacuum" was held widely and persisted without serious question until the late 16th and early 17th cent , when the experimental observations of Galileo and Torricelli demonstrated its essential fallacy Torricelli obtained a nearly perfect vacuum (Torricellian vacuum) in his mercury BAROMETER Commonly a vacuum is thought of as causing "suction" The concept is convenient but incorrect Actually the apparent "suction" caused by a vacuum is a measurement of the pressure of the atmosphere tending to rush in and fill the unoccupied space The accuracy of the measurement depends upon the nature of the vacuum, a perfect vacuum exerts no pressure for it contains no matter There are various methods for producing a vacuum, and a number of different kinds of vacuum pumps have been devised for removing the air from a confined space A major difficulty is that matter is apparently not continuous but is composed of extremely minute particles called molecules which are in a state of rapid vibratory motion To obtain a perfect vacuum, therefore, it is necessary to remove all the molecules in a given confined space One ingenious method involves, first, as complete exhaustion of the air as possible by physical means and then the breaking down by chemical means of most of the molecules of the gas still remaining in the space into smaller particles and the recombination of these into molecules of a substance which is a solid under ordinary circumstances A pump depends for its operation upon the creation of a vacuum in a cylinder by the action of a piston (which is drawn out against the atmospheric pressure acting to hold it in) When a valve is opened in the cylinder, the liquid or gas around it is forced in by the pressure of the atmosphere Practical use of a vacuum is made in devices such as the vacuum cleaner, vacuum tube (see TUBE, VACUUM OR ELECTRON), vacuum bottle, and barometer

vacuum tube see TUBE, VACUUM OR ELECTRON.

Vacz, Hungary see VAC

Vadso, Nor *Vadsø* (vad′sû″), town (pop 2,107), Finnmark co , NE Norway, on the northern bank of the Varanger Fjord An ice-free port, it trades in reindeer meat and skins, dried fish, train oil, and guano. It is a whaling base

Vadstena (vad′stä″na), town (pop 3,233), S central Sweden, a port on the eastern shore of Vattern lake Vadstena is one of the oldest towns and was the site of the most important medieval cloisters in Sweden, the Convent of St Birgitta founded c 1370 It was a commercial center and the scene of many historic events The town is a stop on the Gota Canal and has a notable lacemaking industry

Vaduz (vä′dōōts), town (pop 2,041), capital of the principality of LIECHTENSTEIN, between Austria and Switzerland

Vaga, Perino del see PERINO DEL VAGA

Vagarshapat, Armenian SSR see ECHMIADZIN

vagrancy, the state of being without work or a home Idleness was formerly held voluntary and in law was considered, as Blackstone says, "a high offense against the public economy " Under English statutes "idle and disorderly rogues and vagabonds" were punished, they were guilty in that "no man wot from whence they come nor where they go " Such statutes have been repealed as inconsistent with the fact of involuntary UNEMPLOYMENT The soliciting of alms is punished by most governments The ordinances of many cities prohibit loitering and obstructing the streets In treating vagrancy, the efforts of local governments are commonly directed to inducing vagrants to move on In times of economic crisis many persons who are ordinarily employed become vagrants, and curative measures would involve curing unemployment In the United States the word *hobo* is loosely applied to a man out of work who is presumably traveling about looking for work, while a *tramp* is a social misfit who prefers a vagrant life See Josiah Flynt, *Tramping with Tramps* (1899), Niels Anderson, *The Hobo* (1923), Thomas Minehan, *Boy and Girl Tramps of America* (1934)

Vah, Slovak *Váh* (vakh), Ger *Waag* (vak), Hung *Vág* (vag), river, 245 mi long, rising in the Tatra mts , E Czechoslovakia It flows SW through Slovakia into an arm of the Danube at Komarno. The resorts of Piestany and Trencianske Teplice lie on the river

Vaida-Voevod, Alexander (vä′ĭda voivōd′), 1871–1950, Rumanian statesman, b Transylvania He was (1906–18) a member of the Hungarian parliament, in which he advocated the cause of the Rumanians in Transylvania In 1918, on the collapse of the Austro-Hungarian Monarchy, he led in the proclamation of the union of Transylvania, and in 1919 he was made premier and foreign minister of Rumania He secured the recognition of the incorporation of Transylvania into Rumania, had Rumanian troops intervene against the Communist regime of Bela Kun, and negotiated the recognition (1920) by the Allies—but not by Russia—of the Rumanian annexation of Bessarabia He resigned in 1920, but was once more premier (1933) at the head of the National Peasant party Withdrawing from that party in 1935, he associated with the reactionary, pro-German, and anti-Semitic elements in politics

Vaigach (vīgach′), island, area 1,130 sq mi , off N European RSFSR, in the Arctic Ocean between Novaya Zemlya and the mainland The native Nenets population (formerly called Samoyedes) subsists on fishing, sealing, and reindeer raising There are two arctic observation stations

Vaihinger, Hans (hans′ fī′hĭng-ur), 1852–1933, German philosopher He contributed to the understanding of Kant's philosophy and founded the "as if" philosophy Educated at Tübingen, Leipzig, and Berlin, he served at Strasbourg first as tutor and then as professor of philosophy In 1884 he went to Halle, where he became full professor in 1892 His studies of Kant culminated in *Kant—ein Metaphysiker?* (1899) His own system was set forth in 1911 and was translated into English as *The Philosophy of "As If"* (1924) He argued that since reality cannot be truly known, human beings construct systems of thought to satisfy their needs and then assume that actuality agrees with their constructions. People act "as if" the real were what they assume it to be

Vail, Alfred (vāl), 1807–59, American inventor, b Morristown, N J , grad Univ of the City of New York (now New York Univ), 1836 A partner of S F B Morse, he provided funds for Morse's work on the telegraph and made improvements in the instrument as well as in the dot-and-dash code for it He wrote *The American Electro Magnetic Telegraph* (1845)

Vail, James Garrett, 1886–, American industrial chemist, b Philadelphia. He is known for his work on soluble silicates and water softeners He wrote *Soluble Silicates in Industry* (1928)

Vailima (vīlē′mu), estate, home of Robert Louis Stevenson, on Upolu island in Western Samoa Stevenson lived here for five years, his tomb is on the summit of near-by Mt Vaea

Vajezatha (vuĭz′uthu), one of Haman's sons Esther 9 9

Valaam, Karelo-Finnish SSR see LADOGA, LAKE

Valais (välā′), Ger *Wallis*, canton (2,021 sq mi , pop 148,319), Switzerland It extends from the Bernese Alps in the north to the Pennine Alps in the south, with the upper Rhone valley between them, and it has some of the highest peaks (Matterhorn, Dufourspitze, Dom, Weisshorn) in Switzerland Principally a stock-raising and agricultural canton, it is also known for its fine wines There are numerous powerful hydroelectric stations and many resorts Taken by the Romans in 57 B C , Valais later passed to the Burgundians and the Franks In 999 Rudolf III of Burgundy made the bishop of Sion lord of Valais, but the country split, the Lower Valais passing to Savoy In 1475 the bishop of Sion and the communes of the Upper Valais, which gained considerable autonomy, defeated the duke of Savoy, and henceforth till 1798 the Lower Valais was held in subjection by the Upper Valais Made a canton of the Helvetic Republic in 1798 an independent republic in 1802, and a French department in 1810, Valais was admitted as a canton into the Swiss Confederation in 1815 Most of the inhabitants are French-speaking and Catholic

Valama or **Valamo,** Karelo-Finnish SSR see LADOGA, LAKE

Valatie (vulā′shu), village (pop 1,208), E N Y , NE of Hudson, in a fruit and dairy region, inc 1856

Valbert, G see CHERBULIEZ, VICTOR

Valcour Island (vălkōōr′), c 2 mi long, NE N Y , in Lake Champlain, near Plattsburg Here on Oct 11, 1776, American vessels under Benedict ARNOLD were attacked by the British and forced to retreat to Crown Point

Valdai Hills (vəldī′, Rus vəldī′), moraine region, NW European RSFSR, forming the watershed of the Western Dvina, Volga, and Lake Ilmen basins Extending in parallel ridges for c 300 mi from northeast to southwest, it rises to 1,053 ft at Mt Kammenuk There are numerous lakes

Valdemar. For Danish rulers thus named, see WALDEMAR

Valdepeñas (val″dāpā′nyas), city (pop 29,891), Ciudad Real prov , S central Spain, in New Castile, on the Jabalón river and in a fertile plain It is noted for its red wines, and it produces vinegar and has alcohol distilleries

Valdés, Armando Palacio see PALACIO VALDÉS

Valdés, Juan de (hwan′ dā valdās′), c 1500–1540, Spanish reformer, b Cuenca He went soon after 1530 to Naples, where he became the center of a circle of men interested in religious reform Valdés had already published an attack on many ecclesiastical abuses He never openly abjured Catholicism, but he was a principal influence on many reformers, e g , OCHINO and VERMIGLI He seems to have held the doctrine of justification by faith alone Many consider him a Socinian or Unitarian

Valdese (vălˈdēs), town (pop 2,615), W N C , in the Blue Ridge foothills E of Asheville, inc 1921 In 1893 Waldenses from the Cottian Alps, N Italy, started a farm colony here Valdese now has textile and other mills and wineries

Valdés-Leal, Juan de (hwan′ dā valdās′-lāal′), 1622? 1690?, Spanish religious painter of the school of Seville He excelled in painting horrible and gruesome subjects, such as *Two Cadavers in Their Worms* Much of his best work is in Seville His *Via Crucis* is in Córdoba, and another version in the Hispanic Society, New York He succeeded Murillo as president of the Seville Academy

Valdez (vălˈdēz′), town (pop 529), S Alaska, on Prince William Sound Its excellent, ice-free harbor was explored and named by the Spanish in 1790 The town came into existence (1898) as a debarkation point for men seeking a route to the Yukon gold fields which would obviate the necessity of paying duty to Canada It has a seaplane base and is the coastal terminus of the Richardson Highway to Fairbanks The town is the shipping and commercial center for a large gold-mining and fur-producing area

Valdivia, Pedro de (pā′dhrō dā vāldē′vyä), c.1500–1554, Spanish conquistador, conqueror of Chile One of Francisco Pizarro's best officers in the con-

quest of Peru, educated, energetic, somewhat less cruel and avaricious than his fellow conquerors, Valdivia obtained permission from Pizarro to subdue Chile In Jan , 1540, he began his march south through the desert of Atacama, following the route used by his unfortunate predecessor, Diego de Almagro Although Santiago was founded in 1541 and other settlements in the next few years, the colony was not prosperous, gold was scarce and the Araucanian Indians warlike To secure additional aid and confirm his claims to the conquered territory, Valdivia returned to Peru in 1547 and helped the viceroy, Pedro de la Gasca, against the rebellion of Gonzalo Pizarro He received the title of governor of Chile and returned to his domain in 1549, continuing his march S to the Bío-Bío river, where he founded Concepción, and farther S to Valdivia (1552). Ostensibly the conquest was complete Toward the end of 1553, however, the Indians under Lautaro revolted Valdivia, sallying forth with 40 men to stamp out the rebellion, was ambushed As each successive wave of Indian attackers was wiped out or beaten off, Lautaro sent another until the entire company, including Valdivia, was massacred See biography by R B Cunninghame Graham (1926)

Valdivia, city (pop 34,496), S central Chile, on the coast Founded in 1552 by Pedro de Valdivia, the city is attractively situated on the Valdivia river 11 mi from its port, Corral The climate is cool, and there is ample rainfall One of the most active of Chilean commercial cities, it also has numerous industries, besides tanneries, sugar refineries, large shipyards, flour mills, breweries, and lumber mills, there are factories producing pig iron and steel, cordage products, and shoes Occupied by Spanish royalists during most of the war for liberation, Valdivia was finally freed when the English admiral and soldier of fortune, Lord Cochrane, captured Corral in 1820

Val d'Or (vȧl dôr'), town (pop 4,385), W Que , ESE of Rouyn, founded 1933, inc 1935 The town is a mining center with an airport Gold was discovered in the region in 1909, and the region also produces copper, zinc, lead, and molybdenum

Valdosta (vȧldŏ'stu), city (pop 15,595), co seat of Lowndes co , S Ga , near the Fla line SW of Waycross, in a fine lake region, founded 1860 Valdosta is a processing, distributing, and commercial center for a large farm area It has railroad shops and chemical works and processes the cotton and lumber of the area Georgia State Womans College (1906) and Emory Junior College are here

Vale (vāl), town (pop 1,083), co seat of Malheur co , E Oregon, on the Malheur near the Idaho line, settled 1864, inc 1889 It has hot springs which are utilized by a sanatorium and is a shipping center for a livestock and farm area, It is the chief town of the Vale irrigation project, established in 1928 by the Bureau of Reclamation and comprising some 32,000 acres which are supplied with water from the Malheur river

Valence (vȧlȧs'), city (pop 34,249), capital of Drôme dept , SE France, on the left bank of the Rhone It manufactures silk It was the capital of the duchy of Valentinois, a dependency of Dauphiné, Louis XII conferred (1498) it upon Cesare Borgia Valence was heavily damaged in the Second World War, but its Romanesque cathedral was preserved

valence (vā'lŭns) [Latin, = power], in chemistry, a number representing the relative ability of a chemical element to combine with another chemical element The basis, or unit of comparison, is commonly taken as the ability of hydrogen to combine For example, in a molecule of water the atom of oxygen is found combined chemically with two atoms of hydrogen It is said, therefore, to exhibit a valence of 2, i e , to show the ability to hold 2 atoms of hydrogen in combination An atom of hydrogen and an atom of chlorine form the molecule of hydrochloric acid The valence of chlorine is 1 On the other hand, certain elements do not combine with hydrogen The number of hydrogen atoms which they displace from a compound indicates the valence For example, an atom of zinc will displace the two atoms of hydrogen in the molecule of sulphuric acid to form zinc sulphate Zinc thus exhibits a valence of 2 Elements having a valence of 1 are called univalent, those of 2, divalent, those of 3, trivalent, and so on Not all elements, however, are confined to one valence Iron, for example, has valences of 2 and 3, phosphorus of 3 and 5 In general, however, elements exhibit a single valence in all the various compounds of which they form a part An explanation of valence is found in the electronic structure of the atom, i e , in the number and arrangement of the electrons around the nucleus of the atom Knowledge of the valences of the various elements is of prime importance in the writing of chemical formulas and equations

Valencia, Guillermo (gēvĕr'mō vȧlĕn'svȧ), 1873–1943, Colombian poet, one of the leaders of *modernismo* He came from an aristocratic family, received solid classical training, was active politically, and was a noted orator. Valencia was a disciple of José Asunción Silva and like Silva showed in austere and subtle verses deep culture and extreme sensibility. His poems are few but polished, his only volumes are *Ritos* (1898) and *Catay* (1928) Valencia was constantly preoccupied with the fate of the poet in an indifferent world.

Valencia (vulĕn'shû, Span vȧlȧn'thċȧ), region (8,998 sq mi , pop. 2,176,670) and former kingdom, E Spain, on the Mediterranean coast. It now comprises the provinces of Alicante, Castellón de la Plana, and Valencia The country is mostly mountainous, with a fertile coastal plain, on which most of the population is concentrated. Irrigation works and the intensive system of cultivation, started by the Moors, have made it the "garden of Spain," producing oranges, lemons, and other fruit, rice, vegetables, cereals, olive oil, and wine Exports of many of these products, especially of Valencia oranges, are very active The mulberry has been cultivated for silk since ancient times, but the silk industry has declined Processed foods, ceramics, and textiles are the chief industrial products Many prehistoric remains have been found in Valencia Inhabited by the Iberians in early times, it was later colonized by the Greeks and Carthaginians and was a battlefield between the Carthaginians and the Romans (see Sagunto) It passed to the Moors in the 8th cent , and at the fall of the caliphate of Córdoba it became (1022) an independent emirate The Cid ruled briefly the city and district of Valencia (1094–99) After the rule of the Almoravides and Almohades, independence was briefly restored until James I of Aragon conquered (1238–52) the region The kingdom of Valencia preserved its political identity first within the Aragonese confederation and later in the Spanish state, but its privileges were completely abolished by Philip V in the 18th cent The 14th and 15th cent were a period of economic prosperity and artistic flowering, followed by decline after the expulsion of the Moors (1609)

Valencia (vulĕn'shû, Span vȧlȧn'thċȧ), city (pop 409,670), capital of Valencia prov , E Spain, the third largest city of Spain It lies in a fertile garden region 3 mi from its busy port, Villanueva del Grao, on the Gulf of Valencia in the Mediterranean It is an active industrial and commercial center producing textiles (mainly silk), chemicals, tobacco, furniture, and *azulejos* [colored tiles] There also are important shipyards Oranges, lemons, raisins, and wine are the chief exports First mentioned in the 2d cent B C , Valencia was a Roman colony Under the Moors from the 8th to the 13th cent , it was twice the seat of an independent state (see Valencia, region) From 1094 to 1099 it was ruled by the Cid After its conquest (1238) by James I of Aragon, Valencia rose to great commercial and cultural importance and rivaled Barcelona Its university was approved c 1500 by Pope Alexander VI A school of painting flourished in the 16th and 17th cent In the Spanish civil war, Valencia was (1936–37) the seat of the Loyalist government The city, which is a popular winter resort, is very picturesque Among its chief landmarks are the cathedral (13th-15th cent), called La Seo, with a Gothic belltower, the Miguelete, the citadel, built (16th cent) by Emperor Charles V, the Torres de Serranos, 14th-century fortifications built on Roman foundations, the Gothic silk market, called La Lonja, and the Renaissance palace of justice There is a fine art gallery

Valencia (vȧlĕn'syȧ) city (pop 53,938), N Venezuela Valencia was founded in 1555 near the western shore of Lake Valencia The lake (c 120 sq mi) is the second largest in Venezuela With no surface outlet, it is bordered by disease-breeding marshes, and early settlers chose to establish Caracas as the capital rather than the more centrally located Valencia The city is in the republic's leading agricultural district Sugar cane, the chief crop, is closely rivaled by cotton Cattle, driven N from the Orinoco llanos for fattening, have made Valencia a cattle mart Industrial activities include cotton mills, dairies, slaughtering, meat packing, shoe factories, and breweries Valencia is linked by highway and railroad to its port, Puerto Cabello, and to Caracas

Valencia or **Valentia** (both vulĕn'shēu), rocky island, (pop 1,198), 7 mi long and 2 mi wide, Co Kerry, Ireland, off the SW coast, S of the entrance to Dingle Bay Valencia is known as the terminus of several transatlantic cables, including that laid to Newfoundland by the *Great Eastern* in 1866, after several earlier unsuccessful attempts Knightstown (pop 343) is across the strait from Valencia, the knight of Kerry had an estate on the isle Slate was once quarried here Fishing boats use the harbor

Valenciennes (vulĕn"sĕĕnz', -ĕn', Fr vȧlȧsyĕn'), town (pop 37,716), Nord dept , N France, on the Escaut (Scheldt) river Famous since the 15th cent for its lace industry, it now chiefly refines sugar and manufactures textiles and machinery Valenciennes, an important place of medieval Hainaut, definitively passed to France in 1678 Its center was destroyed in the Second World War Emperor Baldwin I, Froissart, and Watteau were born here

Valenciennes lace · see LACE.

Valens (vā'lunz), c 328–78, Roman emperor of the East (364–78). Brother and coregent of Valentinian I, Valens followed in most respects his brother's policies but, unlike him, embraced Arian Christianity (see Arianism) He suppressed pagan worship and mildly persecuted Orthodox Christians At the beginning of his reign he put down the revolt of Procopius and initiated warfare against the Visigoths under Athanaric and pursued it successfully until 369 His attitude toward the Persian threat to Armenia was indecisive, and, hesitating to disturb the truce made with Persia by his predecessor Jovian, he intervened only sporadically and ineffectually He admitted the Visigoths under Fritigern into the empire Trouble ensued In 378 Valens was killed in the disastrous battle of Andrianople against the Visigoths, in which two thirds of the Roman army was destroyed This left the Eastern Empire virtually defenseless He was succeeded by Theodosius I

Valentia · see Valencia, island, Ireland.

Valentine, Saint, d c 270, Roman martyr priest His feast is Feb 14 The customs connected with him in English-speaking countries are probably a survival from a period when a pagan festival associated with love occurred about Feb 14 He is now considered popularly the patron of lovers and the help of those unhappily in love The lovers' greeting cards sent on this day (and the parodies of them) are called valentines for him

Valentine, city (pop 2,188), co seat of Cherry co , N Nebr , on the Niobrara near the S Dak line, in a cattle area, settled 1882 Near by are a state fish hatchery, an agricultural experiment station, and a national game preserve A region of lakes lies to the south

Valentine and Orson, French romance, first published in 1489 as *Valentin et Orson* Its theme is the separation of twin brothers in infancy and their recognition when Orson is a wild man in a forest and Valentine a knight See Arthur Dickson, *Valentine and Orson* (1929)

Valentinian I (vă"lŭntĭ'nēun), 321–75, Roman emperor of the West (364–75) He held high military rank under Julian and Jovian After the death of Jovian, Valentinian was proclaimed emperor and appointed his brother Valens coregent in the East He fought and, on several occasions, defeated the Alemanni He sent his general, Theodosius, to defend Britain against invasions by the Picts and Scots and later to Africa to suppress a revolt As part of his defense of the frontiers of the empire, Valentinian caused the construction of fortresses along the Rhine and the Danube He reduced taxation, promoted education, and economized on court expenses An Orthodox Christian, Valentinian permitted religious freedom to Arians and pagans He was succeeded by Valentinian II and Gratian

Valentinian II, 371–92, Roman emperor of the West (375–92) He was proclaimed emperor upon the death of his father Valentinian I and was coregent with his brother Gratian Upon the death of Valens in 378, Gratian made Theodosius I ruler in the East The minority of Valentinian was troubled by the religious struggle between the Arians, supported by the emperor's mother, Justina, and the Nicene Christians led by St Ambrose In 383 Gratian was killed by order of Maximus, and the personal rule of Valentinian in Italy began He was expelled from Italy by Maximus but was restored by Theodosius in 388 Valentinian died four years later, probably murdered by the Frankish general Arbogast, who named the puppet Eugenius as emperor

Valentinian III, 419–55, Roman emperor of the West (425–55) Nephew of Honorius, he was placed on the throne by his cousin Theodosius II His mother Galla Placidia acted as regent during his minority but from 433 to 454 the powerful general Aetius was the actual ruler in the West During Valentinian's reign Africa was lost by Boniface to the Vandals under Gaiseric, who subsequently ravaged the Mediterranean coasts The empire was disturbed by civil war between Aetius and Boniface and by the unrest of the barbarians, especially the Goths in Gaul Valentinian aided the efforts of Pope Leo I (see Leo I, Saint) to enforce ecclesiastical order in the West The closing years of the reign saw the invasion of the Huns under Attila, who after being defeated in Gaul by Aetius (451) made a brief expedition into Italy In 454 Valentinian murdered Aetius with his own hand and shortly afterwards was himself assassinated He was succeeded by Maximus

Valentino, Rudolph (vălŭntē'nō), 1895–1926, American moving-picture actor, whose real name was Rodolpho d'Antonguolla, b. Italy He came to the United States in 1913 and after a brief career as a dancer entered moving pictures His first success was in *The Four Horsemen of the Apocalypse*, and he added to his reputation in such romantic films as *The Sheik, Blood and Sand, The Eagle,* and *Monsieur Beaucaire*

Valentinois: see Valence, France

Valentinus (vălŭntī'nus), fl. c.136–c.160, founder of the Valentinians, the most celebrated of the Gnostic sects (see Gnosticism). The little that is known of his life is found in the works of early

Christian theologians who refuted him, such as St. Irenaeus and Clement of Alexandria. Probably born in Egypt, Valentinus taught in Alexandria, Rome, and Cyprus and gained brilliant converts from both East and West. He refined the doctrines of Gnosticism Valentinus taught that thought (called also grace and silence) is in the essence of God, and this essence produces nous (or mind). The logos (or word) emanates from nous, anthropos or primal man emanates from the logos. Other entities emanate from anthropos; these are grouped in pairs, forming the Pleroma (or collection of divine beings), of which the lowest was Sophia or Wisdom Sophia produced the formless Demiurge who created the material world From God came Jesus, who combined in himself attributes of all the pairs, and who was sent to release Sophia (and, subsequently, men) from the bondage of emotions Valentinus wrote letters, homilies, and psalms, of which fragments survive The *Odes of Solomon* have been attributed to him, but they are probably earlier More reasonable is the attribution of parts of the *Pistis Sophia*, an elaborate exposition of Gnostic ideas and cosmogony See George Horner, ed and tr , *Pistis Sophia* (1924)

Valentinus, Basilius see BASILIUS VALENTINUS

Vale Press, celebrated British fine-printing establishment It was one of the presses established in London in the 19th-century revival of the art and craft of making books The Vale type and the other types (Avon and King's Fount) used by the Vale Press were designed and the printing of Vale Press books was supervised by the artist Charles RICKETTS, the presswork was by the Ballantyne Press The masterpiece of the Vale Press is *The Works of Shakespeare*, in 39 volumes (1900–1903) The work of the press, begun in 1896, ended in 1904, and Ricketts then destroyed the types See also KELMSCOTT PRESS, ASHENDENE PRESS, DOVES PRESS

Valera, Diego de (dyā'gō dā valā'ra), 1412?–1488?, Spanish adventurer and writer He was reared at the Castilian court, was page to John II, and later traveled in France, Bohemia, England, and Denmark as a diplomatic agent of John He took part in the campaigns against the Hussites After the death of John II he lived in retirement, studying history and philosophy, but he returned to public life in 1474 to become majordomo of Isabella I and chronicler of Ferdinand V, whom he incited to the conquest of Granada His works include poems, parodies, philosophical treatises, and genealogies, but his chief importance is as a historian His *Crónica abreviada*, is a universal history from the creation to John II, it is continued by a chronicle of the reign of Henry VI of Castile and a chronicle of the reign of Ferdinand and Isabella

Valera, Eamon de see DE VALERA, EAMON

Valera, Juan (Juan Valera y Alcalá Galiano) (hwan valā'ra), 1824–1905, Spanish novelist, critic, and diplomat, b Córdoba, of a noble family He represented his country at Lisbon, Rio de Janeiro, and St Petersburg and later at Washington, Brussels, and Vienna While he considered diplomacy to be his career, he was noted as a literary critic and novelist Among his works are *Cartas americanas* (1889), four volumes on Spanish American writers, and *Florilegio de poesías castellanas del siglo XIX*, an anthology of Spanish poetry (5 vols , 1902–3) His most popular work is the novel *Pepita Jiménez* (1874, Eng tr , 1886), which won international fame Other novels translated into English are *El comendador Mendoza* (1877, Eng tr , *Commander Mendoza*, 1893) and *Doña Luz* (1879, Eng tr , 1891)

Valerian (Publius Licinius Valerianus) (vulēr'ēun), d after 260, Roman emperor (253–60) He was of good family and held important posts, both civil and military, under the emperors Decius and GALLUS After the short reigns of Gallus and Aemilianus, both of whom were killed by revolting soldiers, Valerian was proclaimed emperor Though not an incapable man, he was nevertheless not suited to rule in such critical times, for N Italy, Greece, and Asia Minor were falling to the barbarians and to the Persians Appointing his son, GALLIENUS, co-regent, Valerian undertook a campaign in the East against SHAPUR I of Persia, who destroyed the Roman army and took the emperor prisoner (260). Valerian died in captivity and was succeeded by Gallienus

Valerian Way see ROMAN ROADS

Valérien, Mont, France see MONT VALÉRIEN.

Valerius Maximus (vulēr'ēus māk'sĭmŭs), 1st cent. B C —1st cent A D., Roman author Little is known of his life He was born probably c.49 B C., accompanied Sextus Pompeius to Asia (27 B C), and died shortly after A.D 30 His work, *Factorum ac dictorum memorabilium libri IX* [nine books of the deeds and words of memorable persons], was written A.D c 30 and is a miscellany of anecdotes about a variety of subjects. The work was very popular, especially as a source for writers and orators, but had little literary merit.

Valéry, Paul (pôl' vālārē'), 1871–1945, French poet and critic. Encouraged by Pierre Louÿs and by Mallarmé, Valéry published a few poems in several small reviews but soon turned from poetry to prose with *La Soirée avec M. Teste* (1896; Eng. tr., *An Evening with Mr. Teste*, 1925). In 1912 Gide and other admirers urged him to publish a collection of his early poems. A brief valedictory, which he had planned to add to the collection, grew into his major work, *La Jeune Parque* (1917) It is a masterpiece, though long and somewhat obscure, and together with *Le Cimetière marin* (1920, Eng tr , *The Graveyard by the Sea*, 1932) offers perhaps the best example of Valéry's poetics In 1920 appeared two other volumes of poetry, *Odes* and *Album des vers anciens* His prose works include five collections of essays, all called *Variété* (1924, 1929, 1936, 1938, 1944, partial Eng tr , *Variety*, 1927, 1938). He succeeded Anatole France in the French Academy in 1925 After the French liberation in the Second World War he presided over the Comité national des Écrivains, which published the *Lettres françaises*, a review. He also wrote *Les Pages immortelles de Descartes* (1946, Eng. tr , *The Living Thoughts of Descartes*, 1947)

Valga (väl'gä) or **Valka** (väl'kä), Ger *Walk* (välk), city on the Latvian-Estonian border It consists of Estonian Valga (pop 10,842) and of Latvian Valka (pop 3,208) and is a rail junction and a sawmilling center A dispute over possession between the two countries after the First World War was settled by partition

Valhalla or **Walhalla** (both väl-hăl'u, -hăl'u) [Norse, =hall of the slain], in Norse mythology, Odin's home for slain heroes It is a sort of martial paradise, to it the VALKYRIES bring the dead warriors. It is in ASGARD

Valka, Latvia see VALGA

Valkyries (välkĭr'ēz) [Norse, =choosers of the slain], in Germanic myth, maidens associated with the dead According to the Icelandic form, they come on horseback to the battlefield, choose those who are to die, and bear the heroes back to VALHALLA They are Odin's daughters or attendants Chief among them was Brynhild (see BRUNHILD) The Valkyries feature in the opera cycle of Richard Wagner The German form of the name is Walküre

Valla, Lorenzo (lōrān'tsō vāl'la), c 1407–1457, Italian humanist He knew Greek well and was chosen by Pope Nicholas V to translate Herodotus and Thucydides into Latin He showed that the Donation of Constantine (see CONSTANTINE, DONATION OF) was a forgery The significance of this has been misunderstood, it was a pioneer work of criticism, but it was not important in church history, since for a long time the document had been given little credence An adventure Valla had on another account with the Inquisition (he was not even imprisoned) has been distorted into persecution for exposing the Donation of Constantine Valla, a typical Italian humanist wrote a treatise, *De voluptate*, attacking chastity as an ideal, and he was given to the cult of paganism

Valladolid (välyä-dhōlēdh'), city (pop 111,253), capital of Valladolid prov , N central Spain, in Leon A communications center, Valladolid is also an important grain market, and it has chemical and textile industries Valladolid has played an important role in Spanish history Of obscure origin (its name is derived from the Arabic), it was conquered by the Christians from the Moors in the 10th cent , rose to prominence in the 12th and 13th cent , and largely replaced Toledo as the chief residence of the kings of Castile in the 15th cent It was famous for its lavish festivals and tournaments under John II, and in 1469 it was the scene of the marriage of Ferdinand and Isabella Christopher Columbus died here, Emperor Charles V often resided here, and Philip II was born here It declined greatly after 1561, when Philip II made Madrid the Spanish capital However, Valladolid remains an important cultural center Its university, founded in 1346, has a rich library with valuable manuscripts The house where Cervantes wrote part of *Don Quixote* and the house of Columbus have been preserved Other landmarks include the late Renaissance cathedral, begun in 1585 and completed by Churriguera, the Colegio de San José, a masterpiece of the plateresque style, now housing a museum, the Colegio de San Gregorio (15th cent), with a lavishly adorned façade, the former royal palace, the baroque university building, and the churches of San Pablo and Santa María Antigua (12th–13th cent).

Vallandigham, Clement Laird (vŭlăn'dĭghăm", -găm"), 1820–71, American politician, b New Lisbon (now Lisbon), Ohio, educated at Jefferson College (now Washington and Jefferson) He became (1842) a lawyer, was elected to the Ohio legislature in 1845 and 1846, and was editor (1847–49) of the Dayton *Empire*, a Democratic weekly A strong upholder of states' rights, Vallandigham was a U S Representative from 1858 to 1863, being defeated for reelection in 1862 On May 1, 1863, in a political speech at Mt Vernon, Ohio, he declared, among other things, that the Civil War was being fought not to save the Union but to free the Negroes and enslave the whites Gen Ambrose E Burnside, then commanding the Dept of the Ohio, accused him of violating "General Order No 38," which threatened punishment for those declaring sympathy for the enemy, and Vallandigham was arrested, court-martialed, and sentenced to close confinement for the rest of the war. The affair embarrassed Lincoln, and he wisely commuted the sentence to banishment behind Confederate lines The Peace Democrats of Ohio nevertheless nominated (July, 1863) Vallandigham for governor, but he was defeated by John BROUGH He made his way from the Confederacy to Canada, whence he returned to the United States and was allowed to go unmolested In the presidential campaign of 1864, the Democratic platform, representing his views, demanded immediate cessation of hostilities Made commander of the Sons of Liberty (see KNIGHTS OF THE GOLDEN CIRCLE), he was the most prominent of the COPPERHEADS See biography by his brother, James L Vallandigham (1872), G H Porter, *Ohio Politics during the Civil War Period* (1911), J G Randall, *Constitutional Problems under Lincoln* (1926) Wood Gray, *The Hidden Civil War; the Story of the Copperheads* (1942), G F Milton, *Abraham Lincoln and the Fifth Column* (1942)

Valle, Pietro della (pyā'trō dĕl'la val'lā), 1586–1652, Italian traveler in Asia He sailed (1614) from Venice, spent a year in Constantinople, where he studied Turkish and Arabic, then traveled in Egypt, the Holy Land, Arabia, Persia, and India, returning to Italy in 1626 An account of his travels based on his letters appeared in two volumes (1650–58), a part appeared in English with a life of Della Valle as *The Travels of Pietro della Valle in India* (ed by Edward Gray, Hakluyt Society, Vols. LXXXIV and LXXXV, 1665)

Vallée Jonction (vălā" zhōksyō') or **Valley Junction,** village (pop 1,175), S Que , on the Chaudière river and SSE of Lévis It is a railroad center with dairying and shoe manufacturing. It was formerly known as L'Enfant Jésus

Valle Inclán, Ramón del (rämōn' dĕl va'lyā ēnklän'), 1866?–1936, Spanish novelist, poet, and dramatist, one of the so-called Generation of '98 A symbolist poet and an exquisite prose stylist, he was an eccentric and something of a poseur His first work, *Femeninas* (1895), short stories, was sensational and erotic. His best-known work is perhaps his *Sonatas* (1902–5), four novels with a Don Juan type of hero, translated as *The Pleasant Memoirs of the Marquis de Bradomín* (1924) *Flor de santidad* (1904) is a picture of peasant life in his native Galicia Among his volumes of poetry are *Aromas de leyenda* (1907) and *La pipa de Kif* (1919) His plays include *Águila de blasón* (1907), *Romance de lobos* (1908) and *Cara de Plata* (1922) in prose, the verse play *La marquesa Rosalinda* (1913), and the farce *La cabeza del dragón* (1914, Eng tr , *The Dragon's Head*, 1918) In his later work he expresses some of the ugly aspects of life in satirical and grotesque caricatures which he called *esperpentos* (ridiculous, absurd persons or things), among which is *Luces de Bohemia* (1920) The later novel *Tirano Banderas* (1926, Eng tr , *The Tyrant*, 1929) is set in a Latin American republic Valle Inclán was given official positions under the republic

Vallejo (vălā'hō, -lā'ō, vu-), city (1940 pop 20,072, 1944 special census pop 42,941), W Calif , on San Pablo Bay at the mouth of the Napa and NE of San Francisco, inc 1866 Created on the property of Gen Mariano G Vallejo to be the state capital, it was the nominal capital from 1851 to 1854 It is a port and a trade and processing center for agricultural products In the bay, just west of the city, is Mare Island navy yard, reached by a causeway

Valletta (vulĕ'tu), seaport (pop 22,779), capital of the British colony of Malta It is strategically located on the northeast coast of Malta on a rocky promontory between two deep harbors An old town, with many relics of the Knights of St John of Jerusalem (the Knights Hospitalers or Knights of Malta), it contains a 16th-century cathedral, the old governor's palace, and a library with a museum of antiquities It was severely damaged by constant air raids in the Second World War

valley, the entire drainage basin of a river system or any considerable elongated depression between elevations The agents of mountain formation also create valleys, a fault is often the cause of valley formation, as the GREAT RIFT VALLEY of Africa and Asia The EROSION of streams is the most common cause of valley formation, glaciers alter valleys already formed, usually producing long depressions with steep sides The shape of a river valley depends upon the age of the stream and the rate of erosion of the river bed and the valley sides "Young" valleys have steep sides, and the floor has a very narrow flood plain or no flood plain, such valleys exist where a stream flows through a region of hard rock If the land along the stream is relatively soft, the valley will have sloping sides, and there will be a broad flood plain of sediment, such a valley is usually very productive Hanging valleys are formed by tributaries of a river or glacier which do not wear down their beds so rapidly as the parent stream Valleys—because they are often sheltered from wind, have deep, fertile soil, are well watered, and usually have a natural route for water transportation—have always been centers of early

settlement The Tigris-Euphrates and Nile valleys were cradles of civilisation, and fertile valleys were sought by pioneers in the United States and other countries

Valley City, city (pop. 5,917), co seat of Barnes co., SE N Dak., on the Sheyenne river and W of Fargo; settled 1872 with the coming of the railroad, inc. 1883 It is the trade center of a farming area, has flour mills, dairy-processing plants, and a municipal power plant, and is the seat of a state teachers college

Valley Falls, city (pop 1,241), NE Kansas, W of Leavenworth, in a farming area, laid out 1855, inc. as a village 1869, as a city 1871

Valleyfield, city (pop 17,052), S Que., at the northeast end of Lake St Francis and SW of Montreal An industrial center, it has cotton and silk mills, distilleries, and plants making chemicals, bronze powder, asbestos, and felt Power is supplied by a provincial hydroelectric plant on the Beauharnois Canal A Roman Catholic cathedral and the Séminaire de Valleyfield (for men), affiliated with the Univ of Montreal, are here

Valley Forge, locality, SE Pa., on the Schuylkill NW of Philadelphia Here in the American Revolution the main camp of the Continental army was established (Dec., 1777–June, 1778) under command of George Washington The winter was severe, food and clothing were inadequate, and there was much sickness and suffering The number of ragged and half-starved troops dwindled through desertion, and the remaining men (c 11,000) talked of mutiny but were held together by their loyalty to Washington and the patriotic cause Two distinguished foreigners, Lafayette and Steuben, shared the misery of the troops, and Steuben drilled and organized the men, transforming the loose-jointed army into an integrated force The site is now a state park See H E Wildes, *Valley Forge* (1938)

Valley Junction, Que see VALLÉE JONCTION

Valley Junction, Iowa see WEST DES MOINES.

Valley of Ten Thousand Smokes See KATMAI NATIONAL MONUMENT

Valley Park, city (pop 2,091), E Mo, on the Meramec and near St Louis

Valley Stream, residential village (pop 16,679), on SW Long Island, SE N Y, inc 1925 It is a suburb of New York city An early "drive-in" moving-picture theater was begun here in 1938 Valley Stream State Park is here

Vallombrosa (väl-lômbrō'zä), village, Tuscany, central Italy, SE of Florence, beautifully situated in the Apennine forests at an altitude of 4,000 ft It is a well-known resort and has a Benedictine abbey dating from the 11th cent

Valmy (välmē'), village (pop 284) Marne dept, NE France, in the Argonne region Here, on Sept 20, 1792, took place the first important engagement in the FRENCH REVOLUTIONARY WARS The cannonade of Valmy was not a real battle but a somewhat inconclusive artillery duel between the French and the Prussians Finding that the French were standing firm, the Prussians began their inglorious retreat across the Rhine, and thus made Valmy a crucial event

Valois (välwä'), royal house of FRANCE which ruled from 1328 to 1589 At the death of Charles IV, the last of the direct CAPETIANS, the Valois dynasty came to the throne in the person of PHILIP VI, son of CHARLES OF VALOIS and grandson of Philip III The direct Valois line ended with Charles VIII (1498), it was continued by LOUIS XII (Valois-Orléans) and, after his death (1515), by the Valois-Angoulême line, of which FRANCIS I was the first to rule At the death of HENRY III, the house of BOURBON, descended from a younger son of Louis IX, ascended the throne in the person of Henry IV

Valois (välwä'), small region, N France, in NE Île-de-France It is now comprised in Aisne and Oise depts Crépy is the chief town A county and later a duchy, it was the appanage of the royal house of Valois, which succeeded the elder Capetian line on the French throne It was incorporated into the royal domain in 1515

Valona (vulō'nù), Albanian *Vlonë* (vlō'nu), *Vlona* (–nä), *Vlorë* (vlō'ru), or *Vlora* (–ra), anc *Aulon*, city (pop 14,640), SW Albania, an Adriatic port on the Bay of Valona It trades mainly in olives and olive oil, bitumen, and petroleum An episcopal see from the 5th cent, Valona was prominent in the struggle (11th–12th cent) between the Normans of Sicily and the Byzantines It passed to Serbia in 1345 and to the Ottoman Empire in 1464 Here Albanian independence was proclaimed in 1912 Valona was held (1914–20) by the Italians It was bombed in the Second World War when the Greeks attempted (1940–41) to take it after the Italian attack on Greece

Valparaiso (välpurī'zō, –rä'zō) Span *Valparaíso* (välpäräē'sō) [Span., =vale of paradise], city (pop 209,945), central Chile, chief port and second largest city in Chile Founded in 1536 by order of Diego de ALMAGRO, but not permanently established until 1544 by Pedro de VALDIVIA, Valparaiso faces north across a wide bay The bay, open during winter months to severe northern gales, has been partly protected by breakwaters. Except for the "northers," the region has a delightful climate, and thousands of tourists come yearly, particularly to near-by VIÑA DEL MAR From a narrow terrace along the curving waterfront steep hills rise to make Valparaiso an amphitheater, with wharves and business section at the base, and residential sections above So steep is the ascent that funicular railways are used Parks, broad avenues, and modern buildings characterize the downtown section, elaborate, colorful houses surrounded by flowering vines and gardens constitute the lower residential portion The most important port of W South America, Valparaiso is also an industrial city manufacturing cotton textiles, sugar, paint products, enamelware, cottonseed oil, shoes and leather goods, chemicals, and metal products It has experienced several disasters—raids by buccaneers in the colonial period, an earthquake in 1822, a bombardment by a Spanish fleet in 1866, and a severe earthquake in 1906 It was after this last catastrophe that the modern city arose

Valparaiso (välpurā'zō), city (pop 8,736), co seat of Porter co, NW Ind, SE of Gary, settled 1834, inc 1865 Its manufactures include electrical insulation, permanent magnets, paints and varnishes, and machine parts Valparaiso Univ (Lutheran; coeducational, 1859) is here

Valtellina (vältäl-lē'nä), Alpine valley of the upper ADDA river, Lombardy, N Italy Sondrio and Tirano are the chief towns Now chiefly known for its wines, the Valtellina once played a turbulent part in European politics With the adjoining counties of Bormio and CHIAVENNA, it was seized (1512) from Milan by the GRISONS, which ruled the district—their richest and most populous possession—as subject territory By the beginning of the Thirty Years War the stoutly Catholic people of the Valtellina were ready for revolt against the Grisons, where the majority was Protestant, in 1620 they rose and massacred their Protestant masters These internal troubles immediately assumed European proportions, for the valley commanded the passages between Austria, the Grisons, Venice, and Spanish-held Milan The Valtellina became the pawn of the participants in the Thirty Years War and the victim of their complicated intrigues The massacre of 1620 set off a series of military interventions by Spain, Austria, the pope, the Catholic party of the Grisons, France, and the Protestant majority of the Grisons (largely financed by Venice) The unhappy valley, sacked in turn by these armies, passed under Spanish control in 1627, the passage of Spanish reinforcements through the Valtellina into Germany contributed to several imperialist victories, notably that of Nordlingen (1634) When France fully entered the war on the Protestant side, a French army was once more dispatched (1635) to the Valtellina Henri de ROHAN conquered the valley, but failed to restore it to the full control of his Grisons allies. Incensed, the Grisons Protestants, led by the preacher-soldier George Jenatsch, secretly negotiated with the Catholic powers, who promised to restore the Valtellina to the Grisons if the French were expelled Ill and weakly supported by the French government, Rohan had to evacuate the Grisons (1637) By the Peace of Milan (1639) the Grisons fully recovered the Valtellina, it remained theirs until 1797, when it was incorporated in the Cisalpine Republic It passed (1815) to the Lombardo-Venetian kingdom, thence (1859) to Italy

value, in economics, is usually thought of as market value or value in exchange, which is the value of an article or commodity in terms of other commodities or of services Expressed in terms of money this value is called price Market value is sometimes distinguished from value in use, or the utility of a commodity for satisfying a human want, which is a subjective thing The subjective value of a loaf of bread to a starving man, for instance, is much greater than it is to a man who has just eaten a full meal, but it can be bought at the same price by both men

valve, in engineering, any device for controlling the flow of a gas, a liquid, or loosely packed solid materials (e g, sand or grain) Valves vary in design, construction, size, and function, they are commonly named for their design or construction, e g, butterfly, gate, globe, lift, needle, piston, rocking, sleeve, and slide valves, or for the operation they perform, e g, check valve (which permits flow in a pipe in one direction only) and cutoff, exhaust, intake, safety (see SAFETY VALVE), and throttle valves Valves are operated automatically or by hand or by special mechanism Canal locks and the gates of dams are often classified as valves Valves are employed in the carburetor, Diesel engine, internal-combustion engine, pump, and steam engine In radio, a valve is a device, such as the thermionic valve, to control the flow of electric current (see TUBE, VACUUM OR ELECTRON). In anatomy and physiology the term *valve* is applied to structures such as the *rings of muscles or sphincters at either* end of the STOMACH and to the flaps of tissue which help to control the direction of the flow of blood in the heart and veins and of the lymph in the lymphatic vessels.

Vambery, Arminius or Hermann (vām'bārĭ), Hung *Vámbéry Ármin* (ār'mĭn), 1832–1913, Hungarian Orientalist and traveler In Constantinople (1857–63) he learned several Oriental languages and dialects and then traveled through Armenia and Persia dressed as an Asiatic He was professor of Oriental languages at the Univ of Budapest from 1865 to 1905 and wrote many books on his travels and on Asiatic languages and ethnology. See his autobiography (1884) and his memoirs, *The Story of My Struggles* (1904), both in English

vampire (vām'pīr) bloodsucking ghost Vampires, in ancient belief, were malignant spirits who left their graves at night to suck the blood of living persons The corpse of a vampire was always fresh A vampire could only be disposed of by driving a stake through the heart of the corpse The vampire was believed sometimes to take animal form, as the werewolf (see LYCANTHROPY) The belief in vampires is particularly prevalent among Slavic people See Montague Summers, *Vampire His Kith and Kin* (1929) and *Vampire in Europe* (1929)

vampire bat: see BAT

Van. For names beginning thus and not listed here, see second element, e g, for Van Gogh, see GOGH, VINCENT VAN

Van (van), town (pop 14,266), SE Turkey, near the eastern shore of Lake Van, at an altitude of 5,659 ft Now the trade center of a wheat-growing region, Van was the cradle of ancient Armenian civilization It was the capital of the ancient Vannic kingdom of Urartu or ARARAT Many of the so-called Vannic inscriptions relating to early Armenian history have been found here, and an archaeological expedition in 1939 discovered fortifications and other finds dating from the 8th cent B C Many of the Armenians were massacred by the Turks in 1895 **Lake Van,** area 1,454 sq mi, is the largest in Turkey It is salty and has no apparent outlet

vanadium (vunā'dēum), silver-gray, lustrous metallic element (symbol=V, for physical constants, see ELEMENT, table) It is grouped with niobium (columbium) and tantalum in the periodic system The element does not corrode in the air, but it is combined with oxygen in a number of oxides and with various other elements in generally unstable compounds Some of these are used in the dyeing industry, in ceramics, in making ink, and as catalysts The element is a constituent of various alloys, e g, steels (including high-speed steels) and alloys of copper and aluminum Vanadium does not occur uncombined in nature, but is present in a number of minerals, among them carnotite, descloizite, patronite, and vanadinite, which are found chiefly in Peru, Africa, and the W United States, especially Arizona, Colorado, Idaho, and Wyoming The metal is prepared with difficulty from the dichloride by the action of hydrogen Discovery of the element is generally credited to N G Sefstrom (Swed *Sefström*) in 1830 Previously (1801) A M del Rio had examined a compound of it carefully and concluded the presence in it of a new element which he called erythronium, later, however, he decided that he was mistaken Following Sefstrom's discovery, Berzelius and later H E Roscoe made extensive studies of the element (which Roscoe isolated) and of its compounds

Van Alstyne (văn ăl'stīn), town (pop 1,650), N Texas, S of Sherman, in a rich blackland farming area

Vanbrugh, Sir John (văn'bru, vănbrō'), 1664–1726, English dramatist and architect, son of a merchant of Dutch descent Born in London, Vanbrugh grew up in Chester and may have studied architecture in France In 1690 he was arrested for espionage and spent two years in a French prison, part of the time in the Bastille There he seems to have begun writing plays He was commissioned an army officer in 1686 and after his return from France became (1696) a captain of marines His first play, *The Relapse* (produced in 1696), was a sequel to Colley Cibber's *Love's Last Shift* Vanbrugh's masterpiece, *The Provoked Wife* (1697), had wit and originality, but also the coarseness of the Restoration comedies It was attacked (1698) by Jeremy Collier in his famous diatribe on the immorality of the English stage Two of Vanbrugh's other plays, *The Confederacy* and *The Mistake*, were produced (1705) at the Haymarket theater, which he had built. In 1699 Vanbrugh submitted designs, which were accepted, for Castle Howard, the seat of the earl of Carlisle near York This masterpiece of Palladian architecture opened his career as a successful architect, particularly of elaborate country houses In 1705 he was chosen as the architect of the magnificent palace at BLENHEIM PARK, the gift of the nation to the duke of Marlborough. Because of the enmity of Sarah, the duchess of Marlborough, Vanbrugh was dismissed and the work completed (1724) after his design by his assistant, Nicholas Hawksmoor. Vanbrugh was knighted in 1714, in 1716 he became architect to Greenwich Hospital Other plays of Vanbrugh, chiefly adapted from earlier dramas, include *The Pilgrim* (1700) and *The False Friend* (1702). His collected works were

published (1927) in four volumes. See biography by Laurence Whistler (1938).

Van Buren, Martin, 1782–1862, 8th President of the United States (1837–41), b. Kinderhook, Columbia co., N Y He was reared on his father's farm, was educated at local schools, and after reading law was admitted (1803) to the bar He practiced law successfully and soon became active in politics After he was (1808–13) surrogate of Columbia co, he served (1813–20) in the state senate and became prominent in the state Democratic party Van Buren was made state attorney general in 1815, but because of his mounting rivalry with De Witt CLINTON, he was removed from this post in 1819 Meanwhile he had helped to secure the election (1816) of Daniel D TOMPKINS as Vice President He served (1821–28) in the U S Senate, where he firmly backed the tariffs of 1824 and 1828 His record there was inconsistent as to states' rights, slavery, and internal improvements; thus wavering was later brought up against him by his political enemies Van Buren was far more important as a political leader than as a legislator He had become one of the principal figures of the closely knit political group known as the ALBANY REGENCY and was a leading supporter of William H CRAWFORD, who ran for President in 1824. After the election of John Quincy Adams he gradually swung his power to the support of Andrew JACKSON Elected (1828) governor of New York state, Van Buren resigned in 1829, after Jackson had become President and had appointed him Secretary of State Probably the most influential of Jackson's advisers, Van Buren did not at first take a conspicuous part in the rising hostilities between Vice President John C CALHOUN and the President, although Van Buren was essentially opposed to the doctrine of NULLIFICATION Van Buren further strengthened his position with Jackson by paying courtesy to Peggy Eaton (see O'NEILL, MARGARET) His resignation (1831) as Secretary of State brought about that of the cabinet officers and enabled Jackson to eliminate the supporters of Calhoun from the cabinet Jackson immediately appointed him minister to Great Britain, but the deciding vote of Calhoun in the Senate prevented him from receiving the post Thoroughly in accord with Jackson's policies, Van Buren was nominated for Vice President by the Democratic party in 1832 and was elected to office along with President Jackson When he was Vice President, his tact and statesmanship greatly aided Jackson, and it was largely through Jackson's influence that Van Buren was chosen as Democratic candidate for President in 1836 The WHIG PARTY was still in the formative stage, and there was no well-organized opposition, Van Buren, therefore, was easily swept into office The new President announced his intention of following Jackson's policies, but the Panic of 1837 and the hard times that followed brought Van Buren a great deal of unpopularity To meet the economic crisis, Van Buren, wary of the existing banking system (see BANK OF THE UNITED STATES), backed after 1837 the INDEPENDENT TREASURY SYSTEM Not until 1840, however, did Congress pass measures establishing it He was again the presidential candidate of the Democratic party in 1840, but he was defeated in the "Log Cabin and Hard Cider" campaign The Whigs unfairly painted Van Buren as a man of great wealth who was ignorant of, and disdainful toward, the common man. William Henry HARRISON was elected In 1844 Van Buren was the leading possibility as Democratic candidate for the presidency, but he flatly opposed the annexation of Texas on anti-slavery grounds Although he held a majority in the nominating convention, he was prevented (largely through the efforts of Robert J WALKER) from gaining the nomination by the two-thirds rule Van Buren, bitterly disappointed, saw the Democratic "dark horse" candidate, James K POLK, elected President He remained prominent in Democratic party politics, and helped lead the BARNBURNERS in their violent struggle with the HUNKERS In 1848 he was the presidential candidate of the newly organized FREE-SOIL PARTY and managed to take enough New York votes away from the Democratic candidate, Lewis CASS, to aid Zachary TAYLOR, the Whig party candidate, in winning the election He supported Franklin Pierce in 1852 and James Buchanan in 1856, and in 1860 Van Buren first opposed and then supported Abraham Lincoln. *An Inquiry into the Origin and Course of Political Parties of the United States* (1867) was written by Van Buren, edited by one of his sons, and published posthumously See biography by E M Shepard (1888); H. M. Alexander, *American Talleyrand* (1935)

Van Buren. **1** City (pop. 5,422), co seat of Crawford co, NW Ark, on the Arkansas river and near Fort Smith, laid out c 1838, inc 1843 It ships farm products, chiefly strawberries, from the area, metal products are made here. Near by is a U.S soil conservation project **2** Town (pop. 5,380), NE Maine, on the St John and N of Caribou, inc. 1881. It is a trade center and port of entry in a lumbering and potato-growing area.

Vance, Zebulon Baird (zē'bvdŏlŭn bârd' văns'), 1830–94, Civil War governor of North Carolina (1862–65), b. Buncombe co., N.C. He was educated at Washington College (now defunct) in E Tennessee and the Univ of North Carolina A lawyer and a Whig, he served in the state legislature (1854) and in Congress (1858–61) Opposed to secession until he was informed, in the middle of a pro-Union speech, of Lincoln's call for troops, he promptly urged support of the Confederacy He distinguished himself as colonel of the 26th North Carolina Regiment in the Seven Days battles (June–July, 1862) before assuming the governorship Like Gov Joseph E Brown of Georgia, Vance stymied the attempts of the Confederate government to conscript and dispose of state troops and suspend the writ of habeas corpus He was loyal to the Southern cause, but for him the interests of North Carolina superseded those of the Richmond government After the war he was arrested but soon released He was elected to the U S Senate in 1870, but was denied his seat In 1876 he was again elected governor, but resigned in 1879 to enter the Senate, where he was an important figure and a popular orator until his death See B J Hendrick, *Statesmen of the Lost Cause* (1939)

Vanceburg, town (pop 1,184), co seat of Lewis co, N Ky, on the Ohio and WNW of Ashland, in a farm area, settled c 1796, inc 1827

Van Corlaer, Arent. see VAN CURLER, ARENT

Van Cortlandt, Jacobus (jukō'bus văn kôrt'lund), 1658–1739, American merchant, b New Amsterdam (now New York city), brother of Stephen Van Cortlandt He served (1719) as mayor of New York city He purchased land in Yonkers and became the founder of that branch of the family whose estate was bought (1899) by New York city and converted into Van Cortlandt Park, a tract of 1,132 acres The manor house in the park was built by Jacobus's son, Frederick, in 1748 See L E De Forest, *The Van Cortlandt Family* (1939)

Van Cortlandt, Stephen or **Stephanus** (stĭfā'nus), 1643–1700, American merchant and politician, b New Amsterdam (now New York city), brother of Jacobus Van Cortlandt A successful merchant, he held a number of high political offices In 1677, 1686, and 1687 he served as mayor of New York city He was also a councilor for many years, judge of the admiralty court, associate justice of the provincial supreme court (of which he was appointed chief justice shortly before his death), and commissioner of customs The owner of large tracts of land in and near New York city, he was granted a royal patent in 1697 making his estates a manor and himself lord of the manor The greater part of the estate was an 87,000-acre tract extending for 10 mi on the east bank of the Hudson river just N of Manhattan See L E De Forest, *The Van Cortlandt Family* (1930)

Vancouver, George (văn'kōō'vur), 1758?–1798, English navigator and explorer As a seaman (1772) he sailed on the *Resolution* on Capt James Cook's second voyage around the world and as a midshipman (1776) on Cook's third voyage In 1780 he became a lieutenant and served under Admiral Rodney in the West Indies, taking part in the great victory (1782) over Admiral de Grasse In 1791, a commander, he set out for the northwest coast of America, charged with a double mission—to take over the territory at Nootka Sound which had been assigned to England by the Nootka Convention and to explore and survey the N Pacific coast Vancouver went around the Cape of Good Hope, made new explorations on the coasts of Australia and New Zealand, and then visited Tahiti and the Hawaiian Islands He arrived at the northwest coast of America in 1792 and for three years (1792–94) thoroughly explored and carefully surveyed it In the course of his journeyings he circumnavigated the island now called Vancouver Island in his honor His work capped that of many explorers, British, American, Spanish, and French After arriving (1795) in England again he began to prepare for publication an account of his great voyage, a task not quite completed at his death His brother, with the aid of Peter Puget, who had served as Vancouver's lieutenant, finished the book which was published as *A Voyage of Discovery to the North Pacific Ocean and round the World* (3 vols and an atlas, 1798) Vancouver was charged with brutality by Thomas Pitt, 2d Baron Camelford, who had sailed under him and, proving something of a troublemaker, had to be put off the ship, although Vancouver was firm in command and intolerant of opposition, evidence does not clearly support these accusations Another first-hand account was that of Archibald Menzies, part of his journal was edited in 1923 by C F. Newcombe See biographies by G. H. Anderson (1923) and George Godwin (1931)

Vancouver, city (pop 275,353), SW British Columbia, on Burrard Inlet of the Strait of Georgia, opposite Vancouver Island and just N of the Wash. border It is the largest city in W Canada and its chief Pacific port, with an excellent year-round harbor, and is the major west terminus of trans-Canadian railroads and airways. Regular steamship service connects it with the Orient, Australia, New Zealand, Hawaii, Alaska, and U S. West Coast ports and with Europe by way of the Panama Canal Its location on hills with views of the harbor and the mountains of the Coast Range and its mild winter climate make it an all-year tourist center The city's industries include shipbuilding, fish canning, grain elevators, sugar and oil refineries, textile and knitting mills, and plants making metal, wood, and mineral products It is the seat of the Univ of British Columbia (see BRITISH COLUMBIA, UNIVERSITY OF, and POINT GREY) Stanley Park (900 acres), one of the city's many parks, has a zoo and famous gardens and specimens of native trees The city was settled before 1875 and called Granville, it was incorporated in 1886, after the arrival of the railroad, and named in honor of Capt George Vancouver The metropolitan area includes Point Grey, North Vancouver, and New Westminster See A E Rothery, *Ports of British Columbia* (1943)

Vancouver, city (pop 18,788), co seat of Clark co, SW Wash, on the Columbia river opposite Portland, Oregon, with which it is connected by a bridge Founded by the Hudson's Bay Company as Fort Vancouver in 1825–26 (see MCLOUGHLIN, JOHN) it was the early center for settlement in the state, in 1846 it became an American possession and was incorporated in 1857 It is an important port, shipping grain and lumber and its manufactures of food products, paper, and textiles Power from the near-by Bonneville Dam has stimulated the building of a large aluminum plant During the Second World War the city, with its shipping, industries, and near-by military post, was especially important Several historic monuments, state schools for the blind and the deaf, and a junior college are here

Vancouver Island, area 13,049 sq mi, SW British Columbia, largest island off the west coast of North America On the east it is separated from the mainland by Queen Charlotte Sound and the Strait of Georgia, on the south Juan de Fuca Strait separates it from NW Washington The Pacific coast line is deeply indented and steep, the east coast is less rugged It has a mild climate and abundant rainfall The island is heavily forested and mountainous, with elevations from c 2,000 ft to 7,219 ft at Golden Hinde Mt, in STRATHCONA PROVINCIAL PARK There are many lakes and streams and much lumber and mineral wealth, especially coal The chief industries are mining, lumbering, fishing, fruitgrowing, and canning Victoria, Nanaimo, Alberni, Port Alberni, Courtenay, Cumberland, Duncan, Ladysmith, and Esquimalt, a naval base, are on the island, as well as many small ports and fishing settlements It was visited in the 16th and 17th cent by Spanish and English explorers and in 1778 by Capt James Cook In 1788 John Meares built a fort on NOOTKA SOUND, and in 1792 Capt George Vancouver circumnavigated the island The settlement of the dispute over Oregon (1846) confirmed British sovereignty over the region, and the island was made a crown colony, the Hudson's Bay Company was encouraged to promote settlement In 1866 it became a part of British Columbia

Van Curler or **Van Corlaer, Arent** (ä'runt văn kûr'lur, văn kôr'lär), 1619–67, Dutch colonist He came (1637) to New Netherland to assist the commissary of "Reuselaerswyck," estate of Kiliaen VAN RENSSELAER, and from 1642 to 1644 was administrator He made staunch friends of the Indians, and on several occasions he successfully interposed for the colonists Purchasing a tract of land on the Mohawk, Van Curler founded (1662) Schenectady there He was drowned in Lake Champlain on his way to Canada

Vandal, Albert, comte (alběr' kôt' vädal'), 1853–1910, French historian He is particularly known for his authoritative and lucid studies on Napoleon I, notably *L'Avènement de Bonaparte* [Bonaparte's rise to power] (2 vols, 1902–7) and *Napoléon et Alexandre I* (3 vols, 1891–96) Vandal also wrote on French diplomatic relations with the Orient in the 18th cent

Vandalia (vănda'lyu) **1** City (pop 5,288), co seat of Fayette co, S central Ill, on the Kaskaskia river and SSE of Springfield, in a farm and oil area, inc 1821, It was the second capital of Illinois, 1820–39, and was on the National Road Lincoln and Douglas served in the legislature here Points of interest include the old capitol (1836), which is now a state memorial, the old Presbyterian church, and the Lincoln collection in the library A state penal farm lies to the north **2** City (pop 2,672), NE Mo, SW of Hannibal, laid out 1871, inc 1874 It is in a region of farms and clay pits, and fire-clay products are made.

Vandals (văn'duls), ancient Germanic tribe Along with other Germanic peoples, the Vandals were settled in the valley of the Oder from about the 5th cent B C They appeared in Pannonia and Dacia in the 3d cent A D, apparently under imperial aegis At the beginning of the 5th cent, the Vandals began a migration which was to take them farther than that of any other Germanic people They invaded Gaul (406), where the Franks re-

fused them permission to settle They then moved into Spain After meeting opposition there, they concluded a peace with the Roman emperor, Honorius, who recognized their right to the land, subject to the imperial throne During their stay in Spain, they continued fighting the Romans, but were able to develop their maritime power In 428 Gunderic, the Vandal king, died and was succeeded by his brother, Gaiseric, whose leadership carried the tribe to its greatest heights. Taking advantage of unsettled conditions in Africa, the Vandals crossed to that continent and defeated the Roman general Boniface The tradition that they came at Boniface's invitation is probably false In 435 the Vandals took Carthage and controlled most of the province of Africa Their vessels preyed upon other ships in the Mediterranean, and they sent plundering expeditions to Sicily and S Italy In 442 Valentinian III recognized Gaiseric as an independent ruler This marks the end of the Vandal migration The next years were spent in consolidating and building a powerful kingdom The Vandals seized the remainder of the African province Their ships ravaged the coasts of Sicily and Italy Their fleet controlled the Mediterranean, and the Eastern Empire began to feel their power In 455 Rome was sacked by Gaiseric's troops, and Empress Eudoxia and her daughter were carried away as hostages The Vandals were Arian Christians and harshly persecuted Orthodox Christianity This was especially true under Gaiseric and his son, Hunneric Under Hilderic more toleration was practiced. Marjorian and Leo I made attempts to destroy Vandal power, but Zeno was forced to make peace (476) with Gaiseric The Vandal king died in 477, and under his successors a rapid decline set in In 533 Justinian sent an army under Belisarius, which after meeting weak resistance captured Carthage, and the Vandals as a nation ceased to exist The Vandals were not an artistic people and left no monuments of their reign The modern use of their name is probably a survival of the fear and hatred felt toward them by African Catholics and a reminiscence of the sack of Rome See J. B. Bury, *The Invasion of Europe by the Barbarians* (1928)

Van de Graaff, Robert Jemison (văn' dĭ grăf"), 1901–, American physicist, b Tuscaloosa, Ala, grad Univ of Alabama (B S , 1922), Ph D Oxford Univ , 1928 He was research associate at Massachusetts Institute of Technology (1931–34) and associate professor (from 1934) He developed an electrostatic generator by means of which nuclear research was extended

Vandegrift, Alexander Archer (văn'dugrĭft), 1887–, American general, commandant of the U S Marine Corps (1944–47), b Charlottesville, Va He attended the Univ. of Virginia and was commissioned in the marines in 1909 He advanced through the grades, and in the Second World War he commanded (1942) the troops on Guadalcanal He succeeded Thomas Holcomb as commandant of the marines and was promoted (1945) general In 1949 he retired from active duty

Vandenberg, Arthur Hendrick, 1884–, U S Senator (1928–), b Grand Rapids, Mich He was associated with the Grand Rapids *Herald* for more than 20 years before being appointed to fill a Senate vacancy in 1928 Remaining in the upper house, he became an influential Republican leader In 1939 he led the fight against revising the Neutrality Act and was generally considered an isolationist, but by 1945 his views on foreign affairs underwent change As chairman (1946–) of the Senate Committee on Foreign Relations, Vandenberg helped direct (1948) the passage of the European Recovery Program He is the author of several studies of Alexander Hamilton

Vandenberg, Hoyt Sanford, 1899–, American general, chief of staff of the U S Air Force (1948–), b Milwaukee, Wis , grad West Point, 1923 He became attached to the Army Air Forces after 1923 and was promoted through the grades He was (1940–41) assistant chief of staff of the Army Air Forces and served (1942–43) in the Second World War with U S air units in the campaigns in North Africa. He was (1943–47) deputy chief of the air staff and was promoted general before he became chief of staff He is a nephew of Arthur H Vandenberg

Van der. For names beginning thus and not listed here, see following element, e g , for Van der Goes, see Goes, Hugo van der

Vanderbilt, Cornelius, 1794–1877, American railroad magnate, b Staten Island, N Y As a boy he ferried freight and passengers from Staten Island to Manhattan, and he gained control of most of the ferry lines and other short lines in the vicinity of New York city He further expanded his holdings and came to be known as Commodore Vanderbilt In 1851 when the gold rush to California was at its height, Vanderbilt opened a shipping line from the East Coast to California, including land transit across Nicaragua along the route for the proposed Nicaragua Canal. In Central America he came to be a violent opponent of the filibuster William Walker. In the Crimean War, Vanderbilt operated ships to European ports. After the outbreak of the Civil War, he entered the railroad field, and by 1867 he had gained control of the New York Central Railroad. Although his efforts to gain control of the Erie RR proved unsuccessful, Vanderbilt, ruthless and domineering, vastly expanded his railroad empire and by 1873 connected Chicago with New York by rail. He amassed a great fortune and gave $1,000,000 to found Vanderbilt University See biographies by A D H Smith (1927) and W J. Lane (1942)

A son, **William Henry Vanderbilt**, 1821–85, b. New Brunswick, N J , succeeded Cornelius Vanderbilt as president of the New York Central RR and augmented the family fortune He gave liberally to Vanderbilt Univ , to the College of Physicians and Surgeons (now part of Columbia Univ), and to various other institutions **Cornelius Vanderbilt**, 1843–99, b Staten Island, N Y , was a son of William H Vanderbilt He took over the family holdings and helped to establish in New York city the Vanderbilt Clinic and the Cathedral of St John the Divine Another son of William H Vanderbilt was **William Kissam Vanderbilt**, 1849–1920, b Staten Island, who helped establish the Vanderbilt Clinic He was a yachtsman, and his wife was a well-known society leader A fourth son of William H Vanderbilt was **George Washington Vanderbilt**, 1862–1914, b Staten Island, N Y He engaged in numerous philanthropies, giving to agricultural research and donating land for the establishment of Teachers College, Columbia Univ He also built the estate "Biltmore" near Asheville, N.C One of the sons of Cornelius Vanderbilt the younger was **Alfred Gwynne Vanderbilt**, 1877–1915, b New York city He was interested in breeding fine horses He went down on the *Lusitania* One of the sons of William K Vanderbilt, **Harold Sterling Vanderbilt**, 1884–, b Suffolk co , L I , N Y , gained even more note as a sportsman He won the *America's* Cup yachting races three times

Vanderbilt, borough (pop 1,063), Fayette co , SW Pa , NE of Uniontown

Vanderbilt University, at Nashville, Tenn ; nonsectarian, coeducational, chartered 1872 by Methodists, rechartered 1873, opened 1875 with aid from Cornelius Vanderbilt Besides an arts and science college, it has schools of engineering, law, nursing, religion, and medicine A geology museum, a social science research and training institute, and a joint library with George Peabody and Scarritt colleges are here Under the administration (1893–1937) of Chancellor James H Kirkland, Vanderbilt became a leading Southern school Among its alumni are many well-known Southern writers, including Allen Tate, Robert Penn Warren, and John Crowe Ransom The *Fugitive*, an influential magazine of verse, was published (1922–25) by a group of faculty and alumni See Edwin Mims, *The History of Vanderbilt University* (1947)

Van der Goes, Hugo. see Goes, Hugo van der

Vandergrift, industrial borough (pop 10,725), SW Pa , on the Kiskiminetas river and NE of Pittsburgh, laid out 1895, inc 1897. It has steelworks and ironworks

Vanderlyn, John (văn'durlĭn), 1775?–1852, American portrait and historical painter, b Kingston, N Y Under the patronage of Aaron Burr he studied with Gilbert Stuart and in Paris From 1796 to 1815 much of his life was spent in Paris and in Rome He achieved a high reputation with such compositions as *Marius amid the Ruins at Carthage* and *Ariadne* (Pa Acad of the Fine Arts) and was able to assist his former patron when Burr fled to Paris in disgrace Vanderlyn returned to America in 1815 His ambitious historical compositions found no market, and his admirable portraits were so slowly executed that few had the patience to pose for him He died impoverished and embittered Late in life he was commissioned to paint the *Landing of Columbus* (Capitol, Washington, D C), but was obliged to employ assistants to execute it A self-portrait is in the Metropolitan Museum The Senate House Museum, Kingston, N Y , has 28 paintings attributed to Vanderlyn

Vanderlyn, Pieter (pē'tûr), c 1687–1778, American colonial painter, b Holland He reached New York c 1718 and became a portrait painter and land speculator and practiced other trades, settling in Kingston, N Y The portrait most certainly ascribed to him is that of Mrs Petrus Vas, his mother-in-law. John Vanderlyn was his grandson.

Van der Meer, Jan or **Johannes,** Dutch painter of Delft see Vermeer, Jan or Johannes

Van der Meer, Jan, two Dutch painters of Haarlem see Meer, Jan van der

Vander Meer, John Samuel, 1914–, American baseball player, b Prospect Park, N.J In 1937 he was signed by the Cincinnati Reds of the National League The next year he established an outstanding major-league record by pitching two consecutive no-hit, no-run games, the first against the Boston Braves and the second against the Brooklyn Dodgers

Van der Stappen, Charles · see Stappen.

Van der Stucken, Frank, 1858–1929, American conductor, b Fredericksburg, Texas, educated in Europe. He was conductor (1895–1907) of the Cincinnati Orchestra and was director (1897–1901) of the Cincinnati College of Music. He was the first conductor to present a full program of American works in the United States (New York, 1885) and abroad (Paris exposition, 1889).

Vandervelde, Émile (āmēl' vändĕrvĕl'dŭ), 1866–1938, Belgian Socialist leader and statesman. He studied for the law at the Univ of Brussels, was elected to parliament in 1894, and was a member of many cabinets, notably as minister of justice (1918–21), foreign minister (1925–27), and vice premier and minister of public health (1936–37) He resigned in protest when the cabinet, headed by Paul van Zeeland, recognized the Franco government in the Spanish civil war One of the most influential figures in Belgian politics and in the European labor movement, Vandervelde also taught political economy at the Univ of Brussels from 1924 to his death and wrote several works on political science.

Van der Waals, Johannes Diderik: see Waals.

Van der Weyden, Roger: see Weyden.

Van Devanter, Willis (văn" dĕvăn'tur), 1859–1941, American jurist, Associate Justice of the Supreme Court (1910–37), b Marion, Ind , grad Cincinnati Law School, 1881 He practiced law (1881–84) in Indiana and, after he removed to Wyoming, became (1889) chief justice of the Wyoming supreme court He had a prominent role in Republican party politics and served as Assistant Attorney General (1897–1903) and U S circuit court judge (1903–10) Appointed to the Supreme Court, Van Devanter sternly adhered to the letter of the U S Constitution In 1938 he returned to judicial service as a U S district court judge

Van de Velde or **Vandevelde** (van"duvĕl'dŭ), 17th-century Dutch family of artists **Jan Van de Velde** (yän), 1593?–c 1641, was a wood engraver, especially of portraits His brother, **Willem Van de Velde** (vĭ'lŭm), the elder, c 1611–1693, marine painter, accompanied the Dutch fleet and depicted its victories over the English He settled in England in 1673 and executed many works preserved at Hampton Court, he is also well represented in Amsterdam His son **Willem Van de Velde,** the younger, 1633–1707, the most celebrated of the family, also was a marine painter He was with his father in the fleet and in England and was commissioned by Charles II to portray naval engagements, being court painter from 1677 Many English and continental collections include his pictures *Cannon Shot* (Amsterdam) is a good example His brother, **Adrian Van de Velde** (a'drēan), 1636?–1672, painter of animals and etcher, was often employed by landscapists to paint the animals in their pictures He also executed many independent works, and as an etcher he stands among the foremost of the Dutch school

Van Deyssel, Lodewijk · see Alberdingk Thijm, Karel

Van Diemen's Land, Australia · see Tasmania

Van Dine, S. S see Wright, Willard Huntington

Van Doren, Carl (Carl Clinton Van Doren), 1885–, American editor and author, b Hope, Vermilion co , Ill , grad Univ of Illinois, 1907, Ph D Columbia, 1911 He lectured at Columbia from 1911 and was an associate in English until 1930 He was literary editor of the *Nation* (1919–22), managing editor of *The Cambridge History of American Literature* (1917–21) and of the *Century Magazine* (1922–25), and editor of the Literary Guild (1926–34) His writings include critical works, such as *Many Minds* (1924), *American Literature an Introduction* (1933), a study of Sinclair Lewis (1933), and *The American Novel, 1789–1939* (1940); fiction, such as *The Ninth Wave* (1926), historical works, such as his *Secret History of the American Revolution* (1941) and *The Great Rehearsal* (1948), and biographies, such as those of Thomas Love Peacock (1911), Jonathan Swift (1930), and Benjamin Franklin (1938, awarded the Pulitzer Prize for biography, 1939) A volume of selected writings appeared in 1945 See his autobiography, *Three Worlds* (1935)

Van Doren, Dorothy Graffe · see Van Doren, Mark

Van Doren, Irita Bradford, 1891–, American critic, b Birmingham, Ala , grad Florida State College for Women (B A , 1908, M A , 1909) She was on the staff (1919–24) of the *Nation*, and has since been associate editor, then literary editor of the New York *Herald Tribune* She was formerly the wife of Carl Van Doren.

Van Doren, Mark, 1894–, American poet and critic, b Hope, Vermilion co , Ill , grad Univ of Illinois, 1914, Ph.D Columbia, 1920 He followed his brother, Carl Van Doren, as assistant professor of English at Columbia, he became a professor in 1942 He was also on the staff of the *Nation* (1924–28, 1935–38) With Carl Van Doren he wrote *American and British Literature since 1890* (rev. ed , 1939) He has written critical studies of various authors, including John Dryden (1920) and Nathaniel Hawthorne (1949), and compiled several anthologies, including *Anthology of World Poetry* (rev. ed, 1936). With Theodore Spencer he wrote *Studies of Metaphysical Poetry* (1939), and he collected his own lectures on poetry in *The Noble Voice* (1946) Among his volumes of poems are *Collected Poems, 1922–1938* (1939; awarded a Pulitzer Prize, 1940), *The Seven Sleepers and Other Poems* (1944), and

The Country Year (1946). He has also written several novels. He wrote the influential *Liberal Education* (1943) and has taken part in many educational radio programs, among them the series known as "Invitation to Learning." His wife is **Dorothy Graffe Van Doren,** 1896–, writer and editor, b San Francisco, grad Barnard, 1918 She was associate editor (1926–36) of the *Nation* and was with the U S Office of War Information (1942–45). She has written short stories and novels, of which the best known is *Dacey Hamilton* (1942)

Van Dorn, Earl, 1820–63, Confederate general, b Port Gibson, Miss , grad. West Point, 1842 He served in the Mexican War and in the Indian wars in Florida and on the Texas frontier On resigning from the U S army (Jan , 1861), he became a colonel in the Confederate army and was assigned to Texas, where most of the Union troops surrendered to him. In Sept , 1861, he was transferred to Virginia and was promoted major general Van Dorn took command of the trans-Mississippi district in Jan , 1862, but after his defeat at Pea Ridge in March, he was transferred to the Army of the Mississippi with headquarters in Vicksburg As a result of his defeat by Rosecrans at Corinth (Oct , 1862), he was superseded by Gen J C Pemberton and placed in command of the cavalry At Holly Springs (Dec , 1862) he led a successful raid on Grant's stores, delaying the Union campaign against Vicksburg In May, 1863, at Spring Hill, Tenn , Van Dorn was murdered by Dr. Peters, a personal enemy

Van Druten, John William (văn drōō'tŭn), 1901–, English dramatist His play of English public school life, *Young Woodley* (1925), was banned for two years in England and later was produced there after the success of its presentation in the United States His other plays include *There's Always Juliet* (1931), *The Distaff Side* (1933), *Old Acquaintance* (1940), *The Voice of the Turtle* (1943), successful also as a moving picture, *I Remember Mama* (1944), dramatization of short stories by Kathryn Forbes, and *The Druid Circle* (1947) He lives in the United States See his autobiographical *The Way to the Present* (1938)

Van Dyck or **Vandyke, Sir Anthony** (both văn dīk'), 1599–1641, Flemish portrait and religious painter and etcher, b Antwerp, son of a well-to-do merchant He entered the studio of Rubens at an early age, became his favorite pupil, and was admitted to the painters' guild of Antwerp in 1618 By 1620 he enjoyed a high reputation and was summoned to England by James I, whose portrait he painted The next five years were spent in Italy, where he studied the works of the great Venetians and painted a series of portraits of the Genoese nobility These pictures, still in the palaces of the Doria, Balbi, Durazzo, and Grimaldi families, show Van Dyck already in possession of his extraordinary gift for aristocratic portraiture Outstanding are certain equestrian portraits, e g , of Antonio Giulio Brignole (Genoa), and the portrait of Cardinal Bentivoglio (Pitti Palace, Florence) Van Dyck returned to Antwerp in 1627 There he rivaled Rubens in popularity and painted a famous series of religious pictures, including *St Martin Dividing His Cloak* (National Gall , London), *Crucifixion* (cathedral, Mechlin), and *Elevation of the Cross* (Courtral) Also of this period are his portraits of Princess Louisa of Tassis (Vienna) and Philip Le Roy (Wallace Coll , London) Van Dyck conferred upon his sitters an elegance, dignity, and refinement all his own and was sought after by many of the crowned heads of Europe In 1632 he was invited to England by Charles I There he was made court painter, was knighted, and was overwhelmed with commissions During the remaining nine years of his life he painted over 350 portraits in England, his early death is sometimes attributed to overwork He amassed a large fortune and lived in great luxury, keeping various mistresses Assistants were employed to enlarge his little black-and-white sketches and to paint the drapery from clothes lent by the sitter With this preparation he was enabled to complete his pictures in a short time From 1634 to 1635 he spent some time in Antwerp, where he painted his masterly *Deposition* (Antwerp) and *Adoration of the Shepherds* (Termonde), as well as some of his best portraits, including that of Helen Fourment (Leningrad). He married, c 1640, Lady Mary Ruthven The work of Van Dyck differs radically from that of his great master, Rubens, although similar in technique The color is much more restrained, and in place of boisterous movement there is a tender melancholy The refinement of sentiment in his portraits is matched by delicacy of color and handling Nevertheless his best work has an essential vigor which the English portrait painters strove in vain to surpass, and he set a standard for craftsmanship hitherto unknown in that country. Van Dyck is well represented in most of the principal European galleries In America splendid examples are in the Art Institute of Chicago, the Museum of Fine Arts and the Gardner Museum, Boston, the Widener Collection, Philadelphia, the Frick Collection, New York, the National Gallery of Art, Washington, D.C., and many others. The Metropolitan Museum has 12, including portraits of James Stuart, the Marchesa Durazzo, and Baron Le Roy. Van Dyck produced a fine series of etched portraits known as the *Iconography* The British Museum has an excellent collection of these prints. See studies by Lionel Cust (1905, 1911) and E V Lucas (1926), M. Knoedler and Company, *The Portrait Etchings of Anthony Van Dyck* (1934)

Van Dyck, Cornelius Van Alen (văn dīk'), 1818–95, American missionary, b Kinderhook, N Y , grad Jefferson Medical College, Philadelphia, 1839 He was especially noted for his mastery of Arabic In 1839 he went to Syria as a medical missionary under the American Board In 1846 he was ordained in the Congregational ministry Besides being the author of textbooks in Arabic and the translator of scientific and religious writings, he translated the Bible into Arabic, completing the work begun by Eli Smith.

Vandyke, Sir Anthony see Van Dyck, Sir Anthony

van Dyke, Henry, 1852–1933, American clergyman, educator, and author, b Germantown, Pa , grad Princeton, 1873, and Princeton Theological Seminary, 1874 He was pastor of the Brick Presbyterian Church, New York (1883–99), professor of English literature at Princeton (1899–1923), U S minister to the Netherlands (1913–16), and a chaplain in the navy (1917–18) Among his popular inspirational writings is the Christmas story *The Other Wise Man* (1896) His other works include poems, essays in *Little Rivers* (1895) and *Fisherman's Luck* (1899), *The Unknown Quantity* (1912), and his translation from Novalis, *The Blue Flower* (1902). See biography by his son, Tertius van Dyke (1935)

Van Dyke, John Charles, 1856–1932, American art critic, b New Brunswick, N J , studied art abroad He was professor of the history of art (1889–1932) at Rutgers Univ and librarian (1878–1932) of the Sage Library, New Brunswick Among his many contributions to the literature of art are *Rembrandt and His School* (1923) and *Rembrandt Drawings and Etchings* (1927), in which he questioned the authenticity of the majority of the works attributed to that master Other writings include *History of Painting* (1894), *The Desert* (1901), and *What Is Art?* (1910)

Vane, Sir Henry, 1589–1655, English courtier, father of the Puritan leader, Sir Henry Vane, the younger He gained the favor of James I, was knighted in 1611, and acquired wealth by the purchase of profitable offices over many years He served in every Parliament from 1614 to 1640 and was successively made comptroller (1629) and treasurer (1639) of the household and secretary of state (1640) He served Charles I on diplomatic missions to Holland (1629–30) and to Gustavus Adolphus (1631) Vane's appointment as secretary of state was opposed by Strafford In the latter's trial, Vane, with genuine or pretended reluctance, testified that Strafford had advocated the use of the Irish army against Parliament He lost his political influence Dismissed from office, he joined the parliamentary opposition and served as member of the committee for both kingdoms and as lord lieutenant of Durham (1642) He never became important in the new government

Vane, Sir Henry, 1613–62, English statesman and author, a consistent friend of moderation and religious toleration during the Puritan Revolution and perhaps the ablest administrator produced by that movement Early converted to Puritanism, he studied at Oxford and abroad and served briefly in the English embassy in Vienna He went to New England in 1635 and became governor of Massachusetts in 1636 His religious tenets and his support of Anne Hutchinson embroiled him in political quarrels, especially with John Winthrop, and he returned to England (1637) His governorship was notable chiefly for the founding of Harvard College and the start of the Pequot War He was made joint treasurer of the navy (1639–41), was knighted in 1640, and sat in the Short and Long Parliaments Vane was both criticized and defended for allowing a paper of his father's to be copied by John Pym, who later used it against Strafford at his trial Vane opposed episcopal government and was a leader of the war party in 1642 As a commissioner, he succeeded in getting the Solemn League and Covenant with Scotland He opposed an established Presbyterian church, and when the Presbyterians gained control (1646), he lost the party leadership he had held since Pym's death He desired the continuation of monarchy and the constitution and even a "moderate episcopacy" and was one of the committee which negotiated vainly with Charles I (1648). Vane had no part in the king's execution. He was made a member of the council of state (1649), served on several commissions under the Commonwealth, and was a close friend of Oliver Cromwell until Cromwell defeated Vane's proposal for the reform of the parliamentary electoral system (1653) He was jailed after writing the pamphlet *A Healing Question* (1656), but was released Vane sat in Parliament under Richard Cromwell but, at the failure of Richard's government, supported the restoration of the Long Parliament. Suspected, probably without reason, of conspiring with Gen John Lambert to establish a dictatorship, he became generally unpopular In 1662 he was convicted of treason by the Restoration government and executed. His numerous writings on religion and government include *The Retired Man's Meditations* (1655) and the pamphlets in *The Trial of Sir Henry Vane, Kt* (1662) See biographies by J K Hosmer (1888), W W Ireland (1905), H M King (1909), and John Willcock (1913)

Vanern, Swed. *Vänern* (vĕ'nûrn), lake, area 2,141 sq mi , SW Sweden, fed by the Klar river and drained by the Gota into the Kattegat It is the third lake in size in Europe and the largest in Sweden

Vanersborg, Swed *Vänersborg* (vĕnursbôr'yû), city (pop 14,594), SW Sweden, on the south shore of Vanern lake It produces bricks, matches, shoes, and machines

Van Gogh, Vincent see Gogh, Vincent van

Van Heemskerck, Maarten see Heemskerck

Van Hise, Charles Richard (văn hīz'), 1857–1918, American geologist, b Fulton Rock co., Wis , grad Univ of Wisconsin, 1879 He taught at the Univ of Wisconsin from 1879 and was president from 1903 A pioneer in microscopic petrology, he served the U S Geological Survey from 1883 His works include *A Treatise on Metamorphism* (1904), *The Conservation of Natural Resources in the United States* (1910), and *The Geology of the Lake Superior Region* (1911) See memoir by T C Chamberlin (1924)

Van Horn (văn' hôrn), unincorporated town (pop c 1,250), co seat of Culberson co , W Texas, in the mountains SE of El Paso Near the site of an old stagecoach stop, Van Horn is a shipping point on the railroad and at a highway junction in a country of cattle and sheep ranches

Van Horne, Sir William Cornelius, 1843–1915, president (1888–99) of the Canadian Pacific Railway, b near Joliet, Ill After positions with railroads in the United States, he became (1882) general manager of the Canadian Pacific Railway, of which he was later vice president (1884–88), president (1888–99), and president of the board of directors (1899–1910) A naturalized citizen of Canada, Van Horne was knighted (1894) for his services to Canadian transportation See biography by Walter Vaughan (new ed , 1926)

Vanish (vunĭ'u), one who had a foreign wife Esra 10 36

vanilla, any plant of the genus *Vanilla*, tropical American climbing orchids cultivated also in the tropical Old World for the fruits which yield vanilla, a popular flavoring Vanilla was cultivated by the Aztecs as a flavoring for their chocolate The common or Mexican vanilla (*Vanilla fragrans* or *planifolia*), with thick stems and leaves and aerial roots, is propagated by cuttings and usually trained on posts or trees Where the natural pollinating agents—commonly hummingbirds—are lacking, the flowers are pollinated by hand Long, slender pods (capsules) are produced, which are picked while unripe and are subjected to a curing process necessary to bring out the flavor The capsule or "bean" is occasionally utilized for flavoring, but usually an extract is made with alcohol A synthetic vanilla is now widely used, the flavor has been obtained from several substitutes, such as clove oil and coal tar Vanilla vines are sometimes grown in greenhouses for ornament

Vanini, Lucilio (lōō'chē'lyō vänē'nē), c 1585–1619, Italian philosopher, who gave himself the name Julius Caesar A freethinker, he was persecuted for his ideas and driven from one European country to another He was finally condemned and burned at the stake at Toulouse, France, for atheism and witchcraft A part of the movement to break with the dogmas of scholasticism and the authority of Aristotle, Vanini made a courageous contribution to the foundations of a new philosophy

Vankleek Hill (văn"klēk'), town (pop 1,435), SE Ont , E of Ottawa It has lumber and flour mills and pump manufacturing

Van Lear, town (pop 1,723), E Ky., S of Ashland and on the Levisa Fork of the Big Sandy, in a farm, coal, and oil region

Vanloo (vänlō'), family of French painters, the first being **Jacques Vanloo** (zhäk), 1614–70, whose portrait of Corneille père hangs in the Louvre His grandson, **Jean Baptiste Vanloo** (zhäⁿ bätēstⁿ'), 1684–1745, became a popular portrait painter and a member of the Académie royale de Peinture et de Sculpture He painted the portraits of Louis XV and Marie Leszczynska and, in London, of Colley Cibber, Sir Robert Walpole, and others He was also known for his historical paintings and frescoes His brother, **Carle Vanloo** (kärl), 1705–65, whose full name was Charles André Vanloo, enjoyed an international reputation as a decorative painter His *Marriage of the Virgin* and *Halt during a Hunt* (both Louvre) are good examples of his work The family tradition was carried on by two sons of Jean Baptiste

van Loon, Hendrik Willem (văn lōn'), 1882–1944, American author and journalist, b Rotterdam, Netherlands. He came to the United States in 1903 and studied at Harvard and Cornell (B A., 1905). He was an Associated Press correspondent in Rus-

sia during the revolutionary outbreak of 1905 and—after studying at Munich (Ph.D., 1911)—in Belgium at the beginning of the First World War He taught history at various colleges and was associate editor of the Baltimore *Sun* in 1923–24 His numerous histories are readable and popular, *Story of Mankind* (1921), illustrated with his highly individualistic drawings, was a best seller, as was *Van Loon's Geography* (1932) Other works are *The Story of the Bible* (1923), *R v R · the Life and Times of Rembrandt van Ryn* (1931), *Ships* (1935), *The Arts* (1937), and *Simón Bolívar* (1943) In 1942 the Order of Lion of the Netherlands was conferred on him for his aid to Holland during the German occupation. See his autobiographical fragment, *Report to St Peter* (1947)

Vannes (văn), city (pop 23,510), capital of Morbihan dept, NW France, in Brittany, near Quiberon Bay Dating from pre-Roman times, it is the center of a region noted for its megalithic monuments and has an exceptionally fine museum of Celtic and Roman antiquities The union of Brittany and the French crown was proclaimed here in 1532 Parts of the ramparts enclosing the inner city date from the 13th cent

Vannucci, Pietro, see PERUGINO.

Vanport, former town, NW Oregon, just N of Portland, on the Columbia opposite Vancouver, Wash Built (1942–43) to house shipyard workers, it had a population of 42,000 during the Second World War After 1945 it became a low-cost housing project On May 30, 1948, the town (estimated pop 18,500) was submerged when an embankment on the Columbia river gave way under pressure of floodwaters, causing some loss of life and destroying the town

Van Rensselaer, Kiliaen (văn rĕn'sŭlur, rĕn'sŭlĕr"), c 1585–1644, Dutch merchant and patroon, b Amsterdam He was a wealthy diamond and pearl merchant and helped found (1621) the Dutch West India Company, later becoming one of the directors He was one of the first to develop a patroonship in New Netherland, having purchased a vast tract of land near the present Albany It was called Rensselaerswyck and comprised a large part of the present Albany, Rensselaer, and Columbia counties He sent his cousin Arent VAN CURLER to manage the estate, which was the largest of its kind His first name is also spelled Killian See Maunsell Van Rensselaer, *Annals of the Van Rensselaers in the United States* (1888), biography by Dunkin H Sill (1926)

Van Rensselaer, Martha, 1864–1932, home economist and pioneer in the development of extension work among rural women, b Randolph, N Y She served as school commissioner of Cattaraugus co, N.Y, and in 1900 joined the faculty of the college of agriculture of Cornell Univ to give extension courses in home economics These courses, with others, developed into New York State College of Home Economics (1925), of which she was a director She was a member (1918–19) of the executive staff of the U S Food Administration, a member of the Commission for Relief in Belgium, and assistant director (1929–32) of the White House conference on child health and protection She was household editor of the *Delineator* (1920–26) Her published works include bulletins and reports and magazine articles and editorials

Van Rensselaer, Stephen, 1764–1839, American statesman and soldier, called the Patroon, b New York city, grad Harvard, 1782. He spent some years managing his property, which included most of the present Albany and Rensselaer counties He became (1786) a major in the state militia and then served as a major general from 1801 until his death. He was twice elected (1789, 1790) as a Federalist to the New York state assembly and then served (1791–95) in the state senate Rensselaer was (1795–1801) lieutenant governor of New York under John Jay He was a delegate to the constitutional convention of 1801 and again served (1807–17) in the state legislature. Appointed (1810) to the commission for choosing a route for the Erie Canal, he later had much to do with its construction In the War of 1812 he commanded the state militia and was badly defeated in an attack on Queenstown Heights in Canada, he thereupon resigned his command and returned to Albany. Van Rensselaer founded (1824) a technical school at Troy, N.Y., which later (1826) was incorporated as Rensselaer Polytechnic Institute Van Rensselaer was a U S Representative from 1823 to 1829 He was responsible for the publication of *A Geological and Agricultural Survey of the District Adjoining the Erie Canal* (1824)

Van Schaick, Goose (gō'su văn skĭk'), 1736–89, American Revolutionary soldier, b Albany, N Y He fought (1760–62) in the last of the French and Indian Wars, becoming lieutenant colonel of a New York regiment. As a colonel in the Revolution, he led (1779) a successful expedition against the Onondaga Indians He succeeded Gen. James Clinton in command of forces completing the Sullivan-Clinton campaign in the Mohawk valley and was brevetted brigadier general in 1783.

Vansittart, Nicholas, 1st Baron Bexley (văn'sĭtărt), 1766–1851, British chancellor of the exchequer. He became a member of Parliament in 1796, was secretary of Ireland for a short time in 1804–5, and was appointed chancellor in 1812. He held office for the unusual period of 12 years, during which he devised new methods of taxation

Vansittart, Robert Gilbert Vansittart, 1st Baron, 1881–, British diplomat He began his diplomatic career in 1902 and served in Paris, Teheran, Cairo, Stockholm, and again in Paris until 1920, when he became Lord Curzon's private secretary He was made permanent undersecretary of state for foreign affairs in 1930 and was inconspicuously influential in that capacity until 1938, advocating a pro-French, anti-German policy He is thought to have helped frame the proposed Hoare-Laval pact of 1935, which was decried as Fascist appeasement Vansittart served as chief diplomatic adviser to the foreign secretary from 1938 to 1941, when he retired from that position and was raised to the peerage He continued throughout the war to advocate a "hard peace" for Germany

Van Slyke, Donald Dexter (văn slĭk'), 1883–, American biological chemist, b Pike, N Y, grad Univ of Michigan (B A, 1905, Ph D, 1907) On the staff of the Rockefeller Institute for Medical Research from 1907 he became a member in 1921 He is known for his work in the chemistry of proteins and amino acids, in blood analysis, in the action of enzymes, and in diabetes and nephritis

van't Hoff, Jacobus Hendricus (yäkō'bus hĕndrē'kus vant hôf'), 1852–1911, Dutch physical chemist He taught at the universities of Amsterdam (1878–96) and Berlin (from 1896) For his work in chemical dynamics and osmotic electrical conductivity (which led to Arrhenius's theory of electrolytic dissociation or ionization) he received the first (1901) Nobel Prize in Chemistry His studies in molecular structure laid the foundation of stereochemistry

Van Twiller, Wouter, b 1606, Dutch director general of New Netherland Succeeding Peter MINUIT, he arrived in New Amsterdam (1633) with nothing to recommend him except being the nephew of Kiliaen VAN RENSSELAER Kind to the Indians but blundering with his opponents, he left to Willem KIEFT (1637) a colony fraught with confusion After Kiliaen Van Rensselaer's death, Van Twiller managed the estate

Van Tyne, Claude Halstead, 1869–1930, American historian, b Tecumseh, Mich, grad. Univ of Michigan, 1896, Ph D, Univ of Pennsylvania, 1900 An assistant professor at the Univ of Michigan (1903–6) and a professor there from 1906 to his death, he became head of the department of history in 1911 Among his books are *The Loyalists in the American Revolution* (1902), *The American Revolution, 1776–1783* ("American Nation" series, 1905), *The Causes of the War of Independence* (1922); *India in Ferment* (1923), *England and America, Rivals in the American Revolution* (1927), and *The War of Independence American Phase* (1929), for which he was posthumously awarded the 1930 Pulitzer Prize in history

Vanua Levu (vänōō'a lă'vōō), formerly **Sandalwood Island,** volcanic island (2,137 sq mi, pop 39,958), S Pacific, second in size of the FIJI ISLANDS Mt Thurston (3,139 ft) is the highest peak, and the Ndreketi the largest river The large east peninsula is connected to the rest of the island by a narrow isthmus There are valuable gold mines and large sugar plantations

Van Vechten, Carl (văn vĕk'tun), 1880–, American music critic, novelist, and photographer, b Cedar Rapids, Iowa, grad Univ of Chicago, 1903 While he was a leading music critic in New York he wrote *The Music of Spain* (1918) and other critical works Among his sophisticated novels, the best known are *Peter Whiffle* (1922), *The Tattooed Countess* (1924), *Nigger Heaven* (1926), and *Spider Boy* (1928) *The Tiger in the House* (1920) is his study of cats His autobiographical *Sacred and Profane Memories* appeared in 1932 He is a well-known photographer as well as a promoter of better relations between the Negro and white races

Van Wert (văn wûrt'), city (pop 9,227), co seat of Van Wert co, NW Ohio, NW of Lima near the Ind line, settled 1835, inc 1848 Overalls, fiber containers, cigars, cheese, and woodworking machinery are made here It has a county library and is the seat of the Marsh Foundation School for underprivileged children. A peony festival is held every June

Van Zeeland, Paul (pōl' văn zā'lănt), 1893–, Belgian statesman After studying at Louvain and at Princeton, he became (1928) professor of law and later director of the institute of economic science at the Univ of Louvain and vice governor of the national bank of Belgium In 1935 he was made premier at the head of a government of national unity Given decree powers, he weathered the Belgian economic crisis by devaluing the currency and by other stringent measures In 1936 Paul van Zeeland instituted a far-reaching program of reform and social legislation similar to the American New Deal and suppressed the turbulent Rexists (the Belgian fascists) after proclaiming martial law. During his administration Belgium denounced (1936) its military alliance with France, reverting to its policy of neutrality, and received (1937) a German guarantee of its inviolability. He resigned late in 1937 after the Rexists accused him of political corruption, despite the fact that he was completely exonerated. He remained active as an unofficial adviser, and in 1938 he released, at the instance of the British and French governments, a report calling for a conference of the great powers to restore international economic cooperation. His report was disregarded. In 1939 he accepted the post of president of the committee on refugees, established at London, and throughout the Second World War he continued to exert himself for international economic cooperation, traveling widely in Europe and the Americas He was made (1944) high commissioner for the repatriation of displaced Belgians, a task which he accomplished with his usual efficiency A leader of the Catholic party, Van Zeeland favored the return of Leopold III to Belgium, and in 1949 he replaced Henri Spaak as foreign minister

Vaphio cups (vă'fēō), pair of gold cups of Minoan workmanship, probably dating from c 1600–1500 B C Shaped like teacups and about 3½ in high, they were formed by fastening together two plates of gold, the inner one smooth, the outer in low-relief *repoussé*, the designs are believed to represent bull hunts Found in a grave at Vaphio in Laconia, the cups are preserved at Athens, models are exhibited at the Metropolitan Museum of Art

vaporization, change of a liquid or solid substance to a gas or vapor There is fundamentally no difference between the terms *gas* and *vapor*, but gas is used commonly to describe a substance which appears in the gaseous state under standard conditions of pressure and temperature and vapor to describe the gaseous state of a substance which appears ordinarily as a liquid or solid Although most substances undergo change of state, in the order of solid to liquid to gas, a few change directly from solid to gas in a process known as SUBLIMATION Any change of state is described by the kinetic molecular theory of MATTER as a specific change in the speed at which the molecules of a substance are vibrating and in the distances between these molecules When heat (which is the kinetic or moving energy of the molecules) is applied continuously and in sufficient quantity to a liquid at its BOILING POINT, the molecules of the liquid move faster and faster and farther and farther apart until finally vaporization is complete The quantity of heat which must be applied to bring about this change of state depends upon the substance itself, for each substance requires a specific amount of heat for each unit of weight For example, the amount of heat necessary to change one gram of water to steam at its boiling point, i e, the heat of vaporization of water, is approximately 540 calories Other substances require other amounts Liquids can also change to gases at temperatures below their boiling points, and such EVAPORATION occurs at any temperature when the surface of a liquid is exposed in an unconfined space When, however, the surface is exposed in a confined space and the liquid is in excess of that needed to fill the space with vapor, an equilibrium is quickly reached between the molecules of the substance going off from the surface and those returning to it A change in temperature upsets this equilibrium, a rise in temperature, for example, increases the activity of the molecules at the surface and consequently increases the rate at which they fly off When the temperature is maintained at the new point for a short time, a new equilibrium is soon established The equilibrium is fundamentally one between the pressure of the molecules of the vapor tending to return to the liquid and the pressure of those tending to fly off The pressure exerted by the vapor of a liquid in a confined space is called its vapor pressure It differs for different substances at any given temperature, but each substance has a specific vapor pressure for each given temperature The vapor pressure of water is 4 58 mm (measured in terms of mercury in a barometer) at 0°C and 760 mm (one atmosphere of pressure) at 100°C (the boiling point of water) Since at its boiling point the vapor pressure of any liquid at sea level is one atmosphere, the boiling point of a substance is commonly defined as that temperature at which its vapor pressure is equal to one atmosphere.

Var (vär), department (2,325 sq mi, pop 370,688), SE France, in Provence Its Mediterranean coast is part of the French RIVIERA Draguignan is the capital, Toulon the chief port Var is named for a mountain torrent

Varanger Fjord (värăng'ûr fyōr"), inlet of the Arctic Ocean, c 50 mi long, Finnmark co, NE Norway, near the Russian border There are iron mines on its southern shore

Varangians (vûrăn'jĭunz), Scandinavian armed merchants and warriors who began to penetrate Russia by the 9th cent. Their leader RURIK established himself in NOVGOROD in 862, the date traditionally accepted as that of the foundation of the Russian state The Varangians, some of whom were also known as Russ or Ross, gradually merged with the Slavs, on whom they exerted little cultural influence From Russia the Varangians made their way down the Volga to the Caspian Sea and down the Dnieper to the Byzantine Empire. In the 9th

and 10th cent they repeatedly threatened Constantinople Other Varangians served in the same epoch as mercenary troops to the emperors at Constantinople Varangian migrations corresponded to those of the NORSEMEN and VIKINGS

Varchi, Benedetto (bānādĕt'tō var'kē), 1502?–1565, Italian poet and historian He was a protégé of Filippo Strozzi and Cosimo de' Medici, who commissioned him to write the history of Florence This *Storia di Firenze* in 16 volumes covers the years from 1527 to 1538

Vardar (vär'där), river, c 200 mi long, rising W of Skoplje, S Yugoslavia It flows W and S past Skoplje and Titov Veles through Yugoslav and Greek Macedonia into the Aegean Sea near Salonica

Vardhamana: see JAINISM

Vardo, Nor *Vardø* (vär'dû"), town (pop 3,104), Finnmark co, NE Norway, on an island in the Arctic Ocean near the entrance to the Varanger Fjord The northernmost fortress in the world (at least until recent times) was established here in 1307 The town was incorporated in 1787 and has long been a trade center for N Norway, Finland, and Russia Its port is ice free Fridtjof Nansen wintered here in 1893 and returned in 1896

Vardon, Harry, 1870–1939, British golfer, b Jersey, A former caddie he became at 20 a professional golfer, and in 1895 he won his first tournament. One year later he won the British Open championship, later retaking this crown five times (1898–99, 1903, 1911, and 1914) Vardon—rated by many as second only to Bobby Jones—was known for his accurate drives and for his introduction of the overlapping grip on the golf club He made several tours in America and in 1900 won the U S Open championship He won over 60 important golf tournaments before he retired from the links in 1934. He wrote *The Complete Golfer* (1913) and *The Gist of Golf* (1923) See his autobiography, *My Golfing Life* (1933)

Vare, William Scott, 1867–1934, American political leader, b Philadelphia He engaged in machine politics and became (1898) a member of the select council of Philadelphia He was recorder of deeds (1902–12) and—with his brothers Edward and George—came to control the Republican machine in Philadelphia William S Vare later succeeded Boies PENROSE as political boss of Pennsylvania He served (1912–27) in Congress but, elected (1926) to the U S Senate, was barred from his seat on the grounds of excessive campaign expenditures He wrote *My Forty Years in Politics* (1933)

Varenius, Bernardus (vurē'nēus), or **Bernhard Varen** (vä'run), 1622–50, Dutch geographer He studied to be a physician, but turned his attention to geography His first work was a geography and history of Japan, *Descriptio regni Iaponiae* (1649), he is best known for his *Geographia generalis* (1650), standard for a century and translated into many languages Newton took part in the production of the English Cambridge edition (1682) and used the work in his teaching Varenius attempted to define the field of geography as a science and to classify, organize, and coordinate its branches

Varennes (varĕn'), officially **Varennes-en-Argonne** (-ānargôn'), village (pop 609), Meuse dept, NE France Here Louis XVI and Marie Antoinette were arrested (1791) when trying to flee France

Varèse, Edgar (vurĕs'), 1885–, French-American composer In Paris he studied mathematics and science in the École polytechnique and composition with Roussel and D'Indy at the Schola Cantorum and with Widor at the Conservatoire After founding and conducting orchestras and choruses in Paris and Berlin, he came in 1916 to the United States, where he founded (1921) the International Composers' Guild Among his works are the symphonic poems *Amériques* (1926) and *Arcana* [mysteries] (1927), *Hyperprism* (1923), for wind instruments and percussion, *Ionisation* (1931), a sonata for percussion instruments, and *Espace* (1937), a symphony with chorus New instruments of electrically produced tone and the extreme registers of orchestral instruments are sometimes employed in a search after unusual sonorities

Varese (värä'zā), city (pop 23,348), capital of Varese prov, Lombardy, N Italy It is a rapidly expanding industrial center and a popular tourist resort in the Alpine foothills, near several Italian lakes On top of a near-by hill is a church originally founded by St Ambrose

Vargas, Getulio Dornelles (zhŭtōō'lyō dôrnĕ'lĭsh var'gŭsh), 1883–, president of Brazil (1930–45). He was a native of Rio Grande do Sul state and, as he rose to national prominence, opposed the rule of the political leaders from São Paulo and Rio de Janeiro state He accepted (1926) the post of finance minister under President Washington Luis, but in 1927 he resigned He served as governor of Rio Grande do Sul from 1928 to 1930, when he ran for the presidency. Charging that his defeat was fraudulent, he led a successful revolt and became provisional president and then president His rule as the head of a coalition of discordant groups became dictatorial. Much socialistic legislation was adopted and the program of industrial expansion was firmly begun Rule by decree, however, caused much opposition. Of several revolts, the most serious was that in São Paulo in 1932. A new constitution was adopted in 1934 guaranteeing states' rights and forbidding reelection of the president. There were soon new disorders, these charged to Luis Carlos PRESTES, who was jailed In 1937 the constitution was arbitrarily altered, and the *Estado Novo* [new state] was established. The power of the government was vastly extended, and programs of industrial development and agricultural diversification were pushed with some immediate results. Opposition was forcibly put down, and Vargas maintained his power until 1945. He then called national elections, endorsed the candidacy of Enrico DUTRA, freed the political prisoners, and allowed political parties to organize Dutra, however, charged that Vargas planned to remain in power and, at the head of a group of army officers, deposed him in Oct, 1945. The importance of the political force Vargas retained, despite his ouster, was shown by his prompt election as a senator.

Vargas Zapata y Luján Ponce de León, Diego de (dyā'gō dā var'gäs thäpä'tä ē lōōhän' pōn'thā dā lāōn'), c 1643–1704, Spanish governor and captain general of NEW MEXICO, b Madrid, Spain From 1692 to 1695 he succeeded in reconquering and resettling New Mexico for the Spanish after the Pueblo revolt in 1680 had driven the Spanish settlers from the region He served as governor and captain general from 1691 to 1697 and from 1703 to his death He carried on campaigns against the Pueblo Indians in 1696 and against the Apache in 1704 See J B Bailey, *Diego de Vargas and the Reconquest of New Mexico* (1940), J M Espinosa, tr and ed, *First Expedition of Vargas into New Mexico 1692* (1940) and *Crusaders of the Rio Grande* (1942)

variable star, star that shows from time to time distinct changes in brightness and often in certain other characteristics (e g, color, temperature, atmosphere, and apparent diameter) Many different classifications of variable stars have been proposed In general, such stars can be grouped in classes known as temporary stars (novae and supernovae), Cepheid variables, long-period variables, eclipsing variables, and irregular variables Novae are not "new" stars as the name implies but are stars that change suddenly from comparative faintness to spectacular brightness and then fade In 134 B C, Hipparchus recorded his observation of a nova Since then many have been observed If the star does not already have a name it is commonly designated by the word *Nova* followed by the genitive case of the name of the constellation in which it appears and the year of discovery, if more than one is discovered in the same year in the same constellation, a number indicating its order of discovery is added The nomenclature of other variable stars usually follows a system employing letters and numbers followed by the genitive case of the constellation name, these designations are assigned to stars recognized by a special commission as true variable stars The changes which produce a nova are believed to be associated with explosions of the stars Some are recurrent novae, one in the constellation Scorpio, for example, was detected in 1863, 1906, and 1936, and one in Ophiuchus was recognized in 1898 and again in 1933 Among other novae that have been well observed are Nova Persei 1901, Nova Aquilae 1918, Nova Pictoris 1925, Nova Herculis 1934, and Nova Puppis 1942 Stars designated as novae usually reach an absolute magnitude of minus 5 (−5) or minus 6 (−6) Novae have less frequently reached a much greater brightness, minus 14 (−14) or minus 15 (−15), and these are called supernovae A bright star believed to be a supernova, associated with the Crab nebula, was recorded in 1054 In 1572 another probable supernova appeared in the constellation Cassiopeia, it was so bright that it was plainly visible in daylight Because Tycho Brahe was one of the first to observe it and to study its variations in light intensity, it is sometimes called Tycho's star Another probable supernova appeared in 1604 A supernova far brighter than Tycho's star was observed in 1885 in the Andromeda nebula Since then a number have been observed in galaxies outside the Milky Way system Cepheid variables are so named because they resemble one discovered (1784) in the constellation Cepheus They are believed to be pulsating stars, i e, their variability is attributed to alternate expansion and contraction of the material composing them They are assumed to be giant yellow stars larger than our sun and of low density, their periods usually range from less than a day to about 50 or more days Long-period variables go through their more or less regular cycles in periods ranging from about 50 days to about two years, although the periods of most of them fall between 250 and 300 days They are red giant and supergiant stars The first long-period variable star definitely recognized as periodically variable is known as Omicron Ceti or Mira Ceti, which has been observed for more than three centuries. Eclipsing variables are really eclipsing binaries, i e, double stars of different magnitudes moving around a common center of gravity The plane of their orbits in relation to the earth is nearly edgewise, so that as they revolve one eclipses the other and thus causes variations in the luminosity as observed from the earth. A well-known example of this group is Algol Persei (or Beta Persei). Generally known as irregular variable stars are those which have varying brightness but which do not fall into one of the other groups See P W Merrill, *The Nature of Variable Stars* (1938), Leon Campbell and Luigi Jacchia, *The Story of Variable Stars* (1941)

variation, in biology: see DARWINISM

varicose vein, condition of chronic enlargement of a superficial blood vessel It occurs generally in a dependent part of the body, e g, the lower part of the legs or the thighs The abnormal congestion of blood characteristic of the condition results from a weakness of the valves in the veins The tendency to weakness of the valve structure is believed by many to be hereditary When the varicosis involves the veins about the rectum, the condition is known as hemorrhoids, or piles, when it affects the veins of the spermatic cord, it is a varicocele More women suffer from varicose veins than do men. Its heavy incidence during pregnancy partially accounts for the disparity Sometimes the condition is accompanied by ulcers and eczema Accidental rupture of the very thin and highly distended vessel sometimes takes place Swelling and pain are the common concomitants of varicose veins Treatment is directed at reducing the pressure of blood in the weakened vessels, and in advanced cases, where the condition requires surgery, a deteriorated section of the vein is sometimes excised

variscite see TURQUOISE

Varley, John, 1778–1842, landscape painter in water color He is best known for his paintings of Welsh mountain country The Victoria and Albert Museum has *Beddgelert Bridge*, *Bolton Abbey*, and many others Varley was also a teacher, a writer, and an astrologer He was a friend of William Blake

Varmland, Swed *Värmlands län* (vĕrm'länts lĕn'), county (7,427 sq mi, pop 272,275), W central Sweden, N of Vanern lake It consists of the larger part of the historic province of Varmland Besides agriculture, the chief occupations are the mining and processing of iron and lumber and paper industries KARLSTAD is the county seat, and KRISTINEHAMN is an industrial center Varmland was the home of Selma Lagerlöf, who immortalized its scenes and legends

Varna (var'nu), renamed **Stalin** (stä'lĭn), city (pop 77,792), E Bulgaria, on the Black Sea It is a major port and a rail terminus, and it has shipyards and metal, textile, and tobacco industries Its beaches are visited as a summer resort Varna has a university (founded 1920), a polytechnical institute, a naval academy, and an archaeological museum It was founded (6th cent B C) as Odessus, a Greek colony, and it became a commercial center under Thracian rule It passed to the Roman Empire in the 1st cent. A D Here in A D 679 the Bulgarians defeated the Byzantine emperor, Constantine IV, and here the Turks under Murad II won a decisive victory (1444) over an army of Crusaders led by Ladislaus III of Poland and Hungary The battle of Varna was the last major attempt of the Christian nations to stem the Ottoman tide In 1949 Varna was renamed in celebration of Joseph Stalin's 70th birthday There are ruins of 16th century Byzantine fortifications

Varnhagen von Ense, Karl August (karl' ou'gōōst farn'hagun fûn ĕn'zu), 1785–1858, German poet, historian, and journalist He was a collaborator of Chamisso and other writers and author of the *Biographische Denkmale* [biographical monuments] (5 vols, 1824–30) His wife, **Rahel Antoine Friederike Levin Varnhagen von Ense** (rä'hĕl antwan' frēdurē'ku la'vĭn), 1771–1833, had a famous salon in Berlin, frequented by Heine, Gutzkow, and Laube and known as a center of the romanticists

varnish, homogeneous solution of gum or of natural or synthetic resins in oil (oil varnish) or in a volatile solvent (spirit varnish) which dries on exposure to air, forming a thin, hard film, usually glossy It is used for the protection or decoration of surfaces and may be transparent, translucent, or tinted. For oil varnishes a hard gum or resin, often a fossilized plant exudation such as kauri or copal, is dissolved in oil (commonly linseed oil or tung oil) and is diluted with a volatile solvent such as turpentine Spirit varnishes are commonly made of soft resins or gums, such as SHELLAC, dammer, mastic, or sandarac, dissolved in a volatile solvent, e g, alcohol, benzene, acetone, or turpentine Enamel is varnish with added pigments Lacquer may be a cellulose derivative dissolved in a volatile solvent or a natural varnish made in the East from the juices of trees Among the varnishes named either for their constituents or for the proposed use are japanner's gold size, cabinet, carriage, bookbinder's, patent-leather, insulating, photographic, shellac, and copal picture varnish Varnish has been known from antiquity; the Egyptians coated mummy cases with a pastelike form made of soft resins dissolved in oil and applied when warm Another early use was for coating oil paintings Stradivarius and other violinmakers used a slow-

drying linseed oil varnish on their instruments. See J S Remington, *Drying Oils, Thinners, and Varnishes* (1946)

Varnsdorf, Ger *Warnsdorf* (both värns'dôrf), city (pop 15,661), N Bohemia, Czechoslovakia, on the German border It produces cotton, velvet, and linen textiles, dyes, and wooden articles It lost most of its German-speaking population after the Second World War.

Varro, Caius Terentius (kā'yus tĭrĕn'shŭs vă'rō), fl 216 B C, Roman statesman and general. Consul with Lucius Aemilius Paulus in 216 B C, he opposed HANNIBAL at the battle of Cannae, where the Roman army was destroyed Probably more blame for this disaster is to be ascribed to the Roman system of alternate command than to Varro's incompetence One of the few survivors, Varro rallied the remnants of his army at near-by Canusium (Canosa di Puglia) After the battle he was formally thanked by the senate for his spirit

Varro, Marcus Terentius, 116 B C –27 B C, Roman man of letters He was known as the most erudite man and the most prolific writer of his times, and his output is estimated to have been about 620 volumes He served as Pompey's legate in Spain and fought at Pharsala, but was reconciled with Caesar, who made him director of the proposed public library At the time of the Second Triumvirate his villa was plundered, and he himself was proscribed He fled, but was pardoned by Augustus In his writing scarcely a field of contemporary learning was left untouched Of his many works only one remains intact, *De re rustica libri III* [three books on farming] This is one of the most important books of its kind extant from antiquity. Six books (V–X) out of the original 25 remain of *De lingua latina* [on the Latin language], and about 600 lines from his *Satirae Menippeae* survive

Varuna · see HINDUISM.

Varus (Publius Quintilius Varus) (vā'rŭs), d. A D 9, Roman general In 13 B C he was consul with Tiberius Claudius Nero (later emperor as TIBERIUS) and later was governor of Syria Though unsuited for the position, he was appointed governor of Germany by AUGUSTUS In A D 9, to suppress an uprising, he led three legions across the Rhine into the Teutoburg Forest, where they were massacred by the troops of ARMINIUS Varus himself committed suicide This defeat was a major catastrophe for the Romans It is said that afterward Augustus would start up from sleep, crying, "Varus, Varus, bring me back my legions!"

Vasa (vä'sä), Pol. *Waza* (vä'zä), royal dynasty of Sweden (1523–1654) and of Poland (1587–1668) GUSTAVUS I, founder of the dynasty in Sweden, was succeeded by his sons ERIC XIV (reigned 1560–68) and JOHN III (1560–92) John III's son was elected (1587) king of Poland as SIGISMUND III and succeeded on his father's death to the Swedish throne as well, but his Catholicism led to his deposition in Sweden, where his uncle CHARLES IX succeeded him The house thus was split into a senior Catholic line (in Poland) and a cadet Protestant line (in Sweden), and the two lines remained in a state of chronic war against each other Charles IX of Sweden was succeeded by GUSTAVUS II (Gustavus Adolphus), on whose death (1632) his daughter CHRISTINA ascended the throne With Christina's abdication (1654) in favor of her first cousin, Charles X, the Swedish throne passed to the ZWEIBRÜCKEN line of the house of Wittelsbach. In Poland, Sigismund III was succeeded by his son LADISLAUS IV, who in turn was succeeded by his brother, JOHN II, who abdicated in 1668

Vasa, Finland see VAASA

Vasari, Giorgio (jôr'jô vaza'rē), 1511–74, Italian architect, writer, and painter He is best known for his entertaining biographies of artists, *Vite de' più eccellenti architetti, pittori e scultori italiani* (1550)—commonly called in English *Lives of the Painters* Though it contains many erroneous statements and plagiarisms, it is a classic of erudition and catholicity of taste, the earliest prototype of modern criticism, and has been many times published in different languages Later English translations include one by A B. Hinds (4 vols, 1927) and an abridged edition by Betty Burroughs (1946). Brought up with two young princes of the Medici family, Vasari was apprenticed at 13 to Michelangelo and later to Andrea del Sarto His paintings include murals in the Vatican and in the cathedral and Palazzo Vecchio, Florence, and numerous portraits of the Medici The Uffizi is his most celebrated achievement as an architect See biography by R W Carden (1910).

Vasco da Gama. see GAMA, VASCO DA.

Vasconcelos, José (hōsĕ' väskōnsā'lōs), 1882–, Mexican educator and writer He headed (1920–24) the National Univ of Mexico and, as minister of education (1920–25) under Álvaro Obregón, worked vigorously and with some success to establish schools, to persuade the Mexican people of the importance of education, and to raise the literacy rate In 1929 he was defeated in the presidential race and was forced into exile by Plutarco E Calles. As teacher, propagandist, and writer, he attracted a large youthful following, and his fierce localism and belief in Latin American culture—as response of peoples to a physical environment—had an effect abroad as well as in Mexico In later years he denounced democracy and tended more and more to glorify force and racism. Well-known works are *La raza cósmica* (1925) and *Indología* (1927) The first volume of his four-volume autobiography (1935–39) is *Ulises criollo*—the general title for the whole work, which includes *La tormenta, El desastre,* and *El proconsulado*

vase, vessel of pottery, glass, metal, stone, or wood The pottery vase was anciently employed as a container for water (HYDRIA), wine, or oil (AMPHORA) or for mixing and serving wine and water (crater), it had one or two handles, sometimes a lip or spout, frequently a base or foot, sometimes it was pointed to thrust into the ground or was set into a frame holder for support. The covered vase of large capacity was early used for storing grain, a similar but smaller one is popular in the Orient for tea The cinerary vase, or URN, has been common throughout historical times, a famous one being the Portland vase (British Mus) For ornamental use vases are frequently made in pairs Modern vases are widely used for flowers Beautiful in form and embellished with incised patterns, modeled or painted figures or scenes, and sometimes inscriptions, the vase became a work of art in early times Greek painted vases in form and color are among the most exquisite examples of ancient art Archaic examples and fragments of vases discovered in burial chambers and through excavations in various countries serve as records of the manners, customs, and history of their peoples Buddhist and Christian altar objects include the vase, usually of silver or gold with chased or modeled designs of exquisite workmanship Bronze and brass are much employed for vases in the Far East, where also Chinese examples in fine porcelain and carved jade and crystal and Japanese Satsuma and Kutani enameled ones are highly prized, here, too, the vase of CLOISONNÉ is much in evidence The Persian pottery type is famous for its blue-green color, French Sèvres for miniature medallions, English Wedgwood for cameo reliefs, and the American Rookwood for deep, rich tones and underglaze painting

Vasek, Vladimir. see BEZRUC, PETR

Vasey, George (vā'zē), 1822–93, American botanist, b England, M D Berkshire Medical College, Pittsfield, Mass, 1848 He became botanist of the U S. Dept. of Agriculture in 1872 He was an authority on, and compiled a catalogue of, the grasses of the United States

Vashti (–tī), same as JOEL 14

Vashti (väsh'tī), queen whom Ahasuerus deposed for disobedience Esther 1

Vasily III (Vasily Ivanovich) (vŭsē'lyĭ ĭva'nuvĭch), 1479–1533, grand duke of Moscow (1505–33) Carrying on the policies of his father, IVAN III, he rounded out the territorial consolidation of the Russian state, annexing Pskov (1510), Ryazan (1517), and Novgorod-Seversk (1523) and gaining Smolensk in a war with Sigismund I of Poland

Vásquez, Horacio (ōra'syō vä'skās), 1860–1936, president of the Dominican Republic (1899–1903, 1903–7, 1924–30) A dominating figure in the nation, even when out of office, Vásquez in his third term attempted to continue the material reforms begun during U S occupation (1916–24) In 1928 he requested Charles G Dawes to head a commission to recommend badly needed fiscal changes He adopted the commission's report, ousted many political henchmen, and extended his term, but was shortly overthrown and exiled by insurgents led by Rafael TRUJILLO MOLINA

Vásquez de Ayllón, Lucas see AYLLÓN

Vásquez de Coronado, Francisco: see CORONADO.

vassal see FEUDALISM

Vassalboro (vă'sŭlbŭrō), town (pop 1,931), SW Maine, on the Kennebec above Augusta, settled c 1760, inc 1771 Many early inhabitants were Friends, Oak Grove, girls' preparatory school, is a Friends' foundation here

Vassar, Matthew (vă'sur), 1792–1868, American philanthropist, b England He came to the United States with his father in 1796 In 1811, after his father's successful brewery in Poughkeepsie, N Y, had burned, the son opened another, which in time became immensely prosperous. In 1861 he founded Vassar Female College, to which he gave more than $800,000, he also contributed to local charities and churches See his autobiography and letters (ed by E H Haight, 1916)

Vassar, city (pop 2,154), S Mich, on the Cass river and E of Saginaw, settled 1849, inc as a village 1871, as a city 1945 Automobile parts are made here Indian mounds are found in the vicinity

Vassar College (vă'sur), at Poughkeepsie, N Y, nonsectarian, for women, chartered 1861 by Matthew VASSAR, opened 1865 as Vassar Female College, renamed 1867. It had pioneer music and physical education departments and the first department of euthenics, devoted to applying scientific principles to living, a nursery school is attached An institute of euthenics is held in the summer The work in experimental drama is notable. The buildings include the massive Main Hall (1865) designed by James Renwick and notable classical, social, and art museums. Henry Noble MacCracken was president from 1915 to 1946. Its first woman president, Sarah G Blanding, took office in 1946

Vasteras, Swed *Västerås* (vĕsturōs), city (pop, 51,034), co seat of Vastmanland co., E central Sweden. On Malaren lake, it is the center of a modern electrical industry Vasteras, with a cathedral and castle dating from the 12th cent., was a medieval commercial center Several important diets convened here, notably the Vasteras Recess (1527), when the church was taken over by the state and Lutheranized

Vasterbotten, Swed *Vasterbottens län* (vĕ'stŭrbô"tŭns lĕn'), county (22,837 sq mi, pop 228,135), N Sweden, consisting of the historic province of Vasterbotten and parts of the historic provinces of Angermanland and Lapland It is chiefly a timber region, with mountains in the west along the Norwegian border At the mouth of the UME, its chief river, on the Baltic Sea, lies Umea, the main port

Vastergotland, Swed *Västergötland* (vĕ'stŭryŭt"land), historic province of S central Sweden It is now administratively comprised in SKARABORG CO. and in part of ALVSBORG CO

Vasternorrland, Swed *Västernorrlands län* (vĕ'stŭrnôr"lănts lĕn'), county (9,924 sq mi, pop 278,707), NE Sweden It is formed, roughly, of two historic provinces, Medelpad, in the south, and the larger part of Angermanland, in the north Its important lumber industry is centered at SUNDSVALL The ANGERMAN is the chief river The county seat is HARNOSAND

Vastervik, Swed *Västervik* (vĕ'sturvēk"), city (pop 14,200), Kalmar co, SE Sweden Known since the 13th cent, it was a trade center in the 16th and 17th cent It has stone quarries, match manufactures, and a machine industry

Vastmanland, Swed *Västmanlands län* (vĕst'mănlänts" lĕn'), county (2,611 sq mi, pop 183,346), central Sweden It consists, roughly, of parts of two historic provinces, E Vastmanland (the western section being in OREBRO CO) and NW Uppland VASTERAS is the county seat, other towns are Arboga and Koping The southern part is a truck-farming and dairying region, in the north there are iron and silver mines, the manufacture of iron and steel goods and electrical appliances is important

Vatel (vätĕl'), 17th cent, French cook, famous in the time of Louis XIV Mme de Sévigné, in her letters, speaks of him as the chef of the prince of Condé and says that on a Friday, when the king was coming to dinner and the fish failed to arrive in time, Vatel committed suicide The authenticity of this story is doubtful

Vatican (vă'tĭkun), residence of the pope at ROME (see PAPACY and "ROMAN CATHOLIC CHURCH) Since the Roman Question was ended by the LATERAN TREATY of 1929 between Pius XI and Victor Emmanuel III (negotiated by Cardinal GASPARRI and MUSSOLINI), the **Vatican City** has been an independent, sovereign state (108 7 acres, pop c 1,000), with the pope as its absolute ruler, it may be said to correspond politically to the old PAPAL STATES, but its origin is unconnected with them It consists of a roughly triangular portion of Rome, lying on the west bank of the Tiber, W of the Castel Sant' Angelo In its southeast corner is the PIAZZA OF SAINT PETER'S CHURCH, surrounded by the splendid colonnade, serving as the entrance to St Peter's Church North of the piazza is a quadrangular area containing a few streets of administration buildings and Belvedere Park West of Belvedere Park are the pontifical palaces, the Vatican proper Beyond the palaces lie the Vatican Gardens, making up half of the area of the little state, which is bounded on the west and south by the Leonine Wall. The Vatican City is thus restricted to the papal residence, the papal church, and some adjoining offices. In the city of Rome certain important basilicas, churches, and other buildings are part of the state, though not in its area The basilicas include the LATERAN, St Mary Major, and St Paul's without the Walls (not inside the city) The palace of San Callisto at the foot of the Janiculum also shares the immunity of the Vatican, so does the papal summer villa, at Castel Gandolfo, some miles from Rome The political freedom of the Vatican, guaranteed and protected by Italy, is signalized by a coinage and postage, a flag, and a diplomatic corps, with a representative from Italy The state has a citizenship of its own The civil government is in the hands of a lay governor and a council, all appointed by and responsible to the pope The law is the CANON LAW and the courts are part of the system of the Church, the only court special to the Vatican City being a court of first instance for civil and criminal cases in the city, consisting of three judges The Vatican is above everything the seat of the central government of the Roman Catholic Church, and the term is commonly used for the government itself Because of the vast and multiform business, there has been developed an elaborate system of administration to assist the pope. His privy council and cabinet is the college of

cardinals (see CARDINAL). He may act as he pleases without their consent, but in practice he relies on the cardinals for the transaction of many of his duties in detail. The whole administrative body surrounding the pope and responsible to him is called the Curia Romana The chief officials of the Curia, with the officers of the guard and others, make up the Pontifical Family, the body of functionaries who attend the pope at great functions is called the Pontifical Chapel The antiquity and importance of the papal court have given it characteristics of royal courts, such as elaborate functions, splendid uniforms, and complex rules of precedence The bodyguard of the pope is the corps of Swiss GUARDS They are a small group of Catholic Swiss, chosen for their intelligence and bodily vigor, their splendid Renaissance uniforms and their handsome appearance impress every visitor to the Vatican The palaces themselves form an irregular mass of buildings, of three or four stories, built in long plain lines, broken by additions and alterations The papal residence and offices occupy the portion near the colonnade, and the rest is given over to the museums and the library The ground plan is generally that of courtyards surrounded with galleries, and this renders easy the isolation of various parts from each other The Vatican museums are among the most important in the world, they are the Museo Pio-Clementino (Clement XIV and Pius VI) in the extreme northwest portion of the buildings, including the BELVEDERE, containing one of the chief collections of antiquities in the world, the Chiaramonti Gallery, along the east side of the Giardino della Pigna, one of the great courtyards, a collection of Greek sculptures and Renaissance imitations, the Braccio Nuovo forming the south side of the Giardino della Pigna, undoubtedly the finest of the museums from a decorative point of view, the Egyptian Museum and the Etruscan Museum opposite the Braccio Nuovo The museums, however, house only a part of the Vatican treasures, for the Renaissance and modern paintings are found in the galleries about the Cortile del Belvedere (S of the Giardino della Pigna) and the Cortile San Damaso, separating the residential palace from the galleries about the Cortile del Belvedere Adjoining the Cortile San Damaso is the building containing the Borgia apartment on the first floor and the Raphael rooms (Stanze and Loggie) on the second The works of Raphael here make one of the most famous artistic monuments of the world The Vatican Library, (see separate article) lies all along the western side of the Giardino della Pigna and the Cortile del Belvedere Of the chapels of the Vatican the principal is the SISTINE CHAPEL The history of the Vatican as a papal residence dates from the 5th cent , when, after Constantine I had built the basilica of St Peter's, Pope Symmachus built a palace near by The pope usually resided at the Lateran until the "Babylonian captivity" at Avignon (14th cent), but Eugene III, Celestine III, and Innocent III did much to improve the Vatican After the return of the papacy to Rome (1377) the Vatican was the usual residence Especially important in causing this was the fact that it lay on the outskirts of Rome, and experience had taught the popes that a defensible quarter would be the safest place to live The Renaissance popes, principally Sixtus IV, Innocent VIII, Alexander VI, Julius II, and Clement VII, were great patrons of the fine arts, they began the assembly of great collections and the construction of wonderful galleries The popes of the Catholic Reform continued the work, but did not begin many new projects of this sort Gregory XIII and Sixtus V expended large sums on the Vatican, but began the Quirinal, which was the papal residence from the 17th to the 19th cent and after 1870 the Italian royal palace Clement XIV, Pius VI, and Pius VII were much interested in the Vatican museums The Vatican is open all year to visitors, and the pope very frequently receives callers in public or private audience The Vatican City has its own railroad station and a great broadcasting station, installed by Marconi under Pius XI See Thérèse Bonney, *The Vatican* (photographs with explanations, 1940), James A Van der Veldt, *Exploring the Vatican* (1947), Ann Carnahan, *The Vatican behind the Scenes in the Holy City* (1949)

Vatican Council, 1869–70, the 20th ecumenical COUNCIL of the Roman Catholic Church, convened by PIUS IX, who announced his intention of calling one in 1864 Because of the Italian political situation (the Papal States were the only bar to a united Italy) the advisability of having a council at all was questioned by the Catholic powers, who always opposed strong action on the part of the Church In 1868 it was widely rumored in Europe that the enunciation of papal infallibility as a dogma was the purpose of the council and that it would confirm the papal denunciations of modernistic rationalism and liberalism. As a result there was a widespread attack on the prospective council in non-Catholic circles of France, England, and Germany. The preoccupation of those outside the Church with the council both before and after its convocation had no effect except to anger Catholics, who felt that the council was entirely their concern. Within the Church several prominent persons denounced the enunciation of infallibility as a dogma, and some even objected to the dogma itself Chief of these were DÖLLINGER in Germany, Baron ACTON in England, and MONTALEMBERT in France The council was convened Dec 8, 1869, in St Peter's, and it was attended by some 600 of the higher clergy (patriarchs, archbishops, bishops, abbots, generals of orders, and theologians) from all over the world The Eastern Churches in schism were invited and the Protestants were officially informed Late in 1870 the council was brought to a halt by the entrance of Italian soldiers into Rome, and a month later the pope prorogued the council indefinitely; it has not been reconvened Two constitutions were promulgated by the Vatican Council and confirmed by the pope The first was on the faith, consisting of four chapters holding chiefly that God is personal, that man knows God by reason and revelation, that faith is a supernatural virtue, and that faith and reason are complementary, never contradictory/ The second constitution concerned the papacy, after defining the primacy of jurisdiction it goes on to enounce definitively the dogma of infallibility This, the one official statement of the doctrine, reads in its significant part as follows "the Roman pontiff when he speaks ex cathedra, that is, when he, in the exercise of his office of his supreme apostolic authority, decides that a doctrine concerning faith or morals is to be held by the entire Church, he possesses, in consequence of the divine aid promised him in St Peter, that infallibility which the Divine Savior wished to have His Church furnished for the definition of doctrines concerning faith or morals, and that definitions of the Roman pontiff are of themselves, and not in consequence of the Church's consent, irreformable " Past definitions are, of course, included In the council there was a long dispute over the enunciation, and in the first vote it stood 451 in favor, 88 opposed, and 62 conditionally in favor At the last vote 433 voted in favor of the promulgation, two opposing, 55 abstaining All the fathers of the council accepted the dogma as true After the council a great deal of discussion of infallibility took place among non-Catholics, violent attacks were made on the pope, the Church, and the council Within the Church the papal infallibility had been generally believed for many centuries A few defections from the Church took place—Döllinger, the OLD CATHOLICS in Germany, and a nunber in Switzerland In France a small group headed by Père Hyacinthe (Charles LOYSON) left the Church The political results were numerous Bismarck gave the definition as the reason for the KULTURKAMPF, and Austria used it as an excuse to abrogate the concordat The French government denounced it in a memorandum, which was acceded to by England, Spain, and Portugal The anger of the states reflected the chief political effect of the enunciation of papal infallibility since GALLICANISM and similar claims were now obsolete, governments could no longer use them to interfere in Church affairs See E C Butler, *The Vatican Council* (1930)

Vatican Library, founded in the 15th cent in Rome, in the section now making up Vatican City It is the oldest public library in Europe and one of the chief libraries of the world today It is constituted primarily as a manuscript library, having one of the greatest manuscript collections of the world The first librarian, Platina, made a catalogue of some 2,500 volumes Today there are about 50,000 manuscripts and 400,000 printed books These figures do not include the vast Vatican archives, a separate collection Facilities of the library have been greatly improved in the 20th cent , especially under the eye of Pius XI before and after he became pope Principally with funds supplied by the Carnegie Endowment for International Peace, American librarians did much work in cataloguing and classifying the contents of the library—an accomplishment of supreme importance to scholars

Vatnajökull (vät'nəy-ō'kōōl), large ice field, area 3,300 sq mi , SE Iceland At an elevation of from 4,000 to 6,500 ft , it covers a volcanic mountain watershed and descends in some 40 glaciers, the largest of which, Skeidararjökull and Brúarjökull, cover c 200 sq mi each

Vattel, Emerich de (ĕ'murĬk du vätĕl'), 1714–67, Swiss philosopher and jurist His first name is also written Emmerich or Emmerichs He served (1746–58) as Saxon minister at Bern and later in the cabinet of Augustus III at Dresden He is famous for one book, *Droit des gens, ou, Principes de la loi naturelle appliqués à la conduite et aux affaires des nations et des souverains* (1758, Eng tr , *Law of Nations*, 1760) This book, founded on the writings of Christian von Wolff, sets forth the principle that there is a natural law which is superior to all artificial legislation It was important chiefly because it supplied a justification for liberal revolution It also illustrated the growing attention to international law, which was considered as resting on natural laws

Vattern, Swed. *Vättern* (vĕ'tûrn), lake, area 733 sq. mi., c.80 mi long, S Sweden, draining to the Baltic Sea by the Motala river It is traversed by the Gota Canal On its shores are Huskvarna, JONKOPING, and MOTALA, its largest island is Visingso

Vauban, Sébastien le Prestre, marquis de (sābästyĕ' lŭ prĕ'trŭ märkē' dŭ vōbä'), 1633–1707, French military engineer He was famous for the system of fortifications by which he defended the cities of France, strengthening more than 300 old fortresses and building 33 new ones, and he was especially famous for his treatise on the capture of enemy fortifications called *Mémoire pour servir d'instruction dans la conduit des sièges* Under Vauban the first recognized military engineer corps was organized His plan of attack called for parallel trenches connected by zigzag communication trenches and for underground explosive mines, planted by digging from the innermost trench His methods offered the greatest protection to the attackers, and their known effectiveness often caused early surrender of a fort with great saving of life He also developed a technique for ricochet fire which increased the destructiveness of mortars In 1703 Vauban was made marshal of France and held high place in the favor of Louis XIV Yet the publication of his *Projet de dime royale*, calling for reform of Chamillart's tax policies, estranged him from the king and he soon died in disgrace In honor of his services to France, Napoleon ordered Vauban's heart buried in the Invalides See studies by Daniel Halévy (Eng tr , 1926) and Sir R T. Blomfield (1938)

Vaucluse (vōklüz'), department (1,381 sq mi , pop 249,838), SE France, in Provence It includes the former Comtat VENAISSIN and the principality of ORANGE Avignon is the capital

Vaucluse, officially **Fontaine-de-Vaucluse** (fōtĕn'-dŭ-), village (pop 556), Vaucluse dept , SE France, c 16 mi E of Avignon It was made famous by PETRARCH, who lived here The "fountain" of Vaucluse, celebrated by the poet, is the source of the small Sorgue river, which during the rainy season springs out, fully formed, from a cave

Vaucouleurs (vōkōōlûr'), town (pop 2,452), Meuse dept , NE France, in Lorraine, on the Meuse and SW of Toul Here, in 1428, JOAN OF ARC first related the story of her visions to Robert de Baudricourt, governor of the town, who, finally persuaded, sent her (1429) with an escort to Charles VII at Chinon

Vaud (vō), Ger *Waadt*, canton (1,239 sq mi , pop 343,398), Switzerland, on the French frontier The capital is Lausanne It lies roughly between the Lake of Geneva, the Lake of Neuchâtel, the Jura, and the Bernese Alps Its large fertile central area produces wines and cereals and other crops There are numerous tourist resorts Conquered by the Romans in 58 B C , Vaud passed (6th cent) to the Franks and was (888–1032) under the rule of Transjurane BURGUNDY It subsequently was ruled partly by the prince-bishops of Lausanne, partly by the counts of Savoy, until it was conquered (1536) by Bern and forced to accept the Reformation In 1798, having revolted under the leadership of Frédéric César de LA HARPE against its Bernese rulers, it became the canton of Leman in the Helvetic Republic In 1803 it joined the Swiss Confederation under its present name The inhabitants are French-speaking

vaudeville (vō'dŭvĬl, vōd'vĬl), originally a light song, derived from the drinking and love songs formerly attributed to Olivier BASSELIN and called *Vau*, or *Vaux, de Vire* American vaudeville was a stage entertainment consisting of unrelated short sketches, songs, acrobatic and magic acts, dances, and humorous skits From humble origin in barrooms and "museums," vaudeville came to be the attraction in hundreds of theaters throughout the United States from c 1880 to c 1932 Its greatest center was the Palace Theatre, New York city The stars of American vaudeville included Lillian Russell, Weber and Fields McIntyre and Heath, Eva Tanguay, George M Cohan, Mae West, Elsie Janis, Harry Houdini, Fay Templeton, W C Fields, Will Rogers, Sophie Tucker, the Marx Brothers, Eddie Cantor, and Fred Allen The arrival of moving-picture and radio entertainment brought about vaudeville's decline See Douglas Gilbert, *American Vaudeville* (1940), W M Marston and J H Feller, *F F Proctor* (1943)

Vaudois see WALDENSES

Vaudreuil de Cavagnal, Pierre François de Rigaud, marquis de (pyĕr' frāswä' dŭ rĕgō' märkē dŭ vōdrû'yŭ dŭ kavanyal'), 1698–1765, last French governor of Canada, b Quebec He was the son of Philippe de Rigaud, marquis de Vaudreuil (c 1640–1725), who was governor general of New France for 20 years (1705–25) He entered the army, became governor of Trois Rivières in 1733, and assumed the governorship of Louisiana in 1742 In 1755 he entered upon his duties as governor general of New France Devoted to those who, like himself, were Canadian-born, he was nevertheless too weak or too stupid to check his thieving intendant, François Bigot A vain man and in his own esteem a military expert, Vaudreuil sought to discredit MONTCALM with the home government and to hamper his conduct of military affairs After Vaudreuil's surrender of all Canada to the British

in 1760, he was charged with maladministration, tried in France, and acquitted

Vaugelas, Claude Favre de (klōd' fȧ'vru dŭ vōzhŭlȧ'), 1585–1650, French grammarian He set up, in his *Remarques sur la langue française* (1647), the usage of cultured people as the standard for correct French

Vaughan, Henry (vôn), 1621–95, British poet, b Newton, Brecknockshire, Wales He called himself the Silurist after the ancient inhabitants of the region, the Silures He attended Oxford and studied in London for the law and seems to have served as a soldier in the royalist forces in the Puritan Revolution He later became a physician in his old home His *Poems* (1646) and *Olor Iscanus* (1651, poems and prose translations) are secular works except for the section of the latter called "Pious Thoughts and Ejaculations" Vaughan's fame as one of the metaphysical poets rests, however, on his sacred poems, strongly mystical and showing knowledge of the hermetical philosophy which his twin brother, Thomas, studied extensively The best known of these poems are probably the two which begin, "I saw Eternity the other night" and "They are all gone into the world of light" His sacred poetry is in *Silex Scintillans* (1650, with second part added, 1655) and a few poems in *Thalia Rediviva* (1678) Meanwhile he also translated religious literature in *The Mount of Olives* (1652) and *Flores Solitudinis* (1654) and wrote some prose treatises included in the same books See his works (ed by L C Martin, 1914), Edmund Blunden, *On the Poems of Henry Vaughan* (1927), Elizabeth Holmes, *Henry Vaughan and the Hermetic Philosophy* (1932), biography by F E Hutchinson (1947)

Vaughan, Herbert, 1832–1903, English churchman, cardinal of the Roman Church He was educated abroad and ordained in 1854 He was a favorite of Cardinal MANNING, and joined the Oblate Fathers He was vice president of the seminary at Ware and left there (1861) to go on a trip to the United States to raise money for foreign missions The fruit of his labor is a college for foreign missionaries at Mill Hill near London In 1871 he made a trip to the U S to examine the spiritual state of the Negroes, which always concerned him On his return Vaughan was made bishop of Salford, E Lancashire When Cardinal Manning died, Vaughan was the best-known living English Roman Catholic prelate, and he was made archbishop of Westminster, the Catholic primate of England, in 1893 he was created cardinal He improved the position of Catholic schools in the archdiocese and the seminaries of England, and he cooperated with non-Catholics Cardinal Vaughan was widely loved for his simplicity and charity

Vaughan, Thomas Wayland, 1870–, American oceanographer, b Jonesville, Texas, grad Tulane Univ (B S , 1889), Ph D Harvard, 1903 He was on the staff of the U S Geological Survey (1894–1939) and of the U S National Museum from 1903 and was professor of oceanography and director of the Scripps Institution of Oceanography, Univ of California (1924–36) An authority on marine geology, he wrote many scientific papers and is coauthor of *International Aspects of Oceanography* (1937)

Vaughan, Victor Clarence, 1851–1929, American physician, b Randolph co , Mo , M D Univ of Michigan, 1878 He was associated with the medical faculty at the Univ of Michigan (1875–1921, as dean from 1891) An expert toxicologist and an authority on the control of communicable diseases, he served with Walter Reed in 1898 as one of a commission to study typhoid fever in U S army camps, his report is considered a medical classic See his autobiography (1926)

Vaughan Williams, Ralph, 1872–, English composer, Mus D Trinity College, Cambridge, 1901, studied at the Royal College of Music, London He also studied with Max Bruch (1897–98) and with Ravel (1909), but his style remains individual and thoroughly English He is the outstanding English composer of his time After the First World War he joined the composition faculty of the Royal College of Music, and he conducted (1920–28) the Bach Choir of London It was his acquaintance with English folk music, dating from 1904, which enabled Vaughan Williams to find his personal idiom. His book *National Music* (1934) expresses his belief in musical nationalism with folk song as a point of departure, and his three Norfolk Rhapsodies (1906–7) are the first fruits of this influence Other influences on his style include English music of the Tudor period—evidenced in his *Fantasia for Double Stringed Orchestra on a Theme by Thomas Tallis* (1910) and his Mass in G Minor (1923)—and the lesser influence of plain song His symphonies—*A Sea Symphony* (1910), which employs soloists and a chorus, *A London Symphony* (1914, revised 1920), *A Pastoral Symphony* (1921), and his fourth (1935), fifth (1943), and sixth (1948) symphonies—present a résumé of all the elements of his style Walt Whitman's verses provided the texts of his *Sea Symphony*, *Toward the Unknown Region* (1907, for chorus), and part of the cantata *Dona nobis pacem* (1936) *On Wenlock Edge* (1909) is a setting of poems by Housman, and the texts for *Fits Mystical Songs* (1911) are George Herbert's Of Vaughan Williams's stage works, best known is the ballet *Job* (1930), inspired by Blake's illustrations for the Bible story Others are *The Shepherds of the Delectable Mountains* (1922), based on a scene from Bunyan's *Pilgrim's Progress;* the ballad opera *Hugh the Drover* (London, 1924); *Sir John in Love* (1929), based on Shakspere's *Merry Wives of Windsor;* and *Riders to the Sea* (1937) a setting of Synge's play Other outstanding works are *Flos campi* (1925), *Sancta civitas* (1925), and *Five Tudor Portraits* (1936) See studies by A E. F. Dickinson (1928) and Frank Howes (1937)

Vaughn, village (pop 1,331), central N Mex., ESE of Albuquerque, in a sheep and cattle area, settled 1905, inc 1916

vault, ceiling over a room, formed in any one of a variety of curved surfaces A vault is generally composed of separate units of material, such as bricks, tiles, or blocks of stone, so shaped or cut that when assembled they form a tightly wedged and stable construction whose weight can be concentrated upon the proper supports Vaults are also formed in a homogeneous material, as when built in concrete In modern work, ceilings in the form of masonry vaults are often merely of plaster applied against a curved framework of wood or metal Vaults constructed of numerous blocks of material pressing against one another exert not only the accumulated downward weight of the material and of any superimposed load but also a side thrust or tendency to spread To avoid collapse, adequate resistance against this thrust must thus be concentrated at the haunches or lower portions of the vault The resistance may take the form of thickened walls at the haunches, of buttresses placed at points of concentrated thrust, as in Romanesque and Gothic architecture, or of vaults so placed that their thrusts oppose and counteract This necessity has controlled the evolution of masonry vaulting and its use in buildings In ancient Egypt brick vaulting was used chiefly for drains The Chaldeans and Assyrians used vaults for the same purpose but seem also to have made architectural use of high domes and barrel vaults The Greeks made no use of vaults The vaulting technique of the Etruscans shown in remains of the 4th and 3d cent B C , was absorbed by the Romans, who started in the 1st cent A D the development of a mature vaulting system Casting concrete in one solid mass, the Romans created vaults devoid of external thrust, of perfect rigidity, and requiring no buttresses Thus vaults and domes could be easily erected over vast spaces, producing the impressive and complex thermae, amphitheaters, and basilicas The dome of the Pantheon at Rome (A D c 120), still intact, has the largest diameter of any dome ever built The Roman vaults were the basis on which more complex and varied forms were developed in the Middle Ages The tunnel or barrel vault spans between two walls, like a continuous arch In Roman work it was always semicircular in section The cross or groined vault is formed by an intersection at right angles of two barrel vaults, producing a surface that has arched openings for its four sides, with concentration of load at the four corner points of the square or rectangle In Roman work the diagonal lines of intersection or groins were often built of brick, probably as temporary supports or centering for the concrete masonry The domes of the Romans were built always over circular apartments Byzantine builders of the 6th cent perfected the PENDENTIVE, which made possible the construction of a circular dome over a square room In Romanesque vaulting throughout Europe the semicircular arch was universally employed, and the Roman cross vault was the type used for covering square or rectangular compartments In the Church of Sant' Ambrogio, Milan (11th cent), ribs to strengthen the groins and sides of a cross vault were first employed The system of using ribs to form a complete organic supporting skeleton was developed and became the basic principle of perfected Gothic architecture The use of ribs led to increasing complexity in vault forms, beginning with the 12th cent The pointed arch, which became dominant in medieval architecture from the 13th cent onward, helped to overcome the difficulties of vaulting oblong compartments exclusively with semicircular sections and to bring the various ribs of unequal spans to a crown at the same height Some vaulting compartments or bays were divided by ribs into six segments and were known as SEXPARTITE VAULTS, but the four-part vault generally prevailed In England the multiplication of ribs for structural and decorative purposes culminated in the elaborate FAN VAULT of the Perpendicular style in the 15th cent The architects of the Renaissance abandoned Gothic methods and returned to the basic Roman vault forms, to which new devices were added, including barrel vaults of semielliptical section, domes mounted on drums, and cross vaults with groins of elliptical section Domes were invariably supported on pendentives Vaulting in plaster was used for ornament In early Christian church architecture vault surfaces were adorned with mosaics; the Renaissance introduced coffers, carvings, plaster decorations, and frescoes. In modern times reinforced concrete produces vaults devoid of thrust and of minimum lightness

Vauquelin, Louis Nicolas (lwē' nēkôlȧ' vōkulē'), 1763–1829, French chemist He was assistant (1783–91) to A. F Fourcroy and became inspector of mines and professor at the school of mines, Paris, in 1795 He was professor also at the Collège de France (1801), at the Jardin botanique (1802–9), and at the Paris Faculty of Medicine (from 1809) In 1798 he isolated chromium from Siberian red lead and analyzed beryl, identifying it chemically with the emerald and discovering beryllium oxide in it

Vauvenargues, Luc de Clapiers, marquis de (lük' dŭ klāpyȧ' märkē' dŭ vōvnärg'), 1715–47, French author and soldier. He served at Metz and Prague Badly crippled by wounds, he spent his last years writing *Introduction à la connaissance de l'esprit humain, suivi de réflexions et de maximes* (1746) was the only work to appear during his life, a complete collection of his works was published in 1857 A moralist who believed strongly in the virtues of action and emotion, Vauvenargues was notable for keen observation rather than for originality See his *Reflexions and Maximes* (Eng tr , 1940), for which he is famous See study by May Wallas (1928)

Vaux, Calvert (vôks), 1824–95, American landscape architect, b London He came (1857) to the United States with A J Downing, with whom he was first associated Later he worked with Frederick Law Olmsted and with him developed Central Park in New York, the state reservation at Niagara Falls, N Y , Prospect Park in Brooklyn, N Y , and other parks He made the plans for the Metropolitan Museum and the American Museum of Natural History Vaux was a member of many important commissions. His published work includes *Villas and Cottages a Series of Designs Prepared for Execution in the United States* (1857)

Vaux (vō) **1** Hamlet, Aisne dept , N France, W of Château-Thierry It was the point of the farthest German advance toward Paris during the last German offensive of the First World War, but it was recovered by American forces (June, 1918) **2** Fort, Meuse dept , NE France, NE of Verdun It was hotly contested during the battle for Verdun in 1916 Taken by the Germans in June, it was retaken by the French in November

Vauxhall (vôks'hôl', vôk'sôl'), district of Lambeth metropolitan borough, London, England, taking its name from the former Vauxhall Gardens Under the earlier name New Spring Gardens, the pleasure resort was first mentioned by Evelyn and Pepys in the 1660s It was popular, and for most of its career fashionable, until its dissolution in 1859 In the 17th and 18th cent the usual approach to the gardens was by the Thames See J G Southworth, *Vauxhall Gardens* (1941)

Vavilov, Nikolai Ivanovich (nyĭkulī' ēvä'nuvĭch vŭvē'luf), 1887–, Russian botanist He is reported to have died in a Soviet concentration camp c 1943 He served as professor at the Leningrad Agricultural Institute and as director of the All-Union Institute of Plant Industry In 1918 he discovered a variety of wheat in Transcaucasia which grows at an altitude of nearly 3,000 ft and is resistant to rust and mildew By genetic study of wheat variations he attempted to trace strains to the locale of original cultivation, seeking to discover where the practice of agriculture first developed In 1936 he reported that his studies indicated Ethiopia and Afghanistan as birthplaces of agriculture and civilization He opposed Trofim Lysenko's theory of heredity His *Immunity of Plants to Infectious Diseases* (1918) includes a summary in English

Vavilov, Sergei Ivanovich (sĭrgā' ēvä'nuvĭch), 1891–, Russian physicist In 1932 he became director of the P N Lebedev Physical Institute, which he organized around the laboratory of the Soviet Academy of Sciences In 1945 he became president of the academy He is known for his work in radiation, luminescence, the creation of cold light through the conversion of ultraviolet rays, and optics

Vaxjo, Swed *Växjö* (vĕk'shû"), city (pop 17,953), co seat of Kronoberg co , S Sweden It is a Lutheran episcopal see Vaxjo is situated on a small lake of the same name The city was an ancient pagan center, and according to tradition its cathedral was founded (11th cent) by an English missionary Several cloisters were established near by Vaxjo contains the Smaland Museum. There is a watch industry

Vazov, Ivan (ĭvän' vä'zŏf), 1850–1921, Bulgarian poet, novelist, and playwright, the first professional man of letters in Bulgaria His work was inspired by love of country and indignation at the sufferings of his countrymen *Under Our Heaven* (1900), *Songs of Macedonia* (1914), and *It Will Not Perish* (1920) contain some of his best poetry. His novel *Under the Yoke* (1893, Eng tr. by Edmund Gosse, 1893) is internationally famous. *Vagabonds* (1894) is his best-known play Among his other works are the novels *New Country* (1894) and *The*

Empress of Kazalar (1902) and the plays *Borislav* (1909) and *Ivaylo* (1911).

veal, flesh of a calf from six weeks to three months old weighing usually less than 300 lb The meat is pale in color, the fat is at first tinged with red, and then turns to white To be wholesome it requires thorough cooking. It contains gelatine in large proportion and is therefore excellent for making soup stock "Bob veal" is from calves less than a month old and is unfit for food Veal is sold almost entirely as fresh meat The main cuts are the leg, loin, ribs (or rack), shoulder, and breast The brains, liver, kidneys, sweetbreads, and tongue are considered delicacies

Veblen, Oswald (vĕ'blun), 1880–, American mathematician, b Decorah, Iowa, grad State Univ of Iowa (B A , 1898) and Harvard (B A , 1900), Ph D Univ of Chicago, 1903, nephew of Thorstein Veblen He taught (1905–32) at Princeton Univ and from 1932 was on the faculty of the Institute for Advanced Study His works include *Introduction to Infinitesimal Analysis* (with N J Lennes, 1907), *Invariants of Quadratic Differential Forms* (1927), and *Foundations of Differential Geometry* (with J H C Whitehead, 1932)

Veblen, Thorstein (thôr'stĭn vĕ'blun), 1857–1929, American economist and social scientist, born on a Wisconsin farm Of Norwegian parentage, he spent his first 17 years in Norwegian farm communities He studied at Carleton College, Johns Hopkins, Yale (where he received a Ph D in 1884), and Cornell and taught at Chicago, Stanford, and Missouri universities and at the New School for Social Research, New York city Detached from the dominant American society by his cultural background, Veblen was able to dissect social and economic institutions and to analyze their psychological bases, thus laying the foundations for the school of institutional economics This he did in a dry, involved, satiric style, creating famous phrases such as "conspicuous waste " In his criticism of the price system, his analysis of the business cycle, and his interpretation of the role of technical men in modern society, there are implications for social engineering Veblen did not achieve popular acclaim in his time, but has since exerted an increasingly pervasive and profound influence His works include *The Theory of the Leisure Class* (1899), *The Theory of Business Enterprise* (1904), *The Engineers and the Price System* (1921), and *Absentee Ownership and Business Enterprise in Recent Times* (1923) He also translated *The Laxdœla Saga* (1925) from the Icelandic *Essays in Our Changing Order* was published in 1934 Anthologies of his writings have been edited with introductions by Wesley Clair Mitchell (1936) and Max Lerner (1948) See biography by Joseph Dorfman (1934, rev ed , 1946), study by R V Teggert (1932), J S Gambs, *Beyond Supply and Demand* (1946)

Vecchietta, Il see LORENZO DI PIETRO

Vecchio, Il see AMATO, GIOVANNI ANTONIO D'.

Vecellio see TITIAN

Veda (vā'du, vē'du) [Vedic word designating sacred lore, cognate with Eng *wit*, from a base "know"], oldest scriptures of HINDUISM, written in Vedic, the parent language of Sanskrit The Veda consists of four *Samhita* [collections] The *Rig- Veda* [*rig*=laudatory stanza], which is the oldest, contains more than 1,000 hymns in praise of different gods They were written by a priestly class to accompany the soma-juice oblation and the sacrifice of melted butter The *Sama- Veda* [*saman*=chant] consists of stanzas taken from the *Rig- Veda* and arranged solely with reference to their place in the soma sacrifices, they were meant to be sung to certain fixed melodies The *Yajur- Veda* [*yajus*=sacrificial prayer] has some stanzas from the *Rig- Veda*, in addition to original prose formulas Here too the arrangement is after the order of the sacrifice All three Vedas were recognized as canonical and named *Trayi Vidya* [the threefold knowledge] The *Atharva- Veda* [*atharvan*=holy charms], written at a much later period, was included in the canon only after a long struggle In form it is similar to the *Rig- Veda*, but it is a book of spells and incantations teaching sorcery both to appease and curse the demon world The *Atharva- Veda* contained the religion of the poor, while the *Trayi Vidya* was the scripture of the wealthier class The immediate inspiration of the Vedas may have been the Aryan invasion (c 1500 B C) of India from the northwest. The Aryan invaders settled in the Punjab They had a practical and utilitarian religion, and their literature contains few references to an afterworld They believed that the real personality of a dead person was imperishable, later they held that the soul of a good person went to heaven and reveled with Yama, the king of the dead, in a glorified life of material joys. In the *Atharva- Veda*, however, there is a place of future punishments The universe in the *Rig- Veda* was divided into heaven, air, and earth, with the gods, beneficent personifications of natural phenomena, more or less corresponding to these divisions However, since the outlines and manifestations of these natural phenomena were vague, the distinctions between the gods were hazy also. In the earlier hymns, the gods were created by an act of natural generation, but in the later ones there are already tendencies toward pantheism, and the gods are conceived as evolving out of some primal eternal material The concept of "heaven" as a divine father, Dyaus, dates to a prehistoric period, Dyaus is usually coupled with Prithvi [earth] INDRA, the warlike thunder god, is the favorite and most important deity of the Vedas. Also of prime importance is Varuna, god of the heavens, he is the upholder of *rita*, the all-powerful physical and moral order of the universe The cult of veneration of fire assumed an ever-increasing importance in Indian worship, its god was Agni The god Soma was also important, he was the deity of the plant out of which the intoxicating beverage used in sacrifices was distilled It was held that the gods acquired immortality by drinking soma juice While the *Yajur- Veda* was being written, the priesthood became hereditary, this helped to solidify the CASTE system and began a new epoch of religious and social life In this transition period, Brahma, which in the *Rig- Veda* meant "devotion," now came to signify "essence of prayer and holiness " The sacrifice now became all-powerful In the *Rig- Veda* it was thought that the valor of the gods was induced by the sacrifice, but now the priests held that the sacrifice controlled the gods and nature, the ritual then became a mystery to all who were not priests Translations of the Vedas are included in the series *Sacred Books of the East*, edited by Max Müller See SANSKRIT LITERATURE and VEDANTA See A A Macdonnell, *A History of Sanskrit Literature* (1900), Maurice Bloomfield, *The Religion of the Veda* (1908), Moriz Winternitz, *History of Indian Literature* (1927–33)

Vedanta (vĭdän'tu, vādän'tu) [Sanskrit,=after the Veda] The term has three applications It designates certain of the *Upanishads*, a group of poetic dialogues on metaphysics written after the Vedas and in part commenting on them Vedanta is also the name of a group of related philosophic systems which deal with the nature of ultimate reality, the knowledge of which it is an aim of the *Upanishads* to impart Lastly, it is the name of one of those systems The *Upanishads* are interpreted according to six systems (six insights, darshanas) which form a series of increasingly profound analyses of the one ultimate reality Each system depends to some degree upon its more superficial antecedent system The systems posit a universal moral order (dharma), which accounts for the eternal cycles of growth and destruction in nature and the regeneration of the human soul They consider the purpose of philosophy to be the extinction of suffering, which is caused by ignorance (avidya) As faith in salvation is not sufficient and no one can know reality by direct experience, a method is necessary to overcome ignorance, this method is YOGA There are three stages to ultimate knowledge faith, whereby one accepts the laws of nature, understanding, which is a rational and logical conviction of these laws, but not amounting to certainty, and realization, when the believer becomes one with ultimate reality The six systems fall into three divisions corresponding to these stages In the division of faith are Nyaya, founded by Gautama (c 550 B C), a system of logic and a methodology of science showing how phenomena come into existence, and Vaisesika, founded by Kanada (3d cent B C), which classifies the world into nine realities and shows how combinations bring all things into being The second division (understanding) includes Samkhya, founded by Kapila (6th cent B C), an account of cosmic evolution according to logical principles It finds in the universe 25 categories produced from two ultimate realities, spirit and a preexisting static matter The other system of the second division, yoga, is the practical application of Samkhya Vedanta and Mimamsa comprise the third division (realization) Mimamsa, founded by Jaimini (fl after 600 and before 200 B C), treats of the correct interpretation of Vedic ritual and texts Vedanta, the best known and most profound of the six systems, was founded by Badarayana (fl between 500 B C and A D 200), his book, the *Vedantasutra*, contains a pantheistic doctrine on the nature of the ultimate principle, Brahma (the all-one) Brahma, if known to man intellectually through the medium of sensation, presents mere illusion (Maya) Only by direct intuition can Brahma be truly known and doubt be dispelled To such direct intuition the name Vedanta is applied Varying interpretations of the *Vedantasutra* gave rise to three schools The school of Sankara (fl c 800) took greatest hold on educated Hindus He believed that the world shows some design and that there must, therefore, be an intelligent agent (he calls it Brahma), which creates, maintains, and destroys all things Brahma has a transcendental and an immanent aspect, and each aspect has two conditions In the transcendental aspect there are the passive condition (*asat*), when all forms become submerged in the One and Pralaya (universal dissolution) results, and the active condition of being (*sat*), which operates as a support of all existence. The immanent aspect has a condition which is without quality, existing as pure spirit (Atman) and also a condition with qualities existing as pure matter (Maya or prakriti). Brahma, although it assumes an infinite variety of forms, remains always pure and essentially the same Atman, itself unchanging, brings about alteration in all things, while Maya (or prakriti) makes these things seem reality To know reality man must look into the depths of his inner self and attain knowledge, which brings with it the understanding that the soul is Brahma, thence follows emancipation from all earthly existence, including one's own To reconcile this impersonal doctrine with the *Upanishads*, which are theistic in places, Sankara developed two systems—the higher or esoteric knowledge, which presented Brahma as being without any qualities, and the lower or exoteric knowledge, which presented Brahma as a personal God and gave a theistic explanation of the universe for those whose ignorance keeps them from absolute truth, the exoteric system is based on faith rather than on realization Deliverance is attainable only by those who know the unconditioned Brahma Besides the monistic interpretation of Sankara, there is the system of Ramanuja (11th cent A D), more qualified in its monism and more theistic in tone He believed that there is but one reality, spiritual in nature, which manifests itself in the world as a duality Ramanuja held that souls are also real and exist after death Unlike Sankara, who was intellectual in his approach, Ramanuja believed that salvation was achieved through devotion There is also a third school which was founded by Madva (13th cent A D) He believed that the ultimate was dual in nature and that the soul has a completely separate existence See Max Müller, *Vedanta Philosophy* (1894) and *Six Systems of Indian Philosophy* (1899), Paul Deussen, *Philosophy of the Upanishads* (1905), Mysore Hiriyanna, *Outlines of Indian Philosophy* (1932), Christopher Isherwood, ed , *Vedanta for the Western World* (1945), Theos Bernard, *Hindu Philosophy* (1947)

Vedder, Elihu (ĕ'lĭhū), 1836–1923, American painter, illustrator, and author, b New York city, studied in Paris From 1867 he made his permanent residence in Rome Among his works are *Cumean Sibyl* and *The Lair of the Sea-Serpent* (Mus of Fine Arts, Boston), *The African Sentinel* and *The Pleiades* (Metropolitan Mus), and *The Keeper of the Threshold* (Carnegie Inst , Pittsburgh) His illustrations for Fitzgerald's translation of *The Rubaiyat* are noted His symbolic and decorative murals include five lunettes representing good and bad government, in the Library of Congress, and a panel at Bowdoin College He wrote *Digressions of V* (1910), *Miscellaneous Moods in Verse* (1914), and *Doubt and Other Things* (1923) He became a member of the National Academy of Design in 1865

Veedersburg, town (pop 1,781), W Ind , near the Wabash W of Crawfordsville Bricks are made

Veen, Maarten van see HEEMSKERCK, MAARTEN VAN

veery or **Wilson's thrush**, American THRUSH of rather dense woodlands It is reddish brown above with faintly spotted buff and white under parts Its delicate song, heard at its best in early morning and before dusk, is a series of rolling notes, descending in spiral fashion and gradually diminishing in volume

Vega, Garcilaso de la see GARCILASO DE LA VEGA

Vega Carpio, Lope de see LOPE DE VEGA CARPIO

vegetable, popular name for many food plants, most of them annuals, and for their edible parts There is no clear distinction between the vegetables and the fruits Most of our common vegetables were brought into cultivation in the Eastern Hemisphere, the Indians of the New World developed cultivation of the potato, tomato, and corn and some varieties of squashes and peppers Most vegetables consist largely of water, plus starches, sugars, proteins, and the mineral salts which are one of their chief contributions to the diet Dried legumes contain a large proportion of proteins and can be used to some extent as meat substitutes Many vegetables, especially those with green and yellow coloring, are valuable sources of vitamins In the United States the demand for fresh vegetables at all seasons has been met by improved methods of handling and shipment and the development of large commercial truck farms and market gardens, especially in California, Florida, and Texas Even vaster acreages supply vegetables for canning and quick freezing Practically all vegetables are easily grown in home gardens

vegetable ivory see TAGUA

vegetable marrow, fruit of a plant that is the same species as the PUMPKIN It is usually long and slender in shape, with a light yellow or green skin or, in the Italian variety, with a dark green skin and orange flesh The latter, which grows to a length of 20 in , is usually eaten in Italy while very small and tender Vegetable marrows are grown more in Europe than in America

vegetarianism, theory or practice which aims to make vegetable foods the sole or principal articles of human diet, to the exclusion of flesh, fowl, and generally fish The basis of the practice may be religious, humanitarian, or hygienic, and its followers differ as to strictness of observance Some groups abstain from all animal foods, even milk,

eggs, and butter, some from all flesh foods; some allow the use of netted fish Certain Hindu sects are vegetarian, as are Seventh-Day Adventists As a general movement vegetarianism arose about the middle of the 19th cent , it made considerable progress in Great Britain and in the United States. Propaganda was spread by means of societies, books, periodicals, and lectures

Vegetius (Flavius Vegetius Renatus) (vĭjē'shŭs), fl 385, Roman writer He is the author of *Epitoma rei militaris* [a summary of military matters], which is an important source of information about the Roman military system

Veglia, Yugoslavia see KRK

Vegreville (vĕ'grĭvĭl), town (pop 1,563), E Alta., on the Vermilion river and E of Edmonton It is a distributing center for a grain, dairy, and stock ranch area

Vehmgericht (fām'gurĭkht), **Vehme** (fā'mu), or **vehmic court** (fā'mĭk) In medieval Germany after the breakdown of the Carolingian empire, incessant feudal warfare and the inability of the emperor to construct a really efficient system of control in the Holy Roman Empire fostered disorder and brought about the activities of the "robber barons" and innumerable brigands To meet the appalling lawlessness, which increased with the centuries, there appeared in Westphalia about the end of the 12th cent a sort of illegal but efficient criminal tribunal These tribunals, the Vehmgerichte, increased in number and were an important element in criminal law in Germany in the later Middle Ages They did not become powerful anywhere except in Westphalia, where they reached their height in the 15th cent The vehmic courts represented a familiar device, which is employed usually when central organization of legal enforcement has broken down or is too weak to enforce justice other instances are the HERMANDAD in Spain and Mexico, the vigilantes in early California, and the Ku Klux Klan of the Reconstruction in the South The Vehmgerichte were operated by "holy bands" of men sworn to the utmost secrecy, and much of the work of the tribunals was secret They achieved much of their salutary effect by a sort of terrorism As is usual with such illegal forms of rough justice, the Vehmgerichte were open to abuse, and eventually they sought to take over more and more of the functions of government The emperor began to find them a menace rather than an aid, and as the power of the petty princes consolidated, there was a general move against the secret Vehmgerichte, which largely disappeared in the 16th cent Their secret proceedings, solemn oaths, and awe-inspiring methods made them fit material for romantic historical novels Perhaps the best-known use of them in English fiction is in Sir Walter Scott's *Anne of Geierstein*. The name is also spelled Fehmgericht or Femgericht The members of the court were known as the "free judges "

Veii (vē'ī), ancient city of Etruria, 11 mi NW of Rome, Italy One of the most powerful member cities of the Etruscan League, it was constantly at war with Rome It fell (c 396 B C) to the Roman army under Camillus after a 10-year siege The city was an important center of ETRUSCAN CIVILIZATION and was especially noted for its statuary Near the modern Isola Farnese there are ruins of the ancient city and tombs, which have yielded Etruscan antiquities

veil, a feature of female costume from antiquity, especially in the East It was worn by women of rank in early Greece and was a favorite headdress among Roman matrons Among Moslems the veil has been used by women of all classes and varies in size and material from thin face coverings of gauze and muslin to large shawllike wrappings of gauze, white cotton, black silk, or richly ornamented stuffs In Europe the veil was first worn in Gallo-Roman times and was used throughout the Middle Ages, usually as a part of an elaborate ornamental headdress In the 10th cent it covered the neck and shoulders; in the 12th and 13th it was often worn with a gold harnet and wimple, in the 14th fine gauze or gold tissue was draped from the pout of a high sugarloaf cap The materials used were often rare and costly, such as Persian gauzes and gold-embroidered India muslins Poorer women wore protective wraps of coarse, dark stuff A North African people, the Tuareg, veils its men, but not its women The veil has always had symbolic meaning Homer spoke of it as the radiant white emblem of modesty Mystery and consecration are signified by the religious veil, as worn by the vestal virgins and various modern orders The wedding veil has acquired something of the same association, although it was probably worn originally to protect the bride from evil spirits Until the Renaissance, European brides wore red veils, and those worn in Bukhara are still of rose color The discarding of the veil in the East today is significant of a changed attitude toward woman. The veil survives in the Spanish mantilla, the Mexican *rebozo*, and the Mohammedan yashmak and in Western wedding and religious garb See K. M. Lester and B V Oerke, *Illustrated History of . . . Accessories of Dress* (1940)

vein, blood vessel which conveys blood from the tissues to the heart. Veins carry deoxygenated blood except for the pulmonary vein, in which the blood is oxygenated Compared with an ARTERY, the wall of a vein is thinner and less muscular, collapsing when empty. With some exceptions, e g , the deep veins of the face, veins contain valves which prevent the backward flow of blood as it moves toward the heart. Veins are subject to dilatation (as in a VARICOSE VEIN), rupture, or blocking by blood clots (see THROMBOSIS).

vein, in mining see ORE

Veit, Philipp (fīt'lĭp fĭt'), 1793–1877, German historical painter, grandson of Moses Mendelssohn and stepson of Friedrich von Schlegel In Rome he joined the Nazarenes and was one of the most interesting members of the group With them he assisted in the fresco decorations of the Casa Bartholdy and Villa Massimi From 1830 to 1843 he was director of the Städel Institute, Frankfurt-am-Main, for which he painted *Introduction of Christianity into Germany* The last part of his life was spent in Mainz, where he designed the decorations for the cathedral

Vejle (vī'lŭ), city (pop 27,107), E Jutland, Denmark, on the Vejle Fjord, an inlet of the Baltic Sea It has a good harbor and is a commercial and industrial center, producing hardware, machinery, textiles, and processed foods The Church of St Nicholas dates from the 13th cent

Vela, Blasco Núñez. see NUÑEZ VELA, BLASCO

Vela, Vincenzo (vēnchān'tsō vā'lä), 1822–91, Italian sculptor His many works include public monuments, portrait statues, and ideal figures Among his works are *Spartacus* and *Dying Napoleon* The latter is at Versailles, with a replica in the Corcoran Gallery

Velasco, José María (hōsā' märē'ä välä'skō), 1840–1912, Mexican landscape painter, teacher of Diego Rivera. Descended from a family of shawl weavers and a gifted craftsman, he entered (1858) the art academy of San Carlos His early work is reminiscent of Corot Feeling a need for scientific knowledge in order to be able to depict most expressively the natural beauty of the Valley of Mexico, he studied anatomy, botany, geology, and other sciences He became extremely fluent in oil technique and developed an immense variety of shades of coloring Whenever his paintings included plants and flowers he depicted them with minute attention to botanical detail, as in his painting *The Bridge of Mallac* (1881), his paintings of rocks manage to convey the effects of time and weather His deviation from academic standards caused his removal (1907) from the professorship at the Mexican National Academy which he had held since 1868 His paintings were also rejected, but when he took them to the Paris exposition (1889), they took first place Altogether he painted more than 400 oils and worked also in pencil and water color Almost forgotten after his death, he commanded new praise at a large retrospective exhibition (1942) in Mexico city

Velasco, Luis de (lwĕs' dā välä'skō), d 1564, Spanish administrator, second viceroy of New Spain (1550–64), successor to Antonio de MENDOZA His rule was remarkably energetic, humanitarian, and free of corruption He did much to improve the condition of the Indians and thus aroused the opposition of many of the powerful Spaniards in Mexico In 1553 the Univ of Mexico was founded Exploring expeditions were sent out—Francisco de IBARRA conquered Nueva Vizcaya, and LÓPEZ DE LEGASPI conquered the Philippines Velasco was beloved by the people of MEXICO, especially the Indians His son, **Luis de Velasco,** 1534–1617, was viceroy of New Spain (1590–95, 1607–11) and of Peru (1595–1604) In Mexico he helped to quell the rather obscure conspiracy in which Martín Cortés, the son of the conqueror, was involved Appointed viceroy after distinguished service in Spain, Velasco continued the work of his father in aiding the Indians, encouraged weaving and other industries, beautified Mexico city, strengthened fortifications at Veracruz, and extended the conquest to the north, pacifying the Indians In Peru he also worked to improve conditions among the Indians, particularly in the mines, tried to ward off buccaneer attacks, encouraged education, and reformed postal service Velasco returned to Mexico but was not allowed to continue long in private life Viceroy of Mexico a second time, he began the drainage of lakes about Mexico city, put down a Negro revolt near Orizaba, and sent out Sebastián VIZCAÍNO on explorations (1611) One of the finest Spanish colonial administrators, Velasco was later president of the Council of the Indies. He was rewarded with the title of marqués de Salinas

Velasco (vulä'skō), unincorporated town (1947 estimated pop 5,200), S Texas, at the mouth of the Brazos opposite FREEPORT Settled early in the 1820s, it was the scene of a battle (1832) in which Texans defeated a Mexican garrison and of the signing (1836) of the treaty that ended the Texas Revolution Once a plantation center, it decayed for decades before it was revived by the Freeport boom

Velay (vulā'), region, E central France, in the Massif Central, between Auvergne and the Cévennes Mts , occupying part of Haute-Loire dept. It consists mostly of arid high plateaus which are partly of volcanic origin. In the center is Le PUY, the chief city, surrounded by a fertile basin. The medieval county of Velay was under the suzerainty, in turn, of the counts of Toulouse and of the English rulers of Aquitaine; after its reconquest by France in the Hundred Years War it was incorporated into Languedoc prov

Velázquez, Diego de (vulä'skwĭz, Span. dēä'gō dā välāth'käth), c 1460–1524?, Spanish conquistador, first governor of Cuba, b Cuéllar, Spain. He sailed with Christopher Columbus on his second voyage (1493) to Hispaniola and in 1511 commanded an expedition sent by Diego Columbus to conquer Cuba. Landing at BARACOA, where he established the seat of government, by 1514 he had completed occupation of the island with the aid of his friend and chief lieutenant, Pánfilo de NARVÁEZ. Velázquez continued the colonization of Cuba and founded many of the principal towns Before he sailed for Cuba, there had been ill feeling between him and Diego Columbus, soon after conquering Cuba, Velázquez established himself as governor of the island and declared himself independent of the other's authority He was connected with the expedition of Fernández de Córdoba to Yucatan (1517) and in 1518 sent out an expedition under Juan de Grijalva, who explored the Mexican coast Late in 1518 the Spanish king made Velázquez *adelantado* of Cuba and any territories which might be discovered under his orders Hernán Cortés was placed in command of a third expedition which sailed in 1519 for the conquest of Mexico Distrusting Cortés, Velázquez in 1520 sent Pánfilo de Narváez to compel his return to Cuba, but Narváez was defeated and the remainder of his forces joined Cortés In 1521 Velázquez was replaced as governor of Cuba, but in 1523 was restored to his post

Velázquez, Diego Rodríguez de Silva y (rōdhrē'gāth dā sēl'vä ē), 1599–1660, most celebrated painter of the Spanish school, b Seville He was the son of Rodrigues de Silva, a Sevillian lawyer of Portuguese descent, and according to Spanish custom added his mother's name, Velázquez At 13 he was apprenticed to Francisco de Herrera, the elder, whom he soon left for the studio of Pacheco, where he remained five years Here he came into contact with the most intellectual society of Seville and with the work of the Spanish naturalist painters His earliest paintings, such as *Christ and the Pilgrims of Emmaus* (Metropolitan Mus), already show great vigor and a strong naturalistic tendency In 1618 Velázquez married Pacheco's daughter Juana, by whom he had two daughters In 1622 he removed to Madrid There, under the protection of the condé de Olivares, he was introduced to the court and painted an equestrian portrait of Philip IV (destroyed) which won him immediate recognition In 1624 he was made court painter and given a studio in the royal palace. From this period dates the friendship of the painter and the king During his first years at court Velázquez painted the portrait of Olivares (Hispanic Society, New York) and two full-length portraits of Philip IV and Don Carlos, a bust portrait of the former, and the celebrated *Borrachos* [the topers] (all Prado) In 1629, shortly after a visit by Rubens to the Spanish court, Velázquez made his first visit to Italy, returning in 1631 During his stay he copied some works of Tintoretto and painted two large figure compositions, *The Forge of Vulcan* (Prado) and *Joseph's Coat* (Escorial), and two exquisite little landscapes of the Villa Medici gardens (Prado) To his second period (1631–49) belong the great equestrian portraits of Olivares and the king, *Christ on the Cross*, and the magnificent *Surrender of Breda* (all Prado) and the three-quarter-length portrait of Philip IV (Frick Coll , New York) In 1649 Velázquez paid a second visit to Italy to buy statues and paintings for the king and returned two years later, having enriched the Spanish royal collection by many masterpieces of Titian, Tintoretto, and Veronese. In Rome he painted the superb portrait of Pope Innocent X (Doria Palace), with which begins his third and greatest period To the last 10 years (1650–60) belong the series of dwarfs and buffoons of the court, the *Aesop*, the *Menippus*, the *Coronation of the Virgin*, *St Anthony the Abbot and St Paul the Hermit*, the famous full-length portraits of Mariana of Austria, Philip's second wife, and the Infanta Margarita, the *Spinners*, and the *Maids of Honor* (all Prado) Also of this period are the head of the Infanta (Louvre) and the portrait of Philip IV as an old man and *Venus with a Mirror* (both. National Gall , London) Throughout his career Velázquez enjoyed the close friendship of the king, although his position at court was hardly more than that of a servant and sometimes seriously interfered with his freedom to paint. He died shortly after organizing the marriage ceremonies of Marie Thérèse of Austria to Louis XIV His development as an artist was uncommonly steady He early acquired the naturalistic approach ("truth not painting," was said to be his motto) and slowly evolved from it an extraordinarily subtle and intellectual art based on exquisite color values, of which he remains the unrivaled master. His cool

palette and consummate use of gray in conjunction with brilliant color sometimes recall El Greco, whose work he knew and admired In spirit, however, his art is far removed from that of El Greco in its dispassionate and almost impersonal aloofness and serene objectivity. Velásques had many followers. **His son-in-law** Mazo imitated his portrait style so successfully that many minor works formerly attributed to Velásques are now thought to be his. Murillo learned much from Velásques. But in his great works Velásques has never been successfully imitated. His mature works are very few—some say not over 100. He was obliged to produce replicas of many of his court portraits Some of these are the work of Mazo and all are naturally inferior to the originals Velásquez can only be fully appreciated in Madrid, although more or less authentic examples of his work are to be seen in many galleries in Europe and America See studies by Carl Justi (Eng tr, 1889), R A M Stevenson (1895), Aureliano de Beruete y Moret (Eng tr, 1906), and A S Riggs (1947)

veld or **veldt** (both vĕlt) [Dutch, =field], term applied to the grassy undulating plateaus of the Union of South Africa and of Southern Rhodesia The veld comprises territory of varying elevation—the high veld (4,000–6,000 ft), the middle veld (2,000–4,000 ft), and the low veld (500–2,000 ft) The veld is principally suited to grazing

Velde, Van de: see VAN DE VELDE

Veles, Yugoslavia see TITOV VELES

Vélez de Escalante, Silvestre see ESCALANTE, SILVESTRE VÉLEZ DE

Vélez de Guevara, Luis (lwĕs' vā'lāth dā gāvā'rä), 1579?–1644, Spanish playwright and novelist He was a follower of Lope de Vega and wrote many plays, among which the most important are *La luna de la sierra* [the mountain moon] and *Reinar después de morir* [to reign after death] His picaresque novel *El diablo cojuelo* [the limping devil] (1641) was adapted by Le Sage in *Le Diable boiteux*

Vélez-Málaga (vā'lāth-mä'lägä), city (pop 10,813), Málaga prov, S Spain, in Andalusia, on the Vélez river It is an agricultural center Recovered from the Moors by Ferdinand V in 1487, it has a Moorish castle and a fine church

Veliki Beckerek, Yugoslavia see ZRENJANIN

Veliki Ustyug (vyīlvē'kē ōōstyōōk'), city (pop 19,171), NE European RSFSR, on the Sukhona river Dating from the 13th cent, it became (16th–17th cent) a flourishing commercial and cultural center There are a cathedral, a monastery (17th cent), and a regional museum The city has various manufactures

Velikiye Luki (vyīlvē'kĭū lōō'kē), city (pop 20,771), capital of Velikiye Luki oblast, W European RSFSR, on the Lovat river It is a rail junction and farm center, with dairies, flour mills, distilleries, and brickworks Dating from the 12th cent, the city was controlled first by Novgorod, then by Lithuania, and, after the 15th cent, by Moscow It was captured (1580) by Stephen Bathory of Poland During the Second World War II was the center of heavy fighting and was held (1941–43) by the Germans

Velletri (vāl-lā'trē), town (pop 20,419), Latium, central Italy It is a noted wine center It was an important Roman town, but few remains of its villas are left

Vellore (vĕlôr'), town (pop 71,502), E central Madras state, India It contains an ancient fort, an exquisite temple of Siva (perhaps c 1350), and the tombs of the family of Tippoo Sahib

vellum · see PARCHMENT

Velsen (vĕl'sün), municipality (pop 40,710), North Holland prov, W Netherlands, near the mouth of the North Sea Canal, which connects Amsterdam with the sea It is a center of the Dutch steel industry, and it includes the port of IJMUIDEN

Velva, city (pop 1,017), N central N Dak, SE of Minot, in a farm area, laid out 1891, inc 1905

velvet, fabric having a soft, thick, short pile, usually of silk and a plain twill or satin-weave ground The pile surface is formed by introducing an extra set of warp threads which are looped over wires as in Wilton carpet, the rods being withdrawn after the weft thread is placed, leaving a row of loops or tufts across the breadth The loops may remain uncut, forming terry velvet, or be cut, automatically, in machine weaving or by a special tool in hand looming It may be woven double, face to face, then cut apart. Velvet is supposedly one of the silk weaves developed on the ancient shuttle looms of China The most beautiful weaves, such as brocades, are still done successfully only by hand India has used velvet, often richly embroidered, from remote times for the furniture and trappings of royalty Many fine velvets were made in Turkey, and Persia was famous for its beautiful designs and color Magnificent velvets began to be used in Europe in 12th- or 13th-century religious and court ceremonials Lucca and Genoa apparently were the first cities to make fine velvets and excelled through the 16th and 17th cent Genoese velvet was notable for designs formed by contrasts of cut and uncut pile. Venetian and Florentine fabrics were sumptuous brocades, floral designs on contrasting grounds or on cloth of gold Utrecht made a rich, heavy velvet used for wall and furniture coverings Modern velvets are of many types and grades Lyons velvet has a stiff ground and erect pile Transparent velvet has a sheer foundation Panne velvet is a long-napped weave, pressed.

velvetweed, velvetleaf, or **Indian mallow,** tall annual ABUTILON with heart-shaped velvety leaves and yellow flowers It is native to Asia, where it has been cultivated as "Chinese jute" for its fiber Introduced into the United States as an ornamental plant, it has escaped and become a weed, particularly persistent because the seeds remain viable for many years The plant should be cut and burned before the seeds ripen

Ven, formerly **Hven** (both vän), island, area c 20 acres, S Sweden, between Landskrona (Sweden) and Helsingor, Denmark Tycho Brahe built his castle, Uranienborg, and an observatory, Stjarneborg [star castle], on Ven c 1580, ruins still exist

Venaissin (vənĕsĕ') or **Comtat Venaissin** (kōtä'), former papal possession (1274–1791) in Provence, SE France, consisting of the territory around AVIGNON Annexed to France after a plebiscite, it was incorporated into Vaucluse dept Carpentras was the capital

Venantius Fortunatus see FORTUNATUS (d c 600)

Vendée (vädā'), department (2,709 sq mi, pop 393,787), W France, on the Atlantic coast, in POITOU It is named for a small river La Roche-sur-Yon (the capital) and Les Sables-d'Olonne are the chief towns The department gave its name to the counterrevolutionary insurrection of 1793–95, which began here The movement was popular in origin The peasants of the Vendée, who had lived on good terms with the local nobility, began to oppose the French Revolution with violence when it turned against the Roman Catholic Church Peasants and nobles united under such leaders as CATHELINEAU and CHARETTE DE LA CONTRIE, raised an army whose strength at one time exceeded 50,000, and cleared the region of revolutionist authorities They occupied Saumur and resolved to spread the revolt through Brittany, Maine, and Normandy, where the CHOUANS were already harassing the government troops, and then to march on Paris However, the important city of Nantes held out against them, and Cathelineau was killed, LA ROCHEJAQUELEIN now assumed leadership Animated by the heroism of their faith, the Vendeans marched north as far as Granville, but lack of discipline forced their return south late in 1793 Overtaken at Le Mans and at Savenay by the republican army, they were utterly cut to pieces, and terrible reprisals were meted out (see NOYADES) The overthrow of Robespierre led to the peace of La Jaunaie (Feb 15, 1795), by which the government granted an amnesty and freedom of worship to the Vendeans Yet royalist intrigues of the émigrés, backed by Great Britain, drew the Vendée into renewed conflict General Hoche, now in command of the government forces in the west, routed an émigré landing party at Quiberon in Brittany, the count of Artois (later Charles X), who had landed on the isle of Yeu off the Vendée, took fright and abandoned Charette and Stofflet, now the leaders of the Vendeans, to capture and execution Hoche's moderation helped to pacify the ravaged region in 1796

Vendémiaire (vädāmyĕr'), first month of the FRENCH REVOLUTIONARY CALENDAR The 13 **Vendémiaire** of the Year IV (Oct 5, 1795) is remembered as the day when Napoleon Bonaparte, until then an obscure general, gained fame by putting down a serious insurrection The Parisian electorate had revolted against certain decrees designed to perpetuate the power of the leaders of the Convention in the Directory, which was about to be established Napoleon, with the blessings of BARRAS, crushed the rebels by using artillery—a method which he later described as 'a whiff of grapeshot"

vendetta (vĕndĕ'tə) [Ital, =vengeance], obligation of members of a kinship group to avenge a wrong done to a relative The vendetta is found in the folkways of many peoples It normally reflects a state of society where the family is the only social unit with authority and where there is no state to compel order After a society attains such cohesion that it can no longer tolerate private vengeance, COMPOSITION for offenses may be compelled In time the state itself punishes antisocial acts, and a system of CRIMINAL LAW may be said to come into being The obligation to carry on the vendetta may rest primarily on the man next of kin to the wronged person, as in Shakspere's *Hamlet* Among some peoples, vengeance may be taken on any member of the group of the man who has done the wrong Vendettas in some circumstances may almost amount to full-scale wars between family groups The most striking form of the vendetta is the blood feud, or the right to take a life for a life While the vendetta is unlawful in all parts of the civilized world, it nevertheless persists in areas which are remote or without modern police protection. Until recently blood feuds were common in Corsica, in parts of Italy, and in some mountainous areas of the SE United States.

vending machine, coin-operated, automatic device for selling merchandise or service Its active history goes back to c 1888, when penny gum machines became popular. A variety of small, imperishable, and inexpensive goods such as cigarettes, candy, gum, combs, tickets, bottled drinks, and stamps are sold by machines, perishable food is sold in automats, and machines have been devised for marketing hot coffee and ice cream Service machines include gas-meter boxes, telephones, telescopes, scales, turnstiles, lockers, and juke boxes Amusement machines include games of skill Gambling devices, forbidden in many areas by state or local laws, are so lucrative that they have commonly been controlled by racketeers who often seek to wield political influence in the making and enforcement of regulations on slot machines Cooperated machines are sometimes provided with mechanisms for rejecting slugs or for making change Some machines are leased, some are sold, and some are owned by companies which service the units Advantages of selling by vending machines are immediate service at any hour, convenient location, cash sales, release of sales personnel, and the protection of goods from handling

Vendôme, César, duc de (sāsär' dük' du vädōm'), 1594–1665, French general and politician, natural son of Henry IV and Gabrielle d'Estrées Legitimized in 1595, he was made governor of Brittany and a duke in 1598 He rebelled against Marie de' Medici (1614–16) and against Luynes (1620) and was imprisoned (1626–30) for conspiring against Richelieu In 1641 he was forced to flee after being accused of attempting to poison Richelieu. Returning after Richelieu's death, he was exiled (1643) for conspiring against Mazarin However, he fought on the government side in the Fronde, capturing Bordeaux (1653), and in 1655 he defeated a Spanish fleet at Barcelona

Vendôme, François de see BEAUFORT, FRANÇOIS DE VENDÔME, DUC DE

Vendôme, Louis Joseph, duc de (lwē' zhôzĕf'), 1654–1712, marshal of France, grandson of César de Vendôme and son of Laure MANCINI He fought in the major battles of the War of the Grand Alliance In the War of the Spanish Succession he replaced Villeroi in Italy (1702) and decisively defeated his cousin, Prince Eugene of Savoy, at Cassano (1705) Sent to Flanders to repair Villeroi's defeat at Ramillies (1706), he was at first successful against Marlborough and Eugene but was defeated at Oudenaerde (1708) In 1710 he went to the aid of Philip V of Spain and by his victories at Brihuega and Villaviciosa forced the withdrawal of the allies

Vendôme (vädōm'), town (pop 7,907), Loir-et-Cher dept, N central France, in Orléanais It was after the 9th cent the prosperous center of the county of Vendôme, which in 1515 became a duchy Henry IV, who inherited the duchy as part of the Bourbon lands, united it (1589) with the royal domain and in 1598 bestowed the title duke of Vendôme on his illegitimate son, César Louis I de Condé and Marshal Rochambeau were born here, Ronsard was born in a near-by castle

veneer (vənēr'), thin leaf of wood applied with glue to a panel or frame of solid wood Veneering is an art coeval with early civilization, perfected as human skill progressed It produces richly grained effects more cheaply than suitable solid wood and is used also on structural parts which must be cut with the grain for strength Both saw and knife are employed for cutting veneers, and the wood may be crosscut, quarter-sawed, or rotary-cut in a continuous sheet The grain pattern varies with the direction of the cut, woods cut across the grain in general displaying more effective patterns, e g, burr and oyster walnut, bird's-eye maple Rosewood, satinwood, maple, walnut, and mahogany are frequently employed for veneers Hand-cut veneers were $\frac{1}{10}$ to $\frac{1}{8}$ in thick, the modern machine-cut sheets are rarely thicker than $\frac{1}{32}$ in Veneering executed in inlaid sheets is known as MARQUETRY Plywood and beams or planks of compounded woods are developed by a veneering process

venereal disease (vənēr'ēəl), infectious disease acquired usually through sexual relationships SYPHILIS and GONORRHEA are venereal diseases Their contagious nature and the taboo long associated with public discussion of the diseases gave rise to a serious public health problem The physical and mental deterioration of the afflicted tend to increase the number of disrupted families and create problems of providing public support for dependents and of meeting the enormous costs of care in hospitals and mental institutions Syphilis, which in its late stages may affect the spinal cord and produce locomotor ataxia or may attack the brain and cause paresis (general paralysis and insanity), accounts for large numbers of inmates of institutions A nation-wide campaign was initiated in 1937 by Thomas Parran, then serving as U S surgeon general, in the course of which both press and radio discussed the incidence, cause, and cure of venereal diseases The support given the campaign by public health boards, physicians, and laymen spur-

red legislation requiring compulsory premarital examination and the examination of pregnant women for syphilis, such legislation is now effective in a majority of the states The sulfa drugs and penicillin have proved useful in treating venereal diseases The availability of effective treatment and the wide publication of how and where help may be procured has reduced the number of new syphilis cases each year Infant deaths from the disease have also declined Coordinated effort by private and public agencies aimed at quickly identifying and isolating a source of infection is another favorable development See also SOCIAL HYGIENE

Veneti (vē'nutī), Celtic people of ancient Gaul, who inhabited an area of NW France, now in Morbihan dept. The most important of the Gallic maritime states, they rebelled in 57 B C against Roman rule and were decisively defeated by Julius Caesar in a naval battle, in which, according to his account, they lost 220 vessels

Veneti (vē'nutī), people of ancient Italy They occupied the shore of the Adriatic from Trieste to the mouth of the Po river Some scholars have connected them with the Wends However, they probably spoke an Illyrian language Friendly to Rome, they came under Roman rule in the 2d cent B C

Venetia (vunē'shu), Ital *Veneto* (vānā'tō), region (7,098 sq mi , pop 3,566,136), NE Italy. It is separated from Lombardy and Emilia in the east and the south by the Mincio and Po rivers, the Alps rise in the north, where Venetia borders on Austria, in the east it borders on Friuli–Venezia Giulia, and in the southeast on the Gulf of Venice, an arm of the Adriatic Sea Venetia is divided into the provinces of Belluno, Padua, Rovigo, Treviso, Venice, Verona, and Vicenza, all named after their chief cities VENICE is the capital The fertile Venetian plain and the Alpine foothills produce mainly cereals, grapes, fruit, sugar beets, and hemp Mulberry trees are grown for silk production Venice is a commercial, industrial, and maritime center, Chioggia is the main fishing port Venetia derives its name from the ancient VENETI, who came under Roman rule in the 2d cent B C Augustus made Venetia and Istria a separate province, with the capital at AQUILEIA The region suffered heavily during the barbaric invasions About the 10th cent the TOWNS began to acquire importance, ruled at first by their bishops, they later developed into free communes Some of them grew powerful under the rule of noble families, but the republic of Venice grew supreme, and by the early 15th cent its territories included virtually all of present Venetia The Treaty of CAMPO FORMIO (1797) gave Venetia to Austria, and the Treaty of Pressburg (1805) gave it to the Napoleonic kingdom of Italy In 1814 Venetia was restored to Austria, which held it until the end of the Austro-Prussian War (1866), it then was ceded to Italy After the Second World War the eastern province of Udine was detached from Venetia to form, with the remainder of Venezia Giulia, the Italian region of FRIULI–VENEZIA GIULIA.

Venetian point see LACE

Venezia, Italy see VENICE.

Venezia Giulia (vānā'tsya jōō'lya), former region, NE Italy, on the Adriatic, occupying E FRIULI, Trieste, ISTRIA, and part of CARNIOLA It was formed after the First World War with part of the territories ceded by Austria to Italy in 1919 FIUME was added in 1921 Except along the coast, the population is Slovenian, and after the Second World War most (2,991 sq mi , pop 518,905) of Venezia Giulia was ceded by Italy to Yugoslavia Most of Istria was joined with Croatia, part of Friuli and Carniola was combined with Slovenia, another portion (287 sq mi , pop c 340,000) went to form the new Free TERRITORY OF TRIESTE The remainder (183 sq mi , pop 122,092) stayed with Italy and was merged with Udine prov to form the new Italian region of FRIULI–VENEZIA GIULIA.

Veneziano, Agostino see AGOSTINO VENEZIANO

Veneziano, Domenico see DOMENICO VENEZIANO

Venezia Tridentina. see TRENTINO-ALTO ADIGE

Venezuela (vĕnuzwā'lù, -wē'lù, Span vānāswā'la), republic (352,141 sq mi , pop 3,850,771), N South America The capital is CARACAS The country faces on the Caribbean Sea in the north, with a long coast line The name, meaning "little Venice," was supposedly given to it by Amerigo Vespucci because the Indian villages on Lake Maracaibo were built above the water on stilts There are four large geographic regions—the Guiana Highlands, the Orinoco basin, the coastal lowlands, and the mountains—as well as various smaller regions The GUIANA HIGHLANDS in the far south rise to a wilderness of steep cliffs and high waterfalls, almost inaccessible and almost unexploited. Much gold has, however, been exported, and SE of CIUDAD BOLÍVAR the large iron deposits are now being opened as roads overcome the difficulties of transportation Almost all the boundary with Brazil is mountainous, but the upper Orinoco is connected with the upper RIO NEGRO by a natural channel, the CASIQUIARE. There are extensive forests that once yielded rubber but now are exploited only for lesser forest products (tonka beans, balata, and resins). The ORINOCO, one of the great rivers of South America, flows from this region, and its basin is a large pastoral area North of it and about the APURE and its tributaries are the LLANOS, the vast, hot Orinoco plains, where there is a great cattle industry, interrupted by the civil wars of the 19th cent , but later rebuilt Stockraising has been urged along by the introduction of high-breed cattle, the opening of new roads, and the establishment of meat-packing plants Hides are an important Venesuelan export By far the greatest export, however, comes from a region on the coastal plain, the lowlands around Lake Maracaibo Here since 1918 Dutch, British and American interests have developed the astoundingly rich oil fields The newest field, in NE Venezuela around Caripito, raised Venezuela's rank to second among oil-producing nations There are some refineries in the country, but much of the produce is sent from Maracaibo to foreign refineries Directly off the coast are the British island of Trinidad and the Venezuelan Margarita (formerly known for its pearls and now a source of magnesite) The coastal lowlands are tropically hot, but the coastal ranges rise abruptly from the Caribbean to cool altitudes of 6,000 to 7,000 ft. In the west the SIERRA NEVADA DE MÉRIDA begins about BARQUISIMETO These mountains are a continuation of the Andes Mountain highlands dominate the most populous part of Venezuela Coffee—which was formerly the chief economic item of Venezuela along with cattle until oil was struck—comes from the cool slopes, and cacao from the lower foothills These are exported through the ports of PUERTO CABELLO, LA GUAIRA, and CUMANÁ The cities of the high mountain basins were dominant economically through the 19th cent and still are politically powerful About CARACAS, VALENCIA, and MARACAY, sugar cane, cotton, and wheat and other grains are grown Cattle from the llanos are also fattened on the rich valley grasses A dairy industry has also been started at Maracay Although the climate of the highland cities is moderate and delightful, the mountains have offered difficulties to Venezuelan development because of the insufficient communications and transportation The airplane has helped greatly to alleviate this trouble, but has not yet solved the problem of shipping for industries The foreign-owned plants are dependent on petroleum, and most other industrial establishments are small—plants processing meat, fish, and dairy products, cotton textile mills, tanneries, cigarette and cement factories, sugar refineries, and plants producing rubber tires The development of these industries, combined with the lure of wages in the oil fields has tended to make for a scarcity of farm labor The powerful landowning class is to a considerable extent of predominantly Spanish descent The great percentage of Venezuelans are, however, of mixed Indian and white blood, with some mulattoes, some zambos or sambos (Indian and Negro), and some Indians The Spanish conquest fastened the landholding system upon Venezuela Columbus discovered the mouths of the Orinoco in 1498 and VESPUCCI and Alonso de OJEDA traveled along the coast in 1499 Settlements were established on the coast at Cumaná (1520) and CORO (1527), but the major task of conquest was begun only after the Welser family, in return for loans to Emperor Charles V, obtained rights in Venezuela German adventurers —Ambrosio de Alfinger, George of Speyer, and Nicolás FEDERMANN—made the country known, partly through a search for the fabled El Dorado The area was in colonial days largely an adjunct of NEW GRANADA (present Colombia) In 1731 it was made a captaincy general but in 1740 was again united to New Granada, only to be detached again in 1777 From the 16th to the 18th cent the long coast line was attacked by British buccaneers and in the 18th cent there was brisk smuggling trade with the British islands in the West Indies. In 1795 there was an uprising against Spanish control that is sometimes regarded as the first movement of the revolution against Spain It was, however, only after Napoleon had taken control of Spain that a real revolution began (1810) under Francisco de MIRANDA In 1811 complete independence was declared The revolution had varying fortune The earthquake of 1812, which destroyed cities held by the patriots, helped to forward the cause of the royalists, who took the calamity as punishment for the rebellion Later, however, Simón Bolívar (born in Venezuela) and his lieutenants, working from Colombia, were able to liberate Venezuela despite setbacks administered by the royalist commander, Pablo MORILLO. The victory of Carabobo (1821) sealed independence from Spain Venezuela was combined with Colombia and other territories in the Greater Colombia, but almost from the beginning Venezuela was restive. José Antonio PÁEZ, who had conquered the last Spanish garrison at Puerto Cabello in 1823, favored independence He was a leader of the hardy cattlemen, the *llaneros*, and a strong personal leader (*caudillo*). In 1830 the Venezuela separatists gained the upper hand, and Venezuela became a separate state Páez was the leading figure Though conservative and liberal parties appeared, the control of Venezuela was actually usually in the hands of *caudillos* drawn from the landholding class After Páez came José Tadeo MONAGAS and his brother, but the struggle to oust Páez was sharp, and civil war became the order of the day A brief liberal regime under Juan Falcón created the United States of Venezuela in 1864 From 1870 to 1888 GUZMÁN BLANCO dominated Venezuela He sought to aid the material advance of the country, which had been much hurt by the constant civil war. Stockraising had been disrupted, and mountain farming had been held back by the constant disturbance He succeeded in some reforms, but he was replaced by Joaquín CRESPO In his regime began the VENEZUELA BOUNDARY DISPUTE with Great Britain. A new dictator came to power in 1899 This was Cipriano CASTRO, and the corrupt financial laxness of his administration helped to bring on a new international incident, that of the VENEZUELA CLAIMS In 1908 began the rule of one of the most long-lasting of all Latin American dictators, Juan Vicente GÓMEZ, who stayed in power until his death in 1935 His rule was that of total and absolute tyranny, though he did force the state (with the help of foreign oil concessions) into national solvency and material prosperity His death was followed by disorders, and the old conflict of landowner and propertyless worker became clearer Eleazar López Contreras was (1935–41) president, then in the administration of Isaías Medina Angarita, Venezuela sympathized with the Allies and finally entered the Second World War on the Allied side in 1945 Later in 1945 a military junta headed by Socialist Rómulo Betancourt gained control of the government A new constitution promulgated in 1947 provided for the first time in Venezuelan history for the election of a president by direct popular vote The first to be elected president under the new constitution was the eminent novelist Rómulo GALLEGOS, who was inaugurated in Feb , 1948 His rule did not, however, last long A conservative military coup in Nov , 1948, overthrew the Gallegos government and a military junta took power Venezuela, debt-free and prosperous because of its oil, still has the problem of landholding by absentee owners of plantations given over to money-producing crops (sugar, coffee, cacao) and scarce agricultural labor The difficulties of terrain and climate have also served to limit agriculture Industrialization, legislation for social welfare, and encouragement of immigration have been forwarded to answer these problems See Leonard V Dalton, *Venezuela* (new ed , 1925), Kenneth G Grubb, *The Northern Republics of South America* (1931), Erna Fergusson, *Venezuela* (1939), H J Allen, *Venezuela a Democracy* (1940), A P Whitaker, *The United States and South America the Northern Republics* (1948), George Wythe, *Industry in Latin America* (2d ed , 1949)

Venezuela Boundary Dispute, diplomatic controversy, notable for the tension caused between Great Britain and the United States Of long standing, the dispute concerned the boundary between Venezuela and British Guiana, the Venezuelan claim, extending E to the Essequibo river (and thus taking in most of the settled areas of British Guiana) had been inherited from Spain and that of Great Britain, stretching W to the Orinoco, was acquired from the Dutch in 1810 The controversy did not gain importance until Great Britain in 1841 had a line (the Schomburgk Line) run provisionally Discovery of gold in the region sharpened feeling Great Britain refused to arbitrate concerning the settled area, Venezuela, however, maintained the British were delaying in order to push settlements farther into the disputed area Venezuela sought aid from the United States and in 1887 broke off diplomatic relations with Great Britain President Grover Cleveland's Secretary of State, Thomas Francis BAYARD, began negotiations, but the matter lapsed In 1895 Secretary of State OLNEY, invoking and employing a new and broader interpretation of the MONROE DOCTRINE, virtually demanded arbitration, basing the United States' right to intervene on the grounds that any state whose interests or prestige are involved in a quarrel may interfere Lord Salisbury, the British prime minister, offered to submit some of the area to arbitration but refused to allow British settlements to be submitted to adjudication The reply, a rebuff to Olney, brought Cleveland's momentous message to Congress Dec 17, 1895, which denounced British refusal to arbitrate and maintained it was the duty of the United States to take steps to determine the boundary and to resist any British aggression beyond the line once it had been determined. The message came like a bombshell, Congress supported the President but, although there was some war talk, neither nation desired to fight. Salisbury, involved in European troubles and disturbed by the difficulties in South Africa threatened by Jameson's Raid (see JAMESON, LEANDER STARR) in the Transvaal, sent a conciliatory note which recognized the broad interpretation of the Monroe Doctrine An American commission was appointed, and the line finally

drawn in 1899 made an award generally favorable to Great Britain.

Venezuela Claims. In 1902, because of frequent civil disorders over a long period and because of the mismanagement of the administration of Cipriano Castro, Venezuelan finances were chaotic. Both public and private loans were in default Great Britain, Germany, and Italy, determined to secure redress for their nationals, sent a joint naval expedition to the Venezuelan coast German vessels seized Venezuelan gunboats, and the seaports were bombarded by British and German warships The matter was of some embarrassment to the United States because of the Monroe Doctrine The powers, anxious not to offend the United States, disclaimed territorial ambitions and Germany in advance brought the claims to U S attention Theodore Roosevelt declined to act as arbiter, but the United States worked for an amicable settlement A further complication arose as to whether preferential treatment in payment of the debts should be accorded the blockading powers over those of neutrals, in 1904 the Hague Tribunal decided in favor of the blockading nations The claims were adjusted by mixed commissions at Caracas in 1903 Because Roosevelt refused to extend the scope of the Monroe Doctrine to include such cases as this, the dispute acquired significance in international law, further, the heated resentment of other Spanish-American nations over the violation of sovereignty to one of them resulted in the Drago Doctrine

Venice (vĕ'nĭs), Ital *Venezia* (vānā'tsyȧ), city (pop 170,830, with suburbs 264,027), capital of Venetia and of Venice prov, NE Italy, built on 118 alluvial islets within a lagoon in the Gulf of Venice (northern end of the Adriatic Sea) The city is connected with the mainland, 2½ mi away, by a railroad bridge and a highway bridge Between the islands run 160 canals, mostly very narrow, crossed by hundreds of bridges, houses are built on piles. The Grand Canal, shaped like a reversed S, is the main traffic artery, its chief bridge is the Rialto, named after the island which was the historical nucleus of Venice Gondolas and other boats are the only means of conveyance, but there are numerous very narrow lanes (*calle*) and a few streets The innumerable splendid churches and palaces of the city speak of past grandeur and wealth as the "queen of the seas" Its beginnings were modest In the 5th cent refugees fleeing the barbarian invaders sought safety on the lowlands, in 697 the communities first selected a doge [variant form of the word for duke], as the head of the resultant republic Favorably situated for handling trade between east and west, the communities grew and by the 9th cent formed the city of Venice The city secured most of the coast of Dalmatia (10th cent), thus gaining control of the Adriatic, and began to build up its eastern empire, obtaining trade and other privileges in the ports of the Levant The influence of the Orient, particularly of Byzantium, which characterizes Venetian art and architecture, is most clearly expressed in Saint Mark's Church (rebuilt 11th cent), on the principal square In 1204 the doge, Enrico Dandolo, led the host of the Fourth Crusade in storming Constantinople Strategic points in the Ionian, the Aegean, and the E Mediterranean were taken, notably Crete (1216) Marco Polo embodied the enterprising spirit of the 13th-century Venice Having defeated (1380) its rival Genoa in the War of Chioggia, Venice was indeed the queen of the seas among European nations, its sea-consciousness was expressed in the symbolic marriage ceremony of the doges with the Adriatic, celebrated with astounding pomp on the huge gilded gondola, the *Bucentaur*. All citizens shared in the prosperity, but the patrician merchants obtained political privileges Membership in the great council, which now had replaced the people in the ducal elections, became restricted to an oligarchy In reaction to an unsuccessful revolution in 1310 the Council of Ten (see Ten, Council of) was instituted to punish crimes against the state The Ten, by means of a formidable secret police, acquired increasing power, while the doge became a figurehead With the 15th cent, Venice entered the apogee of its might All Venetia on the mainland was conquered, Venetian ambassadors, creators of the modern diplomatic service, made the power of their city felt at every court of the known world, and all the riches of Europe and Asia could be seen on its piers and wharves The arsenal was one of the world's wonders The decline of Venice may be dated from the fall of Constantinople to the Turks (1453), which cut off Levantine trade, or from the discovery of America and of the Cape route to Asia, which transferred commercial power to Spain and other nations to the west. The effects were not felt immediately, Venice continued its proud and lavish ways. In the Italian Wars, it challenged both emperor and pope, the League of Cambrai, formed by Julius II to humble Venice, merely resulted in a few minor losses of territory, the victory of Lepanto (1576) gave the republic a new lease on life by undoing Turkish seapower. The Renaissance marked the height of Venetian artistic glory. Architects such as the Lombardo family, Jacopo Sansovino, and Palladio, and the Venetian school of painting, which besides its giants—Titian and Tintoretto —also included Giovanni Bellini, Giorgione, Jacopo Palma (Palma Vecchio), and Veronese, gave Venice its present aspect of a city of churches and palaces floating on water, blazing with color and light and filled with treasures of art. Freedom of expression was complete except to those who actively mixed in politics, Aretino, the "scourge of kings," chose Venice as his residence, and John of Speyer, Nicolas Jenson, and Aldus Manutius made the city a printing center Although Goldoni, the dramatist, and painters such as Tiepolo and Canaletto still made Venice the most original artistic city of 18th-century Italy, they represented to some extent the decadence that accompanied the city's commercial and military decline The fall of Cyprus (1571), Crete (1669), and Morea (1715; see Greece) to the Turks ended Venetian dominance in the E Mediterranean. Politically, the city became increasingly stultified, while culturally it had become the mere playground of Europe's great When, in 1797, Bonaparte delivered Venice to Austria in the Treaty of Campo Formio, the republic fell without a blow During the Risorgimento, however, it played a vigorous role under the leadership of Daniele Manin, having expelled the Austrians in 1848 it heroically resisted siege until 1849. In 1866 Venice and Venetia were united with the kingdom of Italy Old industries such as lace making and the Murano glass manufactures were revived, and new industries—shipbuilding, flour milling, and the manufacturing of objects of art, jewelry, and silk textiles—were introduced Porto Marghera, the modern port of Venice (on the mainland) has considerable commercial importance The tourist trade, a major source of income, is stimulated by frequent festivals The center of animation is St Mark's Square and the Piazzetta, which leads from the square to the sea Here are St Mark's Church, the Gothic palace of the doges (from which the Bridge of Sighs leads to the former prisons), the Procuratie (former courts of justice), the campanile (rebuilt in the 20th cent after its collapse), the Moors' Clock-tower, the Library of St Mark's, the Loggia, and the twin columns supporting the statues of St Theodore stepping on a crocodile and of a winged lion of St Mark (the emblem of Venice) On islands facing the Piazzetta are the baroque churches of San Giorgio Maggiore and Santa Maria della Salute Among the many other palaces, churches, and museums are the Gothic Cà d'Oro, the Vendramin Rezzonico palaces, the Frari church (with paintings by Titian), and the Scuola di San Rocco (with frescoes by Tintoretto) The beach resort of Lido di Venezia, is near by Venice has been celebrated by poets, painters, and musicians of all lands For factual accounts, see H F Brown, *The Venetian Republic* (1902), P G Molmenti, *Venice* (Eng tr, 6 vols, 1906–8), W C Hazlitt, *History of the Venetian Republic* (4th ed, 2 vols, 1915), Charles Diehl, *Une république patricienne Venise* (1915, in French), S J C Brinton, *Venice, Past and Present* (1925)

Venice (vĕ'nĭs), industrial city (pop 5,454), SW Ill, on the Mississippi opposite St Louis, settled 1804 as a ferry landing, platted 1841, inc as a village 1873, as a city 1897 It has steel mills

Veni Creator Spiritus (vā'nē krā'tôr spē'rētōōs) [Latin,=come, Creator Spirit] and **Veni Sancte Spiritus** (sangk'tā) [Latin,=come, Holy Ghost], Whitsun hymns of the Latin church, invocations of the Holy Ghost The first, much the older, has seven four-line stanzas, unrhymed, of iambic eight-syllable lines It is used in the office of Pentecost and at solemnities such as papal elections and ordinations. In translation it is used at Anglican ordinations *Veni Sancte Spiritus*, the sequence of Pentecost, was written before 1200 Its 10 stanzas are of three seven-syllable lines, with the first two lines of stanzas rhyming with each other, the third lines rhyme throughout the hymn

venison (vĕ'nĭsun) [O Fr,=hunting], term formerly applied to the flesh of any edible beast of the chase or game bird but now restricted to the flesh of an animal of the deer family The meat is best if the animal is plump, forest fed, and at least five years old, it is improved by hanging in a cool, airy place The domestication and breeding of reindeer is developing a new meat supply (somewhat resembling beef) of some importance in Alaska and N Canada

Venite (vēnī'tē) [Latin,=come], Ps 95, so called from its opening, "O come, let us sing unto the Lord" It is the opening psalm of matins in the Roman office and of the Anglican morning prayer

Venizelos, Eleutherios (ĕlĕfthá'rēôs vĕnēzĕ'lôs), 1864–1936, Greek statesman, b Crete After studying at the Univ of Athens, he returned to Crete, where he led the movement of emancipation from Turkish rule He played a prominent part in the Cretan insurrection of 1896–97, and in 1905 he led the Cretan assembly to declare the union of Crete with Greece; this union was actually completed only in 1913 Venizelos was instrumental in securing (1906) the removal of Prince George of Greece as high commissioner in Crete In 1909 he was called to Athens by the members of the so-called Military League, who desired to overthrow the corrupt political regime in power and to revise the constitution. The Military League brought Venizelos to power in 1910 During his first term as Greek premier (1910–15), Venizelos completed the revision of the constitution (1911), undertook military and financial reform, and led Greece through the Balkan Wars (1912–13), in which its territory was greatly increased After the outbreak of the First World War, Venizelos strongly favored the Allied cause but was opposed by the pro-German King Constantine and was forced to resign (1915) However, after an electoral victory, he returned to the premiership in the same year and negotiated an agreement with the Allies, who were to land forces at Salonica (see Salonica campaigns) No sooner had the Allies landed than Constantine withdrew support from Venizelos, who resigned once more (Oct, 1915) Venizelos now established a provisional government at Salonica, which declared war on Germany and Bulgaria, and in 1917, on Constantine's abdication, became Greek premier for the third time Greece fully entered the war on the Allied side, and Venizelos played a prominent role at the Paris Peace Conference His cabinet fell in 1920, and King Constantine was restored, but the Greek debacle in the war with Turkey restored power to the Venizelists, who in 1922 once more forced Constantine to abdicate Venizelos returned to the premiership after an overwhelming electoral victory in 1924, and soon afterward a plebiscite declared Greece a republic Having fallen out with the military leaders, Venizelos retired from office even before the plebiscite took place After several years of political chaos, Greece recalled (1928) Venizelos to the premiership He sought to strengthen the republican regime inside Greece and to restore the international position of Greece by securing rapprochments with Italy (1928), Yugoslavia (1929), and Turkey (1930) Growing royalist opposition forced his resignation in 1932, after a brief return to power (1933) he was succeeded as premier by Panayoti *Tsaldaris* Fearing the restoration of the monarchy, Venizelos made a last desperate attempt at stemming the royalist tide by organizing armed uprisings (1935) in Athens, Macedonia, and Crete Crete held out longest against the government forces, but the rebellion was soon put down by General Kondylis Venizelos fled to France, where he died shortly after his party had gained a fruitless electoral victory in Greece The major figure in Greek politics in the 20th cent, Venizelos was revered by the republicans of Greece and was considered outside Greece a diplomat of major stature. His remains were brought back to his native Crete.

Venlo (vĕn'lō), municipality (pop 40,985), Limburg prov, SE Netherlands, on the Maas (Meuse) river and near the German border It has lumber mills and manufactures of chemicals, electric bulbs, and optical instruments Formerly a fortress city, it frequently changed hands in the wars of the 16th, 17th, and 18th cent There are a 15th-century Gothic church and a 16th-century town hall

Ventidius Bassus, Publius (pŭ'blēŭs vĕntĭ'dēŭs bă'sŭs), d after 38 B C, Roman general He served in Gaul and in the civil war under Caesar, and after Caesar's death he supported Antony and became acting consul in 43 B C For his successes against the Parthians and against Quintus Labienus (39 B C), he was accorded a triumph in Rome

ventilation, process of supplying fresh air to an enclosed space and removing from the space air contaminated by unpleasant odors, harmful gases, and smoke Proper ventilation requires also that there be a movement or circulation of the air within the space and that the temperature and humidity be maintained within a range that allows adequate evaporation of perspiration from the skin. It was formerly believed that the discomfort, headache, and loss of vitality commonly produced by remaining in a badly ventilated room were caused entirely by the increase in the amount of carbon dioxide and the decrease in the oxygen content of the air A more recent interpretation is that the injurious effects are largely the result of interference with the heat-regulating mechanism of the body, lack of air currents and the increase in relative humidity and in temperature (especially noticeable in crowded, poorly ventilated places) prevent normal evaporation of perspiration and loss of heat from the surface of the skin The condition of the inside air is largely dependent upon the outside atmosphere The air which enters through openings tends to circulate if the outside air is in relatively rapid motion (i e, if it is windy) or if currents are set up in the enclosed space Circulation of the air can be facilitated by adjusting the windows and other openings and by using mechanical fans, when heating systems are in use the variation in the temperature of the air in different parts of the room favors circulation The creation of currents depends upon the fact that warm air, being lighter than cold air, tends to rise, as it rises, it creates an area of low pressure into which the cooler

air flows, and thus currents are set up. Heating systems using radiators, heated pipes, or grates and vents through which hot air is expelled generally promote the circulation of air by creating convection currents Care must be taken, however, when heating systems are in operation to avoid overheating and extreme lowering of the humidity of the air Any enclosed space in which a stove or other fuel-burning device is in operation must have provision for supplying fresh air, since the burning fuel gradually exhausts the oxygen in the air and produces carbon monoxide, a poisonous gas When simple means of ventilation prove inadequate, it is possible to use mechanical devices, usually power-driven fans with connecting pipes and vents, to allow admission and expulsion of air These are often used in large auditoriums, school buildings, theaters, and other places where numbers of people gather Similar devices made on a smaller scale are increasingly used in private homes to provide better ventilation Deep mines, underwater tunnels, and other subterranean and submarine structures require elaborate mechanically operated systems for maintaining the air supply in a healthful condition The lives of those working in, or traveling through, such areas depend upon a constant supply of fresh air; not only must the systems used be highly efficient but there should be provision for emergencies in case of failure of the apparatus in operation An outgrowth of studies of problems of ventilation is the development of methods of AIR CONDITIONING Such systems, unlike ordinary methods of ventilation, are independent of outdoor atmospheric conditions and can, therefore, maintain the indoor atmosphere at the most healthful temperature and humidity and can free the air of dust and other undesirable materials See H M Vernon, *Principles of Heating and Ventilation* (1934), W. H Severns and J R Fellows, *Heating, Ventilating, and Air-Conditioning Fundamentals* (rev. ed , 1949)

Ventimiglia (vän'tēmēl'yä), Fr *Vintimille* (vētēmēl'), town (pop. 11,216), Liguria, NW Italy, on the Italian RIVIERA and near the French border not far from Menton Part of the town has kept its medieval aspect The near-by resort town of Bordighera is connected with Ventimiglia by a fine road along the Mediterranean coast

Ventnor (vĕnt'nûr), health resort, on the Isle of Wight, England The town is built on a cliff in a series of terraces, and the sea air and mild climate have made it a center for hospitals and tuberculosis sanatoriums Swinburne is buried at Bonchurch near by

Ventnor, city (pop 7,905), SE N J , a resort on Absecon Beach near Atlantic City, inc 1903

Ventôse · see FRENCH REVOLUTIONARY CALENDAR

ventriloquism (vĕntrĭl'lukwĭzm), the art of making the voice appear to come from a source other than the speaker It is a popular form of entertainment, in which the performer frequently uses one or more puppets, giving a separate voice to each The skull of the ventriloquist does not depend upon a malformation of the vocal apparatus but upon practice Ventriloquism was used in the religious rites of the Chinese and by the oracles in Egypt and Greece Edgar Bergen, who uses the dummy "Charlie McCarthy," is a notable American ventriloquist

Ventspils (vĕnts'pĕls), Ger *Windau* (vĭn'dou), city (pop 15,671), NW Latvia, in Kurseme, an ice-free port on the Baltic Sea It exports timber, grain, flax, hemp, and butter and has sawmills, fisheries, and various manufactures The city grew around a 13th-century castle of the Livonian Knights and was chartered in the 17th cent

Ventura (vĕntōō'rə), city (pop 13,264), co seat of Ventura co., S Calif , on the coast and NW of Los Angeles, in an agricultural and oil region, inc 1866 A mission called San Buenaventura (still the official name of the city), founded by Junípero Serra in 1782, has been restored There is a junior college

Venus (vē'nŭs), in Roman religion, goddess of vegetation Later, she became identified (3d cent B C.) with the Greek APHRODITE In imperial times she was worshiped as Venus Genetrix, mother of Aeneas, Venus Felix, the bringer of good fortune, Venus VICTRIX, bringer of victory, and Venus Verticordia, protector of feminine chastity The most famous representations of Aphrodite or Venus in sculpture are the *Venus of Milo* or *Melos* (Louvre), the *Venus of Medici* or *Medicean Aphrodite* (Uffizi), the *Venus of Capua* (national museum, Naples), and the *Capitoline Venus* (Capitoline Mus , Rome) The *Venus of Milo* is a Greek statue in marble, sometimes ascribed to the 4th or 5th cent B C , sometimes to the 2d or 3d cent B C Found (1820) on the island of Melos, it was taken by the French ambassador to Turkey and was eventually presented by Louis XVIII to the Louvre The *Venus of Medici* belongs to the Neo-Attic school about the time of Augustus. It is probably derived from Praxiteles' *Aphrodite of Cnidus*, which was destroyed

Venus, in astronomy, the planet with an orbit between the orbits of Mercury and the earth and second in order from the sun Other than the sun and moon it is ordinarily the brightest object in the sky. No other planet approaches so near to the earth; at the time of inferior conjunction its distance is 25,702,000 mi. The planet passes through phases resembling those of the moon The farther Venus recedes from the earth the more of the disk is visible; the nearer the planet, the thinner is the crescent; but the full disk appears to be that of a much smaller body than that of the crescent phase The mean distance of this planet from the sun is 67,200,000 mi The revolution is about 225 days In size, mass, and density, Venus is very like the earth Its mass has been estimated to be about four fifths as great Its diameter is 7,575 mi As the planet is never more than about 46° from the sun, it can never set much more than 3 hr after or rise much more than 3 hr before the sun. It appears to be a beautiful, brilliant silvery-white star in either the evening or the morning sky (for *morning and evening stars*, see STAR) Little can be learned of the true surface of the planet, as observers cannot penetrate beyond the enveloping layers of clouds or vapor. Lacking definite markings, they have not been able to find a satisfactory way of determining the period of rotation No satellite attends Venus The transits of this planet across the sun's disk occur either in June or in December The first transit known to have been observed was one recorded by Jeremiah HORROCKS and William Crabtree on Nov. 24, 1639 (O S) Since then four transits have occurred—on June 5, 1761, and June 3, 1769, and on Dec 9, 1874, and Dec 6, 1882

Venus's-flytrap, insectivorous or carnivorous plant (*Dionaea muscipula*) native to moist, acid places in the Carolinas The leaves, borne in a low rosette, resemble bear traps and are hinged at the midrib, each half bearing sensitive bristles When a bristle is touched—as by an insect—the halves snap shut, imprisoning the insect and preventing escape by marginal teeth which interlock The halves reopen after the insect has been digested The plant produces a stalk of small white flowers

Veracruz (vĕ"rukrōōz', Span vāräkrōōs') [Span ,= true cross], state (27,759 sq mi , 1946 estimated pop 1,808,954), E Mexico Stretching c 430 mi along the Gulf of Mexico from Tamaulipas in the north to Tabasco in the south and reaching from 30 to 100 mi inland, Veracruz rises from a tropical coastal plain into the temperate vallevs and highlands of the Sierra Madre Oriental. It shares with Puebla the highest peak in Mexico, ORIZABA Most of the central part is mountainous, but the inland northern and southern sectors correspond generally to the coastal topography The few navigable rivers are the Coatzacoalcos, Papaloápan, Pánuco, and Tamesí Geographical location and physical characteristics give the state a variety of climate and products and make it one of the most important agriculturally Rainfall is abundant, and the soil extremely fertile From the tropical forests come dyewoods and hardwoods, chicle, and rubber, in the semitropical and temperate zones cattle are raised, and sugar cane, cacao, vanilla, coffee, tobacco, cotton, fruits and vegetables, cereals, and istle are grown, in the colder altitudes maguey, various cacti, and coniferous forests are found, and the mountains have relatively unexploited deposits of gold, silver, iron, and coal The principal natural resource is oil Manufactures include textiles and products using sugar cane and tobacco In pre-Columbian times Veracruz was populated by Indians of Totonac and HUASTEC stock, who antedated the Aztecs but were tributary to them by the time Juan de GRIJALVA discovered the coast in 1518 In 1824 Veracruz became a state The capital is JALAPA, and other cities are Veracruz, Orizaba, Córdoba, Coatzacoalcos, and Túxpam

Veracruz, city (pop. 71,720) Veracruz, E Mexico, on the Gulf of Mexico and E of Mexico city It rivals Tampico as the republic's most important port In 1519 Cortés landed near the site later (1599) chosen for the present city The spot is a low, sandy plain surrounded by dunes and swamps, some of which have been reclaimed and are very fertile The town was an easy prey to the buccaneers of the 17th and the 18th cent The harbor is guarded by the fortress of San Juan de Ulúa, which was begun in the 17th cent and was the last stronghold of the Spanish before their expulsion in 1821 Veracruz was in 1838 blockaded by the French, who were attempting to collect damages suffered by French nationals; in opposing the French landing General SANTA ANNA lost a leg and mended his political fortunes The claims were adjusted In 1847 the troops of Winfield Scott landed at Veracruz to begin the major campaign of the Mexican War. Benito Juárez spent years in Veracruz in the War of the Reform. In Dec , 1861, according to a European agreement, Spanish interventionist troops under Juan Prim arrived as the first part of a joint force; the next month French and British troops came. When it became apparent that the French were bent on actual conquest, the Spanish and the British withdrew from the joint force. The adventure of the empire of Maximilian began. In 1914 one of the climaxes in the trouble between Woodrow Wilson and Victoriano Huerta came when, U S. sailors having been arrested in Tampico, U.S. forces landed in Veracruz and after a short fight (April 21, 1914) invested the customhouse briefly. Mexico consequently broke off diplomatic relations. The city is today the commercial and industrial center of an important oil region

veratrine (vĕ'rətrĭn, -trēn), mixture of alkaloids (mainly cevadine) extracted from sabadilla seeds and from certain hellebores It is used in insecticides Formerly used also in counterirritant ointments, it is now rarely prescribed because it often has a toxic effect

verb, PART OF SPEECH typically used in referring to an action In English this class is almost identical with the form class of words inflected with *-ing*, as *live, living*, and *give, giving* English verbs are inflected for PERSON, NUMBER, and TENSE and partially for MOOD, compound forms provide a distinction of VOICE In Latin verb INFLECTION, voice and mood are provided in every form Most languages have a form class resembling that of English verbs In many of them, unlike English, these words may form complete sentences, e g , Spanish *canto* [I am singing] is one word

Verbeck, Guido Fridolin (gē'dō frē'dōlĭn vûrbĕk'), 1830–98, American missionary in Japan, b Netherlands He came to the United States in 1852. After study at Auburn Theological Seminary, he was ordained (1859) and sent to Japan as a missionary of the Reformed Church in America At Nagasaki, at the request of the Japanese government, he took charge (1860) of a school for interpreters. In 1869, again at the invitation of the government, Verbeck assumed direction of the school in Tokyo that later became the Imperial Univ. He translated a number of works for the Japanese government and was often sought in consultation His *History of Protestant Missions in Japan* was published in 1883

verbena (vûrbē'nə), any plant of the genus *Verbena*, herbs and shrubby plants native (with one exception) to America Their clusters of flowers of different colors are sometimes fragrant and are variously shaped, in common garden kinds they are flat topped Verbenas are cultivated as garden or pot plants—particularly those species, and their hybrids, native to the warm regions of the Americas They are usually treated in the North as annuals The small moss verbena is popular as an edging and cover plant Most verbenas native to North America, seldom cultivated, are commonly called vervain (vûr'vĭn), as is the single Old World species (*Verbena officinalis*), the European vervain, naturalized in North America. These all have small flowers, borne on slender spikes in colors of white, blue or purple, and sometimes pink The European vervain was venerated by Greeks, Romans, and Druids as an altar plant, a garland, a love charm, and for other virtues It was associated with the Crucifixion in Christian legends This and other vervains have been used medicinally The fragrant lemon verbena (*Lippia citriodora*) belongs to a different genus

Verboeckhoven, Eugène Joseph (ûzhĕn' zhōzĕf vûrbōōk-hō'vun), 1798–1881, Belgian animal painter. His work, with its suggestion of Potter's style, became very popular He is represented in the museums of Belgium, the Netherlands, Germany, England, and the United States Among his pictures are *Landscape with Sheep and Ducks* (Victoria and Albert Mus) and *Interior of a Stable* (Metropolitan Mus)

Vercel, Roger (rōzhā' vĕrsĕl'), 1894–, French novelist He first became internationally known when he was awarded the PRIX GONCOURT for his *Capitaine Conan* (1934, Eng tr , *Captain Conan*, 1935), which deals with the First World War in the Balkans His works are characterized by strange locales and rather violent action Among his other books are *Au large de l'Éden* (1932, Eng tr , *In Sight of Eden*, 1934), *Léna* (1936, Eng tr , 1937), *Remorques* (1935, Eng tr , *Salvage*, 1936), *Sans le sped de l'Archange* (1937, Eng tr , *Tides of Mont St Michel*, 1938), and *Aurore boréale* (1947, Eng. tr., *Northern Lights*, 1948)

Vercelli (vĕrchĕl'lē), city (pop. 32,397), capital of Vercelli prov , Piedmont, N Italy, on the Sesia river It is the most important rice market of Italy. A Roman town and later a free commune, it came under the Visconti of Milan in 1335 and was ceded by them to the house of Savoy in 1427 It has the fine 13th-century basilica of Sant' Andrea, with a Renaissance cloister and a convent The only school of painting in Piedmont flourished here in the 15th and 16th cent In the library of the cathedral is the Vercelli Book or Codex Vercellensis, an 11th-century Anglo-Saxon manuscript which contains a collection of religious poems, including *Elene* by CYNEWULF

Verchères, Marie Madeleine Jarret de (märē' mädlĕn' shärä' dù vĕrshĕr'), 1678–1747, heroine of New France, b near Montreal In Oct., 1692, the 14-year-old Madeleine, in the absence of her parents from her father's seigniory on the St. Lawrence, defended the fort of Verchères against a week-long attack by a band of Iroquois. She had only the assistance of her two young brothers, two soldiers, and an old man of 80. See A. G. Doughty, *A Daughter of New France* (1916).

Vercingetorix (vûr"sĭnjē'tûrĭks), d. 46 B.C., leader of the Gauls, a chieftain of the Arverni. He was the leader of the great revolt against the Romans in 52 B.C. Julius CAESAR, upon hearing of the trouble, rushed to put it down Vercingetorix was, however, an able leader and adopted the policy of retreating to heavy natural fortifications and burning the Gallic towns to keep the Roman soldiers from living off the land Caesar and his chief lieutenant LABIENUS lost in minor engagements, but when Vercingetorix shut himself up in ALESIA and summoned all his Gallic allies to attack the besieging Romans, the true brilliance of Caesar appeared. He defeated the Gallic relieving force and took the fortress Vercingetorix was taken to grace Caesar's triumph in Rome and then was put to death

Vercors (vĕrkôr'), 1902–, French writer and illustrator, whose real name is Jean Bruller (zhäⁿ brülĕr') As a designer and illustrator (1926–39), he worked under his own name While serving in the French resistance movement during the Second World War, he was instrumental in founding Les Éditions de Minuit, an underground publishing firm, and for them wrote *Le Silence de la mer* (1942, Eng. tr., *The Silence of the Sea*, 1944) under his pseudonym. The story, dealing with the corrosive and self-destructive cruelty of the German invaders, achieved a wide surreptitious circulation and was highly acclaimed Continuing the pen name, he also wrote *La Marche à l'étoile* (1943), this was translated as *The Gusdng Star* in *Three Short Novels* (1947), which contains also *Night and Fog* and *The Verdun Press* Among his other works are *Le Songe* [the dreamer] (1944), *Les Armes de la nuit* [the weapons of night] (1946), *Le Sable du temps* [sands of time] (1945), and *Les Yeux et la lumière* [eyes and the light] (1948)

verd antique: see SERPENTINE.

Verde (vûrd), river rising in central Arizona N of Prescott and flowing S to the Salt river above Phoenix The valley supported early Indian civilizations and is dotted with ruins, such as those at Tuzigoot Bartlett Dam is part of the SALT RIVER VALLEY irrigation system

Verde, Cape (vûrd) [Port ,=green], Fr *Cap Vert*, westernmost extremity of Africa, on the coast of Senegal The Portuguese-owned Cape Verde Islands lie c 475 mi to the west

Verdi, Giuseppe (vĕr'dē, Ital jōōzĕp'pā vĕr'dē), 1813–1901, foremost Italian operatic composer of the 19th cent His third opera, *Nabucodonosor* (1842, also known as *Nabucco*, the story of Nebuchadnezzar), was his first successful one *Rigoletto* (1851), *Il Trovatore* (1853), and *La Traviata* (1853) show him to be a master of dramatic composition, his style is further developed in *Un ballo in maschera* (*The Masked Ball*, 1859) and *La forza del destino* [the power of destiny] (St Petersburg, 1862), in *Aida* (Cairo, 1871) all the elements of his earlier style reach maturity He greatly admired Shakspere, on whose plays three of his operas are based—*Macbeth* (1847), an interesting though unsuccessful opera, and the masterpieces of his old age, *Otello* (1887) and *Falstaff* (1893, based on *The Merry Wives of Windsor*), for both of which Boito was his able librettist Critics have seen the influence of Wagner in the last two works, but actually Verdi stands stylistically opposed to Wagner, he represents the culmination of the Italian style of opera After Verdi, exotic influences become more important Verdi greatly admired Meyerbeer, however, and was somewhat influenced by French grand opera He also composed the *Hymn of the Nations* (1862), a great requiem (1874) in memory of the poet Manzoni, and some church music See biographies by Francis Toye (1931) and Dyneley Hussey (1940)

verdict, official decision of a JURY respecting questions of fact which the judge has laid before it Most verdicts must be unanimous, but in some states (e g , New York) agreement of five sixths of the jurors is sufficient in certain civil cases. The jury may be instructed to render a general verdict, a special verdict, or both. A general verdict answers the question whether there was an occurrence of the factual conditions which the judge defined as necessary for a given violation of the criminal or civil law The verdict returned in such cases is "guilty" or "not guilty" (or the equivalent) A special verdict answers a specific question, e g , did a deceased person die naturally or by violence? If the jury is required only to return a special verdict the judge must himself decide whether the law was violated. Perhaps the most usual case in which a jury returns both a general and a special verdict is in civil suits where the defendant's guilt or innocence is determined generally and the amount of the plaintiff's damages, if any, is set In civil suits the judge may often modify or set aside verdicts In criminal cases, however, a verdict of not guilty cannot be modified, and the accused must be discharged; the judge may in certain circumstances disregard a verdict of guilty.

verdigris (vûr'dĭgrēs), grayish-green to greenish-blue substance formed on the surface of copper plates which have been treated with acetic acid Chemically, it is a basic acetate of copper or a mixture of copper acetates, the color of the deposit depending upon its chemical nature It is poisonous, and care should be taken when copper vessels are used in cooking acid foods (e.g., tomatoes) which may bring about its formation (for antidote, see POISONING, table). It is sometimes used as a pigment in green paint and as a mordant in dyeing and in calico printing and is used also in medicine

Verdun (vûrdŭn'), city (pop 67,349), S Que , on the south shore of Montreal island, inc 1912. It is a residential suburb of Montreal

Verdun (vĕrdŭn', vär'dun, Fr vĕrdŭ'), fortified town (pop 12,948), Meuse dept , NE France, in Lorraine, on the Meuse river An episcopal see since the 4th cent , Verdun and the surrounding country was one of the three bishoprics (with Metz and Toul) that Henry II acquired (1552) from the Holy Roman Empire The town itself was a free imperial city before it passed to France The Peace of Westphalia (1648) confirmed Verdun in French possession After 1871 Verdun was made the principal French fortress facing Germany and was surrounded by a ring of defenses Here the longest and bloodiest battle of the First WORLD WAR was fought, 2,000,000 men were engaged, 1,000,000 were killed The battle opened on Feb 21, 1916, with a terrific German offensive, commanded by Crown Prince Frederick William DOUAUMONT was taken in four days, VAUX fell on June 8, but Verdun itself repulsed all assaults "They shall not pass" was the phrase that rallied the French, under PÉTAIN and Nivelle, to their desperate resistance A British offensive on the Somme relieved the immediate pressure on Verdun, and by Dec., 1916, the French had recovered most of the ground lost In 1918 the Americans and French were victorious in the Verdun sector and at SAINT-MIHIEL The town, virtually destroyed, was largely rebuilt after the war In the Second World War, Verdun fell, almost without notice, to the Germans in 1940 and to the Americans in 1944 The Romanesque cathedral (11th cent) was slightly damaged The city and the battlefield of Verdun, with their huge military cemeteries and numerous impressive monuments, form a national sanctuary.

Verdun, Treaty of, the partition of Charlemagne's empire among three sons of Emperor LOUIS I It was concluded in 843 at Verdun on the Meuse or, possibly, Verdun on the Doubs, Saône-et-Loire dept , E France LOUIS THE GERMAN received the eastern portion (later Germany), CHARLES II (Charles the Bald) became king of the western portion (later France), LOTHAIR I kept the imperial dignity and received the central portion (Low Countries, Lorraine, Alsace, Burgundy, Provence, and Italy) Though superseded in 870 by the Treaty of MERSEN, the Treaty of Verdun was a crucial moment in European history For the 11 subsequent centuries European unity was destroyed and wars were fought over the possession of Lothair's lands.

Vereeniging (vûrā'nĭging) [Afrikaans, =union], city (pop 40,455), S Transvaal, Union of South Africa, on the Vaal river Here, in 1902, the treaty ending the South African War was signed Vereeniging, in the largest coal-producing area of South Africa, manufactures iron and steel products

Veregin or **Verigin, Peter** (vĕr'ŭgĭn), d 1924, leader of the Dukhobors in Canada, b Russia About 1903 he came to Canada to assume control, both spiritual and temporal, of the Dukhobor settlements which had a little earlier been established in Saskatchewan He guided his people successfully, and their colonies spread into British Columbia He was killed when a time bomb exploded under his seat in a railroad train His son, Peter Veregin (1885–1939), succeeded him in 1927 as leader of the Canadian Dukhobors See J F C Wright, *Slava Bohu the Story of the Dukhobors* (1940)

Vérendrye, Pierre Gaultier de Varennes, sieur de la (pyĕr' gōtyā' dù varĕn' svûr du lä vărâdrē'), 1685–1749, explorer in W Canada and the United States, b Trois Rivières (Three Rivers), Que His father was the sieur de Varennes, for a time governor of Trois Rivières Pierre entered the French colonial army and served in the French and Indian Wars and for a time (1707–11) in Europe in the War of the Spanish Succession In 1727–28 he was a figure in the extension of New France on its far frontiers and in the search for an overland Northwest Passage to the Western Sea, when he served as commander of the trading posts on Lake Nipigon In 1729 he returned to Quebec and sought to secure official permission and aid in an expedition to search for the Western Sea Obtaining a monopoly of the fur trade in the West, but no financial support, he entered into partnership with some Montreal merchants and set out in 1731 with three sons, Jean Baptiste, Pierre, and François, and a nephew, La Jeremaye The party founded a number of posts—one on Rainy Lake, Fort St Charles on the Lake of the Woods; and Fort Maurepas, which was at first on Red River and later on Lake Winnipeg He returned to Quebec in 1734 but came back to the West with still another son, Louis Joseph In the years that followed the Vérendryes continued to explore in the hope of reaching the Western Sea The eldest of the sons, Jean Baptiste, was killed (1736) by the SIOUX The year 1738 saw Vérendrye's memorable journey from the Assiniboine river to the Missouri river, where he visited the Mandan Indians He returned to Fort La Reine on the Assiniboine, and it is said that he discovered Lake Manitoba in 1739 The most-discussed voyage undertaken by the Vérendryes was that of 1742–43, which was accomplished by two of the sons, probably Louis Joseph (who is generally agreed to have been the son known as the Chevalier) and François They made a fairly long journey westward, but because of the difficulty of identifying places and Indian tribes, there is no certainty at all as to their route The earlier hypotheses were shaken when in 1913 some school children discovered near Pierre, S Dak , the lead plate which had been buried by the explorers when they reached the Missouri on their return Chiefly because of this discovery, it is now generally thought that the journey did not extend farther west than the Black Hills The elder Vérendrye next sent out an expedition that went to the Saskatchewan and also founded two forts—Dauphin and Bourbon—on Lake Winnipegosis, probably in 1741 Just how far the explorers in this region went it is impossible to say, they may have entered Wyoming In 1744 Vérendrye was retired and replaced as commander in the West In 1749 he was again appointed to that post, and he was given the Cross of St Louis He died before he could accomplish anything further in exploration His sons wished to continue the work but received no government aid *The Journals and Letters of Pierre Gaultier de Varennes de la Verendrye and His Sons* were edited by Lawrence J Burpee for the Champlain Society (1927) See also Burpee, *Pathfinders of the Great Plains* (1914)

Verendrye National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Vereshchagin, Vasily Vasilyevich (vŭsē'lyĕ vŭsē'lyuvĭch vyĕrĭshchä'gĭn), 1842–1904, Russian painter, soldier, and traveler, He is best known for his military pictures, which portrayed war in all its horror and brutality He is also known for his studies of Turkistan and Oriental life and the canvases dealing with Anglo-Indian history His painting is vigorous and robust Among his most famous pictures are *Before the Attack*, *After the Attack*, *The Apotheosis of War*, *Left Behind*, *The Presentation of the Trophies*, *All Quiet at the Shipka Pass*, *the Graves at Shipka*, and *Blessing the Dead* Most of his works are collected in the Tretyakov Gallery, Moscow He was killed in the explosion of the flagship *Petropavlovsk* in the Russo-Japanese War See his autobiography (Eng tr , 2 vols , 1887)

Verga, Giovanni (jōvänˈnē vĕr'ga), 1840–1922, Italian novelist, b Sicily He abandoned the study of law for literature and wrote several novels of passion in the style of the French realists before he adopted the method of his later works These have a style characterized by entire simplicity, strict attention to accuracy, and sympathy with the poverty and struggles of Sicilian peasant folk His naturalistic methods caused the school to be called *verismo*, and he has been compared, not with entire justification, to Flaubert and Zola He is generally recognized as one of the great modern novelists of Europe His works include *Cavalleria rusticana* (1880, Eng tr , with other stories in the same volume, by D H Lawrence, 1928), *I malavoglia* (1881, Eng tr , *The House by the Medlar Tree*, 1890), *Novelle rusticane* (1883, Eng tr by D H Lawrence, *Little Novels of Sicily*, 1925), and *Mastro-don Gesualdo* (1889, Eng tr by D H Lawrence, 1923) The dramatization of *Cavalleria rusticana* was produced in 1884, Mascagni's opera based on it, in 1890 A stage version of *La lupa*, one of his best stories, was produced in 1896 (Eng tr , *The Wolf Hunt*, 1921) See prefaces to the translations by D H Lawrence, T G Bergin, *Giovanni Verga* (1931)

Vergani, Orio (ōˈryō vĕrgäˈnē), 1899–, Italian novelist and poet His work may be classed as modernistic realism Among his writings is the novel *Poor Nigger* (1928, Eng tr , 1930)

Vergennes, Charles Gravier, comte de (shärl' gravvä' kōt' dù vĕrzhĕn'), 1717–87, French statesman After serving as ambassador at Trier, Constantinople, and Stockholm (where he participated in the coup d'état of 1772 that made Gustavus III absolute monarch), he was made (1774) foreign minister by Louis XVI He supported the American Revolution, at first secretly through BEAUMARCHAIS, then officially, after signing, with Benjamin Franklin, the alliance of Feb 6, 1778 Vergennes was the chief French representative in negotiating the peace settlement between Great Britain and the United States, France, and Spain (see PARIS, TREATY OF, 1783). He also assisted in negotiating the Treaty of Teschen (1779) between Austria and Prussia at the close of the War of the Bavarian Succession See J J. Meng, *The Comte de Vergennes* (1932)

Vergennes (vûrjĕnz'), city (pop 1,662), W Vt., S of Burlington and on Otter Creek, 7 mi. from Lake Champlain, set off from neighboring towns 1788, inc as a city 1794 It is the trade center of a dairy-

ing region. From the first settlement (by Donald McIntosh, a Scot, 1766) until the rule of the Green Mountain Boys was fully established, the New York and New Hampshire Grants claimants struggled over this area Macdonough's fleet was built here, in the War of 1812. The city is the seat of a state industrial school. In 1937 Indian artifacts were excavated here.

Vergil or **Virgil** (Publius Vergilius Maro) (both: vûr'jĭl), 70 B C.–19 B C , Roman poet, b Andes dist., near Mantua, in Cisalpine Gaul. Vergil's father, a farmer of the yeoman class, began his son's formal education at the age of 12, when, it seems, the boy was taken to Cremona Thereafter he continued his studies in Milan, Naples, and Rome The poet's boyhood experience of life on the farm was an essential part of his education, and to him always the good life was most accessible to the yeoman farmer After his studies in Rome, Vergil is believed to have lived with his father on the farm for about 10 years, engaged in farm work, study, and writing poetry In 41 B C the farm was confiscated to provide land for soldiers Vergil and his father found a little home in the country, probably through the generosity of a friend Vergil went to Rome, where he became a part of the literary circle patronized by Maecenas and Augustus and where his *Eclogues*, or *Bucolics*, were completed in 37 B C In these poems he idealizes rural life in the manner of his Greek predecessor Theocritus From the *Eclogues* Vergil turned to rural poetry of a contrasting kind, realistic and didactic In his *Georgics*, completed in 30 B C , he seeks (as had the Greek Hesiod before him) to interpret the charm of real life and work on the farm His matchless response to his theme and his perfect poetic expression give him the first place among poets of the world in verse of this kind For the rest of his life Vergil worked on the *Aeneid*, a national epic, narrating the adventures of AENEAS (see also AENEID) The misfortune of this great epic is that comparison with Homer (to whom Vergil frankly owes much) is inevitable, and Homer's preeminence in the epic is unquestioned Nevertheless, the *Aeneid* is unquestionably one of the greatest masterpieces of world literature Vergil's fatal illness prevented him from giving the *Aeneid* the final revision that he thought necessary, and he would have burned the manuscript but for the command of Augustus Vergil is the dominant figure in all Latin literature His influence continued through the Middle Ages, when Dante chose him as master and guide and when he was held, despite his paganism, to be a sinless magician Many poets since Dante have acknowledged their great debt to Vergil Minor poems ascribed to Vergil are of doubtful authorship and are not essential to his record The spelling Virgil is not found earlier than the 5th cent A D There are many English translations of Vergil See D L Durling, *Georgic Tradition in English Poetry* (1935), biographical studies by Tenney Frank (1922), F W Jackson Knight (1944), and F H B Letters (1946)

Vergil or **Virgil, Polydore** (pŏ'lĭdôr"), 1470?–1555?, historian and humanist, b Urbino, Italy He studied at Bologna and Padua, served as secretary to the duke of Urbino, was chamberlain to Pope Alexander VI, and was sent to England as subcollector of Peter's pence in 1501 or 1502 He secured the patronage of Henry VII, held many ecclesiastical preferments, and was naturalized in 1510 In 1515 he was briefly imprisoned for his criticism of Thomas Wolsey Vergil remained largely aloof from the religious controversies of the time He returned to Italy a few years before his death His chief work was his *Anglicae historicae libri XXVI* [26 books of English history] (1534), augmented in later editions A careful work, it is especially valuable for the reign of Henry VII He also wrote *Proverbiorum libellus* (1498), called in English *Proverbs*, a collection of Latin proverbs antedating that of Erasmus, *De rerum inventoribus* (1499), called in English *Inventions*, and other lesser works

Vergniaud, Pierre Victurnien (pyĕr' vĕktürnyĕ' vĕnyō'), 1753–93, French revolutionist A brilliant lawyer, he came before the public eye in 1790, when he defended peasants who had burned a castle. Elected as a deputy from the Gironde, he was the leader of the GIRONDISTS and one of the greatest orators of the French Revolution One of his most noted speeches was his address in favor of beginning the war He led the fight against the MOUNTAIN and Robespierre He fell with the Girondists and was guillotined See Henri Béraud, *Twelve Portraits of the French Revolution* (1928)

Verhaeren, Émile (āmēl' vărărĕn', vŭrhä'run), 1855–1916, Belgian poet, a Flemmg who wrote in French. His dominant passion for social reform found expression successively in a naturalistic disgust with men, in pessimism over the growth of urban industrialization, and finally in optimistic glorification of the ever-renewed creative forces of life, wherein he saw the hope of the exploited. His war poems are superior in their genre Verhaeren's feverishly imaginative lyric style has certain analogies with the style of the SYMBOLISTS, with whom he has been sometimes classed. The poet's work is immense; representative volumes are *Les Villages illusoires* [illusory villages] (1895), *Les Villes tentaculaires* [grasping cities] (1895), *Heures claires* (1896, Eng tr , *The Sunlit Hours*, 1916), love poems (Eng tr , *The Love Poems of Emile Verhaeren*, 1917), *La Multiple Splendeur* (1906), and *Les Aubes rouges de la guerre* [the red wings of war] (1917). His dramas are vigorous, the masterpiece is perhaps *Hélène de Sparte* (1912, Eng. tr , *Helen of Sparta*, in *The Plays of Emile Verhaeren*, 1916) Selections of Verhaeren's poems translated by Alma Strettel appear in *Poems of Emile Verhaeren* (2d ed , 1915) See studies by Stefan Zweig (1914) and P Mansell Jones (1926)

Veria, Macedonia, Greece see VEROIA.

Verigin, Peter see VEREGIN, PETER

Verkhneudinsk, RSFSR see ULAN-UDE.

Verkhoyansk (vûrkĭôyänsk', Rus vyĕrkhŭyänsk'), town (1939 pop over 500), N Yakut ASSR, RSFSR, in N Siberia, N of the Arctic Circle A fur-trading post, it lies in the coldest area of the earth, the lowest temperature recorded was −92°F Founded in 1638, it was formerly a place of exile

Verkhoyansk Range, mountain chain, NE Yakut ASSR, RSFSR, in N central Siberia It forms a vast arc along the Lena and Aldan rivers and rises to 8,000 ft in the south There are coal, silver, lead, and zinc deposits

Verlaine, Paul (pôl' vĕrlĕn'), 1844–96, French poet His life was one of wretchedness and degradation He gained some notice with the Parnassian poetry of *Poèmes saturniens* (1866) and *Fêtes galantes* (1869) and became a figure in the bohemian literary halfworld of Paris His marriage ended in misfortune, and Verlaine went to England and Brussels with his protégé, the young RIMBAUD The fantastic life of the two ended in tragedy when Verlaine shot and wounded Rimbaud and was, in consequence, imprisoned in Belgium for two years In prison he was brought back to the Catholic faith of his childhood and wrote some noble religious poetry which appeared in *Sagesse* (1881) From this time also dates his *Romances sans paroles* (1874), which shows Verlaine as one of the first of the SYMBOLISTS. The sensitive appreciation of the common incidents and sights of life, the peculiarly haunting and simple music of his verse, joined with the melancholy, morbid, and unreal disillusion of the decadents, mark his poetry, but more striking than the emotionalism and sensuality of the group is the distinctive and childlike candor of Verlaine himself Through the degrading incidents of his later life which was surrendered to drunkenness, poverty, and debauchery, he preserved his honesty and inverted naïveté *Jadis et Naguère* (1884) and *Parallèlement* (1889) were perhaps the best of his later volumes of poetry Of his prose works the only one of importance is *Les Poètes maudits* (1884), sketches of his fellow symbolists, particularly Mallarmé and Rimbaud In translation, Verlaine's verse loses much of his original (and unorthodox) phraseology and its onomatopoeic music (exemplified in the well-known "Il pleure dans mon cœur" from *Romances sans paroles*) Remarkably fine translations of some lyrics were made by Arthur Symons and Ernest Dowson, and many poems were translated by Gertrude Hall (1912) and by C F MacIntyre (1948) Edmond Pelletier and François Coppée helped to secure after Verlaine's death a truer appreciation of his genius See studies by Stefan Zweig (1913), Wilfrid Thorley (1914), and H G Nicolson (1921)

Vermandois (vĕrmädwä'), agricultural region and former county, N France, now in Somme and Aisne depts Saint-Quentin was the capital An important fief, Vermandois was annexed (c 1200) to the French crown by Philip II, ceded to Burgundy in 1435, recovered by Louis XI in 1477, and incorporated into the province of PICARDY

Vermeer, Jan or **Johannes** (vurmār', Du yän' vurmār', yōhä'nus), 1632–75, Dutch genre and landscape painter He was born in Delft, where he studied with Fabritius and spent his entire life He was also known as Vermeer of Delft and as Jan or Johannes van der Meer In 1653 he married. In the same year he was admitted to the painters' guild, of which he was twice made dean He enjoyed only slight recognition during his short life, and his work was forgotten or confused with that of another during the following century Today he is ranked among the greatest of the Dutch masters and as one of the greatest of all colorists His favorite subjects were intimate interiors, often with the solitary figure of a woman. These little pictures are very bold in design, often obviously geometrical, but are painted with almost mirrorlike naturalism No painter has depicted more exquisitely the subtle gradations of light Vermeer worked long over his pictures, and they are rare and highly prized Only about 38 paintings can be attributed to him with any certainty Among them are *The Milkmaid* and *The Letter* (Rijks Mus.); *Artist and Model* (Vienna), *View of Delft* (The Hague), *Soldier and Laughing Girl* (Frick Coll , New York), *Young Woman with a Water Jug* (Metropolitan Mus); *Young Girl with a Flute* (National Gall. of Art, Washington, D C.); *The Concert* (Gardner Mus., Boston). See study by P. L. Hale (1937); *The Paintings of Jan Vermeer* (1941).

Vermeylen, August (ou'gôst vĕrmī'lün), 1872–1945, Flemish novelist, leader in the Flemish literary revival. He was the chief of the founders of the journal *Van Nu en Straks* (1893–94, 1896–1901), the most influential force in the revival His principal novel is *De wandelende Jood* [the wandering Jew] (1906). See Jethro Bithell, *Contemporary Flemish Poetry* (1917).

vermicelli: see MACARONI.

vermiform appendix: see APPENDIX.

Vermigli, Pietro Martire (pyĕ'trō märtē'rā vĕrmē'lyē), 1500–1562, Italian Protestant reformer. He is commonly called simply Peter Martyr He joined the Augustinian canons, and in that order as a scholar and preacher he received high honors At Naples he was influenced by Juan de VALDÉS, and, accused of heresy, he was forbidden to preach for some time In 1541 he was appointed to the important position of prior at Lucca, where he became the center of a group known as the Lucchese Reformers Vermigli began to present publicly his Protestant views in such doctrinal matters as interpreting the Eucharist solely as a spiritual remembrance Threatened with arrest, he fled to Pisa, to Switzerland, and then to Strasbourg At the invitation of Archbishop CRANMER, he went to England, where he was professor at Oxford from 1547 until the restoration of Catholicism by Queen Mary in 1553 While there he had some influence on episcopal changes and was consulted about the revision of the Book of Common Prayer Vermigli returned to Strasbourg as professor until he went to Zurich, where he was professor of theology from 1556 until his death He was a Protestant representative at the unsuccessful attempt at Catholic-Protestant unity at the Colloquy of POISSY (1561) Vermigli's works were widely read and were influential in developing a Protestant theology.

Vermilion (vurmĭl'yun), town (pop 1,630), E Alta , on the Vermilion river, E of Edmonton and near the Sask border It has oil production and refining, in an area of mixed farming

Vermilion, village (pop 1,616), N Ohio, near Lake Erie, on the Vermilion river and E of Sandusky, settled c 1810 It is a fishing and resort center

Vermilion, iron range in Minnesota see MESABI

vermilion, vivid red pigment of lasting and durable quality It is resistant to ordinary acids although it is attacked by aqua regia It is a chemical compound of mercury and sulphur and is known as red sulphide of mercury, it was formerly obtained by grinding a pure cinnabar but is now commonly prepared synthetically Vermilion is a good resistant pigment for protecting iron and steel and is therefore used in paints It is commonly adulterated because of its high cost Certain other materials are sometimes called vermilion, among them is imitation vermilion prepared from a combination of red lead or basic lead chromate and certain other chemicals

Vermilion, city (pop 3,324), co seat of Clay co , extreme SE S Dak , E of Yankton, near the Missouri and on the Vermilion river, settled 1859, inc 1873 It is a trade center in rich farm country Fort Vermilion, a fur-trading post, was built near by (1835) The city was the site of an encampment of Mormons (1845–46) on their way to Utah The Univ of South Dakota (see SOUTH DAKOTA, UNIVERSITY OF) is in Vermilion

Vermont (vurmŏnt') [Fr ,=green mountain], state (9,609 sq mi , including 331 sq mi of water surface, 1940 pop 359,231, 1949 estimated pop 369,000), NE United States, in the New England group, admitted 1791 as the 14th state (a free state) MONTPELIER is the capital, BURLINGTON the largest city Vermont is bounded on the north by the Canadian province of Quebec, on the east by New Hampshire (the CONNECTICUT river forms the entire line), on the south by Massachusetts, and on the west by New York (Lake CHAMPLAIN constitutes more than half of this boundary) Its mountains, although often called collectively the GREEN MOUNTAINS, actually consist of at least four distinct groups, all traversing the state in a general north-south direction Largest and most important are the Green Mts proper, which extend from the Canadian border to the Massachusetts line down the center of the state, dividing it into eastern and western sections. Mt Mansfield (4,393 ft.) in this range is the highest peak in the state. The TACONIC MOUNTAINS, occupying the southwestern portion of the state and spilling over into Massachusetts, are the next most important, not only because of their scenery but also because they contain Vermont's important marble deposits East of the Green Mts and extending from the Canadian line to somewhat below the middle of the state are the Granite Hills, so called from the valuable stone they hold The fourth group, sometimes called the Red Sandrock Hills, extend along the Vermont shore of Lake Champlain. In E Vermont there are also isolated peaks or monadnocks not connected with the principal ranges. The rivers of Vermont, the only completely inland state of New England, flow either into the Connecticut or into Lake Champlain. The WINOOSKI, with its course apparently well established before the formation of the

mountains, rises east of the Green Mts and cuts directly through them to Lake Champlain Next to Champlain, Lake MEMPHREMAGOG, forming part of the boundary with Quebec, is the largest lake in which Vermont has a share Lake BOMOSEEN is the largest of some 400 lakes and ponds entirely within the state Vermont has the variable climate of the northeast temperate zone, but low humidity generally prevails Rainfall is abundant but only rarely excessive and has been so neatly distributed over the years that extremes of drought are unknown The length of the growing season varies from 120 days in the Connecticut valley to 150 in the Champlain valley Winter generally brings heavy snows, which usually cover the ground for at least three full months, but with the state's good roads almost always kept clear, this no longer means complete isolation for rural communities Indeed with the tremendous increase in winter sports activities, snow is a positive economic asset Vermont summers are most often beautiful and comfortable, attracting hordes of tourists, vacationers, and temporary residents Catering to their needs and to those of the ski enthusiasts in wintertime is one of the most important industries in Vermont, now indispensable to the economy of the state With its rugged terrain, still heavily wooded, Vermont has a limited area of arable land but is well suited to grazing (the Justin Morgan breed of horses was developed here) Dairy farming (in Vermont there are more cattle than people) has long been dominant in agriculture, and the state ships milk in huge quantities to the great metropolitan markets of Boston and New York Corn, oats, hay, potatoes, apples, and maple syrup (Vermont produces about 40 percent of the nation's annual supply) are the other chief agricultural products From the state's principal manufacturing and processing industries, a diverse group, come machines, machine tools, and allied products, dairy products, woolen, cotton, and knit goods, furniture, lumber, and woodworking products, granite, marble, and other finished stone, and paper and paper products The granite industry is centered at BARRE, while the commerce of RUTLAND earned it the name of the Marble City Other mineral products are lime, talc, slate, and asbestos The first white man known to have entered the area was Samuel de CHAMPLAIN, who, after laying the foundations of Quebec, journeyed south with a Huron war party in 1609 to the beautiful lake to which he gave his name The French did not attempt any permanent settlement until 1665, when they built a fort and shrine to St Anne on the ISLE LA MOTTE at the northern end of Lake Champlain However, this and later French settlements were abandoned, and until well into the 18th cent the region was something of a no man's land Fort Dummer, built (1724) near the site of BRATTLEBORO to protect the frontier towns of W Massachusetts, is considered the first permanent English settlement in what is now Vermont However, Vermont's history may be said to have really begun in 1741, when Benning WENTWORTH became royal governor of New Hampshire According to his commission New Hampshire extended W across the Merrimack river until it met "with our [i e , the king's] other Governments" Since the king had never publicly proclaimed the eastern limits of the colony of New York, this vague description bred considerable confusion By its charter of 1664 New York claimed the Connecticut river as its eastern boundary, which it early modified in the case of the colony of Connecticut (in return for territorial concessions from Connecticut) so that the New York–Connecticut boundary was established as a line 20 mi E of the Hudson river Massachusetts subsequently claimed the northward extension of this New York–Connecticut line as its own western boundary with New York (and eventually made it stick) Wentworth, assuming that the line would be drawn even farther north to mark New Hampshire's western boundary with New York, granted (1749) the township called BENNINGTON (from his Christian name), with the line 20 mi E of the Hudson as its western limit, to a group including his relatives and friends He was promptly informed by Gov George Clinton of New York (father of Sir Henry Clinton) that he had no authority to make such a grant Wentworth thereupon suggested that the matter be referred to the crown. The outbreak of the last of the French and Indian Wars in 1754 briefly suspended interest in the area, but after the British captured TICONDEROGA and CROWN POINT in 1759, Wentworth resumed making land grants He had parceled out, at a considerable profit to himself, a large part of what is now Vermont, then known as the NEW HAMPSHIRE GRANTS, when an order in council (1764) sustained New York's territorial claim E to the Connecticut river. New York immediately tried to assert its jurisdiction over the territory. Wentworth's grants were declared void, and new grants, for the same lands, were issued under title from New York Those who held their lands from New Hampshire naturally refused to budge, and a hot controversy, long in the making, now exploded. Two rival sets of land speculators had most at stake, with the New Hampshire grantees, first on the scene, having the edge over their New York counterparts. Resistance to the Yorkers was strongest in the west, where Ethan ALLEN organized the GREEN MOUNTAIN BOYS New York courts were forcibly broken up, and armed violence was directed against the Yorkers until the outbreak of the American Revolution in 1775 altered the situation The British replaced the Yorkers as the common enemy as Ethan Allen captured Ticonderoga and Seth WARNER took Crown Point At WESTMINSTER in Jan , 1777, Vermont (as its citizens were soon calling the region) proclaimed itself an independent state, and at WINDSOR in July it adopted a constitution, notable chiefly because it was the first in the United States to provide for universal manhood suffrage Thomas CHITTENDEN was elected the first governor The American victory at Bennington in Aug , 1777 (see SARATOGA CAMPAIGN), assured Vermont's new status Chiefly because of the opposition of New York, however, the Continental Congress refused to recognize Vermont as the 14th colony or state Thus rebuffed, Ethan Allen and his brother Ira ALLEN seemed to have entertained the idea of making Vermont a British province, but the final triumph of the Americans at Yorktown in 1781 put an end to this scheme Not until 1791, after many delays and misunderstandings and, most important, after the dispute with New York was finally adjusted (1790) by payment of $30,000, did Vermont enter the Union, the first state to be admitted after the adoption of the Constitution by the 13 original states In the next two decades Vermont had the greatest population increase in its history, from 85,425 in 1790 to 217,895 in 1810 Most of the immigrants came from S New England, as had those of the earliest days, and since the more desirable lands in the river valleys were soon taken up, many of them settled in the less hospitable hills Although agriculture was dominant, the Embargo Act of 1807 gave rise to many small industries here as elsewhere in New England In the unpopular War of 1812 the large-scale smuggling of supplies into Canada, where they were used by the British army, was partially offset by the Vermont-built ships in Thomas McDonough's victorious fleet on Lake Champlain At this early period in its history Vermont, lacking an aristocracy of wealth, was the most democratic state in New England Jeffersonian Democrats, as a matter of fact, held political control for most of the first quarter of the 19th cent Beginning in the 1820s political and social life in Vermont was considerably affected by the activities of those opposed to Freemasonry, and in the presidential election of 1832 Vermont was the only state carried by William Wirt, candidate of the ANTI-MASONIC PARTY. Anti-Masonry agitation expired soon thereafter, to be succeeded by even more vigorous efforts in behalf of another "anti" cause, the one against slavery In the Mexican War, which it viewed as an undertaking solely to increase slave territory, Vermont was a study in apathy, but no Northern state was more energetic in support of the Union cause in the Civil War One of the most bizarre incidents of the war was the Confederate raid (1864) on SAINT ALBANS, which, after the war, also figured in the equally bizarre attempt of the Fenians to invade Canada in the cause of Irish independence For Vermont the post-war period meant another forced readjustment in agriculture In pioneer days most Vermont farms were self-sufficient, a farmer and his family consumed most of what they produced, sold a few surplus products for the little cash they needed, and manufactured at home the miscellaneous articles their lives required Largely because of the rise of manufacturing in the towns and villages early in the 19th cent , which created a demand for foodstuffs from the non-farming population, commercial agriculture supplanted self-sufficient farming Grain and beef cattle became the chief crops for market However, these commodities were soon supplied more cheaply by the rapidly expanding West, especially after the opening of the Erie Canal in 1825 Vermont then turned to sheep raising, with the new woolen textile industry of S New England at hand After the Civil War the sheep industry rapidly declined and eventually passed away, unable to withstand the competition of Western, Australian, and South American wool The rural population also declined after the war, as some veterans followed the large number of Vermonters who had already migrated to the West Others moved to the large industrial cities Abandoned farms, or, more accurately, unoccupied farms, became a common sight, especially in the uplands Foreign immigration, especially of French Canadians, counterbalanced the exodus somewhat The transition to dairy farming in the 20 years following the Civil War staved off a permanent decline in Vermont's agriculture and ultimately brought it to its present generally sound condition In dairying itself, however, it was necessary to make a readjustment. The dairymen, often associated in cooperative creameries, first concentrated on marketing butter and cheese, but again, competition from the West proved too formidable Vermont then developed into the huge "milkshed" for Boston and New York that it is today. The rapid expansion of the summer recreation industry since the beginning of the 20th cent has also proved a great boon for Vermont Through all these changes much in Vermont life has remained stable, but nothing has been so constant as the complete domination of the Republican party Attracted by its original antislavery stand, Vermonters embraced it warmly from the first In Justin S MORRILL and, more recently, Warren R AUSTIN, the state gave the party leaders of national reputation, and the Republican Presidents Chester A Arthur and Calvin Coolidge were born in Vermont The extent of the state's great devotion to the party is indicated by the presidential elections of 1912 and 1936, when, in each case, Vermont was one of two states that voted Republican (the others were Utah in 1912 and Maine in 1936) Vermont rode out the depression of the 1930s in good style, perhaps because it was so experienced in surviving previous economic upheavals Unlike other states, it relied hardly at all on aid from the national government in the crisis While Vermonters were doubtless grateful for Federal flood-control work to prevent any recurrence of a flood such as the disastrous one of 1927, worst in the state's history, they decided (1936) in a popular referendum that they could do without the Green Mountain Parkway which the New Deal proposed to establish Conveying 35,000 acres of Vermont land to the United States was obviously too much for most Vermonters, who apparently had not forgotten the struggle their forefathers waged with the Yorkers to establish clear title to their land Thus rugged individualism was again exemplified during the Second World War when the state vigorously opposed a new Federal flood-control project which would have meant inundating a few of its villages Dorothy Canfield Fisher, Vermont's leading literary figure, has ably interpreted the Vermont character in many of her writings Institutions of higher education are the Univ of Vermont, Burlington, Middlebury College, Middlebury, Norwich Univ , Northfield, Bennington College, Bennington, and St Michael's College, Winooski Park See Abby M Hemenway, *Vermont Historical Gazetteer* (5 vols , 1871), Walter H Crockett, *Vermont, the Green Mountain State* (5 vols , 1921–23), Walter Hard and Margaret Hard, *This Is Vermont* (1936), Harold F Wilson, *The Hill Country of Northern New England: Its Social and Economic History, 1790–1930* (1936), Charles E Crane, *Let Me Show You Vermont* (1937), Federal Writers' Project, *Vermont a Guide to the Green Mountain State* (1937), Matt B Jones, *Vermont in the Making, 1750–1777* (1939), David M Ludlum, *Social Ferment in Vermont, 1791–1850* (1939), Dixon R Fox, *Yankees and Yorkers* (1940), Frederic F Van de Water, *The Reluctant Republic Vermont, 1724–1791* (1941), Charles M Thompson, *Independent Vermont* (1942), Earle Newton, *The Vermont Story a History of the People of the Green Mountain State, 1749–1949* (1949)

Vermont, University of, and State Agricultural College, at Burlington, with land-grant, state, and private support, coeducational, founded by Ira ALLEN, chartered 1791, opened 1800 The college of agriculture (chartered 1864) was united with the university in 1865 There are also colleges of arts and sciences, engineering, and medicine and a school of education and nursing The library, designed by H H Richardson, holds Vermont's largest book collection Of interest are Fleming (art and science) Museum, a seismograph, and a herbarium

vermouth (vûrmo͞oth'), blend of white wines fortified with additional alcohol and flavored with aromatic herbs, spices, and roots It contains up to 19 percent of alcohol Italian vermouth is sweeter and darker than the French Vermouth is taken as an appetizer and is used extensively in the preparation of cocktails and other mixed drinks

Vernadsky, Vladimir Ivanovich (vlŭdyē'mĭr ēvä'nuvĭch vĕrnät'skē), 1863–1945, Russian scientist His outstanding work in mineralogy was followed by contributions to the study of geochemistry, of isomorphism of chemical elements, and of properties of meteorites Vernadsky introduced the method of determining the age of rocks and minerals which is based on the measurable rate of radioactivity He founded and directed the biogeochemical laboratory of the Academy of Sciences, Leningrad, for the study of the role of microorganisms in biogeochemical processes in the earth's crust

Vernal (vûr'nul), city (pop 2,119, alt 5,322 ft), co. seat of Uintah co , NE Utah, in the Uintah Basin, S of the Uinta Mts and N of the Green River, inc 1879 It is a ranching town near Dinosaur National Monument

Verne, Jules (vûrn, zhül' vĕrn'), 1828–1905, French novelist In 1863 he began a series of romances of extraordinary journeys, often placed in a future of "scientific" development, more than 50 of these books appeared, sometimes more than one a year He is especially known to English readers in translations of his *Five Weeks in a Balloon* (1863), *A Journey to the Center of the Earth* (1864), *From the Earth to the Moon* (1865), *Twenty Thousand*

Leagues under the Sea (1870), *The Tour of the World in Eighty Days* (1873), *The Mysterious Island* (1875), and *Michael Strogoff* (1876). Plays and moving pictures have been made from many of his works

Verner, Karl Adolf (vûr'nûr, Dan kärl ä'dôlf vĕr'nur), 1846–96, Danish philologist He was a librarian at Halle, Germany, and a professor at the Univ of Copenhagen from 1888 His fame rests entirely on **Verner's law**, a linguistic phenomenon in the field of ablaut, notably in the Germanic languages Verner's law explained many features of Germanic philology which had been regarded as arbitrary exceptions.

Vernet (vĕrnā'), French family of painters **Claude Joseph Vernet** (klōd' zhôzĕf'), 1714–89, marine painter, b Avignon studied with his father, Antoine Vernet, a decorative painter, and in Rome, where he acquired a reputation. He was summoned to Paris in 1753 and commissioned by the king to paint the famous series of seaports of France of which he finished 15 (Louvre) His son **Antoine Charles Horace Vernet** (ătwän' shärl' ôrăs'), 1758–1835, called Carle Vernet (kärl'), rose to fame under the empire with his drawings of the Italian campaign and his paintings *The Battle of Marengo* (Versailles) and *Morning of Austerlitz* Under the Restoration he was popular as a lithographer and painter of dogs, horses, and scenes of the hunt His son **Émile Jean Horace Vernet** (ămēl' zhă'), 1789–1863, was one of the most popular military painters of the 19th cent He is best known for his decorations of the Constantine Room at Versailles and his *Defense of the Barrier at Clichy* (Louvre)

vernier (vûr'nĕr), an auxiliary scale, either straight or an arc of a circle, designed to slide along a fixed scale Its unit divisions, smaller than those on the fixed scale, permit reading with a far greater degree of accuracy The vernier is attached to the scales of instruments employed for very accurate linear or angular measurements, these include the transit, sextant, quadrant, barometer, compass, and caliper It was devised by a French mathematician, Pierre Vernier (1580–1637), who described it in his *Construction, usage et propriétés du quadrant nouveau de mathématiques* (1631)

vernis Martin (vĕrnē' märtĕ'), name given to the brilliant lacquer process developed by the four Martin brothers (fl reign of Louis XV) and to the numerous products of their art The popularity of lacquers was part of the 18th-century fashion in *chinoiserie*, and the Martins, originally coach painters, became the most skilled of the French craftsmen who attempted imitations of the Oriental originals However, from copies of the traditional Chinese lacquers the Martins (of whom Robert was the outstanding talent) broadened their accomplishments to include grounds of emerald green, lapis blue, yellow, and a bronze green with gold powdering. Upon these were decorations of flowers and fruits and eventually whole mythological and pastoral scenes, while the surfaces were unsurpassed for their exquisite sheen and translucence In 1748 the Martin workshops were classed as a *manufacture royale* The vogue for *vernis Martin* caused it to be applied not only to furniture and such *bibelots* as fans and tobacco boxes, but to sedan chairs and entire rooms Fine examples are in the museums of Paris, and Sans Souci at Potsdam has salons still preserving their lacquer adornments

Vernon, Edward, 1684–1757, English admiral He served in the navy from 1700 and was a member of Parliament from 1722, violently opposing Robert Walpole's government In the War of Jenkins's Ear he commanded the attack on Spanish possessions which he had strongly advocated His seizure of Puerto Bello (which was scarcely defended) was highly acclaimed, but was followed by defeats at Cartagena (1740) and Santiago de Cuba (1741) and by a quarrel with the commander of land forces Both men were recalled (1741), and in 1746 Vernon resigned from the navy Vernon's nickname, "Grog" (from his coat of grogram cloth), was given to the drink of water mixed with rum which he ordered served to his sailors as a form of rationing to curb their drunkenness The practice was later adopted throughout the navy Lawrence Washington, half brother of George Washington, named his estate Mt Vernon for the admiral, under whom he had served See biography by Douglas Ford (1907)

Vernon, city (pop 5,209), S British Columbia, near the north end of **Okanagan Lake** and SE of Kamloops The center of a fruitgrowing area, it has packing and dehydrating plants and woodworking, cement, and electric-appliances industries

Vernon. 1 Town (pop 8,978), N Conn , NE of Hartford, settled c 1726, inc. 1808 It includes ROCKVILLE **2** City (1940 pop 9,277, 1947 estimated pop 12,000), co seat of Wilbarger co., N Texas, near the Pease river and NW of Wichita Falls, inc 1890 Vernon was founded in 1880 on the cattle trail to Dodge City not far from the crossing of the Red and was the roistering trail town until Swiss and Wendish farmers came. Oil was found later, and the city of today handles rich yields of cattle, cotton, small grains, and oil. It is a highway center and has meat packing and other industries.

Vernonia, town (pop. 1,412), NW Oregon, NW of Portland, inc. 1891. It is a lumber center.

Verny, Kazakh SSR: see ALMA-ATA.

Vero Beach (vē'rō), city (pop 3,050), co. seat of Indian River co , E Fla , on Indian River and NE of Lake Okeechobee; founded c.1888, inc. 1919 as Vero, renamed 1925. It is a fishing and bathing resort and an important shipping center for citrus fruit. Near by are the noted McKee Jungle Gardens (opened 1931), an 80-acre botanical tract.

Veroia or **Veria** (both vē'rēä), town, Macedonia, Greece, c 40 mi. W of Salonica It was anciently Berea or Beroea Paul and Silas preached here Acts 17 10

Verona (vûrō'nû, Ital. vārō'nä), city (pop. 84,862), capital of Verona prov., Venetia, NE Italy, on the Adige Its position on the Brenner road to Germany has given it since Roman times commercial and strategic importance Odoacer made it his fortress, Theodoric his favorite residence. The seat of a Lombard duchy, later of Frankish counts, Verona became a free commune in the 11th cent The Veronese League, an alliance of several communes led by Verona, merged with the LOMBARD LEAGUE against Emperor Frederick I EZZELINO DA ROMANO held sway over the city from 1226 to 1259 The strife between Guelphs and Ghibellines which tore Verona in the 13th and 14th cent is symbolized in the story of *Romeo and Juliet* The Ghibelline Della Scala (or Scaligeri) family became lords of Verona in 1277, under Can Francesco (Cangrande) della SCALA the city reached its greatest power His successors gradually lost all possessions until in 1387 Verona fell to Milan Venice conquered Verona in 1405 The city fared well under Venetian rule (1405–1797) In the Renaissance, Verona produced such architects as GIOCONDO and San Micheli and such painters as PISANELLO and Paolo Veronese, who embellished both their native city and Venice In the 19th cent Austria, which then ruled Venetia, made Verona its chief fortress in N Italy Its stranglehold over Venetia was ended only with the Austro-Prussian War (1866) Despite the heavy damage it suffered during the Second World War, Verona retains many ancient monuments These include a Roman amphitheater (the largest except for the Colosseum) now used for opera performances, the Church of San Zeno Maggiore (9th–13th cent), the 12th-century town hall, the famous Gothic tombs of the Scaligeri, an imposing 14th-century castle, and the Renaissance Loggia del Consiglio The Romanesque cathedral (12th–15th cent) was damaged by bombing, the Ponte della Pietra, an early Roman stone bridge, and the pinnacled Ponte Scaligero (1354) were blown up by the Germans in April, 1945 See A M Allen, *History of Verona* (1910)

Verona (vûrō'nû) **1** Borough (pop 8,957), NE N J , NW of Newark near Montclair, inc 1907 Metal powder is made here **2** Borough (pop 4,356), Allegheny co , SW Pa , on the Allegheny river and NE of Pittsburgh, inc 1871 Chemicals and railroad equipment are made here

Verona, Congress of, 1822, last of the European conferences held (at Verona, Italy) under the provisions of the Quadruple Alliance of 1814 The main question debated was the revolution in Spain against FERDINAND VII The congress decided that a French army, under mandate of the Holy Alliance, should suppress the rebellion The decision was protested by the English foreign minister, George CANNING, and led to the growing rift between Great Britain and the other powers

Veronese, Paolo (pä'ōlō vārōnā'zā), 1528–88, Italian painter of the Venetian school Named Paolo Caliari, he was called Il Veronese from his birthplace, Verona He was apprenticed to the painter Antonio Badile His early work was also influenced by Domenico del Riccio, who, like Badile, belonged to the group of Veronese painters that looked to Venice for inspiration The young Veronese was influenced by the art of Mantua, where he saw the works of Mantegna and of the Romans, Primaticcio and Giulio Romano, and by the Brescian artist Il Moretto Under these influences he began to develop his native sense for limpid purity of color and clear differentiation of tones before he went to Venice in 1553 Battista Zelotti, another pupil of Badile, collaborated with Veronese in the execution of much of his early work, such as the frescoes (1551) for the Villa Soranza (fragments preserved in the cathedral at Castelfranco Veneto) At Venice his genius was soon recognized In 1553 and 1554 he worked on ceiling paintings for the ducal palace, including *Age and Youth* and *Hera Presenting Gifts to Venice.* Between 1555 and 1570 he executed many works for the Church of San Sebastiano, including scenes from the life of Esther for the sacristy ceiling (1555), the organ shutters with the scenes of *Christ Healing at the Pool* and the *Circumcision* (1560), and the *Martyrdom of St. Sebastian* and *St Mark and St. Marcellinus Urged to Martyrdom* (1565) in the main choir Shortly before 1560 he executed the *Supper at Emmaus* (Louvre), the first of many religious feast scenes which Veronese interpreted in characteristically secular and decorative manner, giving emphasis to the splendor of color and opulence of accessories. These feast scenes include the *Marriage at Cana* (1562; Louvre); the *Feast in the House of the Pharisee* (c 1570; Milan); and the famous *Feast in the House of Levi* (1573; Academy, Venice) In 1573 the artist was called before the Inquisition because of one of his feast paintings and required to change details objectionable to the court He began work, c 1566 on the fresco decoration of the Villa Barbaro at Maser in Venetia. These exquisitely fresh mythological, landscape, and portrait frescoes stand as testimony of the master's supreme decorative genius In 1576 he painted one of his most famous works, *The Rape of Europa,* now in the ducal palace After the fire of 1577 he was employed in the reconstruction of the ducal palace where he executed the splendid *Triumph of Venice* and *Venice Ruling with Justice and Peace* Veronese ranks among the greatest of the Venetian painters His use of cool, clear color harmonies was distinct from the warmer tonality of his contemporaries Titian and Tintoretto and anticipated the 18th century style, especially of Tiepolo A few of his works are in American collections, including fine allegorical paintings, *Wisdom and Strength* and *Man between Virtue and Vice* (Frick Coll, New York), *Venus and Mars* (Metropolitan Mus.), *Lady with Her Daughter* (Walters Art Gall., Baltimore), and *Rest on the Flight to Egypt* (Ringling Mus of Art, Sarasota, Fla.).

veronica (vurŏ'nĭku) [Latin, probably connected with Greek *Berenice*], relic preserved in St. Peter's Church, Rome It is said to be a veil which a kind woman gave Jesus to wipe his face as he was on the way to Calvary When he gave it back, the cloth retained the print of his face. The woman, often called Veronica, is not listed in official calendars of saints

veronica, plant see SPEEDWELL

Verplanck, Gulian Crommelin (vûrplăngk'), 1786–1870, American author, b New York city, grad Columbia, 1801 He was admitted to the bar in 1807 and took part in politics, writing against the Clinton faction verse satires collected in *The Bucktail Bards* (1819) Verplanck served in the New York legislature and (1825–33) in the U S House of Representatives He was a professor (1821–24) at the General Theological Seminary and wrote *Essays on the Nature and Uses of the Various Evidences of Revealed Religion* (1824) He was associated (1828–40) with William Cullen Bryant and R C Sands in writing the annual *Talisman* Verplanck edited Shakspere's plays (3 vols , 1847)

Verrazano, Giovanni da (jōvän'nē da vĕr" ratsä'nō, vĕr"uzä'nō), c 1480–1527?, Italian navigator and explorer, in the service of France Sailing west to reach Asia, Verrazano explored (1524) the North American coast probably from North Carolina to Maine Possibly he was the first European to enter New York Bay In 1526, or later, sailing from France, he explored the West Indies, where the natives killed him Based on his discoveries, his brother Gerolamo's maps (1529) showed a new concept of North America

Verres, Gaius (gā'ŭs vĕ'rēz), c 120 B C –43 B C , Roman administrator He held various posts before serving as governor of Sicily (73–71 B C) There his corruption and extortion were notable even in an era when corruption among Roman governors was taken for granted He was brought to trial, and CICERO began to issue his thundering Verrine Orations against him Undeniably the trial was a political maneuver to bolster the senatorial party opposing him and undeniably the denunciations by Cicero were highly colored, but no adequate defense could be offered Verres fled to Massilia (modern Marseilles), where he lived until proscribed by Mark Antony in 46 B C

Verrill, Addison Emery (vĕ'rĭl), 1839–1926, American zoologist, b Oxford co , Maine, grad Harvard (B S , 1862) He was professor of zoology at Yale (1864–1907) and curator of the zoological museum (1865–1910) He served on scientific explorations of the U S Fish Commission, investigating and reporting on the marine biology of the Pacific and Atlantic coasts of America and that of Bermuda

Verrius Flaccus (vĕ'rēŭs flă'kŭs), fl 20 B C , Roman grammarian. Little is known of his life A freedman, he was appointed by Augustus to educate his grandsons and died at an advanced age during the reign of Tiberius Of his numerous works, only one, his treatise *De verborum significatu* [on the meaning of words], survives in an abridgment by Sextus Pompeius FESTUS This work is a source of information about Latin grammar and Roman literature, customs and myths.

Verrocchio, Andrea del (ändrā'ä dĕl vĕr-rôk'kyō), 1435–88, Florentine sculptor, silversmith, painter, and engineer, whose real name was Andrea di Michele di Francesco di Cioni He was a leading figure in the early Renaissance, and his workshop was a center for the training of young artists in Florence, among them Leonardo da Vinci and Lorenzo di Credi. Few of his paintings exist. One attributed to him is the *Baptism of Christ* (Uffizi). He studied the goldsmith's craft under Giuliano Verrocchi and sculpture under Donatello As a sculptor he left a variety of masterly performances

Among the earliest works in Florence are the *Boy with a Dolphin* (Palazzo Vecchio) and *David* (Bargello) In 1480 he completed a relief in silver, the *Beheading of John the Baptist*, for the altar in the baptistery (now in the cathedral museum) Another side of his art is seen in his tombs of the Medici (San Lorenzo). But his finest achievements were the bronze group, *Incredulity of St Thomas* (Or San Michele), and the unsurpassed equestrian statue of the *condottiere* Bartolomeo Colleoni in Venice Verrocchio completed the clay model for this, but the statue itself was cast in bronze after his death by Alessandro Leopardi, who added a bronze frieze for the pedestal. In marble and in terra cotta the master made some celebrated portrait busts and beautiful reliefs Works attributed to him are in museums in Paris and London, a painting, *Madonna and Child*, is in the Metropolitan Museum, and three terra cottas are in the National Gallery of Art, Washington, D C

Versailles (vûrsälz', vûrsī', Fr. vĕrsī'), city (pop 63,114), capital of Seine-et-Oise dept, N France, SW of Paris It was an insignificant village when, in 1629, Louis XIII built a hunting lodge there Louis XIV selected the area for the construction of the palace which to the present day has remained the most famous in the world and the model for hundreds of imitations The labor involved (notably the draining and filling of the terrain) was as staggering as the sum it cost (66,000,000 livres) Work was begun in 1661, in 1682 Louis moved his court to Versailles The huge palace, representing the French classic style at its height, is the work of Louis LE VAU, J H MANSART, and Charles LE BRUN, LENÔTRE laid out the park and gardens, decorated with numerous fountains, reservoirs, and sculptures by artists such as COYSEVOX. To supply water for the fountains and other water displays a huge machine was built at MARLY-LE-ROI The park contains two smaller palaces, the Grand TRIANON and the Petit Trianon, and numerous temples, grottoes, and other decorative structures The construction of the château resulted in the growth of the town of Versailles, with numerous governmental buildings and private mansions, it enormously stimulated the trade and industry of the region and made the French court the focal point of Europe Nevertheless, its tremendous cost was greatly resented Louis XV, who was born here, modified the interior of the palace and the park, where he astonished Europe with the lavishness of his fetes The scene of the beginnings of the French Revolution, Versailles ceased to be a royal residence in 1790 (the Tuileries in Paris replaced it in this function) Louis Philippe made it a national monument and museum (containing more than 7,000 paintings) The palace was the scene of the proclamation of the German Empire (1871) and of the Third French Republic and was traditionally used for joint meetings of the two legislative chambers Several important treaties were signed here

Versailles (vûrsälz', vûr-) **1** City (pop 2,548), co seat of Woodford co, N central Ky, W of Lexington, in a region producing bluegrass seed, tobacco, and hemp, founded 1792 Margaret Hall, a school for girls, is here Near by is Pisgah Church (1812) **2** City (pop 1,781), co seat of Morgan co, central Mo, near the Lake of the Ozarks, founded c 1835 It has tourist and farm trade **3** Village (pop 1,711), W Ohio, NW of Piqua, settled 1819, inc 1855 Overalls are made here **4** Residential borough (pop 2,401), SW Pa, SE of Pittsburgh, inc 1892 Pig iron is made here

Versailles, Treaty of, name of several treaties signed in the palace at Versailles, France For the Treaty of Versailles of **1783**, see PARIS, TREATY OF, 1783 The Preliminary Treaty of Versailles of **1871** was signed at the end of the Franco-Prussian War by Bismarck for Germany and by Thiers for France It was ratified (1871) in the Treaty of Frankfurt France ceded Alsace (except the Territory of Belfort) and part of Lorraine, including Metz, to Germany and agreed to pay an indemnity of $1,000,000,000 (5,000,000,000 francs) German occupation troops were to remain until payment had been completed (only until 1873, it turned out, because of French speed in paying) The most important treaty signed at Versailles (in the Hall of Mirrors) was that of **1919** It was the chief among the five peace treaties that terminated the First World War (the other four were Saint-Germain, for Austria, Trianon, for Hungary, Neuilly, for Bulgaria; and Sèvres, for Turkey) Signed on June 28, 1919, by the representatives of Germany on the one hand and by those of the Allies (save Russia) on the other, the Treaty of Versailles embodied the result of the lengthy and often embittered negotiations of the Paris Peace Conference of 1918–19 Germany was not consulted during the negotiations and was merely requested to accept the final terms The outstanding figures in the negotiations leading up to the treaty were Woodrow WILSON for the United States, CLEMENCEAU for France, LLOYD GEORGE for England, and ORLANDO for Italy—the so-called Big Four. Among the chief causes of Allied dissension was the refusal of Wilson to recognise the secret agreements reached by the Allies in the course of the war, the refusal of Italy to forego the territorial gains promised (1915) by the secret Treaty of London, and French insistence on harsh treatment of Germany. Wilson's FOURTEEN POINTS were, in their essence, sacrificed, but his main object, the formation of the LEAGUE OF NATIONS, was embodied in the treaty Italian claims were only partially met in the Treaty of Saint-Germain, and France also was obliged to make some concessions to Wilson's insistence. However, the Senate of the United States refused to ratify the treaty, and the United States merely declared the war with Germany at an end in 1921 The Treaty of Versailles, containing the Covenant of the League of Nations, is a voluminous and detailed document It formally placed the responsibility for the war on Germany and its allies and imposed on Germany the burden of the REPARATIONS payments It contained clauses (never carried out) for the trial of Emperor William II and other major war criminals The chief territorial clauses were those restoring Alsace and Lorraine to France, placing the former German colonies under League of Nations MANDATES, awarding most of West Prussia, including Posnan and the POLISH CORRIDOR, to Poland, establishing DANZIG as a free city, and providing for plebiscites which resulted in the transfer of Eupen and Malmédy to Belgium, of N Schleswig to Denmark, and of parts of Upper Silesia to Poland The SAAR TERRITORY was placed under French administration for 15 years, the RHINELAND was to be occupied by the Allies for an equal period, and the right bank of the Rhine was to be permanently demilitarized The German army was reduced to a maximum of 100,000 men, the German navy was similarly reduced, and Germany was forbidden to build submarines, military aircraft, tanks, and other weapons of aggression Germany, after futile protests, accepted the treaty, which became effective in Jan, 1920 While STRESEMANN was German foreign minister, Germany by a policy of fulfillment succeeded in having some of the treaty terms eased Reparations payments, the most ruinous part of the treaty, were suspended in 1931 and were never resumed In 1935 Chancellor HITLER unilaterally canceled the military clauses of the treaty, which in practice became dead letter A vast literature has been written on the Paris Peace Conference and on the Treaty of Versailles, and controversy continues as to whether the treaty was just, too harsh, or not harsh enough See J M Keynes, *Economic Consequences of the Peace* (1919), Carnegie Endowment for International Peace, *The Treaties of Peace, 1919–1923* (2 vols, 1924), Georges Clemenceau, *Grandeur and Misery of Victory* (1930), Harold Nicolson, *Peacemaking, 1919* (1933), Lord George Riddell and others, *The Treaty of Versailles and After* (1935), J T Shotwell, *At the Paris Peace Conference* (1937), David Lloyd George, *Memoirs of the Peace Conference* (1939), Paul Birdsall, *Versailles Twenty Years After* (1941)

Verschaffelt, Pieter Anton (pē'tur an'tôn vurskha'fult), 1710–93, Flemish sculptor, known also as Pietro Fiammingo [Peter the Fleming] In 1752 he settled at Mannheim, Germany, where he became director of the academy There are his most important works—decorations for the Jesuit church and for the library of the ducal palace and a statue of Elector Charles Theodore In the cathedral at Ghent is his tomb of Bishop Maximilian Antoine van der Noot, in Rome his monument to Pope Benedict XIV He was one of the best-known representatives of the rococo style

Versec, Yugoslavia see VRSAC

versification, principles of metrical practice in poetry In different literatures poetic form is achieved in various ways, but a definite and predictable pattern in the language seems always fundamental In Greek poetry the pattern is in the quantity of the syllables, by which term was meant the duration of the time required to express a syllable Intricate and effective metrical patterns were devised by the Greek poets and adapted by the Romans Greek terminology is still used in the analysis of metrics, although in modern languages stress has been substituted for quantity The line or verse of poetry is a fundamental unit of meter and is divided somewhat arbitrarily into feet according to the major and minor stresses In the familiar mnemonic stanza beginning, "Thirty days hath September," there are four stresses in the first line, there is no unstressed syllable between the second and third stressed ones The types of feet retain the ancient Greek names iambus ⏑–, trochee –⏑, spondee ––, pyrrhic ⏑⏑, anapest ⏑⏑–, and dactyl –⏑⏑ Accordingly the number and the type of feet determine the name of the meter, e g, iambic PENTAMETER, five iambic feet, iambic hexameter (see ALEXANDRINE), six iambic feet, dactylic hexameter, six dactylic feet. A patterned arrangement of lines into a group is called the stanza RHYME, which developed after the classical period, perhaps to reinforce rhythm when the old quantitative verse was no longer used, is an important element in stanzaic structure Rhyme was developed to a high degree in Romance languages, especially in Provençal and French Germanic poetry, entirely unrelated to Greek origins, developed characteristics of its own, which are reflected in modern poetry Anglo-Saxon and Icelandic poetry had strong accents or stresses, usually four to a line, a caesura or definite break in the middle of the line, and a pattern of ALLITERATION, usually of three of the stressed syllables of the line, sometimes of only two Much of Middle English poetry is alliterative verse, while the rest follows the "French" forms of rhyme and rhythm Chaucer is credited with inventing the first characteristically English stanza form, the rhyme royal (see PENTAMETER) Later popular English forms were the BALLAD stanza, the SONNET, and the stanza developed by Edmund SPENSER and called Spenserian Blank verse became the great dramatic line in the 16th cent, and the heroic couplet was the dominant form in 18th-century English verse Modern poets have recognized both the temporal and the stress measures of verse and have experimented with assonance, alliteration, sprung rhythm (see HOPKINS, GERARD MANLEY), and FREE VERSE. See George Saintsbury, *A History of English Prosody* (3 vols, 1906–10), R M Alden, *English Verse Specimens Illustrating Its Principles and History* (1929), G W Allen, *American Prosody* (1935), Karl Shapiro, *A Bibliography of Modern Prosody* (1948).

vers libre see FREE VERSE

vertebral column see SPINAL COLUMN

vertebrate (vûr'tubrāt"), any animal having a backbone or SPINAL COLUMN In the adults of all forms from the bony fish to mammals the backbone consists of a series of vertebrae The subphylum Vertebrata (Craniata) is divided into classes which include fish, amphibia, reptiles, birds, and mammals In addition to an internal skeleton of bone and cartilage or of cartilage alone, vertebrates have a spinal cord, a brain enclosed in a cranium, a heart divided into two, three, or four chambers, and no more than four limbs (variously modified in the different classes) Three subphyla of primitive marine forms (one of which is represented by the lancelet *Amphioxus*) lack a true vertebral column but have a gelatinous rod or notochord In the lowest forms this is present only in the early life stages Together with the Vertebrata these primitive forms comprise the phylum Chordata

vertigo (vûr'tigō), sensations of dizziness and of inability to maintain equilibrium resulting from many causes Rapidly moving objects followed by the eyes, sudden changes in position of the body, looking down from a height, SEASICKNESS, intoxications, injuries and diseases of the brain, and a disorder associated with the auditory nerve, known as Ménière's disease, cause the condition Vertigo is treated by removing the particular cause

Vertue, George (vûr'chōō), 1684–1756, English engraver and antiquary He gained a high reputation as an engraver by his faithful reproductions of the portraits of Sir Godfrey Kneller and other contemporary artists, of whose work he made over 500 plates He also made engravings of British works of art for the Society of Antiquaries His notebooks (now in the British Museum) were used by Horace Walpole in compiling his *Anecdotes of Painting in England* (4 vols, 1762–71)

Vertumnus (vûrtŭm'nus), in Roman religion, god of the harvest He was particularly associated with fruits A harvest festival held in August, the Vortumnalia, was dedicated to him

Verulamium see SAINT ALBANS, England.

vervain see VERBENA

Verviers (vĕrvyā'), town (pop 40,296), Liége prov, E Belgium, E of Liége It produces metal goods and has manufactures of woolen and cotton textiles

Vervins, Treaty of (vĕr'vĕ'), 1598, peace treaty signed at the small town of Vervins, Aisne dept, N France, by the representatives of Henry IV of France and Philip II of Spain It ended the French Wars of Religion by obliging Philip to withdraw his troops from France, thus depriving the Catholic League of Spanish support

Verwey, Albert (al'bĕrt vĕrvī'), 1865–1937, Dutch poet He was professor of Dutch literature at the Univ of Leiden One of the leaders of the 1880 literary revival, he was all his life influential in Dutch letters, especially as a critic

Very, Jones, 1813–80, American poet, b Salem, Mass He was a friend of Emerson and Thoreau and a contributor to the *Dial*, journal of the transcendentalists Emerson helped him edit his somewhat mystical *Essays and Poems* (1839) See biography by W I Bartlett (1942)

Vesalius, Andreas (vĭsā'lēus), 1514–64, Flemish anatomist He made many discoveries in anatomy and became noted as professor of anatomy (1537?–1546?) at the Univ of Padua There he produced his chief work, *De humani corporis fabrica* (1543), based on studies made by dissection and covering the whole field of human anatomy, the notable illustrations are attributed to Jan von Calcar Vesalius's condensation (1543) appeared in English as *The Epitome of Andreas Vesalius* (1949) His work overthrew many doctrines of Galen and directed a storm of criticism against Vesalius He left Padua, becoming physician to Emperor

Charles V and to his son Philip II In 1563 he made a pilgrimage to Jerusalem and on the return voyage died at Zante, Greece See biography by J. M Ball (1910), H W. Cushing, *Bio-bibliography of Andreas Vesalius* (ed by J F Fulton, 1943)

Vesoul (vuzōl'), town (pop 10,744), capital of Haute-Saône dept, E France, in Franche-Comté A large agricultural center, it dates from the 9th cent Fortified many times, it has a long history of sieges and devastations

Vespasian (Titus Flavius Vespasianus) (vĕspā'zhŭn), A D 9–A D 79, Roman emperor (A D 69–A D 79), founder of the Flavian dynasty He came of a poor family and made his way in the army by sheer ability He served in Germany and Britain (where he reduced the Isle of Wight) and was made consul (A D 51), he later was proconsul in Africa under Nero In A D 66 Nero put him in charge of the war against the Jews, and he was in Judaea when the emperor died He recognized Otho and then Vitellius at first, but on his proclamation as emperor by the soldiers, Vespasian set out to make good his claim He seized Egypt, and his friends in Italy helped him Vespasian arrived in Italy late in A D 69 He set about restoring the state and its finances and gave an example of frugal living contrasting greatly with the life of Nero His son Titus, whom he had left to prosecute the Jewish war, destroyed Jerusalem and returned to Rome to enjoy a triumph with his father To commemorate the beginning of an era of peace (which lasted a century) he closed the gates of the temple of Janus and built the temple of Pax He also erected the Colosseum The two external events of Vespasian's reign were the revolt of the Batavi and the administration and campaign of Agricola in Britain Vespasian's sons were Titus and Domitian

vespers (vĕ'spurz) [Latin,=evening], in the Christian Church, principal evening office In the Roman rite, vespers have consisted since the 6th cent of a few prayers, five psalms, a lesson, the *Magnificat*, and an antiphon The Anglican evening prayer, often called vespers, is made up largely from the Roman vespers and complin

Vespers, Sicilian: see Sicilian Vespers

Vespucci, Amerigo (umārē'gō vāspōō'chē), 1454–1512, Italian navigator, b Florence He entered the commercial service of the Medici and in 1492 moved to Seville He accompanied Alonso de Ojeda in 1499, but by agreement the two separated shortly before land was sighted in the West Indies, and Vespucci alone discovered and explored the mouths of the Amazon Subsequently he sailed along the northern shore of South America and among the islands He returned to Spain in 1500, and in 1501 he entered Portuguese service to explore the southern coast of South America Vespucci found the mouth of the Río de la Plata and probably went as far as lat 50° S He explored c 6,000 mi of coast line, but it is in the scientific application of his discoveries that his achievements are remarkable He evolved a system for computing nearly exact longitude (previously determined by dead reckoning), he arrived at a figure for the earth's equatorial circumference only 50 mi short of the correct measurement Vespucci accepted South America as a new continent, not part of Asia Consequently, cosmography was radically altered, and in 1507 with the publication of Martin Waldseemüller's *Cosmographiae introductio* the name America (to honor Vespucci) first appeared as applied to the continent His voyage completed in 1502, Vespucci returned to Spain, where in 1508 he was made chief pilot (pilot major) He died of malaria contracted on his voyages Vespucci's achievements were long belittled by scholars, but the conclusions of Alberto Magnaghi in the 1920s and 1930s have now been widely accepted and the pilot major is given his due An edition of Vespucci's letters and other documents appeared in English in 1894 See biography by Frederick J. Pohl (1944)

Vesta (vĕ'stu), in Roman religion, goddess of hearth and home, identified with the Greek Hestia She was highly honored in every household from remote times to the beginning of Christianity Her temple in Rome, the oldest in the city, contained an undying fire tended by vestal virgins (see VESTAL)

Vest-Agder (vĕst'-ag"dur), county (2,802 sq mi; pop 93,980), S Norway Kristiansand, on the Skagerrak, is the county seat Agriculture, fishing, and lumbering are the chief occupations There are molybdenum mines

vestal (vĕ'stul), in Roman religion, priestess of Vesta. The vestals of the temple in Rome were at first four, then six, in number. They were daughters of the best families, dedicated to the goddess in childhood and trained in obedience and chastity After serving the goddess for 30 years, they were allowed to leave the temple and marry, but they seldom did so Their duties included the preparation of sacrifices and the tending of the sacred fire The vestals had great influence in the state; thus, if they desired some benefit of an officer, they obtained it, and if a vestal requested the pardon of a criminal, he was pardoned According to the historians the penalty for a vestal virgin's breaking her vows was burial alive after a public funeral See T. C. Worsfold, *History of the Vestal Virgins of Rome* (1932).

Vester-. For Swedish place names beginning thus see Vaster-

Vestfold (vĕst'fōl"), county (903 sq mi, pop. 147,555), S Norway Larvik, the county seat, and Tonsberg are the chief cities. The population is seafaring, agriculture, stock raising, lumbering, and fishing are among its other means of livelihood. The region contains zinc deposits

Vestmannaeyjar, Iceland: see Westman Islands.

vestments, garments worn by ecclesiastics in ceremonial functions The cassock, a close-fitting gown buttoning down the front and reaching to the feet, is not a vestment so much as the daily uniform of the Western priest Among most Protestants the vestments are limited to full gowns, much like academic gowns, sometimes with white bands worn around the neck and tied in front Some Anglicans and Lutherans approximate the Roman Catholic use In the Roman Catholic Church the priest's vestments at Mass are the most important They are often elaborately worked and are usually made of linen or silk They have remained largely the same since the early Middle Ages, in origin they are the upper-class "Sunday dress" of the late Roman Empire Certain of them match in color, this "liturgical color" varies according to the day, e.g., white for Easter, red for the Holy Ghost and for martyrs, black for requiem Masses The vestments for Mass are put on over the cassock as follows the amice, a rectangular white strip covering the shoulders and having strings put around the neck, over this the alb, a long white gown with tight sleeves, the girdle, a rope of hemp or linen with tassels, usually white, confining the alb, the maniple (of the liturgical color), a broad band hanging over the left forearm, the stole (of the liturgical color), a long band hanging around the neck and crossed in front, over all the chasuble (of the liturgical color), a cloak with a hole for the head, cut in at the sides to give the arms freedom of action, often covering only the shoulders and reaching only part way down in front and back. Of these the stole is worn uncrossed when the alb is not worn (as when the priest distributes communion), or diagonally from the left shoulder to the right side (by a deacon) The deacon's vestment par excellence is the dalmatic (of the liturgical color), a coat reaching to the knees, with wide, short sleeves The cope is a great cape worn by the priest in processions, in giving absolution to the dead, at benediction, and some other occasions. The vestments proper to a bishop celebrating Mass, in addition to the priest's vestments, are miter, gloves, buskins (stockings), and sandals (slippers) Not properly a vestment but frequently seen in churches is the surplice or cotta, a loose-fitting white linen garment reaching to the waist or knees The only vestment peculiar to the Anglican communion is the chimer worn by some bishops, a black gown with white balloon sleeves of lawn Related to the chimer, but shorter and sleeveless, is the manteletta of Roman Catholic bishops See pallium For bibliography, see liturgy and Mass

Vestris, Lucia Elizabeth (Bartolozzi) (bartōlōt'sē vĕ'strĭs), 1797–1856, English actress and manager, granddaughter of an Italian engraver and daughter of a professor of music and fencing At 16 she married Armand Vestris, a ballet master, who later deserted her She made a debut in Italian opera in 1815, acted at the Comédie Française with Talma, and made her first appearance at Drury Lane in 1820 in James Cobb's *Siege of Belgrade*, a light comedy In the same year she created a sensation when she played in male attire Don Giovanni in a burletta of Mozart's opera, she later played other roles dressed as a man In 1831 Mme Vestris opened the Olympic theater in London and made it famous by her productions of extravaganzas In 1838, after her husband's death, she married Charles James Mathews on the eve of what was to be an unsuccessful American tour and in 1839 assumed management of Covent Garden theater with him Here they produced Shakspearian comedies with attention to text and historical accuracy, collaborated with Boucicault and brought out (1841) his *London Assurance*, and secured the services of the fine stage designer William Roxby Beverley They relinquished the reins at Covent Garden in 1842, and in 1847 they took over the Lyceum, where they produced extravaganzas Mme Vestris was the first woman to be a lessee of a theater See Rosamond Gilder, *Enter the Actress* (1931)

Vesuvius (vĭsōō'vēŭs), Ital *Vesuvio* (vāzōō'vyō), only active volcano on the European mainland, S Italy, near the eastern shore of the Bay of Naples and ESE of Naples The height of the main cone changes after each eruption; the present height (as of 1950) is 3,891 ft The second summit, Monte Somma (3,714 ft), is a ridge which half encircles the cone The sides of Vesuvius are deeply scarred by lava flow, but its lower slopes are extremely fertile and are dotted with villages and covered with vineyards which produce the famous Lachryma Christi wine. The base of the mountain has a circumference of c.45 mi. and is encircled by a railroad A funicular railway reaches almost to the rim of the crater (diameter c.2,300 ft) On the western slope, at 1,995 ft, there is a seismological observatory (built 1840–45). The outline of Vesuvius forms part of the backdrop of Naples; it is often surmounted by a faint plume of smoke. The earliest recorded eruption (A D. 79) was described by Pliny the Younger in two letters to Tacitus, it buried Pompeii, Herculaneum, and Stabiae under cinders and ashes Pliny the Elder was killed by the eruption, which he had come to investigate Frequent eruptions have been recorded since, notably in 512, in 1631, six times in the 18th cent, eight times in the 19th cent (particularly in 1872), and in 1906, 1929, and 1944 The eruptions vary greatly in severity. The fertility of the region is due to the lava.

Veszprém, Hung *Veszprém* (vĕ'sprām), city (pop 21,557), W central Hungary, c 60 mi SW of Budapest Created a bishopric by St Stephen in 1001, it has a cathedral (14th–16th cent) and a museum with an ethnographic collection. The tall minaret is a memento of Turkish rule

Vetch, Samuel, 1668–1732, British soldier and colonial administrator, b. Scotland, educated in Holland. As an officer in a Scottish regiment, he went (1698) to Panama in connection with William Paterson's Darien Scheme, but shortly thereafter settled in North America Author of a plan for capturing French Canada, he was empowered (1709) by the British government to raise troops for the attack He was adjutant general of the expedition which captured (1710) Port Royal (now Annapolis Royal, N S), of the conquered territory, Vetch was military governor (1710–13) and civil governor (1715–17). See biography by J C Webster (1929)

vetch, common name for several weak-stemmed leguminous herbs of the genus *Vicia*, most of which are annuals Common vetch (*Vicia sativa*), also called Oregon or spring vetch, is a purple- or pink-flowered climber native to Europe, where it is grown for fodder It is extensively grown on the Pacific coast and in other sections of the United States for green fodder and hay and as a cover and green-manure crop Hairy vetch (*V villosa*), used almost as widely, is a hardy biennial, with narrower, silvery leaves and blue flowers It grows almost anywhere in the United States and is considered the best legume to plant where red clover does not thrive It is also known as sand, Siberian, Russian, and winter vetch Seed of these two species were imported from Europe when the supply in the United States was inadequate Other species of vetch in cultivation are the bitter (*V ervilia*), purple (*V atropurpurea*), and Hungarian (*V pannonica*) species Inoculating vetch seed with nitrogen-fixing bacteria is recommended when it is to be grown in soil of low fertility In the Middle Western and NW United States certain vetches, including hairy vetch and the narrow-leaf vetch or wild pea, sometimes escape into grainfields, where they cause trouble See also tare See *Vetches* (U S Dept of Agriculture, Farmers' Bul 1704)

Veterans of Foreign Wars, organization created (1899) at Columbus, Ohio, by veterans of the Spanish-American War The organization later admitted veterans who saw action in subsequent wars and U S military expeditions After the First World War, the Veterans of Foreign Wars, successful in promoting solidarity among its members, sought to rival the American Legion in size and influence At the close of the Second World War, the V F W vastly increased its membership, besides advocating numerous benefits for veterans, the organization took a firm stand on several political issues The V F W supported the United Nations, universal military training, curtailment of the American Communist party, and several domestic reforms

veterinary medicine, diagnosis and treatment of diseases and injuries of animals An early interest in caring for animals is evidenced in ancient Greek writings on medicine. Through many centuries, the importance of the horse in war and peace led to special care of the animal Horseshoers (farriers) often had the skill of veterinarians and were frequently sought when medical care was needed (The term *farrier* was formerly applied to a veterinarian) The distinct profession of veterinary medicine is of recent origin The veterinary art achieved the stature of a science when a pioneer school in the field was established in Lyons, France, in 1761 under royal patronage Not long after, similar schools were established in many parts of Europe In the United States, veterinary schools were established about the time of the Civil War. In experiments with animals veterinary medicine has utilized numerous opportunities to contribute to medical science. Forms of vaccinations, for example, were developed for animals by Louis Pasteur and Robert Koch which were later found effective for man. Veterinarians developed the idea of inspecting meat and milk to prevent the spread of tuberculosis. In the United States there are a number of accredited schools of veterinary medicine affiliated with colleges and universities.

Vetluga (vyĭtlōō'gŭ), city (pop. 6,066), E central European RSFSR. Chartered in 1778, it is a lumber center on the Vetluga river, a left tributary of the Volga used for log driving

veto (vē'tō) [Latin,=I forbid], action of the chief executive in some governments in withholding approval of laws passed by the legislature The veto power of the President of the United States is given him by Article 1, Section 7, of the Constitution, which prescribes the conditions of its use. The President's veto is a qualified or limited one, which may be overridden by a two-thirds vote of the Congress It does not apply to proposed constitutional amendments, questions of adjournment, or concurrent resolutions American states and cities in general have given a like power to their governors and mayors In England the crown has veto power over acts of Parliament, but the power has not been exercised since 1707, under Queen Anne Veto powers were recognized in ancient Roman law but are not generally recognized in modern nations The term *veto* is unofficially applied to the action of any of the five permanent members of the Security Council of the United Nations in casting a negative vote on a proposal, thus blocking action by the Council

Vevay (vē'vē), city (pop 1,209), co seat of Switzerland co , SE Ind , on the Ohio and E of Madison, settled 1796 by Swiss, laid out 1813 Edward Eggleston was born here

Vevey (vŭvā'), town (pop 12,508), Vaud canton, Switzerland, on the Lake of Geneva. It is a resort and has diversified industries

Vexin (vĕksĕ'), region, N France, NW of Paris, along the right bank of the Seine By the Treaty of Saint-Clair-sur-Epte (911) the northern part (Vexin Normand) was assigned to ROLLO of Normandy, the rest (Vexin Français) remained with the French crown These names have been retained Pontoise, Gisors, and Les ANDELYS are the chief towns

Vézelay (vāzulā'), village (pop 460), Yonne dept , N central France Its celebrated abbatial church, built in the 12th cent , was restored by Viollet-le-Duc Here in 1146 St Bernard of Clairvaux preached the Second Crusade, and here Richard I of England and Philip II of France met before beginning the Third Crusade Theodore Beza was born here

Via Appia: see APPIAN WAY and ROMAN ROADS

viaduct (vī'udŭkt") [Latin,=road conveyor], series of bridges or arches over a valley or low ground to carry a highway or railroad It is constructed of wood, iron, steel, stone, or concrete In recent times concrete structures have been reinforced with steel bars The Tunkhannock Viaduct is an example of this type of structure Completed in 1915 on the Lackawanna RR route between Scranton, Pa , and Elmira, N Y , the viaduct is 2,375 ft long and 240 ft high At the time of its construction it was one of the longest concrete bridges ever built Another concrete and steel elevated viaduct is the Pulaski Skyway, 3 mi long, extending from Jersey City to Newark, N J. It was opened to traffic in 1932

Via Mala (vē'u mä'lu), narrow gorge of the Hinter Rhein, a headstream of the Rhine, in Grisons canton, Switzerland It is walled by vertical cliffs 1,600ft high The Spliigen Road is above the gorge

Viana, Charles of see CHARLES OF VIANA

Viardot-Garcia, Pauline (pōlēn' vyārdō'-garsēä'), 1821–1910, mezzo-soprano, b Paris, pupil of her father, Manuel GARCÍA She made her debut in Brussels in 1837, in London in 1839 In 1841 she married Louis Viardot, who then became her manager She created the role of Fidès in Meyerbeer's *Prophète* (Paris, 1849), and Schumann's *Liederkreis*, Opus 24, was dedicated to her She left the stage in 1863 and later taught at the Paris Conservatoire, 1871–75, she composed some songs and operettas Her range was three and one-half octaves

Viareggio (vēärĕd'jō), city (pop 30,384), Tuscany, central Italy, It is a popular bathing resort and fishing center on the Tyrrhenian Sea Shelley's body was cremated here after his death by drowning near La Spezia

viaticum (vīă'tĭkum) [Latin,=provision for a journey], in the Roman Catholic Church, communion given to the dying by a priest who has brought the HOST for the purpose Catholics are obliged to receive the viaticum if they can and to procure it for others The dying person is usually confessed before receiving the viaticum, but he need not be fasting The confession, viaticum, and EXTREME UNCTION are called the last rites of the Church.

Viaud, Julien: see LOTI, PIERRE

Vibert, Jehan Georges (zhäⁿ zhôrzh vēbĕr'), 1840–1902. French genre painter, studied at the École des Beaux-Arts. His small, often satirical pictures, frequently of clerical scenes, were popular Among them are *The Startled Confessor* and *The Reprimand* (both Metropolitan Mus) and *The Schism* (Corcoran Gall)

Viborg (vē'bôr), city (pop 20,084), N central Jutland, Denmark It is a rail and highway junction, and it has manufactures of tobacco, beer, textiles, and machinery Dating from the pagan era, when it was a religious center, Viborg has a fine restored cathedral, founded in 1130.

Viborg, RSFSR: see VYBORG.

Vibo Valentia (vē'bō välĕn'tyä), town (pop. 10,073), Calabria, S Italy, 3 mi from the Tyrrhenian Sea. It was formerly named Monteleone di Calabria Near by are remains of a Greek colony A flourishing Roman town, Vibo was destroyed by the Arabs, and was rebuilt in the 13th cent There are a cathedral, a medieval castle, and the Renaissance Church of San Michele The town suffered repeatedly from earthquakes

vibration, in physics, commonly a kind of motion—a movement first in one direction and then back again in the opposite direction It is exhibited for example, by a swinging pendulum, by the prongs of a tuning fork that has been struck, or by the string of a musical instrument that has been plucked and also by the molecules of any body of matter (see BROWNIAN MOVEMENT) Sound is produced by the vibrations of a body and is transmitted through material media in waves (see WAVE) made up of alternate condensations, i e , a forcing of the molecules of the medium together, and rarefactions, i e , a pulling of the molecules of the medium away from one another In sound the vibration is longitudinal, for the movement is to and fro along the direction which the sound is traveling The frequency of vibration of a sound is a number indicating how many condensations (or rarefactions) of a wave train pass a given point in a second, i e , the number of complete vibrations per second Sound is audible if the frequency falls within certain limits Since the ear is usually not sensitive to frequencies of less than about 20 vibrations per second or more than about 20,000 vibrations per second, sound having a frequency of vibration within these limits is audible and is said to be of audio frequency When a sound wave of one frequency strikes a body which will vibrate in the same frequency, the vibration of the body is called sympathetic vibration A reinforcement of sound resulting from sympathetic vibration is called resonance When the vibrations of a sound-producing body cause another body to vibrate in the same frequency, not normally its own, the vibration is known as forced vibration Light also is propagated in waves, the vibratory movement being, however, a transverse vibration, since the motion is at right angles to the direction that the light waves are taking Heat is commonly defined as the kinetic energy of molecules, i e , as the energy of their continuous vibratory movement

viburnum (vībûr'num) name for plants of the large genus *Viburnum*, shrubs or trees of wide distribution They commonly have showy flat-topped clusters of white flowers in the spring or early summer followed by berrylike fruits, edible in many species The varieties known as snowballs, however, have only sterile flowers that are borne in large rounded clusters Most viburnums are easily cultivated, hardy, and attractive plants widely used in landscaping Some of the better known species are the HOBBLEBUSH, HIGH-BUSH CRANBERRY and its cultivated form the snowball or guelder rose, ARROWWOOD, BLACK HAW, and sheepberry

Vicente, Gil (Port zhēl'vĕsĕnt', Span hĭl' vēcĕn'tā), b 1470 or before, d 1536 or after, Portuguese dramatist and poet Almost nothing is known with certainty of his life beyond the fact that he was attached to the courts of the Portuguese kings, Manuel I and John III, and a few more or less random details recorded in his plays Diligent search among the records has revealed the existence of several men of that name at the period and has thus added to the confusion He may have been identical with, or related to, an accomplished goldsmith attached to the court He wrote entertainments for the court, his dramatic work including masquelike allegories, fantastic sketches, slight farcical interludes, and full comedies and tragicomedies These were written in Portuguese, in Spanish, and in a mixture of the two, and he had considerable influence in shaping the modern Spanish as well as the modern Portuguese theater The works, produced between 1502 and 1536, show the varied influences of the Renaissance in Italy, in Spain, and in France, and Vicente seems to have been a follower of Erasmus Some of the works are profoundly religious, some are satirical, directed at the follies of the court and abuses in the Church, some are homely representations of the Portuguese common man They included a number of the dramatic form of *autos*, such as the *Boat of Purgatory*, the *Boat of Hell*, and the *Boat of Glory* The plays are frequently interspersed with songs, and he is one of the most gifted lyric poets of the period Some of his works were suppressed by the Inquisition, and he passed into semioblivion for some time, but today he is recognized as one of the outstanding literary figures of the Iberian Renaissance.

Vicenza (vēchĕn'tsä), city (pop 48,279), capital of Vicenza prov , Venetia, NE Italy A Roman town, later the seat of a Lombard duchy, it became a free commune and joined (12th cent) the Lombard League It was stormed by Frederick II in 1236 and fell to various rulers until, in 1404, it was annexed by Venice Thanks to Andrea PALLADIO, who was born here, Vicenza became the cradle of the modern interpretation of classical architecture. The basilica, the Loggia del Capitano, the Teatro Olimpico, the Rotonda, the Chiericati Palace (now a museum), all built by Palladio, inspired the Georgian style in England and the Colonial style in the United States The Gothic cathedral (13th cent), almost completely destroyed by bombing in the Second World War, contained frescoes by Bartolomeo MONTAGNA, the foremost painter of the city

Vichy (vēshē, Fr vēshē'), town (pop 29,128), Allier dept , central France, on the Allier river Its hot mineral springs, frequented from Roman times for disorders of the stomach and the liver, have made Vichy the foremost spa of Europe Almost the entire center of the town is occupied by hotels, Vichy water, bottled, is a major export article The town has also given its name to *vichyssoise* soup The **Vichy government** was the government of France set up here by Marshal PÉTAIN in July, 1940, subsequent to the Franco-German armistice of June 22 Its effective control extended only to unoccupied FRANCE and the overseas empire The Third Republic was voted out of existence by a truncated parliament, and a new constitution established a corporative state (see FASCISM) Meanwhile, abroad, Gen Charles de GAULLE had established a Free French committee which was eventually recognized by the Allies as the provisional government of France The Vichy government, which became a German tool in the hands of such men as Pierre LAVAL, Jean François DARLAN, and Jacques DORIOT, made "collaboration" with Germany its chief program, although it never fully satisfied German expectations When the Allies invaded North Africa, Hitler annulled (Nov. 11, 1942) the armistice of 1940 and occupied all France. The Vichy government continued a shadowy existence, eventually fleeing before the Allied advance to Sigmaringen, Germany, where it broke up when Germany fell in 1945

Vicksburg 1 Village (pop 1,774), SW Mich , S of Kalamazoo, inc 1871 It is in a dairy, grain, peppermint, and livestock area and is known for the Egyptian lotuses grown near by The vicinity has Indian garden beds 2 City (pop 24,460), co seat of Warren co , W Miss , on bluffs above the Mississippi at the mouth of the Yazoo river and W of Jackson An important river port, it is the commercial, processing and shipping center for a cotton, timber, and livestock area There was a French fort near here in the early 18th cent , and the Spanish established Fort Nogales here in 1791 The area, known to the English as the Walnut Hills, came into U S possession in 1798 Rev Newitt Vick founded a mission near by c 1812 and in 1819 began laying out lots for a town, Vicksburg was incorporated in 1825 It became a busy river port and in the Civil War was the objective of Grant's VICKSBURG CAMPAIGN River traffic, which fell off greatly in the late 19th and early 20th cent , has been aided by the U S Mississippi River Commission, whose headquarters are at Vicksburg Near by is the U S Waterways Experiment Station In Vicksburg National Military Park (1,323 56 acres, est 1899) are preserved fortifications of the Civil War siege North of the city is a national cemetery (119 76 acres, est 1865) containing the graves of 17,682 Civil War dead

Vicksburg campaign, Nov , 1862–July, 1863 In the Civil War, the control of the Mississippi river was of paramount importance and was hotly contested by Union and Confederate forces Union forces wanted it to split the Confederacy, to sever the South from the Southwest, and to restore free commerce to the politically important Northwest New Orleans and Memphis fell in 1862, but the South still held 200 mi of the river between PORT HUDSON and Vicksburg Early in Nov , 1862, Gen U S Grant, commanding the Dept of the Tennessee, planned a converging assault on Vicksburg Gen W T Sherman led an expedition down the river from Memphis to attack the city from the north, while Grant advanced through Mississippi upon the east Confederate cavalry under Earl VAN DORN and N B FORREST wreaked havoc on Grant's line of communications, forcing him to retreat, and Sherman was repulsed in the battle of Chickasaw Bluffs (Dec 29, 1862) In Jan , 1863, Grant crossed the river and concentrated his army opposite Vicksburg He took over the command of J A MCCLERNAND, who had succeeded Sherman After several unsuccessful experiments to gain an approach to the seemingly impregnable city from the north (Feb –March, 1863), Grant in April began a brilliant movement to take it from the south To divert the attention of the Confederate commander, J C Pemberton, Grant left Sherman before the city and ordered a cavalry raid through central Mississippi He then moved his army below Vicksburg and, with the cooperation of Admiral D D Porter, who had run gunboats and transports down past the fortress, crossed the Mississippi to Brunsburg (c 30 mi S of Vicksburg) On May 1, J A McClernand and J B McPherson defeated the Confederates at Port Gibson, forcing them to abandon their batteries at Grand Gulf, which Grant seized as a base When Sherman joined him on May 7, 1863, Grant left Grand Gulf, marched northeast, and on May 12 defeated the Confed-

erates at Raymond At Jackson (May 14), he met Gen J E Johnston, Confederate commander in the West, who retreated. Turning W towards Vicksburg, Grant defeated Pemberton in successive battles (May 16, 17) at Champion's Hill and at the bridge over the Big Black River, forcing him into the city After two unsuccessful attempts at storming the works, Grant opened siege With the Union forces between them, Pemberton and Johnston were unable to unite, and after about six weeks of gallant resistance Vicksburg's defenders surrendered on July 4, 1863 The consequent fall of Port Hudson a week later placed the Mississippi river entirely in Union hands

Vico, Giovanni Battista (jōvän'nē bät-tē'stä vē'kō), 1668–1744, Italian philosopher and jurist, also known as Giambattista Vico He lived and worked in his native city, Naples, where from 1697 he was professor of rhetoric at the Univ of Naples In 1734 he was appointed historiographer to the king of Naples In the writings of Vico may be found the beginning of modern sociological and anthropological methods Vico attempted to apply to the study of human history the scientific analysis proposed by Francis Bacon Previously history had been written as the biographies of great men or as the development of God's will Vico, with Grotius, accepted the idea that social institutions were human creations and must be explained in terms of living forces Through an analysis of the growth and decline of societies, he developed a cyclical interpretation of civilization Society develops through three periods the Age of Gods (theocracy), the Age of Heroes (aristocracy), and the Age of Men (democracy) Within each period excesses will develop which bring about the collapse of that period, and the cycle continues in a spiraling pattern Vico regarded this development as a law which would operate in all nations In jurisprudence Vico found the same threefold evolution God rules the world through natural laws He gives to all men an innate sense of justice As civilization progresses the concept of law is defined by human reason and consciousness Vico's major theories were developed in a book commonly called *Scienza nuova* (1725), which he revised completely (1730, 1744) His works were long untranslated and recognition of him as a writer of great depth of thought and as the originator of the philosophy of history did not come during his lifetime His influence on such historians as Michelet has been acknowledged He has also influenced modern literature, particularly James Joyce in *Finnegans Wake*, by his belief that the recurrent myth is an expression of the deepest layer of a culture rather than of the conscious mind of an individual poet *New Science* (1948) is a translation of the 1744 edition of *Scienza Nuova* See his autobiography (tr by M H Fisch and T G Bergin, 1944), Robert Flint, *Vico* (1884), H P Adams, *The Life and Writings of Giambattista Vico* (1935)

Vicq-d'Azyr, Félix (fālēks' vēk"-dăzēr'), 1748–94, French comparative anatomist and physician He is noted especially for his studies of the functions of the nervous system and of the flexor and extensor muscles in vertebrates He was a founder (1776) of the Royal Society of Medicine and served as its permanent secretary.

Victor II, d 1057, pope (1055–57), a South German named Gebhard, successor of Leo IX and predecessor of Stephen IX He was related to Emperor HENRY III He became bishop of Eichstätt, NW of Ingolstadt In this see he displayed great energy for reform and diplomatic ability, and before he was 40 he was Henry III's chief adviser In 1054 he was elected to the papacy at Henry's behest Gebhard refused for a year to accept it As pope he zealously supported the reforms of Hildebrand (later GREGORY VII) His legates were sent out especially to reform the clergy and to prevent the alienation of church lands Even from his friend the emperor he insisted on restoration of ecclesiastical property Victor was with Henry III at his death and accepted the guardianship of the young HENRY IV

Victor III, 1027?–1087, pope (1086–87), a Lombard (b. Benevento) named Dauferius, successor of St GREGORY VII and predecessor of URBAN II He entered on the monastic life under the name Desiderius, and in 1055 he joined the community of MONTE CASSINO He rose rapidly in monastic offices and became abbot in 1058 Desiderius was perhaps the greatest of the abbots of his house after its founder He built new buildings, added books to the library, and encouraged the study and industry of his monks. He became widely known through Italy as one of Gregory's reform party and was a recognized mediator in Italian politics. When Gregory died, Guibert of Ravenna was antipope at Rome, and the exiled conclave was protracted Desiderius was elected after a year and accepted 10 months later; in seven weeks he was dead He was beatified in 1887.

Victor, 1766?–1841, duke of Belluno, marshal of France. His original name was Claude Victor Perrin. He rose from the ranks in the French Revolutionary Wars, was briefly governor of Louisiana (1802), and played an important part in the Peninsular War. Joining the Bourbon cause in the first restoration (1814), he followed Louis XVIII into exile during the Hundred Days and later was war minister (1821–23).

Victor. 1 City (pop 1,784, alt c.9,900 ft.), central Colo., WSW of Colorado Springs, in the Cripple Creek gold-mining area, settled c 1892, inc. 1894 **2** Village (pop 1,111), W central N Y., SE of Rochester; inc 1879. Insulators, cider, and food products are made here.

Victor Amadeus II (ämudē'ŭs), 1666–1732, duke of Savoy (1675–1713), king of Sicily (1713–20), king of Sardinia (1720–30) Succeeding his father, Charles Emmanuel II, as duke of Savoy, he found himself caught between the two great European rivals, France and the house of Hapsburg He steered an opportunistic course in foreign policy, guided in part by his desire to rid Savoy of French influence, in part by his appetite for territorial aggrandizement Under French pressure he took (1686) severe measures against the WALDENSES, but in 1690 he joined the League of Augsburg (see AUGSBURG, LEAGUE OF) against Louis XIV and returned to a more tolerant policy at home Though defeated by the French in the War of the GRAND ALLIANCE, he concluded a favorable separate peace in the Treaty of Turin (1696), which restored Pinerolo to Savoy In the War of the SPANISH SUCCESSION (1701–13) he at first sided with France, but changed sides once more in 1703 The French occupied Savoy, but were obliged to lift the siege of Turin after Victor Amadeus and his cousin, Eugene of Savoy, had thoroughly defeated them in 1706 The peace (see UTRECHT, PEACE OF) awarded him Sicily with the royal title and gave him additional territory in N Italy, including Alessandria When the Spanish seized (1718) Sicily, the QUADRUPLE ALLIANCE was formed and humbled Spain. Victor Amadeus in 1720 ceded his claim to Sicily to Emperor Charles VI in exchange for the island of Sardinia and assumed the title of king of Sardinia. He abdicated in 1730 in favor of his son, Charles Emmanuel III

Victor Amadeus III, 1726–96, king of Sardinia (1773–96), son and successor of Charles Emmanuel III He declared war on France in 1792 after French Revolutionary troops had occupied Savoy and Nice With Austrian help he defended Piedmont until 1796, when Bonaparte (see NAPOLEON I) forced him to conclude the armistice of Cherasco His son, Charles Emmanuel IV, succeeded him (see SAVOY, HOUSE OF)

Victor Emmanuel I, 1759–1824, Italian king of Sardinia (1802–21) His brother and predecessor, Charles Emmanuel IV, lost (1798) all his territories save the island of Sardinia to France in the French Revolutionary Wars Victor Emmanuel accompanied his brother to Cagliari, his capital in Sardinia, and succeeded him on his abdication After Napoleon's fall he returned (1814) to Turin, recovered Piedmont, Savoy, and Nice, and received Liguria with Genoa He abolished all Napoleonic reforms and refused to grant a constitution An uprising (1821) in Piedmont, largely the work of the Carbonari, forced him to abdicate in favor of his brother Charles Felix (see SAVOY, HOUSE OF)

Victor Emmanuel II, 1820–78, Italian king of Sardinia (1849–61) and first king of united Italy (1861–78). He fought in the war of 1848–49 against Austria and ascended the throne when his father, CHARLES ALBERT, abdicated after the defeat at Novara With the skillful collaboration of CAVOUR, whom he appointed premier in 1852, he became the symbol and the central figure of the RISORGIMENTO, the national movement for Italian unification While acquiring popularity in his own state through his respect for the constitution and his liberal reforms, he increased Sardinian prestige abroad by taking part in the Crimean War as an ally of France, England, and Turkey. Cavour's interview with Napoleon III at PLOMBIÈRES resulted in the Italian War of 1859, in which France and Sardinia opposed Austria The terrible battle of Solferino was followed by a separate armistice between France and Austria at VILLAFRANCA DI VERONA, Victor Emmanuel was not consulted, but the terms were ratified in the Treaty of Zurich When, in 1860, Tuscany, Romagna, Parma, and Modena voted their union with Sardinia (contrary to the treaty terms), Victor Emmanuel secured French consent to their incorporation in exchange for the cession of Savoy and Nice He favored the expedition (1860) of GARIBALDI into the Two SICILIES and joined forces with Garibaldi after crossing the Papal States and defeating the papal army at Castelfidardo Successive plebiscites in Naples and Sicily and in the Marches and in Umbria (two provinces of the Papal States) favored union with Sardinia, and in 1861 the kingdom of Italy was proclaimed. The capital was transferred from Turin to Florence in 1865. Siding (1866) with Prussia in the AUSTRO-PRUSSIAN WAR, Victor Emmanuel was awarded Venetia in the peace settlement. As long as Napoleon III championed the integrity of what remained of the Papal States, Victor Emmanuel could not complete the process of unification. In 1870, however, on the fall of Napoleon, Italian troops seized the Papal States, and Rome was made the capital of Italy. Pope Pius IX and his successors protested the act, and the Roman Question remained a serious problem until the Lateran Treaty of 1929. The remainder of Victor Emmanuel's reign was spent consolidating the new kingdom. His son Humbert I succeeded him.

Victor Emmanuel III, 1869–1947, king of Italy (1900–1946), emperor of Ethiopia (1936–43), king of Albania (1939–43), son and successor of Humbert I. In 1896 he married Princess Helena of Montenegro. Though the Triple Alliance with Germany and Austria-Hungary was renewed, he sought cordial relations with France and England He favored the war of 1911–12 against Turkey, thus acquiring Libya Though first advocating neutrality, he finally took side (1915) with the Allies in the First World War. He was unable to handle the confused internal situation of ITALY after the war, refused to oppose the Fascist march on Rome, and asked MUSSOLINI to form a government (1922) Under the Fascist regime he was king in name only, but Mussolini's conquests added to his list of titles When the Fascist grand council voted (1943) against Mussolini, the king dismissed the dictator, placed him under arrest, and appointed PIETRO BADOGLIO premier The king fled from Rome to S Italy when German troops occupied his capital after the announcement of the Italian surrender to the Allies. Unpopular because of his long association with Mussolini, he was obliged to renounce (1944) his royal prerogatives in favor of his son, Humbert II, in whose favor he finally abdicated in 1946 He died in exile in Egypt

Victoria, 1819–1901, queen of England (1837–1901) and empress of India (1876–1901) She was the daughter of Edward, duke of Kent (fourth son of George III), and Princess Victoria of Saxe-Coburg Her father died before she was a year old, and she was brought up by her overstrict mother and by her governess, Baroness Lehzen, to whom she was greatly attached. Upon the death of George IV (1830), she was recognized as heir to the throne and was trained as a future ruler by her maternal uncle, Leopold (later LEOPOLD I of Belgium). At the age of 18, she succeeded her uncle, William IV, upon the throne of England With the accession of a woman, the connection between the English and Hanoverian thrones ceased because of the Salic law in Hanover Self-confident and spirited, the young queen asserted her independence of her mother Her counselor was Baron Stockmar, and her first prime minister, Lord MELBOURNE, became her friend and adviser In 1839, when Melbourne's Whig cabinet resigned, Victoria refused to dismiss her Whig ladies of the household, and the Tory leader, Sir Robert PEEL, declined to form a ministry Melbourne thereupon returned to power In 1840 she married her cousin, Prince ALBERT of Saxe-Coburg, a match long planned by her uncle Leopold Albert, with whom she was very much in love, soon became the dominant figure in her life, and their home life was a model of domestic felicity Through Albert's efforts, the queen and the Tories were reconciled by the time Peel became prime minister (1841) Her first child, Victoria, later Empress Frederick of Germany, was born in 1840, and the prince of Wales, later Edward VII, in 1841 Victoria had in all nine children Their marriages and those of her grandchildren allied the English royal house with those of Russia, Germany, Greece, Denmark, Rumania, and several of the German states. At least four months of every year the royal couple spent either at Osborne on the Isle of Wight or at Balmoral Castle in the Scottish Highlands, both built by Albert Albert's (and hence Victoria's) interest in foreign affairs led to friction with Lord PALMERSTON, who served as foreign minister in several cabinets In 1850 the queen sent Palmerston a memorandum outlining her views of the relationship between a sovereign and a foreign minister Her memorandum, however, had little effect In 1851 the royal popularity was increased by the success of the Crystal Palace exposition, which was planned and carried through by Albert In the agitation preceding the Crimean War (1854–56), this popularity was dimmed by mistaken public feeling that Albert was pro-Russian Both Victoria and Albert ardently supported the war after its outbreak, and public confidence was restored In 1857 the queen was able to have her husband named prince consort. After the death of Albert in 1861, Victoria's grief was so great as almost to destroy her popularity She did not appear in public for three years, did not open Parliament until 1866, and only gradually returned to public life. Her reappearance was largely the work of Benjamin DISRAELI, who, together with William GLADSTONE, dominated the politics of the later part of Victoria's reign. Gladstone, in spite of his deference to the queen, was never popular with her. Disraeli, who was adroit in his personal relations with Victoria and paid high tribute to her late husband, was very influential He persuaded her that the prince of Wales, whom she had refused to grant any part in government, should be employed, and in 1875 the prince was sent on a tour of India. In 1876 Disraeli secured for Victoria against great opposition the title empress of India, which pleased

her greatly; she was ardently imperialistic and intensely interested in the welfare of her colonial subjects, particularly the Indians. In Victoria's old age, she was enormously popular. A jubilee was held in 1887 to mark the 50th year of her reign, and at the diamond jubilee of 1897 throngs of people from all over the empire paid enthusiastic tribute to the monarch whose reign was the longest in English history. Her last years were saddened by the South African War (1899–1902). Victoria's reign saw the rise in England of an industrial civilization, accompanied by an extension of political democracy and humanitarian principles at home and by an aggressive imperialism which multiplied Britain's economic importance in the world and made for an intense nationalism. The term "Victorian era" attests the extent to which this honest, conscientious ruler, neither highly intelligent nor imaginative, personified her times. Following as she did a series of rulers who for over a century had been weak, vicious, or unpopular, she restored the influence of the crown as a symbol of public service and imperial unity without disturbing its constitutional position. The literature on her life and reign is extensive, and she has been the subject of several novels and plays. See particularly her letters (for the years 1837–1901, 9 vols., 1907–30), *Letters of Queen Victoria from the Archives of the House of Brandenburg* (1938), *Leaves from the Journal of Our Life in the Highlands* (1868), and *The Girlhood of Queen Victoria* (extracts from her journal, ed. by Lord Esher, 1912); biographies by Sidney Lee (1902), Lytton Strachey (1921), A. A. Ponsonby (1924), E. F. Benson (1935), Edith Sitwell (1936), and Hector Bolitho (1948); J. A. R. Marriott, *Queen Victoria and Her Ministers* (1934).

Victoria (Victoria Adelaide Mary Louisa), 1840–1901, empress of Germany, daughter of Victoria of England. In 1858 she married the German crown prince, later Frederick III. After her husband's death in 1888, she was generally known as the Empress Frederick. Bitterly hostile to Bismarck, she was unable to make her dislike effective. Her letters, a useful source for the period, were published in English in 1929.

Victoria, Guadalupe: see GUADALUPE VICTORIA.

Victoria, Tomás Luis de (tōmäs' lwēs' dā vēktō'ryä), c 1540–1611, Spanish composer. He went to Rome in 1565 to study for the priesthood at the Collegium Germanicum. In 1571 he became music master of the Collegium Romanum, succeeding Palestrina, who may have been his teacher, musical influence is in any case evident in the works of the two men. In 1578 Victoria gave up the position which he had held since 1573 as music master at the Collegium Germanicum to become a resident priest at the Church of San Girolamo, where St. Philip Neri had founded an oratory. He is not known to have written any but sacred compositions. His first book of motets (1572) contains the well-known *O quam gloriosum* and *O vos omnes*. He also composed Masses, canticles, settings of all the hymns for the church year (1581), and settings of the biblical accounts of the Passion. A polyphonic technique equal to any in the Renaissance is used to express a passionate mysticism that is essentially Spanish. In 1594 or 1595 he returned to Spain to be chaplain and choirmaster to Empress Mary (wife of Emperor Maximilian II and sister of Philip II), in whose memory Victoria composed his last and greatest work, *Officium defunctorum* (pub. 1605).

Victoria (vĭktō'rēə), state (87,884 sq. mi., pop. 2,055,252), SE Australia. Melbourne is the capital. It is bounded by New South Wales on the north, the Tasman Sea, Bass Strait, and the Indian Ocean on the south, and South Australia on the west. Victoria is the most densely populated and the smallest state (except Tasmania) of Australia. Over a fourth of the commonwealth population lives in Victoria, which has only a thirty-fourth of the total area of the commonwealth. The Australian Alps and other mountains of the Great Dividing Range traverse the state, rising to 6,508 ft at Mt. Bogong. The climate is generally temperate and pleasant, the Australian Alps are snow-covered from May to September. The large, but frequently dry, rivers such as the Campaspe and Mitta Mitta are important for irrigation purposes. Hume Reservoir on the New South Wales border irrigates an extensive agricultural and pastoral area. The principal products of Victoria are wool, wheat, dairy products, corn, and fruits. The production of gold (discovered in 1851) has declined sharply and is now as limited as the mining of coal. With Port Melbourne and Geelong as the principal ports, the exports consist largely of wool, wheat, textiles, and dairy products. Other centers are Ballarat and Bendigo. Settlements were established at Portland Bay in 1834 and on the site of Melbourne the following year. Known as the Port Phillips District, the area that is now Victoria became part of the colony of New South Wales in 1836. In 1851 the area was separated from New South Wales and constituted a separate colony named Victoria, which was federated as a state of the Commonwealth of Australia in 1901.

Victoria, Brasil: see VITÓRIA.

Victoria, city (pop. 44,068), provincial capital, SW British Columbia, on the southeast tip of Vancouver Island and on Juan de Fuca Strait, inc. 1862. It is the largest city on the island and the major port and business center, with a train ferry to Vancouver and shipping connections to the United States, Alaska, and the Orient. In addition to its importance as the seat of provincial government, it is noted as a residential city because of its mild climate, beautiful scenery, many parks (including Beacon Hill Park), and drives and also as a popular center for American and Canadian tourists. Its industries include sawmills and woodworking plants, canning, varied manufactures, grain elevators, and cold-storage plants. The deep-sea fishing fleet is based here. Founded (1843) as Fort Camosun, a Hudson's Bay Company post, it was later called Fort Victoria. When Vancouver Island became a crown colony, a town was laid out here (1851–52), was named Victoria, and was made the capital of the colony. With the discovery (1858) of gold on the British Columbia mainland, Victoria became the port, supply base, and outfitting center for miners on their way to the Cariboo gold fields. In 1866, when the island was administratively united with the mainland, Victoria remained the capital of the colony and became the provincial capital in 1871. It is the seat of the Dominion Astrophysical Observatory, Victoria College (affiliated with the Univ. of British Columbia), the Royal Canadian Naval Barracks, the provincial Parliament building and library, a provincial museum, a provincial normal school, and a large dominion graving dock. See A. E. Rothery, *Ports of British Columbia* (1943).

Victoria. see HONG KONG.

Victoria or **Ciudad Victoria** (syōōdhädh' vēktō'ryä), city (pop. 19,513), capital of Tamaulipas, NE Mexico. Founded in 1750, Victoria is in a hot, semitropical region at the foot of the Sierra Madre Oriental. It is connected by rail with Monterrey and Tampico and is on the Inter-American Highway. Sugar cane and citrus fruits are the principal products.

Victoria 1 [for Guadalupe Victoria] City (1940 pop. 11,566, 1947 estimated pop. 16,000), co. seat of Victoria co., S Texas, near the Guadalupe river and SE of San Antonio, founded 1824, inc. 1839. The early Mexican town attracted American settlers, and the prosperous American city attracted German immigrants. Victoria in architecture and spirit retains something of a German air. The rich area has cattle ranches, oil fields, and cotton and truck farms, and the city has processing plants, railroad shops, and small industries. In the Second World War it boomed because of military airfields near by. A junior college is here. **2** Industrial town (pop. 1,555), S Va., SW of Petersburg, settled 1909, inc. 1916. It has railroad shops and varied manufactures.

Victoria, Lake: see VICTORIA NYANZA.

Victoria and Albert Museum, in South Kensington, London, opened in 1857 as the South Kensington Museum and renamed when the present building (1899–1901) was completed. Although it originated as a museum chiefly for decorative and applied art, its collections of paintings and sculpture (especially early Italian) are noted. Other collections include ceramics, glass, textiles, medieval enamels, ivories, metalwork, engravings, and furniture. Raphael's cartoons for the Sistine Chapel tapestries are among the most famous treasures. The museum embraces the Royal College of Art, and extensive art library, and the collections of the India Museum, which it absorbed. The present building was designed by Sir Aston Webb. The museum is controlled by the Board of Education.

Victoria Falls, in the upper Zambezi river, on the border of Southern Rhodesia and Northern Rhodesia. The falls (broken by islets) are 1 mi. wide and drop 420 ft. The thick mist and the loud roar produced by the falling waters are perceptible 10 mi. away. The Boiling Pot, the gorge through which the river flows just below the falls, is spanned by a railroad bridge 650 ft. above the water's surface. The falls were discovered (1855) by David Livingstone, who named them for Queen Victoria.

Victoria Harbour, village (pop. 1,026), S Ont., on Georgian Bay and NW of Orillia. It has lumber mills.

Victoria Island, 320 mi. long and 170 to 370 mi. wide, off N Canada, in the Arctic Ocean. It is included in Franklin dist., Northwest Territories. This barren, hilly island, with an area of 80,340 sq. mi., is one of the largest islands of the Arctic Archipelago. It is separated from the Canadian mainland by a series of gulfs and straits. On its southeast coast is Cambridge Bay, a U. S.–Canadian weather station and trading post. The island was discovered by Thomas SIMPSON in his explorations (1836–39) with Peter W. Dease along the Arctic coast and was explored (1851) by John RAE.

Victoria Land, part of Antarctica, S of New Zealand. Bounded on the east by the Ross Sea and on the west by Wilkes Land, it consists of a series of snow-covered mountains, with a high plateau in the interior. It was discovered during the expedition (1839–43) of Sir James Clark Ross; it was formerly also called South Victoria Land.

Victoria Nile, river draining Victoria Nyanza. It flows c. 250 mi. across Uganda to Albert Nyanza, which is one of the sources of the NILE.

Victorian style, in architecture, an eclectic fashion based on revivals of older styles. It is distinguished from its models by excessive and often unjustified decoration. A romantic style on the whole, it glorified the elements of Gothic while confusing them by an overuse of turrets, bays, towers, and other excrescences. The questions of basic design and functional ability were ignored in preference for exterior picturesqueness. Middle-class mansions, outwardly Early English castles, had interiors cut into a multitude of rooms, many of them too small or of awkward shape. While the private Victorian dwelling was based on Gothic models, the public buildings of the time were in imitation of Greco-Roman or Palladian models, though with no attention to the classic proportions. Examples of these are the Birmingham town hall (1834) by J. A. Hansom, the Prudential Building (1879) in Holborn by Alfred Waterhouse, and the Leeds post office (1896). See Rita Wellman, *Victoria Royal* (1939).

Victoria Nyanza (nĭän'zu, nī–), lake, area 26,828 sq. mi., E central Africa. It is bordered by Uganda, Tanganyika, and Kenya. Of the fresh-water lakes of the world, only Lake Superior is larger. Victoria Nyanza is 255 mi. long and 155 mi. wide, and it lies at an altitude of c. 3,725 ft. It is fed by many streams. At the point where it discharges into the Victoria Nile (its chief outlet) the Ripon Falls occur. Ultimately much of the lake's waters go to swell the Nile. There are many small islands in Victoria Nyanza, especially in the north. Steamships regularly make the circuit of the lake-shore towns, including Entebbe. Victoria Nyanza was discovered by John Speke and Richard Burton in 1858, and it was explored in 1875 by David Livingstone.

Victoriaville, town (pop. 8,516), SE Que., on the Nicolet river and N of Sherbrooke, in a dairy and fruitgrowing region. An industrial center, it manufactures furniture, clothing, and bricks.

Victorinus (Caius Marius Victorinus Afer) (vĭktur'-nus), fl. 361, Roman grammarian, b. Africa. He became renowned as a teacher of rhetoric in Rome and as an advocate of Neoplatonism. Becoming a Christian in his later life, he was forbidden to teach by Emperor Julian. His works include a book on definitions, a treatise on Cicero's *De inventione*, an unoriginal grammar, several tracts against Arianism, and some Pauline commentaries. Some hymns and several other treatises have been attributed to him.

Victorville, unincorporated town (pop. c. 2,500), S Calif., N of San Bernardino, in a farm, gold, and granite area. Many early "Western" movies were made here.

Victory of Samothrace: see NIKE.

Vicuña (vĭkū'nu), South American wild mammal (genus *Lama*) of the camel family, smaller than the guanaco and pale fawn in color. It is found in the Andes in parts of Peru, Bolivia, and Ecuador. Reduction of its numbers led to protection by law, but some are still killed for their hides and palatable flesh. Their silky wool is woven into fine cloth.

Vicuña Mackenna, Benjamín (bänhamēn'vēkōō'-nya makā'nä), 1831–86, Chilean historian and journalist. A vigorous opponent of the conservative government of Manuel Montt, he was sentenced to death for his part in the revolution of 1851–52, but escaped and spent some years in exile. He returned to Chile in 1856. He visited Mexico, the United States, and Europe and became a collector of manuscripts on early Chilean history. His historical works, based on immense knowledge and scholarship, number more than 100 volumes and include biographies of Sucre, Bernardo O'Higgins, and Diego Portales and a detailed chronicle of the War of the Pacific.

Vida, Marco Girolamo (mär'kō jērō'lämō vē'da), c. 1490-1566, Italian Latin poet, b. Cremona. He sought an ecclesiastical career and went to Rome, where he joined the humanistic court of Leo X. The pope commissioned him to compose a Christian epic and gave him a priory at Frascati. He became bishop of Alba in 1532. Vida's poem, the *Christiad*, in six cantos, appeared (1535) after Leo X's death, it may now be regarded as a Renaissance *tour de force*. His didactic poems on the silkworm and on chess gained him considerable fame. His most celebrated poem is a long *Ars poetica*, which gained great fame among the later classicists. Vida's Latin is elegant and readable.

Vidal, Peire (pēr' vēdäl'), fl. 1180–1206, Provençal troubadour, b. Toulouse. He began his career at Marseilles, and although he was to return to S France, he soon began his wide travels to Italy, Cyprus, Hungary, Spain, and Malta. Richard I (Richard Cœur de Lion) was one of his patrons. An enthusiastic gallant, he involved himself in numerous escapades. His poems, excellent examples of troubadour love poetry, are notable for their strong personal feeling and simple style.

Vidalia (vĭdāl'yù) **1** City (pop. 4,109), SE Ga., W of Savannah, in a farm area. **2** Town (pop. 1,318),

parish seat of Concordia parish, E La , on the Mississippi First settled c 1800, it was established as Vidalia in 1811. In 1939 the town was moved back from the river when new levees were built

Vidocq, Eugène François (ăzhĕn' frăswä' vēdôk'), 1775–1857, French detective After a career of crime for which he had been imprisoned, he joined the Paris *Sûreté* (1809) as a police spy He became head of the detective branch, but incurred the enmity of his colleagues, and in 1832 he was removed from office on the charge of instigating a crime for the purpose of uncovering it He is the prototype of M Lecoq in the stories of Émile Gaboriau Vidocq's memoirs (4 vols , 1828–29, partial Eng tr by E G Rich, 1935) are thought to be spurious

Vidzeme, Latvia see LIVONIA

Viebig, Clara (klä'ra fē'bĭkh), 1860–, German novelist of the naturalist school In 1896 she married the publisher Fritz Theodor Cohn Among the best of her numerous novels are *Das Weiberdorf* [the women's village] (1900), *Das tägliche Brot* (1900, Eng tr , *Our Daily Bread*, 1909), *Die Wacht am Rhein* [the watch on the Rhine] (1902), *Das schlafende Heer* (1904, Eng tr , *The Sleeping Army*, 1929), *Das Kreuz im Venn* [the cross in Venn] (1908), *Töchter der Hekuba* (1917, Eng tr , *The Daughters of Hecuba*, 1922), and a historical novel, *Der Kampf um die Kelgehasste* [the much-loved man and the much-hated woman] (1936)

Vieira, Antonio (äntō'nyō vyā'ĕru), 1608–97, Portuguese Jesuit pulpit orator and missionary, one of the outstanding literary figures of the 17th cent Born in Lisbon, he was taken as a child to Bahia, Brazil, where he was reared, was educated, and entered the Society of Jesus After Spanish rule was thrown off (1640), he was sent to Portugal as one of the deputation from Brazil to salute the new king, John IV Gaining the favor of the king, he remained as court preacher and was sent on diplomatic missions to various countries of Europe In 1652 he returned to Brazil as a missionary to the Indians of the interior He staunchly championed the rights of the exploited natives and earned the bitter hatred of the aristocracy, who harassed and expelled him Back in Portugal, he was not in favor at the court of Alfonso VI, and he fell afoul of the Inquisition In 1655 he was censured and imprisoned His fortunes rose again with the accession of Peter II He went to Rome and stayed for six years, enjoying his greatest triumphs He was papal preacher of Clement X and the confessor and friend of Queen Christina of Sweden At Rome he pleaded for the persecuted Jews of Portugal His broad humanitarian views and his readiness to excoriate those who opposed his reforms earned him many enemies, who continued to persecute him after he had returned (1681) to Brazil to spend his old age His voluminous and smooth-flowing letters and sermons are couched in spontaneous and classic style, and it is as a writer that he is best remembered today Only rarely did he yield to the stylish floridity of his day, and his gracefulness of phrase was joined to vividness of pictures and noble defense of the oppressed His reputation suffered somewhat at the hands of anticlerical critics, but he is now generally conceded to be the foremost writer of Portuguese prose in the 17th cent and one of the greatest preachers of his day

Vien, Joseph Marie (zhōzĕf' marē' vyĕ'), 1716–1809, French painter A protégé of the comte de Caylus, he early won the Prix de Rome and studied in Italy He was admitted to the Académie royale de Peinture et de Sculpture in 1754 and was a professor there until made director of the Académie de France à Rome in 1775 A precursor of the classical reaction in painting, he is famous as the master and predecessor of David *St Denis Preaching to the Gauls* (Church of Saint-Roch, Paris) is one of his most celebrated paintings

Vienna (vē-ĕ'nu), Ger. *Wien* (vēn), city and autonomous province (409 sq mi , pop 1,731,557), capital of Austria and of Lower Austria It was from the 15th cent the residence of the Holy Roman emperors and after 1806 of the emperors of Austria It is an industrial, commercial, and traffic center, and a melting pot of the Germanic, Slavic, Italian, and Hungarian people and cultures Located in a plain surrounded by the WIENER WALD and the Carpathian foothills, it is an important inland port on the Danube The city is divided into 21 districts grouped roughly in two semicircles around the Innere Stadt, the nucleus Only the district of Floridsdorf, with large oil refineries, is on the left bank of the Danube The western and northwestern districts are residential, industry centers in the east and south with manufactures of machinery, textiles, chemicals, furniture, and food products. Handicrafts (fashion articles, ceramics, and leather goods) occupy a large portion of the population The annual Wiener Messe, an industrial exhibit, attracts buyers from all over the world A Celtic settlement, Vienna, then called Vindobona, became an important Roman military and commercial center, Emperor Marcus Aurelius resided and died here After the withdrawal of the Romans, it rapidly changed hands among the invaders who overran the region. The Magyars, who gained possession of Vienna early in the 10th cent., were driven out by Leopold I of BABENBERG, the first margrave of the Ostmark (see AUSTRIA). The Babenbergs built (1101) a fortress on the KAHLENBERG, several decades later Henry Jasomirgott, first duke of Austria, made Vienna his capital and residence He erected a castle, Am Hof, and dedicated the Church of St. Stephen, now Vienna's famous cathedral The town grew in commercial importance and was chartered in 1221. It was fortified by Ottocar II of Bohemia, who conquered Austria in 1251 and lost it to Rudolf of Hapsburg in 1278 In 1282, Vienna became the official residence of the house of HAPSBURG The city was occupied (1485–90) by Matthias Corvinus of Hungary and was besieged by the Turks for the first time in 1529 In the Thirty Years War, Bohemian Protestants in 1619 and the Swedes under Torstenson in 1645 were easily driven back from its gates In the critical second siege (1683) by the Turks under Kara MUSTAFA and their Hungarian allies under Thokoly, the city, heroically defended by Rudiger von STARHEMBERG, was on the verge of starvation when it was saved by JOHN III (John Sobieski) of Poland Early in the 18th cent a new circle of fortifications was built around the city, including most of the suburbs Many magnificent buildings were erected Johann FISCHER VON ERLACH drew up new plans for the Hofburg (the imperial residence) and built the beautiful Karlskirche, Johann von Hildebrandt designed the Belvedere (summer residence of Prince Eugene of Savoy) and the Kinsky palace, together they planned the Schwarzenberg palace and the winter residence of Prince Eugene Maria Theresa enlarged the old university, founded in 1365, and completed the royal summer palace of SCHONBRUNN, started by her predecessor, Joseph II opened the Prater, a large imperial garden which now contains an amusement park, to the public Haydn, Mozart, Beethoven, and Schubert lived in Vienna and gave it lasting glory In 1805 and in 1809 Vienna was occupied by Napoleon The period of Metternich's reaction and secret police rule which followed the brilliant congress of 1814–15 was enlivened by the waltzes of Joseph Lanner and the Strauss family, the farces of Nestroy, and the comedies of Raimund Grillparzer flourished during these years. The Revolution of 1848, which forced Metternich to resign, had, by October, brought Vienna into the hands of rebellious citizens, but WINDISCHGRÄTZ suppressed the revolutionists and Emperor Ferdinand I abdicated in favor of Francis Joseph The modern city dates from Francis Joseph's reign By 1860 the old ramparts about the inner city had been replaced by the famous boulevard, the Ringstrasse The principal edifices on or near the Ringstrasse are the neo-Gothic Rathaus, with many statues and a tower 320 ft high, the two domed museums of natural history and of art, in Italian Renaissance style, the Votivkirche, one of the finest of modern Gothic churches, the parliament buildings, in Greek style, the palace of justice, the famous opera and the Burgtheater, both in Renaissance style, the Kunstlerhaus, with permanent exhibitions of paintings, the Musikverein, containing the conservatory of music , and the Academy of Art In the late 19th cent and the early 20th cent Vienna flourished again as a cultural and scientific center. Karl Rokitansky, Wagner-Jauregg, and Theodor Billroth worked at the General Hospital, at the same time Sigmund Freud was developing his theory of psychoanalysis Vienna attracted Brahms, Bruckner, Mahler, Richard Strauss, and Arnold Schonberg, who gave it another period of musical greatness. Hugo von Hofmannsthal, Arthur Schnitzler, and Jacob Wassermann dominated the literary scene The First World War hit Vienna hard Starved and torn by revolution (1918), it suddenly found itself the capital of the small republic to which Austria had been reduced In 1922, Vienna became an autonomous province (*Bundesland*) of Austria The highly successful Social Democratic city government headed by Karl Seitz instituted a new program of municipal works In public housing Vienna set an example to the world Model apartment houses for workers, notably the tremendous Karl Marx Hof, began to supplant Vienna's tuberculosis-breeding slums They were badly damaged in the civil war of Feb 1934, which was brought about by the tension between the Viennese Socialists and the clerico-fascistic government of Chancellor DOLLFUSS On March 15, 1935, Adolf Hitler triumphantly entered Vienna, and Austria was annexed to Germany. The large Jewish population (115,000 in 1938), centering mainly in the Leopoldstadt district (designated the official ghetto in the 17th cent) was reduced to a mere 6,000 by 1945, when the Russian Army entered Vienna after a seven-day battle in April. In accordance with the agreements reached at the Potsdam Conference (1945) Vienna was jointly occupied by Russian, French, American and British troops See Richard Kralik, *Geschichte der Stadt Wien* (3d ed., 1933); H. O. Sedgwick, *Vienna* (1933).

Vienna. 1 (vī-ĕ'nŭ, vī'ĕnu) City (pop. 2,063), co. seat of Dooly co., S central Ga , near Cordele S of Macon; inc. 1841. It is a trade and processing center for a farm area producing pecans, fruit, and truck. 2 (vī-ĕ'nu, vī'ĕnŭ) City (pop. 1,173), co. seat of Johnson co., S Ill., NNE of Cairo, in a farm and timber area, inc 1837 3 (vē-ĕ'nŭ) Town (pop 1,237), N Va., W of Washington, D C., inc 1890 4 (vē-ĕ'nŭ) Industrial city (pop 2,338), NW W.Va , near Parkersburg, in a rich truck-farm area; laid out 1774 It manufactures glass, silk, and vitrolite

Vienna, Congress of, Sept , 1814–June, 1815, one of the most important international conferences of European history, called to remake Europe after the downfall of Napoleon I Emperor Francis II (Francis I of Austria) was the host Among the many monarchs that attended the congress the most important were Alexander I of Russia and Frederick William III of Prussia METTERNICH was the chief Austrian negotiator and presided over the congress, Castlereagh and, for a time, the duke of Wellington represented England, the Russian delegation included Nesselrode, Capo d'Istria, and Pozzo di Borgo, among the Prussian diplomats were Karl August von Hardenberg and Karl Wilhelm von Humboldt A peace settlement with defeated France had been reached before the congress convened (see PARIS, TREATY OF, 1814), but France was represented by TALLEYRAND, who by his skillful diplomacy soon obtained an equal voice with the four great victorious powers All other European states, large and petty, that had had legal existence before the Napoleonic upheaval were represented by an army of delegates and agents, but the important work was carried out in committees The problems confronting the congress were extremely thorny and complex, for the French Revolution and Napoleonic Wars had swept away the entire structure of Europe The main principle adopted was that of legitimacy—i e., the territorial and dynastic status prevailing before the French Revolution was to be restored wherever feasible No attempt, however, was made to restore the thoroughly defunct Holy Roman Empire or its several hundred "mediatized" princes, and the GERMAN CONFEDERATION was created instead Major territorial changes were unavoidable, partly because of previous secret agreements reached among individual allies, partly because of the pressure of power politics The principle of national self-determination, though invoked in certain cases, was neglected in practice The congress opened with a round of magnificent balls and entertainments, while its serious business was stalled by intrigues and rivalries Major points of friction were the settlement of the Polish question, the conflicting claims of Sweden, Denmark, and Russia, and the adjustment of the borders of the German states In general Russia and Prussia were opposed by Austria, France, and England, which at one point (Jan , 1815) went so far as to conclude a defensive triple alliance It was not until the shock of the return of NAPOLEON I from Elba had seriously upset all the delegates that the congress began to find a smooth solution for its difficulties The constitution of the German Confederation was accepted on June 8, 1815, and was incorporated into the Final Act of the congress, signed on June 9, nine days before Napoleon's defeat at Waterloo The restoration of Louis XVIII in France and of Ferdinand VII in Spain were confirmed Italy was dealt with as a geographic but not as a political entity, and its hopes for unity were dashed Naples and Sicily were reunited under Bourbon rule, the Papal States were restored, the duchies of Parma, Piacenza, and Guastalla were awarded to Empress Marie Louise for her lifetime, Tuscany and Modena were restored to the house of Hapsburg-Lorraine, the Lombardo-Venetian kingdom was set up under Austrian rule, the formerly Venetian part of Dalmatia also went to Austria Still the nucleus of an Italian state was left in the kingdom of Sardinia, which recovered Savoy, Nice, and Piedmont and received Liguria with Genoa Poland was redivided among Russia, Prussia, and Austria, with Russia benefiting from the territorial changes, part of Poland, with Warsaw, was set up as a kingdom in personal union with Russia, Cracow and its surrounding territory was made a republic under the protection of Russia, Austria, and Prussia The former Austrian Netherlands were united with the former United Provinces as the kingdom of the Netherlands, under the house of Orange England, however, retained the former Dutch colonies of Ceylon and the Cape Colony. Russia retained formerly Swedish Finland The congress confirmed the transfer of Norway from the Danish to the Swedish crown, W Pomerania, the claim to which Sweden had ceded to Denmark in the Treaty of Kiel (1814), was given to Prussia, which compensated Denmark with the duchy of Lauenburg Prussia also received parts of Saxony, Westphalia, and the Rhine Province Bavaria received its approximate present boundaries; as did Württemberg and Baden England retained Malta and Helgoland, made colonial gains in the West Indies at the expense of the Netherlands and of Spain, and obtained a protectorate over the Ionian islands. SWITZERLAND was enlarged and Swiss neutrality was guaranteed.

As regards France, a new peace settlement was reached on Nov. 20, 1815 (see PARIS, TREATY OF) The Final Act of Vienna was subsequently ratified by the powers concerned, but several separate treaties were required to complete the settlement Though the territorial changes did not endure long in entirety, they represented a practical if not always equitable solution and an attempt at dealing with Europe as an organic whole The QUADRUPLE ALLIANCE and the HOLY ALLIANCE, designed to uphold the decisions of Vienna and to settle disputes and problems by means of conferences, were an important step toward European cooperation Serious defects were the disregard of the growing national aspirations and the social changes that brought about the revolutions of 1848, and the failure to include the Ottoman Empire in the settlement and to deal satisfactorily with the Eastern Question See C K Webster, *The Congress of Vienna* (1919), A H Ward, *Period of Congresses* (1919), J G Lockhart, *Peacemakers, 1814–1815* (1932), Guglielmo Ferrero, *The Reconstruction of Europe* (1941), Harold Nicolson, *The Congress of Vienna* (1946).

Vienne (vyĕn), department (2,720 sq mi , pop 313,932), W central France, in POITOU It is traversed by the Vienne river Poitiers is the capital of the department

Vienne, city (pop 19,958), Isère dept , SE France, in DAUPHINÉ, on the Rhone and S of Lyons. It has a textile industry The capital of the Allobroges, Vienne (then Vienna) became one of the chief cities of Roman Gaul, one of the earliest archiepiscopal sees (suppressed in 1790), and the seat of several kings of Burgundy (5th–9th cent , see BURGUNDY, KINGDOM OF) A council held here in 1312 abolished the KNIGHTS TEMPLARS Vienne has an abundance of Roman remains, most of them still buried The temple of Augustus and Livia (c 25 B C) rivals the Maison Carrée of Nîmes Parts of the Church of St Pierre date from the 6th cent The Church of St Maurice (formerly the cathedral) was built in the period from the 12th to the 15th cent

Vienne, river, 230 mi long, W France It rises in the hills of LIMOUSIN and flows W past Limoges, then N through POITOU past Châtellerault and Chinón into the Loire

Vienne, Council of, 1311–12, 15th ecumenical council of the Roman Catholic Church, held at Vienne, France It was convened by Clement V at the behest of Philip IV of France to make a final decision concerning the Knights Templars The French were seeking to abolish the order and had been finding evidence against its members and burning them at the stake in groups, so it was generally known that the council was a scheme to legalize the French actions and justify the pope's connivance in them This was desirable because outside France the charges against the Templars were falling to the ground whenever there was a fair hearing, and public opinion was rallying to them The council met in Oct , 1311, and soon the committee for the matter voted to hear the Templars' side The king and the pope prevented this, and the committee in March reversed itself and recommended that the order be suppressed This action the pope took a few days later without a legal judgment In Philip's and Clement's plans the council was useless Among its few decisions was an important decree condemning the Beghards

Vientiane (vē"ŭntyĕn', vyĕtyan'), town (pop c 10,000), S Laos, Indo-China, on the left bank of the Mekong river It was the capital of a Lao kingdom, tributary at various times to Siam, Burma, and Annam, in 1827 it was sacked by the Siamese Under French rule it became the administrative capital of Laos It is linked by trade routes to Luang Prabang and to Korat in Thailand The ruins of the old capital are near the modern town

Vieques (vyā'kās), island (51 sq mi , pop 10,362), off E Puerto Rico It is hilly, with a dry, warm climate Products are pineapples, cattle, and hogs It was important in U S defense projects in the Second World War. The only town, **Vieques** (pop 2,678), commonly called Isabel Segunda, was founded in 1843

Vierge, Daniel Urrabieta (dänyĕl' ōōrähyā'tä vyĕr'hä), 1851–1904, Spanish illustrator Son of Urrabieta Ortiz, a draughtsman, he took his mother's name He went to Paris at 16 and won early recognition for his drawings of scenes of the Commune of Paris He worked for the *Monde illustré* and the *Vie moderne* and illustrated works of Hugo, Zola, Poe, and Quevedo Most famous, however, are his illustrations for Don Quixote (London, 1907) Paralyzed on his right side at 30, Vierge learned to draw with his left hand and did much of his best work with it He was a master of pen-and-ink drawing and had a marked influence on the art of modern illustration

Vierwaldstättersee, Switzerland. see LUCERNE, LAKE OF.

Viète or **Vieta, François** (frăswä' vyĕt', vyātä', vlē'tŭ), 1540–1603, French mathematician As a founder of modern algebra, he introduced letters as algebraic symbols and correlated algebra with geometry and trigonometry He was a lawyer, attached for a time to the parlement of Brittany and served as privy councilor to Henry IV, for whom he decoded messages sent by Philip II of Spain to his soldiers in the Netherlands

Viet Nam (vēt' năm', vēt'), state (c 122,000 sq mi ; pop. c 22,600,000), Indo-China, formed by the union of the areas largely populated by Annamese These are TONKIN (North Viet Nam), ANNAM (Central Viet Nam and the special administrative district of the southern plateaus), and COCHIN CHINA (South Viet Nam) At the end of the Second World War, the Viet Minh party (the League for the Independence of Viet Nam, a coalition of nationalist and Communist groups) resisted the return of French rule and set up a republic with its capital at Hanoi. In March, 1946, France recognized Annam and Tonkin as the free state of Viet Nam within the federation of Indo-China, but refused to permit the accession of Cochin China to the new state In Dec , 1946, fighting between French troops and the Viet Nam government headed by Ho Chi Minh ushered in a prolonged guerrilla war Having refused to treat further with Ho and the other Viet Minh leaders, the French in 1949 installed Bao Dai, former emperor of Annam (deposed by the Japanese in 1945), as the ruler of Viet Nam, of which Cochin China was recognized to be a part Bao Dai's regime was promised a large measure of autonomy in domestic affairs, although defense and foreign relations were to be kept in French hands As the approach of Chinese Communist forces to the northern border of Indo-China (which they reached in Dec , 1949) increased the chance of effective Soviet and Chinese aid to the Viet Minh forces, who held most of the country outside the thickly settled areas, the French speeded efforts to strengthen Bao Dai's regime A treaty granting Viet Nam independence within the French Union was signed (Dec , 1949) and ratified (Feb , 1950) The new state was promptly recognized (Feb , 1950) by the United States, Great Britain, and other states, meanwhile the Ho regime was recognized by the USSR, the Chinese Communist regime, and other Soviet allies Except for Thailand (which recognized Bao Dai), the states of SE Asia held aloof from both regimes Late in Feb , 1950, France formally asked U S military equipment and other aid for the Bao Dai regime The prestige of the regime, though rising, was still slight in early 1950, many non-Communist Indo-Chinese regarded it as a French puppet, and its authority was limited to areas commanded by French troops

Vieuxtemps, Henri (ŏrĕ' vyŭtā'), 1820–81, Belgian violinist and composer After his first tour in 1833, he traveled extensively, he toured the United States in 1844, 1857, and 1870 From 1846 to 1852 he was court violinist in St Petersburg and professor of violin at the conservatory there He was professor of violin at the Brussels Conservatory from 1871 to 1873 A famous concert violinist, he also composed six violin concertos and other violin pieces, many of which have become part of the standard violin repertoire

Vigée-Lebrun, Élisabeth (ālēzăbĕt' vēzhā'-lŭbrŭ'), 1755–1842, French portrait painter, pupil of her father, Louis Vigée She was influenced by Greuze Winning fame at 20 for her court portraits, she embarked upon a long and successful career Two of her best-known portraits are of Marie Antoinette, her sponsor, one holding a rose and the other with her children (both Versailles) Her salon in Paris was popular At the outbreak of the Revolution she escaped to Italy and in the following years visited Vienna, Berlin, St Petersburg, and London, finding everywhere acclaim and prominent sitters Well known are her self-portrait (National Gall , London), portraits of Mme de Staël, C J Vernet, and two of herself and her daughter (Louvre), and *Young Girl with Flowers* (Metropolitan Mus) She is also well known for her work in pastel

Vigeland, Adolf Gustav (ä'dōōlf gōōs'tăv vē'gulan), 1869–1943, Norwegian sculptor His great undertaking in Frogner Park, Oslo, occupied him for 40 years More than 100 human figures in various positions, carved from granite or cast in bronze, illustrate the development of man

vigil (vĭ'jul) [Latin, = watch], in Christian calendars, eve of a feast, a day of penitential preparation In ancient times the people gathered for vespers before a great feast and then waited outside the church till dawn for the liturgy (Mass) Traces of this practice survive in the East, but the Western Church abolished it early because of disorders in the night watch The Roman liturgy assigns a proper Mass for the vigil of each important older feast, two, Holy Saturday (Easter Eve) and the vigil of Pentecost, have special ceremonies In the Roman Catholic Church FASTING and abstinence are required on great vigils

vigilantes (vĭjĭlăn'tēz), members of a vigilance committee Such committees were formed in U S frontier communities to suppress lawlessness and disorder before a regularly constituted government could be created or have real force They were most needed and therefore most common in mining communities, but were also known in cow towns and in farming settlements The extreme penalty inflicted by the vigilantes was LYNCHING The most famous of the vigilante groups were those formed in San Francisco in 1851 and in 1856 to bring order to the notorious Barbary Coast. The actions of vigilance committees might, and sometimes did, run to excess. The measures taken by them were at best extralegal, and when such committees are formed in a community with a well-constituted government and a police force they are strictly illegal and usually are merely the expression of mob violence See M F Williams, *History of the San Francisco Committee of Vigilance of 1851* (1921), Stanton A. Coblentz, *Villains and Vigilantes* (1936)

Vigilantius (vĭj"ĭlăn'shus), fl 400, Christian priest of Gaul who was violently opposed by St JEROME Jerome's letters and a tract, *Liber contra Vigilantium*, declare that Vigilantius denied the efficacy of veneration of relics, prayers to the saints, almsgiving, celibacy of the clergy, and monasticism His works are not extant.

Vigilius (vĭjĭl'ēŭs), pope (537–55), a Roman; successor of St SILVERIUS and predecessor of St Pelagius I He was made pope through the efforts of Justinian I and Theodora, and his pontificate was legitimized by the bishops after Silverius' renunciation and death Vigilius at first resisted coercion, refusing to condemn the *Three Chapters* in the quarrel over MONOPHYSITISM The emperor made him come to Constantinople, where he eventually consented to their condemnation, if the canons of the Council of Chalcedon were not thereby discredited He died on his way home

Vigne, Paul de (pôl' du vē'nyu), 1843–1900, Belgian sculptor, a leader in the modern academic school of Belgium He spent some time in Italy and in Paris, and his work shows the influence of Donatello and of the modern French school In Brussels are his *Crowning of Art* and the figures *Immortality* and *Poverella* For Bruges he made the monument to Breydel and De Coninck

Vignemale (vēnyumal'), mountain, 10,821 ft high, S France, on the Franco-Spanish border S of Lourdes, highest in the French Pyrenees

Vignola, Giacomo da (jä'kōmō da vēnyō'lä), 1507–73, one of the foremost late Renaissance architects in Italy His real name was Giacomo Barozzi or Barocchio Appointed (1550) papal architect to Pope Julius III, he spent his later life in Rome, where are most of his important works After Michelangelo's death, Vignola succeeded him as architect in charge of the work on St Peter's, the small lateral domes being of his execution His finest productions are the Villa Caprarola, near Viterbo, for Cardinal Alessandro Farnese, and the beautiful Palace of Pope Julius III in Rome As designer (1568) of the interior of the Church of the Gesù, in Rome, mother church of the Jesuit order, he initiated a style of sumptuous church decoration which thereafter was designated the Jesuit style It is largely because of the extravagantly rich aspect of this interior that Vignola has usually been identified with the beginnings of baroque design He is universally known for his treatise (1563) on the five orders of architecture Based upon the work of Vitruvius, it undertook to formulate definite and minute rules for proportioning the classical orders appearing in the buildings of the Romans This work, which has been in continuous use, has by many been scrupulously adhered to as an almost inviolable authority But such was not Vignola's real intention, and his own designs, even when utilizing the classical orders, showed notable originality and freedom

Vignon, Barthélemy (bartālumē' vēnyō'), c 1762–1828, French architect. Although Vignon won only second prize in the competition for converting the Church of the MADELEINE, Paris, into a Temple of Glory, his design was selected by Napoleon for execution The imposing building, with its surrounding Corinthian colonnade, terminates a vista from the Place de la Concorde

Vigny, Alfred Victor, comte de (älfrĕd' vēktôr' kōt' du vēnyē'), 1797–1863, French poet, novelist, and dramatist A precursor of the romantics, Vigny had formed his literary style before he was 30 Though physically weak, he was sent to military school and became an officer in 1814, resigning in 1827 His best-known poems are found in *Poèmes antiques et modernes* (1826), containing "Eloa" and his famous "Moïse," and *Destinées* (1864) His prose works include the novels *Cinq-Mars* (1826, Eng tr , *The Spider and the Fly*, 1925), *Stello* (1832), *Servitude et grandeur militaires* (1835, Eng tr , 1919), and *Chatterton* (1835, Eng. tr , 1908), a play A selection of his own notes comprises *Journal d'un poète* (1867) He is a poet-philosopher writing not of himself, but presenting his ideas through a usually effective and dramatic symbol His reputation, temporarily dimmed by that of Hugo and Lamartine, was revived by the time of Baudelaire See study by Arnold Whitridge (1933)

Vigo, Francis (vē'gō, vĭ'gō), 1747–1836, American frontier trader and merchant, patriot in the American Revolution He was born at Mondovi, Italy, and his name was originally Giuseppe Maria Francesco Vigo After enlisting in the Spanish army, he was sent to Cuba and to New Orleans, where he became interested in the fur trade When his enlistment was ended, he went to St Louis and was secretly an agent of the Spanish governor while

he built up a successful business among the Indians After George Rogers CLARK captured Kaskaskia (1778), Vigo took up the American cause, and he generously supplied money and supplies and information that helped make possible Clark's recapture of Vincennes In 1783 Vigo settled in Vincennes, where he became an American citizen His claims for his advances to Clark were not honored until long after his death. See biography by Bruno Roselli (1933)

Vigo (vē'gō), city (pop 44,188), Pontevedra prov, NW Spain, in Galicia, picturesquely situated on an inlet of the Atlantic Ocean One of the most active ports of Spain, it has a large fishing fleet and is a center of tuna and sardine fishing and canning. There are important shipyards and machinery manufactures The commercial and industrial rise of Vigo is of recent date In 1702 a Franco-Spanish fleet, escorting galleons loaded with American gold and precious stones, was destroyed in the Bay of Vigo by the British and the Dutch, several galleons were sunk, and it is believed that much of the treasure is still at the bottom of the bay, but attempts to recover it have been fruitless

Vipuri, RSFSR: see VYBORG

Vijayanagar (vē"jəyŭn'gur) [Sanskrit,=city of victory], ruined city, N Madras state, India, capital (1336–1565) of the Hindu Vijayanagar empire The empire embraced all India S of the Kistna river Moslem forces after the battle of Talikota (1565) utterly demolished the city and destroyed the empire

vikings (vī'kĭngz), Scandinavian warriors whose raids of the coasts of Europe and the British Isles gave the period from the 8th cent to the 10th cent the name of Viking Age Through the thousands of years of the Neolithic period the Scandinavians had lived in small autonomous communities as farmers, fishermen, and hunters At the beginning of the Viking Age they were the best shipbuilders and sailors in the world, and later they ventured as far as Greenland and North America (see VINLAND) The typical viking warship at the height of the Viking Age, the "long ship," had a high prow, adorned with the figure of an animal, and a high stern (see SHIP) It seated up to 30 oarsmen and had an average crew of 90 Its square sails had large perpendicular stripes in many colors, and the entire ship was vividly painted and elaborately carved On both sides of the ship hung a row of painted round shields Though this is the most familiar type of viking ship, there were many other types, varying according to purpose and period The causes that drove the vikings outside their lands are obscure, overpopulation was certainly one of them At the beginning of the Viking Age the Scandinavian communities were still democratic, but local leaders soon assumed greater authority, gained dominance over other communities, and sought to gain wealth by conquests overseas They were exceedingly cruel and rapacious on their raids, and the dread they inspired facilitated their conquests Many local kingdoms came into existence in Scandinavia, and from them stemmed the kingdoms of Norway, Denmark, and Sweden The vikings' religion was paganism of the Germanic type; their mythological and heroic legends form the content of OLD NORSE LITERATURE The Viking Age ended with the introduction of Christianity into Scandinavia, with the emergence of the three great Scandinavian kingdoms, and with the rise of European states capable of defending themselves against further invasions The vikings were known as VARANGIANS in Russia, where their leader Rurik founded the first Russian state Elsewhere they were known as Danes, Northmen, Norsemen, or Normans For their part in French, Spanish, and Italian history, see NORSEMEN

Vilagos, Hung *Világos* (vĭ'lägōsh), village (pop. 5,878), W Rumania, NE of Arad It is known in Rumanian as Siria Here in 1849 the Hungarian revolutionary army under General GORGEY surrendered to the Russians

Vildrac, Charles (shärl' vēldrak'), 1882–, French poet, dramatist, and essayist In 1906 he joined a group including Duhamel, Romains, and other writers, who for a year lived cooperatively in a house near Paris which they called the Abbaye Vildrac's poetry in *Images et mirages* (1908) and *Le Livre d'amour* (1910, Eng tr, *A Book of Love*, 1923) shows the influence of Walt Whitman His plays, *Le Paquebot Tenacity* (presented 1920, Eng tr, *The Steamer Tenacity*, 1921) and *La Brouille* (presented 1930), are character studies, weak in plot A volume of essays, *Découvertes*, was published in 1912

Viljandi (vĭl'yändē), Ger. *Fellin* (fĕlēn'), city (pop 11,788), central Estonia It was founded (13th cent) by the Livonian Knights, became a Hanseatic town, and after the dissolution (1561) of the Livonian Knights was contested by Russia, Poland, and Sweden. It was in Russian hands from 1710 until the Russian Revolution. It is today a farm market center There are ruins of the castle of the Livonian grand master. The name also appears as Vilyandi.

Villa, Francisco (fränsĕs'kō vē'yä), 1877?–1923, Mexican revolutionist, whose real name was Doroteo Arango. He escaped the peonage of his parents and became notorious as a bandit in Chihuahua and Durango His vigorous fighting in the revolution of 1910–11 was largely responsible for the triumph of Francisco I. MADERO over Porfirio DÍAZ When Victoriano HUERTA overthrew Madero (Feb, 1913), Villa joined Venustiano CARRANZA and the Constitutionalists in the fight against Huerta. Success followed success for the Constitutionalists, Villa gaining control of N Mexico by the violence and audacity of his attacks; Huerta resigned (July, 1914) Antipathy and suspicion had always existed between Villa and Carranza, now with their common enemy eliminated, an open break occurred. A bloody contest ensued, with Álvaro OBREGÓN taking the side of Carranza In the midst of chaos Villa, with Emiliano ZAPATA, occupied Mexico city (Dec., 1914) but later evacuated the capital (Jan, 1915) Obregón pursued Villa, and their armies engaged at Celaya (April, 1915), resulting in the decisive defeat of Villa, who was now driven north and out of military significance In the winter of 1915 he campaigned disastrously against Plutarco E. CALLES in Sonora Villa's waning power was further diminished by President Wilson's recognition of Carranza (Oct, 1915) Villa, piqued by American support of his enemy, now turned his wrath against the United States In Jan, 1916, a group of Americans were shot by bandits in Chihuahua, and on March 9, 1916, Mexican bandits raided Columbus, N Mex, killing a number of American citizens It is not certain that Villa participated in these assaults, but he was universally held responsible Wilson ordered a punitive expedition under General Pershing to capture Villa dead or alive The expedition pursued Villa through Chihuahua for eleven months (March, 1916–Feb, 1917) but failed in its objective Since Carranza violently resented this invasion, relations between Mexico and the United States were greatly embittered Villa continued his activities in northern Mexico throughout Carranza's regime, but in 1920 he came to an amicable agreement with the government of Adolfo de la HUERTA Three years later Villa was assassinated at Parral He was in a sense a rebel against social abuses, and he at times worked a rough justice, but he was a violent and undirected destructive force His daring, his impetuosity, and his horsemanship made him the idol of the masses, especially in N Mexico, where he was regarded as a sort of Robin Hood, and the Villa myth is perpetuated in numerous ballads and tales See M. L. Guzmán, *The Eagle and the Serpent* (Eng tr, 1930), a novel based on Villa's life, Edgcumb Pinchon, *Viva Villa!* (1933)

villa. Though used to designate any country residence, especially in Italy and S France, villa particularly refers to a type of pleasure residence with extensive grounds favored by the Romans and richly developed in Italy in the Renaissance The Roman villa of the empire is described in several contemporary literary accounts and particularly by Pliny Favored locations were at Tivoli near Rome and along the shores of the Bay of Naples The dwelling quarters, consisting of several low buildings, included recreation facilities and lodgings for the servants The farmhouse type (*villa rustica*) had its barns, orchards, and vineyards, and the type used as a pleasure retreat (*villa urbana*) had formal gardens adorned with fountains and sculptures The luxurious villa of Emperor Hadrian near Tivoli, of which extensive ruins remain, is said to have covered more than 7 sq. mi, many works of art were exhumed there during the Renaissance In the 15th cent the classic villas, rediscovered along with the rest of the Roman past, furnished the Renaissance nobles with patterns for pleasure estates of their own Many of these had hillside locations, which called forth the fullest ingenuity of the garden designers. Their pictorial compositions blended with the variable elements of nature, the formal qualities of the house, the incidental garden architecture, and the fountains Fine villas remain from all periods of the Renaissance, the baroque ones displaying the most fanciful variety of garden frivolities—grotesque sculptures, grottoes lined with rock and shell decorations, fantastic water displays, and ingenious transitions between different levels. Isola Bella (1634-1714) on Lake Maggiore is a striking example Among the finest villas are the Villa d'Este at Tivoli, the Villa Caprarola near Viterbo, by Vignola, the Villa Falconieri at Frascati, by Borromini (1648), at Rome the Villa Madama (c 1516) by Raphael, the Villa BORGHESE, and the Villa DORIA PAMPHILI See Edith Wharton, *Italian Villas and Their Gardens* (1904)

Villach (fĭ'läkh), city (pop. 30,686), Carinthia, S Austria, on the Drau river and W of Klagenfurt. It is an industrial and lumber trade center. It belonged to the bishopric of Bamberg until the middle of the 18th cent Warmbad Villach is a near-by mineral spa

Villa d'Este (vē'lä dĕ'stä), name of two famous villas in Italy. One lies near Tivoli, c 20 mi. E of Rome. Built in 1550 for Cardinal Ippolito II d'Este, it is decorated with paintings and statues and is surrounded by one of the most beautiful Renaissance gardens in Italy. The garden is adorned with many picturesque fountains, one of them by Bernini. The other Villa d'Este, built (16th cent) on the west shore of Lake Como, 3 mi N of Como, with an ornamental park, is now one of the celebrated hotels of Europe

Villa Doria Pamphili (vē'lä dô'ryä päm'fēlē), Roman villa, built in the 17th cent for Camillo Pamphili, nephew of Pope Innocent X, from plans designed by Alessandro Algardi It was situated against the western walls of Rome near the San Pancrazio gate. The Romans called it Belrespiro.

Villafranca di Verona (vē'läfräng'kä dē vərô'nä), town (pop 4,986), Venetia, NE Italy, near Verona Here in 1859 Napoleon III and Emperor Francis Joseph of Austria met after the Austrian defeats at Magenta and Solferino and signed a preliminary peace treaty, ratified the same year by the Treaty of Zurich. Sardinia, Napoleon's ally, was not represented. Austria ceded Lombardy, which was added to Sardinia, Venetia remained Austrian, the rulers of Tuscany were to be reinstated, and the Italian states were to form a confederation under the presidency of the pope Sardinia ignored the last two clauses To obtain Napoleon's consent for this course, Victor Emmanuel II of Sardinia ceded Nice and Menton to France (1860) The exclusion of Sardinia from the Treaty of Villafranca, which nearly deprived Victor Emmanuel of his leading role in the RISORGIMENTO, was deeply resented throughout Italy and greatly harmed Franco-Italian relations

village, small rural population unit It is held together by common economic and political ties, and it was the normal unit of agricultural life of the medieval manor (See also LOCAL GOVERNMENT and TOWN) The **village community** is comprised of a group of people living in proximity and together using the land for purposes of cultivation, meadow, and pasturage. The study of the village community, which involves theories of the origin of society and kinship groups, became prominent in the middle of the 19th cent with the works of G. L. von Maurer His theory of the MARK was supported by such men as Sir Henry S. Maine and E. A. Freeman, but the theory was violently attacked by N. D. Fustel de Coulanges and Frederic Seebohm, who thought that property, as in the Roman and Greek states, was owned by a lord and worked by serfs Thus began the Germanic-Roman controversy, never properly resolved, because the evidence on the whole question is so wide in extent and so various in nature that general conclusions are highly debatable The village community is, however, inextricably linked with the development of agriculture, and the study of property holding and of the social structure of population in primitive societies is of great importance The widespread appearance of tribal and subtribal holdings among the aboriginal peoples of North America and the S Pacific islands, where personal property is at a minimum, is usually considered vital in tracing tribal origin to the family group In the Celtic and Slavic countries family village communities, where the family lines were traced in either matrilineal or patrilineal succession, were much in evidence, these have been used not only to trace the origins of private property in communal property but also in support of, and against, theories of the patriarchal origin of communities As to the villages of the Middle Ages and especially of England (see MANORIAL SYSTEM and FEUDALISM), the long argument over the mark has died away, and most scholars maintain some modified form of the theory that agricultural holdings were originally in common. It has been impossible, however, to explain away evidences of early holding of private property. Interesting examples of almost pure communal holdings by villages are to be found in the records of the Inca empire in Peru, and there remain communal villages today in the interior of Mexico (see EJIDO), the interior of Peru, and other remote regions, where Indian life has remained untouched by white conquest The Russian village community, the mir, which antedated feudalism, persisted in its primitive communal form until after the Revolution of 1917 It probably arose from patriarchal holding, and the commune was managed according to tradition, land under cultivation was periodically reallocated among the families This mir arrangement was not greatly disturbed when late in the 16th cent a coordinated military feudalism was based upon it and the villages passed into the ownership of the nobles On the abolition (1861) of serfdom, the mirs once more became independent, but the choice of the lands surrendered to the peasants was unsatisfactory, and the peasants, left with a great land hunger, were plunged into troubles with the landlords The Stolypin reforms of 1908 were not effective Many of the mirs were, however, broken into individual holdings. The Revolution of 1917 abolished private ownership of land, and the communal mir, one of the major problems of new Russia, had no part in shaping the agricultural policy of the Russian Communists. The term "village community" is also used for the model villages constructed to house the workmen of particu-

lar factories or industrial plants or for villages in which arrangement is made for the residence of industrial workers (see GARDEN CITY). See Sir Henry S. Maine, *Village-Communities in the East and West* (1871) and *Ancient Law* (new ed., 1930), Erwin Nasse, *On the Agricultural Community of the Middle Ages* (Eng. tr., 1871), N. D. Fustel de Coulanges, *The Ancient City* (1874) and *The Origin of Property in Land* (2d ed., 1890), Emile de Laveleye, *Primitive Property* (Eng. tr., 1878), Frederic Seebohm, *The English Village Community* (2d ed., 1890, reprinted 1926), Sir G. L. Gomme, *The Village Community* (1890), C. M. Andrews, *The Theory of the Village Community* (1891), Paul Vinogradoff, *Villainage in England* (1892) and *The Growth of the Manor* (1904), H. J. E. Peake, *The English Village* (1922); Radhakamal Mukerjee, *Democracies of the East* (1923), A. S. Altekar, *A History of Village Communities in Western India* (1927), C. F. Petit-Dutaillis and George Lefebvre, *Studies and Notes Supplementary to Stubb's Constitutional History* (1930)

Villa Grove, city (pop. 2,072), E central Ill., E of Decatur, in a farm area, inc. 1913. It has railroad repair shops and a cannery.

Villahermosa (vē"yäĕrmō'sä), city (pop. 25,114), capital of Tabasco, SE Mexico. It was founded very late in the 16th cent. The climate is hot and humid. Well inland on the GRIJALVA river, the city is an important distributing center for the surrounding region. Local manufactures include brick and tile, soap, candles, cigars, rum, cotton materials, and hats.

Villa-Lobos, Heitor (ā'tôr vō'lä-lō'bōs), 1884?–, Brazilian composer, educated in Brazil but self-taught in composition. He early developed an interest in Brazilian folk music, which became the strongest influence on his works. A series of compositions which he called *Chôros*, for various media, employ a synthesis of the different modes of the various types of Brazilian folk and popular music. Outstanding are *Chôros No 7* (1924), for strings and woodwinds, *No 10* (1925), for orchestra and chorus, and *No 11* (1928, première, 1942). He visited Paris (c 1923–1926), conducted various orchestras in Europe, and became well known there, but it was not until concerts of his music were played at the New York World's Fair (1939–40) that he became known in the United States, which he later visited (1944–45) to conduct various orchestras in performances of his works. In 1931 he was appointed director of musical education in Brazil. His compositions, including five symphonies, several operas, concertos, chamber music, and songs, number about 2,000. Although these are extremely uneven quality, his best works, such as *Bachiana brasileira No 1* (1930), written in homage to Bach, display great originality and vitality.

Villani, Giovanni (jōvän'nē vēl-lä'nē), c 1275–1348, Italian historian of Florence. He was a functionary in the Florentine government for many years and took part in some of the events he narrates. His history of Florence in 12 books is in conception a universal history from the earliest times to 1348. It is quite reliable for events in Florence of Villani's own time. This history is one of the early monuments of Italian prose, and it is one of those works which helped to fix the Tuscan language as the standard of Italy. Villani died in the plague described by BOCCACCIO.

Villanova (vĭlunō'vù), village, Delaware co., SE Pa., near Philadelphia. It is the seat of Villanova College (Catholic, for men, 1843).

Villanovan culture, the culture of a people of N Italy in the early Iron Age (c 1000–500 B.C.). The name Villanovan is a modern one derived from the name of the town Villanova, near Bologna, where the first excavations of a Villanovan cemetery were conducted (1853–55). The Villanovans are believed to have come into Italy from Central Europe, bringing with them a reasonably advanced Iron Age culture. They lived over a large part of Italy, including Etruria, Latium, and the region around Bologna. The Villanovans cremated their dead and buried the ashes in urns of a distinctive kind along with many other objects which give evidence as to their material civilization. The Villanovans were followed by the Etruscans (see ETRUSCAN CIVILIZATION). See David Randall-MacIver, *Villanovans and Early Etruscans* (1924), H. J. Rose, *Primitive Culture in Italy* (1926).

Villa Park, residential village (pop. 7,236), NE Ill., west suburb of Chicago, inc. 1914.

Villard, Henry (vĭlärd'), 1835–1900, American journalist and financier, b. Germany. His given name was originally Hilgard. He attended universities in Germany, and after he reached (1853) the United States he did newspaper reporting. He won distinction in 1858 reporting the Lincoln-Douglas debates, and in the Civil War was a correspondent for New York newspapers. In 1873 he acted as agent for holders of Western railroad securities and soon became active in railroad financing. He organized (1879) the Oregon Railway and Navigation Company and gained a solid foothold in the transportation of the Pacific Northwest area. He then obtained a controlling interest in the Northern Pacific RR and became (1881) its president, but went into bankruptcy (1883) by completing the building of this railroad through the mountains. With new capital he once more gained control of the Northern Pacific RR and in 1889 became chairman of the board of directors. He merged (1890) smaller companies to form the Edison General Electric Company (later the General Electric Company) and was its president until 1893. Henry Villard obtained (1881) control of the New York *Evening Post*, which later (1897) came under the management of his son, Oswald Garrison Villard. He generously contributed to the Univ. of Oregon. See his autobiography (1904); biography by J. B. Hedges (1930).

Villard, Oswald Garrison, 1872–1949, American editor and author, b. Wiesbaden, Germany, grad. Harvard (B.A., 1893, M.A., 1896). The son of Henry Villard and the grandson, on his mother's side, of William Lloyd Garrison, he was a lifelong liberal and a pacifist. He began his newspaper career in Philadelphia and in 1897 became an editorial writer on the New York *Evening Post*. He soon inherited the paper from his father and was its editor until he sold it in 1918. He retained its weekly edition, the *Nation*, and as its editor made it a leading liberal journal, he sold it in 1932, remaining as publisher and contributor until 1935, but finally severed all connections when the *Nation* became nonpacifist in 1940. His writings include *John Brown, 1800-1859 a Biography Fifty Years After* (1910), *Germany Embattled* (1915), *Newspapers and Newspaper Men* (1923), *Within Germany* (1940), and *The Disappearing Daily* (1944). See his autobiographical *Fighting Years* (1939).

Villari, Pasquale (päskwä'lā vēl'lärē), 1827–1917, Italian historian, politician, and teacher. He took part in the Revolution of 1848. His first work on Savonarola gained his appointment as teacher of modern history at Pisa, he also taught at Florence and was a member of various academies. His writings include works of history and biography, remarkable for keenness of observation rather than for style. He is especially known for two works, *The Life and Times of Savonarola* (1859–82; Eng. tr., 1863) and *The Life of Machiavelli* (1877–82, Eng. tr., 1891).

Villa Rica (vē'lù rē'ku, vĭ'lu rē"kù), town (pop. 1,522), NW Ga., W of Atlanta, in a cotton area, settled after the discovery (1826) of gold here, inc. 1830.

Villarrica (vē"yärē'kä), city (pop. c 40,000), SE Paraguay. It is a commercial center and shipping point in a region that produces cattle, fruits, tobacco, and mate.

Villars, Claude Louis Hector, duc de (klōd' lwē' ăktôr' dük' dù vēlär'), 1653–1734, marshal of France, the last of the great generals of Louis XIV. He fought in the Dutch War and in 1683 was sent on special mission to Vienna. His service in this post took him to Mohacs, where he fought against the Turks (1687). After serving as ambassador at Vienna (1698–1701), he was given a command in the War of the SPANISH SUCCESSION and made his reputation by his victories at Friedlingen (1702) and Höchstadt (1703). In 1704 he quelled the revolt of the CAMISARDS. Defeated by Marlborough and Eugene of Savoy at Malplaquet (1709), he successfully defended the French frontier during the succeeding years, in 1712 he defeated Eugene at Denain and in 1714 negotiated the Treaty of Rastatt. He was a member of the regency council (1715–23) and of the succeeding administrations and was in supreme command in the War of the Polish Succession at the time of his death. Villars left important memoirs.

Villa Umberto I see BORGHESE, VILLA

Villaviciosa (vē"lyävēthēō"sä), town (pop. 2,219), Oviedo prov., NW Spain, in Asturias, on the Bay of Biscay. It is a major fishing port. Emperor Charles V disembarked here (1517) when he first came to Spain. Near by is the 9th-century Church of San Salvador de Valdedíos.

Villefranche-sur-Saône (vēlfräsh'-sür-sōn'), town (pop. 19,391), Rhône dept., E central France. The old capital of BEAUJOLAIS, it has an important wine trade.

Villegas, José (hōsā' vēlyā'gäs), 1848–1921, Spanish genre painter. He worked in Rome from 1869 to 1901, when he became director of the Prado, Madrid. His paintings include *Examining Arms* (Metropolitan Mus.) and *A Caro Slipper Market* (Walters Art Gall., Baltimore).

Villehardouin (vēlärdwē'), French noble family which ruled the PELOPONNESUS from 1210 to 1278.

Geoffroi I de Villehardouin (zhôfrôā'dù), d. 1218, nephew of the historian and marshal of Champagne and Rumania, set out on the conquest of Morea (as the Peloponnesus was then called) in 1205, with his friend Guillaume de Champlitte. With some 100 knights the two men rapidly subdued the Greeks, who were rent by internal quarrels, and in 1205 Champlitte proclaimed himself prince of all Achaia. On the return of Champlitte to France, Villehardouin succeeded him (1210) as prince. The principality of Achaia, organized on the feudal model of the Latin Kingdom of Jerusalem, comprised virtually the whole Peloponnesus save several ports held by the Venetians, and it was a fief held under the Latin Empire. Its capital was Mistra, near Sparta. The principality prospered under the rule of Geoffroi I and of his son **Geoffroi II de Villehardouin,** d. 1246, who like his father was an excellent administrator. Geoffroi II's brother and successor, **Guillaume** or **William de Villehardouin** (gēyōm'), d. 1278, was a warlike prince and an able soldier. Captured (1259) by Emperor Michael VIII of Nicaea, who in 1261 was to recover Constantinople and to restore the Byzantine Empire, he refused to accept freedom in exchange for the cession of Achaia to Byzantium. In 1262 the "Ladies' Parliament," held by the wives and widows of the captive or slain nobles of Morea, met some of Michael's demands and ceded the Greeks a foothold in S Morea, including Mistra but not Sparta, which became the new Latin capital. Released, Guillaume broke his vow not to wage war against the Byzantine emperor. He sought the alliance of Charles I of Naples, to whom he married his elder daughter, Isabelle, and who received (1267) the nominal suzerainty over Achaia from the exiled Latin emperor, Baldwin II. With Guillaume's death in 1278 the male line of Villehardouin became extinct.

Villehardouin, Geoffroi de, c 1160–c 1212, French historian and soldier, b. probably Villehardouin, near Troyes, Champagne. Marshal of Champagne, he was a leader of the Fourth Crusade (see CRUSADES), which resulted in the conquest (1204) of Constantinople and the creation of the Latin Empire of Constantinople. Villehardouin, in his *De la conqueste de Constantinople* (first pub. 1585), described the events of the Crusade and the subsequent struggles of the Latin nobles against their Greek and Bulgarian neighbors, from 1198 to 1207, with vivid detail and with disarming frankness. Reliable as history, Villehardouin's account stands out as one of the early masterpieces of French prose. For his services in the Crusade he received the title of marshal of Rumania (i.e., at that period, the name given to Thrace) and received a rich fief in Thrace. His nephew, Geoffroi I de Villehardouin, founded the Villehardouin dynasty in Morea. Villehardouin's history has been translated into English and is widely available.

villein (vĭ'lun) [O.Fr.,=village dweller]. It is commonly agreed today that the medieval MANORIAL SYSTEM in its origins had two bases—the surrender of lands once held freely in alod to be received and held as a fief by the former owner, and the granting by owner of a large estate of customary rights of a partially free holding to the slaves on the estate. These processes varied with time and place, in many areas the engulfing of free holdings seems to have been the only method of creating a manor (see MARK and VILLAGE). The localism that was a fundamental characteristic of medieval economy makes the definition of terms exceedingly difficult, and usage of terms is today diverse. It is helpful for a theoretical—and, to a large extent, false—distinction to be made in the beginning by saying that the villein was the man who had descended from full freedom to half-free status and was personally free, though holding land that was not; the serf was the man who ascended from slave status to half-free status and was not personally free. This distinction seems to have been preserved to some extent on the Continent. In England it disappeared completely, and all of half-free status, the entire unfree peasant population, was called villein. The distinction thus came to be freeman, villein, and slave. The question of status of blood law in the determination between free-holder (who is, however, sometimes confusingly termed a free villein) and villein. The term **villeinage** thus connotes a half-free status, or serfdom. The villein was theoretically distinguished from the freeholder by certain services and duties owed to the lord, these included week-work and boon days—work done by the peasant on the demesne of the lord—and payment to the lord for marriage of the villein's daughter, payment of tallage at will, and the like. Actually all land tenures on the manor tended to reach a common level, and the distinctions in a society where all was regulated by custom are hard to make since the actual occurrence of arbitrary exercise of the lord's will was rare. The villein in England was protected by law as against all except his lord and even this was to some extent actually guaranteed by the king's courts. The legal fictions that have grown up about status have obscured the real picture of a confused, but working, economy. Villeinage began to disappear gradually in England in the 14th cent. It is customary to say that the increase of commutation of manual services into money payments was a significant movement in the decline of villeinage, rents replaced services. The Black Death by greatly reducing the population made the demands of villeins easier to enforce and hastened the decline. The growth of towns had some effect on the breakdown of the older class distinctions and the building of new. See SERF. For bibliography, see also FEUDALISM and MANORIAL SYSTEM.

Ville Lasalle, Que. see LASALLE

Villèle, Jean Baptiste Séraphin Joseph, comte de (zhäN' batēst' sārāfē' zhôzĕf' kōt' dù vēlĕl'), 1773–1854, French statesman and premier (1822–

28) After the Bourbon restoration he systematically set out, as an ultraroyalist leader, to nullify all the results of the French Revolution He faced the Carbonari conspiracies, intervened in Spain (1823), violated the constitution by prolonging the term of the chamber of deputies from four to seven years (1824), and procured enactment of an ingenious plan for indemnifying the émigrés out of the public savings Assailed in 1827 by both the liberals and the extreme reactionaries, who found his methods too slow, he dissolved the chamber He was defeated in the new elections, resigned, and was succeeded (Jan , 1828) by Martignac

Villemain, Abel François (abĕl' frāswä' vēlmē'), 1790–1870, French scholar and critic He was a professor at the Sorbonne from 1816, held several government posts after 1830, and was perpetual secretary of the French Academy from 1832 As minister of public instruction (1839–44) he was largely responsible for a reorganization of libraries in France and for promoting the passage of a law assuring academic freedom His reputation as a literary critic was established by his *Cours de littérature française* (1830), several times reedited and enlarged, which included his notable *Tableau de la littérature au moyen âge* and *Tableau de la littérature française au XVIIIe siècle*

Ville Marie (vēl' märē'), village (pop 1,001), SW Que , on Lake Timiskaming and N of North Bay It is a cattle and dairy market in a mining area

Villeneuve, Pierre de (pyĕr' du vēlnûv'), 1763–1806, French admiral He commanded the rear guard of the fleet in the disastrous battle of ABOUKIR (1798) His greatest defeat, the battle of TRAFALGAR (1805), was partly due to the unpreparedness of his fleet Taken prisoner by the English, he was soon released He committed suicide after his return to France

Ville Platte (vēl' plăt'), town (pop 3,721), parish seat of Evangeline parish, S central La , WNW of Baton Rouge, settled by the French in the early 19th cent It is the marketing and processing center for a rice, cotton, and lumber area, and oil fields are near by

Villeroi, François de Neufville, duc de (frāswa' dù nûvēl' duk' du vēlrwa'), 1644–1730, marshal of France and favorite of Louis XIV In the War of the Grand Alliance, he succeeded (1695) to the command in Flanders, where he was unsuccessful against William III of England In the War of the Spanish Succession, he replaced Catinat in Italy, was defeated by Prince Eugene of Savoy at Chiari (1701), and was taken prisoner at Cremona (1702) In 1706 he was defeated by Marlborough at Ramillies Villeroi held several high posts between 1717 and 1722, when he fell into disgrace for intriguing against the regent He died, in virtual exile, as governor of Lyons

Villeurbanne (vēlurban'), city (pop 80,193), Rhône dept , E central France It is an industrial suburb of Lyons and has metallurgical, rayon, and chemical plants

Villiers, Barbara see CLEVELAND, BARBARA VILLIERS, DUCHESS OF

Villiers, Charles Pelham (vĭl'yûrz), 1802–98, English statesman His association with the utilitarians, the followers of Jeremy Bentham, fitted him for service (1832) on a commission to investigate the administration of the poor laws, later (1859–66) as president of the poor-law board he effected important reforms In the beginning of his career in the House of Commons (1835–98), Villiers preceded both John Bright and Richard Cobden as a parliamentary advocate of repeal of the corn laws and was also active in organization for that end outside Parliament He was (1852–58) judge advocate general.

Villiers, George: see BUCKINGHAM, GEORGE VILLIERS, 1ST DUKE OF, and BUCKINGHAM, GEORGE VILLIERS, 2D DUKE OF

Villiers, George William Frederick. see CLARENDON, GEORGE WILLIAM FREDERICK VILLIERS, 4TH EARL OF

Villiers de l'Isle-Adam, Philippe Auguste Mathias, comte de (fēlēp' ōgüst' mätyas' kôt' dù vēyĕ' dù lēl'-ädă'), 1838–89, French novelist His works, in the romantic style, are often fantastic in plot and given to the enthusiastic and the horrible. Important among them are the drama *Axel* (revision, 1890), the novel *L'Ève future* (1886), and the short-story collection, *Contes cruels* (1883)

Villisca (vĭlĭs'ku), city (pop 2,011), SW Iowa, on the Nodaway river and SE of Red Oak, inc 1869

Villon, François (frāswa' vēyô'), b 1431, d after 1463, French poet Knowledge of the facts of his life is drawn mostly from his poems and from court records He was born at Paris as François de Montcorbier or François des Loges Having lost his father at an early age, he was brought up by his "more-than-father," Master Guillaume de Villon, chaplain of the Church of Saint-Benoît-le-Bétourné, near the Sorbonne, and he adopted his benefactor's name He graduated from the Sorbonne (B A , 1449, M A , 1452), however, requirements were lax at the period, and Villon tells us that he studied little He soon fell in with evil company and took part in the turbulent pranks of the students, who were in constant warfare with the police A starving young cleric without a benefice, Villon continued his irregular life after his graduation. In 1455 he fatally wounded a man in a fight He fled and was banished from France. Disobeying the ban, he roamed the provinces and associated with the *coquillards*, one of the criminal gangs that ravaged France at the close of the Hundred Years War For the *coquillards* Villon composed his ballads in thieves' jargon At the same time he remained in touch with his protectors, who obtained (1456) the revocation of his banishment Back in Paris, Villon continued his criminal activities, and a few months after his return he probably took part in a major robbery He thought it discreet to leave Paris again, remaining for about five years in the provinces He took part (c.1457) in a poetic contest held by the duke of Orléans at Blois, after having been amnestied from a prison sentence imposed on him for some other misdeed In 1461 he was once more in jail in the Orléanais, and he was saved only by a general amnesty accorded in the same year on the accession of Louis XI It was after his release that Villon composed his greatest work, the *Testament* He returned to Paris in 1462 and almost immediately found himself in jail on the charge of theft His protectors must have been powerful, for he was once more released, but in 1463 he was sentenced to be hanged for attempted murder, a charge of which he was innocent The prospect of the gallows inspired one of his most famous poems, "Ballade des pendus" [ballad of the hanged] or "Épitaphe Villon", at the same time he appealed the sentence, which was commuted to 10 years' banishment from Paris He probably died shortly afterward, but there are numerous apocryphal traditions of his further adventures Rabelais, for instance, has him take refuge in England The preservation of Villon's extant works was principally due to Clément Marot, who collected and edited them (1533) Villon used the medieval forms of versification, but his intensely personal message and its note of tragic urgency put him in the rank of the moderns Little regarded in the classic 17th and 18th cent , he has had a mounting vogue in the past 100 years Besides his ballads in jargon, Villon's extant work consists of his *Lais* (also known as the *Little Testament*), written in 1456, the *Testament* or *Grand Testament* (1461), and a number of detached poems, including the profoundly moving "Débat du cœur et du corps de Villon" [debate between Villon's heart and body] The *Lais* (a pun on the words *lais*, or lays, and *legs*, or legacy) is a series of burlesque bequests to his friends and enemies The *Testament* follows the same scheme (not uncommon in medieval literature), but is far superior in depth of emotion and in poetic value Irony, bitter repentance, constant preoccupation with death, religious emotion, patriotism, ribald humor, rebellion, pity, and mixed cries of distress and of truculence follow each other, sometimes with unexpected abruptness, sometimes in subtle gradations--all in a language borrowed from the legal profession and from theology, which creates a deliberate effect of incongruity The abjectness of Villon's life can be felt in his "Ballade de la grosse Margot," his bequest to a prostitute, his deep feeling for religion in "Ballade pour prier Nostre Dame," dedicated to his mother, and his pure lyricism in "Ballade des dames du temps jadis," with the famous refrain, "But where are the snows of yester-year?" These are poems interspersed in the text of the *Testament*, which itself contains many passages of moving beauty, such as his regret of his ill-spent youth (stanzas 22–33) Among Villon's English translators were Rossetti and Swinburne His complete works were translated and edited by J U Nicolson (1928, rev ed , 1931) There are several other translations A standard French edition is that of Auguste Longnon (1892, several revisions), which also contains a biographical notice Scholars such as Pierre Champion, Marcel Schwob, Gaston Paris, Lucien Foulet, and Louis Thuasne have greatly contributed to the research which has made it possible to appreciate the wealth of allusions in Villon's work See biography by D B Wyndham Lewis (1928)

Vilna (vĭl'nu), Lithuanian *Vilnius* (vĭl'nĕôs), Pol *Wilno* (vēl'nô), city (1931 pop 196,345), capital of Lithuania, on the Vilya river (Lithuanian *Neris*), a tributary of the Niemen It is a commercial, industrial, and cultural center Its industries, aside from the manufacture of radios and electric motors, are largely geared to the agricultural economy of the country, they produce agricultural implements and fertilizers and process lumber and foods The Univ of Vilna was founded (1578) by Stephen Bathory, king of Poland Dating from the 10th cent , Vilna became (1323) the capital of the grand dukes of Lithuania and (1416) the metropolis of the Lithuanian Orthodox Eastern Church As a result of the merger (1569) of Lithuania and Poland, Vilna lost its importance, and its Lithuanian-Belorussian culture was replaced by Polish institutions By the third Polish partition (1795) it passed to Russia Held (1915–18) by the Germans in the First World War and by Russian, Lithuanian, and Polish troops in the troubled years 1918–20, it remained in dispute between Poland and newly independent Lithuania, which claimed it as its capital. The Allies at the Paris Peace Conference assigned Vilna to the Lithuanians, to whom the Soviets handed it (1920) after capturing it from the Poles However, a Polish free corps captured the city in the same year, and after a plebiscite of doubtful validity it was incorporated (1922) into Poland A theoretical state of war between Poland and Lithuania continued until 1927, and diplomatic relations were resumed only in 1938, when Lithuania abandoned its claim In the Polish partition of 1939 the USSR, having occupied Vilna, transferred it to Lithuania, which in 1940 was incorporated into the USSR During the dispute Kaunas had served as provisional Lithuanian capital In the Second World War, Vilna was held (1941–44) by the Germans and suffered severe damage Vilna was a leading center of Jewish culture in Eastern Europe from the 16th cent until the virtual extermination of its large Jewish population by the Germans in 1941–44 The numerous old churches and synagogues of Vilna include the Roman Catholic cathedral (1387, restored 1801) and the Gothic Church of St Ann and St Bernard Above the Ausros Vartai (Pol *Ostra Brama*), an old city gate, is a shrine containing an image of the Virgin, long the object of pilgrimage There remain ruins of the 17th-century castle of the Jagiello dynasty

Vilyui (vĭlyōō'ē), river, 1,770 mi long, W Yakut ASSR, RSFSR It rises in the central Siberian uplands and flows east through an agricultural area into the Lena It is navigable for 500 mi and abounds in fish Platinum and gold are found along the banks The Vilyui Range, which rises to 3,300 ft , separates the Vilyui and Olenek river basins Vilyuisk, a fur-trading center on the Vilyui river, was the place of exile (1871–83) of Chernyshevsky

Vimeiro (vēmā'rō), village (pop 518), Estremadura, central Portugal, NNW of Lisbon It was the scene of a battle (1808) of the Peninsula War, in which Wellington defeated the French under Junot

Viminal Hill see *Rome before Augustus* under ROME

Vimy (vē'mē, Fr vēmē'), town (pop 2,623), Pas-de-Calais dept , N France, NNE of Arras, in a coal-mining region The near-by Vimy Ridge, 476 ft high, was a strong German position in the First World War The French attacked it unsuccessfully in 1915, but it was taken after very bitter fighting by Canadian troops under Sir Julian Byng with British troops in April, 1917 A memorial to the Canadians who fell in the First World War was unveiled here in 1936

Viña del Mar (vē'nyä dĕl mär') [Span ,=vineyard by the sea], port (pop 65,916), central Chile Practically a suburb of VALPARAISO, Viña del Mar is one of the most famous, attractive, and popular resort cities in South America There are luxurious hotels, villas, clubs, and gardens and fine beaches Besides being the resort capital of Chile, it has several industries—cloth and yarn mills, dyeing and printing plants, an oil refinery, and a large sugar refinery

Vinalhaven (vī"nălhā' vŭn), town (pop 1,629), on Vinalhaven Island, S Maine, in Penobscot Bay, settled 1765, inc 1789 It is a resort and fishing center Granite quarries are on the large irregular Vinalhaven Island

Vincennes, Jean Baptiste Bissot, sieur de (vĭnsĕnz', zhä' batēst' bēsō' sy ür' dù vēsĕn'), 1668–1719, Canadian explorer and leader of the Miami Indians, b Quebec He was sent to the Miami country by Frontenac (1704), he established there a fort and trading post and quickly won the esteem and confidence of the Indians In 1712 he helped to defeat the hostile Fox Indians He died in a Miami village near the site of Fort Wayne His son, **François Marie Bissot, sieur de Vincennes** (frā'swä' märē'), 1700–1738, b Montreal, was called François Margane after his godfather and uncle He served as a cadet under his father from 1718 and, like him, won the high respect of the Miami After 1730 he established a fort on the Wabash (where the French and later the Spanish had previously had a post), and the settlement which developed there took his name

Vincennes (vĭnsĕnz', Fr vēsĕn'), town (pop 48,851), Seine dept , N France, a western suburb of Paris Its huge castle and dungeon were built in the 14th cent Louis IX liked to administer justice to his subjects sitting under an oak tree in the beautiful Forest of Vincennes, as Joinville charmingly relates Several kings of France and Cardinal Mazarin died in the castle The dungeon, made a state prison in the 17th cent , had the Great Condé, Cardinal de Retz, Fouquet, Diderot, and Mirabeau among its illustrious inmates The duc d'Enghien was shot (1804) in a trench by the castle

Vincennes (vĭnsĕnz'), city (pop 18,228), co. seat of Knox co , SW Ind , on the Wabash (here the Ill line) and S of Terre Haute The old city is proud of its long past Though one traditional date for its founding is 1702, almost certainly French fur traders had come long before that time It was fortified by the younger sieur de Vincennes sometime after 1730 (perhaps 1736) and was an important French settlement It was occupied by the British in 1763, and in the American Revolution it was one of the

main objects of the expedition of George Rogers CLARK. Aided by Francis Vigo, François Bosseron, and Father Gibault, he triumphantly took the British Fort Sackville from its commander, Henry Hamilton, in Feb, 1779 Vincennes was capital (1800–1813) of Indiana Territory until succeeded by Corydon, William Henry Harrison was then the leading citizen. A treaty with the Indians was signed here in 1805 (see LITTLE TURTLE) The old French settlement changed as German immigrants, Yankees, and others made it into an American river port Today it is a farm center and has minor manufactures—fiber products, glass, flour, and shoes The past is recalled by remaining old buildings and a magnificent memorial (dedicated 1936) to George Rogers Clark There is a junior college See documents in Milo M Quaife, ed, *The Capture of Old Vincennes* (1927)

Vincent, George Edgar, 1864–1941, American educator, organizer, and sociologist, b Rockford, Ill, grad Yale, 1885, Ph D Univ of Chicago, 1896, son of Bishop John Heyl Vincent He was associated with his father in the Chautauqua movement and was president (1907–15) of the Chautauqua Institution Always a popular lecturer, he became noted for his wit and clear thinking Vincent taught sociology at the Univ of Chicago from 1894 to 1911 and was dean of the faculty of arts, literature, and science from 1907 In 1911 he became president of the Univ of Minnesota From 1917 until his retirement in 1929 he headed the Rockefeller Foundation, which under him expanded its activities, especially in medical aid and research After the First World War, in which he served as one of the leading directors of war relief, he traveled around the world to discover the most effective way to use the Foundation's funds As a sociologist he wrote *An Introduction to the Study of Society* (with A W Small, 1894) and *Social Mind and Education* (1897)

Vincent, John Heyl, 1832–1920, American Methodist bishop, b Tuscaloosa, Ala In 1857 he was assigned to an Illinois conference, in which state he held various pastorates His work in improving teaching methods in Sunday schools had widespread results Vincent founded (1866) the periodical the *Sunday School Teacher,* from 1868 to 1888 he was editor of Methodist Sunday-school publications and corresponding secretary of the Sunday School Union With Lewis Miller he organized (1874) at Chautauqua, N Y, a Sunday-school teachers' institute, which included secular as well as religious instruction, out of which grew the CHAUTAUQUA MOVEMENT He was active in planning and directing (1878–88) Chautauqua programs In 1888 Vincent was made bishop From 1900 until his retirement in 1904 he was head of the work of his denomination in Europe, making his residence in Zurich His books include *The Chautauqua Movement* (1866) and *The Modern Sunday School* (1900) George E Vincent was his son

Vincent, town (pop 1,108), central Ala, ESE of Birmingham near the Coosa, in a farming, lumbering, and mining area

Vincent de Paul, Saint, 1576–1660, French priest renowned for charitable work, b Gascony He was ordained in 1600 He was captured by pirates and enslaved in Tunis There he converted his last master and with him got away to Italy He was welcomed at Rome and sent to France on an ecclesiastical mission As tutor of the children of the commandant of the galleys St Vincent worked to better the physical and spiritual life of the galley slaves, and in 1619 he was made their chaplain He inspired many of the court to an interest in the poor of Paris and was the founder of organized charity in France The foundling hospital was his idea In 1629 he founded an order of secular priests to work in rural areas, this is the Congregation of the Mission, called Lazarists or Vincentians For city work he founded the SISTERS OF CHARITY St Francis of Sales made him director of the Order of the Visitation St Vincent's influence, through his spirit and through his institutions, is incalculable He was canonized in 1737 Feast July 19 See Pierre Coste, *The Life and Works of St Vincent de Paul* (1934–35), Joseph Leonard, ed, *Letters of St Vincent de Paul* (1938), biography by Theodore Maynard (1939)

Vincent Ferrer, Saint (fĕr'ûr), 1350?–1419, Spanish Dominican preacher, b Valencia He studied at Barcelona, taught at Lérida, and later studied at Toulouse After 1379 he became a friend and protégé of Pedro de Luna, later antipope Benedict XIII St Vincent became widely known as a preacher even in his youth He considered himself called to summon sinners to repent and prepare for the Judgment. He was tremendously successful, and many thousands were converted by him St. Vincent traveled over Europe, visiting France, N Italy, Flanders, and the Spanish Jews and Moslems, in whom he was especially interested He preached his last two years in Brittany and died in Vannes St Vincent's life was severely ascetic, and his followers imitated his austerities Many miracles were ascribed to him. St Vincent's surname is also spelled Ferrier. Feast April 5. See Henri Ghéon, *Saint Vincent Ferrier* (1939).

Vincent of Beauvais (bōvā'), c.1190–c.1264, French Dominican friar He was the author of three of the four parts of a Latin *Mirror* or encyclopedia, the *Speculum maius,* of great value as a summary of the knowledge of his time. The part entitled "Morals" is of unknown authorship, but is not by him The three parts written by him are entitled "Nature," "Instruction," and "History" In "Nature," the order followed is that of the six days of creation described in Genesis "Instruction" ranges from the liberal arts to the mechanic arts The "History" epitomizes the story of man since Adam as it was understood by 13th-century scholars

Vinces (vēn'sās), city (1944 estimated pop 21,860), W Ecuador A tropical city, Vinces is the commercial center of the cacao plantations lying along the upper Guayas river and its tributaries Cacao beans are shipped downstream to GUAYAQUIL

Vinci, Leonardo da: see LEONARDO DA VINCI

Vindhya Hills (vĭnd'yu), range, W central India, N of the Narbada river, rising to 5,000 ft

Vindobona see VIENNA, Austria

vine, any CLIMBING PLANT or trailing plant; the GRAPE is often called "the vine"

vinegar, sour liquid consisting mainly of acetic acid and water, produced by the action of bacteria on dilute solutions of ethyl alcohol derived from previous yeast FERMENTATION The coloring and flavoring are characteristic of the alcoholic liquor (as cider, beer, wine, fermented fruit juices, solutions of barley malt, hydrolyzed cereals, starches, or sugars) from which the vinegar is made Vinegar is used as a condiment, a preservative, a household remedy to allay irritations, a mild disinfectant, and, in cooking, to soften tough fibers Vinegar has been known from antiquity as a natural by-product of wine The name is derived from the French *vin aigre* [sour wine] The manufacture as a separate industry began in France in the 17th cent The wasteful slow (or natural) process, a spontaneous fermentation in casks half full of beechwood shavings exposed to the atmosphere by bung holes, was superseded in the early 19th cent by the quick (or generator) method The generator used in present-day commercial manufacture is usually a tall, truncated cone or vertical wood tank with a false bottom perforated to admit air The alcoholic solution is allowed to drip through a filling of hardwood shavings or other material presenting a large surface area Vinegar made by this method must be aged to remove a natural harshness It is generally clarified, then pasteurized Acetic fermentation may be impeded by an excessive growth or mother of vinegar, a slimy mass of bacteria, or of the parasitic vinegar eel, a minute, threadlike worm Wine vinegar is preferred in most of Europe and in California, malt, in England, and cider, in most of the United States

Vineland, borough (pop 7,914), S N J, N of Millville, in a poultry-raising and fruitgrowing region, founded 1861 by Charles K Landis, inc 1880 It is the seat of a large training school for subnormal children known for its valuable research work A soldiers' home and a state home for feeble-minded women are also here The borough has cooperative markets William Lescaze designed the modern offices of large glassworks here

Viner, Jacob (vī'nûr), 1892–, American economist, b Montreal, Que, grad McGill Univ, 1914, Ph D Harvard, 1922 He came to the United States in 1914 and was naturalized in 1924 An authority on international trade, he was long on the faculty of the Univ of Chicago He was consultant to the Treasury Dept from 1935 to 1939 In 1946 he became professor of economics at Princeton Univ Among Viner's writings are *Dumping* (1923), *Studies in the Theory of International Trade* (1937), and *The Customs Union Issue* (1950)

Vinet, Alexandre Rodolphe (dlĕksä'drù rôdôlf' vēnā'), 1797–1847, Swiss Protestant theologian and historian of literature In 1817 he became professor of French language and literature at Basel, and in 1819 he was ordained to the Reformed ministry His reputation as a leader of thought among French Protestants was soon established, and at the same time he won distinction by the fine quality of his critical literary studies He was made (1837) professor of theology at the Academy of Lausanne Liberty of conscience and separation of Church and state were advocated in his *Mémoire en faveur de la liberté des cultes* (1826) and other works In 1845 Protestant liberties were curbed in the canton of Vaud, Vinet soon resigned his professorship and joined the secession in the Free Church of Vaud His works include *Chrestomathie française* (3 vols, 1829–30) and a number published posthumously from notes of his courses—*Études sur Blaise Pascal* (1848), *Études sur la littérature française au XIXème siècle* (3 vols, 1849–51), *Histoire de la littérature française au dix-huitième siècle* (1853), *Moralistes de XVIème et XVIIème siècles* (1859), and *Poètes du siècle de Louis XIV* (1861)

vineyard (vĭn'yûrd), area of ground upon which the cultivation of the GRAPE—known as viticulture—takes place Biblical references to vineyards and allusions made to them by Vergil and Homer indicate their existence in remote antiquity As many as 40 varieties of the genus *Vitis* are known All but the few that grow wild and are generally not used require great care in order to make them produce good fruit The primary purpose of the vineyard in the past has been the production of wine, and on the whole it still is Yet in thousands of vineyards—largely those of the New World—the grapevines are cultivated to provide fresh grapes for eating, grape juice for drinking, and dried grapes or raisins Vine culture is an exacting endeavor with success dependent upon such factors as sunny exposure, congenial soil, suitable vines, moisture, wind, and disease-control methods. A vineyard is begun by transplanting vines from an active vineyard into new soil, these are in turn propagated by cuttings of the past season's growth of wood with two or three buds Traditionally introduced to Europe by the Phoecaans c 600 B C, the cultivation of the vine was widespread in the Mediterranean regions in ancient times Emperor Domitian decreed (A D 81) restrictions in use of Italy's land for vineyards, for fear of grain scarcity Later the Romans carried the vine to England, where its cultivation was attempted sporadically in the south and southwest until the 19th cent., with scant success On the Continent the results were the opposite Large areas of France, Italy, the Rhineland, Spain, and Portugal proved to be most hospitable and the elements most accommodating Greece, North Africa, the Canary Islands, and the Azores were some of the other regions in which *Vitis vinifera* was well received Attempts to transplant it to the New World began early in the 17th cent They continued, but even Tuscan vinegrowers in Virginia (working for Thomas Jefferson) and German immigrants from the Rhineland to Pennsylvania failed *Vitis vinifera* could not be grown E of the Rockies and N of the Gulf states The reason for the failure was not known until the late 19th cent., when it was discovered that the cause was the insect phylloxera Grape growing was first successful in the United States when John Adlum introduced the Catawba grape in 1830 and E W Bull introduced the Concord grape in 1849 These native species were resistant to phylloxera Calamitously, however, the pest was taken to Europe on an American vine Havoc there was prompt and widespread Many of the vineyards were completely ruined, others were seriously damaged France, seeing the possible extinction of the huge wine industry, evolved a technique of using American vines as stock upon which to graft *V vinifera,* the vineyards were thus saved The European vine now grows in the majority of U S vineyards, but that majority is entirely on the Pacific coast Two thirds of the grape vines grown in the United States are in California New York is second among the states The vineyards of the San Francisco Bay area provide the bulk of grapes needed for the growing American wine industry The scourge of grapevines, the phylloxera, is not native on the Pacific coast, nor is its twin as a vine destroyer, mildew, at home there Elsewhere the French innovation of grafting *V vinifera* and native American stocks is used to avoid phylloxera, and mildew is combated by fungicides A few of the other pests and afflictions that beset vineyards in the E United States are the grape-berry moth, which destroys fruit by causing it to color prematurely, the grapevine beetle, which eats the new buds in spring, climbing cutworms, which hide in the ground during the day and feed on the buds at night, and black rot, which shrivels the fruit The *V vinifera* of the Pacific slope is harassed by an even greater variety of pests and diseases, including black measles, little-leaf, nematode, red spiders, rabbits, and gophers Prophylaxis of the healthy vines and treatment of the afflicted ones are but one aspect of the intensive and continuous efforts that go into viticulture From the early stages of tending a vineyard, when appropriate vines have to be selected and congenial soil chosen for them, through the operations of cutting, layering, and grafting, planting and fertilizing, up to the gathering of crops, the skill and the knowledge of the vineyardist must match his industry The blue, black, white, or red cluster, if made up of pale, bitter, or shriveled grapes will quickly disclose his failings, or if rotund, sweet, and juicy will testify to his ability

Vineyard Haven (vĭn'yurd), resort village in Tisbury town (pop 1,966, settled 1660, inc. 1671), on N Martha's Vineyard, SE Mass It has a harbor on Vineyard Sound and was formerly a whaling, fishing, and saltmaking center. The British raided it in 1778

Vinita (vĭnē'tu), city (pop 5,685), co seat of Craig co, NE Okla, NE of Tulsa, founded c 1870. It is an agricultural and livestock center and the seat of a state mental hospital Grand River Dam is southeast.

Vinland or **Wineland,** section of North America discovered by LEIF ERICSSON in the 11th cent A D The sources for the knowledge of Leif Ericsson's exploration differ as to whether it was planned or accidental, but it is definitely known that he found a land containing grapes and self-sown wheat which he called Vinland Later expedi-

tions, particularly that of THORFINN KARLSEFNI, attempted to rediscover that land There has been much speculation as to the identification of Vinland Places from Newfoundland to Virginia have been suggested, but from the examination of the evidence which is available or may be deduced pertaining to directions, distances, topography, climate, and flora and fauna, the southern coast of New England has been generally accepted Efforts such as those by Eben N Horsford, who in the late 19th cent definitely located Vinland on the banks of the Charles river at Gerry's Landing, Cambridge, Mass , have usually met with little agreement Inscriptions and relics have been sought to throw light on the subject The discovery of the KENSINGTON RUNE STONE has been connected by Hjalmar R Holand with the expedition of PAUL KNUTSON to America Holand has further claimed that the Newport Tower (or Old Stone Mill), in Touro Park, Newport, R I , was the headquarters of Paul Knutson's expedition, but some scholars maintain that the tower was built in colonial times See E N Horsford, *The Landfall of Leif Erikson* (1892), William Hovgaard, *The Voyage of the Norsemen to America* (1914); Halldor Hermannsson, *The Problem of Wineland* (1936), H R Holand, *Westward from Vinland* (1940) and *America, 1355–1364* (1946), E I Haugen, *Voyages to Vinland* (1941)

Vinnitsa (vĭ'nĭtsə, Rus vē'nyĭtsŭ), city (pop 92,868), capital of Vinnitsa oblast, W Ukraine, in Podolia, on the Southern Bug river It is the center of an agricultural region The population was 40 percent Jewish until the Second World War, when Vinnitsa was held (1941–43) by the Germans

Vinogradoff, Sir Paul (vĭnŭgrä'dŭf), 1854–1925, English historian, b Russia He became professor of history at the Univ of Moscow (1887), but resigned his position in protest against the repressive measures of the tsarist government in 1901 and went to England the following year From 1903 to his death he was professor of jurisprudence at Oxford. He became an English citizen in 1918 as a result of his disillusionment at the direction of the Bolshevik revolution in Russia His work in the field of medieval institutions and the history of law was marked by his special interest in the historic importance of the village community His principal works are *Villainage in England* (1892), *The Growth of the Manor* (1904), *English Society in the Eleventh Century* (1908), and *Outlines of Historical Jurisprudence* (2 vols , 1920–23)

Vinson, Frederick Moore, 1890–, Chief Justice of the U S Supreme Court (1946–), b Louisa, Ky , grad Kentucky Normal College, 1908, and Centre College (B A , 1909, LL B , 1911) As Congressman (1923–29, 1931–38), Vinson was mainly notable as a fiscal expert He resigned from Congress to become associate justice of the U S Court of Appeals for the District of Columbia and later chief justice of the U S Emergency Court of Appeals He succeeded James F BYRNES as director of the Office of Economic Stabilization (1943–45) and served briefly as Federal loan administrator (March, 1945) and as director of the Office of War Mobilisation (April–July, 1945) before becoming Secretary of the Treasury (1945–46) Chief Justice Harlan F Stone's death led to his appointment as Chief Justice

Vintimille, Italy see VENTIMIGLIA

Vinton. **1** City (pop 4,103), co seat of Benton co , E central Iowa, on the Cedar river between Cedar Rapids and Waterloo, settled 1839, inc 1869 It is a trade and processing center in an agricultural area. The state school for the blind is here **2** Oil town (pop 1,787), SW La , near the Sabine river, settled c.1880 **3** Town (pop 3,455), SW Va , near Roanoke; settled 1797, inc 1884

Vintondale, borough (pop. 1,516), Cambria co , SW Pa

viol (vī'ŭl), family of stringed musical instruments played with a bow, developed in the 15th cent from the vielle There were by the 16th cent two types, one, the viola da bracco [arm viol], was the predecessor of the VIOLIN family, and the other, the VIOLA DA GAMBA [knee viol], became the prototype of the viol family One arm viol, the VIOLA D'AMORE, survives today The double bass, often called bass viol, resembles the viols in some respects but actually belongs to the violin family The difference between these two families lies in their shape (the viol having a flat back, deep ribs, and a broad neck that is usually fretted) and in the number of strings (the viol having from five to eight strings) The sounds also differ, the viol having a soft and less brilliant tone as compared to the full, resonant, and more variable tone of the violin, which may account for the violin's having superseded the viol A complete set of viols for domestic use was called a chest of viols, for they were usually kept in a large, fitted chest See Curt Sachs, *The History of Musical Instruments* (1940), Karl Geringer, *Musical Instruments* (1943)

viola. see VIOLET.

viola (vēō'lə), musical instrument of the violin family, having the appearance of a large violin Three of its four strings are tuned the same as the three lower strings of the violin, and the fourth is tuned a fifth below. It directly preceded the violino piccolo, which became the present violin. Its tone is deeper and less bright than the violin. It is used in the orchestra and in the string quartet; recently its use as a solo instrument has increased in spite of its comparatively small solo literature.

viola da gamba (vēō'lä dä gäm'bä), musical instrument of the VIOL family, having usually six strings and played held between the knees It was developed in the 16th cent and was popular till the end of the 18th cent It was similar in range to the VIOLONCELLO, which is slightly larger

viola d'amore (vēō'lä dämō'rā), musical instrument of the VIOL family which originated in the 17th cent and was popular in the 18th cent It is often irregular in shape and has from five to seven strings, tuned by thirds and fourths, thus making a variety of chords possible, and an equal number of sympathetic strings running through the bridge and under the finger board It has a sizable repertoire, and its use has been revived in the 20th cent , notably by Paul Hindemith

violet, any plant of the genus *Viola*, commonly low perennial herbs Violets are popular whether as florists', garden, or wild flowers Florists' violets are chiefly obtained from the sweet or English violet (*Viola odorata*), native to the Old World Garden violets are generally hybrids—often called violas—and are purple, blue, rose, yellow, white, or combinations of these, some have double flowers An Old World violet, *V tricolor*, one of several called heartsease and Johnny-jump-up, has blossoms of purple, yellow, and white, from it the common pansy was derived Many violets produce two kinds of flowers—typical flowers and capsulelike cleistogamous flowers The cleistogamous flowers never open but produce seed after self-fertilization The violet has long been regarded as a symbol of modesty It became the flower of Athens, followers of Napoleon, who promised to return from Elba with the violets in the spring, used the blossom as a badge, in the United States a violet is the floral emblem of four states (Illinois, New Jersey, Rhode Island, and Wisconsin). Various species, particularly the sweet violet, have been used for perfume, dye, and medicine and have been candied Some plants not belonging to the genus *Viola* share the name of violet, e g , the African violet See Nelson Coon, *Practical Violet Culture* (1925), F E Dillstone, *Violet Culture* (2d ed , 1943), F V B Baird, *Wild Violets of North America* (1942)

violin, stringed musical instrument having a wooden body whose back and front are slightly convex, the front pierced by two f-shaped slits The four strings, tuned in fifths, run from the tailpiece at the base of the body over a bridge in the lower center, along the finger board, and into the pegbox It is played by drawing a rosined horsehair bow, held in the right hand, across the strings, the neck of the instrument is held in the left hand, and the body is supported by the shoulder and held firm by the chin The pitch of each string may be raised by stopping, i e , the vibrating length is shortened by the fingers of the left hand The evolution of the violin was completed in the 16th cent It was based on the 13th-century vielle and embodied characteristics of the rebec and the VIOL The earliest known makers of this new type of instrument worked in Lombardy in the middle of the 16th cent They were followed by Andrea AMATI, founder of the Cremona school of violinmaking made famous by the GUARNERI and by Antonio STRADIVARI, in whose work the peak of violinmaking seems to have been reached barely a century after the emergence of the instrument itself. The instruments of the violin family (violin, VIOLA, VIOLONCELLO, DOUBLE BASS) have outlasted other bowed instruments because of their versatility and balance of tone and their wide dynamic range A variety of sounds may be produced, e g , by different types of bowing or by plucking the string (see PIZZICATO). The violin plays a very important part as a member of the orchestra, in chamber music, and as a solo instrument The first well-known treatise on the technique of violin playing was written by Leopold Mozart (1756, Eng tr , 1948)

Viollet-le-Duc, Eugène Emmanuel (üzhĕn' ämänüĕl' vyôlā'-lü-dük'), 1814–79, French architect and writer He was the most prominent exponent of the Gothic revival in his country and was internationally celebrated for his restoration work upon historic French buildings He studied architecture in Paris, traveled in Italy, and painstakingly studied medieval monuments throughout France After restoring various churches and town halls in small towns of S France, he was employed, with J. B Lassus, to restore the Sainte-Chapelle in Paris With Lassus he later did important work (1845–55) upon Notre Dame de Paris, including the design of the pulpit and a replacement for the original central spire His other important restorations include the cathedrals of Amiens and of Laon, the château of Pierrefonds, and the town walls of Carcassonne. Viollet-le-Duc held many important official positions in artistic and civic fields and wrote a number of books of permanent archaeological value, in which he emphasized the structurally organic quality of Gothic edifices. They include *Dictionnaire raisonné de l'architecture française du XI au XVI siècle* (10 vols., 1854–69) and *Dictionnaire du mobilier français jusqu'à la Renaissance* (1855), both of these great standard works containing illustrations by Viollet-le-Duc; *Monographie de Notre-Dame de Paris* (1856), with the baron de Guilhermy; and *Essai sur l'architecture militaire au moyen âge* (1854).

violoncello (vē"ŭlünchĕ'lō, vē"ŭlŏn–), musical instrument of the violin family, about twice as large as the violin and having four strings, tuned an octave lower than those of the viola Its development coincides with that of the violin, but its manner of playing was fashioned after that of the VIOLA DA GAMBA. It was used only for accompaniment until certain technical advances, in the 18th cent., made it useful not only in orchestral and chamber music but also as a solo instrument It is commonly called cello.

Vionville (vyôvēl'), village (pop 224), Moselle dept , NE France, in Lorraine, W of Metz In the Franco-Prussian War the French were severely defeated (1870) between Vionville and Mars-la-Tour.

Viotti, Giovanni Battista (jôvän'nē bät-tēs'tä vyôt'-tē), 1753–1824, Italian violinist, considered the greatest of his day He ceased public appearances in 1783 and the next year became court musician to Marie Antoinette After the Revolution he went to London, where he resumed his concerts He returned to Paris and directed the opera, 1819–22 He died in poverty Of his 29 violin concertos, No 22 in A Minor is well known to students.

viper, any of a number of poisonous snakes including the true vipers of Europe, Asia, and Africa and the pit vipers of America and Asia The ADDER is one of the true vipers Among the pit vipers, which have a deep pit on each side of the head, are the RATTLESNAKE, the COPPERHEAD, the WATER MOCCASIN, the BUSHMASTER, and the temple viper All have large erectile fangs which may be folded back against the palate Most vipers bring forth their young alive

Virchow, Rudolf (rōō'dôlf fĭr'khō), 1821–1902, German pathologist, a founder of cellular pathology. He became professor at the Univ of Würzburg (1849) and professor and director of the Pathological Institute, Berlin (1856) He contributed to nearly every branch of medical science as well as to anthropology and introduced sanitary reforms in Berlin He was a member of the Prussian lower house and later of the Reichstag (1880–93) and was a leader of the liberal Progressive party opposed to Bismarck He founded (1847) the *Archiv für pathologische Anatomie und Physiologie und für klinische Medizin* and wrote numerous works, including *Die Cellularpathologie* (1858, Eng tr , 1860)

Virden (vûr'dun), town (pop 1,597), SW Man , near the Assiniboine and W of Brandon, in a wheat and dairy-farming region

Virden, city (pop 3,041), central Ill , SSW of Springfield, in a coal and farm area, inc 1857 It manufactures concrete blocks and tiles

vireo (vĭ'rēō), small, migratory bird of the New World About 12 of the 75 species nest in the United States, the others are tropical Most vireos are greenish above with white or yellow under parts. They are chiefly insectivorous Among the best singers are the red-eyed, the blue-headed, the warbling, the white-eyed, the Philadelphia, and the yellow-throated vireos

Virgil see VERGIL.

virginal, musical instrument see SPINET

Virgin Gorda see VIRGIN ISLANDS, BRITISH

Virginia, in Roman legend, daughter of the centurion Virginius Her father stabbed her to save her from the lust of Appius CLAUDIUS Crassus, a decemvir This precipitated the fall of the decemvirs The story occurs often in literature

Virginia, state (39,899 sq mi , 1940 pop 2,677,773, 1949 estimated pop 3,102,000), E United States, most northerly of the Southern states, the first of the THIRTEEN COLONIES RICHMOND is the capital, and NORFOLK the next largest city Officially styled a COMMONWEALTH, Virginia, roughly triangular in shape, is bounded on the north by Maryland, on the east by the Atlantic Ocean, on the south by North Carolina and Tennessee, and on the west by KENTUCKY and WEST VIRGINIA The coastal plain or TIDEWATER region of E Virginia, generally flat and partly swampy (see DISMAL SWAMP), is cut by four great tidal rivers—the POTOMAC, forming most of the line with Maryland, the RAPPAHANNOCK, the YORK, and the JAMES—which empty into CHESAPEAKE BAY. Across the Chesapeake, at the southern end of the peninsula, is the Eastern Shore, somewhat isolated from the rest of the state At its western end the tidewater rises to c 300 ft. at the fall line and gives way to the piedmont, rolling, generally fertile country which broadens gradually as it extends S to the North Carolina boundary. Rising rather abruptly in the west piedmont is the BLUE RIDGE, with the highest peak in the state, Mt. Rogers (5,720 ft.). Between the Blue Ridge and the Appalachian plateau farther west lies the valley and ridge province, commonly called the Valley of Virginia. Chief of the valleys is the rich, beautiful, and historic valley of the SHENANDOAH. Narrow gaps join the different valleys. The over-

all climate is mild, and rainfall is well distributed. Virginia's economy is among the most diversified in the South, but agriculture is still dominant The leading crops are corn, tobacco, hay, peanuts, wheat, Irish potatoes, apples (especially in the Shenandoah Valley), sweet potatoes, oats and other grains, soybeans, cotton, peaches, and truck Livestock raising is carried on most extensively in the Valley of Virginia and in the northern piedmont E of the Blue Ridge, and dairy and poultry farms are also important The coastal fisheries are large, and Virginia shellfish—oysters, clams, scallops, crabs, and shrimps—are especially valuable Woodlands of the tidewater and the heavily forested mountains yield paper and pulp products, which rank after tobacco products, food products, transportation equipment, and textiles in industrial importance A high proportion of the nation's shipyards are concentrated on the shores of HAMPTON ROADS. Coal, the leading mineral resource, is mined extensively in five counties of the southwest The state's shores and mountains, mineral springs, natural wonders, and historic sites attract thousands of visitors yearly Virginia, from Virgin Queen, for the unmarried English monarch Elizabeth, first referred to that vast area of North America not held by the Spanish or French The colony on ROANOKE ISLAND failed, but the British soon tried again, slightly farther north The venture, sponsored by the LONDON COMPANY (later more often called the Virginia Company) was commercial The company's expedition of three ships and 144 men under the command of Capt Christopher NEWPORT entered Chesapeake Bay in April, 1607, and landed on Cape Henry, named for a royal prince, as was Cape Charles The new colony's local councilors, subject to a royal council at home, were the three ship captains—Newport, Bartholomew GOSNOLD, and John Ratcliffe—Edward Maria Wingfield (who was later elected president), John SMITH, George Kendall, and John Martin They selected a peninsula up the James river and there established (May 13, 1607) the first permanent English settlement in America, which they called Jamestown They experienced great hardships Sickness and death cut their numbers to 38 before the end of 1607 Only the firmness, courage, and ingenuity of John Smith, president of the council from Sept , 1608 to July, 1609, and the arrival of supplies (with additional settlers) in Jan and Oct , 1608, kept the colony together Under a new charter (May, 1609), which replaced its original patent of 1606, the company abolished the local council and appointed Thomas West, Baron DE LA WARR, governor with virtually dictatorial powers The large expedition which sailed from England in May, 1609, carried Sir Thomas GATES as deputy governor Two of the nine ships, including Gates's, were wrecked in the Bermudas, and when Gates finally reached Jamestown in May, 1610, he found a few colonists under George PERCY had survived the terrible winter of 1609–10, known as the "starving time" Gates and the survivors had just set sail for England in June when De la Warr hove into view and ordered them back to the abandoned settlement Disease and Indians then claimed more lives, and De la Warr, stricken himself, departed for England in March, 1611, leaving behind less than 150 men under Percy Fortunately, Sir Thomas DALE came with more stores in May and after Gates returned in August with additional settlers, including 20 women (a shipload of maids arrived in 1620), the English took a firm hold at Jamestown Of the early governors Dale and Sir Samuel ARGALL were said to have been harsh The land and livestock in Virginia were at first under joint ownership, a system which soon outlived its usefulness After the company received another, more liberal, charter in 1612, it initiated the "headright" system, by which 50 acres of land were granted for each individual a person transported at his own expense To further stimulate growth the company also set up subsidiary, private joint-stock companies, which settled larger areas known as "colonies" or "hundreds" (the last term has survived in a few tidewater place names) With this new, personal interest in the soil, the early Virginians really set about becoming farmers The successful experiments (1612) of John ROLFE in raising tobacco had already given them a staple, and his marriage (1614) to POCOHONTAS, daughter of the Indian chief POWHATAN, made possible its increasing cultivation without fear of attack But Pocohontas and her father soon died, and the POWHATAN CONFEDERACY in a surprise attack (1622) killed c.350 of the most seasoned settlers The English retaliation was quick and effective so that, except for another serious uprising in 1644, there were no further warlike troubles with the Indians for some time The company's charter was declared vacated in 1624, and Virginia became a royal colony, the first in English history In providing (1619) under the governorship of Sir George YEARDLEY for a local representative assembly (the house of burgesses) the first in the New World, the company did, however, leave an important legacy. By 1641, when Sir William BERKELEY became governor, the colony was well established. There were plantations and farms growing tobacco (for export) and corn (for home consumption) on both sides of the James up to its falls Three fourths of the settlers (c 7,500 in 1641), including boys and girls from English cities, especially London, had come as indentured servants or apprentices, and about half of these became freemen and small farmers In 1641 there were also, c 250 Negroes (the first arrived in 1619 on a Dutch ship), but in the beginning most of them were indentured, like the whites, not slaves Only a few of the freeholders were of high lineage, but they, together with the merchant class from which many of the First Families of Virginia were descended, controlled the government During the Puritan Revolution in England many wealthy middle-class Englishmen, supporters of Charles I though not actually Cavaliers as they were called, came to Virginia, which was loyal to the crown until the arrival of an expedition sent by Oliver Cromwell in 1652 With the Puritan Commonwealth busy with affairs at home, Virginia was (1652–60) practically independent, enjoying free trade with foreigners, especially the Dutch. The newcomers increased their wealth by opportune investments in tobacco lands and the rising fur trade This prosperous era ended with the Restoration in 1660, as the reduced shipping, higher freight rates, and fewer markets brought about by the NAVIGATION ACTS had the effect of greatly lowering the price of tobacco The wealthy planters met this by enlarging the scale of their activities But the small farmers, with less income and fixed debts, faced ruin Berkeley, serving his second stint as governor, refused to sanction a campaign against the Indians who had been attacking the frontier, and that refusal was the immediate cause for BACON'S REBELLION in 1676 The unfortunate death of Nathaniel BACON left the yeomen leaderless, and they were so ruthlessly put down that Berkeley was recalled to England The aristocracy continued as powerful as ever under equally incompetent governors, e g , the 2d Baron CULPEPER The history from 1690 to the American Revolution is a record of economic and territorial expansion, with tobacco always figuring large in the process The planters came to find slavery profitable, and Negroes steadily increased in numbers Many planters, such as William BYRD, turned to speculation in land, renting or selling to immigrants and starting new plantations of their own Many French Huguenots came to Virginia after 1685, and not a few Germans followed their countrymen whom Gov Alexander SPOTSWOOD imported (1714–17) to work his iron furnaces A large proportion of the newcomers, however, were from Pennsylvania—German Lutherans, English Quakers, Scotch-Irish Presbyterians, and a lesser number of Welsh Baptists—all settling in the Shenandoah Valley beginning c 1730 The OHIO COMPANY grant (1749) led to exploration beyond the mountains and to contact with the French, and Virginians, notably Col George WASHINGTON, were prominent in the last of the FRENCH AND INDIAN WARS From the 1760s until the outbreak of the AMERICAN REVOLUTION, Virginia and Massachusetts led the opposition to George III's obnoxious colonial policies In 1773 the burgesses at WILLIAMSBURG, capital since 1699, led by Richard Henry LEE, formed an intercolonial committee on correspondence The Virginia leaders proposed (MAY, 1774) a congress of all the colonies, the First Virginia Convention (Aug) chose delegates to it, and Virginia's Peyton RANDOLPH was elected president of the First Continental Congress in September The next year, in June, George Washington was made commander in chief of the Continental army After the patriots forced the royal governor, John MURRAY, earl of DUNMORE, to flee, the Fifth Virginia Convention (May 6–June 29, 1776) declared the colony's independence, instructed the Virginia delegates to the Continental Congress to propose general colonial independence (resulting in the Declaration of Independence written by Thomas JEFFERSON), and adopted the declaration of rights drawn up by George MASON and the first constitution of a free American state Patrick HENRY was elected the first governor Although the British had burned Norfolk in Jan , 1776, they did not invade the state in full force until 1779, when they took Portsmouth and Suffolk Continentals under Lafayette came to Virginia in 1780, and the British cause was lost as American land forces and a French fleet combined to bring about Cornwallis's surrender (Oct 19, 1781) in the YORKTOWN CAMPAIGN Meanwhile, George Rogers CLARK and his Virginians had wrested (1779) from the British the NORTHWEST TERRITORY, to which the state yielded its claim in favor of the national government in 1784 In replacing the unsatisfactory Articles of Confederation with the CONSTITUTION OF THE UNITED STATES, Virginians, especially James MADISON, again played leading roles Other able leaders such as Patrick Henry, Edmund PENDLETON, and Edmund RANDOLPH at various times opposed the document, but the state ratified it (June 26, 1788), and another Virginian, Chief Justice John MARSHALL, later gave it much of its strength. The Old Dominion ceded (1789) a portion of its Potomac lands to the United States for the creation of the District of Columbia In 1792, Kentucky, a Virginia county since 1776, was admitted to the Union as a separate state The ALIEN AND SEDITION ACTS prompted an early defense of states' rights (see KENTUCKY AND VIRGINIA RESOLUTIONS) and also led to the downfall of the Federalists and the consequent rise of Jefferson's "Virginia dynasty" Of the first 12 Presidents of the United States, seven were Virginians—Washington, Jefferson, Madison, James MONROE, Wilham Henry HARRISON, John TYLER, and Zachary TAYLOR The foundations of a new society were meantime being laid within the state, with Jefferson as chief architect Entail and primogeniture had been abolished, and the Anglican church had ceased to be the state church Cotton replaced tobacco as the staple in the east, further exhausting the soil, and many planters moved west The western part of Virginia thus grew rapidly, but complained bitterly of the continued political domination of the tidewater Antislavery sentiment was strong early in the 19th cent , but, as the newer Southern states eclipsed Virginia in cotton production, the tidewater became a breeding ground for the slaves they needed Following the slave insurrection of Nat TURNER in 1831, the house of delegates voted down a bill to abolish slavery by the narrow margin of 67 to 60 For the most part Virginians labored to avert conflict between North and South But "fire-eaters" such as Edmund RUFFIN and abolitionists such as John BROWN, of HARPERS FERRY fame, shaped the course that led to the CIVIL WAR Secession came (April 17, 1861) only after all attempts to keep peace had failed Virginia joined the Confederacy and Richmond became the Confederate capital Robert E LEE entered the military service of the new Southern government, but not a few Virginians such as Winfield SCOTT, George H THOMAS, and David G FARRAGUT remained loyal to the Union Most Virginians W of the Appalachians also opposed secession, and on June 20, 1863, this section was admitted to the Union as the new state of West Virginia Virginia was the chief battleground of the Civil War In the beginning the Union armies were repeatedly set back—at the first battle of BULL RUN (July 21, 1861), in the SEVEN DAYS BATTLES of the PENINSULAR CAMPAIGN (April–July, 1862), in which the MONITOR AND MERRIMAC clashed in Hampton Roads, and in lesser but related campaigns such as the triumph of Thomas J (Stonewall) JACKSON in the Shenandoah Valley The second battle of Bull Run (Aug , 1862) was a smashing victory for Lee, but in the ANTIETAM CAMPAIGN (Sept , 1862) he fared no better than Union Gen George B MCCLELLAN in invading enemy country However, in the battles of FREDERICKSBURG (Dec 13, 1862) and CHANCELLORSVILLE (May 2–4, 1863), the Federals under Gen Ambrose E BURNSIDE and then under Gen Joseph HOOKER were again handsomely repulsed Thus encouraged, Lee and his lieutenants—James LONGSTREET, R S EWELL, A P HILL, and J E B STUART—undertook another invasion of the North but failed against George G MEADE in the GETTYSBURG CAMPAIGN (June–July, 1863) That marked the beginning of the end for the Confederacy, although it took considerable bloody pounding by Gen U S GRANT in the WILDERNESS CAMPAIGN (May–June, 1864) and the siege of PETERSBURG (1864–65) before Lee surrendered the remnants of his gallant Army of Northern Virginia at APPOMATTOX COURTHOUSE on April 9, 1865 President Jefferson DAVIS had already fled Richmond, and the Confederacy soon collapsed The war left its marks on the land and the people The Shenandoah Valley was particularly desolate after the campaigns of Confederate Gen Jubal A EARLY and Union Gen Philip H SHERIDAN in 1864 But poverty-stricken as it was from the war, the state, under Gov Francis H PIERPONT, had the consolation of escaping the worst horrors of RECONSTRUCTION Radical Republicans never took over Virginia as they did most of the South, but the state was readmitted to the Union anyway, on Jan 26, 1870 West Virginia refused to assume any part of the large antebellum debt, which Gen William MAHONE and his partisans wanted to readjust, downward, and this question became a bitter issue in state politics Not until 1915 did the U S Supreme Court order West Virginia to assume its share of the obligations Dissatisfied with the Reconstruction constitution of 1868, the state adopted (1902) a new charter which effectively restored "white supremacy" Agriculture meanwhile had recovered somewhat from the destruction of war, and though farm tenancy became an accepted institution in the economy it never gained a strong hold With transportation facilities restored, industry, particularly the manufacturing of tobacco products and textiles and coal mining, grew During the First World War, in which another Virginian, Woodrow WILSON, was President, the state was a large training camp, as it was again in the Second World War Industry boomed both times, especially the shipbuilding of Hampton Roads In the mid-1920s Harry Flood BYRD assumed direction of the state's powerful Democratic organization, formerly headed by U S Senator Thomas S Martin and Methodist Epis-

copal Bishop James Cannon, Jr Since then Byrd, governor from 1926 to 1930 and U S Senator after 1933, has doubtless been the most influential figure in the state As chief executive he put through a sound reorganization of the state government and brought about the passage of the first antilynching law of any state, which has proved completely effective. However, the organization's chief boast is that the state is entirely free of debt due to a rigid "pay-as-you-go" policy Liberals criticize this attractive financial record as having been made at the expense of properly providing for public education and welfare The conservative Byrd organization maintained power, although Virginians balked loudly at the machine's attempt to remove the name of President Harry Truman, who carried the state in 1948, from the Democratic ballot They also voted (Nov , 1949) to retain the poll tax rather than accept the entangled, confusing amendments that supposedly would have abolished it The Univ of Virginia, at Charlottesville, is the state's leading institution of higher education Others are the College of William and Mary, at Williamsburg, the Univ of Richmond, and Virginia Military Institute and Washington and Lee Univ , both at Lexington. Intensely proud of their past, Virginians—among them Mary JOHNSTON, Thomas Nelson PAGE, Ellen GLASGOW, James Branch CABELL, Douglas Southall FREEMAN, Thomas Jefferson WERTENBAKER—have written widely about it and, more unusual, have the reputation of reading what others have written See E G Swem, *A Bibliography of Virginia* (4 vols , 1916–32), L J Cappon, *Bibliography of Virginia History since 1865* (1930), P A Bruce, *Economic History of Virginia in the Seventeenth Century* (1896), *Social Life of Virginia in the Seventeenth Century* (1907), *Institutional History of Virginia in the Seventeenth Century* (1910), and *The Virginia Plutarch* (1929), J E Cooke, *Virginia, a History of the People* (1896), H J Eckenrode, *The Political History of Virginia during the Reconstruction* (1904) and *The Revolution in Virginia* (1916), C H Ambler, *Sectionalism in Virginia from 1776 to 1861* (1910), C. C Pearson, *The Readjuster Movement in Virginia* (1917), C M Andrews, *The Colonial Period of American History* (Vol I, 1934), H T Shanks, *The Secession Movement in Virginia, 1847–1861* (1934), M P Andrews, *Virginia, the Old Dominion* (1937) and *The Soul of a Nation* (1943), Federal Writers, Project, *Virginia a Guide to the Old Dominion* (1940), T T Waterman, *The Mansions of Virginia 1706–1776* (1946), F C Rosenberger, ed , *Virginia Reader* (1948).

Virginia. **1** City (pop 1,418), co seat of Cass co , central Ill , WNW of Springfield, in a farm area, platted 1836, inc. as a village 1842, as a city 1872 **2** City (pop. 12,264), NE Minn , NNW of Duluth and on the Mesabi iron range, settled before 1883, platted 1892. It was rebuilt after disastrous fires in 1893 and 1900 In addition to its mines, open-pit and underground, the city has foundries and is the trade center for a lake resort and farm area

Virginia, Confederate name for the ironclad *Merrimac* See MONITOR AND MERRIMAC

Virginia, University of, at Charlottesville, state supported, mainly for men, chartered 1819, opened 1825 It has a college of arts and sciences (with commerce) and departments of agriculture, education (including nursing), engineering, law, and medicine There are bureaus of industrial and social science research and of public administration, the McCormick Observatory, the Alderman Library, and art and science museums The original buildings, planned by Thomas Jefferson, the first rector, were built on three sides of a rectangular "Lawn," with the Rotunda (burned 1895, restored by Stanford White) at one end and on either side the "ranges," colonnaded dormitories and two-storied houses The organization and curriculum also were planned by Jefferson Joseph C CABELL was instrumental in securing state support Virginia had the first elective system in a university Mary Washington College (at Fredericksburg, for women, chartered 1908) was consolidated with the university in 1944 See J S Patton, *Jefferson, Cabell, and the University of Virginia* (1906), history by P A Bruce (5 vols , 1920–22)

Virginia Beach, town (pop 2,000), SE Va , a resort on the Atlantic E of Norfolk, inc 1906 A state military reservation is near by, and on the north are Fort Story, Cape Henry, and Seashore State Park

Virginia bluebell see VIRGINIA COWSLIP

Virginia City. **1** Town (pop 380, alt. 5,822 ft), co seat of Madison co , SW Mont , SE of Butte. Founded when gold was discovered (1863) in Alder Gulch here, it became a mushroom town of gold miners, was the first town incorporated (1864) and had the first (1864) newspaper printed in Montana Territory Successor (1865) to Bannack as territorial capital, it later lost that honor to Helena **2** Unincorporated town (pop. 952, alt 6,500 ft), co. seat of Storey co., W Nev., SE of Reno. It was founded in 1859, when rich deposits of gold and silver, notably the famous COMSTOCK LODE, were discovered near by. In 1880 the population was c 11,000, and the town had fine residences, clubs, restaurants, and an opera house. The first newspaper printed in Nevada, the *Territorial Enterprise*, on which Mark Twain was a reporter, was published here after 1861 The town is now a tourist center.

Virginia Company, created in 1606 by British royal charter for the purpose of colonizing in North America The charter, given to the Society of Adventurers, provided for two colonies The Virginia Company of London (see LONDON COMPANY) was given permission to plant a colony 100 mi square between lat. 34° N and lat 41° N, while the Virginia Company of Plymouth (see PLYMOUTH COLONY) could establish a colony between lat 38° N and lat 45° N Neither colony was to be planted within 100 mi of the other A local council was to be provided in each colony, but the king, through a council in England, had final authority By a new charter in 1609 the London Company became independent of the Plymouth Company

Virginia cowslip or **Virginia bluebell,** beautiful spring wild flower (*Mertensia virginica*) native to the Eastern and Middle Western states and usually found in moist places It has nodding clusters of blue (or pink) bell-shaped flowers, pink in bud, it is often cultivated

Virginia creeper, native woody vine (*Parthenocissus quinquefolia*), tall growing and popular as a wall covering It has blue-black berries and clings by disk-tipped tendrils, some branches hanging free in graceful festoons The five-fingered leaves—brilliant in the fall—are sometimes confused with the three-fingered poison ivy Other names are American ivy, woodbine, and AMPELOPSIS

Virginia Military Institute, at Lexington, state supported, for men, chartered and opened 1839, called the West Point of the South It has university courses in chemistry, engineering, and liberal arts Gen T J (Stonewall) Jackson and Matthew F Maury taught here and many military leaders are alumni See William Couper, *One Hundred Years at V M I* (1939)

Virginia Mountains, W Nev , W of Pyramid Lake, extending NW to Astor Pass and S to the Carson river valley The area includes the northerly Pyramid Range and the southerly Virginia Range (or Washoe Mts) In the south is Mt Davidson (7,870 ft), the site of the COMSTOCK LODE

Virginia Polytechnic Institute, at Blacksburg, land-grant and state supported, coeducational since 1921, chartered and opened 1872 as an agricultural and mechanical college In 1896 it became Virginia Agricultural and Mechanical College and Polytechnic Institute (legal title) It includes a college and schools of agriculture and engineering A woman's division at Radford (Radford College, formerly a state teachers college) was consolidated with V P I in 1944.

Virginia reel, early American variation of the REEL It is still performed occasionally at country dances, usually to the tune of *Turkey in the Straw*

Virginia Resolutions: see KENTUCKY AND VIRGINIA RESOLUTIONS

Virginia State College, at Petersburg, Negro, with land-grant support, coeducational, chartered 1882, opened as a normal and collegiate institute 1883 It became a normal and industrial institute in 1902, was reorganized as a college in 1922, and was renamed in 1946 It has divisions of agriculture, arts and sciences, education, home economics, and mechanic arts

Virginia Union University. see RICHMOND

Virgin Islands, group of about 100 small islands, West Indies, E of Puerto Rico Discovered by Columbus in 1493, the islands are divided between the United States and Great Britain Though constituting the westernmost part of the Lesser Antilles, the islands form a geological unit with Puerto Rico and the Greater Antilles, being of volcanic origin overlaid with limestone They are subject to occasional hurricanes between August and October and suffer from light earthquakes The population is predominantly Negro The **Virgin Islands of the United States** (132 sq mi , 1940 pop 24,889, 1948 estimated pop 27,000), territory, formerly part of the Danish West Indies, were purchased in 1917 for $25,000,000 The capital is CHARLOTTE AMALIE (St Thomas), other cities are Christiansted and Frederiksted (both on St Croix) Although 68 islands compose the group, only the three largest are of importance, St CROIX (23 mi. long), St Thomas (12 mi long), and St. John (9 mi long) The terrain of the islands differs. Mountainous St. Thomas, almost completely uncultivated, encloses many snug harbors and bays. Much shipping comes through the port of Charlotte Amalie, one of the finest natural harbors in the Caribbean and a center in the slave-trading days, and small boats fish off the shores of the islands St Croix, with a flatter terrain than St. Thomas, is dominated by agriculture, the main crop being sugar cane. The people on all three islands burn charcoal and raise cattle, meat packing is a growing industry The water supply is almost completely dependent on the rainfall and is preserved in cisterns The tropical climate (ranging between 75° F. and 84° F. and cooled by northeast tradewinds), increased vacation facilities, and the picturesque quality of the islands enhanced by Old World Danish architecture have encouraged a growing tourist trade Despite this, as well as government sponsored homesteading and the production of rum and bay rum, the income is not enough to prevent general poverty; the real importance of the islands is their strategic location athwart the Caribbean and Atlantic They were under supervision of the Dept. of the Navy until 1931, when they were transferred to the Dept. of the Interior. The islands are divided into two municipalities (St. Thomas and St. John, St. Croix), each with a legislative council There is an appointed civil governor. An organic act, passed by Congress in 1936, has given the islands a greater degree of self-government Settlement of St Thomas was begun by the Danish West India Company in 1672, St John was claimed in 1683 and St Croix purchased from France in 1733 The company's control lasted until the islands' purchase by Frederick V in 1754, when they became a royal colony In 1801 and again from 1807 to 1815 the islands were in British hands See the current *Annual Report of the Governor of the Virgin Islands to the Secretary of the Interior*, Waldemar Westergaard, *The Danish West Indies, 1671–1754* (1917), J A. Jarvis, *The Virgin Islands and Their People* (1945) Immediately to the northeast, the *British Virgin Islands* (67 sq mi , 1946 pop 6,508), about 30 in number, form a presidency of the LEEWARD ISLANDS colony The principal islands are Tortola (12 mi. long), Anegada (10 mi long), and Virgin Gorda (10 mi long) The capital, Road Town, is on Tortola The islands were acquired by Great Britain in 1666 Although sea-island cotton was long the leading crop and is still raised, it is being supplanted by tobacco A small cigar industry is developing, and grazing is also a major activity They trade mainly with St Thomas and Puerto Rico

Virginius, filibustering ship, fraudulently flying the American flag and carrying arms to the Cubans in the Ten Years War It was captured by the Spanish off Cuba, Oct 31, 1873 The captain, Joseph Fry, and 52 of the crew and passengers—among them several Americans—were executed More would have been killed but for the intervention of the British ship, *Niobe* The incident came near causing war between the United States and Spain, but Hamilton FISH took negotiations out of the hands of Gen D E SICKLES, intemperate U S minister to Spain, and a settlement was reached Spain paid the United States an indemnity of $80,000 See Allan Nevins, *Hamilton Fish* (1936)

Virgin Mary see MARY

virgin's-bower. see CLEMATIS

Virgo (vûr'gō) [Latin,=the virgin], in astronomy, a zodiacal constellation observed from antiquity It is pictured as a maiden holding an ear of grain In mythology she is often identified with the harvest The most prominent star is Alpha Virginis, or Spica, a white star of first magnitude Gamma Virginis is a double star in the constellation, having two components of about equal brilliance Sir William Herschel discovered more than 300 nebulae in Virgo, and later about 200 more were observed In 1936 a supernova was discovered in Virgo by Edwin P. Hubble and Glenn Moore at Mt Wilson Observatory Virgo is the sixth sign of the zodiac

Viriatus (vĭrēā'tŭs), d 139 B C , leader of the Lusitani (see LUSITANIA) One of the survivors of the massacre of Lusitani by the Roman praetor Servius Sulpicius Galba, Viriatus rose as a popular leader and persuaded his countrymen to resist Roman rule Gathering together an army, he defeated (147 B C) the Romans During the next two years, he established control over a considerable area. In 145 Rome sent the consul Fabius Maximus, who managed to restrict the area of Viriatus' activities The next year, however, he defeated the successor of Maximus and reestablished his power. One Roman defeat followed another The victories of Viriatus encouraged the Celtiberians to renew their resistance to Rome The senate next sent an army under Fabius Maximus Servilianus, which Viriatus succeeded in trapping. He might have ended the war by destroying this army, but instead he concluded a peace and allowed the army to leave. For this act of clemency he was declared a friend of Rome by the senate. In 139, however, the successor of Servilianus, Servilius Caepio, with the tacit consent of the senate, renewed the war. Viriatus, probably swayed by his countrymen who were weary of the war, opened negotiations with Caepio, who brought the war to an end by bribing the emissaries of Viriatus to kill him

Viroqua (vûrō'kwu), city (pop 3,549), co. seat of Vernon co., W Wis , SE of La Crosse, in a tobacco and dairy area, settled 1851, inc. 1885.

Virtanen or Wirtanen, Artturi Ilmari (both ärt'tōōrē ĭl'märē vĭr'tänĕn), 1895–, Finnish biochemist. He received the 1945 Nobel Prize in Chemistry for his work on the use of nitrogen by plants. He discovered several important steps in nitrogen synthesis by bacteria in root modules of legumes and

evidence that higher plants can capture nitrogen without the aid of root bacteria and that such plants, contrary to long-accepted theory, can absorb from the soil and use relatively complex organic compounds He originated a method of making silage by treating it with dilute hydrochloric acid to prevent spoilage Virtanen became (1931) director of the Biochemical Institute at Helsinki and taught at the Univ. of Helsinki (1924–48)

virtue [Latin, =manliness], in philosophy, a moral judgment of the good of human conduct. The cardinal virtues, as presented by Plato, were prudence, courage, temperance, and justice They are to be interpreted as descriptive of conduct rather than the initiating force These virtues are achieved through proper training and discipline They have been called natural virtues, as contrasted with the theological virtues of the Roman Catholic Church —faith, hope, and charity The theological (or supernatural) virtues are regarded as dispositions for good residing in men As early as the 14th cent they were combined with the Platonic (or natural) virtues and called the seven cardinal virtues, figuring largely, along with the opposing seven deadly sins, in medieval literature

virus (vī'rŭs), name for a submicroscopic infectious agent capable of causing disease in either animals or plants Viruses exhibit certain characteristics of living organisms Sometimes they are called filtrable (or filterable) viruses, this arose from the fact that these disease-causing particles can pass through certain porcelain filters having pores so fine that bacteria cannot pass through them However, there are problems arising from using the criterion of filtrability as a means of distinguishing viruses from other minute pathogenic organisms It is believed that under certain conditions some bacteria and also some spirochetes will pass through filters There are furthermore some diseases classed by many authorities as virus diseases for which filtrability of the agent has not been proved It has been pointed out, also, that the mechanism of filtrability is dependent upon a number of factors, including the electrical charge on the virus, the electrical charge on the filter, the temperature, and the purity of the material It is therefore suggested by some investigators that filtrability should be considered to be only one factor in determining whether the cause of a given disease is actually a virus In general, viruses can be described as parasites incapable of growth except in the presence of living cells, they can be preserved apparently indefinitely, when frozen or dried, and, as observed in humans, a particular virus seems usually to attack a particular tissue, e g , the rabies and poliomyelitis viruses attack the nervous system and those causing chickenpox and smallpox affect especially the skin An attack of certain virus diseases seems to endow the victim with greater immunity against another attack of the same disease than is conferred by an attack of many bacterial diseases There are often observed, in the cells of certain tissues affected by viruses, structures known as inclusion bodies These are masses of material, varying in size from minute granules to bodies that nearly fill the cell, found either in the cytoplasm or in the nucleus of the cell Mosaic diseases in plants are attributed to viruses, the tobacco mosaic virus was isolated (1935) by W M Stanley in the form of a crystalline protein Other diseases believed to be caused by viruses include (in addition to poliomyelitis, rabies, chickenpox, and smallpox), measles, mumps, typhus fever, Rocky Mountain spotted fever, yellow fever, and probably the common cold See Rockefeller Institute for Medical Research, *Virus Diseases* (1943), F M. Burnet, *Virus as Organism* (1945)

Vis (vēs), Gr *Issa* (ĭ'sə), Ital *Lissa* (lē'sä), island, area 39 sq mi , off the Dalmatian coast in the Adriatic It belongs to Croatia, Yugoslavia, is noted for its wine, and has important fisheries The village of Vis (pop 2,727) lies on the north coast Ancient Issa was a Greek colony from the 4th cent B C and later prospered under the Romans From the 10th cent until 1797 it was a Venetian possession, and in the Napoleonic Wars it changed hands among the Austrians, the French, and the British From the Congress of Vienna (1815) until 1918 the island belonged to Hungary Here in 1811 the British won a naval victory over the French, and here in the Austro-Prussian War of 1866 the Austrians under Admiral Wilhelm von Tegetthoff thoroughly defeated the Italian fleet There are many ancient remains on the island, notably Roman baths, mosaic pavements, and several old Roman Catholic and Orthodox churches The island is a popular resort and excursion point

Visalia (vĭsā'lyə), city (pop. 8,904), co seat of Tulare co., S central Calif , SE of Fresno, founded 1852, inc. 1874. It is a processing center in a farm and dairy area of the San Joaquin Valley A junior college (coeducational) is here

Visayan Islands (vĭsī'ən) or **Bisayas** (bēsä'yäs), island group, in the Visayan Sea, central Philippine Islands, including Samar, Leyte, Negros, Panay, Bohol, Cebu, Masbate, and many smaller islands.

Visby, Sweden see WISBY

Vischer, Friedrich Theodor (frē'drĭkh tā'ōdōr fĭ'shûr), 1807–87, German aesthetic philosopher He taught at Tübingen and later at Zurich and Stuttgart Vischer was not only one of the most individual and independent critics of his century, but also a gifted author. His chief work is his *Aesthetik* (6 vols , 1846–57). He also wrote the humorous and satirical *Auch Einer* [one more] (1878) and a parody of part of Faust, as well as poems and numerous critical and philosophical works.

Vischer, Peter (pā'tûr fĭ'shûr), the elder, c 1455–1529, German sculptor, foremost of the bronze founders in Germany Beginning as the assistant of his father, Hermann Vischer, Peter set up his own establishment at Nuremberg and in time had his five sons working with him It is said that two of them traveled in Italy, and this may account for the Italian influence noticeable in certain works, particularly the bronze canopy over the reliquary of St Sebald at Nuremberg, Vischer's masterpiece, in the rich ornamentation of which medieval and Renaissance characteristics intermingle Of the other tombs from his workshop, the most important are those of Archbishop Ernst (cathedral, Magdeburg) and of Hermann, Graf von Henneberg (Staatskirche, Romhilde) In 1513 Vischer, at the summons of Emperor Maximilian I, went to Innsbruck, where he made two statues (believed to be those of Theodoric and Arthur) for the great tomb of the Hapsburg Of his sons, **Peter Vischer,** the younger, 1487–1528, was the most celebrated

Visconti (vĭskōn'tē), Italian Ghibelline family The Visconti ruled Milan from the 13th cent until 1447 In the 12th cent members of the family received the title of viscount, from which the name is derived **Ottone Visconti** (ō-tō'nā) 1207–95, archbishop of Milan, was recognized (1277) as lord of the city after he had defeated the opposition of the Della Torre family, long leaders of the popular party To keep the lordship in the family, he had **Matteo I Visconti** (mät-tā'ō), 1255–1322, elected captain of the people in 1287 Exiled (1302–10) by the Della Torre faction, Matteo returned with the help of Emperor Henry VII and became imperial vicar He established his overlordship in all Lombard cities, but Guelph opposition obliged him to retire in favor of his son, **Galeazzo I Visconti** (gälāät'tsō), 1277?–1328, who continued the struggle against popes and Guelphs Galeazzo's son **Azzo Visconti** (ät'tsō), 1302–39, consolidated the state, made peace with the pope, and increased the Milanese territories At his death his two uncles, Luchino and Giovanni, were proclaimed dukes **Lucchino Visconti** (lōōk-kē'nō), 1292–1349, who in fact ruled alone, continued his predecessor's conquests, acquiring territory in Piedmont, Tuscany, and the present Ticino canton of Switzerland The expansion of Milan aroused the other Italian states, and coalitions were constantly being formed against Lucchino and his successors Lucchino's brother, **Giovanni Visconti** (jōvän'nē), 1290–1354, took over the government in 1349 At his death the Milanese possessions were divided among his three nephews, Matteo II, Galeazzo II, and Bernabò **Matteo II Visconti,** 1319–55, was probably poisoned by his brothers, who divided his possessions **Galeazzo II Visconti,** 1320–78, an able diplomat, began the transformation of the various communal lordships that made up his lands into an organized state He was a patron of the arts and letters and a friend of Petrarch At Pavia, where he held his court, he built the castle and founded the university and the library **Bernabò Visconti** (bärnäbō'), 1323–85, ruled in Milan His intrigues and territorial ambitions kept him at war with the pope, Florence, Venice, and Savoy He died in prison, arrested by his nephew, **Gian Galeazzo Visconti** (jän'), 1351?–1402, the son of Galeazzo II Left the sole ruler of all Visconti possessions, Gian Galeazzo embarked on a systematic program of conquest, first in Venetia, then in central Italy, and withstood hostile coalitions partly by skillful diplomacy, partly by employing the best condottieri of his time He bought (1395) his investiture as hereditary duke of Milan from Emperor Wenceslaus and defeated (1401) Emperor Rupert when Rupert sought to restore imperial rule over Italy Gian Galeazzo's ambition was to establish an Italian kingdom, but he died of the plague while preparing a final attack on Florence, his stoutest enemy He reformed and centralized the government and promoted the arts and industries During his reign the cathedral of Milan and the Certosa di Pavia were begun He allied his family with the ruling house of France by marrying Isabella, daughter of John II His daughter by a second marriage, Valentina, married Louis d'ORLÉANS, it was through her that Louis XII and Francis I of France derived their claim to Milan in the Italian Wars. See D M. Bueno de Mesquita, *Giangaleazzo Visconti* (1941) During the regency of Gian Galeazzo's widow many cities were lost and political chaos prevailed **Giovanni Maria Visconti** (märē'ä'), 1389–1412, his son by his second marriage, revealed himself a dissolute and cruel ruler upon reaching his majority He was assassinated, and the duchy passed to his brother, **Filippo Maria Visconti** (fēlēp'pō), 1392–1447, who employed both diplomacy and force to restore the duchy He was at first aided, then opposed, by CARMAGNOLA in his wars with Venice and Florence His daughter and sole heir, **Bianca Maria,** married Francesco I SFORZA, who become duke of Milan after the fall of the short-lived republic, the Ambrosian Republic (1447–50), set up after Filippo Maria's death

Visconti, Ennio Quirino (ĕn'nyō kwērē'nō vēskōn'tē), 1751–1818, Italian archaeologist. He was conservator of the Capitoline Museum, Rome, and one of the consuls of the brief Roman republic (1798) A political refugee in Paris from 1799, he became curator of antiquities at the Louvre (1799) and professor and member of the Institut de France (1803) He wrote *Iconographie grecque* (1801) and the first volume of *Iconographie romaine* (4 vols , 1817–26), which was completed by Antoine Mongez His father, **Giovanni Battista Antonio Visconti** (jōvän'nē bät-tē'sta ännē'nyō), 1722–84, was prefect of antiquities at Rome from 1768 He reorganized at the Vatican the Museo Pio-Clementino and edited the first volume of its noted catalogue with the assistance of his son, who continued the work alone

Visconti-Venosta, Emilio, marchese di (ämē'lyō märkā'zā dē vēskōn'tē-vänō'sta), 1829–1914, Italian patriot and politician First a follower of Mazzini, he broke away from him because of his unrealistic policy after the revolution of 1853 in Milan and became a supporter of Cavour He several times held the foreign ministry in rightist cabinets between 1863 and 1901 and tried to promote friendly relations with France

viscose process (vĭs'kōs), method widely used for the commercial preparation of RAYON Sheets of cellulose, prepared from either wood pulp or, less commonly, cotton linters are treated with sodium hydroxide (an alkali) and then with carbon disulphide, the resulting product being a substance called cellulose xanthate Mixed with dilute sodium hydroxide this alkaline cellulose xanthate forms a thick solution called viscose, and rayon yarn is finally obtained when the viscose is forced through tiny openings in a spinneret into an acid solution which coagulates it in the form of fine strands The greater part of the rayon manufactured today is produced by this method, although there are other processes also in use The viscose process was discovered by Charles F Cross

Viscount Melville Sound, 250 mi long and 100 mi. wide, arm of the Arctic Ocean, W Franklin Dist., Northwest Territories Lying between Victoria and Prince of Wales islands on the south and Melville and Bathurst islands on the north, it is a section of the long-sought Northwest Passage Through McClure Strait on the west it is linked with the Beaufort Sea, Barrow Strait and McClintock Channel lead east and southeast A crossroads of arctic waterways, it is navigable only under favorable weather conditions The western part was discovered (1850–53) by Sir Robert McCLURE The sound is sometimes called Melville Sound

Visé (vēzā'), town (pop 4,070), Liége prov., E Belgium, on the Meuse and NNE of Liége, near the Dutch border Here on Aug 4, 1914, the first battle of the First World War was fought, when the Belgian defense was beaten back by the Germans Largely destroyed, it has since then been rebuilt.

Viseu (vēzä'ōō), city (pop 13,499), capital of Beira Alta prov , Portugal, SE of Oporto It was founded by the Romans and in 1058 it was captured from the Moors by Ferdinand I of Castile There are a 12th-century cathedral, some medieval ruins, and a museum The city trades in grain and fruit and manufactures textiles

Vishinsky or **Vyshinsky, Andrei Yanuarievich** (both. ŭndrā' yŭnŭôr'yĭvĭch vĭshĕn'skē), 1883–, Russian jurist and diplomat He studied law at the Univ. of Kiev, early entered the Social Democratic party, and fought in the Bolshevik ranks during the civil wars He was appointed state prosecutor in 1923 and professor of jurisprudence at the Univ of Moscow in 1925 Vishinsky conducted the prosecution at the Moscow treason trials of 1936–38 As attorney general of the USSR, he curbed excessive enthusiasm for further purges He was appointed vice premier in 1938 With the outbreak of the Second World War, Vishinsky became deputy commissar for foreign affairs, and in Sept., 1943, he was appointed Russian representative on the Allied Mediterranean Commission and the Allied Advisory Council for Italy In 1944–45 Vishinsky represented Russian interests in the Balkans, particularly in Rumania Later, as one of the chief Russian figures in the United Nations, he acquired a reputation for biting wit as well as for the violence of his attacks on the United States He replaced (1949) Molotov as foreign minister of the USSR Among his writings is *The Law of the Soviet State* (Eng tr , 1948).

Vishnu see HINDUISM

Visigoths or **West Goths,** division of the Goths, one of the most important groups of the GERMANS They separated from the other division of the Goths, the OSTROGOTHS, early in the 4th cent. A.D

Already the Visigoths were beating upon the border of the Eastern Empire, crossing the Danube in war raids and peacefully infiltrating the cis-Danubian provinces CONSTANTINE I had trouble with them, but it was not until after the middle of the 4th cent that the Visigoths became an actual menace to the empire There were settled groups of Visigoths in Dacia then, and before that time many of the Goths had been converted to Christianity by Ulfilas About 364 a group of Visigoths devastated Thrace Punitive measures were, therefore, undertaken The Goths were also involved in the revolt of Procopius (366), and Emperor VALENS waged a steady and successful war against ATHANARIC and the Visigoths until 369 Athanaric persecuted the Christian Goths and was able to assert his supremacy over a rival Visigothic chief, FRITIGERN, who retired into the Roman Empire Fritigern apparently became an Arian and was given Roman aid to return against Athanaric The pressure of invasion by the Huns threw the Goths into confusion Athanaric seems to have retired into the mountain fastnesses of Transylvania, but most of the Visigoths joined Fritigern, who fled from the fury of the Huns across the border into the empire (376) Trouble naturally followed The Visigothic settlers arose in revolt against the harsh and oppressive measures of the petty Roman officials. Valens undertook a campaign against the Visigoths At Adrianople in 378 was fought one of the most significant battles in history The barbarians won a decisive victory over the Roman forces and the Visigoths swept across the upper Balkan Peninsula, ravaging Thrace Valens was killed at Adrianople, The capable THEODOSIUS immediately took up the warfare against the Visigoths, and his campaigns were more successful after the death of Fritigern and the arrival in the empire of Athanaric, who had been driven from Transylvania by the Ostrogoths Peace between Romans and Visigoths was reached in 382, certain regions being ceded to the Goths for occupation Friction continued and in 390 the Visigoths again broke into rebellion In 395, after the death of Theodosius, ALARIC I was proclaimed king of the Visigoths and he immediately led a ravaging expedition in the Balkan peninsula. Checked by STILICHO, he later became a general under ARCADIUS He began his invasions of Italy about 400, he was halted by Stilicho but after Stilicho's death he was successful in an Italian expedition (408) and forced ransom from Rome The Visigothic hordes were the masters of Italy, and after negotiations between Emperor HONORIUS and Alaric failed, the memorable sack of Rome (410) took place. Alaric died soon afterward and under ATAULF the Visigoths left Italy (412) and went into S Gaul and N Spain They increased their territories in Spain (which was evacuated by their predecessors, the VANDALS) under King Wallia (reigned 415–c.418) and acquired AQUITAINE, extending their kingdom as far north as the Loire Toulouse was their capital The height of Visigothic power was achieved under EURIC (466–84), but in 507 ALARIC II was defeated at Vouillé by the Franks under Clovis, to whom he lost nearly all his possessions N of the Pyrenees Toledo became the new Visigothic capital The history of the Visigoths now became essentially that of SPAIN Weakened by warfare with the Franks and the Basques and by Byzantine penetration in S Spain, the kingdom recovered vigor in the late 6th cent under LEOVIGILD and under RECARED, whose conversion to Catholicism facilitated the fusion of the Visigothic and the Hispano-Roman populations of Spain King RECESWINTH imposed (c 654) a common law on both his Visigothic and his Roman subjects, who until then had lived under different codes (see GERMANIC LAWS) The Church councils of Toledo (see TOLEDO, COUNCILS OF) became the main force in the government, and the royal power was weakened. King Wamba, who succeeded Receswinth, was deposed after a civil war, and through the rest of its existence the kingdom was torn by civil strife When the last king, RODERICK, seized the throne, his RIVALS appealed to the Moslem leader TARIK, whose victory (711) in the battle of the Guadalete ended the Visigothic kingdom and inaugurated the Moorish period in the history of Spain See Thomas Hodgkin, *Italy and Her Invaders*, Vols I–III (2d ed., 1892–96), Eduardo Pérez Pujol, *Historia de las instituciones sociales de la España Goda* (4 vols , 1896)

vision, the sense by which objects and colors are perceived. Vision depends upon the sensitivity of the retina (see EYE) to light Light rays reflected from objects pass through the cornea and then through the lens, by which they are bent and brought to a focus on the retina. The shape of the lens can be changed by the action of the ciliary muscles so that clear images of objects at different distances and of moving objects are formed on the retina. This ability is known as accommodation The retina consists of a number of layers Closest to the choroid (or choroid) coat is a pigmented layer believed to be the area of production and storage of a substance known as visual purple or rhodopsin, which is concerned with the ability of the eye to adapt to light and dark. It is decomposed in light, and vitamin A is believed essential to its regeneration. Next to the pigment cells are nerve cells of two kinds; those bearing rod-shaped processes are called rods and those having cone-shaped processes are called cones These structures form the layer believed to be the light-sensitive portion. Light rays brought to a focus on the rods and cones produce nerve impulses which are transmitted by branches of the nerve fibers to the optic nerve and finally to the vision centers in the cerebrum of the brain. The image formed on the retina is an inverted one because the light rays entering the eye are refracted and cross each other However, the mental image as interpreted by the brain is right side up. A portion of the center of the retina known as the yellow spot or *macula lutea* has a central depression, the *fovea centralis*, a region of most acute vision, in which only cones are found Cones are believed to be concerned with vision in bright light, and rods with vision in the darkness Where the optic nerve passes through the eyeball there are no rods and cones, and this portion is known as the blind spot Perception of color is considered a function of the cones No fully satisfactory theory to explain color vision has been developed The Young-Helmholtz theory, accepted by many, although its inadequacies are recognized, was proposed by Thomas Young (1801) and later modified by H. L F von Helmholtz It is based on the assumption that there are three fundamental color sensations, red, green, and violet, and that there are three different groups of cones in the retina, each group sensitive to one of these three colors The sensation of white is produced by the combination of the three primary colors, and black results from the absence of stimulation Hering's theory (developed by Ewald Hering) also postulates the presence in the retina of three photochemical substances, but these are assumed to produce six primary sensations and are grouped as a red-green substance, a yellow-blue substance, and a white-black substance More recently a polychromatic theory has been proposed which postulates, in addition to the three-color unit of the Young-Helmholtz theory, two subsidiary units, a yellow-blue and a red-blue-green-red unit Man normally has binocular vision, i e , separate images of a visual field are formed by each eye but the two images fuse to form a single impression Because each eye forms its own image from a slightly different angle, a stereoscopic effect is obtained, and depth and distance and solidity of an object are appreciated Defects of vision include ASTIGMATISM, FARSIGHTEDNESS, and NEARSIGHTEDNESS See Matthew Luckiesh, *Light, Vision, and Seeing* (1944), A L Gesell, *Vision Its Development in Infant and Child* (1949)

visit and search: see SEARCH, RIGHT OF.

Visitation of Our Lady see MARY

Viso, Monte (mōn'tā vē'zō), or **Monviso** (mōmvē'zō), peak, 12,605 ft high, on the Franco-Italian border, highest of the Cottian Alps. The Po river rises here

Visscher, Cornelis (kôrnā'lĭs vĭ'sûr), c 1629–c 1662, Dutch draughtsman and engraver outstanding in his period He executed numerous plates from the works of the Dutch masters but is at his best in such original productions as his *Pancake Woman*, *Rats' Bane*, and *Harper* and in his fine engraved portraits, such as those of Gellius Bouma and William de Ryck

Vistula (vĭs'chōōlə), Pol. *Wisła* (vē'swə), Ger *Weichsel* (vīk'səl,) longest river and principal waterway of Poland Navigable for almost its entire length, it rises in the West Beskid range of the Carpathians and flows 667 mi N past Cracow, Warsaw, and Torun to join the Baltic in the Bay of Danzig A system of canals connects it with the Oder, Dnieper, Niemen, and Pregel rivers, the Dunajec, San, Pilica, and Narew are among its tributaries Its estuary comprises the Nogat, which flows past Marienburg, and the Martwa Wisła [dead Vistula], which flows past Danzig Coal is transported from Silesia, and lumber is logged along the lower Vistula

visual education, term denoting the use of nonverbal materials to enrich learning experiences It applies particularly to pictures and other materials developing sense perception Sound has also been incorporated within this field, and the term *audio-visual* is frequently used to cover the combined program Development of visual aids as a planned part of the school curriculum has been restricted largely to the United States, although the idea is gradually being extended to other countries The successful use of visual aids in the U S. armed forces during the Second World War has demonstrated the efficacy of this medium as a tool of instruction. The use of nonverbal materials—until recently confined to maps, graphs, textbook illustrations, and museum and field trips—now includes all the developments of the photographic and film industries as well as the radio, sound recordings, and television. Many universities and government offices and agencies rent films for wide distribution throughout the United States, which, with other rented films, are often used to supplement film libraries collected by local school systems. See bulletins of the National Academy of Visual Instruction, the Visual Instruction Association of America, and the Dept of Visual Instruction of the National Education Association.

visual purple: see VISION.

vital statistics, primarily STATISTICS of births and deaths in a POPULATION. Other factors such as number of marriages and causes of death, by age groups, are regularly included. From these figures can be computed birth rates and death (or mortality) rates from which trends are determined. The English system of vital statistics, established by William FARR in the 19th cent , has served as the model for methods of tabulation. Recent vital statistics for Western countries show striking differences among various economic, occupational, regional, and ethnic groups. The birth rates of people of high economic and social status and of urban dwellers generally are declining. Death rates have decreased tremendously in modern times, and the average expectation of life at birth has been approximately doubled since the 18th cent These rates, too, are sharply differentiated according to social factors, with groups in poor environments having the highest incidence of mortality and the shortest span of life See R R Kuczynski, *Fertility and Reproduction* (1932), Louis F. Dublin and Alfred J Lotka, *Length of Life* (1936), Raymond Pearl, *The Natural History of Population* (1939).

vitamins (vī'təmĭns), name for a group of organic substances essential for growth and the maintenance of normal body structure and function. A well-balanced diet including sufficient amounts of milk, fruits, vegetables (both raw and cooked), eggs, and meats or meat substitutes usually provides adequate minimum requirements of the vitamins However, the amount of a particular vitamin varies in a given food. Vitamins are often divided into two main groups—those that are soluble in fat (vitamins A, D, E, and K) and those soluble in water (vitamin B complex and C) A number can be prepared synthetically **Vitamin A** helps to keep the skin and the mucous membranes of the body in a healthy condition, is necessary for normal growth of the young, and prevents certain eye diseases, e g , xerophthalmia An early symptom of an insufficiency of the vitamin is night blindness, a condition in which adaptation of the eyes to darkness is abnormally slow (see VISION) Experiments with laboratory animals indicate that a high intake of vitamin A postpones senility and lengthens the prime of life Although its chemical structure is known, no chemical name for the vitamin has yet been generally adopted It is a derivative of the carotinoid pigments of plants A process for the synthetic production of vitamin A on a commercial scale was developed in 1947. Among the richest sources of vitamin A are butter, cream, whole milk and cheese and other products made from whole milk, liver, fish-liver oils (e g , from cod and halibut), eggs, dark green leaf vegetables, yellow vegetables (e g , carrots and sweet potatoes), and fruits with yellow flesh The carotene of green and yellow plant foods is sometimes called provitamin A or the precursor of vitamin A, it is converted into vitamin A in the body, chiefly in the liver. Commonly grouped as the **vitamin B complex** are about a dozen water-soluble factors, the importance of some of them in human nutrition has been established Thiamine (formerly thiamin) or thiamine hydrochloride (known also as vitamin B_1 or simply as vitamin B) is concerned with the maintenance of normal appetite, good digestion, and the metabolism of carbohydrates, it is essential to normal growth of the young Another vital function is its part in maintaining the health of the nervous system, it prevents the development of BERIBERI in humans and polyneuritis in animals. Good sources of thiamine are yeast, whole grains (e g , whole-wheat cereals, bread, and other products from which the brown portions of the grain have not been removed by refining); eggs, liver, kidney, pork, and some other meats, peanuts, and dried legumes (e g , beans, peas, and lentils) Lack of such a dietary substance as a cause of beriberi in the Orient was suggested by Christian EIJKMAN Casimir Funk obtained (1911) a crude preparation of the anti-beriberi substance Others continued the research, and in 1936 Robert R. Williams and his associates determined its chemical structure and soon afterward synthesized it Riboflavin (which has also been known as vitamin B_2, vitamin G, and lactoflavin) is a component of one or more of the respiratory enzymes of the human body and is believed to be concerned with oxidation in the body cells Lack of the vitamin in humans is evidenced by skin lesions, especially in the angles of the mouth and on the lips and tongue, and damage to the cornea and conjunctiva of the eye Sources of riboflavin include green leaf vegetables, milk, cheese, eggs, liver, kidney, lean meats, and whole-grain products. Niacin or niacin amide (also called nicotinic acid) is commonly known as a preventive of the disease pellagra (although other deficiencies are also contributary causes). In humans lack of sufficient niacin produces disturbances of the digestive system and of the central nervous system.

Niacin was originally prepared (1867) from nicotine (However, in the body it cannot be formed from nicotine.) Its functions have not been fully investigated, but it aids digestion and stimulates the appetite and is believed to play a part in the oxidation processes in the body A number of investigators contributed to the discovery of its effectiveness in preventing PELLAGRA Experimental studies begun in the S United States in 1914 by Joseph GOLDBERGER and continued by him with G. A. Wheeler and others established faulty diet as the cause of the disease Later pellagra and a disease of dogs called blacktongue were identified as the same condition In 1937 C A Elvehjem and his associates proved that blacktongue in dogs could be cured and prevented by niacin Niacin also proved to be a cure for pellagra in humans even in late stages of the disease Vitamin B_{12} discovered (1948) in liver is believed to be effective against pernicious anemia and other anemias A number of other substances usually considered part of the vitamin B complex have not been fully investigated These include pyridoxine (formerly vitamin B_6); pantothenic acid, identified in 1933 by R J Williams as essential to the growth of yeast and believed to be necessary to normal nutrition in man, para-aminobenzoic acid, sometimes called the anti-gray hair factor, although its ability to prevent grayness is not established, biotin, necessary to normal nutrition in man, choline, believed to be in some way concerned with the metabolism of fats, folic acid, found abundantly in green leaves and believed to be concerned with the formation of blood, and inositol, the function of which is unknown. **Vitamin C** or ascorbic acid is known widely as a means of preventing SCURVY Symptoms of insufficient vitamin C in human beings include tenderness and bleeding of the gums, loosening of the teeth, soreness of the joints, and weakness and fatigue Bleeding, both external and internal, and the tendency to bruise easily are indications of the weakening of the walls of the capillary blood vessels which lack of the vitamin causes Since little of the vitamin can be stored in the body, it is important to have a substantial daily supply Good sources are the citrus fruits and their juices (orange, lemon, grapefruit, lime, and tangerine), tomatoes and tomato juice (both fresh and canned), raw cabbage and some other raw vegetables, and potatoes when baked or boiled in their jackets It is easily destroyed in cooking. **Vitamin D** plays an essential role in the utilization of calcium and phosphorus by the human body and prevents the disease called RICKETS It is especially important during the growing period, to insure the health of the bones and teeth, and during pregnancy and lactation In adults the deficiency disease is called osteomalacia. Few foods contain vitamin D, it is present in fish-liver oils, flesh of herring and sardine, egg yolk, and liver (of beef, chicken, and some other animals) It is sometimes added to milk by irradiation with ultraviolet light, in the form of a concentrate obtained from fish-liver oil, or by feeding to cows irradiated yeast or irradiated ergosterol (viosterol) Exposure to sunlight, causing the irradiation of cholesterol present in the skin, probably satisfies much of the human requirement of the vitamin A number of chemical compounds have **vitamin E** activity, among which alpha-tocopherol, beta-tocopherol, and gamma-tocopherol are the most active. Vitamin E is essential to normal reproduction of some animals, but in humans, although it has been used in treating certain disturbances of the reproductive system, its value is not definitely known It is widely distributed in foods, being especially abundant in oil obtained from the wheat germ and from lettuce **Vitamin K**, identified in 1934 by Henrik Dam, is concerned with maintaining the normal clotting of the blood and with normal functioning of the liver Two components were identified in 1939, vitamin K_1 isolated from alfalfa and vitamin K_2 isolated from putrefied fish meal Sources of the vitamin include green leaf vegetables (especially alfalfa and spinach), cabbage, cauliflower, and soybean oil The danger of hemorrhage in newborn infants has been reduced by the administration of vitamin K either to the mother or to the baby Discovery of **vitamin P** or citrin was reported in 1936 by Albert von Szent-Gyorgyi It was found in paprika and lemon rind. Although its part in human nutrition is not definitely determined, it is believed to function along with vitamin C in preventing permeability of capillary walls. See American Medical Association, *The Vitamins: a Symposium* (1939) and *Handbook of Nutrition* (1943), H C Sherman, *The Science of Nutrition* (1943), *The Chemistry of Food and Nutrition* (7th ed , 1946), and *Food and Health* (rev. ed., 1947); M D Rose, *Foundations of Nutrition* (4th ed , revised by Grace MacLeod and C M. Taylor, 1944) and *Laboratory Handbook for Dietetics* (5th ed., revised and rewritten by C. M. Taylor and Grace MacLeod, 1949); W. H. Eddy, *Vitaminology* (1949)

Vitebsk (vē'tĕpsk, vē'tyĭpsk), city (pop. 167,424), capital of Vitebsk oblast, NE Belorussia, on the Western Dvina river. It has textile and machinery manufactures. Dating from the 11th cent , it was the capital of a Russian principality which came (14th cent) under Lithuanian rule. It suffered much in the wars (16th and 17th cent) between Russia and Poland-Lithuania and passed to Russia in the first Polish partition (1772). Until the Second World War, when Vitebsk was occupied (1941–44) by the Germans, about 45 percent of the population was Jewish

Vitellius, Aulus (ô'lŭs vĭtĕ'lēŭs), A D 15-A D 69, Roman emperor (A D. 69) He had the favor of Tiberius, Caligula, Claudius, and Nero, and GALBA made him commander of the legions on the lower Rhine On Galba's death he was proclaimed emperor at Colonia Agrippina (now Cologne) Generals favoring him defeated his rival, OTHO, in Italy, and Vitellius briefly had the imperial purple He distinguished himself by extravagance, debauchery, and general incompetence When his rival in the East, VESPASIAN, moved into Italy, Vitellius' supporters melted away His troops lost before Cremona, and Vitellius fought with Vespasian's brother in Rome When Vespasian's troops entered Rome, Vitellius was seized in hiding and murdered

Viterbo (vētĕr'bō), city (pop 21,281), capital of Viterbo prov , Latium, central Italy In the 13th cent it was a favorite residence of the popes, and several conclaves were held here The city is rich in works of art, but most of its buildings suffered severe damage in the Second World War There is a picturesque medieval quarter with palaces and houses built in the 13th and 14th cent and with numerous fountains The pope's pinnacled palace and Gothic loggia, the Romanesque cathedral with its fine campanile, the Renaissance town hall, and many interesting churches are other landmarks Near by are warm mineral springs used since Etruscan times

Viti: see FIJI

Viti Levu (vē'tē lā'vōō) or **Naviti Levu** (nävē'tē), volcanic island (4,010 sq mi , pop 176,822), S Pacific, largest and most important of the FIJI islands On Viti Levu is Suva, capital of the colony of Fiji, with the best harbor Mt Victoria (4,341 ft.) is the highest peak in Fiji The fertile deltas of the Rewa, largest river of the group, produce sugar, pineapples, rice, and cotton Sugar is the chief export, dairying and gold mining are important industries

Vitim (vētyĕm'), river, 1,192 mi long, RSFSR, in SE Siberia It rises at 5,530 ft in the Vitim Plateau, a gold-mining area in the NE Buryat-Mongol ASSR, and flows south, then northeast, and finally north to join the Lena at the town of Vitim (1948 pop over 2,000)

Vitória (vētô'rēŭ), formerly **Victoria**, city (pop 42,098), capital of Espírito Santo, E Brazil, a port on the Atlantic It ships great quantities of coffee and iron ore and has processing plants for cotton, sugar, and coffee Among the chief buildings are the government palace and several old churches The city was founded in the mid-16th cent

Vitoria (vētô'rēä), city (pop 44,341), capital of Álava prov , N Spain, in the Basque Provs It is a manufacturing center for machinery, tools, sugar, food products, and paper Founded in the 6th cent by the Visigoths, it was named Vitoria by Sancho the Wise of Navarre to commemorate his victory over the Moors (1180) It was taken (c 1200) by Alfonso VIII of Castile, but preserved its privileges In 1813 Wellington won here the decisive battle of the Peninsular War against the French under Joseph Bonaparte and Jourdan and was given the title duke of Vitoria Vitoria has a Gothic cathedral

Vitré (vētrā'), town (pop 7,390), Ille-et-Vilaine dept , NW France, on the Vilaine An old Breton town, it has preserved its medieval walls and castle and a late Gothic church

vitriol. For oil of vitriol, see SULPHURIC ACID, for green vitriol, see COPPERAS See also BLUE VITRIOL AND WHITE VITRIOL

Vitruvius (Marcus Vitruvius Pollio) (vĭtrōō'vēŭs), 1st cent A D , Roman writer on architecture, of whose life little is known His one work, *De architectura*, discusses in 10 volumes city planning, building materials, temples and the Greek orders of architecture, public and private buildings, interior decorations, waterworks, chronometric instruments, machines to be used in construction, and military machines Its value lies in its uniqueness and its encyclopedic nature Vitruvius was much used by Renaissance architects in the classical revival A translation is in the Loeb Classical Library

Vitry-le-François (vētrē'-lŭ-frāswä'), town (pop 7,066), Marne dept , NE France, on the Marne river It was the headquarters of General Joffre early in the First World War and was partially destroyed in the Second World War. Vitry-le-François was built by Francis I to replace **Vitry-en-Perthois** (-ä-pĕrtwä') or **Vitry-le-Brûlé** (-lŭ-brülā'), which had been burned down in 1144 by Louis VII of France and in 1544 by Emperor Charles V

Vittoria (vēt-tô'ryä), rural town (pop. 34,769), SE Sicily, Italy, W of Ragusa Founded in 1607, it is an important center of wine production and export.

Vittoria Colonna: see COLONNA, VITTORIA.

Vittorino da Feltre (vēt-tôrē'nô dä fĕl'trā), 1378–1446, Italian humanist and teacher, b. Feltre. His real name was Vittorino Rambòldini (rämbōldē'nē). He studied at Padua and later taught there, but after a few years he was invited by the marquis of Mantua to educate his children At Mantua, Vittorino set up a little boarding school, at which he taught the marchese's children and the children of other prominent families, together with many poor children, treating them all on an equal footing He taught not only the humanistic subjects, but placed especial emphasis on religious and physical education Many of his methods were novel, especially in the close contacts between teacher and pupil and in the adaptation of the teaching to the ability and needs of the child He is called an educator in the modern spirit Many of the greatest figures of 15th-century Italy were Vittorino da Feltre's pupils See W H Woodward, *Vittorino da Feltre and Other Humanist Educators* (1921)

Vittorio Veneto (vēt-tô'ryô vānā'tô), town (pop 12,034), Venetia, NE Italy Here in Oct.–Nov , 1918, the Italians won a decisive victory over the Austrians This led to the Austro-Hungarian surrender to Armando DIAS on Nov 3.

Vitu Islands (vē'tōō), volcanic group, SW Pacific, 40 mi N of New Britain, in the BISMARCK ARCHIPELAGO and part of the Territory of New Guinea Garove (26 sq mi) is the largest of several small islands The group, formerly called the French Islands, is the chief copra center of the Territory of New Guinea

Vitus, Saint (vī'tŭs), 4th cent ?, Sicilian martyr. As one of the saints called the Fourteen Holy Helpers he is invoked against many diseases, including St Vitus's dance Guy is the English form of his name His nurse and her husband, St Crescentia and St Modestus, martyred with St Vitus, share his feast, June 15

Vivaldi, Antonio (äntô'nyô vĕval'dē), c 1675–1743, Italian composer He had been ordained as a priest before he taught violin in Venice from c 1709 until his death He also traveled as a composer and producer of operas, but his 46 operas are less well known than his instrumental works, the most important of which are his *concerti grossi* He standardized the three-movement form of the *concerto grosso* and patterned it more and more after the solo concerto Bach made organ transcriptions of four of Vivaldi's concertos

Vivanti, Annie (vēvän'tē), 1868–1942, Italian novelist, b London, daughter of an exiled Italian patriot Her first verse was published in 1890 with the aid of Giosuè Carducci Her novel *The Devourers* was written in English (1910) and translated by herself into Italian (1911) It is perhaps her best work In addition to short stories she also wrote other novels, including *Vae Victis* (1917) and *Mea Culpa* (1927)

Vivarais (vēvärā'), mountainous region, E central France It is similar to the CÉVENNES, which it prolongs to the northeast The Mézenc (5,755 ft) is the highest peak Cattle raising and the cultivation of silkworms are the chief industries It roughly corresponds to Ardèche dept Privas is the chief town The medieval county of Viviers or Vivarais, a part of the kingdom of Arles, was held in fief from the emperors by the counts of Toulouse, who ceded it to the French crown in 1229

Vivarini (vēvärē'nē), Italian family of painters originating in Murano **Antonio Vivarini** (äntô'nyô), b c 1415, d between 1476 and 1484, established with his brother-in-law, Giovanni d'Alemagna, a thriving workshop in Murano A joint work is *Madonna Enthroned* (Academy, Venice) Work signed only by Antonio includes *Adoration of the Magi* (Berlin Museum collection) and the altarpiece in the cathedral at Parenzo His brother, **Bartolomeo Vivarini** (bärtōlōmā'ō), c 1432–c 1499, was one of the first to practice oil painting in Venice Characteristic is his altarpiece depicting St Augustine and companion saints (Church of St John and St Paul) **Alvise Vivarini** (älvē'zā) c 1446–c 1503, son of Antonio, was a celebrated religious painter His paintings include *Madonna and Saints* (Naples) and *The Resurrection* (San Giovanni in Bragora)

Vives, Juan Luis (hwän' lwēs' vē'väs), 1492–1540, Spanish humanist and philosopher, friend of Erasmus At the invitation of Henry VIII he went to England, where he lectured at Oxford and served as tutor for Princess Mary. Opposed to the divorce of Henry and Katharine of Aragon, he left England and until his death lived in Bruges Vives, a vigorous and adventurous thinker, opposed the authority of Aristotle and the conventions of scholasticism He was the forerunner of Francis Bacon by his application of induction to philosophical and psychological inquiry and by pragmatic testing of his hypotheses In *De anima et vita* (1538) Vives produced one of the first works on modern psychology Another of his books, *De disciplinis* (1531), is an important analysis of educational theory

Vivian, oil town (pop 2,460), extreme NW La., near the Texas border, inc 1904

Viviani, René (rənā' vēvyänē'), 1863–1925, French statesman He entered politics as a Socialist,

was labor minister in the Clemenceau cabinet of 1906–9, and became premier in June, 1914. Viviani accompanied Poincaré to Russia in July, 1914, and was returning at the outbreak of the First World War His appeal for a "sacred union" of all parties resulted in the formation of a coalition defense cabinet He resigned in Oct., 1915, but served until 1917 as minister of justice under his successor, Aristide Briand In 1917 he visited the United States, and in 1921–22 he represented France at the naval conference in Washington

Vivien, enchantress see ARTHURIAN LEGEND

Vivien de Saint-Martin, Louis (lwē' vēvyē' du sē-märtē'), 1802–97, French geographer. He wrote several books on the history of France and on ancient geography, but is best known as editor of the *Nouveau Dictionnaire de géographie universelle* (1876–95) and the *Atlas universel de géographie* (1876–1905)

Vizagapatam (vĭ"zŭgŭpŭ'tŭm), town (pop. 70,243), NE Madras state, India, a port on the Bay of Bengal It was established by the British in the 17th cent Cloth and ornamental objects of ivory, horn, and silver are manufactured

Vizcaíno, Sebastián (sāvnstyän' vēthkäē'nō), fl. 1602, Spanish explorer and merchant After an unsuccessful attempt to plant a colony in Lower California (1596), he sailed (1602) to explore the California coast, where he discovered and named Monterey bay In 1611 he was sent out to search for the fabled Pacific islands of Rica de Oro and Rica de Plata and to promote relations with Japan, the venture failed

Vizcaya, Spain see BASQUE PROVINCES

Vlaardingen (vläär'dĭng-ŭn), municipality (pop. 42,987), South Holland prov, SW Netherlands, on the Nieuwe Maas and W of Rotterdam It is a major fishing center, especially for herring and cod

Vlachs: see WALACHIA

Vladikavkaz, RSFSR see DZAUDZHIKAU

Vladimir I or **Saint Vladimir** (vlä'dĭmēr, Rus vlŭdyĕ'mĭr), d 1015, first Christian duke of Kiev (980–1015), son of SVIATOSLAV and grandson of St Olga He conquered distant Slavonic populations and waged successful war on the Lithuanians, the Bulgars, and the Greeks in Crimea At first a fervent pagan, he was influenced by the progress of Christianity at Kiev and by trade relations with Byzantium and was baptized in 988 or 989 He made Greek Orthodox Christianity the religion of his house and of the whole Russian people, using force at Novgorod and other places against the old paganism He was baptized before his wedding with the Byzantine princess, Anna, and after the wedding he returned Kherson in Crimea to Byzantium He enacted several statutes concerning the legal status and courts of the Church

Vladimir II (Vladimir Monomakh), 1053–1125, grand duke of Kiev (1113–25) Called to the throne by popular demand in Kiev, he pacified his state, warred successfully on the Livonians, Finns, Bulgars, and Cumans, and once marched on Constantinople He extended colonization in the northeastern forests, built new towns, and dethroned unruly princes He became immensely popular. His written instructions for his son and his cousin and his eloquent prayers reveal his admirable character

Vladimir (vlŭdyĕ'mĭr), city (pop 66,761), capital of Vladimir oblast, central European RSFSR, ENE of Moscow. It is a rail junction and manufactures machinery, cotton textiles, and plastics Founded in the early 12th cent by Vladimir II of Kiev, it was (c 1150–1328) the capital of the grand duchy of Vladimir-Susdal, which became the chief Russian principality after the breakup of the Kievan state Vladimir was destroyed (1238) by the Mongols under Batu Khan, who slew the grand duke in battle The dukes of Moscow now emerged as the chief Russian princes, and in 1364 they acquired Vladimir; they assumed the title grand dukes and for a long time had themselves crowned here The city declined, but recovered some importance in the 18th cent Among its many monuments of the past are the Uspenski cathedral (1158–94), with a museum of religious art, the Demetrius cathedral (1193–97), the Golden Gate, a city gate erected in 1164, and several monasteries built (12th–13th cent) of white stone in the Vladimir-Susdal style (see RUSSIAN ARCHITECTURE). There also are several museums and art galleries

Vladimir-Volynski (vlŭdyĕ'mĭr-vŏlĭn'skē), Pol *Wlodzimierz* (vwôjĕ'myĕsh), city (1931 pop 24,581), W Ukraine, c 70 mi N of Lvov One of the oldest Ukrainian settlements, it became the capital of the duchy of Vladimir or Lodomeria, founded (c 988) by Duke Vladimir I of Kiev Originally dependent on Kiev, the duchy for some time included all of VOLHYNIA It was united with the duchy of GALICH in 1188 Repeatedly attacked and seized by Poles, Lithuanians, Tatars, Hungarians, and Cossacks, the city eventually (1795) passed to Russia; in 1921 it reverted to Poland, and in 1945 it was ceded to the USSR

Vladislav (vlä'dyĭslăf), Czech version of the name Ladislaus Two kings of Bohemia were thus named, they were Vladislav I (who was LADISLAUS V, king of Hungary) and Vladislav II (who was ULADISLAUS II, king of Hungary).

Vladivostok (vlă"dĭvŏ'stŏk,-vŏstŏk', Rus vlă"dyĕvŏstŏk'), city (1939 pop 206,432; 1946 estimated pop 300,000), capital of Maritime Territory, RSFSR, in Far Eastern Siberia, on a peninsula between Amur Bay and the Golden Horn, two inlets of the Sea of Japan It is the chief Russian port on the Pacific, the terminus of the Trans-Siberian RR and of a branch of the Chinese Eastern RR, and a base for the Russian fishing and whaling fleets Vladivostok exports coal, lumber, vegetable oils, fish, furs, and grain The port is kept open in winter by icebreakers An industrial center, Vladivostok has shipyards, airplane plants, canneries, lumber mills, and food-processing plants There are a polytechnic institute, a marine academy, a teachers college, and the Pacific Institute of Fisheries and Oceanography and other research institutes. The site of Vladivostok was settled by Russians in 1860 Chartered in 1880, the city grew rapidly after the completion (1905) of the Trans-Siberian RR and developed as a naval base after the loss, in the same year, of Port Arthur to Japan In the First World War, Vladivostok was a major supply depot As a result of the Revolution of 1917, the Allies occupied (1918) the city, supposedly to protect their property Most of the occupying forces were Japanese, but there also were some 8,000 Americans and smaller British, Italian, and French contingents By 1920, when Vladivostok was included in the newly proclaimed Far Eastern Republic, the Japanese continued to occupy the area and installed a counterrevolutionary Russian puppet government They withdrew only in 1922, when the city passed under Soviet control In the Second World War, Vladivostok was a major port for lend-lease supplies

Vlaminck, Maurice (mōrĕs' du vlămĕk') 1876–, French painter, writer, and printmaker From 1905 his works were regularly shown at the Salon des Indépendants and Salon d'Automne He is best known for his highly popular landscapes in oil Essentially a romanticist, Vlaminck creates dramatic tension by means of somber color, striking accents, and dynamic design and execution His work is found in collections of contemporary paintings everywhere Vlaminck illustrated his own *Communicatons* (1921) and *Histoires et poèmes de mon époque* (1927). See study by K. G. Perls (1941)

Vlissingen, Netherlands see FLUSHING.

Vlona or **Vlone,** Albania see VALONA.

Vlora or **Vlorë,** Albania see VALONA

Vltava, Czechoslovakian see MOLDAU, river.

vocational guidance see GUIDANCE

vocational training, designed to advance a person's general proficiency, especially in relation to his present or future occupation The term does not normally include professional training Prior to the Industrial Revolution, the APPRENTICESHIP system and the home were the principal sources of vocational education Since then society has been forced by the decline of handwork and the specialization of occupational functions to develop vocational training institutions Manual training, involving general instruction in the use of hand tools, developed initially in Scandinavia c 1866 in response to the doctrines of Froebel and Pestalozzi It became popular in the elementary schools of the United States after 1880 While the immediate object of this training was not vocational, it developed gradually into extended courses in industrial training Courses in bookkeeping, stenography, and allied commercial work in both public and private institutions were another early form of vocational training Among the early private trade schools were Cooper Union (1859) and Pratt Institute (1887) Hampton Institute (1868) and Tuskegee Institute (1881) were pioneers in industrial, agricultural, and home economics training for Negroes The agricultural high school (1888) of the Univ of Minnesota was the first regularly established public vocational secondary school and introduced extensive public instruction in agriculture Since 1900 the number of public and private vocational schools has greatly increased Under the Smith-Hughes Act (1917) the Federal government assists states in financing industrial, home economics, and agricultural courses This aid was extended in the George-Deen Act (1936) to include teacher training and certain other occupations. Large communities frequently have separate public schools devoted to specific occupational fields, and some counties and states sponsor regional vocational training establishments These public schools work closely with the interested trades and industries in establishing curriculums and in GUIDANCE programs The cooperative training technique, in which the student works part time in the job for which he is preparing, is a common feature of these schools Many industries have instituted extensive vocational training programs for their employees, and virtually all trades require apprenticeship and on-the-job training Vocational correspondence courses in great numbers were formed to meet the growing demand for training. Many of these were poorly designed and without value, but were improved under the informal supervision of the National Home Study Council (1926) working with the Federal Trade Commission. Advances in the techniques of vocational training were made by the armed services during the Second World War The need for technicians was so great that civilian life could not supply them, and special training methods stressing graphic presentation and practical work were used to meet the demand Further impetus to vocational training resulted from the Servicemen's Readjustment Act of 1944 (popularly, the G.I. Bill of Rights, from G.I [general issue], a slang term for a soldier), which allowed veterans to receive tuition and subsistence during extended vocational training This law provides that each training establishment must be approved by the state board of education before it can participate in the program To meet the provisions of the law, states undertook extensive supervisory programs Theorists in vocational training have emphasized that its aim was to improve the worker's general culture as well as to further his technical training This policy is evident in the academic requirements of public vocational schools and in the work of public continuation and evening schools These are provided so that workers who have not completed the public school requirements may do so while engaged on regular jobs In some localities attendance at continuation schools is compulsory for those who come under school age While continuation and evening schools are often primarily vocational, they frequently include general courses which attract older workers. Labor organizations also have established vocational and cultural centers for their members Outstanding programs are sponsored by the International Ladies Garment Workers and the Amalgamated Clothing Workers See SCHOOL See publications of the U S Office of Education, *Objectives and Problems of Vocational Education* (ed by E A Lee, 1938), T R Adam, *The Worker's Road to Learning* (1940), F T Struck, *Vocational Education for a Changing World* (1945)

vocative (vŏ'kŭtĭv) [Latin, = for calling], in the grammar of certain languages (e g, Latin), CASE referring to a person addressed In English a special intonation has the corresponding meaning, e g, in *Look, Jack*

Vodena, Greece see EDESSA

vodka (vŏd'kŭ), national spirituous drink of Russia, popular also in the Baltic states and Poland The best vodka is distilled from rye and barley malt, but cheaper maize and potatoes are commonly employed The high alcoholic strength of over 90 percent is generally diluted before marketing In Russia the manufacture and sale of vodka are a state monopoly

Vogau, Boris Andreyevich see PILNYAK, BORIS

Vogler, Georg Joseph (gā'ôrk yō'zĕf fō'glēr), 1749–1814, German composer and organist, known as Abbé Vogler He traveled widely, giving organ concerts and demonstrating his innovations in organ construction. He went (1775) to Mannheim as court chaplain and was court music director at Stockholm (1780–89) and at Darmstadt (1807–14) He composed operas, organ music, Masses and other church music, and some instrumental music Browning idealized him in his poem "Abt Vogler" Vogler was the teacher of Meyerbeer and Weber

Vogt, Karl (kärl' fōkt'), 1817–95, German naturalist He was professor at the Univ of Giessen (1847–49) and at the Univ of Geneva (from 1852) A collaborator of Louis Agassiz and an ardent supporter of Darwin, he wrote textbooks and popular works on natural science

Vogt, Nils Collett (nēls' kŏ'lŭt vôkt'), 1864–1937, Norwegian lyric poet and novelist He rebelled against the conservative, aristocratic background of his home and, inspired by Bjornson, determined to devote his life to writing His poetry is often concerned with memories of his youth, tinged with melancholy and sometimes bitterness He wrote stories and plays, but he is known chiefly as a poet His poems include *From Spring to Autumn* (1894), *September Flame* (1907), and *Homecoming* (1917) He also wrote an autobiography, *From Boy to Man* (1932)

Vogüé, Charles Jean Melchior, marquis de (shärl' zhă' mĕlkyôr' märkē' du vôgüā'), 1829–1916, French archaeologist, historian, and diplomat He studied antiquities in Palestine and Syria (1853–54) and was ambassador at Constantinople (1871–75) and at Vienna (1875–79) His numerous writings include *Syrie centrale architecture civile et religieuse du Ier au VIIème siècle* (2 vols, 1865–77)

Vogüé, Eugène Marie Melchior, vicomte de (ûzhĕn' märē' mĕlkyôr' vēkôt' dŭ vôgüā'), 1848–1910, French critic He fought in the Franco-Prussian War and was imprisoned for six months at Magdeburg He served (1876–82) in the embassy at St Petersburg and became interested in Russian literature. Influenced by romanticism and disinclined towards naturalism, Vogüé wrote a series of essays, *Le Roman russe* (1886, Eng. tr, *The Russian Novel*, 1913). Introducing the novelists from Pushkin to Tolstoy into France, this book had wide influence on French literary thought.

voice, sound produced by human beings in singing and speaking The source of the sound is the vibration of the vocal cords, which are inside the LARYNX,

and the production of the sounds is called phonation. The vocal cords are set into vibration by air from the windpipe passing over them, and they in turn produce resonance in the column of air enclosed by the pharynx At puberty the vocal cords of the male become approximately double their original length, with the result that the average adult male voice is about an octave lower in pitch than the female The voice is not only man's principal means of communication, but was undoubtedly his first musical instrument. It can be observed in children that to express one's emotions with the singing voice is as natural as to express one's thoughts by means of the speaking voice The principal difference in singing and speaking is that in singing the vowel sounds are sustained and given definite pitch Despite the naturalness of singing, training the singing voice for artistic purposes is perhaps the most subtle and difficult branch of music pedagogy The instrument is within the performer, and not only can he not see it and can never know exactly how the tone is produced, but the condition of the vocal apparatus can never be any better than the physical and mental condition of the singer Since the vocal impulse cannot actually be described, the teacher's task is to provide the pupil with concepts, principally imaginative, which will free the vocal apparatus from restrictive tensions and lead ultimately to the complete coordination of all the faculties involved The differences in the various vocal "methods" of numerous teachers is accounted for by the different concepts that they have hit upon A survey of these concepts is found in *Training the Singing Voice* (1947) by V A Fields The diverse ways in which the singing voice can be used may be illustrated by a comparison of the singing of an Oriental singer, an opera singer, and a blues singer The song of past ages cannot be heard today as it was intended to sound because of the great changes that have taken place in the art of singing within Western musical culture Gregorian chant may well have been sung with something like an Oriental technique The Neapolitan operatic school developed the art of *bel canto*, which was perhaps the most brilliant vocal technique known to Western music The art of the *castrato* (see EUNUCH) was unlike anything which can be heard today—one reason for the lack of performance of the operas of Handel The foundation of the scientific study of the voice was laid in the middle of the 19th cent by Manuel Patricio Rodríguez García, an extraordinarily successful voice teacher, who invented the laryngoscope and wrote *Mémoire sur la voix humaine* (1840) and *Traité complet de l'art du chant* (1847) There is doubt, however, as to how much physiological knowledge of the voice it is necessary or desirable for the singer to have, the laryngoscope probably had little to do with García's success as a singing teacher Singing voices are classified basically according to range as SOPRANO and CONTRALTO, the high and low female voices, with MEZZO-SOPRANO as an intermediate classification, and as TENOR and BASS, the high and low male voices, with BARITONE as an intermediate classification Within these range classifications there are more specific classifications as to the quality of a voice and the type of music that suits it best, e g , coloratura soprano Choral music generally presupposes a range of about an octave and a half for each voice, but a solo singer must have at least two octaves, and some have been known to possess ranges of three, even three and a half, octaves See H P Greene, *Interpretation in Song* (1912), W J Henderson, *The Early History of Singing* (1921) and *The Art of Singing* (1938).

voice, grammatical category according to which an action is referred to as done by the subject (active, e g , *men shoot bears*) or to the subject (passive, e g , *bears are shot by men*) In Latin, voice is a category of INFLECTION like mood or tense In ancient Greek, verbs were conjugated in three voices, active, passive, and middle (reflexive)

Voisin, La see POISON AFFAIR

Voiture, Vincent (vĕs̄' vwătür'), 1597–1648, French man of letters and poet He wrote in the precious manner of the salon of the Hôtel de Rambouillet, in which he was a leading figure

Vojvodina or Voivodina (both voi"vōdē'nə), autonomous province (8,683 sq mi , pop 1,661,632), N Serbia, Yugoslavia Novi Sad is the capital Vojvodina borders on Hungary in the north and on Rumania in the east A part of the great Danubian plain, it is watered by the Danube, the Theiss, and the Sava and constitutes the most densely populated and most prosperous part of Serbia. About 60 percent of the land is under cultivation It is the chief source of grain in Yugoslavia; fruit (notably plums, used for a powerful brandy), grapes, and vegetables are extensively cultivated Cattle raising is also important, and food processing is the largest industry Besides Novi Sad, the chief cities are Subotica, Zrenjanin, Sombor, and Pancevo The region was part of Hungary and Croatia before its conquest by the Turks in the 16th cent , and it was restored to the Hungarian crown by the Treaty of Passarowitz (1699). Parts of the region were included in the military frontier of S Hungary in the 18th cent., and the whole region was settled with Serbian and Croatian fugitives from the Ottoman Empire, as well as by German colonists The present population is still very mixed and includes Serbs, Croats, Magyars, Rumanians, and Slovaks The region was ceded (1920) to Yugoslavia by the Treaty of Trianon, and it received autonomy in 1946 As constituted in 1946, the Vojvodina consists of three sections—the Srem, in the southwest, which was part of Croatia-Slavonia until 1918, the Backa, in the northwest, which was an integral part of Hungary, and the western part of the BANAT OF TEMESVAR, in the southeast.

volcano (vŏlkā'nō) [Ital. = vulcan], aperture in the earth's surface or crust through which gases, molten rock, and solid fragments are discharged The term is commonly applied to both the vent and the cone or conical mountain built up around the vent by the ejected rock materials Often the mountain has at its apex a cavity, or crater, in which is the mouth of the vent Volcanoes are described as active, dormant, or extinct. Some 500 are known to be active, and they are distributed chiefly in two great belts One belt includes the Pacific coasts of South America, Central America, Mexico, and North America, the Aleutians, the Japanese and Malayan archipelagoes, the South Sea Islands, and New Zealand, the other extends from Central America through the West Indies, across the Atlantic, the Mediterranean, and Asia Minor to the East Indies Volcanic activity, known as eruption, may take any one or more of four chief forms or phases, known as Hawaiian, Strombolian, Vulcanian, and Pelée an In the Hawaiian phase there is an effusion of basaltic lava unaccompanied by explosion and ejection of fragments The eruptions of Mauna Loa are typical The Strombolian phase derives its name from the volcano Stromboli in the Lipari or Aeolian Islands, N of Sicily. It applies to continuous but comparatively mild discharges in which viscous lava is emitted in recurring, mild explosions, the ejection of incandescent material produces luminous clouds The more explosive volcanic eruption is Vulcanian In this phase the magma (lava before emission) accumulates in the upper level but is blocked by a plug of hardened lava which forms at the orifice between consecutive explosions When the explosive gases have reached a certain pressure within the volcano, masses of solid and liquid rock erupt into the air and clouds of vapor form over the crater, unlike the Strombolian phase the clouds are not incandescent The Pelée an phase is the most violent of volcanic action, manifesting emission of fine ash, hot gas-charged fragments of lava, and superheated steam in an incandescent "cloud" which travels at great speed This phase derived its name from Mont PELÉE, which erupted in this fashion in 1902, there occurred a series of violent explosions and the formation of the cloud that annihilated all life in its path, finally the mountain itself was blown apart Eruptions are often accompanied by torrential rains caused by the condensation of steam The fragments erupted vary in size, they include minute particles of volcanic dust and ash, *lapilli* (cinders or pellets), bombs (rounded or ellipsoidal masses of hardened magma), and huge masses Explosive eruptions build up steep-sided cones, while the nonexplosive volcanoes usually form broad, low lava cones Eruptions also occur under the sea The causes of volcanic activity are not clearly known, though the explanation for their explosive force lies in the pressure of the gases imprisoned within the molten rock The soil resulting from decomposition of volcanic materials is extremely fertile, and the ash itself is a good polishing and cleansing agent Notable eruptions within historic times have been those of Vesuvius, in Italy (A D 79), Jorullo, in Mexico (1759), Krakatoa, near Java (1883), Bandai, in Japan (1888), Soufrière, on St Vincent (1902), and Santa María, in Guatemala (1902) Other notable volcanoes are Cotopaxi and Chimborazo (Ecuador), Izalco (Salvador), Ixtaccihuatl and Popocatepetl (Mexico), Lassen Peak (United States), Katmai (Alaska), and Etna (Sicily) See also LAVA See G W Tyrrell, *Volcanoes* (1931), C A Cotton, *Volcanoes as Landscape Forms* (1944), S N Coleman, *Volcanoes, New and Old* (1946)

Volcano Islands, Jap *Kazan-retto*, island group (11 sq mi , pop 1,154), W Pacific, 660 nautical mi. S of Tokyo The most important island of the group is Iwo JIMA, the highest peak (3,181 ft) is on Minami-iwo-jima There are sugar plantations and sulphur mines The inhabitants are mostly Japanese, with some Koreans and Formosans Japan annexed the islands in 1887, placing them under the Tokyo prefecture, after the Japanese surrender in 1945, the group was removed from Tokyo's jurisdiction

Volendam (vō'lündăm'), village, North Holland prov , NW Netherlands, on the Ijsselmeer (formerly the Zuider Zee) and NNE of Amsterdam. A picturesque place, virtually unchanged since the 17th cent , it is a famous tourist center and is much frequented by artists

Volga (vōl'gŭ, Rus. vôl'gŭ), river, 2,290 mi. long, central and E European RSFSR It is the largest river of Europe and the principal waterway of the USSR, being navigable in nearly its entire course Rising, at an altitude of only 748 ft , in the Valdai Hills, it winds E past Rzhev and Kalinin, through the RYBINSK RESERVOIR, and past Shcherbakov, Yaroslavl, Kostroma, and Gorki (formerly Nizhni Novgorod) to Kazan, where it turns south and continues its broad, majestic course past Ulyanovsk, Kuibyshev (formerly Samara), Saratov, and Stalingrad At Astrakhan, near its mouth on the Caspian Sea, it fans out into a wide delta Its chief affluents are, from the right, the Oka and the Sura and, from the left, the Vetluga, the KAMA, and the Samara The MARIINSK SYSTEM links the Volga with the Baltic Sea and with the Baltic-White Sea Canal, the Moscow Canal, opened in 1937, connects it directly with Moscow, a canal linking the Volga at Stalingrad with the eastern bend of the Don has been projected. In its upper course the Volga traverses numerous lakes Below Gorki, it broadens considerably and is lined on its right (western) bank by the bluffs of the Volga Hills, which contrast sharply with the steppe that extends from the left bank The ZHIGULI mts cause the river to make a sharp bend, which reaches its easternmost point at Kuibyshev and which is known as the Samara bend The Volga is navigable from late April to late November at Shcherbakov, and from early March to mid-December at Astrakhan A tranquil, regular stream, it has a flood stage in May and June and a low-water stage in the late summer, when shoals and sandbars somewhat impede navigation There are many important hydroelectric stations, notably at Uglich, at Shcherbakov, and at Ivankovo, all along the upper Volga At Ivankovo, NW of Moscow, a dam (completed 1937) creates the vast Volga Reservoir or Moscow Sea, covering an area of 125 sq mi , this is connected with the Moskva river by the Moscow Canal Large hydroelectric stations have been projected at Gorki, at Kuibyshev, and at Stalingrad The Volga has played an incalculably important part in the life of the Russian people, and it is characteristically named in Russian folklore "Mother Volga" Its basin comprises one third of the European USSR For centuries it has served as the chief thoroughfare of Russia and as the lifeline of Russian colonization to the east It still carries one third of the total river freight of the USSR, and it is used for irrigating the vast steppes of the lower Volga region Grain, oil (chiefly from Baku, shipped across the Caspian Sea), salt, fish, and caviar (from the Volga delta and the Caspian) are shipped upstream, lumber is the main commodity shipped downstream The Volga was known to the ancient Greeks as the Rha, but little was known about the river until the early Middle Ages, when Slavic tribes settled along its upper course, the Bulgars (see BULGARS, EASTERN) along its middle course, and the KHAZARS in the south Its importance as a trade route dates from that time The Russians soon extended their control as far as to Nizhni Novgorod (see GORKI), founded in 1221 The Mongol invasion of the 13th cent resulted in the direct control by the Golden Horde of the Volga below Nizhni Novgorod and in the creation of the Tatar khanates of KAZAN and ASTRAKHAN, which fell to Moscow only in the 16th cent Sarai, on the Volga near modern Stalingrad, was the capital of the empire of the Golden Horde The conquest of these territories was largely the work of the Cossacks, who used the Volga and its tributaries for their epic forays into Siberia (under Yermak in the 16th cent) and into the Caspian Sea (under Stenka Razin, in the 17th cent) Many of the Finnic and Turco-Tatar nationalities still live in the middle and lower Volga regions, notably in the Chuvash ASSR, the Mari ASSR, the Mordvinian ASSR, the Tatar ASSR, and the Udmurt ASSR In the lower Volga region the KALMUCKS were settled in the early 17th cent. The lower Volga was the center of the great peasant rebellions under Stenka Razin and Pugachev, and after their suppression Catherine II settled many German colonists in the region around Saratov In the Second World War, when the Volga was briefly reached by the Axis forces at Stalingrad, the GERMAN VOLGA REPUBLIC and the Kalmuck ASSR were dissolved by the Soviet authorities

Volhynia (vŏlĭ'nyu), Rus *Volyn*) vŭlĭ'nyu), Pol *Wolyń* (vô'lĭnyu), historic region, NW Ukraine, one of the oldest Slavic settlements in Europe. The name is derived from the extinct city of Volyn, said to have been situated on the Western Bug. Its early history from c 981 overlaps with that of the duchies of Vladimir (see VLADIMIR-VOLYNSKI) and GALICH, after the disintegration (c 1340) of the duchy of Galich-Vladimir, Volhynia was disputed between Poland and Lithuania When these two rivals united in one state (1569), Volhynia became a quasi-autonomous Polish province In the second and third Polish partitions (1793 and 1795) Volhynia passed to Russia, but in 1921 its western section was returned to Poland, while the rest passed to the Ukrainian SSR In 1945 Poland

ceded its part to the Ukraine; this section includes the Volyn oblast (7,700 sq. mi.; pop 1,100,000), an agricultural lowland Lutsk is the capital.

Volk, Douglas (vōlk), 1856–1935, American portrait and figure painter, b Pittsfield, Mass, studied with Gérôme in Paris, son of Leonard Wells Volk He organized (1893) and directed the Minneapolis School of Fine Arts and later, in New York, was an instructor at the National Academy of Design, Cooper Union, and the Art Students League. Among his paintings are *Little Mildred* and a portrait of Felix Adler (Metropolitan Mus), portraits of General Pershing and King Albert of Belgium (National Gall of Art, Washington, D C), a portrait of Lincoln (Albright Art Gall , Buffalo, N Y); *Puritan Mother and Child* (Carnegie Inst., Pittsburgh), and *Accused of Witchcraft* (Corcoran Gall.)

Volk, Leonard Wells, 1828–95, American sculptor, b Wellstown (now Wells), N Y , son of a stonecutter An itinerant tombstone cutter, Volk went (1848) from New York state to St Louis, where he set up a sculptor's studio He later studied in Rome, through the interest of Stephen A. Douglas, and in 1857 opened a studio in Chicago. There he was active in founding the Chicago Academy of Design In 1860 he made a life mask of Lincoln and cast his hands—of great value to sculptors Among Volk's works are some portrait busts, including one of Lincoln, statues of Lincoln and Stephen A Douglas in the capitol, Springfield, Ill , the Douglas monument, Chicago, and military monuments at Rochester, N Y., and elsewhere Douglas Volk was his son

Vollard, Ambroise (äbrôzwäz' vôlär'), 1867–1939, French art dealer, collector, and publisher, b Réunion He was noted for his early recognition and sponsorship of leading artists of the school of Paris, especially Van Gogh and Cézanne (for whom he held the first one-man exhibitions) and Rouault His interest in publishing dated from the beginning of his career The three *Albums des peintres-graveurs* (1896–99) included prints by Bonnard, Cézanne, Chagall, Degas, Munch, Renoir, and others. In 1900 he published *Parallèlement* by Verlaine, with lithographs by Bonnard, and thereafter concentrated on the production of fine editions illustrated with original prints by such artists as Picasso, Dufy, Redon, and Rouault, works which are now highly prized by rare-book collectors and museums Vollard himself wrote anecdotal biographies of his friends Cézanne, Renoir, and Degas, as well as an autobiographical work, *Recollections of a Picture Dealer* (Eng tr from manuscript, 1936)

volleyball, outdoor or indoor ball game played on a level court An upright net, the top of which stands 8 ft from the ground, divides the court (60 ft long and 30 ft wide) in half Smaller courts are generally used when women or children play the game Three forwards and three backs, each covering an equal area of the court, compose a volleyball team The inflated-rubber volleyball, about 27 in. in circumference, is served from the right side of the back lines of the court The ball is batted with the open hand and must clear the top of the net, it may go into any part of the opponents' court Only one try is allowed on the serve. The ball must be returned without allowing it to touch the ground and must be volleyed within the boundaries of the court Any part of the body above the knee may be used to bat the ball, and a maximum of three volley passes (from player to player on one team) are permitted before the ball is returned. Only the team that is serving scores, and if the receiving team wins the volley, it gains the next serve The team scoring 15 points first wins the game, but if the score is tied at 14, the first team to score two consecutive points wins Volleyball was originated by William C Morgan at Holyoke, Mass., in 1895 The game was fostered by the Young Men's Christian Association in its early years and soon was adopted by many women's and youth organizations In 1929 the United States Volley Ball Association was organized See R. E. Laveaga, *Volley Ball* (1933)

Volney, Constantin François de Chassebœuf, comte de (kônstätē' frəswä' du shäsbûf' kôt' dû vôlnā'), 1757–1820, French scholar He traveled in Egypt and Syria in the 1780s and wrote an account of his journey, *Voyage en Syrie et en Égypte* (1787), notable for its information about inscriptions and Arabic customs, it was useful to Napoleon during his Egyptian campaign. Volney served as deputy (1789) to the States-General, as secretary (1790) of the National Assembly, and later, following a sojourn in the United States, as senator under Napoleon, who made him a count in 1808, and as a member of the chamber of peers under Louis XVIII His principal work, *Les Ruines; ou, Méditation sur les révolutions des empires* (1791), popularizing religious skepticism, was influential not only in France but also in England and the United States; it went through many translations and editions and stimulated much controversy His writings also include works on the United States, on ancient history, and on Arabic.

Volo, Greece: see VOLOS

Vologda (vô'lugdə), city (pop. 95,194), capital of Vologda oblast, N European RSFSR, on the Vologda river (a tributary of the Sukhona) and at the junction of the Leningrad-Kirov and Moscow-Archangel railroads It is a transportation center and has a large dairy industry. Founded in 1147, it was at first ruled by Novgorod; it became (1397) the seat of a Russian principality which passed to Moscow in 1481 In the 16th cent. Vologda flourished as a trade center on the road to Archangel. The city has retained its old kremlin, which contains the 18th-century episcopal palace (now a museum) Other historic buildings are the Cathedral of St Sophia (16th cent) and, in a suburb, the Spasso-Prilukі monastery, founded in 1371.

Volos (vô'lôs), city (pop 54,919), E Greece, in SE Thessaly, beautifully situated on the Gulf of Volos or Pagasaean Gulf, an inlet of the Aegean Sea. A new city, it is near the site of the ancient towns of Pagasae and Demetrias Volos trades in tobacco, wheat, almonds, olives, and fish, and it has a textile industry It was heavily damaged in the Second World War It is also spelled Volo

Volscians (vôl'shun) or **Volsci** (vôl'sī), people of ancient Italy. They occupied the country SE of the Alban Hills They and the Samnites were early opponents of the Romans and Latins, and the story of Coriolanus reflects the fierceness of the Volscian attacks on Rome Warfare apparently continued from the 6th cent B C until the 4th cent B C , when the Volscians were conquered and were promptly and completely Romanized

Volsinii (vôlsi'nēī), ancient city of Etruria, probably on the site of modern Orvieto It was a powerful member of the Etruscan League, and the spirit of the league was broken when Romans conquered and thoroughly sacked Volsinii in 280 B C. A new Volsinii was founded near Lacus Volsiniensis (Lake Bolsena)

Volsk (vôlsk), city (pop 55,053), E European RSFSR, a port on the Volga above Saratov It is a grain-shipping center and has cement plants and other manufactures

Volstead, Andrew Joseph (vôl'stĕd), 1860–1947, American legislator, b Goodhue co , Minn , educated at St Olaf College and Decorah Institute Admitted (1884) to the bar, he practiced law in Minnesota He held several local offices before he served (1903–23) in the U S Congress He sponsored many measures in Congress and became a national figure as the author of the **Volstead Act.** This Federal prohibition act made provisions for the enforcement of the Eighteenth Amendment The Volstead Act—passed in 1919 over the veto of President Woodrow Wilson—defined an intoxicating beverage as one that contains more than 5 percent of alcohol by volume It also provided Federal agents the power to investigate and prosecute violations of the amendment and defined the uses of injunctions against violators The act was modified (1933) to permit the sale of 3 2 percent beer and wine and became void after the repeal of the Eighteenth Amendment late in 1933 See J. A Krout, *Origins of Prohibition* (1925)

Volsungasaga (vôl'sôong-gusä'gu) [Icelandic,=saga of the Volsungs], Icelandic prose saga founded apparently, on earlier poetic materials, which are represented in Germany by the NIBELUNGENLIED It was probably assembled in the 12th or 13th cent Its heroine is GUDRUN, who accomplishes the ruin of the Volsungs, the principal of whom is Sigurd (see SIEGFRIED) The Brunhild of the *Nibelungenlied* is here called Brynhild William Morris translated the saga and also based on it his *Story of Sigurd the Volsung and the Fall of the Niblungs* (1876) See H G Leach, ed , *A Pageant of Old Scandinavia* (1946)

volt [for Alessandro Volta], unit of measurement in electricity It is the unit of electromotive force (written commonly as emf), i e , the unit of measurement of the force driving a current of electricity along a conductor, both emf and the difference of potential (upon which emf depends) are measured in terms of volts An instrument for measuring this voltage is called a voltmeter and is a form of GALVANOMETER The international volt is defined as the electromotive force which produces a current of one AMPERE (international) when acting on a conductor with a resistance of one OHM (international) It is determined by application of OHM'S LAW The Weston normal cell (the Weston portable cell is employed in common practice) is used to standardize the international volt, its emf being taken, at 20°C , as 1 0183 international volts

Volta, Alessandro, Conte (älĕsän'drō kōn'tā vôl'tä), 1745–1827, Italian physicist He was professor of physics at the Univ of Pavia from 1779 and became famous for his work in electricity Napoleon made him a count and a senator of the kingdom of Lombardy He invented the so-called VOLTA'S PILE OR VOLTAIC PILE, the electrophorus, a device consisting of a disk of some substance such as hard rubber, which is charged negatively, and a metal plate (with an insulating handle), in which a charge of electricity is produced by induction; an electric CONDENSER; and the VOLTAIC CELL. The VOLT, a unit of electrical measurement, is named for Volta.

Volta (vôl'tä), river rising in French West Africa and flowing c 800 mi. predominantly S through the Gold Coast to empty into the Gulf of Guinea. It is navigable by steam launch a short distance above its mouth.

voltaic cell (vôltā'ĭk) [for Alessandro Volta], an electric cell consisting of two plates of dissimilar metals, e g , copper and zinc, suspended, without touching each other, in a solution of acid or salt.

Voltaire, François Marie Arouet de (vôltâr', Fr. frəswä' märē' ärwā' dü vôltĕr'), 1694–1778, French philosopher and author, whose original name was Arouet He was born at Paris, the son of a notary, and was educated at the Jesuit Collège Louis-le-Grand. His godfather, the Abbé de Châteauneuf, introduced the boy to the circle of wits whose meeting places were the Temple and the salon of Ninon de Lenclos Because of insults to the regent, Philippe II d'Orléans, wrongly ascribed to him, Voltaire was sent to the Bastille (1717) for 11 months. There he rewrote his first tragedy, *Œdipe*, and began an epic poem on Henry IV, the *Henriade* It was at this time that he began to call himself Voltaire. *Œdipe* won him fame and a pension from the regent Voltaire, who at the time won a large lottery prize, used his funds for successful speculations and acquired a handsome independent fortune Throughout his life he displayed a shrewd business acumen, and he died a millionaire, but at the same time he often distinguished himself through his generosity In 1726 a young nobleman, the Chevalier de Rohan, resenting a witticism of Voltaire at his expense, had Voltaire beaten by a band of hired ruffians Far from obtaining justice, Voltaire was shut up in the Bastille through the influence of the powerful Rohan family, and he was released only upon his promise to go to England The episode left an indelible impression on Voltaire, who for the rest of his long life exerted himself to his utmost in struggling against judicial arbitrariness Voltaire's stay of over two years in England was very fruitful Through the friendship of Lord Bolingbroke he was introduced to the literary men of the period, the greater freedom of thought in England won his admiration The two Englishmen whose thinking influenced him most were Newton and Locke. Voltaire's *Letters concerning the English Nation* were first published in English (1732) and appeared in French as *Lettres philosophiques* (1733) This extremely influential book may be said to have opened the period of Anglomania that characterized the literature of the ENLIGHTENMENT Voltaire praised English institutions at the expense of the French, and he also introduced English literature, particularly Shakspere, into France (Later, when Shakspere became fashionable, Voltaire revised his earlier enthusiasm and called him a drunken barbarian.) The book was formally banned in France While still in England, Voltaire wrote the first of his historical works, a history of Charles XII of Sweden, which remains a classic in biography. After his return to France in 1729, he produced several tragedies, among them *Brutus* (1730) and *Zaïre* (1732) In 1733 he met Mme du Châtelet (see DU CHÂTELET-LOMONT), whose intellectual interests, especially in science, accorded with his own They took up residence together at Cirey, in Lorraine, under the Marquis du Châtelet's tolerant eye The connection with Émilie lasted until her death in 1749 At Cirey, Voltaire dabbled in physical and chemical experiments, began his long correspondence with Crown Prince Frederick of Prussia (later FREDERICK II) and wrote *Éléments de la philosophie de Newton;* a burlesque and undignified treatment of the Joan of Arc legends, *La Pucelle;* and the dramas *Tancrède*, *Mérope*, and *Mahomet* Through the influence of Mme de Pompadour, Voltaire was made royal historiographer, gentleman of the king's bedchamber, and a member of the French Academy He first visited Berlin in 1743, and after Mme du Châtelet's death he accepted Frederick II's invitation to live at his court His relations with Frederick, a man much of the same water as Voltaire, were generally stormy The king forgave him an unsavory lawsuit with a Jewish financier named Hirsch, but Voltaire's interference in the quarrel between MAUPERTUIS and König led to renewed coldness on the part of Frederick, and in 1753 Voltaire hastily left Prussia, taking with him, out of malice, a set of the king's poems which he had promised to correct He was placed under house arrest and searched by Prussian agents at Frankfurt, in violation of international law At a distance, the two men later became reconciled, and their correspondence was resumed Unwelcome in France, Voltaire settled in Geneva, where he acquired the property "Les Délices", he also acquired another house near Lausanne. The Genevese authorities soon objected to Voltaire's holding private theatrical performances at his home and still more to the article "Genève" written for the *Encyclopédie*, on Voltaire's instigation, by D'Alembert. The article, which declared that the Calvinist pastors of Geneva had seen the light and ceased to believe in organised religion, stirred up a violent controversy; Voltaire purchased (1758) an estate, Ferney (see FERNEY-VOLTAIRE), just over the French border, where he lived until shortly before his death as a virtual petty sovereign and was safe from arrest by

either the French government or the Swiss. One of the most active men of all time, he conducted an overpowering correspondence with most of the outstanding men and women of his time; received hosts of visitors who came to do homage to the "patriarch of Ferney"; employed himself in seeking justice for victims of religious or political persecution (e g , in the cases of the family of Jean Calas, of the Chevalier de Sirven, of Lally-Tollendal, of Admiral Byng, and of the serfs of Saint-Claude), contributed to the *Encyclopédie;* managed his estate, took active interest in improving the condition of his tenants, edited the works of Racine and Corneille, and turned out a stream of anonymous novels and pamphlets, which were distributed in all corners of Europe and in which he attacked the established institutions of his time with unremitting virulence Ironically, it is one of these disavowed works, *Candide* (1759), that is most widely read today It is the masterpiece among his "philosophical romances," which also include *Zadig, La Princesse de Babylone, Micromégas,* and the inimitable short tale *Jeannot et Colin,* perhaps the quintessence of Voltaire's style In *Candide* Voltaire attacked the philosophical optimism made fashionable by Leibniz Its conclusion, "Let us cultivate our garden" (instead of speculating on unanswerable problems), expresses succinctly Voltaire's practical philosophy of common sense The secret of *Candide*'s popularity lies chiefly in its style Voltaire reached the most subtly comical effects through an imperceptible turn of a phrase, his sentences flow with the greatest facility, his expressions are always felicitous and unlabored, his irony is the more devastating as its touch is light Brevity and lucidity characterize all his writings The same qualities shine through others among Voltaire's later productions, e g , *L'Homme aux 40 écus,* a devastating satire of the physiocrats, and the *Dictionnaire philosophique,* a compendium of Voltaire's thought on the most varied subjects In his serious poetic works, as in his *Henriade* and his tragedies, the perfection of his style is usually combined with a coldness that has robbed them of lasting appeal, though they tower above those of other 18th-century imitators of Racine Voltaire was responsible for the introduction to the theater of authentic costumes, and he labored successfully for the improvement of the social status of actors In his philosophy, he was almost entirely indebted to the English philosophers, to Montaigne, and to Bayle Its basis is skepticism and rationalism Whatever he could not understand (and that category included many things), he rejected as abstruse nonsense, but despite his cult for clarity and reason he frequently contradicted himself Thus he would maintain in one place that man's nature was as unchangeable as that of animals and would express elsewhere his belief in progress and the gradual humanization of society through the action of the arts, sciences, and commerce In politics he advocated reform but had an aristocratic horror of the people and of revolution His admiration went to "enlightened despots" such as Peter I, Frederick II, and Catherine II In religion, Voltaire felt that Christianity was a good thing for chamber maids and tailors to believe in, but for the use of the élite he advocated a simple deism, contenting himself with the belief in a supreme being, the "great watchmaker " He opposed the atheism and materialism of Helvétius and Holbach His line, "If God did not exist, he would have to be invented," has become proverbial While undermining the established order in France, he had in mind the establishment of an enlightened constitutional monarchy on the English pattern, not the French Revolution which he unwittingly helped to bring about His celebrated slogan, *Écrasez l'infâme!* [crush the infamous one!] has been interpreted as addressed either against the Church or against the outdated, intolerant, and arbitrary *ancien régime* in general Voltaire's influence in the popularization of the science and philosophy of his age was incalculably great Perhaps his most lasting and original intellectual contribution was made in the field of history His *Siècle de Louis XIV* (1751) embodies in part the ideas of his historical masterpiece, *Essais sur l'histoire générale et sur les moeurs et l'esprit des nations* (7 vols , 1756, Eng tr , 1759), the first attempt at writing a history of the world as a whole, Voltaire laid as much emphasis on culture and commerce as on politics and war, and he avoided national parochialism Its chief flaw is Voltaire's prejudice against religion In his 84th year Voltaire left Ferney for Paris to attend the first performance of his tragedy *Irène* His journey and his reception were a triumph and apotheosis, but the emotion was too much for him and he died in Paris soon afterward In order to obtain Christian burial he signed a partial retraction of his writings. This was considered insufficient by the Church, but he refused to sign a more general retraction. To a friend he gave the following written declaration· "I died adoring God, loving my friends, not hating my enemies, and detesting persecution " The archbishop of Paris refused him a Christian burial, but an abbot of his acquaintance put Voltaire's corpse into a carriage and secretly conveyed him to his abbey in Champagne, where he was buried. His remains were brought back to Paris in 1791 and buried in the Panthéon The first "complete" edition of Voltaire's work was the so-called Kehl edition, by Beaumarchais (70 vols in octavo or 92 vols. in duodecimo, 1784–87), a later edition is that of M Beuchot (72 vols , 1828–40, revised and enlarged, 52 vols., 1883) Much of Voltaire's huge correspondence was left unpublished, but is gradually being brought to light (e g , some 500 recently published letters to the Tronchin family of Geneva) There are English translations of Voltaire's most widely read works Biographies and studies of Voltaire reflect continued controversy as to Voltaire's real thought and beliefs, thus the biography by Alfred Noyes (1936) tries to prove that Voltaire was fundamentally an Orthodox Christian See biographies by Gustave Lanson (1906, in French), Georg Brandes (Eng tr., 2 vols , 1930), and H N Brailsford (1935), N L Torrey, *The Spirit of Voltaire* (1938), Adolph Meyer, *Voltaire, Man of Justice* (1945)

Volta Redonda (vôl'tu rudôn'dä), town (1940 pop 1,017, 1950 estimated pop 20,000), Rio de Janeiro state, Brazil, on the Paraíba river and 60 mi WNW of Rio It is a growing industrial community, with an important government-owned steel plant

Volta's pile or **voltaic pile** [for Alessandro Volta], a number of metal disks piled one upon the other with a piece of material wet with a salt solution between each disk The disks are of dissimilar metal, e g , zinc and copper, and the different metals are alternated in the pile Each set of two disks, as one zinc and one copper, correspond to a VOLTAIC CELL, the arrangement as a whole to an electric battery,

Volterra, Daniele da (dänyā'lā dä vôltĕr'rä), 1509–66, Italian painter and sculptor, called for his native town in Tuscany His family name was Ricciarelli As an ardent disciple of Michelangelo, he often worked after the master's designs. He took part in the decoration of the Farnese Palace but is best known for his famous *Descent from the Cross* (Church of the Trinità dei Monti, Rome) He was nicknamed *Il Braghettone* [breeches maker] because of his commission to paint clothes upon the nudes in Michelangelo's *Last Judgment* Other works are *Massacre of the Innocents* (Uffizi) and *David Killing Goliath* (Louvre).

Volterra (vôltĕr'rä), town (pop 11,704), Tuscany, central Italy It was a powerful Etruscan town A free commune in the Middle Ages, it passed to Florence in the 14th cent Of medieval aspect, it has a 16th-century cathedral and a fine square with ancient palaces and the oldest town hall in Tuscany Its powerful fort and towers (14th-15th cent) are now a prison There are well-preserved Etruscan and medieval walls Articles of alabaster are manufactured here

voltmeter: see GALVANOMETER

Volturno (vôltōōr'nō), river, 109 mi long, Campania, S Italy It rises in the Apennines and flows past Capua into the Tyrrhenian Sea In 1860 Garibaldi defeated on its banks the troops of Francis II of the Two Sicilies In the Second World War the river was crossed (Oct , 1943) by American troops after heavy fighting

volume, measure of solid content The units of measurement are either the cube of a linear unit, such as cubic inches and cubic centimeters, or units of dry and liquid measure, such as bushel and gallon, and, in the metric system, liter The formulas for the volumes of certain common solids are given in the following table

Solid	*Volume*	*Solid*	*Volume*
cube	l^3	right rectangular parallelepiped	lwh
prism	Bh	right circular cylinder	$\pi r^2 h$
pyramid	$\frac{1}{3}Bh$	right circular cone	$\frac{1}{3}\pi r^2 h$
sphere	$\frac{4}{3}\pi r^3$		

The abbreviations used are B = area of base, h = height, r = radius, l = length, w = width

Volunteers of America, religious and philanthropic organization, founded (1896) by General and Mrs Ballington Booth (see BOOTH, family) after their withdrawal from the Salvation Army In their religious work the Volunteers' aim is to act as auxiliary to the churches, converts won by evangelistic efforts are urged to join the denomination of their preference However, the Volunteers conduct services, missions, and Sunday schools where they are needed Ministration to social and physical needs has developed into an extensive system of welfare activities, including day nurseries, employment centers, fresh-air camps, maternity homes, hospices for working girls, and clubs and homes for the aged A very important branch of the work is the Volunteer Prison League, founded (1896) by Mrs Ballington Booth Thousands of prisoners have been enrolled in the league, signing the declaration which includes a promise to observe prison rules, and thousands have been assisted to find their way back into normal life. Mrs Booth is credited with having done much to improve prison conditions in America The Volunteers have a democratic form of government, although the society is military in its titles, uniforms, and movements of officers Nine directors, elected by the grand field council, are the officers responsible for finances and are trustees of property. Election of the general, or commander in chief, is held every five years The organization has its headquarters in the United States and is supported by voluntary contributions

Volyn, Ukraine: see VOLHYNIA

vomiting, spasmodic contraction of the stomach, with return of its contents to the mouth, following local stimuli or stimulation of the central nervous system Vomiting may be preceded by NAUSEA It is common in diseases of the organs of the digestive system, and sometimes occurs in pregnancy, migraine, brain tumor, injury, intoxication, shock, airsickness, and seasickness and as the effect of certain drugs, e g , ipecac It is induced mechanically in the spasm of whooping cough and in gagging Black vomit occurs in yellow fever The character of material vomited is often an aid in diagnosis Treatment depends upon the cause

Von. For German names beginning thus, see under the proper name, e g , for Von Bismarck, see BISMARCK

Vondel, Joost van den (yōst' vän dĕn vŏn'dul), 1587–1679, Dutch poet and dramatist, b Cologne Vondel's voluminous work consists mainly of translations, lyric poetry, and dramas He translated from French, Italian (Tasso), Latin (Vergil, Ovid, Horace, Seneca, the Psalter), and Greek (Sophocles, Euripides) His poems are principally patriotic; polemic, attacking the Antiremonstrants and defending the memory of Oldenbarneveldt, and religious, glorifying Roman Catholicism and honoring the saints He became a Catholic in middle life Vondel's 30 dramas are in the classical tragic manner, most of the original ones are on biblical subjects The two most famous are probably *Gysbreght van Aemstel* (1637), on a medieval Dutch theme, and the magnificent *Lucifer* (1654, Eng tr , 1898), which Milton may have known Vondel has been honored by many as the Netherlands' greatest literary figure See A J Barnouw, *Vondel* (1925)

Vonnoh, Bessie Potter (vŏ'nō), 1872–, American sculptor, b St Louis, studied under Lorado Taft at the Art Institute of Chicago She was Taft's assistant in his work for the World's Columbian Exposition, Chicago, 1893 Her small bronzes—*Young Mother, Dancing Girl, Reading Girl,* and others—are in leading museums of New York, Chicago, Detroit, Pittsburgh, and other cities Her fountain figures also are popular She was married in 1899 to **Robert Vonnoh,** 1858–1933, American portrait painter, b Hartford, Conn , studied at Julien's academy, Paris Among his paintings are *La Mère Adèle* (Metropolitan Mus), portrait of his wife and a self-portrait (Pa Acad of the Fine Arts, where he taught, 1891–96), family of Woodrow Wilson (White House, Washington, D C) He became a member of the National Academy of Design in 1906

Von Schrenk, Hermann (vŏn shrĕnk'), 1873–, American vegetable pathologist and timber engineer, b College Point, L I , N Y , grad Cornell Univ (B S , 1893), Ph D Washington Univ , 1898 An authority on the diseases of trees and the preservation of timber, he was consulting timber engineer for various railroads from 1907 and lectured at the forestry school at Yale from 1902 to 1909 In 1907 he became pathologist at the Missouri Botanical Garden, St Louis His writings include *The Decay of Timber and Methods of Preventing It* (1902) and *Seasoning of Timber* (1903)

voodooism (vōō'dōōĭzĕm), name for beliefs and practices attributed to Negroes of the West Indies (particularly Haiti) and the S United States The rites are connected with serpent worship and in extreme phases with human sacrifice and cannibalistic ceremonies Investigation has shown, however, that the secret ritual, which takes place at night, does not indicate a special, barbaric cult, but is reminiscent, rather, of the ecstatic type of magical observance practiced by many peoples See N N Puckett, *Folklore Beliefs of the Southern Negro* (1926), J J Williams, *Voodoos and Obeahs* (1933), M J Herskovits, *Life in a Haitian Valley* (1937)

Voorhees, Stephen Francis (vōō'rēz), 1878–, American architect, b Rocky Hill, N J , grad Princeton, 1900 He practiced from 1902 in New York city, becoming a member of the firms McKenzie, Voorhees, and Gmelin (1910–26), Voorhees, Gmelin, and Walker (1926–39); and Voorhees, Walker, Foley, and Smith (from 1939) He made his name in designing business buildings, such as the Telephone Building and the Irving Trust Building (One Wall Street), both in New York He became (1930) supervising architect of Princeton and headed (1936–40) the board of design for the New York World's Fair

Vophsi (vŏf'sī), father of Nahbi. Num. 13 14

Voragine, Jacobus de. see JACOBUS DE VORAGINE.

Vorarlberg (fōr"ärl'bĕrk), autonomous province of *Bundesland* (1,004 sq mi , pop 191,743), W Austria, adjoining Switzerland, Germany, and Liechtenstein The capital, Bregenz, is on the east shore of the Lake of Constance Noted for its Alpine scenery, Vorarlberg has fine winter sports resorts There is extensive cattle raising and dairy farming, textile mills are found in every town, and beautiful embroidery is produced by artisans Vorarlberg

was part of the Roman province of Rhaetia and was later acquired by the powerful counts of Montfort The Hapsburgs gained possession of it piecemeal in the 14th, 15th and 16th cent, and in 1523 it became a crownland, administered by Tyrol An attempt to join Switzerland as a canton after the First World War failed because of Allied opposition and Swiss indifference

Voronezh (vôrô'nĕsh, Rus vŭrô'nyĭsh), city (1926 pop 120,017, 1939 pop 326,836), capital of Voronezh oblast, S central European RSFSR, on the Voronesh river near its confluence with the Don A major industrial center in a black-earth agricultural region, it produces synthetic rubber, locomotives and railroad cars, aircraft, machinery, and sunflower oil and has flour mills, meat-packing plants, fruit and vegetable canneries, and distilleries The Univ of Voronezh was originally the Univ of Tartu, transferred here in 1918 There also are an agricultural institute and medical and engineering schools Founded in 1586, Voronezh became (1694) a shipbuilding center under Peter I and later developed as a grain and wool market During the Second World War it was largely destroyed in bitter fighting (1942–43), when a German advance was stopped here The poet Koltsov was born at Voronezh

Voronoff, Serge (sĕrzh' vôrônôf'), 1866–, French surgeon and pathologist, b Russia He was naturalized in France in 1897 He performed notable surgery in military hospitals during the First World War and was director of the experimental surgery laboratory of the Collège de France from 1921 He specialized in the transplantation of animal (chiefly monkey) glands in the treatment of thyroid deficiency in children and for rejuvenation in old age His works include *From Cretin to Genius* (1941) and *The Sources of Life* (1943)

Voroshilov, Klimenty Yefremovich (vôrushĕ'lôf, -lôf, vô-, Rus, klyĭmyĕn'tyĭ vŭfrĕm'ŭvĭch vŭrushĕ'lŭf), 1881–, Russian general One of the original members of the Bolshevik faction, he won fame as a Red Army commander in the civil war As commissar for defense (1925 40), Marshal Voroshilov was given much credit for the organization of the Red Army In the Second World War he commanded the defense of Leningrad, and in Jan, 1943, he directed, jointly with Marshal Zhukov, the operations that broke the German ring around that city

Voroshilov (vôrushĕ'lôf, -lôf, vô-, Rus vŭrushĕ'luf), city (pop 70,628), S Maritime Territory, RSFSR, in Far Eastern Siberia, c 45 mi N of Vladivostok It is a rail hub on the Trans-Siberian RR, at the junction with the Chinese Eastern RR, and is a food-processing center Its name until c 1935 was Nikolsk-Ussurisk

Voroshilovgrad (-grăd", Rus vŭrushĕ'lufgrät'), city (1926 pop 71,765, 1939 pop 213,007), capital of Voroshilovgrad oblast, SE Ukraine, in the Donets Basin Until c 1935 it was named Lugansk An industrial city, it produces locomotives, steel pipes, machinery, processed foods, and textiles It was founded in the 18th cent, and its first iron foundry was built in 1797 In the Second World War the city was held (1941-43) by the Germans

Vorosmarty, Michael (vô'rŭshmôr"tē), Hung *Vörösmarty Mihály* (mĭ'hl), 1800–1855, Hungarian poet He is considered one of the greatest Hungarian poets and is the creator of a new poetic language, combining the influence of the national and classical schools He is best known for his patriotic lyrics, especially *The Call* (1837) His epics *Zalan's Flight* (1825), *Ertan* (1825), and *Two Neighboring Castles* (1831) are among his best works He also wrote criticism and dramas and translated the *Thousand and One Nights* and Shakspere

vortex (vôr'tĕks), mass of fluid the particles of which have a whirling or rotary motion In theory, vortex motion is concerned with motions in a frictionless fluid In such a case the absence of friction would make it impossible to create or to destroy vortex motion Motion in such a fluid would be perfectly continuous and the line joining the axes of neighboring particles would be a closed curve Lines drawn so that their direction is that of the axis of rotation of the fluid are called vortex lines, and the closed curves are vortex rings If vortex lines are drawn through every point of a vortex ring, a vortex tube results, the fluid within the tube constituting a vortex filament Hermann von Helmholtz was probably the first to investigate the properties of vortex motion, Lord Kelvin developed a theory of the material atom as a vortex ring, and Clerk-Maxwell worked out a theory of electromagnetism, assuming that every magnetic tube of force was a vortex with an axis of rotation coinciding with the direction of the force Though many properties have been mathematically proved for the perfect frictionless fluid, in practice full realization of them is impossible, because, since no frictionless fluid exists, vortices can be created or destroyed. A continuous energy supply to overcome friction is needed to maintain a vortex motion. A smoke ring is a familiar example of a typical vortex motion where the medium is air. In this case the rings are stable for a short time because of the comparatively slight friction in air. An illustration of vortex motion where the medium is liquid is furnished when water, let out of a washbasin, forms a small whirlpool In nature, illustrations of vortical motion on a larger scale are seen, for example, in waterspouts, whirlpools, and tornadoes Investigations of sunspots reveal enormous vortices in the gases surrounding them.

vorticism (vôr'tĭsĭzm), short-lived 20th-century school of art related to CUBISM but stressing rhythmic movement Its principal exponent was a French sculptor, Gaudier-Brzeska, who died young in the First World War, but the movement had its largest following in England, where Wyndham Lewis, William Roberts, and C R W Nevinson were vorticists See Ezra Pound, *Gaudier-Brzeska* (1916)

Vortigern (vôr'tĭgûrn), 5th cent, tribal king of Britons in Wales and S England Tradition transmitted by Bede says that Vortigern invited the Jutish leaders HENGIST AND HORSA to Kent to help withstand the Picts and Scots Later he quarreled and fought with Hengist and Horsa

Vos, Cornelis de (kôrnā'lĭs dŭ vôs'), 1585–1651, Flemish figure and portrait painter He was a contemporary of Rubens, who sent many sitters to him Although of the school of Rubens, Vos developed an individual style of portraiture in which cool grays predominate Among his many fine portraits are those of Abraham Grapheus (Antwerp) and *Mother and Children* and *Young Lady* (both Metropolitan Mus) His brother, **Paulus de Vos** (pou'lôs), c 1600–c 1654, was an excellent painter of animals and hunting scenes He is represented in the museums at Madrid and Leningrad

Vos, Marten de (mär'tun), c 1536–1603, Flemish painter studied with Floris in Antwerp and with Tintoretto in Venice In 1558 he returned to Antwerp after seven years in Italy and set up a popular art school Vos was a mannerist and painted chiefly ambitious figure compositions in imitation of the Venetians Characteristic are his *Temptation of St Anthony* and *Triumph of Christ* (Antwerp) and *St Paul Stung by a Viper* (Louvre) Much of his work in the churches of Antwerp was destroyed by the iconoclasts

Vos, Paulus de see Vos, CORNELIS DE

Vosges (vōzh), department (2,279 sq mi, pop 342,315), E France, in LORRAINE It is drained by the Moselle and bounded in the east by the Vosges mts Épinal is the capital

Vosges, mountain range, E France, between the Alsatian plain in the east and the plateau of S Lorraine in the west It extends generally north and parallel to the Rhine for c 120 mi from the Belfort Gap Of sandstone and granite formation, the Vosges are worn by the ages, and their summits are gently rounded or almost flat The highest point is the Ballon de Guebwiller (4,672 ft), in the south Below the pasture lands there are wild forests (largely of pine) The steep Alsatian slopes are covered with excellent vineyards (Riesling and other wines) Among the resorts on the gentler western slopes Plombières is best known In 1937 a tunnel was opened, piercing the range between Saint-Dié and Sainte-Marie-aux-Mines The Moselle, Meurthe, and Ill rivers have their sources in the Vosges

Votiak, RSFSR see UDMURT AUTONOMOUS SOVIET SOCIALIST REPUBLIC

voting, method of registering collective approval or disapproval of a proposal The word generally refers to the process used by citizens in choosing candidates for public offices or in deciding controversial questions submitted to them However, it may also describe a formal recording of the opinion of a group upon any subject The term "popular vote" signifies a broad, as opposed to a restricted, suffrage, it may also mean an expression of the public will by the electorate, as opposed to votes by legislative bodies or electoral colleges Preferential voting prevents election by bare plurality by allowing the elector to indicate both first and second choices on the primary ballot of his party Compulsory voting is based on the doctrine that voting is a duty of citizenship, nonperformance of which is punishable by the state Voting, on the other hand, may be a privilege confined to certain classes, if the suffrage is restricted Voting formerly was in the form of a poll Chieftains, after laying proposals before their adherents, called for assent or dissent The people then recorded their approval or disapproval by means of shouts or visible signs. Later, when intimidation and corruption defeated the purpose of this form of voting, the BALLOT came into use Then, as now, the vote of the majority determined the policy to be pursued, and the two forms of voting, viva voce or by ballot, still prevail Those entitled to vote must personally exercise the right, for it cannot be transferred, except in the case of certain business corporations, where proxies are used. Provision may be made for voting by mail when it is impossible for the voter to present himself at the polling place, as in the case of a soldier on active duty. Voting usually exhibits popular interest in debated topics and thus is a register of public opinion if the suffrage is not greatly restricted. Voting is influenced not only by political differences, but also by religious, racial, and economic dissimilarities. Rural and urban voting frequently reveal antagonistic group divisions, and other forms of sectionalism are likewise disclosed See also ELECTION.

voting machine, instrument for recording and counting votes, authorized in New York state in 1892, and now extensively used in various states The voting machine used in New York city consists of a form of switchboard surrounded by a curtain As the voter enters the booth and closes the curtain behind him, the machine unlocks for voting The titles of all elective offices are listed in the first horizontal column on the face of the machine, and succeeding columns list the party candidates for each office Above each name is a lever, by pulling it down the voter indicates his desire to vote for that candidate, the machine being so arranged that he cannot push down more than one lever for each office, unless two or more persons are to be elected to that position If a proposition is to be voted upon, it is placed at the top of the ballot, and levers marked "yes" and "no" are used to record the vote Votes may be cast for persons not nominated by writing in their names in a space provided on a paper roll The voter may change his vote as many times as he wishes while the curtain remains closed, but when he opens the curtain to leave, he automatically registers the vote and clears the face of the machine The machine can be modified for different types of ballot In urging the adoption of the voting machine, its advocates have stressed not only its accuracy and secrecy, but also the speed and economy with which the vote can be tabulated It is also maintained that its use prevents fraud Opponents criticize the voting machine on the ground that it does not afford the voter a record of his vote, that errors cannot be detected or corrected, that the machine itself is expensive, that delays due to mechanical defects are numerous, and that its use does not eliminate corruption, since the machine can be tampered with

Votkinsk (vôt'kĭnsk), city (1932 estimated pop 38,900), E Udmurt ASSR, RSFSR, in the western foothills of the central Urals It is an industrial center with ironworks and steel mills and locomotive, airplane, and machinery plants Founded in 1759 as Votkinski Zavod, it was destroyed by the rebels under Pugachev in 1774 Tchaikovsky was born here

Votyak, RSFSR see UDMURT AUTONOMOUS SOVIET SOCIALIST REPUBLIC

Vouet, Simon (sēmôN' vwā'), 1590–1649, French portrait and decorative painter He early went to Rome, where he established himself as a successful portrait painter Recalled to France in 1627 as court painter to Louis XIII, he decorated several of the royal palaces He also painted decorations for Richelieu and other grandees of the period He established a flourishing art school, and many of his pupils became noted artists Several of his paintings are in the Louvre

Vouillé (vwēyā'), village, W France, NW of Poitiers Here in 507 the Franks under Clovis I routed Alaric II, king of the Visigoths

Vouvray (vōovrā'), town (pop 1,567), Indre-et-Loire dept, N central France, on the Loire near Tours It is famous for its sparkling white and rosé wines Near by are caves used as dwellings

Vrchlicky, Jaroslav, Czech *Vrchlický* (vŭr'khlĭtskē), pseud of **Emil Bohuslav Frida** (ĕ'mĭl bō'hōslaf frē'da), 1853–1912, Czech poet, playwright, and translator By his translations from foreign literatures, 98 volumes in all, he made available in Czech for the first time the world classics Through his original writings, in every literary form, he fixed the Czech literary idiom on a new plane of excellence Two of his plays, *At the Chasm* and *The Vengeance of Catullus*, have been translated into English See Paul Selver, *A Century of Czech and Slovak Poetry* (1946)

Vries, Adriaen de (ä'drēən dŭ vrēs'), c 1560–c 1626, Dutch sculptor. Having studied in Florence under Giovanni da Bologna, he carried into Bohemia and Germany the influence of the Italian Renaissance In Prague he worked under the patronage of Emperor Rudolf II, busts and reliefs of whom are now in Vienna His finest works, done in Augsburg, are the *Mercury and Hercules and the Hydra* fountains Among his bronzes are *Mercury and Psyche* (Louvre) and *Triton* (Metropolitan Mus)

Vries, David Pietersen de (dä'vēt pē'tursun dŭ vrēs'), b 1593, Dutch merchant skipper and colonizer. An experienced skipper, De Vries, in partnership with directors of the Dutch West India Company, founded (1631) a settlement (Swaendael) on Delaware Bay, later destroyed by the Indians After trading trips to America (1634–36), he established patroonships on Staten Island (1639) and at Tappan (1640) When both colonies were ravaged by the Indians, he returned to Holland and wrote his *Korte Historiael* (1655), a valuable source for the history of New Netherland Portions of his book are translated in *Narratives of New Netherland* (ed by J F Jameson 1909)

Vries, Hugo de (hü'gō dŭ vrēs'), 1848–1935, Dutch botanist. He opened a new approach to the study of evolution by using the experimental method to investigate the processes of evolution. His study of discontinuous variations, especially in the EVENING

PRIMROSE, led to his rediscovery (reported in 1900) of Mendel's laws of heredity and to the development of the theory of MUTATION, which he expounded in *The Mutation Theory* (1901–3, Eng tr 1909–10) and in *Plant-Breeding* (1907) He maintained that species remain unchanged between mutations and that each quality subject to change is represented by a single physical unit (called a pangen) He was a professor (1881 1918) at the Univ, of Amsterdam and he established an experimental garden at Hilversum

Vries Island see O-SHIMA

Vrsac, Serbo-Croatian *Vršac* (vŭr'shats), Ger *Werschetz* (vĕr'shĭts), Hung *Versec* (vĕr'shĕch), city (pop. 24,571), N Serbia, Yugoslavia, in the fertile Vojvodina. It is an agricultural market, and it long was a cultural center of the Germans of S Hungary

Vuelta Abajo (vwĕl"tȧ ȧbē'hō) or **Vueltabajo** (vwĕl"tȧbā'hō), district, c 90 mi long and c 10 mi wide, W Cuba, along the southern piedmont of the Organos Mts Famous for the fine quality of its tobacco -some of the world's best—Vuelta Abajo supplies about one half of the total Cuban crop

Vulcan (vŭl'kun), the Roman fire-god, identified with the Greek HEPHAESTUS

vulcanization (vŭl"kunuzā'shun), treatment of rubber to give it certain qualities, e g , strength, elasticity, and resistance to solvents, and to render it unaffected by moderate heat and cold Vulcanization is accomplished usually by a process invented by Charles GOODYEAR in 1839, involving combination with sulphur and heating A method of cold vulcanization (treating rubber with a bath or vapors of a sulphur compound) was developed by Alexander Parkes in 1846 Rubber for almost all ordinary purposes is vulcanized, exceptions are rubber cement, crepe-rubber soles, and adhesive tape Hard rubber is vulcanized rubber in which 30 to 50 percent of sulphur has been mixed before heating, soft rubber contains usually less than 5 percent of sulphur After the sulphur and rubber (and usually an organic accelerator, e g , an aniline compound, to shorten the time or lower the heat necessary for vulcanization) are mixed, the compound is usually placed in molds and subjected to heat and pressure The heat may be applied directly by steam, by steam-heated molds, by hot air, or by hot water The finished product is not sticky like raw rubber, does not harden with cold or soften much except with great heat, is elastic, springing back into shape when deformed instead of remaining deformed as unvulcanized rubber does, is highly resistant to abrasion and to gasoline and most chemicals, and is a good insulator against electricity and heat Many synthetic rubbers undergo processes of vulcanization, some of which are similar to that applied to natural rubber The invention of vulcanization made possible the wide use of rubber and aided the development of such industries as the automobile industry

Vulcano see LIPARI ISLANDS

Vulgate (vŭl'gāt) [Latin *Vulgata editio*=common edition], most ancient extant version of the whole BIBLE. It is the official, Latin version of the Roman Catholic Church It was done by St JEROME at the instance of Pope St DAMASUS I, his protector, and was intended to replace the Old Latin version (the Itala), which had been done from the Greek The Old Testament is a careful translation of the Hebrew Masoretic text, for this purpose Jerome sought the aid of several Jewish rabbis The Psalms had a special history, Jerome made three versions the Roman Psalter, a mild revision of the Old Latin translation of the Septuagint, the Gallican Psalter, a revision of the Old Latin to make it more parallel to the Hebrew Masoretic text, the Hebrew Psalter, a new translation of the Hebrew Masoretic text Texts of the Vulgate now contain the Gallican Psalter As to the deuterocanonical books of the Old Testament, Jerome made hasty translations of Tobias, Judith, and the additions to Daniel, the rest he did not touch, hence the Vulgate includes Old Latin versions of them The New Testament was undertaken by Jerome first, he revised the Old Latin Gospels carefully, leaving the text as it stood unless it was actually incorrect, the Gospels were translated in 382–83 The rest of the New Testament shows many less changes from the Old Latin From the 5th cent the Vulgate was popular in the West, by the early Middle Ages it was used everywhere by the Roman Catholic Church, and all the early vernacular translations were from the Vulgate The texts naturally varied considerably In 1546 the Council of Trent made the Vulgate the official version of the Church, and in 1592 the official text with no variants was promulgated by Clement VIII All subsequent editions of the Vulgate published with the Church's imprimatur represent this Clementine edition In the 20th cent the Benedictines, deputed by the Holy See (1933), began a thorough revision of the Vulgate from all good ancient manuscripts

Vulpius, Christian August (krĭs'tyan ou'gōost vōōl'pyōōs), 1762–1827, German novelist and dramatist He wrote several novels of the picaresque type, among them *Rinaldo Rinaldini* (1797, Eng tr , *The History of Rinaldo Rinaldini*, 1800) His sister **Christiane Vulpius,** 1765–1816, lived with Goethe for many years and was married to him in 1806

vulture (vŭl'chur), bird of prey of the temperate and tropical regions which feeds largely on carrion The Old World vultures are similar to hawks The American vultures are of another family which includes the condor, the turkey vulture or turkey buzzard, and the black vulture or black buzzard They are large birds, graceful in flight but ungainly on the ground The turkey vulture of the S United States is about 30 in long with dark plumage and a red, unfeathered head and neck Its keen vision enables it to sight food on the ground as it circles above the earth, rarely moving its wings in its soaring flight It is highly valued as a scavenger, as is the smaller black vulture of the S United States and South America

Vyatka, RSFSR see KIROV

Vyatka (vyät'kŭ), river, 775 mi. long, E European RSFSR It rises in the foothills of the central Urals and flows NW past Kirov, then SE into the Kama river It is important for logging

Vyazma (vyäz'mŭ), city (pop 20,814), W European RSFSR, on the Vyazma river (a tributary of the Dnieper), between Smolensk and Moscow It is a rail junction and has flax mills, oil presses, and various manufactures Dating from the 11th cent and chartered c 1300, it passed to Lithuania, but was reconquered by Moscow in 1514 In the Second World War it was the center of heavy fighting and was held (1941–44) by the Germans

Vyborg (vē'bôrg, Rus vĭ'bŭrk), Finnish *Viipuri* (vē'pōō-rē), Swed *Viborg* (vē'bôr'y), city (1944 pop 56,687), NW European RSFSR, NW of Leningrad and near the Finnish border, a Baltic port on the Vyborg Bay and the Gulf of Finland An export center for lumber and an industrial city, it produces machinery and furniture The Saimaa Canal connects it with Lake Saimaa Vyborg developed around a Swedish castle built in 1293 on a small rocky island, it became a Hanseatic port and was chartered in 1403 Occupied (1710) by Peter I in the Northern War, it was ceded by Sweden to Russia in 1721 It was incorporated with Finland (then under Russian sovereignty) in 1812 and flourished as a commercial center When Finland became independent it retained Vyborg until 1940, when the city was ceded to the USSR after the Finnish-Russian War of 1939–40, it had been damaged by bombing Recaptured (1941) by Finnish forces and again (1944) by the Russians, Vyborg was awarded to the USSR in 1947 It has retained its 17th-century town hall (now a museum) and several towers of its 16th-century fortifications

Vychegda (vĭ'chĕgdȧ), river, c 700 mi long, rising in the western outhers of the Urals, N European RSFSR It flows generally W past Syktyvkar through a forested and sparsely populated region into the Northern Dvina It is navigable from May to November In the 16th cent the Vychegda was an important water route to Siberia

Vyg (vig), Finnish *Uikujärvi* (ōō'ĕkōōy-är"vē), Rus *Vygozero* (vĭgō'zyĭrŭ), lake, area c 300 sq mi , E central Karelo-Finnish SSR, between Lake Onega and the White Sea It is crossed by the Baltic-White Sea Canal and drains into the White Sea through the Vyg river

Vyshinsky, Andrei Yanuarievich: see VISHINSKY

Vysokaya (vĭsō'kȧyȧ), mountain, c 1,300 ft high, RSFSR, central Urals, WNW of Nizhni Tagil. It has magnesite deposits, mined since 1721.

Vytautas see WITOWT

Vytegra (vĭtyĭgrŭ), river, 45 mi long, NW European RSFSR It flows into Lake Onega and forms part of the MARIINSK SYSTEM of inland waterways The city of Vytegra (pop 5,090) is situated near the mouth of the river at Lake Onega

W

W, 23d letter of the ALPHABET, in form a doubled u or v It is the usual symbol of a voiced bilabial semivowel, as in *wing* The same semivowel occurs as second member of the diphthongs au (as in *house*), ō, and ōō In *twice* the w represents a voiceless semivowel, which is heard also in some dialects which distinguish between *where* and *wear* In chemistry W is used as the symbol of the element WOLFRAM

Waadt, Switzerland see VAUD

Waag, Czechoslovakia see VAH

Waal (väl), main arm of the RHINE river, central Netherlands It branches off the Rhine near the German border and flows W past Nijmegen to join the Meuse (Maas) near Gorinchem The joined rivers form the upper MEUSE

Waals, Johannes Diderik van der (yōhn'nus dē'durĭk vän dur välz'), 1837–1923, Dutch physicist He studied the relationship between the thermodynamic theory of capillarity, the kinetic theory of gases, and the continuity of the gaseous and liquid states of matter for which he evolved an equation In his theory of corresponding states (1880) he used this equation to express the equilibrium of states of matter for homogeneous substances when pressure, volume and temperature are stated in terms of the critical constants for each substance For this work he received the 1910 Nobel Prize in Physics. He was professor (1877–1907) at the Univ of Amsterdam

Wabash (wŏ'bäsh"), city (pop. 9,653), co seat of Wabash co , NE Ind , on the Wabash and WSW of Fort Wayne; settled 1835 It is a trading center for an agricultural area, and it manufactures asbestos and metal products

Wabash, river, c 550 mi long, largest northern tributary of the Ohio river, rising in Mercer co , Ohio, near the Ind. border and flowing generally SW across Indiana. Below Terre Haute it becomes the boundary between Indiana and Illinois and empties into the Ohio c 10 mi above Shawneetown, Ill Chief of its many tributaries are the Tippecanoe and White rivers The principal cities on the Wabash are Huntington, Wabash, Peru, Logansport, Delphi, Lafayette, Covington, Terre Haute, and Vincennes, Ind , and Mt Carmel, Ill See W E Wilson, *The Wabash* (1940)

Wabasha (wä'bushō), city (pop 2,368), co seat of Wabasha co , SE Minn , on the Mississippi at the foot of Lake Pepin, platted 1843, inc 1858 An early fur-trading post was here, Wabasha is now a farm trade, milling, and shipping center

Wabash College. see CRAWFORDSVILLE, Ind.

WAC (Women's Army Corps), created (1942) in the Second World War to enlist women for noncombatant duty in the army Before 1943 it was named the WAAC (Women's Auxiliary Army Corps) The director was Oveta Culp Hobby, who became colonel in 1943 She was succeeded (1945) by Westray Battle Boyce In the Second World War, Wacs served as medical technicians, cartographers, clerks, secretaries, and the like in all theaters of war and in the United States Almost 100,000 had joined the corps by 1945, when enlistment ended Rapid demobilization followed, and in 1946 the War Dept asked for reenlistments to meet shortages in army hospitals and personnel centers In 1948 a bill was passed in Congress establishing the Women's Auxiliary Corps within the regular army, and by 1949 there were over 3,700 women in the U S army

Wace (wäs, wās), c 1100-1174, Norman-French poet of Jersey, a canon of Bayeux, friend of the royal family of England His long rhymed chronicle of British history, *Roman de Brut*, was based on the history of GEOFFREY OF MONMOUTH and dedicated to ELEANOR OF AQUITAINE An English adaptation of this was the *Brut* of LAYAMON, which was in turn an important development of the ARTHURIAN LEGEND Wace's *Roman de Rou* is another narrative poem, on the dukes of Normandy from the first (Rollo) to Robert II, son of the Conqueror It contains a famous description of the battle of Hastings See J A Philpot, *Maistre Wace* (1925)

Wachusett Reservoir (wŏchōō'sĭt), central Mass , NNE of Worcester near Clinton, built 1897–1905 It receives some of its water from QUABBIN RESERVOIR and supplies the Boston area. Wachusett Dam is 114 ft high

Waco (wā'kō), city (1940 pop 55,982, 1947 estimated pop 75,000), co seat of McLennan co , E central Texas, on the Brazos just below the mouth of the Bosque, inc 1856 The Hueco or Waco Indians once had villages about the springs, and the site had attracted white men years before the city was laid out in 1849 Rich blackland supported cotton plantations before the Civil War, and the city was growing to wealth from cotton and cattle before the suspension bridge (still shown to sightseers) was built in 1870 and the railroad arrived in 1881 Today it is a trading and shipping center with an airport and fine highways and has processing plants and factories that make automobile tires, cloth and clothing, glass and bottles, drugs, and sundry other products Broad, shady streets, parkways, huge Cameron Park in a residential area of the city, and artificial Lake Waco (created 1923) on the Bosque near by give an air of ease and opulence Most of BAYLOR UNIVERSITY is here, and the small Paul Quinn College was opened in 1881 for the many Negroes in the region There is a U S veterans' hospital

Waconia (wukō'nyȧ), city (pop 1,315), E Minn., SW of Minneapolis, in a farm area, inc 1921

Wadai (wadī'), former sultanate, NE French Equatorial Africa, E of Lake Chad Founded in the 17th cent , Wadai in the 18th cent. defeated Bornu

and became the strongest power in the central Sudan Wadai was conquered by France in the late 19th cent

Waddell, James Iredell (wŏdĕl'), 1824–86, American naval officer, b Pittsboro, N C He was appointed a midshipman in the U.S navy in 1842 On return from duty in the Orient in 1862 he resigned his commission as lieutenant and in March took the same rank in the Confederate navy From 1864 until after the war had ended he commanded the *Shenandoah*, one of the outstanding CONFEDERATE CRUISERS Waddell was later master of a passenger ship between San Francisco and Yokohama

Waddington, William Henry, 1826–94, French statesman and archaeologist, of English descent He was minister of education (1873, 1876–77) and was appointed foreign minister in 1877 Representing France at the Congress of Berlin (1878), he secured English consent to French action in Tunis in return for French acquiescence in the transfer of Cyprus to England In 1879 Waddington headed a cabinet but was soon replaced by Freycinet, he served as ambassador to Great Britain from 1888 to 1893 He wrote several works on archaeology

Waddington, village (pop. 671), N N Y , a port of entry on the St Lawrence opposite Morrisburg, Ont.

Waddington, Mount, 13,260 ft high, SW British Columbia, in the Coast Range It was first climbed in 1936, after many previous unsuccessful attempts

Wade, Benjamin Franklin, 1800 1878, U S Senator from Ohio (1851–69), b near Springfield, Mass In 1821 he moved to Ohio and, after several years spent in a variety of occupations, studied law and was admitted (1827) to the bar Wade became the law partner and political protégé of Joshua GIDDINGS and was successively prosecuting attorney of Ashtabula co , state senator, and presiding judge of the third judicial district before going to Washington As uncompromising an abolitionist as his benefactor, he denounced the fugitive slave laws, the Kansas-Nebraska Bill, and other proslavery measures, often with witty retorts A man of great personal courage, he was generally respected, even by those who loathed his principles In the Civil War, Wade and his radical Republican colleagues set up the meddlesome Committee on the Conduct of the War. The Wade-Davis Bill, drawn up with Representative HENRY W DAVIS, was approved (July 8, 1864) by Congress as its plan of RECONSTRUCTION Lincoln, who had already begun a more lenient program, killed it with a pocket veto, issuing a proclamation explaining why he opposed it For this he was vindictively attacked in the Wade-Davis Manifesto (Aug 5, 1864) After the war the congressional plan prevailed over the opposition of President Andrew Johnson As president pro tempore of the Senate, Wade was next in line for the presidency, and his eagerness to see Andrew Johnson convicted on the impeachment charges was ill concealed He was denied renomination in 1868 See biography by A G Riddle (1886), T H Williams, *Lincoln and the Radicals* (1941), B J Hendrick, *Lincoln's War Cabinet* (1946)

Wadena (wŏdē'nu), village (pop 2,916), co seat of Wadena co , W Minn , WNW of Brainerd, in a lake region, settled 1871, inc 1881 It is a farm trade center The Finnish community New York Mills is near by

Wadesboro, town (pop 3,587), co seat of Anson co , S N C , near the S C. line ESE of Charlotte, settled c 1785 It has lumber and textile mills.

Wadham College. see OXFORD UNIVERSITY.

Wadi Halfa (wä'dē hăl'fu), town, N Anglo-Egyptian Sudan, on the Nile It is the terminus of a railroad from Khartoum Here goods, chiefly cotton, wheat, and livestock, are transferred to steamers going down the Nile into Egypt Ancient ruins are near

Wadley, town (pop 1,13.3), E central Ga , E of Macon near the Ogeechee river, in the coastal plain

Wad Medani (wäd' mĭdä'nē, mē'dunē), city (pop 56,000), E central Anglo-Egyptian Sudan, on the Blue Nile It is connected by rail with Khartoum Cotton, wheat, barley, and livestock are exported

Wadsworth, industrial village (pop 6,495), N Ohio, SW of Akron; settled 1816, inc 1866 Valves, matches, rubber, iron and steel products, and chemicals are made here.

Waelder (wāl'dur), city (pop 1,018), S central Texas, ENE of San Antonio, in a farm area

Wafd (wŏft), in modern Egyptian history, a political party. It arose out of the delegation [Arabic *wafd* =delegation] headed by ZAGHLUL PASHA which was to have visited Great Britain in 1918 to urge Egypt's independence Zaghlul formed the party in 1919. In addition to espousing independence, the Wafdists called for extensive social and economic reforms. In the first parliament elected (1924) under the constitution of 1923, the Wafd won a majority. KING FUAD I, who bitterly opposed the party, dissolved parliament and would not call a new election until 1926. Again the Wafd won, and in 1927 its new leader, NAHAS PASHA, became prime minister In 1928 the government introduced a measure forbidding the king to rule without parliament. Fuad, asserting that this would give the Wafd absolute control of the country, refused his assent and suspended the constitution Nevertheless, in 1930 the Wafd was again victorious Fuad soon dismissed the new cabinet and appointed a conservative prime minister, who made the party illegal. When the constitution of 1923 was restored in 1935, the Wafd returned to power and formed the cabinet in 1936–37 Relations with the new king, Farouk I, were scarcely more cordial than those with his father In the Second World War the party, which was anti-Axis, was installed in office from 1942 to 1944 at the insistence of Great Britain, which feared pro-Axis elements In the elections of 1950 the Wafd triumphed again, and Nahas Pasha returned as prime minister The Wafd has been accused by its opponents of being a party committed less to principles than to personalities At certain times it has been suspected of implication in assassinations Two of the other important parties, the Saadist and the Kutla, are offshoots of the Wafd

Wagadugu. see OUAGADOUGOU.

wages, payment received by the employee for work done This amount may be in goods or services, but is customarily in money The term in a broad sense refers to what is received in any way for labor Thus the farmer receives wages as part of the price of his product or in the product if he uses it himself The term *salary* is usually distinguished from wages as implying a more fixed and permanent form of income (e g , payment by the month rather than by the hour) Wages reckoned in money are called nominal wages, as distinguished from real wages, i e , the amount of goods and services that the money will buy Real wages depend on the price level, as well as on the nominal or money wages To explain the nature of wages many theories have been advanced The first of these was the subsistence theory of wages, of which Ricardo was one of the main exponents This theory finds an inverse relationship between the working population and the wage rate, a rise in the former bringing a fall in the latter and vice versa Working upon the premise that labor is a commodity, the theory further held that labor has two values—a natural price, which is the cost of subsistence, and a market price, which is determined by the laws of supply and demand If the natural price exceeds the market price, the workingman's purchasing power is low, if on the other hand, the market price is the greater, then the standard of living of the laborer rises The wage-fund theory is that wages are advanced out of a fixed fund of capital, from which an excess withdrawal, either through legislation or through union pressure, will ultimately reduce the amount available for other workers Any increase in wages would also have to be taken out of profits, and their reduction would cause a decline in savings, which provides the capital from which the wage fund is derived The marginal-productivity theory maintains that wages tend to be fixed at that point which represents the employer's estimate of labor's contribution to the marginal or last unit employed This relationship will be determined by the cost of the marginal units of land (rent) and capital (interest) In the surplus-value theory as propounded by Karl Marx, the value produced by the worker in excess of what is paid to him in wages by the employer is called surplus value The bargaining theory further modifies the marginal-productivity theory by taking into consideration other factors (e g , laws and social and political changes) which might affect the determination of wage levels and by acknowledging that certain basic assumptions (the equal bargaining power of the employer and the employee, the free competition between the two, the mobility of labor) which characterize the marginal-productivity theory do not hold in our present economic system. See MINIMUM WAGE See J R Hicks, *The Theory of Wages* (1932), P. H Douglas, *The Theory of Wages* (1934)

Wages and Hours Act, passed (1938) by the U.S Congress, intended to establish minimum living standards for workers engaged directly or indirectly in interstate commerce and to abolish oppressive child labor It is also called the Fair Labor Standards Act. The law provided an initial minimum wage of 25 cents an hour and a maximum work week of 44 hr , set up a seven-year schedule under which minimum wages were gradually lifted to 40 cents an hour and the work week was reduced to 40 hr , and created a Wage and Hour Division in the Dept. of Labor, headed by an administrator. He was enabled to hasten the legal schedule for raising minimum standards in an industry if a committee representing the public as well as employers and labor in that industry recommended the change. Classes of workers exempt from the act included agricultural and seasonal laborers, handlers of perishable foods, and workers in certain industries covered by collective bargaining. A Supreme Court decision (1941) upheld the law Amendments have made overtime calculation more flexible and set up special provisions for Puerto Rico and the Virgin Islands. Since 1942 the Wages and Hours Act has been administered jointly with the Walsh-Healy Public Contracts Act, which requires minimum working standards on government contracts in excess of $10,000. During the war the work of the Wage and Hour Division was coordinated with the National War Labor Board stabilization policies, which permitted raises to eliminate substandard pay. In Jan , 1950, an amendment to the Wages and Hours Act went into effect to meet the rising costs of living. The minimum wage was increased to 75 cents per hour, and the administrator's authority to protect this basic rate was augmented. Regular-time work was redefined, and provisions were amended for time-and-one-half payments for overtime hours worked in excess of the 40-hour week by employees earning less than $75 per week New categories of employees (e g , switchboard operators and those engaged in the fish-canning industry) were included, while other groups of workers (e g , workers connected with forestry and irrigation) were exempted

Wagga Wagga (wŏ'gu wŏ'gŭ), municipality (pop 15,351), New South Wales, Australia, on the Murrumbidgee and W of Canberra It is an agricultural and dairying center of the Riverina dist There is a Roman Catholic cathedral

Wagner, Adolf Heinrich Gotthilf (ä'dôlf hĭn'rĭkh gôt'hĭlf vä̆g'nur), 1835–1917, German economist and socialist, studied at Göttingen and Heidelberg He taught economics at several universities before he became professor of economics at the Univ of Berlin, a post he held for many years He was an authority on banking and public finance and was a member of the Christian Socialist party. He promulgated a theory, known as Wagner's law, that governments increasingly assumed responsibility for the economic welfare of their peoples

Wagner, Charles (vä̆gnur, Fr shärl' vägnĕr'), 1852–1918, writer of moral essays, a French Protestant clergyman One book, *La Vie simple* (1895), translated into English as *The Simple Life* (1901), was very popular in the United States

Wagner, Honus (vä̆g'nur), 1874–, American baseball player, whose original name was John Peter Wagner, b Mansfield (now Carnegie), Pa He played semi-professional ball in Ohio and was given a contract (1896) by the Paterson, N J , club before entering (1897) major-league play with the Louisville (Ky) club of the National League He played infield and outfield positions, and when Pittsburgh replaced (1900) Louisville in the National League, Hans (a nickname also much used) soon anchored himself at shortstop with the Pirates Wagner, called the Flying Dutchman by his fans, came to be regarded as one of the outstanding players of baseball He led the National League in batting eight times (1900, 1903–4, 1906 9, 1911), had a lifetime batting average of 329 (batting over 300 in 17 consecutive years), made 3,430 base hits, scored close to 1,800 runs, and played in 2,785 games Wagner, squat and massively built, excelled at fielding, he also five times led the National League in stolen bases In 1917 he retired from baseball, but returned (1933) to the Pirates as coach In 1936 he was elected to the National Baseball Hall of Fame

Wagner, Otto (ô'tō vä̆g'nur), 1841 1918, Austrian architect A structural rationalism was exhibited in his stations for the Vienna city railroad, built in the 1890s His later works, showing an individual and monumental style, include the Vienna Postal Savings Building and the Steinhof Church (1906) His many executed designs and his projects were widely influential both in Austria and abroad He became a professor at the Imperial Academy of Art in 1894

Wagner, Richard (vä̆g'nur, Ger rĭkh'ärt vä̆g'nur), 1813–83, German composer of operas, b Leipzig Wagner substituted for the principle of sharply differentiated RECITATIVE and aria his "endless melody" and his *Sprechgesang*, calling his operas music dramas to signify the complete union of music and drama which he sought to achieve He felt, rightly, that music could not develop further with the resources it had employed since Beethoven's time, his prediction that the music of the future must be part of a synthesis of the arts was less prophetic, especially since his own music seems to stand out above the other elements of his works. His ideas, however, did enormously affect the work of opera composers who came after him, and his very detractors, such as Brahms, showed by their outraged opposition to his principles the powerful influence Wagner exerted. Having attended the Kreuzschule in Dresden since 1822, Wagner returned in 1827 to Leipzig, studied at the Gymnasium and the university, and took some lessons in harmony—his only formal musical training In Leipzig he studied the works of Beethoven and wrote some rather unoriginal instrumental music In 1833 he assumed the first of a series of theatrical positions which he held—that of chorus master of the theater at Würzburg *Die Feen* (1833), his first opera, was in the German romantic tradition represented by Weber, *Das Liebesverbot* (1835) showed his assimilation of the Italian style In 1839 he went to Paris, via London and Boulogne. In Paris he completed *Rienzi* (1840), but was unable to get it performed there despite letters of introduction from Meyerbeer, whom he had met in Boulogne Its production in Dresden in 1842 was highly successful, and in 1843 Wagner was made musical di-

rector of the theater there. *Der fliegende Holländer* (Dresden, 1843) was less successful. It was based on Heine's version of the legend of the FLYING DUTCHMAN, and it foreshadows the idea, developed in *Tannhäuser* (1843–45) and prevalent in later works, of redemption by love. *Tannhäuser*, based only slightly on the actual life of TANNHÄUSER, and *Lohengrin* (1846–48) bring the German romantic opera to culmination. In *Lohengrin* Wagner for the first time is more interested in his characters as symbols than as actual personages in a drama. Because of his connection with the Revolution of 1848, Wagner fled Dresden in 1849 and with the help of Liszt escaped to Switzerland. There he wrote essays, including *Oper und Drama* (1851), which is perhaps the most thorough and penetrating study of its subject existing. *Der Ring des Nibelungen*, his tetralogy based on the NIBELUNGENLIED, embodies the most complete adherence to the principles outlined in *Oper und Drama*. The poem, begun in 1848, was completed in 1852 in Switzerland. In 1857, having completed the composition of *Das Rheingold* (1853–54), *Die Walküre* (1854–56), and two acts of *Siegfried*, he laid the *Ring* aside without hope of ever seeing it performed, and composed *Tristan und Isolde* (1857–59) and *Die Meistersinger von Nurnberg* (1862–67). *Tristan*, based on the legend of TRISTRAM AND ISOLDE, was so far beyond the operatic conventions of the day that after many rehearsals in Vienna (1862–63) it was given up as impossible. Louis II of Bavaria, however, provided the resources which made possible the first performance, in 1865 in Munich, where *Die Meistersinger*, his only comic opera and the easiest of comprehension for the uninitiated, was completed and in 1868 performed. In 1872, having completed *Siegfried* the previous year, Wagner moved to Bayreuth, there in 1874 he finished *Die Götterdämmerung*. There too he was able to build a theater, Das Festspielhaus, adequate for the proper performance of his works, in which the *Ring* was given complete in 1876. *Parsifal* (1877–82), his last work, is a religious festival play employing the Christian symbolism of the Eucharist, it is a highly complex work but contains some of Wagner's finest music, particularly in the choruses. It was the public rather than other musicians and critics who first acclaimed Wagner, and though opposition to him in his lifetime went to fantastic lengths, his operas held a position of complete dominance in the next generation, retaining their popularity in the 20th cent. See his *Mein Leben* (Eng tr., *My Life*, 1911), Ernest Newman, *Life of Richard Wagner* (4 vols., 1933–46) and *The Wagner Operas* (1949). Wagner's second wife, **Cosima Wagner** (kō'zēmä) 1837–1930, was the daughter of Liszt and the comtesse d'Agoult. From 1857 to 1869 she was the wife of Hans von Bulow. In 1870 she was married to Wagner and identified herself so closely with his work that after his death she was largely responsible for the continuing fame of the Bayreuth Festivals. See biography by R. M. F. Du Moulin-Eckart (Eng. tr., 1930). H. H. Richardson, *The Young Cosima* (1939). Their son, **Siegfried Wagner** (zēk'frēt), 1869–1930, composed several operas but was known chiefly as a conductor. In 1923 he visited the United States.

Wagner, Robert Ferdinand (wäg'nur), 1877–1949, American legislator, b. Germany, grad. College of the City of New York, 1898, and New York Law School, 1900. He arrived with his family in America in 1885 and grew up in poor surroundings in New York city. After he received his law degree, he became attached to Tammany Hall and was elected (1904) to the New York assembly. In the state senate (1910–18), Robert F. Wagner was noted for his investigations of factory conditions, as justice (1919–26) of the state supreme court, he did much to protect the rights of labor. He served (1927–49) in the U. S. Senate where he was one of the chief leaders in directing New Deal legislation, particularly the acts establishing the NATIONAL RECOVERY ADMINISTRATION (1933), the NATIONAL LABOR RELATIONS BOARD (1935), and SOCIAL SECURITY. In the 1940s he sponsored bills calling for the extension of Federal housing. He resigned from the Senate in 1949 because of ill-health.

Wagner (wäg'nûr), city (pop. 1,319), SE S. Dak., NW of Yankton. It is the trade center for a farm area and for Indians from the near-by Yankton Reservation.

Wagner-Jauregg, Julius (yōō'lyōōs väg'nur-you'rĕk), 1857–1940, Austrian neurologist. He was professor at the Univ. of Vienna from 1893 to 1928. A pioneer in fever therapy, he introduced the treatment of paresis by inoculation with the organisms causing malaria, for this work he received the 1927 Nobel Prize in Physiology and Medicine.

wagon: see CARRIAGE.

Wagoner (wă'gŭnûr), city (pop. 3,535), co. seat of Wagoner co., E. Okla., SE of Tulsa, in an agricultural area; founded c. 1887. A museum with Indian and Civil War relics is here, ancient Indian mounds are near by.

wagon train. In the history of American development, wagons replaced PACK TRAINS in the conveyance of freight as soon as proper roads could be built, and they remained predominant in land commerce until the railroad age. The first frontier region in which wagoning was highly developed was across the Allegheny barrier in the late 18th cent. There were but a few popular routes through the mountains, and in the days of the westward movement these were alive with emigrant wagons and the wagon trains of professional wagoners carrying goods between the Ohio settlements and the cities of the coast. This was the birthplace of the CONESTOGA WAGON, the most efficient freight carrier of the age. On the prairies of the Middle West and on the Great Plains wagons could be used immediately without the labor of making roads, and there the covered wagon, or PRAIRIE SCHOONER, of the emigrant came into its own. It was in crossing the Great Plains that the typical emigrant wagon train was developed, because the vast distances through unsettled country and the danger from Indians made it necessary to travel in large parties. Such a train was organized with an almost military discipline for defense. A contract or constitutional paper was drawn up, setting forth the objects of the emigration, the terms of joining, the rules to be followed, and the officers to be elected. All joining signed this paper and then participated in the election of officers. Sometimes both a military captain and a president with civil powers were chosen. More often the offices were combined in one individual. Aides or lieutenants were elected, and a guide was usually hired for the more difficult parts of the route. The order of wagons both on the trail and in camp was strictly regulated. At night the wagons were drawn into a circular corral, and a strict guard was kept to prevent a surprise attack by hostile Indians. Freighters who supplied the early army posts and mining camps also usually traveled in parties for the same reason as emigrants. See OVERLAND TRAIL and OREGON TRAIL. The wagon trains disappeared in the East in the 1840s and '50s, and the Western trails lost importance after the Union Pacific RR was completed in 1869.

Wagram (vä'gram), town (pop. 3,917), Lower Austria, NE of Vienna, in the Marchfeld. Its official name is Deutsch-Wagram. Here on July 5–6, 1809, Napoleon I won one of his most brilliant victories. Despite their heroic conduct and the able leadership of Archduke Charles, the Austrians were forced by the French field artillery to fall back. Napoleon's "grand battery" of 100 guns was the largest concentration of artillery that had until then been used for massed fire. Six days later, Austria was forced to conclude an armistice.

Wahabi (wähä'bē), Arabian reform movement in ISLAM, the religion of the ruling family of Saudi Arabia. It was founded by Mohammed ibn Abd al-Wahab (1703?–1787), who taught that all accretions to Islam after the 3d cent. of the Moslem era—i.e., after c. 950—were spurious and must be expunged. This view, involving essentially a purification of the Sunnite sect, regarded as the chief evils the veneration of saints, ostentation in worship, and luxurious living. Accordingly, Wahabi mosques are simple and without minarets, and the adherents to the cult dress plainly and do not smoke tobacco or hashish. Driven from Medina for his preaching, the founder of the Wahabi sect went into the NE Nejd and converted the Saud tribe. The king, convinced that it was his religious mission to wage holy war (jihad) against all other forms of Islam, began the conquest of his neighbors in c. 1763. By 1811 the Wahabis ruled all Arabia, except Yemen, from their capital at Riad. The Ottoman sultan, nominally suzeran over Arabia, had vainly sent out expeditions to crush them. Only when the sultan called on Mohammed Ali of Egypt for aid did he enjoy success, by 1818 the Wahabis were driven into the desert. In the Nejd they collected their power again and from 1821 to 1833 gained control over the Persian Gulf coast of Arabia. The domain thereafter steadily weakened, Riad was lost in 1884, and in 1889 the Saud family fled for refuge into the neighboring state of Kuwait. The Wahabi movement was to enjoy its third triumph when IBN SAUD advanced from his capture of Riad in 1900 to the reconstitution in 1932 of nearly all his ancestral domain under the name SAUDI ARABIA. The Wahabi movement, though mainly in Arabia, at an early date was also carried to India. There native Moslems under Sayid Ahmed warred against the Sikhs in 1830, even capturing Peshawar for a short time. As late as 1870 bands of Wahabis continued sporadic disorders in India.

Wahiawa (wa'hēäwa'), city (pop. 5,420), on Oahu, T.H., 17 mi. NW of Honolulu, on a plateau in the pineapple district.

Wahlstatt, Silesia: see LIEGNITZ.

Wahoo (wähōō'), city (pop. 2,648), co. seat of Saunders co., E. Nebr., N of Lincoln and W of Omaha, founded 1865. Luther College (junior) is here.

wahoo. see BURNING BUSH.

Wahpeton (wô'pĭtŭn), city (pop. 3,747), co. seat of Richland co., extreme SE N.Dak., on the Red River; inc. 1883. It is a trade center of a dairy area and is the seat of the state school of science (junior college) and of a Federal Indian school.

Waialeale (wī'ä"lāä'lā), peak, 5,080 ft. high, on central Kauai, T.H. It is seamed with deep fissures. Waimea Canyon, 2,000 to 3,000 ft. deep and c. 10 mi. long, resembles the Grand Canyon of the Colorado on a miniature scale. There is an average yearly rainfall of 476 in. on the summit.

Waianae Range (wī'unī'), on SW Oahu, T.H. It contains Mt. Kaala (4,030 ft.), the highest mountain on the island.

Waichow, China: see WAIYEUNG.

Waikato (wī'kä"tō), river rising in Lake Taupo, on North Island, New Zealand, and flowing 220 mi. NW into the Tasman Sea on the west coast. The largest river in New Zealand, it is navigable for 80 mi. by small steamers up to Cambridge, near which is a hydroelectric plant.

Waikiki (wīkēkē'), bathing beach at Honolulu, T.H. Surfboard riding is the major sport at Waikiki. The beach is the site of Fort De Russy. The aquarium of Kapiolani Park is near by.

Wailuku (wīlōō'kōō), city (pop. 7,319), co. seat of Maui co., on the northern coast of W. Maui, T.H. It is the largest town on the island.

Wainewright, Thomas Griffiths (wān'rīt), 1794–1852, English art critic and criminal. Orphaned at an early age, he was raised by his grandfather. He worked in the studio of the painter Thomas Phillips and served in the army for a short time. He contributed essays (1820–23) on the arts to the *London Magazine* under the pseudonyms Egomet Bonmot and Janus Weathercock, exhibited several paintings at the Royal Academy, and wrote *Some Passages in the Life of Egomet Bonmot* (1827). In 1830 his sister-in-law, whose life he had heavily insured, died in great agony. The insurance company refused payment, and in 1831 Wainewright went to France. He returned in 1837 and was arrested on an old forgery charge. At this time he admitted poisoning his sister-in-law, his uncle (whose property he inherited), his mother-in-law, and a friend. Convicted of forgery, he was transported to Van Diemen's Land (Tasmania) for life. His *Essays*, highly commended by William Hazlitt, were collected in 1880. See Thomas Secombe, *Twelve Bad Men* (1894).

Wainwright, Jonathan Mayhew, 1883–, American general, b. Walla Walla, Wash., grad. West Point, 1906. He was in the Philippine Islands when the Japanese attacked Pearl Harbor on Dec. 7, 1941. Wainwright took command of the Philippines after Gen. Douglas MacArthur was ordered to leave and led (March–May, 1942) the gallant but vain fight which ended in the surrender of Bataan and Corregidor. As a prisoner of war, he suffered cruel indignities—vividly described in his autobiography, *General Wainwright's Story* (1946). He was released (1945) from a prison camp in Manchuria. He witnessed (1945) the Japanese surrender in Tokyo Bay, then returned to the United States and was given the Congressional Medal of Honor. He was made a full general in 1945 and in 1949 retired.

Wainwright, town (pop. 1,261), E. Alta., ESE of Edmonton and near the Sask. border. It is a trade center and railroad division point for an area having oil and natural gas, it has oil refineries, grain elevators, and flour mills. Buffalo National Park, near by, was abolished in 1947.

Waite, Morrison Remick (wāt), 1816–88, American jurist, Chief Justice of the U.S. Supreme Court (1874–88), b. Lyme, Conn., grad. Yale, 1837. He became prominent when he represented the United States in prosecuting the ALABAMA CLAIMS. It was Waite's task as Chief Justice to help interpret the amendments to the Constitution which were adopted after the Civil War. His interpretation of the due process clause of the FOURTEENTH AMENDMENT was long influential. Waite maintained that only businesses "clothed with a public interest" might be subject to economic regulation by the states, e.g., a state might set the rates charged by a grain elevator but not the prices of a haberdasher. The Supreme Court essentially adhered to this position until the 1930s. See biography by Bruce R. Trimble (1938).

Waite Park, village (pop. 1,427), central Minn., just W. of St. Cloud.

waits, in England, band of itinerant musicians who celebrate Christmas by the nocturnal open-air singing of carols or other seasonable music, usually in expectation of small gratuities. The waits were originally watchmen, who blew a horn or sang a tune to mark the hours or the change of guard. In the 16th cent. large cities had trained bands of waits, who took part in public ceremonies and festivities. The custom survives, with variations, especially in rural communities.

Waitz, Georg (gā'ôrk vĭts'), 1813–86, German historian. Named professor at Kiel in 1842, he represented Kiel in the Frankfurt Parliament in 1848, where he defended the idea of a unified Germany, including Austria and Prussia, and was professor at Göttingen after 1849. His great knowledge of the literature and sources of history enabled him to direct the *Monumenta Germaniae historica* after 1875 and to prepare with Dahlmann an indispensable *Quellenkunde zur deutschen Geschichte* [sources on German history] (ed. 1869, 1874, 1883, and 9th ed., 1931). Waitz wrote an eight-volume work on the constitutional history of Germany to the middle of the 12th cent. (1844–78).

Waitzen, Hungary· see VAC.

Waiyeung (wī'yŭng'), Mandarin *Hui-yang,* city (pop 35,120), Kwangtung prov, China, 80 mi E of Canton and on the Tung river A commercial center, it was formerly called Waichow

Wakamatfu (wäkä'mätsō̆), **1** City (1947 pop. 59,-024), Fukushima prefecture, N Honshu, Japan Civil war in Honshu ended with the capture (1868) by imperial forces of a castle here **2** City (1947 pop 78,694), Fukuoka prefecture, N Kyushu, Japan, a port on the Hibiki Sea It is the chief coal-loading port of Japan, with exports of steel and sugar and large imports of raw materials for the near-by industrial cities. It was heavily bombed (1945) in the Second World War

Wakarusa (wäkŭrōō'sŭ), town (pop 1,033), Elkhart co, N Ind, NNW of Nappanee

Wakashan (wäkä'shun, wŏ'kŭ-shun", -shŏn"), linguistic family of the Pacific Northwest Coast The languages spoken by the Nootka and the Kwakiutl represent the two subfamilies They were spoken around Vancouver Island See ALGONQUIAN

Wakatsuki, Reijuro, Baron (rā'jĕrō, wäkäts'kē), 1866–1949, Japanese statesman A bureaucrat, he was finance minister (1914–15), and he supported the Peace Preservation Act for "thought control" In 1925 he became leader of the Kenseikai party and later headed its successor, the Minseito As prime minister (1926–27, April Dec, 1931) he pursued a pacific policy toward China, but his hand was forced by the army in Manchuria in Sept 1931, and he resigned soon afterward He was chief delegate to the London Naval Conference in 1930.

Wakayama (wäkä'yämä), city (1947 pop 171,800), capital of Wakayama prefecture, S Honshu, Japan, on the Inland Sea This railroad and manufacturing center is the site of a castle (16th cent) of Hideyoshi The prefecture yields lumber and agricultural products

wake, watch kept over a dead body until burial This practice, found in many different cultures, survives in the English-speaking world In remote areas there are traditional songs and laments Among Roman Catholics prayers are always said for the dead Eating and drinking are features of the wake Wakes are now often interrupted for the night See FUNERAL CUSTOMS

Wakeeney (wŏkē'nē, wŏ'kē"nē), city (pop 1,852), co seat of Trego co, NW Kansas, between the Saline and Smoky Hill rivers, platted 1878, inc 1880 Early settlers marketed fur, fertilizer buffalo bones left on the prairie after the animals had been killed There are wheat fields to the west, and fossils have been found in the area

Wakefield, Edward Gibbon, 1796–1862, British colonial statesman He entered the service of the British envoy to Turin (1814) and later served at Paris, but was convicted of an attempt to marry an heiress by trickery While in prison (1827–30) Wakefield prepared material for a book on prison conditions (pub 1831) and studied colonial affairs, his views on colonization were embodied in several works, including *A Letter from Sydney* (1829), *England and America* (1833), and *A View of the Art of Colonization* (1849) He argued that land should be sold at a nominal price, transportation of criminals should cease, and self-government should be extended, these ideas exerted a powerful influence on colonial affairs and led to the founding of the South Australian Association (1834) and the establishment (1836) of the South Australian colony Wakefield accompanied Lord DURHAM to Canada as an adviser (1838), influenced Durham's report on Canadian government, and was prominent in Canadian affairs for a time In 1839 he founded the New Zealand Land Company, which colonized that territory He went to New Zealand in 1852 and entered into politics there, but suffered a complete breakdown in 1854 See biographies by Richard Garnett (1898) and Irma O'Connor (1929), R C Mills, *The Colonization of Australia* (1915)

Wakefield, county borough (1931 pop 59,122, 1947 estimated pop 58,340) and city, capital of the West Riding of Yorkshire, England, on the Calder and SSE of Leeds It has been a center of the cloth industry from the 14th cent Modern manufactures include woolen goods, chemicals, machine tools, and power presses It is a farm center, with an important cattle market The site was occupied by the Danes and Saxons, there is a 10th-century cross remaining from a Saxon church Richard, duke of York, was defeated and slain in the battle of Wakefield in 1460 The city was taken by Fairfax in 1643. The Towneley Plays (see MIRACLE PLAY) originated in Wakefield Notable buildings are All Saints' Church (15th cent), the chantry chapel on the bridge over the Calder (c 1350), and the grammar school (1591) See J W Walker, *Wakefield Its History and People* (1934)

Wakefield. 1 Shoe-producing town (pop. 16,223), NE Mass, N of Boston, settled 1639, inc 1812 **2** City (pop 3,591), W Upper Peninsula, N Mich, on Sunday Lake E of Bessemer and on the Gogebic iron range, settled 1866, inc as a village 1887, as a city 1919 **3** Town (pop 1,158), E N H, near the Maine line E of Lake Winnipesaukee, settled 1770, inc. 1774 Of its several little villages, Union, a mill settlement, is the oldest.

Wakefield, family estate of George Washington, Westmoreland co, E Va, on the Potomac and E of Fredericksburg. It is incorporated in George Washington Birthplace National Monument (393 68 acres, est 1930). John Washington settled here in 1665 The original house was burned, but on its old foundations a new home, typical of the colonial period, was completed in 1931

Wakefield Plays· see MIRACLE PLAY

Wake Forest, college town (pop 1,562), E central N.C, NNE of Raleigh It is the seat of Wake Forest College (Baptist, mainly for men, 1833).

Wake Island, atoll and three islets, central Pacific, between Hawaii and Guam The island, c 4½ mi long and 2¼ mi wide, was discovered (1796) by the British, claimed (1900) by the United States, and made a U S naval reservation (1934) It became a Pan American air base (1935) on the route to the Orient, and a hotel was built Appropriations were made (1939) for a naval air base and a submarine base here In the Second World War the island was attacked by the Japanese on Dec 7 (Dec 8, Pacific time), 1941, after an epic defense by the small marine garrison, it fell on Dec 23 American forces bombed Wake (1942–45), but made no attempts to regain it In Sept, 1945, the island was formally surrendered by the Japanese For an account of the U S defense, see J P S. Devereux, *The Story of Wake Island* (1947)

wake-robin, name for several plants, particularly TRILLIUM.

Waksman, Selman Abraham (wäks'mun), 1888–, American microbiologist, b Russia, grad Rutgers Univ (B S, 1915), Ph D Univ of California, 1918. He came to the United States in 1910 and was naturalized in 1916 A teacher at Rutgers from 1918, he became professor in 1930 At the New Jersey state agricultural experiment station, where he became microbiologist in 1921, Waksman and his associates made studies of the decomposition of organic matter by microorganisms, of the origin and nature of humus, and of the production of ANTIBIOTIC SUBSTANCES In addition to many scientific papers Waksman wrote *Enzymes* (with W C Davison, 1926), *Principles of Soil Microbiology* (1927, rev ed, 1932), *The Soil and the Microbe* (with R L Starkey, 1931), *Humus* (1936, rev ed, 1938), and *Microbial Antagonisms and Antibiotic Substances* (1945, rev ed., 1947), he edited *Streptomycin* (1949)

Wallachia or **Wallachia** (both wälā'kēu, wŏ), historic division (29,575 sq mi, pop 6,709,271), S Rumania The Transylvanian Alps separate it in the northwest from Transylvania and the Banat; the Danube separates it from Yugoslavia in the west, Bulgaria in the south, and N Dobruja in the east, in the northeast, it adjoins Moldavia BUCHAREST, the Rumanian capital, is its chief city Walachia is divided into two historic provinces, Muntenia or Greater Walachia (20,270 sq mi, pop 4,991,289) in the east and Oltenia or Lesser Walachia (9,305 sq mi, pop 1,717,982) in the west Constituting the major part of the lower Danubian plain, it is an agricultural region producing cereals, fruit, and wine Near PLOESTI are the richest oil fields of Rumania The region was part of the Roman province of DACIA and has retained its Romanic speech despite centuries of invasion and foreign rule Though theoretically part of the Byzantine Empire, Walachia was successively occupied (6th–11th cent) by the Lombards, the AVARS, and the Bulgarians By the 12th cent it had passed under the CUMANS, who in turn succumbed (1240) to the Mongols When the Mongol wave receded, the native population descended from their mountain refuges, and the principality of Walachia was founded (c 1290) by their leader Radu Negru or Rudolf the Black The name Vlachs (or Walachs or Wallachs) was given them by their Slavic neighbors Though it is claimed by some that the Vlachs are the direct descendants of the Dacians (mainly on the ground that they preserved their Latin speech), it is more than likely that they represent a composite ethnical mixture. At about the same time the sister principality, MOLDAVIA, came into existence. CAMPULUNG, the earliest capital of Walachia, was later replaced by CURTEA-DE-ARGEŞ Mircea the Great (reigned 1386–1418) shared in the defeats of KOSSOVO (1389) and Nikopol (1396) at the hands of the Turks and was obliged to pay tribute to the sultan Walachia continued to be governed by its own princes under Turkish suzerainty Like Moldavia, it was torn by strife among the great landowners (or boyars) and among rival claimants to the throne, lawlessness prevailed Prince Vlad the Impaler (reigned 1456–62) restored some order by putting 20,000 persons to death within six years He refused tribute to the sultan, defeated the Turks, and impaled the Turkish prisoners His rivalry with STEPHEN THE GREAT of Moldavia cost him his throne A last attempt to free all Rumanians from foreign domination was made by MICHAEL THE BRAVE (1593–1601), who massacred the Turks in Walachia and conquered Transylvania and Moldavia. His death delivered Walachia back into the hands of the Turks The alliance (1711) of Prince Constantine BRANCOVAN with Peter I of Russia and his subsequent downfall resulted in a tightening of Turkish control Instead of native princes, governors (hospodars), mostly Greek PHANARIOTS, were appointed In the Russo-Turkish Wars of the 18th cent Walachia was repeatedly occupied by Russian and Austrian troops The grasping rule of the Phanariots lasted until 1822, when the Rumanians rebelled against the Greeks, who at the same time began their war of independence against Turkey. Native governors were again appointed, and the Treaty of Adrianople (see ADRIANOPLE, TREATY OF) in 1829 made Walachia an almost autonomous state, tributary to Turkey but under Russian protection A Rumanian national uprising (1848–49) was suppressed by Russian intervention. Russian troops occupied (1853) Walachia and Moldavia early in the Crimean War, however, to purchase Austrian neutrality, they evacuated the lands in 1854, and the two Danubian Principalities (as Walachia and Moldavia were called) passed under Austrian occupation The Congress of Paris (1856) guaranteed the principalities virtual independence under the nominal suzerainty of Turkey With the accession (1859) of Alexander John CUZA as prince of both Moldavia and Walachia the history of modern RUMANIA began

Walafrid Strabo, c 809–849, German scholar. He was educated at the abbey of Reichenau He wrote, at 18, a Latin verse account of a journey to the other world, *Visio Wettini* In 842 he returned to Reichenau as abbot There he encouraged the production and exchange of manuscripts which made the library and scriptorium famous Among Walafrid's writings, renowned throughout the Middle Ages for their distinguished Latin, are *Hortulus,* a poem describing the monastery garden, a scriptural commentary, and notes on contemporary liturgy, still valuable as a source

Walburga, Saint (wôlbûr'gŭ), c 710–777?, English missionary in Germany She went there to assist St Boniface, settling at Heidenheim, near Eichstätt (NW of Ingolstadt), where her brother Wunnebald had an abbey St Walburga's convent became a principal center of civilization in Germany and an important shrine Feast Feb 25 By a confusion with her name or with a local festival, the eve of May Day came to be called *Walpurgisnacht* [Walburga's night], this was a witches' sabbath of German tradition There is a famous literary use in Goethe's *Faust* Another form of her name is Walpurga

Walcheren (wäl'khā-run), westernmost island, area 80 sq mi, Zeeland prov, SW Netherlands, in the North Sea and at the entrance to the Scheldt estuary It is largely agricultural, producing vegetables, fruit, and wheat Middelburg is the chief city, FLUSHING, on its southern shore, is of strategic importance In the Second World War, after the Allied capture of Antwerp (Aug, 1944), German garrisons continued to hold Walcheren and were able to block access to Antwerp Heavy Allied bombardments (Oct, 1944) of Walcheren caused the dikes to rupture, and the island was largely flooded. On Nov 1, 1944, British commando units landed at Flushing, and within three days they reduced the German garrison to surrender, thus opening up the port of Antwerp for Allied use The work of rebuilding the dikes and of drying the land was completed before the end of 1945.

Walcott, Charles Doolittle, 1850–1927, American geologist, b New York Mills, N Y He joined the U S Geological Survey in 1879 and as director (1894–1907) enlarged its field to include the Reclamation Service, the Forest Service, and the Bureau of Mines He made a special study of Cambrian rocks and fauna of the United States He was secretary of the Smithsonian Institution from 1907 to 1927

Wald, Lillian D. (wôld), 1867–1940, American social worker and pioneer in public health nursing In 1893 she organized a visiting nurse service which became the nucleus of the noted Henry Street Settlement in New York city The U S Children's Bureau (founded 1912) was suggested by her, as were other public health services and social reforms See her autobiographical books *The House on Henry Street* (1915) and *Windows on Henry Street* (1934), biographies by R. L. Duffus (1938) and Beryl Williams (1948)

Waldeck (väl'dĕk), former principality (433 sq mi, 1910 pop 61,707), W Germany, now in N Hesse Arolsen was the capital. The region is hilly, forested, and largely agricultural. An immediate county of the Holy Roman Empire from c 1200, Waldeck was united with the county of PYRMONT in the late 17th cent, and its rulers were raised to princely rank In 1867 the prince of Waldeck-Pyrmont renounced most of his sovereign prerogatives in favor of Prussia, the title, however, continued in the family Waldeck-Pyrmont became a republic in 1918 By a plebiscite in 1922 Pyrmont passed to Prussia and was incorporated with Hanover prov, by another plebiscite (1929) Waldeck proper became part of the former Hesse-Nassau prov. of Prussia

Waldeck-Rousseau, René (rŭnā' väldĕk'-rōōsō'), 1846–1904, French statesman Belonging to the republican left, he was minister of the interior

(1881, 1883–85) under Jules Grévy and in 1884 secured a liberalization of labor legislation In 1893 he was defense counsel for LESSEPS President Loubet appointed him to head a cabinet in 1899, at the height of the DREYFUS AFFAIR By securing a presidential pardon for Dreyfus he prepared the ground for Dreyfus's final exoneration (1906). The anticlerical legislation that grew out of the affair began during Waldeck-Rousseau's ministry The right of free association of religious orders was virtually abolished (1901), but Waldeck-Rousseau opposed more extreme measures and resigned (1902) to be succeeded by Émile Combes His term marked the beginning of a crucial period in international relations, starting with the Fashoda Incident of 1899 and ending with the conclusion of the Triple Entente in 1907 His foreign minister was DELCASSÉ

Waldemar I (Waldemar the Great) (wäl'dümär), 1131–82, king of Denmark (1157–82) He became one of the three pretenders to the Danish throne in 1147 After waging war against his rivals, Sweyn III and Canute, he received Jutland as his share of Danish territory He then conducted a campaign against King Sweyn, whom he defeated in a great battle near Viborg Though now supreme in Denmark, Waldemar found his country overrun by the Wends With Henry the Lion and Albert the Bear he subjugated the Wends and forced them to accept Christianity He became the vassal of Emperor Frederick I in order to gain German support, but later was powerful enough to free himself from that control Waldemar codified the laws and gained Norwegian territory The marriages of his daughters to the sons of Frederick I, to Eric X of Sweden, and to Philip II of France increased his prestige

Waldemar II, 1170–1241, king of Denmark (1202–41), second son of Waldemar I In the reign of his brother, Canute VI, he defended Denmark from German aggression and then extended Danish control over Schwerin After his accession, the king of Norway paid homage to him (1204) When his German conquests had been confirmed by Frederick II, he undertook a crusade against the Estonians and became master of much of the Baltic region In 1223 he was treacherously seized by his vassal, the count of Schwerin, and held prisoner for three years He was released only after he had been forced to relinquish much of his territory He then attempted a reconquest, but was defeated at Bornhoved (1227), and spent the remainder of his life in codifying Danish laws and in forwarding internal reform

Waldemar IV (Valdemar Atterdag), c 1320–1375, king of Denmark (1340–75) He became king of a land completely dismembered by foreign rulers, but his great ambition, utter unscrupulousness, and military ability enabled him to unite his kingdom by 1361 Waldemar IV married his daughter MARGARET to the Norwegian king in an effort to unite Denmark and Norway and interfered in Germany on behalf of his kinsman, the margrave of Brandenburg His conquest of Skane, in violation of a treaty with the Swedish king, gave him control of the lucrative fishing industry, and his defeat of the HANSEATIC LEAGUE (1362) secured him temporary possession of GOTLAND In 1368, however, the Hanseatic towns Mecklenburg, Sweden, and Holstein formed a coalition against him Defeated, Waldemar was forced to consent (1370) to the humiliating Treaty of Stralsund See Fletcher Pratt, *The Third King* (1950)

Waldemar. For Russian rulers thus named, see VLADIMIR

Walden, village (pop 4,262), SE N Y , NW of Newburgh, in a dairy area, inc 1855 Underwear and cutlery are made here

Waldenburg (väl'dunbŏŏrk) or **Walbrzych,** Pol *Wałbrzych* (vou'bzhlkh), city (pop 72,976), Lower Silesia, transferred to Polish administration in 1945 (see SILESIA) A coal-mining center, it was greatly damaged in the Second World War, but has been rebuilt, its present population is almost entirely Polish

Waldenses (wôldĕn'sēz) or **Waldensians,** Protestant denomination of medieval origin, called in French *Vaudois* They originated as the Poor Men of Lyons, a band organized by Peter Waldo (d 1217), a wealthy merchant of Lyons, who gave away his property (c 1176) and went about preaching evangelical poverty as the way of perfection Laymen, they were forbidden to preach at Lyons They went to Rome, where Alexander III blessed their life but forbade preaching (1179) They felt called to disobey and were condemned (1184) by Lucius III By 1200 their teachings were definitely unorthodox, as they opposed the teaching on the sacraments and rejected the use of good works for the dead They laid great stress on restoring Gospel simplicity. They had contacts with other similar groups, especially the Humiliati The Waldenses were most successful in Dauphiné and Piedmont, and their permanent communities were in the Cottian Alps SW of Turin In 1487 at the instance of Innocent VIII a persecution overwhelmed the Dauphiné Waldenses, but those in Piedmont defended themselves successfully In 1532 they met with German and Swiss Protestants and accepted some of their views In 1655 the French and Charles Emmanuel II of Savoy began a campaign against them Oliver Cromwell sent a mission of protest, this occasion also prompted Milton's famous poem on the Waldenses At the time of the revocation of the Edict of Nantes (1686) the Waldensian leader, Henri ARNAUD, led a band into Switzerland, then later led them back to their valleys He was also successful as a political negotiator After the French Revolution the Waldenses of Piedmont were assured liberty of conscience, and in 1848 King Charles Albert of Savoy granted them full religious and civil rights A group of Waldensians settled in the United States at Valdese, N C The Waldensian Church is included in the Alliance of Reformed Churches of the Presbyterian Order The principal Waldensian writer was Arnaud See J A Wylie, *History of the Waldenses* (1880)

Waldersee, Alfred, Graf von (al'frät graf' fŭn väl'durzā"), 1832–1904, German general He became (1881) chief assistant to the elder Moltke, whom he succeeded (1888) as chief of the general staff He was in command of the foreign armies sent (1900) to quell the Boxer Rebellion in China

Waldo, Peter see WALDENSES

Waldo, Samuel Lovett, 1783–1861, American portrait painter, b Windham, Conn He painted in Charleston, S C , and then in London (1806–9) and on his return to America gained popularity in New York His pictures include *Old Pat, the Independent Beggar,* a portrait of Andrew Jackson, and a self-portrait (all Metropolitan Mus) and a portrait of Peter Remsen (N Y Historical Society)

Waldo, town (pop 1,240), SW Ark , near Louisiana, in a depleted cotton and lumber region

Waldoboro (wôl'dubŭru), fishing and resort town (pop 2,497), S Maine, SE of Augusta, settled 1748 by Germans, inc 1773 In the 19th cent it had considerable shipping and shipbuilding

Waldron, town (pop 1,298), co seat of Scott co , W Ark , in a lumber, coal, and farm area of the Ouachitas, inc 1852 The Ouachita National Forest is near by

Waldseemüller, Martin (mar'tēn valt'zāmu"lur), Gr *Hacomilus* (hŭkŏ'mĭlus), 1470?–1522?, German cosmographer One of a group of humanists known as the Gymnasium Vosagense, he lived at Saint-Dié, Lorraine, during the latter part of his life He is known as the first cartographer to call the New World *America* He applied the name to South America (which he showed as an island) in two maps which he published in 1507 together with an explanatory treatise, *Cosmographiae introductio,* and Amerigo Vespucci's account of his voyages to the New World A first edition of this rare work is in the N Y Public Library Waldseemüller also prepared with his colleagues a new edition of Ptolemy, published in 1513 See *The Cosmographiae Introductio of Martin Waldseemüller in Facsimile* (U S Catholic Historical Society, 1907)

Waldstein, Albrecht Wenzel Eusebius von see WALLENSTEIN, ALBRECHT WENZEL EUSEBIUS VON

Waldstein, Sir Charles see WALSTON, SIR CHARLES

Waldwick (wôl'dwĭk), residential borough (pop 2,475), NE N J , N of Paterson, inc 1919

Walensee, Wallensee (both vä'lunzā"), or **Lake of Wallenstadt** (vä'lunshtät"), narrow mountain lake, c 10 mi long, between St Gall and Glarus cantons, Switzerland It is connected with the Lake of Zurich by the Linth Canal Wallenstadt, a town (pop 3,235) on the east shore, is a summer resort and produces cotton textiles

Wales, Welsh *Cymru* (kŏm'rē), region (7,466 sq mi , 1948 estimated pop 2,131,710), W Great Britain, a peninsula W of England Often called a principality, it has been politically united with England since 1536 With the border county of MONMOUTH —commonly included for administrative purposes in Wales—the area is 8,006 sq mi and the estimated population 2,552,510 The 12 counties of Wales proper are ANGLESEY, CAERNARVONSHIRE, DENBIGHSHIRE, FLINTSHIRE, MERIONETHSHIRE, and MONTGOMERYSHIRE in the north, and CARDIGANSHIRE, RADNORSHIRE, BRECKNOCKSHIRE, PEMBROKESHIRE, CAERMARTHENSHIRE, and GLAMORGANSHIRE in the south The peninsula, 136 mi long from north to south and varying in breadth from 37 to 92 mi , is deeply indented by Cardigan Bay, which opens to St George's Channel in the west, to the north is the Irish Sea, to the south is the British Channel The northern arm of the peninsula stretches from the Dee estuary (which divides Flintshire from Cheshire, England) westward to Holyhead Island (off Anglesey), only 61 mi from Dublin, Ireland, in the south, Fishguard (in Pembrokeshire, not far from St David's Head, the westernmost point of Wales) is but 54 mi from Rosslare, Ireland Wales is almost entirely occupied by the central mountain mass, the Cambrian Range, which rises to 3,560 ft. in Mt. SNOWDON (the highest point of Great Britain S of Scotland) The rough Welsh hills have been through the centuries a mountain fortress, while the narrow, bordering coastal plain and the plains of the south have been used as invasion routes since prehistoric days The area of lowlands is greatly increased in the north by the island of Anglesey and the Lleyn Peninsula The little rivers come down from the mountain fastness, the Clwyd and the Conway in the north and the Teifi, the Dyfi (Dovey), and the Mawddoch in the west The eastern rivers, the Dee, the Severn, and the Wye, drain into England The eastern boundary was drawn by the Act of Union in 1536 on a purely political basis and disregarded cultural and linguistic distribution Welsh-speaking areas were added to Hereford, Shropshire, and Gloucester (in England), and the language survived in Hereford until the 18th cent and survives to a small extent in Shropshire today Wales itself despite the long consolidation with England has maintained its distinctive and unified culture Nearly 100,000 inhabitants speak the Celtic Welsh language only, and half the population speaks Welsh in addition to English The cultural unity persists in economic diversity, for the central highlands and the northern counties are pastoral—a land of sheep and meat and milk—and agricultural, and are thinly populated There is an industrial and mining area in Flintshire and Denbighshire in the north, but the modern wealth of Wales is in the great coal fields and industries of the south There more than half the population lives There are the great ports and cities—CARDIFF, SWANSEA, RHONDDA, MERTHYR TYDFIL, and others In these lands of smoke and steel and problems of labor and poverty the Welsh tradition survives as it does in the simple life of the hills, now attracting travelers by their beauty It is an old tradition, stretching back into prehistory (see CELT and BRITAIN), and the Celtic-speaking shepherds and farmers and forest dwellers were ready to defend their homes against the Roman invaders, who penetrated the north to found Segontium (near Caernarvon) and the south to found Maridunum (now Caermarthen) The Roman impress upon Wales was light, and the Welsh continued to dominate a large area of Great Britain, stretching N to the Clyde and the Firth of Forth and S past the Bristol Channel into present Somerset, Devon, and Cornwall They were converted to Christianity by Celtic monks, notably St DAVID, later the patron saint of Wales, and they were not seriously affected by the Anglo-Saxon Conquest of Britain. The invaders did, however, thrust between the main body of the Welsh and those S of the Bristol Channel (who, as the West Welsh, maintained their national identity for centuries), and as the kingdoms of the heptarchy grew, there were border wars The fiercely warlike Welsh sturdily opposed the encroachment of the kings of Mercia, and King Offa is said to have constructed Offa's Dyke to mark the boundary between Mercia and Wales Later Welsh fighting men withstood the kings of Wessex while both Wessex and Wales were harried by the Norsemen In this travail, Welsh civilization nevertheless came to early flower, as the disparate local groups of pastoral people coalesced Generally a distinction between North Wales and South Wales persisted and there were many petty principalings, but the great Hywel Dda (Howel the Good) was king over all the Welsh in the late 10th cent His law code marked the advance in unity At the same time the tradition of the bards was being solidified to yield later a wealth of poetry, music, and learning The defense of the beleaguered hills went on, and Gruffydd ap Llewelyn, ruler of all Wales, maintained the tradition of independence until he was killed (1063) in the invasion of Harold of England Harold's own conqueror, William I of England, recognized the power of the Welsh by setting up earldoms to protect his newly won kingdom The power of the Norman border lords (see WELSH MARCHES) grew slowly and unsteadily, but it grew, and Wales was more and more threatened with English conquest, though Welsh foot soldiers, moving swiftly and secretly over the mountain paths, were able to resist through 200 years of guerrilla warfare The Cymry, as the Welsh call themselves, were not united politically, and the division between North Wales and South Wales continued Thus when William I's men made inroads in the north, Rhys ap Tewdr held sway in the south, and only after his death (1093) did the Anglo-Norman barons take full possession of the Vale of Glamorgan Dissension within England itself gave the Welsh princes a chance to profit from the relaxation of pressure and from benefits to be had by taking one side or the other Medieval Welsh culture reached full blossom, the MABINOGION reduced to written form some of the richest of old legends, and the EISTEDDFOD was regularized to give a solid base to the choral music, still so much a part of Wales Cultural decline was slow as the invasion went on Though Henry II of England was repulsed (1165) by Owen Gwynedd of North Wales and Rhys ap Gruffydd of South Wales and though LLEWELYN AP IOWERTH united the sections and gained power by skillfully taking part in the troubled English affairs of King John, the end was certain Llewelyn's grandson, LLEWELYN AP GRUFFYD was overthrown and the conquest of Wales was completed by Edward I in 1282 The Statute of Rhuddlan (1284) set up English rule To placate the Welsh, Edward had his son (later Edward II), who had been born at

Caernarvon Castle, made prince of Wales in 1301; from that time comes the English custom of giving the eldest son of the king the title prince of Wales Changes in the general aspect of Welsh life were few, though trade with England caused market towns to grow and wool became a staple source of revenue The Welsh were subjected to some tyrannies, and the Welsh leaders continued to seek advantage from British internal affairs Early in the 15th cent OWEN GLENDOWER led a revolt that had a brief but amazing success, and Owen TUDOR later in the 15th cent was involved in the Wars of the Roses It was his grandson who ascended (1485) the English throne as Henry VII, the first of the Tudor monarchs Tudor policy in Wales was assimilation. The Welsh lands were converted into regular shires Primogeniture replaced the Welsh system of GAVELKIND Heads of Welsh families became freeholders, the other Welsh became leaseholders after the English pattern A new aristocracy arose, and English manners were adopted by the nobility, thus a deep breach was opened between landlord and tenant, not to be healed for centuries The Act of Union under Henry VIII in 1536 completed the process by abolishing all Welsh customary law at variance with the British and by establishing English as the legal language From that date onward the separate history of Wales was mainly religious and educational, while more and more Welshmen rose in British (and later in imperial) service The Welsh translation (1588) of the Bible by Bishop William Morgan had a literary effect in standardising the language as well as great religious influence The Reformation came slowly to Wales Catholic sentiment remained strong under Elizabeth and James I, and the Welsh supported Charles I in the Puritan Revolution Under the Commonwealth oppressive measures were used to force the Welsh to abandon Catholic and prelatarian sympathies In the following years the religion of Wales turned largely from the Established Church to dissent with strong Calvinist leanings The ministers became prominent among leaders of the people One was Griffith Jones (1683–1761), rector of Llandowor, who pioneered in popular education, a movement so successful that by the 20th cent the standard of education in Wales was high Important in education as well as religion was the Methodist evangelical movement It was linked with the English movement led by George Whitefield and John and Charles Wesley, but was actually a native development which had been fostered by Hywel Harris (1714–73) before Whitefield began to preach The CALVINISTIC METHODIST CHURCH gathered in most of the Welsh who had still adhered to the Church of England and bolstered Welsh nationalism, one of the most successful nonpolitical nationalist movements of the world The strong hold of evangelical Protestantism on Wales was to make the establishment of the Church of England there the dominant question in Welsh politics in the later 19th cent , and the last of the few acts of Parliament that applied to Wales alone was the disestablishment of the Church in 1914. Long before that time the tenor and tempo of Welsh life had been changed by the Industrial Revolution. The mineral wealth of Wales had been opened to exploitation, at first in the north, then in the rich coal fields of S Wales Coal, iron, and tin were used for the creation of vast industries, and the accent shifted from the sheep walks and the farms to the coal pits and the factories The change to the new predominant mode was not accomplished without difficulties. The shifting of population helped to promote the emigration of many Welshmen, especially to the United States, but also to other places (e g , Patagonia) The region of S Wales in the late 19th cent became the chief coal-exporting region of the world With the wealth of industrialization came the evils of industrial life—overcrowding and destitution in times of depression. The "depressed areas" of S Wales suffered particularly in the years of economic decline after the First World War and especially in the late 1920s and the '30s Conditions in the collieries were such that even with economic revival many of the workers sought escape from the coal mines to easier employment The industrial boom of the Second World War and even more the activities of strong labor unions made the situation more hopeful. The British government took an interest in controlling the mines and eradicating poverty. The revival of Welsh nationalism, which had suffered slightly from industrialization of the country, also aided reform measures somewhat Yet, as in earlier days, the Welsh tradition turned leaders more to education and the arts One of the most important institutions is the University of Wales, which was created in 1893 by royal charter, it is the collective name of four constituent colleges, three of them created before the incorporation—at Aberystwyth (1872), Cardiff (1883), Bangor (1884), and Swansea (1920), the national school of medicine is also in the system The national institution of Eisteddfod helps to perpetuate interest in the Welsh language and choral music. As late as 1946 Welsh members of Parliament proposed the creation of a special secretary of state for Wales. See WELSH LITERATURE. See Sir John Rhys and D. B Jones, *The Welsh People* (1923), Sir Owen Edwards, *Wales* (1925), David Williams, *History of Wales, 1485–1931* (1934), J E Lloyd, *History of Wales* (to 1282, 2 vols., 1939); E. G Bowen, *Wales a Study in History and Geography* (1941), J. F Rees, *Studies in Welsh History* (1947)

Walewska, Countess Maria (märē'ä välĕf'ska), 1789-1817, Polish noblewoman. She met Napoleon I in 1807 and became his mistress Deeply in love with the emperor, she did not seek to derive any material advantage from her position, and she was among the few who visited him in his exile at Elba Her son by Napoleon was Alexandre Walewski See biography by A P R d'Ornano (1941).

Walewski, Alexandre Florian Joseph Colonna, Comte (älĕksäf'drù flôryäN' zhôzĕf' kôlônä' kôt' välĕfskē'), 1810–68, French diplomat, b Poland, son of Maria Walewska by Napoleon I He went to France after the Restoration, returned to Poland in 1830 and took part in the Polish uprising, and shortly afterward went to England to plead the cause of the Polish provisional government When the insurrection was suppressed, Walewski returned to France, was naturalized, and entered the army He resigned his commission in 1837 and entered journalism When his cousin, Louis Napoleon (later Napoleon III), came to power in 1848, he employed Walewski on diplomatic missions in Italy, England, and Spain He was foreign minister (1855–60) and minister of state (1860–63) In 1865 he was president of the legislative assembly, from which he resigned (1867) to enter the senate He was an important figure in the reforms of the "Liberal Empire"

Walfish Bay see WALVIS BAY

Walhalla, in Germanic mythology see VALHALLA

Walhalla. 1 (wŏlhā'lu) City (pop 1,148), NE N Dak., near the Canadian boundary and on the Pembina river Founded as St Joseph's Mission (1848), it became a fur-trading post, was platted in 1877, and incorporated in 1885 The city is a port of entry, a shipping point for farm products, and a resort center for the Pembina Mts 2 (wŏlha'-lu, wŏl-) Cotton-milling town (pop 2,820), co. seat of Oconee co , NW S C , near the Blue Ridge W of Greenville, in a resort area, founded c 1850 Near by are a state park and a trout hatchery

Walke, Henry (wŏk), 1808–96, American naval officer, b Princess Anne co , Va As a small child he moved with his family to Chillicothe, Ohio Walke was appointed a midshipman in 1827, served in the Mexican War, and was made a commander in 1855 In wisely removing the garrison at Pensacola, Fla , to New York early in 1861, he technically violated orders, but a court-martial sentence of admonishment was lightly carried out Walke's subsequent service on the Mississippi was outstanding His gunboats supported U S Grant in that general's first Civil War battle, at Belmont, Mo (Nov , 1861), and as commander of the *Carondelet* he had an important part in the victories at Forts Henry and Donelson, ISLAND No 10, Fort Pillow, and Memphis Promoted captain in July, 1862, he commanded the *Lafayette*, an ironclad ram, in the Vicksburg campaign. From Sept , 1863, to the end of the war, Walke commanded the *Sacramento* in a search for Confederate cruisers in the Atlantic He was promoted commodore in 1866 and rear admiral in 1871, when he was retired See his *Naval Scenes and Reminiscences of the Civil War* (1877), illustrated with his own drawings

Walker, Amasa, 1799–1875, American economist, b. Woodstock, Conn He became a merchant in Boston, but retired from business in 1840 He lectured (1842–48) on political economy at Oberlin College, which he was influential in founding He was a delegate to the peace congresses at London (1843) and Paris (1849) An abolitionist, he was elected (1851–53) by the Free-Soil party secretary of state for Massachusetts, he filled out a term (1862–63) as Congressman Walker was examiner (1853–60) in economics at Harvard and lecturer (1859–69) at Amherst. His *Science of Wealth* (1860) was long a popular textbook on economics

Walker, Sir Emery, 1851–1933, English master printer, typographic designer, and engraver. He became one of the moving spirits in the KELMSCOTT PRESS and later was the partner of Cobden-Sanderson in the DOVES PRESS He was responsible for much of the successful work of the Doves Press, though he and Cobden-Sanderson quarreled, and most of the public credit went to Cobden-Sanderson Walker also interested himself in the improvement of ordinary books (as opposed to "fine" books) and had tremendous influence in improving book design. He was knighted in 1930.

Walker, Francis Amasa, 1840–97, American economist, statistician, and educator, b Boston, grad. Amherst, son of Amasa Walker. In the Civil War he was brevetted brigadier general. Walker's activities in the U S government included service as director of the 10th Census (1880) and as U.S commissioner of Indian Affairs (1871–72). From 1872 to 1880 he was professor of political economy in the Sheffield Scientific School, Yale, and from 1881 to his death was president of the Massachusetts Institute of Technology. As an economist Walker is especially known for his theories on wages and profits (promulgated in *The Wages Question*, 1876) and for his advocacy of international bimetallism Other works by him include *Money* (1878), *Political Economy* (1883), *Land and Its Rent* (1883), and *International Bimetallism* (1896). See biography by J P. Munroe (1923).

Walker, Frank Comerford, 1886–, U.S. Postmaster General (1940–45), b. Plymouth, Pa., grad Notre Dame (LL B , 1909) He was a lawyer, businessman, and politician in Montana before he moved to New York in 1925 In 1932 he was treasurer of the Democratic National Committee. After 1933 Walker held several Federal offices. In 1940 he succeeded James A Farley as Postmaster General and in 1945 was succeeded by Robert E Hannegan

Walker, Frederick, 1840–75, English landscape and genre painter and draughtsman He is best known for his illustrations in *Once a Week* and *Cornhill Magazine*. In the *Cornhill Magazine* appeared his admirable illustrations for works of Thackeray The Victoria and Albert Museum has some of his fine water colors, including the beautiful *Spring* His *Vagrants* and several other oils are in the Tate Gallery, London

Walker, George, 1618–90, Irish clergyman and commander He studied at the Univ of Glasgow, entered the Anglican Church, and served in several parishes around Londonderry, Ireland When, after the Glorious Revolution, Londonderry was besieged by the army of James II (1689), Walker led a regiment into the town and, after the departure of the governor, Robert Lundy, was made one of the two governors of the town with the rank of colonel. By his courage and inspiring sermons Walker roused the people, and the town was held until relieved He went to London, where he received the thanks of Parliament, was given £5,000 by William III for the citizens of Londonderry , and was made bishop of Derry He published *A True Account of the Siege of Londonderry* (1689) and, in answer to charges of self-seeking, a *Vindication* (1690) Walker was killed at the battle of the Boyne

Walker, Henry Oliver, 1843–1929, American figure and mural painter, b Boston, studied with Léon Bonnat in Paris His works include a series of lunettes representing *Lyric Poetry* (Library of Congress), murals in the Minnesota state capitol (St Paul), the Massachusetts statehouse (Boston), and the Essex co courthouse (Newark, N J), and the panel, *Wisdom Attended by Learning* (Appellate Courthouse, New York) Other works are *A Morning Vision* (Metropolitan Mus) and *Musa Regna* and *Mrs Evans and Son* (both National Gall of Art, Washington, D C). He became a member of the National Academy in 1902

Walker, Horatio, 1858–1938, Canadian painter, b Listowel, Ont , largely self-taught Though he lived in Rochester and New York, he painted chiefly scenes from the simple life of the inhabitants of the Île d'Orléans in the St Lawrence His work has been compared to that of the Barbizon painter J F Millet Walker was a member of the National Academy of Design and of the Royal Institute of Painters in Water Colour of England Examples of his art are *Oxen Drinking* (National Art Gall , Ottawa), *The Woodcutter* and *Milking* (City Art Mus of St Louis), *Sheepshearing* (Albright Art Gall , Buffalo, N Y), *Ave Maria* (Corcoran Gall), and *The Sheepfold* and two pictures of harrowing (Metropolitan Mus)

Walker, James John, 1881–1946, American political leader, mayor of New York city (1925–32), b New York city Dapper and debonair, Jimmy Walker, who had tried his hand at song writing, early engaged in politics and in 1909 became a member of the city assembly After law study at St Francis Xavier College and at New York Univ law school, he was admitted (1912) to the bar He attracted the notice of several TAMMANY leaders, and under the tutelage of Alfred E Smith, Walker was elected (1914) to the state senate In 1921 he became minority leader of the senate and effectively pushed through liberal legislation With Tammany backing, he defeated John F Hylan, the incumbent, and F D. Waterman to become mayor of New York city In office Walker backed the adoption of an extensive transit system, unified the public hospitals, and created the department of sanitation. Immensely popular with the electorate, Walker was returned to office, defeating Fiorello H LaGuardia in 1928. As a result of several frauds exposed in the municipal government in Walker's second administration, the state legislature ordered an investigation headed by Samuel SEABURY. Extensive corruption was revealed, and 15 charges were leveled at the mayor Walker hastily resigned (Sept. 1932) before the hearings were closed and lived in Europe for a number of years He returned to the United States and in 1940 was appointed by Mayor LaGuardia as a municipal arbiter for the garment industry. He was president of a phonograph-record company until his death. See Gene Fowler, *Beau James* (1949).

Walker, Mary Edwards, 1832–1919, American surgeon and feminist, b Oswego, N.Y., grad Syracuse Medical College, 1855. At the beginning of the

Civil War she offered her services to the Union army. For the first three years she served as a nurse, but in 1864 she was commissioned assistant surgeon, the first woman to have such a commission, and was awarded a medal for her service She adopted male attire, which she wore to the end of her life. Dr. Walker was active in the struggle for woman suffrage and other reforms

Walker, Nellie Verne, 1874–, American sculptor, b Red Oak, Iowa, studied with Lorado Taft, specialising in portrait busts and memorial groups *Her Son* (Art Inst , Chicago), Chief Keokuk (Keokuk, Iowa), Senator Harlan (Capitol, Washington, D C), and the Polish-American war memorial (Chicago) are well known

Walker, Robert, d. 1658?, English painter, a follower of Van Dyck and favorite portraitist of Oliver Cromwell His portraits of Cromwell and his family and followers are justly famous Examples are in the National Portrait Gallery, London, Hampton Court, and the Metropolitan Museum

Walker, Robert John, 1801–69, American statesman, b. Northumberland, Pa His name is sometimes given as Robert James and most often as Robert J Walker After graduating from the Univ of Pennsylvania (1819), he studied law, was admitted (1821) to the bar, and practiced in Pittsburgh In 1826 he moved to Natchez, Miss , where he soon had a lucrative practice Much of his wealth, however, was spent in unsuccessful speculation in plantations and wild lands In politics Walker, learned, shrewd, and aggressive, became a nominal Jacksonian Democrat, although Andrew Jackson distrusted him From 1835 to 1845 he represented Mississippi in the U S Senate, where he was an ardent advocate of American expansion He favored recognition of Texas independence and later became a leader in support of the annexation of Texas, making it his chief interest in the choosing of a Democratic candidate for President in 1844 At the Baltimore convention, he played up, with great political astuteness, Martin Van Buren's opposition to annexation, and by sponsoring the revival of the two-thirds rule he killed Van Buren's chances of securing the nomination, which went to the "dark horse," James K. POLK Walker then persuaded John TYLER to withdraw from the presidential race The victorious Polk made him Secretary of the Treasury (1845–49), and he had an influential voice in government policies He helped bring about settlement of the difficulties with Great Britain over Oregon by the Walker Tariff of 1846, which was a "revenue" tariff that abandoned "protective" measures and thus helped to build up Anglo-American commerce His financial administration (he was a firm hard-money man) is generally considered as one of the most able in the history of the Treasury After Polk's administration, he went to England (1851–52) as an agent of the Illinois Central RR In March, 1857, he reluctantly accepted President James Buchanan's appointment as governor of KANSAS Walker, a supporter of Stephen A Douglas's SQUATTER SOVEREIGNTY theory, called a constitutional convention in Kansas, but the antislavery men distrusted him and refused to vote, though Walker had become a known enemy of slavery (he had freed his own slaves) As a result the proslavery LECOMPTON CONSTITUTION was adopted Walker favored submitting the constitution to popular vote, but when Buchanan refused to support him, he resigned (Dec , 1857) He supported the Union in the Civil War and served as a financial agent in Europe An expansionist to the end, he had a part in the purchase of Alaska See H D Jordan, "A Politician of Expansion Robert J Walker," *Mississippi Valley Historical Review*, XIX (1932), 362–81

Walker, Sears Cook, 1805–53, American mathematician and astronomer, b Wilmington, Mass , grad Harvard, 1825 He served with the U S Coast Survey from 1847 He is noted for his discovery of the orbit of Neptune

Walker, William, 1824–60, American FILIBUSTER in Nicaragua, b Nashville, Tenn Walker was a qualified doctor, a lawyer, and a journalist by the time he was 24, but could not settle down In 1850 he went to San Francisco This phenomenon of "manifest destiny," weighing about a hundred pounds, gray eyed and tight lipped, was restless and egocentric, puritanical and ascetic, believing in his destiny and having an exaggerated sense of justice and impartiality which led alternately to brilliant strategy and stupid blunder His military campaigns began with an invasion of Lower California (1853–54) intended to wrest it and Sonora from Mexico It failed miserably He was tried for violating neutrality laws, but was acquitted by a sympathetic jury It was a wiser Walker who in June, 1855, "colonised" Nicaragua with 58 followers at the request of the hard-pressed Liberal government at LEÓN Capturing GRANADA, Walker outwitted liberals and conservatives alike and was "elected" president of Nicaragua in July, 1856. An alliance of the Central American states against him and the enmity of Cornelius VANDERBILT, whose Accessory Transit Company controlled his supply lines, led to his defeat and surrender to the U S navy at RIVAS, May, 1857. Supported by a large segment of U S. opinion, Walker had caused the administration of President PIERCE to vacillate between recognition of Walker's Nicaraguan government (and its possible admission to the Union as a slave state) and the probability of antagonising Great Britain He returned as a hero, was again acquitted of violating neutrality, but then alienated public opinion by blaming his defeat on the U S navy From the BAY ISLANDS of Honduras, Walker made a final abortive attempt (1860) to conquer Central America, but was forced to surrender to the British navy Declaring himself "president of Nicaragua," he was turned over to Honduras and was shot by a firing squad at Trujillo, Sept 12, 1860 See his own book, *War in Nicaragua* (1860); W O Scroggs, *Filibusters and Financiers* (1916), Lawrence Greene, *The Filibuster* (1937)

Walker Lake, 24 mi long, W Nev It is a remnant of prehistoric Lake Lahontan and is fed by the Walker river It has no outlet

Walkerton, town (pop 2,679), S Ont , on the South Saugeen and SSW of Owen Sound It has lumber and flour mills and makes dies and castings

Walkerton, town (pop 1,178), N Ind , SW of South Bend It is a shipping point for an area which grows onions and peppermint

Walkerville, part (since 1935) of Windsor, Ont , opposite Detroit, Mich

Walkerville, city (pop 1,880), SW Mont , adjacent to Butte, settled c 1877, inc 1891

walking leaf, in zoology see LEAF INSECT For the walking leaf or walking fern in botany, see FERN

walking stick or **stick insect,** name of certain species of leaf insect with long, slender bodies which resemble twigs Those found in the temperate parts of the United States are wingless One species eats the leaves of locust, hickory, black oak, and some other trees In the tropics many are winged, and some are 8 to 10 in long

Walküre see VALKYRIES

Wall, Richard, 1694–1778, Spanish statesman, b Ireland Debarred from preferment in Ireland because of his Roman Catholicism, Wall entered the Spanish military service as a young man and rose to a position of great importance at the Spanish court He became secretary to the Spanish embassy in St Petersburg (1727), served in Italy and the West Indies, and helped negotiate the Treaty of Aix-la-Chapelle (1748) ending the War of the Austrian Succession He cemented friendly relations between Spain and England during his service as ambassador in London (1748–52) Recalled to Madrid, he replaced Ensenada as minister of foreign affairs (1754) to Ferdinand VI He continued to serve in this capacity after the accession of Charles III (1759), who unwillingly permitted Wall to resign in 1764 Richly pensioned, he retired to Granada, where he spent his remaining years

Wall, borough (pop 2,098), Allegheny co , SW Pa , near Pittsburgh, inc 1904

wall, in architecture, a protective, enclosing, or dividing vertical structure Its thickness is determined by the material, height, and stress It may be of studding and lath boarded or plastered, ADOBE, RAMMED EARTH, brick work or stonework, concrete or tile or of steel in combination with one or more of the preceding materials Raised upon a foundation and graduated in thickness, the outer, or bearing, walls of a building (except of a steel skeleton structure) support the floors and roof, the inner walls, or partitions, enclosing the rooms are much thinner A party wall is one common to two adjoining buildings, and a gable wall is one at right angles to the roof ridge A fire wall, or bulkhead, separates hazardous equipment from the rest of a structure to prevent the spreading of fire, in ships the bulkhead is also watertight The front wall or face of a building is termed the FAÇADE Exterior walls may be finished with STUCCO or GRAFFITO and enhanced by bas-relief, tile, MOSAIC, or painted decoration Arcade, rustication, and vermiculated work are means of ornamenting brick and stone masonry In engineering a retaining wall either of CYCLOPEAN or of wet masonry protects an embankment from washing, a sea wall, or BREAKWATER, is for harbor protection, and a DAM is an earth, masonry, or concrete wall to stop the natural flow of a stream to conserve a water supply or create power The defensive walls of a city or other political division (see CHINA, GREAT WALL OF) are frequently two or three concentric ramparts, often including FORTIFICATION and watchtowers Great portals form the gateways. Notable ones of antiquity were those of Thebes, Troy, Jericho, and Babylon, an example of a medieval wall is that at Carcassonne.

wallaby: see KANGAROO.

Wallace, Alfred Russel, 1823–1913, English naturalist From his study of comparative biology in Brazil and in the East Indies, he evolved a concept of EVOLUTION similar to Charles Darwin's theory, his works on this subject include *Contributions to the Theory of Natural Selection* (1870) and *Darwinism* (1889). A pioneer in the modern study of animal geography, he systematized the science and wrote *The Geographical Distribution of Animals* (1876) and a supplement, *Island Life* (1880). His research in this field is commemorated in the name WALLACE'S LINE He assisted H W BATES in evolving an early theory of MIMICRY. Among his other works are *The Malay Archipelago* (1869), *Social Environment and Moral Progress* (1913), and an autobiography (1905) See biography by L T Hogben (1918).

Wallace, Edgar, 1875–1932, English novelist and playwright, b Greenwich He was author of more than 150 detective thrillers, of which as many as 5,000,000 were sold in a year *The Terror* (1930) is typical of his work, which ranked high in its class He produced also plays and scenarios *On the Spot* (1931), a melodrama based on Al Capone, was finished in four days See biographies by his wife, E V Wallace (1932), and Margaret Lane (1939)

Wallace, Henry, 1836–1916, American agricultural leader, b West Newton, Pa , grad Jefferson (later Washington and Jefferson) College, 1859 He studied (1861–63) theology and went (1863) to Iowa as a home missionary of the United Presbyterian Church Several years later he became ill and turned to farming at Winterset, Iowa, though he remained interested in religious movements all his life He pioneered in several aspects of farming and began writing agricultural articles for the *Iowa Homestead* He was made its managing editor, but his efforts in the early 1890s to curb railroad powers led to his removal from the editorship In 1895 he joined with his son Henry Cantwell Wallace in founding the newspaper which later was called *Wallace's Farmer* This journal soon won recognition as a leading agricultural newspaper of the country "Uncle Henry," as he was affectionately known, was a popular speaker and a counselor of Republican statesmen He served (1908) as a member of President Theodore Roosevelt's Country Life Commission He wrote *Clover Farming* (1898), *Trusts and How to Deal with Them* (1899), *Uncle Henry's Letters to the Farm Boy* (1897), and *Letters to the Farm Folk* (1915) His autobiography, *Uncle Henry's Own Story of His Life* (1917), dealt chiefly with his boyhood

Wallace, Henry Agard, 1888–, American cabinet official and Vice President of the United States (1941–45), b Adair co , Iowa, grad Iowa State College, 1910. He was (1910–24) associate editor of *Wallace's Farmer*, an influential agricultural periodical run by his family, and when his father, Henry Cantwell Wallace, died in 1924, he became editor Henry A Wallace had developed several strains of hybrid corn which were to be extensively used by farmers of the American corn belt, and his writing on farm economics quickly won him recognition as an authority on the subject A Republican until 1928, Wallace helped swing Iowa to the Democratic party in the 1932 election In 1933 he was appointed Secretary of Agriculture by President Franklin D ROOSEVELT, and he soon led in the reorganization of the Dept of Agriculture and in the supervision of the AGRICULTURAL ADJUSTMENT ADMINISTRATION He became a highly regarded leader in the NEW DEAL, and in 1940 he was elected Vice President of the United States He helped coordinate American defenses and strengthened diplomatic bonds with several nations, notably in Latin America and the Far East In 1944 Wallace failed to receive the vice presidential nomination again In 1945 he was appointed Secretary of Commerce by President Harry S TRUMAN, but because he openly opposed the foreign policy of the administration, Wallace was forced to resign (1946) He then edited (1946–48) the *New Republic* In 1948 he helped launch a new PROGRESSIVE PARTY, which gained its principal backing from the extreme leftist groups As its presidential candidate, he polled slightly over 1,000,000 votes He wrote numerous books on agricultural problems and politics, including *Agricultural Prices* (1920), *New Frontiers* (1934), *The Century of the Common Man* (1943), and *Toward World Peace* (1948) With E N. Bressman he wrote *Corn and Corn Growing* (1923).

Wallace, Henry Cantwell, 1866–1924, American agricultural leader and cabinet officer, b Rock Island, Ill , grad Iowa State College of Agriculture, 1892, son of Henry WALLACE, (1836–1916) "Harry" Wallace, as he often was called, was associated with his father in founding *Wallace's Farmer* and served as assistant editor until 1916, then becoming editor He held government posts in the First World War, and later (1921) President Warren G Harding appointed him Secretary of Agriculture In spite of opposition from the packing interests, Wallace continued to serve under President Calvin Coolidge He reorganized the department and died in office His views were set forth in his book, *Our Debt and Duty to the Farmer* (1925)

Wallace, Lewis (Lew Wallace), 1827–1905, American soldier, novelist, and diplomat, b Brookville, Ind He served in the Mexican and Civil wars and attained the rank of major general In 1865 he returned to his law practice at Crawfordsville, Ind He was governor of the Territory of New Mexico (1878–81), minister to Turkey (1881–85), and thereafter a popular lecturer and author. His

famous book, *Ben-Hur: a Tale of the Christ* (1880), has been popular for many years and was highly successful also on the stage and screen Among his other books are the novels *The Fair God* (1873), a story of the conquest of Mexico, and *The Prince of India* (1893) See his autobiography (1906), biography by Irving McKee (1947)

Wallace, Sir Richard, 1818–90, English art collector The natural son of the marquess of Hertford, he acquired his father's collection of continental art, which in 1897 was bequeathed to the government by Lady Wallace Wallace, created baronet in 1871, was a member of Parliament (1873–85) The **Wallace Collection,** notable for 18th-century French art, was opened to the public in 1900 in Hertford House, London See H C Shelley, *The Art of the Wallace Collection* (1913)

Wallace, Sir William, c 1272–1306, Scottish hero in the struggle against Edward I Wallace's father was a small landholder near Paisley, Renfrewshire, and the child was probably born on the family estate, "Elderslie" The chief source for the life of Wallace is a long poem attributed to BLIND HARRY, and written about 200 years later and unreliable in some respects The early part recounts exploits of the young Wallace in hand-to-hand encounters with Englishmen, but the first historic record concerns the burning of Lanark by Wallace and 30 men in May, 1297, and the slaying of the sheriff. Edward in his attempt to make good his claim to overlordship of Scotland had, the year before, installed English sheriffs in the towns of S Scotland and had taken prisoner the king, John de BALIOL After the burning of Lanark many joined Wallace's forces, and under his leadership a disciplined army was evolved Wallace and William de DOUGLAS marched on Scone and met an English force of over 50,000 before Stirling Castle in Sept, 1297 The English tried to cross a narrow bridge over the Forth and were slain as they crossed, the English army was routed Wallace, sole leader of the Scots, crossed the border and laid waste several counties in the North of England. In December he returned to Scotland and for a short time acted as guardian of the realm for John de Baliol In July, 1298, Edward defeated Wallace and his men at Falkirk, and forced him to retreat to Stirling and to burn the castle Wallace sought the aid of Philip the Fair (Philip IV) in France in 1299 and went to Rome as well He is heard of again fighting in Scotland in 1304, but there was a price on his head, and in 1305 he was captured by Sir John de Monteith He was taken to London in Aug 1305, declared guilty of treason, and executed

Wallace, 1 City (pop 3,839), co seat of Shoshone co, N Idaho, near the Mont line, founded 1884, inc 1888 It is the distributing center for the Coeur d'Alene mining district The Sunshine silver mine is near by **2** Town (pop 1,050), SE N C, N of Wilmington It is a strawberry market center

Wallaceburg, town (pop 4,986), S Ont, on the Sydenham river near Lake St Clair and NNW of Chatham A port of entry, it has boatbuilding, sugar refining, flour milling, and glassmaking

Wallace Collection see WALLACE, SIR RICHARD

Wallace's line, imaginary line postulated by A R Wallace as the dividing line between Asiatic and Australian fauna in the Malay Archipelago It passes between Bali and Lombok islands and between Borneo and Celebes, then continues E of the Philippines

Wallach, Otto (ô'tō väl'äkh), 1847–1931, German chemist. He assisted Kekulé von Stradonitz at the Univ of Bonn and was professor there (1876–89) and at the Univ of Gottingen (1889–1915) For his pioneer work in the field of alicyclic compounds he received the 1910 Nobel Prize in Chemistry. He also worked on the transformation of chloral into dichloric acetic acid, synthesized chloralides, and investigated azotic and diazotic compounds. He wrote *Terpene und Campher* (1909)

Wallachia, Rumania see WALACHIA.

Wallack, James William (wô'lŭk), c 1795–1864, Anglo-American actor and manager Of a theatrical family, he was a leading actor (1812–32) in comedy and melodramas at Drury Lane After 1852 he lived in the United States In New York he managed Wallack's National (1837–39) at Leonard and Church streets, Wallack's Lyceum (1852) at Broome St and Broadway, and Wallack's (1861) at Broadway and 13th St, where he maintained the best theatrical company in New York His son, **Lester Wallack** (John Johnstone Wallack), 1820–88, was also an actor and a manager. He gained experience at Dublin and London and made his New York debut (1847) as Sir Charles Coldstream in Boucicault's *Used Up* He succeeded to the management of Wallack's in 1861, in 1882 he simultaneously operated another Wallack's at Broadway and 30th St. He wrote, produced, and played in a variety of dramas, but his best production was his own play *Rosedale* (1863); his best role was as Charles Surface in Sheridan's *School for Scandal.* See *Memoirs of Fifty Years* (1889)

Wallagrass (wŏ'lŭgrăs), plantation (pop. 1,123), N Maine, S of Fort Kent; settled 1820 by Acadians, inc. 1859.

Wallaroo (wŏlŭrōō'), town (pop 2,140), South Australia, on the east shore of Spencer Gulf and SSW of Port Pirie Formerly an important copper-mining center, it now exports wheat and wool.

Wallas, Graham (wŏ'lus), 1858–1932, English political scientist and sociologist, grad Corpus Christi College, Oxford He joined the Fabian Society, was the author of one of the *Fabian Essays,* and was an intimate friend of G B Shaw In 1914 Wallas became professor of political science at the Univ of London In his lectures and writings he studied the psychological factors in politics and advocated government by those specially trained for politics Wallas wrote a biography of Francis Place (1897), *Human Nature in Politics* (1908), *The Great Society* (1914), *Our Social Heritage* (1921), and *The Art of Thought* (1926)

Wallasey (wŏ'lusē), county borough (1931 pop 97,026, 1943 estimated pop 94,220), Cheshire, England, at the mouth of the Mersey, near Birkenhead and W of Liverpool It includes New Brighton (watering place), Liscard, Seacombe, Egremont, and other localities Great docks have been built here

Walla Walla (wŏ'lu wŏ'lŭ), city (pop 18,109), co. seat of Walla Walla co, SE Wash, at the junction of Walla Walla river and Mill Creek, near Oregon It was settled c 1859 not far from the site of the old fur-trading Fort Walla Walla and the site of the mission of Marcus WHITMAN and very close to the U S military Fort Walla Walla (est 1857, now a veterans' hospital) The city is a trade and distributing point for the rich farm and lumber regions of SE Washington and has fruit canneries and lumber mills WHITMAN COLLEGE, which also houses a museum, and Walla Walla College (Seventh-Day Adventist, coeducational, 1892) are here A state penitentiary is near by

Wallensee and **Wallenstadt,** Switzerland see WALENSEE

Wallenstein or **Waldstein, Albrecht Wenzel Eusebius von** (wä'lunstīn, Ger äl'brĕkht vĕn'tsul oiză'-byōōs fūn vä'lunshtīn, vält'shtīn), 1583–1634, imperialist general in the THIRTY YEARS WAR, b Bohemia He attended the Lutheran academy at Altdorf, then traveled with a companion who awakened in him a lifelong interest in astrology Later Wallenstein became a Roman Catholic He advanced his fortune by marriage to a wealthy widow, and for his support of Ferdinand of Styria (Emperor FERDINAND II) before, during, and after the Bohemian revolt which started the Thirty Years War, he was well rewarded, becoming count-palatine, prince, and (1625) duke of Friedland He built up a magnificent estate in Bohemia In 1625 Wallenstein raised a large army for the emperor and became chief imperialist general, cooperating with the general of the Catholic League, TILLY, in the Danish phase of the war Wallenstein in 1626 soundly defeated MANSFELD at the Dessau bridgehead, and some of his men helped Tilly to defeat CHRISTIAN IV at Lutter The next year Wallenstein destroyed the remnants of Mansfeld's army and later defeated Christian IV's forces Now at the height of his wealth and power, Wallenstein added to his tremendous holdings Sagan and the great duchy of Mecklenburg Dreaming of a united and strong Germany, he hoped for peace and religious toleration The extent of his personal ambition is conjectural He was given the title of admiral, but his hopes of founding a maritime empire were set back by failure in the siege of Stralsund (1628) on the Baltic His strong enemies —churchmen, Spaniards, and princes—at the Viennese court prevailed against him in 1630, when he was forced from command The failure of his successor, Tilly, against GUSTAVUS II (Gustavus Adolphus) of Sweden brought Wallenstein back to power (April, 1632) With a huge army he cleared Bohemia and began a contest with the Swedish king which ended at Lützen (1632), where Wallenstein was defeated and the Swedish king was killed Wallenstein's subsequent inactivity (except for a campaign against the Swedes in 1633) and his somewhat cloudy efforts to arrive at general peace with toleration brought down on his head accusations of treason and the emperor's distrust A number of Wallenstein's lieutenants, including Gallas and Piccolomini, were drawn into a sort of conspiracy against him and for the emperor Ferdinand secretly removed the general from command Jan. 24, 1634 Wallenstein did not submit but sought peace with the enemies of the empire At EGER (Cheb) in Feb, 1634, he was treacherously murdered His assassin later had the emperor's favor Wallenstein is the central figure in a dramatic trilogy by Schiller See Francis Watson, *Wallenstein Soldier under Saturn* (1938)

Waller, Edmund, 1606–87, English poet He studied at Eton and Cambridge and became a member of Parliament, where he was a prominent speaker. Marriage in 1631 brought him wealth, but his wife died in 1634 Waller leaned toward the support of Charles I against Parliament and conceived "Waller's plot" to secure the city of London for the king The plot was discovered and Waller, who saved his life by exposing his confederates, was fined and banished. He married again and went to France, where he remained until he was pardoned in 1651. After the Restoration he was again in Parliament and served until his death. After early circulation of his verses in manuscript, Waller published a poem for the first time when "To a King on His Return" appeared in *Rex Redux* (1633) His *Poems* appeared in 1645 and immediately went through three editions Four more editions were published in his lifetime, and a final one in 1693 Much of his early verse is addressed to "Sacharissa," Lady Dorothy Sidney, who refused his suit His poetry reflects development of the heroic couplet, to which he lent felicity and sweetness His best-known lyrics are "Go, Lovely Rose" and "On a Girdle" Other familiar poems include "Panegyric to My Lord Protector," "Instruction to a Painter," and "Of the Last Verses in the Book." See edition of his works by George Thorn-Drury (1893).

Waller, Sir William, 1597?–1668, English parliamentary general He fought in the Venetian army after leaving Oxford and was knighted in 1622 A zealous Puritan, he entered (1640) the Long Parliament, became a colonel in the parliamentary army, and achieved a series of victories which gained him the popular title of Wilham the Conqueror He was, however, defeated by General Wilmot at Roundway Down (1643) He went to London, received fresh troops, returned to the war, and held joint commands with the earl of Essex and Oliver Cromwell. The Self-denying Ordinance (1645) ended his military career, and he returned to Parliament as a leader of the Presbyterian party His opposition to the army petitions alienated Waller from the army, and he was several times imprisoned for supposed conspiracies He promoted the return of Charles II and was returned to Parliament (1660) by General Monck's influence, but after the Restoration he retired

wallflower, Old World plant (*Cheiranua,* or *Cheiranthus, cheiri*), particularly popular in Europe, where it flourishes on old walls An old-fashioned garden flower, cultivated in America as a biennial, it is similar in appearance to the related stock but is more frequently single than double, and yellow, red, or brown are the prevailing colors The wallflower is occasionally called gillyflower Related species are also called wallflower, e g, the orange-flowered Siberian wallflower (*Cheiranua aspera* or *Erysimum asperum*), which occurs both wild and in cultivation in North America

Wallin, Johan Olof (yō'hän ōō'lôv välēn'), 1779–1839, Swedish poet, archbishop of Sweden He wrote more than 100 hymns and translated many others He was a member of the Swedish academy

Wallingford (wŏ'lingfurd), municipal borough (1931 pop 2,840, 1943 estimated pop 3,671), Berkshire, England, on the Thames and SSE of Oxford There are vestiges of Roman occupation of the site, as well as earthworks and other traces of a Norman castle The church contains the tomb of Sir William Blackstone

Wallingford, 1 Borough (pop 11,425) in Wallingford town (pop 14 788), S Conn, NNE of New Haven, town inc 1673, borough 1853 Its silverware industry dates from 1835, electrical products and plastics are also made Several old houses remain The Choate School (1896) for boys is here A branch of the Oneida Community was founded in the town in 1851 **2** Town (pop 1,450), S Vt, S of Rutland, chartered 1761, settled 1773 The area is scenic, with hills and ponds, there are ice caves near Wallingford village A fork factory was established in 1836, the making of garden tools is still the chief industry

Wallington, borough (pop 8,981), NE N J, near Passaic, inc 1895 Steel tubing is made here

Wallis, John (wŏ'lĭs), 1616–1703, English mathematician He was Savilian professor of geometry at Oxford Univ from 1649 He systematized the use of formulas, introduced the symbol ∞ for infinity, and made a study of the quadrature of curves which he recorded in *Arithmetica infinitorum* (1655) His collected mathematical works appeared in three volumes (1693–99) He wrote also on grammar, logic, theology, and cryptography

Wallis, Samuel, 1728–95, English navigator He entered the navy in 1743 and rose to the rank of captain in 1757 In 1766 he was dispatched, with Philip Carteret, on a voyage of exploration Wallis sailed around Cape Horn and, separated from Carteret, sailed through the Polynesian islands, discovering Tahiti (1767) and the Wallis Islands, which were named for him He returned to England (1768) by way of the Cape of Good Hope Wallis retired from the navy in 1780 and served during his latter years as commissioner of the navy (1782–83, 1787–95)

Wallis, Switzerland see VALAIS.

Wallis and Futuna Islands (wŏ'lĭs, fōōtōō'nä), French protectorate (c 75 sq mi, pop 6,770), S Pacific, 250 mi. W of Samoa, est 1842. It comprises two small groups, Wallis Islands and Hoorn Islands. The main volcanic islands are Uvea, Futuna, and Alofi. The products are copra and timber

Wallon, Henri Alexandre (äNrē' älĕksä'drŭ välō'), 1812–1904, French historian and statesman. He was elected (1871) to the national assembly, and

it was his proposal (1875) which led to the adoption of the organic laws that formed the constitution of the Third Republic His conservative views did not permit him to hold very long the office of minister of public works (1876) In the field of historical scholarship, he won acclaim with his history of ancient slavery and his biographies of St Louis and of Joan of Arc His field, however, was that of the French Revolution His *Histoire du tribunal révolutionnaire* (6 vols., 1880–82) contained much new material and connected the work of the tribunal with the general revolutionary movement Other valuable works on the revolution are *La Terreur* (1873), *Révolution du 31 mai et le fédéralisme en 1793* (1886), and *Les Représentants du peuple en l'an II* (1888–90)

Walloons (wulōōnz′, wŏ–), general term applied to the French-speaking people of BELGIUM, in contrast to the Flemings of the northern provinces Walloon in its proper meaning is a French dialect spoken in the Liége region, the movement for reviving Walloon literature centered in Liége in the 19th cent The periodical *Wallonie* had considerable influence Since medieval times the economic and social background of the Walloons has differed radically from that of the Flemings The Walloon part of Belgium contains the major mining areas and heavy industries of the country, while the Flemings engage mainly in agriculture, manufacturing (particularly textiles), and shipping With the Industrial Revolution, the cleavage became more pronounced, with the Flemings generally representing the conservative, and the Walloons the radical elements in Belgium Rivalry between Walloons and Flemings remains a critical political issue The name Walloons was also applied to Huguenot refugees in America by the Dutch, who made no distinction between French and Walloon Protestants

Wallowa Lake (wulou′u), NE Oregon, at the foot of the Wallowa Mts Used as an irrigation reservoir, it is also a resort It is drained by the Wallowa river in the Snake river system

wallpaper was used in Europe in the 16th and 17th cent as an inexpensive substitute for costly hangings French domino makers developed marbled papers, introduced from the East via Italy and used at first for box coverings, into larger sheets for wall coverings, and also made other papers in small designs Outlines were block-printed, the color filled in with brush or stencil The flock technique of printing designs with an adhesive and sprinkling with fine bits of wool or silk was probably first adapted to wallpaper c 1620 in France, but by the 18th cent England had become the principal manufacturer Sets of painted Chinese paper were imported in the 17th cent and by the 18th had become highly popular and were widely imitated In France, Jean Papillon established in 1688 the first large wallpaper factory, where he made matching designs that would be continuous when pasted In the 18th cent paper was glued into continuous rolls before printing Wallpaper was manufactured in the American colonies from the mid-18th cent Colonial homes displayed various scenic and pictorial papers, often with tropical themes The mid-19th cent brought modern printing on roll paper, mass production, and decadence in design The English Pre-Raphaelite artists promoted a renaissance in wallpaper designs, and the 20th cent has seen its fulfillment in England, France, and the United States American designers have revived interest in landscape papers and have greatly developed frieze and panel papers through the medium of hand block printing See Phyllis Ackerman *Wallpaper* (1923)

Wallsend (wôlz′ĕnd″), municipal borough (1931 pop 44,587, 1947 estimated pop 47,610), Northumberland, England, on the Tyne and ENE of Newcastle, in a coal-mining region Shipbuilding and steel milling are important Wallsend is the eastern terminus of Hadrian's Wall, built in Roman times

Wall Street, narrow street in the lower part of Manhattan Island, New York city, extending E from Broadway to the East River It is the center of one of the greatest financial districts in the world, and by extension the term "Wall St" has come to designate the financial interests of the country In the district, which extends several blocks N and S of Wall St, are the exchanges (stock, cotton, coffee, produce, curb, metal, maritime, and others) and brokerage houses, as well as the main offices of a large number of banking houses, insurance companies, railroad and steamship companies, and large industrial corporations Facing Wall St, on the west side of Broadway, is Trinity Church The Subtreasury Building, one block east, was erected on the site of the old Federal Hall, where George Washington was inaugurated in 1789 and where the first Congress met The street received its name from a stockade, or wall, which was built in 1653 by Stuyvesant to protect the settled area south of it from assault by English and by Indians See Robert Warshow, *The Story of Wall Street* (1929), A. D Noyes, *The Market Place* (1938)

Walmer (wôl′mûr), former urban district (1931 pop 5,335), since 1935 part of Deal, Kent, England. It is a resort Walmer Castle, near the shore, was built by Henry VIII The official residence of the lord warden of the CINQUE PORTS, it contains memorials of William Pitt, the duke of Wellington, and other noted wardens

Walney Island, narrow island, 8 mi long, off the coast of Lancashire, England It is connected with BARROW-IN-FURNESS by a bridge

walnut, name for any of several species of *Juglans*, deciduous trees valued for their wood and nuts The English walnut or Persian walnut (*Juglans regia*) is native to S Europe and Asia, but it is cultivated in California and elsewhere for the commercially valuable nuts, which are among those most commonly eaten, both plain and in confectionery. This walnut has an easily extracted meat The black walnut (*J. nigra*) is native to the E United States and the Middle West The nut, though used commercially as a flavoring, is seldom used as a table nut because of the difficulty of freeing the meat from the shell The wood of this species is the most highly valued of any native wood for cabinetwork It is strong, durable, heavy, dark in color, easily polished, and much used for furniture, gunstocks, boats, and musical instruments Sizable trees of black walnut are now rare because of indiscriminate cutting and little replanting in the past The butternut or white walnut (*J. cinerea*) has a sweet edible nut that is very oily and not often used Sugar is sometimes obtained from the sap, and the husks of the fruit yield a dye The dye gave color to the homespun of pioneers and to the "butternut" uniforms of some of the Confederate soldiers

Walnut Canyon National Monument. see NATIONAL PARKS AND MONUMENTS (table)

Walnut Cove, town (pop 1,084), N N C , NNE of Winston-Salem Veneers are made here

Walnut Creek, town (pop 1,578, 1947 special census pop 2,235), W Calif , NE of Oakland, in a poultry, fruit, and walnut region, inc 1914

Walnutport, borough (pop 1,271), E Pa , on the Lehigh river between Mauch Chunk and Allentown, inc 1909

Walnut Ridge, city (pop 2,013), a co seat of Lawrence co , NE Ark , near the Black River, in a farm region

Walpi (wal′pē) [Hopi,=place of the gap], North American Indian pueblo, NE Ariz , on the first or east mesa c 80 mi NE of Winslow Its 150 inhabitants are Pueblo Indians who speak the Hopi language (Uto-Aztecan family) The pueblo was founded (c 1700) in fear of Spanish retribution for the part the Indians took in the Pueblo revolt of 1680 The pueblo is now being deserted for the new village of Polacca at the foot of the mesa One of the most picturesque pueblos of the Southwest, it is much visited by tourists The antelope ceremony is held here in August on even years, and the famous Hopi snake dance in August on odd years See Walter Hough, *The Hopi Indians* (1915)

Walpole, Horace or **Horatio,** 4th **earl of Orford** (wôl′pōl, wŏl′–), 1717–97, English author, third son of Robert Walpole He met Thomas Gray at Eton, and after studying at Cambridge the two left (1739) for a European tour, financed by Walpole The now famous quartet which separated them took place in Italy (1741) Walpole returned to England, lived at his father's house in London, and amused himself with collecting and writing In 1747 he purchased property at Twickenham, named the estate Strawberry Hill, and built there "a little Gothic castle" It became the show place of England and exerted a tremendous influence on subsequent architecture He patched his quarrel with Gray in 1745, and Gray's *Odes* were the first production of Walpole's private printing press at Strawberry Hill, the books from this press are now collector's items A member of Parliament from 1741 to 1768, he confined himself largely to the part of spectator and defender of his father's memory In 1765 Walpole visited Paris, where he gained the close friendship of Mme du Deffand, with whom he corresponded until her death (1780) In 1791 he succeeded to the earldom of Orford Walpole always professed to be an amateur in literary affairs, but his numerous letters are a monument to his writing skill as well as an invaluable picture of Georgian England His "terror" novel, *The Castle of Otranto* (1764), had an important influence on the Gothic revival in the arts It was the first of many subsequent works of that type and is an ancestor of the modern detective novel Of his various essays, perhaps the best known was *A Letter from Xo Ho* (1757), concerning the execution of Admiral John BYNG Other works of Walpole include *Anecdotes of Painting in England* (4 vols., 1762–71), *Historic Doubts on Richard III* (1768), and the posthumously published *Reminiscences* (1805) and memoirs of the reigns of George II (1822) and George III (1845) See *Reminiscences* (ed by Paget Toynbee, 1924), edition of his letters by Mrs Paget Toynbee (16 vols , 1903–5) and by Paget Toynbee (3 vols., 1918–25), Yale edition of the letters (ed by W S Lewis, 1937–), biography by R W Ketton-Cremer (1940)

Walpole, Sir Hugh Seymour, 1884–1941, British novelist, b New Zealand, educated at Cambridge His first two novels were failures, but commencing with *Fortitude* (1913) he achieved financial and literary success Producing almost a book a year, he was an uneven writer, among his best-known works are the historical Herries novels, *Rogue Herries* (1930), *Judith Paris* (1931), *The Fortress* (1932), and *Vanessa* (1933) *Portrait of a Man with Red Hair* (1925) is probably his best horror story There are autobiographical elements in *Jeremy* (1919), *Jeremy and Hamlet* (1923), *Jeremy at Crale* (1927), and *The Cathedral* (1922) He also wrote short stories, plays, biographies of Joseph Conrad (1916) and Anthony Trollope (1928), and the screen script of *David Copperfield* He made lecture tours in the United States Walpole was knighted in 1937 See studies by Clemence Dane (1929) and Marguerite Steen (1933)

Walpole, Robert, 1st **earl of Orford,** 1676–1745, English statesman He was the third son of a Whig family of Norfolk and was educated at Eton and at King's College, Cambridge In 1698, by the death of his two elder brothers, he fell heir to the family estates, to which he succeeded in 1700 In 1701 he was returned to Parliament from the family borough of Castle Rising, and in 1712 he took the seat for King's Lynn, also a family borough, from which he was regularly returned thereafter Walpole soon attracted the attention of the earl of Godolphin, and in 1708 he succeeded Henry ST JOHN (later Viscount Bolingbroke) as secretary of war and later became treasurer of the navy (1710) As party leader in the House of Commons, he acted as a prosecutor in the SACHEVERELL trial, which helped to bring about the fall of the Whigs (1710) Walpole became active in opposition to Robert HARLEY (earl of Oxford) and St John and as a consequence was convicted of corruption in the matter of some forage contracts and spent some months in the Tower (1712) The accession of GEORGE I (1714) returned the Whigs to power and Walpole became paymaster of the forces and, after acting as chairman of the committee which drew up articles of impeachment against the late Tory ministers, first lord of the treasury and chancellor of the exchequer (1715) under his brother-in-law, Viscount TOWNSHEND The intrigues of the king's German advisers with James Stanhope and the earl of Sunderland forced Walpole out of office (1717), but he became paymaster again in 1720 That same year he was called upon to salvage the financial wreckage resulting from the SOUTH SEA BUBBLE, against which Walpole had warned officials although he had made a large fortune from South Sea investments This was the turning point of his career His successful handling of this matter caused his appointment as first lord of the treasury and chancellor of the exchequer (1721), and he remained the chief figure in political life until 1742 Until 1730 he shared some control with Townshend, who was in charge of foreign affairs Walpole's dominance was strengthened upon the accession of GEORGE II (1727) by his influence with the new queen, CAROLINE OF ANSPACH, and he became in effect the first prime minister in English history In domestic affairs he pursued a double policy of encouraging trade, particularly that of the colonies, and mollifying the largely Tory gentry by reduction of the land tax In foreign affairs Walpole favored friendship with France and avoidance of war His general aim was to move cautiously and thus strengthen England and the Hanoverian dynasty Financial policy was his strongest point In 1717 he created the sinking fund to reduce the national debt Although a mercantilist in theory, he promoted export by bonuses and encouraged the production of raw materials by the colonies Walpole's plan to reduce smuggling and make London a free port by replacing tariffs on wine and tobacco with an excise tax was defeated in 1733 because of popular fear of an excise Politically, he strengthened the cabinet system by replacing disloyal ministers and by judicious dealings with the king As a party politician he enforced strict discipline, punishing insubordinate followers by removing them from their posts, even in the army, and rewarding loyal supporters with preferments and pensions out of government funds Because of this he has been accused by some writers as a symbol of corruption, but he is far less definitely convicted of direct bribery than many of his contemporaries and successors Walpole's long tenure of office enabled his opposition to make common cause In 1739 the war party forced him to involve England in the War of Jenkins's Ear (1739–41), which in turn involved the country in the War of the Austrian Succession Military reverses and rising opposition forced his resignation in 1742 He was created earl of Orford and remained politically powerful until his death Walpole's gifts as a politician and the circumstances of his time led to a decline in the personal power of the monarch and a corresponding rise in the influence of the king's ministers, a tendency which was never reversed See biographies by William Coxe (1798), Alexander Ewald (1878), John Morley (1889), J M. Robertson (1919), and G. R Stirling Taylor (1931)

Walpole, Sir Spencer, 1839–1907, English historian and civil servant He held a number of minor pub-

he offices and served as private secretary in the home office to his father, Sir Spencer Horatio Walpole, whose biography he wrote (1874). He contributed to the newly founded *Pall Mall Gazette*, but he is chiefly remembered for his *History of England from 1815* (5 vols , 1878–86) and its continuation, *History of Twenty-five Years* (4 vols , 1904–8), which covers the period from 1856 to 1880. Walpole's biography of Lord John Russell appeared in 1893 He was knighted in 1898

Walpole (wôl'pōl). **1** Town (pop. 7,443), E Mass., SW of Boston; settled 1659, set off from Dedham 1724. Cotton and paper products are made here **2** Town (pop. 2,400), SW N H , on the Connecticut and S of Charlestown, settled 1749, granted and inc. 1752 The village has many fine old houses

Walpurga, Saint : see WALBURGA, SAINT

walrus (wôl'rŭs, wôl'-), gregarious aquatic mammal related to the seal and found in arctic waters There are two similar species, the Atlantic and the Pacific walruses Adult males reach a length of 10 to 12 ft or more and a weight of over a ton The thick wrinkled skin is sparsely haired Bristly whiskers are found on the muzzle The tusks are usually from 14 to 26 in long in the male, smaller in the female. They are used to dig up its food (clams and other marine forms), as an aid in moving on land, and as weapons The walrus was more important formerly than now as a commercial source of walrus ivory (from the tusks), leather, and oil To the Eskimo it is a source of food

Walsall (wôl'sôl), county borough (1931 pop 103,059, 1947 estimated pop 111,010), Staffordshire, England, NNW of Birmingham, in the Black Country. Coal and iron mining, iron and brass founding, limestone quarrying, and the manufacturing of leather goods and aircraft parts are important

Walsenburg (wôl'sunbûrg), city (pop 5,855, alt c 6,200 ft), co seat of Huerfano co , S Colo., S of Pueblo, in a grain, livestock, and coal area, laid out 1873 at an earlier Spanish village

Walsh, Thomas James (wôlsh), 1859–1933, American statesman, b Two Rivers, Wis , grad Univ of Wisconsin (LL.B , 1884) He practiced law at Redfield, Spink co , S Dak (1884–1890), and at Helena, Mont. (1890–1912) After 1913 he represented Montana in the U S Senate Walsh became important in the Democratic party and supported the measures of President Woodrow Wilson. In Wilson's second term he became the President's chief adviser on the constitutionality of war measures He helped write the Eighteenth and Nineteenth amendments and worked for the abolition of child labor. Walsh, noted for his ability in debating, fought for the League of Nations and the World Court and advocated arms limitations He was (1922) the leader of the successful fight to remove Truman H. Newberry from the Senate An unrelenting foe of corruption, he became a popular figure when the Senate Investigating Committee, which he headed (1922–23) exposed the fraudulent practices of the Harding administration in the leasing of naval oil reserves at TEAPOT DOME In 1924 he refused the vice presidential nomination of the Democratic party Walsh supported F D Roosevelt in 1932 and was appointed U S Attorney General, but he died suddenly before he was able to take office.

Walsingham, Sir Francis (wôl'sĭng-ŭm), 1530?–1590, English statesman After studying at Cambridge and Gray's Inn, he went abroad during Queen Mary's reign because of his strong Protestant sympathies Walsingham entered Parliament (1559) after Elizabeth's accession, and soon was employed by William Cecil, Baron Burghley, in obtaining intelligence from abroad Joint secretary of state after 1573, he built up an elaborate and effective spy system, which later implicated the imprisoned Mary Queen of Scots in a conspiracy against Elizabeth (1586) and led to her execution. His system also in 1587 provided England with minute details of the impending attack of the Spanish Armada Walsingham was a staunch Protestant and favored an alliance of England, France, and the Netherlands against Spain. But, although he was employed on numerous missions and knighted in 1577, he was never able to affect Elizabeth's policy greatly. The responsibility for the debts he assumed (1586) at the death of his son-in-law, Sir Philip Sidney, brought financial distress, and he died in debt. See Conyers Read, *Mr. Secretary Walsingham and the Policy of Queen Elizabeth* (3 vols , 1925).

Walsingham, village, Norfolk, England. It is the site of Walsingham Abbey, one of the great shrines in medieval England Of the sacred shrine of Our Lady of Walsingham, built c.1061, nothing is left, but the chapel of the priory was restored in 1921 and the wayside Slipper Chapel in 1934.

Walston or Waldstein, Sir Charles, 1856–1927, English archaeologist, b. New York city. He was lecturer (1894–1927) at King's College and Slade professor of fine arts (1895–1901; 1904–11) at Cambridge Univ. While in Athens as director (1889–93) of the American School of Archaeology, he discovered the tomb of Aristotle, the Heraion of Argos, and the site of ancient Platsea. He was knighted in 1912. Among his writings are *Aristodemocracy* (1916) and *Alcamenes and the Establishment of the Classical Type of Greek Art* (1927).

Walter, Bruno, 1876–, German-American conductor, whose name was originally Bruno Walter Schlesinger, studied at the Stern Conservatory in Berlin Having conducted at the Cologne and Hamburg operas, he was appointed by Mahler as a conductor at the Vienna State Opera, where he remained until 1912. He was musical director of the Munich Opera (1912–22) and of the Municipal Opera, Berlin (1925–29) He was conductor of the Gewandhaus Concerts, Leipsig, from 1929 to 1933, when the Nazis forced him to leave Germany In 1935 he returned to the Vienna Opera, but left Austria in 1938 and was not allowed to return He became a French citizen in 1938 and in 1939 took permanent residence in New York In 1941 he became an annual guest conductor of the New York Philharmonic He has also been guest conductor of the Metropolitan Opera, the NBC Symphony, the Salsburg Festival, and the Covent Garden Opera, London He wrote *Gustav Mahler* (Eng trs , 1937, 1941) See his autobiography, *Theme and Variations* (1946)

Walter, Eugene, 1874–1941, American dramatist, b Cleveland His chief successful melodramas were *Paid in Full* and *The Easiest Way* (both produced 1908) He also dramatized *The Trail of the Lonesome Pine* (produced 1911) and *The Little Shepherd of Kingdom Come* (produced 1916), both by John Fox, Jr , and wrote film scenarios

Walter, Hubert, d 1205, English archbishop and statesman He served as a clerk to his uncle, Ranulf de Glanville, and in 1186 he was made dean of York In 1189 he was appointed bishop of Salisbury, and he accompanied Richard I to the Holy Land in 1190 He returned to England in 1193 to be made archbishop of Canterbury and justiciar of the realm at the instigation of the still-absent Richard and later forestalled a rebellion planned by John (later King John) After Richard again departed (1194), Hubert was virtual ruler of England Despite his manifest avarice, he was responsible for tax reforms and important administrative reforms tending toward the representative principle in town and county government In 1196 Walter caused the Church of St Mary-le-Bow to be set afire in order to drive out the leader of the revolting London craftsmen, William FitzOsbert, who had taken sanctuary there The action resulted in Walter's dismissal from secular office in 1198 Upon the accession of John (1199) he became chancellor and exerted a restraining influence upon the king

Walter, Lucy, 1630?–1658, English beauty, mistress (1648–50) of Charles II of England during his exile in Holland She was the mother of James Scott, duke of Monmouth, whom the Whigs supported as heir to the throne in their attempt to exclude James, duke of York (later James II), from the succession Charles owned the paternity of her son, but always denied the report that he had been legally married to her A courtesan of very low character before and after her connection with Charles, she was arrested in London (1656) as a spy, but was released and sent abroad. She died in Paris.

Walter, Thomas Ustick, 1804–87, American architect, b Philadelphia In 1819 he entered the office of William Strickland, in Philadelphia, as a student In 1830 he commenced practice, the county prison (1831) at Moyamensing, Philadelphia co , being his first important work The main building of Girard College in Philadelphia, which he designed in 1833 and completed in 1847, was one of the most ambitious works of the classic revival In 1851 Walter was appointed to design extensions for the CAPITOL at Washington, which had remained unchanged since the completion of Bulfinch's plans in 1830 Holding the post of government architect until 1865, Walter added the wings for the Senate and House of Representatives, as well as the central dome of cast iron, replacing Bulfinch's low dome, and rebuilt the west front At Washington, Walter also designed the interior of the Library of Congress and built extensions for the Post Office, the Patent Office, and the Treasury His works in Philadelphia included the Biddle and Cowperthwaite country homes For the Venezuelan government he designed a breakwater at La Guaira One of the original organizers of the American Institute of Architects in 1857, he held its presidency from 1867 until his death. Walter's designs possessed fine classic and monumental character, and he stood highest among American architects of his time

Walterboro, town (pop. 3,373), co seat of Colleton co., S S C , W of Charleston, in a fertile farm area also noted for its hunting and fishing

Walter of Henley or Walter de Henley, 13th cent., English writer on agriculture. His treatise *Husbandry*, written in Norman French in the mid-13th cent , was the great medieval authority in England for 200 years on problems of rural economy, from the sowing and manuring of land to the management of labor. See translation by Elizabeth Lamond, *Walter of Henley's Husbandry* (1890).

Walters, city (pop. 2,233), co. seat of Cotton co., SW Okla., near the Red River.

Walter the Penniless, d. 1096, French Crusader. He and his followers left for the Holy Land well in advance of the main army of the First Crusade They passed peacefully through Germany and Hungary, but plundered the Belgrade area and were set upon by the Bulgarians, who killed many of them Walter with the remnants of his army reached Constantinople, where they were joined by the forces of PETER THE HERMIT The Byzantine emperor Alexius I provided transport for Walter's and Peter's forces to Asia Minor, where they were utterly defeated (1096) by the Seljuk Turks

Waltham (wôl'thăm, -thəm), city (pop. 40,020), E Mass , on the Charles and W of Boston, settled 1634, set off from Watertown 1738, inc as a city 1884. Electrical apparatus is made here The Waltham Watch Company, in operation since 1854, closed in 1950 Waltham is the seat of Brandeis Univ (1948), the first Jewish-sponsored nonsectarian institution of higher learning in the United States, and of the Fernald school for the mentally handicapped

Waltham Holy Cross (wôl'tŭm, wôl'thum) or **Waltham Abbey,** urban district (pop 7,115), Essex, England, on the Lea and at the edge of Epping Forest The great abbey, the Norman nave of which is now used as a parish church, was built in 1030 to contain a miraculous cross found in Somerset, it was enlarged in 1060 by King Harold, who is thought to have been buried here The tower contains an old whipping post, pillory, and stocks The east window is by Burne-Jones Great factories for making gunpowder are south of the town **Waltham Cross,** a mile west, is the site of an Eleanor Cross (see ELEANOR OF CASTILE)

Walthamstow (-stō), municipal borough (1931 pop 132,972, 1947 estimated pop 124,380), Essex, England, industrial suburb of London William Morris was born here, and Disraeli attended a local school There are several 16th-century manor houses and almshouses and an ancient Church of St Mary

Walther von der Vogelweide (vâl'tur fŭn dĕr fō'gl-vī"du), c 1170–c 1230, German minnesinger, of noble birth He was the finest lyric poet of the Middle Ages He wandered from court to court singing in Bavarian dialect poems for which he also wrote the music He was also noted for his *Sprüche* or maxims, frequently on political subjects See translations by W A Phillips (1890) and I G Colvin (1896)

Walthill, village (pop 1,204), NE Nebr , near the Missouri NNW of Omaha, settled c 1906

Walton, George (wôl'tun), 1741?–1804, American Revolutionary patriot, signer of the Declaration of Independence, b Virginia He moved to Augusta, Ga , where he established a law practice Walton was a delegate to the Continental Congress (1776–78, 1780–81) He was captured by the British at the fall of Savannah (1778), but was exchanged in 1779 and later was governor of Georgia (1779–80, 1789–90) and briefly U S Senator (1795–96)

Walton, Izaak, 1593–1683, English writer An ironmonger and self-educated, he wrote one of the most famous books in the English language, *The Compleat Angler, or, The Contemplative Man's Recreation* The first edition appeared in 1653, and it was reissued frequently with additional material, the last edition in Walton's lifetime appeared in 1676 The book not only describes the technique of angling, but draws a picture of peace and simple virtue which was Walton's protest against the civil war taking place at this time Walton also wrote biographies of John Donne (1640), Sir Henry Wotton (1651), Richard Hooker (1665), George Herbert (1670), and Robert Sanderson (1678)—all except Hooker his close friends See Geoffrey Keynes, *The Compleat Walton* (1929)

Walton, William Turner, 1902–, English composer, studied at Oxford with E J Dent One of his earliest works, a piano quartet (1918–19), was published (1924) by the Carnegie Trust In the 1920s *Façade*, satirical poems by Edith Sitwell read to the accompaniment of Walton's music, gained considerable esteem in London His *Portsmouth Point* (1925), *Belshazzar's Feast* (1931), and the comedy overture *Scapino* (1940) show his facility in orchestration Well known also are a symphony (1935), a concerto for viola and orchestra (1929), and the violin concerto (1936–39) commissioned by Heifetz. He wrote the musical scores for the moving pictures *Major Barbara*, *Henry V* (1945), and *Hamlet* (1947)

Walton, village (pop. 3,697), S N Y., on the West Branch of the Delaware and NE of Binghamton, in a dairy region, inc 1851. It has several small industries.

Walton and Weybridge (wâ'brĭj), urban district (1931 pop. 25,317; 1947 estimated pop 37,330), Surrey, England, WSW of London Weybridge was the site of a palace of Henry VIII, destroyed by Cromwell. There is a motor racecourse near by. The Wey river was in the 17th cent made navigable to this point by a system of locks.

Walton-le-Dale, urban district (1931 pop. 12,720; 1943 estimated pop. 14,595), Lancashire, England, near Preston and on the Ribble. It has engineering

works. There are vestiges of a Roman station, and and 11th-century church The battle of Preston was fought near here in 1648, Cromwell's headquarters were in Walton-le-Dale.

waltz, dance in moderate triple time. It evolved from the German *Ländler* and became prominent in the 18th cent The waltz in Vicente Martin's opera *Una cosa rara,* produced in Vienna (1776), is regarded as the first Viennese waltz. This type of waltz was later made famous by Johann Strauss, father and son. In 1795 the waltz had a great vogue in Paris, and it was introduced in the United States via England in the early 19th cent Berlioz, Brahms, Richard Strauss, and Ravel have composed waltzes

Walvis Bay (wôl'vĭs), or **Walfish Bay** (wôl'fĭsh), enclave (374 sq mi ; pop. 2,421), W South-West Africa, on Walvis Bay, on arm of the Atlantic Ocean Annexed to Cape Colony in 1878, it was a British enclave in German Southwest Africa and is now part of Cape Prov , Union of South Africa, but it is administered with South-West Africa Walvis Bay, town (pop 2,325), is a port and the terminus of a railroad to the interior

Wamac (wa'măk), city (pop 1,432), S Ill , E of St Louis and adjoining Centralia, inc 1916

Wamego (wŏmē'gō), city (pop 1,767), NE Kansas, near the Kansas river, WNW of Topeka; platted 1866, inc 1869 It is an agricultural community with city-owned utilities

Wampanoag Indians (wŏm"punō'ăg), North American Indian tribe of Algonquian linguistic stock In the early 17th cent they occupied Narragansett Bay E through Massachusetts to Plymouth and about the base of Cape Cod as well as on Martha's Vineyard and Nantucket The principal village of the Wampanoag was Pokanoket; consequently they are sometimes called the Pokanoket Indians When the Pilgrims settled (1620) at Plymouth, the Wampanoag, although reduced by the pestilence of 1617, were a powerful tribe, living in some 30 villages Their chief, MASSASOIT, was very friendly to the settlers His son, PHILIP, however, was the central figure of the deadliest war against the colonists, King Philip's War (1675) The victory of the English brought ruin to the tribe The Wampanoag were harried almost out of existence the remnant consolidating with the Saconnet There are still a few Indians of Wampanoag descent, living mainly in Massachusetts The Wampanoag were of the Eastern Woodlands culture area

Wampum, borough (pop 1,061), W Pa , SSW of New Castle, settled 1796, inc 1876 Coal and cement are produced here

wampum (wŏm'pum) [New England Algonquian, = white string of beads], beads or disks made from the shells of mollusks found on the eastern coast or the larger rivers of North America In general, wampum beads were cylindrical They were highly prized by the Indians, particularly by those of the Eastern Woodlands and Plains cultural areas On the Pacific coast shell ornaments (especially gorgets) were also used, but wampum was principally important in trade in the East Most of it came from the East and passed by trade to inland tribes It was, in fact, used as a sort of currency—"shell money" There were two varieties—the white, which is the only sort properly called wampum, and the more valuable purple (usually made from the purple portion of a clam shell), to which different names were applied in the various tribes Wampum was used for ornamentation in such things as necklaces and collars Wampum belts were of particular ceremonial importance because they were exchanged when a treaty of peace was signed Frequently the belts had pictographs worked on them Wampum was also used by white fur traders as currency in their trade with the Indians

Wanamaker, John (wŏ'număkur), 1838–1922, American merchant, b Philadelphia He went into the men's clothing business in Philadelphia with Nathan Brown, his brother-in-law, in 1861 The firm was Wanamaker and Brown until the death of Brown in 1868, and from 1869 it was John Wanamaker and Company In 1875 Wanamaker bought the site of the old Pennsylvania RR freight station and opened a new dry goods and clothing store, which later became one of the first and best-known department stores He was Postmaster General (1889–93) in Benjamin Harrison's cabinet and greatly improved the efficiency of the service He extended his business into New York city in 1896, when he took over the store which had formerly been A. T Stewart and Company He was identified with religious work in Philadelphia, as a paid secretary (1857–61) and as the president (1870–83) of the Young Men's Christian Association and as superintendent of the Bethany Presbyterian Sunday School for many years See biographies by H. A. Gibbons (2 vols 1926) and J H. Appel (1930)

Wanaque (wä'nukē), borough (pop. 3,143), NE N.J , in the Ramapos NW of Paterson, inc 1918 It is near the Wanaque Reservoir, the largest in New Jersey.

Wanchuan, China see CHANGKIAKOW

Wandering Jew, in literary and popular legend of the last seven centuries, a Jew who mocked or mistreated Jesus while He was on His way to the cross and who was condemned therefore to a life of wandering on earth until Judgment Day. The story is common in Western Europe, but it presents marked national variations, e g., in Spanish and Portuguese the Wandering Jew is eternally repentant and goes about doing good for expiation. The subject has been treated many times, e g , by Goethe (fragment), Schlegel, and Müller, by Quinet and Eugène Sue, and by Shelley (in his *Queen Mab*).

Wanganui (wŏng"ŭnō'ē, wŏng"gu-), city (pop. 23,842, metropolitan pop. 26,462), on North Island, New Zealand, near the mouth of the Wanganui river on the southwest coast Among its buildings are the Alexander Museum and the Wanganui Collegiate School. There are soap and clothing factories and a textile mill Wanganui was founded in 1840

Wang Ching-wei (wäng' jĭng'-wā'), 1885–1944, Chinese statesman. A supporter of Sun Yat-sen, Wang was sentenced (1910) to life imprisonment for attempting to assassinate the regent of China After being freed (1912) by the republican revolution, he studied in France until 1920 He and Chiang Kai-shek were Sun's leading disciples, and after Sun's death (1925) Wang led the left-wing of the Kuomintang He several times revolted against Chiang's leadership of the party, but he was premier (1932–35) and president of the people's political council (1938) Wang advocated peace with Japan in 1938 and broke with Chiang From 1939 to his death he was premier of the Japanese puppet government at Nanking

Wang Chung-hui (wäng' chōong'hwā'), 1882–, Chinese jurist He was educated in China, Japan, Europe, and the United States Wang became (1912) the first minister of justice of the Chinese republic After 1916 he held numerous positions in the field of Chinese and international law He was chief justice of the Chinese supreme court (1920), minister of justice (1922, 1927–31), and a judge of the World Court (1930–35) Wang was also minister of education (1926) and of foreign affairs (1937–41)

Wang Wei (wäng' wā'), 699–759, Chinese poet He was a many-sided man, being a physician and painter as well as a poet He wrote quatrains almost exclusively, these delicately portray quiet scenes like those depicted in his few surviving paintings Under compulsion he served first a usurper and later the rightful emperor In old age, after his wife's death, he entered a Buddhist monastery

Wanks see SEGOVIA, river

Wanne-Eickel (vä'nu-ī'kul), city (pop 73,756), Westphalia, NW Germany It is a coal-mining center of the Ruhr district and has a chemical industry The city was formed (1926) by joining the twin cities of Wanne and Eickel

Wanstead (wŏn'stĕd), urban district (pop 19,183), Essex, England, NE of London Wanstead Park, now public grounds with a lake and heronry, formerly belonged to Wanstead House, a great mansion of the 18th and 19th cent

Wantage (wŏn'tĭj), urban district (1931 pop 3,426, 1943 estimated pop 4,260), Berkshire, England, in the Vale of the WHITE HORSE It is noted as the birthplace of Alfred the Great The church and the grammar school are old foundations

Wapakoneta (wŏpukunē'tu), city (pop 5,225), co seat of Auglaize co , W Ohio, S of Lima, in a farm area, founded 1833 It has varied manufactures

Wapato (wŏ'putō, wa'-), potato-shipping town (pop 1,483), S Wash , in the Yakima valley S of Yakima, inc 1908

Wapello (wa'pulō), city (pop 1,603), co seat of Louisa co , SE Iowa, on the Iowa river near the Mississippi and N of Burlington, in a farm area, settled 1837, inc 1850 Ancient Indian mounds are near by

wapiti (wŏ'pĭtē), member of the deer family, often called elk in America Belonging to the genus *Cervus,* it is closely related to the Old World red deer but not to the elk Once abundant, the wapiti was exterminated in the E United States and reduced in the rest of its range by slaughter of the animals for food, leather, and canine teeth used as charms and for sport Among the forms surviving under protection are the Rocky Mountain wapiti and the Roosevelt or Olympic elk or wapiti Several varieties of central and E Asia are threatened with extinction

Wappers, Gustave, Baron (güstäv' bärō' vapĕrs', vä'pûrs), 1803–74, Belgian historical and genre painter For many years director of the Antwerp Academy, he introduced the romantic school into Belgium and did much toward the development of modern art in that country The last 15 years of his life were spent in Paris His works include *Confidences,* portraits of his daughters (Metropolitan Mus), *Burgomaster van der Werff at the Siege of Leyden* (Utrecht), and *Episode of the Belgian Revolution of 1830* (Brussels).

Wapping (wŏp'ĭng), riverside district of Stepney metropolitan borough, London, England, near the Tower. It is a dock section, and the north terminus of the Thames Tunnel to Rotherhithe (constructed 1825–43 by Brunel) is here.

Wappinger Indians (wŏ'pĭnjûr), group of North American Indian tribes of Algonquian linguistic stock In the early 17th cent they occupied the east bank of the Hudson river from Poughkeepsie to Manhattan island and ranged E into Connecticut They were closely related to the Mahican to the north and the Delaware to the southwest, and there is much argument about assigning various bands to any one of the three tribes The Wappinger, however, were divided into nine tribes—the Wappinger proper, the Kitchawong, the Sint Sink, the Tankiteke, the Weckquaesgeek, the Manhattan, the Siwanoy, the Nochpeem, and the Sequin The power of the Wappinger confederacy was broken in a five-year war with the Dutch (1640–45), and gradually they sold their lands and retired to the protection of the neighboring tribes Some joined the Nanticoke, some the Delaware, and some the Mahican The Wappinger were of the Eastern Woodlands cultural area

Wappingers Falls (wŏ'pĭnjurz), village (pop 3,427), SE N Y , in the Hudson Highlands near Poughkeepsie, inc 1871 The Society of the Cincinnati (see CINCINNATI, SOCIETY OF THE) was founded here in 1783

War, trading town (pop 1,277), extreme S W Va , WNW of Bluefield, in a coal, lumber, and stock region, inc 1920

war, armed conflict between sovereign states (international war) or between factions within a state (civil war), prosecuted by a systematic destruction of combatants and property (and increasingly, in modern machine warfare, of noncombatants also) and having as its purpose the imposition of certain conditions upon the opposing power after securing its defeat Warring groups or nations may seek to exact recognition of independence, cession of territory, grant of privileges, consent to policies, imposition of religious or political ideology, or the protection of all these If waged for self-protection, war is defensive, if conducted on foreign soil as an act of aggression, it is offensive, in between is the "preventive" war, where a threatening enemy of steadily increasing power is attacked to prevent it from launching its own attack In recognition of the increased awareness and power of public opinion it is becoming customary for the leaders of all belligerents in modern war to identify their fighting as "defensive" War, which generally occurs only when ARBITRATION, MEDIATION, or negotiation have failed to remove its cause is a confession of the finality of force It thus appears as a manifestation of the human struggle for existence and satisfaction of desires, aggravated by the complexity of modern social organization Economic, racial, and religious factors all operate to cause war, IMPERIALISM, NATIONALISM, militarism, and secret diplomacy are often called dynamics of modern wars In ancient states war tended to be a community enterprise, with many fighters attracted by desire for booty, but as society divided on a functional basis, a warrior class (often supplemented by foreign mercenaries) developed, and the ARMY and NAVY became component parts of the state, and in many instances, recent and historic, the military ruled the state The use of fighting forces as instruments of war became a science when STRATEGY AND TACTICS were employed in military and naval operations War has been even more greatly influenced, however, by industrial development, scientific progress, and the spread of popular education, a new era of machine warfare, prosecuted by (though seldom instigated by) peoples rather than by rulers and the military class alone developed after the wars of Napoleon I Modern warfare calls for the regimentation and coordination of peoples and resources, the state demanding a surrender of private rights in order that unity of purpose may enable it to prosecute the war to a victorious conclusion, in modern times community of interest, goals, and beliefs, economic, political, and cultural, have caused the formation of opposing coalitions of nations, as in the First World War and the Second World War Furthermore, war requires not only the close cooperation of all divisions of the armed forces, but also coordination between the military and the diplomatic organs of government, in line with this, CLAUSEWITZ described war as "a continuation of political intercourse by other means" Confident, disciplined, properly equipped armies must be supported by public opinion, usually influenced by PROPAGANDA Though the laws of war are designed to mitigate some of its effects, with the improvement of armament modern warfare becomes increasingly destructive of life and resources Thus, in the First World War some 10,000,000 were killed In the Second World War there were 15,000,000 killed in battle, and an unknown number were killed as a result of air raids and disease The indirect costs of war defy computation. Even after the Second World War nations were appropriating billions of dollars for armaments Because war and its consequences are considered by many to imperil civilization, or at best to retard it, efforts have been made after every modern war to prevent the outbreak of another After the First World War, the LEAGUE OF NATIONS, international tribunals, and the KELLOGG-BRIAND PACT were employed to facil-

itate the peaceful settlement of disputes or to restrict and prevent war. After the Second World War the world's hope for peace was centered on the UNITED NATIONS The frequency and frightfulness of war and the hope of preventing it has brought it more and more under the study of scientists and scholars, its causes and consequences have been interpreted by biologists, anthropologists, historians, statisticians, and economists, with little agreement and less concrete result There is even widespread disagreement on the definition of war See L L Bernard, *War and Its Causes* (1944), Quincy Wright, *A Study of War* (2 vols , 1942).

war, laws of. The laws of war are usually observed as a duty imposed by INTERNATIONAL LAW in armed conflicts between states Insurrections and civil wars may be as devastating as international wars, and it is a frequent practice of an established government to recognize the BELLIGERENCY of its domestic opponents and to conduct conflicts with them according to the laws of war These laws are designed to minimize the destruction of life and property, to proscribe cruel treatment of noncombatants and prisoners of war, and to establish conditions under which belligerents may consult with one another In the Middle Ages the observances of knighthood restrained some cruelties in warfare, but it was not until the 17th cent that systematic legal codes appeared The great work of GROTIUS, *De jure belli ac pacis* [on the laws of war and peace] (2d ed , 1631) and the works of Vattel had much influence in introducing humane practices Detailed international treaties governing war are mostly a product of the 19th and the 20th cent The Declaration of Paris (1856, see PARIS, DECLARATION OF), the accords concluded at HAGUE CONFERENCES (1899,1907), and the Geneva Conventions (1906) are the main bodies of formulated law There is no convention to which all the major powers of the world have acceded, and many conventions provide that their terms shall be inoperative if any of the belligerents is not a signatory or if an enemy commits a violation Despite such provisions, many nations have adopted the laws of war and the conditions of warfare have undoubtedly been ameliorated, particularly in the treatment of prisoners and the consideration shown to the sick and wounded Prisoners of war must be fed and housed according to the standards enjoyed by the captor's forces Prisoners who are officers may not be required to work at all, and enlisted prisoners may only be compelled to work at tasks which do not injure their country's cause Prisoners are not to be punished for attempting to escape The care of the sick and the wounded is facilitated by making medical personnel noncombatants and by sparing clearly marked hospitals and similar installations from attack Conventions restricting the use of certain weapons probably have not materially mitigated the horrors of war For the most part only those weapons which are of limited military use, e g , poison gas, have been effectively banned, while efforts to prohibit militarily effective weapons, e g , submarine mines, have not succeeded In recent conflicts the laws of war have also failed in the aim of protecting the noncombatant population When aerial warfare makes the whole territory of the enemy into a theater of operations civilians will often be faced with the same hazards as the military forces Civilians in territory occupied by the enemy are, however, entitled to certain protections There may not be imprisonment without cause, and fines may not be levied upon a whole civilian population for individual offences Private property also receives limited protection, and it may not be confiscated for military use unless fair compensation is paid Special rules govern such actions against property as the taking of a PRIZE at sea or in port, the confiscation of CONTRABAND, and the use of the BLOCKADE Property destroyed in the course of action against the enemy, of course, is not compensable Places of religious, artistic, or historical importance should not be attacked unless there is military need No direct diplomatic relations exist between belligerents, but neutral diplomats are often given custody of property in enemy territory and are entrusted with negotiations In the field of combat, passports, safe-conducts, and flags of truce permit consultations between opposing commanders Hostilities may even be completely suspended by an armistice, which is often the prelude to surrender Violations of the laws of war have probably occurred in all major conflicts Against a nation confident of victory perhaps even reprisals will not have effect In the Second World War the United Nations attempted to force observance of the laws of war by threatening with prosecution the military and civilian leaders of the Axis powers who were responsible for violations, and during and after the war there were many trials for WAR CRIMES. See NEUTRALITY and SEAS, FREEDOM OF THE. See E W. Puttkammer, ed , *War and the Law* (1944)

Warbeck, Perkin, 1474?–1499, pretender to the English throne, b Tournai. He lived in Flanders and later in Portugal and arrived in Ireland in the employ of a silk merchant in 1491 There adherents of the Yorkist party persuaded him that he was Richard, duke of York, a son of Edward IV, and the rightful king of England His claim was supported by the Emperor Maximilian I, by James IV of Scotland, and by Margaret of Burgundy, sister of Edward IV and the chief supporter of the Yorkist exiles Warbeck's attempt to invade England in 1495 failed, and he went to Scotland where he married Catherine Gordon, a cousin of James IV In 1497 Warbeck landed in Cornwall, proclaimed himself Richard IV, and raised a rebel army His forces were opposed by those of Henry VII at Exeter, and the pretender fled He was captured, admitted the whole story of his adventure, and was imprisoned In 1499 he and the earl of Warwick were hanged for plotting against the king See Edwin Hemes and George Bruner, *A Historical Sketch of Perkin Warbeck* (1902), John Ford's play *Perkin Warbeck* (1639)

warble fly: see BOTFLY.

warbler, name in the New World for the wood warblers, a family of small, migratory, perching birds usually of bright plumage and of mediocre singing ability The Old World warblers are of another family and are generally fine songsters with dull plumage The American warblers spend about three quarters of the year in the tropical regions, chiefly in Central and South America, but during the summer they are found in most parts of North America They are of inestimable value in destroying insect enemies of forest trees Among the better singers of the family are the OVENBIRD, the water thrush, the pine warbler, and the yellow-throat, Kentucky, and mourning warblers The redstart and the Blackburnian warblers, both with vivid black and orange plumage, the yellow warbler or summer yellowbird which often nests in gardens, the CHAT, and the black-throated blue and green warblers are well known Because they crawl over branches in search of insects, the black-and-white, the yellow-throated, and the northern pine warblers are sometimes called creepers

Warburg, Otto Heinrich (ō'tō hĭn'rĭkh vär'bo͝ork), 1883–, German physiologist He was director of the Kaiser Wilhelm Institute for cell physiology at Berlin He investigated the exchange of energy in carbonic acid assimilation, the metabolism of tumors and the respiration of cells, particularly cancer cells For his discovery of the nature and the mode of action of the respiratory ferment known as Warburg's respiratory (or yellow) enzyme, he won the 1931 Nobel Prize in Physiology and Medicine He edited *The Metabolism of Tumours* (Eng tr , 1930)

Warburton, Bartholomew Elliott George (Eliot Warburton), 1810–52, Irish author He is best known for *The Crescent and the Cross* (1844), an account of his travels in the Near East

Warburton, William, 1698–1779, English bishop and author Ordained in 1727 and serving successively in several rectories, he became chaplain to the prince of Wales in 1738, preacher to Lincoln's Inn in 1746, and chaplain to the king in 1754 He was made prebendary of Durham in 1755, dean of Bristol in 1757, and bishop of Gloucester in 1760 His writing, most of which was ecclesiastical, is noted for its arrogance *The Alliance between Church and State* (1736) was followed by *The Divine Legation of Moses*, a learned anti-deist polemic, the first six books of which appeared in 1737–38 and 1741 and the ninth in 1788 Warburton and Pope became warm friends with the appearance of *A Vindication of the Essay on Man* (1739–40) Warburton edited Shakspere with Pope, and, as Pope's literary executor, edited his works (1751) *The Doctrine of Grace* (1763) was an assault upon Methodism which invoked replies from its leaders, John and Charles Wesley and George Whitefield Bishop Hurd prefaced his edition of Warburton's works (1788) with a life, separately published in 1860 See A W Evans, *Warburton and the Warburtonians* (1932)

war crimes. In the course of the Second World War the Allied powers determined upon punishing all Axis war criminals War crimes (see WAR, LAWS OF) were defined to include plotting aggressive warfare and committing atrocities against any civilian group (notably the deliberate attempt to exterminate a people or genocide) The first step was taken in the Moscow Declaration of Oct 30, 1943, which pledged the prosecution of German war criminals Shortly afterward the United Nations Commission for the Investigation of War Crimes was formed to compile lists of suspects The commission distinguished two classes of war criminals—those whose crimes were directed against the nationals of one state (they were to be tried by national courts or military tribunals) and those whose crimes were international in scope (they were to be tried by special international tribunals organized according to military law). In Aug , 1945, Great Britain, France, the USSR, and the United States adopted a statute for trying the principal Nazi leaders, both military and civilian A tribunal representing those four countries was established at Nuremberg, and the trial opened in Nov., 1945 Voluminous evidence was presented to prove the plotting of aggressive warfare, the extermination of civilian populations (especially the Jews), the widespread use of slave labor, the looting of occupied countries, and maltreatment and murder of prisoners of war Among others sentenced to death (1946) were GOERING, RIBBENTROP, and STREICHER Hjalmar SCHACHT and Franz von PAPEN were acquitted. The court did not convict Nazi organizations or the German general staff A trial of 28 alleged Japanese war criminals was conducted (1946–47) by an eleven-nation tribunal in Tokyo Evidence similar to that presented against the Nazis brought death sentences to TOJO and others. The U.S Supreme Court refused an appeal based on the grounds that the international court was unlawful There were many trials in national civil and military courts, including those of the Japanese generals YAMASHITA and HOMMA Although exact statistics are not available, it is estimated that by 1950 about 8,000 persons were tried and about 2,000 executed. A reduction in the number of trials became apparent several years after the war's end, and the protest was sometimes heard that many of the guilty were escaping retribution and that the hoped-for deterrence of aggressive warfare and systematic cruelty would not be realized See Sheldon Glueck, *The Nuremberg Trial and Aggressive War* (1946), Robert H Jackson, *The Case Against the Nazi War Criminals* (1946)

Ward, Artemas (ärt'tĭmus), 1727–1800, American general in the American Revolution, b Shrewsbury, Mass He was active in colonial politics and served in the last French and Indian War As head of Massachusetts troops, he was regarded as chief commander at the siege of Boston (1775) until the arrival of George WASHINGTON He directed the fortification of Dorchester Heights (see BUNKER HILL, BATTLE OF), but after the British evacuation he resigned from the service Later he served in the Continental Congress and the U S Congress See biography by Charles Martyn (1921)

Ward, Artemus (ärt'tĭmus), pseud of **Charles Farrar Browne,** 1834–67, American humorist, b Waterford, Maine As a reporter on the Cleveland *Plain Dealer*, he began in 1858 a series of "Artemus Ward's Savings," whose humor, dependent on the misspelled words and quaint turns of speech, made him famous on both sides of the Atlantic In 1859 he joined the staff of the New York humorous weekly *Vanity Fair* and when it failed turned with immediate success to lecturing See his *Selected Works* (ed by A J Nock, 1924), biography and bibliography by D C Seitz (1919)

Ward, Bernard Nicholas see WARD, WILLIAM GEORGE

Ward, Edgar Melville see WARD, JOHN QUINCY ADAMS

Ward, Edward Matthew, 1816–79, English historical and genre painter, author of eight murals in the House of Commons Other well-known paintings include *Dr Johnson in the Anteroom of Lord Chesterfield* and *South Sea Bubble* (both National Gall , London)

Ward, Frederick Townsend, 1831–62, American adventurer, b Salem, Mass , educated at Norwich Univ He served with William Walker in Nicaragua and with the French forces in the Crimean War Ward arrived in Shanghai in 1859, when the TAIPING REBELLION was at its height The Chinese government engaged him to raise troops and clear the Shanghai area His force, the "ever-victorious army," won many successes near Shanghai and Ningpo Ward was killed in an attack His tomb was erected in Sungkiang, which had been his headquarters. Charles George GORDON succeeded to Ward's command See Holger Cahill, *A Yankee Adventurer* (1930)

Ward, Dame Geneviève, 1837?–1922, English actress, b New York city She made her debut as a singer at La Scala, Milan (1856), but, having lost her singing voice, turned later with great success to the stage She played over 2,000 times in *Forget-me-not* by Herman Merivale and H C Grove She made many appearances in tragic roles with F R Benson's Shakspere company and with Sir Henry Irving She married (1855) comte de Guerbel and was made Dame of the British Empire in 1921 See her autobiography, *Both Sides of the Curtain* (1918)

Ward, Mrs. Humphry, 1851–1920, English novelist, whose maiden name was Mary Augusta Arnold, granddaughter of Thomas Arnold She was born in Tasmania, where her father was inspector of schools, but was early brought to England and grew up in Oxford, where she married, in 1872, Thomas Humphry Ward, fellow and tutor of Brasenose College and an editor of the Oxford *Spectator* Her first publications were translations of Spanish literature and a children's book, *Mllie and Olly* (1881) *Robert Elsmere* (1888), a story defending the higher criticism of the Bible, made her reputation. It was followed by *David Grieve* (1892), *Eleanor* (1900), *Lady Rose's Daughter* (1903), *The Marriage of William Ashe* (1905), *Fenwick's Career* (1906), *The Case of Richard Meynell* (1911), *The War and Elizabeth* (1918), and other novels. See her autobiography, *A Writer's Recollections* (1918); study by S L Gwynn (1917); biography by her daughter, J P Trevelyan (1923).

Ward, James, 1843–1925, English philosopher. He was professor of mental philosophy at Cambridge

Univ. from 1897 until 1925 Among his most important writings are *Heredity and Memory* (1913), *Psychological Principles* (1918), and *Essays in Philosophy* (with a memoir by Olwen Ward-Campbell, 1927) See study by A H Murray (1937).

Ward, John Quincy Adams, 1830–1910, American sculptor, b Urbana, Ohio Trained under H K Brown, whom he assisted in the execution of the equestrian statue of Washington in New York, Ward was always essentially American in his art He was one of the founders of the National Sculpture Society and long its president His were the first statues for Central Park—the *Indian Hunter*, the *Freedman*, the Civil War monument, *Private of the 7th Regiment, Shakespeare*, and the *Pilgrim* His later commissions were for portrait statues and monuments These include the equestrian statue of General Thomas, the Garfield monument, and General Sherman, Washington, D C , Lafayette, Burlington, Vt , George Washington, before the Subtreasury, and Horace Greeley, New York, Henry Ward Beecher monument, Brooklyn, N Y , and General Hancock, Fairmount Park, Philadelphia In 1899 he contributed to the Dewey triumphal arch, New York, the crowning group, *Naval Victory in her Sea Chariot* In 1903, with the collaboration of P W Bartlett, he made the pediment sculptures for the New York Stock Exchange His work is marked by vigor and virility He became a member of the National Academy of Design in 1863 His brother, **Edgar Melville Ward,** 1839 1915, was a genre painter and a member (1883) of the National Academy His painting *The Coppersmith* is in the Metropolitan Museum

Ward, Lester Frank, 1841-1913, American sociologist and paleontologist, b Joliet, Ill Largely self-educated, he eventually took degrees in medicine and law He worked as a government geologist and paleontologist from 1881 to 1906, when he became professor of sociology at Brown Univ One of the first and most important of American sociologists, Ward developed a theory of planned progress called telesis, whereby man, through education and development of intellect, could direct social evolution His theories and those of his contemporary, William Graham Sumner, represent two main trends in 19th-century American thinking Among his important works are *Dynamic Sociology* (1883), *Psychic Factors of Civilization* (1893), *Pure Sociology* (1903), and *Glimpses of the Cosmos* (6 vols , 1913-18) See Samuel Chugerman, *Lester F Ward, the American Aristotle* (1939)

Ward, Nathaniel, 1578–1652, British clergyman and author Educated at Cambridge, he turned from law to the Puritan ministry and came to Massachusetts in 1634 He was minister at Agawam (Ipswich) until 1636, when ill-health forced his resignation He was chief compiler of the Body of Liberties (1641) which incorporated into the laws of Massachusetts the safeguards of person and property In 1646 he returned to England There he published *The Simple Cobler of Aggawam* (1647), which he had written in America In some of the liveliest prose written in the colonies, this little book advocated a new theory of constitutional government for England and protested vehemently against toleration and women's fashions In 1648 Ward was granted the living of Shenfield in Essex, where he died See memoir by J W Dean (1868)

Ward, William George, 1812-82, English Roman Catholic apologist, educated at Oxford He became a fellow at Balliol (1834) and was ordained in the Church of England At first a Broad Churchman, he joined the OXFORD MOVEMENT in 1838 Thereafter he became the most extreme of his group, and as a result of his vigorous support of *Tract 90* he lost his teaching positions in the university His long work, *The Ideal of a Christian Church* (1844), which compared all churches in England unfavorably with the Roman Catholic Church, brought his official degradation from his university degrees (1845), he was soon afterwards received into the Roman Catholic Church, where he remained a layman Ward was lecturer in moral theology in St Edmund's College, Ware, from 1851 to 1858 He did not cease to be extreme in his religious views, especially with respect to ultramontanism He was an eager and hasty controversialist, and his metaphysical subtlety was feared by his opponents Ward's friends included men of every shade of opinion His son, **Wilfrid Philip Ward,** 1856–1916, was his father's biographer (1889, 1893) He also wrote a great biography of Cardinal Newman and accounts of Cardinal Wiseman and Aubrey de Vere Wilfrid Philip Ward was like his father in opposing liberalism and modernism in the Church, but unlike him in being a mediator, notably in the modernist controversy He edited the *Dublin Review* from 1906 See Maisie Ward, *The Wilfrid Wards and the Transition* (2 vols , 1934–37) William George Ward's third son, **Bernard Nicholas Ward,** 1857–1920, was a distinguished churchman, he was president of St Edmund's College, Ware, and first bishop of Brentwood. He wrote on the history of the Roman Catholic Church in England

Ward, William Hayes, 1835–1916, American Orientalist, clergyman, and editor, b Abington, Mass , grad. Amherst, 1856, and Andover Theological Seminary, 1859 He was a special student of Assyriology and conducted (1884-85) an expedition to Babylonia. He wrote *Report of the Wolfe Expedition to Babylonia* (1885) and *Seal Cylinders of Western Asia* (1910) From 1896 to 1913 he edited the *Independent*

ward see GUARDIAN AND WARD

war debts. This article discusses the obligations incurred by foreign governments for loans made to them by the United States during and shortly after the First World War For international obligations arising out of the Second World War, see LEND-LEASE When the United States entered the war in 1917 its European allies were almost drained of foreign exchange after nearly three years of conflict Government credits, therefore, were made available for the purchase of American goods After the war similar credits, though to a lesser amount, were extended both to allied and former enemy nations All the debtor nations, except Russia (where the USSR had replaced the Russian Empire), recognized their obligations, and in 1922 the World War Foreign Debt Commission of the United States, in agreement with 15 European countries, set the funded indebtedness at about $3,350,000,000, but by arranging for a 62-year period of repayment the interest charges would have amounted to more than the principal Payments were made until 1931, largely out of the REPARATIONS which the Allies received from Germany In 1931, to offset the impact of world economic depression, U S President Hoover's proposal of a moratorium for one year on all intergovernmental obligations was adopted The debtors attempted to better their position by the Lausanne Pact of 1932, which greatly reduced German reparations in the hope that the United States would entirely release its claims The United States, which had never demanded reparations, refused Six countries paid in 1932, but thereafter all the debtors defaulted on their payments except Finland (paid until 1943) and Hungary (paid interest until 1939)

War Department, United States, organized (1789) under the Constitution of the United States as an executive department of the Federal government to administer the military establishment It was reconstituted (1947) as the Dept of the Army within the U S Dept of Defense (see DEFENSE, UNITED STATES DEPARTMENT OF) During the American Revolution, military affairs were largely supervised by the Continental Congress, and under the Articles of Confederation a secretary of war was put in charge of defense matters In Aug , 1789, the U S War Dept , headed by the Secretary of War, was created to organize and maintain the U S army—under the command of the President in time of peace and war Subsequent legislation expanded the department's organization, and until 1903 the commanding general of the army and various staff departments aided the Secretary in guiding the military establishment Though its supervision of naval affairs was soon transferred (April, 1798) to the U S Dept of the Navy, the War Dept from time to time supervised several quasi-military matters- e g , the distribution of bounty lands, pensions (see INTERIOR, UNITED STATES DEPARTMENT OF THE), Indian affairs (see INDIAN AFFAIRS, BUREAU OF), and the RECONSTRUCTION of the South after the Civil War Many of these responsibilities were transferred or disappeared, and in the 20th cent only the construction of public works in connection with rivers and harbors and the maintenance and operation of the Panama Canal were under the supervision of the War Dept Meanwhile, the purely military functions of the department were vastly expanded in war periods, and after the Spanish-American War a thorough reorganization of the War Dept was effected (1903) The office of the commanding general of the army was abolished, and the general staff corps was established to coordinate the army under the direction of the chief of staff, who was charged with supervising the planning of national defense and with the mobilization of the military forces Thereafter the War Dept absorbed several new functions, it was given supervision over the newly created NATIONAL GUARD, and under the National Defense Act of 1916 the officers reserve corps was created within the department's organization This act also established the office of Assistant Secretary of War to coordinate the procurement of munitions After the First World War the organizational maze of the War Dept was thoroughly revamped (1922) Its scope of activities, however, remained wide, stretching from the supervision of the U S Military Academy (West Point) to the guidance of insular affairs and occupied territories and to the intricate organization of defense In the Second World War plans were laid to coordinate the activities of the armed services, and with the creation (1947) of the National Military Establishment—which later became (1949) the U S Dept. of Defense—the War Dept was reconstituted as the Dept of the Army, which became a division of the Dept of Defense The Secretary of War, holding a post with high cabinet rank, became the Secretary of the Army, an office without cabinet rank, and several of the department's functions, notably those connected with the air arm, were transferred

Ware, Henry, 1764–1845, American clergyman, instrumental in the founding of UNITARIANISM in the United States, b Sherborn, Mass , grad. Harvard, 1785 As pastor (1787–1805) of the First Church, Hingham, Mass , he became known for his "liberal" inclinations His appointment in 1805 as Hollis professor of divinity at Harvard aroused opposition in the orthodox division of the Congregational churches This choice and the questions it brought into prominence helped to hasten the separation of the Unitarians from the Congregationalists and their organization into an independent denomination Later, in an interchange of views with Dr Leonard Woods, Ware wrote his *Letters to Trinitarians and Calvinists* (1820) and other controversial works In 1816 he took up his work as professor of theology in the newly founded Harvard Divinity School His son, **Henry Ware,** 1794–1843, b Hingham, Mass , grad Harvard, 1812, was pastor (1817-30) of the second Unitarian Church, Boston, and was professor in the Harvard Divinity School until 1842 He was an editor (1819-22) of the first organ of Unitarianism, the *Christian Disciple*, and one of the leaders in developing the denomination

Ware, Isaac, d 1766, British architect of the Georgian period After travels in Italy he was employed in 1728 as clerk of the works of the Tower of London and also at Windsor Castle For Philip, earl of Chesterfield, he built Chesterfield House, Mayfair (1749) and his large published work *The Complete Body of Architecture* (1756) contains plates illustrative of it In 1738 Ware produced a translation of Palladio He and William Kent designed mantelpieces, ceilings, and other details for Robert Walpole's house "Houghton," which was built by Thomas Ripley, and made drawings for Ripley's book on this house

Ware, William, 1797–1852, American author and clergyman, b Hingham, Mass , grad Harvard, 1816 He was a pastor in the first Unitarian church in New York city from 1821 until 1836, when he left to devote himself to writing Best known is his trilogy of novels on the struggles of the early Christian churches against the dominant hierarchies of that time—*Zenobia* (1837), *Aurelian* (1838), and *Julian* (1841)

Ware, urban district (1931 pop 6,181, 1943 estimated pop 8,100), Hertfordshire, England, on the Lea It is a market town with manufactures of plastics, paint, and pharmaceuticals There is a priory, the remains of a 14th-century Franciscan monastery The Victoria and Albert Museum now has the Great Bed of Ware, which Shakspere mentioned in *Twelfth Night*

Ware, industrial town (pop 7,557), central Mass , W of Worcester, settled c 1717, inc 1761 Its chief products are textiles and shoes

Wareham (wâr'hăm, wâ'rum), town (pop. 6,364), SE Mass , on an inlet of Buzzards Bay, settled 1678, inc 1739 It is a resort and a shipping point for cranberries and shellfish Massachusetts State College has a cranberry field station here

Warfield, David, 1866 , American actor, b San Francisco His early acquaintance with David Belasco led to a permanent business relationship between the two men, commencing when Warfield appeared under the sponsorship and management of Belasco in *The Auctioneer* (1901) by Klein and Arthur A success in his first important role, Warfield was then featured in *The Music Master* (1904) by Charles Klein and, among other memorable plays, appeared in *The Return of Peter Grimm* (1911), one of Belasco's best efforts as a solo playwright Warfield's last stage venture was as Shylock in *The Merchant of Venice* (1924)

Wargla or **Ouargla** (both war'gla), town (pop 5,461), E Algeria, in the Wargla oasis It is an ancient commercial center for the desert trade The French took Wargla in 1853 but did not occupy it effectively until 1882 Here, in 1938, they opened a museum depicting Saharan life

Warham, William (wŏ'rum), c 1450–1532, English churchman, archbishop of Canterbury (1504–32) He studied at Oxford and became widely known in England for his legal ability, went often on diplomatic missions, and was made (1502) bishop of London He was a generous supporter of the new learning and a patron of Erasmus In 1504 he was made lord chancellor by the king and archbishop of Canterbury by the pope In the early years of Henry VIII's reign his influence was paramount, but before many years Thomas WOLSEY began to displace him In 1515 Wolsey was created cardinal and Warham resigned (willingly) the chancellorship to Wolsey Thereafter Warham was second in the Church in England In the matter of Henry VIII's divorce, in which Warham was involved from 1527, his policy was to conciliate all parties, and in 1530 he was a signer of the petition to the pope for the divorce Eventually, in 1532, after Warham had allowed a gradual encroachment by the king on ecclesiastical rights, he executed a *volte-face* and formally protested just before his death all acts derogatory to the papal authority

Waring, George Edwin (wā'ring), 1833–98, American sanitary engineer, b. Poundridge, Westchester co., N.Y. After serving the Union in the Civil War as colonel of cavalry, he managed farms in the East and worked on the drainage of Central Park, New York city. He instituted sanitary improvements in Memphis, served as street-cleaning commissioner in New York (1895–98), and was working as head of a sanitary commission in Havana when he contracted yellow fever and died. His works include *Sewerage and Land Drainage* (1888, 4th ed., 1896).

war matériel (mətēr"rēēl'), term for all units of military and naval armament, supply, and equipment and all the materials and equipment needed. The capacity of a nation to produce its own war matériel is called war potential. Basically, this potential is determined by the country's natural resources, its stage of industrialization, the size and quality of its skilled labor force, and its ability to defend these while actively fighting an enemy. Whenever a country's productive capacity is insufficient to supply its armed forces with all war matériel, the deficiency must be made up by imports. To cut off this flow of imports an enemy nation may resort to a blockade. During the Second World War it was the particular task of the strategic air forces to weaken or destroy the war potential of the enemy by bombing his industries and transportation networks, while naval forces attacked enemy transports and freighters. The superior success of the Allied powers in destroying enemy production and in keeping their own sea lanes relatively safe proved a major contribution to victory. In supplying the greatest part of the war matériel of the Allies, the United States, the most highly industrialized of nations, wealthy in natural resources, and never subjugated to enemy bombings, earned the title of arsenal of democracy, which had been applied before U.S. entrance into the conflict. The uneasy years after the war saw the nations of the world again worrying about their relative war potentials, with the result that huge armament budgets were appropriated, wartime equipment was stored rather than scrapped, special war production plants were maintained on a stand-by basis, and strategic materials and elements, especially uranium for atomic weapons, were stockpiled while new sources were sought.

Warmia: see ERMELAND.

Warming, Johannes Eugenius Bülow (yōhä'nus ōĕugē'nēŭs bu'lō vär'ming), 1841–1924, Danish botanist, a founder of the science of plant ecology. He was professor at the Univ. of Copenhagen (1885–1911) and wrote a pioneer work in his field, *Plantesamfund* (1895), which, rewritten and enlarged, appeared in English as *Oecology of Plants* (1909). He also wrote *A Handbook of Systematic Botany* (1878, Eng. tr., 3d ed., 1911).

Warm Springs, watering place, W. Ga., NW. of Columbus, famous in treating and studying the aftereffects of poliomyelitis. The salutary properties of the water springing from Pine Mt. were known to the Indians. White men learned of them in the late 18th cent. and by the 1830s had created a resort, which, destroyed by fire in 1865, was rebuilt and was fashionable at the end of the 19th cent. Franklin D. Roosevelt, having found the water beneficial after he suffered from poliomyelitis, in 1927 founded the Georgia Warm Springs Foundation to help other victims of the disease and gave it his 2,600-acre farm here. He retained the cottage known as the Little White House (now a national shrine), in which he died in 1945. The foundation grew heartily, especially after Roosevelt became president. Near by is the city incorporated in 1924 as Warm Springs (pop. 608), formerly named Bullochville.

Warner, Anna Bartlett see WARNER, SUSAN BOGERT.

Warner, Charles Dudley, 1829–1900, American editor and author, b. Plainfield, Mass., grad. Hamilton College, 1851, LL.B. Univ. of Pennsylvania, 1858. After practicing law in Chicago, he was associate editor and publisher of the Hartford, Conn., *Courant*. To that paper and to *Harper's Magazine* he contributed many travel articles later published in book form. He edited the "American Men of Letters" series, for which he wrote a life of Washington Irving, and the "Library of the World's Best Literature" (30 vols., 1896–97). He collaborated with Mark Twain in the novel *The Gilded Age* (1873), he wrote other novels and the polished, charming essays in *My Summer in a Garden* (1871) and other volumes.

Warner, Glenn Scobey, 1871–, American football coach commonly known as Pop Warner, b. Springville, N.Y., grad. Cornell (LL.B., 1894). He excelled as guard (1892–94) on the Cornell football team. As coach (1895–96) of the Univ. of Georgia eleven, he had an undefeated, untied team in 1896. He later coached at Cornell (1897–98, 1904–6) and at the Carlisle Indian School (1899–1903, 1907–14), where he developed several outstanding football stars, notably Jim Thorpe, and gained a nationwide reputation. At the Univ. of Pittsburgh (1915–23) Pop Warner again brought forth several powerful teams, three of which held (1915–17) undefeated records, and at Stanford (1924–32) he produced three Rose Bowl teams. Warner later became coach at Temple Univ. (1933) and at San Jose (Calif.) State College (1939). He wrote *A Course in Football for Players and Coaches* (1908).

Warner, Olin Levi, 1844–96, American sculptor, b. Suffield, Conn. He studied in Paris, working for a time as an assistant to J. B. Carpeaux. After service in the Franco-Prussian War (1870), he returned to the United States in 1872. Recognition came late, and his death in a bicycle accident cut short a career of great promise. Several fine portrait busts and *Diana*, an ideal figure, are in the Metropolitan Museum. In Boston are portrait statues of William Lloyd Garrison and General Devens, and in Hartford, Conn., Governor Buckingham. A fountain in Portland, Oregon, has caryatids made in 1888, and the Library of Congress, a pair of handsome bronze doors.

Warner, Seth, 1743–84, hero of the American Revolution, b. Roxbury, Conn. As a young man he moved to Bennington in the New Hampshire Grants, where he became, under Ethan ALLEN, one of the leaders of the GREEN MOUNTAIN BOYS and was active in resisting the claims of New York and settlers under New York grants. It is notable that he was not a land speculator, as Allen and other leaders of the Green Mountain Boys were. He was prominent in the moves for the independence of Vermont. Just after the American Revolution broke out, he accompanied Allen to Ticonderoga and was given charge of the detachment that took (May 11, 1775) Crown Point. In July, 1775, when the Green Mountain Boys were organized as a part of the Continental army, Warner, and not Allen, was elected to command. From that time forward there was some coolness between the Allens and Warner, and Warner was to devote his life to the colonies as a whole, not to Vermont alone. In the Quebec campaign he distinguished himself (1775) in an engagement at Longueuil in Canada before the Green Mountain Boys were dismissed (Nov., 1775), their term of enlistment completed. He was called back to Canada in Jan., 1776, when things were going badly before Quebec, and he proved himself able in the disastrous retreat of the patriot forces. When Burgoyne was advancing, Warner was in charge of the rear guard protecting Arthur St. Clair's retreat from Ticonderoga, and though he fought well when set upon near Hubbardton on July 7, 1777, he was defeated. He more than redeemed that failure and became a hero of the Saratoga campaign, when he shared the command of John STARK in gloriously defeating the Hessians of Burgoyne's command in the battle of Bennington (Aug. 14–16, 1777), he may have conceived the idea of the winning strategy. Warner continued in service until late in the war, when wounds and an infection contracted on the campaigns compelled him to retire. He died at his native town. Modest, brave, and able, Warner has not received so much attention as the more flamboyant Ethan Allen.

Warner, Susan Bogert, pseud **Elizabeth Wetherell,** 1819–85, American novelist, b. New York city. Of her many books the best known was *The Wide, Wide World* (1850), a pious and tearful story of an orphan, which was even translated into foreign languages. Others included *Queechy* (1852), *The Hills of the Shatemuc* (1856), and *Melbourne House* (1864). With her sister, **Anna Bartlett Warner,** pseud **Amy Lothrop,** 1820–1915, she collaborated in several children's books, notably *Mr. Rutherford's Children* (1853–55). Anna wrote alone novels which included *Dollars and Cents* (1852) and *Stories of Vinegar Hill* (1872) and a biography of Susan Warner (1909). The Warners lived much of the time after 1837 on Constitution Island, in the Hudson river opposite West Point, and long conducted Bible classes for the cadets. Both of the sisters are buried in the government cemetery at West Point.

Warner, Sylvia Townsend, 1893–, English novelist and poet. Her first published work was poetry, *The Espalier* (1925), but she became more generally known with two novels of gentle fantasy—*Lolly Willowes* (1926) and *Mr. Fortune's Maggot* (1927). Miss Warner worked for the cause of the Loyalists in the Spanish civil war. *After the Death of Don Juan* (1938) treats the Don Juan legend with satire. In *The Corner That Held Them* (1948) the story of a 13th-century convent is told with a scholar's knowledge of the period but with Miss Warner's inimitable wit and irony.

Warner, William, 1558?–1609, English poet. He is remembered for *Albion's England*, a history in prose and verse first published in 1586.

Warner, resort town (pop. 1,113), S.N.H., WNW. of Concord, settled c. 1740, inc. 1774.

Warnsdorf, Czechoslovakia see VARNSDORF.

War of 1812, name given to the war between the United States and Great Britain, 1812–15. It followed a period of great stress growing out of the struggle between England and France in the NAPOLEONIC WARS. During this period American shippers took advantage of the hostilities in Europe to absorb the carrying trade between the French and Spanish islands in the West Indies and Europe. By breaking the passage with a stop in an American port, they evaded the British rule of 1756, which forbade neutral trade in time of war that was not allowed in time of peace. The growth of American shipping displeased British merchants and also hurt the British navy by absorbing seamen who were anxious to escape the hardships of British naval service. Napoleon's Continental System, which was intended to exclude British goods or goods cleared through Britain from countries under French control, and the British ORDERS IN COUNCIL (1807), which forbade trade with France except after touching at English ports, threatened the American merchant fleet with confiscation on the one side or the other. Although the French subjected American ships to considerable arbitrary treatment, the difficulties with England were more apparent and nearer home. The practice of IMPRESSMENT of British sailors from American vessels was a further source of friction. A famous incident—the CHESAPEAKE affair—fanned hostility to a white heat in 1807. American rights had been clearly infringed. However, President Thomas JEFFERSON, who hoped for a peaceful settlement, had adopted a policy of passive resistance. The Nonimportation Act (1806) was followed by the EMBARGO ACT OF 1807. Difficulty of enforcement and economic conditions that rendered England and the Continent more or less independent of America made the embargo ineffective, and in 1809 it gave way to a Nonintercourse Act. This in turn was superseded by Macon's Bill No. 2, which repealed the trade restrictions against Britain and France with the proviso that if one country would withdraw its offensive decrees or orders, nonintercourse would be resumed with the other. By a dubious commitment Napoleon tricked James MADISON, who had succeeded Jefferson to the presidency, into reimposing nonintercourse on England. In the meantime diplomatic negotiations had resulted in the conclusion of a satisfactory agreement with the British minister in Washington, David Erskine, only to be nullified by Foreign Secretary George Canning, Erskine was replaced by F. J. Jackson, an obstinate man who soon proved himself *persona non grata* to the American government. The news of the defeat of the *Little Belt* by the American frigate *President*, under Capt. John RODGERS, was enthusiastically received in the United States. Yet commercial difficulties were in the process of solution, and, indeed, before the commencement of war, though too late to prevent its declaration, the Orders in Council were repealed. However, it was not so much the demand for neutral rights that occasioned the actual outbreak of hostilities as the desire of the frontiersmen for free land, which could only be obtained at the expense of the Indians and the British. Moreover, the West suspected the British, with some justification, of attempting to prevent American expansion and of encouraging and arming the Indians. Matters came to a head after the battle of Tippecanoe, and the radical Western group dreamed of conquering Canada and also West Florida. Their leaders in the 12th Congress were Henry CLAY, John C. CALHOUN, Langdon CHEVES, Felix Grundy, and other "war hawks," who managed to override the opposition of John RANDOLPH and the moderates. War was declared June 18, 1812. It was not until it was begun that Madison discovered how woefully inadequate American preparations for war were. The rash hopes of the "war hawks," who expected to take Canada at a blow, were soon dashed. The American force under Gen. William HULL, far from gaining glory, disgracefully surrendered (Aug. 1812) at Detroit to a smaller Canadian force under Isaac BROCK. On the Niagara an American expedition was repulsed after a successful attack on Queenston Heights, because the militia under Stephen VAN RENSSELAER failed to come to its support. On the sea, however, the tiny American navy gave a good account of itself. The victory of the *Constitution*, under Isaac Hull, over the *Guerrière* and the capture of the *Macedonian* by the *United States* (Stephen DECATUR commanding) were two outstanding achievements of 1812, but the smaller vessels also did well and American privateers carried the war to the very shores of England. In 1813 the British reasserted their supremacy on the sea; the *Chesapeake*, under Capt. James LAWRENCE ("Don't give up the ship!"), accepted a challenge from the *Shannon* and met with speedy defeat. Most of the American ships were either captured or bottled up in harbor for the duration of the war. However, it was on inland waters that the American navy achieved its most notable triumphs—victories which had an important bearing on the course of the war. In Jan., 1813, at the Raisin river S. of Detroit, American troops suffered another defeat. But with the victory of Capt. Oliver PERRY on Lake Erie in Sept., 1813, American forces, under Gen. William Henry HARRISON, were able to advance against the British, who burned Detroit and retreated into Canada. Harrison pursued and defeated them in a battle at the river Thames, in which Tecumseh, the Indian chief, was killed. Yet the feeble efforts of James WILKINSON along the St. Lawrence did nothing to improve the situation on the New York border. The first months of the year 1814 held out gloomy prospects for the Americans. The finances of the government

had been somewhat restored in 1813, but there was no guarantee of future supplies New England, never sympathetic with the war, now became openly hostile, and the question of secession was taken up by the HARTFORD CONVENTION. Moreover, with Napoleon checked in Europe, England could now devote more time and effort to the war in America In July, 1814, the American forces along the Niagara, now under Gen Jacob BROWN, maintained their own in engagements at Chippewa and Lundy's Lane Shortly afterwards Sir George PREVOST led a large army into New York down the west side of Lake Champlain and seriously threatened the Hudson valley But when his accompanying fleet was defeated near Plattsburg (Sept , 1814) by Capt. Thomas MACDONOUGH, he was forced to retreat to Canada In August a British expedition to Chesapeake Bay won an easy victory at Bladensburg and took Washington, burning the Capitol and the White House. The victorious British, however, were halted at Fort McHenry before Baltimore (see STAR-SPANGLED BANNER) This setback and the American victory at Plattsburg had much to do with persuading British statesmen to agree to the ending of the war, in which no decisive gains had been made by either side For some time negotiations for peace had been taking place, and as early as Sept , 1812, Alexander I of Russia proposed to mediate between the United States and Great Britain. Britain refused the tsar's offer but eventually entered into direct peace negotiations with the United States The American delegation to the meeting at Ghent was headed by John Quincy ADAMS, Henry Clay, and Albert GALLATIN After long and tortuous discussions the Treaty of Ghent (see GHENT TREATY OF) was signed (Dec 24, 1814), providing for the cessation of hostilities, the restoration of conquests, and the setting up of boundary commissions The final action of the war took place after the signing of the treaty, when Andrew JACKSON decisively defeated the British at New Orleans on Jan 8, 1815 This victory, although it came after the technical end of the war, was of great importance in restoring American confidence Although the peace treaty failed to deal with the matters (neutral rights and impressment) for which the United States had ostensibly gone to war, Americans soon came to believe that they had won a Second War for Independence Indeed, the war did quicken the growth of American nationalism With the union strengthened and the West opened for American expansion, the country embarked on a period of political isolation from Europe The war also laid the foundation of military and administrative reorganization See G W Cullum, *Campaigns of 1812-15* (1879), Theodore Roosevelt, *The Naval War of 1812* (1882), A T Mahan, *Sea Power in Its Relation to the War of 1812* (2 vols , 1905), William Wood, *The War with the United States* ("Chronicles of Canada" series, 1915), J W Pratt, *The Expansionists of 1812* (1925), Henry Adams, *The War of 1812* (ed by H A De Weerd, 1944), N H Swanson, *The Perilous Fight* (1945)

warp: see WEAVING

War Production Board (WPB), established (Jan , 1942) by executive order in the Second World War to direct war production and the procurement of materials The chairman (Donald M. Nelson, 1942-44, Julius A Krug, 1944-45) was granted sweeping powers over the nation's economic life The WPB converted and expanded the peacetime economy to maximum war production, controls included assignment of priorities to deliveries of scarce materials and prohibition of nonessential industrial activities Businessmen serving with the WPB were sharply criticized by a Senate committee headed by Harry S TRUMAN. WPB organization changed frequently, and disputes with the armed services occurred After the defeat of Japan, most restrictions were quickly lifted, and the WPB was abolished in 1945 The Civilian Production Administration was set up to take over the remaining WPB reconversion functions.

warrant, in law, written order by an official of a court directed to an officer The SEARCH WARRANT and the warrant of ARREST are the most frequently used types Warrants of attachment order the seizure of a defendant's goods pending trial or judicial determination of ownership and in certain other cases. Warrants are usually issued by a judge or court clerk They are directed to sheriffs, marshals, constables, and other officers of the peace The strictest compliance with legal forms and rules of service is ordinarily necessary if a warrant is to be effective.

War Relocation Authority: see RELOCATION CENTER

Warren, Charles, 1868–, American jurist, b Boston, grad. Harvard (B.A , 1889; M A , 1892). He was admitted to the Massachusetts bar in 1892 He was (1914-18) an assistant U S Attorney General and served as a special master in important cases decided by the U.S Supreme Court. He lectured at several universities, and in 1937 he became a member of the American Academy of Arts and Letters. Warren is noted for his scholarly studies of constitutional history, especially *The Supreme Court in United States History* (3 vols , 1922, rev ed., 2 vols., 1926). He also wrote *History of the American Bar, Colonial and Federal, to 1860* (1911), *Congress, the Constitution, and the Supreme Court* (1925, enl. ed., 1935), *The Making of the Constitution* (1928, 2d ed., 1931), *Congress as Santa Claus* (1932), and *Odd Byways in American History* (1942).

Warren, Earl, 1891–, American political leader, governor of California (1943–), b Los Angeles, grad Univ. of California law school, 1912. He was admitted (1914) to the bar, practiced in Oakland, Calif , and held several local offices He served (1939–43) as attorney general of California and was twice (1942, 1946) elected governor of the state In 1948 Warren was nominated for Vice President on the Republican ticket along with Thomas E. DEWEY, but was defeated See biography by Irving Stone (1945).

Warren, Gouverneur Kemble (gōvŭrnēr'), 1830–82, American army engineer, Union general in the Civil War, b Cold Spring, N Y , grad West Point, 1850 Assigned to the corps of topographical engineers, Warren assisted in the survey of the Mississippi delta and also engaged in surveying in the West In the Civil War he commanded a brigade of the Army of the Potomac in the campaigns of 1862, distinguishing himself particularly at Gaines's Mill in the Seven Days battles In the GETTYSBURG CAMPAIGN, Warren, who was then chief engineer, saved the Round Tops by promptly diverting troops to their defense, July 2, 1863 He was promoted major general of volunteers (Aug , 1863), temporarily commanded W S Hancock's 2nd Corps in the indecisive operations following Gettysburg, and was given (March, 1864) command of the 5th Corps He ably led that corps in the Wilderness campaign and in the fighting around Petersburg (1864–65), but at FIVE FORKS (April 1, 1865), Gen P H Sheridan, alleging dilatoriness on Warren's part, removed him from command A court of inquiry exonerated Warren in 1882 After the war he continued in the engineers corps *An Account of the 5th Army Corps* (1866) is his own vindication of his conduct See biography by E G Taylor (1932)

Warren, John, 1753–1815, American surgeon, b Roxbury, Mass , grad Harvard, 1771, brother of Joseph Warren A leading surgeon of his time in New England, he served in the Revolution and was a founder of the medical school at Harvard, where in 1782 he was appointed professor of anatomy and surgery His son, **John Collins Warren,** 1778–1856, b Boston, grad Harvard, 1797, taught at Harvard (1809–47), serving as dean of the medical school from 1816 to 1819 He was a founder and surgeon of the Massachusetts General Hospital, where he was the first in America to operate for strangulated hernia and where in 1846 he invited W T G Morton to demonstrate ether anesthesia He wrote *Surgical Observations on Tumours* (1837) The grandson of John Collins Warren was **John Collins Warren,** 1842–1927, b Boston, M D Harvard, 1866 He continued the family association at Harvard and Massachusetts General Hospital

Warren, Joseph, 1741–75, American Revolutionary patriot, b Roxbury, Mass , grad Harvard, 1759 He practiced medicine in Boston, and in the agitation over the Stamp Act (1765) he joined Samuel Adams in opposition to British policies He became a member of the Boston Committee of Safety and in 1774 presented to the convention at Milton the Suffolk Resolves, advocating forcible resistance to the British On the night of April 18, 1775, he dispatched William Dawes and Paul Revere to warn the patriots that the British were marching on Concord Warren was killed in the battle of Bunker Hill (1775) See biography by Richard Frothingham (1865).

Warren, Josiah, 1798–1874, American reformer and anarchist, b Boston An early follower of Robert Owen, he soon rejected the latter's political socialism, advocating instead anarchy based on "the sovereignty of the individual " He founded several "equity" stores, based on the idea of exchanging goods for an equivalent amount of labor and on the principle that cost should be the limit of price He also established three utopian colonies, the most successful (1851–c 1860) was Modern Times (now Brentwood), L I , N.Y The most important of his publications was *True Civilization* (1864, 5th ed., 1875) See biography by William Bailie (1906)

Warren, Mercy Otis, 1728–1814, American writer and patriot, b Barnstable, Mass , sister of James Otis and wife of James Warren She used her ready pen to write for the American cause—satirical plays, such as *The Adulateur* (1773) and *The Group* (1775), and propaganda poems Her *History of the Rise, Progress, and Termination of the American Revolution* (3 vols , 1805) was the first written by an American historian She was strongly anti-Federalist, and her comments on John Adams, who was an old friend, led to a rift which lasted five years. See biography by Alice Brown (1896)

Warren, Robert Penn, 1905–, American novelist and poet, b Guthrie, Ky., grad Vanderbilt Univ , 1925, M.A Univ of California, 1927. A Rhodes scholar, he received a degree from Oxford in 1930 At Vanderbilt, under the influence of John Crowe Ransom, he began writing poetry and became one of the group who made *Fugitive* an important literary organ Warren taught at Southwestern College, Memphis (1930–31), Vanderbilt Univ (1931–34) Louisiana State Univ (1934–42), and the Univ. of Minnesota (after 1942) He was an editor of the *Southern Review* until its demise in 1942 Collections of Warren's poetry appeared in 1935 and 1944. His novels are *Night Rider* (1939), a tragic and understanding story of the Kentucky tobacco war of 1905, *At Heaven's Gate* (1943), a skillfully written tale of violence, and *All the King's Men* (1946), whose hero is a prototype of Huey Long, characterized with humor and compassion *All the King's Men* won the 1947 Pulitzer Prize for fiction, it was made into a moving picture in 1949 A volume of short stories, *Circus in the Attic and Other Stories*, appeared in 1948

Warren, Samuel, 1807–77, English lawyer and author He wrote many legal texts, *Passages from the Diary of a Late Physician* (1832), and the extremely popular novel *Ten Thousand a Year* (1841)

Warren, Whitney, 1864–1943, American architect, b New York city, studied at the École des Beaux-Arts He began practice in New York in 1894 Later he joined with Charles D Wetmore in a firm which had one of the most extensive practices of its time and was known for the designing of large hotels. Warren and Wetmore's New York works include the Grand Central Terminal (1913), the New York Central office building, the Chelsea docks, and the Ritz-Carlton, Biltmore, Commodore, and Ambassador hotels After the First World War they were entrusted with the reconstruction of the historic library of the Univ of Louvain, Belgium, which had been thoroughly destroyed by the Germans

Warren. **1** City (pop 2,516), co. seat of Bradley co , S Ark , S of Pine Bluff, in a cotton area It has woodworking industries **2** Village (pop 1,119), NW Ill , near the Wis line, in a farm region, settled 1843, inc 1859 Apple River Canyon State Park is near by **3** Town (pop. 1,388), Huntington co , NE Ind , on the Salamonie river and SE of Huntington **4** Lumber town (pop 1,458), S Maine, W of Rockland, settled 1736, inc 1776 **5** Industrial town (pop 3,541), S central Mass , WSW of Worcester; settled 1664, inc 1742 as Western, named Warren 1834 **6** City (pop 1,639), co seat of Marshall co , NW Minn , on the Snake and NNW of Crookston, in a wheat-growing region, settled 1878, inc as a city 1891 **7** City (pop 42,387), co seat of Trumbull co , NE Ohio, in the fertile Mahoning valley NW of Youngstown, settled 1799, inc 1834 It is a steel center in a farm area Metal products, machinery, automobile parts, and commercial gases are made **8** Borough (pop 14,891), co seat of Warren co , NW Pa , S of Jamestown, N Y , laid out c 1795, inc 1832 It is in beautiful wooded country near gas and oil reserves Its manufactures include furniture, metal products, and oil products A Seneca village, Conewango, was situated here in 1749, it was burned by Colonel Brodhead in 1781 Growth was slow until lumbering began, and in 1860 there was an oil boom Warren was inundated by flood in 1947. **9** Town (pop 8,158), E R I , N of Bristol, transferred from Massachusetts to Rhode Island in 1746 Warren village, a port on an arm of Narragansett Bay, has commercial shellfishing Warren town has textile mills.

Warrensburg, city (pop. 5,868), co seat of Johnson co , W Mo., ESE of Kansas City, laid out 1835, inc as a town 1846, as a city 1855. It is in a farm area which has coal, sandstone, and clay deposits Central Missouri College is here

Warrensville Heights, village (pop 1,175), NE Ohio, near Cleveland, inc 1927

Warrenton. **1** City (pop 1,284), co seat (since 1797) of Warren co , E Ga , W of Augusta, inc as a town 1810, as a city 1908 There are several colonial-style houses Quarries are near by. **2** City (pop 1,254), co seat of Warren co , E Mo., WNW of St Louis Established early in the 19th cent , the city has been the county seat since 1835 The southeastern part of Warren co was settled by pioneers who followed Daniel Boone to Missouri, he lived, and was first buried, not far from Warrenton **3** Town (pop 1,147), co seat of Warren co , N N C , near the Va line NNE of Raleigh, inc. 1779 It is a manufacturing center in a cotton, corn, lumber, and tobacco region **4** City (pop 1,365), NW Oregon, W of Astoria and at the mouth of the Columbia, inc. 1899 It has fish canneries Point Adams coast guard station and Fort Stevens, U.S army station, are near. **5** Town (pop 1,651), N Va , NNW of Fredericksburg, in a rich farm area in the piedmont, settled in the 18th cent , inc 1810 The courthouse of Fauquier co is here Warrenton is a horse-breeding, racing, and fox-hunting center

Warrington, county borough (1931 pop 79,317, 1947 estimated pop 78,550), Lancashire, England, on the Mersey and on the Manchester Ship Canal E of Liverpool The site was occupied very early, the Church of St Elphin has a Saxon crypt, the grammar school dates from 1526, and there are several half-timbered houses A school of dissenters (1757–83) was taught for a time by Dr Priest-

ley. Manufactures include leather goods, cotton, soap, chemicals, steel, and glass

Warrior, coal-mining town (pop 1,008), N central Ala , N of Birmingham

Warrior Run, borough (pop 1,339), NE Pa , near Wilkes-Barre, inc 1895

Warroad (wŏ'rŏd), village (pop 1,309), NW Minn., on Lake of the Woods near the Canadian boundary, settled 1890, inc, 1901 It is a port of entry and a shipping center for fish and lumber

Warsaw (wôr'sô), Pol *Warszawa* (värshä'vä), city (1939 estimated pop 1,289,000, 1946 pop 478 755, 1948 estimated pop 566,000), capital of Poland, central Poland, on both banks of the Vistula The part of the city on the right bank is called Praga A commercial, industrial, and intellectual center, it was virtually destroyed in the Second World War, but by the spring of 1950 reconstruction had made remarkable progress Warsaw probably grew around a castle built (13th cent) by a duke of Masovia It became (15th cent) the capital of Masovia, after the fire (1595) of Cracow, until then the Polish capital, Warsaw took its place It temporarily fell to the Swedes under Charles X (1655 and again 1656) and to Charles XII (1702), was occupied by the Russians (1792 and 1794), and passed to Prussia in the third Polish partition (1795). Liberated (1806) by Napoleon I, who made it the capital of the grand duchy of Warsaw (see POLAND), the city was the scene of a diet (1812) which proclaimed the reestablishment of Poland, in 1813, however, it fell to the Russians, and in 1815 the Congress of Vienna awarded it to the Russian crown along with the theoretically autonomous kingdom of Poland Warsaw was then a city of many fine palaces, churches and public buildings It led the insurrection of 1830 against Russian domination but had to capitulate in 1831 In 1917 it became the seat of the German-sponsored regency council for Poland The successful Polish defense of Warsaw (1920), directed by the French general, MAXIME WEYGAND turned the tide of the Polish-Russian war In 1926 the city was the scene of the military coup which established Marshal Pilsudski's dictatorship During the Second World War 87 percent of Warsaw proper and 42 percent of Praga were destroyed Despite its stubborn resistance the city fell to the Germans on Sept 27, 1939 The Jewish ghetto, which the Germans completely isolated from the rest of the city, contained about 500,000 persons in 1942, in reprisal for Jewish armed resistance the Germans "liquidated" in a heavy battle (1943) the estimated 40,000 Jews who had survived, only about 200 Jews remained alive in Warsaw when it was liberated (Jan , 1945) by Russian troops The Russian entry had been preceded (Aug–Oct , 1944) by a 63-day battle between the Polish underground and the Germans, while the Russian army, across the Vistula, remained inactive This episode, said to have cost about 250,000 Polish lives, caused acrimonious recriminations between Russia and the Polish government in exile The decision to retain Warsaw as the national capital resulted in large-scale reconstruction work The UNIV OF WARSAW (founded in 1818) was reopened in 1945 The industries (mainly chemicals, automobiles, garments, and food) and commercial activities were revived The city of Warsaw constitutes a separate province (54 sq mi), it is also the capital of Warsaw prov (c 11,000 sq mi , pop 2,114,415), an agricultural lowland The chief cities are Plock, Pruszkow, and Zyrardow

Warsaw (wôr'sô) **1** City (pop 1,895), W Ill , on the Mississippi just below Keokuk, Iowa, in a farm area, laid out 1834, inc 1837 **2** City (pop 6 378), co seat of KOSCIUSKO CO , NE Ind , SE of South Bend, settled c 1836, inc 1854 Automotive and aircraft products are made here In a region of lakes, it is a resort center **3** Village (pop 3,554), co seat of Wyoming co , W N Y , S of Batavia, in a farm region, settled 1803, inc 1843 Elevators and various other products are made here **4** Town (pop 1,483), E N.C , S of Goldsboro, in a truck-farm area

warship, any ship used for war or national defense Warships are classified as battleships, aircraft carriers, cruisers (battle cruisers, armored cruisers, light cruisers), destroyers, submarines, gunboats, and various auxiliary craft such as mine layers and tenders The forerunner of the modern battleship was the line-of-battle ship (ship of the line) It was heavily armed, often with as many as 100 guns, and fought in the front line of battle Until c.1860 warships were built of wood. Then they were protected with wrought-iron plates (ironclads). The first battle between two ironclads was that between *Monitor and Merrimac* at Hampton Roads in March 1862 The type of ironclad known as the MONITOR became popular By 1872 the French were building iron and steel warships, and in 1876 the British started construction of two all-steel war vessels Continuing development saw an increase in armor and improvement in range, size, and accuracy of armament In 1905 the British *Dreadnought* was built, introducing the "all-big-gun" class of battleship (see DREADNOUGHT) She was armed with ten 12-inch guns and was powered by steam turbines Ships of this type were built by most of the great powers In 1922 the Washington Conference on limitation of naval armaments (see NAVAL CONFERENCES) forbade a higher tonnage than 35,000 tons and guns heavier than the 16-inch caliber This agreement was later disregarded, and heavier ships were built In 1944 the U S S *Missouri* (displacement 53,000 tons, main armament nine 16-inch guns), was launched. The battleship as a weapon of war has frequently been said to have been made obsolete upon the introduction of new weapons The self-propelled TORPEDO of the 1880s, the SUBMARINE of the First World War, and later aerial bombing and torpedoing were seen as unbeatable antibattleship weapons But smaller secondary guns and the DESTROYER met the challenge of the TORPEDO BOAT, depth bombs proved an answer to submarines, and increased armor and anti-aircraft guns defended the battleship from air attack The battleship is today still in use, and in combat it is protected by a screen of lesser ships guarding against air and submarine attack The aircraft carrier, with long range aircraft, has taken over much of the heavy assault work formerly done by battleships, but the carrier's advantage in offensive range may possibly be nullified if battleships are equipped with large-caliber, rocket-powered, guided missiles

Warszawa, Poland see WARSAW

wart, pigmented outgrowth of the epidermis of the skin, in which the papillae of the skin are enlarged Warts are believed to be caused by a virus, and they occur in various forms, they may be flat, raised, threadlike, or hornlike and either single or multiple They frequently form on the hands of children Under the direction of a doctor certain chemicals, e g , trichloroacetic acid, can be employed in the removal of some warts, and electrocauterv is a means of removing other kinds Sometimes they disappear without treatment

Warta (vär'tä), Ger *Warthe* (vär'tu), river of central Europe It rises 35 mi NW of Cracow (Poland) and flows 492 mi NW past Czestochowa, Poznan, and Landsberg into the Oder at Küstrin (Brandenburg) It is navigable for about half its length, its tributary, the Notec, indirectly connects it with the Vistula

Wartburg (vart'bŏŏrk), famed castle near Eisenach, Thuringia, central Germany Built c 1070, later enlarged, and renovated in the 19th cent , it was the seat of the medieval landgraves of Thuringia It was the scene in 1207 of the *Sangerkrieg*, a contest of minnesingers in which Heinrich von Ofterdingen, Wolfram von Eschenbach, and Walther von der Vogelweide took part and which forms part of the action of Wagner's *Tannhäuser* St Elizabeth of Hungary lived here until 1227 In 1521 Martin LUTHER was brought to the castle for his protection by the elector of Saxony, and here he completed his translation of the New Testament The spot on the wall of Luther's study where Luther threw an inkpot at a vision of the devil is still shown to visitors In 1817 German students met at the Wartburg to protest against the reactionary policies of the German Confederation, they founded the united German BURSCHENSCHAFT

Warton, Joseph, 1722–1800, English critic and poet, educated at Winchester and Oxford He took holy orders (1744) and served several cures *The Enthusiast,* an early example of romantic nature poetry, appeared in 1744 and was followed in 1746 by a volume of odes The notes and essays appended to his edition of Vergil (1753) won favor and led to his contributing several critical essays (1753–56) to Hawkesworth's *Adventurer* He became second master at Winchester in 1755 and advanced to the headmastership in 1766 In 1756 came the first volume of his chief work, *An Essay on the Genius and Writings of Pope,* which adversely criticized the classical tendencies of 18th-century poetry as opposed to the more romantic aspects of Elizabethan verse The second volume appeared in 1782, and a nine-volume edition of Pope in 1797 He achieved a reputation as a literary critic, posterity, however, remembers him as a leader of the romantic revival in literature See Eric Partridge, ed , *The Three Wartons: a Choice of Their Verse* (1927)

Warton, Thomas, 1728–90, English poet and literary historian, grad Oxford, 1747, brother of Joseph Warton He took holy orders and held several livings, meanwhile serving as a university tutor He early began to write verse. *The Pleasures of Melancholy* (1747) was followed by *The Triumphs of Isis* (1749), a poem in praise of Oxford, and *Newmarket a Satire* (1751) He contributed to college miscellanies and edited *The Oxford Sausage* (1764), an anthology of Oxford wit His reputation for learning was established by his *Observations on the Faerie Queene of Spenser* (1754). In 1757 he became professor of poetry at Oxford and began work on *The History of English Poetry* (1774–81) It was variously received, but modern scholars agree that it was a masterly job, which, though unfinished and superseded by later discoveries, is still extremely valuable. With Percy's *Reliques* it was one of the major influences in awakening interest in medieval poetry and history. In 1782 Warton entered the controversy over the "Rowley Poems" (see CHATTERTON and TYRWHITT), contending that they were modern forgeries In 1785 he was made professor of history at Oxford, succeeded William Whitehead as poet laureate, and brought out an excellent critical edition of Milton's shorter poems See biographies by W. P Ker (1911) and Clarissa Rinaker (1916), study by Edmund Gosse (1915), Eric Partridge, ed , *The Three Wartons a Choice of Their Verse* (1927).

Warwick, Guy de Beauchamp, earl of (bē'chŭm, wŏ'rĭk), d. 1315, English nobleman, of a distinguished family He was active in Edward I's campaigns in Scotland Foremost opponent of Piers GAVESTON, he was a leader of the barons who demanded (1310) of EDWARD II that the lord ordainers be appointed Warwick himself became one, procured Gaveston's banishment, and was largely responsible for his death in 1312, although Warwick took no part in the actual execution

Warwick, John Dudley, earl of: see NORTHUMBERLAND, JOHN DUDLEY, DUKE OF

Warwick, Richard de Beauchamp, earl of (bē'chum), 1382–1439, English nobleman The son of Thomas de Beauchamp, earl of Warwick, whom he succeeded in 1401, he fought against Owen Glendower in Wales and the Percys at Shrewsbury (1403) for Henry IV In 1408 he set out for the Holy Land, visiting monarchs and fighting in a tournament en route and making a similarly active return trip through Russia, Poland, and Germany After his return (1410), Beauchamp executed several missions for Henry V, including that as chief English envoy to the Council of Constance (1414), and he fought with notable success in France For capturing Aumale, Normandy, he was made duke of Aumale From 1429 he served as tutor and guardian to the young Henry VI until he was made (1437) lieutenant of France and Normandy, a position he held for the remaining two years of his life Richard de Beauchamp was a man of piety and courtesy and was famed throughout Europe as a chivalric knight His daughter Anne married, and brought the earldom to, Richard Neville, earl of WARWICK

Warwick, Richard Neville, earl of (nĕ'vĭl), 1428–71, English nobleman, called the Kingmaker The grandson of Ralph Neville, earl of WESTMORLAND, and thus connected with the house of Lancaster, he was also the nephew of Cecily Neville, wife of Richard, duke of YORK Through his wife, Anne de Beauchamp, he inherited the earldom of Warwick and the huge Beauchamp estates in Warwick Thus by virtue of his family and lands, Warwick was from youth the most powerful noble in England and the principal baronial figure in the Wars of the Roses With his father, the earl of Salisbury, Warwick supported Richard of York in his protectorship of HENRY VI (1453–54) and took up arms when Richard lost his office He was largely responsible for the Yorkist victory at the first battle of St Albans (1455) and was appointed to the strategic post of governor of Calais In 1459 fighting broke out anew, and York, Salisbury, and Warwick were forced to flee the country In 1460 they returned, the king was captured at the battle of Northampton, and York was made successor to the throne The queen, Margaret of Anjou, raised an army in the north, defeated and killed Richard and Salisbury at Wakefield (1460), and defeated Warwick and recaptured Henry at the second battle of St Albans (1461) But Richard's son, Edward won the battle of Mortimer's Cross (1461), entered London, and was proclaimed king as EDWARD IV Henry and Margaret were decisively defeated at Towton (1461) and Edward was crowned Warwick was now the principal man in England, and the Nevilles received all favors, but Edward resented the earl's domination In the midst of negotiations by Warwick to marry Edward to Bona of Savoy, the sister-in-law of Louis XI of France, the king announced that he had secretly married Elizabeth Woodville (1464) Edward now favored a Burgundian alliance against France, the Woodvilles received favor, and Warwick was in disgrace He formed an alliance with the king's brother George, duke of CLARENCE, to whom he married his daughter Isabel against Edward's orders They began to stir up insurrections In 1469 Warwick and Clarence captured Edward and regained power In 1470, however, Edward accused the two of treachery, and they fled to France Louis XI now persuaded Warwick and Queen Margaret to compose their differences, and Warwick invaded England as a Lancastrian (1470) Edward fled and Henry VI was restored. Within six months Edward secured Burgundian aid, relanded in England, and was joined by Clarence The king and Warwick met in battle at Barnet, and the earl was defeated and was slain in fight Although an able diplomat and a man of great energy, Warwick owed much of his greatness to his birth and marriage. He has been called "the last of the barons" because he represented the great noblemen in open opposition to the crown By the marriage of his daughter Isabel to Clarence and the marriage after his death of his daughter Anne to the duke of Gloucester, later Richard III,

all of Warwick's property went to the royal house. See Charles Oman, *Warwick the Kingmaker* (1893)

Warwick, Thomas de Beauchamp, earl of (bē'chum), d 1401, English nobleman, of an ancient and powerful family He was one of the lords appointed by the Good Parliament of 1376 to inquire into the government and was later one of the governors of the young RICHARD II As Richard assumed power, Warwick joined the barons who opposed the acts of Richard's favorite courtiers and was one of the lords appellant (1387) who accused them of treason and curbed Richard's power When Richard resumed control (1389), Warwick retired to his estates until his sudden arrest for treason in 1397 He was imprisoned in the Tower of London (in the Beauchamp Tower, named for him) until the accession of Henry IV, when he was released

Warwick, county, England see WARWICKSHIRE

Warwick (wŏr'ĭk, wŏr'wĭk), town (pop 7,130), Queensland, Australia, on the Condamine river and SW of Brisbane It is a rail center in a fruitgrowing region

Warwick (wŏr'wĭk, wŏ'rĭk), village (pop 1,504), SE Que, S of Victoriaville It has woolen and woodworking mills and makes plastics

Warwick (wŏ'rĭk), municipal borough (pop 13,459), co seat of Warwickshire, England, on the Upper Avon and SE of Birmingham Above the river, on a rocky hill, Æthelflæd, daughter of King Alfred, built a castle in 915 Of the present occupied structure, Caesar's Tower, 147 ft high, is the oldest part The parliamentarians successfully defended the castle in 1642 The Warwick Vase, found in Hadrian's villa at Tivoli, is in the castle, which has other famous antiquities and art works St Mary's Church dates partly from the 12th cent, partially burned in 1694, it was rebuilt by William Wilson, a pupil of Wren The Beauchamp Chapel (1443–64) is noteworthy In the church are monuments to Richard Beauchamp, earl of Warwick, to his countess, and to Robert Dudley, earl of Leicester (founder of Leycester Hospital, 1571, a half-timbered building), and a Norman crypt The east and west gates, each with a chapel, remain of the town walls Walter Savage Landor was born in Warwick A racing meet is held in the spring The borough has farm trade and manufactures of furniture, farm implements, and gelatin

Warwick (wŏr'wĭk, wŏ'rĭk) **1** Village (pop 2,534), SE N Y, near the N J line SW of Newburgh, settled c 1743, inc 1867 A state training school for boys is here **2** City (pop 28,757), central R I, S of Providence, inc as a city 1931 That area, the Shawomet of the Indians, was settled by Samuel Gorton in 1642 and incorporated as a town in 1644 Its villages include Apponaug (administrative center, on Greenwich Bay), Hillsgrove (site of the state airport), Warwick, and several resorts Warwick village was nearly destroyed (1676) in King Philip's War The town's textile industry dates from 1794 Gaspee Point S of Pawtuxet, was the scene of the burning of the *Gaspee* in 1772 Nathanael Greene was born in Warwick The Gov William Greene House in Warwick village dates from the 17th cent

Warwickshire (wŏ'rĭkshĭr) or **Warwick,** inland county (983 sq mi, 1931 pop 1,535,007, 1948 estimated pop 1,821,170), central England The terrain is gently rolling, with outcroppings of the Cotswold Hills in the south The Upper Avon, flowing southwesternly, is the chief river There are vestiges of the ancient Forest of Arden The region is a varied one, largely given to pastoral (sheep raising) and agricultural pursuits, but also containing the great industrial centers of Birmingham and Coventry (which suffered some of the heaviest air attacks on Britain in the Second World War) There are coal deposits in the northeast and deposits of iron ore, limestone, and fireclay. One of England's most famous public schools is at Rugby. There are numerous traces of Roman occupation, ecclesiastical remains, such as the abbeys of Merevale and Stoneleigh, and the ruins of Kenilworth Castle Warwick Castle is largely intact The manor at Compton Wynyates is one of the finest surviving pieces of Elizabethan architecture The county is rich in literary associations Shakspere's birthplace at Stratford-on-Avon, with the great Memorial Theater, is one of England's most popular literary shrines See *Victoria History of Warwick* (5 vols, 1904–49), Arthur Mee, *Warwickshire* (1936)

Wasatch Range (wŏ'săch), part of the Rocky Mts, extending from Idaho S to central Utah Most of the important cities of Utah lie just west of the range The highest point is Mt Timpanogos (12,008 ft), near Provo

Waseca (wŏsē'kŭ, wŏ'-), city (pop 4,270), co seat of Waseca co, SE Minn, N of Albert Lea, in a farm and dairy region on Clear Lake, settled before 1870 A state university experiment station and demonstration farm is here

Wash, the, estuarine inlet of the North Sea, 20 mi. long and 15 mi wide, between Lincolnshire and Norfolk, England It receives the Witham, Welland, Nene, and Ouse rivers It is mostly shallow with low, marshy shores, and navigation is impeded by sandbanks.

Wa-Sha-Quon-Asin: see GREY OWL.

Washburn, Cadwallader Colden. see WASHBURN, ISRAEL.

Washburn, Charles Ames: see WASHBURN, ISRAEL

Washburn, George, 1833–1915, American Congregational missionary and educator. In 1856 he was sent to Turkey, and he was later a professor, acting president (1871–77), and president (1877–1906) of Roberts College, Constantinople He became an authority on Turkish and Balkan affairs His memoirs were published in 1909.

Washburn, Israel, 1813–83, U S Representative (1851–61) and governor of Maine (1861–62) The oldest of the politically prominent Washburn brothers, all born in Livermore, Maine, Israel was admitted to the bar in 1834 and later served in the Maine legislature As a Congressman he had a large part in founding the Republican party after the passage of the Kansas-Nebraska Bill in 1854 and is one of those credited with having suggested its name He was an efficient chief executive of Maine in the first two years of the Civil War and later was collector of the port of Portland for some 15 years See Gaillard Hunt, *Israel, Elihu and Cadwallader Washburn* (1925) His brother, **Cadwallader Colden Washburn,** 1818–82, was a U S Representative (1855–61, 1867–71) and governor of Wisconsin (1872–74) In 1842 he began to practice law at Mineral Point, Wis In the Civil War, Washburn, a Republican, left Congress for the army, served in most of the Western campaigns, and at the war's end was a major general of volunteers commanding the Dept of Western Tennessee at Memphis After two post-war terms in Congress and one term as Wisconsin's chief executive, Washburn, who had made a fortune in land, devoted himself to his many industrial affairs He was one of the nation's leading flour manufacturers The Washburn Observatory at the Univ of Wisconsin was one of his philanthropic gifts A third brother, **Charles Ames Washburn,** 1822–89, was graduated from Bowdoin College in 1848 After being admitted to the bar in Mineral Point, Wis, he moved to California, where he became editor and then owner of the San Francisco *Alta Californa* and later editor and proprietor of the San Francisco *Daily Times* A founder of the Republican party in that state, he was appointed (1861) commissioner to Paraguay by President Lincoln and held ministerial rank there from 1863 to 1868 In the War of the Triple Alliance, Washburn undoubtedly conspired against President Francisco Solano LÓPEZ and was forced to escape on the U S gunboat *Wasp* His actions helped to make Latin Americans long distrustful of U S diplomats He wrote *The History of Paraguay* (1871) Elihu B WASHBURNE was another brother

Washburn. 1 Lumber town (pop 1,805), NE Maine, on the Aroostook and NW of Presque Isle, settled c 1829, inc 1861 **2** City (pop 2,363), co seat of Bayfield co, N Wis, on Chequamegon Bay of Lake Superior and N of Ashland, founded 1884, inc 1904 It is a trade center for a dairy, lumber, and fruit region There is a ranger station A state fish hatchery is near Washburn

Washburne, Elihu Benjamin, 1816–87, U S Representative (1853–69) and diplomat, b Livermore, Maine, brother of Israel WASHBURN and also of Cadwallader C and Charles A Washburn On leaving home in 1830 he added an "e" to his family name Admitted to the bar in Massachusetts, he opened (1840) his law practice in Galena, Ill In Congress he became a radical Republican noted for his efforts to limit expenses Washburne had promoted the fortunes of Ulysses S Grant early in the Civil War, and when Grant became President he made his benefactor Secretary of State, although Washburne was completely unqualified for that important post However, he resigned almost immediately to become minister to France (1869–77) In the Franco-Prussian War, he remained in Paris, the only diplomat there, and made the U S legation a refuge during the siege of the city and the subsequent period of the Commune of Paris Washburne later lived in Chicago See his *Recollections of a Minister to France, 1869–1877* (1887), Gaillard Hunt, *Israel, Elihu, and Cadwallader Washburn* (1925)

Washburn Municipal University: see TOPEKA, KANSAS

Washington, Booker Taliaferro, c 1858–1915, American Negro educator, b Franklin co, Va His mother was a mulatto slave on a plantation, his father a white man After the Civil War, he worked as soon as he was old enough in salt furnaces and coal mines in Malden, W Va, until he was able to make his way to Hampton Institute and by janitor service pay for three years of study (1872–75) He then taught at Malden before studying at Wayland Seminary, Washington, D C Appointed an instructor at Hampton Institute in 1879, he was given charge of the training of 75 Indians, under the guidance of Gen S C Armstrong, and he later developed the night school In 1881 he was chosen to organize a school for Negroes at TUSKEGEE, Ala As principal of Tuskegee Institute he became a notable factor in education, expanding and developing the institution with wisdom and foresight, emphasizing the importance of industrial training to produce real efficiency and independence for the Negro He traveled and lectured in the interests of his work, both in the United States and in Europe, being counted among the ablest public speakers of his time In 1892 the Tuskegee Conference was founded He was the organizer of the National Negro Business League in 1900 He received honorary degrees from Dartmouth and Harvard Among his many published works are his admirable autobiography, *Up from Slavery* (1901), *The Future of the American Negro* (1899), *Tuskegee and Its People* (1905), *Life of Frederick Douglass* (1907), *The Story of the Negro* (1909), and *My Larger Education* (1911) See E J Scott and L B Stowe, *Booker T Washington Builder of a Civilization* (1916), E D Washington, ed, *Selected Speeches of Booker T Washington* (1932), Basil Mathews, *Booker T Washington Educator and Interracial Interpreter* (1948)

Washington, Bushrod, 1762–1829, American jurist, b Westmoreland co, Va, nephew of George Washington He was an original member of Phi Beta Kappa at the College of William and Mary, where he was graduated in 1778 Having served (1780–82) in the American Revolution, he was a member of the Virginia house of delegates and of the Virginia convention that adopted (1788) the Constitution In 1798 he was appointed Associate Justice of the Supreme Court Bushrod Washington was executor of George Washington's estate and aided John Marshall in writing his biography of Washington He helped organize the American Colonization Society in 1816

Washington, George, 1732–99, first President of the United States (1789–97), commander in chief of the Continental army in the American Revolution, called the Father of His Country He was born on Feb 22, 1732 (Feb 11, 1731/32, O S), the first son of Augustine Washington and his second wife, Mary Ball Washington, on the family estate (later known as WAKEFIELD) on Pope's Creek, an affluent of the Potomac, in Westmoreland co, Va The Ancestral home of the Washingtons was SULGRAVE MANOR, Northamptonshire, England, but they had been in Virginia since 1656 or 1657, when John Washington, son of Lawrence Washington, an Oxford-educated Anglican clergyman, emigrated from England The Washingtons had played a modest role in the development of the Northern Neck, the vast proprietary between the Rappahannock and Potomac rivers, and George's father, Augustine, grandson of John, was a moderately well-to-do planter Augustine (Gus to his friends) had altogether 10 children, four by his first wife, Jane Butler, and six by his second wife, George's mother George was closest to (indeed he idolized) his half brother Lawrence, Augustine's eldest son Lawrence was educated in England, as Augustine himself had been, and George first met him on his return to Virginia c 1738 The fact that Lawrence served as a captain in the Virginia contingent that took part in Admiral Edward Vernon's unsuccessful expedition (1741) against Cartagena, New Granada (now Colombia), made him all the more a hero in George's eyes For his part, Lawrence became a wise and affectionate counselor to the boy and a second father to him after the death of their father in 1743 Of George's own meager education nothing is known, but it may be assumed that between his 7th and 11th years he received as good a schooling as could be had in the neighborhood of his home Augustine's will provided amply for his widow and his sons Lawrence, being the eldest, naturally received the largest share and added to his fortune by marrying (1743) Anne (or Nancy) Fairfax, daughter of Col William Fairfax, the cousin and agent of the mighty proprietor of the Northern Neck (see FAIRFAX, THOMAS FAIRFAX, 6TH BARON) This union was as advantageous for George as it was for Lawrence, for it allied him with one of the most powerful families of Virginia, a connection which largely shaped his career Next to Lawrence himself the kindly Colonel Fairfax was the most important influence in George's early life Lawrence urged that George pursue a maritime career, but Mary Washington, possessive of her first-born, vetoed this idea By 1747 George, now 15 and adept at simple mathematics, was earning small fees by surveying, and the next year he was invited to go with the party that was to survey Baron Fairfax's lands W of the Blue Ridge His mother, surprisingly, gave him permission This was an important milestone in his life, for it marked his first long journey from home and his first contact with the frontier In 1749 he was appointed to his first public office, surveyor of newly created Culpeper co, and through Lawrence he became interested in the OHIO COMPANY, which had as its object the exploitation of Western lands He accompanied (1751–52) his beloved half brother to Barbados in an attempt to restore Lawrence's failing health There George survived a siege of smallpox and was thus rendered immune to the disease that plagued his troops in the Revolution However, Lawrence, shortly after his return to his MOUNT VERNON home, succumbed (July, 1752) at the age of 34 or 35 to tuberculosis.

George was one of the executors of his estate, part of which he inherited He also inherited part of Lawrence's duties as adjutant of the colony, an office divided among four men after Lawrence's death. As district adjutant, which made (Dec , 1752) him Major Washington, he was charged with training the militia in the quarter assigned him. For a young man not yet 21 he had come forward rapidly, and he was intensely ambitious to go even farther Washington first gained public notice late in 1753 when he volunteered to carry a message from Gov Robert DINWIDDIE of Virginia to the French moving into the Ohio country, warning them to quit this territory claimed by the British king On this mission (Nov , 1753–Jan , 1754) to Fort Le Bœuf (on the site of present Waterford, Erie co , Pa), Washington had the valuable services of the experienced frontiersman Christopher GIST In delivering the message Washington learned that the French were planning a further advance, and so, hastening back to Virginia, he was commissioned lieutenant colonel by Dinwiddie and set out with c 400 men to reinforce the post at the junction of the Allegheny and Monongahela rivers (see DUQUESNE, FORT) which Dinwiddie had ordered built The French, however, captured the post before he could reach it, and on hearing that they were approaching in force Washington retired to the Great Meadows to build (July) an entrenched camp (see NECESSITY, FORT) Late in May he had won his first military victory (and his colonelcy), when he surprised (through the intelligence of his Indian allies) a small body of French troops The French soon avenged this defeat, overwhelming him with a superior force at Fort Necessity on July 3, 1754 "I went out, was soundly beaten," he dejectedly reported He surrendered on easy terms on July 4 and returned to Virginia with the survivors of his command These battles marked the beginning of the last of the French and Indian Wars in America, in which Washington was to figure further As an aide to Edward BRADDOCK he acquitted himself with honor in that general's disastrous expedition against Fort Duquesne in 1755 After that debacle he was appointed commander in chief of the Virginia militia to defend the frontier, and in 1758 he commanded one of the three brigades in the expedition headed by Gen John FORBES which took an abandoned Fort Duquesne With this episode his pre-Revolutionary military career ended He had learned much, but hardly everything that a good officer must know Now, late in 1758, a tall (6 ft.), well-built, strong young man of nearly 27 years, he returned his Virginia commission and began a new life. He was neither the prig, the paragon, nor the awesome figure that earlier biographers pictured Rather he was "an immensely vital and definitely emotional young man " Moral, just, patient, and amiable, he was also fiercely ambitious, lacking in humor, obstinate, acquisitive, and extremely sensitive—a complicated personality He was in love with Sally (Sarah Cary) Fairfax, the wife of George William Fairfax, his neighbor, friend, and son of his patron, the colonel This he told her after he had already become engaged to the young, rich widow, Martha Dandridge Custis There was nothing illicit in their relationship, though it might have caused some scandal had not the discreet Sally been a lady of character equal to his own This interesting episode, however, passed quickly, and the marriage of George and Martha Washington was a long and happy one He took his bride and her children to Mt Vernon and there settled down to the life of a Virginia gentleman He was a member (1759–74) of the house of burgesses, became a leader in Virginian opposition to the British colonial policy, and served (1774–75) as a delegate to the Continental Congress After the American Revolution broke out at Concord and Lexington, the Congress organized for defense, and largely through the efforts of John ADAMS, Washington was named (June 15, 1775) commander in chief of the Continental forces. He took command (July 3, 1775) at Cambridge, Mass , and found not an army but a force of unorganized, poorly disciplined, short-term enlisted militia, officered by men who were often insubordinate He was faced with the problem of holding the British at Boston with a force which had to be trained in the field, and he was constantly hampered by congressional interference Washington momentarily overcame these handicaps with the brilliant strategical move of occupying Dorchester Heights, forcing the British to evacuate Boston on March 17, 1776 Political expediency compelled him to attempt to defend New York city with a poorly equipped and untrained army against a large British land and sea force commanded by Sir William HOWE He was not yet experienced enough to conduct a large-scale action, and he committed a military blunder by sending part of his force to Brooklyn, where it was defeated (see LONG ISLAND, BATTLE OF) and surrounded With the British fleet ready to close the only escape route, Washington saved his army with a masterly amphibious retreat across the East River back to Manhattan Seeing that this new position was completely untenable, he began a retreat northward into Westchester co., which was marked by delaying actions at Harlem Heights and White Plains and by the treacherous insubordination of Charles LEE The retreat continued across the Hudson through New Jersey into Pennsylvania, as Washington learned military skill through errors. With colonial morale at its lowest ebb, he invaded New Jersey On Christmas night, 1776, he heroically crossed the Delaware, surrounded and defeated the British at Trenton, and pushed on to Princeton (Jan 3, 1777), where he defeated a second British force In 1777 he attempted to defend Philadelphia but was defeated at the battle of BRANDYWINE (Sept 11). His carefully planned counterattack at GERMANTOWN (Oct 4, 1777) went awry, and with this second successive defeat certain discontented army officers and members of Congress tried to have Washington removed from command. Horatio GATES was advanced as a likely candidate to succeed him, but Washington's prompt action frustrated the so-called CONWAY CABAL After Germantown, Washington went into winter quarters at VALLEY FORGE. Seldom in military history has any general faced such want and misery as Washington did in the winter of 1777–78 His essential greatness matched every problem, and in the spring he emerged with increased powers from Congress and a well-trained striking force, personally devoted to him, this Baron von STEUBEN and the marquis de LAFAYETTE had helped him to create The attack (June 28, 1778) on the British retreating from Philadelphia to New York was vitiated by the actions of Charles Lee, but Washington's arrival on the field prevented a general American rout (see MONMOUTH, BATTLE OF) However, the fortunes of war soon shifted in favor of the patriot cause with the arrival (1780) of French military and naval forces The masterly strategy of Nathanael GREENE, ably supported by Henry (Light-Horse Harry) LEE and Daniel MORGAN in the South, helped heighten colonial morale Their CAROLINA CAMPAIGN paved the way for the YORKTOWN CAMPAIGN and the final victory, as CORNWALLIS surrendered to Washington on Oct 19, 1781 Washington made the American Revolution successful not only by his personal military triumphs but also by his skill in directing other operations, such as the SARATOGA CAMPAIGN At the war's end he was the most important man in the country. He retired from the army (at Annapolis, Md , Dec 23, 1783), returned to Mt Vernon, and in 1784 journeyed to the West to inspect his lands there Dissatisfied with the weakness of the government (see CONFEDERATION, ARTICLES OF), he soon joined the movement intent on reorganizing it In 1785 commissioners from Virginia and Maryland met at Mt Vernon to settle a dispute concerning navigation on the Potomac This meeting led to the Annapolis Convention (1786) and ultimately to the FEDERAL CONSTITUTIONAL CONVENTION (1787). Washington presided over this last convention, and his influence in securing adoption of the CONSTITUTION OF THE UNITED STATES is incalculable After a new government was organized, Washington was unanimously chosen the first President and took office (April 30, 1789) in New York He was anxious to establish the new national executive above partisanship, and he chose men from all factions for the administrative departments Thomas JEFFERSON (a liberal) became Secretary of State, and Alexander HAMILTON (a conservative) Secretary of the Treasury Washington's poise, prestige, and dignity and the establishment of a formal republican court made the new government respected at home and abroad Washington demonstrated his belief in the nationalism of his office by traveling through the country, receiving local leaders in a manner befitting the head of a great nation Many precedents were set, thus in the matter of the Indian treaties, the contretemps between President and Senate resulted in the lasting interpretation of the "advice and consent" of the Senate as the right of that body to approve or disapprove the President's action, but never to give him formal advice before the fact His efforts to remain aloof from partisan struggles were not successful He approved of Hamilton's nationalistic financial measures, and though he was by no means a tool in the hands of the Secretary of the Treasury, he consistently supported conservative policies In the Anglo-French war (1793) he decided against Jefferson, who favored fulfilling the 1778 military alliance with France, and he took measures against GENÊT Jefferson left the cabinet, and despite Washington's efforts to preserve a political truce the Republican party (later the DEMOCRATIC PARTY) and the FEDERALIST PARTY were definitely organized. Washington was unanimously reelected (1793), but his second administration was Federalist, bitterly criticized by Jeffersonians, especially for JAY'S TREATY with England. Washington was denounced as an aristocrat and an enemy of true democratic ideals. The WHISKY REBELLION and trouble with the Indians, British, and Spanish in the West offered serious problems The crushing of the rebellion, the defeat of the Indians by Anthony WAYNE at Fallen Timbers, and the treaty Thomas PINCKNEY negotiated with Spain settled some of these troubles. Foreign affairs remained gloomy, however, and Washington, weary with political life, refused to run for a third term. This set another precedent, which was continued until Franklin D Roosevelt broke it in 1940. Washington's *Farewell Address* (Sept 17, 1796), a monument of American oratory, contained the famous passage warning the United States against "entangling alliances" with foreign powers. Washington returned to Mt Vernon, but when war with France seemed imminent (1798) he was offered command of the army War, however, was averted. He died (Dec 14, 1799), "first in war, first in peace, and first in the hearts of his countrymen," and was buried on his estate There are many portraits and statues of Washington, among them the familiar, idealized portraits by Gilbert Stuart, the statue by Jean Antoine Houdon, who also executed the famous portrait bust from a life mask; and paintings by Charles Wilson Peale, John Trumbull, and John Singleton Copley. The national capital is named for him, one state, several colleges and universities, and hundreds of counties, towns, and villages of the United States bear his name Wakefield and Mt. Vernon are national shrines The definitive edition of Washington's writings (39 vols , 1931–44) was edited by John C Fitzpatrick His journals—that of his Barbados journey (1892), that of his journey to the West (1905), the diaries (ed by John C Fitzpatrick, 4 vols , 1925)—all included in the definitive edition, were also edited separately An old standard edition of his writings is that by Worthington C Ford (14 vols , 1889–93), and Saxe Commins edited a one-volume selection, *Basic Writings* (1948) There have been innumerable editions of his *Farewell Address* and many separate editions of others of his works His figure has bulked large in drama, poetry, fiction, and essays in American literature There have been a great many studies of phases and incidents of his career and a continual stream of biographies, but it was only in 1948 with the publication of the first two (of six projected) volumes (carrying events down to 1758) of *George Washington a Biography*, by Douglas Southall Freeman, that a definitive biography began to appear The biography (2 vols , 1940) begun by Nathaniel W Stephenson and completed by Waldo H Dunn is full and eminently useful The early biography by "Parson" M. L Weems is chiefly important because it contained many of the now famous Washington legends, such as that of the cherry tree Biographies of Washington by eminent men of another day would include those by John Marshall, Jared Sparks, Washington Irving, and Woodrow Wilson Among the shorter biographies are those by P. L Ford (1896), W C Ford (1910), John Corbin (1930), L M Sears (1932), and J C Fitzpatrick (1933) See also T G Frothingham, *Washington, Commander in Chief* (1930), G A Eisen, *Portraits of Washington* (3 vols , 1932); C H Ambler, *George Washington and the West* (1936), E S Whitely, *Washington and His Aides-De-Camp* (1936), Bernard Knollenberg, *Washington and the Revolution* (1940)

Washington, Martha, 1731–1802, wife of George Washington, b New Kent co , Va The daughter of John and Frances Jones Dandridge, she first married (1749) Daniel Parke Custis On his plantation "White House" on the Pamunkey river they lived "a happy and opulent life " She bore him four children, but the first two died in childhood Custis himself died in July, 1757, leaving Martha one of the wealthiest ladies in Virginia Washington first met her as early as March, 1758, lost no time in proposing, and was just as quickly accepted They were married in Jan , 1759, and Washington took Martha and his ready-made family, John Parke Custis (d 1781) and Martha Parke Custis (d 1773), to his MOUNT VERNON estate They had no children of their own, but John Parke Custis had four, and after his death Washington adopted the youngest two, Eleanor Parke Custis and George Washington Parke Custis, whose daughter married Robert E Lee Martha Washington had much besides wealth to commend her, being noted for her great common sense, her charm, and her aristocratic graciousness As represented in the well-known portrait by Gilbert Stuart, she was also a woman of considerable beauty. See biographies by A. H Wharton (1897) and A C Desmond (1942), D S Freeman, *George Washington*, Vol. II (1948)

Washington, Mary (Ball), 1708?–1789, mother of George Washington, b "Epping Forest," Lancaster co , Va She became (1730) Augustine Washington's second wife George was the eldest of her four children

Washington, state (68,192 sq mi , 1940 pop. 1,736,191, 1949 estimated pop 2,582,000), extreme NW United States, in the Pacific Northwest, admitted (1889) as the 42d state. The capital, OLYMPIA, is at the southern tip of Puget Sound. Washington is bounded on the north by the Canadian province of British Columbia, on the east by Idaho, on the south by Oregon (with the Columbia river marking much of the boundary), and on the west by the Pacific with the deep-cut Puget Sound in the northwest and the gash of Gray's Harbor further south.

The topography is marked by bold features The lofty Cascades run north and south, rising to Mt. Rainier (14,408 ft.); they divide the state into a western and an eastern section Like the Coastal Ranges farther west, they cause the moisture of warm ocean-air from the Japan Current to precipitate rain to the west and block the rain from the semiarid eastern area One of the greatest rivers of the United States, the COLUMBIA, drains both of these sections It comes S from British Columbia in the east, makes a great bend westward just after receiving the Spokane and later turns in another large bend generally southward After being joined by its greatest tributary, the SNAKE, it goes west again as the Washington-Oregon boundary and cuts its way through the Cascades and the Coast Range in magnificent gorges to reach the Pacific The importance of the river to Washington can scarcely be overestimated In early days it was a means of transport and a salmon-fishing field for the many tribes of Indians Today with the development of BONNEVILLE DAM, GRAND COULEE DAM, and lesser projects on the main stream and its tributaries, the Columbia system is a great source of power for industry and of irrigation for farm development The western well-watered region of the state has a generally mild and humid climate Great forests of Douglas firs, hemlocks, and pines on the slopes of the Cascades, the Coast Range, and detached mountain groups and in the river valleys offer a wealth of lumber and give Washington its nickname "Evergreen State" This wealth, exploited since the days of settlement in the 1850s, still supplies a large income to the state Much less important, but still a factor is fishing, not only fishing for salmon on the Columbia and other rivers but also commercial fishing for tuna off the coast The western region, notably in the Puget Sound area, has seen industrial development, particularly during the Second World War, with its encouragement of airplane factories and other industries SEATTLE, the port for ships going to Alaska since before the gold strikes, mushroomed to become one of the large cities of the United States Other cities of importance in the region are TACOMA, BELLINGHAM, and EVERETT The Puget Sound area is cut by many little bays, and not only the great cities but many lesser towns are ports It has more than 400 islands, including the picturesque and historic San Juan Archipelago (see SAN JUAN BOUNDARY DISPUTE) and the large Whidbey Ships from the Puget Sound region sail north through the Inland Passage to Alaska, east along the "great circle" route to the Orient, and south for the long trip through the Panama Canal The great southern entrance to Puget Sound is Juan de Fuca Strait, and on the south side, across from the Canadian Vancouver Island, is the Olympic Peninsula, where jagged crests of the OLYMPIC MOUNTAINS look down on snowfields and luxuriant northern rain forests on the western slopes Olympic National Park has been created to preserve this wilderness area close to the crowded industrial cities The western section of Washington is thus a compound of contradictions The eastern section is scarcely less so with its vast acres of arid land on the Columbia Plateau, the atomic-energy plant at Hanford in the Second World War and the irrigated orchards and farms and dry-land wheat fields that have contributed to make the Inland Empire (with its capital of SPOKANE), one of the great producing areas of the nation The irrigated land in the YAKIMA and WENATCHEE valleys have more than proved the possibilities of irrigation in Washington, Wenatchee apples are shipped across the world More use may be made of the sparsely settled region of rolling hills (the Okanogan Highlands) and small fertile valleys lying east of the Okanogan river in the generally mountainous NE Washington Mountains also cut across the southeast, and there is to be found some of the mineral wealth that is widely distributed throughout the state WALLA WALLA was once a supply station for camps created by the gold fever The gold strikes in the Colville river country and eastward in the present Idaho helped to make Washington's history as a separate unit Its earlier history was absorbed in that of the rest of the Columbia river country It shared with OREGON in the coastal explorations of the Spanish under Bartolomé Ferrelo and others, the British from the time of Sir Francis Drake to that of Captain James Cook and the thorough George Vancouver, the French, and the Americans, capped by the discovery of the Columbia by Robert Gray The Lewis and Clark expedition and the posts established from John JACOB Astor's ASTORIA helped to establish the American claim to the land that is now Washington Later Fort Vancouver, the headquarters of Dr John McLOUGHLIN of the Hudson's Bay Company was on the site of present Vancouver, Wash. When American missionaries came in the 1840s, the most celebrated of them all, Marcus WHITMAN, established a mission near the present Walla Walla, after Roman Catholic missionaries (François Blanchet and Modeste Demers) had already established a mission on the Cowlitz river in the Puget Sound region in 1839. Whitman was a prominent figure in the British-American quarrel over the Columbia river country, which ultimately went to the United States The massacre of those at the Whitman mission in 1847 prefaced the Indian wars that slowed the settlement of Washington The Indian troubles did not, however, prevent adventurers from coming into the region Land seekers coming into the Puget Sound region since 1845 (when Tumwater became the end of the Oregon Trail) continued to appear, and gold seekers arrived even while the trouble with the Cayuse, the Yakima, the Nez Percé and other tribes, was going on, it was not settled until 1859, and even then later warfare occurred Lumbering and fishing were established as industries in Washington, which in 1853 became a territory with Isaac I STEVENS as the first governor It contained a part of Idaho, which was enlarged when Oregon became a state in 1859 The real rush of settlement was, however, delayed until the 1880s Railroad communications were finally opened in 1888, the first of three transcontinental railroads in Washington Expansion caused the population to rise 375 percent in the decade 1880–90, and Washington became a state in 1889 Lumbering had already begun its rise to a stupendous peak In E Washington, the rolling hills and wide sage-brush plains were given over to cattle and sheep, and agriculture began in the rare green valleys (e g , the little Methow) Irrigation also began to produce the blooming orchards and the wheat fields that supported the wealth of the Inland Empire (which includes much of Idaho) These developments and the booming prosperity of Seattle as the port for Alaska helped keep the state from suffering as much as the rest of the nation in the depression years of the '90s Lumbering, shipbuilding, and fish canning built a solid foundation for the state The boom of the First World War forwarded Washington, and military installations helped to increase prosperity At the same time came the greatest of the labor clashes that gave Washington (generally Democratic after 1900) the name of being a radical state The Industrial Workers of the World (the I W W) appealed to shipyard and dock workers and to workers in the logging camps, and in 1917 the War Dept intervened in lumbering disputes After the war a famous incident occurred at Centralia, when the I W W clashed in bloody fray with the American Legion Opposition to radical doctrines produced a reaction that hindered labor organization until the lean years of the 1930s Then the Washington Commonwealth Federation appeared, to decline later after Communist infiltration brought an unpleasant reaction In the depression New Deal measures led to plans for the development of the Columbia river valley that produced the Bonneville power project, wide activities of the Rural Electrification Administration, and big irrigation projects Opinion in Washington was sharply divided on the increase of Federal activity In the Second World War power development on the Columbia helped to push industrial and agricultural development to new heights Washington after the war seemed on the way to matching in productivity the varied physical beauty of the state Important among institutions of higher learning are the Univ of Washington and the State College of Washington See Ernest N Patty and Sheldon L Glover, *Mineral Resources of the State of Washington* (1921), Joseph Shafer, *A History of the Pacific Northwest* (1921), George W Fuller, *A History of the Pacific Northwest* (1931), Lancaster Pollard and Lloyd Spencer, *A History of the State of Washington* (4 vols , 1937), Federal Writers' Project, *Washington: a Guide to the Evergreen State* (1941), Archie Binns, *The Roaring Land* (1942), Nard Jones, *Evergreen Land* (1947) O O Winther, *The Great Northwest* (1947), Marian W Smith, ed , *The Indians of the Urban Northwest* (1949)

Washington, capital (1940 pop 663,091, 1948 estimated pop 863,000) of the United States, coextensive (since 1895, when GEORGETOWN became a part of Washington) with the DISTRICT OF COLUMBIA, on the Potomac river and SW of Baltimore The rivalry of Northern and Southern states for the capital in 1790 ended when Jefferson's followers supported Hamilton's program for Federal assumption of state debts and Hamilton's followers, in return, voted to locate the national capital on the Potomac George Washington selected the exact spot for the "Federal City" It was designed by Pierre L'ENFANT and laid out by Andrew ELLICOTT Construction began on the WHITE HOUSE in 1792 and on the CAPITOL the following year Congress held its first session in Washington in 1800, and Thomas Jefferson was the first President to be inaugurated here In 1814 the British captured and sacked the city, burning most of the public buildings including the Capitol and the White House Washington grew slowly, and not until the 20th cent did it cease to be an unkempt village and assume an urban aspect The city, though strongly manned during the Civil War, was several times threatened by Confederates, especially by Early in 1864. Developing from the L'Enfant plan (a gridiron arrangement of streets cut by diagonal avenues radiating from the Capitol and White House and an elaborate system of parks), the stately white-stone city spreads out over 70 sq mi with open spaces at frequent intervals and many fine houses as well as public buildings Its larger parks are the Potomac, which includes the Tidal Basin flanked by the famous Japanese cherry trees, Rock Creek, Anacostia, and the National Zoological Besides the Capitol and the White House, some other important buildings are the LIBRARY OF CONGRESS, the Folger Shakespeare Memorial Library, the National Archives Building, Constitution Hall, the Supreme Court Building, the NATIONAL GALLERY OF ART, the Pentagon, Corcoran Gallery of Art, Walter Reed Hospital, and the U S Naval Observatory Best known of the city's many statues and monuments are the WASHINGTON MONUMENT, the LINCOLN MEMORIAL, and the THOMAS JEFFERSON MEMORIAL The Arlington Memorial Bridge across the Potomac connects the city with ARLINGTON NATIONAL CEMETERY The Cathedral of St Peter and St. Paul (Protestant Episcopal), known as the National Cathedral or the Washington Cathedral, is on Mt St Alban MOUNT VERNON is near the city Among Washington's many institutions are the Army War College, CATHOLIC UNIVERSITY OF AMERICA, GEORGETOWN UNIVERSITY, GEORGE WASHINGTON UNIVERSITY, HOWARD UNIVERSITY, SMITHSONIAN INSTITUTION, BROOKINGS INSTITUTION, CARNEGIE INSTITUTION OF WASHINGTON, American Univ (coeducational, chartered 1893, opened 1914), Trinity College (Catholic, for women, 1897), Bolling Field, the U S navy yard, and the U S naval research laboratories Union Station and the National Airport are the capital's main transit points Three highway bridges and a railroad bridge cross the Potomac here See Federal Writers' Project, *Washington, City and Capital* (1937), Margaret Leech, *Reveille in Washington* (1941), Jonathan Daniels, *Frontier on the Potomac* (1946)

Washington. **1** Town (pop 432), SW Ark , near the Red River One of the oldest Arkansas towns, it was settled c 1824, from 1863 to 1865 it was the state capital, and until 1938, Hempstead county seat Many fine old buildings remain **2** Town (pop 2,089), W Conn , NE of New Milford, in the hills, settled 1734, inc 1779 It includes New Preston and Washington villages, the Washington Green is noted as a typical survival of the English 17th-century commons Gunnery School for boys was established in 1850 Lake Waramaug near by is a resort **3** City (pop 3,537), co seat of Wilkes co , NE Ga , NW of Augusta, settled 1773, laid out 1780 Among its numerous fine old homes in classic revival design is the Robert Toombs house (built 1794–1801, remodeled 1837 by Toombs) **4** City (pop 2,456), central Ill , just E of Peoria, in a farm area, inc 1857 Canning is done here **5** City (pop 9,312), co seat of Daviess co , SW Ind , near the White River E of Vincennes, settled 1805, laid out 1817 It is a trading center with large railroad shops **6** City (pop 5,227), co. seat of Washington co , SE Iowa, SSW of Iowa City, inc 1864 It is a trade center for a rich farm area Its manufactures include pearl buttons and art calendars **7** City (pop 1,598), co seat of Washington co , NE Kansas, near the Nebr line NW of Topeka, inc 1875 Trade center for an agricultural region, it manufactures dairy products The city has a courthouse (1933) of modern design **8** Town (pop 1,264), S central La , near Opelousas, settled before 1820 as a trade center, inc 1836 **9** City (pop 6,756), E Mo , on the Missouri and W of St Louis, settled before 1818, platted 1828, inc 1841 It is a farm trade center, with manufactures of shoes, corncob pipes, and dairy products Some of the architecture and customs of the early German settlers survive **10** Borough (pop 4,644), NW N J , NE of Phillipsburg, on the old Morris Canal, settled 1741, inc 1868 **11** City (pop 8,569), co seat of Beaufort co , E N C , at the head of the Pamlico estuary It is the trade and shipping center of a cotton, tobacco, corn, and truck area Founded shortly before 1776, it is said to be the first town named for George Washington **12** City (pop 26,166), co seat of Washington co , SW Pa , SW of Pittsburgh, settled 1769, laid out 1781, inc as a borough 1810, as a city 1924 The manufacture of glass and the mining of coal are important here Molybdenum is refined David Bradford House, erected in 1787, was a meeting place in the Whisky Rebellion Le Moyne House, built in 1812, was the home of Dr Francis Le Moyne, abolitionist leader Le Moyne Crematory, built in 1876, was the first in the United States WASHINGTON AND JEFFERSON COLLEGE and Washington Seminary are here **13** Village, R I see COVENTRY **14** Unincorporated town (pop c 300), S central Texas, on the Brazos and NW of Houston, settled 1821 An old town, it saw the declaration of Texas independence from Mexico on March 2, 1836 A state park commemorates the historical importance of the town, also called Washington-on-the-Brazos

Washington, Fort, military post in the American Revolution, on the highest point of the northwest

shore of Manhattan island overlooking the Hudson river, opposite FORT LEE in New Jersey It was a hastily built earthwork with no water supply within its walls and no fortifications able to withstand disciplined attack by a trained force It was, however, at a strategic location and its maintenance was a mark of American prestige When Washington was retreating before Howe in 1776, he left a garrison under Nathanael GREENE at Fort Washington In spite of Washington's advice to abandon the fort, Greene remained Howe attacked the fort and captured it Nov 6, 1776

Washington, Mount, peak, 6,288 ft high, N N H, in the Presidential Range, highest of the White Mts, and of the state From its bare summit, where there are a hotel and a meteorological station (est 1932), several states and Canada may be seen The first recorded ascent was by Darby Field in 1642, a bridle path to the summit was completed in 1840, an 8½-mile road in 1861, and a cog railroad in 1869

Washington, State College of, at Pullman, land-grant and state supported, coeducational, chartered 1890, opened 1892 It includes colleges of agriculture, home economics, mechanic arts and engineering, sciences and arts, and veterinary medicine and schools of education, mines and geology, music and fine arts, pharmacy, and social work It has a radio station and a natural science museum.

Washington, Treaty of, May, 1871, concluded between the United States and Great Britain in Washington, D C. Its principal articles provided for arbitration of the ALABAMA CLAIMS by an international commission The treaty also provided for arbitration of the SAN JUAN BOUNDARY DISPUTE and of the Canadian-American fisheries controversy Hamilton Fish, Grant's Secretary of State, who was chiefly responsible for bringing about the treaty, headed the five American commissioners in the negotiations The earl of Ripon led the British delegation

Washington, University of, at Seattle, state supported, coeducational, chartered and opened 1861 It has colleges of arts and sciences, economics and business, education, engineering, forestry, mines, and pharmacy It also has schools of architecture, art, dentistry, fisheries, home economics, journalism, law, librarianship, medicine, music, nursing, physical education, and social work There are a U S. Bureau of Mines experiment station, a large wind tunnel, forest-products and oceanographic laboratories, the Pacific Northwest historical and other large library collections, two theaters, an art gallery, and a state museum Forestry field work is important

Washington and Jefferson College, at Washington, Pa, for men Washington, chartered in 1787 as an academy and in 1806 as a college, was successor to three Presbyterian schools, pioneers W of the Alleghenies, the first opened c 1780 Jefferson, chartered in 1794 as an academy and in 1802 as a college, opened c 1791 at Canonsburg, Pa A medical department, organized in Philadelphia in 1825, became Jefferson Medical College Washington and Jefferson united in 1865, and in 1869 the Canonsburg section closed

Washington and Lee University, at Lexington, Va, nonsectarian, for men It was opened in 1749 by Presbyterians as Augusta Academy and had several sites before 1780 It was called Liberty Hall in 1776, Liberty Hall Academy (a college) in 1782, Washington Academy (following a gift from George Washington) in 1798, Washington College in 1813, and Washington and Lee Univ in 1871 Robert E. LEE was president from 1865 to 1870 There are commerce and administration and law schools, a journalism department, and a college The university has a large collection of Lee documents The chapel contains Lee's tomb

Washington College see CHESTERTOWN, Md

Washington Conference see NAVAL CONFERENCES

Washington Court House, city (pop 9,402), co seat of Fayette co, SW central Ohio, SW of Columbus and on Paint Creek, in a highly productive farming and livestock area, founded c 1810 Automobile and airplane parts and hydraulic pumps are made

Washington Island, atoll, area 6 sq mi, central Pacific, one of the Line Islands Edmund FANNING discovered it in 1798 Annexed (1889) by the British, it was included in the Gilbert and Ellice Islands colony in 1916. Its former name was Prospect Island

Washington Monument, hollow shaft, 555 ft 5⅛ in. high, in Washington, D C It is on the Mall, south of Constitution Ave and west of 14th St In 1783 Congress passed a resolution approving an equestrian statue to George Washington, and L'Enfant in his plans (1791) for the Federal city included a site for such a statue near the present location of the monument. However, Washington himself objected to the expense, and nothing more was done until after his death (1799) when John Marshall suggested a tomb, but no appropriation was made The matter was discussed at other times but no action was taken by Congress In 1832 the Washington National Monument Society was formed and a campaign for raising funds resulted in gifts not only of money but of blocks of stone from each state, some foreign governments, and private individuals These "tribute blocks" carry inscriptions on the interior of the monument. The design of Robert Mills was accepted in 1836, but Congress did not grant a site until 1848; on July 4 of that year the cornerstone was laid. The project was a political football for years The Civil War interrupted all agitation for it, and it was not until 1876 that Congress appropriated money The base (entirely different from Mill's Greek temple design) was completed in 1880, the aluminum tip was put in place in 1884, and the monument was dedicated in 1885 and opened to the public in 1888

Washington Park, village (pop 4,523), SW Ill., just E of East St Louis, inc. 1917

Washington University, at St. Louis; nonsectarian, coeducational; chartered 1853, opened 1856 It has a liberal arts college, schools of architecture, business and public administration, dentistry, engineering, fine arts, law, medicine, nursing, and social work, Henry Shaw School of Botany (affiliated with Missouri Botanical Garden), a preparatory school for girls, and an adult study center There is an art museum The institute of radiology has a cyclotron

Washita (wŏ'shĭtô), river rising in the Texas Panhandle at the Okla border and flowing SE across Oklahoma to join the Red River The name is Indian—another spelling of Ouachita The battle of the Washita (1868), in which General Custer defeated the Cheyenne Indians, took place on the river, near Cheyenne

Washoe Mountains. see VIRGINIA MOUNTAINS

Washo Indians (wä'shō), North American Indian tribe occupying in the mid-19th cent the region about Washo and Tahoe lakes in W Nevada They then numbered some 900. The Paiute were the inveterate enemies of the Washo, before the coming of the white man the Paiute defeated and drove back the Washo, and again in 1860-62 they conquered the Washo Today the Washo live on reservations in California and Nevada and total some 700 Their original material culture is of undetermined status, and their language constitutes an independent linguistic stock (see LANGUAGE, table, and HOKAN) See R H Lowie, *Ethnographic Notes on the Washo* (1939)

Washougal (wŏshō'gŭl), woolen-milling town (pop 1,267), SW Wash, on the Columbia E of Vancouver, settled 1860, inc 1908

wasp, insect of the order Hymenoptera, to which the ant and the bee also belong There are a number of families of wasps, one of which (the Vespidae) includes both social forms (e g, the yellow jackets, the hornets, and other paper wasps) and some solitary forms (e g, the potter wasp) Among the social forms there are usually three castes, queens, workers, and males or drones Only the queens survive the winter The white-faced hornet, a black insect with white markings on the body and face, is common Its nest of many layers of cells (in which the young are reared) is started by the queen and completed by the workers, the coarse paper material is prepared by masticating wood fiber The adults feed chiefly on insects and also on nectar A dark brown to black wasp (genus *Polistes*) of the same family makes an open paper nest consisting of a single layer of cells The solitary potter wasp or mason wasp uses clay in making its nest, some of these nests are said to have inspired early Indian potters Often seen under the eaves of buildings and under bridges are the mud nests of the mud-dauber wasp (of the family Sphecidae), which feeds on insects and spiders The sting of wasps, found only in females and workers, can be used repeatedly For the fig wasp, see FIG See J H Fabre, *Hunting Wasps* (1915) and *Mason Wasps* (1919)

wassail (wŏ'sĕl, wŏ'sāl), ancient salutation used in England in presenting a cup of wine to a guest or in drinking a health It signifies "be whole" or "have health," the answer being "drink hail" The words by association came to mean any liquor in which healths are drunk, especially the spiced drinks served as a feature of medieval Christmas celebrations By a natural transition, revelries, carousals, and drinking songs also came to be implied as the original meaning faded

Wassermann, August von (wō'surmun, Ger ou'gōōst fŭn vä'surman), 1866-1925, German physician and bacteriologist In Berlin he was director of the department of experimental therapy and serum research (1906-13) at Koch Institute for the study of infectious diseases and director of experimental therapy (from 1913) at the Kaiser Wilhelm Institute The **Wassermann test** which he devised (1906) is used in the diagnosis of syphilis A positive reaction when the blood or spinal fluid of the patient is tested indicates the presence of antibodies formed as a result of infection with syphilis (even though symptoms of the disease may not be observable at the time). A few other diseases, however (e g., leprosy), also sometimes produce a positive Wassermann reaction.

Wassermann, Jakob (yä'kôp), 1873-1934, Austrian novelist, b. Fürth, Bavaria, of Jewish parents He won international fame with his novel *Christian Wahnschaffe* (1918, Eng. tr, *The World's Illusion*, 1920) After years of extreme poverty, he found employment in Vienna and later in Munich, where his first novels, *Melusine* (1896) and *Die Juden von Zirndorf* (1897, Eng tr, *The Dark Pilgrimage*, 1933), were published. He settled in Vienna and there wrote novels of increasing reputation The teeming variety and the moral intensity of his works has suggested comparison with Dostoevsky His other important works include the novels *Caspar Hauser* (1908, Eng tr, 1928), *Das Gänsemännchen* (1915; Eng tr, *The Goose Man*, 1922), *Ulrike Woytich* (1923, Eng tr., *Gold*, 1924), *Der Fall Maurizius* (1928, Eng tr, *The Maurizius Case*, 1929), and *Dr Kerkhoven* (1934), an early novel on the last years of Alexander the Great was translated in 1949 as *Alexander in Babylon*. *Mein Weg als Deutscher und Jude* (1921, Eng. tr, *My Life as German and Jew*, 1933) was his autobiography He has also written plays, biographies, and essays See study by J C Blankenagel (1942)

Wastwater (wŏst'-), lake, 3 mi long and ½ mi wide, Cumberland, England, in the Lake District, SW of Keswick It is the deepest lake in England (258 ft maximum) Scafell overlooks Wastwater, Wasdale village and the ravine of Wasdale or Wastdale Head are not far

Watauga (wŏtô'gu), river rising in Watauga co, W N C, in the Blue Ridge near the Tenn line and flowing generally NW to the Holston NE of Jonesboro, Tenn Settlement along the river began in 1768, Sycamore Shoals Monument (see ELIZABETHTON, Tenn) marks the site of early historic events Watauga Dam is c 37 mi. from the river's mouth

Watauga Association, government (1772-75) formed by settlers along the Watauga river in present E Tennessee. Virginians made the first settlements in 1769 and after the collapse of the REGULATOR MOVEMENT in North Carolina, citizens from that colony under James ROBERTSON established homes farther west on the river For their mutual protection these settlements united in 1772 and drew up a written agreement, called the Watauga Association A five-man court, with legislative powers, constituted the government Other settlements along the Holston and Nolichucky rivers adhered to the Watauga Association In 1772 the Wataugans secured a 10-year lease from the Cherokee for the land along the river, in 1775 they organized as Washington Dist, but in 1776 at their own request came under the protection of North Carolina, which created (1777) Washington co for the area After the American Revolution the Wataugans belonged to another new, short-lived government (see FRANKLIN, STATE OF) before Tennessee became a state in 1796

watch, small portable timepiece, usually designed to be worn on the person The watch was made possible by the discovery that the motive power for timepieces could be produced by a coiled spring (the mainspring) The first watches are believed to have been made at Nuremberg c 1500, because of their shape they were known as Nuremberg live eggs Early watches were ornate, very heavy, and made in a variety of shapes, e g, pears, skulls, and crosses, the faces were protected by metal lattice-work. Intricate watches, such as the repeater that struck the hours or hours and quarters, have been superseded by simpler mechanisms, smaller and less likely to get out of order A notable improvement in the late 19th cent was the use of the stem for winding and setting, in place of a separate key Watch parts were made by hand until c 1850, when machine methods were introduced by American watch manufacturers The use of machine-made parts not only cuts manufacturing costs, but increases precision and facilitates repairs. In the modern watch a hairspring controls the swing of the balance wheel, which in turn regulates the rate of escapement of energy through a train of toothed wheels that derive their motor power from the mainspring Parts are held by pivots that rest on bearings. To insure the accuracy of a watch over a long period, it is desirable to use, at points subject to the most wear, bearings made of jewels (diamonds, sapphires, rubies, or the less expensive garnets and synthetic stones) A major cause of inaccuracy is the expansion or contraction of the balance wheel caused by changes of temperature, this is limited by making balance wheels of two or more materials or by using metals or alloys with low coefficients of expansion The United States and Switzerland are the major producers of watches

watch, part of a ship's crew working at one time and the period of time during which a watch of men is on duty. The deck force of a ship is divided into starboard and port watches, which alternate tours of duty. Each period of watch has its particular designation That from 8 P M. to midnight is the first watch; it is followed by the midwatch (midnight to 4 A M.), morning watch (4 A.M to 8 A M), forenoon watch (8 A M. to noon), afternoon watch (noon to 4 P.M.), first dogwatch (4 P M to 6 P.M), and second dogwatch (6 P.M to 8 P M). The dogwatches have the purpose of shifting the order of watches so that the same men will not have the same watch every day. The officer in charge of

a watch is known for the period as the officer of the deck. When a ship is in port, an anchor watch is detailed to guard the ship while the rest of the crew is ashore When a ship is leaving or entering port or in case of emergency both watches (all hands) are called for duty

Watch Hill, R I see WESTERLY

Watchung (wä"chŭng', wä'chŭng"), borough (pop. 1,158), N central N J, SW of Newark, in the Watchungs, inc. 1926

Watchung Mountains or **Orange Mountains,** two long low ridges of volcanic origin, N central N J., mainly in Essex and Somerset counties, curving to the southwest beginning SW of Paterson and ending N of Somerville

water, when pure, is an odorless, tasteless, transparent liquid at ordinary temperatures, colorless in small amounts but exhibiting a bluish tinge in large quantities At 4°C (its temperature of maximum density), one cubic centimeter of water weighs (has a mass of) one gram This constant is used as the unit of weight in the metric system and the basis of comparison for SPECIFIC GRAVITY When cooled to its freezing, or melting, temperature (0° on centigrade thermometers, 32° on Fahrenheit), water changes to a colorless, crystalline solid (ice) which is less dense than the liquid at 4°C Unlike other liquids, water expands in freezing When heated to its boiling point (100°C , 212°F , under standard pressure), it vaporizes to steam At ordinary temperatures it undergoes evaporation The unit of heat quantity, the CALORIE, is taken as the amount of heat required to raise the temperature of one gram of water one degree centigrade To change a gram of water at 100°C to steam at this temperature (the heat of vaporization), 540 calories are required, to melt one gram of ice, 80 calories (heat of fusion) Completely pure water is a poor conductor of electricity Chemically, water is a compound of hydrogen and oxygen, its molecule consisting of two atoms of hydrogen and one of oxygen Water's composition by weight is one part of hydrogen to eight of oxygen, i e , about 11 1 percent of hydrogen and about 88 9 percent of oxygen Water reacts with certain active metals, as sodium and potassium, and with many oxides of metals to form bases With a number of other oxides, e g , carbon dioxide, it forms acids Certain crystalline salts, e g , blue vitriol, have their molecules linked with a definite number of molecules of water (called water of crystallization) in such a salt is called a HYDRATE Efflorescence involves the loss of this water upon exposure to the air at ordinary temperatures Some substances absorb water from the air and in certain cases even dissolve in it They are said to be deliquescent Water is one of the best known solvents, its solutions are known as aqueous solutions In natural waters, various substances are found dissolved MINERAL WATER contains a great variety and quantity of minerals, usually some compound of calcium, magnesium, or iron Salt water, in addition to a large amount of sodium chloride (common salt), is rich in other soluble compounds Rain water is nearly pure, but sometimes, especially in cities, it contains substances (gases) which are dissolved from the air as the rain falls Certain water is called "hard" Temporary hardness occurs when the bicarbonates of calcium or magnesium are present, permanent hardness, when the sulphates or chlorides of these metals are dissolved Temporary hardness can be eliminated by boiling it by the addition of lime Permanent hardness, however, requires the addition of such substances as sodium carbonate (washing soda) or ammonium or sodium hydroxide, which react with the material causing the hardness and form a precipitate In the zeolite process the hard water is filtered through zeolite (a name used for certain porous silicates and also for some organic materials), and the calcium and magnesium compounds are removed Water covers about 70 percent of the earth's surface, in the oceans, lakes, rivers, and glaciers The GEYSER, SPRING, and WELL are supplied by ground water (water present in the earth, its level being called the water table), which is caused either by the downward seepage of rain water (vadose water) or the forcing upward of the magmatic water (juvenile water) originating in the molten rock of the earth's interior Water is an agent in metamorphism, and by its movement land is constantly being worn down, carried away, and redeposited (see EROSION) Rainfall and humidity are important factors in moderating extremes of climate Furthermore, the range of temperature along the seacoast and in regions having large bodies of water is less than in large waterless land areas The south polar region, which is largely land, has lower temperatures than the north polar region, where there is a greater expanse of ocean. Water is necessary for life. It constitutes the greater part of the fundamental substance (protoplasm) of which animal and plant bodies are composed. Sap of plants and blood of animals contain large quantities of water It is essential to the manufacture of starch by plants (see PHOTOSYNTHESIS). Many foods, e.g., milk and fruit, have a high water content. Because of the need for pure water for drinking purposes, methods of water purification are of paramount importance in man's maintenance of his WATER SUPPLY The most nearly pure water is obtained by distillation, but this method, while commonly used in laboratories, is not satisfactory for the water supply of cities and towns. The processes generally employed in making water safe for such water supply include coagulation, filtration, and disinfection Water from some sources must be treated also for the removal of color, taste, and odor Coagulation is commonly effected by adding to the water a salt of aluminum (usually aluminum sulphate) or ferric iron A precipitate forms and causes a clumping of the bacteria and other foreign particles which then settle out during the several hours of sedimentation, in this way 85 percent or more of the bacteria and suspended particles can be removed Activated carbon is sometimes added before sedimentation to remove tastes and odors In the process of filtration the water is allowed to pass through layers of fine sand to remove remaining germs and particles Chlorine is commonly used to destroy harmful bacteria persisting in a municipal water supply after the other treatments Chlorine dioxide has more recently been found effective as a destroyer of bacteria as well as a means of removing unwanted tastes and odors, its cost has limited its use Other means of destroying germs include the use of ozone and of ultraviolet light, but these methods are also in limited use Some water supplies are aerated, i e , exposed to the action of air and sunlight either through sprays or by running over coarse gravel, taste and odor are improved and some germs are destroyed WATER POWER is of major economic importance Heavy water or deuterium oxide is water in which each molecule consists of two atoms of heavy HYDROGEN (or deuterium) instead of ordinary hydrogen and one atom of oxygen It was discovered by H C Urey

water buffalo see BUFFALO

water bug. The term commonly refers to the giant water bug, the water strider, the water boatman, the back swimmer, and the water scorpion of the order Hemiptera, which are true bugs It is also applied to the CROTON BUG and to some aquatic beetles The giant water bug or electric-light bug is common in North America It has claws on the forelegs and a sharp beak and feeds on tadpoles, small fish and frogs, snails, and other fresh-water animals The larvae and adults are aquatic For a short period the adults, which are strongly attracted by electric lights, fly about at night.

Waterbury 1 City (pop 99, 314), a co seat of New Haven co , W Conn , on the Naugatuck and NW of Hartford, inc 1853, coextensive with Waterbury town, inc 1686 Its brass industry dates from the mid-18th cent Clocks and watches silverware, and hardware are also produced Its historical society has fine collections A political reform movement in 1938 succeeded in deposing members of the city administration **2** Town (pop 4,118), N central Vt , on the Winooski and NW of Montpelier, chartered 1763, settled 1783 The town was badly damaged in the 1927 flood subsequently the Little River Dam was built here Waterbury manufactures machinery and wood products The state hospital for the insane is in the town

water clock see CLEPSYDRA

water-color painting, in its wider sense, refers to all pigments mixed with water rather than with oil and also to the paintings produced by this process It includes fresco and tempera as well as aquarelle, the process now commonly meant by the generic term Gouache and distemper are also water colors, though they are prepared with a more gluey base than the other forms Long before oil was used in the preparation of pigment, water-color painting had achieved a high form of sophistication The oldest paintings now in existence, found in Egypt, are water colors The Persian artist Behzad (16th cent) established the Persian school of painting which produced extremely beautiful and elaborate miniatures Gouache was employed by Byzantine and Romanesque artists In the Middle Ages, illuminated manuscripts on vellum used water color in flat, brilliant effects In this same way water colors were used throughout the Renaissance and later by such artists as Durer, Rembrandt, and Rubens to tint and shade drawings and cuts Durer in particular colored landscape drawings in a manner not unlike the modern method In the 18th cent the modern aquarelle grew from a simple attempt merely to color a drawing into a technique of complete painting In England especially this technique became popular and found its highest exponent in J M W Turner toward the end of the century John Sell Cotman was also well known. The 19th cent used water color extensively, mostly for landscape, sometimes for portraits, but no longer for miniatures as in the 18th cent. The French artists Daumier, Delacroix, and Géricault, among others, employed aquarelle to a large extent, both for preliminary sketches and as finished works The Pre-Raphaelites in England used water color extensively, and there are works by D G Rossetti and Burne-Jones in this medium The American John Singer Sargent became well known for his aquarelles, and Whistler also worked in this technique Samuel Colman was responsible for founding the American Water Color Society, proving that aquarelle had become so widespread as to be a school. In the 20th cent water color became more and more the commercial medium for posters and advertising art, where water tempera is used in preference to oils The advantages of water color lie in the ease and quickness of its application, in the transparent effects achievable, in the brilliance of its colors, and in the relative cheapness of the materials used Aquarelles have a delicacy not easy to achieve in oil but are equally flexible and lend themselves to more informal expression of an immediate visual experience See E W. Haslehust, *Water-Colour Painting* (1938), E. W. Watson, *Watercolor Demonstrated* (1945)

water cress, hardy perennial European herb (*Rorippa nasturtium-aquaticum*), naturalized in North America, found in or around water Often cultivated commercially, it is used as a pungent salad plant or garnish It has small white flowers, easily rooting stems, and small leaflets Other plants of the genus are sometimes called water cress and are used similarly

Wateree (wôturē'), river, 295 mi. long, rising in the mountains of W North Carolina and flowing SE, past Camden, S C , to the Congaree, which it joins to form the Santee SE of Columbia For c 220 mi of its early course it is called the Catawba

waterfall, sudden drop in a stream when it passes over a layer of harder rock—often igneous —to an area of softer, and therefore more easily eroded, rock. Normally as a stream grows older the waterfall, by undercutting and by the erosion of the brink and of the stream bed above the falls, moves upstream and becomes lower until eventually it becomes a series of rapids and finally disappears The existence of a waterfall or rapids is a determinant of the location of cities, e g , there is a fall line of cities in the United States where the streams from the Appalachians descend suddenly to the coastal plain (see FALL LINE) The early textile cities of New England used power from waterfalls, and Minneapolis flour mills used the falls of St Anthony of the Mississippi Immense hydroelectric plants have been established at many falls, notably at Niagara Waterfalls famous for their beauty or their height are Niagara and those at Yosemite and Yellowstone parks, United States, Victoria Falls in the Zambezi, Rhodesia, Gersoppa, India, Sutherland, New Zealand, Staubbach, Switzerland, Gavarnie, France, those of the Hardanger Fjord region, Norway, Stora Sjofallet, Sweden, Iguassú, Brazil, and the Grand Falls, Labrador

Waterford (wô'turfurd), maritime county (710 sq mi , pop 76 108), S Ireland, in Munster The county seat is the port town of Waterford The terrain is largely hilly, but there are marshy lowlands in the east The principal rivers are the Blackwater and the Suir The coast line, on the south, is indented by Dungarvan Harbour and Waterford Harbour, and by Youghal Bay and Tramore Bay Waterford has much farming land, dairy farming and hog raising are prominent Fishing and quarrying (slate and marble) are among the occupations Waterford was organized as a county c 1200 It was under English domination rebellious, notably in the latter part of the 16th cent , when it suffered severely during the revolt of the Desmonds The chief ecclesiastical remains of the county are those at Ardmore, dating from the 7th cent

Waterford, village (pop 1,342), S Ont , on the Lynn river and N of Simcoe, in a farm area

Waterford, county borough (pop 28,332) and city, co seat of Co Waterford, Ireland, on the Suir at the head of Waterford Harbour, a tidal estuary 15 mi long formed by the Suir and Barrow (with the Nore) rivers The city is a point of outlet for the produce, especially dairy products and meat, of S Ireland The making of Waterford glass, famous in the 18th cent , had died out by the mid-19th cent Very early established as a walled Danish settlement, Waterford was taken in 1171 by Strongbow, who used Reginald's Tower (built 1003, still standing) as a fort It was besieged by Oliver Cromwell in 1649 and taken by Henry Ireton in 1650 There are towers and other remains of 13th-century Franciscan and Dominican ecclesiastical houses, suppressed in the 16th cent Protestant and Roman Catholic cathedrals are here Waterford is the seat of the united Protestant dioceses of Cashel, Emly, Waterford, and Lismore and of the Catholic diocese of Waterford and Lismore It had a charter under King John Ferrybank is a suburb across the Suir

Waterford. 1 Residential town (pop 6,594), SE Conn , settled c 1653, set off from New London 1801 It has a state tuberculosis sanatorium **2** Town (pop 836), SW Maine, settled 1775, inc 1797 It is the birth and burial place of Artemus Ward Lumber products and paper are manufactured **3** Village (pop 2,903), E N Y , on the Hudson above Cohoes, at the confluence of the Mohawk, and on the Barge Canal, inc. 1794. Electrical goods are made here

water gardening: see SOILLESS GARDENING.

water gas, colorless gas which burns with an intensely hot, bluish (nearly colorless) flame It is essentially a mixture of carbon monoxide and hydrogen with very small amounts of other gases (e g., carbon dioxide) and is almost entirely combustable as a result, Water gas is so named because of the use of water (steam) in its preparation This involves treating white-hot hard coal or coke with a blast of steam, carbon monoxide and hydrogen are formed. The gas is manufactured in enormous quantities for commercial use It is of much importance in the preparation of hydrogen and as a fuel in the making of steel and in other industrial processes Since its flame is normally almost colorless, its use as an illuminant is made possible only by an enriching process In this, carbon (which becomes heated to incandescence in the flame and glows brightly) is supplied by the addition of another gas, or the water gas is sprayed, during its preparation, with volatile petroleum oils rich in carbon, which are broken down ("cracked") in the process

water glass or soluble glass, colorless, transparent, glasslike substance when solid, commonly appearing on the market dissolved in water as a transparent, viscid liquid It usually consists of sodium silicate alone but sometimes is a mixture of sodium and potassium silicates, the sodium silicate is prepared commercially either by fusing sand with sodium carbonate or by heating sand with sodium hydroxide under pressure Its chief characteristics are its solubility in water, its adhesive property, and its resistance to fire It is consequently used as a cement for glass, pottery, and stoneware, for fireproofing and waterproofing cloth, wood, paper, and other substances, for fixing pigments in paintings and cloth printing, and as a preservative for eggs, since it fills up the pores of the eggshell and prevents the entrance of air.

water hemlock: see HEMLOCK

Waterhouse, Alfred, 1830–1905, English architect. He won competitions for the Manchester assize court (1859) and the Manchester city hall (1868) This work placed him in the forefront of the Victorian Gothic revival His most important work, the Natural History Museum, South Kensington, in a modified Romanesque style, was notable for its revival of the use of terra cotta, although a well-studied design, it illustrates the inherent incongruity between medieval forms and the needs of modern secular buildings Waterhouse also executed important buildings for Balliol College, Oxford; Pembroke College, Cambridge, Prudential Assurance Company, Holborn London, and the City and Guilds College, South Kensington (1881) He was a fellow and president (1888–91) of the Royal Institute of British Architects and a member of the Royal Academy

Waterhouse, Benjamin, 1754–1846, American physician, b Newport, R I., studied at the universities of Edinburgh and Leiden In 1783 he became professor on the first faculty of the Harvard medical school In 1800 he inoculated members of his household with vaccine obtained from England, thus introducing Jenner's method into America Inoculation had been used by Zabdiel Boylston and others, but Waterhouse was the first of the line of American physicians to establish it as a general practice

water hyacinth, perennial, aquatic plant (*Eichhornia crassipes*), probably native to Japan It was introduced in tropical South America in the late 19th cent and subsequently in the S United States Spongy, inflated leafstalks support the roundish leaves at the surface of the water, large bluish-violet flowers are borne on long, fleshy stalks The plant propagates very rapidly and has become a hindrance to navigation, especially in the Orinoco river and in waterways in Florida and California. Some success in exterminating it by spraying the leaves with 2,4-D (dichloro-phenoxyacetic acid) has been reported It is grown in tanks and ponds for its ornamental foliage and flowers

water lily, name often used for any showy-flowered aquatic plant, but strictly referring to plants of the genus *Nymphaea* (or *Castalia*), usually characterized by large many-petaled beautiful blossoms of various colors and rounded floating leaves The tender water lilies in cultivation are tropical species, but some of the hardy kinds are native, as *Nymphaea odorata* Both day- and night-blooming kinds blossom at fairly definite hours and mature their seeds under water Water lilies have served many peoples in various ways, the rootstock and seed as food, the rootstock as medicament, and the blossom (of the Egyptian LOTUS) as a sacred and national emblem and an artistic motif Water plants belonging to the same family as *Nymphaea* are also often called water lilies These include the POND LILY and the massive *Victoria*, which has leaves often 6 ft. in diameter and capable of floating the weight of a child See Alexander Nikitschek, *Water Lilies and Water Plants* (1943)

Waterloo (wô"tûrlōō', Flemish vä'tûrlō), town (pop. 7,362), Brabant prov., Belgium, 9 mi. S of Brussels. The battle of Waterloo (see WATERLOO CAMPAIGN) was fought just south of here on June 18, 1815. A large monument commemorates the event.

Waterloo (wôtûrlōō'). **1** Town (pop 9,025), S Ont., NW of Kitchener, of which it is a suburb Its industries include distilleries, flour mills, and plants making clothing, shoes, and agricultural machinery. The population is largely of German-American origin Waterloo College (Lutheran), affiliated with the Univ of Western Ontario, is here **2** Town (pop 3,173), S Que., ESE of Montreal, founded 1796 Wire, furniture, skis, and plastics are made here, and it is a market center for apples, potatoes, tomatoes, and dairy products from the surrounding area

Waterloo. **1** City (pop. 2,361), co seat of Monroe co., SW Ill., near the Mississippi S of East St Louis, in a farm area, platted 1818, inc 1849 **2** Town (pop 1,257), NE Ind., near Auburn **3** City (pop 51,743), co seat of Black Hawk co., NE Iowa, on the Cedar river, settled 1845, inc 1868 It is a trade and industrial center for a farm and livestock area The city's chief industries are meat packing and the manufacture of farm machinery, it has railroad shops The Dairy Cattle Congress and National Belgian Horse Show are held here annually **4** Village (pop 4,010), a co seat of Seneca co., W central N Y., in the Finger Lakes region, between Seneca and Cayuga lakes, inc 1824 Automobile bodies are made here, and there are canneries **5** Village (pop 1,474), S Wis., NE of Madison and on Waterloo Creek, inc 1859

Waterloo campaign, last action of the Napoleonic Wars, ending with the battle of WATERLOO In it the power of NAPOLEON I was wiped out Napoleon, who had escaped from Elba in Feb., 1815, and entered Paris on March 20, soon faced a European coalition His only hope lay in attacking before the enemy could attack him, although he could count on only about 125,000 men in the immediate future His plan was to destroy the British and Prussian forces under WELLINGTON and BLÜCHER before dealing with the Austrians and Russians under Prince Schwarzenberg, then gathering on the eastern frontier To effect this, he decided to concentrate his forces near Charleroi, between Blücher's force of about 120,000 and Wellington's of about 93,000, and thus prevent their concentration Setting out for the front on June 12, he seized Charleroi while the allies still believed him in Paris, and he defeated Blucher at Ligny (June 16). Assuming that the Prussians were retreating toward their base in Namur, he detached GROUCHY with 33,000 men to pursue them Meanwhile Marshal NEY was battling Wellington at QUATRE BRAS, Napoleon now turned to his assistance, and Wellington, though victorious at first, was compelled by the Prussian defeat to retreat toward Brussels He took up a strong position S of Waterloo, between Mont-Saint-Jean and Belle-Alliance, and awaited attack On June 18, about noon, Napoleon began a massed attack against the British center, but the British stemmed the tide until the arrival of the Prussian forces, who had eluded Grouchy by marching on Wavre instead of Namur and were thus able to come to Wellington's aid This event proved the turning point of the battle The French were routed, and Napoleon left the field and signed (June 22) his second abdication French casualties were about 32,000, the coalition's about 23,000 The battle figures prominently in literature, notably in Stendhal's *Charterhouse of Parma*, Thackeray's *Vanity Fair*, Byron's *Childe Harold*, and Victor Hugo's *Les Misérables* and *La Légende des siècles* See J C Ropes, *The Campaign of Waterloo* (1892), T E Watson, *Waterloo* (1910)

Waterloo with Seaforth, urban district (pop 31,187), Lancashire, England, at the mouth of the Mersey near Liverpool It is a seaside resort.

watermark: see PAPER

watermelon, tender, annual trailing vine (*Citrullus vulgaris*) and its very large, juicy, round or ovoid fruit, which has a green skin, sometimes marked with white, and a pink or red flesh containing numerous large, usually black or white seeds Native to Africa, where it has been cultivated since prehistoric times, the watermelon is now more extensively grown in the S United States (particularly Texas and Georgia) than anywhere else in the world It is also very popular in S Russia The fruit is eaten fresh, the inside of the rind is pickled, and in the Orient the seeds are eaten Many varieties are in cultivation, among them some short-season kinds which can be matured as far north as Ontario The citron melon is a variety with firm white flesh used like citron for preserving. A good commercial melon—the term is used for this as well as the muskmelon—weighs from 10 to 25 lb. The principal pests of the plant are the melon caterpillar, plant louse, squash-vine borer, and cucumber beetle, usually controlled by arsenical sprays

water moccasin or **cottonmouth,** highly venomous snake of the swamps and bayous of the S United States Like the copperhead, it is a pit viper The young are born alive Immature specimens are pale reddish brown with transverse dark brown bands edged with white. The distinctly blotched olive or brown of the half-grown snakes becomes dull, unmarked olive or blackish in old specimens. The maximum length is nearly 5 ft. A good climber, the water moccasin often relaxes on branches overhanging the water. If startled when coiled on the ground awaiting its prey, it usually erects its head and displays the white interior of its mouth. It eats both warm-blooded and cold-blooded animals. It is pugnacious in the wild state but becomes quite tame in captivity

water on the brain: see HYDROCEPHALUS.

water pewee: see PHOEBE.

water polo, swimming sport played in a pool measuring not more than 20 ft in width and not less than 19 ft in length Goals 3 ft high and 10 ft. wide, backed with netting, rest at water level at either long end of the pool. A water-polo team is composed of seven members (one of whom is goalkeeper), whose team identity is marked by the color of their caps When the large (27 in. circumference), inflated rubber ball is tossed into the center of the pool, players fight for possession. The ball is advanced by batting it with the body or balancing it in one hand The object of the game is to hit the ball with head, feet, or hands through the goal defended by the opposing team At least two players must touch the ball before a goal may be scored Each goal counts one point. The game is divided into four 5-minute periods. Fouls—e g., carrying the ball under water or with two hands, tackling, and avoidable bumping—are called by a referee from outside the pool and are penalized by awarding the opposing team free throws Under these conditions, the game is called hardball water polo, to distinguish it from a less popular type called softball water polo In the softball variety, the goal posts are smaller, the smaller ball is flexible enough to be grasped by the fingers, and all kinds of rough play—choking, butting, tackling, and holding under water—are permitted. Water polo became an event of the Olympic games in 1900 See W J Howcroft, *Swimming and Water Polo* (1936), J R Smith, *Playing and Coaching Water Polo* (1948)

water power, use of water as a source of energy through its movement or flow in rivers and streams The wooden WATER WHEEL has long been employed to utilize currents of water directly for turning machinery, as in flour mills and sawmills The water TURBINE is a modern type of water wheel, used in the generation of electricity, since it transmits the pressure of a stream of water into mechanical energy sufficient to drive electric generators The revivability of water power along the FALL LINE in the E United States was a reason for the location of many cities there Important hydroelectric plants are situated in the Soviet Union on the Dnieper at DNEPROGES and in the Ural region, on the DAL and other rivers in Sweden and Norway, on the Santiago near GUADALAJARA in Mexico, and on the Niagara at NIAGARA FALLS. See also COLUMBIA, river, TENNESSEE VALLEY AUTHORITY, MISSOURI RIVER BASIN PROJECT

waterproof and water-repellent fabrics. Permanent waterproofing is achieved by coating fabrics with rubber or plasticized synthetic resins, then vulcanizing or baking Fabrics so treated lose porosity and lightness and when rubberized are subject to cracking Water-repellent fabrics, sprayed with or immersed in synthetic resins, metallic compounds, oils, or waxes, tend to remain porous and to retain their natural characteristics Older treatments, such as tarring the surface as for tarpaulin or oiling as for oilskin, have been supplemented by highly technical and varied processes, such as the Zelan, Koroseal, and Cravanette, and by coating the fibers prior to cloth construction Some woolen fabrics, especially Navaho blankets and tweeds and other napped textiles, are naturally water repellent

water right. The use by landowners of water adjacent to or flowing through their property presents many problems in according equal treatment There is no private ownership of such water in most cases, and hence ordinarily it cannot be impounded and sold The owner, however, may use the water for his ordinary private purposes, such as stock watering or irrigation, and then return the unused residue Most uses of water affect its purity to some degree, but so long as pollution is not excessive other users may not make legal objection In certain parts of the United States, especially in the arid and semiarid regions of the Southwest, the law has been modified to give the first user of water the unrestrained right to it without regard to his neighbors' needs. This practice reflects the original use by solitary settlers of streams for mining and other purposes Throughout the United States the rights of private owners in water can be condemned to construct public works, such as dams and irrigation projects The ownership of a stream bed may depend upon whether the stream is or is not a NAVIGABLE WATER If it is navigable some states claim title to the bed, while in other states the rule is the same as in the case of nonnavigable streams, namely that an abutting owner's property extends to the middle of the bed and that those with property along both banks of a stretch own the enclosed portion of the bed and may exclude others who are not riparian owners from using the stream at all If the stream shifts course ownership of the former bed is not affected. Underground and percolating

waters have no easily determined course, and the usual American practice is not to restrict a landowner who taps and exploits these waters, however, in some states the rights of those who may be adversely affected must be considered

waters, territorial, all waters within the jurisdiction of a state Certain waters by their situation can be controlled only by one state. These waters include, besides wholly inclosed lakes and rivers, at least those bays which are shut off by headlands belonging to the same state and not more than 6 mi apart. The control of bounding rivers and lakes extends to the middle of the channel, but agreements to share the use of such waters and of waters which flow through more than one state are common (e.g., the Rhine, the Danube) When a body of water which is almost completely bordered by one state lies along an international route of navigation (e.g., the Panama Canal, the Bosporus) treaties often make it available to all ships By international law a state enjoys complete civil and criminal jurisdiction over the unenclosed coastal waters extending to three miles from the low-water mark This distance (the marine league) was set in the 18th cent., when it was the cannon range and hence the distance at which artillery might make the sea untenable The marine league may be used by all ships in time of peace, but during war the naval vessels of belligerents are excluded Many states claim control over a wider sea margin for certain purposes, such as the protection of fisheries and the effective maintenance of police, sanitation, and customs services Thus, in the prohibition period the United States asserted jurisdiction over ships smuggling liquor which were found within an hour's run from the shore See Philip C Jessup, *The Law of Territorial Waters* (1927), W E Masterson, *Jurisdiction in Marginal Seas* (1929)

watershed, elevation or divide separating the catchment area or drainage basin or one river system or group of river systems from another system or group of systems The Rocky Mts and the Andes form the watershed between westward-flowing and eastward-flowing streams The term is also often used as synonymous with drainage basin, the Mississippi watershed extends from the Rockies to the Appalachians Often the watershed is a distinct range of mountains the two sides of which have widely different climatic characteristics, as in the Americas and Australia, sometimes, as in glaciated or geologically very young or very old areas, it is vague The low Valdai Hills are an important watershed of the USSR

Waters of Merom (mē') see BAHR EL-HULEH

waterspout, a TORNADO occurring at sea or over inland waters. The characteristic funnel-shaped cloud is formed at the base of a cumulus-type cloud and extends downward to the water surface, where it picks up spray Waterspouts are most frequent in tropical regions, but are not uncommon in higher latitudes

water supply. The source of a water supply may be a SPRING, a WELL, a river or lake, or rain water collected in a RESERVOIR or cistern Whatever the source, the water contains some impurities If tests indicate that these impurities are dangerous or if the water has an unpleasant color, taste, or odor, the supply must be put through some process (see WATER) before it is distributed for consumption For irrigation, sewage disposal, fire extinguishing, and various other purposes, the water supply need not usually be processed See also WATERWORKS See F W Robins, *The Story of Water Supply* (1946), Arnold Alcott, *Modern Water Supply* (1949), M N Baker, *Quest for Pure Water* (1949)

Waterton Lakes National Park, 204 sq mi, SW Alta, SW of Lethbridge and at the Mont border where it adjoins Glacier National Park, est 1895 It is the Canadian section of Waterton-Glacier International Peace Park created (1932) by acts of the Canadian Parliament and the U S Congress The area is mountainous, rising to 9,600 ft at Mt Blakiston, and contains the Waterton Lakes, the largest of which straddles the international line

Watertown. **1** Town (pop 8,787), W Conn, set off from Waterbury 1780 Textile and metal goods are produced. Taft School for boys (founded 1890) is here, and there are fine residences **2** Town (pop 35,427), E Mass, on the Charles and W of Boston, settled and inc 1630 Its products include rubber and canvas footwear, textiles, and electrical supplies A Federal arsenal was built in 1816 and was greatly enlarged in the First and Second World Wars The Perkins Institution for the blind is here There are old buildings. **3** City (pop. 33,385), co seat of Jefferson co, N N Y, on both sides of the Black River and N of Syracuse, settled c 1800, inc as a village 1815, as a city 1869 It is in a rich dairy region and is the **gateway** to the Thousand Islands Falls in the river supplied power for early paper mills, the city's manufactures include air brakes as well as various paper products The collections of the Jefferson County Historical Society are in the city. **4** City (pop. 10,617), co. seat of Codington co, NE S.Dak., NNW of Sioux Falls and on the Big Sioux, near Lake Kampeska, laid out 1878 It is the distributing, shipping, and trading center for a resort and large agricultural region and has mills and meat-packing plants. **5** Industrial city (pop. 11,301), SE Wis., NE of Madison at falls of the Rock River, in a farm and dairy area; settled c 1836, inc 1853 It produces malt and shoes and is a goose market. Northwestern College is here, and near Watertown is the Octagon House (c 1849), now a museum The city was the home (1855–57) of Carl Schurz

Water Valley, city (pop 3,340), a co seat of Yalobusha co, N central Miss, SSE of Memphis, Tenn, in a farm area, inc 1858 It ships watermelons and has varied small industries

Waterville. **1** City (pop 16,688), S Maine, at the falls of the Kennebec above Augusta, settled 1754 as part of Winslow, inc as a town 1802, as a city 1883 At first a trading post, then the site of small mills, Waterville developed iron-founding, boat-building, and textile and pulp-milling industries and became a railroad center. It is the seat of Colby College (for men and women, 1813) and of Coburn Classical Institute The William Redington house (1814) is a museum **2** City (pop 1,600), SE Minn, SW of Faribault, inc as a village 1878, as a city 1898 It is a resort and farm trade center **3** Village (pop 1,489), central N Y, SW of Utica, in a dairy region, inc 1871 Knit goods and canned goods are produced George Eastman was born here

Watervliet (wô"turvlēt', -vūlēt', wô'turvlēt). **1** Resort city (pop 1,193), SW Mich, on the Paw Paw and NE of Benton Harbor, settled in the 1830s, inc as a village 1891, as a city 1925 Paper is made **2** Industrial city (pop 16,114), E N Y, on the Hudson opposite Troy, inc 1896 Steel castings and abrasive paper are among its manufactures The U S arsenal here was established during the War of 1812 At Watervliet, Ann Lee in 1776 headed the first American community of Shakers

waterway, avenue of water transportation, such as a navigable lake, river, canal, or any combination of these The possession of natural waterways, which are always used by the original inhabitants of a country, is a great factor in the development of an area, for the waterways serve first as paths of exploration and new settlement and then as avenues of commerce with the older sections of the region Thus the Nile has been a boon to Egypt, the Volga, Danube, Rhine, Rhone, and many other rivers have aided Europe's growth, the long St. Lawrence–Great Lakes and Mississippi systems helped open up interior North America; the Yukon was the means of access to inland Alaska and NE Canada, and the Amazon was the primary long transportation route of South America Australia and much of South Africa are handicapped by their lack of good navigable rivers Natural waterways were early supplemented and connected by canals, many of which still, in spite of the much greater speed of land and air transportation (upon the rates of which waterways act as a check), are the means for the transfer of great quantities of the world's goods Water shipping is generally thought to be cheaper than rail, road, or air, except in the time factor, but this is only true when expensive works (e.g., locks, bridges, levees, dikes, in addition to cutting and dredging) need not be constructed and maintained Often these expenses are not reflected in the waterway freight rates but are instead absorbed by governments, and the resultant low rates (generally regulated by governments) often attract such bulky cargo as coal, ores, grain, livestock, and lumber Waterways, partly natural and partly artificial, connect the Baltic with the Black, Caspian, and North seas, the Mediterranian with the Red Sea, the Atlantic with the Pacific and the Atlantic with the Great Lakes Waterways of international importance (either because they bound or run through more than one country or because outside nations wish to exploit them for trade) have been subjects of much discord and discussion among nations, control of and access to them being determined sometimes by war and sometimes by negotiation See M E Dimock, *Developing America's Waterways* (1935), Sir Osborne Mance, *International River and Canal Transport* (1945)

Waterways, village, N Alta, on the Clearwater just southeast of its confluence with the Athabaska at Fort McMurray It is the north terminal of a branch railroad from Edmonton River boat service from here provides summer access to Wood Buffalo National Park, to the northwest.

water wheel, wheel for utilizing the power of falling or flowing water Around the rim of the wheel are fixed blades, vanes, or cup-shaped buckets against which the water strikes The wheel rotates because of the force of the water or the effect of gravity on the filled buckets or a combination of both forces As the wheel rotates, the power can be employed to operate machines Early forms of water wheels include the overshot wheel, used where water falls from a height, striking the vanes from above, the breast wheel, employed where the height of the water is less than the height of the wheel, so that the water strikes the wheel about midway, and the undershot wheel, usable where the water flows more or less on a level but with a swift current and strikes the vanes on the underpart of the wheel. A more modern form is the Pelton wheel, which has double cup-shaped buckets against which one or more jets of water are directed Water wheels have been used from ancient times but have been largely replaced by the water TURBINE See also HYDRAULIC MACHINE

waterworks, system through which a water supply reaches the point of utilization If the source is high enough above the outlet to overcome intervening obstacles and provide sufficient pressure, the system may work by gravity alone, often pressure is augmented by pumping The essential parts of a waterworks system are the headworks, usually a reservoir formed by a dam, the conduit, a pipe, an open canal, or an aqueduct, usually constructed of wood, iron, or steel and made watertight; and the distributing system, which connects with the plumbing in buildings Water raised by a pumping plant passes through a pumping main either directly to the point of utilization, to a storage or distributing reservoir, or to a standpipe When the water is pumped to a storage reservoir, it is known as an indirect pumping system, when the demand exceeds the pumping capacity, the supply is supplemented by water from the reservoir, and when the reverse is the case, the surplus water is stored in the reservoir Pumps for such work may be plunger-and-piston, centrifugal, or air-lift pumps In modern plants the power for the pumps may be steam, electric motor, Diesel engine, gasoline engine, or compressed air For irrigation purposes water is distributed through canals, flumes, or pipes. A city water-distribution system provides water mainly for domestic and industrial purposes, sewage disposal, and fire protection, the system must provide for all buildings in the city and must be arranged so that fire hydrants can be installed where necessary The underground mains in the streets branch off to each of the adjoining buildings The mains are usually of cast-iron pipe, coated to prevent rust, and of a size that will allow sufficient rate of flow at all points Where the water pipe connects with the building's plumbing, a water meter is generally installed

Watford, village (pop 1,076), S Ont, E of Sarnia, in an agricultural region It has lumber and flour mills

Watford, municipal borough (1931 pop 56,805, 1947 estimated pop 73,880), Hertfordshire, England, NW of London and on the Colne It is a trade center "Cassiobury," the former seat of the earls of Essex, is a public park A very old church has noteworthy monuments The London Orphan School, founded in 1813, is in Watford

Watford City, village (pop 1,073), co seat of McKenzie co, W N Dak, SE of Williston, inc 1934 It is a trade center in a farm and coal-mine region

Watkins, Franklin Chenault, 1894–, American painter, b New York city, studied at the Pennsylvania Academy of the Fine Arts He is especially noted as a colorist, an adherent of postimpressionism He won fame with his *Suicide in Costume*, which was awarded first prize in 1931 at the Carnegie International Exhibition in Pittsburgh Other paintings are *The Fire-Eater*, *Resurrection*, and a portrait of Justice Owen J Roberts He is well known as a portrait painter

Watkins Glen (wŏt'kĭnz), resort village (pop 2,913), co seat of Schuyler co, W central N Y, in the Finger Lakes region, at the south end of Seneca Lake and N of Elmira, inc 1842 It is in a fruit area and has extensive saltworks Watkins Glen State Park adjoins the village Its setting of cliffs, waterfalls, and unusual rock formations made by an interwinding stream attracts scores of visitors The health resort hotel here is famed for its mineral spring water A severe flood in 1935 caused great damage to the glen

Watling Island or **Watlings Island** see SAN SALVADOR

Watling Street (wŏt'lĭng), important ancient road in England, built by the Romans It ran from London (on a route now marked by Oxford St and the Edgeware Road) generally Northwest to its intersection with the Fosse Way, c 13 mi SW of Leicester, and thence in a more westerly direction to Wroxeter (ancient Uriconium) in Shropshire, SE of Shrewsbury, a distance of more than 100 mi The principal place through which it passed was St Albans (ancient Verulamium), near London Its importance arose from its use as a thoroughfare throughout the Middle Ages and into modern times In places the ancient Roman road is in perfect condition and still in daily use, and in others it has been used as a base for modern thoroughfares Other Roman roads in England are sometimes called Watling Street, notably the extension which led from London to Dover See Thomas Codrington, *Roman Roads in Britain* (new ed., 1918)

Watonga (wŭtŏng'gu), city (pop 2,828), co seat of Blaine co, W central Okla, near the North Canadian river NW of Oklahoma City, settled 1892 With its cotton gins and grain elevators, it is the commercial center for an agricultural area A state park is near by

Watrous, Harry Willson (wŏ'trŭs), 1857–1940, American genre and still-life painter, b. San Fran-

cisco, studied in Paris with Léon Bonnat, Boulanger, and Lefebvre He is best known for his small, highly finished figures *Passing of Summer* is in the Metropolitan Museum, and his works are in many museums throughout the country. He became a member of the National Academy in 1895

Watrous, town (pop. 1,126), S central Sask., near Little Manitou Lake and SE of Saskatoon, in a mixed farming area It has grain elevators

Watseka (wŏtsē'kŭ), city (pop 3,744), co seat of Iroquois co, E Ill, near the Ind line SE of Kankakee, in a farm area, platted 1860 as South Middleport on the site of an early trading post, renamed 1865, inc 1867 Its manufactures include dairy products and soft drinks

Watson, James Craig, 1838-80, American astronomer, b Fingal, near London, Ont, grad Univ of Michigan, 1857 He was professor of astronomy and director of the observatory at the Univ of Michigan from 1863 to 1879, when he became director of the Washburn Observatory, Univ of Wisconsin The discoverer of a number of asteroids and some comets, he wrote *Theoretical Astronomy* (1868), an authoritative treatise on the theory of the motion of comets and planets In 1874 he headed an expedition to China to observe the transit of Venus. His works include *A Popular Treatise on Comets* (1861) and *Tables for the Calculation of Simple or Compound Interest* (1878)

Watson, John Broadus, 1878–, American psychologist, b Greenville, S C, M A Furman Univ, 1900, Ph D Univ of Chicago, 1903 He taught (1903–8) at the Univ of Chicago and was professor and director (1908–20) of the psychological laboratory at Johns Hopkins He later became an advertising executive Watson originated the school of psychology called BEHAVIORISM, in which behavior is described in terms of physiological response to stimuli, the concept of conscious or unconscious mental activity is rejected From his work with infants he concluded that there are three unconditioned (unlearned) responses in newborns—fear, love, and rage He wrote *Psychology from the Standpoint of a Behaviorist* (1919), *Behaviorism* (1925), and *Psychological Care of Infant and Child* (1928)

Watson, Thomas, 1557?–1592, English poet and scholar He translated into Latin the *Antigone* of Sophocles and the *Imunita* of Tasso and wrote *The Hecatompathia, or, Passionate Century of Love* (1582), one of the earliest collections of sonnets in English

Watson, Thomas Edward, 1856–1922, American legislator and author, b Columbia co, Ga He studied at Mercer Univ, Macon, Ga, was admitted to the bar (1875), and practiced in Thomson, Ga He served in the state legislature in 1882–83 and as a Farmers' Alliance Democrat in Congress (1891–93), where he worked for rural free delivery of mail The Populists nominated him for Vice President in 1896 and in 1904 named him for the presidency He was elected to the Senate as a Democrat in 1920 and served from 1921 to his death In the course of his career he published *Tom Watson's Magazine*, the *Weekly Jeffersonian*, the *Sentinel*, and numerous books, including biographies of Jefferson (1903) and Jackson (1912) and *The Roman Catholic Hierarchy* (1910) For the publication of the last book, a virulent attack on Catholicism, he was indicted three times but was never convicted See biography by C V Woodward (1938)

Watson, Sir William, 1858–1935, English poet, b Yorkshire, privately educated His first great success was *Wordsworth's Grave* (1890), followed by an elegy on Tennyson, *Lachrymae Musarum* (1892) His poetry is conservative, traditionally romantic, and he is remembered for his sonnets and shorter lyrics He was knighted in 1917, but missed the laureateship, apparently because of his sharp political criticisms in verse

Watson-Gordon, Sir John. see GORDON, SIR JOHN WATSON-

Watson Lake, village, SE Yukon, on small Watson Lake, near the Liard river and the British Columbia border A station on a branch of the Alaska Highway, it is also a Royal Canadian Mounted Police post, with an airfield and a radio station

Watsontown, borough (pop. 2,282), E Pa, on the West Branch of the Susquehanna and c 15 mi SE of Williamsport, laid out 1794, inc 1867 Fort Freeland was built near by in 1778 and was destroyed by Indians in 1779

Watsonville, city (1940 pop 8,937, 1947 special census pop 11,458), W Calif, near Monterey Bay and on the Pajaro river, founded 1851, inc 1868 It is a shipping and processing center for vegetables and fruits, especially lettuce and apples. Near by are beach and mountain resorts

Watt, James, 1736–1819, Scottish inventor. While working at the Univ of Glasgow as an instrument maker, Watt was asked to repair a model of Thomas Newcomen's steam engine. He devised improvements which resulted in a new type of engine (patented 1769) with a separate condensing chamber, an air pump to bring steam into the chamber, and parts of the engine insulated. He also perfected a rotary engine Matthew Boulton financed Watt's work and was his partner (1775–80) in manufacturing the engines at Soho near Birmingham The watt, a unit of power, was named for Watt. See biography by H W. Dickinson (1936), study by I B Hart (1949)

watt [for James Watt], unit of electrical power It is defined as the power necessary to maintain a current of one AMPERE under a pressure of one VOLT The number of watts, or electrical power, of a circuit is obtained by multiplying the number of volts by the number of amperes It is measured directly by an instrument called the wattmeter The kilowatt is equal to 1,000 watts "Electricity," i e, electrical power, is usually sold by the kilowatt hour This quantity is computed by multiplying the number of kilowatts by the number of hours In computing charges, kilowatt hours are multiplied by the unit cost

Watteau, Antoine (wätō', wŏ'tō, Fr ätwän' vätō'), 1684–1721, French painter of Flemish origin, b Valenciennes, of humble parents He first studied with an obscure local painter In 1702, almost penniless, he went to Paris, where he suffered great privations, working as a scene painter and later in a factory of cheap devotional pictures His work caught the attention of an able painter, Claude Gillot, in whose studio he went to work From then on he passed from the protection of one patron to another The comte de Caylus, his biographer, was a staunch friend In 1712 Watteau was accepted by the Académie royale de Peinture et de Sculpture Aside from this and a second place in a Prix de Rome contest, he won little official recognition He died at 37, but despite his short and troubled life, he holds a unique place in the history of French painting, he exercised a great influence on his contemporaries and successors His small canvases, for the most part representing idyllic scenes of festivities in the open or characters from Italian comedy, place him among the great colorists of all time A profound lyric quality pervades his gay and sensuous scenes and gives them a poignancy which none of his 18th-century imitators attained Out of the most fleeting aspects of life he created an enduring and individual art Among his famous works are *The Embarkation for Cythera*, *Autumn*, and *Gilles* (all Louvre) and *La Fête champêtre* (Edinburgh) His *Perspective* is in the Museum of Fine Arts, Boston, and his *Mezzetin* is in the Metropolitan Museum

Wattenscheid (vä'tunshīt), city (pop 59,575) Westphalia, NW Germany It is a coal-mining and manufacturing center of the Ruhr district

Watterson, Henry (wŏ'tursun), 1840–1921, American journalist, b Washington, D C His education was informal Early in life he became a Washington newspaper reporter He served with the Confederate army in the Civil War and for a time edited the Chattanooga (Tenn) *Rebel* After working on newspapers in Alabama, Ohio, and Tennessee, Watterson became an editor of the Louisville (Ky) *Journal* In 1868 he merged this paper with the competing Louisville *Courier* to form the *Courier-Journal* Under Watterson's editorship, this paper became one of the best known in the country and a leading influence in the South His editorials (compiled in 1923 in a volume by Arthur Krock) gained national attention Watterson served (1876–77) in Congress and vigorously supported S J Tilden for President in 1876 He sought reconciliation between the North and the South and opposed the Ku Klux Klan He was sharply critical of President Grover Cleveland, opposed William J Bryan and free silver, and gave support to Woodrow Wilson only after 1916 He resigned his editorship in 1919 See his autobiography, "*Marse Henry*" (1919)

wattle, name for several woody species of Australian ACACIA, commercially valuable for their high tannin content By common consent it is the national flower of Australia, where Wattle Day is observed at blooming time The pliable branches were woven into the structure of their early wattle houses and fences, whence the name for the plants Some wattles are grown for decorative purposes in the SW United States

Watts, George Frederic, 1817–1904, English painter and sculptor He studied at the Royal Academy and in Italy, where he developed an enthusiasm for Venetian painting and Greek sculpture which greatly influenced his work He early executed several decorative commissions, including his large fresco *Justice* (Lincoln's Inn, London) His later work consisted largely of allegorical paintings and portraits He enjoyed many honors, twice refusing a baronetcy, and spent most of his life at work in his London studio His popular painting is characterized by glowing color, soft contours, and tender idealism He is best known for his allegories such as *Sic Transit*, *Love and Life*, *Love and Death*, and *Love Triumphant* Many of these are in the Tate Gallery, London The National Portrait Gallery, London, contains a large collection of his portraits of eminent contemporaries. The Metropolitan Museum has his *Ariadne in Naxos*. His notable work in sculpture includes numerous monuments and a memorial to Cecil Rhodes, *Physical Energy*, at World's View, Southern Rhodesia He married Ellen TERRY in 1864, but they were separated in 1865 and were divorced in 1877; in 1886 Watts married Mary Fraser-Tytler, who wrote a biography of him (3 vols., 1912) See also studies by C T Bateman (1901) and G K. Chesterton (1904)

Watts, Isaac, 1674–1748, English dissenting clergyman and hymn writer He became assistant pastor, and in 1702 pastor, of the Independent Chapel in Mark Lane, London From 1712, however, because of poor health, he lived in semiretirement at Abney Park, with Sir Thomas Abney His several hundred hymns embodied the stern doctrines of Calvinism but reflected also his belief that Christian truth could be expressed in the imagery of true poetry The relatively few of his hymns which survive in present-day hymnals are among the finest examples of English metrical hymnody Those beginning, "Jesus shall reign where'er the sun," "When I survey the wondrous cross," "Joy to the world," and "Our God, our help in ages past," all appeared in his *Psalms of David Imitated in the Language of the New Testament* (1719) *Divine Songs for Children* (1715), containing the classic "How doth the little busy bee," was the first work of its kind Watts's later works, including *Logic* (1725), much used as a text, and theological and metaphysical works, were secondary in importance to his hymns There are several editions of his collected works See biography by A P Davis (1943), Thomas Wright, *Isaac Watts and Contemporary Hymn-Writers* (1914)

Watts, Mary Stanbery, 1868–, American novelist, b Delaware co, Ohio Her best-known works are the novel of the Mexican War, *Nathan Burke* (1910), and *The Rise of Jennie Cushing* (1914)

Watts-Dunton, Theodore (Walter Theodore Watts-Dunton), 1832 1914, English poet, novelist, and critic He was on the staff of the *Examiner* (1874–76) and was editor of the *Athenaeum* (1876–98) He was a friend of Rossetti and of Swinburne, whose life he organized and who lived with him from 1879 to 1909 Watts-Dunton edited many of the classics and contributed important articles to *The Encyclopaedia Britannica* Among his works are *The Coming of Love* (1897), *Aylwin* (1898), a novel of gypsies, *The Christmas Dream* (1901), *The Renascence of Wonder a Treatise on the Romantic Movement* (1903), and *Old Familiar Faces* (1916), a volume of recollections See biography by James Douglas (1904). Max Beerbohm, "No 2 The Pines," in *And Even Now* (1920)

Watt's Dyke, ancient entrenchment of England and Wales see OFFA'S DYKE

Waubeshiek (wô'bushĕk), c 1794–c 1841, American Indian prophet, called also White Cloud He was a friend and adviser of Black Hawk and was chiefly responsible for the BLACK HAWK WAR He was captured with Black Hawk, imprisoned, and taken to Washington He spent his last days peacefully in Iowa Prophetstown, Ill, is the site of Waubeshiek's early residence

Wauchula (wôchō'lŭ), city (pop 2,710), co seat of Hardee co, S central Fla It was settled around a fort built during the Seminole War Wauchula is a market center for vegetables and fruit, especially strawberries

Waugh, Evelyn (ēv'lĭn wô'), 1903–, English author The first of his witty, satiric novels, *Decline and Fall*, was published in 1928 It was followed by *Vile Bodies* (1930), *Black Mischief* (1932), *A Handful of Dust* (1934), *Scoop* (1938), *Put Out More Flags* (1942), *The Loved One* (1948, a satire on American attitudes toward death), and *Scott-King's Modern Europe* (1949) *Brideshead Revisited* (1945) is in a more straightforward vein Waugh has, in addition, written a number of travel books and biographies of D G Rossetti (1928) and Edmund Campion (1935), the Elizabethan Jesuit martyr. The latter work received the Hawthornden Prize in 1936 Waugh's Roman Catholicism (he was converted in 1930) and his social conservatism are apparent throughout most of his work He is the son of Arthur Waugh, editor and publisher, and brother of Alec Waugh, a novelist

Waugh, Frederick Judd (wô), 1861–1940, American marine painter, b Bordentown, N J, studied at the Pennsylvania Academy of the Fine Arts and in Paris He was a proficient and prolific painter of seascapes and is represented in many American, English, and South African museums

Waukegan (wôkē'gŭn), residential and industrial city (pop 34,241), co seat of Lake co, NE Ill, on Lake Michigan N of Chicago It was settled in 1835 as Little Fort near an old French stockade established on the site of an Indian village, in 1849 it was incorporated as the village of Waukegan With air and rail services and a good harbor, the city manufactures steel and steel products, chemicals, asbestos products, pharmaceuticals, and machines of various types

Waukesha (wô'kshô), city (pop 19,242), co. seat of Waukesha co, SE Wis, on the Fox and W of Milwaukee, settled 1834, inc 1895. It is an industrial center for a dairy area Waukesha became a health resort after the Civil War, and its bottled waters are shipped widely Carroll College and a state industrial school for boys are here. Near by are a

state sanatorium for the tubercular and Cushing Memorial Park. Alexander W. Randall lived in Waukesha.

Waukon (wô'kŏn″), city (pop. 2,972), co seat of Allamakee co., NE Iowa, near the Mississippi, settled 1849, inc. 1883. An annual corn festival is held

Waupaca (wŏpă'kŭ), industrial city (pop 3,458), co seat of Waupaca co., central Wis., between Appleton and Wisconsin Rapids and on the Waupaca, inc 1875 It is the center of a lake resort area

Waupun (wŏpŭn'), city (pop 6,798), central Wis., SW of Fond du Lac and on the Rock River, in a farm and dairy area, settled 1838, inc 1878 Vulcanising machinery and shoes are made The state prison and a state mental hospital are here.

Waurika (wôrē'kŭ), farm trading city (pop 2,458), co seat of Jefferson co., S Okla., near the Red River, settled c 1890, inc 1903

Wausau (wô'sô), industrial city (pop 27,268), co seat of Marathon co., central Wis., at rapids of the Wisconsin and NW of Green Bay, in a dairy area, settled 1839, inc 1872 Wausau grew as a lumber town It is now a trade center, and its manufactures include paper and wood and paper products. Winter sports are held at near-by Rib Mt

Wauseon (wô'sēŏn), village (pop 3,016), co seat of Fulton co., NW Ohio, SW of Toledo, in a farm and dairy area, settled 1835, inc. 1852 Automobile parts are made here

Wauters, Émile (āmēl' vōtĕr', vou'tûrs), 1846–1933, Belgian historical and portrait painter and pastelist Member of the British Royal Academy and winner of numerous prizes in the Paris Salon from 1870 on, he is best known for his decorations in the town hall, Brussels, and for such historical paintings as *Mary of Burgundy before the Magistrate of Ghent* (Liége) and *Madness of Hugo van der Goes* (Brussels)

Wautoma (wôtō'mu), city (pop 1,180), co seat of Waushara co., central Wis., W of Oshkosh, in a dairy area, inc 1901

Wauwatosa (wôwutō'su), industrial city (pop 27,769), SE Wis., near Milwaukee, settled 1835, inc as a village 1892, as a city 1897 It is the seat of several county institutions

wave, in common usage, a term taken to indicate a disturbance of the surface of some liquid medium, e.g., that arising when a stone is dropped into a body of water In physics it has further significance when used in the description of such phenomena as light, radio, sound, and electricity By a consideration of water waves, certain terms common in a discussion of waves of any kind are more clearly understood Wave length is taken as the distance from any point on one wave to a corresponding point on the next Frequency is defined as the number of crests which pass a given point in a second Velocity is the rate, or speed, at which a crest "travels," i.e., the distance it appears to cover in a second Waves are said to be longitudinal or transverse according to the direction in which the particles of the medium transmitting them move The medium transmitting the wave does not move along with the wave—it is merely set in vibration at successive points as the wave of energy moves along For example, the particles of water in the water waves set up when a stone is dropped in a quiet pool do not move in the direction of the wave but simply vibrate up and down, i.e., at right angles to the path the wave is following, water waves are thus transverse LIGHT waves are also transverse They are held to be transmitted by the ETHER, being able therefore to pass through a space in which there is no matter, i.e., through a vacuum The different colors of which white light is composed have different wave lengths, the shortest (violet) being 0 0004 mm and the longest (red) 0 0008 mm SOUND waves differ from light waves in that their vibration is longitudinal, i.e., the particles of the transmitting medium vibrate forward and back in line with the direction of the wave Sound waves are transmitted by matter and will not pass through a vacuum All the different forms of radiant energy (see RADIATION) are believed to be transmitted by waves RADIO waves are the longest of the so-called electromagnetic radiation, with the "short" electric waves just below them in the scale

Wavell, Archibald Percival Wavell, 1st Earl (wā'vŭl), 1883–, British field marshal and viceroy of India Educated at Winchester and Sandhurst, he joined the Black Watch in 1901, saw service in the South African War, and on the Western Front in the First World War, where he lost an eye Later, under the command of General Allenby in Palestine, he first learned the desert strategy which he was to employ so successfully later During the Arab-Jewish riots in 1937-38, he was sent to keep order in Palestine and Trans-Jordan as commander of the British forces In the Second World War he was commander in chief of the Middle East, in which capacity he put to rout the Italian forces in Cyrenaica with the shrewd use of bold tactics (see NORTH AFRICA, CAMPAIGNS IN), only to be forced back later in 1941 by the Axis drive He then exchanged commands with General Auchinleck, becoming commander in chief of India In 1942 he was for some months supreme commander of the Allies in the Far East. Resuming his command in India, he became viceroy and governor general in 1943 From that time until his resignation in 1947, his main concern was the preparation of India for self-rule; towards this end he worked continually with the numerous Indian factions He was created Viscount Wavell of Cyrenaica and Winchester in 1943 and earl in 1947 He wrote *The Palestine Campaigns* (1928), *Allenby* (1940) and *Allenby in Egypt* (1943), *Speaking Generally* (1946), and *The Good Soldier* (1947) He also edited an anthology of poetry, *Other Men's Flowers* (1944) See biography by R H Kiernan (1946).

wave mechanics. see QUANTUM THEORY

Waveney (wā'vunē), river of England It forms part of the Norfolk-Suffolk boundary, widens into the BROADS along its lower course, and joins the Yare to form the estuarine Breydon Water

Waverley, village, Surrey, England, SE of Farnham At "Moor Park," Sir William Temple's estate, Swift lived as secretary and here he met "Stella" There are remains of Waverley Abbey, the earliest Cistercian abbey in England, founded in 1128 The *Annales Waverlienses* are supposed to have suggested the title of Scott's novels

Waverly **1** City (pop 1,385), central Ill., SW of Springfield, in a farm area, inc. 1867 **2** City (pop 4,156), co seat of Bremer co., NE Iowa, on the Cedar river above Waterloo, inc 1859 It processes dairy and other farm produce Wartburg College (coeducational, 1868), here, has the Waverly Museum There is a Lutheran orphans' home **3** Village (pop 5,450), S N Y., at the Pa line, on the Chemung and SE of Elmira, inc 1853 **4** Resort village (pop 1,757), co seat of Pike co., S Ohio, on the Scioto river and S of Chillicothe, in a farm area, founded 1829 as Uniontown, renamed 1830 Lake White State Park is near by **5** Town (pop 1,318), co seat of Humphreys co., central Tenn., W of Nashville and near the Tennessee, in a farm and timber area, laid out 1836 **6** Town (pop 1,288), SE Va., SE of Petersburg, inc 1892 It is a trade center with lumber mills

Waves (Women Appointed for Voluntary Emergency Service), created (1942) in the Second World War to release male naval personnel for sea duty The organization was commanded until 1946 by Mildred H McAfee, president of Wellesley College on leave She was promoted captain in 1943. Waves served in communications, air-traffic control, naval air navigation, and clerical jobs in the United States, Hawaii, Alaska, and the Caribbean Recruiting ended in 1945, with a peak enrollment of 86,000, including (after 1944) Negro women Waves forces were reduced when the war ended, and after the passage (1948) of the Women's Armed Service Integration Act women were enlisted into the regular navy.

wax, name for a substance secreted by glands on the abdomen of the bee and known commonly as beeswax and also for various substances resembling beeswax Chemically waxes differ from fats in being usually mixtures containing esters of fatty acids and esters of certain alcohols (other than glycerol), as well as alcohols and sometimes hydrocarbons, fats, on the other hand, are esters of fatty acids and glycerol Waxes are generally harder and less greasy than fats, but like fats they are less dense than water and soluble in alcohol and ether but not in water Among the waxes derived from plants are carnauba wax, obtained from the leaves of a PALM grown in Brazil, and candelilla wax, produced by a Mexican plant (*Euphorbia antisyphilitica*) Those of animal origin include wool wax or lanolin obtained from the surface of wool fibers and used in making certain creams, ointments, and soaps, in the processes of finishing and softening leather, and as an ingredient of some paints and varnishes, SPERMACETI, obtained from the sperm whale, and Chinese WAX, which is deposited on certain trees in parts of Asia (especially China and India) by a species of scale insect Mineral waxes include OZOCERITE and PARAFFIN, both composed of hydrocarbons Japan WAX and bayberry (or myrtle) wax are composed chiefly of fats See N S Knaggs, *Adventures in Man's First Plastic* (1947)

Waxahachie (wŏk"sĭhā'chē, wŏk"-), city (pop 8,655), co seat of Ellis co., N Texas, S of Dallas, founded 1847, inc 1871 A market center in the rich blackland prairie, it is also an industrial city with garment factories and other plants The Southwestern Bible Institute (Assembly of God, coeducational, 1927) is here

wax figures, usually of beeswax, which is susceptible to modeling, casting, and coloring They were common among the ancients, the early Egyptians used them as sacred images for burial ceremonies and offerings, the Greeks employed them as small divinities in religious rites, as dolls, and as talismans Aristocratic Romans had wax masks and family portraits as a mark of prestige and exhibited them in funeral processions Pins were stuck through wax effigies of enemies, the superstition being that punishment was thus also visited upon the individual himself, this practice continued through the Middle Ages In the last days of the Roman Saturnalia, wax statuettes played a part in the celebration The Christian era brought forth images of saints and medallions of the Lamb of God, or Agnus Dei, in wax—examples in Spain show particularly fine modeling and color. In the 15th cent., full-size figures with glass eyes and real hair were built upon skeleton frames Two hundred years later anatomical figures were introduced in Florence for pathological studies In Renaissance Italy wax was used by medalists creating models for their bronzes, and wax portrait busts were common Polychrome wax portraits were popular in Europe throughout the 18th cent., and relief work in wax was employed by Flaxman for the exquisite cameos of Wedgwood ware In the 19th cent., wax dolls came into fashion, and exhibits of wax representations, accurate to the last detail, of notable, and even notorious, personages were in vogue Among such collections Mme Tussaud's, London, and that in the former Eden Musée, New York (closed 1915), were widely known The wax figures once familiar in shop windows have been replaced by the more lasting manikins of wood or papier mâché Present-day sculptors employ wax for modeling and casting, and metalwork designs are usually created in this medium See E S Bolton, *American Wax Portraits* (1929)

wax moth: see BEE MOTH.

wax myrtle: see BAYBERRY.

wax painting: see ENCAUSTIC.

waxwing, perching bird of the Northern Hemisphere of the Old and New Worlds The waxwings are crested and have sleek, brownish-gray plumage with dashes of red that look like sealing wax on the wing feathers In winter they flock They eat wild fruits supplemented by insects The cedar waxwing, called cherry bird and cedar bird, breeds throughout most of Canada and the United States The Bohemian waxwing is circumpolar in distribution In North America it is found chiefly in the north but wanders to parts of the United States The Japanese waxwing is confined to E Asia

Waycross, city (pop 16,763), co seat of Ware co., SE Ga., SW of Savannah and just N of Okefenokee Swamp, first settled 1818, inc 1874 It is a highway and rail focus (with railroad shops) as well as an industrial and shipping center in a productive farm area Its commercial development dates from the 1870s

Way Down East' see PARKER, LOTTIE BLAIR.

wayfaring tree see HOBBLEBUSH

Wayland, Francis, 1796–1865, American clergyman and educator, b New York city, grad Union College, 1813, and studied at Andover Theological Seminary As pastor (1821–26) of the First Baptist Church, Boston, he became known for his able preaching After a brief professorship at Union College, he was president (1827–55) of Brown Univ He was pastor of the First Baptist Church, Providence, for a short time following his retirement from the university and afterward gave his chief attention to benevolent works, particularly prison reform His works include three frequently reprinted textbooks, *Elements of Moral Science* (1835), *Elements of Political Economy* (1837), and *Elements of Intellectual Philosophy* (1854), as well as a memoir (1853) of the Rev Adoniram Judson See biographies by his sons, Francis and H L Wayland (1867), and J O Murray (1891)

Wayland. **1** Town (pop 1,950), E Ky., ENE of Hazard, in the Cumberland coal area **2** Town (pop 3,505), E Mass., W of Boston, settled c 1638, inc 1835 **3** Village (pop 1,005), S Mich., between Grand Rapids and Kalamazoo, settled 1836, inc 1858 **4** Village (pop 1,795), W central N Y., N of Hornell, inc 1877 Chairs and silk are made here

Wayland Smith, in English folklore, a skillful blacksmith, whose forge was near the White Horse (Berkshire) He appears in the Old English *Deor* and in Sir Walter Scott's *Kenilworth* The wonderful story of his Norse cognate, Völund, appears at length in the *Elder Edda*

Waymart, borough (pop 1,095), NE Pa., E of Carbondale, inc 1851 It has a mental hospital

Wayne, Anthony, 1745–96, patriot general in the American Revolution, b Chester co., Pa., educated at his uncle's school in Philadelphia Not inclined toward academic studies, he was enabled by aptitude in mathematics to become a surveyor in 1763 In 1765 he was engaged to survey the land for, and promote settlement of, a proposed colony in Nova Scotia, a venture from which he withdrew in 1766 He returned to the business of farming and tanning at Waynesborough on the farm which his grandfather had established and of which he became owner in 1775 He represented Chester co in the Pennsylvania assembly (1774–75), was an agitator against British indignities, and was active in preparations to defend the cause of the colonists When the Continental army was formed, he organized and commanded a regiment from Chester co., and in Jan., 1776, he was commissioned a colonel and given command of the 4th Pennsylvania Battalion As agent for the Pennsylvania Committee of Safety, he built defenses for the Delaware In the spring of 1776 he covered the retreat of the Americans at Trois Rivières after

the patriot failure in the Quebec campaign. The next winter he spent in command at Fort Ticonderoga In 1777 he was commissioned brigadier general and joined Washington's army at Morristown, N J. In the battle of Brandywine, Wayne commanded a division at Chadd's Ford. He was defeated by Howe's forces at Paoli, Pa ; he had to answer charges before a court-martial and was acquitted He fought at Germantown, made successful raids on British supplies for the troops encamped at Valley Forge, and served in the battle of Monmouth His most famous achievement, however, was his capture of Stony Point by a night attack in July, 1779 He aided Lafayette in Virginia and was active in the Yorktown campaign Later he fought successfully against the Indians in Georgia, and after Nathanael Greene's army had forced the British evacuation of Charleston, S C , Wayne occupied the city In 1783 he returned to Pennsylvania, where he served on the council of censors, and in 1784 he was again elected to represent Chester co. in the general assembly The following year he returned to Georgia and tried unsuccessfully to work the land which the Georgia assembly had given him in gratitude for his services In 1791 he was elected to Congress as a representative from Georgia, but was unseated because of irregularities in the election and in his residence qualification In 1792 he succeeded Arthur St Clair as commander in chief of the American armies and proceeded to the Northwest Territory After the failure of peace negotiations, which Wayne opposed, feeling that war was inevitable, he decisively defeated the Indians at Fallen Timbers In 1795, the Treaty of Greenville was signed with the chiefs of the Wyandotte, Delaware, Miami, Shawnee, Chippewa, Ottawa, Sac and Fox, and Potawatami Indians. All previous treaties ceding land to the United States were to be recognized This was the first treaty in which Indian title to lands within the boundaries of the new United States was overtly recognized Early in 1796 Wayne retired Impetuous and hot-headed, he was sometimes known as "mad Anthony," and he often quarreled with his fellow officers, but in times of action he was an able general, capable of making clear judgments under duress See H B Dawson, *The Assault on Stony Point* (1863), J W De Peyster, *Major General Anthony Wayne* (1886), C J Stillé, *Major General Anthony Wayne and the Pennsylvania Line in the Continental Army* (1893), biographies by Thomas Boyd (1929), J H Preston (1930), and H E Wildes (1941)

Wayne. **1** Village (pop 4,223), SE Mich , on the South Branch of the Rouge and SW of Dearborn, settled 1836, inc 1869 Aircraft parts, machinery, and oil and gasoline strainers are made **2** City (pop 2,719), co seat of Wayne co , NE Nebr , near the Missouri NW of Omaha, in a farm area, laid out 1881 A state teachers college is here

Waynesboro. **1** City (pop 3,793), co seat of Burke co , E Ga , S of Augusta, laid out 1783, inc 1812. It is a cotton center **2** Town (pop. 1,445), co seat of Wayne co , SE Miss , near the Chickasawhay S of Meridian, in a timber, livestock, and farm area **3** Borough (pop 10,231), S Pa , near the Md boundary SW of Harrisburg, settled 1798, inc 1818 It produces locks and refrigeration machinery The surrounding country is beautiful and yields peaches and apples A state forest is near by, which enhances the borough as a resort center It was named for Anthony Wayne **4** City (pop 7,373), central Va , SE of Staunton in the Shenandoah Valley, near the southern entrance to the Skyline Drive, settled 1700, inc 1797 It is a trade and industrial center In March, 1865, a detachment of Sheridan's army under Custer severely defeated Early here. A girls' preparatory school and junior college and a boys' military school are here

Waynesburg. **1** Village (pop. 1,223), NE Ohio, SE of Canton Structural clay products are made here **2** Borough (pop. 4,891), co seat of Greene co , SW Pa , 40 mi SSW of Pittsburgh, laid out 1796, inc 1816 Bituminous coal is mined here It has landscaped chains of parks, colonial buildings, and the county museum Named for Anthony Wayne, it is the seat of Waynesburg College (coeducational, opened 1849)

Waynesville, resort town (pop 2,940), co seat of Haywood co , W N.C., in the Blue Ridge WSW of Asheville, settled before 1800, inc. 1871 The area produces diversified crops, livestock, dairy products, kaolin, and mica Leather goods, furniture, and textiles are made here. Near-by Lake Junaluska is the seat of a Methodist assembly

Wayne University, at Detroit, city and county supported, coeducational, formed 1933 from five city colleges (opened 1868–1927) It has colleges of education, engineering, liberal arts, medicine, nursing, and pharmacy and schools of business administration, general studies, occupational health, public affairs and social work, and law Many local agencies cooperate

Waynflete, William (wān'flēt), 1395?–1486, English prelate, lord chancellor of England, educated at Oxford He was master of Winchester College before 1429, and in 1443 he became provost of Eton In 1448 he succeeded Cardinal Beaufort as bishop of Winchester. He soon after received patents to found a hall at Oxford for the study of theology and philosophy. In 1456 he obtained royal permission to establish a college, which would include the earlier Magdalen Hall, outside the town walls. The buildings were completed in 1480, largely through Waynflete's own generosity, and Magdalen College still bears his arms He was also industrious in the building of the nave of Winchester, in which he continued Cardinal Beaufort's work. The bishop's political career was largely a matter of personal aid to Henry VI, who was about to be precipitated into the Wars of the Roses. William treated (1452) with Jack CADE and with Richard of York for peace He was a privy councilor, in which capacity he tried to obtain Henry's consent to a regency by Richard of York (1454), in 1456 he was made lord chancellor. Although he had followed a moderate course, he presided at the parliament (1459) at Coventry which attainted the Yorkists After the defeat at Northampton, William, no longer chancellor, was well treated by the Yorkist conquerors, though he stood for Henry in the Lancastrian resurgence before Barnet (1470)

Waynoka (wānō'ku), railroad town (pop 1,584), NW Okla , near the Cimarron river, settled c 1893, inc 1910 It has railroad repair shops

Wayzata (wīzē'tŭ, wīzā'tŭ, wāzē'tŭ), city (pop 1,473), E Minn., western suburb of Minneapolis It is a trade center and a resort on Lake Minnetonka

Waziristan (wŭzēr'ĭstăn"), mountainous region, North-West Frontier Prov , Pakistan Until recent years military expeditions were frequently dispatched to suppress its warlike population of Moslem Waziris

Wazzan (wazăn'), Fr. *Quezzane* (wĕzăn'), town (pop 23,509), French Morocco, NW of Fez It is a sacred city, the seat of an important Moslem brotherhood

Weald, the (wēld), area between the North Downs and the South Downs, England, forming part of the counties Sussex, Surrey, and Kent Formerly forested and once noted for its iron industry, the Weald is now largely an agricultural district

Wealdstone (wēld'stun), former urban district (1931 pop 27,019), since 1934 part of Harrow, Middlesex, England, NW of London Its manufactures include glassware, paint brushes, and cameras

wealth, goods possessing economic VALUE Wealth may be measured by price It does not include such necessaries of life as air, sunlight, and water when these are free, and it does not include unmarketable human qualities National wealth may include the value of all things within a nation's boundaries or the value of all things within and outside the country that are owned by its citizens Surplus wealth is wealth not required for the satisfaction of wants See J A Hobson, *Work and Wealth* (1914), W A Robson, *The Relation of Wealth to Welfare* (1925), Frederick Soddy, *Wealth, Virtual Wealth, and Debt* (2d ed , 1933)

weapon, instrument of offense or defense used to kill or injure an enemy or to destroy his fortifications and means of resistance or attack In his development of weapons, man has sought to increase their destructiveness and effective range and to combine these improvements with increased mobility and better protection (armor) for the users of the weapons These goals of armament, however, are often contradictory, and the desired improvement in one aspect of a weapon can often be achieved only by abandoning one or more of the other ideals For early man a stone held in the hand increased the force of his blow, while the use of a heavy club, acting as an extension of his arm, increased the effective range, a hand-thrown stone (and later the sling shot) further increased range, but only at some sacrifice in accuracy During early military history weapons changed slowly, the Persian invaders of Greece (480 B C) were equipped with flint-tipped arrows, wooden javelins, and slings In the same period bronze spears, arrow tips, and swords were introduced Body armor of the same metal was developed to deflect these penetrating weapons The use of cavalry and chariots was well known, and these were used for increased mobility The famed phalanx of the Macedonians was composed of infantry armed with the *sarissa*, a pike 24 ft. long When grouped for battle, the phalanx presented a virtual wall of pike points to the enemy, for the length of the *sarissa* permitted the points of the weapons of the sixth rank of troops to strike out beyond the first row of the phalanx The early Greeks used ballistae and catapults in besieging cities They also introduced chemical warfare (Greek fire) The Roman legions introduced the iron sword to replace the softer, easily blunted bronze sword The Romans also used throwing spears and iron body armor and further developed siege artillery. The fall of the Roman Empire was accompanied by the downfall of Roman weapons. The victory of the Goths at Adrianople (A.D 378) marked the rise to dominance of light cavalry, fighting with such weapons as arrows, spears, and axes As the longbow, the crossbow, and the halberd (a combination of axe and pike) became effective against it, cavalry turned to heavier armor. In the Middle Ages, knights in complete suits of armor fought with lances and long swords having rounded ends that made them useful only for hacking at the enemy. The weapons of the SIEGE, such as the ram, bore, penthouse, and various hurling machines, were basically those of earlier times, with some improvements. The discovery of the propulsive force of gunpowder revolutionized armament. Field artillery was introduced by Dutch artisans in the early 14th cent. Early cannon were muzzle-loading and fuse-firing; they shot stone projectiles Cannon were steadily improved, and by the 17th cent Gustavus II (Gustavus Adolphus) made them a valuable weapon by increasing their mobility and standardizing their calibers. Later, shells charged with explosives were introduced. The first practical firearm was the harquebus of the 16th cent , which could fire some 200 or 300 yds This weapon in the hands of infantry was capable of penetrating the heaviest suit of armor and destroyed the advantage held by mounted knights, who considered the use of firearms a crime against the laws of civilized warfare, they often hanged prisoners found armed with harquebuses In the middle of the 16th cent. the musket, capable of firing 400 yd , was introduced by the Spanish. Until the invention of the rifle it remained the chief infantry arm The long and intricate reloading of a musket made necessary supporting pikemen to protect the musketeers from charging cavalry The bayonet was developed to provide the musketeer with his own weapon of defense The pistol provided cavalry with an effective weapon of short range against the pikemen In the late 18th cent the rifle was introduced and in the 19th cent. became the standard infantry firearm, later supplemented by automatic rifles and machine guns The pistol was replaced by revolvers and automatic pistols. Artillery developed manifold pieces—heavy howitzers, mortars, gigantic naval artillery, and, in the 20th cent , antiaircraft guns and antitank guns Naval armament and maneuverability progressed apace with the military In addition, the submarine was made practical, firing a self-propelling underwater torpedo, it had no counterpart in land warfare The tank, introduced in the First World War, became an important weapon in the Second World War, serving as highly mobile, well-armored artillery To penetrate the tank's armor, rocket projectiles were introduced as infantry weapons Of minor importance in the First World War, the airplane played a major role in the Second World War Fast, highly maneuverable fighter planes, equipped with machine guns, bombs, and rockets, supported infantry as highly mobile artillery, intercepted enemy bombing planes, and protected friendly bombers which were used to deliver devastating blows to the civilian population and war industries of the enemy Robot bombs (pilotless flying bombs propelled by jet or rocket engines) were used by the Germans toward the end of the war The development by the United States of the atomic bomb has, perhaps, introduced a new era of weapons and warfare Post-war research and developments by various nations have centered about more heavily armed and armored tanks, aircraft of increased speed, size, and range, robot missiles, guided from a home base by radio signals, and a more devastating atomic bomb, relying on the nuclear fission of hydrogen atoms for its explosive power See STRATEGY AND TACTICS and articles on particular weapons See J R Newman, *The Tools of War* (1942), Lynn Montross, *War through the Ages* (rev ed , 1946)

Wear (wēr), river rising in W Durham, England, and flowing 65 mi to the North Sea at Sunderland

Weare (wâr), town (pop 1,367), S N H , SW of Concord, granted 1735, regranted 1749, inc 1764 There is an 18th-century Friends' meetinghouse

weasel (wē'zŭl), small, lithe, carnivorous animal of the genus *Mustela*, which includes the European STOAT Weasels are found in Europe, Asia, and North America There are at least 36 species and subspecies In summer they are various shades of brown above and are white below By a process of molting those living in regions of snow usually become all white in winter except for the dark tail and are then called ERMINE. The weasel is a bold, savage hunter, preying chiefly on small mammals, sometimes on birds, frequently killing more than it needs for food It is less destructive to poultry than the rat, which it helps to exterminate It secretes a strong-smelling musk. It can be tamed and makes an interesting pet.

weather, state of the atmosphere, at a given time and place, with regard to temperature, barometric pressure (see BAROMETER), WIND, HUMIDITY, CLOUD formation, and precipitation. Earliest evidence of scientific activity in the field of METEOROLOGY dates back to the 5th cent. B.C., in the 4th cent. B.C Aristotle wrote what was probably the first treatise on the subject. The ALMANAC is a record of man's efforts to explain and predict the weather. The first attempt to chart weather from reports over a considerable area was made in Europe by H. W. Brandes (1820), but it was not until after the in-

vention of the telegraph that the rapid collection of weather data from remote stations became possible. In the United States, a government weather service was established (1870) under the Signal Corps. In 1891 (by act of Oct. 1, 1890) the weather service was transferred to the U S. Weather Bureau under the Dept of Agriculture and was subsequently transferred (1940) to the Dept of Commerce The central offices of the Weather Bureau are in Washington, D C , over 200 first-order stations are mainly in the larger cities; and numerous substations for special purposes (e g , observation of river stages, measuring depth of snow, maintaining records of CLIMATE) are well distributed throughout the country A daily weather map of the United States, which is drawn at the central offices and at many of the first-class stations, is based upon simultaneous weather observations made throughout the country On a typical map, the various weather elements (e g , temperature, pressure, clouds) at each station are shown by figures and symbols; ISOBARS are drawn revealing the location of areas of low pressure (cyclones) and areas of high pressure (anticyclones), fronts (lines showing the boundaries of separation between warm and cold air masses) are indicated, and areas of precipitation are shaded In addition to the regular weather map showing ground-level conditions, auxiliary charts are often prepared showing conditions in the upper air Since the forces that control weather are not fully understood, it is impossible to set down specific rules for weather forecasting Accurate weather prediction is born of experience—knowing what changes in existing weather to expect as a result of certain changes in the weather-map pattern Consideration is first given to the location of areas of high and low pressure, their magnitude, intensity (indicated by the spacing of the isobars), and speed and direction of travel Properties of the air masses involved, such as their temperature and moisture content, are taken into account Finally, the local influences of topography, proximity to large bodies of water, and other factors are evaluated Forecasts are distributed by radio, telegraph, and telephone as well as by mail and newspaper publication A signal-flag system is used along the coasts to announce storm warnings Specific forecasts can be made scientifically only for a short future period (usually 48 hr or less), long-range predictions are necessarily more general, being based upon the known normal, or average weather, of the area The long-range "prognostications" published in almanacs, based on the relative positions of the celestial bodies, are verified only by chance, there is no evidence or reasonable basis to justify the opinion that the moon or planets have any influence on the earth's weather Certain plants and animals are responsive to existing weather influences but furnish no indication of future weather The ground-hog legend is a widely known example of a scientifically baseless method of prediction There is a wealth of curious and interesting proverbs and signs relating to the weather in the lore of all peoples See W J Humphreys, *Weather Proverbs and Paradoxes* (1934) and *Ways of the Weather* (1942), I R Tannehill, *Weather around the World* (1943), B C Haynes, *Techniques of Observing the Weather* (1947), T A Blair, *Weather Elements* (3d ed , 1948), H H Neuberger and F B Stephens, *Weather and Man* (1948), S W C Pack, *Weather Forecasting* (1948)

Weatherford, William, c 1780–1824, Indian chief, b present Alabama He is also called Red Eagle In the War of 1812 he led the Creek war party, stirred by TECUMSEH, against the Americans On Aug 30, 1813, he attacked Fort Mims, a temporary stockade near the confluence of the Tombigbee and Alabama rivers, where his warriors, refusing to heed his plea for restraint, massacred over 500 whites In the battle of Horseshoe Bend on the Tallapoosa river (March 29, 1814), Gen Andrew Jackson completely broke the power of Weatherford and his nation Jackson, who admired his courage, pardoned him, and Weatherford lived peaceably in Alabama until his death

Weatherford 1 City (pop 2,504), W central Okla , W of Oklahoma City; founded 1893 It is a farm trade center and the seat of a state teachers college Near by is an Indian hospital 2 City (1940 pop 5,924, 1947 estimated pop 8,500), co seat of Parker co , N Texas, W of Fort Worth; founded 1856 The productive truck-growing region is noted for its watermelons, but peaches and other fruits, vegetables, peanuts, cotton, and grains are grown profitably The trim little city has processing plants and small industries There is a junior college, and the Knights of Pythias support a children's home here

weathering, collective term for the processes by which rock at or near the earth's surface is disintegrated and decomposed by the action of atmospheric agents. Some of these processes are mechanical, e.g., expansion and contraction caused by sudden changes in temperature, the expansive force of water freezing in cracks, splitting by trees, and impact of running water, others are chemical, e.g., oxidation, hydration, carbonisation, and loss of chemical elements by solution in water. Weathering is important because it aids in the formation of soil, prepares materials for EROSION, and causes discoloration and weakening of building stone.

Weatherly, borough (pop. 2,754), E Pa , E of Hazleton and S of Wilkes-Barre, inc 1863.

weather map: see WEATHER.

Weathersfield, town (pop 1,075), SE Vt , on the Connecticut and S of Windsor It includes Perkinsville village (pop 144, inc 1928) and the hamlets Ascutney (near Mt Ascutney) and Weathersfield It was settled c 1775–1780 and flourished with the development of farming and sheep raising

Weaver, James Baird, 1833–1912, American political leader, b. Dayton, Ohio, grad Cincinnati Law School, 1856. He was reared in frontier areas of Michigan and Iowa, and he practiced law in Iowa He served in the Union army in the Civil War and rose from the rank of private to that of brevet brigadier general. He held several offices in Iowa before he adopted the cause of reform and was elected (1878) to the U S House of Representatives on the Greenback party ticket In 1880 he was the presidential candidate of the Greenback party, but met with defeat Again (1885–89) in Congress with the backing of the Democratic and the Greenback-Labor parties, Weaver continued to advocate "soft-money" views He helped form the Farmers' Alliance—an agrarian reform movement—and when that organization became the POPULIST PARTY, Weaver ran (1892) as its presidential candidate He recorded his political views in *A Call to Action* (1892) Although defeated, he polled 1,000,000 popular and 22 electoral votes Weaver became one of the important leaders of the free-silver movement, backed W J Bryan in the 1896 presidential campaign, and after the decline of Populism retired from national politics See biography by F E Haynes (1919)

Weaver, John Ernst, 1884–, American botanist, b Villisca, Iowa, grad Univ of Nebraska (B S , 1909), Ph D Univ of Minnesota, 1916 He became professor of plant ecology at the Univ of Nebraska in 1917 and served also as research associate in ecology at the Carnegie Institution, Washington, D C , from 1925 to 1931 Among his many publications are *The Ecological Relations of Roots* (1919), *Root Development in the Grassland Formation* (1920), and *Root Development of Field Crops* (1926) Weaver is co-author of *Root Development of Vegetable Crops* (with W E Bruner, 1927) and *Plant Ecology* (with F E Clements, 1929, 2d ed , 1938)

weaver bird, Old World family of birds which build intricately woven nests The birds resemble the finch family and are sometimes called weaver finches The English sparrow and such cage birds as the Java sparrow and the strawberry finch belong to this family The sociable weavers of Africa build in a tree a large dome-shaped nesting place which colonies of the birds use

weaving, the art of forming a fabric by interlacing at right angles two or more sets of yarn or other material It is one of the most ancient fundamental arts In the tombs and ruins of Egypt and Peru, among cliff and lake dwellers' relics, and in the most ancient picture records are found the tools, materials, and story of textile craftsmanship from the remotest ages The earliest literatures make frequent mention of the products of the loom In primitive cultures the craft was practiced mainly by women Although weaving sprang up independently in different parts of the world and was early known in Europe, its high development there in the Middle Ages was brought about by Eastern influences operating through Moslem and Byzantine channels of culture Byzantium became a center of SILK weaving in the 6th cent In the 9th cent Greece, Italy, and Spain became proficient In Flanders a high degree of skill was attained by the 10th cent , especially in the weaving of wool Flemish weavers brought to England by William the Conqueror and by Queen Elizabeth gave a great impetus to the craft there, and Lancashire became an important center TAPESTRY weaving was brought to a high art in France In colonial America weaving was a household industry allied with agriculture The 18th-century weaving and spinning inventions marked the transition from the old era of domestic craftsmanship to the tremendous organized industry of today The factory system of machine weaving produces quantities of standardized material for mass consumption, the result is a loss of the distinctive elements of quality and design Some of the finest silks, velvets, table linens, and carpets are still woven on hand looms The first step in weaving is to stretch the warp, or longitudinal, yarns, which must be very strong The weft, woof, or filling crosses the warp, binding the warp threads at either side to form the selvage. The three essential steps after the warp is stretched are· shedding, or raising every alternate warp yarn or set of yarns to receive the weft, picking, or inserting the weft, battening, or pressing home the weft to make the fabric compact In most primitive weaving these operations were performed by the hands alone, as in making rush mats and baskets Gradually frames for holding the warp evenly stretched and devices for throwing the weft came into use (see LOOM) Woven fabrics are classified as to weave or structure according to the manner in which warp and weft cross each other The three fundamental weaves, of which others are variations, are the plain, twill, and satin. In plain weave, also known as calico, tabby, taffeta, or homespun weaves, the weft passes over alternate warp threads, requiring two harnesses only The relatively simple construction suits it to cheap fabrics, heavy yarns, and printed designs Variations are produced by the use of groups of yarns, as in basket weave and monk's cloth, or by alternating fine and coarse yarns to make ribbed and corded fabrics, as the warp-ribbed Bedford cord, piqué, and dimity and the weft-ribbed poplin, rep, and grosgrain The second primary weave, twill, shows a diagonal design made by causing weft threads to interlace two to four warp threads, moving a step to right or left on each pick and capable of variations, as herringbone and corkscrew designs Noted for their firm, close weave, twill fabrics include gabardine, serge, drill, and denim Satin weave has floating or overshot warp threads on the surface which reflect light, giving a characteristic luster When the uncrossed threads are in the weft, the weave is called sateen Pile fabrics have an additional set of yarns drawn over wires to form loops, and may be cut or uncut Warp-pile fabrics include terry and plush, weft-pile, velveteen and corduroy In double-cloth weave two cloths are woven at once, each with its warp and filling threads, and combined by interlacing some yarns or by adding a fifth set The cloth may be made for extra warmth or strength, to permit use of a cheaper back, or to produce a different pattern or weave on each surface, e g , steamer rugs, heavy overcoating, machine belting VELVET is commonly woven as a double cloth In swivel weaving, extra shuttles with a circular motion insert filling yarns to form simple decorations, as the dots on swiss muslin Figure weaves are made by causing warp and weft to intersect in varied groups Simple geometric designs may be woven on machine looms by using a cam or a dobby attachment to operate the harnesses For curves and large figures each heddle must be separately governed The Jacquard loom attachment permits machine weaving of the most complicated designs See M S Woolman and E E B McGowan, *Textiles* (3d ed , 1943), M D Potter, *Fiber to Fabric* (1945)

Webb, Sir Aston, 1849–1930, English architect His London works include a new façade for Buckingham Palace and the architectural ensemble for the Queen Victoria Memorial there, new buildings for the Victoria and Albert Museum as well as for other institutions at South Kensington, the Admiralty Arch, and the restoration of the Church of St Bartholomew the Great With Ingress Bell he designed the Univ of Birmingham and the Birmingham assize courts He was knighted in 1904 He served as president of the Architectural Association (1884), of the Royal Institute of British Architects (1902–4), and of the Royal Academy of Arts (1919–25)

Webb, Beatrice Potter, 1858–1943, English socialist economist, daughter of a wealthy industrialist She took an early interest in social problems and worked with Charles Booth on his survey of London Her *Cooperative Movement in Great Britain* was published in 1891 In 1892 she married **Sidney James Webb,** 1859–1947, a civil servant and a contributor to *Fabian Essays* (1890) Thereafter they worked together, complementing each other's qualities in an unusual partnership They were of first importance in the Fabian Society and in the building up of the British Labour party Most of the political and social reforms of their period owe much to their indefatigable research and political acumen Together they produced *The History of Trade Unionism* (1894), *Industrial Democracy* (1897), *English Local Government* (6 vols , 1906–22), *Consumers' Cooperative Movement* (1921), and *Soviet Communism a New Civilization?* (1935) In 1922 Webb was elected to Parliament and in 1929 was appointed secretary of state in MacDonald's cabinet, in the same year he was created Baron Passfield, a title his wife refused to share See Beatrice Webb's autobiographical *My Apprenticeship* (1926) and *Our Partnership* (1948), biographies of her by M A Hamilton (1933) and Margaret Cole (1945)

Webb, James Watson, 1802–84, American journalist and diplomat, b Columbia co , N Y After serving (1819–27) in the army, he returned to New York and edited the combined *Morning Courier and New York Enquirer*—an organ of the Whig party In the 1830s, to meet journalistic competition, Webb sent schooners far out to sea for incoming news and established express service by horse to hasten news from Washington. He achieved considerable prominence in politics, and he served (1861–69) as minister to Brazil Meanwhile his friendship with Napoleon III helped in securing the withdrawal (1867) of French troops from Mexico

Webb, Mary (Meredith), 1881–1927, English novelist. Her native Shropshire is the scene of all her novels, which are somber and passionate and infused with an intense feeling for the countryside Her work was little known in her lifetime, but her fame has grown Her first novel was *The Golden Arrow* (1916), the two best known are *Gone to Earth* (1917) and especially *Precious Bane* (1924) Her volume of *Poems*, published posthumously in 1928, contains the essay *The Spring of Joy* (1917) An anthology of her writings was published in 1940 See biographies by Hilda Addison (1931) and Thomas Moult (1932).

Webb, Philip Speakman, 1830–1915, English architect His influence, together with that of R N Shaw and W E Nesfield, established after the mid-19th cent a revival of residential architecture based upon the Queen Anne and Georgian styles and upon the use of materials for their own artistic values He became the assistant of G E Street, and he was an intimate friend and supporter of the aesthetic creeds of William Morris Webb's first commission was the historic Red House, Bexley Heath built (1859) for Morris in which the theories of both owner and architect received their practical crystallization Its planning and specially designed furnishings led to the establishment (1861) of Morris's celebrated decorating business the firm of Morris, Marshall, Faulkner, and Company, important in the development of the arts and crafts movement Webb was one of the six members of this firm, and for it he designed furniture, tiles, and stained glass Additional designs by Webb were Lord Carlisle's house, Kensington, "Clouds," near Salisbury, and offices at Lincoln's Inn Fields

Webb, Sidney James. see WEBB, BEATRICE POTTER,

Webb City, city (pop 7,033), SW Mo , near Joplin in a farm region, platted 1875 Dairy products, shoes, and garments are made

Webber, Herbert John, 1865–1946, American plant physiologist, b Lawton, Mich , grad Univ of Nebraska (B S , 1889), Ph D Washington Univ , 1901 After serving (1899–1907) with the U S Dept of Agriculture, he was from 1912 to 1936 affiliated with the Univ of California in various capacities, including professor of plant breeding and of subtropical horticulture and director of the citrus experiment station and the agricultural experiment station His work in plant breeding includes the improvement of oranges, cotton, corn, pineapples, timothy, and potatoes

Weber, Carl Maria Friedrich Ernst von (frē'drĭkh ĕrnst' fŭn vā'bur), 1786–1826, German composer and pianist, pupil of Abbé' Vogler and Michael Haydn He made his debut as a pianist at 13 and began to compose about the same time He was conductor of opera at Breslau (1804–6), Prague (1813–16), and Dresden (1816–26) At 20 his singing voice was ruined when, by mistake, he drank nitric acid Employing nationalistic elements and the supernatural, he laid the foundation of the German romantic opera Of his 10 operas, *Der Freischütz* (1821), *Die drei Pintos* (1821, completed by Mahler), and *Oberon* (1826) stand out *Euryanthe* (1823), a failure, is the only one of his operas without spoken dialogue, a landmark in the history of German opera His instrumental works, including *Invitation to the Dance* (1819), for piano, and the *Concertstück* for piano and orchestra (1821), are mostly in a virtuoso style He composed also three Masses, much incidental dramatic music, and many songs See biographies by William Saunders (1940) and L P Stebbins and; R P Stebbins (1940)

Weber, Ernst Heinrich (ĕrnst' hĭn'rĭkh vā'bur), 1795–1878, German physiologist He was a professor at the Univ of Leipzig (1821–71) and is known for his work on touch and for the formulation of Weber's law—that the increase in stimulus necessary to produce an increase in sensation is not fixed but depends on the strength of the preceding stimulus With his brother Eduard Friedrich Weber (1806–71) he discovered the inhibitory power of the vagus nerve (1845) With another brother, W E WEBER, he made studies of acoustics and wave motion

Weber, Joseph (wē'bur), 1867–1942, American comedian and theatrical manager, b New York city He began his career with Lew Fields in "Dutch" sketches in 1875 The team made appearances at the Chatham Square Museum, New York, in 1878 and in 1894 were a great success at Hammerstein's Olympia In chin whiskers, loud check clothes, and low crown derbies, they established themselves as beloved by generations with dialect jokes, slapstick antics, and burlesques of popular plays From 1895 to 1904, they managed the Broadway Music Hall. Here, in addition to their own performances, they presented such stars as Lillian Russell, DeWolf Hopper, Fay Templeton, and David Warfield A quarrel separated them in 1904, but they resumed their partnership in 1912 and made many appearances in vaudeville and revues

Weber, Max (mäks' vā'bur), 1864–1920, German sociologist. At various times he taught at Freiburg, Munich, and Heidelberg Although often ill and unable to write, he produced a very large body of work. One of Weber's chief interests was in developing a methodology for social science. He argued that social science, unlike physical science, was not limited to formulating laws of behavior but had also to determine the meanings which men attributed to their acts He opposed the Marxian view that economics is the sole factor in social causation and stressed the plurality and interdependence of causes Thus, in his *Protestant Ethic and the Spirit of Capitalism* (1920, Eng tr , 1930) he developed a thesis concerning the intimate connection between the ascetic character which Calvinism fostered and the rise of capitalist institutions Weber's political views underwent considerable change Early an admirer of Bismark and of authoritarianism, he later favored responsible government somewhat on the American model Among his books are *Wirtschaft und Gesellschaft* [economy and society] (2d ed , 1925) and *General Economic History* (1924, Eng tr , 1927) See *From Max Weber Essays in Sociology* (with a biography and appraisal by H. H Gerth and C. Wright Mills, 1946)

Weber, Max (wē'bur), 1881–, American painter, b Russia At 10 he accompanied his family to Brooklyn, N Y He studied art at Pratt Institute and served as instructor in various schools From 1903 to 1905 he taught drawing and manual training at the state normal school, Duluth, Minn In 1905 he went abroad and studied at Julien's academy in Paris under J P Laurens, later visiting Spain and Italy In Paris he first felt the influence of Cézanne and Matisse and won the friendship of Henri Rousseau In 1908 he returned to New York and for about 20 years alternated painting with teaching After 1927 he devoted himself wholly to painting Much of Weber's work shows a modern use of primitive art conventions For a time he was absorbed in abstractions, but his later work is naturalistic, albeit with free distortion, and always highly personal. His color is subtle and his composition complex and highly organized Weber is represented in leading galleries throughout the United States He is the author of several essays on art theory See study by Lloyd Goodrich (1949)

Weber, Wilhelm Eduard (vĭl'hĕlm ā'dōōart vā'bur), 1804–91, German physicist He was professor (1831–37, 1849–91) at the Univ. of Göttingen, where he worked with K F Gauss on terrestrial magnetism and devised an electromagnetic telegraph He also did valuable work on electrical measurements (the coulomb was once known as the weber) With a brother, E H WEBER, he wrote (1825) a book on wave motion, with another brother, E F Weber, he made a study of human locomotion.

Weber (wē'bur), river rising in N central Utah in the Uinta Mts and flowing north and northwest to join the Ogden at Ogden The combined stream flows to Great Salt Lake The Weber has long been used for irrigation, and Echo Dam, completed by the Bureau of Reclamation in 1931, controls flow for irrigation Water is also diverted to the Provo river project The river flows in part of its course through deep-cut canyons

Webern, Anton von (an'tōn fŭn vā'burn), 1883–1945, Austrian composer and conductor, Ph D Univ of Vienna, 1906, pupil of Arnold Schonberg He conducted theater orchestras in Prague and various German cities His first composition, a *passacaglia* for orchestra (1908), was followed by numerous works in which he showed himself to be the most thoroughgoing adherent to the 12-tone technique (see ATONALITY) of Schonberg In his very short *Five Pieces for Orchestra* (1911–13), the whole containing only 76 measures, the melodic line is divided among the several instruments, giving the counterpart in texture of the 12-tone melodic line In addition to his works for a small orchestra, in which his scoring is for unusual combinations of instruments, he wrote numerous songs, some of them settings of the poetry of Rilke and Stefan George, and some instrumental music His only symphony, for chamber orchestra, was performed in New York in 1929

Webster, Daniel, 1782–1852, American statesman, lawyer, and orator, b. near Franklin, Merrimack co , N H , grad Dartmouth, 1801 He studied law in Salisbury, N H , and later, after an interval as a schoolmaster, was admitted (1805) to the bar. Webster practiced law at Boscawen and Portsmouth, N H , and rapidly gravitated toward politics As a Federalist and a defender of the New England shipping interests, Webster sat (1813–17) in the U.S House of Representatives, where he opposed the Democratic administration, although he did not join forces with members of the HARTFORD CONVENTION In 1816 he transferred his residence to Boston. Before he was returned (1822) to the House, Webster won fame as a lawyer, defending (1819) his alma mater in the DARTMOUTH COLLEGE CASE and the Bank of the United States in MCCULLOCH VS. MARYLAND. Again a representative (1823–27), Webster began to gain repute as one of the greatest orators of his time, his brilliant speeches in Congress were matched by his eloquent public addresses—notably the Plymouth address (1820), the two Bunker Hill orations (1825, 1843), and the speech (1826) on the deaths of Thomas Jefferson and John Adams. As a U S Senator (1827–41), he became a leading political figure of the United States. He supported the Tariff of 1828, and his belief in the strength of the Federal government led him to back President Andrew Jackson in the issue of NULLIFICATION In 1830 he defended the supremacy of the Union in the famous debate with Robert Y HAYNE Nevertheless, Webster vehemently disagreed with Jackson on numerous issues, notably his fiscal policies, and he and Henry CLAY became leaders of the WHIG PARTY. In 1836 Webster was put forward as a presidential candidate by the Whig groups in New England and won only the electoral vote of Massachusetts, his prominence brought him into consideration in later elections, but he never attained his ambition After William H. HARRISON was elected (1840) President on the Whig ticket, Webster was appointed (1841) U S Secretary of State Though every other cabinet officer resigned (1841) after John Tyler had succeeded to the presidency and had broken with the Whig leaders, Webster remained at his post He completed the settlement of the WEBSTER-ASHBURTON TREATY and resigned in 1843 Again (1845–50) in the Senate, Webster opposed the annexation of Texas and war with Mexico and faced the rising tide of sectionalism with his customary stand slavery was an evil, but disunion was a greater one He steadily lost his following and was sorely disappointed when the Whig party nominated Zachary Taylor for President in 1848 Cherishing the preservation of the Union above his own popularity, Webster, in one of his most notable speeches, backed the COMPROMISE OF 1850 and was reviled by anti-slavery groups in the North and by members of his own party He served (1850-52) again as Secretary of State under President Millard Fillmore and championed the right of the U S government to recognize the new Hungarian republic and other popular governments His writings (18 vols , 1903) were edited by J W McIntyre See biographies by G T Curtis (1869), S G Fischer (1911), C M Fuess (1930), and J B McMaster (1939) The diary kept by his second wife, Caroline Le Roy Webster, was published as *Mr W & I* (1942)

Webster, John, 1580?–1625?, English playwright Of his life little is known save that he was one of the group of hack dramatists in the service of Philip Henslowe, the theatrical manager He collaborated with Munday, MARSTON, Drayton, Middleton, Henry Chettle, Rowley, Heywood, and especially Dekker, with whom he produced *Westward Ho!* (1604) and *Northward Ho!* (1605). Webster is remembered chiefly for two tragedies, *The White Devil* (1612) and *The Duchess of Malfi* (c 1614), both of which exemplify his high-sounding language and profound understanding of human nature Webster's other plays include *The Devil's Law Case* (1620), a tragicomedy, and two collaborations, *Appius and Virginia* (with Heywood, probably written c 1625) and *A Cure for a Cuckold* (with Rowley and Heywood, pub 1661) Lamb was the first critic to recognize Webster's genius, and modern opinion places him high in the ranks of Elizabethan dramatists See his works (ed by F L Lucas, 1937), E P Pierce, *The Collaboration of Webster and Dekker* (1909), Rupert Brooke, *John Webster and the Elizabethan Drama* (1916)

Webster, Noah, 1758–1843, American lexicographer, b West Hartford, Conn , grad Yale, 1778 He served in the American Revolution, was admitted to the bar in 1781, and practiced law in Hartford His *Grammatical Institute of the English Language*, in three parts (1783–85), was the first of a list of publications which made him for many years the chief American authority on English The first part, often revised, became his famous *Elementary Spelling Book*, or "Blue-backed Speller," with which he hoped to standardize American spelling and to inculcate both morals and patriotism Pioneer families on the frontiers taught their children to read from it, in the schools it was a basic textbook, and in settlements and villages its lists were read out for lively spelling matches By 1850, when the total population of the United States was less than 23,200,000, the annual sales of this spelling book were about 1,000,000 copies, and the figures increased yearly The difficulty of copyrighting his works in 13 states led him to agitate for national copyright laws in 1782 and to continue for more than 50 years thereafter. He became a pamphleteer for centralized government and regarded his *Sketches on American Policy* (1785) as the first proposal for a constitution. In 1793 he left Hartford to support Washington's administration by editing the *American Minerva* (later the *Commercial Advertiser*) in New York. He was also writing valuable studies of the weather, the plague, and American history. During most of his later life he lived in New Haven, Conn , or Amherst, Mass., and was a member of the first board of trustees of Amherst College. Deriving his income from his schoolbooks, he devoted himself to compiling a dic-

tionary. From the time his *Compendious Dictionary* was published in 1806, he worked on another which would be more satisfactory to him. This, his greatest work, was the *American Dictionary of the English Language* (1828), which included 12,000 words not in any other dictionary, many of them nonliterary words Its definitions were excellent, and its sales, reaching 300,000 annually, indicate that it may have helped standardize American pronunciation Webster completed the revision of 1840, and the dictionary has since been revised many times Abridged editions have also been published. See biography by H E Scudder (1881), studies by E C. Shoemaker (1936) and H. R. Warfel (1936)

Webster, Pelatiah, 1725–95, American writer, b Lebanon, Conn A businessman of Philadelphia, he is remembered for his advocacy of a revision of the Articles of Confederation by creating a new constitution in his *Dissertation of the Political Union and Constitution of the Thirteen United States of North America* (1783) He is, therefore, sometimes considered as the originator of the Constitution, though his plan was unlike the product of the Federal Convention He was a Federalist in the fight for ratification of the Constitution and his able arguments, based on constitutional and economic principles, were of great weight. He also wrote many books on economics

Webster, Richard Everard · see ALVERSTONE, RICHARD EVERARD WEBSTER, 1st VISCOUNT

Webster. 1 Town (pop 1,236), SW Maine, E of Lewiston, settled 1774, set off from Lisbon and inc 1840 2 Town (pop 13,186), S Mass , near the Conn line, settled c 1713, set off from Dudley and Oxford 1832 It has woolen mills 3 Village (pop 1,680), W N Y , near Lake Ontario NE of Rochester, in a truck-farm area, inc 1905 Caskets and canned goods are produced 4 City (pop 2,173), co seat of Day co , NE S Dak , NNW of Watertown, platted 1880. It is a trade center in a farm and lake region

Webster-Ashburton Treaty, concluded in 1842 by the United States, represented by Secretary of State Daniel WEBSTER, and Great Britain, represented by Commissioner Alexander B ASHBURTON The treaty brought settlement to the disputed boundary of the NE United States The boundary question caused serious conflicts (e g , the AROOSTOOK WAR Over 7,000 sq mi of the disputed area including the Aroostook valley, was given to the United States, and the St Johns river was opened to free navigation by both countries The Webster-Ashburton Treaty also settled the disputed position of the U S –Canada border in the Great Lakes region Other clauses provided for cooperation in the suppression of the slave trade and for mutual extradition of criminals Some disputes between the United States and England, notably the one concerning the Oregon boundary, were ignored, but the treaty served as a precedent in peaceful settlements of disputes between the two countries

Webster City, city (pop 6,738), co seat of Hamilton co , central Iowa, on the Boone and E of Fort Dodge, settled 1850, inc 1874 It is an industrial city and trade center, grain machinery and dairy products are made One of its parks includes a pioneer museum

Webster Groves, city (pop 18,394), E Mo , near St Louis, settled 1854, inc 1896 Petroleum byproducts are made here It is the seat of Webster College (a corporate college of St Louis Univ ; for women) and of Eden Theological Seminary (Evangelical-Reformed, coeducational)

Webster Springs, town (pop 1,133), co seat of Webster co , E central W Va , SW of Elkins, in a farm, mining, and timber area, settled 1860 It was incorporated in 1892 as Addison, still its official name, but is better known as Webster Springs. It is a center for sportsmen

Weddell Sea (wĕ'dul), embayment of the S Atlantic, ANTARCTICA, SSE of South America It is bordered by Palmer Peninsula, Leopold Coast (formerly Luitpold Land), Caird Coast, and Coats Land The sea is named for James Weddell, British navigator, who claimed to have discovered it in 1823, it was investigated by William S. BRUCE on his expedition of 1902–4

Wedekind, Frank (frängk' vā'dukĭnt), 1864–1918, German dramatist. He was a journalist and publicist and was on the staff of *Simplicissimus* A forerunner of the expressionists, he wrote dramas and tragedies in which he advocated a new sex morality and criticized social convention. His works, characterized by satirical humor and grotesque episodes, include *Frühlings Erwachen* (1891, Eng tr , *The Awakening of Spring*, 1909), *Der Erdgeist* (1895, Eng tr., *Earth Spirit*, 1914), *Der Kammersänger* (1899, Eng tr., *Heart of a Tenor*, 1913), and *Der Büchse der Pandora* (1903; Eng. tr., *Pandora's Box*, 1918)

Wedemeyer, Albert Coady (wĕ'dĕmī'ur), 1897–, American general, b. Omaha, Nebr , grad West Point, 1918 After service in China, the Philippines, and Europe, he was graduated (1936) from the general staff school and was sent to the German general staff school. In the Second World War he was (1941–43) a member of the war-plans division of the general staff and in 1944 was named to succeed Stilwell as commander of the U S forces in China Promoted (1945) lieutenant general, Wedemeyer made (1947) a survey of China and Korea for President Harry S. Truman and was named (1949) commander of the U S. 6th Army

wedge, piece of wood or metal thick at one end and sloping to a thin edge at the other, an application of the INCLINED PLANE It is employed in separating two bodies from each other or in separating one part of a solid body from an adjoining part, as in splitting wood The thin edge is applied to the surface of the solid or to the crack between two solids, and force is applied to the opposite thick edge The ax, chisel, knife, nail, and carpenter's plane are forms of wedges The CAM is a rotating form of wedge

Wedgeport, town (pop 1,327), SW N S , on the Tusket river near its mouth on the Atlantic and SE of Yarmouth It is a sports center, especially for tuna fishing. Until 1909 it was known as Tusket Wedge

Wedgwood, Josiah, 1730–95, English potter, descendant of a family of Staffordshire potters and perhaps the greatest of all potters At nine he went to work in the plant of his brother Thomas in Burslem, and in 1751, with a partner, he started in business In 1753 he joined Thomas Whieldon of Fenton, then one of the foremost potters of Staffordshire In 1759 Wedgwood started his own business at the Ivy House Works, Burslem He obtained a site near Stoke-upon-Trent, where he built a village, Etruria, for his workmen and there opened a new works in 1769 In that year he took into partnership Thomas Bentley, who remained a valuable ally until his death in 1780 At Etruria, Wedgwood specialized in ornamental products to supplement the utilitarian wares of Burslem Wedgwood entered the field of pottery at a time when it was still a backward and minor industry and by his skill, taste, and organizing abilities transformed it into one of great importance He combined with his experiments in his art an interest in improved roads, canals, schools, and living conditions for the workmen He soon acquired a reputation for his cream-colored earthenware, known as queen's ware, and at the same time produced decorative objects, candlesticks, and vases of a black composition known as basalt or Egyptian ware He also produced a mottled and veined ware in imitation of granite and a translucent, smooth, unglazed semiporcelain, which gave way to his most notable product, jasper ware (best known in a delicate blue with Greek figures in white embossed upon it, see PORTLAND VASE) He invented and perfected this ware and in it gave expression to the interest of his day in the revival of classic art He employed the best talent available for his finer pieces, many of which were designed by John Flaxman. His terra cottas of various hues were made with one color in relief upon another Wedgwood made a dinner service for Catherine the Great His work is found in many museums and private collections, the Fogg Museum of Art, Cambridge, Mass , has a collection He published several pamphlets, and his *Address to the Young Inhabitants of the Pottery* appeared in 1783 For his invention of a pyrometer for measuring temperatures Wedgwood was made (1783) a fellow of the Royal Society The extensive potteries he established have been perpetuated by his descendants See William Burton, *Josiah Wedgwood and His Pottery* (1922)

Wednesbury (wĕnz'burĭ, wĕj'–), municipal borough (1951 pop 31,531, 1947 estimated pop 34,310), Staffordshire, England, NW of Birmingham, in the Black Country The Perpendicular Church of St. Bartholomew is supposed to be on the site of a temple of Woden, whence, probably, the name Wodensbury, which became Wednesbury Æthelflæd built a castle here in 916. The borough is a steel center

Wednesday · see WEEK

Weed, Thurlow (thûr'lō), 1797–1882, American journalist and political leader, b Cairo, Greene co , N.Y He learned printing, served briefly in the War of 1812, and then worked on various newspapers in W New York While working for the Rochester *Telegraph*, Weed, a staunch opponent of the ALBANY REGENCY, became influential as an ally of John Quincy Adams For a short time he published the *Anti-Masonic Enquirer* and as a leader of the ANTI-MASONIC PARTY opposed Martin Van Buren He wielded much political influence as editor of the Albany *Evening Journal* after 1830. Weed became a power in the WHIG PARTY and in 1840 helped secure the election of William H Harrison as President In 1844 he helped bring about the presidential nomination of Henry Clay and in 1848 backed Zachary Taylor Though giving up service to various reforms, notably the abolition of slavery, Weed was more at home with the problems of patronage, lobbying, and "wire-pulling" and came to be regarded as the silent boss of the Whig party After the Whig party disintegrated over the slavery issue, Weed joined (1854) the new Republican party and worked in close cooperation with William H. SEWARD and, for a time, with Horace GREELEY Seward was his close personal friend as well as political ally, and Weed carefully shepherded Seward's career, having made him a state legislator, governor of New York, and U S Senator His failure to secure for Seward the Republican presidential nomination in 1860 grieved him deeply. Both Weed and Seward, however, after failing to dominate Lincoln, came to be the President's staunch supporters On a special diplomatic mission to England in the Civil War, Weed put to good use his "rare tact, shrewd judgment, and quick insight into men" In 1864 he established himself in New York city and returned to newspaper editing One of the handsomest and most distinguished politicians of his day, Weed was a genial, lovable man, but utterly unscrupulous in his political aims and methods For him, providing office for the cogs in his well-oiled machine (the most formidable up to that time in New York state) was the main objective of his party, Whig or Republican His travels were turned to account in his *Letters from Europe and the West Indies* (1866) See *The Life of Thurlow Weed* (2 vols , 1883–84, including his autobiography and a memoir by his grandson), B J Hendrick, *Lincoln's War Cabinet* (1946), G G Van Deusen, *Thurlow Weed Wizard of the Lobby* (1947)

Weed, Walter Harvey, 1862–1944, American geologist, b St Louis, Mo , grad Columbia, 1883 As geologist of the U S Geological Survey from 1883 to 1906, he surveyed Yellowstone Park (1883–89) and mapped Montana (1889–98) Later he surveyed the mines of Central America and Mexico He studied chiefly the geology of ore deposits and advanced an important theory of the formation of these He also traced the color of hot springs to the algae living in them and found that geyser deposits too are the result of algae His works include *Copper Mines of the World* (1908)

weed, popular name for any wild plant and especially for an undesired plant in cultivated ground Weeds beautify many waste places, help build soil, loosen tight soils, and help prevent erosion, but when introduced into cultivated soil by impure seed or by natural means (e g , carried by wind, water, and animals), they may crowd out the desired crop by appropriating space, sunlight, moisture, and soil chemicals Weeds harbor insect pests and often make their dissemination easier from one piece of land or crop to another Along roadsides weeds often help spread fires They are annual, biennial, or perennial Their habits of growth and spread must be considered when attempting to eradicate them Methods of control include soil cultivation, crop rotation, and use of chemicals A chemical known as 2,4-D (dichlorophenoxyacetic acid) is lethal to most broad-leaved plants but harmless to narrow-leaved plants such as grasses It is therefore useful when applied to lawns and grainfields Among the common weeds are quack grass, burdock, Canada thistle, tumbleweed, pigweed, and ragweed See W C Muenscher, *Weeds* (1935), E R Spencer, *Just Weeds* (1940), J M Fogg, Jr , *Weeds of Lawn and Garden* (1945)

Weedsport, village (pop 1,341), W central N Y , on the Barge Canal and W of Syracuse, in a farm area, inc 1831 It has a typewriter factory

Weehawken (wē'hôkun, wēhô'kun), township (pop 14,363), NE N J , on the Hudson and N of Hoboken, at the terminus of the Lincoln Tunnel, inc 1859 "Highwood," the James Gore King estate, was the scene in 1804 of the duel between Aaron Burr and Alexander Hamilton, a bronze bust of Hamilton, who was fatally wounded, marks the site

week, period of time shorter than the month, commonly seven days The ancient Egyptians used a 10-day period, as did the French under the short-lived French Revolutionary calendar In many regions a four-day to eight-day market week is based on the recurrence of market days, the early Romans observed an eight-day market week The seven-day week is said to have originated in ancient times in W Asia, probably in Mesopotamia This is thought to have been a planetary week predicated on the astrological concept of the influence of the planets, which were long erroneously believed to be seven celestial bodies revolving around the earth, these were the sun and moon and five of the bodies recognized today as planets —Mars, Mercury, Jupiter, Venus, and Saturn The Hebrew week is based chiefly on the religious observance of the SABBATH, which comes every seventh day and is usually associated with the seventh day of creation, when the Lord rested from his labors The Christian week and the Moslem week were probably derived chiefly from the Hebrew week, although the weekly holy days are different (Hebrew, Sabbath, seventh day, Christian, Sunday, first day, Moslem, Friday, sixth day) The influence of the weeks of Chaldaeans, Christians, and Jews slowly made itself felt in the Roman Empire, and elements of the systems were probably merged The planetary week was at first preeminent, and the use of planetary names, based on names of dei-

ties, remained the accepted usage even after Constantine (c 321) made the Christian week, beginning on Sunday, official in the civil calendar. The Roman names for the days of the week pervaded Western Europe, in most languages the forms are translations from Latin or attempts to assign corresponding names of divinities The Latin names, their translations, the English equivalents, and their derivations follow *dies solis* [sun's day], Sunday, *dies lunae* [moon's day], Monday [moon-day], *dies Martis* [Mars' day], Tuesday [Tiw's day], *dies Mercurii* [Mercury's day], Wednesday [Woden's day]; *dies Jovis* [Jove's or Jupiter's day], Thursday [Thor's day]; *dies Veneris* [Venus's day], Friday [Frigg's day], and *dies Saturni*, Saturday [both Saturn's day]. See F H Colson, *The Week* (1926)

Weeks, John Wingate, 1860–1926, U S Secretary of War (1921–25), b near Lancaster, N H , grad Annapolis, 1881 After serving in the navy and engaging in civil engineering, he was (1888–1913) a partner in a Boston brokerage firm Important in the state Republican party, Weeks served in the U S House of Representatives (1905–13) and in the Senate (1913–19) In 1921 he was appointed to the cabinet by Warren G Harding and remained at his post under Calvin Coolidge See biography by C G. Washburn (1928)

Weeks, Feast of. see PENTECOST

Weeksbury, town (pop 1,578), E Ky , E of Hasard and near the Va line, in the Cumberland coal area.

Weems, Mason Locke, 1759–1825, American author and preacher, b Anne Arundel co , Md., studied theology in London He was ordained in 1784 and served various Episcopal parishes When he turned to selling books and tracts he felt he was still serving God, but in a larger field, for 30 years after 1794 he was traveling agent for Mathew Carey, bookseller and publisher Parson Weems is chiefly known for *The Life and Memorable Actions of George Washington* (c 1800), in the fifth edition of which appears the famous cherry-tree story He fictionized this and other biographies he wrote to increase their interest He also wrote improving tracts, such as *The Drunkard's Looking Glass* ((1812). See biographies by L C Wroth (1911), Harold Kellock (1928), and P L Ford and E E F Skeel (1928–29).

Weenix, Jan Baptist (vän' bäptēst' vā'nĭks), 1621–1660?, Dutch painter and engraver He early won a high reputation in Rome, where he worked for the pope and for Cardinal Pamfili About 1649 he settled in Utrecht, becoming the same year master of the painters' guild there Weenix excelled in painting pastoral scenes, with ruins and shepherds or shepherdesses and their flocks He also painted seaports, portraits, and genre Good examples of his work are in many European galleries The Metropolitan Museum has his *Italian Seaport* His son and pupil, **Jan Weenix,** c 1640–1719, began as a painter of seaports in the manner of his father, but later became known for his fine animal paintings, hunting scenes, and studies of dead game. These are found in various European museums. The Metropolitan Museum has a fruit piece

Weeping Water, city (pop 1,139), SE Nebr., E of Lincoln, in an apple-growing region, inc. 1857.

weeping willow: see WILLOW

weevil, name for certain snout beetles of the curculio family By their attacks on stored grains the granary and rice weevils cause enormous financial losses Much damage is also done by the sweet-potato, vegetable, alfalfa, clover-leaf, strawberry, pine, and cotton boll weevils The bean and pea weevils belong to another family of beetles They feed on the seeds of the legumes in the field and in storage

weft see WEAVING

Wegener, Alfred Lothar (äl'frät lōtär' vā'gunûr), 1880–1930, German geologist, meteorologist, and arctic explorer He was professor of meteorology at the Univ of Graz from 1924 He is known for his theory of continental drift (see CONTINENT), set forth in his *Die Entstehung der Kontinente und Ozeane* (1915, Eng tr , *The Origin of Continents and Oceans*, 1924) He is also known for his expeditions to Greenland (on the last of which he lost his life) to establish meteorological stations and to ascertain the thickness of the icecap and the rate of drift of Greenland See account of his last expedition, *Greenland Journey* (ed by Else Wegener and F P Loewe, Eng tr , 1939), Johannes Georgi, *Mid-Ice* (Eng tr , 1934)

Wei, dynasty of N China see TSIN

Wei (wā), river, W China, rising in S Kansu prov and flowing c 450 mi E through Kansu and Shensi provs to join the Yellow River. The Wei is navigable below Sian

Weidman, Charles (wīd'mun), 1901–, American dancer and choreographer, b Lincoln, Nebr He studied (1921) at the Denishawn School, where he made his debut in Ted Shawn's *Xochitl* and gained fame in Shawn's *Danse Américaine* (1923). With Doris Humphrey, who has danced and collaborated in many of his productions, he founded (1928) a school of the dance Weidman's satirical and humorous choreographical works include *American Saga, Quest, This Passion, Atavisms, Opus 51*, and *Daddy Was a Fireman*

Weierstrass, Karl Theodor (kärl' tä'ōdôr vī'ûrshträs), 1815–97, German mathematician From 1864 he was professor of mathematics at the Univ of Berlin His work, mainly on the theory of functions, was published largely from the lecture notes of his students

weigela (wīgē'lu) or **weigelia** (wīgēl'yu), any species of the genus *Weigela* (sometimes included in *Diervilla*), Asiatic shrubs cultivated elsewhere for their funnel-shaped blossoms borne on somewhat arching branches in spring or early summer Best known is *Weigela florida* with flowers usually rose pink

weighing machine. see BALANCE

weight, atomic see ATOMIC WEIGHT

weight, molecular: see MOLECULAR WEIGHT.

weight lifting. A popular sport in European countries for many centuries, weight lifting became (1896) an event in the modern Olympic games and later became popular in the United States. Weightlifting meets—in which contestants are classified into bantamweight, featherweight, lightweight, middleweight, light-heavyweight, and heavyweight groups—frequently comprise seven events the military press, the left-hand, right-hand, and two-hand snatch; and the left-hand, right-hand, and two-hand clean-and-jerk In the military press, a contestant is not permitted to step over a line while lifting the weight with both hands, first to the chest or shoulder level and then over the head to the limit. In the clean-and-jerk, the weight is lifted to rest against the chest and then as high as possible, while in the snatch the weight is lifted in one continuous movement. See R C. Hoffman, *Weight Lifting* (1939).

weights and measures. Crude measurements of length, capacity, and weight probably date from prehistoric times Early units were commonly based on body measurements and on plant seeds As civilization progressed, technological and commercial requirements led to increased standardization The lack of uniformity in body measurements, for instance, probably resulted in specifying the foot, arm, or other part of the body of some particular individual and finally in laying off the length on a surface and making a reproduction of the unit Units were usually fixed by edict of local or national rulers and were subdivided and multiplied or otherwise correlated into systems of measurement. Standards varied greatly in different localities, although conquest and trade stimulated some correspondence between systems, e.g., between the systems of Egypt, Babylon, and Phoenicia A high degree of standardization was achieved in the Roman Empire, but after its fall there was great diversity of measurement The foot, which was one of the earliest units, is believed to have had as many as 280 variants in Europe as late as the 18th cent Today the chief systems are the American and British system, evolved in England and carried to America by English colonists, and the METRIC SYSTEM (for the common units and conversion table, see WEIGHTS AND MEASURES, table) In the British and American system two sets of weights are employed avoirdupois weights are used in general commerce, and troy weights for precious metals Avoirdupois weight was first legalized in 1303 and is based on the 16-ounce pound Troy weight (named for Troyes, France, where it is said to have originated) became common in England during the 14th and 15th cent and has been the legal mint standard since 1527 The troy pound has 12 oz , the troy ounce is the basis of apothecary weight In the United States, Congress has the constitutional right to fix standards, but except for purposes of customs and internal revenue, weights

WEIGHTS AND MEASURES COMMONLY USED

AMERICAN AND BRITISH SYSTEM

Linear Measure
12 inches = 1 foot
3 feet = 1 yard
5½ yards = 1 rod
220 yards = 1 furlong
5,280 feet = 1 mile
6 feet = 1 fathom
6,080 feet = 1 nautical mile

Square Measure
144 square inches = 1 square foot
9 square feet = 1 square yard
30¼ square yards = 1 square rod
160 square rods = 1 acre
4,840 square yards = 1 acre
640 acres = 1 square mile

Cubic Measure
1,728 cubic inches = 1 cubic foot
27 cubic feet = 1 cubic yard

Liquid Measure
16 ounces = 1 (U S) pint
20 ounces = 1 imperial (British) pint
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon
1.2 U S gallons = 1 imperial (British) gallon

Weights Avoirdupois
16 drams = 1 ounce
16 ounces = 1 pound
112 pounds = 1 long hundredweight
2,000 pounds = 1 short ton
2,240 pounds = 1 long ton

Weights Troy and Apothecary
480 grains = 1 ounce
12 ounces = 1 pound

METRIC SYSTEM

Linear Measure
10 millimeters = 1 centimeter
10 centimeters = 1 decimeter
10 decimeters = 1 meter
10 meters = 1 dekameter
1,000 meters = 1 kilometer

Square Measure
100 square millimeters = 1 square centimeter
100 square centimeters = 1 square decimeter
10,000 square centimeters = 1 square meter
100 square meters = 1 are
100 ares = 1 hectare
10,000 ares = 1 square kilometer

Cubic Measure
1,000 cubic millimeters = 1 cubic centimeter
1,000 cubic centimeters = 1 cubic decimeter
1,000 cubic decimeters = 1 cubic meter

Liquid Measure
10 milliliters = 1 centiliter
100 centiliters = 1 liter
1,000 liters = 1 kiloliter

Weights
10 milligrams = 1 centigram
10 centigrams = 1 decigram
10 decigrams = 1 gram
100 centigrams = 1 gram
10 grams = 1 dekagram
10 dekagrams = 1 hectogram
10 hectograms = 1 kilogram
1,000 grams = 1 kilogram
1,000 kilograms = 1 ton

CONVERSION TABLE

Linear Measure
1 inch = 2 54 centimeters
0 393700 inches = 1 centimeter
1 mile = 1 609344 kilometers
0 62137 miles = 1 kilometer

Square Measure
1 square inch = 6 4516 square centimeters
0 15500 square inches = 1 square centimeter
1 hectare = 2 471 acres
1 square mile = 2.58999 square kilometers
0 3861 square miles = 1 square kilometer

Cubic Measure
1 cubic inch = 16 3871 cubic centimeters
0 061024 cubic inches = 1 cubic centimeter
1 cubic yard = 0 76455 cubic meters
1 30795 cubic yards = 1 cubic meter

Liquid Measure
1 ounce = 0.46871 centiliters
0 33815 ounces = 1 centiliter
1 (U S.) liquid quart = 0.9463 liters
1 0567 liters = 1 (U.S) liquid quart
1 (U S.) gallon = 0037853 kiloliters
264 17 (U S.) gallons = 1 kiloliter

Weights
1 ounce (avoirdupois) = 28 3495 grams
0.035274 ounces (avoirdupois) = 1 gram
1 pound (avoirdupois) = 0.453592 kilograms
2.20462 pounds (avoirdupois) = 1 kilogram
1 (short) ton = 0 90718 (metric) tons
1 10231 (short) tons = 1 (metric) ton
1 pound (avoirdupois) = 1.21528 pounds (troy)
0.82286 pounds (avoirdupois) = 1 pound (troy)

and measures legislation has been, for the most part, permissive. Sets of official weights and measures were sent to the states in 1856, but legislation and enforcement are largely state prerogatives The Federal government permitted the use of the metric system in 1866 and established a conversion table based on the yard and the pound, but since 1893 the yard has been derived in the United States from the international prototype meter and the pound from the prototype kilogram These are kept at the International Bureau of Weights and Measures (est 1875) near Paris, and copies of the prototypes are deposited with the governments of nations participating in the International Bureau In the United States the copies are kept by a government bureau established to correlate standards (see STANDARDS, NATIONAL BUREAU OF) Efforts to establish the metric system as the sole legal system in the United States have been opposed chiefly on the grounds that conversion would entail great confusion See William Hallock and H T Wade, *Outlines of the Evolution of Weights and Measures* (1906); Jeanne Bendick, *How Much and How Many* (1947)

Weihaiwei or **Wei-hai-wei** (both wā'hī'wā'), former British leasehold, area c 285 sq mi, Shantung prov, China, on the Yellow Sea It was leased by Great Britain from China in 1898 and was returned in 1930 It comprised the city of Weihaiwei, a strip of territory along the coast, and near-by islands Under the British the city of Weihaiwei (pop. 222,247) developed from a small village to a major port and coaling station. It is important in the trade with Manchuria

Weill, Kurt (kōōrt' vīl'), 1900–1950, German-American composer, b Dessau, studied with Humperdinck and Busoni in Berlin He first became well known with the productions of two short, satirical, surrealist operas, *Der Protagonist* (Dresden, 1926) and *Der Zar läßt sich photographieren* [the tsar has himself photographed] (Leipzig, 1928) More popular than these, however, was his melodious *Die Dreigroschenoper* (1928), with book by Bert BRECHT, who was also the librettist of the full-length opera *Aufstieg und Fall der Stadt Mahagonny* [rise and fall of the city of mahogany] (1927, revised 1930), a bitter satire on modern degeneracy All these works were condemned by the rising followers of Hitler, and in 1933 Weill left Germany for France In 1935 he came to the United States, here he began writing musical comedies, the most notable of which were *Lady in the Dark* (1941) and *One Touch of Venus* (1943, with lyrics by Ogden Nash) His last works, in a more serious vein, included *Street Scene* (1947), a musical version of Elmer Rice's play, *Down in the Valley* (1948), a folk opera, and *Lost in the Stars* (1949), a musical tragedy for which Maxwell Anderson wrote the libretto, based on Alan Paton's novel about race relations, *Cry, the Beloved Country* (1948) Weill also wrote some instrumental works and a cantata, *Lindbergh's Flight* (Berlin, 1929) He became a U S citizen in 1943

Weimar (vī'mär), city (pop 66,659), capital of Thuringia, central Germany, on the Ilm river, in a picturesque country of wooded hills Because of its past role, in the early 19th cent, as the cultural center of Germany, Weimar has become symbolic of German culture, just as Potsdam became the symbol of Prussian militarism Though it dates from the 10th cent, it was of little importance before the 16th cent, when it became the capital of the duchy (after 1815 grand duchy) of SAXE-WEIMAR Under Elector John Frederick I, Lucas Cranach the elder worked here (16th cent), and from 1708 to 1717 J S Bach was court organist and concert master at Weimar It was, however, under Dowager Duchess Amalia and her son, CHARLES AUGUSTUS, that Weimar reached the peak of its fame as a cultural center C M WIELAND at first dominated the scene in the late 18th cent, but after the arrival (1775) of GOETHE at the court, Weimar and Goethe became virtually synonymous Goethe not only made Weimar the literary mecca of Europe during his lifetime, but he also attracted such men as HERDER and SCHILLER, established and directed the Weimar theater, and as chief minister of Charles Augustus was active in the physical improvement of the city The Weimar state theater saw the first performances of most of Goethe's and many of Schiller's plays After Goethe's death (1832) Weimar lived mainly on its past reputation, but its active cultural life continued Franz Liszt was musical director here from 1848 to 1859, and Wagner's *Lohengrin* had its first performance here during Liszt's directorship The fact that Friedrich Nietzsche lived and died (1900) at Weimar after he had become insane did not exactly enhance Weimar's stature as a center of thought, but it resulted in the foundation of the important Nietzsche Archives by his sister In 1919 Weimar was the scene of the German national assembly which created the Weimar Republic Under the Hitler regime, which replaced the Weimar Republic in 1933, the Nazis erected, at a few miles SE of Weimar, a monument to the Germany which Weimar did not symbolize—the concentration camp of Buchenwald. American soldiers entered both Weimar and Buchenwald in April, 1945, but they were replaced by Soviet troops later in the year. Even during its greatest glory Weimar was a quiet small town, and it retains that character There are varied manufactures, notably of textiles, machinery, electrical equipment, musical instruments, and glass, and a printing industry Weimar has a state college of music and an academy of art and architecture, and it is the seat of the Goethe and Schiller Archives and of the Nietzsche Archives Among the landmarks of Weimar are the parish church, with the graves of Lucas Cranach and Herder and with an altarpiece by Cranach, the former grand ducal palace and the ducal crypt with the graves of Goethe and Schiller, the residences of Goethe, of Schiller, and of Liszt, Goethe's garden cottage, the state theater, the Goethe museum, and the near-by ducal castle of Tiefurt The center of Weimar suffered damage in the Second World War, but it has been restored

Weimar (wī'mur), city (pop 1,353), S Texas, W of Houston and near Columbus, laid out 1873 It has small processing plants in a diversified farm area settled by Germans and Czechs

Weimar Republic see GERMANY

Weinberger, Jaromir (yä'rômēr vīn'bĕrgĕr), 1896–, Czech composer, studied at the conservatories of Prague and Leipzig From 1922 to 1926 he was professor at the conservatory of music in Ithaca, N Y, in 1939, after extensive travels, he settled in New York city His most popular works are the polka and fugue from the opera *Schwanda, the Bagpipe Player* (1927) and his orchestral *Variations and Fugue on Under the Spreading Chestnut Tree* (1939) Other works are the operas *Outcasts of Poker Flat* (1932, based on the story by Bret Harte) and *Wallenstein* (1937), his Lincoln Symphony (Cincinnati, 1941), *Czech Rhapsody* (Washington, D C, 1941), and the ballet *Saratoga* (Ballet Russe de Monte Carlo, 1941)

Weingartner, Felix (fā'liks vīn'gartnur), 1863–1942, Austrian conductor and composer, b Zara, Dalmatia, studied at the Leipzig Conservatory and with Liszt Having held several appointments in Germany, including those of conductor (1891–98) of the Royal Opera, Berlin, and conductor (1898–1903) of the Kaim Orchestra, Munich, he conducted (1908–10) at the Vienna State Opera, where he was successor to Mahler He was music director (1912–14) at Hamburg and conductor from 1919 to 1924 of the Vienna Volksoper and from 1919 to 1927 of the Vienna Philharmonic, afterward directing the Basel Conservatory until 1934, when he returned to the Vienna State Opera for two seasons He composed, among other works, six symphonies, three symphonic poems, and the operas *Sakuntala* (1884), *Orestes* (1902), and *Kain und Abel* (1914) and edited (1899) the complete works of Berlioz

Weinman, Adolph Alexander (wīn'mun), 1870–, American sculptor and medalist, b Germany He came to the United States in 1880 and studied under Philip Martiny and Augustus Saint-Gaudens He designed a U S half dollar and dime, his statues *Rising Sun* (Carnegie Inst, Pittsburgh) and *Descending Night* (Kansas City, Mo, Art Inst) won praise at the Panama-Pacific Exposition, San Francisco, 1915 His other works include the Gen Alexander Macomb monument (Detroit), Lincoln memorials (Hodgenville, Ky, and Madison, Wis), statues of Col William F Vilas (National Military Park, Vicksburg, Miss), Lincoln (capitol, Frankfort, Ky), and Alexander J Cassatt (Pennsylvania RR station, New York), a pair of *Sphinxes* (Scottish Rite Temple, Washington, D C), sculptural decorations for the Pennsylvania RR station and the Municipal Building, New York, and for the Elks' National Memorial Building, Chicago, and bronze doors for the building of the American Academy of Art and Letters, New York

Weinsberg (vīn'bĕrk), town (pop 4,751), Württemberg, SW Germany, after 1945 in Württemberg-Baden, near Heilbronn Its ruined castle, called Weibertreu [women's faith], is famous for an episode which happened here in 1140, after Emperor Conrad III had captured it The emperor, it is said, decided to put the men in the castle to the sword, but allowed the women to leave and to take with them their most valued treasures The women promptly took their husbands pickaback and walked out Another capture (1525), in the Peasants' War, ended, less pleasantly, with the massacre of its inmates It is worth pointing out that this massacre was the worst single act of atrocity committed by the peasants in the whole war, while the peasants suffered far worse at the hands of their enemies Weinsberg is the birthplace of Oecolampadius and of the poet Kerner

Weir, Harrison William (wēr), 1824–1906, English illustrator and writer He was for many years draughtsman and engraver on the *Illustrated London News* His best work was done for J G Wood's *Illustrated Natural History* He wrote and illustrated *Animal Stories* (1885) and *Our Cats and All about Them* (1889)

Weir, Robert Walter, 1803–89, American painter, b. New Rochelle, N.Y, studied in Florence He taught (1834–76) drawing at West Point, where are his *Peace and War*, in the chapel, and some of his portraits Among his historical pictures are *The Embarkation of the Pilgrims from Delft-Haven* (Capitol, Washington, D C) and a portrait of Gen. Winfield Scott (Metropolitan Mus) In New York also are stained glass windows of his designing in Calvary Church and Trinity Chapel He became a member of the National Academy of Design in 1829 Weir is grouped with the Hudson River school of landscape painters, among his landscapes is *View of the Hudson from West Point* His son, **John Ferguson Weir,** 1841–1926, painter, sculptor, and author, b West Point, N Y, studied with his father and at the National Academy. He was director (1869–1913) of the School of Fine Arts, Yale, where are his statues of President Woolsey and Professor Silliman His paintings include *Forging the Shaft* (Metropolitan Mus), *The Gun Foundry*, and *Tapping the Furnace* He became a member of the National Academy in 1866 Among his writings is a biography of John Trumbull (1901) Another son, **Julian Alden Weir,** 1852-1919, b West Point, N Y, studied with his father, at the National Academy, and with Gérôme in Paris He was one of the earliest American impressionist painters Subtle gradations of light and tone characterize his work He was one of the founders (1877) of the Society of American Artists, a member of the National Academy (1886), and its president (1915–17) When the Ten American Artists formed (1898) a separate group, he was one of them. His works include *Portrait of a Young Girl* (Luxembourg Mus, Paris), *Idle Hours*, *The Green Bodice*, and *The Red Bridge* (Metropolitan Mus.), a portrait and *Autumn* (Corcoran Gall), and *Midday Rest in New England* (Pa Acad of the Fine Arts)

Weir, city (pop 1,038), SE Kansas, near Pittsburg, in a coal area, inc 1875

weir (wēr), barrier or dam built in a stream to control its level or course, usually for purposes of irrigation, navigation, or water power The weir may be constructed so that all or part of it can be opened or closed, raised or lowered, to allow the water to flow freely, or the water may be obstructed continuously, so that it must flow over the crest of the weir The overflow sections, e g, spillways, of other types of dams are also called weirs In early England simple mesh weirs for fishing purposes were made of twigs and branches Weirs are also used to measure the flow of water, e g, in streams and sewers

Weirton, steel-manufacturing "company town" (pop c 31,500), W Va, in the industrial Northern Panhandle, on the Ohio and W of Pittsburgh In 1947 it was incorporated as a city, including near-by Holidays Cove, Marland Heights and Weirton Heights

Weise, Christian (krīs'tyan vī'zu), 1642–1708, German comic dramatist and poet He was a schoolmaster at Zittau from 1678 He wrote lyric verse and some 50 comedies, as well as humorous romances and the first German political novels In contrast to his predecessors, he presents life naturally and simply His best work is, perhaps, the comedy *Der bäurischer Machiavellus* [the village Machiavelli] (1679), his chief novel is *Die drei ärgsten Erznarren in der ganzen Welt* [the three archest fools in the whole world] (1672)

Weiser, Conrad (wī'zur), 1696–1760, American pioneer, b Württemberg, Germany Arriving in America in 1710, his family settled in Livingston Manor, N Y, and later at Schoharie While still a youth, Weiser lived for some time among the Mohawks and learned their language and customs. Going (1729) to Tulpehocken, Pa, he became (1731) the official Pennsylvania Indian interpreter and soon gained fame as a wise and honorable mediator between the whites and Indians His broad knowledge of Indian relations enabled him to gain Iroquois support of the British against French aggression during the last of the French and Indian Wars Coming under the influence of Conrad BEISSEL, he moved (1739) to Euphrata and was made a Baptist minister Within two years, however, he withdrew, returned to Tulpehocken, and entered local politics He later aided in erecting Berks co and in developing Reading, became a Lutheran adherent, and continued as Indian mediator until his death See biography by P A W Wallace (1945)

Weiser (wē'zur), city (pop 3,663), co seat of Washington co, W Idaho, N of Payette, at the confluence of the Weiser and Snake rivers and at the Oregon line Laid out in 1877, it was moved (1890) a mile west after fire had destroyed the original city In an irrigated fruitgrowing and dairying region, it is a terminus of the North and South Panoramic Highway and headquarters of Weiser National Forest Intermountain Institute (coeducational) is here

Weismann, August (ou'gōōst vī'män), 1834–1914, German biologist He taught zoology at the Univ. of Freiburg from 1866 to 1912 He is known as the originator of the germ-plasm theory of HEREDITY. His doctrine, formerly called Weismannism, stresses the unbroken continuity of the germ plasm and the nonheritability of ACQUIRED CHARACTERS. His works include *The Germ-Plasm* (1892, Eng. tr, 1893) and a series of essays translated into English as *Essays upon Heredity and Kindred Biological*

Problems (2d ed, 2 vols, 1891–92). See G. J. Romanes, *Examination of Weismannism* (1903)

Weissenburg (vī'sunbŏrk″), town (pop 13,144), Middle Franconia, Bavaria. Founded in the 9th cent on a Roman site, it was chartered c 1247 and became a free imperial city in 1360. Still standing are portions of the Roman fortifications and many fine examples of Gothic architecture

Weissenfels (vī'sŭnfĕls), city (pop 50,995), in the former Saxony prov of Prussia, E Germany, S of Halle, after 1945 in Saxony-Anhalt. It is the center of a lignite-mining region and has varied manufactures.

Weisshorn (vīs'hôrn″), peak, 14,804 ft high, Valais canton, Switzerland, in the Pennine Alps

Weizmann, Chaim (khīm' vītsman), 1874–, scientist and Zionist leader, first president (1948–) of Israel, b Russia, grad Univ of Berlin, 1900. He lectured in chemistry at the Univ of Geneva until 1903 and later taught at the Univ of Manchester. He became a British citizen in 1910, and in the First World War he was (1916–19) a director of the British admiralty laboratories. He became famous when he developed a synthetic acetone to be used in the manufacture of explosives. In 1917 he helped procure the famous declaration of Arthur James BALFOUR. Weizmann had been active in ZIONISM from his youth, and in 1907 he visited Palestine. He sought a practical solution for a Jewish homeland, and after 1920 assumed leadership in the world Zionist movement. In the Second World War he was (1939–45) honorary adviser to the British ministry of supply and did research on synthetic rubber and high-octane gasoline. When the republic of Israel was founded (1948), Dr. Weizmann became the first president. After 1932 he was head of the Hebrew Univ. in Jerusalem. He wrote various papers for scientific journals. See his autobiography, *Trial and Error* (1949), Paul Goodman, ed, *Chaim Weizmann a Tribute* (1945)

Wekerle, Alexander (vĕ'kĕrlē), Hung *Wekerle Sándor* (shan'dôr), 1848–1921, Hungarian statesman. He became minister of finance in 1889 and retained that post during his first two terms as premier (1892–95, 1906–10). In his first term the budget was balanced for the first time since 1869, civil marriage was made obligatory, and the power of the Church was lessened as a result. His second cabinet was a coalition of parties, it carried out financial reforms and supported the annexation of Bosnia and Hercegovina. Wekerle headed four successive cabinets in 1917–18. On Oct. 16, 1918, he declared the dissolution of all bonds between Hungary and Austria except the personal union of the two countries under the same monarch. He resigned shortly afterward.

Welch, William Henry, 1850–1934, American pathologist, b Norfolk, Conn, grad Yale (B.A., 1870), M.D. College of Physicians and Surgeons (now part of Columbia Univ.), 1875. After studying abroad he taught (1879–84) at Bellevue Hospital Medical College, introducing laboratory methods of instruction. From 1884 he was associated with Johns Hopkins Univ., as professor of pathology (1884–1916), dean of the medical faculty (1893–98), director of the school of hygiene (1916–26), and professor of the history of medicine (1926–30). He was chairman of the board of the Rockefeller Institute for Medical Research from 1901. His researches include studies of the Welch bacillus of gas gangrene and of embolism, thrombosis, and diphtheria. See biography by Simon Flexner and J. T. Flexner (1941)

Welch, coal-mining city (pop 6,264), co seat of McDowell co, S W Va, at the confluence of Elkhorn Creek and the Tug Fork river NW of Bluefield, settled 1885. A state hospital is here

Weld, Theodore Dwight, 1803–95, American abolitionist, b Hampton, Conn. He moved to Utica, N.Y. in childhood. Charles Stuart, a retired British army officer, and Charles G. Finney, Presbyterian revivalist, enlisted him in the abolitionist cause, and after 1830 Weld devoted his entire time to the movement. He in turn converted others, notably Arthur TAPPAN and Lewis TAPPAN, New York philanthropists, James G. BIRNEY, and Gamaliel BAILEY. He chose Lane Seminary at Cincinnati, Ohio, for the ministerial training of other Finney converts and studied there until the famous antislavery debates he organized (1834) among the students led to his dismissal. Weld then trained a select group of agents for the American Anti-Slavery Society, and within a few years the "Seventy" had successfully spread the abolitionist gospel throughout the North. He also directed the national campaign for sending antislavery petitions to Congress and was the invaluable assistant to John Quincy ADAMS when Congress censured and tried Adams for persisting in reading the petitions. The antislavery Whigs in Congress, many of them his converts, chose him as their adviser when they decided to break with their party on the slavery issue, and when they became firmly established in the early 1840s Weld retired from public life. Most famous of his writings (none were published under his own name), was *American Slavery as It Is* (1839), on which Harriet Beecher Stowe partially based her *Uncle Tom's Cabin*. Weld was undoubtedly one of the greatest of the ABOLITIONISTS (certainly one of the most attractive figures in the movement), but his passion for anonymity long made him an unknown figure in American history. He married (1838) Angelina Emily GRIMKÉ, also a vigorous abolitionist. See G. H. Barnes, *The Antislavery Impulse, 1830–1844* (1933), G. H. Barnes and D. L. Dumond, ed, *Letters of Theodore Dwight Weld, Angelina Grimké Weld and Sarah Grimké, 1822–1844* (2 vols, 1934)

welding, in general, the joining together of separate pieces of the same kind of metal. It has been carried out in a number of ways, e.g., by heating the edges of the metal to be joined until they are soft (but not melted) and then pressing them tightly together until hardness sets in (as in welding iron), by the use of an electric current, as in the Thomson process, in which the surfaces to be joined soften because of the heat generated by their resistance to the passage of current. Today welding is done chiefly by use of the electric ARC, the THERMITE process, the OXYACETYLENE TORCH, the oxyhydrogen BLOWPIPE, and the atomic hydrogen flame (in which molecules of hydrogen gas passing through an electric arc are broken up into atoms of hydrogen by absorbing energy, when outside the arc, the atoms reunite into molecules, yielding in the process heat enough to weld the metal)

Weldon, town (pop 2,341), NE N.C., on the Roanoke near the Va. line, NNE of Rocky Mount. The area yields cotton, peanuts, tobacco, and timber, which are processed here

Weleetka (wulē'ku), city (pop 1,904), E central Okla., on the North Canadian river and S of Tulsa. It is the trade center of a farming area in which watermelons are the chief crop. The site of a clash between Indians and whites in 1901 is near.

Welfs. see GUELPHS

Welhaven, Johan Sebastian (yōhan' sābas'tyan vĕl'havun), 1807–73, Norwegian poet and critic. His poetry is intellectual, often classic in style, and draws much of its inspiration from the Norwegian landscape, legend, and history. As a critic he was bitterly opposed to the undisciplined and tempestuous WERGELAND

well, cylindrical hole in the ground through which water or oil is brought up from a natural reservoir. Well making for the purpose of obtaining water is an ancient trade. In the United States until some years after the Civil War the majority of wells were "open," i.e., they were holes dug in the ground and cased with brick, stone, or wood. The pioneers of the West commonly used tubular wells, which were 2 ft or less in diameter. Open wells are generally 3 ft or more in diameter. Dug wells are those made with picks or spades or with digging machinery. Bored wells are made by the use of hand-operated or power-operated augurs. The majority of wells, both water and oil, are made by percussion or rotary drills. The material excavated in the process is brought up by suction buckets, hydraulic pressure, or through hollow drill tools. Driven wells are made by driving into the earth a casing which has sharp edges at the lower end. Entrance of water or oil is made possible by holes near the casing end. Hydraulic rotary drilling is much used for oil wells. Drilling bits set in the bottom of a drilling pipe are rotated by machinery on the ground level. As the cut deepens, more sections of pipe are fastened to the sections already in use. Water which is sent down through the pipe washes away the drillings and serves also to cool the cutting bits. Casing is inserted when the desired depth has been reached. The cable method uses both cutting and lifting tools at the end of a heavy rope or wire cable. Some wells in the United States are over 13,000 ft in depth. See also ARTESIAN WELL

Welland (wĕ'lund), city (pop 12,500), S Ont., on the Welland Ship Canal and 20 mi W of Buffalo, N.Y. It is a canal port and an industrial city, with cotton, steel, and cordage mills, foundries, and rubber, shoe, and carbide works, and is a distributing center for a fruitgrowing area

Welland, river of England, rising in Northamptonshire and flowing 70 mi to the Wash

Welland Ship Canal, 25 mi long, S Ont., connecting Lake Ontario and Lake Erie and by-passing the falls of the Niagara river. It was built in 1914–32 by the dominion government to replace a canal opened in 1833 and can accommodate the largest lake ships, its eight locks overcoming a difference in level of 326 ft between the lakes. The Lake Ontario entrance is at Port Weller, near Port Dalhousie, and the Lake Erie entrance is at Port Colborne.

Welle see UELE, river

Welles, Gideon (wĕlz), 1802–78, U.S. Secretary of the Navy (1861–69), b Glastonbury, Conn. Educated at Cheshire Academy and at the institution which later became Norwich Univ., he was editor (1826–36) and part owner of the Hartford *Times*, one of the first New England papers to support Andrew Jackson. Welles was an organizer of the Jacksonian forces in Connecticut, served in the state legislature (1827–35), and was three times elected state comptroller of public accounts (1835, 1842, 1843). He was postmaster at Hartford (1836–41) and chief of the U.S. Navy Bureau of Provisions and Clothing (1846–49). Quitting the Democratic party on the slavery issue, he helped found (1856) the Hartford *Evening Press*, a Republican paper, and in 1861 became New England's representative in Lincoln's cabinet. Incorruptible, efficient, and something of a curmudgeon, Welles built the powerful Union navy of the Civil War. John Ericsson's *Monitor* and the other ironclads resulted largely from his support, and the victorious admirals David G. Farragut and David D. Porter were men of his choice. He was one of the first to recognize Lincoln's essential greatness, but thoroughly disliked some of his cabinet colleagues, notably William H. Seward and Edwin M. Stanton. A moderate, he favored Lincoln's Reconstruction plan and, retaining his post under Andrew Johnson, loyally stood by the President in his struggle with the radical Republicans of Congress. He returned to the Democratic party in 1868. Welles wrote *Lincoln and Seward* (1874), and his salty diary is of immense value to the historian, though its worth is impaired by the changes he made in the journal later in life. See J. T. Morse, Jr., ed, *Diary of Gideon Welles* (3 vols, 1911); R. S. West, Jr., *Gideon Welles Lincoln's Navy Department* (1943), B. J. Hendrick, *Lincoln's War Cabinet* (1946)

Welles, Orson, 1915–, American actor, director, and producer in the theater, in moving pictures, and on the radio, b Kenosha, Wis. He acted (1931) at the Gate Theatre, Dublin, and made his Broadway debut (1934) as Tybalt in *Romeo and Juliet*. Welles directed spectacular versions of *Macbeth* and *Doctor Faustus* for the Federal Theatre (1937) and in the same year founded the Mercury Theatre with John Houseman. Among the productions which he directed and acted in for this organization were *Julius Caesar* (in modern dress) Marc Blitzstein's *Cradle Will Rock*, G. B. Shaw's *Heartbreak House* and Georg Büchner's *Danton's Death*. Welles in 1938 alarmed a national radio audience with his "Martian broadcast," a realistic adaptation of H. G. Wells's *War of the Worlds*. He went (1939) to Hollywood to write, direct, produce, and act in *Citizen Kane*, noted for its handling of the close-up. Some of his other films are *The Magnificent Ambersons*, *Journey into Fear*, and *Macbeth*

Welles, Sumner, 1892–, American diplomat, b New York city, grad Harvard, 1914. He began his career in diplomatic service as secretary of the U.S. embassy at Tokyo (1915–17). Attached to the embassy at Buenos Aires (1917–19), Welles gained wide knowledge of Latin American affairs, then served as assistant chief (1920–21) and chief (1921–22) of the division of Latin American affairs of the Dept. of State. As commissioner to the Dominican Republic in 1922, he helped prepare for the evacuation of American troops from that country, later he was appointed the personal representative of President Calvin Coolidge to offer mediation in the Honduras revolution of 1924. He wrote a book on the Dominican Republic, *Naboth's Vineyard* (1928), and was an influential member of the Dawes Financial Mission to the Dominican Republic (1929). President F. D. Roosevelt appointed him Assistant Secretary of State in 1933. That same year he was made ambassador to Cuba. Welles was unable to bring about successful mediation between the opposing groups in the revolution against Gerardo MACHADO in 1933, and in the midst of political turmoil he was recalled and resumed his duties as Assistant Secretary of State. He later (1937–42) was Undersecretary of State and served as U.S. delegate to several Pan American conferences. In his book, *The Time for Decision* (1944), he recounted the results of a confidential mission to Europe in 1940. Some of his speeches were collected in *The World of the Four Freedoms* (1943), and he wrote *The Intelligent American's Guide to Peace* (1945) and *Where Are We Heading?* (1946)

Wellesley, Richard Colley Wellesley, Marquess (wĕlz'lē), 1760–1842, British governor general of India. Born in Ireland, he was educated at Eton and Oxford, became earl of Mornington on his father's death (1781), and took his seat in the Irish House of Peers. He entered the English House of Commons in 1784 and gave his support to the liberal measures of William Pitt and William Wilberforce. In 1793 Pitt appointed him to the board of control for India, and in 1797 he was created Baron Wellesley and sent as governor general to India. Under his rule British influence achieved a vast extension. He was an excellent administrator, wiped out the French hold in India, and crushed the power of Tippoo Sahib, sultan of Mysore. Aided by the military powers of his brother Arthur (later duke of WELLINGTON), he checked the power of the native rulers in the great struggle with the Mahratta powers. He was recalled to England in 1805, having been created marquess in 1799. Chagrined at charges unsuccessfully brought in Parliament against his administration in India, he refused a cabinet post, but went to Spain as ambassador in 1809. He served as foreign secretary (1810–12) under Spencer Perceval. Wellesley supported the cause of CATHOLIC EMANCIPATION and in 1821 became lord lieutenant of Ireland. He resigned (1828) when his brother, then an opponent of Catholic

Emancipation, became prime minister, but served again as lord lieutenant for a brief period (1833–34) after the issue of Catholic Emancipation had been settled. See biographies by C. B. Malleson (1889) and W H Hutton (1893).

Wellesley, suburban town (pop. 15,127), E Mass., WSW of Boston, settled 1660, set off from Needham 1881 The Italian Hunnewell gardens are near Lake Waban. Several preparatory schools and the Babson school of business are in the town **Wellesley College** (nonsectarian, for women), chartered in 1870 and 1873, was opened in 1875 by Henry F DURANT It was the first to have scientific laboratories in a woman's college It includes a noted department of hygiene and physical education (graduate) The buildings include a chapel, an art building and museum, Billings Hall (music), and a library with fine bronze doors The library has a large Browning collection Alice Freeman PALMER (1881–87) and Ellen F Pendleton (1911–36) were well-known presidents The faculty have been noted for constructive influence in social movements See Florence Converse, *Wellesley College* (1939)

Wellesley College: see WELLESLEY, Mass

Wellesley Islands, uninhabited island group in the Gulf of Carpentaria, Australia, just off the northwest coast of Queensland. Mornington Island is the largest.

Wellfleet, resort town (pop 890), SE Mass., on Cape Cod, between Truro and Eastham, settled c 1720, set off from Eastham 1763 It was long a center for whaling, oystering, and cod and mackerel fishing

Wellhausen, Julius (yo͞o'lyo͝os vĕl'hou"zun), 1844–1918, German Orientalist and biblical critic He wrote many valuable and original works on the text and composition of books of the Bible and on Jewish and Arabic history His *Geschichte Israels* (1878) was translated into English from the second edition (1882) as *Prolegomena to the History of Israel* (1895)

Wellingborough, urban district (1931 pop 21,223, 1947 estimated pop 28,430), Northamptonshire, England Formerly known for its chalybeate spring, it is now a market town and a leather-manufacturing center It has a public school which was founded in 1595

Wellington, Arthur Wellesley, 1st **duke of,** 1769–1852, British soldier and statesman Born in Dublin, he entered the army in 1787 and, aided by his brother, Richard WELLESLEY, rose rapidly in rank Until 1798 he signed his name Wesley In 1796 he followed his regiment to India, where his brother came (1797) as governor general Wellington aided Gen George Harris (1799) in the rout of TIPPOO SAHIB, sultan of Mysore, at Seringapatam, where Wellesley later ruled ably as governor In 1800 he defeated the robber chieftain, Dhundia Wagh, and in 1802 he was made major general In 1803 he moved against the Mahratta chiefs, Sindhia and Holkar, breaking their force of 40,000 with an army of 10,000 in a surprise attack A valuable civil and military adviser to his brother, he returned with him to England in 1805 and was knighted His election to Parliament (1806) and appointment as Irish secretary (1807) did not prevent him from leading an expedition against the Danes (1807) and another (1808) to assist Portugal in its revolt against Napoleon He defeated the French at Roliça and Vimeiro, but was superseded in command In 1809 he returned to the Iberian Peninsula, where he ultimately assumed command of the British, Portuguese, and Spanish forces in the Peninsular War Taking advantage of the irregular terrain, the national patriotism of the Spanish, and Napoleon's preoccupation with other campaigns and projects, he drove the French beyond the Pyrenees by 1813 (see PENINSULAR WAR) His campaigns were rendered difficult by poor support from the British government Late in 1813 Wellesley invaded S France shortly before Napoleon's abdication After his success at Vitoria, Spain, he had been made duke of Vitoria, and after his return to England he received many honors and was created duke of Wellington He served for a short time as ambassador to Paris, then succeeded Lord Castlereagh at the peace conference in Vienna, but took command of the allied armies when Napoleon returned from Elba There followed his most famous victory, that in the WATERLOO CAMPAIGN, won in conjunction with the Prussian general, Blucher. This ended the Napoleonic Wars Wellington, again lavishly honored, took charge of the army of occupation, exerting his influence to restrain harsh treatment of the defeated French Wellington, "the iron duke," with the soldier's taste for force and order and the aristocrat's distrust of democratic institutions, lent his great prestige to the Tory policy of repression at home and took a cabinet post as master general of ordnance (1819) He represented England at the Congress of Verona (1822), which considered the Spanish revolt, and at St Petersburg (1827), which concerned itself with the revolt in Greece, but he was not in sympathy with the liberal foreign policy of George Canning. Wellington became prime minister in 1828 and, by effecting the repeal of the Test Act and Corporation Act and the passage of the CATHOLIC EMANCIPATION Bill (reforms he had previously opposed), admitted Catholics to public office and Parliament, but lost the support of most of his party as a consequence When he declared against parliamentary reform, the ministry fell (1830), and his unpopularity subjected him to an assault by a mob He refused to form a government in 1834, but served under Robert Peel as foreign secretary (1834–35) and again (1841–46) without portfolio On the repeal of the corn laws he supported Peel, while not wholly approving his policy In 1842 he was made commander in chief for life and on his death was buried with great pomp in St Paul's See his dispatches (12 vols., 1834–39), biographies by Herbert Maxwell (1899), John Fortescue (1925), Oliver Brett (1928), Philip Guedalla (1931), and Richard Aldington (1943)

Wellington, village (pop 1,036), S Ont., on Wellington Bay of Lake Ontario and 8 of Belleville It is a summer resort in a farm area

Wellington. 1 Urban district (1931 pop 8,186, 1943 estimated pop 6,628), Shropshire, England The WREKIN is near by **2** Urban district (1931 pop. 7,132, 1943 estimated pop 6,628), Somerset, England, at the foot of the Blackdown Hills, in a farming region Its manufactures are woolen goods and asbestos The Duke of Wellington took his title from the town, a monument to him is on one of the hills

Wellington, city (pop 123,771, metropolitan pop 173,520), capital of New Zealand, at the southern extremity of North Island It is at the head of a harbor (formerly called Port Nicholson) on Cook Strait Wellington supplanted Auckland in 1865 as capital of the dominion Among the buildings are the governor general's residence, the Houses of Parliament, the head offices of the Univ of New Zealand, the Victoria University College (1897), the National Art Gallery (1936), and the Dominion Museum (1936) with its Maori art collection The chief products are fish and building stone. The city was founded in 1840

Wellington 1 City (pop 7,246,) co seat of Sumner co., S Kansas, S of Wichita, in an agricultural region, laid out 1871, inc 1872 Oil fields in the vicinity were developed in the 1930s It was on the old Chisholm Trail **2** Village (pop. 2,529), N Ohio, SW of Cleveland, in a dairy and grain area Iron castings and small steel products are made here **3** City (pop 3,308), co seat of Collingsworth co., extreme N Texas, SSE of Amarillo, settled 1888, inc 1909 Long a prairie cow town, Wellington now handles cotton, grain, and turkeys as well as cattle

Wellman, town (pop 1,129), SE Iowa, SW of Iowa City, settled 1879, inc 1880 Turkeys are raised and packed here

Wells, David Ames, 1828–98, American economist, b Springfield, Mass., grad Williams, 1847, and Lawrence Scientific School, Cambridge, Mass., 1851 Early in life he wrote several popular books on science In 1864 his pamphlet *Our Burden and Our Strength,* dealing with the financial problems of the Civil War, attracted considerable attention While serving as special commissioner of the U S Revenue Commission he wrote a series of reports (1866–69) concerned particularly with indirect taxes He favored free trade and opposed the Federal income tax He wrote many books and pamphlets, including *Robinson Crusoe's Money* (1876), *Our Merchant Marine* (1882), and *The Theory and Practice of Taxation* (1900) See F B Joyner, *David Ames Wells, Champion of Free Trade* (1939)

Wells, Henry, 1805–78, American pioneer expressman, b Thetford, Vt As a child he moved with his family to central New York In 1843 he established express service between New York city and Buffalo and competed with the U S Post Office by carrying mail at less than the government rate His association with William G Fargo began in 1844, when Wells & Company was organized In 1846 Wells temporarily abandoned most of his other commercial interests to concentrate on the trans-Atlantic trade (For the development of Wells's Western express business after 1852 see FARGO, WILLIAM GEORGE.) Wells made his home in Aurora, N Y, where he founded Wells Seminary (now Wells College) A stammerer, he established several schools for those similarly afflicted

Wells, Herbert George, 1866–1946, English journalist and novelist, b Bromley The son of a professional cricketer, Wells was apprenticed to a draper at 13 but was able through grants and scholarships to attend the Univ of London (grad 1888) Stimulated by the teaching of T H Huxley, Wells taught science for a few years, then wrote articles for magazines Soon he began his long series of books in which scientific speculation is entertainingly clothed in fiction and which fascinated many readers— *The Time Machine* and *The Wonderful Visit* (both 1895), *The Island of Dr Moreau* (1896), *The Invisible Man* (1897), *The War of the Worlds* (1898), and *The War in the Air* (1908) His realistic novels of contemporary life, often humorous and satirical, which include *Love and Mr. Lewisham* (1900), *Kipps* (1905), *Tono Bungay* (1909), *Ann Veronica* (1909), *The History of Mr Polly* (1910), *Mr. Britling Sees It Through* (1916), and *Joan and Peter* (1918), were usually vehicles for conveying Wells's social ideas. Wells was an original member of the Fabian Society, but, dissatisfied, launched his own propaganda for a reasonable world—*Anticipations* (1901), *A Modern Utopia* (1905), *The New Machiavelli* (1911), *The World of William Clissold* (1926), *The Open Conspiracy* (1928), and *The Shape of Things to Come* (1933) *First and Last Things* (1908) set forth his credo Wells's *Outline of History* (1920) was a materialistic interpretation of history, very popular but criticized as inaccurate Its companion work, *The Science of Life* (1929), was written with Julian Huxley and G P Wells, his older son. Prophecy and comment continued in *The Croquet Player* (1936), *World Brain* (1938), *Babes in the Darkling Wood* (1940), and the bitter and bewildering *Mind at the End of Its Tether* (1945) Much of Wells's extensive writing was ephemeral, but he was one of the most forward-looking and influential writers of his time See his *Experiment in Autobiography* (1934), Van Wyck Brooks, *The World of H G Wells* (1915), Geoffrey West, *H G. Wells* (with a bibliography, 1930).

Wells, Horace, 1815–48, American dentist, b Hartford, Vt After studying dentistry in Boston, he moved to Hartford, Conn., and began practicing c 1836 He was the first to use laughing gas as an anesthetic in dentistry (1844) His experiments were known to W T G Morton (his former partner) and C T Jackson, but a demonstration in 1845 before Boston medical authorities was unsuccessful After giving up his practice, Wells committed suicide while under arrest for disorderly conduct See his account of his discovery (1847), H W Erving, *The Discoverer of Anaesthesia* (1933).

Wells, William Charles, 1757–1817, British physician, b South Carolina, of Scottish parents He was a newspaper editor (1782–84) in St Augustine (at that time in East Florida), then practiced medicine in London He explained the nature of dew in *An Essay on Dew* (1814) and wrote a number of medical papers, including an essay on vision

Wells, municipal borough (1931 pop 4,831, 1943 estimated pop 7,000) and city, Somerset, England, at the foot of the Mendip Hills SW of Bath The name is derived from wells sacred to St Andrew. The town was of importance in Saxon times and is the site of a Roman settlement Near by is the famous Wookey Hole, consisting of subterranean caverns, where remains of prehistoric men and animals were found The Cathedral of Bath and Wells is considered one of the most magnificent in England Built mainly in the 12th and 13th cent it contains fine 15th-century woodwork and excellent examples of medieval sculpture The town has ruins of several structures from the Middle Ages, the moated palace of the bishops is near the cathedral

Wells 1 Town (pop 2,144), SW Maine, on the coast SW of Portland, settled c 1640, inc 1653. It suffered greatly in the Indian wars The town includes the resorts OGUNQUIT and Wells Beach. **2** Village (pop 2,217), S Minn., NW of Albert Lea, settled before 1870 It is a farm trade center and has a cannery

Wellsboro, industrial borough (pop 3,665), co seat of Tioga co., N Pa., SW of Elmira, N Y, settled c 1800, laid out 1806, inc 1830 Its products include coal, gas, and glass

Wellsburg, city (pop 6,255), co seat of Brooke co., W Va., in the industrial Northern Panhandle, on the Ohio and NNE of Wheeling, platted 1790, chartered 1797 Glass and paper manufacturing are important At near-by BETHANY is Bethany College

Wells College. see AURORA, N Y.

Wells River, Vt see NEWBURY

Wellston, industrial city (pop 5,537), S Ohio, NE of Portsmouth, platted 1874. It makes mine machinery and machine tools

Wellsville 1 City (pop 1,314), E central Mo., NW of St Louis, in a fire-clay and farm area, laid out 1856 **2** Village (pop 5,942), W N Y., on the Genesee and SE of Buffalo, settled c 1795, inc. 1871 It is an oil-refining center Pumps, machinery, and heating equipment are made The David A Howe Library (1937), with a museum and a theater, serves as a cultural center **3** City (pop 7,672), NE Ohio, on the Ohio river and N of Steubenville It is a clay-products center A concrete and clay wall (1938) guards against floods **4** City (pop 1,402), N Utah, SW of Logan, settled 1856 by Mormons, inc 1866 It is a processing and trade center in a dairy and farm area long irrigated and now served by the Hyrum project

well-tempered, in music see EQUAL TEMPERAMENT

Wels (vĕls), city (pop 36,528), Upper Austria, on the Traun river and SW of Linz It is an industrial center with varied manufactures A Roman town, Wels later became a stronghold against the Avars and the Magyars Emperor Maximilian I died here in 1519 There are natural-gas wells in the vicinity.

Welsbach, Carl Auer, Baron von (wĕlz'bŏk, -bäk, Ger karl' ou'ûr barōn' fŏn vĕls'bakh), 1858–1929, Austrian chemist He discovered the rare-earth elements neodymium and praseodymium (in 1885) and lutetium (c.1908, independently of

Georges Urbain). He is known also for the invention of the Welsbach mantle.

Welsbach mantle or **Welsbach burner** [for C. A. von Welsbach], consisting of a cylindrical framework of gauze impregnated with oxides of thorium and cerium. When heated in a gas flame, it produces a very bright light because of the incandescence of the oxides

Welser (vĕl'sûr), German family of wealthy merchants and bankers at Augsburg. It reached the height of its prosperity under **Bartholomäus Welser** (bär"tōlōmĕ'ōōs), 1488–1561, who had advanced large sums to Emperor Charles V. Unable to repay his debts, Charles granted (1528) the territory now constituting VENEZUELA to his creditor, who sent out agents and had the territory explored. The administration of the Welsers was grasping and oppressive, and their concession was revoked before the end of Charles V's reign. A niece of Bartholomäus Welser, **Philippine Welser** (fēlĭ'pēnu), 1527–80, was famous for beauty and learning. She secretly married Archduke Ferdinand, second son of Emperor Ferdinand I.

Welsh, town (pop. 1,822), SW La., E of Lake Charles, in a rice area, settled 1880, inc. 1889.

Welsh language, Brythonic language of the Celtic subfamily of Indo-European languages. See LANGUAGE (table).

Welsh literature. The earliest Welsh literature is preserved in about six manuscripts written with one exception after the 12th cent. The most important, the so-called "Four Ancient Books of Wales," are *The Book of Aneurin*, *The Book of Taliesin*, *The Black Book of Caermarthen*, and *The Red Book of Hergest*. Much of the poetry in these manuscripts is credited to four late 6th-century bards, Aneurin, Taliesin, Myrddin (the Merlin of Arthurian romance), and Llywarch Hen, and most of the anonymous poetry is marked by style and subject as belonging to their various schools. Two types predominate, songs in praise of heroes and elegiac poems of desolation and longing. All this verse displays the formal perfection and verbal felicity of a highly developed art. Included in these manuscripts is the prose classic the *Mabinogion* (written down c 1100), the cycle of tales and legends concerning the old Celtic gods and heroes. From 1150 to 1350 the bardic system (peculiar to the Celts), with its archaisms, its prescribed themes and meters, and its one aim—"exquisiteness"—flowered in North Wales. Its chief figure was Cynddelw. In South Wales the 14th cent. was a golden age, with DAFYDD AP GWILYM, the greatest of Welsh poets, breaking classic traditions and establishing new horizons. He influenced Welsh poetry for 200 years. The next fruitful period in poetry was the 18th cent. Writing in the classic tradition, but with new and wider content, was Goronwy Owen, deriving from the abundant folk poetry (*penillion*) and writing a more personal poetry in "free" meters were the hymnodists William Williams (Pantycelyn) and Ann Griffiths. They were a potent influence on the 19th-century lyric poets, Cernog and Islwyn. Welsh prose developed late. Its range until the 19th cent. was narrow, being largely concerned with theological controversy. Modern Welsh prose standards were set chiefly by Bishop William Morgan's translation (1588) of the Bible and *Visions of the Sleeping Bard* (1703) by Ellis WYNN. In the 19th cent. political writing assumed importance in Welsh literature, and Wales had her first national novelist, Daniel Owens, "the Welsh Dickens." The 20th cent. has brought a remarkable literary revival. T. Gwynn Jones and R. Williams-Parry are outstanding poets in the classic tradition, W. J. Gruffydd in the "free" meters. The short story has been developed to a high level by Kate Roberts. The novel and drama forms are being successfully exploited, and Saunders Lewis has enriched critical writing. The EISTEDDFOD remains a vigorous cultural force, and the Welsh language is being more fully employed than ever before in education. See Sir Idris Bell, *Development of Welsh Poetry* (1936).

Welsh Marches, lands in WALES along the English border. After the Norman conquest of England in the 11th cent., William I established the border earldoms of Chester, Shrewsbury, and Hereford to protect his English kingdom. Norman barons were encouraged by William I and his successors to conquer and hold other earldoms in the east of Wales. These nobles ruled as petty feudal princes, owing allegiance only to the king. Attempts to control the resulting lawlessness were made by Edward I and by Edward IV, who set up the Council of Wales and the Marches. Finally the Act of Union (1536) abolished the some 150 marcher lordships, providing for their incorporation into English counties, or their division into shires.

Welshpool, municipal borough (1931 pop. 5,639, 1943 estimated pop. 5,789), Montgomeryshire, Wales, on the Severn. The Red Castle of the earls of Powis or Powys, built in the 12th cent., with its galleries and large estate, is near by. Welshpool has a sheep fair and a corn exchange.

Welsh terrier: see TERRIER.

Welty, Eudora, 1909–, American author, b. Jackson, Miss., educated at the Mississippi College for Women and the Univ. of Wisconsin (B.A., 1929). Her stories of a Mississippi small town, with their delicately shaded characterization and suggested crosscurrents, appeared first in the "little" magazines—*Manuscript* and the *Southern Review*. They were collected in *Curtain of Green* (with an introduction by Katherine Anne Porter, 1941) and *Wide Net* (1943). *Robber Bridegroom* (1942) was a fantasy, and *Delta Wedding* (1946) a novel. The *Golden Apples* (1949) is a connected series of stories about a town which is called Morgana.

Welwyn Garden City (wĕl'ĭn), urban district (1931 pop. 8,586, 1943 estimated pop. 14,000), Hertfordshire, England, N of London. It is a GARDEN CITY, founded by Sir Ebenezer HOWARD in 1920, and now has industries which employ most of the local population.

Wembley, municipal borough (1931 pop. 48,561, 1947 estimated pop. 134,390), Middlesex, England. The British Empire Exhibition held here in 1924–25 gave a strong impetus to the growth of the town. Buildings to house exhibitions of the various dominions and colonies, palaces of branches of art and industry, and a stadium accommodating nearly 100,000 people were erected. Sports events are now held in the stadium. Industries include metal casting and the manufacture of electric equipment, chemicals, and metal products.

Wemyss (wēmz), parish (pop. 26,619), Fifeshire, Scotland. It is a fishing port and a coal-mining town. Its castle replaces an earlier one.

wen, sebaceous cyst, occurring in the skin, especially of the scalp, face, and back. This type of cyst grows slowly, is painless, and may be removed surgically.

Wenatchee (wĭnă'chē), city (pop. 11,620), co. seat of Chelan co., central Wash., near the confluence of the Columbia and Wenatchee rivers, founded 1888, inc. 1901. It is the commercial center of a fruitgrowing valley famous for its apples. A junior college and an agricultural experiment station are here, and Wenatchee has a collection of prehistoric Indian carvings.

Wenceslaus, Saint (wĕn'sĭslûs), d. 936?, duke of Bohemia. He was reared in the Christian faith by his grandmother, St. Ludmilla. He became duke at an early age, and during his minority his mother, Drahomira, acted as regent. She, like many other Czech nobles, opposed Christianity and persecuted the Christians. She also incurred the enmity of the German king, Henry I (Henry the Fowler), by aiding the Wends. Henry invaded Bohemia (929?), Wenceslaus, who had now begun to rule, recognized the futility of resistance and negotiated a peace. During his reign Wenceslaus was noted for his piety, he worked vigorously to strengthen Christianity in Bohemia. His religion and his treaty with Henry I caused much discontent among the nobles, and he was assassinated by his brother Boleslav, who succeeded him. By the beginning of the 11th cent., he was already recognized as the patron saint of Bohemia. Vaclav is the Czech form of his name. The English carol mentioning him is wholly modern. Feast: Sept. 28.

Wenceslaus, 1361–1419, emperor (never crowned) and German king (1378–1400), king of Bohemia (1378–1419) as Wenceslaus IV, elector of Brandenburg (1373–78), son and successor of Emperor Charles IV. Even more than his father, he was a Bohemian rather than a German king. This fact and the unusually difficult problems he had to face made his imperial reign most unsuccessful. He was, moreover, given to drunkenness and violent fits of temper, these deficiencies of character, however, though greatly stressed by most historians, he shared with many of his enemies. In 1387 general warfare broke out between the towns and the nobles. The Peace of Eger (or Peace of Cheb) in 1389 was a triumph for the nobles, but not for Wenceslaus. In the Great SCHISM, Wenceslaus at first supported, like his father, the Roman pope, Urban VI, but in 1398 he agreed with Charles VI of France that both rival popes should be deposed and a new pope elected. The two weak monarchs were unable to execute this plan. Wenceslaus's entente with France, his preference for Bohemia, his personal character, and, especially, his sale (1395) of Milan as a hereditary fief to Gian Galeazzo VISCONTI, were all among the causes of his deposition from the German kingship and the election of RUPERT of the Palatinate (1400). Wenceslaus refused to recognize the deposition, but retired to Bohemia, in 1411, after Rupert's death, he surrendered his claim to the empire to his brother SIGISMUND. In Bohemia, Wenceslaus was early embroiled with the nobles and higher clergy, especially with the archbishop of Prague, whose vicar general, St. JOHN OF NEPOMUK, he had killed in a fit of rage. His quarrels with the nobles twice led to his imprisonment (1394, 1402–3), Sigismund was both times involved in the plot, and in 1396 wrenched from his brother the vicariate of the empire. Wenceslaus was popular with the Bohemian commons. The Decree of Kutna Hora (1409), which gave the Czechs preponderance in voting for the rector of the Univ. of Prague (see PRAGUE, UNIVERSITY OF) led to the election of John Huss as rector. An enemy of the high clergy and an ardent nationalist, Wenceslaus staunchly supported Huss, who also had the queen among his most faithful followers. The king attempted to prevent the burning of the writings of WYCLIF and the termination of Huss's preaching and sought to persuade John XXIII (Baldassare Cossa) to suspend proceedings against Huss. When the interdict was laid on Prague (1412), he persuaded the reformer to leave the city, but continued to support him covertly. Wenceslaus avoided suppressing the national and religious outburst which followed the burning of Huss, but the rise of John ZIZKA cooled his feelings toward the Hussites. The reform took on a rebellious character, and when after serious riots several town councilors appointed by the king were thrown out of the window (the first Defenestration of Prague, July 30, 1419), Wenceslaus died of rage. So unpopular had he become that he was buried secretly by night. His brother Sigismund succeeded him as king of Bohemia.

Wenceslaus I, d. 1253, king of Bohemia (1230–53), son and successor of Ottocar I. During his reign many towns of Bohemia and Moravia, into which he called German settlers, were granted charters modeled on that of Magdeburg. Wenceslaus repulsed the Mongol invaders (1241). He received Emperor Frederick II's support against Austria, but later supported Pope Gregory IX in his struggle against the emperor. He was succeeded by his son, Ottocar II, whom he made margrave of Moravia during his lifetime.

Wenceslaus II, 1271–1305, king of Bohemia (1278–1305) son and successor of the ill-fated Ottocar II. From the death of his father in the battle of the Marchfeld (1278) until 1283 the regency was exercised by Otto of Brandenburg, appointed by the German king, Rudolf I of Hapsburg. Otto abused his powers, imprisoned the young king, and let his German soldiers pillage the countryside. Civil wars and famine resulted, and only Rudolf's intervention reestablished order. After Wenceslaus's entry into Prague (1283), his mother's lover and secret husband, Zavis of Falckenstein, rose to power. Zavis's intrigues and his hostility to Rudolf I, whose daughter Judith was the wife of Wenceslaus, led to his downfall in 1290, when Wenceslaus had him beheaded and began his personal rule. Wenceslaus soon adopted Zavis's anti-Hapsburg policy and greatly extended his power. At the invitation of some Polish lords he accepted (1291) the duchy of Cracow and in 1300 was crowned king of all Poland. In 1301 he accepted for his son (later Wenceslaus III) the crown of Hungary. The German king, Albert I of Hapsburg, and Pope Boniface VIII demanded that Wenceslaus give up Poland and Hungary and the rights to the rich silver mines of Kuna Hora, key to Bohemian strength. Wenceslaus repulsed Albert's invasion (1304) and was preparing to invade Austria when he died.

Wenceslaus III, c. 1289–1306, king of Bohemia (1305–6), son and successor of Wenceslaus II. On the death of Andrew III of Hungary, last of the Arpad dynasty, he was elected (1301) king of Hungary as Ladislaus V. Unable to assert his authority in Hungary, he relinquished (1305) his claim to Duke Otto of Bavaria, who in 1308 was succeeded by Charles I, founder of the Angevin dynasty in Hungary. Wenceslaus tried, however, to assert his hereditary claim to the Polish crown, but he was assassinated at Olmütz (Olomouc) while marching to Poland. He was the last of the native dynasty of the Premyslides. After an interregnum John of Luxemburg was elected (1310) king of Bohemia and married Wenceslaus's sister.

Wenceslaus IV, king of Bohemia: see WENCESLAUS, emperor.

Wendell, Barrett (wĕn'dŭl), 1855–1921, American teacher and scholar, b. Boston, grad. Harvard, 1877. He taught at Harvard (1880–1917, professor after 1898) and lectured at Cambridge Univ. and the Sorbonne. Among his works are a study of Cotton Mather (1891), *A Literary History of America* (1900), the outgrowth of the first course in the subject at Harvard, and *The Traditions of European Literature* (1920). See M. A. De W. Howe, *Barrett Wendell and His Letters* (1924).

Wendell, (wĕn'dŭl) **1** Village (pop. 1,001), S Idaho, NW of Twin Falls. **2** Town (pop. 1,132), E central N C., E of Raleigh, in a tobacco area, settled c.1890, inc. 1903.

Wenden, Latvia: see CESIS.

Wends (wĕndz) In the Middle Ages, the term Wends was applied to all the SLAVS then inhabiting Germany E of the Elbe. German conquest of their lands was begun in the 8th cent. under Charlemagne, but early in the 12th cent. the Wends rebelled, destroyed the German settlements, and burned Lübeck. A crusade was called against the pagan Wends and was launched in 1147 under the leadership of HENRY THE LION of Saxony and ALBERT THE BEAR of Brandenburg. The crusade was, on the whole, a failure, but in subsequent years Henry the Lion, aided by Waldemar I of Denmark, Albert the Bear, and other princes, carried out a systematic campaign of conquest. By the end of the 12th cent. nearly all Germany ex-

cept East Prussia had been subjected to German rule and Christianized. However, a small group of Slavic-speaking Wends has maintained itself to the present day in LUSATIA, a region situated on both sides of the Spree river and divided among Saxony, Silesia, and Brandenburg. The term Sorbs (cognate with Serbs) is sometimes used interchangeably with Wends, but properly the Sorbs were one of the Wendish nations, settled between the Elbe and Saale rivers.

Wengen (vĕng'un), summer and winter resort, Bern canton, Switzerland. The near-by **Wengern Alp** (vĕng'ûrn alp'), at 6,160 ft., has a beautiful view of the Jungfrau.

Wenham (wĕ'nûm), town (pop. 1,220), NE Mass., settled 1635, set off from Salem 1643. It still has houses dating from the 17th and 18th cent.

Wenlock, municipal borough (pop. 14,149), Shropshire, England. It includes Much Wenlock, Broseley, Coalport, Madeley, Ironbridge, and Coalbrookdale and has limestone quarries, coal mines, and ironworks. A convent, established here c. 680, was refounded in 1080 as a Cluniac priory; there are remains of the ancient buildings. The old guildhall now houses a museum.

Wenonah (wĭnō'nù), borough (pop. 1,311), SW N.J., S of Camden; inc. 1883.

Wentworth, Benning, 1696–1770, colonial governor of New Hampshire, b. Portsmouth, N.H., grad. Harvard, 1715. Of a prominent merchant family, he served in the New Hampshire colonial assembly and on the council, laboring, with his brother-in-law, Theodore Atkinson, to make New Hampshire completely independent of Massachusetts. When the separation was finally achieved, Wentworth was appointed (1741) governor, the first for the colony of New Hampshire alone. New Hampshire and Wentworth himself prospered during his governorship. With no legal justification he granted vast acres of land W of the Connecticut river in the region claimed by New York, taking care of himself, his relatives, and his friends in the process. The NEW HAMPSHIRE GRANTS, which later became the state of VERMONT, thus became a much-disputed area. A stout defender of the royal prerogative, Wentworth prorogued the assembly so that delegates could not be elected to the Stamp Act Congress of 1765. By that time there were loud complaints about the nepotism of his administration. He was also criticized in his capacity as surveyor of His Majesty's Woods in North America, and the British colonial office accused him of neglecting his correspondence. Permitted to resign (1765), he was succeeded both as governor of New Hampshire and surveyor of the king's woods by his nephew, Sir John Wentworth. Bennington, Vt., took its name from his first name.

Wentworth, Sir John, 1737–1820, colonial governor of New Hampshire, b. Portsmouth, N.H., grad. Harvard, 1755. He went to England on business for his wealthy merchant father and there became (1763) one of the agents for New Hampshire. On the forced resignation of his uncle, Benning Wentworth, he was commissioned (Aug., 1766) to succeed him both as governor of New Hampshire and as surveyor of His Majesty's Woods in North America. Assuming the governorship in June, 1767, Wentworth was at first popular because of his interest in the advancement of the colony and his opposition to the hated taxes imposed by Parliament. However, he was thoroughly loyal to the king and prorogued the assembly when it attempted to form (1774) a committee of correspondence. On the outbreak of the American Revolution, he was forced to flee to Boston, and after the British evacuated that city he went to Halifax, Nova Scotia, and then to England. In 1783 he was reappointed surveyor of what remained of the king's woods in North America, and from 1792 to 1808 he was governor (although he only had the title of lieutenant governor) of Nova Scotia. He was knighted in 1795. While governor of New Hampshire, Wentworth had granted (1769) Dartmouth College its charter and was a member of its original board of trustees. See L. S. Mayo, *John Wentworth, Governor of New Hampshire, 1767–1775* (1921); W. C. Abbott, *Conflicts with Oblivion* (1924).

Wentworth, Thomas: see STRAFFORD, THOMAS WENTWORTH, 1ST EARL OF.

Wentworth, William Charles, 1793–1872, Australian patriot. He explored the Blue Mts. in Australia before going to Cambridge Univ. He published (1819) *A Description of Australia*, was called to the English bar (1822), and returned to Australia. There he set up a lucrative law practice, championed the cause of the "emancipists" (liberated convicts), and founded (1824) a newspaper, the *Australian*, to promulgate his views on Australian self-government. Meanwhile his *Australasia, an Ode*, appeared in 1823. Wentworth took a prominent part in the legislative council of New South Wales, formed in 1842, and was the leading figure in the fight for the constitution of 1855. In 1849 he put through the bill for the founding of the Univ. of Sydney. After 1857 he resided mainly in England.

werewolf (wĕr'wŏōlf", wûr'–), human being transformed into a wolf. Such a creature is also called turnskins and, in France, the *loupgarou* (see LYCANTHROPY).

Werfel, Franz (frants' vĕr'ful), 1890–1945, Austrian novelist, dramatist, and poet, b. Prague. His philosophy of the brotherhood of man and his mysticism have been expressed in lyric verse, in expressionist and conventional plays, and in epic novels which have become internationally famous. He left Austria after the Nazi occupation, and following the fall of France escaped to the United States, where he died. Besides several volumes of lyrics, of which a translated selection was published in 1946, his work includes the dramas *Bockgesang* (1921, Eng. tr., *Goat Song*, 1926, produced in New York), *Juarez und Maximilian* (1924, Eng. tr., 1936, also produced in New York), *Paulus unter den Juden* [Paul among the Jews] (1926), and *Das Reich Gottes in Bohmen* [the kingdom of God in Bohemia] (1930), the comedy *Jacobowsky und the Colonel* (English adaptation by S. N. Behrman, 1944, produced in New York, original, *Jacobowsky und der Oberst*, published 1945), and the novels *Verdi* (1924, Eng. tr., 1925) and *Die Geschwister von Neapel* (1931, Eng. tr., *The Pascarella Family*, 1932). He is best known in the United States for *Vierzig Tage des Musa Dagh* (1933, Eng. tr., *The Forty Days of Musa Dagh*, 1934) and *Das Lied der Bernadette* (1941, Eng. tr., *The Song of Bernadette*, 1942), which was filmed in 1943 and dramatized in 1946.

Werff, Adrian van der (ä'drēən van dur vĕrf'), 1659–1722, Dutch figure and portrait painter and engraver. He was court painter and pensioner of the elector palatine, and his academic paintings were highly prized by contemporaries. A self-portrait (National Gall., London), *Adam and Eve* (Louvre), and *Leda* (Metropolitan Mus.) are characteristic works.

Wergeland, Henrik (hĕn'rĭk vĕr'gulän), 1808–45, Norwegian poet, novelist, and patriot. From his earliest youth he was a champion of liberty and international cooperation and worked zealously to arouse a national morality and sense of responsibility for social improvement. His *Creation, Man, and Messiah* (1830), a long verse drama, was a manifesto of his beliefs. In his poems *The Jew* (1842) and *The Jewess* (1844) he espoused the cause of the Jews who sought admittance to Norway. The dramatic epic *The English Pilot* (1844) was composed during his last illness. His final aim was the liberation of the human mind. See Halvdan Koht and Sigmund Skard, *The Voice of Norway* (1944).

wergild: see COMPOSITION.

Werner, Abraham Gottlob (ä'brahäm gôt'lōp vĕr'nur), 1750–1817, German geologist. In 1775 he became inspector and teacher in the mining academy at Freiberg which through his efforts became one of the leading schools in Germany. In the last part of the 18th cent. he was the most notable figure in the investigation of rocks and minerals; he called the new science geognosy and defined it as the study of the layers of mineral matter. He was the first to classify minerals systematically. According to his theory of neptunism, the earth was originally an ocean of water from which were precipitated the solid rocks now forming most of the dry land. Although much of his theory has been rejected, geology is indebted to him for the application of chronology to rock formations, as well as for his precise definitions.

Werner, Alfred (älˈfrāt vĕr'nur), 1866–1919, Swiss chemist, b. Mulhouse. He taught at the Univ. of Zurich from 1893. He is known especially for his research on the linking up of atoms in the molecule (important in the development of the study of isomerism), for which he received the 1913 Nobel Prize in Chemistry.

Werner, Anton Alexander von (än'tōn älĕk'sän'dur fûn vĕr'nur), 1843–1915, German historical painter, portraitist, and illustrator. He was director (1875–1915) of the Berlin Academy. In the Franco-Prussian War he accompanied the 3d Army Corps in an unofficial capacity as painter. Of this period are his portrait of Von Moltke, *In Quarters before Paris*, and *Episode of War*. His best-known illustrations are those for Scheffel's poems.

Werner, Zacharias (Friedrich Ludwig Zacharias Werner) (tsäkhärēˈäs), 1768–1823, German dramatist. After a life of dissipation bordering on insanity, he was converted to Roman Catholicism and became a priest of intense piety. His plays, which founded the "fate-tragedy" school, include *Die Söhne des Thals* (1803–4, Eng. tr., *The Sons of the Valley*, 1903); the very popular *Martin Luther, oder, Die Weihe der Kraft* [Martin Luther, or, the consecration of strength] (1807), which, after his conversion to Catholicism, he repudiated in the allegorical poem *Die Weihe der Unkraft* [the consecration of weakness] (1813), *Attila* (1808), and *Der Vierundzwanzigste Februar* (1815, Eng. tr., *The 24th of February*, 1844).

Wernersville (wûr'nurzvĭl), borough (pop. 1,160), Berks Co., SE Pa., W of Reading. It is a resort and farm trade center. Limestone is quarried here.

Wernher der Gartenaere (vĕr'nûr dĕr gär'tünärə), 13th-century German poet of knightly rank. He wrote in Middle High German the first peasant epic, *Meier Helmbrecht*, a realistic, slightly moralizing poem of a young farmer who became a highwayman and was hanged by the peasants. See C. H. Bell, *Peasant Life in Old German Epics* (1931).

Wernigerode (vĕrnēgurōˈdu), town (pop. 33,800), in the former Saxony prov. of Prussia, E Germany, at the northern foot of the Harz, after 1945 in Saxony-Anhalt. A picturesque old town founded in the 9th cent., it is a tourist center for the Harz region. It has metal- and woodworking industries, paper mills, and manufactures of chemicals, electric motors, leather goods, and chocolate. There are a medieval castle, a Romanesque church, and a 15th-century town hall.

Werrenrath, Reinald (waˈrunrăth"), 1883–, American baritone and voice teacher, b. Brooklyn, N.Y., grad. New York Univ., 1905. He made his concert debut in 1907 and appeared (1919–21) with the Metropolitan Opera Company. He has taught in numerous universities and conservatories, as well as privately in New York, and is also known as a choral conductor.

Werschetz, Yugoslavia: see VRSAC.

Wertenbaker, Thomas Jefferson (wûr'tunbākur), 1879–, American historian, b. Charlottesville, Va., grad. Univ. of Virginia (B.A. and M.A., 1902, Ph.D., 1910). He taught history at the Agricultural and Mechanical College of Texas (1907–9) and at the Univ. of Virginia (1909–10). After 1910 he taught at Princeton Univ. He is a specialist in the colonial history of Virginia, having written *Virginia under the Stuarts* (1914), *Patrician and Plebeian in Virginia* (1916), and *Planters of Colonial Virginia* (1922). His other books on the South include *Norfolk—Historic Southern Port* (1931) and *The Old South—the Founding of American Civilization* (1942). His general histories of the United States are *The American People* (1926) and *The United States of America* (with Donald E. Smith, 1931). He also wrote *The Puritan Oligarchy* (1947) and *Father Knickerbocker Rebels. New York City during the Revolution* (1948). In 1939–40 he occupied the chair in U.S. history established at Oxford Univ. for visiting American scholars.

Wertheimer, Max (maksˈ vĕrt'hĭmur), 1880–1943, German psychologist, b. Prague. He studied at the universities of Prague, Berlin, and Wurzburg (Ph.D., 1904). His original researches, while he was a professor at Frankfurt and Berlin, placed him in the forefront of contemporary psychology. With the advent of Hitler he came to the United States, where he immediately joined the graduate faculty of the New School for Social Research; he was also visiting lecturer (1934) at Columbia Univ. Wertheimer's discovery (1910–12) of the *phi phenomenon* (concerning the illusion of motion) gave rise to the influential school of Gestalt psychology. His early experiments, in collaboration with Wolfgang Kohler and Kurt Koffka, introduced a new approach (macroscopic as opposed to microscopic) to the study of psychological problems. In the latter part of his life he directed much of his attention to the problem of learning; this research resulted in a book posthumously published, called *Productive Thinking* (1945).

Wesel (väˈzul), town (1939 pop. 24,632; 1946 pop. 13,262), in the former Rhine Prov. of Prussia, NW Germany, in the Ruhr district. It is a port on the Rhine near the mouth of the Lippe river, and it has an iron foundry and machinery and locomotive plants. Chartered in the 13th cent., it was a member of the Hanseatic League. Wesel retained many interesting medieval structures until its virtual destruction (Feb., 1945) in the Second World War. In March, 1945, the Allies crossed the Rhine at Wesel in a major amphibious and air-borne operation.

Weser (väˈzur), river, c. 300 mi. long, formed at Munden, NW Germany, by the junction of the Fulda and Werra rivers. It flows generally N past Hameln and Minden, where it passes through the Porta Westphalica into the north German plain. It enters the North Sea through a long estuary below Bremen. Navigable in its entire length, the Weser is connected by the Mittelland canal system with the Rhine, the Ems, and the Elbe.

Wesermünde, Germany: see BREMERHAVEN.

Weslaco (wĕsˈläkō), city (1940 pop. 6,883, 1947 estimated pop. 9,100), extreme S Texas, WNW of Brownsville, in 1921. In the irrigated region of the lower Rio Grande valley, it packs and cans vegetables and citrus fruits; has a box factory, and is the seat of a Federal fruit and vegetable laboratory.

Wesley, Charles (wĕsˈlē), 1707–88, English Methodist preacher, one of the most famous of hymn writers. When, as a student at Oxford, he devoted himself to systematic study and to the regular practice of religious duties, he and the companions whom he persuaded to adopt the same orderly course were taunted as Methodists. They formed a society, sometimes referred to as the Holy Club, of which his older brother John WESLEY became the leader in 1729. Charles Wesley was ordained in the Church of England in 1735, and the same year both brothers sailed for Georgia, the younger to act as secretary to James Oglethorpe. The following year, however, he returned to England in

ill-health After experiencing evangelical conversion in May, 1738, he began writing hymns and preaching at the great revival meetings led by the two Wesleys and George Whitefield For 17 years Charles made continual evangelistic journeys, but after 1756 he worked mainly in Bristol and London He was firmly opposed to all suggestion of separation from the Church of England He produced about 6,500 hymns, many of which are still used in Protestant churches, among the best known are *Hark! the Herald Angels Sing* and *Jesu, Lover of My Soul* Two of Charles's sons were organists and composers. See his journal (ed by Thomas Jackson, 1849), biographies by John Telford (1887) and F L Wiseman (1932)

Wesley, John, 1703–91, English evangelical preacher, founder of METHODISM, b Epworth, Lincolnshire He was ordained a deacon in the Church of England in 1725, elected a fellow of Lincoln College, Oxford, in 1726, and ordained a priest in 1728 At Oxford he took the lead (1729) in a group of students gathered around his younger brother, Charles WESLEY, and derisively called Methodists for their methodical devotion to study and to religious duties In 1735 the Wesleys accompanied James Oglethorpe to Georgia, John to serve there as a missionary and Charles to act as secretary to Oglethorpe Although John Wesley stayed less than two years, he was deeply influenced by Moravian missionaries in the colony, upon his return to England he associated with Moravians there On May 24, 1738, at a meeting of a small religious society in Aldersgate St, London, Wesley experienced an assurance of salvation through faith in Christ alone This conviction formed the basis of his message to the world for the rest of his life He soon entered upon his lifelong evangelistic work, in the course of which he is said to have preached some 40,000 sermons and to have traveled some 250,000 mi, mostly on horseback His faithfully kept journal has been likened to a guidebook to the British Isles Persuaded by George WHITEFIELD, Wesley undertook open-air or field preaching, first in Bristol, then elsewhere In 1739 a group in London requested him to aid them in forming a society and to act as their leader An old foundry at Moorfields was purchased, which remained until 1778 the center of Methodist work in London Wesley repudiated (c 1740) the doctrines of Calvin, which led to a break with Whitefield, although the personal friendship of the two Methodist leaders remained firm In 1784 Wesley executed the deed of declaration by which the Methodist societies became legally constituted and which was in essence the charter of the Wesleyan Methodists That same year he became convinced that he must ordain a superintendent to administer sacraments and to serve the Methodist societies in America, although he had long hesitated to assume the authority of ordination Wesley ordained Dr Thomas COKE to this office, Francis ASBURY was to serve as associate superintendent It was not Wesley's intention to found a separate church, but toward the end of his life the Methodist Episcopal Church had come into existence in America, and it had become apparent that in England the Methodists could not work within the Anglican church Therefore, he made plans for his societies to go on independently after his death, although both Wesleys remained clergymen of the Church of England to the end of their lives During John Wesley's later years admiration and affection largely replaced the buffeting, ridicule, and rejection which he had endured in earlier days His gifted religious leadership and great ability as an organizer were widely acknowledged A memorial tablet to the Wesleys was placed in Westminster Abbey, but neither is buried there The brothers published over 20 collections of hymns See John Wesley's letters (ed by John Telford, 8 vols, 1831), the standard edition of his journal (ed by Nehemiah Curnock, 8 vols, 1909–16), biographies by J S Simon (1927), C E Vulliamy (1930), and Umphrey Lee (1936)

Wesleyan College see MACON, Ga

Wesleyan Methodist Church (wĕs'lēăn), the branch of METHODISM developed in England after the death of John WESLEY by his followers, who at the Conference of 1791 engaged "to follow strictly the plan" he had left to them Various secessions from this main body took place, but in 1932, by the merging of the Primitive Methodists and the United Methodists with the Wesleyan Methodists, the denominations in England were reunited

Wesleyan University, at Middletown, Conn, nonsectarian, for men (coeducational 1872–1912), chartered and opened 1831 by Methodists It is a liberal arts college noted for its alumni and faculty Judd Hall has a science museum. There is a print collection The first state agricultural experiment station was here in 1875–77. See FISK, WILBUR, and JUDD, ORANGE. See C F Price, *Wesleyan's First Century* (1932)

Wesleyville (wĕs'lēvĭl), borough (pop. 2,918), NW Pa, on Lake Erie NE of Erie, settled 1797, laid out 1828, inc 1912 It was named for John Wesley The industries of Wesleyville include flour milling and manufacture of electrical parts.

Wessel, Johann (yō'hän vĕ'sŭl), c 1420–1489, Dutch theologian and pre-Lutheran reformer, also known as Wessel Harmenss Gansfort or Goesevoyrd He was one of the Brethren of the Common Life, having had his early instruction among them at Zwolle, though he rejected their narrowness of view. From c 1470 he lived at Paris, where he was known for his teachings His latter years (from 1479) were spent in Holland, partly in Groningen, partly near Zwolle, in the midst of friends and pupils His writings now extant belong to that period and are made up chiefly of short treatises After his death his manuscripts were gathered together and sent to Luther and Zwingli Some were collected under the title *Ferrago uberrima* (1522–23) While he looked backward to Augustine and Bernard, he also had views that prefigured the great Reformation in Germany He regarded the Scriptures as the sole repository of truth and rejected the decrees of church councils, though accepting papal authority

Wessex (wĕ'sĭks), Anglo-Saxon kingdom in ENGLAND It may have been settled by Saxons under Cerdic on the Avon in S Wiltshire as early as 494 Cerdic's grandson, Ceawlin (560–592?), annexed scattered Saxon settlements in the Chilterns and drove out the Celts from the region between the upper Thames valley and the lower Severn But Ceawlin himself was finally expelled from Wessex, and until the end of the 8th cent the country was overshadowed successively by KENT, NORTHUMBRIA, and MERCIA In the period 685–88 King Caedwalla conducted several successful campaigns, and in the following reign, Ine consolidated the western expansion through Somerset and wrung tribute from Kent His law code and his alliance with the Church forecast the later great Wessex, but anarchy followed his death. Egbert (802–39) in a series of brilliant campaigns defeated Mercia, forced Northumbria to sue for peace, and annexed Devon, Sussex, Essex, and Kent Mercia regained its independence in 830, and Egbert's successors were constantly occupied in combating the increasing raids of the Danes With the reign of ALFRED (871–99?) and the halting of the Danes, the history of Wessex becomes that of England Edward the Elder (899?–924), Athelstan (924–39), Edmund (939–946), and Edred (946–955) gradually acquired firm control over all England, including the Danelaw This unity ended, however, after the quiet reign of Edgar the Peaceful (959–75), for Æthelred (978–1016) could offer no effective resistance to the invading vikings Canute established Danish rule in 1016 The end of his line caused the recall of Edward the Confessor (1042–66), last of the line of Alfred. In the novels of Thomas Hardy, Wessex is used to mean mainly Dorsetshire

Wessington Springs, city (pop 1,352), co seat of Jerauld co, SE S Dak, NW of Mitchell in the Wessington Hills, founded 1880 It is a trade and shipping center for a farm area

West, Benjamin, 1738–1820, American historical painter in England He was born in Springfield, Pa, in a house that is now a memorial museum at Swarthmore College His parents were Quakers After some instruction from a local artist named William Williams, he set up as a portrait painter in Philadelphia at 18, subsequently moving to New York In 1760 he went to Europe, where he remained for the rest of his life For three years he studied and practiced his art in Italy and then settled in London as a historical painter, meeting with almost immediate success Under the patronage of George III, commissions came to him in great numbers, and in 1772 he was appointed historical painter to the king He was one of the founders of the Royal Academy and in 1792 succeeded Sir Joshua Reynolds as its president West executed over 400 canvases, chiefly historical, mythological, and religious subjects painted on a heroic scale They show considerable skill in composition, but are monotonous in coloring and lack vigor His great popularity as a painter passed with his death He had many pupils and was a generous friend and adviser to younger artists, particularly American painters studying in England, among whom were Washington Allston, Samuel Morse, Charles Willson Peale, Gilbert Stuart, and John Singleton Copley His influence on American painting of the period was predominant Among West's best-known works are *Death of General Wolfe* (Grosvenor Gall, London), in which he clothed his figures in the costume of their period instead of in traditional classical garb, thereby creating a new departure in historical painting, *Penn's Treaty with the Indians* (Independence Hall, Philadelphia), and *Hagar and Ishmael* (Metropolitan Mus). He is well represented in the Pennsylvania Academy of the Fine Arts, the National Gallery of London, and Hampton Court Palace. His religious paintings are in various English churches and chapels See studies by John Galt (1816) and Henry E Jackson (1900).

West, Rebecca, 1892–, English novelist and critic, whose real name is Cicily Fairfield, b. Ireland She is a literary critic and political writer for American and British journals. Her novels are detailed studies of the psychology of the individual and include *The Return of the Soldier* (1918), *The Judge* (1922), and *The Thinking Reed* (1939) Her critical work includes essays in *The Strange Necessity* (1928) and studies of Henry James (1916) and St Augustine (1933) *Black Lamb and Grey Falcon* (1942) is an extraordinary travel book, political study, and commentary on Jugoslavia The *Meaning of Treason* (1947) is based on her reports of treason trials growing out of the Second World War. Since 1930 she has been married to Henry Maxwell Andrews.

West, Thomas see DE LA WARR, THOMAS WEST, BARON.

West, city (pop 1,979), E central Texas, N of Waco, in the blackland farm belt, settled 1878, inc 1894.

West Allis, city (pop. 36,364), SE Wis, industrial and residential suburb of Milwaukee, inc 1906. Machinery and industrial gases are made

West Baden Springs (bă'dĭn), village (pop 949), S Ind, on Lost River and near French Lick Its mineral springs made it a noted resort for many years. West Baden College, a branch of Loyola Univ, Chicago, is here

West Bend, industrial city (pop 5,452), co seat of Washington co, E Wis, NW of Milwaukee and on the Milwaukee river, settled 1844, inc 1885. Aluminum ware and leather products are made.

West Blocton, town (pop 1,317), central Ala, SW of Birmingham, in the industrial region

Westboro, town (pop 6,463), E central Mass, E of Worcester, settled c 1675, inc 1717. Abrasives and shoes are produced. Eli Whitney was born here

West Boylston, town (pop 1,822), central Mass, N of Worcester, settled 1642, inc 1808 In 1905 part of the town was used for Wachusett Reservoir

West Branch, city (pop 1,962), co seat of Ogemaw co, N Mich, on the West Branch of the Rifle river and E of Cadillac, inc as a village 1885, as a city 1905 Dairy products are made, and there are oil wells An annual festival marks the opening of the trout-fishing season here

West Bridgewater, town (pop 3,247), SE Mass, S of Boston, settled 1651, set off from Bridgewater 1822 Massasoit's deed to the settlers is in the historical museum

West Bromwich (brŭm'ĭj, -ĭch, brŏm'wĭch), county borough (1931 pop 81,303, 1947 estimated pop 85,480), Staffordshire, England, NW of Birmingham On the site of a 12th-century Benedictine priory, the town is of modern growth, with iron and coal mines, foundries, and electrical engineering and chemical works

Westbrook, 1 Town (pop 1,159), S Conn, on Long Island Sound, settled c 1664, inc 1840 2 City (pop 11,087), SW Maine, industrial suburb W of Portland, inc as a town 1814, city charter adopted 1891

West Brookfield, town (pop 1,387), S central Mass, W of Worcester, settled 1664, set off from Brookfield 1848

West Brownsville, borough (pop 1,844), SW Pa, on the Monongahela and SE of Pittsburgh, laid out 1831, inc c 1852 Coal mining is done here James G Blaine was born here

West Burlington, town (pop 1,323), SE Iowa, adjoining Burlington, founded 1883 It has railroad shops There is a fine Catholic grotto

Westbury, residential village (pop 4,524), on W Long Island, SE N Y, E of Mineola, settled 1650, inc 1932 Automobile races are held here

Westby, city (pop 1,438), W Wis, SE of La Crosse, in a tobacco and dairy region, inc 1920. It is in the Coon Creek soil conservation district

West Caldwell, borough (pop 3,458), NE N J, near the Passaic NW of Newark, inc 1904

West Carrollton, village (pop 2,176), SW Ohio, on the Great Miami and SW of Dayton.

West Carthage (kar'thĭj), village (pop 1,767), N N.Y, E of Watertown, inc 1888

Westchester, county, SE N Y, bounded by New York city, the Hudson, Putnam co, Connecticut, and Long Island Sound It includes residential suburbs of New York city, country estates, and much hilly woodland having lakes and streams and crossed by fine parkways The county seat is White Plains, and there are five other cities, Yonkers, Mt Vernon, New Rochelle, Peekskill, and Rye.

West Chester, industrial borough (pop 13,289), co. seat of Chester co, SE Pa, W of Philadelphia, laid out 1786, inc 1799. It is a trade center for a large farming and dairying region. Lumber, metal products, and canned goods are produced It is the seat of a teachers college. The battle of Brandywine was fought in the environs (1777).

West Chicago, city (pop. 3,355), NE Ill, N of Aurora; inc. 1906. The city has railroad shops and factories making rare earth chemicals and building materials

West City, village (pop 1,017), S Ill., N of Herrin, in a coal and farm area, inc 1911

West Columbia. 1 Town (pop 1,744), central S.C., a suburb of Columbia, named Brookland till 1938. 2 City (pop 1,573), S Texas, near the Brazos and SSW of Houston, founded 1826. With neighboring East Columbia, it was a center of plantations in Stephen F Austin's colony and was briefly (1836) capital of the Texas republic, later it declined until rich oil fields were developed in the 20th cent.

West Conshohocken (kŏn″shûhŏ′kŭn), borough (pop. 2,464), SE Pa., on the Schuylkill river and NW of Philadelphia, settled 1850, inc. 1874.

Westcott, Brooke Foss, 1825–1901, English prelate and scholar. From 1870 to 1890 he was regius professor of divinity at Cambridge and a member of the New Testament Revision Committee (1870–81). With F. J. A. Hort, he published *The New Testament in the Original Greek* (1881). He was a canon of Westminster and, from 1890 to 1891, bishop of Durham. Among his many published works are *Introduction to the Study of the Gospels* (1860), *History of the English Bible* (1869), *Social Aspects of Christianity* (1887), and *Some Lessons of the Revised Version of the New Testament* (1897).

Westcott, Edward Noyes, 1846–98, American novelist and banker, b. Syracuse, N.Y. His one novel was written as he was ill with tuberculosis and was published posthumously as *David Harum* (1898). This story of a homespun American banker who also traded horses was immediately popular and has since been made into a play and a moving picture.

West Covina (kōvē′nu), residential city (1940 pop. 1,072, 1947 special census pop. 2,475), in El Monte township, S Calif., E of Los Angeles, in a farm area, inc. 1923.

West Des Moines (dŭ moin′), city (pop. 4,252), S central Iowa, a suburb of Des Moines, inc. 1893 as Valley Junction, renamed 1938. Cement is made.

West Dundee (dŭndē′), village (pop. 1,831), NE Ill., on the Fox river and NW of Chicago, settled in the 1830s, inc. 1887.

West Easton, borough (pop. 1,159), E Pa., near Easton, inc. 1890.

West Elizabeth, borough (pop. 1,297), SW Pa., on the Monongahela and SSE of Pittsburgh, laid out 1833, inc. 1848.

Westerly, town (pop. 11,199), extreme SW R.I., between the Pawcatuck river and Block Island Sound, inc. 1669. It includes the villages of Westerly (on the Pawcatuck, with a bridge to Connecticut built in 1932), Avondale, and Watch Hill (a resort badly damaged by the 1938 hurricane, site of a lighthouse and a U.S. coast guard station). Furniture, printing machinery, twine, granite, and textiles are produced.

Westermann, William Linn (wĕ′stŭrmun), 1873–, American professor, b. Belleville, Ill., grad. Univ. of Nebraska (B.A., 1894, M.A., 1896) and Univ. of Berlin (Ph.D., 1902). He taught (1902–3) Latin and Greek at the Univ. of Missouri before teaching history at the Univ. of Minnesota (1906–8), the Univ. of Wisconsin (1908–20), and Cornell Univ. (1920–23). After 1923 he taught at Columbia, becoming in 1948 professor emeritus. He served on international peace commissions concerned with Near Eastern affairs, contributed to various historical and philological journals, and edited *Westermann's Classical and Historical Map Series* (1918). He collaborated in writing a series of four volumes on Greek papyri (1926–40) and wrote *The Story of the Ancient Nations* (1912) and *Upon Slavery in Ptolemaic Egypt* (1929).

Westermarck, Edward Alexander (vĕ′stŭrmark, wĕ′–), 1862–1939, Finnish anthropologist. He was professor of sociology at the Univ. of London (1907–30) and professor of philosophy at the Univ. of Turku (until 1945). Westermarck was an authority on the history of morals and of marriage customs, his best-known work being *The History of Human Marriage*, written in English (1891, 5th ed., 3 vols., 1921). On it he based *A Short History of Marriage* (1926). He wrote several books on Moroccan customs. Other books (all in English) include *The Origin and Development of the Moral Ideas* (2 vols., 1906–8, 2d ed., 1912–17), *Ethical Relativity* (1932), *The Future of Marriage in Western Civilization* (1936), and *Christianity and Morals* (1939). See his autobiography (Eng. tr., 1929).

Western Australia, state (975,920 sq. mi.; pop. 502,731), Australia, comprising the entire western part of the continent. Perth is the capital. Northern Territory and South Australia are on the east, the Indian Ocean is on the south, west, and north. Western Australia is the largest state of the commonwealth, but only the southwest corner is fertile and substantially settled, the rest being arid and scarcely habitable. State-owned gold fields cover more than half of the state, and there is a vast central desert. Kalgoorlie and Boulder is the principal gold-mining center in the interior. The King Leopold, Hamersley, and Stirling ranges are not real ranges, but merely high plateaus. The large lakes in the interior are usually dry, the northern rivers, such as the Fortescue, the Fitzroy, and the Ashburton, are intermittent, and the only important river is the Swan in the southwest. The climate is diversified, being tropical in the north and temperate in the southwest. Wool, wine, wheat, fruit, and hardwood are the principal products, and pearling is an important industry in the north, with its center at Broome. The chief port, Fremantle, exports gold, grain, lumber, and dairy products. Dirck Hartog, a Dutchman who came in 1616, was the first white man known to have visited the coast. A penal colony was established at Albany in 1826, the first free settlement was established in the Perth-Fremantle area in 1829, and until 1831 Western Australia was governed by New South Wales. In 1901 the colony became one of the states of the Commonwealth of Australia.

Western College: see OXFORD, Ohio.

Western Dvina, river: see DVINA.

Western Empire: see *Roman Empire* under ROME and see CHARLEMAGNE.

Western Ghats: see GHATS.

Western Islands: see HEBRIDES.

Western Ontario, University of: see LONDON, Ont.

Westernport, town (pop. 3,565), NW Md., on the North Branch of the Potomac and SW of Cumberland, in a coal-mining region, settled c. 1790. Many pre-Revolutionary expeditions into the Ohio country set out from here.

Western Reserve, tract of land in NE Ohio, on the south shore of Lake Erie, reserved by Connecticut when it ceded (1786) the rest of its claims to its western lands (see NORTHWEST TERRITORY). Connecticut gave (1792) one half million acres, called "fire lands," to its citizens whose lands were burned during the Revolution. The Connecticut Land Company bought (1795) the remainder, which had no permanent government until 1800, when it was incorporated in the Northwest Territory as Trumbull co. Later, this region was divided into 10 whole counties and fractions of 4 others. The chief cities here are Akron, Ashtabula, Cleveland, Lorain, Sandusky, and Youngstown. See Alfred Mathews, *Ohio and Her Western Reserve* (1902), H. H. Hatcher, *Western Reserve* (1949).

Western Reserve University, at Cleveland, nonsectarian, for men and women, chartered and opened 1826 as a college at Hudson, Ohio. It added a medical college at Cleveland in 1843, moved in 1882, and became a university in 1884. It includes coordinate colleges—Adelbert (for men, the old Western Reserve College) and Flora Stone Mather (for women, 1888). It also has schools of architecture, dentistry, law, library science, medicine, nursing (graduate), pharmacy, and applied social sciences, Cleveland College is the downtown center. There is a medical museum of anthropology and anatomy.

Western Samoa, Territory of see SAMOA.

Western Springs, residential village (pop. 4,856), NE Ill., just W of Chicago, inc. 1886.

Westerville, village (pop. 3,146), central Ohio, NE of Columbus, settled c. 1810, inc. 1858. It is the seat of Otterbein College (United Brethren, coeducational, 1847). The home of Benjamin R. Hanby, author of *Darling Nellie Gray*, was dedicated (1937) as a memorial and museum.

West Fairview, borough (pop. 1,820), SE Pa., on the Susquehanna and near Harrisburg, laid out 1815.

Westfalen, Germany: see WESTPHALIA.

Westfield. **1** City (pop. 18,793), SW Mass., on the Westfield river and W of Springfield, settled c. 1660, set off from Springfield 1669, inc. as a city 1920. Bicycles and metal and paper products are made here. The city has a state teachers college. **2** Residential town (pop. 18,458), NE N.J., SW of Newark, settled before 1700, inc. 1903. See R. V. Hoffman, *The Olde Towne, 1700–1894* (1937). **3** Village (pop. 3,434), W N.Y., near Lake Erie SW of Dunkirk, in a grape region, settled 1800, inc. 1833. It is noted for its grape-juice industry. **4** Borough (pop. 1,386), N Pa., near Wellsboro, inc. 1867.

West Flanders, Flemish *West-Vlaanderen*, Fr. *Flandre Occidentale* province (1,249 sq. mi.; pop. 990,873), NW Belgium, bordering on France. Bruges is the capital. It is a generally level region. Its fertile and well-cultivated soil, drained by the Lys and the Yser and many small canals, produces wheat, oats, and flax. Livestock raising and dairying are important occupations, as is fishing along the North Sea coast, notably at Ostend and Nieuport. Courtrai is the chief center of the textile industry. Other cities include Ypres, Zeebrugge, and Roulers. The population is mainly Flemish-speaking. For history, see FLANDERS.

West Florida Controversy. The Treaty of Paris in 1763 confirmed France's transfer in 1762 of Louisiana to Spain, except for that portion lying from the Mississippi E to the Perdido river, this eastern section (exclusive of the island of Orleans, which went to Spain) was ceded to Great Britain. Great Britain also received the Spanish colony of Florida. E Louisiana and Florida were combined and were augmented by a strip of territory to the north, the strip containing the Yazoo lands, long in dispute but generally recognized as British (see YAZOO LAND CLAIMS). This new unit was divided for administration into East Florida (the present state of Florida) and West Florida (the strip on the Gulf coast). When, after the American Revolution, Great Britain ceded Florida back to Spain, it was with a secret agreement between Americans and British that the Yazoo lands should go to the United States. The result was a quarrel between the United States and Spain, complicated further by an even more serious dispute over navigation of the Mississippi. After years of unsuccessful negotiation the treaty concluded (1795) by Thomas Pinckney fixed the northern boundary of West Florida at lat. 31° N. The question of West Florida was not settled. The Treaty of SAN ILDEFONSO transferred Louisiana back to France, but it did not set the limits of Louisiana in the east or in the west, defining them only as those that the colony had under Spain and formerly had under France—different boundaries. When, with the LOUISIANA PURCHASE (1803), that colony passed into the possession of the United States, the boundaries with Texas and with West Florida became vital diplomatic issues. There was dispute as to whether the Perdido, the East Pearl river (in present Louisiana), or the Mississippi was the proper boundary between Louisiana and Spanish territory. In Jefferson's administration the Spanish minister, the marqués de Casa Yrujo, carried on long negotiations with the American government, and Charles Pinckney attempted to arrive at some solution by negotiations in Spain, but to no avail. The possibility of armed strife was increased by the activities of American adventurers like Reuben KEMPER, but the Napoleonic conquest of Spain eclipsed all such colonial issues. In 1810 the United States by occupation made good its claim to the land between the Mississippi and the East Pearl and, in 1813, also to the land between the East Pearl and the Perdido. After this seizure the territories remained American. The theoretical issue remained unsettled until the purchase of Florida by the United States in 1819. See I. J. Cox, *The West Florida Controversy, 1798–1813* (1918).

Westford, textile town (pop. 3,830), NE Mass., SW of Lowell, settled 1653, set off from Chelmsford 1729. It has an apple-blossom festival, and there is an 18th-century tavern.

West Frankfort, city (pop. 12,383), S Ill., NNE of Cairo, inc. 1905. It is the trade and industrial center of a coal-mining area. Frankfort Heights was annexed in 1924.

West Goths see VISIGOTHS.

West Greenville, textile town (pop. 2,233), NW S.C., a suburb of Greenville.

West Greenwich (grē′nĭch, grĭ′nĭch), rural town (pop. 526), W R.I., set off from East Greenwich 1741.

West Grove, borough (pop. 1,357), SE Pa., WSW of Philadelphia.

West Ham, county borough (1931 pop. 294,278, 1947 estimated pop. 174,740), Essex, England, industrial suburb of London. It has railway works and various manufactures. Lord Luster was born here, and it was the home of Elizabeth Fry.

Westhampton Beach, village (pop. 969), on E Long Island, SE N.Y., on Moriches Bay, inc. 1928. It is a fashionable beach resort.

West Hartford, town (pop. 33,776), central Conn., settled 1679, inc. 1854. A residential suburb of HARTFORD, it is the seat of the American School for the Deaf (1817) and of St. Joseph College and Academy for girls. Noah Webster was born here.

West Hartlepool (hart′lĭpōōl, hartlē′–), county borough (1931 pop. 68,135, 1947 estimated pop. 71,380) Durham, England, near Hartlepool. It is a seaport. Founded in 1844, it developed into an important shipbuilding and coal-exporting center, there are ironworks and engineering works and timberyards.

West Haven, town (pop. 30,021), S Conn., a suburb of New Haven set off from Orange 1921. Rubber and metal products are made here.

West Haverstraw (hā′vurstrô), village (pop. 2,533), SE N.Y., N of Nyack, inc. 1883. It is the seat of a state reconstruction home for crippled children.

West Hazleton (hā′zultun), residential borough (pop. 7,523), Luzerne co., NE Pa., SSW of Wilkes-Barre, inc. 1889.

West Helena (hē′lunu), city (pop. 4,717), E Ark., near Helena, founded 1909, inc. 1917. Its industries include woodworking.

West Homestead, borough (pop. 3,526), Allegheny co., SW Pa., ESE of Pittsburgh, inc. 1900. Pig iron and machinery are made here.

West Indies, archipelago, between North and South America, curving c. 2,500 mi. from Florida to the coast of Venezuela and separating the Caribbean Sea from the Atlantic Ocean. The island group, sometimes called the Antilles (ăntĭl′lēz), is divided into three main sections, the BAHAMA ISLANDS, the Greater Antilles (CUBA, JAMAICA, HISPANIOLA, and PUERTO RICO), and the Lesser Antilles (the LEEWARD ISLANDS, WINDWARD ISLANDS, TRINIDAD, BARBADOS, and the Dutch and Venezuelan islands). But for Cuba and Hispaniola (HAITI and the DOMINICAN REPUBLIC), the islands are colonial possessions. The British West Indies comprise the Bahamas, Jamaica (with CAYMAN ISLANDS and TURKS AND CAICOS ISLANDS), the British Leeward Islands (ANTIGUA, SAINT KITTS, NEVIS, MONTSERRAT, and the BRITISH VIRGIN ISLANDS), the British Windward Islands (DOMINICA, SAINT LUCIA, SAINT VINCENT, and GRENADA), Trinidad and Tobago, and Barbados. The Dutch West Indies, now also called the Dutch Antilles, include CURAÇAO, Aruba, SAINT EUSTATIUS, and part of SAINT MARTIN. The French West Indies consist of GUADELOUPE (with dependencies) and MARTINIQUE. The American possessions are Puerto Rico (with VIEQUES) and the VIRGIN ISLANDS OF THE UNITED STATES (formerly the Danish West Indies). MARGARITA be-

longs to Venezuela Many of the islands were discovered (1492) by Columbus, and in 1496 the first permanent white settlement was made on Hispaniola. Large numbers of Negro slaves were brought over from Africa, and in the 18th cent sugar-cane planting developed rapidly. Some of the mountainous islands have partly active volcanoes, and hurricanes occur frequently (Aug–Oct) However, the warm climate, tempered by northeast trade winds, and the clear tropical seas have made the West Indies one of the most popular of winter resorts. In the Second World War, Great Britain leased several military bases to the United States in exchange for destroyers Recently the colonial powers have granted their possessions varying degrees of representative government, and projects have been launched to improve the poor economic and social conditions among the area's 15,000,000 inhabitants See Amy Oakley, *Behold the West Indies* (1941); R. R Platt and others, *The European Possessions in the Caribbean Area* (1941), Paul Blanchard, *Democracy and Empire in the Caribbean* (1947); W A. Roberts, *Lands of the Inner Sea* (1948), Alec Waugh, *The Sugar Islands* (1949); the current *West Indies Yearbook*

Westinghouse, George, 1846–1914, American inventor and manufacturer, b Central Bridge, N Y In the Civil War he served in the Union army and in the navy Among his inventions were a reversible railway frog, the air brake, and signaling devices He was influential in introducing the use of alternating current in the United States From the plant built at Pittsburgh for manufacturing air brakes and electrical equipment the business expanded to include a large number of plants and laboratories in America and Europe See biographies by H G Prout (1922) and H G Garbedian (1943).

West Jefferson, village (pop 1,386), central Ohio, W of Columbus There is a corn cannery here.

West Kittanning (kĭtă'nĭng), borough (pop 1,005), W Pa., on the Allegheny river and NE of Pittsburgh, laid out 1855, inc 1900

West Lafayette (lă"fēĕt') **1** City (pop 6,270), W Ind., on the Wabash and near Lafayette, inc 1924, It is a business and industrial center **2** Village (pop 1,152), E central Ohio, E of Coshocton

Westlake, village (pop 3,200), NE Ohio, near Cleveland, formerly named Dover Center

West Lawn, borough (pop 2,080), SE Pa., W of Reading, inc 1927

West Leechburg, borough (pop 1,123), Westmoreland co, SW Pa., near the Allegheny river NE of Pittsburgh, inc 1928 Steel products are made here

West Liberty. 1 Town (pop 1,802), E Iowa, between Iowa City and Muscatine, inc 1867 It is a railroad junction in a farm, livestock, and dairy area **2** Village (pop 1,228), W central Ohio, N of Springfield Condensed milk is manufactured Near by are the Ohio Caverns, noted for their coloring and diversity of formation

West Linn, city (pop 2,165), NW Oregon, on the Willamette opposite Oregon City, settled in the 1840s, inc 1913 It has paper mills.

West Long Branch, borough (pop 2,030), E N J, near Long Branch, settled 1711, inc 1908 "Shadow Lawn" was President Wilson's summer White House.

West Lothian (lō'dhēun), formerly **Linlithgow** (lĭnlĭth'gō), county (120 sq mi, 1931 pop 81,441; 1948 estimated pop 86,933), S Scotland, on the Firth of Forth. The county town is Linlithgow The land slopes from the Forth to the hills (alt, c.1,000 ft) about the southern border. Principal streams are the Avon and the Almond Dairy farming occupies a large proportion of the land, but the county is more important for its mineral wealth (coal, iron, and oil shale) Bo'ness is the chief port The famous Forth Bridge connects the county with Fifeshire.

Westmacott, Sir Richard (wĕst'mukŏt), 1775–1856, English sculptor. He worked in the studio of his father, also a sculptor, and in Italy under Canova His work includes statues in the neoclassic manner, the monuments of Pitt and Fox in Westminster Abbey, and the pediment sculptures of the British Museum He was knighted in 1837.

Westman Islands, Icelandic *Vestmannaeyjar* (vĕst'-mănsă"yar), group of 14 small islands, c 8 mi off SW Iceland. The largest is Heimaey (home island), (c 4½ mi long and 1½ mi wide). The people live by fishing and fowling, for the islands abound in waterfowl—fulmar, puffin, gannets, eider ducks, and guillemots When Iceland was first colonized, a group of Irish slaves killed their masters and fled to these isles—hence their name In 1627, Algerian pirates ravaged the islands and carried almost 400 people into slavery The chief town is Vestmannaeyjar (pop 3,588), on Heimaey.

Westmeath (wĕstmēth', wĕst'mēdh), inland county (681 sq. mi., pop 54,949), central Ireland, in Lonster The county town is Mullingar A part of the central plain of Ireland, the county is mostly level and fertile, with many lakes and bogs The principal river is the Shannon. Dairy farming and cattle raising are the chief occupations. There is some manufacture of textiles as well as flour milling. Athlone is the largest town. Westmeath was separated from Meath as an independent county in 1543.

West Memphis (mĕm'fĭs), cotton and lumber city (pop 3,369), NE Ark., across the Mississippi from Memphis, Tenn., with which it is connected by a bridge, founded c 1910, inc. 1927.

West Middlesex, borough (pop 1,126), NW Pa., NNW of Pittsburgh, settled 1821, laid out 1836, inc 1864 Potatoes are grown here.

West Milton, village (pop. 1,439), W Ohio, N of Dayton, settled 1807, inc. 1835.

West Milwaukee (mĭlwô'kē), village (pop. 5,010), SE Wis., near Milwaukee, inc. 1906 Steel castings are made here

Westminster (wĕst'mĭnstûr), city, metropolitan borough (1931 pop 129,579, 1948 estimated pop 100,900) of W London, England, N of the Thames and W of the City of London It is one of London's largest and most important districts, having WESTMINSTER ABBEY (around which the city of Westminster grew), the Houses of Parliament (WESTMINSTER PALACE), BUCKINGHAM PALACE, SAINT JAMES'S PALACE, and DOWNING STREET Westminster Cathedral, designed by John F. Bentley, is the senior archiepiscopal see of the Roman Catholic Church in England and Wales. Westminster Bridge (1739–50) was the second to be built over the Thames in London, it was rebuilt in 1862 Westminster School is a leading public school, founded in the 14th cent and reestablished by Elizabeth c 1559 Its history is closely associated with the Abbey Some of its most famous students are Wren, Ben Jonson, Cowper, Dryden, George Herbert, Cowley, Southey, Locke, Charles Wesley, Hakluyt, J A. Froude, and Gibbon

Westminster. 1 City (pop 4,692), co. seat of Carroll co., N Md, NW of Baltimore, in a farming area, founded c 1764. It was an important Union supply base during the Gettysburg campaign Western Maryland College and a theological seminary are here **2** Town (pop 2,126), N Mass, NNW of Worcester, settled 1737 inc 1759 **3** Textile town (pop 2,014), extreme NW S.C, WSW of Greenville **4** Town (pop 1,403), SE Vt, on the Connecticut and S of Bellows Falls, granted 1735 or 1736 by Massachusetts to Taunton men, regranted 1752, chartered 1772 The "Westminster Massacre" occurred March 13, 1775, when New York officials used force in an attempt to hold a Cumberland co (N Y) court session Two men were killed, and there were no further attempts to hold court In Westminster on Jan 15, 1777, Vermont was declared (under the name New Connecticut) an independent state At Vermont's first printing office, in the old courthouse, was issued in 1778 and in 1781 the *Vermont Gazette, or, Green Mountain Post Boy.*

Westminster, Provisions of: see PROVISIONS OF OXFORD

Westminster, Statute of, 1931, in imperial British history, an act of Parliament by which the British Commonwealth of Nations was declared to be a free association of autonomous dominions and the United Kingdom, bound only by common allegiance to the crown It implemented by law the work of various meetings of the IMPERIAL CONFERENCE, which had recognised the virtual independence of the dominions engendered by the First World War and the peace settlements thereafter By this statute it was declared that the British Parliament might not legislate for the dominions without their prior consent and that the dominion legislatures were on an equal footing with that of the United Kingdom In the case of Canada, for instance, it provided that the British Parliament would make changes in the North America Act only at the request of the Canadian government

Westminster, Statutes of, in medieval English history, legislative promulgations made by EDWARD I of England in Parliament at Westminster. Westminster I (1275) practically constitutes a code of law, it covers a wide range and incorporates much unwritten law into the written code and is a sweeping ordinance against administrative abuses Westminster II (1285) is similar in purpose and scope; it is especially remarkable for its judicial reforms and for the clause *De donis conditionalibus*, which fostered the entailing of estates and thus fundamentally altered English landholding Westminster III (1290), also called *Quia emptores*, provided that in the case of alienation of an estate or part of an estate the new holder should hold directly from the overlord rather than from the old holder Thus, the statute stopped the process of subinfeudation

Westminster Abbey, originally the abbey church of a Benedictine monastery in London, dissolved in 1539 It is one of England's most important Gothic monuments and is also a national shrine The first church on the site is said to have been built in 616 by King Sebert of Essex A church and a Benedictine community existed here when, c 1050, Edward the Confessor began to build a new church on the present site It was consecrated in 1065, but in 1245 Henry III began the demolition of the Norman edifice, built a new eastern portion, and initiated a long period of construction The fine octagonal chapter house was built in 1250, and in the 14th cent. the cloisters, abbot's house, and principal monastic buildings were added. The nave was completed in the 15th cent. Early in the 16th cent. Henry VIII finished the Lady Chapel, dedicated to Henry VII, in Perpendicular style, which is noted for its superb fan vaulting The two western towers were built (1722–40) by Sir Christopher Wren and Nicholas Hawksmoor. In the late 19th cent Sir George Gilbert Scott supervised extensive restoration The present church is cruciform in plan Both nave and transept have side aisles The choir is apsidal in plan, and its ring of chapels exhibits the only complete chevet in England, French influence is also seen in the height of the nave, the loftiest in England, and in the strongly emphasized flying buttresses All English kings since William I have been crowned in Westminster, which is also the burial place of 13 kings and five queens Noted statesmen and other distinguished citizens have been buried here since the 14th cent., and the Poets' Corner in the south transept contains the tombs of several great poets, including Chaucer, Browning, and Tennyson The abbey was damaged in the air raids over London in 1941 but was left structurally intact. See descriptive and historical works by A. E. Bullock (1920), H. F Westlake (1923), A E Henderson (1937), and Jocelyn Perkins (1946)

Westminster College see FULTON, Mo., and NEW WILMINGTON, Pa

Westminster Conference, 1866–67, held in London to settle the plan for confederation of the Canadian provinces Delegates from Canada, New Brunswick, and Nova Scotia attended The resolutions on confederation which had been framed at the Quebec Conference (1864) were the basis for those promulgated at the Westminster Conference and incorporated in the British North America Act (1867), under which the dominion of Canada was created

Westminster Confession: see CREED.

Westminster Palace or **House of Parliament,** in London The present enormous structure, of Perpendicular Gothic design, was built (1840–60) by Sir Charles Barry to replace an aggregation of ancient buildings almost completely destroyed by fire in 1834. Edward the Confessor constructed the original palace buildings, on a site where perhaps stood a still earlier royal residence They served as royal abode until in the 16th cent they were adopted as the assembly place for the House of Commons and the House of Lords The Great Hall was built by William II at the end of the 11th cent The superbly constructed hammer-beam roof spanning its width of 68 ft, part of a subsequent rebuilding of the hall by Richard II in 1399, was the finest example extant of medieval open-timber work when it was burned by incendiary bombs in May, 1941 Westminster Hall was the only portion of the palace to survive intact from the fire of 1834 and now serves as the entrance of the building In it the highest English court of law met for centuries Among the numerous events of historic renown here enacted were the deposition of Richard II, the sentencing to death of Charles I, and the trials of Sir Thomas More and of Warren Hastings The palace was damaged several times in air raids in 1940 The House of Commons chamber and the House of Lords were also seriously damaged

West Monroe, city (pop 8,560), N La, on the Ouachita river opposite Monroe, in a farm and livestock area, founded in the 1860s, inc 1926 It has lumber and cotton manufactures

Westmont. 1 Residential village (pop 3,044), NE Ill, just W of Chicago, in a farm area, inc 1921 **2** Borough (pop 3,741), Cambria co, SW Pa., in the Alleghenies near Johnstown

Westmorland, Charles Neville, 6th **earl of** (nĕ'vĭl, wĕst'murlŭnd), 1543-1601, English nobleman A Roman Catholic by birth and connected with the Catholic Howard family by marriage, he joined the rebellion (1569) led by Thomas Percy, earl of Northumberland, against Queen Elizabeth and her anti-Catholic policy The rebels captured Durham, but failed in their attempt to rescue Mary Queen of Scots from prison Westmorland fled, to live in exile on the Continent, he was attainted by Parliament in 1571

Westmorland, Ralph Neville, 1st **earl of,** 1364–1425, English nobleman His family was one of the most powerful in England and shared domination of the northern counties with the Percy family, with whom the Nevilles were closely allied. Neville succeeded his father as Baron Neville of Raby in 1388 and supported the court party of RICHARD II In 1397 he was created earl of Westmorland His second wife was Joan Beaufort, daughter of JOHN OF GAUNT and half sister of Henry of Lancaster (later HENRY IV). When, in 1399, Henry openly opposed Richard, Westmorland supported Lancaster, and he continued to support Henry as king. He helped to put down the Percy revolt in 1403 When a new Percy revolt broke out in 1405, Westmorland captured two of the leaders, Archbishop Scrope and Earl Marshal Thomas Mowbray, by treachery, but he had nothing to do with their quick execution. He remained thereafter supreme in the north. Westmorland ap-

pears in Shakspere's *Henry IV* and *Henry V*, but his role in the latter play is fictitious. He was the father of a large family, many of whom made advantageous marriages. His daughter Cicely Neville married Richard, duke of York, and became the mother of Edward IV and Richard III; one of his grandsons was Richard Neville, earl of WARWICK, called the Kingmaker.

Westmorland (wĕst'mûrlŭnd), county (789 sq. mi.; 1931 pop. 65,408; 1948 estimated pop. 66,700), N England. The county town is Appleby. Much of Westmorland lies in the picturesque region known as the LAKE DISTRICT. The county is largely mountainous, and it is the most sparsely populated of England. Helvellyn, on the Cumberland border, rises to a height of 3,118 ft. Chief among the numerous streams are the Eden, the Lowther, and the Kent. The lakes of Hawes Water, Grasmere, Rydal Water, and Ullswater are shared with Cumberland, and Lake Windermere, the largest lake in England, lies between Westmorland and Lancashire. It is primarily a pastoral land (dairy farming and cattle grazing). There is some quarrying (limestone, granite, and slate), and minor manufacturing is carried on. The beauty of the scenery attracted Wordsworth, who lived most of his life here and is buried at Grasmere. Coleridge, De Quincey, and Ruskin are also associated with the Lake District. There are Celtic, Roman, and medieval remains. See Arthur Mee, *The Lake Counties* (1937).

Westmorland, city (pop 1,010), SE Calif., near Brawley in the IMPERIAL VALLEY; founded 1910.

Westmount (wĕst'mount), city (pop. 26,047), S Que., on Montreal island, inc. 1873. A west residential suburb of Montreal, it became a city in 1908.

West Newbury, town (pop 1,515), NE Mass., on the Merrimack, settled 1635, inc. 1820.

West Newton, borough (pop 2,765), SW Pa., on the Youghiogheny and SE of Pittsburgh; laid out 1796, inc. 1842. It manufactures radiators and boilers. An Indian attack (1763) resulted in the massacre of an entire family here.

West New York, industrial town (pop 39,439), NE N.J., on the Hudson and N of Weehawken, settled 1790, inc. 1898. Radio parts are made here.

Weston, Edward, 1850–1936, American electrical engineer, b. England. In 1870 he came to the United States. He improved nickel-plate processes and established companies at Newark, N.J., for the manufacture of dynamoelectric machines and precision instruments.

Weston, Edward Payson, 1839–1929, American pedestrian, b. Providence, R.I. In 1861 he walked from Boston to Washington, D.C., to attend Lincoln's inauguration. This was a distance of 443 mi., which he covered in 208 hr. In 1867 he walked from Portland, Maine, to Chicago in 26 days, in 1879 he walked 550 mi. in England in 141 hr. 41 min., and was awarded the Astley Belt as the world's champion walker. When he was 70, he walked (1909) from New York to San Francisco in 104 days 7 hr. In 1910 he made the return trip to New York, starting from Los Angeles, in 76 days, 23 hr. traveling at the rate of 45½ mi. a day. At 75 he covered 1,546 mi. in 51 days in a walk to Minneapolis. He was also known in the United States and England as a lecturer on temperance.

Weston, town (pop 5,740), S Ont., just NW of Toronto. It is an industrial town making motors, stoves, bicycles, and hardware.

Weston 1 Residential town (pop 1,053), SW Conn., NW of Bridgeport, settled c 1670, inc. 1787. 2 Residential town (pop 3,590), E Mass., W of Boston, settled c 1642, set off from Watertown 1713. It still has 18th-century buildings. Regis College is here. 3 City (pop 1,121), W Mo., on the Missouri and NW of Kansas City, founded 1837. It is important as a tobacco market. 4 Trading town (pop 8,268), co. seat of Lewis co., N W Va., on the West Fork of the Monongahela and SSW of Clarksburg, in a grazing and farm area, founded 1818. Glassmaking is the main industry. A state hospital for the insane is here.

Weston-super-Mare (–sōō'pur-mâr), municipal borough (1931 pop 28,554, 1947 estimated pop. 39,770), Somerset, England, on the Bristol Channel and SW of Bristol. It is a seaside resort whose attractions include Worle Hill or Worlebury Hill, with its ancient camp and a fine view of the opposite coast of Wales, the long esplanade; and Brean Down, a bird sanctuary. The Mendip Hills begin near by.

West Orange, residential town (pop 25,662), NE N.J., NW of Newark, set off from Orange 1862, inc. as a town 1900. Edison established his laboratories and home here in 1887, the Edison plant manufactures electrical equipment.

West Ossipee, N.H. see OSSIPEE.

Westover, residential town (pop. 1,752), N W Va., contiguous to Morgantown, in an oil and gas region, inc. 1911.

West Palm Beach, city (pop. 33,693), co. seat of Palm Beach co., SE Fla., on Lake Worth (a lagoon) opposite Palm Beach, with which it is connected by bridges. It is a port of entry, railroad and commercial center, and popular winter resort. The city was developed by Henry M. Flagler in 1893 and was incorporated in 1894. A canal extends from here to Lake Okeechobee. The Norton Gallery and School of Art was opened in 1941.

West Paterson (pă'tûrsun), borough (pop 3,306), NE N.J., near Paterson, inc. 1914.

Westphalia (wĕstfā'lyŭ), Ger. *Westfalen* (vĕstfā'lŭn), region and former Prussian province (7,806 sq. mi.; 1939 pop 5,209,401), NW Germany. Münster was the capital. After 1945 Westphalia was incorporated into the new state of NORTH RHINE–WESTPHALIA, in the British zone of occupation. Westphalia occupies a rough triangle, formed by a line drawn eastward from the Rhine at the Dutch border to the Weser at Minden, a line drawn from Minden southwestward to Siegen, near the Hessian border, and a line drawn to the northwest from Siegen and parallel to the Rhine. Drained by the Ems, Weser, Ruhr, and Lippe rivers, it is hilly in the east and south and forms a low plain in the northwest. The land consists partly of agricultural soil, partly of sandy tracts, moors, and heaths. The Ruhr valley, in the west, is part of the great Westphalian coal basin and of the RUHR district, one of the world's most important industrial regions. It is connected with the Ems by the Dortmund-Ems Canal and with the Elbe by the Mittelland Canal. Coal is mined, and iron, copper, and zinc as well. Outside the Ruhr district, there are important textile industries in N Westphalia, particularly at Bielefeld. Westphalia first appears as the name of the western third of the duchy of SAXONY in the 10th cent. Unlike Eastphalia, the eastern third of the duchy of Saxony, Westphalia survived the breakup (1180) of the Saxon duchy as a regional concept, although it lost political unity. The larger part of Westphalia passed under the rule of ecclesiastic princes—the bishops of MÜNSTER, of OSNABRÜCK, of MINDEN, and of PADERBORN and the archbishops of Cologne, who obtained the region around ARNSBERG, known as the duchy of Westphalia. Among the temporal fiefs that emerged from the breakup of Saxony were the counties of LIPPE, RAVENSBERG, and Mark. All these territories were later included in the Westphalian Circle of the Holy Roman Empire, formed c 1500; this, however, comprised a much larger area. In the 12th cent. the anarchy of the local feudal lords and "robber barons" led to the creation of the secret VEHMGERICHT, which had its center at Arnsberg. In the later Middle Ages most of the important Westphalian towns—e.g., Münster, Osnabrück, Paderborn, Bielefeld, and Soest—prospered as members of the Hanseatic League. As a result of the extinction of the house of Cleves, which held the counties of Ravensberg and Mark, and as a result of the Thirty Years War (terminated in 1648 by the Peace of Westphalia, signed at Münster and Osnabrück), the elector of Brandenburg obtained Ravensberg, Mark, and the bishopric of Minden, thus Prussia obtained its foothold in W Germany. The Reformation had made considerable gains in Westphalia in the 16th cent., but much of the population was regained by the Catholic Reform. The bishoprics of Münster, Paderborn, and Osnabrück and the duchy of Westphalia were secularized only in 1803 by the Diet of Regensburg as a result of the Napoleonic Wars, they were at first partitioned among Prussia, Hanover, Hesse-Darmstadt, Hesse-Kassel, and the grand duchy of Berg. However, in 1807, after the conclusion of the Treaty of Tilsit, Napoleon seized all Prussian possessions W of the Elbe as well as the electorates of Hesse-Kassel and Hanover and the duchy of Brunswick, the northern section of these territories, including Münster, were directly annexed to France, and the southern section was constituted as the kingdom of Westphalia, with Napoleon's brother Jérôme Bonaparte (see BONAPARTE, family) as king and with Kassel its capital. The choice of the name was misleading, for only a small part of Westphalia was included in that kingdom, which collapsed in 1813. At the Congress of Vienna the major part of Westphalia proper was awarded (1815) to Prussia, and Hanover, Hesse-Kassel, and Brunswick were restored. Westphalia continued as a Prussian province until 1945, when the German map was remade by the Allies after the Second World War.

Westphalia, Peace of, 1648, general settlement ending the THIRTY YEARS WAR. The chief participants in the negotiations were the allies, Sweden and France, their opponents, Spain and the Holy Roman Empire, and the various parts of the empire (which had been riven by the war) together with the newly independent Netherlands. Earlier endeavors to bring about a general peace had been unsuccessful. The compact known as the Peace of Prague (May, 1635) marked a step in the direction of peace and signalized the belief of the Protestant powers that the Swedish forces on which they depended would not be able to maintain a preponderant role in Germany, but the conditions of the compact were not in accord with Richelieu's design to break up the imperial power. The war continued despite offers of mediation from the pope and the king of Denmark. Congresses were proposed and discarded. It was not until Dec. 25, 1641, that a preliminary treaty provided for two concurrent conferences—at Münster and at Osnabrück. This treaty was ratified in 1642. The conferences, fixed for 1643, met in 1644 and began serious work in 1645. The treaties were signed Oct. 24, 1648. Through the French and Swedish "satisfactions" the power and influence of the HOLY ROMAN EMPIRE and of the house of Hapsburg were lessened. Henceforth the empire ceased to be an effective entity and was supplanted by modern German states. France emerged as the dominant European power. France's sovereignty over three bishoprics (Metz, Toul, and Verdun) was confirmed, as was French sovereignty over Pinerolo. Breisach was made over to France. ALSACE was ceded despite ambiguity of title, and France was allowed to fortify a garrison at Philippsburg. Sweden obtained W Pomerania, including the island of Rügen and Stettin, the archbishopric (but not the city) of Bremen and the adjoining bishopric of Verden; and Wismar and the island of Pöl. It was agreed that the Upper Palatinate and the old electoral vote should remain with Bavaria while the Rhenish Palatinate, with a new electoral vote, was assigned to Charles Louis, the son of Frederick the Winter King. The Swiss Confederation and the independent Netherlands were explicitly recognized. The elector of Brandenburg received compensation for Pomerania, the duke of Mecklenburg, for Pöl and part of Wismar. The outcome of the religious deliberations was significant. Extreme Catholic claims were disallowed, but the provision that any future ruler would, on changing his religion, be forced to give up his holdings checked the growth of Protestant power. The era of religious warfare was over, and the Peace of Westphalia was the first general attempt at toleration.

West Pittston, residential borough (pop 7,943), NE Pa., on the Susquehanna and near Wilkes-Barre, inc. 1857. Fort Jenkins was built near here in 1772.

West Plains, city (pop 4,026), co. seat of Howell co., S Mo., SE of Springfield and near the Ark. line; laid out c 1858. It is a livestock market, with some manufacturing.

West Point. 1 City (pop 3,591), W Ga., on the Chattahoochee and N of Columbus, inc. 1831 as Franklin, named West Point 1832. It is a shipping center for a farm area and has varied industries. 2 City (pop 5,627), co. seat of Clay co., NE Miss., NW of Columbus, inc. 1858. It is the trade, rail, and processing center for a cotton, dairy, livestock, and timber area. A Negro junior college is here. 3 City (pop 2,510), co. seat of Cuming co., NE Nebr., NW of Omaha and on the Elkhorn, inc. 1858. A farm trade center, it has a county museum and a park. 4 Industrial town (pop. 1,947), E Va., E of Richmond where the Mattaponi and Pamunkey rivers join, settled in the 17th cent., inc. 1870. It has a paper mill.

West Point, U.S. military reservation, since 1802 seat of the UNITED STATES MILITARY ACADEMY. West Point, on the high west bank of the Hudson c 50 mi. N of New York city, was the site of Revolutionary forts guarding the Hudson. Constitution Island, in the river, is in the reservation. The plan of Benedict ARNOLD to surrender (1780) West Point to the British was discovered with the capture of Major John André.

Westport 1 Residential town (pop 8,258), SW Conn., settled 1645–50, inc. 1835. It has varied manufactures. Many writers and artists live in the town, and there is a summer theater. 2 Resort and industrial town (pop 4,134), SE Mass., between Fall River and New Bedford, settled 1670, set off from Dartmouth 1787. 3 District in Kansas City, Mo. It was platted as a town in 1833, thereafter becoming an outfitting point for westward travel. Francis Parkman described it in *The Oregon Trail*. In the Civil War battle of Westport, Oct. 21–23, 1864, Sterling Price's Confederate army, caught between the Union forces of Alfred Pleasonton and S. R. Curtis, was decisively defeated, thus ending the last Confederate invasion of the Far West.

West Prussia, Ger. *Westpreussen* (vĕst'proisŭn), former province of PRUSSIA, extending S from the Baltic Sea between Pomerania on the west and East Prussia on the east. The larger part of the region belonged to Poland until the Polish partitions of 1772 and 1793 and was known historically as Pomerelia (Ger. *Pommerellen*, see POMERANIA), this part included Danzig, the provincial capital. The rest of the province, including Marienwerder, was taken from original Prussian territory, i.e., from East Prussia. The Treaty of Versailles (1919) gave most of West Prussia to Poland (see POLISH CORRIDOR) and made DANZIG and its environs a free city. The remainder of West Prussia was divided between the Prussian province of GRENZMARK POSEN WEST PRUSSIA and the district (1,130 sq. mi.; 1939 pop 277,430) of West Prussia, incorporated with the province of East Prussia. The whole territory again was annexed to Germany at the outbreak (1939) of the Second World War, but in 1945 the Potsdam Conference placed it under Polish administration.

West Quoddy Head, promontory in the Atlantic, SE Maine, SE of Lubec, the most easterly point in

the continental United States. It has a U.S coast guard station and a lighthouse.

Westray, island (11,551 acres, pop 1,269), off N Scotland, one of the Orkneys. It has a lighthouse and ruins of a castle (15th cent) and a church (12th cent) Pierowall is the population center

West Reading (rĕ'dĭng), industrial borough (pop. 4,907), SE Pa , on the Schuylkill and near Reading. It has a paper mill and textile plants

West Riding: see YORKSHIRE, England.

West River, China see SI

West Roman Empire: see *Roman Empire* under ROME

West Rutland, town (pop 2,922), W Vt , W of Proctor and Rutland, from which it was set off in 1886 It includes some of the state's foremost marble quarries

West Saint Paul, city (pop 5,733), SE Minn , a suburb of St Paul

West Salem (sā'lĭm) **1** City (pop 1,490), NW Oregon, on the Willamette opposite Salem, inc 1914 It is a lumbering and fruit-processing center **2** Village (pop 1,254), W Wis , near the La Crosse river NE of La Crosse, in a farm and dairy area, inc 1893 Hamlin Garland was born near here

West Spitsbergen see SPITSBERGEN

West Springfield, industrial town (pop 17,135), SW Mass , near the Connecticut opposite Springfield, settled c 1660, set off from Springfield 1774 It produces chiefly machinery and paper

West Stockbridge, resort town (pop 1,062), W Mass , near the N Y line, settled 1766, set off from Stockbridge 1774

West Terre Haute (tĕ'rē hōt', tĕ'rē hŭt'), suburban city (pop. 3,729), Vigo co , W Ind , near Terre Haute

West Union 1 City (pop 2,059), co seat of Fayette co , NE Iowa, NE of Waterloo, inc 1857 It is a trade and processing center in a farm and dairy area The county fair is held here Echo Valley State Park is near by **2** Village (pop 1,134), co seat of Adams co , SW Ohio, near the Ohio river W of Portsmouth, in a tobacco area, laid out 1804 **3** Town (pop 1,020), co seat of Doddridge co , N W Va , W of Clarksburg, in a farm region, inc 1850

West View, residential borough (pop. 7,215), Allegheny co , SW Pa , near Pittsburgh, inc 1905

Westville, town (pop 4,115), N N S , S of Pictou It is a coal mining center

Westville. 1 Village (pop 3,446), E Ill , S of Danville, in a coal, grain, and stock-farm area, platted 1873, inc 1896 **2** Borough (pop 3,585), SW N J , on the Delaware, southern suburb of Camden, inc 1924.

West Virginia, state (24,282 sq mi , 1940 pop 1,901,974, 1949 estimated pop 1,941,000), E central United States, admitted 1863 as the 35th state, CHARLESTON is the capital, HUNTINGTON the largest city Extremely irregular both in outline and topography, West Virginia has been called by a native "a good state for the shape it's in" Pennsylvania, Maryland, VIRGINIA, Kentucky, and Ohio bound it around the compass About one sixth of the state is in the valley and ridge province, which lies east of the escarpment known as the Allegheny Front extending northeast-southwest from Keyser, near Maryland, to Bluefield, near Virginia The Potomac river (which, with its North Branch, forms the line with Maryland) drains most of this area, which includes the Eastern Panhandle West Virginia slopes down to its lowest level (240 ft) here, near HARPERS FERRY, where the Shenandoah joins the Potomac, and also reaches its highest point (4,860 ft) in Spruce Knob, in Pendleton co The Allegheny plateau west of the escarpment, covers most of West Virginia, which has the highest mean altitude (1,500 ft) of any state east of the MISSISSIPPI The waters of this section eventually reach the OHIO (which forms the whole northwest boundary, 277 mi , with Ohio) through such tributaries as the Tug Fork and the Big Sandy (these two separate the state from Virginia and Kentucky in the south and west), the New River and the Kanawha (which combine to make the most important waterway entirely within the state), the Little Kanawha, and the Cheat and the Monongahela Rainfall and temperature vary considerably, though the climate is generally of the humid, continental type, with hot summers (except in the highest parts) and cool to cold winters Except in the river bottom-lands (2 mi at their broadest in the Ohio valley), a few small plateaus, and the northern end of the rolling, fertile Valley of Virginia in the Eastern Panhandle, farming is not extensive, corn, hay, apples, Irish potatoes, and wheat and other grains are the principal crops The population is nevertheless more than 70 percent rural. West Virginia leads the Union in production of bituminous coal, with more than half of its 55 counties engaged in mining Next to coal and coke, the most valuable industrial products are iron, steel, and metals, glass and glassware; chemical and allied products; construction materials, lumber and wood products (formerly even more important in this still heavily forested state); clothing and textiles; and petroleum and natural gas. WHEELING, third largest city and metropolis of the Northern Panhandle, the narrow sliver of land jutting northward between Ohio and Pennsylvania, is the principal industrial center. Remains of the MOUND BUILDERS are much in evidence, especially in the Ohio valley, but when white men first appeared in the region it was a common hunting ground (and therefore a battleground) for the Indians The first exploration was made in 1671 by Thomas Batts and Robert Fallam, who, under directions from the veteran frontiersman Abraham Wood, crossed the Alleghenies to the New River, probably reaching a point near the present line between West Virginia and Virginia In 1673 James Needham and Gabriel Arthur visited what is now Tennessee, and Arthur, who remained with the Cherokee, claimed to have accompanied them on the war path as far northward as the Ohio river, possibly passing through the western part of Virginia Bacon's Rebellion (1676) may have been a factor in the temporary lack of interest in expanding the fur trade, which had prompted these explorations, until the 18th cent In 1716 a party headed by Alexander Spotswood, governor of Virginia, crossed the Blue Ridge to the Valley of Virginia and claimed the territory for George I The fur trader John Van Meter explored (c 1725) the Potomac and South Branch valleys and, returning to New Jersey, urged his sons to settle in that part of Virginia However, tradition has it that Morgan Morgan made the first settlement in what is now West Virginia, on Mill Creek, near Bunker Hill, in present Berkeley co , probably in 1731 (rather than 1726, the date recorded on the monument which marks the site) About the same time Germans and Scotch-Irish from Pennsylvania began settling in the region In 1746 a stone was placed at the head of the North Branch of the Potomac to mark the limit of Baron Fairfax's grant, which George Washington helped to survey a few years later Hampshire, the state's oldest county, was formed in 1754, and in 1762 the house of burgesses authorized the platting of two towns for the region, Romney and Mecklenburg (now Shepherdstown) Settlements were even made beyond the mountains, and in 1749 the OHIO COMPANY was granted a large domain But during the last of the French and Indian Wars, expansion was not only halted but transmontane settlers and traders were driven back until the French abandoned Fort Duquesne in 1758 and the English went on to occupy the Ohio valley In defiance of the royal proclamation of 1763, which forbade settlements W of the Alleghenies, upwards of 25,000 people were living on the upper Ohio and its tributaries before the American Revolution Although the Indians had ceded their lands W of the Alleghenies and S of the Ohio, they nevertheless bitterly resented the white man's advance, and the cowardly murder of the family of the Indian chief James LOGAN brought on Lord Dunmore's War (see DUNMORE, JOHN MURRAY, 4TH EARL OF) Defeated at Point Pleasant (Oct 10, 1774), the Indians of this region not only lost their hold on the Ohio valley but, forced to accord a healthy respect to the colonial militiamen, were thus prevented from forming an early alliance with the British in the American Revolution, a prospect that could have proved disastrous to the patriot cause There were, however, during the war three major invasions by Indians, led by British officers The successful expedition of George Rogers Clark in the West subsequently cut the raids to a minimum After the war, the region overwhelmingly favored adoption of the Constitution of the United States, though local law enforcement among the 55,873 inhabitants of the area now comprising the state (1790 census) was rather scanty However, the opening of the Mississippi, the coming of the steamboat, and the completion (1818) of the NATIONAL ROAD from Cumberland, Md , to Wheeling brought growth and prosperity There was left among the inhabitants a long-smouldering resentment at the continued political domination of the tidewater Two of the principal grievances revolved around slavery Under Virginia law, slaves could be taxed at a lower rate than cattle, yet their numbers were considered in apportionment of representation in the state assembly Since there were very few slaves in the region, the transmontane people quite justifiably felt themselves discriminated against in the matters of taxation and representation They also claimed that funds for public works were unequally distributed The new Virginia constitution ratified in 1830 brought no relief, but another new charter, approved in 1851, effected a compromise by which representation in the lower house was based on white population and universal white manhood suffrage was granted The onerous tax burden and tidewater domination of the senate continued The Harpers Ferry raid (1859) staged by John Brown had the effect of uniting most Southerners, except those in the western part of Virginia, in the intensified sectional conflict over slavery The Virginia legislature, on its second try, after Fort Sumter, passed (April 17, 1861) an ordinance of secession, which was approved on May 21 over the overwhelming opposition of the northwestern counties In 1776 when the new colony of Vandalia had been considered and again in 1783 when the state of Westsylvania had been proposed, circumstances prevented the realization of the separatist sentiments of the western frontiersmen in Virginia. Now, at last, Virginia's secession and the Civil War furnished them an opportunity they were quick to grasp On June 11, 1861, at Wheeling, delegates representing most of Virginia's western counties nullified the Virginia ordinance of secession, declared the offices of the state government at Richmond to be vacated, and formed the "restored government" of Virginia, with Francis H. PIERPONT as governor. Creation of a new state was joyfully approved in the popular referendum of Oct. 24, and in Nov , 1861, another convention at Wheeling began to draft the state constitution which was approved in April, 1862 President Abraham Lincoln proclaimed (April 20, 1863) admission of the new state, quite sensibly called West Virginia, to be effective 60 days hence, and on June 20, 1863, Arthur I BOREMAN was inaugurated as its first governor Pierpont and his "restored government" of Virginia had, of course, consented to the formation of a new state, thereby technically fulfilling the provision in the Constitution that says "no new States shall be formed or erected within the Jurisdiction of any other State without the Consent of the Legislatures of the States concerned as well as of the Congress" The Pierpont government then withdrew to Alexandria, Va Meanwhile, the Confederates had failed dismally in their attempt to hold on to the region as Union forces from Ohio, under the over-all command of Gen George B McClellan and then, when he was called to higher things, under Gen William S Rosecrans, were victorious in battles at Philippi (June 3, 1861), Rich Mt (July 11), Corrick's Ford (July 13), and Carnifex Ferry (Sept 10) After Gen Robert E Lee's attempt to rally the Confederate forces failed, ending in defeat at Cheat Mt (Sept 12-13), the Confederates made no serious endeavor to recover the region, although guerrilla fighting continued throughout the war. Rosecrans's victory at Gauley Bridge in Nov , 1862, further extended Union control to the lower Kanawha valley Many West Virginians remained loyal to the old state, Virginia, notably Gen Thomas J (Stonewall) Jackson, next to Lee the South's greatest general. His only sister, Laura Jackson Arnold, was, however, a staunch supporter of the Union, and such a division in allegiance was common in many families Slavery was abolished in 1865, but it was not until 1872 that the state established the Negro's right to vote and to hold public office After the Civil War, while under Republican control, West Virginia disfranchised (1866) by constitutional amendment all who had aided the Confederacy, but after the Democrats came into power (which they held for some 20 years), this act was annulled (1871) by the Flick Amendment The new state constitution adopted in 1872 is, with numerous amendments, still in effect After shuttling back and forth between Wheeling and Charleston, the capital became fixed at Charleston in 1885, the result of an election held in 1877 Late in the 19th cent West Virginia, with its huge mineral resources, began its great industrial expansion, marked by a change from the self-sufficient economy of local communities to the dependence on industry's profits and labor's wages and by immigration from Northern states Two world wars brought boom periods to the mines and the mills, but hardly exhausted the state's subsoil wealth The discovery in 1943 of a large salt deposit (2,400 sq mi) excited the Northern Panhandle, because it will be of great importance to its rapidly developing chemical industry Labor has grown with industry, and most of West Virginia's miners, who generally live in rural communities, not industrial towns, belong to the United Mine Workers of America Their periodic strikes, by which they have steadily improved their standard of living, are often marked by violence Politically, the state, which was controlled for the most part by the Republicans from the mid-1890s to the early 1930s when the Democrats (who repealed in 1934 the state prohibition law in effect since 1914) regained ascendancy, is no longer definitely in the pocket of either party. Among the institutions of higher education in West Virginia are West Virginia Univ at Morgantown and Davis and Elkins College at Elkins See I C DAVIS, Emily Johnston, and others, ed , *A Bibliography of West Virginia* (1939), J P Hale, *Trans-Allegheny Pioneers* (1886, 2d ed , 1931), C H Ambler, *Sectionalism in Virginia from 1776 to 1861* (1910) and *West Virginia, the Mountain State* (1940), J M Callahan, *Semi-centennial History of West Virginia* (1913), J C. McGregor, *The Disruption of Virginia* (1922); M. Conley, ed , *The West Virginia Encyclopedia* (1929), T C Donelly, *The Government of West Virginia* (1945), Federal Writers' Project, *West Virginia a Guide to the Mountain State* (1941); *Debates and Proceedings of the First Constitutional Convention of West Virginia (1861-1863)* (ed. by C. H. Ambler and others, 1943)

West Virginia University, at Morgantown; land-grant and state supported, coeducational; opened

1807, chartered 1867 and 1868 It has colleges of agriculture, forestry, and home economics, arts and sciences; education, engineering and mechanic arts (with a school of mines), law; and pharmacy. It also has schools of journalism, medicine (two years), music, and physical education and athletics There is a state geological and economic survey

West Warwick (wôr'wĭk, wŏ'rĭk), textile town (pop. 18,188), central R I , set off from Warwick and inc 1913 It includes the villages Crompton, Centreville, and River Point (the administrative center).

Westwego (wĕstwē'gō), town (pop 4,992), SE La , near New Orleans It is a port with sea-food processing and chemical manufacture

Westwood. 1 Lumber "company town" (pop 5,064), N Calif , NW of Reno, Nev 2 Town (pop 3,376), E Mass , SW of Dedham, settled 1640, set off from Dedham 1897 Some old buildings are preserved 3 Residential borough (pop 5,388), NE N J , N of Hackensack, inc 1894

West Wyoming (wĕst'mĭng), borough (pop 2,992), NE Pa , on the Susquehanna and near Wilkes-Barre, inc 1898

West York, industrial borough (pop 5,590), SE Pa , near York; inc 1905 Its manufactures include machinery, pottery, and furniture

Wetaskiwin (wĕ"tă'skĭwĭn), city (pop 2,645), central Alta , S of Edmonton It is a railroad junction in a mixed farming area, with adjacent coal mines, oil wells, and natural gas

Wetherell, Elizabeth: see WARNER, SUSAN BOGERT.

Wethersfield (wĕ'dhurzfēld), town (pop 9,644), central Conn , on the Connecticut adjoining S Hartford, settled 1633–34 by John Oldham and others A massacre by Pequot Indians occurred in 1637 One of the oldest towns in the state, Wethersfield still has many 18th-century buildings, though the old section was damaged in the 1936 flood of the Connecticut

Wetmore, Alexander, 1886–, American biologist, b North Freedom, Sauk co , Wis , grad Univ of Kansas (B A , 1912), Ph D George Washington Univ , 1920 He worked (1910–24) with the Bureau of Biological Survey of the U S Dept of Agriculture—the bureau is now part of the Fish and Wildlife Service—and after 1925 was associated with the Smithsonian Institution (as secretary from 1945) An authority on birds, he wrote numerous papers and books on the classification and distribution of birds and on fossil birds

Wetterhorn (vĕ'tŭrhôrn"), peak 12,149 ft high, Switzerland, in the Bernese Alps

Wettin (vĕ'tēn), illustrious German dynasty, branches of which ruled in Saxony, Thuringia, Poland, Great Britain, Belgium, and Bulgaria It takes its name from the castle of Wettin, a small town on the Saale and near Halle The family came into prominence in the 10th cent as leaders in the German drive to the east, which made Saxony and Lusatia German It acquired (c 1100) the margraviate of Meissen and soon expanded its domains to include most of SAXONY and THURINGIA In 1425 FREDERICK I was made elector of Saxony The Wettin holdings were repeatedly subdivided The most important division was that of 1485, which established the Ernestine line and the Albertine line, named for Frederick I's two sons, Ernest and Albert The electoral title and most of Saxony passed (1547) from the Ernestine to the Albertine line as a result of the defeat and capture of Elector JOHN FREDERICK I at Mühlberg The Ernestine line retained its possessions in Thuringia but split into several collateral branches In 1918, when the house of Wettin was deposed in Thuringia and Saxony, its Thuringian holdings consisted of the grand duchy of SAXE-WEIMAR-EISENACH and of the duchies of SAXE-COBURG-GOTHA, SAXE-MEININGEN, and SAXE-ALTENBURG. From the branch of Saxe-Coburg-Gotha the Belgian, English, and Bulgarian dynasties were descended through, respectively, LEOPOLD I of the Belgians, Prince ALBERT (prince consort of Queen Victoria), and FERDINAND I of Bulgaria The English house changed its name to WINDSOR, the Bulgarian branch was deposed in 1946 FERDINAND II of Portugal, a cousin of Prince Albert, married Queen Maria II of Portugal, but the Portuguese dynasty retained the name of Braganza The Albertine line, which ruled in Saxony, obtained hereditary royal rank in 1806, it also ruled Poland from 1697 to 1764 (see AUGUSTUS II and AUGUSTUS III)

Wetumka (wĭtŭm'kŭ), city (pop 2,340), E central Okla , near the Canadian river SE of Oklahoma City, settled by the Creek Indians

Wetumpka (wĭtŭm'ku), city (pop 3,089), co seat of Elmore co , central Ala , NNE of Montgomery and below Jordan Dam on the Coosa, in a farm area It has a textile mill. Indian mounds and village sites are numerous. Near by is the site of 18th-century Fort Toulouse.

Wetzlar (vĕts'lar), city (pop. 22,530), Hesse, W Germany, on the Lahn and W of Giessen Situated in an iron-mining region, it has a metallurgical industry as well as an important optical industry (cameras, microscopes, and binoculars). Wetzlar was a free imperial city from 1180 until 1803 In 1693 the supreme court of the Holy Roman Empire (Ger. *Reichskammergericht*) was transferred here from Speyer Goethe was a young lawyer here when he met (1772) Charlotte Buff, the Lotte in his *Werther*. Wetzlar was awarded to Prussia by the Congress of Vienna and formed an enclave between Nassau and Upper Hesse It suffered considerable destruction in the Second World War, among the damaged buildings was the Church of St Mary (8th–15th cent , restored 1900–1910)

Wewahitchka (wē"wuhĭch'ku, wē"wŏ–), town (pop 1,022), co seat of Gulf co , NW Fla , on Dead Lake SW of Tallahassee, inc 1925 Tupelo honey is shipped from here

Wewak (wā'wăk, wē'wăk), town, on NE New Guinea, in the Territory of New Guinea, NW of Madang There are coconut plantations In the Second World War a Japanese air base established here in 1942 was taken in 1944 by Allied forces

Wewoka (wĕwō'ku), city (pop 10,315), co seat of Seminole co , central Okla , SE of Oklahoma City, in an oil section It was settled in 1902 on the site of an Indian village and incorporated as a town in 1907, as a city in 1925

Wexford (wĕks'furd), maritime county (910 sq mi , pop 91,855), SE Ireland, in Leinster The county seat is the port town of Wexford The land is low and fertile, but on the western border Mt Leinster rises to 2,610 ft The Slaney is the principal river Carnsore Point is the southeastern extremity of Ireland Agriculture is the chief occupation The county exports barley, butter, pigs, poultry, and eggs Fishing is of some importance There are many evidences of the Danish occupation of Wexford, the name of the county itself being Danish in origin It was organized as a shire c 1200

Wexford, urban district (pop 12,308), county town of Co Wexford, Ireland, on Wexford Harbour, which is formed by the Slaney river estuary Wexford had several castles, gates, and town walls, but there are few remains English invaders landed here and signed a treaty with the Irish in 1169, Oliver Cromwell attacked the town in 1649, and rebels made it their headquarters in 1798 Selsker, St Selsker, or St Sepulchre Abbey dates from the 12th cent Of interest are the Church of St Patrick and the old Bull Ring (scene of bull fights) The Roman Catholic bishop's palace of the diocese of Ferns is here, but the cathedral is at Enniscorthy Wexford was once noted for its fairs and tourneys

Wey (wā), rivers in England **1** Dorsetshire, entering the English Channel at Weymouth **2** Surrey, 35 mi long, rising in two branches, one W of Alton, Hampshire, the other W of Haslemere, Surrey, they join near Farnham and flow NE past Godalming, Guildford, and Woking to the Thames at Weybridge It is navigable below Godalming

Weyauwega (wīăwē'gu), city (pop 1,173), central Wis , NW of Appleton, settled c 1850, inc as a city 1939 It is a farm trade center

Weybridge, Surrey, England see WALTON AND WEYBRIDGE

Weyburn (wā'burn), city (pop 7,003), SE Sask , SE of Regina It is a trade center for an agricultural region, has grain elevators, flour mills, and dairies, and manufactures bricks and machinery

Weyden, Roger van der (văn' dur wī'dun, Flemish van dûr vī'dûn), c 1400–1464, early Flemish master, known also as Roger de la Pasture, successor to the Van Eycks as head of the Flemish school of painting He is thought to have been apprenticed to Robert Campin and was admitted to the painters' guild of Tournai in 1432 By 1435 he was settled in Brussels, where he became painter to the city and executed many famous works for churches, guilds, and private patrons In 1449 he made a journey to Italy, he was received there with acclaim and was given various commissions Returning to Brussels, he spent his last years in producing the painting *Last Judgment* for the hospital of Beaune and two triptychs, *Nativity* and *Adoration of the Magi*, all famous works Despite his Italian journey, Roger shows almost no Italian influence Nor can his work be confused with that of his predecessors and rivals, the Van Eycks Although it has the same absolute clarity and luminous glazed color, it is much more dramatic and severe in every respect While the religious painting of the Van Eycks is beatific, that of Van der Weyden is somber and often tragic A favorite theme is the *Descent from the Cross*, of which a splendid example is in the Escorial Works attributed to Van der Weyden are in many European galleries, notably those of Brussels and Antwerp In Antwerp are his celebrated altarpiece, *Seven Sacraments*, and his portrait of Philip the Good Several versions of *St Luke Painting the Virgin* (one in the Mus of Fine Arts, Boston) are of his school but are unauthenticated The Metropolitan Museum has *Christ Appearing to His Mother*, which is one wing of a triptych, the remainder being in the cathedral at Granada

Weyerhaeuser, Frederick (wī'ûrhou"zûr), 1834–1914, American capitalist, known as the "Lumber King," b Germany Coming to the United States in 1852, Weyerhaeuser worked at odd jobs, eventually becoming manager and then owner of a sawmill. By 1864, having bought a number of mills in Wisconsin, he began buying timber stands in the Chippewa region, and as early as 1870 he had formed the Mississippi River Boom and Logging Company, the largest lumber syndicate of the time His control spread from Wisconsin through Minnesota, and by the 1890s the one-man "Weyerhaeuser syndicate" was a powerful and far-flung lumber empire Around 1900 he purchased some 1,000,000 acres in Washington and Oregon from the Northern Pacific By the time of his death most of his property had been transferred to his heirs

Weygand, Maxime (măksēm' vāgā'), 1867–, French general, b Brussels, Belgium. There are persistent rumors that his parentage was royal He was (1914–23) chief of staff to Marshal Foch through the First World War and the peace conferences In 1920 he directed the defense of Warsaw against the Red Army and turned the tide of the Russo-Polish War in favor of Poland Weygand subsequently served as French high commissioner in Syria (1923–24) and as commander of the French forces in the Near East (1939–40) In May, 1940, as France was falling before the German attack, he replaced Gamelin as supreme commander of the Allied forces, but the military situation was beyond repair. After the Franco-German armistice of 1940, Weygand served in the Vichy government as war minister, delegate general to French Africa, and governor of Algeria Dismissed (1941) as delegate general and arrested (1942) as a hostage for Gen Henri Giraud (who had passed over to the Allies), Weygand was held a prisoner by the Germans until 1945 After his return to France he was accused of collaboration with Germany, but was exonerated in 1948

Weyler y Nicolau, Valeriano (vălārvē'nō wā'lĕr ē nĭkōlā'ōō), 1839–1930, Spanish general He was sent to Santo Domingo and later to Cuba, where he served from 1868 to 1872 in the TEN YEARS WAR. He returned to Spain in 1873 and fought against the Carlists (1875–76) As captain general of the Canary Islands (1878–83) he was created marquis of Tenerife He later was captain general of the Balearic Islands (1883–86), of the Philippines (1888–91), and of Catalonia (1892–96) In 1896 he replaced Martínez de Campos in Cuba to suppress the rebellion there, but his cruel methods led to a protest from the United States and he was recalled (1897) Weyler was war minister at various times between 1901 and 1907 While captain general of Catalonia he put down the riots following the execution of Francisco FERRER (1909)

Weymouth (wā'muth), town (pop 23,868), E Mass , on the coast SE of Boston, settled 1622, inc 1635. It includes several villages Shoes are produced.

Weymouth and Melcombe Regis (wā'muth, mĕl'kŭm rē'jĭs), municipal borough (1931 pop 22,188; 1947 estimated pop 35,550), Dorsetshire, England, on a bay at the mouth of the River Wey S of Dorchester It is a seaport and a watering place The Nothe is a long-fortified promontory There is an esplanade with a monument of George III, who frequented the borough Melcombe Regis is the northern and more modern part John Endecott sailed from Weymouth in 1628 The Isle of Portland is south of the town

Weyprecht, Karl (kärl' vī'prĕkht), 1838–81, German arctic explorer With Julius von Payer he made a voyage to Novaya Zemlya in 1871 Weyprecht and Payer were leaders of an Austrian expedition (1872–74) to the arctic in the course of which Franz Josef Land was discovered See Julius von Payer, *New Lands within the Arctic Circle* (1876)

whale, aquatic mammal of the order Cetacea Its skin is almost hairless, and a layer of fat or blubber lies beneath it The forelimbs are swimming flippers, hind limbs are absent The horizontal, fluked tail is the chief means of locomotion Whales inhale a number of times before diving under water, where most species can remain from 5 to 15 min Some of the larger ones may submerge for an hour. When they rise to the surface, the moist air exhaled through the one or two nostril openings on the head condenses, causing the familiar "spouting" which is sometimes visible for several miles Usually only one calf is produced at a birth and, like other mammals, it is suckled Whales of the present day fall into two major groups The whalebone or baleen whales include the sperm whale, the gray whale, the finbacks, the rorquals, and the humpbacks In these there are suspended from the upper jaw hundreds of fringed plates of horny whalebone or baleen which serve as strainers when feeding Plankton forms the bulk of their diet The throat is narrow Two nostrils are present The blue rorqual or sulphur-bottom whale, the largest known living or extinct animal, sometimes reaches about 100 ft in length Among the group of toothed whales are the sperm whale or cachalot, the source of sperm oil and AMBERGRIS, and the pygmy sperm whale, the beaked whale, the DOLPHIN, and the PORPOISE

Whalen, Grover Aloysius, 1886–, American businessman and public official, b New York city. He became the head of a New York city contracting firm, and after he backed John F. Hylan for mayor,

he was appointed (1917) secretary to the mayor Many appointments to important local offices followed, and he served (1928–30) as New York city police commissioner. After 1924 he headed several large corporations Faultless in dress and elegant in bearing, Grover Whalen gained wide notice as the city's official host, and he was (1939–40) president of the New York World's Fair

whale oil, oil extracted from the blubber and other parts of certain species of whales. It varies in composition, color, and the degree of fishy odor according to the method and extent of refining Formerly widely used as an illuminant, it was superseded by petroleum products It is used today in soapmaking, as a leather dressing, and as a lubricant Some is hydrogenated to form edible fats The term is also sometimes used to include SPERM OIL

Whales, Bay of: see Ross SEA and ANTARCTICA.

whaling, The hunting of whales is thought to have been first pursued by the Basques—from land as early as the 10th cent and in Newfoundland waters by the 14th cent It was not until the middle of the 16th cent , however, that their appearance in those waters is established by record. Whaling, on a large scale, was first organized at SPITSBERGEN at the beginning of the 17th cent , largely by the Dutch, who seem, with the Basques, to have developed the method of flensing and boiling still largely used At first given competition by the English Muscovy Company of London, which collapsed by 1625, the Dutch in 1620 had gained ascendancy and in 1623 established the port of Smeerenberg. The large profits continued only until c 1640, when the scarcity of whales forced the Dutch farther out into the northern waters in search of the game By the middle of the 17th cent whaling from the land was established in America Its centers, at first on Long Island and Cape Cod, shifted to Nantucket and then New Bedford, the greatest whaling port in the world until the decline (c.1850) of the industry With the capture (1712) of a sperm whale by a Nantucket fisherman, the superior qualities of SPERM OIL were immediately discovered, and American whalers began fishing farther south in search of the sperm whale, which superseded the right whale in value The American fisheries were set back by the American Revolution, but in 1791 the first Americans rounded Cape Horn to hunt in the S Pacific Another, but temporary, setback occurred in the War of 1812, but the outcome spelled the complete defeat of British whaling, and from 1820 until shortly before the Civil War, Americans sailed the Pacific from south to north, often gone as long as three or four years, in search of the whale Melville's *Moby Dick* gives an account of a voyage in this period With an increased supply of petroleum, the Civil War, and a decrease of whales, the industry declined. The invention (c 1856), by the Norwegian Sven Foyn, of a harpoon containing an explosive head may be said to have been the start of modern whaling Insuring the immediate death of the whale, as opposed to the perilous battle put up by the wounded whale against the old oar-propelled boats, this type of harpoon can now also shoot compressed air into the whale, so that it will not sink, the catch formerly often having been lost for this reason The development of the factory ship, equipped to take on board and completely process whales caught by the smaller chasers, means increased safety and the ability to catch the larger blue whale and allows for the use of all parts of the whale Formerly only the blubber and head could be managed, and the job of flensing from the side of the ship was a hazardous one The main whalers are now the Norwegians and the British, the Japanese fleet having been destroyed during the Second World War, when whale oil and other by-products became increasingly important in wartime England An international whaling commission, for purposes of preservation, now restricts the period of whaling to a few months of the year and determines the size of the whale (varying with the type), which it is legal to catch See WHALE and WHALE OIL. There are whaling museums at Sag Harbor, L I , and Nantucket, Mass , but the most famous one is the Jonathan Bourne at New Bedford, Mass See J T Travis, *A History of the Whale Fisheries* (1921), C B Hawes, *Whaling* (1924); Federal Writers' Project, *Whaling Masters* (1938).

Whalley, Edward (hwā'lē, hwô'lē), d 1675?, English regicide During the Puritan Revolution he served under his cousin Oliver Cromwell in the parliamentary army He was given custody of Charles I for a time in 1647, served on the high court of justice which tried him, and signed the death warrant. After 1655 Whalley was one of the administrative major generals until the Rump Parliament withdrew his commission and those of other prominent Cromwellians At the restoration of Charles II, Whalley with his son-in-law, William GOFFE, was forced to flee. He lived successively in Boston, New Haven, Milford (Conn), and Hadley (Mass.), hunted by English agents, but never betrayed

Whampoa (hwăm'pō'ä'), Mandarin *Huang-pu*, city, **Kwangtung** prov., China, a port on the Canton **river.** It is 12 mi. E of Canton, of which it is an outpost. The harbor accommodates large vessels.

Whangpoo (hwäng'pōō', hwäng'), river, c.60 mi long, Kiangsu prov , China, flowing past Shanghai into the Yangtse It is navigable to steamers as far as Shanghai It is also called the Hwangpoo.

wharf see DOCK

Wharton, Edith (Jones) (hwôr'tŭn), 1862–1937, American novelist, b New York city Of a family socially elect and financially secure, she was privately educated and lived much in Europe, both as a child and after her marriage in 1885 to Edward Wharton She made her home in France after 1907, in 1913 she terminated her marriage by divorce. Most of her 54 volumes were written after she was 35, and the influence of her friend Henry James is acknowledged and unmistakable Of her earlier work, *The Valley of Decision* (1902), a historical novel of 18th-century Italy, is the best known With *The House of Mirth* (1905) she became famous and found her vein as ironic analyst of 19th-century New York society, which she continued in novels of varying worth, including *The Custom of the Country* (1913), *The Age of Innocence* (1920, awarded the Pulitzer Prize, 1921), *Old New York* (4 vols , 1924), made up of novelettes of the decades 1840 to 1880, *Hudson River Bracketed* (1929), with its sequel *The Gods Arrive* (1932); and her unfinished *The Buccaneers* (1938) *Ethan Frome* (1911), a bitter novelette of New England, is considered her greatest tragic love story. Four of her stories were very successfully dramatized on Broadway— *The House of Mirth* in 1906, *The Age of Innocence* in 1929, *The Old Maid* in 1935, and *Ethan Frome* in 1936 Mrs. Wharton's short stories, though less well known, are as distinguished as her novels Many of them are collected in *Tales of Men and Ghosts* (1910), *Xingu and Other Stories* (1916), *Certain People* (1930), *The World Over* (1936), and *Ghosts* (1937) In the First World War she devoted herself to war relief and wrote such reports as *Fighting France* (1915) and the novels *The Marne* (1918) and *A Son at the Front* (1925) Her delightful travel books include *Italian Backgrounds* (1905) and *A Motor-Flight through France* (1908) She also wrote *The Writing of Fiction* (1925), literary criticism See her autobiography, *A Backward Glance* (1934), studies by R M Lovett (1925), E K Brown (1935, in French), and Percy Lubbock (1947)

Wharton, Francis, 1820–89, American clergyman and jurist, b Philadelphia, grad Yale, 1839, admitted to the Pennsylvania bar in 1843, he became an authority on criminal law and wrote *A Treatise on the Criminal Law of the United States* (1846) He was (1856–63) professor of history and literature at Kenyon College He was ordained (1862) an Episcopalian minister, and he was (1871–81) professor of canon law in the Episcopal Theological School in Cambridge, Mass In this period he wrote *A Treatise on the Conflict of Laws* (1872) As solicitor of the U S Dept of State (1885–88) he edited *A Digest of the International Law of the United States* (3 vols , 2d ed , 1887) and *The Revolutionary Diplomatic Correspondence of the United States* (6 vols , 1889) See biography by H E Wharton (1891)

Wharton, Thomas Wharton, 1st marquess of, 1648–1715, English politician Before his entry into Parliament (1673) he had acquired the reputation as a rake and gambler which he always retained After 1679 he became active in Whig politics and against James II He aided William of Orange in 1688, mostly by composing the words of the satirical ballad *Lillibullero*, with which, he boasted, he had sung James II out of his kingdom William III made Wharton a privy councilor and comptroller of the household (1689), but failed to reward him with a major office Queen Anne removed him because of her personal dislike and distrust of his religious soundness, but he remained one of the powerful Whig politicians Wharton opposed the bill against occasional conformity, designed to tighten political restrictions upon the dissenter. When his party came into power, he was made earl of Wharton (1706) and served as lord lieutenant of Ireland (1708–10) Under the Tory dispensation (1710–14) he actively opposed the government George I made him a marquess and lord privy seal (1715).

Wharton. 1 Residential borough (pop 3,854), N N J , on the old Morris Canal near Lake Hopatcong; inc 1895 Chemicals are made here **2** City (pop 4,386), co seat of Wharton co , S Texas, on the Colorado and SW of Houston on the Gulf Coast plain; founded 1847, inc. 1902. The town has small industries mostly related to the oil, cattle, rice, cotton, and sulphur produced in the area. There is a junior college.

What Cheer, town (pop 1,339), SE Iowa, ENE of Oskaloosa; founded 1865 as a trading point, inc 1880 The clay of the region is quarried, and tile and brick are made.

Whately, Richard (hwăt'lē), 1787–1863, English prelate and writer Fellow and tutor of Oriel College, Oxford, he published a witty work aimed at extreme skeptics, *Historic Doubts Relative to Napoleon Bonaparte* (1819). In 1822 he gave the Bampton Lectures entitled *The Use and Abuse of Party Feeling in Matters of Religion* From 1829 to 1831 he was professor of political economy at Oxford. As archbishop of Dublin (from 1831) he worked to free religious instruction from sectarianism and urged the state endowment of the Catholic clergy. He was an influential supporter of the Broad Church party of his denomination Noted among his many works are *Elements of Logic* (1826), *Elements of Rhetoric* (1828), and *Christian Evidences* (1837) See his *Life and Correspondence* (ed by his daughter, E. J Whately, 1866); memoirs by W. J. Fitzpatrick (1864)

wheat, plant of the genus *Triticum* of the grass family, a major food and an important commodity on the world grain market It was one of the first (if not the first) of the grains domesticated by man. Its cultivation began in the NEOLITHIC PERIOD The civilizations of W Asia and of the European peoples have been largely based on wheat, while rice has been more important in E Asia. Since agriculture began, wheat has been the white man's chief source of bread Wheat was introduced into America by settlers early in the 17th cent For its early growth, wheat thrives best in cool weather Fall planting is possible where winters are not severe, but in regions with very cold winters, wheat must be planted in spring. There are varieties specifically adapted to growing as winter wheat (fall planted) or as spring wheat Flour from hard-kernel wheat (varieties evolved for the most part from *Triticum aestivum*) is used to make bread and fine cakes. The hardest flour comes from durum wheat (*T durum*), which is used in the manufacture of macaroni and similar products Soft-wheat varieties make flour for piecrust and biscuits Wheat is used in the manufacture of whisky and beer, and both the grain and the vegetative plant parts make valuable livestock feed It is susceptible to many pests and diseases, the more destructive including rust, bunt, and the Hessian fly and chinch bug All wheat-producing countries carry on breeding experiments to improve existing varieties or to obtain new ones with such dominant characteristics as disease resistance, increased hardiness under specific environments, and greater yield Large-scale mechanized farming and continued planting of wheat without regard to crop rotation has exhausted the soil of large areas The great wheat-producing countries of the world are the United States, China, and the USSR Extensive wheat growing is also carried on in India, Canada, Argentina, and Australia In the United States, Kansas leads in production See T B Hutcheson and others, *The Production of Field Crops* (3d ed , 1948), H K Wilson, *Grain Crops* (1948), publications of the U S Dept of Agriculture

wheat fly, name for several insects harmful to wheat, e g , the HESSIAN FLY, the wheat gallfly, the wheat midge, and others

Wheatland. 1 Borough (pop 1,421), NW Pa , at the Ohio boundary NNW of Pittsburgh, settled 1812, inc 1872 **2** Town (pop 2,110), co seat of Platte co , SE Wyo , N of Cheyenne, in a livestock and irrigated farm area, settled c 1885 Near by is Eagle's Nest Gap, a pass on the Oregon Trail

Wheatley, Henry Benjamin (hwēt'lē), 1838–1917, English bibliographer and antiquarian, a founder of the Early English Text Society and of the Index Society His work on the indexing of books, *How to Make an Index* (1902), is a classic He edited Pepys's diary (10 vols , 1893–99) and wrote *Samuel Pepys and the World He Lived In* (1880)

Wheatley, Phillis, 1753?–1784, American Negro poet. She was brought from Africa in 1761 and sold as a slave to a Boston merchant, John Wheatley, who educated her and encouraged her talent Her graceful imitative verses, many of them modeled on Pope's *Homer*, were admired in England and America and were published in subscription volumes which went into several editions Her works include *An Elegiac Poem on the Death of George Whitefield* (1770), *Poems on Various Subjects* (1773), and separate poems printed in newspapers and magazines In 1778 she contracted an unfortunate marriage with John Peters See Vernon Loggins, *The Negro Author* (1931)

Wheaton, Henry, 1785–1848, American jurist and diplomat, b Providence, R I., grad Rhode Island College (now Brown Univ), 1802 After his admission (1805) to the bar he visited Europe There he studied civil law and translated the recently enacted Code Napoléon into English He practiced law in Providence (1807–12) and in New York city (1812–27), where for a time he edited the *National Advocate*, a publication espousing Jeffersonian views. He held various judicial offices and was (1816–27) reporter of the decisions of the U S Supreme Court While reporter he prepared *A Digest of the Decisions of the Supreme Court of the United States, 1789–1820* (1821). Wheaton's diplomatic career began with his service (1827–35) as chargé d'affaires in Denmark The author of *A Digest of the Law of Maritime Captures and Prizes* (1815), he had the requisite background for negotiating a satisfactory settlement of American claims for ships seized by Denmark. While in Denmark he wrote his *History of the Northmen* (1831), which maintained that America had been discovered by Scandinavians be-

fore the voyage of Columbus. **Wheaton** represented (1835–46) the United States at the Prussian court. The U.S. Senate ratified treaties which he negotiated with Prussia respecting the rights of immigrants, but it rejected the reciprocal-trade agreements which he considered his greatest achievement. Wheaton's crowning work as a jurist was his *Elements of International Law* (1836) and the companion work, *A History of the Law of Nations* (1845). See biographies by W. V. Kellen (1902) and E. F. Baker (1937).

Wheaton. 1 Residential city (pop. 7,389), co. seat of Du Page co., NE Ill., W of Chicago, in a farm area; settled in the 1830s, platted 1853, inc. 1859. It is the seat of Wheaton College (coeducational, c.1854). Elbert H. Gary was born in Wheaton. 2 Village (pop. 1,700), co. seat of Traverse co., W Minn., on the Mustinka near the S. Dak. line, in a farm area; settled 1884, inc. 1887.

Wheaton College, at Norton, Mass.; nonsectarian, for women, opened 1835, chartered as a pioneer female seminary 1837, organized by Mary Lyon, became a college 1912.

Wheatstone, Sir Charles (hwēt'stōn,–stŭn), 1802–75, English physicist and inventor. He was professor at King's College, London, from 1834. A pioneer in telegraphy, he was coinventor of an electric telegraph (patented 1837) and inventor of an automatic transmitter, an electric recording apparatus, and an automatic telegraph. He is credited with the invention of the CONCERTINA and with improving the STEREOSCOPE and the dynamo. He is known also for his research on light (color vision and spectra), sound, and electricity; he popularized a method for the measurement of electrical resistance (see WHEATSTONE BRIDGE). He was knighted in 1868.

Wheatstone bridge [for Sir Charles Wheatstone], essentially a specially devised electric circuit for very accurate measurement of electrical resistance in a conductor. The conductor of unknown resistance is included in the circuit with three known resistances, when this unknown resistance (e.g., R_x) is balanced with the three known resistances (e.g., R_1, R_2, R_3), it can be calculated mathematically, since it becomes one term in a proportion $\left(\text{e.g., } \frac{R_x}{R_1} = \frac{R_2}{R_3}\right)$. In the slide-wire type of Wheatstone bridge, two of the three known resistances are formed by a wire divided into two proportionate parts by a sliding connection.

wheel. Through the many millenniums of the Paleolithic period and the Neolithic period no use of the wheel was known to man. Its use was not known to the American Indians until the white man introduced it. In the Old World it came into use in the Bronze Age, when oxen and horses were first used as draft animals and wheeled vehicles were devised. Wheels for vehicles were at first solid wooden disks, spoked wheels were introduced c.1800 B.C. The potter's wheel was invented in the Bronze Age, earlier pottery being made, like that of the American Indians, without the use of the wheel. The **wheel and axle** is classed in physics as one of the simple or elementary machines. It consists of a wheel mounted rigidly upon an axle or drum of smaller diameter, the wheel and the axle having the same axis. It is fundamentally a form of LEVER, the center common to both the wheel and the axle corresponding to the fulcrum, the radii of the two parts to the arms. The effort (applied to the wheel) needed to overcome the resistance (acting upon the axle) is relatively small. The mechanical advantage gained by the use of the machine is indicated by the ratio of the radius of the wheel and the radius of the axle. The machine is not as efficient as the lever, since a part of the effort must be used to overcome the resistance of FRICTION. In common use, a crank or handle often takes the place of the wheel. Applications of the wheel and axle are numerous in everyday life, examples are the clothes wringer, the doorknob, the capstan, and the windlass. As with the lever, the effort is applied through a greater distance than is the resistance, but in the wheel and axle this effort is applied conveniently in a circle. In the treadmill, the windmill, and the water wheel, the wheel and axle led the way to the utilization of power in modern machinery. Clockmakers were pioneers in devising ways of transmitting and controlling power by the use of the wheel and axle.

Wheeler, Benjamin Ide, 1854–1927, American educator and classical scholar, b. Randolph, Mass., grad. Brown (B.A., 1875; M.A., 1878), Ph.D. Univ. of Heidelberg, 1885. He was a professor of Greek and comparative philology at Cornell Univ. before serving (1899–1919) as president of the Univ. of California in the years of its greatest development. He wrote works in classics and in linguistics, among them *Dionysos and Immortality* (1899), *Alexander the Great* (1900), and *The Whence and Whither of the Modern Science of Language* (1905).

Wheeler, Burton Kendall, 1882–, U.S. Senator (1923–47), b. Hudson, Mass., grad. Univ. of Michigan, 1905. He practiced law in Butte, Mont. **Wheeler was** (1911–13) a member of the state legislature and was appointed (1913) Federal district attorney by President Woodrow Wilson. He was elected (1922) to the Senate from Montana on the Democratic ticket, but in 1924 was the vice presidential candidate of the Progressive party on the ticket with Robert La Follette. He soon returned to the Democratic party and backed much of the New Deal legislation. He became a leading exponent of isolationism and by 1940 had broken with President F. D. Roosevelt. In 1946 Wheeler was defeated in the Democratic primaries.

Wheeler, Homer Jay, 1861–1945, American agricultural chemist and agronomist, b. Bolton, Mass., grad. Boston Univ. (B.S., 1883), Ph.D. Univ. of Göttingen, 1889. He was affiliated with Rhode Island State College from 1889 to 1912, serving as professor of geology (1893–1912) and as director of the agricultural experiment station (1901–12). His work includes research on crop rotation, soil acidity, grass manuring, fertilizers, and the plant disease called potato scab.

Wheeler, Joseph, 1836–1906, Confederate general, b. Augusta, Ga., grad. West Point, 1859. He resigned from the army in April, 1861, to fight for the Confederacy. He commanded a brigade at Shiloh (April, 1862) and became chief of cavalry in the Army of Tennessee (Oct.). Wheeler ably covered Braxton BRAGG in the Kentucky campaign and was made a brigadier general. After distinguishing himself around Murfreesboro, he was promoted major general (Jan., 1863). In the CHATTANOOGA CAMPAIGN, he destroyed Rosecrans's supplies in a brilliant raid through middle Tennessee (Oct.). He joined Longstreet in the expedition against Knoxville (Oct.–Nov., 1863), returning to Bragg's army in time to help cover the retreat from Missionary Ridge. Wheeler operated against W. T. SHERMAN in the Atlanta campaign, the march to the sea, and the advance through the Carolinas. He surrendered with Joseph E. Johnston's army in April. After the war Wheeler, a lawyer and planter in Alabama, served in the House of Representatives (1883, 1885–1900). He was a major general of volunteers in the Spanish-American War, commanding the cavalry in the Santiago campaign. He commanded a brigade in the Philippine insurrection (1899–1900) and was made a brigadier general in the regular army shortly before he retired in Sept., 1900. Wheeler wrote *The Santiago Campaign* (1899). See biography by J. P. Dyer (1941).

Wheeler, Wayne Bidwell, 1869–1927, American prohibitionist leader, b. Trumbull co., Ohio, grad. Oberlin College, 1894, and Western Reserve law school, 1898. He became increasingly important in the Ohio Anti-Saloon League. As its superintendent, he worked militantly for prohibition legislation and in 1906 helped defeat Myron T. HERRICK for governor. As attorney for the National Anti-Saloon League after 1916, Wheeler fought for the adoption of the Eighteenth Amendment and aided in the preparation of the Volstead Act. See biography by T. J. Steuart (1928).

Wheeler, William Almon, 1819–87, American legislator, Vice President of the United States (1877–81), b. Malone, N.Y. He attended (1838–40) the Univ. of Vermont and was admitted to the New York bar in 1845. In New York he was district attorney of Franklin co. (1846–49), Whig member of the state assembly (1850–51), and a Republican member and the president pro tempore of the state senate (1858–59). After 1851 he turned from law to banking and railroad finance. He presided over the New York constitutional convention of 1867–68, and he sat (1861–63, 1869–77) in the House of Representatives. His most notable service in Congress was devising the Wheeler adjustment, a formula, acceptable to all factions, for resolving a disputed election in Louisiana. He strenuously opposed the "salary grab" act of 1873, he bought Federal bonds with the additional salary given him and had them canceled so that they could not be redeemed. Wheeler was little known when, in 1875, the Republicans nominated him for Vice President along with Rutherford B. HAYES for President.

Wheeler, William Morton, 1865–1937, American zoologist, b. Milwaukee, grad. German-American Normal College, Milwaukee, 1884, Ph.D. Clark Univ., 1892. He studied abroad, taught at the Univ. of Chicago (1892–99) and the Univ. of Texas (1899–1903), and was curator of invertebrate zoology at the American Museum of Natural History (1903–8). From 1908 to 1934 he was professor of entomology at Harvard, he was also dean of Bussey Institution there from 1915 to 1929. Among his works are *Ants* (1910), *Social Life among the Insects* (1923), *Social Insects Their Origin and Evolution* (1928), and *Demons of the Dust* (1930).

Wheeler Field, air base of the U.S. army on Oahu, T.H., near the southern edge of Schofield Barracks, est. 1922. It was bombed by the Japanese on the day of the attack (Dec. 7, 1941) on Pearl Harbor.

Wheeler National Monument: see NATIONAL PARKS AND MONUMENTS (table).

Wheeling, city (pop. 61,009), co. seat of Ohio co., W.Va., in the Northern Panhandle, on the Ohio river at the entrance of Wheeling Creek and SW of Pittsburgh; settled 1769, chartered 1806, inc. 1836. Wheeling is an important manufacturing and commercial center in a rich coal and gas area, producing iron and steel, tin plate, stogies, nails, china, glass, paper, foods, and textiles. Fort Fincastle, renamed Fort Henry, was built to protect the settlement from frequent Indian raids. One of the last skirmishes of the Revolution was fought here in 1782 when a party of British and Indian attackers was driven off. It became the western terminus of the National Road in 1818, a port of entry in 1831, and a railhead in 1852. As a center of pro-Unionist activity during the Civil War, the town became the site of the Wheeling Conventions (1861–62), which provided a means of forming a new state out of the north and west counties of Virginia. Wheeling became the first capital of West Virginia in 1863 (see CHARLESTON). Points of interest include a military school, the site of Fort Henry, St. Joseph's Cathedral (Catholic), and Oglebay Park. Wheeling Island is a residential area.

Wheelock, Eleazar or **Eleazer** (ēlē'zŭr hwē'lŏk), 1711–79, American clergyman, founder of DARTMOUTH COLLEGE, b. Windham, Conn., grad. Yale, 1733. He became (1735) the pastor of a Congregational church in that part of Lebanon, Conn., which is now Columbia. Here he became interested in Indian education, and he founded and conducted (1754–67) an Indian charity school. One of his first students, Samson Occom, and Nathaniel Whitaker went to England to raise funds for the project, and when an endowment of some $50,000 had been collected, Wheelock moved to what is now Hanover, N.H., and established (1770) Dartmouth College. He became its first president and guided the college through the early days of the American Revolution. See I. D. McCallum, *Eleazer Wheelock* (1939), Frederick Chase and J. K. Lord, *A History of Dartmouth College and the Town of Hanover* (2 vols., 1891–1913).

Wheelock, John, 1754–1817, American educator, b. Lebanon, Conn., grad. Dartmouth, 1771, son of Eleazer Wheelock. He tutored at Dartmouth after graduation, fought in the American Revolution, and succeeded his father (1779) as president of Dartmouth. Controversy over religious questions among the trustees led to his removal from office (1815), but a new board, created by the state legislature, made him head of the short-lived rival Dartmouth Univ. He wrote *Sketches of the History of Dartmouth College* (1816).

Wheelock, Lucy, 1859–, American educator, b. Cambridge, Vt. She was a pioneer in the kindergarten movement, having worked under Elizabeth Peabody in her school at Boston. In 1889 Miss Wheelock founded the Wheelock School (now Wheelock College) in Boston and served as its principal. She wrote *Talks to Mothers* (1923) and was also editor of *Pioneers of the Kindergarten in America* (1923).

wheel window see ROSE WINDOW.

Wheelwright, John, c.1592–1679, American Puritan clergyman, founder of Exeter, N.H., b. Lincolnshire, England. He studied at Cambridge and was vicar (1623–33) of Bilsby. Suspended by Archbishop Laud on a charge of nonconformity, he emigrated to New England in 1636. While pastor of a Puritan church at Mt. Wollaston (now Quincy), Mass., he alienated himself from the church in Boston, of which it was a branch, by publicly defending the views of ANNE HUTCHINSON, his sister-in-law. The General Court in Boston banished him from the colony in 1638, whereupon he formed a settlement at Exeter, N.H. When the new town was claimed as within the limits of Massachusetts, the minister, with part of the church he had established, removed in 1643 to Wells, Maine. The next year, upon his acknowledging some error on his own part, the sentence of banishment was withdrawn. He held a pastorate in Hampton, N.H. After visiting England, he returned to America, his last pastorate, from 1662, was at Salisbury, N.H. See memoir by C. H. Bell in the 1876 edition of Wheelwright's works, biography by John Heard, Jr. (1930).

Wheelwright, William, 1798–1873, American pioneer in South American railroad building and steam navigation of the Pacific, b. Newburyport, Mass. He attended Phillips Academy, Andover, Mass., but left for the West Indies at the age of 16, making only occasional visits to the United States during the remainder of his life. He commanded boats in and out of South American ports for a number of years, and from 1824 to 1829 he was U.S. consul at Guayaquil. Believing that steam navigation of the Pacific was possible, he spent the years 1835–38 obtaining necessary concessions and then went to England to get financial backing. In 1840 the Pacific Steam Navigation Company, with a British charter and with Wheelwright as superintendent, began operations, the *Chile* and the *Peru* sailed through the Straits of Magellan to Valparaiso and Callao in that year. Wheelwright developed a Chilean coal supply to provide fuel for the line and then turned his attention to railroad building, advocating in 1844 a railroad across the Isthmus of Panama, to which the service of his steamship company was soon extended. In 1852 he completed in Chile the first South American railroad, from Caldera to Copiapó. In 1850 he had also given to Chile the first South American

telegraph line. But his great ambition was to build a railroad across the Andes between Chile and Argentina Since Chile did not believe in the possibility, he went to Argentina, obtained the government's permission in 1861, and began work on the line itself in 1863 He opened Argentina's first important railroad, from Rosario to Córdoba, in 1870 Capital was available, but the further extension of the line had to wait on various complications, including international jealousy, and the railroad was not completed across the Andes until 1910 Wheelwright, however, turned to another project, and at the end of 1872 he opened a railroad from La Ensenada, on the Atlantic, to Buenos Aires, making possible the development of the port of La Plata, of which La Ensenada is now a part He then went to England, where he died the following year His writings included books which were observations and reports upon his work

Wheelwright, town (pop 2,027), E Ky , E of Hazard and near the Va line, in the Cumberland coal area

whelk. see CONCH

Whetstone, George, 1551?–1587, English dramatist and poet He was a friend of Gascoigne, of whom he wrote a metrical *Remembrance* (1577) His play *Promos and Cassandra* (1578), never acted, was a source for Shakspere's *Measure for Measure* Characteristic of the literary interests of his time were his *Rock of Regard* (1576), a miscellany of his verse and prose, and *An Heptameron of Civil Discourses* (1582), a collection of stories which is also a book of etiquette and a discourse on marriage See study by T C Izard (1942)

whetstone, natural or manufactured stone used as an abrasive solid to sharpen edge tools It is used dry, with water, or with oil Such a stone used with oil and generally of the finer grade is usually called a HONE or an oilstone

whey: see CHEESE

Whig, English political party name It seems to have been a shortened form of *whiggamor* [cattle driver] and was used in the 17th cent for Scottish dissenters It was applied (c 1679) to the English opponents of the succession of the duke of York (later James II) As upholders of the power of Parliament against the crown, the Whigs were in a sense the heirs of the Puritan movement, since most Whigs were dissenters, the name, suggesting Scottish Presbyterianism and lawlessness, lent itself naturally to use by their enemies The party drew its power from the landed gentry and the commercial interests, as opposed to the aristocratic Tory group The GLORIOUS REVOLUTION of 1688 was a triumph of dissent over High Church opinion and began a long period of Whig dominance In the reign of Queen Anne the Whigs supported the War of the Spanish Succession and the Hanoverian succession as prescribed by the Act of Settlement (1701) The Jacobite sympathies of the Tories after the death of Anne discredited that party after its brief control (1710–14), and the accession of George I began a period of assured Whig control for 50 years The dominant figure in the party until his fall in 1742 was Sir Robert WALPOLE, whose skillful administration and political acumen welded the party into a powerful organization and gave shape to modern British cabinet government The party was mercantilist in its policy and looked to John Locke's theories of democratic government and religious toleration for its political philosophy The accession of George III (1760), who attempted to reassert royal authority, and factionalism within the Whig party enabled the Tories to regain control The Rockingham Whig faction, influenced by Edmund BURKE, advocated practical reform, but resisted the political reforms advocated by the earl of CHATHAM After the French Revolution the Whigs, kept out of office until 1830, took on a distinctively middle-class character and became identified with the movement for political and social reform which culminated in the Reform Bill of 1832 Thereafter the name Whig gave way and the party became the LIBERAL PARTY, although the old term was occasionally applied to the less progressive members of the new party See Basil Williams, *The Whig Supremacy* (1939)

Whig party, one of the dominant political parties of the United States in the second quarter of the 19th cent As a party it did not exist before 1836, but its origins are found much earlier, the groups that composed it arose in 1824 when the adherents of Andrew JACKSON violently opposed John Quincy ADAMS and Henry CLAY The NATIONAL REPUBLICAN party, created by Jackson's enemies, grew stronger after his triumph in 1828 But this was only one group that opposed Jackson, who was also persona non grata after 1832 with states' rights advocates in the South, proponents of internal improvements in the West, and businessmen and friends of the Bank of the United States in the East Small opposition parties had sprung up, the most notable being the ANTI-MASONIC PARTY This opposition was built up and correlated by Henry Clay in the election of 1832 Four years later all of the various groups were combined in a loose alliance, though they were not unified or strong enough to join behind a single presidential candidate; instead several Whig candidates ran for office. The most prominent were Daniel WEBSTER in New England, William Henry HARRISON in the Northwest, and Hugh Lawson WHITE in the Southwest The election went to Martin VAN BUREN, but in the opposition the Whigs grew steadily stronger The two great leaders of the party were Clay and Webster, but neither was able to lead the party to victory This failure was partially a result of the sectional variations in the party, which had only one common aim—opposition to the Democrats—and partially a result of the power held by the "bosses" of New York, Thurlow WEED and William H SEWARD. The party went on to victory in 1840 with the rousing "Log Cabin and Hard Cider" campaign "Tippecanoe and Tyler too" put William H Harrison in the White House His death and the inauguration of John Tyler led to a definite split in the party The trouble arose over the bank bill, and Tyler was soon alienated from all of the Whigs, even Webster retired from the cabinet after completing the Webster-Ashburton treaty Clay became the standard-bearer in 1844 but was defeated by James K POLK. In 1848 Weed and his associates swung the nomination from Webster to Zachary TAYLOR, who had gained wide popularity as a commander in the Mexican War This move temporarily prevented a division of the party, and although Taylor died while Clay was formulating the COMPROMISE OF 1850 in Congress, Millard FILLMORE, his Vice President and presidential successor, kept the faith of the Whig party However, the disintegration of the party was already manifest, in 1848 several Whig delegates bolted and joined the new FREE-SOIL PARTY along with the ABOLITIONISTS Within the Whig party a bitter struggle developed between the "Conscience Whigs," antislavery elements predominantly from the North and the "Cotton Whigs," proslavery members mostly from the South In the election of 1852, the party was torn wide open by sectional interests Both Clay and Webster died in the campaign, and Winfield SCOTT, the presidential candidate, won only 42 electoral votes This brought about a quick end to the Whig party, and its remnants gravitated toward other parties in a new alignment The newly formed (1856) REPUBLICAN PARTY and the sharply divided DEMOCRATIC PARTY absorbed the largest segments Other Whigs, led by Fillmore, drifted into the KNOW-NOTHING MOVEMENT See E M Carroll, *Origins of the Whig Party* (1925), G R Poage, *Henry Clay and the Whig Party* (1936), W E. Binkley, *American Political Parties* (1943)

whippet, breed of dog distinguished by its slim body and its great running speed It is believed to have been developed in England about the middle of the 19th cent Its ancestry probably includes the English greyhound, Italian greyhound, and some terriers Males stand 18 to 20 in high at the shoulder The head is long and narrow, the muzzle pointed, and the neck, body, and legs are slender The hair is very short and close, in color it may be red, black, white, brindle, fawn, blue, or mixed colors Whippet racing, long popular in England, has spread through parts of the United States Whippets have achieved speeds up to 35 mi. an hour

Whipple, Abraham, 1733 1819, American Revolutionary naval officer, b Providence, R I In 1759–60, as captain of the privateer *Game Cock* in the last of the French and Indian Wars, he captured many prizes Whipple commanded the band of Rhode Islanders who captured and burned the British revenue cutter GASPEE in Narragansett Bay in 1772, one of the most provocative instances of resistance to the British in the pre-Revolutionary period At the beginning of the American Revolution he was made commodore of Rhode Island's small fleet and then became fourth-ranking captain in the Continental navy With the *Columbus* in 1775 he fought the first sea fight of the war In 1778 Whipple, commanding the *Providence*, evaded the British blockade of Narragansett Bay and carried important government dispatches to France. His most daring exploit occurred in 1779 when he encountered the large British Jamaica fleet, protected by gunboats. Whipple, concealing the guns of the *Providence*, hoisted the British flag and fell in with the fleet for several days. Each night he cut out one of the merchant ships, manned it from his own crew, and sent it to an American port Eight of the 11 captured ships reached port, making this one of the richest hauls of the war In 1780 he was charged with the naval defense of Charleston, S C All but one of his vessels were dismantled to bolster the shore batteries, but the city fell and Whipple was captured and held prisoner for the rest of the war. In his later years he lived in Ohio

Whipple, Amiel Weeks, 1818–63, American soldier and topographical engineer, b. Greenwich, Hampshire co , Mass , grad. West Point, 1841. He became (1841) a topographical engineer in the U S. army and engaged in surveying the Canadian (1844–49) and the Mexican (1849–53) borders of the United States. Whipple then made (1853–54) a survey of the region from Fort Smith, Ark., to Los Angeles to determine the route for a projected transcontinental railroad. His diary of this expedition became a valuable anthropological record of the little-known Indians of the Southwest Later he took part in broadening the channels of the St. Clair flats and St. Marys river which opened the Great Lakes to navigation by larger boats He fought in the Civil War, reaching the grade of major general, but was killed at the battle of Chancellorsville See Grant Foreman, *A Pathfinder in the Southwest* (1941)

Whipple, George Hoyt, 1878–, American pathologist, b Ashland, N H , M D Johns Hopkins, 1905. He taught at Johns Hopkins (1909–14) and at the Univ of California (1914–21) and in 1921 became professor of pathology and dean of the school of medicine and dentistry at the Univ of Rochester. His work included studies of metabolism, blood regeneration, and anemia For his independent researches on the treatment of pernicious anemia by the use of liver, he shared the 1934 Nobel Prize in Physiology and Medicine with G. R. Minot and W P Murphy

Whipple, Henry Benjamin, 1822–1901, American Episcopal bishop, b Adams, N Y , studied at Oberlin Collegiate Institute He was ordained a priest in 1850 and in 1859 was consecrated the first bishop of Minnesota With James Lloyd Breck he founded (1858) in Faribault, Minn , the Seabury Mission, which developed into the Seabury Divinity School, and church schools for boys and girls Bishop Whipple's influence was great with the Indians, among whom he worked and by whom he was called "Straight Tongue", he was successful in obtaining some government reforms in the administration of Indian affairs

Whipple, William, 1730–85, American Revolutionary patriot, signer of the Declaration of Independence, b Kittery, Maine Whipple, who had been a sea captain, was a merchant of Portsmouth, N H , before he served as a delegate to the Continental Congress from New Hampshire (1776–79) and as a commander in the Saratoga campaign (1777)

whippoorwill (hwĭ"pərwĭl', hwĭ'pərwĭl"), North American bird of the goatsucker family, common in the E United States The plumage in both sexes is a mixture of browns, black, and gray, with the abdomen lighter and speckled In the male the broad ends of the outer tail feathers are white There are stiff bristles around the short bill Seldom seen, the whippoorwill sleeps during the day in the woods, where it is inconspicuous against its background, and during the night catches its insect food on the wing Its weird song, a monotonous repetition of its name, and its noiseless flight have made it an object of superstition

whirlpool, revolving current in an ocean, river, or lake It may be caused by the configuration of the shore, irregularities in the bottom of the body of water, the meeting of opposing currents or tides, or the action of the wind upon the water There are no true whirlpools really dangerous to shipping, the MAELSTROM near Norway and CHARYBDIS near Sicily are subjects of legend and myth, and CORRYVREKIN near Scotland was feared by the sailors of small boats The Whirlpool Rapids below NIAGARA FALLS are remarkable for their volume and violence, caused by the narrowing of the channel There is also a whirlpool below Victoria Falls in South Africa

whirlwind, any revolving mass of air resulting from local atmospheric instability, caused, for example, by intense heating of the ground by the sun on a hot summer day The term includes the HURRICANE and the TORNADO, but is commonly applied also to the small whirls of dust or leaves and to the sand whirls of the desert

whisky [Gaelic, = water of life], spirituous liquor distilled from a fermented mash of grains, usually rye, barley, oats, wheat, or corn Inferior whiskies are made from potatoes, beets, and other roots The three standard whiskies of the world are Scotch, Irish, and American (the United States and Canada) The Scotch Highland whisky (made in pot stills) and that of the Lowlands (patent stills) differ according to percentage of barley used, quality of the water, quantity of peat employed in curing the malt, manner of distilling, and kind of casks in which they are matured Practically all Scotch whiskies are blends, the "self" whisky, being rarely to modern taste No whisky can be released from bond in Great Britain until it has matured in wood at least three years, and in practice most whisky is stored seven or eight years before marketing Irish whisky resembles Scotch, but no peat is used in the curing, and instead of the dry, somewhat smoky flavor of Scotch, it has a full, sweet taste American whiskies are divided into two main varieties, rye and bourbon (bûr'bun), a corn whisky which derives its name from Bourbon co., Ky They have a higher flavor and a much deeper color than Scotch or Irish and require from two to three years longer to mature Newly made whisky is colorless, the rich brown of the matured liquor being derived from the cask in which it is stored Whisky was made in England in the 11th cent., chiefly in monasteries, but in the 16th cent. distilling was carried on commercially. The illicit manufacture of whisky

to avoid payment of excise taxes has been common. In the United States this is known as moonshining.

Whisky Rebellion, 1794, insurrection in the Pennsylvania counties W of the Alleghenies, caused by Alexander Hamilton's excise tax of 1791 The settlers, mainly Scotch-Irish, who made whisky extensively, resented the tax as discriminatory and detrimental to their liberty and economic welfare There were many public protests, and rioting broke out in 1794 under the leadership of David Bradford against the government's efforts to enforce the law Albert Gallatin urged moderation, but negotiation failed Troops called out by President Washington quelled the rioting Bradford escaped, but many were arrested Washington pardoned those who were convicted The Federal government's power to enforce its laws had been proved, but the frontiersmen's hatred of the controlling Federalists had long-lasting political consequences See L D Baldwin, *Whiskey Rebels the Story of a Frontier Uprising* (1939)

Whisky Ring, in U S history, a conspiracy which defrauded the Federal government of liquor taxes Soon after the Civil War these taxes were raised very high, in some cases to eight times the price of the liquor Large distillers, chiefly in St Louis, Milwaukee, and Chicago, bribed government officials high and low in order to retain the tax proceeds The Whisky Ring was a public scandal, but it was considered impregnable because of its strong political connections U S Secretary of the Treasury B H Bristow resolved to break the conspiracy To avoid warning the suspects, he assigned secret investigators from outside the Treasury Dept to collect evidence He struck suddenly in 1875 and arrested the persons and seized the distilleries involved Over $3,000,000 in taxes were recovered, and of 176 persons indicted 110 were convicted Although President Grant's secretary, O E Babcock, was acquitted, many persons believed that the Whisky Ring was part of a plot to finance the Republican party by fraud

whist, card game for four players, those on opposite sides of the table being partners The full pack of 52 cards is dealt one at a time, each player thus receiving 13 cards The dealer's last card is turned up to indicate which suit is trump, and after he draws this card in hand, the player on the left of the dealer leads Cards rank from ace down through 2 (in the cut for deal, however, the ace ranks lowest), and the highest card of the suit lead or the highest trump wins the trick Partners collect their tricks in one pile Six tricks make a book, and each trick over the book in one game counts one point The partners who first score seven points win Famous variations include duplicate whist, bid whist, solo whist, and Norwegian whist Whist originated in England, where it was a development of earlier games (e g , *triumph*) which were known in the 16th cent In 1742 Edmond Hoyle published *A Short Treatise on the Game of Whist,* but it was Henry Jones (see Cavendish, pseud) who first compiled (1862) a complete system of scientific play for the game The game spread to other European countries in the 19th cent , and whist tournaments were organized Whist gave rise in the late 19th cent to the game of Bridge, which quickly superseded the parent game in popularity See R L Frey, ed , *The New Complete Hoyle* (1947)

Whistler, James Abbott McNeill, 1834-1903, American painter and etcher, b Lowell, Mass He received his first drawing lessons in St Petersburg, Russia, where his father, a U S army engineer, was supervising the building of the railroad to Moscow In 1849 the family returned to America Whistler was dismissed successively from West Point and from his position as map engraver with the U S Coast and Geodetic Survey In 1855 he went to Paris He early became associated with the impressionist movement First known as an etcher, he scored a signal success at the Salon des Refusés in 1863 with his *Little White Girl* From this time he took up his headquarters in London, where his eccentricities and stinging wit made him famous long before his talents as an artist were recognized To advertise and defend his credo of art for art's sake, Whistler resorted to elaborate exhibits, lectures, polemics, and more than one lawsuit and by dint of perseverance, audacity, and virtuosity succeeded in foisting it upon a reluctant British public In 1888 he married Mrs Beatrix Godwin His last years saw a constant increase in his fame and prestige Although he indulged in some sheer exhibitionism, his influence as an artist, teacher, and gadfly was enormously stimulating and far-reaching His admirable draughtsmanship, exquisite color, and extreme technical proficiency both as etcher and painter would have won him recognition no matter what his doctrine, it was his attitude, not lack of skill, that caused him to be called the prince of amateurs As a painter, Whistler was profoundly influenced by the Japanese print and by the art of Velásquez If he failed to achieve the decorative distinction of the former or the profundity of the latter, he did create a highly personal style in which purely decorative elements and atmosphere are blended with great subtlety As an etcher, however, his reputation is perhaps even more secure Over 400 superb plates attest to his industry and inspiration The most important are classified as *Little French Series, Thames Series, First Venice Series,* and *Second Venice Series* Fine collections are in the British Museum, the Bibliothèque nationale, the Academy, Venice, the New York Public Library, and the Metropolitan Museum A wide range separates the early ones with their insistence on the factual and their abundance of detail from the sketchy and atmospheric evocations of his later years They are alike, however, in their fine luminosity, brilliant execution, and quivering life In lithograph, water color, and pastel Whistler also excelled Exquisite examples of his painting are in the galleries of London, Paris, Pittsburgh, Washington, D C , Chicago, Brooklyn, N Y , and New York The most representative collection is that in the Freer Gallery of Art, Washington, D C , which also contains an entire room which he decorated for the Leyland home in London—the so-called Peacock Room His famous portrait of his mother, bought for the Luxembourg Museum, Paris, has been promoted to the Louvre *Nocturne in Green and Gold, Cremorne Gardens at Night,* portraits of Sir Henry Irving, Connie Gilchrist, Théodore Duret, and others are all in the Metropolitan Museum He was the author of brilliant critical essays and aphorisms, e g , *Ten o'Clock* (1888) and *The Gentle Art of Making Enemies* (1890) See biography by E R Pennell and Joseph Pennell (2 vols , 1908), studies by T R Way and G R Dennis (1903) and Mortimer Menpes (1904), Howard Mansfield, *A Descriptive Catalogue of the Etchings and Dry-Points of Whistler* (1909) and *Whistler as a Critic of His Own Prints* (1935?)

Whiston, William (hwĭ'stun), 1667-1752, English clergyman and mathematician He won favor through his *New Theory of the Earth* (1696) and in 1701 was made deputy to Sir Isaac Newton, whom he succeeded (1703) as Lucasian professor of mathematics at Cambridge Well known as a preacher, Whiston aroused opposition by proclaiming his opinion that the faith of the early Christian centuries was Arian In 1710 he was expelled from the university He propounded his Arian views in *Primitive Christianity Revived* (5 vols , 1711-12), lectured on scientific and religious subjects in London and elsewhere, and continued his scientific experiments His translation (1737) of the writings of Josephus has been many times reprinted See his memoirs (2 vols , 1749-50).

Whitaker, Arthur Preston, 1895-, American historian, b Tuscaloosa, Ala , grad Univ of Tennessee, 1915, Ph D Harvard, 1924 A Rhodes scholar (1917), Whitaker taught at Florida State College (1926-27) and Western Reserve Univ (1928-30), was professor of American history at Cornell Univ (1930-36), and became professor of Latin American history at the Univ of Pennsylvania in 1936 After a visit (1941-42) to South America, he worked (1943-44) for the Dept of State and then acted as consultant (1944-45) His works include *The Spanish-American Frontier, 1783-1795* (1927), *The Mississippi Question 1795-1803* (1934), *The United States and the Independence of Latin America, 1800-1830* (1941) *Latin America and the Enlightenment* (with others, 1942), and *The United States and South America* (1948) He was also editor of a series of yearly volumes (1941-44) called *Inter-American Affairs*

Whitaker, Charles Harris (hwĭ'tukur), 1872-1938, American architect and author, b Rhode Island, studied art abroad Editor (1913-27) of the journal of the American Institute of Architects, he became widely known through his fight against "pork barrel" appropriations for public buildings He was a forceful advocate of government housing and community planning He wrote *Rameses to Rockefeller* (1934), a history of architecture

Whitaker, residential borough (pop 2,217), Allegheny co , SW Pa , near Pittsburgh, inc 1906

Whitby, town (pop 5,904), S Ont , ENE of Toronto and on Lake Ontario, with a good harbor, founded 1836 It has tanneries and grain elevators and manufactures leather goods, hardware, and lace

Whitby, urban district (pop 11,451), North Riding of Yorkshire, England, at the mouth of the Esk It is a seaport and a resort The Streoneshalh of Bede, it was the site of an abbey founded by St Hilda in 657 The Synod of Whitby was held here in 664 under King Oswy of Northumbria The Danes ravaged the abbey in 867, and in 1078 it was refounded for Benedictines The town has a cross commemorating the poet Cædmon, who lived in the abbey Captain Cook was a shipbuilder's apprentice in Whitby, his ship *Resolution* was built here Shipbuilding is still carried on to a limited extent Jet ornament making, of material quarried near, is a long-established industry The town has a museum with an archaeological collection

Whitby, Synod of, called by King Oswy of Northumbria in 664 at Whitby Its purpose was to choose between the usages of the Celtic and Roman churches, primarily in the matter of reckoning Easter (see calendar) Oswy decided for the Roman usages and in so doing determined that the English church would be associated with the Roman in the main stream of Western European Christianity. Only a few of the Celtic clergy returned to the monastery of Iona and to their old ways Bede's date of 664 has recently been interpreted as Sept or Oct , 663

White, Andrew Dickson, 1832-1918, American educator and diplomat, b Homer, N Y , briefly attended Geneva (now Hobart) College, grad Yale, 1853 He studied in France and Germany, served (1854-55) as attaché in St Petersburg, and toured Europe While teaching history (1857-63) at the Univ of Michigan, he developed the idea of a university detached from all sects and parties and free to pursue truth without deference to dogma After his father died in 1862 he returned to New York a comparatively rich man He sat (1864-67) in the New York state senate and was chairman of the education committee, which dealt with the founding of a land-grant college With the financial aid of a fellow senator, Ezra Cornell, the land grant was made available for the institution which became Cornell Univ White, as first president (1867-85), expanded the institution to teach not only agriculture and mechanic arts but also other fields of knowledge He was one of the first educators to use the system of free elective studies As Cornell Univ was nonsectarian, the charge of "godlessness" was made against it White, a practicing Episcopalian, maintained that freedom was beneficial to religion also and wrote his *History of the Warfare of Science with Theology in Christendom* (1896) and *Seven Great Statesmen in the Warfare of Humanity with Unreason* (1910) to develop his concept of free inquiry White was minister to Germany (1879-81) and to Russia (1892-94) He was ambassador to Germany (1897-99) and was chairman of the American delegation to the First Hague Conference (1899) He persuaded Andrew Carnegie to build the Palace of Justice to house the Hague Tribunal See his autobiography (1905), W P Rogers, *Andrew D White and the Modern University* (1942)

White, Bouck (bouk), 1874-, American clergyman and author, b Middleburg, N Y , grad Harvard, 1896, and Union Theological Seminary, 1902 In 1904 he was ordained a Congregational minister. After serving several pastorates, he became (1908) head resident of Trinity House, Brooklyn, N Y , but his *Call of the Carpenter* (1911), portraying Jesus as a social agitator, led to his dismissal in 1913 He then founded and was pastor of the Church of the Social Revolution and was several times imprisoned for actions connected with his socialistic views His other books include *Letters from Prison* (1915) and *The Free City* (1919)

White, Clarence Cameron, 1880-, American Negro composer and violinist, b Clarksville, Tenn , studied at the Oberlin Conservatory and with Coleridge-Taylor in London In addition to activities as violinist and teacher in Boston (1912-23) and New York, he was director of music at West Virginia State College, Institute, W Va. (1924-30), and at Hampton Institute (1932-35) His opera *Ouanga* (1932) won the David Bispham award, and many violinists have played his *Bandanna Sketches* and his arrangements of Negro spirituals He also wrote a *Negro Rhapsody* and a string quartet on Negro themes

White, Edward Douglass, 1845-1921, Chief Justice of the U S Supreme Court (1910-21), b Lafourche parish, La He attended the Jesuit College in New Orleans and Georgetown College (now Georgetown Univ), and after service in the Confederate army he practiced law White became (1879) judge of the state supreme court and served (1891-94) in the U S Senate until he was appointed Associate Justice of the Supreme Court by President Grover Cleveland in 1894 Made Chief Justice by President W H Taft in 1910, White—the first Southerner to head the Supreme Court since Roger Taney—was generally a conservative on the bench He wrote the "rule of reason" decisions, which differentiated between legal and illegal business combinations, in the antitrust cases against the American Tobacco Company and the Standard Oil Company in 1911 In 1916 he wrote the decision upholding the constitutionality of the Adamson Act, which established an eight-hour day for railroad workers See biography by Sister Marie Carolyn Klinkhamer (1945).

White, Edwin, 1817-77, American historical painter, b South Hadley, Mass , studied in Paris and Dusseldorf Among his works are *The Antiquary* (Metropolitan Mus), *Washington Resigning His Commission* (state capitol, Annapolis, Md), *Thoughts of Liberia and Emancipation* (N Y Public Library), *Leonardo da Vinci and His Pupils* (Amherst College), *Interior of the Barghello, Florence* (Mus of Fine Arts, Boston), and *Murillo Sketching the Beggar Boy* (N Y Historical Society) He became a member of the National Academy of Design in 1849

White, Elijah, 1806-79, American missionary in the Oregon country A physician, he left Boston in 1836 to join the Methodist mission established by Jason Lee After friction with his associates, he left in 1840 His fame rests on the fact that when in 1842 he returned overland to Oregon with an

appointment as an Indian agent he led the first large (more than 100) party of settlers to Oregon.

White, Ellen Gould (Harmon), 1827–1915, leader of the Seventh-Day Adventists, b. Gorham, Maine. Converted at the age of 15 to the beliefs of the ADVENTISTS, she began (1844) to receive "visions" in trances, accepted as prophetic by many members of that sect In 1846 she married James White, a minister of Adventist convictions. Under the direction of a vision to Mrs White, she and her husband founded (1866) the Western Health Reform Institute at Battle Creek, Mich After her husband's death in 1881, she traveled widely as a missionary See M E Olsen, *A History of the Origin and Progress of the Seventh-Day Adventists* (1925)

White, Elwyn Brooks, 1899–, American writer, b Mt Vernon, N Y , grad Cornell, 1921 A member of the early *New Yorker* magazine staff, he wrote "The Talk of the Town", some of these editorials were collected in *The Wild Flag* (1946) His collection of humorous essays *One Man's Meat* (1942) was reissued in 1944 with 10 new chapters He also wrote *Is Sex Necessary?* (with James Thurber, 1929), *Quo Vadimus?* (1939), and *Stuart Little* (1945), a story for children He also wrote much light, graceful, and satirical verse He edited *A Subtreasury of American Humor* (1941) with K S A White, his wife *Here Is New York* (1949) is not a guidebook, but a distillation of the city's essence by one who loves it

White, Sir George Stuart, 1835–1912, British field marshal He entered the army in 1853, but first achieved distinction in the Afghan War of 1878–80 He served in Egypt in 1884–85 In Burma (1885–87), where he was knighted in 1885, in Baluchistan (1889–93), and later as supreme military commander in India (1893–98), he followed the "forward" policy of combating Russian advance in the Middle East by aggressive campaigns, military and diplomatic, in the borderlands His greatest fame came for his defense of Ladysmith in the South African War against a 118-day siege by the Boers (1899–1900) He became governor of Gibraltar (1900–4) and was made field marshal when Edward VII visited that colony See biography by T F G Coates (1900)

White, Gilbert, 1720–93, English naturalist. He served as curate at SELBORNE and at parishes near by from 1751 He recorded his detailed observations of nature in letters to other naturalists and on these based *The Natural History and Antiquities of Selborne* (1789) This work, often reprinted, is valued for its pleasing, simple style and scientific accuracy See biographies by Walter Johnson (1928) and W S Scott (1946).

White, Henry, 1850–1927, American diplomat, b Baltimore He studied abroad and traveled widely White—often called the first career diplomat in the United States—entered the foreign service as secretary (1883–84) of the U S legation in Vienna He served (1884–93) with the U S embassy at London, and in 1896 President William McKinley appointed him secretary of the embassy He later was ambassador at Rome (1905–7) and at Paris (1907–9); as head of the U S delegation to the Algeciras Conference, White helped in the settlement of the Moroccan crisis between Germany and France He was sent (1910) as a special emissary to Chile and in 1919 was appointed by President Wilson a commissioner to the Paris Peace Conference See biography by Allan Nevins (1930)

White, Henry Kirke, 1785-1806, English poet He was articled to a Nottingham law firm in 1802, but soon began writing verse and essays His *Clifton Grove* (1803) was attacked as immature by the *Monthly Review*, but it brought him the praise and friendship of Southey White entered St John's College, Cambridge, in 1804 to prepare for holy orders, but died of tuberculosis in 1806 His *Remains*, with letters and a biography by Southey, came out posthumously (3 vols , 1807–22) Much of his popularity was due to pity aroused by his early death, and later criticism values his work as little better than mediocre

White, Horace, 1834–1916, American journalist and author, b Colebrook, N H , grad Beloit College, 1853 As a reporter for the Chicago *Tribune* he covered the famous Lincoln-Douglas debates in 1858 In his newspaper career he was a liberal and a free trader, both on the *Tribune*, where he was editor in chief from 1864 to 1874, and on the New York *Evening Post*, where he was staff member from 1881 to 1899 and editor in chief from 1899 to 1903. His *Money and Banking Illustrated by American History* (1895 and later revisions) was for years the standard text on finance.

White, Hugh Lawson, 1773–1840, American political leader, b Iredell co , N C He moved (1787) to what is now E Tennessee and served in the wars against the Creek and Cherokee Indians After he became (1793) secretary to Gov William BLOUNT, he studied law in Lancaster, Ohio, and began (1796) practice in Knoxville, Tenn He was judge (1801–7) of the Tennessee superior court and state senator (1809–15) before he served (1825–40) in the U.S. Senate, where his firm conscience and plain manners won him wide respect. White backed Andrew JACKSON until 1835, when he split with the President over the currency question. When in 1836 Jackson backed Martin Van Buren for President, White, in protest, ran for the presidency as a WHIG PARTY candidate and secured the electoral votes of Tennessee and Georgia. White resigned (1840) from the U.S. Senate after he fought, in opposition to the instructions of the Tennessee legislature, Van Buren's plan for the Independent Treasury System

White, John, 1575–1648,? English coloniser, b. England, grad Oxford, 1597. An Anglican priest of moderate Puritan belief, White desired to establish a colony for nonconformists. He helped form the Massachusetts Company (1629), but he never came to America

White, John, fl 1585–91, leader of the "lost colony" on ROANOKE ISLAND, N C See also CROATAN.

White, Pearl, 1889–1939, American moving-picture actress, b Green Ridge, Mo. She appeared in such serials as *The Exploits of Elaine* and *The Perils of Pauline*, adventures which were continued from week to week. Always in danger, she was always rescued See her autobiography, *Just Me* (1919).

White, Peregrine, 1620–1704, American pioneer. He was born on the *Mayflower* as she lay at anchor in Cape Cod bay, Nov 20, the first child born to English parents in New England He became a citizen of Marshfield, Mass , and held minor offices.

White, Richard Grant, 1821–85, American journalist and writer, b. New York city He was a newspaper critic in New York but is better known for his edition of Shakspere and for two dogmatic manuals of English usage that were reissued in many editions over the years—*Words and Their Uses* (1872) and *Every-Day English* (1880). He was the father of Stanford White

White, Stanford, 1853–1906, American architect, b New York city, son of Richard Grant White In 1872 he entered the office of Gambrill and Richardson in Boston, at the time when H H Richardson was at the peak of his fame Here White worked upon the design for Trinity Church, Boston After studying in Europe, he entered (1879) into partnership with C. F McKim and W. R Mead, a firm which was to affect the course of American architecture over a long period White had a passionate love of beauty, and his special talents were for the decorative elements of a building and for its interior design and furnishing, and he also possessed a wide knowledge of antiques Among the buildings executed by the firm, those which are commonly ascribed as his individual accomplishments include Madison Square Garden, Madison Square Presbyterian Church, the Herald Square Building, Washington Arch, and the Century Club, all in New York, only the last two still stand. They illustrated his characteristic concentration upon rich and graceful effects and especially upon beautifully sculptured Renaissance ornament White was shot and killed in Madison Square Roof Garden by Harry K Thaw, because of trouble over Thaw's wife, Evelyn Nesbit Thaw See biography by C. C. Baldwin (1931)

White, Stewart Edward, 1873–1946, American author, b Grand Rapids, Mich , grad Univ of Michigan, 1895 His adventure stories reflect his own experiences, he had been in the Black Hills gold rush when he wrote *The Claim Jumpers* (1901) and was working in a Michigan lumber camp when he completed *The Blazed Trail* (1902) His trilogy, *The Story of California* (1927), consists of three painstaking historical novels, *Gold a Tale of the Forty-Niners* (1913), *The Gray Dawn* (1915), and *The Rose Dawn* (1920) He also wrote *The Magic Forest* (1903) for children See his autobiographical *Dog Days* (1930)

White, Walter Francis, 1893–, American Negro leader, b Atlanta, Ga , grad Atlanta Univ , 1916 He was honored by a Guggenheim award for his novel *Flight* (1926) He became in 1931 secretary of the National Association for the Advancement of Colored People and tirelessly fought against racial discrimination and lynchings in the United States He meanwhile served on several government commissions His defense of Negro rights is vividly recorded in his autobiography, *A Man Called White* (1948) His works also include *Fire in the Flint* (1924), *Rope and Faggot* (1929), and *Rising Wind* (1945)

White, William, 1748–1836, American Episcopal bishop, b Philadelphia, grad College of Philadelphia (now the Univ of Pennsylvania), 1765. He was ordained in England in 1772, returning to become assistant rector, then rector, of Christ Church, Philadelphia He was instrumental in organizing the Protestant Episcopal Church in the United States He drafted its first constitution and aided in the American revision of the Book of Common Prayer Elected bishop of Pennsylvania in 1786, he went (1787) to England for consecration His works include *Memoirs of the Protestant Episcopal Church in the United States of America* (2d ed., 1836) See his *Life and Letters* (ed. by W. H. Stowe, 1937).

White, William Alanson, 1870–1937, American psychiatrist, b. Brooklyn, N.Y., studied (1885–89) at Cornell, M.D. Long Island Hospital Medical School, 1891. On the staff of the Binghampton State Hospital from 1892, he was appointed (1903) superintendent of St. Elizabeth's Hospital, Washington, D C., a position he retained the rest of his life White's chief contribution was his ability to seek out and experiment with new and promising psychiatric methods. He was one of Freud's earliest supporters in the United States, founding (1913) the *Psychoanalytic Review* with S. E. Jelliffe and writing one of the first American works on psychoanalysis, *The Mechanisms of Character Formation* (1916). He was especially active in bringing about the spread of psychiatric knowledge. In 1934 a group of his supporters established the William Alanson White Foundation to further his scientific objectives, it was responsible in 1936 for bringing into existence the influential Washington School of Psychiatry See his autobiography (1938).

White, William Allen, 1868–1944, American author and writer, b Emporia, Kansas, studied (1886–90) at Kansas State Univ. He bought the Emporia *Gazette* in 1895, edited it the rest of his life, and made it and himself famous throughout the nation as representatives of "grass-roots" political opinion. In 1896 his editorial "What's the Matter with Kansas?" attacked the Populists and aided the Republicans in electing McKinley His voice later was raised in favor of liberal movements in and outside the Republican party. His fiction presents the Middle West in short stories, such as those in *In Our Town* (1906), and in novels, among them *A Certain Rich Man* (1909) His other works include a biography of Woodrow Wilson (1924), two of Calvin Coolidge (1925, 1938), political sketches in *Masks in a Pageant* (1928), economic theory in *The Changing West* (1939), and two collections of his newspaper writings, *The Editor and His People* (selected by H O Mahin, 1924) and *Forty Years on Main Street* (comp by R H Fitzgibbon, 1937) See his autobiography (1946) and selected letters (ed by Walter Johnson, 1947), Walter Johnson, *William Allen White's America* (1947)

White, William Hale, pseud **Mark Rutherford**, 1831–1913, English novelist His best-known works are *The Autobiography of Mark Rutherford* (1881), its sequel, *Mark Rutherford's Deliverance* (1885), and *The Revolution in Tanner's Lane* (1887), pictures of nonconformist England by a man whose own theology fitted into no sect See memorial introduction by H M Massingham to 1936 ed of the *Autobiography*

white ant: see TERMITE

White Bear Lake, city (pop 2,858), E Minn , a resort and residential suburb NNE of St Paul on White Bear Lake, inc 1922

Whiteboys, members of the small illegal peasant bands first organized in Munster, Ireland, c 1761 to resist tax and tithe collectors and extortionate landlords They were so called because on their nocturnal raids, which were often marked by extreme violence, they wore white disguises The movement was at first nonpolitical and nonreligious and spread, under a variety of names—Oakboys, Rightboys, Hearts of Steel—to all parts of Ireland and hastened the establishment (1782) of the Irish Parliament, in which Henry Grattan and Henry Flood attempted to institute reforms The Whiteboys were suppressed within 10 years, but they set the pattern of agrarian unrest which continued until after the establishment of the Irish Free State

White Castle, town (pop 1,692), SE La , on the Mississippi and S of Baton Rouge Some of the finest plantations were here

white cedar. For the southern white cedar, see CEDAR; for the northern white cedar, see ARBORVITAE.

Whitechapel, London, England: see STEPNEY.

White Cloud: see WAUDESHIEK

white corpuscle, small protoplasmic body of which large numbers are found in the blood of vertebrate as well as invertebrate animals. In humans three main types of white corpuscles are recognized, lymphocytes, monocytes, and leucocytes The lymphocytes are believed to be formed in the lymph nodes found in various parts of the body. Their cytoplasm is clear, with few or no granules, and the nucleus is round or oval. The function of the lymphocytes is not definitely known, they are capable of amoeboid movement and large numbers are found to accumulate in the tissues in late stages of certain infections and lesions However, it is thought that they do not have the ability to ingest germs as do the leucocytes. Lymphocytes comprise between 20 and 30 percent of the white corpuscles Monocytes make up about 3 to 7 percent of the white corpuscles. They are believed to play a part in the repair of tissues, and they ingest and thus destroy many bacteria and other microorganisms not attacked by the leucocytes. The greatest proportion, from 55 to 75 percent of the white corpuscles, are leucocytes or polymorphonuclear leucocytes. Those that engulf and destroy germs are known also as phagocytes. There are three subdivisions of leucocytes. Most of the leucocytes are of the type known as neutrophiles; their nucleus is divided into several lobes, and the cytoplasm is granular. They are capable of amoeboid movement

and can ingest and destroy bacteria and other microorganisms. In the adult they are formed in the bone marrow. The eosinophiles or acidophiles form about 2 percent of the leucocytes. They are essentially similar to the neutrophiles, but the nucleus is commonly bilobed and the cytoplasmic granules are larger and they stain with acid stains, while those of the neutrophiles stain with neutral dyes. In certain pathological conditions they increase greatly in number. The third group of leucocytes, the basophiles, exist in very small numbers, and their function is obscure. Their cytoplasmic granules stain with basic dyes.

Whiteface, mountain, 4,872 ft. high, NE N.Y., in the Adirondacks near Lake Placid. A meteorological station (1937) is on the summit, and a highway runs within 700 ft. of the summit.

Whitefield, George (hwīt'fēld), 1714–70, English evangelistic preacher, leader of the CALVINISTIC METHODISTS. At Oxford, which he entered in 1732, he joined the Methodist group led by John and Charles WESLEY, his name is closely associated with theirs in the history of METHODISM. Ordained (1736) a deacon in the Church of England, Whitefield soon demonstrated his power as a preacher, due in part to his voice, appearance, and histrionic ability. The first of his seven trips to America was made in 1738, when he spent a short time in Georgia in the mission post recently vacated by John Wesley. He returned to England to seek funds for an orphanage in Georgia and to take orders as an Anglican priest, but his connection with the Wesleys and the evangelical character of his preaching led to his exclusion from most of the pulpits of the Church of England. Whitefield then began a series of open-air meetings in Bristol and elsewhere, to which huge audiences were attracted. He persuaded John Wesley to carry on the work, and he again visited (1739–41) America, here he was an influential figure in the GREAT AWAKENING, preaching to congregations in the large settlements from Georgia to New England. About 1741 he adopted Calvinistic views, especially in regard to predestination, and, breaking away from the Wesleys, he became the leader of the Calvinistic Methodists, whose greatest numbers were in Wales. However, Whitefield's personal friendship with John Wesley lasted through life. In London his work was centered in the Moorfields Tabernacle, near Wesley's church. Returning to England after another evangelistic tour (1744–48) in America, he was appointed a chaplain in the "Connexion" of the countess of HUNTINGDON. Whitefield's evangelistic tours in Great Britain and America continued to draw throngs; in 1756 the noted Tottenham Court Chapel, London, was opened for him. His last sermon was delivered in the open air at Exeter, Mass., the day before he died in Newburyport, where he is buried. See his works (ed. by John Gillies, 6 vols., 1771–72), biographies by Luke Tyerman (2 vols., 1876), E. S. Ninde (1924), and A. D. Belden (1930).

Whitefield (hwīt'fēld), resort town (pop. 1,834), NW N.H., in the White Mts., S of Lancaster, granted 1774, inc. 1804.

Whitefish, city (pop. 2,602), NW Mont., at the south end of Whitefish Lake, in Flathead valley N of Kalispell. In a lumbering region, it has sawmills.

whitefish, fresh-water food fish of the Northern Hemisphere, related to the trout and salmon. The largest species in the United States is the common or lake whitefish of the Great Lakes region and northward, which reaches a maximum length of about 2 ft. and a weight of about 20 lbs. It is an important fish commercially although not as abundant as formerly.

Whitefish Bay, village (pop. 9,651), SE Wis., northern suburb of Milwaukee, inc. 1892.

White Hall, city (pop. 3,025), W central Ill., N of Alton, in an area of potter's clay and coal, founded 1820, inc. 1837. Among its manufactures are pottery, tiles, and sewer pipes. A memorial to Annie Louise Keller, a teacher who died saving her pupils during a tornado in 1927, was designed by Lorado Taft.

Whitehall. **1** Village (pop. 1,407), S Mich., N of Muskegon, at the mouth of the White River on White Lake (an inlet of Lake Michigan), inc. 1867. Leather and woodenware are made. A Swedish midsummer festival is held. **2** Village (pop. 4,851), E N.Y., NE of Glens Falls, at the southern end of Lake Champlain and on the Barge Canal, settled 1759, inc. 1806. There are railroad shops and silk mills here. **3** City (pop. 1,035), co. seat of Trempealeau co., W. Wis., on the Trempealeau river and S of Eau Claire; settled 1855, inc. 1887.

Whitehall, street in London, running from Charing Cross to Parliament St. and separated from St. James's Park by the Horse Guards Parade. It has government offices and the Cenotaph (war memorial) by Sir E. L. Lutyens. It was the site of the palace of the archbishops of York, built in the time of Henry III and taken over by Henry VIII on the death of Wolsey. The palace was partly destroyed by fires in 1619 and 1697, the banqueting hall, rebuilt by Inigo Jones, is all that remains. Henry VIII and Cromwell died in the palace, and Charles I was executed just outside it.

Whitehaven (hwīt'hāvŭn), municipal borough (1931 pop. 21,159; 1943 estimated pop., 22,350), Cumberland, England, near the mouth of Solway Firth. There are iron and coal mines (some of the latter extend under the sea), iron foundries and other metalworks, tanneries and flour mills. John Paul Jones attacked Whitehaven in 1778, and a German submarine bombarded it in 1915.

White Haven, borough (pop. 1,528), NE Pa., on the Lehigh river and SSE of Wilkes-Barre, inc. c 1853.

Whitehead, Alfred North, 1861–1947, British mathematician and philosopher, b. Ramsgate, England. After graduation (1884) from Trinity College, Cambridge, he was a lecturer in mathematics there until 1911; at the Univ. of London he was a lecturer in applied mathematics (University College, 1911–14) and professor of mathematics (Imperial College of Science and Technology, 1914–24). He became professor of philosophy at Harvard in 1924, professor emeritus in 1937. Like Bertrand Russell, he viewed philosophy at the start from the standpoint of mathematics. With Russell he wrote *Principia Mathematica* (3 vols., 1910–13). Whitehead had already written *A Treatise on Universal Algebra* (1898) and other works on mathematics and the nature of the world. He criticized positivistic antireligious science and sought to mold a concept of a unified scientific religion. His philosophy—which he called the philosophy of organism—is idealistic rather than materialistic, universal concepts being considered as eternal objects. Nature is viewed as organic, and the world process may be seen as the adjustment of interrelated organisms to an environment, which they alter by their adjustments. God is regarded as the principle of union and the ground for all rationality. Religious experience and the concept and comprehension of a God that is the impersonal, ultimate good is fundamental in Whitehead's philosophy. The obscurity of his style and the introduction of many new technical terms make Whitehead's works difficult to comprehend. In 1945 he received the Order of Merit. Among his more important books are *The Organisation of Thought* (1916), *The Concept of Nature* (1920), *The Principle of Relativity* (1922), *Science and the Modern World* (1925), *Religion in the Making* (1926), *Symbolism Its Meaning and Effect* (1927), *The Aims of Education and Other Essays* (1929), *Process and Reality* (1929), *Adventures of Ideas* (1933), *Modes of Thought* (1938), and *Essays in Science and Philosophy* (1947). See D. M. Emmet, *Whitehead's Philosophy of Organism* (1932), *The Philosophy of Alfred North Whitehead* (ed. by P. A. Schilpp, 1941).

White Hill, battle of the: see WHITE MOUNTAIN.

White Horse, town (pop. 754), S Yukon, at the head of navigation on the Lewes (upper Yukon) river. White Horse is on the Alaska Highway and is the terminal of the White Pass and Yukon Railway from Skagway. During the navigation season, from June to October, there is steamship connection with Dawson. The town is the distribution and transportation center for a region of coal and copper mining, hunting, and fur trapping. It is headquarters of the Royal Canadian Mounted Police for S Yukon and has an airport, a radio station, and a meteorological station. It was an important supply and stage center during the Klondike gold rush (1897–98). In the Second World War it was the center of the Canol oil project, with a pipe-line terminal and oil refinery, until the project was closed in 1945.

White Horse, Vale of the, Berkshire, England, W of Abingdon. The region is rich in associations with Alfred the Great, who was born in Wantage, the central town of the vale. His victory at Ashdown in 871 is traditionally commemorated by the White Horse on White Horse Hill though it is probably of earlier date. The figure of the horse, over 350 ft. long, is at Uffington, near Wantage, and its crude outline is visible for miles. It is formed by cutting away the turf to expose the white chalk of the hillside beneath. The periodical "cleaning" of the sketch used to be made the occasion of a ceremony. There are other "white horses" of various age in Wiltshire, Berkshire, Yorkshire, and elsewhere, but that at Uffington is the most famous.

White House, official name of the executive mansion of the President of the United States. It is on the south side of Pennsylvania Ave., Washington, D.C., facing Lafayette Square. The building, constructed of Virginia freestone, is of simple and stately design. The porte-cochere on the north front, which forms the main entrance, is a portico of high Ionic columns reaching from the ground to the roof pediment, it is balanced by a semicircular colonnaded balcony on the south with a second-floor porch, completed in 1948. The main building (four stories high) is about 170 ft. long by 85 ft. wide. The east and west terraces, the executive office (1902), the east wing (1942), and an air-raid shelter (1942) have been added. The colonnade at the east end is the public entrance. The executive office is approached by an esplanade. Large receptions are usually held in the East Room (40 ft. by 82 ft.). The elliptical Blue Room is the scene of many social, diplomatic, and official receptions. The Red Room and the Green Room are used for private and quasi-official gatherings. The White House, designated "the Palace" in the original plans, was designed by James Hoban on a site chosen by George Washington. It is the oldest public building in Washington, its cornerstone having been laid in 1792. John Adams was the first President to live here (1800). The building was restored after being burned by British troops (1814), and the smoke-stained gray stone walls were painted white; this gave rise to the cognomen "White House." The name became official when President Theodore Roosevelt had it engraved upon his stationery. The grounds (about 18 acres) surrounding the house are attractive with broad lawns, fountains, trees, and gardens. They were planned by Andrew Jackson DOWNING. See Charles Hurd, *The White House* (1940).

White Huns, people of obscure affinities, possibly of Tibetan or Turkish stock. They were called Ephthalites by the Greeks and Hunas by the Indians. There is no indication that they are related to the HUNS. The White Huns were an agricultural people with a developed set of laws. They were first heard of when they displaced the Scythians and conquered Transoxiana and Khurasan before A.D. 425. They crossed (425) the Syr Darya (Oxus) river and invaded Persia. Held off at first by Bahram Gur, they later (483–85) succeeded in making Persia tributary. After a series of wars (503–13) they were driven out of Persia, permanently lost the offensive, and were finally (557) defeated by Khosru I. The White Huns also invaded India from the northwest and succeeded in extending their domain to include the Ganges valley. They temporarily overthrew the Gupta empire but were finally driven out of India in 528 by a Hindu coalition. Though in Persia they had little effect, in India the White Huns influenced society permanently by altering the caste system and disrupting the hierarchy of the ruling families. Some of the White Huns remained in India as a distinct group, but the rest of the Hunas and the Persian invaders disappeared from history.

white iron pyrites: see MARCASITE.

white lead, heavy, white, amorphous substance, insoluble in water, extensively used as a white pigment and base in paints. When it is to be used in paints, it is first ground into a fine powder and mixed with linseed oil. It is one of the oldest paint pigments used by man. Its covering power is greater than that of other white pigments, but its use has certain disadvantages. It is affected by hydrogen sulphide and some other sulphur compounds, the lead combining with the sulphur to form lead sulphide, a dark substance. In paints made with white lead a chalky substance is formed after some time. In addition, it is very poisonous, painters who apply it often being afflicted with painter's colic (see LEAD POISONING) because of the absorption of too great a quantity into the body. White lead is used also in making putty and in the manufacture of certain pottery. Chemically, it is basic lead carbonate, a mixture of lead carbonate and lead hydroxide. It is prepared in various ways. In the Dutch process or old Dutch process, lead in the form of perforated disks or gratings called buckles is placed in earthenware jars containing a small amount of acetic acid (vinegar) and is covered with tanbark or manure, which ferments and produces carbon dioxide. By a series of reactions the buckles, after about three months, have corroded to form white lead. Other processes have been inaugurated chiefly because of the great length of time required by the Dutch process. In the Carter process, which requires about one week, the lead is melted and atomized by treatment with steam, the resulting product being treated with carbon dioxide and acetic acid. The French process, requiring only one or two days, involves the treatment of a solution of the basic acetate of lead with carbon dioxide, and white lead is precipitated out. Sublimed white lead is the basic sulphate of lead mixed with lead oxide and zinc oxide, it is also used as a white pigment.

Whitelocke, Bulstrode (bo͝ol'strōd hwīt'lŏk), 1605–75, English statesman. A lawyer and member of the Long Parliament in 1640, he was head of the committee which prosecuted Thomas Wentworth, earl of Strafford. Always an advocate of moderation, he took part in attempts to make terms with King Charles I in 1643 and 1644 and refused to participate in the trial of the king. He was commissioner of the great seal (1649, 1654–55, 1659) and ambassador to Sweden (1653–54). He urged Oliver Cromwell to accept the crown, held office under Cromwell's son, Richard, and was elected (1659) president of the council of state that ruled after Richard's failure. At the Restoration he was pardoned, and thereafter he lived quietly. The most important of his voluminous writings is his *Memorials of the English Affairs* (1682), a source work for the period 1625–1660. The journal of his embassy to Sweden is also well known. See memoir by R. H. Whitelocke (1860).

Whitelocke, John, 1757–1833, British general. Given command of the expedition against Buenos Aires, he proceeded to Montevideo, where he superseded

Sir Samuel AUCHMUTY (May 10, 1807). The British attack on Buenos Aires failed (July 5, 1807); two days later Whitelocke surrendered to Jacques de LINIERS Returning to England, he was cashiered from the army by court-martial (1808).

Whiteman, Paul, 1891?–, American musician, b. Denver, Colo He played the viola in the Denver Symphony Orchestra and in 1915 joined the San Francisco Symphony During the First World War he was an army band leader In New York in 1924 he presented a concert which included the première of Gershwin's *Rhapsody in Blue*, written for the occasion Whiteman felt that jazz in the original New Orleans and Chicago styles was crude material which needed the refinement of arrangement and symphonic orchestration. This concert inaugurated the period of "symphonic jazz," a hybrid style which enjoyed great popularity and gained Whiteman the appellation "king of jazz"

white metal: see BABBITT METAL and ANTIFRICTION METAL

White Mountain or **White Hill,** Czech *Bílá Hora* (bēlä hô'rä), hill near Prague, Bohemia, Czechoslovakia Here in Nov , 1620, the Czech Protestants under FREDERICK THE WINTER KING were routed by the imperial army under Tilly. The battle ended the independence of Bohemia for three centuries and was the first major engagement of the Thirty Years War

White Mountains, part of the Appalachian system, N N H , rising to 6,288 ft at Mt WASHINGTON in the PRESIDENTIAL RANGE and to 5,249 ft at Mt Lafayette in the FRANCONIA MOUNTAINS CRAWFORD NOTCH separates these two main groups The mountains are composed chiefly of granite Much of the mountain area, some 1,200 sq mi in extent, is included in White Mountain National Forest Nationally noted for their varied and beautiful scenery, the White Mts have long been one of the most popular resort areas in the country. See guidebooks of the Appalachian Mountain Club and the Dartmouth Outing Club, Richard A Hunt, *White Mountain Holidays* (1941), Ernest Poole, *Great White Hills of New Hampshire* (1947).

White Nile or **Bahr-el-Abiad** (bär'-ĕl-ab'yad), river, Anglo-Egyptian Sudan, formed by the junction of the Bahr-el-Ghazal and the BAHR-EL-JEBEL It flows c 500 mi N to Khartoum, where it joins the Blue Nile to form the NILE

White Pass, 2,888 ft high, in the Coast Range, on the border between Alaska and British Columbia, NE of Skagway A hazardous trail through the pass was made (1897) by prospectors going to the Klondike, as an alternate route to the CHILKOOT PASS In 1898–1900 the White Pass and Yukon Railway was built from Skagway to White Horse, Yukon territory, to provide transportation from the Pacific tidewater to the Yukon valley

White Pigeon, village (pop 1,017), SW Mich , near the Ind line S of Kalamazoo, settled c 1827, inc. 1837

white-pine blister rust · see BLISTER RUST

White Plains, residential city (pop 40,327), co seat of Westchester co , SE N Y , NE of New York city, settled in the late 17th cent , inc as a village 1866, as a city 1916 Plumbing supplies and dairy products are made The provincial congress met (1776) in White Plains and ratified the Declaration of Independence. The battle of White Plains (1776), on Chatterton Hill here, followed Washington's retreat from Manhattan The Elijah Miller House (1738), where Washington stayed, and other historic buildings still stand. New York Hospital–Westchester Division, for mental diseases, is here; it was formerly called Bloomingdale Hospital The Westchester County Center, for concerts and other entertainments, is near by

White River. **1** Partially navigable river rising in NW Arkansas and flowing 690 mi first N into Missouri, then southeasterly through Arkansas to the Mississippi above Arkansas City, Ark The Norfork Dam (244 ft. high and 2,624 ft long) in the North Fork of the White just above their confluence in the Ozarks, built by U S army engineers for flood control and power, was completed in 1944 The Bull Shoals Dam in extreme N Arkansas (263 ft high and 2,256 ft long) is being constructed by U S. army engineers for flood and stream control and power The White River has several tributaries, including the Black and Cache rivers, and near its outlet is joined to the Arkansas river by a cutoff channel **2** River rising in two forks not far from Muncie, E central Ind , and flowing southwest to unite NE of Petersburg before entering the Wabash The west branch passes Indianapolis **3** River rising in NW Nebraska and flowing 507 mi. N and E through South Dakota to the Missouri below Chamberlain. It drains a large part of the Badlands.

White River Junction, industrial village in HARTFORD town, E Vt , on the Connecticut opposite West Lebanon, N H. A railroad center, it is the gateway to many Green Mt resorts.

White Russia: see BELORUSSIA

White Sands National Monument: see NATIONAL PARKS AND MONUMENTS (table).

Whitesboro. **1** Village (pop. 3,532), central N.Y., near Utica; settled 1784, inc. 1813. It has varied manufactures. **2** Town (pop. 1,560), N Texas, W of Sherman, in a cotton and grain area.

Whitesburg, town (pop 1,616), co. seat of Letcher co , E Ky , SE of Hazard and near the Va. line, in the Cumberland coal area, settled 1840, inc. 1872.

White Sea, Rus *Beloye More* (byĕ'lŭ mô'ryŭ), inlet of the Barents Sea, N European USSR. It is 305 *mi long* and has an area of 36,680 sq. mi. Its northern section, opening into the Barents Sea between the Kola and Kanin peninsulas, is connected with the main body of the sea by a strait c 100 mi. long and 30 to 35 mi. wide The Mezen, the Northern Dvina, and the Onega rivers empty into large bays of the White Sea Kandalaksha Bay, its westernmost arm, is also its deepest section (1,115 ft.). The Solovetski Islands lie at the entrance to Onega Bay, ARCHANGEL, the chief port, is near the mouth of the Northern Dvina The White Sea is connected by a canal system (including Lake Onega and the Svir and Neva rivers) with the Baltic at Leningrad, Belomorsk is the canal terminus on the White Sea Though frozen (except in its central section) from November to May, the White Sea is important for lumber exports, its fisheries (herring and cod), and its abundant seal herds.

white-slave traffic: see PROSTITUTION

white snakeroot, North American woods perennial (*Eupatorium urticaefolium*), having a flat-topped cluster of small composite heads of white flowers The herbage contains tremetol, a toxic principle causing "milk sickness" (see MILK FEVER)

White Sulphur Springs, town (pop 2,093), S W Va , E of Lewisburg near the Va. border, settled c 1750. It is a well-known resort with mineral springs. Representatives of the Axis nations were confined here in the early part of the Second World War.

whitethorn. see HAWTHORN

White Top festival. see MARION, Va.

Whiteville, town (pop 3,011), co seat of Columbus co , SE N C , W of Wilmington, founded 1810. It is a tobacco market and trade center, and also has lumber mills.

white vitriol (vĭt'rēŭl), transparent, crystalline substance soluble in water. Chemically it is hydrated zinc sulphate, a compound of zinc, sulphur, and oxygen with seven molecules of water of crystallisation It is used as a mordant in dyeing textiles, in the making of varnishes, as a preservative for hides, as a disinfectant, and in medicine It can be prepared by the action of sulphuric acid on zinc

whitewash, preparation used commonly for whitening the walls of cellars, stables, chicken coops, and various outside structures It varies in composition, being generally a mixture of lime (quicklime), flour, salt, glue, and whiting, with other ingredients such as molasses, water glass, or soap sometimes added It forms a rather impermanent finish, being somewhat soluble in water, although well-balanced mixtures serve for some time

Whitewater, city (pop 3,689), SE Wis , SE of Madison, in a dairy and farm area, inc 1885 It has various manufactures and is the seat of a state teachers college

whitewood · see BASSWOOD, POPLAR, TULIP TREE

Whitewright, town (pop 1,537), N Texas, SE of Sherman, in a farm area, settled 1877, inc 1888

Whitgift, John (hwit'gĭft), 1530?–1604, archbishop of Canterbury from 1583 A fellow of Peterhouse, Cambridge, he became successively Lady Margaret professor of divinity, master of Pembroke Hall, regius professor of divinity, master of Trinity College, and vice chancellor (1570, 1573) of the university He had a leading part in revising the university statutes Dean of Lincoln (1571) and bishop of Worcester (1577), he was elevated to the primacy in 1583 In his efforts to establish uniformity of discipline in ecclesiastical and religious matters, Whitgift had the full support and favor of Queen Elizabeth His policy was severe towards the Puritans, and he was attacked in some of the tracts published in the MARPRELATE CONTROVERSY See his works (ed by John Ayre, 3 vols., 1851-53), biography by H J Clayton (1911).

Whiting, William Henry Chase, 1825–65, Confederate general, b Biloxi, Miss , grad Georgetown College (now Georgetown Univ), 1840, and West Point, 1845 He served in the U S army until Feb , 1861, when he resigned and entered the Confederate service, in which he rose to a major generalcy As chief engineer to J E Johnston he distinguished himself at the first battle of Bull Run. In the Peninsular campaign (1862) he commanded a division at Fair Oaks and fought in Stonewall Jackson's command in the Seven Days battles. Whiting was made commander around Wilmington, N C , in Nov , 1862. He made Fort FISHER one of the strongest Confederate works In A H. Terry's attack on Fort Fisher in Jan., 1865, Whiting was badly wounded; he later died a prisoner in New York See D. S. Freeman, *Lee's Lieutenants*, Vol. I (1942).

Whiting, city (pop 10,307), NW Ind., on Lake Michigan SE of Chicago; settled 1885, inc. 1903. It has large oil refineries and chemical plants.

whiting, name applied to several genera of European, North American, and Australian marine fishes related to the cod and prized for food. The silvery European whiting (*Merlangus merlangus*) is found from Norway to the Mediterranean. The common American whiting (*Menticirrhus saxatilis*) varies in color from gray to black. Known also as northern kingfish, sea mink, king whiting, and sea mullet, it is found in Atlantic waters from Cape Ann, Mass. (sometimes as far north as Maine), to Florida but is commoner N of Chesapeake Bay. Closely related is the more southern species *Menticirrhus americanus*, a small, silvery fish marked with broad, oblique bars and known as kingfish and as Bermuda, Carolina, silver, surf, or sand whiting. The silver, or New England, hake (*Merluccius bilinearis*), a brownish-gray fish found from Nova Scotia to Maryland, is also called whiting. In Australia several fish of the genus *Odax* are known as rock whiting.

whiting, white, powdery substance, prepared by grinding up chalk, mixing it with water, and separating the fine particles. The final product, whiting, is therefore a very pure form of calcium carbonate. When mixed with linseed oil it forms PUTTY, and with water and several other substances it constitutes WHITEWASH. It is used as a pigment (when it is called Spanish white) and filler in paints, for polishing metalware, and for various other purposes

Whitley and Monkseaton, urban district (1931 pop. 24,210, 1943 estimated pop. 28,000), Northumberland, England, N of Tynemouth. It includes the summer resort Whitley Bay on the North Sea and the coal-mining town Monkseaton.

Whitley City (hwĭt'lē), unincorporated town (pop 1,180), co. seat of McCreary co , S Ky , WNW of Middlesboro and near the Tenn. line. It lies in the Cumberlands, in a coal and timber area.

Whitlock, Brand, 1869–1934, American author and diplomat, b Urbana, Ohio After being a reporter in Chicago, working under Governor Altgeld of Illinois, and practicing as a lawyer in Toledo, he was reform mayor of Toledo from 1905 to 1913. Meanwhile he wrote realistic novels chiefly concerned with politics, among them *The Thirteenth District* (1902), *The Turn of the Balance* (1907), and *The Gold Brick* (1910) His service as U S minister and ambassador to Belgium from 1913 to 1922 was distinguished for his efforts to defend the British nurse Edith Cavell and for his care of refugees. His later novels are surpassed by his nonfiction—*Belgium a Personal Record* (1919) and a fine biography of Lafayette (1929) See his autobiography, *Forty Years of It* (1914), and his letters and journals (ed. with biographical introduction by Allan Nevins, 2 vols , 1936)

whitlow see FELON

Whitman, Charles Otis, 1842–1910, American zoologist, b Woodstock, near Bethel, Maine, grad. Bowdoin, 1868, Ph D Univ of Leipzig, 1878 From 1892 he was professor of zoology at the Univ. of Chicago He founded (1887) and edited the *Journal of Morphology* and was a founder and director (1888–1908) of the Marine Biological Laboratory at Woods Hole, Mass He wrote on animal behavior, genetics, evolution, microscopical anatomy, and other subjects. His *Posthumous Works* appeared in 1919

Whitman, Marcus, 1802–47, American pioneer and missionary in the Oregon country, b Federal Hollow (later Rushville), N Y A graduate of the Fairfield (N Y) medical school in 1832, he left a country medical practice to go as a missionary for the joint Presbyterian-Congregationalist board. In 1835 he went west with the Rev Samuel Parker on a tour of investigation The next year he and his bride, Narcissa Prentiss Whitman (1808–47), the Rev Henry Harmon Spalding and his wife, and others crossed from Missouri to the Columbia river country, where Whitman founded a mission at Waiilatpu (now a national monument, 45 84 acres, est. 1940, near present Walla Walla, Wash) and Spalding settled at Lapwai (near present Lewiston, Idaho) Whitman helped American settlers in the region, which was still disputed by Great Britain and the United States The missionaries disagreed among themselves, and in 1842 the board ordered their work curtailed Whitman then rode horseback across the wilderness through the snows of winter (1842–43) to New York, Boston and Washington. He straightened out mission affairs, urged Americans to settle Oregon, and went back with the "great emigration" of 1843 over the OREGON TRAIL. The Cayuse Indians around Waiilatpu, never friendly, grew more hostile and on Nov 29, 1847, attacked the mission and murdered Whitman, his wife, and others News of the massacre helped in passing (1848) the bill that made Oregon a U S. territory Later, argument raged as to whether Whitman made his ride of 1842–43 in order to "save" Oregon from the British. Controversy died as this "Whitman legend" was generally discredited See documents in A. B. Hulbert and D. P. Hulbert, ed , *Marcus Whitman, Crusader* (3 vols , 1936–41), C. M Drury, *Marcus Whitman, M.D , Pioneer and Martyr* (1937).

Whitman, Sarah Helen (Power), 1803–78, American poet, b. Providence, R I. She married in 1828 a Boston lawyer, John W. Whitman; after his death (1833) she returned to Providence and devoted herself to writing. In 1848 she was engaged for a

time to Edgar Allan Poe, who wrote the second and less known of his poems entitled "To Helen" about her. Mrs Whitman wrote several poems about Poe and defended him in *Edgar Poe and His Critics* (1860) Her first book of verse was *Hours of Life* (1853), a complete collection appeared in 1879 See Caroline Ticknor, *Poe's Helen* (1916)

Whitman, Walt (Walter Whitman), 1819–92, American poet, b West Hills (now Huntington), L I, N Y. During his boyhood his family lived in Brooklyn, there he went to school and worked as a printer's devil and later as a compositor For a while he was a country schoolteacher and in 1838–39 edited the *Long Islander*, a newspaper From 1841 to 1848 he wrote prose and verse for New York and Brooklyn journals and edited successively several papers (For this period, see *The Uncollected Poetry and Prose of Walt Whitman*, ed by Emory Holloway, 2 vols, 1921) Interested in politics, he edited (1846–47) the Democratic Brooklyn *Daily Eagle* (See his writings, *The Gathering of the Forces*, ed by Cleveland Rodgers and John Black, 2 vols, 1920) In 1848 he and his brother Jeff went to New Orleans, where Whitman worked for the *Crescent* After three months they returned to Brooklyn This Southern interval was exaggerated by biographers and by Whitman himself, who later implied that he had been in Louisiana for a longer period and had had a mistress and illegitimate children Again he edited (1848–49) at least one paper, the Brooklyn *Freeman*, and worked as a carpenter, but little is known of him until 1855, when he published at his own expense a volume of 12 poems, *Leaves of Grass* It was ignored save by some intellectuals, notably Emerson, who wrote a famous congratulatory letter to him The larger second edition (1856) drew criticism for its daring subject matter and its free verse in long rhythmical lines Whitman revealed himself as a mystic, a pantheist, and a lover of all humanity, among his major themes were love, death, nationalism and democracy, and the beauty of the human body and of the sexual relationship His wide reading in American and European philosophy and Oriental mysticism found expression—often puzzling—in his poetry He enlarged, with revisions and new poems, successive editions of *Leaves of Grass* until the final one in 1892, the changes reflecting his growth as man and poet His last post as an editor (1857–59) was with the Brooklyn *Times* (His writings here are in *I Sit and Look Out*, ed by Emory Holloway and Vernolian Schwarz, 1932) Whitman cared for his wounded brother in Virginia in 1862 and remained as an unofficial nurse in the hospitals Most of his record of the Civil War is in the prose *Specimen Days and Collect* (1882 83) and *The Wound Dresser* (1898) and in the poems *Drum-Taps* (1865), reissued with *Sequel to Drum-Taps* (1866), which includes his two great Lincoln poems, "When Lilacs Last in the Dooryard Bloom'd" and "O Captain! My Captain!" He was made a clerk in the Indian Bureau of the Dept of the Interior (1865), but was discharged by a superior who regarded his poetry as immoral Nevertheless he was soon employed in the Attorney General's office, and two biographers defended him immediately—William O'Connor in *The Good Gray Poet* (1866) and John Burroughs (assisted by Whitman) in *Notes on Walt Whitman as Poet and Person* (1867) He became partially paralyzed in 1873 and thereafter lived from his writing and lectures and with the help of his brother and friends His prose *Democratic Vistas* had appeared earlier (1871), and his last long poem, *Passage to India*, was in the 1871 *Leaves of Grass* He lived after 1884 in Camden, N J, in a house now a Whitman museum *November Boughs*, poems, came out in 1888 Whitman's favorite claim was that he was one of the workers, the ordinary people whom his poetry was to reach Ironically, few of them knew his work But on other poets in most of the civilized world he has had an incalculable, releasing effect, inspiring them to experiment as he did in verse and in subject matter Whitman's complete writings were edited by R M Bucke, T B Harned, and H L Traubel (10 vols, 1902), his uncollected poetry and prose were gathered and edited by Emory Holloway (2 vols, 1921), who also edited a useful volume, *Complete Poetry & Selected Prose and Letters* (1938), and wrote a biography of Whitman (1926) See Whitman's *Autobiographia* (1892) and *Walt Whitman's Workshop* (ed by C J Furness, 1928), biography by H S Canby (1943) A guide to the critical and biographical writing on Whitman, is G W Allen, *Walt Whitman Handbook* (1946)

Whitman, town (pop 7,759), SE Mass, SSE of Boston, settled c 1670, set off from Abington 1875 Shoes are its main product The old Toll House (1709) is restored

Whitman College, at Walla Walla, Wash., nonsectarian, coeducational; chartered 1859, opened by Congregationalists as a seminary 1866, named for Marcus Whitman, became a college 1883 An affiliated music school has a music library which makes its books available throughout the Northwest. Whitman was the first college to adopt comprehensive senior examinations.

Whitman National Monument: see WHITMAN, MARCUS

Whitmire, town (pop 3,272), NW S C NW of Columbia and on the Enoree river, in a farm area It has cotton mills

Whitney, Asa (ă'sə), 1791–1874, American inventor and manufacturer, b Townsend, Mass A machinist (1830–33) with the Mohawk and Hudson RR, he became superintendent in 1833 In 1842 he and Matthias Baldwin became partners in the manufacture of locomotives in Philadelphia Whitney invented a process for annealing car wheels

Whitney, Asa, 1797–1872, American merchant and transcontinental railroad projector, b North Groton, Conn Before 1817 he entered the mercantile business in New York, acted as a foreign buyer for several years and then was (1842–44) a merchant in China Upon his return, he toured (1844–51) the United States, carrying on an extensive publicity campaign urging the construction of a railroad from Chicago to the Pacific, he also petitioned (1845) Congress in behalf of his plan Whitney's proposed route from Lake Michigan through South Pass to the Pacific was not accepted mainly because of the growing sectionalism before the Civil War He also presented in 1851 to the English an unsuccessful plan for a Canadian transcontinental railroad He retired in 1852, a decade before the U S Congress passed an act for the construction of a transcontinental railroad He wrote *National Railroad Connecting the Pacific* (1845) and *A Project for a Railroad to the Pacific* (1849) See M L Brown, *Asa Whitney and His Pacific Railroad Publicity Campaign* (1933)

Whitney, Eli, 1765–1825, American inventor of the COTTON GIN, b Westboro, Mass After graduating from Yale in 1792, he was a guest of Mrs Nathanael Greene at "Mulberry Grove," her plantation near Savannah, Ga There he was encouraged by Mrs Greene and visiting cotton planters to try to find some device by which the fiber of short-staple cotton could be rapidly separated from the seed Whitney, whose creative mechanical bent had been evident from boyhood, completed his model saw gin early in 1793, after about 10 days of work, and by April had built an improved gin With Phineas Miller, Mrs Greene's plantation manager (and later her husband), he formed a partnership to manufacture gins at New Haven He was unable to make enough gins to meet the demand, and although the partners received a patent in 1794, others copied his model and soon many gins were in use After much litigation the partners received (1807) a favorable decision to protect their patent, but Congress in 1812 denied Whitney's petition for its renewal His invention, which had immense economic and social effects, brought great wealth to many but little to himself In 1798 he built a firearms factory near New Haven The muskets his workmen made by methods comparable to those of modern mass industrial production were the first to have standardized, interchangeable parts See Roger Burlingame, *Whitney Boy the Story of Eli Whitney* (1941)

Whitney, Josiah Dwight, 1819–96, American geologist, b Northampton, Mass, grad Yale, 1839, studied abroad (1842–47), brother of W. D Whitney He took part in surveys of mineral lands in the Lake Superior region (1847–49) and later in Iowa, Illinois, and Wisconsin He was state geologist (1860–74) of California and was also professor of geology at Harvard from 1865 His field was economic geology, and his surveys made possible wiser exploitation of ore deposits Mt Whitney, the highest peak in the United States, is named in his honor He wrote *The Metallic Wealth of the United States* (1854), *The Climatic Changes of Later Geological Times* (1882), and several geological reports See biography by E T Brewster (1909)

Whitney, William Collins, 1841–1904, American financier and political leader, b Conway, Franklin Co, Mass, grad Yale, 1863, and Harvard Law School, 1865 He removed to New York city, became successful as a corporation lawyer, and was associated with various public-utility companies and traction interests He helped lead the fight which brought about the downfall of William Marcy TWEED and the election (1874) of Samuel J TILDEN as governor As city corporation counsel (1875–82) he helped save New York city much money Whitney, important in Democratic politics, served (1885–89) as Secretary of the Navy under President Grover Cleveland and secured legislation for the making of armor-plated war vessels In 1892 he supported Cleveland for the presidency, but in 1896 he refused to support William J Bryan He was a society leader and an outstanding sportsman See biography by M D Hirsch (1948)

Whitney, William Dwight, 1827–94, American Sanskrit scholar and lexicographer, b Northampton, Mass, grad Williams, 1845 After study in Germany, he was a professor of Sanskrit (after 1854) and of comparative philology (after 1870) at Yale Univ He was one of the most prominent of American Orientalists and philologists and wrote *A Sanskrit Grammar* (1879) and *Language and the Study of Language* (1867) He was also brilliantly successful as editor of *The Century Dictionary*

Whitney, Mount, peak, 14,495 ft high, E Calif, in the Sierra Nevada at the eastern border of Sequoia National Park The highest point in the United States proper, it is connected by scenic highway with Death Valley, the lowest point The peak is named for J D Whitney

Whitney Museum of American Art, in New York city, founded and incorporated in 1930 by Gertrude Vanderbilt Whitney for the furtherance of contemporary native art The museum building was opened to the public in 1931 The permanent collection contains over 700 oils, about 150 pieces of sculpture, and more than 500 water colors, as well as drawings and prints, the majority of these were purchased from living artists Regular loan shows are held, outstanding among them the annuals featuring the year's work in various media

Whitstable (hwĭt'stəbul), urban district (1931 pop 11,201, 1943 estimated pop 15,600), Kent, England, on the south shore of the Thames near the mouth of the Swale and NNW of Canterbury Whitstable oysters have long been famous

Whitsunday see PENTECOST

Whittier, John Greenleaf (hwĭt'ēər), 1807–92, American Quaker poet and reformer, b near Haverhill, Mass He received a scanty education but read widely A chance introduction to Burns's poetry inspired him to write verse, his first poems were published (1826) in the Newburyport *Free Press*, edited by William Lloyd Garrison, the abolitionist, who became his lifelong friend In the years 1828–32 Whittier edited and contributed to papers in Haverhill, Boston, and Hartford In his first two published books he was a pioneer in regional literature—*Legends of New-England* (1831) and *Moll Pitcher*, a poem (1832) He declared himself an abolitionist in 1833 in his pamphlet against slavery, *Justice and Expediency*, and went as a delegate to the unpopular national antislavery convention Although he served (1834–35) in the Massachusetts legislature, his considerable political power was thereafter used behind the scenes to further the abolitionist cause He was a crusading antislavery editor until 1840, when frail health forced him to retire to his Amesbury home, from there he sent out more of the poems and essays which made him a spokesman for the cause, and he was corresponding editor (1847–59) of the Washington abolitionist weekly, the *National Era* Whittier compiled and edited a number of works, the most entertaining being the semifictional *Leaves from Margaret Smith's Journal* (1849) The first authorized collection of his poems appeared in 1838, followed by *Lays of My Home* (1843), *Songs of Labor* (1850), and other volumes In 1857 he began contributing to the newly founded *Atlantic Monthly* From that year he published a series of volumes of verse which continued his delineation of New England life, history, and legend, the most notable being *Snow-bound* (1866), an idyllic picture of his boyhood home and the most famous of all his poems, other volumes are *The Tent on the Beach* (1867) and *Maud Muller* (1867) Such ballads as "Barbara Frietchie," "Marguerite," and "Skipper Ireson's Ride" and such perennial favorites as "The Barefoot Boy" and the moving war poem "Laus Deo" gave him popularity in his time second to none save perhaps Longfellow Of his nearly 100 hymns, the best known is *Dear Lord and Father of Mankind* See biographies by S T Pickard (1894), T W Higginson (1902), F C Sparhawk (1925), Whitman Bennett (1941), and J A Pollard (1949), bibliography by T F Currier (1937)

Whittier, city (pop 16,115), S Calif, ESE of Los Angeles, founded 1887 by Quakers, inc 1898 The area produces citrus fruits, dairy products, and oil Tools and steel products are manufactured Whittier College (coeducational, 1888) and a state school for boys are here

Whittingham, Charles (hwĭ'tĭngəm, hwĭ'tĭng-um), 1767–1840, English printer He established a printery in London in 1789, removing to Chiswick and founding the Chiswick Press in 1810 He was assisted in his work by his nephew, also named **Charles Whittingham,** 1795–1876, who succeeded him The printery returned to London in 1852 For the London publisher William Pickering the Chiswick Press printed admirable editions of many books Pickering used as his device the Anchor and Dolphin of Aldus Manutius, professing himself a disciple, the Pickering edition of the English poets was called "Aldine" Before establishing the Kelmscott Press, William Morris began his active association with printing by having *The Roots of the Mountains* printed for him at the Chiswick Press in 1889 The younger Whittingham in 1844 revived the use of Caslon's old-style type, long out of fashion and disused Its subsequent wholesome influence on typographic taste was revolutionary

Whittington, Richard, d 1423, mayor of London He first made his fortune as a mercer and then entered London politics to become successively councilman, alderman, sheriff, and finally (1397) lord mayor, an office to which he was elected three times His wealth added to the importance of his

position, and he frequently supplied large loans to Henry IV and to Henry V, who put him in charge of finances for the completion of Westminster Abbey His large fortune he left to charitable institutions The famous story of Dick Whittington and his cat is far removed from the actual life of the lord mayor, who was born the son of a knight in Gloucestershire The legend of the poor orphaned scullion who turned back from running away when he heard the prophetic notes of the Bow bells is first recorded in a play, not now extant, which was licensed in 1605. See *The History of Sir Richard Whittington* (ed by H B Wheatley, 1885), Walter Besant and James Rice, *Sir Richard Whittington* (1894)

Whittredge, Worthington (hwĭt'rĭj), 1820–1910, American landscape and portrait painter, b Springfield, Ohio. He studied in Düsseldorf and Rome and spent 10 years abroad and then opened a studio in New York city His work is among the best of the Hudson River school His paintings include *Evening in the Woods, Camp Meeting, Trout Pool* (Metropolitan Mus), and *Trout Brook in the Catskills* (Corcoran Gall). A member of the National Academy of Design after 1861, he was its president in 1875–76

Whitworth, Sir Joseph, 1803–87, English mechanical engineer and inventor Having won a reputation for precision in toolmaking, he designed for the government an army rifle with hexagonal bore and invented a method of making heavier guns with compressed steel He was influential in causing the adoption in Great Britain of a standardized screw thread (the Whitworth thread) In 1869 he was made a baronet He left large sums to engineering schools and to charity.

WHO: see WORLD HEALTH ORGANIZATION

whooping cough, infectious disease of the air passages common in babies and young children It is caused by a bacterium (*Hemophilus pertussis*), and the disease is sometimes called pertussis Symptoms develop from a few days to about two weeks after infection During the first 10 days to two weeks after the onset, the symptoms are very similar to those of a cold in the head or of bronchitis, during this time the disease is highly communicable During the second stage paroxysms of coughing are characteristic, a series of coughs in rapid succession are followed by an effort to draw in breath, which results in a "whoop" The child sometimes becomes blue in the face (cyanotic) The usual three or four weeks of the sickness may cause severe debilitation from fever, vomiting, and poor appetite Of several diseases occurring during the first two years of life, whooping cough is one of the most serious, there is danger of pneumonia as a complication A vaccine is used to immunize children against the disease and also to lessen the severity if the disease has been contracted

whortleberry: see BLUEBERRY and HUCKLEBERRY.

whymper, Edward (hwĭm'pûr), 1840–1911, English illustrator and mountain climber, b London Sent to Switzerland to make sketches, he became interested in mountaineering and in 1865, after six failures, climbed the hitherto unscaled Matterhorn His exploit ended in a fall which killed four of the party, a memorable disaster in the history of mountaineering He made expeditions to Greenland and later to South America, where he participated in the 1880s in the first ascents of Chimborazo (20,577 ft) and other major Andean peaks His best-known book is *Scrambles amongst the Alps* (1871, 4th ed , 1936). See biography by Francis S Smythe (1940).

whyte-Melville, George John, 1821–78, British novelist and sportsman He was an ardent fox hunter and became an acknowledged authority on the subject. His first novel, *Captain Digby Grand* (1853), and most of his succeeding novels were colored by his affection for sport and the chase *Songs and Verses* (1869) contains some vivacious verses. His works include *Tilbury Nogo* (1854), *Kate Coventry* (1856), *Holmby House* (1860), *The Gladiators* (1863), *Contraband* (1871), and *Black but Comely* (1879). His *Riding Recollections* appeared in 1878

Wiarton (wī'ûrtun), town (pop. 1,749), S Ont , on Georgian Bay and NW of Owen Sound It has lumbering, woodworking, and a government fish hatchery.

Wibert: see GUIBERT OF RAVENNA.

Wichita (wĭ'chĭtô), city (pop 114,966), co seat of Sedgwick co , S Kansas, at the confluence of the Arkansas and the Little Arkansas, inc 1871 It is the chief commercial and industrial center of S Kansas After the establishment here of a Wichita Indian village (1863–65) and a trading post (1864), the city was founded in 1868 by settlers serving the Chisholm Trail In 1872 the railroad was extended to Wichita, and the city boomed as a cow town After 1880 it became the trade center of an agricultural and livestock region The city has flour mills, meat-packing plants, stockyards, grain elevators, oil refineries, airplane factories (greatly expanded in the Second World War), and other industries There are fine parks, an art museum, a municipal forum, an airport, Lawrence Stadium, and other civic projects. Friends Univ. (coeducational, 1898) and the Municipal Univ. of Wichita (coeducational; 1892) are here.

Wichita Falls, city (pop. 45,112), co. seat of Wichita co , N Texas, on the Wichita, or Big Wichita, river and NW of Fort Worth; inc 1889. The first settlers seem to have come in the 1870s, and there was an early dispute over land grants, but the little town beside the now-vanished falls did not begin to grow until the railroad came in 1882. It was a shipping point for cattle ranches and, early in the 20th cent , for wheat It rose to dizzying prosperity with the development of oil fields in the county (see ELECTRA and BURKBURNETT) and was a boom town in 1918 Irrigation, promoted since before Holliday Creek was dammed in 1900 to make Lake Wichita just outside the city, advanced in the 1920s. The Wichita was dammed to make two reservoirs, Lake Kemp and Diversion Lake The city, green with parks and neat with wide streets and clean buildings, lives on a balance of agriculture, oil, and ranching It has much commerce and a number of industries—oil refineries, foundries, factories making machinery and oil-well supplies, flour mills, chemical plants relying on oil, glassworks, and various other establishments Hardin College (junior) is municipally owned At Wichita Falls is a state mental hospital.

Wichita Indians, tribe of North American Indians of Caddoan linguistic stock They formerly occupied central Kansas and ranged into Oklahoma and Texas The Wichita probably were the people of Quivira, which Francisco Coronado visited in 1541 If so, Juan de Padilla, left by the expedition to undertake the Christianization of the Indians, was the earliest missionary among the Plains Indians Padilla, however, was killed by the Indians three years later In 1662 the Wichita were defeated by Diego Dionisio de Peñalosa By 1765 they had a village on the north fork of the Red River in Oklahoma Following a severe smallpox epidemic (it reduced them to some 2,500), they abandoned the village, moving to the present site of Fort Sill, later still they moved farther, and in the Civil War they removed for a time to Wichita, Kansas In 1872 they ceded all their lands to the United States Later they were settled on a reservation in W Oklahoma, there they number some 450 In culture the Wichita were "village" Indians of the Plains area, like their relatives the Pawnee The French called the Wichita *Panis pigues*, or Pawnee Picts, because the Wichita practiced tattooing The distinctive cultural mark of the Wichita was the conical grass house, which resembled a haystack They had a "horn dance" for agricultural fertility, and in later years they adopted the ghost dance See George Dorsey, *Mythology of the Wichita* (1904)

Wichita Mountains, low granite range in SW Oklahoma

Wick, burgh (pop 7,548), county town of Caithness, Scotland, at the mouth of the Wick river on Wick Bay, an inlet of N Moray Firth It includes Louisburgh and Pulteneytown Wick is a headquarters of herring fishing, exports farm produce, and has wool-weaving works "The Old Man of Wick" is the tower of an old castle to the south

Wickard, Claude Raymond (wĭ'kurd), 1893–, U.S Secretary of Agriculture (1940–45), b Carroll co , Ind , grad Purdue, 1915 A successful farmer, he was called to Washington in 1933 to become an official in the Agricultural Adjustment Administration In Feb , 1940, he became Undersecretary of Agriculture When Henry A Wallace resigned as Secretary, Wickard succeeded him and took charge of the nation's food program in the Second World War In 1945 Wickard resigned and became head of the Rural Electrification Administration.

Wickenburg, town (pop 995), S central Ariz , NW of Phoenix Founded after gold was discovered (1864), it was long a mining town but is today notable for the many dude ranches near by

Wickersham, George Woodward, 1858–1936, American lawyer and government official, b Pittsburgh, grad Univ of Pennsylvania law school, 1880 He began law practice in Philadelphia, and after moving (1892) to New York city, he became a prominent corporation lawyer As U S Attorney General (1909–13) under President W H Taft, he successfully prosecuted many corporations under the Sherman Anti-Trust Act. His book, *The Changing Order* (1914), deals with monopolies. He was in 1919 a member of the Industrial Conference Board, and after he was appointed (1924) by the League of Nations to help codify international law, Wickersham was (1925–26) a member of the committee to reorganize the New York state government In 1929 he was appointed by President Herbert Hoover to head the National Commission on Law Observance and Law Enforcement, which came to be called the Wickersham Commission The commission, which studied the Federal machinery of justice, concluded in its report of 1931 that the machinery for enforcing criminal law in the United States was inadequate and that facilities for the regulation of prohibition had considerably deteriorated.

Wickford, residential village (pop. 1,139) in North Kingstown, S R.I.; settled soon after 1650. Its 18th-century buildings include St. Paul's Episcopal Church. A state lobster hatchery is here.

Wickham, William of: see WILLIAM OF WYKEHAM.

wickiup (wĭ'kĕŭp"), dwelling of North American Indians. It is a framework of arched poles covered by brush, bark, rushes, or mats. The wickiup is found among tribes in Arizona, New Mexico, Utah, Idaho, and California Sometimes the dwellings of nomadic or seminomadic tribes there are called wickiups even when made of more permanent materials The name is also spelled wikiup.

Wickliffe, John: see WYCLIF, JOHN.

Wickliffe (wĭ'klĭf) 1 Town (pop 1,039), co. seat of Ballard co , SW Ky , at the confluence of the Ohio and the Mississippi WSW of Paducah, in an area of clay pits, timber, and farms. A buried Indian city near by has yielded much valuable material. 2 Village (pop. 3,155), NE Ohio, near Cleveland; inc. 1916.

Wicklow (wĭ'klō), maritime county (782 sq. mi ; pop 60,451), E Ireland, in Leinster The county town is Wicklow. The Wicklow Mts. and their foothills occupy almost the entire area of the county. Lugnaquilla (3,039 ft) is the highest peak There are numerous lakes and picturesque glens (Glendalough, Avoca, Glen of the Downs, and Glenmalure) The Liffey and the Slaney rivers rise in Wicklow. The region is chiefly devoted to cattle grazing Granite and slate are quarried. The proximity to Dublin makes the region a popular one with tourists The people of the mountainous district were long able to maintain their independence of English control, and Wicklow was not organized as a shire until 1606

Wicklow, urban district (pop 3,197), county town of Co Wicklow, Ireland, on the Irish Sea and SSE of Dublin. It is a seaport and market for an area of potato growing and cattle and sheep raising.

Wiclif, John: see WYCLIF, JOHN

Widdemer, Margaret (wĭ'dĭmûr), 1880–, American poet and novelist, b. Doylestown, Pa Her first published poem, "The Factories," on child labor, was widely quoted Other books of verse are *Old Road to Paradise* (1918), *Collected Poems* (1928), and *Hill Garden* (1937) Besides many short stories she has written novels, which include *The Rose Garden Husband* (1915), *Gallant Lady* (1926), and *Constantia Herself* (1945)

Widener, Peter Arrell Brown (wĭd'nur), 1834–1915, American financier and philanthropist, b Philadelphia He made a moderate fortune in the meat business and became active in local Republican politics With W L Elkins he invested heavily in Philadelphia street railways, the two eventually controlled all in the city Their investments were extended to Chicago, Baltimore, and other cities, but attempts to dominate New York city transit failed His gifts to the city of Philadelphia included his handsome art collection A grandson, **Harry Elkins Widener,** 1885–1912, b Philadelphia, grad Harvard, 1907, became an eminent bibliophile He had the greatest Robert Louis Stevenson collection in existence After his death on the *Titanic* his library went by will to Harvard Univ , where it is installed with other collections in the Harry Elkins Widener Memorial Library, given by his mother

Widnes (wĭd'nĭs), municipal borough (1931 pop 40,619; 1947 estimated pop 46,840), Lancashire, England, on the Mersey opposite Runcorn and SE of Liverpool. It is of modern growth and manufactures paints, soap, chemicals, and steel goods

Widor, Charles Marie (sharl' mârē' vôdôr'), 1845–1937, French organist and composer. He was organist at St Sulpice from 1870 until his retirement in 1934 In 1890 he succeeded César Franck as professor of organ at the Paris Conservatoire and later became also professor of composition there Chief among his compositions are 10 symphonies for organ He composed operas, chamber music, orchestral suites, and piano concertos as well He published a supplement to Berlioz's treatise on orchestration and, with Albert Schweitzer, an edition of the organ works of Bach

Widsith (wĭd'sĭth), 7th-century Anglo-Saxon poem of 143 lines, preserved in the EXETER BOOK It describes the travels of an ideal Germanic minstrel and the kings and royal courts which he visited The many chronological discrepancies make it certain that it is not a record of actual experience See edition by Kemp Malone (1936)

Widukind (wĭ'dōōkĭnd) or **Wittekind** (wĭ'tukĭnd), 8th cent , leader of the Saxons against Charlemagne When Charlemagne, in 782, made refusal to submit to baptism a capital offense, the pagan Saxons resumed warfare against the Franks, and Widukind called the Slavic Wends to his aid. In the course of the war, Charlemagne is said to have ordered the massacre of 4,500 Saxon prisoners (783), but the Saxons fought on all the more fiercely. In 785 Charlemagne offered Widukind a safe-conduct in order to negotiate peace. Widukind met the emperor and accepted baptism; the Saxons were speedily subdued

Wiedemann, Gustav Heinrich (gōōs'täf hĭn'rĭkh vē'dümän), 1826–99, German physicist and chemist. He was professor at the Univ. of Leipsig from 1871 and succeeded (1877) J. C. Poggendorff

as editor of *Annalen der Physik und Chemie*. He investigated electricity and magnetism and discovered the Wiedemann effect, the twisting which occurs in a straight wire magnetized by the passage of an electric current.

Wieland, Christoph Martin (krĭs'tôf mär'tēn vē'länt), 1733–1813, German poet and author. He was at various times a civil servant, a professor at Erfurt, and a tutor to Charles Augustus of Saxe-Weimar; he founded and edited the *Teutsche Merkur* (1773–1810). From a pious poet he became a freethinker and was called the German Voltaire. Versatile and fertile, he exerted a powerful influence upon the course of German literature and may be said to have paved the way for the golden age that followed him. He defined the *Novelle*, or short prose narrative, and his services to literature include translations of Shakspere which, though not first-rate, did much to extend German understanding of that poet. His satirical representations of modern life under the guise of picturing ancient life entitle him to a high literary position. Among his best-known works are the cultural romance, *Geschichte des Agathon* (1766; Eng tr., *The History of Agathon* 1773), the verse narrative *Musarion* (1768); the satirical romance *Die Abderiten* (1774, Eng tr., *The Republic of Fools*, 1861), and his masterpiece, the epic *Oberon* (1780, Eng tr., 1798), in which his brilliance, lightness, and wit are shown at their best and which was the source of Weber's opera. Wieland's collected works (1818–28) fill 53 volumes.

Wieland, George Reber (wē'lŭnd), 1865–, American paleobotanist, b. Boalsburg, Pa., grad. Pennsylvania State College (B.S., 1893), Ph.D. Yale, 1900. From 1898 he taught at Yale. He acquired and gave to the government the site of the fossil cycad petrified forest which is now Fossil Cycad National Monument, South Dakota.

Wieland, Heinrich (hĭn'rĭkh vē'länt), 1877–, German chemist. He became professor and director of the chemical laboratories at the Univ. of Munich in 1925. For his study of acids in bile he received the 1927 Nobel Prize in Chemistry. He is noted also for his research on biological oxidation.

Wieliczka (vyĕlēch'kä), town (pop. 8,191), S Poland, 8 mi. SE of Cracow. Its salt mines, which have been worked since the 11th cent., are estimated to contain 2,000,000 tons of salt and include impressively carved chambers and chapels.

Wien, Wilhelm (vĭl'hĕlm vēn'), 1864–1928, German physicist. He was professor at the universities of Giessen (1899), Würzburg (1900–20), and Munich (from 1920). He received the 1911 Nobel Prize in Physics for his studies on the laws of heat radiation, he is noted also for his work on hydrodynamics, X rays, and the radiation of light and of electricity.

Wien, Austria: see VIENNA.

Wiener Neustadt (vē'nur noi'shtät), city (pop. 31,894), Lower Austria, 25 mi. S of Vienna. An important rail and industrial center, it has manufactures of locomotives and machinery. It was the birthplace of Maximilian I. The castle of the Babenbergs, dukes of Austria, built in 1192, became a military academy in 1752. The city was heavily damaged by air attacks in the Second World War.

Wiener Wald (vē'nŭr vält') [Ger., = Vienna forest], forested range, Lower Austria, W of Vienna. An outher of the Eastern Alps, it rises to 2,930 ft. in the Schöpfl. The best-known summit, however, is the KAHLENBERG, near Vienna. The beautiful forests, streams, and hills of the Wiener Wald have made it a favorite excursion area for the Viennese.

Wieniawski, Henri (vyĕnyäf'skē), 1835–80, Polish violinist and composer. After a series of European tours he was appointed (1860) court violinist to the tsar. He taught at the St. Petersburg Conservatory, 1862–69. Wieniawski toured the United States with Anton Rubinstein, 1872–73, and in 1874 succeeded Henri Vieuxtemps at the Brussels Conservatory. He composed two violin concertos and some salon pieces. His brother, **Joseph Wieniawski**, 1837–1912, was a noted pianist, a pupil of Liszt. He taught at the conservatories of Moscow and Brussels. The brothers made concert appearances together.

Wiertz, Antoine Joseph (ätwän' shōzĕf' vērts'), 1806–65, Belgian historical painter. He enjoyed such prestige that the government built him a studio in Antwerp, now the Wiertz Museum. He delighted in painting complicated, philosophical subjects and scenes from ancient history. Wiertz invented a type of mat painting and wrote a memoir on Flemish painting.

Wierzynski, Casimir, Pol. *Kazimierz Wierzyński* (käzhĭ'myĕsh vyĕzhĭ'nyŭskē), 1894–, Polish poet, editor, and reviewer. After serving in the First World War, he edited a sports magazine and then became dramatic reviewer for a newspaper. His *Olympic Laurel* won an international poetry prize in 1927. *Forgotten Battlefield* was translated into English (1944).

Wiesbaden (vēs'bä"dŭn, vĭs'–) city (pop. 105,953; with suburbs 188,370), capital of Hesse, W Germany, in former Hesse-Nassau, on the right bank of the Rhine and at the foot of the Taunus. It is one of the most famous watering places of Europe, with saline springs known since Roman times. It also is a trade center for Rhine wines, and it manufactures metal goods, chemicals, plastics, pharmaceuticals, and textiles. A Celtic settlement dating from the 3d cent. B.C., Wiesbaden (Latin *Aquae Mattiacorum*) became a Roman watering place; there are remains of the Roman water conduits and walls. It was chartered in the 13th cent. In 1866 it passed with the duchy of Nassau—of which it was the capital—to Prussia. After the First World War, Wiesbaden was occupied by French and later by British troops and was the seat (1918–29) of the Allied Rhineland Commission. The handsome city was more than half destroyed in the Second World War. Among the ruins are the ducal castle (19th cent.), the Kurhaus, and the theater. After the war Wiesbaden was made the capital of Hesse.

Wieser, Friedrich von (frē'drĭkh fŭn vē'zŭr), 1851–1925, Austrian economist and sociologist. He is noted for his formulas applying the principle of marginal utility to cost phenomena. He taught at Prague (1884–1903) and Vienna (1903–17, 1919–22) and served (1917–18) as Austrian secretary of commerce. His works include *Der natürliche Wert* (1889, [Eng tr., *Natural Value*, 1893) and *Theorie der gesellschaftlichen Wirtschaft* (1914, Eng tr., *Social Economics*, 1927).

wife: see HUSBAND AND WIFE and MARRIAGE.

wig, shortened form of periwig, an arrangement of artificial hair worn to conceal baldness, as a disguise, or as part of a costume, either theatrical, ceremonial, or merely fashionable. Wigs were used in ancient Egypt, Greece, and Rome. The Egyptians particularly wore ingenious hair structures and, on occasions, artificial beards. Caesar is said to have worn first a laurel wreath and later a wig to conceal his baldness. Roman ladies had wigs of the light hair which they admired, many of them made from the bright locks of captives. Ancient theatrical wigs and masks were highly significant, symbolic, and traditional. In Greek tragedy, black hair denoted the villain, fair, the hero. In early mystery plays the wigs and headdress were symbolic. The wig, important in fashionable European costume from the middle of the 16th cent. into the 18th, for both men and women, survives in England in the official dress of the lord chancellor, the speaker of the House of Commons, judges, barristers, and bishops. The fashion took its rise in France, in the court of Louis XIII, who was bald. In England the peruke was general among the cavaliers of Charles II's reign. The bagwig, holding up the back hair, was worn in the 18th cent. The best of modern wigs, toupees, and transformations are made of human hair. Theatrical wigs are generally made of goat or other animal hair.

Wigan (wĭg'un), county borough (1931 pop. 85,357, 1947 estimated pop. 85,200), Lancashire, England, on the Douglas and S of Preston. It is thought to be the site of the Roman station Coccium. The fine Church of All Saints has a Norman tower. Mab's Cross, Standishgate, is mentioned by Scott in *The Betrothed*. Wigan was taken by parliamentarians in 1643 and in 1651 and was visited by Cromwell in 1648 and by Prince Charles Edward in 1745. There are coal mines in the vicinity and the borough has cotton factories, engineering and machinery plants, and other industries. It was long noted for the manufacture of pottery and pewter and for bell founding.

Wiggin, Kate Douglas (Smith), 1856–1923, American author and educator, b. Philadelphia. Her childhood was spent in Maine. She organized the first free kindergartens on the Pacific coast (1878) and with her sister established a training school for kindergarten teachers. As part of her teaching career she wrote her first book, *The Story of Patsy* (1883). The most popular among her many later works for children were *The Birds' Christmas Carol* (1887), *Timothy's Quest* (1890), *Rebecca of Sunnybrook Farm* (1903), and *Mother Carey's Chickens* (1911). She married in 1881 Samuel B. Wiggin (d. 1889) and in 1895 George C. Riggs. See her autobiography, *My Garden of Memory* (1923), biography by her sister, Nora A. Smith (1925).

Wiggins, Carleton, 1848–1932, American cattle and landscape painter, b. Orange co., N.Y. His work shows the influence of his teacher, George Inness. Among his paintings are *A Young Holstein Bull* (Metropolitan Mus.), *Sheep and Landscape* (Brooklyn, N.Y., Mus.), *Evening after the Shower* (National Gall. of Art, Washington, D.C.), and *The Plow Horse* (Lotos Club, New York). He became a member of the National Academy of Design in 1906. His son, **Guy Carleton Wiggins,** 1883–, b. Brooklyn, N.Y., is a painter chiefly of New York street scenes. His works include *Metropolitan Tower* (Metropolitan Mus.), *Berkshire Hills, June* (Brooklyn Mus.), and *Columbus Circle, Winter* (National Gall. of Art, Washington, D.C.).

Wiggins, town (pop. 1,141), co. seat of Stone co., SE Miss., N of Gulfport, in a farm area.

Wigglesworth, Michael, 1631–1705, American clergyman and poet, b. England, grad. Harvard, 1651. He was brought to New England in 1638. A devoted minister at Malden, Mass., he also practiced medicine and wrote didactic poetry. His *Day of Doom* (1662?), Calvinistic theology in ballad meter, was extremely popular and was followed by *God's Controversy with New England* (written c.1662, printed 1873), *Meat Out of the Eater* (1670), and lesser writings. In 1663 he spent seven months in Bermuda for his health and all his life was handicapped by illness. See *The Day of Doom* (ed. by K.B. Murdock, 1929), memoir by J.W. Dean (2d ed., 1871).

Wight, Isle of (wīt), island (147 sq. mi., 1948 estimated pop. 93,640), off Hampshire, S England. It is separated from the mainland of HAMPSHIRE by the waters of the Solent and the Spithead. The island is 23 mi. long from the eastern foreland to the Needles (detached chalk formations at the western extremity) and 13 mi. wide. The Medina, which almost bisects the island, and the East and the West Yar are the chief rivers. Numerous small streams on the southern coast have cut a series of picturesque gullies in the soft rock. The climate is mild, and the scenery, as a result of the contrasting geological strata, is varied. Pleasant villages, such as Sandown-Shanklin, and a beautiful coast line make the island popular as a winter resort. Sheep raising and dairy farming are the chief occupations. The island was conquered by the Romans in A.D. 43 and settled later by the Jutes. It was annexed to the kingdom of Wessex in 661 and Christianized c. 700. The Isle of Wight was the headquarters of the Danes at the end of the 10th cent. William the Conqueror bestowed the lordship of the island on William Fitz-Osbern, and in 1293 it reverted to the crown. At Carisbrooke Castle, now in ruins, King Charles I was imprisoned (1647–48). In 1888 the island was established as a separate administrative county (administrative center, Newport). Queen Victoria's seaside home, Osborne House, is near the famous yachting center at Cowes on the northern side of the island, and Tennyson spent his later years at Freshwater.

Wigman, Mary, 1886–, German dancer. Her teachers were JAQUES-DALCROZE and Rudolph von Laban. According to her theory, movement that is *Tanz als Tanz*, or dance for its own sake, must evolve from emotion. Music for her dances was composed as the dance was created or after it had been created, and often she danced without musical accompaniment. Her abrupt, angular, and intense style was seen in *The Seven Dances of Life*, *Monotony*, and *Swinging Landscape*, which she composed. She established schools in Berlin and Dresden, and her work had a strong influence on the modern dance.

Wigmore, John Henry, 1863–1943, American jurist and legal educator, b. San Francisco, grad. Harvard (B.A., 1883, M.A. and LL.B., 1887). He taught (1889–92) Anglo-American law at Keio-Gijuku Univ., Tokyo. After 1893 he was a professor of law at Northwestern Univ., from 1901 to 1929 he was dean of the law faculty. Wigmore is especially noted for his monumental work usually known as *Treatise on Evidence* (4 vols., 1904, 3d ed., 10 vols., 1940). This work is at the same time a lawyer's manual of practice and an incisive and highly critical survey of the law of evidence. His shorter works on evidence include books usually cited as *The Code of Evidence* (3d ed., 1942) and *Students' Textbook of Evidence* (1935). Out of Wigmore's interest in comparative law came his *Panorama of the World's Legal Systems* (3 vols., 1928; reissued 3 vols. in 1, 1936).

Wigtown, county, Scotland: see WIGTOWNSHIRE.

Wigtown (wĭg'tun, –toun), burgh (pop. 1,261), county town of Wigtownshire, Scotland, on the west side of Wigtown Bay, an inlet of the Irish Sea, between Wigtownshire and Kirkcudbrightshire. The Martyrs' Memorial commemorates the drowning (1685) of two Covenanters.

Wigtownshire (wĭg'tunshĭr) or **Wigtown** (wĭg'tun), county (487 sq. mi., 1931 pop. 29,331, 1948 estimated pop. 32,120), SW Scotland, consisting of the western part of GALLOWAY. The county town is Wigtown. The coastline is irregular, and there are numerous lakes. The peninsula set off by Loch Ryan and Luce Bay is called the Rhinns of Galloway. Much of the county is hilly moorland, but the arable land (about half the area) is well cultivated. Agriculture is almost the sole industry. Sheep, cattle, and pigs are raised. Vestiges of early occupation include hill forts, standing stones, and Pictish crannogs. Portpatrick and Stranraer handle traffic to and from Northern Ireland.

wigwam (wĭg'wŏm), dwelling found among the Algonquian Indians of the Eastern Woodlands area of the United States. The wigwam was usually conical, arborlike, or domed. Some were small, accommodating a single family, others were large communal dwellings. They were covered with squares of bark, with reed mats, or with thatch. Sometimes the word is extended to mean almost all Indian habitations, including the earth lodge and sometimes even the tepee and the wickiup.

Wijnants, Jan: see WYNANTS, JAN.

Wiju, Korea: see SINUIJU.

Wilamowitz-Möllendorff, Ulrich von (ōōl'rĭkh fŭn vĭlämō'vĭts-mö'lündôrf), 1848–1931, German classical scholar He was professor at the universities of Greifswald (1876–83), Gottingen (1883–97), and Berlin (1897–1922). He was a prolific commentator and critic on a wide variety of subjects dealing with Greek antiquity, notably on Timotheus, Callimachus, Euripides, and Pindar

Wilber, city (pop 1,355), co seat of Saline co, SE Nebr, SSW of Lincoln, platted 1873, inc. 1879

Wilberforce, Samuel (wĭl'bŭrfôrs), 1805–73, English prelate, son of William Wilberforce From 1830 he served successively as a rector in the Isle of Wight, archdeacon of Surrey, and canon of Winchester until in 1845 he became bishop of Oxford He did not support the Oxford movement, he attempted to hold a middle course between the High Church and Low Church factions As a signer of the remonstrance against the appointment of R D Hampden to the bishopric of Hereford and as a participant in other controversies he was at times an unpopular figure, sometimes referred to as "Soapy Sam" A man of oratorical powers and of marked administrative ability, Bishop Wilberforce greatly improved the organization of his diocese and was instrumental in restoring to the English church convocations some of their earlier ecclesiastical authority In 1869, through Gladstone's influence, he was made bishop of Winchester With his brother Robert he wrote a biography (1838) of his father, his other works include *Agathos and Other Sunday Stories* (1839) and *History of the Protestant Episcopal Church in America* (1844) See biography by A R Ashwell and R G Wilberforce (3 vols., 1880–82)

Wilberforce, William, 1759–1833, British statesman and humanitarian He was elected to Parliament in 1780 and during the campaign formed a lifelong friendship with William Pitt, the younger, whose measures he generally supported in the House of Commons In 1784, during a tour of the Continent, he became converted to evangelicism—a decision which affected his entire outlook and public conduct, causing him to withdraw from gay society and even to consider giving up politics A few months later, however, he ended his seclusion and returned to Parliament At this time Wilberforce became interested in the rising abolition movement and with Thomas CLARKSON and others joined in the campaign for the abolition of the slave trade They finally secured the passage of a bill abolishing it in 1807 Thereafter his efforts were directed toward universal abolition of slavery, the bill was passed a month after his death Wilberforce always identified himself with the cause of reform, supporting parliamentary reform and Catholic Emancipation He wrote *A Practical View of the Prevailing Religious System of Professed Christians* (1797), a work which enjoyed wide popularity both in England and on the Continent See his correspondence (1840), biographies by R I Wilberforce and Samuel Wilberforce (1838) and Reginald Coupland (2d ed, 1945)

Wilberforce University, at Wilberforce, Ohio, near Xenia, Negro, partly state supported, coeducational, chartered and opened 1856 by Methodists Bought by the African Methodist Episcopal Church in 1863, Wilberforce Univ absorbed Union Seminary (opened 1847) It has colleges of education and of liberal arts, a theological seminary, a school of vocations, and a high school Both university and town (a Negro cultural center) were named for William Wilberforce

Wilbraham (wĭl'brŭhăm), town (pop 3,041), S Mass, settled 1730, set off from Springfield 1763 It produces paper. Wilbraham Academy for boys is here, and the town has a state game farm

Wilbur, Curtis Dwight, 1867–, American public official, b Boone co, Iowa, grad Annapolis, 1888, brother of Ray Lyman Wilbur He resigned from the navy in 1888 and began (1890) law practice in Los Angeles After he was (1903–18) county judge, he became associate justice (1919) and chief justice (1922) of the California supreme court, but resigned to serve as U S Secretary of the Navy (1924–29) Wilbur was (1929–1945) a U S circuit court judge

Wilbur, John, 1774–1856, American Quaker leader, b Hopkinton, R I He became the leader of the opposition to the evangelical principles of J B Gurney and Elias HICKS, and his disownment (1843) resulted in setting up a new New England Yearly Meeting His followers were called Wilburites See FRIENDS, SOCIETY OF See Rufus Jones, *The Later Periods of Quakerism* (1921)

Wilbur, Ray Lyman, 1875–1949, American public official and college president, b Boone co, Iowa, grad Stanford (B A, 1896, M A, 1897) and Cooper Medical College, San Francisco, 1899 After studying medicine abroad, Wilbur became a professor (1909–16) and dean (1911–16) of the medical school at Stanford Univ In 1916 he became president of Stanford In the First World War he served with the U S Food Administration and was (1929–33) Secretary of the Interior under President Herbert Hoover He retired as college president in 1943 *The March of Medicine* (1938) and *Human Hopes* (1940) are collections of his speeches and writings.

Wilbur, town (pop 1,011), E central Wash., NW of Spokane, in a wheat area, settled 1884.

Wilburton (wĭl'bŭrtun), city (pop. 1,925), co. seat of Latimer co, SE Okla, near the Ouachita Mts; settled 1890, inc 1902. It is a cattle and coal-mining center. Near by are a state park and a junior college, an Indian settlement project, and a colony of veterans of the Spanish-American War

Wilbye, John (wĭl'bē), 1574–1638, English madrigal composer, considered by some the outstanding English madrigalist of his time Extant only are two sets of his madrigals (1598, 1609)

Wilcox, Ella Wheeler, 1855–1919, American poet and journalist, b near Janesville, Wis Throughout her life she was a prolific contributor to periodicals For some years she wrote for the Hearst newspapers in New York, and her work was widely syndicated Her *Poems of Passion* (1883) and *Poems of Pleasure* (1888) were very popular See Jenny Ballou, *Period Piece* (1940)

Wild, Jonathan, 1683–1725, English criminal. He maintained a highly organized gang of thieves and long escaped punishment by posing as an instrument of justice and helping the authorities catch other criminals independent of, or rebellious to, his control He planned robberies and then secured rewards for helping owners recover "lost" property His thriving business required warehouses, branch offices, artisans to make alterations, and a vessel for trade with the Continent Long evading the law against receivers of stolen goods, he was finally convicted (1725) of receiving a reward for returning some stolen lace and was hanged at Tyburn Literary accounts of Wild's career, like those of Fielding and Defoe, are partly fiction See W R. Irwin, *The Making of Jonathan Wild* (1941)

wild allspice see SPICEBUSH.

wild canary see GOLDFINCH

wild carrot or **Queen Anne's lace,** plant (*Daucus carota*) usually biennial, from which the cultivated CARROT is considered to have been derived It is native to Europe and Asia but is naturalized and often weedy throughout North America The foliage is feathery, the root woody, and the tiny white flowers are in a lacy, flat-topped cluster until they wither, when the cluster becomes nest shaped—whence another of its names, bird's-nest The plant was formerly used as a diuretic and stimulant

wildcat see BOBCAT

wild cherry see CHERRY

Wilde, Oscar (Oscar Fingall O'Flahertie Wills Wilde) (wĭld), 1854–1900, British author and wit, b Dublin He studied at Trinity College, Dublin, and at Oxford, where the aesthetic teachings of Walter Pater and John Ruskin especially appealed to him, and he distinguished himself both for scholarship and for eccentricity in dress, tastes, and manners Because of his conspicuous activities he was satirized with other exponents of "art for art's sake" in *Punch* and in Gilbert and Sullivan's opera *Patience* In 1881 his *Poems* appeared He lectured in the United States in 1882 and had his drama *Vera* produced in New York in 1883 In 1884 he married and began writing for and editing periodicals Two collections of his fairy tales appeared, *The Happy Prince* (1888) and *A House of Pomegranates* (1891) His versatility was demonstrated in 1891 in four very different works—*Lord Arthur Savile's Crime and Other Stories*, essays on his theories of art in *Intentions*, the production of *The Duchess of Padua*, a verse tragedy, in New York, and *The Picture of Dorian Gray*, a novel said to epitomize the decadence in his period His talent for witty drawing-room comedy was displayed in *Lady Windermere's Fan* (1892), *A Woman of No Importance* (1893), *An Ideal Husband* (1895), and *The Importance of Being Earnest* (1895) A London production of his *Salomé* by Sarah Bernhardt was refused a license, the play was published in France in 1893 and its English translation in 1894 In 1895 Wilde brought action for libel against the marquess of Queensberry, who had objected to Wilde's friendship with his son, Lord Alfred Douglas Wilde soon dropped the suit, but information brought out at that trial was later used to convict him of immoral conduct He was sent to prison in 1895, and his experiences there inspired his most famous poem, *The Ballad of Reading Gaol* (1898), and the apologia published by his literary executor as *De Profundis* (1905) Released in 1897, he took the name Sebastian Melmoth and lived in France until his death Condemnation of Wilde's personal life has not prevented general recognition of his talent for witty and paradoxical, though hardly profound, writing See biographies by R H Sherard (1906, 1928) and Hesketh Pearson (1946), critical studies by Arthur Ransome (1912), Arthur Symons (1930), and Vincent O'Sullivan (1936)

Wildenbruch, Ernst von (ĕrnst' fŭn vĭl'dunbrōōkh), 1845–1909, German dramatist and novelist His father was a natural son of Prince Louis Ferdinand of Prussia, a Hohenzollern Wildenbruch traveled widely as a boy, fought in 1866 and 1870, studied law, and became an official, later a member of the foreign ministry. His work includes verse, plays, novels, and tales, the last possibly his best work The range of his subjects is wide, with the historical and patriotic predominating. His masterpiece is the double historical drama, *Heinrich und Heinrichs Geschlecht* (1895; Eng tr of Part I, *King Henry*, 1913–15), a play of rhetorical splendor and brilliance Very popular was *Die Rabensteinerin* (1907, Eng tr, *Barseba of Rabenstein*, 1909) His stories include *Der Meister von Tanagra* (1880, Eng. tr, *The Master of Tanagra*, 1886), *Kindertränen* [children's tears] (1883, Eng tr of one story, "The Captain's Last Child," 1909), and *Neid* (1900, Eng tr, *Envy*, 1921) Among his novels are *Das wandernde Licht* [the wandering light] (1893) and *Schwester-Seele* [sister souls] (1894) He was also a productive lyric poet.

Wildenvey, Herman (hĕr'man vĭl'dünvā), 1886–, Norwegian poet, whose family name is Portaas (pôr'tŏs) He has developed a verse line that is particularly suitable to lighter and gayer subjects, and most of his poetry is concerned with youth and beauty Among his collected verse are the volumes *Caresse* (1916), *The Lyre of Autumn* (1931), and *Palomele* (1946)

Wilder, Harris Hawthorne (wĭl'dur), 1864–1928, American zoologist, b Bangor, Maine, grad Amherst (B A, 1886), Ph D Univ of Freiburg, Baden, 1891 He was professor of zoology at Smith College from 1892 His researches were mainly in comparative anatomy, especially with reference to the evolution of vertebrates His works include *Man's Prehistoric Past* (1923), *The Pedigree of the Human Race* (1926), and the autobiographical *Early Years of a Zoologist* (1930)

Wilder, Marshall Pinckney, 1798–1886, American merchant and horticulturist, b Cheshire co, N H He introduced new fruits and flowers and hybridized many plants At his Dorchester, Mass, farm he tested about 1,000 varieties of pears Wilder helped found and held office in the American Pomological Society and the U S Agricultural Society He was active in establishing the Massachusetts Institute of Technology

Wilder, Thornton (Thornton Niven Wilder), 1897–, American author, b Madison, Wis, grad Yale, 1920, and studied at the American Academy in Rome He spent part of his youth in China From 1921 until 1928 he was a teacher in the Lawrenceville School and from 1930 until 1936 taught at the Univ of Chicago His first novel, *The Cabala* (1926), attracted some attention, and *The Bridge of San Luis Rey* (1927) won the 1928 Pulitzer Prize in fiction The plays *Our Town* (1938) and *The Skin of Our Teeth* (1942) won respectively the 1938 and 1943 Pulitzer prizes in drama Other works include *The Long Christmas Dinner and Other Plays in One Act* (1931) and the novels *The Woman of Andros* (1930), *Heaven's My Destination* (1934), and *The Ides of March* (1948), a story of Julius Caesar Whatever his literary form his plots are ingenious and his style polished

Wilderness campaign, May–June, 1864, of the Civil War After the GETTYSBURG CAMPAIGN, the Union Army of the Potomac under G G MEADE entered on no decisive campaign until early May, 1864 Then the Northern commander in chief, U S GRANT, led Meade's army across the Rapidan river into the Wilderness, a wild and tangled woodland c 10 mi W of Fredericksburg Grant planned to clear the Wilderness before trying to destroy the smaller Confederate Army of Northern Virginia under R E LEE But Lee advanced on the Federals while they were still in that area, causing Grant to face about and order an attack The nature of the terrain made the battle of the Wilderness (May 5–6, 1864) a disjointed but sanguinary fight After the repulse of a Union attack on May 6 through the opportune arrival of the 1st Corps under James Longstreet, Lee counterattacked, and the battle became stabilized Grant then pushed ahead by Lee's right, pointing for Spotsylvania Courthouse, c 12 mi to the southeast Lee, anticipating the move, was soon entrenched there In the battle of Spotsylvania Courthouse (May 8–19, 1864), Grant unsuccessfully hammered away at the Confederate lines The bloodiest fighting of this battle occurred on May 12 when the Union assault on the salient forming the Confederate center (the Bloody Angle) was repulsed after initial success Lee confronted Grant's next move from a position S of the North Anna river, so impregnable that even Grant did not attack June found the armies near Richmond Fearing that Lee might withdraw within the defenses of the capital, Grant made another unsuccessful frontal assault on his strongly entrenched enemy in the battle of Cold Harbor, June 3, 1864 The Union lost 7,000 men in a few hours—the most horrible slaughter of the war After several days of desultory trench fighting Grant then withdrew, crossed the James river, and moved against PETERSBURG He had lost about 60,000 men in the campaign, and although Lee's army sustained the proportionately larger loss of 20,000, it was hardly destroyed See D S Freeman, *R. E. Lee*, Vol III (1935), A. H. Burne, *Lee, Grant, and Sherman* (1939).

Wilderness Road, route taken by American pioneers of the Old Southwest, running down the Valley of Virginia to Fort Watauga (now in E Tennessee). From there in 1775 Daniel BOONE, leading the advance for the TRANSYLVANIA COMPANY, blazed the

trail further, through CUMBERLAND GAP, into Kentucky. Boone's road followed old buffalo traces and Indian paths, although much of it had to be cut through the wilderness For nearly 50 years, and especially after the American Revolution, it was one of the principal avenues of westward migration Many travelers fell victims to the Indians in the early years, and not until the 1790s, after Kentucky had become a state, was it made passable (but still difficult) for wagons Private contractors authorized to keep up sections of the road charged tolls for their use Impassable and deserted for much of the 19th cent, the Wilderness Road has been a section of U S 25, the Dixie Highway, since 1926 See Thomas Speed, *The Wilderness Road* (1886), A B Hulbert, *Boone's Wilderness Road* (1903), W A Pusey, *The Wilderness Road to Kentucky* (1921), R L Kincaid, *The Wilderness Road* (1947).

wild geranium: see GERANIUM

wild hyacinth · see CAMASS and SQUILL.

wildlife refuge, haven or sanctuary for animals, a portion of land or of land and water providing a suitable environment and protection from hunters Before the conservation movement was inaugurated and made effective, the populations of many birds and mammals had been alarmingly reduced and some birds had become extinct This resulted chiefly from the slaughter of the animals for hides or feathers, for food, and for sport, from the drainage of swamps and the destruction of forests and other breeding places, and from drought In the United States game laws, quite limited in their scope, however, were passed in various states from the latter part of the 17th cent Not until after about the middle of the 19th cent did legislation indicate much concern over the depletion of wildlife Individual crusaders and the National Audubon Society were influential in stimulating the national and state governments to take steps which resulted at length in the establishment of effective conservation programs In 1908 President Theodore Roosevelt called a conference of governors of the states and territories, some cabinet members, and others to consider the nation's natural resources, outcomes of the conference included the appointment of a national conservation commission and the setting up by most states of state conservation commissions The establishment of the National Park Service (by act of 1916) was a boon to wildlife preservation, since no hunting is permitted within the parks administered by the Service Milestones in the legislation which aided the bird-refuge movement include the passage of a treaty for the protection of migratory birds between the United States and Canada (1918), the Norbeck-Andresen Migratory-Bird Conservation Act (1929), which provided for the development of a system of refuges, an act (1934) requiring that hunters of migratory fowl purchase a stamp, the funds to be used for buying and developing land for refuges, and a treaty (1937) with Mexico for the protection of migratory birds In 1940 the Inter-American Convention on Nature Protection and Wildlife Preservation was an indication of progress in international conservation movements In the United States and its territories there were by 1947 a total of 291 Federal refuges These are administered by the Fish and Wildlife Service of the Dept of the Interior, this Service was established (1940) by consolidation of the Bureau of Biological Survey (est 1885 in the Dept of Agriculture) and the Bureau of Fisheries (est 1871 as an independent office) The work of the Service includes biological research, the administration and enforcement of Federal legislation related to wildlife, and numerous related projects Bird refuges and sanctuaries provide feeding, resting, wintering, and breeding grounds for migratory waterfowl as well as for non-game birds Among the many national waterfowl refuges are those on Lower Klamath Lake in Oregon and California and on Malheur Lake in Oregon. Island refuges for colonial birds are numerous in Oregon, Washington, and Florida Pelican Island near the east coast of Florida was, in 1903, made the first Federal wildlife refuge The National Audubon Society refuges are most numerous in Texas and Florida, where the heron and the ibis especially are protected. The Ramey Wildlife Refuge in Louisiana and the Roosevelt Bird Sanctuary at Oyster Bay, L I, N Y, are Audubon refuges Bird City at Avery Island, La, is privately maintained Hawk Mountain Sanctuary in E Pennsylvania is cared for by the Hawk Mountain Sanctuary Association The Singing Tower, a memorial to Edward Bok, is in the Mountain Lake Sanctuary (see IRON MOUNTAIN), Fla. The Aleutian Island Refuge is the most extensive of the general wildlife refuges Special refuges are maintained by the Fish and Wildlife Service for some big-game animals—bison, elk, antelope, mountain sheep, brown bear, and moose Deer and some other game animals find sanctuary on the general wildlife and the waterfowl refuges More protection is needed for caribou, moose, mountain goat, and grizzly bear Protection is afforded to wildlife in national parks and forests and on lands controlled by the Soil Conservation Service of the Dept. of Agriculture. Canada has national parks and a wildlife refuge system similar to that of the United States, and most of the provinces have wildlife refuges or game preserves Since 1935 many national parks have been established in Mexico Great Britain has, since early times, maintained parks, refuges, and game preserves, some of which are open to hunting at certain seasons Education of the public in methods of making better use of land outside of parks, refuges, and other special areas is important to the preservation of wildlife In all parts of the country the maintenance of suitable vegetation and the prevention of erosion, thereby preserving feeding and breeding grounds, is a means of preventing depletion of wildlife See W T Hornaday, *Thirty Years War for Wild Life* (1931), T G Bridges, *Wardens of the Wild* (1938), J N Gabrielson, *Wildlife Conservation* (1941) and *Wildlife Refuges* (1943), E H Graham, *The Land and Wildlife* (1947), E H Graham and W R Van Dersal, *Wildlife for America* (1949), E G Holt and W R Van Dersal, *Wildlife and Land Use Patterns* (U S Dept of Agriculture, Miscellaneous Publication 444)

wild rice, Indian rice, or **Canada rice,** tall, aquatic grass (*Zizania aquatica*), with long blades and terminal panicles Most authorities consider it to be an annual It grows best in shallow waters of the N United States and S Canada, certain varieties grow also in the Southern states Its seeds were one of the chief foods of certain Indian tribes especially in the Great Lakes region Indians of the Algonquian linguistic family, especially the Ojibwa and Menominee tribes, and certain Sioux tribes warred for centuries for control of the wild-rice fields The Ojibwa called the grain *manomin* [good grain], and the Menominee are believed to have been named for a variant of this word, it is said to have some 60 synonyms, from which a great number of geographical names have been derived The Indians gathered the seeds by pulling the grain heads over their canoes and flailing them with paddles, the seeds were sun-dried or parched over a slow fire to crack the hulls, then the grain was threshed by tramping, and winnowed The harvest was traditionally followed by a thanksgiving festival The seed is harvested today, especially in Minnesota, for the epicurean market and commands a high price Wild rice is sowed to provide food and shelter for fish and waterfowl and served as an ornamental grass in home garden ponds and bogs The seed is usually planted in the spring, it should be soaked in water overnight before being sowed

Wildspitze, Austria see ÖTZTAL ALPS

Wildwood **1** City (pop 1,346), N central Fla, S of Ocala, in a productive farm area It is a railroad center with repair shops **2** Resort city (pop 5,150), SE N J, on an island off Cape May, settled 1882, inc as a city 1911, when the boroughs of Wildwood (inc 1898) and Holly Beach City (inc 1893) were consolidated

Wiles, Irving Ramsay, 1861–, American portraitist, b Utica, N Y He studied with his father, Lemuel Maynard Wiles (1826–1905), with J Carroll Beckwith and William M Chase, and in Paris with Carolus-Duran His sitters include George Arnold Hearn (Metropolitan Mus), Gen Guy V King (West Point, N Y), General Martineau (state capitol, Albany, N Y), and Julia Marlowe He became a member of the National Academy of Design in 1897

Wiley, Harvey Washington, 1844–1930, American chemist, b Kent, near Madison, Ind, grad Hanover College, Hanover, Ind (B A, 1867), M D Indiana Medical College, 1871 He is known especially as a leader in securing pure-food legislation He was professor of chemistry at Purdue Univ and also state chemist of Indiana (1874–83), chief chemist of the U S Dept of Agriculture (1883–1912), and professor at George Washington Univ (1899–1914) He was largely responsible for the enactment of the Food and Drugs Act of 1906 and was charged with its administration Wiley's rulings were challenged, a special board was established to pass on his findings, and a congressional investigation followed, although Wiley was exonerated, he resigned in 1912 His works include *Principles and Practice of Agricultural Analysis* (3 vols, 1894–97, 3d ed revised, 1926) and *Foods and Their Adulteration* (1907, 3d ed, 1917) See his autobiography (1930)

Wilfrid, Saint, 634–709?, English churchman, b Northumbria, of noble parentage He was educated at Lindisfarne and Canterbury With BENEDICT BISCOP he traveled to Lyons and Rome in 653, St Wilfrid remained to study in each city In 661 he returned to England and became abbot of Ripon. Moved by St Wilfrid's eloquence, King Oswy at the Synod of Whitby (664) rejected Celtic usages, including the reckoning of Easter, and established instead the Roman custom That year Wilfrid was consecrated bishop of Ripon, in 669 his diocese was extended to include all of Northumbria with its see of York. There ensued a long controversy with the archbishop of Canterbury over division of dioceses in England It was compromised with the aid of the pope, and Wilfrid ended as bishop of Ripon and Hexham. He made many converts and was responsible for the vigorous growth of Roman usage Feast Oct 12.

Wilhelm. For German rulers thus named, see WILLIAM

Wilhelm II Coast, part of Antarctica, on the Indian Ocean Discovered (1902) by the German explorer, Erich von Drygalski, it was formerly known as Kaiser Wilhelm II Land

Wilhelmina (vĭl"hĕlmē'nə), 1880–, queen of the Netherlands (1890–1948), daughter and successor of William III Her mother, Emma of Waldeck-Pyrmont, was regent until 1898, when Wilhelmina commenced her active reign She married (1901) Prince Henry of Mecklenburg-Schwerin (d 1934), who played no active part in the government The Salic law then having application in Luxembourg, the personal union of that grand duchy with the Netherlands was abrogated at her accession Despite her very great influence on the government of the Netherlands, Queen Wilhelmina always conformed strictly to the constitutional limitations imposed on the monarch Her court was distinguished by its simplicity and its high moral tone The queen probably had a large share in the maintenance of Dutch neutrality through the First World War and in the grant of asylum to William II of Germany after the war When the Netherlands was invaded (May, 1940) by the Germans, Wilhelmina fled to England with her government She repeatedly visited the United States and Canada during the Second World War and made her formal return to the Netherlands in May, 1945 She retired from public life in May, 1948, and formally abdicated in favor of her daughter, Queen Juliana, in September, after celebrating the 50th anniversary of her reign amid rejoicings that reflected her great popularity

Wilhelmina, Mount, c 15,600 ft high, on W central New Guinea, in Netherlands New Guinea, highest peak of the Orange Range

Wilhelmshaven (vĭl"hĕlms-hä'fən), city (1939 pop 113,686; 1946 pop 89,717), Oldenburg, NW Germany, NW of Bremen and on the Jade Bay, an inlet of the North Sea It was in Hanover prov until 1937 Founded in 1869, Wilhelmshaven was, until 1945, the chief German naval base on the North Sea The naval installations were heavily damaged by Allied air attacks in the Second World War and were dismantled after the German surrender The industries were reoriented from naval construction to the production of heavy machinery, automobile chassis, electrical equipment, and textiles There are marine biological and geological institutes and an ornithological station

Wilkes, Charles (wĭlks), 1798–1877, American naval officer and explorer, b New York city, educated by his father In 1815 he entered the merchant service and received (1818) an appointment as a midshipman For his survey (1832–33) of Narragansett Bay he was designated (1833) head of the Dept of Charts and Instruments of the Navy In command of a government exploring expedition, Wilkes, then a lieutenant, set sail from Norfolk, Va, in 1838 with a squadron of six ships, he was accompanied by trained scientists They sailed around South America, did important research work in the S Pacific, and explored the Antarctic They reported the discovery of land, and although Wilkes's position was later to be found in error, the portion of the continent which he is believed to have explored was subsequently named Wilkes Land Wilkes explored Fiji in 1840, visited the Hawaiian group, and in May, 1841, entered the Strait of Juan de Fuca on the Pacific coast of the United States, explored the Pacific Northwest, and, after having completely encircled the globe, returned to New York in June, 1842 His *Narrative of the United States Exploring Expedition* (5 vols and an atlas) appeared in 1844 He edited the scientific reports of the expedition (20 vols and 11 atlases, 1844–74) and was the author of Vol XI (*Meteorology*) and Vol XIII (*Hydrography*) The impetuosity of his nature, for which he was twice court-martialed, was amply demonstrated when early in the Civil War, as commander of the *San Jacinto*, he stopped the British mail ship *Trent* and, contrary to all regulations, forcibly removed the Confederate commissioners John Slidell and James M Mason The incident almost involved the Union in a war with England (see TRENT AFFAIR) He was promoted to the rank of commodore in 1862 and commanded a squadron in the West Indies He was subsequently demoted but was finally made rear admiral on the retired list in 1866

Wilkes, John, 1727–97, English political leader. He studied at the Univ of Leiden, returned to England in 1746, and joined a society of rakes which included Sir Francis Dashwood, Charles Churchill, and John Montagu, 4th earl of Sandwich, they derisively styled themselves "the monks of Medmenham Abbey" By ample expenditure Wilkes secured a seat in Parliament (1757) With the aid of Churchill, he attacked the foreign policy of the government of John Stuart, 3d earl of Bute, in his periodical the *North Briton* (1762–63) Its vigorous attack silenced the Bute paper, the *Briton*, written by Tobias Smollett. In No 45 Wilkes even criticised the speech from the throne. So angered was

George III that he had Wilkes arrested (1763) on a general warrant and imprisoned. Declaring the warrant illegal, Judge Charles PRATT soon released Wilkes, who was, however, because of his writing in the *North Briton* and in a licentious parody, *An Essay on Woman*, expelled (1764) from Parliament and convicted of seditious libel He fled to Paris, but returned in 1768 and during the next year was repeatedly elected to Parliament from Middlesex and as often denied his seat because of the king's influence He was arrested as an outlaw, sentenced (1768) on the former charge against him, and served 22 months in prison In his struggle for the liberty of the individual, Wilkes was supported by such men as Edmund Burke and the unknown writer JUNIUS. Eventually his election opponent was illegally seated in his stead Wilkes organized a party for parliamentary reform and the protection of civil rights and championed the cause of the American colonists He became successively alderman (1769), sheriff (1771), and lord mayor (1774) of London, and in 1774 he again entered Parliament, where he fought for parliamentary reform His popularity waned after his forceful action as chamberlain of the city of London in suppressing the Gordon Riots of 1780 Profligate, but courageous and incorruptible, Wilkes became a symbol, both in England and in America, of opposition to tyranny See biographies by Horace Bleakley (1917), R W. Postgate (1929), and O A Sherrard (1930), George Nobbe, *The North Briton* (1939)

Wilkes-Barre (wilks'-bă"rĕ), city (pop 86,236), co seat of Luzerne co , E Pa , on the east bank of the Susquehanna and c 15 mi SW of Scranton, settled 1769, inc as a borough 1806, as a city 1871 In addition to extensive anthracite mining, the city manufactures wire products, locomotives, and machinery. It was named for John WILKES and Isaac BARRÉ, defenders of the colonies before Parliament The settlement was burned in 1778 by the British and Indians, just after the Wyoming Valley massacre, and was again burned in 1784 George Catlin was born here The city is the seat of Wilkes College

Wilkesboro (wilks'bŭrŭ), town (pop 1,309), co seat of Wilkes co , W central N C , on the Yadkin and W of Winston-Salem, founded c 1777, inc 1889 The area yields lumber, corn, wheat, and rye, and the town has woodworking plants

Wilkes Land, part of Antarctica, bordering the Indian Ocean, between Queen Mary Coast and King George V Land (now usually known as George V Coast) It is named for Charles Wilkes, a U S naval officer, who led an expedition (1838–42) to Antarctica

Wilkie, Sir David, 1785–1841, Scottish genre painter He studied in Edinburgh and at the Royal Academy and won early popularity with his admirable little scenes of everyday life After travel on the Continent he turned to portraiture and historical painting He enjoyed many honors and became painter in ordinary to George IV, he was knighted in 1836 Well-known examples of his work, including *The Blind Fiddler*, *The Village Festival*, and *Blind Man's Bluff*, are in the National Gallery, London

Wilkie, town (pop 1,425), W Sask , WNW of Saskatoon It is a railroad division point in a region of mixed farming and stock raising and has grain elevators

Wilkins, Sir George Hubert, 1888–, British explorer, b Australia He made a number of trips to Antarctica and to the arctic regions Valuable experience gained when he accompanied Vilhjalmur Stefansson's expedition (1913–18) to the arctic regions and Sir Ernest Shackleton's expedition (1921–22) to Antarctica prepared Wilkins to assume the leadership in the following years of a number of polar expeditions A pioneer in the method of air exploration, he flew (1928) from Point Barrow, Alaska, to Spitsbergen, his *Flying the Arctic* (1928) described his observations during the flight He was knighted that year He commanded an antarctic exploration (1928–29) when flights were made in the region of Palmer Peninsula, and in 1931 he headed a submarine expedition to the arctic regions, an exploit which is depicted in his *Under the North Pole* (1931) From 1933 to 1939 Wilkins was manager for Lincoln Ellsworth's transantarctic expeditions His *Thoughts through Space* (with H. M Sherman, 1942) recounts the attempts made by Wilkins and Sherman to communicate by mental telepathy during the period when Wilkins was searching (1938) for a group of Russian aviators lost in the arctic.

Wilkins, Mary Eleanor see FREEMAN, MARY E W

Wilkinsburg, residential borough (pop 29,853), SW Pa , near Pittsburgh, settled c 1800, inc 1887. Steel alloys are made here

Wilkinson, Ellen, 1892?–1947, English labor leader, b Manchester, of a working-class family She graduated from the Univ of Manchester and became a union organizer She fought for woman suffrage and for socialism, becoming a Labour party representative in Parliament in 1924 A vigorous speaker and courageous fighter, she was respected by her political opponents. She became minister of education in the cabinet in 1945

Wilkinson, James, 1757–1825, American general, b. Calvert co , Md. He abandoned his medical studies in 1776 to join the army commanded by Washington He first served as a captain in Benedict Arnold's unsuccessful Quebec campaign Later he was Gen Horatio Gates's deputy adjutant general in the Saratoga campaign There is debatable evidence that Wilkinson took credit for the heroism of another officer, in any event Gates gave him the honor of bringing to Congress the news of Burgoyne's defeat. Congress censured Wilkinson for delay in carrying the dispatch but rewarded him by promoting him brigadier general (1777) and making him secretary to the board of war (1778) Soon he was forced to resign because of his apparent involvement in the CONWAY CABAL He was (1799–81) clothier general of the army but resigned when charged with irregularities in his accounts Later (1782–83) he farmed in Bucks co , Pa , and was elected to the Pennsylvania legislature Wilkinson moved to Kentucky in 1784 It seems clear that shortly after he became a key figure in the Spanish Conspiracy—the plan to induce what was then the SW United States to split off and form a separate nation allied to Spain Wilkinson seems to have taken an oath of allegiance to Spain and to have received a Spanish pension of at first $2,000 a year, later $4,000 To the Spanish authorities in New Orleans he represented his agitation for the separation of Kentucky from Virginia as part of this scheme, there is no indication, however, that he revealed any such motivation to the Kentucky conventions, in which others had expressed sentiments in favor of a separate republic of Kentucky In 1791 Wilkinson reentered the army as a lieutenant colonel, and in 1792 he again attained the rank of brigadier general, serving under Anthony Wayne On Wayne's death (1796) Wilkinson became ranking army officer. At this time his duties included making treaties with Indian tribes along the southern border, and he was (1805–6) governor of Louisiana Territory Alarmed when he realized that his association with Aaron BURR was common knowledge, Wilkinson informed President Jefferson that Burr was plotting to disrupt the Union Wilkinson was the chief prosecution witness at Burr's trial and himself narrowly escaped indictment He was subsequently (1811) cleared by an army board of inquiry In the War of 1812 he signally failed in the campaign to take Montreal and was relieved of his command Once again an official inquiry left him untouched He wrote *Memoirs of My Own Times* (3 vols , 1816) in an attempt to answer his many critics He died in Mexico, where he spent his retirement See biographies by R O Shreve (1933), James R Jacobs (1938), and T R Hay and M R Werner (1941)

Wilkinson, Jemima, (jumī'mu), 1752–1819, American religious leader, b Cumberland, R I She had little formal learning but read much romantic literature As a girl she was powerfully impressed by the sermons of George WHITEFIELD and also wished to emulate the example of Ann LEE ("Mother Ann") She became very sick when she was about 20 and fell into a prolonged trance or coma On reviving, she maintained that she had died and her original soul had gone to heaven while her body was occupied by the "Spirit of Life," sent by God to warn the world of his impending wrath Calling herself the "Public Universal Friend," she preached widely through Connecticut and Rhode Island Her dignified manner—in strong contrast to that of other revivalists—and her magnetic personality and great beauty attracted a large group of followers (many educated), and she established churches at New Milford, Conn , and at Greenwich, R I She aroused much hostility by advocating celibacy, and she did not restrain enthusiastic followers from representing her as the Messiah To escape persecution she founded (c 1790) the colony of "Jerusalem" in Yates co , NW N Y (near the present Penn Yan), one of the earliest settlements in that region The existence of this prosperous community (it reached some 260 persons in 1800) helped pacify the neighboring Indians Dissension later developed in Jerusalem because the Friend continually demanded gifts of her followers and instituted humiliating punishments for breaking her rules She spent her last years in a luxurious house built far from the other dwellings. After her death the community dispersed See Carl Carmer, *Listen for a Lonesome Drum* (1936)

Wilkinson, Sir John Gardner, 1797–1875, English Egyptologist and explorer He went to Egypt in 1821, where he remained for 12 years engaged in travel and archaeological research He published his results in *Topography of Thebes and General Survey of Egypt* (1835) and *Manners and Customs of the Ancient Egyptians* (1837), for which work he was knighted. *Dalmatia and Montenegro* (1848) tells of his travels in the Balkans

Wilkinson, Marguerite (Bigelow), 1883–1928, American poet, b Halifax, N S , studied at Northwestern Univ The best known of her several books of verse were *Bluestone* (1920) and *Citadels* (1926). A host of readers enjoyed her well-chosen anthologies of poetry, *New Voices* (1919 and later editions) and *Contemporary Poetry* (1923 and later editions).

will, in law, document expressing the wishes of a testator concerning the disposition of his property after his death. The will may grant outright bequests to the heirs or provide for the establishment of trusts (see TRUST). No particular form of wording is necessary in a will, only a clear expression of intent. Wills ordinarily must be in writing, but in certain strictly defined circumstances (e g , those of soldiers and sailors in combat) the law may recognize an oral (nuncupative) will as reported by a witness. Written wills must be subscribed (i.e , signed after all the text) by the testator and must bear the signature of two, (or, in some jurisdictions, three) witnesses A person has capacity to make a will only when he is in sound mind and is not unduly influenced by an interested party In most states persons under 21 are deemed not to have this capacity All objections to a will must be made at the PROBATE, which precedes the distribution (administration) of the property The disposal of a decedent's estate by will was severely limited in England before the passage (1540) of the Statute of Wills. Today the laws respecting INHERITANCE still limit the testator's freedom (e.g., a married person must leave at least a prescribed percentage of his estate to his spouse).

will, in philosophy and psychology, a term used to describe that which is alleged to stimulate the motivation of purposeful activity. It is characteristic of the will that it can be observed only in one's self and can be attributed to others only by inference from their behavior There is no generally accepted explanation in psychology for the apparent freedom men enjoy to do what they will, i e , to originate the stimuli necessary to initiate a course of action Until recently the psychological discussions of the will have been closely related to the philosophical Disagreements have been extreme One approach has been the doctrine of determinism which denies the reality of the will Another type simply accepts the will as the faculty or function of the person which is the motive power of the personality This idea is generally based on intuitive grounds and is associated with Plato, Aristotle, Lucretius, St Thomas Aquinas, Descartes, and Kant Others have considered it the externalized result of the interaction of conflicting elements These include Spinoza, Leibniz, Hume, Herbart, Wundt, Spencer, and Münsterberg Still others have considered the will to be the manifestation of the personality striving to accomplish its purposes Among these are St Augustine, Duns Scotus, Hobbes, Schopenhauer, Nietzsche, William McDougall, and John Dewey Modern psychology has tended to consider the concept of the will as an unscientific principle The problems involved in dealing with it are largely absorbed in other areas of investigation, such as the psychology of adjustment, the study of unconscious motivation, the concept of attention, and the influence of endocrine balance

Willaert, Adrian (ad'rē-ăn vĭl'ărt), c 1480–1562, Flemish musician. In 1527 he became choirmaster at St Mark's, Venice Willaert was the founder of the Venetian school of composition, which created the madrigal He introduced antiphonal singing and pleaded for a tempered scale He left many motets, madrigals and songs, and a few Masses

Willamette (wĭlă'mĭt), river, c 300 mi long, rising in several headstreams in the Cascade Range, W Oregon It flows N past Eugene, Salem, Oregon City, and Portland to the Columbia river just NW of Portland The river is navigable for most of its course Its wide, fertile valley is a major fruit-growing region, and since it was first settled in the 1830s, it has been the most thickly populated area in the state There is diversified agriculture, manufacturing, and an important lumbering industry A Federal project was begun in 1938 to harness the river and its tributaries in the interests of flood control, navigation, and power production Fern Ridge Dam, in the Long Tom river, and Cottage Grove Dam, in the Coast Fork, were completed in 1941 and 1942, respectively Dams under construction (1950) include the Detroit, in the North Santiam river, Lookout Point (also called Meridian), in the Middle Fork, and Dorena, in the Row river

Willamette University, at Salem, Oregon; coeducational; opened 1844 as Oregon Institute, the oldest institution of higher learning in the Far West. Successor to an Indian school of Jason LEE, it was chartered and renamed in 1853. It has colleges of law, liberal arts, and music Its medical school, early in the region, is now closed

Willard, Archibald M., 1836–1918, American painter, b. Bedford, Ohio. He is known for only one painting, *The Spirit of '76*, which, exhibited at the Centennial Exposition, Philadelphia, 1876, was bought by Gen. John Henry Devereaux and presented to Marblehead, Mass. It hangs in Abbott Hall in Marblehead

Willard, Daniel, 1861–1942, American railroad executive, b. Windsor co., Vt. He entered railroad service in 1879 as a track laborer, served in various capacities with several railroads, and by 1899 had

risen to the position of assistant general manager of the Baltimore and Ohio. In 1901 he was hired by the Erie Railroad Company as assistant to the president and later held executive positions in several of the nation's railroads He was president of the Baltimore and Ohio Railroad Company from 1910 to 1941, and in the First World War he was appointed to responsible government positions In 1924 Willard was elected president of the board of Johns Hopkins Univ. See biography by Edward Hungerford (1938).

Willard, Emma (Hart), 1787–1870, American educator, pioneer in woman's education Born in Berlin, Conn., she attended and later taught in the local academy and in 1807 took charge of the Female Academy at Middlebury, Vt Two years later she married Dr John Willard In 1814 she opened a school in her home, where she taught subjects not then available to women In 1818 she addressed to the New York legislature an appeal for support of her *Plan for Improving Female Education*, and Governor Clinton invited her to move to New York state. Her school was opened (1819) at Waterford, but in 1821 the Troy Female Seminary was founded and under her leadership became famous, offering collegiate education to women and new opportunity to women teachers She wrote a number of textbooks, a journal of her trip abroad in 1830, and a volume of poems, including "Rocked in the Cradle of the Deep" In 1838 Mrs Willard retired from active management of the school, which was later renamed in her honor She devoted the remainder of her life to the improvement of common schools and to the cause of woman's education See Alma Lutz, *Emma Willard, Daughter of Democracy* (1929)

Willard, Frances Elizabeth, 1839–98, American temperance leader and reformer, b Churchville, N Y., grad Northwestern Female College, 1859 She was president of Evanston College for Ladies and dean of women at Northwestern Univ After leaving the university, she helped organize (1874) the WOMAN'S CHRISTIAN TEMPERANCE UNION and in 1879 became its president She devoted most of her life to the organization of women for the prohibition of alcoholic beverages, but was active in other reforms, especially in the cause of woman suffrage See her autobiography, *Glimpses of Fifty Years* (1889), biography by Mary Earhart (1944)

Willard, Josiah Flynt, see FLYNT, JOSIAH

Willard, village (pop 4,261), N Ohio NW of Mansfield Rubber products are made

Willcocks, Sir William, 1852–1932, British engineer, b India He worked on irrigation projects for the department of public works of India (1872–83) and of Egypt (1883–97) He designed and built the Aswan Dam (1898–1902) and in 1911 undertook a great irrigation work in Mesopotamia He was knighted in 1902 See his autobiography, *Sixty Years in the East* (1935)

Willcox, Walter Francis, 1861–, American statistician, b Reading, Mass He was professor of economics and statistics at Cornell Univ (1891–1931, retiring as emeritus) and was for many years connected with the U S Bureau of the Census His writings include *Introduction to the Vital Statistics of the United States*, 1900–1930 (1933)

Willems, Florent Joseph Marie (flôrĕnt' zhôzĕf' marē' vĭl'ums), 1823–1905, Belgian genre painter He was influenced by the old Dutch masters, and his subjects are usually of the 17th cent He settled in Paris c 1840 Among his paintings are *Preparing for the Promenade* (Metropolitan Mus), *Le Baisemain, Music Lesson, Wedding Dress,* and *Sealing the Love Letter*

Willemstad (vĭl'ŭmstät), city (pop 39,678), capital of CURAÇAO colony, Dutch West Indies, on Curaçao island Neat and attractive and faintly reminiscent of Holland, the city is the commercial center of the colony and a free port It is especially important as the transshipping point for oil sent across the Gulf of Venezuela from the city of MARACAIBO

Willesden (wĭls'dun), municipal borough (1931 pop 184,434, 1947 estimated pop 180,770), Middlesex, England, NW of London It is a railroad center

Willett, Marinus (murē'nŭs wĭl'ĭt), 1740–1830, American soldier, b Jamaica, N Y He was a member of the expeditions against Fort Ticonderoga and Fort Frontenac in 1758 and a leader of the Sons of Liberty in New York and, after the outbreak of the American Revolution, served under Richard Montgomery in the invasion of Canada. He won (1777) a victory over Barry St LEGER while second in command at Fort Stanwix, joined George Washington's army in New Jersey in 1778, and participated (1779) in the Clinton-Sullivan expedition against the Iroquois From 1780 until the end of the war he commanded New York troops in the Mohawk valley, and there his scouts managed to kill (1781) Walter BUTLER after a skirmish with Loyalists. Later Willett, a partisan of Aaron Burr and a Republican, held several local offices in New York city, where he served (1807–8) as mayor. Willett, an authority on Indian affairs, was sent (1790) to negotiate a treaty with the Creek Indians in Georgia.

William I, 1797–1888, emperor of Germany (1871–88) and king of Prussia (1861–88), second son of Frederick William III of Prussia and Queen Louise He fled to England in the Revolution of 1848, and upon his return (1849) he commanded the troops that crushed the republican insurrection in Baden When his brother Frederick William IV was declared insane William became (1858) regent, and on Frederick William's death William became king of Prussia. William immediately set about reorganizing and strengthening the army, and when he met the opposition of the legislature, he appointed BISMARCK his prime minister in 1862 From then until the emperor's death, Bismarck guided the destiny of Prussia and Germany. Opposition to the king's and Bismarck's military program was suppressed, and in 1864 Prussia began its career of military conquest in the war with Denmark over SCHLESWIG-HOLSTEIN This led to the AUSTRO-PRUSSIAN WAR of 1866, from which Prussia emerged the leading German power. William I commanded in person in the FRANCO-PRUSSIAN WAR of 1870–71, received the surrender of Napoleon III at Sedan, and was proclaimed (Jan 18, 1871) emperor of Germany in the Hall of Mirrors at Versailles (see GERMANY) Though William often disagreed with Bismarck's policies, he ultimately was always persuaded by his chancellor As a symbol of reborn German unity, he was immensely popular, but his reactionary policy drew upon him the hatred of the radical elements Two attempts on William's life (1878) enabled Bismarck to pass severe legislation against the Socialists William did not favor the Kulturkampf (Bismarck's struggle against the Roman Catholic Church), but gave it his tacit consent William's reign was crucial in European history, for it saw the rise of Germany to be the first power of continental Europe His son Frederick III succeeded him See Paul Wiegler, *William the First* (Eng tr , 1928)

William II, 1859–1941, German emperor and king of Prussia (1888–1918), son and successor of Frederick III and grandson of William I of Germany and of Queen Victoria of England He was early alienated from his liberal-minded parents by his belief in the divine nature of kingship, his love of military display, and his impulsiveness Much has been made of the fact that he had a withered left arm in order to explain these traits as a compensation for his physical weakness After completing his studies at the Univ of Bonn he entered the army and in 1881 married Princess Augusta Victoria of Schleswig-Holstein As emperor, William endeavored to maintain and, if possible, to extend the royal prerogative and to make Germany a major naval, colonial, and commercial power Friction soon developed between him and BISMARCK over questions of both domestic and foreign policy When the chancellor refused to revoke his order forbidding ministers to report to the emperor except in his presence he was forced to resign William thereafter was in general the dominating force in his own government In domestic affairs he attempted to forestall the rise of the Socialist parties both by repressive measures and by social reform, but was only partially successful The conduct of foreign affairs was his major interest, but he had no basic policy and was greatly influenced by his ministers The reinsurance treaty with Russia, which had been a chief feature of Bismarck's system of alliances was not renewed in 1890 Even though sincerely desirous to maintain friendly relations with Great Britain, William by his naval program and his colonial and commercial aspirations prevented an alliance between the two countries and drove England into the Entente Cordiale with France (see TRIPLE ALLIANCE AND TRIPLE ENTENTE) The German support of Russia in the Far East and the friendly relations between William and Nicholas II of Russia (as revealed in the "Willy-Nicky" correspondence) were counteracted by the encouragement William gave to Austria in its Balkan policy The already strained relations with France were further embittered by German interference in French colonial affairs in Africa, especially MOROCCO Alarmed at the growing isolation of Germany, William strengthened the Triple Alliance and secured Turkish adherence The emperor was fond of travel, but his state visits frequently caused ill feeling, as in the Moroccan Crisis His combined eloquence and impetuousness, which led him to speak or act unadvisedly on many occasions, were illustrated by his utterances concerning German imperialism and by his dispatch of the famous telegram of encouragement to S J P Kruger after the Jameson raid (1896) into the Transvaal The emperor looked upon the great military machine and the system of alliances he had created as the most effective method of preserving peace. Actually, they vastly contributed to the outbreak of the First WORLD WAR His influence on the actual conduct of the war was slight The collapse of the great German drive of 1918 presaged the end of the Hohenzollern dynasty. The last chancellor of the Second German Empire, Prince MAXIMILIAN OF BADEN, negotiated for an armistice, but clamor for the emperor's abdication began to be heard in Germany, especially after President Wilson had made it a prerequisite of peace negotiations Naval mutiny and civilian revolt were followed by republican proclamations in leading German cities William fled to Holland (Nov , 10, 1918) and two weeks later formally abdicated in his name and that of his family Though the Treaty of Versailles provided that William be tried for promoting the war, the Dutch government refused to extradite him, and he remained in retirement at Doorn There, after the death of Augusta Victoria, he married the widowed Princess Hermine of Schönaich-Carolath (1922) His memoirs appeared in English translation in 1922 and *My Early Life* in 1929

William, king of Albania see WILLIAM, PRINCE OF WIED

William I or **William the Conqueror,** 1027?–1087, king of England (1066–87) Born at Falaise the illegitimate son of Robert I, duke of Normandy, by Arletta, daughter of a tanner, he is sometimes called William the Bastard He succeeded to the dukedom in 1035 when his father died on his return journey from a pilgrimage to Jerusalem William and his guardians were hard pressed to keep down recurrent rebellions during his minority, and at least once the young duke barely escaped death In 1047 he received aid from HENRY I of France and established his power In turn he aided Henry against Geoffrey Martel, count of Anjou (1048–49) He visited England in 1051, when his cousin EDWARD THE CONFESSOR probably promised that William should succeed him as king Despite a prohibitive ecclesiastical decree, William married Matilda, daughter of Baldwin, count of Flanders, in 1053 The union, which greatly increased the duke's prestige, finally received papal dispensation in 1059. William's growing power brought him into conflict with Henry I of France whose invading armies he defeated in 1054 and 1058 The accession (1060) of the child PHILIP I of France, whose guardian was William's father-in-law, improved his position, and in 1063 he conquered the county of Maine In 1064 he released HAROLD, then earl of Wessex (who had been shipwrecked on the French coast, imprisoned, and surrendered to William), after extracting his promise to support the duke's claims to the English throne Upon hearing that Harold had been crowned king of England (1066), William secured the sanction of the pope, raised an army and transport fleet, sailed for England, and defeated and slew Harold at the battle of HASTINGS (1066) Overcoming what little resistance remained in Kent, he led his army into London, received the city's submission, and was crowned on Christmas Day. The Norman Conquest was thus quickly established He traveled about England compelling order, building castles and garrisoning them, and putting down rebellions, in the process of which he ravaged great sections of land, burning houses, crops, and cattle Titles to lands were called in and redistributed to the king's followers and supporters By 1071 the adherents of EDGAR ATHELING and their Scottish and Danish allies had been defeated and the major work of pacification completed William undertook church reform, replaced Stigand (whose title was dubious) with LANFRANC as archbishop of Canterbury, substituted foreign prelates for many of the English bishops, generally took command over the administration of church affairs, and established (1076) separate ecclesiastical courts After the rebellion of the earls of Norfolk and Hereford was crushed in 1075, the rest of William's reign was devoted more to continental quarrels than to English uprisings He fought with his factious son Robert (ROBERT II, called Robert Curthose) in 1079 and quarreled intermittently with France from 1080 until his death In 1085–86 at his orders a survey of England was taken, the results of which were embodied in the DOMESDAY BOOK By the Oath of Salisbury in 1086, William established the important precedent that loyalty to the king is superior to loyalty to any subordinate lord of the kingdom He invaded the Vexin in 1087, was fatally injured in a riding accident, and died at Rouen, directing that his son Robert should succeed him in Normandy and his son William in England In character chaste, earnest, and resourceful, William was not only one of the greatest of English monarchs but a pivotal figure in European history See also NORMAN CONQUEST. See E A Freeman, *History of the Norman Conquest* (5 vols , 1867 79), F W Maitland, *Domesday Book and Beyond* (1897), F M Stenton, *Anglo-Saxon England* (1947), biography by F. M Stenton (1908)

William II or **William Rufus** (rōō'fus), d 1100, king of England (1087–1100), called William Rufus or William the Red because of his ruddy complexion He was the second surviving and favorite son of William I, and he succeeded to the throne on his father's death His first act as king was to put down the effort of his uncle, Odo of Bayeux, to seat William I's oldest son, Robert, duke of Normandy (see ROBERT II), on the throne of England William next (1090) invaded Normandy, secured a portion of Robert's lands, and then united forces with him to regain lands which Robert had previously lost

He returned to England in 1091 or 1092, forced the Scottish king, Malcom III, to do him homage, and seized the city of Carlisle from the Scots for settlement by Englishmen William ruled England with a strong hand, exacted enormous moneys from his subjects on the flimsiest of pretexts, and inspired terror among the clergy by his sale of various churches and church lands In 1093 he quarreled with Robert over a treaty they had made in 1091, bribed Philip of France to withdraw his support from Robert, and paid his Norman adherents to wage the war for him In 1095 he quarreled with ANSELM over the question of the archbishop's prime allegiance to the crown or to the pope In 1096 William suppressed an English rebellion led by Robert of Mowbray, earl of Northumberland The same year a sum of money, raised mainly by stripping the shrines of the saints, was lent to Robert, who was leaving on crusade, and William occupied Normandy He returned to England in 1097 and failed to subdue the Welsh, but gained control over the Scottish throne by sanctioning a successful expedition of Edgar Atheling to dethrone Donald III, the Scottish king In 1098 William gathered a force, won the northern part of Maine in France, and attempted unsuccessfully to take the lands of the Vexin On hearing in England in 1099 that the former holder had regained the territory of Maine, he rushed overseas and recaptured the territory Before William could carry out his plan to occupy the duchy of Aquitaine (1100), he was killed by an arrow while on a hunting party, and the kingdom of England was seized by his younger brother, HENRY I See E A Freeman, *The Reign of William Rufus* (1882), J H Ramsay, *The Foundations of England* (1898), H W C Davis, *England under the Normans and Angevins* (1905)

William III, 1650–1702, king of England, Scotland, and Ireland (1659–1702), son of WILLIAM II of Orange, stadholder of the United Netherlands, and Mary, oldest daughter of Charles I of England He was born at The Hague after his father's death, and the office of stadholder was held in abeyance, while power fell into the hands of Jan de WITT A Dutch revolution was, however, precipitated by Louis XIV's invasion of the Netherlands (1672) at the beginning of the DUTCH WARS, and William was made stadholder, captain general, and admiral for life In the ensuing warfare with France, William made peace with England in 1674, suffered several defeats by the French, and made peace at Nymegen in 1678 In the meantime William's diplomatic position was strengthened by his marriage (1677) to the English princess, Mary, Protestant daughter of James, duke of York (later JAMES II) Successive conquests by France led William to form the coalition with Sweden, Austria, and Spain which was later known as the League of Augsburg and which was in 1688 to begin against Louis XIV the War of the GRAND ALLIANCE When William was unable to persuade James II to abandon his Catholic ally, Louis XIV, and join the league against France, he turned to the English opposition He let his Protestant preferences be known in England and had already been mentioned as a strong claimant to the throne After secret negotiations, he was invited to England by seven important nobles He crossed the channel (1688), with an army of 15,000, was joined by most of the important men of England, and allowed James to escape to France William called a convention and accepted its Declaration of Rights and the throne of England jointly with his wife (1689) This Glorious Revolution was accomplished in England without bloodshed It proved the decisive victory for Parliament in its long struggle with the crown, for William was forced to accept the BILL OF RIGHTS (1689) and the ACT OF SETTLEMENT (1701), greatly limiting the royal power and governing the succession Parliament had control of finances and the army In Scotland, the JACOBITES resisted violently, but after their defeat at Killiecrankie (1689) William was able to make Presbyterianism secure Rebellion continued sporadically, William blackened his reputation by allowing the bloody massacre of Glencoe (see CAMPBELL, JOHN 1ST EARL OF BREADALBANE), and he was to live in constant danger of plots against his life In Ireland, after his victory over the exiled James at the battle of the Boyne (1690), he completed the ruthless policy of "plantation" begun by James I and advanced by Cromwell, whereby Irish land was confiscated and given to English courtiers, soldiers, and adventurers, who often became absentee landlords By a rumous enforcement of the NAVIGATION ACTS he crippled certain Irish industries, and by a system of PENAL LAWS he increased the political, economic, and civil discrimination against Catholics William was constantly involved in the continental war which raged until 1697, when Louis XIV at the Peace of Ryswick recognized him as king of England The cost of the wars led to unpopular taxes in England, the Bank of England was chartered in 1694, and the policy of a permanent national debt begun William made no great effort to understand the English or their parties, but the necessity of having ministers who would work together led him to choose (1696) men of Whig persuasion and so to begin, unwittingly, the system of the responsible ministry He had in 1694 assented to the Triennial Act, which required a new election of Parliament every three years In 1695 he ceased to require the permission of a royal licenser for publications, thus taking a great step toward freedom of the press. A center of disaffection from c 1690 was the household of the queen's sister Anne (later Queen ANNE), who, with her favorites, the Marlboroughs, had been alienated by the hostile attitude of William and Mary His popularity diminished greatly after the death (1694) of the childless Queen Mary, and his concern near the end of his life with the Partition Treaties and with the War of the SPANISH SUCCESSION which involved England in another long duel with France did nothing to increase it When he died in March, 1702, after a fall from his horse, he was succeeded by Anne William's personality was cold, his personal life not admirable, and his public policy calculating A standard source for William's time is the history by Gilbert BURNET The standard biography is in Dutch, by Nicolaas Japiske (2 vols , 1930–33) See also W S Churchill, *Marlborough His life and Times*, Vol. I (1933), G N Clark, *The Later Stuarts* (1934); F C. Turner, *James II* (1948)

William IV, 1765–1837, king of England (1830–37), third son of George III and Queen Charlotte Dorothea He went to sea in 1779, served under Admiral Rodney in the action off Cape St Vincent (1780), and by 1786 was a captain William became duke of Clarence in 1789 and was advanced by 1799 to the rank of admiral, but saw little active service after 1790 Meanwhile in the House of Lords he opposed the antislavery movement and supported the extravagances of his oldest brother (later George IV) About 1791 he formed a liaison with Mrs Jordan, an actress, with whom he lived for over 20 years He married (1818) Adelaide, daughter of the duke of Saxe-Meiningen, and on the death (1827) of the duke of York, second son of George III, he became heir presumptive to the throne Made lord high admiral in 1827, he tried to run naval affairs without his council, contrary to law, and was forced to resign the next year In 1830 he succeeded George IV as king His most important public act was his promise to Earl GREY that he would, if necessary, create enough Whig peers to pass the REFORM BILL of 1832 This bill and such reforms as the education act, the new poor law, the municipal corporations act, and the abolition of slavery marked his reign, but his attitude was in general passive, and political leadership was left to the duke of WELLINGTON, Earl Grey, MELBOURNE, and Sir Robert PEEL Eccentric and given to ill-considered public utterances, William was only moderately popular He was succeeded by his niece, VICTORIA See biographies by Percy Fitzgerald (1884) and G E Thompson (1933)

William I, 1772–1843, first king of the Netherlands and grand duke of Luxembourg (1815–40), son of Prince William V of Orange, last stadholder of the Netherlands He commanded (1793–95) the Dutch army in the French Revolutionary Wars and after the French occupation of the Netherlands entered the Prussian and later the Austrian service He returned to the Netherlands in 1813, and the Congress of Vienna gave him (1815) the title king of the Netherlands His kingdom comprised present BELGIUM as well as the Netherlands, and he was further awarded the grand duchy of LUXEMBOURG in compensation for his family holdings in Germany, which he ceded to Prussia William soon alienated his Belgian subjects by attempting to make Dutch the official language, by granting disproportionate influence to the northern provinces, and by encroaching on the freedom of the Roman Catholic Church Political unrest in Belgium led to the revolution of 1830, which he stubbornly sought to suppress despite the intervention of England and France (see LONDON CONFERENCE) Belgium won its independence, but final recognition by William came only in 1839 When his Dutch subjects forced him to liberalize the constitution in 1840, he abdicated in favor of his son, William II Though his rule was reactionary, William fostered the development of Dutch agriculture, commerce, and industry

William II, 1792–1840, king of the Netherlands and grand duke of Luxembourg (1840–49), son and successor of William I. He served with Wellington in the Peninsular War, was wounded at Waterloo, and led the Dutch army in the Belgian revolution (1830), after his father had failed to approve his efforts at conciliation Called to the throne upon the abdication of his father (1840), William II was immediately confronted with a grave financial problem, which was solved by raising a voluntary loan among the people Demand for revision of the fundamental law became more insistent, but the king resisted the liberal movement, led by Jan Thorbecke, until the revolutionary spirit of 1848 forced him to grant the desired reforms. He was succeeded by his son, William III

William III, 1817–90, king of the Netherlands and grand duke of Luxembourg (1849–90), son and successor of William II. His long reign was unmarked by friction with the States-General, for, though opposed in principle to liberalism, William ruled as a constitutional monarch. He granted a parliamentary constitution to his Luxembourg subjects and succeeded in maintaining the neutrality of his grand duchy in the Franco-Prussian War (1870–71). J. R. THORBECKE was the leading liberal statesman during his reign and obtained the full emancipation of the Dutch Catholics With William's death the Dutch branch of the house of Orange-Nassau became extinct in its male descent, and the crown passed to his daughter, WILHELMINA

William, king of Scotland: see WILLIAM THE LION

William I (William the Bad), 1120–66, king of Sicily (1154–66), son and successor of Roger II. Despite his nickname, he was a wise lawgiver In 1160–61 he put down rebellions stirred up among his barons and in his cities by Pope ADRIAN IV and Emperor MANUEL I His son William II succeeded him.

William II (William the Good), c 1153–1189, king of Sicily (1166–89), son and successor of William I. He married (1177) Joan, daughter of Henry II of England As an ally of Pope Alexander III and the Lombard League he was at war with Emperor Frederick I He tried to resume the Norman conquest of the Byzantine Empire, taking Durazzo and Salonica, but was defeated by Isaac II. Childless, he willed the kingdom to his aunt, CONSTANCE, but he was succeeded by his cousin, TANCRED.

William I, 1781–1864, king of Württemberg (1816–64), son and successor of Frederick I Before his accession he fought with Napoleon in Russia (1812), and later against Napoleon with the allies (1814–15) He granted a liberal constitution in 1819, strove to protect the rights of the smaller German states against both Austria and Prussia, and promoted the ZOLLVEREIN

William or **Frederick William,** 1882–, former crown prince of Germany, son of William II In the First World War he commanded (1914) an army on the Western Front and was nominal commander in the German attack (1916) on VERDUN, where he ruthlessly sent thousands to certain death He fled to Holland in Nov , 1918, and there renounced his rights to the throne, but returned to Germany (1923) with the permission of the Weimar government fearing a Hohenzollern restoration, the former Allies protested, but, reassured by the German government, did not demand his expulsion. William was a supporter of the Hitler regime

William I, prince of Orange: see WILLIAM THE SILENT

William II, 1626–50, prince of Orange, stadholder of the United Provinces of the Netherlands (1647–50), son and successor of Frederick Henry He married (1641) Mary, eldest daughter of Charles I of England His ambitious projects brought him into conflict with the great merchants of Amsterdam He opposed the acceptance of the Treaty of Münster (1648), despite its recognition of the independence of the Netherlands, and he immediately began secret negotiations with France, having as his purpose the extension of his territory, the centralization of his government, and the restoration of his brother-in-law, Charles II, to the English throne The prompt resistance he encountered from the states of Holland was broken by William's imprisonment of its leaders (1650) He next turned his attention to external affairs and was negotiating a treaty with France when he died of smallpox He was succeeded by his posthumous son, the future William III of England

William III, prince of Orange: see WILLIAM III, king of England

William, prince of Wied (vēt), 1876–, king of Albania (1914), third son of William, prince of Wied, nephew of Elizabeth of Rumania A German army officer, he was elected ruler of Albania and he accepted, contrary to German advice Civil war soon made his position untenable, and he had no support among the large powers The coming of the First World War broke down all foreign aid A rebellion under Essad Pasha was successful, and in Sept , 1914, William was forced to retire, though he refused to abdicate

William, count of Holland, 1227?–1256, German king (1254–56), previously rival king (1247–54) to CONRAD IV The count of Holland was chosen to succeed Henry Raspe (d. 1247) as antiking in the midst of the quarrel between Emperor Frederick II and Pope Innocent IV Though recognized as king by most of the German princes after the death (1254) of Conrad IV, William's rule was never more than nominal and was never unchallenged Depending on the support of the Rhenish towns, he was the first German ruler to admit city delegates to a diet (1255). He was killed fighting against the Frisians

William, Fort. see FORT WILLIAM

William and Mary, College of, mainly at Williamsburg, Va , state supported since 1906, coeducational since 1918, chartered 1693, opened 1694 by Episcopalians under James BLAIR. It became a university in 1779 William and Mary traces descent from plans for a Univ. of Henrico, put aside after the Indian massacre of 1622. It was the second colonial college The college was closed when it was occupied in 1781 by Revolutionary troops, in the Civil War, and again in 1881–88 for lack of funds (see EWELL, BENJAMIN S.). Phi Beta Kappa was founded here in 1776. The elective

system (1779; suggested by Jefferson) and the honor system were introduced here There are departments of education and jurisprudence, the Marshall-Wythe School of Government and Citizenship, Richmond (Va) Professional Institute (schools of art, public health nursing, social work, and store service education), and Norfolk (Va) junior division The main building, oldest U S college building (1697), probably designed by Sir Christopher Wren, is restored to its original proportions and aspect Among noted students were Jefferson, Monroe, Tyler, and John Marshall Washington received his first surveyor's license here and later was a chancellor

William Henry, Fort, military fort at the southern end of Lake George, NE N Y , built (1755) by Sir William Johnson It was captured by Montcalm in 1757, although he had promised safe-conduct to the garrison, he was unable to control his Indian allies, who massacred or carried off into captivity a number of the fort's inhabitants The fort was destroyed by the French, but in 1758 James Abercromby (before he yielded his command to Jeffrey Amherst) began building another on the same site. For Fort William Henry in Maine, see PEMAQUID

William Jewell College: see LIBERTY, Mo

William of Champeaux (shămpō', shāpō'), d 1121, French scholastic philosopher He studied and taught in Paris There in 1109 he opened the monastic school of St Victor, which became famous later In 1113 he became bishop of Châlons-sur-Marne William is famous for a dispute in which Abelard worsted him Apparently he was an extreme realist, affirming that all members of a genus are of one substance, distinguished only by accidents. William was a friend (perhaps a teacher) of St Bernard of Clairvaux

William of Longchamp: see LONGCHAMP, WILLIAM OF

William of Malmesbury (mämz'–) d c 1143, English writer, monk of Malmesbury His most important work is the *Gesta regum Anglorum*, with its continuation, *Historia novella* Book V is contemporary history, especially valuable for the reigns of Henry I and Stephen He also wrote *Gesta pontificum Anglorum*, a source for early ecclesiastical history, *De antiquitate Glastoniensis ecclesiæ*, and several saints' lives The *Gesta regum* and its continuation were edited by William Stubbs (2 vols , 1887–89) See Montague Rhodes James, *Two Ancient English Scholars* (1931)

William of Newburgh, c 1136–c 1198, English chronicler, monk of Newburgh, Yorkshire He wrote the *Historia rerum Anglicarum*, a history of England from 1066 to 1198 While not entirely accurate in some details, the history is valuable and impartial, because William had an independent and critical mind See the translation of the history by Joseph Stevenson in his *Church Historians of England*, Vol IV (1856)

William of Occam or **William of Ockham** (both ŏ'kum), d c 1349, English scholastic philosopher, a Franciscan, sometimes called the Invincible Doctor He studied at Oxford and taught there until 1323 Then, deeply involved in the bitter quarrel between the more radical members of his order and Pope John XXII, he was summoned to Avignon and there imprisoned In 1328 William fled to Pisa and placed himself under the protection of the emperor He became a staunch supporter of Emperor Louis IV in the struggle with John XXII Like MARSILIUS OF PADUA, he violently opposed the temporal power of the pope and wrote numerous works on the subject, notably *Opus nonaginta dierum* [the work of 90 days] His *Dialogus* is a thorough discussion of political theories In the broader realm of philosophy he broke with the Thomistic intellectualism dominant in his time He argued that reality exists solely of individual things and that universals are merely the signs by which the mind represents reality to itself They are identified with abstract knowledge and do not touch reality, in contrast intuitive knowledge is our immediate experience of the individual, concrete thing and our formulation of that experience Logic, then, deals with signs rather than with realities This view came to be called terminalism By applying such ideas to metaphysics and psychology, Occam excluded from human intellectual knowledge many questions previously considered accessible to it, e g , immortality, the existence of God, and the existence of the soul Such matters, he believed, were the object of faith alone In his day Ockhamism grew very popular

William of Orange: see WILLIAM THE SILENT, WILLIAM II, prince of Orange, WILLIAM III, king of England

William of Tyre, b c 1130, d before 1185, historian and archbishop of Tyre Born in the Latin Kingdom of Jerusalem and possibly of French extraction, he completed his education in Europe, probably in France or Italy He soon returned to Palestine and in 1167 was appointed archdeacon of Tyre He was employed on various embassies by the king, AMALRIC I In 1170 he became tutor of Amalric's son and heir (later Baldwin IV). After Amalric's death he became (1174) chancellor of the kingdom, and in 1175 he was made archbishop of Tyre. He was present at the Lateran council in Rome in 1179 His chief importance lies in his historical work, his books are well written and accurate, especially that portion which deals with his own time Of his three known works only one is extant, the *History of Deeds Done beyond the Sea*, which treats of the Crusades and the Latin Kingdom down to 1184

William of Wykeham or **William of Wickham** (both: wĭ'kŭm), 1324–1404, English churchman and benefactor He was probably educated at Winchester Grammar School, and he entered the service of the royal court in 1347 He had charge of Edward III's additions to Windsor Castle and rapidly gained influence at court, becoming royal secretary and lord privy seal (1364) He received benefices in all parts of England, but was not ordained a priest until 1362 In 1367 he was consecrated bishop of Winchester and made lord chancellor His statesmanship seems to have been mediocre, and the debility of aging Edward III and the strife of factions made his position extremely difficult, in 1371 William resigned Opposing the party of John of Gaunt, he was one of the main instigators of the Good Parliament (1376) As a result he was charged with misuse of government funds, deprived of his temporalities, and harried for almost a year. On Richard II's accession he was exonerated and spent most of his remaining life in his episcopal duties From 1389 to 1391, however, he again served as chancellor His most lasting importance lies in his two great foundations, New College at Oxford (1379) and Winchester College (1394), one of the greatest of English public schools He rebuilt the Norman nave of Winchester Cathedral and repaired many churches of his diocese A conservative but conscientious churchman, William was a vigorous clerical reformer See biography by G C Heseltine (1932)

William Rufus: see WILLIAM II, king of England.

Williams, Bill see WILLIAMS, WILLIAM SHERLEY.

Williams, Edward see IOLO MORGANWG

Williams, Eleazer (ĕlē'zur), c 1787–1858, American missionary He was reputed to be either Louis XVII (the Lost Dauphin) or the great-grandson of Eunice Williams He was brought up in the home of Thomas Williams and educated in private schools in Massachusetts He became a Protestant Episcopal missionary among the New York Indians When the Oneida went (1822) to a reservation near Green Bay, Wis , he went with them and remained until 1850, when he returned to New York He did good work among the Indians and wrote in both their language and English Among other things he translated (1853) the Book of Common Prayer into Iroquois and wrote (1859) a *Life of Te-ho-ragwa-ne-gen* (Thomas Williams) An amazing likeness to the Bourbons, doubt as to his origin, and the actions of the prince de Joinville in seeking (1841) an interview with Williams were the basis of the story that he was the Lost Dauphin Eleazer was the form used by Williams himself, though the name occurs also as Eleazar, Lazar, and Lazau See John H Hanson, *The Lost Prince* (1854), E E Evans, *The Story of Louis XVII of France* (1893), William W Wight, *Eleazer Williams His Forerunners, Himself* (1896), Meade Minnigerode, *The Son of Marie Antoinette* (1934)

Williams, Emlyn, 1905–, Welsh actor and playwright, grad Christ Church, Oxford His best-known plays are *Night Must Fall* (1935), a psychological thriller, and *The Corn Is Green* (1941) The latter, a drama of Welsh mining life, is autobiographical

Williams, Ephraim, 1715–55, American soldier, founder of WILLIAMS COLLEGE, b Newton, Mass After several years as a sailor, he lived in Massachusetts and took part in defending the frontier against the Indians, and he was a captain in King George's War In recognition of his service he was given command of the Massachusetts posts W of the Connecticut river and 200 acres of land in Massachusetts, where Adams and Williamstown now stand Made a colonel in 1755, Williams was killed leading troops of Sir William Johnson's command in the first action of the battle of Lake George in the final French and Indian War His will directed that his property be used for establishing a free school Out of the academy thus founded at Williamstown, Williams College developed

Williams, Frankwood Earl, 1883–1936, American psychiatrist and psychoanalyst, b Cardington, Ohio, M D Univ of Michigan, 1912 A leader of the international mental hygiene movement, he edited (1917 32) *Mental Hygiene*, helped organize psychiatric work in the First World War, and served (1917–31) on the National Committee for Mental Hygiene He lectured in psychiatry and mental hygiene at Yale (1926–30) and at Columbia (1930–32) His works include *Mental Hygiene* (1929), *Adolescence* (1930), and *Russia, Youth, and the Present-Day World* (1934) He died at sea while returning to the United States from a visit to Russia

Williams, Frederick Ballard, 1871–, American landscape and figure painter, b Brooklyn, N Y He is represented in the Metropolitan Museum of Art and other leading American galleries

Williams, Sir George, 1821–1905, English merchant. In 1844 he founded the YOUNG MEN'S CHRISTIAN ASSOCIATION

Williams, Jesse Lynch, 1871–1929, American author, b Sterling, Ill , grad Princeton, 1892 He wrote numerous short stories, including *Princeton Stories* (1895), and several plays, one of which, *Why Marry?* (1917), received the 1918 Pulitzer Prize in drama Another play, *Why Not?* (1922), was adapted from his novelette *Remaining Time* (1916), and *Lovely Lady* was produced in 1925

Williams, John, 1664–1729, American clergyman, b. Roxbury, Mass , grad Harvard, 1683 In 1686 he became the first minister at Deerfield, Mass In the great Indian massacre at that frontier town in 1704, he was taken captive with his family Two of his children were murdered, and his wife was killed on the long journey to Canada In 1706 he and his children (except one, who remained with the Indians) were redeemed Williams returned to Deerfield His story of his adventures, *The Redeemed Captive Returning to Zion* (1707), is one of the best known of the many accounts of Indian captivity

Williams, John, 1796–1839, English missionary, called the Apostle of Polynesia Under the London Missionary Society he went (1816) to the Society Islands, where his work included the economic as well as religious education of the natives Discovering Rarotonga in 1823, he founded missions and schools there and translated parts of the Bible and other books into the Rarotongan tongue After a visit to England (1834–38), he returned to the South Seas in a newly outfitted ship for his missionary expeditions among the islands In the New Hebrides, in a region where he was not known and where he was planning to start a mission, he was killed by cannibals His *Narrative of Missionary Enterprise in the South Sea Islands* (1837) threw valuable light on little-known Polynesia See biography by B J Mathews (1915)

Williams, John Sharp, 1854–1932, American political leader, b Memphis, Tenn He studied law at the Univ of Virginia and was admitted (1877) to the bar He removed (1878) to Yazoo City, Miss , where he practiced law and engaged in cotton planting He served (1893–1909) as a Democrat in the House of Representatives, where he became (1903) minority leader In the U S Senate (1911–23), Williams—often characterized as a gentleman, planter, and scholar—effectively supported the Wilson administration with his eloquent speeches He wrote *Thomas Jefferson His Permanent Influence on American Institutions* (1913) See biography by G C Osborn (1943)

Williams, Ralph Vaughan see VAUGHAN WILLIAMS, RALPH

Williams, Robert R , 1886–, American chemist, b India, grad Univ of Chicago (B S , 1907), brother of Roger John Williams Research undertaken in 1910, while he was chemist (1908–15) at the Bureau of Science, Philippine Islands, culminated, during his association (1925–45) with the Bell Telephone Laboratories, New York city, in his isolation (1933) of Vitamin B_1 (thiamine) from a syrup of rice polishings In 1936 he synthesized the vitamin He became director of grants of the Research Corp , New York city, in 1945 He is noted also for his work in alkaphic and in rubber chemistry He wrote, with T D Spies, *Vitamin B_1 (Thiamin) and Its Use in Medicine* (1938)

Williams, Roger, c 1603–1683, clergyman, advocate of religious freedom, founder of RHODE ISLAND, b London A protégé of Sir Edward Coke, he was educated at Charterhouse and Cambridge (where he was graduated in 1627) and took Anglican orders He early espoused Puritanism and came to Boston in 1631 Williams was teacher and, after a two-year stay at Plymouth, minister of the Salem church His radical religious beliefs and political theories—he denied the validity of the Massachusetts charter and declared the civil magistrates had no power over matters of conscience—alarmed the Puritan oligarchy, and the General Court banished him in 1635 In the spring of 1636 he founded PROVIDENCE on land purchased from the Narragansett Indians To Providence, a democratic refuge from religious persecution, came settlers from England as well as Massachusetts There were four settlements in the Narragansett Bay area by 1643, when Williams went to England Through the influence of powerful friends such as the younger Sir Henry VANE, he obtained from the Long Parliament a patent (1644) uniting the Rhode Island towns of Portsmouth and Newport with his own Providence Plantations In 1651 William CODDINGTON secured a commission annulling the patent, but Williams, with John CLARKE, hastened again to England and had the patent of 1644 restored The patent's grant of absolute liberty of conscience was later confirmed by the royal charter of 1663 On his return in 1654, Williams was elected president of the colony and served three terms Always a trusted friend of the Indians (he wrote *Key into the Language of America*, 1643), he often used his good offices in maintaining peaceful relations with them But he was unable to prevent the outbreak of King Philip's War (1675–

76), in which he served as a captain of militia. Williams, though he remained a Christian, came to hold no particular creed His writings, reprinted in the *Narragansett Club Publications* (Providence, 1866–74), reveal the vigor with which he propounded his democratic and humanitarian ideals. *The Bloudy Tenent of Persecution for Cause of Conscience* (1644) was condemned by John COTTON, who was answered with *The Bloudy Tenent Yet More Bloudy* (1651). Other works are *Queries of Highest Consideration*, an argument for complete separation of Church and state, *The Hireling Ministry None of Christ's* (1652), and *George Fox Digg'd Out of His Burrowes* (1676), a polemic against Quaker teachings Of great personal charm and unquestioned integrity, Williams was admired even by those who, like both Winthrops, abhorred his liberal ideas See biography by S H Brockunier (1940) and biographies and studies by O S Straus (1894), E J Carpenter (1909), J E Ernst (1929), and Emily Easton (1930).

Williams, Roger John, 1893–, American chemist, b India, grad. Univ of Redlands, Redlands, Calif. (B S , 1914), Ph D Univ of Chicago, 1919, brother of Robert R Williams He taught chemistry at the Univ of Oregon (1920–32) and at Oregon State College (1932–39) and became professor at the Univ of Texas in 1939 and also director of the Biochemical Institute of Texas in 1941 He is noted for his work on the vitamin B complex and especially for his discovery of pantothenic acid He wrote *An Introduction to Organic Chemistry* (1927; 5th ed , 1948), *An Introduction to Biochemistry* (1931, 2d ed , 1948), *A Textbook of Biochemistry* (1938, 2d ed , 1942), *What to Do about Vitamins* (1945), and *The Human Frontier* (1946)

Williams, Samuel Wells, 1812–84, American missionary and Chinese scholar, b Utica, N Y In 1833 he went to Canton, China, to take charge of the mission press of the American Board of Commissioners for Foreign Missions Williams was Perry's interpreter in the Japanese expedition (1853–54) and acted as secretary and interpreter for the American legation in China until 1876, when he accepted a professorship of Chinese language and literature at Yale His chief work is his monumental *Syllabic Dictionary of the Chinese Language* (1874) He also wrote *Easy Lessons in Chinese* (1842) and *The Middle Kingdom* (1848) He collaborated on Elijah C Bridgman's *Chinese Chrestomathy* (1841)

Williams, Tennessee, 1914–, American dramatist, b Columbus, Miss , grad State Univ of Iowa, 1938 His original name was Thomas Lanier Williams He was included in *Five Young American Poets* of 1944 His three most successful plays, *The Glass Menagerie* (1945), awarded the New York Drama Critics' Prize for 1945, *A Streetcar Named Desire* (1947), winner of the 1946 Pulitzer Prize for drama, and *Summer and Smoke* (1949) are all penetrating studies of frustration, written with a sure sense of dramatic effectiveness His *27 Wagons Full of Cotton and Other One-Act Plays* appeared in 1946

Williams, Theodore Samuel (Ted Williams), 1918–, American baseball player, b San Diego, Calif He excelled at baseball while in high school, and at the age of 17 he began playing professional ball with the San Diego Padres of the Pacific Coast League In 1938 he tried out with the Boston Red Sox in spring training, and a year later he joined that club as a regular outfielder He batted well over 300 in 1939 and 1940, in 1941, besides batting 406 to win the batting championship, he also led the American League in home runs (37) In 1942 the tall, rangy left-hander was again top batter in the major leagues with a .356 average, while leading the American League in home runs (36) and runs batted in (137) In the Second World War he served (1942–45) as an air cadet in the U S navy Williams, a controversial personality to Bostonians, helped lead the Red Sox to a pennant in 1946 Though opposing teams frequently employed the "Williams shift"—moving fielders toward right field, where Williams customarily drives his base hits—Ted continued to lead the league in batting in 1947 with .343 and in 1948 with .369. In 1949 with .3427, he narrowly lost out to George Kell of the Detroit Tigers, who had a .3429 average Williams's skill at bat helped bring several victories to the American League in All Star play

Williams, William, c.1710–c. 1790, American painter, b England, first teacher of Benjamin West The facts of Williams's life are obscure, but he probably went to sea in his youth Benjamin West began taking lessons from him in Philadelphia c 1740 He painted scenery for the first Philadelphia theater in 1759. He later went to New York, was painting there in 1775, and probably returned to England c 1780 He died in a Bristol almshouse. Among his possessions was a manuscript, *The Journal of Llewellin Penrose, a Seaman*, which is supposed to be at least partly autobiographical It was published in 1815. Williams's paintings were richly colored and romantic in treatment Among the pictures known to be his are *Deborah Hall* (Brooklyn, N.Y , Mus), *Benjamin Lay* (Historical Society of Pennsylvania), and *John Wiley, His Mother, and Sisters*

Williams, William, 1717–91, Welsh poet and clergyman, called William Williams of Pantycelin. He is an important figure in Welsh literary history. A pioneer in the romantic movement, he wrote verse revolutionary in substance and form, substituting an intensely personal poetry for older conventional themes His hymns rank among the great masterpieces of religious poetry His best-known hymn is *Guide Me, O Thou Great Jehovah*, of which he wrote both Welsh and English versions

Williams, William, 1731–1811, American patriot, signer of the Declaration of Independence, b. Lebanon, Conn., grad. Harvard, 1751 He served in the French and Indian War and held many public offices before becoming a delegate (1776–78, 1783–84) to the Continental Congress

Williams, William Carlos, 1883–, American poet and physician, b Rutherford, N J., educated at Geneva, Switzerland, M D Univ of Pennsylvania (1906), and studied pediatrics at the Univ of Leipsig He has practiced medicine in Rutherford, N J , since 1910 A friend of Ezra Pound, Wallace Stevens, and Hilda Doolittle, he worked in the technique of imagism in his early *Poems* (1909) and *The Tempers* (1913) He gradually developed a poetic expression more stark, close to the idiom of speech, in which the natural rhythm gave strength to the free verse Volumes of his poetry include *Al Que Quiere* (1917), *Collected Poems, 1921–1931* (1934), *Complete Collected Poems* (really a selection, 1938), *The Wedge* (1944), *The Clouds* (1948), and *Selected Poems* (1949) Of his projected four-book poem, *Paterson*, the first three books appeared in 1946, 1948, and 1950 *A Dream of Love* is a verse play Though he is honored and best known as a poet, he has written essays, including those in *The Great American Grain* (1925), novels, among them *The White Mule* (1937), and short stories. See study by Vivienne Koch (1950)

Williams, William Sherley (Old Bill Williams), 1787–1849, American trader and trapper, b. Rutherford co , N C Much of his early life was spent in Missouri, where he was a traveling preacher Becoming (c 1822) an independent trapper, he accompanied (1825–26) a surveying party on the Santa Fe Trail, trapped in the Yellowstone country and in Texas, and went to California on an expedition in 1833–34 After that he spent much time in the mountain country and along the Santa Fe Trail In 1848 Williams, who was one of the most colorful of the mountain men, joined Frémont's fourth expedition at Bent's Fort as a guide Frémont, disregarding his advice, led the group towards the headwaters of the Rio Grande, where most of the party perished of cold and starvation Frémont retreated, blaming the episode on the guide Williams was killed by Ute Indians while retracing the path of the expedition See biography by Alpheus H Favour (1936)

Williams, town (pop 2,622), N central Ariz , W of Flagstaff, S of the Grand Canyon, on Bill Williams Mt It is a lumber and tourist town

Williamsburg. 1 Town (pop 1,308), SE Iowa, W of Iowa City, inc 1884 **2** City (pop 2,331), co seat of Whitley co , S Ky , on the Cumberland and NW of Middlesboro, in an area of coal mines, farms, gas wells, and timber Cumberland College (junior, coeducational) is here Cumberland Falls State Park is near **3** Town (pop 1,684), W Mass , in the Berkshires NW of Northampton, settled 1735, set off from Hatfield 1771 **4** Village (pop 1,194), SW Ohio, on the East Fork of the Little Miami and E of Cincinnati, settled 1795, inc 1800 There are chair factories here. **5** Borough (pop 1,898), S Pa , SE of Altoona, settled 1790, laid out 1795, inc 1827 It is the birthplace of Charles M Schwab **6** Historic city (pop 3,942), SE Va , SE of Richmond, between the James and the York, settled 1632 as Middle Plantation, laid out and name changed 1699 It was in 1722 the first city in Virginia to be incorporated The temporary seat of government after the burning of Jamestown (1676) in BACON'S REBELLION, the town became capital of Virginia in 1699 In 1693 it was chosen the site for the College of WILLIAM AND MARY Williamsburg was the scene of important conventions during the movement for American independence, but it declined after 1779, when the capital was moved to Richmond In the PENINSULAR CAMPAIGN of the Civil War occurred a rear-guard action here, May 5, 1862, between retreating Confederates and McClellan's forces In 1927 restoration of the city to its colonial aspect was begun, Dr W A R Goodwin (1869–1939), rector of the Bruton Parish Church, had interested John D. Rockefeller, Jr , in financing the undertaking Numerous buildings were restored and others rebuilt. Among the historic places here are the colonial capitol (reconstructed), Raleigh Tavern (reconstructed), rendezvous of Virginia Revolutionary patriots, the courthouse of James City co ; the Bruton Parish Church, and the governor's palace (reconstructed) The city is included in COLONIAL NATIONAL HISTORICAL PARK. An annual Garden Week is held, and the state general assembly meets in the old colonial capitol once during each biennial legislative session See W O. Stevens, *Old Williamsburg and Her Neighbors* (1938), publications of Colonial Williamsburg, Inc.

Williams College, at Williamstown, Mass., nonsectarian, for men; chartered 1785, opened as a free school 1791, became a college 1793, named for Ephraim WILLIAMS. The campus includes West College (1790), the Van Rensselaer Manor House (moved from Albany, N.Y), and the oldest U.S observatory (Hopkins, 1838). There are art and geology museums and a rare-book collection covering many fields Among distinguished presidents was Mark HOPKINS (1836–72). The first American mission grew out of the "haystack prayer meeting" here (1806). The first Institute of Politics, a model for others, was founded here in 1921.

William Smith College: see COLLEGES OF THE SENECA, THE.

Williamson, Alexander William, 1824–1904, English chemist. He taught (1849–87) at University College, London He studied the composition of ethers and devised a method (Williamson synthesis) of preparing ethers His writings include papers on etherification and on the composition of gases.

Williamson, Hugh, 1735–1819, American statesman, physician, and scientist, b. West Nottingham, Pa , grad College of Philadelphia (now the Univ of Pennsylvania), 1757. He studied theology, was a minister, then was (1760–63) professor of mathematics at the College of Philadelphia before studying medicine at Edinburgh and Utrecht. He practiced at Philadelphia and became interested in general science In England he obtained private letters written by Gov. Thomas HUTCHINSON, urging harsh measures against the patriots He later entered business in North Carolina and became surgeon general of that state in the American Revolution Elected to the state legislature (1782), he was also a member of the Continental Congress (1782–85, 1787), a delegate (1787) to the Federal Constitutional Convention, and a member of the Federal Congress (1789–93) After 1793 he engaged in scientific studies and wrote numerous scientific tracts See David Hosack, *A Biographical Memoir of Hugh Williamson* (1820)

Williamson, city (pop 8,366), co seat of Mingo co , S W Va , on the Tug Fork and SW of Charleston, in a coal-mining area, inc 1892

Williamsport. 1 Town (pop 1,222), co seat of Warren co , W Ind , on the Wabash near Attica, settled 1829 **2** Town (pop 1,772), NW Md , on the Potomac and SW of Hagerstown, laid out c 1786 Leather, silk, and limestone are produced **3** City (pop 44,355), co seat of Lycoming co , N central Pa , on the West Branch of the Susquehanna and c 70 mi N of Harrisburg on the Susquehanna Trail, settled 1772, laid out 1795, inc as a borough 1806, as a city 1867 It is a tourist center, a manufacturing city, and the trading and distributing center for an extensive agricultural and mining area Its manufactures include textiles, metal products, lumber products, and machinery George B Luks was born here It was the scene of several Indian massacres in colonial times and grew with the development of the lumber industry in the 19th cent Lycoming College (junior) is here

Williamston. 1 Village (pop 1,704), S Mich , on the Cedar river and E of Lansing, settled c 1835, inc 1871 Brick and tile are produced from the clay pits near by **2** Town (pop 3,966), co seat of Martin co , NE N C , on the Roanoke and ESE of Rocky Mount, inc 1779 It is a tobacco market and has fisheries, a peanut-processing factory, and lumber mills **3** Textile town (pop 2,509), NW S C , NE of Anderson near the Saluda, in a farming region

Williamstown, town (pop 26,481), Victoria, Australia, a port on Hobson's Bay and 5 mi SW of Melbourne There are shipyards and a dry dock

Williamstown. 1 Town (pop 1,077), co seat of Grant co , N Ky , S of Covington, in a region settled c 1790 It is the center of a fertile farm area **2** Town (pop 4,294), extreme NW Mass , in the Berkshires, on the Hoosac and W of North Adams, settled 1749, inc 1765 Mt Greylock rises to the south Wire and film are made here. It is the seat of WILLIAMS COLLEGE and has several pre-Revolutionary houses It is a skiing center **3** Borough (pop 2,769), SE Pa , NE of Harrisburg, laid out 1869 It produces anthracite and textiles **4** Town (pop 1,477), central Vt , S of Barre, chartered 1781, first settled 1784 **5** Trade city (pop. 1,687), NW W Va., on the Ohio and S of Marietta, Ohio, in a farm area, settled 1787 There is a glass plant here

Williamsville, residential village (pop 3,614), W N Y., NE of Buffalo, settled c 1800, inc. 1869.

William Tell: see TELL, WILLIAM.

William the Conqueror: see WILLIAM I, king of England.

William the Lion, 1143–1214, king of Scotland (1165–1214), brother and successor of Malcolm IV, and grandson of David I The alliance with Louis VII which he made in 1168 began a long friendship between France and Scotland Soon afterward he went to aid the rebellion of the sons of Henry II of England. His capture by the English had the disastrous result that Henry forced him to sign the Treaty of Falaise (1174), making Scotland a feudal possession of England. He was released in 1175 and immediately asked the pope to declare the

Scottish church free of English domination. A quarrel with the pope delayed the decision, but in 1188 Pope Alexander III declared the Church of Scotland subject only to Rome. In 1189 William was able to buy annulment of the Treaty of Falaise from Richard I of England for 10,000 marks. William maintained an uncertain peace with England under King John and furthered somewhat the internal development of Scotland begun under David I, especially strengthening the courts and chartering royal burghs He was succeeded by his son, Alexander II

William the Silent or **William of Orange** (William I, prince of Orange), 1533–84, Dutch statesman, principal founder of Dutch independence A descendant of the Ottonian line of the house of Nassau, he was born at Dillenburg, near Wiesbaden, Germany, of Protestant parents However, William was reared a Catholic at the insistence of Emperor Charles V, whose favorite page he became He inherited the principality of Orange, in S France, in 1544 and was made (1555) stadholder of Holland, Zeeland, and Utrecht He served Philip II of Spain ably as a diplomat, particularly in the making of the Treaty of Cateau-Cambrésis (1559) Philip's encroachments on the liberties of the Netherlands and the introduction of the Spanish Inquisition by Cardinal Granvelle led him to turn against the king In 1563, with the help of counts Egmont and Hoorn, he succeeded in obtaining the removal of Granvelle, but under the regency of Margaret of Parma disorders grew in the Netherlands In 1566 the party of the Gueux was organized with William's connivance, and when Alba was sent to the Netherlands to quell the rebels, William withdrew to Germany He refused Alba's summons to appear before a tribunal, and his property was confiscated William and his brother, Louis of Nassau, raised an army to drive the Spanish out of the Netherlands They at first met defeat, but in 1576 the provinces of the Netherlands, taking advantage of the mutiny of the Spanish army under John of Austria, united under William's leadership in the Pacification of Ghent for the purpose of expelling the Spanish In 1573, chiefly for the sake of policy, William had become a Calvinist The struggle with Spain continued The Union of Utrecht (1579) proclaimed the virtual independence of the northern provinces, of which William was the uncrowned ruler, but the victories of the Spaniards under Alessandro Farnese forced William to seek French support by offering (1580) the rule over the Netherlands to Francis, duke of Alençon and Anjou Philip II denounced William as a traitor, and a large price was set on his head in 1581 William replied with his famous *Apologia*, in which he not only sought to vindicate his own conduct, but hurled violent accusations at the Spanish king, and in the same year the representatives of Brabant, Flanders, Utrecht, Gelderland, Holland, and Zeeland solemnly declared Philip deposed from sovereignty over those provinces William was chosen count of Holland and Zeeland, which had refused to accept Francis as sovereign William's support of the unpopular Francis resulted in the wane of William's own popularity during his last years He was assassinated at Delft by a French Catholic fanatic, while the struggle against Spain was still in a critical stage William married four times His first wife was Anne of Egmont and Büren (d. 1558), in 1561 he married Anne, daughter of Elector Maurice of Saxony, in spite of the opposition of Philip II and of Anne's parents, in 1575, two years before Anne's death, he married Charlotte de Bourbon, a French princess and a run-away nun, after securing the approval of several Protestant divines, in 1583 he married Louise de Coligny, daughter of Admiral Coligny From the first marriage Prince Philip William of Orange (d 1618) was born, from the second and fourth marriages issued William's successors as stadholders—Maurice of Nassau and Frederick Henry See biographies by Frederic Harrison (1897), Ruth Putnam (1911), and C. V. Wedgwood (1944)

Willibald, Saint (wĭl'lĭbôld), d 787?, English missionary in Germany He traveled in the East and was sent from Rome on a mission to aid St Boniface He was made first bishop of Eichstätt St Walburga was his sister, and St Wunebald, first abbot of Heidenheim, was his brother Feast of St Willibald July 7

Willibrord, Saint (wĭl'lĭbrôrd), 658–739, English Benedictine missionary, called the Apostle to the Frisians. He was brought up at Ripon by St Wilfrid and studied further (678–90) in Ireland From there he was sent with a few monks to Frisia to preach, under the protection of Pepin of Héristal. In 695 Willibrord went to Rome and was consecrated archbishop of the Frisians by Pope Sergius III, who gave him the name of Clement. Utrecht was established as his see; it became a center of English Christian culture on the Continent. He died at Echternach, in the monastery which he had founded (c.700) His work was continued by St. Boniface. Feast Nov 7.

Willimantic (wĭlĭmăn'tĭk), city (pop. 12,101) in Windham town, E Conn., a co. seat of Windham co., ESE of Hartford; inc. 1893. Cotton spinning dates from 1822. Willimantic, known as the Thread City, manufactures also yarns, airplane parts, and hardware. A state teachers college is here

Willing, Thomas, 1731–1821, American merchant and financier, b Philadelphia He studied law in London, entered his father's business, and later established with Robert Morris a prominent importing and exporting firm in Philadelphia He was elected mayor of Philadelphia in 1763 and was a justice of the Pennsylvania court (1767–1777) As a member of the Continental Congress (1775–76), he voted against the Declaration of Independence In 1780 Willing was active in raising money for the Continental army He was one of the founders of the Bank of North America and its first president (1781–1792) He also became (1791) first president of the Bank of the United States See B A Konkle, *Thomas Willing and the First American Financial System* (1937)

Willingdon, Freeman Freeman-Thomas, 1st **marquess of,** 1866–1941, British statesman He was (1900–1910) a Liberal member of Parliament He was governor of Bombay presidency (1913–19) and of Madras presidency (1919–24) and was governor general of Canada (1926–31) As viceroy and governor general of India (1931–36) he repressed passive-resistance campaigns of the Indian National Congress

Willington, town (pop 1,233), NE Conn , on the Willimantic river, inc 1727

Willis, Nathaniel Parker, 1806–67, American author, b Portland, Maine, grad Yale, 1827 Editor of two annuals, the *Legendary* and the *Token*, and founder (1829) and editor of the *American Monthly Magazine* in Boston, he was a veteran journalist by 1831, in that year he merged his magazine with George Pope Morris's *New-York Mirror* and went abroad to write for the *Mirror* and for English magazines In New York he had three plays produced (1838–39), of which *Bianca Visconti* won a prize and *Tortesa the Usurer* was praised by Poe As editor of the *Mirror* after 1840, he had many prominent contributors to it and to the *National Press*, later the *Home Journal*, which he and Morris founded in 1846 Willis's books, popular but ephemeral, were collections of his journalistic work, among them are *Pencillings by the Way* (1835), *Inklings of Adventure* (1836), and short stories in *Dashes at Life with a Free Pencil* (1845) Sara Payson Willis Parton was his sister See study by H A Beers (1885)

Willis, Robert, 1800–1875, English archaeologist and inventor He was professor of applied mechanics at Cambridge Univ , fellow of the Royal Society, and an authority on architectural history Of his 15 lectures on the architectural history of English cathedrals, seven were published (1844–1865) In 1857 he was awarded the cross of the Legion of Honor for a report on textile machinery His chief invention was the odontograph for mechanical draughtsmen, the first practical plan for constructing cycloidal toothed wheels in sets for universal gearing Among his books are *Principles of Mechanism* (1841), *Architectural History of the Monastery of Christ Church in Canterbury* (1869), and *The Architectural History of the University of Cambridge and of the Colleges of Cambridge and Eton* (4 vols , 1886), completed and published after his death by J Willis Clark

Willis, Thomas, 1621-75, English physician and anatomist He became professor at Oxford Univ in 1660 and in 1666 established a practice in London An authority on the brain and nervous system, he discovered the 11th cranial nerve and a circle of arteries at the base of the brain (the circle of Willis) He was the first to note the presence of sugar in the urine of diabetics His works, written in Latin, include *Of the Anatomy of the Brain*, illustrated by Sir Christopher Wren, published in 1664, and translated in *The Remaining Works . . . of Thomas Willis* (1681)

Williston, Samuel Wendell, 1852-1918, American paleontologist and entomologist, b Boston, grad Kansas State Agricultural College (B S , 1872) and Yale (M D , 1880, Ph D , 1885) He taught at Yale (1876–90), was professor and dean of the medical school at the Univ of Kansas (1890–1902), and was professor of paleontology at the Univ of Chicago (from 1902) Williston is known for his study of insects and of the paleontology of amphibians and reptiles His writings include *Water Reptiles of the Past and Present* (1914)

Williston, 1 City (pop. 5,790), co seat of Williams co , NW N Dak , on the Missouri, settled c 1880, inc 1904. It is the trade and shipping center of an irrigated farming area, with railroad repair shops and stockyards An agricultural experiment station of the state agricultural college is here 2 Town (pop. 1,107), SW S C , SSW of Columbia, in a truck-farming area 3 Town (pop. 1,021), NW Vt , SE of Burlington, on the Winooski; chartered 1763, first settled 1774, abandoned during the Revolution, inc 1786

Williston Park, residential village (pop 5,750), on W Long Island, SE N Y , near Mineola; inc 1926.

Willits, town (pop 1,625), W Calif , NNW of San Francisco, founded c 1865, inc. 1888 The region produces timber, livestock, and dairy products.

Willkie, Wendell Lewis, 1892–1944, American industrialist and political leader, Republican candidate for the presidency in 1940, b Elwood, Ind., grad Indiana Univ (B.A., 1913, LL B., 1916) He practiced law in Ohio (1914–23) and in New York (1923–33) before he became president (1933) of the Commonwealth and Southern Corp Although he had been a Democrat, antagonism to the New Deal led Willkie to enroll as a Republican in 1940 The same year he was nominated by the Republican party for the presidency, despite his lack of political experience and following In his campaign against Franklin D Roosevelt he endorsed the Roosevelt foreign policy but attacked the New Deal at home Although defeated in the election, he polled over 22,000,000 votes He later (1941–42) visited England, the Near East, Russia, and China as the President's personal representative and led the fight (1942–44) to liberalize the Republican party, mainly attacking isolationism. He wrote *One World* (1943) and *An American Program* (1944)

Wilmar (wĭl'mar), city (pop 7,623), co seat of Kandiyohi co , central Minn , W of Minneapolis, in a dairy and farm area, settled 1856, platted 1869, inc as a village 1874, as a city 1901 A state hospital for the insane is here

will-o'-the-wisp, phenomenon known also as *ignis fatuus* and jack-o'-lantern It is seen at night as a pale, flickering light over marshland There is no generally accepted explanation for it, it may result from the spontaneous ignition of gases (e g , methane) produced by the disintegration of dead plant or animal matter, or it may be a form of phosphorescence The eerie lights have given rise to many superstitions

Willoughby (wĭl'lŭbĭ), village (pop 4,364), NE Ohio, on the Chagrin river near Lake Erie and NE of Cleveland, settled c 1800 as Chagrin, renamed 1834 Rubber products and furniture are among its manufactures Near by is Kirtland Temple, a Mormon church built in 1833–36

Willoughby, Lake, beautiful lake, 5 mi long, NE Vt , in a high wooded area A state forest is near by, and the area is noted for recreation

willow, any tree or shrub of the large and widely distributed genus *Salix* Willows usually have long narrow leaves, and the male and female flowers are borne in catkins on separate plants The catkins sometimes are large and showy and appear before the leaves, as in the pussy willow The pussy willow (*Salix discolor*), of the NE United States and adjacent parts of Canada, and the weeping willow (*S babylonica*), native to Europe and Asia, are two popular decorative species The light soft wood of willows is used for making a high grade of charcoal, for boxes, and for wooden artificial limbs Willow bark is used for tanning leather, and the twigs of many species are valued commercially for basketry and wickerwork Such twigs and the bushes that yield them are often called osiers Willow bark and buds have been used medicinally Because of their ease of propagation by cuttings, their rapid growth, and their preferred habitat of river banks and moist sites, willows are valuable aids in erosion control Willows appear in legends of both the Orient (see WILLOW-PATTERN WARE) and the Occident

Willow Glen, Calif see San Jose

willow herb, name for several plants, among them the FIREWEED

willow-pattern ware, sometimes porcelain but frequently opaque pottery, originated in Staffordshire, England, c 1780 Thomas Minton, then an apprentice potter, developed and engraved the design after an old Chinese legend It portrays the garden of a rich mandarin whose young daughter elopes with his secretary The lovers, overtaken on the bridge by her father, are transformed by the gods into birds and flutter beyond his reach The scene with its willow tree covers the central part of plate, dish, or bowl, with a border of butterflies, daggers, a fret, or other motif The blue-and-white chinaware on which it appeared became immensely popular, and the design was reproduced with variations by many European potters and even in the Orient, where it is still constantly employed, most of the ware being exported to Western countries

Willows, city (pop 2,215), co seat of Glenn co , N central Calif , NNW of Sacramento, in an irrigated farming region of the Sacramento valley; inc 1886

Willow Springs, city (pop 1,530), S Mo , ESE of Springfield, in a farm and timber area of the Ozarks Mark Twain National Forest is near

Wills, Helen Newington, 1906-, American tennis player, b Alameda co , Calif She studied art at the Univ of California and later gave exhibitions of her paintings and etchings She gained international attention, however, by tennis playing She repeatedly won (1923–25, 1927–29) the U S women's singles crown while also taking (1927–29) the British women's singles title and other championships in France and Holland After her marriage (1929) to Frederick S Moody, Jr , she again won the U S. (1931) and the British (1932–33, 1935, 1938) singles titles Though she defaulted to Helen Hull Jacobs because of a leg injury in the 1933 finals of the U S. singles, she came back in 1935

and dramatically defeated Miss Jacobs in the Wimbledon finals match In 1937 Helen Wills Moody was granted a divorce, and in 1939 she married Aidan Roark, a polo player She is generally considered to have been the greatest woman tennis player of her time She wrote *Tennis* (1928) and *Fifteen-Thirty* (1937)

Willson, Beckles (Henry Beckles Willson), 1869–1942, Canadian author, b Montreal He was for a time a journalist in the United States and later in England Many of his numerous books are on Canadian and English affairs, these include *The Great Company* (1899), *The Truth about Newfoundland* (1901), *Canada* (1907), *Nova Scotia* (1911), *Quebec* (1913), *England* (1922), and biographies of George III (1907), Lord Strathcona (1902, 1915), and James Wolfe (1915)

Wills Point, city (pop 1,976), E Texas, E of Dallas, in a truck and cotton area

Willstätter, Richard (rĭkh'lärt vĭl'shtĕtur), 1872–1942, German chemist He was professor at the Kaiser Wilhelm Institute of Chemistry, Berlin (1912–16), and at the Univ of Munich (1916–25) He received the 1915 Nobel Prize in Chemistry for his work on chlorophyll and on anthocyanins (red, blue, and violet plant pigments) His later work was on the assimilation of carbonic acids in plants and on the chemical composition of enzymes

Willughby, Francis (wĭl'lŭbē), 1635–72, English naturalist He is known especially for his early systematic work on birds and fishes, in which he made some of the most important contributions before those of Linnaeus He toured the Continent with John Ray, collecting material for his *Ornithologia* (1676, in Latin), translated into English by Ray as *The Ornithology of Francis Willughby* (1678) Ray also published Willughby's *De Historia piscium* (1686)

Wilmerding (wĭl'murding), industrial borough (pop 5,662), SW Pa , ESE of Pittsburgh, inc. 1890 It manufactures railroad equipment

Wilmette (wĭlmĕt'), residential village (pop 17,226), NE Ill , northern suburb of Chicago, inc 1872 It has a Bahaist temple (see Bahaism)

Wilmington. **1** City (pop 112,504), co seat of New Castle co , NE Del , metropolis of the state on the Delaware river and tributary streams, the Christina and the Brandywine, inc as a borough 1809, as a city 1832 It is a port of entry Fort Christina, built here by the Swedes in 1638 (the site is now a state park with a memorial by Carl Milles, 1937), was maintained later by the Dutch, then the British, in 1682 William Penn came into possession Shipping and manufacturing grew, and in 1802 E I du Pont established a powder mill on the Brandywine Today the Du Pont Company's executive offices are here, the company maintains extensive facilities on its original site, and in near-by Edge Moor and Newport it manufactures pigments The Amalgamated Leather Companies plant is here, and there are shipyards and railroad shops A municipal marine terminal has been Wilmington's port since 1923 Numerous historic buildings are extant, among which is Old Swedes Church, built in 1698 Other points of interest are Rodney Square (civic center), Delaware Academy of Medicine, and Wilmington Art Center See Anna T Lincoln, *Wilmington, Delaware* (1937) **2** City (pop 1,921), NE Ill , S of Joliet, settled c 1839, inc 1875 It is a trade center in a farm and resort area of the Kankakee valley **3** Rural town (pop 4,645), NE Mass , NNW of Boston, settled 1639, inc 1730 **4** City (1940 pop 33,407, 1946 special census pop 47,483), co seat of New Hanover co , SE N C , a port of entry with a fine harbor on the Cape Fear River c 30 mi from its mouth, founded 1730 It is a railroad center as well as a port and handles cotton, fertilizer, and lumber In 1781 Cornwallis had his headquarters here During the Civil War it was an important Confederate port for blockade-runners until Fort Fisher (see Fisher, Fort) fell, Jan 15, 1865 The city has many old buildings and is the seat of a national cemetery **5** City (pop 5,971), co seat of Clinton co , SW Ohio, NE of Cincinnati, in a farm area, settled 1810, inc 1828 Wood-boring tools, air compressors, castings, and furnaces are made Wilmington College (coeducational) is here Near by is Fort Ancient State Park, with a prehistoric fortification and a museum **6** Town (pop. 1,221), S Vt , in the Green Mts W of Brattleboro, chartered 1751, settled c 1770 It includes Wilmington village (inc. 1855), which has woodworking mills

Wilmore, town (pop 1,228), central Ky , SSW of Lexington, in the bluegrass region Asbury College (coeducational) and a theological seminary are here.

Wilmot, David, 1814–68, American legislator, b Bethany, Pa He was admitted (1834) to the bar and practiced, in partnership with Galusha A Grow, at Towanda, Pa As a Democratic Congressman (1845–51) he became widely known as the author of the famous Wilmot Proviso, which helped build up the sectional animosity that led to the Civil War Ardently opposed to slavery, Wilmot became a leader of the Free-Soil party He helped to found the Republican party and was (1861–63) a Republican Senator, filling out the unexpired term of Simon Cameron. He then became (1863) judge of the U S Court of Claims. See biography by C B Going (1924).

Wilmot, Robert Duncan, 1809–91, Canadian statesman, b. Fredericton, N B At first a leading anti-confederationist in the New Brunswick parliament, he later became an advocate of confederation and sat in the London Conference (1866–67), which drafted Canadian union Wilmot was member of both provincial and dominion cabinets, Canadian senator (1867–80), and lieutenant governor of New Brunswick (1880–85).

Wilmot Proviso, 1846, amendment to a bill put before the U S House of Representatives. The bill provided appropriation of $2,000,000 to enable President James K Polk to negotiate a treaty with Mexico in settlement of the boundary question David Wilmot introduced an amendment to the bill that stipulated that none of the territory acquired in the Mexican War should be open to slavery In two successive sessions (1846, 1847) of Congress, the amended bill passed the House but was purposely ignored by the Senate. The Wilmot Proviso created great bitterness and proved to be an important step in crystallizing the sectional conflict between North and South In the election of 1848 the terms of the Wilmot Proviso, a definite challenge to proslavery groups, were ignored by the Whig party and the Democratic party, but they were adopted by the Free-Soil party Later the Republican party also championed the forbidding of slavery in new territories

Wilna, Elijah. see Elijah ben Solomon.

Wilno, Lithuania see Vilna

Wilson, Alexander, 1766–1813, American ornithologist, b Scotland He came to the United States c 1794 and taught in rural New Jersey and Pennsylvania Encouraged by William Bartram, he studied birds, learned to draw them, and began his *American Ornithology* (9 vols , 1808–14), the last two volumes were completed by his friend and biographer (1829), George Ord, after Wilson's death Wilson is known also for his poems and essays on nature

Wilson, Auguste Jane Evans, 1835–1909, American novelist, b Columbus, Ga She is remembered only for one sensational success, *St Elmo* (1866).

Wilson, Charles Thomson Rees, 1869–, British physicist He was Jacksonian professor of natural philosophy at Cambridge Univ (1925–34) Subjects of his research are atmospheric electricity, ions, and condensation nuclei He developed a method for studying, by means of the Wilson cloud chamber, the activity of ionized particles He shared with A C Compton the 1927 Nobel Prize in Physics

Wilson, Edmund, 1895–, American critic, b Red Bank, N J , grad Princeton, 1916 He was managing editor (1920–21) of *Vanity Fair* and later was on the staff of the *New Republic* (1926–31) and of the *New Yorker* (from 1944) An eclectic critic much interested in the theories of Marx and Freud, his major literary criticism is in *Axel's Castle* (1931), *The Triple Thinkers* (1938, enl ed , 1949), and *The Wound and the Bow* (1941) His social criticism is in *Travels in Two Democracies* (1936), *To the Finland Station* (1940), a history of the European revolutionary tradition, and *Europe without Baedeker* (1947) He has also written several short plays, poems, a novel (*I Thought of Daisy*, 1929), a miscellany (*Notebooks of the Night*, 1942), and short stories in *Memoirs of Hecate County* (1946) and has edited an anthology, *The Shock of Recognition* (1943)

Wilson, Edmund Beecher, 1856–1939, American zoologist, b Geneva, Ill , grad Yale (Ph B , 1878), Ph D Johns Hopkins, 1881 He taught (1885–91) biology at Bryn Mawr and from 1891 was at Columbia Univ (as professor of zoology from 1894 to 1928) He is known for his work in cytology, embryology, heredity, and experimental morphology His works include *General Biology* (with W T Sedgwick, 1887), *The Cell in Development and Heredity* (1896, 3d ed , 1925), and *The Physical Basis of Life* (1923)

Wilson, Ernest Henry, 1876–1930, Anglo-American horticulturist, b England, educated at the Royal College of Science, London He came to the United States in 1906 He was assistant director (1919–27) and keeper (from 1927) of the Arnold Arboretum, Harvard Univ Wilson traveled extensively in the Orient and introduced the regal lily and other Oriental plants into Western gardens His many writings include *The Cherries of Japan* (1916), *Plant Hunting* (1927), *China, Mother of Gardens* (1929), and *Aristocrats of the Trees* (1930).

Wilson, Francis, 1854–1935, American actor, b Philadelphia He started his musical-comedy career as Sir Joseph Porter in *Pinafore* From 1885 to 1889 he was star of the McCaull Opera Company, with which he achieved success in *Erminie*, at the Casino, New York Later Wilson organized a company of his own, presenting among other light operas *Cyrano de Bergerac* (1899) Under Charles Frohman he appeared in legitimate comedy, including his own play, *The Bachelor's Baby* (1909), and later turned to classical comedy He wrote biographies of Eugene Field (1898) and Joseph Jefferson (1906). See his autobiography (1924).

Wilson, Harold Albert, 1874–, American physicist, b. York, England, M.S. Univ. of Leeds, 1897, D Sc. Univ of London, 1900 He was professor of physics at Rice Institute (1912–24, 1925–47) and is known for his research in sound, heat, conduction, electrical properties of flames and incandescent solids, and electrical discharge through low-pressure gases He wrote *The Electrical Properties of Flames* (1912), *Experimental Physics* (1915), *Modern Physics* (1928; 3d ed., 1948), and *Mysteries of the Atom* (1934).

Wilson, Harry Leon, 1867–1939, American author, b Oregon, Ill He was from 1896 to 1902 editor of the humorous weekly *Puck* The best known of his amusing and slightly satirical novels of American life are *Bunker Bean* (1912), *Ruggles of Red Gap* (1915), and *Ma Pettengill* (1919) With Booth Tarkington he wrote the popular play *The Man from Home* (1908), and his novel *Merton of the Movies*, dramatized by Kaufman and Connelly in 1922, was a success on the stage and in moving pictures *Ruggles of Red Gap* was also popular in silent and in talking pictures

Wilson, Henry, 1812–75, U S Senator from Massachusetts (1855–73) and Vice President of the United States (1873–75), b Farmington, N H When he was 21, having completed his indenture to a farmer, he legally changed his name from Jeremiah Jones Colbath, and as Henry Wilson apprenticed himself to a cobbler at Natick, Mass Wilson became successful as a shoe manufacturer and as a politician, serving as a state legislator for most of the years 1841–52 Originally a Whig, he left that party in 1848 because of the slavery issue, bought and edited (1848–51) the Boston *Republican*, and made it a Free-Soil paper He was elected to the U S Senate as a Know-Nothing, but quit that party too, again over slavery, and was a leading radical Republican for the rest of his career During the Civil War he was chairman of the Senate committee on military affairs The "Natick cobbler," as he was called, was elected Vice President on the ticket headed by Ulysses S Grant in 1872, but died before finishing his term See biography by Elias Nason and Thomas Russell (1876)

Wilson, Sir Henry Hughes, 1864–1922, British field marshal, b Ireland He saw active service in Burma and South Africa before 1914 In the First World War he rose to prominence as a friend of Marshal Foch and other officers of the French high command, he was liaison officer between the British and French armies For a time (1915) he commanded an army corps in France, but his talents were not great in the field In 1917 he went on a military mission to Russia and returned to sit in the Allied Supreme War Council and become chief of the British imperial general staff After the war he was made field marshal He retired from the army in 1922 and was elected to Parliament from Northern Ireland Shortly afterward he was killed by Sinn Fein terrorists See biography by C E Callwell (1927)

Wilson, Henry Maitland Wilson, 1st **Baron,** 1881–, British field marshal His military career led him from the South African War through the Second World War Commander in Egypt in 1939, "Jumbo" Wilson became field commander under General Wavell in North Africa, led the ill-fated British expedition in Greece in 1941, and later the same year commanded operations in Syria He headed (1942–43) the Persia-Iraq command As chief of the Middle East command (1943) he led an unsuccessful expedition into the Dodecanese He served as supreme Allied commander in the Mediterranean in 1943–44 and was head of the British joint staff mission in Washington from 1945 to 1947 In 1946 he was created Baron Wilson of Libya and Stowlangtoft

Wilson, James, 1742–98, American jurist, signer of the Declaration of Independence, b near St Andrews, Scotland He studied at the universities of Glasgow and Edinburgh and, after coming to Pennsylvania in 1766, taught Latin at the College of Philadelphia He studied law there under John Dickinson and was later admitted to the bar in 1767 Becoming a successful lawyer within a few years, he also developed a political philosophy, expressed in his *Considerations on the Nature and Extent of the Legislative Authority of the British Parliament* (1774) He was a member of the Pennsylvania convention (1775) and in the same year was a delegate to the Continental Congress, where he strongly advocated independence Despite his ardent individualism, he vigorously opposed the inherently democratic principles of the Pennsylvania constitution of 1776 and lost (1777) his seat in Congress He became allied with the conservative faction and argued for it in the Congress of the Confederation (1782–83, 1785–87). In the meantime he was advocate general of the French government in the United States, wrote the argument for the Bank of North America, and was Pennsylvania's counsel in the dispute over the Wyoming Valley. Wilson is especially known for his part in the Federal Convention of 1787, where he displayed his keen understanding of political theory and constitutional law and worked to incorporate into the Constitution the principle that

sovereignty resides in the people He was one of the most influential men in drawing up the Constitution. He was active in drafting the Pennsylvania constitution of 1790 and served as Associate Justice of the U S Supreme Court (1789–98) He was the first professor of law (1790) at the College of Philadelphia (later the Univ of Pennsylvania). Wilson wrote a number of pamphlets, addresses, treatises, and lectures on law

Wilson, James, 1835–1920, American agriculturist and cabinet officer, b Ayrshire, Scotland He emigrated to the United States and settled (1851) in Connecticut, then moved (1855) to Tama co, Iowa, where he became a successful farmer A member of the Republican party, he was in the state legislature (1868–73) and in the U S Congress (1873–77, 1883–85) He also served (1877–83) on the Iowa Railway Commission Wilson was (1890–97) a director of the agricultural experiment station and professor of agriculture at Iowa Agricultural College As Secretary of Agriculture (1897–1913) under Presidents William McKinley, Theodore Roosevelt, and W H Taft, he greatly expanded the services of the department, experimental stations were set up over the country, and the aid of experts and scientists was enlisted to obtain information on agriculture

Wilson, James Grant, 1832–1914, American biographer and man of letters, b Edinburgh He was brought to the United States in 1833 After journalistic work in Chicago and service in the Union army in the Civil War, he settled in New York, as a writer and editor principally concerned with biography With John Fiske he edited *Appleton's Cyclopedia of American Biography* (6 vols, 1886–89, revised with supplementary volume, 1898–99) His immense output of other work included a biography of U S Grant and its revisions, compilations of military biographies, and editions of the poetry of Bryant and of Fitz-Greene Halleck

Wilson, John see NORTH, CHRISTOPHER

Wilson, Richard, 1714–82, English landscape painter, son of a Welsh clergyman He studied in London and early achieved some success as a portrait painter, but after a visit to Italy (1749–55) he devoted himself to landscape in the classical tradition of Claude Lorrain The exhibition of Wilson's *Niobe* in 1760 won him acclaim, and he was made a member and later librarian of the Royal Academy But his work did not become popular until after his death, and poverty and neglect embittered him Although Wilson did not depart from the classical tradition of the picturesque landscape with its Roman ruins and recumbent nymphs, his work shows considerable originality and breadth of treatment He exerted a strong influence on the subsequent English school of landscape painting *On the Wye* (National Gall, London) and *Italian Landscape* and *Lake Nemi* (both Metropolitan Mus) are well-known examples of his work

Wilson, William Bauchop, 1862–1934, American labor leader, U S Secretary of Labor (1913–21), b Blantyre, Scotland Coming as a child to the United States in 1870, he worked in Pennsylvania coal mines after 1871 and helped organize (1890) the United Mine Workers of America He was (1900–1908) secretary-treasurer of the labor union, and, as a Democrat, he served (1907–13) in the House of Representatives As chairman (1912–13) of the House labor committee, he helped draft the bill creating the Dept of Labor The first Secretary of Labor in U S history, William B Wilson organized the department and introduced machinery for mediation in labor disputes He played an important role in marshaling American labor in the First World War See R W Babson, *W B Wilson and the Department of Labor* (1919)

Wilson, William Lyne, 1843–1900, American legislator and university president, b Jefferson co, Va (now in W Va), grad Columbian College (now George Washington Univ), 1860 He was a private in the Confederate army in the Civil War, and after teaching (1865–71) Latin at Columbian College and practicing law (1871–82) in Charles Town, W Va, Wilson was (1882–83) president of the Univ of West Virginia He entered politics and served (1883–95) as a Democrat in the U S House of Representatives There he was (1893–95) chairman of the Committee on Ways and Means and exercised much influence in shaping policies He was active in the repeal of the Sherman Silver Purchase Act and gained wide notice through the Wilson-Gorman Tariff Act of 1894 Wilson introduced a tariff bill—backed by President Grover CLEVELAND—which substantially reduced rates on many raw materials and manufactured products and levied an income tax The bill passed the House unchanged, but largely through the efforts of Arthur P GORMAN it was considerably altered in the Senate, and Wilson's low-tariff principle was ignored The Wilson-Gorman Act was passed over Cleveland's veto and in 1895 the Supreme Court declared the income-tax provisions unconstitutional Wilson later served as Postmaster General (1895–97) and as president of Washington and Lee Univ. (1897–1900)

Wilson, Woodrow (Thomas Woodrow Wilson), 1856–1924, 27th President of the United States (1913–21), b. Staunton, Va., grad Princeton, 1879 He studied law at the Univ of Virginia and, admitted (1882) to the bar, practiced in Atlanta, Ga., for a year before going to Johns Hopkins to study political science and jurisprudence. After receiving (1886) his Ph D degree there, he taught history and political economy at Bryn Mawr (1885–88) and Wesleyan Univ (1888–90) He had already written significant books, e g, *Congressional Government* (1885), on political science, and after he became (1890) professor of jurisprudence and political economy at Princeton, he gained a reputation for his eloquent orations Popular with the student body, Wilson—a descendant of Presbyterian ministers on both sides of his family—was elected (1902) president of Princeton, becoming its first nonclerical head From the very start Wilson's strong democratic sentiments led him to introduce various reforms at Princeton These aroused great hostility, which reached a climax in his bitter struggle with the group headed by Dean Andrew F West Wilson lost out, but with prompting from George B M Harvey, a New York publisher with strong connections in the Democratic party, he ran for governor of New Jersey in 1910 soon after resigning his post at Princeton He won the election but quickly broke with the party leaders Despite much resistance from the regular Democrats, Wilson forced through the New Jersey legislature such reforms as an employer's liability act, the direct primary, a corrupt practices act, and the revitalization of the state public-utilities commission His gubernatorial record brought him to the forefront of national politics Though Champ CLARK was the leading contender for the presidential nomination at the Democratic convention of 1912, William Jennings BRYAN, prompted by Edward M HOUSE, swung the nomination over to Wilson The split in the Republican party, which divided into the regular Republicans supporting William H TAFT and the progressive (see PROGRESSIVE PARTY) Republicans backing Theodore ROOSEVELT, helped win the election for Wilson, who captured 435 electoral votes Wilson revived the custom, abandoned in 1801, of addressing Congress in person, and immediately called for a series of reforms, which he had called the "New Freedom" in his presidential campaign Congress responded, and the tariff was drastically revised (1913) downward (see UNDERWOOD, OSCAR WILDER) The FEDERAL RESERVE SYSTEM was instituted (1913), the La Follette Seamen's Act, regulating labor conditions aboard ship, became (1915) law, the Adamson Act, establishing an eight-hour day for railroad employees, was enacted (1916), and the Federal Farm Loan Act, providing for loans to cooperative farm associations, was passed (1916) Wilson continued the policy of curbing monopoly by creating (1914) the FEDERAL TRADE COMMISSION to investigate and expose unfair practices of corporations, pushed the passage (1914) of the CLAYTON ANTI-TRUST ACT, and instituted antitrust proceedings in 92 cases Further, the Seventeenth Amendment, providing for the direct popular election of U S Senators, the Eighteenth Amendment, which brought on PROHIBITION, and the Nineteenth Amendment, by which women received the vote, were all launched while Wilson was President In foreign affairs the Wilson administration was faced with mounting difficulties In Latin America, there was a series of problems that produced ill-feelings both at home and abroad, the heritage of the policies of earlier administrations In MEXICO, a revolution brought (Feb, 1913) Victoriano HUERTA to the presidency Wilson refused to recognize him and resorted to "watchful waiting" instead Unpleasant incidents followed in 1914 the arrest of U S sailors in Tampico and the landing of U S marines in Veracruz Mediation by Argentina, Brazil, and Chile (see A B C POWERS) failed to settle the aggravated situation, and shortly after HUERTA was driven from power, new troubles arose from the internal situation in Mexico The raid of Francisco ("Pancho") VILLA across the U S border resulted in the punitive expedition (1916) into Mexico led by John J PERSHING Border incidents continued, and relations between the two countries remained unfriendly Circumstances also combined to bring about the sending of U S marines to Haiti (1915), the Dominican Republic (1916), and Cuba (1917) Wilson also endeavored to settle the trouble with Colombia arising from the establishment of the republic of PANAMA In his Far Eastern policy—notably his refusal (1913) to support loans to China by American bankers—Wilson was openly against imperialism But the outbreak of the First WORLD WAR in Europe overshadowed all other problems Secretary of State William Jennings Bryan, who scrupulously favored neutrality, resigned (1915) and was succeeded by Robert LANSING, who tended to favor intervention on the side of the Allies Wilson during his first term nevertheless sought by all diplomatic means to maintain an impartial neutrality American public opinion, however, increasingly mounted against Germany, and the sinking (May 7, 1915) of the LUSITANIA by a German submarine aroused a storm of protest which persisted long after the incident After the sinking (March 24, 1916) of the American vessel *Sussex*, Wilson took a somewhat sharper tone toward Germany. Trouble over shipping also occurred with Great Britain in its effort to enforce the blockade of Germany In the 1916 election the Democratic campaign slogan, "He kept us out of war," helped return Wilson to the White House, Charles Evans HUGHES was defeated by a very close margin Wilson immediately attempted to mediate between the warring nations, but without success Relations with Germany were aggravated more and more, especially by the announcement (Jan 31, 1917) from Germany of a renewal of unrestricted submarine warfare Several more American vessels were sunk, and on April 2, 1917, Wilson asked Congress to declare war on Germany War was declared April 6 Wilson's ideal of the aim of the war was "the ultimate peace of the world" and "the liberation of its people" The war, he felt, was necessary to make the world "safe for democracy" Wilson's speeches, elaborating these war aims, did much to consolidate American opinion behind his policies The United States was organized for war with amazing rapidity, not only in military preparations but also on the home front The emergency measures of 1917–18 revolutionized American industry, the government management of railroads and the movement toward economic centralization left a lasting mark Government control of public information related to the war was instituted on a wide level Wilson's addresses, which had unusual nobility of style and fiery resolution, won world-wide admiration In his message to Congress on Jan 8, 1918, he outlined the FOURTEEN POINTS which he felt were necessary for the peace settlement He was generally looked upon in Europe as the future savior when the war drew to a close and preparations were being made for the peace conference Wilson himself headed the American delegation to the Paris Peace Conference, breaking all American precedents He was received in Europe with warm ovations and set about trying to create in the peace a new world society, which would be governed by the "self-determination of peoples," which would be free from secret diplomacy and wars, and which would have an association of nations to maintain international justice The conference was disillusioning to him He became involved in long and bitter wrangles with Georges CLEMENCEAU, Lloyd GEORGE, Vittorio ORLANDO, and the other representatives of European powers The resulting treaty (see VERSAILLES, TREATY OF) was far from the fulfillment of his dream, although he did secure the adoption of the Covenant establishing the LEAGUE OF NATIONS Yet he accepted the treaty as being the best obtainable After the treaty was signed, however, his popularity sank rapidly, and Wilson's accomplishments at Paris were received with mixed feelings in the United States In 1918 Republican majorities had been elected to both houses of Congress, and now the Senate quarreled over the ratification of the treaty and the proposed amendments The League of Nations was violently attacked by various Senators, and the debate in the Senate was bitter and violently political In the group that emerged as opponents of the League, Henry Cabot LODGE was outstanding Wilson sought popular support by making a wide speaking tour of the United States He was making his way east from the Pacific coast when fatigue and strain brought a sudden breakdown on Sept 26, 1919 He never entirely recovered, and for the remainder of his second term, Wilson, bitterly disillusioned, detached himself from the political scene Three years later he died His character and policies have been the subject of acrimonious debate, but even those who have doubted his wisdom have recognized him as one of the pivotal figures of American and world history His writings on history and jurisprudence include *Division and Reunion, 1829–1889* (1893), *George Washington* (1896), *A History of the American People* (5 vols, 1902), and *Constitutional Government in the United States* (1908) These books are distinguished by a wide knowledge of constitutional law and by a severe and polished literary style which also characterizes two books of his essays, *An Old Master and Other Political Essays* (1893) and *Mere Literature and Other Essays* (1893), Wilson's addresses, messages, and speeches, considered among the finest produced by an American, have been published and republished in various collections, see L S Turnbull, *Woodrow Wilson: a Selected Bibliography of His Published Writings, Addresses, and Public Papers* (1948) *The Woodrow Wilsons* (1937), by Eleanor Wilson McAdoo (his daughter) and Margaret Y Gaffey, is an intimate account of his family life See R S Baker, *Woodrow Wilson and the World Settlement* (3 vols, 1922) and *The Life and Letters of Woodrow Wilson* (8 vols, 1927–39), William Diamond, *The Economic Thought of Woodrow Wilson* (1943), Josephus Daniels, *The Wilson Era* (1944–46), T A Bailey, *Woodrow Wilson and the Lost Peace* (1944), *Woodrow Wilson and the Great Betrayal* (1945), and *Wilson and the Peacemakers* (1947) See also biographies by Josephus Daniels (1924), W A White (1925), G W. Johnson (1944), and A S Link (1945)

Wilson. 1 Unincorporated "company town" (pop. 1,326), Mississippi co., NE Ark., in a rich cotton region. 2 City (pop. 1,068), central Kansas, on the Smoky Hill River and near Ellsworth; founded 1871, inc 1883. It is in an agricultural and oil-producing region 3 Town (pop 19,234), co. seat of Wilson co , E N C., E of Raleigh, in the coastal-plains tobacco and cotton region, inc 1849 It is a commercial and industrial center, with textile and woodworking plants, and is one of the largest bright-leaf-tobacco markets in the world Atlantic Christian College (coeducational) is here 4 City (pop 1,700), S Okla , N of the Red River and W of Ardmore 5 Borough (pop 8,217), E Pa , near the Delaware at Easton, inc 1920

Wilson, Mount. 1 Peak, 5,700 ft. high, S Calif , in the San Gabriel Mts NE of Pasadena It is the site of Mt. Wilson Observatory (est 1904), operated jointly by the Carnegie Institution and the California Institute of Technology 2 Peak, 14,250 ft. high, SW Colo , in the San Miguel Mts of the Rockies, SW of Telluride

Wilson cloud chamber, device containing air or some other gas thoroughly cleansed of dust and saturated with water vapor, in which the paths of atoms or of subatomic particles can be made visible. The apparatus was originally devised by C. T. R. Wilson, with it he made early studies of alpha-ray tracks, and it has since been adapted to reveal many other significant phenomena in nuclear physics Such a chamber commonly consists of a cylindrical metal container or of a vertical glass cylinder covered with a glass plate and fitted at the lower end with a piston device When the piston is lowered, the sudden expansion of the enclosed saturated air causes the moisture to condense around any particle which is made to pass through the chamber As the particle moves through the gas, it forms a track or path of tiny water droplets If a camera is placed above the glass plate, such paths can be photographed By studying these paths and by observing collisions between particles within the chamber, much knowledge of the particles can be obtained

Wilson College: see CHAMBERSBURG, Pa

Wilson Creek, small stream, SW Mo , near Springfield, where a battle of the Civil War was fought, Aug 10, 1861 Sterling Price's Missouri militia and the Confederate forces were led by Ben McCulloch Nathaniel Lyon, the commanding Union general, divided his forces, sending Franz Sigel to turn the enemy right, he himself fell upon the left and front Sigel was routed, and after about five hours of hard fighting, during which both sides lost heavily, Lyon was killed at the head of his troops, who then retreated to Springfield

Wilson Dam: see TENNESSEE VALLEY AUTHORITY.

Wilson-Gorman Tariff Act: see WILSON, WILLIAM LYNE, and GORMAN, ARTHUR PUE

Wilson's thrush: see VEERY

Wilton, municipal borough (pop. 2,195), Wiltshire, England, NW of Salisbury It was an ancient capital of Wessex and the residence of Saxon kings, the scene in 871 of a battle between Alfred and the Danes, and the seat of a bishopric until 1050 It has annual sheep fairs. Wilton House, wherein Sir Philip Sidney wrote *Arcadia*, was partly designed by Inigo Jones Carpets (Wilton and others) have been made in Wilton for centuries

Wilton. 1 Town (pop 2,829), SW Conn , N of Norwalk, settled early in the 18th cent , inc 1801 2 Town (pop 1,146), E Iowa, N of Muscatine, inc. 1863 It is a rail and trade center in a farm area 3 Town (pop 3,228), W Maine, SW of Farmington, settled 1789 as Tyngtown, inc 1803 It has textile mills and food and lumber processing 4 Town (pop 1,855), S N H , on the Souhegan and W of Nashua; inc 1762 There are textile mills Charles Greeley Abbot was born here

Wiltshire (wĭlt'shĭr, -shûr) or **Wilts,** county (1,345 sq. mi , 1948 estimated pop 347,400), S England The county town is Salisbury More than half of Wiltshire is occupied by the great chalk Salisbury Plain and by the Marlborough Downs. Admunistratively organized as early as the 9th cent , the county is now one of the more sparsely inhabited of England, but its historical associations are among the richest At STONEHENGE, Avebury, and Silbury Hill are the largest and oldest monuments of the early British, dating back 4,000 years, and English history is closely associated with Salisbury, famous for its cathedral OLD SARUM, which flourished in pre-Roman times, was abandoned about the 13th cent Wilton, famous in the 19th cent. for its carpets, was once the capital of the powerful Saxon kingdom of Wessex, where many of King Alfred's battles against the Danes in the 9th cent. were fought His grandson, Athelstan, is buried at Malmesbury Abbey, and, according to legend, Queen Guinevere spent her last days in the nunnery at Amesbury Primarily a pastoral and agricultural county, Wiltshire affords large areas for sheep grazing, and the fertile valleys of the Lower Avon, the East Avon, and the Kennet rivers have extensive dairy farming Textiles, metal products, and pottery are manufactured Swindon, the leading industrial center, is known for its locomotive works. Among Wiltshire's famous sons or residents are Joseph Addison, John Dryden, John Gay, George Herbert, and Christopher Wren. See Arthur Mee, *Wiltshire* (1939).

Wimbledon, municipal borough (1931 pop. 59,524; 1947 estimated pop. 58,010), Surrey, England, SW of London, of which it is a residential suburb. It is the headquarters of tennis in England, and international matches are held; the first championship match was held here in 1877. Its cricket meets are also important, and there are golf courses (Royal Wimbledon Club) The town is supposed to have been the scene of the defeat of Aethelbert, king of Kent, by Ceawlin, king of Wessex, in 568. There are ancient earthworks called Caesar's Camp and British remains in the vicinity. Wimbledon Common is an extensive open space, and Wimbledon Park is noteworthy. George Eliot lived in the borough

Wimpffen, Emmanuel Félix de (ămänüĕl' fālĕks' dŭ vĕpfĕn', vĕfā'), 1811–84, French general. In the Franco-Prussian War he took command (1870) at SEDAN after Marshal MacMahon had been wounded, and he negotiated the French surrender after the disastrous end of the battle.

Wimpffen, Louis Félix de (lwĕ'), 1744–1814, French general He fought in the American Revolution, was one of the deputies of the nobles to the States-General of 1789, and after the outbreak of the French Revolutionary Wars defended (1792) Thionville for 55 days A moderate, he joined the Girondist insurrection of 1793 in Normandy. He returned to the army under the Consulate and fought in the Napoleonic Wars.

Winamac (wī'nŭmăk), town (pop. 1,835), co. seat of Pulaski co , NW Ind , on the Tippecanoe river and W of Rochester, settled 1837, inc. 1868

Winant, John Gilbert (wī'nunt), 1889-1947, American public official, ambassador to Great Britain (1941–46), b. New York city After studying at Princeton, he taught at St Paul's School in Concord, N H , until his election (1917) to the New Hampshire legislature. He served in the First World War, returning to state politics and serving (1925–26, 1931–34) as governor. He later was assistant director (1935–37) and director (1939) of the International Labor Office President Roosevelt in 1937 appointed him chairman of the Social Security Board, on which he served until 1939 His ambassadorship was notable for cordial Anglo-American relations, and he wrote *Letter from Grosvenor Square* (1947) He was (1946–47) U S representative on the United Nations Economic and Social Council In 1947 he committed suicide.

Winchell, Alexander (wĭn'chŭl), 1824–91, American geologist, b Dutchess co , N Y , grad Wesleyan Univ , 1847 He was state geologist of Michigan (1859–62), chancellor of Syracuse Univ (1873–74), and professor at the Univ of Michigan (1855–73, 1879–91). He is known for his discoveries of many new fossil genera and species and as a lecturer and writer on science. His works include *The Doctrine of Evolution* (1874), *World Life* (1883), and *Geological Studies* (1886).

Winchelsea (wĭn'chŭlsē), village, Sussex East, England It is 3 mi from the old town of Winchelsea, which like Rye was added under Richard I to the CINQUE PORTS as an "ancient town" and which was destroyed in 1287 by encroachment of the sea. Subsequent recession left the new town inland and revealed parts of the walls and gates of the old town. The Church of St Thomas à Becket dates from the 14th cent

Winchendon (wĭn'chŭndŭn), town (pop. 6,575), N Mass , in wooded country, near the N H line NW of Fitchburg, settled 1753, inc. 1764. Wooden and paper products are made here

Winchester (wĭn'chĭstûr, wĭn'chĕ"stûr), village (pop. 1,049), SE Ont , SE of Ottawa It has woolen and lumber mills.

Winchester (wĭn'chĭstûr), municipal borough (pop. 22,970) and county town, Hampshire, England, on the Itchen and SW of London. It was the Caer Went of the Britons, the Venta Belgarum of the Romans, and the Wintecesaster of the Saxons The city was the capital of the kingdom of WESSEX, which became the core of England before the Norman Conquest Winchester has memories of Egbert and Alfred, Edward the Elder and Harold It was a center of art and learning and, though London gradually gained political ascendancy after the Conquest, the castle at Winchester sheltered occasional meetings of Parliament, and the town continued as a generator of culture Through a mistake in etymology, Malory identified Winchester with CAMELOT It has held a position of great ecclesiastical influence, reflected in its magnificent cathedral, the largest Gothic church in Europe Founded (1079) by Bishop Walkelin, the cathedral represents many architectural periods. Here are buried William of Wykeham, Samuel Wilberforce, Isaak Walton, and Jane Austen The remains of Wolvesey Castle, where Queen Mary lived in 1554, are near the cathedral. The ruins of Hyde Abbey are in another part of the city. **Winchester College,** founded by William of Wykeham and chartered by him in 1382, had its opening ceremony in 1394. It is one of the great English public schools.

Winchester (wĭn'chĕ"stûr, wĭn'chĭstûr). 1 Town (pop. 8,482), NW Conn , in the Litchfield Hills; settled c.1750, inc. 1771. It includes WINSTED. 2 City (pop. 1,651), co. seat of Scott co., W central Ill., WSW of Springfield, in a farm area; platted 1830, inc. 1843. Here Stephen A. Douglas taught school, and Lincoln made his first speech on the Kansas-Nebraska issue. 3 City (pop. 5,303), co seat of Randolph co , E Ind., E of Muncie; settled 1819. It is a shipping center for grain and livestock and manufactures glass products. Northwest of the city are ancient Indian earthworks 4 City (pop. 8,594), co. seat of Clark co., N central Ky , E of Lexington, inc. 1793. It is a tobacco and livestock center in the bluegrass region. In the old courthouse Henry Clay made his last Kentucky speech The city is the site of Kentucky Wesleyan College and of the mansion and grave of Gov James A. Clark 5 Town (pop. 15,081), E Mass , N of Boston, settled 1640, inc. 1850. Leather manufacture is the chief industry. 6 Town (pop 2,275), extreme SW N H , on the Ashuelot, settled 1732, inc. 1753 It was deserted (1747–53) because of Indian raids There is an airport 7 Town (pop 2,760), co seat of Franklin co., S Tenn., WNW of Chattanooga; founded c.1814 Near by is Hundred Oaks Monastery Dairy farms and clover growing are important in the area 8 City (pop 12,095), N Va , in the Shenandoah Valley WNW of Washington, D.C., settled 1744 near an Indian village in Lord Fairfax's domain, inc as a town 1779, as a city 1874 It is 20 mi. from the northern entrance to Skyline Drive Winchester is the trade, processing, and shipping center for a farm area noted for apples; hosiery and rubber products are made George Washington began his career as a surveyor here Gen Daniel Morgan lived here and is buried in Mt Hebron Cemetery During the Civil War the city suffered severely, changing hands many times The courthouse of Frederick co is here Places of interest include the old First Presbyterian Church (1790, now an armory) and Shenandoah Valley Military Academy (1764). Winchester is the birthplace of Richard E. Byrd and of Willa Cather. An annual apple-blossom festival is held

Winchester College: see WINCHESTER, England

Winchilsea, Anne Finch, countess of (wĭn'chĭlsē), 1661–1720, English poet, daughter of Sir William Kingsmill In 1684 she married Heneage Finch, who became (1712) 4th earl of Winchilsea Her friendships extended to the foremost literary figures of the day, such as Pope and Nicholas Rowe Her best-known poems, "The Spleen" and "The Prospect of Death," written in imitation of Cowley, appeared in Charles Gildon's miscellany in 1701, *Miscellany Poems, Written by a Lady* followed in 1713 Wordsworth later pointed out that her use of images of external nature, notably in her poem "A Nocturnal Reverie," was unique in her own day See her complete poems (with introduction by Myra Reynolds, 1903) and selection ed by J M Murry (1928).

Winckelmann, Johann Joachim (yō'hän yōä'khĭm vĭng'kŭlmän), 1717–68, German classical archaeologist and historian of ancient art, in which field he was a noted authority A convert to Roman Catholicism in 1754, he went to Italy the following year. There he spent the rest of his life in study in the Vatican Library and in research in S Italy His chief book was *Geschichte der Kunst des Alterthums* [history of the art of antiquity] (1764) He greatly promoted the classic revival of the late 18th and early 19th cent

Winckler, Hugo (hōō'gō vĭng'klûr), 1863–1913, German Orientalist A professor at the Univ of Berlin, he was notable for his archaeological work He helped to excavate the Phoenician city of Sidon, and later it was Winckler who in excavations at Boghazkeui in 1906–7 discovered the cuneiform tablets in Hittite (or Kanesian), which added much to the knowledge of Hittite civilization.

Wind (wĭnd), river rising in W Wyoming in the Wind River Range and flowing southeast c 110 mi to join the Popo Agie at RIVERTON and form the Bighorn river. The Wind River Diversion Dam impounds waters for the Riverton project

wind, flow of air parallel to the earth's surface. The direction of wind is indicated by a wind vane (also called weather vane), in weather bureau stations the vane is usually connected to an electrical recording device. A wind is named according to the point of the compass from which it blows, i e , the direction toward which the arrow of the wind vane points. Wind velocity is commonly measured by means of a Robinson cup anemometer, an instrument with three or four small hollow metal hemispheres set so that they catch the wind and revolve about a vertical rod An electrical device records the revolutions of the cups and thus the velocity of the wind A scale of wind velocity was devised (c 1805) by Admiral Sir Francis Beaufort of the British navy. An adaptation of the Beaufort scale is used by the U.S. Weather Bureau, it employs numbers from 0 to 12, representing calm, light air, breeze (slight, gentle, moderate, fresh, and strong), gale (moderate, fresh, strong, and whole), storm, and hurricane. Zero (calm) is a wind velocity of less than 1 mi. per hour and 12 (hurricane) represents a velocity above 75 mi. per hour. Over some

areas of the earth, winds blow predominantly from one direction throughout the year; over other areas, the prevailing direction changes with the seasons; over still others, winds are so variable from day to day that no prevailing direction is evident These predominating wind directions, more pronounced in some regions than in others, are indicative of the general circulation of the atmosphere. This general circulation is directly related to the generalized distribution of atmospheric pressure over the earth's surface. Around the equator there is a belt of relatively low pressure known as the DOLDRUMS, where the heated air is expanding and rising, at about lat 30° N and S there are belts of high pressure known as the HORSE LATITUDES, regions of descending air, further poleward, near lat 60° N and S, are belts of low pressure, where the POLAR FRONT is located and where cyclonic activity is at a maximum; and lastly, there are the polar caps of high pressure The prevailing wind systems of the earth blow from the several belts of high pressure toward adjacent low pressure belts Because of the earth's rotation, the winds do not blow directly northward or southward to the lower pressure, but are deflected to the right in the Northern Hemisphere and to the left in the Southern Hemisphere, in accordance with Ferrel's law The wind systems obtaining are the TRADE WINDS, the prevailing westerlies, moving outward from the poleward sides of the horse-latitude belts toward the 60° latitude belts of low pressure (from the southwest in the Northern Hemisphere, from the northwest in the Southern Hemisphere), and the polar easterlies, blowing outward from the polar caps of high pressure and toward the 60° latitude belts of low pressure This zonal pattern of winds is displaced northward and southward seasonally, because of the tilting of the earth on its axis and the consequent migration of the belts of temperature and pressure In addition, it is considerably modified by the distribution of land and water, especially in the temperate regions, where temperature differences between land and water are greatest In winter, areas of high pressure tend to build up over cold continental land masses, while vigorous low-pressure development takes place over the adjacent, relatively warm oceans Exactly the opposite conditions obtain during the summer, although to a lesser degree These contrasting pressures over land and water areas are the cause of MONSOON winds, which reverse their direction with the seasons Superimposed upon the general circulation of winds are many lesser disturbances, such as the extratropical CYCLONE (the common storm of the temperate latitudes), the tropical cyclone or HURICANE, and the TORNADO, each of these storms moves generally along a path with the direction of the prevailing winds, but within itself maintains a circulatory wind pattern of its own Diurnal heating and cooling of land near a lake or ocean of fairly constant temperature causes air to blow toward the relatively warmer land in the daytime (sea breeze) and toward the relatively warmer water at night (land breeze) These breezes are shallow and seldom penetrate far inland or attain high velocity Similar daily changes occur on mountain slopes, the air in the valley being heated and expanded so that it moves up the slope in the daytime, the cold air settling into the valley at night Air tends to move lengthwise of a long valley, and the winds in such valleys may be deflected so that they blow at an angle to their normal course Friction with the earth's surface, eddies caused by surface irregularities, and inequalities of heating and radiation with consequent convection currents tend to reduce wind velocity near the surface of the earth and cause winds to blow in gusts In animistic religions the winds are connected with supernatural powers. In classical mythology Aeolus is the controller of the winds. The various winds, Boreas, Zephyr, Notus, and Argestes, were the children of Eos, goddess of the dawn, and her husband Astraeus, the Titan See also CHINOOK, CLIMATE, ROARING FORTIES, SANDSTORM, SIROCCO, WEATHER See William Ferrel, *A Popular Treatise on the Winds* (1898, 2d ed, 1904)

Windau, Latvia, see VENTSPILS

Windaus, Adolf (ä'dôlf vĭn'dous), 1876–, German chemist He was professor of chemistry and director of the chemistry laboratories at the Univ of Göttingen (1915–44). For his research on sterols (higher solid alcohols), especially in relation to vitamins, he received the 1928 Nobel Prize in Chemistry He later discovered and prepared synthetically vitamin D_3 (the chief antirachitic component of vitamin D)

Windber (wĭnd'bûr), industrial borough (pop 9,057), SW Pa, in the Alleghenies SE of Johnstown, laid out 1897, inc 1900 Coal, brick, lumber, and beer are produced here

Wind Cave National Park: see NATIONAL PARKS AND MONUMENTS (table).

Windelband, Wilhelm (vĭl'hĕlm vĭn'dŭlbänt), 1848–1915, German philosopher and historian of philosophy. A professor of philosophy at Freiburg, Strasbourg, and Heidelberg successively, he wrote a *History of Philosophy* (1892), which was translated into English in 1901.

Winder (wĭn'dûr), city (pop. 3,974), co. seat of Barrow co., N Ga., ENE Atlanta; settled as Jug Tavern, inc. 1893 as Winder It is a farm trade and industrial center, with textile mills

Windermere (wĭn'dûrmēr), largest lake in England Lying among wooded hills near Scafell and other mountains, between Lancashire and Westmorland, it is 10½ mi long, 210 ft. deep, and about a mile wide. It is fed by the Rothay, Brathay, and other small streams and drained by the Leven to Morecambe Bay. Its shores are indented to form little bays, and it has several islands It is a resort of tourists and fishermen, and steamers ply regularly along the lake Windermere and Ambleside are towns near the lake

windflower: see ANEMONE and PASQUEFLOWER

Wind Gap, industrial borough (pop. 1,377), E Pa, near the Delaware NW of Easton; inc 1893 Its industries include slate quarries and silk mills

Windham, William (wĭn'dŭm), 1750–1810, English statesman Wealthy and accomplished, he was a friend of Samuel Johnson, Edmund Burke, and other great men and was a leading Whig He was made conservative by the excesses of the French Revolution With Burke he became a follower of the younger William Pitt and served (1792–1801) as secretary at war, resigning with Pitt when the king prevented Catholic Emancipation He was secretary of state for war and colonies in the "ministry of all the talents" (1806–7) under Lord Grenville His influence was great, but his career inconspicuous See his diary for the years 1784–1810 (ed by Mrs H Baring, 1866), *The Windham Papers* (2 vols, 1913)

Windham (wĭn'dum) **1** Town (pop 13,824), E Conn, ESE of Hartford, inc 1692 It includes WILLIMANTIC At Windham Center (settled c.1688) are several old buildings **2** Town (pop 2,381), SW Maine, NW of Portland, settled 1737, inc 1762 It is the seat of a state reformatory. John A Andrew was born in Windham See F H Dole, *Sketches of the History of Windham, Maine, 1734–1935* (1935)

Windhoek (vĭnt'hōōk), town (pop 14,930), capital of South-West Africa It was settled (1890) by the Germans There is a dairy industry, and near by are hot springs

wind instrument, in music, any instrument whose tone is produced by a vibrating column of air In the ORGAN the column of air is set into vibration by mechanical means Others are blown by the player and are divided into two groups—the wood winds and the brass winds or brasses The wood winds include the FLUTE family, played without any reed, the CLARINET family, having single-reed mouthpieces, and the OBOE family, having double-reed mouthpieces (see also REED INSTRUMENT) The brass winds include the BUGLE, CORNET, OPHICLEIDE, TROMBONE, TRUMPET, and TUBA (all of which have a cup-shaped mouthpiece) and the FRENCH HORN (which has a funnel-shaped mouthpiece) In the brasses the lips of the player perform the function of reeds The BAGPIPE, SARRUSOPHONE, SAXHORN, and SAXOPHONE are hybrid wind instruments The wind passage of a wind instrument is called the bore and may be conical or cylindrical, its flared edge is called the bell See Adam Carse, *Musical Wind Instruments* (1939)

Windischgrätz or **Windisch-Grätz, Alfred, Fürst zu** (äl'frät fürst' tsōō vĭn'dĭshgrĕts'), 1787–1862, Austrian field marshal He was military governor of Bohemia when, in March, 1848, revolution broke out in the Hapsburg empire Given command in Vienna, he crushed the insurrection there, but because of the pressure of public opinion he was sent back to Bohemia Meanwhile Prague had fallen to the revolutionists, and Windischgrätz's wife and eldest son had been killed in the insurrection Windischgratz recaptured (June, 1848) Prague after bombarding it and set up a military dictatorship over Bohemia Vienna, where the revolutionists had again taken over, was also bombarded into submission (Oct, 1848) by Windischgrätz Together with Felix zu SCHWARZENBERG, Windischgrätz engineered the abdication (Dec 2, 1848) of Emperor Ferdinand in favor of Francis Joseph He was removed from command in 1849 when his campaign against the Hungarian revolutionists was checked at Godollo He later held various government posts

windmill, apparatus which harnesses wind power for a variety of uses, e g, pumping water, grinding corn, driving small sawmills, and driving dynamo machines Probably windmills were not known in Europe before the 12th cent, but after that time they were a familiar landmark in Holland, England, France, and Germany The typical Dutch windmill—also called the tower type in contrast to the German or post mill—has a huge tower of stone, brick, or wood, at the top is a revolving apparatus to which four to six arms are attached The arms, 20 to 40 ft. long, bear sails which are constructed of light wood or of canvas fastened to a frame. A small fan serves as a rudder to keep the wheel facing the wind The distinctive feature of the German mill is that the whole structure revolves on a central post Most American windmills have high towers of light steel girders, at the top is a wheel with many sheet-metal concave and "warped" vanes (sails), about 4 ft long The wheel is kept automatically facing the wind by a broad tail which is geared to the pumping shaft As a source of power the windmill is of little use where the air is generally calm. For this reason a supplementary source of power is often necessary Modern windmills are sometimes used on farms to generate electricity

Windom, William (wĭn'dŭm), 1827–91, American statesman, Secretary of the Treasury (1881, 1889–91), b. Waterford, Ohio. He studied law at Mt Vernon (Ohio) Academy and was admitted (1850) to the bar He was (1852–55) prosecuting attorney of Knox co, Ohio, and in 1855 he moved to Winona, Minn. He was a Republican member of the House of Representatives (1859–69) and of the Senate (1870–81, 1881–83) Windom, a strong advocate of the gold standard, resigned his seat to become Secretary of the Treasury in James Garfield's cabinet, and after the President's death, he was elected to fill his own unexpired term in the Senate From 1889 until he died, Windom was Secretary of the Treasury under President Benjamin Harrison.

Windom (wĭn'dŭm), city (pop 2,807), co. seat of Cottonwood co, SW Minn, on the Des Moines and WSW of Mankato, platted 1870, inc as a village 1875, as a city 1920 It is a farm trade center

window, in architecture, the casement or sash, fitted with glass, which closes an opening in the wall of a structure for admitting light and air It may have a square, round, or pointed head, may be single, double, or grouped, and, in relation to the wall, may be flush, recessed, or projected A projected window is called a bay window if polygonal, a bow window if semicircular, an ORIEL if it has corbeled brick or stone supports A mullioned window is divided by slender bars into panes, when the bars radiate from the center of a circular one it is called a wheel and takes the name of ROSE WINDOW when adorned with stained glass or figure design The long, narrow window of the English Perpendicular Gothic church is called a lancet, a lunette fills a somewhat crescent-shaped space under a vaulted intersection high upon a wall, and a fanlight is either a semicircular transom, usually over an entrance, or a small attic window (or often a pair flanking the chimney), both characteristic of the American colonial style A French window reaches the floor and has double casements opening as doors, originated in France in the late Renaissance, it was adopted on the Continent and in the Southern states in America The double-hung sashes (sliding up and down in the frame), first used in Renaissance England, attained wide popularity In Spain windows are frequently most ornate, with stone framework, an elaborate head, and a decorative iron grille In Indian and Byzantine windows a pierced slab of marble or alabaster often substitutes for glass Moslems used also cement frames in which colored glass was set in brilliant arabesques Carved and turned wood grilles are found in Syria and Egypt In China and Japan rice paper, protected by a sliding wooden shutter, often takes the place of glass Shell, also used in China, was employed by the Romans, as were thin panes of marble, mica, and horn In modern architecture windows have not only greatly increased in dwellings, but have reached a point where they often cover the exterior walls of factories and commercial buildings Steel casements and frames permit making windows much larger

windpipe or **trachea** (trā'kēù), membranous and cartilaginous tube about 4½ in long, the main air passage of the respiratory tract of vertebrates Its walls are supported by fibrous connective tissue and U-shaped rings of cartilage which are embedded in the connective tissue The windpipe lies in front of the esophagus Extending from the lower part of the larynx, it divides into a right and a left bronchus The mucous membrane lining helps to keep the air passage free from impurities Important nerves and blood vessels lie close to the windpipe In humans the windpipe is subject to infection as a result of colds The air tubes of insects and some other arthropod animals are also called trachea

Wind River Range (wĭnd), part of the Rocky Mts, W Wyo, running southeastward c 120 mi and constituting part of the Continental Divide Gannett Peak (13,785 ft) is the highest point in Wyoming, others in the range are Fremont Peak (13,730 ft), Mt Helen (13,600 ft), Wind River Peak (c 13,500 ft), and Mt Hooker (12,900 ft) A number of historic passes cross these mountains—South Pass at the southern end of the range, Washakie Pass, Indian Pass (alt 12,130 ft) near Fremont Peak, Green River Pass (alt 12,222 ft), Union Pass (alt 9,210 ft), and Togwotee Pass (alt 9,658 ft) at the northern end of the range

Windsor (wĭn'zur), family name of the royal house of Great Britain The name WETTIN, family name of Albert of Saxe-Coburg-Gotha, consort of Queen Victoria, was changed to the present name by George V in 1917 and adopted by all members of the family

Windsor, Edward, duke of, see EDWARD VIII, king of England

Windsor, Wallis Warfield, duchess of, 1894–, American-born English duchess, christened Bessie Wallis Warfield In 1914 she made her social debut in Baltimore, and in 1916 she married Earl Winfield Spencer, Jr , a naval lieutenant, from whom she was divorced in 1927 The next year she married Ernest Aldrich Simpson, an American-born London businessman She belonged to a small coterie to which the prince of Wales became attached The friendship between Mrs Simpson and the heir to the throne continued after the prince of Wales became EDWARD VIII In Oct , 1936, Mrs Simpson obtained a divorce decree *nisi* Rumors of a projected marriage of Edward and Mrs Simpson preceded the crisis of Dec , 1936, which resulted in the abdication of Edward On April 27, 1937, the Simpson divorce became final, and Mrs Simpson legally changed her name to Wallis Warfield On June 3 she married Edward, now duke of Windsor By special letters patent it was provided that the duchess of Windsor should not share her husband's royal rank

Windsor (wĭn'zur) **1** Town (pop 3,436), N N.S , NW of Halifax and on the Avon, at its mouth on an arm of Minas Basin of the Bay of Fundy It is a port, shipping gypsum, anhydrite, and limestone from adjacent quarries, it manufactures clothing, furniture, and fertilizers The town was founded (1703) by the French, who built dikes, and was called Piziquid until 1764, when the name was changed to Windsor Fort Piziquid, later known as Fort Edward, fell (1750) to the British and was important in the expulsion (1755) of the Acadians King's College, the first English university in Canada, was founded here in 1789 It was removed (1923) to Halifax, as part of Dalhousie Univ A monument commemorates the first agricultural fair in Canada, held here in 1765 Haliburton Memorial Museum, opened in 1940, is the former home of Thomas Chandler Haliburton **2** City (pop 105,311), S Ont , on the Detroit river opposite Detroit, Mich , with which it is connected by bridge, tunnel, and ferries It is an important industrial center, with automobile plants, steel mills, distilleries, and chemical industries It is the seat of Assumption College, affiliated with the Univ of Western Ontario In 1935 the suburbs East Windsor, Sandwich, and Walkerville were merged with Windsor **3** Town (pop 3,368), SE Que , on the St Francis and NNW of Sherbrooke, inc 1899 It has pulp, paper, and lumber mills and dairying Until 1899 it was called Windsor Mills

Windsor or New Windsor, municipal borough (pop 20,287), Berkshire, England, on the Thames In Elizabethan times about 70 inns enlivened the town, and at least one was mentioned in Shakspere Nell Gwyn and Jane Seymour lived in Windsor, and their residences are still points of interest Sir Christopher Wren built the town hall, and Grinling Gibbons did much of the wood carving in the Church of St John the Baptist The real importance of the town has always been connected with **Windsor Castle,** the chief residence of English rulers since William the Conqueror The castle was improved and rebuilt by successive sovereigns Edward III erected the Round Tower, and Edward IV began the construction of St George's Chapel, one of the most splendid churches of England, where the Knights of the Garter are installed with medieval ceremony In its vaults are buried several of England's kings Some of the vaults are now used as bombproof shelters and storage for art treasures, national archives, and museum collections The castle proper lies in the Home Park, and beyond it, separated by the Long Walk, tree-lined, is the Great Park In Frogmore, the royal mausoleum, are buried Queen Victoria and the prince consort On the castle grounds is a large lake, Virginia Water See W H St John Hope, *Windsor Castle* (1913)

Windsor. **1** Town (pop 1,811), N Colo , N of Denver, inc 1890 It has a beet-sugar factory **2** Town (pop 10,068), N Conn , where the Farmington joins the Connecticut Windsor was settled in 1633 under William Holmes, sent by the Plymouth Colony, this was the first English settlement in Connecticut A state experiment station (mainly for tobacco) and old buildings are in the town Loomis School for boys is in Windsor **3** City (pop. 1,005), central Ill , W of Mattoon, in a farm region, inc 1865 **4** City (pop 2,373), W Mo , SE of Kansas City, in a farm and coal region, settled 1855, inc 1873 Shoes are made here **5** Town (pop 1,747), co. seat of Bertie Co , NE N C , between Albemarle Sound and the Roanoke river, in a tobacco, lumber, peanut, cotton, and corn area, settled 1721, inc 1776 **6** Borough (pop 1,108), York co , SE Pa , near York, inc 1905 **7** Town (pop 4,155), SE Vt , on the Connecticut, chartered by Wentworth (N H) 1761 and by New York 1772, settled 1764 The convention that adopted a constitution and organized Vermont as an independent state (under that name) was held here in July, 1777, and in 1778 Vermont's first legislature met in the town The Old Constitution House was restored as an inn Asher Benjamin lived here and designed several houses Machinery and foundry and rubber products are made here The state prison is in the town See H S Wardner, *The Birthplace of Vermont* (1927)

Windsor Castle: see WINDSOR, Berkshire, England.

Windsor Locks, town (pop 4,347), N Conn , on the Connecticut above Windsor, inc. 1854. The old town (settled 1663) developed industrially after a canal, with locks, was built (1829) around the rapids here Paper tissues are among its products.

Windthorst, Ludwig (lōōt'vĭkh vĭnt'hôrst), 1812–91, German statesman As leader of the Catholic Center party, he became the foremost opponent of Bismarck in the KULTURKAMPF Remarkable for his wit and parliamentary skill, he ultimately induced Bismarck to seek a reconciliation with the Church

wind tunnel, apparatus for studying the effect of an airstream on certain objects The objects to be tested are held by a balancing device in the wind tunnel, and an observer can determine the path of air about them, the aerodynamic forces exerted upon them, and their reactions to those forces The wind tunnel includes power and wind-propelling elements, a test chamber, and an observation booth The object to be tested is held by the balance in a specified position in the test chamber while the wind forces and reactions are observed through ports and on recording gauges in the observation booth Wind tunnels are indispensable to the designing and testing of modern aircraft

Windward Channel, ocean passage, c 55 mi wide, between Cuba and Haiti

Windward Islands, southern group of the Lesser Antilles in the West Indies, curving generally S from the Leeward Islands toward NE Venezuela Excluding Barbados, Trinidad, and Tobago, which are in the region but are not part of the group, the Windward Islands consist of French MARTINIQUE and the **British Windward Islands** colony (821 sq mi , pop 251,285 The British islands comprise the colonies of DOMINICA, SAINT LUCIA, SAINT VINCENT, and GRENADA The Grenadines, an archipelago of tiny islands strung out between St Vincent and Grenada, are divided administratively between them Of volcanic origin, the islands are generally rugged, mountainous, and well forested, and they have many streams and lakes With an equable climate, ample rainfall, and rich soil, they produce a variety of agricultural crops (and by-products) for export—cacao, sugar, sea-island cotton, arrowroot, rum, spices, limes and lime products, logwood, and hides The deep and sheltered harbors encourage considerable interisland commerce Largely Negro in population, with some admixture of Carib, Portuguese, and East Indian, the islands are ruled by a small percentage of white families, chiefly British The culture varies from island to island, but the French influence is generally strong and many inhabitants speak French patois For some time after their discovery by Columbus, the Windward Islands were largely ignored and left to their aboriginal inhabitants, the Caribs But in the early 17th cent colonization was undertaken by the English and French, settlements and sovereignty overlapped The long struggle for dominance in the islands was a part of the world-wide Anglo-French conflict Two important naval battles were fought in the region—in 1782 Admiral Rodney defeated the French Admiral de Grasse off St Lucia, and in 1797 the Spanish allies of the French were defeated by the British off St Vincent (in this battle Nelson distinguished himself) The individual islands were taken and retaken by the opposing forces In 1815 the Congress of Vienna confirmed the present ownership

wine, alcoholic beverage made by the FERMENTATION of the juice of the grape Wines are distinguished by color, flavor, bouquet or aroma, and alcoholic content and are classified as natural or fortified, sweet or dry, still or sparkling, the differences depending on the variety of grape, climate, location and soil of vineyards, treatment of the grapes before and at the time of vintage, methods of manufacture, and after-handling For red wines the entire crushed grape is utilized, for white wines, the juice only In a natural wine all the alcohol present has been produced by fermentation In a fortified, or brandied, wine, further alcohol has been added or induced Light wines, e g , claret, Burgundy, sauterne, and hock, containing from 7 to 15 percent alcohol are natural wines Typical fortified wines such as sherry, port, Madeira, and Malaga vary in alcoholic strength from 16 to 35 percent In dry wines all or most of the sugars have been fermented away Natural effervescent or sparkling wines, bottled while still fermenting, retain a quantity of CARBON DIOXIDE CHAMPAGNE is the standard sparkling wine, but many light wines, Burgundy, Moselle, Asti, and others, are frequently rendered effervescent Carbonated wines are artificially charged In natural-wine making the grapes are gathered when fully ripe (sometimes, as for sauterne, when overripe) Mechanical extraction of the must or juice is displacing treading For red wines the must is fermented with the skins and pips, from which the newly formed alcohol extracts coloring matter and tannin Fermentation starts when wine yeasts (*Saccharomyces ellipsoideus*), existing on the skins of ripe grapes, come in contact with the must It may take from a few days to several weeks, according to the temperature and the amount of yeast present or introduced When the new wine has become still and fairly clear, it is run off into large casks, where it undergoes a complicated series of chemical processes including oxidation, precipitation of proteids, and formation, of esters which create a characteristic bouquet The wine is periodically fined (clarified), then racked into smaller casks. After some months, or for certain wines several years, the wine is ripe for bottling The very rare, superfine natural wines made in good vintage years from perfect grapes of the better varieties and possessing the unaccountable quality which vintners call "breed" are produced in commercial quantities in limited areas of the Bordeaux and Burgundy regions in France, of the Rhine valley in Germany, and around Tokaj, Hungary (see TOKAY) The fine SHERRY of Spain and PORT of Portugal are superior fortified wines Champagne is the only superfine sparkling wine So ancient that its origin is unknown, wine is mentioned in early Egyptian inscriptions and in the literature of many lands. The term wine is also applied to alcoholic beverages made from plants other than the grape, e g , elderberry wine, dandelion wine

French Wine France is noted as the greatest wine-producing area in the world, both in quantity and quality, and has developed superfine natural still wines and the finest sparkling wine—champagne The department of Bordeaux furnishes red wine known as claret and white wine, both dry except for sauterne The best-known Bordeaux wines are Médoc (red), classified and known by the vineyard names, as Château Lafite, Château Margaux, Château Latour, graves (red or white), sauterne (white), sweet, made from overripe grapes and including the noted Château Yquem, and St Emilion-Pomerol Burgundy wines, red and white, have more body than the Bordeaux Connoisseurs prize the Burgundies of the Côte d'Or, especially the white Montrachet, and red Clos Vougeot and Romanée The Chablis area produces fine, white Burgundy Good wines are made in the Loire valley (Vouvray), the Rhone valley (Hermitage), Alsace, and the Jura mts A great quantity of ordinary wine is produced in S France, much of it made into vermouth, distilled into brandy, or used for blending

German wine Fine German wines are generally light, dry, white wines made from the Riesling grape and characterized by a fresh, flowery bouquet Hock, corruption of Hochheimer, is an English term applied to all Rhine wines The best white hocks are from the Rheingau They include Johannisberger, Rüdesheimer, and Hochheimer Rheinhessen wines are full-bodied but shorter-lived, Niersteiner and Liebfraumilch are the best known The third Rhine district, the Palatinate, produces sweeter, less distinguished wines Rhine wines were formerly matured for many years in huge casks like the classic Heidelberg Tun, but are now aged in small casks for not more than three years The most northern viticultural area in the world, situated along the Moselle river and its tributaries the Saar and the Ruwer, furnishes extremely light, delicate wines Moselle wines are drawn off into green bottles, Rhine wines into brown Other good wines are made in Baden and in Bavaria, noted for Stein wine

Italian wine Italy is the second wine-producing country in the world, but few of its wines are of export quality Italian wines are frequently named for the grape rather than for the region of origin, hence a wine excellent in one locality may be inferior in another The best known is Chianti, red or white, and properly a Tuscan wine From Campania come the esteemed Lachryma Christi, Capri wines, and Falerno, descendant of Horace's Falernian Sicily makes Marsala, a sweet, amber-colored wine, usually fortified, and traditionally a favorite with the enlisted men of the British navy

American wine Excellent wines are made in the United States, although some American vintners have been satisfied with quantity production and with imitations of foreign wines Most American wines are blends The chief wine-producing area, California, makes European-type wines from grapes of the Old World species, *Vitis vinifera* Eastern wines, most of them from New York state —especially the Finger Lakes region—are made from native grapes such as Concords, Catawbas, and the southern scuppernong See H Warner Allen, *The Wines of France* (1924), Allan Taylor, *What Everybody Wants to Know about Wine* (1934), Frank Schoonmaker and Tom Marvel, *American Wines,* (1941), André Simon, *A Wine Primer* (1946), W V Cruess, *Principles and Practice of Wine Making* (2d ed , 1946)

Winebrenner, John (wĭn'brĕ"nûr), 1797–1860, American minister, founder of the CHURCHES OF GOD IN NORTH AMERICA, b Maryland In 1820 he was ordained pastor of the German Reformed Church at Harrisburg, Pa. His evangelistic methods aroused antagonism, in 1828 he was excluded from his denomination. Winebrenner traveled as an evangelistic preacher, setting up independent

churches. In 1830 he and a group of preachers organized the General Eldership of the Church of God His followers were sometimes called Winebrennerians.

Wineland: see VINLAND.

Wines, Enoch Cobb, 1806–79, American clergyman and prison reformer, b Hanover, N J After a varied career as a schoolmaster and preacher he became (1861) secretary of the Prison Association of New York and began his most important work His noted *Report on the Prisons and Reformatories of the United States and Canada* (1867) was partly responsible for the wave of prison reform in the 19th cent.

Winfield. 1 Town (pop 1,662), NW Ala , WNW of Birmingham, in a farm area It has a textile mill 2 City (pop 9,506), co seat of Cowley co , S Kansas, on the Walnut and SSE of Wichita, laid out 1870, inc 1872 It is a rail and trade center in a rich agricultural, stock-raising, and oil-producing area and owns its gas and power utilities Southwestern College (Methodist, coeducational, opened 1886) and a junior college are here Winfield is the site of the county fair Near by is the state school for the feeble-minded

Winfrid: see BONIFACE, SAINT.

Wingate, Orde Charles (ôrd), 1903–44, British general Born in the Himalayas, he was educated at Charterhouse and Woolwich Military Academy Wingate served with the Sudan defense force (1928–33) and on special duty in Palestine (1936–39) It was in Palestine that he first used guerrilla tactics against Arabs attempting to cut the Haifa pipeline In the Second World War, although only a major, he commanded (1941) the British and native troops who ousted the numerically superior Italians from Ethiopia and restored Emperor Haile Selassie to his throne Called to India and raised to the rank of brigadier in 1942, Wingate trained and led a force of raiders into Japanese-held Burma for a period of seven months (1943) He was made a major general and placed in command of a larger army, which was flown into Burma, but he was killed in an airplane accident two weeks after this operation began A colorful personality and an unorthodox campaigner, Wingate demonstrated the effectiveness and practicality of jungle guerrilla warfare by Western troops See Charles Rolo, *Wingate's Raiders* (1944), W G Burchett, *Wingate's Phantom Army* (1946)

Wingham (wĭng'ŭm), town (pop 2,030), S Ont , on the Maitland river and NE of Goderich It has tanneries and flour and woodworking mills, and manufactures stoves and furnaces

wings, the FLIGHT organs of the BIRD, the BAT, and the INSECT Birds' wings are feathered There is much variation in the size and shape of the wings, and the number of primaries and secondaries (the principal flight feathers) also varies Some birds have wings which enable them to rise suddenly and quickly from the ground, some birds' wings are adapted for soaring flight, other birds move their wings constantly, the speed of the movement varying in different species Among insects the number, the kind, and the venation (character of veins) of the wings is a basis for classification

Winisk (wĭnĭsk', wī'nĭsk), river of N Ontario, issuing from Winisk Lake and flowing 300 mi N and NE to Hudson Bay at Weenusk, or Winisk

Wink, city (pop 1,945), W Texas, S of the N Mexline and N of the Pecos, in an oil area, inc 1928

Winkelried, Arnold von (ar'nôlt fŭn vĭng'kulrēt), d 1386, Swiss hero, whose action at the battle of Sempach (July 9, 1386) is credited in legend with the Swiss defeat of the Austrians under Duke Leopold According to the legend, which is upheld by some historians, after the Swiss had failed to break through the Austrian ranks and the battle had reached a critical stage, Winkelried of Unterwalden threw himself against the Austrians and, gathering all the spears within his reach against his breast, fell dead, having made an opening in the enemy ranks through which his compatriots rushed to victory There has been considerable discussion regarding the truth of this legend, and in the latter half of the 19th cent the debate was referred to facetiously as "the second battle of Sempach " In 1886 a monument to Winkelried was erected on the battlefield

Winkler, village (pop 1,164), S Man , SW of Winnipeg, in a mixed farming region

Winnebago (wĭnĭbā'gō), village (pop 1,992), S Minn , N of Blue Earth, in a farm and dairy region, settled before 1865

Winnebago, Lake, c 28 mi long and 10½ mi at its widest point, E Wis , largest in the state The Fox river enters at Oshkosh and leaves at Menasha, Fond du Lac is at the south end

Winnebago Indians, tribe of North American Indians of the Siouan linguistic stock When Father Jean Nicolet discovered (1634) them the Winnebago lived in E Wisconsin, from Green Bay to Lake Winnebago Except for a war with the Illinois (1671) and one with the Ojibwa (1827), the Winnebago generally were peaceful towards their neighbors such as the Menominee, the Sac and Fox, and the Ottawa The Winnebago traded with, and were staunch supporters of, the French After the fall of French power, however, they allied themselves with the British; they fought against the colonists in the American Revolution and in the War of 1812. The Winnebago clandestinely participated in the Black Hawk War (1832) After numerous hardships, including a war with the Sioux (1862), and much loss of population the Winnebago finally settled on reservations in Nebraska and Wisconsin In 1843 they numbered some 4,500, but today they number some 2,800 Winnebago culture was of the Eastern Woodlands area with some Plains area traits Their many ceremonies were elaborate, e g , the buffalo dance held in the spring and the winter feast See Paul Radin, *The Winnebago Tribe* (1923)

Winnemucca (wĭnĭmŭ'kŭ), city (pop 2,485), co seat of Humboldt co , N Nev , on the Humboldt, inc 1917 Founded in 1850 as a trading post called French Ford, it was renamed in 1868 and became the center of a ranching and silver-mining area

Winner, Septimus, 1827–1902, American song writer, who used the pseudonym Alice Hawthorne He wrote *Listen to the Mocking Bird* and *Whispering Hope* See C E Claghorn, *The Mocking Bird* (1937)

Winner, city (pop 2,426), co seat of Tripp co , S S Dak , SSE of Pierre, founded after 1908 when the eastern part of the Rosebud Indian Reservation was opened to white settlement It is a shipping and trade center for a farm region

Winnetka (wĭnĕt'kŭ), residential village (pop 12,430), NE Ill , north suburb of Chicago, on Lake Michigan, inc 1869

Winnetka plan: see PROGRESSIVE EDUCATION

Winnfield, town (pop 4,512), parish seat of Winn parish, N central La , NNW of Alexandria, in a pine-woods region, inc 1855 Near by are salt mines and limestone quarries It is the birthplace of Huey Long

Winnipeg (wĭ'nĭpĕg), city (pop 229,045), provincial capital, SE Man , on the Red River at the mouth of the Assiniboine, S of Lake Winnipeg and SE of Lake Manitoba, inc 1873 It is the largest city of the Prairie Provs and one of the world's largest wheat markets A railroad, commercial, industrial, and distribution center, it has an airport, railroad shops, grain elevators, stockyards, meat-packing plants, flour mills, automobile assembly plants, and varied manufactures Hydroelectric power is brought to the city from a hydroelectric station on the Winnipeg river The city's history reflects the history of early French and British explorers and fur traders Vérendrye here built (1738) Fort Rouge, and other posts were built in the Red River region, which was fiercely contested later by the North West Company and the Hudson's Bay Company The conflict reached its height in the struggle over the RED RIVER SETTLEMENT The two companies were merged in 1821, and Fort Gibraltar, an old post of the North West Company on the site of Winnipeg, became the Hudson's Bay Company post, Fort Garry (see GARRY, FORT), which was important in traffic on the Red River, connecting with the settlements in present North Dakota Settlement grew up around the post, and Winnipeg came into being in the 1860s and grew rapidly after the arrival (1881) of the railroad The Univ of Manitoba (see MANITOBA, UNIVERSITY OF) is here, as are the provincial government buildings, a civic auditorium, and the ruins of Fort Garry St Boniface, just opposite, is connected by bridges over the Red River

Winnipeg, river of W Ontario and SE Manitoba, issuing from the north end of Lake of the Woods and flowing 200 mi in a winding course generally northwest through several lakes to the southeast end of Lake Winnipeg Rapids on its lower course have hydroelectric stations Its principal tributary is the English river The Winnipeg was first traveled by sons of Vérendrye and was much used by explorers and fur traders

Winnipeg, Lake, area 9,398 sq mi , 250 mi long and 55 mi wide, S central Man , N of Winnipeg It is a remnant of glacial Lake Agassiz It receives the Red, Winnipeg, and Saskatchewan rivers and lesser streams and is drained NE by the Nelson to Hudson Bay There are valuable pulp, timber, and fishing resources, and several summer resorts are on its shores The lake was discovered (1733) by the Vérendrye expedition and was an important route of early explorers and fur traders

Winnipegosis, Lake (wĭ'nĭpugŏ'sĭs), area 2,086 sq mi , 125 mi long and 25 mi wide, W Man , W of Lake Winnipeg and NW of Lake Manitoba It is a remnant of glacial Lake Agassiz It drains SE into Lake Manitoba and thence into Lake Winnipeg Lake Winnipegosis has important pike fisheries

Winnipesaukee, Lake (wĭ'nĭpusŏ'kē), 25 mi long and 12 mi wide, E central N H , largest in the state Irregular in shape, with many indentations, it is dotted with islands and surrounded by wooded hills It drains into the Merrimack river through its short outlet, the Winnipesaukee river. The region around the lake is a popular summer resort

Winnsboro. 1 Town (pop 2,834), parish seat of Franklin parish, NE La , SE of Monroe, founded c.1844, inc 1902. It is a trading center and has cotton gins and sawmills 2 City (pop. 3,181), co. seat of Fairfield co , N central S C., N of Columbia, in a farm and timber area, settled in the mid-18th cent., inc. 1785 Textiles and tire cord are made here 3 City (pop 2,092), E Texas, ENE of Dallas, in a dairy and farm area

Winona (wĭnō'nŭ, wī-) 1 City (pop 22,490), co. seat of Winona co , SE Minn , on the Mississippi and SE of St Paul, settled 1851, inc 1857 An early trading and lumber center, the city grew as river traffic increased and developed as a manufacturing and commercial center It has the oldest normal school W of the Mississippi, Winona State Teachers College (1860), and is the seat of St. Mary's College and the College of St Teresa James Earle Fraser was born here 2 City (pop 2,532), co seat of Montgomery co , N central Miss , E of Greenwood, in a farm and livestock area

Winooski (wĭnōō'skē), industrial city (pop 6,036), NW Vt , on the Winooski near Burlington, set off from Colchester 1922 Its development began with the building of mills at the falls here by Ira Allen and Remember Baker shortly after the Revolution Worsted and woolen fabrics are made St Michael's College is near by

Winooski, river, c 90 mi long, rising in NE Vermont and swinging southwest, then northwest, across the state, passing Montpelier and Waterbury and entering Lake Champlain near Burlington and Winooski Floods in 1927 caused terrific loss in its valley, and three flood-control dams were built, 1933–37, on its tributaries The system, though not then complete, prevented serious damage to most of the valley in the 1936 flood See R N Hill, *The Winooski Heartway of Vermont* (1949)

Winslow, Cameron McRae (wĭnz'lō), 1854–1932, American naval officer, b Washington, D C , grad Annapolis, 1875 He served on the *Nashville* in the Spanish-American War, and for his heroism off Cienfuegos, Cuba—where he commanded an expedition which cut the cables between Cuba and Europe—he was advanced five numbers in rank He was (1905) naval aide to President Theodore Roosevelt and in 1911 was promoted rear admiral He served (1911–13) as commander in the Atlantic Fleet and later (1915–16) was commander in chief of the Pacific Fleet

Winslow, Edward, 1595–1655, one of the founders of PLYMOUTH COLONY in New England, b Droitwich, Worcestershire, England One of the leading PILGRIMS who came to America on the *Mayflower* in 1620, Winslow negotiated (1621) the treaty of peace and friendship with the Indian chief MASSASOIT Sent back to England (1623–24) as agent of the colony, he wrote *Good Newes from New England*, which Samuel Purchas published in 1625 On his return to Plymouth he was elected an assistant of the colony and was continuously reelected until 1647, except for the years he served as governor (1633–34, 1636–37, and 1644–45), years in which William Bradford had declined to hold the governorship Winslow knew the wilderness better than anyone else in the colony and was apparently the first Englishman to visit (1632) CONNECTICUT He was also one of the Pilgrim leaders who undertook to discharge successfully the colony's debts to its English backers In England again (1635) he was imprisoned for a short time for his separatist beliefs and for performing the marriage ceremony in the colony On still another journey to England, to answer charges made against Plymouth Colony, he issued a vigorous defense in *Hypocrisie Unmasked* (1646) With the Puritan cause triumphant, he remained in England Sent by Oliver Cromwell on a mission to the West Indies, he died there of fever Josiah WINSLOW was his son See G F Willison, *Saints and Strangers* (1945)

Winslow, John Ancrum, 1811–73, American naval officer, b Wilmington, N C He was appointed a midshipman in 1827 He served in the Mexican War and was commissioned commander in 1855 In the Civil War, Winslow first served with the flotilla operating on the upper Mississippi Promoted captain in 1862, he commanded the *Kearsarge* (1863–64) in pursuit of CONFEDERATE CRUISERS in European waters On June 14, 1864, Winslow found the *Alabama*, under Raphael Semmes, at Cherbourg, and five days later, in one of the outstanding naval engagements of the war, the *Kearsarge* sank the celebrated raider For his victory Winslow was promoted commodore and received the thanks of Congress He commanded the Gulf squadron (1866–67), was made a rear admiral (1870), and was commander of the Pacific squadron (1870–72) See biography by J M. Ellicott (1902)

Winslow, Josiah, c 1629–1680, governor of Plymouth Colony, b Plymouth, son of Edward WINSLOW Educated at Harvard, he became assistant governor of Plymouth (1657–73) and then governor (1673–80), the first native-born governor of any American colony Winslow also served as the Plymouth commissioner to the New England Confederation and as commander in chief of the colonial forces in King Philip's War (see PHILIP) in 1675.

Winslow. 1 City (pop 4,577), E central Ariz , near the Little Colorado river and ESE of Flagstaff, in a stock-raising region, founded 1882, inc 1900. Near

by is Meteor Crater, a depression nearly a mile in diameter and 600 ft. deep, possibly made by a huge meteor long ago. **2** Town (pop 1,382), SW Ind , SE of Petersburg Bituminous coal is mined here. **3** Town (pop. 4,153), S Maine, on the Kennebec opposite Waterville, inc 1771 Fort Halifax near by was built by Capt John Winslow in 1754 Cassiterite is found in Winslow The town has pulp and paper mills.

Winsor, Justin, 1831–97, American librarian and historian He was superintendent (1868–77) of the Boston Public Library and afterwards librarian of Harvard Univ. In addition to important bibliographical work on Shakspere, Columbus, and the American Revolution, he edited the *Narrative and Critical History of America* (8 vols , 1884–89) and wrote *The Westward Movement* (1897).

Winstanley, Gerrard see DIGGERS

Winsted, city (pop 7,674) in Winchester town, NW Conn , a co seat of Litchfield co , at the confluence of the Still and the Mad rivers Hosiery and chain hoists are among its products Scythes were made here before 1800, and the city has produced clocks since 1807

Winston-Salem (wĭn'stŭn-sā'lŭm), city (pop 79,815), co seat of Forsyth co , central N C , W of Greensboro, in the piedmont It is an important industrial, transportation, and distributing center and a port of entry, with large tobacco industries and textile, hosiery, and furniture plants Salem was founded in 1766 by a Moravian colony (the Moravian Easter Sunday services here are widely known), Winston was founded about 1850 as the county seat, the two were united in 1913 The city is the seat of Salem College (Moravian, for women, 1772) and Winston-Salem Teachers College (Negro).

Wint, Peter de: see DE WINT, PETER

Winter, William, 1836–1917, American dramatic critic, biographer, and poet, b Gloucester, Mass , grad Harvard Law School, 1857 A member of the literary bohemians who met in Pfaff's Cellar in New York in the 1850s, he summed up his memories of them—Bayard Taylor, Walt Whitman, and others—in *Old Friends* (1909) He was a famous dramatic critic for the New York *Tribune* from 1865 to 1909 and during the latter part of that time was an opponent of the new realistic drama His many studies of actors—among them Henry Irving, Edwin Booth, Ada Rehan, and David Belasco —and his *Other Days* (1908) and *The Wallet of Time* (1913), theatrical reminiscences, are useful histories of the period His poetry was collected in 1909

winterberry, name for some of the shrubby species of the holly genus (*Ilex*) The Virginia winterberry (*Ilex verticillata*), or black alder, is native to the swamps and low grounds of the E United States and the Middle West and ranges N to Nova Scotia It has toothed but spineless thin leaves, hairy beneath and deciduous, a tea can be made from the leaves The fruits, said to be poisonous, are bright red (occasionally yellow) berries which persist into the winter The smooth winterberry (*I laevigata*) is similar but has mostly smooth leaves and orange-red or, rarely, yellow fruits It occurs in swamps from Maine to Virginia

Winter Garden, city (pop 3,060), central Fla , on Lake Apopka It is a packing and shipping center for a productive truck and citrus-fruit area

wintergreen or **checkerberry,** low evergreen plant (*Gaultheria procumbens*) of the heath family, native to sandy and acid woods (usually of evergreens) of E North America and frequently cultivated It has a creeping stem, erect branches, glossy oval leaves, and small waxy white flowers followed by crimson fruits The spicy leaves and fruits are edible, the leaves are a source of wintergreen oil (now mostly obtained from the sweet, or black, birch, *Betula lenta*, or synthetically) The oil (see METHYL) is used in medicine and as a flavoring A tea has often been made from the leaves, whence two of the many names of the plant, mountain tea and teaberry There are other species of *Gaultheria* found in W America (one called salal) and elsewhere Shinleaf (*Pyrola*) is sometimes called wintergreen.

Winterhalter, Franz Xaver (fränts' ksävär' vĭn'tur-hal"tur), 1806–73, German portrait painter, favorite painter of royalty in his day Most of the crowned heads of Europe sat for him, and his pictures of them are in leading European galleries Empress Eugenie is thought to have posed for his *Florinda* (Metropolitan Mus) His *Susannah and the Elders* is in the Seattle Art Museum

Winter Haven, city (pop. 6,199), central Fla , E of Tampa It is a market, processing, and shipping center for one of the state's chief citrus-fruit regions Winter Haven is also a boating resort. There are 97 lakes within a radius of 5 mi and a boat course of some 17 connected lakes

Winter Park, residential city (pop 4,715), central Fla , just N of Orlando, settled in the 1850s, inc. 1887 ROLLINS COLLEGE is here

Winterport, town (pop 1,572), S Maine, on the Penobscot below Bangor, inc. 1860.

Winters. 1 Town (pop 1,133), central Calif., W of Sacramento, in a farm area, inc. 1898 **2** City (pop. 2,335), W central Texas, SSW of Abilene, in a diversified farming area, settled c.1890, inc. 1909.

Winterset, city (pop. 3,631), co. seat of Madison co., SW Iowa, SW of Des Moines; founded 1846, inc. 1876. Near by is the original Delicious apple tree, planted in 1872.

winter sports: see BOBSLEDDING; HOCKEY; SKATING; SKIING, SNOWSHOES, TOBOGGANING.

Winterthur (vĭn'tûrtōōr"), town (pop 58,883), Zurich canton, Switzerland An important railroad center, it manufactures machinery (especially locomotives), cotton textiles, foodstuffs, and clothes It has a notable art gallery and a Gothic church. Winterthur was ruled by the counts of KYBURG (whose castle stands south of the town) until 1264, when it passed to the Hapsburgs. In 1467 it was bought by Zurich

Winthrop, John, 1588–1649, governor of the Massachusetts Bay colony, b Edwardstone, near Groton, Suffolk, England, of good family He studied at Trinity College, Cambridge, was admitted to Gray's Inn, and became a prosperous attorney with strong Puritan leanings As a member of the MASSACHUSETTS BAY COMPANY he favored the removal to New England and was chosen (1630) governor when that course was decided upon He arrived (1630) in the ship *Arbell* at Salem and shortly founded on Shawmut peninsula the settlement which became Boston He was—with the possible exception of John Cotton—the most distinguished citizen of Massachusetts Bay colony, serving as governor some 12 times He helped to shape the theocratic policy of the colony and opposed broad democracy It was while he was deputy governor and the younger Henry Vane was governor that Winthrop bitterly and successfully opposed the antinomian beliefs of Anne HUTCHINSON and her followers, who were supported by Vane The force of his influence on the history of Massachusetts was enormous Winthrop's journal, which was edited by J K Hosmer in 1853 as *The History of New England from 1630 to 1649*, is one of the most familiar of American historical sources. See R C Winthrop, *Life and Letters of John Winthrop* (1862), biography by J H Twichell (1892), *Winthrop Papers* (5 vols , 1929–47)

Winthrop, John, 1606–76, colonial governor in America, b Groton, Suffolk, England, son of the elder John Winthrop He was educated at Trinity College, Dublin, studied law at the Inner Temple, went on the expedition led (1627) by the 1st duke of Buckingham to La Rochelle, and emigrated to Massachusetts Bay in 1631 He represented (1634) the colony in England and in 1635 returned as governor of the new colony at Saybrook (now Old Saybrook), Conn , just when other towns were being settled in the Connecticut valley, by agreement he was recognized for a year as titular governor of all In 1646 he founded New London, and in 1657 and annually from 1659 to 1676 he was governor of Connecticut by election After the Stuart restoration he obtained a charter (1662) which led to the union (1664) of Connecticut and New Haven colonies, and he governed the colony as an administration practically independent of England He gathered a considerable library and by his interest in chemistry and other sciences helped to promote scientific study in the colonies See biography by T F. Waters (1899).

Winthrop, John (Fitz-John Winthrop), 1638–1707, colonial governor in America, b Ipswich, Mass ; son of the younger John Winthrop He is commonly called Fitz-John Winthrop to distinguish him from his father and his grandfather He left Harvard to serve in Richard Cromwell's parliamentary army, returned to America in 1663, served in King Philip's War, was a member of the council of Governor Andros, and served as commander of the unsuccessful invasion (1690) of Canada in King William's War He represented Connecticut in England from 1693 to 1697 and was elected governor in 1698, serving ably until his death

Winthrop, John, 1714–79, American scientist, b Boston, Mass , grad Harvard, 1732, descendant of John Winthrop (1588–1649). Because of his study of earthquakes, he is sometimes called the founder of seismology He made scientific observations of sunspots and other astronomical phenomena, lectured on electricity, and is called a founder of experimental science in America and the first important scientist to teach at Harvard

Winthrop, Robert Charles, 1809–94, American statesman, b Boston, grad Harvard, 1828. He studied law under Daniel Webster, was admitted (1831) to the bar, and was (1834–40) a Whig member of the Massachusetts legislature. He served (1842–50) in the House of Representatives, becoming speaker in 1847. Appointed (1850) to the Senate to complete Daniel Webster's unexpired term, he was defeated in 1851 by Charles Sumner He was generally considered a moderate in the sectional disputes leading up to the Civil War He gained a reputation as an orator and was the chief speaker at the laying of the cornerstone of the Washington Monument (1848) and again (1885) at its dedication After 1851 he chiefly devoted himself to literary and philanthropic work, and Winthrop College for women in South Carolina was named in his honor He wrote *The Life and Letters of John Winthrop* (1864–67), *Washington, Bowdoin, and Franklin* (1876), and *Memoir of Henry Clay* (1880).

Winthrop, Theodore, 1828–61, American author, b. New Haven, Conn., grad. Yale, 1848. He traveled extensively, studied law, and began to write, but all of his novels appeared after he was killed in the Civil War *Cecil Dreeme* (1861), *John Brent* (1862), and *Edwin Brothertoft* (1862) were at once popular. See *The Life and Poems of Theodore Winthrop* (ed. by his sister, L W. Thompson, 1884).

Winthrop. 1 Town (pop 2,508), SW Maine, W of Augusta; settled 1765 as Pond Town Plantation, renamed and inc 1771 In a lake region, the town became a resort It has woollen mills and oilcloth factories **2** Resort town (pop 16,768), E Mass , on a peninsula NE of Boston, settled 1635, set off from North Chelsea 1852 Several old houses survive. **3** City (pop 1,195), S Minn , N of New Ulm, settled 1881, inc as a village 1884, as a city 1910 It is a farm trade center.

Winthrop College, at Rock Hill, S C , for women; opened 1886 as a teachers' training school at Columbia, with aid from the Peabody Education Fund It was taken over by the state and chartered in 1891 Named Winthrop Normal and Industrial College of South Carolina in 1893, it moved in 1895 and was renamed in 1920 Winthrop cooperates with Clemson Agricultural College in home economics extension and research

Winton, industrial borough (pop 7,989), NE Pa , NE of Scranton, settled 1849, inc 1877 Its industries include silk mills and anthracite mines.

Winwood, Sir Ralph, 1563?–1617, English diplomat and statesman He acted as secretary (1599–1601) to Sir Henry Neville, the ambassador to France, and was Sir Henry's successor (1601–3) and agent to the States-General of the Netherlands (1603–14). At The Hague he showed himself an ardent enemy of Spain and Catholicism and assisted the Dutch as much as possible against Spain On his return to England (1614) he was made secretary of state, secured the friendship of the king's favorite, the earl of Somerset, and assumed leadership in the House of Commons in the Addled Parliament in the interests of the crown There he upheld James's subsidy demands and the *impositions*, but Parliament was dissolved without passing a single act Winwood helped secure the release of Sir Walter Raleigh from the Tower (1616) and urged him on his fatal expedition against the Spanish fleet and possessions By his death Winwood escaped the consequences of this act

wire. Metals and alloys used for wiremaking should have high tensile strength and ductility. They are selected also for their electrical conductivity, weight, melting point, or other properties, depending upon the use to which the wire is to be put For convenience, the many different sizes (diameters) in which wire is made are arranged in series of decreasing size and numbered, the number being known as the gauge or gage, the higher the gauge the smaller the diameter The number of gauges used and their size differ according to the kind of wire and the standards of the country In the United States the American wire gauge, known also as the Brown & Sharpe wire gauge and abbreviated B & S , is used as a standard, in the British Isles and Canada the (British or imperial) standard wire gauge, abbreviated S W G , is employed For steel wire the steel wire gauge (known also as the Washburn & Moen, the Roebling, or the American Steel & Wire Co 's wire gauge) is employed Wire is widely used for conducting electricity and in making fencing, screens, netting, springs, and mesh or cloth Very fine wire is used in various scientific instruments, e g , certain optical instruments, electrical measuring devices and apparatus, and medical instruments. A wire mesh is commonly used in glass (wire glass) to prevent shattering and increase strength and safety Wire rope (cable) is made by forming wires into strands which are then wound on a core Wire has been used since the 3d millennium B C In early times the metal was hammered into sheets, then cut in strips and shaped with hammer and file The modern method of drawing wire is believed to have been used commercially in Europe late in the 13th cent In this the metal is pulled, or drawn, through a number of holes, each smaller than the one preceding, until finally it is passed through one of the desired diameter Metal plates with such holes are known as drawplates or dies Success in drawing wire through the drawplate formerly depended upon the physical strength of the wiredrawer (or wiresmith), since machinery was not used until the introduction of power-driven cylinder blocks for pulling and coiling the wire

wireless: see RADIO.

wireworm, the larva of the elater or click beetle. The majority are hard and brown, but some species are soft and whitish They are destructive to crops, feeding on the roots, underground stems, and seeds. Corn, grasses, and small grains and potatoes, carrots, beets, and many other vegetables are attacked. Methods of control include letting the land lie fallow, crop rotation, and special methods of cultivation. See *Wireworms and Their Control on Irrigated Lands* (U S. Dept. of Agriculture, Farmers' Bul. 1866); bulletins of state experimental stations.

Wirt, William (wûrt), 1772–1834, American author and lawyer, b. Bladensburg, Md. He had little formal schooling but was admitted to the Virginia bar in 1791. He practiced law in Culpeper co. and in Richmond and Norfolk. His first book was an anonymous collection of sketches called *The Letters of a British Spy* (1803) Purporting to be the work of a "meek and harmless" noble visitor to America, it is a gentle rejoinder to the castigations of the United States by British travelers *The Rainbow* (1804) and *The Old Bachelor* (1810) are similar collections, attempting the style of Joseph Addison Wirt's *Life and Character of Patrick Henry* (1817) was the first of his books to appear under his own name The work presumed to give the text of Henry's speeches, which Wirt knew only from traditional accounts, it included some of the famous but debatable quotations from Henry Wirt won fame as the prosecutor in the trial (1807) of Aaron Burr for treason As U S Attorney General (1817–29) he initiated the practice of having his opinions published as precedents In 1832 he accepted the nomination for President of the ANTI-MASONIC PARTY in the belief that this would force the National Republican party also to support him in order to defeat Andrew Jackson The National Republicans, however, stood by Henry Clay (whom Wirt actually favored), and Wirt waged a very feeble campaign See memoirs by John P Kennedy (1849)

Wirt, William Albert, 1874–1938, American educator, b Markle, Ind, grad DePauw Univ (Ph B, 1898, Ph D, 1916) In 1907 he became superintendent of schools in Gary, Ind, where he developed a plan of school operation (see SCHOOL) known variously as the Gary plan, the platoon system, and Wirt's study-play school This system increases the utilization of the school plant by alternating classes between regular and special teachers

Wirtanen, Artturi Ilmari see VIRTANEN

Wirtemberg, Germany see WÜRTTEMBERG

Wirth, Karl Joseph (kärl' yō'zĕf virt'), 1879–, German statesman A leader of the Center party, he succeeded (1920) Erzberger as minister of finance When the Allies presented the reparations ultimatum of 1921, the cabinet fell, and Wirth became chancellor, pledging the fulfillment of treaty obligations Popular indignation at the League decision to partition Upper Silesia caused Wirth to resign, but he returned to office the same month (Oct., 1921) With his foreign minister, Rathenau, he represented Germany at the Genoa reparations conference of 1922 and while there signed the Treaty of Rapallo with Russia The currency inflation caused the fall of the Wirth ministry in Nov, 1922 Wirth was minister of occupied regions (1929–30) and minister of the interior in the Brüning government (1930–31)

Wisbech (wĭz'bēch), municipal borough (pop 12,006), Isle of Ely, England, a port on the Nene river and NE of Peterborough It has a museum and a church dating from the 14th cent There is a monument to Thomas Clarkson, who was born in Wisbech

Wisby (wĭz'bē), Swed *Visby* (vĭs'bē, Swed vēs'bü), city (pop 13,658), NW GOTLAND, Sweden, a port on the Baltic Sea It is a Lutheran episcopal see and the county seat of Gotland co Though now a popular resort, with a modern ice-free harbor and important sugar refineries and cement works, Wisby is chiefly significant for its history In pagan days it was a religious center, in the 11th cent German merchants came to the city, which became one of the first members of the HANSEATIC LEAGUE The ruins of 10 fine churches and the restored Cathedral of St Mary, erected in the city's heyday, indicate its former wealth and greatness An independent republic, Wisby was the commercial center of N Europe, coining its own money and developing an international maritime code Its decline began in 1280, when Sweden conquered Gotland while Wisby was at war with the peasants over trade privileges It was sacked (1361) and conquered (1362) by the Danes, who returned it to the Hanseatic League in 1370 For the next two centuries it was a pirate stronghold, while its trade was taken by Lübeck. It passed to Denmark in 1570 and to Sweden in 1645 Its churches and buildings decayed, and not until the 19th cent did the city begin to recover trade

Wiscasset (wĭskă'sĭt), town (pop 1,231), co seat of Lincoln co, S Maine, NE of Bath, settled 1663, inc. 1802 Its center, a resort and small port, has colonial homes and a brick courthouse built in 1824 The town flourished in the sailing-ship days

Wisconsin (wĭskŏn'sĭn, -zĭn), state (56,154 sq mi, 1940 pop 3,137,587, 1949 estimated pop 3,355,000), N central United States, admitted 1848 as the 30th state (a free state) MADISON is the capital, MILWAUKEE the largest city Water marks most of the boundary, to the east is Lake Michigan, to the north Lake Superior, and between the two Wisconsin is cut from the Upper Peninsula of Michigan partly by the Menominee river, to the west the St. Croix and the Mississippi mark most of the lines with Minnesota and Iowa; in the south the line of lat. 42° 30′ N marks the land boundary with Illinois The northern part of the state below the western end of Lake Superior—with its ore-shipping ports of Superior and Ashland—is cut by the Keweenaw and Gogebic Ranges, and its rough isolation is marked by glacial lakes of surprising beauty In the south too scenic lakes are plentiful The tempering effects of the water cannot, however, keep the winter climate of the north from being cold or the summer climate of the south from being warm with the hot winds of the Mississippi valley Though the average rainfall of 31 in is more or less uniform, the difference in the farm growing season is sharp, with 75 days in the far north and 175 days in the southwest The water parting marks another distinction with the eastern rivers of the Menominee, the Peshtigo, the Wolf, and the Fox flowing eastward and northeastward, while the Chippewa, the Flambeau, the Black, and the Wisconsin flow west to the Mississippi The close approach of the upper waters of the Fox, bound for Lake Michigan, and the Wisconsin, part of the Mississippi system, helped to make the Fox-Wisconsin portage (see PORTAGE, Wis) one of the great historic transportation links in American history The waterways of the Great Lakes have also been used since the days of the Indians and today are much used by shipping out of Milwaukee, Green Bay, and Superior The abundance of water also nurtured the forests that not so long ago covered all of the state except the southern prairie Reckless lumbering in the late 19th cent destroyed much of the forest cover, but there are still stands of stately white pine in the north and groves of hardwoods in the south, and conservation and reforestation methods, combined with the systems of national and state parks have kept in Wisconsin many areas of forest stillness and lands where still the blue shadows of trees fall upon icy winter waters and clean, unbroken snow Even the smaller trees are of value to the wood-pulp industry, and lumbering still remains profitable while cities like Oshkosh and La Crosse remember the brasher days of loggers in from the logging camps Today, however, much of Wisconsin has a more pastoral accent Dairying, replacing wheat growing, became highly important in the 1880s, and now much of Wisconsin's land is given over to the grazing of great dairy herds, and the cheese from Sheboygan and other Wisconsin cities is famous across the nation The plants to process dairy produce and earlier-founded sawmills and woodworking plants and flour mills for the once-great wheat crops, formed the base for industrial development, but that development expanded beyond small plants The metropolis of Milwaukee, although its fame is widely attributed in advertisements to one brand of beer, actually has a great range of business and industry—including among other things the making of large machines for large-scale engineering projects Other cities, too, such as the smaller southern lake ports of Racine and Kenosha are smoky with industry The riches of Wisconsin are as diverse as the hill-to-prairie scenery, but the variety in living within a wholly American unity has been gained only through centuries of history The Great Lakes offered an easy access from Canada, and Jean Nicolet, the first of the French explorers in Wisconsin, arrived at Green Bay in 1634 in search of the Northwest Passage He was followed by other traders and missionaries, among them the path-breaking RADISSON and Groseilliers, MARQUETTE and JOLLIET, who discovered the upper Mississippi, Aco and HENNEPIN, from the party of LA SALLE, and the redoubtable DULUTH Meanwhile Indian troubles, caused by the incursion of Indians driven westward into the Wisconsin lands of the Winnebago, the Menominee, the Ojibwa, and the earlier settled tribes Nevertheless, after Nicolas PERROT had formally claimed all the region for France in 1686 the fur trade flourished despite troubles (especially between the Fox Indians and the French), and the historic Fox-Wisconsin portage was used by generations of fur traders from Green Bay and Prairie du Chien Wisconsin, like the rest of the possessions of New France, fell to the British with the end of the French and Indian Wars British traders mingled with the French, and British control of the Indians was strong It was not relinquished when with the end of the American Revolution the Old Northwest passed (1783) to the United States and was made (1787) a part of the Northwest Territory Effective U S. control began only after the War of 1812 had been won The American Fur Company gained control of much of the fur trade, which continued long after the present Wisconsin was included (1818) in Michigan Territory but had begun to diminish before the Erie Canal had made the Great Lakes route easier for settlers coming from the East The lead mines in the present NE Iowa and SW Wisconsin had been long known before there was a rush to the area in the 1820s White settlers coming into Wisconsin interfered with the patterns of Indian life and helped to bring on the BLACK HAWK WAR. The Indians were subdued and largely driven forth, and the way was open for unimpeded founding of towns and exaggerated land booms. Farming was becoming the staple occupation before in 1836 Wisconsin was made a territory and the legislators were persuaded by James Duane Doty to choose the still unbuilt city of Madison as the capital The Panic of 1837 sobered land speculators, but by 1840 the population had risen to more than 130,000 The great immigration of Germans began, and some parts of Wisconsin assumed a tidy semi-German look that has persisted along with an astonishing survival of the German language, some of the liberal leaders who came after the failure of the Revolution of 1848 in Germany added to the intellectual development of the frontier Other contributions were made then and later by immigrants from other lands—Irish, Scandinavian, Russian Germans from the Volga, and Poles The resulting amalgam was typically American The need to improve communications for the growing population—despite the military road built from Green Bay to Prairie du Chien in 1835–38 and the many excellent harbors—was a factor in the move for statehood Wisconsin became a state but only after yielding up a claim to the strip of land about Chicago to Illinois and a claim to the Upper Peninsula to Michigan. Wisconsin in 1846 rejected the first proposed constitution but in 1848 accepted the second The state developed promptly with the building of roads and railroads and in another direction with the creation of a free public school system carried to the level of the Univ of Wisconsin The Civil War did not much disturb the economy, yet abolitionist groups had helped in the early formation of the Republican party and there was ill-feeling because many German immigrants (some of whom had left Germany because they opposed compulsory military service) were set against even voluntary war service After the war there was great development all over the West Wheat growing had been established as a major source of Wisconsin income before the war, and many acres, especially in the southern prairies, were golden with grain each year, and flour and grist mills in towns on the rivers and on Lake Michigan throve Dependence on wheat was doomed, however, largely by the development of wheat growing farther west, and Wisconsin had to go through a period of transition Lumbering, long prominent, became the basic industry and kept its first position as the forests were laid waste until the 20th cent The opening of iron mines in Minnesota and Michigan promoted the northern lake ports and opened industrial opportunities Dairying was encouraged by such men as William D Hoard, and the Wisconsin Dairymen's Association was founded in 1872 The distress of the farmers in the transition period of the '80s and '90s found vent in opposition to the railroad companies, which were fattened by enormous land grants, and to the big lumbermen and newly wealthy industrialists The trend toward liberal political views was already strong in Wisconsin, where Socialist thought was introduced early and was to hold sway in Milwaukee politics for many years after 1910, particularly under the mayoralty of Daniel HOAN In the period of economic stress the GRANGER MOVEMENT was popular, and in the 20th cent out of the ranks of the Republican party rose the elder Robert M LA FOLLETTE and the "Wisconsin idea," a philosophy of progressive legislation for public welfare that owed much to Charles MCCARTHY Belief in the extension of high civil-service standards, labor laws, and cooperative, nonpartisan action to solve labor problems were important in the political development that gave Wisconsin the reputation of being radical La Follette's son, Robert M La Follette the younger and Philip La Follette continued the policies of their father and conflicted with more conservative Republican leadership The conflict was fruitful for Wisconsin in sound laws and in social progress Though isolationism was strong in both the World Wars and there was some sympathy for National Socialism in Germany, Wisconsin generally remained a leader in national thought and was enriched by development in the Second World War The originality and influence of Wisconsin may be seen in the pioneering efforts of three native sons—Frederick Jackson Turner in history, Thorstein Veblen in economics, and Frank Lloyd Wright in architecture See Lawrence Martin, *The Physical Geography of Wisconsin* (1916), Joseph Shafer, *A History of Agriculture in Wisconsin* (1922), E L Kirkpatrick and Agnes M Boynton, *Wisconsin's Human and Physical Resources* (1936), William F Raney, *Wisconsin a Story of Progress* (1940), Federal Writers' Project, *Wisconsin A Guide to the Badger State* (1941), August W Derleth, *The Wisconsin* (1942); Frederick L Holmes, *Old World Wisconsin* (1944), E N Doan, *La Follette and the Wisconsin Idea* (1947), R E Gard, *Wisconsin Is My Doorstep* (1948)

Wisconsin, river, c 430 mi long, rising in NE Wisconsin at the Mich line and flowing generally SW across Wisconsin to the Mississippi near Prairie du Chien At PORTAGE it is connected by a short canal with the Fox river, and thus with Lake Michigan Its dells (see DELLS OF THE WISCONSIN) are famous See August W. Derleth, *The Wisconsin* (1942).

Wisconsin, University of, at Madison; land-grant and state supported, coeducational; chartered 1848, opened 1849. It has colleges of agriculture, engineering, and letters and science and schools of commerce, education, journalism, law, library science, music, nursing, pharmacy, and medicine There are state hygiene and U S forest-products laboratories, a U S weather bureau, an institute of pharmaceutical history, a state geology and natural history survey, an arboretum and wildlife refuge, a film library, a radio hall, a university press, and the noted Washburn Observatory The libraries include those of the state historical society (see DRAPER, LYMAN C), with a museum, and of the state academy of science, arts, and letters The campus on Lake Mendota has Indian mounds. The university has long been noted for graduate and research work, scientific equipment, and service to the state The Experimental College (1927–32) made influential findings (see MEIKLEJOHN, ALEXANDER) Noted administrations of the university were those of John Bascom and Charles K Adams

Wisconsin Dells, city (pop. 1,762) central Wis., on the Wisconsin and NW of Portage, in a dairy area, settled c 1850, inc 1925, called Kilbourn until 1931 It is the gateway to the unusual rock formations in The Dells along the river

Wisconsin Rapids, city (pop 11,416), co seat of Wood co., central Wis., on the Wisconsin and SE of Eau Claire Two towns here, Grand Rapids and Centralia, were consolidated in 1900, and the name was changed from Grand Rapids in 1920 It is a cranberry center and has paper mills

Wisdom, book of the Old Testament, placed in the Apocrypha in AV and after the Song of Solomon in the Western canon It is traditionally named the Wisdom of Solomon The book opens with an exhortation to seek wisdom, followed by a statement (2 1–20) of the attitude of worldly men Chapter 3 is a splendid passage on the immortality of the just and the rewards of the wicked, amplified in the next chapters Then there is another exhortation (6) and a transition to a section (7–8) praising wisdom, ending with a prayer for it (9) The rest of the book (10–19) is a history of God's care of the Jews from the beginning, with a remarkable, long parenthesis (13–15) on the natural origin of idolatry and its folly The style and content of the book lend themselves to quotation, thus there are not a few allusions in St Paul's letters to passages from Wisdom The book is probably of Alexandrian Jewish authorship, and some place the date in the two centuries before Christ Some see in it a composite work of three parts, 1–6, 7–9, and 10–19, of which the third is said to resemble a Passover haggada It is a supreme example of what is called wisdom literature, a critical term for the Jewish philosophical writings of the pre-Christian era The following other books of the Old Testament represent this type also Job, Proverbs, Ecclesiastes, and Ecclesiasticus For bibliography, see OLD TESTAMENT

Wisdom of Jesus the Son of Sirach (sĭr'ŭk) see ECCLESIASTICUS

Wise, Henry Alexander, 1806–76, American political leader and Confederate general, b Accomac, Va., grad Washington (now Washington and Jefferson) College, 1825 A lawyer, Wise was successively a Jackson Democrat, a Whig, and a Tyler Democrat in Congress (1833–44) He was minister to Brazil in 1844–47 One of his last official acts as governor of Virginia (1856–60) was to sign the death warrant of John Brown As a Confederate brigadier general in the Civil War he distinguished himself in Grant's first assault on Petersburg (1864) and in the retreat to Appomatox See biography by his grandson, B H Wise (1899)

Wise, Isaac Mayer, 1819–1900, American rabbi and scholar, b Bohemia, studied at the Univ of Vienna Liberal in his religious and political views, in 1846 he settled in the United States He was rabbi of a reform congregation in Albany, N Y., and from 1854 in Cincinnati, there he founded (1875) the Hebrew Union College, of which he was president until his death He organized the Union of American Hebrew Congregations in 1873. He was also president of the Central Conference of American Rabbis, which he established in 1889 He founded and edited two periodicals, the *American Israelite,* in English, and *Deborah,* in German. He wrote several novels, two plays, his reminiscences (1901), and many historical and religious works, including *History of the Israelitish Nation* (1854). See Dena Wilansky, *Sinai to Cincinnati* (1937); L M Franklin, *The Rabbi the Man and His Message* (1938)

Wise, John, 1652–1725, American clergyman, an able exponent of the democratic principles of modern Congregationalism, b Roxbury, Mass., grad Harvard, 1673 He was pastor at Ipswich, Mass., from 1680 until his death, but his influence extended far beyond the confines of his parish. For a short time, in 1687, he was deprived of his ministerial office by Governor Andros for having led his fellow townsmen in their refusal to pay taxes violating their charter rights. In 1689 he represented Ipswich in the Boston convention for reorganization of the colonial government. The following year found Wise serving as chaplain in the expedition against Quebec In opposition to Increase and Cotton MATHER, he resisted the plan to place individual churches under the jurisdiction of associations of ministers, stating his reasons in two pamphlets which carried great influence, *The Churches Quarrel Espoused* (1710) and *A Vindication of the Government of New England Churches* (1717) These expositions of democracy were reissued and widely read before the American Revolution and again before the Civil War In 1721 Wise published *A Word of Comfort to a Melancholy Country,* an argument for paper money

Wise, Stephen Samuel, 1874–1949, American reform rabbi, b Budapest, grad College of the City of New York, 1891, Ph D Columbia, 1901 He served as a rabbi in New York city from 1893 to 1900 and in Portland, Oregon, from 1900 to 1906 Returning to New York in 1907, he founded the Free Synagogue, of which he was rabbi until his death He worked for labor reforms, international peace, the problems of Jewish minorities in Europe, and the relief of refugees He was one of the foremost leaders of ZIONISM and of reformed Judaism Among the many organizations in which he was active were the American Jewish Congress, the International Jewish Congress, the Zionist Organization of America, and the Jewish Institute of Religion His writings include *The Great Betrayal* (with Jacob De Haas, 1930), *As I See It* (1944), and his autobiography, *Challenging Years* (1949)

Wise, Thomas James, 1859–1937, English bibliographer and book collector. His famous Ashley Library of rare editions and manuscripts was acquired by the British Museum in 1937 Wise also printed privately nearly 300 works of English authors, some of which were exposed as forgeries by John Carter and Graham Pollard in *An Enquiry into the Nature of Certain Nineteenth Century Pamphlets* (1934) See *Letters of Thomas J Wise to John Henry Wrenn* (ed by F E Ratchford, 1944), W G Partington, *Forging Ahead* (1939)

Wise, town (pop 1,226), extreme SW Va., in the Cumberlands near Kentucky, settled as Big Glades, later named Gladesville, named Wise 1924 It is a trade center for a mine and farm area The courthouse (1865) of Wise co here replaces one destroyed by Union troops in 1864

Wiseman, Nicholas Patrick Stephen, 1802–65, English prelate, cardinal of the Roman Church, b Seville, Spain, of Irish-English parentage He studied at Ushaw College, Durham, and at Rome, where he became known for his learning in Semitic languages During 1835–36 he stayed in England, where he preached, in 1836 he founded (with Daniel O'Connell) the *Dublin Review* In 1840 he was taken from his rectorship of the English College at Rome (which he had held since 1828) and made vicar apostolic of the central district of England He was very influential among Catholics In 1850 the pope set up a new hierarchy in England, Wiseman was created cardinal and was selected as archbishop of Westminster and primate He applied himself to allaying mutual suspicion between the older Catholic families and the newer converts and to lessening the anti-Catholic feeling in England He wrote many books, notably *Fabiola* (1854), a historical novel of early Christianity, and *Recollections of the Last Four Popes* (1858) Henry Edward MANNING was his assistant and successor See biography by Wilfrid Ward (1897)

Wise Men of the East, Magi (mā'jī) [see MAGI], or **Three Kings,** men who came from the East to adore the newborn Jesus Mat 2 They were the first to tell Herod of the birth A star (the Star of Bethlehem) had been a sign for them Christian tradition has been busy with them it has set their number as three, perhaps from their gifts of gold, frankincense, and myrrh, it has called them kings, perhaps from Ps 72 10,11 and Isa 49 7,23 considered as prophecies, and it has given them names, Caspar or Gaspar, Melchior, and Balthasar They are called sometimes the Three Kings of Cologne because there is a great shrine to them in the cathedral at Cologne The feast of the EPIPHANY commemorates their visit In art the visit is called the Adoration of the Magi

Wishart, George [wĭ'shŭrt), 1513?–1546, martyred Scottish reformer He was master of a grammar school in Montrose, teaching the New Testament in Greek In 1538 he fled the country to escape charges of heresy, he was in England for a short time, then on the Continent In 1544 he is thought to have returned to Scotland, where he traveled about, preaching Christianity as he conceived it The most eventful result of his preaching was the conversion of John KNOX Cardinal Beaton, seeking Wishart's death, instigated his arrest He was tried for heresy, convicted, and burned at St Andrews See biography by Charles Rogers (1876)

Wishaw, Scotland see MOTHERWELL AND WISHAW

Wishek (wĭ'shĕk), city (pop 1,112), S N Dak SE of Bismarck, in a farm area, inc 1930

Wislicenus, Johannes (yōhä'nŭs vĭslētsā'nōōs), 1835–1902, German organic chemist. He was professor at several institutions in Zurich (1861–72) and at the universities of Würzburg (1872–85) and Leipzig (from 1885). He is noted for his research on lactic acid and other organic compounds which advanced the development of stereochemistry, especially in the field of stereoisomerism (see ISOMERISM).

Wismar (vĭs'mär), city (pop 42,018), Mecklenburg, N Germany, on the Baltic Sea. It is a fishing port and an industrial center with shipyards, machinery manufactures, and agricultural processing plants Wismar was (1256–1306) the residence of the princes of Mecklenburg and later became one of the most flourishing cities of the Hanseatic League Under the Peace of Westphalia (1648) the city passed to Sweden, but in 1803 Sweden pledged it to Mecklenburg-Schwerin with the privilege of recall within 100 years In 1903 Sweden renounced all rights to the city Wismar, which had retained several Gothic churches and other fine medieval buildings, suffered considerable damage in the Second World War.

Wisner (wĭz'nur), city (pop 1,256), NE Nebr., NW of Omaha, on the Elkhorn and E of Norfolk. It is a shipping center for a livestock and farming area

Wissler, Clark, 1870–1947, American anthropologist, b Wayne co, Ind, grad Indiana Univ (B.A., 1897), Ph D Columbia, 1901. He was professor of anthropology (1924–40) at the Institute of Human Relations at Yale and was affiliated (1903–41) with the American Museum of Natural History His writings include *The American Indian* (1917), *Man and Culture* (1923), *Introduction to Social Anthropology* (1929), and *Indians of the United States* (1940)

Wissmann, Hermann von (hĕr'män fŭn vĭs'män), 1853–1905, German explorer in Africa He crossed (1880–82) Africa from Loanda to Zanzibar and, on behalf of Leopold II of Belgium, explored (1883–85) the Kasai river system in the Belgian Congo As German commissioner (1889–92) he suppressed an Arab revolt in German East Africa In the coastal area given up by the sultan of Zanzibar, he founded Moshi on the slopes of Mt Kilimanjaro He was (1895–96) governor of German East Africa His writings include *My Second Journey through Equatorial Africa* (1891, Eng tr, 1891)

Wistar, Caspar (wĭ'stur), 1761–1818, American physician, b Philadelphia, M D Univ of Edinburgh, 1786, grandson of Caspar Wistar (1696–1752), early Pennsylvania glassmaker He taught (1789–91) at the College and Academy of Philadelphia, then at the Univ of Pennsylvania organized (1791) by a merger of the college with another institution He wrote the first American textbook on anatomy, *A System of Anatomy* (2 vols, 1811–14), and left an anatomical collection which eventually passed to the Wistar Institute of Anatomy and Biology, founded by his great-nephew, Isaac J Wistar He was president (from 1815) of the American Philosophical Society, and his home was the weekly meeting place of students and scientists The genus *Wistaria* was named in his honor

Wistar, Isaac Jones, 1827–1905, American financier, b Philadelphia, great-nephew of Caspar Wistar His early manhood was spent adventurously in the West as a muleteer, trapper, and gold miner He played a large part in suppressing the vigilantes in California In the Civil War he was a brigadier general in the Union army and was wounded four times After the war he made his fortune by financing railroad building He established the Wistar Institute of Anatomy and Biology in Philadelphia with gifts of $1,000,000. See his autobiography (1914, reissued 1937)

wistaria (wĭstār'ēŭ) or **wisteria** (-tēr'-), any plant of the genus *Wistaria,* leguminous woody twining vines cultivated and highly esteemed for the beautiful pendent clusters of pealike flowers, lilac, white, or pink There are two species native to the United States and found mostly in the Southeast, but the showier Asiatic are usually cultivated Rambling or trained on trellises, porches, or as a standard, they are commonly spring blooming, one variety of the Japanese wistaria has clusters sometimes 3 ft long The pinnately compound leaves often open after the flowers

Wistar Institute of Anatomy and Biology, in Philadelphia, established in 1892 It is an independent research institution and has a museum It publishes learned journals

Wister, Owen (wĭ'stur), 1860–1938, American author, b Philadelphia, grad Harvard (B A, 1882, LL B, 1888) Between degrees he studied music in Paris In 1889 he was admitted to the bar in Pennsylvania Trips to the West for his health gave him material for short stories and for his greatest literary success, *The Virginian* (1902), a novel of Wyoming, a best seller which was dramatized and was several times made into moving pictures Though in some of his political writings he was bitingly satirical, he wrote a pleasant biography in 1930 of his long-time friend Theodore Roosevelt. Other books by Wister include the novel *Lady Baltimore* (1906) and the short stories *Red Men and White* (1896), *Lin McLean* (1898), and *Philosophy 4* (1903). A collected edition of his works appeared in 1928.

wisteria: see WISTARIA

Witbank (wĭt'bängk), town (pop. 12,727), Transvaal, Union of South Africa. It is a mining town in

the largest coal field of South Africa, and it is connected by rail with Johannesburg.

witchcraft, practice of sorcery or MAGIC. It is a well-known fact that when a new religion is adopted in a country, the gods of the old become the devils of the new As the Christian Church came into power in the Western world, it banned pagan religion and magic, although many of the common people and many of the clergy retained faith in it Thus witchcraft, a survival of pagan magic, came into disrepute Throughout the Middle Ages a long struggle was waged, without notable violence, but by the 14th cent, witchcraft had become elaborated into a complex system and the witch and wizard were universally believed to be malignant beings who practiced all forms of the black art The witch was believed to be able to change into a cat or a werewolf (see LYCANTHROPY) or to summon apparitions Religious persecution of supposed witches set in early in the 14th cent Trials, convictions, and executions became common throughout Europe Confessions were extorted under the influence of fear and hysteria. The persecution was tireless From 1450 to 1650 thousands were executed Burning, as for heresy, was common Suspicion fell on many because of interest in scientific experiment An accusation of witchcraft became an easy means of destroying an enemy or confiscating his estate The crusade lasted from the 14th to the 18th cent The American colonies shared in the fanaticism, which broke out in Massachusetts, Connecticut, and Virginia, and was particularly active in Salem, Mass., where in 1692 a score of persons were hanged The last execution took place in Scotland in 1722 See M A Murray, *Witchcraft in Western Europe* (1921), J W Wickwar, *Witchcraft and the Black Art* (1925), Montague Summers, *History of Witchcraft and Demonology* (1926), Charles Williams, *Witchcraft* (1941)

witch hazel, North American deciduous shrub or small tree (*Hamamelis virginiana*) native E of the Rockies It bears bright yellow flowers, usually in the late fall or in the winter at the same time that the fruit of the previous season's flowers is maturing The flowers are composed of four long and very narrow petals The ripening fruits discharge their seeds by an explosive action, often shooting them several feet Other plants were known in the Old World as witch hazel, but the American shrub seems to have been named for the resemblance of its leaves to the hazel, and, like hazel, the witch hazel branch has been used as a DIVINING ROD The native species, as well as Asiatic varieties which bloom in February or March, are cultivated to some extent Witch hazel is the source of an astringent obtained from the leaves and bark

witenagemot (wĭ"tunugĭmōt') [Old Eng., = meeting of counselors], a session of the counselors (the witan) of a king in Anglo-Saxon England Such a body existed in each of the Anglo-Saxon kingdoms Composed of the powerful earls, the higher churchmen, and the influential thanes, it was aristocratic, and its membership at any one time was dependent upon the appointments of the ruling king or his immediate predecessors These facts discredit the old argument that the witenagemot was similar to the later popular, democratic Parliament and make it clear that the witan were more analogous to the later privy councilors On the other hand, the witenagemot had considerable powers Although the number of members and the functions varied with each realm and each king, the counsel and assent of the group were usually sought by the king in matters of laws, taxes, foreign negotiations, national defense, and the bestowal of privileged estates Probably only rarely would the witan directly oppose the king, but their potential independence must have served as a check on the monarch Furthermore, although records are rather scarce, it appears probable that the witan, especially in Wessex, had the power to elect the king Since the kingship was largely hereditary, such a ceremony was usually perfunctory, but the witan upon occasion actually selected the king At the time of the Norman Conquest it probably bequeathed to the succeeding great council the idea of a limited monarchy

Wither, George (wĭ'dhûr), 1588–1667, English poet, b Hampshire, studied at Oxford For his satires, *Abuses Stript and Whipt* (1613), he was put in prison, where he wrote his pastorals in *The Shepherd's Hunting* (1615) Later works are *Fidelia* (1615) and *Fair Virtue* (1622), in the latter appears his lyric beginning, "Shall I, wasting in despair" About 1620 his writings took on a religious tone and, though copious, were less graceful He served in the Revolution as a Puritan captain and politician and was in disfavor after the Restoration

Witherspoon, Herbert (wĭ'dhûrspōōn), 1873–1935, American basso, b Buffalo, N Y, grad Yale, 1895, studied music with Edward MacDowell He studied both painting and singing in New York, London, Paris, and Berlin In 1898 he made his operatic debut, and from 1908 to 1916 he was leading basso of the Metropolitan Opera Company, afterward devoting his time to concerts and to teaching. He was president (1925–29) of the Chicago Musical College, director for a short time of the Chicago Civic Opera Company, and director (1932–33) of the Cincinnati Conservatory In 1935 he succeeded Giulio Gatti-Casazza as director of the Metropolitan Opera Company, but died shortly thereafter.

Witherspoon, John, 1723–94, Scottish-American Presbyterian clergyman and signer of the Declaration of Independence, b Yester, near Edinburgh, Scotland He was educated at the Univ of Edinburgh From 1745 to 1768 he occupied pastorates in Scotland A conservative in religion, he wrote *Ecclesiastical Characteristics* (1753) as an attack on those ministers who preached humanism instead of dogmatic truth, and in his *Serious Enquiry into the Nature and Effects of the Stage* (1757) he maintained that drama was not an innocent recreation but an arouser of immoral passion His intellectual prominence brought him the appointment in 1768 as president of the College of New Jersey (now Princeton Univ.) In the United States he promoted the growth of the Presbyterian Church (often heading the General Assembly) and healed schisms Despite his original feeling that the clergy should avoid politics, he accepted a position as delegate from New Jersey to the Continental Congress He sat in Congress almost continuously from 1776 to 1782 and wrote much in behalf of the Revolution His last years were spent in restoring the college and in participating in New Jersey politics His collected works appeared in nine volumes in 1815 See biographies by D. W. Woods (1906) and V L Collins (1925)

witness see EVIDENCE

Witos, Wincenty (vĕntsĕn'tĭ vē'tôs), 1874–1945, Polish politician He founded (1919) the Polish Peasant party and was three times premier (1920–21, 1923, 1926) His program, which called for agrarian reform, caused PILSUDSKI to carry out his coup d'état of 1926, which overthrew Witos Imprisoned (1930), Witos later fled to Czechoslovakia but returned to Poland in 1939

Witowt (vĭ'tôft), Lithuanian *Vytautas* (vētou'tăs), 1350–1430, grand duke of Lithuania (1392–1430), first cousin of Ladislaus Jagiello (King LADISLAUS II of Poland) His father had been deprived of his share in the inheritance on the death of Grand Duke Olgerd, and Witowt grew up as a refugee with the Teutonic Knights With the help of the knights he secured (1392) recognition as grand duke of Lithuania from Ladislaus, who, however, remained his suzerain His ambition to be crowned king of Lithuania was frustrated by his cousin, and relations between Witowt and Ladislaus were often strained Lithuania under Witowt reached its greatest extent—from the Baltic to the Black Sea—and its cultural flowering He sought to reduce the Tatars of the Golden Horde to vassalage, but was defeated by them in 1399 In 1410 he helped Ladislaus defeat the Teutonic Knights at Tannenberg

Witt, Cornelius de (dĭ wĭt', Dutch kôrnā'lĭûs du vĭt'), 1623–72, Dutch naval officer, brother of Jan de Witt Imprisoned on the charge of plotting against William of Orange, he was killed by a mob while his brother was visiting him

Witt, Jan de (yan'), 1625–72, Dutch statesman Like his father, Jacob de Witt, burgomaster of Dort, he became a leading opponent of the house of Orange and played a vital role in the three successive DUTCH WARS As leader of the republican party, he was elected (1653) grand pensionary, thus acquiring control of state affairs He represented the mercantile interests and accordingly encouraged industry and commerce He ended the disastrous war with England (first of the Dutch Wars) in 1654, but the Restoration in England constituted a danger to Dutch maritime and political freedom and led to the renewal of the war in 1665 The favorable terms of the Treaty of Breda (1667) were largely due to Jan de Witt In order to end the power of the house of Orange he secured passage of the Eternal Edict, which abolished the office of stadholder He helped form the TRIPLE ALLIANCE of 1668 against Louis XIV, thus ending the War of Devolution, the Treaty of AIX-LA-CHAPELLE (1668) was the climax of his career In 1672 Louis XIV invaded Holland and began the third of the Dutch Wars Jan de Witt sought to negotiate peace, but his offer was spurned by the French Popular feeling suddenly turned violently against him and in favor of William of Orange (later WILLIAM III of England), who by popular acclaim was made stadholder De Witt resigned, but was exonerated of treason charges However, when he visited his brother, Cornelius de Witt, in prison, a mob gathered outside, fought its way into the prison, and hacked the two brothers to pieces, hanging their scattered limbs on lamp posts Jan de Witt was one of the greatest of Dutch statesmen and patriots, a patron of the sciences, and a close friend of Spinoza

Witt, city (pop 1,490), S central Ill, SSE of Springfield, inc 1911

Witte, Count Sergei Yulyevich (sĭrgā' yōō'lyĭvĭch vĭ'tŭ), 1849–1915, Russian statesman A railroad engineer, he became minister of communications (1892) and minister of finance, commerce, and industry (1892–1903). He introduced the gold standard, reformed the finances, encouraged the development of Russian industries with the help of foreign capital, and opened up Siberia to large-scale colonization by having the TRANS-SIBERIAN RAILROAD built While these achievements greatly reduced the gap between the industrial development of Russia and that of Europe, it also created a new industrial proletariat, concentrated in a few large cities, and thus contributed to the Revolution of 1905 The Russian defeat in the Russo-Japanese War and the Revolution of 1905 resulted in Witte's return to favor, from which he had fallen in 1903 He secured unexpectedly favorable terms as negotiator at the Treaty of Portsmouth, N H, with Japan, was rewarded with title of count, and after his return to Russia drew up the manifesto of Oct. 17, 1905, by which Nicholas II promised constitutional government under an imperial DUMA Appointed premier (Oct, 1905), Witte sought to steer a middle course between the Social Democrats and the reactionaries After suppressing a workers' uprising in Moscow (Dec, 1905–Jan, 1906), he was dismissed (May, 1906), by Nicholas II, who now felt strong enough to restore a reactionary regime. He was succeeded as premier by Goremykin and, shortly afterward, by Stolypin

Wittekind, Saxon leader see WIDUKIND

Wittekind (wĭ'tŭkĭnd), **Widukind** (wĭ'dōōkĭnd), or **Wettekind** (wĕ'tŭkĭnd), d c 1004, Saxon historian, a monk, frequently called Wittekind of Corvey He wrote the *Res gestae Saxonicae*, a history of the Saxons from earliest times through the 10th cent.

Wittelsbach (vĭ'tulsbakh), German dynasty which ruled Bavaria from 1180 until 1918 It takes its name from the ancestral castle of Wittelsbach (destroyed 1209) in Upper Bavaria In 1180 Emperor Frederick I invested Count Otto of Wittelsbach with the much-reduced duchy of BAVARIA, of which he had deprived the Guelphic duke, Henry the Lion In 1214 Otto's grandson, Otto II, also received the Rhenish Palatinate After Otto's death (1253) the Wittelsbach possessions were divided between an elder branch, which received the Rhenish Palatinate and W Bavaria, and a younger branch, which received the rest The family possessions grew in the following century, and the Wittelsbachs reached their zenith when Duke Louis III, of the elder branch, became emperor as Louis IV (reigned 1314–47) LOUIS IV, who also temporarily attached BRANDENBURG to his dynasty, redivided (1329) the Wittelsbach lands in a partition which remained basic for more than four centuries. According to the division the elder branch, descended from Louis's brother Rudolf, received the Rhenish and the Upper Palatinate, while the younger branch, descended from Louis's first marriage, received Bavaria proper The electoral dignity was to alternate between the two branches, but in 1356 the Golden Bull settled it definitely on the Palatinate branch Both branches underwent several subdivisions Bavaria was subdivided into the duchies of Bavaria-Munich (ruled by the senior line of the Bavarian branch), Bavaria-Landshut, and Bavaria-Straubing until the early 16th cent, when Duke Albert IV reunited Bavaria and introduced succession by primogeniture (For the subdivisions of the Palatinate branch, which is not treated here in detail, see PALATINATE.) Louis IV's second marriage, with Margaret, countess of Hainaut, Holland, and Zeeland, produced a third branch of the Wittelsbach dynasty, this branch ruled the three countries until 1433, when Philip the Good of Burgundy (himself a descendant of Louis IV through his mother) seized them from Countess Jacqueline, his first cousin In the 16th and 17th cent the Bavarian Wittelsbachs championed the Catholic cause while the Palatinate branch was leading the Protestant princes As a result of the defeat of the elector palatine, known as FREDERICK THE WINTER KING of Bohemia, his electoral voice was transferred (1623) to Duke MAXIMILIAN I of Bavaria, who also received the Upper Palatinate, but a new electorate was created in 1648 for Frederick's son, to whom the Rhenish Palatinate was restored Elector Charles Albert of Bavaria was chosen (1741) emperor as CHARLES VII, but he never actually ruled, with the death (1777) of his son, Maximilian III, the Bavarian branch of the Wittelsbachs died out, and the Palatinate-Sulzbach line acceded in Bavaria in the person of Elector Charles Theodore, who died in 1799 without issue He was succeeded by the duke palatine of Zweibrücken, senior member of the Palatinate branch, who thus united all Wittelsbach lands under his sole rule and who in 1806 became king of Bavaria as MAXIMILIAN I His successors as kings of Bavaria were LOUIS I, MAXIMILIAN II, LOUIS II, OTTO I, and LOUIS III, who abdicated in 1918. A collateral line, descended from the counts palatine of Birkenfeld, became known as the ducal line after the creation of the Bavarian kingdom in 1806, its head went under the title of "duke in Bavaria"; Empress Elizabeth of Austria and Queen Elizabeth of the Belgians issued from the ducal line. The Wittelsbachs have intermarried for centuries with all the royal families of Europe A line of the Palatinate branch (see ZWEIBRÜCKEN) ruled Sweden from 1654 to 1741 Prince Rupert, son of King

Louis III and claimant to the Bavarian throne, also inherited, through a complicated succession, the claim of the STUART dynasty to the British throne

Witten (vĭ'tŭn), city (pop 69,384), Westphalia, NW Germany, on the Ruhr An industrial center of the Ruhr district, it was heavily damaged in the Second World War

Wittenberg (vĭt'ŭnbĕrk), city (pop 41,304), in the former Saxony prov of Prussia, E Germany, on the Elbe, after 1945 in Saxony-Anhalt Now a railroad and manufacturing center, the city has played a historic role of great importance Wittenberg was (1273–1422) the seat of the Ascanian dukes of Saxe-Wittenberg (see SAXONY), who in 1356 became electors of Saxony In 1423 Saxe-Wittenberg passed to the margraves of Meissen, of the house of Witten, who in 1425 were given electoral rank. Elector Frederick III founded (1502) the Univ of Wittenberg, which became the center of the Reformation when Martin LUTHER and Melanchthon taught here In 1517 Luther nailed his 95 theses on the door of the Schlosskirche [castle church], and in 1520 he burned the papal bull against him in the market place The first complete Lutheran Bible was printed (1534) at Wittenberg In 1547 Emperor Charles V captured Wittenberg after the battle of Mühlberg, where Elector John Frederick I of Saxony was captured By the Capitulation of Wittenberg, in the same year, John Frederick, representing the Ernestine line of the house of Wettin, ceded the electoral dignity and the duchy of Saxony to Maurice, of the collateral Albertine line; he also ceded the principality of Sagan and other territories to Bohemia, retaining only the Thuringian duchies for his line Primarily the focus of the Lutheran Reformation, 16th-century Wittenberg was also a center of German art, where Lucas Cranach, the elder, founded a school of painting The city declined after 1547, when Dresden, residence of the Albertine dukes, replaced it as Saxon capital The Univ of Wittenberg was absorbed by the Univ of Halle in 1817 Among the most notable buildings of Wittenberg are the Schlosskirche (15th cent), where Luther is buried, the town church, where Luther preached, and Luther's house, preserved as a museum

Wittenberg College: see SPRINGFIELD, Ohio

Witthaus, Rudolph August (wĭt'hous), 1846–1915, American toxicologist, b New York city, grad Columbia (B A, 1867), M D New York Univ, 1875, He taught at New York Univ (1876–98) and at Cornell Univ medical college (1898–1911) and was noted as a toxicological expert in criminal trials He wrote *The Medical Student's Manual of Chemistry* (1883, 7th rev ed, *Text-Book of Chemistry*, 1919) and, with T C Becker, *Medical Jurisprudence* (4 vols, 1894–96, rev ed, *Manual o Toxicology*, 1911)

Wittlin, Joseph, Pol Józef Wittlin (yōō'zĕf vĕt'lēn), 1896–, Polish poet, translator, and novelist A volume of anti-war poems appeared in 1920 His principal contribution to Polish literature is the novel *Salt of the Earth* (1936, Eng tr, 1939) He escaped from Poland in 1939 and later came to the United States

Wittstock (vĭt'shtŏk), town (pop 9,460), Brandenburg, NE Germany, NW of Berlin Here in 1636 the Swedes under Baner defeated the Saxon and imperial forces under Hatzfeld in an important battle of the Thirty Years War

Witwatersrand (wĭtwō'turərănd") [Afrikaans, = white water ridge] or **the Rand,** region, Transvaal, South Africa It includes a reef of gold-bearing conglomerate which is estimated to produce about one third of the world's gold The area is c 100 mi long and relatively narrow Almost entirely urban, it has a population exceeding 1,000,000 and includes over 400,000 Europeans Johannesburg (the largest city of South Africa), Springs, and Benoni are situated here Surface gold was discovered in 1884, and the news was made public in 1886 In the ensuing boom the main reef was reached in 1889, at a depth of 581 ft When the United States embarked (1934) on a program of unlimited gold purchase, profitable mining could be conducted at depths of even 12,000 ft Workers underground (nearly all of them are natives) exceed 200,000 See Lewis Nesbitt, *Gold Fever* (1936), Adèle Lezard, *The Great Gold Reef* (1937)

wizard: see WITCHCRAFT.

Wladimir. For Russian rulers thus named, see VLADIMIR

Wladislaw, Wladyslaw, and **Wladislas,** Pol *Władysław* For Polish kings thus named, see LADISLAUS

Wloclawek, Pol *Włocławek* (vwôtswä'vĕk), city (pop 48,126), Pomorze prov, NW Poland Founded in the 12th cent, it has since then been an episcopal see, its cathedral was built in the 14th cent Wloclawek was included (1815) in the Russian Empire and was known in Russian as Vlotslavsk It is a diversified industrial center of an agricultural region There are salt domes, lignite deposits, and sulphur springs in the vicinity

Wlodzimierz, Ukraine see VLADIMIR-VOLYNSKI

Woburn (wōō'bŭrn), market town (pop 951), Bedfordshire, England Near it is Woburn Abbey (seat of the duke of Bedford), an 18th-century mansion containing noteworthy art collections, on the site of a Cistercian abbey founded in 1145 by monks from Fountains Woburn was the site of one of the Eleanor Crosses (see ELEANOR OF CASTILE). An agricultural experimental station was established on the Bedford estate in 1876, control was given to the Rothamsted Experimental Station in 1926.

Woburn (wōō'bŭrn), city (pop 19,751), NE Mass, NNW of Boston; settled 1640, inc as a town 1642, as a city 1888 Glue, gelatin, and leather goods are the chief products

Wodehouse, Pelham Grenville (wōōd'hous), 1881–, English humorist He is popular in both England and America for his amusing stories, centering, in earlier volumes, about Psmith and, in later ones, about Bertie Wooster and his butler, the immutable Jeeves He has collaborated with others in plays and musical comedies as well In 1941, while he was a prisoner of the Germans, he made five broadcasts for his captors

Woden (wō'dĭn), the chief Germanic god, called by the Norse Odin and by Wagner Wotan Although his cult was important mainly in Germany and England, he is known mostly from Icelandic literature, which makes him the all-wise head of Asgard and Valhalla, patron of poetry, but virtually second in importance to strong-armed Thor, his son Frigg is his consort Odin has one eye, for he gave the other for some of his knowledge The fact that Odin is the host of dead heroes, but less interested in war than Thor, may mean that Thor, in the north, has taken over some of Odin's warlike qualities, the Woden of the more southerly Germans was especially god of battle He was identified with Mercury, probably because of his wisdom and magic, the Latin Mercury's day has become Woden's day or Wednesday

Wodrow, Robert (wōd'rō), 1679–1734, Scottish ecclesiastical historian His principal work is a huge compilation called *The History of the Sufferings of the Church of Scotland from the Restoration to the Revolution* (1721–*22*)

Woestijne, Karel van de (kä'rŭl vän du vōō'stĭnu), 1878-1929, Flemish symbolist poet and novelist He had also some name as a painter Poems of his are translated in Jethro Bithell, *Contemporary Flemish Poetry* (1917)

Woffington, Margaret (Peg Woffington), 1714?–1760, English actress, b Dublin Her charm and beauty as a child attracted attention, and at the age of 10 she acted Polly Peachum in a Lilliputian production of *The Beggar's Opera* She next obtained a reputation as a dancer in interludes and in 1737 made her first important appearance as Ophelia in Dublin Her greatest popular role was the "breeches" part, Sir Harry Wildair, in Farquhar's *Constant Couple*, which in 1740 led to her engagement by John Rich for Covent Garden From 1742 to 1748 she supported Garrick in such roles as Cordelia in *King Lear* and Lady Anne in *Richard III* at Drury Lane and Covent Garden and in Dublin She had grace, vivacity, and a certain archness which helped her to overcome an inadequate voice Her attachment to Garrick was the most notorious of her numerous affairs Ill-health compelled her to retire in 1757 Charles Reade's play *Masks and Faces* and his novel *Peg Woffington* are based on her life

Wöhler, Friedrich (frē'drĭkh vō'lur), 1800–1882, German chemist He studied under Leopold Gmelin and J J Berzelius and was professor at the Univ of Gottingen from 1836 He devised (1827) a new method for isolating aluminum and in 1828 used the method to isolate beryllium and yttrium His synthesis (1828) of urea, the first synthesis of an organic compound from inorganic material, marked a new era in organic chemistry and contributed greatly to the theory of isomerism His work on benzoic acid was important to the chemistry of metabolism His works on chemistry, widely used as texts, include *Outlines of Organic Chemistry* (1840, Eng tr, 1873)

Wohlgemuth, Michael. see WOLGEMUT, MICHAEL.

Woking (wō'kĭng), urban district (1931 pop. 29,931, 1947 estimated pop 44,740), Surrey, England, SW of London, on the Wey and on the Basingstoke Canal It is a resort. Near by are an Oriental institute and museum, a Mohammedan mosque, Brookwood cemetery, and the ruins of Newark priory.

Wolcot, John (wōōl'kut), pseud **Peter Pindar,** 1738–1819, English poet, a physician He satirized the Royal Academy in *Lyric Odes to the Royal Academicans* (1782–83), Boswell and Mme Piozzi in *Bozzy and Piozzi* (1786), and George III in *The Lousad* (1785–95) and other poems.

Wolcott, Edward Oliver (wōōl'kut), 1848–1905, American statesman and lawyer, b Longmeadow, Mass, grad Harvard Law School, 1871. Wolcott served as a private during the last months of the Civil War He moved (1871) to Colorado, where he was made (1876) district attorney and then was elected (1878) to the state senate; there he was the Republican leader. He developed a large law practice in Denver He was U.S Senator from 1889 to 1901 Although an advocate of bimetallism, he supported the Republicans against the Democrats in the 1896 presidential campaign. He was sent (1897) by McKinley to represent the United States at an international conference on bimetallism. See biography by T. F. Dawson (1911).

Wolcott, Oliver, 1726–97, American Revolutionary patriot, signer of the Declaration of Independence, b South Windsor (then in Windsor), Conn., grad Yale, 1747, son of Roger Wolcott He fought in King George's War and upon his return gave up the study of medicine to enter a legal and public career at Litchfield. He held several judicial posts and in 1775 was named an Indian commissioner to keep the Iroquois neutral. Wolcott was a general in the Saratoga campaign, a delegate to the Continental Congress (1775–78, 1780–84), and lieutenant governor (1786–96) and governor of Connecticut (1796–97)

Wolcott, Oliver, 1760–1833, American statesman, b Litchfield, Conn, grad. Yale, 1778, son of Oliver Wolcott (1726–97) He served in the American Revolution and later studied law In 1784 he and Oliver ELLSWORTH served as commissioners in adjusting Connecticut's claims against the United States Wolcott served in the Federal government under Alexander Hamilton, whom he succeeded (1795) as Secretary of the Treasury. He supported Hamilton against John Adams and gained considerable unpopularity, he was in 1800 forced to resign He continued to be prominent as a merchant, was a judge, the presiding officer at the Connecticut constitutional convention (1817), and governor of the state (1817–27)

Wolcott, Roger, 1679–1767, colonial governor of Connecticut, b Windsor, Conn A member of one of the most influential families in Connecticut, he was early an outstanding man in the colony In 1711 he joined in the expedition against Canada in Queen Anne's War (see FRENCH AND INDIAN WARS), and in King George's War he had the rank of major general and was second in command on the famous Louisburg expedition (1745) He was a judge and was prominent in the colonial assembly and the executive council before becoming governor (1750–54) He was the father of Oliver WOLCOTT. He wrote *Poetical Meditations* (1725), the first book of verse published in Connecticut The journal he wrote when on the Louisburg expedition was published (1916) by the Connecticut Historical Society

Wolcott 1 Town (pop 1,765), central Conn, NE of Waterbury, settled 1731, inc 1796. Bronson Alcott was born near by. **2** Village (pop 1,326), W central N Y., E of Rochester, in a fruit region, inc 1873

Wolf, Christian von: see WOLFF, CHRISTIAN VON

Wolf, Friedrich August (frē'drĭkh ou'gōōst vôlf), 1759–1824, German classical scholar and philologist He was professor of philosophy at Halle after 1783 and was a friend of Goethe and other leaders of German culture. He was in a sense the founder of modern philology, the "new science" which he favored as a means of gaining greater knowledge of the classical past He wrote a critical work, *Prolegomena ad Homerum* (1795), which not only opened the "Homer question" by suggesting that the Homeric works were of composite authorship but also by its methods pointed the way to the higher criticism of the Bible in the 19th cent After 1807, when the Univ of Halle was suppressed, Wolf lived in Berlin

Wolf, Hugo (hōō'gō vôlf), 1860–1903, Austrian composer of over 300 lieder, including settings of poems of Goethe and Mörike He wrote musical criticism in the Vienna *Salonblatt*, thereby making many enemies He died in an insane asylum See biography by Ernest Newman (1907)

Wolf, Max Franz Joseph Cornelius (maks' frănts' yō'zĕf kôrnā'lyōōs vôlf'), 1863–1932, German astronomer He became director (1893) of the Königstuhl Observatory near Heidelberg and professor (1902) at the Univ of Heidelberg In 1891 he introduced astronomical photography, which greatly facilitated the discovery of asteroids (or minor planets) He discovered (1884) Wolf's comet, which has a period of 7 7 years

Wolf, river, c 220 mi long, rising in NE Wisconsin and flowing swiftly S to the Fox, which it enters c 10 mi above Oshkosh It played a role in the logging industry

wolf, wild animal (genus *Canis*) of the dog family, formerly widely distributed chiefly in the Northern Hemisphere. Fossil remains of wolves found in limestone caves and in sedimentary deposits of both Europe and North America and in asphalt beds in California indicate that the wolves of the Pleistocene were larger than those of the present day. In appearance the wolf is somewhat similar to the German shepherd dog Wolves are carnivorous, and because they pursue and kill sheep, cattle, deer, and many other wild and domestic animals, man has for centuries hunted them. It is believed that wolves usually mate for life, and for a time after the young are born they live as a family unit, the male hunts and carries food to the female and young until they are able to hunt together. Generally after they are about a year old, wolves run in packs at various seasons during the year, their strength, speed of running, and the large numbers that often make up a pack result in widespread destruction of wild and domestic animals. The

European gray wolf (*Canis lupus*) and its subspecies formerly had a wide circumpolar distribution; it was found throughout most of Europe, Asia and North America It has a rough coat, grayish mixed with black and brown or yellow, erect ears, and a bushy tail. In body length the males range from 50 to more than 60 in ; they weigh over 100 lb Gradually the wolf was exterminated in most settled regions Some authorities distinguish the larger North American gray wolf (also called timber wolf and lobo) as a separate species rather than a subspecies of the European species In the Eastern Hemisphere wolves have been exterminated except in some forest and steppe regions, in North America wolves are confined chiefly to sections of Alaska, N and E Canada, the northern parts of Michigan, Wisconsin, and Minnesota, and portions of some of the prairie states There are, however, some with a more southerly range. The Texas red wolf (*C niger* or *C rufus*) is a small North American wolf apparently not directly related to European forms The coyote and jackal also belong to the genus *Canis* In arctic regions of North America is found a white wolf (*C tundrarum*), and a pale variety of the European wolf is found in N Siberia Some species of wolves remain in parts of China and Japan

Wolfe, Charles, 1791–1823, Irish poet He is remembered for his stirring poem, *The Burial of Sir John Moore* (1817)

Wolfe, Humbert, 1885–1940, English poet and critic, b Milan He entered the civil service in 1908, served in the ministry of munitions in the First World War, and later became deputy secretary of the ministry of labor His fragile verse appeared in *London Sonnets* (1919), *Kensington Gardens* (1924), *Requiem* (1927), *This Blind Rose* (1928), *Kensington Gardens in Wartime* (1940), and other volumes He was also known for his satires, *Lampoons* (1925) and *News of the Devil* (1926), and his translations of Greek epigrams His critical works include biographies of Tennyson and George Moore, *Dialogues and Monologues* (1929), and *Signpost to Poetry* (1931), *Now a Stranger* (1935) and *The Upward Anguish* (1938) are both autobiographical

Wolfe, James, 1727–59, British soldier His conduct was notable at the battle of Dettingen (1743) in the War of the Austrian Succession, at Falkirk and Culloden in the Jacobite rising of '45, and at the battle of Lawfeldt (1747), again on the Continent, after Lawfeldt he was publicly thanked by the duke of Cumberland Later he attracted Pitt's notice, and he was made (1758) second in command to Jeffrey Amherst in the French and Indian War By handling the siege operations ably he became the hero of Louisburg, and he was rewarded with the command of an expedition against Quebec, which he himself had urged After frontal attacks on the positions of MONTCALM at Quebec had failed, Wolfe took 5,000 men in boats down the St Lawrence by night and, having arrived at the Plains of ABRAHAM, forced an open battle with the French Wolfe was victorious, but in the hour of victory he fell Montcalm died within a few minutes of General Wolfe's death The fall of Quebec was decisive in giving New France to England One of Wolfe's men told afterward that as they were rowing to the attack on Quebec, Wolfe recited Gray's *Elegy*, and remarked at the end "Gentlemen, I would rather have written those lines than take Quebec" Thackeray draws Wolfe vividly in *The Virginians* See Francis Parkman, *Montcalm and Wolfe*, biography by W T Waugh (1934)

Wolfe, Thomas Clayton, 1900–1938, American novelist, b Asheville, N C , grad Univ of North Carolina, 1920, M A Harvard, 1922 He was an instructor (1924–30) at New York Univ , and thereafter wrote mostly in New York or abroad His first published writing (1924) was a short play concerning Carolina mountaineers, other plays, written probably by 1926, include a full-length drama, *Mannerhouse* (1948) His novels are in effect pieces of a Gargantuan whole, a treatment at once realistic and lyric of the American scene They are drawn in profuse detail from Wolfe's prodigious memory of his own experiences *Look Homeward, Angel* (1929) had as its sequel *Of Time and the River* (1935) Posthumously edited and published were *The Web and the Rock* (1939) and *You Can't Go Home Again* (1940) and the stories and fragments in *The Hills Beyond* (1941) Wolfe also wrote a short novel, *A Portrait of Bascome Hawke* (1932), and short stories in *From Death to Morning* (1935) and *Stories by Thomas Wolfe* (1944), he discussed his own work in *The Story of a Novel* (1936) See his letters to his mother (ed by J S Terry, 1943), study by H J Muller (1947), P J Johnson, *Hungry Gulliver* (1947), bibliography by G R Preston, Jr (1943)

Wolfeboro, town (pop 2,636), E N H., on SE Lake Winnipesaukee, settled c 1760 There are many summer homes and camps. In 1940 an American Seminar for European refugees was established at Brewster Academy here by the Friends

Wolfe City, town (pop 1,339), E Texas, NE of Dallas; inc. 1873 It is a trade and processing center of a farm area in the northeast corner of the state.

Wolfenbüttel (vôl'fənbü"tûl), town (pop 31,546), Brunswick, central Germany, on the Oker river and S of Brunswick It is the market center of a truck-gardening region Wolfenbüttel grew around a castle which became (c 1280) a favorite Guelphic residence, and it was the residence of the dukes of Brunswick-Wolfenbüttel (see BRUNSWICK, state) until 1753. The famous ducal library, founded in the 17th cent , contains about 350,000 volumes, some 3,000 incunabula, and more than 7,000 manuscripts Leibniz was librarian here, as was G E Lessing from 1770 to his death Lessing's house, where he wrote *Nathan the Wise*, still stands The former ducal palace (15th-18th cent) now houses several schools Wolfenbüttel has retained many 17th-century half-timbered houses

Wolff, Caspar Friedrich (käs'pär frā'drĭkh vôlf'), 1733–94, German biologist, a founder of observational embryology He reintroduced the theory of epigenesis to replace the current theory of preformation, and he directed attention to the comparative development of plants and animals Wolff carried on his research chiefly at the Academy of Sciences at St Petersburg

Wolff or Wolf, Christian von (krĭs'tyän fŭn vôlf'), 1679–1754, German philosopher One of the first to use the German language instead of Latin, he systematized and popularized the doctrines of Leibniz Wolff studied at Jena and taught at Leipzig before going to a professorship at Halle (1706–23) His doctrines of apparent fatalism aroused the Pietists to secure his banishment, which he spent as professor at Marburg (1723–40) Recalled to Halle by Frederick the Great in 1740, he became chancellor of the university in 1743 Wolff's major work was *Vernünftige Gedanken von Gott, der Welt, und der Seele der Menschen* (rational thoughts on God, the world, and the souls of men) (1719) The Leibnizian doctrine of preestablished harmony was more prominent than the monad theory in Wolff's presentation, though both were considerably moderated He is chiefly remembered for his broad concept of philosophy, his insistence on clarity and precision, and his devotion to the power of reason and mathematics See Harald Hoffding, *A History of Modern Philosophy* (Eng tr , 2 vols , 1900)

Wolff, Elisabeth (Bekker) (ālē'zäbĕt bĕ'kur vôlf'), 1738–1804, Dutch novelist She wrote in collaboration with her close friend, Agatha Deken (a'gatä dā'kun), 1741–1804 The best known of their works are two epistolary novels, *Historie van Mejuffrouw Sara Burgerhart* (1782–83) and *Historie van Willem Leevend* (1784–85) These sentimental novels of the growing romantic school are important in Dutch literature, the influence of Richardson and (to a lesser degree) of Fielding is very clear in them Elisabeth Wolff is called also Elisabeth Wolff-Bekker and Betje Wolff, Agatha Deken is also called Aagje Deken

Wolff, Frank Alfred (wŏlf), 1871–1946, American physicist and electrical engineer, b Baltimore, grad Johns Hopkins (B A , 1890, Ph D , 1893) He was professor at George Washington Univ from 1895 to 1908, from 1897 he was associated with the National Bureau of Standards

Wolf-Ferrari, Ermanno (ārman'nō vôlf'-fär-ra'rē), 1876–1948, German-Italian composer, b Venice, studied in Germany Most of his operas, which are in a modern *opera buffa* style, similar to that of the 18th cent , were first produced in Germany Best known are *The Secret of Suzanne* (1909) and *The Jewels of the Madonna* (1911), his one tragic opera

wolfhound, name applied to several breeds of dogs, especially to the Irish wolfhound and the Russian wolfhound (see BORZOI) The Irish wolfhound is an ancient breed and despite its name is believed not to have originated in Ireland In form it somewhat resembles the deerhound and the greyhound but is much heavier and more robust, it is less massive than the great Dane In early times it was used for hunting large game The tallest of all dogs, the males stand a minimum of 31 in at the shoulder and should weigh at least 120 lb Its harsh wiry coat overlies a dense undercoat In color it may be light cream, brindle, or various shades of gray, ranging to almost black

Wolf Point, city (pop 1,960), co seat of Roosevelt co , NE Mont , on the Missouri, settled 1878, inc 1915

wolfram (wŏol'frŭm), white, very hard metallic element (symbol=W, for physical constants, see ELEMENT, table) Formerly it was generally called tungsten, a name still sometimes used The metal is ductile, and wires made of it, even those of very small diameter, have extremely high tensile strength The element is used extensively for electric-lamp filaments because of its very high melting point and the fact that much less electricity is required in operation (than for carbon, for example) STELLITE, CARBOLOY, and steel alloyed with wolfram are of importance in industry because of their hardness and strength The element is resistant to ordinary acids and aqua regia, but dissolves in a mixture of hydrofluoric and nitric acids It forms compounds with carbon, chlorine, oxygen, sulphur, and some other elements The trioxide, occurring in nature as the mineral wolfram ochre, is the anhydride of wolframic acid (or tungstic acid). Scheelite (the calcium salt) and WOLFRAMITE are the chief minerals in which wolfram is present The element does not occur by itself in nature, but large deposits of the ores are found in various parts of the world, especially in Asia (chiefly in China and Korea), Europe, South America (chiefly in Bolivia and Brazil), and the United States It is usually prepared from the trioxide by reduction with carbon or hydrogen It has also been obtained directly from the ore by an electrolytic process The element was first isolated (1783) by the Elhuyar brothers from wolframic acid, discovered by Scheele (1781) and called by him tungstic acid, Scheele and T. O Bergman had suggested that a metal could probably be prepared from it

wolframite (wōol'frumīt"), reddish-brown to grayish-black lustrous mineral occurring in crystals of the monoclinic system It is the chief ore of the metal wolfram (or tungsten) The mineral is widely distributed in nature, being found in Europe (England, France, Spain, and Portugal), South America (Bolivia and Brazil), Asia (Burma and China), and the United States (Colorado, New Mexico, Arizona, and South Dakota)

Wolfram von Eschenbach (vôl'främ fŭn ĕ'shŭnbäkh), c 1170–c 1220, German epic poet He was a knight, it is known that he was at the court of Landgrave Hermann von Thüringen in 1203 and that he led a restless, roving life His only complete work and his most famous is the epic *Parzival*, a splendid poem of chivalry, notable for its lyric passages, its humor, and the profundity of its conception (see PARSIFAL) Wolfram's other works include two unfinished epic poems, *Willehalm* and *Titurel*, and lyrics He appears as a character in Wagner's *Tannhäuser* Wolfram is not only one of the greatest poets of the court epic and minnesong, but he also ranks very high among medieval poets of all countries See the interpretation of *Parzival* by M F Richey (1933) and the translation by Jessie Weston (1894)

wolfsbane · see ACONITE

Wolfville, town (pop 1,944), N N S , on the southwest shore of Minas Basin of the Bay of Fundy, at the mouth of the Cornwallis and E of Kentville It is a market center for a dairy and fruitgrowing area Acadia Univ (Baptist, coeducational, 1839) is here Just east is GRAND Pré

Wolfgemut or **Wohlgemuth, Michael** (both mĭkh'ĕl vôl'gumōōt), 1434–1519, German painter, wood carver, and engraver, the master of Albrecht Dürer He directed a flourishing workshop in Nuremberg with many assistants They specialized in carved and paneled altarpieces and retables for the churches The paintings are in the manner of the early Flemish Wolgemut also painted portraits and designed wood engravings for several books

Wolin, Pomerania see WOLLIN

Wollaston, John (wōō'lŭstŭn), English portrait painter Active in America from 1751 to 1769, he worked in New York, Pennsylvania, and the South and painted portraits of Martha Custis (Mrs Washington) and the Custis children His work is in museums of New York and Philadelphia

Wollaston, William Hyde, 1766–1828, English scientist He is known for his discovery (1802) of the dark lines (Fraunhofer lines) in the spectrum, for his invention of the reflecting goniometer (an instrument by which the angles of crystals are measured) and the camera lucida, for his method of making platinum malleable, and for his discovery of the elements palladium and rhodium (1803) He created an endowment with the Wollaston medal to be awarded annually by the Geological Society, London, for outstanding research Wollastonite a mineral compound of calcium, silicon, and oxygen, was named in his honor

Wollaston Lake, area 768 sq mi , NE Sask , NW of Reindeer Lake It is very irregular in shape and drains into the Churchill and Mackenzie river systems

Wolle, John Frederick (wŏ'lĭ), 1863–1933, American conductor, b Bethlehem, Pa He was a founder of the BACH CHOIR of Bethlehem After study in Germany, he became organist of the Moravian Church in Bethlehem, and as early as 1892 his choral union performed the St John Passion and the St Matthew Passion In 1900 (the 150th anniversary of Bach's death), with a Bach choir of 80 singers, he produced the Mass in B Minor For five years, annual Bach festivals were held, the choir grew to 300 voices and was assisted by many noted singers After an interruption of six years, during which Wolle occupied the chair of music at the Univ of California, annual festivals were resumed in 1911

Wollin (vôlēn') or **Wolin** (vô'lēn), island, area 95 sq mi , off the coast of Pomerania, in the Baltic Sea. It is separated from the mainland by the Stettiner Haff and from the neighboring island of Usedom by the Swine The chief town is Wollin or Wolin (pop 2,369) There are several bathing resorts In 1945 the island was transferred to Polish administration

Wollongong (wōō'lun-gŏng), municipality (pop 18,116), New South Wales, Australia, SW of Sydney A coal-mining center, it has large steel mills

Its port is near-by Port Kembla, which has copper refineries as well as steel mills.

Wollstonecraft, Mary (wo͝ol'stŭnkräft, kräft), 1759–97, English writer and feminist At 21 she earned a precarious living as a governess, but wrote a novel, *Mary a Fiction* (pub anonymously, 1788), which, though it attracted little notice, led to her employment as literary adviser to a London publisher She published in 1792 her *Vindication of the Rights of Woman*, the first great feminist document, a work which met with stormy opposition The same year she went to Paris to observe the progress of the French Revolution, remaining through the Reign of Terror In Paris she formed an attachment for Gilbert IMLAY, an American, who left her a year after the birth of a daughter, Fanny, in 1794 In 1795 Mary returned to her former employment in London In March, 1797, she married William Godwin She died in giving birth to a daughter, Mary, who became the wife of Shelley. Besides the *Vindication*, she wrote *Thoughts on the Education of Daughters* (1787), *A Vindication of the Rights of Men* (1790), and *Letters Written during a Short Stay in Sweden, Norway, and Denmark* (1796) See William Godwin, *Memoirs of Mary Wollstonecraft Godwin* (1798), biographies by E R Pennell (1885), Madeline Linford (1925), H R James (1932), and George Preedy (1937)

Wolseley, Garnet Joseph Wolseley, 1st Viscount (wo͝ol'zlē), 1833–1913, British general, b Ireland He fought in Burma (1852–53), the Crimea (1854–56), India (1857), and China (1860) Later he went to Canada where, as commander of the Red River expedition (1870), he suppressed Louis Riel's rebellion at Fort Garry After conducting the Ashanti campaign (1873–74) and reorganizing the administration Zululand (1879–80), he went to Egypt, brilliantly defeated Arabi Pasha at Tell-el-Kebir (1882), and led the vain attempt to relieve General C G Gordon at Khartoum (1884–85) He was a tireless advocate of an efficient modern army and of promotion on merit rather than seniority He wrote *The Story of a Soldier's Life* (1903) See biography by Sir F B Maurice and Sir George Arthur (1924)

Wolsey, Thomas (wo͝ol'zē), 1472?–1530, English statesman and prelate, lord chancellor (1515–29), archbishop of York (1514–30), cardinal of the Roman Church He was graduated young from Magdalen College, Oxford, and served for a while as master of the Magdalen College school He was ordained a priest in 1498 and the following year was made rector at Limington (Somerset) by Thomas Grey, marquess of Dorset, his first patron Wolsey's rise to influence was rapid In 1506 he entered the service of Henry VII as chaplain He acquitted himself with credit on diplomatic missions to Scotland and the Netherlands Upon Henry VIII's accession to the throne in 1509 Wolsey was appointed royal almoner and, in high favor with Henry, was made privy councilor (1511) He successfully organized the army for the invasion of France in 1513 and accompanied Henry on his campaign He helped negotiate the marriage of Mary Tudor, Henry's sister, to Louis XII of France In 1514 he was made bishop of Lincoln and then archbishop of York He had come by this time virtually to control English domestic and foreign policy for the young king His treaty with France was an early triumph By it England held the balance of power between France and the Hapsburgs In 1515 he was made lord chancellor and, at Henry's instance, cardinal After the accession of Charles V to the throne of the Holy Roman Empire (1520), Wolsey inclined his favor to the empire against France, because Charles controlled the Netherlands, England's important neighbor, and Charles's aunt KATHARINE OF ARAGON, was Henry's queen Wolsey twice failed—as a result, partly, of the jealous suspicions of Henry and Charles—to attain the papacy Wolsey's part in devising the heavy taxation in England and the subsequent forced loans and parliamentary "grants," is not clear The policy seems to have been of Henry's making, but Wolsey bore the brunt of the blame when the southern counties became sullen about their burdens Wolsey, whose income was from ecclesiastical sources, kept a great court, built several palaces, such as Hampton Court, and rivaled the king in pomp His enemies at court used the divorce of Katharine as a means to accomplish his ruin To this divorce Wolsey was at first opposed, but at Henry's urging he procured a trial in England from the pope Wolsey presided at the trial with Cardinal CAMPEGGIO, who delayed and temporized on instructions from Rome Wolsey incurred the enmity of Anne Boleyn, and even Henry turned against him In Oct , 1529, he lost the lord chancellorship and all his honors and privileges except the archbishopric He turned to his diocese, which he had never previously visited, and ruled it well for a few months, but he was arrested, probably unjustly, for treason, in Nov , 1530, and died at Leicester on his way to London Wolsey was one of England's ablest statesmen and was largely responsible for England's emergence as a first-rate power in the 16th cent The classic biography by George Cavendish was first published in 1641 See also biographies by Mandell Creighton (1888), A. F. Pollard (1929), and Hilaire Belloc (1930), Ernest Law, *England's First Great War Minister* (1916).

Wolstanton United (wo͝ol'stăntŭn, wo͝ol'stŭn), former urban district (1931 pop 30,525), since 1932 part of Newcastle-under-Lyme, Staffordshire, England, near the Potteries It has coal mines and potteries

Wolverhampton (wo͝ol'vûrhămp"tun) [probably from Wulfruna, sister of King Edgar, founder of the church], county borough (1931 pop 133,212, 1947 estimated pop 158,610), Staffordshire, England, NW of Birmingham It is on the edge of the Black Country, of which it is one of the principal centers, with great factories producing automobiles, aircraft, locomotives, ball bearings, chemicals, and electrical products St Peter's Church dates mostly from the 13th and 15th cent

wolverine or **glutton**, largest of the weasel family, found in the northern parts of North America, Europe, and Asia, usually in evergreen forests and mountains It is a heavy, short-legged animal, 3 to 3½ ft in total length, with long, dark brown fur banded on the flank with chestnut or yellowish white A solitary, strong, and greedy hunter, it will attack any animal except man It robs traps of bait and victims and steals food supplies in camps Its fur is used mainly in the north for lining parkas, since frost does not accumulate on the guard hairs

Wolyn, Ukraine see VOLHYNIA

Woman's Christian Temperance Union, founded at Cleveland, Ohio, in 1874 as a result of the temperance crusade which spread through the Middle West at that time Frances WILLARD was its second president (1879–98), she was responsible for the organization of the world W C T U in 1883 The organization has worked for public education against the use of alcohol, for legislation to prohibit the sale of liquor and harmful drugs, toward the abolishment of prostitution, and for an equal standard of purity for men and women Its official badge is a bow of white ribbon

Woman's Medical College of Pennsylvania, in Philadelphia, chartered and opened 1850 as the Female Medical College of Pennsylvania, renamed 1867

woman suffrage. The right of women to vote, throughout the latter part of the 19th cent an important phase of FEMINISM, was first seriously proposed at Seneca Falls, N Y , July 19, 1848, in a general declaration of the rights of women, prepared by Elizabeth Cady STANTON, Lucretia MOTT, and several others The early leaders of the movement in the United States—Susan B ANTHONY, Mrs Stanton, Lucretia Mott, Lucy STONE, Abby Kelley FOSTER, the Grimké sisters, and others—were usually advocates of abolition and temperance as well, when, however, after the close of the Civil War, the Fifteenth Amendment (1870) gave the franchise to newly emancipated Negro men, but not to the women who had helped win it for them, the suffragists, for the most part, confined their efforts to the struggle for the vote The National Woman Suffrage Association, led by Miss Anthony and Mrs Stanton, was formed in 1869 to agitate for an amendment to the Federal Constitution Another organization, led by Lucy Stone, the American Woman Suffrage Association, was organized the same year to work through the state legislatures The two societies were united in 1890 as the National American Woman Suffrage Association Later leaders included Anna Howard SHAW and Carrie Chapman CATT Several of the states and territories (with Wyoming first, 1869) granted suffrage to the women within their borders, when in 1913 there were 12 of these, the National Woman's party, under the leadership of Alice Paul, Lucy Burns, and others, resolved to use the voting power of the women enfranchised to force through Congress a suffrage resolution and secure ratification from the state legislatures In 1920 the Nineteenth Amendment to the Constitution granted nation-wide suffrage to women The movement in England began with Chartism, but it was not until 1851 that a resolution in favor of female suffrage, drawn up by the Sheffield Female Political Association, was presented in the House of Lords by the earl of Carlyle John Stuart Mill was the most influential of the English advocates, his *Subjection of Women* (1869) is one of the earliest, as well as most famous, works of propaganda Among the leaders in the early English suffrage movement were Lydia Becker, Barbara Bodichon, Emily DAVIES, and Dr Elizabeth Garrett ANDERSON, Jacob Bright presented a bill for woman suffrage in the House of Commons in 1870 The local suffrage societies united in 1897 into a National Union, of which Mrs Henry FAWCETT was president until 1919 In 1903 a militant suffrage movement sprang up under the leadership of Mrs Emmeline PANKHURST and her daughters, their organization was the Women's Social and Political Union The militant suffragists or "suffragettes" were determined to keep their objective prominent in the minds of both legislators and public. This they did by heckling candidates for office and other political speakers, by street meetings, and by many other forms of propaganda. The leaders were frequently imprisoned, many of them had recourse to a HUNGER STRIKE. When the First World War broke out, the suffragettes ceased all militant activity and devoted their powerful organization to the uses of the government. After the war a limited suffrage was granted with an age limit of 30, in 1928 voting rights for men and women were equalized In Europe, Finland and Norway were the first countries to grant woman suffrage, in France women voted in the first election (1945) after the Second World War Belgium granted suffrage in 1946. In the British dominions, New Zealand granted suffrage in 1893, Australia in 1902, Canada in 1917 (except in Quebec, where it was postponed until 1940) In Latin American countries woman suffrage was granted in Brazil (1934), Salvador (1939), Santo Domingo (1942), Guatemala (1945), and Argentina and Mexico (1946) In the Philippines women have voted since 1937, in Japan since 1945 See *The History of Woman's Suffrage* (ed by E C Stanton and others, 6 vols , 1881–1922), Emmeline Pankhurst, *My Own Story* (1914), Millicent Fawcett, *What I Remember* (1925), Roy Strachey, *Struggle* (1930)

Womelsdorf (wo͝om'mulzdôrf), industrial borough (pop 1,450), SE Pa , between Harrisburg and Reading, settled 1723, inc 1833 Its manufactures include brick and textiles Old Zion Church, built in 1727, is here

Women's Army Corps see WAC

women's clubs, particularly strong in the United States, became an important phase of American town and village life in the latter part of the 19th cent One of the earliest clubs was Sorosis, organized (1868) in New York city by Mrs Croly (Jennie June) In 1890 a convention called in New York by Sorosis resulted in the General Federation of Women's Clubs Each state has its own federation, in which local clubs are represented The early women's clubs were chiefly cultural and social in purpose, but the entry of women into public life has been reflected in the programs of their clubs, which show an increasing interest in questions of social welfare and international concern Many town libraries which were later supported by taxes were started by women's clubs, and many sanitary reforms have been initiated by them See D C Fisher, *Why Stop Learning* (1927), I B Munro and W M Munro, *Handbook for Clubwomen* (1942)

Wonders, Seven: see SEVEN WONDERS OF THE WORLD

Wonsan (wŭn'sän'), Jap *Gensan*, city (1944 pop 112,952), N Korea, a port on Korea Bay with a sheltered natural harbor There are fish canneries and sake breweries The port was opened to foreign trade in 1883

Wood or à Wood, Anthony, 1632–95, English antiquary His painstaking researches into the history of Oxford resulted in two great works, *The History and Antiquities of the University of Oxford* (in Latin, 2 vols , 1674, in English, tr by him but not published until 1792–96), and *Athenæ Oxonienses* (2 vols , 1691–92, rev and enl ed , 1721), containing biographies of noted Oxford graduates For statements in the second work concerning the 1st earl of Clarendon he was expelled from Oxford at the instance of the 2d earl Wood's own *Life and Times* (comp from his papers by Andrew Clark, 5 vols , 1891–1900) has also appeared in an abridged edition by Llewelyn Powys (1932)

Wood, Charles Erskine Scott, 1852–1944, American writer, b Erie, Pa , grad West Point, 1874 He served in the army until he resigned in 1884 in protest against the Washington administration of Indian affairs Having taken a law degree at Columbia Univ in 1883, he practiced in Portland, Oregon, until 1919 He wrote extensively (1899–1911) for the *Pacific Monthly*, but his best-known work, satiric sketches collected as *Heavenly Discourse* (1927), first appeared in the magazine the *Masses* Much later, in 1937, *Earthly Discourse* followed His poetry includes *A Masque of Love* (1901), *The Poet in the Desert* (1915), his best work, several times revised, *Maia a Sonnet Sequence* (1918), with his wife, Sara Bard Field, and *Poems from the Ranges* (1929)

Wood, Clement, 1888–, American writer, b Tuscaloosa, Ala , grad Univ of Alabama, 1909, LL B Yale, 1911 Among his many works are books on the craft of poetry, biographies, including a critical one of Amy Lowell (1926), novels, and a rhyming dictionary (1943) His most famous poem is the title piece of his collected poems, *The Glory Road* (1936)

Wood, Edward Frederick Lindley: see HALIFAX, EDWARD FREDERICK LINDLEY WOOD, 1ST EARL OF.

Wood, Fernando, 1812–81, mayor of New York city (1854–57, 1859–61), b Philadelphia. He became a successful shipping merchant and a Tammany leader in New York city. Wood was elected mayor in 1854 and reelected in 1856, but he displeased Democratic leaders in dispensing patronage Defeated (1857) by the Tammany candidate, he formed Mozart Hall, a rival organization, and won in 1859. Pro-Southern, Wood suggested at the beginning of the Civil War that New York establish

itself as an independent city. He was a leading Peace Democrat. As a Congressman (1841–43, 1863–65, 1867–81) he reflected the views of the city's moneyed interests. See biography by S. A Pleasants (1948).

Wood, Grant, 1892–1942, American painter, b Anamosa, Iowa, studied at the Art Institute of Chicago (1912–14) and in Paris (1920–22). His paintings of Middle Western life were originally inspired by German primitive painting. In 1933 his *American Gothic* won him national recognition. His work is deliberately stylized and meticulously executed. As a teacher at the State Univ of Iowa and director of PWA projects, several of which he designed, Wood played an active part in his community. He is represented in museums of Chicago, Cedar Rapids, Iowa, Lincoln and Omaha, Nebr., in the Whitney Museum, New York, and by a series of murals at Iowa State College, Ames, Iowa. See Darrell Garwood, *Artist in Iowa* (1944).

Wood, Mrs. Henry, 1814–87, English novelist, whose maiden name was Ellen Price. Her melodramatic and sensational romance *East Lynne* (1861), dramatized, became a permanent stock piece for more than a generation. Most of her work appeared first in the magazine *Argosy*, which she bought in 1867. See L. P. Stebbins, *A Victorian Album* (1946).

Wood, Jethro, 1774–1834, American inventor, b either in Dartmouth, Mass., or in Washington co., N.Y. In 1814, while a farmer in Cayuga co., N.Y., he patented a cast-iron plow in which he later embodied improvements (patented 1819). He used in the improved model replaceable cast-iron parts and a moldboard from which the shape of the modern moldboard is derived. Litigation concerning his patent rights impoverished him. See biography by Frank Gilbert (1882).

Wood, John, 1705?–1754, English architect, called Wood of BATH. When he went (1727) to Bath from Yorkshire to begin his career as a road surveyor, the city was at its height as a center of fashion. Foreseeing the possibilities of a spacious architectural setting for this gay life, Wood devised civic layouts on a grand scale and succeeded in finding financial support for his project. His executed schemes exhibit entire streets and terraces formally arranged in continuous rows, curves, or circles. He designed Queen's Square, North and South Parade, Royal Crescent, and the Circus. The last two were carried to completion after his death by his son, John Wood, Jr. (d. 1782), who also built the Assembly Rooms. Wood of Bath also designed the mansion of Prior Park, near Bath, his handsomest detached building. His work, by its charm and imagination, set a standard for the architects who later worked at Bath, and it remains an inspiration for modern city planners.

Wood, John George, 1827–89, English clergyman and author. He was ordained (1854) in the Church of England but devoted his life chiefly to writing and lecturing (in England and America) on natural history, which he was influential in popularizing.

Wood, Leonard, 1860–1927, American general and administrator, b Winchester, N.H., M.D. Harvard, 1884. He practiced medicine in Boston and entered the army in 1885 as an assistant surgeon and in 1891 was promoted captain and full surgeon. At the outbreak of the Spanish-American War he joined Theodore Roosevelt in organizing a volunteer cavalry outfit—the ROUGH RIDERS—and as their commander he participated in the attack on Santiago de Cuba. He was military commander of Santiago (1898–99) and as military governor (1899–1902) of Cuba until the republic was formed, he cooperated in improving sanitary conditions on the island. He was sent (1903) to the Philippines, was promoted (1903) major general, and commanded (1906–8) American military forces there. He returned (1908) to the United States and served (1910–14) as chief of staff in the U.S. army. He was commander (1914–17) of the Dept. of the East and led the movement for preparedness in America. His insistence on the creation of civilian training camps displeased the Wilson administration, after the U.S. entry into the First World War, Wood was refused a commission on the European front. Though failing to win the Republican nomination for President in 1920, he was appointed governor general of the Philippines. Distrusting the natives' capacity for self-government, he reversed the lenient policy of his predecessor, F. B. Harrison. Wood liquidated the economic enterprises of the Philippine government, assumed wide powers of control, allowed little prerogative to the legislature, and surrounded himself with military advisers. Until Wood died in 1927, unrest was widespread among the Filipinos, and in 1925 the Philippine senate unanimously voted to hold a plebiscite on independence. The report of the Thompson Commission, sent to the islands in 1926, sharply criticized Wood's rule. See biography by Hermann Hagedorn (1931).

Wood, Robert Williams, 1868–, American physicist, b. Concord, Mass., grad. Harvard (B.A., 1891). After studying abroad he became professor at Johns Hopkins in 1901 and research professor in 1938. Internationally known for his work in optics and spectroscopy, he made important researches in resonance radiation and in the use of absorption screens in astronomical photography and devised a vastly improved diffraction grating. He wrote *Physical Optics* (1905), *Researches in Physical Optics* (2 parts, 1913–19), and also the nonsense verses *How to Tell the Birds from the Flowers* (1907). See biography by William Seabrook (1941).

Wood, Thomas Waterman, 1823–1903, American portrait and genre painter, b. Montpelier, Vt., studied with Chester Harding. He became a member of the National Academy of Design in 1871 and was its president (1891–99) and president (1878–87) of the American Water Color Society. At the Metropolitan Museum is his *War Episodes*, three paintings in one frame (*Contraband, Recruit, Veteran*). His subjects were chiefly Negroes of the Civil War period. The Wood Gallery of Art in Montpelier has Wood's collection, including copies of old masters.

wood, botanically, the elements of the secondary xylem which comprises the bulk of the stem in shrubs and trees and is produced by the CAMBIUM. Wood, or xylem, consists of cells with firm thickened walls and serves both for mechanical support and for conduction of the SAP. The central part of a tree trunk is the older, and the cells become nonfunctional as growth produces new xylem tissue, this older wood is termed the heartwood as opposed to the outer sapwood which still functions for conduction. The heartwood is usually darker in color and more durable than the sapwood. HARDWOOD (from the broad-leaved trees, such as oak and maple) is porous, owing to the presence of long, conducting vessels, whereas softwood (from the conifers, e.g., pine and spruce) is nonporous. Although it is usually lighter than water, wood has great strength, elasticity, and durability. It is easily worked and joined, is a poor conductor of heat and electricity, polishes well, and is comparatively resistant to decay and to many chemicals. Trees cut for use as timber or lumber must usually be properly seasoned—dried in air or in a kiln—in order to obtain wood in its best state. Proper seasoning reduces the weight, prevents warping, often increases the strength, and prepares the wood for painting and for use as fuel. Wood has been valued since antiquity for fuel and for building purposes. Although wood has been supplanted in many of its former uses by synthetic materials, it is still extensively used for construction work and is the principal material for furniture, floors, handles, railway ties, and innumerable other things. It is largely used in the manufacture of paper. Wood distillation yields charcoal, methyl alcohol, wood tar, acetate of lime, and wood gas. The woods of different species of trees, though sometimes difficult to distinguish, vary considerably in weight, strength, and appearance. Thus balsa is prized for its light weight, oak for its strength and decorative value, and walnut, teak, mahogany, and cherry for beauty of grain and color. See Herbert Stone, *Textbook of Wood* (1921), Arthur Koehler, *Properties and Uses of Wood* (1924), S. J. Record, *Identification of the Timbers of Temperate North America* (1934), H. P. Brown and A. J. Panshin, *Commercial Timbers of the United States* (1940), H. D. Tiemann, *Wood Technology* (2d ed., 1944), H. E. Desch, *Timber: Its Structure and Properties* (2d ed., 1947).

wood alcohol: see METHYL ALCOHOL.

Woodberry, George Edward, 1855–1930, American poet, critic, and teacher, b. Beverly, Mass., grad. Harvard, 1877. He was professor of English at the Univ. of Nebraska (1880–82) and at Columbia (1891–1904). Typical of his work as a minor poet is *The Ideal Passion. Sonnets* (1917). Besides much literary criticism, he wrote scholarly biographies of Poe and Hawthorne. See his *Selected Letters* and *Selected Poems* (both 1933).

Woodbine. **1** Town (pop. 1,467), W Iowa, on the Boyer river and NNE of Council Bluffs; in a farm area, inc. 1877. Large apple orchards are near by. **2** Borough (pop. 2,111), SE N.J., N of Cape May, near Belleplain State Forest, inc. 1903.

woodbine, name for several vines, among them HONEYSUCKLE and VIRGINIA CREEPER.

Woodbridge, Frederick James Eugene, 1867–1940, American philosopher, b. Windsor, Ont., grad. Amherst, 1889, and Union Theological Seminary, 1892, and studied (1892–94) at the Univ. of Berlin. He taught philosophy at the Univ. of Minnesota (1894–1902) and at Columbia (1902–12), was dean of the faculties of political science, philosophy, pure science, and fine arts at Columbia (1912–1929), and was Roosevelt professor at the Univ. of Berlin (1931–32). He was editor of *Archives of Philosophy* and the *Journal of Philosophy, Psychology, and Scientific Methods*. Among his many books are *The Purpose of History* (1916), *The Realm of Mind* (1926), *Nature and Mind* (1937), and *An Essay on Nature* (1940), his last book, which sums up his philosophy that "Nature is the domain in which both knowledge and happiness are pursued."

Woodbridge, village (pop. 1,044), S Ont., on the Humber and NW of Toronto, in a farm area.

Woodbridge. **1** Town (pop. 2,262), SW Conn., NW of New Haven, settled before 1660, inc. 1784. **2** Township (pop. 27,191), NE N.J., N of Perth Amboy; settled 1665 by colonists mainly from Massachusetts and led by John Woodbridge, inc. 1669. It had a sawmill in 1682 and in 1751 a printing press. Local clays are used in Woodbridge's important brick, tile, terra-cotta, and firebrick industries.

Wood Buffalo National Park, 17,300 sq. mi., chiefly in NE Alberta, but partly in S Mackenzie dist. of the Northwest Territories, est. 1922. It lies between the west end of Lake Athabaska and the south side of Great Slave Lake and is crossed by the Peace river. A vast, unfenced region of forests, plains, and lakes, it is the largest game preserve in North America, containing a herd of buffalo, bear, beaver, caribou, deer, moose, and waterfowl.

Woodburn (wōd'bûrn), city (pop. 1,982), NW Oregon, NE of Salem in the Willamette valley. In a berry-raising district, it has canneries, inc. 1889. The Oregon State Training School is here.

Woodbury, Charles Herbert, 1864–1940, American marine painter, b. Lynn, Mass., grad. Massachusetts Institute of Technology, 1886, and studied painting at Julien's academy, Paris. For many years he had a school at Ogunquit, Maine. His vigorous portrayals of the Atlantic coast include *Ogunquit, Maine* (Metropolitan Mus.), *Off the Florida Coast* (Mus. of Fine Arts, Boston), *The Cliff* (Carnegie Inst., Pittsburgh), and *North Atlantic* (Worcester, Mass., Art Mus.). He wrote *Painting and the Personal Equation* (with E. W. Perkins, 1922) and *The Art of Seeing* (1925).

Woodbury, Levi, 1789–1851, American cabinet officer and jurist, b. Hillsboro co., N.H., grad. Dartmouth, 1809. Important as a politician and jurist in New Hampshire, he served as governor (1823–24). As a Democrat, he was Senator from 1825 to 1831, when President Andrew Jackson, whom he firmly supported, appointed him Secretary of the Navy. In 1834 when Henry Clay obtained the Senate's rejection of Roger B. Taney, who had been appointed in 1833, Woodbury was chosen U.S. Secretary of the Treasury and inherited all the difficulties of initiating the new treasury scheme in the face of the friends of the United States Bank (see SUBTREASURY). He continued as Secretary until the end of President Martin Van Buren's term (1841). Again a Senator (1841–45), Woodbury defended the Independent Treasury System in debate. He was appointed in 1846 to succeed Joseph Story as Associate Justice of the Supreme Court, and on the bench he generally concurred with the decisions of Chief Justice Taney. Many of his speeches and his writings (3 vols., 1852) have been published.

Woodbury **1** Town (pop. 1,998), W Conn., W of Waterbury, settled 1672, chartered 1674. A community of dairy farmers, it has a sprinkling of retired and vacationing urbanites. Among its old buildings are five churches, the Jabez Bacon House (1762), and Glebe House (c. 1750). **2** City (pop. 8,306), co. seat (since 1787) of Gloucester co., SW N.J., S of Camden, settled 1683, inc. as a borough 1854, as a city 1870. Woodbury is a farm trade center. Its 18th-century buildings include the Cooper House, where Cornwallis stopped in 1777, and a Friends' meetinghouse. R. T. McKenzie designed the World War memorial. The county historical society has collections in the John Lawrence House (1765).

Woodbury Heights, borough (pop. 1,137), SW N.J., S suburb of Woodbury, settled c. 1770, inc. 1915.

wood carving as an art form includes any kind of sculpture in wood, from the decorative bas-relief on small objects to life-size figures in the round. The woods used include pine, pear, walnut, willow oak, ebony, and others; the tools consist of gouges, chisels, wooden mallets, and pointed instruments. Designs are applied on the wood by pencil, chalk, or stencil, and the wood is cut directly after the design. In very recent years wood carving has joined sculpture in stone and brass as a purely fine art. Formerly, however, wood carving was more functional and closely allied to architecture and cabinetmaking. The earliest wood artifacts were probably the little masks and grotesque statuettes of gods and goddesses of African Negro tribes. In the Mohammedan countries of North Africa no carving in the round is found, partly through prohibitions in the Koran. The region abounds, however, in carvings on furniture, boxes, flasks, and rifle stocks. In Egypt inlaid work is highly developed, both on furniture and in mosaic ceilings and floors. In Japan and China much imagination has gone into wooden carvings decorating the temples. Large Japanese masks, made for the inaugural rites for the Great Buddha in 752, are preserved and attest to the delicate work. After the 15th cent. woodworking was also applied to mansions and, in China, to simpler dwellings. In Europe wood carving was most highly developed in Scandinavia, and examples have been preserved of 10th- and 11th-century work. In England the Gothic period produced extremely fine wood carving, especially on choir stalls and rood screens. Though the Puritans destroyed much of this, enough has been preserved to show its intricate and beautiful workmanship. In France wood carving was also a part of religious art, and here the carved altarpieces were especially notable. In Flanders and Germany of the 15th and

16th cent great altarpieces and other monumental wood sculptures were created, Nuremberg and Swabia being among the most active centers In Italy wood carving flourished during Gothic times in Pisa, Siena, and Florence, as well as in the southern monasteries, during the Renaissance it remained an adjunct of the general Italian artistic development. After the Renaissance wood carving went into an imperceptible decline It had a revival in the early 18th cent when Grinling Gibbons in London carved for Sir Christopher Wren's buildings The development of machinery and the trend toward streamlining have made wood carving as a craft a very minor medium See F S Maver, *A Handbook of Ornament* (1893), Alfred Maskell, *Wood Sculpture* (1911), H H Grimmwood, *An Introduction to Decorative Woodwork* (1936)

woodchuck or **ground hog**, stocky, chiefly herbivorous rodent of the MARMOT family, native to North America Its body is about 14 in long and is covered with thick, brownish-gray fur, it looks somewhat like a tiny bear It nests and hibernates in winter in burrows of many compartments According to an old superstition the ground hog is said to leave its burrow on Feb 2, Candlemas Day, and to return underground for six weeks if it sees its shadow, thus a sunny Feb 2 supposedly means six more weeks of winter

Woodcliff Lake, borough (pop 1,037), NE N J, near the N Y line, inc 1910

woodcock, nocturnal game bird of the snipe family Its plumage of blended browns and black afford it protective coloration in swamps and woods The unusually large eyes are set far back in the head With its long bill, which has a flexible upper mandible, it probes in soft earth for earthworms, its chief food, and insects The American woodcock is called whistling, wood, and mud snipe In spring the male indulges in a performance which combines dancing, soaring flight, and song The European woodcock is similar to the American but larger

wood engraving, in contrast to copper or steel engraving and etching (which are intaglio), has its designs cut in relief, the portions to appear dark left standing, while those to print white are gouged out of the wood block The block itself is commonly the same height as type (⅞ in) Two distinct methods are recognized, the so-called black-line or positive method, in which the wood is cut with the grain, and the white-line method, in which the cutting is done across the grain, in the former the emphasis of the cutter is on the lines themselves, in the latter on the gouged-out spaces The white-line method allows for much more subtlety of line and for the more plastic expression of varying half tones The tools of wood engraving include chisels, V-shaped and curved gouges, and, most important, a simple sharp knife Woodcuts were used in ancient Egypt and Babylonia for impressing intaglio designs into unpressed bricks and by the Romans for stamping letters and symbols The Chinese used wood blocks for stamping patterns on textiles In Europe woodcuts appeared at the beginning of the 15th cent, when they were used on playing cards and simple prints and for the BLOCK BOOK which preceded printing At that time the artist and the craftsman were one, the same man designing the cut and carving the block The first authentically dated woodcut is a *St Christopher* of 1423 After the invention of the printing press, woodcuts, being inked in the same way as type, lent themselves admirably to illustrating books Albrecht Pfister first put them to this use c 1460 Further examples of early woodcuts are in the Bibles that appeared in the late 15th cent and in the French Lyons edition (1493) of the works of Terence Rome's first book with woodcuts appeared in 1467, but Venice became the center of Italian wood engraving In the 16th cent in France woodcuts served frequently to illustrate Books of Hours In Germany, Dürer and Hans Holbein, the younger, were the most eminent woodcut masters of the Renaissance Neither of these artists cut their own blocks but were fortunate in having sensitive craftsmen to execute their designs Dürer's *Life of the Virgin* (1509 10) and *Great Passion* (1510–11) and Holbein's *Dance of Death* are among their best-known works. Lucas Cranach, the elder, and Hans Baldung also worked in wood engraving, employing a chiaroscuro technique originated by Jobst de Negker of Augsburg There was a decline in wood engraving with the increasing popularity of line engraving on metal, even in the Netherlands, where woodcuts lasted longest, they were almost obsolete by the 18th cent In England, however, Thomas Bewick popularized white-line engraving, in contrast to the black-line which had been universal before, and started a revival Paul Gustave Doré was the best-known master in this medium in the 19th cent In America wood engraving was practiced from the 19th cent by such masters as Alexander Anderson, William James Linton, and Timothy Cole The advances in photography and photographic processes slowly edged out woodcuts as a means of book illustration, and the art again fell into disuse toward the close of the 19th cent. But in the 20th cent. it had another revival as a valid art form, the artists again taking pride in being themselves the engravers as well as the designers. See W. A. Chatto, *A Treatise on Wood Engraving, Historical and Practical* (1881); D P Bliss, *A History of Wood Engraving* (1928); E. W Watson, *The Relief Print* (1945)

Woodford, urban district (pop 23,946), Essex, England, NE of London It is a residential suburb near Epping Forest

Wood Green, residential municipal borough (1931 pop 54,181, 1947 estimated pop. 52,890), Middlesex, England, N of London

Woodhull, Victoria (Claflin), 1838–1927, American lecturer and journalist, b Homer, Ohio She married Dr Canning Woodhull in 1853 and was divorced 11 years later She became a speculator in Wall St and later, with her sister, Tennessee Claflin (who shared most of her adventures), proprietor of *Woodhull and Claflin's Weekly* (1870), a sensational journal which supported, among other reforms, woman suffrage In 1872 the People's party, representing extreme radical organizations, nominated Mrs Woodhull for President of the United States For some years she lectured on many subjects, including woman's rights and spiritualism, in 1883 she married John Biddulph Martin, an Englishman, and thereafter lived in England See Emanie L Sachs, *The Terrible Siren* (1928)

Woodin, William Hartman (wo͝od'dĭn), 1868–1934, U S Secretary of the Treasury (1933), b Berwick, Pa After studying engineering at Columbia Univ, he entered (1892) the railroad-equipment firm founded by his grandfather and became its president in 1899 President of the American Car and Foundry Company after 1916, he steadily expanded his industrial holdings Woodin, a Republican, was appointed U S Secretary of the Treasury by President F D Roosevelt and helped restore the nation's financial activities during the banking holiday of March, 1933 He resigned the post in Nov, 1933, because of ill-health

Woodlake, city (1940 pop 1,146, 1946 special census pop 2,466), S central Calif, SE of Fresno, settled 1914, inc 1939 Sequoia National Park is near by

Woodland. 1 City (1940 pop 6,637, 1948 special census pop 9,042), co seat of Yolo co, N central Calif, NW of Sacramento, founded 1855, inc 1874 It is a processing and trade center in the fertile Sacramento valley The noted Woodland Clinic Hospital is here **2** Town (pop 1,298), NE Maine, W of Caribou, inc 1880 **3** Village, SE Maine see BAILEYVILLE

Woodlark Island, volcanic island, c 40 mi long, SW Pacific, 175 mi SE of New Guinea, in the Territory of Papua The island contains gold In the Second World War it was made an Allied air base in 1943

wood louse, name applied to various small isopod crustaceans Included are terrestrial forms of the genera *Oniscus* and *Porcellio* which commonly inhabit damp places in gardens, the pill bug of the genus *Armadillidium*, and some marine isopods Some wingless insects of the family Atropidae which are commonly called book lice and deathwatches are sometimes known as wood lice

Woodlynne (wo͝od'lĭn"), borough (pop 2,861), SW N J, southern suburb of Camden, laid out 1892, inc 1901

woodpecker, a climbing bird found, in nearly 400 species, in most parts of the world Usually the males have red or orange patches on the head and barred and spotted black or brown plumage with light under parts Woodpeckers have chisellike bills for boring into trees and a long, sticky, barbed tongue for extracting insects Their spiny tails are an aid in climbing and resting on vertical surfaces A tattoo on a tree trunk is the characteristic call Among the North American woodpeckers are the sociable downy woodpecker (about 6½ in long), the similar but larger hairy woodpecker, the pileated woodpecker (about 17 in long), which is similar to the nearly extinct ivory-billed woodpecker, the redheaded and the three-toed woodpeckers, the California woodpecker, which makes small holes in trees for storing acorns, the FLICKER, and the SAPSUCKER The piculets are tiny Old and New World woodpeckers (3-5 in long) found chiefly in South America

wood pulp: see PAPER

Wood-Ridge (wo͝od'-rĭj"), borough (pop 5,739), NE N J, E of Passaic, settled before the Revolution, inc 1894

Woodring, Harry Hines, 1890–, U S Secretary of War (1936–40), b Montgomery co., Kansas He entered (1907) the banking business in Kansas, served in the First World War, and was (1931–33) governor of Kansas Harry H Woodring served (1933–36) as Assistant Secretary of War before becoming Secretary He resigned in opposition to President F D Roosevelt's foreign policy and was succeeded by Henry L. STIMSON.

Wood River city (pop 8,197), SW Ill, on the Mississippi above East St Louis, founded 1907, inc. as a village 1911, as a city 1923 The city has oil refineries, a tannery, and a planing mill.

Woodruff, Lorande Loss, 1879–1947, American biologist, b. New York city, grad Columbia (B.A., 1901, Ph.D., 1905). He was at Yale from 1907, as professor of biology from 1915 to 1922 and of protozoology from 1922. In his special studies in the life history of the protozoa, he maintained a race of paramecia through more than 20,000 generations, He wrote *Foundations of Biology* (1922, 6th ed. 1941) and *Animal Biology* (1932) and edited *Development of the Sciences* (1923, 2d series, 1941).

Woodruff, textile town (pop. 3,508), NW S C, S of Spartanburg, in a farm area; inc. 1876

Woodruff Place, town (pop 1,434), central Ind, within the boundary of Indianapolis, platted 1872, inc 1876 It is a residential suburb with no business buildings

Woods, Albert Fred, 1866–1948, American plant pathologist, b Belvidere, Ill, grad Univ of Nebraska, 1890. He was director (1926–34) of scientific work at the U.S. Dept of Agriculture He gave special attention to problems of plant nutrition, oxidation processes of plants, enzymes in plant cells, and plant resistance to disease

Woods, Leonard, 1774–1854, American Congregational theologian, b. Princeton, Mass, grad Harvard, 1796. In the controversy with the Unitarians William Ellery Channing, Henry WARE, and others, Woods gained prominence as a champion of orthodox Calvinistic views He was professor of theology at Andover Theological Seminary (1808–46) and published (1885) a history of that institution Among his controversial works are *A Reply to Dr Ware's Letter to Trinitarians and Calvinists* (1821) and *Remarks on Dr Ware's Answer* (1822) He was also the author of *Lectures on Church Government* (1844), *Lectures on Church Scriptures*, and *Theology of the Puritans* (1851)

Woods, Robert Archey, 1865–1925, American social worker, b Pittsburgh, grad Amherst, 1886 After six months at Toynbee Hall, London, in 1890 he helped found (1891) the South End House, Boston, of which he was head until his death He lectured on social ethics at the Episcopal Theological School, Cambridge, Mass (1896–1914), was president of the Boston Social Union (1908–25), and materially aided in the development of the National Federation of Social Settlements, of which he was secretary from 1911 to 1923 and president for the two succeeding years He served as trustee of Amherst College from 1910 to 1920 He wrote *English Social Movements* (1891) and *The Neighborhood in Nation Building* (1922) See biography by Eleanor H Woods (1929)

Woodsboro, city (pop 1,420), S Texas, near Refugio NNE of Corpus Christi, inc 1928 The farming and ranching area has some oil and gas

Woodsfield, village (pop 2,442), co seat of Monroe co., SE Ohio, NE of Marietta, settled 1815, inc 1834

Woods Hole (wo͝odz" hōl'), village (pop 549) in Falmouth town, SE Mass, at the southwestern extremity of Cape Cod A U S fish and wildlife station is here and includes laboratories, hatcheries, and an aquarium Woods Hole is the site also of an important marine biological institute and of the Oceanographic Institution (1930, endowed by the Rockefeller Foundation), which maintains the research ship *Atlantis*

wood sorrel see OXALIS

Woodstock. 1 Town (pop 3,593), W N B, on the St John and W NW of Fredericton, in a lumbering, dairy, and fruitgrowing region Lead, copper, and zinc are mined here, and there are plants making furniture and farm machinery It is the seat of the provincial agricultural college **2** City (pop 12,461), S Ont, WSW of Toronto It is an industrial center, manufacturing pianos, organs, furniture, hardware, tools, and textiles, and has lumber and feed mills It is the seat of St Alphonsus Seminary (theological) The surrounding country has mixed farming and stock raising

Woodstock, municipal borough (1931 pop 1,484, 1943 estimated pop 1,955), Oxfordshire, England, on the Glyme river and NW of Oxford Woodstock is the site of a castle in which the Black Prince was born and in which Queen Mary imprisoned her sister, Princess Elizabeth It is the reputed site of the dwelling built for "Fair Rosamond" by Henry II and is the scene of Scott's novel Woodstock BLENHEIM PARK is near by

Woodstock. 1 Town (pop 1,912), NE Conn, at the Mass line, settled 1686, inc 1690 **2** City (pop 6,123), co. seat of McHenry co, NE Ill, NW of Chicago, inc 1852. It manufactures automobile parts and typewriters The Todd School for boys, founded in 1848, is here **3** Town (pop 1,983), SE N.Y., in the foothills of the Catskills NW of Kingston It is an artists' colony (founded 1902) in a summer resort region The Art Students League has a summer school here **4** Town (pop. 2,512) co. seat of Windsor co, E Vt, winter and summer resort on the Ottauquechee and W of White River Junction, chartered 1761, settled shortly after. There are many fine old homes and a famous village green Hiram Powers, George P. Marsh, and John Cotton Dana were born in the town. See Harold S Dana, *History of Woodstock* (1921). **5** Town (pop. 1,546), N Va., SW of Winchester in the Shenandoah Valley, settled 1752, inc. 1872. It is a farm trade center with processing plants. The courthouse of Shenandoah co. here dates from 1791.

Near the town is an observation tower on top of Massanutten Mt., from which the famous seven horseshoe bends of the Shenandoah river may be viewed.

Woodstown, borough (pop. 2,027), SW N J , SW of Camden; inc. 1882. It is a farm trade center Woodstown was settled before 1725 by Friends, and there is an 18th-century meetinghouse.

Woodsworth, James Shaver, 1874–1942, Canadian clergyman, politician, and reformer, b near Toronto, grad. Manitoba Univ (B.A., 1896) and Victoria Univ (B D , 1900) While serving in the ministry of the Methodist Church, in which he was ordained in 1896, he became interested in social welfare work He was secretary (1913–16) of the Canadian Welfare League and director (1916–17) of the Bureau of Social Research for the governments of Manitoba, Saskatchewan, and Alberta. In 1918 he resigned from the ministry and became a longshoreman in Vancouver In the Winnipeg strike of 1919, he was arrested on a charge of sedition, later withdrawn Supported by the Independent Labour party, he entered the Canadian House of Commons in 1921 He is generally regarded as the founder of the Co-operative Commonwealth Federation (1932), of that new Canadian party, he became chairman of the national council and parliamentary leader until he retired (1940) from the House of Commons. See biography by Olive Ziegler (1934)

Woodville, Elizabeth, c 1437–1492, queen consort of Edward IV of England She was the daughter of Richard Woodville (later Earl Rivers) Her first husband, Sir John Grey, was killed at the second battle of St Albans (1461) in the Wars of the Roses By him she was the mother of Thomas Grey, marquis of Dorset, one of whose descendants was the ill-fated Lady Jane Grey In 1464 Elizabeth was secretly married to Edward IV despite other plans for the king by the powerful Richard Neville, earl of Warwick Her father was made earl, and members of his family were raised to positions of power Warwick, deeply angered, regained power by a popular rising he directed in 1469 and had Earl Rivers beheaded Edward, however, did not trust Warwick, and the earl allied himself with the Lancastrians, headed by Margaret of Anjou Warwick and his party drove (1470) Edward from England and restored the imbecile Henry VI Elizabeth took sanctuary in Westminster until her husband recaptured his throne in 1471 At the death of Edward IV (1483) Elizabeth and the Woodvilles claimed the throne for her son, the young Edward V The strong faction headed by Richard, duke of Gloucester, defeated the Woodvilles Elizabeth again took sanctuary in Westminster, and her sons Edward V and Richard were surrendered to Richard of Gloucester He, after a brief period as protector to Edward V, put both boys in the tower, usurped the throne as Richard III, had the "princes in the tower" killed, and declared void (1484) Elizabeth's marriage to Edward IV The daughter of Edward IV and Elizabeth, however, who was also Elizabeth, became queen by her marriage to Henry VII in 1486

Woodville 1 Town (pop 1,433), co seat of Wilkinson co , extreme SW Miss , near the La line SSE of Natchez, inc 1811 **2** Village (pop 1,219), N Ohio, SE of Toledo, founded c 1836 Limestone deposits here are used extensively for its lime factories **3** Town (pop 1,521), co seat of Tyler co , E Texas, N of Beaumont, in a pine-woods region, settled c 1847, inc 1929

Woodward, Robert Simpson (wo͝od'wûrd), 1849–1924, American scientist and educator, b Rochester, Mich , grad Univ of Michigan (C E , 1872) He served the U S Geological Survey (1884–90) and other government surveys, was professor (1893–1905) at Columbia Univ and dean (1895–1905) of its Faculty of Pure Science, and was president (1905–20) of Carnegie Institution His investigations covered numerous problems in mechanics, astronomy, and geodesy He devised an accurate and inexpensive method of determining the base line in triangulation He wrote *Smithsonian Geographical Tables* (1893, 3d ed , 1929) and *Probability and Theory of Errors* (1906)

Woodward, city (pop 5,406), co seat of Woodward co , NW Okla , on the North Canadian river, settled 1893 It is a market for livestock, agricultural and dairy products, and has several small industries and a U S agricultural experiment station. A state park is near by

wood wind instrument see WIND INSTRUMENT

woodwork: see CABINETMAKING, CARPENTRY, CARVING; FURNITURE, VENEER; WOOD CARVING

Woodworth, Samuel, 1784–1842, American poet, playwright, and journalist, b Scituate, Mass He edited (1823–24) the *New-York Mirror* and wrote "The Old Oaken Bucket" His play *The Forest Rose* (1825) was one of the longest-lived American plays before the Civil War and had a famous Yankee character, Jonathan Ploughboy.

woof: see WEAVING

Wool, John Ellis, 1784–1869, American general, b Newburgh, N.Y He became a captain in the War of 1812 and distinguished himself at Queenstown and Plattsburg. By 1841 he had risen to a brigadier generalcy, and for his services in the Mexican War under Gen. Zachary Taylor, particularly at Buena Vista, he was brevetted major general At the beginning of the Civil War, Wool held Fort Monroe for the Union He was promoted major general in 1862 and retired in 1863.

wool, fiber from the fleece of the domestic sheep, after cotton the most important It consists of the cortex, overlapping scales (sharper and more protruding than those of hair) which may expand at their free edges causing fibers to intermesh (see felt), elasticum, the inner layer, and a core When soaked, the elasticum and core contract, shrinking the fiber. Elasticity resulting from the molecular structure of wool and resiliency from its crimp make wool fabrics crease resistant Fine wool will stretch one third its length Wool is warm because its fibers are nonconductors of heat and its crimp permits it to enmesh still air It is highly absorbent and releases moisture slowly Its tensile strength is one fourth greater than that of cotton A protein compound of complex chemical composition, it is soluble in hot caustic soda. No known wild animals are wool bearing The supposed ancestors of the domestic sheep had long hair and a soft, downy undercoat, which under domestication gradually became wool, while the long hair disappeared In this development, breeding, feed, climate, and protection were influential, as shown by an atavistic return of neglected sheep to long hair and rudimentary wool Wool was probably the first fiber to be woven into a textile, as herding flocks was the first step upward from savagery In tombs and ruins of Egypt, Nineveh, and Babylon, in lake dwellers' huts and the barrows of early Britons, among the relics of the Peruvians, fragments of woolen fabrics are found The Romans as early as 200 B C began to improve their flocks, which became the progenitors of the famed Spanish Merino sheep The Britons kept sheep and wove wool long before the Roman invasion, but the establishment by the Romans of a factory at Winchester probably improved their methods William the Conqueror brought into England skilled Flemish weavers Henry II encouraged wool industries by laws, cloth fairs, and guilds of weavers Edward III brought weavers, dyers, and fullers from Flanders England became the great wool-producing country of Europe Wool was the staple of its industry until cotton began to overshadow it in the 18th cent In the American colonies sheep raising started in Jamestown Stringent English laws against exporting wool, in the attempt to force upon the colonies the use of English cloth, early drove the settlers to the raising of sheep George Washington imported sheep and brought spinners and weavers from England Early in the 19th cent imported Merinos greatly improved the existing stock Spinning and weaving were early established in New England, at first in the homes, later in small factories The first factory in America using water power to weave wool was established (1788) at Hartford, Conn , and was encouraged by tax exemption and a bounty on each yard woven The United States now produces about 10 percent of the world supply of wool, chiefly in Texas, Montana, Wyoming, Utah, Oregon, Idaho, New Mexico, Colorado, California, and Ohio New England is a center of cloth manufacture, New York and Pennsylvania, of carpet and rug production, largely from wool imported from Asia, the American being too fine and soft Other important wool producers include Australia, Argentina, New Zealand, the USSR, South Africa, Uruguay, Great Britain, China, and India Wool is classed as fine, usually short-staple wool of Merino fineness and including Delaine, combable fibers 2 in or more in length, medium, or mutton, 2½ to 6 in long, e g , Cheviot and Southdown, long, 10 to 15 in , loosely crimped, e g , the Lincoln and Cotswold, and carpet, 1 to 15 in long, strong, coarse, and usually blended for uniformity For industrial purposes the fiber of the camel, Angora goat (see mohair), Cashmere goat, llama, alpaca, and vicuña is classed as wool Sheep are sheared with mechanical clippers The fleece is classed as lamb's wool, or first clip, hog wool, clipped from sheep 12 to 14 months old, wether wool, from older animals, taglocks, the ragged, discolored portion, and pulled wool, usually weakened when recovered by sweating or chemical processes from sheep slaughtered for mutton The wool is sorted as to fineness, crimp, length of fiber, and felting qualities Dirt, suint, and lanolin are removed by a soap-alkali scouring; by the expensive naphtha solvent method, which retains the full strength and softness of the fiber, or by freezing and shaking Wool may be carbonized to remove vegetable matter It is bleached and dyed as raw stock, yarn, or in the piece, is oiled to withstand processing, and is often blended Woolen goods are woven from carded short-staple fibers into soft yarns adapted to fulling and napping Worsted fabrics such as whipcord, gabardine, and serge have a hard, smooth texture Originally made only from long-staple fibers, worsted yarn is now spun also from medium or short fibers The fibers are carded, the resulting sliver gilled to straighten the fibers and double them for uniformity, subjected to successive combings to remove nails (short ends) and lay the fibers parallel; then drawn into roving and spun, usually by the rapid, continuous ring method, and twisted The same weaves may be used as for woolens although the twill weave is usual, but the pattern is not obscured by the napping, fulling, and shearing processes commonly employed in finishing woolens In the United States, by the Wool Products Labeling Act of 1939, the term *wool* may be applied only to fabrics made entirely of new wool, the term *reprocessed wool,* to wool recovered from unused articles and waste, *reused wool,* to wool reclaimed from used articles The trade designates fleece wool as virgin wool, salvaged wool, as shoddy Salvaged wool may legitimately be used to add strength to soft new wool or to produce a cheaper product Spun rayon and the synthetic casein product, Aralac, are used for imitations of wool and for blending See M S Woolman and E A B McGowan, *Textiles* (3d ed , 1943), M D Potter, *Fiber to Fabric* (1945), Werner Von Bergen and H R Mauersberger, *American Wool Handbook* (2d ed , 1948)

Woolf, Virginia (Stephen), 1882–1941, English novelist and essayist, b London, daughter of Sir Leslie Stephen In 1912 she married Leonard Woolf, a critic and writer on economics, with whom she set up the Hogarth Press in 1917 As a novelist she can be described as an impressionist Her early books, *The Voyage Out* (1915) and *Night and Day* (1919), were traditional in method, but she used the stream-of-consciousness technique masterfully in *Jacob's Room* (1922), *Mrs Dalloway* (1925), *To the Lighthouse* (1927), and *The Waves* (1931) Other experimental novels are *Orlando* (1928), *The Years* (1937), and *Between the Acts* (1941) She was a discerning critic, and some of the best essays of the period are in her *Common Reader* (1925), *The Second Common Reader* (1933), *The Death of the Moth and Other Essays* (1942), and *The Moment and Other Essays* (1948) The essays in *A Room of One's Own* (1929) and *Three Guineas* (1938) are concerned with the need of women for independence and opportunity for creative work Her biography of Roger Fry (1940) is a careful study of a friend Some of her short stories from *Monday or Tuesday* (1921) reappear with others in *A Haunted House* (1944) She drowned herself because she feared a mental breakdown All her posthumously published works are edited by her husband See studies by Winifred Holtby (1932), E M Forster (1942), David Daiches (1942), Joan Bennett (1945), Deborah Newton (1946), and Bernard Blackstone (1949)

Woollcott, Alexander (wo͝ol'kut), 1887–1943, American author, b Phalanx, near Red Bank, N J , grad Hamilton College, 1909 One of the best-known literary and dramatic critics of his time, he exerted great influence on popular literary taste as the "Town Crier" (1929–40) in a weekly radio broadcast He was the model for *The Man Who Came to Dinner,* a play by Kaufman and Hart, in which he himself acted on the West Coast His works include *While Rome Burns* (1934) and *Long, Long Ago* (1943) His letters were published in 1944 See biography by S H Adams (1945)

Woollett, William (wo͝o'lĭt), 1735–85, English line engraver He is best known for his faithful reproductions of the paintings of Richard Wilson, Benjamin West, and Claude Lorrain His *Death of General Wolfe,* after West, is famous Woollett combined etching and dry point with engraving

Woolley, Mary Emma, 1863–1947, American educator, b South Norwalk, Conn , grad Brown, 1894 She was from 1886 to 1891 instructor at Wheaton Seminary From 1895 to 1900 she taught biblical history and literature at Wellesley College, and from 1901 to her retirement in 1937 was president of Mt Holyoke College She was active also in the cause of foreign missions and of world peace and was appointed in 1931 a delegate to the Disarmament Conference that met in Geneva in 1932 She wrote several historical monographs, including *Early History of the Colonial Post Office* (1894), and magazine articles on current affairs

Woolman, John, 1720–72, American Quaker leader, b near Mt Holly, N J In early life a tailor and shopkeeper, Woolman was recorded a minister (1743) by the Burlington, N J , Meeting Thereafter he made many journeys throughout the colonies, preaching and teaching He died at York on a visit to England An ardent humanitarian, he was always keenly aware of social injustice, his was one of the first voices raised against Negro slavery His writing, like his life, is informed with a simple and beautiful devotion Among his published works are *Some Considerations on the Keeping of Negroes* (1754, 1762), *Considerations on the True Harmony of Mankind* (1770), and *A Plea for the Poor* (1770) Woolman is best remembered, however, by his immortal journal (1774, ed by J G Whittier, 1871, and Amelia M Gummere, 1922) See Janet Whitney, *John Woolman, American Quaker* (1942)

Woolner, Thomas (wo͝ol'nûr), 1825–92, English Pre-Raphaelite sculptor and poet He is best known for his faithful portrait statues, busts, and medallions of famous contemporaries, among them Darwin,

Huxley, John Stuart Mill, Newman, Carlyle, Dickens, and Captain Cook He also produced numerous imaginative works His poem "My Beautiful Lady" appeared (1850) in the Pre-Raphaelite magazine, the *Germ* Several volumes of his poems were later published

Woolsey, Sarah Chauncey: see COOLIDGE, SUSAN.

Woolson, Constance Fenimore, 1840–94, American writer, b Claremont, N H , grandniece of James Fenimore Cooper She grew up in Cleveland, Ohio, and wrote notable short stories about that region and about Mackinac, where she spent her summers, in *Castle Nowhere* (1875), the early part of her best-known novel, *Anne* (1882), is laid at Mackinac She lived later in the South in South Carolina, which is the setting of *Rodman the Keeper* (1880), short stories, in North Carolina, where the novel *For the Mayor* (1883) is laid, and in Florda, which she used in *East Angels* (1886) and *Jupiter Lights* (1889), both novels Her later years were spent in England and Italy See her works and letters published by Clare Benedict as *Five Generations* (1929–32), critical biography by J D Kern (1934)

Woolwich (wo͝ol'ĭj, -ĭch), metropolitan borough (1931 pop 146,881, 1948 estimated pop 142,800) of SE London, England, on the Thames just E of Greenwich It is the site of the Royal Military Academy (founded 1741), the Royal Arsenal, and related institutions There are extensive barracks and warehouses and a great hospital The docks were closed in 1869, but are used for military stores The Rotunda has a museum of implements of warfare and models of fortifications, including Gibraltar The district suffered considerable air-raid damage in 1940

Woolwich (wo͝ol'wĭch"), town (pop 1,144), S Maine, on the Kennebec opposite Bath, inc 1759 It was first settled in 1638 but was destroyed in the Indian wars Resettlement was made in 1734

Woolworth, Frank Winfield, 1852–1919, American merchant, b Jefferson co , N Y He established in 1879 a five-cent store at Utica, N Y , which failed, and the same year he started a successful five-and-ten-cent store at Lancaster, Pa Woolworth opened many others and soon extended business throughout the United States and to several foreign countries In 1911 the F W Woolworth Company was incorporated with ownership of over 1,000 "five-and-tens," and Woolworth became director of various financial firms He had the Woolworth Building erected in New York city in 1913, then the highest building in the world (792 ft 1 in) See J K Winkler, *Five and Ten* (1940)

Woonsocket (wo͞onsŏ'kĭt, wo͞on-) **1** Textile city (pop 49,303), N R I , on both sides of the Blackstone river, set off from Cumberland 1867, made a city 1888 The site was occupied before 1675 The people are predominantly of French Canadian descent **2** City (pop 1,050), co seat of Sanborn co , SE S Dak , S of Huron, in a grain, dairy, and livestock area, settled 1883, inc 1888

Wooster, David (wo͝os'tur), 1711–77, patriot general in the American Revolution, b Fairfield co , Conn , grad Yale, 1738 He was a captain of Connecticut troops in the expedition (1745) against Louisburg, and later the same year he commanded a British cartel-ship headed for France He returned to America as an officer in the British army and served as brigadier general in the last of the French and Indian Wars Wooster resigned from the British army upon the outbreak of the American Revolution, was one of the promoters of the Ticonderoga expedition (1775), and was one of the eight brigadier generals of the Continental army He led Connecticut troops in the Quebec campaign After the death of Richard MONTGOMERY, Wooster was put in command (1776) of American forces at Quebec but was soon recalled by the Continental Congress because of his ineptitude In 1776 he was placed in command of the Connecticut militia, and he was mortally wounded in battle near Danbury, Conn , against the raiders of William Tryon

Wooster (wo͝os'tur), city (pop 11,543), co seat of Wayne co , N central Ohio, SW of Akron, settled 1807, inc 1817 In a dairy, livestock, and farm area, it has varied manufactures, including fire-fighting equipment The annual Wayne County Fair is held here Near by is the Ohio agricultural experiment station The **College of Wooster** (Presbyterian, coeducational), called a university until 1914, was chartered in 1866 and opened in 1870 It had a pioneer medical school (now at Western Reserve Univ) There are excellent facilities for scientific work

Worcester, Charles Somerset, 1st **earl of** (wo͝os'tur), c.1460–1526, English nobleman. An illegitimate son of Henry Beaufort, 3d duke of Somerset, he rose rapidly in the service of Henry VII He was admiral of a fleet in 1488, was sent on embassies to France in 1498 and 1502, and in 1506 was created Baron Herbert of Ragland He became lord chamberlain under Henry VIII and in 1514 was created earl of Worcester In 1525 he took part in arranging the treaty between France and England after the battle of Pavia

Worcester, Dean Conant, 1866–1924, American zoologist, b Thetford, Vt , grad Univ of Michigan, 1889. He went on two scientific expeditions (1887–88, 1890–93) to the Philippines and taught (1893–99) at the Univ of Michigan From 1899 till 1901 he served as a member of the U S Philippine Commission, and subsequently (1901–13) as secretary of the interior of the Philippine government His writings include *The Philippine Islands and Their People* (1898) and *The Philippines, Past and Present* (1913, rev ed , 1930)

Worcester, Edward Somerset, 6th **earl and** 2nd **marquess of,** 1601–67, English soldier and inventor Known as Lord Herbert after 1628, he received the title earl of Glamorgan in 1644 and succeeded as 2d marquess of Worcester in 1646 Charles commissioned him in 1640 to levy forces against the Scots and in 1644 made him a general of the armies and admiral of a fleet Glamorgan, himself a Catholic, exceeded his instructions when he signed (1645) on Charles's behalf a treaty with the Irish Roman Catholics which would have given them freedom of worship Thus treaty proved so offensive to the Protestant royalists that Charles repudiated it Worcester was imprisoned briefly in 1646, was banished by the House of Commons (1648–52), and was reimprisoned for two years on his return Most of his estates were returned to him at the Restoration He was interested in mechanical experiments, which he described in a long treatise A steam engine which he invented proved impractical See Henry Dircks, *Life, Times, and Scientific Labours of the 2nd Marquess of Worcester* (1865)

Worcester, Elwood, 1862?–1940, American Episcopal clergyman, b Massillon, Ohio, grad Columbia, 1886, Ph D Univ of Leipzig, 1889 He was professor of philosophy and psychology and chaplain at Lehigh Univ (1890–96) and rector of St Stephen's Church, Philadelphia (1896–1904), and of Emmanuel Church, Boston (1904–29) In Boston he initiated the Emmanuel movement, which was an attempt to combine faith healing and psychotherapy with medicine Samuel McComb was associated with him in the movement Worcester's books include *Religion and Medicine* (with McComb and I H Coriat, 1908), *The Christian Religion as a Healing Power* (1909), and *Body, Mind, and Spirit* (1931), both written with McComb *Life's Adventure* (1932) is Worcester's autobiography

Worcester, Henry Somerset, 3d **marquess of,** 1629–1700, English nobleman He was known by the family name of Herbert during the Protectorate, which he was friendly with Oliver Cromwell After Cromwell's death he demanded a free Parliament and welcomed the restoration of Charles II Thereafter he received many honors and was created duke of Beaufort (1682) In command at Bristol, he prevented James, duke of MONMOUTH, from attacking the city, but surrendered possession to William of Orange, after whose accession as William III, Worcester retired to his estate of Badminton

Worcester, John Tiptoft, earl of, c 1427–1470, constable of England, a Yorkist party leader in the Wars of the ROSES He studied at University College, Oxford, and was created earl of Worcester in 1449 Under Richard, duke of YORK, he was appointed treasurer of the exchequer (1452) and lord deputy of Ireland (1456–57) From 1457 to 1461 he was abroad on a tour which included an embassy to the pope and a trip to the Holy Land Most of the time was spent in Italy at Padua and Florence, and he was one of the first Englishmen familiar with the learning of the Italian Renaissance He returned to become constable of England (1462) under EDWARD IV In 1463 he was commissioned to prevent the escape of Margaret of Anjou by keeping guard at sea, but his naval operations were entirely unsuccessful As constable he tried and sentenced to death Sir Ralph Grey and many others of the Lancastrian party in 1464 He again became lord deputy of Ireland (1467) and had the earl of Desmond executed—and, it is claimed, his two sons as well He was again appointed constable in March, 1470 When Edward fled England in October and Henry VI was restored, Worcester fled He was captured, condemned by John de Vere, earl of Oxford (whose father and brother Worcester had sentenced to death in 1462), and executed Hated by the Lancastrians, he was called "the butcher of England" His translation of Cicero's *De amicitia* was printed by Caxton in 1481. See biography by R J Mitchell (1938)

Worcester, Joseph Emerson, 1784–1865, American lexicographer, b Bedford, N H , grad Yale, 1811 His early work included gazetteers and a book on geography, but he is remembered for his *Comprehensive Pronouncing and Explanatory Dictionary of the English Language* (1830) and its final revision, *A Dictionary of the English Language* (1860) Conservative and British in standards of pronunciation, he opposed the American interpretations of Noah Webster, and his dictionary was a successful rival to Webster's until late in the 19th cent.

Worcester, Noah, 1758–1837, American Congregational clergyman, b Hollis, N H He was pastor (1787–1810) at Thornton, N H , from 1813 to 1818 he was the first editor of the *Christian Disciple*, a Unitarian periodical He is, however, best remembered for his work in behalf of peace. His *Solemn Review of the Custom of War* (1814), under the pseudonym Philo Pacificus, had world-wide circulation and led to the establishment of peace societies. Worcester was secretary of the Massachusetts Peace Society (founded 1815), and he founded and edited (1819–28) a magazine, *The Friend of Peace.*

Worcester, Thomas Percy, earl of, c.1344–1403, English soldier. He served with considerable success in the wars with France and Spain, especially as admiral of the fleet of the north, a position to which he was appointed by Richard II in 1378 He served several times as diplomat, accompanying Geoffrey Chaucer to Flanders in 1376 and heading the English embassy to France to treat for peace in 1392 He apparently assented to Richard's tyrannies in 1397 and was created earl of Worcester in that year However, in the quarrel (1398) of his brother, Henry Percy, 1st earl of NORTHUMBERLAND, and his nephew, Henry Percy called Hotspur, with Richard II, he was probably drawn to sympathize with his kinsmen He accompanied Richard to Ireland in 1399 as admiral but upon their return to England joined his kinsmen and Henry of Lancaster HENRY IV at his accession confirmed Worcester's past privileges and made him admiral In 1401 he became seneschal after resigning as admiral, and in 1402 he was made lieutenant of South Wales and tutor to the prince of Wales, he resigned the following year In July, 1403, he surprised the king and nation by joining his brother and nephew in open revolt against the crown Captured in the subsequent battle of Shrewsbury, Worcester was beheaded

Worcester, county, England see WORCESTERSHIRE

Worcester (wo͝os'tur), county borough (1931 pop 50,546, 1947 estimated pop 61,350) and city, seat of Worcestershire, England, on the east bank of the Severn The site was occupied in ancient British and in Roman times and became the seat of a bishopric probably in 679 St Wulfstan (d 1095) built the cathedral in the 11th cent , the present building, wherein are held, alternately with Hereford and Gloucester, the Festivals of the Three Choirs, is chiefly 14th cent , with a Norman crypt and tombs There are several old parish churches and timbered houses, the Commandery was a hospital in the 11th cent The last city to yield to Parliament in 1646, Worcester was the scene of Cromwell's final victory and the complete rout of Charles II and the Scots, Sept 3, 1651 (the battle of Worcester) The making of porcelain, gloves, and sauce are long-established industries, to which metal goods and machines have been added

Worcester, town (pop 18,963), W Cape Prov , Union of South Africa It is connected by rail with Cape Town and has light industries

Worcester, city (pop 193,694), a co seat of Worcester co , central Mass , on the Blackstone river First settled in 1668, it was attacked by Indians, permanent settlement was made in 1713 Worcester was made a city in 1848 In Shays's Rebellion the courthouse was besieged (1786) by insurgents The canalization of the Blackstone (1828) marked the beginning of Worcester's rapid industrial development Its products include machinery, steel, electrical supplies, paper, textiles, and abrasives The city is a port of entry It is the seat of CLARK UNIVERSITY, Worcester Polytechnic Institute (for men, 1865), College of the Holy Cross (Jesuit, for men, 1843), and a state teachers college There are a fine arts museum and museums of history and of natural history At Memorial Auditorium is held the annual music festival inaugurated in 1858 Edward Everett Hale was a pastor here, 1842 56, Clara Barton was born near by Lake Quinsigamond is in the vicinity See Albert Farnsworth and G B O'Flynn, *Story of Worcester, Massachusetts* (1934)

Worcester College: see OXFORD UNIVERSITY

Worcestershire (wo͝os'tursher, -shur) or **Worcester,** county (700 sq mi , 1948 estimated pop 512,100), W central England The county town is Worcester One of the smaller English counties, Worcestershire is largely hilly country The Malvern, Cotswold, Clent, and Lickey hills, partially or entirely within the county, are the most important ranges The area is watered by the Severn and by the Avon, the valley of the Avon is known as the Vale of Evesham The county is famous for its orchards and affords much pasturage for sheep It became an administrative unit in 1041 after the recovery of Mercia from the Danes and was important in the Middle Ages as a monastic center The northern part of the county, rich in iron and coal deposits, verges into the industrial Midlands area known as the Black Country The growth of the steel and iron industry, in such towns as Dudley, has brought a considerable increase in population of recent years See *Victoria History of Worcestershire* (4 vols , 1901–24), Arthur Mee, *Worcestershire* (1938)

Worcester ware began to be manufactured in 1752, when the Lowdin pottery was moved from Bristol to Worcester Soft paste was employed, and tea services, vases, armorial mugs, and portrait plaques with underglaze decoration became popular Modeled and painted floral and medallion motives, Chinese landscapes, and the transfer print in blue,

black, or purple were modes of ornamenting early Worcester ware. A more florid treatment, with grounds of color (especially blue) and gilt as foils for birds of brilliant plumage, was effected in 1768 by artists formerly at Chelsea factories, after 1783 deterioration in design was noticeable

Worde, Wynkyn de: see WYNKYN DE WORDE.

Worden, John Lorimer (wûr'dun), 1818-97, American naval officer, b Westchester co , N Y He was appointed a midshipman in 1834 and saw extensive duty both afloat and ashore before the Civil War In April, 1861, after delivering secret orders to the squadron at Pensacola, Worden was captured by the Confederates and held prisoner for seven months Shortly after his exchange, he assumed command of the new ironclad *Monitor* In the famous battle of MONITOR AND MERRIMAC, Worden was wounded in the face and temporarily blinded While commanding the *Montauk* of the South Atlantic Blockading Squadron (1862–63), he further distinguished himself (Jan –Feb 1863) in operations about Fort McAllister, Savannah. Later Worden, promoted rear admiral in 1872, was (1869–74) superintendent of Annapolis and commanded (1875–77) the European squadron

Worden (wôr'dŭn), village (pop 1,264), SW Ill , E of Alton, inc 1877

Wordsworth, Christopher, 1774-1846, English clergyman, educator, and writer, youngest brother of the poet William Wordsworth He was master of Trinity College, Cambridge, from 1820 to 1841 Most noted of his books is *Ecclesiastical Biography* (6 vols , 1810) His second son, **Charles Wordsworth,** 1806–92, became a prelate in Scotland From 1847 to 1854 he was warden of Trinity College, Glenalmond, Perthshire In 1853 he was consecrated bishop of St Andrews, Dunkeld, and Dunblane He was deeply interested in reuniting the churches of England and Scotland His many books include *Shakespeare's Knowledge and Use of the Bible* (1864) See his *Annals of My Early Life, 1806–40* (1891) and *Annals of My Life, 1847–56* (ed by W E Hodgson, 1893) **Christopher Wordsworth,** 1807–85, English prelate and scholar, was the youngest son of Christopher Wordsworth Ordained a priest in 1835, he was headmaster (1836–44) of Harrow and thereafter canon and then archdeacon of Westminster until in 1869 he was consecrated bishop of Lincoln He wrote *Athens and Attica* (1836) and other works of classical scholarship, but he is most noted for his editing of the whole Bible, with commentaries– the New Testament (1856–60) and the Old Testament (1864-70) See biography by J H Overton and Elizabeth Wordsworth (1888)

Wordsworth, William, 1770-1850, English poet, b. Cockermouth In 1791 he graduated from Cambridge and traveled abroad While in France he fell in love with Annette Vallon, who bore him a child The events of the French Revolution strongly influenced him, and Wordsworth returned to England (1792) imbued with the principles of Rousseau and republicanism In 1793 were published *An Evening Walk* and *Descriptive Sketches*, poems written in the 18th-century manner The outbreak of the Reign of Terror prevented his return to France, and after receiving several small legacies, he settled with his sister Dorothy in Dorsetshire There he became the intimate friend of Samuel Taylor Coleridge and, probably under his influence, a student of David Hartley's empiricist philosophy Together the two poets wrote *Lyrical Ballads* (1798), a famous effort to use "a selection from the real language of men" in poetry, it included Wordsworth's poem "Tintern Abbey" In 1799 he and his sister moved to the Lake District of England, where they lived the remainder of their lives A second edition of the *Lyrical Ballads* (1800), which included a critical essay outlining Wordsworth's poetical principles, was unmercifully attacked by critics In 1802 he married Mary Hutchinson His long autobiographical poem *The Prelude* was completed in 1805, though it was not published until after his death His *Poems in Two Volumes* (1807) included the "Ode to Duty," the "Ode Intimations of Immortality," and a number of famous sonnets The tragic "White Doe of Rylstone" appeared the same year Thereafter Wordsworth's creative powers diminished and he turned for inspiration to classical models, some notable poems, however, were produced after this date, including *The Excursion* (1814), "Laodamia" (1815), *Memorials of a Tour of the Continent, 1820* (1822), "Yarrow Revisited" (1834), and others. In 1842 he was given a civil list pension, and the following year, having long since put aside radical sympathies, he succeeded his friend Robert Southey as poet laureate. Wordsworth's personality, as well as his poetry, was deeply influenced by his love of nature, especially by the actual sights and scenes of the Lake Country, in which he spent most of his mature life A profoundly earnest and sincere thinker, Wordsworth displayed a high seriousness comparable, at times, to Milton's but tempered with human tenderness and love of simplicity His earlier work shows the poetic beauty of commonplace things and people, as in "Margaret," "Peter Bell," and "The Idiot Boy", his use of the language of ordinary speech was criticised as ridiculous, but it helped to rid English poetry of the more artificial conventions of 18th-century diction Among his other well-known poems are "Lucy" ("She dwelt among the untrodden ways"), "The Solitary Reaper," "Perfect Woman," "Daffodils," "The Rainbow," and the sonnet "The World Is Too Much with Us" Often prolix, prosaic, and lacking dramatic power, Wordsworth's work is raised by its spirit, by its flashes of rich poetic beauty, and by its underlying reality and strength to a position high among the writings of English poets See editions by W A Knight of Wordsworth's poetical works (8 vols , 1882–86, 1896) and prose works (1896) and by Ernest de Selincourt of *The Prelude* (1926), the poems (1940–), and the *Letters of William and Dorothy Wordsworth* (6 vols , 1935 39), biographies by W A Knight (1889), G M Harper (rev ed , 1929), Herbert Read (1930), and G W Myer (1943), letters of the poet's daughter, Dora (ed by H P Vincent, 1940) Wordsworth's sister, **Dorothy Wordsworth,** 1771–1855, devoted and constant companion of her famous brother, is known principally for her poems and her journals, which have proved invaluable for later biographies and studies of the poet These journals, the first of which was started in 1798, are written in delicate, exquisite diction, describing the Wordsworth household, friends, and travels See edition by Ernest de Selincourt (1942) See also her poetry (ed by Hyman Eigerman, 1940), biographies by C M Maclean (1932) and Ernest de Selincourt (1933)

Work, Hubert, 1860–1942, American public official, b Indiana co , Pa After graduating in medicine at the Univ of Pennsylvania in 1885, he practiced in Colorado and founded (1896) a hospital for mental and nervous diseases in Pueblo, Colo He became important in the state Republican party after 1908 and later, after service in the First World War, he became (1920) a member of the Republican National Committee He was First Assistant Postmaster General (1921 22) and Postmaster General (1922–23) Work served (1923–28) as Secretary of the Interior and reorganized the department after Albert FALL was implicated in the Teapot Dome scandal In 1928 he managed Herbert Hoover's successful election campaign

work In physics, the term indicates the mechanical action of some force upon some object in which a resistance such as that caused by friction, gravity, inertia, or the pressure of air or water is overcome When a force is applied through any distance, work is done Motion is one essential factor of work, FORCE is the other Work, the product of the two, is therefore expressed in terms of both distance and force For example (using English-system units), when a 10-pound object is lifted 5 ft , the work done on the object is said to be 50 foot-pounds, or (using metric-system units) when a 60-gram weight is lifted 30 centimeters, the work done is 1,800 gram-centimeters The ability or capacity to do work is defined as ENERGY, and machines are devices so made as to yield a mechanical advantage in operation and to transform one form of energy into another They cannot, however, create energy (since energy can be neither created nor destroyed), nor can they do more work than is put into them In fact, since some work is always done to overcome friction or other resistance and consequently is not shown in the work output of a machine, the work done by a machine (with the possible exception of the lever) is never as great as the work put into it The efficiency of a MACHINE, i e , the ratio between the amount of apparent work done by the machine and the amount put into it, is always less than one The element of time does not enter into the scientific concept of work, for a 10-pound weight can be lifted 5 ft in 5 hr or 5 min and the work done (the product of the force and the distance) still remains the same On the other hand, POWER involves the time element and is the rate at which work is done For example, one HORSEPOWER is the ability to do work at the rate of 33,000 foot-pounds per minute The work done by a machine in operation for a certain time can, therefore, be determined by multiplying its power (if constant) by the time of operation The unit measurements of work include the ERG, the JOULE, the foot-pound and the gram-centimeter, as already described, and the kilogrammeter (a kilogram acting through a distance of one meter) The CALORIE, the BRITISH THERMAL UNIT, and the kilowatt-hour (see WATT) can be converted into work units The relationship between mechanical energy (as measured by work done) and heat is called the mechanical equivalent of heat

workers' education. see VOCATIONAL TRAINING

workhouse· see POOR LAW

Workington, municipal borough (1931 pop 24,751, 1947 estimated pop 28,400), Cumberland, England, at the mouth of the Derwent on Solway Firth NE of Whitehaven It has a good harbor and docks, and coal mines are in the vicinity There are shipbuilding yards, engineering works, steel mills, and tanneries Mary Queen of Scots stopped at Workington Hall on her flight from Langside in 1568. In accordance with an old custom, a sort of street football game, with hundreds of players on each side, is held on Easter Tuesday in Workington.

Workman, Fanny (Bullock), 1850–1925, American mountain climber, b Worcester, Mass With her husband, William Hunter Workman (1847–1937), a retired physician, she made five expeditions to various parts of the Himalayas between 1899 and 1912 They explored and mapped a number of glaciers and achieved several first ascents of more than 20,000 ft In 1906 she scaled one of the Nun Kun peaks in Kashmir, thus reaching a height of 23,300 ft and establishing the world mountaineering record for women She also took part in many other mountaineering expeditions throughout the world She and her husband collaborated in writing several books, including *Ice-bound Heights of the Mustagh* (1908), *Peaks and Glaciers of Nun Kun* (1909), *The Call of the Snowy Hispar* (1910), and *Two Summers in the Ice Wilds of Eastern Karakoram* (1917)

workmen's compensation. Responsibility for injuries suffered by employees varies in different countries and in different states of the United States The common-law relationship between master and servant has been discarded in most countries In this relationship the employee is assumed to agree to run all ordinary risks of the employment, including those due to the negligence of fellow employees In present-day legislation the only positive duty of the employer is to furnish a reasonably safe place to work, suitable appliances, rules and instructions when they are reasonably necessary, and reasonably competent foremen and superintendents He is liable for his own or employees' acts of negligence, for his own gross negligence, and for extraordinary risks of work He is not liable for accidents occurring outside the place of work, for those which have not arisen directly out of employment, or for those in which blame cannot be fixed To secure compensation, the employee has to prove that the employer has not fulfilled this minimum duty In the United States all states but one have now adopted some means of compensation Some states have increased the employers' liability by provisions which employers have tried to evade by forcing employees to waive the conditions upon being hired But states have forbidden such contracts, imposing in some cases penalties upon those found guilty, and some have passed compulsory compensation laws Private insurance companies offer employers' compensation insurance, some states have made such insurance compulsory, and a few have created state insurance funds to secure payments even when the employer is insolvent Most states similarly provide for public employees, although some limit this coverage to workers engaged in dangerous occupations Federal statutes apply to those engaged in interstate commerce, with some classes of employment excluded (e g , railroad employees, masters and crews on vessels) The English law, enacted in 1897 and supplemented in 1900, 1906, 1923 (a consolidated act was passed in 1925), and 1937, requires the payment of compensation for almost all industrial accidents In France all noninsured employers are taxed for a state fund which guarantees compensation payments Some American states provide for compensation for occupational diseases See W F Dodd, *Administration of Workmen's Compensation* (1936), A T Wilson and Hermann Levy, *Workmen's Compensation* (1939)

Work Projects Administration (WPA), established in 1935 by executive order of President F D Roosevelt as the Works Progress Administration and redesignated in 1939, when it was transferred to the Federal Works Agency Created when unemployment was widespread, the WPA—headed by Harry L HOPKINS until 1938—was designed to increase the purchasing power of persons on relief by employing them on useful projects WPA's building program included the construction of 116,000 buildings, 78,000 bridges, and 651,000 mi of road and improvement of 800 airports Also a part of WPA's diversified activities were the Federal Art Project, the Federal Writers' Project, and the Federal Theatre Project Close to 10,000 drawings, paintings, and sculptured works were produced through WPA, and many public buildings (especially post offices) were decorated with murals The experiments in theatrical productions were highly lauded and introduced fresh ideas Musical performances under the project averaged 4,000 a month The most notable product of writers in WPA was a valuable series of guidebooks WPA also conducted an education program and supervised the activities of the NATIONAL YOUTH ADMINISTRATION WPA employed a total of 8,500,000 persons, and total Federal appropriations for the program amounted to almost $11,000,000,000 There was sharp criticism of the WPA by a Senate committee report in 1939, the same year the WPA appropriation was cut, while several projects were abolished and others were curtailed A strike of thousands of WPA workers in 1939 to prevent a cut in wages on building projects was unsuccessful Steadily increasing employment, much speeded before and during the Second World War, caused further drastic cuts in WPA appropriations and payrolls, and in June, 1943, the agency officially went out of existence.

Worksop (wûrk'sŭp, wûr'sŭp), urban district (1931 pop 26,285; 1947 estimated pop 29,730), Nottinghamshire, England, in the Dukeries district Estates in the vicinity include Worksop Manor, on the site of a mansion, burned in 1761, in which Mary Queen of Scots was imprisoned, Clumber Park, Welbeck Abbey, and Thoresby Park There are remains—a Norman nave, a Lady chapel, and a 14th-century gatehouse—of an Augustinian priory founded in 1103 The town is a coal-mining center and has foundries, chemical works, and glassworks

Works Progress Administration: see WORK PROJECTS ADMINISTRATION

Worland, city (pop. 2,710), co seat of Washakie co, N central Wyo, on the Bighorn river Irrigation farming, livestock raising, and beet-sugar manufacturing are the chief occupations The state industrial school for boys is near

World Bank see INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

World Council of Churches, formally constituted by representatives from 150 Protestant and Orthodox denominational bodies of some 44 countries, assembled at Amsterdam in 1948 The idea of a world fellowship of churches took concrete form in 1937, when two ecumenical conferences—on life and work and on faith and order—elected a joint committee to formulate plans for a world council of churches This provisional committee met at Utrecht in 1938, but it was not until after the Second World War that the constitution of its drafting was formally ratified at the first assembly of the World Council of Churches in 1948 The constitution provides for a permanent organization in which the constituent churches are officially represented, the administrative responsibility being lodged in a central committee of 90 members, elected by the assembly The council, which has no legislative power over its member churches, provides an opportunity for its constituents to act together in matters of common concern, such as the spread of evangelism, interchurch aid and reconstruction, the study of religious and social issues, international affairs, the enlargement of opportunities in church life for women and young people, and the growth of ecumenical consciousness among church members The council maintains an ecumenical institute near its headquarters at Geneva, Switzerland The Conference of U S A Member Churches of the World Council of Churches, in which nearly every major Protestant denomination in the United States participates, held its first meeting in 1949 at Evanston, Ill See bulletins and publications of the World Council of Churches, K S Latourette, *The Emergence of a World Christian Community* (1949)

World Court, popular name of the Permanent Court of International Justice, which sat at The Hague It came to an end in 1945, when its functions were transferred to the newly created INTERNATIONAL COURT OF JUSTICE provided by the Charter of the United Nations The World Court was organized pursuant to Article 14 of the Covenant of the League of Nations The protocol establishing it was ratified by the requisite number of states in 1921, and finally some 50 states adhered The United States never joined the court, because the Senate refused to ratify the protocol without reservations The court was empowered to render judgments in disputes between states which were voluntarily submitted to it and to give advisory opinions in any matter referred to it by the Council or the Assembly of the League Its functions, thus, were judicial rather than purely arbitral and diplomatic, as were those of the older HAGUE TRIBUNAL (the Permanent Court of Arbitration) It was also distinguished from that body by having a permanent group of judges instead of a panel from which judges might be selected to hear a particular dispute The court had originally 11 judges and 4 deputy judges, but in 1931 its composition was changed to 15 regular judges Judges were elected for nine-year terms by the Council and the Assembly concurrently, they were selected from a list of nominees of the Hague Tribunal regardless of nationality, except that not more than one citizen of a country might sit on the bench at any one time There was always an American jurist on the court To assure impartiality, the judges were paid salaries and were forbidden to engage in governmental service or in any legal activity except their judicial work In the course of its existence the court rendered 32 judgments and 27 advisory opinions An important judgment was that which affirmed (1933) Danish sovereignty over the north coast of Greenland and disallowed Norway's claim. The advisory opinions of the court were important in developing international law A notable opinion declared (1931) that the proposed customs union of Germany and Austria would violate Austria's pledge to remain independent The court virtually ceased to function after the German occupation of the Netherlands in 1940 See Manley O Hudson, *The Permanent Court of International Justice, 1920–1942* (rev ed, 1943)

World Health Organization (WHO), agency of the United Nations, established in 1948, with its headquarters at Geneva. WHO admits all sovereign states (including those which do not belong to the United Nations) to full membership and it admits territories that are not self-governing to associate membership It is governed by the World Health Assembly, consisting of the entire membership, which meets at least once a year, and by an executive board elected by the UN Assembly Technical committees and regional organizations have been established to further the purpose of WHO, namely "the attainment by all peoples of the highest level of health" In 1950 there were regional organizations in the E Mediterranean region, in SE Asia, and in the Americas WHO accomplished notable work in checking cholera, malaria, and tuberculosis Studies were made of mental health, of the standardization of health statistics, and of other problems of world-wide scope For a time WHO seemed exempt from the disputes between the USSR and the United States which had caused friction in other branches of the United Nations In 1949, however, the USSR, Belorussia, and the Ukraine resigned on the grounds that WHO was inefficient. In 1950 there were 64 member nations

World's Columbian Exposition, held at Chicago, Ill, May–Nov, 1893, in commemoration of the 400th anniversary of the discovery of America by Christopher Columbus Authorized by Congress (1890), planned and completed by a commission headed by Thomas W Palmer, the grounds along the Lake Michigan shore were dedicated Oct 12, 1892 The exposition, known as the White City, was composed of 150 buildings of Romanesque, Greek, and Renaissance architecture constructed of staff, a material resembling marble Among the architects were McKim, Mead, and White, who designed the Agricultural Building, and Adler and Sullivan, who initiated functional architecture with the Transportation Building Daniel H Burnham supervised the designing and construction, Frederick Law Olmstead, the landscaping The exposition attracted thousands of Americans whose values were influenced by the foreign exhibitions, the architectural style, and the general cultural tone of the panorama

world's fair. see EXPOSITION

world soul, Latin *anima mundi,* in philosophy, a term to denote a universal spirit or soul which functions as an organizing principle While many early Greek philosophers saw the world as of one principle, it was Plato who first stated that this concept held the same relation to the world as the human soul did to the body Schelling used the term as a unifying principle, coordinating the organic and the inorganic in life World soul is prominent in Oriental philosophy Brahma is a world soul as conceived in the *Upanishads* (see VEDANTA), and Hinduism is a religion whose theoretical basis is a world soul

World's View, granite hill, Southern Rhodesia, c 30 mi S of Bulawayo It was designated by Cecil Rhodes as the resting place for those who served Great Britain well in Africa Here are buried Rhodes and Sir Leander Starr Jameson

World War, First, 1914-18 Among the basic causes that led to this largest conflict the world had until then seen, were the imperialistic and economic rivalries set in motion, in the 19th cent, by the territorial and economic expansion of the British, German, and Russian empires The Industrial Revolution and the growth of nationalism in Europe were powerful factors in promoting these rivalries The Franco-Prussian War of 1870–71 had deprived France of Alsace and Lorraine and left it thirsting for revenge It also had unified Germany, where after the dismissal (1890) of Bismarck, Emperor WILLIAM II embarked on colonial and naval policies that clashed with British interests The EASTERN QUESTION, created by the decay of the Ottoman Empire, also brought the opposition between German and Anglo-French interests into focus (as in the matter of the BAGHDAD RAILWAY), and led to nationalistic rivalries in the Balkans, where PAN-SLAVISM, encouraged by Russia, menaced the existence of the multinational AUSTRO-HUNGARIAN MONARCHY The international crises over MOROCCO and over BOSNIA AND HERCEGOVINA, the BALKAN WARS of 1912–13, and many lesser incidents were fateful symptoms of the explosive state of Europe, and they were accompanied by a general armaments race Nevertheless, Europe on the eve of the war was rocked in a false sense of security and permanency Prosperity and material progress seemed insured forever, the existence of national frontiers was hardly noticeable to travelers, at no time in European history since the Roman Empire had economic and cultural interchange met fewer obstacles Two opposing coalitions had emerged in the diplomatic shifts that began in 1879—the TRIPLE ALLIANCE AND TRIPLE ENTENTE—but they seemed evenly balanced, moreover the dynastic and personal ties of the rulers of Europe cut across the alliances and favored peaceful settlements of disputes at the highest level. It may be said that in 1914 no statesman or ruler desired a general conflict, yet many toyed with the idea of limited or local war The spark that set off the powder keg was the assassination (June 28, 1914) of Archduke FRANCIS FERDINAND, heir to the throne of Francis Joseph of Austria-Hungary, at Sarajevo by a Serbian nationalist Weeks passed before Austria-Hungary took a step, during these weeks the Austrian militarist faction, headed by the foreign minister Count BERCHTOLD, had won a victory over the moderates, and on July 23 a nearly unacceptable ultimatum was addressed to Serbia. The Russian foreign minister, SAZONOV, assured Serbia of Russian support The Serbian reply promised compliance with all points of the ultimatum except the infringement on Serbian sovereignty in the provision for the presence of Austro-Hungarian officials on Serbian soil in order to investigate and punish the secret organization allegedly responsible for the archduke's murder Austria-Hungary and its ally, Germany, still believed in the possibility of localizing the conflict, they rejected a European conference proposed by the English foreign minister, Lord GREY OF FALLODON, and on July 28 Austria-Hungary declared war on Serbia Russia ordered partial, then general, mobilization (July 29–30) A German ultimatum to Russia (July 31), demanding cessation of military preparations along the German border, remained unanswered, and on Aug 1 Germany declared war on Russia Convinced that France was about to join Russia in the war, Germany on Aug 3 also declared war on France and invaded Luxembourg and Belgium The uncertain attitude of England had encouraged German hopes for British neutrality, but on Aug 4, as a result of German violation of Belgian neutrality, England declared war on Germany Within the following weeks Montenegro and Japan joined the Allies (i e, England, France, Russia, Belgium, and Serbia), and the Ottoman Empire joined the Central Powers (i e, Germany and Austria-Hungary) The war now was general Whether or not it might have been avoided or localized and which persons or nations were most responsible for its outbreak are questions that have been debated among historians ever since

From the Marne to Verdun The German strategy, planned by SCHLIEFFEN, did not contemplate a two-front war It was, moreover, weakened from the start when forces were detached from the all-important right wing, which was supposed to smash through Belgium, in order to reinforce the left wing in Alsace-Lorraine Nevertheless, the Germans quickly occupied most of BELGIUM and advanced on Paris In Sept, 1914, the first battle of the Marne (see MARNE, BATTLE OF THE) took place For reasons still controversial, a general German retreat was ordered, and the Germans entrenched themselves behind the Aisne river The race for the Channel ports bogged down in the first battle of YPRES (Oct–Nov, 1914), and grueling trench warfare began along the entire Western Front For the next three years the battle line remained virtually stationary It ran, approximately, from Ostend past Armentières, Douai, Saint-Quentin, Rheims, Verdun, and Saint-Mihiel to Lunéville Meanwhile, on the Eastern Front, the Russians under Rennenkampf and Samsonov had invaded East Prussia but were decisively defeated by the Germans under HINDENBURG, LUDENDORFF, and MACKENSEN at TANNENBERG and the MASURIAN LAKES (Aug–Sept, 1914) The Germans advanced on Warsaw, but further south a Russian offensive drove back the Austrians, who lost Przemysl in March, 1915 However, by the autumn of 1915 combined Austro-German efforts had driven the Russians out of most of Poland and were holding a line extending from Riga to Chernovtsy Grand Duke Nicholas was relieved of his supreme command of the Russian forces The Russians counterattacked in 1916 in a powerful drive directed by BRUSILOV, by the year's end, however, the offensive had collapsed and had cost Russia 1,000,000 men Soon afterward the RUSSIAN REVOLUTION eliminated Russia as a useful ally Against Serbia and Montenegro the Austro-Hungarians were unsuccessful for the first year In Oct, 1915, Bulgaria joined the Central Powers, while the Austrians received German reinforcements Invaded on one side by the Austro-German forces under Mackensen and on the other by the Bulgarians, Serbia and Montenegro had fallen by the end of the year Another blow to the Allied cause was the failure of the GALLIPOLI CAMPAIGN (1915) against Turkey The Allies, however, won a diplomatic battle when Italy, after denouncing its partnership in the Triple Alliance and after being promised vast territorial gains, entered the war on the Allied side in May, 1915 Austro-Italian fighting along the Isonzo was inconclusive until late 1917, when the Italian rout at CAPORETTO made Italy a liability rather than an asset to the Allies Except in Africa, where the British were dealing successful blows to the German colonies, the year 1916 opened with a dark outlook for the Allies The stalemate on the Western Front had not been affected in 1915 by the second battle of Ypres, in which the Germans used poison gas for the first time, nor by the French offensive in Artois, in which a slight advance of the French under Pétain was paid for by the loss of 400,000 men, nor by the offensive of JOFFRE in

Champagne, nor by the British advance toward Lens and Loos In Feb., 1916, the Germans tried to break the deadlock by massing a huge assault on VERDUN. The French, rallying with the cry, "They shall not pass!" held fast despite enormous losses, and in July the British and French took the offensive along the Somme, where tanks were used for the first time by the British By November, they had gained a few miles and lost 600,000 men By December, a French counteroffensive at Verdun had restored the approximate positions of Jan., 1916 Yet, despite signs of exhaustion on both sides, the war went on, drawing ever more nations into its maelstrom Portugal and Rumania joined the Allies in 1916, Greece, involved in the war by the Allied SALONICA CAMPAIGNS on its soil, declared war on the Central Powers in 1917

American Intervention and Allied Victory The neutrality of the United States was seriously imperiled in 1915 by the sinking of the LUSITANIA At the end of 1916 the Germans, whose surface fleet had been bottled up since the indecisive battle of Jutland (see JUTLAND, BATTLE OF), announced that it would begin unrestricted SUBMARINE warfare In protest, the United States broke off relations with Germany (Feb, 1917), and on April 6 it entered the war, followed by several Latin American republics The military effect of American participation was at first negligible, but the moral effect was decisive The war on the Western Front continued both stationary and bloody Against Turkey, England scored a major success when T E LAWRENCE stirred the Arabs to revolt Baghdad fell (March, 1917) and ALLENBY took Jerusalem (Dec, 1917) The first troops of the American Expeditionary Force, commanded by General PERSHING, landed in France in June, 1917, but they were not used at the front for several months and did not engage in important action until May, 1918, when they were rushed to the CHATEAU-THIERRY area to help stem a new German offensive A unified Allied command in the West had been created in April, 1918, it was headed by FOCH, but under him the national commanders (HAIG for Britain, ALBERT I for Belgium, and Pershing) retained considerable authority At the same time Admiral Sir Roger KEYES blocked the German fleet at Zeebrugge and Ostend However, the Central Powers had gained new strength through the Treaty of BREST-LITOVSK (March, 1918) with Russia, the resources of the Ukraine seemed at their disposal, thus enabling them to balance to some extent the effects of the Allied blockade, their forces could now be concentrated against the West The critical German counteroffensive, known as the second battle of the Marne, was stopped just short of Paris (July–Aug, 1918) At this point Foch ordered a general counterattack which soon pushed the Germans back to their initial line (the so-called Hindenburg Line) The Allied push continued, with the British advancing in the north and the Americans forging through the Argonne While the Germans were thus losing their last forces, Bulgaria invaded by the Allies under FRANCHET D'ESPEREY, capitulated on Sept 30, and Turkey concluded an armistice on Oct 30 Austria-Hungary, in process of disintegration, surrendered on Nov 4 after the Italian victory at VITTORIO VENETO German resources were exhausted and German morale collapsed President Wilson's FOURTEEN POINTS were accepted by the new German chancellor, MAXIMILIAN, PRINCE OF BADEN, as the basis of peace negotiations, but it was only after revolution had broken out in Germany that the armistice was at last signed (Nov 11) at Compiègne Germany was to evacuate immediately all territory W of the Rhine, and the Treaty of Brest-Litovsk was declared void Thus the war ended without a single truly decisive battle having been fought, and Germany lost the war while its troops were still occupying territory from France to the Crimea Thus paradox became important in later German history, when nationalists and militarists sought to blame the defeat on traitors on the home front rather than on the utter exhaustion of the German war machine and war economy.

Aftermath The First World War and the resulting peace treaties (see VERSAILLES, TREATY OF, SAINT-GERMAIN, TREATY OF, TRIANON, TREATY OF, NEUILLY, TREATY OF, SÈVRES, TREATY OF) radically changed the face of Europe and precipitated political, social, and economic changes which were partially responsible for the Second World War Yet when the war ended, the immense suffering it had caused gave rise to a general revulsion to any kind of war, and a large part of mankind placed its hopes in the newly created LEAGUE OF NATIONS Warfare itself had been revolutionized (see AIR POWER, CHEMICAL WARFARE, MECHANIZED WARFARE) To compute the total losses caused by the war is impossible About 10,000,000 dead and 20,000,000 wounded is a conservative estimate Starvation and epidemics raised the total in the immediate post-war years There is a tremendous amount of general and specialized literature on the First World War. Classic accounts of the background of the war are S B. Fay, *The Origins of the World War* (rev. ed., 1930) and B. E. Schmitt, *The Coming of the War* (1930). Two short guides to the military history are C. J. H Hayes, *Brief History of the Great War* (1920) and B H Liddell Hart, *The Real War* (1930)

World War, Second, 1939–45. The underlying social, economic, and ideological causes of this second global conflict will remain controversial as long as they continue to disturb the stability of the world More direct causes were contained in germ in the peace settlements of 1919–20. Defeated GERMANY, disappointed ITALY, and ambitious JAPAN were anxious to regain or increase their power; all three eventually adopted forms of dictatorship (see NATIONAL SOCIALISM and FASCISM) that made the state supreme and called for expansion at the expense of their neighbors These three self-styled "have not" countries also set themselves up as champions against Communism, thus gaining at least partial tolerance of their doings from the Western democracies, the "haves." The LEAGUE OF NATIONS, weakened from the start by the defection of the United States, was unable to promote disarmament (see DISARMAMENT CONFERENCES), while the long economic depression that swept over the world in the late 1920s sharpened national rivalries, increased fear and distrust, and made the masses susceptible to the promises of demagogues. The failure of the League to stop the Second CHINO-JAPANESE WAR in 1931 was followed by a fateful crescendo of treaty violations and acts of aggression In 1935 Adolf HITLER recreated the German army; in 1936 he remilitarized the Rhineland, in 1935–36 Benito MUSSOLINI conquered ETHIOPIA for Italy, from 1936 to 1939 civil war raged in Spain, where Germany and Italy helped Francisco FRANCO to victory, in March, 1938, Germany annexed Austria, and in Sept, 1938, Great Britain and France topped their "appeasement policy" toward the AXIS (as the combination of Germany, Italy, and Japan was called) by sacrificing CZECHOSLOVAKIA to Germany in the MUNICH PACT When Germany occupied (March, 1939) all Bohemia and Moravia, and when Italy seized (April, 1939) ALBANIA, England and France abandoned "appeasement" and set about creating an "antiaggression" front and speeding rearmament However, they had alienated the USSR by excluding it from the Munich Pact, and they had countenanced the disintegration of the LITTLE ENTENTE and the BALKAN ENTENTE In the summer of 1939 Germany menaced POLAND, which was included in the front, but the Russo-German nonaggression pact of Aug 23 removed German fear of a possible two-front war, and on Sept 1, 1939, Germany invaded Poland, cutting short diplomatic talks England and France declared war on Germany on Sept 3, and shortly all the members of the British Commonwealth, except Ireland, were also at war The fighting in Poland was brief The German *Blitzkrieg* [lightning war], making use of new techniques of air warfare and armored forces, crushed the Polish defenses, and the conquest was almost complete when Russian forces entered (Sept 17) E Poland While this campaign ended with the partition of Poland and while the USSR defeated Finland in the FINNISH-RUSSIAN WAR (1939–40), the British and the French behind the MAGINOT LINE spent an inactive winter, content with blockading Germany by sea

From Norway to Moscow The inactive period ended with the surprise invasion (April 8–9, 1940) of DENMARK and NORWAY by the Germans Denmark offered no resistance, Norway was conquered by June 10 On May 10 German forces overran Luxembourg and invaded the NETHERLANDS and BELGIUM, on May 11 they broke through Sedan into France Their columns raced to the English Channel and cut off Flanders, and the Allies were evacuated from DUNKIRK (May 26–June 4) General WEYGAND had replaced GAMELIN as supreme Allied commander, but was unable to stop the Allied debacle in the "battle of France" On June 22 FRANCE signed an armistice with Germany, followed by an armistice with Italy, which had entered the war on June 10 ENGLAND, the only remaining Allied power, resisted, under the inspiring leadership of Winston CHURCHILL, the German attempt to bomb it into submission While Germany received its first setback in the "battle of Britain," fought entirely in the air, the theater of war was widened by the Italian attack on the British in Africa (see NORTH AFRICA, CAMPAIGNS IN) and by the Italian invasion (Oct 28, 1940) of GREECE. HUNGARY, RUMANIA, and BULGARIA joined the Axis late in 1940, but YUGOSLAVIA resisted German pressure, and on April 6, 1941, Germany launched an attack on Yugoslavia and Greece and won rapid victory In May, CRETE fell Great Britain gained a new ally on June 22, 1941, when Germany (joined by Italy, Rumania, Hungary, Slovakia, and Finland), invaded Russia (see UNION OF SOVIET SOCIALIST REPUBLICS) The USSR, after several costly initial defeats, rallied successfully under the leadership of Premier STALIN, who had assumed the military command. By the end of 1941 encircled LENINGRAD began its long resistance to its besiegers, Marshal TIMOSHENKO had halted the German sweep through the Ukraine, and a Russian counteroffensive broke the two-pronged drive on Moscow.

The War Comes to the United States Though determined to maintain its neutrality, the UNITED STATES was gradually drawn closer to the war by the force of events To save England from collapse the Congress voted LEND-LEASE aid early in 1941, in Aug, 1941, President F D ROOSEVELT met Churchill on the high seas, and together they formulated the ATLANTIC CHARTER as a general statement of democratic aims To protect its shipping from the attacks by German submarines, the United States occupied (April, 1941) GREENLAND and later shared in the occupation of ICELAND, but despite repeated warnings the attacks continued, in October, the U S destroyer *Reuben James* was sunk While relations with Germany thus became increasingly strained, the aggressive acts of Japan in INDO-CHINA and THAILAND provoked futile protests from the United States Efforts to reach a peaceful settlement were ended on Dec 7, 1941, when Japan without warning attacked PEARL HARBOR, the PHILIPPINE ISLANDS, and MALAYA War was declared (Dec 8) on Japan by the United States, Great Britain, the Netherlands, Australia, Canada, New Zealand, and several Latin American countries Within a few days Germany and its allies (but not Finland) declared war on the United States The first phase of the war in the Pacific was disastrous for the Allies Japan swiftly conquered the Philippines (where gallant resistance ended at Corregidor), Malaya, BURMA, INDONESIA, and many Pacific islands, destroyed an Allied fleet in the Java Sea, and reached, by mid-1942, its furthest points of advance in the ALEUTIAN ISLANDS and in NEW GUINEA Australia became the chief Allied base for the countermoves against Japan, directed by Gen Douglas MACARTHUR, Admiral NIMITZ, and Admiral HALSEY The first Allied naval successes against Japan were scored in the battles of the CORAL SEA and of MIDWAY In April, 1942, Col J H DOOLITTLE led the first air raid on Japan On land the Allies took the offensive on New Guinea and landed (Aug 7, 1942) on GUADALCANAL in the SOLOMON ISLANDS

The Turning Point Despite the slightly improved Allied position in the Pacific, the late summer of 1942 was perhaps the darkest period of the war In North Africa, the Axis forces under ROMMEL were sweeping into Egypt, in Russia, they had penetrated the Caucasus and launched a gigantic offensive against STALINGRAD In the Atlantic, even to the shores of the United States and in the Gulf of MEXICO, German submarines were sinking Allied ships at an unprecedented rate, offsetting the effects of lend-lease Yet the Axis war machine showed signs of use, while the United States was merely beginning to put its potential into motion and while RUSSIA still had huge reserves and was receiving lend-lease aid through IRAN and MURMANSK The first decisive blow, however, was leveled at the Axis by Britain, when B L MONTGOMERY routed Rommel at ALAMEIN in North Africa (Oct, 1942). The next blow was the American invasion of Algeria (Nov 7–8, 1942), the Americans and British were joined by "Free French" forces of General de GAULLE and by regular French forces that had passed to the Allies after the surrender of Admiral DARLAN After heavy fighting in Tunisia, Africa was cleared of Axis forces by May 12, 1943 Meantime, in Russia, the heroic stand of Stalingrad and a Russian counteroffensive resulted in the surrender (Feb 2, 1943) of 330,000 Axis troops at Stalingrad and was followed by a nearly uninterrupted Russian offensive In the Mediterranean, the Allies followed up their African victory by the conquest of Sicily (July–Aug, 1943) and the invasion of Italy, which surrendered on Sept 3 In the Balkans, particularly in YUGOSLAVIA, "underground" armies began to wage major warfare against the Germans In the Atlantic, the submarine threat was virtually ended by the end of 1943 The Allies, who had signed (Jan 1, 1942) the UNITED NATIONS declaration, were drawn more closely together by the CASABLANCA CONFERENCE, at which they pledged themselves to continue the war until the unconditional surrender of the Axis, and by the MOSCOW CONFERENCES, the QUEBEC CONFERENCE, the CAIRO CONFERENCE, and the TEHERAN CONFERENCE The invasion of Germany-held France was decided upon, and Gen Dwight D EISENHOWER was put in charge of the operation *Allied Victory* By the beginning of 1944 air warfare had turned overwhelmingly in favor of the Allies, who wrought unprecedented destruction on such German centers as COLOGNE, HAMBURG, and BERLIN and on communications and industries throughout German-held Europe This air offensive prepared the landing (June 6, 1944) of the Allies in N France (see NORMANDY CAMPAIGN) and a secondary landing (Aug. 15) in S France The campaign in ITALY, with hard-won battles at CASSINO and ANZIO before the fall of Rome (June 4, 1944), continued slowly, but in France and Belgium the Allied victory was almost complete by Sept. 30, 1944 The use of robot bombs by the Germans proved as futile an effort as their counteroffensive in Belgium under Gen. Gerd von RUNDSTEDT (see

BATTLE OF THE BULGE). On the Eastern Front Russian armies swept (1944) through the Baltic States, E Poland, Belorussia, and the Ukraine and forced the capitulation of Rumania (Aug 23), FINLAND (Sept 4), and Bulgaria (Sept 10) Having evacuated the Balkan Peninsula, the Germans resisted in Hungary until Feb , 1945, but Germany itself was pressed The Russians entered East Prussia and Czechoslovakia (Jan , 1945) and conquered Germany to the Oder On March 7 the Western Allies—whose chief commanders in the field were Omar N BRADLEY and Montgomery—crossed the Rhine after having smashed through the strongly fortified Siegfried Line German collapse came after the Western and Russian armies met (April 25) at Torgau in Saxony, and after Hitler died among the ruins of Berlin, which was falling to the Russians under ZHUKOV and KONEV The unconditional surrender of Germany was signed at Rheims on May 7, and was ratified at Berlin on May 8 In the Pacific, after the completion of the campaigns in the Solomon Islands (late 1943) and New Guinea (1944), the Allied advance moved inexorably in two lines that converged toward Japan through scattered island groups—the Philippines, the MARIANAS ISLANDS, OKINAWA, and IWO JIMA At the YALTA CONFERENCE, the USSR secretly promised its aid against Japan, which refused to surrender after the Allied appeal made at the POTSDAM CONFERENCE On Aug 6, 1945, the first atomic bomb devastated HIROSHIMA, on Aug 9, the second bomb was dropped on NAGASAKI and the USSR invaded Manchuria On Aug 14 Japan announced its surrender, formally signed aboard the U S battleship *Missouri* in Tokyo Bay on Sept 2

The Reckoning Although hostilities came to an end in Sept , 1945, the new world crisis caused by the postwar opposition between the USSR and the United States—the two chief powers to emerge from the war— made a settlement difficult As of March, 1950, peace treaties had been signed with Italy, Rumania, Hungary, Bulgaria, and Finland, but not with Germany, Japan, and Austria Despite the birth of the United Nations, the world remained politically unstable and only slowly recovered from the incalculable physical and moral devastation wrought by the war Civilians and soldiers suffered alike in indiscriminate bombings that wiped out entire cities Modern methods of warfare, together with the deliberate attempt of the Germans to exterminate whole racial groups (particularly the JEWS), famines, and epidemics brought death to tens of millions and made as many more homeless The suffering and degradation of the war's victims were of proportions that passed the understanding of those who had been spared Political consequences, besides the eclipse of Germany and Japan as world powers, were the reduction of England and France to powers of the second rank, the emergence of former colonial countries (e g , India, Pakistan, and Indonesia) as independent states, and the renewal of civil war in CHINA The technique of warfare itself was revolutionized (see AIR POWER, AMPHIBIOUS WARFARE, ATOMIC BOMB, CHEMICAL WARFARE, JET PROPULSION, MECHANIZED WARFARE, MINE, ROCKET) Conventions of warfare were violated on a large scale (see HOSTAGE, PRISONERS OF WAR, WAR CRIMES) The steady stream of official publications and individual memoirs concerning the Second World War was still flowing in 1950 Among notable accounts are G C Marshall, *General Marshall's Report* (1945), R W Shugg and H A DeWeerd, *World War II* (1946), Walter Karig, ed , *Battle Report* (4 vols , 1944–48), S E Morison, *History of United States Naval Operations in World War II* (Vols I–V 1946–49), D D Eisenhower, *Crusade in Europe* (1948), J F C Fuller, *The Second World War* (1949), and the war memoirs of W S Churchill (*The Gathering Storm*, 1948; *Their Finest Hour*, 1949, *The Grand Alliance*, 1950)

worm, name applied to several phyla of elongated, soft-bodied invertebrates The segmented worms, e g , the EARTHWORM and the marine worms of the genus *Nereis*, belong to the phylum Annelida or Annulata The flat worms of the phylum Platyhelminthes include parasites such as the TAPEWORM, the FLUKE, and the free-living *Planaria* Round or thread worms constitute the phylum Nemathelminthes, among which are nematodes such as the HOOKWORM, *Filaria*, the cause of filariasis, which may result in ELEPHANTIASIS, *Trichinella*, the cause of TRICHINOSIS, *Ascaris*, an intestinal parasite of man, horses, and pigs, the pinworm, a parasite common in children, the Guinea worm of the central parts of Africa and Asia which burrows into human flesh, and various species of nematode worms which are agricultural pests The rotifers are microscopic, multicellular animals related to the worms They are found chiefly in stagnant fresh water, although a few exist in sea water The SHIPWORM is a mollusk. The larvae of some insects are popularly called worms

Wormleysburg (wûrm'lēzbûrg), borough (pop. 1,454), S Pa , on the Susquehanna and near Harrisburg, laid out 1815.

Worms (wûrms, Ger. vôrms), city (pop 47,074), Rhenish Hesse, W Germany, on the Rhine. It is the export center for Liebfraumilch wines and has varied manufactures One of the most venerable historic centers of Europe, Worms was more than half destroyed in the Second World War Originally a Celtic settlement, called Borbetomagus by the Romans, it was captured and fortified by Drusus in 14 B C It became the capital of the first kingdom of Burgundy in the 5th cent , the scene of much of the *Nibelungenlied* is laid here at the Burgundian court Worms was an early episcopal see, and its bishops ruled some territory on the right bank of the Rhine as princes of the Holy Roman Empire until 1803, when the bishopric was secularized and passed to Hesse-Darmstadt The city itself, however, early escaped episcopal control, it was the first German town to be created (1156) a free imperial city Numerous important meetings were held here The best known of these were the episcopal synod of 1076, which declared Pope GREGORY VII deposed, the conference which led in 1122 to the Concordat of Worms, the diet of 1495 (see MAXIMILIAN I, emperor), and the diet of 1521 (see WORMS, DIET OF) The city suffered heavily in the Thirty Years War It was annexed to France in 1797 and passed to Hesse-Darmstadt at the Congress of Vienna (1814–15) Occupied (1918–30) by French troops after the First World War, it was again included in the French zone of occupation in 1945 and was incorporated in the new state of Rhineland-Palatinate Among the heavily damaged buildings were the Romanesque basilica and other medieval churches Worms had one of the oldest Jewish settlements in Germany Its Romanesque-Gothic synagogue, founded in 1034, was destroyed by the Nazis in 1938

Worms, Concordat of, 1122, agreement reached by Pope Calixtus II and Emperor Henry V to put an end to the struggle over INVESTITURE By its terms the emperors gave up the right to invest bishops or abbots, which was exclusively reserved to the papacy, but they retained authority to prevent the election of bishops and of abbots who were not to their liking The Concordat of Worms was not a concordat in the usual sense, but rather a double proclamation on the part of the pope and of the emperor The compromise between spiritual and temporal power which it achieved remained essentially the basis of all subsequent concordats

Worms, Diet of, 1521, most famous of the imperial diets held at Worms, Germany. It was opened in Jan 28, 1521, by Emperor CHARLES V After disposing of other business, notably the question of the REICHSREGIMENT, it took up the question of the recalcitrant behavior of Martin LUTHER Charles was induced to summon Luther, who arrived at Worms under a safe-conduct on April 16 At the diet Luther was asked if he would retract his teachings condemned by the pope After a day's meditation he refused For a week various theologians argued with him, but he would not retire from his ground Finally, on April 26, the emperor, seeing the dispute was fruitless, ordered Luther to leave the city The diet had as its chief effect the widening of the gap between the Roman Catholic Church and the new Reformed beliefs

wormwood, Old World perennial herb or shrubby plant (*Artemisia absinthium*), often cultivated in gardens and escaped in North America It has silvery gray, deeply incised leaves and tiny yellow composite flower heads Wormwood oil has been utilized since ancient times as an insect repellent, particularly for moths, until recently it was used for intestinal worms and for other medicinal purposes It was also employed in brewing but is best known for the bitter principle which is an ingredient of ABSINTHE Because of this intense bitterness wormwood has long symbolized any bitterness felt by man and is often so represented in the Bible. This is the common wormwood, but other artemisias, some American, are also called wormwood, still others include southernwood, TARRAGON, artemisia silver king, old woman, Roman wormwood, SAGEBRUSH, and the Levant wormseed which yields SANTONIN

worsted: see WOOL

Worth, Charles Frederick, 1825–95, Anglo-French dress designer, for over a generation the leading arbiter of women's styles Born in England, he settled (1846) in Paris, becoming designer for a wholesale silk house In 1858, with a partner, he set up as a ladies' tailor in the Rue de la Paix. Empress Eugénie's patronage established his reputation for original designs

Worth, William Jenkins, 1794–1849, American general, b Hudson, N Y He served with distinction on the Niagara frontier in the War of 1812, being severely wounded at the battle of Lundy's Lane (1814) Remaining in the army after the war, Worth became commandant of cadets and instructor of infantry tactics at West Point (1820–28), even though he was not a West Point man Promoted colonel in 1838, he was brevetted brigadier general for his subsequent services against the Seminole Indians In the Mexican War, Worth first fought under Zachary Taylor in the northern campaign that ended with the capture of Monterrey Some observers said that he was the real victor of the campaign, although Taylor received all the glory. Later under Winfield Scott he further distinguished himself in the victorious advance from Veracruz to Mexico city, especially at Cerro Gordo and Churubusco He was the first to enter Mexico city, receiving the surrender of the capital. In 1848 he was given command of the Dept of Texas, but his career was cut short by cholera Worth had no superior as a leader in battle, but faulty temperament, well exemplified in his ungrateful and insubordinate conduct towards Scott, who had been his benefactor, injured his reputation. Fort Worth, Texas, was named for him See J. H. Smith, *The War with Mexico* (1919)

Wortham (wûr'dhŭm), town (pop 1,267), E central Texas, S of Corsicana and NE of Waco, inc 1910 It is the trade center for a farm area with some oil

Wörthersee, Austria see MARIA WÖRTH.

Worthing (wûr'dhĭng), municipal borough (1931 pop 46,224, 1947 estimated pop 67,790), Sussex West, England, on the English Channel W of Brighton It is a seaport and a resort. Protected by the South Downs, it has a mild climate (figs grow out of doors) The growing of flowers and fruits in greenhouses is a specialty The museum contains remains of late Neolithic flint mines worked at Cissbury Ring near by Many traces of Roman occupation are found in the vicinity, notably at Highdown Hill, where excavation in 1937 disclosed a complete Roman bath system

Worthington (wûr'dhĭngtŭn) **1** Residential town (pop 1,729), SW Ind , on the White River and NE of Vincennes **2** City (pop 5,918), co seat of Nobles co , SW Minn , near the Iowa line, in a lake region It is a farm trade center **3** Village (pop 1,569), central Ohio, N of Columbus, laid out 1804 Several historic churches remain Near by is the Pontifical College Josephinum

Wortman, Denys (wûrt'mn), 1887–, American caricaturist and draughtsman, b Saugerties, N Y. He studied for short periods at Stevens Institute of Technology and Rutgers Univ and from 1906 to 1909 at the New York School of Fine and Applied Art From 1924 to 1930 he contributed daily drawings to the New York *World* under the title "Metropolitan Movies." After 1930 his work appeared under the same caption in the New York *World-Telegram* and in some 40 newspapers served by the United Features Syndicate Wortman's drawings are distinguished for their fine draughtsmanship and brilliant characterization They depict tramps, New York East Side and Greenwich Village types, and amusing phases of the city's clothing business

Wotan see WODEN

Wotton, Sir Henry, 1568–1639, English poet and diplomat He was secretary to the earl of Essex and later became a favorite of James I, who knighted him and appointed him ambassador to Venice He was provost of Eton from 1624 until his death His poetic fame rests largely on two poems, "Character of a Happy Life" and his tribute to Elizabeth, queen of Bohemia, beginning, "You meaner beauties of the night," which was first printed with music in East's *Sixth Set of Books* (1624) Wotton also wrote a number of prose tracts His biography (1651) was written by his friend Izaak Walton See also *Life and Letters* (ed by L P Smith, 1907)

wound, break in the skin or in the mucous membrane of the body resulting from external injury. The chief types of wounds are abrasions (superficial wounds made by rubbing or scraping off portions of the body surface), incised wounds (cuts made with a sharp object), lacerated wounds (wounds involving torn or mangled tissues), and punctures or penetrating wounds Except for internal injuries resulting from deep wounds, the greatest dangers are excessive bleeding and infection Since blood vessels are cleanly severed in incised wounds, bleeding is commonly profuse, but the danger from infection is smaller than in other wounds because there is less tissue injury and germs tend to be carried out by the bleeding Immediate treatment by a physician is advised in some cases of wounds, these include extensive wounds, punctured or lacerated wounds, wounds causing profuse bleeding, infected wounds, and wounds in which a foreign body is embedded First-aid treatment consists in controlling bleeding and in preventing infection If bleeding is severe, apply pressure at point of bleeding, use a TOURNIQUET (for method, see separate article) if necessary. If bleeding is not severe or after it has been checked, apply an antiseptic in the wound and on the surrounding skin and cover the wound with a sterile dressing, iodine should not be covered until dry Washing of wounds except by a physician may introduce germs, grease or dirt can be removed from the surrounding skin with alcohol, working outward from the wound Treat for SHOCK (see separate article) if necessary Gunshot wounds are especially liable to infection from pus-producing bacteria or from the organisms of gas gangrene or of tetanus BURNS AND SCALDS and BITES AND STINGS require special treatment (see separate articles)

Wouwerman, Philips (fĭ'lĭps vou'vûrmăn), 1619–68, Dutch painter of Haarlem, best known for his spirited scenes of battles, encampments, cavalry skirmishes, and hunts. Of these he painted over

800, of varying excellence but all characterized by brilliant color, vivacity, and excellent composition. Figures and landscape are given almost equal prominence and are skillfully combined He is represented in many important European galleries. The Metropolitan Museum contains *The Halt*. His brothers Pieter Wouwerman (1623–82) and Jan Wouwerman (1629–66) imitated his style, Pieter with considerable success.

Wovoka: see GHOST DANCE.

WPA: see WORK PROJECTS ADMINISTRATION.

WPB: see WAR PRODUCTION BOARD

Wrangel or **Wrangell, Baron Ferdinand Petrovich von** (both răng'gul, Rus fyĕrdyĕnánt' pĕtrô'vĭch vôn vrän'gĕl), 1794–1870, Russian naval officer, arctic explorer, and administrator He had made several journeys around the world before he commanded a Russian naval expedition (1820–23) which explored the arctic regions Wrangel Island and Wrangell Island are both named for him Wrangel was governor (1829-34) of the Russian colonies in Alaska and opposed the sale of that territory to the United States In 1849 he became vice admiral His diaries of his arctic expedition have been translated into German and English

Wrangel, Friedrich Heinrich Ernst, Graf von (frē'drĭkh hĭn'rĭkh ĕrnst' gräf' fŭn vrang'ul), 1784–1877, Prussian field marshal He fought in the Napoleonic Wars, commanded the German federal army in the Schleswig-Holstein campaign of 1848, suppressed, in the same year, the revolutionists in Berlin, and held nominal command of the Austro-Prussian troops in the war with Denmark in 1864

Wrangel, Karl Gustaf (kärl' gōō'stăf vrang'gĕl), 1613 76, Swedish general and admiral After distinguishing himself in land campaigns in the Thirty Years War, he succeeded to command of the fleet at Fehmarn and defeated (1644) the Danes In 1646 he became field marshal, succeeded Torstenson as commander in chief of the Swedish army in Germany, and overran Bavaria with the French general, Turenne Wrangel was created count of Salmis and of Solvesborg in 1651 He commanded in the Polish wars as admiral and general and successfully invaded Denmark (1657-58) After the peace of 1660, he was covered with numerous honors and was made regent and tutor of Charles XI

Wrangel, Baron Piotr Nikolayevich (răng'gul, Rus pyô'tur nyĭkulī'uvĭch vrän'gĕl), 1878–1928, Russian general After serving in the Russo-Japanese War and in the First World War he joined (late 1917) the anti-Bolshevik armies in S Russia After the rout, early in 1920, of the DENIKIN forces, Wrangel succeeded Denikin in command and soon whipped the demoralized remains of the White Army into shape He was for a while successful on the Crimean front, but the armistice of the Soviet government with Poland enabled the Communists to concentrate larger forces against him Wrangel was forced back into the Crimea and in Nov , 1920, he had to evacuate his forces to Constantinople The Russian civil war thus came to an end Wrangel died in exile at Brussels

Wrangel Island or **Wrangell Island** (both răng'gul, Rus vrän'gĕl), Rus *Ostrov Vrangelya*, island, 75 mi long and 45 mi wide, off Khabarovsk Territory, Russian SFSR (NE Siberia), in the Chukchi Sea (which fringes the Arctic Ocean) It is separated from the mainland by Long Strait Generally barren, frozen, and rocky, it has a government arctic station and trading post and is a breeding ground for polar bears, seals, and other creatures of the arctic regions The island was sought by Ferdinand von Wrangel during his arctic expedition of 1820–23, he had heard of it from Siberian natives, but he did not succeed in finding it It was finally discovered (1867) by Thomas Long, captain of an American whaling ship, who named it for Wrangel, later, George W De Long, in his ill-fated expedition of 1879-81, discovered that it was an island and not a part of the mainland, as at first believed In 1911 a group of Russians made a landing on the island, and in 1921 Vilhjalmur Stefansson sent a small party to Wrangel with a view to claiming it for Great Britain His *Adventure of Wrangel Island* (1925), written with J I Knight, relates the story of the attempted settlement In 1924 the Russian government notified other governments of its intention to protect its claim to the island, and in 1926 it established the first permanent colony there The Russian freighter *Chelyuskin*, trying to discover (1933) whether an ordinary cargo ship could navigate the Northeast Passage, was crushed in the ice off Wrangel Island Marooned on the island, the party was later rescued, many by airplane *The Voyage of the Chelyuskin* (Eng tr , 1935), written by members of the expedition and by the aviators who came to their aid, recounts the experience

Wrangell, Baron Ferdinand Petrovich von: see WRANGEL, BARON FERDINAND PETROVICH VON

Wrangell Island (răng'gul), 30 mi long and 5 to 14 mi. wide, off SE Alaska, in the Alexander Archipelago, south of the mouth of the Stikine river It was occupied in 1834 by Russians, who named it for Baron Ferdinand von Wrangel The town of Wrangell (pop 1,162), on the northern coast, grew out of a fort built to prevent encroachment by the Hudson's Bay Company traders. From 1867 to 1877 it was a U.S. military post, and later it became an outfitting point for hunters and explorers as well as for miners using the Stikine river route to the Yukon. Lumbering, fishing, and fur farming are carried on in the area Wrangell Institute, a Federal vocational school for natives, is near by.

Wrangell Island, Siberia see WRANGEL ISLAND

Wrangell Mountains, S Alaska, extending c.100 mi SE from the Copper river to the Yukon border, where they meet the St. Elias Mts The highest peaks include Mt. Sanford (16,208 ft), Mt Blackburn (16,140 ft), and Mt. Wrangell (14,005 ft).

Wrath, Cape, northwestern extremity of Scotland, with lofty cliffs It has a lighthouse

Wray, John see RAY, JOHN.

Wray (rā), town (pop 2,061), co seat of Yuma co , NE Colo , near the Nebr line, in a farm area, inc. 1906 Near by is Beecher Island battleground with a memorial to a battle with Indians in 1868

wreck, in law, goods washed ashore as distinguished from goods lost at sea, i e , FLOTSAM, JETSAM, AND LIGAN In England the king had title to wreck subject to a claim of the owner of the goods advanced within a year and a day The English law limited wreck to goods washed up on the seashore or on the shores of tidal rivers In the United States, however, the term is also applied to goods washed up on the shores of inland lakes and of rivers American law respecting the title to wreck varies Subject always to a prompt claim of the owner, title is variously in the holder of the land on which the goods come to rest, in the state, or in the finder See SALVAGE and SHIPWRECK

Wrede, Karl Philipp von (kärl' fē'lĭp fŭn vrā'du), 1767–1838, Bavarian general He became commander in chief of the Bavarian army in 1805, cooperated with the French against Austria, occupied Innsbruck, and contributed to Napoleon's victory at Wagram (1809) Just before the battle of Leipzig (1813) he negotiated the Treaty of Ried between Austria and Bavaria and fought with the Allies against Napoleon Created prince and field marshal in 1814, Wrede represented his country at the Congress of Vienna

Wrekin, the (rē'kĭn), solitary volcanic hill, 1,335 ft high, Shropshire, England

Wren, Sir Christopher, 1632 1723, English architect He was professor of astronomy at Gresham College, London, from 1657 to 1661, when he became Savilian professor of astronomy at Oxford Though now known chiefly as an architect, Wren was a celebrated mathematician in his time In 1665 he spent six months in Paris studying architecture After the great fire of 1666 he prepared a masterly plan for the reconstruction of London, never executed He designed, however, many new buildings, the greatest being SAINT PAUL'S CATHEDRAL From 1670 to 1711 he executed 52 London churches, most of which still stand, notable for their varied and original designs and for their fine spires They include St Stephen, Walbrook, St Martin, Ludgate, St Bride, Fleet Street, and St Mary-le-Bow, the latter containing the type of spire in receding stages generally associated with Wren's name Among his numerous secular works are the Sheldonian Theatre and Queen's College library, both at Oxford, the library of Trinity College, Cambridge Univ , the garden façade of Hampton Court Palace, Chelsea Hospital, portions of Greenwich Hospital, and the buildings of the Temple, London Wren also built residences in London and in the country, and these, as well as his public works, received the stamp of his distinguished style All of his buildings exhibit elegance, vigor, originality, and dignity In 1673 Wren was knighted He was buried in the crypt of St Paul's, where, in 1923, a memorial service was held on the 200th anniversary of his death See studies by Archibald Malloch (1923), Cecil Witaker-Wilson (1932), and Geoffrey Webb (1937)

wren, small bird of both hemispheres but most numerous in the tropical regions of America The plumage is usually brown or reddish above and white, gray, or buff, often streaked, below The bill is rather long, and the tail is usually upturned Wrens are valuable insect destroyers Among the fine singers are the canyon, the Carolina, and the winter wrens The eastern and western house wrens often nest in boxes built for them and in crannies about dwellings North America also has the cactus, the rock, and the marsh wrens The common European wren is a winter wren

Wrens (rĕnz), town (pop 1,192), E Ga , SW of Augusta, founded 1884 with the railroad's coming It is a trade and processing center in a farm area

Wrentham (rĕn'thŭm), town (pop 4,674), SE Mass , SW of Boston, settled 1669, inc 1673 Metal products are made here The former home of Helen Keller and Anne Sullivan Macy was made a rest home for workers There is a state school for mentally handicapped children

wrestling, sporting contest between two unarmed men, depending on grappling and gaining body grips in order to secure a fall, i e , pinning the opponent's shoulders to the floor Wrestling was probably known to prehistoric man and was a popular and honored sport among several ancient peoples, especially among the Greeks. The pancratium—involving wrestling and boxing—became part of the Olympic games in 648 B C. The Romans changed in some ways the rough-and-tumble Greek style, thus originating Greco-Roman wrestling Wrestling tournaments were frequently conducted in medieval Europe, and today Greco-Roman wrestling—which does not include tackling, tripping, or leg holds and consists chiefly of ground wrestling—is still the most popular form on the European continent and in Latin America. Greco-Roman wrestling also gained headway in England and was introduced early in the United States In the mid-19th cent a form of wrestling which combined upright and ground action took root on the American frontier Tackling, tripping, leg holds and various other rough features were allowed, and this form came to be known as catch-as-catch-can wrestling It rapidly displaced Greco-Roman wrestling in the United States and also became popular in England After the First World War professional wrestling contests in the United States deteriorated and became "exhibitions," i e , promoters presented the public with "fixed" bouts and histrionic performances Feigned competition and rude antics have replaced skill and sportsmanship However, amateur wrestling, under the guidance of the Amateur Athletic Union, has maintained excellent standards in the United States It has become a major sport in many schools, colleges, and universities throughout the country and includes both Greco-Roman and catch-as-catch-can contests Amateur wrestling is conducted on a stuffed mat (24 ft square, 3 in thick), which is covered with soft material and is surrounded by auxiliary mats Contestants are classified according to weight and three periods of 3 min each usually comprise a match—which is begun with the wrestlers on their feet A fall ends the match, and should the match be complete without anyone's shoulders being pinned, then the referee decides on points Wrestling matches were introduced into the modern Olympic games in 1904 See J C Meyers, *Wrestling* (1931), H A Stone, *Wrestling, Intercollegiate and Olympic* (1939), National Collegiate Association, *Official NCAA Wrestling Guide, 1950* (1949)

Wrexham (rĕk'sum), municipal borough (1931 pop. 18,569, 1943 estimated pop 25,740), Denbighshire, Wales, SW of Chester It is a livestock market in a farming, manufacturing, and coal-mining district It is the seat of the Roman Catholic bishopric of Menevia, which includes all of Wales except Glamorganshire St Giles's Church was rebuilt in 1472 after a fire, and the present structure dates mostly from the 16th cent Bishop Heber wrote *From Greenland's Icy Mountains* in the vicarage Elihu Yale is buried in the churchyard

Wright, Sir Almroth Edward, 1861–1947, British pathologist He was professor of pathology at the Army Medical School, Netley (1892–1902), and professor of experimental pathology, Univ of London, and principal of the Institute of Pathology and Research, St Mary's Hospital, London (1902–46) In 1906 he was knighted An authority on vaccine therapy, he developed a system of antityphoid inoculation and a method of measuring protective substances in human blood (opsonins) His works include *Pathology and Treatment of War Wounds* (1942), *Researches in Clinical Physiology* (1943), and *Studies on Immunisation* (2 vols , 1943–44)

Wright, Carroll Davidson, 1840–1909, American statistician, b Dunbarton, N H His varied experience included a term (1872–73) in the Massachusetts senate As U S commissioner of labor he organized the Bureau of Labor Statistics and stimulated objective research on labor problems From 1902 until his death he was president of Clark College at Worcester, Mass His books include *The Industrial Evolution of the United States* (1887) and *Battles of Labor* (1906)

Wright, Elizur (ĭl'zur), 1804–85, American actuary and antislavery leader, b near Canaan, Conn , grad Yale, 1826 He taught (1829–33) mathematics at Western Reserve College In 1833 he became corresponding secretary of the American Anti-Slavery Society, a post he left (1839) to assume editorship of the *Massachusetts Abolitionist* While editing (1846–52) the Boston *Weekly Chronotype* he became interested in life-insurance reform and began lobbying in the Massachusetts legislature Through his work an act was passed (1858) compelling insurance companies to hold reserve funds to be applied against policies Two later rulings—the nonforfeiture law of 1861 forbidding a company to appropriate the reserve funds and the legislation (1880) that requires companies to pay in cash the value of lapsed policies—were also directly due to Wright He served (1858–66) as state supervisor for insurance legislation before taking positions as a private actuary His vigorous campaigning in this field as well as his development of actuarial tabulations earned him the title of "father of life insurance" See biography by P. G Wright and E Q Wright (1937)

Wright, Frances, 1795–1852, British-American reformer, later Mme Darusmont, b. Scotland As a

girl she became a freethinker and political liberal She looked to America as a haven of freedom and in 1818, with her young sister, set out for the United States Her tragedy, *Altorf*, was successfully presented in New York in 1819 An enthusiastic account of her travels, *Views of Society and Manners in America* (1821), brought her the friendship of Jeremy Bentham and General Lafayette In 1824 she made her second trip to America, in the course of which she visited the communistic Rappite colonies at Economy and Harmony and Robert Owen's settlement at New Harmony. The influence of these, combined with her plan for gradual emancipation of slaves through purchase and colonization, resulted in her idea for the founding of NASHOBA, a colony near Memphis, Tenn After the failure of Nashoba, she devoted herself completely to her activities as a lecturer and as editor, with Robert Dale OWEN and others, of the *Free Enquirer* She advocated universal education, equality of women, religious freedom, abolition, and workers' rights In 1831 she married William Phiquepal Darusmont (or D'Arusmont), but the marriage was dissolved in 1835 Mme Darusmont's last years were spent in Cincinnati See biographies by W R Waterman (1924) and A J G Perkins and Theresa Wolfson (1939)

Wright, Frank Lloyd, 1869–, American architect, b Richland Center, Wis After studying civil engineering at the Univ of Wisconsin, he worked seven years in the office of Denkmar Adler and Louis H Sullivan in Chicago Wright's first independent commission was the Winslow residence (1893) Establishing himself in Oak Park, Ill , he built there a series of residences with low horizontal proportions and strongly projecting eaves which exhibited a distinct character, it was termed his prairie style From the beginning he practiced radical innovation both as to structure and aesthetics and many of these methods have since become internationally current At a time when poured reinforced concrete and steel cantilevers were generally confined to commercial structures, Wright did pioneer work in integrating machine methods and materials into a true architectural expression He was the first to produce open planning in houses, in a break from the traditional closed volume, and to achieve a three-dimensional form by the use of walls and roofs as mere enclosing planes For the Millard house (1923) at Pasadena, Calif , he worked out a new method, known as textile-block slab construction, consisting of double walls of precast concrete blocks tied together with steel reinforcing rods set into both the vertical and the horizontal joints The Larkin Soap Factory (1903), Buffalo, N Y , and Oak Park Unity Temple (1904), near Chicago, were early monumental works which exerted wide influence Among other notable works are the Imperial Hotel (1916–20), Tokyo, Japan, which withstood the effects of the 1923 earthquake, Midway Gardens (1913), Chicago, Willets house (1903), Highland Park, Ill , Coonley house (1908) in Illinois, and Wright's own residence "Taliesin" (1911) at Spring Green, Wis Among his later projects are the Johnson factory and residence, Racine, Wis , "Fallingwater house," Bear Run, Pa , and "Taliesin West," near Phoenix, Ariz Wright's architectural philosophy has been expressed by him in lectures and in writings, including essays published in the *Architectural Record* and collected as *On Architecture* (1941), *When Democracy Builds* (1945), and *Genius and the Mobocracy* (1949), an evaluation of the work of Sullivan His influence was felt in Europe, the architecture of Holland having been particularly affected by it Volumes illustrative of his work were published there, as well as in France and Germany He received (1948) the gold medal of the American Institute of Architects See his autobiography (1932, rev ed , 1943)

Wright, Henry, 1878?–1936, American architect and community planner, b Lawrence, Kansas, studied architecture at the Univ of Pennsylvania He was widely recognized as a leader in the movements for better site planning and housing and for the building of better communities His early professional years were spent in Kansas City, Mo , and in St. Louis, where he had a part in the landscaping for the Louisiana Purchase Exposition (1904) and helped organize (1909–10) the St Louis City Plan Association He served (1918) as town planner for the Housing Division of the U S Emergency Fleet Corporation Among the housing projects which he helped design were Sunnyside, L I , and Radburn, N J He was consultant to the New York state commission of housing and regional planning His *Rehousing Urban America* (1935) is an outstanding technical work

Wright, Horatio Gouverneur, 1820–99, Union general in the Civil War, b Clinton, Conn , grad West Point, 1841 Chief engineer of Gen. Samuel P Heintzelman's division at the first battle of Bull Run and of the Port Royal (S C) expedition, he was made (Sept , 1861) a brigadier general of volunteers Wright led the expedition which captured Jacksonville and other Florida coastal towns in 1862 and then commanded the Dept of the Ohio. In May, 1863, he joined the Army of the Potomac as a divisional commander in the 6th Corps. In the WILDERNESS CAMPAIGN he succeeded to command of the corps when Gen John SEDGWICK was killed (May, 1864) at Spotsylvania Courthouse and was promoted major general of volunteers after the fighting at the Bloody Angle The 6th Corps was rushed to defend Washington from the attack of Confederate Gen Jubal A EARLY in July and later fought under Gen Philip H Sheridan in the Shenandoah Valley At Petersburg in April, 1865, Wright's men were the first to break through the Confederate lines He was promoted (1879) brigadier general and chief of engineers in the regular army and was retired in 1884

Wright, Joseph, 1855–1930, English philologist He taught at Oxford and in 1901 succeeded Max Müller as professor of comparative philology there His greatest work was his *English Dialect Dictionary* (6 vols , 1898–1905), but he also worked in many other fields and wrote comparative grammars of Old English, Gothic, Greek, Middle English, and modern English See biography by E M Wright (2 vols , 1932, abridged ed , 1934)

Wright, Luke Edward, 1846–1922, American public official, b Giles co , Tenn He studied law at the Univ of Mississippi, practiced in Memphis, Tenn , and served (1880–88) as attorney general of Tennessee He quit the Democratic party in 1896 Appointed (1900) a member of the Philippine Commission, he became civil governor (1904) and governor general (1904) of the Philippine Islands He later was ambassador to Japan (1906–7) and Secretary of War (1908–9) under President Theodore Roosevelt

Wright, Orville, 1871–1948, and **Wilbur Wright,** 1867–1912, American airplane inventors, brothers Orville was born in Dayton, Ohio, and Wilbur near New Castle, Ind Their interest in aviation aroused in the 1890s by Otto Lilienthal's glider flights, they studied many works on aviation Both excellent mechanics, they used the facilities of the bicycle repair shop and factory which they operated (1892–1904) at Dayton Ohio, for the construction of their early aircraft With the encouragement and advice of Octave CHANUTE, they made improvements in the GLIDER, testing their machines annually (1900–1902) at Kitty Hawk, N C , the place selected on the advice of the U S Weather Bureau During this period they made valuable tables of wind pressure and drift Orville designed an engine which Ehen constructed and attached to their improved glider On Dec 17, 1903, they made at Kitty Hawk the first controlled and sustained flights in a power-driven AIRPLANE Of their four flights on that day, the first, made by Orville, lasted 12 sec , and the fourth, by Wilbur, covered 852 ft in 59 sec The brothers continued their experiments at Dayton and built several biplanes Record-breaking flights in 1908 by Orville in the United States and by Wilbur in France brought them world-wide fame In 1909 the U S government accepted the Wright machine for army use, and the brothers established the Wright Company, with Wilbur as president, for the manufacture of airplanes After Wilbur Wright's death, Orville succeeded him as president of the company, but in 1915 he sold his interest in order to devote his time to research and consulting work Because of a controversy over the Smithsonian Institution's labeling of S P Langley's 1903 plane, Orville sent (1928) the first Wright plane to South Kensington Museum, London, to which he bequeathed the plane However, six years later he requested the return of the machine to the United States The airplane was returned in 1948 and is exhibited at the Smithsonian Institution The house where Orville was born and the bicycle-shop laboratory were moved to Greenfield Village, established by Henry Ford See E E Freudenthal, *Flight into History* (1949)

Wright, Patience Lovell, 1725–86, American sculptor, b Bordentown, N J Her portraits, modeled in wax, were the earliest recorded attempts at sculptural expression in the American colonies They were highly praised there and in England, where she lived after 1772 and where she modeled likenesses of the king, the queen, and other notables It is said that in the Revolution she rendered service to the Americans by reporting British plans and preparations Her full-length likeness of William Pitt was placed in a glass case in Westminster Abbey One of her daughters married the painter, John Hoppner Her son, **Joseph Wright,** 1756–93, American portrait painter, first worked in London, where he had been taken as a child There he painted the prince of Wales (later George IV) Before returning to America he worked in Paris, befriended by Franklin, whose letters of introduction gave him a propitious start in his native land Among his sitters were General and Mrs. Washington, John Jay (N Y. Historical Society); and President Madison In 1792 he was made die-sinker at the U S Mint, Philadelphia

Wright, Richard, 1908–, American Negro author, born on a Mississippi plantation After a difficult and underprivileged childhood, he managed to get work with the Federal Writers' Project in Chicago in 1935 and later in New York. He has written powerfully of the Negro struggling in a hostile environment in *Uncle Tom's Children* (1938), four stories; in *Native Son* (1940), a novel successfully dramatized in 1941, and *Black Boy: a Record of Childhood and Youth* (1945), an autobiography.

Wright, Russel, 1905–, American industrial designer, b Lebanon, Ohio, notable for his introduction of modern functional forms in furniture and ceramics He was largely responsible for the popularity of light-colored or bleached wood in furniture and of aluminum as a decorative material His simple, sturdy forms of china were widely used and imitated

Wright, Silas, 1795–1847, American statesman, b Amherst, Mass , grad Middlebury (Vt) College, 1815 He was admitted (1819) to the bar and began practicing law at Canton, N Y In the 1820s he put up much opposition to the faction headed by De Witt Clinton and soon became one of the leaders of the ALBANY REGENCY Having served (1824–27) in the state senate, he became (1827) a member of the U S House of Representatives and was (1829–33) comptroller of New York state In the U S Senate (1833–44), Wright consistently supported President Andrew Jackson, voted for the annexation of Texas, upheld the subtreasury system, and strongly opposed slavery In 1844 he defeated Millard FILLMORE for governor of New York in a close contest Wright vetoed a canal improvement bill, opposed calling the constitutional convention of 1846, and used the militia in the antirent riots See biographies by J D Hammond (1848), J S Jenkins (1849), and R H Gillet (1874)

Wright, Thomas, 1810–77, English antiquary He wrote numerous monographs on historical and literary subjects and edited an immense volume of Anglo-Saxon and medieval literature for various rich patrons and learned societies He edited many manuscripts with Halliwell-Phillipps Wright's work was carelessly done and has gross errors, but he was a pioneer in his field

Wright, Wilbur see WRIGHT, ORVILLE

Wright, Willard Huntington, pseud **S S Van Dine,** 1888–1939, American art critic and mystery-story writer, b Charlottesville, Va He attended St Vincent and Pomona colleges in California, took post-graduate courses at Harvard, and studied art in Paris and Munich From 1907 he was literary critic, first for the Los Angeles *Times* and later for *Town Topics*, he edited (1912–14) the *Smart Set* Before 1923, when he had a severe breakdown, he wrote nine books, chiefly of art criticism, including *Modern Painting* (1915), *The Creative Will* (1916), and *The Future of Painting* (1923) After his recovery he began writing detective stories under his pseudonym They were immensely successful both as books and as moving pictures His erudite detective, Philo Vance, resembled Wright himself The best of these include *The Benson Murder Case* (1926), *The Canary Murder Case* (1927), and *The Bishop Murder Case* (1929)

Wrightstown, borough (pop 241), central N J , SE of Trenton Fort Dix, U S army post, is here

Wrightsville **1** City (pop 1,760), co seat of Johnson co , E central Ga , ESE of Macon, in the coastal plain, inc 1866 **2** Borough (pop 2,120), SE Pa , on the Susquehanna below Harrisburg and opposite Columbia, settled 1730, laid out 1811, inc 1834 Dolomite used as building stone is quarried here

Wriothesley, Henry see SOUTHAMPTON, HENRY WRIOTHESLEY, 3D EARL OF

Wriothesley, Thomas see SOUTHAMPTON, THOMAS WRIOTHESLEY, 1ST EARL OF, and SOUTHAMPTON, THOMAS WRIOTHESLEY, 4TH EARL OF

writ, in law, order issued in the name of the sovereign or the state in connection with a judicial or an administrative proceeding Usually the writ requires the person to whom the command is issued to report at a fixed time (the return day) with proof of compliance or a justification of disobedience Apparently the exchequer was the first royal office in England to issue writs in transacting its business The common law courts, which administered justice for the king, found their required authorization to take a case in the original writ issued out of the chancery The original writ (or original process) was essentially an order to the defendant to satisfy the plaintiff's demand or stand trial Orders issued in the course of the trial (e g , to produce a witness) were writs of mesne (middle) process At the end of the case the successful plaintiff would be awarded a writ of execution (a type of final process) to carry the judgment into effect The original writs were always extremely limited in number The Statute of Westminster (1285), which permitted the chancery to vary the terms of the existent writs slightly but forbade the issuance of new writs, in time worked great hardships However, the principle "no writ, no right" was at least partially overcome by the development of EQUITY as a separate system of justice By the 18th cent the use of original writs fell into disuse and cases were initiated by service of a summons Several of the prerogative writs (writs issued as a matter of sovereign right) still survive, notably HABEAS CORPUS and MANDAMUS. The term *writ* usually is not applied to other types of compulsory process in current use

writer's cramp occurs in many professions in which repeated skilled movements of hands or feet are in-

volved There is no actual abnormality in the muscles It is a neurotic symptom due to fatigue of the nervous system.

writing, visual recording of LANGUAGE The norm of writing is phonemic; i.e., it attempts to symbolize all significant sounds of the language and no others (see PHONETICS). When the goal is established as one letter for one phoneme (and vice versa), the result is a complete ALPHABET Few alphabets attain this phonemic ideal, but some ancient ones (e.g., Sanskrit) and some modern new ones (e.g., the Cherokee syllabary) have been very successful. The contemporary important writing not of alphabetic type is that in Chinese characters, in which thousands of symbols are used, each representing a theoretical syllabic unit The system is so distant from the language that the same characters are used in writing mutually unintelligible dialects An analogous use of characters is the Arabic numerals, the symbols of different words in different languages (see NUMBER). In some languages, as English and French, the modern freezing of spelling has removed the writing more and more from the language and has produced unusual effects, such as the teaching of spelling for years in school and the growth of fallacies like the "silent" letter (a letter is really either the symbol of a sound or it is unnecessary) and the "long" as opposed to the "short" vowel in English (ā is a diphthong of ĕ and y and has nothing to do with ă) An analogous fallacy teaches that Chinese is a monosyllabic language Writing was invented independently in Egypt (see HIEROGLYPHIC), Mesopotamia (see CUNEIFORM), China, and among the MAYA in Central America There are a few doubtful cases, as at Easter Island Ancient writing is best known from inscriptions, but the use of perishable materials, mainly palm leaf, papyrus, and paper, began in ancient times See ACCENT, HANDWRITING, INSCRIPTION, LETTERING. See *The Story of Writing* (pub by the American Council on Education, 1932), Edward Johnston, *Writing & Illuminating & Lettering* (revised printing, 1945)

Wrocław, Lower Silesia see BRESLAU

Wrong, George MacKinnon, 1860–1948, Canadian historian He was professor of history at the Univ of Toronto from 1894 until his retirement in 1927 He was the author of many works on early colonial American and Canadian history, these include *The Fall of Canada* (1914), *The Conquest of New France* (1918), *Washington and His Comrades in Arms* (1921), *The Rise and Fall of New France* (1928), and *Canada and the American Revolution* (1935) With H H Langton he edited *Chronicles of Canada* (32 vols, 1914–16)

wrought iron: see IRON

Wu (wo͞o), rivers in China **1** Chekiang prov, flowing c 90 mi E to the China Sea, one of the main commercial arteries of the province **2** Rising in W Kweichow prov and flowing c 500 mi NE to the Yangtze in SE Szechwan prov

Wuchang or **Wu-ch'ang** (both wo͞o'chäng'), city (pop 204,634), capital of Hupeh prov, China, at the junction of the Han and Yangtze rivers Wuchang is served by the Canton-Peiping RR, the main north-south line of China Cotton spinning is the chief industry The first outbreak of the revolution of 1911, which led to the Chinese republic, occurred here

Wuhing (wo͞o'hĭng'), Mandarin *Wu-hsing*, city (pop 45,145), N Chekiang prov, China Cloth is manufactured The city was formerly called Huchow

Wuhsien, China see SOOCHOW

Wuhu or **Wu-hu** (both wo͞o'ho͞o'), city and county (pop 356,173), Anhwei prov, China The city is a port on the Yangtze river and accommodates ocean-going vessels

Wulfila: see ULFILAS

Wulfstan, d 1023, English churchman, archbishop of York (1003–1023) and bishop of Worcester, whose Latin name was Lupus He is buried at Ely Homilies are attributed to him, but most of them are doubtful, from them as from those of Ælfric written for Wulfstan, many details of English law were derived. A homily on the millennium in English alliterative prose, styled *Lupi sermo ad Anglos* [Wulfstan's address to the English], is usually ascribed to him

Wundt, Wilhelm Max (vĭl'hĕlm mäks' vo͝ont'), 1832–1920, German physiologist and psychologist From 1875 he was professor at Leipzig, where in 1878 he founded the first laboratory for experimental psychology While his doctrines have been superseded, his experimental method remains a permanent contribution He was also the founder of the science of folk psychology His works include *Elements of Folk Psychology* (1912, Eng tr., 1916), *Introduction to Psychology* (1911, Eng. tr., 1912), and *Principles of Physiological Psychology* (1874; Eng tr, 1904)

Wupatki National Monument: see NATIONAL PARKS AND MONUMENTS (table)

Wu P'ei-fu (wo͞o' pā'-fo͞o'), 1873–1939, Chinese general and political leader He had a distinguished military career under the Ch'ing dynasty and was an important figure in the republic. For the most part Wu supported Yüan Shih-kai during his presidency. After Yüan's death (1916) Wu almost continuously warred with other military leaders, notably Chang Tso-lin, for the control of N China In 1927 he was defeated by the Kuomintang armies under Chiang Kai-shek and retired. The Japanese could not persuade Wu to become the head of the puppet government they had established for NE China in 1939

Wupper (vo͝o'pûr), river, c.65 mi long, NW Germany It is formed by several headstreams and winds in a tortuous course N and SW past Wuppertal, Remscheid, and Solingen into the Rhine Its middle course is, next to the near-by Ruhr district, the chief industrial concentration of the Rhineland.

Wuppertal (vo͝o'pûrtäl), city (1939 pop 401,672, 1946 pop 325,846), in the former Rhine Prov of Prussia, on the Wupper and E of Düsseldorf Adjoining Solingen and Remscheid, Wuppertal is a vast industrial agglomeration formed in 1929 by the merging of the cities of Barmen and Elberfeld and several lesser towns It produces textiles (cloth, silk, velvet, linen, artificial fiber, ribbons, lace, and trimmings), iron, steel, dyes, pharmaceuticals, musical instruments, and processed foods As a seat of the I G Farben chemical industry and as a major production center for ball and roller bearings during the Second World War, Wuppertal suffered many severe air attacks and was half destroyed Both Elberfeld and Barmen date from the 12th cent Elberfeld pioneered in legislation for poor relief by a system which it adopted in 1852 and which was widely imitated Almoners (who now would be called social workers), serving without salary, investigated each case, gave emergency aid, made recommendations through their district supervisor to a central board, and continued to exercise guardianship over the recipients of relief while aiding them to regain economic independence

Württemberg, Germany see WÜRTTEMBERG

Wurts, Alexander Jay, 1862–1932, American electrical engineer, b Carbondale, Pa, grad Yale (Ph B, 1883) He worked for the Westinghouse Company (1887–98, 1904–5) and the Nernst Company (1898–1904), and was professor at Carnegie Institute of Technology from 1905 He discovered the five nonarcing metals and invented devices for lightning arresters

Württemberg (wûr'tumbûrg", Ger vür'tumbĕrk"), former state (7,532 sq mi, 1939 pop 2,896,920), SW Germany Stuttgart was the capital Württemberg borders on Baden in the northwest, west, and southwest, on Hohenzollern and Switzerland (from which it is separated by the Lake of Constance) in the south, and on Bavaria in the east and northeast After the Second World War, Württemberg was partitioned between the American and French zones of occupation and was incorporated into the new states of Württemberg-Baden and Württemberg-Hohenzollern (see separate articles) Drained by the NECKAR and the upper DANUBE, Württemberg is a hilly, partly forested, partly cultivated region, famed for the loveliness of its landscape It includes the Swabian Jura in the south and part of the BLACK FOREST in the west The country is largely agricultural, producing grain, fruit, wine, and livestock STUTTGART is the only large manufacturing center, but the many middle-sized cities—such as ULM, ESSLINGEN, HEILBRONN, TÜBINGEN, REUTLINGEN, RAVENSBURG, and FRIEDRICHSHAFEN—have important and varied manufactures, particularly of textiles, machinery, and precision instruments The southern part of Württemberg is the core of the medieval duchy of SWABIA, Württemberg N of Stuttgart was part of Franconia Franconia broke up into numerous fiefs in the 10th cent, and Swabia suffered the same fate in the 13th cent when the house of Hohenstaufen became extinct Among the local lords who obtained immediacy under the Holy Roman Empire were the counts of Württemberg, whose original domains were centered around Esslingen In the following centuries the counts considerably expanded their territory, but aside from Stuttgart they held no important towns, most of the Swabian cities (e.g., Ulm, Hall, Gmünd, Esslingen, and Rottweil) having won independence as free imperial cities They also acquired the principality of MONTBÉLIARD in France and several places in Alsace The various territories were subdivided among the branches of the family, but in 1482 Count Eberhard V declared the indivisibility of the holdings Eberhard was raised to ducal rank in 1495 In 1519, however, the SWABIAN LEAGUE of cities, fearing the rising power of Württemberg, expelled Duke Ulrich I from his domains and sold the duchy to the newly elected Emperor Charles V Ulrich, a turbulent individual, never ceased in his attempts to recover his lands In 1524 he helped the rebelling peasants in the great PEASANTS' WAR, and in 1525 he invaded Württemberg with an army of Swiss mercenaries The Swiss cantons, however, soon summoned their troops home, and Ulrich had to flee again A Protestant convert, Ulrich secured (1534) the help of Philip of Hesse and, through Philip, of Francis I of France; at the same time the Württembergish peasants were rising against the unpopular government of King (later Emperor) Ferdinand I. At the battle of Lauffen (1534) Ulrich and Philip routed Ferdinand's troops. Ferdinand was obliged to restore Württemberg to Ulrich, although nominally Ulrich was to hold the duchy as a fief from Austria Immediacy under the empire was restored only in 1599. With Ulrich's return, Lutheranism was introduced However, large parts of S Württemberg were still in the hands of the house of Hapsburg and of a number of powerful abbeys; these were incorporated with Württemberg only later As a result, a large minority of the present population is Roman Catholic Württemberg was repeatedly the scene of fighting in the wars of the 17th and 18th cent. Duke Frederick II, through his alliance with Napoleon I, obtained the rank of elector in 1803 and became king of Württemberg as Frederick I in 1806, after joining the Confederation of the Rhine Between 1801 and 1810 his territories were more than doubled and reached their final frontiers He retained both his royal title and his lands at the Congress of Vienna, after having passed (1813) from the French to the allied camp WILLIAM I, his successor, granted a liberal constitution in 1819 During the reign (1864–91) of King Charles, Württemberg sided against Prussia in the Austro-Prussian War of 1866, joined in the Franco-Prussian War of 1870–71, and became (1871) a member of the German Empire His successor, William II, abdicated in 1918, and Württemberg joined (1919) the Weimar Republic Württemberg was formerly also spelled Würtemberg and Wirtemberg

Württemberg-Baden (-bä'dun), state (6,062 sq mi, pop 3,675,273), SW Germany, formed in 1945 in the American zone of occupation Stuttgart is the capital The state comprises the northern parts of the former states of BADEN and WÜRTTEMBERG Among the chief cities are Stuttgart and Ulm in Württemberg, and Mannheim, Karlsruhe, and Heidelberg in Baden The state joined (1949) the West German federal republic

Württemberg-Hohenzollern (-hō"ŭntsô'lûrn), state (4,018 sq mi, pop 1,118,822), SW Germany, formed in 1946 in the French zone of occupation Tübingen is the capital Bordering on Switzerland and Austria in the south, the state comprises S WÜRTTEMBERG, the former Prussian province of HOHENZOLLERN, and the district of LINDAU, formerly in Bavaria The state joined (1949) the West German federal republic

Wurtz, Charles Adolphe (sharl' ädôlf' vürts'), 1817–84, French chemist He was professor at the Sorbonne (1852–75), at the Faculty of Medicine, Paris (1853–75), and at the Faculty of Sciences, Paris (1875–84) Noted for his research in organic chemistry, he discovered methyl and ethyl amines (1849), glycol (1856), and aldol condensation (1872) He developed (1855) a method of synthesizing hydrocarbons by treating alkyl halides with sodium (Wurtz reaction) which was adapted by Rudolf Fittig to the preparation of mixed aliphatic and aromatic hydrocarbons (Wurtz-Fittig reaction or synthesis) Wurtz also invented a bulbed fractionating column known as the Wurtz column or Wurtz tube He wrote influential works in support of the atomic theory and on medical and biological chemistry and the noted *Dictionnaire de chimie pure et appliquée* (3 vols, 1868–78, supplement, 1880–86)

Würzburg (wûrts'bûrg, Ger vurts'bo͝ork), city (1939 pop 107,515; 1946 pop 55,604), capital of Lower Franconia, NW Bavaria, on the Main It is the center of a wine-producing region and has manufactures of machine tools, chemicals, and textiles Until its virtual destruction in the Second World War, Würzburg was a treasury of German architecture It was created an episcopal see by St Boniface in 741 After the breakup (10th cent) of the duchy of Franconia, its bishops ruled a vast territory on both sides of the Main as princes of the Holy Roman Empire In the 15th cent they assumed the title dukes of Eastern Franconia, of which they held a major part In the PEASANTS' WAR the bishop temporarily lost (1524–25) his territory to the rebels, but held out at his fortress of Marienberg against Götz von Berlichingen The splendor-loving prince-bishops transformed (17th–18th cent) Würzburg into one of the finest residences of Europe and founded (1582) the Univ of Würzburg, where Rontgen and Virchow taught in the 19th cent Secularized after the Treaty of Lunéville (1801), Würzburg passed (1803) to Bavaria, was made (1805) a separate electorate in favor of the dispossessed grand duke of Tuscany, and reverted (1815) to Bavaria Among the totally or partially destroyed landmarks were the episcopal residence (1720–44), one of the jewels of baroque architecture, the Romanesque cathedral (11th–13th cent), and numerous medieval, baroque, and rococo structures

Wusih (wo͞o'shē'), Mandarin *Wu-hsi*, city and county (pop 1,102,942), Kiangsu prov, China. The city is near Tai lake and is on a railroad which connects Shanghai with much of N China Wusih is an important industrial center, cotton and silk are spun and woven

Wyandot Indians. see HURON INDIANS.

Wyandotte (wī'ŭndŏt), industrial city (pop. 30,618), SE Mich, on the Detroit river and S of Detroit, inc 1867. Salt deposits here supply the city's ex-

tensive chemical industry Other manufactures include metal toys and novelties and rubber and dairy products. Bessemer steel was first commercially produced in the city in 1864 by W. F. DURFEE A Wyandot Indian village was here in the 19th cent

Wyandotte Cave, S Ind , c 35 mi W of Louisville, Ky , and just N of the Ohio river. It has many miles of passages and several large and beautiful chambers The cave is one of the largest in the United States Corydon is near

Wyant, Alexander Helwig (wī'ănt), 1836–92, American landscape painter, b Tuscarawas co , Ohio, studied in Cincinnati and in Germany He was influenced by Inness, who became his friend Wyant achieved distinction for his subtle, delicate treatment of scenes in the Adirondacks and Catskills and of peaceful, rolling countryside views He is best represented in the Metropolitan Museum, which has 10 paintings, including his early masterpiece *The Mohawk Valley, Landscape in the Adirondacks, Broad Silent Valley, An Old Clearing. Landscape with Distant Mountains,* and *Evening* His water colors include *Sunset on the Prairie* and *An October Day* Wyant became a member of the National Academy of Design in 1869, he was a founder of the American Water Color Society.

Wyatt, Benjamin Dean see WYATT, JAMES

Wyatt, Sir Francis, 1588–1644, British colonial governor of Virginia (1621–26, 1639–42) Wyatt, married to a niece of Sir Edwin Sandys of the London Company, brought with him the first written constitution for an English colony He fared well at first, but in 1622 occurred the disastrous Indian attack which took the lives of some 350 settlers Virginia became a royal colony in 1624, but, at the crown's request, Wyatt stayed on as governor until 1626, when Sir George YEARDLEY, whom he had succeeded, resumed the office Sent over again in 1639, he was replaced by Sir William BERKELEY.

Wyatt, James, 1746–1813, English architect Though he may be considered a forerunner of the Gothic revival, he failed to acquire any knowledge of true Gothic principles of design and construction To make place for his spurious reconstructions he removed much Renaissance work from English cathedrals, wherefore Pugin christened him the Destroyer He was appointed surveyor at Westminster Abbey in 1776, did restorations at Lincoln, Salisbury, and other cathedrals, and built the new buildings at Magdalen College, Oxford He designed many residences in various parts of England, and his White's Club (1776) was among the first of the palatial club buildings in London His son and pupil, **Benjamin Dean Wyatt,** 1775–1850?, succeeded him as surveyor (1813–27) of Westminster Abbey He began the rebuilding of Drury Lane Theatre and wrote *Observations on the Design for the Theatre Royal, Drury Lane* (1813) He designed clubs and residences, among them York House (1825–26) Unlike his father, Wyatt adhered to the Georgian classic style

Wyatt, Sir Thomas, 1503?–1542, English poet and statesman Knighted in 1537 by Henry VIII, he was sent on diplomatic missions to Spain, France, Flanders, and Italy Anne Boleyn was believed to have been his mistress As poet, he wrote the first sonnets in English, modeled chiefly after Petrarch, as well as lyrics, rondeaus, satires, and a version of the penitential psalms He introduced into English Renaissance love poetry a genuinely personal quality Many of his poems appeared in 1557 in Richard Tottel's miscellany Selected poems were edited by Alan Swallow (1949) His son, **Sir Thomas Wyatt,** d 1554, was a famous conspirator In Jan , 1554, when Queen Mary's intention to marry Philip II of Spain was announced, Wyatt joined a group of gentlemen who were planning a general insurrection against the queen His allies in other parts of the country were arrested or dispersed, but Wyatt raised a small army in Kent A body of troops was sent against him at Rochester, and Wyatt's force dispersed the government's He set out for London and arrived early in February, but defections and the loyalty of Londoners to the queen prevented him from capturing the queen and taking the city He surrendered and was hanged as a traitor It was supposed that Princess Elizabeth was involved, but Wyatt's last statement exonerated her

Wycherley, William (wĭ'chûrlē), 1640?–1716, English Restoration dramatist, b near Shrewsbury, educated in France and at Queen's College, Oxford. His first comedy, *Love in a Wood* (performed 1671), won him the favor of the duchess of Cleveland, mistress of Charles II In his next plays—*The Gentleman Dancing-Master* (performed 1672), *The Country Wife* (1675), and *The Plain Dealer* (performed 1676)—Wycherley added to the witty, artificial dialogue characteristic of Restoration comedy a realistic, coarse satire He lost court favor by his marriage to the countess of Drogheda and was penniless after her death until he was pensioned by James II Young Pope helped Wycherley edit his poems for publication See Wycherley's complete works (ed by Montague Summers, 4 vols., 1924), study by Willard Connely (1930), Bonamy Dobrée, *Restoration Comedy* (1924).

Wyclif, Wycliffe, Wickliffe, or **Wiclif, John** (all wĭ'klĭf), c.1328–1384, English reformer A Yorkshireman by birth, Wyclif studied and taught theology and philosophy at Oxford He was later made rector at Fillingham (1361), at Ludgershall (1368), and at Lutterworth (1374). His belief in the doctrine that Christ is man's only overlord and that power should depend on a state of grace made him a natural champion of the people against the abuses of the Church and an advocate of the poverty of the clergy He early associated himself with the anticlerical party in the nation and in 1374 was sent to Bruges to represent the English crown in negotiations over payment of tribute to the Holy See From 1377 he made many and vigorous attacks in both Latin and English on orthodox church doctrines, especially that of transubstantiation Through his own preaching in the vernacular at Oxford and London and the itinerant teaching of his "poor priests," he spread the doctrine that the Scriptures are the supreme authority and that the good offices of the Church are not requisite to grace He was condemned as a heretic in 1380 and again in 1382, and his followers were persecuted, but he was not molested in his retirement at Lutterworth, where he died in 1384 The Wyclif Bible is a great landmark in the history of the BIBLE and of the English language This first and literal translation of the Latin Vulgate Bible into English was probably partly his own and partly the work of his followers, notably Nicholas Hereford, the smoother revision of c 1395 was directed by Wyclif's follower John Purvey Wyclif's important part seems to have been his insistence on the authority of the Scriptures and the right of all men to have access to them In England the LOLLARDS formed the link between Wyclif and the Protestant Reformation, on the Continent he was a chief forerunner of the Reformation, through his influence on John HUSS, the Bohemian reformer, and through Huss on Luther and the Moravians See editions of most of his works by the Wyclif Society, biography by H B Workman (1926), G M Trevelyan, *England in the Age of Wycliffe* (1909), M M Gammack, *John Wyclif and the English Bible* (1936)

Wycombe, England see HIGH WYCOMBE

Wye, river of Wales and England, rising on Plinlimmon mt , Wales, near the source of the Severn and flowing 130 mi past Rhayader, Builth, and Hay, in Wales, and Hereford, Monmouth, and Chepstow, in England, to the estuary of the Severn It is noted for its beautiful valley, especially the part which forms the Gloucestershire-Monmouthshire boundary A tributary of the Thames and of the Derwent in Derbyshire are also called Wye

Wyeth, John Allan (wī'ĭth), 1845–1922, American surgeon, b Marshall co , Ala , M D Univ of Louisville, 1869, and Bellevue Medical College, 1873 He served in the Civil War and for 15 months was a prisoner After teaching at Mt Sinai Hospital, New York, he helped found and organize (1882) the New York Polyclinic Medical School and Hospital, becoming professor of surgery and president of the faculty there Besides numerous works on surgery he wrote *Life of General Nathan Bedford Forrest* (1899) and the autobiographical *With Sabre and Scalpel* (1914)

Wyeth, Nathaniel Jarvis, 1802–56, American explorer and trader in the Far West, b Cambridge, Mass A businessman of Boston, he was fired with a desire to go to Oregon by the eloquence of Hall J KELLEY When Kelley's plans for an expedition were long delayed, Wyeth formed one of his own and in 1832 went across the continent, at the same time sending a ship around Cape Horn Disaster was the result, and after spending the winter at Fort Vancouver with Dr. John MCLOUGHLIN, Wyeth returned to Boston In 1834 he outfitted a new expedition, with grandiose plans for fur-trading posts, a salmon fishery, a colony, and other developments He founded Fort Hall (July, 1834) and built Fort William on the Columbia, but, though the ship did reach the Columbia and was used in trade, he was unsuccessful in competition with McLoughlin In 1836 he returned to the East, discouraged His journals and letters have been edited by F C Young (1899)

Wyeth, Newell Convers (wī'ĭth), 1882–1945, American painter and illustrator, b Needham, Mass , studied with Howard Pyle Among his many well-known murals are those in the Missouri state capitol, the New York Public Library, and the National Geographic Society (Washington, D C) His illustrations for many juvenile classics are noted His son, **Andrew Wyeth,** 1917–, b Chadd's Ford, Pa , is a well known water-color painter Among his works are *Afternoon* and *Christina's World*

Wykeham, William of: see WILLIAM OF WYKEHAM

Wylie, Elinor (Hoyt) (wī'lē), 1885–1928, American poet and novelist, b Somerville, N J. She won the Julia Ellsworth Ford Prize in poetry with her volume *Nets to Catch the Wind* (1921), she continued to shape her subtle and ironic fancy with sure intent in three more books of verse—*Black Armour* (1923), *Trivial Breath* (1928), and the posthumously published sonnet sequence, *Angels and Earthly Creatures* (1929) Her four novels exhibit a sardonic talent for evoking curious personalities. These are *Jennifer Lorn* (1923), *The Venetian Glass Nephew* (1925), *The Orphan Angel* (1926), and *Mr Hodge and Mr Hazard* (1928). At 20 she married Philip Hichborn, but in 1910 she eloped with Horace Wylie, after Hichborn's death she married Wylie in 1915, and though they were divorced in 1921, she continued to write as Elinor Wylie She was married in 1923 to William Rose Benét, poet and editor, who edited her collected poems in 1932 and her collected prose in 1933 See also her *Last Poems* (1943), biography by her sister, Nancy Hoyt (1935)

Wyman, Jeffries, 1814–74, American anatomist and physician, b. Chelmsford, Mass., M.D Harvard, 1837 He practiced in Boston and lectured on comparative anatomy at the Lowell Institute, of which he became curator (1840) In 1847 he was appointed professor of anatomy at Harvard, and in 1866 he began to organize and develop the Peabody Museum of Archaeology and Ethnology, of which he was curator (1866–74)

Wymore (wī'môr), city (pop 2,457), SE Nebr , S of Beatrice and on the Big Blue river near the Kansas line, founded 1871 It is a farm trade center and railroad division point

Wynants or **Wijnants, Jan** (both yän' vī'nänts) c 1625–c 1684, Dutch landscape painter He worked chiefly in Amsterdam and Haarlem. His pictures of dunes and forest scenes show a love and knowledge of nature and are vigorously painted, somewhat after the manner of Ruisdael The little figures in his paintings are the work of others, often of his pupil Adrian van de Velde Works by Wynants are rather rare, but he is represented in many European galleries His *Cornfield in the Dunes* (Metropolitan Mus) is characteristic

Wyndham, Sir Charles (wĭn'dum), 1837–1919, English actor-manager, whose real name was Charles Culverwell He made his debut in New York in 1861 and first appeared on the London stage in 1862 His forte was light comedy In 1899 he opened Wyndham's Theatre, London, where he produced and acted in the outstanding works of Henry Arthur Jones He was knighted in 1902

Wynkyn de Worde (wĭng'kĭn dŭ wôrd', wûrd'), d 1535, English printer, whose name originally was Jan van Wynkyn He was born at Worth in Alsace and probably accompanied William Caxton to England in 1476 He assisted in the work of Caxton at Westminster and at Caxton's death succeeded him His independent work began in 1491 and continued until his death At first he used only types that Caxton had used, but to these he later added other type faces He printed in all more than 700 books See H R Plomer, *Wynkyn de Worde and His Contemporaries* (1925)

Wynn, Ellis, 1671–1734, Welsh writer and clergyman He translated Jeremy Taylor's *Holy Living* in 1701, and in 1703 was published Wynn's masterpiece, *Visions of the Sleeping Bard,* the three visions being those of the World, Death, and Hell His edition (1710) of the Book of Common Prayer is still in use He is the great master of modern Welsh prose The name also appears as Wm and Wynne

Wynne (wĭn), city (pop 3,633), co seat of Cross co , NE Ark , on Crowley's Ridge, founded 1863 It ships peaches, cotton, and lumber

Wynnewood (wĭn'wood), city (pop 2,318), S Okla , on the Washita river and SE of Oklahoma City It is the trade center of a rich agricultural and livestock-raising area and has a cottonseed-oil mill and a small oil refinery

Wynyard (wĭn'yurd), town (pop 1,084), E Sask , near Quill Lakes at the foot of the Touchwood Hills and E of Saskatoon It is a resort in farming country and has grain elevators

Wyoming (wī-ō'mĭng), state (97,914 sq mi , 1940 pop 250,742, 1949 estimated pop 284,000), W United States, admitted 1890 as the 44th state CHEYENNE is the capital, CASPER and LARAMIE are also cities of considerable size The state is an exact rectangle 367 mi from east to west and 277 mi from north to south, it is bounded on the north by Montana, on the east by South Dakota and Nebraska, on the south by Colorado and Utah, and on the west by Utah Wyoming, generally translated from its Indian origin as "large plains," more aptly fits an alternative interpretation, "end of the plains " In E Wyoming the level or rolling country of the Great Plains covered with grasses, cactus, and sage is really a plateau a mile high, interrupted by upspringing peaks Only in the central section is the sweep of plains unbroken, and across this stretch the wagon trains rolled westward over the Oregon Trail The low, wooded Black Hills give way in the west to eroded badlands, and the badlands extend to the banks of the Powder river, which, "a mile wide and an inch deep," wanders through some of the most noted cattle country of the United States Beyond the Powder the tall-grass country ends in the wooded slopes of the lofty BIGHORN MOUNTAINS This was the hunting ground of the Crow Indians until the Sioux, following the buffalo, pushed the Crow into the mountain fastness In turn the Sioux fell before the relentless advance of the white men, who made their way across the region northward to Montana over the Bozeman Trail or eastward to the gold fields in the

Black Hills. Cattle supplanted the buffalo, and today farms and ranches prosper on some of the fertile and beautiful plains In SE Wyoming the generally higher tablelands are less sharply interrupted by the Laramie and Medicine Bow ranges Across this region the travelers to the Pacific coast made their way when the Indian wars of the '60s endangered travel on the regular Oregon Trail Trains followed wagons and coaches as the Union Pacific laid its tracks on the southerly course The pattern of interwoven plains and mountains of E Wyoming is broken by the Continental Divide, which angles across the state from the northwestern corner Pathfinders found a natural gateway through the mountains in the broad, grassy SOUTH PASS, where the trail of the mountain men and the wagon tracks of the party led (1832) by Capt B L E de BONNEVILLE were later deepened by the carts of the Mormon hegira and the wagons of the California gold seekers Northward the mountains are everywhere, their peaks towering above slopes green with fir, spruce, and pine Clear, icy lakes, which nestle in the high valleys, give rise to tumbling streams fringed with flowering shrubs Within sight of South Pass the bold summits of Wind River Range are guardians of the Far West, reaching the highest altitude in the state at Gannett Peak (13,785 ft.) To the north are the Gros Ventre and Absaroka ranges and west, near the Idaho border, the glorious Tetons (see TETON RANGE) rise above a lake and valley country of incomparable beauty In the northwest corner of the state lies YELLOWSTONE NATIONAL PARK, the oldest and largest of the national parks, with its geysers and hot springs vying in popularity with the assorted wonders of the Grand Canyon of the Yellowstone and with tourist-wise brown bears From the tops of all the ranges snows melt to feed many rivers which dash out in all directions—the Snake beginning and winding its way around and into Idaho on its long journey to the Columbia, the Yellowstone traveling N and E into the Missouri, and the Green, which finally joins the mighty Colorado This wealth of surface water supplements the scant rainfall (averaging about 14 in yearly) Some of the water is trapped by man for power and irrigation, and the MISSOURI RIVER BASIN PROJECT would reclaim many more thousands of arid acres Generous sunshine, which lends the delight of blue skies and sharp shadows to plains and mountains, intensifies the short growing season of the high altitudes Dry farming, which produces hay and small cereals, is supplemented by the more diversified yield of irrigated fields From reclaimed land in the west come sugar beets to provide material for large refineries Petroleum is the other major source of industrial development Although wells have been drilled in Wyoming since the 1860s, the oil boom did not begin until 1910 Since that time the Salt Creek field, near ill-famed Teapot Dome, has produced well Wyoming is rich in other energy-producing minerals, with extensive deposits of low-grade coal and an abundance of natural gas Although the inaccessibility of many areas makes the development of mineral resources difficult, considerable amounts of gold, iron, copper, and various clays are mined Both farming and mining are secondary to the main occupation of stock raising Perhaps more than any state today Wyoming is primarily the home of the cowboy Huge herds of cattle were first driven up from Texas and during years of adequate rainfall wintered well on the open range The boom of the bonanza years of the 1870s and 1880s collapsed after the fierce winter of 1887 destroyed huge herds Today the ranches are smaller and the basis of ownership has broadened Over much of the state sparse grasses make it necessary for each animal to have a large grazing area, and there is a growing movement toward cooperative grazing tracts Peace has been made between conflicting sheep and cattle interests and, while Wyoming may not be as wild as it was in its frontier days, it is a great deal woolier Sheep graze on areas unfit for cattle, and both sheep and cattle range by permit in the national forests Horses, a prized essential of ranching, are carefully raised and trained Around the rodeo, the roundup, and the frontier celebrations have been built many recreational attractions which add greatly to the already high tourist interest in national parks and monuments Incomparable scenery and the adventure of ranch life have guaranteed the success of dude ranching, resulting in a new source of revenue Historically Wyoming has been a battleground of conflicting claims, the fight between the sheep ranchers and cattle men being the most recent Many Indian tribes, displaced from their former homes in the east or west, waged internecine warfare for control of the rich buffalo ranges and later made their last futile bid for freedom from white domination At one time Spain, France, and England claimed portions of the state and acquisition of the territory by the United States was completed through four major annexations—the Louisiana Purchase, cession by the republic of Texas in 1836, division after Texas annexation in 1845, and the international agreement with Great Britain concerning the Columbia river country (see OREGON)

Variety of government continued even when the United States held all the territory, for until Wyoming was proclaimed a territory in 1868, the region was under a succession of different territorial units From the Louisiana Purchase to the achievement of territorial status, early development was closely linked to the fur trade and the great westward migrations The first authentic accounts of the state were provided by the intrepid John COLTER Colter trapped in the Wyoming mountains for several years, returning to St Louis in 1810 with fantastic accounts of the steaming geysers and vast canyons of the Yellowstone His tales were ridiculed and his new-found wonders were labeled Colter's Hell Colter returned west, and other fur traders made their way into Wyoming The overland party on its way to found ASTORIA on the Columbia went through Teton Pass in 1811 The next year Robert Stuart returning from Astoria crossed South Pass and followed much of the route that was to be the Oregon Trail As yet only the hardiest and most self-sufficient could survive Indian attacks and rugged isolation With the expeditions of William H ASHLEY the MOUNTAIN MEN entered the country, and some of the most famous of those early explorers—Thomas FITZPATRICK, James BRIDGER, and Jedediah S SMITH—crossed and recrossed the land Many of their rendezvous were held in the present Wyoming Attracted by the fur trade, Captain Bonneville organized an impressive expedition of 110 men and 20 wagons, the first wagons to cross through South Pass The route west was open Soon caravans set out from Independence, headed toward the western horizons of Oregon The great movement brought the beginnings of Wyoming, for fur-trading posts became stations on the Oregon Trail Two of the most celebrated posts of the West were in Wyoming—Fort Laramie (see FORT LARAMIE NATIONAL MONUMENT) and Fort Bridger (see FORT BRIDGER STATE PARK) The hosts of the westward-trending pioneers changed character but swelled in numbers Farmers going to Oregon were followed by Mormons seeking their Zion in present Utah and by the hordes rushing to find earthly gold in the California of 1849 Along the Oregon Trail graves marked the toll taken by disease, starvation, Indian attacks, and the too early onset of winter snows Stagecoach and freight lines were established, and in 1860–61 the pony-express riders made their heroic way across Wyoming on their way between Sacramento and St Joseph, Mo Nothing could stop the westward movement, and when the Indians threatened, the military was called in to suppress them The 1860s and '70s were bloody years, particularly in the valley of the Powder, which was controlled by the Sioux Treaties were made and broken by both parties, and Sioux wars persisted until after the massacre of Custer's force on the Bighorn in near-by Montana in 1876 Meanwhile S Wyoming, relatively free from Indian attack, enjoyed boom days brought by the completion of the Union Pacific Towns, including Cheyenne, were platted beside the tracks, and trading thrived on the demands of the road crews and the new settlers Cattle were herded up over the Texas or Long Trail, and soon Cheyenne became the center of a vast cattle industry Wyoming earned its title of the Equal Rights State when, in 1869, it granted the privileges of citizenship to women as well as men After Indian rebellion had been crushed, cattle were moved to grasslands throughout the state But the days of dangerous living were not over Cattle rustling became so general that the authorities were unable to cope with it, and jury members became fearful of returning a just verdict against criminals The Wyoming Stock Growers Association was organized in 1873 to protect the cattle-owners, and the members frequently created vigilante groups to administer their own justice The warfare reached its height in the Johnson co cattle war of 1892 The Hole-in-the-Wall gang broadened their activities to include bank and train robberies as well as cattle stealing Gradually the open range became a thing of the past, as vast acres were fenced and winter pastures were established Another source of violence came with the influx of sheep The cattlemen made frantic efforts to exclude the close-nibbling sheep from the precious grasslands Homesteaders also met with opposition, although many of them left as soon as they realized the country was not suited to small acreage cultivation Though development was rapid in some ways (e g, the Univ of Wyoming was founded in 1887), only gradually did the citizens recognize the peculiar needs of their state The Carey Act of 1894, providing for the reclamation and settlement of land, pointed up the need for conservation and efficient use of water The establishment of national parks protected the timberlands and extensive grazing areas Water power was harnessed to furnish electricity for the needs of farms and industries In spite of these developments life in Wyoming today remains to a good extent a gamble, requiring of the dwellers in the high plains the qualities of frontiersmen—self-sufficiency, physical strength, and a sense of adventure These characteristics breed a strong individualism, which contrasts sharply with the more conservative attitudes held by the leaders of the important corporate groups The result is generally a vigorous and fluid society which frequently expresses ambivalent positions A general resentment against government interference contrasts with a desire for the protection of the wool and beet-sugar industries Politics seems capable of producing men of statesmanlike stature or men concerned almost entirely with special interests If the West is, as Frederick J Turner asserted, "a form of society, rather than an area," it is to be hoped that Wyoming can achieve a reasonable security without sacrificing the dynamic and democratic attitudes which have played such an important part in its development See Robert Follansbee, *Surface Waters of Wyoming and Their Utilization* (1923), Christian S Dietz, *The Developed and Undeveloped Mineral Resources of Wyoming* (1929), Charles E. Winter, *Four Hundred Million Acres the Public Lands and Resources* (1932), Mrs Frances Beard, ed., *Wyoming from Territorial Days to the Present* (3 vols., 1933), Charles Guernsey, *Wyoming Cowboy Days* (1936), Struthers Burt, *Powder River Let 'er Buck!* (1938), Federal Writers' Project, *Wyoming a Guide to Its History, Highways, and People* (1941)

Wyoming 1 City (pop 1,360), N central Ill., N of Peoria, in a farm area, inc 1865 2 Village (pop 4,466), SW Ohio, north suburb of Cincinnati, settled 1865, inc 1874 3 Industrial borough (pop 4,728), NE Pa., on the Susquehanna near Wilkes-Barre, inc 1885 Its manufactures include silk and metal products A monument commemorates the massacre (1778) of Connecticut settlers in the Wyoming Valley in the American Revolution

Wyoming, University of, at Laramie, land-grant and state supported, coeducational, chartered 1886, opened 1887 It includes colleges of agriculture, commerce and industry, education, engineering, law, and liberal arts and a school of pharmacy It has a state chemistry laboratory, a trade school, and a Rocky Mt herbarium It offers a range-management curriculum, including soil conservation and forest services A school of religion is affiliated The university owns valuable oil lands

Wyoming Valley, in Luzerne co, NE Pennsylvania, on the northern branch of the Susquehanna river Wilkes-Barre is the metropolis of this rich anthracite region The valley was the scene of a long contest between Connecticut and Pennsylvania over conflicting land claims based on 17th-century charters After the SUSQUEHANNA COMPANY purchased (1754) land (which had been surveyed by John Jenkins) here from the Indians at the Albany Congress, a temporary settlement of the region in 1762–63 led to the first permanent settlement in 1769 and the building soon after of Forty Fort John Durkee was prominent in early Connecticut settlement The PENNAMITE WARS between the Connecticut and Pennsylvania settlers ensued, but rapid settlement of the area continued In 1774 Connecticut set up the town of Westmoreland, from which representatives were sent to the Connecticut legislature In 1778 the Connecticut settlers, under Zebulon BUTLER, were defeated by John BUTLER and a party of Tories and Indians, and the noted massacre, subject of Thomas Campbell's poem, *Gertrude of Wyoming* (1809), followed The land quarrel continued and was a subject before the Continental Congress When a court of arbitration decided in favor of Pennsylvania in 1782, more fighting occurred Finally, through the Compromise Act of 1799, the Pennsylvania legislature secured a means of settlement with the Connecticut claimants and the trouble was gradually solved The Connecticut settlers contributed several changes to the valley including the establishment of free public schools long before Pennsylvania provided them See H E Hayden, *A Bibliography of the Wyoming Valley* (1885)

Wyomissing (wīōmĭ'sĭng), industrial borough (pop 3,320), SE Pa., on the Schuylkill opposite Reading, inc 1906 Textiles and brick are made

Wyspiański, Stanisław, Pol. *Stanisław Wyspiański* (stänēs'wäf vēspyän'skyē), 1869–1907, Polish poet, dramatist, and painter He was forced to give up painting because of the loss of his arm His works include *The Wedding* (1901), his best-known play, *November Night* (1904), inspired by the insurrection of 1831, and several plays on Greek themes, of which *Meleager* was translated into English in 1933

Wyss, Johann David (vĭs'hän dä'vēt vēs'), 1743-1818, Swiss author of *The Swiss Family Robinson* This story of a shipwrecked family was written for his children It was published (1813) by his son, **Johann Rudolf Wyss,** 1781-1830, a professor of philosophy at the Univ of Bern and author of the Swiss national anthem The first English translation, now very rare, was published (1814) in a small edition by Mary Jane Godwin. A larger edition appeared in 1820

Wythe, George (with), 1726–1806, American jurist, signer of the Declaration of Independence, b Elizabeth City co., Va He attended the College of William and Mary, read law, and was admitted to the bar in 1747 Wythe was a member (1754–55, 1758–68) and clerk (1769–75) of the house of burgesses and drafted a remonstrance against the

Stamp Act (1765). He was thereafter an opponent of British measures and a delegate to the Continental Congress (1775–76). In 1776, he was aided by Thomas Jefferson and Edmund Pendleton in revising the laws of Virginia. He was a member of the Federal Constitution Committee (1787) and exercised much influence in getting ratification of the Constitution in 1788. His greatest contribution to state and nation was possibly as professor of law at the College of William and Mary (1779–90), for his teachings influenced many men, especially John Marshall, Thomas Jefferson, James Monroe, and Henry Clay. Wythe was one of the greatest of early U.S. lawyers. He served as judge in the Virginia chancery court from 1778 to 1788 and as sole chancellor from 1788 to 1801.

Wytheville (with'vĭl), town (pop. 4,653), SW Va., SW of Roanoke and on a high plateau in the bluegrass section, in a fertile farm area; founded 1792, inc. 1839. It has stockyards and flour, lumber, and textile mills. The courthouse of Wythe co. is here

X

X, 24th letter of the ALPHABET. In English it has no peculiar sound, but stands for the combination ks or gz or, initially, for the sound of z. In words from Greek, X transliterates the 14th Greek letter, xi (sī or ksī), a letter perhaps quite unrelated to the Roman x in form. The formal Greek correspondent of x was chi (kī), hence it is used in phonetics to represent a velar fricative like ch in *loch*. As the initial of the name Christ, X has become a symbol for it, e.g., in Xmas and in the monogram XP (chi rho). In Roman numerals X stands for 10, in mathematics x symbolizes an unknown quantity.

Xanthippe or **Xantippe** (both zănтĭ'pē), 5th cent. B.C., Athenian woman, wife of Socrates. Legend had made of her the classic shrew.

Xanthus (zăn'thŭs), ancient city of Lycia, W Asia Minor, now in Turkey. It was on the Xanthus river, also called the Scamander. It was besieged and taken by the Persians (c. 546 B.C.) and centuries later (c. 42 B.C.) by the Romans, both times the inhabitants destroyed their city before surrendering. Sir Charles Fellows excavated the ruins. Many works of art from Xanthus are now in the British Museum.

Xantippe. see XANTHIPPE.

Xauen (hou'ăn) or **Sheshawen** (shĭshô'wŭn), town (pop. 12,397), Spanish Morocco, S of Tetuán. It is a Moslem holy city, and its people have resisted Christian visitors fanatically. Its history is, therefore, little known. It was founded c. 1471 as a bulwark against the Portuguese in Ceuta. It is famous for its crafts. The name also appears in other spellings, such as Sheshauen.

Xavier, Saint Francis. see FRANCIS XAVIER, SAINT.

Xavier University. see CINCINNATI, Ohio, and NEW ORLEANS, La.

Xe, chemical symbol of the element XENON.

Xenia (zē'nēă), city (pop. 10,643), co. seat of Greene co., SW Ohio, SE of Dayton, laid out 1803. It is a trade and industrial center in a farm area. Rope and twine and furniture are made. The Ohio Soldiers' and Sailors' Orphans' Home is here. WILBERFORCE UNIVERSITY is northeast. Whitelaw Reid was born near by.

Xenocrates (zĭnŏ'krutēz), 396–314 B.C., Greek philosopher, b. Chalcedon, successor of Speusippus as head of the ACADEMY. He was a pupil and disciple of Plato, whom he accompanied to Sicily in 361 B.C. Metaphysics and ethics were his principal themes, and though he was not a great thinker, his ascetic life and noble character were a great influence on his pupils. He held that both mathematical objects and the Platonic Ideas are substances, while also identifying them as one and the same. Thus he is referred to by Aristotle as the follower of Plato who "made ideal and mathematical number the same."

Xenon (zē'nŏn), rare gaseous element, heavy, colorless, odorless, tasteless, and chemically inert (symbol=Xe, for physical constants, see ELEMENT, table). Xenon is present in minute quantities in the atmosphere. According to the periodic law it is grouped with the inert gases helium, neon, argon, krypton, and radon. The element was discovered (1898) by Sir William Ramsay and M. W. Travers, being obtained from the part of liquid air remaining after the evaporation of the helium and argon.

Xenophanes (zĭnŏf'ŭnēz), c. 570–c. 480 B.C., Greek philosopher of Colophon. He is reputed to have founded the ELEATIC SCHOOL, although his teachings only carry a tenuous suggestion of the line of reasoning. Parmenides, the true founder of the school, was to take. It was Xenophanes' expression of the unity of all existence, "all is one," that gave impetus to the Eleatics. Xenophanes attacked the anthropomorphic gods of Greece, postulating a god who was at once one, immovable, and omnipresent. His attempt to explain the nature of his god was consistent with the philosophic explorations of his predecessors—the search for unity out of apparent multiplicity.

Xenophon (zē'nŭfŭn), c. 430 B.C.–c. 355 B.C., Greek historian, b. Athens. He was one of the well-to-do young disciples of Socrates before leaving Athens to join the Greek force (the Ten Thousand) that was in the service of CYRUS THE YOUNGER of Persia. They fought well at the disastrous battle of CUNAXA (401 B.C.). The Ten Thousand then fought their way back, going through an unknown and hostile land, harried by the Persians under Tissaphernes. After the Greek generals had been treacherously killed, Xenophon was chosen as one of the leaders of the heroic retreat. He tells the story in the most celebrated of his works, the ANABASIS. After his return Xenophon, a great admirer of the military, disciplined, and aristocratic life of the Spartans, was in the service of Sparta. He accompanied Agesilaus II on the campaign that ended in victory over the Athenians and Thebans at Coronea (394). Xenophon thus was opposed to his compatriots, who passed a sentence of banishment on him. Sparta gave him an estate at Scillus in the region of Elis, where he spent years in writing. Among his works other than the *Anabasis* are the *Hellenica*, a continuation of the history of Thucydides to 363 B.C., works on Socrates presenting a sharply different picture from that of Plato, *Memorabilia*, *Oeconomicus* (a dialogue on managing a household and a farm), the *Apology* (on the death of Socrates) and the *Symposium* (a pleasant dialogue), a eulogy of Agesilaus, a dialogue on despotism, called after Hiero I of Syracuse; the *Cyropaedia*, a romantic and didactic account of the education of Cyrus the Younger, and essays on hunting, horsemanship, the ideal cavalry officer, and the constitutional practices of Sparta. He is, however, remembered almost solely for the superb narrative of the *Anabasis*.

Xerxes I (Xerxes the Great) (zûrk'sēz), d. 465 B.C., king of Persia (485–465 B.C.). His name in Old Persian is Khshayarsha, in the Bible AHASUERUS. He was the son of DARIUS I and Atossa, daughter of Cyrus the Great. After bringing Egypt once more under Persian rule, Xerxes prepared for an invasion of Greece by cutting a canal through the isthmus of Athos and constructing a bridge of boats across the Hellespont. Setting out from Sardis, he marched through Thrace and Macedonia, and, despite the bravery of LEONIDAS and his 300 Spartans, overthrew the Lacedaemonians at Thermopylae (480 B.C.). He then occupied and pillaged Athens. His fleet was destroyed at Salamis (480 B.C.). Leaving an army under his general, Mardonius, he retired into Asia. He was slain by the captain of his bodyguard and was succeeded by his son ARTAXERXES I. See PERSIAN WARS. See Jacob Abbott, *Xerxes* (1901); P. M. Sykes, *History of Persia* (1930), A. T. Olmstead, *History of the Persian Empire* (1948).

Xerxes II, d. 424 B.C., king of ancient Persia (424 B.C.), son of Artaxerxes I. After a reign of 45 days he was murdered by his brother Sogdianus.

Ximenes. For Spaniards thus named, see JIMÉNEZ.

Xingu (zĭng"gōō'), river, c. 1,200 mi. long, rising in Mato Grosso. It flows N across Pará state into the Amazon at the head of the Amazon delta. The Xingú passes through wild, partly unexplored country, and only in its lower course is it navigable.

Xochimilco (sōchēmēl'kō), city (pop. 14,370), central Mexico. It is a southern suburb of Mexico city. Xochimilco is famous for its canals lined with poplars and with flowers. The Indians established rafts covered with soil (called *chinampas*) in Lake Xochimilco. The rafts became islands rooted to the lake bottom and continued to supply vegetables and flowers for the city. Boating on the canals is a popular diversion for tourists and for the people of Mexico city. In late years decline in the water supply has threatened Xochimilco.

X ray, Roentgen ray, or **Röntgen ray** (both, rĕnt'gĭn, rūnt'gĭn, rŭnt'ĭn), invisible RADIATION of much shorter wave length than visible light rays. Unlike cathode rays (see RAY, in physics), from which they are produced, they are not deflected by a magnet or an electric charge. They are commonly produced in tubes or bulbs called consequently X-ray tubes. These consist essentially of a glass container (from which the air has been almost completely exhausted) in the walls of which are sealed two electrodes (the anode and the cathode) and in which is also present a piece of wolfram (or tungsten), platinum, or other substance. When an electric current of high voltage is applied, streams of electrons (cathode rays) flow from the cathode, pass through the tube, and strike the plate of wolfram or platinum (called the anticathode), where the X rays are given off. These rays are able to penetrate various thicknesses of a great many substances (e.g., flesh, wood, hard rubber, and other substances) but are stopped by other materials of great density, such as lead. Their ability to penetrate materials varies, depending upon the amount of exhaustion of the tube in which they are produced and the voltage applied to the tube. The so-called "hard" rays (those of great penetrating ability) are formed in tubes of a high degree of exhaustion to which a high voltage is applied; the "soft" rays (those of less penetrating ability) in tubes of less exhaustion to which a lower voltage is applied. This penetrating property of X rays is used in making X-ray pictures (radiographs or skiagraphs), the darkness of the shadows produced upon the photographic plate depending upon the degree to which the different substances can be penetrated by the rays. An interesting practical application of X rays is seen in their use in examining merchandise for defects, jewels thought to be imitation, and "old master" paintings of questioned authenticity. X rays destroy living tissue and can cause severe burns when human flesh is exposed to their action for too long a time. Their destructive power is used in X-ray therapy (see RADIOTHERAPY). They cause certain substances held in their path to give off light (to fluoresce) and the FLUOROSCOPE is based upon this activity. The use of X rays has been of great importance in studying the structure and nature of crystals (e.g., in the work of W. H. Bragg and W. L. Bragg). By the use of different chemical elements in the X-ray tube, rays of different length are produced. By means of X-ray spectra so formed, MOSELEY was able to arrange the chemical elements in the order found in the new periodic table (see PERIODIC LAW). X rays were discovered by Roentgen in 1895 and were so named by him. In his honor they are often called Roentgen (or Röntgen) rays.

Xuthus (zū'thŭs), in Greek mythology, son of HELLEN. He married CREUSA, daughter of ERECHTHEUS, and his son Achaeus was the ancestor of the ACHAEANS, a branch of the Hellenic people.

xylene (zī'lēn) or **xylol** (zī'lōl, -lŏl, -lôl), colorless, oily liquid, used extensively as a solvent and composed of a mixture of three isomeric (see ISOMERISM) compounds of carbon and hydrogen which belong to the benzene series of hydrocarbons. The three forms of xylene are known as orthoxylene (melt. pt. = −28°C., boil. pt. =144°C., density = 0.874 g. per c.c. at 20°C.), metaxylene (melt. pt. = −54°C., boil. pt. =139°C., density=0.864 g. per c.c. at 20°C.), and paraxylene (melt. pt. =13°C., boil. pt. =138°C., density=0.861 g. per c.c. at 20°C.). They are prepared from coal and wood tar and from some petroleum. Their separation from one another is difficult because of the proximity of their boiling points.

xylophone (zī'lufōn, zĭ'-) [Gr., =wood sound], musical instrument, having graduated wooden slabs which are struck by the player with small mallets. The slabs are usually arranged like a keyboard, and the range varies from two to four octaves. When tubular resonators are attached to the bars, the instrument is called a marimba.

XYZ Affair, name usually given to an incident (1797–98) in Franco-American diplomatic relations. Relations between the new republics were already strained. The United States had in 1778 entered an alliance with France, but after the outbreak of the French Revolutionary Wars was both unable and unwilling to lend aid. The anti-French Federalists gained the upper hand in the United States, and there was considerable antagonism toward France, particularly after the GENÊT affair. The conclusion (1795) of Jay's Treaty with England, which partially vitiated the agreements with France, awoke French anger. American ships were taken by French privateers, grievances against the Bordeaux embargo of 1793 continued, and the countries drifted into a mutually hostile attitude. President George Washington had replaced Gouverneur Morris as minister to France by James Monroe, but later was persuaded by Secretary of War Timothy Pickering to replace Monroe with Charles Cotesworth PINCKNEY. In 1797 John ADAMS, the new President, sent John MARSHALL and Elbridge GERRY to join Pinckney. This three-man commission ran into trouble with the Directory and notably with TALLEYRAND. Indirect suggestions of loans and bribes to France came through Mme de Villette, a friend of Talleyrand and the landlady of Gerry and Marshall. Negotiations were carried on through her with X (Jean Conrad Hottinguer), Y (a Mr. Bellamy, an American banker in Hamburg), and Z (Lucien Hauteval, like Hottinguer, a Swiss). The proposal that the Americans pay Talleyrand £50,000 created an uproar when it was heard in the United States, where the pro-British party welcomed the chance to worsen Franco-American relations. Talk got nowhere and the mission broke up. Marshall coming home, Pinckney taking a sick daughter to S. France, and Gerry, a Republican and Francophile, remaining with Talleyrand. Trouble with France threatened grave effects. Vice Presi-

dent Thomas Jefferson told Victor Du Pont, French consul at Charleston, to warn Talleyrand against pushing the United States into war, and within a short time the offending French decrees of spoliation were withdrawn. Adams was already talking with William Vans Murray, U S. minister to the Netherlands, and Richard Codman, an American from Paris, when France made overtures through the Netherlands Adams, to the intense disgust of the Federalist leader, Alexander Hamilton, made Murray the U S minister to France and sent Oliver Ellsworth and William Richardson Davie to aid him The result was the Convention of Mortefontaine (Sept. 30, 1800), which settled the arguments

The affair contributed to American patriotic legend in the reply Pinckney is supposed to have made in response to a request for money, "Millions for defense, sir, but not one cent for tribute" This reply was certainly not made, but a better case can be made for the alternate version, "No, no, not a sixpence"

Y

Y, 25th letter of the ALPHABET It was a Latin importation of the eastern Greek upsilon (see U), which was pronounced like u, the Romans used it for Greek words. In English y is mainly symbolic of the semivowel occurring in *yet*, the same semivowel is the second member of the diphthongs a, e, i, and oi The modern ignorant use of y in *ye* for *the* (as in "Ye Olde Shoppe") is based on a misreading of an old sign for th In chemistry Y is the symbol of the element YTTRIUM

Y-. For Dutch names beginning thus, see IJ-.

Yablonovy Range (yä'blunôvĕ), mountain chain, RSFSR, in SE Siberia Forming part of the watershed between the Arctic and the Pacific, it extends from the Mongolian border in the southwest to the Olekma river in the northeast It is crossed by the Trans-Siberian RR near Chita Bolshoi Sarankakan is the highest point (5,280 ft.)

yacht (yät) [Dutch, =chase, hunt], any vessel, employing either sail or power, used only for pleasure or sport Yachts may be of schooner, cutter, cruiser, sloop, yawl, or other type and vary from less than 20 ft. to more than 100 ft in length Cruising yachts are usually fitted with Diesel or gasoline engines, while racing yachts are usually fore-and-aft rigged, the schooner and cutter are most popular Rules govern the size and style of sailing yachts competing in international and other races Since the first yacht club was organized in Cork, Ireland, in 1720, there have been many changes in the structure favored for racing yachts The tendency usually was to evolve a ship combining speed, seaworthiness, and habitability The forerunner of the Royal Yacht Squadron was formed at Cowes, England, in 1812, and in 1851 it offered a silver cup as prize for a race of 60 mi around the Isle of Wight The famous 100-foot schooner yacht *America* (owned by members of the New York Yacht Club) crossed the Atlantic to win the cup This cup, the most highly prized international yachting trophy, has since remained in the United States, successfully defended in many meets, in 1937 by Harold S Vanderbilt with the *Ranger*, against T O M Sopwith (England) with the *Endeavor II* The most famous challenger for this trophy, called the *America*'s Cup, was Sir Thomas LIPTON, who contended in five meets with five boats named *Shamrock* Yacht racing is carried on over marked courses with an imaginary line as a starting point and finishing point or from place to place as in the California-to-Hawaii race Before the race the yachts jockey for position, the object of each helmsman being to cross the starting line at full speed immediately after the starting gun is fired Since all boats do not start at the same time, the winner is determined by his time for the course, not by finishing position When the yacht is running with the wind, every sail is used, and, whenever possible, additional spinnaker sails (large triangular balloon sails) are set When the wind is abeam, the yacht is close hauled as much as possible, and when sailing into the wind tacking must be resorted to The rules of yacht racing are most stringent, and the skill and judgment of the helmsman is a large factor in success Recently, many small yachts have been designed, with the *Star* class gaining great popularity

Yadkin, river see PEE DEE, river

Yahata, Japan see YAWATA

Yahweh (yä'wĕ, yä'vĕ), modern reconstruction of the ancient Hebrew ineffable name for GOD Other forms are Yahve, Yahveh, and Yahwe

Yaila Mountains, RSFSR. see CRIMEA

Yajur-Veda: see VEDA.

yak, mammal of Tibet and other parts of central Asia It is assigned by various authorities to either the genus *Bos* or *Poephagus* It is larger and more heavily built than most domestic cattle and has rather short, stout legs, high shoulders, and long hair growing on the flanks, legs, and tail and reaching nearly to the ground Its horns are large and curved In the wild state the animal is usually brownish black, but domesticated yaks are sometimes black, brownish, or reddish It can live on quite barren soil, where it feeds on the sparse vegetation which could not support other domestic animals. Domesticated yaks are used as a source of meat and milk; butter and cheese can be made from the milk and cream. It is also a valuable saddle and pack animal Its hair is used in making cloth, and its hide for leather.

Yakima (yă'kumô, -mu), city (pop. 27,221), co seat of Yakima co, S central Wash, on the Yakima river, settled 1861 The city is the commercial and industrial center of a great irrigated agricultural valley, famous for its fruits and vegetables and producing also grain and livestock There are canneries, packing plants, and lumber and flour mills A junior college is here, and an Indian reservation near by

Yakima, river, c 200 mi long, rising in central Washington in the Cascade Range It flows SE past Yakima to the Columbia river just above its confluence with the Snake river It supplies water for a Federal irrigation project, begun in 1906, which has helped to make the valley an important farming and fruitgrowing region

Yakima Indians, North American Indian tribe of Shahaptin linguistic stock In the early 19th cent they lived along the Columbia and the Yakima rivers, in central Washington They then numbered some 1,200 In 1855 an attempt by the United States to place the Yakima on a reservation resulted in a war Under a capable leader, Kamiakin, the Yakima continued warfare until 1859, when they were placed on a reservation in Washington The Yakima are now a settled, agricultural tribe, numbering some 3,000 Yakima culture was of the Plateau cultural area, they fished for salmon and gathered roots, berries, and nuts They excelled and still excel in basketmaking See H D Guie, *Tribal Days of the Yakimas* (1937)

Yakub I (yäkōōb'), 1160?–1199, ruler of Morocco (1184–99) He was known as Yakub al-Mansur [the victorious], after his victory over Alfonso VIII of Castile at Alarcos (1195) One of the most powerful of the ALMOHADES, he encouraged art and literature and constructed many public buildings, notably the Giralda at Seville, the Koutoubiya tower at Marrakesh, and numerous edifices at Rabat

Yakutat Indians, see TLINGIT INDIANS

Yakut Autonomous Soviet Socialist Republic (yŭkōōt'), autonomous republic (1,182,300 sq mi, 1946 estimated pop 450,000), RSFSR, in NE Siberia, between the Arctic Ocean in the north and the Stanovoi Range in the south Yakutsk is the capital Drained by the Lena and its tributaries, the Yakut ASSR has important natural resources which, however, are little exploited because of poor transportation Its main exports are furs, gold (mined extensively in the south, notably at ALDAN), and mammoth ivory There are extensive forests In the northeast rises the VERKHOYANSK RANGE In the central region, agriculture and cattle raising are the means of livelihood The climate, relatively warm in summer, reaches the extreme of cold in winter at VERKHOYANSK The Yakuts, a people belonging to the Turkic linguistic family, form c 80 percent of the population, they engage chiefly in fishing, trapping, and reindeer raising The rest of the inhabitants are mainly Russians (10 percent) and Evenki The autonomous republic was formed in 1922

Yakutsk (yŭkōōtsk'), city (1926 pop 10,558, 1939 pop 52,888), capital of Yakut ASSR, RSFSR, in E Siberia It is a river port on the Lena and a highway center in an agricultural region Founded in 1632, it was formerly a place of political exile

Yale, Elihu, 1649–1721, English merchant, b Boston The family moved to England c 1652, and Yale was educated in London He went to Madras in the service of the British East India Company c 1670 and rose in the ranks of the company He was appointed governor of Fort St. George at Madras in 1687 Because of scandals concerning his administration, he was removed in 1692 and returned to London in 1699 Through private trade while in the East he had amassed a large fortune In 1718 Cotton Mather wrote Yale suggesting that the Collegiate School at Saybrook, Conn., might be named for him in return for financial support Yale donated a parcel of goods, which when sold brought £562—the largest single gift to the college before 1837 The college, later moved to New Haven, took the name of Yale See F. B Dexter, *A Selection from the Miscellaneous Historical Papers of Fifty Years* (1918), biography by Hiram Bingham (1939)

Yale, Linus (lī'nus), 1821–68, American inventor, b. Salisbury, Herkimer co, N Y He invented numerous devices for the improvement of locks of various types and developed a compact pin-tumbler cylinder lock He founded (1868) at Stamford, Conn., a company to manufacture locks

Yale, village, SW British Columbia, at the head of navigation on the Fraser and at the south end of the Fraser river canyon The Hudson's Bay Company established Fort Yale here in 1848

Yale. 1 City (pop 1,489), S Mich, NW of Port Huron, settled 1859, inc as a village 1885, as a city 1905 Woolen goods and canned goods are made 2 City (pop 1,407), N central Okla., near the Cimarron river and W of Tulsa, in an oil-producing region, inc 1903

Yale University, at New Haven, Conn Chartered in 1701 and opened in 1702 as the Collegiate School of Connecticut at Killingworth (now Clinton), it was moved in 1707 to Saybrook (now Old Saybrook) and in 1716 to New Haven In 1718 the name was changed to Yale College to honor Elihu YALE, who had been persuaded by Jeremiah DUMMER to contribute to the College The stern Puritan school grew through the years to be a well-established seat of learning for young men long before the colony became a state The first rector, Timothy Cutler, was dismissed because his theological views were suspect, but among the early presidents were such distinguished men as Ezra STILES and the elder Timothy DWIGHT Special schools were established—medicine (1813), divinity (1822), law (1824), Sheffield Scientific School (1861), and fine arts (1869, the first in any U.S university) In 1887, when the younger Timothy DWIGHT was president, the name was changed to Yale University Today it is a large nonsectarian university Women students are admitted to many of the graduate and special schools Subordinate and allied divisions and institutions include schools of music, forestry, engineering, and nursing and the Institute of Human Relations (founded 1929) The Peabody Museum of Natural History has collections in anthropology, zoology, and paleontology, the Yale art gallery (1832) is rich in early American and pre-Renaissance Italian art, and the library has several notable collections, including incunabula, publications about the South Sea Bubble the Lowell Mason musical library, an Oriental collection, and the manuscript papers of Col E M House The observatory (1879) has a branch at the Univ of Witwatersrand, Johannesburg, South Africa Yale-in-China (Ya-li) in Changsha was founded in 1902 as an outgrowth of missionary activities, it was much damaged by the Japanese in the Second World War All the far-flung activities of the university still have their core in Yale College, which in 1933 was reorganized into a resident-college system The traditional rivalry with Harvard has continued, the annual Yale-Harvard boat race (since 1852) and the annual Yale-Harvard football game (since 1875) are looked-for events in the sports calendar The Yale sports program is wide, and several of the athletic coaches have been prominent, notably Walter Camp in football and Robert J H Kiphuth in swimming The Yale Univ Press, which has its own printing plant and publishes the quarterly *Yale Review* as well as many varied books, was established in 1908 See Timothy Dwight, *Memories of Yale Life and Men, 1845–1899* (1903), Edwin Oviatt, *The Beginnings of Yale* (1916), F B Dexter, ed., *Documentary History of Yale University 1701–1745* (1916), H S Canby, *Alma Mater* (1936)

Yalta (yôl'tŭ, yal'tu, Rus yal'tŭ), city (pop 78,838), S Crimea, RSFSR, on the Black Sea, ESE of Sevastopol, in a subtropical region of orchards, vineyards, and tobacco fields. It is one of the chief health resorts of the USSR and has many hotels, sanatoriums, and rest homes—many of these being villas built by the nobility before the Russian Revolution Near by is the town and palace of LIVADIYA The city dates from ancient Greek times

Yalta Conference, meeting (Feb 4–11, 1945), at Yalta, Crimea, USSR, of Winston Churchill, F D Roosevelt, and Joseph Stalin It is also called the Crimean Conference A number of decisions were made, some were kept secret for a time for military or political reasons, and the complete text of all the agreements was not disclosed until March 25, 1947 Although the decisions were those of the major belligerents, Great Britain, the United States, and the USSR, it was agreed that the adherence of France would be invited The Yalta conferees confirmed the policy adopted at the Casablanca Conference of demanding Germany's unconditional surrender Plans were made for dividing Germany into four zones of occupation (American, British, French, and Russian) under a unified control commission in Berlin Reparations in kind were to be collected from Germany for two years after surrender in order to destroy German

military power. The determination to punish war criminals was reasserted The conferees decided to ask China and France to join them in sponsoring the founding conference of the United Nations to be held in San Francisco on April 25, 1945, and agreement was reached on using the "veto" system of voting in the projected Security Council The Council of Foreign Ministers was established and was directed to meet whenever necessary The USSR secretly agreed to enter the war against Japan within three months of Germany's surrender and was promised N Sakhalin and the Kurile Islands The secret agreement respecting the disposal of Japan's holdings also provided that the port of Talien (Dairen) should be internationalized, that Port Arthur should be restored to its status before the Russo-Japanese War (1904 5) as a Russian naval base, and that the Manchurian railroads should be under joint Chinese-Soviet administration China later protested that it was not informed of these decisions concerning its territory and that its sovereignty was infringed

Yalu (yä'lōō'), river, NE Asia, rising in the Changpai mts in Sungkiang prov, China, and flowing c 500 mi SW to the Bay of Korea at Antung For most of its course the river forms the boundary of Korea and China In places it can be navigated by shallow-draft vessels, but the chief commercial use is for floating timber to sawmills

Yalung or **Ya-lung** (both yä'lōōng'), river rising in the Kunlun range in S Tsinghai prov, China, and flowing c 700 mi S across Sikang prov to the Yangtze at the border of Yünnan prov

yam, any of several tropical twining plants of the genus *Dioscorea*, cultivated for the starchy, tuberous roots that have long been used as food The tubers often weigh 30 lb or more They are baked, boiled, ground into flour, or fed to livestock In the United States the yam is grown for food in the southernmost part only, but farther north the wild yam (sometimes used medicinally) is indigenous, and another species, the cinnamon vine, is cultivated as a decorative plant In the South the SWEET POTATO is often called yam

Yama see HINDUISM

Yamada, Japan see UJI-YAMADA

Yamagata, Aritomo, Prince (ärē'tōmō yämä'gatä), 1838–1922, Japanese soldier and statesman, chief founder of the modern Japanese army A samurai of Choshu, he took part in the Meiji restoration that gave power to Mutsuhito, then studied military science in France and Germany He took an active part in the acquisition of Formosa, of Korea, and of the Japanese interests in Manchuria He was chief of staff in the Russo-Japanese War and was made a field marshal The leader of the military faction in the ruling oligarchy, he was the rival of Prince Ito, the great civilian statesman, and favored authoritarian government After Ito's death Yamagata's authority was paramount in Japan until his own death in 1922, though it was challenged by a fellow clansman, Taro Katsura Yamagata was president of the privy council (1893–95, 1905–9, 1909–22) He accepted the post of prime minister and served (1889–91, 1898–99), but he disdained party politics and preferred to exercise his authority as an elder statesman (genro) He was responsible for the rule that only active officers could serve as war or navy minister, a rule that made the army able to wreck any cabinet

Yamagata (yä"mä'gätō), city (1940 pop 69,184, 1947 pop 98,632), capital of Yamagata prefecture, N Honshu, Japan It is a silk-reeling center

Yamaguchi (yämä'gōōchē), city (1940 pop 34,579, 1947 pop 97,975), capital of Yamaguchi prefecture, SW Honshu, Japan A great castle city from the 14th to the 16th cent and site of a mission established (1550) by St Francis Xavier, it is today a commercial center The prefecture includes Shimonoseki and Ube

Yamal-Nenets National Okrug (yümal'-nyĕ'nyĭts, ō'krōōk), administrative division (258,800 sq mi, 1946 estimated pop 40,000), RSFSR, in NW Siberia, partly N of the Arctic Circle Salekhard is the capital The northernmost part of the region is the large Yamal Peninsula, between the Kara Sea in the west and Ob Bay (see OB) in the east With a tundra vegetation, the peninsula (like much of the rest of the area) is used for reindeer raising Fur trapping and fishing also are important sources of livelihood The population consists mainly of Nentsy, Khanty, and Komi (formerly known, respectively, as Samoyedes, Ostyaks, and Zyrians).

Yamamoto, Gombei, Count (gōmbā' yämä'mōtō), 1852–1933, Japanese admiral He was navy minister (1898 1906), contributing much to Japan's naval triumph in the Russo-Japanese War Yamamoto was later (1913–14, 1923–24) prime minister. His first cabinet fell because of a scandal concerning the construction of battleships His second took office the day after the great earthquake of 1923 Immediately the arrest of over 1,000 persons, chiefly Socialists, was ordered Party conflicts over reconstruction brought about its downfall.

Yamamoto, Isoroku (ēsō'rōkōō"), 1884–1943, Japanese admiral. He became vice navy minister in 1936. In 1941, at the time of the attack on Pearl Harbor, he was commander in chief of the combined fleet and first fleet He was killed in action in 1943

Yamanashi (yämä'nä'shē), prefecture, central Honshu, Japan see KOFU, the capital

Yamasee Indians, Yamasi Indians (both yă'mŭsē, yă'-), or **Yemasee Indians** (yĕ'-), tribe of North American Indians of the Natchez-Muskogean linguistic stock In the late 16th cent when Spanish missions were established among them, the Yamasee lived in S Georgia and N Florida They remained under Spanish rule until 1687, when they revolted and fled to South Carolina They were friends of the English colonists, but in 1715 they killed some English traders. The English, therefore, drove the Yamasee out of South Carolina and back into Florida From that time they were known as friends of the Spanish and enemies of the English In 1727 their village near St Augustine was attacked and destroyed by the English There are very few Yamasee left The Yamasee belonged to the Southeastern cultural area

Yamashita, Tomoyuki (tōmō'yōōkē yämash'tä), 1885–1946, Japanese general He commanded the army which took Singapore (Feb, 1942) In March, 1942, he relieved Homma in the Philippines and took Bataan (April) and Corregidor (May) He also commanded during the unsuccessful defense (Oct, 1944 Aug, 1945) of the Philippines against the invading Allies under Douglas MacArthur On Sept 2, 1945, he surrendered near Baguio, Luzon In October he went on trial before a military commission in Manila for atrocities committed by soldiers under his command He was found guilty (Dec 7) His appeal to the U S Supreme Court to intervene failed (Feb 4, 1946), and Yamashita was hanged Feb 23, 1946

Yamaska (yümä'skŭ), river of S Quebec, rising near the Vt border and flowing 110 mi NW and N past Farnham and St Hyacinthe to the St Lawrence at Lake St Peter, ENE of Sorel Its chief tributaries are the Centre Yamaska and North Yamaska

Yambo (yäm'bō) or **Yenbo** (yĕn'bō), town (pop c 3,000), Saudi Arabia, in the Hejaz It is the port of Medina The name appears also as Yanbu

Yambol (yäm'bōl), city (pop 30,311), E Bulgaria It is an agricultural center and a railroad junction, and it produces foodstuffs, cotton textiles, and leather There are manganese deposits near by Another spelling is Jambol

Yamburg, RSFSR see KINGISEPP

Yamdena, Indonesia see TANIMBAR ISLANDS

Yancey, William Lowndes, 1814–63, American leader of SECESSION, b Warren co, Ga Educated (1830–33) at Williams College, he was admitted (1834) to the bar in Greenville, S C, but soon moved to Alabama There he became an outstanding lawyer, was elected to the state house of representatives (1841) and the state senate (1843), and served in Congress (1844–46) Yancey wrote (1848) the Alabama Platform, which demanded of Congress the positive protection of slavery in the territories Adopted by several Southern states under his militant leadership, Yancey's doctrine soon became the creed of the whole South As extreme a "fire-eater" as William Lloyd Garrison was an abolitionist, he even advocated the reopening of the African slave trade After the Compromise of 1850 he retired into the background, but the events of 1860 once more brought him to the fore At the national convention of the Democratic party in Charleston, he expressed the Southern demands in one of his greatest speeches, and when the Northern delegates, led by Stephen A Douglas, refused to accept the "Yancey platform," practically all his Southern colleagues followed him out of the convention. Later the Southern Democrats nominated John C Breckinridge for President Yancey wrote the Alabama ordinance of secession, and the whole separatist movement was due more to him than any other one Southerner After the organization of the Confederacy, Jefferson DAVIS, then only provisional president, sent Yancey, a potential rival for the permanent office, to Europe as a Confederate commissioner Failing to secure recognition from England and France, he returned in 1862, was elected to the Confederate senate, and served there till his death See biography by J W DuBose (1892)

Yangchow or **Yang-chou** (both yäng'chō', yäng'jō'), officially *Kiangtu*, city (pop 127,104), SW Kiangsu prov, China It was one of the capitals of the Sui dynasty An ancient wall surrounds the city, which is noted for its buildings Yangchow is identified as the place which Marco Polo governed

Yangku, China see TAIYÜAN

Yangtze or **Yang-tze** (both yäng'sē', yäng'dzŭ) [Chinese, = son of the sea], river rising in SW Tsinghai prov, China, and flowing c 3,200 mi to the East China Sea It is the longest river of China The headstreams of the river rise at an altitude of c 16,000 ft. The turbulent upper section of the Yangtze, the Kinsha [Chinese, = golden sands], runs on a precipitous southerly course through Tsinghai and Sikang provs. and then turns east to follow a twisting path across Yünnan prov and into Szechwan prov, where, at Ipin, its junction with the Min river begins the Yangtze proper. The spectacular Yangtze gorges, a serious hazard, and at times a bar, to navigation, extend from Ipin, past Chungking, to Ichang in Hupeh prov. The river proceeds E through Hupeh, passing, at the junction with the Han river, the great industrial cities of Wuchang, Hanyang, and Hankow It then dips into Kiangsi prov and continues NW through Anhwei prov, passing Anking and Wuhu, and E through Kiangsu prov, past Nanking, to empty into the sea near Shanghai It is estimated that the Yangtze and its tributaries drain more than 700,000 sq mi Navigable by ocean liners from its mouth to Ichang and by smaller vessels to Ipin, the river is perhaps the major east-west trade artery of China and the route by which much of the country's foreign trade travels Along the Yangtze's banks the industry of central China (second in importance only to that of Manchuria) is concentrated The river furnishes water to irrigate the valley and the vast plains which it has built up, and the deposition of silt in the ever-growing delta (occupying a large part of Kiangsu prov) makes for one of the principal rice-growing areas in China The Yangtze, unlike the Yellow River, is not a persistent threat to agriculture and human life, because devastating floods are rare

Yankee, term used by Americans generally in reference to a native of New England and by non-Americans, especially the British, in reference to any American of any section According to H L Mencken the word is from the Knickerbocker Dutch and was apparently derived either from *Janke*, diminutive of *Jan*, or from *Jankees* (pronounced *Yoncase*), a combination of *Jan* and *kees* (cheese), thus signifying *John Cheese* As early as 1683 *Yankey* was a common nickname among the pirates of the Spanish Main, always, however, it was borne by Dutchmen There is no satisfactory explanation, reports Mencken, of how it came to be applied to the Englishmen of colonial America and particularly to New Englanders By 1765 it was in use as a term of contempt or derision, but by the opening of the American Revolution, New Englanders were proud to be called Yankees The popularity of the marching song *Yankee Doodle* probably had much to do with the term's subsequent wide usage In the Civil War it was applied disparagingly by the Confederates to Union soldiers and Northerners generally, and with Southern hatred for the North rekindled by the Reconstruction period it survived long after the war was over, usually in the form *damyankee* (one word) In the First World War, the English began calling American soldiers, both Southerners and Northerners, Yankees, the Southerners, Mencken says, "seem to have borne the affliction philosophically" At that time too the shortened form *Yank* became popular in the United States, with George M Cohan's war song *Over There* contributing largely to its increased usage However, *Yank*, too, was known in the 18th cent, as early as 1778, and the Confederates also used that form in the Civil War Yankee and Yank were again popular designations for the American soldier in the Second World War The terms have now lost their insulting connotation See H L Mencken, *The American Language* (4th ed, corrected, enlarged, and rewritten, 1936)

Yankee Doodle, song beginning, "Yankee Doodle went to town, A-riding on a pony," which was especially popular with the American troops during the American Revolution and is still included in collections of patriotic and old familiar songs The origin of title, tune, and words is uncertain The tune was evidently first known as an instrumental piece and appeared in print in the latter part of the 18th cent An account in a magazine of 1824 (which was for many years accepted as true) attributed the words to Dr Richard Shuckburg, a surgeon on the staff of the British army, who was said to have written the verses in 1755 as a joke on the motley group of soldiers in the adjoining provincial camp in Albany Although this is evidently inaccurate in detail, it is possible that Dr Shuckburg did write some of the verses, at least, at a later date It seems probable that the song was first used by the British in derision of the colonial soldiers and that it was later adopted by the Americans as their favorite marching song, although O G T Sonneck considers the words too gentle for actual derision and thinks they may have been written by Edward Bangs in the provincial camp near Cambridge, Mass, in 1775 or 1776 See O G T Sonneck, *Report on "Yankee Doodle"* (1909), J T Howard, *Our American Music* (rev ed, 1946), Sigmund Spaeth, *A History of Popular Music in America* (1948)

Yankton, city (pop 6,798), co seat of Yankton co, extreme SE S.Dak, on the Missouri above the mouth of the James and SSW of Sioux Falls Settled in 1858 as a fur-trading post, it was laid out in 1859 and incorporated in 1869, commission government was established in 1910. It was the Dakota territorial capital from 1861 to 1883 In a grain and livestock region, Yankton is a railroad center and shipping point, with grain elevators, creameries, cement works, and other industries. It is the site of Yankton College (coeducational, 1881) and of the state hospital for the insane.

Yankton Indians and Yanktonai Indians: see SIOUX INDIANS.

Yannina, Greece: see IOANNINA.

Yaoundé (yäōōndā'), town, capital of French Cameroons It is connected by rail with the coast. There is trade in cacao and palm products

Yap (yäp, yip), island group (39 sq mi , pop 2,744), W Pacific, in the W Caroline Islands It is 275 mi NE of Palau and consists of 4 large and 10 small islands surrounded by a coral reef Composed of older crystalline rocks, Yap is geologically different from the other Caroline Islands It is known for the stone money used by the Micronesian natives An important communications center, Yap has cable and radio stations In the Second World War it was the site of a Japanese air base, but was not invaded by U S forces

Yaphank (yāp'hăngk), unincorporated village on E central Long Island, SE N Y , NE of Patchogue Camp Upton here was a U S army induction center in the First and Second World Wars

Yaqui Indians (yä'kē), people of Sonora, Mexico, settled principally along the Yaqui river Their language is of the Uto-Aztecan stock (see LANGUAGE, table) They engage in weaving and agriculture, many work in the cotton regions of Sonora and S Arizona They have a clan system of government The Yaqui have proved themselves warlike and usually unfriendly toward Western encroachments on their lands To control their capacity to resist, the Mexican government resettled many groups in different parts of the country, some, to escape subjugation, have at various times emigrated to Arizona

Yardley, borough (pop 1,459), SE Pa , on the Delaware and near Trenton, N J , settled 1682 It has textile mills

Yare (yär), stream of Norfolk, England Its lower course widens into the BROADS and unites with the Waveney to form the estuarine Breydon Water

Yarkand (yärkänd'), Mandarin *So-chu,* river, rising in the mountains of SW Sinkiang prov , China, and flowing c 300 mi NE to the Kashgar river The city of Yarkand (pop c 25,000) is on the river It is in an oasis bordering the Taklamakan, and it is a center for trade with India and with the USSR Most of the inhabitants are Turkic-speaking, only a few are Chinese

Yarmouth (yär'muth), city (pop 7,790), SW N S , on the Atlantic at the entrance to the Bay of Fundy It is a port, with shipping connections to Boston and New York, and an industrial center, with shipbuilding, fishing, fish curing, lumbering, foundries, a cotton mill, and plants making boxes and other wood products Irish moss and strawberries are shipped from here, and the city is a summer resort and tourist center The region was visited (1604) by Champlain, who named it Cap Fourchu, and it became a French fishing settlement In 1759 a few settlers came here from Yarmouth, Mass , and called it after their former home The city was founded in 1761, when a larger group of settlers came from Sandwich, Mass They were followed (1767) by Acadians from the Grand Pré district and, later, by United Empire Loyalists

Yarmouth. 1 Small port, on the Isle of Wight, England, near the western end of the island and on the Solent at the mouth of the Yar rivulet **2** Officially **Great Yarmouth,** county borough (pop 56,771), Norfolk, England, a port on a long, narrow peninsula between the North Sea and Breydon Water (estuary formed by the Yare and Waveney rivers) The site was early occupied, there are vestiges of the ancient walls Yarmouth is a resort and is also important for its fishing, the Yarmouth bloater (prepared herring) is famous The harbor is protected, and Yarmouth Roads provide safe anchorage off the coast The Church of St Nicholas, the largest parish church in England, was founded by Bishop Herbert de Losinga early in the 12th cent Of interest are the "rows," or narrow lanes, about 145 in number, many of them only 3 to 5 ft wide, in the older part of the town. The old tollhouse contains a library and museum The borough figures in Dickens's *David Copperfield*

Yarmouth. 1 Town (pop 2,214), SW Maine, NNE of Portland, settled 1636, inc 1680 It includes the resort and fishing village of Yarmouth on Casco Bay. North Yarmouth Academy is in Yarmouth town The coast settlement was several times raided in the Indian wars of the 17th and 18th cent **2** Resort town (pop 2,286), SE Mass , on Cape Cod E of Barnstable, settled and inc 1639 The Thacher House (1680) is preserved

yarn, FIBERS or filaments formed into a continuous strand for use in weaving TEXTILES or for the manufacture of thread Staple fibers, as cotton, linen, and wool, are made into yarns by CARDING, COMBING (for fine, long staples only), drawing out into roving, then SPINNING Continuous filaments, as SILK, rayon, or nylon, are twisted directly into yarn or may be cut into short lengths and prepared like staple fibers Yarns are twisted to give them strength and smoothness Two or more strands twisted together form ply yarns In slub yarns areas are left untwisted to vary the diameter, thus producing ornamental effects Complex yarns, as bouclé and ratiné, are made by twisting together yarns of different tensions or diameters The relation between the weight of the raw fiber of staple varns and the yarn length is expressed by the yarn number; the finer the yarn, the higher the number In filament yarns the yarn number, expressed in deniers, increases with the coarseness of the yarn See Zelma Bendure and G B Pfeiffer, *America's Fabrics* (1946), M S Woolman and E A B McGowan, *Textiles* (3d ed , 1943)

Yaroslavl (yŭrusl'vŭl), city (1926 pop 114,282, 1939 pop 298,065), capital of Yaroslavl oblast, N central European RSFSR, on the upper Volga It is a major river port and industrial center, producing automobiles, synthetic rubber, asbestos, machinery, and cotton textiles Founded in 1024, it was the capital after 1218 of a principality which was absorbed by Moscow in 1463 In the 16th and 17th cent it developed as an important trade center on the route from the White Sea to the Near East and was the seat of an English trading station, where the first modern Russian ships were built (1564–65) Its old kremlin was destroyed (1918) in the civil war However, the city has preserved its 12th-century monastery and several churches of the 17th cent , a period of artistic flowering Yaroslavl has an art gallery, several museums, agricultural, medical, and technical schools, and the oldest theater in Russia (founded 1747)

Yarra (yă'ru), river of S Victoria, Australia, rising in the Great Dividing Range and flowing 115 mi generally W past Melbourne to Hobson's Bay (inlet of Port Phillip Bay) It is navigable 5 mi below Melbourne by small steamers It was formerly called the Yarra Yarra

Yarrow or **Yarrow Water,** stream of Scotland It rises near the point where the counties of Peebles, Selkirk, and Dumfries meet and flows through Loch of the Lowes and St Mary's Loch in Selkirkshire to Ettrick Water near its confluence with the Tweed The name is sometimes confined to that portion of the stream below St Mary's Loch Yarrow valley is celebrated for its beauty

yarrow, strong-scented Eurasian perennial (*Achillea millefolium*), called also milfoil, long naturalized in North America It has a flat-topped cluster of small composite flowers, usually white (rarely purple) but sometimes pink or red, the red being often cultivated in gardens The leaves are small and carrotlike Yarrow was a love charm of high repute, and its generic name resulted from the use Achilles is said to have made of the plant in healing the wounds of his soldiers and stopping bleeding—a use that has been continued locally to the present time American Indians used the plant somewhat similarly for applications, particularly for earache When yarrow is fed to cows, the milk is inferior Other species of the genus are also called yarrow, one western American species is sometimes considered a variety of *Achillea millefolium*

Yasnaya Polyana (yä'snĭă pŭlyä'nŭ), village, central European RSFSR, 7 mi S of Tula Here Leo TOLSTOY was born and had his estate, where he spent the later years of his life Briefly occupied (1941) by the Germans in the Second World War, Tolstoy's home was looted and subjected to acts of vandalism It was restored and is now again a museum and the literary shrine of Russia

Yass-Canberra. see AUSTRALIAN CAPITAL TERRITORY

Yates, Richard, 1815-73, Civil War governor of Illinois (1861–65), b Warsaw, Gallatin co , Ky , grad Illinois College, 1835 He studied law at Transylvania Univ , was admitted (1837) to the bar, and became a lawyer and Whig politician in Jacksonville, Ill A state legislator (1842–46, 1848–50) and U S Congressman (1851–55), he failed of reelection because of his adherence to the new Republican party As governor Yates was active in raising troops (he gave Ulysses S Grant his first Civil War commission) and managed to hold in check the powerful pro-Southern group in Illinois In the U S Senate from 1865 to 1871, he was a conforming radical Republican See W B Hesseltine, *Lincoln and the War Governors* (1948)

Yates Center, city (pop 2,176), co seat of Woodson co , SE Kansas, W of Fort Scott, inc 1884 It is a trade center and shipping point for a hay-producing area Stone quarries are near by

Yauco (you'kō), town (pop 9,985), SW Puerto Rico It is a trading and processing center for an agricultural region producing principally sugar and coffee There are also light manufactures

Yavapai Indians (yä'vupī'), North American Indian tribe belonging to the Yuman linguistic stock They are a nomadic tribe of the Southwest area, mainly in W Arizona In the historic period they were under the protection of the Apache, and the Yavapai are sometimes called the Mohave Apache They numbered 1,000 in 1873 The Yavapai are of interest principally as the supposed descendants of the tribes that created the interesting remains in the Verde valley The Yavapai are sometimes called the Yampais There are 47 on a reservation in Arizona See E W Gifford, *The Southwestern Yavapai* (1932)

Yavari, river see JAVARI

Yawata (yä"wä'tä) or **Yahata,** city (1940 pop 261,309, 1947 pop. 167,829), Fukuoka prefecture, N Kyushu, Japan. The principal industrial center of the island, with steel mills and with coal mines near by, it was heavily bombed (1945) in the Second World War

yawl, usually a small fore-and-aft rigged sailing vessel, similar to a CUTTER but with the addition of a small mizzenmast and sail

Yaxartes, river see SYR DARYA

Yazd, Iran see YEZD

Yazoo (yă'zōō), river formed in W central Mississippi by the junction of the Tallahatchie and Yalobusha rivers It meanders 178 mi SW to the Mississippi river at Vicksburg

Yazoo City, city (pop 7,258), co seat of Yazoo co , W central Miss , NNW of Jackson and on the Yazoo founded 1824, inc 1830 It is a trade and processing center in a cotton area

Yazoo land claims. After the American Revolution speculation in land reached new heights, especially in GEORGIA In 1789 that state sold vast tracts of its western lands, also claimed by the Indians, Spain, and the United States, to the South Carolina Yazoo, Virginia Yazoo, and Tennessee Yazoo companies (so named because much of the land was in the Yazoo river region) Georgia subsequently refused to yield title to the lands when it was offered payment in its own worthless paper money In 1795 the Georgia legislature was bribed into passing an act (the Yazoo act) which sanctioned the sale of even larger holdings to four new groups of speculators—the Georgia, Georgia Mississippi, Upper Mississippi, and Tennessee companies Spain's acceptance, in the same year, of lat 31°N as its northern boundary (see WEST FLORIDA CONTROVERSY), enhanced the value of the lands and the companies set about reselling them However, the corruption which accompanied passage of the Yazoo act was soon detected, and in 1796 a newly elected legislature repudiated it Georgia offered to restore the purchase price to the companies, but large numbers of investors, among them many New Englanders, declined to accept payment and pressed their land claims The confusion resulting from this situation was doubtless a strong factor in Georgia's cession (1802) of all its lands W of the Chattahoochee to the United States for $1,250,000 By the terms of the cession agreement the Yazooists were to receive 5,000,000 acres or the money received from their sale, an arrangement they rejected The Yazoo frauds, as they were called, came to be a vexing issue in national politics Congress, prodded by John Randolph, declined to give the speculators any relief But, in 1810, the U S Supreme Court, in *Fletcher vs Peck,* held that their land claims were valid since the Yazoo act of 1795 constituted a contract binding on Georgia even though it was conceived in fraud Bolstered by this decision, the speculators were later awarded over $4,000,000 by Congress See C H Haskins, *The Yazoo Land Companies* (1891)

Yb, chemical symbol of the element YTTERBIUM

Yeadon (yē'dun), borough (pop 8,524), Delaware co , SE Pa , W of Philadelphia, inc 1894

year see CALENDAR

Yeardley, Sir George (yärd'lē), c 1587–1627, British colonial governor of Virginia With Sir Thomas GATES he was shipwrecked (1609) in the Bermudas, but managed to reach Virginia in 1610 Acting governor (1616–17) in the absence of Sir Thomas DALE, he was appointed governor and knighted in 1618 Under Yeardley, acting on instructions of the London Company, the first representative assembly in the New World was convened at Jamestown in 1619, and this and other improvements made him exceptionally popular among the colonists Relieved at his own request in 1621, he remained in Virginia as the leader of Southampton Hundred In 1626 he replaced Sir Francis WYATT, who had succeeded him and was again governor until his death See P A Bruce, *The Virginia Plutarch* (1929)

yeast, name applied to certain microscopic fungi and to commercial products consisting of masses of dried yeast cells or of yeast mixed with a starchy material and pressed into yeast cakes Although a number of fungi are sometimes called yeasts, the true yeasts are unicellular, oval or round, and reproduce chiefly by budding Under certain conditions some yeast cells secrete a thickened wall, and the cytoplasm of the single cell within divides to form four or eight cells or spores, known as ascospores, which emerge when the wall ruptures In a few species two cells fuse before undergoing spore formation Yeasts, especially those of the genus *Saccharomyces,* have long been of commercial importance because they are the chief agents in alcoholic FERMENTATION Because of this they are essential to the making of BEER, wine, and industrial alcohol Wild yeasts, those found in nature and probably carried by insects from the soil to fruits, are frequently active in the fermentation process In breadmaking the yeasts act upon the carbohydrates in the dough, forming carbon dioxide and alcohol, which are driven off in the baking process, the escaping carbon dioxide causes the bread to rise Since early times yeast has been used in treating various ailments Brewer's yeast has a high content of thiamine and other vitamins of the

B-complex group. There is some evidence that the human body benefits by these vitamins when active dry yeast is eaten but that the vitamin-B content of fresh baker's yeast is not available to the human body Fungi of the genus *Torula* are among those often called yeasts although they are not true yeasts *Torula utilis* is used in the production of protein foods

Yeats, William Butler (yāts), 1865–1939, Irish poet and playwright, b Dublin The son of the painter John Butler Yeats, William also studied (1883–86) painting in Dublin until he realized that poetry instead was to be his art As a boy he had gone to school in London and also spent much time in Co Sligo, Ireland He was fascinated by the legends of Ireland and by the occult His first work, the drama *Mosada* (1886), reflects his concern with magic, but by the time he wrote his long poems in *The Wanderings of Oisin* (1889) the intense nationalism of the Young Ireland movement was strongly reflected in his choice of subject matter, and he was already using symbolism as a poetic medium In London in 1887 he had come under the influence of the theosophists and of Mme Blavatsky, and later of the Rosicrucians There he also helped found the Rhymers' Club, which included Ernest Dowson, Lionel Johnson, and others Yeats's efforts to foster Irish nationalism were inspired for years by Maud Gonne, an Irish patriot for whom he had a hopeless passion In 1898 with George Moore and Edward Martyn he founded the Irish literary Theatre in Dublin, their first production (1899) was of Yeats's *The Countess Cathleen* (written 1889–92) Yeats helped produce the plays, collaborated with Lady Augusta Gregory in the comedy *The Pot of Broth* (produced 1902) and in other plays, and induced J M Synge to return to Ireland and write plays for their theater Others of Yeats's plays which they produced were *Cathleen Ni Houlihan* (1902), and—after the ABBEY THEATRE was opened—*The Hour Glass* (1904), *The Land of Heart's Desire* (1904), and *Deirdre* (1907). In the meantime he had been writing prose tales, collected in *The Celtic Twilight* (1893) and in the symbolic *The Secret Rose* (1897) He had edited William Blake's works in 1893, and his own *Poems* were collected in 1895 His poetry in his middle years showed a reaction from transcendentalism to satire and a certain realism in *In the Seven Woods* (1903) and *The Green Helmet and Other Poems* (1910) In 1917 he married, and his occultism was encouraged by his wife's power of automatic writing His prose *A Vision* (1937, privately printed 1926) is the basis of much of his poetry in *The Wild Swans at Coole* (1917) and *Four Plays for Dancers* (1921) He was a respected public figure by this time, a member (1922–28) of the Irish senate, and winner of the 1923 Nobel Prize in Literature His poetry became less mystical, and some of his best work was his last, in *The Tower* (1928) and *Last Poems* (1940) All of Yeats's work shows interesting and important revision from earlier to later versions Yeats is the greatest lyric poet Ireland has produced and one of the major figures of 20th-century literature See his autobiography (3 vols in one, 1938), *Collected Poems* (1933), *Collected Plays* (1934), and *Letters on Poetry to Dorothy Wellesley* (1940), authorized biography by Joseph Hone (1946), critical biographies by Richard Ellmann (1948) and A N Jeffares (1949), James Hall and Martin Steinmann, ed , *The Permanence of Yeats* (1950)

Yeddo or **Yedo,** Japan see TOKYO

Yegorevsk (yĭgô'ryufsk), city (pop 56,340), central European RSFSR, ESE of Moscow It is a cotton-milling center and has clothing manufactures Near by are important phosphorite quarries. A variant spelling is Egorevsk

Yehoash see BLOOMGARDEN, SOLOMON.

Yelets (yĭlyĕts'), city (pop 50,888), S central European RSFSR It is a rail junction and agricultural processing center Founded in 1146, it was the northernmost point reached (1395) by Tamerlane It was fortified in 1592 and became an important grain center in the late 19th cent In the Second World War it was held (1941) by the Germans A variant spelling is Elets

Yell, parish (52,136 acres, pop 1,883), comprising Yell island and the small Hascosay island, off N Scotland, in the Shetland Islands The inhabitants of Yell island are mainly crofters and fishermen, and Mid Yell is a small port. The island has several brochs (prehistoric round stone towers) and ruined chapels

Yellow Book, English illustrated quarterly periodical published in book form in London (1894–97) Henry HARLAND was literary editor, and Aubrey BEARDSLEY, whose exotic and provocative drawings brought immediate attention to the publication, was art editor until 1896 The *Yellow Book,* its cover that of the yellowback French novel, was a miscellany of short stories, articles, poetry, and drawings It was able to draw material from writers with wide differences of style and viewpoint, but its emphasis was on the bizarre, the "modern," and the aesthetic The *Yellow Book* was an arsenal of "art for art's sake" It numbered among its contributors Oscar Wilde, Max Beerbohm, John Davidson, George Moore, Richard Le Gallienne, William Butler Yeats, Ernest Dowson, Stephen Phillips, and, later, Arnold Bennett and H G Wells See Holbrook Jackson, *The Eighteen Nineties* (1927)

yellow fever, infectious disease generally conceded to be caused by a filtrable virus and transmitted through the bite of certain mosquitoes The incubation period varies but is commonly about six days The disease is characterized by fever, chills, and muscular pain and, if the attack does not end before the critical stage of the disease, by jaundice and by black vomit (commonly containing coagulated blood) The death rate is very high, but survivors of the disease are generally immune Immunization can be obtained also by vaccination with an attenuated culture of living virus. Yellow-fever epidemics were first identified in the 17th cent in the West Indies, and later many severe epidemics occurred especially in tropical regions of the Western Hemisphere. The disease was long endemic in many places in the S United States, Central and South America, Mexico, the West Indies, and Africa In 1900 a commission headed by Walter REED and including James CARROLL, Jesse Lazear, and Aristides Agramonte proved in Havana the contention of C J FINLAY that the mosquito is the carrier of yellow fever Basing his work on the discoveries of this commission, W C GORGAS was notably successful in eradicating the disease in the Panama Canal Zone and other areas through mosquito-control measures Following the development of a vaccine for immunization and the control, in most areas where yellow fever was endemic, of the *Aedes aegypti* mosquito which was believed to be the sole carrier of the virus, the disease was thought to be under control However, a jungle fever that caused many deaths especially in Brazil was identified in the 1930s as yellow fever and was found to be carried by another species of mosquito, later identified as *A trisseriatus* Methods for the control of this form are being studied The fight against yellow fever cost the lives of many scientists including Jesse Lazear, Hideyo Noguchi, and Adrian Stokes See Paul de Kruif, *Microbe Hunters* (1926), C M Wilson, *Ambassadors in White* (1942)

yellowhammer see FLICKER

Yellowhead Pass, 3,711 ft high, in the Rocky Mts , on the boundary between Alberta and British Columbia and W of Jasper, Alta It is used by the Canadian National Railways

yellow jacket see WASP

Yellowknife, town (pop c 2,300), S Mackenzie dist , Northwest Territories, on the north shore of Great Slave Lake and at the mouth of the Yellowknife river The town was founded (1935) after the discovery here of rich deposits of gold and silver It is the largest town in the Northwest Territories and a mining, supply, and transportation center, with an airport, radio and meteorological stations, a public school, and a post of the Royal Canadian Mounted Police Mining production began in 1938, and the town grew rapidly as new mines were opened, until the Second World War caused a drop in demand for gold, with a consequent loss of population and prosperity to Yellowknife Since 1943 some mines have reopened. Transportation is chiefly by air, but a railhead is reached by the Slave and Athabaska rivers to Waterways Alta

yellow poplar see TULIP TREE

Yellow River, Hwang (hwĭng), or **Hoangho** (hwăng' hô'), Mandarin *Huang* [yellow], river rising at an elevation of c 17,000 ft in the Kunlun range in S Tsinghai prov , China, and flowing c 2,700 mi to the Pohai, an arm of the Yellow Sea In length it is second only to the Yangtze On its predominantly eastward course through Tsinghai and Kansu provs it makes a steep and turbulent descent Running N through Ninghsia prov and along the Ningh-Suiyuan border and then E through Suiyuan prov , it is navigable in places to small vessels Then, on its swift southerly course along the Shensi-Shansi border, the river gathers most of the yellow silt (loess), which colors it After being joined by the Wei river, the Yellow River flows E through Honan prov , where it can be navigated by small steamers Its final course to the Pohai is along a narrow silt-choked channel extending NE through Shantung prov. The silt continually builds up a delta, which provides fertile soil for grains and cotton There are no large cities on the banks of the Yellow River, because only relatively short stretches are navigable and because disastrous floods always threaten Silt depositation, the principal cause of the flooding, continually elevates the river bed (in places 60 to 70 ft above the countryside) and necessitates raising the dikes If the pressure of water in the channel becomes abnormally high the dikes may be breached and masses of water cascaded over a large area, this has happened so frequently that the river is called "China's Sorrow" From the 2d millennium B.C to A D. 1947 there were eight major shifts in the river's eastern course

Yellow Sea or **Hwang-hai,** Mandarin *Huang-hai* [yellow sea], arm of the Pacific Ocean, between China and Korea The Pohai and the bays of Liaotung and Korea are its chief inlets.

Yellow Springs, village (pop 1,640), SW Ohio, near the Little Miami river S of Springfield, settled c.1820, inc. 1856 ANTIOCH COLLEGE is here.

Yellowstone, river rising in NW Wyoming in the Absaroka Range and flowing northward into Yellowstone National Park, where it flows through Yellowstone Lake (alt. c.7,731 ft.; area 139 sq mi), forms great falls, and traverses a deep canyon The river enters Montana and flows generally NE to the Missouri near old Fort Union, just within North Dakota In its course of 671 mi. the Yellowstone receives the Bighorn, Powder, and many smaller rivers Its waters have been used for irrigation since the late 1860s. Private irrigation developments are established the length of the river, with public projects near Miles City and Billings The Bureau of Reclamation operates several projects which are being incorporated into the Yellowstone sub-basin division of the MISSOURI RIVER BASIN PROJECT These are the Huntley project, near Billings, the Lower Yellowstone project (see SIDNEY), and the Buffalo Rapids project. Plans for future development are based almost entirely on control of the BIGHORN river basin

Yellowstone National Park, c 3,458 sq mi , NW Wyoming (2,039,216.98 acres) and adjacent parts of Montana (142,501 57 acres) and Idaho (31,488 acres), est 1872 It lies mainly on a broad plateau in the Rocky Mts , on the Continental Divide, c 8,000 ft above sea level, surrounded by mountains rising from 2,000 ft to 4,000 ft above the tableland The whole area is volcanic Most of the plateau is formed from once molten lava, and volcanic activity is still evidenced by hot springs and GEYSERS, of which there are over 3,000 The more prominent geysers have no equals in size, power, and variety of action, of these, Old Faithful is probably the best known Petrified forests are also numbered among the park's wonders Forests of evergreens and a great variety of flowers and other plant life flourish in the park, which is one of the largest wildlife sanctuaries in the world Bear, mountain sheep, deer, moose, bison, and many smaller animals make their home here, together with over 200 species of birds The Yellowstone river, with its spectacular canyon and waterfalls, crosses the park, and Yellowstone Lake is the largest in North America at so great an altitude (c 7,731 ft) The park has headquarters at Mammoth Hot Springs, its main season is from about June 20 to Sept 10 John COLTER was probably the first white man to set foot in this region (1807) See publications of the National Park Service, Dept of the Interior, A D Howard, *Yellowstone through the Ages* (1938), C M Bauer, *Yellowstone Its Underworld* (1948), H M Chittenden, *Yellowstone National Park* (rev ed , 1949)

Yellow Tavern, locality, Va , c 7 mi N of Richmond, where a battle of the Civil War was fought, May 11, 1864 Union cavalry under P H SHERIDAN defeated the Confederate troopers of J E. B STUART, who was mortally wounded

yellow tuft see ALYSSUM.

yellowwood, leguminous tree of which two species are native to China, one to Japan, and one to the SE United States The American species (*Cladrastis lutea*) is cultivated as far north as Massachusetts, chiefly for ornament It has pinnately compound leaves, and the fragrant white flowers are borne in terminal panicles A yellow dye is obtained from the wood West Indian SATINWOOD and various other trees are often called yellowwood

Yemasee Indians see YAMASEE INDIANS

Yemen (yĕ'mun), kingdom (75,000 sq mi ; pop. c 3,500,000), SW Arabia, on the most southerly part of the Red Sea coast Sana is the capital Yemen is bounded by Saudi Arabia on the north, Aden protectorate on the south, and the desert expanses of the Rub al Khali on the east The Arabic name, Al Yemen, means the right hand and describes the country's position as one stands before the Kaaba in Mecca *facing* east As the right hand is the lucky side in Arab folklore, the name was rendered Arabia Felix [fortunate Arabia] by European geographers However, the name was probably applied to a much larger area than the present Yemen Except for the narrow coastal strip, the country is predominantly high Elevations up to 10,000 ft are found in the maritime range and in the central watershed These mountains precipitate moisture from the prevailing inshore winds and give many parts of Yemen, unlike most of Arabia, sufficient water for agriculture In the plain between the principal ranges the heavy evening mists are ideal for raising coffee, the Mocha variety is chiefly grown Fruits and grains are also raised in abundance Nearly all the population is settled, and nomadism is found only in the lowlands The small surplus production of coffee and hides is shipped abroad, chiefly through the ports of Hodeida and Mocha The earliest historical records indicate an active early trade between Yemen and the Somali coast in Africa. In a later period (8th–4th cent ? B C.) Yemen may have belonged to SHEBA. During this time there were perhaps extensive migrations from Palestine, some authorities, however, believe that the large Jewish community was established when, in the 4th cent. A.D.,

the Himyaritic kings adopted Judaism. The Himyaritic domain had been founded in the 1st cent. B.C. It was soon temporarily eclipsed by Ethiopia from 300 to 378, and a second Ethiopian occupation (525–70) brought the line to an end (see AKSUM) In 570 the Ethiopians were ousted by the Persian king Khosru I, who installed a line of viceroys. With the acceptance of Islam by the viceroy Badhan in 628, the history of Yemen was absorbed into that of all Arabia. Thereafter the area was the scene of much struggle for several hundred years In the 10th cent., following domination of all Arabia by the Karmathians, a new power rose in Yemen, the Zeidi sect of Islam This sect traced the descent of its IMAM from a great-grandson of Ali, the son-in-law of Mohammed the Prophet The kings of Yemen are the imams of the Zeidi line Zeidi rule was contested by Turkish occupation from the mid-16th to the mid-17th cent and again from 1849 until 1918 In 1918, with the end of the First World War, the Turks were expelled. The most recent threat to Yemen occurred in 1934, when it was conquered by Saudi Arabia, the occupation was, however, soon ended and the frontier was definitely demarcated In 1948 the king was killed in a revolt, but his line was soon restored Yemen is a member of the Arab League In 1947 it was admitted to the United Nations In 1949–50 most of the Jewish population was evacuated to Israel See Walter B Harris, *A Journey through Yemen* (1893), Hugh Scott, *In the High Yemen* (rev. ed , 1947)

Yen, James Y. C. (yĕn), Mandarin *Yen Yang-chu*, 1893–, Chinese educator, educated at Yale and Princeton universities Yen devised a simplified form of Chinese writing consisting of 1,000 characters and suitable for instructing adult illiterates He became prominent for his work with the national association of mass education, which was organized to reduce illiteracy and encourage modern methods of farming and agricultural marketing

Yenakiyevo (yĕnûkĕ'uvŭ), city (1926 pop 24,329, 1939 pop 88,246), SE Ukraine. It is an industrial center of the Donets Basin, with iron works, steel mills, and a chemical plant

Yenan or **Ye-nan** (both yĕ'nän'), city and county (pop 29,856), N Shensi prov , China From 1935 until 1947, when it was lost to the Nationalists, the city was the *de facto* capital of the Chinese Communists, who had established arsenals, several colleges, and a military academy here. In 1948 the Communists regained the city

Yenbo, Saudi Arabia see YAMBO

Yenikale Strait, RSFSR see KERCH STRAIT

Yenisei (yĕnĭsā', Rus yĕnyĭsyā'), river, 2,490 mi. long, RSFSR, in central Siberia It rises in the E Sayan Mts in the Tuva Autonomous Oblast and in a westward, then a northerly, course flows past Minusinsk, Krasnoyarsk, Yeniseisk, and Igarka to enter the Kara Sea through Yenisei Bay and Yenisei Gulf. Precipitous in its upper course, it has an average width of 4 mi in its lower section Among its tributaries are the Angara, the Stony Tunguska, and the Lower Tunguska, and it is joined by a canal system with the Ob During ice-free months navigation is possible from Minusinsk (April–Nov , 1,720 mi upstream), from Yeniseisk (May–Oct , 1,195 mi upstream), and from Igarka (June–Oct , 270 mi upstream) It is used for transporting lumber, grain, and construction materials

Yenping (yĕn'pĭng'), Mandarin *Nan-p'ing*, city, N Fukien prov , China, at the head of the Min river. It is the commercial center of a tea-growing area

Yentai or **Yen-t'ai** (both yĕn'tī'), city, N Shantung prov , China, a port on the Pohai Soybeans and cloth are exported. The city is also called Chefoo

yeoman (yō'mŭn), class in English society The term has always been ill-defined, but generally it means landowning farmers below the gentry The yeoman was a small freeholder of the feudal manor with certain obligations of service With the decline of the feudal system, he remained as a small landowner until the agrarian revolution and Industrial Revolution of the 18th cent deprived him of his land and of the opportunity to engage profitably in home industry, with which he supplemented his subsistence farming A workingman without a master, early admitted to political rights, the yeoman was thought to give great strength to English society. This impression was partially due to his effective performance as an infantryman from Crécy (1346) to Waterloo (1815). The patriot armies of the American Revolution were largely drawn from the yeoman class. In military and naval organizations, the term has come to signify a rank or function; the naval yeoman is a petty officer with duties of a clerical nature. Yeomanry is a designation of a part of the county volunteer forces of Great Britain, originated in 1761 and now part of other territorial forces.

Yeomen of the Guard, bodyguard, now ceremonial in function, of the sovereign of England. When originated by Henry VII in 1485, the duties of the guardsmen as defenders of the king's person and as household functionaries were very real. Until 1748 they accompanied the king in battle. For a time purchased by civilians, positions in the corps were restricted in 1848 to veterans of the army and marines. Sometimes called the Beefeaters from their fine physiques, the Yeomen of the Guard still wear the scarlet, blue, and gold uniform of the 15th cent and carry halberds A comic opera, *The Yeomen of the Guard*, by W S. Gilbert and Arthur Sullivan, was first produced in 1888

Yeovil (yō'vĭl), municipal borough (pop. 19,077), Somerset, England, on the Yeo river The Perpendicular Church of St John is sometimes called the "Lantern of the West" There are a number of picturesque old houses. Yeovil is a market town and a leathermaking center. Glovemaking has been a local specialty since the 16th cent , farm machinery and engines are also made

Yerba Buena Island (yûr'bŭ bwā'nu), 300 acres, W Calif , in San Francisco Bay, the midpoint of the SAN FRANCISCO–OAKLAND BAY BRIDGE It was formerly called Goat Island.

yerba mate: see MATE

Yerkes, Charles Tyson (yûr'kēz, -kus), 1837-1905, American financier, b Philadelphia He began his business career as a clerk in a Philadelphia grain commission house Becoming a broker in 1858, he prospered, but in 1871 he was convicted of misappropriating city funds and was imprisoned He regained his financial position through stock-market activities and became interested in the Philadelphia street railway system He moved (1881) to Chicago, where by 1886 he had gained control of, and developed, the city transportation system In 1892 Yerkes furnished the Univ of Chicago the funds for the Yerkes Observatory, established (1897) at Williams Bay, Wis , near the Wisconsin–Illinois line

Yerkes, Robert Mearns, 1876 , American psychologist, b Bucks co , Pa , grad Harvard (B A , 1898, Ph D., 1902). He taught (1901–17) at Harvard, served (1919–24) on the National Research Council, and from 1924 to 1944 was at Yale, where he was known for his work in comparative psychology, animal behavior (especially of anthropoids), and psychobiology With E L Thorndike and J B Watson he was one of the first to establish in America the experimental study of animal behavior His works include *Introduction to Psychology* (1911), *The Mental Life of Monkeys and Apes* (1916), *The Mind of a Gorilla* (2 parts, 1926–27), and *The Great Apes* (with Ada Yerkes, 1929)

Yermak or **Ermak** (both yĕrmäk'), d 1584 or 1585, Russian conqueror of Siberia The leader of a band of independent Cossacks, he spent the early part of his career plundering the tsar's ships on the Volga, and he later entered the service of the boyar family of the Stroganovs in Perm With a small following of Cossacks, advancing in river boats and relying on the superiority of their firearms, he penetrated across the Urals and conquered (1582) the Tatar khanate of SIBIR He then turned over the country to Tsar Ivan IV and asked him for aid Yermak perished in an encounter with the Tatars, but his Cossacks continued their spectacularly swift advance across Siberia

Yersin, Alexandre Émile John (ălĕksä'dru āmēl' zhôn'yĕrsĕ'), 1863–1943, French bacteriologist, of Swiss descent He studied with Pasteur and worked on diphtheria antitoxin with P P É Roux at the Pasteur Institute, Paris Yersin discovered (1894) the bacillus of bubonic plague (independently of Kitasato) and prepared a serum to combat the disease He was director of the Pasteur Institute at Nhatrang (SE Annam) and inspector general of the Pasteur Institutes at Saigon, Hanoi, and Dalat (S of Nhatrang)

Yesenin, Sergei Aleksandrovich (sĭrgā' ŭlyĭksän' druvĭch yĭsyä'nĭn), 1895–1925, Russian poet He was the most popular poet of the early revolution and the object of a considerable cult He had great lyric talent and a fine feeling for nature, especially the natural beauty of Russia Of peasant origin, he accepted the revolution when it promised to be the peasant's deliverer but repudiated it when it proved to be a dictatorship He belonged to the imaginist school and stood for the absolute independence of the artist and poet Besides lyrics, he wrote the epic *Pugachev* (1922), a verse tragedy of the peasant rebel of the reign of Catherine II In 1922 he married Isadora Duncan and with her toured the United States and Europe After a separation he married a granddaughter of Leo Tolstoy In 1925 he committed suicide

Yesil Irmak (yĕshĭl' ırmak'), anc *Iris*, river, 260 mi long, rising c 50 mi NE of Sivas, N Turkey It flows WNW, then NE, past Tokat and Amasya into the Black Sea near Samsun. It is also spelled Yeshil Irmak

Yesso: see HOKKAIDO.

Yevpatoriya, RSFSR see EUPATORIA

yew, name for evergreen trees or shrubs of the genus *Taxus*, somewhat similar to hemlock but bearing red berrylike fruits instead of true cones Of somber appearance, with dark green leaves, the yew since antiquity has been associated with death and funeral rites A species of yew (*Taxus baccata*) provided the long bows of English archers In North America the most common species is a low, spreading shrub (*T canadensis*), called also ground hemlock, which is native to Canada and to the NE United States Most species are poisonous. Yews are often trimmed into hedges.

Yezd (yĕzd), city (pop. 60,066), central Iran, in the Yezd region, largely a desert area An old city, with narrow winding streets, it contains a fort and a mosque, both dating from the 12th cent The Zoroastrian community (over 4,000) here is the largest in Iran Situated at the junction of several roads and caravan routes, Yezd has an important trade in cotton, carpets, pistachios, and opium Textiles and felt goods are the chief manufactures There is a good underground water system. The name also appears as Yazd

Yezo see HOKKAIDO.

Yggdrasill (ĭg'drusĭl), in Norse legend, the great tree of the world Its roots reached the upper and lower worlds At its top was an eagle, at its bottom a serpent, and a squirrel ran between them to arouse strife It is probably a late idea in Norse mythology

Yiddish [Ger *judisch* = Jewish], language spoken by the Jews of Eastern Europe and by immigrants from those countries in the United States and elsewhere Descended from the German of the Middle Ages, with many Hebrew and Aramaic words, it has wandered far from the German spoken today and has absorbed words and expressions from whatever country the Jews reside in, most recently and most richly in the United States The Hebrew characters are used, and the spelling is full of variations Hebrew being the language of the learned Jews and of literature, Yiddish was long scorned as a medium for authors There were a few Yiddish translations of religious material for women and for the ignorant, and folk literature appeared in Yiddish between the 15th and the 19th cent But literature in Yiddish did not begin to flourish until the middle of the 19th cent The father of modern imaginative Yiddish literature is Solomon Jacob ABRAMOVICH He was followed by the humorist Sholom ALEICHEM, the mystical I L PERETZ, Mordecai Spector, and Linetzky, who is famous for his autobiographical *Polish Boy* Journals and newspapers in Yiddish began to make an appearance, these, more cultural and educational than most newspapers, furnished an outlet for Jewish authors Yiddish journalism owes its fullest development to the immigrant Jews in the United States, where Abraham CAHAN founded the Jewish *Daily Forward* in 1897 The most prominent American Jewish writers are Sholem ASCH, David PINSKI, playwright, novelist, and short-story writer, the poets A Reisen and Yehoash (see BLOOMGARDEN, SOLOMON), and the lyricist and folklorist Mannie Leib Yiddish drama was born when Goldfadden, the playwright, founded a theater in Odessa in 1878 Next to Goldfadden in Yiddish theatrical annals stands the name of Jacob Gordin The Yiddish stage borrowed much from the Russian Ansky, author of *The Dybbuk*, and Singer, author of *Yoshe Kalb*, have given conclusive proof that Yiddish can be a beautiful, as well as an interesting and colorful, literary medium There is practically no Yiddish literature outside of Russia, Poland, and the United States See Israel Abrahams, *Chapters on Jewish Literature* (1899) Meyer Waxman, *A History of Jewish Literature* (3 vols , 1930–36)

Yin, dynasty of China see SHANG

Yingchwan or **Ying-ch'uan** (both yĭng'chwän'), city (pop 38,634), capital of Ninghsia prov , China, on the Yellow River

Yingkow or **Ying-k'ou** (both yĭng'kou', yĭng'kō'), city (pop 180,871), W Liaoning prov , China, on the Liao river The city is on the South Manchurian RR, and it manufactures and exports soybean products It is sometimes called Newchwang

Yoakum (yō'kum), city (1940 pop 4,733, 1947 estimated pop 5,700), S Texas, E of San Antonio, inc 1891 Founded as a railroad town in 1887, it declined later but now has a flourishing tannery and leather factory, other smaller industries, and the trade of a tomato-growing area

yodel or **yodle** (both yō'dul), type of vocalization usually associated with the Swiss but practiced throughout the Alps and even, as an importation, in the mountains of Kentucky It is characterized by sudden shifts from the natural singing voice to falsetto

yoga (yō'gu) [Sanskrit, = union, cognate with English *yoke*], mystical system of India A late development of HINDUISM, yoga essentially seeks to liberate the individual from the wholly illusory world of phenomena A person's karma (i e , the rewards and punishments allotted to him in one existence on the basis of good and evil conduct in previous existences) sets a limit—which yoga can enlarge—to his capacity for such liberation, nevertheless in some cases several lifetimes of effort will be needed to complete the process The spiritual state which follows liberation may take either of two forms The yogi (or yogin) whose philosophy is pantheistic seeks union with the universal soul For those yogis who are atheistic (possibly a minority) a state of absolute isolation from all other souls and of perfect self-knowledge is the aim The ultimate state, insofar as it includes a sensory aspect, has been described by both schools as a white inner illumination All types of yoga use much the same exercises Bodily purity, attained by purgation and cleanliness, is the first stage Concentration of thought and gaze on one part of the body (e g , the tip of the

nose, the navel) follows, with the purpose of excluding worldly thoughts. Later there are physical feats, including arduous postures, which strengthen one for the performance of breathing practices. These include breathing through either nostril at will and retention of the breath for periods up to half an hour At first it is while the breath is held that illumination is attained, but in time the adept can achieve this state effortlessly Most of the greater yogis deplored using yoga for magical ends, but it is this aspect which usually attracts the interest of the West The magic which yoga is traditionally believed to accomplish includes changing one's size, traveling through the air, clairvoyance, clairaudience, prophecy, and even eternal life However baseless may be the claim of some yogis to work wonders, there is no doubt of their extraordinary physical endurance See K T Behanan, *Yoga* (1937), Theos Bernard, *Hatha Yoga* (1944)

yoghurt see FERMENTED MILK

Yoho National Park (yō'hō), 507 sq mi, SE British Columbia, in the Rocky Mts at the Alta border, est 1886 It lies W of the Continental Divide, adjoining Banff and Kootenay national parks, and contains lakes, glaciers, waterfalls, and high mountains with a number of peaks over 10,000 ft high Park headquarters are at Field, which is a center for mountain climbing

Yokkaichi (yōk-ki'chē), city (1940 pop 63,732, 1947 pop 112,433), Mie prefecture, S Honshu, Japan, a port on Ise Bay Its products include a kind of porcelain known as banko ware, cotton textiles, and cement

Yokohama (yō"kaha'ma, yōka'hamu), city (1940 pop 968,091, 1947 pop 814, 379), capital of Kanagawa prefecture, central Honshu, Japan, a port on the west shore of Tokyo Bay This city of steel, chemical, and automobile plants, oil refineries, and shipyards was only a fishing village when it was visited (1854) by Commodore Matthew C Perry on his epochal voyage, as a result of that visit Yokohama was opened (1859) to foreign trade It became a major foreign-trade port, exporting a large quantity of Japan's silk as well as canned fish and other products In 1941 the ports of Yokohama and Tokyo were combined under the name Keihin Virtually destroyed (1923) by earthquake and fire, Yokohama's reconstruction was quickly started and complete Extensive harbor improvements were made, and an enlarged city of wide streets and boulevards and fine concrete buildings arose from the ruins In 1945 it was heavily bombed in the Second World War Kanagawa prefecture includes the industrial cities of Kawasaki and Yokosuka, and the religious center, Kamakura The urban belt in the eastern part of the prefecture merges with Tokyo to the north

Yokosuka (yōkō'sōōka), city (1940 pop 193,358, 1947 pop 252,923), Kanagawa prefecture, central Honshu, Japan, on Tokyo Bay Site of an important naval base, with shipyards, arsenals, and ironworks, the city is also known for the tomb of William Adams, first Englishman to visit Japan

Yokut Indians (yō'kōōt), tribe of North American Indians of S California Their culture was essentially that of the California cultural area, and their basketry and pictographs are notable The Yokut today are principally at the Tule River Reservation, in SE California, though there are small groups elsewhere The Yokut or Mariposan languages belong to the Penutian linguistic family. See H F Hughes, *The Valley of the Yokuts* (1940).

Yom Kippur, see ATONEMENT, DAY OF

Yonge, Charlotte Mary (yŭng), 1823–1901, English novelist Her writing as well as her life was restricted by the rigid High Church tenets of her upbringing In spite of then religiosity her books were long popular because of the excellence of their characterization and dialogue *The Heir of Redclyffe* (1853), a novel, and *The Daisy Chain* (1856), a book for girls, are best known She edited the *Monthly Packet* from 1851, and many of her stories first appeared there. See biography by Georgina Battiscombe (1943)

Yonkers (yŏng'kurz), residential city (pop 142,598), SE N Y, in Westchester co, on the east bank of the Hudson, in a hilly region just N of Van Cortlandt Park of New York city, inc as a village 1855, as a city 1872 Factories and mills dot the Nepperhan, which flows through the northwestern part of the city and defines the industrial section. Yonkers makes its living from various manufactures, among which are carpets, cable, and wire E G. Otis brought (1854) the elevator industry here The city was included in the land grant made (1646) by the Dutch West India Company to the New Netherland lawyer, Adriaen Van der Donck (called by the title Jonkheer, from which the city derived its name). Frederick PHILIPSE built a manor hall of PHILIPSE MANOR here Yonkers is the seat of the BOYCE THOMPSON INSTITUTE FOR PLANT RESEARCH. Tibbetts Brook Park is within the city limits.

Yonne (yŏn), department (2,881 sq mi, pop 266,014), N central France, named for a tributary of the Seine It occupies parts of Burgundy, Champagne, and Orléanais. AUXERRE (departmental capital) and Sens are the chief towns.

Yorck von Wartenburg or **York von Wartenburg, Hans, Graf,** (both· hăns' grăf' yôrk' fŭn vär'tŭnbôrk), 1759–1830, Prussian field marshal. He commanded the Prussian auxiliary corps in the campaign of Napoleon I against Russia (1812), but when he realized that the expedition was doomed to failure he withdrew on his own responsibility from the fighting and concluded the Convention of Tauroggen with the Russians (see TAURAGE) King Frederick William III of Prussia subsequently approved his act, and Prussia entered the coalition against Napoleon Yorck defeated (1813) a French force at Wartenburg in Saxony, and thus earned his title

Yoritomo (Yoritomo Minamoto) (yōrē'tōmō mēnä'mōtō), 1147?–1199, Japanese warrior and dictator After a prolonged struggle he led his clan, the Minamoto, to victory over the Taira in 1185 Being now the military master of Japan, he obtained (1192) from the emperor the title of SHOGUN, established his capital at Kamakura, and rewarded his followers with estates strategically located throughout the country Aided by scholars drawn from the imperial court, he set up an administrative network which, though originally designed only to consolidate the power of the Minamoto family over its own vassals, soon became the only effective central government The system of centralized feudalism established by Yoritomo ended a long period of civil wars and endured for approximately 150 years

York, Alvin Cullum, 1887–, American soldier, b Fentress co, Tenn, He was reared on a backcountry farm in Tennessee In the First World War, Sergeant York was credited with killing 20 German soldiers, capturing 132 others, and taking a hill in an engagement (Oct 8, 1918) in the Argonne Forest He received the highest decorations of the American and French governments and became a popular hero After the war he established a school for Tennessee mountaineers See his autobiography (1928) T J Skeyhill, *Sergeant York, Last of the Long Hunters* (1930)

York, Cardinal see STUART, HENRY BENEDICT MARIA CLEMENT

York, Edmund of Langley, duke of, 1341–1402, fifth son of Edward III of England He accompanied his father into France (1359), was made (1362) earl of Cambridge, served on expeditions to Spain and France, and married (1372) Isabel, daughter of Peter the Cruel, king of Castile He joined John de Montfort, duke of Brittany, in an attack on the French in 1375, became a regency councilor on the accession of Richard II, and in 1381–82 made a fruitless expedition to help the treacherous Ferdinand of Portugal against John I of Castile He served against the Scots in 1385, in which year he was created duke of York, and acted as regent in 1394, 1396, and 1399, while Richard was abroad When Henry of Lancaster landed in England in July, 1399, to claim the throne, the regent opposed him halfheartedly and finally veered to his support When Henry was crowned as Henry IV, York retired from court The royal house of York takes its name from his creation as duke of York

York, Edward, duke of, 1373?–1415, English nobleman, elder son of Edmund of Langley, later duke of York In 1390 Edward was made earl of Rutland, and in 1394 he was created earl of Cork while he was with his cousin Richard II on an expedition to Ireland He acted for the king in the marriage negotiations for the hand of Isabella of France For his help in the proceedings (1397) against the lords appellant Richard gave him the lands of the attainted Thomas of Woodstock, duke of Gloucester, and the title duke of Albemarle He finally espoused the cause of HENRY IV against Richard in 1399, but he was reduced in rank However, in 1401 he was restored and made lieutenant of Aquitaine In 1402 he succeeded to the dukedom of York on his father's death Discontent over lack of funds to occupy his post of lieutenant of South Wales led him to join in an unsuccessful plot to kill the king and to kidnap the young Edward Mortimer, earl of March, heir by lineage to Richard II. York was imprisoned (1405) but was later released and made a privy councilor Subsequently he served the king in Wales and France and was killed while fighting for Henry V at Agincourt

York, Frederick Augustus, duke of, 1763–1827, second son of George III of England He entered the army as a colonel at the age of 17, and studied his profession in Germany His marriage (1791) to Frederica, daughter of Frederick William II of Prussia quickly ended in separation In the French Revolutionary Wars he commanded (1793–95) the unsuccessful English forces in Flanders. Despite his failures in the field, he was influential in reforming army abuses at home As commander in chief of the army he led another disastrous expedition (1799) to the Netherlands against France. He resigned his command in 1809 after he was acquitted of selling army commissions through his mistress, Mary Anne Clarke He became heir presumptive to the throne on the death of his father (1820), but died before his brother, George IV.

York, Richard, duke of, 1411–60, English nobleman. He was descended from Edward III through his father, Richard, earl of Cambridge, grandson of that king, and also through his mother, Anne Mortimer, great-granddaughter of Lionel, duke of Clarence, who was the third son of Edward III. Richard was brought up as the king's ward, having become duke of York on the death of his uncle, Edward, in 1415 He was knighted by Henry VI (1426), served the king in the wars in France (1430–31), and was made (1436) lieutenant general of France and Normandy He became associated with the Neville family by his marriage (1438) to Cicely Neville, daughter of the earl of Westmorland He served again as lieutenant general in France from 1441 to 1446 with little success Because the death (1447) of Humphrey, duke of Gloucester, placed York in line for the throne, he was sent out of the country as lieutenant of Ireland (1449) The next year York returned to struggle unsuccessfully against the growing power of Queen MARGARET OF ANJOU and Edmund Beaufort, duke of SOMERSET The birth of Henry VI's son (1453) displaced him as heir to the throne After brief ascendancy as protector during the king's insanity (1454), York resorted to force (see ROSES, WARS OF THE) and won the first battle of St Albans (1455) where Somerset was killed However, except for York's second brief protectorship, the queen's faction regained power The Yorkist victory at Northampton (1460) enabled York to enter London and claim the throne. A compromise which allowed him to succeed to the throne on the king's death was arranged, but the opposition of the queen led to the battle of Wakefield, in which York was slain His son, Edward of York, however, made a timely entrance into London and seized the throne as EDWARD IV (1461)

York, county, England see YORKSHIRE

York, Ont see TORONTO

York, county borough (1931 pop 84,813, 1947 estimated pop 105,970) and city, Yorkshire, England, at the confluence of the Ouse and Foss rivers It is not included administratively in any of the three ridings of Yorkshire York may have been a British settlement, for the district was occupied by the ancient tribe of Brigantes As Eboracum, it was the chief station of the British province of the Roman Empire Emperor Hadrian visited York in 120 and built an earthen rampart to keep out the Picts and the Celts The emperors Severus and Constantius I died here, and here Constantine I was proclaimed emperor In 314 a bishop of York is mentioned, and in the 7th cent Paulinus, the first archbishop, was consecrated York is the ecclesiastical center of the north of England, second only to Canterbury in the Church of England In the 8th cent York was one of the most famous centers of education in Europe Alcuin was born here c 735 and became the headmaster of St Peter's School, now one of the oldest schools in England The Cathedral of St Peter, commonly known as York Minster, occupies the site of the wooden church in which King Edwin was baptized by Paulinus on Easter Day in 627 The present edifice dates from the Saxon and Norman period The Abbey of St Mary (Benedictine) dates from the 11th cent Monks from St Mary's founded FOUNTAINS ABBEY The present York Castle, with Clifford's Tower, near the river, is on the site of a castle built by William the Conqueror in 1068 The ancient city is enclosed by walls dating in part from Norman times, but mainly of the 14th cent Four of the gates, including Micklegate and Monk Bar, remain Other features of York include the Roman Multangular Tower, the medieval guildhall, St William's College (1453), and the palace of the archbishops of York The York Plays, the most extensive cycle of English MIRACLE PLAYS which has survived, reached their height in the 15th cent The Council of the North was established in York in 1537 after the suppression of the Pilgrimage of Grace, and the city was taken by the parliamentarians after the battle of Marston Moor in 1644 The city manufactures chocolate, leather goods, beet sugar, glass, flour, scientific instruments, and machinery

York. 1 Rail town (pop. 1,783), W Ala, near the Miss line W of Demopolis, in a farm and lumbering area 2 Town (pop 3,283), SW Maine, NE of Kittery Its villages, chiefly resorts, include York Harbor and York Beach It was settled in 1624 as Agamenticus, was chartered by Gorges in 1641 as the "City of Gorgeana," and in 1652 was incorporated as the town of York The stone jail built in 1653 is now a historical museum, a colonial church, a garrison house, and other old buildings are preserved The early settlement suffered much in the Indian wars, being nearly destroyed in 1692 York is said to have been the site of the first sawmill (c 1624) and the first pile drawbridge (the pre-Revolutionary Sewall Bridge, rebuilt in 1933) in what is now the United States See C. E Banks, *History of York, Maine* (3 vols , 1931–35) 3 City (pop 5,383), co seat of York co , SE Nebr , in a prairie region W of Lincoln, platted 1869, inc. 1872. It is the trading center for a large farming area and manufactures brick, metal, and dairy products. York College (coeducational) is here, and a state reformatory for women is near by. 4 City (pop. 56,712), co. seat of York co., SE Pa., on Codorus

Creek (kŭdô'rŭs) and SSE of Harrisburg; laid out 1741, inc as a borough 1787, as a city 1887. In the Pennsylvania Dutch region, it is the trading and distributing center for an agricultural area. Its factories produce machinery, cement, textiles, and metal products The city has many colonial houses and churches In the Revolution, York was a meeting place (1777–78) of the Continental Congress. It was occupied by the Confederates in 1863 **5** Town (pop 3,495), co seat of York co , N S C , SW of Charlotte, N C , settled in the 1750s It is a processing center for a farm area and has textile mills The town is the winter home of a circus.

York, Cape, promontory, NW Greenland, in N Baffin Bay, W of Melville Bay The Cape York meteorites were discovered by R E Peary, who brought the largest (about 100 tons) to the Museum of Natural History, New York City In 1932 a monument to Peary was erected at Cape York

York, house of, royal house of England, dating from the creation of Edmund of Langley, fifth son of Edward III, as duke of York in 1385 The claims to the throne of Edmund's grandson, Richard, duke of York, in opposition to the incumbent sovereign, Henry VI, head of the house of LANCASTER, resulted in the Wars of the ROSES, so called later because the badge of the house of York was a white rose, and a red rose became that of the house of Lancaster. Richard's claim to the throne came not only from direct male descent from Edmund, but also through his mother Anne, daughter of Roger Mortimer, 4th earl of March, grandson of LIONEL, duke of Clarence, who was the third son of Edward III The royal members of the house of York were Edward IV, Edward V, and Richard III The marriage of the Lancastrian Henry VII to Elizabeth, eldest daughter of Edward IV, united the houses of York and Lancaster Henry was the first of the TUDOR kings

Yorke Peninsula, South Australia, between Spencer Gulf and Gulf St Vincent It is 160 mi long and 35 mi wide

Yorker Brethren · see RIVER BRETHREN

York Factory, fur-trading post, N Man , at the mouth of the Hayes on Hudson Bay and just east of the mouth of the Nelson at PORT NELSON The name was used for very early (late 17th cent) posts here, which changed hands and location somewhat during the struggle between England and France for control of the rich fur trade of the region After York Factory was destroyed (1690) to prevent its occupation by the French, it was rebuilt and became permanently British at its present location after the Peace of Utrecht (1713) The present post (built 1788–90 after destruction by the French) is a major warehouse for the Hudson's Bay Company

York Plays see MIRACLE PLAY

Yorkshire (yôrk'shĭr), **York,** or **Yorks,** county (6,081 sq mi , 1931 pop 4,389,679, 1948 estimated pop 4,539,603), N England The county town is York Largest of the English counties, it is divided into three administrative sections, or ridings East Riding (1948 estimated pop 500,100), with its administrative center at Beverley, North Riding (1948 estimated pop 495,883), with its administrative center at Northallerton, West Riding (1948 estimated pop 3,543,620), with its administrative center at Wakefield The city of York is not included in any of these divisions The county borders on the North Sea between the Humber river and estuary on the south and the Tees river on the north It extends westward almost to the Irish Sea The terrain is varied The Pennine Chain in the west rises to 2,600 ft in Mickle Fell The great fertile Yorkshire plain lies to the east The moors and the sea coast have much stern beauty The principal rivers are the Ouse, the Swale, the Nidd, the Derwent, and the Aire There are rich coal deposits in West Riding and elsewhere, and in the Cleveland district iron is mined West Riding is part of the great English industrial area that extends into neighboring Lancashire, Derbyshire, and Nottinghamshire The cities of this district, such as Sheffield, Leeds, Barnsley, and Bradford, have extensive iron and steel industries, textile mills, chemical plants, and coal mines and quarries (limestone and sandstone) Hull, on the Humber, is one of England's chief ports The county is largely engaged in stock raising and agriculture in the less industrialized areas Yorkshire figures prominently in British history. There are numerous prehistoric remains, including barrows and huge monoliths. The city of York (Eboracum) was a Roman capital in N Britain After the Roman withdrawal in the 5th cent. there were Danish and Saxon invasions and the region became a part of the kingdom of Northumbria. In the Middle Ages, Yorkshire became the center of British ecclesiastical life. In the early 16th cent. there were more than 100 abbeys, priories, nunneries, and friaries. The dissolution of these houses under Henry VIII was met with great resistance, notably in the Pilgrimage of Grace (1536), which centered around York. There are beautiful remains of the Cistercian houses of Rievaulx, Jervaulx, Fountains, Kirkstall, and Bylands, and Benedictine establishments at Whitby, Selby, and St. Mary's, York. The scholarly and religious traditions of medieval Yorkshire were handed down to such later Yorkshiremen as John Wyclif, Miles Coverdale, and Roger Ascham Literary associations extend back to Cædmon, first of the Anglo-Saxon poets Robin Hood's legendary exploits are recalled by many place names The county was the home of Laurence Sterne, and the Brontë sisters lived at the quiet village of Haworth. See *Victoria History of the County of York* (3 vols , 1907–13) and *Victoria History of North Riding* (2 vols., 1914–23)

Yorkshire terrier: see TERRIER

Yorkton, city (pop 5,714), SE Sask , on the Yorkton river and NE of Regina It is a railroad center for much of E Saskatchewan and has grain elevators, tanneries, lumber mills, dairying, and brick-making York, Roussay, Leech, and Crescent lakes are south of the city

Yorktown. 1 Town (pop 2,081), S Texas, ESE of San Antonio and near Cuero, laid out 1848, inc. 1871 This farm, dairy, and poultry area was largely settled by Germans **2** Historic town (pop 521), SE Va , on the York river near Chesapeake Bay, settled 1631, laid out 1691 The courthouse of York co is here. The town is included in COLONIAL NATIONAL HISTORICAL PARK The YORKTOWN CAMPAIGN brought to a close the American Revolution In the Civil War, Yorktown was besieged (April–May, 1862) by McClellan in the PENINSULAR CAMPAIGN, and the city was taken by the Federals on May 4 Places of interest in Yorktown include the customhouse (c 1706, restored 1929), Grace Church (1697), the Moore House, in which the terms of Cornwallis's surrender were negotiated, and the Yorktown Monument (1881), commemorating the victory of 1781 See J H Clos, *The Glory of Yorktown* (1924), Robert Arthur, *The Sieges of Yorktown, 1781 and 1862* (1927), Comte de la Loge d'Ausson, *Yorktown* (1931), H L Landers, *The Virginia Campaign and the Blockade and Siege of Yorktown* (1931), C. F. Trudell, *Colonial Yorktown* (1938)

Yorktown campaign, 1781, the closing military operations of the American Revolution After his unsuccessful CAROLINA CAMPAIGN Cornwallis moved into Virginia to join British forces there His lieutenant, Banastre Tarleton, engaged American forces under Lafayette, Steuben, and Anthony Wayne in several minor actions as the British retreated down the York peninsula Cornwallis fortified Yorktown and waited for reinforcements to come from Sir Henry Clinton in New York While he was there, late in August, a French fleet under Admiral de GRASSE arrived from the West Indies and blockaded Chesapeake Bay General Washington had been persuaded by ROCHAMBEAU to take advantage of the situation Leaving a small force to harry Clinton in New York, the two generals rushed south, with many French troops Cornwallis, unaware of Washington's advance, remained more or less idle, while Clinton tried to relieve the pressure by sending Benedict Arnold to raid New England Lafayette and Steuben distinguished themselves as commanders of the holding troops and did so even more after the reinforcements arrived By September an overwhelming Franco-American force had gathered and broke through Cornwallis's outer defenses Cornwallis tried to escape, but his attempts failed On Oct 17, 1781, he asked for surrender terms, which he accepted Oct 19, 1781 See Robert Arthur, *The Sieges of Yorktown, 1781 and 1862* (1927), H L Landers, *The Virginia Campaign and the Blockade and Siege of Yorktown* (1931)

Yorktown Heights, unincorporated village (pop 1,076), SE N Y , in Westchester co , E of Peekskill The Rockefeller Institute for Medical Research and the International Health Division of the Rockefeller Foundation conducted a study of influenza here in 1939

Yorkville 1 Village (pop 3,311), central N Y , near Utica, settled before 1800, inc 1902 Henry Inman was born here **2** Village (pop 1,961), E Ohio, on the Ohio river above Wheeling, W Va , in the steel-producing area Metal products are made here

York von Wartenburg, Hans, Graf see YORCK VON WARTENBURG, HANS, GRAF

Yoruba (yŏ'rōōbä), people of SW Nigeria, numbering some 3,800,000 They speak a Sudanic language (see LANGUAGE, table) There is little certain knowledge concerning the Yoruba before the early 18th cent , when they had established an empire in approximately their present territory In the 19th cent their domain was broken into smaller holdings under the impact of Moslem tribes, chiefly the Haussa, and large numbers of the Yoruba were converted to Islam The Yoruba, who depended primarily on agriculture rather than stock raising for their livelihood, were unusual among Negro tribes for living in rather large cities, including Lagos, Ibadan, and Abeokuta.

Yosai, Kikuchi (kēkōō'chē yōsī'), 1788–1878, Japanese painter of the conservative native school. He made masterly use of black and white.

Yosemite National Park (yōsĕ'mĭtē), 756,440 62 acres, central Calif., c 200 mi E of San Francisco; est. 1890. It lies on the western slope of the Sierra Nevada, in a region of great beauty Enclosed within the park is the famed Yosemite Valley, surrounded by cliffs and pinnacles Peaks within the park with a height above 7,000 ft include Basket Dome, Clouds Rest, Eagle Peak, El Capitan, Glacier Point, Half Dome, Liberty Cap, North Dome, Profile Cliff, Sentinel Dome, and Taft Point The park has beautiful lakes, rivers, streams, and waterfalls, the most noted of which is Yosemite, with an over-all drop of 2,425 ft Other lovely waterfalls are Ribbon (1,612 ft), Bridalveil (620 ft), Illilouette (370 ft), and Vernal (317 ft) Three groves of sequoias are within the park's limits, Mariposa, Merced, and Tuolumne There are fine growths of other trees and over 1,000 varieties of flowering plants The scenic Hetch Hetchy Valley holds the reservoir which supplies water to San Francisco See John Muir, *The Yosemite* (1912), Carl Parcher Russell, *One Hundred Years in Yosemite* (1947), Katherine A Taylor, *Yosemite Trails and Tales* (1948).

Yoshida, Shigeru (shōgā'rōō yō'shēdä), 1878–, Japanese statesman He was minister to Sweden (1928), ambassador to Italy (1930–32) and to Great Britain (1936–39), and munitions minister (1945) A member of the Shidehara cabinet and head of the Liberal party after the war, he became premier in May, 1946, when the first post-war election gave the Liberals a plurality in the diet His coalition cabinet, with Liberal and Progressive support, was generally unpopular, especially with labor, and resigned in May, 1947 After the merger of the conservative parties into a single Democratic Liberal party headed by Yoshida, he was elected premier by the diet in Oct , 1948, and collected the first single-party cabinet since the war Yoshida's party fell in Dec , 1948, but was reinstated in the ensuing general election in 1949

Yoshihito (yōshē'hētō), 1879–1926, emperor of Japan (1912–26) The son of MUTSUHITO, he succeeded to the throne in 1912, but became mentally incompetent, and his son HIROHITO was made regent in 1921

Youatt, William (yōō'ăt), 1776–1847, English veterinary surgeon He established (c 1813) a veterinary clinic, lectured on diseases of animals, founded (1828) and edited a practical magazine, the *Veterinarian*, and wrote many standard treatises, including *The Horse* (1831) and *Cattle* (1834)

Youghal (yôl) [Irish,=yew wood], urban district (pop 4,805), Co Cork, Ireland, on Youghal Bay of the Atlantic at the mouth of the Blackwater and E of Cork It is a fishing port and a seaside resort The parish church incorporates part of a collegiate church founded in 1464 There are remains of a 13th-century Dominican monastery The town was chartered by King John in 1209, ravaged by the earl of Desmond in 1579, fortified and defended by the earl of Cork in 1641, and visited by Oliver Cromwell in 1649 Sir Walter Ralegh was mayor in 1588 and 1589, according to tradition he planted the first potato in Ireland in the garden of his home, "Myrtle Grove" The town was formerly known for the fine lace made at its convent

Youghiogheny (yŏkŭgā'nē), river, c 150 mi long, rising in the Alleghenies near the W Va–Md border and flowing N and NW into Pennsylvania to join the Monongahela at McKeesport Its waters are impounded for flood control by a Federal dam near Confluence, Pa

Youmans, Edward Livingston (yōō'mŭnz), 1821–87, American scientist, b Coeymans, near Albany, N Y Although nearly blind, he spent an active and successful life in the study and popularizing of science He lectured, wrote much, planned the "International Scientific Series" (publications of the works of important scientists in several languages), and founded (1872) the *Popular Science Monthly*, a magazine which he edited until his death He wrote *Chemical Atlas* (1854) and *Hand-Book of Household Science* (1857) and edited *Correlation and Conservation of Forces* (1864)

Young, Arthur, 1741–1820, English agriculturist and author Although his own experiments in farming were usually unsuccessful, his writings hastened the progress of scientific agriculture He traveled extensively, always carefully observing the methods and conditions of farming, and wrote in quick succession many authoritative agricultural commentaries, among them three accounts of tours in England (1768–1770) and *Tour in Ireland* (1780) In 1784 he established the periodical *Annals of Agriculture* and edited it through 1808, though never financially successful, it was widely influential His *Travels during the Years 1787, 1788, 1789 and 1790* (1792–94, ed by C E Maxwell, 1929) is recognized as a classic description of France in that period He became (1793) secretary to the newly created board of agriculture, helped make a survey of England, and wrote the able *General Report on Enclosures* (1808), advocating land enclosure He was blind in his later years See his autobiography (first pub 1898, ed by M Betham Edwards), biography to 1787 by C S Haslam (1930).

Young, Arthur, 1866–1943, American cartoonist, b Stephenson co , Ill , studied art in Chicago and New York and at Julien's Academy, Paris He was better known as Art Young Noted for his lively satire and whimsical humor, he drew cartoons for

Puck and *Life* which showed imagination, wit, and technical skill His talents were always at the service of the radical movements in which he believed, and he was tried for sedition, with the editors of the old *Masses*, for his work in that paper Several series of his drawings have been published, including *Trees at Night* (1927) and his trenchant commentary on modern life, *Art Young's Inferno* (1934), showing the capitalists in possession of hell. See his *On My Way* (1928), *The Best of Art Young* with introduction by Heywood Broun, 1936).

Young, Brigham, (brĭ'gŭm), 1801–77, American leader of the Church of Jesus Christ of Latter-Day Saints, b Whitingham, Vt Brigham Young was, perhaps, the greatest molder of Mormonism, his influence having a greater effect even than that of Joseph Smith in shaping the formation of the Mormon church He was a painter and glazier in Mendon, Monroe co., N Y., when he was first attracted to the new religion He was not baptized until 1832 He led a group to the Mormon community at Kirtland, Ohio, and in 1835 he became one of the Council of Twelve (the Apostles) He did not, however, become a highly important factor in the church until the Mormons were persecuted in their new Missouri Zion He was one of the few Mormon leaders not placed under arrest, and his abilities as an organizer came to the fore He was one of the chief figures in the move to Nauvoo, Ill Sent as missionary to England, he converted many to Mormonism and started the movement that resulted in bringing many English immigrants to strengthen the new church After Joseph Smith's assassination (1844), Young was the chief factor in maintaining the unity of the church in the Council of Twelve From that time forward he was the dominant man in Mormonism He led the great migration West in 1846–47 and was the director of the settlement at Salt Lake City The Mormon state in Utah revolved about him He exercised supreme control in the cooperative theocracy, and to his genius as much as anything else was due the phenomenal growth of a prosperous community In the early years he watched with patriarchal care the most minute details of the lives of the Mormons, guarding, guiding, directing, counseling He headed the church and after the creation of the U S provisional government, he was also territorial governor and superintendent of Indian affairs He built up Salt Lake City and the surrounding Mormon communities When trouble arose between the United States and the Mormons, out of the general outcry elsewhere against the Mormon practice of polygamy and a general fear and hatred of Mormon power, he defied the American government, especially in the vain and fruitless military expedition against the Mormons called the "Utah war" or the Mormon campaign (1857–58) He lost his post as governor, but his wise statesmanship avoided a real break with the United States In his old age he was arrested on charges growing out of polygamy and a charge of murder based on the accusations of one of his henchmen But his influence continued, increased rather than diminished, until his death His name was known not only throughout the United States, but also abroad The number of his plural wives and the extent of his fortune were the objects of curiosity and idle rumor everywhere The exact number of his wives is still a matter of argument He seems to have been married in the course of his life to 27 women, though never to so many at the same time, he was survived by 17 wives Nevertheless, the malicious accusations of sensuality leveled against him by people who were ignorant of even the basic principles of Mormon doctrine were anything but justified His life was rigidly moral, his character above reproach. The most serious charge that can be brought against him is that of condoning the massacre at MOUNTAIN MEADOWS He did not instigate that crime, but it seems probable that he did protect its perpetrators, though the whole question is somewhat obscure See Susa Young Gates (his daughter) and Leah E Widtsoe, *The Life Story of Brigham Young* (1930), M R Werner, *Brigham Young* (1939), Leah Widstoe, *Brigham Young the Man of the Hour* (1947)

Young, Charles Augustus, 1834–1908, American astronomer, b Hanover, N.H., grad Dartmouth, 1853. He discovered the reversing layer of the solar atmosphere and was a pioneer in the study of the spectrum of the sun's corona. He also experimented in photographing the solar prominences in full sunlight He was professor (1857–66) of astronomy, natural philosophy, and mathematics at Western Reserve College (now Western Reserve Univ) and professor of astronomy and natural philosophy at Dartmouth (1866–77) and at Princeton (1877–1905). In 1870 he went to Spain to observe the solar eclipse, and in 1874 to China to observe the transit of Venus His works include *The Sun* (1881, rev ed, 1896), *The Elements of Astronomy* (1890, rev ed, 1919), and *Lessons in Astronomy* (1891, rev. ed, 1918).

Young, Denton T., 1867–, American baseball player, commonly known as Cy Young, b Tuscarawas co, Ohio He played with the Canton (Ohio) club of the Tri-State League before he pitched (1890–98) for the Cleveland Indians, then in the National League He later hurled for the St. Louis Cardinals (1899–1900) of the National League, the Boston Red Sox (1901–8) and the Cleveland Indians (1909–11) of the American League, and the Boston Braves (1911) of the National League. He pitched more games (about 900) and for more years (22) in the major leagues than any other pitcher. Young, known for his excellent control and his ability to outwit batters, won the most games (511) and pitched the most no-hit games (3) of all pitchers. In 1904 he pitched a perfect game—no-hit, no-run, no opposing batter reaching first base At the age of 44, Cy Young retired from active play. He was elected to the National Baseball Hall of Fame in 1937

Young, Edward, 1683–1765, English poet and dramatist A long poem, *The Last Day* (1713), was followed by *The Force of Religion; or, Vanquished Love* (1713), suggested by the execution of Lady Jane Grey Then came three tragedies, *Busiris* (1719), *The Revenge* (1721), and *The Brothers* (1728), the last of which was withdrawn from rehearsal after Young had taken holy orders in 1727. The satire *Love of Fame, or, The Universal Passion* appeared in 1725–28 He became rector of Welwyn in Hertfordshire in 1730 His masterpiece is *The Complaint, or, Night Thoughts on Life, Death, and Immortality* (1742–44, commonly known as *Night Thoughts*), a poem in blank verse which identifies Young with the so-called "graveyard school" of English poets The imagination and somber eloquence of this piece rank it with the finest of the period See H C Shelley, *The Life and Letters of Edward Young* (1914)

Young, Ella Flagg, 1845–1918, American educator, b Buffalo, N Y She was identified with the Chicago public school system for 53 years, as teacher, principal, and superintendent of schools (1909–15) From 1899 to 1905 she was professor of education at the Univ of Chicago, and from 1905 to 1909 principal of the Chicago Normal School (later Chicago Teachers College) She was a leader in woman-suffrage work, first woman president (1910–11) of the National Education Association, and author of *Ethics in the School* (1902) and *Some Types of Modern Educational Theory* (1902) See J T McManis, *Ella Flagg Young and a Half-Century of the Chicago Public Schools* (1916)

Young, Ewing, d 1841, American trader and explorer, early settler of Oregon Reputedly born in E Tennessee, he became a trader in the Southwest, going out from Taos on various trapping expeditions He went to California and back, accompanied by Kit Carson (1829–31), and returned to California in 1831 Persuaded by Hall J KELLEY to go to Oregon, he settled (1834) in the Willamette valley and was prominent among the early settlers there On bad terms with Dr John MCLOUGHLIN and also with the Methodist missionaries, he nevertheless helped much to promote American interest in the disputed Oregon area See E L Sabin, *Kit Carson Days* (1935)

Young, Geoffrey Winthrop, 1876–, English writer, an authority on mountaineering He was educated at Cambridge and later studied in Switzerland and France Before 1914 he made an impressive record of new and difficult ascents in the Alps In the First World War he commanded British ambulance units in Belgium, France, and Italy and was several times decorated Though he lost a leg, he continued mountain climbing He wrote *Mountain Craft* (1920, 7th ed, 1949) He also wrote poetry See his autobiography, *On High Hills* (1927)

Young, James, 1811–83, Scottish industrial chemist He patented (1850) a process for the destructive distillation of bituminous substances which he used in the manufacture of illuminating and lubricating oils, naphtha, and paraffin

Young, John Russell, 1840–99, American journalist, b Ireland He was brought to Pennsylvania in 1841 He started his newspaper career with the Philadelphia *Press* and was a *Press* correspondent at the beginning of the Civil War; by 1862 he was managing editor of the *Press* and by 1866 he was editor of the New York *Tribune* He was sent abroad on government missions and by the New York *Herald* in the 1870s, one of them the trip he later reported in *Around the World with General Grant* (1879) He was minister to China (1882–85) and was made Librarian of Congress in 1897. See his *Men and Memories* (1901)

Young, John Wesley, 1879–1932, American mathematician, b Columbus, Ohio, grad Ohio State Univ. (Ph B., 1899), Ph D Cornell Univ, 1904 He was professor at Dartmouth from 1911 to 1932. From 1907 to 1925 he served on the council of the American Mathematical Society and as ed tor of its *Bulletin* His published works include *Lectures on Fundamental Concepts of Algebra and Geometry* (1911) and *Plane Trigonometry* (1919) He also edited a series of mathematical texts, and with Oswald Veblen he wrote *Projective Geometry* (2 vols., 1910–18)

Young, Mahonri Mackintosh (mŭhŏn'rē), 1877–, American sculptor, painter, and etcher, b. Salt Lake City, studied at the Art Students League and at Julien's academy, Paris; grandson of Brigham Young. His statuettes of laborers, cowboys, and prize fighters and his larger works show strength and simplicity and fine workmanship. In the Metropolitan Museum are the bronzes *Stevedore* and *Man with Pick;* in the Newark (N.J.) Public Library, *A Laborer* and *The Rigger*. He made the Hopi and Apache groups for the American Museum of Natural History, New York, and the *Sea Gull Monument* for Salt Lake City, Utah.

Young, Owen D., 1874–, American lawyer and corporation official, b. Herkimer co, N.Y., grad. St Lawrence Univ., 1894, and Boston Univ law school, 1896. He lectured in Boston Univ. (1896–1903) and practiced law in Boston. He moved to New York city in 1913, became general counsel for the General Electric Company, and later served (1922–39) as chairman of the board The creation of the Radio Corp of America was chiefly the result of his efforts, and he was associated with other large corporations With Charles G Dawes he was a U.S representative at the reparations conference of 1924 As chairman of the reparations conference of 1929, he forwarded the Young Plan. See biography by Ida M Tarbell (1932)

Young, Thomas, 1773–1829, English physicist and physician He practiced in London (1799–1814) and was elected to the staff of St. George's Hospital, London, in 1811 His lectures while professor of natural philosophy (1801–3) at the Royal Institution, London, published as *A Course of Lectures on Natural Philosophy and the Mechanical Arts* (1807), introduced the modern physical concept of energy An authority on the mechanism of VISION and on optics, he stated (1807) a theory of color vision now known as the Young-Helmholtz theory, studied the structure of the eye, and described astigmatism. He is especially noted for reviving the wave theory of LIGHT as opposed to the corpuscular theory, advancing as proof a demonstration based upon the principle of interference of light, which he had earlier discovered He applied (1809) the wave theory to refraction and dispersion phenomena Young's versatility is evidenced by his contributions to the theory of tides, his participation in the deciphering of the Rosetta stone, his explanation (1804) of capillarity, and his establishment of a coefficient of elasticity, YOUNG'S MODULUS See biography by H B Williams (1930)

Younger, Cole (Thomas Coleman Younger), 1844–1916, American desperado, b Jackson co., Mo After the Civil War he joined the outlaw band of Jesse JAMES, with whom he had served as a Confederate guerrilla under William C Quantrill He became a trusted and influential member of the gang With two of his brothers, James and Robert, Cole was captured after the unsuccessful attempt to rob the bank at Northfield, Minn (1876), and all three were sentenced to life imprisonment Another brother, John, had been shot to death in 1874 Largely through the efforts of Capt Warren C Bronaugh, a Confederate veteran, who alleged that the brothers had been driven into crime by persecution of their family during the Civil War, Cole and James were paroled in 1901 Robert had died in prison in 1889 James committed suicide in 1902, but Cole Younger, completely pardoned in 1903, returned to Missouri, where he lectured, traveled with a wild West show, and worked peacefully at various jobs. See his autobiography (1903), W C Bronaugh, *The Youngers' Fight for Freedom* (1906), Robertus Love, *The Rise and Fall of Jesse James* (1926)

Young-Helmholtz theory. see VISION

Younghusband, Sir Francis Edward, 1863–1942, British explorer, b India He entered the army in 1882, and in 1887 with H E M James he explored Mongolia, traveling from Peiping to the Altai and then to Kashgar, whence they reached India by way of Yarkand and the Mustagh Pass (19,000 ft.) of the Karakoram range, which they were the first Europeans to cross Suspicious of Russian encroachments into Tibet, Lord Curzon, the Indian viceroy, sent Younghusband with a military expedition into Tibet in 1904, where he forced a treaty upon the Dalai Lama, opening Tibet to Western trade Later he surveyed the Brahmaputra and the Sutlej rivers and the upper reaches of the Indus He thrice tried and failed to scale Mt Everest. His books include *Heart of a Continent* (1898); *India and Tibet* (1912), and *Everest the Challenge* (1936).

Young Men's Christian Association (Y M.C.A.), organization having for its object the improvement of conditions and opportunities for young men Concerned primarily with their spiritual and social well-being, it also includes attention to their physical and intellectual needs The first association was launched (1844) in London by Sir George Williams among young men in business. Other associations throughout Great Britain, formed upon its example, became affiliated with it. In 1851 the movement took root in America. Following the lead of Montreal and Boston, a number of other cities soon had their own Y.M.C.A.'s and in 1854 the first convention of North American associations took place at Buffalo. At that meeting was established an international committee to serve and advise the associations in Canada and the United States, joined in an alliance under its supervision. A world conference in Paris in 1855 brought to-

gether delegates representing seven nationalities. From these beginnings has developed an organization with branches on every continent. City and rural associations differ in their activities because of the different requirements of their members, but in all of them the greatest emphasis falls on Bible study and other religious features. Libraries and reading rooms, classes, lectures, and clubs are provided as well as housing facilities and summer camps. From the time when the New York association led the way in adding physical training, that has been a prominent department of the work, particularly in cities. As early as 1858 student organizations were formed, the first in the Univ. of Michigan and the Univ. of Virginia. An intercollegiate association was started in 1877. The Student Volunteer Movement for Foreign Missions and the World's Student Christian Federation are notable outgrowths. Summer conferences, held first at Northfield, Mass., since 1886 have spread throughout the country. Special provision for work among boys, now an essential part of Y.M.C.A. endeavor, was first made in 1869 in Salem, Mass. A separate division to meet the particular needs of railroad employees started in Cleveland, Ohio, in 1872, developed into a great and useful branch and stimulated effort in other industrial fields. Associations for Negroes date from 1853, for Indians, from 1879. Thorough training for secretaries and physical directors and other association workers is furnished in colleges founded for the purpose in Springfield, Mass. (1885), and Chicago (1890), as well as in various centers where summer sessions are held. During the Civil War several branches of the association organized the U.S. Christian Commission for the welfare of soldiers in camps and hospitals. Since that time the Y.M.C.A. has taken an active part in social service in every war. In the First World War it cared for prisoners, provided recreation and guidance for the armed forces, and cooperated with the Red Cross in relief work. In the Second World War it combined with the Y.W.C.A. and other agencies to form the United Service Organizations (USO) for recreation and welfare activities. See *Yearbook* of the association; International Survey Committee, *International Survey of the Young Men's and Young Women's Christian Associations* (1932); G. S. Eddy, *A Century with Youth* (1944); G. M. Fisher, *Public Affairs and the Y.M.C.A.* (1948).

Young Plan, program for settlement of German REPARATIONS debts after the First World War. It was presented by the committee headed (1929–30) by Owen D. YOUNG. After the DAWES PLAN was put into operation (1924), it became apparent that Germany could not meet the huge annual payments, especially over an indefinite period of time. Thus the Young Plan—which set the total reparations at $26,350,000,000 to be paid over a period of 58½ years—was adopted by the Allied powers in 1930 to supersede the Dawes Plan. Designed to substitute a definite settlement under which Germany would know the exact extent of German obligations and to reduce the payments appreciably, the Young Plan divided the annual payment, set at about $473,000,000, into two elements—an unconditional part (one third of the sum) and a postponable part (the remainder). The annuities were to be raised through a transportation tax and from the budget. No sooner had the plan gone into effect than Germany felt the full impact of economic depression, and a moratorium was called for the fiscal year 1931–32. After Hitler took over Germany, he repudiated the unpaid reparations debt.

Young Pretender see STUART, CHARLES EDWARD.

Young's modulus [for Thomas Young], number representing (in pounds per square inch or dynes per square centimeter) the ratio of stress to strain for a wire or bar of a given substance. According to Hooke's law the strain is proportional to stress, and therefore the ratio of the two is a constant which is commonly used to indicate the elasticity of the substance.

Youngstown, city (pop. 167,720), co. seat of Mahoning co., NE Ohio, on the Mahoning river near the Pa. line, in an extensive coal and iron region, founded 1797. It is one of the largest iron and steel centers in the country. The exploitation of coal and iron resources began here early in the 19th cent., and after the opening of the Pennsylvania and Ohio Canal (1839), the arrival of the railroad (1853), and the establishment of steel plants in the 1890s, the city grew rapidly. It is the seat of Butler Art Institute and of Youngstown College (Y.M.C.A., coeducational, 1888).

Youngsville, borough (pop. 1,909), NW Pa., on a branch of the Allegheny river and W of Warren, settled 1795. It produces brick and furniture.

Young Turks. see OTTOMAN EMPIRE.

Young Women's Christian Association (Y.W.C.A.), organization designed to promote the welfare of women and girls by offering opportunities for their development spiritually, socially, intellectually, and physically. The movement is undenominational. In London in 1855 Lady Kinnaird brought together a group whose object was to provide homes for young women workers. In another part of England at about the same time a prayer union was founded. Joining in 1877 and including extensions of the movement in Scotland and Ireland, they took the name Young Women's Christian Association. By 1884, when a united central council was established, there were further extensions in the British colonies and on the Continent. Meanwhile in New York city a Union Prayer Club, organized in 1858 by Mrs. Marshall O. Roberts and later known as the Ladies' Christian Union, in 1860 opened a boardinghouse for young self-supporting women. Boston had a Young Women's Christian Association in 1866. At Hartford, in 1871, a conference was held at which 23 city societies of the kind met. When they organized (1875–77), they became the International Board of Women's Christian Associations. Student groups of young women in colleges of the Middle West, beginning (1873) with the one at Normal, Ill., formed state associations, in 1886 one of these joined in the International Committee (changed to the American Committee after the separation of the Canadian section in 1899). In 1906 a new national body, the Young Women's Christian Associations of the United States, was created by the affiliation of the American Committee with the International Board. National headquarters have been in New York city since 1912. In 1892 a conference representing societies in Europe, America, and other parts of the world was held in London, and in 1894 a World's Young Women's Christian Association was formed, its headquarters are now in Geneva, Switzerland. Fifty countries are related to this organization. In the United States the unit of organization is the local association in cities, towns, rural communities, and student centers. There are Y.W.C.A. buildings in all cities of appreciable size, and strong emphasis is laid on the importance of trained secretaries. The main object is the building of a better society by interpreting Christianity in terms adequate to life today. The programs of activities are broad and varied to meet the many-sided needs of all groups of women and girls. Branches have been established for Negroes, Indians, and the foreign-born. See *Directory* of the association; International Survey Committee, *International Survey of the Young Men's and Young Women's Christian Associations* (1932); M. S. Sims, *The Natural History of a Social Institution* (1936).

Youngwood, industrial borough (pop. 2,546), SW Pa., 30 mi. SE of Pittsburgh, inc. 1902. It has a scientific-instruments factory and railroad shops.

youth-and-old-age see ZINNIA.

youth movement, name given to organized efforts on the part of young people, especially after the First World War, to promote certain ideals and purposes in which they felt their interests as a group to be particularly involved. The term is also applied loosely to the activities of groups organized for youth, rather than by youth, for the purpose of furthering traditional religious and cultural ideals, as well as the activities of public agencies such as the Civilian Conservation Corps and the National Youth Administration. Before 1914 millions of young people were members of such youth-serving organizations as the Young Men's Christian Association, the Young Women's Christian Association, the Boy Scouts, the Girl Scouts, and the Camp Fire Girls. Among the few groups before the 1920s which were initiated and led by young people, usually by students in the colleges and universities, was the Intercollegiate Socialist Society, founded in 1905 by Jack London and Upton Sinclair, to "promote an intelligent interest in the study of socialism." The background of these groups was the disturbing economic and social changes, produced by changes in technology, which increased in scope after the turn of the century. After the First World War the distrust and questioning of the ideas of the older generation were intensified by the disorganization of civilized life consequent on the war. The disillusionment was especially great among the young men in the defeated countries. An expression of the new outlook was the work camps set up in European devastated areas, there the European university students spent their vacations in hard physical labor, rebuilding houses and roads and constructing recreation centers in impoverished communities. Many American students joined these camps, others raised funds and set up depots for supplies and relief stations in Central Europe. European students were "adopted" or aided to emigrate. These activities were organized in the International Student Service, of which the National Student Federation of America, organized in 1925, became the American branch, after the advent of Hitler it aided student political refugees to escape from Germany. A perennial interest of college youth groups was peace and disarmament, but none of the problems that engaged the attention of adults was foreign to them. With the deepening of the depression in the 1930s, unemployment became a major concern of all the youth groups. After the Conference of Students and Politics at Washington, D.C., in 1933 a large number of idealistic liberal and radical groups was formed, among which the more important were the American Student Union, the United Student Peace Congress, and the United Christian Youth Movement. The Student Union, a left-wing group, initiated the student "strike" as a technique for expressing opposition to war. The Peace Committee, a federation of practically all the youth groups, stood for the elimination of compulsory military drill in the colleges and for American neutrality in international affairs and maintained the right of individual youth to refuse military service in time of war. The Youth Congress began as a federation of religious youth groups, labor unions, and student societies and called for betterment of economic conditions for American youth through support of the trade-union movement and social legislation. To get rid of war, class hatred, unemployment, and lack of opportunity for youth, the United Christian Youth Movement, which is estimated to have reached 10,000,000 young people, proposed to "build a world of brotherhood, where God-given resources are used to serve all mankind." Like the adult organizations of the period, the youth groups were torn by internal divisions, the deepest being between Communists on the one hand and Socialists and liberals on the other, but all opinions were represented and tolerated. As the youth movement progressed, the old youth-serving organizations broadened their programs to permit initiative and choice of interests on the part of their youth members. A youth-serving movement of a new kind was the so-called youth hostel movement, developed to enable young people with much leisure and meager funds to tour scenic parts of various countries on foot or by bicycle, hostels or hotels being established at convenient intervals, where they could obtain inexpensive lodging and food at the end of each day. In some cities such as Toledo, Ohio, local youth movements effected political reforms. Measures proposed by youth groups were embodied by Congress in the act creating the Civilian Conservation Corps, designed to give employment and vocational training to underprivileged young men. The American youth movement never succumbed to the idea of using violent means to attain its ends. In Europe the work camps of the post-war period developed into a national labor service, which in Germany was made compulsory. In their 19th year German youth were required to devote eight months to tasks set by the state, eventually they were indoctrinated with totalitarian ideals and became a mainstay of the Nazi government. After the Second World War much youth interest was centered in such international activities as that represented by the World Conference of Christian Youth at Oslo in 1948 and the World Assembly of Youth in London in 1949. See Randolph S. Bourne, *Youth and Life* (1913); Miriam Van Waters, *Youth in Conflict* (1926); P. R. Hanna, ed., *Youth Serves the Community* (1936); Russell Sage Foundation, *Youth Movements Here and Abroad* (1936).

Ypres, John Denton Pinkstone French, 1st earl of see FRENCH, JOHN DENTON PINKSTONE, 1ST EARL OF YPRES.

Ypres (ē'prŭ), Flemish *Ieper* (ē'pur), town (pop. 16,448), West Flanders prov., NW Belgium. Now a relatively unimportant textile center and agricultural market, Ypres was, during the Middle Ages, one of the most powerful cities of Flanders, rivaling Ghent and Bruges. Like its rivals, it throve on its great cloth industry, but it was handicapped by the lack of a maritime outlet of its own. Its decline became marked in the 16th cent. Proximity to the French frontier has exposed Ypres to the ravages of war for many centuries. It was (1914–18) the center of one of the most hotly contested theaters of the First World War. Here in the first battle of Ypres (Oct.–Nov., 1914) the British and Belgians stopped the German thrust toward the Channel ports of Dunkirk and Calais along a line running just east and south of the city. In the second battle of Ypres (April–May, 1915), a planned Allied offensive was halted when the Germans used poison gas for the first time in the war. In the third battle (July–Nov., 1917) the British under Haig sacrificed some 400,000 men to push their line 5 mi. to the east, a Pyrrhic victory of the first order, this was also known as the battle of Passchendale. In April, 1918, the Germans struck against Ypres from the south but failed to take the town, and in early Oct., 1918, the British began their victorious eastward advance, which ended only with the armistice of Nov. 11. Ypres was thoroughly devastated in the war, but it was rebuilt. Among the restored buildings are the Gothic cathedral and the magnificent cloth hall (both originally built in the 13th cent.). On the ramparts of the fortifications built (1689) by Vauban, a British memorial gate, designed by Sir Reginald Blomfield, was erected. Outside the city walls there are some 40 military cemeteries.

Ypsilanti (ĭpsĭlăn'tē), prominent Greek family of PHANARIOTS. An early distinguished member, **Alexander Ypsilanti,** c. 1725–1807, was dragoman of the Sublime Porte and hospodar (governor) of Walachia (1774–77, 1796–98) and of Moldavia (1787). Captured (1790) by the Austrians in the Russo-Turkish War of 1787–92, he was imprisoned for two years in the Spielberg at Brno (Brünn). He was executed by the sultan for an alleged conspiracy. His son, **Constantine Ypsilanti,** 1760–1816,

became hospodar of Moldavia in 1799 and of Walachia in 1802 He was deposed in 1806 for his pro-Russian sympathies, but he was restored (1807) to the government of Walachia by the Russians, who had occupied that principality in their war with Turkey Constantine Ypsilanti encouraged the anti-Turkish rebellion in Serbia and was raising an army to free Greece when the Treaty of Tilsit (1807) between Russia and France cut short his plans He took refuge in Russia, where he died His elder son, **Alexander Ypsilanti**, 1792–1828, accompanied his father into exile and became a general in the Russian army He headed the secret organization, Hetairia Philike, which sought Greek independence With strong Russian support, he raised (1821) a revolt at Jassy, the capital of Moldavia, and proclaimed the independence of Greece The Phanariot hospodar of Moldavia and the Greeks in the two Danubian Principalities rallied to him, but the Rumanian population, which had suffered long enough under Phanariot rule, rose against the Greeks Russia, on the pressure of Metternich, disavowed Ypsilanti, who was disastrously defeated by the Turks He sought asylum in Austria, but was imprisoned there until 1827 He died at Vienna Ypsilanti's uprising marked the end of the rule of the Danubian Principalities by Greek hospodars, who were replaced by native Rumanian princes At the same time it helped in the success of the simultaneous Greek rebellion in the Peloponnesus by diverting the Turkish forces, and it thus marked the beginning of the Greek War of Independence Alexander's younger brother, **Demetrios Ypsilanti**, 1793–1832, was to play a prominent role in that war Like his brother, he had served in the Russian army, and he took part in Alexander Ypsilanti's uprising at Jassy In the same year he left Moldavia for Morea, as the Peloponnesus was then called, and helped the insurgent Greeks in the capture (1821) of Tripolis (then called Tripolitza), the chief Turkish fortress in Morea He stubbornly resisted the forces of Ibrahim Pasha in 1825 and in 1828 was made commander of the Greek forces in E Greece His differences with the Greek president, Capo d'Istria, led to his resignation in 1830

Ypsilanti (ĭpsĭlăn'tē), city (pop 12,121), SE Mich., on the Huron river and E of Ann Arbor, settled 1823, inc as a village 1832, as a city 1858 Indian trails crossed this site, an Indian village and a French trading post (1809–c 1819) were here It is a residential, commercial, farm trade, and industrial center, manufacturing stoves, automobile parts, paper, and other products A state normal school and Cleary College are here

Yreka (wĭrē'kŭ) or **Yreka City**, town (pop 2,485), co seat of Siskiyou co., N Calif., inc 1857 It boomed as a mining camp after the discovery of gold (1851) at Yreka Flat Some mining is still carried on The area has dairy, stock, and grain farms

Ys or Is (both ēs), in Breton legend, a city drowned in the Baie des Trépassés, off the southern cape of Finistère Its fate was a punishment for its wickedness There are similar stories told in many countries The story was used by the composer Lalo for his opera *Le Roi d'Ys* (1888)

Ysaye, Eugène (ûzhĕn' ēzaē'), 1858-1931, Belgian violinist, one of the greatest violinists of his time, pupil of Wieniawski and Vieuxtemps He became professor of music at the Brussels Conservatoire in 1886 In 1894 he made his American debut, and in 1895 he founded the Société des Concerts Ysaye, which he also conducted He was conductor (1918–20) of the Cincinnati Symphony Orchestra In his memory a contest, the Concours International Eugène Ysaye, was established in 1937 by Queen Elisabeth of Belgium See biography by Antoine Ysaye and Bertram Ratcliffe (1947)

Yser (ēzĕr'), river, 48 mi long, N France and NW Belgium, in Flanders It rises NE of Saint-Omer and flows generally NE into the North Sea at Nieuport, connecting a network of canals It was the scene of desperate fighting in the First World War, when the German drive toward Calais was stopped here (late 1914) by the Allies The small section of Belgium W of the Yser remained in Allied hands throughout the First World War

Yseult (ēsōlt'), name of two characters in Arthurian legend see TRISTRAM AND ISOLDE

Ysleta (ĭslē'tŭ, ĭslā'tŭ), unincorporated town (pop c 2,000), extreme W Texas, on the Rio Grande just below El Paso The oldest settlement in Texas, it was founded near a mission established (1681 or 1682) here after the Pueblo revolt Other religious establishments were founded near by at about the same time, notably the one at Socorro and the chapel at San Elizario

Yssel, Netherlands see IJSSEL

Ystad (ü'stad), city (pop 12,343), Malmohus co, S Sweden, a Baltic port Known to the Hanse merchants for the near-by herring fisheries, it flourished in the Middle Ages. Medieval architecture is well preserved. There are iron foundries, steel mills, and milk condenseries.

Ystradyfodwg, Wales. see RHONDDA.

ytterbium (ĭtûr'bēum), rare chemical element, a metal of the RARE EARTHS (symbol=Yb; for physical constants, see ELEMENT, table) present with other elements of the group in various minerals, especially gadolinite Its discovery is accredited to Marignac, who separated (1878) a substance which he called ytterbia This substance, upon investigation later (1907) by others, proved to contain another element (lutetium) in addition to that now known as ytterbium The element forms some colorless salts, but has no commercial value

yttrium (ĭ'trēum), rare chemical element, a metal of the RARE EARTHS (symbol=Y, for physical constants, see ELEMENT, table) In 1794 Johan Gadolin investigated the rare mineral from Ytterby, in Sweden, which was named gadolinite for him, Mosander later obtained yttrium oxide from it, and finally Wöhler obtained the impure metal as a dark gray powder with a metallic luster Yttrium is present in gadolinite, euxenite, and xenotime It has no commercial use

yüan (yüän'), dynasty of China, which ruled from 1260 to 1368 It was a division of the great empire conquered by the MONGOLS KUBLAI KHAN, who founded the dynastic line, swept down from N China and in 1279 accomplished the final defeat of the Sung dynasty In its early period the Yüan dynasty developed a fine postal system and an extensive network of roads and canals reaching to the distant Mongol domains of Turkistan, Persia, and S Russia There was continuous overland contact with the West and exchange of products, and in this period gunpowder and printing seem to have been introduced to Europe from China Of the occasional European travelers attracted to the Yüan country and its great capital at Cambuluc (now Peiping) the best known is Marco POLO From the early years of occupation some Chinese administrators were used by the Yüan rulers, but their influence never became dominant The traditional Confucian ideals of Chinese government were also discouraged by the suspension (until 1315) of the system of civil service examinations Since scholarship was unremunerative its place was partly taken by much writing of novels and plays The Yüan dynasty, without the support of either the Chinese masses or the literati, speedily collapsed under the impact of revolts in Mongolia and in S China The native Ming dynasty followed

Yuan or **Yüan** (both yüän'), river, Hunan prov, China, flowing c 500 mi to Tungting lake The name also appears as Yuen

Yüan Shih-kai (yüän'shē'-kī'), 1859–1916, president of China (1912–16) From 1880 to 1885 he was the Chinese resident in Korea, then an imperial dependency He supported the dowager empress, Tz'u Hsi, against the Emperor, Kuang Hsü, and she rewarded him with the highest imperial honor, the vicegerency of Chihli (now Hopeh) Yuan was entrusted with defending the empire against the revolution of 1911, but on his advice the abdication of Emperor Hsüan T'ung (Henry Pu Yi) was procured on Feb 12, 1912 A few days later, SUN YAT-SEN, who had been elected the first president of China two months before, resigned in Yüan's favor Opposition to Yüan's dictatorial methods soon developed, and he had to suppress several revolts In 1914 he dissolved the parliament and in 1915 he declared himself emperor on the basis of an allegedly rigged plebiscite, but he died before the often-postponed ceremony of enthronement, and the republic was restored

Yuba City (yōō'bŭ), town (pop 4,968), co seat of Sutter co, N central Calif, N of Sacramento and on the Feather river, in the fertile Sacramento valley, laid out 1849, inc 1878 Like Marysville, on the opposite side of the Feather, the town boomed during the gold rush Today it is a processing center for the fruits (especially peaches), vegetables, and dairy products of the area

Yucatan (yōōkŭtän'), Span *Yucatán* (yōōkätän'), peninsula, area c 70,000 sq mi, mostly in SE Mexico, separating the Caribbean from the Gulf of Mexico It comprises the states of Yucatan and CAMPECHE, the territory of QUINTANA ROO, BRITISH HONDURAS, and part of PETÉN, Guatemala The peninsula is almost entirely a low, flat, limestone tableland, rising to c 500 ft in the interior drainage basin of Petén To the north and west the plain continues as the Campeche Bank, stretching under shallow water c 150 mi from the low, sandy shoreline The northern part of the eastern coast of the peninsula rises in low cliffs, and the southern is indented by bays and paralleled by islands and cays Short, transverse ranges of hills cross the peninsula at scattered intervals The only rivers are those flowing E and NW from Petén In the northern half of the tableland, where rainfall is light and absorbed by the porous limestone, water for the inhabitants, who are predominantly Maya, and for livestock comes from underground rivers and wells (*cenotes*) and surface pools (*aguadas*) Cold winds blow from the north in winter, and the land has the tropical dry and rainy seasons, but generally in the north the climate is hot and dry and in the south hot and humid Most of the northern half, though covered with only a few inches of subsoil, is one of the most important henequen-raising regions of the world (see SISAL HEMP), the uncultivated area is under a dense growth of scrub, cactus, sapote wood, and mangrove thickets. Maize, sugar cane, tobacco, cotton, and coffee are also grown. Magnificent forests of mahogany, vanilla, logwood, and dyewood are in SW Campeche, Petén, and British Honduras, and this area teams with tropical life, including the jaguar, the armadillo, the iguana, and the Yucatan turkey Centuries before the Spanish came, Yucatan was the seat of a great civilization (see MAYA). Probably the first white men to arrive were the survivors of a Spanish caravel that foundered off Jamaica in 1511 All died except two—Gonsalo de Guerrero, who joined the Maya, and Gerónimo de Aguilar, who was rescued by Cortés in 1519 and became his interpreter Later (1524–25) Cortés made an epic march across the base of the peninsula to Honduras Francisco FERNÁNDEZ DE CÓRDOBA had in 1517 already skirted the coast, and in the following year Juan de GRIJALVA had explored the same coast The conquest of the Maya was begun in 1527 by Francisco de MONTEJO but was not completed until 1546, when his son, Francisco de Montejo the younger, crushed the revolt of a coalition of Mayan tribes. See Robert S Chamberlain, *The Conquest and Civilization of Yucatan, 1517–50* (1949)

Yucatan, Span *Yucatán*, state (14,868 sq mi, 1946 estimated pop 463,885), SE Mexico, occupying most of the northern part of the Yucatan peninsula It lies between Campeche and Quintana Roo It became a state when Mexico won independence (1821), but seceded from 1839 to 1843 There were severe Indian uprisings in 1847 and in 1910 The principal industry is cultivation and preparation of henequen—mostly exported to the United States Roads and rail lines connect many of the larger towns with the capital, MÉRIDA

yucca (yŭk'ŭ), any plant of the genus *Yucca*, stiff-leaved stemless or treelike plants native to North and Central America and the West Indies In the United States they occur chiefly in the Southwest Yuccas in flower produce a large stalk of white or purplish blossoms They are pollinated by the yucca moth, and in its absence they rarely fruit a striking example of interdependence since the moth cannot reproduce without yuccas (the eggs are laid during pollination and the larvae feed upon some of the developing seeds) The leaves are usually stiff and spearlike, often with marginal threads Several species are known as Adam's-needle, particularly those that are hardy and are cultivated in the North, most common of which is *Yucca filamentosa* The Joshua tree (*Yucca brevifolia*) is a picturesque treelike species of desert regions, the Spanish bayonet (*Yucca aloifolia*) is another that is treelike in form, and the Spanish dagger (*Yucca gloriosa*) is stemless or has a short trunk The fruits and sometimes the flowers of several species of yucca were used as food by Indians Certain species are called SOAP PLANT because of the use of their roots for soap, particularly *Yucca baccata* and *glauca* The fibers of some kinds have been utilized The wood of several of the arborescent types is light but tough and desirable for splints A yucca is the state flower of New Mexico

Yucca House National Monument see NATIONAL PARKS AND MONUMENTS (table)

Yudenich, Nikolai Nikolayevich (nyĭkulī' nyĭkulī'ûvĭch yōōdyĕ'nyĭch), 1862-1933, Russian general He served in the Russo-Japanese War and in the First World War, and after the Bolshevik Revolution of 1917 he took command of a counter-revolutionary army in the Baltic states In Oct, 1919, Yudenich led his army against Leningrad (then Petrograd), but he was driven back into Estonia He died in exile at Paris

Yuen, river, China see YUAN

Yugoslavia (yōō"gōslä'vēŭ, -slăvēŭ), Serbo-Croatian *Jugoslavija* (yōō"gōsla'vēä), federal republic (99,079 sq mi, pop 15,751,953), SE Europe, largely in the Balkan Peninsula Belgrade is the capital Yugoslavia is bounded by Italy, Trieste, and the Adriatic Sea in the west, by Austria and Hungary in the north, by Rumania and Bulgaria in the east, and by Greece and Albania in the south The constitution of 1946 created a union of six people's republics, corresponding roughly to ethnic and historic divisions, they are SERBIA (with BELGRADE and SUBOTICA as chief cities), CROATIA (with ZAGREB), SLOVENIA (with LJUBLJANA), BOSNIA AND HERCEGOVINA (with SARAJEVO), MACEDONIA (with SKOPLJE), and MONTENEGRO (with CETINJE) The Adriatic coast, known as DALMATIA, is dotted with numerous ports (notably POLA, FIUME, ZARA, SIBENIK, SPLIT, and DUBROVNIK), and there are many islands (e g, CHERSO, KRK, BRAC, HVAR, and KORCULA) About four fifths of Yugoslavia is mountainous, with an average altitude of 1,500–2,000 ft The chief mountain chain, the DINARIC ALPS, runs parallel to the Adriatic coast In the northwest, the Julian Alps culminate at 9,394 ft in the TRIGLAV Yugoslavia is traversed, in the northeast, by the Danube, and its main rivers—the Drave, the Save, the Morava, the Timok, and the Theiss—are Danubian tributaries Despite recent attempts to speed industrialization, Yugoslavia remains predominantly an agricultural country. Besides corn, wheat, hemp, flax, and cotton, it raises important fruit crops and has extensive vineyards. Livestock raising, especially of

sheep, is a vital part of Yugoslav economy Yugoslavia is rich in mineral deposits, notably coal, copper, iron, mercury, lead, zinc, and bauxite There are many mineral spas and well-known resorts, such as Bled and Abbazia The Yugoslav [i e , South Slav] people consists of four groups—Serbs (43 percent), Croats (34 percent), Slovenes (7 percent), and Macedonians (7 percent), the remainder being chiefly nationals of neighboring countries Linguistically, the four groups are very closely related, but historic and cultural factors have kept them separate and account for tensions and rivalries The Croats and Slovenes, long associated with Hungary and with Austria, use the Roman rather than the Cyrillic alphabet and constitute the vast majority of the Roman Catholics in Yugoslavia (37 percent of the total population in 1931) The rest of the Yugoslavs mostly belong to the Orthodox Eastern Church (49 percent in 1931) and to Islam (11 percent in 1931), the majority of the Moslems live in Bosnia and Hercegovina Church and state are separated Higher education is centered at the universities of Belgrade, Zagreb, and Ljubljana The Yugoslav state came into existence as a result of the First World War (The earlier histories of its six component republics are treated separately, under their respective names) In 1914 only Serbia (which then included the Yugoslav part of Macedonia) and Montenegro were independent states, Croatia, Slovenia, and Bosnia and Hercegovina belonged to the AUSTRO-HUNGARIAN MONARCHY The movement for unification (see PAN-SLAVISM) was led by Serbia and was the direct occasion for the outbreak of the First WORLD WAR In 1915 Serbia and Montenegro were overrun by the Central Powers, but the Serbian troops eventually were evacuated to Allied-held Corfu Here, on Corfu, representatives of the South Slavic peoples proclaimed (July, 1917) their proposed union under the Serbian king, PETER I Montenegro adhered to the union in Nov , 1918, and on Dec 4, 1918, the "Kingdom of the Serbs, Croats, and Slovenes" was formally proclaimed Its name was changed to Yugoslavia only in 1929 The Paris Peace Conference (see SAINT-GERMAIN, TREATY OF, and TRIANON, TREATY OF) recognized the new state and enlarged its territory at the expense of Austria and Hungary King ALEXANDER, who had been regent from 1918 for his invalid father, ascended the throne on Peter I's death (1921) In order to protect itself against Hungarian and Bulgarian demands for treaty revisions, Yugoslavia early entered into alliances with Czechoslovakia and Rumania, the three states forming the LITTLE ENTENTE in close cooperation with France With its western neighbor, Italy, relations were strained from the first over the FIUME question Though this was settled in 1924, Italian nationalists continued to entertain hopes of appropriating part or all of Dalmatia, which had been secretly promised to Italy in 1915 as a price for its entry into the war Yugoslav nationalists, on the other hand, claimed parts of Venezia Giulia on ethnic grounds, and relations remained tense Internal problems were still more acute Late in 1920 the Serbian statesman, PASHITCH, became premier and obtained the centralized constitution of 1921 The Croats, led by RADITCH, demanded autonomous rights and refused until 1924 to take seats in the national Skuptchina [parliament] Even then the Serbian centralists refused to make an earnest compromise with the Croatian autonomists, and in 1928 Raditch was assassinated in the legislature When the Croats set up a separate parliament at Zagreb, King Alexander proclaimed (Jan , 1929) a dictatorship, dissolved the parliament, and changed (Oct , 1929) the name of the kingdom The royal dictatorship officially ended in 1931, but the new parliamentary constitution provided for an electoral procedure that insured victory for the government party Troubles with Croatian and Macedonian nationalists continued and culminated (1934) in the Alexander's assassination at Marseilles, France His son, PETER II, succeeded under the regency of Alexander's cousin, Prince Paul The Croatian problem had been eagerly exploited by Hungary and Italy, which encouraged particularist movements against the Serbian centralists Prince Paul's gradual rapprochement with the AXIS powers thus had the paradoxical effect of leading to the restoration (1939) of a more democratic government and the establishment of Croatian autonomy In March, 1941, the Yugoslav premier, Dragisha Cvetkovich, signed the adherence of Yugoslavia to the Axis, but two days later a bloodless military coup d'état ousted the regent The new government repudiated the treaty with the Axis and signed (April 5, 1941) a nonaggression pact with the USSR. On April 6, German troops, assisted by Bulgarian, Hungarian, and Italian forces invaded Yugoslavia. Striking swiftly, the Germans joined (April 10) with the Italians in Albania, a week later organized resistance was over A Croatian puppet state was proclaimed under the leadership of Ante Pavelich, chief of the Ustachi (a Croatian terrorist organization, see CROATIA) Dalmatia, Montenegro, and Slovenia were divided among Italy, Hungary, and Germany Serbian Macedonia was awarded to Bulgaria Serbia was set up as a puppet state under German control Fearful atrocities were committed by the Axis occupation forces and by the Ustachi While Peter II established a government in exile in London, many Yugoslav troops continued to resist in their mountain strongholds Most important among these were at first the *chetniks* under MIKHAILOVICH, but in 1942 the "Army of National Liberation" under the Communist TITO was organized in Bosnia In 1943 civil war broke out between the two factions, of which the second had become by far the more important The surrender (1943) of Italy enabled the partisans to make further gains Tito was supported by the USSR, and his spectacular successes, which immobilized entire German armies, won him the support of Great Britain as well King Peter was forced to transfer the military command from Mikhailovich to Tito In Sept., 1944, Russian and Allied forces made contact with Tito's army, and by late October the Germans had been expelled from Yugoslavia Tito's council of national liberation, which was the effective government of Yugoslavia, was merged (Nov , 1944) with the royal government, while the return of Peter from exile was to be determined by plebiscite In March, 1945, Tito became premier, in Nov , 1945, national elections—from which the opposition abstained—resulted in victory for the government The constituent assembly, taking the electoral result as a verdict against the monarchy, proclaimed a "Federal People's Republic " The constitution of 1945 gave wide autonomy to the six newly created republics, but the actual power remained in the hands of Tito and the Communist party, which controls the People's Front, a coalition of all legal parties The Allied peace treaty (1947) with Italy awarded Yugoslavia the eastern part of VENEZIA GIULIA, but it set up Trieste, also claimed by Yugoslavia, as a free territory (see TRIESTE, FREE TERRITORY OF) Until 1948 Marshal Tito's regime in Yugoslavia was—at least on the surface—in close harmony with the USSR and with the newly created COMINFORM, in which the Yugoslav Communist party was a leading member A vigorous program of socialization, reconstruction, and industrialization was inaugurated Opposition was crushed or intimidated The trial and condemnation (1946) of Archbishop Stepinac symbolized the government's attack on the Roman Catholic Church, like the execution (1946) of Mikhailovich, it provoked indignation in non-Communist countries Yugoslav foreign policy was aggressive and militaristic, particularly with regard to the Trieste question Yugoslavia was also accused of interfering in the Greek civil war. In the summer of 1948 the breach between the Yugoslav and Russian Communist parties came into the open The USSR and the Cominform accused Tito of being hostile to the USSR, of deviating from the Communist program, of being a militaristic and nationalist dictatorship, and of suppressing criticism by terroristic means Against these attacks, and against open efforts by the Cominform (from which Yugoslavia was expelled), to overthrow it, the Tito government stood firm, denying the charges and accusing the USSR of seeking control over Yugoslavia Relations with Russia, Hungary, Rumania, Bulgaria, and Albania became increasingly strained Yugoslavia, now virtually isolated, was forced to adopt a friendlier attitude toward the Western powers, without, however, altering its domestic policy The cessation of trade with the nations of E Europe threatened its entire industrial program, for Yugoslavia had largely relied on the USSR and on Czechoslovakia for the supply of basic capital equipment Two personal accounts of Yugoslavia are Louis Adamic, *Nation's Return* (1934), and Rebecca West, *Black Lamb and Grey Falcon* (1941) A factual survey is R J Kerner, ed , *Yugoslavia* (1949).

Yugoslav literature, writings of the South Slavs in the Serbian, Croatian, and Slovenian dialects The Serbian and Croatian spoken languages are much alike, but the Serbs use the Cyrillic alphabet, while the Croatians and Slovenians use the Roman Ecclesiastical works in Old Slavonic (see OLD SLAVONIC LITERATURE) were produced in the Middle Ages, but under Turkish and later Austrian domination Yugoslav culture was suppressed Nevertheless, although there was no written literature, a large body of oral poetry developed Except for a 16th-century flowering of learning in Dubrovnik, of which *Osman*, the Croatian epic of Ivan GUNDULIC, was the chief blossom, Yugoslav literature belongs to the modern period In Serbia it had its origin in the exhortation of Dositej Obradovic (1739-1811), "Write as you speak!" and its principal inspiration in the great folk ballad cycles composed after the defeat (1389) of the Serbians by the Turks at Kossovo Among the Croatians a literary movement known as Illyrianism (which took its name from the state envisaged after the defeat of Austria by Napoleon at Wagram in 1809) was influential in stimulating South Slav letters Among those active in the movement were the Croatian philologist Ljudevit Gai (1809-72) and the Slovene scholar Jernej Kopitar (1780-1844) Among the Serbs it was not until 1847 that a literary language based on the popular speech was finally established, largely through the efforts of the great folklorist Vuk Stefanovich KARAJICH Poetry was the form most cultivated by the early South Slav writers, and their themes were usually taken from native ballads Among these poets were the Montenegrin prince-bishop Petar Petrovic Njegos (1813-51), author of the verse drama *The Mountain Wreath* (1847, Eng tr , 1930), the Slovene poets France Preseren (1800-1872) and Fran Levstik (1831-87), and the Croatian Ivan Mazuranic (1814-90), author of the epic *The Death of Smail Aga* (1846, Eng tr , 1925) Others of the romantic school were Petar PRERADOVIC, Djura Jaksic (1832-78), Jovan Jovanovic-Zmaj (1833-1903), and Laza Kostic (1841-1910), who translated Shakspere With the rise of realism in the latter half of the 19th cent the novel came to be cultivated, often by writers who were also poets and dramatists Outstanding among these novelists were the Serbs Jakov Ignatovic (1824-88) and Josip Juraj Kunic (1850-1904), and the Croatian Evgenij Kumicic (1826-1923) At the end of the century there was a reaction against naturalism and a growing interest in the psychology of human motives and in ethical problems—a trend chiefly inspired by the Russians, especially Dostoyevsky and Leo Tolstoy Among these novelists was the Croatian Ksaver Sandor Gjalski (1854-1935), who in a series of some 20 novels depicted the whole range of contemporary Croatian life In the drama historical themes predominated, as in the works of the Croatian Ivo Vojnovic (1857-1929), many of which are available in English In Croatia later dramatists and poets broke with this cult of the historic and concerned themselves with human motives, among these were Milan Begovic (1876-) and Josip Kosor (1879-) Serbian drama was long romantic in the manner established by its founder, Jovan Sterija-Popovic (1806-56), but contemporary problems were treated in the comedies of Branislav Nusic (1864-1938), who was also a noted novelist, short-story writer, and essayist In Slovene drama realism appeared early, largely through the influence of Ibsen, whose chief disciples were Josip Stritar, Josip Vosnjak (1834-1911), and Anton Medved (1869-1919) Realistic comedy reached a high level in the dramas of Ivan Cankar (1876-1918), Slovenia's leading literary figure, whose best-known work is *Thr. Scandal in St Florian's Vale* (1908), In poetry the Yugoslavs have been much influenced by French trends, as in the case of the Parnassians Vojislav Ilic (1862-94), Aleksa Santic (1868-1924), Silvije Strahimir Kranjcevic (1865-1908), and Anton Askerc (1865-1912) Symbolist influence is apparent in the poetry of the Serbs Jovan Ducic (1874-1943) and Milan Rakic (1876-1938), of the Slovene Oton Zupancic (1878-), and the Croatian Vladimir Nazor (1876-) In the field of criticism the outstanding figures are Bogdan Popovic (1864-1945) and Jovan Skerlic (1877-1914), both Serbian Publishing houses in Novi Sad, Zagreb, and Ljubljana did much to cultivate Yugoslav letters Of paramount importance also was the influence of the Croatian prelate Juraj Strossmayer (1815-1905), a founder of the Yugoslav Academy established (1867) in Zagreb See Bela Bartok and A B Lord, ed , *Serbo-Croatian Folk Songs* (1950)

Yukawa, Hideki (hē'dĕkē yōōkä'wä), 1907-, Japanese physicist, grad Kyoto Univ , 1929, Ph D, Osaka Univ , 1938 He received the 1949 Nobel Prize in Physics for predicting the existence of the MESON In 1939 he became professor of physics at Kyoto Univ In 1948 he came to the United States, where he spent a year at the Institute for Advanced Study and was visiting professor at Columbia Univ for the academic year 1949-50.

Yukon (yōō'kŏn), territory (205,346 sq mi , with water surface 207,076 sq mi , 1941 pop 4,914, 1948 estimated pop 8,000), NW Canada The capital, Dawson, is at the confluence of the Klondike and Yukon rivers This triangular territory is bounded on the north by the Arctic Ocean, on the east by the Mackenzie dist , Northwest Territories, on the south by British Columbia, and on the west by Alaska The Rocky Mts form its eastern border The Coast Range in the west reaches the highest peak in Canada, Mt Logan (19,850 ft), in the southwest corner of the territory Although the majority of the territory is a watershed for the Yukon river and its tributaries, the northern and southeastern regions drain into the Mackenzie system Immediately south of the desolate arctic coast the country is uninhabited and generally unknown The other parts of the territory possess much natural beauty, with snow-fed lakes backed by perpetually white-capped mountains and forests and streams abounding with wildlife The climate is continental, but the long winters are tempered by low humidity and infrequent winds From June to October the day lengthens to 20 hr., the warm sun brings out a profusion of wild flowers and enables the hardier grains and vegetables to mature The few settlements—Dawson, White Horse, Selkirk, Ogilvie, and Forty mile—are situated on the river banks Transportation is largely dependent on aircraft, supplemented by the Yukon's one railroad from White Horse to Skagway

on the Pacific, by the recently constructed Alaska Highway, and by river travel during the summer months The mining of gold, silver, copper, lead, and coal is the leading industry, with fur trapping and fishing as lesser occupations The territory's brief history began with the explorations of Robert Campbell, fur trader for the Hudson's Bay Company in the 1840s Some trading posts were built, and before long prospectors began to search for treasure With the famous gold strike on the Klondike in the '90s over 30,000 adventurers pushed across the icy barriers in search of gold-lined streams, a chapter of history recorded in the writings of Robert Service and Jack London From a population of 27,219 in 1901 the numbers were reduced to 8,512 by 1911 In 1937 the territorial residents successfully opposed a plan to include the Yukon in the province of British Columbia. During the Second World War the Canol oil project, near White Horse, started by the United States in 1942, opened in 1944, and abandoned in 1945, proved a controversial political subject and gained for the Yukon over 100 mi of much-needed highway The Yukon is governed by a controller appointed by the dominion government and a popularly elected council of three members It elects one member of the dominion Parliament See M L M P Black, *My Seventy Years* (1938), W R Curtin, *Yukon Voyage* (1938), James Wickersham, *Old Yukon* (1938), Felice Fieldhouse, *Yukon Holiday* (1940); J H Bond, *From Out of the Yukon* (1948)

Yukon, city (pop 1,660), central Okla, near Oklahoma City It is an agricultural and flour-milling center

Yukon, river of Yukon and Alaska, formed by the Lewes (upper Yukon) and Pelly rivers at Fort Selkirk, Yukon From there it flows W and N to Dawson, then NW across the Alaska border to Fort Yukon, thence generally southwest until in a wide swing north it enters the Bering Sea through several channels S of Norton Sound Its chief tributaries are the White, Stewart, Klondike, Porcupine, Chandalar, Tanana, Kovukuk, and Innoko rivers It is navigable during the open season to White Horse, on the Lewes With its headstreams, the Yukon is c 2,000 mi long, one of the longest rivers in North America, draining most of Yukon and Central Alaska Much of the history, exploration, and development of the region centers around the river system Its lower reaches were explored (1836–37, 1843) by Russians, and in 1843 Robert Campbell of the Hudson's Bay Company explored the upper reaches During the Klondike gold rush (1897-98) the Yukon was a major route to the gold fields On its banks are fur-trading posts, missions, Eskimo villages, and towns with modern airports serving vast areas See Frederick Schwatka, *Along Alaska's Great River* (1898), Hudson Stuck, *Voyages on the Yukon and Its Tributaries* (1917), Charles Sheldon, *The Wilderness of the Upper Yukon* (2d ed, 1919), A T Walden, *Dog-Puncher on the Yukon* (1928), W R Curtin, *Yukon Voyage* (1938)

Yukon, Fort. see FORT YUKON, Alaska.

Yule see CHRISTMAS

Yuma (yōō'mu) **1** City (pop 5,325), co seat of Yuma co, SW Ariz, on the east bank of the Colorado near the confluence of the Gila; laid out 1854, inc. 1871. Early missions were built in the region by Fathers Eusebio Kino and F T H. Garcés, but there was no white settlement until after Fort Yuma was built (1850) on the west bank of the river to protect overlanders to California The town, with its legendary heat, was a river port and center for a gold-mining boom after 1858 It is today the center of the Yuma project, which, under the Federal reclamation service, has by the Laguna Dam (completed 1909) and the ALL-AMERICAN CANAL system turned more than 100,000 acres of hot desert land to the growing of fruits, grains, truck, and alfalfa **2** Town (pop 1,606), NE Colo, ENE of Denver, in a grain, dairy, and stock area, inc 1887

Yuma Indians, North American Indian tribe of Yuman linguistic stock They formerly lived in SW Arizona They were probably in part descended from the prehistoric peoples whose buildings in Arizona have been of much interest to archeologists The Yuma suffered much in warfare with the Maricopa, the Pima, and other tribes In 1853 the Yuma numbered some 3,000 In 1883 a reservation was created for them, but the next year they were removed to the California side of the Colorado river In 1886 the Yuma formally surrendered their lands to the United States Today they live on a reservation in California, where they number some 1,000 See A L Kroeber, *Yuman Tribes of the Lower Colorado* (1920), Leslie Spier, *Yuman Tribes of the Gila River* (1933)

Yuman (yōō'mŭn), linguistic stock of North American Indians (see LANGUAGE, table) Tribes who speak (or spoke) Yuman include the Yuma, Mohave, Maricopa, Yavapai, and Cocopa See HOKAN

Yunca (yōōng'ku) or **Yunga** (yōōng'gu), name loosely applied by the Inca and by Spanish colonial historians to Indian cultures of the Peruvian coast, notably CHIMU and NAZCA, before the Inca conquest in the 15th cent

yungas (yōōng'gas), region of lowland valleys in the eastern piedmont of the Andes, extending from the Peru-Bolivia border SE into central Bolivia They receive excessive rainfall, are generally under 3,000 ft in altitude, and are warm and humid Though isolated and very difficult of access, the yungas yet assumed economic importance in the early 20th cent as a major source of rubber and quinine before development of Far Eastern areas At present, some cocoa, coffee, and sugar are raised

Yünnan or **Yün-nan** (both yün'năn', yŭ'ōōn'năn'), province (162,342 sq mi, pop 9,157,068), SW China, bordering Burma and Indo-China The capital is Kunming The surface is mainly a high plateau very much dissected by unnavigable rivers, which flow through deep gorges, the rivers include the Kinsha (upper Yangtze), the Lantsan (Mekong), and the Salween Temperate climate and adequate rainfall during the growing season assure good harvests on what little land is sufficiently level for cultivation, wheat, rice, tea, tobacco, and fruits are grown On the steep slopes livestock is raised and timber is cut The main potential economic resource of Yünnan is its mineral wealth, it has, besides the chief copper-mining area of China, large deposits of coal, zinc, tin, and antimony. Inadequate transportation, however, keeps the province poor. The one important railroad runs from Kunming to Haiphong, Indo-China, and good motor roads are few. Many isolated localities make Yünnan an "ethnological garden" About half the people are Chinese; the rest are Tibetans and aborigines, mostly Lolos, Miaos, and Lissu.

Yünnanfu, China see KUNMING

Yurok Indians (yōō'rŏk), North American Indian tribe who in the mid-19th cent occupied NW California, particularly the region around Klamath river They were of the California cultural area but had some Pacific Northwest coast culture traits; they subsisted on salmon and acorns and had deerskin and woodpecker dances Their property laws were strong By 1855 a reservation was set aside for them They then numbered some 2,500 Today, living on a reservation in California, they number 950 The Yurok and their southern neighbors, the Wiyot, speak languages of the Ritwan linguistic stock (see ALGONQUIAN). See Thomas Waterman, *Yurok Geography* (1920)

Yuste, San Jerónimo de (sän hārō'nēmō dā yōō'stā), former monastery, c 20 mi. E of Plasencia, Cáceres prov, W Spain, in Estremadura Emperor Charles V retired here after his abdication (1556) and here died two years later

Yusuf ibn Tashufin (yōō'sōōf I'bun tāshōōfēn'), d 1106, Berber leader of the ALMORAVIDES in their invasion of Spain He became Almoravide ruler of the Berbers in Africa, continued the conquest of Morocco, took Algeria, and founded (1062) Marrakesh, which became his capital When the petty Moorish kings of Spain appealed to him for help against the Christians, he entered S Spain with the help of local kings decisively defeated (1080) ALFONSO VI of Leon and Castile Then he went back to Morocco, but returned in 1090 Turning conqueror as Tarik had done in 711, he annexed the Moorish territories of Spain, except Saragossa, to his own empire He was succeeded by his son Ali

Yuzovka, Ukraine see STALINO

Yverdon (ēvĕrdō'), Ger *Iferten* (ē'fĕrtun), town (pop 10,865) Vaud canton, Switzerland, at the south end of the Lake of Neuchâtel Its medieval castle housed Pestalozzi's school in 1806 Typewriters are manufactured

Yves (ēv) or **Ives, Saint** (īvz), 1253–1303, Breton lawyer and priest, called also St Ivo Hélory He was advocate of the bishop of Rennes and then of Tréguier In 1284 he was ordained As a parish priest he was zealous in protecting the poor and orphans and was noted for justice and kindliness He is the pastor saint of lawyers. A medieval Latin verse about him is famous

> Sanctus Ivo erat Brito,
> advocatus et non latro,
> admirandus populo.

[St Ives was a Breton, a lawyer, and not a thief, a rare wonder in the eyes of the people]

Yvetot (ēvtō'), town (pop 5,789), Seine-Inférieure dept, N France, in Normandy, NW of Rouen The lords of Yvetot held their petty seigniory in old and wore the title king from the 14th to the 16th cent Béranger's song, *Le Roi d' Yvetot*, translated by Thackeray, made the town known around the world.

Z

Z, 26th and last letter of the ALPHABET, representing the voiced correspondent of voiceless s Its original is the Greek zeta (zā'-, zē'-), which the Romans borrowed and added to their alphabet

Zaanaim (zā"unā'ĭm), same as ZAANANNIM

Zaanan (zā'u-) [Heb, =rich in herds], town, perhaps the same as ZENAN Micah 1 11

Zaanannim (zā"unān'-), unidentified landmark Joshua 19 33 Zaanaim Judges 4 11

Zaandam (zān"dăm'), municipality (pop 41,429), North Holland prov, Netherlands, 6 mi NNW of Amsterdam It is a lumber center, famous for its many windmills Peter I (Peter the Great) of Russia stayed here in 1697 to learn shipbuilding, which at the time was a flourishing industry of Zaandam

Zaavan (zā'u-), grandson of Seir the Horite Gen 36 27 Zavan 1 Chron 1 42

Zab (zăb, zāb), name applied to the Great Zab and the Little Zab, the principal tributaries of the Tigris

Zabad (zā'-) [Heb, =gift] **1, 2** Two of David's chief men 1 Chron 2 36, 11 41 They are perhaps the same, ZABUD may be also **3** Ephraimite 1 Chron 7 21 **4** See JOZACHAR **5, 6, 7** Israelites who had married foreign wives Ezra 10 27,33,43

Zabbai (zā'bī, zŭbā'ī) **1** Israelite with a foreign wife Ezra 10 28 **2** Father of BARUCH **3**

Zabbud (zā'bŭd) [Heb, =given], one who returned with Ezra from the Captivity Ezra 8.14.

Zabdi (–dī) [Heb, =my servant]. **1** David's vintager 1 Chron 27.27 **2** Grandfather of Achan. Joshua 7 1,17,18 Zimri. 1 Chron 2 6. **3** Benjamite 1 Chron 8 19 **4** Levite. Neh. 11.17. Apparently the same as ZICHRI 1.

Zabdiel (zăb'dēĕl) [Heb, =my gift is God] **1** Father of JASHOBEAM **2** Official under Nehemiah Neh 11 14

Zabrze, Upper Silesia see HINDENBURG

Zabud (zā'-) [Heb, =gift], priest under Solomon, perhaps the same as ZABAD **1** or **2** 1 Kings 4 5

Zabulon (zā'bŭlun), same as ZEBULUN

Zacatecas (sakatā'kas), state (28,125 sq mi, 1946 estimated pop 985,995), N central Mexico Lying on the central plateau, Zacatecas is a state of semi-arid plains and mountains The Sierra Madre Occidental dominates the western half, and a transverse spur (often over 10,000 ft high) of the same range, crossing the state from west to east, divides it Rainfall is light, and vegetation scanty The absence of large rivers (except the Juchipila) to support irrigation makes the state relatively unimportant agriculturally, but there are some crops —subsistence foods, tobacco, sugar cane, maguey, and guayule (for rubber) Extensive grazing lands make cattle raising a major activity, but the greatest industry is mining With gold, silver, mercury, copper, iron, zinc, lead, bismuth, antimony, and salt, Zacatecas is second only to Guanajuato in mineral wealth produced After the territory, which at first also included AGUASCALIENTES, had been opened (1530) but not colonized, it became a refuge for the Indians defeated in the MIXTÓN WAR Their depredations on NUEVA GALICIA led to an expedition in 1546 to conquer them. The discovery of silver shortly afterward caused a silver rush that all but depopulated Nueva Galicia Among the towns subsequently established were FRESNILLO and the capital, **Zacatecas** (pop. 21,846) The city, at an altitude of slightly over 8,000 ft, is in a deep ravine surrounded by arid hills It is well drained, and the temperate climate is healthful Many old colonial buildings make it attractive and picturesque, the streets generally are cobbled, narrow, tortuous, steep, and frequently broken by stone steps A distributing center for the mining country, the city also has cigar and rubber factories, and fine serapes are made there Because of its strategic location, Zacatecas was a key point in the wars and revolutions of MEXICO during the 19th cent and the first quarter of the 20th cent

Zaccai (zā'kī, sukā'ī) [Heb, =pure], family which returned from exile Ezra 2 9, Neh 7 14

Zacchaeus or **Zaccheus** (both zăkē'us) [Gr, =Heb ZACCAI], publican of Jericho short of stature, who climbed a tree to see Jesus Luke 19 1–10

Zacchur (zā'kur), Simeonite 1 Chron 4 26

Zaccur (zā'kur) [Heb, =mindful]. **1** Father of a spy sent into Canaan Num 13 4 **2** Leader of temple singers 1 Chron 25 2,10, Neh 12.35 **3** Signer of the covenant Neh 10 12 Additional mention of this name is in 1 Chron 24 27; Neh 3 2; 13 13. These passages may, in one or two cases, refer to the same person

Zachariah (zā"kurī'ū) [Heb, =ZECHARIAH] **1** Died c.749 B C., king of Israel, son and successor of Jeroboam II After ruling six months he was murdered by Shallum, who seized the throne. **2** Kings 14 29, 15.8–12. **2, 3** Same as ZECHARIAH **2** and **5**, respectively

Zacharias (zăkurī'ŭs) or **Zachary, Saint** (zā'kurē), pope (741–52) a Calabrian Greek; successor of St.

Gregory III and predecessor of Stephen II (who died before consecration) and of Stephen III An illustrious pope, he did much to strengthen the authority of the Holy See. By his personal prestige he forced Luitprand, king of the Lombards, to restore some towns he had taken from the pope He sanctioned the assumption by PEPIN THE SHORT of the Frankish crown, thus beginning the cordial relations between Pepin's house and the papacy. St Zacharv's correspondence is extant, the letters to St. Boniface confirming the ecclesiastical settlements in Germany are notable Feast March 22

Zacharias (zăk″kurĭ′us) [Gr from Heb ZECHARIAH] or **Zachary** (zăk′kurē) [Eng from Heb] **1** Priest to whom an angel appeared and foretold the birth of his son, John the Baptist Luke 1 5–80 He and Elisabeth, his wife, are saints of the Roman Catholic Church, their day being Nov 5 **2** Martyr prophet, the same as ZECHARIAH **2 3** Book of the Old Testament, often called ZECHARIAH

Zacher (zä′kur) [Heb ,=memory], Benjamite 1 Chron 8 31 Zechariah 1 Chron 9 37

Zacynthus, see ZANTE

Zadar, Yugoslavia see ZARA

Zadok (zā′dŏk) [Heb ,=just] **1** Founder of a prominent priestly family 2 Sam 8 17, 1 Kings 2 26, 1 Chron 6 8,52, 9 11, 18 16, Ezra 7 2, Neh 11 11 **2** One of David's men 1 Chron 12 28 **3** Grandfather of Jotham 2 Kings 15 33 **4** Sealer of the covenant Neh 10 21 **5** High priest 1 Chron 6 12 **6, 7** Builders of the wall Neh 3 4,29 **8** Scribe Neh 13 13 The last two may be the same

Zagan, Lower Silesia see SAGAN

Zagazig (zagăzēg′), city (pop 59,793), N Egypt, in the Nile delta It is a rail and canal junction and a cotton-ginning center Near by is the ancient ruined city of BUBASTIS

Zaghlul Pasha, Saad (sad′ zaglōōl′ pa′shā), c 1850–1927, Egyptian nationalist leader, of peasant stock He was arrested in 1882 for participating in an abortive revolt After he became a member of the bar, his great abilities were recognized and he was made minister of education (1906) and minister of justice (1910) At the end of the First World War he became the acknowledged leader of the struggle to throw off British control of Egypt He headed (1918) the WAFD delegation, which vainly sought passports to present its views in England Because of his agitation Zaghlul was deported in 1919, but in 1921 he was permitted to return He was prime minister in 1924, but the opposition of Great Britain and of the Egyptian court soon compelled him to resign He presided (1926 27) over the Egyptian parliament Zaghlul founded the Wafd party to help attain the democratic system of government in which he firmly believed

Zagorsk (zăgôrsk′), city (pop 21,564), central European RSFSR, NNE of Moscow It is a handicraft center, producing home-made toys Chartered in 1762, it was known as Sergievski Posad (or Sergievski Posad) until the Revolution of 1917 and as Sergiyev (or Sergiev) until c 1930 It is the site of the Troitsko-Sergiyevskaya Lavra, one of the most famous Russian monasteries, founded in 1340 The Lavra, now a museum, contains the Troitski Cathedral (1427), the Uspenski Cathedral (16th cent), with the tomb of Boris Godunov, and a treasure chamber with rich tapestries and many objects of liturgical art

Zagreb (zä′grĕb), Ger *Agram* (a′gram), Hung *Zágráb* (zô′grŏb), city (pop 290,417), capital of Croatia, NW Yugoslavia, on the Sava It is a cultural center, with a university (founded 1669), several professional schools and academies, and several fine museums and art galleries, and it is the seat of a Roman Catholic archbishop, an Orthodox archbishop, a Protestant bishop, and a grand rabbi Among its industries are manufactures of tobacco, paper, textiles, metal goods, and chemicals Zagreb was originally a residential suburb of the ancient Roman town of Andautonia It was made an episcopal see of the Western Church in 1093, and it was merged in the 16th cent with near-by Gradec, which had been a free royal city under the Hungarian crown since 1242 The part of Croatia in which Zagreb is situated escaped Turkish domination A fine modern city, Zagreb has its historic center in the old Kaptol district, with the Catholic cathedral (begun 1093) and the Catholic archiepiscopal palace (18th cent) The Catholic see of Zagreb was left vacant after the imprisonment (1946) of Archbishop Stepinac on the charge of treason

Zagros (zä′grŏs), mountain range, W Iran, extending from northwest to southeast in several parallel ridges It has an average elevation of c 9,000 ft , with some peaks rising to more than 13,000 ft. A wild, well-wooded region, it is intersected by deep, fertile valleys In ancient geography the mountains formed the boundary between Assyria and Media.

Zaham (zā′hăm) [Heb.,=loathing], son of Rehoboam and Abihail. 2 Chron. 11.19

Zaharias, Mildred Babe Didrikson: see DIDRIKSON, MILDRED BABE.

Zaharoff, Sir Basil (Basileios Zacharias) (zä′hŭrŏf), 1850–1936, international financier and munitions manufacturer Zaharoff, often called the Mystery Man of Europe because of the secrecy surrounding his personal and business affairs, was born of Greek parents in Anatolia, Turkey He was educated in England and, after becoming the representative of munitions manufacturers, played an important, though unofficial, role in world affairs He is generally considered the greatest armament salesman the world has known His name is best known, however, in connection with the British munitions manufacturers, Vickers-Armstrong For his services to the Allies in the First World War, Zaharoff was knighted by George V and decorated by the French government He was, however, sharply criticized and accused of fomenting warfare and exerting a baneful influence on politics by secret intrigue through his association with European statesmen, notably Lloyd George See biographies by Richard Lewinsohn (1929), Guies Davenport (1934), and Robert Neumann (1934)

Zähringen (tsā′ĭngun), noble German family Taking its name from a now ruined castle near Freiburg in Breisgau, Baden, it can be traced to the 10th cent The family held extensive fiefs in Baden and W Switzerland until 1218, when the main line died out with Duke Berthold V, one of the most powerful nobles of his time Berthold founded many towns, notably Bern, which on his death became a free imperial city Berthold's domains passed largely to the related KYBURG and HAPSBURG families A younger branch continued in N Baden It split (16th cent) into the branches of Baden-Baden and Baden-Durlach, reunited in 1771 Charles Frederick of Baden was raised to grand ducal rank in 1806 and acquired all Baden such as it existed before 1945 Grand Duke Frederick II abdicated in 1918

zaibatsu (zī′bätsōō) [Jap ,=money clique], great family trusts of modern Japan The leading *zaibatsu* are Mitsui, Mitsubishi, Sumitomo, and Yasuda They gained a position in Japanese economy with no exact parallel elsewhere After the Meiji restoration they assisted the new government financially and in return received a privileged position in the economic development of Japan Later they helped in financing strategic semi-official enterprises in Japan and abroad In 1937 four *zaibatsu* concerns controlled directly one third of all bank deposits, one third of all foreign trade, half of Japan's shipbuilding and maritime shipping, and most of the mining, metallurgy, heavy engineering, chemical, paper, brewing, sugar, canning, and other industries They maintained close relations with the major political parties After Japan's surrender in 1945 the breakup of the *zaibatsu* was announced as a major aim of the Allied occupation, and steps in this direction were inaugurated

Zaïmis, Alexander (zä′ēmēs), 1855–1936, Greek statesman The son of Thrasyboulos Zaïmis, twice premier of Greece, he entered politics as a young man and joined (1890), the cabinet of his uncle, Delyannis, as minister of justice At the conclusion of the disastrous war with Turkey, he became premier for the first time (1897–99) He was again premier in 1901-2, was high commissioner in Crete (1906-11), and was three times premier during the First World War between 1915 and 1917 He pursued a policy of "armed neutrality" in the war, did not interfere with the Allied landing at Salonica, and made way for VENIZELOS on the abdication of King Constantine, when the neutrality policy had become untenable Zaïmis headed (1926–28) a coalition cabinet and in 1929 was elected president of Greece, succeeding Paul Kondouriotis, he was reelected in 1935 His presidency was marked by the struggle between the republicans and the royalists, whose respective leaders, Venizelos and Panavoti TSALDARIS, alternated as premiers In 1935 General Kondylis, who had put down the Venizelist uprising, ousted Tsaldaris and held a plebiscite which resulted in the recall of King George II Zaïmis died in exile at Vienna Zaïmis was famous for his cautious and sometimes inscrutable ways, and he accepted changes with philosophical indifference

Zaindeh Rud see ZAYINDA RUD

Zair (zā′ĭr) [Heb ,=small], place, associated with Joram's campaign against Edom 2 Kings 8 21

Zaisan, Lake (zīsän′), fresh-water lake, area 720 sq mi , E Kazakh SSR, in the Altai Mts It is traversed by the Irtysh river

Zakopane (zakôpē′nĕ), health resort and winter sports center (pop 13,752), S Poland, at the foot of the TATRA mts It was the site (1929, 1939) of the world skiing championship competition

Zalaph (zā′lăf), father of a worker on the wall of Jerusalem Neh 3 30

Zaleucus (zulū′kus), fl c 650 B C , Greek lawgiver of Epizephyrian Locris, in Italy According to tradition, his was the earliest codification of Greek law References to Zaleucus' code, which was widely adopted in Italy, indicate that it embodied the *lex talionis* and other severe features exemplified in the later Greek code of DRACO

Zalmon [Heb ,=shady] **1** See ILAI **2** Hill near Shechem Judges 9 48 This is probably the place referred to in Ps 68 14 as Salmon

Zalmonah (-mō′nŭ), encampment place of the Israelites in the wilderness. Num 33 41.

Zalmunna (-mŭn′ŭ) [Heb ,=shadow], Midianite king, conquered by Gideon Judges 8 4–21

Zama (zā′mŭ), ancient town near the northern coast of Africa, in present Algeria Tradition says that SCIPIO AFRICANUS MAJOR defeated HANNIBAL here in the decisive and final battle of the second of the PUNIC WARS There is good reason for believing the actual battle was fought at some near-by place, and there was more than one town named Zama

Zambezi (zămbē′zē), river, c 1,600 mi long, rising in Northern Rhodesia It flows south through swampy land and then, turning east, it forms part of the boundary of Northern Rhodesia and Bechuanaland and the entire boundary of Northern Rhodesia and Southern Rhodesia It continues east and southeast through Mozambique to empty into the Mozambique Channel of the Indian Ocean The Zambezi is navigable for some distance up one of its mouths, but the main course of the river is broken by many rapids and by the great VICTORIA FALLS and is useless for commerce The largest of the many tributaries is the Shiré

Zamboanga (sum″bōäng′gu), city (pop 131,455), on SW Mindanao, capital of Zamboanga prov , Philippine Islands, on Basilan Strait The city includes near-by Basilan island A commercial center and port, Zamboanga ships copra and coffee It is at the foot of high mountains and is known for its delightful climate Most of the inhabitants are Moros who are Moslems There is a 17th-century Spanish fort, rebuilt in 1719 During the Second World War the city was a Japanese military center which was taken by the Americans in March, 1945

Zamojski or **Zamoyski, Jan** (both van′ zämoi′skē), 1541 1605, Polish statesman, general, and author A champion of the rights of the lesser nobility, he opposed the concentration of power in the hands of the king, after the extinction (1572) of the Jagiello dynasty he used his influence to restrict the royal power with the constitutional limitations that transformed POLAND into a royal republic A humanist and an admirer of ancient Rome, he was the author of *De senatu Romano* (1563), and he sought to apply constitutional principles of republican Rome to the Poland of his time As a result of his reforms, Poland did not share in the trend toward centralization and absolutism that characterized the other states of Europe and Russia, to which it eventually fell a victim Zamojski secured the election (1573) of Henry of Valois (later Henry III of France) as king of Poland, in 1575 he supported the candidacy of STEPHEN BATHORY, whose chancellor he became in 1576, in 1587 he succeeded in putting Sigismund III on the throne Appointed commander in chief in 1580, he rendered important military service against Russia, Sweden, the Crimean Tatars, and the hospodar of Moldavia During his last years his relations with Sigismund III were strained because of his opposition to the king's pro-Hapsburg policy

Zamora, Niceto Alcalá see ALCALÁ ZAMORA, NICETO

Zamora (thämō′ra) city (pop 29,063), capital of Zamora prov , NW Spain, in Leon, on the Duero It is an agricultural market center Because of its strategic position it was disputed during the Middle Ages first between the Christians and Moors, then between Leon and Castile Parts of the medieval fortifications and walls are still preserved There is a fine 12th-century Romanesque cathedral

Zamosc, Pol *Zamość* (zä′mŏshch), town (pop 20,889), SE Poland, 48 mi SE of Lublin Founded (1579) by Jan Zamojski who also established a university here, Zamosc was reconstructed in 1937 in accordance with the original plans It passed to Austria in 1772 and to the Russian Empire in 1815 and reverted to Poland in 1921 Chiefly a trade center, Zamosc also has metal, leather, electrical, and woodworking industries

Zampieri, Domenico see DOMENICHINO

Zamzummims (-zŭm′-), Ammonite name for the REPHAIMS Deut 2 20

Zanardelli, Giuseppe (jōōzĕp′pā dz mardĕl′lē), 1826–1903, Italian politician As minister of justice (1881–83, 1887–91) he prepared a new penal code which was approved in 1890 and remained in force until 1931 As prime minister (1901–3) he tried to introduce social reforms and to protect the labor movement

Zancle see MESSINA, Sicily

Zane, Ebenezer, 1747–1812, American pioneer and land speculator, b near what is now Moorefield, Hardy co , W Va (then Virginia) With his brothers Silas and Jonathan, he went west in 1769 and established the settlement at Wheeling, of which he became the leader The Zanes distinguished themselves in warfare with the Indians in the American Revolution, defending Fort Henry in the Wheeling region from attacks in 1777 and 1782 It was in one of these attacks that a sister, Elizabeth Zane, is supposed to have distinguished herself by heroism under fire In 1796 Ebenezer obtained from Congress permission to blaze a trail through Ohio to Kentucky With Jonathan Zane and John McIntire (Ebenezer's son-in-law), he opened the noted Zane's Trace from Wheeling to Maysville, Ky Zane started settlement along the trace In 1799 McIntire and Jonathan Zane began the settlement of Zanesville, Ohio.

Zanella, Giacomo (jä'kōmō dzänĕl'lä), 1820–88, Italian poet and critic He was an ecclesiastic and a patriot and wrote some excellent verse, which includes "La veglia" [the vigil], a reflective poem upon religion and science; odes to Dante and upon the Suez Canal, and a number of sonnets He also translated various English and American poets His verse is polished, reflective, tinged with melancholy, and informed with a deep faith His complete poems were published in 1928 Various prose works include a history of Italian literature (1880). Zanella was for a time the tutor of Fogazzaro

Zanesville, city (pop 37,500), co seat of Muskingum co, E central Ohio, E of Columbus and on the Muskingum at its junction with the Licking, platted 1799 on a site staked out by Ebenezer Zane in 1797 The area has deposits of clay, coal, oil, gas, sand, and limestone Zanesville is a trade and industrial center and is noted for its pottery A two-year interval as state capital (1810–12, Chillicothe was capital 1803–10 and 1812–16) and location on the waterways and the National Road spurred Zanesville's growth The rivers are spanned here by a Y bridge, with three approaches, replacing similar wooden structures. The city has an art institute

Zangwill, Israel, 1864–1926, English author, b London He became a journalist and founded *Ariel*, a humorous paper Zangwill wrote *Children of the Ghetto* (1892), later dramatized and performed in England and America, and *Dreamers of the Ghetto* (1898), a series of biographical studies Other well-known works are *Merely Mary Ann* (1893) and *The Melting Pot* (1914), both dramatized A prominent territorialist leader (see ZIONISM), he wrote *The Principle of Nationalities* (1917) and *Chosen Peoples* (1918) Uneven in value, Zangwill's novels attempt to portray Jewish life with reality

Zankoff or **Zankov, Alexander** see TSANKOV.

Zankoff or **Zankov, Dragan** see TSANKOV

Zanoah (zənō'ə) **1** Town, SW Palestine Joshua 15 34, Neh 3 13, 11 30 It has been located c 15 mi W of Bethlehem **2** Town near Hebron Joshua 15 56 In 1 Chron 4 18 Jekuthiel is called the father (or founder) of Zanoah

Zante (zän'tē), Gr *Zakynthos* (zukĭn'thōs), Latin *Zacynthus*, island (157 sq mi, pop 41,165), off S Greece, in the Ionian Sea, one of the Ionian Islands It produces currants, wine, olive oil, citrus fruit, and wheat Sheep and goat raising and fishing are important occupations The town of Zante (pop 11,513) lies on the east shore and is a port and a trade center It was traditionally founded by Zacynthus, son of the Arcadian chief Dardanus The Achaeans were early colonists of the island

Zanzibar (zăn'zĭbar, zănzĭbär'), British protectorate (1,020 sq mi, pop 263,000) off the coast of Tanganyika, E Africa It comprises two islands, which are of coral origin, Zanzibar (640 sq mi, pop 148,000) and PEMBA The rainfall is moderate, and the climate is hot Tropical fruits are grown in abundance and there are light industries Zanzibar's economic mainstay is its production of cloves, it supplies the bulk of the world demand The history of Zanzibar reflects its position as a springboard to the east coast of Africa, and from ancient times it has been closely connected with India and the areas of the Persian Gulf and the Red Sea In the early Moslem era the east African littoral became the prize of contending states, and rival Arab and Persian sultanates were established in the islands Portugal gained control in 1503, and used Zanzibar as a base for territorial gains on the mainland In 1652 Oman (or Muscat) Arabs seized Zanzibar from the Portuguese After the domain of Oman weakened, the capital was transferred (1824) to Zanzibar city Great prosperity attended the change, and the Arabs pushed deep into the mainland in their quest for slaves, gold, and ivory At this period the clove was introduced and commercial treaties with European countries and with the United States were concluded After Zanzibar was declared independent of Oman (1856), a struggle for control of the islands ensued, and in 1890 they became a British protectorate Great Britain satisfied Germany's claim to them by ceding Helgoland Today the governing power is shared by the sultan of Zanzibar and the British resident The city of Zanzibar (pop 44,359), capital of the protectorate, is on Zanzibar island Its commodious harbor brought it great prosperity in the 19th cent Today it is the residence of the sultan, and it is noted for its buildings and its handicrafts See W H Ingrams, *Zanzibar Its History and Its People* (1931)

Zapata, Emiliano (āmēlya'nō sapä'tä), c 1879–1919, Mexican revolutionist, b Morelos, of almost pure Indian blood A tenant farmer, he occupied a social position between the peon and the ranchero, but he was a born leader who felt keenly the injustices suffered by his people About 1908, because of his attempt to recover village lands taken over by a rancher, he was impressed into a brief service in the army Late in 1910, as MADERO rose against Porfirio DÍAZ, Zapata took up arms with the cry of "Land and Liberty" With an army of Indians recruited from plantations and villages, he began to seize the land by force Zapata supported Madero until he thought that land reform had been abandoned, then turned and formulated his own agrarian program This program, outlined in the Plan of Ayala (Nov, 1911), called for the return of the land to the Indian In defense of his plan, Zapata held the field against successive federal governments under Madero, Victoriano HUERTA, and Venustiano CARRANZA The peasants rallied to Zapata's support, and by the end of 1911 he controlled most of Morelos, later he enlarged his power to cover Guerrero, Oaxaca, Puebla, and at times even the Federal District After the overthrow of Madero, Zapata in the South and Carranza, OBREGÓN, and VILLA in the North were the chief leaders against Huerta When Carranza seized the executive power, Zapata and Villa warred against him Zapata's forces occupied Mexico city three times in 1914–15 (once with the followers of Villa), but finally retired to Morelos, where Zapata resisted until he was treacherously killed by an emissary of Carranza To his enemies, Zapata was the apotheosis of nihilism and his movement was only large-scale banditry To the Indians, he was a savior and the hero of the revolution Though his attacks at times seemed to be mere banditry, his objective was not loot he was single in purpose His movement, *zapatismo*, was the Mexican agrarian movement in its purest and simplest form, and the agrarian movement was one of the chief aims and chief results of the revolution And as *zapatismo* became synonymous with *agrarismo*, so did it with *indianismo*, the Indian cultural movement which is the basis of nationalism in Mexico Though an illiterate commander of illiterate men, Zapata was one of the most significant figures in Mexico from 1910 to 1919 Even while he lived he became legendary, celebrated in innumerable tales and ballads His grave is revered by the Indians of S Mexico See Frank Tannenbaum, *The Mexican Agrarian Revolution* (1929) and *Peace by Revolution* (1933), Ernest Gruening, *Mexico and Its Heritage* (1928), H H Dunn, *The Crimson Jester* (1934), E N. Simpson, *The Ejido* (1937)

Zaphnath-paaneah (zăf'năth-pā"unē'ə), Egyptian name of JOSEPH

Zaphon (zā'fŏn) [Heb, =north], unidentified place, E of the Jordan Joshua 13 27

Zapolya, John see JOHN I, king of Hungary

Zapolya, John Sigismund see JOHN II, king of Hungary

Zapolya, Stephen (stē'fənvō), Hung *Zápolya István* (shtē'vän) or *Szapolyai István* (sä'pōlvoi), d 1499, palatine of Hungary (1492–99), of a noble Transylvanian family An able general of King Matthias Corvinus, he repulsed the Turks and conquered the archduchy of Austria, of which he was appointed governor in 1485 After Matthias's death he supported Uladislaus II His son became king of Hungary as John I

Zaporozhe or **Zaporozhye** (both zäpurō'zhē), city (1926 pop 55,744, 1939 pop 289,188), capital of Zaporozhe oblast, S Ukraine, on the Dnieper, opposite the island of Khortitsa It is a major industrial center, the site of the DNEPROGES dam and power station, an important rail junction, and a river port There are steel mills, coking plants, machinery plants, and aluminum and magnesium works The city consists of old Zaporozhe (called Aleksandrovsk before the Bolshevik Revolution) and of new industrial Zaporozhe, developed in the 1930s and adjoining the Dneproges installations and the port of Imeni Lenina It suffered heavily in the Second World War, when it was held (1941–43) by the Germans The island of Khortitsa, in the Dnieper, was the headquarters (called *sech*) of the **Zaporozhe Cossacks** from the 16th to the 18th cent The Zaporozhe Cossacks formed a virtually independent republic, headed by a hetman, which occupied most of the S Ukraine except the Black Sea littoral, a possession of the khans of Crimea (The word *Zaporozhe* signifies "beyond the rapids," i e, of the Dnieper river) At the time when the Cossacks established themselves here in the mid-16th cent, the territory nominally belonged to the Polish-Lithuanian kingdom, but the Polish kings allowed the Cossacks complete self-government in exchange for their defense of that border region (Ukraine means border) against the Tatars and the Turks By the end of the 16th cent, however, the Polish government and the Polish landowners sought to gain fuller control over the Cossacks The progress of serfdom and the persecution of the Orthodox Church after 1596 (when the Uniate Ruthenian Church was founded) provoked repeated rebellions among the Zaporozhe Cossacks, whose organization was equalitarian and democratic and who staunchly adhered to the Orthodox faith In 1648 began a general uprising under the hetman Bohdan CHMIELNICKI, who in 1654 persuaded the Cossacks to transfer their allegiance to the Russian tsars The resulting war ended in 1667 with the Treaty of Andrusov, by which the left bank of the Dnieper and Kiev were ceded to Russia The Russian government encroached upon the Cossacks' privileges as much as the Poles had, and rebellions continued in what was left of the Zaporozhe territory, but when Hetman MAZEPPA joined Charles XII of Sweden against Russia in the Northern War he found little support and shared in Charles's rout at Poltava (1709). Cossack independence in the Ukraine was virtually ended by Peter I at that time and was completely abolished (1775) by Catherine II, who later settled the many Zaporozhe Cossacks in the newly conquered KUBAN area

Zapotec (sä'pŭtĕk), Indian people of Mexico, primarily in S Oaxaca and on the Isthmus of Tehuantepec The Zapotec languages comprise their own linguistic family Nothing is known of the origin of the Zapotec Unlike most Indian tribes of Middle America, they had no tradition or legends of migration, but believed themselves to have been born direct from caves, rocks, trees, and jaguars The early Zapotec were a sedentary, agricultural, city-dwelling people who worshiped a pantheon of gods headed by the rain god, Cosijo, who was represented by a fertility symbol combining the earth-jaguar and sky-serpent symbols common in Mexican Indian cultures A priestly hierarchy regulated religious rites, which sometimes included human sacrifice The Zapotec worshiped their ancestors and, believing in a paradisaical underworld, stressed the cult of the dead Their great religious center was MITLA A highly developed civilization was flourishing at MONTE ALBÁN possibly more than 2,000 years ago In art, architecture, hieroglyphics, and calendar the Zapotec had a strong cultural affinity with the MAYA of the Old Empire and, particularly after c 1300, with the TOLTEC Coming from the north, the MIXTEC replaced the Zapotec at Monte Albán and then at Mitla, the Zapotec captured TEHUANTEPEC from the Zoquean and Huavean tribes of the Gulf of Tehuantepec By the middle of the 15th cent both Zapotec and Mixtec were struggling to keep the AZTEC from gaining control of the commercial routes to Chiapas and Guatemala Under their greatest king, Cosijoeza, the Zapotec withstood a long siege on the rocky mountain of Guengola, overlooking Tehuantepec, and successfully maintained political autonomy by an alliance with the Aztec until the arrival of the Spanish The Zapotecs today are mainly of two groups, those of the southern valleys in the mountains of Oaxaca and those of the southern half of the Isthmus of Tehuantepec The social fabric of Zapotec life—customs, dress, songs, and literature—though predominantly Spanish, shows a strong nationalistic pride in the Zapotec heritage, particularly in JUCHITAN

Zapotlán el Grande, Mexico see GUZMÁN

Zara or **Zarah** (both zā'rə), same as ZERAH **1**

Zara (zä'rə), Serbo-Croatian *Zadar* (zä'dar), city (pop 14,847), Croatia, NW Yugoslavia, in Dalmatia and on the Adriatic Sea It is a port and a Roman Catholic archiepiscopal see A Roman colony from the time of Augustus, it was settled by the South Slavs in the 7th cent and was conquered by Venice in 1000 Zara having been seized by the Hungarians, the doge ENRICO Dandolo of Venice persuaded the leaders of the Fourth Crusade (see CRUSADES) to reconquer the city for Venice The Crusaders took Zara in Nov, 1202, after a five-day siege and sacked the city, an act for which they were condemned by Pope Innocent III Hungary continued to dispute Zara with Venice, which obtained permanent possession of the city only in 1409 The Treaty of Campo Formio (1797) gave Zara to the Hapsburg monarchy, and from 1815 to 1918 Zara was the capital of the Austrian crownland of Dalmatia Zara passed to Italy by the Treaty of Saint-Germain (1919), was occupied (1945) by Yugoslav forces at the end of the Second World War, and was formally ceded to Yugoslavia by the Italian peace treaty of 1947 The city has several medieval churches

Zaragoza, Spain see SARAGOSSA

Zarathushtra or **Zarathustra** see ZOROASTER.

Zareah (zārē'ə), variant of ZORAH

Zared (zā'rĕd) see ZERED

Zarephath (zā'rĕfăth) or **Sarepta** (sərĕp'tə), ancient town, SW Syria, on the coast about one third of the distance from Sidon to Tyre It was never important Elijah stayed at Zarephath in the drought 1 Kings 17 8–24, Luke 4 26

Zaretan (zā'rĕtăn), **Zartanah** (–tä'–), or **Zarthan** (zär'thən) [all Heb, =cool], unlocated place in the valley of the Jordan, associated with the crossing of the Jews and with Jeroboam Variants, all probably referring to the same place, are Zereda, Zeredathah, and Zererath Joshua 3 16, Judges 7 22, 1 Kings 4 12, 7 46, 11 26; 2 Chron 4 17

Zareth-shahar (zā'rĕth-shā'här) [Heb, =brightness of the dawn], unlocated place E of the Dead Sea. Joshua 13 19

Zarhite, patronymic of the family of ZERAH **1.**

Zaria (zä'rēu), town (pop 21,953), N central Nigeria, founded 16th cent It is a rail junction serving the Bauchi tin mines

Zatec, Czech *Žatec* (zhä'tĕts), Ger. *Saaz* (säts), ancient town (pop 12,620), NW Bohemia, Czechoslovakia It is the center of the chief hop-growing region Saaz hops are reputedly the best in the world.

Zatthu (zā'thū) or **Zattu** (zā'tū), family returned from exile Ezra 2 8, 10 27, Neh. 7.13, 10.14.

Zavan (zā'–), variant of ZAAVAN.

Zawiercie (säv'yĕr'chĕ), city (pop 21,225), Silesia prov., SW Poland, on the Warta river and 24 mi NE of Katowice It manufactures chemicals, metal products, and cotton textiles Zawiercie passed to Prussia in 1795 and to the Russian Empire in 1815 It reverted to Poland in 1921

Zayas, Alfredo (älfrä'dhō sä'yäs), 1861–1934, president of Cuba (1921–25) He was one of the leaders of the Liberal party from the founding of the republic and was vice president (1909–13) under José Miguel Gómez He was defeated for the presidency in 1912 and 1916 by Mario G Menocal He and Gómez quarreled violently, and it was with Menocal's help that Zayas defeated Gómez for the presidency in 1920 The election was denounced as fraudulent, and the United States intervened to prevent civil war In the chaotic conditions following the collapse of the sugar market, Enoch J Crowder, representing the United States, restored financial order, but as soon as some balance was attained Zayas indulged in an administration that was almost universally criticized as weak, wasteful, and corrupt When he failed to get the presidential nomination in 1924 he supported Gerardo Machado.

Zayinda Rud (zīn'du rŭd') or **Zaindeh Rud** (zīn'du), river, c 300 mi long, W central Iran, flowing ESE past Isfahan to a swamp 75 mi W of Yezd

Zaza (zä'-), Jerahmeelite 1 Chron 2 33

Zea, Francisco Antonio (fransĕ'skō antō'nyō sä'a), 1770–1822, Colombian botanist and revolutionist, b Medellín He was associated with Mutis in botanical studies Zea, like Antonio Nariño, was arrested (1795) for distributing copies of *The Rights of Man* and was for a time imprisoned in Spain He returned to aid Bolívar in the liberation of South America After becoming (1819) vice president of Venezuela, he resigned and accepted the presidency of the Congress of Angostura (see Ciudad Bolívar), and was later vice president of Greater Colombia Appointed special diplomatic agent to Europe, he was not highly successful, he negotiated disadvantageous loans and gained recognition of his country only from the United States He died in Bath, England Zea wrote a history of Colombia and works on botany

Zea see Maize

Zealand (zē'lund), Dan *Sjælland* (shĕl'lan), Ger *Seeland*, island (2,709 sq mi, pop 1,482,978), Denmark, the largest of the Danish isles, between the Kattegat and the Baltic Sea It is separated from Sweden by the Oresund and from the island of Fyn by the Great Belt The Danish capital, Copenhagen, and the historic cities of Roskilde and Elsinore are on Zealand The island is generally low, rising to its maximum height at 413 ft in the northeast, and it is a fertile agricultural district Wheat growing, dairy farming, cattle breeding, and fishing are the chief occupations Its northern shore is indented by the many-branched Ise Fjord

Zealots (zĕ'luts), Jewish faction traced back to the revolt of the Maccabees Its English name is derived from its fervent veneration of the Torah and its detestation of heathens The Zealots were organized as a party during the reign (37 B C – 4 B C) of Herod the Great, whose idolatrous practices they resisted Later (A D c 6), when Cyrenius, the Roman governor of Syria, attempted to take a census, the Zealots, under Judas of Galilee, arose in revolt against what they considered a plot to subjugate the Jews Thereafter the Zealots expressed their opposition by sporadic revolts and by violence against Jews who conformed to Roman ways In time certain elements of the Pharisees joined them The Zealots disappeared from history after failure of the revolt in which Jerusalem was destroyed (A D 70) One of the apostles, St Simon, had been a Zealot In the Bible he is variously called by the Greek name Zelotes (Luke 6 15, Acts 1 13) and by the Aramaic name Canaanite or Cananaean [both Aramaic, =zealous or jealous] (Mat 10 4, Mark 3 18)

Zebadiah (zĕb"budī'u) [Heb, =gift of God] **1** Ally of David at Ziklag 1 Chron 12 7 **2** Officer of David 1 Chron 27 7 **3** Teacher of the Law 2 Chron 17 8 **4** High official of Jehoshaphat 2 Chron 19 11 Additional mention of this name is in 1 Chron 8 15,17, 26 2, Ezra 8 8, 10 20

Zebah (zē'bu), Midianite king conquered by Gideon Judges 8 1, Ps 83 11

Zebaim (zĕbā'ĭm), qualifier of the name Pochereth Ezra 2 57, Neh 7 59

Zebedee (zĕb'budē) [Gr, for Zebadiah], father of James and John His wife Salome attended Jesus Mat 4 21, 20 20, 27 56, Mark 15 40

Zebina (zĕbī'nu), Israelite who had married a foreign wife Ezra 10 43

Zeboiim (zĕbō'ĭm) or **Zeboim** (zĕbō'ĭm), one of the Cities of the Plain See Sodom

zebra [Ethiopic], African animal of the horse genus, one of the most beautiful of animals Its form is essentially that of a small horse with slender legs and small hoofs Its stripes are a striking characteristic Different species of zebra are most readily recognized by differences in the color, width, and pattern of these stripes The colors that occur are black, white, and shades of brown The zebra is a good example of protective coloration. Its stripes obscure its form and suggest the shadows of brush in sunlight or moonlight The art of camouflage in war is said to have been learned in part from the zebra Intelligent attempts to tame the zebra have been successful, but under the saddle or in harness it has not competed successfully with the horse Its hybrids with the horse and the ass have proved less useful than the mule It has been hunted for its flesh and its hides, which are used for leather and for rugs, and it is threatened with extinction, the fate of its near relative the quagga It is found in small herds in mountains and on plains

zebu (zē'bū), domestic cattle (*Bos indicus*) of parts of E Asia, India, and Africa Characteristically it has a large fatty hump (sometimes two humps) over the withers In color it is usually fawn, gray, black, or bay In India it has been used as a riding and draught animal Zebus were introduced into the United States about the middle of the 19th cent and again in the early 20th cent They are well established in the Gulf states, where they are interbred with domestic cattle to produce an animal which has greater resistance to heat and to ticks than the ordinary domestic cattle and better flesh than the zebu

Zebudah (zĕbū'du, zĕ'būdu) [Heb, =given], wife of Josiah and mother of Jehoiakim 2 Kings 23 36

Zebul (zē'bŭl) [Heb, =dwelling], governor of Shechem, supporter of Abimelech Judges 9 28–41

Zebulon (zĕb'bylun, –byōō–), town (pop 1,070), E central N C , E of Raleigh, in a tobacco area

Zebulun (zĕb'bŭlun, zĭbū'lŭn), son of Jacob and Leah, eponymous ancestor of one of the 12 tribes of Israel Its allotment was in N Palestine W of Mt Carmel Of this tribe was the judge Elon Apart from their bravery in the battle against Sisera, the Zebulunites played a minor part in Israel's history Gen 30 20, 46 14, Num 26 26, Deut 33 19,20, Joshua 19 10, Judges 5 14,18 Zabulon, Mat 4 13,15, Rev 7 8

Zechariah (zĕ"kurī'u) [Heb, =God has remembered] **1** Prophet and author of the book of Zechariah **2** Prophet who was stoned to death with the connivance of King Jehoash for his public rebuke of idolatry 2 Chron 24 15–22 In Mat 23 35 and Luke 11 51 it is apparently this martyred Zacharias (NT Zacharias) to whom Jesus referred See also Berechiah **7** **3** Prophet in the reign of Uzziah 2 Chron 26 5 **4** King the same as Zachariah **1** **5** Maternal grandfather of King Hezekiah 2 Chron 29 1 Zachariah 2 Kings 18 2 **6** Musician under David 1 Chron 15 24 **7** One of Isaiah's witnesses Isa 8 2 **8** Prince of King Jehoshaphat 1 Chron 17 7 **9** Son of Jehoshaphat 2 Chron 21 2 **10** Ruler of the Temple 2 Chron 35 8 **11** Father of Iddo **1** **12** Korahite doorkeeper 1 Chron 9 21, 26 2,14 **13** Merarite doorkeeper 1 Chron 26 11 **14** Musician under David 1 Chron 15 18,20 **15** Chief man in the Exile Ezra 8 16 **16** Father of Jahaziel **2** **17, 18** Kohathites 1 Chron 24 25, 2 Chron 34 12 **19** Reubenite 1 Chron 5 7 **20, 21** Heads of families which returned from the Exile Ezra 8 3,11 **22, 23** Asaphites 2 Chron 29 13, Neh 12 35 **24** Priest in the return Neh 12 41 **25** Grandfather of Athaiah **26** Ancestor of Asaiah **4** **27** Ancestor of Adaiah **4** **28** One who had a foreign wife Ezra 10 26 **29** Same as Zacher Zacharias, Zachariah, and Zachary are forms of the name Zechariah

Zechariah (zĕ"kurī'u) [Heb, =God remembers] or **Zacharias** (zăk"kurī'us), book of the Old Testament, 11th of the books of the Minor Prophets, dated in 519 and 517 B C at Jerusalem The prophet was associated with Haggai in a movement to restore the Temple Ezra 4–5 The book, after an introduction (1 1–6), proceeds with eight visions (1 7–6 8), prophetic of the restitution of Israel and of a Messianic kingdom, with a symbolic crowning of the high priest (6 9–15) A sermon follows (7–8) on the observance of the commandments and the rewards for so doing The rest of the book (9–14), very different in tone, consists of prophecies of trouble and eventual redemption for Jerusalem Many critics attribute the latter portion of the book to a later date For bibliography, see Old Testament

Zedad (zē'dăd), unidentified landmark on the northern boundary of Palestine Num 34 8, Ezek 47 15

Zedekiah (zĕd"dukī'u) [Heb, =justice of God] **1** Died after 586 B C , last king of Judah (c 595–586 B C) He was the third son of Josiah to occupy the throne, the others being Jehoahaz and Jehoiakim Zedekiah, whose name was originally Mattaniah, succeeded Jehoiachin, Jehoiakim's son He was set on the throne as the puppet of Nebuchadnezzar, but he allowed the patriot party to sway him into allying himself with the Egyptian Pharaoh, Apries (Hophra) This violated an agreement with Nebuchadnezzar, and the Chaldaeans came to Palestine and destroyed the kingdom of Judah Zedekiah was carried with his people into captivity in Babylonia (586 B C) Jeremiah was contemporary with Zedekiah 2 Kings 24 17–25 7, 1 Chron 3 15, 2 Chron 36 10–13, Jer 38, 39, 52 **2** False prophet of Ahab 1 Kings 22 11, 24 **3** Hebrew false prophet in Babylonia Jer 29 21,22 **4** Prince of Judah Jer 36 12

Zeeb (zē'ĕb), one of the two Midianite princes killed while invading Israel Judges 7.25, 8 3, Ps 83 11

Zeebrugge (zā'brŭ"gu), outer port of Bruges, West Flanders prov, Belgium, on the North Sea It is administratively part of the Bruges commune and is connected with Bruges by a canal 9 mi long The original port of Bruges having completely silted up, Zeebrugge was developed c 1900 It was occupied (1914) by the Germans in the First World War and was used by them as a submarine base In April, 1918, by a brilliant naval raid, the British destroyed the mole and blocked the harbor by sinking three concreted old cruisers at its mouth A similar operation was undertaken at Ostend Sir Roger J B Keyes commanded both raids

Zeeland, Paul van, see Van Zeeland, Paul.

Zeeland (zē'lund, Dutch zā'lant), province (651 sq mi, pop 258,516), SW Netherlands, bordering on Belgium (Antwerp prov) in the south and on the North Sea in the west Middelburg is the capital The province consists of a mainland strip and of several islands, grouped at the mouth of the Scheldt estuary on the North Sea Chief among the islands are Walcheren (with Middelburg and Flushing), North and South Beveland, Schouwen-Duiveland, and Tholen Much of the land is below sea level and protected by dikes Agriculture, dairying, fishing, and oyster fishing are the chief occupations Zeeland, a part of Holland from the 10th cent later became a separate county, but it continued to be ruled by the counts of Holland, and its history was largely identical with that of Holland In 1579 Zeeland joined the Union of Utrecht as one of the United Provinces of the Netherlands

Zeeland (zē'lund), city (pop 3,007), S Mich , NE of Holland in a farm area, settled 1847 by Dutch, inc as a village 1875, as a city 1907 It is the center of the baby-chick industry in this region Furniture and other products are made Paul de Kruif was born here

Zeeman, Pieter (pē'tur zā'man), 1865–1943, Dutch physicist He was professor of physics at the Univ of Amsterdam from 1900 and director of the Physical Institute, Amsterdam, from 1908 In 1896 he discovered the Zeeman effect He shared the 1902 Nobel Prize in Physics with H A Lorentz His works include *Researches in Magneto-Optics* (1913)

Zeeman effect [for Pieter Zeeman], the effect produced upon the spectrum of a beam of light as a result of its passage through a magnetic field Each spectrum line is split into two or more lines.

Zehsis, Latvia, see Cesis

Zeigler (zī'glur), city (pop 3,006), S Ill , N of Herrin, in a farm and coal area, inc 1914

Zeisberger, David (tsīs'bûrgur), 1721–1808, American Moravian missionary, b Moravia While a youth, he was indentured to an importer in Holland and later fled to London, where he met Graf von Zinzendorf who enabled him to join a Moravian colony in Georgia Zeisberger removed (c 1739) to Pennsylvania with the colony and entered on missionary service The later well-known J G E Heckewelder was his assistant After a few years Zeisberger helped ally the Iroquois with the English against French aggressions on the continent He worked effectively among the Pennsylvania Indians His mission (1772) at Schoenbrunn, Ohio (see Schoenbrunn Memorial State Park), was destroyed, and he was taken prisoner in the American Revolution, yet Zeisberger later set up other missions in Ohio and one in Canada His numerous writings include a spelling book, an Indian grammar and dictionary, and a history of the Indians

Zeiss, Carl (zīs', Ger kärl' tsīs'), 1816–88, German manufacturer of optical instruments In 1846 he founded at Jena a factory that became world famous following Zeiss's entering into a partnership (1866) with Ernst Abbe

Zeist (zīst), municipality (pop 40,207), Utrecht prov, central Netherlands, 5 mi E of Utrecht It is a residential area and has manufactures of pharmaceuticals and furniture A settlement of the Moravian Brethren was established here in 1746

Zela (zē'lu), ancient city of Pontus, NE Asia Minor Here in 47 B C Julius Caesar defeated Pharnaces, king of Pontus, recording the victory in his famous dispatch, "Veni, vidi, vici" [I came, I saw, I conquered]

Zelah (zē'lu), unidentified town, central Palestine The family tomb of Saul was here Joshua 18 28, 2 Sam 21 14

Zelaya, José Santos (hōsā' sän'tōs sälä'yä), 1853–1919, president of Nicaragua (1894–1909) Although a leader of the Liberal party, he kept power by playing the Liberal and Conservative parties against each other and established an unswerving dictatorship Although he developed railroad and steamer transportation, coffee growing, and education, he nevertheless drained his country's resources for his own profit He seized (1894) the Mosquito Coast by force, thus ending British control He fomented revolutions in neighboring countries and tried to reestablish the Central American Federation with himself as head His ambitions created intense opposition which led to the Washington Conference of 1907 and the establishment of the Central American Court of Justice The United States was very antagonistic to him, and the presence of U S cruisers helped rebel forces to overthrow and exile him.

Zelek (zē'lĕk) [Heb.,=cleft], one of David's guard. 2 Sam 23 37, 1 Chron 11.39.

Zelienople (zĕ"lēunō'pūl), borough (pop 2,117), W Pa., c 25 mi NNW of Pittsburgh, laid out c 1802, inc 1840 Clay, lumber, and metal products are made here

Zell am See (tsĕl' ăm zā'), mountain resort (pop 6,949), Salzburg, W central Austria, on the Zellersee or Zeller Lake

Zeller, Eduard (ā'dōōārt tsĕ'lur), 1814–1908, German philosopher He taught at Marburg (1849), Heidelberg (1862–72), and Berlin (1872–95) He achieved fame with the publication of his *History of Greek Philosophy* (1844–52, Eng tr in separate sections, 1868–97)—a standard textbook

Zelophehad (zēlŏf'ēhăd) [Heb.,=shadow of fear], Manassite who had no sons and whose daughters received his inheritance, thus establishing a legal precedent Num 26 33, 27 1–7, 36 2, Joshua 17 3, 1 Chron 7 15

Zelotes (zēlō'tēz) [Gr.,=zealot], name of St Simon See also Zealots

Zelzah (zĕl'zu), unlocated place, between Jerusalem and Bethlehem 1 Sam 10 2

Zemaraim (zĕ"murā'ĭm), Palestinian town and highland, probably near Jericho Joshua 18 22, 2 Chron 13 4

Zemarite (zĕ'murīt), name of a tribe, apparently connected with Assyria Gen 10 18, 1 Chron 1 16

Zemgale, Latvia see Latvia

Zemira (zĕmī'rū), descendant of Benjamin 1 Chron 7 8

zemstvo (zĕmst' vō) [Rus., from *zemlya*=land], local assembly which functioned as a body of provincial self-government in Russia from 1864 to 1917 The introduction of the zemstvo system was one of the major liberal reforms of the reign of Alexander II Each county elected representatives, who had control over education, public health, roads, and aid to agriculture and commerce The county zemstvos elected executive committees, which formed provincial assemblies, and these in turn elected an executive committee for the province A similar system was introduced (1870) for town governments Elections were held on the basis of three class groups —private landowners, peasant communes, and urban population Although under that electoral system the landowners predominated over the peasants and townspeople, the zemstvos accomplished imposing progress in the fields of education and health within the half century of their existence The zemstvo was the stronghold of the Russian liberals and constitutionalists, who after the February Revolution of 1917 democratized the elective system and sought to make the zemstvos the basis of the new regime When the Bolsheviks came to power in Nov., 1917, the functions of the zemstvo were taken over by the soviet

Zemzem see Mecca

Zenan (zē'-) [Heb.,=rich in herds], town, SW Palestine Joshua 15 37 See Zaanan

Zenas (zē'năs), Cretan lawyer and follower of Paul Titus 3 13

Zen Buddhism (bōō'dĭzm, bŭ'dĭzm), Buddhist sect which became especially strong in Japan It originated in India as the Dhyana school founded by the semilegendary Boddhidarma (fl 516–534?) It later entered China as the Ch'an school and in the 14th cent was adopted in Japan Zen differed from most schools of Buddhism in disregarding the canonical books (see Pali literature) and in emphasizing that only by self-knowledge and introspection could truth be attained At a certain point the effect of such discipline would be a sudden intuition of the ineffable principle underlying the universe In accordance with this doctrine, the monasteries of Zen monks offered no didactic instruction, but by riddles and derision they sought to awake a questing attitude in their pupils Zen, with its eschewing of metaphysical subtleties and its arduous discipline, gained great support from the dominant military class in Japan, and it was much resented by the older Buddhist sects Zen monks became prominent in government administration and in the development of a system of public schools The refinement of Japanese esthetic sensibility is in part attributable to the influence of Zen See Daisetz Suzuki, *Essays in Zen Buddhism* (3 series, 1927–34) and *Introduction to Zen Buddhism* (1936)

Zend (zĕnd), term formerly used for the language of the *Avesta* (see Zoroastrianism)

Zenger, John Peter (zĕng'ur), 1697–1746, American journalist, b Germany He emigrated to America in 1710 and was trained as a printer by William Bradford (1663–1752) Zenger began publication of the New York *Weekly Journal* in 1733 to oppose Bradford's newspaper the New York *Gazette* and the policies of Gov William Cosby Zenger's newspaper, backed by several prominent lawyers and merchants, truculently attacked the administration, and Zenger was arrested on libel charges and imprisoned In the celebrated trial that followed Zenger was defended by Andrew Hamilton, who established truth as a defense in cases of libel. The trial, which resulted in the publisher's acquittal, helped to further freedom of the press in America. See biography by Livingston Rutherford (1904).

zenith (zē'nĭth) [from Latin through Arabic], in astronomy, that point in the celestial sphere that is intersected by the plumb line at the observer's position, when it is extended upward. The zenith therefore is vertically overhead from the observer, is 90° from the celestial horizon, and is 180° from the nadir, or directly opposite to it The space measured by the angle between the zenith and any object in the heavens is called the zenith distance The geocentric zenith is the point in the celestial sphere cut by a line which passes through the center of the earth and the observer

Zenjan (zĕnjan') or **Zinjan** (zĭnjan'), city (pop 39,450), NW Iran, in the Khamseh region It is midway between Teheran and Tabriz and is connected with Teheran by a rail line destined ultimately to reach Tabriz

Zeno (zē'nō), d 491, Roman emperor of the East (474–91) He was the successor of Leo II and the son-in-law of Leo I During his reign he had to suppress several revolts and was once driven from his throne for a period of 20 months (475–76) by the usurper Basiliscus One of his first acts was to conclude a peace with the Vandal king, Gaiseric (476) He generally supported Orthodox Christianity and attempted to reconcile the Monophysites to the degrees of the Council of Chalcedon through his *Henotikon*, a compromise which only provoked fresh controversy Zeno was forced to recognize the *de facto* rule of Odoacer in Italy and to grant him the title of patrician He freed the East from the raids of the Ostrogoths by encouraging the invasion of Italy by Theodoric the Great (488) Zeno was succeeded by Anastasius I

Zeno, Apostolo (apō'stōlō dzā'nō), 1668–1750, Italian poet and critic He was the predecessor of Metastasio as court poet to Emperor Charles VI and wrote verse for opera His lyric verse was of good quality, but his chief distinction was gained as critic and biographer Among his works are biographies of Italian authors in the form of prefaces to editions of their works, a dissertation upon Italian eloquence, and a drama, *Merope* He founded the first Italian literary journal, the *Giornale dei letterati* (1710) His letters were published in Italian in 1752

Zenobia (zĭnō'bēu), d after A D 272, queen of Palmyra She was of Arab stock and was the wife of Septimius Odenathus He was murdered, probably through her contrivance, and she obtained rule of his lands in the name of her son She expanded the territories further to rule E Asia Minor, Syria, N Mesopotamia, and even Egypt Her ambition outran her prudence, and after she had dared to call her son emperor, the Romans under Aurelian marched against her, took (A D 272) Palmyra, and captured her She was brought to Rome and graced Aurelian's triumph Later she was pensioned and lived in retirement at Tibur Zenobia by her beauty and intelligence attracted much admiration and sympathy, but her name has also been a symbol of ruthless arrogance

Zeno of Citium (zē'nō, sĭ'shēum), c 336–c 264 B C, Greek philosopher, founder of Stoicism Zeno went to Athens, where he was influenced by the Cynics, whose ethics he attempted to put on a metaphysical and logical foundation He also integrated many ideas of Heraclitus, Plato, and Aristotle into his system, thus laying the groundwork for a consistent philosophy Zeno taught in the Painted Porch at Athens (Stoa Poecile), hence his school's name He put an end to his life when he was found to be incurably ill

Zeno of Elea (ē'lēu), c 490–c 430 B C, Greek philosopher of the Eleatic school He undertook to support the doctrine of Parmenides by demonstrating that motion and multiplicity are impossible The substance of his argument against multiplicity was that a whole must be composed of ultimate indivisible units, or it must be divisible ad infinitum If the whole is divisible ad infinitum, there is a contradiction involved in the assumption that an infinite number of parts can be added up to a finite total The essence of his argument against motion was that a moving body can never come to the end of a line, as it must first cover half the line, then half the remainder and so on ad infinitum The purport of these arguments was to demonstrate, through logical reasoning, the error of common-sense notions of reality According to Aristotle, Zeno was the first to employ the dialectical method There has been a renewal of interest among contemporary philosophers and mathematicians in the problems of infinity and continuity which Zeno raised

Zenta, Yugoslavia see Senta

Zephaniah (zĕf"ənī'u) [Heb.,=God guards] **1** Prophet, author of the book of Zephaniah **2** Father of Hen **3** Father of Josiah **4** Singer 1 Chron 6 36 **5** Important priest at the time of the Captivity 2 Kings 25 18, Jer 21 1, 29.25, 52 24–27.

Zephaniah (zĕf"ənī'u) [Heb.,=God guards] or **Sophonias** (sōfŏnī'ŭs), book of the Old Testament, ninth of the books of the Minor Prophets, the message of a contemporary (late 7th cent B C.) of Jeremiah and King Josiah It consists of a denunciation of Judah for idolatry and wealth, then turns to judge other nations too, it ends with a prediction of salvation and the return from captivity of a remnant of Israel. Some critics regard the last chapter, especially the last part (3 14–20) as a post-exilic addition. For bibliography, see Old Testament

Zephath (zē'făth), original name of Hormah.

Zephathah (zĕf'fŭthŭ) [Heb.,=watchtower], valley, Palestine, of unknown location 2 Chron. 14 10.

Zephi (zē'fī) or **Zepho** (-fō), duke of Edom. Gen 36.11,15; 1 Chron 1 36

Zephon (zē'fŏn) [Heb.,=a lookout], son of Gad. Num 26 15 Ziphion Gen 46 16

Zephyr (zĕ'fur), Greek personification of westerly winds He was gentle, and his mythical role was that of peacemaker

Zephyrhills, town (pop 1,252), W central Fla., NE of Tampa, in a timber area, founded c 1911 and settled by Union veterans, inc 1914

Zeppelin, Ferdinand, Graf von (zĕ'pŭlĭn, Ger fĕr'dēnänt graf' fŏn tsĕ"pulēn'), 1838–1917, German army officer and airship inventor and builder He entered the Prussian army in 1858, served as Prussian military attaché (1863), and served also in the American Civil War with the Union army, in the Seven Weeks War, and in the Franco-Prussian War In 1891 he retired with the rank of lieutenant general to devote himself to the building of motor-driven airships He invented the first rigid airship, built the first one in 1900, and in 1906 built one that had a speed of 30 mi per hour In 1908 he established at Friedrichshafen the Zeppelin Foundation for the development of airship navigation and for the manufacture of airships He made the zeppelin type of dirigible balloon

Zer (zŭr), unidentified fortified city, SW of the Sea of Gahlee Joshua 19 35

Zerah (zē'ru) [Heb.,=rising] **1** Younger of the twin sons of Judah and his daughter-in-law Tamar Num 26 20, 1 Chron 2 6, 9 6, Neh 11 24 Zarah Gen 38 30, 46 12 Zara Mat 1 3 The following patronymics are apparently derived from his name Zarhite (Num 26 13,20, Joshua 7 17, 1 Chron 27 11), Izrahite (1 Chron 27 8), Ezrahite (1 Kings 4 31 and in titles of Pss 88 and 89) **2** Duke of Edom Gen 36 13 17, 1 Chron 1 37 **3** Father of an Edomite king Gen 36 33, 1 Chron 1 44 **4** Same as Zohar **2** **5** Levite 1 Chron 6 21, 41 **6** Leader of an Ethiopian invasion of Judah defeated by King Asa, c 900 B C 2 Chron 14 He is not otherwise known in history

Zerahiah (zĕ"ruhī'u) [Heb.,=God has caused to spring forth] **1** Priestly ancestor of Ezra 1 Chron 6 6,51, Ezra 7 4 **2** Companion of Ezra in captivity Ezra 8 4

Zeravshan (zyĕrŭfshän'), river, 400 mi long, Tadzhik SSR and Uzbek SSR It rises in the E Turkestan Range, a branch of the Pamir-Alai mountain system, flows westward through an irrigated cotton-growing area, past Samarkand and Bukhara, and disappears in the desert near the Amu Darya, N of Chardzhou The **Zeravshan Mountains,** forming the southern watershed of the river, rise to 18,480 ft There are extensive coal, antimony, and wolfram deposits

Zered (zē'rĕd) or **Zared** (zā'rĕd) [both Heb.,=forest], stream, E of the Dead Sea, perhaps a southern affluent of the Arnon Num 21 12, Deut 2 13

Zereda (zĕ'rēdu, zĭrē'du), **Zeredathah** (zĕrē'duthu), and **Zererath** (zĕ'rĕrăth, zĕrē'-) see Zaretan

Zeresh (zē'-), Haman's wife Esther 5 10,14, 6 13

Zereth (zē'rĕth), descendant of Judah 1 Chron 4 7

Zeri (zē'rī), temple musician see Izri

Zermatt (tsĕrmät'), winter and summer resort, Valais canton, Switzerland Facing the Matterhorn, it is one of the most popular Alpine centers in Switzerland

zero, that one of the 10 digits which signifies nothing The symbol is 0, and its introduction into the Western place system of writing numbers, the decimal system, was the crowning achievement in the development of a number system in which calculation with large numbers was feasible Without it, modern astronomy, physics, and chemistry would be impossible The lack of such a symbol was one of the serious drawbacks of Greek mathematics The West is probably indebted to the Arabs for it, having obtained it from the Hindus, they passed it on to European mathematicians in the latter part of the Middle Ages The Mayas of Central America and probably the Babylonians also invented zero With the extension of a number system to negative as well as positive numbers, zero became the name for that position on the scale of integers between −1 and +1 It is used in this sense in speaking of zero degrees on the Fahrenheit and centigrade temperature scales Absolute zero is a term used by physicists and chemists to indicate the theoretically lowest possible temperature, i e, the temperature at which no heat whatever is present—a use reminiscent of zero as a symbol for nothing Unlike other numbers, zero has certain peculiar properties in connection with the four fundamental operations Zero added to or subtracted from any number leaves the number unchanged Any number multiplied by zero gives zero Zero multiplied by or divided by any number (other than zero) is still zero. But there is no number which is the value of a number divided by zero.

Zeromski, Stephen, Pol. *Stefan Żeromski* (stĕ'fän shĕrôm'skĕ), 1864–1925, Polish novelist and dramatist. He participated in Polish conspirational activities in Warsaw and for a time lived abroad Zeromski was an ardent fighter for intellectual freedom *Ashes* (1904, Eng tr, 1928), a novel of the Napoleonic period, and *Faithful River* (1912), a story of the uprising of 1863, are well-known novels. *My Little Quail Has Fled* (1924) is a comedy.

Zeror (zē'rôr), ancestor of Saul. 1 Sam 9 1

Zeruah (zĕrū'ä) [Heb ,=leprous], mother of Jeroboam 1 Kings 11 26

Zerubbabel (zĕrŭb'ŭb)), fl 520 B C, prince of Judah of the house of David, a governor of Jerusalem He led a company of those returning from exile after the favorable edict of Cyrus (538 B C) He was a contemporary of Haggai and Zechariah, under whose stimulating encouragement he finished the rebuilding of the Temple He was an ancestor of St Joseph Ezra 2 2, 3 2,8, Hag, 1–2, Zech 4 9, 10 Zorobabel Mat. 1 12,13, Luke 3 27. Some consider him identical with SHESHBAZZAR

Zeruiah (zĕrōō'i'ŭ) [Heb ,=tribulation of the Lord], sister of David and mother of Joab 2 Sam 2.18, 1 Chron 2 16

Zetham (zē'thăm), descendant of Gershom. 1 Chron 23 8, 26 22

Zethan (zē'thăn), descendant of Benjamin. 1 Chron 7 10

Zethar (zē'thur), chamberlain of King Ahasuerus Esther 1 10

Zetkin, Klara (klä'rä tsĕt'kēn), 1857–1933, German Communist leader A schoolteacher, she early joined the Social Democratic party and became prominent in the organization of a Socialist Women's movement She founded (1892) the Social Democratic organ, *Gleichheit*, which she edited until 1916 In 1919 she was one of the chief founders of the German Communist party Despite her many differences with the official Communist policy of Stalin, she was a Communist member of the Reichstag from 1919 until 1932, when, as the oldest member, she presided at the opening of the Reichstag During that period she spent much of her time in Russia Klara Zetkin was a profound student of Marxist thought and wrote several works on Socialism and on women's rights She was noted for her fiery eloquence Her *Reminiscences of Lenin* have been translated (1929)

Zetland, Scotland see SHETLAND

Zeus (zōōs, zūs), in Greek religion, the supreme god He was the son of the Titan Cronus, and his mother, Rhea, had him to keep his father from eating him In the battle called the Titanomachy, Zeus led the rebels in their successful revolt against Cronus He and his brothers then divided up the universe, Poseidon getting the sea, Hades the underworld, and Zeus heaven and earth Zeus ruled in the Silver Age Zeus married his sister Hera, who was by him mother of Hephaestus, Ares, and Hebe Athena is said in some legends to have sprung from his head, in others to be the daughter of Metis Metis was one of the local goddesses who became associated with Zeus in legend as he became the generally accepted supreme god Others were Themis, mother of Horae and the Fates, Dione, mother of Aphrodite, Eurynome, mother of the Graces, Mnemosyne, mother of the Muses, Maia, mother of Hermes, Demeter, mother of Persephone, and Leto, mother of Artemis and Apollo He is also the father of Ate Others of his loves were Danae, Leda, Alcmene, Semele, Thetis, and Io The name Zeus and cognates in various Indo-European languages means "sky" Being a weather-god he had the attributes of thunder and lightning, with which he exercised his authority, and rain, by means of which he made the earth fertile He wore the aegis Zeus was the father god, the symbol of power, rule, law, and enforced morals, he ruled in patriarchal majesty in his court of Mt Olympus His legends consequently are numerous and contradictory As the father and the upholder of morality he punished those who defied him, e g , Capaneus, Laocoon, and Prometheus Zeus had many children by mortal women and nymphs, including Perseus, Dardanus, and Amphion The Romans, of course, equated Zeus with their own supreme god, Jupiter or Jove, and elaborated many of the legends of Zeus-Jupiter. See A B Cook, *Zeus* (3 vols , 1914–40)

Zeuss, Johann Caspar (yō'hän käs'pär tsoos''), 1806–56, German philologist His greatness rests largely on his establishment of the basis for all Celtic inquiry in his *Grammatica celtica* (1853, in Latin). Totally neglected by the academic world, he was still teaching in a high school when he died

Zeuxis (zūk'sĭs), fl 5th cent B C., Greek painter According to tradition he settled in Ephesus, was an intimate, possibly a pupil, of Apollodorus, and aided in the development of the technique of light and shadow. As none of his paintings survive, they are known only through ancient writings. Pliny speaks of his competing with Parrhasius for realistic illusion

Zeven, Germany see KLOSTER-ZEVEN, CONVENTION OF.

Zeya (zā'ä, Rus. syä'ŭ), river, 810 mi long, RSFSR, in Far Eastern Siberia. It rises in the SE Stanovoi Range and flows south to join the Amur at Blagoveshchensk. It carries gold in its upper reaches and in its lower course flows through a rich agricultural area, the Zeya-Bureya Plain. The city of Zeya (pop over 10,000) lies on its course

Zeyer, Julius (yōō'lĭōs zā'ĕr, tsī'ur), 1841–1901, Czech poet, novelist, and dramatist After traveling widely in his youth, he settled down to a life of seclusion in a remote Bohemian village and there produced quantities of prose and verse, the themes of which were taken from various foreign literatures, ancient and modern. Two dramas, *Radúz and Mahulena* (1898) and *A Legend of Ern* (1886), appeared in English in *Poet Lore* (1923, 1938) He also wrote an autobiographical novel, *Jan Maria Ploshar* (1891)

Zgierz (zgyĕsh), town (pop 21,690), Poland, 6 mi N of Lodz It is noted for manufacture of textiles

Zhdanov, Andrei Aleksandrovich (ŭndrā' ŭlyĭksän'druvĭch zhdä'nôf), 1896–1948, Russian political leader and general He was made secretary of the Leningrad district of the Communist party in 1934 and in 1939 became a member of the Politburo He was a general in the war with Finland, and in the Second World War he commanded, with Voroshilov, the defense of Leningrad He headed (1944–47) the Soviet-British control commission for Finland In 1947 Zhdanov organized the Cominform (Communist Information Bureau)

Zhdanov (zhdä'nôf), city (1926 pop 63,920, 1939 pop 222,427), SE Ukraine, a port on the Sea of Azov and at the mouth of the Kalmius river It was called Mariupol until 1948 Zhdanov is a major industrial center, with steel mills, machinery plants, chemical works, shipyards, and various manufactures Coal, salt, and grain are the chief exports The city was founded in the late 19th cent by Crimean Greeks

Zhiguli Mountains (zhĭgōō'lyĭ'), wooded range, E European RSFSR, in the Samara bend of the VOLGA It rises to 1,217 ft and is rich in mineral resources, notably petroleum, which is brought by pipe line to Kuibyshev

Zhitomir (zhĭtô'mĭr), city (1939 pop 95,090), capital of Zhitomir oblast, Ukraine, WSW of Kiev, in Volhynia It is a road and railroad junction and a lumber and grain center Dating from 1240, it passed (14th cent) to Lithuania, was returned to Russia in the second Polish partition (1793), and became an important commercial center Zhitomir was the scene of fighting in the Second World War The Germans, who held it from 1941 to 1944, massacred virtually the entire Jewish population, which constituted 40 percent of the total

Zhukov, Georgi Konstantinovich (gyôr'gĕ kŏnstuntyē'nuvĭch zhōō'kôf), 1896?–, Russian general He was almost unknown until 1932, when he entered the principal Soviet military school, the Frunze Academy He commanded tank forces in the fighting (1938–39) between Japan and the USSR on the Manchurian border and in the war with Finland Promoted a full general in 1940, he was appointed chief of the general staff and vice commissar for defense in Feb , 1941 He retired (Oct , 1941) as chief of staff and replaced Timoshenko as commander of the central front against the Germans Appointed first vice commissar for defense in the summer of 1942, he also replaced Timoshenko as commander of the southwestern front and accomplished the encirclement of the Germans at Stalingrad early in 1943 He cooperated with Marshal Voroshilov in lifting the siege of Leningrad (Jan , 1943) Promoted marshal (1943), he led the offensive of 1944 and the final assault on Germany in 1945 He captured Berlin (April, 1945) and became commander of the Russian occupation zone in Germany When the Russian armed forces were unified in Feb , 1946, Zhukov was given command of the ground forces In 1947 he was relieved and placed in command of the Odessa military district

Zhukovsky, Vasily Andreyevich (vŭsē'lyĭ ŭndrā'uvĭch zhōōkôf'skĭ), 1783–1852, Russian poet He wrote fine lyrics and odes but is remembered chiefly for his translations Through these he introduced into Russia the works of English, French, and German poets and also gave Russian verse a new quality of ease, flexibility, and grace Tsar Alexander II was strongly influenced by his ideas

Zia (zī'ŭ), descendant of Gad 1 Chron 5 13

Zia (zē'ŭ), North American Indian pueblo, central N Mex It is on Jemez Creek, 30 mi NW of Albuquerque Its 269 inhabitants are Pueblo Indians of the Keresan linguistic stock They raise grain and chili The Mission of Nuestra Señora de la Asunción was built in 1692 The annual fiesta in honor of Our Lady of the Assumption is held on Aug 15

Ziba (zī'bu), servant of Saul 2 Sam 9, 16 1–4, 19 17,29

Zibeon (zĭ'bēun) [Heb ,=dyed] **1** Grandfather of Esau's wife Aholibamah Gen 36 2 **2** Son of Seir and father of Anah Gen 36 20,24, 1 Chron 1 38, 40 They may be the same person

Zibia (zĭ'bēu) [Heb.,=roe], descendant of Benjamin. 1 Chron 8 9

Zibiah (zĭ'bēu) [Heb ,=roe], mother of Joash of Judah. 2 Kings 12 1, 2 Chron 24 1.

Zichri (zĭ'krī) [Heb ,=remembered] **1** Levite. 1 Chron. 9 15 Apparently the same as ZABDI **2** Ephraimite hero 2 Chron. 28 7 **3** Priest after the return to Jerusalem Neh 12 17 **4, 5, 6, 7, 8, 9, 10, 11, 12** Israelites mentioned once only in genealogies Ex 6 21, 1 Chron 8 19,23,27, 26 25, 27 16, 2 Chron 17 16, 23 1, Neh 11 9

Ziddim (zĭ'dĭm), unlocated fortified city, W of the Sea of Galilee Joshua 19 35

Zidkijah (zĭdkī'jŭ) [Heb ,=justice of God], sealer of the covenant Neh 10 1

Ziegfeld, Florenz (flō'rŭnz zēg'fĕld), 1869–1932, American theatrical producer He imported military bands from Europe for the World's Columbian Exposition, Chicago, 1893 From 1907 he produced the *Ziegfeld Follies*, an elaborate revue featuring a variety of performers and a chorus of beautiful girls His other spectacular productions include *Sally, Rio Rita, Kid Boots, Show Boat,* and *Bitter Sweet* He married Anna Held in 1897, and Billie Burke in 1914

Zielona Gora, Lower Silesia see GRÜNBERG

Zieten, Hans Joachim von (hänz' yō'kĭhĭm fŭn tsē'tun), 1699–1786, Prussian general One of the ablest cavalry officers of Frederick II, he fought in the War of the Austrian Succession and in the Seven Years War, in which he helped win the battles of Lobositz, Prague, and Leuthen

ziggurat (zĭ'gōōrăt), form of temple common to the Babylonians and Assyrians, the ancient inhabitants of the Tigris-Euphrates basin The ziggurat was a square, pyramidal structure, whose faces were inclined ramps in several stories mounting to the shrine at the summit The summit served also for the astrological observations which were important in the temple ritual The core of the temple was of sun-baked bricks, the facings being of colored enameled bricks About the ziggurat were grouped accessory buildings including priests' abodes

Ziha (zī'hu) [Heb ,=dry], Nethinim family Ezra 2 43, Neh 7 46, 11 21

Ziklag (zĭ'klăg), place of ancient Palestine, probably S of Beersheba, given to David when he was in flight from Saul There David stayed a while Joshua 15 31, 19 5, 1 Sam 27 6, 7, 30 14, 26, 2 Sam 1 1, 4 10, 1 Chron 12 1, 20, Neh 11 28

Zilahy, Louis (zĭ'lôhĭ), Hung *Zilahy Lajos* (lô'yôsh), 1891–, Hungarian novelist He studied law at the Univ of Budapest and later was correspondent for various newspapers His three major novels, *Two Prisoners* (1932, Eng tr, 1932), *The Deserter* (1932, Eng tr, 1932), and *The Dukays* (Eng tr, 1948), have been translated into English

Zilhah (zĭ'lu) [Heb ,=shadow], a wife of Lamech Gen 4 19–24

Zillebeke (zĭ'lŭbā"ku), village (pop 1,590), West Flanders prov , NW Belgium, near Ypres It was the scene of severe fighting in the First World War

Zillertal Alps (tsĭ'lurtal"), range of the E Alps astride the Austro-Italian border and extending 35 mi NE into the Tyrol It rises to 11,555 ft in the Hochfeiler, on the international line The Zillertal, in the Tyrol, is a valley noted for its magnificent scenery

Zilpah (zĭl'pu), Leah's maid, mother of two of Jacob's sons Gen 30 9–13

Zilthai (zĭl'thĭ, zĭlthā'ĭ) [Heb ,=shady] **1** Descendant of Benjamin 1 Chron. 8,20 **2** Captain who came to David at Ziklag 1 Chron 12 20

Zimbabwe (zĭmbä'bwā) [Bantu,=stone houses], ruined city, Southern Rhodesia It was discovered by white explorers in 1871, and by some was believed to be the biblical Ophir The structures probably date from about the 15th cent, and they seem to have been the work of a Bantu people Ruins include a massive wall, the "temple", a strong fortress, the "acropolis", and dwellings in a near-by sheltered valley

Zimbalist, Efrem (ĕ'frum zĭm'bullst), 1889–, Russian-American violinist, b. Rostov-on-Don, pupil of Leopold Auer at the St Petersburg Conservatory He made his debut in Germany in 1908, toured Europe, and made his American debut in 1911 In 1914 he married Alma Gluck He joined the faculty of the Curtis Institute of Music, Philadelphia, in 1928, and in 1941 became its director In 1943 he married Mary Louise Curtis Bok He is the composer of violin music, chamber music, and a light opera *Honeydew* (1920)

Zimmah (zĭ'mu) [Heb ,=purpose], Levitical family 1 Chron. 6 20,42, 2 Chron 29 12

Zimmern, Sir Alfred Eckhard (zĭ'murn), 1879–, English historian He wrote *The Greek Commonwealth* (1911), a masterly study in the social history of ancient Athens, and he was also prominent in international affairs, he assisted the League of Nations in official capacities and later helped organize UNESCO He was professor of international relations at Oxford (1930–44), lectured at various American universities, and was director of the School of International Relations at Geneva (1925–39) He wrote *The Third British Empire* (1926), *Solon and Croesus* (1928), *The League of Nations and the Rule of Law* (1936), and other works on international relations and Greek history

Zimran (zĭm'răn) [Heb ,=celebrated], son of Abraham and Keturah Gen 25 2, 1 Chron 1 32

Zimri (zĭm'rī) [Heb ,=one who is sung] **1** Died c 885 B C , king of Israel (c 885 B C) for a few days He was one of Elah's generals, he killed the king and

held the throne until OMRI rebelled. 1 Kings 16.8–19 **2** Israelite killed with COZBI **3** Same as ZABDI **2** **4** Descendant of Saul 1 Chron 8 36, 9 42 **5** In an obscure passage the name, apparently, of a tribe Jer. 25 25.

Zin, wilderness through which the Israelites wandered, probably S of the Dead Sea Num 13 21, 20 1, 27 14, 33 36; 34 3, 4, Deut. 32 51; Joshua 15 1,3

Zina (zī'nä), variant of ZIZAH

zinc, silvery, bluish-white metallic element (symbol = Zn, for physical constants, see ELEMENT, table) It is brittle and crystalline at ordinary temperatures, but when heated to between 110°C and 150°C, it becomes ductile and malleable so that it can be rolled into sheets Zinc forms a number of compounds with other elements With oxygen it forms zinc oxide, often called zinc white With chlorine, zinc forms a chloride, a white crystalline, deliquescent substance, used for preserving wood, stiffening paper, and preparing metal for soldering (as a flux) Zinc sulphide (zinc and sulphur) is a component of LITHOPONE and of certain radium paints The crystalline sulphate is known commonly as WHITE VITRIOL An important use of the metal itself is in the preparation of a number of alloys, e g , in BABBITT METAL, BRASS, and GERMAN SILVER and sometimes in BRONZE Iron is galvanized by being dipped in molten zinc or coated by electroplating Zinc is very often used for the negative plates in electric cells Chief sources of the metal are the sulphide ore, zinc blende or SPHALERITE (called also blende or "black Jack"), zincite, an oxide, willemite, a silicate, smithsonite, the zinc carbonate, and franklinite Aside from franklinite, which occurs in abundance only near Franklin, N J , zinc ores are widely and abundantly distributed throughout the world The United States is the leading producer The metallurgy of zinc depends upon the ore used Zinc has a low vaporizing temperature (907°C) and therefore can be prepared by distillation When the oxide is mixed with coal and heated in a furnace in special cylinders, the carbon (coal) combines with the oxygen of the oxide and the escaping zinc vapor is caught in so-called receivers fastened at the end of the cylinders Zinc thus prepared is called spelter In recent years an increasing amount of zinc has been prepared by electrolysis of a solution of the roasted ore in acid to which certain other minerals have been added The metal was known in ancient times

zinc white, white powder, used commonly as a white pigment in paints Chemically, it is zinc oxide It is less opaque than white lead but does not become dark in the presence of sulphur compounds, e g , when exposed to the hydrogen sulphide of the atmosphere It is used also as a filler in tires, other rubber goods, linoleum, oilcloth, and other products and in making white rubber goods and white glass A pure grade of zinc white is sometimes called Chinese white It is used medically in ointments

Zinjan, Iran see ZENJAN

zinnia, any species of the genus *Zinnia* (or *Crassina*), plants chiefly native to Mexico though some reach as far north as Colorado The common zinnia of gardens (*Zinnia elegans*), called also youth-and-old-age, is a rather coarse, easily cultivated, annual plant, popular as a cut flower for its warm colors—ranging from white and yellow to red and purple—and for its bold, stiff aspect It has a composite head of flowers of few rays ("single") or many ("double") There are various forms in cultivation, including dwarfed and curled kinds Zinnia is the state flower of Indiana

Zinoviev, Grigori Evseyevich (grĭgô'rē yĭfsyā'uvĭch zēnô'vyĕf), 1883–1936, Russian Communist leader He sided with the Bolshevik wing of the Russian Social Democratic party after 1903, was forced to flee abroad in 1908, and returned after the February Revolution of 1917 Having risen high in the party ranks, he became a member of the Politburo in 1918 and president of the Comintern in 1919 On Lenin's death (1924) he was, with Stalin and Kamenev, one of the triumvirate to succeed the dead leader With Kamenev he joined (1925) TROTSKY in opposing Lenin's policy, and he was expelled from the Communist party in 1927 Having recanted, he was readmitted in 1928, but did not regain his former influence Arrested in connection with the assassination (1934) of KIROV, Zinoviev—along with KAMENEV and other former leaders—was publicly tried in 1936 for having taken part in Trotsky-inspired plots against Stalin and the Soviet government Like his fellow defendants, Zinoviev confessed himself guilty of all charges and was executed The so-called **Zinoviev letter** was published in 1924 by several English newspapers and purported to be a secret letter written by Zinoviev (then head of the Comintern) It contained instructions for a Communist uprising in England Though later proved a forgery, the Zinoviev letter was effective in bringing about the defeat of Ramsay MacDonald and the Labour party in the British elections that year, and it resulted in a cooling of British-Russian relations.

Zinovievsk, Ukraine see KIROVOGRAD

Zinsser, Hans (zĭn'sur), 1878–1940, American bacteriologist, b. New York city, grad. Columbia (B A , 1899, M D., 1903). He was professor of bacteriology at Stanford Univ (1911–13), Columbia (1913–23), and Harvard Medical School (from 1923) A noted epidemiologist, he was a leader in combating typhus and served with the American Red Cross sanitary commission during the 1915 typhus epidemic in Serbia and with the League of Nations sanitary commission (1923) in Russia He isolated the germ of the European type of typhus and developed (1940), with his colleagues at Harvard, a method for mass production of the vaccine He wrote a popular work on typhus, *Rats, Lice, and History* (1935), several textbooks, including *A Textbook of Bacteriology* (1911, 9th ed revised, 1948), *Infection and Resistance* (1914, 4th ed revised, *Resistance to Infectious Disease*, 1931, 5th ed revised, *Immunity*, 1939), and the autobiographical *As I Remember Him* (1940)

Zinzendorf, Nikolaus Ludwig, Graf von (zĭn'zundôrf, Ger nē'kōlous lōōt'vĭkh gräf' fŭn tsĭn'tsundôrf), 1700–1760, bishop of the refounded Moravian Church, b Dresden Reared under Pietistic influences, he was early in sympathy with the persecuted Moravian Brethren, to whom he offered refuge (1722) on his Saxony estates The colony was called Herrnhut It was Zinzendorf's purpose that the Herrnhutters should be a group within the Lutheran Church, influencing others toward deeper religious experience, but he yielded to their insistence upon refounding their ancient church He was ordered (1736) to leave Saxony because of his religious activities, and thereafter, for many years, he traveled about, spreading the views of the reorganized Moravian Church, of which he became bishop in 1737 In London he was cordially received (1737) by John Wesley In America (1741–43) he was active in the noted Moravian settlement at Bethlehem, Pa , and in establishing congregations in other places in E Pennsylvania He made attempts to gather the German sects of that colony into a unified church In 1748 Zinzendorf was allowed to return to Herrnhut, where he remained until his death His many works include a number of hymns See Willston Walker, *Great Men of the Christian Church* (1908)

Zion (zī'un) or **Sion** (sī'un), part of JERUSALEM It is defined in the Bible as the City of David 2 Sam 5 7 Tradition names the southwestern hill of the city as Zion, but there is controversy about the identity The name is a symbol of Jerusalem, of the Promised Land, of the Messianic hope of Israel (hence the term *Zionism*), and, among Christians, of heaven

Zion, city (pop 6,555), extreme NE Ill , on Lake Michigan N of Chicago, inc 1902 It was founded in 1901 by John Alexander DOWIE of the Christian Catholic Apostolic Church and had a theocratic government until 1935 The tabernacle burned in 1937 Lace and food products are made in the city A Passion play is presented annually

Zionism, movement for reconstituting a Jewish nation Since the destruction of their state by Rome in A D 70, the Jews have yearned to be restored to Palestine The persecutions which they endured combined with their sense of religious identity to keep them a distinct group wherever they dwelt The faith that the Messiah would deliver Israel from its exile remained always fresh, and repeatedly Jews followed false Messiahs, such as SABBATAI ZEVI While some colonies of pious scholars had always lived in Palestine on the charity of their brethren abroad, the bulk of Jewry took no practical steps to reenter Zion, feeling that this would be sacrilegious The growth of a liberal attitude towards Jews in the 18th and 19th centuries led to some degree of assimilation with national cultures This alarmed certain Jewish leaders, notably Moses MENDELSSOHN (1729–86), who perceived a threat to religious culture, they asserted that Western learning must be associated with a heightened awareness of Jewish values This attitude prepared for the impact of nationalism on Jewish thought in Western Europe The typical late-19th-century view was that the Jews were an inchoate nation requiring mainly its own territory (not necessarily Palestine) to be realized The Jews of Eastern Europe, however, refused to abandon their traditional aspirations for Palestine The Zionist movement was weak, disunited, and largely theoretical until Theodor HERZL called the first World Zionist Congress at Basel in 1897 The meeting set up Zionist organizations in most countries where there were large Jewish populations and established the right of any Jew to vote for delegates to the congresses by paying a "shekel" (registration fee) Since 1946 some 2,500,000 Jews purchased "shekels" for each congress American Jews furnish most of the money for Zionist activities other than conducting the congresses The first issue to split the Zionist movement was whether Palestine was essential to the Jewish state A majority of the delegates to the 1905 congress felt that it was essential and rejected the British offer of a homeland in Uganda, E Africa The opposition, the Territorialists led by Israel Zangwill, withdrew on the grounds that an immediate refuge for persecuted Jews was needed The Zionist movement, largely under the leadership of Chaim WEIZMANN, then devoted itself largely to political work but obtained few concessions from the Turkish sultan, who ruled Palestine. The Zionists did achieve a signal success in 1917, when Great Britain was at war with Turkey as one of the Central Powers The British government issued the Balfour Declaration (see BALFOUR, ARTHUR JAMES), which promised to help establish a national home for the Jewish people in Palestine Great Britain was given a mandate of Palestine in 1923, in part to implement the Balfour Declaration Jewish colonization vastly increased in the early years of the mandate (see PALESTINE for the period up to 1945), but soon the British made certain interpretations of the declaration which the Zionists felt were too limiting There were disputes in the Zionist movement on how to counter the British position The Revisionists favored immediate declaration of a Jewish state even if force were needed In their uncompromising stand (but not in their threat of violence) they were usually joined by the Mizrachi (orthodox religious party) The most conciliatory faction was comprised of the General Zionists (representing the original national organizations), who generally remained friendly to Great Britain The Labor Zionists, who favored a socialist economy in Palestine, were often allied with the General Zionists on questions concerning the mandate After the Second World War the Zionist movement intensified its activities The sufferings of the European Jews and of Jews in Arab lands demanded the opening of a refuge The stiffening opposition of the Arab countries increased the urgency At this time the World Zionist Congress was split, with the Revisionists and the Mizrachi demanding all Palestine (even including Jordan) and the Labor and General Zionists reluctantly accepting the United Nations plan to partition Palestine (see ISRAEL) After the Jewish state was proclaimed (May 14, 1948) the World Zionist Congress was separated entirely from the Israeli government This gave Israel absolute sovereignty and answered the criticism of those who maintained that Israel was a country to which Zionists throughout the world owed allegiance See Nahum Sokolow, *History of Zionism, 1600 1918* (1919), Israel Cohen, *The Zionist Movement* (1945), Chaim Weizmann, *Trial and Error* (1949)

Zionites see CHRISTIAN CATHOLIC APOSTOLIC CHURCH IN ZION

Zion National Park, 94,241 06 acres, SW Utah, est 1919 It includes a gorge 1,500 to 2,500 ft deep and is an area of great scenic grandeur and beauty, noted for its vivid coloring and spectacular rock formations Dazzling white rock in the upper reaches makes the red of Vermilion Cliffs more startling There is a highway to Mt Carmel The area was first set aside as Mukuntuweap National Monument in 1909 Adjoining Zion National Park on the northwest is the undeveloped Zion National Monument (33,920 75 acres, est 1937)

Zionsville, town (pop 1,314), Boone Co , central Ind , NNW of Indianapolis Pharmaceuticals are made

Zior (zī'ôr) [Heb , = smallness], hill town, S Palestine Joshua 15 54

Ziph (zĭf) **1** Judahite 1 Chron 4 16 **2** Unidentified city, S Palestine Joshua 15 24 **3** City, S Palestine, SSE of Hebron Here David hid in his flight from Saul Joshua 15 55, 1 Sam 23 14,15,19, 26 1,2, title of Ps 54

Ziphah (zī'fu), son of Jehaleleel 1 Chron 4 16

Ziphion (zĭ'fēŏn), variant of ZEPHON

Ziphron (zĭ'frŏn), unlocated landmark, extreme N Palestine Num 34 9 This is possibly the same as SIBRAIM

Zippor (zĭp'pôr) [Heb , = sparrow], father of Balak, king of Moab Num 22 2

Zipporah (zĭ'purù) [Heb , = female sparrow], daughter of Jethro and wife of Moses Ex 2 16–22 4 18–26, 18 1-6

zirconium (zurkō'nēum), metallic element appearing as a black amorphous powder or a dark gray crystalline solid (symbol = Zr, for physical constants, see ELEMENT, table) It forms compounds with various other elements, e g , with oxygen (the oxide, zirconia), with silicon and oxygen, with fluorine, and with zinc and potassium and zinc and oxygen The element occurs in various minerals, e g , zircon, baddeleyite, and eudialyte The resistance of the oxide, zirconia, to intense heat makes it useful for laboratory vessels and for furnace linings It is used also in alloys with copper and nickel and especially with iron and silicon (for use in making various steels) When added to steel, it acts as a purifying agent, removing substances deleterious to the uniform strength of the finished product The oxide, zirconia, was discovered by M H Klaproth in 1789 in the mineral zircon The element was not isolated until 1824 by J J Berzelius

Zistersdorf (tsĭs'tursdôrf"), town (pop 3,044), Lower Austria, NNE of Vienna Although it was long known that there were oil deposits in the vicinity, the large oil fields were developed only recently, notably in the Second World War Much equipment was removed after 1945 by the Russian occupation authorities.

Zita (zē'tŭ, Ger. tsē'tä), 1892–, empress of Austria and queen of Hungary The daughter of Duke Robert of Parma, she was married (1911) to Archduke Charles Francis, who in 1916 became emperor as CHARLES I She exercised great influence over her husband and was blamed for Charles's letter to her brother, SIXTUS OF BOURBON-PARMA, during the First World War and for Charles's attempts to regain his throne after the war After her husband's death (1922), Zita brought up her numerous family in Belgium She never renounced her ambition to see her son, Archduke OTTO, crowned king of Hungary and possibly emperor of Austria From 1940 to 1949 Empress Zita lived in the United States and in Canada

zither (zĭ'thur), stringed musical instrument, derived from the psaltery and the dulcimer It has a flat sound box over which are stretched from 30 to 45 strings, these are plucked with the fingers and a plectrum In the 18th cent one or both sides began to be curved to produce greater sonority During the baroque era it was generally used by peasants of Central Europe The term *zither* is also used as a generic term for various instruments, including the dulcimer, the psaltery, and several Oriental instruments

Zittau (tsĭ'tou), city (pop 45,084), Saxony, E Germany, in Lusatia, near the Lusatian Neisse and near the Czech border It is a textile-milling center and has manufactures of automobiles and machinery An old Slavic settlement, Zittau was chartered as a city in the 13th cent It has a 12th-century church

Zituni, Greece: see LAMIA

Ziz, pass or wadi, up which an allied army moved from the Dead Sea towards Jerusalem to attack Jehoshaphat 2 Chron 20 16

Ziza (zī'zŭ) **1** Simeonite who participated in a raid on the pasture lands of Gedor 1 Chron 4 37 **2** Son of Rehoboam and Maachah 2 Chron 11 20

Zizah (zī'zu), descendant of Gershom 1 Chron. 23 11 In verse 10 he is called Zina

Zizka, John (zĭs'ku), Czech *Jan Žižka* (yän' zhĕsh'-ka), d 1424, Czech soldier and Hussite leader Before the HUSSITE WARS, which gave his military genius the opportunity to develop fully, Zizka served under various lords, he fought (1410) on the Polish side in the battle of Tannenberg, where the Teutonic Knights were defeated When the Hussite Wars broke out in 1420, Zizka was about 60 years old and was blind in one eye Having joined the Taborites (the radical Hussite wing), Zizka made Tabor in Bohemia into an almost impregnable fortress and led (July, 1420) the Taborite troops in their victory over Emperor SIGISMUND at Visehrad (now a part of Prague) In the following years he successfully withstood the anti-Hussite crusades and reduced one Catholic stronghold after another, continuing to command in person although he had become totally blind in 1421 He did not hold with the extreme religious views of the Taborites, and in 1423 he founded his own "Union," which, however, remained in close alliance with the Taborites In the same year the tension between the Taborites and the moderate Utraquists, whose stronghold was at Prague, flared into open conflict, and late in 1424 Zizka led his army against Prague in order to compel that city to adhere to his uncompromising anti-Catholic policy An armistice averted the outbreak of civil war between the two Hussite parties, which now decided on a joint expedition into Moravia under Zizka's command Zizka died suddenly during the campaign Although Zizka's fame as a general is overshadowed by that of other commanders, he ranks among the great military innovators of all time The bulk of his army consisted of peasants and townspeople, untrained in arms Zizka did not attempt to make them adopt the conventional armament and tactics of the time, but let them make use of such weapons as iron-tipped flails and armored farm wagons, surmounted by small cannons of the howitzer type His armored wagons, when used for offense, cut easily through the enemy lines, firing as they went, and thus enabled him to cut superior forces into pieces When used for defense, the wagons were arranged into an impregnable barrier surrounding the foot soldiers, they also served to transport his men Zizka thus fully anticipated modern motorized and tank warfare, but despite its obvious superiority over his enemies' tactics Zizka's method was ignored by military leaders for 400 years, and it is only in recent times that his military genius has been fully appreciated

Zlatoust (zlŭtŭōst'), city (1926 pop 48,621, 1939 pop 99,272), RSFSR, in the southern Urals, c 65 mi W of Chelyabinsk A major metallurgical center, it produces quality steels and precision castings It was founded in 1754 as a processing center for iron and copper and was destroyed (1774) by the rebels under Pugachev During the Napoleonic campaign of 1812 it developed as an armament-manufacturing center Its plants were reconstructed and modernized in the 1930s

Zlin, Czech *Zlín* (zlēn), city (pop 45,737), Moravia, Czechoslovakia, E of Brno It is the center of the Czech shoe industry, founded here in 1913 by Thomas Bata, and it also produces other leather goods and rubber. Under the Bata family Zlin grew into an almost self-sufficient factory community, with its own consumer-goods industries, broad educational facilities, and model housing projects, and it represented industrial paternalism at its benevolent best Branches of the Bata shoe industry were opened throughout the world After the Second World War the Bata industries were nationalized, and Zlin itself was renamed Gottwaldov in honor of Klement Gottwald, first Communist president of Czechoslovakia

Zn, chemical symbol of the element ZINC

Znojmo (snoi'mō), Ger *Znaim* (tsnīm'), city (pop. 19,695), S Moravia, Czechoslovakia It produces pottery, stoneware, machinery, and processed food (notably pickles) Founded in the 13th cent, it has several fine Gothic churches and a 15th-century city hall Here in the Napoleonic Wars an armistice was signed (1809) by the Austrians and the French after the French victory at Wagram

Zoan, see TANIS, EGYPT

Zoar (zō'ur), at first named **Bela** (bē'-), the one of the Cities of the Plain (see SODOM) to escape destruction Lot and his daughters took refuge here. Gen 14 2,8, 19 19–20, Isa 15 5, Jer 48 34

Zoar (zôr, zō'ur), village (pop 208), E central Ohio, on the Tuscarawas river, near New Philadelphia, inc 1884 It was founded by a group of Separatists from S Germany who fled religious persecution and emigrated (1817), under the leadership of Joseph Michael BIMELER, to America The Quakers received them kindly in Philadelphia and assisted them in obtaining land in Ohio The village of Zoar was laid out, a communistic system was adopted to solve economic difficulties, and a strict moral and religious life was maintained Flour and textile mills and other small industries were established, and the commune flourished The Zoarites aided in the building of the Ohio and Erie Canal After Bimeler's death (1853), the society declined, and in 1898 the communistic mode of life was abandoned See E O Randall, *History of the Zoar Society* (1899), C R Dobbs, *Freedom's Will* (1947)

Zoba or **Zobah** (both zō'bu), Aramaean state, NE of Palestine, at the time of Saul, David, and Solomon It waged war on Israel 1 Sam 14 47, 2 Sam 8 10, 10 19, 1 Chron 18 3–7, 2 Chron 8 3 Aramzobah in title of Ps 60

Zobebah (zōbē'bu) [Heb, =slow-moving], descendant of Judah 1 Chron 4 8

zodiac (zō'dĭăk), in astronomy, an imaginary zone, or belt of the sky, about 16° in width 8° on each side of the ecliptic (the apparent annual path of the sun) The orbits of the sun, the moon, and the five planets, as known to the ancients who originated the zodiac, were included within the band of 16° The stars in the zone were arranged in constellations, and since most of these had the figures of animals, the name *zodiac*, derived from the Greek *zoion* [animal] was given There are 12 constellations, and each has its corresponding sign The zodiac exists only as a convenient means of indicating the positions of the heavenly bodies The point chosen from which to calculate positions is that point at which the sun crosses the equinoctial from south to north, the vernal equinox It is known as the first point of Aries and is one of two equinoctial points where the line of intersection of the ecliptic and the celestial equator meets the celestial sphere The constellations, with the symbols representing the corresponding signs of the zodiac, in order eastward, are

Aries (Ram) ♈	Libra (Balance) ♎
Taurus (Bull) ♉	Scorpio (Scorpion) ♏
Gemini (Twins) ♊	Sagittarius (Archer) ♐
Cancer (Crab) ♋	Capricornus (Goat) ♑
Leo (Lion) ♌	Aquarius (Water-Bearer) ♒
Virgo (Virgin) ♍	Pisces (Fishes) ♓

The first six lie in the half of the band north of the celestial equator, the others in the half south of that line Because of the PRECESSION OF THE EQUINOXES, each of the zodiacal signs has, in the passing of 2,000 years, moved backward 30° and now is in the constellation west of that to which it properly corresponds For instance, the sign Aries is in the constellation Pisces The entire circuit of the heavens, to restore coincidence of signs and constellations, will require about 25,800 years Our zodiac is believed to have had its origin among the Babylonians at least as early as 2000 B C The Greeks passed it on to the Western world Many minor planets discovered in the 19th cent and found to be moving in orbits that extend far outside the zodiac are called ultrazodiacal planets

Zoë (zō'ē), d 1050, Byzantine empress (1028–50), daughter and successor of Constantine VIII Her first husband and associate in power, ROMANUS III, was murdered (1034) in his bath, probably with the connivance of Zoe and of her lover Michael She married Michael (who thus became Emperor Michael IV) a few hours later, on a Good Friday, with the blessings of the patriarch of Constantinople Michael, who was her junior by 30 years and of low birth, proved a capable ruler, who eliminated Zoe from state affairs Much of the government was exercised by Michael's elder brother John, a eunuch of the court and a thoroughly corrupt man, but an able administrator and diplomat On Michael's death (1041), his nephew, Michael V, became joint ruler with Zoë He promptly sent his uncle John into disgrace and in 1042 exiled Zoë to a convent, but the people rose in rebellion, Zoë was recalled, and Michael was blinded and banished. At the same time Zoë's younger sister, Theodora, was removed from the convent where she had lived until then and was crowned joint empress A few months later (June, 1042), Zoë married for the third time Her husband, Constantine IX, of a distinguished Byzantine family, ruled jointly with the two sisters until Zoe's death Under their threefold rule the Byzantine court was the scene of continuous debauchery and scandals and the provinces were disturbed by rebellions, but at the same time a considerable cultural revival took place at Constantinople The chief event of the period, however, was the final schism between the Eastern Church and the Western Church, which was precipitated by the attack of Michael Cerularius, patriarch of Constantinople, on the papacy and which was consummated when Pope LEO IX excommunicated (1504) the patriarch After Zoë's death in 1050, Constantine continued to rule jointly with Theodora, he died in 1055, and Theodora in 1056, Michael VI, a Byzantine nobleman who was chosen her successor, was forced to abdicate in 1057 in favor of Isaac I, founder of the Comnenus dynasty

Zoega, Georg or **Jorgen** (gĕôrg' sōā'gä, yôr'gun), 1755–1809, Danish archaeologist and numismatist He is considered, with Winckelmann and E Q Visconti, a founder of scientific archaeology After his conversion to Roman Catholicism in 1783, he lived in Rome, serving as Danish consul general from 1798 to 1809 Under the patronage of Cardinal Borgia, and pensioned by Denmark, he was able to make valuable researches in coins and manuscripts, he became skilled in the deciphering of hieroglyphics, as evidenced in his work (1797) on the origin of obelisks His chief work was the *Catalogus codicum Copticorum manuscriptorum Museo Borgiano* (1810)

Zog (zŏg), 1895–, king of Albania Originally Ahmed Zogu, he came of a Moslem family and served in the Austrian army in the First World War He became Albanian minister of the interior in 1920, minister of war in 1921, and premier in 1922 A revolution in 1924 led to his flight, but he returned in 1925 with Yugoslav backing and became premier again Although a constitution was adopted, he governed as virtual dictator Ahmed Zogu soon abandoned his Yugoslav backers and turned to Italy for financial aid, by the Treaty of Tirana of Nov , 1927, Albania concluded a military alliance with Italy, which received extensive economic concessions in exchange for further loans In 1928 Zog was proclaimed king as Zog I A new Italian loan (1931) helped Zog to modernize his country but led to such an increase of Italian influence that liberal opposition became aroused Zog attempted to resist Italian encroachments but the appearance (1934) of an Italian fleet at Durazzo forced him into submission Albania became a virtual Italian protectorate On April 7, 1939, Albanian independence ceased altogether when Italy invaded and quickly subdued Albania, of which Victor Emmanuel III of Italy was proclaimed king Zog, who had married the Hungarian countess Geraldine Apponyi in 1938, fled abroad with his queen and his two-day old son Victor Emmanuel abdicated as king of Albania in 1943, but Zog remained in exile after the Second World War, when a Communist government gained control over Albania and proclaimed it (1946) a republic

Zohar (zō'-) [Heb, =whiteness] **1** Father of the owner of the cave of MACHPELAH **2** Son of Simeon gen 46 10, Ex 6 15 Zerah 1 Chron 4 24

Zoheleth (zōhē'lĭth), commemorative or sacred stone near EN-ROGEL 1 Kings 1 9

Zoheth (zō'hĕth), son of Ishi 1 Chron 4 20.

Zoilus (zō'lŭs), c 400 B C – c 320 B C, Greek rhetorician of Macedonia He is called Homeromastix [scourge of Homer], because of his denunciations of Homer as a purveyor of fables His name has come to signify a carping critic

Zola, Émile (āmēl' zōlä'), 1840–1902, French novelist, b Paris He was a professional writer and earned his living by journalism and by his novels About 1870 he became the apologist and most typical example of French naturalism This literary school, grown out of the realism typified by FLAUBERT and founded on an unskeptical faith in science, held that the novel should be scientific in a strict sense Inspired by a passion for accuracy and by an assurance that he saw life as it is, Zola composed novels precisely descriptive of social milieus Characters tend to become marionettelike, and the details are often sordid in their completeness Zola had an ardent zeal for social reform Of his many novels, the chief are among the 20 comprising the series *Les Rougon-Macquart* (1871–93), an account of the decay of a family as the effect of heredity and environment, with especial emphasis on alcoholism, disease, and degeneracy Perhaps the best known of these are *L'Assommoir* (1877, Eng tr , *The Dram-Shop*), on lower-class life in Paris, *Nana* (1880), and *Germinal* (1885, Eng tr , 1901), on coal mining in

N France, a "proletarian" novel He also began the socialistic *Quatre Evangiles* [four gospels], of which he finished *Fécondité* (1899, Eng tr , *Fruitfulness*, 1900), *Travail* (1901, Eng tr , *Labor*, 1901), and *Vérité* (1903, Eng tr , *Truth* 1903) Zola was anti-Catholic and wrote many diatribes against the clergy and the Church His part in the DREYFUS AFFAIR (notably his article, "J'accuse," 1898) was his most conspicuous public action, and he became the especial object of the hatred of the anti-Dreyfus party Prosecuted for libel (1898), he escaped to England, where he remained for a few months He was accidentally asphyxiated in his rooms See E A Vizetelly, *Emile Zola, Novelist and Reformer* (1904), Matthew Josephson, *Zola and His Time* (1928), Henri Barbusse, *Zola* (Eng tr , 1933)

Zollverein (tsôl'vurin') [Ger ,=customs union] The political unification of Germany in 1871 was preceded by a large measure of economic unification, furthered by a series of tariff conventions Friedrich List first popularized the idea of a combination to abolish the customs barriers which were inhibiting trade among the numerous states of the German Confederation Prussia abated internal customs in 1818 and formed (1818–28) a North German Zollverein, which in 1834 became the German Zollverein after merging with two similar unions, the South German Zollverein and the Central German trade union, both founded in 1828 Customs barriers of member states were leveled, and a uniform tariff was instituted against nonmembers The customs at foreign frontiers were collected on joint account, and the proceeds were distributed in proportion to the population and resources of the member states A rival customs union, the *Steuerverein* of central Germany, was also organized in 1834 A series of treaties (1851–54) joined it to the Zollverein, which now comprised Luxembourg and all German states except Austria, the two Mecklenburgs, and the Hanseatic towns Prussia, despite the insistence of several states, was unwilling to admit Austria to the union, but the two countries negotiated a separate tariff treaty After the Austro-Prussian War (1866) a new agreement was reached by the members of the union The newly formed NORTH GERMAN CONFEDERATION entered the Zollverein in a body and the other German states also negotiated customs treaties with victorious Prussia The constitution (1867) of the new Zollverein provided for a federal council of customs (*Zollbundesrat*), comprised of personal representatives of the several rulers, and for an elected customs parliament (*Zollparlament*) In both bodies Prussia exercised predominant influence In 1871 the laws and regulations of the Zollverein passed into the legislation of the German Empire Alsace-Lorraine entered the imperial customs area in 1872, and the Hanseatic cities joined in 1888

Zolnay, George Julian (zōl'nā), 1863–1949, American sculptor, b Hungary, studied in Bucharest and in Vienna He came to the United States in 1892 and was an art commissioner at the World's Columbian Exposition, Chicago He was founder and president of the St Louis Artists Guild Besides Confederate monuments at St Louis and at Nashville, Tenn , his works include the Pierre Laclede monument, St Louis, Industrial Memorial, New Bedford, Mass , Jefferson Davis, Richmond, Va , and a bust of Poe, Univ of Virginia

Zomba (zŏm'bu), town (pop 6,850), capital of Nyasaland, founded c 1880 by European planters Cotton, tobacco, and coffee are exported

Zombor, Yugoslavia see SOMBOR

zone [Gr ,=girdle], in geography an area with a certain physical unity which distinguishes it from other areas The division of the earth into five climatic zones probably originated with Parmenides (5th cent B C), who recognized a torrid or tropical zone, two temperate zones, and two frigid or arctic zones, his classification was adopted by Aristotle and is still in use The zones are based on latitude the torrid zone lies between 23½° N and 23½° S, the temperate zones between these parallels and the polar circles, and the frigid zones from the polar circles to the poles Later geographers have recognized that CLIMATE is affected by such conditions as altitude, distance from water, prevailing winds, and ocean currents Some modern geographers have used other bases for zoning Wladimir Koppen, for example, c 1888 divided the earth into 15 climatic zones according to vegetation A Supan c 1900 adopted the isotherms of 68°F (normal annual temperature) and 50°F (average for the warmest month) for the temperate and frigid zones instead of the parallels of 23½ and the polar circles, he subdivided these five zones into 35 climatic provinces A J Herbertson's thermal division (1904) found favor among geographers

Zonguldak (zŏng"gōōldak'), city (pop 32,978), N Turkey, in Anatolia, a port on the Black Sea Zonguldak prov , of which it is the capital, has extensive coal deposits

zoning, devising and enacting of regulations by which a municipal government can have proper control over the uses of any separate piece of property It has become, in the United States, a widespread method of controlling city construction and removing congestion and other defects of existing city plans. England, Germany, and Sweden preceded the United States in zoning for the purpose of controlling building in new areas adjoining cities The zoning resolution adopted by New York city in 1916 was the first in America and has profoundly affected New York architecture, while the standard which it set was quickly followed by other cities It was reenacted in 1924 and in 1927 By this law New York is divided into use districts height districts, and area districts The first are of four classes, residential, business, retail, and unrestricted Such zoning makes it possible to control the character of neighborhoods and to maintain residential sections free from objectionable encroachments The height districts determine the straight unbroken height of the street face of a building according to the width of the street on which it stands and are in eight classes, with heights ranging from ¼ times the street width to 2½ times Above this determined height any additional stories must range themselves back of an imagined sloping line drawn from the center point of the street This restriction has produced the so-called set-back buildings with their receding stories and terraces With certain limitations, a tower, equal in floor area to not more than 25 per cent of the property, may rise to an indefinite height The area districts, of which there are six classes, establish minimum dimensions for yards and courts and maximum areas of buildings with relation to the areas of their sites The height and area limitations serve to insure light and air for the occupants of city buildings In the United States the state legislatures hold the power to authorize zoning, after which the separate cities frame and enact their own zoning ordinances To accomplish more than the mere amelioration of conditions, zoning should be closely integrated with a CITY PLANNING program See F B Williams, *The Law of City Planning and Zoning* (1922), Harland Bartholomew, *Urban Land Uses* (1932), E M Bassett, *Zoning* (rev ed , 1940)

zoological garden, public or private park where living animals and birds are kept for exhibition and study The menageries and aviaries of China, Egypt, and Rome were famous in ancient times From the late medieval period many rulers had private menageries, some of which later formed the nucleus of public exhibits Nearly all large cities now have zoological reserves Notable ones include those of London (Regent's Park), Paris (Jardin des Plantes and Jardin d'Acclimatation, Bois de Boulogne), Berlin (Tiergarten), New York (Bronx Park), Chicago (Lincoln Park and Brookfield), Cincinnati, Philadelphia, and San Diego (Balboa Park) During the Second World War it became necessary to destroy many animals in European parks because of the possibility of escape and the lack of proper food Although some of the exotic animals exhibited are born in captivity, most are captured in their native habitats A modern trend is the exhibition of animals, not in cages, but in enclosures simulating their natural habitat

zoology, branch of BIOLOGY concerned with the study of animal life The science began with man's early observations of animals and with his attempts to classify them by grouping apparently related forms Aristotle worked out an early system of classification Most of the early classifications were based either on external resemblances or on similarity of environment of the animals (e g , those living on land, in the sea, and in the air) Finally the system of binomial nomenclature, now generally used throughout the world, was adopted, this system designates each known kind of plant and animal by two Latin names, the first indicating the genus and the second designating the species The introduction of the system is commonly attributed to Linnaeus, however, the earlier work of John RAY contributed greatly to the development of the Linnaean system Gradually the scope of zoology enlarged Studies in embryology and internal morphology revealed much about the growth and true relationships of animals Physiology was also developed early as a branch of zoology, however, a more exact understanding of physiological processes was dependent, to a considerable extent, upon its later integration with the chemical and other physical sciences Increased use of the microscope and of the experimental method contributed to the expansion of the field into its many branches Andreas Vesalius, Georges Cuvier, and Claude Bernard are among the many who contributed to the growth of experimental zoology Lamarck and Charles Darwin stimulated the science through promulgation of their theories Modern zoology has been marked by great progress in genetics and cytology, as well as in physiology and biochemistry

Zophah (zō'fu), Asherite 1 Chron 7 35,36

Zophai (zō'fī), variant of ZUPH 1.

Zophar (zō'fär), comforter of Job. Job 2 11.

Zophim (zō'fĭm) [Heb ,=those who watch], unlocated spot probably in the vicinity of Mt. Pisgah, associated with Balaam Num. 23 14

Zoppot (tsō'pōt), Pol. *Sopot* (sō'pôt), town (pop 26,917), N Poland, on the Baltic and NW of Danzig A seaside resort formerly belonging to the territory of the Free City of Danzig, it was the site of a fashionable gambling casino It was transferred to Polish administration in 1945.

Zorach, William (zōr'ăk), 1887–, American sculptor and painter, b Eurburg, Lithuania His family emigrated to America when he was four and settled near Cleveland He worked for a lithograph company there until 1908, studying nights at the Cleveland School of Art There followed two years at the National Academy of Design, New York, and another two in France, where he was in touch with current art trends In 1912 he returned to Cleveland for one more year of commercial lithography and the following year exhibited at the Armory Show in New York From then on his work, first in painting and later in sculpture, was widely shown and increasingly popular In 1924 Zorach held his first exhibition of sculpture In 1932 he won the Logan medal and purchase prize at the Chicago International Water Color Exhibition Highly successful as a water-colorist, Zorach is best known as a sculptor Without formal training in this particular field he evolved a very personal and monumental style which placed him among the foremost sculptors of his day His work is in many private and public collections His *Spirit of the Dance* (Radio City Music Hall, New York) is a characteristic kneeling figure, cast in aluminum He taught at the Art Students League of New York See monograph by P S Wingert (1938)

Zorah (zō'ru) or **Zoreah** (zōrē'u), Samson's native town, SW Palestine, c 15 mi W of Jerusalem Its inhabitants are Zorathites or Zareathites, and the town is called also Zareah Joshua 15 33, 19 41; Judges 13 25, 16 31, 18 2,8,11, 1 Chron 4 2, 2 Chron 11 10, 1 Chron 2 53, Neh 11 29

Zorites (zō'rīts), name of unknown significance appearing at 1 Chron 2 54

Zorn, Anders Leonhard (an'durs lā'ōnard sôrn'), 1860–1920, Swedish painter, etcher, and sculptor His early and sustained success was phenomenal. From 1881 he traveled all over Europe, painting celebrities and winning awards His first oil painting, *Fisherman from St Ives*, was acquired by the Luxembourg Museum, Paris He maintained a studio in London until 1887 and thereafter in Paris, but throughout his life he returned constantly to his native Mora, Sweden, and his last years were spent there On a visit to America in 1903 he painted some 60 portraits Zorn painted landscape and genre, but excelled in figure painting and portraits His studies of nude young peasant women are famous for their vivacity and warmth of color *Mora* (Worcester, Mass , Art Mus) is a fine example Portraits by Zorn are in the Uffizi and the Metropolitan Museum and in many private collections in Europe and America They are distinguished for their cool brilliance and forceful characterization His spirited etchings include excellent portraits of many famous writers

Zorndorf (tsôrn'dôrf) village, Brandenburg, NNE of Küstrin, after 1945 under Polish administration Here in 1758 Frederick II of Prussia defeated the Russians in the Seven Years War The Polish name is Sarbinowo

Zoroaster (zō"rōăs'tur), religious teacher of ancient Persia The name by which he is ordinarily known is derived from the Greek form of Zarathushtra (or Zarathustra) [old camel?], his Persian name According to a tradition accepted by some scholars he lived from 660 to 583 B C Others believe that 570 B C and 500 B C are his approximate dates Zoroaster was probably born in NW Persia His youthful studies were crowned between the ages of 30 and 40 by the revelation of a new religion At first his attempts to proselyte failed, but in time he converted King Vishtaspa (who may have been Hystaspes, the father of Darius) The religion then spread rapidly through Vishtaspa's kingdom Firdausi states that Zoroaster was killed in a holy war against Bactria (Balkh) See A V Williams Jackson, *Zoroaster* (1898), Ernst Herzfeld, *Zoroaster and His World* (1947)

Zoroastrianism (zō"rōăs'trōōnĭzm), religion founded by Zoroaster, but with many later accretions Its scriptures are the *Avesta* or the *Zend Avesta* [Pahlavi *avesta*=law, *zend*=commentary] The *Avesta* consists of much-corrupted texts with many interpolations, it is written in an old form of Iranian, possibly coeval with the inscriptions of Darius Except for some additional minor fragments, it comprises five books—the *Yasna*, a liturgical work, which includes the *Gathas*, probably the oldest part of the *Avesta* and perhaps in part written by Zoroaster, the *Vispered*, a supplement to the *Yasna*, the *Yashts*, hymns of praise, a set of minor texts, and the *Vendvidad*, a code of purity resembling Leviticus in the detail of its ordinances When Zoroastrianism was revived under the Sassanidae, a religious literature in Pahlavi (a middle Persian dialect used as a priestly language) was written to supplement the *Avesta* In its origin Zoroastrianism appears to have been a reform of the nature religion of Persia It was concerned with increasing the harvest and with protecting and treating kindly the domestic animals whose labors accomplished the production of food. At first there were no enclosed temples, but only outdoor altars. Gradually

certain practices which Zoroaster appears to have deplored, such as the use of haoma (an intoxicant) in prayer and the sacrifice of bulls in connection with the cult of the god Mithra (a lesser god in Zoroastrianism) became features of the religion It is not surprising, however, that former customs should be thus revived, because Zoroaster appears to have incorporated in his religion the old Persian pantheon, although very much refined Instead of tolerating the worship of all the deities, however, he divided them into those who were beneficent and truthful and those whose malevolence and falseness made them abhorrent Heading the good spirits was Ahura Mazdah (also Ormazd or Ormuzd) [sovereign knowledge] Six (or possibly more) attendant deities, the Amesha Spentas, surround him These personalized representations of abstract qualities are Vohu Manah [good thought], Asha Vahishta [highest righteousness], Khshathra Vairya [divine kingdom], Spenta Armaiti [pious devotion], Haurvatat [salvation], and Ameretat [immortality] In time the Amesha Spentas became archangelic in character and less abstract The evil spirits, the *daevas* or *divs*, were headed by Ahriman (also Angra Mainyu) The war between these two supernatural hosts is the subject matter of the fully developed cosmogony and eschatology of Zoroastrianism The entire history of the universe, past, present, and future, the religion teaches, is divided into four periods, each of 3,000 years In the first period there was no matter, the second preceded the coming of Zoroaster, and in the third his faith is propagated The struggle between good and evil rages during these first nine millennia, and men help Ahura Mazdah or Ahriman depending on whether their conduct is good or evil Each person after death crosses the Chinvato Peretav [bridge of the separator], which spans hell If he is reprobate, the bridge narrows and he tumbles to perdition, but if he is worthy of salvation he finds a wide road to the realm of light In the fourth period of the universe a savior, Saoshyant, will appear, the dead will rise for their final reward or punishment, and good will reign eternally Zoroastrianism should be considered quasi-dualistic, rather than (as sometimes described) wholly dualistic, since it predicts the ultimate triumph of Ahura Mazdah This god may be represented in the form of the pure natural substances which he has created, notably fire, but also water and earth The special veneration shown to fire and its use in religious ceremonies has led to the erroneous belief that the Zoroastrians were fire worshipers The care taken to avoid contaminating these substances led to great elaboration of the purification ritual The priests, successors to the pre-Zoroastrian MAGI, acquired great power by their command of the techniques of purification The priests also had great influence on the government in the first period of Zoroastrianism, that under the Achaemenidae, when it was probably the state religion Alexander's conquest of Persia brought disruption, it was followed by 500 years during which little is known of the religion, except that an offshoot, MITHRAISM (stemming from the worship of Mithra), was taking hold further west The Sassanidae restored Zoroastrianism as part of its general revival of Achaemenian culture, and at times persecuted heretical cults, notably MANICHAEISM Islam overwhelmed Persia in the mid-7th cent and all other creeds were virtually abolished There are, however, persons who practice Zoroastrianism to this day—the Ghebers in Iran (the largest community is at Yezd) and the PARSIS in India The religion may have affected Judaism (particularly during the time of the Captivity) and, through GNOSTICISM, Christianity See bibliography under ZOROASTER, James Darmesteter and L H Mills, *The Zend-Avesta* (1880), A V Williams Jackson, *Zoroastrian Studies* (1928)

Zorobabel (zôrŏb'ŭbl), variant of ZERUBBABEL

Zorrilla de San Martín, Juan (hwän' zôrē'ya dā sän" märtēn'), 1857–1931, Uruguayan romantic poet His first book of poems, *Notas de un himno*, was published in 1876, but he first attained prominence (1879) with his patriotic verse "La leyenda patria" and is best known for *Tabaré* (1888), an epic romance The simple plot concerning the tragic story of Tabaré, a half-breed Charrúa Indian, is enhanced by the rich music, the descriptive art, and the freshness of the verse He was also a newspaper editor and a diplomat

Zorrilla y Moral, José (hōsā' thōrē'lyä ē môral'), 1817–93, Spanish poet and dramatist, b Valladolid. He is one of the great romantic writers of Spain, and his fame rests upon the drama *Don Juan Tenorio* (1844), one of the best-loved plays of Spanish literature He visited France in 1850 and went to Mexico in 1855 As a traditional poet, he gathered and reconstructed a large number of legends in *Cantos del trovador* (1841), *Granada* (1852), and other volumes Besides *Don Juan*, his plays include *El zapatero y el rey* [the shoemaker and the king] (1840–42) He also wrote an entertaining autobiography, *Recuerdos del tiempo viejo* (1880–83)

Zosimus (zŏ'simŭs, zō'–), fl 450, Greek historian. He lived at Constantinople. Strongly anti-Christian in approach, he wrote a history of the Roman Empire from the reign of Augustus to 410.

Zr, chemical symbol of the element ZIRCONIUM

Zrenjanin (zrĕnyä'nēn), city (pop 40,517), N Serbia, Yugoslavia, in the fertile Vojvodina It has flour mills, dairy plants, vegetable canneries, and breweries, and it manufactures agricultural machinery It was known as Nagybecskerek until its transfer (1918, confirmed 1920) from Hungary to Serbia, and it was subsequently named Veliki Beckerek and Petrovgrad

Zrinyi (zrĭn'yē), noble Hungarian family of Croatian origin **Nicholas Zrinyi**, 1508–66, distinguished himself in the defense of Vienna (1529) against Sultan Suleiman I, took part in the campaign of Ferdinand I against John Zapolya, who claimed the Hungarian crown as John I, and was appointed (1542) ban (viceroy) of Croatia He is famous for his defense of Szigetvar against the army of Suleiman I and was killed there while attempting a sortie His great-grandson, **Nicholas Zrinyi**, 1616–64, was made ban of Croatia in 1647 He campaigned successfully against the Turks and was the acknowledged national leader of the Hungarians when he died in a hunting accident He was as distinguished poet, one of the first to use Hungarian as a literary language Besides lyric poetry, he also wrote an epic poem on the defense of Szigetvar by his ancestor and several prose works on political subjects, modeled in style on Machiavelli His brother, **Peter Zrinyi**, 1621–71, became ban of Croatia in 1665 Disappointed by the absolutist policy of the Hapsburgs, who owed their success in Hungary largely to the Zrinyi family, he joined (1671) with several other Hungarian magnates in a conspiracy against Emperor Leopold I The plot, backed by Louis XIV of France, was ill organized and easily suppressed Zrinyi was executed His daughter, Helen Zrinyi (d 1703), married Francis I RAKOCZY and, after Rakoczy's death, Emeric THOKOLY She was the mother of the Hungarian national hero, Francis II Rakoczy

Zschokke, Johann Heinrich Daniel (yō'hän hĭn'rĭkh dä'nyĕl chō'ku), 1771–1848, German author and social reformer He lived in Aarau, Switzerland, where he held various political offices A prolific author of prose and verse, he wrote *Des Schweizerlands Geschichte für der Schweizerfolk* (1822, Eng tr, *Popular History of Switzerland*, 1838), historical novels in the manner of Scott, and the educational story *Das Goldmacherdorf* (1817, Eng tr, *Goldenthal*, 1853) M G Lewis ("Monk" Lewis) translated his novel *Abällino* (1794) as *The Bravo of Venice* (1804) His *Stunden der Andacht* [hours of devotion] (1809–16), a collection of pious verse, has found numerous English translators

Zsigmondy, Richard (rĭkh'ärt shĭg'mōn"dē), 1865–1929, Austrian chemist He was professor and director of the institute of organic chemistry at the Univ of Gottingen from 1908 For his researches in colloidal chemistry and for developing in this connection the ultramicroscope, he received the 1925 Nobel Prize in Chemistry He wrote *Colloids and the Ultramicroscope* (1905, Eng tr, 1909)

Zuar (zōō'ar) [Heb, =smallness], father of an Issacharite chief Num 1 8, 2 5, 7 18,23, 10 15

Zubly, John Joachim (tsōō'blē zōō'), 1725–81, American clergyman, prominent in colonial affairs, b St Gall, Switzerland Emigrating to South Carolina sometime after his ordination (1744) to the Presbyterian ministry in London, he became a pastor in Savannah, Ga, in 1760 While he did not approve of the plan for separation from the mother country, he agreed with the patriots in their opposition to the oppressive acts of the British government and was a member of the provincial congress of Georgia and a delegate to the Continental Congress (1775) Charged in Congress with having expressed questionable views and revealed plans in his letters to Sir James Wright, royal governor of Georgia, Zubly fled back to Georgia and avowed his stand as a Loyalist He was banished from Georgia in 1777 In South Carolina for a time, the pastor was finally allowed upon the restatement of Wright in the governorship of Georgia, to return to the city and to his church labors Among his writings are several political pamphlets including *The Stamp Act Repealed* (1766) and *The Law of Liberty* (1775)

Zuccarelli, Francesco (franchĕs'skō tsōōk-karĕl'lē), 1702–88, Florentine landscape painter and decorator He twice visited London, where he decorated the Opera House and was well known through popular engravings of his scenes on the Thames He was a charter member of the Royal Academy His meticulous paintings of landscapes with ruins and small figures are best seen in the Reale Palace, Venice

Zuccaro (tsōōk'karō) or **Zucchero** (tsōōk'kārō), family of Roman painters **Ottaviano Zuccaro** (ôt-tävyä'nō), fl 1st half of 16th cent, though a less successful artist, was the able teacher of two celebrated sons **Taddeo Zuccaro** (tädā'ō), 1529–66, won recognition by his decorative paintings in the Mattei Palace, Rome, and subsequently great popularity He became painter to Popes Julius III and Paul IV and for Cardinal Farnese executed frescoes at his Caprarola palace Among his other works are *Diana* (Uffizi), *The Magdalene* (Pitti Palace, Florence); *Christ in the Tomb* (cathedral, Rheims); and *The Dead Christ* (Villa Borghese) He is buried in the Pantheon close to the tomb of Raphael **Federico Zuccaro** (fādārā'gō), 1543–1609, was associated with his brother for years He completed Vasari's unfinished *Last Judgment* (cathedral, Florence) and for Pope Gregory XIII developed the decorations of the Pauline Chapel, Rome, designed by Michelangelo A misunderstanding resulted in his departure for Flanders. After sojourning there and in Holland, he went to England, where he painted Queen Elizabeth and Mary Stuart Returning to Rome, he completed Taddeo's unfinished work and finally carried through the Pauline Chapel commission he had deserted Subsequently he executed decorations in the Escorial for Philip II of Spain His easel paintings include *Descent of Christ into Limbo* (Milan) and *The Golden Age* (Uffizi) He published a work on art and founded the St Luke Academy, Rome, of which he was president and to which he left his estate

Zucchi, Antonio (äntō'nyō tsōō'kē), 1726–95, Venetian painter Robert and James Adam made Zucchi's acquaintance in Venice, traveled with him in Italy, and persuaded him (c 1766) to come to England to collaborate upon their architectural works Zucchi executed many wall and ceiling decorations for their interiors, notably at Kenwood, Osterley Park, and Harewood House He was elected associate of the Royal Academy in 1770 In 1781 he married Angelica Kauffmann and moved with her to Italy, where he spent the rest of his life

Zuccoli, Luciano (lōōchä'nō tsōōk'kōlē), 1870–1929, Italian novelist His novels, which picture various aspects of Italian upper-class life, were written for popular consumption One of the best is *Le cose più grande di lui* (1922, Eng tr, *Things Greater than He*, 1926) Others are *Il maleficio occulto* [the hidden crime] (1901) and *La freccia nel fianco* [the arrow in the flank] (1913)

Zug (tsōōk), canton (93 sq mi, pop 36,643), Switzerland It is a mountainous area with meadows, forests, and pastures The inhabitants are German-speaking Owned by the counts of Kyburg and later (after 1273) by the Hapsburg family, Zug joined the Swiss Confederation in 1352 and again in 1364, after a brief period of forced Hapsburg domination A Catholic canton, Zug joined the SONDERBUND (1845–47) On the Lake of Zug, area 14½ sq mi, is the capital, **Zug** (pop 12,372), which has preserved much of its late Gothic architecture It manufactures machinery and metalware

Zügel, Heinrich von (hīn'rĭkh fŏn tsī'gul), 1850–1941, German animal and genre painter He taught (1895) at the Munich Academy He was the foremost German painter of cattle of his day His *Oxen Fording a Stream* is in the Metropolitan Museum

Zugspitze (tsōōk'shpĭt"tsŭ), mountain, 9,721 ft high, in the Bavarian Alps and on the Bavarian-Austrian border, highest peak of Bavaria and of Germany A rack-and-pinion railroad connects the popular resort of Garmisch-Partenkirchen, at its foot, with the summit

Zuhair (zōōhīr'), fl 6th cent, Arabian poet He is often considered the greatest writer of Arabic poetry in pre-Islamic times, and he is represented in the MUALLAQAT His poems deal with raids and other subjects of nomadic desert life

Zuider Zee (zī'dur zē', zā', Dutch zoi'dur zā'), former shallow inlet of the North Sea, c 80 mi long, indenting the N and central Netherlands Once a lake, it was joined to the North Sea by a great flood in the 13th cent A vast drainage project, begun in 1920, split the old Zuider Zee into the IJSSELMEER, S of the Ijsselmeer dam, and the Waddenzee, between the West Frisian Islands and the dam

Zuloaga, Ignacio (ēgnä'thyō thōōlō'ä'gä), 1870–1945, Spanish painter, a native of the Basque country He lived chiefly in Paris after 1889, but his paintings are Spanish in subject His figures, often of Basque peasants or of bullfighters, are usually richly colored against a somber background Among his paintings are *Daniel Zuloaga and His Daughters* (Luxembourg Mus, Paris), *Uncle David and His Family* (Mus of Fine Arts, Boston), portrait of Paderewski (Steinway Hall, New York), a self-portrait, *The Family of a Gypsy Bullfighter*, and others (Hispanic Society, New York), and *Victims of the Fiesta* (Metropolitan Mus)

Zululand (zōō'lōōländ"), district (10,427 sq mi, pop 398,940), NE Natal, Union of South Africa, on the Indian Ocean It rises from a low coastal plain to the foothills of the Drakensberg range Tribal reservations occupy most of the area, and the native population is 387,113 Zululand was annexed by Great Britain in 1887 and it became part of Natal in 1897 A large element of the population are **Zulu** They belong to the southern branch of the Bantu-speaking peoples, the MATABELE are a Zulu offshoot Although some maize is grown, the Zulu economy depends primarily on raising cattle Marriage, which may be polygamous, is usually contracted by giving gifts of cattle (the *lobola*) to the bride's family The Zulu ordinarily do not live in villages, but in fenced compounds (kraals), where an extended family, under the headship of the oldest man, occupies beehive-shaped huts and where the

cattle are kept penned Today Zulu society has deteriorated, with many of the men going to work in the cities and mines The Zulu rose to power in the early 19th cent under Chaka, who reduced many tribes to vassalage His warlike successors soon encountered the Boer settlers who came into Natal on the Great Trek (see TREK) Dingaan, the Zulu chief, ambushed and slaughtered some 500 Boers in 1838 In revenge he and many of his followers were killed in battle by Andries PRETORIUS The succeeding chief, Mpanda, became a vassal of the Boer republic of Natal His son, CETEWAYO, resumed warfare and ignored a British ultimatum that he submit to their rule Great Britain launched an attack in 1878, and after suffering several grave defeats, finally triumphed in July, 1879 Since 1907 there have been no major Zulu disturbances See A T Bryant, *Olden Times in Zululand and Natal* (1929)

Zumárraga, Juan de (hwän' dā thōōm'rägä), 1468–1548, Spanish churchman, first bishop of MEXICO, a Franciscan Going to Mexico in 1528, he became prominent in governmental affairs and opposed Nuño de GUZMÁN and the *audiencia* He was officially made protector of the Indians and exerted strenuous efforts to convert the natives and to end human sacrifice He even destroyed valuable Indian manuscripts and remains He was important in founding the college of Santa Cruz de Tlatteloleo for the education of the Indians A close friend and able assistant of Viceroy Antonio de MENDOZA, he helped to improve conditions in New Spain Zumárraga was instrumental in bringing the first printing press to the New World and wrote religious manuals which were among the early products of the press

Zumbrota (zŭmbrō'tŭ), village (pop 1,386), SE Minn , NNW of Rochester and on the Zumbro, in a farming area In the fairgrounds is a covered bridge built c 1863

Zungaria see DZUNGARIA

Zuni (zōō'nyē, zōō'nē), North American Indian pueblo, W N Mex , 33 mi S of Gallup This 2,700 inhabitants are Pueblo Indians who speak the Zuni, or Zunian, language The language comprises its own stock The Zuni have a high material culture They are a sedentary people, who farm irrigated land and are noted for basketry, pottery, turquoise jewelry, weaving, and ceremonial dances Their chief festival is the Shalako, which represents Zuni deities in the act of blessing new homes It is held in late November or early December The original seven Zuni villages are usually identified with the mythical Seven Cities of Cibola, which were given much fame by Marcos de Niza, and in 1540 Francisco Vásquez de Coronado attacked the villages, thinking that they had vast stores of gold The villages were abandoned in the Pueblo revolt of 1680 The present pueblo was built (c 1695) on the site of one of the original seven villages The name commonly appears as Zuñi See M C Stevenson, *The Zuñi Indians* (1905), Aileen Nusbaum, *The Seven Cities of Cibola* (1926), E W Parsons, *Hopi and Zuñi Ceremonialism* (1933), Ruth Benedict, *Zuni Mythology* (1935), F H Cushing, *My Adventures in Zuñi* (1941)

Zunz, Leopold (lā'ōpôlt tsōōnts'), 1794–1886, German-Jewish scholar His critical research laid the foundation of the scientific study of Judaism Part II of his *Synagogale Poesie des Mittelalters* (1855) was translated as *The Suffering of the Jews during the Middle Ages* (1907)

Zuph (zŭf) **1** Ancestor of Samuel 1 Sam 1 1, 1 Chron 6 35 In verse 26 he is called Zophai **2** Unlocated district near Jerusalem, associated with Saul 1 Sam 9 5 See RAMATHAIM-ZOPHIM

Zur (zŭr) [Heb , =rock] **1** Prince of Midian killed by the Jews Num 25 15, 31 8, Joshua 13 21 **2** Son of Jehiel 1 Chron 8 30, 9 36

Zurbarán, Francisco de (fränthē'skō dā thōōrbärän'), 1598–1662, Spanish religious painter of the naturalistic school of Seville, b Badajoz He was the son of a poor farmer, who sent him to study with a painter of Seville His early work, however, shows the prevalent influence of Caravaggio and Ribera Zurbarán early gained a high reputation, painting chiefly for the churches and convents of Andalusia About 1630 he was appointed painter to Philip IV He excelled in painting scenes of monastic life The work of Zurbarán is distinguished for its beautiful and reserved color, clear luminosity, vigorous realism, and magistral simplicity of design Although severely ascetic, his paintings have a gentle and unforced sweetness, rare in a Spanish realist They have always enjoyed a very high repute in Spain, but are less known outside that country Many remain in the churches and convents of Andalusia Among the best known are *The Apotheosis of St Thomas Aquinas*, *Miracle of St Hugo*, and *Virgin Blessing Various Saints* (all Seville), *Franciscan Monk* (National Gall , London), *Portrait of a Lady* (of which one version is in the Prado, another in the Metropolitan Mus), *Doctor of the University* (Gardner Mus , Boston), and *Carthusian Monk Reading* and *Magdalene* (Hispanic Society, New York)

Zurich (zŏŏ'rĭk), Ger *Zürich* (tsü'rĭkh), canton (668 sq mi , pop 674,505), Switzerland. Agricultural in the north, it also has meadowlands, forests, and numerous industrial towns, notably WINTERTHUR and its capital, **Zurich** (pop 333,395) Zurich is the largest Swiss city both in population and in economic importance, its industrial products include automobiles, radios, clothes, paper, foodstuffs, and textiles, it is also a printing and publishing center The site was occupied as early as the Neolithic period by lake dwellers Settled by the Helvetii, it was conquered (58 B.C) by the Romans, and after the 5th cent passed successively to the Alemanni, the Franks, and Swabia A free imperial city after 1218, it accepted (1336) a corporative constitution which lasted till 1798 and joined (1351) the Swiss Confederation Its claim to TOGGENBURG led to a ruinous war (1443–50) with the other confederates In the 16th cent Zurich, under the influence of ZWINGLI, became the leading power of the Swiss REFORMATION and once more provoked an internal war The Catholic victory at Kappel (1531) ended Zurich's political leadership In 1799 Zurich was the scene of two battles of the French Revolutionary Wars (see HELVETIC REPUBLIC) Zurich developed as an intellectual and scientific center in the 18th and 19th cent , it has a university (founded 1832), a world-famous polytechnical school, and several museums Two churches—the Gross-Münster (11th–13th cent) and the Fraumünster (13th–15th cent)— the 17th-century town hall, and numerous old residences contrast harmoniously with many fine modern structures The city is beautifully situated on the Limmat and Sihl rivers and at the northern end of the **Lake of Zurich** (c 25 mi long and c 2 mi wide), which is noted for its peaceful scenery

Zuriel (zū'rēĭl, zūrī'ŭl) [Heb , =God is my rock], chief Merarite Num 3 35

Zurishaddai (zū'rĭshä'dāī) [Heb , =the Almighty is my rock], father of a Simeonite chief Num 1 6, 2 12, 7 36,41, 10 19

Zutphen (zŭt'fun), municipality (pop 21,505), Gelderland prov , E central Netherlands, on the Ijssel and NE of Arnhem It is a dairy and lumber center Zutphen has retained a 12th-century Gothic church and many fine buildings of the 17th and 18th cent It was an important Spanish stronghold in the Dutch struggle for independence Sir Philip Sidney died (1586) in a skirmish under its walls in an unsuccessful attempt by his uncle, the earl of Leicester, to take it from the Spanish Zutphen fell to the Dutch under Maurice of Nassau in 1591

Zuzims (zū'-), unknown people Gen 14 5

Zweibrücken (tsvī'brŭkun), Fr *Deux-Ponts* (dŭpō'), city (pop 23,099), Rhenish Palatinate, W Germany, on the border of the Saar Territory The destruction of 80 percent of its buildings in the Second World War severely curtailed its industries (metal, leather, and textile manufactures) First mentioned in 1170, Zweibrücken was chartered in 1352 and passed (1385) to the PALATINATE branch of the Bavarian house of Wittelsbach In 1410 it became the seat of the counts (later dukes) palatine of Zweibrücken under a cadet line of the Palatinate branch Charles X of Sweden was the nephew of John II, duke palatine of Zweibrücken, his son, Charles XI of Sweden, inherited Zweibrücken in 1681, and the duchy remained in personal union with Sweden until the death (1718) of Charles XII The Zweibrücken line continued in Sweden until the death (1741) of Charles XII's sister, Ulrica Leonora, and in Zweibrücken until 1733, when the related Palatinate-Birkenfeld line acceded On the death (1799) of Elector Charles Theodore of Bavaria, who had reunited all the Wittelsbach lands except Zweibrücken, the duke palatine of Zweibrücken, his next of kin, succeeded him as elector of Bavaria, thus completing the reunion of the family territories, as Maximilian I became (1806) the first king of Bavaria In the meantime, however, the duchy of Zweibrücken itself had been annexed (1797) to France It was restored to Bavaria at the Congress of Vienna (1814–15) and since then has shared the history of the Rhenish Palatinate

Zweig, Arnold (ärnôlt tsvīkh'), 1887–, Austrian novelist His best-known work is the great war novel, *Der Streit um den Sergeanten Grischa* (1927, Eng tr , *The Case of Sergeant Grischa*, 1927) A Zionist, he was denationalized by the Nazis and his property was confiscated He now lives and works in Palestine, the setting of his novel *De Vriendt keert heim* (1933, Eng tr , *De Vriendt Goes Home*, 1933) His best writing is characterized by a broad humanity, realism, and an ironic style Among other works are the short stories *Claudia* (1912, Eng tr , 1930) and the novels *Erziehung vor Verdun* (1935, Eng tr , *Education before Verdun*, 1936), and *The Axe of Wandsbek* (1946, in Eng tr only)

Zweig, Stefan (shtĕf'ăn), 1881–1942, Austrian biographer, poet, dramatist, and novelist Born in Vienna of a well-to-do Jewish family, he was part of the literary circle of that highly civilized city until the First World War shocked him out of his comfortable life His poetic drama *Jeremias* (1917; produced in New York, 1939, by the Theatre Guild) was passionately anti-war After the war he lived in Salzburg until driven into exile by the Nazis in 1933 Although his first published works had been poetry, he is best known for the long list of biographies written in his maturity. The subjects of these include his friend Romain Rolland (1921), Marie Antoinette (1932), Erasmus (1934), Mary Stuart (1935), Magellan (1938), and Balzac (posthumously pub 1946) Among his works of fiction are *Ungeduld des Herzens* (1938; Eng tr., *Beware of Pity*, 1939) and *Schachnovelle* (1944, Eng tr , *The Royal Game*, 1944) He and his second wife committed suicide in Brazil See his autobiography, *The World of Yesterday* (1943), biography by his first wife, Friderike Zweig (1946)

Zwickau (tsvĭ'kou), city (pop 122,862), Saxony, E Germany, S of Leipzig, in an important coal-mining region It is a major industrial center, producing textiles, machinery, automobiles, chemicals, mining equipment, pianos, and paper Chartered in 1212, it was a free imperial city from 1290 to 1323, when it passed to the margraves of Meissen Zwickau was (1520–23) the center of the Anabaptist movement of Thomas MÜNZER It was repeatedly plundered in the Thirty Years War Among its notable buildings are its 15th-century basilica, the Church of St Catherine (14th cent), and the city hall (15th cent) Robert Schumann was born here.

Zwicky, Fritz (tsvĭ'kē), 1898–, Swiss-American astrophysicist, b Bulgaria, educated at Zurich Associated with the California Institute of Technology since his arrival in the United States in 1925, he became professor of astrophysics in 1942 The discoverer of a number of supernovae and novae, he suggested an explanation for their occurrence He is known also for his study of jet propulsion, cosmic rays, crystals, and slow electrons and ions in gases

Zwingli, Huldreich or **Ulrich** (hōōl'drĭkh tsvĭng'lē, ōōl'rĭkh), 1484–1531, Swiss Protestant reformer Zwingli received a strong classical education, considerably influenced by the humanists, Erasmus and Mirandola His devotion to learning and his passion for individual freedom, developed through contact with the self-governing traditions of the Swiss cantons, were strong determining factors in his life In 1506 he was ordained and appointed pastor of Glarus While still accepting a stipend from the Church, he became people's vicar at Einsiedeln in 1515 Zwingli was deeply imbued with the Swiss desire for greater independence, an aim jeopardized by the conflicting claims for alliance presented by France and the pope At this time and throughout his life Zwingli believed it a pastoral duty to give guidance in political matters and instruction in morality to the entire Christian congregation As authority for the discharge of these duties he accepted the Bible and not the Church When he became vicar at the Grossmünster of Zurich in 1518 he found the democratic institutions of the community well adapted to the promotion of his beliefs In 1519 he successfully opposed the dispensing of indulgences in the city and soon was preaching against clerical celibacy, monasticism, and many other church practices With his expression of opposition to Lenten observances in 1522 the Zwinglian form of the Reformation was well under way, and with the publication of *Archeteles* in the same year, he made clear his belief in freedom from the control of the Catholic Church Opposed by church authorities, he was supported by the civil powers, and it was decided to settle the question at a public disputation before the general council at Zurich in 1523 Zwingli presented his doctrines in 67 theses He argued for acceptance of the Bible as the sole basis of truth and the denial of all authority and practices contrary to, or not included in, the Scriptures The council publicly approved the Zwinglian position and instructed all priests in the canton to follow his doctrine By 1525 the break with the old order was well advanced images and pictures had been removed from the churches, the language and services were simplified, the Lord's Supper was observed as a commemorative feast and not a sacrament, convents were abolished, and programs of educational and social reform were initiated The reformer had already publicly celebrated his marriage, thus crowning his arguments against the enforced celibacy of the clergy Doctrinal disputes, for some time focused on conflicting interpretations of the Eucharist (see LORD'S SUPPER), had divided the Lutheran Protestants and the Zwinglian adherents of S Germany and German Switzerland In 1529 Philip of Hesse endeavored to achieve harmony within the Protestant ranks by calling together the disputants in the Marburg Colloquy Zwingli and OECOLAMPADIUS, Luther and MELANCHTHON, were present, but no agreement was reached As Calvinism gradually superseded Zwinglian doctrine, the same general division held Within Switzerland dissension was severe Zwingli had in view a church founded upon the republican basis of the congregation, and his plans included political reform to establish Protestantism in Europe His influence had been used in persuading Bern to follow Zurich in revolting from Rome But the Forest Cantons of Switzerland had remained true to the Church and had formed an alliance to resist the Reformation After a truce in 1529, Zurich imposed a trade embargo on those cantons The can-

tons retaliated with war, and at the battle of Kappel, Zwingli was killed. His body was mutilated as that of a traitor. It was partly on the groundwork laid by Zwingli that Jean Calvin built a comprehensive theological system, and the Consensus Tigurinus (1549) marks the departure of the Swiss Reformation from Zwinglian to Calvinist doctrine. Among Zwingli's important colleagues was BULLINGER, his son-in-law and successor, who aided in formulating Zwingli's theological teachings in the First Helvetic Confession (1536). See R. E. Davis, *Problem of Authority in the Continental Reformers* (1946).

Zwolle (zwŏ'lə), municipality (pop. 46,845), capital of Overijssel prov., N central Netherlands. It produces chemicals, clothing, and metal goods. An old town, Zwolle has a 15th-century city hall and the fine 15th-century Gothic Church of St. Michael. Near by is the 14th-century monastery where Thomas à Kempis lived.

Zwolle (zwŏ'lē), town (pop. 1,500), W La., near the Texas line, settled 1896. Since 1928 the oil industry has replaced lumber in importance.

Zworykin, Vladimir Kosma (zwŏ'rĭkĭn), 1889–, American physicist, b. Russia, educated in Russia, at the Collège de France, and at the Univ. of Pittsburgh (Ph.D., 1926). He was naturalized in 1924. On the staff of the Radio Corp. of America after 1929, he became vice president and technical consultant of the corporation in 1947. His important researches in electronics enabled him to develop with his co-workers the Iconoscope, or electric eye, of the television apparatus and the Kinescope, a cathode-ray tube, in the television receiving apparatus. A group under his direction produced an electron microscope (1939), which has since been improved. Zworykin is co-author of *Photocells and Their Application* (1930, rev. ed., 1934), *Television* (1940), *Electron Optics and the Electron Microscope* (1945), and *Photoelectricity and Its Application* (1949).

Zyrardow, Pol. *Żyrardów* (zhĭrär'dŏŏf), city (pop. 20,186), central Poland, SW of Warsaw. It is a center of the Polish textile industry.

Zyrians: see KOMI.

1953 SUPPLEMENT TO THE COLUMBIA ENCYCLOPEDIA

EACH YEAR brings many changes in the quick pace of modern events Therefore it is both convenient and useful to improve any general encyclopedia every few years with supplementary material This present supplement takes up the account of events from the time that *The Columbia Encyclopedia*, Second Edition, had to leave off as it went to press in May, 1950, and carries them through July 2, 1953

The Second Edition appeared in 1950, but when it was put into the hands of the printer the warfare in Korea had not yet begun That notable event has been but one of many important happenings in the intervening time In this Supplement we have attempted to sketch the course of history Many of the notable people given space in the Encyclopedia have died or have gained new importance We here note all such deaths and chronicle, in so far as space will permit, the progress of men into greater positions—or, in a few cases, decline into lesser positions New figures have arisen in science, politics, the military life, literature, and music For them new short biographies appear

The appearance of the 1950 Census of the United States supplied new population figures to replace those given in the Second Edition We have therefore appended a list of the new figures in a separate section of this Supplement

Material in the Encyclopedia is not repeated in the Supplement Pronunciations given for new entries here follow the system demonstrated on the page facing page one of the Encyclopedia Words in SMALL CAPITALS are cross-references to other articles in the Supplement (not to articles in the main book)

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Aanrud, Hans, d 1953

Abderhalden, Emil, d 1950

Abdullah, king of Jordan, was assassinated in 1951 He was succeeded by TALAL

Acheson, Dean Gooderham, was, as Secretary of State, much attacked by members of Congress U S policy in the Korean war, particularly the attitude toward Formosa, aroused much opposition In addition, there were the questions of unrest in the Middle East, East-West relations in Berlin, and other problems of relations with the Soviet Union Acheson was criticized for his earlier friendly attitude toward Alger Hiss and was attacked for his handling of the loyalty and security policy of the Dept of State In his term he aided the establishment of the North Atlantic Treaty Organization and the security pact contracted with Australia and New Zealand In 1953 he was succeeded by John Foster Dulles

Adamic, Louis, d 1951 He was found shot through the head in his farmhouse, which had been set afire His death was officially declared suicide

Adenauer, Konrad (kōn'rät ä'dunou"ur), 1876 , German statesman A member of the Catholic Center party, he was dismissed as lord mayor of Cologne by Hitler in 1933 and was twice imprisoned by the Nazi regime After the Second World War he founded (1945) the Christian Democratic Union He became chancellor of the [West] German Federal Republic in 1949 and in 1951 also became minister of foreign affairs A foremost advocate of West European cooperation, he became a leading figure in the EUROPEAN COAL AND STEEL COMMUNITY and secured German ratification of the EUROPEAN DEFENSE COMMUNITY treaty and the Allied peace contract with West Germany in 1953 He visited the United States in April, 1953

Afghanistan Tension between Afghanistan and Pakistan over the Pushtunistan question continued in the years after 1950 In 1952, King Zahir, while reiterating a hope for friendly relations with other countries, continued support of Pushtunistan independence Relations with India continued good A four-year trade agreement with the USSR was signed in 1950, and in 1951 a Point Four aid agreement was concluded with the United States

Aiken, Conrad A collection of his short stories was published in 1950, and *Ushant an Essay*, autobiographical in character, appeared in 1952

Aitken, Robert Grant, d 1951

Akihito (äkē'hētō), 1933-, Japanese prince, son of Emperor Hirohito He was officially named heir apparent to the Japanese throne in Nov , 1952 In 1953 he sailed to England, where he attended the coronation of Queen Elizabeth II On his way there he went through Canada and visited New York city

Alda, Frances, d 1952

Alder, Kurt (äl'dur), 1902- German chemist, educated at Berlin and at Kiel He was a member of the laboratory research staff of the Bayer Dye Works (1936–40), in 1940 he became professor of chemistry and director of the chemical institute of the Univ of Cologne The 1950 Nobel Prize in Chemistry was awarded jointly to Alder and to Otto Diels for their discovery of a process for the synthetic production of complex chemical compounds

Alessandri, Arturo, d 1950

Altamira y Crevea, Rafaël, d. 1951

Anglo-Egyptian Sudan. The quarrel between Great Britain and Egypt over the future of the Sudan grew sharper after May, 1950, and Sudanese desire for independence became more vocal On Oct 22, 1952, the British voted to give the Sudan a constitution permitting local self-government A pact between the Sudan and Egypt (Oct 29, 1952) set the date Dec. 31, 1955, as the final one for the Sudan to decide whether to become independent or join Egypt This was followed by an agreement (Feb 12, 1953) between Great Britain and Egypt providing that the Sudan should decide its own future within three years Naguib of Egypt declared, however, that he would repudiate this pact if the Sudanese were to join the British Commonwealth

Annapurna (ŭn-näpōōr'nu) massif of central Nepal Himalayas, N central Nepal, at 28°35'N 84°E It is 35 mi long and rises in the west to Annapurna I (26,502 ft) and in the east to Annapurna II (26,041 ft) Annapurna I was first climbed in 1950 by the French expedition led by Maurice Herzog Herzog's book, *Annapurna* (1953, Eng tr), gives the altitude as 26,493 ft , but the figure 26,502 is based on the use of a more exact mutual conversion factor

Arab League The Arab collective security pact prepared in 1950 had by 1952 been ratified by all members Jordan's treaty negotiations (1950) with Israel ended under threats of expulsion from the league, which gained promises from all members to make no separate agreements with Israel The league's official attitude toward Jordan's annexation of Arab Palestine was that the territory was being held by Jordan only pending final determination of its status Wariness of the expansionist ambitions of Jordan relaxed somewhat with the death of Abdullah In Feb , 1951, plans for joint foreign policy, national defense, and economic and resource policies were proposed Economic rather than military pressure was exerted upon Israel by league members, although there were skirmishes, particularly along the Israel-Syria border The Arab League expressed its support of the UN Charter In May, 1953, Libya joined the league as its eighth member, and an economic friendship pact was signed by all the eight members

Argentina continued after 1950 under the domination of Juan Domingo Perón, who was reelected president (for six-year term) in 1951 Opposition newspapers (notably *La Prensa*) were made powerless in 1951 Chaco province was renamed Presidente Perón and both La Pampa province and La Plata city were renamed Eva Perón in 1952

atomic energy The United States, Canada, and Great Britain agreed (Nov , 1950) to make available to the public all information concerning the construction and operation of low-power nuclear reactors In Jan , 1952, the United Nations General Assembly, after vigorous debate, adopted a resolution to combine the United Nations Atomic Energy Commission and the Commission for Conventional Disarmament to form the United Nations Disarmament Commission with representatives of the 11 nations on the Security Council and Canada Under the sponsorship of UNESCO, representatives of 12 European states met at Geneva (Feb , 1952) to consider an agreement for bringing about international cooperation in nuclear research The Council of Representatives (with headquarters in Geneva), comprised of delegates from the states signing the agreement, was commissioned to report on its work after 18 months, one ultimate goal is the creation of an international nuclear research laboratory In the United States the National Security Resources Board submitted a plan for civil defense, the Civil Defense Administration, first created (Dec , 1950) by executive order within the Office for Emergency Management, was later established as an independent government agency Its functions include studies of methods of protection against and treatment of casualties caused by atomic and other weapons Research in nuclear physics progressed in several directions Early in 1950 the atomic energy program was recast in line with President Truman's directive to continue work on all forms of weapons including the hydrogen bomb, some of the tests made near Eniwetok atoll were said to have advanced research in thermonuclear weapons and therefore probably included testing of hydrogen-bomb materials Other atomic tests were conducted at Frenchman's Flat and Yucca Flat, Nevada, in 1951 and 1952 The United States announced the development, in 1951, of a tactical atomic bomb, a compact weapon for battlefield use against ground troops, and, in 1952, of a massive (85-ton) but maneuverable artillery weapon Late in 1951 the U S Atomic Energy Commission announced the first successful production of electric power from atomic energy Construction of the first atomic-powered submarine, the *Nautilus*, was under way by 1952 High-energy accelerators—cyclotrons, synchrotrons, and betatrons—were further developed in new designs and with increased power for accelerating particles to be used in bombarding atoms, by 1952 the billion-volt acceleration range had been reached

Attlee, Clement Richard, resigned as British prime minister as a result of the defeat of the Labour party in the elections of Oct 1951 He became the leader of the opposition though his position as party head was challenged by Aneurin Bevan

Austin, Warren Robinson, retired as permanent U S representative to the United Nations in Jan 1953, and was succeeded by Henry Cabot Lodge Jr

Australia Economic problems occupied much attention in Australia after 1950 The growth of inflation caused much uneasiness, but deflationary measures caused some unpopularity for the Liberal government of Robert Gordon Menzies, giving the Labour party hope of gaining the 1953 elections The fall in the wool market in 1952 caused some hardship and demonstrated anew Australia's continuing dependence on cattle breeding and agriculture despite the growth of industry The discovery of uranium deposits had already made Australia conscious of atomic-energy possibilities long before a commission was appointed in 1952 This new interest was emphasized when atomic explosions were held by Great Britain at an island off the Australian west coast in Oct , 1952 Australia continued its close connection with the Commonwealth of Nations and rejoiced at the coronation of Elizabeth II as "queen of Australia" June 2, 1953 For defense matters and development, however, Australia drew closer to the United States The members of the Pacific pact organization (ANZUS, for Australia, New Zealand, and the United States) had its first meeting in Aug , 1952

Austria Repeated attempts by the Western powers to reach agreement with the USSR on a peace treaty with Austria had yielded no result as of July 1 1953 Austria continued under four-power occupation and under a Catholic-Socialist coalition cabinet In June, 1953, the USSR resumed full diplomatic relations with Austria and eased its occupation policy

aviation see JET PROPULSION

Azuela, Mariano, d 1952

Bankhead, Tallulah Brockman, 1903-, American actress b Huntsville, Ala , daughter of William Brockman Bankhead She appeared on the stage in 1918, and from 1923 to 1930 she was highly successful in London In New York her greatest triumphs were in such plays as *The Little Foxes* and *The Skin of Our Teeth* She also appeared in the movies (e g , *Lifeboat*, 1944) and on radio and television Her beauty and wit, as well as her uninhibited behavior, have created a legend both on and off the stage In 1952 her autobiography appeared, entitled, appropriately enough, *Tallulah*

Barker, Sir Herbert Atkinson, d 1950

Barkley, Alben William. In 1951 he completed 38 years of continuous service in the U S Congress A candidate for the Democratic presidential nomination in 1952, he withdrew when labor leaders refused to endorse him His term as Vice President

of the United States expired in Jan , 1953

baseball The New York Yankees continued to dominate the major leagues, winning for the fourth consecutive time in 1952 both the American League pennant and the world series National League champions defeated in the world series by the Yankees were the Brooklyn Dodgers (1949 and 1952), the Philadelphia Phillies (1950), and the New York Giants (1951) In Sept , 1951, major league clubowners elected Ford C Frick, president of the National League, to succeed Albert B (Happy) Chandler as commissioner of baseball For the first time in 50 years a major-league franchise was shifted when in March, 1953, the Boston Braves, with the consent of the other National League teams moved to Milwaukee American League clubowners turned down the petition of the St Louis Browns to move to Baltimore

Baudouin (bōdōăN') 1930 , king of the Belgians (1951–) He succeeded on the abdication of his father Leopold III

Bauer, Harold, d 1951

Baxter, Gregory Paul, d 1953

Belgian Congo In 1950 a ten-year plan for economic and social development of the colony was put into force

Belgium King Leopold III abdicated in 1951 in favor of his son, King Baudouin In 1952 Belgium became a charter member of the EUROPEAN COAL AND STEEL COMMUNITY

Benelux, customs union of Belgium, the Netherlands and Luxembourg effective since 1948

Benét, William Rose, d 1950

Ben-Gurion, David (bĕn-gōō'rĭŏn) 1886– Israeli statesman, first prime minister of Israel (1948–), b Poland Fleeing to Palestine after pogroms of 1905, he was long an active Zionist and was pro-British in the First World War, in which he helped to organize the Jewish Legion

Benson, Ezra Taft, 1899–, U S Secretary of Agriculture (1953–), b Whitney, Idaho, grad Brigham Young Univ , M S Iowa State College 1927 He was an extension economist and marketing specialist at the State University of Iowa (1930–38) and executive secretary of the National Council of Farmer Cooperatives (1939–44) In 1943 he was appointed a member of the Quorum of Twelve Apostles, governing the Mormon Church

Benson, Frank Weston, d 1951

Ben-Zvi, Itzhak (ĭtsh'hăk bĕn-tsvē') 1884 Israeli statesman and Orientalist b Russia An active Zionist, he emigrated to Palestine in 1907 and later became a leader of the Mapai (Labor) party He succeeded Chaim Weizmann and became second president of Israel in 1952

Beria, Lavrenti Pavlovich (bĕr'ĭ-ă), 1899?–, Russian Communist leader, b Georgia In charge of the secret police from 1938, vice premier from 1941, and a member of the Politburo (after 1952, presidium) of the central committee of the Communist party, he became vice premier and minister of internal affairs in the Malenkov cabinet after Stalin's death but was in July, 1953, ousted from office and arrested

berkelium, chemical element (symbol=Bk), of atomic number 97 Announcement was made (Jan , 1950) of its production in the cyclotron at the Univ of California as a result of irradiating with helium ions an isotope of americium

Berlin, Irving His musical comedy *Call Me Madam* (1950) was highly successful both on stage and as a moving picture

Bernstein, Leonard (bûrnstĭn'), 1918 , American composer and conductor, b Lawrence, Mass , grad Harvard, 1939, and Curtis Institute of Music 1941 He has been highly successful in several fields of musical composition the Jeremiah Symphony (1942), the ballet *Fancy Free* (1944), and the musical comedies *On the Town* (1945) and *Wonderful Town* (1953) Among American orchestras he has conducted are the New York Philharmonic and the Boston and Pittsburgh symphony orchestras

Bethlen, Count Stephen, was unofficially reported to have died in a Russian prison in 1950

Bevan, Aneurin, increased his strength in the British Labour party by opposing the party's policy of advocating defense spending and British cooperation with the United States in foreign policy Bevan favored instead coming to terms with the USSR and devoting primary attention to economic and social ills in Great Britain

Bevin, Ernest, d 1951 Because of ill-health he resigned as foreign minister in March, 1951, and became lord privy seal Herbert Morrison succeeded him as foreign minister

Birmingham, George A see HANNAY, JAMES OWEN

Bjerknes, Vilhelm Friman Koren, d 1951.

Black, Hugh, d 1953

Blackwell, Alice Stone, d 1950

Blackwood, Algernon, d 1951

Bloch, Felix, 1905 , American physicist, b Switzerland, grad Federal Technical Institute in Zurich, 1927, Ph D Univ of Leipzig, 1928 He lectured on theoretical physics at Leipzig (1932) After coming to the United States he was associate professor at Stanford Univ from 1936 In 1939 he was naturalized From 1942 to 1945 he was engaged in research related to the war effort The 1952 Nobel Prize in Physics was awarded jointly to Bloch and E M Purcell for their independent development of the nuclear resonance or nuclear induction method of measuring magnetic fields of atomic nuclei.

Bolton, Herbert Eugene, d 1953

Bondfield, Margaret Grace, d 1953.

Bonsels, Waldemar, d 1952

Booth, Evangeline Cory, d 1950

Booth, Shirley, 1907 , American actress, b New York city Her real name is Thelma Booth Ford Experience in stock companies preceded her first appearance on Broadway in 1925 In 1935 she won great success in *Three Men on a Horse* An actress of great range, she has had opportunity to show her abilities in comedy, drama, and musical comedy in such productions as *My Sister Eileen*, *The Philadelphia Story*, *Tomorrow the World*, *A Tree Grows in Brooklyn*, and *The Time of the Cuckoo* Her part in *Come Back, Little Sheba* in 1950 brought her acclaim and awards In 1952 she received the best-actress award of the Academy of Motion Picture Arts and Sciences for the film version of that play

Borgese, Giuseppe Antonio, d 1952, in Italy, to which he had returned in 1948

Bourassa, Henri, d 1952

Bowles, Chester Bliss, was U S Ambassador to India (1951–53)

boxing After Joe Louis retired (March 1, 1949) *Ezzard Charles* defeated Joe Wolcott (real name Arnold Cream) on June 22, 1949, and was recognized as world heavyweight champion by the National Boxing Association Charles then outpointed (Sept 27 1950) Louis, who came out of retirement, to win universal recognition as champion Charles successfully defended his title (1950–51) against Nick Barone, Lee Oma Wolcott, and light heavyweight champion Joey Maxim before Wolcott knocked him out in the seventh round on July 18, 1951 Wolcott, the oldest man ever to hold the title, defeated Charles again, on points (June 5, 1952), but lost the championship to Rocky MARCIANO by a knockout in the 13th round on Sept 23, 1952 The hard-hitting Marciano knocked out Wolcott again on May 15, 1953, in the first round Outside the heavyweight ranks, the most prominent boxer was RAY ROBINSON

Bradley, Omar Nelson His book, *A Soldier's Story* (1951), is an account of his experiences in Africa and Europe in the Second World War It was announced that he was to be succeeded in Aug , 1953, as chairman of the joint chiefs of staff by Arthur William Radford

Branson, Edwin Bayer, d 1950

Brazil Getulio Vargas returned to power after his election as president in 1951

Bridges, Harry In June, 1953, the U S Supreme Court dismissed the indictment for perjury against Bridges, thus voiding his prison sentence and absolving him of the charges on which he had been indicted The court found that the statute of limitations applicable to the case had run out and that Bridges's indictment had thus come too late

Britten, Benjamin His later operas include *Billy Budd* (1951) and *Gloriana* (1954)

Brockway, Howard, d 1951

Brownell, Herbert, Jr , 1904–, U S Attorney General (1953), b Peru, Nebr , grad Univ of Nebraska, 1924, LL B Yale 1927 Admitted to the bar in 1927, he practiced law in New York city He managed Thomas E Dewey's campaigns for the governorship of New York in 1942 and for the Presidency in 1944 and 1948 From 1944 to 1946 he was chairman of the Republican National Committee He played an important part in securing the nomination and election of President Dwight D Eisenhower in 1952 and was later appointed to a cabinet post

Buber, Martin (bōō'bĕr), 1878–, Jewish philosopher, b Vienna His mystic and theological writings, many of them on the teachings of the Hasidim, have had influence both in and outside Judaism A militant Zionist, he became a professor at the Hebrew university in Jerusalem in 1938 His *Good and Evil* was published in the United States in 1953

Bulganin, Nikolai Aleksandrovich (nyĭkŭlī' ŭlyĭksăn'drŭvĭch bōōlgä'nĭn), 1895?–, Russian Communist leader After playing a vital part in the defense of Moscow (1941) in the Second World War, he was made a marshal He was minister of the armed forces (1947–49), became vice premier in 1949, and in 1953 entered the Malenkov cabinet as defense minister and vice premier

Bunche, Ralph Johnson, was awarded the Nobel Peace Prize in 1950

Burgess, Gelett, d 1951

Burma, Union of Troubles with Communist rebels and Karen nationalists continued to plague Burma after 1950 Campaigns were undertaken against the Communists with some success in 1951 and 1952, but the group of rebels in the Shan states remained powerful in 1953 The government made attempts to placate the Karen insurgents, and in 1952 an autonomous Karen state was set up, but the plan was rejected by the Karens as insufficient There was also some trouble with Moslem insurrectionists who wished independence or union with a Moslem state, but this was minor. More serious was the presence of the Chinese Nationalist 13th Army Group, which was forced across the Yunnan border by the Communist victory in 1950 and continued fighting in the border strip, making forays across into China in 1951 Burma was particularly anxious to be rid of this group because of the resentment of Red China Finally Burma referred the matter to the United Nations, which in April, 1953, requested the Nationalists either to leave Burma or be interned By early July they had done neither, but it was expected that they would be removed to Formosa The transition period for the 1947 constitution ended with the elections of 1951–52 In the parliament the Anti-Fascist People's Freedom League was triumphant Ba U was chosen by the parliament to be first president of Burma (1952).

Busch, Adolf, d 1952

Busch, Fritz, d 1951

Bustamante, Antonio Sánchez de, d 1951

Byrnes, James Francis, was elected governor of South Carolina in 1950

Cahan, Abraham, d 1951

californium, chemical element (symbol=Cf) of atomic number 98, first produced (1950) in the cyclotron at the Univ of California by bombarding an isotope of the element curium with alpha particles It is highly radioactive, having a half life of 45 minutes

Cambodia In 1952, King Norodom Sihanouk, with French permission, dissolved the cabinet and took over the government himself The considerable enmity this aroused in Cambodia was dispelled when the king took a very strong stand for Cambodian independence In 1953 he underwent a voluntary week-long exile in Thailand as protest against the French Returning home, he seized the capital and demanded full independence, threatening hostile action if it were not granted The situation remained unsolved as of July 1, 1953 An added concern of Norodom's was the threatening position of Communist troops, who had recently invaded neighboring towns

Canada Important new sources of uranium were discovered in 1951 and 1952, and further moves toward exploitation of the vast iron deposits in the Ungava region of Quebec and Labrador were undertaken Western Canada's oil fields rapidly expanding from Alberta into other provinces, gave indication of becoming a major petroleum area of the world, an oil pipeline which will ultimately extend from Edmonton to the Great Lakes was under construction in 1953 In 1952 an international joint commission authorized the United States and Canada to build power projects on the St Lawrence, but as of May, 1953, the United States had not made arrangements for its part of the construction Canada's role in the world community was symbolized by the installation (1952) of Lester B Pearson, Canadian minister of external affairs and chairman (1951–52) of NATO, as president of the General Assembly of the United Nations Vincent Massey took office as governor general of Canada in 1952, succeeding Earl Alexander He was the first Canadian to be appointed to this post

Capote, Truman (kăpō'tĭ), 1924–, American author, b New Orleans His first novel, *Other Voices, Other Rooms* (1948), attracted attention both for its subject matter and its delicate style His later works include *Tree of Night* (1949), a collection of short stories, *Local Color* (1950) a group of travel pieces, and *The Grass Harp* (1951), a novel (later adapted into a play)

Capper, Arthur, d 1951

Carmona, Antonio Oscar de Fragoso, d 1951 Francisco Higino Craveiro Lopes was elected to succeed him as president of Portugal

Carol II, d 1953 in exile at Estoril, Portugal

Carpenter, John Alden, d 1951

Cary, Joyce (Arthur Joyce Lunel Cary), 1888–, English author His novels, notable for brilliant characterization, include the comic trilogy made up of *Herself Surprised* (1941), *To Be a Pilgrim* (1942), and *The Horse's Mouth* (1944)

Casals, Pablo In 1950 he emerged from retirement to play and direct at the Prades music festivals in S France

Central America. The Organization of Central American States was formed in 1951 to help solve common problems

Chernov, Viktor, d 1952, in exile in New York city.

Chiang Kai-shek Having resumed the presidency of the Chinese Nationalist forces, he established firm leadership (amounting to dictatorship) in the Kuomintang party, the government, and the armed forces on Formosa He reorganized all of them, with U S aid (though some in the United States questioned the wisdom of that aid) He repeatedly promised that he would eventually lead the Nationalist armies back to conquer the mainland He also promised that in case of victory he would retain the land reforms inaugurated by the Communists in China He himself instituted land reforms on Formosa and also initiated a few limited democratic political reforms

Chile. Carlos Ibáñez del Campos was inaugurated president in 1952

China. The Communist forces had before the end of 1950 established themselves firmly over the entire Chinese mainland and on many of the islands off the coast. FORMOSA remained in Nationalist hands, and there Nationalist armed forces were being massed and trained. No major conflicts between Nationalists and Communists took place, however, save for unsuccessful Communist attacks on the small Nationalist-held islands of Quemoy and Ta Chen. Guerrillas continued to combat the Communists, and a Nationalist army group driven into Burma by the conquest in 1950 made forays over the Yunnan border, while Burma tried vainly to dislodge the force. At the end of 1950 Chinese Communist forces entered TIBET. Chinese "volunteers" were already fighting then for the North Koreans in the warfare in KOREA, and Chinese forces there were greatly increased as the struggle went on to July, 1953. Supposedly, losses in this war prevented full-scale Chinese intervention elsewhere (e.g., Indo-China). Though the Communist government had been recognized by Great Britain and India, attempts in 1950 to have the Nationalist representatives at the United Nations replaced by Communist representatives failed in the face of opposition from the United States and other Western Powers, and after the Chinese entered the Korean war these attempts halted. Of internal conditions in China not too much was known to the outside world since only meager information was released. The land-reform program and nationalization were both forwarded on a wide scale, with considerable hardship for many individuals. An organization of the Chinese abroad formed a group to protest the mistreatment of then families in China and had a conference in Formosa in 1952. A five-year plan on the Russian model was announced as going into force early in 1953. Relations with the USSR were very close, and Russia returned the Chinese-Changchun Railway and Dairen to China early in 1953, Port Arthur was continued under joint occupation until Red China and the USSR should sign a peace treaty with Japan. Neither the Chinese Communists nor the Nationalists were represented at the peace conference in San Francisco (1951), but Japan later signed a separate treaty with the Nationalists.

Christy, Howard Chandler, d. 1952.

Churchill, Sir Winston Leonard Spencer, became British prime minister again after the Conservative victory in the general elections of Oct., 1951. The attention of his government was riveted on improvement of economic conditions. In foreign affairs, with Anthony Eden as foreign minister, British policy stressed friendship with the United States and ironing out of difficulties in the Commonwealth of Nations and of troubles with Iran and Egypt. He was knighted in 1953. On June 27, 1953, it was announced that the aging prime minister would be compelled to rest for a month to regain his health. Two more volumes were added to his *Second World War—The Hinge of Fate* (1950) and *Closing the Ring* (1951). A biography by Robert Lewis Taylor appeared in 1952.

Clark, Mark Wayne. His memoirs of the Second World War, *Calculated Risk*, were published in 1950. In 1952 he succeeded Matthew B. Ridgway as supreme commander of United Nations forces in Korea and also as commander of U.S. forces in the Far East.

Cockcroft, Sir John Douglas, 1897–, British physicist, educated at the Univ. of Manchester and at St. John's College, Cambridge. He was a fellow of St. John's College (1928–46) and professor of natural philosophy at Cambridge (1939–46). After serving (1941–44) as chief superintendent of the Air Defence Research and Development Establishment, he directed (1944–46) the atomic energy division of the National Research Council of Canada and became (1946) the director of the British Atomic Energy Research Establishment. The 1951 Nobel Prize in Physics was awarded jointly to Cockcroft and E. T. S. Walton for their pioneer work in transmuting atomic nuclei by bombarding elements with artificially accelerated atomic particles. He was knighted in 1948.

Collins, Edward Trowbridge, d. 1951.

Conklin, Edwin Grant, d. 1952.

Connolly, Maureen, 1934–, American tennis player, b. San Diego, Calif. She took her first tennis lessons when she was 10 and later developed rapidly under the direction of Eleanor Tennant, famous women's coach. Entering serious tournament competition in 1949, she won a host of championships, including the national junior singles (1949, 1950). A member of the victorious U.S. Wightman Cup teams in 1951 and 1952, she defeated Shirley Fry to win the U.S. national singles at Forest Hills in 1951, the second youngest woman to take the title (May Sutton, the 1904 champion, was younger). Maureen won the U.S. championship again in 1952, the Wimbledon championship (1952, 1953), and the Australian championship (1953). Considered the greatest woman tennis player since Helen Wills, she was named woman athlete of the year by sports-writers in both 1951 and 1952.

Corbett, Gail Sherman, d. 1952.

Coxey, Jacob Sechler, d. 1951.

Cripps, Sir Stafford, d. 1952. Because of ill-health he resigned in Oct., 1950, as chancellor of the exchequer.

Croce, Benedetto, d. 1952.

Cuba. Fulgencio Batista y Zaldívar returned to power by a coup in 1952 and later the same year was elected president.

Czechoslovakia continued after 1950 under its Communist regime. Late in 1952 several high government and party officials were executed in a sensational "purge," which had strong anti-Semitic overtones. Pres. Klement Gottwald died suddenly in 1953 and was succeeded in office by Antonin Zapotocky.

Dacron, trade name for a synthetic textile fiber having notable resilience and strength and wrinkle-resistant and shrinkage-resistant qualities. It can be used alone or blended with other fibers.

Dakin, Henry Drysdale, d. 1952.

Damrosch, Walter Johannes, d. 1950.

Davidson, Jo, d. 1952.

Dawes, Charles Gates, d. 1951.

Day, Clive, d. 1951.

Day, Edmund Ezra, d. 1951.

Defense Mobilization, Office of (ODM), created by executive order of President Harry S. Truman in Dec., 1950. Charles Edward Wilson was appointed first director. He was empowered to direct, control, and coordinate all mobilization activities of the executive branch of the government, including jurisdiction over production, procurement, manpower, stabilization, and transport activities. The aim of ODM was essentially that of making policy, the Defense Production Administration (DPA) and the Economic Stabilization Agency (ESA) were the principal agencies empowered to carry out the policies formulated by the director. In March, 1952, Wilson resigned as the result of a disagreement with President Truman over the proposed settlement of a steel-wage dispute. John R. Steelman was named acting director and was replaced in September by Henry H. Fowler. Arthur S. Flemming became head under the Eisenhower administration in 1953. In Feb., 1953, President Eisenhower merged ODM and DPA.

Democratic party. The Republican victory under Dwight D. Eisenhower in 1952 ended the 20-year rule of the Democratic party, and the break in the voting of the once "solid South" seemed to forecast a two-party system there. Adlai E. Stevenson was the Democratic presidential candidate in 1952, after his defeat he remained ostensibly the leader of the party.

Denmark. In the general elections of 1950 the Social Democrats suffered a severe setback. An Agrarian-Conservative coalition cabinet took over. Important changes in the Danish constitution were ratified by popular referendum in 1953. The succession to the throne was opened to females. The Rigsdag was abolished and its lower chamber, the Folketing, became the sole parliamentary body. Greenland received the status of a member of the commonwealth. Further, the constitution authorizes the transfer of certain sovereign functions to international authorities subject to approval by five sixths of the Folketing. As a member of the North Atlantic Treaty Organization (since 1949), Denmark received economic aid from the United States. See also GREENLAND.

Devonshire, Edward William Spencer Cavendish, 10th duke of, d. 1950.

Dewey, John, d. 1952.

Dewey, Thomas Edmund, was reelected governor of New York in 1950. His book, *Journey to the Far Pacific*, observations of his tour in the Far East in 1951, was published in 1952.

Diels, Otto, 1876–, German chemist. He taught chemistry at the Univ. of Kiel from 1916, becoming emeritus professor in 1945. The 1950 Nobel Prize in Chemistry was awarded jointly to Diels and to Kurt Alder for discovery of a process for synthetic production of complex chemical compounds.

Dolin, Anton, 1904–, English ballet dancer and choreographer, b. Sussex, England. His real name is Patrick Healey-Kay. He made his professional debut in an acting part in 1916, but later studied dancing and joined the Diaghilev company in 1923. He left this company in 1924, danced in musical revues, and formed his own company with Vera Nemchinova. In 1935 he formed a company with Alicia Markova which lasted until 1937. Later he and Markova were principal dancers with the Ballet Theatre in New York, and they again formed a company together in 1945. He is author of *Divertissement* (1931), a book of reminiscences, *Ballet Go Round* (1938), his autobiography, and *Alicia Markova Her Life and Art* (1953).

Donaldson, Jesse Monroe, resigned his post as U.S. Postmaster General in Jan., 1953.

Donegan, Horace William Baden, 1902–, American Episcopal bishop, b. England. He was rector (1933–47) of St. James Church, New York city, and was made bishop of the diocese of New York in 1950.

Dougherty, Denis J., d. 1951.

Douglas, Norman, d. 1952.

Dufy, Raoul, d. 1953.

Duggan, Stephen, d. 1950.

Dulles, John Foster, was a delegate to the United Nations General Assembly in 1950. In 1951, as ambassador-at-large, he negotiated a peace treaty with Japan. He succeeded Dean Acheson as Secretary of State in 1953.

Dunn, Gano, d. 1953.

Durkin, Martin Patrick, 1894–, U.S. Secretary of Labor (1953–); b. Chicago. Beginning as a steamfitter's apprentice in Chicago, he eventually became general president of the United Association of Journeymen Plumbers and Steamfitters of the United States and Canada. Prior to his appointment to President Eisenhower's cabinet. Since he was a Democrat, his appointment caused some consternation in Republican circles.

Dykstra, Clarence Addison, d. 1950.

Eames, Emma, d. 1952.

ECSC see EUROPEAN COAL AND STEEL COMMUNITY.

EDC see EUROPEAN DEFENSE COMMUNITY.

Eden, Anthony, again became British foreign minister after the Conservative victory in the elections of Oct., 1951, which made Winston Churchill prime minister. In 1952 he married Clarissa Churchill (his second wife). Early in 1953 illness forced him to surrender his post momentarily.

Egypt. Trouble between Great Britain and Egypt over the Suez Canal and Sudan regions continued to rise after May, 1950, and in Oct., 1951, the Egyptian government invalidated the Anglo-Egyptian treaty of 1936. Riots and skirmishes occurred in the disputed areas, and there were anti-British demonstrations all over Egypt. The struggle between King Farouk and the Wafdist government grew bitter. In Jan., 1952, the king dismissed the cabinet. Political uprisings followed, climaxed when Mohammed NAGUIB in July, 1952 headed a coup d'état that put the military in power. Farouk abdicated in favor of his infant son, Ahmed Fuad II. Naguib with much popular support became prime minister Sept. 7, 1952 and pledged himself to clean up the government and politics, break up the great landed estates, and institute democratic measures. Formation of political parties was forbidden, and in Jan., 1953, a drive was begun against Communists, and a three-year period of transition to democracy was instituted. A pact was signed with Great Britain on Feb. 12, 1953, providing for self-determination in the Sudan but Naguib continued to call for "unity of the Nile Valley" (see ANGLO-EGYPTIAN SUDAN). On May 5, 1953, a constitutional committee decided to abolish the monarchy. A republic was established with Naguib becoming the first president in June, 1953.

Eichelberger, William Snyder, d. 1951.

Einstein, Albert, announced in 1953 that he had completed work on his unified field theory (see article on Einstein in main volume).

Eisenhower, Dwight David. In Dec., 1950 he obtained a leave of absence from his duties at Columbia Univ. to become the supreme commander of the Allied Powers in Europe. He resigned this post in April, 1952, after completing the organization of the defense forces in the North Atlantic Treaty Organization. Nominated as the Republican presidential candidate in 1952, he was elected President of the United States, assuming office in Jan., 1953, and resigning as president of Columbia Univ.

Elizabeth II. Princess Elizabeth succeeded to the British throne on the death of George VI, Feb. 6, 1952. Her coronation was celebrated with great splendor on June 2, 1953. In 1950 she had borne her second child, Princess Anne. See Marion Crawford, *Elizabeth the Queen* (1952).

Ellsworth, Lincoln, d. 1951.

Eluard, Paul, d. 1952.

Emmet, Lydia Field, d. 1952.

Eniwetok. Tests of atomic weapons presumably including the hydrogen bomb were carried out here in April and May, 1951 and Nov., 1952. Some tests were designed not only to increase knowledge of nuclear detonations but also to determine the effects of atomic blasts, burns, and radiation on living things and the effects of explosions of atomic weapons on aircraft and various other structures and materials.

Eritrea. On Aug. 11, 1952 Ethiopia and Eritrea were united under an East African Federation Act. On Sept. 11 of that year, Ethiopian emperor Haile Selassie signed the Ethiopian-Eritrean Federation Act, and Eritrea became an independent nation within the federation.

Erskine, John, d. 1951.

Ethiopia. Italo-Ethiopian relations continued to improve and Ethiopia received the new Italian ambassador in 1952. Ethiopia and Eritrea were united as federated states in 1952.

European Coal and Steel Community (ECSC), limited economic federation of six sovereign countries: France, West Germany, Belgium, Netherlands, Luxembourg, and Italy. It is sometimes called the Schuman Plan, after Robert Schuman, the French foreign minister who proposed it in 1950. The 50-year treaty creating the ECSC became effective in 1952 and resulted in the pooling of the steel and coal resources of the member countries. All restric-

tions among its members on exports, imports, and currency exchange affecting coal, scrap iron, and iron ore were lifted The first international tax —a levy on coal and steel production in the member countries—took effect in 1953 With its executive headquarters at Luxembourg, the organization consists of a high authority" (executive branch), a council of ministers (one minister from each member country), an assembly (elected or appointed representatives of the member countries), and a court of justice, with jurisdiction in conflicts between the high authority and member states The ECSC is second only to the United States as a producer of coal and steel Its formation represented a major step toward European unification

European Defense Community (EDC) defensive alliance for the creation of a European army It was signed in 1952 by France West Germany, Belgium the Netherlands Luxembourg, and Italy but was ratified only by West Germany as of July 1, 1953 To become effective after ratification by all six members, the EDC would create a European army, closely coordinated with the North Atlantic Treaty Organization and would establish a council of ministers, an assembly and a commissariat, thus forming a military counterpart to the European Coal and Steel Community The treaty also provides for the eventual adoption of a federal constitution and a common parliament for the member countries Opposition to ratification was particularly strong in France because of French fear of a rearmed Germany

European Recovery Program The Economic Cooperation Administration (ECA) administered the program until 1951 when its activities were transferred to the Mutual Security Agency (see MUTUAL SECURITY PROGRAM)

Eva Perón The city of La Plata Argentina was renamed in honor of President Peron's wife after her death in 1952

Everest, Mount A British expedition under Col Sir John Hunt conquered Mt Everest on May 29, 1953, when Sir Edmond P Hillary, a New Zealander, and Tensing Norkay, a Sherpa guide, reached the summit here they planted flags of the United Nations, Great Britain India, and Nepal The ascent was made from the south or Nepalese side This team was the 11th (including two Swiss in 1952) to attempt the ascent in 30 years Dissension has arisen between India and Nepal over the citizenship of Tensing and there is movement in India to rename the peak Tensing Though it is the highest peak in the world, the exact altitude of Everest is not known, since earth movements are constantly raising its height

Farouk I Farouk's troubles with the Wafd continued after May, 1950 and he dismissed the Wafdist cabinet in Jan, 1952 A series of political upheavals followed and Gen Mohammed Naguib seized power in the coup d'état of July 23 1952 Farouk was forced to abdicate in favor of his son, Ahmed Fuad II and fled into exile In 1953 Egypt was declared a republic

Farwell, Arthur, d 1952

Faulhaber, Michael von, d 1952

Faulkner or **Falkner, William,** received the 1949 Nobel Prize in Literature His novel *Requiem for a Nun* was published in 1951

Feisal II or **Faisal II** ascended the throne of Iraq upon coming of age in May, 1953, ending the long regency of his uncle, Emir Abdul Illah

Fernald, Merritt Lyndon, d 1950

Ferrer, José Vicente, 1912 American actor and producer, b Santurce, Puerto Rico, grad Princeton, 1933 After his debut in 1935 he appeared in many plays, including *Charley's Aunt Othello* (as Iago), *Cyrano de Bergerac Twentieth Century* (revival), and *The Shrike* In addition to directing and producing plays, he also acted in motion pictures (e g, *Joan of Arc Moulin Rouge*) In 1951 he received the award as best actor from the Academy of Motion Picture Arts and Sciences for his performance in the film version of *Cyrano de Bergerac*

Flaherty, Robert Joseph, d 1951

Flanagan, John, d 1952

Fletcher, John Gould, d 1950

Ford Foundation, incorporated Jan 15, 1936 for the general purpose of advancing human welfare The principal funds for the project were contributed by Henry Ford and his son Edsel Ford In 1950 a greatly expanded program of action was undertaken with five major purposes to support activities contributing to world peace and the establishment of a world order of law and justice, to support activities designed to secure greater allegiance to the basic principles of freedom and democracy to support activities designed to advance the economic well-being of people everywhere, to support activities which strengthen and improve educational facilities and methods, to support scientific activities designed to increase the knowledge of factors influencing or determining human conduct The world's largest philanthropic trust, the foundation has made generous contributions to such programs as the advancement of education, adult education, a television-radio workshop, the resettlement of refugees, scientific research into human behavior, aid to refugees and exiles of the Soviet Union, aid for backward areas abroad, and a study of civil liberties Paul G Hoffman, who assumed the duties of president of the Foundation in 1951, resigned that post in Feb, 1953

Formosa As the headquarters of the Chinese Nationalists under Chiang Kai-shek after they were driven from the Chinese mainland by the Communists, Formosa saw much development after 1950 Agricultural and industrial production flourished, and there were export surpluses of rice, sugar, tea, and other products The Nationalist army, based on Formosa, grew larger and was being trained under U S advice U S economic help was extended to the island through the Economic Cooperation Administration and the later Mutual Security Administration A land-reform program (the "375 Land Rental Reduction") was made into law in 1951 and was in its first phase successful Political freedom was extended on a limited and local scale, and in Nov, 1951, the first general election in the history of the island was held Immediately after the outbreak of warfare in Korea, President Truman had ordered the 7th U S Fleet to "neutralize" Formosa with a blockade This blockade was lifted by order of President Eisenhower on Feb 2 1953 thus apparently opening the way for a Nationalist attack on the Chinese mainland Formosa in 1951 suffered a severe earthquake, several cities were rocked

France Cabinets in the Fourth Republic proved no more stable than they had been in the Third Republic In June, 1953, the 19th cabinet took office An important internal political development was the thorough defeat in the municipal elections of 1953 of General de Gaulle's party which the general declared dissolved The French Union was rocked by Arab nationalist agitation in North Africa and bitter warfare went on in Indo-China with the Communist-led Viet Minh forces France became a charter member of the EUROPEAN COAL AND STEEL COMMUNITY in 1952 Fear of a rearmed Germany and disagreement with West Germany over the future status of the Saar Territory caused the French national assembly to delay ratification of the EUROPEAN DEFENSE COMMUNITY treaty French economy suffered from steadily progressing inflation

Frederick William, former crown prince of Germany see WILLIAM

Freeman, Douglas Southall, d 1953 At that time five volumes of his biography of George Washington had been published

Fremstad, Olive Nayan, d 1951

Fry, Christopher, 1907– English playwright b Bristol He had taught briefly, acted edited a magazine, and directed a repertory company before gaining acclaim for verse plays noted for their wit and imagery their poetic fantasy and lyricism He has been compared to the Elizabethans for his richness of language, although some critics have complained of occasional obscurity and an overelaborate phrasing and invention *The Lady's Not for Burning* was highly successful Other plays include *A Phoenix Too Frequent, Venus Observed, The Boy with a Cart Thor, with Angels,* and *A Sleep of Prisoners*

Garrey, Walter Eugene, d 1951

Gaulle, Charles de, declared his party (RPF) dissolved as a political party after its setback in the French municipal elections of 1953 However, he remained a leading figure of the opposition

Gauss, Christian, d 1951

Genth, Lilian Mathilde, d 1953

George VI, d 1952

Gerard, James Watson, d 1951

Germany In 1952 the Federal Republic of Germany (or the West German government) signed a peace contract with the United States Great Britain and France The contract transferred virtually all authority from the Allied high commissioners to the German federal government at Bonn and to the state governments The contract was linked with the formation of the EUROPEAN COAL AND STEEL COMMUNITY (ECSC) and the EUROPEAN DEFENSE COMMUNITY (EDC), in which Germany was to participate Despite vigorous opposition (especially from the Social Democrats), Chancellor Adenauer secured full ratification of the contract and the EDC treaty by the federal parliament, but the constitutionality of the agreements remained to be examined by the West German constitutional court The industrial recovery of West Germany was remarkable, by 1953, Germany was once again one of the world's leading industrial powers Allied restrictions on West German industrial production were lifted when the ECSC went into effect (1952) Meanwhile the German Democratic Republic (Russian-occupied East Germany) was virtually sealed off from the rest of Germany by its Communist rulers Though both East and West professed a desire to see Germany reunited, there appeared to be no common basis for a four-power agreement on a general peace treaty with Germany However in June, 1953, the USSR revised its German policy, appointing a civilian commissioner to replace the military commander in the occupation zone and suspending its stringent "sovietization" policy An uprising and general strike against the Communist government began shortly afterward in East Berlin and spread to other industrial centers. The riots were swiftly put down by Russian armored troops, acting under martial law, but strikes continued into July, 1953, while the East German government tried, hastily and belatedly, to compromise with the workers' demands for increased food rations and shorter working hours.

Gide, André Paul Guillaume, d 1951

Gleizes, Albert Léon, d 1953

golf. Honors in what are probably the five best-known golf tournaments, professional and amateur, were dominated by two golfers in 1950-53, only Ben Hogan of the United States and Bobby Locke of South Africa winning more than once Hogan took the U S Open in 1950, 1951, and 1953, Julius Boros winning in 1952, while in 1950 and 1952 Locke won the British Open, which was taken by Max Faulkner in 1951 and by Ben Hogan in 1953 The other winners were U S Professional Golfers Association (P G A)—Chandler Harper (1950), Sam Snead (1951), Jim Turnesa (1952), U S Amateur—Sam Urzetta (1950), Billy Maxwell (1951), Jack Westland (1952), British Amateur Frank Stranahan (1950), Dick Chapman (1951), Harvie Ward (1952), all Americans An Irishman, Joe Carr, won the British Amateur in 1953 Beverly Hanson (1950), Dorothy Kirby (1951) and Mrs Jacqueline Pung (1952) were winners of the National Women's Amateur championship An outstanding woman professional golfer was Louise Suggs who in the first five months of 1953 earned over $15,000, a one-year record in women's Professional Golf Association competition In international team play, Americans men retained the Ryder Cup and the Walker Cup from the British in 1951 but British women in 1952 defeated Americans for the Curtis Cup for the first time since this competition began in 1932 The Americas Cup a new international amateur series began at Seattle in 1952, was won by the U S team, which defeated Canadian and Mexican teams

González Martínez, Enrique, d 1952

Goose Bay, village SE Labrador, on Goose Bay It has a large air base and radio station built in the Second World War for transatlantic transport

Graves, Henry Solon, d 1951

Great Britain General elections in Oct 1951, returned the Conservatives to power under Winston Churchill (who became Sir Winston Churchill in 1953) The new government struggled with the problems that had faced the Labour government, not only improving Britain's position in the world balance of trade and bettering economic conditions Britons continued to live under heavy rationing of food and materials Moves were made to denationalize some of the recently nationalized industries In foreign affairs Great Britain continued to cooperate with the United States especially in "the cold war" with the USSR and other Communist nations and in Korea Troubles beset the British Commonwealth of Nations Attempts were made to put down Communist activity in Malaya Quarrel with IRAN rose to great heat after Iranian nationalization of the petroleum fields and refineries There were difficulties also with EGYPT especially over the status of the Anglo-Egyptian Sudan and British soldiery at the Suez Canal Kenya and the Union of South Africa had severe internal troubles England itself suffered one of the greatest natural disasters in its modern history with the great floods on the eastern shores early in 1953 King George VI died Feb 6 1952, and his daughter succeeded him as Elizabeth II Her coronation on June 2, 1953, was the cause of great ceremonial rejoicing in the nation

Greece The government's campaign against the Communist guerrillas was victoriously concluded by 1950 The Greek Rally party of Field Marshal Papagos won the elections of 1952 Greece was admitted into the North Atlantic Treaty Organization in 1951 and signed a defensive alliance with Yugoslavia and Turkey in 1953

Green, Henry, pseud of **Henry Vincent Yorke,** 1905 English novelist, an industrialist His novels, somewhat experimental in style, combine the comic spirit with a sympathetic detachment. Among them are *Living* (1929), *Loving* (1945), *Back* (1946), *Nothing* (1950), *Doting* (1952)

Green, William, d 1952 He was succeeded as president of the A F of L by George Meany

Greenland. Under the revised Danish constitution of 1953 Greenland changed its status from colony to member of the Danish commonwealth, with representation in the Folketing In 1951 an agreement between Denmark and the United States resulted in the transfer of American military bases in Greenland to Danish authority but permitted their use by the United States New bases (notably at Thule) were built under the North Atlantic Treaty Organization

Greenman, Jesse More, d 1951

Grew, Joseph Clark In 1952 appeared his two-volume book, *Turbulent Era,* the story of his 40 years in the diplomatic service

Gromyko, Andrei Andreyevich, was appointed ambassador of the USSR to England in 1952. Recalled in 1953, he was made chief deputy foreign minister

Gruenther, Alfred Maximilian, 1899–, U S general, b Platte Center, Nebr , grad West Point, 1919 Known as a brilliant staff officer, he was chief of staff to Dwight D Eisenhower in London (1942–43), chief of staff of the 5th Army (1943 44), and chief of staff of the 15th Army Group under Mark W Clark (1944–45) He was then deputy chief of staff for plans until General Eisenhower chose him as chief of staff of the North Atlantic Treaty Organization in 1951 He continued in this post under Matthew B Ridgway and succeeded Ridgway as supreme commander of the Allied Powers in Europe in May, 1953

Guiana, British. A new constitution was inaugurated in 1952

Gustavus V, d 1950

Gustavus VI (Gustavus Adolphus), 1882–, king of Sweden (1950) He succeeded his father, Gustavus V

Gustavus Adolphus see GUSTAVUS VI

Hammarskjold, Dag (dŭg' hăm'ərshŭld), 1905 , Swedish statesman, secretary general of the United Nations (1953) A political economist, he entered government service in 1930 and held important posts, becoming assistant foreign minister in 1949 and deputy foreign minister in 1951 He represented Sweden at the UN and was elected (April 7, 1953) to succeed Trygve Lie

Hamsun, Knut, d 1952

Hand, Learned, 1872 , American jurist b Albany, N Y , grad Harvard (B A , 1893, M A 1894, LL B 1896) He was judge of the Federal District Court (1909–24) and of the U S Court of Appeals (1924 51) *The Spirit of Liberty,* a collection of his papers and addresses, was published in 1952

Hannay, James Owen, pseud **George A Birmingham,** d 1950

Harriman, William Averell, was director of the Mutual Security Agency (1951–53)

Hearst, William Randolph, d 1951

Hedin, Sven Anders, d 1952

Hedrick, Ulysses Prentiss, d 1951

Heflin, James Thomas, d 1951

Hemingway, Ernest His *Across the River and into the Trees* was published in 1950 and *The Old Man and the Sea* appeared in 1952 The latter novel received the Pulitzer Prize in 1953

Hench, Philip Showalter, 1896 , American physician, b Pittsburgh, M D Univ of Pittsburgh, 1920 Associated with the Mayo Clinic after 1921 he was made head of the department of rheumatic diseases in 1926 He began in 1928 teaching at the Mayo Foundation and graduate school of medicine at the Univ of Minnesota, where he became professor in 1947 In 1946 he became consultant to the surgeon general of the U S Army He shared, with Edward C Kendall and Tadeus Reichstein the 1950 Nobel Prize in Physiology and Medicine for his contributions to knowledge of treatment of rheumatic diseases with hormones of the adrenal glands and ACTH from the pituitary gland

Hepburn, Mitchell Frederick, d 1953

Hichens, Robert Smythe, d 1950

Hinkle, Beatrice Mores, d 1953

Hiranuma, Kuchiro, Baron, d 1952 Released from prison for hospital treatment in June 1951 he died more than a year later

Hiss, Alger The U S Supreme Court refused to review his perjury conviction in March 1951, and he began serving his five-year prison term In July, 1952, he lost his appeal for a new trial, and in Nov , 1952, he was denied a pardon by the Dept of Justice

Hobby, Oveta Culp, 1905 , U S Secretary of Health, Education, and Welfare (1953), b Killeen Texas She studied at Mary Hardin Baylor College in Belton, Texas, and at the Univ of Texas Law School She served as parliamentarian of the Texas house of representatives from 1925 to 1931 and from 1939 to 1941 In 1931 she married William Pettus Hobby, former governor of Texas (1917 21) and publisher of the Houston *Post* She held various responsible positions on the newspaper In the Second World War she served as director of the Women's Auxiliary Army Corps (WAAC) with the rank of colonel (in 1943 the name of the organization was changed to Women's Army Corps —WAC, Mrs Hobby remained as its director until 1945) Appointed Federal Security Administrator under President Dwight D Eisenhower, she in April, 1953, became the first Secretary of the newly created Department of Health, Education, and Welfare, the only woman in the cabinet

Hogan, Ben Defeated by Sam Snead in the play-off of their first-place tie for the Los Angeles Open championship early in 1950, Hogan, in a blazing finish, beat Lloyd Mangrum and George Fazio in a three-way play-off for the U S Open title in June, 1950 He took the U S Open again in 1951, for the third time In 1951 he also won the Masters tournament at Augusta, Ga , one of the few important championships he had not won before, and the Tam O'Shanter so-called "world" championship in Chicago, richest prize in golf He lost the 1952 Masters to Sam Snead, but won it again in 1953, along with the Pan American Open at Mexico City and the Colonial national tourney at Fort Worth In 1953 also he again won the U S Open, for the fourth time, and then took the British Open on his first try This double victory won him acclaim as the greatest golfer since Bobby Jones

Holt, Hamilton, d 1951

Hopkins, B Smith, d 1952

Horney, Karen, d 1952

Howard, Leland Ossian, d 1950

Hugenberg, Alfred, d 1951

Hughes, William Morris, d 1952

Humphrey, George Magoffin, 1890–, U S Secretary of the Treasury (1953) b Cheboygan, Mich , LL B Univ of Michigan, 1912 Admitted to the bar in 1912, he became general counsel for M A Hanna and Company of Cleveland, a vast business and industrial enterprise After 1929 he was president of the company In 1948 and 1949 he was chairman of the industrial advisory committee to the Economic Cooperation Administration A strong supporter of Sen Robert A Taft, Humphrey was regarded as a conservative when given his cabinet post by President Dwight D Eisenhower

Hussein I, 1935–, king of Jordan He succeeded his father, TALAL, in 1952 and ascended the throne upon coming of age in May, 1953

Hutcheson, Ernest, d 1951

hydrogen bomb see ATOMIC ENERGY

Iceland President Bjornsson died in 1952 Asgeir Asgeirsson, a Social Democrat, was elected to succeed him

Ickes, Harold LeClaire, d 1952

Impellitteri, Vincent Richard (ĭmpĕl'ĭtĕr'ē) 1900–, mayor of New York city (1950) b Isnello, Italy, grad Fordham Law School, 1924 He was brought to the United States in 1901 and was naturalized in 1922 Admitted to the bar in 1925, he engaged in private practice and then became assistant district attorney of New York county (1930 37) A member of Tammany Hall, though not particularly prominent, he was chosen by William O Dwyer as candidate for president of the City Council in 1945 Re-elected in 1949 Impellitteri functioned as acting mayor while O Dwyer was absent from his post In 1950 Impellitteri sought the mayoralty as an independent candidate and was successful During his term in office he was afflicted with many problems, primarily an inadequate budget shortage of schools, transportation difficulties, corruption in the police department, and racketeering in New York's dock industry

Inchon, another name for Chemulpo, Korea It was the scene (1950) of a great landing of U S forces in the Korean war (see KOREA)

India Indo-Pakistan tension over the KASHMIR question continued in 1951 and 1952 but settlement seemed imminent in early July, 1953 Although the food situation was eased somewhat by programs of rural reform and foreign aid it continued serious in 1953 Nation-wide elections in 1952 brought the triumph of Prime Minister Jawaharlal Nehru's Indian National Congress Agitation by Communists occupied some of the government's attention In the United Nations, India pursued a policy of neutrality in disagreements among the big powers In 1953, India agreed to serve with Sweden and Switzerland as a neutral negotiator in the Korean prisoner-exchange dispute

Indo-China The war against Communist rebels in VIET NAM continued into 1953 without a solution The situation was further complicated when, in early 1953 the Communists spread the conflict into the neighboring state of Laos and threatened Cambodia The desire of the three states for more independence than that granted in 1950 was considered in 1953 by the French who offered to negotiate for a broadening of the states' liberties Cambodia, demanding complete independence, threatened hostile action if it were not granted

Indonesia On Aug 4, 1950, the principle of federalism was discarded and Indonesia became a unitary state Attempts to settle the disputed claims for New Guinea led to protracted but fruitless negotiations with the Dutch in 1951 and 1952 In 1950 the young nation became a member of the United Nations The questions of putting down Communism, of accepting U S aid for development and of establishing relations with Red China and independent Japan as well as other Asiatic states caused much discussion and dissension within Indonesia In 1952 the falling markets for many Indonesian exports caused some uneasiness, which continued in the middle of 1953

International Trade Organization (ITO), proposed special agency of the United Nations to administer and implement a code of principles or rules of fair dealing in international trade The code is contained in the Havana Charter (1947 48) An interim commission was established to prepare the ground for ITO

Inverchapel of Loch Eck, Archibald John Kerr Clark Kerr, 1st **Baron,** d 1951

Ipatieff, Vladimir Nikolaevich, d 1952

Iran On April 28, 1951, intense nationalism, fostered by both the National Front party and the Communist Tudeh party, resulted in nationalization of the British-owned oil industry by Premier MOSSADEGH The Anglo-Iranian Oil Company's holdings were seized and its employees were expelled from the country The subsequent British blockade of Iran led to virtual collapse of the oil industry, severely affecting the economy Iran broke off diplomatic relations with Britain in 1952 Despite U S mediation, the problem remains unsolved in July 1953 Animosity between pro-Shah and pro-Mossadegh factions erupted into open street fighting in Feb , 1953 The premier was forced at one point to seek sanctuary in the parliament building The Mossadegh-appointed chief of state police was found murdered in 1953, and several Majlis leaders were accused of the crime Early July, 1953, saw Mossadegh still in power and the Shah still on the throne

Iraq After 1950 began to carry out a comprehensive national development program, largely financed by income from oil royalties It is intended to control floods, restore the ancient Tigris-Euphrates irrigation network, improve agricultural methods, supply power, and stimulate mining and industry U S technical assistance was extended for these purposes as well as for a land-reform program for resettling landless peasants on more than 200,000,000 acres of former government land In Jan , 1953, election reform brought the first direct vote for parliament Since 1950 most of Iraq's Jews have emigrated to Israel King FEISAL II ascended the throne in 1953

Israel Since 1950 the problems of an unfavorable trade balance, floods of immigrants, and the need for foreign capital investment and additional industries were met with increasing success Larger irrigated acreages increased the agricultural output, despite serious droughts Industrial expansion was marked and new mineral resources were exploited The imposition of rationing and financial measures (including partial devaluation of the currency) was helpful in reducing the import-export imbalance Inflation and the high cost of living remained serious problems Relief and resettlement proceeded under lessening but still great pressure from newcomers In this as well as in the promotion of agriculture and industry, the U S Technical Cooperation Administration gave some aid Israeli-Arab relations remained hostile the Arab economic blockade continued to be a handicap and charges and counter-charges were made over border incidents The United Nations Palestine Conciliation Commission reported virtually no progress in its negotiations In 1950 Great Britain granted *de jure* recognition Treaties of friendship and trade were made with a number of nations A period of strained relations with the USSR during which Israel changed the Soviet Union with anti-Semitism and criticized the USSR's refusal to permit Jews to emigrate to Israel culminated in early 1953 in Russia's severance of diplomatic relations Reparations agreement with the West German government provided for compensation to cover the losses of Jews during the Hitler regime Upon the death in 1952 of Chaim Weizmann Itzhak BEN-ZVI became Israel's second president David BEN-GURION remained as prime minister at the head of a coalition despite cabinet crises, notably over the issue of religious education

Italy continued after 1950 under the premiership of Alcide de Gasperi Late in 1950 the government began on a modest scale to put into effect a long-needed agrarian reform in S Italy, where landless peasants were enabled to acquire parts of the great estates The project for a general land reform was, however dropped In June, 1953 De Gasperi's Christian Democrats and their middle-of-the-road allies won a narrow electoral victory, Communists, royalists, and neo-Fascists showed marked gains Italy became a charter member of the EUROPEAN COAL AND STEEL COMMUNITY in 1952

Japan The central event in the history of Japan in the years 1950 53 was the signing of a peace treaty with most of the opponents in the Second World War Thus the Allied occupation came to an end, and Japan took full status as an independent nation again The treaty was signed at a conference in San Francisco in Sept 1951, it went into effect April 28, 1952 India Burma, and Yugoslavia refused invitations to the peace conference, and delegates of the USSR, Czechoslovakia, and Poland refused to sign the treaty The treaty had been foreshadowed even before 1950 with the return of many administrative powers to the Japanese The disagreements of U S and Soviet representatives on the Far Eastern Commission were bitter, and the Soviet delegate absented himself from the meetings for months It became clear that the Russians and the Americans would not agree on any peace terms for Japan and that the United States would move to draw up a peace not acceptable to the USSR The outbreak of warfare in Korea strengthened this determination, as Japan became a base for United Nations forces going to and from Korea With the replacement of Gen Douglas MacArthur by Gen Matthew Ridgway in April, 1951, there were some fears that U S policy toward Japan might change, but these proved unfounded U S forces remained

in Japan after the occupation as a protective force (until Japanese defense could be rebuilt) under a special agreement After the new treaty came in force, new elections were held Oct 1 1952 The conservatives already in power kept their supremacy, with Shigeru Yoshida remaining as premier There was dissension in the ranks of his Liberal party (a conservative group despite the name), and in April, 1953, Yoshida was forced to hold new elections His power was greatly weakened but he was again premier The policy of 'depurging" those who had been deprived of civil rights for war activities had begun before the peace treaty was signed and most war criminals were released by 1953 The government took strong action against the Communists under the occupation and continued that policy later, but in early 1953, particularly in a May Day demonstration, the Communists led in anti-American and anti-Western demonstrations Measures to control "subversive" activities were fought by labor unionists and liberals as a threat to freedom of speech and thought Japanese claims that the USSR had failed to repatriate thousands of Japanese prisoners of war deepened anti-Russian sentiment This was shown also by the separate peace treaty with Nationalist China (April 28, 1952) and slacking of trade with Red China A separate peace treaty with India was also signed in 1952 one with the Philippines was still being negotiated in July, 1954 The boom caused by the beginning of the Korean war ended in 1952 and the Japanese were making strong efforts to rebuild their world trade in 1953

Jaques-Dalcroze, Émile, d 1950

Jeffries, James J, d 1953

Jensen, Johannes Vilhelm, d 1950

Jessup, Philip Caryl, was appointed a delegate to the United Nations General Assembly in 1951 and an alternate delegate in 1952 In Jan 1953, he resigned as ambassador at large and returned to his teaching duties at Columbia Univ

jet propulsion Achievement of supersonic speed by aircraft marked a new era in aviation history In the United States speeds of more than 1,200 miles per hour had been reached by mid-1951 in the U S navy's supersonic experimental plane, the Douglas *Skyrocket* British jet-propelled planes had already been reported (1948) to have attained supersonic speeds The American rocket plane Bell *X-1* had, in 1947, exceeded the speed of sound but it could not take off under its own power or make sustained flights The Russians were using supersonic speeds at least nearly as early as Britain and the United States

Joad, Cyril Edwin Mitchinson, d 1953

Johnson, Osa Helen (Leighty), d 1953

Johnson, Owen, d 1952

Jordan King Abdullah assassinated in 1951, was succeeded by TALAL who was, in turn, replaced by HUSSEIN I Abdullah's death lulled the Arab League's suspicion of his ambition to merge Iraq, Syria, and Arab Palestine with Jordan into Greater Syria" A constitutional change in 1951 made the cabinet responsible to parliament By July, 1953, no decision had been reached on the portion of Palestine ultimately to be held by Jordan Occasional border skirmishes with Israel occurred after 1950 Comprehensive plans were announced for irrigation and power development in the Jordan river valley and for road building exploitation of minerals, and settlement of nomadic Bedouins all with United Nations, American, and British aid The success of a reclamation project in the Dead Sea area pointed toward possible solution of the problem of resettling many Palestinian Arab refugees Jordan was permitted to join the International Monetary Fund in 1952

Jouhaux, Léon (lāō' zhōō-ō'), 1879–, French Socialist labor leader He headed the Confédération Générale du Travail after 1909 but left it in 1947 to found the anti-Communist International Confederation of Free Trade Unions He played a prominent role in the International Labor Organization and received the 1951 Nobel Peace Prize

Karfiol, Bernard, d 1952

Kashmir The tension between India and Pakistan over the status of Kashmir continued through 1951 and 1952 Repeated attempts to settle the question in the United Nations failed, but in 1953 there was reason for hope of agreement between the two countries themselves on partition of Kashmir, with the Vale of Kashmir remaining independent

Katims, Milton (kă'tĭms), 1909 , American conductor and violist After 1947 he was guest conductor of the NBC Symphony Orchestra and conducted widely in Europe, Asia, and the United States

Keck, Charles, d 1951

Kefauver, Carey Estes (kē'fə-vər), 1903–, U S Senator from Tenn (1949–), b Madisonville, Tenn, grad Univ of Tennessee, 1924, LL B Yale, 1927 Admitted to the bar in 1926, he became a Chattanooga lawyer and in 1939 was elected to the U S House of Representatives, where he served until he entered the Senate in 1949 His victory in the senatorial race was conspicuous because it ended the domination of Tennessee politics by "Boss" Edward H Crump of Memphis In this campaign Kefauver wore a coonskin cap, which came to be regarded as his symbol As chairman of the Senate crime investigating committee in 1950 and 1951, Kefauver attracted nation-wide publicity *Crime in America* (1951) was Kefauver's own book on the results of this investigation In 1952 he unsuccessfully sought the Democratic presidential nomination

Kendall, Edward Calvin, 1886–, American biochemist, b South Norwalk, Conn, grad Columbia (B S, 1908, Ph D, 1910) At St Luke's Hospital, New York city, he did research on the thyroid gland (1911–14) In 1914 he became head of the biochemistry section at the Mayo Clinic and, in 1921, professor of physiological chemistry at the Mayo Foundation (affiliated with the Univ of Minnesota) He shared, with Philip S Hench and Tadeus Reichstein, the 1950 Nobel Prize in Physiology and Medicine for his work on the hormones of the cortex of the adrenal glands Kendall isolated and identified a series of compounds from the adrenal cortex, prepared cortisone by partial synthesis (with Merck & Co, Inc), and, with Dr P S Hench, Dr H F Polley, and Dr C H Slocumb, investigated the effects of cortisone and of ACTH (a pituitary gland hormone) on rheumatoid arthritis Other contributions include the isolation of thyroxine (1914) and the crystallization of glutathione and establishment of its chemical structure

Kennan, George Frost, 1904 , U S diplomat, b Milwaukee Wis, grad Princeton, 1925 Beginning his diplomatic career as vice consul in Geneva in 1925, Kennan served in diplomatic posts at Hamburg, Riga Berlin, Vienna, Prague, and Moscow In 1947 he was on the policy-planning staff of the Dept of State, later (1949–50) he was adviser to the Secretary of State It was he who formulated the policy of "containment" of the Soviet Union He was appointed ambassador to the USSR in 1952, but his recall was demanded by the Soviet government as a result of remarks he made regarding the isolation of diplomats in Moscow and the hate campaign Soviet propagandists were conducting against the United States In April, 1953, his retirement from the diplomatic service was announced He wrote *American Diplomacy 1900–1950* (1951)

Kenny, Elizabeth, d 1952

Kenya Mid-1952 saw the rise of the Mau Mau (Hidden Ones) secret society dedicated to driving the white man from Kenya British troops were sent to stem the tide of terrorism and by July 1953, the terrorists had largely been bottled up in central Kenya

Kenyon, Sir Frederic George, d 1952

Kimpton, Lawrence Alpheus, 1910–, American educator, chancellor of the Univ of Chicago b Kansas City, Mo, grad Leland Stanford Univ (A B 1931, A M, 1932), Ph D Cornell Univ, 1935 He was dean (1936–41) of Deep Springs Junior College, Calif and dean (1942–43) of the college of liberal arts, Univ of Kansas City At the Univ of Chicago he was chief administrative officer (1943–44) of the metallurgical laboratory engaged in developing the atomic bomb From 1947 to 1950 he was associated with Stanford Univ, serving as the dean of students and a professor of philosophy In 1951 he returned to the Univ of Chicago to take over the duties of chancellor, succeeding Robert M Hutchins

King, William Lyon Mackenzie, d 1950

Kirby, Rollin, d 1952

Kirk, Grayson Louis, 1903–, American educator, president of Columbia Univ, b Jeffersonville, Ohio, grad Miami Univ, 1924 M A Clark Univ, 1925 Ph D Univ of Wisconsin, 1930 He taught (1929–40) at the Univ of Wisconsin before he became an associate professor of government at Columbia Univ in 1940 After 1942 he was a full professor of government there and after 1947 was also a professor of international relations Made vice president and provost of Columbia in 1950, he was appointed acting president during the absence of Dwight D Eisenhower Upon Eisenhower's resignation in 1953, Kirk officially became the head of the university He is the author of *Philippine Independence* (1936), *Contemporary International Politics* (with W R Sharp, 1940), and *The Study of International Relations in American Colleges and Universities* (1947)

Koiso, Kuniaki, d 1950, in a U S army hospital, still a prisoner

Kollontai, Aleksandra Mikhailovna, d 1952

Korea The situation between the Northern People's Republic of Korea (Communist) and the southern Republic of Korea, both claiming rule over the whole country, grew more tense in 1950 On June 25, 1950, it was transformed into open warfare when North Korean troops crossed the boundary (lat 38°N) with the intention of winning the south by conquest The South Koreans, caught by surprise, reeled back Seoul had fallen by June 29, and the ROK (Republic of Korea) troops retreated southward rapidly The United Nations, however, acted quickly to declare North Korea the aggressor and to send support to the South Koreans (the USSR took no part in these decisions) UN troops had arrived in Korea in some force by early July, and Gen Douglas MacArthur was named UN commander These troops (entirely U S forces at first, but later composed of forces from many nations, with Americans remaining by far the predominant group) and South Koreans held a perimeter 50 mi above the southern port of Pusan and were by Sept, 1950, ready to launch a counterattack A surprise landing at Inchon farther to the N on Sept. 15 caught the North Koreans between two fires, many were captured as they fled northward By early October UN troops reached and crossed the 38th parallel and were soon threatening to take the whole peninsula Early in November large masses of "volunteer" troops from Communist China came to the aid of the North Koreans The UN troops were pushed back with great loss, and the 10th Corps was by late November preparing for evacuation at the port of Hungnam, this rescue operation was completed by Dec 24, 1950 On Jan 4, 1951, Seoul had again been lost to the Communists, and the front was not stabilized until late that month In Feb and March, 1951, UN forces retook South Korea, and a new Chinese drive launched in April was met stoutly and successfully The UN had meanwhile (on Feb 1) declared China an aggressor In April, 1951, MacArthur was replaced as commander (see MACARTHUR, DOUGLAS) by Gen Matthew B Ridgway (who was succeeded as commander of the 8th Army by Gen James Van Fleet). In 1952 the supreme Korean command was given to Gen Mark Clark Air warfare in 1951 quickened as the Chinese used many Russian-built jet fighters (MIG-15s) and Korea was the first scene of extensive air battles between jet planes On the sea the UN forces were unchallenged by any opposition In ground warfare the lines became roughly stabilized in 1951, but constant fierce actions in the mountains of central Korea took much blood, and peaks changed hands often from 1951 to July, 1953 Meanwhile negotiations for a truce, begun early in July, 1951, dragged slowly along Conflicts over many items of the agenda led to halts, as did accusations that one side or the other had violated the demilitarized area where the talks were going on—first at Kaesong, later at Panmunjom— some accusations verified on both sides The most stubborn block in negotiations appeared in the Communist refusal to accept the principle of voluntary repatriation of war prisoners and the matching UN refusal to force any unwilling prisoners to return to their Communist homelands Feelings on this question was made more bitter by difficulties with the Communist prisoners in UN hands, particularly riots on Koje Island in 1952 These reached a high point when the prisoners captured the UN prison commander, and he was ransomed with promises Sporadic trouble continued in 1953 Talks broke down completely in Oct, 1952 and were not resumed for months Then more or less suddenly the two sides agreed on an exchange of sick and wounded prisoners, an exchange which took place late in April, 1953 Continuing negotiations led to agreement that prisoners who did not exercise their right to repatriation should be placed in the hands of five neutral nations (Sweden, Switzerland, Poland, Czechoslovakia, and India) Thus early in June the way was open to a truce, to be followed by a political conference, but the opposition of South Korea to the agreement halted negotiations President Syngman Rhee of the Republic of Korea insisted upon guarantees from the UN, the most important being that, if no agreement had been reached to unify Korea in 90 days after the truce went into effect, UN troops would join South Koreans in forcing that unification Otherwise he threatened that the South Korean army would continue the war As an earnest of his threat the South Koreans unilaterally freed some 27,000 North Korean and Communist prisoners of war on June 28 Attempts to win Rhee to a workable compromise had not been successful early in July

Koussevitzky, Serge, d 1951

Kuniyoshi, Yasuo, d 1953

La Follette, Robert Marion, Jr, d by suicide, 1953

Lagerkvist, Par Fabian. His novel *Barabbas* (1950) appeared in English translation in 1951 He was awarded the 1951 Nobel Prize in Literature

Laos was recognized by France as an independent associated state on Feb 6, 1950 More independence was demanded in 1953, and negotiations with the French government seemed likely Laos was drawn into the war against the Viet Minh rebels when, in early 1953, Communist troops invaded the state and threatened the capital French and Laotian forces appeared to have the situation under control in mid-1953

La Plata, Argentina see EVA PERÓN

Lebanon. Long-standing disputes with Syria over customs duties came to a head in 1950, and the customs union between Syria and Lebanon was abrogated With improving relations, the union was restored in March, 1952 Some tension between the nations still remained in 1953, when there were border troubles Political changes in 1952 saw the elevation of Camille Shamun to the presidency There were demonstrations in 1951 caused by the

assassination of the former premier, Riad es Solh, in Jordan and by Lebanese approval of Egyptian abrogation of the 1936 Anglo-Egyptian treaty
Lebanon reiterated its hostility towards Israel in talks with U S officials in 1953
Lehman, Herbert Henry, was in 1950 reelected to the U S Senate
Lenormand, Henri René, d 1951
Lewis, Sinclair, d. 1951
Liaquat Ali Khan, d 1951 He was assassinated by an Afghan fanatic, who was seeking to strike a blow for the autonomy of the Pathan tribes
Liberia. In May, 1951, were held the first elections in which women and aboriginal property owners were allowed to vote In 1951, with U S aid, Liberia began developing an army, and a draft was instituted in 1952
Libya In Dec , 1951, Libya became an independent, constitutional monarchy under King Idris I
Lie, Trygve Halvdan. His resignation as secretary general of the United Nations took effect in 1953 He was succeeded by Dag Hammarskjold
Linlithgow, Victor Alexander John Hope, 2d marquess of, d 1952
Litvinov, Maxim Maximovich, d Dec 31, 1951
Lodge, Henry Cabot, Jr , 1902 , U S Senator from Massachusetts (1937 44, 1947 53), U S representative at the United Nations (1953-), b Nahant, Mass , grad Harvard, 1924, grandson of Henry Cabot Lodge He entered the newspaper field, first with the Boston *Evening Transcript* and then with the New York *Herald Tribune* until 1931 From 1933 to 1936 he was a member of the Massachusetts General Court Elected to the U S Senate in 1936, he served until his resignation to enter the army In the Second World War he was a major, then a lieutenant colonel, in the 1st American Tank Detachment in Libya, he also served in the Mediterranean and European theaters In 1946 he was reelected to the U S Senate but lost his seat in the election of 1952 Lodge was appointed head of the U S mission to the United Nations by President Dwight D Eisenhower
Long, William Joseph, d 1952
Louis, Joe He retired as the undefeated world heavyweight champion on March 1, 1949, but returned to competition the next year, allegedly because of a need to meet his income tax payments Ezzard Charles outpointed him in 15 rounds at New York on Sept 27 1950, to become universally recognized as the new champion Louis then defeated several lesser heavyweights before Rocky Marciano knocked him out in the eighth round on Oct 26 1951 This defeat only the third in his remarkable professional career of 71 fights and only the second time he had ever been knocked out, sent Joe into retirement again
Lower California officially became Mexico's 29th state Dec 10, 1951 The capital is Tijuana
Luxembourg became a charter member of the EUROPEAN COAL AND STEEL COMMUNITY in 1952
MacArthur, Douglas, was in July, 1950, appointed commander of UN military forces in South Korea, while keeping his command of Allied forces in Japan He was the center of controversy in 1951 when President Harry S Truman dismissed him from his posts in the Far East because opposing the policy of the Truman administration, MacArthur advocated an attack on Red China Although mentioned for the presidential race in 1952, he refused to become a candidate for nomination In July, 1952, he became chairman of Remington Rand, Inc
McCarthy, Joseph Raymond, 1909- , U S Senator (1947), b near Appleton, Wis , grad Marquette Univ , 1935 He practiced law in Wisconsin after 1935 and became (1939) a circuit judge Enlisting in the U S Marines in 1942, he was discharged as a captain in 1945 He was elected (1946) as Republican senator from Wisconsin by defeating Robert M La Follette, Jr As a senator he was a member of several committees, but it was his dogged pursuit of those he classified as Communists and subversives that won him wide attention The methods he used in his investigations were much disputed by the public In 1952 he was reelected to the Senate
McFee, Henry Lee, d 1953
McGrath, James Howard, resigned as U S Attorney General in April, 1952, in a controversy with President Harry S Truman over a proposed investigation of the Dept of Justice James Patrick McGranery was named successor
McIntyre, James Francis Aloysius, 1886- , American prelate, cardinal of the Roman Church, b New York city He was educated at Cathedral College and St Joseph's Seminary At first employed in a firm in Wall St , he was drawn to the religious life and ordained a priest in the Roman Catholic Church in 1921 From 1921 to 1923 he held his first assignment as assistant in St Gabriel's Church, New York city He was appointed assistant in the chancery office of the New York diocese in 1923 and became chancellor in 1934 He was created a domestic prelate in 1936 After serving as an auxiliary bishop of New York (1940-48, with the titular bishopric of Cyrene), he became archbishop of Los Angeles in Feb , 1948. In 1953 he was created a cardinal
McKay, Douglas, 1893- , U S Secretary of the Interior (1953-), b Portland, Oregon, grad Oregon State College, 1917 Starting as an automobile salesman in 1920, he shortly became sales manager of his firm and established (1927) his own agency in Salem and was mayor of Salem (1933 34) Between 1935 and 1949 he served four terms as state senator In 1948 McKay was elected to fill the unexpired term of Earl Snell as governor of Oregon and was reelected in 1950 In Nov , 1952, he was made Secretary of the Interior in President Eisenhower's cabinet
McMillan, Edwin Mattison, 1907 , American physicist, b Redondo Beach, Calif , grad California Institute of Technology (B S , 1928) Ph D Princeton, 1932 Associated with the Univ of California after 1932, he became professor of physics in 1946 and a member of the staff of the Radiation Laboratory of the university, in 1945 He shared with Glenn T Seaborg the 1951 Nobel Prize in Chemistry for their contributions to the chemistry of transuranium elements McMillan is codiscoverer of the elements neptunium and plutonium He devised methods of increasing the atom-splitting power of the cyclotron
Malan, Daniel François (mălän'), 1874 , South African political leader, prime minister of the Union (1948), head of the Nationalist party He was a minister of the Dutch Reformed Church before becoming (1914) a newspaper editor and politician in Capetown He was elected to Parliament in 1917 and later led a delegation to the Versailles Conference in an attempt to get independence for South Africa He served (1924 33) in the cabinet of J B M Hertzog, resigning when Hertzog formed a coalition with Gen J C Smuts The Nationalist victory in the 1948 elections made Malan prime minister, and his position was strengthened by victories in the 1950 and 1953 elections He put the Nationalist policy of *apartheid* [racial segregation] into vigorous practice against the opposition of the Supreme Court
Malaya Communist guerrillas continued after May, 1950, to strike with terrorist raids, which upset conditions in the federation generally The government conducted warfare against them with varying success, but the guerrilla risings were still continuing in July, 1953 One incident of violence was the assassination of the high commissioner, Sir Henry Gurney, on Oct 6, 1951 World attention was also drawn to Malayan conditions when in May, 1953, Hungary offered to return a British prisoner to Britain, if a gaol guerrilla leader captured in Malaya were released the British somewhat reluctantly refused Measures other than armed expeditions were also taken against the Malayan Communists In 1952 several hundred thousand Chinese "squatters" were resettled in new villages, mainly to keep them from supplying food to the guerrillas Perhaps more important were the first steps to widen civil rights among the different racial groups A law granting common Malayan citizenship to about three quarters of the population became effective in 1952 The fall in the world rubber market caused serious economic troubles and falling wages in 1952 and early 1953
Malenkov, Georgi Maksimilianovich (gĕôr'gē mäksēmēl'yänəvĭch mälyĕn'kôf'), 1901 , Russian Communist leader A favorite of Stalin, he rose to be secretary of the central committee of the Communist party, directed war production in the Second World War, and became deputy premier in 1946 In 1953, after Stalin's death, he became premier of the USSR During the first months of his administration he appeared to be following a conciliatory policy toward the Western powers and to be relaxing the reign of terror which had reached a climax at the time of Stalin's death His apparent departure from Stalinist policies provoked much speculation abroad as did the dismissal and arrest of Beria in July, 1953
Malik, Yakov Aleksandrovich (mä'lĭk), 1906- , Russian diplomat He was ambassador to Japan (1942-45), was appointed deputy foreign minister for Far Eastern affairs (1946), and served as chief delegate of the USSR to the United Nations (1948-52) and as ambassador to England (1953)
Maniu, Iuliu, was unofficially reported dead in prison in 1951
Mann, Thomas His novel *The Holy Sinner*, based on Hartmann von Aue's religious legend *Gregorius*, appeared in 1951
Mannerheim, Baron Carl Gustav Emil, d 1951, in Switzerland
Marciano, Rocky (märshä'nō), 1924 , American pugilist, world heavyweight champion, b Brockton, Mass His real name is Rocco Francis Marchegiano He served in the army in the Second World War and on returning to civilian life in 1947 tried for a career in professional baseball Failing in this, he turned to boxing He won all but three of his 30 amateur fights and in July, 1948, turned professional in a bout at Providence, R I Brought along carefully by the shrewd New York promoter Al Weill (now officially his manager), the hard-hitting, personable Marciano disposed easily of all his opponents except Roland La Starza, over whom he gained a disputed split decision In becoming the second boxer ever to knock out Joe Louis (Max Schmeling was the first), a feat he accomplished in the eighth round on Oct 26, 1951, he won his chance to challenge the champion Joe Wolcott In their fight at Philadelphia on Sept 23, 1952, Wolcott was ahead on points when Marciano knocked him out in the 13th round to become the new champion On May 15, 1953, at Chicago, he knocked out Wolcott again, in the first round Hardly a graceful boxer (although his style has improved), Marciano has been compared to Dempsey and Louis for the power of his punching
Margaret Rose, 1930- , British princess, daughter of King George VI and only sister of Elizabeth II
Markova, Alicia, 1910 , English ballerina b London Her real name is Lilian Alicia Marks She made her first appearance with the Dolmbey Ballet in 1925 Joining the Vic-Wells Company in 1932 as the star dancer, she left to form her own company in 1935 with Anton Dolin In 1938 she joined a newly created Ballet Russe, but left in 1941 to join the Ballet Theatre She gained note for her mastery of precision and style, a dancing combination of perfection of form and movement with an ethereal grace See biography by Anton Dolin (1953)
Marlowe, Julia, d 1950
Martin, Archer John Porter, 1910- , English biochemist, educated at Cambridge Univ From 1938 to 1946 he carried on chemical research in the laboratories of the Wool Industries Association at Leeds Yorkshire In 1948 he joined the staff of the National Institute for Medical Research, London, where he became head of the physical chemistry division A specialist in the development of chromatographic and other methods of chemical analysis, he was awarded jointly with R L M Synge the 1952 Nobel Prize in Chemistry for his contributions to paper partition chromatography, a method of separating and identifying chemical substances in a mixture
Mary, dowager queen of England, d 1953
Maude, Cyril, d 1951
Mau Mau see KENYA
Mauriac, François, was awarded the 1952 Nobel Prize in Literature
Maurras, Charles, d 1952 a few months after his release from imprisonment because of ill-health
Meany, George, 1894 , American labor leader, president of the American Federation of Labor (1952-), b New York city A plumber, he was elected business agent of his local union in 1922 and rose in 1934 to be president of the New York State Federation of Labor He proved an able representative before the Albany legislature Elected secretary treasurer of the A F of L in 1939 he held that post until his elevation to the presidency upon the death of William Green
Mengelberg, Josef Willem, d 1951
Menotti, Gian-Carlo His opera *Amahl and the Night Visitors* (1951) written for television, was later presented as opera
Mexico Adolfo Ruiz Cortines succeeded Miguel Aleman as president in 1952
Meyerhof, Otto, d 1951
Miaskovsky, Nikolai Yakovlevich, d 1950
Michener, James Albert, 1907- American author, b New York city, grad Swarthmore College, 1929, M A Colorado State College 1936 An educator specializing in the social sciences he in 1941 became a book editor Experiences in the Navy in the Second World War provided material for his short stories, *Tales of the South Pacific* (1947) which was adapted into the highly successful musical play, *South Pacific* Later books were *The Fires of Spring* (1949) *Return to Paradise* (1951), and *The Voice of Asia* (1951)
Millay, Edna St Vincent, d 1950
Miller, George Abram, d 1951
Miller, Kenneth Hayes, d 1952
Millspaugh, Arthur Chester (mĭlz'pō), 1883- , American political scientist, b Augusta Mich , B A Albion College, 1908, M A Univ of Illinois, 1910, Ph D Johns Hopkins 1916 He served as financial adviser to Iran (1922 27 1943 45) and to Haiti (1927 29) and was a staff member of Brookings Institute (1929 42 1946 48) He wrote many works on political science, including *Toward Efficient Democracy* (1949)
Molnar, Ferenc, d 1952, in New York city
Molotov, Vyacheslav Mikhailovich, entered the Malenkov cabinet in 1953 as vice premier and minister of foreign affairs of the USSR
Montemezzi, Italo, d 1952
Montessori, Maria, d 1952
Morgan, Harcourt Alexander, d 1950
Morocco, French The rising tide of nationalism culminated in riots in 1951 and 1952 Resident General Augustin Guillaume blamed the riots of Dec , 1952, on Soviet and Arab League agents
Mossadegh, Mohammed (mosədĕkh'), 1880- , Iranian statesman, leader of National Front party, premier (1951) His nationalization in 1951 of the British-owned oil industry led to a rupture of diplomatic relations with Great Britain and interna-

tional repercussions His powers were greatly increased in 1952 and 1953 He regained face quickly after the riots of Feb, 1953, when he was forced to flee his home in advance of pro-Shah rioters, and subsequent political developments to July, 1953, were in his favor See also IRAN

Murray, Philip, d 1952 He was succeeded as president of the C I O by Walter P Reuther

Musil, Robert (rō'bĕrt mōō'zĭl) 1880-1939 Austrian writer His chief work is the novel *Der Mann ohne Eigenschaften* (3 vols 1930-42, Eng tr of Vol I, *The Man without Qualities*, 1953) Critics have compared him with Proust and Joyce

Mutual Security Program The Mutual Security Act was passed by the U S Congress in 1951 It established the Mutual Security Agency to replace the Economic Cooperation Administration for the handling of economic aid to foreign countries and for coordinating economic, military, and technical aid programs In Jan, 1953, Harold E Stassen replaced W Averell Harriman as director of the program

Naguib, Mohammed (nä'gēb') 1901- president of Egypt (1954-), b Khartoum Educated at the Royal Military Academy he became an army officer in 1920 In the fighting against Israel in 1948 he distinguished himself and was made major general, but his nationalism and his determination to fight corruption in high places won him the animosity of King Farouk, who had him demoted Naguib's popularity grew On July 23, 1952 by a coup d'état he upset the royal regime Farouk abdicated Naguib on Sept 7 became prime minister and announced a program of purging public offices of corruption dissolving political parties and distributing land to the peasants He was strong in opposing the British on the questions of the Sudan (see ANGLO-EGYPTIAN SUDAN) and the SUEZ CANAL On May 5 1953, a constitutional committee voted to replace the kingdom with a republic and in June, Naguib became president

Nanga Parbat The seventh-highest peak in the world, Nanga Parbat was scaled July 4 1953 by a German and Austrian team Herman Buhl planted the flags of the West German Republic and Pakistan at the summit (26,660 ft) making this the highest peak, next to Mt Everest to be conquered by man

Netherlands The years 1950-52 were marked by economic recovery but the flooding of one third of the country in the disastrous North Sea storms of early 1953 resulted in staggering human and material losses In 1952 the Netherlands became a charter member of the EUROPEAN COAL AND STEEL COMMUNITY

Nethersole, Dame Olga, d 1951

Neumann, Alfred, d 1952

New Jersey Turnpike, part of the New Jersey highway system extending 115 mi NE from Deepwater, in SW New Jersey, at Delaware Memorial Bridge to Ridgefield Park, near the Hudson It is a landscaped toll road

Nigeria On July 1 1951, Nigeria was granted a new constitution giving natives a more prominent role in the government By a resolution passed in May, 1953, Nigeria demanded independence in three years Discovery of one of the world's largest uranium deposits was announced in 1953

Nitti, Francesco Saverio, d 1953

Nixon, Richard Milhous, 1913- , Vice President of the United States (1953-), b Yorba Linda Calif grad Whittier College 1934, and Duke Univ Law School 1937 He practiced law in Whittier, Calif from 1937 to 1942 served briefly with the Office of Emergency Management then enlisted in the Navy and served until 1946 Without professional political experience, he won a seat as U S Representative from California in 1946 and was elected to the Senate in 1950 As a member of the House Committee on Un-American Activities he was credited with forcing the perjury case against Alger Hiss to a showdown He favored continuing the investigation of the Communist threat in the United States, opposed isolationism and crusaded against corruption in government He was nominated as the Republican vice presidential candidate in the campaign of 1952 In the campaign he vigorously defended accepting a fund raised by California businessmen for his political expenses He was elected with Eisenhower

Nobel Prize winners for 1950-52 were *Peace*, 1950, R J Bunche, 1951, Léon Jouhaux, 1952, no award *Chemistry*, 1950 Otto Diels and Kurt Alder, 1951, G F Seaborg and E M McMillan, 1952 Archer Martin and Richard Synge *Physics*, 1950 C F Powell, 1951, J D Cockcroft and E T S Walton, 1952, Felix Bloch and E M Purcell *Physiology and Medicine*, 1950 P S Hench, E C Kendall, and Tadeus Reichstein, 1951, Max Theiler, 1952, S A Waksman *Literature*, 1950, Bertrand Russell, 1951, P F Lagerkvist, 1952, François Mauriac

North Atlantic Treaty The emphasis which had been almost solely on military matters in the early days of the North Atlantic Treaty Organization (NATO) was broadened in 1951 to include political and economic cooperation Gen Dwight D Eisenhower, supreme commander (1950-52) of NATO, established in 1951 the Supreme Headquarters of Allied Powers in Europe (SHAPE) and the North Atlantic Defense College Greece and Turkey were approved for admission in 1951 In 1952 Lord Hastings Ismay was made secretary general of NATO, and Gen Matthew B Ridgway succeeded Eisenhower as supreme commander Gen Alfred Gruenther was named as Ridgway's successor A defensive alliance to be called the EUROPEAN DEFENSE COMMUNITY was signed by European members in 1952, but by July 1, 1953, it had been ratified only by West Germany Ridgway described the military force of NATO in 1953 as improved but still inadequate to meet large-scale aggression

Nyasaland see RHODESIA, SOUTHERN

O'Dwyer, William He resigned the mayoralty of New York city to accept the appointment as ambassador to Mexico in Aug, 1950 His recall from his new post was demanded by Republican Congressmen as a result of charges that he had been involved in corrupt practices in New York city In Dec 1952, he resigned as ambassador but remained in Mexico

Okada, Keisuke, Marquis, d 1952

Olympic games The 15th Olympiad held at Helsinki, Finland, in July, 1952, was successful, despite the underlying tensions of the world political situation The 5,867 competing athletes represented 69 countries Russia participated in the games for the first time since 1912, and although the athletes of the USSR and its satellites were housed in a separate camp from Western athletes, there was much fraternization between the groups Ten new world records and 151 new Olympic records were set A Czech army major Emil Zapotek, became the first winner of three distance running events (5,000 meters, 10,000 meters, and the marathon) in the same Olympic meet setting Olympic records in all three Bob Mathias of the United States repeated his 1948 victory in the decathlon with an Olympic and world record of 7,887 points Under a point-scoring system for national teams which is strictly unofficial (since the International Olympic Committee recognizes only individual winners of separate events), the United States led with 614 points the USSR had 553 and Hungary 308 U S athletes won 40 gold medals for first places the Russians 23 The United States scored heavily in track and field swimming and diving boxing, and weight lifting while the USSR was strong in gymnastics track and field Greco-Roman wrestling and weight lifting Earlier in Feb 1952 Norway the host country became the unofficial winner of the 6th Winter Olympiad held at Oslo Norwegians dominated the skiing and speed-skating events and Norway's speed skater Hjalmar Andersen was the individual star of the games Dick Button, who retained his figure-skating championship with the unanimous vote of nine judges, and Andrea Mead Lawrence, who won two skiing events were outstanding Americans

Organization of American States went into force in 1951 after 14 of the 21 republics had ratified the charter (the Bogotá Charter)

Orinoco The origin of the river in mountain wilderness, sought by several expeditions, was definitively determined in 1951 as substantially that determined by the aerial expedition of 1944

Orlando, Vittorio Emanuele, d 1952

Orlon, trade name for a synthetic textile fiber made from natural gas, oxygen, and atmospheric nitrogen It is strong but light, and it is resistant to sunlight moisture and attacks by fungi and insects Combined with other fibers, Orlon can be used to make either silk or woolly textiles

Pace, Frank, Jr, resigned as U S Secretary of the Army in Jan 1953, when the Truman administration left office

Page, Leigh, d 1952

Pakistan Tension between Pakistan and India over the KASHMIR question continued through 1951 and 1952, but a solution seemed likely in early July, 1953 Work was begun on a democratic form of constitution in 1951 In that year a Communist conspiracy involving high-ranking military leaders was discovered and repressed On Oct 16, 1951, Prime Minister Liaquat Ali Khan was assassinated He was succeeded by the then governor general, Khwaja Nazimuddin Communist agitation continued throughout the country, and the government had also to contend with religious unrest Nazimuddin requested the resignation of Chief Minister Mian Muntaz Daltana in March, 1953, accusing him of inspiring orthodox Moslem riots against the foreign minister Nazimuddin and his cabinet were dismissed April 24, 1953, in a political crisis over food shortages and Moslem factional strife Mohammed Ali was named prime minister The famine-stricken country was to receive U S aid in 1953

Panama Arnulfo Arias was deposed from the presidency by a coup in 1952 and was succeeded by José Antonio Remón

Pangalos, Theodore, d 1952

Panmunjom (pän"mōōnjŏm') village, central Korea, S of the 38th parallel, just SE of Kaesong In the Korean war the truce talks, begun in Kaesong, were moved to Panmunjom in Oct., 1951, and continued with interruptions in 1953

Patel, Vallabhbhai, d 1950 He had done much to bring the princely states into the Indian republic, and he was still deputy premier and minister for home affairs and the states when he died.

Patugian, Haig, d 1950

Paton, Alan, 1903-, South African author His novel *Cry the Beloved Country* (1948), protesting South Africa's racial-discrimination policies, won wide praise and was made into a musical play (*Lost in the Stars*, 1950) and a film (1952) He became a leader of the new anti-Malan liberal party

Pattee, Fred Lewis, d 1950

Patterson, Robert Porter, d 1952 He was killed in an airplane crash at Elizabeth, N J

Pepper, Claude Denson, was defeated for the Democratic nomination to the U S Senate from Florida in 1950

Perón, Juan Domingo, president of Argentina since 1946, was reelected to a six-year term in 1951. His wife, Eva Duarte de Perón, died in 1952

Perrine, Charles Dillon, d 1951

Perth, James Eric Drummond, 16th **earl of,** d 1951.

Pétain, Henri Philippe, d 1951 Several weeks before his death his sentence was commuted from life imprisonment in a military fortress to detention in a villa

Phumiphon (pōōm'ēpŏn), 1927- , king of Thailand (1946-) He was at school in Switzerland when his brother, King Ananda, was killed (1946) under circumstances that have never been cleared up Phumiphon ruled under a regency until 1950, when he was crowned and took power in his own right He was married in 1950 and a son and heir apparent was born in 1952 His name in fuller form is Phumiphon Adundet

Poland adopted a new constitution in 1952, largely modeled on the 1936 constitution of the USSR

Poor, Charles Lane, d 1951

Portugal continued after 1950 under the government of Antonio Oliveira de Salazar President Carmona died in 1951 and was succeeded by Gen Francisco Higino Craveiro Lopes

Powell, Cecil Frank, 1903- English physicist, educated at Cambridge Univ Associated with the Univ of Bristol from 1928 he became professor of physics in 1948 He received the 1950 Nobel Prize in Physics for his research on cosmic rays and mesons and for his methods of photographing nuclear processes

Proctor, Alexander Phimister, d 1950

Prokofiev, Sergei Sergeyevich, d 1953 His final symphony, the Seventh, appeared in 1952

Puerto Rico A new constitution giving the island commonwealth status was ratified in 1952, Luis Munoz Marin was reelected governor There is an active movement for statehood

Purcell, Edward Mills, 1912- American physicist, b Taylorville, Ill grad Purdue Univ (B S, 1933), Ph D Harvard 1938 From 1938 he taught at Harvard, becoming professor in 1949 During the Second World War he carried on research that contributed to the development of radar The 1952 Nobel Prize in Physics was awarded jointly to Purcell and Felix Bloch for their independent development of the nuclear resonance or nuclear induction method of measuring the magnetic fields of the nuclei of atoms

Quemoy (kwmoi'), Mandarin *Kwmen* or *Chin-men*, island (60 sq mi pop 82,822), in Formosa Strait, off Fukien prov In the island group are also Little Quemoy (Lesu), Tan and Little Tan The chief town is Quemoy The rocky and sandy islands produce meager crops of wheat, rice, and sweet potatoes In 1949 many Nationalist Chinese retreating before the victorious Communists took refuge here Two large-scale Communist attempts to take the territory were stalwartly beaten back From Sept, 1951, to July, 1953, no further attempts were made

Radiguet, Raymond (rä'mō radēgā'), 1903-23, French author In his brief career he produced two accomplished novels—*Le Diable au Corps* (1923, Eng tr, *The Devil in the Flesh*, 1932) and *Le Bal du comte d'Orgel* (1924, Eng tr, *Count's Ball*, 1929, *Count d'Orgel*, 1953)

Randall, James Garfield, d 1953 The third volume of his *Lincoln the President* appeared in 1952

Reichstein, Tadeus (rīk'shtīn), 1897- , Swiss organic chemist, b Poland, educated at the technical school in Zurich After teaching chemistry at the technical school (1922-38), he became (1938) head of the department of pharmacy at the Univ of Basel For his work on the hormones of the cortex of the adrenal glands he shared with Edward C Kendall and Philip S Hench the 1950 Nobel Prize in Physiology and Medicine

Renner, Karl, d 1950 Theodor Korner succeeded him as president of Austria

Repplier, Agnes, d 1950

Republican party The 1952 presidential election in the United States returned the Republican party to power after 20 years of Democratic rule The landslide vote given Dwight D Eisenhower for the presidency made deep inroads into the Democratic

"solid South" stronghold and also enabled the Republicans to win control of both houses of Congress by a narrow margin

Reuther, Walter Philip. He was elected president of the C.I.O. in Dec., 1952, following the death of Philip Murray

Revillagigedo Islands, archipelago in the Pacific, off Colima, W Mexico. A volcano on San Benedicto Island rose suddenly in 1952

Rhee, Syngman, 1875–, Korean statesman, president of the Republic of Korea (1948–). Early an advocate of Korean independence, he led a demonstration against the Japanese in 1897 and was condemned to life imprisonment but was released under an amnesty. Rhee went to the United States, where he studied at Harvard and Princeton, then he spent some time in Hawaii. In 1919 a group of conspirators for Korean independence made him president of a government in exile, and he never ceased working for the cause. When Korea was taken in the Second World War, he became a leader in South Korea under U.S. occupation, and in 1948 he became first president of the Republic of Korea, which claimed the right to rule over all Korea but was opposed by the Communist People's Republic of Korea in the north. In the hardships of the Korean war (see Korea) he continued to govern. When in June, 1953, a truce was being negotiated which he felt would deprive South Korea of the right to establish rule over a united country, he refused to agree and threatened to continue the war. To prove the seriousness of this stand, South Koreans on June 28, 1953, unilaterally released 27,000 North Korean and Communist prisoners of war. Attempts of U.S. President Eisenhower to win him over by correspondence and by a special envoy, Assistant Secretary of State Walter S. Robertson, had not been successful early in July 1953. Some groups have criticized Rhee as autocratic and lacking a mandate from his people

Rhodesia, Northern see Rhodesia, Southern

Rhodesia, Southern. A Central African federation plan concerning Northern and Southern Rhodesia and Nyasaland was approved by the British House of Commons in early 1953, but the idea continued to meet opposition among large sections of the native population

Ridgway, Matthew Bunker, 1895–, U.S. general, b. Fort Monroe, Va., grad. West Point 1917. In 1939 he was assigned to the War Plans Division of the War Dept. General Staff. In the Second World War he was made (1942) assistant division commander and then commanding general of the 82d Infantry Division, when this became the 82d Airborne Division. Ridgway remained in command and led his men in the invasions of Sicily, Italy, and France. In 1946 he became a member of the military staff committee of the United Nations. Appointed (1950) commander of the U.S. 8th Army in Korea, he replaced (1951) Douglas MacArthur as commander of United Nations forces in Korea and of the Allied occupation forces in Japan. In June 1952, Ridgway replaced Dwight D. Eisenhower as supreme commander of the Allied Powers in Europe, a position he held until he was appointed Army chief of staff in 1953

Rigsdag see Denmark

Robins, Elizabeth, d. 1952

Robinson, Boardman, d. 1952

Robinson, Ray, 1921–, American pugilist, b. Detroit. His real name is Walker Smith, and he is widely known as Sugar Ray. He began boxing after three years of high school in New York city. Having won all his amateur fights (about 100), including the Golden Gloves featherweight title, Robinson turned professional in Oct., 1940, and was equally successful. In the U.S. army (1943–44) in the Second World War, he was a sergeant in Joe Louis's boxing troupe. By 1946 he was considered the leading welterweight (champion Marty Servo had retired), and when, in Dec., 1946, he defeated Tommy Bell in 15 rounds, he was formally recognized as the welterweight champion. Sugar Ray held that title for five years, taking on all comers, both in the United States and in Europe where he became a great favorite. Voted the outstanding boxer of 1950 and now lacking respectable opposition among welterweights, Robinson moved up to the middleweight class and on Feb. 14, 1951, scored a technical knockout in the 13th round over champion Jake LaMotta to become the new titleholder. This was his fifth victory in six bouts with LaMotta. He lost the middleweight title to Randy Turpin in a 15-round upset at London on July 10, 1951, but regained it from the British champion in New York on Sept. 12, by a technical knockout in the 10th round. In 1952 he outpointed Carl (Bobo) Olson and knocked out Rocky Graziano, middleweights, before challenging light heavyweight champion Joey Maxim on June 25. Sugar Ray was far ahead on points when, collapsing from the terrific 104-degree heat, he was unable to come out for the 14th round. On Dec. 18, 1952, he announced his retirement. A magnificent boxer and hard puncher, he has been rated the best pugilist, pound for pound, of his era.

Rodgers, Richard. Among his recent works is *The King and I* (1951)

Roland Holst, Henriëtte (van der Schalk), d. 1952

Romberg, Sigmund, d. 1951

Rommel, Erwin. His memoirs and correspondence of the Second World War were published in 1953 (*The Rommel Papers*, ed. by B. H. Liddell Hart)

Roosevelt, Eleanor, was in Jan., 1953, replaced as U.S. representative on the United Nations Human Rights Commission by Mrs. Oswald Bates Lord

Rosenberg Case. In March, 1951, Julius Rosenberg, electrical engineer, and his wife, Ethel Greenglass Rosenberg, were found guilty of conspiring to transmit atomic secrets to the USSR, partially on the evidence of her brother. Husband and wife were executed June 19, 1953. The case excited much discussion, and the executions occurred only after many efforts at prevention

Ross, Edward Alsworth, d. 1951

Rostovtzeff, Michael Ivanovich, d. 1952

Ruhr. The international authority for the Ruhr district was liquidated in 1952 when the European Coal and Steel Community became effective

Rumania continued after 1950 under Communist rule. A cabinet shake-up in 1952 brought former premier Peter Groza to the presidency, George Gheorghiu-Dej became premier, Anna Pauker lost her post as foreign minister

Rundstedt, Karl Rudolf Gerd von, d. 1953. He had been released from British custody in 1949

Saarinen, Eliel, d. 1950

Saar Territory. While France supported the autonomous government of the Saar Territory, the West German government protested the political and economic separation of the area from Germany. Elections late in 1952 gave the supporters of the status quo (i.e., continued economic union with France) a large majority. However the principal pro-German parties, being barred from the polls, could signify their wishes only by abstention or by casting invalid ballots. Although the pro-French government polled a majority of the total registered vote, the German government challenged the validity of the outcome. The Franco-German dispute over the Saar was a major obstacle to French ratification of the European Defense Community treaty

Salinas, Pedro, d. 1951, in the United States

Santayana, George, d. 1952. His volume of essays on politics, *Dominations and Powers*, appeared in 1951, the third and final volume (*My Host the World*) of his autobiographical *Persons and Places* was issued in 1953

Sarton, George, 1884–, American science historian, b. Belgium, grad. Univ. of Ghent (B.S., 1906, Sc.D., 1911). He came to the United States (1915) and became a naturalized citizen (1924). Known internationally for his contributions to the history of science, he founded and edited two periodicals devoted to the history and philosophy of science—*Isis* (founded 1912) and *Osiris* (founded 1936). He taught the history of science at Harvard (1916–18, 1920–51) and was a research associate of the Carnegie Institution of Washington (1918–19). Among his works are *Introduction to the History of Science* (3 vols., 1927–48), *The History of Science and the New Humanism* (1931, rev. ed., 1937), *The Study of the History of Science* (1936), *The Study of the History of Mathematics* (1936), *The Life of Science* (1948), *Science and Tradition* (1951), *A Guide to the History of Science* (1952), *A History of Science: Ancient Science through the Golden Age of Greece* (1952)

Schnabel, Artur, d. 1951

Schönberg, Arnold, d. 1951

Schuman, Robert, resigned as foreign minister in 1953. For the Schuman Plan, see European Coal and Steel Community

Seaborg, Glenn Theodore, 1912–, American chemist, b. Ishpeming, Mich., grad. Univ. of California at Los Angeles (B.A., 1934), Ph.D. University of California at Berkeley, 1937. He began teaching at the Univ. of California in 1937 and became professor in 1945. From 1942 to 1946 he was associated with the metallurgical laboratory of the Univ. of Chicago. For discoveries concerning the chemistry of transuranium elements he shared with Edwin M. McMillan the 1951 Nobel Prize in Chemistry. Known for his work in nuclear chemistry and physics and artificial radioactivity, Seaborg is codiscoverer of the elements plutonium (and its isotope plutonium 239), americium, curium, berkelium, and californium

Severing, Wilhelm Karl, d. 1952

Sforza, Carlo, Conte, d. 1952

Shaw, George Bernard, d. 1950

Sherrington, Sir Charles Scott, d. 1952

Shidehara, Kijuro, Baron, d. 1951

Shinn, Everett, d. 1953

Simenon, Georges (zhôrzh' sēmnô'), 1903–, Belgian author. Spectacularly prolific, he has written countless detective stories, many with Inspector Maigret as their hero. His later psychological novels, e.g., *Tropic Moon* (Eng. tr. 1944), *Heart of a Man* (Eng. tr., 1951), *Act of Passion* (Eng. tr., 1952), and *Satan's Children* (Eng. tr., 1954)—are remarkable for their relentless impact, brevity, and sparse style. Simenon made his home in the United States after the Second World War. He writes in French

Simkhovitch, Mary Kingsbury, d. 1951

Sloan, John, d. 1951

Smuts, Jan Christiaan, d. 1950

Snyder, John Wesley. He was succeeded by George M. Humphrey as U.S. Secretary of the Treasury in Jan., 1953. Snyder then became vice president of Willys-Overland Motors, Inc.

South Africa, Union of. The elections of 1950 and 1953 gave further support to Prime Minister Daniel F. Malan's Nationalist party policy of *apartheid*—racial segregation and discrimination. His chastisement measures, such as use of the Suppression of Communism Act (1950) to silence critics, caused some unrest but he thrust forward in opposition. The Supreme Court had invalidated some of the segregation laws, and in 1953 a bill was passed taking final decision in constitutional cases from the Supreme Court and giving power to a "high court" of the Malan-dominated Parliament. Native opposition to the racial laws began to take the form of passive resistance, a course encouraged by such anti-Malan groups as the Torch Commandos (a veterans' organization). The Liberal party was organized in 1953 to oppose *apartheid*. Malan's announced intention of making South Africa a republic instead of a British dominion. Strong nationalist sentiments also caused the breakdown of negotiations with the United Nations concerning the administration of South-West Africa, the South African delegate walked out of Security Council discussions

Spain continued after 1950 under the dictatorship of Francisco Franco. Royalists won important cabinet posts in 1951, but no further move was made toward Bourbon restoration (as of July 1, 1953). Late in 1950 the United Nations General Assembly voted to lift the ban on full diplomatic relations between its members and the Franco government. The United States, France, and Great Britain soon exchanged ambassadors with Madrid, and the U.S. Congress authorized a loan to Spain (1950). In 1951 began negotiations between the United States and Spain with the object of reaching a military alliance. In exchange for military aid Spain was to allow the establishment of American air and naval bases. The prospective alliance was sharply opposed by France and Great Britain, and in 1952 the negotiations entered a stage of suspended animation, which continued in 1953

Spalding, Albert, d. 1953. He wrote a historical novel, *A Fiddle a Sword and a Lady* (1953)

Sprague, Oliver Mitchell Wentworth, d. 1953

Stahlberg, Kaarlo Juho, d. 1952

Stalin, Joseph Vissarionovich, d. March 5, 1953, of a cerebral hemorrhage. His favorite, Georgi Malenkov, succeeded him as premier of the USSR. Subsequent changes in Soviet policy were claimed to have been planned by Stalin. Stalin's body was entombed next to Lenin's in the mausoleum on Red Square, in Moscow. Outside Russia, Stalin's death was taken as a turning point in world affairs—though its effect was still immeasurable in July, 1953

Stassen, Harold Edward, was an unsuccessful candidate for the Republican presidential nomination in 1952. In Jan., 1953, he replaced W. Averell Harriman as director of the Mutual Security Agency, at the same time resigning his post as president of the Univ. of Pennsylvania

Steinbeck, John Ernst. His novel *East of Eden* was published in 1952

Stephens, James, d. 1950

Stevenson, Adlai Ewing, 1900–, American political leader, b. Los Angeles, Calif., grad. Princeton, 1922, J.D. Northwestern Univ. 1926, grandson of Adlai Ewing Stevenson. Admitted to the bar in 1926, he practiced law in Chicago. From 1941 to 1944 he was an assistant to the U.S. Secretary of the Navy. He was the head of an economic mission to Italy in 1944 and served with a War Dept. mission to Europe in 1944. An adviser to the conference which adopted the charter of the United Nations, he was a member of the U.S. mission to the UN General Assembly in 1946 and 1947. He became governor of Illinois in 1948. A somewhat reluctant Democratic presidential nominee in 1952, he lost the election to Dwight D. Eisenhower but emerged as the leader of the Democratic party. In 1953 he embarked on a five-month tour that took him around the world

Stimson, Henry Lewis, d. 1950

Strauss, Lewis Lichtenstein, 1896–, American public official and financier, b. Charleston, W.Va., grad. Medical College of Virginia and Jewish Theological Seminary. Associated with Kuhn, Loeb and Company since 1919, as a partner after 1929, he resigned in 1946. He was a member of the Atomic Energy Commission from 1946 to 1950 and returned as its chairman in 1953. He is a member of the U.S. Naval Reserve, in which he became a rear admiral in 1945

Stravinsky, Igor Feodorovich. His opera *The Rake's Progress* had its American première in 1953.

Strong, George Templeton, 1820–75, American diarist and lawyer, b. New York city, grad. Colum-

bia, 1838 He was admitted to the bar in 1841 He was made a trustee of Columbia in 1853, helped found its law school, and was a strong supporter of the School of Mines In the Civil War he served as treasurer of the U S Sanitary Commission A staunch Republican, he worked to found the Union League Club He was also a vestryman of Trinity Church and president of the Philharmonic Society In 1952 his diary, edited by Allan Nevins and Milton H Thomas, was published in four volumes It covers a period of forty years and is a rich source of social and political history

Suez Canal. Egyptian objection to the British occupation of the Canal Zone grew stronger after May, 1950 In 1951 Egypt was accused in the United Nations of interfering with transit and restricting goods in the zone, and in Oct , 1951, Egypt repudiated the Anglo-Egyptian pact of 1936 Clashes and riots followed Talks between the British and the Egyptians broke down on May 6, 1953, and tension was strong early in July

Summerfield, Arthur Ellsworth, 1899–, U S Postmaster General (1953–), b Pinconning, Mich He was a real estate broker from 1919 to 1924 In 1924 he became an oil distributor in Flint, and in 1929 he also went into the automobile field His outfit, the Summerfield Chevrolet Company, became one of the largest retail automobile agencies in the United States He entered politics in Michigan in 1940 when he organized a campaign committee which helped carry the state for Wendell Willkie His reorganization of the Republican party's fund-raising methods in Michigan attracted wide attention Elected a committeeman to the Republican National Committee in 1944, he held various positions in that organization until his election to the national chairmanship in July, 1952 He played a strategic role in securing the presidential nomination for Dwight D Eisenhower in 1952 and was subsequently given a cabinet post in the Eisenhower administration

supersonic speed see JET PROPULSION

Sweden King Gustavus V died in 1950 and was succeeded by his son Gustavus VI

Synge, Richard Laurence Millington, 1914 , British biochemist, b Scotland, educated at Winchester College and Trinity College, Cambridge After serving as biochemist in the wool industries (1938–41), he became (1943) biochemist at the Lister Institute of Preventive Medicine in London and (1948) biochemist at the Rowett Research Institute at Bucksburn, Aberdeenshire He was awarded jointly with Archer J P Martin the 1952 Nobel Prize in Chemistry for his work in developing paper partition chromatography, a method of separating and identifying chemical substances in a mixture

Syria. Increasing Syrian nationalism caused lessening interest in the Greater Syria" plan, which was abandoned by Abdullah's successor in Jordan, King Talal, who signed a Syria-Jordan friendship pact in March, 1952 Israeli-Syrian animosity was marked by violence in 1950 and 1951, and there were repeated debates in the United Nations between Israel and the Arab states Tension on the Syrian-Lebanese border occupied the attention of the government from 1950 to 1953 Despite a trade agreement, some bad feeling still remained in July, 1953 Syrian politics were marked by frequent changes A new government which came into power by a coup d'état on Nov 29, 1951, headed by Col Fawzi Silo and the Syrian "strong man," Col Adib el Shishakly, was still in power in July, 1953

Taft, Robert Alphonso, continued his opposition to Democratic policies particularly in foreign affairs He condemned the Korean policy of the Truman administration, opposed the stand on Formosa, and objected to Secretary of State Dean Acheson Taft was a leading candidate for the Republican presidential nomination in 1952 but lost to Dwight D Eisenhower He continued his leadership in the Senate by holding the position of Senate majority floor leader, but in June 1953, because of ill health he was forced to turn over the floor leadership to Sen William F Knowland His *Foreign Policy for Americans* appeared in 1951

Talal (tä läl'), 1909 , king of Jordan (1951–52) The son and successor of Abdullah, he had ruled for only a few months when a recurring mental disorder forced the appointment of a regency council In Aug , 1952, parliament removed him from the throne His son succeeded as HUSSEIN I

Taschereau, Louis Alexandre, d 1952

tennis. Pancho Gonzales followed Jack Kramer into the professional ranks late in 1949, and the United States lost international tennis supremacy to Australia Led by Frank Sedgman and Kenneth McGregor, the Australians wrested the Davis Cup from the Americans at Forest Hills in 1950 and were again victorious at Sydney in 1950 and 1951 Sedgman also won the following singles championships Australia (1950), the United States (1951, 1952, he was the first foreigner to take this title since Fred Perry in 1936), and Wimbledon (1952) McGregor defeated Sedgman for the Australian singles championship in 1952 As a doubles team Sedgman and McGregor were practically invincible, winning the Australian and Wimbledon championships in 1951 and 1952 and the U S championship in 1951 Early in 1953 the pair turned professional to tour the world, playing matches against Jack Kramer and Pancho Segura Outstanding American players in these years were Dick Savitt, who won the Australian and Wimbledon singles championships in 1951, and Vic Seixas, who teamed with the Australian Mervyn Rose to win the U S doubles championship in 1952 and won the Wimbledon singles championship in 1953 While Australia dominated the men's game, the United States, with Maureen CONNOLLY and Doris Hart, continued its long supremacy in women's amateur tennis

Thailand King Phumiphon in 1950 was crowned and began to rule in his own right His royal power was great and was made even greater by political change in 1951 The political maneuver of a number of marines in kidnaping the prime minister, Luang Pibul Songgram, earlier in the year was abortive but a military coup late in November was successful The old constitution of 1932 was restored, and the legislature was again unicameral with half its members nominated by the crown This change went into effect in 1952, Pibul Songgram again became premier Efforts were made to improve agricultural and industrial conditions, with some economic and technical aid from the United States under an agreement of 1950 The fall in rubber prices in 1952 affected the economy unfavorably, though Thailand was not hurt as much as some rubber-producing countries, because exports of rice held up The government was firmly opposed to Communism and took steps to put down Communist activities In foreign affairs Thailand was oriented toward the Western Powers When the North Koreans invaded South Korea in 1950 Thai forces were sent very promptly to join the United Nations troops fighting there Early in May, 1953, when the Communist Viet Minh forces threatened the border of Laos and Thailand, the government removed Indo-Chinese from the area and asked the United States for ammunition supplies which were promptly sent By July no actual trouble had occurred

Theiler, Max, (mīks' tī'lər), 1899–, South African–American research physician, b Pretoria, educated at the Univ of Cape Town, St Thomas's Hospital (London), and the London School of Tropical Medicine Theiler's research on yellow fever, begun while he was connected with the department of tropical medicine of Harvard Medical School (1922–30), was continued at the Rockefeller Foundation, of which he became a staff member in 1930 He received the 1951 Nobel Prize in Physiology and Medicine for his discoveries concerning the nature of yellow fever and how to combat it With his co-workers Theiler produced a yellow fever vaccine known as 17-D

Thorpe, James, d 1953

Tibet Late in 1950 Chinese Communists entered the country and established dominance there, almost without resistance—a conquest signalized by a pact between the Dalai Lama and China on May 27, 1951 The Panchen Lama returned under Communist protection from his long exile in China

tidelands oil The controversial issue of ownership of submerged land and resources along the U S coast line has been a thorny political problem for years Revolving around the question of territorial waters, the issue also involves the old question of states' rights The states involved maintained that the submerged lands and the resources contained therein within the three-mile marginal belt over which a state has control by international law belonged by rights to the particular state (Both Texas and Florida claim ownership up to 10½ miles off-shore because of previous seaward boundaries) The U S Supreme Court consistently maintained that the submerged lands were the property of the federal government Confusing the whole issue was the question of just what kind of demarcation line could be drawn between the lands claimed by the states and those claimed by the federal government President Harry S Truman, who had vetoed efforts to turn the submerged lands over to the states, declared the lands a naval petroleum reserve just before he left office in 1953 One of the first acts of the Eisenhower administration, which had promised action on the matter, was to pass (May, 1953) a bill giving the coastal states title to submerged lands within their historic boundaries Assigned to the states was the right to develop resources, oil companies which had been marking time awaiting a decision immediately set about efforts to find oil and gas deposits Denounced by some Democrats for giving land and sources away, the measure promised more political repercussions

Tilden, William Tatem, Jr , d 1953

Tito, Josip Broz, became president of Yugoslavia under the new constitution of Jan , 1953 He made an official visit to the United Kingdom early in the same year An official biography appeared in English in 1953 (Vladimir Dedijer, *Tito*) See also YUGOSLAVIA.

Torrence, Ridgely, d. 1950.

transistor, electronic device useful as a voltage and current amplifier and for performing other functions of which vacuum tubes are capable It was announced in 1948 that the transistor had been invented by John Bardeen and W H. Brattain, working under the direction of William Shockley at the Bell Telephone Laboratories A transistor is made of germanium or some other crystalline semiconducting material (a substance that, depending on the impurities present or on its treatment, assumes properties of a conductor or a nonconductor). The point-contact transistor consists of a germanium crystal with two fine wires placed a few thousandths of an inch apart on its surface, a small input power is enormously amplified over the surface of the germanium In the junction transistor, developed more recently by William Shockley, a minute bar of germanium electrically negative at both ends and with a positive layer of germanium sandwiched between is embedded in plastic, with a wire extending to the outside from each of the three areas, the transistor action takes place within the germanium over the whole of the junctions or areas of contact of the three layers In transistors as in vacuum tubes, currents depend on the motion of electrons, but the transistor operates instantly with no warm-up period, the power needed for operation is extremely small, and the problem of the intense heat developed in devices using vacuum tubes does not exist Other advantages of the transistor are its durability, its high resistance to shock and vibration, and its small size coupled with high efficiency, all of which point to its incorporation in telephone and cable systems, and in radios, television sets and other devices which can be produced in sizes much smaller than the use of vacuum tubes permits

Trieste, Free Territory of By 1953, the United Nations Security Council still was unable to agree on the choice of a governor for the Free Territory of Trieste The area remained divided into a Yugoslav-occupied zone and a zone occupied by British and American troops The Trieste problem continued to vex Yugoslav-Italian relations despite attempts of the Western powers to promote a compromise solution

Truman, Harry S In Nov , 1950, he escaped an assassination attempt by two Puerto Ricans In that year also he ordered the development of the hydrogen bomb, sought the passage of a civil rights program, and sent U S forces to join the United Nations in blocking aggression in Korea In 1951 he was embroiled in a disagreement with Douglas MacArthur, which resulted in the general's dismissal A peace treaty with Japan came into force in 1952, as did defense pacts with Japan, the Philippines, and Australia and New Zealand He did not seek renomination in 1952, instead he backed Adlai E Stevenson for the Democratic nomination Truman turned over his office in Jan , 1953, to his successor, Dwight D Eisenhower, and retired to his home in Missouri to write his memoirs

Tudor, Antony, 1909–, English choreographer, b London Before 1938, when he came to the United States at the invitation of the Ballet Theatre, he danced leading roles and created ballets for several English companies His ballets use the modern idiom Among his most popular works are *Lilac Garden, Gala Performance, Pillar of Fire, Dark Elegies,* and *Undertow*

Tunisia Agitation for independence, begun in Dec , 1951, continued into 1952 France submitted a plan for gradual advance toward Tunisian independence, which was rejected by the bey The first nation-wide elections in April, 1953, saw election of pro-French candidates in rural regions and an effective Nationalist boycott of the polls in Tunis On July 1, 1953, the day after resumption of Franco-Tunisian talks on home rule was announced, the pro-French Prince Azzedine Bey, heir presumptive to the throne, was assassinated

Turkey was admitted into the North Atlantic Treaty Organization in 1951 Turkish contingents joined the United Nations forces in Korea in 1950 and played an increasingly important part in the fighting In 1953 Turkey signed a defensive alliance with Greece and Yugoslavia The Democratic party continued to govern under President Celal Bayar American economic aid contributed to industrial development, and denationalization of industries continued

Union of Soviet Socialist Republics. Relations with the Western powers, particularly with the United States, worsened considerably after the outbreak of war in Korea (1950), which the West ascribed to Soviet instigation The Soviet Union continued to push its rearmament Internal conditions, because of increasing secrecy and censorship, became a matter of speculation for the outside world Meanwhile, Stalin and his government advanced their "peace offensive" against the Western governments and strengthened their hold over the various satellite countries in the Soviet orbit Late in 1952 the All-Union Communist Party Congress met for the first time in 13 years and authorized the reor-

tanization of the top level of the party structure. The Politburo and Orgburo of the central committee of the Communist party were replaced by a single presidium, membership of the party secretariat was doubled Stalin's death (March, 1953) was followed by the orderly transfer of power to Georgi Malenkov Molotov, Beria, and Bulganin assumed the next-highest posts, Marshal Voroshilov replaced Shvernik as president The new government pledged itself to continue Stalin's policies However, it soon became apparent that a change in tactics, at least, had begun Whether, as the government claimed, the revised policy had been planned in advance by Stalin or whether it represented a new departure was as yet uncertain by mid-1953 A group of physicians, mostly Jews, who had been accused of, and had confessed to, a plot against the lives of high Communist leaders, were released on the ground that their confessions had been extorted from them by the secret police This act, unprecedented in Soviet Russia, was followed by a partial amnesty for prisoners New peace overtures were made to the West and appeared serious in intent Occupation policies in Austria and E Germany were eased However, the anti-Communist uprisings in E Germany and the overthrow and arrest of Beria put further "softening" of Soviet policy in doubt

United Nations. Relations in the UN Security Council between the Soviet bloc and representatives of the "free powers" continued strained and hostile after May, 1950, with the USSR using the veto power to thwart any moves not to Communist advantage Disagreements continued on such matters as control of armaments, admission of new members, unification of Germany and the question whether representation should be from Communist China rather than Nationalist China The UN had still to contend with disturbances in Kashmir and between Israel and the Arab states The most significant occurrence of the body's history took place when, in June 1950, North Korean troops crossed the 38th parallel to attack South Korea and UN forces were sent to the aid of the South Koreans The UN objective was unequivocally described as the establishment of a unified, independent and democratic Korea The Chinese Communists who entered the war on the North Korean side in 1951, were labeled aggressors by the UN Cease-fire negotiations, intermittently held after July 1951, looked hopeful of solution in 1953 (see Korea) In 1950, the UN voted independence for Libya and the unification of Eritrea and Ethiopia Trygve Lie announced his resignation as secretary general on Nov 10, 1952 and was replaced on March 31 by Sweden's Dag Hammarskjold The covenant on human rights prepared by the Commission on Human Rights was rejected by U S Secretary of State Dulles in 1953

United States Foreign affairs cast a looming shadow over all U S life as the mutual hostility of the Western Powers (led by the United States) and the Communist Powers (led by the USSR) continued in the "cold war" The most serious occurrence was the outbreak of fighting in Korea, when North Korean Communists invaded the Republic of Korea on June 25 1950 The United Nations promptly declared North Korea the aggressor and sent aid to invaded South Korea (the USSR and other Communist nations not concurring) Most of that aid was contributed by the United States, and the cost of the years of fighting that followed was great in supplies, money and American blood The war effort was successfully backed by the U S people, but there was much bitter criticism of the conduct of affairs, directed particularly against President Truman, Secretary of State Dean Acheson, and the late President Franklin Delano Roosevelt Considerable discord occurred over Truman's dismissal of Gen Douglas MacArthur, who had bluntly advocated attacks on Communist China (chief supplier of aid to the North Koreans) in contradiction of the official policy The long and discouraging delays in the truce talks that had begun in July, 1951, also bred criticism, by early July, 1953, the truce talks still had not ended, though there was much hope for a successful end (see Korea) Difficulties with the Communist countries also strongly affected relations with all other countries (e g , Great Britain, France, Western Germany, see also North Atlantic Treaty and European Defense Community) The same condition was reflected in the building-up of U S defense forces and experiments in use of atomic energy in Nevada and at Eniwetok. Internally, opposition to Communism led to much action against "subversive" activities Most notable was the operation of the Senate investigating subcommittee which, under the direction of Sen Joseph R McCarthy, undertook to root out pro-Communist activities in many fields The U S public was solidly in favor of thwarting Communist influence in the United States, but there was widespread criticism of McCarthy's activities as a threat to freedom of speech and democratic thought. The attack on Communism was, however, much wider than the Senatorial investigation Many volunteer groups undertook to attack pro-Communism, and the trial of Julius and Ethel Rosenberg, who were convicted of betraying atomic-energy secrets to the USSR, caused excitement that rose to a crescendo with their execution in June, 1953 U S attitudes towards Asiatic nations, such as that shown in the signing of a peace treaty with Japan in 1951 and that in extension of aid to many countries, were also affected by opposition to Communism This opposition to Russia was not a true issue in the great political event in the United States, the presidential election of 1952, for both major candidates were agreed in opposition to Communism though not agreed on the policies to be adopted In November the election swept the Republican candidate, Dwight D Eisenhower, into office by victory over his Democratic opponent, Adlai E Stevenson The new administration took office in Jan , 1953, and adopted a policy of relying on the American businessman for a major role in administration Two months later the death of the Russian leader, Joseph V Stalin, brought a change in Russian-American relations, but just how far and in what direction Russian policy under the new leader, Malenkov, had changed was not clear early in July, 1953 The major world problem was still the relation of East and West, Communist and non-Communist nations

Universal Military Training (UMT) Although the United States has used selective service to conscript men in times of war, particularly during the First and Second World Wars, it has never had a system of military training for all male citizens However, such a system was urged as part of the preparedness program instituted after the Second World War as a means of insuring that enough trained men would be on hand if need for them should suddenly arise The question of UMT aroused much controversy Although President Harry S Truman urged the passage of a bill authorizing UMT, Congress compromised by passing a draft bill in 1948 this was extended in 1951 Dwight D Eisenhower also declared himself in favor of UMT in 1953 but said that no program would be advisable while the draft was in force

Uruguay A nine-man federal council was installed in 1952 taking over the duties of the presidency Andrés Martínez Trueba, who was serving as president, became council chairman

Vail, James Garrett, d 1951, in Delhi, India, where he was director of social service for a committee of the Society of Friends

Vandenberg, Arthur Hendrick, d 1951 *The Private Papers of Senator Vandenberg* appeared in 1952

Vandenberg, Hoyt Sanford, resigned as chief of the U S Air Force in 1953 Nathan F Twining was named to succeed him

Van Doren, Carl, d 1950

Van Fleet, James Alward, 1892–, American general, b Coytesville, N J , grad West Point, 1915 He fought in the First World War and later served in the Canal Zone and at Fort Benning Ga As a colonel he trained the 8th Infantry Regiment of the 4th Division in the Second World War and led it in the landing on Utah Beach in Normandy He was soon a major general, commanding the 90th Division and later the 3d Corps From 1948 to 1950, as a lieutenant general, he headed the American military mission to Greece In 1951 Van Fleet succeeded Gen Matthew B Ridgway as commander of the 8th Army in Korea, including all United Nations forces there, though Gen Mark Clark took supreme command Van Fleet retired from the army in April, 1953

Vaughan, Thomas Wayland, d 1952

Vavilov, Sergei Ivanovich, d 1951

Viebig, Clara, d 1952

Viet Nam The war of French and Viet Namese troops against the Communist Viet Minh rebels continued into 1953 without solution More complications arose when the rebels invaded neighboring Laos in 1953 Viet Namese demands for broadened independence received a hearing from the French, and some progress toward that goal seemed likely in July 1953

Vishinsky, Andrei Yanuarievich, yielded his post of foreign minister of the USSR to Molotov in the cabinet reshuffle following Stalin's death (1953) He was made permanent Soviet delegate to the United Nations and deputy foreign minister.

Von Schrenk, Hermann, d 1953

Voronoff, Serge, d 1951

Voroshilov, Kliment Yefremovich, became chairman of the presidium of the supreme council of the USSR (i e , president of the USSR) in 1953

Wagner, Robert Ferdinand, d 1953

Waksman, Selman Abraham He won the 1952 Nobel Prize in Physiology and Medicine for his work in the discovery of streptomycin and of its value in treating tuberculosis

Walton, Ernest Thomas Sinton, 1903–, Irish physicist, educated at Methodist College (Belfast), Trinity College (Dublin), and Cambridge Univ He became a fellow of Trinity College in 1934 and professor of natural and experimental philosophy there in 1946 The 1951 Nobel Prize in Physics was awarded jointly to Walton and Sir John Cockcroft for their pioneer work in transmuting atomic nuclei by bombarding elements with artificially accelerated atomic particles

Walton, Sir William Turner, created knight 1951.

Warfield, David, d 1951

Wavell, Archibald Percival Wavell, 1st Earl, d 1950.

Weeks, Sinclair, 1893–, U.S Secretary of Commerce (1953), b West Newton, Mass , grad Harvard, 1914 A banker and then a manufacturer of metal goods he was active in Republican circles in Massachusetts and became prominent in national political circles, acquiring a reputation for fund raising He served from Feb to Dec 1944, in the U S Senate with an interim appointment to replace Henry Cabot Lodge, Jr In charge of raising funds for the 1952 presidential campaign of Dwight D. Eisenhower, Weeks was given a cabinet post

Weinman, Adolph Alexander, d 1952

Weizmann, Chaim, d 1952 He was succeeded as president of Israel by Itzhak Ben-Zvi

West Indies, British All the islands of the British West Indies (except the Bahamas and the Virgin Islands) agreed in 1953 to join in the British Caribbean Federation, which will finally be a self-governing unit in the British Commonwealth

White, Bouck, d 1951

Wieland, George Reber, d 1953

William or **Frederick William,** former crown prince of Germany, d 1951

Wilson, Charles Edward, 1886–, American government official and industrialist, b New York city He began working for the Sprague Electrical Works in 1899, moving successively through the accounting production, engineering, and marketing departments The General Electric Company absorbed Sprague in 1918, Wilson was elected executive vice president of General Electric in 1937 and moved into the presidency in 1940 In the Second World War he accepted a position on the War Production Board, soon becoming executive vice chairman His managerial abilities were applied to the problems of production quotas and the channeling of material to the proper uses He resigned in 1944 in a disagreement over plans for reconversion Wilson assumed again his post with General Electric returning to the government in 1950 to become director of the Office of Defense Mobilization In this job he had control of all mobilization activities, with powers second only to those of the President A disagreement with President Harry S Truman on a steel-wage dispute led to Wilson's resignation (1952)

Wilson, Charles Erwin, 1890 , American industrialist, U S Secretary of Defense (1953) b Minerva, Ohio grad Carnegie Institute of Technology, 1909 He was an electrical engineer with Westinghouse Electric and Manufacturing Company from 1909 to 1919 and designed the first automobile starters made by Westinghouse In 1919 he joined General Motors Corporation, becoming president of Delco Remy Corporation, a subsidiary in 1926 Vice president of General Motors from 1929 to 1939 he became executive vice president and finally president in 1941 Until 1949 he concentrated on production planning and labor relations In the Second World War he supervised the gigantic war-production activity in which General Motors was engaged He is credited with formulating the cost-of-living wage formula which that corporation inserted in its contract in 1948 He is often confused with another industrialist and government official Charles Edward Wilson

Wood, Clement, d 1950

Yorke, Henry Vincent see Green, Henry

Yugoslavia The years 1950-52 were marked by continued tension with the USSR and Russian-dominated Rumania Hungary, Bulgaria and Albania Relations with the Vatican also remained tense and the Trieste problem was a cause of friction with Italy The Yugoslav people were reduced to near-starvation by a series of calamitous droughts Yugoslavia obtained economic and military aid from Western countries (especially the United States) Though it did not enter the North Atlantic Treaty it was increasingly drawn into the Western camp and in 1953 concluded a defensive alliance with Greece and Turkey Its stringent nationalization and collectivization program was partly abandoned, partly eased in 1952-53, government planning, which had been on the whole unsuccessful, was decentralized and modified Nevertheless the Communist party retained firm control and its new policies were described as further steps toward socialism In Jan 1953, a new constitution was adopted, but the federal structure of the country was left unchanged Marshal Tito was elected president In June, 1953, normal diplomatic relations with the USSR were resumed on Russian initiative, but the Yugoslav government disclaimed any rapprochement with the USSR

Zhukov, Georgi Konstantinovich, was appointed deputy defense minister of the USSR in the Malenkov cabinet of 1953

CENSUS OF THE UNITED STATES, 1950

This list includes all places, incorporated and unincorporated, which had a population of 1,000 or more in 1950. It also includes all available figures for places of less than 1,000 which were given articles in *The Columbia Encyclopedia*, Second Edition

ALABAMA, 3,061,743

Abbeville, 2,162
Adamsville (unincs.), 1,531
Albertville, 5,307
Alexander City, 6,430
Aliceville, 3,170
Andalusia, 9,162
Anniston, 31,066
Arab, 1,592
Ashford, 1,400
Ashland, 1,504
Athens, 6,492
Atmore, 5,720
Attalla, 7,537
Auburn, 12,939
Austinville, 1,110
Bay Minette, 3,732
Bayou La Batre (unincs.), 2,196
Bay View (unincs.), 1,420
Bemiston (unincs.), 1,007
Bessemer, 28,445
Birmingham, 326,037
Boaz, 3,078
Bradford-Duncana (unincs.), 1,425
Brantly, 1,102
Brent, 1,100
Brewton, 5,146
Bridgeport, 2,386
Brighton, 1,689
Brundidge, 2,605
Calera, 1,361
Camp Hill, 1,296
Carbon Hill, 2,179
Centre, 1,672
Centreville, 1,160
Chapman, 943
Chickasaw, 4,920
Childersburg, 4,023
Citronelle, 3,350
Clanton, 4,640
Clayton, 1,583
Collinsville, 1,023
Columbiana, 1,761
Cordova, 3,156
Cullman, 7,523
Dadeville, 2,154
Dallas Mills-East Side (unincs.), 2,768
Daphne, 1,041
Decatur, 19,974
Demopolis, 5,004
Docena (unincs.), 1,551
Dora, 984
Dothan, 21,584
East Brewton, 2,173
Edgewater (unincs.), 1,984
Elba, 2,936
Enterprise, 7,288
Eufaula, 6,906
Eutaw, 2,348
Evergreen, 3,454
Fairfax (unincs.), 2,717
Fairfield, 13,177
Fairhope, 3,354
Fayette, 3,707
Flat Creek-Wegra (unincs.), 1,520
Flomaton, 1,096
Florala, 2,713
Florence, 23,879
Foley, 1,301
Fort Deposit, 1,358
Fort Payne, 6,226
Frisco City, 1,068
Fultondale, 1,304
Gadsden, 55,725
Geneva, 3,570
Georgiana, 1,596
Glencoe, 1,466
Good Water, 1,227
Greensboro, 2,217
Greenville, 6,781
Greenwood (unincs.), 2,421
Grove Hill, 1,443
Gun, 1,137
Guntersville, 5,253
Haleyville, 3,131
Hamilton, 1,624
Hartford, 1,655
Hartselle, 3,429
Headland, 2,091
Heflin, 1,982
Hokes Bluff, 1,158
Holt-Fox (unincs.), 2,453
Homewood, 12,866
Huffman (unincs.), 1,141
Huntsville, 16,437
Irondale, 1,876
Jackson, 3,072
Jacksonville, 4,751
Jasper, 8,589
Lafayette, 2,353
Lanett, 7,434
Langdale (unincs.), 2,721
Leeds, 3,306
Leighton, 1,080
Linden, 1,363
Lineville, 1,518
Lipscomb, 2,450
Livingston, 1,681
Luverne, 2,221
Margaret (unincs.), 1,114
Marion, 2,822
Marrimack (unincs.), 3,045
Mignon (unincs.), 3,053
Mobile, 129,009
Monroeville, 2,772
Montevallo, 2,150
Montgomery, 106,525
Moulton, 1,384
Moundville, 991
Mountain Brook, 8,359
Mulga Mine (unincs.), 1,211
Muscle Shoals, 1,937
New Brockton, 1,055
Northport, 3,885
Oakman, 1,022
Oakwood-Lincoln Mills (unincs.), 4,447
Oneonta, 2,802
Opelika, 12,295
Opp, 5,240
Oxford, 1,097
Ozark, 5,248
Pell City, 1,189
Pepperell (unincs.), 1,166
Phenix City, 23,805
Piedmont, 3,498
Pleasant Grove, 1,802
Prattville, 4,485
Prichard, 19,014
Ragland, 1,008
Red Bay, 1,805
Reform, 1,111
River View (unincs.), 1,322
Roanoke, 5,392
Robertsdale, 1,128
Rosedale (unincs.), 1,859
Russellville, 6,012
Samson, 2,204
Scottsboro, 4,731
Selma, 22,840
Shawmut (unincs.), 3,266
Sheffield, 10,767
Slocomb, 1,219
Southwest Tarrett (unincs.), 1,631
Sullignat, 1,209
Sumiton (unincs.), 1,334
Sylacauga, 9,666
Talladega, 13,134
Tallassee, 4,225
Tarrant City, 7,571
Thomaston, 1,027
Thomasville, 2,425
Troy, 8,555
Trussville, 1,575
Tuscaloosa, 16,396
Tuscumbia, 6,734
Tuskegee, 6,712
Union Springs, 3,242
Uniontown, 1,798
Vincent, 1,240
Warrior, 1,584
West Blocton, 1,280
West End-Avondale-Cobb Town (unincs.), 3,228
West Huntsville (unincs.), 8,221
Wetumpka, 4,813
Winfield, 2,108
York, 1,774

ARIZONA, 749,587

Ajo (unincs.), 5,817
Amphitheater (unincs.), 12,644
Avondale, 2,505
Benson, 1,440
Bisbee, 9,801
Buckeye, 1,942
Casa Grande, 4,181
Chandler, 3,799
Clarkdale (unincs.), 1,609
Clifton, 3,466
Coolidge, 4,906
Cottonwood-Clemenceau (unincs.), 1,626
Douglas, 9,442
Eloy, 3,580
Flagstaff, 7,663
Florence, 1,776
Gilbert, 1,114
Glendale, 8,179
Globe, 6,419
Goodyear, 1,254
Hayden (unincs.), 1,494
Holbrook, 2,336
Jerome, 1,253
Kingman (unincs.), 3,342
Lowell-South Bisbee (unincs.), 1,136
McNary (unincs.), 1,902
Mesa, 16,790
Miami, 4,420
Miller Valley (unincs.), 2,953
Morenci (unincs.), 6,541
Nogales, 6,153
Parker, 1,201
Pasqua Village-El Rio (unincs.), 5,466
Phoenix, 106,818
Prescott, 6,764
Safford, 3,756
Saint Johns, 1,469
Scottsdale (unincs.), 2,032
Somerton, 1,825
Sonora (unincs.), 1,921
South Tucson, 2,364
Sunnyslope (unincs.), 4,429
Tempe, 7,684
Thatcher, 1,284
Tolleson, 3,042
Tombstone, 910
Tucson, 45,454
Wakefield (unincs.), 8,906
Warren (unincs.), 2,610
West Yuma (unincs.), 4,741
Wickenburg, 1,736
Willcox, 1,266
Williams, 2,152
Winslow, 9,518
Yuma, 9,145

ARKANSAS, 1,909,511

Alma, 1,228
Arkadelphia, 6,819
Arkansas City, 1,018
Ashdown, 2,738
Atkins, 1,291
Augusta, 2,317
Bald Knob, 2,022
Batesville, 6,111
Bauxite (unincs.), 2,459
Bearden, 1,300
Beebe, 1,192
Benton, 6,277
Bentonville, 2,942
Berryville, 1,751
Blytheville, 16,234
Boonville, 2,413
Bradley Quarters (unincs.), 2,880
Brewsters Brick Yard (unincs.), 1,458
Brinkley, 4,171
Cabot, 1,147
Camden, 11,172
Carlisle, 1,396
Clarendon, 2,517
Clarksville, 3,343
Coal Hill, 1,273
Conway, 8,610
Corning, 2,045
Cotter, 1,089
Cotton Plant, 1,838
Crossett, 4,619
Cullendale (unincs.), 4,225
Danville, 829
Dardanelle, 1,772
De Queen, 3,015
Dermott, 3,601
Des Arc, 1,612
De Witt, 2,843
Dierks, 1,253
Dumas, 2,512
Earle, 2,375
El Dorado, 23,076
England, 2,136
Euclid Heights (unincs.), 2,090
Fayetteville, 3,072
Eureka Springs, 1,958
Fayetteville, 17,071
Fordyce, 3,754
Forester, 818
Forrest City, 7,607
Fort Smith, 47,942
Gould, 1,076
Greenwood, 1,634
Gurdon, 2,390
Hamburg, 2,655
Harrisburg, 1,498
Harrison, 5,542
Hartford, 865
Hazen, 1,270
Heber Springs, 2,109
Helena, 11,236
Hope, 8,605
Hot Springs, 29,307
Hoxie, 1,855
Hughes, 1,686
Huntsville, 1,010
Hutting, 1,038
Jacksonville, 2,474
Jonesboro, 16,310
Jones Mills (unincs.), 1,009
Judsonia, 1,122
Junction City, 1,013 (including Junction City, La., 1,527)
Lake Village, 2,484
Leachville, 1,240
Lepanto, 1,683
Lewisville, 1,237
Little Rock, 102,213
Lonoke, 1,556
Luxora, 1,102
Mccrory, 1,115
McGehee, 3,854
Magnolia, 6,918
Malvern, 8,072
Manila, 1,729
Mansfield, 869
Marianna, 4,530
Marked Tree, 2,878
Marshall, 1,180
Marvell, 1,121
Mena, 4,445
Monette, 1,114
Monticello, 4,501
Morrilton, 5,183
Mountain Home, 2,217
Mountain Pine (unincs.), 1,155
Mountainview, 1,043
Murfreesboro, 1,079
Nashville, 5,543
Nettleton, 1,382
Newport, 6,254
New Rocky Comfort, 907
North Little Rock, 44,092
Osceola, 5,006
Ozark, 1,757
Paragould, 9,668
Paris, 3,731
Parkin, 1,414
Piggott, 2,558
Pine Bluff, 37,162
Pocahontas, 3,840
Prairie Grove, 989
Prescott, 3,960
Rector, 1,855
Rison, 953
Rogers, 4,962
Russellville, 8,166
Searcy, 6,024
Sheridan, 1,893
Siloam Springs, 3,270
Smackover, 2,495
Springdale, 3,835
Stamps, 2,552
Star City, 1,296
Stephens, 1,281
Stuttgart, 7,276
Texarkana, 15,575 (including Texarkana, Texas, 40,628)
Trumann, 3,744
Tuckerman, 1,253
Van Buren, 6,413
Waldo, 1,491
Waldron, 1,292
Walnut Ridge, 3,106
Warren, 2,615
Washington, 344
West End (unincs.), 1,680
West Helena, 6,107
West Memphis, 9,112
Wilson, 1,301
Wynne, 4,142

CALIFORNIA, 10,586,223

Alameda, 64,430
Albany, 17,590
Alhambra, 51,359
Alisal (unincs.), 16,714
Alturas, 2,819
Anaheim, 14,556
Anderson (unincs.), 1,503
Angels Camp, 1,147
Antioch, 11,051
Arcadia, 23,066
Arcata, 3,729
Armona (unincs.), 1,274
Arroyo Grande, 1,723
Arvin (unincs.), 5,007
Atascadero (unincs.), 3,443
Atherton, 3,630
Atwater, 2,856
Auburn, 4,053
Avalon, 1,506
Avenal (unincs.), 3,982
Azusa, 11,042
Bakersfield, 34,784
Banning, 7,034
Barstow, 6,135
Bartlett Colony (unincs.), 1,515
Bayview-Rosewood-Cutten (unincs.), 2,779
Beaumont, 3,152
Bell, 15,430
Belmont, 5,567
Benicia, 7,284
Berkeley, 113,805
Beverly Hills, 29,032
Big Bear Lake (unincs.), 1,434
Biola Junction (unincs.), 1,002
Bishop, 2,891
Blythe, 4,089
Boulder Creek (unincs.), 1,497
Boyes Springs-Fetters Springs (unincs.), 2,391
Brawley, 11,922
Brea, 3,208
Brentwood, 1,729
Buena Park (unincs.), 5,483
Burbank, 78,577
Burlingame, 19,886
Burney (unincs.), 1,513
Burton (unincs.), 2,381
Calexico, 6,433
Calipatria, 1,428
Calistoga, 1,418
Capitola, 1,848
Carlsbad (unincs.), 4,383
Carmel-by-the-Sea, 4,351
Carmel Woods-Hatton Fields-Carmel Point (unincs.), 1,929
Carmichael (unincs.), 4,499
Carpinteria (unincs.), 2,864
Castroville (unincs.), 1,865
Centerville (unincs.), 1,401
Central Valley (unincs.), 2,202
Ceres, 2,351
Chester (unincs.), 1,197
Chico, 12,272
Chico Vecino (unincs.), 1,967
Chino, 5,784
Chowchilla, 3,893
Chrisman (unincs.), 4,211
Chula Vista, 15,927
Claremont, 6,527
Clovis, 2,696
Coachella, 2,755
Coalinga, 5,579
Colton, 14,465
Colusa, 3,031
Compton, 47,991
Concord, 6,953
Corcoran, 3,150
Corning, 2,537
Corona, 10,223
Coronado, 12,700
Corte Madera, 1,933
Costa Mesa (unincs.), 11 844
Covina, 3,056
Crescent City, 1,700
Crestline-Cedar Pines (unincs.), 1,369
Cuyamonga (unincs.), 1,255
Culver City, 19 720
Cupertino (unincs.), 2,138
Cutler (unincs.), 1,768
Cypress (unincs.), 1,318
Daly City, 15,191
Davis, 3,554
Decoto (unincs.), 2,830
Delano, 8,717
Dinuba, 4,971
Dixon, 1,714
Dos Palos, 1 394
Dunsmuir, 2,256
Earlimart (unincs.), 2,162
East Bakersfield (unincs.), 38,177
El Cajon, 5,600
El Centro, 12,590
El Cerrito, 18,011
El Monte, 8,101
El Monte (unincs.), 2,502
El Paso de Robles, see PASO ROBLES
El Rio (unincs.), 1,376
El Segundo, 8,011
Elsinore, 2,068
Emeryville, 2,889
Empire (unincs.), 1,448
Escalon (unincs.), 1,569
Escondido, 6,544
Eureka, 23,058
Exeter, 4,078
Fairfax, 4,078
Fairfield, 3,118
Fallbrook (unincs.), 1,735
Ferndale, 1,032
Fillmore, 3,884
Folsom, 1,600
Ford City (unincs.), 4,347
Fort Bragg, 3,826
Fortuna, 1,762
Fowler, 1,857
Freedom (unincs.), 2,765
Fresno, 91,669
Fullerton, 13,958
Galt, 1,333
Gardena, 14,405
Garden Grove (unincs.), 3,762
Gilroy, 4,951
Glendale, 95,702
Glendora, 3,988
Gonzales, 1,821
Grass Valley, 5,283
Greenfield, 1,309
Greenville (unincs.), 1,153
Gridley, 3,054
Grover City-Pair Oaks (unincs.), 2,788
Guadalupe, 2,429
Gustine, 1,984
Half-Moon Bay (unincs.), 1,168
Hanford, 10,028
Hawthorne, 16,316
Hayward, 14,272
Healdsburg, 3,258
Hemet, 3,386
Hermosa Beach, 11,826
Hillsborough, 3,552
Hollister, 4,904
Holtville, 2,472
Hughson (unincs.), 1,816
Huntington Beach, 5,237
Huntington Park (unincs.), 29,450
Imperial, 1,759
Indio, 5,300
Inglewood, 46,185
Ione (unincs.), 1,071
Isleton, 1,597
Ivanhoe (unincs.), 1,172
Jerdy (unincs.), 2,226
Kerman, 1,879
Kerndale, 1,563
King City, 2,147
Kingsburg, 2,410
Laguna Beach, 6,661
La Habra, 4,961
Lakeport, 1,983
La Loma-Airport (unincs.), 7,866
La Mesa, 10,946
Lamont (unincs.), 3,571
Lancaster (unincs.), 3,594
Larkspur, 2,905
La Sierra (unincs.), 3,802
La Verne, 4,198
Lemoore, 2,153
Lincoln, 2,410
Lindsay, 5,090
Live Oak, 1,770
Livermore, 4,364
Livingston, 1,502
Lodi, 11,798
Lompoc, 5,520
Lone Pine (unincs.), 1,415
Long Beach, 250,767
Los Angeles, 1,970,358
Los Banos, 4,868
Los Gatos, 4,907
Lynwood, 25,823
Madeira (unincs.), 1,394
Madera, 10,497
Manhattan Beach, 17,330
Manteca, 3,804
Martinez, 8,268
Marysville, 7,826
Maywood, 13,292
Meiners Oaks (unincs.), 2,446
Mendota, 1,516
Menlo Park, 14,587
Merced, 15,278
Midway City (unincs.), 1,421
Millbrae, 8,972
Mill Valley, 7,331
Mira Loma (unincs.), 1,555
Modesto, 17,389
Morgan Hill, 1,627
Morro Bay (unincs.), 2,055
Monrovia, 20,186
Montebello, 21,735
Monterey, 16,208
Monterey Park, 20,395
Moorpark (unincs.), 1,146
Morgan Hill, 1,627
Morro Bay (unincs.), 1,650
Mountain View, 6,563
Mount Shasta, 1,009
Mulberry (unincs.), 2,545
Napa, 13,579
National City, 21,199
Needles, 4,051
Nevada City, 2,805
Newark (unincs.), 1,532
Newhall (unincs.), 2,527
Newman, 1,815
Newport Beach, 12,120
Nicasio (unincs.), 1,519
Norco (unincs.), 1,584
North Modesto-College Gardens (unincs.), 5,046
North Sacramento, 6,029
North Turlock (unincs.), 1,586
Novato (unincs.), 3,496
Oakdale, 4,004
Oakland, 384,575
Oakview (unincs.), 1,648
Oceano (unincs.), 1,446
Oceanside, 12,881
Oildale (unincs.), 16,611
Ojai, 2,519
Olivehurst (unincs.), 3,588
Ontario, 22,872
Orange, 10,027
Orange Cove, 2,395
Orcutt (unincs.), 1,001
Orland, 2,067
Oroville, 5,387
Otay (unincs.), 1,774
Oxnard, 21,567
Pacific Grove, 9,623
Pajaro (unincs.), 1,487
Palm Springs, 7,660
Palo Alto, 25,475
Palos Verdes Estates, 1,964
Paradise (unincs.), 4,420
Parlier, 1,419
Pasadena, 104,577
Paso Robles, 4,845
Patterson, 1,344
Perris (unincs.), 2,226
Petaluma, 10,315
Piedmont, 10,142
Pine dale (unincs.), 2,220
Pinole, 1,147
Pismo Beach, 1,425
Pittsburg, 12,763
Placentia, 1,682
Placerville, 3,719
Plano-Doyle Colony (unincs.), 2,100
Pleasant Hills (unincs.), 5,686
Pleasanton, 2,244
Pomona, 35,405
Porterville, 6,904
Port Hueneme, 3,024
Portola, 2,261
Project City-Pinegrove (unincs.), 1,078
Quincy (unincs.), 1,430
Ramona (unincs.), 1,158
Red Bluff, 4,905
Redding, 10,256
Redlands, 18,429
Redondo Beach, 25,226
Redwood City, 25,544
Reedley, 4,135
Rialto, 3,156
Richmond, 99,545
Ridgecrest (unincs.), 2,028
Rio Dell (unincs.), 1,862
Rio Vista, 1,831
Ripon, 1,550
Riverbank, 2,662
Riverside, 46,764
Rocklin, 1,155
Rohnerville (unincs.), 1,500
Roseland (unincs.), 1,552
Roseville, 8,723
Ross, 2,179
Rupert (unincs.), 4,490
Ryans Slough (unincs.), 1,727
Sacramento, 137,572
Saint Helena, 2,297
Salida (unincs.), 1,300
Salinas, 13,917
San Andreas (unincs.), 1,263
San Anselmo, 9,188
San Bernardino, 63,058
San Bruno, 12,478
San Buenaventura, see VENTURA
San Carlos, 14,371
San Clemente, 2,008
San Diego, 334,387
San Dimas (unincs.), 1,840
San Fernando, 12,992
San Francisco, 775,357
San Gabriel, 20,343
Sanger, 6,400
San Jacinto, 1,778
San Jose, 95,280

San Juan, now San Juan Bautista, 1,031
San Leandro, 27,542
San Luis Obispo, 14,180
San Marino, 11,230
San Mateo, 41,782
San Pablo, 14,476
San Rafael, 13,848
Santa Ana, 45,533
Santa Barbara, 44,913
Santa Clara, 11,702
Santa Cruz, 21,970
Santa Maria, 10,440
Santa Monica, 71,595
Santa Paula, 11,019
Santa Rosa, 17,902
San Ysadro (unine), 2,381
Saranap (unine), 2,462
Saratoga (unine), 1,329
Sattoy (unine), 2,216
Sausalito, 4,828
Scotia (unine), 1,017
Seaside (unine), 10,226
Seal Beach, 3,553
Sebastopol, 2,601
Selma, 5,964
Shafter, 2,207
Shell Point (unine), 4,074
Sierra Madre, 7,273
Signal Hill, 4,040
Silver Strand Beach–Holly wood-by-the-Sea (unine), 1,000
Soledad, 2,441
Sonoma, 2,015
Sonora, 2,448
South Bakersfield (unine), 12,120
South Gate, 51,116
South Modesto–River Road (unine), 4,672
South Park (unine), 1,837
South Pasadena, 16,935
South San Francisco, 19,351
South Taft (unine), 2,918
South Turlock (unine), 1,492
Stanton (unine), 1,762
Stockton, 70,853
Sunnyvale, 9,829
Suisun, 5,138
Sutter Creek, 1 151
Taft, 3 707
Taft Heights (unine), 2 176
Tehachapi, 1 685
Thousand Oaks (unine), 1,243
Torrance, 2 ,241
Tracy, 8,410
Trona (unine), 2,450
Truckee (unine), 1,025
Tulare, 12,445
Tulelake, 1 028
Tuolumne (unine), 1,284
Turlock, 6,235
Tustin, 1,144
Twentynine Palms (unine), 1,022
Twin Lakes–Delmar (unine), 6,733
Ukiah, 6,120
Upland, 9,203
Vacaville, 3,169
Vallejo, 26,038
Ventura, 16,514
Victorville (unine), 3,241
Visalia, 11,749
Vista (unine), 1,705
Walnut Creek, 2,420
Wasco, 5,592
Waterford (unine), 1,777
Watsonville, 11,572
Weed (unine), 2,739
West Covina, 1,499
Westminster (unine), 3,131
West Modesto (unine), 2,038
Westmorland, 1,213
West Riverside (unine), 1,798
Westwood (unine), 3,618
Whittier, 23,820
Williams, 1,134
Willits, 2,691
Willowick (unine), 2,226
Willows, 3,019
Winters, 1,265
Woodlake, 2,525
Woodland, 9,386
Yreka City, 3,227
Yuba City, 7,861
Yucaipa (unine), 1,515

COLORADO, 1,325,089

Aguilar, 1,038
Akron, 1,605
Alamosa, 5,334
Antonito, 1,255
Arvada, 2,359
Aspen, 916
Aurora, 11,421
Boulder, 19,999
Brighton, 4,336
Broadmoor (unine.), 1,585
Brush, 2,481
Burlington, 2,247
Canon City, 6,345
Center, 2,024
Central City, 371
Cheyenne Wells, 1,154
Colorado Springs, 45,472
Cortez, 2,680
Craig, 3,080
Crested Butte, 730
Cripple Creek, 853
Del Norte, 2,048
Delta, 4,097
Denver, 415,786
Derby (unine), 2,840
Durango, 7,459
Eads, 1,015
Eaton, 1,276
Edgewater, 2,580
Englewood, 16,869
Erie, 937
Estes Park, 1,617
Florence, 2,773
Fort Collins, 14,937
Fort Lupton, 1,907
Fort Morgan, 5,135
Fowler, 1,025
Fruita, 1,463
Glenwood Springs, 2,412
Golden, 5 238
Grand Junction, 14,504
Greeley, 20,354
Gunnison, 2,770
Haxtun, 1,006
Holly, 1,236
Holyoke, 1,558
Idaho Springs, 1,769
Ivywild (unine), 2,849
Julesburg, 1,951
Knob Hill (unine), 3,612
Lafayette, 2,090
La Junta, 7,072
Lamar, 6,829
Lariat–Kerr–Le Master (unine), 1,031
Las Animas, 3,223
Leadville, 4,081
Limon, 1,471
Lincoln Park (unine), 1,345
Littleton, 3,378
Longmont, 8,099
Louisville, 1,978
Loveland, 6,773
Manassa, 842
Manitou Springs, 2 580
Meeker 1 658
Monte Vista, 3,272
Montrose 4,964
North La Junta (unine), 1,502
Oak Creek, 1,488
Ordway, 1,290
Ouray, 1,089
Pagosa Springs, 1,379
Paonia, 1,257
Pueblo, 63,685
Rangely, 808
Rifle, 1,525
Rocky Ford, 4,087
Roswell (unine), 1,029
Saguache, 1,024
Salida, 4 553
San Luis (unine), 1,239
Sheridan, 1,715
Silverton, 1,375
South Boulder (unine), 9,807
South Canon, 1,588
Springfield, 2,041
Steamboat Springs, 1,913
Sterling, 7,534
Telluride, 1 101
Trinidad, 12,204
Victor, 684
Walsenburg, 5,596
Westminster, 1,686
Windsor, 1,548
Winona (unine), 1,004
Wray, 2,108
Yuma, 1,908

CONNECTICUT, 2,007,280

Ansonia, 18,706
Baltic (unine), 1,345
Bantam, 940
Beckettville (unine), 2,084
Bethel (unine), 4,145
Bloomfield (unine), 1,205
Branford, 2,552
Bridgeport, 158,709
Bristol, 35,961
Canaan (unine), 1,189
Cheshire (unine), 1,826
Chester (unine), 1,354
Clinton–Beach Park) (unine), 1,701
Colchester, 1,522
Collinsville (unine), 2,078
Cromwell (unine), 1,541
Danbury, 22,067
Danielson, 4,554
Deep River (unine), 2,034
Derby, 10,259
East Brooklyn (unine), 1,062
East Hampton (unine), 1,481
Essex (unine.), 1,312
Germantown (unine), 1,598
Groton, 7,036
Hartford, 177,397
Haycstown (unine), 1,061
Hazardville (unine), 1,272
Ivoryton–Centerbrook (unine), 1,372
Jewett City, 3,702
Jordan Village–Morningside Park (unine), 2,479
Killingly–Dayville (unine), 1,105
Leetes Island–Sachem Head (unine), 2,651
Litchfield, 1,174
Madison (unine), 1,225
Meriden, 44,088
Middletown, 29,711
Moosup (unine), 2,909
Mystic (unine), 2,266
Naugatuck, 17,455
New Britain, 73,726
New Haven, 164,443
New London, 30,551
New Milford (unine), 2,671
Niantic (unine), 1,746
Nichols (unine), 1 171
Noank (unine), 1,149
North Grosvenordale (unine), 2,232
Norwalk, 40,460
Norwich, 23,429
Norwichtown (unine), 2,016
Pawcatuck (unine), 5,269
Plainfield (unine), 2,207
Plantsville (unine), 1,536
Pleasant Valley–Navy Heights (unine), 2,007
Portland–Gildersleeve (unine), 3,975
Putnam, 8,181
Quaker Hill (unine), 1,260
Ridgefield (unine), 2,147
Rockville, 8,016
Rocky Hill (unine), 2,072
Seymour (unine), 5,142
Shelton, 12 694
Simsbury (unine), 1,771
South Coventry (unine), 1,617
Southington (unine), 5,955
Stafford Springs, 3,396
Stamford, 74,293
Stonington, 1,749
Taftville (unine), 3,598
Thamesville (unine), 5 518
Thomaston–Plymouth (unine), 4,106
Thompsonville (unine), 9,633
Torrington, 27,820
Uncasville–Montville (unine), 2,276
Unionville (unine), 2,197
Wallingford, 11,994
Warehouse Point (unine), 1,283
Waterbury, 104,477
Waunecton (unine), 1,002
West Mystic (unine), 2,362
Willimantic, 13,586
Winsted, 8,781
Yalesville (unine), 1,122

Connecticut Towns

Andover, 1,034
Ansonia, 18,706
Avon, 4,171
Beacon Falls, 2,067
Berlin, 7,470
Bethany, 1,318
Bethel, 5,104
Bethlehem, 1 015
Bloomfield, 5,746
Bolton, 1,279
Bozrah, 1,154
Branford, 10,944
Bridgeport, 158,709
Bristol, 35,961
Brookfield, 1,688
Brooklyn, 2,652
Burlington, 1,846
Canterbury, 1,321
Canton, 3,614
Cheshire, 6,205
Chester, 1,920
Clinton, 2,466
Colchester, 3,007
Colebrook, 592
Columbia, 1,327
Cornwall, 896
Coventry, 4,043
Cromwell, 4,286
Danbury, 30,337
Darien, 11,767
Deep River, 2,570
Derby, 10,259
Durham, 1,804
East Granby, 1,327
East Haddam, 2,554
East Hampton, 4,000
East Hartford, 20,933
East Haven, 12,212
East Lyme, 3,870
Easton, 2,165
East Windsor, 4,859
Ellington, 3,099
Enfield, 15,464
Essex, 1,491
Fairfield, 30,489
Farmington, 7,026
Glastonbury, 8,818
Goshen, 940
Granby, 2,693
Greenwich, 40,815
Griswold, 5,728
Groton, 21,896
Guilford, 5,092
Haddam, 2,636
Hamden, 29,715
Hartford, 177,397
Hartland, 1,858
Hebron, 1,320
Kent, 1,392
Killingly, 10,015
Killingworth, 677
Lebanon, 1,654
Ledyard, 1,749
Lisbon, 1,282
Litchfield, 4,964
Lyme, 857
Madison, 4,078
Manchester, 41,116
Mansfield, 10,008
Meriden, 44,088
Middlebury, 3,318
Middlefield, 1,983
Middletown, 20,711
Milford, 26,870
Monroe, 1,492
Montville, 4,766
Naugatuck, 17,455
New Britain, 73,726
New Canaan, 8,001
New Fairfield, 1,236
New Hartford, 2,495
New Haven, 164,443
Newington, 9,110
New London, 30,551
New Milford, 5 799
Newtown, 7,448
Norfolk, 1,572
North Branford, 2,017
North Canaan, 2 047
North Haven, 9,444
North Stonington, 1,367
Norwalk, 49,460
Norwich, 37,843
Old Lyme, 1,141
Old Saybrook, 2,499
Orange, 3,032
Oxford, 2,047
Plainfield, 8 071
Plainville, 7,994
Plymouth, 6,771
Pomfret, 2,018
Portland, 5,186
Preston, 1,775
Prospect, 1,896
Putnam, 9,301
Redding, 2,047
Ridgefield, 4,356
Rocky Hill, 5,108
Salisbury, 3,132
Saybrook, now Deep River
Scotland, 1,832
Sharon, 1,889
Shelton, 12 694
Simsbury, 4,822
Somers, 2,631
Southbury, 3 828
Southington, 14,061
South Windsor, 4,066
Sprague, 2,320
Stafford, 6,471
Stamford, 74,293
Sterling, 1,498
Stonington, 11,801
Stratford, 33,428
Suffield, 4,895
Thomaston, 4,806
Thompson, 5,585
Tolland, 1,659
Torrington, 27,820
Trumbull, 8,641
Vernon, 10,115
Wallingford, 16,976
Washington, 2,227
Waterbury, 104,477
Waterford, 5,301
Watertown, 10,699
Westbrook, 1,549
West Hartford, 44,402
West Haven, 32,010
Weston, 1,988
Westport, 11,007
Wethersfield, 12,533
Willington, 1,462
Wilton, 4,558
Winchester, 10,535
Windham, 15,884
Windsor, 11,831
Windsor Locks, 5,221
Wolcott, 3,553
Woodbridge, 2,822
Woodbury, 2,564
Woodstock, 2,271

DELAWARE, 318,085

Bellefonte, 1,472
Bridgeville, 1,468
Delaware City, 1,363
Delmar, 1,015 (including Delmar, Md., 2,343)
Dover, 6,223
Elsmere, 5,314
Frederica, 875
Georgetown, 1,923
Harrington, 2,241
Laurel, 2,700
Lewes, 2,904
Middletown, 1,755
Milford, 5,179
Milton, 1,421
Newark, 6,731
New Castle, 5,396
Newport, 1,171
Rehoboth Beach, 1,794
Seaford, 3,087
Selbyville, 1,086
Smyrna, 2,346
Wilmington, 110,356

DISTRICT OF COLUMBIA
(Washington city), 802,178

FLORIDA, 2 771 305

Alachua, 1,116
Apalachicola, 3,227
Apopka, 2,254
Arcadia, 4,764
Atlantic Beach, 1,604
Auburndale, 3 763
Avon Park, 4,612
Baldwin, 1,048
Bartow, 8,694
Bay Harbor (unine), 1,676
Belle Glade, 7,219
Bellglade Camp (unine), 1,497
Belmont–Highland Park (unine), 1 933
Biscayne Park, 2,009
Blountstown, 2,118
Bond–South City (unine), 4,911
Bonifay, 2,252
Boynton Beach, 2,542
Bradenton, 13,601
Brooksville, 1,818
Brownsville–Brent–Goulding (unine), 20,269
Bunnell, 1,341
Canal Point (unine), 1,022
Carrabelle, 970
Cedar Hammock (unine), 1,101
Cedar Key, 900
Century (unine), 1 350
Chattahoochee, 3 473
Chipley, 2,959
Chosen (unine), 1 873
Clearwater, 15 581
Clermont, 2,168
Clewiston, 2,499
Coral, 4,245
Coliga Park (unine), 1,214
Coral Gables, 19,837
Crescent City, 1 393
Crestview, 5,003
Cross City, 1,522
Crystal River, 1,026
Dade City, 3,806
Dania, 3,340
Daytona Beach, 30,187
Deerfield Beach, 2,088
De Funiak Springs, 3,077
De Land, 8,652
Delray Beach, 6 812
Dinsmore (unine), 1,010
Dundee, 1,152
Dunedin, 3,202
Dunnellon, 1,110
Eagle Lake, 1,060
East Pensacola (unine), 1,695
East Sarasota (unine), 1 073
Eau Gallie, 1,554
El Portal, 1 171
Eustis, 4,005
Fairview Shores (unine), 1 566
Fernandina, 4,120
Florida City, 1 547
Foley Beach, 1,014
Fort Lauderdale, 36,328
Fort Meade, 2,803
Fort Myers, 13,195
Fort Pierce, 13,502
Fort Walton, 2,403
Frostproof, 2,429
Gainesville, 26,861
Gifford (unine), 1,459
Graceville, 1,638
Green Cove Springs, 3,291
Greenville, 1,163
Groveland, 1,028
Gulfport, 3,702
Haines City, 5,630
Hallandale, 5,886
Hastings, 577
Havana, 1,634
Hawthorn, 1,058
Hialeah, 19,676
High Springs, 2,088
Holly Hill, 3,232
Hollywood, 14,351
Homestead, 4,573
Hookers Point–Harlem (unine), 1,411
Inverness, 3,171
Jacksonville, 204 517
Jacksonville Beach, 6,430
Jasper, 2,327
Key West, 26,433
Kissimmee, 4,310
Lacoochee (unine), 1,792
Lake Alfred 1 270
Lake Butler, 1,000
Lake City, 7,571
Lakeland, 30,851
Lake Maude (unine 1,429
Lake Wales, 6,821
Lake Worth, 11,777
Largo, 1,547
Leesburg, 7 395
Live Oak, 4 064
Lynn Haven, 1 787
Macclenny, 1 177
Madison, 3,150
Marianna, 5,845
Melbourne, 4,223
Miami, 249 276
Miami Beach, 46 282
Miami Shores, 5,086
Miami Springs, 5,108
Midway–Canaan (unine), 1,830
Milton, 2,040
Monticello, 2,264
Mount Dora, 3,028
Mulberry, 2,024
Naples 1 165
Neptune Beach, 1 767
New Port Richey, 1,512
New Smyrna Beach, 5 775
Niceville, 2,497
North Miami, 10,744
North Miami Beach, 2,129
Oakland Park, 1,295
Ocala, 11,741
Ocoee, 1,570
Okeechobee, 1 849
Opa Locka, 5,271
Orange Park, 1 502
Orlando, 52,367
Ormond, 3 418
Osceola Park–Pine Tree Park (unine) 1 892
Oviedo 1 601
Pahokee, 4,472
Palatka, 9,176
Palm Beach, 6 886
Palmetto, 4,104
Panama City, 23 814
Pass a Grille Beach, 1 000
Pensacola, 43 479
Perrine 2 859
Perry, 2,797
Pinellas Park 2 974
Plant City, 9,230
Pompano, now Pompano Beach, 5,682
Port Orange, 1 201
Port Saint Joe, 2,752
Port Tampa City, 1,497
Punta Gorda, 1,915
Quincy 6 505
River Junction, now Chattahoochee
Riviera Beach 4 065
Rockledge, 3 540
Saint Augustine, 13,555
Saint Cloud, 3,001
Saint Petersburg, 96,738
Samoset (unine) 1 617
Sanford, 11 935
Sarasota, 18,896
Sebring, 5,006
Sneads, 1,074
South Bay 1 050
South Miami 4 809
Springfield, 1,984
Starke, 2 941
Stuart, 2,912
Surfside, 1,852
Tallahassee, 27 237
Tampa, 124 681
Tarpon Springs, 4,323
Tavares, 1,763
Tice (unine), 1,133
Titusville, 2,604
Umatilla, 1,312
Valparaiso, 1,047
Vero Beach, 1,716
Warrington (unine), 14 570
Watertown, 1 473
Winchula, 2,872
West End (unine) 1 662
Westgate (unine) 6,303
West Hollywood (unine), 1,196
West Miami, 4,043
West Palm Beach, 43,162
West Winter Haven (unine), 2,326
Wewahitchka, 1,289
Wildwood, 2,019
Williston 1 823
Winston (unine), 1,870
Winter Garden, 3,503
Winter Haven, 8,605
Winter Park, 8,250
Zephyrhills, 1,826

GEORGIA, 3,444,578

Abbeville, 890
Acworth, 1,486
Adel, 2,776
Albany, 31,155
Alma, 2 588
Alto Park (unine), 1,195
Americus, 11,389
Andersonville, 281
Avondale (unine), 1,272
Arlington, 1 382
Ashburn, 2,918
Atco (unine), 1,443
Athens 28,180
Atlanta, 331,314
Augusta, 71,508
Austell, 1,413
Avondale Estates, 1,070
Bainbridge, 7,582
Barnesville, 4,185
Bascom, 3,400
Bibb City, 1 452
Blackshear 2,271
Blakely, 3 734
Blue Ridge 1 718
Boston, 1,015
Bowdon, 1,155
Brunson, 2,299
Brunswick, 17,954
Buena Vista, 1,428
Buford, 4,812
Butler, 1,182
Cairo, 5,577
Calhoun, 4,231
Camilla, 3 745
Canton, 2 716
Carrollton, 7 753
Cartersville 7,270
Chamblee, 3,870
Clarkesville Village (unine) 1 945
Chamblee 3 445
Chatsworth, 1,214
Chickamauga, 1,747
Chickopee (unine), 1,151
Clarkston, 1,165
Clarksville, 1 106
Claxton, 1 924
Clayton 1,302
Cochran, 3 357
College Park, 14,535
Colquitt, 1,664
Columbus 79,611
Commerce 3 351
Conyers, 2 003
Cordele, 9,462
Cornelia 2,424
Covington, 5,192
Crawfordville, 966
Cumming, 1 264
Cuthbert, 4 025
Dahlonega, 2,152
Dallas, 1,817
Dalton 15,968
Darien, 1 380
Dawson 1 411
Decatur 21 645
Demorest, 1,166
De Soto Park (unine), 1 065
Diffie (unine), 1,782
Dock Junction (unine) 4 160
Donalsonville, 2,589
Douglas 7,428
Douglasville, 4,100
Dublin 10,232
East Albany (unine), 1 177
East Griffin (unine), 1 539
Eastman, 3,597
East Newnan (unine), 1,525
East Point 21,080
East Thomaston, 3,082
Edenton, 2,749
Edison, 1,247
Elberton 6 772
Elizabeth (unine), 1 067
Ellijay 1,527
Experiment (unine), 4,205
Fairburn, 1,889
Fair Oaks (unine), 1 140
Fayetteville, 1,032
Fitzgerald, 8 130
Folkston, 1,515
Forest Park 2,653
Forsyth 3 125
Fort Gaines, 1,339
Fort Valley, 6 820
Gainesville 11,936
Gainesville Cotton Mills (unine), 1,708
Garden City 557
Gainesville 3 427
Gloriana–Rugsdale (unine) 1,612
Gordon 1 761
Grantville 1 459
Greensboro, 2,688
Griffin, 13,752
Hahira, 1,010
Hapeville, 8,560
Harlem, 1,033
Hartwell, 2,964
Hawkinsville, 3,742
Hazlehurst, 2,687
Richardville (unine), 1,113
Helena, 1,027
Hinesville, 1,217
Hogansville, 3,769

Georgia (cont)
Homerville, 1,787
Jackson, 2,053
Jasper, 1,980
Jefferson, 2,040
Jesup, 4,605
Jonesboro, 1,741
Kennesaw, 564
Kingsland, 1,169
Lafayette, 4,884
La Grange 25,025
Lakeland, 1,551
Lavonia, 1,766
Lawrenceville, 2,932
Lincoln Park (unincorporated), 1,575
Lincolnton, 1,315
Lithonia (Silver Creek (unincorporated)), 3,234
Hadley, 1,464
Lithonia, 1,538
Louisville, 2,241
Ludowici, 1,342
Lumber City, 1,232
Lumpkin, 1,209
Lyons, 2,709
McCaysville, 2,067
McDonough, 1,615
McRae, 1,904
Macon, 70,252
Madison, 2,489
Manchester 4,036
Marietta, 20,687
Marshallville, 1,121
Meigs, 1,125
Metter, 2 091
Midway-Hardwick (unincorporated), 14,774
Milledgeville, 8,845
Millen, 1,449
Milstead (unincorporated), 1,075
Monroe, 4,542
Montezuma, 2 921
Monticello, 1,918
Moultrie, 11,639
Nashville, 4,414
New Holland (unincorporated), 1,618
Newnan, 8,218
Norcross, 1,340
North Atlanta, 5,930
North Canton (unincorporated), 1,913
Ocilla, 2,697
Oglethorpe, 1,204
Palmetto, 1,257
Pearson, 1,402
Pelham, 4 365
Pembroke, 1,171
Perry, 3,819
Porterdale, 3,207
Quitman, 4,769
Reidsville, 1 266
Richland, 1,571
Ringgold, 1,192
Rochelle, 1,097
Rockmart, 3,821
Rome, 29,615
Rossville, 3 892
Roswell, 2,123
Royston, 2 039
Saint Marys, 1 348
Saint Simons Island (unincorporated), 1,706
Sandersville, 4 480
Savannah, 119,638
Savannah Beach, 1,036
Shannon (unincorporated), 1 676
Shellman, 1,090
Silvertown, 3 387
Smyrna, 2,005
Social Circle, 1,685
Soperton, 1,607
Sparta, 1,951
Statesboro 6,097
Stone Mountain, 1,899
Summerville, 3,473
Swainsboro, 4,300
Sylvania, 2,939
Sylvester, 2,623
Talbotton, 1,175
Tallapoosa, 2,826
Tennille, 1,714
Thomaston, 6,580
Thomasville, 14,424
Thomson, 3,489
Thunderbolt, 1,238
Tifton, 6,831
Toccoa, 6 781
Trion, 3,028
Tucker (unincorporated), 1,474
Twin City, 1,018
Unadilla, 1,098
Union City, 1,490
Union Point 1 724
Unionville-Phillipsburg (unincorporated), 2,770
Valdosta, 20,046
Vidalia, 5,819
Vienna, 2 202
Villa Rica, 1,703
Wadley, 1 624
Warm Springs, 557
Warner Robins, 7,986
Warrenton, 1,442
Washington, 3,802
Waycross, 18,809
Waynesboro, 4,461
West Point, 4,076
Winder, 4,604
Wrens, 1,380
Wrightsville, 1,750

IDAHO, 588,637
Aberdeen, 1,486
Alameda, 4,964
American Falls, 1,874
Arco, 961
Ashton, 1,256
Blackfoot, 5,180
Boise, 34,393
Bonners Ferry, 1,776
Buhl, 2,870
Burley, 5,924
Caldwell, 10,487
Cascade, 943
Coeur d'Alene, 12,198
Driggs, 911
Emmett 3,067
Fairfield, 1,425
Franklin, 467
Franklyn-Whitman-Airport (unincorporated), 7,809
Glenns Ferry, 1,515
Gooding, 3 099
Grangeville, 2,544
Hailey, 1,464
Hamondale, 1,411
Idaho City, 246
Idaho Falls, 19,218
Jerome, 4,523
Kellogg, 4 913
Kimberly, 1 147
Lewiston 12 985
McCall, 1,173
Malad or Malad City, 2,715
Meridian, 1,810
Montpelier, 2 682
Moscow, 10,593
Mountain Home, 1 887
Mountain View (unincorporated), 3 084
Mullan, 1 036
Nampa, 16 185
Orchards (unincorporated), 1,494
Orofino, 1,656
Parma, 1,369
Payette, 4 052
Pocatello, 15 331
Post Falls, 1,069
Potlatch Onaway (unincorporated), 1 105
Preston, 4 045
Priest River, 1 592
Rexburg, 1 753
Rigby, 1,826
Rupert, 3 098
Saint Anthony, 2 695
Saint Maries, 2,220
Salmon 2,648
Sandpoint, 4 265
Shelley, 1,856
Shoshone, 1,420
Soda Springs, 3,429
South Boise (unincorporated), 1,281
Sun Valley, 428
Twin Falls 17 600
Wallace, 3 140
Weiser 3 961
Wendell 1 483
West Boise (unincorporated), 3 021

ILLINOIS, 8 712 176
Abingdon, 3 300
Albion, 2 287
Aledo, 2 919
Algonquin, 1 223
Alorton, 2 547
Alsip 1 228
Altamont, 1,580
Alton 32 550
Amboy, 2 128
Anna, 4,180
Antioch 1 407
Arcola, 1 700
Arlington Heights, 8 768
Arthur, 1 573
Ashland, 1,039
Assumption, 1,466
Astoria 1 308
Athens, 1,018
Atlanta, 1,141
Auburn, 1,963
Aurora, 50 576
Barrington 1,209
Barry, 1 529
Bartonville 2 137
Batavia, 5,848
Beardstown 18,080
Beckemeyer 1,045
Bellville 32 721
Bellevue, 1 529
Bellwood, 8,746
Belvidere, 9 422
Bement, 1 459
Benld, 2,093
Bensenville, 3,754
Benton, 7,848
Berkeley, 1 882
Berwyn 51,280
Bethalto, 2,115
Bishop Hill, 202
Bloomington, 34,163
Blue Island, 17,622
Bourbonnais, 1,598
Bradley, 5 099
Braidwood, 1,485
Breese, 2,181
Bridgeport, 2,358
Bridge View, 1,393
Broadview, 5,196
Brookfield, 15,472
Brooklyn, 2,568
Brookport 1,119
Bunker Hill, 1,238
Burnham, 1,341
Bushnell, 3,317
Byron, 1,237
Cahokia, 794
Cairo, 12,123
Calumet City, 15,799
Calumet Park, 2,500
Cambridge, 1,489
Camp Point, 969
Canton, 11,927
Carbondale, 10,021
Carlinville, 5,116
Carlyle, 2,669
Carmi, 5,574
Carpentersville, 1,523
Carrier Mills, 2,252
Carrollton, 2,437
Carterville, 2 716
Carthage, 3,214
Casey, 2,744
Caseyville, 1,200
Central City, 1,241
Centralia 13,863
Central Park (unincorporated), 2,489
Cerro Gordo, 1,052
Champaign 39,563
Channel (unincorporated), 1,218
Charleston 9,164
Chatsworth, 1 119
Chenoa, 1,452
Chester, 5,389
Chicago, 3,620,962
Chicago Heights 24 551
Chillicothe 2 767
Chrisman, 1 071
Christopher, 3,545
Cicero 67 544
Clarendon Hills, 2,437
Clay City, 1,103
Clayton, 866
Clinton 5 945
Cloverdale (unincorporated), 1 142
Coal City, 2,220
Codlen, 1,104
Colchester, 1,551
College Park-Highland Park (unincorporated), 1,058
Collinsville, 11,862
Columbia, 2,179
Cottage Hills (unincorporated), 3,757
Coulterville, 1,160
Creic, 2,208
Creve Coeur, 5,499
Crotty, 1,435
Crystal Lake, 4,842
Cuba 1 842
Dallas City, 1,275
Danville, 37 864
Decatur, 66 269
Deerfield, 3 288
De Kalb, 11 708
Delavan 1 948
Depue, 2,103
Des Plaines, 14,094
Dewey Park (unincorporated), 1 589
Dixmoor, 1,013
Dixmoor, 1,427
Dixon, 11 523
Dolton 5,558
Downers Grove, 11,886
Dunes Park (unincorporated), 1 762
Dupo, 2 239
Du Quoin, 6,147
Dwight, 2 843
Earlville, 1,217
East Alton, 7 290
East Chicago Heights, 1,548
East Dubuque 1 697
East Dundee 1 166
East Hazelcrest, 1 066
East Moline 13 913
East Peoria 8 698
East Saint Louis 82 295
Edwardsville 8 776
Effingham 6 892
Elburn 1 400
Elgin, 44 223
Elmhurst 21 273
Elmwood 1 613
Elmwood Park 18 801
El Paso 1 818
Erie, 1,180
Eureka 2 467
Evanston 73 641
Evergreen Park 10, 81
Fairbury 2 433
Fairfield 5 576
Fairmont City 2,281
Fairview (unincorporated), 1 524
Farmer City 1 752
Farmington, 2 651
Flora 5 255
Flossmoor 1 801
Forest Park 14 069
Forest Park (unincorporated), 3 117
Forrest 1 040
Forreston 1 048
Fox Lake 2 238
Fox River Grove, 1 313
Fox River Heights (unincorporated), 1 084
Franklin Park 8,899
Freeburg, 1 661
Freeport 22 467
Fulton, 2 706
Galena 4 648
Galesburg, 41 425
Galva, 2 886
Genesee, 4,425
Geneva, 5 139
Genoa, 1 690
Georgetown, 3,294
Gibson City, 3,029
Gillespie, 4,105
Gilman, 1,602
Girard, 1,740
Glen Carbon, 1,176
Glencoe 6,980
Glen Ellyn, 9,524
Glenview, 5,142
Godfrey (unincorporated), 1,438
Golconda, 1,066
Grafton 1,117
Grand Tower, 963
Grandview, 1,319
Granite City 29,465
Granville 978
Grays Lake, 1 970
Grayville 2,461
Greenfield 987
Greenup, 1 360
Greenville, 4 069
Griggsville, 1,199
Gurnee 1 097
Hamilton 1 776
Hanover 1 643
Harrisburg, 10 999
Hartford 1 909
Harvard 3 404
Harvey 20 083
Havana, 4 379
Hazel Crest 2,129
Henry 1 966
Herrin 9 431
Heyworth 1 072
Highland 4 283
Highland Park 16 808
Highwood, 3 813
Hillsboro 4 141
Hillside 2 141
Hinsdale 8 676
Homer 1 030
Homewood, 5,887
Hoopeston 5 092
Hurst, 858
Idylwild (unincorporated), 1 172
Ingalls Park (unincorporated), 6 881
Inverness (unincorporated), 1,110
Itasca 1 274
Jacksonville 20 387
Jerseyville 5 792
Johnston City, 4,479
Joliet 51 601
Jonesboro, 1 607
Kankakee 25 856
Kenilworth 2,789
Kewanee 16 821
Kinmaid 1 794
Kinmundy 942
Knoxville 2 209
Lacon 2 020
Ladd 1 224
La Grange 12 002
La Grange Park 6 176
La Harpe 1,287
Lake Bluff 2 000
Lake Forest 7 819
Lamark, 1 359
Lansing 8 682
La Salle 12 043
Lawrenceville 4 328
Lebanon 2 417
Lemont 2 757
Lena 1 227
Le Roy 1 820
Lewistown 2 030
Lexington 1 181
Libertyville 5 125
Ladies-Raynor Park (unincorporated), 1 311
Lincoln 14,362
Lincoln Gardens-College Heights (unincorporated), 2 040
Lincolnwood 3 072
Litchfield 7 208
Livingston 999
Lockport 3 955
Lombard 9,817
Long Lake (unincorporated), 2 967
Loves Park, 5 366
Lovington 1 152
Lyons 6 120
McHenry 2 080
McLeansboro 1 008
Mackinaw, 1 011
Macomb 10 592
Madison 7 964
Mahomet 1 017
Manteno 1 789
Marengo 2 726
Marion, 9 759
Marissa 1 652
Markham 2,753
Maroa 1,100
Marseilles, 1 514
Marshall 2 960
Martinsville, 1 140
Masonville 3 009
Mason City, 2001
Matteson 1 211
Mattoon 17 517
Maywood 27,473
Melrose Park 13,366
Menard, 1 329
Merrionette Park 1,101
Metamora, 1 368
Metropolis, 6,093
Midlothian, 3,216
Milan, 1,737
Milford, 1 648
Milledgeville, 1 044
Millstadt, 1,566
Milton (unincorporated), 8,232
Minonk, 1,955
Moline, 37,897
Momence, 2,644
Monmouth, 10,193
Monticello, 2,612
Morris, 6,926
Morrison, 3,531
Morrisonville, 1,182
Morton, 4 093
Morton Grove, 3,926
Mound City, 2,167
Mounds, 2,001
Mount Carmel, 8,732
Mount Carroll, 1,950
Mount Morris, 2,709
Mount Olive, 2,401
Mount Prospect, 4,009
Mount Pulaski, 1,526
Mount Sterling, 2,246
Mount Vernon 15,600
Mowequa, 1,473
Mundelein, 3,189
Murphysboro, 9,211
Naperville, 7,013
Nashville, 2,432
Nauvoo, 1,242
Neoga, 1,125
New Athens, 1,518
New Baden, 1,428
New Lenox, 1,235
Newman, 1,140
Newton 2 780
Niles 1 587
Nokomis, 2 544
Normal, 9,772
Norridge 3 428
Norris City, 1,170
Northbrook, 3 348
North Chicago, 8,628
North Chillicothe, 1 741
Northfield, 1,426
North Lake, 4,861
North Pekin, 1 758
North Quincy (unincorporated), 2,985
North Riverside, 3,230
Oak Forest, 1,856
Oakland 980
Oak Lawn, 8 751
Oak Park, 64 529
Oblong, 1 639
Odin, 1,341
O Fallon, 3,022
Oglesby, 3,922
Olney, 8,612
Omarga, 1 455
Orcgon, 3 205
Oswego 1 220
Ottawa 10 957
Palatine 1,079
Palestine, 1,589
Pana, 6 178
Paris, 9 460
Park Forest, 8,148
Park Ridge, 16 602
Pawnee, 971
Paxton 3 795
Pearl Harbor (unincorporated), 1 372
Pecatonica, 1,438
Pekin, 21 858
Peoria, 111,856
Peoria Heights, 3 425
Peotone, 1 395
Peru 8 653
Petersburg 2 325
Phoenix, 4,006
Pinckneyville, 3,299
Pittsfield 4 364
Plainfield, 1 704
Plano 2 154
Polo 2,242
Pontiac 8 990
Port Byron, 1 050
Posen 1 795
Princeton, 5,765
Princeville, 1 113
Prophetstown 1 691
Quincy, 41,150
Rantoul 6 887
Red Bud, 1,514
Ridgewood (unincorporated), 5 586
Ridgway 1 148
Riverdale 5 840
River Forest 10 823
River Grove 1 859
Riverside 9 154
Riverton 1 450
Roanoke, 1,368
Robbins, 1,766
Robinson, 6 407
Rochelle, 5,449
Rochester, 1 994
Rockdale Junction (unincorporated), 2 820
Rock Falls 7 983
Rockford, 92,927
Rock Island 48,710
Rockton 1,442
Roodhouse, 2,368
Roselle 1 038
Roseville 1,080
Rosewood Heights (unincorporated), 1,836
Rosedale, 2,086
Rushville, 3,382
Round Lake Beach, 1 892
Round Lake Park, 1,836
Roxana, 1,911
Royalton, 1,506
Rushville, 2,682
Saint Anne, 1,403
Saint Charles, 6 709
Saint Elmo, 1,716
Saint Francisville, 1,117
Salem, 6,159
Sandoval, 1,531
Sandwich, 3,027
Savanna, 5,058
Schiller Park, 1,384
Scraper-Moscherville (unincorporated), 2,022
Sesser, 2,086
Shawneetown, 1,917
Shelbyville, 4,462
Sheldon, 1,114
Silvis, 3,055
Skokie, 14,842
South Beloit, 3,221
South Chicago Heights, 2 129
South Elgin, 1,220
South Holland, 3,247
South Jacksonville, 1,165
South Lockport-Fairmount (unincorporated), 3,291
South Park (unincorporated), 2,068
South Pekin, 1 043
South Streator (unincorporated), 1,508
South Waukegan (unincorporated), 2,830
Sparta 3,576
Springfield 81,628
Spring Valley 4 916
Staunton, 4 017
Steeleville, 1 353
Steger 4,548
Sterling, 12,817
Stickney 3,117
Stockton, 1 145
Stone Park, 1 414
Stonington 1,120
Streator, 16 469
Sullivan 3 470
Summit 8,957
Sumner, 1,170
Swansea 1 816
Swayzeville (unincorporated), 1,009
Sycamore 5 912
Taylorville, 9,188
Thornton 1,217
Tilden 906
Tilton 1 648
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Tonlon 1 173
Tremont 1 148
Trenton 1 342
Troy 1 260
Tuscola 2 960
Urbana 22,834
Vandalia 5 471
Venice 6 220
Vienna 1 085
Villa Grove, 2 026
Villa Park 8 821
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Wanda 1 429
Warren 1 378
Wartenville (unincorporated), 1,891
Warsaw, 2 002
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Watseka 4 245
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Waukegan 48,646
Waverly 1 140
Wenona 1 005
Westchester 4 308
West Chicago 4 973
West City 1,081
West Dundee 1 018
Western Springs 6 364
West Frankfort 11,384
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Westmont, 3 402
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White Hall 3 082
Willow Springs, 1,314
Wilmette 18,162
Wilmington 3,454
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Windsor 1 008
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Winthrop Harbor, 1,765
Witt 1,156
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Zion, 8,950

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Albion, 1,741
Alexandria, 5,147
Anderson, 46,820
Andrews, 1,083
Angola, 5,081
Arcadia, 1,073
Argos, 1,284
Attica, 3,862
Auburn, 5,879
Aurora, 4,780
Austin (unincorporated), 2,900
Batesville, 3,194
Bedford, 12,562
Beech Grove, 5,085
Berne, 2,277
Bicknell, 4,572
Bloomfield, 2,086
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Bluffton, 6,070
Boonville, 5,092
Bourbon, 1,404
Brazil, 8,434
Bremen 2,664
Broadview (unincorporated), 1,630
Brookston, 1,014
Brookville, 2,538
Brownsburg, 1,578
Brownstown, 1,998
Butler, 1,914
Cambridge City 2,559
Carmichael, 2 027
Carmel 1 009
Carthage 1 065
Cayuga, 1,022
Cedar Lake (unincorporated), 3 907
Centerville, 1,386
Charlestown, 4 785
Chesterfield 1 086
Chesterton 3 175
Churubusco 1 232
Cicero, 1 021
Clarksville 5 905
Clay City 1 008
Clinton, 6 462
Columbia City, 4,745
Columbus 18 470
Connersville, 15,550
Corydon, 1 944
Covington, 2,245
Crawfordsville, 12 851
Crestlawn-Belvidere (unincorporated) 1 886
Crothersville 1 276
Crown Point, 5 839
Culver 1 561
Danville, 2 802
Decatur, 7 271
Delphi 2 530
Dugger 1 204
Dunkirk 3 048
Dunlap (unincorporated), 1 154
Dyer 1 561
East Chicago 54,261
East Gary 5 635
Eaton 1 598
Edinburg 3 283
Elkhart 35 646
Elwood 11 462
Englewood (unincorporated), 1 091
Evansville, 128 636
Fairmount 2 646
Fairview Park 902
Farmersburg 1 024
Fernland 1 252
Flora 1 657
Fort Branch 1 944
Fortville 1 786
Fort Wayne 133 607
Fowler 2,117
Frankfort 7 028
Franklin 7 816
Frankton 1 047
French Lick 1 946
Garrett 4 291
Gary, 133 911
Garyton (unincorporated), 2,146
Gas City, 1 767
Goodland, 1 218
Goshen, 13 003
Greencastle 6 888
Greendale 2 018
Greenfield 6,159
Greensburg, 6 010
Greentown 1,190
Greenwood 1 066
Griffith 4 470
Hagerstown 1 604
Hammond 87 594
Hanover, 1 060
Hartford City, 7,253
Hebron 1 010
Highland, 5 878
Hobart, 10,244
Home Corner (unincorporated), 3 950
Hope, 1,215
Huntingburg, 4 056
Huntington, 15,079
Hymera, 1 069
Indianapolis, 427,173
Jasonville, 2,937
Jasper, 5,215
Jeffersonville, 14,685
Jonesboro, 1,973
Kendallville, 6 119
Kentland, 1,633
Kingsford Heights (unincorporated), 1,104
Knightstown, 2,486
Knox, 3 034
Kokomo, 38 672
Lafayette, 35,568
Lagrange, 1,892
Lakeland, 2,172
Lapel, 1,389
La Porte, 17,882
Lawrence, 1,951
Lawrenceburg, 4,806
Lebanon, 7,631
Liberty, 1,730

Lightner, 2,376
Linton, 5,973
Logansport, 21,031
Long Beach, 1,103
Loogootee, 2,424
Lowell, 1,621
Lydick (unincorporated), 1,175
Lynn, 1,149
Madison, 7,506
Marion, 30,081
Martinsville, 5,991
Michigan City, 28,395
Middletown, 1,731
Milan, 1,014
Mishawaka, 32,913
Mitchell, 3,245
Monon, 1,439
Monroeville, 1,150
Montezuma, 1,220
Monticello, 3,107
Montpelier, 1,826
Mooresville, 2,264
Morning Side (unincorporated), 1,745
Morocco, 1,141
Mount Vernon, 6,150
Muncie, 58,179
Munster, 4,753
Nappanee, 3,393
Nashville, 526
New Albany, 29,346
Newburgh, 1,321
New Castle, 18,271
New Harmony, 1,300
New Haven, 2,336
Noblesville, 6,567
North Judson, 1,705
North Liberty, 1,165
North Manchester, 3,977
North Vernon, 3,488
Oakland City, 3,539
Odon, 1,177
Odon, 1,125
Orleans, 1,531
Osceola, 1,091
Osgood, 1,228
Ossian, 1,110
Paoli, 2,575
Pendleton, 2,082
Peru, 13,308
Petersburg, 3,035
Plainfield, 2,583
Plymouth, 6,704
Porter, 1,458
Portland, 7,064
Poseyville, 1,005
Princeton, 7,673
Redkey, 1,689
Remington, 1,053
Rensselaer, 4,072
Richmond, 39,539
Ridgeville, 950
Rising Sun, 1,940
Rochester, 4,673
Rockport, 2,493
Rockville, 2,107
Rushville, 6,761
Salem, 4,271
Schererville, 1,457
Scottsburg, 2,953
Sellersburg, 1,664
Seymour, 9,629
Shelburn, 1,112
Shelbyville, 11,734
Sheridan, 1,965
Shirley, 1,087
Shoals, 1,039
South Bend, 115,911
South La Porte (unincorporated), 2,285
South Whitley, 1,209
Speedway, 3,498
Spencer, 2,994
Sullivan, 5,123
Summitville, 1,061
Syracuse, 1,453
Tell City, 5,735
Terre Haute, 64,214
Thorntown, 1,380
Tipton, 5,643
Union City, 3,572
Upland, 1,565
Valparaiso, 12,028
Veedersburg, 1,710
Vevay, 1,309
Vincennes, 18,831
Wabash, 10,621
Wakarusa, 1,143
Walkerton, 2,102
Warren, 1,217
Warsaw, 9,625
Washington, 10,987
Waterloo, 1,414
West Baden Springs or West Baden, 1,017
West Harrison, 308
West Lafayette, 11,873
West Terre Haute, 3,357
Whiting, 9,669
Williamsport, 1,241
Winamac, 2,166
Winchester, 5,467
Winona Lake, 1,366
Winslow, 1,322
Woodruff Place, 1,557
Worthington, 1,627
Yorktown, 1,100
Zionsville, 1,536

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Ackley, 1,608
Adel, 1,799
Akron, 1,251
Albia, 4,838
Algona, 5,210
Alta, 1,348
Alton, 1,038
Ames, 22,898
Anamosa, 3,910
Anita, 1,112
Ankeny, 1,229
Arnolds Park, 1,078
Atlantic, 6,480
Audubon, 2,808
Avoca, 1,595
Bedford, 2,000
Belle Plaine, 3,056
Bellevue, 1,932
Belmond, 2,169
Bettendorf, 5,142
Bloomfield, 2,088
Boone, 12,164
Britt, 1,908
Brooklyn, 1,323
Buffalo Center, 1,097
Burlington, 30,611
Camanche, 1,212
Carroll, 6,231
Carter Lake, 1,183
Cascade, 1,299
Cedar Falls, 14,334
Cedar Rapids, 72,296
Centerville, 7,625
Chariton, 5,320
Charles City, 10,309
Cherokee, 7,705
Clarinda, 5,086
Clarion, 3,150
Clarksville, 1,210
Clear Lake, 4,977
Clinton, 30,479
Colfax, 2,279
Columbus Junction, 1,121
Coon Rapids, 1,676
Corning, 2,101
Correctionville, 902
Corydon, 1,870
Council Bluffs, 45,429
Cresco, 3,678
Creston, 8,317
Davenport, 74,549
Decorah, 6,060
Denison, 4,554
Des Moines, 177,965
De Witt, 2,041
Dubuque, 49,671
Dunlap, 1,409
Durant, 1,075
Dyersville, 2,416
Dysart, 1,089
Eagle Grove, 4,176
Eldon, 1,457
Eldora, 3,107
Elkader, 1,584
Emmetsburg, 3,760
Estherville, 6,719
Evansdale, 3,571
Everly, 1,229
Fairfield, 7,299
Fayette, 1,369
Fonda, 1,120
Forest City, 3,766
Fort Dodge, 25,115
Fort Madison, 11,954
Garner, 3,696
George, 1,210
Glenwood, 5,664
Gowrie, 1,052
Grafton, 1,016
Grand Junction, 1,036
Greene, 2,437
Greenfield, 2,102
Grinnell, 6,828
Griswold, 1,119
Grundy Center, 2,135
Guthrie Center, 2,042
Guttenberg, 1,912
Hamburg, 2,086
Hampton, 4,432
Harlan, 3,915
Hartley, 1,611
Hawarden, 2,625
Holstein, 1,336
Hull, 1,127
Humboldt, 3,219
Ida Grove, 2,202
Independence, 4,865
Indianola, 5,145
Iowa City, 27,212
Iowa Falls, 5,900
Jefferson, 4,326
Jesup, 1,158
Jewell, 973
Keokuk, 16,144
Keosauqua, 1,101
Keota, 1,145
Kingsley, 1,098
Knoxville, 7,625
Lake City, 2,308
Lake Mills, 1,960
Lake View, 1,158
Lamoni, 2,196
Lansing, 1,536
La Porte City, 1,770
Laurens, 1,556
Le Claire, 1,124
Lehigh, 881
Le Mars, 5,844
Lenox, 1,171
Leon, 2,139
Logan, 1,550
McGregor, 1,138
Madrid, 1,829
Malvern, 1,263
Manchester, 4,987
Manilla, 1,035
Manly, 1,473
Manning, 1,801
Manson, 1,622
Mapleton, 1,557
Maquoketa, 6,307
Marcus, 1,263
Marengo, 2,151
Marion, 5,916
Marshalltown, 19,821
Mason City, 27,980
Melcher, 898
Milford, 1,375
Missouri Valley, 3,546
Monona, 1,346
Monroe, 1,108
Montezuma, 1,460
Monticello, 2,888
Moorhead, 643
Moulton, 985
Mount Ayr, 1,793
Mount Pleasant, 5,843
Mount Vernon, 2,320
Muscatine, 19,041
Mystic, 1,243
Nashua, 1,609
Nevada, 3,763
New Hampton, 3,323
New London, 1,510
New Sharon, 1,089
Newton, 11,723
Nora Springs, 1,257
Northwood, 1,767
Oakland, 1,296
Oelwein, 7,858
Ogden, 1,946
Onawa, 4,198
Orange City, 2,166
Osage, 3,436
Osceola, 3,122
Oskaloosa, 11,124
Ottumwa, 33,641
Panora, 1,062
Parkersburg, 1,800
Paullina, 1,289
Pella, 4,127
Perry, 6,171
Pocahontas, 1,949
Postville, 1,243
Primghar, 1,152
Red Oak, 6,526
Rembeck, 1,160
Remsen, 1,280
Rockford, 979
Rock Rapids, 2,640
Rock Valley, 1,581
Rockwell City, 2,333
Rolfe, 997
Sac City, 3,170
Sanborn, 1,347
Scranton, 901
Seymour, 1,223
Shelbyville, 1,163
Sheldon, 4,001
Shell Rock, 1,013
Shenandoah, 6,938
Sibley, 2,559
Sidney, 1,142
Sigourney, 2,313
Sioux Center, 1,860
Sioux City, 83,991
Sioux Rapids, 1,010
Spencer, 7,446
Spillville, 1,353
Spirit Lake, 2,467
State Center, 1,040
Storm Lake, 6,964
Story City, 1,945
Strawberry Point, 1,241
Stuart, 1,500
Sumner, 1,911
Tama, 2,930
Tipton, 2,633
Toledo, 2,109
Traer, 1,417
Tripoli, 1,124
Urbandale, 1,777
Villisca, 1,838
Vinton, 4,307
Wapello, 1,755
Washington, 5,902
Waterloo, 65,198
Waukon, 3,158
Waverly, 5,124
Webster City, 7,611
Wellman, 1,071
West Burlington, 1,614
West Des Moines, 5,615
West Liberty, 1,866
West Union, 2,141
What Cheer, 1,119
Williamsburg, 1,183
Wilton, 1,446
Windsor Heights, 1,414
Winterset, 3,570
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Anthony, 2,792
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Arma, 1,334
Ashland, 1,493
Atchison, 12,792
Atwood, 1,613
Augusta, 4,483
Baldwin City, 1,741
Baxter Springs, 4,647
Belleville, 2,858
Beloit, 4,085
Blue Rapids, 1,430
Bonner Springs, 2,277
Burlingame, 1,065
Burlington, 2,304
Caldwell, 2,000
Caney, 2,876
Cedar Vale, 1,010
Chanute, 10,109
Cherokee, 849
Cherryvale, 2,952
Chetopa, 1,671
Cimarron, 1,189
Clay Center, 4,528
Clyde, 1,067
Coffeyville, 17,113
Colby, 3,859
Coldwater, 1,268
Columbus, 3,490
Concordia, 7,175
Cottonwood Falls, 957
Council Grove, 2,722
Dighton, 1,246
Dodge City, 11,262
Downs, 1,221
El Dorado, 11 037
Elkhart, 1,132
Ellinwood, 2,569
Ellis, 2,049
Ellsworth, 2,193
Elwood, 1,020
Emporia, 15,660
Erie, 1,296
Eureka, 3,958
Fairway, 1,816
Florence, 1,009
Fort Scott, 10,145
Frankfort, 1,237
Fredonia, 2,257
Frontenac, 1,569
Galena, 3,029
Garden City, 10,905
Garnett, 2,693
Girard, 2,426
Goodland, 4,690
Great Bend, 12,665
Greensburg, 1,724
Hallowell, 1,328
Harper, 1,672
Hays, 8,625
Herington, 3,775
Hiawatha, 3,294
Hill City, 1,132
Hillsboro, 1,750
Hoisington, 4,012
Holmdel Gardens–Cloverdale (unincorporated), 1,248
Holton, 2,705
Horton, 3,354
Howard, 1,149
Hoxie, 1,157
Hugoton, 2,781
Humboldt, 2,308
Hutchinson, 34,575
Independence, 11,335
Iola, 7,094
Junction City, 13,462
Kansas City, 129,553
Kingman, 3,200
Kinsley, 2,479
Kiowa, 1,561
La Crosse, 1,769
Lakin, 1,618
Larned, 4,147
Lawrence, 24,351
Leavenworth, 20,579
Liberal, 7,134
Lincoln, 1,666
Lindsborg, 2,483
Lyons, 4,545
McPherson, 8,689
Madison, 1,212
Manhattan, 19,056
Mankato, 1,462
Marion, 2,060
Marysville, 3,866
Meade, 1,764
Medicine Lodge, 2,288
Minneapolis, 1,801
Mission Hills, 1,275
Mulberry, 779
Mullinville, 1,387
Neodesha, 3,723
Ness City, 1,612
Newton, 11,590
Nickerson, 1,013
Norton, 4,060
Oakley, 1,915
Oberlin, 2,019
Olathe, 5,593
Osage City, 1,919
Osawatomie, 1,347
Osborne, 2,068
Oswego, 1,097
Ottawa, 10,081
Oxford, 798
Paola, 3,072
Parsons, 14,750
Pittsburg, 17,104
Phillipsburg, 2,589
Pittsburg, 19,341
Plainville, 2,082
Pleasanton, 1,178
Pratt, 7,523
Russell, 6,483
Sabetha, 2,473
Saint Francis, 1,862
Saint John, 1,745
Saint Marys, 1,201
Salina, 26,176
Scott City, 3,204
Sedan, 1,640
Seneca, 1,911
Sharon Springs, 904
Smith Center, 2,026
Solomon, 834
South Hutchinson, 1,045
Stafford, 2,005
Sterling, 2,243
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Syracuse, 2,075
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Wakeeney, 2,446
Wamego, 1,869
Washington, 1,527
Weir, 819
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Wichita, 168,279
Wilson, 1,039
Winfield, 10,264
Yates Center, 2,178

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Agee-Brookside (unincorporated), 1,190
Albany, 1,920
Allock-Vicco (unincorporated), 1,616
Alva (unincorporated), 1,341
Ashland, 31,131
Audubon Park, 1,790
Augusta, 1,509
Barbourville, 2,926
Bardstown, 4,154
Bardwell, 1,033
Beattyville, 1,042
Beaver Dam, 1,349
Bellefonte (unincorporated), 1,315
Bellevue, 9,040
Benton, 1,980
Berea, 3,472
Blue Diamond–Harveyton (unincorporated), 2,330
Bowling Green, 18,347
Bulan (unincorporated), 1,446
Burkesville, 1,278
Cadiz, 1,280
Campbellsville, 3,477
Carlisle, 1,524
Carrollton, 3,226
Catlettsburg, 4,750
Cave City, 1,119
Cawood (unincorporated), 1,232
Central City, 4,110
Christopher-Louisaan (unincorporated), 1,277
Clay, 1,291
Clinton, 1,593
Cloverport, 1,457
Columbia, 2,167
Columbus, 182
Corbin, 7,744
Covington, 64,452
Cumberland, 4,249
Cynthiana, 4,847
Danville, 9,086
Dawson Springs, 2,374
Dayton, 8,977
Delphield (unincorporated), 1,512
Drakesboro, 1,102
Earlington, 2,745
Eddyville, 1,840
Elizabethtown, 3,807
Elkhorn City, 1,349
Elkton, 1,412
Elsmere, 3,183
Eminence, 1,462
Erlanger, 3,691
Evarts, 1,937
Falmouth, 2,186
Ferguson Creek (unincorporated), 1,553
Fleming, 914
Fleming-Neon, 1,402
Florence, 1,825
Fort Thomas, 10,870
Frankfort, 11,916
Franklin, 4,143
Fullerton (unincorporated), 1,601
Fulton, 3,224
Georgetown, 5,519
Glasgow, 7,025
Grayson, 1,883
Greensburg, 1,032
Greenup, 1,276
Greenville, 2,661
Guthrie, 1,253
Hamilton Park (unincorporated), 2,579
Harlan, 4,780
Harrodsburg, 5,262
Hartford, 1,561
Haymond–Cromona–Potters Fork (unincorporated), 1,321
Harvard, 6,985
Henderson, 16,837
Henry Clay (unincorporated), 6,104
Hickman, 2,037
Highland Heights, 1,569
Highsplint Shields (unincorporated), 1,506
Hodgenville, 1,695
Holt–Ocaton Beaver (unincorporated), 1,103
Hopkinsville, 12,426
Horse Cave, 1,515
Irvine, 3,259
Jackson, 1,978
Jamestown, 1,061
Jeffersontown, 1,216
Jenkins, 6,921
Kenvir–Redbud (unincorporated), 3,420
Kitts (unincorporated), 1,431
Kuttawa, 791
La Grange, 1,558
Lancaster, 2,402
Lawrenceburg, 2,369
Lebanon, 4,610
Lebanon Junction, 1,243
Leitchfield, 1,312
Lennox–Glidden–Mary Ellen–Coal Good (unincorporated), 1,256
Lexington, 55,534
Liberty, 1,240
Liggett–Bardo–Stanfield (unincorporated), 1,061
Livermore, 1,441
London, 3,426
Lothair (unincorporated), 1,313
Loudon–Black Bottom–Hoshpint (unincorporated), 2,292
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Louisville, 369,129
Loyal now Loyall, 1,758
Ludlow, 6,474
Lynch Benham (unincorporated), 7,902
McVeigh (unincorporated), 1,292
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Manchester, 1,706
Marion, 2,437
Martin, 1,170
Maysfield, 8,990
Maysville, 8,632
Middlesboro, 11,182
Monticello, 2,954
Morehead, 3,102
Morganfield, 3,257
Mortons Gap, 1,081
Mount Sterling, 5,294
Mount Vernon, 1,106
Murray, 6,035
Nicon, 1,033
Newport, 31,044
Nicholasville, 3,406
North Corbin (unincorporated), 1,077
Oakdale (unincorporated), 1,047
Ohio Hill, 1,541
Owensboro, 33,651
Owenton, 1,249
Paducah, 32,828
Paintsville, 4,309
Paris, 6,912
Park Hills, 2,577
Parkway Village, 1,046
Perryville, 660
Pleasure (unincorporated), 6,352
Pikeville, 5,154
Pineville, 3,800
Pinson Fork (unincorporated), 1,114
Prestonsburg, 3,585
Princeton, 5,388
Providence, 3,903
Prudence–Fonde (unincorporated), 1,478
Raccland, 1,001
Ravenna, 979
Richmond, 10,268
Russell, 1,681
Russell Springs, 2,125
Russellville, 4,529
Salversville, 1,174
Scottsville, 2,060
Sebree, 1,158
Shelbyville, 4,404
Shively, 2,401
Somerset, 7,097
South Fort Mitchell, 3,142
Southgate, 1,903
South Williamson (unincorporated), 1,143
Springfield, 2,042
Stanford, 1,861
Stanton, 2,222
The Meadows (unincorporated), 3,742
Thompson (unincorporated), 1,786
Thorn Hill (unincorporated), 1,703
Tompkinsville, 1,859
Uniontown, 1,054
Vanceburg, 1,528
Van Lear, 1,090
Verda (unincorporated), 1,446
Versailles, 2,760
Vine Grove, 1,252
Walton, 1,348
Wayland, 1,807
Webb Bury, 1,340
West Point, 1,669
Wheelwright, 2,047
Whitesburg, 1,393
Wickliffe, 1,019
Wilhamsburg, 3,318
Williamstown, 1,800
Wilmore, 2,347
Winchester, 9,226
Wiscoal-Sassafras (unincorporated), 1,333
Woodbiwn Ryler (unincorporated), 1,093

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Alexandria, 14,913
Amite, 2,804
Arcadia, 2,241
Baldwin, 1,138
Basile, 1,572
Bastrop, 12,769
Baton Rouge, 125,629
Bayou Cane (unincorporated), 2,212
Bernice, 1,524
Berwick, 2,019
Bogalusa, 17,798
Bossier City, 15,470
Breaux Bridge, 2,492
Broussard, 1,237
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Chase, Point, 2,897
Clark (unincorporated), 1,345
Clinton, 1,383
Colfax, 1,651
Coteau (unincorporated), 1,214
Cottonport, 1,531
Cotton Valley, 1,188
Coushatta, 1,788
Covington, 5,113
Crowley, 12,784
Daigleville (unincorporated), 1,899
Delcambre, 1,163
Delhi, 1,861
Denham Springs, 2,053
De Quincy, 3,837
De Ridder, 5,799
Donaldsonville, 4,150
Dowline, 1,170
Elizabeth (unincorporated), 1,113
Elton, 1,734
Erath, 1,434
Eunice, 8,184
Fairmeville, 2,173
Ferriday, 3,817
Franklin, 6,144
Franklinton, 2,342
Garyville (unincorporated), 1,849
Gibsland, 1,085
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Golden Meadow (unincorporated), 2,820
Gonzales, 1,642
Goosport (unincorporated), 8,425
Gramercy, 1,184
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Gueydan, 2,041
Hammond, 8,010
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Highland Park–Splane Place (unincorporated), 1,665
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Jena, 1,438
Jennings, 9,663
Jonesboro, 3,097
Jonesville, 1,954
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Kenner (including Junction City Ark, 1,527), 15,471
Kaplan, 4,962
Kenner, 5,535
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Lafayette, 33,541
Lake Arthur, 2,849
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Leesville, 5,143
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Mansfield, 4,440
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Many, 1,881
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Merryville, 1,383
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Monroe, 38,572
Morgan City, 9,759
Napoleonville, 1,280
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Newellton, 1,280
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New Orleans, 570,445
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Oakdale, 5,598
Oak Grove, 1,796
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Olla, 1,115
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Brewer 9 862
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Camden (unine) 4 270
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Eastport 3,123
Ellsworth 3 936
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Falmouth Forside (unine) 1 023
Farmington–West Farmington (unine) 3 113
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Milo–Derby (unin), 1 832
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Presque Isle 9 974
Randolph (unine), 1 599
Richmond (unine), 1 586
Rockland, 9,231
Rumford (unine), 7,888
Saco 10 321
Sanford (unine), 11 094
Skowhegan (unine), 6 381
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South Paris (unine) 2 067
South Portland 21,866
South Windham (unine) 1 969
Springvale (unine), 2 715
Thomaston (unine), 2 998
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Blaine 1 118
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Bowdoinham 1 039
Bridgewater 1 279
Bridgton 2 490
Bristol 1 476
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Brunswick 10 996
Bucksport 3 120
Buxton, 2 009
Camden 3 670
Cape Elizabeth 3 816
Caribou 9 923
Castine 793
Chelsea 2 169
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China, 1 375
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Danforth 1 174
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Eliot 2 509
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Farmington, 4,677
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Freeport, 3,280
Frenchville, 1,528
Friendship, 772
Fryeburg, 1,926
Gorham, 4,742
Gouldsboro, 1,168
Grand Isle, 1,230
Gray, 1,631
Greenville, 1,889
Guilford, 1,842
Hampden, 3,608
Harpswell, 1,644
Harrison, 1 026
Hartland, 1,310
Hermon, 1,728
Hodgdon, 1,162
Hollis, 1,214
Houlton, 8,377
Howland, 1,441
Island Falls, 1,237
Jackman, 964
Jay, 3,102
Jefferson, 1,215
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Kennebunk, 4,273
Kennebunkport, 1,522
Kingfield, 963
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Lebanon 1,499
Limerick, 961
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Livermore, 1,113
Livermore Falls, 3,359
Lubec, 2,973
Machias, 2,063
Machiasport, 781
Madawaska, 4,900
Madison, 3,649
Mapleton, 1,367
Mars Hill, 2,060
Mechanic Falls, 2,061
Mexico, 4,762
Millbridge, now Milbridge, 1,199
Milford, 1,435
Millinocket, 5,890
Milo, 2,898
Monbegan, 75
Monmouth 1,683
Monson 855
Montello, 1,284
Mount Desert, 1,776
Newcastle, 1,021
New Gloucester, 2,628
Newport, 2,190
Norridgewock, 1,784
North Berwick, 1,655
Norway, 3,811
Oakfield, 1,009
Oakland, 2,679
Old Orchard Beach, 4,797
Orland, 1 155
Orono 7,504
Orrington, 1,895
Oxford, 1 569
Paris, 4,358
Patten, 1,536
Pembroke, 998
Peru, 1,080
Phillips, 1,088
Phippsburg, 1,134
Pittsfield, 3,909
Pittston 1,258
Poland, 1,503
Porter, 1,052
Princeton, 865
Randolph, 1,733
Rangeley, 1,228
Readfield, 1,022
Richmond, 2,217
Rockport, 1,656
Rumford, 9,954
Saint Agatha, 1,512
Saint Albans, 1,015
Saint Francis, 1,384
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Sanford, 15,177
Sangerville, 1 161
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Searsport, 1,457
Sherman, 1,129
Skowhegan, 7,422
South Berwick, 2,616
South Bristol, 631
Southwest Harbor, 1,534
Stanley, 1,786
Stonington, 1,660
Strong, 1,036
Thomaston, 2,810
Topsham, 2,626
Tremont, 1,115
Turner, 1,712
Union, 1,085
Unity, 1,014
Van Buren, 5,094
Vassalboro, 2,261
Vinalhaven, 1,427
Waldoboro, 2,536
Wallagrass, 1,015
Warren, 1,576
Washburn, 1,913
Waterboro, 1,071
Waterford, 828
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Wells, 2,321
Whitefield, 1,030
Wilton, 3,455
Windham, 3,434
Winslow, 4,413
Winterport, 1,694
Winthrop, 3,026
Wiscasset, 1,884
Woodland, 1,292
Woolwich, 1,344
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Baltimore, 949,708
Bel Air, 2,578
Berlin, 2,001
Bladensburg, 2,899
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Bowie, 860
Brentwood, 3,523
Brunswick, 3,752
Cambridge, 10,451
Capitol Heights, 2,729
Cairney (unine), 1,523
Centerville, now Centreville, 1,804
Chesapeake City, 1,154
Chestertown, 3,143
Cloverly, 3,318
Chevy Chase, 1,971
College Park, 11,170
Colmar Manor, 1,732
Cottage City, 1,249
Crisfield, 3,688
Cumberland, 37,679
Delmar, 1,328 (including Delmar, Del, 2,343)
Denton, 1,806
District Heights, 1,735
Easton, 4,8 85
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Elkton, 5,245
Ellicott City–Oella (unine), 3,884
Emmitsburg, 1 261
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Federalsburg 1,878
Forest Heights 1,125
Frederick, 18 142
Frostburg, 6,876
Fruitland, 1 028
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Germantown–Homewood–Cedar Park (unine), 2 290
Glen Echo 156
Greenbelt 7,074
Greensboro, 1 181
Hagerstown 36,260
Halfway (unine), 2,153
Havre de Grace 7,809
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Indian Head 491
Kensington 1 611
Landover Hills, 1,661
Laurel, 1 482
Leen Park–Woodland Beach (unine) 1 169
Leonardtown 1,017
Lonaconing 2 289
Manchester 1 027
Morningside 1 520
Mount Airy 1 861
Mount Rainier 10 989
Mount Savage (unine), 2 094
Northeast now North East, 1 517
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Ocean City 1 234
Odenton (unine), 1,059
Orchard Beach (unine) 1 203
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Reisterstown-Gyndon (unine) 2 077
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Riviera Beach (unine), 1 849
Rockville 6 934
Saint Michaels 1,170
Salisbury, 15,141
Savage (unine) 1 238
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Severna Park–Round Bay (unine), 1,095
Sharpsburg 866
Snow Hill, 2 091
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Takoma Park, 13,341
Taneytown 1,420
The Narrows–Narrows Park (unine), 2,022
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Amesbury (unine), 9,711
Amherst (unine), 7,900
Athol (unine), 9,708
Attleboro, 23,809
Ayer (unine.), 3,107
Baldwinville (unine.), 1,407
Barre Plains–South Barre (unine), 1,151
Bedford (unine), 1,407
Beverly, 28,884
Blackstone (unine), 1 815
Boston, 801,444
Bridgewater (unine), 3 445
Brockton, 62,860
Brookfield (unine), 1 017
Buzzards Bay (unine), 1,459
Cambridge, 120,740
Canton (unine), 4,739
Chatham (unine), 1 225
Chelsea, 38,912
Chicopee, 49,211
Clinton (unine), 12 287
Cohasset (unine), 2,009
Concord (unine) 2,299
Dalton (unine), 4,285
Dennis Port (unine), 1 080
East Bridgewater (unine), 1,570
East Douglas (unine), 1,846
East Falmouth (unine), 1,405
Edgartown (unine), 1,264
Everett, 45,982
Fall River, 111,963
Falmouth (unine), 2 713
Fisherville–Farnumsville (unine), 2 594
Fitchburg, 42,691
Forge Village (unine), 1 115
Foxboro (unine), 2 774
Franklin (unine), 5,348
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Gardners Neck–Ocean Grove (unine), 3,117
Georgetown (unine), 1,578
Gilbertville (unine), 1,039
Gloucester 25 167
Great Barrington (unine) 4,913
Greenfield (unine), 15 975
Groveland (unine), 1,230
Haverhill 47,280
Holden–Jeffersonville (unine), 1 812
Holliston (unine), 1 908
Holyoke, 54 661
Hopedale (unine), 2 797
Hopkinton (unine), 1 829
Houstatonic (unine), 1,601
Hyannis (unine), 4 235
Ipswich (unine), 4,952
Kingston (unine), 1 366
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Lee (unine), 2,847
Leicester Center (unine), 1,465
Lenox (unine), 1,601
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Littleton Common (unine), 1,017
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Malden 59 804
Mansfield (unine), 4 808
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Medford, 66,113
Medway (unine), 1 276
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Merino Village (unine), 3,118
Merrimac (unine), 1 618
Middleboro (unine), 5,886
Milford (unine), 14 396
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Millis–Chequot (unine), 1,419
Millville (unine), 1,407
Monson (unine), 2,136
Nantucket (unine), 2,901
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Newton, 81,994
North Adams, 21,567
Northampton, 29,063
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Nuttings Lake (unine), 1,301
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Onset (unine), 1,674
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Oxford (unine), 3,238
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Peabody, 22,645
Pepperell–East Pepperell (unine), 1,734
Pinehurst (unine), 2,905
Pittsfield 53,348
Plymouth (unine), 10,540
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Quincy, 84 835
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Rockdale (unine), 1 848
Rockport (unine), 2,911
Rutland (unine), 1,629
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Shore Acres–Sand Hills (unine), 1 026
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South Billingham (unine) 1 919
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West Medway (unine), 1,625
West Warren (unine), 1 244
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Worcester, 203 486
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Acushnet 4 401
Adams, 12 014
Agawam, 10,166
Amesbury, 10,851
Amherst, 10,850
Andover 12 437
Arlington, 44,353
Ashburnham, 2,603
Ashby, 1,464
Ashland, 3,500
Athol, 11 554
Auburn, 8,840
Avon, 2,666
Ayer, 5,740
Barnstable, 10,480
Barre, 3,406
Bedford, 5,234
Belchertown, 4,487
Bellingham, 4,10
Belmont, 27,381
Berkley, 1,284
Berlin, 1,349
Bernardston, 1,117
Billerica, 11,101
Blackstone, 4,968
Bourne, 4,720
Boylston, 1,700
Braintree, 23,161
Brewster, 987
Bridgewater, 9,512
Brimfield, 1,182
Brookfield, 1,557
Brookline, 57,589
Buckland, 1,605
Burlington, 3,250
Canton, 7,465
Carver, 1,530
Charlton, 3,136
Chatham, 2,457
Chelmsford, 9 407
Cheshire, 2 022
Chester, 1,292
Clarksburg, 1,030
Clinton, 12,287
Cohasset, 3 781
Colrain, 1 546
Concord, 8,623
Cummington, 620
Dalton, 4,772
Danvers 15,720
Dartmouth, 11,115
Dedham, 18 487
Deerfield, 4,086
Dennis, 2 199
Dighton, 2,950
Douglas, 2 624
Dover 1,722
Dracut, 8 660
Dudley, 5 261
Duxbury, 3,167
East Bridgewater, 4,412
East Brookfield, 1,243
Eastham, 860
Easthampton, 10,694
East Longmeadow, 4 881
Easton 6 244
Edgartown 1,508
Erving 1,322
Essex 1,791
Fairhaven, 12 764
Falmouth 8,662
Foxboro 7,030
Framingham 28,086
Franklin, 8,037
Freetown, 2 104
Gay Head, 88
Georgetown, 2,411
Gill 1 070
Grafton 8 281
Granby 1 861
Great Barrington 6,712
Greenfield 14 349
Groton 2 889
Groveland 2 340
Hadley 2 639
Hamilton 2 704
Hampden 1,322
Hanover 3,980
Hanson, 3 264
Hardwick 2 318
Harvard 3 983
Harwich 2 649
Hatfield 2 179
Hingham, 10,065
Hinsdale 1 560
Holbrook 4 004
Holden 5 975
Holliston 3 753
Hopedale 3 479
Hopkinton 4 486
Hubbardston, 1,134
Hudson, 8 211
Hull, 3 479
Huntington, 1,257
Ipswich, 6,895
Kingston, 3,461
Lakeville, 2,066
Lancaster 3,601
Lanesboro 2,069
Lee 4 820
Leicester 6,029
Lenox, 3 627
Lexington 17,335
Lincoln 2 427
Littleton, 2,349
Longmeadow, 6,508
Ludlow, 8 660
Lunenburg, 3,906
Lynnfield, 3,427
Manchester 2,868
Mansfield, 7,184
Marblehead 18,763
Marion, 2,250
Marshfield, 3 267
Mattapoisett, 2,265
Maynard, 6 972
Medfield, 4 749
Medway, 3,744
Mendon, 1,619
Merrimac, 2,804
Methuen, 24,477
Middleboro, 10,164
Middleton, 2,916
Milford 15,442
Millbury, 8,347
Millis, 2,551
Millville, 1,092
Milton, 22,895
Monson, 6,125
Montague, 7,812
Nahant, 2,679
Nantucket, 3,484
Natick, 19,838

Needham, 16,313
Newbury, 1,994
Norfolk, 2,704
North Andover, 8,485
North Attleboro, 12,146
Northboro, 3,122
Northbridge, 10,476
North Brookfield, 3,444
Northfield, 2,246
North Reading, 4,402
Norton, 4,401
Norwell, 2,515
Norwood, 16,636
Oak Bluffs, 1,521
Orange 5,804
Orleans, 1,759
Oxford 5,851
Palmer, 9,533
Paxton, 1,066
Pembroke, 2 579
Pepperell 3 460
Plainville, 2,088
Plymouth, 13,608
Princeton 1 042
Provincetown 3,795
Randolph, 9 982
Raynham 2 426
Reading 14,006
Rehoboth, 3 700
Rochester 1 428
Rockland 8 900
Rockport, 1 231
Rowley, 1 768
Russell, 1,208
Rutland 3 056
Salisbury 2 695
Sandwich 2 418
Saugus 17 162
Scituate 5 993
Seekonk 6 104
Sharon 4 817
Sheffield 2 150
Shelburne 1 756
Sherborn 1 215
Shirley 1 271
Shrewsbury 10 594
Somerset 8 566
Southampton 1 387
Southboro 2 760
Southbridge 17 519
South Hadley 10 145
Southwick 2 850
Spencer 7 027
Sterling 2 166
Stockbridge 2 311
Stoneham 11 229
Stoughton 11 146
Stow 1 700
Sturbridge 2 805
Sudbury 2 596
Sunderland 905
Sutton 6 062
Swampscott 13 380
Swansea 6 121
Templeton 17 47
Tewksbury 7 505
Tisbury 1 930
Topsfield 1 412
Townsend 2 817
Truro 661
Tyngsboro 2 059
Upton 2 656
Uxbridge 7 007
Wakefield 19 633
Walpole 9 109
Ware 7 517
Wareham 7 569
Warren 3 406
Watertown 37 320
Wayland 4 107
Webster 14 194
Wellesley, 20 549
Wellfleet, 1 123
Wenham 1 614
Westboro 7 348
West Boylston 2 570
West Bridgewater 4 069
West Brookfield 1,674
Westford 4 262
Westminster 2 708
West Newbury, 1 598
Weston 5 026
Westport 4 989
West Springfield, 20,438
West Stockbridge, 1,165
Westwood, 5 837
Weymouth 42 090
Whitman, 8 113
Wilbraham 4 003
Williamsburg 2,056
Williamstown 6,194
Wilmington, 7,039
Winchendon, 6,585
Winchester, 15 509
Winthrop 19 496
Wrentham, 5,311
Yarmouth 3,297

MICHIGAN, 6,371,766

Adrian, 18 393
Albion 10 406
Algonac, 2 639
Allegan, 4 801
Allen Park 12,329
Alma, 8,341
Almont, 1,035
Alpena, 13,135
Anchor Bay Gardens (unincs.), 1,127
Ann Arbor, 48,251
Austin Lake (unincs.), 2,032
Bad Axe, 2,973
Bangor, 1,694
Baraga, 942
Battle Creek, 48,666
Bay City, 52,523
Bayport Park–Lakeside (unincs.), 1,209
Beechwood-Oaklawn (unincs.), 1,567
Belding, 4 436
Bellevile 1,722
Bellevue 1,168
Benton Harbor, 18 769
Benton Heights (unincs.), 6,160
Berkley, 17,931
Berrien Springs, 1,761
Bessemer 3 509
Big Rapids 6 736
Birmingham, 15,167
Blissfield, 2 865
Bloomfield Hills 1,468
Boyne City 3 028
Brighton, 1 861
Bronson 2,106
Brookline (unincs.), 1 604
Buchanan 5 224
Bullock Creek (unincs.), 1 891
Cadillac 10 425
Calumet 1 256
Capac 1 104
Carleton 1 039
Caro 3 464
Carson City 1 168
Caspian 1 608
Cass City 1 762
Cassopolis 1 527
Cedar Springs 1 478
Center Line 7 659
Charlevoix 2 695
Charlotte 6 606
Cheboygan 5 087
Chelsea 2 880
Chesaning 2 264
Clare 2 440
Clawson 5 196
Clinton 1 344
Clio 1 963
Coldwater 8 594
Coleman 1 021
Coloma 1 041
Colon 1 000
Columbus Grove (unincs.) 1 013
Commerce (unincs.), 1 071
Constantine 1 514
Coopersville 1 471
Corunna 2 438
Croswell 1 775
Crystal Falls 2 416
Davison 5 245
Dearborn 94 994
Decatur 1 661
Detroit 1 849 568
Detroit Beach–Woodland Beach (unincs.) 1 966
Dexter 1 807
Dowagiac 6 242
Dundee 1 975
Durand 3 194
East Ann Arbor 1 826
East Detroit 21 461
East Grand Rapids 6 403
East Jordan 1 779
East Kingsford–Skidmore (unincs.) 1 279
East Lansing 29 325
Eastlawn (unincs.) 4 127
East Tawas 2 040
Eaton Rapids 3 509
Ecorse 17 948
Englewood Park–Brownlee Park (unincs.) 4 171
Escanaba 15 170
Essexville 3 167
Evart 1 578
Fair Plain (unincs.), 4 434
Farmington 2 325
Fenton 4 226
Ferndale 29 075
Ferrysburg (unincs.), 1 454
Flat Rock 1 931
Flint 163 143
Flushing 2 226
Fowlerville 1 466
Frankenmuth 1 208
Frankfort 1 858
Fraser 1 379
Fremont, 3 056
Galesburg 1 200
Garden City, 9,012
Gaylord, 2 271
Gladstone, 4 831
Gladwin 1 878
Grand Blanc, 998
Grand Haven, 9,536
Grand Ledge, 4 506
Grand Rapids 176,515
Grandville 2,022
Grayling 2,066
Greenville 9 068
Grosse Pointe, 6,283
Grosse Pointe Farms, 9 410
Grosse Pointe Park, 13,075
Grosse Pointe Shores, 1,032
Grosse Pointe Woods, 10,381
Hamtramck, 48,355
Hancock, 5,223
Harbor Beach, 2,349
Harbor Springs, 1,626
Hart, 2 172
Hartford, 1,838
Hastings, 6,096
Hazel Park, 17,770
Highland Park, 46,393
Hillsdale 7 297
Holland 15,858
Holly, 2,663
Homer, 1,301
Houghton, 3,829
Howell 4 353
Hubbell (unincs.), 1,690
Hudson 2 773
Hudsonville 1 101
Huntington Woods, 6 949
Imlay City 1,674
Inkster 16,728
Ionia 6 412
Iron Mountain 9 679
Iron River 1 048
Ironwood 11 466
Ishpeming 8 962
Ithaca 2 377
Jackson 51 088
Jonesville 1 594
Kalamazoo 57 704
Kalkaska 1 250
Kingsford, 5 038
Lake Linden, 1 462
Lake Odessa 1 596
Lake Orion 2 385
Lake Orion Heights (unincs.) 1 075
L'Anse 2 476
Lansing 92 129
Lapeer 6 143
Lapeer Heights (unincs.) 1 722
Laurium 1 211
Lawrence 1 206
Leslie 1 543
Level Park–Oak Park (unincs.) 1 361
Lincoln Park 29 310
Livonia 17 534
Lowell 2 161
Ludington 9 506
Mackinaw City 970
Manchester 1 388
Manistee 8 642
Manistique 5 086
Manton Beach–Devils Lake (unincs.) 1 273
Manton 1 085
Marcellus 1 014
Marine City 4 270
Marlette 1 829
Marquette 17 202
Marshall 5 777
Marysville 2 534
Mason 3 814
Melvindale, 9 483
Menominee 11 151
Michigan Center (unincs.) 5 012
Middleville 1 017
Midland 11 285
Milan 2 768
Milford 1 924
Millington 1 043
Mohawk Bulton (unincs.) 1 131
Monroe 21 467
Montague 1 530
Morenci 1 985
Mount Clemens 17 027
Mount Morris 2 890
Mount Pleasant 11,393
Munising 3 339
Muskegon, 48 429
Muskegon Heights, 18 828
Nashville, 1,374
Negaunee, 6,472
Newaygo, 1 385
New Baltimore, 2,043
Newberry, 2 802
New Buffalo, 1,565
New Haven 1,082
Niles, 13,145
North Muskegon, 2,424
Northville, 3,240
Norway, 3,258
Oak Park, 5,267
Olivet, 887
Onaway, 1,421
Ontonagon, 2,307
Otsego, 3,990
Ovid, 1,410
Owosso, 15,948
Oxbow (unincs.), 1,722
Oxford, 2, 305
Packard Homesites (unincs.), 1,096
Parchment, 1,170
Patterson Gardens (unincs.), 1,548
Paw Paw, 2, 382
Paw Paw Lake (unincs.), 1,625
Pentwater, 1,097
Perry, 1,203
Petersburg, 1,001
Petoskey, 6,468
Pigeon, 1,015
Pinconning, 1,223
Plainwell, 2,767
Pleasant Ridge, 3,594
Plymouth, 6,637
Pontiac, 73,681
Portage (unincs.), 1,677
Port Huron, 35,725
Portland, 2,807
Quincy, 1,527
Ramsay-Anvil (unincs.), 1,466
Reading, 1,125
Reed City, 2,241
Republic (unincs.), 1,092
Richmond, 2,025
River Rouge, 20,549
Riverside–Hillside Gardens (unincs.), 1,012
Riverview, 1,432
Rochester, 4 270
Rockford, 1,937
Rockwood, 1,044
Rogers City, 3,873
Romeo, 2,985
Roosevelt Park, 1,254
Roseville, 15,816
Royal Oak, 46,898
Saginaw, 92,918
Saint Charles, 1,469
Saint Clair, 4,098
Saint Clair Shores, 19 823
Saint Ignace, 2,946
Saint Johns, 4,954
Saint Joseph, 10,223
Saint Louis, 3,347
Saline, 1,543
Sandusky, 1,819
Sault Sainte Marie, 17,912
Schoolcraft, 1,078
Scottville, 1,142
Sebewaing, 1,911
Shelby, 1 500
South Haven, 5 629
Southland-Woodland (unincs.), 2,425
South Lyon, 1,312
South Monroe (unincs.) 2 727
South Park (unincs.), 2,391
Sparlingville (unincs.), 1,393
Sparta, 2,327
Springfield Plaine–Lakeview (unincs.), 13 161
Spring Lake, 1,824
Stambaugh, 1 960
Standish 1,186
Stanton 1,243
Stockbridge, 1,098
Sturgis, 7 786
Sunrise Heights (unincs.) 1 094
Sylvan Lake, 1 165
Tawas City 1 441
Tecumseh 4,020
Temperance (unincs.), 1,062
Three Oaks, 1,572
Three Rivers 6 785
Traverse City, 16,974
Trenton, 6,222
Tremountaine-Pamsdale (unincs.), 1,860
Union City, 1 564
Utica, 1,196
Vandercook (unincs.), 3 196
Vassar 2,530
Verona Park (unincs.), 1,342
Vicksburg, 2,171
Virginia Park (unincs.), 2 726
Wakefield, 3 344
Walled Lake (unincs.), 2 788
Watervliet, 1 327
Wayland, 1,991
Wayne, 9,490
Wenona Beach (unincs.), 1,205
West Branch, 2 098
Whitehall, 1,819
White Lake–Seven Harbors (unincs.), 1, 385
White Pigeon, 1,113
Williamston, 2,051
Willow Run (unincs.), 11, 465
Wolf Lake (unincs.), 1,591
Woodlawn Orchards–Knollwood Park (unincs.), 4,035
Woodville (unincs.), 1,926
Wyandotte, 36,846
Yale, 1 641
Ypsilanti 18,302
Zeeland, 3,075

MINNESOTA, 2,982,483

Ada, 2,121
Adrian, 1,115
Aitkin, 2,079
Albany, 1,198
Albert Lea, 13,545
Alexandria, 6,319
Anoka, 7,396
Appleton, 2,256
Arlington, 1,313
Aurora, 1,371
Austin, 24,100
Bagley, 1,554
Barnesville, 1,593
Baudette, 929
Bayport, 2,502
Belle Plaine, 1,708
Bemidji, 10,001
Benson, 3,398
Bird Island, 1 433
Biwabik, 1,245
Blooming Prairie, 1,442
Blue Earth, 3,843
Bowey, 1,320
Brainerd, 12 617
Breckenridge, 4,623
Brooklyn Center, 4,284
Browns Valley, 1,117
Buffalo, 1,914
Buhl, 1,462
Caledonia, 2,243
Cambridge, 2,978
Canby, 2,173
Cannon Falls, 1,831
Cass Lake, 1,936
Chaska, 2,008
Chatfield, 1,605
Chisholm, 6,861
Clara City, 1,106
Clarkfield, 1,012
Cloquet 7 685
Cokato, 1 403
Cold Spring, 1,488
Coleraine, 1,321
Columbia Heights, 8,175
Crookston 7 352
Crosby, 2,777
Crystal, 5,713
Dawson, 1 834
Deephaven, 1,823
Deer River, 1 033
Delano, 1,886
Detroit Lakes, 5,787
Dilworth, 1,129
Dodge Center, 1,151
Duluth 104 511
East Grand Forks, 5,019
Edina, 9,744
Elbow Lake, 1 398
Elk River, 1,399
Elmore 1 074
Ely 5 171
Evelith, 5,872
Excelsior 1 763
Fairfax, 1 143
Fairmont 8,193
Falcon Heights, 4 884
Faribault 16 038
Farmington, 1,996
Fergus Falls, 12 917
Foley, 1 089
Forest Lake, 1,766
Fosston 1 611
Frazee, 1 071
Fridley, 3,790
Fulda, 1,119
Gaylord, 1 229
Gilbert, 2,247
Glencoe, 2,801
Glenwood, 2,666
Golden Valley, 7,551
Graceville 962
Grand Marais, 1,078
Grand Rapids, 6,019
Granite Falls, 2 511
Hallock, 1 552
Harmony, 1,042
Hastings, 6 560
Hawley, 1,196
Hector, 1,196
Henning, 1,004
Hibbing, 16,276
Hopkins, 7 595
Hutchinson 4 690
International Falls, 6,269
Island Park, 1,357
Jackson, 4,313
Janesville, 1,287
Jordan, 1 104
Kasson, 3,453
Kenwatin, 1,807
Kensington 354
Kenyon, 1,651
La Crescent, 1,229
Lake City, 3,457
Lake Crystal, 1,430
Lakefield, 1 651
Lamberton, 1 208
Langsboro, 1,100
Lauderdale, 1 043
Le Center, 1,314
Le Sueur, 2,713
Litchfield, 4,608
Little Falls, 6,717
Long Prairie, 2,443
Luverne, 3,650
Madelia, 1,790
Madison, 2,303
Mahnomen, 1,464
Mahtomedi, 1,375
Mankato, 18,809
Mapleton, 1,083
Marshall, 5,923
Melrose, 2,106
Mendota 243
Milaca, 1,917
Minneapolis, 521,718
Minneota, 1,274
Montevideo, 5,459
Montgomery, 1,913
Monticello, 1,231
Moorhead, 14 870
Moose Lake, 1 603
Mora, 2,018
Morningside, 1,699
Morris, 3,811
Mound, 2,061
Mountain Iron, 1,377
Mountain Lake, 1,733
Nashwauk, 2,029
New Brighton, 2,218
Newport, 1,672
New Prague, 1,915
New Ulm, 9,348
Northfield, 7,347
North Mankato, 4,788
North Saint Paul, 4,248
Ohiwa, 2,012
Ortonville, 2,577
Osakis, 1,488
Osseo 1 167
Owatonne 10 191
Park Rapids 3 027
Paynesville, 1 503
Pelican Rapids 1 676
Pelham, 1,926
Pine City, 1,937
Pine Island, 1 298
Pipestone, 5,269
Plainview 1 524
Preston, 1,399
Princeton, 2 108
Proctor, 2,693
Red Lake Falls 1 733
Red Wing, 10,045
Redwood Falls, 3,813
Renville, 1,323
Richfield, 17, 02
Robbinsdale 11 289
Rochester, 29 885
Roseau, 2,231
Roseville 6,347
Rush City 1 175
Rushford 1 270
Saint Anthony, 1 406
Saint Charles, 1,518
Saint Cloud 28,410
Saint James 3 861
Saint Joseph 3,216
Saint Louis Park, 22,644
Saint Paul, 311 349
Saint Paul Park, 2 138
Saint Peter 5,754
Sandstone, 1,097
Sauk Centre, 3,140
Sauk Rapids 3 410
Shakopee 3,183
Sherburn, 1,221
Slayton 1 887
Sleepy Eye 3,278
South International Falls 1 840
South Saint Paul 15 000
Springfield, 2 571
Spring Grove 1,093
Spring Valley, 2,467
Staples, 2,782
Starbuck 1 143
Stewartville, 1,193
Stillwater 7,671
Thief River Falls, 6,926
Tracy 4 020
Truman 1 106
Two Harbors, 4,100
Tyler, 1 121
Valley Acres (unincs.), 1,727
Virginia, 12,486
Wabasha, 2 468
Waconia, 1 569
Wadena 3 958
Waite Park, 1 639
Walker, 1 502
Warren, 1,779
Warroad, 1,276
Waseca, 4 927
Waterville, 1,627
Wayzata, 1,791
Wells 2 473
Westbrook, 1 017
West Saint Paul, 7,955
Wheaton, 1 948
White Bear Lake, 1 646
Willmar, 9 410
Windom, 4,165
Winnebago, 2,127
Winona, 25,031
Winthrop 1,251
Worthington 7 923
Zumbrota, 1,686

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Aberdeen 5 290
Ackerman 1 463
Amory 3 990
Baldwyn 1 467
Batesville 2 463
Bay Saint Louis 1 621
Bay Springs 1 302
Bear Town (unincs.), 2 002
Belzoni 4 071
Biloxi 17 425
Booneville 3 205
Brandon 1 827
Brookhaven, 7 801
Bruce 1 719
Bude 1 195
Calhoun City 1,319
Canton 7,048
Carthage 1 925
Centreville 2 025
Charleston 2 629
Clarksdale, 16 539
Cleveland, 6 747
Clinton, 2 255
Collins, 1 293
Columbia 6 124
Columbus 17,172
Corinth, 9 785
Crosby 1 152
Crystal Springs, 3,676
Decatur, 1,225
D'Iberville (unincs.), 1 429
Drew 1 681
Durant 2,311
East Side (unincs.), 1 215
Edwards 1 002
Ellisville, 3 579
Eupora 1 338
Fayette 1,498
Forest 2 874
Fulton 1 343
Gloster 1 467
Greenville 29 946
Greenwood 18 061
Grenada 7 388
Gulfport 22 659
Hattiesburg 29 474
Hazlehurst 3 497
Hernando 1 206
Holly Bluff 2 346
Holly Springs 3 276
Houston 1 664
Indianola 4 369
Inverness 1 010
Itta Bena 1 725
Iuka 1 527
Jackson, 98 271
Kosciusko 6 753
Kreole (unincs.) 1 106
Lambert 1 023
Landon–West Gulfport (unincs.) 1,853
Laurel 25 038
Leland 4 746
Lexington 4 198
Long Beach 2 703
Louisville 5 282
Lucedale 1 641
Lumberton 1 803
McComb, 10 401
Macon 2 241
Magee 1 738
Magnolia 1 984
Marks 2 209
Meridian 41 893
Mill Town–Marin Town (unincs.) 1 796
Mississippi City–Handsboro (unincs.), 4 100
Monticello 1 482
Moorhead 1 749
Morton 1 664
Moss Point 3 782
Mound Bayou 1,328
Natchez 22 740
Nettleton 1 204
New Albany 4 680
Newton 2 912
Ocean Springs 3,038
Okolona 2 167
Oxford 3 956
Pascagoula 18 805
Pass Christian 3,383
Petal (unincs.) 2 148
Philadelphia 4 472
Picayune 6 707
Pontotoc 1 996
Poplarville 1 852
Port Gibson 2 920
Prentiss 1 212
Purvis 1 270
Quitman 1 817
Raymond 1 259
Richton 1 158
Ripley 2 387
Rolling Fork, 1 229
Rosedale 2 197
Ruleville 1 521
Sardis 1 013
Scranton 2 108
Shaw 1 892
Shelby 2 148
Starkville 7 107
Stonewall (unincs.), 1 015
Summit 1 558
Taylorsville 1 116
Tunica 1 354
Tupelo 11 527
Tylertown 1 331
Union 1 559
Vicksburg 27 948
Water Valley 3 213
Waynesboro 3 442
Wesson 1 235
West Point 6 432
Wiggins 1 436
Winona 4 411
Woodville 1 609
Yazoo City 9 746

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Albany 1 850
Anderson 1 073
Appleton City 1 150
Arbor Terrace 1,150
Ash Grove 970
Aurora 4 153
Ava 1 611
Bel-Nor 1 290
Bel-Ridge 1 116
Berkeley, 4 233
Berkeley 5 208
Bernie, 1 808
Bethany 2 714
Bethel 191
Bevier 898
Bismarck 1 244
Bloomfield 1,382
Blue Springs 1,068
Bolivar 3 182
Bonne Terre, 3 533
Boonville, 6,686

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Bowling Green, 2,396
Branson 1,314
Breckenridge Hills, 4,064
Brentwood 7,504
Brookfield 5,810
Brunswick 1,653
Buffalo 1,214
Butler, 3,333
Cabool 1,245
California 2,027
Camdenton 1,142
Cameron 3,570
Campbell 3,931
Canton 2,490
Cape Girardeau 21,578
Carl Junction 1,006
Carrollton, 4,480
Carterville 1,552
Carthage 11,188
Caruthersville 8,614
Caseville 1,441
Centralia 2,460
Chaffee 3,134
Charlack 1,528
Charleston, 5,401
Chillicothe 8,694
Clarence 1,124
Clarkton, 1,004
Clayton, 16,045
Clinton 6,075
Columbia 31,974
Concordia, 1,218
Country Club Hills, 1,741
Crane, 939
Crestwood 1,645
Creve Coeur, 2,040
Crystal City, 3,499
Cuba, 1,301
Desloge, 1,957
De Soto, 5,457
Des Peres, 1,172
Dexter, 4,624
Doniphan, 1,611
East Prairie, 3,033
Edina, 1,607
Eldon, 2,766
Eldorado Springs, 2,619
Elsberry, 1,585
Elvins, 1,977
Excelsior Springs, 5,888
Farmington, 4,490
Elvins, 1,977
Excelsior Springs, 5,888
Farmington, 4,490
Fayette, 3,144
Ferguson, 11,573
Festus 5,190
Flat River, 5,308
Flordell Hills, 1,214
Florissant, 3,737
Fornfelt, 1,539
Fredericktown, 4,096
Frontenac, 1,099
Fulton, 10,052
Gallatin, 1,634
Gideon, 1,754
Glasgow, 1,410
Glendale, 4,930
Granby, 1,670
Grandview, 1,556
Grant City, 1,184
Greenfield, 1,213
Hamilton, 1,728
Hanley Hills, 2,219
Hannibal, 20,444
Harrisonville, 2,530
Hayti, 3,302
Herculaneum (unine.), 1,803
Hermann 2,521
Higginsville 2,428
Hillsdale, 2,062
Holden, 1,765
Houston, 1,277
Huntsville, 1,520
Ilmo, 1,247
Independence, 36,963
Ironton, 1,148
Jackson, 3,707
Jefferson City, 25,099
Jennings, 15,282
Joplin, 38,711
Kahoka, 1,847
Kansas City, 456,622
Kennett, 8,085
King City, 1,031
Kinloch, 5,957
Kirksville, 11,110
Kirkwood, 18,640
Ladie, 5,386
La Grange, 1,106
Lamar, 3,243
La Plata 1,431
Lathrop, 888
Leadwood (unine.), 1,479
Lebanon 6,808
Lees Summit, 2,551
Lexington, 5,074
Liberty, 4,709
Lilbourn, 1,461
Louisiana, 4,389
Macon, 4,152
Malden, 3,498
Maplewood, 13,416
Marceline, 3,172
Marionville 1,167
Marshall, 8,850
Marshfield, 1,925
Maryville, 6,934
Maysville, 973
Memphis, 2,035
Mexico, 11,623
Milan, 1,972
Moberly, 13,115
Monett, 4,771
Monroe City, 2,003
Montgomery City, 1,679
Morehouse, 1,685
Mound City, 1,112
Mountain Grove, 3,106
Mount Vernon, 2,057
Neosho 5,790
Nevada, 8,009
Newburg, 949
New Franklin, 1,060
New Haven 1,009
New London, 888
New Madrid 3,726
Norborne 1,114
Normandy, 2,306
North Kansas City, 4,886
Northwoods, 1,602
Oakland, 1,041
Odessa, 1,969
Olivette, 1,761
Oran, 1,156
Osceola 1,082
Overland 11,566
Owensville, 1,946
Ozark, 1,087
Pacific 1,985
Pagedale, 3,866
Palmyra, 2,295
Paris, 1,107
Parkville, 1,186
Parma, 1,163
Pasadena Hills, 1,102
Pattonsburg, 883
Perry City, 1,156
Perryville, 4,591
Piedmont, 1,548
Pine Lawn 6,115
Plattsburg 1,055
Pleasant Hill, 2,200
Poplar Bluff, 15,064
Portageville, 2,662
Potosi, 2,359
Princeton, 1,506
Rich Hill, 1,820
Richland, 1,133
Richmond, 4,299
Richmond Heights, 15,045
Rock Hill, 4,847
Rockport, 1,511
Rolla, 9,351
Saint Ann 4,557
Saint Charles, 11,811
Saint Clair, 1,779
Sainte Genevieve, 3,992
Saint James, 1,811
Saint John, 2,199
Saint Joseph, 78,588
Saint Louis, 856,796
Salem, 3,611
Salisbury, 1,676
Sarcoxie 1,042
Savannah, 2,432
Sedalia, 20,354
Senath, 1,528
Seneca 1,195
Seymour, 1,015
Shelbina 2,114
Shrewsbury 4,382
Sikeston 11,640
Slater, 2,846
Springfield, 66,731
Stanberry, 1,651
Steele 2,360
Steelville 1,157
Sugar Creek 4,858
Sullivan 4,019
Sweet Springs, 1,439
Tarkio 2,221
Thayer, 1,639
Tipton 1,234
Trenton 6,157
Troy 1,718
Union 2,937
Unionville, 2,050
University City 39,892
Valley Park, 2,956
Vandalia 2,624
Velda Village Hills, 1,527
Versailles, 1,929
Vinita Park, 1,801
Warrensburg, 8,857
Warrenton 1,584
Washington, 6,950
Waynesville, 1,010
Webb City, 6,949
Webster Groves, 23,490
Wellston, 9,396
Wellsville, 1,519
Wentzville, 1,227
Weston, 1,067
West Plains, 4,918
Willow Springs, 1,914
Windsor, 2,429

MONTANA, 591,024
Anaconda, 11,254
Baker, 1,772
Big Timber 1,679
Billings, 31,834
Black Eagle (unine.), 1,449
Boulder 1,017
Bozeman, 11,425
Browning, 1,691
Butte, 33,251
Centerville-Dublin Gulch (unine.), 1,825
Chinook, 2,307
Choteau, 1,618
Columbia Falls, 1,232
Columbus, 1,097
Conrad, 1,865
Cut Bank, 3,721
Deer Lodge, 3,779
Dillon, 3,268
Fast Helena, 1,216
Forsyth, 1,906
Fort Benton, 1,522
Fort Peck (unine.), 1,214
Glasgow, 3,821
Glendive 5,254
Glenwood Park (unine.), 1,889
Great Falls, 39,214
Hamilton, 2,678
Hardin, 2,306
Harlem, 1,107
Harlowton, 1,733
Havre 5,096
Helena 17,581
Hunters Horse-Government Village (unine.), 1,135
Kalispell, 9,747
Laurel 3,663
Lewistown, 6,573
Libby, 2,401
Livingston, 7,683
Malta, 2,065
Meaderville-McQueen (unine.), 1,704
Miles City, 9,233
Missoula, 22,485
Northeast Billings (unine.), 2,158
Orchard Homes (unine.), 1,515
Philipsburg, 1,018
Plentywood, 1,862
Polson, 2,280
Poplar, 1,169
Red Lodge, 2,730
Ronan, 1,251
Roundup, 2,856
Scobey, 1,628
Shelby, 3,058
Sidney, 3,987
Silver Bow Park-Floral Park (unine.), 5,128
Terry, 1,191
Three Forks, 1,114
Townsend, 1,416
Virginia City, 323
Walkerville, 1,631
West Billings (unine.), 2,019
Whitefish, 3,268
White Sulphur Springs, 1,025
Wolf Point, 2,557

NEBRASKA, 1,325,510
Ainsworth 2,150
Albion 2,142
Alliance 7,891
Alma, 1,768
Arapahoe, 1,226
Ashland, 2,713
Atkinson, 1,372
Auburn 3,422
Aurora, 2,455
Bassett 1,066
Bayard 1,869
Beatrice, 11,813
Beaver City 913
Bellevue, 3,858
Benkelman, 1,512
Benson-West Dodge Area (unine.), 1,892
Blair, 4,891
Bloomfield 1,455
Boys Town 975
Bridgeport 1,631
Broken Bow 3,896
Burwell, 1,413
Cambridge, 1,152
Central City 2,394
Chadron 4,687
Chappell 1,297
Columbus 8,884
Cozad 2,910
Crawford 1,824
Creighton, 1,401
Crete 3,692
David City, 2,321
Deshler 1,063
Fairbur , 6,395
Falls City, 6,203
Franklin 1,602
Fremont, 13,762
Friend, 1,118
Fullerton, 1,520
Geneva, 2,031
Gering, 3,842
Gibbon, 1,063
Gordon 2,058
Gothenburg, 2,977
Grand Island, 22,682
Grant, 1,091
Hartington, 1,660
Hastings, 20,211
Hay Springs, 1,091
Hebron 2,000
Holdrege, 4,381
Humboldt, 1,104
Hunkerville (unine.), 2,717
Imperial, 1,503
Kearney, 12,115
Kimball, 2,048
Lexington, 5,068
Lincoln, 98,884
Louisville, 1,014
Loup City, 1,508
Lynch, 440
Lyons, 1,011
McCook, 7,678
Madison, 1,663
Minatare, 890
Minden, 2,120
Mitchell, 2,101
Nebraska City, 6,872
Neligh, 1,522
Newman Grove, 1,004
Norfolk, 11,335
North Bend, 906
North Platte, 13,443
Oakland, 1,456
Ogallala, 3,456
Omaha, 251,117
O'Neill, 3,027
Ord, 2,230
Ordville (unine.), 1,332
Osceola, 1,098
Oshkosh, 1,124
Oxford, 1,270
Papillion, 1,041
Pawnee City, 1,806
Pender, 1,167
Peru, 1,265
Pierce, 1,107
Plainview, 1,427
Plattsmouth, 1,874
Ponca, 893
Ralston, 1,300
Randolph, 1,029
Ravenna, 1,451
Red Cloud, 1,744
Rushville, 1,266
Saint Paul, 1,676
Schuyler, 2,883
Scottsbluff, 12,858
Seward, 3,154
Shelton, 1,032
Sidney, 4,912
South Sioux City, 5,557
Stanton, 1,403
Stromsburg, 1,231
Superior, 3,227
Sutton, 1,353
Syracuse, 1,097
Tecumseh 1,930
Tekamah, 1,914
Tilden, 1,033
Trenton, 1,249
Valentine, 2,700
Wahoo, 3,128
Wakefield, 1,027
Waterbill, 958
Wayne, 3,595
Weeping Water, 1,070
West Point, 2,658
Wilber, 1,356
Wisner, 1,233
Wymore, 2,258
York, 6,178

NEVADA, 160,083
Babbit (unine.), 2,464
Boulder City (unine.), 3,903
Carlin, 1,203
Carson City, 3,082
Cassazza Monza (unine.), 1,872
Elko, 5,393
Ely, 3,558
Fallon, 2,400
Hawthorne, 1,861
Henderson (unine.), 1,613
Las Vegas, 24,624
Lovelock, 1,601
McGill (unine.), 2,297
North Las Vegas 3,875
Pioche (unine.), 1,392
Reno, 32,497
Ruth (unine.), 1,244
Sparks, 8,203
Tonopah (unine.), 1,475
Victory Village-Carver Park (unine.), 1,776
Winnemucca, 2,847
Yerington, 1,137

NEW HAMPSHIRE, 533,242
Ashland (unine.), 1,215
Berlin, 16,615
Bristol (unine.), 1,262
Charlestown (unine.), 1,176
Claremont, 12,811
Colebrook (unine.), 1,265
Concord, 27,988
Conway (unine.), 1,238
Dover, 15,874
Durham (unine.), 4,172
East Jaffrey (unine.), 1,566
Enfield, 1,111
Exeter (unine.), 4,977
Farmington (unine.), 2,285
Franklin, 6,552
Goffestown (unine.), 1,136
Gorham (unine.), 1,739
Greenville (unine.), 1,179
Groveton (unine.), 1,918
Hampton (unine.), 1,614
Hanover (unine.), 4,999
Hillsboro (unine.), 1,670
Hinsdale (unine.), 1,247
Hudson (unine.), 2,382
Keene, 15,638
Laconia, 14,745
Lancaster (unine.), 2,296
Lebanon (unine.), 4,614
Lisbon (unine.), 1,372
Littleton (unine.), 3,819
Manchester 82,732
Marlboro (unine.), 1,116
Meredith (unine.), 1,122
Milford (unine.), 4,269
Nashua, 34,669
New London (unine.), 1,002
Newmarket (unine.), 2,172
Newport (unine.), 3,062
Northfield (unine.), 1,065
Peterborough (unine.), 1,506
Pittsfield (unine.), 1,342
Plymouth (unine.), 2,107
Portsmouth, 18,830
Rochester, 13,776
Salem Depot (unine.), 1,637
Salmon Falls (unine.), 1,290
Somersworth, 6,927
Suncook-Blodgett (unine.), 4,582
Tilton (unine.), 1,127
Troy (unine.), 1,169
West Derry-Derry (unine.), 1,969
West Lebanon (unine.), 1,737
Whitefield (unine.), 1,429
Wilton (unine.), 1,615
Winchester (unine.), 1,057
Wolfeboro, 1,271
Woodsville (unine.), 1,542

New Hampshire Towns
Allenstown, 1,540
Alton, 1,189
Amherst, 1,461
Andover, 1,057
Antrim, 1,030
Ashland, 1,599
Auburn, 1,158
Barrington, 1,052
Bartlett, 1,074
Bedford, 1,178
Belmont, 1,611
Bethlehem 882
Boscawen, 1,857
Bow, 1,062
Bristol 1,486
Campton, 1,349
Canaan, 1,465
Candia, 1,214
Charlestown, 2,077
Colebrook, 2,116
Conway, 4,109
Cornish, 989
Derry, 6,826
Durham, 4,770
Enfield, 1,612
Epping, 1,796
Exeter, 5,604
Farmington, 3,454
Fremont, 519
Gilford, 1,251
Goffstown, 5,638
Gorham, 2,639
Greenville, 1,250
Hampton, 2,847
Hanover, 6,250
Haverhill, 3,457
Henniker, 1,675
Hillsboro, 2,179
Hinsdale, 1,950
Hollis, 1,196
Hooksett, 2,792
Hopkinton, 1,831
Hudson, 4,183
Jaffrey, 2,911
Kingston, 1,283
Lancaster, 3,113
Lebanon, 8,995
Lincoln, 1,415
Lisbon, 2,009
Littleton, 4,817
Londonderry, 1,640
Loudon, 1,012
Marlboro, 1,561
Meredith, 2,222
Merrimack, 1,908
Milford, 4,159
Milton, 1,510
New Castle, 583
New Ipswich, 1,147
New London, 1,484
Newmarket, 2,709
Newport, 5,131
Newton, 1,173
Northfield, 1,561
North Hampton, 1,104
Northumberland, 2,779
Orford, 726
Ossippee, 1,412
Pelham, 1,317
Pembroke, 3,094
Peterborough, 2,556
Pittsfield, 2,321
Plainfield, 1,011
Plaistow, 2,082
Plymouth, 3,039
Raymond, 1,428
Rollinsford, 1,652
Rye, 1,982
Salem, 4,805
Seabrook, 1,788
Stewartstown, 970
Stratford, 973
Sunapee, 1,108
Swanzey, 2,806
Tamworth, 1,025
Tilton, 2,085
Troy, 1,300
Wakefield, 1,267
Walpole, 2,736
Warner, 1,080
Weare, 1,345
Whitefield, 1,677
Wilton, 1,952
Winchester, 2,388
Wolfeboro, 2,581

NEW JERSEY, 4,835,329
Absecon, 2,355
Allendale, 2,409
Alpha, 2,117
Asbury Park, 17,001
Atlantic City, 61,657
Atlantic Highlands, 4,083
Audubon, 9,531
Audubon Park, 1,859
Avon by the Sea, 1,650
Barrington, 2,651
Basking Ridge (unine.), 1,899
Bayonne 77,203
Beach Haven, 1,050
Beachwood, 1,251
Belford (unine.), 1,832
Bellville, 32,019
Bellmawr, 5,214
Belmar, 4,936
Belvidere, 2,406
Bergenfield, 17,647
Berlin, 2,439
Bernardsville, 3,956
Beverly, 3,084
Blackwood (unine.), 1,344
Bloomfield, 49,307
Bloomingdale, 3,251
Bogota, 7,062
Boonton 7,163
Bordentown, 3,497
Bound Brook, 8,474
Bradley beach, 3,911
Breton Woods-Osbornville (unine.), 1,619
Bridgeton, 18,478
Bedford, 1,428
Brigantine, 1,267
Brooklawn, 2,262
Budd Lake (unine.), 1,032
Buena, 2,640
Burlington, 12,051
Butler, 4,050
Caldwell, 6,270
Camden, 124 555
Cape May, 3,607
Cape May Court House (unine.), 1,093
Carlstadt, 5,591
Carteret 13,030
Cedar Grove, 5,022
Cedarville (unine.), 1,009
Chatham, 7,391
Clayton, 3,021
Clementon, 3,191
Cliffside Park, 17,116
Cliffwood Beach (unine.), 1,448
Clifton, 64,511
Clinton, 1,118
Closter, 3,376
Collingswood, 15,800
Cranford, 18,602
Cresskill, 1,534
Dedl, 1,964
Delanco (unine.), 2,494
Demarest, 1,786
Dover, 11,174
Dumont, 13,018
Dunellen, 6,291
East Keansburg (unine.), 2,596
East Newark, 2,173
East Orange, 79,310
East Paterson, 15,386
East Rutherford, 7,438
Eatontown, 3,044
Edgewater, 3,952
Egg Harbor City, 3,838
Elizabeth, 112,817
Elmer, 1,460
Emerson, 1,744
Englewood, 24,145
Englishtown, 1,004
Essex Fells, 1,617
Fair Haven, 3,580
Fair Lawn, 23,885
Fairview, 8,661
Fairview-River Plaza (unine.), 1,717
Fanwood, 3,228
Flemington, 3,068
Florham Park, 2,385
Florence-Roebling (unine.), 6,785
Fort Lee, 11,648
Franklin, 3,864
Franklin Lakes, 2,021
Freehold, 7,550
Frenchtown, 1,305
Garfield, 27,550
Garwood, 4,622
Gibbstown (unine.), 3,546
Glassboro, 5,867
Glen Ridge, 7,020
Glen Rock, 7,145
Gloucester City, 14,457
Guttenberg, 5,566
Hackensack, 20,219
Hackettstown, 3,894
Hadonfield, 10 495
Haddon Heights 7 287
Hainesport (unine.), 1 130
Haledon, 6 204
Hamburg 1,305
Hammonton, 8,411
Harrington Park, 1 644
Harrison, 13 490
Hasbrouck Heights, 9 181
Haworth 1 612
Hawthorne, 14,816
High Bridge, 1 854
Highland Park 9,721
Highlands, 2,959
Hightstown 3 712
Hillsdale 4 127
Hillside 21 007
Hoboken, 50 676
Hohokus 2,254
Hopatcong 1 173
Hopewell 1 869
Irvington 59 201
Jamesburg 2 307
Jersey City, 299 017
Keansburg 5 559
Kearny 39 052
Kenilworth 4 922
Keyport 5 888
Kinnelon 1 450
Lakehurst 1 518
Lake Mohawk (unine.), 1 873
Lakewood (unine.), 9 070
Lambertville 4,477
Laurel Springs 1,540
Lawnside 1 920
Lawrenceville (unine.), 1 0 6
Leonardo (unine.), 1 887
Leonia 7 478
Lincoln Park 3 376
Linden, 30 644
Lindenwold 3 479
Linwood 1 925
Little Falls 6 105
Little Ferry 1 953
Little Silver 2 595
Livingston 9 032
Loch 15 392
Long Branch, 23 000
Lyndhurst 19,980
Madison 10 417
Magnolia 1 881
Manasquan, 3,178
Manville 8 597
Maplewood 25 201
Margate City, 1 715
Matawan 3 739
Mays Landing (unine.), 1 401
Maywood 8 667
Medford-Peacock (unine.), 1 462
Mendham 1 724
Merchantville 4,183
Metuchen 9 879
Middlesex, 9 043
Midland Park, 5,164
Milford 1 012
Millburn, 14 560
Milltown 3 786
Millville 16 041
Montclair, 43 007
Montvale 1 856
Moonachie 1,775
Moorestown 9,123
Morris Plains 2 707
Morristown 17,124
Mountain Lakes, 2,806
Mountainside 2,046
Mound Ephraim, 4,449
Mount Holly (unine.), 8 206
National Park 2,419
Navesink (unine.), 1,085
Neptune, 13,613
Neptune City, 3,073
Netcong, 2,284
Newark 438 776
New Brunswick, 33,811
New Egypt (unine.), 1,284
Newfield, 1,010
New Milford, 6,006
New Providence, 3,380
Newton, 5,781

North Arlington, 15,970
North Caldwell, 1,781
Northeast Vineland (unincorporated), 5,646
Northfield, 4,498
North Haledon, 8,550
North Plainfield, 13,766
North Princeton (unincorporated), 1,721
Northvale, 1,455
North Vineland (unincorporated), 1,013
Northwest Vineland (unincorporated), 3,827
North Wildwood, 3,158
Norwood, 1,792
Nutley, 26,992
Oakhurst (unincorporated), 2,488
Oakland, 3,817
Oaklyn, 4,889
Oak Shades (unincorporated), 1,033
Ocean City, 6,040
Ocean Grove (unincorporated), 3,806
Oceanport, 7,588
Ogdensburg, 1,169
Oradell, 3,665
Orange, 38,037
Oxford (unincorporated), 1,041
Palisades Park, 9,635
Palmyra, 5,802
Paramus, 6,268
Park Ridge, 3,189
Passaic, 57,702
Paterson, 139,336
Paulsboro, 7,812
Peapack-Gladstone, 1,450
Pemberton, 1,194
Pennington, 1,682
Pennsauken, 22,767
Penns Grove, 6,669
Perth Amboy, 41,330
Phillipsburg, 18,919
Pine Hill, 2,516
Pitman, 6,960
Plainfield, 12,366
Pleasantville, 11,938
Point Pleasant, 4,009
Point Pleasant Beach, 2,900
Pompton Lakes, 4,654
Port Monmouth (unincorporated), 1,767
Port Norris (unincorporated), 1,745
Princeton, 12,230
Prospect Park, 5,242
Rahway, 21,290
Ramsey, 4,670
Raritan, 5,141
Red Bank, 12,713
Ridgefield, 8,312
Ridgefield Park, 11,993
Ridgewood, 17,481
Ringwood, 1,732
River Edge, 9,204
Riverside (unincorporated), 7,190
Riverton, 2,761
Rockaway, 3,812
Roosevelt, 720
Roseland, 2,019
Roselle, 17,681
Roselle Park, 11,537
Runson, 4,044
Runnemede, 4,217
Rutherford, 17,111
Saddle River, 1,003
Salem, 9,050
Sayreville, 10,338
Sea Bright, 999
Seabrook Farms (unincorporated), 3,284
Sea Girt, 1,178
Secaucus, 9,770
Shrewsbury, 1,613
Somerdale, 1,117
Somers Point, 2,480
Somerville, 11,571
South Amboy, 8,422
South Belmar, 1,294
South Bound Brook, 2,803
Southeast Vineland (unincorporated), 6,476
South Orange, 15,230
South Plainfield, 3,008
South River, 11,808
Southwest Vineland (unincorporated), 2,834
Spotswood, 2,325
Spring Lake, 2,008
Spring Lake Heights, 1,798
Stanhope, 1,351
Sterling (unincorporated), 1,076
Stratford, 3,356
Succasunna-Kenvil (unincorporated), 2,383
Summit, 17,929
Sussex, 1,541
Swedesboro, 2,459
Teaneck, 33,772
Tenafly, 9,651
Teterboro, 28
Toms River (unincorporated), 2,517
Totowa, 6,045
Trenton, 128,009
Tuckerton, 1,332
Union, 38,004
Union Beach, 3,636
Union City, 55,537
Vail Homes (unincorporated), 1,442
Ventnor, 8,158
Verona, 10,021
Vineland, 8,155
Waldwick, 4,963
Wallington, 8,910
Wanamassa (unincorporated), 2,512
Wanaque, 4,222
Washington, 4,802
Watchung, 1,418
Weehawken, 14,830
Wenonah, 1,611
West Belmar (unincorporated), 2,058
West Caldwell, 4,666
Westfield, 21,243
West Long Branch, 2,739
West New York, 37,683
West Orange, 28,605
West Paterson, 3,931
Westville, 4,731
Westwood, 6,766
Wharton, 3,853
Whitesville–West Grove–Bradley Park (unincorporated), 7,480
Wildwood, 5,475
Wildwood Crest, 1,772
Williamstown (unincorporated), 2,632
Woodbine, 2,417
Woodbridge, 15,758
Woodbury, 10,931
Woodbury Heights, 1,473
Woodcliff Lake, 1,420
Woodlynne, 2,776
Wood-Ridge, 8,283
Woodstown, 2,445
Wrightstown, 1,199

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Alameda (unincorporated), 1,792
Alamogordo, 6,783
Albuquerque, 96,815
Armijo (unincorporated), 4,516
Artesia, 8,244
Atrisco–Five Points (unincorporated), 7,367
Aztec, 885
Barclas (unincorporated), 1,846
Bayard, 2,119
Belen, 4,495
Bernalillo, 1,922
Carlsbad, 17,975
Carrizozo, 1,089
Central, 1,511
Clayton, 3,515
Clovis, 17,318
Dawson (unincorporated), 1,206
Deming, 5,672
Espanola, 1,446
Eunice, 2,352
Farmington, 4,637
Fort Sumner, 1,982
Gallup, 9,133
Grants, 2,251
Hagerman, 1,024
Hatch, 1,061
Hobbs, 13,875
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Harley (unincorporated), 2,079
Isl, 2,017
Jarales (unincorporated), 1,199
Las Cruces, 12,325
Las Vegas city, 7,494
Las Vegas town, 6,269
Lordsburg, 1,525
Los Alamos (unincorporated), 9,934
Los Duranes (unincorporated), 2,873
Loving, 1,487
Lovington, 3,134
Magdalena, 1,297
Mesilla (unincorporated), 1,264
Mountainair, 1,418
North Roswell (unincorporated), 1,239
Pecos (unincorporated), 1,241
Portales, 8,112
Ranchos de Taos (unincorporated), 1,386
Raton, 8,241
Roswell, 25,738
Roy, 1,074
Santa Fe, 27,998
Santa Rita (unincorporated), 2,135
Santa Rosa, 2,199
Santo Domingo (unincorporated), 1,169
Silver City, 7,022
So orro, 1,334
Springer, 1,558
Taos, 1,815
Truth or Consequences, 4,569
Tucumcari, 8,419
Tularosa, 1,642
Vaughn, 1,356
Wagon Mound, 1,120
Zuni (unincorporated), 2,563

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Adams, 1,762
Addison, 1,920
Akron, 2,481
Albany, 134,995
Albion, 4,850
Alden, 1,252
Alexandria Bay, 1,688
Alfred, 2,053
Allegany, 1,738
Altamont, 1,127
Amityville, 6,164
Amsterdam, 32,240
Andover, 1,151
Angola, 1,946
Arcade, 1,818
Ardsley, 1,744
Arlington (unincorporated), 5,374
Athens, 1,545
Attica, 2,676
Auburn, 36,722
Aurora, 711
Ausable Forks (unincorporated), 1,643
Avoca, 952
Avon, 2,412
Babylon, 6,015
Bainbridge, 1,505
Baldwinsville, 4,495
Ballston Spa, 4,937
Batavia, 17,799
Bath, 5,116
Bayport (unincorporated), 1,463
Bay Shore (unincorporated), 9,665
Bayville, 1,981
Beacon, 14,012
Bellerose, 1,134
Bellport, 1,449
Belmont, 1,211
Binghamton, 80,674
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Blasdell, 3,127
Blue Point (unincorporated), 1,811
Bolivar, 1,490
Boonville, 2,329
Brentwood (unincorporated), 2,803
Brewster, 1,810
Briarcliff Manor, 2,491
Brightwaters, 2,336
Broadalbin, 1,400
Brockport, 4,718
Brocton, 1,380
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Bronxville, 6,778
Brooklyn (New York city), 2,738,175
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Buchanan, 2,420
Buffalo, 580,132
Caledonia, 1,683
Cambridge, 1,692
Camden, 2,407
Camillus, 1,225
Canajoharie, 2,761
Canandaigua, 8,332
Canastota, 4,458
Canisteo, 2,625
Canton, 3,479
Cape Vincent, 812
Carmel (unincorporated), 1,526
Carthage, 4,420
Castile, 1,072
Castleton-on-Hudson, 1,761
Catskill, 5,392
Cattaraugus, 1,190
Cayuga Heights, 1,131
Cazenovia, 1,946
Cedarhurst, 6,034
Celoron, 1,555
Center Moriches (unincorporated), 1,761
Central Islip (unincorporated), 3,067
Champlain, 1,605
Chateaugay, 1,234
Chatham, 2,304
Cherry Valley, 760
Chester, 1,215
Chittenango, 1,407
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Clayton, 1,981
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Clinton, 1,490
Clyde, 2,492
Cobleskill, 4,208
Cohoes, 21,272
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Colonie, 2,068
Concord (unincorporated), 1,949
Constantia, 1,297
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Cornwall, 2,211
Cortland, 18,152
Coxsackie, 2,722
Croton-on-Hudson, 4,837
Cuba, 1,784
Dannemora, 4,122
Dansville, 5,253
Delhi, 2,221
Depew, 7,217
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Dexter, 1,038
Dobbs Ferry, 6,208
Dolgeville, 3,204
Dundee, 1,165
Dunkirk, 18,007
East Aurora, 5,962
Eastchester, 27,174
East Hampton, 1,737
East Hills, 2,547
East Islip (unincorporated), 2,834
East Middletown (unincorporated), 1,485
East Northport (unincorporated), 5,842
East Patchogue (unincorporated), 4,124
Eastport-Speonk (unincorporated), 1,042
East Rochester, 7,022
East Rockaway, 7,970
East Syracuse, 4,766
East Williston, 1,714
Eden (unincorporated), 1,394
Ellenville, 4,225
Ellicottville, 1,074
Elmira, 49,716
Elmira Heights, 5,009
Elmsford, 1,147
Endicott, 20,050
Esopus, 4,738
Fairport, 5,267
Fairview (unincorporated), 1,721
Falconer, 4,292
Farmingdale, 4,492
Fayetteville, 2,624
Floral Park, 14,582
Florida, 1,376
Flower Hill, 1,918
Fonda, 1,026
Fort Edward, 3,797
Fort Plain, 2,935
Frankfort, 3,844
Franklinville, 2,092
Fredonia, 7,095
Freeport, 21,680
Fredsburg (unincorporated), 1,883
Friendship, 1,344
Fulton, 13,922
Garden City, 14,486
Geneseo, 2,848
Geneva, 17,144
Glen Cove, 13,130
Glens Falls, 19,610
Gloversville, 23,654
Goshen, 3,311
Gouverneur, 3,910
Gowanda, 2,289
Granville, 2,826
Great Neck, 7,759
Great Neck Estates, 2,464
Great Neck Plaza, 7,240
Greene, 1,628
Green Island, 4,016
Greenlawn (unincorporated), 1,000
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Greenwood, 2,212
Groton, 2,150
Hagaman, 1,114
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Hamilton, 3,507
Hammondsport, 1,190
Hampton Bays (unincorporated), 1,269
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Harrison, 14,777
Hastings-on-Hudson, 7,565
Haverstraw, 5,818
Hempstead, 29,735
Herkimer, 9,400
Highland (unincorporated), 3,054
Highland Falls, 3,930
Hillburn, 1,212
Hilton, 1,036
Holley, 1,551
Homer, 3,244
Honeoye Falls, 1,460
Hoosick Falls, 4,297
Hornell, 15,049
Horseheads, 4,606
Hudson, 11,629
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Ilion, 9,363
Irondequoit, 34,417
Irvington, 3,657
Islandia, 1,031
Ithaca town, 21,405
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Jamaica, 29,257
Jamestown, 38,354
Johnson City, 19,249
Johnstown, 10,923
Jordan, 1,295
Keeseville, 1,977
Kenmore, 20,006
Kingsbrook, 853
Kings Park (unincorporated), 10,960
Kings Point, 2,445
Kingston, 28,817
Lackawanna, 27,658
Lake Carmel (unincorporated), 1,055
Lake George, 1,005
Lake Placid, 2,999
Lake Success, 1,264
Lakewood, 3,013
Lancaster, 8,665
Larchmont, 6,330
Lawrence, 4,681
Le Roy, 4,721
Lewiston, 1,626
Liberty, 4,658
Lima, 1,147
Lincoln Park (unincorporated), 1,527
Lindenhurst, 8,644
Little Falls, 9,341
Little Valley, 1,287
Liverpool, 2,934
Lockport, 25,143
Long Beach, 15,586
Lowville, 3,671
Lynbrook, 17,314
Lyon Mountain (unincorporated), 1,053
Lyons, 4,217
McGraw, 1,197
Malone, 9,501
Malverne, 8,086
Manorhaven, 15,016
Manchester, 1,262
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Manhus, 1,717
Manorhaven, 1,819
Marathon, 1,057
Marcellus, 1,482
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Massena, 13,137
Mastic Beach (unincorporated), 1,079
Mattituck (unincorporated), 1,089
Maybrook, 1,416
Mayville, 1,992
Mechanicville, 7,385
Medina, 6,179
Melrose Park (unincorporated), 1,803
Menands, 2,453
Mexico, 1,398
Middleburg, 1,298
Middleport, 1,643
Middletown, 22,586
Millbrook, 1,568
Millerton, 1,048
Minoola, 14,851
Minoa, 1,008
Mohawk, 3,196
Monroe, 1,753
Montgomery, 1,063
Monticello, 4,223
Montour Falls, 1,457
Moravia, 1,480
Morrisville, 1,250
Mount Ivisco, 5,907
Mount Morris, 3,450
Mount Vernon, 71,899
Munsey Park, 2,038
Nanuet (unincorporated), 1,004
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Newark, 10,295
Newark Valley, 1,027
New Berlin, 1,178
Newburgh, 31,956
New Cassel, 1,577
New Hartford, 1,947
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New Paltz, 2,295
New Rochelle, 59,725
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Brooklyn borough, 2,738,175
Manhattan borough, 1,960,101
Queens borough, 1,550,819
Richmond borough, 191,555
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Niagara Falls, 90,872
Norfolk (unincorporated), 1,252
North Collins, 1,325
North Pelham, 5,046
Northport, 7,859
North Syracuse, 3,356
North Tarrytown, 8,740
North Tonawanda, 24,731
Northville, 1,114
Norwich, 8,816
Norwood, 1,995
Nunda, 1,224
Nyack, 5,889
Oakfield, 1,781
Ogdensburg, 16,166
Old Westbury, 1,160
Olean, 22,884
Oneida, 11,425
Onconta, 13,564
Orchard Park, 2,054
Oriskany, 1,346
Ossining, 16,098
Oswego, 22,647
Owego, 5,560
Oxford, 1,811
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Painted Post, 2,405
Palmyra, 3,034
Patchogue, 7,361
Patchogue Highlands (unincorporated), 1,159
Pawling, 1,430
Peekskill, 17,731
Pelham, 1,843
Pelham Manor, 5,306
Penfield (unincorporated), 1,018
Penn Yan, 5,481
Perry, 3,533
Philp, 1,650
Philmont, 1,792
Phoenix, 1,917
Piermont, 1,897
Pittsford, 1,668
Plandome, 1,102
Plattsburg, 17,738
Pleasantville, 4,861
Port Byron, 1,014
Port Chester, 23,970
Port Dickinson, 2,199
Port Ewen (unincorporated), 1,885
Port Henry, 1,831
Port Jefferson (unincorporated), 3,296
Port Jervis, 9,372
Portville, 1,151
Potsdam, 7,191
Poughkeepsie, 41,023
Pulaski, 2,053
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Randolph, 1,477
Ravena, 2,006
Red Hook, 1,225
Rensselaer, 10,850
Rhinebeck, 1,923
Richfield Springs, 1,534
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Ripley (unincorporated), 1,229
Riverhead town, 9,973
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Rochelle (unincorporated), 1,219
Rochester, 332,488
Rockville Centre, 22,362
Rome, 41,682
Ronkonkoma (unincorporated), 1,344
Rosendale, 883
Roslyn, 1,612
Rouses Point, 2,001
Rye, 11,721
Sackets Harbor, 1,247
Sag Harbor, 2,374
Saint Regis (unincorporated), 1,390
Saint Johnsville, 2,210
Salamanca, 5,861
Salem, 1,067
Saranac Lake, 6,913
Saratoga Springs, 15,473
Saugerties, 3,907
Sauquoit (unincorporated), 1,227
Sayville (unincorporated), 4,251
Scarsdale, 13,156
Schenectady, 91,785
Schoharie, 1,059
Schuylerville, 1,314
Scotia, 7,812
Scottsville, 1,025
Sea Cliff, 4,868
Selden (unincorporated), 1,743
Sharon Springs, 561
Seneca Falls, 6,634
Shelburne, 1,604
Sherrill, 2,230
Shortsville, 1,314
Sidney, 4,815
Silver Creek, 3,068
Skaneateles, 2,331
Sloan, 1,698
Slonsburg, 2,018
Smithtown Branch (unincorporated), 1,424
Sodus, 1,588
Solvay, 7,868
Southampton, 4,042
South Fallsburgh (unincorporated), 1,147
South Glens Falls, 3,645
South Huntington (unincorporated), 1,271
South Nyack, 3,102
Southold town, 11,642
Southold (unincorporated), 1,027
Spencerport, 1,991
Spring Valley, 1,400
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Stamford, 1,162
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Stillwater, 1,279
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Stottville (unincorporated), 1,020
Suffern, 1,010
Syosset (unincorporated), 1,183
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Tarrytown, 8,851
Thomaston, 2,045
Ticonderoga, 3,517
Tonawanda, 14,617
Troy, 72,311
Trumansburg, 1,479
Tuckahoe, 5,991
Tupper Lake, 5,441
Unadilla, 1,317
Upper Nyack, 1,195
Utica, 101,531
Valatie, 1,225
Valley Stream, 26,854
Victor, 1,060
Victory Heights (unincorporated), 1,857
Waddington, 819
Walden, 4,550
Wallkill (unincorporated), 1,145
Walton, 3,047
Wappingers Falls, 4,190
Warrensburg (unincorporated), 2,378
Warsaw, 3,711
Warwick, 2,674
Waterford, 2,968
Waterloo, 4,438
Watertown, 31,350
Waterville, 1,644
Watervliet, 15,197
Watkins Glen, 3,052
Waverly, 5,047
Wayland, 1,834
Webster, 1,774
Westbrook, 1,488
Wellsville, 6,402
Westbury, 7,112
West Carthage, 2,000
Westchester county, 625,816
West Elmhurst (unincorporated), 3,833
West End (unincorporated), 1,285
Westfield, 3,064
West Glens Falls, 1,605
Westhampton Beach, 1,087
West Haverstraw, 3,099
West Sayville (unincorporated), 1,370
Whitehall, 3,457
White Plains, 33,460
Whitesboro, 3,902
Williamson (unincorporated), 1,620
Williamsville, 3,649
Williston Park, 7,505
Witherbee–Mineville (unincorporated), 2,384
Wolcott, 1,516
Yonkers, 142,598
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Ahoskie, 4,579
Albemarle, 11,798
Andrews, 1,397
Angier, 1,182
Apex, 1,065
Archdale, 1,218
Arlington (unincorporated), 5,085
Asheboro, 7,701
Asheville, 53,000
Aulander, 1,112
Avden, 2,282
Badin (unincorporated), 2,126
Balfours (unincorporated), 1,936
Barker Heights (unincorporated), 1,569
Bath, 381
Beaufort, 3,212
Belhaven, 2,528
Belmont, 5,430
Belmont–South Rosemary (unincorporated), 3,173
Benson, 2,102
Bessemer City, 3,961
Bethel, 1,102
Bisco, 1,031
Black Mountain, 1,174
Boger City–Goodson-ville (unincorporated), 1,743
Boiling Springs, 1,145
Boone, 2,974
Brevard, 3,908
Brown-Norcott Mills (unincorporated), 4,802
Bryson City, 1,499
Burgaw, 1,314
Burlington, 21,560
Burnsville, 1,341
Canton, 4,906
Carolcon Avondale-Huntetta (unincorporated), 3,493
Carolina Beach, 1,080
Carrboro, 1,795
Carthage, 1,191
Cary, 1,416
Chadbourn, 2,103
Chapel Hill, 9,177
Charlotte, 134,042
Cherryville, 3,492
China Grove, 1,491
Clayton, 2,229
Cliffside (unincorporated), 1,785
Clinchfield (unincorporated), 1,033
Clinton, 4,414
Coakcreek (unincorporated), 1,925
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Columbia, 1,161
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Conover, 1,164
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Dallas 2,454
Danube-Rhyne (unine), 1,159
Davidson 2,424
Draper 3,629
Druid Hills–Balfour (unine) 1,788
Dunn 6,816
Durham 71,311
East Gastonia (unine) 3,783
East Lumberton 1,106
East Marion (unine), 2,901
East Spencer 2,444
East Wilmington (unine) 1,623
Edenton 3,468
Elizabeth City, 12,685
Elizabethtown 1,611
Elkin 2,842
Elon College 1,109
Enfield, 2,861
Enka (unine) 1,792
Erwin (unine) 3,314
Fair Bluff 1,056
Fairmont 2,319
Fairview 2,942
Fayetteville 44,715
Forest City 1,971
Franklin 1,975
Franklinton 1,414
Fremont 1,395
Fuquay Springs 1,992
Garner 1,180
Gaston 1,218
Gastonia 23,069
Gibsonville 1,866
Goldsboro 21,434
Graham 3,026
Granite Falls 2,286
Greensboro 74,389
Greenville 16,724
Halifax 341
Hamlet 5,061
Harkers Island (unine) 1,241
Haw River (unine), 1,175
Hazelwood 1,769
Hemp–now Roxboro
Henderson 10,986
Hendersonville 6,604
Hertford, 2,096
Hickory, 14,755
High Point, 39,973
Hillsboro 1,329
Holly Ridge 1,082
Hope Mills 1,077
Jackson ville, 1,960
Jonesville 1,768
Kannapolis (unine), 28,448
Kenly, 1,129
Kernersville 2,396
Kings Mountain, 7,206
Kinston, 18,336
La Grange, 1,852
Landis, 1,827
Laurinburg 7,134
Lawndale 964
Leaksville 1,015
Lenoir 7,888
Lexington, 13,571
Liberty, 1,342
Lillington, 1,061
Lincolnton, 5,128
Littleton, 1,173
Longhurst (unine), 1,539
Longview, 2,291
Longwood Park (unine), 1,185
Louisburg, 2,345
Lowell, 2,313
Lumberton, 9,186
McAdenville, 1,060
Madison, 1,789
Maiden, 1,952
Marion, 2,740
Marshall, 983
Mars Hill 1,104
Marshville, 1,258
Maxton, 1,971
Mayodan, 2,246
Mebane, 2,068
Midway Park (unine), 3,703
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Mocksville, 1,909
Monroe, 10,110
Mooresville, 7,421
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Morganton, 8,311
Mount Airy, 7,192
Mount Gilead, 1,201
Mount Holly, 2,241
Mount Olive 3,742
Mount Pleasant, 1,019
Murfreesboro, 2,110
Murphy, 2,443
Nashville, 1,302
New Bern, 15,812
New Leaksville (unine), 1,528
Newton, 6,039
North Belmont (unine), 3,948
North Henderson (unine), 1,873
North Wilkesboro, 4,379
Norwood, 1,735
Ogburntown (unine), 3,653
Oxford, 6,685
Pembroke, 1,212
Phillipsville (unine), 1,221
Pilot Mountain, 1,092
Pinehurst (unine), 1,016
Pinetops, 1,031
Pineville, 1,473
Pittsboro, 1,094
Plymouth, 4,486
Raeford, 2,040
Raleigh, 65,679
Ramseur, 1,144
Randleman, 2,066
Rank–Smyre (unine), 2,929
Red Springs, 2,215
Reidsville, 11,708
Richmond Hill (unine), 2,303
Roanoke Rapids, 8,156
Robbins, 1,158
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Rockingham, 3,456
Rocky Mount, 27,697
Roseboro, 1,241
Rowland, 1,293
Roxboro, 3,421
Rutherfordton, 3,146
Saint Pauls, 2,251
Salisbury, 20,102
Sanford, 10,013
Scotland Neck, 2,740
Selma, 2,639
Shelby, 15,508
Siler City, 2,401
Smithfield, 5,571
Southern Pines, 4,272
South Fayetteville (unine), 3,128
South Gastonia (unine), 6,465
Southport 1,748
Spencer, 3,242
Spindale, 4,891
Spray (unine), 5,542
Spring Hope 1,259
Spruce Pine, 2,280
Stanley, 1,641
Statesville, 10,901
Stony Point (unine), 1,020
Swannanoa Government (unine), 1,913
Sylva, 1,882
Tabor City, 2,033
Tarboro, 5,170
Taylorsville, 1,810
Thomasville 11,114
Troast (unine), 1,401
Troy, 2,213
Tryon, 1,985
Valdese, 2,730
Valmead (unine), 1,524
Wadesboro, 3,408
Wake Forest, 3,704
Wallace, 1,622
Walnut Cove, 1,142
Warrenton, 1,166
Warsaw, 1,978
Washington 9,698
Waynesville, 5,291
Weaverville, 1,111
Weldon, 2,295
Wendell, 1,253
Westend (unine), 2,797
West Hillsboro (unine), 1,156
West Marion (unine), 1,233
West Rockingham (unine), 3,438
Whiteville, 4,238
Whitnel (unine), 1,405
Wilkesboro, 1,370
Williamston, 4,975
Wilmington, 45,013
Wilson, 23,010
Windsor, 1,781
Winston Salem, 87,811
Yanceyville (unine), 1,391
Zebulon, 1,378

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Beach, 1,461
Belfield, 1,051
Beulah, 1,501
Bismarck, 18,640
Bottineau, 2,268
Bowman, 1,382
Cando, 1,530
Carrington, 2,101
Casselton, 1,573
Cavalier, 1,149
Cooperstown, 1,180
Crosby, 1,680
Devils Lake, 6,427
Dickinson, 7,169
Ellendale, 1,750
Enderlin, 1,504
Fargo, 38,256
Garrison, 1,890
Glen Ullin, 1,324
Grafton, 4,901
Grand Forks, 26,836
Hankinson, 1,409
Harvey, 2,437
Hazen, 1,230
Hebron, 1,412
Hettinger, 1,762
Hillsboro, 1,431
Jamestown, 10,697
Kenmare, 1,712
Lakota, 1,032
La Moure, 1,010
Langdon, 1,838
Larimore, 1,174
Lidgerwood, 1,147
Linton, 1,675
Lisbon, 2,041
Mandan, 7,298
Mayville, 1,790
Minot, 22,042
Mohall, 1,073
Mott, 1,583
Napoleon, 1,070
New England, 1,117
New Rockford, 2,185
Northwood, 1,182
Oakes, 1,944
Park River, 1,692
Pembina, 640
Rolla, 1,176
Rugby, 2,907
South West Fargo, 1,012
Stanley, 1,486
Underwood, 1,061
Valley City, 6,851
Velva, 1,170
Wahpeton, 5,125
Walhalla, 1,403
Watford City, 1,371
Williston 7,378
Wishek, 1,241

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Addyston 1,651
Adena, 1,517
Akron, 274,605
Alliance 26,161
Amherst 9,542
Amsterdam 1,048
Andover 1,102
Antwerp 1,162
Arcanum 1,540
Archbold 1,486
Arlington Heights, 1,432
Ashland, 14,287
Ashtabula, 20,606
Ashville 1,404
Athens, 11,660
Avalon (unine) 2,195
Avon 2,773
Avon Lake, 4,342
Baltimore 1,845
Barberton 27,820
Barnesville, 4,665
Batavia 1,445
Bay Village, 6,917
Beachwood 1,073
Bedford 9,105
Bellaire 12,573
Bellefontaine 10,232
Bellevue, 6,906
Bellville, 1,455
Belpre, 2,451
Berea 12,051
Berghola, 1,035
Bethel 1,432
Bethesda, 1,158
Bexley, 12,378
Blanchester, 2,109
Bluffton, 2,423
Bowling Green, 12,005
Bradford, 2,055
Brattahll 1,240
Brecksville, 2,664
Bremen, 1,187
Brewster, 1,618
Bridgeport, 4,809
Brilliant 2,066
Broadview Heights, 2,279
Brooklyn, 6,317
Brook Park, 2,606
Brookville, 1,908
Bryan, 5,563
Buckeye Lake (unine), 1,401
Bucyrus, 10,327
Byesville, 2,256
Cadiz 3,020
Caldwell, 1,767
California Hollow (unine), 1,594
Cambridge, 14,739
Camden, 1,084
Campbell, 12,882
Canal Fulton, 1,258
Canal Winchester, 1,194
Canfield, 1,465
Canton, 116,912
Cardington, 1,465
Carey, 5,260
Carrollton, 2,858
Cedarville, 1,292
Celina, 5,703
Chagrin Falls, 3,085
Chardon, 2,478
Chauncey, 1,016
Chesapeake, 1,285
Chesvirt, 9,044
Chillicothe, 20,113
Cincinnati, 503,998
Circleville, 8,723
Cleveland, 914,808
Cleveland Heights, 59,141
Cleves, 1,981
Clyde, 4,083
Coal Grove, 2,492
Coldwater, 2,217
Columbiana, 6,369
Columbus, 375,901
Columbus Grove, 1,936
Conneaut, 10,230
Continental, 1,023
Corning, 1,215
Cortland, 1,259
Coshocton, 11,075
Covington, 2,172
Crestline, 4,614
Creston, 1,300
Crooksville, 2,960
Crystal Lakes (unine), 1,115
Cuyahoga Falls, 29,195
Dayton, 243,872
Deandale–Georges Run (unine), 1,261
Deer Park, 7,241
Defiance, 11,265
Delaware, 11,804
Delphos, 6,220
Delta, 2,120
Dennison, 4,432
Deshler, 1,623
Dillonvale, 1,407
Dover, 9,852
Doylestown, 1,358
Dresden, 1,310
East Alliance (unine), 1,474
East Ashtabula (unine), 2,390
East Canton, 1,001
East Chillicothe (unine), 2,148
East Cleveland, 40,047
East Lake, 7,486
East Liverpool, 24,217
East Palestine, 5,195
Eaton, 4,242
Edgerton, 1,246
Elmore, 1,215
Elmwood Place, 4,113
Elyria, 30,107
Euclid, 41,396
Fairborn, 7,847
Fairport or Fairport Harbor, 4,519
Fairview, now Fairview Park, 9,411
Fayette, 1,003
Findlay, 23,845
Flushing, 1,158
Forest, 1,114
Fort Recovery, 1,231
Fostoria, 11,541
Frankfort, 1,288
Fredericktown, 1,467
Fremont, 16,537
Galion, 9,952
Gallipolis, 7,871
Gambier, 1,037
Garfield Heights, 21,662
Garrettsville, 1,504
Gates Mills, 1,056
Geneva, 4,718
Genoa, 1,723
Georgetown, 2,200
Germantown, 2,478
Gibsonburg, 2,281
Girard, 10,113
Glendale, 2,402
Glouster, 2,327
Grandenhutten, 895
Golf Manor, 4,603
Grafton, 1,194
Grandview Heights, 7,659
Granville, 2,653
Greenfield, 4,862
Greenville, 8,365
Green Springs, 1,082
Greenville, 8,859
Greenwich, 1,204
Grove City, 2,330
Groveport, 1,165
Hamilton, 57,951
Harrison, 1,943
Hicksville, 2,629
Hillsboro, 5,126
Holgate, 1,092
Homeville (unine), 2,453
Hubbard, 4,560
Hudson, 1,538
Huron, 2,515
Independence, 3,105
Indian Hill, 2,090
Ironton, 16,333
Jackson, 6,504
Jamestown, 1,345
Jefferson (Ashtabula county) 1,814
Jefferson (Madison county) 1,647
Jewett, 1,049
Johnstown, 1,220
Kelleys Island, 324
Kent, 12,418
Kenton, 8,475
Kirtland Hills, 235
Lakemore, 2,463
Lakeside (unine), 1,034
Lakeville, 3,432
Lakewood, 68,071
Lancaster, 24,180
Leavittsburg (unine), 2,533
Lebanon, 4,618
Leetonia, 2,565
Leipsic, 1,706
Lewisburg, 1,230
Lima, 50,246
Lincoln–Coal Ridge Heights (unine), 2,722
Lincoln Heights, 5,531
Lisbon, 3,293
Lockland, 5,736
Lodi, 1,523
Logan, 5,972
London, 5,222
Lorain, 51,202
Loudonville, 2,523
Louisville, 3,801
Loveland, 2,149
Lowellville, 2,227
Lyndhurst, 7,159
McArthur, 1,466
McComb, 1,026
McConnelsville, 1,941
McDonald, 3,858
Madeira, 2,689
Madison, 1,127
Malvern, 1,277
Manchester, 2,281
Mansfield, 43,564
Mantua, 1,059
Maple Heights, 15,586
Marblehead, 887
Marcenond 3,514
Marietta, 16,006
Marion, 33,817
Martins Ferry, 13,220
Marysville, 4,256
Mason, 1,196
Massillon, 29,594
Masury (unine), 2,151
Maumee, 5,348
Mayfield (unine), 1,926
Mayfield Heights, 5,807
Mechanicsburg, 1,920
Medina, 5,097
Mentor, 2,383
Mentor on-the-Lake, 1,413
Miamisburg, 6,329
Middleburg Heights, 2,299
Middlefield, 1,141
Middleport, 3,146
Middletown, 33,695
Milan, 810
Milford, 2,148
Millersburg, 2,498
Milton, 2,101
Minerva, 3,280
Mingo Junction, 4,464
Minster, 1,728
Monroe, 1,848
Montgomery, 1,275
Montpelier, 4,867
Moreland Hills 1,010
Morrow, 1,137
Mount Gilead, 2,591
Mount Healthy, 5,333
Mount Sterling, 1,172
Mount Vernon, 12,185
Murray City, 752
Napoleon, 5,345
Navarre, 1,764
Neffs (unine), 1,024
Nelsonville, 5,849
Newark, 34,275
New Boston, 4,754
New Bremen, 1,546
Newburgh Heights, 4,689
New Carlisle, 1,610
Newcomerstown, 4,514
New Concord, 1,797
New Lexington, 4,233
New London, 2,023
New Miami, 1,800
New Paris, 1,016
New Philadelphia, 12,948
New Richmond, 1,960
New Straitsville, 1,122
Newton Falls, 1,451
Newtown, 1,462
Niles, 16,773
North Baltimore, 2,771
North Canton, 4,032
North College Hill, 7,921
North Kingsville, 1,271
North Olmsted, 6,604
North Royalton, 3,939
North Zanesville (unine), 1,544
Norwalk, 9,775
Norwood, 35,001
Oak Harbor, 2,370
Oak Hill, 1,615
Oakwood, 9,691
Oberlin, 7,062
Obetz, 1,049
Olmsted Falls, 1,137
Oneota (unine), 2,248
Orrville, 5,153
Ottawa, 2,962
Ottawa Hills, 2,333
Oxford, 6,944
Painesville, 14,432
Parma, 28,897
Parma Heights, 3,901
Pauldine, 2,352
Payne, 1,062
Peebles, 1,498
Pemberville, 1,099
Penfield Junction (unine), 1,830
Perrysburg, 4,006
Piqua, 17,447
Plain City, 1,715
Plymouth, 1,510
Poland, 1,652
Pomeroy, 3,656
Port Clinton, 5,541
Portsmouth, 36,798
Powhattan Point, 2,135
Prospect, 1,031
Ravenna, 9,857
Reading, 7,836
Richwood, 1,866
Ripley, 1,792
Rittman, 3,810
Rockford, 1,112
Rocky River, 11,237
Rossland–Steel Mill (unine), 4,296
Roseville, 1,808
Rossford, 3,963
Sabina, 1,698
Saint Bernard, 7,066
Saint Clairsville, 3,040
Saint Marys, 6,208
Saint Paris, 1,422
Salem, 12,754
Salineville, 2,018
Sandusky, 29,375
Sciio 1,152
Sebring, 4,045
Seven Hills, 1,350
Shadyside, 4,433
Shaker Heights, 28,232
Sharon (unine), 2,858
Sharonville, 1,318
Shawnee, 1,145
Sheffield, 1,147
Sheffield Lake, 2,381
Shelby 7,971
Sherco, 1,287
Sidney, 11,491
Silver Lake, 1,040
Silverton, 4,827
Smithfield, 1,255
Solon, 2,570
Somerset, 1,383
South Amherst, 1,020
South Charleston, 1,152
South Euclid, 15,142
South Lebanon, 1,291
South Mount Vernon (unine) 1,322
South Zanesville, 1,177
Spencerville, 1,896
Springfield 78,508
Steubenville 35,872
Strasburg 1,966
Strongsville 4,504
Struthers, 11,941
Stryker, 1,026
Swanton 1,740
Sylvania, 2,433
Tallmadge, 5,821
Terrace Park, 1,265
The Plains–Hocking (unine) 1,004
Tiffin, 18,952
Piltonsville now Piltonsville, 2,202
Tippecanoe City, now Tipp City, 3,494
Toledo, 303,616
Toronto, 7,253
Trotwood, 1,066
Troy, 10 061
Uhrichsville, 6,614
Union City, 1,622
University Heights, 11,566
Upper Arlington, 9,024
Upper Sandusky, 4,397
Urbana, 9,345
Utica, 1,510
Van Wert, 10,364
Vermilion, 2,214
Versailles, 1,812
Vincent (unine), 2,018
Wadsworth, 7,966
Walbridge, 1,152
Wapakoneta, 5,797
Warren, 49,856
Warrensville Heights, 4,126
Washington Court House, now Washington, 10,560
Waterville, 1,110
Wauseon, 3,494
Waverly, 1,679
Waynesburg, 1,258
Waynesville, 1,016
Wellington, 2,992
Wellston, 5,691
Wellsville, 7,854
West Alexandria, 1,183
West Ausdale (unine), 1,284
West Carrollton, 2,876
Westerville, 4,112
West Jefferson, now Jefferson
West Lafayette, 1,346
Westlake, 4,912
West Liberty, 1,397
West Milton, now Milton
West Portsmouth (unine), 2,613
West Union, 1,508
Westwood (unine), 2,296
Wheelersburg (unine), 1,013
Whitehall, 4,877
Wickliffe, 5,002
Willard, 4,744
Williamsburg, 1,490
Willoughby, 5,602
Willowick, 7,677
Wilmington, 7,387
Windham, 1,968
Wintersville, 1,950
Woodlawn, 1,335
Woodsfield, 2,410
Woodville, 1,358
Wooster, 14,005
Worthington, 2,141
Wyoming, 5,582
Xenia, 12,877
Yellow Springs, 2,896
Yorkville, 1,884
Youngstown, 168,330
Zanesville, 40,517

OKLAHOMA, 2,233,351

Ada, 15,995
Afton, 1,252
Allen, 1 215
Altus, 9 745
Alva, 6,505
Anadarko, 6,184
Antlers, 2,506
Apache, 1,190
Ardmore, 17,890
Arkoma, 1,691
Atoka, 2 854
Barnsdall, 1,708
Bartlesville, 19,228
Boaver, 1,195
Beggs 1,214
Bethany, 5,705
Binby, 1,517
Blackwell, 9,199
Blanchard, 1,311
Bone City, 1,902
Bristow, 5,100
Broken Arrow 3,262
Broken Bow, 1 838
Buffalo, 1,544
Carnegie, 1 719
Cement, 1 076
Chandler, 2,724
Checotah, 2 648
Chelsea, 1,437
Cherokee 2,035
Cheyenne 1,133
Choctaw 15 812
Claremore, 5 094
Cleveland, 2 464
Clinton 7,555
Coalgate 1,984
Collinsville 2,011
Comanche 1 083
Commerce, 2 142
Cordell, 2,920
Cowett, 1 601
Crescent, 1 341
Cushing, 8 414
Davis, 1,928
Del City, 2 504
Dewar, 1,015
Dewey, 2,513
Drumright, 5,028
Duncan, 15 425
Durant, 10,541
Edmond, 6,088
Elk City, 7,062
El Reno, 10,991
Enid, 30,017
Erick, 1,579
Eufaula, 2,510
Fairfax, 2,037
Fairview, 1,411
Fort Gibson, 1,496
Frederick, 5,467
Garber, 957
Geary, 1,614
Grandfield, 1,232
Granite, 1,096
Grove, 928
Guthrie, 10,113
Guymon, 4,718
Haileyville, 1,107
Hartshorne, 2,330
Haskell, 1,676
Healdton, 2,578
Heavener, 2,103
Hennessey, 1,264
Henryetta, 7,087
Hinton, 1,025
Hobart, 5,380
Holdenville, 6,192
Hollis, 3,089
Hominy, 2,702
Hooker, 1,842
Hugo, 5,984
Idabel, 4,071
Jenks, 1,037
Kingfisher, 3,345
Konawa, 2,707
Krebs, 1,532
Laverne, 1,269
Lawton, 34,757
Lexington, 1,176
Lindsey, 3,042
McAlester, 17,878
Madill, 2,791
Mangum, 4,271
Marietta, 1,875
Marlow, 3,309
Maud, 1,389
Mayaville, 1,294
Medford, 1,305
Miami, 11,801
Midwest City, 10,166
Morris, 1,122

Mountain View, 1,009
Muskogee, 37,289
Newkirk, 2,201
Nichols Hills, 2,606
Norman, 27,006
Nowata, 3,065
Okfuskee, 3,454
Oklahoma City, 243,504
Okmulgee, 18,317
Panama, 1,027
Paoli Valley, 6,896
Pawhuska, 5,331
Pawnee, 2,861
Perry, 5,137
Pieher, 3,951
Ponca City, 20,180
Pond Creek, 1,066
Poteau, 4,776
Prague, 1,546
Pryor Creek, 4,486
Purcell, 3,518
Quapaw, 938
Quinton, 951
Ringling, 1,092
Rush Springs, 1,402
Ryan, 1,019
Salina, 905
Sallisaw, 2,885
Sand Springs, 6,994
Sapulpa, 13,031
Sayre, 3,362
Seminole, 11,863
Sentinel, 1,131
Shattuck, 1,692
Shawnee, 22,948
Skiatook, 1,734
Snyder, 1,646
Spiro, 1,365
Stigler, 2,125
Stillwater, 20,238
Stilwell, 1,813
Stratford, 1,085
Stroud, 2,440
Sulphur, 4,389
Tahlequah, 4,750
Tahlina, 965
Tecumseh, 2,275
Temple, 1,442
Texhoma, 1,464
Thomas, 3,171
Tipton, 1,172
Tishomingo, 2,325
Tonkawa, 3,643
Tulsa, 182,740
Tuxedo Park (unine), 1,179
Veterans Village (unine), 1,355
Vinita, 5,518
Wagoner, 4,395
Walters, 3,743
Wan Area, 2,378
Watonga, 3,749
Waurika, 2,327
Waynoka, 2,018
Weatherford, 3,529
Weleetka, 1,485
Wetumka, 2,025
Wewoka, 6,747
Wilburton, 1,989
Wilson, 1,862
Woodward, 5,915
Wright City (unine), 1,141
Wynnewood, 2,423
Yale, 1,859
Yukon, 1,990

OREGON, 1,521,341

Albany 10,115
Altamont (unine), 9,419
Ashland, 7,749
Astoria, 12,331
Aurora, 242
Baker, 9,471
Bandon, 1,251
Beaverton, 2,512
Bend, 11,409
Brownsville, 1,175
Bunker Hill (unine), 1,409
Burns, 3,003
Canby, 1,071
Carlton, 1,081
Central Point, 1,667
College Crest (unine), 1,863
Coos Bay, 6,223
Coquille, 3,523
Corvallis, 16,207
Cottage Grove, 3,536
Dallas, 4,793
Drain, 1,150
Elgin, 1,224
Empire, 2,261
Enterprise, 1,718
Eugene, 35,879
Florence, 1,026
Forest Grove, 4,343
Four Corners (unine), 1,284
Freewater, 1,489
Fruitdale (unine), 1,711
Garibaldi, 1,249
Gesner Corner (unine), 2,094
Gladstone, 2,434
Grants Pass, 8,116
Gresham, 3,049
Hayesville (unine), 2 697
Hoppner, 1,648
Hermiston, 3,804
Hillsboro, 5,142
Hood River, 3,701
Independence, 1,987
Jacksonville, 1,103
John Day, 1,597
Junction City, 1,475
Klamath Falls, 15,875
La Grande, 8,635
Lakeview, 2,831
Lebanon, 5,873
McMinnville, 6,635
Madras, 1,258
Marshfield, now Coos Bay
Medford, 17,305
Mill City, 1,792
Milton, 2,362
Milwaukie, 5,253
Molalla, 1,497
Monmouth, 1,956
Mount Angel, 1,315
Myrtle Creek, 1,781
Myrtle Point, 2,043
Newberg, 3,446
Newport, 3,241
North Bend, 6,099
Nyssa, 2,525
Oakridge, 1,562
Ontario, 4 465
Oregon City, 7 682
Oswego, 3,416
Pendleton, 11,774
Philomath 1,289
Portland, 373,628
Prineville, 1,233
Rainier, 1,285
Redmond, 2,956
Reedsport, 2,285
Rockaway, 1 027
Roseburg, 8 890
Saint Helens, 4,711
Salem, 4 4 40
Salem Heights (unine), 2 351
Sandy, 1,003
Seaside, 3 886
Sheridan, 1,922
Silverton, 3,146
South Medford (unine), 2 226
Springfield, 10,807
Stayton, 1,507
Sutherlin, 2,230
Sweet Home, 3 603
The Dalles, 7 676
Tillamook, 3 685
Toledo, 2 323
Union, 1 807
Vale 1 518
Vernonia, 1,521
Wallowa, 1 055
Warrenton, 1 806
West Linn, 2 945
Willamina, 1 082
Woodburn, 2 305

PENNSYLVANIA, 10 498 012

Adah Antram (unine) 1,191
Adamstown, 1,020
Akron, 1 028
Albion, 1 7 9
Aldan, 3 4 0
Aliquippa, 26 132
Allenport, 923
Allentown, 106 756
Allison (unine), 1 764
Altoona, 77,177
Ambler, 4 565
Ambler Highland--Fort Washington (unine), 1 864
Ambridge, 16,439
Annville (unine), 3,564
Apollo, 3,015
Archbald, 6,304
Arnold, 10 263
Arnold City--Fairhope (unine), 1,219
Ashland, 6 192
Ashley, 5 243
Aspinwall, 4,084
Athens, 3 4 30
Atlas (unine), 3,090
Austin, 961
Avalon, 6,463
Avella (unine), 1,356
Avis 1,193
Avoca, 4,040
Avonmore, 1,367
Baden, 2 752
Bakerton (unine), 1,141
Bangor, 6,050
Barnesboro, 3,442
Bath, 1,824
Beaver, 6,360
Beaver Falls, 17,375
Beaver Meadows, 1,723
Bedford, 3,521
Bellefonte, 5,651
Bellevernon, now Belle Vernon, 2,271
Belleville (unine), 1,304
Bellevue, 11,604
Bellwood, 2,559
Ben Avon, 2,165
Bentleyville, 3,295
Berlin 1 507
Berwick, 14,010
Bessemer, 1,461
Bethel, 11,324
Bethlehem, 66,340
Birdsboro, 3,158
Blairsville, 5,000
Blakely, 6,828
Blawnox, 2,165
Bloomfield 1,098
Bloomsburg, 10,633
Blossburg, 1,954
Bobtown (unine), 1,553
Bowell, 1,679
Boyertown, 4,074
Brackenridge, 6,178
Braddock, 16,488
Braddock Hills, 1,965
Bradford, 17,354
Brentwood, 12,535
Bridgeport, 5,827
Bridgeville, 5,650
Bridgewater 1 316
Bristol 12,710
Brockway 2,050
Brookhaven, 1,042
Brookville, 4,274
Brownstown, 1,508
Brownsville, 7,644
Burgettstown 2,379
Burnham 2 954
Butler, 24,482
Carnbrook (unine), 1,504
California, 2,831
Cambridge Springs, 2,216
Camp Hill, 5,934
Canonsburg, 12,072
Canton 2,118
Carbondale, 16,296
Carlisle 16,812
Carnegie 12 105
Carrolltown, 1,452
Castle Shannon, 5,459
Catasauqua, 5,923
Catawissa 2,000
Centerville 5 815
Central City 1 035
Centralia 1 986
Chalfant 1 881
Chalfont 828
Chambersburg, 17,212
Charleroi, 9,872
Chatwood (unine), 1 572
Chester, 66 039
Cheswick, 1 531
Chevy Chase Heights (unine), 1,160
Christiana 1 043
Churchill 1 733
Clairton 19 652
Clarion (unine), 1 0 39
Clarion 1 409
Clarks Summit 2 940
Claysburg (unine), 1 3 7
Clearfield 9 437
Cleona 1 883
Clifton Heights, 7 549
Clymer 2 500
Coaldale 1 318
Coalport 1 0 2
Coatesville 13 826
Cochranton 1 092
Cokeburg 1 170
Collegeville 1 900
Collingdale 8 143
Columbia 11 903
Colver (unine), 1 708
Colwyn 2 113
Confluence 1 037
Conneaut Lake 676
Conneautville 1 177
Connellsville 13 293
Conshohocken 10 922
Conway 1 570
Coopersburg 1 462
Coplay 2 091
Coraopolis 10 498
Cornwall 1 760
Corry 7 911
Coudersport 3 210
Courtdale 982
Crabtree (unine), 1 168
Crafton 8 066
Crescent Heights--Daisytown (unine) 2 176
Crescent-Altamont (unine) 1 022
Cresson 2 569
Cressona 1 758
Crucible (unine), 1 470
Curtisville (unine), 1 177
Curwensville 3 332
Dale 3 410
Dallas, 1 674
Dallastown, 3,304
Dalton 1 109
Danville, 6 994
Darby, 13 151
Delaware Water Gap, 734
Denver, 1,658
Derry, 3 752
Dickson City, 8 948
Dillsburg, 1,146
Donora, 12,186
Dormont, 13 405
Downingtown, 4 948
Doylestown 5 262
Dravosburg, 3,786
Du Bois, 11,497
Duboistown, 1,140
Dunbar, 1,463
Duncannon 1,852
Duncansville 1,391
Dunmore 20 305
Dupont, 4,107
Duquesne 17,620
Duryea, 6 655
Eagles Mere 157
East Berwick (unine) 1 077
East Brady 1 400
East Conemaugh 4 101
East Greenville 1 915
East Lansdowne 3 527
East McKeesport 3 171
East Mauch Chunk 3 142
Easton, 35 642
East Petersburg 1 268
East Pittsburgh 5 259
East Stroudsburg, 7 274
East Uniontown (unine) 2 158
East Vandergrift 1 665
East Washington, 2 304
East Wessport (unine) 1 814
Ebensburg 4 086
Eddystone 3 011
Edinboro (unine), 1 315
Eden Park 1 531
Edgely (unine), 1 308
Edgewood, 5 292
Edgewood-Lorndale-Fairview (unine) 8 749
Edgeworth 1 466
Edinboro 1 567
Edwardsville 6 686
Ehrenfield (unine) 1 159
Eldred 1 199
Elizabeth 2 615
Elizabethtown 5 083
Elizabethville 1,506
Elkland 2 426
Ellport 1,122
Ellsworth 1 670
Ellwood City 12 945
Emmaus 7 780
Emporium 3 616
Ensworth 4 128
Ephrata 7 027
Erie 130 803
Ernest (unine), 1,170
Etna 6 750
Evansburg 1 637
Everett 2 297
Exeter 5 130
Export 1 690
Factoryville 1 005
Fairbank-Filbert (unine) 1 74
Fairchance 2 091
Falls Creek 1 191
Farrell 13 644
Faxon Kenmar (unine) 2,984
Fayette City 1 401
Ferndale 2 619
Fleeting--Crystal Terrace (unine) 2 086
Fleetwood 2 338
Flemington 1 146
Horn (unine) 1 319
Folcroft 1 909
Ford City 5 5 5
Forest City 4 127
Forest Hills, 6,401
Forestville-Primrose (unine) 2 197
Forty Fort 6 173
Fountain Hill 5 156
Fox Chapel 1 721
Frackville 6 511
Franklin (Cambria county) 1 833
Franklin (Venango county) 10 006
Fredericksburg (unine) 1,139
Fredericktown-Millsboro (unine), 2 121
Freedom 1 000
Freeland 5 909
Freemansburg 1 739
Freeport 2 683
Fresco--North Sewickley (unine) 1 501
Galeton, 1 646
Gallitzin 3,102
Garden View (unine) 2 024
Gardners 2,148
Gettysburg 7,046
Gilberton 2 641
Girard 2 111
Girardville 3 864
Glassport, 8 707
Glen Lyon (unine), 3 921
Glenolden 6 450
Glen Rock, 1 477
Gordon 1 039
Granville (unine), 2,157
Grapeville (unine), 1,563
Greencastle, 2 661
Greensburg 16 923
Greentree 2 818
Greenville 9,210
Grindstone (unine), 1 366
Grove City 7 411
Hahnstown-Fairmount (unine) 1 707
Halifax 1 815
Hamburg, 3 805
Hanover 14 048
Harmony 912
Harriman Park (unine) 1,078
Harrisburg 80 544
Hastings, 1 846
Hatboro 4 788
Hatfield 1 624
Hawley 1 602
Hazleton 35 491
Heidelberg 2 250
Hellertown 5 414
Herminie (unine) 2 072
Hershey Swatara (unine) 6 076
Highland (unine) 1 040
Highland Park (unine) 1 212
Highspire 2 799
Hiller (unine) 1 336
Hollidaysburg 6 483
Homer City 2 472
Homestead 10 046
Honesdale 5 662
Hooversville 1 240
Hopwood (unine) 1 099
Horsham (unine) 2 174
Houston 1 957
Houtzdale 1 806
Hughestown 1 888
Hughesville 2 095
Hummelstown 3 789
Huntingdon 7 330
Hyndman 1 322
Imperial (unine) 1 895
Indiana 11 711
Ingram 4 736
Irwin 4 228
Jeannette 16 172
Jeffersonville (unine) 2 142
Jenkintown 5 130
Jermyn 2 5 5
Jersey Shore 5 595
Johnsonburg 4 967
Johnstown 63 232
Kane 5 706
Kelayres (unine) 1 0 9
Kenhorst 2 551
Kennett Square 4 000
Kersey--Dagus Mines (unine) 1 070
Kingston 21 096
Kittanning 7 741
Knox 1 213
Koppel 1 137
Kulpmont 5 199
Kutztown, 5 110
Lancaster 63 771
Langeloth (unine) 1 068
Langhorne 1 579
Lansdale 9 762
Lansdowne 12 169
Lanse-Wanburne (unine) 1 085
Laquard 7 187
Larimer (unine) 1 057
Larksville 6 960
Latrobe 11 811
Laureldale 3 5 5
Laurel Run 858
Lawrence Hills (unine) 1 162
Lebanon 28 156
Lebanon Independent 2 778
Leechburg 1 012
Leetsdale 2 111
Leighton 6 5 5
Leith (unine) 2 018
Lemoyne 4 6 0
Lewisburg 5 268
Lewistown 13 894
Lewistown Junction (unine) 1 259
Liberty 1 900
Library (unine) 2 124
Ligonier 2 160
Lilly 1 898
Limeville 1 246
Linntown (unine), 1 131
Lititz 5 568
Littlestown 2 635
Lock Haven 11 381
Locust Gap (unine) 1 041
Loram 1 406
Luzerne (unine) 1 073
Luzerne 6 176
Lykens 2 745
Lyndora-Highfield (unine) 5 410
McAdoo 4 260
McChesneytown-Bradenville-Loyalhanna (unine), 4 277
McConnellsburg, 1,126
McDonald, 3,543
McGrann (unine), 1 418
McKeesport 51 502
McKees Rocks 16 241
McSherrystown 2 510
Mahanoy City 10 934
Malvern 1 764
Manchester 1,264
Manheim 1 246
Manor, 1 230
Mansfield 2 6 7
Marcus Hook 5 4 3
Marianna 1 269
Marietta 2 442
Marion Heights, 1,551
Mars 1 485
Marshallton (unine) 1 390
Martinsburg 1 562
Marysville 2 1 8
Masontown 3 550
Matamoras 1 761
Mather (unine) 1 89
Mauch Chunk 2 9 0
Mayfield 2 173
Meadowlands (unine) 1 059
Meadville 18 972
Mechanicsburg 6 736
Mechanicsville 1 291
Media 5 726
Mercer 2 397
Mercersburg 1 613
Meridan (unine) 1 317
Meyersdale 3 137
Middleburg 1 284
Middleport 942
Middletown 9 184
Midland 8 491
Midland (unine), 1 1 8
Midway (unine) 1 271
Mifflinburg 2 259
Mifflintown 1 013
Milford 1 111
Millersburg 2 861
Millerstown 1 172
Millersville 2 251
Mill Hall 1 677
Millvale 7 987
Milton (unine), 1,443
Milton 5 578
Minersville 7 784
Moosaniqua (unine) 1 496
Mohnton 2 004
Monaca 7 412
Monessen 17 896
Monongahela 8 922
Mont Clare (unine) 1 0 3
Montgomery 2 166
Montoursville 4 293
Montrose 2 075
Moon Run (unine) 1 143
Moosic 3 965
Morrisville 9 787
Morton 1 342
Moscow 1 0 6
Mount Carmel 14 2 2
Mount Holly Springs 1 701
Mount Jewett 1 415
Mount Joy 3 0 0
Mount Oliver 6 6 0
Mount Penn 3 6 3
Mount Pleasant 5 883
Mount Union 4 690
Mountville 1 061
Mount Wolf 1 161
Muncy 2 7 6
Munhall 16 437
Munsey (unine) 1 477
Myerstown 3 0 0
Nanticoke 20 160
Nanty-Glo 5 425
Narberth 4 107
Nazareth 5 8 0
Nebbens Hill-Plateau Heights (unine) 1 570
Nemacolin (unine) 1 930
Neshopeck 1 907
Nesquehoning-New Columbus (unine) 4 186
New Bethlehem 1 601
New Brighton 9 535
New Castle 18 834
New Cumberland, 6,204
New Hagh 2 316
New Freedom 1 271
New Holland, 2 602
New Hope 1,066
New Kensington, 15,146
New Oxford, 1,366
New Philadelphia, 2 200
Newport, 1 893
New Salem-Buffington (unine), 2 141
Newtown, 2 095
Newville, 1,788
New Wilmington, 1 948
Nicholson, 979
Nobleston-Sturgeon (unine), 1 475
Norristown, 38,126
Northampton, 9,342
North Apollo, 1,502
North Bellevernon, now North Belle Vernon, 3,117
North Braddock, 14,724
North Catasauqua, 2,636
North Charleroi, 2,554
North East, 4,247
North Girard, 1,369
North Irwin 1 076
Northumberland, 4,207
North Vandergrift (unine), 1 878
North Wales, 2,998
North York 2,145
Norvelt-Calumet (unine), 2,155
Norwood, 5,246
Oakdale 1,572
Oakland (unine), 1,909
Oaknount, 7,264
Oakwood (unine), 2,267
Oil City, 19 581
Old Forge 9 749
Oliver (unine), 2,180
Oliphant, 7,017
Orwigsburg 2 309
Osceola Mills or Osceola 1 992
Oxford, 3 091
Paint 1 547
Palmerton 6 646
Palmyra, 5,910
Palo Alto, 1 767
Paoli (unine), 3,029
Parkesburg, 2 611
Parkland (unine), 1,292
Parkside 1 647
Parkville (unine), 1 299
Patton, 3,118
Paxton 1 857
Penn Ary 1 8 78
Pembrook 3 691
Penn, 987
Penndel 1,100
Pennsburg 1 625
Perkasie, 3 858
Perryopolis (unine), 1 125
Philadelphia 2 071,605
Philipsburg 3 088
Phoenixville 12 032
Pine Grove 2,247
Pittcairn, 5 857
Pittsburgh 676 806
Pittston 15,012
Pleasant Gap (unine), 1 432
Pleasant Hills, 3,808
Plymouth 13,021
Plymptonville (unine), 1 352
Point Marion, 2,197
Polk, 4,004
Portage 4 371
Port Allegany, 2 519
Port Carbon, 4,024
Port Vue 4 756
Pottstown 22,589
Pottsville 23,040
Prieddis Sandhild (unine) 2 357
Pringle, 1 727
Prospect Park, 5 834
Punxsutawney, 8,969
Quakertown, 5 673
Quarryville, 1 187
Rankin 6 041
Ranshaw (unine), 1 477
Reading, 109,320
Red Lion, 5 119
Redwood (unine), 1 238
Renovo 3 751
Renton (unine) 1,014
Republic Cardale (unine) 3,026
Reynoldsville 4 569
Richland, 1,090
Ridway, 6,244
Ridley Park, 4 921
Rimersburg, 1 398
Roaring Spring, 2,771
Robesonia, 1,590
Rochester 7 197
Rockledge, 2,261
Rockwood 1 247
Rocky Grove (unine), 1 111
Rome, 1,396
Roscto 1,676
Rossiter (unine), 1,078
Rousville, 1 009
Rowes Run (unine), 1 4 1
Royalton 1,175
Royersford, 4 862
Russelton (unine), 1 670
Sagamore (unine), 1,128
Saint Clair, 5,856
Saint Marys, 7,848
Saint Michael (unine), 1 820
Saltsburg, 1,156
Sandy (unine), 1,866
Saxton, 1 694
Sayre, 7 735
Scalp Level, 1,756
Schuylkill Haven, 6,597

Pennsylvania (cont.)
Scottdale, 6,249
Scranton, 125,536
Selinsgrove, 3,514
Sellersville, 2,873
Sewickley, 5,836
Shamokin, 10,879
Sharon, 20,454
Sharon Hill, 5,464
Sharpsburg, 7,296
Sharpsville, 5,414
Sheffield (unincorporated), 2,087
Shenandoah, 15,704
Shenandoah Heights (unincorporated), 1,798
Sheridan-Newmanstown (unincorporated), 1,314
Shickshinny, 2,156
Shillington, 5,059
Shingle House (now Shinglehouse), 1,201
Shippensburg, 5,722
Shoemakersville, 1,066
Sinking Spring, 1,982
Slatington, 4,343
Slickville (unincorporated), 1,266
Slippery Rock, 2,294
Slovan-Midway (unincorporated), 1,885
Smethport, 1,797
Smithfield, 1,066
Smithfield-Cranberry Creek (unincorporated), 1,134
Somerset, 5,918
Souderton, 4,521
South Connellsville, 1,906
South Connellsville, 2,610
South Fork, 2,616
South Greensburg, 2,980
Southmont, 2,278
South Pottstown (unincorporated), 1,504
South Renovo, 862
South Uniontown (unincorporated), 3,425
South Waverly, 1,208
Southwest Greensburg, 3,144
South Williamsport, 6,364
Spangler, 1,013
Spartansburg, 1,089
Spring City, 1,258
Springdale, 4,939
Spring Grove, 1,238
Spring Hill (unincorporated), 1,030
Spring Mill-Cedar Heights (unincorporated), 1,553
Standard-Spring Garden (unincorporated), 2,176
Star Junction (unincorporated), 1,027
State College, 17,227
Steelton, 12,574
Stewartstown, 1,133
Stoneboro, 1,291
Stowe (unincorporated), 2,524
Strabane (unincorporated), 2,861
Strasburg, 1,109
Stroudsburg, 6,361
Sugar Notch, 2,002
Summerville, 933
Summit Hill, 1,024
Sunbury, 15,570
Susquehanna Depot, 2,046
Swarthmore, 4,825
Swedesburg-Kings Manor (unincorporated), 1,710
Swissvale, 16,488
Swoyersville, 7,795
Sykesville, 1,692
Tamaqua, 11,508
Tarentum, 9,540
Taylor, 7,176
Telford, 2,042
Temple, 1,460
Terre Hill, 1,000
Throop, 5,961
Titusville, 8,923
Topton, 1,572
Towanda, 4,069
Tower City, 2,054
Tower Hill-Thompson (unincorporated), 1,158
Trafford, 3,065
Tranter, 2,001
Tremont, 2,102
Treskow (unincorporated), 1,250
Trevorton-Morgan (unincorporated), 1,854
Trevorton (unincorporated), 2,945
Trotter (unincorporated), 1,127
Troy, 1,471
Tunkhannock, 2,170
Turtle Creek, 12,303
Tyrone, 8,211
Union City, 3,911
Uniontown, 20,471
Uniontown (unincorporated), 1,280
Upland, 4,081
Valley View (unincorporated), 1,618
Vanderbilt, 937
Vandergrift, 9,524
Verona, 4,323
Versailles, 2,484
Vestaburg (unincorporated), 1,046
Vintondale, 1,185
Wall, 1,850
Walnutport, 1,427
Wampum, 1,090
Wanamie (unincorporated), 1,092
Warren, 14,849
Warrior Run, 1,056
Washington, 26,280
Waterford, 1,195
Watsontown, 2,427
Waynart, 1,068
Waynesboro, 10,334
Waynesburg, 5,514
Weatherly, 2,622
Webster, 4,215
Weissport, 1,280
Wellsville, 5,411
West Brownsville, 1,610
West Chester, 15,168
West Conshohocken, 2,482
West Easton, 1,308
West Elizabeth, 1,137
West Fairview, 1,896
Westfield, 1,457
West Grove, 1,521
West Hazleton, 6,988
West Homestead, 3,257
West Kittanning, 910
West Lawn, 2,111
West Lebanon (unincorporated), 2,048
West Leechburg, 1,113
West Mayfield, 1,768
West Middlesex, 1,717
West Mifflin, 17,985
Westmont, 4,110
Westmoreland City-Biddle (unincorporated), 1,234
West Newton, 3,619
West Pittston, 7,230
West Reading, 4,072
West View, 7,581
West Washington (unincorporated), 4,192
West Wyoming, 2,863
West York, 4,756
Wheatland, 1,402
Whitaker, 2,119
Whitehall, 7,342
White Haven, 1,461
White Oak, 6,159
Wiconisco (unincorporated), 1,489
Wilkes-Barre, 76,826
Wilkinsburg, 31,418
William Penn (unincorporated), 1,057
Williamsburg, 1,702
Williamsport, 45,047
Williamstown, 2,342
Wilmerding, 3,325
Wilson, 8,159
Windber, 8,010
Wind Gap, 1,777
Windsor, 1,126
Winton, 6,280
Womelsdorf, 1,549
Woodside (unincorporated), 1,422
Wormleysburg, 1,511
Wrightsville, 2,104
Wyoming, 4,511
Wyomissing, 4,187
Yardley, 1,916
Yatesboro (unincorporated), 1,764
Yeadon, 11,008
Yeagertown (unincorporated), 1,628
York, 59,953
Youngsville, 1,944
Youngwood, 2,720
Yukon (unincorporated), 1,099
Zelienople, 2,981

RHODE ISLAND, 791,896
Ashaway (unincorporated), 1,022
Bradford (unincorporated), 1,021
Bristol (unincorporated), 10,335
Central Falls, 23,500
Cranston, 55,060
Georgiaville (unincorporated), 1,247
Harrisville (unincorporated), 1,005
Hope Valley-Wyoming (unincorporated), 1,315
Island Park-The Hummocks (unincorporated), 1,322
Jamestown (unincorporated), 1,707
Kingston (unincorporated), 2,156
Manville (unincorporated), 3,425
Maplewille-Oakland (unincorporated), 1,241
Narragansett Pier (unincorporated), 1,247
Newport, 37,564
Pascoag-Bridgeton (unincorporated), 4,421
Pawtucket, 81,436
Providence, 248,674
Slatersville (unincorporated), 1,780
Wakefield-Peacedale (unincorporated), 5,224
Warwick, 43,028
Westerly (unincorporated), 8,415
Wickford (unincorporated), 2,437
Woonsocket, 50,211

Rhode Island Towns
Barrington, 8,246
Bristol, 12,320
Burrillville, 8,774
Charlestown, 1,598
Coventry, 9,869
Cumberland, 12,842
East Greenwich, 4,923
East Providence, 35,871
Exeter, 1,870
Foster, 1,640
Glocester, 2,682
Hopkinton, 3,676
Jamestown, 2,008
Johnston, 12,725
Lincoln, 11,270
Little Compton, 1,556
Middletown, 7,382
Narragansett, 2,288
New Shoreham, 732
North Kingstown, 14,810
North Providence, 19,925
North Smithfield, 5,726
Portsmouth, 6,378
Richmond, 1,772
Scituate, 3,905
Smithfield, 6,690
South Kingstown, 10,115
Tiverton, 5,659
Warren, 8,513
Westerly, 12,180
West Greenwich, 817
West Warwick, 19,096

SOUTH CAROLINA, 2,117,027
Abbeville, 5,395
Aiken, 7,083
Allendale, 2,474
Anderson, 19,770
Andrews, 2,702
Arcadia (unincorporated), 2,554
Arial (unincorporated), 1,098
Arkwright (unincorporated), 1,266
Baldwin-Aragon Mills (unincorporated), 1,440
Bamberg, 2,934
Barnwell, 2,000
Batesburg, 3,169
Beaufort, 5,081
Belton, 3,571
Bennettsville, 5,110
Bishopville, 3,076
Blacksburg, 2,056
Blackville, 1,294
Branchville, 1,453
Brandon-Judson (unincorporated), 11,008
Buffalo (unincorporated), 1,580
Calhoun Falls, 2,396
Camden, 6,986
Cayce, 3,294
Central, 1,263
Charleston, 70,174
Cheraw, 4,836
Chesnee, 1,051
Chester, 6,893
Chesterfield, 1,530
Clemson, 1,201
Clifton (unincorporated), 1,707
Clinton, 7,168
Clover, 3,276
College Heights (unincorporated), 1,351
Columbia, 86,914
Conway, 5,776
Cowpens, 1,879
Darlington, 6,619
Denmark, 2,814
Dillon, 4,171
Doncaste (unincorporated), 1,086
Drayton (unincorporated), 1,228
Due West, 1,033
Duncan (unincorporated), 3,950
Easley, 6,316
East Gaffney (unincorporated), 4,289
Eau Claire, 9,238
Edgefield, 2,518
Elloree, 1,127
Enoree (unincorporated), 1,045
Equinox-Appleton Mills (unincorporated), 5,413
Estill, 1,659
Eureka (unincorporated), 1,990
Fairfax, 1,567
Florence, 22,513
Forest Verea, 4,210
Fort Mill, 3,294
Fountain Inn, 1,325
Gaffney, 8,123
Georgetown, 6,004
Glendale (unincorporated), 1,214
Gluck (unincorporated), 1,034
Golds (unincorporated), 1,730
Graniteville (unincorporated), 3,362
Great Falls (unincorporated), 3,533
Greenville, 58,161
Greenwood, 13,806
Greer, 5,050
Hampton, 2,007
Hartsville, 5,658
Holly Hill, 1,116
Honea Path, 2,840
Industrial-Aragon Mills (unincorporated), 1,868
Inman, 1,514
Inman Mills (unincorporated), 1,776
Iva, 1,164
Johnston, 1,426
Jonesville, 1,345
Jordania (unincorporated), 1,533
Kershaw, 1,376
Kingstree, 3,621
Lake City, 3,142
Lancaster, 7,159
Lancaster Mills-Springdale (unincorporated), 4,313
Landrum, 1,333
Langley-Bath (unincorporated), 3,696
Latta, 1,602
Laurens, 8,658
Leesville, 1,454
Lexington, 1,081
Liberty, 2,291
Lockhart (unincorporated), 1,685
Loris, 1,611
Lydia Mills (unincorporated), 1,212
Lyman (unincorporated), 1,365
McColl, 2,688
McCormick, 1,744
Manning, 2,775
Marion, 6,844
Mill Village (unincorporated), 2,163
Monarch Mills, 2,158
Moncks Corner, 1,818
Mount Pleasant, 1,857
Mullins, 4,916
Myrtle Beach, 3,845
Newberry, 7,346
Ninety-Six, 1,556
North Augusta, 3,650
North Hartsville (unincorporated), 1,743
Orangeburg, 15,122
Orr Mills (unincorporated), 2,625
Pacolet Mills (unincorporated), 2,170
Pageland, 1,925
Park Place-Poe (unincorporated), 4,743
Pelzer (unincorporated), 2,602
Pendleton, 1,432
Pickens, 1,961
Piedmont (unincorporated), 2,671
Pinecrest-Sheppard Park (unincorporated), 1,419
Ridgeland, 1,078
Riverside-City View-Woodside (unincorporated), 8,471
Rock Hill, 24,502
Saint George, 1,938
Saint Matthews, 2,351
Saint Stephen, 1,341
Saluda, 1,594
Sans Souci-Union Bleachery (unincorporated), 9,147
Saxon (unincorporated), 3,088
Seneca, 3,649
Shannontown (unincorporated), 5,828
Simpsonville, 1,529
South Greenwood (unincorporated), 3,712
Southwest Dillon (unincorporated), 1,018
Spartanburg, 36,795
Spring Mills (unincorporated), 1,240
Startex (unincorporated), 1,638
Summerton, 1,119
Summerville, 3,312
Sumter, 20,185
Taylor (unincorporated), 1,518
Timmonsville, 2,001
Toxaway-Riverside Mills (unincorporated), 2,397
Union, 9,730
Varnville, 1,180
Victor Mills (unincorporated), 2,673
Wallalla, 3,104
Walterboro, 4,916
Ware Shoals (unincorporated), 4,032
Warrenville (unincorporated), 1,601
Watts Mills (unincorporated), 1,649
West Columbia, 1,543
West Hartsville, (unincorporated), 2,287
Westminster, 2,219
Whites Bridge Road-North Walnut Heights (unincorporated), 5,070
Whitmire, 3,006
Whitney (unincorporated), 1,611
Williamston, 2,782
Williston, 896
Windy Hill (unincorporated), 1,710
Winnsboro, 3,267
Winnsboro Mills (unincorporated), 2,936
Woodburn Hills (unincorporated), 2,500
Woodruff, 3,831
York, 4,181

SOUTH DAKOTA, 652,740
Aberdeen, 21,051
Arlington, 1,096
Armour, 900
Belle Fourche, 3,540
Beresford, 1,686
Britton, 1,430
Brookings, 7,764
Canton, 2,530
Centerville, 1,053
Chamberlain, 1,912
Clark, 1,471
Clear Lake, 1,105
Custer, 2,017
Deadwood, 3,288
Dell Rapids, 1,650
De Smet, 1,180
Edgemont, 1,158
Elk Point, 1,167
Eureka, 1,576
Flandreau, 2,193
Gettysburg, 1,555
Gregory, 1,375
Groton, 1,084
Hightmore, 1,158
Hot Springs, 3,030
Howard, 1,251
Huron, 12,788
Ipswich, 1,058
Lake Andes, 1,851
Lead, 6,422
Lemmon, 2,760
Lennox, 1,218
Madison, 5,153
Martin, 980
Milbank, 2,982
Miller, 1,916
Mitchell, 12,123
Mobridge, 3,754
Parker, 1,118
Parkston, 1,354
Pickstown (unincorporated), 2,217
Pierre, 5,715
Platte, 1,060
Rapid City, 25,310
Redfield, 2,605
Salem, 1,119
Scotland, 1,188
Sioux Falls, 52,696
Sisseton, 2,871
South Sioux Falls, 1,586
Spearfish, 2,755
Sturgis, 3,471
Tabor, 873
Tyndall, 1,202
Vermillion, 5,437
Wagner, 1,528
Watertown, 19,690
Webster, 2,503
Wessington Springs, 1,454
Winner, 4,252
Woonsocket, 1,051
Yankton, 7,709

TENNESSEE, 3,291,718
Alamo, 1,501
Alcoa, 6,455
Ashland City, 1,024
Athens, 8,618
Banner Hill (unincorporated), 2,873
Belle Meade, 2,831
Bells, 1,225
Bemis (unincorporated), 3,218
Berry Hill, 1,248
Bluff City, 1,074
Bolivar, 2,429
Bristol, 16,771 (including Bristol Va., 32,725)
Brownsville, 4,711
Brunswick, 1,204
Camden, 2,029
Carthage, 1,604
Caryville (unincorporated), 1,231
Celina, 1,136
Centerville, 1,532
Chattanooga, 131,041
Clarksville, 16,246
Cleveland, 12,605
Clinton, 4,712
Collierville, 1,153
Columbia, 10,911
Cookeville, 5,924
Copperhill, 921
Covington, 4,379
Cowan, 1,845
Crossville, 2,291
Daisy (unincorporated), 1,336
Dayton, 4,191
Decherd, 1,135
Dickson, 1,348
Donelson (unincorporated), 1,765
Dresden, 1,509
Ducktown (unincorporated), 1,061
Dyer, 1,864
Dyersburg, 10,855
Eagleton Village-Blount Hills (unincorporated), 3,503
East Cleveland (unincorporated), 1,667
East Ridge, 9,645
Elizabethton, 10,754
Embreeville Junction (unincorporated), 1,273
Englewood, 1,545
Erwin, 3,387
Etowah, 3,261
Fayetteville, 5,447
Franklin, 5,475
Gallatin, 5,107
Gathinburg, 1,301
Gleason, 1,063
Goodlettsville (unincorporated), 1,500
Greeneville, 8,721
Greenfield, 1,706
Green Hills-Southside (unincorporated), 1,734
Halls, 1,808
Hampton (unincorporated), 1,164
Harriman, 6,389
Hartsville, 1,130
Henderson, 2,532
Highland Park-Lits Manor (unincorporated), 4,846
Hohenwald, 1,703
Humboldt, 7,426
Huntingdon, 2,043
Jackson, 30,207
Jamestown, 2,115
Jasper (unincorporated), 1,108
Jefferson City, 3,633
Jellico, 1,556
Johnson City, 27,864
Jonesboro, 1,126
Kingsport, 19,571
Kingston, 1,627
Knoxville, 124,769
Lafayette, 1,195
La Follette, 5,797
Lake City, 1,827
Lawrenceburg, 5,442
Lebanon, 7,013
Lenoir City, 5,159
Lewisburg, 5,164
Lexington, 3,566
Livingston, 2,082
Long Island (unincorporated), 2,147
Lookout Mountain, 1,675
Loudon, 3,567
Lynn Garden-West View-Fort Robinson-Morrison City (unincorporated), 8,627
Mckenzie, 3,774
McMinnville, 7,577
Madisonville, 1,187
Manchester, 2,341
Martin, 4,082
Maryville, 7,712
Memphis, 396,000
Milan, 4,938
Millington, 4,696
Monterey, 2,043
Morristown, 13,019
Mountain City, 1,405
Mount Pleasant, 2,031
Murfreesboro, 13,052
Nashville, 174,307
Newbern, 1,734
Newport, 4,892
New Providence (unincorporated), 1,825
Norris, 1,114
Oak Ridge (unincorporated), 30,229
Obion, 1,212
Oliver Springs, 1,089
Oneida, 1,304
Palmer, 871
Paris, 8,826
Parsons, 1,640
Portland, 1,660
Pulaski, 5,762
Richard City, 300
Ridgely, 1,504
Ripley, 3,418
Rockwood, 4,272
Rogersville, 2,545
Savannah, 1,698
Selmer, 1,759
Sevierville, 1,620
Sewanee (unincorporated), 1,407
Shelbyville, 9,456
Signal Mountain, 1,786
Smithville, 1,558
Smyrna, 1,544
Soddy (unincorporated), 2,157
Somerville, 1,760
South Fulton, 2,119
South Harriman (unincorporated), 2,761
South Pittsburg, 2,573
Sparta, 4,299
Spring City, 1,725
Springfield, 6,506
Sweetwater, 4,199
Tiptonville, 1,053
Tracy City, 1,414
Trenton, 3,868
Tullahoma, 7,562
Union City, 7,665
Waverly, 1,892
Waynesboro, 1,147
Whitehaven (unincorporated), 1,311
Whitwell (unincorporated), 1,586
Winchester, 3,974
Woodbury, 1,000

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Abernathy, 1,602
Abilene, 45,570
Alamo, 3,017
Alamo Heights, 8,000
Albany, 2,241
Alvee, 16,449
Alpine, 5,261
Alto, 1,021
Alvarado, 1,656
Alvin, 3,701
Amarillo, 74,246
Anahuac, 1,284
Andrews, 3,294
Angleton, 3,390
Anson, 2,708
Aransas Pass, 5,396
Archer City, 1,901
Arlington, 7,692
Arp, 909
Asherton, 2,425
Aspermont, 1,062
Athens, 5,194
Atlanta, 3,782
Austin, 132,459
Bartel, 1,821
Ballinger, 5,302
Bandera (unincorporated), 1,036
Bartlett, 1,727
Bastrop, 3,176
Bay City, 9,427
Baytown, 22,988
Beaumont, 94,014
Beeville, 9,348
Bellaire, 10,173
Bellville, 2,112
Belton, 6,246
Benavides, 3,016
Big Lake, 2,152
Big Spring, 17,286
Big Wells, 1,077
Bishop, 2,731
Boerne, 1,802
Bonham, 7,049
Borger, 18,050
Bowie, 4,544
Brackettville, 1,858
Brady, 5,044
Brazoria, 776
Breckenridge, 6,610
Bremond, 1,141
Brenham, 6,041
Bridgeport, 2,049
Bronte, 1,020
Brookshire, 1,015
Brownfield, 6,161
Brownsville, 46,086
Brownwood, 20,181
Brownwood Oakland (unincorporated), 1,241
Bryan, 18,102
Burkburnett, 4,555
Burnet, 2,294
Caldwell, 2,109
Calvert, 2,548
Camden (unincorporated), 1,001
Cameron, 5,052
Canadian, 2,700
Canutillo (unincorporated), 1,326
Canyon, 4,364
Carrizo Springs, 4,316
Carrollton, 1,610
Carthage, 4,750
Castroville, 1,985
Cedar-Bayou-Stewart Heights (unincorporated), 1,511
Celina, 1,051
Center, 3,423
Charlotte, 1,372
Childress, 7,619
Chillicothe, 1,415
Cisco, 5,230
Clarendon, 2,577
Clarksville, 4,453
Cleburne, 12,905
Cleveland, 5,183
Clifton, 1,837
Cockrell Hill, 2,207
Coleman, 6,530
College Station, 7,925
Colorado City, 6,774
Columbus, 2,878
Comanche, 3,840
Commerce, 5,889
Conroe, 7,208
Coolidge, 1,062
Cooper, 2,350
Copperas Cove, 1,052
Corpus Christi, 108,287
Corrigan, 1,417
Corsicana, 19,311
Cotulla, 4,418
Crane, 2,154
Crockett, 5,232
Crosbyton, 1,879
Cross Plains, 1,305
Crowell, 1,912
Crystal City, 7,198
Cuero, 7,498
Damgerfield, 1,068
Dauatia (unincorporated), 1,764
Dalhart, 5,018
Dallas, 434,462
Dawson, 1,107
Dayton, 1,820
Decatur, 2,922
De Kalb, 1,928
De Leon, 2,241
Del Rio, 14,211
Denison, 17,604
Denton, 21,372

Denver City, 1,855
Detroit, 679
Devine, 1,672
Diboll (unincorporated), 2,391
Dickinson (unincorporated), 2,704
Dilley, 1,809
Dimmitt, 5,461
Donna, 7,171
Donnybrook Place (unincorporated), 1,392
Dublin, 2,761
Dumas, 6,127
Eagle Lake, 2,787
Eagle Pass, 7,276
Eastland, 3,626
Edcouch, 2,025
Eden, 1,993
Edinburg, 12,383
Edna, 3,855
El Campo, 6,237
Eldorado, 1,663
Electra, 4,970
Elgin, 3,168
El Paso, 130,485
Elsa, 3,179
Ennis, 7,815
Fabens (unincorporated), 3,089
Fairfield, 1,742
Falfurrias, 6,712
Farmersville, 1,955
Ferguson (unincorporated), 1,741
Ferris, 1,735
Flatonia, 1,098
Floresville, 1,919
Floydada, 3,210
Forest Hill, 10,519
Forney, 1,525
Fort Stockton, 4,141
Fort Worth, 278,778
Franklin, 1,209
Frankston, 1,050
Fredericksburg, 3,854
Freeport, 6,012
Freer (unincorporated), 2,280
Friona, 1,202
Gainesville, 11,246
Galena Park, 7,186
Galveston, 66,568
Ganado, 1,258
Garland, 10,571
Gatesville, 3,856
Georgetown, 4,951
George West, 1,553
Giddings, 2,532
Gilmer, 4,096
Gilmer (unincorporated), 1,471
Gladewater, 5,305
Glen Rose, 1,254
Goldthwaite, 1,566
Goliad, 1,584
Gonzales, 5,659
Gorman, 1,417
Graham, 6,742
Granbury, 1,683
Grand Prairie, 14,594
Grand Saline, 1,810
Granger, 1,637
Grapeland, 1,358
Grapevine, 1,821
Greenville, 14,727
Greggton (unincorporated), 2,168
Griffing Park, 2,096
Groesbeck, 2,182
Grulla (unincorporated), 1,013
Hale Center, 1,626
Hallettsville, 2,000
Haltom City, 5,760
Hamilton, 3,077
Hamlin, 3,509
Harlingen, 23,229
Haskell, 3,836
Hearne, 4,872
Hebbronville (unincorporated), 4,402
Hempstead, 1,395
Henderson, 6,833
Henrietta, 2,813
Hereford, 5,207
Hico, 1,212
Highland Park, 11,405
Highlands (unincorporated), 2,724
Hillcrest (unincorporated), 2,826
Hillsboro, 8,363
Hitchcock (unincorporated), 1,105
Holliday, 1,007
Hondo, 4,188
Honey Grove, 2,340
Hooks, 2,839
Houston, 596,163
Hubbard, 1,768
Hughes Springs, 1,445
Humble, 1,388
Huntington, 1,039
Huntsville, 9,820
Idalou, 1,014
Ingleside (unincorporated), 1,124
Iowa Park, 2,110
Iraan (unincorporated), 1,196
Irving, 2,621
Italy, 1,185
Itasca, 1,718
Jacinto City, 6,856
Jacksboro, 2,951
Jacksonville, 8,607
Jasper, 4,103
Jefferson, 3,164
Jourdanton, 1,481
Junction, 2,471
Karnes City, 2,588
Kaufman, 2,714
Keltys (unincorporated), 1,001
Kemp, 881
Kemp Newby, 1,324
Kenedy, 4,234
Kennedale, 1,046
Kerens, 1,198
Kermit, 6,912
Kerrville, 7,691
Kilgore, 9,838
Killeen, 7,045
Kingsville, 16,898
Kirbyville, 1,150
Knox City, 1,489
Kountze, 1,651
Ladonia, 1,104
La Feria, 2,952
La Grange, 2,738
Lake Jackson, 2,897
Lake June, 1,517
Lakeview, 3,091
Lake Worth Village, 2,451
Lamarque (unincorporated), 7,359
Lamesa, 10,704
Lampasas, 4,869
Lancaster, 2,842
La Porte, 5,139
Laredo, 51,910
League City (unincorporated), 1,341
Leonard, 1,211
Levelland, 8,264
Lewisville, 1,516
Liberty, 4,164
Lindale, 1,105
Linden, 1,744
Littlefield, 6,540
Livingston, 2,965
Llano, 2,954
Lockhart, 5,573
Lockney, 1,692
Longview, 24,502
Loraine, 1,045
Los Fresnos, 1,113
Lott, 956
Lubbock, 71,747
Ludlow, 15,135
Luling, 4,297
Lyford, 1,473
McAllen, 20,067
McCamey, 3,121
McGregor, 2,669
McKinney, 10,560
McLean, 1,139
McNair (unincorporated), 1,313
Madisonville, 2,393
Malakoff, 1,286
Marble Falls, 2,014
Marfa, 4,604
Marlin, 7,099
Marshall, 22,427
Mart, 2,269
Mason, 2,156
Matador, 1,345
Mathis, 4,050
Memphis, 3,810
Menard, 2,685
Mercedes, 10,081
Meridian, 1,146
Merkel, 2,838
Mesquite, 1,696
Mexia, 6,627
Midland, 21,713
Midlothian, 1,177
Mills (unincorporated), 2,243
Mineola, 3,626
Mineral Wells, 7,801
Mission, 10,765
Monahans, 6,311
Moody, 1,084
Morton, 2,274
Mount Pleasant, 6,342
Mount Vernon, 1,133
Muleshoe, 2,177
Munday, 2,280
Nacogdoches, 12,427
Naples, 1,346
Navasota, 5,188
Nederland, 3,805
New Boston, 2,688
New Braunfels, 12,210
Newcastle, 713
Newgulf (unincorporated), 1,803
Nixon, 1,875
Nocona, 3,022
North Park (unincorporated), 1,239
North Texarkana, 1,328
Oak Knoll, 3,930
Oakwood, 759
Odem, 1,680
Odessa, 29,495
O'Donnell, 1,473
Olmos Park, 2,841
Olney, 3,763
Olton, 1,201
Orange, 21,174
Orient (unincorporated), 1,788
Overton, 2,001
Ozona (unincorporated), 2,885
Paducah, 2,952
Palacios, 2,799
Palestine, 12,503
Pampa, 16,583
Panhandle, 1,406
Paris, 21,643
Pasadena, 22,483
Pear Ridge, 2,029
Pearsall, 4,481
Pecos, 8,064
Perryton, 4,417
Pharr, 8,690
Phillips (unincorporated), 4,105
Pilot Point, 1,176
Pineland, 1,454
Pittsburg, 3,142
Plainview, 14,044
Plano, 2,126
Pleasanton, 2,913
Pleasant Valley (unincorporated), 1,048
Port Arthur, 57,530
Port Isabel, 2,372
Portland, 1,292
Port Lavaca, 5,599
Port Neches, 5,148
Post, 3,141
Poteet, 2,487
Pottsboro, 1,089
Premont, 2,619
Quanah, 4,589
Ralls, 1,779
Ramona (unincorporated), 2,768
Ranger, 3,989
Rankin, 1,139
Raymondville, 9,136
Red Oak Heights (unincorporated), 2,564
Refugio, 4,666
Richardson, 1,289
Richmond, 2,030
Rio Grande City (unincorporated), 3,992
Rio Hondo, 1,125
Rising Star, 1,289
River Oaks, 7,097
Robert Lee, 1,069
Robstown, 7,278
Roby, 1,051
Rockdale, 3,421
Rockport, 2,266
Rocksprings, 1,196
Rockwall, 1,401
Roma-Los Saenz, 1,576
Roscoe, 1,584
Rosebud, 1,740
Rosenberg, 6,210
Rotan, 3,133
Round Rock, 1,148
Royse City, 1,266
Rule, 1,251
Runge, 1,055
Rusk, 6,598
Sabinal, 1,074
Sachse, 1,447
San Angelo, 52,093
San Antonio, 408,442
San Augustine, 2,510
San Benito, 13,271
Sanderson (unincorporated), 2,078
San Diego, 4,397
Sanger, 1,170
San Juan, 3,413
San Marcos, 9,980
San Pedro (unincorporated), 8,127
San Saba, 3,100
Sansom Park Village, 1,611
Santa Anna, 1,605
Schulenburg, 2,005
Seagoville, 1,927
Seagraves, 2,101
Sealy, 1,942
Seguin, 9,733
Seminole, 3,479
Seth Ward (unincorporated), 1,043
Seymour, 3,779
Shamrock, 3,322
Shell Camp (unincorporated), 1,573
Sherman, 20,150
Shiner, 1,778
Silsbee, 3,179
Sinton, 4,254
Slaton, 5,036
Smithville, 3,179
Snyder, 12,010
Somerville, 1,425
Sonora, 2,033
Sour Lake, 1,630
South Houston, 4,126
South Side Place, 1,446
Spearman, 1,852
Spooner (unincorporated), 1,264
Spur, 2,183
Stamford, 5,919
Stanton, 1,603
Stephenville, 7,155
Stinnett, 1,170
Stockdale, 1,105
Stratford, 1,185
Strawn, 922
Sudan, 1,348
Sugar Land (unincorporated), 2,295
Sulphur Springs, 8,991
Sundown, 1,492
Sunray, 1,530
Sunrise (unincorporated), 1,616
Sweeny, 1,393
Sweetwater, 13,619
Taft, 2,978
Tahoka, 2,848
Taylor, 9,071
Teague, 3,255
Temple, 25,467
Terrell, 11,544
Terrell Hills, 2,708
Texarkana, 24,753 (including Texarkana, Ark., 40,628)
Texas City, 16,620
Three Rivers, 2,026
Throckmorton, 1,320
Tumpson, 1,455
Tomball, 1,065
Trinity, 2,054
Troup, 1,539
Tulia, 3,222
Turkey, 1,005
Tyler, 38,968
University Park, 24,275
Uvalde, 8,674
Valley Mills, 1,047
Van Alstyne, 1,649
Van Horn, 1,161
Velasco, 2,260
Vernon, 12,851
Victoria, 16,126
Vidor (unincorporated), 2,136
Waco, 84,708
Waelder, 1,275
Wake, 1,066
Waxahachie, 11,201
Weatherford, 8,093
Weimar, 1,663
Wellington, 3,676
Weslaco, 7,514
West, 2,130
West Columbia, 2,100
West Orange (unincorporated), 2,559
West University Place, 17,074
Wharton, 4,450
Whitesboro, 1,854
White Settlement, 10,827
Whitewright, 1,372
Whitney, 1,383
Wichita Falls, 68,042
Willis, 1,164
Wills Point, 2,030
Wink, 4,521
Winnsboro, 2,512
Winters, 2,676
Wolfe City, 1,345
Woodsboro, 1,836
Woodville, 1,893
Worthan, 1,170
Wylie, 1,295
Yoakum, 5,231
Yorktown, 2,596
Ysleta (unincorporated), 4,782
Zapata (unincorporated), 1,409

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American Fork, 5,126
Beaver, 1,685
Bingham Canyon, 2,561
Blanding, 1,177
Bountiful, 6,004
Brigham, now Brigham City, 6,790
Cedar City, 6,106
Centerville, 1,262
Clearfield, 4,723
Delta, 1,703
Draper (unincorporated), 3,433
Ephraim, 1,987
Escalante, 773
Eureka, 1,318
Farr West, 971
Farmington, 1,168
Fillmore, 1,890
Garfield (unincorporated), 2,079
Garland, 1,008
Grantsville, 1,537
Gunnison, 1,144
Heber, 2,936
Helper, 2,850
Hiawatha, 1,421
Hunter, 1,029
Hurricane, 1,271
Hyrum, 1,704
Kanab, 1,287
Kaysville, 1,898
Layton, 3,456
Lehi, 3,627
Lewiston, 1,533
Logan, 16,832
Magna (unincorporated), 3,502
Manti, 2,051
Mapleton, 1,175
Midvale, 5,096
Milford, 1,673
Moab, 1,274
Monroe, 1,214
Monticello, 1,172
Morgan, 1,064
Moroni, 1,076
Mount Pleasant, 2,030
Murray, 9,006
Nephi, 2,990
North Ogden, 1,105
Ogden, 57,112
Orem, 5,298
Panguitch, 1,501
Park City, 2,254
Parowan, 1,455
Payson, 3,998
Pleasant Grove, 3,195
Price, 6,040
Provo, 20,340
Richfield, 4,212
Richmond, 1,091
Riverton, 1,666
Roosevelt, 1,628
Roy, 2,723
Sahara Village (unincorporated), 1,636
Saint George, 5,562
Salina, 1,789
Salt Lake City, 182,121
Sandy, 2,095
Santaquin, 1,214
Smithfield, 2,383
South Jordan, 1,048
South Ogden, 3,763
South Salt Lake, 7,704
Spanish Fork, 5,230
Springville, 6,475
Sunnyside, 1,881
Tod Park (unincorporated), 1,846
Tooele, 7,289
Tremonton, 1,662
Vernal, 2,845
Washington Terrace (unincorporated), 5,841
Wellsville, 1,241
West Jordan, 2,107

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Arlington (unincorporated), 1,085
Barre, 10,922
Barton, 1,267
Bellows Falls, 3,881
Bennington, 8,002
Brandon (unincorporated), 1,673
Brattleboro (unincorporated), 9,606
Bristol, 1,808
Burlington, 33,155
Enosburg Falls, 1,289
Essex Junction, 2,741
Fair Haven, 2,058
Hardwick, 1,566
Island Pond (unincorporated), 1,252
Ludlow, 1,678
Lyndonville, 1,506
Manchester Center-Manchester Depot (unincorporated), 1,470
Middlebury, 3,614
Montpelier, 8,599
Morrisville, 1,995
Newport, 5,217
North Bennington, 1,427
Northfield, 2,262
North Troy, 1,057
Old Bennington, 198
Orleans, 1,261
Poultney, 1,685
Proctor, 1,814
Randolph, 2,223
Richford, 1,916
Rutland, 17,659
Saint Albans, 8,552
Saint Johnsbury, 7,470
South Burlington (unincorporated), 1,527
Springfield, 4,940
Stowe, 556
Swanton, 2,275
Vergennes, 1,736
Waterbury, 4,153
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West Rutland (unincorporated), 2,172
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Wilder (unincorporated), 1,097
Windsor, 3,467
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Arlington, 1,463
Barnet, 1,425
Barre, 4,149
Barton, 3,298
Bennington, 12,411
Berkshire, 1,063
Berlin, 1,158
Bethel, 1,334
Bradford, 1,551
Brandon, 3,804
Brattleboro, 11,522
Brighton, 1,671
Bristol, 1,988
Burke, 1,042
Cambridge, 1,413
Castleton, 1,748
Cavendish, 1,374
Charlotte, 1,215
Chelsea, 1,025
Chester, 1,981
Clarendon, 1,102
Colchester, 3,807
Concord, 979
Danby, 900
Danville, 1,412
Derby, 2,215
Dorset, 1,150
East Montpelier, 1,128
Enosburg, 2,101
Essex, 3,941
Fairfax, 1,329
Fairfield, 1,428
Fair Haven, 2,286
Ferrisburg, 1,887
Franklin, 878
Georgia, 1,055
Hardwick, 2,679
Hartford, 3,827
Hartland, 1,559
Highgate, 1,681
Hinesburg, 1,120
Hubbardton, 342
Hyde Park, 1,291
Irasburg, 711
Isle La Motte, 293
Jericho, 1,135
Johnson, 1,427
Ludlow, 2,428
Lunenburg, 1,299
Lyndon, 3,860
Manchester, 2,425
Middlebury, 4,778
Milton, 1,874
Montgomery, 1,091
Morristown, 3,225
Newbury, 1,667
Newport, 966
Northfield, 4,314
Norwich, 1,532
Pawlet, 1,156
Pittsford, 2,076
Plymouth, 348
Poultney, 2,936
Pownal, 1,453
Proctor, 1,917
Putney, 1,004
Randolph, 4,299
Readsboro, 847
Richford, 2,643
Richmond, 1,278
Rochester, 937
Rockingham, 5,199
Royalton, 1,331
Rutland, 1,436
Ryegate, 996
Saint Albans, 1,908
Saint Johnsbury, 9,292
Shaftsbury, 1,675
Sharon, 470
Shelburne, 1,465
Sheldon, 1,852
South Burlington, 3,279
Springfield, 9,190
Stowe, 1,720
Swanton, 3,740
Thetford, 1,046
Troy, 1,786
Williamstown, 1,660
Williston, 1,187
Wilmington, 1,160
Windsor, 4,102
Woodstock, 2,613

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Abingdon, 4,709
Alexandria, 61,787
Allison Gap (unincorporated), 1,015
Altavista, 3,832
Amherst, 1,038
Appalachia, 2,911
Appomattox, 1,094
Arlington county, 135,449
Arlington-Five Forks-Ravenswood (unincorporated), 4,124
Ashland, 2,610
Bassetts (unincorporated), 3,421
Bedford, 4,061
Benedict-Leonia Mines (unincorporated), 1,486
Berryville, 1,401
Big Stone Gap, 5,173
Blacksburg, 3,558
Blackstone, 3,548
Bluefield, 4,242 (including Bluefield W.Va., 2,718)
Boissevain (unincorporated), 1,197
Bridgewater, 1,537
Bristol, 15,954 (including Bristol Tenn., 12,720)
Buchanan, 1,800
Buckroe Beach (unincorporated), 1,977
Buena Vista, 5,211
Cape Charles, 2,427
Cedar Bluff, 1,083
Charlottesville, 25,969
Chase City, 2,219
Chatham, 1,456
Chester (unincorporated), 1,168
Chilhowie, 1,022
Clintwoodeague, 2,724
Christiansburg, 2,967
Clarksville, 1,035
Clifton Forge, 5,795
Cluchco (unincorporated), 1,390
Clintwood, 1,366
Colonial Beach, 1,404
Colonial Heights, 6,077
Copeland Park (unincorporated), 7,115
Covington, 5,860
Crescent Hill (unincorporated), 1,119
Crewe, 2,040
Culpeper, 2,527
Damascus, 1,726
Danville (unincorporated), 2,405
Danville, 43,066
Dorchester (unincorporated), 1,129
Dublin, 1,313
Dumfries Triangle (unincorporated), 1,585
East Hampton-North Phoebus (unincorporated), 3,437
Elkton, 1,361
Emporia, 5,664
Ettrick (unincorporated), 3,030
Exmore, 1,362
Fairfax, 1,946
Fairlawn-Mallow (unincorporated), 1,621
Fairview Heights (unincorporated), 1,758
Falls Church, 7,535
Falmouth (unincorporated), 1,176
Farmville, 4,375
Ferguson Park (unincorporated), 7,203
Fieldale (unincorporated), 1,295
Forest Hill (unincorporated), 1,191
Franklin, 4,670
Fredericksburg, 12,158
Fries, 1,442
Front Royal, 8,115
Galax, 5,248
Gate City, 2,126
Glenwood (unincorporated), 1,913
Gordonsville, 1,118
Grundy, 1,917
Halifax, 791
Hampton, 5,066
Harrisonburg, 10,810
Hayndon, 1,141
Highland Spring (unincorporated), 3,171
Hilton (unincorporated), 4,486
Hopewell, 10,249
Inman-Landmark-Laurel (unincorporated), 1,165
Jericho-Lloyd Place-Pleasant Hill (unincorporated), 4,687
Kenbridge, 1,176
Langley Air Force Base (unincorporated), 1,476
Lawrenceville, 2,239
Leesburg, 1,703
Lexington, 5,976
Luray, 2,731
Lynchburg, 47,727
McLean (unincorporated), 1,004
Madison Heights (unincorporated), 2,830
Manassas, 1,804
Marion, 6,982
Martinsville, 17,251
Mossick Hills (unincorporated), 2,211
Morrison (unincorporated), 2,357
Mountain View (unincorporated), 2,132
Narrows, 2,520
New Market, 701
Newport News, 42,358
Newsome Park-Hilton Park (unincorporated), 14,960
Norfolk, 213,513
North Hampton-South Hampton (unincorporated), 5,924
North Pulaski (unincorporated), 1,592
North Virginia Beach (unincorporated), 1,593
Norton, 4,315
Onancock, 1,353
Orange, 2,571
Parrish Court-Idlewylde (unincorporated), 1,387
Petersburg, 2,005
Pembroke, 1,010
Pennington Gap, 2,090
Petersburg, 35,054
Phoebus, 3,604
Pocahontas, 2,410
Portlock, 3,809
Portsmouth, 80,039
Pound, 1,193
Pulaski, 9,202
Quantico, 1,240
Radford, 10,028
Richlands, 4,648
Richmond, 230,410
Rivermont Reservoir Hill (unincorporated), 2,104
Riverview (unincorporated), 14,210
Roanoke, 91,921
Rocky Mount, 4,432
Roda-Osaka (unincorporated), 1,822
Saint Paul, 1,014
Salem, 6,823
Salvisa, 2,678
Sandston-Seven Pines (unincorporated), 3,902
Saratoga Place (unincorporated), 1,314
Schoolfield-Dan (unincorporated), 4,872
Shenandoah, 1,903
Sherwood Park (unincorporated), 2,523
Smithfield, 1,180
South Boston, 6,057
South Hill, 2,153
South Norfolk, 10,434
Staunton, 19,027
Stonega-Possum Trot Hollow (unincorporated), 1,159
Strasburg, 2,022
Suffolk, 12,339
Tangier, 915
Tappahannock, 1,011
Tazewell, 1,847
Vansant (unincorporated), 1,274
Victoria, 1,607
Vienna, 2,029
Vinton, 3,629
Virginia Beach, 5,390
Warrenton, 1,797
Waverly, 1,502
Waynesboro, 12,357
West Point, 1,919
Williamsburg, 6,765
Winchester, 13,841

Virginia (cont)
Wise, 1,574
Woodstock, 1,816
Wytheville, 5,513
Yorktown, 394

WASHINGTON, 2,378,963
Aberdeen, 19,653
Airport (uninc), 1,028
Anacortes 6,919
Annapolis-Retsil (uninc), 1,538
Appleyard (uninc), 1 479
Arlington, 1,835
Auburn, 6,497
Bellingham, 34,112
Beverly Park-Laurel Heights-Fowell-Pinehurst (uninc), 8 353
Blaine, 1,603
Bothell, 1 019
Bremerton 27 678
Buckley 2,705
Burlington, 2,350
Camas, 4,725
Cascade Lumnburg (uninc) 1,146
Cashmere, 1,768
Castle Rock, 1,255
Centralia, 8 637
Chehalis, 5,639
Chelan 2,157
Cheney, 2,797
Chewelah 1 683
Chico (uninc) 1 151
Clarkston, 5,617
Cle Elum, 2,206
Colfax, 3,057
College Place 3,174
Colville 3,033
Cosmopolis, 1,164
Davenport 1,417
Dayton, 2 979
Deer Park, 1 167
Eastside (uninc), 1,926
Eatonville, 1 048
Edmonds 2,057
Electric City (uninc), 1,484
Ellensburg, 8,130
Elma, 1,544
Empire law 2 759
Ephrata, 1 589
Everett, 33 849
Fairview (uninc) 3 309
Fircrest, 1 459
Forks, 1,120
Fruitvale (uninc), 3,654
Goldendale, 1 907
Grand Coulee, 2 741
Grandview, 2,503
Granger, 1 164
Green Acres (uninc), 1,287
Hoquiam, 11,123
Houghton 1,005
Kalama 1 121
Kelso, 7,345
Kennewick, 10 106
Kent, 3,278
Kirkland, 4,713
Lake Stevens (uninc), 2,586
Leavenworth, 1 503
Longview, 20 439
Lyndon, 2,161
McChord, 1 175
McMicken Heights (uninc) 2,570
Marysville 2 259
Mason City (uninc), 2,606
Medical Lake 4,488
Midland Acres (uninc), 1 551
Millwood, 1,240
Milton, 1,474
Monroe 1 556
Montesano, 2,328
Morton, 1 140
Moses Lake, 2 679
Mount Vernon, 5 230
Navy Yard City (uninc), 1 030
Newport 1 485
North Richland (uninc), 1 067
Oak Harbor 1,193
Odessa 1 127
Okanogan 2 014
Olympia, 15,819
Omak, 3,791
Oroville, 1,500
Orting 1,299
Palouse, 1,036
Pasco, 10,228
Pomeroy, 1,775
Port Angeles 11 233
Port Orchard 2 320
Port Townsend, 6 888
Poulsbo 1 014
Prosser, 5 836
Pullman, 12,022
Puyallup 10 010
Raymond 4 110
Renton 16 039
Richland (uninc), 21 809
Ritzville 2 145
Roslyn 1 937
Seattle 467 591
Sedro Woolley 3 299
Selah 2 189
Sequim, 1,044
Shelton, 5 045
Shoultes (uninc), 1 973
Snohomish 3 094
Soap Lake 2 091
South Bend 1 857
South Broadway (uninc) 3 229
Spokane 161 721
Steilacoom 1 233
Sumach (uninc) 2 117
Sumner 2 816
Sunnyside 4 191
Tacoma 143 673
Tekoa 1 189
Toppenish 5 265
Tumwater, 2 775
Union Gap 1 766
Vancouver 41 664
Waitsburg 1 015
Walla Walla 24 102
Wapato 3 185
Washougal 1 577
Waterville 1 013
Wenatchee 13 072
West Clarkston-Highland (uninc) 1 920
West Wenatchee (uninc) 2 690
White Salmon 1 353
Wilbur 1 043
Woodland 1 292
Yakima 38 486

WASHINGTON, city, see District of Columbia

WEST VIRGINIA, 2 005 552
Accoville-Braeholm (uninc) 2 886
Addison 1 313
Alderson 1 489
Algonia-Elkridge (uninc) 1 100
Alpoca Bud (uninc) 1 056
Amherstdale-Robinette (uninc) 2 387
Anawalt 1 385
Annmore (uninc) 1 388
Ansted 1 543
Barboursville 1 943
Bartley (uninc) 1 275
Bath 1 213
Beckley 19 597
Bellington 1 699
Benwood 3 485
Berkeley Springs now Bath
Berwind (uninc) 1 354
Bethany 1 063
Bethlehem 1 116
Bluefield 21 509 (including Bluefield Va 25 718)
Boomer-Harewood (uninc) 2 096
Bradshaw (uninc) 1 062
Bramwell 1 587
Bridgeport 2 314
Buckhannon 6 016
Cameron 1 736
Canadian-Carbondale (uninc) 1 211
Caretta (uninc), 1,856
Carswell (uninc), 1,428
Cedar Grove, 1,738
Ceredo, 1,399
Chapmanville, 1,349
Charleston, 73 501
Charles Town, 3 035
Chattaroy (uninc), 1 484
Chelyan-Cabin Creek Junction (uninc) 1 616
Chesapeake 2 566
Chester 3 758
Clarksburg 32 014
Clendenin, 1 175
Coal Fork (uninc), 1 185
Coalwood (uninc), 1 310
Corn-Mount Gay (uninc) 1 201
Crab Orchard (uninc) 1 514
Cross Creek (uninc) 1 445
Crumpler (uninc), 1 007
Cucumber-Newhall (uninc) 1 098
Davis 1 271
Davy 1 650
Delbarton 1 453
Despard (uninc) 1 976
Dunbar 8 032
East Bainville 1 695
East View (uninc) 1 642
Eccles (uninc) 1 885
Eckman (uninc) 1 474
Elbert (uninc) 1 460
Elkhorn (uninc) 1 035
Elkins 9 121
Ethel (uninc) 1 032
Fairmont 29 316
Falls View-Charlton Heights (uninc) 1 038
Fayetteville 1 952
Filbert (uninc) 1 214
Follansbee 4 435
Gary-Ream (uninc) 2 858
Gassaway 1 406
Gauley Bridge (uninc) 1 134
Glendale 1 467
Glen Hedrick (uninc) 1 484
Glen Rogers (uninc) 1 593
Glenville 1 789
Grafton 7 365
Grantsville 959
Great Town 1 273
Granville 1 004
Handley (uninc) 1 007
Harrisville 1 387
Henlawson (uninc) 1 750
Hinton 5 780
Holden-Bechee (uninc) 2 229
Hopewell (uninc), 1 159
Hugheston-Loudon (uninc) 1 796
Huntington 86 353
Hurricane 1 463
Luger 1 271
Jenkinjones (uninc) 1 859
Kayford-Acme (uninc) 1 479
Kenova 4 420
Keyser 6 317
Keystone 2 594
Kimball 1 439
Kingston (uninc) 1 098
Kingwood 2 186
Kistler (uninc) 1 072
Kopperston (uninc) 1 112
Lewisburg 2 192
Lilly Grove (uninc) 1 023
Logan 5 079
Lorado (uninc) 1 087
Lumberport 1 198
Lundale-Crancco (uninc) 1 115
Mabscott 1 665
MacArthur (uninc) 1 040
McComas (uninc) 2 999
McMechen, 3,518
Madison, 2,025
Maitland-Superior (uninc), 1 697
Mallory (uninc), 1 286
Man, 1 632
Mannington 3 241
Marlinton, 1 654
Marmet, 2 515
Martinsburg 15 621
Marytown (uninc) 1 268
Matoaka 1 003
Mayberry-Switchback (uninc) 1,616
Milton 1,552
Minden-Rock Lick (uninc) 1 807
Monaville-Rassmore (uninc) 1 833
Monongah 1 622
Montgomery 3 484
Moorefield 1,10
Morgantown 25 525
Moundsville 11 772
Mount Clare (uninc), 1 236
Mount Hope 2 588
Mullens 3 470
New Cumberland 2 119
Newell (uninc), 2,101
New Martinsville, 4 084
Nitro 3 314
Nutter Fort, 2,285
Oak Hill, 4 518
Oceana, 1,373
Omar-Barnabus (uninc) 3,073
Paden City 2,588
Page-Kincaid (uninc), 1 360
Pageton (uninc), 1,116
Parkersburg, 29,684
Parsons 2,009
Pennsboro 1,753
Petersburg, 1,898
Philippi 2,531
Piedmont, 2 565
Pineville, 1,082
Point Pleasant, 4,596
Powellton (uninc), 1,477
Princeton, 8,279
Raleigh (uninc), 1,164
Ranson, 1,436
Ravenswood, 1,175
Red Jacket (uninc), 1 575
Richwood 5 321
Ridgeley, 1 754
Ripley 1,813
Rivesville, 1 343
Romney 2 059
Ronceverte 2,301
Rowlesburg, 1,299
Saint Albans, 9 870
Saint Marys 2,196
Salem 2 578
Scarbro-Glen Jean-Hilltop (uninc), 2 459
Seth (uninc), 1,033
Shepherdstown 1 173
Shinnston, 2 793
Sistersville, 2 315
Smithers, 2 208
Sophia 1 430
South Charleston, 16,686
South Parkersburg (uninc), 10 808
Spelter (uninc), 1,054
Spencer 2,587
Sprague (uninc), 2,626
Squire (uninc), 1 240
Star City, 1 205
Stonewood, 2,066
Stotesbury-McAlpin (uninc), 1,612
Summersville, 1,628
Sutton 1,070
Terra Alta, 1 649
Thomas, 1,146
Thorpe (uninc) 1 302
Verdunville-Mudfork (uninc), 2,941
Vienna, 6 020
Vivian-Bottom Creek-Tidewater (uninc) 1,820
War, 3,992
Ward (uninc), 2,055
Wayne, 1,257
Webster Springs, now Addison
Weirton, 24,005
Welch, 6,603
Wellsburg, 5,787
West Logan (uninc), 1,652
Weston, 8,945
Westover, 4,318
West Union, 1,341
Wharton-Bun (uninc), 1,631
Wheeling, 58,891
White Sulphur Springs, 2,613
Whitesville, 1,017
Widen (uninc), 1,274
Williamson, 8,624
Williamstown, 2,001

WISCONSIN, 3,434,575
Abbotsford, 1,013
Adams, 1 425
Algoma, 3,384
Allouez (uninc), 4,091
Alma, 1 068
Altoona, 1,713
Amery, 1,625
Antigo, 9 902
Appleton 34,010
Arcadia, 1,949
Ashland, 10,610
Augusta, 1,158
Baldwin, 1,100
Baraboo, 7 264
Barron, 2,455
Barton, 1,089
Bayfield, 1 153
Beaver Dam, 11,867
Bell Heights (uninc), 1,511
Beloit, 29 590
Bethn, 1,693
Black River Falls, 2 824
Bloomer 2 556
Boscobel, 2,347
Brillion, 1 390
Brodhead 2 016
Burlington 4,780
Butler 1,047
Campbellsport 1 254
Carrollville (uninc), 1,240
Cedarburg, 2,810
Cedar Grove 1 010
Chetek, 1 585
Chilton 2,367
Chippewa Falls, 11,088
Clinton, 1,138
Clintonville, 4,657
Colfax, 1,044
Columbus, 3 250
Cornell, 1 944
Crandon 1,922
Cuba City, 1 333
Cudahy, 12 182
Cumberland 1 872
Darlington, 2,114
Delavan 4 007
Denmark 1,012
De Pere 8 116
Dodgeville, 2 532
Durand, 1,961
Eagle River 1 469
East Troy, 1 052
Eau Claire, 36,058
Edgerton, 1,507
Elkhorn, 2,945
Ellsworth 1,475
Elroy, 1,654
Evansville 2 541
Fennimore, 1,696
Fond du Lac, 29 936
Fort Atkinson 6,280
Fox Lake, 1,151
Fox Point, 2,585
Galesville, 1,193
Gillett, 1,410
Grafton, 1,489
Grand Avenue Park (uninc), 1 580
Green Bay, 52,735
Greendale, 2,752
Hartford, 4,549
Hartland, 1,190
Hayward, 1,577
Hillsboro, 1,341
Horicon, 2,664
Hortonville, 1 081
Hudson, 3,435
Hurley, 3,034
Independence, 1,088
Janesville, 24,899
Jefferson, 3,625
Juneau, 1,444
Kaukauna, 8,337
Kenosha, 51,368
Kewaskum, 1,183
Kewaunee, 2,583
Kiel, 2,129
Kimberly, 3,179
Kohler, 1,716
La Crosse, 47,535
Ladysmith, 3,024
Lake Geneva, 1,300
Lake Mills, 2,516
Lakeshore-Evergreen Park (uninc), 1,223
Lancaster, 3,266
Laona (uninc), 1,113
Little Chute, 4,152
Lodi, 1,416
Loyal, 1,104
Madison, 96,056
Manitowoc, 27 598
Maple Bluff, 1,461
Marinette, 11,178
Marion, 1,118
Markesan, 1,010
Marshfield, 12, 394
Mauston, 3,171
Mayville, 3,010
Medford, 2,799
Melleu, 1,306
Menasha, 12, 985
Menomonee Falls, 2,169
Menomonie, 8 245
Merrill, 8,951
Middleton, 2,110
Milton, 1,519
Milton Junction, 1,104
Milwaukee, 637,392
Mineral Point, 2,281
Mondovi, 2 285
Monona, 2,544
Monroe, 7,04
Montello, 1 069
Montreal, 1,139
Mosinee, 1,403
Mount Horeb 1 716
Mukwonago 1 207
Muscoda, 1 046
Muskego (uninc), 1,968
Neenah, 12,447
Neillsville 2 063
Nekoosa, 2,352
Neopit (uninc), 1,757
New Glarus 1 221
New Holstein 1 831
New Lisbon, 1,482
New London, 4 922
New Richmond 2 886
Niagara 2 022
Nordheim (uninc), 1,418
North Fond du Lac, 2,291
Oconomowoc, 5 315
Oconto, 4 05
Oconto Falls, 2,040
Ogdensburg (uninc), 1 673
Omro, 1,470
Onalaska, 2 561
Oregon, 1,341
Oshkosh, 41 084
Osseo, 1,126
Owen, 1,044
Pardeeville 1 112
Park Falls, 2 924
Perrygo Place (uninc), 3 315
Peshtigo, 2,279
Pewaukee 1 792
Phillips, 1,77
Platteville, 5,751
Plymouth 4,313
Portage, 7 334
Port Edwards 1 336
Port Washington 4,755
Prairie du Chien, 5 392
Prairie du Sac 1,102
Preble (uninc), 5 092
Prescott, 1 005
Princeton, 1,371
Pulaski, 1,210
Racine, 71,193
Randolph, 1,340
Reedsburg, 4 072
Rhinelander, 8,774
Rib Lake, 853
Rice Lake, 6,898
Richland Center, 4,608
Ripon, 5,619
River Falls, 4 877
Rothschild, 1,425
Saint Croix Falls, 1,065
Sauk City, 1,755
Schofield, 1,948
Seymour, 1,780
Sharon, 1,013
Shawano, 5,894
Sheboygan, 42,365
Sheboygan Falls, 3,599
Shorewood, 16,199
Shorewood Hills, 1,594
Shullsburg, 1,306
Smiths Garden-Fairview (uninc), 1,600
South Milwaukee, 12,855
Southwest Wausau (uninc), 2,677
Southwest Wisconsin Rapids (uninc), 1,836
Sparta, 5,893
Spooner, 2,597
Spring Green, 1,064
Stanley, 2,014
Stevens Point, 16,564
Stoughton, 4,843
Sturgeon Bay, 7,054
Sturtevant, 1,176
Sun Prairie, 2,263
Superior (city), 35,325
Thorp, 1,384
Tomah, 1,760
Tomahawk, 3,534
Two Rivers, 10,243
Union Grove, 1,358
Viroqua, 3,795
Wabeno-Soperton (uninc), 1,002
Walworth, 1,137
Washburn, 2,070
Waterford, 1,100
Waterloo, 1,667
Watertown, 12,417
Waukesha, 21,213
Waunakee, 1,042
Waupaca, 3 971
Waupun, 6,725
Wausau, 30,414
Wauzeka, 1 476
Wauwatosa 34,324
West Allis, 12,909
West Bend 6 849
Westby, 1,491
Westchester (uninc), 1,449
West La Crosse (uninc), 1,520
West Milwaukee, 2,199
West Salem, 1,476
Weyauwega, 1,207
Whitefish Bay, 14,665
Whitehall, 1,379
Whitewater, 5 101
Whispering Pines (uninc) 1 345
Williams Bay, 1 118
Wind Lake (uninc), 1,067
Wisconsin, 1,078
Wisconsin Dells 1 957
Wisconsin Rapids, 18,196

WYOMING, 290 529
Afton, 1,319
Basin, 1,220
Buffalo, 2,674
Casper 23,673
Cheyenne, 31 935
Cody, 3 852
Douglas 2,544
Evanston, 3,863
Fox Farm-Orchard Valley (uninc), 1,821
Gillette, 2,191
Glenrock, 1,110
Green River, 3,187
Greybull, 2 262
Hanna, 1,326
Jackson, 1,244
Kemmerer, 1,667
Lander, 3 349
Laramie, 15,581
Lovell, 2,508
Lusk, 2,089
Newcastle, 3,395
Powell, 3,804
Rawlins, 6,415
Riverton, 4,142
Rock Springs, 10,857
Sheridan, 11,500
Superior, 1,580
Thermopolis, 2,870
Torrington, 3,247
Wheatland, 2,286
Worland, 4,202